Prepared for

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Santa Susana Site
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Santa Susana Field Laboratory

Site-Wide Stormwater Annual Report

2021/22 Reporting Year

Prepared by

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and

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Abbreviations

CASQA	California Stormwater Quality Association
CM	Culvert Modification
COC	Constituent of Concern
DMR	Discharge Monitoring Report
DNQ	Detected not Quantified
DOE	Department of Energy
DTSC	Department of Toxic Substances Control
ELV	Expendable Launch Vehicle
GETS	Groundwater Extraction and Treatment System
ISRA	Interim Source Removal Action
LARWQCB	Los Angeles Regional Water Quality Control Board
LOE	Line of Evidence
LOX	Liquid Oxygen Plant
mg	milligram
ug/L	micrograms per liter
NASA	National Aeronautics and Space Administration
ND	Northern Drainage
NPDES	National Pollutant Discharge Elimination System
OF	Outfall
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Feasibility Investigation
RMHF	Radioactive Materials Handling Facility
RMMP	Restoration, Mitigation, and Monitoring Plan
SAP	Sampling and Analysis Plan
SSFL	Santa Susana Field Laboratory
SWPPP	Stormwater Pollution Prevention Plan
SWTS	Stormwater Conveyance and Treatment System
TCDD	Tetrachlorodibenzo-*p*-dioxin
TEQ	Toxic Equivalence
TSS	Total Suspended Solid

Executive Summary

Stormwater discharges from the Santa Susana Field Laboratory (SSFL) are currently regulated by the Los Angeles Regional Water Quality Control Board (LARWQCB) under the *National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001309 for the Boeing Company, SSFL, Canoga Park, CA, Order No. R4-2015-0033* ("2015 Permit") (LARWQCB, 2015). The 2015 Permit requires the Surface Water Expert Panel (SWEP) to conduct annual evaluations of the previous year's Permit limit exceedances and Best Management Practice (BMP) performance, provide new BMP recommendations as needed, and to submit a one-time workplan to outline this process. The *Site-Wide Stormwater Work Plan and 2014/15 Annual Report* ("2015 Work Plan") (Santa Susana Surface Water Expert Panel and Geosyntec Consultants, 2015a) was intended to satisfy the work plan requirement. In addition, in August 2022, the LARWQCB adopted a Memorandum of Understanding[1] (MOU) as a part of a comprehensive framework that establishes specific cleanup protocols and timelines for Boeing, and involves an agreement between Boeing and the Department of Toxic Substances Control (DTSC). The MOU outlines additional responsibilities for the Surface Water Expert Panel including modeling post-cleanup stormwater quality at SSFL outfalls that Boeing areas drain to, establishing background stormwater concentration thresholds, and designing a post-cleanup stormwater monitoring plan within Boeing areas of SSFL.

This 2021/22 Annual Report summarizes the data collected, evaluations performed, and the SWEP's findings and recommendations for the 2021/22 reporting year (June 1, 2021 to May 30, 2022), and follows the 2015 Work Plan. This report summarizes observed rainfall data, stormwater discharges and sampling at the SSFL outfalls, permit limit and benchmark exceedances, potential causes of exceedances, assessment of BMP performance, and recommendations for BMP and monitoring improvements.

A total of 18.2 inches of rainfall was measured in the 2021/22 reporting year, which is above the long-term average annual rainfall at SSFL of 16.8 inches[2]. Total prior year rainfall (2020/21) was 4.5 inches, marking the lowest rainfall year recorded in a combined 56-year period between 1959 and 2022 and the only year without any measurable stormwater discharges at the NPDES outfalls. A total of eight qualifying rain events occurred in 2021/22, where a "rain event" is defined by the Permit as greater than 0.1 inches of rainfall in 24 hours, preceded by at least 72 hours of dry weather. Of the eight rain events, three produced discharge at one or more NPDES outfalls, including Outfalls 001, 002, 008, 009, 011, and 018. No sampleable discharge (and thus no opportunities for Permit Limit or Benchmark exceedances) occurred at Outfalls 003, 004, 005, 006, 007, 010, 019, or 020.

[1] MEMORANDUM OF UNDERSTANDING ESTABLISHING THE PROCESSES, METHODOLOGIES, AND STANDARDS FOR ASSESSING STORMWATER DISCHARGES AND APPLICABLE REQUIREMENTS FOLLOWING THE BOEING COMPANY SOIL CLEANUP AT THE SANTA SUSANA FIELD LABORATORY SITE

[2] Data from the Simi Hills – Rocketdyne Lab gauge (Ventura County Watershed Protection District site 249) were used to determine annual rainfall from 1958/59 through 1977/78 and from 1984/85 through 2000/01. Rainfall data from 2001/02 through 2021/22 were recorded at the Area 4 gauge, which was relocated to Area 1 on January 1, 2013), resulting in a combined period of record of 56 years.

In the 2021/22 reporting year, the following exceedances were observed and are discussed in more detail in Section 2.2.1:

- Outfall 001: On December 26, 2021, benchmark limits were exceeded for iron (result of 7.1 ug/L compared to benchmark of 0.3 ug/L), manganese (result of 110 ug/L compared to benchmark of 50 ug/L), and TCDD TEQ (no DNQ) (result of 2.9E-08 ug/L compared to benchmark of 2.8E-08).
- Outfall 002: On December 26, 2021, the benchmark limit was exceeded for iron (result of 2.5 ug/L compared to benchmark of 0.3 ug/L).
- Outfall 009: On December 15, 2021, the effluent limit was exceeded for copper (result of 15 ug/L compared to limit of 13 ug/L). On December 26, 2021, the effluent limit was exceeded for chronic toxicity[3] (result of 57.52% compared to limit of 50%).
- Outfall 011: On December 30, 2021, effluent limits were exceeded for iron (result of 5.1 ug/L compared to limit of 0.3 ug/L), manganese (result of 100 ug/L compared to limit of 50 ug/L), and TCDD TEQ (no DNQ) (result of 3.9E-08 compared to limit of 2.8E-08).
- Outfall 018: On December 28, 2021, the effluent limit was exceeded for BOD[4] (result of 66 mg/L compared to limit of 50 ug/L). On January 5, 2022, the effluent limit was exceeded for iron (result of 0.5 ug/L compared to limit of 0.3 ug/L).

Based on multiple lines of evidence, the 2021/22 exceedances are believed to be from natural background soils and non-industrial sources (e.g., soils near treated wood poles), with the exception of copper at Outfall 009 and BOD at Outfall 018 which are both believed to be due to lab error. Additionally, TCDD TEQ (no DNQ) exceedances at Outfalls 001 and 011 could also have contributions from impacted soils based on concentrations measured in RCRA Feasibility Investigation (RFI) surface soils. However, on average, the majority of RFI surface soils in these watersheds have TCDD TEQ (no DNQ) concentrations similar to background soils, with just the highest percentile concentrations exceeding those of background datasets, on par with concentrations observed in soils near poles. Where impacted soils could not be ruled out as a source, new BMPs or improvements/repairs are proposed.

Other key findings include the following, which are discussed in more detail in Section 4:

- The passive distributed treatment controls in the Outfall 009 watershed continue to perform well despite many years of operation. Constituent loads are being reduced, both because concentrations are being reduced, and because runoff volumes are being reduced by phased upstream pavement and building removal accompanied by revegetation and stormwater runoff volume reduction in BMPs.
- The two active stormwater treatment systems (SWTSs) are performing well, as evidenced by compliance results at Outfalls 011 and 018 as well as reductions in concentration observed between untreated influent and treated outfall discharge samples. Notably, no analytes were detected above California Primary Maximum Contaminant Levels (MCLs) in the untreated influent samples, which experience extended pond storage.
- Boeing and NASA continue to implement SWEP BMP and monitoring recommendations site-wide.

[3] Sample analysis was conducted outside of required hold time, introducing uncertainty into the result.
[4] Sample analysis was conducted outside of required hold time, introducing uncertainty into the result.

- Exceedances measured in 2021/22, none of which exceeded primary drinking water standards (also referred to as MCLs), do not change prior stormwater Human Health Risk Assessment (HHRA) conclusions that there are not elevated human health risks from exposure to SSFL stormwater discharge through the exposure pathways that were evaluated. Furthermore, since drinking ingestion of stormwater was not originally evaluated as an exposure pathway in the HHRA, an additional evaluation was performed this year to assess human health risks through drinking water (despite this not being a known use of SSFL stormwater at or near the NPDES outfalls). This evaluation demonstrates that SSFL stormwater discharges during the 2021/22 year are not found to represent an elevated risk to human health through drinking.

Recommendations are discussed in Section 5 and include the following:

- The SWEP continues to recommend accelerated source removal, including the proposed Imminent and Substantial Endangerment (ISE) measures at the Former Shooting Range and Area 1 Burn Pit.
- To address benchmark and Permit limit exceedances at Outfalls 001 and 011, the SWEP recommends evaluation for new culvert modifications (i.e., stormwater media filters) where drainages crosse the gravel road downstream of the west side of the Area I Burn Pits; an upland stormwater treatment control measure (e.g., sedimentation basin) that could be useful during future site cleanup around the Area I Burn Pit; and repairs to the R-1 pond berm (to enable increased stormwater storage and treatment).
- To address Permit limit exceedances at Outfall 009, the SWEP recommends the continued observation and as-needed repairs of all distributed treatment BMPs in this watershed.
- The SWEP recommends improvements to the stormwater monitoring program, including QA/QC protocols for analysis of compliance samples collected by Boeing and refinements to the locations and frequency of non-compliance/voluntary samples collected by Boeing and NASA, to continue to refine the dataset supporting source identification and BMP performance assessment. These recommendations will be implemented in the 2022/23 reporting year.

The SWEP will continue to oversee the follow-through on these recommendations into the 2022/23 season. The SWEP will also continue to work on activities required by the recent MOU, which include modeling and planning monitoring of post-cleanup stormwater quality.

The SWEP looks forward to engaging with the public at the next public meeting on November 17, 2022 where these results and recommendations will also be presented.

1 Introduction

The Santa Susana Field Laboratory (SSFL) occupies approximately 2,850 acres located at the top of Woolsey Canyon Road in the Simi Hills of Ventura County, California. During wet weather, SSFL has the potential to discharge stormwater runoff impacted by constituents from the facility. As such, stormwater discharges from SSFL are currently regulated by the Los Angeles Regional Water Quality Control Board (LARWQCB) under the *National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001309 for the Boeing Company, SSFL, Canoga Park, CA, Order No. R4-2015-0033* ("2015 Permit") (LARWQCB, 2015). The 2015 Permit[5] became effective on April 1, 2015, and states the following:

> *"The Discharger has agreed to maintain the Surface Water Expert Panel. With input from the Surface Water Expert Panel, the Discharger shall submit annual reports that describe the previous year's monitoring results, evaluation of existing BMP performance, and submit a workplan that includes recommendations for modified and/or new storm water controls and monitoring that will address exceedances from any Outfall addressed by this Permit. The Discharger shall also support the Surface Water Expert Panel in organizing periodic public interaction events and encouraging public communication involvement. The first annual report shall be due within 6 months of the effective date of this Permit [October 1, 2015]."*

The *Site-Wide Stormwater Work Plan and 2014/15 Annual Report* ("2015 Work Plan") (Santa Susana Surface Water Expert Panel and Geosyntec Consultants, 2015a) was intended to satisfy the work plan requirement specified in the 2015 Permit. As the 2021/22 Annual Report, this document summarizes results and findings of the 2021/22 reporting year (June 1, 2021 to May 30, 2022) and is presented in adherence to commitments outlined in the 2015 Work Plan. Tentative Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit were released for public comment on December 8, 2021 and scheduled to be heard at the February 10, 2022 LARWQCB meeting. LARWQCB decided to postpone the public hearing for its continued deliberation on this matter to a future date. The existing 2015 Work Plan and Permit will remain effective until superseded by a newly adopted Permit.

On August 11, 2022 the LARWQCB held a public meeting and adopted a resolution to approve the proposed Memorandum of Understanding[6] (MOU) with some revisions in response to public comment. The MOU is part of a comprehensive framework that establishes specific cleanup protocols and timelines for Boeing, and also involves an agreement between Boeing and the Department of Toxic Substances Control (DTSC). The MOU outlines additional responsibilities for the Surface Water Expert Panel including modeling stormwater quality at SSFL outfalls that Boeing cleanup areas drain to, establishing background stormwater concentration thresholds, and designing a post-cleanup stormwater monitoring plan within Boeing areas of SSFL.

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[5] Most recently the Site was regulated under the *National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001309 for the Boeing Company, SSFL, Canoga Park, CA, Order No. R4-2010-0090* ("2010 Permit") from 2010 to April 1, 2015. The site has been regulated under individual NPDES permits since 1998.

[6] MEMORANDUM OF UNDERSTANDING ESTABLISHING THE PROCESSES, METHODOLOGIES, AND STANDARDS FOR ASSESSING STORMWATER DISCHARGES AND APPLICABLE REQUIREMENTS FOLLOWING THE BOEING COMPANY SOIL CLEANUP AT THE SANTA SUSANA FIELD LABORATORY SITE

1.1 Background

The SSFL site (the "Site") is jointly owned by the Boeing Company (Boeing) and the federal government. The National Aeronautics and Space Administration (NASA) administers the portion of the property owned by the federal government. As shown in Figure 1, the site is divided into four administrative areas (Areas I, II, III, and IV), with undeveloped land area surrounding the Site to the north and south. Administrative Areas I and III are operated by Boeing, who owns the majority of Area I and all of Area III. The federal government owns a 40-acre portion of Area I and the entirety of Area II, both administered by NASA. While Area IV land is Boeing-owned, the Department of Energy (DOE) is responsible for its cleanup. Boeing no longer serves as a DOE contractor; however, Boeing and preceding contractors performed work at the DOE Energy Technology Engineering Center (ETEC) site in Area IV prior to the 1998 Department of Energy remediation contract with Boeing. The DOE owns specific facilities located within an approximately 90-acre portion of Area IV. Industrial operations at the Site have ceased, and current activities include environmental monitoring and sampling, demolition, remediation, and ongoing remedial planning. Undeveloped land and open space at the Site provide wildlife habitat and natural area.

Stormwater discharges[7] from the Site are typically captured and treated at or upstream of outfalls up to a design storm size. Outfalls 011 and 018 have had advanced stormwater conveyance and treatment systems (SWTSs) since 2012 to capitalize on the natural storage provided by existing ponds, while Outfalls 008 and 009 use distributed source controls with natural treatment systems in lieu of the outfall-based treatment approach due to their topography. Outfalls 001 and 002 present exceptions, as stormwater discharges from these outfalls are comprised of runoff from undeveloped areas comingled with stormwater discharges from Outfalls 011 and 018, respectively. Interim Source Removal Action (ISRA) and Best Management Practices (BMP) programs were implemented at Outfalls 008 and 009 beginning in 2009, with LARWQCB oversight and participation to facilitate 2010 Permit compliance through a dual approach focused on remediation of surface soils to thresholds defined for NPDES constituents of concern (COCs) and implementation of distributed treatment controls for stormwater runoff from prioritized subareas. The 2010 BMP Plan (MWH et al., 2010) was developed under the oversight of the Surface Water Expert Panel ("SWEP" or "Expert Panel") for the Outfall 008 and 009 Watersheds. The 2015 Work Plan subsequently replaced the 2010 BMP Plan as an overall strategy for improving site-wide stormwater discharge compliance with NPDES permit requirements and continuing critical public outreach and engagement efforts regarding stormwater subjects.

The Surface Water Expert Panel consists of Dr. Robert Pitt, University of Alabama, emeritus; Dr. Robert Gearheart, California State Polytechnic University, Humboldt; Dr. Michael Stenstrom, University of California, Los Angeles; Dr. Michael Josselyn, WRA Environmental Consultants; and Mr. Jonathan Jones, Wright Water Engineers. The Expert Panel continues to oversee stormwater planning and design work at SSFL, providing key input on monitoring and source removal activities, as well as a variety of NPDES Permit compliance topics. The Expert Panel oversees scientific studies related to SSFL stormwater quality and BMP design considerations, reviewed the stormwater Human Health Risk Assessment (HHRA), and engages with the public regarding stormwater activities at SSFL. The original Surface Water

[7] Treated groundwater discharges are also covered in the 2015 Permit, however, the 2015 Work Plan scope is limited to stormwater discharges.

Expert Panel objective to improve stormwater at NPDES Outfalls 008 and 009 was expanded in the 2015 Work Plan to include all NPDES Outfalls, as required by the 2015 Permit. As in recent years, the Surface Water Expert Panel reviewed the 2021/22 Quarterly Discharge Monitoring Reports (DMRs) and federal government construction SWPPPs, providing input and technical perspective.

1.2 Site Overview

Outfalls regulated under the 2015 NPDES Permit are listed in Table 1 and depicted in Figure 1. The NPDES Permit states that 60% of the annual stormwater discharge from SSFL exits the property via two southerly discharge points (Outfalls 001 and 002) to Bell Creek, a tributary to the Los Angeles River. Upstream Outfalls 011 and 018 contribute discharge to Outfalls 001 and 002, respectively. Per the 2015 Permit, injection of treated groundwater is acceptable at Outfall 019, though the discharge of surface water is not planned nor permitted at Outfalls 019 or 020. With the exception of naturally occurring seeps and springs where groundwater is known to comingle with stormwater and could potentially contribute constituents of concern (COCs) to stormwater discharges at the NPDES Outfalls, groundwater considerations are not included in the scope of the Expert Panel. A separate Groundwater Expert Panel at SSFL actively oversees Boeing-related groundwater matters, including groundwater treatment and assessment of naturally occurring seeps and springs.

Stormwater runoff from northern areas of the Site (Outfalls 003 through 007 and 010) is transferred to Silvernale Pond for treatment prior to discharge at Outfall 018. Runoff in excess of the storage and transfer system capacity is treated by flow-through media filters and discharges at Outfalls 003 through 007 and at Outfall 010, which discharge to the Calleguas Creek watershed. Stormwater conveyance and treatment systems (SWTSs) have been in place at Outfalls 011 and 018 since 2012. The SWTSs provide advanced stormwater treatment using ActiFlo coagulation and filtration systems, with stormwater ponds upstream for flow equalization and pretreatment by sedimentation. The SWTS at Outfall 011 has experienced lapses in operation throughout its lifetime, most recently due to damage from the Woolsey Fire, however, it was operational in 2021/22. Stormwater runoff from the Outfall 008 and 009 Watersheds is not captured and treated by a central SWTS[8], given the location, size, and terrain of these watersheds, coupled with the inability to store large volumes of stormwater in them practically. As described in the 2010 BMP Plan, due to topographical constraints, distributed stormwater treatment and an iterative, adaptive management-based approach are applied within both the Outfall 008 and 009 Watersheds. Stormwater runoff that discharges at Outfall 009 naturally flows to Arroyo Simi and subsequently to Calleguas Creek. Stormwater runoff from Happy Valley at Outfall 008 flows via Dayton Canyon Creek to Chatsworth Creek, which flows south to join Bell Creek southwest of the intersection of Shoup Avenue and Sherman Way. Bell Creek then continues southeast toward its confluence with the Los Angeles River.

Table 1. NPDES Outfall Descriptions

NPDES Outfall[1]	Description
001	Downstream of Outfall 011; discharges to Bell Creek
002	Downstream of Outfall 018; discharges to Bell Creek
003	Runoff transferred to Silvernale for treatment prior to discharge at Outfall 018[2]

[8] An exception to this is where a portion of runoff from the Helipad in Area II of the Outfall 009 Watershed is captured and piped to Silvernale Pond for treatment by the Outfall 018 SWTS.

NPDES Outfall[1]	Description
004	Runoff transferred to Silvernale for treatment prior to discharge at Outfall 018[2]
005	Runoff transferred to Silvernale for treatment prior to discharge at Outfall 018[2]
006	Runoff transferred to Silvernale for treatment prior to discharge at Outfall 018[2]
007	Runoff transferred to Silvernale for treatment prior to discharge at Outfall 018[2]
008	Stormwater from Happy Valley; discharges to Dayton Creek
009	Stormwater from Northern Drainage; discharges to Arroyo Simi
010	Runoff transferred to Silvernale for treatment prior to discharge at Outfall 018[2]
011	Stormwater and perimeter pond treated by SWTS; discharges to Outfall 001
018	Stormwater and R-2 pond, treated by SWTS; discharges to Outfall 002
019	Injection of treated groundwater (GET System); no surface discharge
020	Not planned for use; injection of treated groundwater (GET System); no surface discharge

[1]Outfalls 012 through 017 are not included in the 2015 Permit

[2]Stormwater runoff in excess of storage and transfer capacities is treated by media filters at individual outfalls before discharging to tributaries of Calleguas Creek.

DRAINAGE TO MEIER CANYON

DRAINAGE TO ARROYO SIMI

AREA I (NASA)

AREA I

AREA II (NASA)

AREA III

AREA IV

OUTFALL 018 WATER TREATMENT SYSTEM

OUTFALL 011 WATER TREATMENT SYSTEM

Silvernale Pond

R-2B Pond

R-2A Pond

Coca Pond

Perimeter Pond

DRAINAGE TO DAYTON CANYON

UNDEVELOPED LAND

DRAINAGE TO BELL CANYON

DESCRIPTIONS OF DISCHARGE OUTFALL LOCATIONS

NPDES OUTFALL	DESCRIPTION	PRIMARY OVERSIGHT AGENCY
001	Stormwater, South Slope	RWQCB
002	Stormwater, South Slope	RWQCB
003	Stormwater, Radioactive Material Handling Facility	RWQCB
004	Stormwater, Sodium Reactor Experiment Area	RWQCB
005	Stormwater, Sodium Burn Pit 1	RWQCB
006	Stormwater, Sodium Burn Pit 2	RWQCB
007	Stormwater, Building 100	RWQCB
008	Stormwater, Happy Valley	RWQCB
009	Stormwater, WS-13 Drainage (Northern Drainage)	RWQCB
010	Stormwater, Building 203	RWQCB
011	Stormwater, Perimeter Pond (Treated at SWTS)	RWQCB
012	Stormwater, Alfa Test Stand (Removed from permit)	RWQCB
013	Stormwater, Bravo Test Stand (Removed from permit)	RWQCB
014	Stormwater, Advanced Propulsion Test Facility (Removed from permit)	RWQCB
015	STP-1 (Removed from permit)	--
016	STP-2 (Removed from permit)	--
017	STP-3 (Removed from permit)	--
018	Stormwater, R-2 Pond Spillway (Treated at SWTS)	RWQCB
019	Treated Groundwater (GET System)	RWQCB
020	Not planned for use	RWQCB

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. MAP COORDINATES IN STATE PLANE NAD 27, ZONE V.

LEGEND

- FORMER NPDES OUTFALL LOCATION
- NPDES OUTFALL LOCATION
- POSSIBLE FUTURE NPDES OUTFALL LOCATION
- GROUNDWATER EXTRACTION TREATMENT (GET) SYSTEM
- SSFL PROPERTY BOUNDARY
- ADMINISTRATIVE AREA BOUNDARY
- EXISTING BUILDING/STRUCTURE
- STORMWATER TREATMENT SYSTEM
- DIRT ROAD
- 25' ELEVATION CONTOUR
- SURFACE WATER DIVIDE
- NATURAL DRAINAGE
- EFFLUENT PATHWAY
- SURFACE WATER POND

N

0 1,200 2,400

SCALE IN FEET

HALEY ALDRICH

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

SITE MAP WITH DRAINAGES, DRAINAGE AREAS, OUTFALL LOCATIONS, AND SURFACE WATER BODIES

FIGURE 1

GIS FILE PATH: G:\40458_SSFL\Global\GIS\MapProjects\2016-10\40458-091-001-SiteMap.mxd — USER: gkm — LAST SAVED: 10/19/2016 11:17:24 AM

1.3 Existing Stormwater Treatment

BMPs have been implemented throughout the Site to treat stormwater prior to discharge, and extensive erosion and sediment control BMPs, revegetation, stabilization of repaved roads, and other soil stabilization activities have also been implemented across the Site. Impervious surfaces such as building roofs and parking lots have been removed and disconnected by reintroducing vegetation and open space between them, effectively restoring the areas to natural conditions. Figure 2 presents the major structural treatment control BMPs implemented at the Site but does not include Site-wide erosion and sediment control BMPs, unpaved road control measures, building demolitions, and paved areas converted by soil scarification and revegetation. Major structural BMPs are summarized in the *ISRA Performance Monitoring and BMP Monitoring for the Outfalls 008 and 009 Watersheds, 2014/2015 Rainy Season* ("2015 Annual Report for Outfalls 008 and 009") (MWH *et al.*, 2015), the 2015 BMP Plan (Haley & Aldrich, 2015), and subsequent Annual Reports. Major structural BMPs include the following, listed by implementation date:

- 2009: Outfall 009 Culvert Modifications (CMs)
- 2010: Outfall 008 ISRA Excavations
- 2011: Outfall 009 Helipad Berms and Pumps
- 2011: Outfall 011 Stormwater Conveyance and Treatment System (SWTS)
- 2011: Outfall 018 Stormwater Conveyance and Treatment System (SWTS)
- 2012: Outfall 009 B-1 Sedimentation Basin and Media Filter
- 2012: Outfall 009 Northern Drainage Restoration Measures
- 2012: Outfall 009 CM-9 Additional Improvements
- 2013: Outfall 009 Lower Parking Lot Sedimentation Basin and Biofilter
- 2013: Outfall 009 ISRA Excavations
- 2013: Outfall 009 ELV Treatment BMP [9]
- 2013: Outfall 009 LOX Sandbag Berms and Slope Drains
- 2015: Outfall 009 B1436 Detention Bioswales
- 2017: Outfall 009 Wattles added around Poles along Roads
- 2017: Outfall 009 Upper Parking Lot Media Filter
- 2017: Outfall 009 Roadway Diversion to CM-3
- 2017: Outfall 009 Administration Area Inlet Filters
- 2017: Outfall 009 Enhanced Erosion Controls in the Former Shooting Range Area
- 2017: Outfall 009 Roadway Diversion to CM-1
- 2018: Outfall 009 CM-1 Reconstruction
- 2019: Outfall 009 Mulch Sack Curb Extension in Lower Parking Lot
- 2019: Area II Utility Pole vegetation clearing and soil base stabilization
- 2020: Outfall 009 ELV and Biofilter Cistern Generators Added
- 2020: Outfall 009 CM-3 Check Dams Added and Media Filter Reconstruction
- 2020: Southern Buffer Zone Utility Pole BMPs
- 2021: Outfall 009 ELV Treatment BMP Media Filter Underdrain Layer Reconstruction

[9] The power supply connection to the ELV treatment BMP was damaged in the Woolsey Fire rendering it inoperable for the 2018/19 season. A generator was installed in September 2019, and the BMP was operational again beginning in 2019/20.

- 2022: R-1 Pond Berm Repair

Stormwater from Outfall 011 is pumped to the R-1 Pond for settling and evaporation. The pond also serves as added storage to reduce stormwater discharges. When the runoff exceeds the storage capacity of the pond, stormwater is treated using an advanced SWTS. Treated stormwater is discharged at Outfall 011 and then flows through a natural channel to Outfall 001. Following the November 2018 Woolsey Fire, conveyance pipelines to the Outfall 011 SWTS were damaged and stormwater runoff at Outfall 011 was instead treated only by a flow-through media filter for the 2018/19 water year. The Outfall 011 SWTS was repaired in late 2019 and operational again prior to the first 2019/20 storm event. During the most recent 2021/22 season, a berm on the R-1 Pond was compromised during the peak 24-hr rain event on 1/1/2022, causing the pond to discharge before reaching its capacity under typical operations resulting in stormwater discharge at Outfall 011 that was partially treated by the media filter at the outfall. The berm underwent repair in October 2022, to restore the pond volume to its full capacity.

Stormwater runoff up to the outfall-specific design volumes at Outfalls 003, 004, 005, 006, 007, 009[10], and 010 is pumped to Silvernale Pond before being treated by the Outfall 018 SWTS alongside stormwater runoff from the local Outfall 018 Watershed. The Outfall 018 SWTS has been shown to be highly effective at reducing both the magnitude and frequency of Permit Limit exceedances (Santa Susana Surface Water Expert Panel and Geosyntec Consultants, 2019).

Distributed BMPs in the Outfall 009 Watershed, including widespread revegetation, erosion and sediment controls, and natural treatment BMPs, have also been shown to be effective at reducing COC concentrations in stormwater. Statistical evaluations of observed influent versus effluent concentrations at BMPs are included in Appendix D; they indicate significant reductions of COC loads in subareas treated by the structural BMPs, with the largest influent-to-effluent reductions achieved for higher influent concentrations. Northern Drainage inspections are performed annually to identify if stabilization efforts are recommended within the Northern Drainage channel, the primary stormwater conveyance in the Outfall 009 Watershed.

Limited runoff has discharged at Outfall 008 since the 2012 completion of ISRA activities that included identification, evaluation, remediation or stabilization, and restoration of areas containing soils contaminated with COCs. Installation of new erosion and sediment controls, revegetation, and unpaved road stabilization also took place in 2012. From 2013 to 2018, a total of just four discharges occurred at Outfall 008, each sampled and analyzed for between 60 and 200 parameters. Three individual parameter results were of concentrations above 2015 Permit Limits, fewer than historic exceedance rates would predict, highlighting pollutant reduction benefits achieved by the ISRA soil removal activities, revegetation and restoration, and implementation of erosion controls targeting sediment-bound COCs. Of the 9 samples collected and analyzed in 2018/19, 11 individual parameter results indicated concentrations above 2015 Permit Limits. Observed increases in runoff volumes and concentrations above Permit Limits in 2018/19 likely resulted from the combination of above average rainfall and decrease in vegetative cover causing increased stormwater flows and turbidity following the

[10] Stormwater runoff from a small area within the Outfall 009 watershed, the helipad area, is pumped to the storage pond for treatment prior to being discharged from Outfall 018, while stormwater runoff from the remaining, vast majority of the watershed flows to Outfall 009.

Woolsey Fire. No monitoring results were above 2015 Permit Limits out of the 5 samples collected and analyzed in 2019/20, and far below-average rainfall was recorded in 2020/21 such that no outfalls discharged that year. In the single discharge event in 2021/22, no results were measured above Permit Limits.

Sample results collected at distributed structural BMPs have indicated effective BMP performance and further confirmed the water quality improvements achieved by the iterative and adaptive management-based approach that has been employed in these watersheds.

2009: Culvert Modifications

2010: Outfall 008 Watershed ISRA Excavations

2011: Helipad Berms and Pumps

2011: Outfall 011 SWTS

2011: Outfall 018 SWTS

2012: B-1 Sedimentation Basin and Media Filter

2012: Northern Drainage Restoration Measures

2012: CM-9 Additional Improvements (Perforated Pipe, Extended Sedimentation Area and Rip Rap Berm)

2013: Lower Parking Lot Sedimentation Basin and Biofilter

2013: Outfall 009 Watershed ISRA Excavations

2013: ELV Treatment BMP

2013: LOX Sandbag Berms and Slope Drains

2015: B1436 Detention Bioswales

2017: Wattles around Poles along Roads

2017: Upper Parking Lot Media Filter

2017: Roadway Diversion to CM-3

2017: Administration Area Inlet Filter (Filter Basket)

2017: Administration Area Weighted Wattle and Riprap at Culvert Inlet

2017: Enhanced Erosion and Sediment Controls in Former Shooting Range Area

2017: Roadway Diversion to CM-1

2018: CM-1 Reconstruction Including Enlargement

2019: Mulch Sack Curb Extension in Lower Parking Lot

2019: Area II Utility Pole Vegetation Clearing and Soil Base Stabilization

2020: Outfall 009 CM-3 Check Dams Added and Filter Media Reconstruction

2020: Outfall 009 CM-3 Check Dams Added and Media Filter Reconstruction

2020: Southern Buffer Zone Utility Pole BMPs

2020: Outfall 009 ELV and Biofilter Cistern Generators Added

2021: Outfall 009 ELV Treatment BMP Media Filter Reconstruction

2022: R1 Pond Berm Repair

Figure 2. Photos of Example Structural BMPs and Years of Construction

1.4 Permit History

Figure 3 provides a 25-year overview of past SSFL stormwater Permits, Expert Panel involvement, and counts of individual sample results above the 2015 Permit Limits and Benchmarks[11] at regulated Outfalls. The result counts above the 2015 Permit Limits and Benchmarks are not necessarily true exceedances due to some limits being based on annual averages and results prior to 2015 were not subject to the 2015 Permit, however, this provides a static reference point to evaluate conditions over time. Annual frequencies of Permit Limit and Benchmark exceedances are a function of Permit changes, annual rainfall, and implemented treatment control BMPs and stormwater discharge prevention strategies, as well as the natural variability of stormwater quality. Notable milestones presented in Figure 3 include:

- **1998 NPDES Permit:** NPDES Permit No. CA0001309 was issued to regulate wastewater and stormwater discharged from SSFL.
- **2004 NPDES Permit:** The 2004 Permit included new California Toxics Rule (CTR)-based effluent limits and added 11 new compliance monitoring locations. The number of Benchmark and Permit Limits exceedances increased in response to the additional regulatory requirements.

[11] While the discharge of stormwater runoff with constituents in excess of the effluent limitation is prohibited at most outfalls, benchmarks are provided for Outfalls 001 and 002. Benchmarks are defined in the 2015 Permit as "a water quality based effluent limit or a performance based limit that is used to evaluate the performance of best management practices (BMPs) with regard to the removal of pollutants present in the discharge. In this Order, the benchmarks are established based on water quality based effluent limitations. Exceedance of a benchmark triggers an evaluation of the BMPs implemented at the site. The evaluation may determine that the BMPs require augmentation, upgrading, or replacement. If so, the Discharger must develop a plan to implement the required upgrades and report to the Regional Water Board within 60 days of the reported exceedance. The Discharger shall continue monitoring as directed in the Monitoring and Reporting Program during plan development and implementation."

- **2005 Topanga wildfire**: Approximately 97% of SSFL burned, resulting in an increased number of Permit Limit exceedances compared to other reporting years with similar rainfall.
- **2006 NPDES Permit:** The 2004 Permit was revised to include the waste load allocations (WLAs) specified by applicable TMDLs of downstream waterbodies.
- **2007 Cease and Desist Order (CDO):** In the CDO, the RWQCB required the "assembly of a panel to review site conditions, modeled flow, contaminants of concern, and evaluate the BMPs capable of providing treatment to meet the final effluent limits." The CDO also required BMP planning, performance evaluation, and reporting requirements.
- **2010 NPDES Permit:** No major changes to the Permit. The Expert Panel continued to make data-informed recommendations for BMPs in the Outfall 008 and 009 Watersheds, which were then implemented at the Site as described in Section 1.3.
- In **2011**, following the construction of the Outfall 018 SWTS, stormwater from Outfalls 003 through 007 and Outfall 010 was retained in storage tanks and then transferred to Silvernale Pond before being treated by the SWTS, reducing the number of discharges and exceedance occurrences site-wide.
- **2015 NPDES Permit:** Permit expanded the Expert Panel's charge to all regulated SSFL Outfalls. In response, the Panel continues to review Permit Limits and Benchmark exceedances at all Outfalls, making data-driven BMP recommendations on a site-wide basis. Between 2015-2018 the number of Permit Limits and Benchmark exceedances fell even compared to other years with similar rainfall totals.
- **2018 Woolsey wildfire:** Approximately 80% of SSFL was impacted by the wildfire, and the Site received above-average rainfall in 2018/19. Because of the post-fire hydrophobicity[12] of the soil and loss of vegetative cover, rain events following the fire produced significantly greater runoff volumes as well as an increase in the number of Permit Limits and Benchmark exceedances compared to rain events of similar size during non-fire years. Stormwater runoff volumes and water quality across the SSFL site returned to typically observed levels the following year.

[12] Soils exhibiting hydrophobicity cause water to collect on the soil surface rather than infiltrate into the ground. Wildfires generally cause soils to temporarily become more hydrophobic, increasing water repellent characteristics of the soil and exacerbating erosion with stormwater runoff in post-fire burn areas.

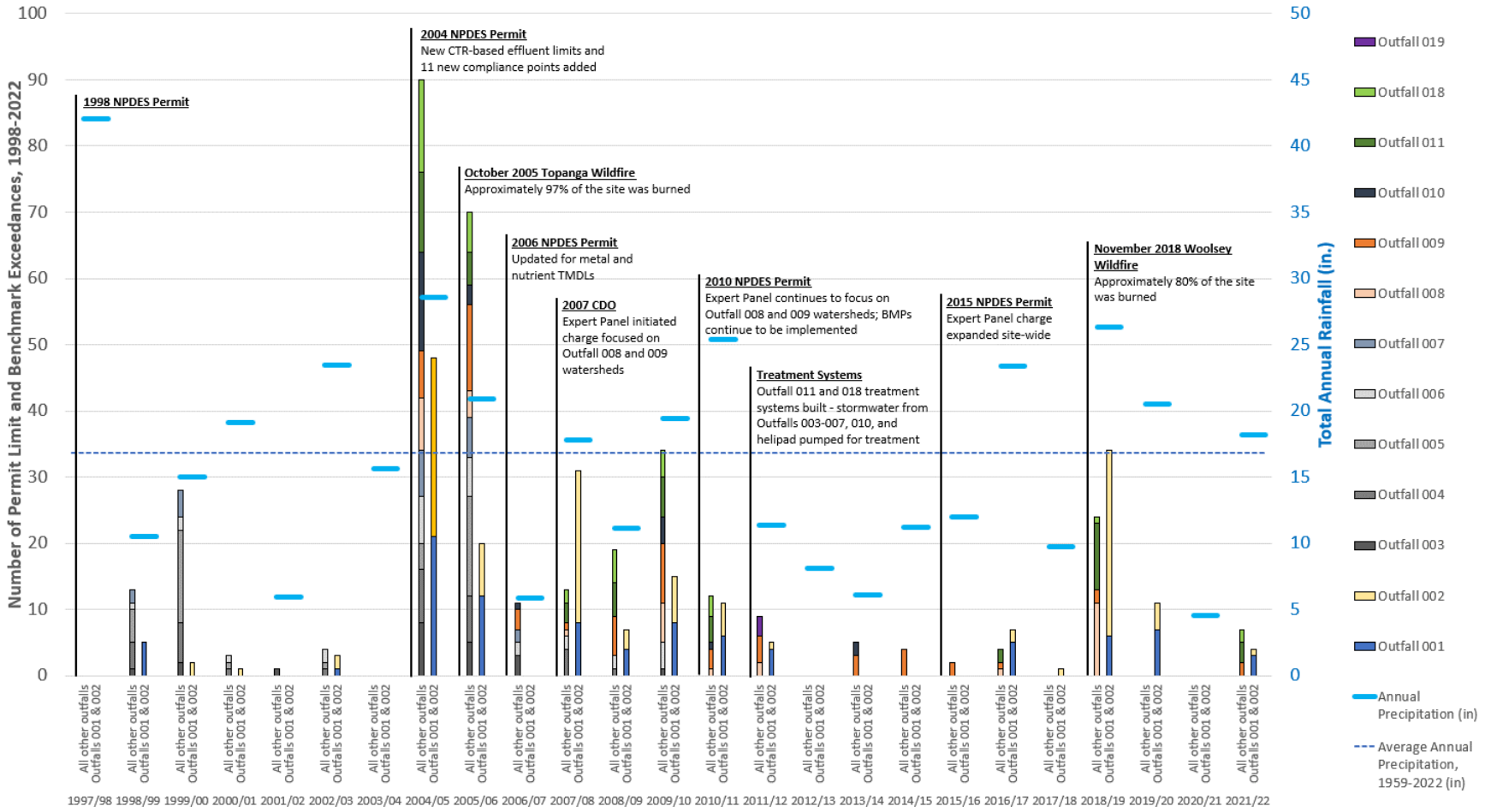


Figure 3. Summary of SSFL Permits, Surface Water Expert Panel Involvement, and Water Quality Compared to 2015 Permit Limits, 1998-2022
(Note: Benchmarks apply at Outfalls 001 and 002; effluent limits apply at all other outfalls)

2 Monitoring Activities

Characteristics of 2021/22 precipitation are presented below, alongside a summary of stormwater sample results from NPDES Permit compliance outfalls and the Outfall 009 Watershed BMP monitoring locations specified in the 2021/22 Sampling and Analysis Plan (Appendix A). Observations from the Northern Drainage assessment and results from the Non-Industrial Sources Special Study are also summarized below.

2.1 2021/22 Rainfall

The long-term average annual rainfall at SSFL from 1959 to 2022 is 16.8 inches[13], occurring primarily in winter storms from October through March. Highly variable periods of above or below average rainfall are common. Little rainfall typically occurs during the April through September dry season. A total of 18.2 inches of rainfall was measured in the 2021/22 reporting year (June 1, 2021 – May 31, 2022). Total prior year rainfall (2020/21) was 4.5 inches, marking the lowest rainfall year recorded in a combined 56-year period between 1959 and 2022 and the only year without any measurable stormwater discharges at the NPDES outfalls. A total of 8 qualifying rain events occurred in 2021/22, where a "rain event" is defined by the Permit as greater than 0.1 inches of rainfall in 24 hours, preceded by at least 72 hours of dry weather. Of the eight rain events, three produced discharge at one or more NPDES outfalls.

Table 2 summarizes historical rainfall totals observed since the submittal of the Surface Water Expert Panel Work Plan in 2010. Six of the last thirteen years have had above average rainfall (bolded in the table below) and there was a five-year drought from 2011/12-2015/16. Figure 4 illustrates the cumulative rainfall recorded in 2021/22 compared to the previous 5 years and the long-term average annual rainfall total.

Table 2. Historical Rainfall at SSFL, since 2010 Surface Water Expert Panel Work Plan

Reporting Year	Annual Rainfall (in)	Percent of Average Annual Rainfall	Number of Qualifying Rain Events
2021/22	**18.2**	**108%**	**8**
2020/21	4.5	27%	5
2019/20	**20.5**	**122%**	**9**
2018/19	**26.3**	**156%**	**12**
2017/18	9.8	58%	4
2016/17	**23.4**	**139%**	**14**
2015/16	12.0	71%	13
2014/15	11.2	67%	9
2013/14	6.1	36%	5
2012/13	8.1	48%	9
2011/12	11.3	67%	10
2010/11	**25.4**	**151%**	**14**
2009/10	**19.5**	**116%**	**11**

Note: Above average annual rainfall totals are **bolded**.

[13] Data from the Simi Hills – Rocketdyne Lab gauge (Ventura County Watershed Protection District site 249) were used to determine annual rainfall from 1958/59 through 1977/78 and from 1984/85 through 2000/01. Rainfall data from 2001/02 through 2021/22 were recorded at the Area 4 gauge, which was relocated to Area 1 on January 1, 2013), resulting in a combined period of record of 56 years.

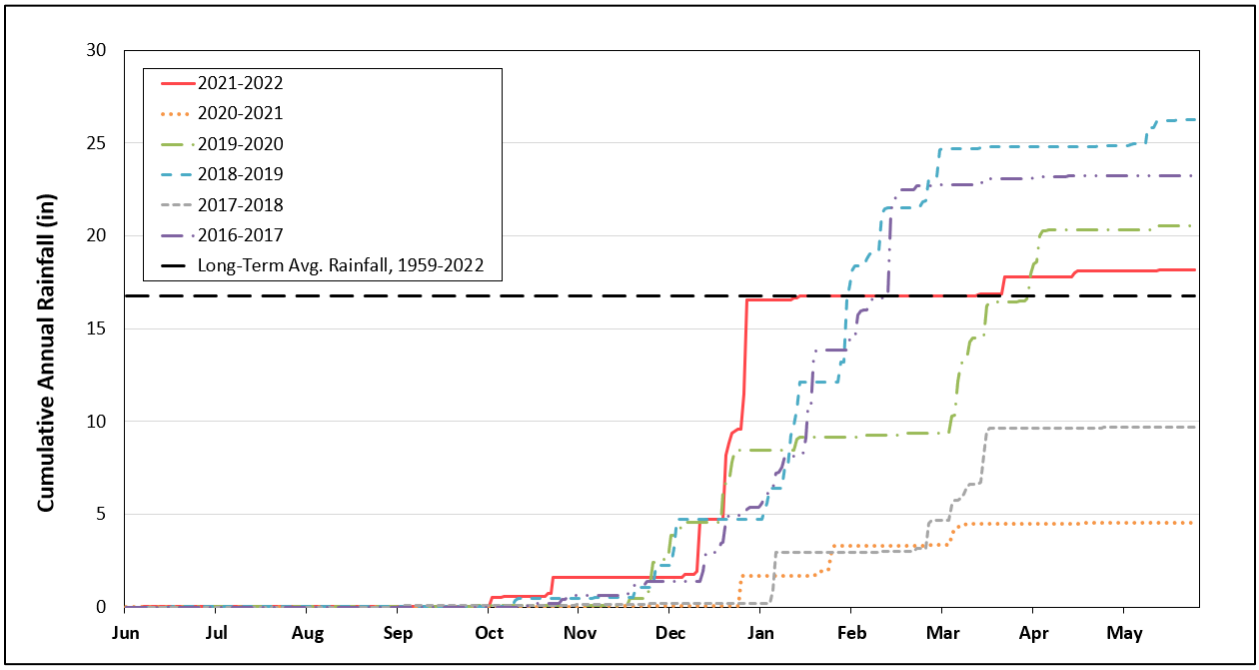


Figure 4. Annual Cumulative Rainfall, 2016-2022

Table 3 summarizes the rain event depths and number of subarea samples collected during each event. The largest rain event of 2021/22 occurred December 22-31, 2021, generating a total of 11.8 inches. The maximum 24-hour rainfall depth during the same storm was 6.22 inches, which is expected to occur once in 25 years based on the point precipitation DDF estimates for SSFL shown in Table 4 (NOAA, 2022), however, this is the highest 24-hour rainfall depth observed at the site since the rainfall record began in 1958. The previous maximum daily rainfall was 5.9 inches recorded on November 17, 1965. The second largest event in 2021/22 occurred December 13-16, 2021, generating a total of 2.96 inches with a maximum 24-hour rainfall intensity of 2.84 inches which can be expected to occur roughly every 1 to 2 years. Overall, these two storms combined measured 14.8 inches of rainfall within a 20-day period, or 81% of the total annual rainfall observed in 2021/22.

Table 3. 2021/22 Rain Event and Monitoring Summary[1]

Rain Event	Total Rainfall (in)	Rain Event Duration (hrs)	Average Rainfall Intensity During Hours with Rainfall (in/hr)	Maximum 1-hr Rainfall Intensity (in/hr)	Maximum 24-hr Rainfall Depth (in)	24-hr Recurrence Interval	Antecedent Dry Period[2] (days)	Subarea Monitoring Samples
10/4/2021	0.48	4	0.16	0.35	0.48	< 1 year	47	None
10/22-25/2021	1.04	64	0.05	0.37	0.86	< 1 year	14	10
12/7-9/2021	0.18	55	0.02	0.04	0.16	< 1 year	43	None
12/13-16/2021	2.96	72	0.11	0.78	2.84	1-2 years	4	27
12/23-31/2021	11.8	196	0.13	0.42	6.22	25 years	7	30
1/15-19/2022	0.22	87	0.02	0.06	0.12	< 1 year	15	None
3/28-29/2022	0.93	21	0.10	0.32	0.93	< 1 year	8	7
4/21-22/2022	0.35	4	0.09	0.17	0.35	< 1 year	23	None
Non-Event Total[3]	0.22	--	--	--	--	--	--	--
Total	18.18	--	--	--	--	--	--	71 samples

[1] Total rainfall, event duration, rainfall duration, average rainfall intensity, and maximum 1-hour rainfall intensity were assessed from rainfall data recorded at a calibrated and maintained weather station within Area I.

[2] Antecedent dry period represents the number of days between the start of the rain event and the last recorded rainfall, regardless of whether it qualified as a rain event.

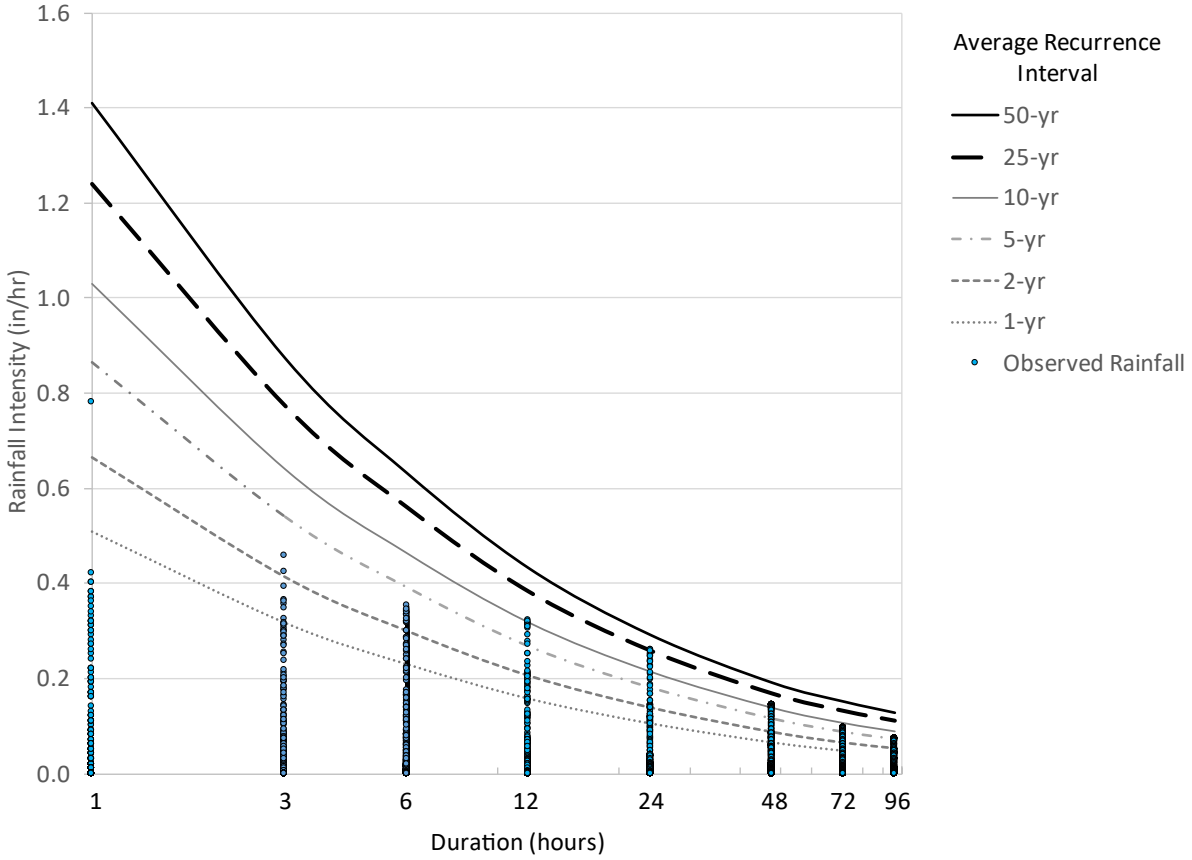
[3] Non-Qualifying Event Total. The following rainfall measured in 2021/22 did not meet the definition of a qualifying rain event per the NPDES Permit: June 7, 2021 (0.02”), August 18, 2021 (0.04”), October 8, 2021 (0.03"), March 19-20, 2022 (0.09”), and May 20, 2022 (0.04”).

Table 4. NOAA Point Precipitation Depths (inches), Durations, and Frequencies at SSFL

Duration	Average Recurrence Interval					
	1-yr	2-yr	5-yr	10-yr	25-yr	50-yr
1-hour	0.51	0.67	0.87	1.03	1.24	1.41
3-hour	0.95	1.24	1.62	1.92	2.32	2.62
6-hour	1.38	1.8	2.35	2.78	3.36	3.79
12-hour	1.89	2.47	3.21	3.81	4.59	5.18
24-hour (1 day)	2.53	3.33	4.34	5.14	6.20	6.99
48-hour (2 day)	3.14	4.20	5.55	6.63	8.07	9.16
72-hour (3 day)	3.45	4.69	6.32	7.65	9.46	10.9
96-hour (4 day)	3.74	5.14	7.00	8.54	10.7	12.3

[1]Source: Long-term precipitation depth-duration-frequency (DDF) data, NOAA Precipitation Frequency Data Server (PFDS). NOAA Atlas 14, Volume 6, Version 2. Simi Hills-Rocketdyne Lab, Latitude: 34.2353°, Longitude: -118.6759°.

Figure 5 presents observed rainfall intensities throughout the 2021/22 rainy season. The 1-hour rainfall intensities were generally below the 1-year recurrence interval depth, with the exception of one hour during the 12/13-16/2021 storm event where the intensity was near that of a 5-year event. The 3 and 6-hour duration intensities reached the 2-5-year event depth, while the 12-96-hour durations saw intensities representative of 10-year storm events. The 24-hour period is the only one to see rainfall intensities exceed the 25-year storm depth.


1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Rainfall Intensity (in/hr)
1
3
6
12
24
48
72
96
Duration (hours)
Average Recurrence Interval
50-yr
25-yr
10-yr
5-yr
2-yr
1-yr
Observed Rainfall

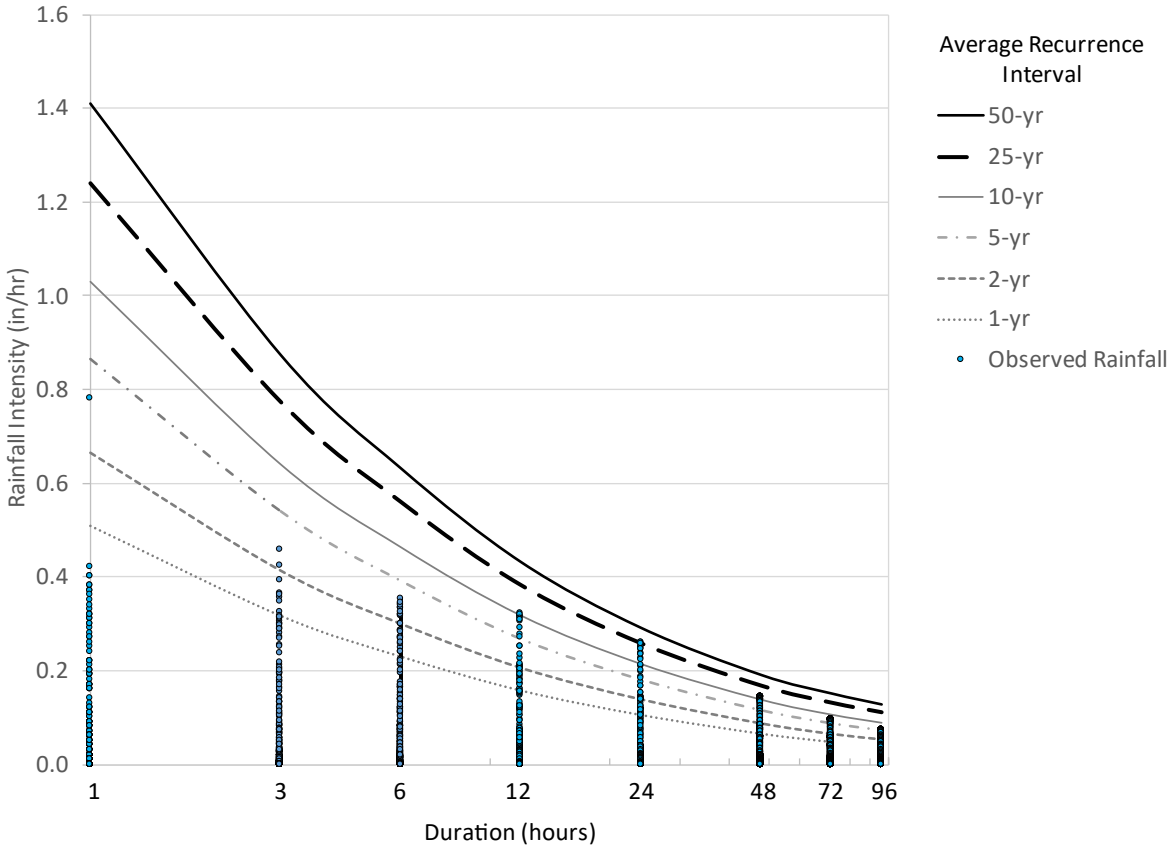


Figure 5. SSFL IDF Curves and Observed 2021/22 Rainfall Intensities

2.2 2021/22 Stormwater Sampling

In the 2021/22 rainy season, 16 samples were collected at NPDES Outfalls 001, 002, 008, 009, 011, and 018. In addition to the compliance samples 73 subarea samples were collected in 2021/22 from BMP performance monitoring sites, potential future BMP subarea locations[14], demolition areas, and background area sampling points. This year 53 BMP performance monitoring samples were collected in the Outfall 009 Watershed, 6 subarea samples were collected in the Area 1 Burn Pit area of Outfall 011 Watershed, 12 samples were collected at subarea locations in the Outfall 001 and 002 watersheds. A full list of sampling locations and monitoring suites can be found in Appendix A; sampling results are discussed in the following sections. Table 5 summarizes individual 2021/22 rainfall events and lists the NPDES outfalls sampled during each event.

2.2.1 NPDES Outfalls

SSFL Outfall discharges are monitored for water quality compliance according to the 2015 NPDES Permit. This past reporting year, 16 total discharge samples were analyzed from Outfalls 001, 002, 008, 009, 011 and 018 combined, as shown in Table 5. Of the 16 stormwater discharge samples analyzed for the suite

[14] "Potential BMP subarea monitoring locations" are defined here as drainage areas to stormwater runoff sampling points that include ISRA, RCRA Facility Investigation (RFI), and/or developed areas (e.g., buildings, parking lots, roads, etc.) such that impacted runoff quality might be expected at the sampling points which could necessitate the future implementation of treatment control BMPs pending evaluations of monitoring results.

of NPDES parameters, there were 4 Benchmark exceedances (at Outfalls 001 and 002) and 7 Permit Limit exceedances (at Outfalls 009, 011, and 018). These exceedances are discussed following Table 5. No sampleable discharge (and thus no opportunities for Permit Limit or Benchmark exceedances) occurred at Outfalls 003, 004, 005, 006, 007, 010, 019, or 020.

Available storage capacities in the Outfall 018 and 011 stormwater ponds were exceeded on 12/30/21, during the largest storm event of the season, which occurred at the end of December 2021 and had a 24-hr storm depth recurrence interval of 25 years. The following summarizes times the BMPs in place at Outfall 011 and Outfall 018 overflowed in the last five years. These dates represent times when the stormwater discharge at these outfalls are partially treated – a mix of stormwater partially treated by settling in the ponds and/or outfall media filter and stormwater fully treated by advanced SWTS. Outfall 011 and 018 BMP overflow events from past years are listed below, with events in 2012-2021 shown in gray. Historically, the systems have overflowed only during exceptionally wet years (2016/17 and 2018/19 received over 130% of average annual rainfall) or during storm events larger than the design storm of 2.5 inches in 24 hours (2018/19 and 2021/22 events). The overflow events that occurred in 2021/22 are consistent with this observed trend.

- Outfall 011 media filter[15] overflowed during the following time frames:
  - 1/22/17 – 1/25-17
  - 2/17/17 until at least 2/25/17[16]
  - 2/2/19 – 2/7/19 (exceeded 24-hr 1-yr design storm depth)
  - 2/14/19 – 2/19/19 (below 24-hr 1-yr design storm depth)
  - 3/6/19 – 3/11/19 (below 24-hr 1-yr design storm depth)
  - 12/30/21 – 1/1/22[17] media filter and perimeter pond overflowed (exceeded 24-hr, 1-yr storm)
- Outfall 018 R-2A Pond[18] (bold font) and/or Silvernale Pond[19] overflowed (i.e., some flows bypassed the SWTS and the media filter was used to treat bypassed flows) during the following time frames:
  - **1/21/17 – 1/24/17** both R-2A Pond and Silvernale Pond overflowed
  - **2/7/17 – 2/9/17** both R-2A Pond and Silvernale Pond overflowed
  - 2/17/17 – 2/23/17 Silvernale overflowed
  - **2/17/17 – 2/25/17** R-2A Pond overflowed
  - **1/17/19** (below 24-hr 1-yr design storm depth) both R-2A Pond and Silvernale Pond overflowed, OF018 media filter was bypassed since it was burned in and removed after Woolsey Fire
  - **2/2/19 – 2/5/19** (exceeded 24-hr 1-yr design storm) both R-2A Pond and Silvernale Pond overflowed, OF018 media filter was bypassed since it was burned in and removed after Woolsey Fire

[15] Maximum storage volume of the media filter is approximately 15,000 gallons.
[16] Actual end flow date unknown due to field error with the flow meter and partial data were recorded on paper hard copies. The last date of flow recorded was 2/25/17.
[17] A berm on the R-1 Pond experienced piping and erosion causing the pond to discharge on 1/1/2022 before exceeding its typical maximum storage volume of 3,740,000 gallons.
[18] R-2A Pond has a maximum storage volume is 2,100,000 gallons.
[19] Silvernale Pond has a maximum storage volume is 5,700,000 gallons.

- 2/11/19 – 2/18/19 (below 24-hr 1-yr design storm depth) Silvernale overflowed
- **12/30/21 – 1/4/22** (exceeded 24-hr, 1-yr storm) R2-A overflowed and 12/30/21 – 1/3/22 Silvernale overflowed

Table 5. NPDES Outfalls –2021/22 Stormwater Discharges and Exceedances

Outfall	Dates of Discharge-Producing Storm Events or SWTS Discharge	Number of Samples Collected (Year Total)	Reported Exceedances					
			Sample Date[e]	Parameter	Unit	Result	Permit Limit or Bench-mark	Threshold Type
001	12/22-31/2021 1/18-19/2022[a]	2	12/26/2021 12/26/2021 12/26/2021	Iron Manganese TCDD TEQ (no DNQ)	ug/L ug/L ug/L	7.1 110 2.9E-08	0.3 50 2.8E-08	Bench-mark
002	12/22-31/2021[b] 1/3-4/2022 [a,c] 1/4-5/2022 [b] 1/15-19/2022	5	12/26/2021	Iron	ug/L	2.5	0.3	Bench-mark
008	12/22-31/2021	1		No exceedances in 2021/22				
009	12/13-16/2021 12/22-31/2021 1/3-4/2022 [c]	3	12/15/2021 12/26/2021	Copper Chronic Toxicity [e, f]	ug/L %	15 57.52 J	13 50	Limit
011	12/22-31/2021 1/18-19/2022[a]	2	12/30/2021 12/30/2021 12/30/2021	Iron Manganese TCDD TEQ (no DNQ)	ug/L ug/L ug/L	5.1 100 3.9E-08	0.3 50 2.8E-08	Limit
018	12/22-31/2021[b] 1/3-4/2022 [a,c] 1/4-5/2022[a]	3	12/28/2021 1/5/2022	BOD [f] Iron	mg/L ug/L	66 J 0.5	50 0.3	Limit

[a] SWTS-treated discharge
[b] SWTS-treated discharge comingled with untreated runoff
[c] Additional sample collected after 7 days of consecutive discharge
[d] The number of reported exceedances (year total) is based on the sum of the exceedances reported in the quarterly reports
[e] Both the original and baseline toxicity tests were conducted outside of the prescribed hold time.
[f] Biochemical Oxygen Demand (BOD) and Chronic Toxicity, Selenastrum analyses were conducted outside of their prescribed hold time and the results were J flagged indicating estimated result that was measured between the method detection limit and reporting limit.

An investigation into the suspected causes of each exceedance is discussed in the following sections and more detail in in Appendix C. Potential sources evaluated included surface soils in or near areas of former operations (RFI Areas), pavement solids, treated wood and nearby soils, and offsite background soils (DTSC Characterization Study). Particulate strength calculations were used to determine if solids concentrations in potential sources are high enough to cause effluent limit or benchmark exceedances in stormwater. PS is the constituent concentration associated with particulate matter in stormwater and is a means to normalize stormwater constituent concentrations by TSS. A summary of the exceeding constituents at each outfall are shown in Table 6 below. The Surface Water Expert Panel developed

recommendations based on their review of these results. This year's recommendations are discussed in Section 5 of this report.

Table 6. Summary of Exceeding Constituents by Outfall

Parameter	Outfall 001	Outfall 002	Outfall 009	Outfall 011	Outfall 018	Total*
Biochemical Oxygen Demand (BOD)	0	0	0	0	1	1
Chronic Toxicity, Selenastrum	0	0	1**	0	0	1
Copper	0	0	1	0	0	1
Iron	1	1	NR	1	1	4
Manganese	1	0	NR	1	0	2
TCDD TEQ (no DNQ)	1	0	0	1	0	2
Total	3	1	2	3	2	11

NR = this parameter does not have a Permit Limit or Benchmark at this outfall

* Note this total reflects exceedances of concentration-based limits at Outfalls 001-018. Mass-based limits at outfalls and offsite Arroyo Simi results were not considered here.

** Both the original and baseline toxicity tests were conducted outside of the prescribed hold time.

2.2.1.1 Outfall 001

During the 2021/22 rainy season, there were two events (one qualifying rain event and one Outfall 011 SWTS discharge) that produced discharge at Outfall 001, with a total of three Benchmark exceedances measured. All measured exceedances occurred in the same sample collected during the 12/22-31/2021 rain event which, with a 25-year 24-hour recurrence interval, was the largest event during the monitoring period. Outfall 001 is located in the Southern Buffer Zone and the majority of the watershed was never subject to industrial uses, however, when stormwater discharges at Outfall 011, Outfall 001 can also receive that runoff. The 2021/22 exceeding sample was collected prior to the start of discharge at Outfall 011, so it is representative of conditions only in the Outfall 001 watershed.

A brief discussion of reported exceedances is as follows; for more information, a thorough analysis of the likely causes of exceedances is available in Appendix C:

- **Iron at Outfall 001:** Iron was detected above its daily maximum Benchmark of 0.3 mg/L once at Outfall 001 at 7.1 mg/L. The source is believed to be background soils, based on three independent lines of evidence: (1) the uniform spatial pattern indicates that all outfalls likely shared the same diffuse, site-wide source of iron in stormwater; (2) the outfall stormwater particulate strengths were in line with background stormwater samples and best explained by background soils out of all the solid source materials tested (although the iron content of the stormwater particulate strengths – which represent suspended solids that are finer sized than undisturbed soils - are higher than the bulk soil samples, likely due to different soil iron concentrations by particle size); and (3) metal ratios (iron to manganese) support natural background soils as the likely source of iron in the exceeding sample.

- **Manganese at Outfall 001:** Manganese was detected above its daily maximum Benchmark of 50 ug/L once at Outfall 001 at 110 ug/L. The source is believed to be background soils, based on three independent lines of evidence: (1) the uniform spatial pattern indicates that all outfalls likely shared the same diffuse, site-wide source of manganese in stormwater; (2) the outfall stormwater particulate strengths were in line with background stormwater samples and best

explained by background soils out of all the solid source materials tested (although the manganese content of the stormwater particulate strengths – which represent suspended solids that are finer sized than undisturbed soils - are higher than the bulk soil samples, likely due to different soil manganese concentrations by particle size); and (3) metal ratios (iron to manganese) support natural background soils as the likely source of manganese in the exceeding sample.

- **TCDD TEQ (no DNQ) at Outfall 001:** TCDD TEQ (no DNQ) was calculated to be above the daily maximum Benchmark of 2.8E-08 ug/L once at Outfall 001 at 2.9E-08 ug/L. The spatial patterns indicate sources contributing to elevated TCDD TEQ (no DNQ) concentrations varied by watershed. A comparison of particulate strengths in stormwater samples and solids concentration in potential source material samples suggests the TCDD TEQ (no DNQ) exceedances in stormwater likely had contributions from pavement solids fines and/or soils near treated wood (pentachlorophenol-treated utility poles). Both have been found to be potent sources of TCDD TEQ (100x exceeding stormwater concentrations) through potential source testing data collected by the Surface Water Expert Panel and Geosyntec. Additionally, impacted soils and background soils could not be ruled out and congener fingerprinting supports majority coming from these sources. Ratios to iron and manganese further supports background soils as a primary contributing source of TCDD TEQ (no DNQ) in the exceeding sample. Recommendations to address this exceedance include removing impacted soils at the Area 1 Burn Pit (i.e., the upcoming Imminent and Substantial Endangerment (ISE) project), evaluating new culvert modification media filters near the western side of the Area 1 Burn Pit that drains to OF001, and relocating pole wattles in pervious areas to capture more pole-impacted soils.

2.2.1.2 Outfall 002

During the 2021/22 rainy season, five events (two qualifying rain events, two SWTS discharges at OF018, and one 7-day follow up sample) produced sampleable discharge at Outfall 002, with one Benchmark exceedance. The exceedances occurred in the sample collected during the 12/22-31/2021 rain event. Outfall 002 is in the Southern Buffer Zone and the majority of the watershed was never subject to industrial uses, however, it also receives runoff from the Outfall 018 watershed when stormwater discharges at Outfall 018. Most discharges at Outfall 018 are fully treated SWTS discharges with the exception of overflow events noted in Section 2.2.1. The exceeding sample at Outfall 002 was collected during SWTS discharge at Outfall 018, representing a mix of treated stormwater from Outfall 018 and stormwater representative of conditions in the Outfall 002 watershed.

A brief discussion of the reported exceedance is as follows; for more information, a thorough analysis of the causes of exceedances is available in Appendix C:

- **Iron at Outfall 002:** Iron was detected above its daily maximum Benchmark of 0.3 mg/L once at Outfall 002 at 2.5 mg/L. The source is believed to be background soils, based on three independent lines of evidence: (1) the uniform spatial pattern indicates that all outfalls likely shared the same diffuse, site-wide source of iron in stormwater; (2) the outfall stormwater particulate strengths were in line with background stormwater samples and best explained by background soils out of all the solid source materials tested (although the iron content of the stormwater particulate strengths – which represent suspended solids that are finer sized than undisturbed soils - are higher than the bulk soil samples, likely due to different soil iron

concentrations by particle size); and (3) metal ratios (iron to manganese) support natural background soils as the likely source of iron in the exceeding sample.

2.2.1.3 Outfall 008

During the 2021/22 rainy season, there was one qualifying rain events that produced sampleable discharge at Outfall 008. No Permit limit exceedances were measured in this sample.

2.2.1.4 Outfall 009

During the 2021/22 rainy season, there were three events (two qualifying rain events and one 7-day follow up sample) that produced sampleable discharge at Outfall 009. Two Permit limit exceedances were measured. Exceedances occurred during the two storm events in December 2021.

A brief discussion of reported exceedances is as follows; for more information, a thorough analysis of the causes of exceedances is available in Appendix C:

- **Copper at Outfall 009:** Copper was detected above its daily maximum Permit Limit of 13 ug/L once at Outfall 009 at 15 ug/L. However, the laboratory reanalyzed the sample and copper was detected at 6.5 ug/L, which is below the effluent Permit Limit of 13 ug/L. The laboratory was not able to reconcile the two results (6.5 ug/L and 15 ug/L), which suggests a potential laboratory error. The spatial patterns indicate sources contributing to elevated copper concentrations were unique to Outfall 009. A comparison of particulate strengths in stormwater samples and solids concentration in potential source material samples was inconclusive and suggests the copper exceedance in stormwater at Outfall 009 could have come from either an unidentified source or is a result of laboratory error. These lines of evidence combined indicate a potential laboratory error is likely. Additional quality assurance measures have been recommended as a response to reduce future lab errors.

- **Chronic Toxicity (Selenastrum) at Outfall 009:** Chronic Toxicity exceeded the Permit Limit of 50% effect once, coming in at 57.25% effect. Based on this sample result, the laboratory initiated the Toxicity Identification Evaluation (TIE) process as part of Boeing's Initial Toxicity Reduction Evaluation (TRE) Work Plan and reanalyzed the sample to establish a baseline for the TIE (Haley & Aldrich, 2015). The baseline toxicity was reported as Pass with a % Effect of 20.49%. Both the original and baseline toxicity tests were conducted outside of the prescribed hold time. Because the chronic toxicity test failed but the baseline toxicity passed, the detection is considered episodic and the TRE process was ended.

2.2.1.5 Outfall 011

During the 2021/22 rainy season, there were two events (one qualifying rain event and one Outfall 011 SWTS discharge) that produced sampleable discharge at Outfall 011 and a total of three Benchmark exceedances were measured. All exceedances occurred in the same sample collected during the 12/22-31/2021 rain event during overflow at Perimeter Pond and are representative of stormwater partially treated by the media filter at the outfall.

A brief discussion of reported exceedances is as follows; for more information, a thorough analysis of the causes of exceedances is available in Appendix C:

- **Iron at Outfall 011:** Iron was detected above its daily maximum Benchmark of 0.3 mg/L once at Outfall 011 at 5.1 mg/L. The source is believed to be background soils, based on three

independent lines of evidence: (1) the uniform spatial pattern indicates that all outfalls likely shared the same diffuse, site-wide source of iron in stormwater; (2) the outfall stormwater particulate strengths were in line with background stormwater samples and best explained by background soils out of all the solid source materials tested (although the iron content of the stormwater particulate strengths – which represent suspended solids that are finer sized than undisturbed soils - are higher than the bulk soil samples, likely due to different soil iron concentrations by particle size); and (3) metal ratios (iron to manganese) support natural background soils as the likely source of iron in the exceeding samples.

- **Manganese at Outfall 011:** Manganese was detected above its daily maximum Benchmark of 50 ug/L once at Outfall 011 at 100 ug/L. The source is believed to be background soils, based on three independent lines of evidence: (1) the uniform spatial pattern indicates that all outfalls likely shared the same diffuse, site-wide source of manganese in stormwater; (2) the outfall stormwater particulate strengths were in line with background stormwater samples and best explained by background soils out of all the solid source materials tested (although the manganese content of the stormwater particulate strengths – which represent suspended solids that are finer sized than undisturbed soils - are higher than the bulk soil samples, likely due to different soil manganese concentrations by particle size); and (3) metal ratios (iron to manganese) support natural background soils as the likely source of manganese in the exceeding samples.

- **TCDD TEQ (no DNQ) at Outfall 011:** TCDD TEQ (no DNQ) was calculated to be above the daily maximum Benchmark of 2.8E-08 ug/L once at Outfall 011 at 3.9E-08 ug/L. The spatial patterns indicate sources contributing to elevated TCDD TEQ (no DNQ) concentrations varied by watershed. A comparison of particulate strengths in stormwater samples and solids concentration in potential source material samples suggests the TCDD TEQ (no DNQ) exceedances in stormwater likely had contributions from pavement solids fines and/or soils near treated wood (pentachlorophenol-treated utility poles). Both have been found to be potent sources of TCDD TEQ (100x exceeding stormwater concentrations) through potential source testing data collected by the Surface Water Expert Panel and Geosyntec. Additionally, impacted soils and background soils could not be ruled out and congener fingerprinting supports majority coming from these sources. Ratios to iron and manganese further supports background soils as a primary contributing source of TCDD TEQ (no DNQ) in the exceeding samples. Recommendations to address this exceedance include repairing the R-1 Pond berm to improve stormwater capture and treatment, removing impacted soils at the Area 1 Burn Pit (i.e., the upcoming Imminent and Substantial Endangerment (ISE) project), and relocating pole wattles in pervious areas to capture more pole-impacted soils.

2.2.1.6 Outfall 018

During the 2021/22 rainy season, there were three events (one SWTS discharge at OF018, one rain event with SWTS discharge comingled with partially treated stormwater at OF018, and one 7-day follow up sample of SWTS discharge) that produced sampleable discharge at Outfall 018 and two Permit Limit exceedances were measured. Both exceeding samples were solely SWTS discharge at Outfall 018.

A brief discussion of the reported exceedance is as follows; for more information, a thorough analysis of the causes of exceedances is available in Appendix C:

- **Iron at Outfall 018:** Iron was detected above its daily maximum Benchmark of 0.3 mg/L once at Outfall 018 at 0.53 mg/L. The exceedance was in a 7-day follow-up sample, reflecting treated SWTS discharge only. Because the particulate strength of the sample was estimated due to TSS not being detected and because this sample is of treated stormwater discharge, it is possible that treatment may have had an effect on the usual lines of evidence used to evaluate exceedance sources. The source of the iron exceedance remains inconclusive. Iron concentrations and particulate strengths will be evaluated in the next SWTS samples to determine if an operational change is needed or if it was a sporadic event.

- **Biological Oxygen Demand (BOD) at Outfall 018:** Biological oxygen demand was measured above its daily maximum Permit Limit of 50 mg/L once at Outfall 018 at 66 mg/L. The exceedance was during a period of SWTS discharge comingled with SWTS-bypassed stormwater and the analysis was conducted outside of its prescribed hold time. Upon a closer review, the laboratory stated this is (likely) a laboratory error for the following reasons: (1) high dissolved oxygen (DO) concentrations typically correlate to a low BOD result, however, at the time of sampling, dissolved oxygen concentrations were near saturated concentrations (7.96 mg/L), and saturated (elevated) DO conditions are inconsistent with elevated BOD and (2) the laboratory ran multiple dilutions, but each dilution yielded contradictory BOD results with the final reported result conducted outside of the holding time. Additionally, BOD has never been detected above 10 mg/L at Outfall 018, including in samples collected prior to the treatment systems. Therefore, based on the historical record and issues identified by the laboratory, this exceedance is likely due to a laboratory error rather than an accurate representation of concentration in the discharge. Additional quality assurance measures have been recommended as a response to reduce future lab errors.

2.2.2 Treatment BMP Performance Monitoring

Although performance monitoring of BMPs is not a direct NPDES Permit requirement, the Surface Water Expert Panel recommended individual BMPs be monitored to assess their ability to remove stormwater COCs before they reach the NPDES outfalls. At the recommendation of the Panel, the frequency of BMP performance monitoring was temporarily reduced to 2 samples per year after 2016/17 and until additional remediation related activities at the Site were resumed. Such activities had not yet resumed as of the 2021/22 rainy season. Performance monitoring of the passive treatment BMPs in the Outfall 009 Watershed was conducted throughout the 2021/22 reporting year as outlined in the *2021/22 Rainy Season Sampling and Analysis Plan (SAP) Updates, Best Management Practice (BMP) Monitoring Program* ("2021/22 SAP") (Appendix A to this report) (HAI, 2021). The SAP is updated annually, with the 2022/23 sampling update forthcoming as discussed in Section 5.2.1. In addition to the passive treatment BMP sampling this year, untreated influent samples were collected at the two active SWTSs in Outfall 011 an 018. The results of these influent samples and corresponding treated discharge at the Outfalls are discussed in Section 4.

Where possible, structural BMPs at the Site are designed to treat the Expert Panel's recommended site-specific design storm, or the 24-hour duration, 1-year recurrence interval storm event of 2.53 inches, where sufficient space is available. Rip rap grade control structures were placed strategically within the 24-hour, 1-year design storm depth of 2.53 inches was exceeded at various times on December 14, 15,

23, 24, 30, and 31, 2021. Overflow of the CM weir boards was recorded via BMP observations at CM-3 during December 23 – 24 and CM-1 on December 30, 2021.

Outfall 009 watershed passive treatment BMP monitoring results are summarized in Table 7 along with copper, lead, mercury, and dioxins results observed above Outfall 009 Permit Limits, noting that BMP monitoring results in excess of Permit Limits are provided solely as a reference for relative water quality since Permit Limits and Benchmarks are only applicable to discharges at NPDES outfalls. Of the 53 BMP performance samples collected in Outfall 009 Watershed subareas, 30 were influent samples, 3 were intermediate samples, 17 were effluent samples, and 3 were non-BMP subarea samples. Of the BMP subarea influent samples, concentrations of copper, lead, mercury, and dioxins were above Permit Limits in 12% (2 of 17), 13% (2 of 16), 4% (1 of 23), and 60% (18 of 30) of the results, respectively. Of the treated BMP effluent samples, copper, lead, mercury, and dioxins limits for NPDES outfalls were surpassed in 0% (0 of 11), 0% (0 of 11), 0% (0 of 12), and 41% (7 of 17) of the results, respectively. These decreases of exceeding concentrations from influent to effluent indicate the BMPs are still working as expected.

An annual BMP Performance Analysis is conducted to evaluate performance of existing treatment control BMPs in the Outfall 009 Watershed using statistical, temporal, and other data analysis approaches. Performance monitoring data collected in 2021/22 has been incorporated into the collective BMP Performance Analysis dataset initiated in December 2009. Out of the numerous constituents analyzed at performance monitoring sample points, the specific COCs total lead, total copper[20], and dioxins (TCDD TEQ no DNQ) were selected for detailed analyses given the number of Permit Limits exceedances initially observed of these COCs at Outfall 009.

As in previous years, the Surface Water Expert Panel has overseen and reviewed the 2021/22 BMP performance analysis, evaluating results in consideration of any new BMP or monitoring recommendations that may be beneficial. Initial results were presented to the Expert Panel in a July 20-22, 2022 workgroup meeting. The Expert Panel then reviewed the draft BMP Performance Analysis report in October 2022. Panel recommendations regarding stormwater BMPs and BMP performance monitoring were developed during the reviews and incorporated into the recommendations presented in Sections 5.1 and 5.2 of this Annual Report. The final BMP performance report, *2021/22 BMP Performance Analysis, Santa Susana Field Laboratory* (Santa Susana Surface Water Expert Panel and Geosyntec Consultants, 2022b), is included as Appendix D. Section 4 discusses its key findings.

In addition to the standard annual BMP performance analysis, two peer-reviewed journal articles were recently published using the extensive BMP performance monitoring data collected at SSFL. The papers, titled *Laboratory Media Test Comparisons to Long-Term Performance of Biofilter and Media Filter Treatment-Train Stormwater Controls* (Pitt, et al., 2021) and *Performance Changes during Long-Term Monitoring of Full-Scale Media Filter Stormwater Controls at an Industrial Site* (Pitt, et al., 2022), were both published in the Journal of Sustainable Water in the Built Environment. These articles demonstrate through rigorous statistical analysis that laboratory column testing of SSFL media mixtures were predictive of full-scale passive treatment BMP performance in the field, that long-term pollutant removal performance of these BMPs continue unchanged in the field despite many years of operation,

[20] Copper is not included as a pollutant of concern for the Outfall 009 watershed in the 2015 Expert Panel Work Plan. However, data for total copper are still presented in the paired line plots.

and that necessary maintenance being conducted at these controls has been successfully predicted based on the initial media laboratory tests.

Table 7. Outfall 009 BMP Performance Stormwater Monitoring Results, 2021/22 Reporting Year

Sampling Location	BMP	Sample Type	Count of Results Above OF009 Permit Limit[1] / Sample Count			
			Copper (14 ug/L)	Lead (5.2 ug/L)	Mercury (0.13 ug/L)	TCDD TEQ no DNQ (2.8E-8 ug/L)
LPBMP0003	Biofilter	Intermediate	1/2	0/2	1/2	1/2
LPBMP0002	Biofilter	Influent	1/2	0/2	0/2	1/2
LPBMP0004	Biofilter	Effluent	0/2	0/2	0/2	0/2
A2BMP0006	CM-1	Influent	0/1	NA	0/2	0/2
A2BMP0012	CM-1	Influent	NA	NA	0/2	0/2
EVBMP0003	CM-1	Influent	NA	NA	0/2	0/2
A2BMP0007	CM-1	Effluent	0/1	0/1	0/2	0/2
LXBMP0010	CM-3	Influent	0/1	0/1	0/1	0/1
LXBMP0011	CM-3	Influent	0/1	0/1	1/1	0/1
LXBMP0012	CM-3	Effluent	NA	NA	NA	0/1
A1BMP0002	CM-9	Influent	0/1	0/1	0/1	1/2
ILBMP0002	CM-9	Influent	1/1	1/1	0/1	1/2
A1BMP0003	CM-9	Effluent	0/1	0/1	0/1	1/2
EVBMP0001	ELV	Bypass	NA	0/1	0/2	NA
EVBMP0009	ELV	Intermediate	0/1	0/1	0/1	NA
EVBMP0007	ELV	Influent	NA	NA	0/1	0/1
EVBMP0008	ELV	Effluent	0/1	0/1	0/1	0/1
ILBMP0009	Admin area inlet filter	Influent	0/2	0/2	0/2	3/3
ILBMP0010	Admin area inlet filter	Effluent	0/2	0/2	0/2	3/3
BGBMP0003	LOX	Background	0/1	0/1	0/1	0/1
B1BMP0009	Upper Lot Media Filter	Influent	0/1	0/1	0/1	2/2

Sampling Location	BMP	Sample Type	Count of Results Above OF009 Permit Limit[1] / Sample Count			
			Copper (14 ug/L)	Lead (5.2 ug/L)	Mercury (0.13 ug/L)	TCDD TEQ no DNQ (2.8E-8 ug/L)
B1BMP0010	Upper Lot Media Filter	Influent	0/1	0/1	0/1	2/2
B1BMP0011	Upper Lot Media Filter	Effluent	0/1	0/1	0/1	2/2
ILBMP0004	Southern Detention Bioswale	Influent	0/3	1/3	0/3	4/4
ILBMP0008	Southern Detention Bioswale	Influent	0/3	0/3	0/3	4/4
ILBMP0005	Southern Detention Bioswale	Effluent	0/3	0/3	0/3	1/4
		BMP Influent	2/17	2/16	1/23	18/30
		BMP Intermediate	1/3	0/3	1/3	1/2
		BMP Effluent	0/11	0/11	0/12	7/17
		Background	0/1	0/1	0/1	0/1
		TOTAL	3/32	2/32	2/41	26/50

[1] Provided for reference – Table 7 Permit Limits apply at Outfall 009 only. NA indicates the analyte was not analyzed

2.2.3 Subarea Monitoring

Subarea stormwater sampling is used to identify potential locations for future BMPs. Subarea sampling was originally initiated in the Outfalls 009 watershed but discontinued after 2018/19 in light of the water quality improvements observed in Outfall 009 discharges.

Subarea samples were collected in the Outfall 001 and 002 Watersheds, considered "buffer zone" watersheds, beginning in 2019/20 to characterize runoff from both natural background areas and potentially impacted areas and facilitate investigations into the causes of repeated Benchmark exceedances in these areas. 12 samples were collected across the 6 subarea sampling locations in 2021/22.

Subarea samples were collected in the Outfall 011 Watershed beginning in 2021/22 to characterize runoff from the Area 1 Burn Pit and inform investigations into the causes of exceedances at Outfall 011. Six samples were collected across the 3 subarea sampling locations in 2021/22.

Subarea monitoring results are summarized in Table 8 below and in more detail in Appendix E.

Table 8. Subarea Stormwater Monitoring Results, 2021/22 Reporting Year

Watershed	Sample Location	Description	Sample Count	Results above NPDES Permit Limit or Benchmark (for reference only, not enforceable at subareas)					
				Cadmium	Copper	Lead	Mercury	TCDD TEQ No DNQ	Zinc
Outfall 001	EPSW001BG01	Non-industrial (Natural background with poles and gravel road)	4	0	4	4	3	4	4
	EPSW001IE01	Potential impacts from Area 1 Burn Pit and CTL-V	2	0	1	1	1	1	1
	EPSW001PV01	Non-industrial (Natural background with poles and paved road)	1	0	0	0	0	1	0
Outfall 002	EPSW002IE01	Potential impacts from STL-V	3	0	1	3	1	3	0
	EPSW002IE02	Potential impacts from Coca	2	0	2	2	1	2	2
Outfall 011	A1BPSW0001	Potential impacts from Area 1 Burn Pit	2	0	0	1	0	0	1
	A1BPSW0002	Potential impacts from Area 1 Burn Pit & gravel road	2	0	2	2	2	1	2
	A1BPSW0003	Potential impacts from Area 1 Burn Pit & gravel road	2	0	2	2	1	1	1

2.2.4 Demolition Subarea Monitoring

Per a 2020 SWEP recommendation to monitor stormwater near areas of demolition, subarea samples were collected to characterize runoff before reaching the Silvernale pond and SWTS for treatment. Following the completion of demolition activities of the Sodium Pump Test Facility (SPTF) in October

2021, two samples were collected on October 25, 2021 and December 14, 2021 and analyzed for metals, dioxins, radionuclides, and general water quality parameters. Concentrations in the stormwater sample collected at the SPTF demo site were above Outfall 018 Permit Limits in one or both samples for the following analytes: Arsenic, Cadmium, Chromium VI, Copper, Lead, Mercury, Zinc, Chronic Toxicity, Detergents (as MBAS), Iron, Manganese, and TCDD TEQ no DNQ. No radionuclides were detected above Outfall 018 Permit Limits in either SPTF subarea sample.

2.3 Northern Drainage Assessment

Recurring site investigations have been performed annually along the Northern Drainage during the 5 years from 2011/12 to 2016/17, as described in in the *Northern Drainage Restoration, Mitigation, and Monitoring Plan* (RMMP) (Haley & Aldrich, 2011).

Although the RMMP expired in 2017, the voluntary annual stream walk and inspection of in-channel erosion risk areas and sediment control conditions in lower portions of the Outfall 009 Watershed were held again on June 21, 2022. Three locations were identified for minor maintenance such as rearranging riprap intended for bank toe stabilization and removing accumulated sediment. No additional stabilization measures or maintenance activities were recommended this year.

2.4 Non-Industrial Sources Special Study

The Surface Water Expert Panel and Geosyntec developed the *Special Monitoring Studies for the 009 Watershed* ("Special Study Work Plan") (Santa Susana Surface Water Expert Panel and Geosyntec Consultants, 2015b), in part to address periodic lead and dioxins exceedances despite the implementation of numerous BMPs targeting former operational areas in the upper 009 watershed. Given previous findings from the BMP subarea monitoring at SSFL that runoff from paved subareas had significantly higher COC concentrations than that from unpaved subareas, regardless of whether impacted soils were known to be present in the drainage areas, the 2015 Special Study Work Plan posed the following questions as the basis for the Non-Industrial Sources Special Study:

1. Where are the predominant spatial locations within the Outfall 009 Watershed 009 contributing to dioxins and lead in stormwater?
2. What are the predominant sources of constituents in paved subareas -- e.g., either weathered or newly resurfaced pavement material itself, vehicles, treated wood utility poles, the historic shooting range area, and/or atmospheric deposition?

In 2017/18 the Expert Panel also recommended offsite sampling as well as sampling for lead isotopes in the Northern Drainage during 2018/19. The most recent lead and dioxins exceedances observed at Outfall 009 were in February 2017 and December 2018, respectively. The Non-Industrial Sources Special Study was again expanded through 2018/19 Annual Report recommendations for the inclusion of additional parameters and potential sources that could be affecting stormwater quality in the Southern Buffer Zone. The frequency and sampling dates of resulting sampling programs are summarized in Table 9. Non-Industrial Sources Special Study monitoring activities and subsequent analyses were completed in 2021/22. Over the course of this study, numerous COCs have been found to exceed Permit Limits in stormwater samples collected from the onsite and offsite background and non-industrial locations to date. A summary report is in progress and will be shared in 2022/23.

Table 9. Non-Industrial Sources Special Study – Monitoring Events Planned and Completed

Activity	Event Frequency	Events Completed/ Scoped	Consti-tuents Analyzed	Completed Event Dates	
Atmospheric Deposition (2 sites)	Monthly	12/12	Lead, Dioxins	6/14/2016 7/14/2016 8/16/2016 9/16/2016 10/17/2016 11/15/2016	12/13/2016 3/14/2017 4/27/2017 5/31/2017 6/28/2017 7/31/2017
Pavement Solids (6 sites)	Quarterly	5/5	Lead, Dioxins	6/14-15/2016 7/28-29/2016 10/25-26/2017	3/13-14/2017 8/23-24/2017
Soils Near Treated Wood Poles (18 sites)	Single sampling event	1/1	Lead, Dioxins	5/11-12/2016	
Northern Drainage Stormwater (7 sites)	Storm-based	12/12	Lead, Dioxins	3/7/2016 (4 of 7 sites) 12/24/2016 (4 of 7) 1/9/2017 (4 of 7) 1/19/2017 (5 of 7) 2/4/2017 (6 of 7) 2/11/2017 (6 of 7)	2/17/2017 (7 of 7) 2/26/2017 (6 of 7) 3/22/2018 (5 of 6) 12/6/2018 (2 of 6) 2/18/2019 (6 of 6) 3/2/2019 (6 of 6)
Northern Drainage Sediments (7 sites)	Single sampling event	2/2	Lead, Dioxins	3/25-28/2016 (7 sites) 9/7/2017 (8 sites)	
Offsite Pavement Solids from Public Roads (3 sites)	Single sampling event	1/1	Lead, Dioxins	11/7/2018	
Offsite Stormwater Runoff from Public Roads (4 sites)	Storm-based	3/3	Lead, Dioxins	3/2/2018 3/22/2018 1/14/2019	
Lead Isotope Study	Single sampling event	1 solid, 6 stormwater / 1 solid, 10 stormwater	Lead Isotopes	Shooting Range Soil: 8/27/2018 Background Soil: 8/28/2018 ND Sediment: 8/29-30/2018 Atmospheric Deposition: 10/2/2018 Pavement Solids: 10/2/2018 Lead Shot: 8/27/2018 Stormwater: 2/18/2019, 2/28/2019, 3/8/2019, 3/21/2019, 12/24/2019, 3/16/2020	

Activity	Event Frequency	Events Completed/ Scoped	Constituents Analyzed	Completed Event Dates
Pavement Solids (6 sites)	Single sampling event	1/1	Metals, Dioxins	11/20/2018
Core Sample of Treated Wood Poles (9 sites)	Single sampling event	1/1	Dioxins, Pentachlorophenol (PCP)	10/6-7/2020
Southern Buffer Zone Soils Near Treated Wood Poles (7 sites)	Single sampling event	1/1	Metals, Dioxins, PCP	11/24/2020
Southern Buffer Zone Soils Near Metal Stakes (5 sites)	Single sampling event	1/1	Metals	11/23/2020
Southern Buffer Zone Gravel Road Solids (5 sites)	Single sampling event	1/1	Metals	11/23/2020
Soils Near Replaced Treated Wood Poles (6 sites)	Single sampling event	1/1	Metals, Dioxins, PCP	11/2-3/2021
Soil Step Out Sampling Near Treated Wood Poles (1-20 ft) (6 sites)	Single sampling event	1/1	Dioxins, PCP	11/2-3/2021
Stormwater Runoff from Treated Wood Poles (4 pairs of sites)	Storm-based	2/2	Dioxins, PCP	12/14/2021; 03/28/2022
Rinsate from Treated Wood Poles (9 samples)	Single sampling event	1/1	Metals, Dioxins	2/14/2022
Treated Wood Pole Chips (6 samples) & Fire Deterrent Mesh Wrap (1 sample)	Single sampling event	1/1	Metals, Dioxins	2/14/2022

Note: shaded rows indicate sampling events during the 2021/22 reporting year

3 BMP Activities

The following sections summarize the construction and demolition activities conducted at SSFL and BMP activities within each watershed (e.g., new BMPs, inspections, maintenance, etc.) in 2021/22.

3.1 Demolition

DOE demolition activities of above ground portions of the Sodium Pump Test Facility (SPTF) were completed in October 2021. Stormwater from this area was sampled as described in Section 2.2.4. Demolition activities were covered by a separate Construction SWPPP, which was reviewed by the Surface Water Expert Panel.

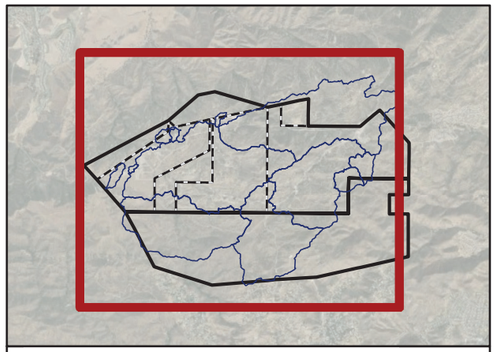
3.2 Recent Activities and Maintenance

Maintenance and other activities conducted at SSFL outfalls and BMPs in 2021/22 included BMP repairs and replacements, removal of sediment and debris from outfalls following large storm events, and inspections of existing erosion and sediment controls and vegetation across the site and repairing or supplementing where needed. They are incorporated by reference through the following quarterly NPDES Discharge Monitoring Reports (DMRs).

- The Boeing Company, 2021a. *Third Quarter 2021 NPDES Discharge Monitoring Report, Compliance File CI-6027 and NPDES No. CA0001309, Santa Susana Field Laboratory, Ventura County, California.* November 15.
- The Boeing Company, 2021b. *Fourth Quarter 2021 NPDES Discharge Monitoring Report, Compliance File CI-6027 and NPDES No. CA0001309, Santa Susana Field Laboratory, Ventura County, California.* February 15.
- The Boeing Company, 2022a. *First Quarter 2022 NPDES Discharge Monitoring Report, Compliance File CI-6027 and NPDES No. CA0001309, Santa Susana Field Laboratory, Ventura County, California.* May 15.
- The Boeing Company, 2022b. *Second Quarter 2022 NPDES Discharge Monitoring Report, Compliance File CI-6027 and NPDES No. CA0001309, Santa Susana Field Laboratory, Ventura County, California.* August 15.

As recommended in the 2020/21 SSFL Site-Wide Stormwater Annual Report (Surface Water Expert Panel and Geosyntec, 2021), the following BMP maintenance, improvement, and monitoring actions were taken this past season in addition to ongoing recommendations listed in Section 4:

- Removed 42 unused treated wood utility poles off Boeing and 12 poles off NASA property, mostly in the Outfall 009 and 011 watersheds, between April-June 2022 as shown in Figure 6.



Legend

- NPDES Outfall
- Drainage
- Drainage Area
- Property Boundary
- Administrative Boundary

Pole Type

- Fiberglass Poles
- Metal Poles
- Mesh Wrapped Poles
- New Wood Poles
- Wood
- Utility Poles Removed v.Jul2022

0 700 1,400 2,800 Feet

Figure 6. Utility Pole Locations and Materials

Santa Susana Field Laboratory
Ventura County, CA

July 2022

Date: 7/26/2022, Path: Z:\GIS\Projects\Boeing\SSFL\2022 CWR0724\XX_SSFL_CWR0724_UtilityPoleUpdate_220725.mxd, User: Lauren.Godinez

Geosyntec consultants

N

BUFFER
NASA
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AREA IV
AREA II
AREA I
AREA III
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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

4 Summary of Key 2021/22 Findings

To conclude the analyses referenced above, the following findings are provided. These findings inform the new BMP and monitoring recommendations that are presented in Section 5.

a. **The passive distributed treatment controls in the Outfall 009 Watershed continue to perform well despite many years of operation.**
Performance monitoring of the distributed treatment controls in the Outfall 009 Watershed demonstrates continued water quality improvement, which supports NPDES compliance at Outfall 009. Historically, most grouped BMP-COC combinations showed a reduction in the average and maximum concentrations of effluent results as compared to the influent results. Overall, constituent loads are being reduced, both because concentrations are being reduced, and because runoff volumes are being reduced by phased upstream pavement and building removal accompanied by revegetation and stormwater runoff attenuation in BMPs. The effluent from the administrative area inlet filters and detention bioswales comingles with untreated stormwater runoff from other areas within the upper Outfall 009 watershed and becomes influent to the lower lot biofilter for additional treatment.

Figure 7 and Figure 8 present summaries of influent and effluent monitoring results for dioxins and lead by BMP group[21]. The Outfall 009 Permit Limit is shown for reference only as it is not applicable at these internal BMP influent and effluent monitoring locations.

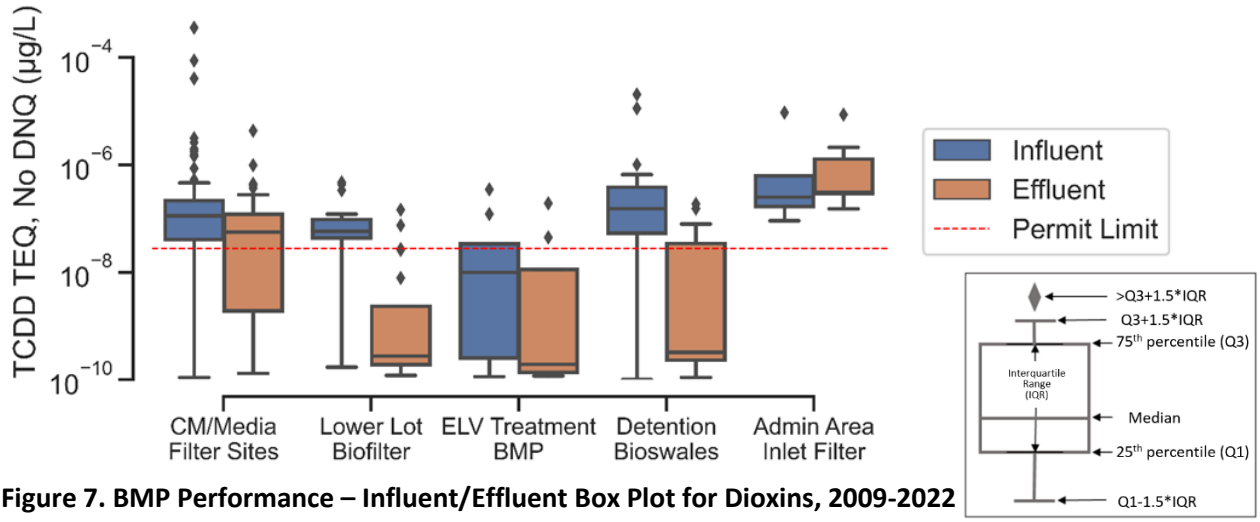

Figure 7. BMP Performance – Influent/Effluent Box Plot for Dioxins, 2009-2022

[21] Box plots identify the medians, interquartile ranges (IQRs) from the 25th-percentile to 75th-percentile values, and the 1.5x quartile values; outliers beyond the 1.5x quartile values are plotted as diamonds.

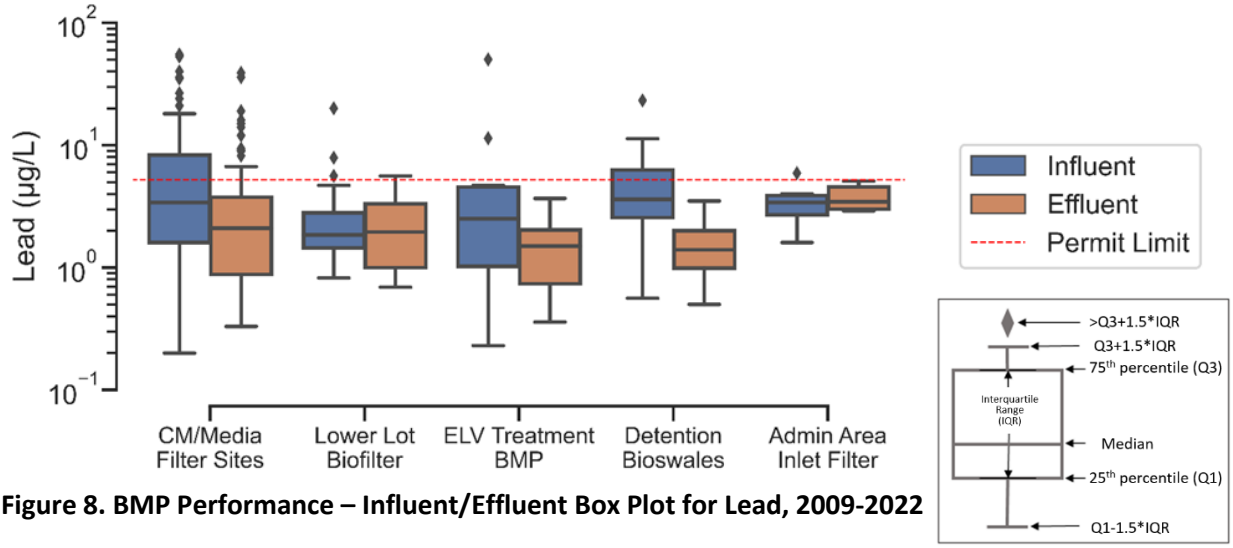

Figure 8. BMP Performance – Influent/Effluent Box Plot for Lead, 2009-2022

b. The two active stormwater treatment systems (SWTSs) are also performing well, as evidenced by compliance results at Outfalls 011 and 018 as well as reductions in concentration observed between untreated SWTS influent and treated Outfall discharge samples.

Untreated stormwater runoff entering the SWTSs was sampled once each at the Outfall 011 and 018 SWTSs and analyzed for the full monitoring suite required at the corresponding NPDES Outfall. Influent sampling at both SWTS is planned to continue in 2022/23 as required in the pending NPDES Permit. Most of the parameter concentrations in the untreated influent samples were below the Permit Limits applicable at the corresponding NPDES Outfall. A summary of SWTS influent results is as follows:

- Oil & Grease, mercury, iron, manganese, and TCDD TEQ (no DNQ) were detected above the Permit Limit in the influent samples at one or both SWTS
- One non-detect result had a detection limit above the applicable threshold (<9.1 ug/l result vs 6 ug/l Permit Limit/MCL for perchlorate)
- Most radionuclides[22] were not detected and those detected were well below Permit Limits
- ***No analytes were detected above CA Primary MCLs in the untreated influent samples***

Effluent concentrations as measured in discharge at Outfall 011 and 018 indicated reductions from influent concentrations. This is summarized for a subset of analytes in Table 10.

Table 10. SWTS Influent and Effluent Comparison

Analyte	Units	Daily Maximum Permit Limit	Outfall 018 SWTS Influent Sample 12/25/2021	Outfall 018 Discharge Sample 12/26/2021	Outfall 011 SWTS Influent Sample 1/10/2022	Outfall 011 Discharge Sample 1/18/2022

[22] Radionuclides analyzed were Gross Alpha, Gross Beta, Combined Radium-226 & Radium-228, Strontium-90, Tritium, Cesium-137, Uranium, and Potassium-40

Analyte	Units	Daily Maximum Permit Limit	Outfall 018 SWTS Influent Sample 12/25/2021	Outfall 018 Discharge Sample 12/26/2021	Outfall 011 SWTS Influent Sample 1/10/2022	Outfall 011 Discharge Sample 1/18/2022
Oil & Grease	mg/L	15	0.74 J	ND < 0.54	710	ND < 0.53
Mercury	µg/L	0.1	0.11 J	ND < 0.12	ND < 0.12	ND < 0.12
Lead	µg/L	5.2	3.2	ND < 0.5	0.87	ND < 0.5
Iron	mg/L	0.3	2.2	ND < 0.05	1.2	0.092
Manganese	µg/L	50	77	15	19 J	25
Perchlorate	µg/L	6.0	ND < 9.1	ND < 0.91	3.9	ND < 0.95
Trichloroethene (TCE)	µg/L	5	ND < 0.17	ND < 0.17	ND < 0.17	ND < 0.17
Gross Alpha	pCi/L	15	4.46+/-2.73	2.1+/-1.82	1.92+/-1.27	0.55+/-1.39
Gross Beta	pCi/L	50	4.17+/-1.75	4.07+/-1.12	3.68+/-0.904	2.81+/-1.01
TCDD TEQ (no DNQ)	µg/L	2.8E-08	6.1E-08	ND	1.3E-08	ND

Note: J indicates the analyte concentration was detected but not quantified due to being between the method detection limit and reporting limit levels. ND indicates the analyte was not detected above the method detection limit.

c. Boeing and NASA continue to implement Surface Water Expert Panel BMP and monitoring recommendations.

As described in Sections 1.3 and 3.2, recommendations from the Surface Expert Panel continue to be implemented at the site in order to continue to improve stormwater quality. A summary of recommendations from the 2020/21 Annual Report and their status to-date are provided in Table 11 and Table 12.

Table 11. Summary of 2020/21 Surface Water Expert Panel BMP Recommendations

Watershed	Recommendation	Status
Sitewide	Continue to involve the Expert Panel on review of all demolition and cleanup SWPPPs site-wide	Completed and ongoing
Sitewide	Continue to monitor the condition of existing erosion and sediment controls and vegetation across the site and repairing or supplementing where needed	Completed and ongoing
Sitewide	Move treated wood utility pole BMPs (wattles, biobags) further from poles to better contain pole-impacted soils	In progress, conducted sampling to inform what distance to recommend
Sitewide	Remove unused treated wood utility poles	First phase completed, additional removal planned
Outfall 009	Observe the newly reconstructed CM-3 to assess its	Completed and ongoing

	performance over time	
Outfall 009	Observe post-storm ponding at CM-9 in the coming year to check for indications of clogging	Completed and ongoing
Outfall 009	Continue to maintain check dams in the Northern Drainage and remove accumulated sediments as needed to preserve their function	Completed and ongoing
Outfall 009	Although the administrative area inlet filters do not appear to be removing lead and dioxins as desired, the Expert Panel has recommended to leave them in place to help as a trash control.	Completed - No action needed

Table 12. Summary of 2020/21 Surface Water Expert Panel Monitoring Recommendations

Program	Recommendation	Status
Stormwater Monitoring	Continue to sample all Outfall 009 BMP performance sites during two events per year	Completed and ongoing
Stormwater Monitoring	Continue to complete full BMP performance inspection checklists for all BMPs which includes visiting each during every storm event to observe whether there is stormwater discharging and again 72 hours after the end of each rain event to observe if any ponded water remains.	Completed with some exceptions, and ongoing
Stormwater Monitoring	Continue subarea monitoring in Outfall 001 and 002 watersheds during all runoff-producing storm events	Completed and ongoing
Stormwater Monitoring	Continue to also analyze for the filtered form of each metal when total metals are already being analyzed in Outfall samples as required by the Permit.	Completed and ongoing
Stormwater Monitoring	Restart background subarea monitoring during all runoff-producing storm events to evaluate natural background contributions of constituents found in stormwater at these Outfalls.	Completed and ongoing
Stormwater Monitoring	Start subarea monitoring in Outfall 011 watershed during all runoff-producing storm events to evaluate stormwater constituent contributions from Area 1 Burn Pit.	Completed and ongoing, reduce to most characteristic location
Northern Drainage	Continue to hold off on monitoring at Northern Drainage subarea sampling locations. If a lead exceedance is measured at Outfall 009, reevaluate monitoring at these locations, or at one site downstream of the shooting range.	Completed, no action needed due to no lead exceedances
Northern Drainage	A continued annual assessment of sediment delivery and erosion along this important reach of drainage is recommended	Completed and ongoing
Special Studies	Analysis of lead isotope sampling results to determine if the former shooting range is contributing lead to Outfall 009.	Completed

Special Studies	Wet weather sheet flow sampling upgradient and downgradient of pentachlorophenol (PCP) treated utility poles with and without BMPs (permeable barriers). The objective is to assess the impact of poles on runoff and the effectiveness of BMPs in reducing metals and dioxins.	Completed
Special Studies	Dry weather step-out sampling of soils upgradient and downgradient of treated wood utility poles. The objective is to determine the area around PCP treated utility poles that is impacted by metals and dioxins, so that BMPs can be effectively implemented.	Completed
Special Studies	Sampling near newly installed fiberglass utility poles in the Southern Buffer to determine if soils remain impacted after replacement.	Completed
Special Studies	Sampling of gross alpha in undeveloped subwatersheds and dioxin in subwatersheds with treated wood poles to better assess background and non-industrial sources to stormwater.	Completed and ongoing

d. Exceedances measured in 2021/22 (none of which exceeded primary drinking water standards) do not change prior stormwater Human Health Risk Assessment conclusions that there are not elevated human health risks from exposure to SSFL stormwater discharge.

This year's exceedance concentrations were within the previous ranges evaluated for the HHRA, with the exception of the 2021/22 copper exceedance at Outfall 009. However, the accuracy of this laboratory result is questioned due to QAQC concerns (as described in previous section 2.2.1) and the measured concentration is approximately 100x below the drinking water action level. Thus, the HHRA conclusions still hold true, that exposure to SSFL stormwater today does not represent an elevated risk to human health through the exposure pathways that were evaluated, which do *not* include drinking stormwater.

An additional evaluation was performed this year to assess human health risks through *drinking water*. While SSFL stormwater is not directly used for drinking water, some of its surface receiving waters may be designated for municipal supply use (or *potential* municipal supply use) or for recharge to groundwater that may be designated for municipal supply use (which would receive soil aquifer treatment, the process of natural contaminant attenuation that occurs as water passes through the vadose zone). Therefore, many of the SSFL Permit Limits and Benchmarks are based on drinking water-based objectives – i.e., primary Maximum Contaminant Levels (MCLs). However, in 2021/22 there were no outfall sample exceedances of the California primary MCLs themselves. **Therefore, SSFL stormwater discharges during the 2021/22 year are not found to represent an elevated risk to human health through drinking.**

5 Recommendations

5.1 BMP Recommendations

The following sections outline the site-wide and watershed-specific BMP recommendations, which are designed to address recent exceedances of Permit Limits and Benchmarks or to continue ongoing special studies. Watershed-specific recommendations are not proposed for the Outfall 002, 008, or 018 watersheds because they are covered in site-wide measures (e.g., erosion control), Outfall 008 did not have any new exceedances, and this year's exceedances at Outfall 002 and 018 were either due to natural soils (iron at Outfall 002 and 018) or were likely due to laboratory QA/QC issues (BOD at Outfall 018).

5.1.1 Site-Wide Recommendations

The Expert Panel recommends:

- continuing to involve the Surface Water Expert Panel on review of all demolition and cleanup SWPPPs site-wide to assess the robustness of the construction BMPs being used during these important source removal projects, including the proposed interim cleanup measures at the former shooting range near the Northern Drainage in the 009 watershed and the Area 1 Burn Pit near Outfall 011;
- implementing any additional Panel-recommended erosion and sediment controls in the Shooting Range and Area 1 Burn Pit areas and inspecting these BMPs (by a construction stormwater BMP expert) prior to initiating the proposed interim cleanups;
- continuing to monitor the condition of existing erosion and sediment controls and vegetation across the site and repairing or supplementing where needed;
- moving treated wood utility pole BMPs (wattles, biobags) 10 ft from poles on pervious surfaces, prioritizing the downgradient direction, to better contain pole-impacted soils;
- evaluating options to enable a faster startup of SWTSs;
- evaluating pond storage volumes (above SWTSs) relative to the 2-year design storm and incremental benefit of increased storage;
- conducting a pond infiltration study, as detailed in Appendix F, to measure infiltration rates in Silvernale and R-1 ponds to address questions raised in public comments on the Permit renewal; and
- modeling design storm scenarios on Watersheds 011 and 018 to evaluate and recommend possible enhanced combined pond storage and treatment flowrate capacity.

5.1.2 Outfall 001 and 011 Watersheds

There were three Benchmark exceedances at Outfall 001 and two Permit Limit exceedances at Outfall 011 in the 2021/22 reporting year. The Expert Panel recommends evaluating the feasibility of the following BMPs in this watershed:

- a culvert modifications where the drainage crosses the gravel road downstream of the west side of the Area I Burn Pits;
- an upland stormwater treatment control measure (e.g., sedimentation basin) that could be useful during future site cleanup around the Area I Burn Pit; and
- repairs to R-1 pond berm.

5.1.1 Outfall 009 Watershed

There were two NPDES exceedances at Outfall 009 in the 2021/22 reporting year, so existing BMPs should continue to be observed and repaired as needed.

Based on cumulative solids loading calculations, it is estimated that CM-9 is nearly due for maintenance. As such, the Expert Panel recommends that post-storm ponding at CM-9 be closely observed in the coming year to check for indications of clogging.

The Expert Panel recommends continuing to maintain check dams in the Northern Drainage and culvert modifications on Sage Ranch and remove accumulated sediments as needed to preserve their function.

5.2 Monitoring Recommendations

The sections below outline recommendations made by the Expert Panel with respect to stormwater monitoring of potential and existing BMP subareas, continuation of as-needed inspections along the Northern Drainage, and potential additions to the non-industrial source special study.

5.2.1 Stormwater Monitoring

Informed by the data analyses contained in this report and its appendices, the Expert Panel recommends the following changes to the *2021/22 Sampling and Analysis Plan (SAP) Updates, Best Management Practice (BMP) Monitoring Program* (Haley & Aldrich, 2021) for the 2022/23 stormwater monitoring season:

- Continue to sample all Outfall 009 BMP performance sites during two events per year. The Panel will revisit all voluntary (i.e., not required by the NPDES Permit) monitoring frequencies when SSFL site remediation activities increase.
- Increase ELV sampling frequency to every storm until the performance of the rebuilt system can be characterized.
- Restart monitoring at the Northern Drainage sampling location immediately downstream of the shooting range during two events per year and increase to every storm event once the former shooting range area cleanup begins (EPNDSW04).
- Discontinue BMP performance monitoring at administrative area inlet filters.
- Continue to complete full BMP performance inspection checklists for all BMPs which includes visiting each BMP during every storm event to observe whether there is stormwater discharging and again 72 hours after the end of the rain event to observe if any ponded water remains.
- Continue to also analyze for the filtered form of each metal when total metals are already being analyzed in Outfall samples as required by the Permit.
- Continue background and non-industrial subarea monitoring at Sage Ranch (BGBMP0003) and offsite locations during all runoff-producing storm events to evaluate natural background and non-industrial contributions of constituents found in local stormwater.
- Continue subarea monitoring to evaluate stormwater constituent contributions from Area 1 Burn Pit in Outfall 001 and Outfall 011 watershed during all runoff-producing storm events (EPSW001IE01 and A1BPSW0001).
- Discontinue subarea monitoring in Outfall 001 and 002 watersheds (except for EPSW001IE01).
- Independently reevaluate laboratory's QAQC plan, use 3rd party blind standards, and run replicates for all analytes on at least one decaport-split sample to assess analytical variability in stormwater.

5.2.2 Northern Drainage

As specified in the RMMP, 2016/17 was the last year of required geomorphic monitoring. As such, near-term monitoring and maintenance continues to focus on NPDES compliance needs only. A continued annual assessment of geomorphic conditions, check structure and bank toe stabilization maintenance needs, and bank erosion along this important reach of drainage is recommended.

5.2.3 Non-Industrial Source Special Study

Initial monitoring activities associated with the Non-Industrial Source Special Study are now completed, as specified in Section 2.4.

6 Key Dates and Activities

6.1 Public Involvement

Numerous stakeholder groups and members of the public have expressed interest in stormwater topics at SSFL during past public engagements and Regional Board hearings. To provide progress updates as well as opportunities for feedback from the public, public forum meetings and site tours with the Surface Water Expert Panel have been held periodically from 2011 through the currently ongoing duration of the 2015 Work Plan. Project status reports and submittal documents have been posted on the Boeing project website following completion of major project milestones and in advance of public outreach meetings. Table 13 summarizes public engagement activities since the development of the 2010 BMP Plan (MWH et al., 2010). This year's public meeting was delayed due to all the activity surrounding the permit renewal and Memorandum of Understanding (MOU) hearings, however, the public meeting and site tour are scheduled for November 17, 2022. A public survey was sent out on October 12, 2022, to gauge topics of public interest and guide development of specific presentation topics by the Surface Water Expert Panel. The annual Surface Water Expert Panel presentation summarizes rainfall and site monitoring activities, BMP performance, results from internal subarea stormwater monitoring, and responses to public questions.

Table 13. Surface Water Expert Panel Public Involvement Activities, 2011-2022

Date	Activity
Planned for November 17, 2022	Public meeting and SSFL tour
August 19, 2021	Public meeting (virtual)
August 11, 2020	Public meeting (virtual)
July 17 2019	Public meeting and SSFL tour
May 9, 2019	Presentation to LARWQCB
May 25, 2018	Public meeting and SSFL tour
August 17, 2017	DIPCON LA Conference SSFL tour
March 21, 2017	Public meeting and SSFL tour
November 19, 2014	Community Action Group meeting
March 20, 2013	Public meeting and SSFL tour
October 6, 2013	Public meeting and SSFL tour
August 25, 2011	Public meeting
January 22, 2011	Public meeting and SSFL tour

6.2 NPDES Permit and Work Plan

The following milestones are planned for the remainder of the NPDES Permit term.

2022/23 and onward

Future Expert Panel activities will be determined based on requirements of the pending NPDES Permit renewal and the Regional Water Quality Control Board's and Boeing's requests for Expert Panel involvement.

6.3 Memorandum of Understanding (MOU) and Cleanup Activities

The following milestones are planned to support the MOU and cleanup activities.

2022/23

The Expert Panel will work closely with Regional Board staff and Geosyntec to develop a sitewide stormwater model as described in the Work Plan[23] (Geosyntec, 2022). Following completion of modeling, a post-cleanup subarea stormwater monitoring plan will be developed to sample areas within Boeing areas of SSFL that have been cleaned up. Offsite and onsite background and non-industrial subarea monitoring will continue in order to build the dataset used to calculate background stormwater thresholds that the post-cleanup monitoring samples will be compared against.

2023/24 and onward

Future Expert Panel activities will be determined by the pace of cleanup actions at the site. The Expert Panel will be involved with recommending and evaluating stormwater BMPs during cleanup and disturbed area stabilization, and with revegetation and confirmation monitoring after cleanup.

[23] The Work Plan was included as Attachment D to the MOU.

7 References

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The Boeing Company, 2021b. Fourth Quarter 2021 NPDES Discharge Monitoring Report, Compliance File CI-6027 and NPDES No. CA0001309, Santa Susana Field Laboratory, Ventura County, California. February 15.

The Boeing Company, 2022a. First Quarter 2022 NPDES Discharge Monitoring Report, Compliance File CI-6027 and NPDES No. CA0001309, Santa Susana Field Laboratory, Ventura County, California. May 15.

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Appendix A: 2021/22 Reporting Year Sampling and Analysis Plan

HALEY & ALDRICH, INC.
5333 Mission Center Road
Suite 300
San Diego, CA 92108
619.280.9210

10 December 2021
File No. 0129095-006

Mr. Peter Zorba
National Aeronautics and Space Administration
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, California 91304

Mr. Jeffrey Wokurka
The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, California 91304

Subject: 2021/2022 Rainy Season Sampling and Analysis Plan (SAP) Updates,
Best Management Practice (BMP) Monitoring Program
Santa Susana Field Laboratory
Canoga Park, California

Dear Mr. Zorba and Mr. Wokurka:

This letter presents the Sampling and Analysis Plan (SAP) updates to the Best Management Practice (BMP) subarea and BMP performance monitoring programs near or within the Outfalls 001, 002, 008, 009, and 011 watersheds at the Santa Susana Field Laboratory (SSFL) for the 2021/2022 rainy season, and serves as an addendum to the 2015/2016 and 2016/2017 rainy season SAPs (MWH Americas, Inc. [MWH], 2015; 2016) and the 2017/2018, 2018/2019, 2019/2020, and 2020/2021 SAPs (Haley & Aldrich, Inc. 2018a; 2018b; 2019; and 2020). BMP subarea monitoring is conducted at locations receiving runoff from potential source areas and other infrastructure (e.g., roads, buildings, parking areas) to evaluate the potential for contribution of constituents of concern (COCs) from the potential source areas to stormwater runoff and to identify locations for new BMPs. BMP performance monitoring is conducted at selected structural BMPs (e.g., Lower Parking Lot BMP, B1436 detention bioswales) to assess the effectiveness of the BMPs at promoting sediment settling and improving surface water quality to comply with NPDES benchmarks and permit limits at Outfalls 001, 002, 009, and 011.

The updates to the BMP monitoring program SAP for the 2021/2022 rainy season account for field observations of monitoring locations during the 2020/2021 rainy season and an evaluation of surface water sampling data collected to date. These updates are described below. In addition, attached to this letter are 2021/2022 rainy season versions of the SAP tables, figures and standardized BMP inspection forms. The changes described in this letter were developed with input from, and in accordance with, the recommendations from the SSFL Surface Water Expert Panel (Expert Panel) and Geosyntec

Consultants (Geosyntec) and were initially presented in the 2020/2021 Site-Wide Stormwater Annual Report (Surface Water Expert Panel and Geosyntec Consultants, 2021).

BMP Monitoring Updates

OUTFALL 009

Background subarea monitoring will be reinstated at four locations in the Outfall 009 watershed during the 2021/2022 rainy season.

- Two locations, A1SW0002 and A1SW0006, require only influent sampling, and will characterize background stormwater entering culvert modifications (CM) CM-8 and CM-11, respectively.
- The other two locations are in Sage Ranch Park; BGBMP0003 is within Area 1 just east of LOX, and BGBMP0004 (also previous Special Studies location EPNDSW05) is east of Area 1 and LOX, near the CM-5 tributary drainage.

These background subarea monitoring locations will be sampled every rain event that generates observable runoff, regardless of whether Outfall 009 flows. Samples will be analyzed for parameters as specified in Table I.

OUTFALL 011

A new subarea monitoring location in Outfall 011 watershed, A1BPSW0001, will be added to characterize runoff from the Area 1 Burn Pit (A1BP). This location is situated at the edge of the A1BP and the access road to Outfall 011.

A1BPSW0001 will be sampled every rain event that generates observable runoff from the A1BP during the 2021/2022 rainy season, regardless of whether Outfall 011 flows. Samples will be analyzed for parameters as specified in Table I.

BMP SAMPLING ACTIVITIES CONTINUING FROM THE 2020/2021 SAP

Subarea monitoring within the Outfalls 001 and 002 watersheds were previously established to evaluate sources of constituents found in stormwater at these outfalls. Monitoring will continue at the following locations for every rain event that produces sampleable discharge: EPSW001BG01, EPSW001IE01, EPSW001PV01, EPSW002BG01, EPSW002IE01, and EPSW002IE02. Sampling is required regardless of whether Outfalls 001 or 002 flow.

Monitoring active BMP performance sites within the Outfall 009 watershed will continue to be conducted twice a year, but with new specifications for the timing of each sampling event.

- One sample will be collected during the first discharge-producing rain event.
- The second sample will not be collected until Outfall 009 also flows.

All BMPs do not need to be sampled during the same rain event, but influent and effluent samples from a single BMP must be collected during the same event.

If a lead exceedance is measured at Outfall 009, sampling Northern Drainage subarea monitoring locations or one location downstream of the shooting range will be reevaluated.

The lower lot totalizer reading will be recorded after each pumping event, as feasible.

BMP INSPECTIONS AND FORMS

For active BMP sites within the Outfall 008 and 009 watersheds, the BMP performance inspection checklists will continue to be completed during every rain event exceeding 0.75 inches of rainfall, and once after the rainy season. The BMP Inspection Forms attached to this SAP will be used to document the inspections; these forms include observations, maintenance needs, and corrective actions and were revised in Fall 2021 to reflect current field conditions. As specified on each form, a standardized framed photo should be taken at the same location, facing the same direction, during each inspection.

Seventy-two hours after the end of each rain event exceeding 0.75 inches of rainfall, field crews will also inspect and record maximum ponding levels at locations listed in the Boeing 72 Hours After Rain Event Ponding Inspection Form and NASA 72 Hours After Rain Event Ponding Inspection Form. Both forms are included as attachments to this SAP. The ponding inspection may occur at a time slightly before or after the 72 hours.

CM-9 has approximately one year prior to its expected initial maintenance needs. To check for any indications of clogging during the 2021/2022 rainy season, CM-9 will be closely inspected and observed during each rain event and post-rain period. To assess performance following its recent reconstruction, CM-3 will also be inspected and observed with close attention during each rain event and post-rain period.

The new subarea monitoring location in Outfall 011 will also be inspected using the BMP Inspection and Ponding forms will be completed to record the runoff and ponding patterns in the area.

Sincerely yours,
HALEY & ALDRICH, INC.

Katherine Miller
Project Manager

Nancy E. Gardiner, CPESC, QSD, QISP
Program Manager

Enclosures:

References
Table I – BMP Monitoring Inspection Locations and Analytical Plan, 2021/2022 Rainy Season
Figure 1 – Outfall 009 and 011, BMP Monitoring Locations
Figure 2 – Outfall 009, B-1 and Lower Parking Lot Areas – Boeing
Figure 3 – Outfall 009, IEL Area – Boeing
Figure 4 – Outfall 009, AILF Area – Boeing
Figure 5 – Outfall 009, CMs South of LOX Area – NASA
Figure 6 – Outfall 009, CM-11
Figure 7 – Outfall 009, A2LF, CM-1, and Helipad Areas – NASA
Figure 8 – Outfall 009, ELV Area – NASA
Figure 9 – Outfalls 001 and 002, Potential BMP Monitoring Locations
Figure 10 – Outfall 001, Potential BMP Subarea
Figure 11– Outfall 001, Potential BMP Subarea
Figure 12 – Outfall 002, Potential BMP Subarea
Figure 13 – Outfall 002, Potential BMP Subarea
Figure 14 – Outfall 002, Potential BMP Subarea
Figure 15 – Outfall 011, Area 1 Burn Pit
BMP Inspection Forms – Outfalls 008, 009 and 011 – Boeing
BMP Inspection Forms – Outfall 009 – NASA
Boeing 72 Hours After Rain Event Ponding Inspection Form
NASA 72 Hours After Rain Event Ponding Inspection Form
Sample Collection Forms

References

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TABLE I
BMP MONITORING INSPECTION LOCATIONS AND ANALYTICAL PLAN
2021/2022 RAINY SEASON
SANTA SUSANA FIELD LABORATORY
CANOGA PARK, CALIFORNIA

Object ID	Sampling Responsibility	Location	Areas Monitored	Purpose	Notes	Sample Frequency[1]	**Cd, Cu, Pb, total recoverable** (Method 200.8)	**Hg, total recoverable** (Method 245.1 - Low Limits)	**Cd, Cu, Pb, total dissolved** (Method 200.8)	**Hg, total dissolved** (Method 245.1 - Low Limits)	**Dioxins** (Method 1613B)	**Total Suspended Solids** (Method 2540D)	**Particle Size Distribution** (Method ASTM D4462)	**Turbidity** (Method 180.1)	**Method 200.8:** As, Cd, Cu, Fe, Mn, Pb, Se **Method 200.7:** Zn **(total recoverable)**	**Method 200.8:** As, Cd, Cu, Fe, Mn, Pb, Se **Method 200.7:** Zn **(total dissolved)**	**SO4** (Method 300)	**Gross Alpha, total recoverable** (Method 900.0)	**Gross Alpha, total dissolved** (Method 900.0)	**Gross Beta, total recoverable** (Method 900.0)	**Gross Beta, total dissolved** (Method 900.0)	**SO4, Fluoride, Nitrate-N, Nitrite-N** (Method 300)	**Perchlorate** (Method 314.0)	**Trichloroethene** (Method 624.1)	**bis (2-ethylhexyl) phthalate** (Method 625.1)	**Cyanide** (SM 4500-CN-E)	**Total Combined Radium 226 & 228, Sr-90, Tritium** (Methods 903.0/903.1, 904, 905, 906.0)	**Chromium VI, total recoverable** (Method 218.6)	**Chromium VI, total dissolved** (Method 218.6)	**Method 200.8:** Ag, As, Ba, Be, Cd, Cr, Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl **Method 200.7:** B, Zn **(total recoverable)**	**Method 200.8:** Ag, As, Ba, Be, Cd, Cr, Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl **Method 200.7:** B, Zn **(total dissolved)**
A1BMP0002	Boeing	A1LF	CM-9, A1LF	US South, Treatment BMP Performance Monitoring	A1LF tributary drainage	Twice a year[2]	X	X	X	X	X	X	X																			
A1BMP0003	Boeing	A1LF	CM-9, A1LF, IEL, Area II Road	DS, Treatment BMP Performance Monitoring	CM-9 underdrain	Twice a year[2]	X	X	X	X	X	X	X																			
A2BMP0006	NASA	CM-1	CM-1	US East, Treatment BMP Performance Monitoring	CM-1 eastern tributary drainage	Twice a year[2]	X	X	X	X	X	X	X																			
A2BMP0007	NASA	CM-1	CM-1	DS, Treatment BMP Performance Monitoring	CM-1 culvert outlet	Twice a year[2]	X	X	X	X	X	X	X																			
A2BMP0012	NASA	CM-1	CM-1, Area II Road	US, Treatment BMP Performance Monitoring	Outlet pipe south side of road	Twice a year[2]	X	X	X	X	X	X	X	X																		
B1BMP0009	Boeing	B-1	B-1 Upper Parking Lot Media Filter	US North, Treatment BMP Performance Monitoring	Gunite swale conveying road runoff	Twice a year[2]	X	X	X	X	X	X	X																			
B1BMP0010	Boeing	B-1	B-1 Upper Parking Lot Media Filter	US South, Treatment BMP Performance Monitoring	Culvert outlet from upper parking lot area	Twice a year[2]	X	X	X	X	X	X	X																			
B1BMP0011	Boeing	B-1	B-1 Upper Parking Lot Media Filter	DS, Treatment BMP Performance Monitoring	Underdrains	Twice a year[2]	X	X	X	X	X	X	X																			
EVBMP0001	NASA	ELV	ELV, Helipad	ELV Treatment BMP Overflow Monitoring	Culvert inlet; runoff will only be present when rain events exceed ELV BMP design storm	Twice a year[2]	X	X	X	X	X	X	X	X																		
EVBMP0003	NASA	CM-1	CM-1, Area II Road	US West, Treatment BMP Performance Monitoring	Sheetflow along Area II Road upstream of sandbag berm	Twice a year[2]	X	X	X	X	X	X	X																			
EVBMP0007	NASA	ELV	ELV Treatment BMP	US, Treatment BMP Performance Monitoring	Sample port in BMP influent pipe prior to "T" connection	Twice a year[2]	X	X	X	X	X	X	X																			
EVBMP0008	NASA	ELV	ELV Treatment BMP	DS, Treatment BMP Performance Monitoring	Discharge from media filter tank pipe	Twice a year[2]	X	X	X	X	X	X	X	X																		
EVBMP0009	NASA	ELV	ELV Treatment BMP	Mid-Point, Treatment BMP Performance Monitoring	Composite of samples from eastern and western sample ports between settling tanks and media filter	Twice a year[2]	X	X	X	X	X	X	X	X																		
ILBMP0002	Boeing	A1LF	CM-9, IEL, Area II Road	US East, Treatment BMP Performance Monitoring	Culvert inlet off Area II Road	Twice a year[2]	X	X	X	X	X	X	X																			
ILBMP0004	Boeing	IEL	B1436 Southern Detention Bioswale	US, Treatment BMP Performance Monitoring	Concrete swale (western) diverting sheetflow into rock crib	Twice a year[2]	X	X	X	X	X	X	X																			
ILBMP0005	Boeing	IEL	B1436 Southern Detention Bioswale	DS, Treatment BMP Performance Monitoring	Bioswale underdrain (subsurface 12- inch drain connecting to existing culvert)	Twice a year[2]	X*	X*	X*	X*	X*	X	X																			
ILBMP0008	Boeing	IEL	B1436 Southern Detention Bioswale	US, Treatment BMP Performance Monitoring	Concrete swale (eastern) diverting sheetflow into rock crib	Twice a year[2]	X	X	X	X	X	X	X																			
ILBMP0009	Boeing	Administration bldgs. Area	Administration buildings area filter basket	Filter basket BMP Performance Monitoring	Influent (upstream) filter basket sample	Twice a year[2]	X	X	X	X	X	X	X																			
ILBMP0010	Boeing	Administration bldgs. area	Administration buildings area filter basket	Filter basket BMP Performance Monitoring	Effluent (downstream) filter basket sample	Twice a year[2]	X	X	X	X	X	X	X																			
LPBMP0002	Boeing	Lower Parking Lot	Lower Parking Lot BMP	US, Treatment BMP Performance Monitoring	Sample port in cistern discharge pipe	Twice a year[2]	X	X	X	X	X	X	X																			
LPBMP0003	Boeing	Lower Parking Lot	Lower Parking Lot BMP	Mid-Point, Treatment BMP Performance Monitoring	Sediment Basin outlet box	Twice a year[2]	X	X	X	X	X	X	X																			
LPBMP0004	Boeing	Lower Parking Lot	Lower Parking Lot BMP	DS Treatment BMP Performance Monitoring	Discharge from Biofilter effluent pipe	Twice a year[2]	X	X	X	X	X	X	X																			
LXBMP0010	Boeing	CM-3	Service Area Road BMP	US, Treatment BMP Performance Monitoring	Outlet pipe south side of road	Twice a year[2]	X	X	X	X	X	X	X																			
LXBMP0011	Boeing	CM-3	Background (Service Area Road BMP)	US, Treatment BMP Performance Monitoring	Natural drainage upstream of CM-3	Every Storm[3]		X		X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X	X
LXBMP0012	Boeing	CM-3	Service Area Road BMP	DS, Treatment BMP Performance Monitoring	Underdrains	Twice a year[2]	X	X	X	X	X	X	X																			
EPSW001BG01	Boeing	OF001 Watershed	Background (natural unimpacted areas)	Potential BMP Location	Located at the low spot along Bell Canyon Road and north of the road leading to Outfall 001.	Every Storm[3]		X		X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X	X
EPSW001IE01	Boeing	OF001 Watershed	Impacted Soils Evaluation (A1BP, CTL-V)	Potential BMP Location	At the bottom of the hill to the north of the intersection of the Southern Buffer Zone Road and Outfall 001 Road.	Every Storm[3]		X		X	X	X			X	X	X	X	X												
EPSW001PV01	Boeing	OF001 Watershed	Background (with paved areas)	Potential BMP Location	South side of the road heading towards Outfall 001 at the intersection of Outfall 001 road and Bell Canyon Road.	Every Storm[3]		X		X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X	X
EPSW002BG01	Boeing	OF002 Watershed	Background (natural areas)	Potential BMP Location	Located past the second water guzzler just before the steep incline into Outfall 002. Road delineator to the west of culvert.	Every Storm[3]		X		X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X	X
EPSW002IE01	Boeing	OF002 Watershed	Impacted Soils Evaluation (STL-IV)	Potential BMP Location	At STLV-IV. Immediately past the gates to the south east; adjacent to the new telephone pole.	Every Storm[3]		X		X	X	X			X	X	X	X	X												

TABLE I

BMP MONITORING INSPECTION LOCATIONS AND ANALYTICAL PLAN

2021/2022 RAINY SEASON

SANTA SUSANA FIELD LABORATORY

CANOGA PARK, CALIFORNIA

Object ID	Sampling Responsibility	Location	Areas Monitored	Purpose	Notes	Sample Frequency[1]	**Cd, Cu, Pb, total recoverable** (Method 200.8)	**Hg, total recoverable** (Method 245.1 - Low Limits)	**Cd, Cu, Pb, total dissolved** (Method 200.8)	**Hg, total dissolved** (Method 245.1 - Low Limits)	**Dioxins** (Method 1613B)	**Total Suspended Solids** (Method 2540D)	**Particle Size Distribution** (Method ASTM D4462)	**Turbidity** (Method 180.1)	**Method 200.8:** As, Cd, Cu, Fe, Mn, Pb, Se **Method 200.7:** Zn **(total recoverable)**	**Method 200.8:** As, Cd, Cu, Fe, Mn, Pb, Se **Method 200.7:** Zn **(total dissolved)**	**SO4** (Method 300)	**Gross Alpha, total recoverable** (Method 900.0)	**Gross Alpha, total dissolved** (Method 900.0)	**Gross Beta, total recoverable** (Method 900.0)	**Gross Beta, total dissolved** (Method 900.0)	**SO4, Fluoride, Nitrate-N, Nitrite-N** (Method 300)	**Perchlorate** (Method 314.0)	**Trichloroethene** (Method 624.1)	**bis (2-ethylhexyl) phthalate** (Method 625.1)	**Cyanide** (SM 4500-CN-E)	**Total Combined Radium 226 & 228, Sr-90, Tritium** (Methods 903.0/903.1, 904, 905, 906.0)	**Chromium VI, total recoverable** (Method 218.6)	**Chromium VI, total dissolved** (Method 218.6)	**Method 200.8:** Ag, As, Ba, Be, Cd, Cr, Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl **Method 200.7:** B, Zn **(total recoverable)**	**Method 200.8:** Ag, As, Ba, Be, Cd, Cr, Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl **Method 200.7:** B, Zn **(total dissolved)**
EPSW002IE02	Boeing	OF002 Watershed	Impacted Soils Evaluation (Coca)	Potential BMP Location	Located along the Southern Buffer Zone Road at the culvert inlet on the north side of the road. Approx. 400ft east of the turnout.	Every Storm[3]		X		X	X	X			X	X	X	X	X											
A1BPSW0001	Boeing	A1BP	Impacted Soils Evaluation (A1BP)	Potential BMP Location	At edge of A1BP and access road to Outfall 011.	Every Storm[3]		X		X	X	X			X	X	X	X	X											
A1SW0002	Boeing	CM-8	Background	US, Treatment BMP Performance Monitoring	CM-8 upstream, before treatment. Influent sample only.	Every Storm[3]		X		X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X
A1SW0006	Boeing	CM-11	Background	US, Treatment BMP Performance Monitoring	CM-11 upstream, before treatment. Influent sample only.	Every Storm[3]		X		X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X
BGBMP0003	Boeing	Sage Ranch	Background	US, Treatment BMP Performance Monitoring	Sage Ranch near LOX	Every Storm[3]		X		X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X
BGBMP0004	Boeing	Sage Ranch	Background	US, Treatment BMP Performance Monitoring	Sage Ranch - CM-5 tributary drainage east of LOX. Previous Northern Drainage special studies location (EPNDSW05).	Every Storm[3]		X		X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X

Notes:

[1] All BMPs do not need to be sampled during the same rain event, but influent and effluent samples from a single BMP must be collected during the same event.

*[2] One sample should be collected during the **first discharge event** and then wait until OF009 flows to take , the second sample.*

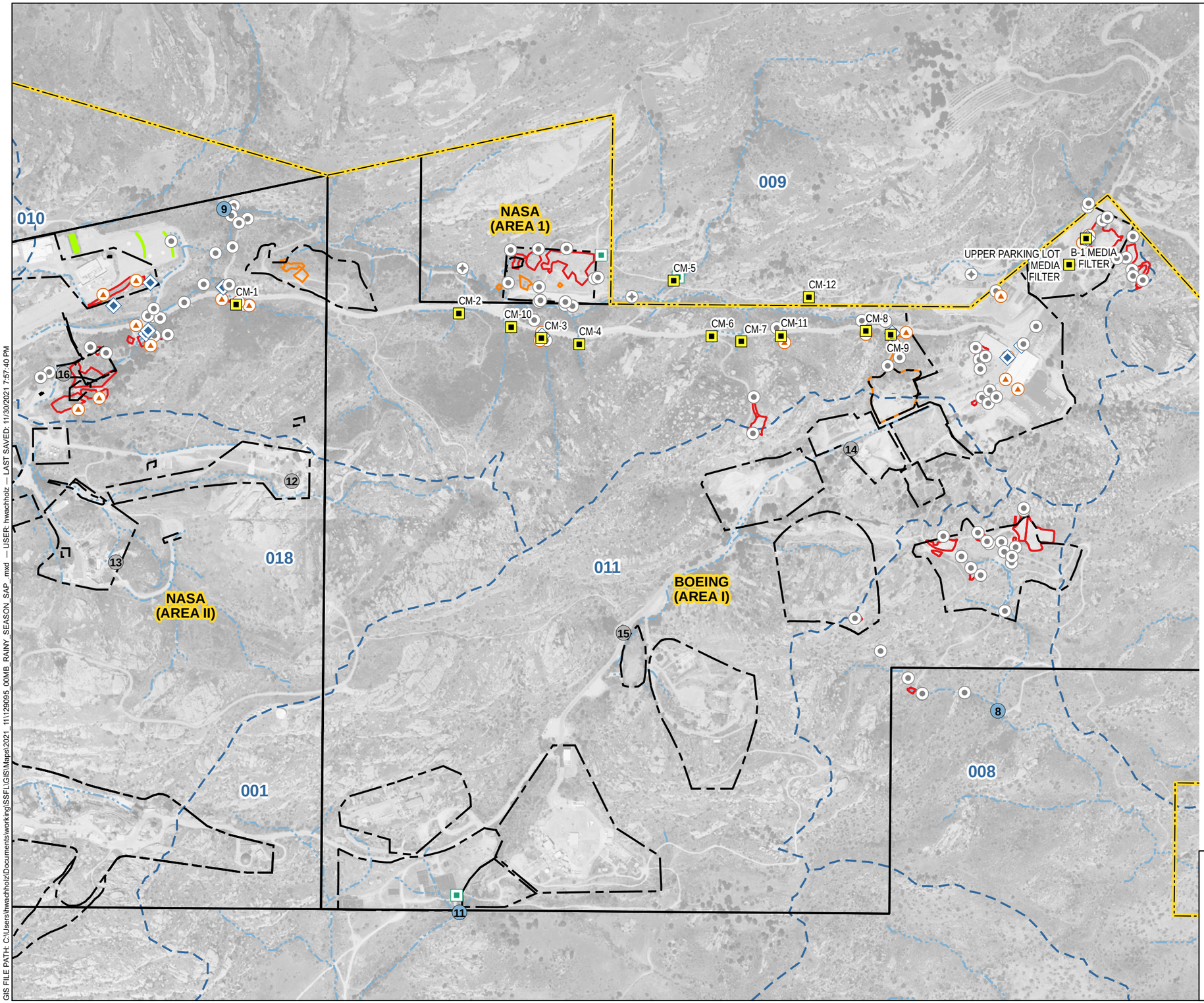
[3] Sampling is required at every discharge-producing rain event, regardless of whether outfalls flow.

** Collect one equipment blank (EB) per sampling day from the equipment used to sample the B1436 Detention Bioswales downstream monitoring location (under drains). Place metals and dioxins analysis on hold; the analyses will be performed if unusual results are reported for primary samples.*

The EB sample ID will be based on the ID of the primary sample collected immediately before collecting the equipment blank, and will be ILQW0007_yyyymmdd.

Abbreviations:

DS - Downstream
US - Upstream
X - Collect & Analyze
A1LF - A1 Landfill
A1BP - Area 1 Burn Pit
CM - Culvert Modification
ELV - Expendable Launch Vehicle
IEL - Instrument and Equipment Laboratories



LEGEND

- CULVERT MODIFICATION (CM)
- UPSTREAM BMP PERFORMANCE MONITORING LOCATION
- DOWNSTREAM BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS BMP PERFORMANCE MONITORING LOCATION
- ALTERNATE BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS SPECIAL STUDIES AND OTHER SAMPLING LOCATIONS
- ACTIVE NPDES OUTFALL
- FORMER NPDES OUTFALL
- DRAINAGE
- SURFACE WATER DIVIDE
- EROSION CONTROL FABRIC/LINER
- ISRA EXCAVATION BOUNDARY
- FORMER ISRA EXCAVATION BOUNDARY
- STUDY AREA
- ADMINISTRATIVE AREA BOUNDARY
- SSFL PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

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HALEY ALDRICH

2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 009 AND 011 BMP MONITORING LOCATIONS

DECEMBER 2021

FIGURE 1

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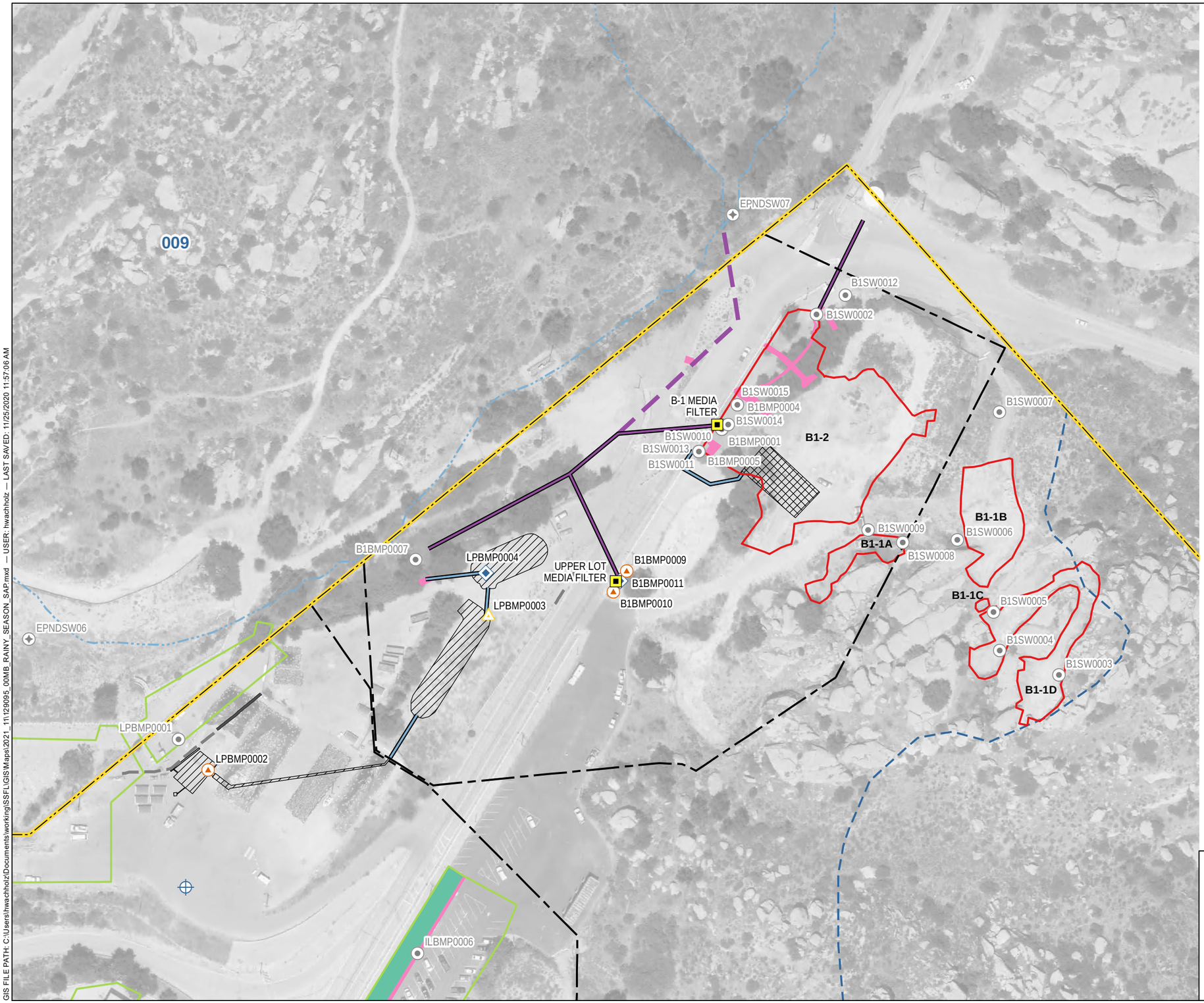

LEGEND

- CULVERT MODIFICATION (CM)
- UPSTREAM BMP PERFORMANCE MONITORING LOCATION
- DOWNSTREAM BMP PERFORMANCE MONITORING LOCATION
- MIDPOINT BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS SPECIAL STUDIES AND OTHER SAMPLING LOCATIONS
- 24" STORM DRAIN
- DRAINAGE
- SURFACE WATER DIVIDE
- CONVEYANCE PIPELINE
- ASPHALT CURB
- ROLLING AC BERM
- STORM DRAIN (ESTIMATED SUBSURFACE TRACE)
- STORM DRAIN INFERRED
- ASPHALT/CONCRETE REMOVAL AREA
- DETENTION BIOSWALE
- ENGINEERED NATURAL TREATMENT SYSTEM
- ROCK CRIB SWALE
- SEDIMENTAION BASIN
- ISRA EXCAVATION BOUNDARY
- STUDY AREA
- ADMINISTRATIVE AREA BOUNDARY
- SSFL PROPERTY BOUNDARY

NOTES

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HALEY ALDRICH

2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 009
B-1 AND LOWER PARKING LOT AREAS - BOEING

DECEMBER 2021

FIGURE 2

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2021_11\129095_00MB_RAINY_SEASON_SAP.mxd — USER: hwachholz — LAST SAVED: 11/25/2020 11:57:06 AM

009

ILSW0005

IEL-3

ILSW0006

ILSW0002

IEL-1

ILSW0001

ILBMP0006

ILBMP0007

ILBMP0005

ILBMP0009

ILBMP0010

ILBMP0004

ILBMP0008

ILSW0008

ILSW0004

IEL-2

ILSW0007

ILSW0003

IEL-2 Soil Borrow Area

LEGEND

- UPSTREAM BMP PERFORMANCE MONITORING LOCATION
- DOWNSTREAM BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS BMP PERFORMANCE MONITORING LOCATION
- 24" STORM DRAIN
- SURFACE WATER DIVIDE
- ROLLING AC BERM
- ASPHALT/CONCRETE REMOVAL AREA
- DETENTION BIOSWALE
- ROCK CRIB SWALE
- ISRA EXCAVATION BOUNDARY
- STUDY AREA

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
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3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

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HALEY ALDRICH

2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 009
IEL AREA - BOEING

NOVEMBER 2021

FIGURE 3

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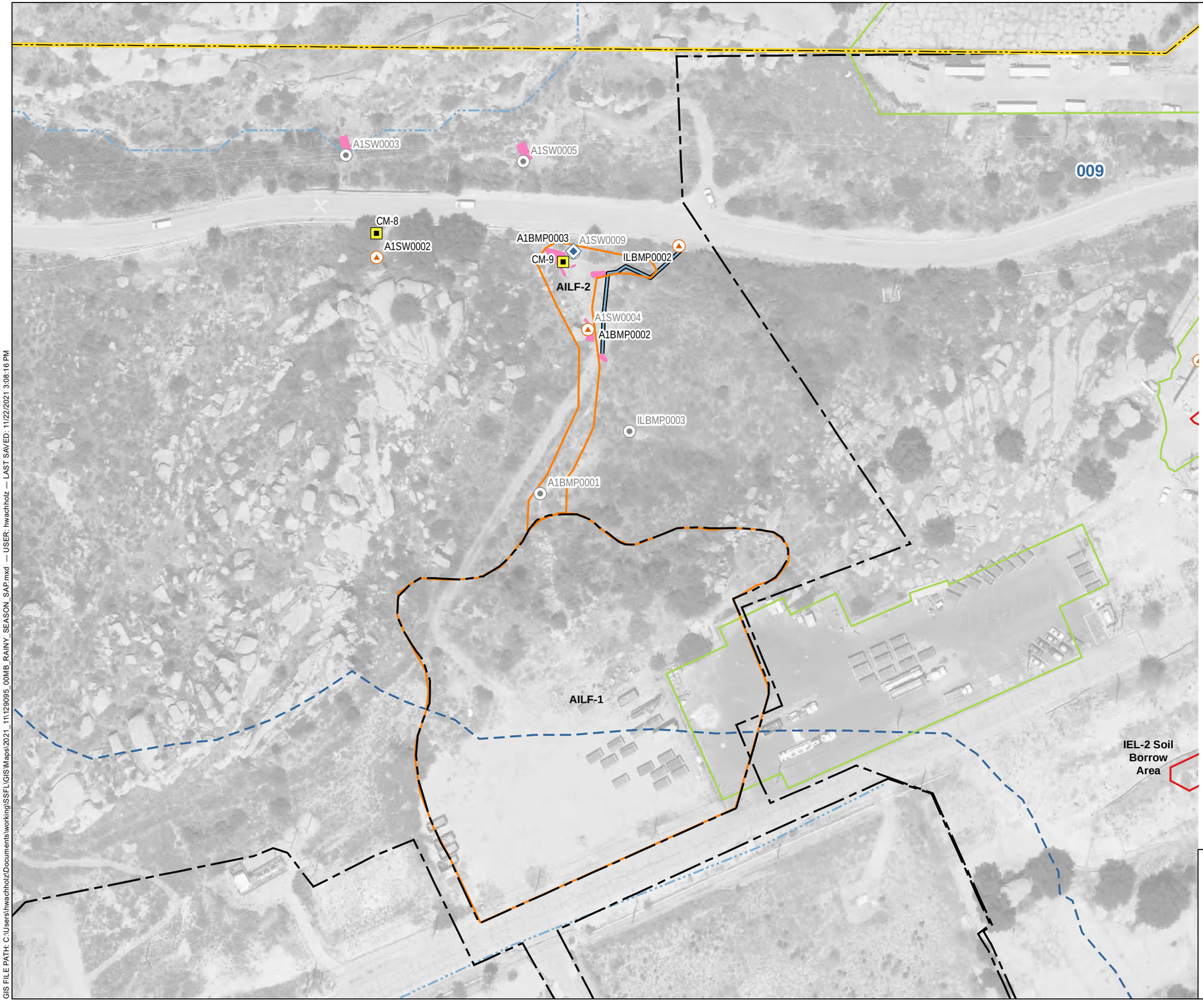

LEGEND

- CULVERT MODIFICATION (CM)
- UPSTREAM BMP PERFORMANCE MONITORING LOCATION
- DOWNSTREAM BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS BMP PERFORMANCE MONITORING LOCATION
- DRAINAGE
- SURFACE WATER DIVIDE
- CONVEYANCE PIPELINE
- ASPHALT/CONCRETE REMOVAL AREA
- ROCK CRIB SWALE
- ISRA EXCAVATION BOUNDARY
- FORMER ISRA EXCAVATION BOUNDARY
- STUDY AREA
- SSFL PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
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4. AERIAL IMAGERY SOURCE: CIRGIS

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SCALE IN FEET

HALEY ALDRICH

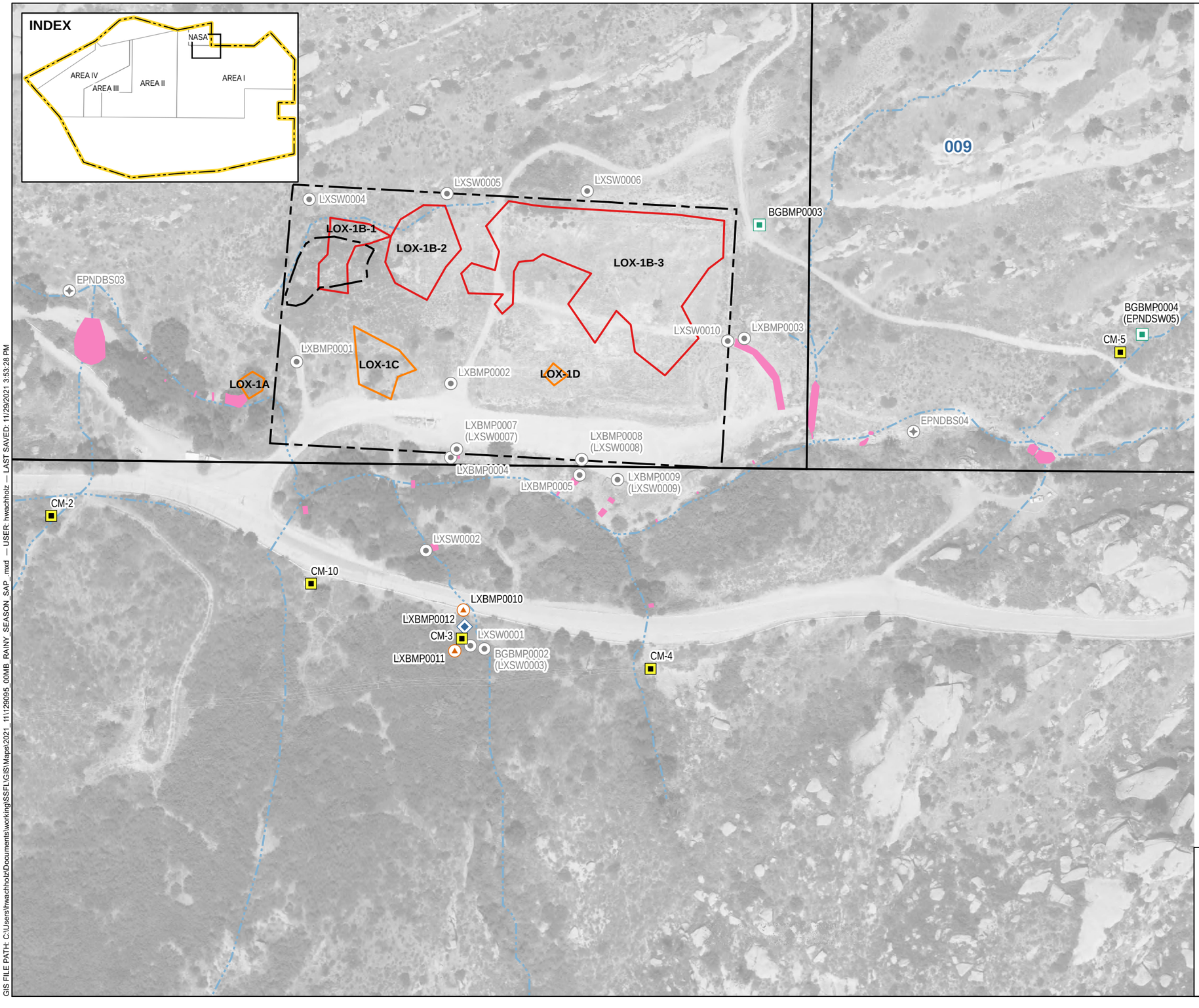
2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 009
AILF AREA - BOEING

NOVEMBER 2021

FIGURE 4

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2021_11\129095_00MB_RAINY_SEASON_SAP.mxd — USER: hwachholz — LAST SAVED: 11/22/2021 3:08:16 PM



LEGEND

- CULVERT MODIFICATION (CM)
- UPSTREAM BMP PERFORMANCE MONITORING LOCATION
- DOWNSTREAM BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS BMP PERFORMANCE MONITORING LOCATION
- ALTERNATE BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS SPECIAL STUDIES AND OTHER SAMPLING LOCATIONS
- DRAINAGE
- ROCK CRIB SWALE
- ISRA EXCAVATION BOUNDARY
- FORMER ISRA EXCAVATION BOUNDARY
- STUDY AREA
- ADMINISTRATIVE AREA BOUNDARY

NOTES

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SCALE IN FEET

HALEY ALDRICH

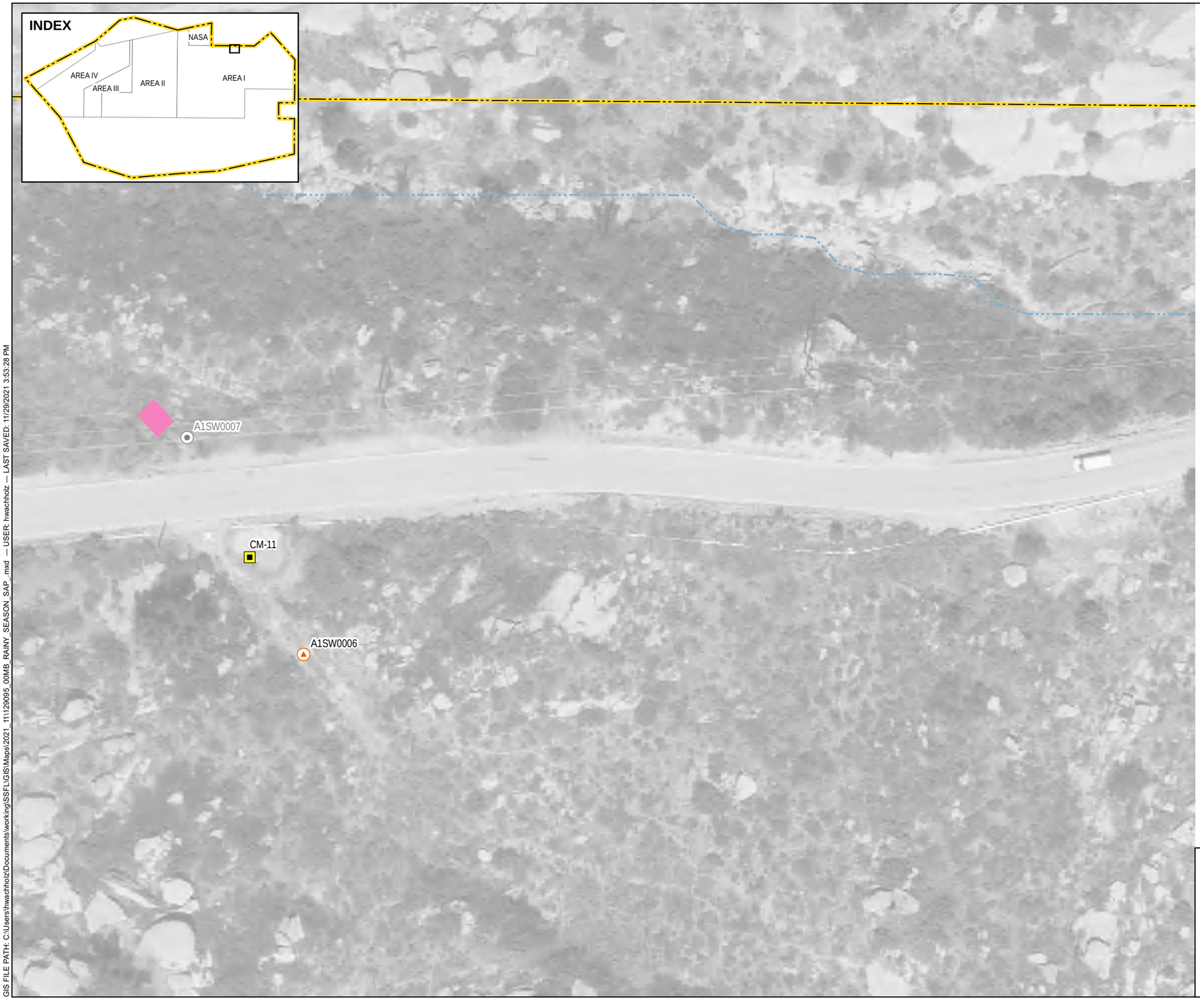
2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 009
CMs SOUTH OF LOX AREA - NASA

DECEMBER 2021

FIGURE 5

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2021_11\129095_00MB_RAINY_SEASON_SAP_.mxd — USER: hwachholz — LAST SAVED: 11/29/2021 3:53:28 PM



LEGEND

- CULVERT MODIFICATION (CM)
- UPSTREAM BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS BMP; PREVIOUS
- DRAINAGE
- ROCK CRIB SWALE
- ADMINISTRATIVE AREA BOUNDARY
- SSFL PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

N

0 50 100
SCALE IN FEET

HALEY ALDRICH

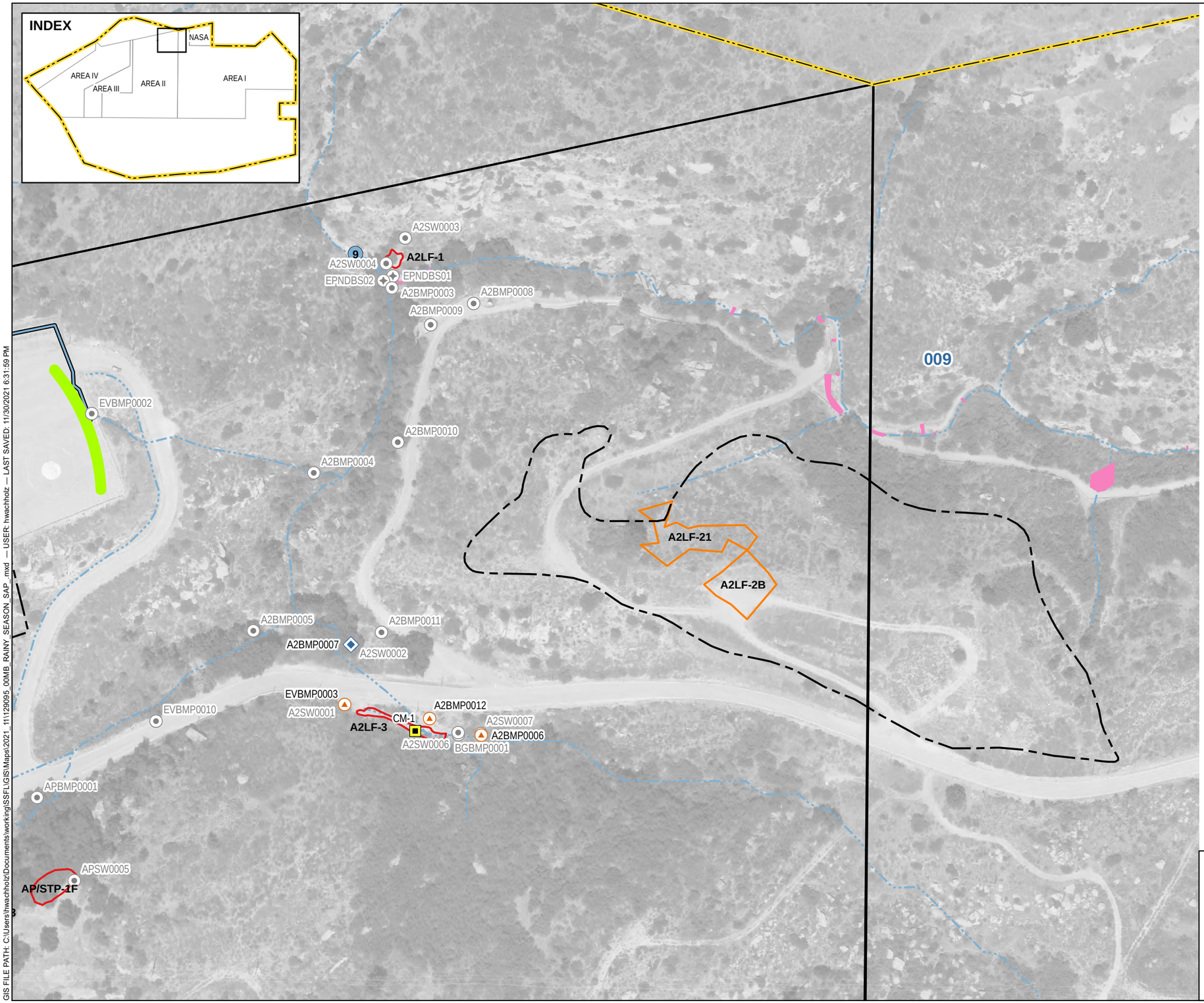
2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 009
CM-11

NOVEMBER 2021

FIGURE 6

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2021_1111\29095_00MB_RAINY_SEASON_SAP_.mxd — USER: hwachholz — LAST SAVED: 11/29/2021 3:53:28 PM



LEGEND

- CULVERT MODIFICATION (CM)
- UPSTREAM BMP PERFORMANCE MONITORING LOCATION
- DOWNSTREAM BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS SPECIAL STUDIES AND OTHER SAMPLING LOCATIONS
- ACTIVE NPDES OUTFALL
- DRAINAGE
- CONVEYANCE PIPELINE
- ROCK CRIB SWALE
- EROSION CONTROL FABRIC/LINER
- ISRA EXCAVATION BOUNDARY
- FORMER ISRA EXCAVATION BOUNDARY
- STUDY AREA
- ADMINISTRATIVE AREA BOUNDARY
- SSFL PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

N

0 150 300
SCALE IN FEET

HALEY ALDRICH

2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 009
A2LF, CM-1, AND HELIPAD AREAS - NASA

NOVEMBER 2021

FIGURE 7

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2021_111729095_00MB_RAINY_SEASON_SAP_.mxd — USER: hwachholz — LAST SAVED: 11/30/2021 6:31:59 PM

ELV-1C

EVSW0002

EVBMP0010

EVBMP0004

EVBMP0001

EVBMP0005

EVBMP0006

APBMP0001

EVBMP0007

EVBMP0009

APBMP0002

APSW0013

EVBMP0008

APSW0014

APSW0006

APSW0005

AP/STP-1F

AP/STP-1E-2

AP/STP-1E-1

AP/STP-1E-3

APSW0012

009

APSW0004

LEGEND

- UPSTREAM BMP PERFORMANCE MONITORING LOCATION
- DOWNSTREAM BMP PERFORMANCE MONITORING LOCATION
- MIDPOINT BMP PERFORMANCE MONITORING LOCATION
- PREVIOUS BMP PERFORMANCE MONITORING LOCATION
- POTENTIAL BMP PERFORMANCE MONITORING LOCATION
- DRAINAGE
- CONVEYANCE PIPELINE
- ROCK CRIB SWALE
- SEDIMENTAION BASIN
- ISRA EXCAVATION BOUNDARY
- STUDY AREA

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

N

0 50 100

SCALE IN FEET

HALEY ALDRICH

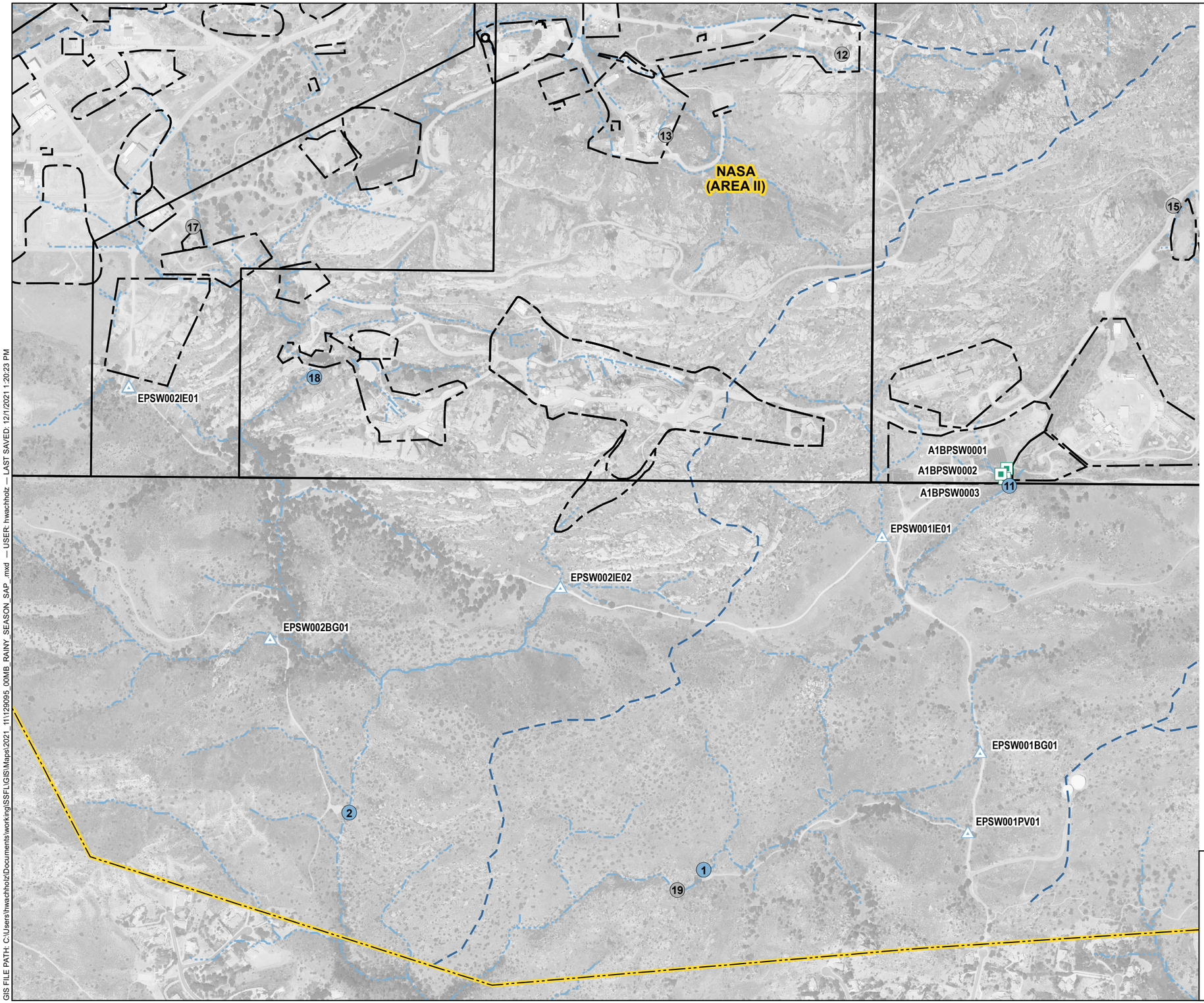
2020/2021 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 009
ELV AREA - NASA

NOVEMBER 2020

FIGURE 8

GIS FILE PATH: C:\Users\hwachholz\Documents\SSFL\129095_00MB_RAINY_SEASON_SAP.mxd — USER: hwachholz — LAST SAVED: 11/23/2020 10:23:47 PM



LEGEND

- ALTERNATE BMP PERFORMANCE MONITORING LOCATION
- POTENTIAL BMP PERFORMANCE MONITORING LOCATION
- ACTIVE NPDES OUTFALL
- FORMER NPDES OUTFALL
- DRAINAGE
- SURFACE WATER DIVIDE
- STUDY AREA
- ADMINISTRATIVE AREA BOUNDARY
- SSFL PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

N

0 750 1,500
SCALE IN FEET

HALEY ALDRICH

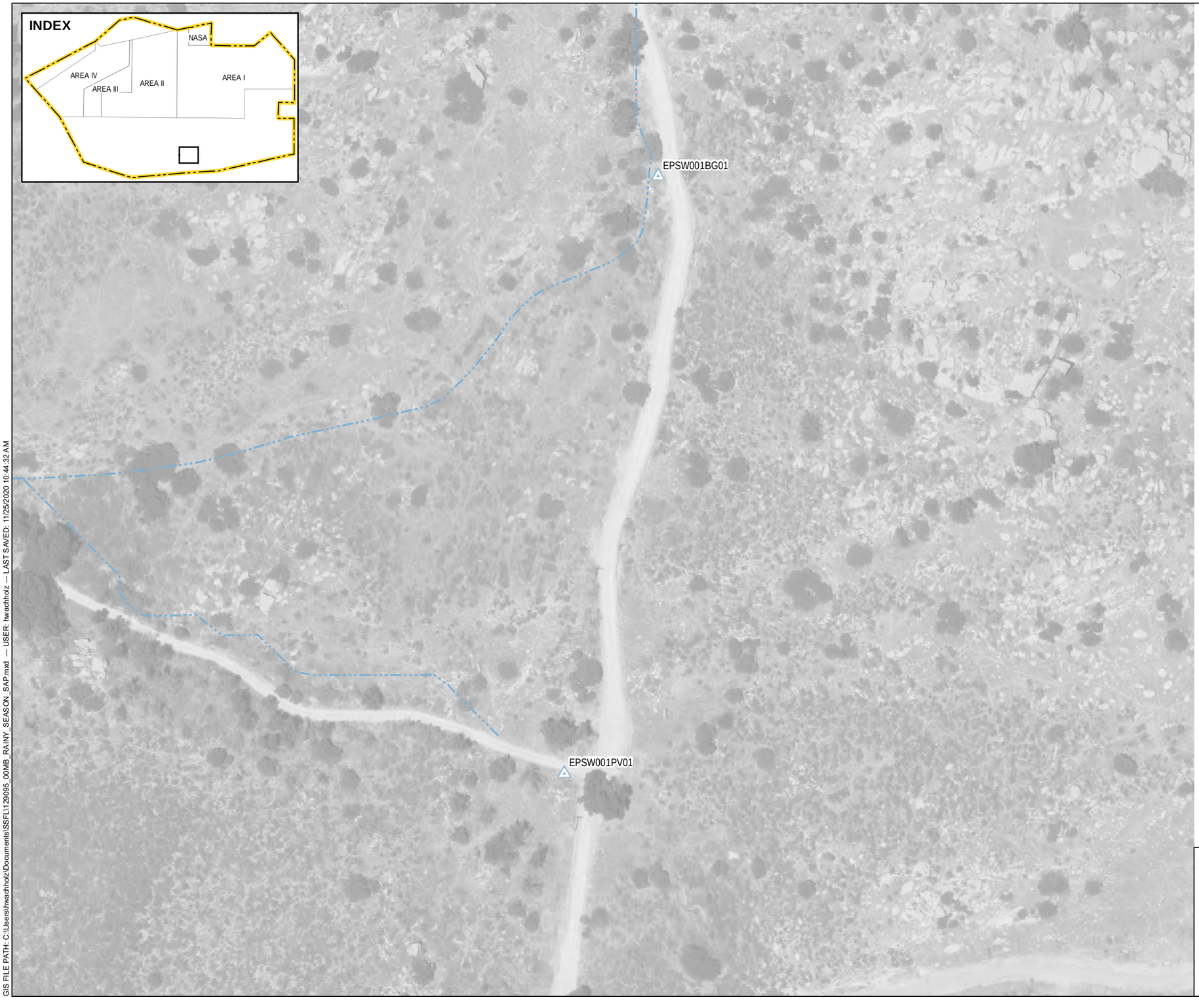
2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALLS 001 AND 002 POTENTIAL BMP MONITORING LOCATIONS

NOVEMBER 2021

FIGURE 9

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2021_11\129095_00MB_RAINY_SEASON_SAP_.mxd — USER: hwachholz — LAST SAVED: 12/1/2021 1:20:23 PM



LEGEND

- POTENTIAL BMP PERFORMANCE MONITORING LOCATION
- DRAINAGE

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

N

0 100 200
SCALE IN FEET

HALEY ALDRICH

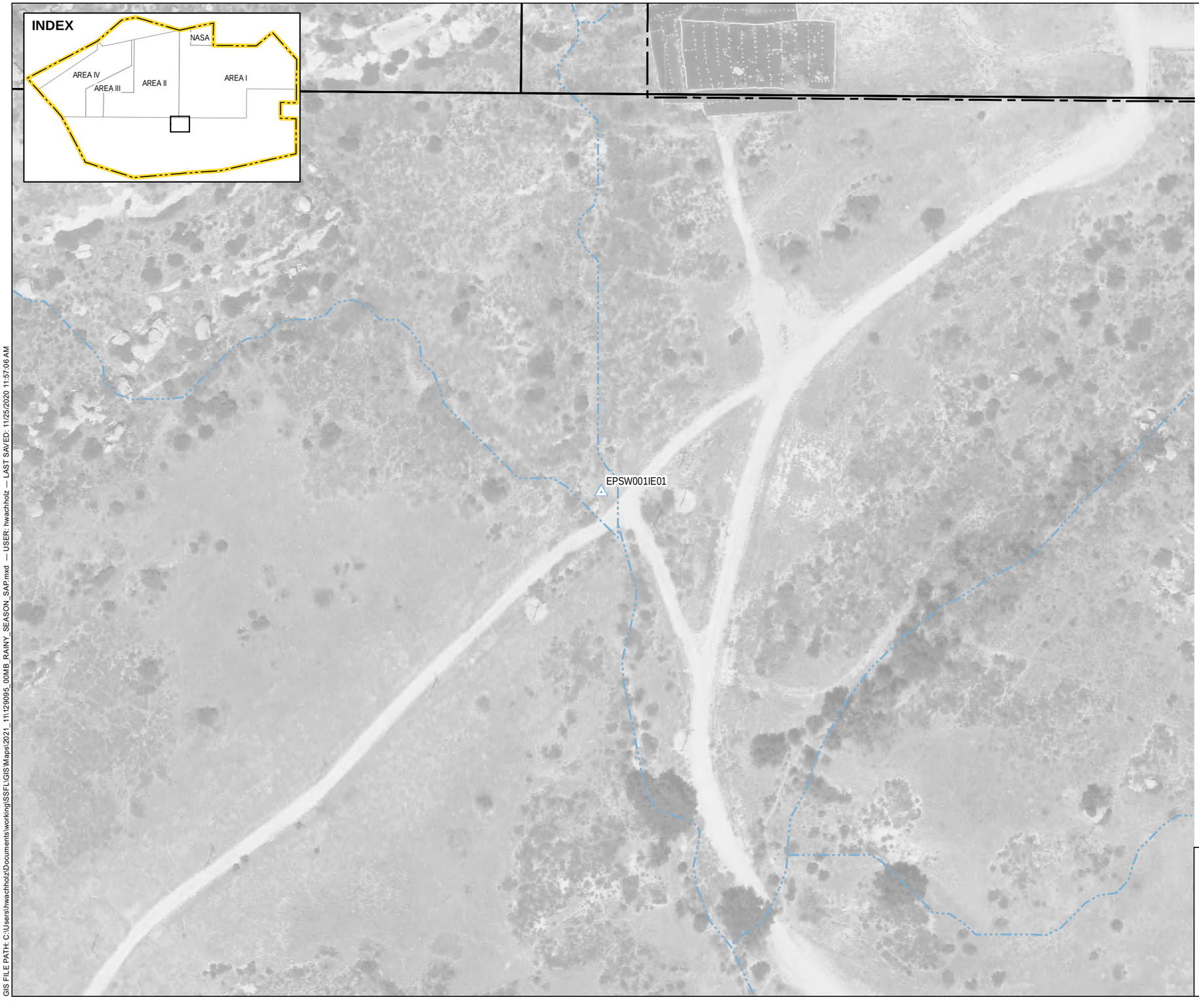
2020/2021 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 001
POTENTIAL BMP SUBAREA

NOVEMBER 2020

FIGURE 10

GIS FILE PATH: C:\Users\hwachholz\Documents\SSFL\129095_00MB_RAINY_SEASON_SAP.mxd — USER: hwachholz — LAST SAVED: 11/25/2020 10:44:32 AM



LEGEND

- POTENTIAL BMP PERFORMANCE MONITORING LOCATION
- DRAINAGE
- STUDY AREA
- ADMINISTRATIVE AREA BOUNDARY
- SSFL PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

N

0 100 200
SCALE IN FEET

HALEY ALDRICH

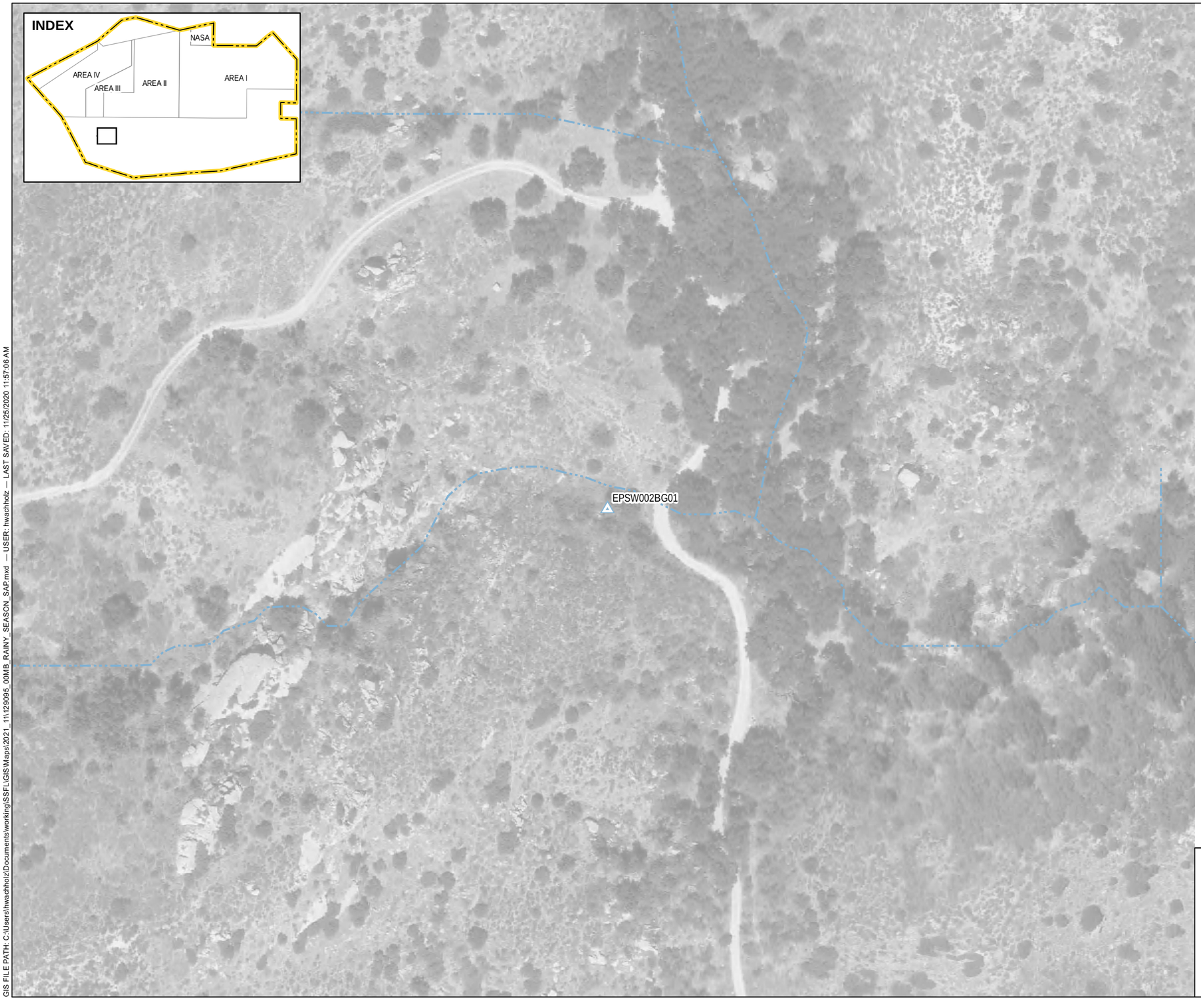
2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 001
POTENTIAL BMP SUBAREA

NOVEMBER 2021

FIGURE 11

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2021_11\129095_00MB_RAINY_SEASON_SAP.mxd — USER: hwachholz — LAST SAVED: 11/25/2020 11:57:06 AM



LEGEND

- POTENTIAL BMP PERFORMANCE MONITORING LOCATION
- DRAINAGE

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

N

0 100 200
SCALE IN FEET

HALEY ALDRICH

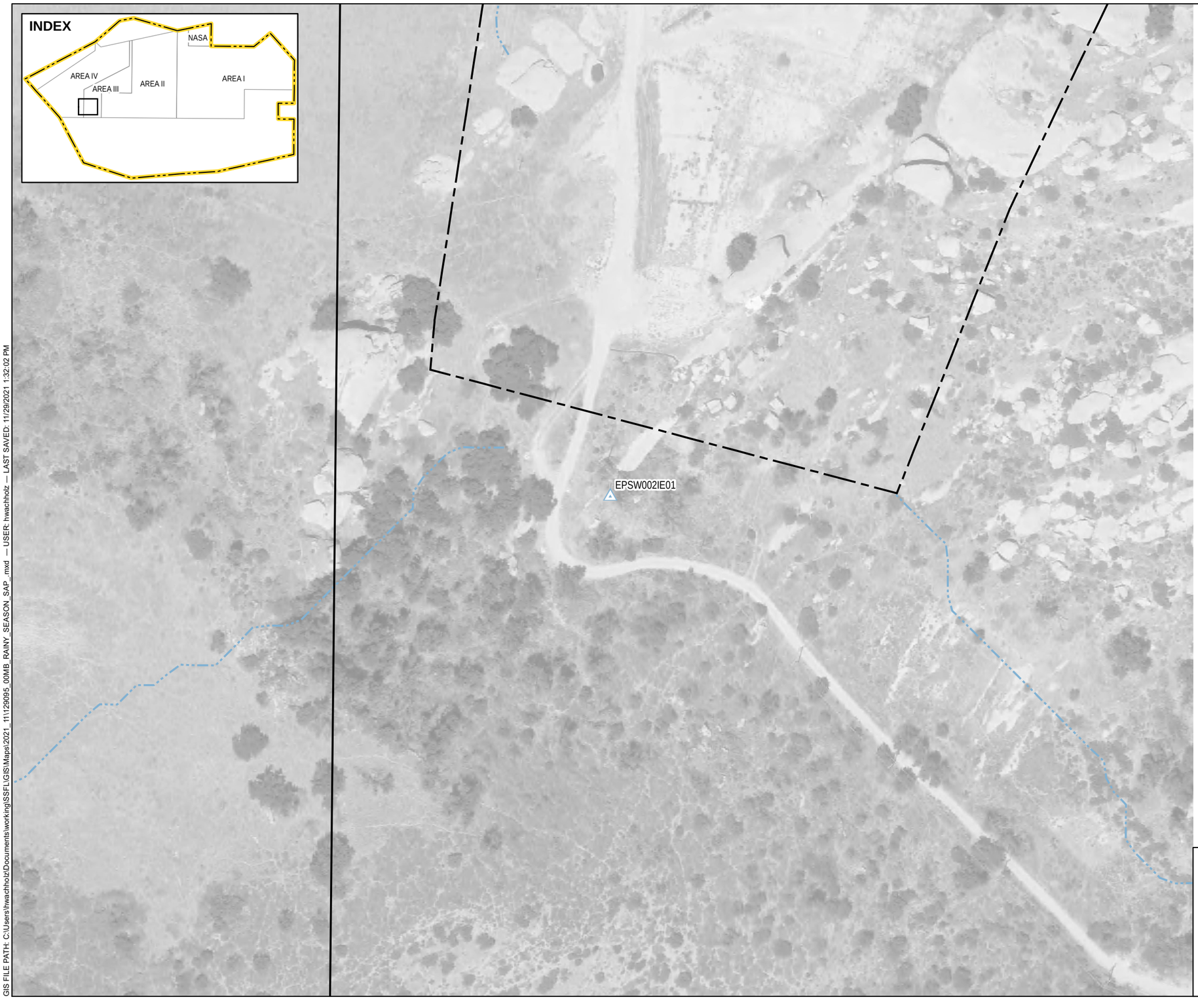
2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 002
POTENTIAL BMP SUBAREA

NOVEMBER 2021

FIGURE 12

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2021_11\129095_00MB_RAINY_SEASON_SAP.mxd — USER: hwachholz — LAST SAVED: 11/25/2020 11:57:06 AM



LEGEND

- POTENTIAL BMP PERFORMANCE MONITORING LOCATION
- DRAINAGE
- STUDY AREA
- ADMINISTRATIVE AREA BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

N

0 100 200
SCALE IN FEET

HALEY ALDRICH

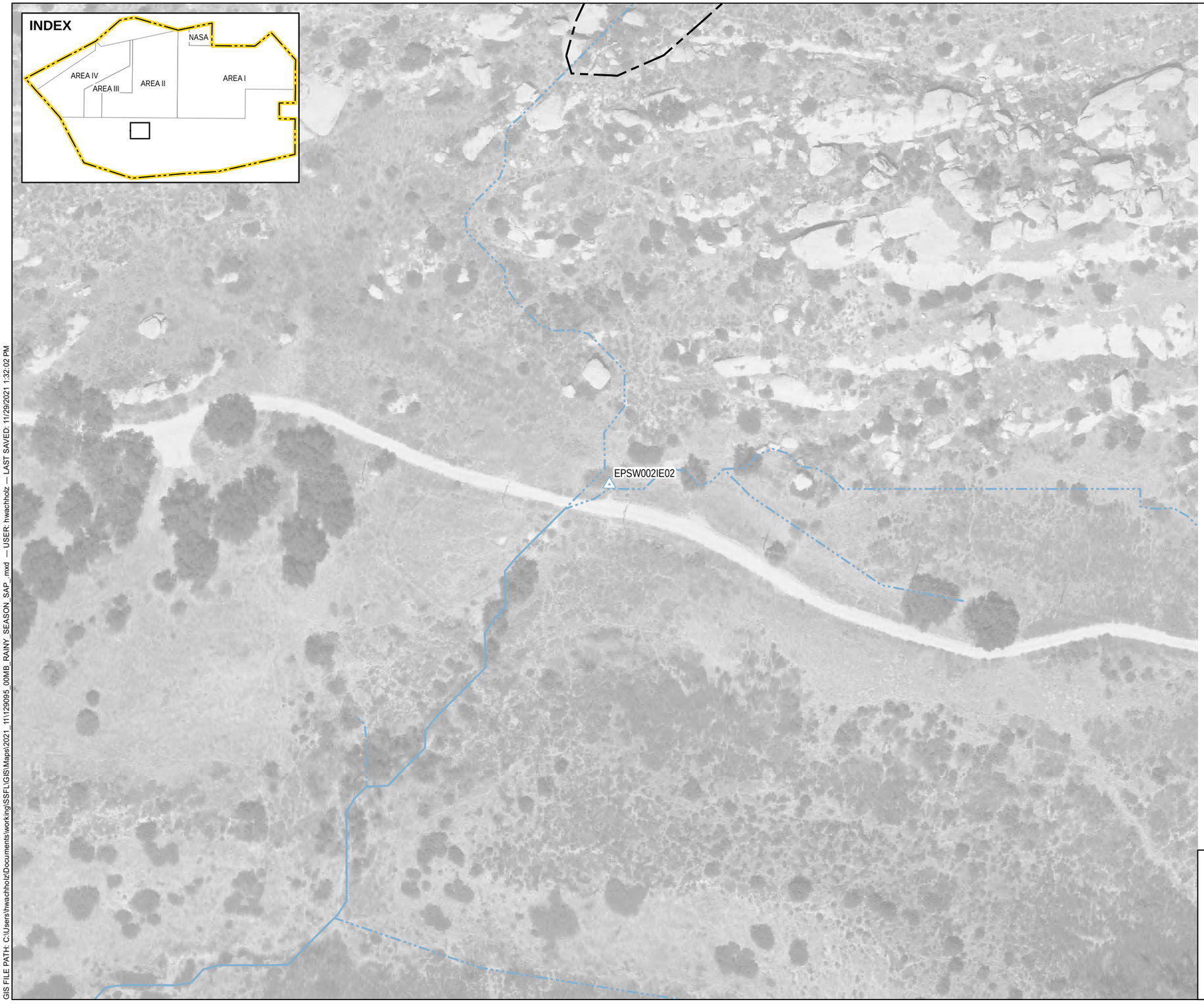
2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 002
POTENTIAL BMP SUBAREA

NOVEMBER 2021

FIGURE 13

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2021_11\129095_00MB_RAINY_SEASON_SAP_.mxd — USER: hwachholz — LAST SAVED: 11/29/2021 1:32:02 PM



LEGEND

- POTENTIAL BMP PERFORMANCE MONITORING LOCATION
- DRAINAGE
- STUDY AREA

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

N

0 100 200
SCALE IN FEET

HALEY ALDRICH

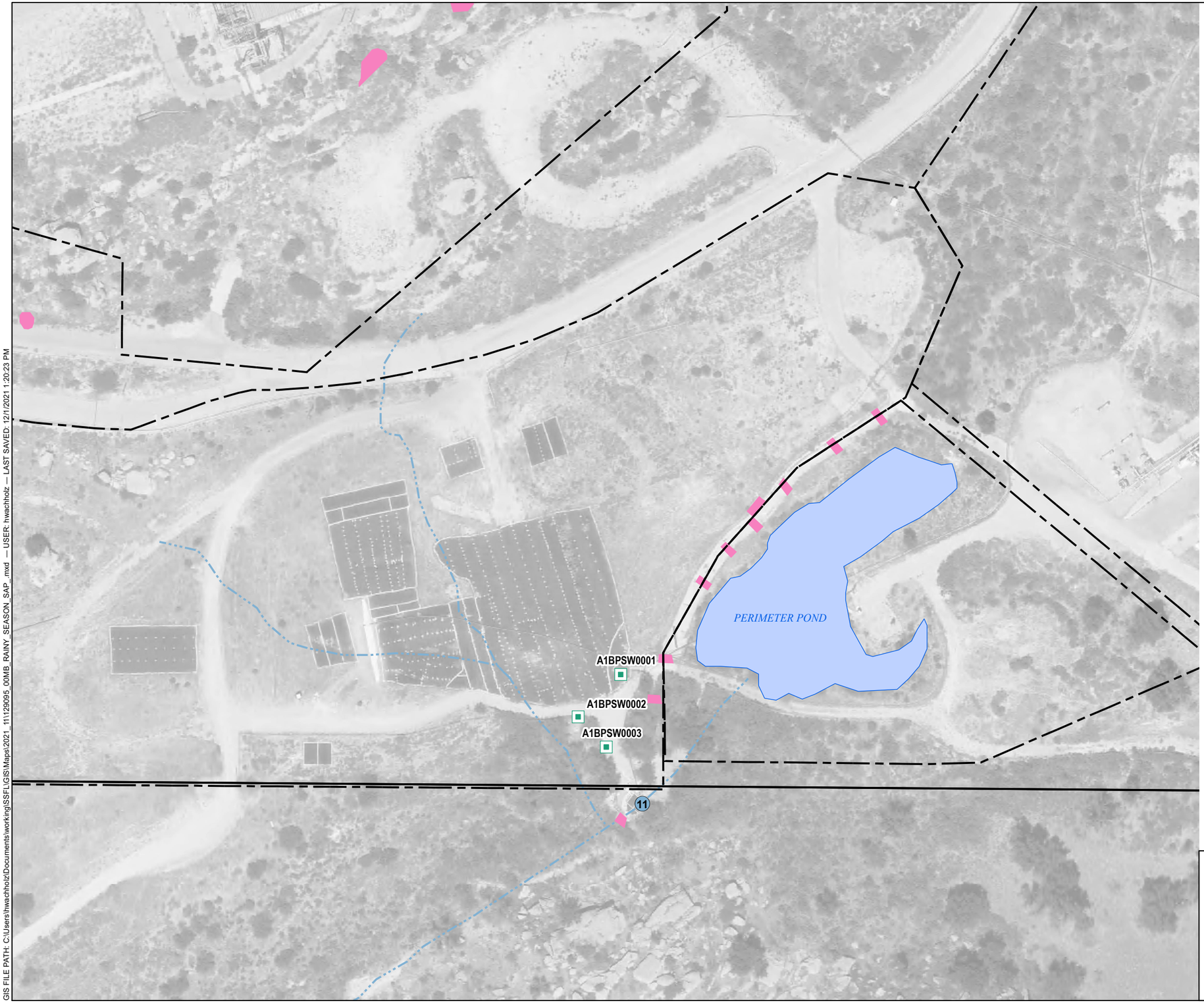
2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 002
POTENTIAL BMP SUBAREA

NOVEMBER 2021

FIGURE 14

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFL\GIS\Maps\2021_111729095_00MB_RAINY_SEASON_SAP_mxd — USER: hwachholz — LAST SAVED: 11/29/2021 1:32:02 PM



LEGEND

- ALTERNATE BMP PERFORMANCE MONITORING LOCATION
- ACTIVE NPDES OUTFALL
- DRAINAGE
- ROCK CRIB SWALE
- SURFACE WATER POND
- STUDY AREA
- ADMINISTRATIVE AREA BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAP = SAMPLING AND ANALYSIS PLAN
3. BMP = BEST MANAGEMENT PRACTICE
4. AERIAL IMAGERY SOURCE: CIRGIS

N

0 100 200
SCALE IN FEET

HALEY ALDRICH

2021/2022 RAINY SEASON MAP
BMP MONITORING PROGRAM
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

OUTFALL 011
AREA 1 BURN PIT

NOVEMBER 2021

FIGURE 15

GIS FILE PATH: C:\Users\hwachholz\Documents\working\SSFEL\GIS\Maps\2021_11\129095_00MB_RAINY_SEASON_SAP_.mxd — USER: hwachholz — LAST SAVED: 12/1/2021 1:20:23 PM

Boeing

Happy Valley - Road Leading Down to Lower BMP Area

BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Happy Valley - Road Leading Down to Lower BMP Area

Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Is the road leading down to BMP area free of erosion?	No/Yes/NA with comment
Are rip rap berms free of sediment/debris?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Is the road leading down to BMP area free of erosion?	No/Yes/NA with comment
Are rip rap berms free of sediment/debris?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Comments:

Signature

Boeing

Happy Valley - Road Leading Down to Lower BMP Area

BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo LBMP-1: Overview of HVS Lower BMP Area (from top of road east)

Insert photo here

Photo LBMP-2: Overview of HVS Lower BMP Area (from top of road west)

General Comments:

Signature

Boeing

OF008

BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF008 Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comments

General Comments:

Signature

Boeing

OF008

BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo OF008-1: HVS Drainage and Tributary Drainage Overview (looking north)

Insert photo here

Photo OF008-2: Outfall 008 Overview

Insert photo here

Photo OF008-3: Tributary Drainage Check Dams

General Comments:

Signature

Boeing

OF009 ADMINISTRATION BUILDING AREA

BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 Administration Building Area	Inspection Status:	**Conducted/Not Conducted**
Inspection Checklist Questions:		*Inspection Answers:*
During Rain Event Inspection		
Any odors, suspended materials, floating material, etc. observed?		No/Yes/NA with comment
Is any short-circuiting present around the lip of the filter basket?		No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection		
Any odors, suspended materials, floating material, etc. observed?		No/Yes/NA with comment
Is ponded water observed in filter basket?		No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Comments:

Signature

Boeing

OF009 ADMINISTRATION BUILDING AREA

BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo OF009-1: Filter Basket Overview

Insert photo here

Photo 1: ILBMP0009-1: Filter Basket Influent

Insert photo here

Photo 2: ILBMP0010-1: Filter Basket Effluent

General Comments:

Signature

Boeing

OF009 Lower Parking Lot
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 Lower Parking Lot Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Is the area near or along the cistern drain inlet clear of unwanted sediment/debris?	No/Yes/NA with comment
Is runoff along the 24-inch drain being diverted by the low flow diversion weir to the cistern?	No/Yes/NA with comment
Is the gravel area/gravel bag berm (north of fence) in good condition?	No/Yes/NA with comment
Is the wood retaining wall in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
What is the approximate depth of water present in the low flow diversion structure?	No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Is the area near or along the cistern drain inlet clear of unwanted sediment/debris?	No/Yes/NA with comment
Is the gravel area/gravel bag berm (north of fence) in good condition?	No/Yes/NA with comment
Is the wood retaining wall in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Comments:

Signature

Boeing

OF009 Lower Parking Lot
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo LPL-1: Cistern area

Insert photo here

Photo LPL-2: Looking down into low flow diversion structure

Insert photo here

Photo LPL-3: Grated inlet and concrete curb

Insert photo here

Photo LPL-4: Wooden retaining wall

General Comments:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo 3: LPBMP0002: Lower Lot Area, Upstream BMP; Sample Port in Cistern Discharge Pipe

Insert photo here

Photo 4: LPBMP0003: Lower Lot Area, Mid-Point Lower Lot BMP; Sediment Basin Outlet Box

Insert photo here

Photo 5: LPBMP0004: Lower Lot Area, Downstream Lower Lot Treatment BMP; Discharge from Biofilter Effluent Pipe

General Comments:

Signature

Boeing

OF009 Sediment Basin
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 Sediment Basin Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Is there overflow into the lower lot?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Is the outlet box clear of unwanted sediment/debris?	No/Yes/NA with comment
Is there ponded water in the Sediment Basin?	No/Yes/NA with comment
If above is YES, note approximate depth to water from top of outlet box	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Boeing

OF009 Sediment Basin
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo SB-1: Sediment Basin Overview

Insert photo here

Photo SB-2: Inside Sediment Basin Riser Structure

General Notes:

Signature

Boeing

OF009 BIOFILTER

BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 BIOFILTER Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is there flow overtopping the riser structure?	No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
Is there flow in the riser structure?	No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Are underdrain(s) clear of unwanted sediment/debris?	No/Yes/NA with comment
Is there ponded water in the Biofilter?	No/Yes/NA with comment
If above is YES, record approximate depth from top of riser structure under comments	Depth
Are percolation holes in the concrete apron (at the sediment basin effluent pipe) clear of unwanted sediment/debris?	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Boeing

OF009 BIOFILTER

BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo BF-1: Sediment Basin Discharge Pipe

Insert photo here

Photo BF-2: Biofilter Overview

Insert photo here

Photo BF-3: Biofilter Discharge Pipe

Insert photo here

Photo BF-4: Biofilter Outlet Structure

General Notes:

Signature

Boeing

OF009 CM-9 A1LF Area
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-9 AILF Area *Inspection Checklist Questions:*	Inspection Status:	**Conducted/Not Conducted** *Inspection Answers:*
During Rain Event Inspection		
Any odors, suspended materials, floating material, etc. observed?		No/Yes/NA with comment
Are erosion/sediment controls in good condition?		No/Yes/NA with comment
Are upstream areas free of erosion or sediment?		No/Yes/NA with comment
Is there flow overtopping the weir board?		No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?		No/Yes/NA with comment
If above is YES, please record a video.		N/A
Is the upstream perforated pipeline draining properly?		No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?		No/Yes/NA with comment
If above is NO, note approximate depth		Depth
Is the inlet swale along Area II Road clear of unwanted sediment/debris?		No/Yes/NA with comment
Is rip rap berm clear of unwanted sediment/debris?		No/Yes/NA with comment
Is any water observed coming out of landfill slope?		No/Yes/NA with comment
Does the CM-9 discharge pipe (north of Area II Road) show any additional signs of erosion?		No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection		
Any odors, suspended materials, floating material, etc. observed?		No/Yes/NA with comment
Are erosion/sediment controls in good condition?		No/Yes/NA with comment
Are upstream areas free of erosion or sediment?		No/Yes/NA with comment
Are underdrain(s) clear of unwanted sediment/debris?		No/Yes/NA with comment
Is weir board filter fabric in good condition?		No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?		No/Yes/NA with comment
If above is NO, note approximate depth		Depth
Is a recent high-water mark visible on weir boards?		No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards		Depth
Is water ponded in front of weir boards?		No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards		Depth
Is the inlet swale along Area II Road clear of unwanted sediment/debris?		No/Yes/NA with comment
Is rip rap berm clear of unwanted sediment/debris?		No/Yes/NA with comment
Does the CM-9 discharge pipe (north of Area II Road) show any additional signs of erosion?		No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Boeing

OF009 CM-9 A1LF Area
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM9-1: Asphalt Swale Inlet from Area 2 Road – ILBMP0002

Insert photo here

Photo CM9-2a: CM-9 Basin Overview (Upstream)

Insert photo here

Photo CM9-2b: CM-9 Basin Overview (Towards Weir Boards)

Insert photo here

Photo CM9-3a: Along Perforated Pipeline (upstream)

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM9-3b: Along Perforated Pipeline (downstream)

Insert photo here

Photo CM9-4a: Rip Rap Berm (upstream)

Insert photo here

Photo CM9-4b: Rip Rap Berm (downstream)

Insert photo here

Photo 6: A1BMP0002: CM-9 Area, Upstream (South), CM-9 BMPs

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo 7: A1BMP0003: CM-9 Area, Downstream, CM-9 BMPs; CM-9 Underdrains

Insert photo here

Photo 8: ILBMP0002: CM-9 Area, Upstream (East), CM-9 BMPs; Culvert Inlet Off Area II Road

General Notes:

Signature

Boeing

OF009 B-1 Retention Basin

BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 B-1 Retention Basin Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is the retention basin clear of unwanted sediment/debris?	No/Yes/NA with comment
Is the perimeter of the basin free of erosion?	No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is the retention basin clear of unwanted sediment/debris?	No/Yes/NA with comment
Is the perimeter of the basin free of erosion?	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Boeing

OF009 B-1 Retention Basin

BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo B1RB-1: B-1 Retention Overview

Insert photo here

Photo B1RB-2: Close-up of Riser Structure in Retention Basin

General Notes:

Signature

Boeing

OF009 Upper Lot Media Filter
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 Upper Lot Media Filter	Inspection Status:	**Conducted/Not Conducted**
Inspection Checklist Questions:		*Inspection Answers:*
During Rain Event Inspection		
Any odors, suspended materials, floating material, etc. observed?		No/Yes/NA with comment
Are erosion/sediment controls in good condition?		No/Yes/NA with comment
Are upstream areas free of erosion or sediment?		No/Yes/NA with comment
Is there flow overtopping the box?		No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?		No/Yes/NA with comment
If above is YES, please record a video.		N/A
Is hillside free of erosion?		No/Yes/NA with comment
Is the asphalt/gunite swale going towards Upper Lot Media Filter clear of unwanted sediment/debris?		No/Yes/NA with comment
Note % flow from each underdrain		%
72 Hours After the End of the Rain Event Inspection		
Any odors, suspended materials, floating material, etc. observed?		No/Yes/NA with comment
Are erosion/sediment controls in good condition?		No/Yes/NA with comment
Are upstream areas free of erosion or sediment?		No/Yes/NA with comment
Are underdrain(s) clear of unwanted sediment/debris?		No/Yes/NA with comment
Is hillside free of erosion?		No/Yes/NA with comment
Is the asphalt/gunite swale going towards Upper Lot Media Filter clear of unwanted sediment/debris?		No/Yes/NA with comment
Is there ponded water present in media filter area?		No/Yes/NA with comment
If above is YES, record approximate depth from the top of riser structure		Depth
Is hillside free of erosion?		No/Yes/NA with comment
Is the asphalt/gunite swale going towards Upper Lot Media Filter clear of unwanted sediment/debris?		No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Boeing

OF009 Upper Lot Media Filter
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo ULMF-1: Upper Lot Media Filter Overview

Insert photo here

Photo ULMF-2: Upper Lot Retention Basin Discharge Pipe (inside of the riser structure)

Insert photo here

Photo ULMF-3: ULMF Area, Gunite Swale Conveying Road Runoff

Insert photo here

Photo 9: B1BMP0009: B-1 Area, Gunite Swale Conveying Road Runoff

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo 10: B1BMP0010: B-1 Area, Culvert Outlet from Upper Parking Lot Area

Insert photo here

Photo 11: B1BMP0011: B-1 Area, Underdrains

General Notes:

Signature

Boeing

OF009 Detention Bioswales
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 Detention Bioswales	Inspection Status:	**Conducted/Not Conducted**
Inspection Checklist Questions:		*Inspection Answers:*
During Rain Event Inspection		
Any odors, suspended materials, floating material, etc. observed?		No/Yes/NA with comment
Are erosion/sediment controls in good condition?		No/Yes/NA with comment
Are upstream areas free of erosion or sediment?		No/Yes/NA with comment
Is rip rap swale clear of unwanted sediment/debris?		No/Yes/NA with comment
Are vegetated swales in good condition?		No/Yes/NA with comment
Note % flow from northern underdrain		%
Note % flow from southern underdrain		%

72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Are underdrain(s) clear of unwanted sediment/debris?	No/Yes/NA with comment
Is rip rap swale clear of unwanted sediment/debris?	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo B1DB-1: Northern B1436 Bioswale Overview (from the north end)

Insert photo here

Photo B1DB-2: Northern B1436 Bioswale Overview (from the south end)

Insert photo here

Photo B1DB-3: Southern B1436 Bioswale Overview (from the north end)

Insert photo here

Photo B1DB-4: Southern B1436 Bioswale Overview (from the south end)

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo B1DB-5: Western Swale Inlet to Southern B1436 Bioswale

Insert photo here

Photo B1DB-6: Eastern Swale Inlet to Southern B1436 Bioswale

Insert photo here

Photo 12: ILBMP0004: Upstream, B1436 Southern Detention Bioswale (Concrete Swale Diverting Sheet Flow into Rock Crib – West)

Insert photo here

Photo 13: ILBMP0008: Upstream, B1436 Southern Detention Bioswale (Concrete Swale Diverting Sheet Flow into Rock Crib – East)

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo 14: ILBMP0005: Downstream, B1436 Southern Detention Bioswale; 12-inch Underdrain

General Notes:

Signature

Boeing

OF009 CM-8
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-8 Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is there flow overtopping the weir boards?	No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
72 Hour Storm Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Are underdrain(s) clear of unwanted sediment/debris?	No/Yes/NA with comment
Is weir board filter fabric in good condition?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is a recent high-water mark visible on weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Is water ponded in front of weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Boeing

OF009 CM-8
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM8-1a: CM-8 Basin Overview (Upstream)

Insert photo here

Photo CM8-1b: CM-8 Basin Overview (Towards Weir Boards)

Insert photo here

Photo 15: A1SW0002: CM-8 upstream, before treatment. Influent sample only.

General Notes:

Signature

Boeing

OF009 CM-11
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-11 Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is there flow overtopping the weir boards?	No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Are underdrain(s) clear of unwanted sediment/debris?	No/Yes/NA with comment
Is weir board filter fabric in good condition?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is a recent high-water mark visible on weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Is water ponded in front of weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM11-1a: CM-11 Basin Overview (Upstream)

Insert photo here

Photo CM11-1b: CM-11 Basin Overview (Towards Weir Boards)

Insert photo here

Photo 16: A1SW0006: CM-11 upstream, before treatment. Influent sample only.

General Notes:

Signature

Boeing

OF009 CM-7
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-7 Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Are the upstream swales clear of unwanted sediment/debris?	No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Are the upstream swales clear of unwanted sediment/debris?	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM7-1: CM-7 Upstream

General Notes:

Signature

Boeing

OF009 CM-6
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-6 Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is there flow overtopping the weir boards?	No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Are underdrain(s) clear of unwanted sediment/debris?	No/Yes/NA with comment
Is weir board filter fabric in good condition?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is a recent high-water mark visible on weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Is water ponded in front of weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM6-1a: CM-6 Basin Overview (Upstream)

Insert photo here

Photo CM6-1b: CM-6 Basin Overview (Towards Weir Boards)

General Notes:

Signature

Boeing

OF009 CM-5 Sage Ranch
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-5 Sage Ranch Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is there flow overtopping the weir boards?	No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Are underdrain(s) clear of unwanted sediment/debris?	No/Yes/NA with comment
Is weir board filter fabric in good condition?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is a recent high-water mark visible on weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Is water ponded in front of weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Boeing

OF009 CM-5 Sage Ranch
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM5-1a: CM-5 Basin Overview (Upstream)

Insert photo here

Photo CM5-1b: CM-5 Basin Overview (Towards Weir Boards)

Insert photo here

Photo 17: BGBMP0003: Near LOX by Sage Ranch Loop Trail

Insert photo here

Photo 18: BGBMP0004: CM-5 tributary drainage East of LOX

General Notes:

Signature

Boeing

OF009 CM-12 Sage Ranch
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-12 Sage Ranch Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is there flow overtopping the weir boards?	No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is weir board filter fabric in good condition?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is a recent high-water mark visible on weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Is water ponded in front of weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Boeing

OF009 CM-12 Sage Ranch
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM12-1a: CM-12 Basin Overview (Upstream)

Insert photo here

Photo CM12-1b: CM-12 Basin Overview (Towards Weir Boards)

General Notes:

Signature

Boeing

OF009 CM-4
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-4 Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is there flow overtopping the weir boards?	No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Are underdrain(s) clear of unwanted sediment/debris?	No/Yes/NA with comment
Is weir board filter fabric in good condition?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is a recent high-water mark visible on weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Is water ponded in front of weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM4-1a: CM-4 Basin Overview (Upstream)

Insert photo here

Photo CM4-1b: CM-4 Basin Overview (Towards Weir Boards)

General Notes:

Signature

Boeing

OF009 CM-3
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-3 Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is there flow overtopping the weir boards?	No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
Is the drop inlet on the north side of the road clogged or otherwise obstructed?	No/Yes/NA with comment
Is there erosion at the diversion pipe outlet?	No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Are underdrain(s) clear of unwanted sediment/debris?	No/Yes/NA with comment
Is weir board filter fabric in good condition?	No/Yes/NA with comment
Is the culvert basin clear of unwanted sediment/debris?	No/Yes/NA with comment
If above is NO, note approximate depth	Depth
Is a recent high-water mark visible on weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Is water ponded in front of weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Is the drop inlet on the north side of the road clogged or otherwise obstructed?	No/Yes/NA with comment
Is there erosion at the diversion pipe outlet?	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM3-1a: CM-3 Basin Overview (Upstream)

Insert photo here

Photo CM3-1b: CM-3 Basin Overview (Towards Weir Boards)

Insert photo here

Photo CM3-2: CM-3 Roadway Inlet

Insert photo here

Photo CM3-3: CM-3 Diversion Outlet

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo 19: LXBMP0010: CM-3 Area, upstream of Service Area Road BMP; Outlet on South Side of Road

Insert photo here

Photo 20: LXBMP0011: CM-3 Area, Upstream of Service Area Road BMP, Natural Drainage Upstream of CM-3

Insert photo here

Photo 21: LXBMP0012: CM-3 Area, Downstream of Service Area Road BMP, Underdrains

General Notes:

Signature

Boeing

OF009 CM-10
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-10 Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is there flow overtopping the weir boards?	No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
Is there sediment accumulation in the culvert basin?	No/Yes/NA with comment
If above is YES, record approximate depth.	Depth
Is there erosion at the diversion pipe outlet?	No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is there sediment accumulation in the culvert basin?	No/Yes/NA with comment
If above is YES, record approximate depth.	Depth
Is there erosion at the diversion pipe outlet?	No/Yes/NA with comment
Is a recent high-water mark visible on weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Is water ponded in front of weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Are underdrain(s) clear of unwanted sediment/debris?	No/Yes/NA with comment
Is weir board filter fabric in good condition?	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM10-1a: CM-10 Basin Overview (Upstream)

Insert photo here

Photo CM10-1b: CM-10 Basin Overview (Towards Weir Boards)

General Notes:

Signature

Boeing

OF009 CM-2
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF009 CM-2 Inspection Status: **Conducted/Not Conducted**

Inspection Checklist Questions:	*Inspection Answers:*
During Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is there sediment accumulation in the culvert basin?	No/Yes/NA with comment
If above is YES, record approximate depth.	Depth
Is there flow overtopping the weir boards?	No/Yes/NA with comment
If above is YES, does the underdrain appear to be constricted?	No/Yes/NA with comment
If above is YES, please record a video.	N/A
72 Hours After the End of the Rain Event Inspection	
Any odors, suspended materials, floating material, etc. observed?	No/Yes/NA with comment
Are erosion/sediment controls in good condition?	No/Yes/NA with comment
Are upstream areas free of erosion or sediment?	No/Yes/NA with comment
Is there sediment accumulation in the culvert basin?	No/Yes/NA with comment
If above is YES, record approximate depth.	Depth
Is a recent high-water mark visible on weir boards?	No/Yes/NA with comment
If above is YES, note approximate depth from top of weir boards	Depth
Are underdrain(s) clear of unwanted sediment/debris?	
Is weir board filter fabric in good condition?	No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo CM2-1a: CM-2 Basin Overview (Upstream)

Insert photo here

Photo CM2-1b: CM-2 Basin Overview (Towards Weir Boards)

General Notes:

Signature

Boeing

OF011 A1BP
BMP Performance Inspection Checklist

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

OF011 A1BP	Inspection Status:	**Conducted/Not Conducted**
Inspection Checklist Questions:		*Inspection Answers:*
During Rain Event Inspection		
Any odors, suspended materials, floating material, etc. observed?		No/Yes/NA with comment
Are erosion/sediment controls in good condition?		No/Yes/NA with comment
72 Hours After the End of the Rain Event Inspection		
Any odors, suspended materials, floating material, etc. observed?		No/Yes/NA with comment
Are erosion/sediment controls in good condition?		No/Yes/NA with comment

Corrective action identified during this inspection event: No/Yes/NA with comment

General Notes:

Signature

Client	**The Boeing Company**	Inspection Date	
Project Name	**Santa Susana**	Inspector Name	
County	**Ventura County**	Inspector Company	
State	**California**	Project Manager	
Inspection Type(s)	**Stormwater Inspection**	Precip. Present	

Insert photo here

Photo 22: A1BPSW0001: Along the edge of A1BP and access road to Outfall 011.

General Notes:

Signature

BMP Visual Inspection Form – OF009 NASA

Date/Time of Inspection _____

Inspector's Name/Title _____ **Signature** _____

Weather and Observations		
Precipitation present during inspection?	☐ Yes	☐ No

LOX Area BMPs

Photo #		Photo Location:	LOX Berm Overview (West End)
Photo #		Photo Location:	LOX Berm Overview (East End)
Photo #		Photo Location:	Northern Drainage Overview Where Slope Drains Discharge
Photo #		Additional Photo(s):	

During Rain Event Inspection	Yes	No	N/A	Comments/Corrective Action:
Any odors, suspended material, floating material, etc. observed?				
Are erosion/sediment controls in good condition?				
Are slope drains in good condition?				
Is the gravel bag berm in good condition?				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				

72 Hours After the End of the Rain Event Inspection				
Any odors, suspended material, floating material, etc. observed?				
Are slope drains in good condition?				
Is the gravel bag berm in good condition?				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				
Other _____				

BMP Visual Inspection Form – OF009 NASA

Sandbag Berm – Near LOX Area

Photo # _____ Photo Location: _____

Photo # _____ Photo Location: _____

Photo # _____ Photo Location: _____

Photo # _____ Additional Photo(s): _____

During Rain Event Inspection	Yes	No	N/A	Comments/Corrective Action:
Any odors, suspended material, floating material, etc. observed?				
Are the sandbags in good condition?				
Is area behind sandbag berm free of debris/sediment buildup?				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				

72 Hours After the End of the Rain Event Inspection	Yes	No	N/A	Comments/Corrective Action:
Any odors, suspended material, floating material, etc. observed?				
Are slope drains in good condition?				
Are the sandbags in good condition?				
Is area behind sandbag berm free of debris/sediment buildup?				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				
Other _____				

BMP Visual Inspection Form – OF009 NASA

CM-1 Area

Photo #		Photo Location:	CM-1 Basin Overview (Upstream and Towards Weir Boards)
Photo #		Photo Location:	CM-1 Underdrains
Photo #		Photo Location:	CM-1 Discharge Pipe
Photo #		Photo Location:	Rip Rap Berm Northwest of CM-1
Photo #		Photo Location:	Stormwater Diversion to CM-1

During Rain Event Inspection	Yes	No	N/A	Comments/Corrective Action:
Any odors, suspended materials, floating material, etc. observed?				
Are erosion/sediment controls in good condition?				
Is there flow overtopping the weir boards? If yes, does the underdrain appear to be constricted? If yes, please record a video.				
Are underdrains in good condition? Note approximate % flow from each underdrain under comments.				
Is there sediment accumulation in the culvert basin? If yes, record approximate depth under comments.				
Any excessive ponding in front of sandbags at NW entrance?				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				
Is the drop inlet on the north side of the road clogged or otherwise obstructed?				
Is there erosion at the diversion pipe outlet?				

BMP Visual Inspection Form – OF009 NASA

CM-1 Area

72 Hours After the End of the Rain Event Inspection	Yes	No	N/A	Comments/Corrective Action:
Any odors, suspended materials, floating material, etc. observed?				
Are erosion/sediment controls in good condition?				
Is a recent high-water mark visible on weir boards? If yes, record depth from top of weir boards.				
Is water ponded in front of weir boards? If yes, record depth from top of weir boards.				
Is weir board filter fabric in good condition?				
Is there sediment accumulation in the culvert basin? If yes, record approximate depth under comments.				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				
Is the drop inlet on the north side of the road clogged or otherwise obstructed?				
Is there erosion at the diversion pipe outlet?				
Other _____				

BMP Visual Inspection Form – OF009 NASA

ELV Treatment BMP & ELV Channel

Photo #		Photo Location:	ELV Channel (Up- and Downstream)
Photo #		Photo Location:	ELV Settling Basin (looking towards intake pipe)
Photo #		Photo Location:	ELV Settling Basin (looking towards overflow bypass and culvert inlet)
Photo #		Photo Location:	ELV Treatment BMP Discharge Pipe
Photo #		Photo Location:	ELV Treatment BMP Tank Array Overview
Photo #		Additional Photo(s):	

During Rain Event Inspection / 72 Hours After the End of the Rain Event Inspection	Yes	No	N/A	Comments/Corrective Action:
Are erosion/sediment controls in good condition?				
Is ELV channel rip rap in good condition?				
Are fiber rolls and jute matting in good condition?				
Is influent screen free of debris (no clogging)?				
Is basin intake pipe in good condition?				
Is the settling basin in good condition?				
Is tank array and associated piping in good condition?				
Is effluent pipe in good condition?				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				
Other _____				

BMP Visual Inspection Form – OF009 NASA

Sandbag Berm – Near ELV Treatment BMP

Photo # _____ Photo Location: _____

Photo # _____ Photo Location: _____

Photo # _____ Photo Location: _____

Photo # _____ Additional Photo(s): _____

	Yes	No	N/A	Comments/Corrective Action:
During Rain Event Inspection				
Are the sandbags in good condition?				
Is area behind sandbag berm free of debris/sediment buildup?				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				
72 Hours After the End of the Rain Event Inspection				
Are the sandbags in good condition?				
Is area behind sandbag berm free of debris/sediment buildup?				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				
Is water ponded in front of sandbags? If yes, record depth from top of weir boards.				
Other _____				

BMP Visual Inspection Form – OF009 NASA

Helipad Area BMPs

Photo #		Photo Location:	Helipad Berm Overview (Eastern Berm)
Photo #		Photo Location:	Helipad Berm Overview (Western Berm)
Photo #		Photo Location:	Culvert Inlet Passing Beneath Helipad Road
Photo #		Photo Location:	
Photo #		Additional Photo(s):	

	Yes	No	N/A	Comments/Corrective Action:
During Rain Event Inspection				
Are the Helipad Berms in good condition?				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				
Is area behind Helipad Berms free of debris/sediment buildup?				
Is parking lot free of excessive debris/sediment?				
Is water overtopping the Helipad Berm? If yes, note which berm(s) are being overtopped. If yes, please record a video.				
72 Hours After the End of the Rain Event Inspection				
Are the Helipad Berms in good condition?				
Are upstream areas free of erosion or sediment? If no, note location and description under comments.				
Is area behind Helipad Berms free of debris/sediment buildup?				
Is parking lot free of excessive debris/sediment?				
Other _____				

BMP Visual Inspection Form – OF009 NASA

Additional Notes/Observations

Boeing 72 Hours After Rain Event Ponding Inspection Form

Date/Time of Inspection _____

Inspector's Name/Title _____ **Signature** _____

Culvert Modification	Ponding? Yes	Ponding? No	Depth (feet)
CM-2			
CM-3			
CM-4			
CM-5			
CM-6			
CM-8			
CM-9			
CM-10			
CM-11			
CM-12			
SEDIMENT BASIN			
BIOFILTER			
UPPER LOT MEDIA FILTER			
NORTHERN DETENTION BIOSWALE			
SOUTHERN DETENTION BIOSWALE			
ADMIN AREA FILTER BASKET			

OF009 Lower Lot - Cistern Inspection Checklist Questions:	**Inspection Answers:**
Amount of volume pumped from the cistern?	Volume
What was the resulting depth of the cistern?	Depth
Record the totalizer reading	Total

NASA 72 Hours After Rain Event Ponding Inspection Form

Date/Time of Inspection _____

Inspector's Name/Title _____ **Signature** _____

Culvert Modification	Ponding? Yes	Ponding? No	Depth (feet)
CM-1			
ELV			

Printed on 12/10/2021

Surface Water Monitoring Inspection and Sample Collection Form
PERFORMANCE MONITORING and BMP MONITORING PROGRAMS

Sampling Responsibility: NASA Inspector/Sampler:
Date:
Outfall/Watershed 009

Weather:
Rain Event Start Date/Time:

	Sample Tracking Information						Sample Field Measurements				Leaf Test				Sample Observations
	ISRA Area(s) & Location	Qualitative Flow Observations*	Photo Number(s)	Object ID	Sample ID (Object ID_yyyymmdd)	Sample/Observation Time	Conductivity (mS or uS)	pH	Temperature (°C)	Turbidity (NTU)	Distance (ft)	Time (s)	Speed (ft/s)	Water Depth (in)	Notes (color, odor, sheen, foam, biological material, nearby erosion, etc.)
ELV TREATMENT BMP AND HELIPAD	Culvert inlet; runoff will only be present when rain events exceed ELV BMP design storm			EVBMP0001	EVBMP0001_										
	Sample port in BMP influent pipe prior to "T" connection			EVBMP0007	EVBMP0007_										
	Discharge from media filter tank pipe			EVBMP0008	EVBMP0008_										
	Composite of samples from eastern and western sample ports between settling tanks and media filter			EVBMP0009	EVBMP0009_										

Notes:

***Qualitative Flow Observations:**

No Flow
Low Flow: Trickle or minor amount of flow.
Moderate Flow: Water is flowing normally, no significant erosion or turbid water.
High Flow: Significant water flow/velocity, slope erosion.

NPDES Permit Limits:

Temperature < 86 °F

pH 6.5 - 8.5

ALL RECEIVING AND SAMPLE COLLECTION BOTTLES MUST BE PRE- RINSED 3 TIMES WITH SOURCE WATER, PRIOR TO COLLECTION OF THE SAMPLE.

EXCEPTION IS THE HNO3 (NITRIC) PRESERVED POLY BOTTLES - DO NOT PRE-RINSE THE HNO3 PRESERVED POLY'S

Additional Observations:

Surface Water Monitoring Inspection and Sample Collection Form
PERFORMANCE MONITORING and BMP MONITORING PROGRAMS

Sampling Responsibility: NASA Inspector/Sampler:
Date:
Outfall/Watershed 009

Weather:
Rain Event Start Date/Time:

	Sample Tracking Information						Sample Field Measurements				Leaf Test				Sample Observations
	ISRA Area(s) & Location	Qualitative Flow Observations*	Photo Number(s)	Object ID	Sample ID (Object ID_yyyymmdd)	Sample/Observation Time	Conductivity (mS or uS)	pH	Temperature (°C)	Turbidity (NTU)	Distance (ft)	Time (s)	Speed (ft/s)	Water Depth (in)	Notes (color, odor, sheen, foam, biological material, nearby erosion, etc.)
CM-1 AND AREA II ROAD	Sheetflow along Area II Road upstream of sandbag berm			EVBMP0003	EVBMP0003_										
	CM-1 eastern tributary drainage			A2BMP0006	A2BMP0006_										
	CM-1 culvert outlet			A2BMP0007	A2BMP0007_										
	Outlet pipe south side of road			A2BMP0012	A2BMP0012_										

Notes:

***Qualitative Flow Observations:**

No Flow
Low Flow: Trickle or minor amount of flow.
Moderate Flow: Water is flowing normally, no significant erosion or turbid water.
High Flow: Significant water flow/velocity, slope erosion.

NPDES Permit Limits:

Temperature < 86 °F

pH 6.5 - 8.5

ALL RECEIVING AND SAMPLE COLLECTION BOTTLES MUST BE PRE-RINSED 3 TIMES WITH SOURCE WATER, PRIOR TO COLLECTION OF THE SAMPLE.

EXCEPTION IS THE HNO3 (NITRIC) PRESERVED POLY BOTTLES - DO NOT PRE-RINSE THE HNO3 PRESERVED POLY'S

Additional Observations:

Printed on 12/10/2021

Surface Water Monitoring Inspection and Sample Collection Form
PERFORMANCE MONITORING and BMP MONITORING PROGRAMS

Sampling Responsibility: Boeing

Inspector/Sampler:

Date:

Outfall/Watershed: 009

Weather:

Rain Event Start Date/Time:

	Sample Tracking Information						Sample Field Measurements				Leaf Test				Sample Observations
	ISRA Area(s) & Location	Qualitative Flow Observations*	Photo Number(s)	Object ID	Sample ID (Object ID_yyyymmdd)	Sample/Observation Time	Conductivity (mS or uS)	pH	Temperature (°C)	Turbidity (NTU)	Distance (ft)	Time (s)	Speed (ft/s)	Water Depth (in)	Notes (color, odor, sheen, foam, biological material, nearby erosion, etc.)
B-1 AREA	Gunite swale conveying road runoff			B1BMP0009	B1BMP0009_										
	Culvert outlet from upper parking lot area			B1BMP0010	B1BMP0010_										
	Underdrains			B1BMP0011	B1BMP0011_										
B1436 DETENTION BIOSWALES	Upstream, B1436 southern detention bioswale (concrete swale diverting sheet flow into rock crib - west)			ILBMP0004	ILBMP0004_										
	Downstream, B1436 southern detention bioswale; 12-inch underdrain			ILBMP0005	ILBMP0005_										
	Upstream, B1436 southern detention bioswale (concrete swale diverting sheet flow into rock crib - east)			ILBMP0008	ILBMP0008_										

Notes:

***Qualitative Flow Observations:**

No Flow
Low Flow: Trickle or minor amount of flow.
Moderate Flow: Water is flowing normally, no significant erosion or turbid water.
High Flow: Significant water flow/velocity, slope erosion.

NPDES Permit Limits:

Temperature < 86 °F

pH 6.5 - 8.5

ALL RECEIVING AND SAMPLE COLLECTION BOTTLES MUST BE PRE-RINSED 3 TIMES WITH SOURCE WATER, PRIOR TO COLLECTION OF THE SAMPLE.

EXCEPTION IS THE HNO3 (NITRIC) PRESERVED POLY BOTTLES - DO NOT PRE-RINSE THE HNO3 PRESERVED POLY'S

Additional Observations:

Surface Water Monitoring Inspection and Sample Collection Form
PERFORMANCE MONITORING and BMP MONITORING PROGRAMS

Sampling Responsibility: Boeing

Inspector/Sampler:

Date:

Outfall/Watershed 009

Weather:

Rain Event Start Date/Time:

		Sample Tracking Information					Sample Field Measurements				Leaf Test				Sample Observations
	ISRA Area(s) & Location	Qualitative Flow Observations*	Photo Number(s)	Object ID	Sample ID (Object ID_yyyymmdd)	Sample/Observation Time	Conductivity (mS or uS)	pH	Temperature (°C)	Turbidity (NTU)	Distance (ft)	Time (s)	Speed (ft/s)	Water Depth (in)	Notes (color, odor, sheen, foam, biological material, nearby erosion, etc.)
LOWER LOT AND ADMINISTRATION BUILDING AREA	Upstream Lower Lot Treatment BMP; sample port in cistern discharge pipeline			LPBMP0002	LPBMP0002_										
	Mid-Point Lower Lot BMP; Sediment Basin outlet box			LPBMP0003	LPBMP0003_										
	Downstream Lower Lot Treatment BMP; discharge from Biofilter effluent pipe			LPBMP0004	LPBMP0004_										
	Filter basket influent in the administration buildings area parking lot.			ILBMP0009	ILBMP0009_										
	Filter basket effluent in the administration buildings area parking lot.			ILBMP0010	ILBMP0010_										
CM-9 Area	Upstream (South), CM-9 BMPs			A1BMP0002	A1BMP0002_										
	Downstream, CM-9 BMPs; CM-9 underdrains			A1BMP0003	A1BMP0003_										
	Upstream (East), CM-9 BMPs; culvert inlet off Area II Road			ILBMP0002	ILBMP0002_										

Notes:

Additional Observations:

***Qualitative Flow Observations:**

No Flow

Low Flow: Trickle or minor amount of flow.

Moderate Flow: Water is flowing normally, no significant erosion or turbid water.

High Flow: Significant water flow/velocity, slope erosion.

NPDES Permit Limits:

Temperature < 86 °F

pH 6.5 - 8.5

ALL RECEIVING AND SAMPLE COLLECTION BOTTLES MUST BE PRE-RINSED 3 TIMES WITH SOURCE WATER, PRIOR TO COLLECTION OF THE SAMPLE.

Surface Water Monitoring Inspection and Sample Collection Form
PERFORMANCE MONITORING and BMP MONITORING PROGRAMS

Sampling Responsibility: Boeing

Inspector/Sampler:

Date:

Outfall/Watershed: 001, 002, and 011

Weather:

Rain Event Start Date/Time:

	Sample Tracking Information						Sample Field Measurements				Leaf Test				Sample Observations
	ISRA Area(s) & Location	Qualitative Flow Observations*	Photo Number(s)	Object ID	Sample ID (Object ID_yyyymmdd)	Sample/Observation Time	Conductivity (mS or uS)	pH	Temperature (°c)	Turbidity (NTU)	Distance (ft)	Time (s)	Speed (ft/s)	Water Depth (in)	Notes (color, odor, sheen, foam, biological material, nearby erosion, etc.)
OF001	Potential BMP location, Outfall 001 watershed (located at the low spot past Paul Costa Road heading towards Bell Canyon Road).			EPSW001BG01	EPSW001BG01_										
OF001	Potential BMP location, Outfall 001 watershed (at the bottom of the hill to the north of the intersection of the Southern Buffer Zone Road and Outfall 01 Road).			EPSW001IE01	EPSW001IE01_										
OF001	Potential BMP location, Outfall 001 watershed (south side of the road heading towards Outfall 001 at the intersection of Outfall 001 road and Bell Canyon Road).			EPSW001PV01	EPSW001PV01_										
OF002	Potential BMP location, Outfall 002 watershed (located passed the second water guzzler just before the steep incline into Outfall 002. Road delineator to the west of culvert).			EPSW002BG01	EPSW002BG01_										
OF002	Potential BMP location, Outfall 002 watershed (at STLV-IV. Immediately passed the gates to the south east; adjacent to the new telephone pole).			EPSW002IE01	EPSW002IE01_										
OF002	Potential BMP location, Outfall 002 watershed (located along the Southern Buffer Zone Road at the culvert inlet on the north side of the road. Approximately 400 feet east of the turnout).			EPSW002IE02	EPSW002IE02_										

Notes:

****Qualitative Flow Observations:***

No Flow

Low Flow: Trickle or minor amount of flow.

Moderate Flow: Water is flowing normally, no significant erosion or turbid water.

High Flow: Significant water flow/velocity, slope erosion.

NPDES Permit Limits:

Temperature < 86 °F

pH 6.5 - 8.5

ALL RECEIVING AND SAMPLE COLLECTION BOTTLES MUST BE PRE-RINSED 3 TIMES WITH SOURCE WATER, PRIOR TO COLLECTION OF THE SAMPLE.

EXCEPTION IS THE HNO3 (NITRIC) PRESERVED POLY BOTTLES - DO NOT PRE-RINSE THE HNO3 PRESERVED POLY'S

Additional Observations:

ALL LOCATIONS ON THIS PAGE NEED TO BE SAMPLED EVERY STORM EVENT

Printed on 12/10/2021

Surface Water Monitoring Inspection and Sample Collection Form
PERFORMANCE MONITORING and BMP MONITORING PROGRAMS

Sampling Responsibility: Boeing

Inspector/Sampler:

Date:

Outfall/Watershed: 001 and 009

Weather:

Rain Event Start Date/Time:

	Sample Tracking Information						Sample Field Measurements				Leaf Test				Sample Observations
	ISRA Area(s) & Location	Qualitative Flow Observations*	Photo Number(s)	Object ID	Sample ID (Object ID_yyyymmdd)	Sample/Observation Time	Conductivity (mS or uS)	pH	Temperature (°c)	Turbidity (NTU)	Distance (ft)	Time (s)	Speed (ft/s)	Water Depth (in)	Notes (color, odor, sheen, foam, biological material, nearby erosion, etc.)
Sage Ranch	Sage Ranch location - just east of LOX			BGBMP0003	BGBMP0003_										
CM5	Sage Ranch location - just Stream influent to CM5			BGBMP0004 (EPNDSW05)	BGBMP0004_										
CM11	Stream influent to CM11			A1SW0006	A1SW0006_										
CM8	Stream influent to CM8			A1SW0002	A1SW0002_										
Outfall 011	Outfall 011 Burn Pit runoff On felt liner by HDPe pipe			A1BPSW0001	A1BPSW0001_										
	Outfall 011 Burn Pit runoff Pipe inlet on road entering Outfall			A1BPSW0002	A1BPSW0002_										
	Outfall 011 Burn Pit runoff Rolling dip next to Charles King pump			A1BPSW0003	A1BPSW0003_										
CM-3 AREA	Upstream of Service Area Road BMP, outlet pipe on south side of road			LXBMP0010	LXBMP0010_										
	Upstream of Service Area Road BMP, natural drainage upstream of CM-3			LXBMP0011	LXBMP0011_										
	Downstream of Service Area Road BMP, underdrains			LXBMP0012	LXBMP0012_										

Notes:

***Qualitative Flow Observations:**

No Flow

Low Flow: Trickle or minor amount of flow.

Moderate Flow: Water is flowing normally, no significant erosion or turbid water.

High Flow: Significant water flow/velocity, slope erosion.

NPDES Permit Limits:

Temperature < 86 °F

pH 6.5 - 8.5

ALL RECEIVING AND SAMPLE COLLECTION BOTTLES MUST BE PRE-RINSED 3 TIMES WITH SOURCE WATER, PRIOR TO COLLECTION OF THE SAMPLE.

EXCEPTION IS THE HNO3 (NITRIC) PRESERVED POLY BOTTLES - DO NOT PRE-RINSE THE HNO3 PRESERVED POLY'S

Additional Observations:

ALL LOCATIONS ON THIS PAGE NEED TO BE SAMPLED EVERY STORM EVENT, EXCEPT FOR LXBMP0012 AND LXBMP0010

Appendix B: 2021/22 BMP and Subarea Monitoring Program Laboratory Reports

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ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-290654-1
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
11/9/2021 3:51:53 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-290654-1	ILBMP0004_20211025	Water	10/25/21 13:15	10/26/21 18:18
440-290654-2	ILBMP0005_20211025	Water	10/25/21 12:45	10/26/21 18:18
440-290654-3	ILBMP0008_20211025	Water	10/25/21 12:50	10/26/21 18:18
440-290654-4	ILBMP0009_20211025	Water	10/25/21 12:33	10/26/21 18:18
440-290654-5	ILBMP0010_20211025	Water	10/25/21 12:35	10/26/21 18:18
440-290654-6	LPBMP0002_20211026	Water	10/26/21 07:31	10/26/21 18:18
440-290654-7	LPBMP0003_20211026	Water	10/26/21 07:40	10/26/21 18:18
440-290654-8	LPBMP0004_20211026	Water	10/26/21 07:50	10/26/21 18:18
440-290654-9	EPSW001BG01_20211025	Water	10/25/21 13:35	10/26/21 18:18

Job ID: 440-290654-1

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-290654-1

Comments
No additional comments.

Receipt
The samples were received on 10/26/2021 6:18 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.5º C, 0.8º C and 1.0º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: ILBMP0004_20211025 (440-290654-1), ILBMP0005_20211025 (440-290654-2), ILBMP0008_20211025 (440-290654-3), ILBMP0009_20211025 (440-290654-4), ILBMP0010_20211025 (440-290654-5), LPBMP0002_20211026 (440-290654-6), LPBMP0003_20211026 (440-290654-7), LPBMP0004_20211026 (440-290654-8), EPSW001BG01_20211025 (440-290654-9), (CCV 320-539719/17), (LCS 320-538153/2-A), (LCSD 320-538153/3-A) and (MB 320-538153/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: ILBMP0009_20211025 (440-290654-4) and ILBMP0010_20211025 (440-290654-5). These analytes have been qualified; however, the peaks did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: ILBMP0004_20211025 (440-290654-1), ILBMP0005_20211025 (440-290654-2), ILBMP0008_20211025 (440-290654-3), ILBMP0009_20211025 (440-290654-4), ILBMP0010_20211025 (440-290654-5), LPBMP0002_20211026 (440-290654-6), LPBMP0003_20211026 (440-290654-7), LPBMP0004_20211026 (440-290654-8) and EPSW001BG01_20211025 (440-290654-9). These samples were filtered and preserved upon receipt to the laboratory.

10/27/21@ 10:20
2.5ml HNO3
HNO3 Lot:0000264786

Method 200.8: The method blank for preparation batch 440-659972 and analytical batch 440-660038 contained Iron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method D4464: The sample duplicate precision for the following sample associated with analytical batch 570-192366 was outside control limits: ILBMP0008_20211025 (440-290654-3) and (440-290654-A-3 DU). The associated Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) precision met acceptance criteria.

Job ID: 440-290654-1 (Continued)

Laboratory: Eurofins Calscience Irvine (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
Method 1613B: Elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: LPBMP0003_20211026 (440-290654-7).
Nominal volume required by method is 1.0 L

preparation batch 320-538153
method: 1613B_Sox_Sep_P
matrix: water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client Sample ID: ILBMP0004_20211025

Date Collected: 10/25/21 13:15
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-1

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000046	J,DX q	0.000011	0.00000095	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,7,8-PeCDD	0.000034	J,DX	0.000053	0.0000017	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,7,8-PeCDF	0.0000049	J,DX q MB	0.000053	0.00000090	ug/L		10/29/21 08:44	11/04/21 06:11	1
2,3,4,7,8-PeCDF	0.0000036	J,DX	0.000053	0.00000098	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,4,7,8-HxCDD	0.000055	MB	0.000053	0.0000034	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,6,7,8-HxCDD	0.000089		0.000053	0.0000031	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,7,8,9-HxCDD	0.00010	MB	0.000053	0.0000029	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,4,7,8-HxCDF	0.0000084	J,DX q	0.000053	0.0000024	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,6,7,8-HxCDF	0.0000063	J,DX q	0.000053	0.0000025	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,7,8,9-HxCDF	0.0000098	J,DX MB	0.000053	0.0000014	ug/L		10/29/21 08:44	11/04/21 06:11	1
2,3,4,6,7,8-HxCDF	0.0000056	J,DX q	0.000053	0.0000021	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,4,6,7,8-HpCDD	0.0019	MB	0.000053	0.000014	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,4,6,7,8-HpCDF	0.00018	MB	0.000053	0.0000024	ug/L		10/29/21 08:44	11/04/21 06:11	1
1,2,3,4,7,8,9-HpCDF	0.000011	J,DX MB	0.000053	0.0000027	ug/L		10/29/21 08:44	11/04/21 06:11	1
OCDD	0.030	MB	0.00011	0.000010	ug/L		10/29/21 08:44	11/04/21 06:11	1
OCDF	0.00044	MB	0.00011	0.00000087	ug/L		10/29/21 08:44	11/04/21 06:11	1
Total TCDD	0.000015	J,DX MB q	0.000011	0.00000095	ug/L		10/29/21 08:44	11/04/21 06:11	1
Total TCDF	0.0000074	J,DX q MB	0.000011	0.00000049	ug/L		10/29/21 08:44	11/04/21 06:11	1
Total PeCDD	0.000071	J,DX q	0.000053	0.0000017	ug/L		10/29/21 08:44	11/04/21 06:11	1
Total PeCDF	0.000041	J,DX q MB	0.000053	0.00000090	ug/L		10/29/21 08:44	11/04/21 06:11	1
Total HxCDD	0.00057	q MB	0.000053	0.0000029	ug/L		10/29/21 08:44	11/04/21 06:11	1
Total HxCDF	0.00019	J,DX MB q	0.000053	0.0000014	ug/L		10/29/21 08:44	11/04/21 06:11	1
Total HpCDD	0.0052	MB	0.000053	0.000014	ug/L		10/29/21 08:44	11/04/21 06:11	1
Total HpCDF	0.00042	J,DX MB q	0.000053	0.0000024	ug/L		10/29/21 08:44	11/04/21 06:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-2,3,7,8-TCDF	*78*		*24 - 169*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*25 - 181*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-1,2,3,7,8-PeCDF	*80*		*24 - 185*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*21 - 178*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*32 - 141*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*79*		*28 - 130*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-1,2,3,4,7,8-HxCDF	*80*		*26 - 152*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-1,2,3,6,7,8-HxCDF	*79*		*26 - 123*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-1,2,3,7,8,9-HxCDF	*82*		*29 - 147*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-2,3,4,6,7,8-HxCDF	*83*		*28 - 136*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*100*		*23 - 140*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*89*		*28 - 143*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*97*		*26 - 138*	*10/29/21 08:44*	*11/04/21 06:11*	*1*
13C-OCDD	*119*		*17 - 157*	*10/29/21 08:44*	*11/04/21 06:11*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*98*		*35 - 197*	*10/29/21 08:44*	*11/04/21 06:11*	*1*

Client Sample ID: ILBMP0004_20211025

Date Collected: 10/25/21 13:15
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-1
Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.0000023	J,DX	0.000011	0.0000013	ug/L		10/29/21 08:44	11/08/21 16:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*91*		*24 - 169*	*10/29/21 08:44*	*11/08/21 16:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*90*		*35 - 197*	*10/29/21 08:44*	*11/08/21 16:51*	*1*

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.46	J,DX	1.0	0.25	ug/L		11/01/21 15:13	11/02/21 13:18	1
Copper	7.6		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:18	1
Lead	1.9		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:18	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		10/29/21 09:19	10/29/21 12:44	1
Copper	4.0		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:44	1
Lead	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:44	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:35	11/02/21 16:37	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.21		0.20	0.10	ug/L		11/02/21 10:43	11/02/21 17:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	36		2.0	1.0	mg/L			10/27/21 15:04	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	1.09		0.01	0.01	%			11/06/21 10:06	1
Coarse Sand (0.5mm to 1mm)	17.73		0.01	0.01	%			11/06/21 10:06	1
Fine Sand (0.125 to 0.25mm)	11.39		0.01	0.01	%			11/06/21 10:06	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			11/06/21 10:06	1
Medium Sand (0.25 to 0.5 mm)	36.67		0.01	0.01	%			11/06/21 10:06	1
Silt (0.00391 to 0.0625mm)	6.10		0.01	0.01	%			11/06/21 10:06	1
Total Silt and Clay (0 to 0.0626mm)	7.20		0.01	0.01	%			11/06/21 10:06	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			11/06/21 10:06	1
Very Fine Sand (0.0625 to 0.125 mm)	27.01		0.01	0.01	%			11/06/21 10:06	1

Client Sample ID: ILBMP0005_20211025

Date Collected: 10/25/21 12:45
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-2
Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000086	ug/L		10/29/21 08:44	11/04/21 06:56	1

Client Sample ID: ILBMP0005_20211025

Date Collected: 10/25/21 12:45
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-2

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.00000036	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,7,8-PeCDD	**0.0000019**	**J,DX q**	0.000051	0.00000099	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,7,8-PeCDF	**0.0000021**	**J,DX MB q**	0.000051	0.00000063	ug/L		10/29/21 08:44	11/04/21 06:56	1
2,3,4,7,8-PeCDF	ND		0.000051	0.00000073	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,4,7,8-HxCDD	**0.0000045**	**J,DX MB q**	0.000051	0.0000011	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,6,7,8-HxCDD	**0.0000066**	**J,DX**	0.000051	0.0000011	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,7,8,9-HxCDD	**0.0000047**	**J,DX MB q**	0.000051	0.00000096	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,4,7,8-HxCDF	**0.0000024**	**J,DX q**	0.000051	0.0000014	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,6,7,8-HxCDF	**0.0000027**	**J,DX**	0.000051	0.0000015	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,7,8,9-HxCDF	**0.0000084**	**J,DX MB**	0.000051	0.00000083	ug/L		10/29/21 08:44	11/04/21 06:56	1
2,3,4,6,7,8-HxCDF	ND		0.000051	0.0000012	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,4,6,7,8-HpCDD	**0.000069**	**MB**	0.000051	0.0000014	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,4,6,7,8-HpCDF	**0.000017**	**J,DX MB**	0.000051	0.00000087	ug/L		10/29/21 08:44	11/04/21 06:56	1
1,2,3,4,7,8,9-HpCDF	**0.0000041**	**J,DX MB**	0.000051	0.00000094	ug/L		10/29/21 08:44	11/04/21 06:56	1
OCDD	**0.00041**	**MB**	0.00010	0.0000012	ug/L		10/29/21 08:44	11/04/21 06:56	1
OCDF	**0.000019**	**J,DX MB**	0.00010	0.00000077	ug/L		10/29/21 08:44	11/04/21 06:56	1
Total TCDD	**0.0000032**	**J,DX MB q**	0.000010	0.00000086	ug/L		10/29/21 08:44	11/04/21 06:56	1
Total TCDF	ND		0.000010	0.00000036	ug/L		10/29/21 08:44	11/04/21 06:56	1
Total PeCDD	**0.0000019**	**J,DX q**	0.000051	0.00000099	ug/L		10/29/21 08:44	11/04/21 06:56	1
Total PeCDF	**0.0000032**	**J,DX MB q**	0.000051	0.00000063	ug/L		10/29/21 08:44	11/04/21 06:56	1
Total HxCDD	**0.000030**	**J,DX MB q**	0.000051	0.00000096	ug/L		10/29/21 08:44	11/04/21 06:56	1
Total HxCDF	**0.000022**	**J,DX MB q**	0.000051	0.00000083	ug/L		10/29/21 08:44	11/04/21 06:56	1
Total HpCDD	**0.00014**	**MB**	0.000051	0.0000014	ug/L		10/29/21 08:44	11/04/21 06:56	1
Total HpCDF	**0.000031**	**J,DX MB q**	0.000051	0.00000087	ug/L		10/29/21 08:44	11/04/21 06:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*76*		*25 - 164*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-2,3,7,8-TCDF	*79*		*24 - 169*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-1,2,3,7,8-PeCDD	*80*		*25 - 181*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-1,2,3,7,8-PeCDF	*81*		*24 - 185*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-2,3,4,7,8-PeCDF	*77*		*21 - 178*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-1,2,3,4,7,8-HxCDD	*80*		*32 - 141*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*28 - 130*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*26 - 152*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*26 - 123*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-1,2,3,7,8,9-HxCDF	*85*		*29 - 147*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-2,3,4,6,7,8-HxCDF	*84*		*28 - 136*	*10/29/21 08:44*	*11/04/21 06:56*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*99*		*23 - 140*	*10/29/21 08:44*	*11/04/21 06:56*	*1*

Client Sample ID: ILBMP0005_20211025

Lab Sample ID: 440-290654-2

Date Collected: 10/25/21 12:45

Matrix: Water

Date Received: 10/26/21 18:18

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDF	88		28 - 143	10/29/21 08:44	11/04/21 06:56	1
13C-1,2,3,4,7,8,9-HpCDF	100		26 - 138	10/29/21 08:44	11/04/21 06:56	1
13C-OCDD	109		17 - 157	10/29/21 08:44	11/04/21 06:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	96		35 - 197	10/29/21 08:44	11/04/21 06:56	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.29**	**J,DX**	1.0	0.25	ug/L		11/01/21 15:13	11/02/21 13:25	1
Copper	**10**		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:25	1
Lead	**1.1**		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:25	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		10/29/21 09:19	10/29/21 12:51	1
Copper	**9.0**		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:51	1
Lead	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:51	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:35	11/02/21 16:43	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:43	11/02/21 17:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**15**		1.3	0.67	mg/L			10/27/21 15:04	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			11/06/21 10:13	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			11/06/21 10:13	1
Fine Sand (0.125 to 0.25mm)	**28.82**		0.01	0.01	%			11/06/21 10:13	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			11/06/21 10:13	1
Medium Sand (0.25 to 0.5 mm)	**20.98**		0.01	0.01	%			11/06/21 10:13	1
Silt (0.00391 to 0.0625mm)	**7.51**		0.01	0.01	%			11/06/21 10:13	1
Total Silt and Clay (0 to 0.0626mm)	**7.51**		0.01	0.01	%			11/06/21 10:13	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			11/06/21 10:13	1
Very Fine Sand (0.0625 to 0.125 mm)	**42.70**		0.01	0.01	%			11/06/21 10:13	1

Client Sample ID: ILBMP0008_20211025

Lab Sample ID: 440-290654-3

Date Collected: 10/25/21 12:50

Matrix: Water

Date Received: 10/26/21 18:18

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000085	ug/L		10/29/21 08:44	11/04/21 07:41	1

Client Sample ID: ILBMP0008_20211025
Lab Sample ID: 440-290654-3

Date Collected: 10/25/21 12:50
Matrix: Water
Date Received: 10/26/21 18:18

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8-PeCDD	0.0000029	J,DX	0.000052	0.0000011	ug/L		10/29/21 08:44	11/04/21 07:41	1
1,2,3,7,8-PeCDF	0.0000040	J,DX MB q	0.000052	0.00000098	ug/L		10/29/21 08:44	11/04/21 07:41	1
2,3,4,7,8-PeCDF	0.0000015	J,DX q	0.000052	0.0000011	ug/L		10/29/21 08:44	11/04/21 07:41	1
1,2,3,4,7,8-HxCDD	0.0000080	J,DX MB	0.000052	0.0000018	ug/L		10/29/21 08:44	11/04/21 07:41	1
1,2,3,6,7,8-HxCDD	0.000013	J,DX	0.000052	0.0000017	ug/L		10/29/21 08:44	11/04/21 07:41	1
1,2,3,7,8,9-HxCDD	0.000012	J,DX MB	0.000052	0.0000015	ug/L		10/29/21 08:44	11/04/21 07:41	1
1,2,3,4,7,8-HxCDF	0.000017	J,DX	0.000052	0.0000022	ug/L		10/29/21 08:44	11/04/21 07:41	1
1,2,3,6,7,8-HxCDF	0.000014	J,DX q	0.000052	0.0000022	ug/L		10/29/21 08:44	11/04/21 07:41	1
1,2,3,7,8,9-HxCDF	0.000012	J,DX MB	0.000052	0.0000013	ug/L		10/29/21 08:44	11/04/21 07:41	1
2,3,4,6,7,8-HxCDF	0.000012	J,DX q	0.000052	0.0000019	ug/L		10/29/21 08:44	11/04/21 07:41	1
1,2,3,4,6,7,8-HpCDD	0.00028	MB	0.000052	0.0000026	ug/L		10/29/21 08:44	11/04/21 07:41	1
1,2,3,4,6,7,8-HpCDF	0.00036	MB	0.000052	0.0000023	ug/L		10/29/21 08:44	11/04/21 07:41	1
1,2,3,4,7,8,9-HpCDF	0.000011	J,DX MB	0.000052	0.0000027	ug/L		10/29/21 08:44	11/04/21 07:41	1
OCDD	0.0027	MB	0.00010	0.0000014	ug/L		10/29/21 08:44	11/04/21 07:41	1
OCDF	0.00036	MB	0.00010	0.00000078	ug/L		10/29/21 08:44	11/04/21 07:41	1
Total TCDD	0.0000055	J,DX MB q	0.000010	0.00000085	ug/L		10/29/21 08:44	11/04/21 07:41	1
Total TCDF	0.0000086	J,DX MB q	0.000010	0.00000054	ug/L		10/29/21 08:44	11/04/21 07:41	1
Total PeCDD	0.000020	J,DX	0.000052	0.0000011	ug/L		10/29/21 08:44	11/04/21 07:41	1
Total PeCDF	0.000060	J,DX MB q	0.000052	0.00000098	ug/L		10/29/21 08:44	11/04/21 07:41	1
Total HxCDD	0.00016	J,DX MB q	0.000052	0.0000015	ug/L		10/29/21 08:44	11/04/21 07:41	1
Total HxCDF	0.00026	J,DX MB q	0.000052	0.0000013	ug/L		10/29/21 08:44	11/04/21 07:41	1
Total HpCDD	0.0011	MB	0.000052	0.0000026	ug/L		10/29/21 08:44	11/04/21 07:41	1
Total HpCDF	0.00058	MB	0.000052	0.0000023	ug/L		10/29/21 08:44	11/04/21 07:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*25 - 164*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-2,3,7,8-TCDF	*75*		*24 - 169*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*25 - 181*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*24 - 185*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-2,3,4,7,8-PeCDF	*74*		*21 - 178*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-1,2,3,4,7,8-HxCDD	*76*		*32 - 141*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*28 - 130*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*26 - 152*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-1,2,3,6,7,8-HxCDF	*80*		*26 - 123*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-1,2,3,7,8,9-HxCDF	*81*		*29 - 147*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-2,3,4,6,7,8-HxCDF	*80*		*28 - 136*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*97*		*23 - 140*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*85*		*28 - 143*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*95*		*26 - 138*	*10/29/21 08:44*	*11/04/21 07:41*	*1*
13C-OCDD	*110*		*17 - 157*	*10/29/21 08:44*	*11/04/21 07:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*97*		*35 - 197*	*10/29/21 08:44*	*11/04/21 07:41*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000044	ug/L		10/29/21 08:44	11/04/21 20:28	1

Client Sample ID: ILBMP0008_20211025

Date Collected: 10/25/21 12:50
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-3

Matrix: Water

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*10/29/21 08:44*	*11/04/21 20:28*	*1*
13C-2,3,7,8-TCDF	*87*		*24 - 169*	*10/29/21 08:44*	*11/04/21 20:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*94*		*35 - 197*	*10/29/21 08:44*	*11/04/21 20:28*	*1*

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.67**	**J,DX**	1.0	0.25	ug/L		11/01/21 15:13	11/02/21 13:27	1
Copper	**11**		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:27	1
Lead	**5.0**		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:27	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.28**	**J,DX**	1.0	0.25	ug/L		10/29/21 09:19	10/29/21 12:53	1
Copper	**6.2**		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:53	1
Lead	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:53	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:35	11/02/21 16:50	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:43	11/02/21 17:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**45**		3.3	1.7	mg/L			10/27/21 15:04	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**4.86**		0.01	0.01	%			11/06/21 10:22	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			11/06/21 10:22	1
Fine Sand (0.125 to 0.25mm)	**39.95**		0.01	0.01	%			11/06/21 10:22	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			11/06/21 10:22	1
Medium Sand (0.25 to 0.5 mm)	**2.27**		0.01	0.01	%			11/06/21 10:22	1
Silt (0.00391 to 0.0625mm)	**31.29**		0.01	0.01	%			11/06/21 10:22	1
Total Silt and Clay (0 to 0.0626mm)	**36.14**		0.01	0.01	%			11/06/21 10:22	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			11/06/21 10:22	1
Very Fine Sand (0.0625 to 0.125 mm)	**21.64**		0.01	0.01	%			11/06/21 10:22	1

Client Sample ID: ILBMP0009_20211025

Date Collected: 10/25/21 12:33
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-4

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.0000083**	**J,DX**	0.000010	0.0000095	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,7,8-PeCDD	**0.000047**	**J,DX**	0.000052	0.0000025	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,7,8-PeCDF	**0.000011**	**J,DX MB**	0.000052	0.0000015	ug/L		10/29/21 08:44	11/04/21 08:26	1

Client Sample ID: ILBMP0009_20211025

Date Collected: 10/25/21 12:33
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-4

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,7,8-PeCDF	0.000011	J,DX	0.000052	0.0000017	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,4,7,8-HxCDD	0.000097	MB	0.000052	0.0000044	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,6,7,8-HxCDD	0.00021		0.000052	0.0000040	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,7,8,9-HxCDD	0.00018	MB	0.000052	0.0000037	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,4,7,8-HxCDF	0.000037	J,DX	0.000052	0.0000051	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,6,7,8-HxCDF	0.000032	J,DX	0.000052	0.0000056	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,7,8,9-HxCDF	0.0000089	J,DX MB	0.000052	0.0000033	ug/L		10/29/21 08:44	11/04/21 08:26	1
2,3,4,6,7,8-HxCDF	0.000023	J,DX q	0.000052	0.0000045	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,4,6,7,8-HpCDD	0.0049	MB	0.000052	0.000026	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,4,6,7,8-HpCDF	0.00087	MB	0.000052	0.0000048	ug/L		10/29/21 08:44	11/04/21 08:26	1
1,2,3,4,7,8,9-HpCDF	0.000021	J,DX MB	0.000052	0.0000053	ug/L		10/29/21 08:44	11/04/21 08:26	1
OCDD	0.060	EY MB	0.00010	0.000019	ug/L		10/29/21 08:44	11/04/21 08:26	1
OCDF	0.0011	MB	0.00010	0.00000091	ug/L		10/29/21 08:44	11/04/21 08:26	1
Total TCDD	0.000024	J,DX MB q	0.000010	0.00000095	ug/L		10/29/21 08:44	11/04/21 08:26	1
Total TCDF	0.000020	J,DX MB q	0.000010	0.00000079	ug/L		10/29/21 08:44	11/04/21 08:26	1
Total PeCDD	0.00014	J,DX q	0.000052	0.0000025	ug/L		10/29/21 08:44	11/04/21 08:26	1
Total PeCDF	0.00021	J,DX MB q	0.000052	0.0000015	ug/L		10/29/21 08:44	11/04/21 08:26	1
Total HxCDD	0.0013	MB	0.000052	0.0000037	ug/L		10/29/21 08:44	11/04/21 08:26	1
Total HxCDF	0.00087	J,DX MB q	0.000052	0.0000033	ug/L		10/29/21 08:44	11/04/21 08:26	1
Total HpCDD	0.012	MB	0.000052	0.000026	ug/L		10/29/21 08:44	11/04/21 08:26	1
Total HpCDF	0.0018	J,DX MB	0.000052	0.0000048	ug/L		10/29/21 08:44	11/04/21 08:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*73*		*25 - 164*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-2,3,7,8-TCDF	*77*		*24 - 169*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*25 - 181*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-1,2,3,7,8-PeCDF	*77*		*24 - 185*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-2,3,4,7,8-PeCDF	*74*		*21 - 178*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-1,2,3,4,7,8-HxCDD	*72*		*32 - 141*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-1,2,3,6,7,8-HxCDD	*73*		*28 - 130*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-1,2,3,4,7,8-HxCDF	*76*		*26 - 152*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-1,2,3,6,7,8-HxCDF	*74*		*26 - 123*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*29 - 147*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-2,3,4,6,7,8-HxCDF	*78*		*28 - 136*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*93*		*23 - 140*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*89*		*26 - 138*	*10/29/21 08:44*	*11/04/21 08:26*	*1*
13C-OCDD	*113*		*17 - 157*	*10/29/21 08:44*	*11/04/21 08:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*98*		*35 - 197*	*10/29/21 08:44*	*11/04/21 08:26*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.0000041	J,DX	0.000010	0.0000019	ug/L		10/29/21 08:44	11/04/21 21:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*90*		*24 - 169*	*10/29/21 08:44*	*11/04/21 21:06*	*1*

Client Sample ID: ILBMP0009_20211025

Date Collected: 10/25/21 12:33
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-4

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*90*		*35 - 197*	*10/29/21 08:44*	*11/04/21 21:06*	*1*

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		11/01/21 15:13	11/02/21 13:30	1
Copper	**8.1**		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:30	1
Lead	**3.3**		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:30	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		10/29/21 09:19	10/29/21 12:56	1
Copper	**2.2**		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:56	1
Lead	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:56	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:35	11/02/21 16:52	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.15**	**J,DX**	0.20	0.10	ug/L		11/02/21 10:43	11/02/21 17:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**140**		3.3	1.7	mg/L			10/27/21 15:04	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**5.85**		0.01	0.01	%			11/06/21 10:29	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			11/06/21 10:29	1
Fine Sand (0.125 to 0.25mm)	**24.67**		0.01	0.01	%			11/06/21 10:29	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			11/06/21 10:29	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			11/06/21 10:29	1
Silt (0.00391 to 0.0625mm)	**46.79**		0.01	0.01	%			11/06/21 10:29	1
Total Silt and Clay (0 to 0.0626mm)	**52.63**		0.01	0.01	%			11/06/21 10:29	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			11/06/21 10:29	1
Very Fine Sand (0.0625 to 0.125 mm)	**22.70**		0.01	0.01	%			11/06/21 10:29	1

Client Sample ID: ILBMP0010_20211025

Date Collected: 10/25/21 12:35
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-5

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.0000080**	**J,DX**	0.000010	0.00000072	ug/L		10/29/21 08:44	11/04/21 09:11	1
1,2,3,7,8-PeCDD	**0.000046**	**J,DX**	0.000051	0.0000018	ug/L		10/29/21 08:44	11/04/21 09:11	1
1,2,3,7,8-PeCDF	**0.0000078**	**J,DX MB**	0.000051	0.00000096	ug/L		10/29/21 08:44	11/04/21 09:11	1
2,3,4,7,8-PeCDF	**0.0000059**	**J,DX**	0.000051	0.0000011	ug/L		10/29/21 08:44	11/04/21 09:11	1
1,2,3,4,7,8-HxCDD	**0.000087**	**MB**	0.000051	0.0000041	ug/L		10/29/21 08:44	11/04/21 09:11	1
1,2,3,6,7,8-HxCDD	**0.00020**		0.000051	0.0000040	ug/L		10/29/21 08:44	11/04/21 09:11	1

Client Sample ID: ILBMP0010_20211025

Date Collected: 10/25/21 12:35
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-5

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8,9-HxCDD	0.00016	MB	0.000051	0.0000035	ug/L		10/29/21 08:44	11/04/21 09:11	1
1,2,3,4,7,8-HxCDF	0.000033	J,DX	0.000051	0.0000042	ug/L		10/29/21 08:44	11/04/21 09:11	1
1,2,3,6,7,8-HxCDF	0.000030	J,DX	0.000051	0.0000045	ug/L		10/29/21 08:44	11/04/21 09:11	1
1,2,3,7,8,9-HxCDF	0.0000073	J,DX MB	0.000051	0.0000026	ug/L		10/29/21 08:44	11/04/21 09:11	1
2,3,4,6,7,8-HxCDF	0.000020	J,DX q	0.000051	0.0000038	ug/L		10/29/21 08:44	11/04/21 09:11	1
1,2,3,4,6,7,8-HpCDD	0.0046	MB	0.000051	0.000026	ug/L		10/29/21 08:44	11/04/21 09:11	1
1,2,3,4,6,7,8-HpCDF	0.00099	MB	0.000051	0.0000060	ug/L		10/29/21 08:44	11/04/21 09:11	1
1,2,3,4,7,8,9-HpCDF	0.000033	J,DX MB	0.000051	0.0000069	ug/L		10/29/21 08:44	11/04/21 09:11	1
OCDD	0.057	EY MB	0.00010	0.000013	ug/L		10/29/21 08:44	11/04/21 09:11	1
OCDF	0.0022	MB	0.00010	0.0000011	ug/L		10/29/21 08:44	11/04/21 09:11	1
Total TCDD	0.000019	J,DX MB q	0.000010	0.00000072	ug/L		10/29/21 08:44	11/04/21 09:11	1
Total TCDF	0.000019	J,DX MB q	0.000010	0.00000062	ug/L		10/29/21 08:44	11/04/21 09:11	1
Total PeCDD	0.00012	J,DX q	0.000051	0.0000018	ug/L		10/29/21 08:44	11/04/21 09:11	1
Total PeCDF	0.00015	J,DX MB q	0.000051	0.00000096	ug/L		10/29/21 08:44	11/04/21 09:11	1
Total HxCDD	0.0012	MB	0.000051	0.0000035	ug/L		10/29/21 08:44	11/04/21 09:11	1
Total HxCDF	0.00080	J,DX MB q	0.000051	0.0000026	ug/L		10/29/21 08:44	11/04/21 09:11	1
Total HpCDD	0.011	MB	0.000051	0.000026	ug/L		10/29/21 08:44	11/04/21 09:11	1
Total HpCDF	0.0026	J,DX MB	0.000051	0.0000060	ug/L		10/29/21 08:44	11/04/21 09:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*80*		*25 - 164*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*25 - 181*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*24 - 185*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*21 - 178*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-1,2,3,4,7,8-HxCDD	*81*		*32 - 141*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*28 - 130*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-1,2,3,4,7,8-HxCDF	*86*		*26 - 152*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-1,2,3,6,7,8-HxCDF	*85*		*26 - 123*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-1,2,3,7,8,9-HxCDF	*86*		*29 - 147*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-2,3,4,6,7,8-HxCDF	*85*		*28 - 136*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*107*		*23 - 140*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*90*		*28 - 143*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*100*		*26 - 138*	*10/29/21 08:44*	*11/04/21 09:11*	*1*
13C-OCDD	*125*		*17 - 157*	*10/29/21 08:44*	*11/04/21 09:11*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*98*		*35 - 197*	*10/29/21 08:44*	*11/04/21 09:11*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000020	ug/L		10/29/21 08:44	11/04/21 21:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*95*		*24 - 169*	*10/29/21 08:44*	*11/04/21 21:45*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*93*		*35 - 197*	*10/29/21 08:44*	*11/04/21 21:45*	*1*

Client Sample ID: ILBMP0010_20211025

Lab Sample ID: 440-290654-5

Date Collected: 10/25/21 12:35
Matrix: Water
Date Received: 10/26/21 18:18

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		11/01/21 15:13	11/02/21 13:32	1
Copper	**5.8**		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:32	1
Lead	**2.9**		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:32	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		10/29/21 09:19	10/29/21 12:58	1
Copper	**2.0**		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:58	1
Lead	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:58	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:35	11/02/21 16:55	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.13**	**J,DX**	0.20	0.10	ug/L		11/02/21 10:43	11/02/21 17:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**96**		2.5	1.3	mg/L			10/27/21 15:04	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**4.93**		0.01	0.01	%			11/06/21 10:36	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			11/06/21 10:36	1
Fine Sand (0.125 to 0.25mm)	**21.38**		0.01	0.01	%			11/06/21 10:36	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			11/06/21 10:36	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			11/06/21 10:36	1
Silt (0.00391 to 0.0625mm)	**47.84**		0.01	0.01	%			11/06/21 10:36	1
Total Silt and Clay (0 to 0.0626mm)	**52.77**		0.01	0.01	%			11/06/21 10:36	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			11/06/21 10:36	1
Very Fine Sand (0.0625 to 0.125 mm)	**25.85**		0.01	0.01	%			11/06/21 10:36	1

Client Sample ID: LPBMP0002_20211026

Lab Sample ID: 440-290654-6

Date Collected: 10/26/21 07:31
Matrix: Water
Date Received: 10/26/21 18:18

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000058	ug/L		10/29/21 08:44	11/04/21 09:56	1
1,2,3,7,8-PeCDD	**0.0000013**	**J,DX q**	0.000051	0.00000089	ug/L		10/29/21 08:44	11/04/21 09:56	1
1,2,3,7,8-PeCDF	**0.0000017**	**J,DX MB**	0.000051	0.00000069	ug/L		10/29/21 08:44	11/04/21 09:56	1
2,3,4,7,8-PeCDF	ND		0.000051	0.00000078	ug/L		10/29/21 08:44	11/04/21 09:56	1
1,2,3,4,7,8-HxCDD	**0.0000041**	**J,DX MB**	0.000051	0.0000010	ug/L		10/29/21 08:44	11/04/21 09:56	1
1,2,3,6,7,8-HxCDD	**0.0000045**	**J,DX**	0.000051	0.00000088	ug/L		10/29/21 08:44	11/04/21 09:56	1

Client Sample ID: LPBMP0002_20211026

Date Collected: 10/26/21 07:31
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-6

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8,9-HxCDD	0.0000045	J,DX MB	0.000051	0.00000083	ug/L		10/29/21 08:44	11/04/21 09:56	1
1,2,3,4,7,8-HxCDF	0.0000022	J,DX q	0.000051	0.0000013	ug/L		10/29/21 08:44	11/04/21 09:56	1
1,2,3,6,7,8-HxCDF	0.0000032	J,DX	0.000051	0.0000014	ug/L		10/29/21 08:44	11/04/21 09:56	1
1,2,3,7,8,9-HxCDF	0.0000066	J,DX MB q	0.000051	0.00000076	ug/L		10/29/21 08:44	11/04/21 09:56	1
2,3,4,6,7,8-HxCDF	0.0000019	J,DX	0.000051	0.0000012	ug/L		10/29/21 08:44	11/04/21 09:56	1
1,2,3,4,6,7,8-HpCDD	0.000076	MB	0.000051	0.0000012	ug/L		10/29/21 08:44	11/04/21 09:56	1
1,2,3,4,6,7,8-HpCDF	0.000034	J,DX MB	0.000051	0.00000089	ug/L		10/29/21 08:44	11/04/21 09:56	1
1,2,3,4,7,8,9-HpCDF	0.0000029	J,DX MB q	0.000051	0.0000010	ug/L		10/29/21 08:44	11/04/21 09:56	1
OCDD	0.00082	MB	0.00010	0.00000097	ug/L		10/29/21 08:44	11/04/21 09:56	1
OCDF	0.000040	J,DX MB	0.00010	0.00000070	ug/L		10/29/21 08:44	11/04/21 09:56	1
Total TCDD	0.0000038	J,DX MB q	0.000010	0.00000058	ug/L		10/29/21 08:44	11/04/21 09:56	1
Total TCDF	0.00000086	J,DX MB q	0.000010	0.00000035	ug/L		10/29/21 08:44	11/04/21 09:56	1
Total PeCDD	0.0000013	J,DX q	0.000051	0.00000089	ug/L		10/29/21 08:44	11/04/21 09:56	1
Total PeCDF	0.0000063	J,DX MB q	0.000051	0.00000069	ug/L		10/29/21 08:44	11/04/21 09:56	1
Total HxCDD	0.000028	J,DX MB q	0.000051	0.00000083	ug/L		10/29/21 08:44	11/04/21 09:56	1
Total HxCDF	0.000033	J,DX MB q	0.000051	0.00000076	ug/L		10/29/21 08:44	11/04/21 09:56	1
Total HpCDD	0.00019	MB	0.000051	0.0000012	ug/L		10/29/21 08:44	11/04/21 09:56	1
Total HpCDF	0.000058	J,DX MB q	0.000051	0.00000089	ug/L		10/29/21 08:44	11/04/21 09:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*84*		*25 - 164*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-2,3,7,8-TCDF	*85*		*24 - 169*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-1,2,3,7,8-PeCDD	*88*		*25 - 181*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-1,2,3,7,8-PeCDF	*88*		*24 - 185*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*21 - 178*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-1,2,3,4,7,8-HxCDD	*89*		*32 - 141*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*89*		*28 - 130*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*93*		*26 - 152*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-1,2,3,6,7,8-HxCDF	*91*		*26 - 123*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-1,2,3,7,8,9-HxCDF	*94*		*29 - 147*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-2,3,4,6,7,8-HxCDF	*94*		*28 - 136*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*111*		*23 - 140*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*99*		*28 - 143*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*112*		*26 - 138*	*10/29/21 08:44*	*11/04/21 09:56*	*1*
13C-OCDD	*123*		*17 - 157*	*10/29/21 08:44*	*11/04/21 09:56*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*98*		*35 - 197*	*10/29/21 08:44*	*11/04/21 09:56*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000043	ug/L		10/29/21 08:44	11/04/21 22:23	1

Client Sample ID: LPBMP0002_20211026

Date Collected: 10/26/21 07:31
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-6

Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	106		24 - 169	10/29/21 08:44	11/04/21 22:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	91		35 - 197	10/29/21 08:44	11/04/21 22:23	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		11/01/21 15:13	11/02/21 13:39	1
Copper	**12**		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:39	1
Lead	**1.7**		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:39	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.29**	**J,DX**	1.0	0.25	ug/L		10/29/21 09:19	10/29/21 13:08	1
Copper	**11**		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:08	1
Lead	**0.54**	**J,DX**	1.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:08	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:35	11/02/21 16:57	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:43	11/02/21 17:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**8.4**		2.0	1.0	mg/L			10/27/21 15:04	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**0.01**		0.01	0.01	%			11/06/21 10:43	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			11/06/21 10:43	1
Fine Sand (0.125 to 0.25mm)	**23.96**		0.01	0.01	%			11/06/21 10:43	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			11/06/21 10:43	1
Medium Sand (0.25 to 0.5 mm)	**16.79**		0.01	0.01	%			11/06/21 10:43	1
Silt (0.00391 to 0.0625mm)	**17.61**		0.01	0.01	%			11/06/21 10:43	1
Total Silt and Clay (0 to 0.0626mm)	**17.61**		0.01	0.01	%			11/06/21 10:43	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			11/06/21 10:43	1
Very Fine Sand (0.0625 to 0.125 mm)	**41.63**		0.01	0.01	%			11/06/21 10:43	1

Client Sample ID: LPBMP0003_20211026

Date Collected: 10/26/21 07:40
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-7

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.00000085	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,7,8-PeCDD	ND		0.000055	0.0000011	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,7,8-PeCDF	**0.0000017**	**J,DX MB q**	0.000055	0.00000063	ug/L		10/29/21 08:44	11/04/21 10:41	1

Client Sample ID: LPBMP0003_20211026

Date Collected: 10/26/21 07:40
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-7

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,7,8-PeCDF	0.0000011	J,DX q	0.000055	0.00000072	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,4,7,8-HxCDD	0.0000061	J,DX MB	0.000055	0.0000011	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,6,7,8-HxCDD	0.0000047	J,DX	0.000055	0.0000011	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,7,8,9-HxCDD	0.0000059	J,DX MB	0.000055	0.00000098	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,4,7,8-HxCDF	0.0000023	J,DX	0.000055	0.0000015	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,6,7,8-HxCDF	0.0000029	J,DX q	0.000055	0.0000015	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,7,8,9-HxCDF	0.0000079	J,DX MB	0.000055	0.00000087	ug/L		10/29/21 08:44	11/04/21 10:41	1
2,3,4,6,7,8-HxCDF	0.0000019	J,DX q	0.000055	0.0000013	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,4,6,7,8-HpCDD	0.000089	MB	0.000055	0.0000012	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,4,6,7,8-HpCDF	0.000034	J,DX MB	0.000055	0.0000015	ug/L		10/29/21 08:44	11/04/21 10:41	1
1,2,3,4,7,8,9-HpCDF	ND		0.000055	0.0000017	ug/L		10/29/21 08:44	11/04/21 10:41	1
OCDD	0.00085	MB	0.00011	0.0000014	ug/L		10/29/21 08:44	11/04/21 10:41	1
OCDF	0.000043	J,DX MB	0.00011	0.00000078	ug/L		10/29/21 08:44	11/04/21 10:41	1
Total TCDD	0.0000037	J,DX MB q	0.000011	0.00000085	ug/L		10/29/21 08:44	11/04/21 10:41	1
Total TCDF	0.00000081	J,DX MB q	0.000011	0.00000042	ug/L		10/29/21 08:44	11/04/21 10:41	1
Total PeCDD	ND		0.000055	0.0000011	ug/L		10/29/21 08:44	11/04/21 10:41	1
Total PeCDF	0.0000083	J,DX MB q	0.000055	0.00000063	ug/L		10/29/21 08:44	11/04/21 10:41	1
Total HxCDD	0.000035	J,DX MB q	0.000055	0.00000098	ug/L		10/29/21 08:44	11/04/21 10:41	1
Total HxCDF	0.000039	J,DX MB q	0.000055	0.00000087	ug/L		10/29/21 08:44	11/04/21 10:41	1
Total HpCDD	0.00021	MB	0.000055	0.0000012	ug/L		10/29/21 08:44	11/04/21 10:41	1
Total HpCDF	0.000055	J,DX MB	0.000055	0.0000015	ug/L		10/29/21 08:44	11/04/21 10:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*80*		*25 - 164*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-1,2,3,7,8-PeCDD	*86*		*25 - 181*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-1,2,3,7,8-PeCDF	*87*		*24 - 185*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-2,3,4,7,8-PeCDF	*82*		*21 - 178*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-1,2,3,4,7,8-HxCDD	*83*		*32 - 141*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*28 - 130*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-1,2,3,4,7,8-HxCDF	*89*		*26 - 152*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-1,2,3,6,7,8-HxCDF	*89*		*26 - 123*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-1,2,3,7,8,9-HxCDF	*90*		*29 - 147*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-2,3,4,6,7,8-HxCDF	*90*		*28 - 136*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*108*		*23 - 140*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*93*		*28 - 143*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*104*		*26 - 138*	*10/29/21 08:44*	*11/04/21 10:41*	*1*
13C-OCDD	*120*		*17 - 157*	*10/29/21 08:44*	*11/04/21 10:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*94*		*35 - 197*	*10/29/21 08:44*	*11/04/21 10:41*	*1*

Client Sample ID: LPBMP0003_20211026

Lab Sample ID: 440-290654-7

Date Collected: 10/26/21 07:40
Matrix: Water
Date Received: 10/26/21 18:18

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000011	0.0000062	ug/L		10/29/21 08:44	11/04/21 23:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*96*		*24 - 169*	*10/29/21 08:44*	*11/04/21 23:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*	*10/29/21 08:44*	*11/04/21 23:01*	*1*

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		11/01/21 15:13	11/02/21 13:42	1
Copper	**11**		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:42	1
Lead	**1.4**		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:42	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		10/29/21 09:19	10/29/21 13:10	1
Copper	**10**		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:10	1
Lead	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:10	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.14**	**J,DX**	0.20	0.10	ug/L		11/02/21 10:35	11/02/21 16:59	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:43	11/02/21 17:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**12**		2.5	1.3	mg/L			10/27/21 15:04	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			11/06/21 10:51	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			11/06/21 10:51	1
Fine Sand (0.125 to 0.25mm)	**41.59**		0.01	0.01	%			11/06/21 10:51	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			11/06/21 10:51	1
Medium Sand (0.25 to 0.5 mm)	**21.90**		0.01	0.01	%			11/06/21 10:51	1
Silt (0.00391 to 0.0625mm)	**6.88**		0.01	0.01	%			11/06/21 10:51	1
Total Silt and Clay (0 to 0.0626mm)	**6.88**		0.01	0.01	%			11/06/21 10:51	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			11/06/21 10:51	1
Very Fine Sand (0.0625 to 0.125 mm)	**29.63**		0.01	0.01	%			11/06/21 10:51	1

Client Sample ID: LPBMP0004_20211026

Lab Sample ID: 440-290654-8

Date Collected: 10/26/21 07:50
Matrix: Water
Date Received: 10/26/21 18:18

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000065	ug/L		10/29/21 08:44	11/04/21 11:26	1

Client Sample ID: LPBMP0004_20211026
Date Collected: 10/26/21 07:50
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-8
Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8-PeCDD	0.0000011	J,DX q	0.000051	0.00000076	ug/L		10/29/21 08:44	11/04/21 11:26	1
1,2,3,7,8-PeCDF	0.0000024	J,DX MB	0.000051	0.00000044	ug/L		10/29/21 08:44	11/04/21 11:26	1
2,3,4,7,8-PeCDF	ND		0.000051	0.00000050	ug/L		10/29/21 08:44	11/04/21 11:26	1
1,2,3,4,7,8-HxCDD	0.0000031	J,DX MB q	0.000051	0.00000082	ug/L		10/29/21 08:44	11/04/21 11:26	1
1,2,3,6,7,8-HxCDD	0.0000030	J,DX q	0.000051	0.00000073	ug/L		10/29/21 08:44	11/04/21 11:26	1
1,2,3,7,8,9-HxCDD	0.0000023	J,DX MB	0.000051	0.00000068	ug/L		10/29/21 08:44	11/04/21 11:26	1
1,2,3,4,7,8-HxCDF	ND		0.000051	0.00000096	ug/L		10/29/21 08:44	11/04/21 11:26	1
1,2,3,6,7,8-HxCDF	ND		0.000051	0.00000098	ug/L		10/29/21 08:44	11/04/21 11:26	1
1,2,3,7,8,9-HxCDF	0.0000073	J,DX MB	0.000051	0.00000056	ug/L		10/29/21 08:44	11/04/21 11:26	1
2,3,4,6,7,8-HxCDF	ND		0.000051	0.00000089	ug/L		10/29/21 08:44	11/04/21 11:26	1
1,2,3,4,6,7,8-HpCDD	0.000053	MB	0.000051	0.00000093	ug/L		10/29/21 08:44	11/04/21 11:26	1
1,2,3,4,6,7,8-HpCDF	0.0000088	J,DX MB	0.000051	0.00000010	ug/L		10/29/21 08:44	11/04/21 11:26	1
1,2,3,4,7,8,9-HpCDF	0.0000022	J,DX MB q	0.000051	0.00000012	ug/L		10/29/21 08:44	11/04/21 11:26	1
OCDD	0.00038	MB	0.00010	0.00000075	ug/L		10/29/21 08:44	11/04/21 11:26	1
OCDF	0.000013	J,DX MB q	0.00010	0.00000054	ug/L		10/29/21 08:44	11/04/21 11:26	1
Total TCDD	0.0000043	J,DX MB q	0.000010	0.00000065	ug/L		10/29/21 08:44	11/04/21 11:26	1
Total TCDF	0.00000063	J,DX MB q	0.000010	0.00000029	ug/L		10/29/21 08:44	11/04/21 11:26	1
Total PeCDD	0.0000011	J,DX q	0.000051	0.00000076	ug/L		10/29/21 08:44	11/04/21 11:26	1
Total PeCDF	0.0000024	J,DX MB	0.000051	0.00000044	ug/L		10/29/21 08:44	11/04/21 11:26	1
Total HxCDD	0.000014	J,DX MB q	0.000051	0.00000068	ug/L		10/29/21 08:44	11/04/21 11:26	1
Total HxCDF	0.000011	J,DX MB q	0.000051	0.00000056	ug/L		10/29/21 08:44	11/04/21 11:26	1
Total HpCDD	0.000099	MB	0.000051	0.00000093	ug/L		10/29/21 08:44	11/04/21 11:26	1
Total HpCDF	0.000017	J,DX MB q	0.000051	0.00000010	ug/L		10/29/21 08:44	11/04/21 11:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*81*		*25 - 164*	*10/29/21 08:44*	*11/04/21 11:26*	*1*
13C-2,3,7,8-TCDF	*84*		*24 - 169*	*10/29/21 08:44*	*11/04/21 11:26*	*1*
13C-1,2,3,7,8-PeCDD	*85*		*25 - 181*	*10/29/21 08:44*	*11/04/21 11:26*	*1*
13C-1,2,3,7,8-PeCDF	*86*		*24 - 185*	*10/29/21 08:44*	*11/04/21 11:26*	*1*
13C-2,3,4,7,8-PeCDF	*81*		*21 - 178*	*10/29/21 08:44*	*11/04/21 11:26*	*1*
13C-1,2,3,4,7,8-HxCDD	*85*		*32 - 141*	*10/29/21 08:44*	*11/04/21 11:26*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*28 - 130*	*10/29/21 08:44*	*11/04/21 11:26*	*1*
13C-1,2,3,4,7,8-HxCDF	*91*		*26 - 152*	*10/29/21 08:44*	*11/04/21 11:26*	*1*
13C-1,2,3,6,7,8-HxCDF	*88*		*26 - 123*	*10/29/21 08:44*	*11/04/21 11:26*	*1*
13C-1,2,3,7,8,9-HxCDF	*90*		*29 - 147*	*10/29/21 08:44*	*11/04/21 11:26*	*1*

Client Sample ID: LPBMP0004_20211026

Date Collected: 10/26/21 07:50
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-8

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,6,7,8-HxCDF	88		28 - 136	10/29/21 08:44	11/04/21 11:26	1
13C-1,2,3,4,6,7,8-HpCDD	107		23 - 140	10/29/21 08:44	11/04/21 11:26	1
13C-1,2,3,4,6,7,8-HpCDF	95		28 - 143	10/29/21 08:44	11/04/21 11:26	1
13C-1,2,3,4,7,8,9-HpCDF	103		26 - 138	10/29/21 08:44	11/04/21 11:26	1
13C-OCDD	118		17 - 157	10/29/21 08:44	11/04/21 11:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	98		35 - 197	10/29/21 08:44	11/04/21 11:26	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000010	ug/L		10/29/21 08:44	11/04/21 23:40	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	94		24 - 169	10/29/21 08:44	11/04/21 23:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	10/29/21 08:44	11/04/21 23:40	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		11/01/21 15:13	11/02/21 13:44	1
Copper	**10**		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:44	1
Lead	**0.74**	**J,DX**	1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:44	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		10/29/21 09:19	10/29/21 13:13	1
Copper	**9.2**		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:13	1
Lead	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:13	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:35	11/02/21 17:02	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.26**		0.20	0.10	ug/L		11/02/21 10:43	11/02/21 18:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**3.5**		1.0	0.50	mg/L			10/27/21 15:04	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			11/06/21 10:58	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			11/06/21 10:58	1
Fine Sand (0.125 to 0.25mm)	**31.11**		0.01	0.01	%			11/06/21 10:58	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			11/06/21 10:58	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			11/06/21 10:58	1
Silt (0.00391 to 0.0625mm)	**25.69**		0.01	0.01	%			11/06/21 10:58	1
Total Silt and Clay (0 to 0.0626mm)	**25.69**		0.01	0.01	%			11/06/21 10:58	1

Client Sample ID: LPBMP0004_20211026

Lab Sample ID: 440-290654-8

Date Collected: 10/26/21 07:50
Matrix: Water
Date Received: 10/26/21 18:18

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			11/06/21 10:58	1
Very Fine Sand (0.0625 to 0.125 mm)	**43.20**		0.01	0.01	%			11/06/21 10:58	1

Client Sample ID: EPSW001BG01_20211025

Lab Sample ID: 440-290654-9

Date Collected: 10/25/21 13:35
Matrix: Water
Date Received: 10/26/21 18:18

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**1.1**		0.50	0.25	mg/L			10/28/21 23:37	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000084	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,7,8-PeCDD	**0.0000041**	**J,DX q**	0.000052	0.0000013	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,7,8-PeCDF	**0.0000046**	**J,DX MB q**	0.000052	0.00000081	ug/L		10/29/21 08:44	11/04/21 12:11	1
2,3,4,7,8-PeCDF	**0.0000022**	**J,DX q**	0.000052	0.00000097	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,4,7,8-HxCDD	**0.000012**	**J,DX MB**	0.000052	0.0000019	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,6,7,8-HxCDD	**0.000022**	**J,DX q**	0.000052	0.0000017	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,7,8,9-HxCDD	**0.000019**	**J,DX MB**	0.000052	0.0000016	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,4,7,8-HxCDF	**0.000014**	**J,DX**	0.000052	0.0000024	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,6,7,8-HxCDF	**0.000013**	**J,DX**	0.000052	0.0000025	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,7,8,9-HxCDF	**0.000012**	**J,DX MB**	0.000052	0.0000014	ug/L		10/29/21 08:44	11/04/21 12:11	1
2,3,4,6,7,8-HxCDF	**0.0000081**	**J,DX q**	0.000052	0.0000022	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,4,6,7,8-HpCDD	**0.00057**	**MB**	0.000052	0.0000035	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,4,6,7,8-HpCDF	**0.00026**	**MB**	0.000052	0.0000031	ug/L		10/29/21 08:44	11/04/21 12:11	1
1,2,3,4,7,8,9-HpCDF	**0.000018**	**J,DX MB**	0.000052	0.0000036	ug/L		10/29/21 08:44	11/04/21 12:11	1
OCDD	**0.0053**	**MB**	0.00010	0.0000038	ug/L		10/29/21 08:44	11/04/21 12:11	1
OCDF	**0.00057**	**MB**	0.00010	0.0000010	ug/L		10/29/21 08:44	11/04/21 12:11	1
Total TCDD	**0.0000074**	**J,DX MB q**	0.000010	0.00000084	ug/L		10/29/21 08:44	11/04/21 12:11	1
Total TCDF	**0.0000038**	**J,DX MB q**	0.000010	0.00000054	ug/L		10/29/21 08:44	11/04/21 12:11	1
Total PeCDD	**0.000013**	**J,DX q**	0.000052	0.0000013	ug/L		10/29/21 08:44	11/04/21 12:11	1
Total PeCDF	**0.000046**	**J,DX MB q**	0.000052	0.00000081	ug/L		10/29/21 08:44	11/04/21 12:11	1
Total HxCDD	**0.00016**	**J,DX MB q**	0.000052	0.0000016	ug/L		10/29/21 08:44	11/04/21 12:11	1
Total HxCDF	**0.00020**	**J,DX MB q**	0.000052	0.0000014	ug/L		10/29/21 08:44	11/04/21 12:11	1
Total HpCDD	**0.0013**	**MB**	0.000052	0.0000035	ug/L		10/29/21 08:44	11/04/21 12:11	1
Total HpCDF	**0.00056**	**J,DX MB**	0.000052	0.0000031	ug/L		10/29/21 08:44	11/04/21 12:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*25 - 164*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*25 - 181*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*24 - 185*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-2,3,4,7,8-PeCDF	*69*		*21 - 178*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-1,2,3,4,7,8-HxCDD	*73*		*32 - 141*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*71*		*28 - 130*	*10/29/21 08:44*	*11/04/21 12:11*	*1*

Client Sample ID: EPSW001BG01_20211025

Date Collected: 10/25/21 13:35
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-9

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDF	*78*		*26 - 152*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*26 - 123*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-1,2,3,7,8,9-HxCDF	*78*		*29 - 147*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-2,3,4,6,7,8-HxCDF	*77*		*28 - 136*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*91*		*23 - 140*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*89*		*26 - 138*	*10/29/21 08:44*	*11/04/21 12:11*	*1*
13C-OCDD	*100*		*17 - 157*	*10/29/21 08:44*	*11/04/21 12:11*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*94*		*35 - 197*	*10/29/21 08:44*	*11/04/21 12:11*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000017	ug/L		10/29/21 08:44	11/05/21 00:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*10/29/21 08:44*	*11/05/21 00:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*10/29/21 08:44*	*11/05/21 00:18*	*1*

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**12**		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:51	1
Cadmium	**0.59**	**J,DX**	1.0	0.25	ug/L		11/01/21 15:13	11/02/21 13:51	1
Copper	**56**		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:51	1
Iron	**82000**	**MB**	400	160	ug/L		11/01/21 15:13	11/02/21 13:47	20
Manganese	**1400**		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:51	1
Lead	**33**		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:51	1
Selenium	**8.1**		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:51	1
Zinc	**260**		20	2.5	ug/L		11/01/21 15:13	11/02/21 13:51	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.0**		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:15	1
Cadmium	ND		1.0	0.25	ug/L		10/29/21 09:19	10/29/21 13:15	1
Copper	**4.2**		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:15	1
Iron	**760**		20	8.0	ug/L		10/29/21 09:19	10/29/21 13:15	1
Manganese	**16**		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:15	1
Lead	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:15	1
Selenium	ND		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 13:15	1
Zinc	**5.3**	**J,DX**	20	2.5	ug/L		10/29/21 09:19	10/29/21 13:15	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:35	11/02/21 17:04	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:43	11/02/21 18:04	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-1

Client Sample ID: EPSW001BG01_20211025
Date Collected: 10/25/21 13:35
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-9
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	1800		33	17	mg/L			10/27/21 15:04	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

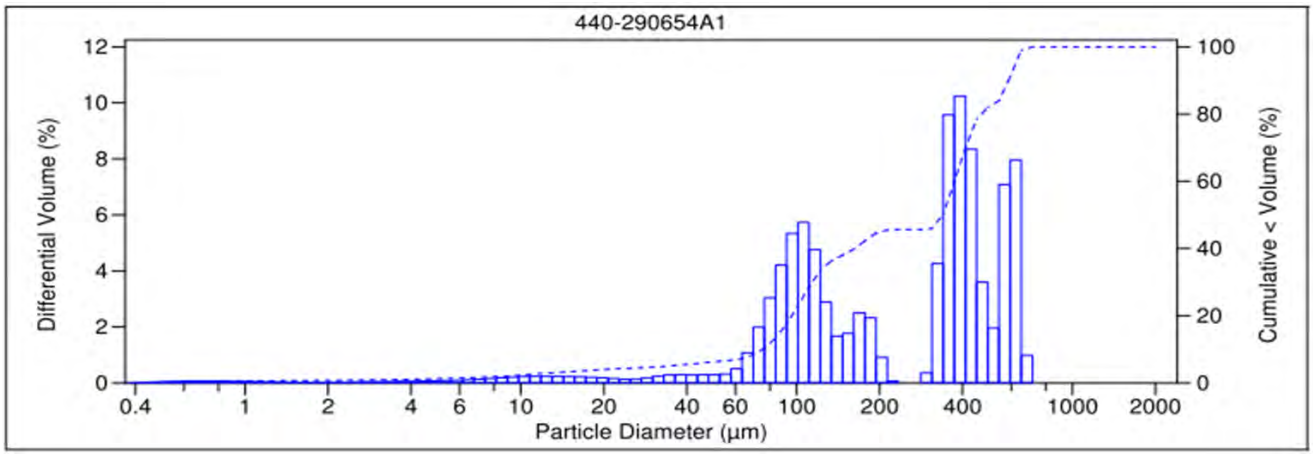
Haley & Aldrich, Inc.

Date Sampled:	10/25/21
Date Received:	10/26/21
Work Order No:	440-290654
Date Analyzed:	11/06/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0004_20211025		Medium Sand	0.295

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	17.73	36.67	11.39	27.01	6.10	1.09	7.20



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

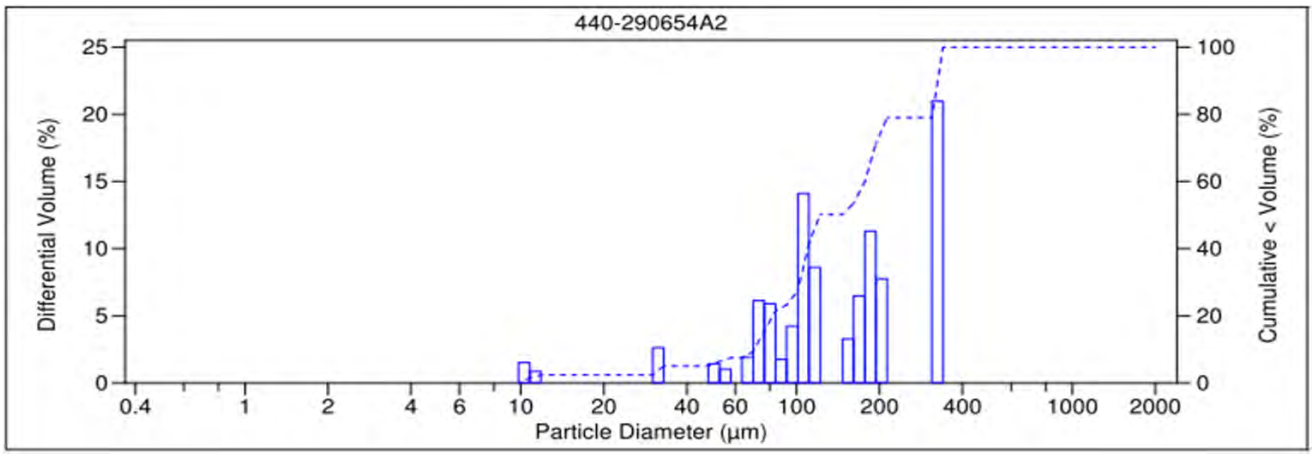
Haley & Aldrich, Inc.

Date Sampled:	10/25/21
Date Received:	10/26/21
Work Order No:	440-290654
Date Analyzed:	11/06/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0005_20211025		Fine Sand	0.164

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	20.98	28.82	42.70	7.51	0.00	7.51



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

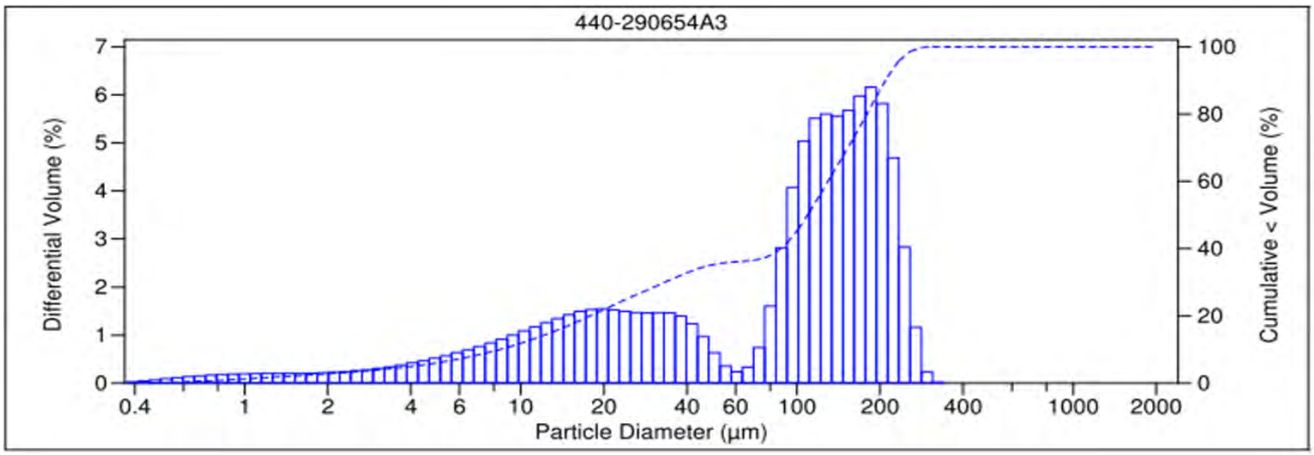
Haley & Aldrich, Inc.

Date Sampled:	10/25/21
Date Received:	10/26/21
Work Order No:	440-290654
Date Analyzed:	11/06/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0008_20211025		Very Fine Sand	0.105

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	2.27	39.95	21.64	31.29	4.86	36.14



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

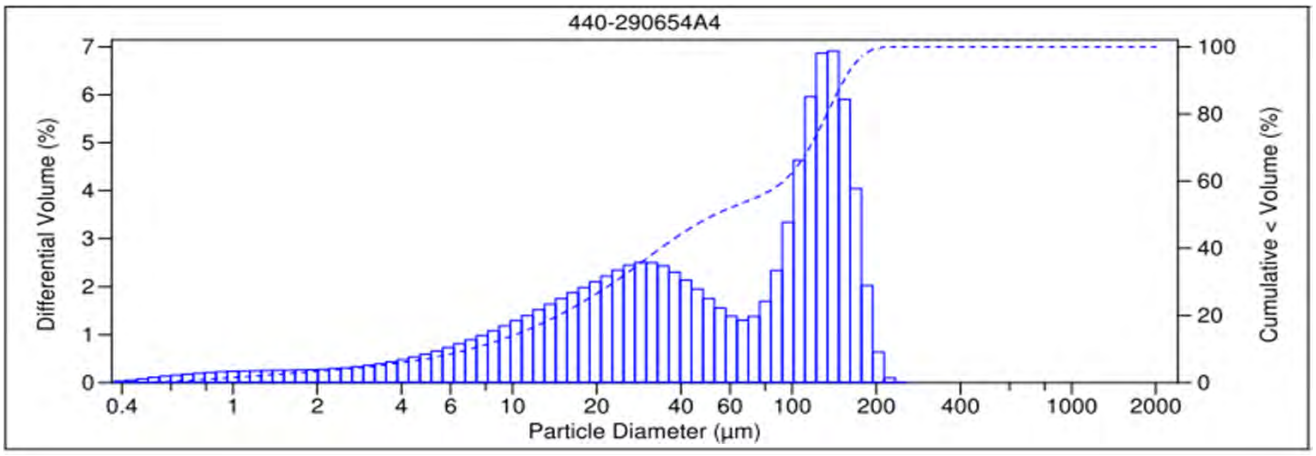
Haley & Aldrich, Inc.

Date Sampled:	10/25/21
Date Received:	10/26/21
Work Order No:	440-290654
Date Analyzed:	11/06/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0009_20211025		Very Fine Sand	0.072

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	24.67	22.70	46.79	5.85	52.63



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

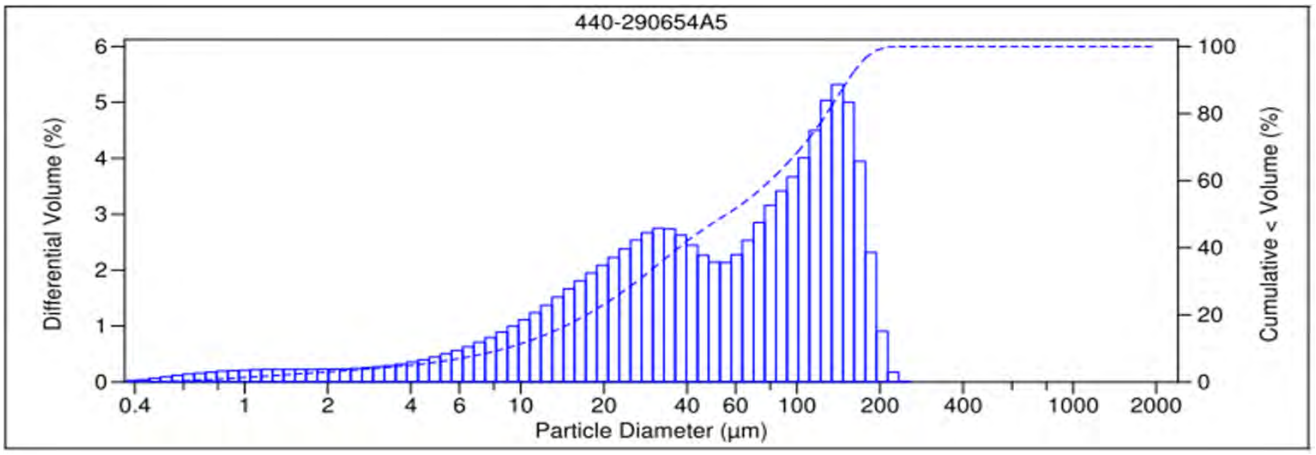
Haley & Aldrich, Inc.

Date Sampled:	10/25/21
Date Received:	10/26/21
Work Order No:	440-290654
Date Analyzed:	11/06/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0010_20211025		Very Fine Sand	0.071

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	21.38	25.85	47.84	4.93	52.77



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

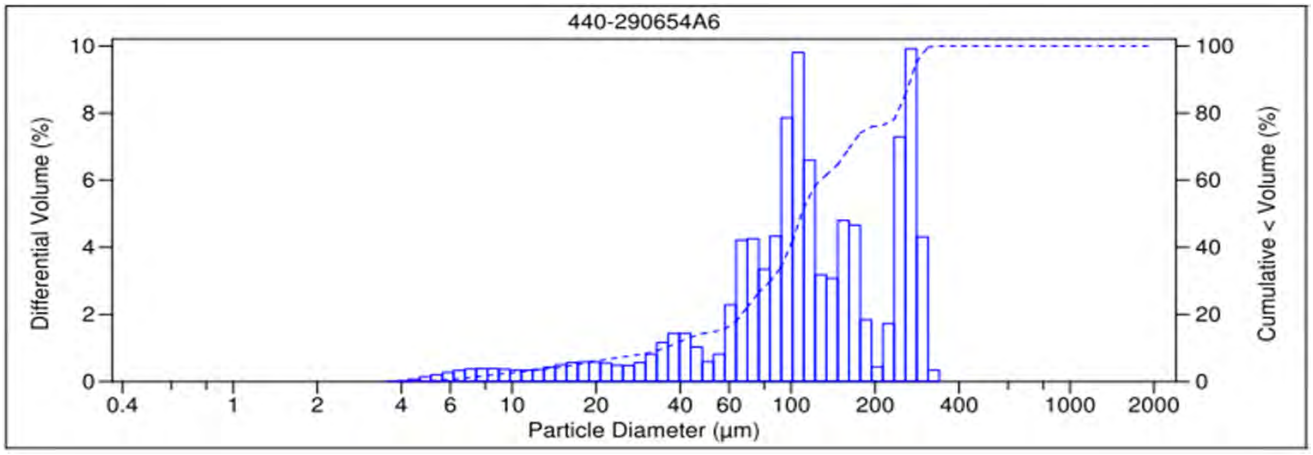
Haley & Aldrich, Inc.

Date Sampled:	10/26/21
Date Received:	10/26/21
Work Order No:	440-290654
Date Analyzed:	11/06/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
LPBMP0002_20211026		Fine Sand	0.134

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	16.79	23.96	41.63	17.61	0.01	17.61



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

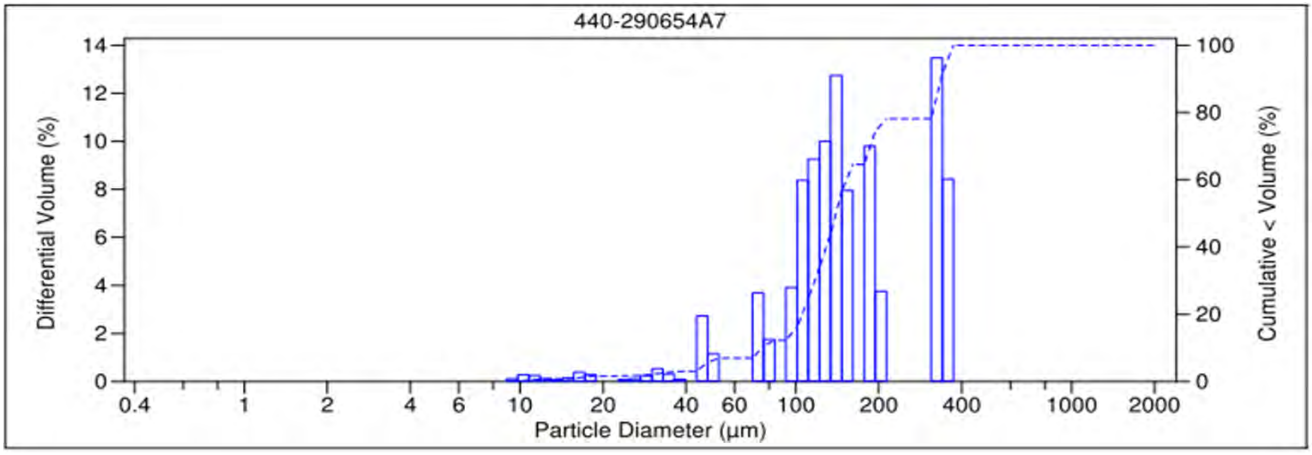
Haley & Aldrich, Inc.

Date Sampled:	10/26/21
Date Received:	10/26/21
Work Order No:	440-290654
Date Analyzed:	11/06/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
LPBMP0003_20211026		Fine Sand	0.172

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	21.90	41.59	29.63	6.88	0.00	6.88



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

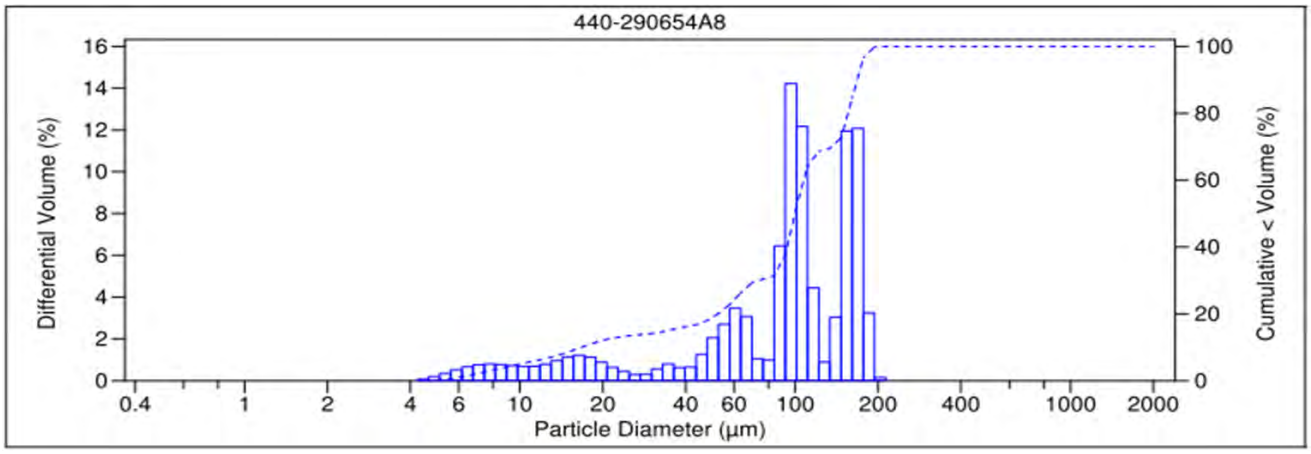
Haley & Aldrich, Inc.

Date Sampled:	10/26/21
Date Received:	10/26/21
Work Order No:	440-290654
Date Analyzed:	11/06/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
LPBMP0004_20211026		Very Fine Sand	0.100

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	31.11	43.20	25.69	0.00	25.69



V 3.0

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
200.8	Metals (ICP/MS)	EPA	TAL IRV
245.1	Mercury (CVAA)	EPA	TAL IRV
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL IRV
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC
200.2	Preparation, Total Recoverable Metals	EPA	TAL IRV
245.1	Preparation, Mercury	EPA	TAL IRV
FILTRATION	Sample Filtration	None	TAL IRV

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022
TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-1

Client Sample ID: ILBMP0004_20211025

Date Collected: 10/25/21 13:15
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			952 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B		1			539719	11/04/21 06:11	DB	TAL SAC
Total/NA	Prep	1613B	RA		952 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			540951	11/08/21 16:51	DB	TAL SAC
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	659804	10/29/21 09:19	LZY7	TAL IRV
Dissolved	Analysis	200.8		1			659832	10/29/21 12:44	Y2WS	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	659972	11/01/21 15:13	LZY7	TAL IRV
Total Recoverable	Analysis	200.8		1			660038	11/02/21 13:18	Y2WS	TAL IRV
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	245.1			20 mL	30 mL	660013	11/02/21 10:43	MA6V	TAL IRV
Dissolved	Analysis	245.1		1			660054	11/02/21 17:37	MA6V	TAL IRV
Total/NA	Prep	245.1			20 mL	30 mL	660011	11/02/21 10:35	MA6V	TAL IRV
Total/NA	Analysis	245.1		1			660054	11/02/21 16:37	MA6V	TAL IRV
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	659664	10/27/21 15:04	ZL7L	TAL IRV
Total/NA	Analysis	D4464		1			192366	11/06/21 10:06	C4LT	ECL 1

Client Sample ID: ILBMP0005_20211025

Date Collected: 10/25/21 12:45
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			981.4 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B		1			539719	11/04/21 06:56	DB	TAL SAC
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	659804	10/29/21 09:19	LZY7	TAL IRV
Dissolved	Analysis	200.8		1			659832	10/29/21 12:51	Y2WS	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	659972	11/01/21 15:13	LZY7	TAL IRV
Total Recoverable	Analysis	200.8		1			660038	11/02/21 13:25	Y2WS	TAL IRV
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	245.1			20 mL	30 mL	660013	11/02/21 10:43	MA6V	TAL IRV
Dissolved	Analysis	245.1		1			660054	11/02/21 17:39	MA6V	TAL IRV
Total/NA	Prep	245.1			20 mL	30 mL	660011	11/02/21 10:35	MA6V	TAL IRV
Total/NA	Analysis	245.1		1			660054	11/02/21 16:43	MA6V	TAL IRV
Total/NA	Analysis	SM 2540D		1	750 mL	1000 mL	659664	10/27/21 15:04	ZL7L	TAL IRV
Total/NA	Analysis	D4464		1			192366	11/06/21 10:13	C4LT	ECL 1

Client Sample ID: ILBMP0008_20211025

Date Collected: 10/25/21 12:50
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			967.8 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B		1			539719	11/04/21 07:41	DB	TAL SAC

Client Sample ID: ILBMP0008_20211025

Lab Sample ID: 440-290654-3

Date Collected: 10/25/21 12:50

Matrix: Water

Date Received: 10/26/21 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		967.8 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			540039	11/04/21 20:28	DB	TAL SAC
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	659804	10/29/21 09:19	LZY7	TAL IRV
Dissolved	Analysis	200.8		1			659832	10/29/21 12:53	Y2WS	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	659972	11/01/21 15:13	LZY7	TAL IRV
Total Recoverable	Analysis	200.8		1			660038	11/02/21 13:27	Y2WS	TAL IRV
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	245.1			20 mL	30 mL	660013	11/02/21 10:43	MA6V	TAL IRV
Dissolved	Analysis	245.1		1			660054	11/02/21 17:47	MA6V	TAL IRV
Total/NA	Prep	245.1			20 mL	30 mL	660011	11/02/21 10:35	MA6V	TAL IRV
Total/NA	Analysis	245.1		1			660054	11/02/21 16:50	MA6V	TAL IRV
Total/NA	Analysis	SM 2540D		1	300 mL	1000 mL	659664	10/27/21 15:04	ZL7L	TAL IRV
Total/NA	Analysis	D4464		1			192366	11/06/21 10:22	C4LT	ECL 1

Client Sample ID: ILBMP0009_20211025

Lab Sample ID: 440-290654-4

Date Collected: 10/25/21 12:33

Matrix: Water

Date Received: 10/26/21 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			968.4 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B		1			539719	11/04/21 08:26	DB	TAL SAC
Total/NA	Prep	1613B	RA		968.4 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			540039	11/04/21 21:06	DB	TAL SAC
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	659804	10/29/21 09:19	LZY7	TAL IRV
Dissolved	Analysis	200.8		1			659832	10/29/21 12:56	Y2WS	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	659972	11/01/21 15:13	LZY7	TAL IRV
Total Recoverable	Analysis	200.8		1			660038	11/02/21 13:30	Y2WS	TAL IRV
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	245.1			20 mL	30 mL	660013	11/02/21 10:43	MA6V	TAL IRV
Dissolved	Analysis	245.1		1			660054	11/02/21 17:50	MA6V	TAL IRV
Total/NA	Prep	245.1			20 mL	30 mL	660011	11/02/21 10:35	MA6V	TAL IRV
Total/NA	Analysis	245.1		1			660054	11/02/21 16:52	MA6V	TAL IRV
Total/NA	Analysis	SM 2540D		1	300 mL	1000 mL	659664	10/27/21 15:04	ZL7L	TAL IRV
Total/NA	Analysis	D4464		1			192366	11/06/21 10:29	C4LT	ECL 1

Client Sample ID: ILBMP0010_20211025

Lab Sample ID: 440-290654-5

Date Collected: 10/25/21 12:35

Matrix: Water

Date Received: 10/26/21 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			972.3 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B		1			539719	11/04/21 09:11	DB	TAL SAC

Client Sample ID: ILBMP0010_20211025

Lab Sample ID: 440-290654-5

Date Collected: 10/25/21 12:35

Matrix: Water

Date Received: 10/26/21 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		972.3 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			540039	11/04/21 21:45	DB	TAL SAC
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	659804	10/29/21 09:19	LZY7	TAL IRV
Dissolved	Analysis	200.8		1			659832	10/29/21 12:58	Y2WS	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	659972	11/01/21 15:13	LZY7	TAL IRV
Total Recoverable	Analysis	200.8		1			660038	11/02/21 13:32	Y2WS	TAL IRV
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	245.1			20 mL	30 mL	660013	11/02/21 10:43	MA6V	TAL IRV
Dissolved	Analysis	245.1		1			660054	11/02/21 17:52	MA6V	TAL IRV
Total/NA	Prep	245.1			20 mL	30 mL	660011	11/02/21 10:35	MA6V	TAL IRV
Total/NA	Analysis	245.1		1			660054	11/02/21 16:55	MA6V	TAL IRV
Total/NA	Analysis	SM 2540D		1	400 mL	1000 mL	659664	10/27/21 15:04	ZL7L	TAL IRV
Total/NA	Analysis	D4464		1			192366	11/06/21 10:36	C4LT	ECL 1

Client Sample ID: LPBMP0002_20211026

Lab Sample ID: 440-290654-6

Date Collected: 10/26/21 07:31

Matrix: Water

Date Received: 10/26/21 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			972.3 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B		1			539719	11/04/21 09:56	DB	TAL SAC
Total/NA	Prep	1613B	RA		972.3 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			540039	11/04/21 22:23	DB	TAL SAC
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	659804	10/29/21 09:19	LZY7	TAL IRV
Dissolved	Analysis	200.8		1			659832	10/29/21 13:08	Y2WS	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	659972	11/01/21 15:13	LZY7	TAL IRV
Total Recoverable	Analysis	200.8		1			660038	11/02/21 13:39	Y2WS	TAL IRV
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	245.1			20 mL	30 mL	660013	11/02/21 10:43	MA6V	TAL IRV
Dissolved	Analysis	245.1		1			660054	11/02/21 17:56	MA6V	TAL IRV
Total/NA	Prep	245.1			20 mL	30 mL	660011	11/02/21 10:35	MA6V	TAL IRV
Total/NA	Analysis	245.1		1			660054	11/02/21 16:57	MA6V	TAL IRV
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	659664	10/27/21 15:04	ZL7L	TAL IRV
Total/NA	Analysis	D4464		1			192366	11/06/21 10:43	C4LT	ECL 1

Client Sample ID: LPBMP0003_20211026

Lab Sample ID: 440-290654-7

Date Collected: 10/26/21 07:40

Matrix: Water

Date Received: 10/26/21 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			908.1 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B		1			539719	11/04/21 10:41	DB	TAL SAC

Client Sample ID: LPBMP0003_20211026

Lab Sample ID: 440-290654-7

Date Collected: 10/26/21 07:40

Matrix: Water

Date Received: 10/26/21 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		908.1 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			540039	11/04/21 23:01	DB	TAL SAC
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	659804	10/29/21 09:19	LZY7	TAL IRV
Dissolved	Analysis	200.8		1			659832	10/29/21 13:10	Y2WS	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	659972	11/01/21 15:13	LZY7	TAL IRV
Total Recoverable	Analysis	200.8		1			660038	11/02/21 13:42	Y2WS	TAL IRV
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	245.1			20 mL	30 mL	660013	11/02/21 10:43	MA6V	TAL IRV
Dissolved	Analysis	245.1		1			660054	11/02/21 17:58	MA6V	TAL IRV
Total/NA	Prep	245.1			20 mL	30 mL	660011	11/02/21 10:35	MA6V	TAL IRV
Total/NA	Analysis	245.1		1			660054	11/02/21 16:59	MA6V	TAL IRV
Total/NA	Analysis	SM 2540D		1	400 mL	1000 mL	659664	10/27/21 15:04	ZL7L	TAL IRV
Total/NA	Analysis	D4464		1			192366	11/06/21 10:51	C4LT	ECL 1

Client Sample ID: LPBMP0004_20211026

Lab Sample ID: 440-290654-8

Date Collected: 10/26/21 07:50

Matrix: Water

Date Received: 10/26/21 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			985.7 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B		1			539719	11/04/21 11:26	DB	TAL SAC
Total/NA	Prep	1613B	RA		985.7 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			540039	11/04/21 23:40	DB	TAL SAC
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	659804	10/29/21 09:19	LZY7	TAL IRV
Dissolved	Analysis	200.8		1			659832	10/29/21 13:13	Y2WS	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	659972	11/01/21 15:13	LZY7	TAL IRV
Total Recoverable	Analysis	200.8		1			660038	11/02/21 13:44	Y2WS	TAL IRV
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	245.1			20 mL	30 mL	660013	11/02/21 10:43	MA6V	TAL IRV
Dissolved	Analysis	245.1		1			660054	11/02/21 18:01	MA6V	TAL IRV
Total/NA	Prep	245.1			20 mL	30 mL	660011	11/02/21 10:35	MA6V	TAL IRV
Total/NA	Analysis	245.1		1			660054	11/02/21 17:02	MA6V	TAL IRV
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	659664	10/27/21 15:04	ZL7L	TAL IRV
Total/NA	Analysis	D4464		1			192366	11/06/21 10:58	C4LT	ECL 1

Client Sample ID: EPSW001BG01_20211025

Lab Sample ID: 440-290654-9

Date Collected: 10/25/21 13:35

Matrix: Water

Date Received: 10/26/21 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			659707	10/28/21 23:37	PS	TAL IRV
Total/NA	Prep	1613B			957.8 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B		1			539719	11/04/21 12:11	DB	TAL SAC

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-1

Client Sample ID: EPSW001BG01_20211025

Date Collected: 10/25/21 13:35
Date Received: 10/26/21 18:18

Lab Sample ID: 440-290654-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		957.8 mL	20.0 uL	538153	10/29/21 08:44	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			540039	11/05/21 00:18	DB	TAL SAC
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	659804	10/29/21 09:19	LZY7	TAL IRV
Dissolved	Analysis	200.8		1			659832	10/29/21 13:15	Y2WS	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	659972	11/01/21 15:13	LZY7	TAL IRV
Total Recoverable	Analysis	200.8		20			660038	11/02/21 13:47	Y2WS	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	659972	11/01/21 15:13	LZY7	TAL IRV
Total Recoverable	Analysis	200.8		1			660038	11/02/21 13:51	Y2WS	TAL IRV
Dissolved	Filtration	FILTRATION			125 mL	125 mL	659626	10/27/21 10:16	MA6V	TAL IRV
Dissolved	Prep	245.1			20 mL	30 mL	660013	11/02/21 10:43	MA6V	TAL IRV
Dissolved	Analysis	245.1		1			660054	11/02/21 18:04	MA6V	TAL IRV
Total/NA	Prep	245.1			20 mL	30 mL	660011	11/02/21 10:35	MA6V	TAL IRV
Total/NA	Analysis	245.1		1			660054	11/02/21 17:04	MA6V	TAL IRV
Total/NA	Analysis	SM 2540D		1	30 mL	1000 mL	659664	10/27/21 15:04	ZL7L	TAL IRV

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-659707/6
Matrix: Water
Analysis Batch: 659707

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.50	0.25	mg/L			10/28/21 10:50	1

Lab Sample ID: LCS 440-659707/5
Matrix: Water
Analysis Batch: 659707

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	5.02		mg/L		100	90 - 110		

Lab Sample ID: 440-290747-A-4 MS
Matrix: Water
Analysis Batch: 659707

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	26		5.00	31.3	BB	mg/L		106	80 - 120		

Lab Sample ID: 440-290747-A-4 MSD
Matrix: Water
Analysis Batch: 659707

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	26		5.00	31.1	BB	mg/L		102	80 - 120	1	20

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-538153/1-A
Matrix: Water
Analysis Batch: 539719

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538153

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000012	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000014	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,7,8-PeCDF	0.00000310	J,DX	0.000050	0.0000008 1	ug/L		10/29/21 08:44	11/04/21 03:56	1
2,3,4,7,8-PeCDF	ND		0.000050	0.0000008 8	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,4,7,8-HxCDD	0.00000253	J,DX	0.000050	0.0000016	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000015	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,7,8,9-HxCDD	0.00000210	J,DX	0.000050	0.0000013	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.0000019	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.0000021	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,7,8,9-HxCDF	0.00000973	J,DX	0.000050	0.0000012	ug/L		10/29/21 08:44	11/04/21 03:56	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.0000017	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,4,6,7,8-HpCDD	0.0000133	J,DX	0.000050	0.0000044	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,4,6,7,8-HpCDF	0.00000602	J,DX q	0.000050	0.0000030	ug/L		10/29/21 08:44	11/04/21 03:56	1
1,2,3,4,7,8,9-HpCDF	0.00000787	J,DX	0.000050	0.0000033	ug/L		10/29/21 08:44	11/04/21 03:56	1
OCDD	0.0000461	J,DX	0.00010	0.0000013	ug/L		10/29/21 08:44	11/04/21 03:56	1
OCDF	0.00000587	J,DX q	0.00010	0.0000011	ug/L		10/29/21 08:44	11/04/21 03:56	1
Total TCDD	0.00000600	J,DX q	0.000010	0.0000012	ug/L		10/29/21 08:44	11/04/21 03:56	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-538153/1-A
Matrix: Water
Analysis Batch: 539719

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538153

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	0.00000183	J,DX	0.000010	0.00000056	ug/L		10/29/21 08:44	11/04/21 03:56	1
Total PeCDD	ND		0.000050	0.0000014	ug/L		10/29/21 08:44	11/04/21 03:56	1
Total PeCDF	0.00000502	J,DX q	0.000050	0.00000081	ug/L		10/29/21 08:44	11/04/21 03:56	1
Total HxCDD	0.00000463	J,DX	0.000050	0.0000013	ug/L		10/29/21 08:44	11/04/21 03:56	1
Total HxCDF	0.00000973	J,DX	0.000050	0.0000012	ug/L		10/29/21 08:44	11/04/21 03:56	1
Total HpCDD	0.0000220	J,DX q	0.000050	0.0000044	ug/L		10/29/21 08:44	11/04/21 03:56	1
Total HpCDF	0.0000139	J,DX q	0.000050	0.0000030	ug/L		10/29/21 08:44	11/04/21 03:56	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*25 - 164*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-2,3,7,8-TCDF	*66*		*24 - 169*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*25 - 181*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*24 - 185*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-2,3,4,7,8-PeCDF	*68*		*21 - 178*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-1,2,3,4,7,8-HxCDD	*66*		*32 - 141*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*67*		*28 - 130*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*71*		*26 - 152*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-1,2,3,6,7,8-HxCDF	*70*		*26 - 123*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-1,2,3,7,8,9-HxCDF	*68*		*29 - 147*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-2,3,4,6,7,8-HxCDF	*70*		*28 - 136*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*23 - 140*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*74*		*28 - 143*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*26 - 138*	*10/29/21 08:44*	*11/04/21 03:56*	*1*
13C-OCDD	*89*		*17 - 157*	*10/29/21 08:44*	*11/04/21 03:56*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*95*		*35 - 197*	*10/29/21 08:44*	*11/04/21 03:56*	*1*

Lab Sample ID: LCS 320-538153/2-A
Matrix: Water
Analysis Batch: 539719

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538153

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000209		ug/L		105	67 - 158
2,3,7,8-TCDF	0.000200	0.000192		ug/L		96	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000961		ug/L		96	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000930		ug/L		93	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00101		ug/L		101	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.00101		ug/L		101	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000994		ug/L		99	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000936		ug/L		94	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.00102		ug/L		102	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000977		ug/L		98	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000952		ug/L		95	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000957		ug/L		96	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000928		ug/L		93	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000948		ug/L		95	82 - 122

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-538153/2-A
Matrix: Water
Analysis Batch: 539719

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538153

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000980		ug/L		98	78 - 138		
OCDD			0.00200	0.00189		ug/L		94	78 - 144		
OCDF			0.00200	0.00187		ug/L		94	63 - 170		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*75*		*20 - 175*
13C-2,3,7,8-TCDF	*77*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*81*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*82*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*77*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*81*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*79*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*83*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*82*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*85*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*86*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*98*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*88*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*97*		*20 - 186*
13C-OCDD	*109*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*98*		*31 - 191*

Lab Sample ID: LCSD 320-538153/3-A
Matrix: Water
Analysis Batch: 539719

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 538153

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000217		ug/L		109	67 - 158	4	50
2,3,7,8-TCDF			0.000200	0.000201		ug/L		100	75 - 158	4	50
1,2,3,7,8-PeCDD			0.00100	0.000986		ug/L		99	70 - 142	3	50
1,2,3,7,8-PeCDF			0.00100	0.000969		ug/L		97	80 - 134	4	50
2,3,4,7,8-PeCDF			0.00100	0.000985		ug/L		98	68 - 160	2	50
1,2,3,4,7,8-HxCDD			0.00100	0.000998		ug/L		100	70 - 164	1	50
1,2,3,6,7,8-HxCDD			0.00100	0.000975		ug/L		98	76 - 134	2	50
1,2,3,7,8,9-HxCDD			0.00100	0.000956		ug/L		96	64 - 162	2	50
1,2,3,4,7,8-HxCDF			0.00100	0.00102		ug/L		102	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.000961		ug/L		96	84 - 130	2	50
1,2,3,7,8,9-HxCDF			0.00100	0.000946		ug/L		95	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.000957		ug/L		96	70 - 156	0	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000964		ug/L		96	70 - 140	4	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000956		ug/L		96	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.00102		ug/L		102	78 - 138	4	50
OCDD			0.00200	0.00196		ug/L		98	78 - 144	4	50
OCDF			0.00200	0.00196		ug/L		98	63 - 170	4	50

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	75		22 - 152
13C-1,2,3,7,8-PeCDD	83		21 - 227
13C-1,2,3,7,8-PeCDF	82		21 - 192
13C-2,3,4,7,8-PeCDF	80		13 - 328
13C-1,2,3,4,7,8-HxCDD	84		21 - 193
13C-1,2,3,6,7,8-HxCDD	85		25 - 163
13C-1,2,3,4,7,8-HxCDF	89		19 - 202
13C-1,2,3,6,7,8-HxCDF	88		21 - 159
13C-1,2,3,7,8,9-HxCDF	92		17 - 205
13C-2,3,4,6,7,8-HxCDF	90		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	103		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	93		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	105		20 - 186
13C-OCDD	118		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	94		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-538153/1-A
Matrix: Water
Analysis Batch: 540039

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538153

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000012	ug/L		10/29/21 08:44	11/05/21 00:57	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	79		24 - 169	10/29/21 08:44	11/05/21 00:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	96		35 - 197	10/29/21 08:44	11/05/21 00:57	1

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-659972/1-A
Matrix: Water
Analysis Batch: 660038

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 659972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:13	1
Cadmium	ND		1.0	0.25	ug/L		11/01/21 15:13	11/02/21 13:13	1
Copper	ND		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:13	1
Iron	8.86	J,DX	20	8.0	ug/L		11/01/21 15:13	11/02/21 13:13	1
Manganese	ND		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:13	1
Lead	ND		1.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:13	1
Selenium	ND		2.0	0.50	ug/L		11/01/21 15:13	11/02/21 13:13	1
Zinc	ND		20	2.5	ug/L		11/01/21 15:13	11/02/21 13:13	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-659972/2-A
Matrix: Water
Analysis Batch: 660038

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 659972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	80.0	78.5		ug/L		98	85 - 115
Cadmium	80.0	79.1		ug/L		99	85 - 115
Copper	80.0	77.8		ug/L		97	85 - 115
Iron	800	791		ug/L		99	85 - 115
Manganese	80.0	78.7		ug/L		98	85 - 115
Lead	80.0	78.3		ug/L		98	85 - 115
Selenium	80.0	77.3		ug/L		97	85 - 115
Zinc	80.0	76.8		ug/L		96	85 - 115

Lab Sample ID: 440-290654-1 MS
Matrix: Water
Analysis Batch: 660038

Client Sample ID: ILBMP0004_20211025
Prep Type: Total Recoverable
Prep Batch: 659972

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.6		80.0	77.7		ug/L		95	70 - 130
Cadmium	0.46	J,DX	80.0	75.8		ug/L		94	70 - 130
Copper	7.6		80.0	82.6		ug/L		94	70 - 130
Iron	1600	MB	800	2240		ug/L		83	70 - 130
Manganese	40		80.0	113		ug/L		92	70 - 130
Lead	1.9		80.0	78.6		ug/L		96	70 - 130
Selenium	ND		80.0	75.2		ug/L		94	70 - 130
Zinc	59		80.0	130		ug/L		89	70 - 130

Lab Sample ID: 440-290654-1 MSD
Matrix: Water
Analysis Batch: 660038

Client Sample ID: ILBMP0004_20211025
Prep Type: Total Recoverable
Prep Batch: 659972

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.6		80.0	79.1		ug/L		97	70 - 130	2	20
Cadmium	0.46	J,DX	80.0	78.2		ug/L		97	70 - 130	3	20
Copper	7.6		80.0	85.1		ug/L		97	70 - 130	3	20
Iron	1600	MB	800	2230		ug/L		82	70 - 130	0	20
Manganese	40		80.0	115		ug/L		94	70 - 130	2	20
Lead	1.9		80.0	80.5		ug/L		98	70 - 130	2	20
Selenium	ND		80.0	78.7		ug/L		98	70 - 130	5	20
Zinc	59		80.0	133		ug/L		92	70 - 130	2	20

Lab Sample ID: MB 440-659626/1-C
Matrix: Water
Analysis Batch: 659832

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 659804

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:39	1
Cadmium	ND		1.0	0.25	ug/L		10/29/21 09:19	10/29/21 12:39	1
Copper	ND		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:39	1
Iron	ND		20	8.0	ug/L		10/29/21 09:19	10/29/21 12:39	1
Manganese	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:39	1
Lead	ND		1.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:39	1
Selenium	ND		2.0	0.50	ug/L		10/29/21 09:19	10/29/21 12:39	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-659626/1-C
Matrix: Water
Analysis Batch: 659832

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 659804

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		20	2.5	ug/L		10/29/21 09:19	10/29/21 12:39	1

Lab Sample ID: LCS 440-659626/2-C
Matrix: Water
Analysis Batch: 659832

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 659804

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	80.0	74.3		ug/L		93	85 - 115
Cadmium	80.0	73.8		ug/L		92	85 - 115
Copper	80.0	73.6		ug/L		92	85 - 115
Iron	800	738		ug/L		92	85 - 115
Manganese	80.0	74.4		ug/L		93	85 - 115
Lead	80.0	73.9		ug/L		92	85 - 115
Selenium	80.0	74.8		ug/L		93	85 - 115
Zinc	80.0	73.0		ug/L		91	85 - 115

Lab Sample ID: 440-290654-1 MS
Matrix: Water
Analysis Batch: 659832

Client Sample ID: ILBMP0004_20211025
Prep Type: Dissolved
Prep Batch: 659804

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.68	J,DX	80.0	72.7		ug/L		90	70 - 130
Cadmium	ND		80.0	72.5		ug/L		91	70 - 130
Copper	4.0		80.0	76.7		ug/L		91	70 - 130
Iron	63		800	784		ug/L		90	70 - 130
Manganese	4.1		80.0	77.1		ug/L		91	70 - 130
Lead	ND		80.0	73.0		ug/L		91	70 - 130
Selenium	ND		80.0	71.3		ug/L		89	70 - 130
Zinc	33		80.0	101		ug/L		85	70 - 130

Lab Sample ID: 440-290654-1 MSD
Matrix: Water
Analysis Batch: 659832

Client Sample ID: ILBMP0004_20211025
Prep Type: Dissolved
Prep Batch: 659804

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.68	J,DX	80.0	73.6		ug/L		91	70 - 130	1	20
Cadmium	ND		80.0	73.1		ug/L		91	70 - 130	1	20
Copper	4.0		80.0	76.5		ug/L		91	70 - 130	0	20
Iron	63		800	784		ug/L		90	70 - 130	0	20
Manganese	4.1		80.0	76.3		ug/L		90	70 - 130	1	20
Lead	ND		80.0	73.4		ug/L		92	70 - 130	1	20
Selenium	ND		80.0	71.4		ug/L		89	70 - 130	0	20
Zinc	33		80.0	102		ug/L		86	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-660011/1-A
Matrix: Water
Analysis Batch: 660054

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 660011

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:35	11/02/21 16:32	1

Lab Sample ID: LCS 440-660011/2-A
Matrix: Water
Analysis Batch: 660054

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 660011

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.76		ug/L		96	85 - 115

Lab Sample ID: 440-290654-1 MS
Matrix: Water
Analysis Batch: 660054

Client Sample ID: ILBMP0004_20211025
Prep Type: Total/NA
Prep Batch: 660011

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	5.99		ug/L		100	75 - 125

Lab Sample ID: 440-290654-1 MSD
Matrix: Water
Analysis Batch: 660054

Client Sample ID: ILBMP0004_20211025
Prep Type: Total/NA
Prep Batch: 660011

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	6.01		ug/L		100	75 - 125	0	20

Lab Sample ID: MB 440-659626/1-D
Matrix: Water
Analysis Batch: 660054

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 660013

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		11/02/21 10:43	11/02/21 17:25	1

Lab Sample ID: LCS 440-659626/2-D
Matrix: Water
Analysis Batch: 660054

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 660013

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.52		ug/L		92	85 - 115

Lab Sample ID: 570-73416-AI-1-C MS
Matrix: Water
Analysis Batch: 660054

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 660013

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	5.31		ug/L		88	75 - 125

Lab Sample ID: 570-73416-AI-1-D MSD
Matrix: Water
Analysis Batch: 660054

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 660013

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	5.58		ug/L		93	75 - 125	5	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-659664/1
Matrix: Water
Analysis Batch: 659664

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			10/27/21 15:04	1

Lab Sample ID: LCS 440-659664/2
Matrix: Water
Analysis Batch: 659664

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	1000		mg/L		100	85 - 115		

Lab Sample ID: 440-290507-B-1 DU
Matrix: Water
Analysis Batch: 659664

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	43			42.7		mg/L				0	5

HPLC/IC

Analysis Batch: 659707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-9	EPSW001BG01_20211025	Total/NA	Water	300.0	
MB 440-659707/6	Method Blank	Total/NA	Water	300.0	
LCS 440-659707/5	Lab Control Sample	Total/NA	Water	300.0	
440-290747-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
440-290747-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Specialty Organics

Prep Batch: 538153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Total/NA	Water	1613B	
440-290654-1 - RA	ILBMP0004_20211025	Total/NA	Water	1613B	
440-290654-2	ILBMP0005_20211025	Total/NA	Water	1613B	
440-290654-3	ILBMP0008_20211025	Total/NA	Water	1613B	
440-290654-3 - RA	ILBMP0008_20211025	Total/NA	Water	1613B	
440-290654-4	ILBMP0009_20211025	Total/NA	Water	1613B	
440-290654-4 - RA	ILBMP0009_20211025	Total/NA	Water	1613B	
440-290654-5	ILBMP0010_20211025	Total/NA	Water	1613B	
440-290654-5 - RA	ILBMP0010_20211025	Total/NA	Water	1613B	
440-290654-6	LPBMP0002_20211026	Total/NA	Water	1613B	
440-290654-6 - RA	LPBMP0002_20211026	Total/NA	Water	1613B	
440-290654-7	LPBMP0003_20211026	Total/NA	Water	1613B	
440-290654-7 - RA	LPBMP0003_20211026	Total/NA	Water	1613B	
440-290654-8	LPBMP0004_20211026	Total/NA	Water	1613B	
440-290654-8 - RA	LPBMP0004_20211026	Total/NA	Water	1613B	
440-290654-9	EPSW001BG01_20211025	Total/NA	Water	1613B	
440-290654-9 - RA	EPSW001BG01_20211025	Total/NA	Water	1613B	
MB 320-538153/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-538153/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-538153/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-538153/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 539719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Total/NA	Water	1613B	538153
440-290654-2	ILBMP0005_20211025	Total/NA	Water	1613B	538153
440-290654-3	ILBMP0008_20211025	Total/NA	Water	1613B	538153
440-290654-4	ILBMP0009_20211025	Total/NA	Water	1613B	538153
440-290654-5	ILBMP0010_20211025	Total/NA	Water	1613B	538153
440-290654-6	LPBMP0002_20211026	Total/NA	Water	1613B	538153
440-290654-7	LPBMP0003_20211026	Total/NA	Water	1613B	538153
440-290654-8	LPBMP0004_20211026	Total/NA	Water	1613B	538153
440-290654-9	EPSW001BG01_20211025	Total/NA	Water	1613B	538153
MB 320-538153/1-A	Method Blank	Total/NA	Water	1613B	538153
LCS 320-538153/2-A	Lab Control Sample	Total/NA	Water	1613B	538153
LCSD 320-538153/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	538153

Analysis Batch: 540039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-3 - RA	ILBMP0008_20211025	Total/NA	Water	1613B	538153
440-290654-4 - RA	ILBMP0009_20211025	Total/NA	Water	1613B	538153

Specialty Organics (Continued)

Analysis Batch: 540039 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-5 - RA	ILBMP0010_20211025	Total/NA	Water	1613B	538153
440-290654-6 - RA	LPBMP0002_20211026	Total/NA	Water	1613B	538153
440-290654-7 - RA	LPBMP0003_20211026	Total/NA	Water	1613B	538153
440-290654-8 - RA	LPBMP0004_20211026	Total/NA	Water	1613B	538153
440-290654-9 - RA	EPSW001BG01_20211025	Total/NA	Water	1613B	538153
MB 320-538153/1-A - RA	Method Blank	Total/NA	Water	1613B	538153

Analysis Batch: 540951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1 - RA	ILBMP0004_20211025	Total/NA	Water	1613B	538153

Metals

Filtration Batch: 659626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Dissolved	Water	FILTRATION	
440-290654-2	ILBMP0005_20211025	Dissolved	Water	FILTRATION	
440-290654-3	ILBMP0008_20211025	Dissolved	Water	FILTRATION	
440-290654-4	ILBMP0009_20211025	Dissolved	Water	FILTRATION	
440-290654-5	ILBMP0010_20211025	Dissolved	Water	FILTRATION	
440-290654-6	LPBMP0002_20211026	Dissolved	Water	FILTRATION	
440-290654-7	LPBMP0003_20211026	Dissolved	Water	FILTRATION	
440-290654-8	LPBMP0004_20211026	Dissolved	Water	FILTRATION	
440-290654-9	EPSW001BG01_20211025	Dissolved	Water	FILTRATION	
MB 440-659626/1-C	Method Blank	Dissolved	Water	FILTRATION	
MB 440-659626/1-D	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-659626/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-659626/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
440-290654-1 MS	ILBMP0004_20211025	Dissolved	Water	FILTRATION	
440-290654-1 MSD	ILBMP0004_20211025	Dissolved	Water	FILTRATION	
570-73416-AI-1-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-73416-AI-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 659804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Dissolved	Water	200.2	659626
440-290654-2	ILBMP0005_20211025	Dissolved	Water	200.2	659626
440-290654-3	ILBMP0008_20211025	Dissolved	Water	200.2	659626
440-290654-4	ILBMP0009_20211025	Dissolved	Water	200.2	659626
440-290654-5	ILBMP0010_20211025	Dissolved	Water	200.2	659626
440-290654-6	LPBMP0002_20211026	Dissolved	Water	200.2	659626
440-290654-7	LPBMP0003_20211026	Dissolved	Water	200.2	659626
440-290654-8	LPBMP0004_20211026	Dissolved	Water	200.2	659626
440-290654-9	EPSW001BG01_20211025	Dissolved	Water	200.2	659626
MB 440-659626/1-C	Method Blank	Dissolved	Water	200.2	659626
LCS 440-659626/2-C	Lab Control Sample	Dissolved	Water	200.2	659626
440-290654-1 MS	ILBMP0004_20211025	Dissolved	Water	200.2	659626
440-290654-1 MSD	ILBMP0004_20211025	Dissolved	Water	200.2	659626

Metals

Analysis Batch: 659832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Dissolved	Water	200.8	659804
440-290654-2	ILBMP0005_20211025	Dissolved	Water	200.8	659804
440-290654-3	ILBMP0008_20211025	Dissolved	Water	200.8	659804
440-290654-4	ILBMP0009_20211025	Dissolved	Water	200.8	659804
440-290654-5	ILBMP0010_20211025	Dissolved	Water	200.8	659804
440-290654-6	LPBMP0002_20211026	Dissolved	Water	200.8	659804
440-290654-7	LPBMP0003_20211026	Dissolved	Water	200.8	659804
440-290654-8	LPBMP0004_20211026	Dissolved	Water	200.8	659804
440-290654-9	EPSW001BG01_20211025	Dissolved	Water	200.8	659804
MB 440-659626/1-C	Method Blank	Dissolved	Water	200.8	659804
LCS 440-659626/2-C	Lab Control Sample	Dissolved	Water	200.8	659804
440-290654-1 MS	ILBMP0004_20211025	Dissolved	Water	200.8	659804
440-290654-1 MSD	ILBMP0004_20211025	Dissolved	Water	200.8	659804

Prep Batch: 659972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Total Recoverable	Water	200.2	
440-290654-2	ILBMP0005_20211025	Total Recoverable	Water	200.2	
440-290654-3	ILBMP0008_20211025	Total Recoverable	Water	200.2	
440-290654-4	ILBMP0009_20211025	Total Recoverable	Water	200.2	
440-290654-5	ILBMP0010_20211025	Total Recoverable	Water	200.2	
440-290654-6	LPBMP0002_20211026	Total Recoverable	Water	200.2	
440-290654-7	LPBMP0003_20211026	Total Recoverable	Water	200.2	
440-290654-8	LPBMP0004_20211026	Total Recoverable	Water	200.2	
440-290654-9	EPSW001BG01_20211025	Total Recoverable	Water	200.2	
MB 440-659972/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-659972/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-290654-1 MS	ILBMP0004_20211025	Total Recoverable	Water	200.2	
440-290654-1 MSD	ILBMP0004_20211025	Total Recoverable	Water	200.2	

Prep Batch: 660011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Total/NA	Water	245.1	
440-290654-2	ILBMP0005_20211025	Total/NA	Water	245.1	
440-290654-3	ILBMP0008_20211025	Total/NA	Water	245.1	
440-290654-4	ILBMP0009_20211025	Total/NA	Water	245.1	
440-290654-5	ILBMP0010_20211025	Total/NA	Water	245.1	
440-290654-6	LPBMP0002_20211026	Total/NA	Water	245.1	
440-290654-7	LPBMP0003_20211026	Total/NA	Water	245.1	
440-290654-8	LPBMP0004_20211026	Total/NA	Water	245.1	
440-290654-9	EPSW001BG01_20211025	Total/NA	Water	245.1	
MB 440-660011/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-660011/2-A	Lab Control Sample	Total/NA	Water	245.1	
440-290654-1 MS	ILBMP0004_20211025	Total/NA	Water	245.1	
440-290654-1 MSD	ILBMP0004_20211025	Total/NA	Water	245.1	

Prep Batch: 660013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Dissolved	Water	245.1	659626
440-290654-2	ILBMP0005_20211025	Dissolved	Water	245.1	659626
440-290654-3	ILBMP0008_20211025	Dissolved	Water	245.1	659626

Metals (Continued)

Prep Batch: 660013 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-4	ILBMP0009_20211025	Dissolved	Water	245.1	659626
440-290654-5	ILBMP0010_20211025	Dissolved	Water	245.1	659626
440-290654-6	LPBMP0002_20211026	Dissolved	Water	245.1	659626
440-290654-7	LPBMP0003_20211026	Dissolved	Water	245.1	659626
440-290654-8	LPBMP0004_20211026	Dissolved	Water	245.1	659626
440-290654-9	EPSW001BG01_20211025	Dissolved	Water	245.1	659626
MB 440-659626/1-D	Method Blank	Dissolved	Water	245.1	659626
LCS 440-659626/2-D	Lab Control Sample	Dissolved	Water	245.1	659626
570-73416-AI-1-C MS	Matrix Spike	Dissolved	Water	245.1	659626
570-73416-AI-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	659626

Analysis Batch: 660038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Total Recoverable	Water	200.8	659972
440-290654-2	ILBMP0005_20211025	Total Recoverable	Water	200.8	659972
440-290654-3	ILBMP0008_20211025	Total Recoverable	Water	200.8	659972
440-290654-4	ILBMP0009_20211025	Total Recoverable	Water	200.8	659972
440-290654-5	ILBMP0010_20211025	Total Recoverable	Water	200.8	659972
440-290654-6	LPBMP0002_20211026	Total Recoverable	Water	200.8	659972
440-290654-7	LPBMP0003_20211026	Total Recoverable	Water	200.8	659972
440-290654-8	LPBMP0004_20211026	Total Recoverable	Water	200.8	659972
440-290654-9	EPSW001BG01_20211025	Total Recoverable	Water	200.8	659972
440-290654-9	EPSW001BG01_20211025	Total Recoverable	Water	200.8	659972
MB 440-659972/1-A	Method Blank	Total Recoverable	Water	200.8	659972
LCS 440-659972/2-A	Lab Control Sample	Total Recoverable	Water	200.8	659972
440-290654-1 MS	ILBMP0004_20211025	Total Recoverable	Water	200.8	659972
440-290654-1 MSD	ILBMP0004_20211025	Total Recoverable	Water	200.8	659972

Analysis Batch: 660054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Dissolved	Water	245.1	660013
440-290654-1	ILBMP0004_20211025	Total/NA	Water	245.1	660011
440-290654-2	ILBMP0005_20211025	Dissolved	Water	245.1	660013
440-290654-2	ILBMP0005_20211025	Total/NA	Water	245.1	660011
440-290654-3	ILBMP0008_20211025	Dissolved	Water	245.1	660013
440-290654-3	ILBMP0008_20211025	Total/NA	Water	245.1	660011
440-290654-4	ILBMP0009_20211025	Dissolved	Water	245.1	660013
440-290654-4	ILBMP0009_20211025	Total/NA	Water	245.1	660011
440-290654-5	ILBMP0010_20211025	Dissolved	Water	245.1	660013
440-290654-5	ILBMP0010_20211025	Total/NA	Water	245.1	660011
440-290654-6	LPBMP0002_20211026	Dissolved	Water	245.1	660013
440-290654-6	LPBMP0002_20211026	Total/NA	Water	245.1	660011
440-290654-7	LPBMP0003_20211026	Dissolved	Water	245.1	660013
440-290654-7	LPBMP0003_20211026	Total/NA	Water	245.1	660011
440-290654-8	LPBMP0004_20211026	Dissolved	Water	245.1	660013
440-290654-8	LPBMP0004_20211026	Total/NA	Water	245.1	660011
440-290654-9	EPSW001BG01_20211025	Dissolved	Water	245.1	660013
440-290654-9	EPSW001BG01_20211025	Total/NA	Water	245.1	660011
MB 440-659626/1-D	Method Blank	Dissolved	Water	245.1	660013
MB 440-660011/1-A	Method Blank	Total/NA	Water	245.1	660011
LCS 440-659626/2-D	Lab Control Sample	Dissolved	Water	245.1	660013

Metals (Continued)

Analysis Batch: 660054 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-660011/2-A	Lab Control Sample	Total/NA	Water	245.1	660011
440-290654-1 MS	ILBMP0004_20211025	Total/NA	Water	245.1	660011
440-290654-1 MSD	ILBMP0004_20211025	Total/NA	Water	245.1	660011
570-73416-AI-1-C MS	Matrix Spike	Dissolved	Water	245.1	660013
570-73416-AI-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	660013

General Chemistry

Analysis Batch: 659664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Total/NA	Water	SM 2540D	
440-290654-2	ILBMP0005_20211025	Total/NA	Water	SM 2540D	
440-290654-3	ILBMP0008_20211025	Total/NA	Water	SM 2540D	
440-290654-4	ILBMP0009_20211025	Total/NA	Water	SM 2540D	
440-290654-5	ILBMP0010_20211025	Total/NA	Water	SM 2540D	
440-290654-6	LPBMP0002_20211026	Total/NA	Water	SM 2540D	
440-290654-7	LPBMP0003_20211026	Total/NA	Water	SM 2540D	
440-290654-8	LPBMP0004_20211026	Total/NA	Water	SM 2540D	
440-290654-9	EPSW001BG01_20211025	Total/NA	Water	SM 2540D	
MB 440-659664/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-659664/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-290507-B-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 192366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-1	ILBMP0004_20211025	Total/NA	Water	D4464	
440-290654-2	ILBMP0005_20211025	Total/NA	Water	D4464	
440-290654-3	ILBMP0008_20211025	Total/NA	Water	D4464	
440-290654-4	ILBMP0009_20211025	Total/NA	Water	D4464	
440-290654-5	ILBMP0010_20211025	Total/NA	Water	D4464	
440-290654-6	LPBMP0002_20211026	Total/NA	Water	D4464	
440-290654-7	LPBMP0003_20211026	Total/NA	Water	D4464	
440-290654-8	LPBMP0004_20211026	Total/NA	Water	D4464	

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration

Dioxin

Qualifier	Qualifier Description
EY	Result exceeds normal dynamic range; reported as a min. est.
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-1

Laboratory: Eurofins Calscience Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0161	11-19-21
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins TestAmerica, Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-21 *
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614
phone (949) 261-1022 fax (949) 260-3299

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

TestAmerica

Regulatory Program: DW NPDES RCRA Other

TestAmerica Laboratories, Inc.

TestAmerica's services under this CoC shal be performed in accordance with the T&Cs within Blanket Service Agreement# 2015-18-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Urvashi Patel (949) 333-9055	Carrier:	1 of 1 COCs
5333 Mission Center Road Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	CALENDAR DAYS WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below			Walk-in Client:
(619) 280-9415 FAX	2 weeks			Lab Sampling:
H&A Project Number 129095-004 SID 5.2	week			
Site: BMP Performance OF 001 002, and/or 009 Watershed	2 days			Job / SDG No.
H&A P O #	1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Dissolved)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Recoverable)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Method 200.8: As, Cd, Cu, Fe, Pb Mn, Se, Zn Method 245.1 Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Fe, Pb Mn, Se, Zn Method 245.1 Hg (Total Recoverable)	SO4, (E300)	Gross Alpha (E900.0) (Total Dissolved)	Gross Alpha (E900.0) (Total Recoverable)	Sample Specific Notes
								1-250mL P	1-250mL P	2-1L A	1-1L P	1-1L P	1-500mL P	1-500mL P	1-500-mL P	1-1L A	1-1L A	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
ILBMP0004_20211025	10/25/21	1315	G	WM	6		N	x	x	x	x	x						Upstream, B1436 southern detention bioswale; concrete swale diverting sheet flow into rock crib-west
ILBMP0005_20211025	10/25/21	1245	G	WM	6		N	x	x	x	x	x						Downstream, B1436 southern detention bioswale; 12-inch underdrain
ILBMP0008_20211025	10/25/21	1250	G	WM	6		N	x	x	x	x	x						Upstream, B1436 southern detention bioswale; concrete swale diverting sheet flow into rock crib east
ILBMP0009_20211025	10/25/21	1233	G	WM	6		N	x	x	x	x	x						Influent, filter basket, administration building area
ILBMP0010_20211025	10/25/21	1235	G	WM	6		N	x	x	x	x	x						Effluent, filter basket, administration building area
LPBMP0002_20211026	10/26/21	731	G	WM	6		N	x	x	x	x	x						Lower Parking Lot; sample port in cestern discharge pipe
LPBMP0003_20211026	10/26/21	740	G	WM	6		N	x	x	x	x	x						Lower Parking Lot; Sediment Basin outlet box
LPBMP0004_20211026	10/26/21	750	G	WM	6		N	x	x	x	x	x						Lower Parking Lot; discharge from Biofilter effluent pipe
EPSW001BG01_20211025	10/25/21	1335	G	WM	8		N			x	x		x	x	x	x	x	OF001 watershed; located at the low spot past Paul Costa Road heading towards Bell Canyon Road
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	4	1	1	1	1	4	1	1	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard Flammable ☐ Skin Irritant Poison B ☐ Unknown

Sample Disposal
Return to Client Disposal by Lab Archive for 6 Months

Special Instructions/QC Requirements & Comments.
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD. All dissolved metal samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: Yes No | Custody Seal No. | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
		10/26/21 1352		EQ	10/26/21 1352
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	EQ	10/26/21 1640		EC	(0/26/21 1648
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
	EC				10/26/21 1735

EC-IRV 10/26/21 1818 Rec by EC IRV 10/26/21 1818

09/08
06/05
11/10
IR 9

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

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11/9/2021

SAP COC 2019/2020 VERSION 2

440-290654 Chain of Custody

Eurofins Calscience Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone: 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 440-174763.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 440-290654-1
Address: 13715 Rider Trail North,	Due Date Requested: 11/5/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation (MOD) Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha Only- Dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001BG01_20211025 (440-290654-9)	10/25/21	13:35 Pacific		Water			X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Olga Onelas FED EX	10/27/21 1700	Ed-INV	FED EX		
2	Relinquished by:	Date/Time:	Company	Received by: Micha Kerninger	10-28-21 0910	ETA STL
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone: 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 440-174895.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 440-290654-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/5/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation (MOD) Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha Only- Dissolved	900.0/Evaporation Gross Alpha Only- Dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
EPSW001BG01_20211025 (440-290654-9)	10/25/21	13:35 Pacific		Water			X	X	X	1	Boeing SSFL; DO NOT FILTER; use prep date from preservation
											Sending extra volume

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Olga Cinelas	Date/Time: 11/1/21 1700	Company: EC-IRV	Received by: FED EX
Relinquished by: FED EX	Date/Time:	Company	Received by: [signature]
Relinquished by:	Date/Time:	Company	Received by: Autumn R. Johnson

	Date/Time:	Company	Date/Time:	Company
	Date/Time: NOV 02 2021 0938	Company: ETA STL		
	Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:	

Eurofins Calscience Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone: 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 440-174765.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 440-290654-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/9/2021			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0004_20211025 (440-290654-1)	10/25/21	13:15 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0005_20211025 (440-290654-2)	10/25/21	12:45 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0008_20211025 (440-290654-3)	10/25/21	12:50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0009_20211025 (440-290654-4)	10/25/21	12:33 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0010_20211025 (440-290654-5)	10/25/21	12:35 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
LPBMP0002_20211026 (440-290654-6)	10/26/21	07:31 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
LPBMP0003_20211026 (440-290654-7)	10/26/21	07:40 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
LPBMP0004_20211026 (440-290654-8)	10/26/21	07:50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW001BG01_20211025 (440-290654-9)	10/25/21	13:35 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Olga Omelas	10/27/21 1700	ECI-IRV		10/28/21 1030	ECI-IRV
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.9c

Ver: 06/08/2021

Eurofins Calscience Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone 949-261-1022 Fax: 949-260-3297

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 440-174756 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 440-290654-1
Address: 7440 Lincoln Way, ,	Due Date Requested: 11/8/2021			
City: Garden Grove	TAT Requested (days):			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	D4464/ D4464-Particle Size	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0004_20211025 (440-290654-1)	10/25/21	13.15 Pacific		Water			X	1	Normal TAT
ILBMP0005_20211025 (440-290654-2)	10/25/21	12:45 Pacific		Water			X	1	Normal TAT
ILBMP0008_20211025 (440-290654-3)	10/25/21	12:50 Pacific		Water			X	1	Normal TAT
ILBMP0009_20211025 (440-290654-4)	10/25/21	12:33 Pacific		Water			X	1	Normal TAT
ILBMP0010_20211025 (440-290654-5)	10/25/21	12:35 Pacific		Water			X	1	Normal TAT
LPBMP0002_20211026 (440-290654-6)	10/26/21	07 31 Pacific		Water			X	1	Normal TAT
LPBMP0003_20211026 (440-290654-7)	10/26/21	07 40 Pacific		Water			X	1	Normal TAT
LPBMP0004_20211026 (440-290654-8)	10/26/21	07.50 Pacific		Water			X	1	Normal TAT

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: Olga Oinelas	10/27/21 1757	EC-IRV		10/27/21 1757	ECGL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No: N/A	Cooler Temperature(s) °C and Other Remarks: 1.4/2.3 SCS

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-290654-1

Login Number: 290654
List Number: 1
Creator: Escalante, Maria I

List Source: Eurofins Calscience Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-290654-1

Login Number: 290654
List Number: 2
Creator: Ortiz-Luis, Michael

List Source: Eurofins Calscience LLC
List Creation: 10/27/21 08:55 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-290654-1

Login Number: 290654
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/28/21 02:50 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
440-290654-1	ILBMP0004_20211025	75	78	83	80	78	78	79	80
440-290654-1 - RA	ILBMP0004_20211025		91						
440-290654-2	ILBMP0005_20211025	76	79	80	81	77	80	80	83
440-290654-3	ILBMP0008_20211025	74	75	76	79	74	76	77	81
440-290654-3 - RA	ILBMP0008_20211025	77	87						
440-290654-4	ILBMP0009_20211025	73	77	77	77	74	72	73	76
440-290654-4 - RA	ILBMP0009_20211025		90						
440-290654-5	ILBMP0010_20211025	80	80	84	84	80	81	81	86
440-290654-5 - RA	ILBMP0010_20211025		95						
440-290654-6	LPBMP0002_20211026	84	85	88	88	86	89	89	93
440-290654-6 - RA	LPBMP0002_20211026		106						
440-290654-7	LPBMP0003_20211026	80	80	86	87	82	83	83	89
440-290654-7 - RA	LPBMP0003_20211026		96						
440-290654-8	LPBMP0004_20211026	81	84	85	86	81	85	83	91
440-290654-8 - RA	LPBMP0004_20211026		94						
440-290654-9	EPSW001BG01_20211025	69	70	72	71	69	73	71	78
440-290654-9 - RA	EPSW001BG01_20211025		80						
MB 320-538153/1-A	Method Blank	65	66	70	69	68	66	67	71
MB 320-538153/1-A - RA	Method Blank		79						

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	
440-290654-1	ILBMP0004_20211025	79	82	83	100	89	97	119	
440-290654-1 - RA	ILBMP0004_20211025								
440-290654-2	ILBMP0005_20211025	82	85	84	99	88	100	109	
440-290654-3	ILBMP0008_20211025	80	81	80	97	85	95	110	
440-290654-3 - RA	ILBMP0008_20211025								
440-290654-4	ILBMP0009_20211025	74	75	78	93	80	89	113	
440-290654-4 - RA	ILBMP0009_20211025								
440-290654-5	ILBMP0010_20211025	85	86	85	107	90	100	125	
440-290654-5 - RA	ILBMP0010_20211025								
440-290654-6	LPBMP0002_20211026	91	94	94	111	99	112	123	
440-290654-6 - RA	LPBMP0002_20211026								
440-290654-7	LPBMP0003_20211026	89	90	90	108	93	104	120	
440-290654-7 - RA	LPBMP0003_20211026								
440-290654-8	LPBMP0004_20211026	88	90	88	107	95	103	118	
440-290654-8 - RA	LPBMP0004_20211026								
440-290654-9	EPSW001BG01_20211025	75	78	77	91	80	89	100	
440-290654-9 - RA	EPSW001BG01_20211025								
MB 320-538153/1-A	Method Blank	70	68	70	82	74	80	89	
MB 320-538153/1-A - RA	Method Blank								

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 440-290654-1
Project/Site: Boeing SSFL ISRA and BMP

HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-538153/2-A	Lab Control Sample	75	77	81	82	77	81	79	83
LCSD 320-538153/3-A	Lab Control Sample Dup	71	75	83	82	80	84	85	89

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)
LCS 320-538153/2-A	Lab Control Sample	82	85	86	98	88	97	109
LCSD 320-538153/3-A	Lab Control Sample Dup	88	92	90	103	93	105	118

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

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Sacramento Sample Receiving Notes

440-290654 Field Sheet

Tracking # : 1540 4114 2817

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: 1-05 Corr. Factor: (+ / -) — °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: —

Cooler ID: 1 of 2

Temp Observed: 1.9 °C Corrected: 1.9 °C

From: Temp Blank ☒ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials: LS Date: 10/28/21

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
Sample containers have legible labels?	☒	☐	☐
Sample custody seal?	☐	☐	☒
Containers are not broken or leaking?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: LS Date: 10/28/21

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
NCM Filed?	☐	☐	☒
Log Release checked in TALS?	☒	☐	☐

Initials: LS Date: 10/28/21

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Sacramento Sample Receiving Notes

Place Field Sheet Label Here

Tracking # : 154041142528

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: T-05 Corr. Factor: (+ / -) — °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: —

Cooler ID: 203

Temp Observed: 2.8 °C Corrected: 2.8 °C

From: Temp Blank ☒ Sample ☐

Notes: 440-290654

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials: LB Date: 10/28/21

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
Sample containers have legible labels?	☒	☐	☐
Sample custody seal?	☐	☐	☒
Containers are not broken or leaking?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: LB Date: 10/28/21

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
NCM Filed?	☐	☐	☒
Log Release checked in TALS?	☒	☐	☐

Initials: LB Date: 10/28/21

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ANALYTICAL REPORT

Eurofins Calscience Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-290654-2
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
11/30/2021 3:48:25 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-290654-9	EPSW001BG01_20211025	Water	10/25/21 13:35	10/26/21 18:18

Job ID: 440-290654-2

Laboratory: Eurofins Calscience Irvine

Narrative

Job Narrative
440-290654-2

Comments
No additional comments.

Receipt
The samples were received on 10/26/2021 6:18 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.5º C, 0.8º C and 1.0º C.

RAD
Method 900.0: Gross Alpha batch 536398
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW001BG01_20211025 (440-290654-9), (LCS 160-536398/2-A), (MB 160-536398/1-A), (440-290654-H-9-J MS) and (440-290654-H-9-K MSD)

Method 900.0: ABT batch 160-538622: The gross alpha and/or gross beta detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: EPSW001BG01_20211025 (440-290654-9), (280-154901-A-2-C) and (280-154901-A-2-F DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW001BG01_20211025 (440-290654-9), (LCS 160-538622/2-A), (LCSB 160-538622/3-A), (MB 160-538622/1-A), (280-154901-A-2-C), (280-154901-A-2-F DU), (280-154901-A-2-D MS) and (280-154901-A-2-E MSBT)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample ID: EPSW001BG01_20211025
Lab Sample ID: 440-290654-9

Date Collected: 10/25/21 13:35
Matrix: Water

Date Received: 10/26/21 18:18

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**116**	**G**	23.7	27.2	3.00	21.8	pCi/L	11/24/21 14:51	11/29/21 08:39	1

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.58	U	1.48	1.49	3.00	2.36	pCi/L	11/12/21 11:09	11/15/21 21:37	1

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-2

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
Filtration	Sample Filtration	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 440-290654-2
Project/Site: Boeing SSFL ISRA and BMP

Client Sample ID: EPSW001BG01_20211025
Lab Sample ID: 440-290654-9
Date Collected: 10/25/21 13:35
Matrix: Water
Date Received: 10/26/21 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	534147	10/28/21 15:02	ZTH	TAL SL
Dissolved	Prep	Evaporation			150.00 mL	1.0 g	536398	11/12/21 11:09	ASG	TAL SL
Dissolved	Analysis	900.0		1	1.0 mL	1.0 mL	536661	11/15/21 21:37	MLK	TAL SL
Total/NA	Prep	Evaporation			29.96 mL	1.0 g	538622	11/24/21 14:51	ASG	TAL SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	539048	11/29/21 08:39	MLK	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-536398/1-A
Matrix: Water
Analysis Batch: 537290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 536398

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.05066	U	0.760	0.760	3.00	1.39	pCi/L	11/12/21 11:09	11/18/21 18:43	1

Lab Sample ID: LCS 160-536398/2-A
Matrix: Water
Analysis Batch: 537290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 536398

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	51.4	54.30		7.85	3.00	2.64	pCi/L	106	75 - 125

Lab Sample ID: MB 160-538622/1-A
Matrix: Water
Analysis Batch: 539049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538622

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.2629	U	0.590	0.591	3.00	1.05	pCi/L	11/24/21 14:51	11/29/21 08:51	1

Lab Sample ID: LCS 160-538622/2-A
Matrix: Water
Analysis Batch: 539372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538622

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	49.4	57.29		8.11	3.00	2.49	pCi/L	116	75 - 125

Lab Sample ID: 280-154901-A-2-D MS
Matrix: Water
Analysis Batch: 539174

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 538622

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	0.219	U G	132	116.3		17.6	3.00	6.47	pCi/L	88	70 - 130

Lab Sample ID: 280-154901-A-2-F DU
Matrix: Water
Analysis Batch: 539174

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 538622

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	0.219	U G	1.447	U G	3.26	3.00	5.72	pCi/L	0.20	1

Lab Sample ID: 440-290654-9 MS
Matrix: Water
Analysis Batch: 536661

Client Sample ID: EPSW001BG01_20211025
Prep Type: Dissolved
Prep Batch: 536398

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	1.58	U	68.5	71.06		9.85	3.00	2.68	pCi/L	101	70 - 130

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-2

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: 440-290654-9 MSD
Matrix: Water
Analysis Batch: 536839

Client Sample ID: EPSW001BG01_20211025
Prep Type: Dissolved
Prep Batch: 536398

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Gross Alpha	1.58	U	68.5	65.41		9.31	3.00	2.54	pCi/L	93	70 - 130	0.30	1

Rad

Filtration Batch: 534147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-9	EPSW001BG01_20211025	Dissolved	Water	Filtration	
440-290654-9 MS	EPSW001BG01_20211025	Dissolved	Water	Filtration	
440-290654-9 MSD	EPSW001BG01_20211025	Dissolved	Water	Filtration	

Prep Batch: 536398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-9	EPSW001BG01_20211025	Dissolved	Water	Evaporation	534147
MB 160-536398/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-536398/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
440-290654-9 MS	EPSW001BG01_20211025	Dissolved	Water	Evaporation	534147
440-290654-9 MSD	EPSW001BG01_20211025	Dissolved	Water	Evaporation	534147

Prep Batch: 538622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-290654-9	EPSW001BG01_20211025	Total/NA	Water	Evaporation	
MB 160-538622/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-538622/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
280-154901-A-2-D MS	Matrix Spike	Total/NA	Water	Evaporation	
280-154901-A-2-F DU	Duplicate	Total/NA	Water	Evaporation	

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 440-290654-2

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 440-290654-2
Project/Site: Boeing SSFL ISRA and BMP

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614
phone (949) 261-1022 fax (949) 260-3299

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

TestAmerica

Regulatory Program: DW NPDES RCRA Other

TestAmerica Laboratories, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2015-18-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Urvashi Patel (949) 333-9055	Carrier:	1 of 1 COCs
5333 Mission Center Road Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	CALENDAR DAYS WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below			Walk-in Client:
(619) 280-9415 FAX	2 weeks			Lab Sampling:
H&A Project Number 129095-004 SID 5.2	week			
Site: BMP Performance OF 001 002, and/or 009 Watershed	2 days			Job / SDG No.
H&A P O #	1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Dissolved)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Recoverable)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Method 200.8: As, Cd, Cu, Fe, Pb Mn, Se, Zn Method 245.1 Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Fe, Pb Mn, Se, Zn Method 245.1 Hg (Total Recoverable)	SO4, (E300)	Gross Alpha (E900.0) (Total Dissolved)	Gross Alpha (E900.0) (Total Recoverable)	Sample Specific Notes
								1-250mL P	1-250mL P	2-1L A	1-1L P	1-1L P	1-500mL P	1-500mL P	1-500-mL P	1-1L A	1-1L A	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
ILBMP0004_20211025	10/25/21	1315	G	WM	6		N	x	x	x	x	x						Upstream, B1436 southern detention bioswale; concrete swale diverting sheet flow into rock crib-west
ILBMP0005_20211025	10/25/21	1245	G	WM	6		N	x	x	x	x	x						Downstream, B1436 southern detention bioswale; 12-inch underdrain
ILBMP0008_20211025	10/25/21	1250	G	WM	6		N	x	x	x	x	x						Upstream, B1436 southern detention bioswale; concrete swale diverting sheet flow into rock crib east
ILBMP0009_20211025	10/25/21	1233	G	WM	6		N	x	x	x	x	x						Influent, filter basket, administration building area
ILBMP0010_20211025	10/25/21	1235	G	WM	6		N	x	x	x	x	x						Effluent, filter basket, administration building area
LPBMP0002_20211026	10/26/21	731	G	WM	6		N	x	x	x	x	x						Lower Parking Lot; sample port in cestern discharge pipe
LPBMP0003_20211026	10/26/21	740	G	WM	6		N	x	x	x	x	x						Lower Parking Lot; Sediment Basin outlet box
LPBMP0004_20211026	10/26/21	750	G	WM	6		N	x	x	x	x	x						Lower Parking Lot; discharge from Biofilter effluent pipe
EPSW001BG01_20211025	10/25/21	1335	G	WM	8		N			x	x		x	x	x	x	x	OF001 watershed; located at the low spot past Paul Costa Road heading towards Bell Canyon Road
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	4	1	1	1	1	4	1	1	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard Flammable ☐ Skin Irritant Poison B ☐ Unknown

Sample Disposal
Return to Client Disposal by Lab Archive for 6 Months

Special Instructions/QC Requirements & Comments.
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD. All dissolved metal samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: Yes No | Custody Seal No. | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time: 10/26/21 1352	Received by:	Company: EQ	Date/Time: 10/26/21	1352
Relinquished by:	Company: EQ	Date/Time: 10/26/21 1640	Received by:	Company: EC	Date/Time: 10/26/21	1648
Relinquished by:	Company: EC	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 10/26/21	1735

EC-IRV 10/26/21 1818 Rec by EC IRV 10/26/21 1818

09/08
06/05
11/10
IR 9

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

11/30/2021

SAP COC 2019/2020 VERSION 2

440-290654 Chain of Custody

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-290654-2

Login Number: 290654
List Number: 1
Creator: Escalante, Maria I

List Source: Eurofins Calscience Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-290654-2

Login Number: 290654
List Number: 3
Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/28/21 02:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78810-1
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/14/2022 2:30:18 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)
MB	Analyte present in the method blank

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-78810-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78810-1

Comments
No additional comments.

Receipt
The samples were received on 12/14/2021 8:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.8º C and 4.0º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The method blank for preparation batch 440-663808 and analytical batch 440-663859 contained Iron above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.(MB 440-663808/1-A)

Method 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Iron for preparation batch 440-663017 and 440-663985 and analytical batch 440-664049 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.(570-78810-H-6-C MS)

Method 245.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Mercurypreparation batch 440-664199 and 440-664200 and analytical batch 440-664223 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 245.1: The following sample was analyzed outside of analytical holding time due to laboratory oversight: EPSW001IE01_20211214 (570-78810-1).

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPSW002IE01_20211214 (570-78810-2), EPSW002IE02_20211214 (570-78810-3), A1BPSW0001_20211214 (570-78810-4), A1BPSW0002_20211214 (570-78810-5) and A1BPSW0003_20211214 (570-78810-6). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

12/15/21 @ 11:10 hours by KE
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPSW001IE01_20211214 (570-78810-1). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

12/29/21 @ 09:45 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPSW001IE01_20211214 (570-78810-1). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/06/21 @ 16:17 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Job ID: 570-78810-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: A1BPSW0003_20211214 (570-78810-6). These samples were filtered and preserved past 24 hr upon receipt to the laboratory, due to sample requiring re-filtering.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-1

Client Sample ID: EPSW001IE01_20211214 — Lab Sample ID: 570-78810-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	2.6		0.50	0.25	mg/L	1		300.0	Total/NA
Iron	0.92		0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	34		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.036		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.052	J,DX	0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Copper	2.9		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	1.9		1.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	0.89	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.5		2.0	0.50	ug/L	1		200.8	Dissolved
Arsenic	0.74	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.34	BU	0.20	0.10	ug/L	1		245.1	Dissolved
Total Suspended Solids	22		3.3	1.7	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EPSW002IE01_20211214 — Lab Sample ID: 570-78810-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	0.29	J,DX	0.50	0.25	mg/L	1		300.0	Total/NA
Iron	9.4	MB	0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	200		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.050		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.45		0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	11	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Cadmium	0.31	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	13		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	9.1		1.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	2.1		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	3.2		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	0.98	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Arsenic	0.61	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	150		10	5.0	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EPSW002IE02_20211214 — Lab Sample ID: 570-78810-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	1.8		0.50	0.25	mg/L	1		300.0	Total/NA
Iron	77	MB	0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	1100		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.21		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	1.7		0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	26		20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Client Sample ID: EPSW002IE02_20211214 (Continued) — Lab Sample ID: 570-78810-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.42	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	44		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	30		1.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	13		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	5.7		2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	3.3		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	1.3		1.0	0.50	ug/L	1		200.8	Dissolved
Arsenic	1.2		1.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.10	J,DX	0.20	0.10	ug/L	1		245.1	Total/NA
Total Suspended Solids	830		50	25	mg/L	1		SM 2540D	Total/NA

Client Sample ID: A1BPSW0001_20211214 — Lab Sample ID: 570-78810-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	1.8		0.50	0.25	mg/L	1		300.0	Total/NA
Iron	9.3	MB	0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	250		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.30		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.15		0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	10	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Copper	8.5		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	6.5		1.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	1.5		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	0.78	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	1.6	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	150		3.3	1.7	mg/L	1		SM 2540D	Total/NA

Client Sample ID: A1BPSW0002_20211214 — Lab Sample ID: 570-78810-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	2.1		0.50	0.25	mg/L	1		300.0	Total/NA
Iron	46	MB	0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	1100		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.19		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	1.1		0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	15	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Cadmium	0.49	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	42		2.0	0.50	ug/L	1		200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: A1BPSW0002_20211214 (Continued) — Lab Sample ID: 570-78810-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	20		1.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	6.1		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	1.7	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	3.3		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	0.69	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Arsenic	1.2		1.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.13	J,DX	0.20	0.10	ug/L	1		245.1	Total/NA
Total Suspended Solids	250		10	5.0	mg/L	1		SM 2540D	Total/NA

Client Sample ID: A1BPSW0003_20211214 — Lab Sample ID: 570-78810-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	3.2		0.50	0.25	mg/L	1		300.0	Total/NA
Iron	27	MB	0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	560		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.10		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.72		0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	17	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Cadmium	0.25	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	28		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	12		1.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	6.1		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	1.1	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	4.0		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	0.92	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Arsenic	1.7		1.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	480		33	17	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2.6		0.50	0.25	mg/L			12/21/21 17:12	1

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	0.29	J,DX	0.50	0.25	mg/L			12/21/21 17:26	1

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.8		0.50	0.25	mg/L			12/21/21 17:41	1

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.8		0.50	0.25	mg/L			12/21/21 17:55	1

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2.1		0.50	0.25	mg/L			12/21/21 18:10	1

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	3.2		0.50	0.25	mg/L			12/21/21 18:25	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.92		0.10	0.050	mg/L		01/10/22 08:20	01/10/22 17:24	1
Manganese	34		20	6.8	ug/L		01/10/22 08:20	01/10/22 17:24	1
Zinc	0.036		0.020	0.012	mg/L		01/10/22 08:20	01/10/22 17:24	1

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	9.4	MB	0.10	0.050	mg/L		01/05/22 10:38	01/05/22 19:35	1
Manganese	200		20	6.8	ug/L		01/05/22 10:38	01/05/22 19:35	1
Zinc	0.050		0.020	0.012	mg/L		01/05/22 10:38	01/05/22 19:35	1

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	77	MB	0.10	0.050	mg/L		01/05/22 10:38	01/05/22 19:45	1
Manganese	1100		20	6.8	ug/L		01/05/22 10:38	01/05/22 19:45	1
Zinc	0.21		0.020	0.012	mg/L		01/05/22 10:38	01/05/22 19:45	1

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	9.3	MB	0.10	0.050	mg/L		01/05/22 10:38	01/05/22 19:47	1
Manganese	250		20	6.8	ug/L		01/05/22 10:38	01/05/22 19:47	1
Zinc	0.30		0.020	0.012	mg/L		01/05/22 10:38	01/05/22 19:47	1

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	46	MB	0.10	0.050	mg/L		01/05/22 10:38	01/05/22 19:50	1
Manganese	1100		20	6.8	ug/L		01/05/22 10:38	01/05/22 19:50	1
Zinc	0.19		0.020	0.012	mg/L		01/05/22 10:38	01/05/22 19:50	1

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	27	MB	0.10	0.050	mg/L		01/05/22 10:38	01/05/22 19:38	1
Manganese	560		20	6.8	ug/L		01/05/22 10:38	01/05/22 19:38	1
Zinc	0.10		0.020	0.012	mg/L		01/05/22 10:38	01/05/22 19:38	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.052**	**J,DX**	0.10	0.050	mg/L		01/06/22 17:20	01/07/22 21:49	1
Manganese	ND		20	6.8	ug/L		01/06/22 17:20	01/07/22 21:49	1

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.45**		0.10	0.050	mg/L		01/07/22 10:30	01/07/22 21:03	1
Manganese	**11**	**J,DX**	20	6.8	ug/L		01/07/22 10:30	01/07/22 21:03	1

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1.7**		0.10	0.050	mg/L		01/07/22 10:30	01/07/22 21:05	1
Manganese	**26**		20	6.8	ug/L		01/07/22 10:30	01/07/22 21:05	1

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.15**		0.10	0.050	mg/L		01/07/22 10:30	01/07/22 21:07	1
Manganese	**10**	**J,DX**	20	6.8	ug/L		01/07/22 10:30	01/07/22 21:07	1

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1.1**		0.10	0.050	mg/L		01/07/22 10:30	01/07/22 21:10	1
Manganese	**15**	**J,DX**	20	6.8	ug/L		01/07/22 10:30	01/07/22 21:10	1

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.72**		0.10	0.050	mg/L		01/07/22 10:30	01/07/22 20:55	1
Manganese	**17**	**J,DX**	20	6.8	ug/L		01/07/22 10:30	01/07/22 20:55	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/05/22 10:08	01/05/22 15:37	1
Copper	2.9		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:37	1
Lead	1.9		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:37	1
Arsenic	0.89	J,DX	1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:37	1
Selenium	ND		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:37	1

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.31	J,DX	1.0	0.25	ug/L		01/05/22 10:08	01/05/22 15:50	1
Copper	13		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:50	1
Lead	9.1		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:50	1
Arsenic	2.1		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:50	1
Selenium	ND		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:50	1

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.42	J,DX	1.0	0.25	ug/L		01/05/22 10:08	01/05/22 15:52	1
Copper	44		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:52	1
Lead	30		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:52	1
Arsenic	13		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:52	1
Selenium	5.7		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:52	1

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/05/22 10:08	01/05/22 15:54	1
Copper	8.5		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:54	1
Lead	6.5		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:54	1
Arsenic	1.5		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:54	1
Selenium	0.78	J,DX	2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:54	1

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.49	J,DX	1.0	0.25	ug/L		01/05/22 10:08	01/05/22 15:56	1
Copper	42		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:56	1
Lead	20		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:56	1
Arsenic	6.1		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:56	1
Selenium	1.7	J,DX	2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:56	1

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.25	J,DX	1.0	0.25	ug/L		01/05/22 10:08	01/05/22 15:58	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: A1BPSW0003_20211214
Lab Sample ID: 570-78810-6
Date Collected: 12/14/21 08:10
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	28		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:58	1
Lead	12		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:58	1
Arsenic	6.1		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:58	1
Selenium	1.1	J,DX	2.0	0.50	ug/L		01/05/22 10:08	01/05/22 15:58	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		12/29/21 11:06	12/29/21 14:49	1
Copper	**2.5**		2.0	0.50	ug/L		12/29/21 11:06	12/29/21 14:49	1
Lead	ND		1.0	0.50	ug/L		12/29/21 11:06	12/29/21 14:49	1
Arsenic	**0.74**	**J,DX**	1.0	0.50	ug/L		12/29/21 11:06	12/29/21 14:49	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 11:06	12/29/21 14:49	1

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:38	01/07/22 13:51	1
Copper	**3.2**		2.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:51	1
Lead	**0.98**	**J,DX**	1.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:51	1
Arsenic	**0.61**	**J,DX**	1.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:51	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:51	1

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:38	01/07/22 13:53	1
Copper	**3.3**		2.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:53	1
Lead	**1.3**		1.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:53	1
Arsenic	**1.2**		1.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:53	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:53	1

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:38	01/07/22 13:55	1
Copper	**1.6**	**J,DX**	2.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:55	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:55	1
Arsenic	ND		1.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:55	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:55	1

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:38	01/07/22 13:57	1
Copper	**3.3**		2.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:57	1
Lead	**0.69**	**J,DX**	1.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:57	1
Arsenic	**1.2**		1.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:57	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:57	1

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:38	01/07/22 13:59	1

Method: 200.8 - Metals (ICP/MS) - Dissolved (Continued)

Client Sample ID: A1BPSW0003_20211214
Lab Sample ID: 570-78810-6
Date Collected: 12/14/21 08:10
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	**4.0**		2.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:59	1
Lead	**0.92**	**J,DX**	1.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:59	1
Arsenic	**1.7**		1.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:59	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 10:38	01/07/22 13:59	1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:26	1

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:33	1

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.10**	**J,DX**	0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:40	1

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:43	1

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.13**	**J,DX**	0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:45	1

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:47	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.34**	**BU**	0.20	0.10	ug/L		01/12/22 10:34	01/12/22 16:27	1

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:30	1

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:32	1

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:35	1

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:37	1

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/11/22 11:02	01/11/22 14:35	1

General Chemistry

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	22		3.3	1.7	mg/L			12/16/21 14:31	1

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	150		10	5.0	mg/L			12/16/21 14:31	1

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	830		50	25	mg/L			12/16/21 14:31	1

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	150		3.3	1.7	mg/L			12/16/21 14:31	1

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	250		10	5.0	mg/L			12/16/21 14:31	1

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	480		33	17	mg/L			12/16/21 14:31	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-663290/6
Matrix: Water
Analysis Batch: 663290

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.50	0.25	mg/L			12/21/21 15:35	1

Lab Sample ID: LCS 440-663290/5
Matrix: Water
Analysis Batch: 663290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.73		mg/L		95	90 - 110

Lab Sample ID: 440-292682-G-1 MS
Matrix: Water
Analysis Batch: 663290

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	110		100	204		mg/L		99	80 - 120

Lab Sample ID: 440-292682-G-1 MSD
Matrix: Water
Analysis Batch: 663290

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	110		100	201		mg/L		95	80 - 120	2	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-663808/1-A
Matrix: Water
Analysis Batch: 663859

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663808

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.165		0.10	0.050	mg/L		01/05/22 10:38	01/05/22 17:57	1
Manganese	ND		20	6.8	ug/L		01/05/22 10:38	01/05/22 17:57	1
Zinc	ND		0.020	0.012	mg/L		01/05/22 10:38	01/05/22 17:57	1

Lab Sample ID: LCS 440-663808/2-A
Matrix: Water
Analysis Batch: 663859

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.500	0.526		mg/L		105	85 - 115
Manganese	500	481		ug/L		96	85 - 115
Zinc	0.500	0.485		mg/L		97	85 - 115

Lab Sample ID: 570-78810-6 MS
Matrix: Water
Analysis Batch: 663859

Client Sample ID: A1BPSW0003_20211214
Prep Type: Total Recoverable
Prep Batch: 663808

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	27	MB	0.500	31.3	BB	mg/L		916	70 - 130
Manganese	560		500	1100		ug/L		109	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-78810-6 MS
Matrix: Water
Analysis Batch: 663859

Client Sample ID: A1BPSW0003_20211214
Prep Type: Total Recoverable
Prep Batch: 663808

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	0.10		0.500	0.600		mg/L		100	70 - 130

Lab Sample ID: 570-78810-6 MSD
Matrix: Water
Analysis Batch: 663859

Client Sample ID: A1BPSW0003_20211214
Prep Type: Total Recoverable
Prep Batch: 663808

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	27	MB	0.500	31.5	BB	mg/L		958	70 - 130	1	20
Manganese	560		500	1100		ug/L		108	70 - 130	1	20
Zinc	0.10		0.500	0.597		mg/L		99	70 - 130	1	20

Lab Sample ID: MB 440-664034/1-A
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664034

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	0.050	mg/L		01/10/22 08:20	01/10/22 16:41	1
Manganese	ND		20	6.8	ug/L		01/10/22 08:20	01/10/22 16:41	1
Zinc	ND		0.020	0.012	mg/L		01/10/22 08:20	01/10/22 16:41	1

Lab Sample ID: LCS 440-664034/2-A
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664034

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.500	0.507		mg/L		101	85 - 115
Manganese	500	502		ug/L		100	85 - 115
Zinc	0.500	0.516		mg/L		103	85 - 115

Lab Sample ID: 440-292939-J-1-C MS
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664034

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.65		0.500	1.18		mg/L		107	70 - 130
Manganese	18	J,DX	500	520		ug/L		100	70 - 130
Zinc	0.045		0.500	0.559		mg/L		103	70 - 130

Lab Sample ID: 440-292939-J-1-D MSD
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664034

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.65		0.500	1.21		mg/L		113	70 - 130	3	20
Manganese	18	J,DX	500	515		ug/L		99	70 - 130	1	20
Zinc	0.045		0.500	0.553		mg/L		102	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 440-663928/1-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663949

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	0.050	mg/L		01/06/22 17:20	01/07/22 21:20	1
Manganese	ND		20	6.8	ug/L		01/06/22 17:20	01/07/22 21:20	1

Lab Sample ID: LCS 440-663928/2-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.500	0.486		mg/L		97	85 - 115
Manganese	500	466		ug/L		93	85 - 115

Lab Sample ID: 570-80532-R-1-D MS
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.16		0.500	0.530		mg/L		74	70 - 130
Manganese	ND		500	488		ug/L		98	70 - 130

Lab Sample ID: 570-80532-R-1-E MSD
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.16		0.500	0.524		mg/L		73	70 - 130	1	20
Manganese	ND		500	486		ug/L		97	70 - 130	0	20

Lab Sample ID: MB 440-663017/1-D
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663985

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	0.050	mg/L		01/07/22 10:30	01/07/22 20:50	1
Manganese	ND		20	6.8	ug/L		01/07/22 10:30	01/07/22 20:50	1

Lab Sample ID: LCS 440-663017/2-D
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663985

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.500	0.489		mg/L		98	85 - 115
Manganese	500	476		ug/L		95	85 - 115

Lab Sample ID: 570-78810-6 MS
Matrix: Water
Analysis Batch: 664049

Client Sample ID: A1BPSW0003_20211214
Prep Type: Dissolved
Prep Batch: 663985

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.72		0.500	1.43	LM	mg/L		143	70 - 130
Manganese	17	J,DX	500	504		ug/L		98	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 570-78810-6 MSD
Matrix: Water
Analysis Batch: 664049

Client Sample ID: A1BPSW0003_20211214
Prep Type: Dissolved
Prep Batch: 663985

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.72		0.500	1.24		mg/L		105	70 - 130	14	20
Manganese	17	J,DX	500	514		ug/L		99	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-663807/1-A
Matrix: Water
Analysis Batch: 663869

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/05/22 10:08	01/05/22 14:57	1
Copper	ND		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Lead	ND		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Arsenic	ND		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Selenium	ND		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1

Lab Sample ID: LCS 440-663807/2-A
Matrix: Water
Analysis Batch: 663869

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663807

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	80.6		ug/L		101	85 - 115
Copper	80.0	81.8		ug/L		102	85 - 115
Lead	80.0	81.0		ug/L		101	85 - 115
Arsenic	80.0	76.5		ug/L		96	85 - 115
Selenium	80.0	80.1		ug/L		100	85 - 115

Lab Sample ID: 570-78810-1 MS
Matrix: Water
Analysis Batch: 663869

Client Sample ID: EPSW001IE01_20211214
Prep Type: Total Recoverable
Prep Batch: 663807

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	74.0		ug/L		93	70 - 130
Copper	2.9		80.0	77.0		ug/L		93	70 - 130
Lead	1.9		80.0	74.8		ug/L		91	70 - 130
Arsenic	0.89	J,DX	80.0	72.3		ug/L		89	70 - 130
Selenium	ND		80.0	72.0		ug/L		90	70 - 130

Lab Sample ID: 570-78810-1 MSD
Matrix: Water
Analysis Batch: 663869

Client Sample ID: EPSW001IE01_20211214
Prep Type: Total Recoverable
Prep Batch: 663807

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	73.9		ug/L		92	70 - 130	0	20
Copper	2.9		80.0	77.8		ug/L		94	70 - 130	1	20
Lead	1.9		80.0	75.6		ug/L		92	70 - 130	1	20
Arsenic	0.89	J,DX	80.0	72.0		ug/L		89	70 - 130	0	20
Selenium	ND		80.0	73.0		ug/L		91	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-663560/1-C
Matrix: Water
Analysis Batch: 663614

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663571

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		12/29/21 11:06	12/29/21 14:20	1
Copper	ND		2.0	0.50	ug/L		12/29/21 11:06	12/29/21 14:20	1
Lead	ND		1.0	0.50	ug/L		12/29/21 11:06	12/29/21 14:20	1
Arsenic	ND		1.0	0.50	ug/L		12/29/21 11:06	12/29/21 14:20	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 11:06	12/29/21 14:20	1

Lab Sample ID: LCS 440-663560/2-C
Matrix: Water
Analysis Batch: 663614

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663571

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	74.9		ug/L		94	85 - 115
Copper	80.0	74.9		ug/L		94	85 - 115
Lead	80.0	75.1		ug/L		94	85 - 115
Arsenic	80.0	75.3		ug/L		94	85 - 115
Selenium	80.0	74.7		ug/L		93	85 - 115

Lab Sample ID: 440-293007-A-1-C MS
Matrix: Water
Analysis Batch: 663614

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663571

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	74.8		ug/L		93	70 - 130
Copper	120		80.0	198		ug/L		94	70 - 130
Lead	22		80.0	96.2		ug/L		93	70 - 130
Arsenic	1.0		80.0	76.7		ug/L		95	70 - 130
Selenium	ND		80.0	74.5		ug/L		93	70 - 130

Lab Sample ID: 440-293007-A-1-D MSD
Matrix: Water
Analysis Batch: 663614

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663571

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	77.5		ug/L		97	70 - 130	4	20
Copper	120		80.0	200		ug/L		96	70 - 130	1	20
Lead	22		80.0	99.3		ug/L		96	70 - 130	3	20
Arsenic	1.0		80.0	79.3		ug/L		98	70 - 130	3	20
Selenium	ND		80.0	76.1		ug/L		95	70 - 130	2	20

Lab Sample ID: MB 440-663017/1-B
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663981

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:08	1
Copper	ND		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:08	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:08	1
Arsenic	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:08	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:08	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-663017/2-B
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663981

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	77.5		ug/L		97	85 - 115
Copper	80.0	78.8		ug/L		99	85 - 115
Lead	80.0	78.3		ug/L		98	85 - 115
Arsenic	80.0	76.0		ug/L		95	85 - 115
Selenium	80.0	75.5		ug/L		94	85 - 115

Lab Sample ID: 570-78815-E-11-C MS
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663981

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	79.3		ug/L		99	70 - 130
Copper	2.8		80.0	84.7		ug/L		102	70 - 130
Lead	ND		80.0	80.8		ug/L		101	70 - 130
Arsenic	ND		80.0	77.7		ug/L		97	70 - 130
Selenium	ND		80.0	76.7		ug/L		96	70 - 130

Lab Sample ID: 570-78815-E-11-D MSD
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663981

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	78.5		ug/L		98	70 - 130	1	20
Copper	2.8		80.0	83.5		ug/L		101	70 - 130	1	20
Lead	ND		80.0	79.6		ug/L		100	70 - 130	1	20
Arsenic	ND		80.0	76.9		ug/L		96	70 - 130	1	20
Selenium	ND		80.0	77.3		ug/L		97	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-663537/1-A
Matrix: Water
Analysis Batch: 663635

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 663537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:22	1

Lab Sample ID: LCS 440-663537/2-A
Matrix: Water
Analysis Batch: 663635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 663537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.99		ug/L		100	85 - 115

Lab Sample ID: 570-78810-1 MS
Matrix: Water
Analysis Batch: 663635

Client Sample ID: EPSW001IE01_20211214
Prep Type: Total/NA
Prep Batch: 663537

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	5.85		ug/L		97	75 - 125

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: 570-78810-1 MSD
Matrix: Water
Analysis Batch: 663635

Client Sample ID: EPSW001IE01_20211214
Prep Type: Total/NA
Prep Batch: 663537

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	5.63		ug/L		94	75 - 125	4	20

Lab Sample ID: MB 440-663017/1-E
Matrix: Water
Analysis Batch: 664201

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664070

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 09:46	1

Lab Sample ID: LCS 440-663017/2-E
Matrix: Water
Analysis Batch: 664201

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664070

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.67		ug/L		94	85 - 115

Lab Sample ID: 570-78815-E-5-D MS
Matrix: Water
Analysis Batch: 664201

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 664070

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	6.85		ug/L		114	75 - 125

Lab Sample ID: 570-78815-E-5-E MSD
Matrix: Water
Analysis Batch: 664201

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 664070

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	6.85		ug/L		114	75 - 125	0	20

Lab Sample ID: MB 440-664199/1-B
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664200

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/11/22 11:02	01/11/22 14:31	1

Lab Sample ID: LCS 440-664199/2-B
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664200

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	6.05		ug/L		101	85 - 115

Lab Sample ID: 570-78810-6 MS
Matrix: Water
Analysis Batch: 664223

Client Sample ID: A1BPSW0003_20211214
Prep Type: Dissolved
Prep Batch: 664200

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	8.41	LM	ug/L		140	75 - 125

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: 570-78810-6 MSD
Matrix: Water
Analysis Batch: 664223

Client Sample ID: A1BPSW0003_20211214
Prep Type: Dissolved
Prep Batch: 664200

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	8.07	LM	ug/L		135	75 - 125	4	20

Lab Sample ID: MB 440-663586/1-D
Matrix: Water
Analysis Batch: 664328

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664263

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/12/22 10:34	01/12/22 16:29	1

Lab Sample ID: LCS 440-663586/2-D
Matrix: Water
Analysis Batch: 664328

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	6.36		ug/L		106	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663051/1
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/16/21 12:54	1

Lab Sample ID: LCS 440-663051/2
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	941		mg/L		94	85 - 115

Lab Sample ID: 440-292756-A-1 DU
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	86		86.0		mg/L		0	5

HPLC/IC

Analysis Batch: 663290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Total/NA	Water	300.0	
570-78810-2	EPSW002IE01_20211214	Total/NA	Water	300.0	
570-78810-3	EPSW002IE02_20211214	Total/NA	Water	300.0	
570-78810-4	A1BPSW0001_20211214	Total/NA	Water	300.0	
570-78810-5	A1BPSW0002_20211214	Total/NA	Water	300.0	
570-78810-6	A1BPSW0003_20211214	Total/NA	Water	300.0	
MB 440-663290/6	Method Blank	Total/NA	Water	300.0	
LCS 440-663290/5	Lab Control Sample	Total/NA	Water	300.0	
440-292682-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-292682-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Filtration Batch: 663017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-2	EPSW002IE01_20211214	Dissolved	Water	FILTRATION	
570-78810-3	EPSW002IE02_20211214	Dissolved	Water	FILTRATION	
570-78810-4	A1BPSW0001_20211214	Dissolved	Water	FILTRATION	
570-78810-5	A1BPSW0002_20211214	Dissolved	Water	FILTRATION	
570-78810-6	A1BPSW0003_20211214	Dissolved	Water	FILTRATION	
MB 440-663017/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663017/1-D	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663017/1-E	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663017/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663017/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663017/2-E	Lab Control Sample	Dissolved	Water	FILTRATION	
570-78810-6 MS	A1BPSW0003_20211214	Dissolved	Water	FILTRATION	
570-78810-6 MSD	A1BPSW0003_20211214	Dissolved	Water	FILTRATION	
570-78815-E-5-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-78815-E-5-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-78815-E-11-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-78815-E-11-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Total/NA	Water	245.1	
570-78810-2	EPSW002IE01_20211214	Total/NA	Water	245.1	
570-78810-3	EPSW002IE02_20211214	Total/NA	Water	245.1	
570-78810-4	A1BPSW0001_20211214	Total/NA	Water	245.1	
570-78810-5	A1BPSW0002_20211214	Total/NA	Water	245.1	
570-78810-6	A1BPSW0003_20211214	Total/NA	Water	245.1	
MB 440-663537/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-663537/2-A	Lab Control Sample	Total/NA	Water	245.1	
570-78810-1 MS	EPSW001IE01_20211214	Total/NA	Water	245.1	
570-78810-1 MSD	EPSW001IE01_20211214	Total/NA	Water	245.1	

Filtration Batch: 663560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	FILTRATION	
MB 440-663560/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663560/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	

Metals (Continued)

Filtration Batch: 663560 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-293007-A-1-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
440-293007-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	200.2	663560
MB 440-663560/1-C	Method Blank	Dissolved	Water	200.2	663560
LCS 440-663560/2-C	Lab Control Sample	Dissolved	Water	200.2	663560
440-293007-A-1-C MS	Matrix Spike	Dissolved	Water	200.2	663560
440-293007-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663560

Filtration Batch: 663586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	FILTRATION	
MB 440-663586/1-D	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663586/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	

Analysis Batch: 663614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	200.8	663571
MB 440-663560/1-C	Method Blank	Dissolved	Water	200.8	663571
LCS 440-663560/2-C	Lab Control Sample	Dissolved	Water	200.8	663571
440-293007-A-1-C MS	Matrix Spike	Dissolved	Water	200.8	663571
440-293007-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663571

Analysis Batch: 663635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Total/NA	Water	245.1	663537
570-78810-2	EPSW002IE01_20211214	Total/NA	Water	245.1	663537
570-78810-3	EPSW002IE02_20211214	Total/NA	Water	245.1	663537
570-78810-4	A1BPSW0001_20211214	Total/NA	Water	245.1	663537
570-78810-5	A1BPSW0002_20211214	Total/NA	Water	245.1	663537
570-78810-6	A1BPSW0003_20211214	Total/NA	Water	245.1	663537
MB 440-663537/1-A	Method Blank	Total/NA	Water	245.1	663537
LCS 440-663537/2-A	Lab Control Sample	Total/NA	Water	245.1	663537
570-78810-1 MS	EPSW001IE01_20211214	Total/NA	Water	245.1	663537
570-78810-1 MSD	EPSW001IE01_20211214	Total/NA	Water	245.1	663537

Prep Batch: 663807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Total Recoverable	Water	200.2	
570-78810-2	EPSW002IE01_20211214	Total Recoverable	Water	200.2	
570-78810-3	EPSW002IE02_20211214	Total Recoverable	Water	200.2	
570-78810-4	A1BPSW0001_20211214	Total Recoverable	Water	200.2	
570-78810-5	A1BPSW0002_20211214	Total Recoverable	Water	200.2	
570-78810-6	A1BPSW0003_20211214	Total Recoverable	Water	200.2	
MB 440-663807/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663807/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-78810-1 MS	EPSW001IE01_20211214	Total Recoverable	Water	200.2	
570-78810-1 MSD	EPSW001IE01_20211214	Total Recoverable	Water	200.2	

Metals

Prep Batch: 663808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-2	EPSW002IE01_20211214	Total Recoverable	Water	200.2	
570-78810-3	EPSW002IE02_20211214	Total Recoverable	Water	200.2	
570-78810-4	A1BPSW0001_20211214	Total Recoverable	Water	200.2	
570-78810-5	A1BPSW0002_20211214	Total Recoverable	Water	200.2	
570-78810-6	A1BPSW0003_20211214	Total Recoverable	Water	200.2	
MB 440-663808/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663808/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-78810-6 MS	A1BPSW0003_20211214	Total Recoverable	Water	200.2	
570-78810-6 MSD	A1BPSW0003_20211214	Total Recoverable	Water	200.2	

Analysis Batch: 663859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-2	EPSW002IE01_20211214	Total Recoverable	Water	200.7 Rev 4.4	663808
570-78810-3	EPSW002IE02_20211214	Total Recoverable	Water	200.7 Rev 4.4	663808
570-78810-4	A1BPSW0001_20211214	Total Recoverable	Water	200.7 Rev 4.4	663808
570-78810-5	A1BPSW0002_20211214	Total Recoverable	Water	200.7 Rev 4.4	663808
570-78810-6	A1BPSW0003_20211214	Total Recoverable	Water	200.7 Rev 4.4	663808
MB 440-663808/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	663808
LCS 440-663808/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	663808
570-78810-6 MS	A1BPSW0003_20211214	Total Recoverable	Water	200.7 Rev 4.4	663808
570-78810-6 MSD	A1BPSW0003_20211214	Total Recoverable	Water	200.7 Rev 4.4	663808

Analysis Batch: 663869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Total Recoverable	Water	200.8	663807
570-78810-2	EPSW002IE01_20211214	Total Recoverable	Water	200.8	663807
570-78810-3	EPSW002IE02_20211214	Total Recoverable	Water	200.8	663807
570-78810-4	A1BPSW0001_20211214	Total Recoverable	Water	200.8	663807
570-78810-5	A1BPSW0002_20211214	Total Recoverable	Water	200.8	663807
570-78810-6	A1BPSW0003_20211214	Total Recoverable	Water	200.8	663807
MB 440-663807/1-A	Method Blank	Total Recoverable	Water	200.8	663807
LCS 440-663807/2-A	Lab Control Sample	Total Recoverable	Water	200.8	663807
570-78810-1 MS	EPSW001IE01_20211214	Total Recoverable	Water	200.8	663807
570-78810-1 MSD	EPSW001IE01_20211214	Total Recoverable	Water	200.8	663807

Filtration Batch: 663928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	FILTRATION	
MB 440-663928/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	200.2	663928
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.2	663928
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.2	663928
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663928

Metals

Prep Batch: 663981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-2	EPSW002IE01_20211214	Dissolved	Water	200.2	663017
570-78810-3	EPSW002IE02_20211214	Dissolved	Water	200.2	663017
570-78810-4	A1BPSW0001_20211214	Dissolved	Water	200.2	663017
570-78810-5	A1BPSW0002_20211214	Dissolved	Water	200.2	663017
570-78810-6	A1BPSW0003_20211214	Dissolved	Water	200.2	663017
MB 440-663017/1-B	Method Blank	Dissolved	Water	200.2	663017
LCS 440-663017/2-B	Lab Control Sample	Dissolved	Water	200.2	663017
570-78815-E-11-C MS	Matrix Spike	Dissolved	Water	200.2	663017
570-78815-E-11-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663017

Prep Batch: 663985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-2	EPSW002IE01_20211214	Dissolved	Water	200.2	663017
570-78810-3	EPSW002IE02_20211214	Dissolved	Water	200.2	663017
570-78810-4	A1BPSW0001_20211214	Dissolved	Water	200.2	663017
570-78810-5	A1BPSW0002_20211214	Dissolved	Water	200.2	663017
570-78810-6	A1BPSW0003_20211214	Dissolved	Water	200.2	663017
MB 440-663017/1-D	Method Blank	Dissolved	Water	200.2	663017
LCS 440-663017/2-D	Lab Control Sample	Dissolved	Water	200.2	663017
570-78810-6 MS	A1BPSW0003_20211214	Dissolved	Water	200.2	663017
570-78810-6 MSD	A1BPSW0003_20211214	Dissolved	Water	200.2	663017

Analysis Batch: 664011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-2	EPSW002IE01_20211214	Dissolved	Water	200.8	663981
570-78810-3	EPSW002IE02_20211214	Dissolved	Water	200.8	663981
570-78810-4	A1BPSW0001_20211214	Dissolved	Water	200.8	663981
570-78810-5	A1BPSW0002_20211214	Dissolved	Water	200.8	663981
570-78810-6	A1BPSW0003_20211214	Dissolved	Water	200.8	663981
MB 440-663017/1-B	Method Blank	Dissolved	Water	200.8	663981
LCS 440-663017/2-B	Lab Control Sample	Dissolved	Water	200.8	663981
570-78815-E-11-C MS	Matrix Spike	Dissolved	Water	200.8	663981
570-78815-E-11-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663981

Prep Batch: 664034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Total Recoverable	Water	200.2	
MB 440-664034/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664034/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-292939-J-1-C MS	Matrix Spike	Total Recoverable	Water	200.2	
440-292939-J-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	200.7 Rev 4.4	663949
570-78810-2	EPSW002IE01_20211214	Dissolved	Water	200.7 Rev 4.4	663985
570-78810-3	EPSW002IE02_20211214	Dissolved	Water	200.7 Rev 4.4	663985
570-78810-4	A1BPSW0001_20211214	Dissolved	Water	200.7 Rev 4.4	663985
570-78810-5	A1BPSW0002_20211214	Dissolved	Water	200.7 Rev 4.4	663985
570-78810-6	A1BPSW0003_20211214	Dissolved	Water	200.7 Rev 4.4	663985
MB 440-663017/1-D	Method Blank	Dissolved	Water	200.7 Rev 4.4	663985

Metals (Continued)

Analysis Batch: 664049 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663949
LCS 440-663017/2-D	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663985
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663949
570-78810-6 MS	A1BPSW0003_20211214	Dissolved	Water	200.7 Rev 4.4	663985
570-78810-6 MSD	A1BPSW0003_20211214	Dissolved	Water	200.7 Rev 4.4	663985
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	663949

Prep Batch: 664070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-2	EPSW002IE01_20211214	Dissolved	Water	245.1	663017
570-78810-3	EPSW002IE02_20211214	Dissolved	Water	245.1	663017
570-78810-4	A1BPSW0001_20211214	Dissolved	Water	245.1	663017
570-78810-5	A1BPSW0002_20211214	Dissolved	Water	245.1	663017
MB 440-663017/1-E	Method Blank	Dissolved	Water	245.1	663017
LCS 440-663017/2-E	Lab Control Sample	Dissolved	Water	245.1	663017
570-78815-E-5-D MS	Matrix Spike	Dissolved	Water	245.1	663017
570-78815-E-5-E MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	663017

Analysis Batch: 664169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Total Recoverable	Water	200.7 Rev 4.4	664034
MB 440-664034/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664034
LCS 440-664034/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664034
440-292939-J-1-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664034
440-292939-J-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664034

Filtration Batch: 664199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-6	A1BPSW0003_20211214	Dissolved	Water	FILTRATION	
MB 440-664199/1-B	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-664199/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
570-78810-6 MS	A1BPSW0003_20211214	Dissolved	Water	FILTRATION	
570-78810-6 MSD	A1BPSW0003_20211214	Dissolved	Water	FILTRATION	

Prep Batch: 664200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-6	A1BPSW0003_20211214	Dissolved	Water	245.1	664199
MB 440-664199/1-B	Method Blank	Dissolved	Water	245.1	664199
LCS 440-664199/2-B	Lab Control Sample	Dissolved	Water	245.1	664199
570-78810-6 MS	A1BPSW0003_20211214	Dissolved	Water	245.1	664199
570-78810-6 MSD	A1BPSW0003_20211214	Dissolved	Water	245.1	664199

Analysis Batch: 664201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-2	EPSW002IE01_20211214	Dissolved	Water	245.1	664070
570-78810-3	EPSW002IE02_20211214	Dissolved	Water	245.1	664070
570-78810-4	A1BPSW0001_20211214	Dissolved	Water	245.1	664070
570-78810-5	A1BPSW0002_20211214	Dissolved	Water	245.1	664070
MB 440-663017/1-E	Method Blank	Dissolved	Water	245.1	664070
LCS 440-663017/2-E	Lab Control Sample	Dissolved	Water	245.1	664070

Metals (Continued)

Analysis Batch: 664201 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-E-5-D MS	Matrix Spike	Dissolved	Water	245.1	664070
570-78815-E-5-E MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	664070

Analysis Batch: 664223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-6	A1BPSW0003_20211214	Dissolved	Water	245.1	664200
MB 440-664199/1-B	Method Blank	Dissolved	Water	245.1	664200
LCS 440-664199/2-B	Lab Control Sample	Dissolved	Water	245.1	664200
570-78810-6 MS	A1BPSW0003_20211214	Dissolved	Water	245.1	664200
570-78810-6 MSD	A1BPSW0003_20211214	Dissolved	Water	245.1	664200

Prep Batch: 664263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	245.1	663586
MB 440-663586/1-D	Method Blank	Dissolved	Water	245.1	663586
LCS 440-663586/2-D	Lab Control Sample	Dissolved	Water	245.1	663586

Analysis Batch: 664328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	245.1	664263
MB 440-663586/1-D	Method Blank	Dissolved	Water	245.1	664263
LCS 440-663586/2-D	Lab Control Sample	Dissolved	Water	245.1	664263

General Chemistry

Analysis Batch: 663051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Total/NA	Water	SM 2540D	
570-78810-2	EPSW002IE01_20211214	Total/NA	Water	SM 2540D	
570-78810-3	EPSW002IE02_20211214	Total/NA	Water	SM 2540D	
570-78810-4	A1BPSW0001_20211214	Total/NA	Water	SM 2540D	
570-78810-5	A1BPSW0002_20211214	Total/NA	Water	SM 2540D	
570-78810-6	A1BPSW0003_20211214	Total/NA	Water	SM 2540D	
MB 440-663051/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663051/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-292756-A-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-1

Client Sample ID: EPSW001IE01_20211214

Lab Sample ID: 570-78810-1

Date Collected: 12/14/21 09:00

Matrix: Water

Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			663290	12/21/21 17:12	NIH3	IRV 2
	Instrument ID: IC-26									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	663928	01/06/22 15:34	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663949	01/06/22 17:20	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 21:49	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	664034	01/10/22 08:20	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664169	01/10/22 17:24	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			50 mL	50 mL	663560	12/29/21 09:25	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663571	12/29/21 11:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663614	12/29/21 14:49	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663807	01/05/22 10:08	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			663869	01/05/22 15:37	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			50 mL	50 mL	663586	12/29/21 14:09	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664263	01/12/22 10:34	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664328	01/12/22 16:27	C0YH	IRV 2
	Instrument ID: CV-HG5									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:26	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	300 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									

Client Sample ID: EPSW002IE01_20211214

Lab Sample ID: 570-78810-2

Date Collected: 12/14/21 11:00

Matrix: Water

Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			663290	12/21/21 17:26	NIH3	IRV 2
	Instrument ID: IC-26									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663985	01/07/22 10:30	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 21:03	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663808	01/05/22 10:38	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			663859	01/05/22 19:35	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:38	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:51	Y2WS	IRV 2
	Instrument ID: ICPMS6									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-1

Client Sample ID: EPSW002IE01_20211214

Lab Sample ID: 570-78810-2

Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.2			25 mL	25 mL	663807	01/05/22 10:08	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			663869	01/05/22 15:50	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:30	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:33	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	100 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									

Client Sample ID: EPSW002IE02_20211214

Lab Sample ID: 570-78810-3

Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			663290	12/21/21 17:41	NIH3	IRV 2
	Instrument ID: IC-26									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663985	01/07/22 10:30	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 21:05	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663808	01/05/22 10:38	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			663859	01/05/22 19:45	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:38	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:53	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663807	01/05/22 10:08	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			663869	01/05/22 15:52	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:32	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:40	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	20 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									

Client Sample ID: A1BPSW0001_20211214

Lab Sample ID: 570-78810-4

Date Collected: 12/14/21 08:00

Matrix: Water

Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			663290	12/21/21 17:55	NIH3	IRV 2
	Instrument ID: IC-26									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663985	01/07/22 10:30	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 21:07	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663808	01/05/22 10:38	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			663859	01/05/22 19:47	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:38	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:55	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663807	01/05/22 10:08	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			663869	01/05/22 15:54	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:35	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:43	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	300 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									

Client Sample ID: A1BPSW0002_20211214

Lab Sample ID: 570-78810-5

Date Collected: 12/14/21 08:05

Matrix: Water

Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			663290	12/21/21 18:10	NIH3	IRV 2
	Instrument ID: IC-26									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663985	01/07/22 10:30	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 21:10	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663808	01/05/22 10:38	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			663859	01/05/22 19:50	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:38	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:57	Y2WS	IRV 2
	Instrument ID: ICPMS6									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-1

Client Sample ID: A1BPSW0002_20211214

Lab Sample ID: 570-78810-5

Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.2			25 mL	25 mL	663807	01/05/22 10:08	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			663869	01/05/22 15:56	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:37	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:45	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	100 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									

Client Sample ID: A1BPSW0003_20211214

Lab Sample ID: 570-78810-6

Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	663290	12/21/21 18:25	NIH3	IRV 2
	Instrument ID: IC-26									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663985	01/07/22 10:30	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 20:55	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663808	01/05/22 10:38	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			663859	01/05/22 19:38	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:38	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:59	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663807	01/05/22 10:08	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			663869	01/05/22 15:58	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	664199	01/11/22 10:35	VZ0K	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664200	01/11/22 11:02	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 14:35	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:47	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	30 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-1

Laboratory References:

IRV 1 = Eurofins Calscience Tustin Irvine, 17461 Derian Ave, Irvine, CA 92614, TEL (949)261-1022

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78810-1
Project/Site: Boeing SSFL ISRA and BMP

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	IRV 2
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	IRV 2
FILTRATION	Sample Filtration	None	IRV 1

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

IRV 1 = Eurofins Calscience Tustin Irvine, 17461 Derian Ave, Irvine, CA 92614, TEL (949)261-1022

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78810-1	EPSW001IE01_20211214	Water	12/14/21 09:00	12/14/21 20:05
570-78810-2	EPSW002IE01_20211214	Water	12/14/21 11:00	12/14/21 20:05
570-78810-3	EPSW002IE02_20211214	Water	12/14/21 11:05	12/14/21 20:05
570-78810-4	A1BPSW0001_20211214	Water	12/14/21 08:00	12/14/21 20:05
570-78810-5	A1BPSW0002_20211214	Water	12/14/21 08:05	12/14/21 20:05
570-78810-6	A1BPSW0003_20211214	Water	12/14/21 08:10	12/14/21 20:05

Loc 570
78810

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Gross Alpha (Total Dissolved) (E900.0)	Gross Alpha (Total Recoverable) (E900.0)	SO4 (E300)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1: Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1 Hg (Total Recoverable)	Sample Specific Notes:
–	–	–	–	–	–			2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001IE01_20211214	12/14/21	0900	G	WM	8	Y	N	x	x	x	x	x	x	x	
EPSW002IE01_20211214	12/14/21	1100	G	WM	8	Y	N	x	x	x	x	x	x	x	
EPSW002IE02_20211214	12/14/21	1105	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0001_20211214	12/14/21	0800	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0002_20211214	12/14/21	0805	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0003_20211214	12/14/21	0810	G	WM	8	Y	N	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	4	4	1	4	4	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▪ Non-Hazard ▫ Flammable ▪ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

Relinquished by:	Company: JHP	Date/Time: 12/14/21 1345	Received by:	ECI	Date/Time: 12/14/21 1345
Relinquished by:	Company: ECI	Date/Time: 12/14/21 2005	Received by:	ECI	Date/Time: 12/14/21 2005
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

3.1/4.0 , 2.9/3.8 SCS

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

SAP COC 2019/2020 VERSION 3

570-78810 Chain of Custody

1/14/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145353 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78810-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/18/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation (MOD) Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha Only- Dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
EPSW002IE01_20211214 (570-78810-2)	12/14/21	11 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
EPSW002IE02_20211214 (570-78810-3)	12/14/21	11 05 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0001_20211214 (570-78810-4)	12/14/21	08 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0002_20211214 (570-78810-5)	12/14/21	08 05 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
A1BPSW0003_20211214 (570-78810-6)	12/14/21	08 10 Pacific		Water			X	X	2	Boeing SSFL DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time.	Method of Shipment:

Relinquished by:	Date/Time: 12/15/21 1409	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver 06/08/2021

1/14/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145444 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78810-3
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW002IE01_20211214 (570-78810-2)	12/14/21	11 00 Pacific		Water			X	2	See QAS Boeing_w/u to zero
EPSW002IE02_20211214 (570-78810-3)	12/14/21	11 05 Pacific		Water			X	2	See QAS Boeing_w/u to zero
A1BPSW0001_20211214 (570-78810-4)	12/14/21	08 00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0002_20211214 (570-78810-5)	12/14/21	08 05 Pacific		Water			X	2	See QAS Boeing_w/u to zero
A1BPSW0003_20211214 (570-78810-6)	12/14/21	08 10 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by: [signature]	Date/Time: 12/15/21 1723				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

1/14/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145512 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-78810-1
Address: 17461 Derian Ave Suite 100	Due Date Requested: 12/22/2021			
City: Irvine	TAT Requested (days):			
State Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email:	WO #			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	245.1/245.1_Prep Diss Mercury	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb	200.8/200.2 (MOD) Diss Cd,Cu,Pb	200.7/FILTRATION (MOD) Diss Al,As,Ba,Be,B,Cr,Co,Fe,Mn,Ni,	200.7/200.2 (MOD) Diss Al,As,Ba,Be,B,Cr,Co,Fe,Mn,Ni,	2540D Solids, Total Suspended (TSS)	300_ORGFM_28D/ Sulfate			Total Number of containers	Special Instructions/Note:
			Preservation Code:																	
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09 00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X			1	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	12/16/21	EC		12/16/21 0645	EC IRV
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No		1.1/1.1 /R 85

Ver 06 08 2021

1/14/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145302 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program California		Job #: 570-78810-1
Address: 17461 Derian Ave Suite 100,	Due Date Requested: 12/28/2021			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261 1022(Tel) 949-260-3297(Fax)	PO #			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	245.1/246.1_Prep Mercury	245.1/FILTRATION Diss Mercury	245.1/246.1_Prep Diss Mercury	200.8/200.2 (MOD) Cd,Cu,Pb	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb	200.8/200.2 (MOD) Diss Cd,Cu,Pb	200.7/200.2 (MOD) Al, As, Ba, Be, B, Cr Co, Fe, Mn,	200.7/FILTRATION (MOD) Diss Al,As,Ba,Be,B,Cr,Co,Fe,Mn,Ni,	200.7/200.2 (MOD) Diss Al,As,Ba,Be,B,Cr,Co,Fe,Mn,Ni,	2540D/ Solids, Total Suspended (TSS)	300_ORGFM_28D/ Sulfate			Total Number of containers	Special Instructions/Note:
				Preservation Code:																	
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X			2	Filter within 24 hours
EPSW002IE01_20211214 (570-78810-2)	12/14/21	11.00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X			2	Filter within 24 hours
EPSW002IE02_20211214 (570-78810-3)	12/14/21	11 05 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X			2	Filter within 24 hours
ASBPSW0001_20211214 (570-78810-4)	12/14/21	08:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X			2	Filter within 24 hours
ASBPSW0002_20211214 (570-78810-5)	12/14/21	08:05 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X			2	Filter within 24 hours
ASBPSW0003_20211214 (570-78810-6)	12/14/21	08:10 Pacific		Water			X	X	X	X	X	X	X	X	X	X	X			2	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested. I II III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	12/15/21 13:00				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ve 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145512.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program California		Job #: 570-78810-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 12/22/2021			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261 1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	~~245.1/245.1_Prep Mercury~~	245.1/FILTRATION Diss Mercury	245.1/245.1_Prep Diss Mercury	~~200.8/200.8 (MOD) Cd,Cu,Pb~~	200.8/FILTRATION (MOD) Diss Cd,Cu,Pb	200.8/200.2 (MOD) Diss Cd,Cu,Pb	~~200.7/200.2 (MOD) Al, As, Ba, Be, B, Cr, Co, Fe, Mn, Ni~~	200.7/FILTRATION (MOD) Diss Al,As,Ba,Be,B,Cr,Co,Fe,Mn,Ni,	200.7/200.2 (MOD) Diss Al,As,Ba,Be,B,Cr,Co,Fe,Mn,Ni,	~~2540D Solids, Total Suspended (TSS)~~	300_ORGFM_28D/ Sulfate			Total Number of containers	Special Instructions/Note
			Preservation Code:																	
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09:00 Pacific		Water			X	X	X	X	X	X	X	X	X	X			1	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/16/21	EC		12/16/21 0645	EC IRV
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 1.1/1.1 /R #5

Ver 06 08/ 021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78810-1

Login Number: 78810
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78810-1

Login Number: 78810
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/15/21 02:02 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78810-2
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/14/2022 2:32:13 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-2

Qualifiers

Rad

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-78810-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78810-2

Comments
No additional comments.

Receipt
The samples were received on 12/14/2021 8:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.8º C and 4.0º C.

RAD
Method 900.0: Gross alpha beta batch 544519
The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: EPSW002IE02_20211214 (570-78810-3). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross alpha beta batch 544519
The gross (alpha) detection goal(s) was not met. The activity in the samples however exhibit concentrations greater than five (5) times the concentrations observed in the MB), therefore, re-analysis is not required. The data have been reported.

(570-78818-O-1-C)

Method 900.0: Gross alpha beta batch 544519
The matrix spike (MS) recoveries for gross alpha were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (570-78818-O-1-D MS)

Method 900.0: Gross alpha beta batch 544519
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW001IE01_20211214 (570-78810-1), EPSW002IE01_20211214 (570-78810-2), EPSW002IE02_20211214 (570-78810-3), A1BPSW0001_20211214 (570-78810-4), A1BPSW0002_20211214 (570-78810-5), A1BPSW0003_20211214 (570-78810-6), (LCS 160-544519/2-A), (MB 160-544519/1-A), (570-78818-O-1-C), (570-78818-O-1-F DU) and (570-78818-O-1-D MS)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Filtration: Filtration_Rad Prep Batch 160-542896:

Sample were received already preserved. PM instructed Pre-Prep to complete Filtration_Rad with preserved samples

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-2

Client Sample ID: EPSW001IE01_20211214 — Lab Sample ID: 570-78810-1

No Detections.

Client Sample ID: EPSW002IE01_20211214 — Lab Sample ID: 570-78810-2

No Detections.

Client Sample ID: EPSW002IE02_20211214 — Lab Sample ID: 570-78810-3

No Detections.

Client Sample ID: A1BPSW0001_20211214 — Lab Sample ID: 570-78810-4

No Detections.

Client Sample ID: A1BPSW0002_20211214 — Lab Sample ID: 570-78810-5

No Detections.

Client Sample ID: A1BPSW0003_20211214 — Lab Sample ID: 570-78810-6

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity - Dissolved

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**2.60**		1.05	1.09	3.00	1.30	pCi/L	01/03/22 10:43	01/05/22 08:14	1

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**2.57**		1.23	1.27	3.00	1.60	pCi/L	01/03/22 10:43	01/05/22 08:26	1

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**7.03**	**G**	3.94	4.02	3.00	5.54	pCi/L	01/03/22 10:43	01/05/22 08:27	1

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**1.51**		1.02	1.04	3.00	1.51	pCi/L	01/03/22 10:43	01/05/22 08:27	1

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**4.39**		1.87	1.93	3.00	2.36	pCi/L	01/03/22 10:43	01/05/22 08:27	1

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.50	U	1.25	1.26	3.00	1.91	pCi/L	01/03/22 10:43	01/05/22 08:27	1

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-544519/1-A
Matrix: Water
Analysis Batch: 544907

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544519

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.9030	U	0.843	0.850	3.00	1.34	pCi/L	01/03/22 10:43	01/05/22 08:13	1

Lab Sample ID: LCS 160-544519/2-A
Matrix: Water
Analysis Batch: 544907

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544519

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Alpha			50.6	47.36		6.71	3.00	1.72	pCi/L	94	75 - 125		

Lab Sample ID: 570-78818-O-1-D MS
Matrix: Water
Analysis Batch: 544907

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 544519

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Alpha	7.37	G	50.6	33.53	F1	5.81	3.00	2.71	pCi/L	52	60 - 140		

Lab Sample ID: 570-78818-O-1-F DU
Matrix: Water
Analysis Batch: 544907

Client Sample ID: Duplicate
Prep Type: Dissolved
Prep Batch: 544519

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Gross Alpha	7.37	G		7.249		2.37	3.00	2.37	pCi/L			0.02	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-2

Rad

Filtration Batch: 542896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	Filtration	
570-78810-2	EPSW002IE01_20211214	Dissolved	Water	Filtration	
570-78810-3	EPSW002IE02_20211214	Dissolved	Water	Filtration	
570-78810-4	A1BPSW0001_20211214	Dissolved	Water	Filtration	
570-78810-5	A1BPSW0002_20211214	Dissolved	Water	Filtration	
570-78810-6	A1BPSW0003_20211214	Dissolved	Water	Filtration	
570-78818-O-1-D MS	Matrix Spike	Dissolved	Water	Filtration	
570-78818-O-1-F DU	Duplicate	Dissolved	Water	Filtration	

Prep Batch: 544519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Dissolved	Water	Evaporation	542896
570-78810-2	EPSW002IE01_20211214	Dissolved	Water	Evaporation	542896
570-78810-3	EPSW002IE02_20211214	Dissolved	Water	Evaporation	542896
570-78810-4	A1BPSW0001_20211214	Dissolved	Water	Evaporation	542896
570-78810-5	A1BPSW0002_20211214	Dissolved	Water	Evaporation	542896
570-78810-6	A1BPSW0003_20211214	Dissolved	Water	Evaporation	542896
MB 160-544519/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-544519/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-78818-O-1-D MS	Matrix Spike	Dissolved	Water	Evaporation	542896
570-78818-O-1-F DU	Duplicate	Dissolved	Water	Evaporation	542896

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-2

Client Sample ID: EPSW001IE01_20211214
Lab Sample ID: 570-78810-1
Date Collected: 12/14/21 09:00
Matrix: Water
Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	542896	12/20/21 13:36	ZTH	TAL SL
Dissolved	Prep	Evaporation			200.01 mL	1.0 g	544519	01/03/22 10:43	KG	TAL SL
Dissolved	Analysis	900.0		1			544907	01/05/22 08:14	EMH	TAL SL
	Instrument ID: GFPCORANGE									

Client Sample ID: EPSW002IE01_20211214
Lab Sample ID: 570-78810-2
Date Collected: 12/14/21 11:00
Matrix: Water
Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	542896	12/20/21 13:37	ZTH	TAL SL
Dissolved	Prep	Evaporation			200.05 mL	1.0 g	544519	01/03/22 10:43	KG	TAL SL
Dissolved	Analysis	900.0		1			544881	01/05/22 08:26	ANW	TAL SL
	Instrument ID: GFPCBLUE									

Client Sample ID: EPSW002IE02_20211214
Lab Sample ID: 570-78810-3
Date Collected: 12/14/21 11:05
Matrix: Water
Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	542896	12/20/21 13:36	ZTH	TAL SL
Dissolved	Prep	Evaporation			50.02 mL	1.0 g	544519	01/03/22 10:43	KG	TAL SL
Dissolved	Analysis	900.0		1			544881	01/05/22 08:27	ANW	TAL SL
	Instrument ID: GFPCBLUE									

Client Sample ID: A1BPSW0001_20211214
Lab Sample ID: 570-78810-4
Date Collected: 12/14/21 08:00
Matrix: Water
Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	542896	12/20/21 13:37	ZTH	TAL SL
Dissolved	Prep	Evaporation			200.06 mL	1.0 g	544519	01/03/22 10:43	KG	TAL SL
Dissolved	Analysis	900.0		1			544881	01/05/22 08:27	ANW	TAL SL
	Instrument ID: GFPCBLUE									

Client Sample ID: A1BPSW0002_20211214
Lab Sample ID: 570-78810-5
Date Collected: 12/14/21 08:05
Matrix: Water
Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	542896	12/20/21 13:36	ZTH	TAL SL
Dissolved	Prep	Evaporation			200.00 mL	1.0 g	544519	01/03/22 10:43	KG	TAL SL
Dissolved	Analysis	900.0		1			544881	01/05/22 08:27	ANW	TAL SL
	Instrument ID: GFPCBLUE									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-78810-2
Project/Site: Boeing SSFL ISRA and BMP

Client Sample ID: A1BPSW0003_20211214
Lab Sample ID: 570-78810-6
Date Collected: 12/14/21 08:10
Matrix: Water
Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	542896	12/20/21 13:36	ZTH	TAL SL
Dissolved	Prep	Evaporation			200.06 mL	1.0 g	544519	01/03/22 10:43	KG	TAL SL
Dissolved	Analysis	900.0		1			544881	01/05/22 08:27	ANW	TAL SL
	Instrument ID: GFPCBLUE									

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-2

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-2

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
Filtration	Sample Filtration	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78810-1	EPSW001IE01_20211214	Water	12/14/21 09:00	12/14/21 20:05
570-78810-2	EPSW002IE01_20211214	Water	12/14/21 11:00	12/14/21 20:05
570-78810-3	EPSW002IE02_20211214	Water	12/14/21 11:05	12/14/21 20:05
570-78810-4	A1BPSW0001_20211214	Water	12/14/21 08:00	12/14/21 20:05
570-78810-5	A1BPSW0002_20211214	Water	12/14/21 08:05	12/14/21 20:05
570-78810-6	A1BPSW0003_20211214	Water	12/14/21 08:10	12/14/21 20:05

Loc 570
78810

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Gross Alpha (Total Dissolved) (E900.0)	Gross Alpha (Total Recoverable) (E900.0)	SO4 (E300)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1: Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1 Hg (Total Recoverable)	Sample Specific Notes:
–	–	–	–	–	–			2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001IE01_20211214	12/14/21	0900	G	WM	8	Y	N	x	x	x	x	x	x	x	
EPSW002IE01_20211214	12/14/21	1100	G	WM	8	Y	N	x	x	x	x	x	x	x	
EPSW002IE02_20211214	12/14/21	1105	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0001_20211214	12/14/21	0800	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0002_20211214	12/14/21	0805	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0003_20211214	12/14/21	0810	G	WM	8	Y	N	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	4	4	1	4	4	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▪ Non-Hazard ▫ Flammable ▪ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

	Company	Date/Time		Company	Date/Time
Relinquished by:	J+P	12/14/21 1345	Received by:	ECI	12/14/21 1345
Relinquished by:	ECI	12/14/21 2005	Received by:	ECI	12/14/21 2005
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

3.1/4.0 , 2.9/3.8 SCS

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

570-78810 Chain of Custody

SAP COC 2019/2020 VERSION 3

1/14/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145353 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78810-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/18/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation (MOD) Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha Only- Dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
EPSW002IE01_20211214 (570-78810-2)	12/14/21	11 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
EPSW002IE02_20211214 (570-78810-3)	12/14/21	11 05 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0001_20211214 (570-78810-4)	12/14/21	08 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0002_20211214 (570-78810-5)	12/14/21	08 05 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
A1BPSW0003_20211214 (570-78810-6)	12/14/21	08 10 Pacific		Water			X	X	2	Boeing SSFL DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time.	Method of Shipment:

Relinquished by:	Date/Time: 12/15/21 1409	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver 06/08/2021

1/14/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145444 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78810-3
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW002IE01_20211214 (570-78810-2)	12/14/21	11 00 Pacific		Water			X	2	See QAS Boeing_w/u to zero
EPSW002IE02_20211214 (570-78810-3)	12/14/21	11 05 Pacific		Water			X	2	See QAS Boeing_w/u to zero
A1BPSW0001_20211214 (570-78810-4)	12/14/21	08 00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0002_20211214 (570-78810-5)	12/14/21	08 05 Pacific		Water			X	2	See QAS Boeing_w/u to zero
A1BPSW0003_20211214 (570-78810-6)	12/14/21	08 10 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by: [signature]	Date/Time: 12/15/21 1723	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

1/14/2022

Subject: 680-2087
Cc: Jerry

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145353 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78810-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/18/2022			
City: Earth City	TAT Requested (days):			
State Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J DI Water
K - EDTA
L - EDA
M - Hexane
N None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Perform MS/MSD (Yes/No)	Perform MS/MSD (Yes/No)	900.0/Evaporation (MOD) Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha Only- Dissolved	Total Number of Containers	Special Instructions/Note:
			Preservation Code:							
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09 00 Pacific		Water			X	X		Boeing SSFL, DO NOT FILTER, use prep date from preservation
EPSW002IE01_20211214 (570-78810-2)	12/14/21	11 00 Pacific		Water			X	X		Boeing SSFL, DO NOT FILTER use prep date from preservation
EPSW002IE02_20211214 (570-78810-3)	12/14/21	11 05 Pacific		Water			X	X		Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0001_20211214 (570-78810-4)	12/14/21	08 00 Pacific		Water			X	X		Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0002_20211214 (570-78810-5)	12/14/21	08 05 Pacific		Water			X	X		Boeing SSFL, DO NOT FILTER, use prep date from preservation
A1BPSW0003_20211214 (570-78810-6)	12/14/21	08 10 Pacific		Water			X	X		Boeing SSFL DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:		Date	Time.	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 12/15/21 1409	Company	Received by: FED EX	Date/Time:	Company	
Relinquished by: FED EX	Date/Time:	Company	Received by: [signature]	Date/Time: DEC 16 2021 1000	Company: ETA STL	
Relinquished by:	Date/Time:	Company	Received by: Autumn R. Johnson	Date/Time	Company	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No		Cooler Temperature(s) °C and Other Remarks			

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78810-2

Login Number: 78810
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78810-2

Login Number: 78810
List Number: 3
Creator: Johnson, Autumn R

List Source: Eurofins St. Louis
List Creation: 12/17/21 11:48 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78810-3
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/9/2022 8:47:08 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-3

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-78810-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78810-3

Comments
No additional comments.

Receipt
The samples were received on 12/14/2021 8:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.8º C and 4.0º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: EPSW001IE01_20211214 (570-78810-1), EPSW002IE01_20211214 (570-78810-2), EPSW002IE02_20211214 (570-78810-3), A1BPSW0001_20211214 (570-78810-4), A1BPSW0002_20211214 (570-78810-5), A1BPSW0003_20211214 (570-78810-6), (CCV 320-555723/2) and (MB 320-553086/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
Method 1613B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation: EPSW001IE01_20211214 (570-78810-1) and EPSW002IE01_20211214 (570-78810-2). Nominal volume is 1L.

preparation batch 320-553086
Method: 1613B_Sox_Sep_P
Matrix: Water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-3

Client Sample ID: EPSW001IE01_20211214 — Lab Sample ID: 570-78810-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000019	J,DX q	0.000011	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.00000083	J,DX q	0.000053	0.00000044	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000026	J,DX MB	0.000053	0.00000028	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000024	J,DX MB	0.000053	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000015	J,DX MB q	0.000053	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.00000037	J,DX MB q	0.000053	0.00000028	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.00000081	J,DX MB	0.000053	0.00000028	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000061	J,DX MB q	0.000053	0.00000021	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000060	J,DX MB	0.000053	0.00000022	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000050	J,DX MB	0.000053	0.00000046	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000078	J,DX MB	0.000053	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000010	J,DX MB q	0.000053	0.00000030	ug/L	1		1613B	Total/NA
OCDD	0.00041	MB	0.00011	0.00000041	ug/L	1		1613B	Total/NA
OCDF	0.000017	J,DX MB	0.00011	0.00000035	ug/L	1		1613B	Total/NA
Total TCDD	0.0000019	J,DX q	0.000011	0.00000045	ug/L	1		1613B	Total/NA
Total TCDF	0.0000011	J,DX MB q	0.000011	0.00000019	ug/L	1		1613B	Total/NA
Total PeCDD	0.00000083	J,DX MB q	0.000053	0.00000044	ug/L	1		1613B	Total/NA
Total PeCDF	0.00000085	J,DX MB q	0.000053	0.00000032	ug/L	1		1613B	Total/NA
Total HxCDD	0.000013	J,DX MB q	0.000053	0.00000025	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000094	J,DX MB q	0.000053	0.00000021	ug/L	1		1613B	Total/NA
Total HpCDD	0.000092	J,DX MB	0.000053	0.00000046	ug/L	1		1613B	Total/NA
Total HpCDF	0.000024	J,DX MB q	0.000053	0.00000029	ug/L	1		1613B	Total/NA

Client Sample ID: EPSW002IE01_20211214 — Lab Sample ID: 570-78810-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000018	J,DX q	0.000011	0.00000040	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000071	J,DX	0.000054	0.00000062	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000039	J,DX	0.000054	0.0000010	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000042	J,DX MB	0.000054	0.0000010	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000020	J,DX MB	0.000054	0.0000012	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000064	MB	0.000054	0.0000012	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000039	J,DX MB	0.000054	0.0000010	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-3

Client Sample ID: EPSW002IE01_20211214 (Continued) — Lab Sample ID: 570-78810-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDF	0.000046	J,DX MB	0.000054	0.0000023	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.000066	MB	0.000054	0.0000023	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000017	J,DX MB	0.000054	0.0000016	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.000045	J,DX MB	0.000054	0.0000018	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0021	MB	0.000054	0.0000099	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0015	MB	0.000054	0.000010	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.000055	MB	0.000054	0.000010	ug/L	1		1613B	Total/NA
OCDD	0.022	MB	0.00011	0.0000096	ug/L	1		1613B	Total/NA
OCDF	0.0023	MB	0.00011	0.0000011	ug/L	1		1613B	Total/NA
Total TCDD	0.0000045	J,DX q	0.000011	0.00000040	ug/L	1		1613B	Total/NA
Total TCDF	0.000022	MB q	0.000011	0.00000028	ug/L	1		1613B	Total/NA
Total PeCDD	0.000033	J,DX MB q	0.000054	0.00000062	ug/L	1		1613B	Total/NA
Total PeCDF	0.00011	MB	0.000054	0.0000010	ug/L	1		1613B	Total/NA
Total HxCDD	0.00037	MB	0.000054	0.0000010	ug/L	1		1613B	Total/NA
Total HxCDF	0.0010	MB	0.000054	0.0000016	ug/L	1		1613B	Total/NA
Total HpCDD	0.0036	MB	0.000054	0.0000099	ug/L	1		1613B	Total/NA
Total HpCDF	0.0027	MB	0.000054	0.000010	ug/L	1		1613B	Total/NA

Client Sample ID: EPSW002IE02_20211214 — Lab Sample ID: 570-78810-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,4,7,8-PeCDF	0.00000083	J,DX MB	0.000053	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000032	J,DX MB	0.000053	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000038	J,DX MB	0.000053	0.00000030	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000032	J,DX MB	0.000053	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000013	J,DX MB q	0.000053	0.00000032	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000016	J,DX MB	0.000053	0.00000032	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000084	J,DX MB	0.000053	0.00000023	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000014	J,DX MB	0.000053	0.00000024	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00011	MB	0.000053	0.00000077	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000026	J,DX MB	0.000053	0.00000051	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000020	J,DX MB	0.000053	0.00000056	ug/L	1		1613B	Total/NA
OCDD	0.0011	MB	0.00011	0.00000075	ug/L	1		1613B	Total/NA
OCDF	0.00010	J,DX MB	0.00011	0.00000045	ug/L	1		1613B	Total/NA
Total TCDF	0.0000062	J,DX MB q	0.000011	0.00000020	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000012	J,DX MB	0.000053	0.00000052	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000073	J,DX MB	0.000053	0.00000035	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-3

Client Sample ID: EPSW002IE02_20211214 (Continued) — Lab Sample ID: 570-78810-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	0.000023	J,DX MB q	0.000053	0.00000025	ug/L	1		1613B	Total/NA
Total HxCDF	0.000024	J,DX MB q	0.000053	0.00000023	ug/L	1		1613B	Total/NA
Total HpCDD	0.00019	MB	0.000053	0.00000077	ug/L	1		1613B	Total/NA
Total HpCDF	0.000066	J,DX MB	0.000053	0.00000051	ug/L	1		1613B	Total/NA

Client Sample ID: A1BPSW0001_20211214 — Lab Sample ID: 570-78810-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000019	J,DX MB q	0.000052	0.00000056	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000017	J,DX MB	0.000052	0.00000059	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000020	J,DX MB q	0.000052	0.00000050	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000012	J,DX MB	0.000052	0.00000047	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.00000098	J,DX MB q	0.000052	0.00000050	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000086	J,DX MB q	0.000052	0.00000033	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000032	J,DX MB	0.000052	0.00000061	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000041	J,DX MB	0.000052	0.00000050	ug/L	1		1613B	Total/NA
OCDD	0.00031	MB	0.00010	0.00000076	ug/L	1		1613B	Total/NA
OCDF	0.000012	J,DX MB	0.00010	0.00000066	ug/L	1		1613B	Total/NA
Total TCDD	0.0000022	J,DX	0.000010	0.00000092	ug/L	1		1613B	Total/NA
Total TCDF	0.0000010	J,DX MB	0.000010	0.00000039	ug/L	1		1613B	Total/NA
Total HxCDD	0.000014	J,DX MB q	0.000052	0.00000050	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000059	J,DX MB q	0.000052	0.00000033	ug/L	1		1613B	Total/NA
Total HpCDD	0.000095	J,DX MB	0.000052	0.00000061	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000099	J,DX MB	0.000052	0.00000050	ug/L	1		1613B	Total/NA

Client Sample ID: A1BPSW0002_20211214 — Lab Sample ID: 570-78810-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000013	J,DX q	0.000010	0.00000034	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.00000086	J,DX q	0.000052	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.00000089	J,DX q	0.000052	0.00000029	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.00000093	J,DX MB	0.000052	0.00000028	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000023	J,DX MB q	0.000052	0.00000028	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: A1BPSW0002_20211214 (Continued)

Lab Sample ID: 570-78810-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	0.0000022	J,DX MB	0.000052	0.00000031	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000019	J,DX MB	0.000052	0.00000026	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000020	J,DX MB	0.000052	0.00000020	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000013	J,DX MB	0.000052	0.00000021	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000016	J,DX MB	0.000052	0.00000015	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000010	J,DX MB	0.000052	0.00000016	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000039	J,DX MB	0.000052	0.00000047	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000012	J,DX MB	0.000052	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000015	J,DX MB q	0.000052	0.00000039	ug/L	1		1613B	Total/NA
OCDD	0.00030	MB	0.00010	0.00000047	ug/L	1		1613B	Total/NA
OCDF	0.000045	J,DX MB	0.00010	0.00000040	ug/L	1		1613B	Total/NA
Total TCDD	0.0000019	J,DX q	0.000010	0.00000034	ug/L	1		1613B	Total/NA
Total TCDF	0.0000027	J,DX MB q	0.000010	0.00000018	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000021	J,DX MB q	0.000052	0.00000036	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000036	J,DX MB q	0.000052	0.00000028	ug/L	1		1613B	Total/NA
Total HxCDD	0.000014	J,DX MB q	0.000052	0.00000026	ug/L	1		1613B	Total/NA
Total HxCDF	0.000013	J,DX MB q	0.000052	0.00000015	ug/L	1		1613B	Total/NA
Total HpCDD	0.000081	J,DX MB	0.000052	0.00000047	ug/L	1		1613B	Total/NA
Total HpCDF	0.000028	J,DX MB q	0.000052	0.00000035	ug/L	1		1613B	Total/NA

Client Sample ID: A1BPSW0003_20211214

Lab Sample ID: 570-78810-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.00000089	J,DX	0.000052	0.00000042	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000020	J,DX MB q	0.000052	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000018	J,DX MB	0.000052	0.00000027	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000015	J,DX MB	0.000052	0.00000023	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000012	J,DX MB	0.000052	0.00000022	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.00000081	J,DX MB	0.000052	0.00000023	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000094	J,DX MB	0.000052	0.00000017	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000065	J,DX MB q	0.000052	0.00000018	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: A1BPSW0003_20211214 (Continued)

Lab Sample ID: 570-78810-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	0.000035	J,DX MB	0.000052	0.00000038	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000073	J,DX MB	0.000052	0.00000032	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000011	J,DX MB	0.000052	0.00000034	ug/L	1		1613B	Total/NA
OCDD	0.00026	MB	0.00010	0.00000049	ug/L	1		1613B	Total/NA
OCDF	0.000016	J,DX MB	0.00010	0.00000032	ug/L	1		1613B	Total/NA
Total TCDF	0.0000037	J,DX MB q	0.000010	0.00000019	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000020	J,DX MB	0.000052	0.00000042	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000016	J,DX MB	0.000052	0.00000030	ug/L	1		1613B	Total/NA
Total HxCDD	0.000012	J,DX MB q	0.000052	0.00000023	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000086	J,DX MB q	0.000052	0.00000017	ug/L	1		1613B	Total/NA
Total HpCDD	0.000071	J,DX MB	0.000052	0.00000038	ug/L	1		1613B	Total/NA
Total HpCDF	0.000016	J,DX MB	0.000052	0.00000032	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000019	J,DX q	0.000011	0.00000045	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,7,8-PeCDD	0.00000083	J,DX q	0.000053	0.00000044	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,7,8-PeCDF	ND		0.000053	0.00000032	ug/L		12/22/21 10:04	12/29/21 19:58	1
2,3,4,7,8-PeCDF	ND		0.000053	0.00000032	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,4,7,8-HxCDD	0.0000026	J,DX MB	0.000053	0.00000028	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,6,7,8-HxCDD	0.0000024	J,DX MB	0.000053	0.00000029	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,7,8,9-HxCDD	0.0000015	J,DX MB q	0.000053	0.00000025	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,4,7,8-HxCDF	0.00000037	J,DX MB q	0.000053	0.00000028	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,6,7,8-HxCDF	0.00000081	J,DX MB	0.000053	0.00000028	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,7,8,9-HxCDF	0.00000061	J,DX MB q	0.000053	0.00000021	ug/L		12/22/21 10:04	12/29/21 19:58	1
2,3,4,6,7,8-HxCDF	0.00000060	J,DX MB	0.000053	0.00000022	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,4,6,7,8-HpCDD	0.000050	J,DX MB	0.000053	0.00000046	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,4,6,7,8-HpCDF	0.0000078	J,DX MB	0.000053	0.00000029	ug/L		12/22/21 10:04	12/29/21 19:58	1
1,2,3,4,7,8,9-HpCDF	0.0000010	J,DX MB q	0.000053	0.00000030	ug/L		12/22/21 10:04	12/29/21 19:58	1
OCDD	0.00041	MB	0.00011	0.00000041	ug/L		12/22/21 10:04	12/29/21 19:58	1
OCDF	0.000017	J,DX MB	0.00011	0.00000035	ug/L		12/22/21 10:04	12/29/21 19:58	1
Total TCDD	0.0000019	J,DX q	0.000011	0.00000045	ug/L		12/22/21 10:04	12/29/21 19:58	1
Total TCDF	0.0000011	J,DX MB q	0.000011	0.00000019	ug/L		12/22/21 10:04	12/29/21 19:58	1
Total PeCDD	0.00000083	J,DX MB q	0.000053	0.00000044	ug/L		12/22/21 10:04	12/29/21 19:58	1
Total PeCDF	0.00000085	J,DX MB q	0.000053	0.00000032	ug/L		12/22/21 10:04	12/29/21 19:58	1
Total HxCDD	0.000013	J,DX MB q	0.000053	0.00000025	ug/L		12/22/21 10:04	12/29/21 19:58	1
Total HxCDF	0.0000094	J,DX MB q	0.000053	0.00000021	ug/L		12/22/21 10:04	12/29/21 19:58	1
Total HpCDD	0.000092	J,DX MB	0.000053	0.00000046	ug/L		12/22/21 10:04	12/29/21 19:58	1
Total HpCDF	0.000024	J,DX MB q	0.000053	0.00000029	ug/L		12/22/21 10:04	12/29/21 19:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*25 - 164*	*12/22/21 10:04*	*12/29/21 19:58*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*12/22/21 10:04*	*12/29/21 19:58*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*25 - 181*	*12/22/21 10:04*	*12/29/21 19:58*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*24 - 185*	*12/22/21 10:04*	*12/29/21 19:58*	*1*
13C-2,3,4,7,8-PeCDF	*82*		*21 - 178*	*12/22/21 10:04*	*12/29/21 19:58*	*1*
13C-1,2,3,4,7,8-HxCDD	*92*		*32 - 141*	*12/22/21 10:04*	*12/29/21 19:58*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	86		28 - 130	12/22/21 10:04	12/29/21 19:58	1
13C-1,2,3,4,7,8-HxCDF	91		26 - 152	12/22/21 10:04	12/29/21 19:58	1
13C-1,2,3,6,7,8-HxCDF	81		26 - 123	12/22/21 10:04	12/29/21 19:58	1
13C-1,2,3,7,8,9-HxCDF	81		29 - 147	12/22/21 10:04	12/29/21 19:58	1
13C-2,3,4,6,7,8-HxCDF	83		28 - 136	12/22/21 10:04	12/29/21 19:58	1
13C-1,2,3,4,6,7,8-HpCDD	92		23 - 140	12/22/21 10:04	12/29/21 19:58	1
13C-1,2,3,4,6,7,8-HpCDF	85		28 - 143	12/22/21 10:04	12/29/21 19:58	1
13C-1,2,3,4,7,8,9-HpCDF	104		26 - 138	12/22/21 10:04	12/29/21 19:58	1
13C-OCDD	89		17 - 157	12/22/21 10:04	12/29/21 19:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	94		35 - 197	12/22/21 10:04	12/29/21 19:58	1

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000018	J,DX q	0.000011	0.00000040	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,7,8-PeCDD	0.0000071	J,DX	0.000054	0.00000062	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,7,8-PeCDF	0.0000039	J,DX	0.000054	0.0000010	ug/L		12/22/21 10:04	12/29/21 20:43	1
2,3,4,7,8-PeCDF	0.0000042	J,DX MB	0.000054	0.0000010	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,4,7,8-HxCDD	0.000020	J,DX MB	0.000054	0.0000012	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,6,7,8-HxCDD	0.000064	MB	0.000054	0.0000012	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,7,8,9-HxCDD	0.000039	J,DX MB	0.000054	0.0000010	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,4,7,8-HxCDF	0.000046	J,DX MB	0.000054	0.0000023	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,6,7,8-HxCDF	0.000066	MB	0.000054	0.0000023	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,7,8,9-HxCDF	0.0000017	J,DX MB	0.000054	0.0000016	ug/L		12/22/21 10:04	12/29/21 20:43	1
2,3,4,6,7,8-HxCDF	0.000045	J,DX MB	0.000054	0.0000018	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,4,6,7,8-HpCDD	0.0021	MB	0.000054	0.0000099	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,4,6,7,8-HpCDF	0.0015	MB	0.000054	0.000010	ug/L		12/22/21 10:04	12/29/21 20:43	1
1,2,3,4,7,8,9-HpCDF	0.000055	MB	0.000054	0.000010	ug/L		12/22/21 10:04	12/29/21 20:43	1
OCDD	0.022	MB	0.00011	0.0000096	ug/L		12/22/21 10:04	12/29/21 20:43	1
OCDF	0.0023	MB	0.00011	0.0000011	ug/L		12/22/21 10:04	12/29/21 20:43	1
Total TCDD	0.0000045	J,DX q	0.000011	0.00000040	ug/L		12/22/21 10:04	12/29/21 20:43	1
Total TCDF	0.000022	MB q	0.000011	0.00000028	ug/L		12/22/21 10:04	12/29/21 20:43	1
Total PeCDD	0.000033	J,DX MB q	0.000054	0.00000062	ug/L		12/22/21 10:04	12/29/21 20:43	1
Total PeCDF	0.00011	MB	0.000054	0.0000010	ug/L		12/22/21 10:04	12/29/21 20:43	1
Total HxCDD	0.00037	MB	0.000054	0.0000010	ug/L		12/22/21 10:04	12/29/21 20:43	1
Total HxCDF	0.0010	MB	0.000054	0.0000016	ug/L		12/22/21 10:04	12/29/21 20:43	1
Total HpCDD	0.0036	MB	0.000054	0.0000099	ug/L		12/22/21 10:04	12/29/21 20:43	1
Total HpCDF	0.0027	MB	0.000054	0.000010	ug/L		12/22/21 10:04	12/29/21 20:43	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	77		25 - 164	12/22/21 10:04	12/29/21 20:43	1
13C-2,3,7,8-TCDF	79		24 - 169	12/22/21 10:04	12/29/21 20:43	1
13C-1,2,3,7,8-PeCDD	73		25 - 181	12/22/21 10:04	12/29/21 20:43	1
13C-1,2,3,7,8-PeCDF	75		24 - 185	12/22/21 10:04	12/29/21 20:43	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*82*		*21 - 178*	*12/22/21 10:04*	*12/29/21 20:43*	*1*
13C-1,2,3,4,7,8-HxCDD	*88*		*32 - 141*	*12/22/21 10:04*	*12/29/21 20:43*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*28 - 130*	*12/22/21 10:04*	*12/29/21 20:43*	*1*
13C-1,2,3,4,7,8-HxCDF	*85*		*26 - 152*	*12/22/21 10:04*	*12/29/21 20:43*	*1*
13C-1,2,3,6,7,8-HxCDF	*77*		*26 - 123*	*12/22/21 10:04*	*12/29/21 20:43*	*1*
13C-1,2,3,7,8,9-HxCDF	*78*		*29 - 147*	*12/22/21 10:04*	*12/29/21 20:43*	*1*
13C-2,3,4,6,7,8-HxCDF	*78*		*28 - 136*	*12/22/21 10:04*	*12/29/21 20:43*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*88*		*23 - 140*	*12/22/21 10:04*	*12/29/21 20:43*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*12/22/21 10:04*	*12/29/21 20:43*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*103*		*26 - 138*	*12/22/21 10:04*	*12/29/21 20:43*	*1*
13C-OCDD	*94*		*17 - 157*	*12/22/21 10:04*	*12/29/21 20:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*94*		*35 - 197*	*12/22/21 10:04*	*12/29/21 20:43*	*1*

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.00000043	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,7,8-PeCDD	ND		0.000053	0.00000052	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,7,8-PeCDF	ND		0.000053	0.00000036	ug/L		12/22/21 10:04	12/29/21 21:28	1
2,3,4,7,8-PeCDF	**0.00000083**	**J,DX MB**	0.000053	0.00000035	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,4,7,8-HxCDD	**0.0000032**	**J,DX MB**	0.000053	0.00000029	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,6,7,8-HxCDD	**0.0000038**	**J,DX MB**	0.000053	0.00000030	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,7,8,9-HxCDD	**0.0000032**	**J,DX MB**	0.000053	0.00000025	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,4,7,8-HxCDF	**0.0000013**	**J,DX MB q**	0.000053	0.00000032	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,6,7,8-HxCDF	**0.0000016**	**J,DX MB**	0.000053	0.00000032	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,7,8,9-HxCDF	**0.00000084**	**J,DX MB**	0.000053	0.00000023	ug/L		12/22/21 10:04	12/29/21 21:28	1
2,3,4,6,7,8-HxCDF	**0.0000014**	**J,DX MB**	0.000053	0.00000024	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,4,6,7,8-HpCDD	**0.00011**	**MB**	0.000053	0.00000077	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,4,6,7,8-HpCDF	**0.000026**	**J,DX MB**	0.000053	0.00000051	ug/L		12/22/21 10:04	12/29/21 21:28	1
1,2,3,4,7,8,9-HpCDF	**0.0000020**	**J,DX MB**	0.000053	0.00000056	ug/L		12/22/21 10:04	12/29/21 21:28	1
OCDD	**0.0011**	**MB**	0.00011	0.00000075	ug/L		12/22/21 10:04	12/29/21 21:28	1
OCDF	**0.00010**	**J,DX MB**	0.00011	0.00000045	ug/L		12/22/21 10:04	12/29/21 21:28	1
Total TCDD	ND		0.000011	0.00000043	ug/L		12/22/21 10:04	12/29/21 21:28	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	**0.0000062**	**J,DX MB q**	0.000011	0.00000020	ug/L		12/22/21 10:04	12/29/21 21:28	1
Total PeCDD	**0.0000012**	**J,DX MB**	0.000053	0.00000052	ug/L		12/22/21 10:04	12/29/21 21:28	1
Total PeCDF	**0.0000073**	**J,DX MB**	0.000053	0.00000035	ug/L		12/22/21 10:04	12/29/21 21:28	1
Total HxCDD	**0.000023**	**J,DX MB q**	0.000053	0.00000025	ug/L		12/22/21 10:04	12/29/21 21:28	1
Total HxCDF	**0.000024**	**J,DX MB q**	0.000053	0.00000023	ug/L		12/22/21 10:04	12/29/21 21:28	1
Total HpCDD	**0.00019**	**MB**	0.000053	0.00000077	ug/L		12/22/21 10:04	12/29/21 21:28	1
Total HpCDF	**0.000066**	**J,DX MB**	0.000053	0.00000051	ug/L		12/22/21 10:04	12/29/21 21:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*67*		*25 - 164*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-2,3,7,8-TCDF	*71*		*24 - 169*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*25 - 181*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*24 - 185*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-2,3,4,7,8-PeCDF	*73*		*21 - 178*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*32 - 141*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*28 - 130*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-1,2,3,4,7,8-HxCDF	*77*		*26 - 152*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-1,2,3,6,7,8-HxCDF	*70*		*26 - 123*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-1,2,3,7,8,9-HxCDF	*69*		*29 - 147*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-2,3,4,6,7,8-HxCDF	*71*		*28 - 136*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*77*		*23 - 140*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*72*		*28 - 143*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*89*		*26 - 138*	*12/22/21 10:04*	*12/29/21 21:28*	*1*
13C-OCDD	*72*		*17 - 157*	*12/22/21 10:04*	*12/29/21 21:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*95*		*35 - 197*	*12/22/21 10:04*	*12/29/21 21:28*	*1*

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000092	ug/L		12/22/21 10:04	12/29/21 22:13	1
1,2,3,7,8-PeCDD	ND		0.000052	0.00000092	ug/L		12/22/21 10:04	12/29/21 22:13	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000068	ug/L		12/22/21 10:04	12/29/21 22:13	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000068	ug/L		12/22/21 10:04	12/29/21 22:13	1
1,2,3,4,7,8-HxCDD	**0.0000019**	**J,DX MB q**	0.000052	0.00000056	ug/L		12/22/21 10:04	12/29/21 22:13	1
1,2,3,6,7,8-HxCDD	**0.0000017**	**J,DX MB**	0.000052	0.00000059	ug/L		12/22/21 10:04	12/29/21 22:13	1
1,2,3,7,8,9-HxCDD	**0.0000020**	**J,DX MB q**	0.000052	0.00000050	ug/L		12/22/21 10:04	12/29/21 22:13	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDF	**0.0000012**	**J,DX MB**	0.000052	0.00000047	ug/L		12/22/21 10:04	12/29/21 22:13	1
1,2,3,6,7,8-HxCDF	**0.00000098**	**J,DX MB q**	0.000052	0.00000050	ug/L		12/22/21 10:04	12/29/21 22:13	1
1,2,3,7,8,9-HxCDF	**0.00000086**	**J,DX MB q**	0.000052	0.00000033	ug/L		12/22/21 10:04	12/29/21 22:13	1
2,3,4,6,7,8-HxCDF	ND		0.000052	0.00000037	ug/L		12/22/21 10:04	12/29/21 22:13	1
1,2,3,4,6,7,8-HpCDD	**0.000032**	**J,DX MB**	0.000052	0.00000061	ug/L		12/22/21 10:04	12/29/21 22:13	1
1,2,3,4,6,7,8-HpCDF	**0.0000041**	**J,DX MB**	0.000052	0.00000050	ug/L		12/22/21 10:04	12/29/21 22:13	1
1,2,3,4,7,8,9-HpCDF	ND		0.000052	0.00000054	ug/L		12/22/21 10:04	12/29/21 22:13	1
OCDD	**0.00031**	**MB**	0.00010	0.00000076	ug/L		12/22/21 10:04	12/29/21 22:13	1
OCDF	**0.000012**	**J,DX MB**	0.00010	0.00000066	ug/L		12/22/21 10:04	12/29/21 22:13	1
Total TCDD	**0.0000022**	**J,DX**	0.000010	0.00000092	ug/L		12/22/21 10:04	12/29/21 22:13	1
Total TCDF	**0.0000010**	**J,DX MB**	0.000010	0.00000039	ug/L		12/22/21 10:04	12/29/21 22:13	1
Total PeCDD	ND		0.000052	0.00000092	ug/L		12/22/21 10:04	12/29/21 22:13	1
Total PeCDF	ND		0.000052	0.00000068	ug/L		12/22/21 10:04	12/29/21 22:13	1
Total HxCDD	**0.000014**	**J,DX MB q**	0.000052	0.00000050	ug/L		12/22/21 10:04	12/29/21 22:13	1
Total HxCDF	**0.0000059**	**J,DX MB q**	0.000052	0.00000033	ug/L		12/22/21 10:04	12/29/21 22:13	1
Total HpCDD	**0.000095**	**J,DX MB**	0.000052	0.00000061	ug/L		12/22/21 10:04	12/29/21 22:13	1
Total HpCDF	**0.0000099**	**J,DX MB**	0.000052	0.00000050	ug/L		12/22/21 10:04	12/29/21 22:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-2,3,7,8-TCDF	*82*		*24 - 169*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*25 - 181*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*24 - 185*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*21 - 178*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-1,2,3,4,7,8-HxCDD	*84*		*32 - 141*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*28 - 130*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-1,2,3,4,7,8-HxCDF	*82*		*26 - 152*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*26 - 123*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-1,2,3,7,8,9-HxCDF	*80*		*29 - 147*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-2,3,4,6,7,8-HxCDF	*77*		*28 - 136*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*91*		*23 - 140*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*28 - 143*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*110*		*26 - 138*	*12/22/21 10:04*	*12/29/21 22:13*	*1*
13C-OCDD	*91*		*17 - 157*	*12/22/21 10:04*	*12/29/21 22:13*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*94*		*35 - 197*	*12/22/21 10:04*	*12/29/21 22:13*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000013	J,DX q	0.000010	0.00000034	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,7,8-PeCDD	0.00000086	J,DX q	0.000052	0.00000036	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,7,8-PeCDF	0.00000089	J,DX q	0.000052	0.00000029	ug/L		12/22/21 10:04	12/29/21 22:58	1
2,3,4,7,8-PeCDF	0.00000093	J,DX MB	0.000052	0.00000028	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,4,7,8-HxCDD	0.0000023	J,DX MB q	0.000052	0.00000028	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,6,7,8-HxCDD	0.0000022	J,DX MB	0.000052	0.00000031	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,7,8,9-HxCDD	0.0000019	J,DX MB	0.000052	0.00000026	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,4,7,8-HxCDF	0.0000020	J,DX MB	0.000052	0.00000020	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,6,7,8-HxCDF	0.0000013	J,DX MB	0.000052	0.00000021	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,7,8,9-HxCDF	0.0000016	J,DX MB	0.000052	0.00000015	ug/L		12/22/21 10:04	12/29/21 22:58	1
2,3,4,6,7,8-HxCDF	0.0000010	J,DX MB	0.000052	0.00000016	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,4,6,7,8-HpCDD	0.000039	J,DX MB	0.000052	0.00000047	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,4,6,7,8-HpCDF	0.000012	J,DX MB	0.000052	0.00000035	ug/L		12/22/21 10:04	12/29/21 22:58	1
1,2,3,4,7,8,9-HpCDF	0.0000015	J,DX MB q	0.000052	0.00000039	ug/L		12/22/21 10:04	12/29/21 22:58	1
OCDD	0.00030	MB	0.00010	0.00000047	ug/L		12/22/21 10:04	12/29/21 22:58	1
OCDF	0.000045	J,DX MB	0.00010	0.00000040	ug/L		12/22/21 10:04	12/29/21 22:58	1
Total TCDD	0.0000019	J,DX q	0.000010	0.00000034	ug/L		12/22/21 10:04	12/29/21 22:58	1
Total TCDF	0.0000027	J,DX MB q	0.000010	0.00000018	ug/L		12/22/21 10:04	12/29/21 22:58	1
Total PeCDD	0.0000021	J,DX MB q	0.000052	0.00000036	ug/L		12/22/21 10:04	12/29/21 22:58	1
Total PeCDF	0.0000036	J,DX MB q	0.000052	0.00000028	ug/L		12/22/21 10:04	12/29/21 22:58	1
Total HxCDD	0.000014	J,DX MB q	0.000052	0.00000026	ug/L		12/22/21 10:04	12/29/21 22:58	1
Total HxCDF	0.000013	J,DX MB q	0.000052	0.00000015	ug/L		12/22/21 10:04	12/29/21 22:58	1
Total HpCDD	0.000081	J,DX MB	0.000052	0.00000047	ug/L		12/22/21 10:04	12/29/21 22:58	1
Total HpCDF	0.000028	J,DX MB q	0.000052	0.00000035	ug/L		12/22/21 10:04	12/29/21 22:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*25 - 164*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-2,3,7,8-TCDF	*77*		*24 - 169*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-1,2,3,7,8-PeCDD	*67*		*25 - 181*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*24 - 185*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*21 - 178*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-1,2,3,4,7,8-HxCDD	*86*		*32 - 141*	*12/22/21 10:04*	*12/29/21 22:58*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,6,7,8-HxCDD	*76*		*28 - 130*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*26 - 152*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*26 - 123*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-1,2,3,7,8,9-HxCDF	*74*		*29 - 147*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-2,3,4,6,7,8-HxCDF	*75*		*28 - 136*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*23 - 140*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*28 - 143*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*94*		*26 - 138*	*12/22/21 10:04*	*12/29/21 22:58*	*1*
13C-OCDD	*78*		*17 - 157*	*12/22/21 10:04*	*12/29/21 22:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*	*12/22/21 10:04*	*12/29/21 22:58*	*1*

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000037	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,7,8-PeCDD	**0.00000089**	**J,DX**	0.000052	0.00000042	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000031	ug/L		12/22/21 10:04	12/29/21 23:43	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000030	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,4,7,8-HxCDD	**0.0000020**	**J,DX MB q**	0.000052	0.00000025	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,6,7,8-HxCDD	**0.0000018**	**J,DX MB**	0.000052	0.00000027	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,7,8,9-HxCDD	**0.0000015**	**J,DX MB**	0.000052	0.00000023	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,4,7,8-HxCDF	**0.0000012**	**J,DX MB**	0.000052	0.00000022	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,6,7,8-HxCDF	**0.00000081**	**J,DX MB**	0.000052	0.00000023	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,7,8,9-HxCDF	**0.00000094**	**J,DX MB**	0.000052	0.00000017	ug/L		12/22/21 10:04	12/29/21 23:43	1
2,3,4,6,7,8-HxCDF	**0.00000065**	**J,DX MB q**	0.000052	0.00000018	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,4,6,7,8-HpCDD	**0.000035**	**J,DX MB**	0.000052	0.00000038	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,4,6,7,8-HpCDF	**0.0000073**	**J,DX MB**	0.000052	0.00000032	ug/L		12/22/21 10:04	12/29/21 23:43	1
1,2,3,4,7,8,9-HpCDF	**0.0000011**	**J,DX MB**	0.000052	0.00000034	ug/L		12/22/21 10:04	12/29/21 23:43	1
OCDD	**0.00026**	**MB**	0.00010	0.00000049	ug/L		12/22/21 10:04	12/29/21 23:43	1
OCDF	**0.000016**	**J,DX MB**	0.00010	0.00000032	ug/L		12/22/21 10:04	12/29/21 23:43	1
Total TCDD	ND		0.000010	0.00000037	ug/L		12/22/21 10:04	12/29/21 23:43	1
Total TCDF	**0.0000037**	**J,DX MB q**	0.000010	0.00000019	ug/L		12/22/21 10:04	12/29/21 23:43	1
Total PeCDD	**0.0000020**	**J,DX MB**	0.000052	0.00000042	ug/L		12/22/21 10:04	12/29/21 23:43	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDF	0.0000016	J,DX MB	0.000052	0.00000030	ug/L		12/22/21 10:04	12/29/21 23:43	1
Total HxCDD	0.000012	J,DX MB q	0.000052	0.00000023	ug/L		12/22/21 10:04	12/29/21 23:43	1
Total HxCDF	0.0000086	J,DX MB q	0.000052	0.00000017	ug/L		12/22/21 10:04	12/29/21 23:43	1
Total HpCDD	0.000071	J,DX MB	0.000052	0.00000038	ug/L		12/22/21 10:04	12/29/21 23:43	1
Total HpCDF	0.000016	J,DX MB	0.000052	0.00000032	ug/L		12/22/21 10:04	12/29/21 23:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-2,3,7,8-TCDF	*78*		*24 - 169*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*24 - 185*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-2,3,4,7,8-PeCDF	*82*		*21 - 178*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-1,2,3,4,7,8-HxCDD	*85*		*32 - 141*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*28 - 130*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-1,2,3,4,7,8-HxCDF	*82*		*26 - 152*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*26 - 123*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*29 - 147*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-2,3,4,6,7,8-HxCDF	*73*		*28 - 136*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*84*		*23 - 140*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*99*		*26 - 138*	*12/22/21 10:04*	*12/29/21 23:43*	*1*
13C-OCDD	*85*		*17 - 157*	*12/22/21 10:04*	*12/29/21 23:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*	*12/22/21 10:04*	*12/29/21 23:43*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: EPSW001IE01_20211214
Date Collected: 12/14/21 09:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000011	0.0000021	ug/L		12/22/21 10:04	01/03/22 15:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*88*		*24 - 169*	*12/22/21 10:04*	*01/03/22 15:03*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*88*		*35 - 197*	*12/22/21 10:04*	*01/03/22 15:03*	*1*

Client Sample ID: EPSW002IE01_20211214
Date Collected: 12/14/21 11:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000011	0.0000024	ug/L		12/22/21 10:04	01/03/22 15:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*85*		*24 - 169*	*12/22/21 10:04*	*01/03/22 15:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*88*		*35 - 197*	*12/22/21 10:04*	*01/03/22 15:41*	*1*

Client Sample ID: EPSW002IE02_20211214
Date Collected: 12/14/21 11:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000011	0.0000024	ug/L		12/22/21 10:04	01/03/22 16:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*75*		*24 - 169*	*12/22/21 10:04*	*01/03/22 16:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*95*		*35 - 197*	*12/22/21 10:04*	*01/03/22 16:20*	*1*

Client Sample ID: A1BPSW0001_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-4
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000023	ug/L		12/22/21 10:04	01/03/22 16:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*87*		*24 - 169*	*12/22/21 10:04*	*01/03/22 16:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*12/22/21 10:04*	*01/03/22 16:58*	*1*

Client Sample ID: A1BPSW0002_20211214
Date Collected: 12/14/21 08:05
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-5
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000023	ug/L		12/22/21 10:04	01/03/22 17:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*78*		*24 - 169*	*12/22/21 10:04*	*01/03/22 17:36*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*12/22/21 10:04*	*01/03/22 17:36*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: A1BPSW0003_20211214
Date Collected: 12/14/21 08:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78810-6
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000017	ug/L		12/22/21 10:04	01/03/22 18:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*83*		*24 - 169*	*12/22/21 10:04*	*01/03/22 18:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*86*		*35 - 197*	*12/22/21 10:04*	*01/03/22 18:15*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-3

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	37TCDD (35-197)						
570-78810-1	EPSW001IE01_20211214	94						
570-78810-1 - RA	EPSW001IE01_20211214	88						
570-78810-2	EPSW002IE01_20211214	94						
570-78810-2 - RA	EPSW002IE01_20211214	88						
570-78810-3	EPSW002IE02_20211214	95						
570-78810-3 - RA	EPSW002IE02_20211214	95						
570-78810-4	A1BPSW0001_20211214	94						
570-78810-4 - RA	A1BPSW0001_20211214	91						
570-78810-5	A1BPSW0002_20211214	92						
570-78810-5 - RA	A1BPSW0002_20211214	89						
570-78810-6	A1BPSW0003_20211214	92						
570-78810-6 - RA	A1BPSW0003_20211214	86						
MB 320-553086/1-A	Method Blank	94						
MB 320-553086/1-A - RA	Method Blank	88						

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	37TCDD (31-191)						
LCS 320-553086/2-A	Lab Control Sample	95						
LCSD 320-553086/3-A	Lab Control Sample Dup	91						

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-3

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-78810-1	EPSW001IE01_20211214	78	80	71	74	82	92	86	91
570-78810-1 - RA	EPSW001IE01_20211214		88						
570-78810-2	EPSW002IE01_20211214	77	79	73	75	82	88	81	85
570-78810-2 - RA	EPSW002IE01_20211214		85						
570-78810-3	EPSW002IE02_20211214	67	71	65	66	73	78	74	77
570-78810-3 - RA	EPSW002IE02_20211214		75						
570-78810-4	A1BPSW0001_20211214	77	82	75	76	86	84	78	82
570-78810-4 - RA	A1BPSW0001_20211214		87						
570-78810-5	A1BPSW0002_20211214	74	77	67	71	78	86	76	83
570-78810-5 - RA	A1BPSW0002_20211214		78						
570-78810-6	A1BPSW0003_20211214	77	78	73	74	82	85	76	82
570-78810-6 - RA	A1BPSW0003_20211214		83						
MB 320-553086/1-A	Method Blank	76	78	71	76	81	89	81	88
MB 320-553086/1-A - RA	Method Blank		83						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-78810-1	EPSW001IE01_20211214	81	81	83	92	85	104	89
570-78810-1 - RA	EPSW001IE01_20211214							
570-78810-2	EPSW002IE01_20211214	77	78	78	88	80	103	94
570-78810-2 - RA	EPSW002IE01_20211214							
570-78810-3	EPSW002IE02_20211214	70	69	71	77	72	89	72
570-78810-3 - RA	EPSW002IE02_20211214							
570-78810-4	A1BPSW0001_20211214	73	80	77	91	86	110	91
570-78810-4 - RA	A1BPSW0001_20211214							
570-78810-5	A1BPSW0002_20211214	73	74	75	82	77	94	78
570-78810-5 - RA	A1BPSW0002_20211214							
570-78810-6	A1BPSW0003_20211214	73	75	73	84	80	99	85
570-78810-6 - RA	A1BPSW0003_20211214							
MB 320-553086/1-A	Method Blank	80	78	80	86	82	99	80
MB 320-553086/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc. Job ID: 570-78810-3
Project/Site: Boeing SSFL ISRA and BMP

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-553086/2-A	Lab Control Sample	74	77	73	76	82	86	81	88
LCSD 320-553086/3-A	Lab Control Sample Dup	71	74	68	70	77	84	79	86

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	
LCS 320-553086/2-A	Lab Control Sample	80	80	81	87	82	101	85	
LCSD 320-553086/3-A	Lab Control Sample Dup	78	77	77	83	78	97	78	

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-553086/1-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553086

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000054	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000040	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000025	ug/L		12/22/21 10:04	12/29/21 16:58	1
2,3,4,7,8-PeCDF	0.000000528	J,DX q	0.000050	0.00000025	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,4,7,8-HxCDD	0.00000172	J,DX	0.000050	0.00000029	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,6,7,8-HxCDD	0.000000520	J,DX	0.000050	0.00000030	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,7,8,9-HxCDD	0.00000124	J,DX	0.000050	0.00000026	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,4,7,8-HxCDF	0.000000802	J,DX	0.000050	0.00000022	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,6,7,8-HxCDF	0.000000649	J,DX	0.000050	0.00000023	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,7,8,9-HxCDF	0.000000919	J,DX q	0.000050	0.00000017	ug/L		12/22/21 10:04	12/29/21 16:58	1
2,3,4,6,7,8-HxCDF	0.000000533	J,DX	0.000050	0.00000018	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,4,6,7,8-HpCDD	0.00000382	J,DX	0.000050	0.00000018	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,4,6,7,8-HpCDF	0.00000295	J,DX q	0.000050	0.00000021	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,4,7,8,9-HpCDF	0.00000189	J,DX	0.000050	0.00000023	ug/L		12/22/21 10:04	12/29/21 16:58	1
OCDD	0.0000101	J,DX	0.00010	0.00000024	ug/L		12/22/21 10:04	12/29/21 16:58	1
OCDF	0.00000301	J,DX	0.00010	0.00000032	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total TCDD	ND		0.000010	0.00000054	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total TCDF	0.00000127	J,DX q	0.000010	0.00000021	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total PeCDD	0.000000437	J,DX q	0.000050	0.00000040	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total PeCDF	0.000000528	J,DX q	0.000050	0.00000025	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total HxCDD	0.00000349	J,DX	0.000050	0.00000026	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total HxCDF	0.00000424	J,DX q	0.000050	0.00000017	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total HpCDD	0.00000799	J,DX	0.000050	0.00000018	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total HpCDF	0.00000484	J,DX q	0.000050	0.00000021	ug/L		12/22/21 10:04	12/29/21 16:58	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*76*		*25 - 164*	*12/22/21 10:04*	*12/29/21 16:58*	*1*
13C-2,3,7,8-TCDF	*78*		*24 - 169*	*12/22/21 10:04*	*12/29/21 16:58*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*25 - 181*	*12/22/21 10:04*	*12/29/21 16:58*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*24 - 185*	*12/22/21 10:04*	*12/29/21 16:58*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-553086/1-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553086

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	81		21 - 178	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,4,7,8-HxCDD	89		32 - 141	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,6,7,8-HxCDD	81		28 - 130	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,4,7,8-HxCDF	88		26 - 152	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,6,7,8-HxCDF	80		26 - 123	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,7,8,9-HxCDF	78		29 - 147	12/22/21 10:04	12/29/21 16:58	1
13C-2,3,4,6,7,8-HxCDF	80		28 - 136	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,4,6,7,8-HpCDD	86		23 - 140	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,4,6,7,8-HpCDF	82		28 - 143	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,4,7,8,9-HpCDF	99		26 - 138	12/22/21 10:04	12/29/21 16:58	1
13C-OCDD	80		17 - 157	12/22/21 10:04	12/29/21 16:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	94		35 - 197	12/22/21 10:04	12/29/21 16:58	1

Lab Sample ID: LCS 320-553086/2-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 553086

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000214		ug/L		107	67 - 158
2,3,7,8-TCDF	0.000200	0.000208		ug/L		104	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00112		ug/L		112	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00108		ug/L		108	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000964		ug/L		96	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000956		ug/L		96	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000997		ug/L		100	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000962		ug/L		96	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000948		ug/L		95	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00105		ug/L		105	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00105		ug/L		105	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00105		ug/L		105	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00102		ug/L		102	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00100		ug/L		100	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000915		ug/L		91	78 - 138
OCDD	0.00200	0.00202		ug/L		101	78 - 144
OCDF	0.00200	0.00215		ug/L		108	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	74		20 - 175
13C-2,3,7,8-TCDF	77		22 - 152
13C-1,2,3,7,8-PeCDD	73		21 - 227
13C-1,2,3,7,8-PeCDF	76		21 - 192
13C-2,3,4,7,8-PeCDF	82		13 - 328
13C-1,2,3,4,7,8-HxCDD	86		21 - 193
13C-1,2,3,6,7,8-HxCDD	81		25 - 163
13C-1,2,3,4,7,8-HxCDF	88		19 - 202
13C-1,2,3,6,7,8-HxCDF	80		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-553086/2-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 553086

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	80		17 - 205
13C-2,3,4,6,7,8-HxCDF	81		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	87		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	82		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	101		20 - 186
13C-OCDD	85		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	95		31 - 191

Lab Sample ID: LCSD 320-553086/3-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 553086

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000205		ug/L		102	67 - 158	4	50
2,3,7,8-TCDF			0.000200	0.000202		ug/L		101	75 - 158	3	50
1,2,3,7,8-PeCDD			0.00100	0.00110		ug/L		110	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00107		ug/L		107	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000956		ug/L		96	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000936		ug/L		94	70 - 164	2	50
1,2,3,6,7,8-HxCDD			0.00100	0.00100		ug/L		100	76 - 134	1	50
1,2,3,7,8,9-HxCDD			0.00100	0.000946		ug/L		95	64 - 162	2	50
1,2,3,4,7,8-HxCDF			0.00100	0.000938		ug/L		94	72 - 134	1	50
1,2,3,6,7,8-HxCDF			0.00100	0.00105		ug/L		105	84 - 130	0	50
1,2,3,7,8,9-HxCDF			0.00100	0.00104		ug/L		104	78 - 130	0	50
2,3,4,6,7,8-HxCDF			0.00100	0.00106		ug/L		106	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00102		ug/L		102	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00102		ug/L		102	82 - 122	2	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000927		ug/L		93	78 - 138	1	50
OCDD			0.00200	0.00207		ug/L		103	78 - 144	2	50
OCDF			0.00200	0.00222		ug/L		111	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	74		22 - 152
13C-1,2,3,7,8-PeCDD	68		21 - 227
13C-1,2,3,7,8-PeCDF	70		21 - 192
13C-2,3,4,7,8-PeCDF	77		13 - 328
13C-1,2,3,4,7,8-HxCDD	84		21 - 193
13C-1,2,3,6,7,8-HxCDD	79		25 - 163
13C-1,2,3,4,7,8-HxCDF	86		19 - 202
13C-1,2,3,6,7,8-HxCDF	78		21 - 159
13C-1,2,3,7,8,9-HxCDF	77		17 - 205
13C-2,3,4,6,7,8-HxCDF	77		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	83		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	78		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	97		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-553086/3-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 553086

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	78		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	91		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-553086/1-A
Matrix: Water
Analysis Batch: 555723

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553086

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000025	ug/L		12/22/21 10:04	01/03/22 14:24	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	83		24 - 169	12/22/21 10:04	01/03/22 14:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	88		35 - 197	12/22/21 10:04	01/03/22 14:24	1

Specialty Organics

Prep Batch: 553086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Total/NA	Water	1613B	
570-78810-1 - RA	EPSW001IE01_20211214	Total/NA	Water	1613B	
570-78810-2	EPSW002IE01_20211214	Total/NA	Water	1613B	
570-78810-2 - RA	EPSW002IE01_20211214	Total/NA	Water	1613B	
570-78810-3	EPSW002IE02_20211214	Total/NA	Water	1613B	
570-78810-3 - RA	EPSW002IE02_20211214	Total/NA	Water	1613B	
570-78810-4	A1BPSW0001_20211214	Total/NA	Water	1613B	
570-78810-4 - RA	A1BPSW0001_20211214	Total/NA	Water	1613B	
570-78810-5	A1BPSW0002_20211214	Total/NA	Water	1613B	
570-78810-5 - RA	A1BPSW0002_20211214	Total/NA	Water	1613B	
570-78810-6	A1BPSW0003_20211214	Total/NA	Water	1613B	
570-78810-6 - RA	A1BPSW0003_20211214	Total/NA	Water	1613B	
MB 320-553086/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-553086/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-553086/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-553086/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 554788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1	EPSW001IE01_20211214	Total/NA	Water	1613B	553086
570-78810-2	EPSW002IE01_20211214	Total/NA	Water	1613B	553086
570-78810-3	EPSW002IE02_20211214	Total/NA	Water	1613B	553086
570-78810-4	A1BPSW0001_20211214	Total/NA	Water	1613B	553086
570-78810-5	A1BPSW0002_20211214	Total/NA	Water	1613B	553086
570-78810-6	A1BPSW0003_20211214	Total/NA	Water	1613B	553086
MB 320-553086/1-A	Method Blank	Total/NA	Water	1613B	553086
LCS 320-553086/2-A	Lab Control Sample	Total/NA	Water	1613B	553086
LCSD 320-553086/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	553086

Analysis Batch: 555723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78810-1 - RA	EPSW001IE01_20211214	Total/NA	Water	1613B	553086
570-78810-2 - RA	EPSW002IE01_20211214	Total/NA	Water	1613B	553086
570-78810-3 - RA	EPSW002IE02_20211214	Total/NA	Water	1613B	553086
570-78810-4 - RA	A1BPSW0001_20211214	Total/NA	Water	1613B	553086
570-78810-5 - RA	A1BPSW0002_20211214	Total/NA	Water	1613B	553086
570-78810-6 - RA	A1BPSW0003_20211214	Total/NA	Water	1613B	553086
MB 320-553086/1-A - RA	Method Blank	Total/NA	Water	1613B	553086

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-3

Client Sample ID: EPSW001IE01_20211214
Lab Sample ID: 570-78810-1
Date Collected: 12/14/21 09:00
Matrix: Water
Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			940.4 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B		1			554788	12/29/21 19:58	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		940.4 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555723	01/03/22 15:03	GRB	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: EPSW002IE01_20211214
Lab Sample ID: 570-78810-2
Date Collected: 12/14/21 11:00
Matrix: Water
Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			927.5 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B		1			554788	12/29/21 20:43	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		927.5 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555723	01/03/22 15:41	GRB	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: EPSW002IE02_20211214
Lab Sample ID: 570-78810-3
Date Collected: 12/14/21 11:05
Matrix: Water
Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			950.6 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B		1			554788	12/29/21 21:28	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		950.6 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555723	01/03/22 16:20	GRB	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: A1BPSW0001_20211214
Lab Sample ID: 570-78810-4
Date Collected: 12/14/21 08:00
Matrix: Water
Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			961.3 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B		1			554788	12/29/21 22:13	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		961.3 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555723	01/03/22 16:58	GRB	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-3

Client Sample ID: A1BPSW0002_20211214

Lab Sample ID: 570-78810-5

Date Collected: 12/14/21 08:05

Matrix: Water

Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			968 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B		1			554788	12/29/21 22:58	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		968 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555723	01/03/22 17:36	GRB	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: A1BPSW0003_20211214

Lab Sample ID: 570-78810-6

Date Collected: 12/14/21 08:10

Matrix: Water

Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			959.7 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B		1			554788	12/29/21 23:43	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		959.7 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555723	01/03/22 18:15	GRB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78810-3
Project/Site: Boeing SSFL ISRA and BMP

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-3

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-78810-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78810-1	EPSW001IE01_20211214	Water	12/14/21 09:00	12/14/21 20:05
570-78810-2	EPSW002IE01_20211214	Water	12/14/21 11:00	12/14/21 20:05
570-78810-3	EPSW002IE02_20211214	Water	12/14/21 11:05	12/14/21 20:05
570-78810-4	A1BPSW0001_20211214	Water	12/14/21 08:00	12/14/21 20:05
570-78810-5	A1BPSW0002_20211214	Water	12/14/21 08:05	12/14/21 20:05
570-78810-6	A1BPSW0003_20211214	Water	12/14/21 08:10	12/14/21 20:05

Loc 570
78810

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Gross Alpha (Total Dissolved) (E900.0)	Gross Alpha (Total Recoverable) (E900.0)	SO4 (E300)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1: Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1 Hg (Total Recoverable)	Sample Specific Notes:
–	–	–	–	–	–			2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001IE01_20211214	12/14/21	0900	G	WM	8	Y	N	x	x	x	x	x	x	x	
EPSW002IE01_20211214	12/14/21	1100	G	WM	8	Y	N	x	x	x	x	x	x	x	
EPSW002IE02_20211214	12/14/21	1105	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0001_20211214	12/14/21	0800	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0002_20211214	12/14/21	0805	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0003_20211214	12/14/21	0810	G	WM	8	Y	N	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	4	4	1	4	4	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▪ Non-Hazard ▫ Flammable ▪ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

Relinquished by:	Company: J+P	Date/Time: 12/14/21 1345	Received by:	ECI	Date/Time: 12/14/21 1345
Relinquished by:	Company: ECI	Date/Time: 12/14/21 2005	Received by:	ECI	Date/Time: 12/14/21 2005
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

3.1/4.0 , 2.9/3.8 SCS

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

570-78810 Chain of Custody

SAP COC 2019/2020 VERSION 3

1/9/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145353 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78810-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/18/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation (MOD) Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha Only- Dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
EPSW002IE01_20211214 (570-78810-2)	12/14/21	11 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
EPSW002IE02_20211214 (570-78810-3)	12/14/21	11 05 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0001_20211214 (570-78810-4)	12/14/21	08 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0002_20211214 (570-78810-5)	12/14/21	08 05 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
A1BPSW0003_20211214 (570-78810-6)	12/14/21	08 10 Pacific		Water			X	X	2	Boeing SSFL DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time.	Method of Shipment:

Relinquished by:	Date/Time: 12/15/21 1409	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145444 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78810-3
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09 00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW002IE01_20211214 (570-78810-2)	12/14/21	11 00 Pacific		Water			X	2	See QAS Boeing_w/u to zero
EPSW002IE02_20211214 (570-78810-3)	12/14/21	11 05 Pacific		Water			X	2	See QAS Boeing_w/u to zero
A1BPSW0001_20211214 (570-78810-4)	12/14/21	08 00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0002_20211214 (570-78810-5)	12/14/21	08 05 Pacific		Water			X	2	See QAS Boeing_w/u to zero
A1BPSW0003_20211214 (570-78810-6)	12/14/21	08 10 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Patel	12/15/21 1723				
2						
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145444.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78810-3
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001IE01_20211214 (570-78810-1)	12/14/21	09:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW002IE01_20211214 (570-78810-2)	12/14/21	11:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW002IE02_20211214 (570-78810-3)	12/14/21	11:05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0001_20211214 (570-78810-4)	12/14/21	08:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0002_20211214 (570-78810-5)	12/14/21	08:05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0003_20211214 (570-78810-6)	12/14/21	08:10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/15/21 1723			12/17/21 1100	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.8

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78810-3

Login Number: 78810
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78810-3

Login Number: 78810
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/17/21 06:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78815-1
Client Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/19/2022 1:45:53 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Qualifiers

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Haley & Aldrich, Inc. Job ID: 570-78815-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78815-1

Comments
No additional comments.

Receipt
The samples were received on 12/14/2021 8:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 2.7º C, 2.9º C, 3.3º C, 3.4º C, 3.6º C and 3.9º C.

Metals
Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: A1BMP0002_20211214 (570-78815-1), A1BMP0003_20211214 (570-78815-2), B1BMP0009_20211214 (570-78815-3), B1BMP0010_20211214 (570-78815-4), B1BMP0011_20211214 (570-78815-5), ILBMP0002_20211214 (570-78815-6), ILBMP0004_20211214 (570-78815-7), ILBMP0005_20211214 (570-78815-8), ILBMP0008_20211214 (570-78815-9), ILBMP0009_20211214 (570-78815-10) and ILBMP0010_20211214 (570-78815-11). These samples were filtered and preserved upon receipt to the laboratory.

12/15/21 @ 11:10 hours by KE
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Client Sample ID: A1BMP0002_20211214 — Lab Sample ID: 570-78815-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	6.8		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	2.9		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	5.4		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	35		3.3	1.7	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	2.27		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	15.52		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	43.29		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	45.56		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	38.92		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: A1BMP0003_20211214 — Lab Sample ID: 570-78815-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	6.7		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	5.1		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.7		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	1.6		1.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	30		3.3	1.7	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	5.55		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	19.61		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	43.85		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	49.40		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	31.00		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: B1BMP0009_20211214 — Lab Sample ID: 570-78815-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.0		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	0.78	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.4		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	15		1.3	0.63	mg/L	1		SM 2540D	Total/NA
Fine Sand (0.125 to 0.25mm)	17.32		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	29.68		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	29.68		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	53.00		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: B1BMP0010_20211214 — Lab Sample ID: 570-78815-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	4.1		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	1.6		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.0		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	55		1.3	0.63	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	5.86		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	33.84		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Client Sample ID: B1BMP0010_20211214 (Continued) — Lab Sample ID: 570-78815-4

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Silt (0.00391 to 0.0625mm)	24.56		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	30.42		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	35.74		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: B1BMP0011_20211214 — Lab Sample ID: 570-78815-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.8		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	0.80	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.4		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	10		1.0	0.50	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	5.32		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	26.69		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	32.01		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	67.99		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0002_20211214 — Lab Sample ID: 570-78815-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	17		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	27		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	1.7	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	540		10	5.0	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	4.57		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	15.21		0.01	0.01	%	1		D4464	Total/NA
Medium Sand (0.25 to 0.5 mm)	0.02		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	52.76		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	57.32		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	27.45		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0004_20211214 — Lab Sample ID: 570-78815-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.57	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	9.7		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	6.1		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	1.8	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	170		5.0	2.5	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	12.12		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	4.77		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	68.19		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	80.32		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	14.91		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Client Sample ID: ILBMP0005_20211214 — Lab Sample ID: 570-78815-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	7.0		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	0.99	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	3.9		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	17		1.3	0.63	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	2.56		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	33.27		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	23.48		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	26.03		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	40.69		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0008_20211214 — Lab Sample ID: 570-78815-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	4.7		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	3.2		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.0		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	37		2.0	1.0	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	9.70		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	0.88		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	64.29		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	73.99		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	25.14		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0009_20211214 — Lab Sample ID: 570-78815-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	6.1		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	3.5		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	4.4		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	19		1.3	0.63	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	9.94		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	81.07		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	91.01		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	8.99		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0010_20211214 — Lab Sample ID: 570-78815-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	5.5		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	3.0		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.8		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	38		2.0	1.0	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	5.21		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	12.74		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	50.98		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Client Sample ID: ILBMP0010_20211214 (Continued)

Lab Sample ID: 570-78815-11

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Silt and Clay (0 to 0.0626mm)	56.19		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	31.08		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: A1BMP0002_20211214
Date Collected: 12/14/21 06:47
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 09:54	1
Copper	**6.8**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 09:54	1
Lead	**2.9**		1.0	0.50	ug/L		01/17/22 13:51	01/18/22 09:54	1

Client Sample ID: A1BMP0003_20211214
Date Collected: 12/14/21 07:10
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 10:01	1
Copper	**6.7**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:01	1
Lead	**5.1**		1.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:01	1

Client Sample ID: B1BMP0009_20211214
Date Collected: 12/14/21 07:50
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 10:12	1
Copper	**3.0**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:12	1
Lead	**0.78**	**J,DX**	1.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:12	1

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 10:15	1
Copper	**4.1**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:15	1
Lead	**1.6**		1.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:15	1

Client Sample ID: B1BMP0011_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 10:17	1
Copper	**2.8**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:17	1
Lead	**0.80**	**J,DX**	1.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:17	1

Client Sample ID: ILBMP0002_20211214
Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 10:20	1
Copper	**17**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:20	1
Lead	**27**		1.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:20	1

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.57**	**J,DX**	1.0	0.25	ug/L		01/17/22 13:51	01/18/22 10:22	1
Copper	**9.7**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:22	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**6.1**		1.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:22	1

Client Sample ID: ILBMP0005_20211214
Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 10:24	1
Copper	**7.0**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:24	1
Lead	**0.99**	**J,DX**	1.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:24	1

Client Sample ID: ILBMP0008_20211214
Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/18/22 17:13	01/19/22 11:05	1
Copper	**4.7**		2.0	0.50	ug/L		01/18/22 17:13	01/19/22 11:05	1
Lead	**3.2**		1.0	0.50	ug/L		01/18/22 17:13	01/19/22 11:05	1

Client Sample ID: ILBMP0009_20211214
Date Collected: 12/14/21 07:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/18/22 17:13	01/19/22 11:08	1
Copper	**6.1**		2.0	0.50	ug/L		01/18/22 17:13	01/19/22 11:08	1
Lead	**3.5**		1.0	0.50	ug/L		01/18/22 17:13	01/19/22 11:08	1

Client Sample ID: ILBMP0010_20211214
Date Collected: 12/14/21 07:40
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/18/22 17:13	01/19/22 11:10	1
Copper	**5.5**		2.0	0.50	ug/L		01/18/22 17:13	01/19/22 11:10	1
Lead	**3.0**		1.0	0.50	ug/L		01/18/22 17:13	01/19/22 11:10	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: A1BMP0002_20211214
Date Collected: 12/14/21 06:47
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:18	1
Copper	**5.4**		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:18	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:18	1

Client Sample ID: A1BMP0003_20211214
Date Collected: 12/14/21 07:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:20	1
Copper	**2.7**		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:20	1
Lead	**1.6**		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:20	1

Client Sample ID: B1BMP0009_20211214
Date Collected: 12/14/21 07:50
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:22	1
Copper	**2.4**		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:22	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:22	1

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:28	1
Copper	**2.0**		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:28	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:28	1

Client Sample ID: B1BMP0011_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:31	1
Copper	**2.4**		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:31	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:31	1

Client Sample ID: ILBMP0002_20211214
Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:33	1
Copper	**1.7**	**J,DX**	2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:33	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:33	1

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:12	1
Copper	**1.8**	**J,DX**	2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:12	1

Method: 200.8 - Metals (ICP/MS) - Dissolved (Continued)

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:12	1

Client Sample ID: ILBMP0005_20211214
Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:35	1
Copper	**3.9**		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:35	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:35	1

Client Sample ID: ILBMP0008_20211214
Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:37	1
Copper	**2.0**		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:37	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:37	1

Client Sample ID: ILBMP0009_20211214
Date Collected: 12/14/21 07:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:39	1
Copper	**4.4**		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:39	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:39	1

Client Sample ID: ILBMP0010_20211214
Date Collected: 12/14/21 07:40
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:41	1
Copper	**2.8**		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:41	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:41	1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: A1BMP0002_20211214
Date Collected: 12/14/21 06:47
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:49	1

Client Sample ID: A1BMP0003_20211214
Date Collected: 12/14/21 07:10
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:51	1

Client Sample ID: B1BMP0009_20211214
Date Collected: 12/14/21 07:50
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:53	1

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:56	1

Client Sample ID: B1BMP0011_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:58	1

Client Sample ID: ILBMP0002_20211214
Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 19:00	1

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 19:07	1

Client Sample ID: ILBMP0005_20211214
Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 19:09	1

Client Sample ID: ILBMP0008_20211214
Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 19:11	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78815-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Method: 245.1 - Mercury (CVAA)

Client Sample ID: ILBMP0009_20211214
Lab Sample ID: 570-78815-10
Date Collected: 12/14/21 07:25
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 19:13	1

Client Sample ID: ILBMP0010_20211214
Lab Sample ID: 570-78815-11
Date Collected: 12/14/21 07:40
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 19:15	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: A1BMP0002_20211214
Date Collected: 12/14/21 06:47
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:02	1

Client Sample ID: A1BMP0003_20211214
Date Collected: 12/14/21 07:10
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:04	1

Client Sample ID: B1BMP0009_20211214
Date Collected: 12/14/21 07:50
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:07	1

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:09	1

Client Sample ID: B1BMP0011_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 09:51	1

Client Sample ID: ILBMP0002_20211214
Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:11	1

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:13	1

Client Sample ID: ILBMP0005_20211214
Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:15	1

Client Sample ID: ILBMP0008_20211214
Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:17	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78815-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: ILBMP0009_20211214
Lab Sample ID: 570-78815-10
Date Collected: 12/14/21 07:25
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:19	1

Client Sample ID: ILBMP0010_20211214
Lab Sample ID: 570-78815-11
Date Collected: 12/14/21 07:40
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 10:26	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

General Chemistry

Client Sample ID: A1BMP0002_20211214
Date Collected: 12/14/21 06:47
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	35		3.3	1.7	mg/L			12/16/21 14:31	1

Client Sample ID: A1BMP0003_20211214
Date Collected: 12/14/21 07:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	30		3.3	1.7	mg/L			12/16/21 14:31	1

Client Sample ID: B1BMP0009_20211214
Date Collected: 12/14/21 07:50
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	15		1.3	0.63	mg/L			12/16/21 14:31	1

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	55		1.3	0.63	mg/L			12/16/21 14:31	1

Client Sample ID: B1BMP0011_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	10		1.0	0.50	mg/L			12/16/21 14:31	1

Client Sample ID: ILBMP0002_20211214
Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	540		10	5.0	mg/L			12/16/21 14:31	1

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	170		5.0	2.5	mg/L			12/16/21 14:31	1

Client Sample ID: ILBMP0005_20211214
Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	17		1.3	0.63	mg/L			12/16/21 14:31	1

Client Sample ID: ILBMP0008_20211214
Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	37		2.0	1.0	mg/L			12/16/21 14:31	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78815-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

General Chemistry

Client Sample ID: ILBMP0009_20211214
Lab Sample ID: 570-78815-10
Date Collected: 12/14/21 07:25
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	19		1.3	0.63	mg/L			12/16/21 14:31	1

Client Sample ID: ILBMP0010_20211214
Lab Sample ID: 570-78815-11
Date Collected: 12/14/21 07:40
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	38		2.0	1.0	mg/L			12/16/21 14:31	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: A1BMP0002_20211214
Date Collected: 12/14/21 06:47
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**2.27**		0.01	0.01	%			12/29/21 12:55	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 12:55	1
Fine Sand (0.125 to 0.25mm)	**15.52**		0.01	0.01	%			12/29/21 12:55	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 12:55	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 12:55	1
Silt (0.00391 to 0.0625mm)	**43.29**		0.01	0.01	%			12/29/21 12:55	1
Total Silt and Clay (0 to 0.0626mm)	**45.56**		0.01	0.01	%			12/29/21 12:55	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 12:55	1
Very Fine Sand (0.0625 to 0.125 mm)	**38.92**		0.01	0.01	%			12/29/21 12:55	1

Client Sample ID: A1BMP0003_20211214
Date Collected: 12/14/21 07:10
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-2
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**5.55**		0.01	0.01	%			12/29/21 13:06	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 13:06	1
Fine Sand (0.125 to 0.25mm)	**19.61**		0.01	0.01	%			12/29/21 13:06	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 13:06	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 13:06	1
Silt (0.00391 to 0.0625mm)	**43.85**		0.01	0.01	%			12/29/21 13:06	1
Total Silt and Clay (0 to 0.0626mm)	**49.40**		0.01	0.01	%			12/29/21 13:06	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 13:06	1
Very Fine Sand (0.0625 to 0.125 mm)	**31.00**		0.01	0.01	%			12/29/21 13:06	1

Client Sample ID: B1BMP0009_20211214
Date Collected: 12/14/21 07:50
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-3
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			12/29/21 13:13	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 13:13	1
Fine Sand (0.125 to 0.25mm)	**17.32**		0.01	0.01	%			12/29/21 13:13	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 13:13	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 13:13	1
Silt (0.00391 to 0.0625mm)	**29.68**		0.01	0.01	%			12/29/21 13:13	1
Total Silt and Clay (0 to 0.0626mm)	**29.68**		0.01	0.01	%			12/29/21 13:13	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 13:13	1
Very Fine Sand (0.0625 to 0.125 mm)	**53.00**		0.01	0.01	%			12/29/21 13:13	1

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**5.86**		0.01	0.01	%			12/29/21 14:55	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 14:55	1
Fine Sand (0.125 to 0.25mm)	**33.84**		0.01	0.01	%			12/29/21 14:55	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 14:55	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 14:55	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Silt (0.00391 to 0.0625mm)	**24.56**		0.01	0.01	%			12/29/21 14:55	1
Total Silt and Clay (0 to 0.0626mm)	**30.42**		0.01	0.01	%			12/29/21 14:55	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 14:55	1
Very Fine Sand (0.0625 to 0.125 mm)	**35.74**		0.01	0.01	%			12/29/21 14:55	1

Client Sample ID: B1BMP0011_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-5
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**5.32**		0.01	0.01	%			12/29/21 15:06	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 15:06	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			12/29/21 15:06	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 15:06	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 15:06	1
Silt (0.00391 to 0.0625mm)	**26.69**		0.01	0.01	%			12/29/21 15:06	1
Total Silt and Clay (0 to 0.0626mm)	**32.01**		0.01	0.01	%			12/29/21 15:06	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 15:06	1
Very Fine Sand (0.0625 to 0.125 mm)	**67.99**		0.01	0.01	%			12/29/21 15:06	1

Client Sample ID: ILBMP0002_20211214
Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-6
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**4.57**		0.01	0.01	%			12/29/21 15:14	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 15:14	1
Fine Sand (0.125 to 0.25mm)	**15.21**		0.01	0.01	%			12/29/21 15:14	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 15:14	1
Medium Sand (0.25 to 0.5 mm)	**0.02**		0.01	0.01	%			12/29/21 15:14	1
Silt (0.00391 to 0.0625mm)	**52.76**		0.01	0.01	%			12/29/21 15:14	1
Total Silt and Clay (0 to 0.0626mm)	**57.32**		0.01	0.01	%			12/29/21 15:14	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 15:14	1
Very Fine Sand (0.0625 to 0.125 mm)	**27.45**		0.01	0.01	%			12/29/21 15:14	1

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**12.12**		0.01	0.01	%			12/29/21 15:20	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 15:20	1
Fine Sand (0.125 to 0.25mm)	**4.77**		0.01	0.01	%			12/29/21 15:20	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 15:20	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 15:20	1
Silt (0.00391 to 0.0625mm)	**68.19**		0.01	0.01	%			12/29/21 15:20	1
Total Silt and Clay (0 to 0.0626mm)	**80.32**		0.01	0.01	%			12/29/21 15:20	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 15:20	1
Very Fine Sand (0.0625 to 0.125 mm)	**14.91**		0.01	0.01	%			12/29/21 15:20	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: ILBMP0005_20211214
Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-8
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**2.56**		0.01	0.01	%			12/29/21 15:26	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 15:26	1
Fine Sand (0.125 to 0.25mm)	**33.27**		0.01	0.01	%			12/29/21 15:26	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 15:26	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 15:26	1
Silt (0.00391 to 0.0625mm)	**23.48**		0.01	0.01	%			12/29/21 15:26	1
Total Silt and Clay (0 to 0.0626mm)	**26.03**		0.01	0.01	%			12/29/21 15:26	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 15:26	1
Very Fine Sand (0.0625 to 0.125 mm)	**40.69**		0.01	0.01	%			12/29/21 15:26	1

Client Sample ID: ILBMP0008_20211214
Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-9
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**9.70**		0.01	0.01	%			12/29/21 15:34	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 15:34	1
Fine Sand (0.125 to 0.25mm)	**0.88**		0.01	0.01	%			12/29/21 15:34	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 15:34	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 15:34	1
Silt (0.00391 to 0.0625mm)	**64.29**		0.01	0.01	%			12/29/21 15:34	1
Total Silt and Clay (0 to 0.0626mm)	**73.99**		0.01	0.01	%			12/29/21 15:34	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 15:34	1
Very Fine Sand (0.0625 to 0.125 mm)	**25.14**		0.01	0.01	%			12/29/21 15:34	1

Client Sample ID: ILBMP0009_20211214
Date Collected: 12/14/21 07:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-10
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**9.94**		0.01	0.01	%			12/29/21 15:44	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 15:44	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			12/29/21 15:44	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 15:44	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 15:44	1
Silt (0.00391 to 0.0625mm)	**81.07**		0.01	0.01	%			12/29/21 15:44	1
Total Silt and Clay (0 to 0.0626mm)	**91.01**		0.01	0.01	%			12/29/21 15:44	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 15:44	1
Very Fine Sand (0.0625 to 0.125 mm)	**8.99**		0.01	0.01	%			12/29/21 15:44	1

Client Sample ID: ILBMP0010_20211214
Date Collected: 12/14/21 07:40
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-11
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**5.21**		0.01	0.01	%			12/29/21 15:58	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 15:58	1
Fine Sand (0.125 to 0.25mm)	**12.74**		0.01	0.01	%			12/29/21 15:58	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 15:58	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 15:58	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Client Sample ID: ILBMP0010_20211214
Lab Sample ID: 570-78815-11
Date Collected: 12/14/21 07:40
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Silt (0.00391 to 0.0625mm)	**50.98**		0.01	0.01	%			12/29/21 15:58	1
Total Silt and Clay (0 to 0.0626mm)	**56.19**		0.01	0.01	%			12/29/21 15:58	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 15:58	1
Very Fine Sand (0.0625 to 0.125 mm)	**31.08**		0.01	0.01	%			12/29/21 15:58	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

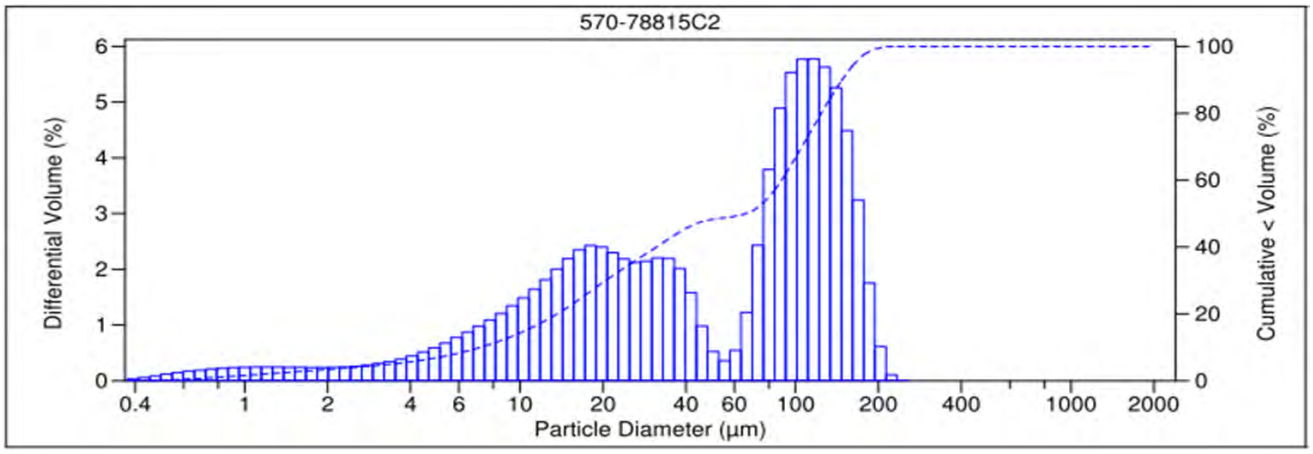
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
A1BMP0003_20211214		Very Fine Sand	0.069

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	19.61	31.00	43.85	5.55	49.40



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

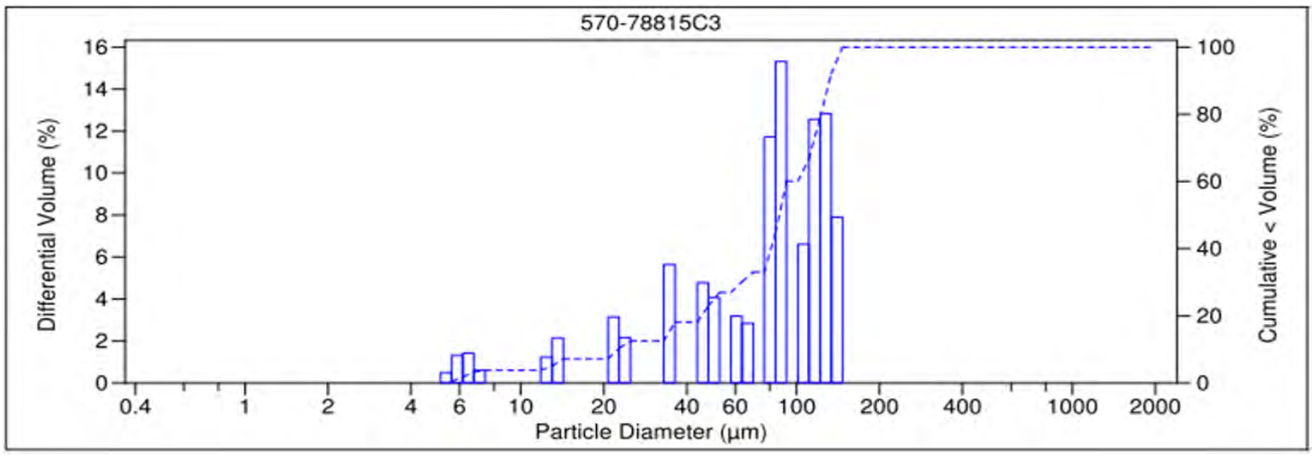
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
B1BMP0009_20211214		Very Fine Sand	0.084

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	17.32	53.00	29.68	0.00	29.68



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

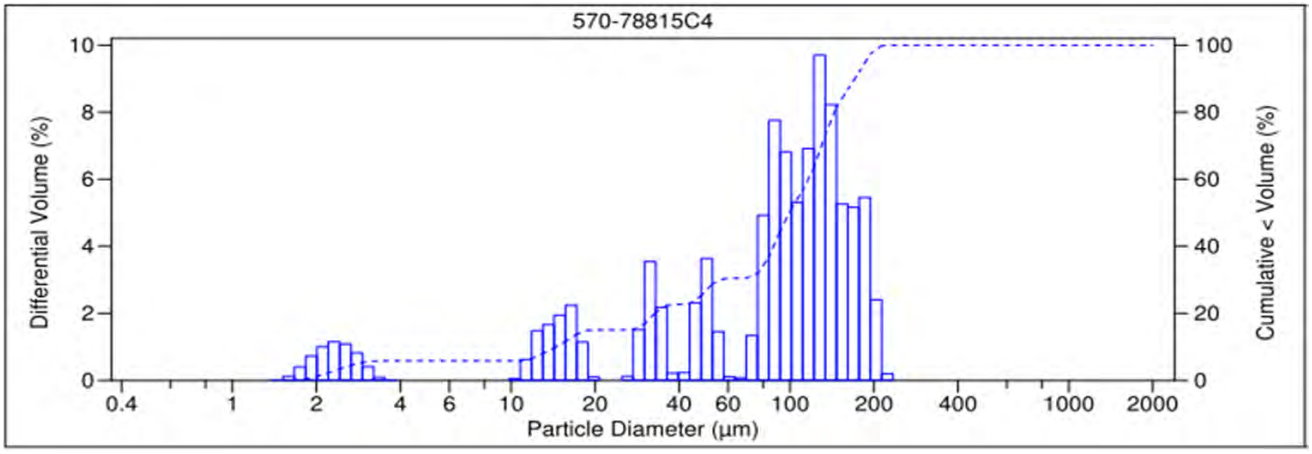
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
B1BMP0010_20211214		Very Fine Sand	0.096

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	33.84	35.74	24.56	5.86	30.42



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

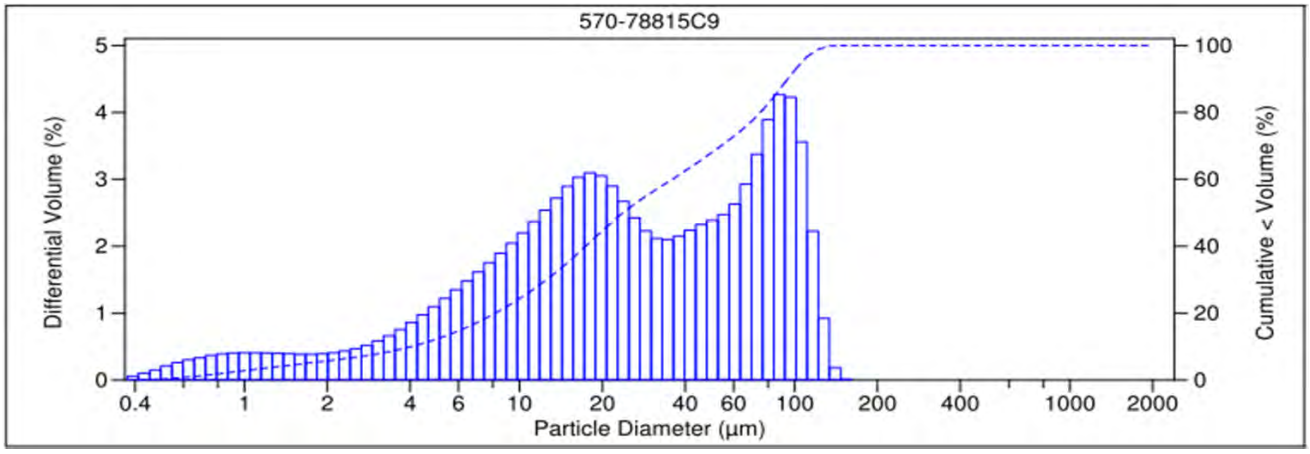
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0008_20211214		Silt	0.038

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.88	25.14	64.29	9.70	73.99



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

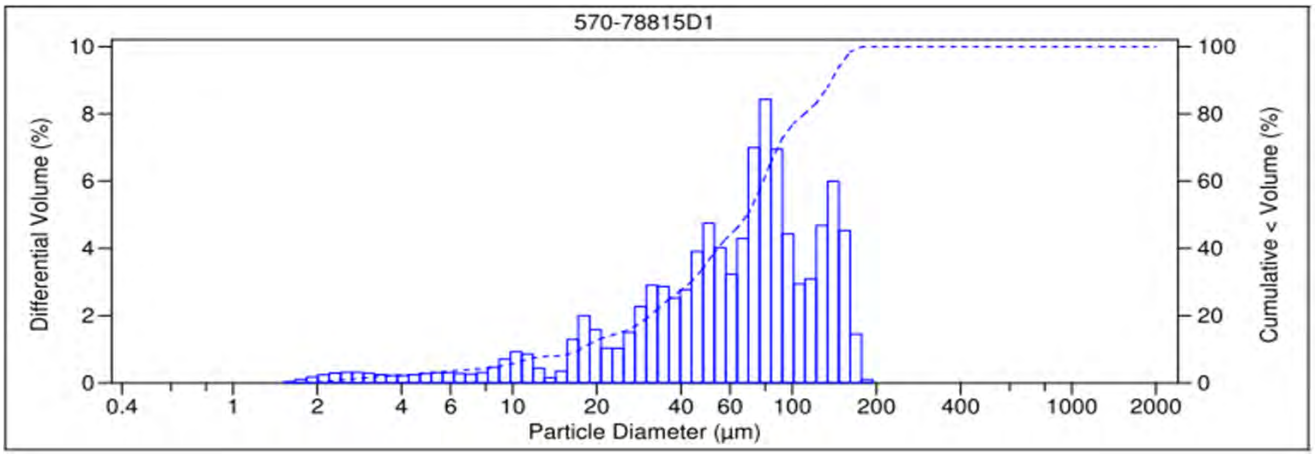
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
A1BMP0002_20211214		Very Fine Sand	0.071

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	15.52	38.92	43.29	2.27	45.56



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

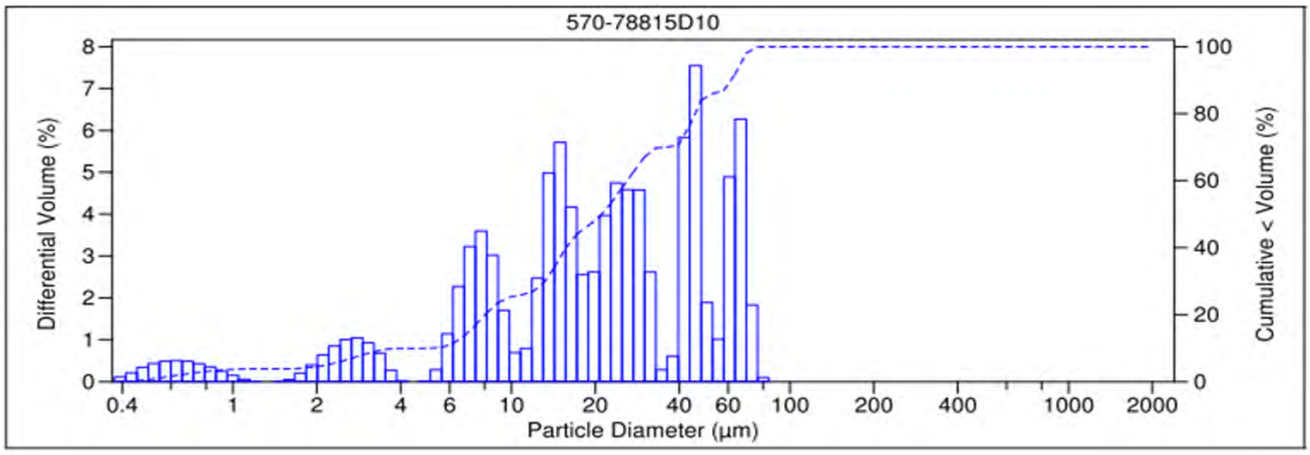
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0009_20211214		Silt	0.027

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	8.99	81.07	9.94	91.01



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

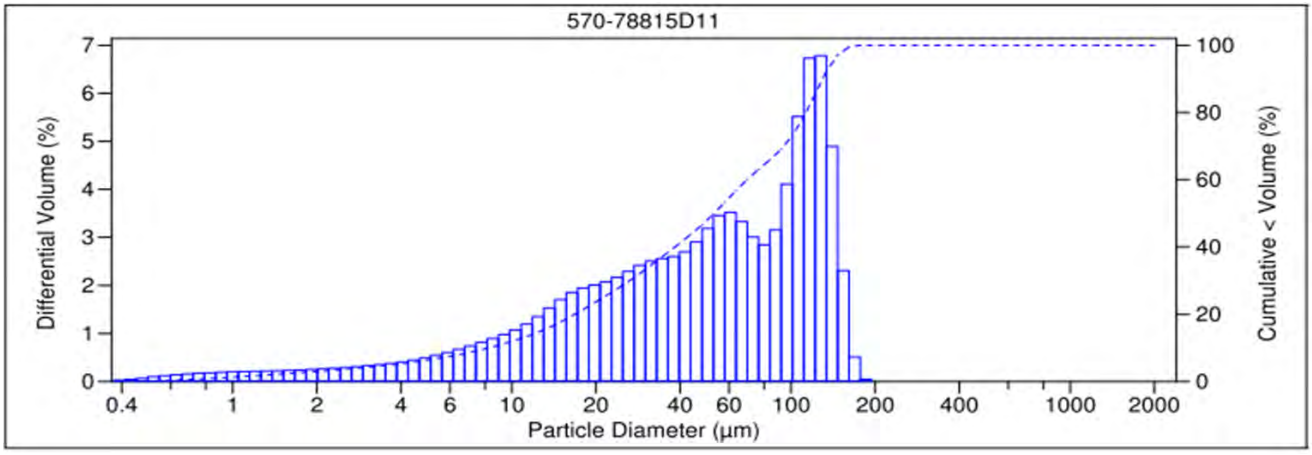
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0010_20211214		Very Fine Sand	0.063

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	12.74	31.08	50.98	5.21	56.19



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

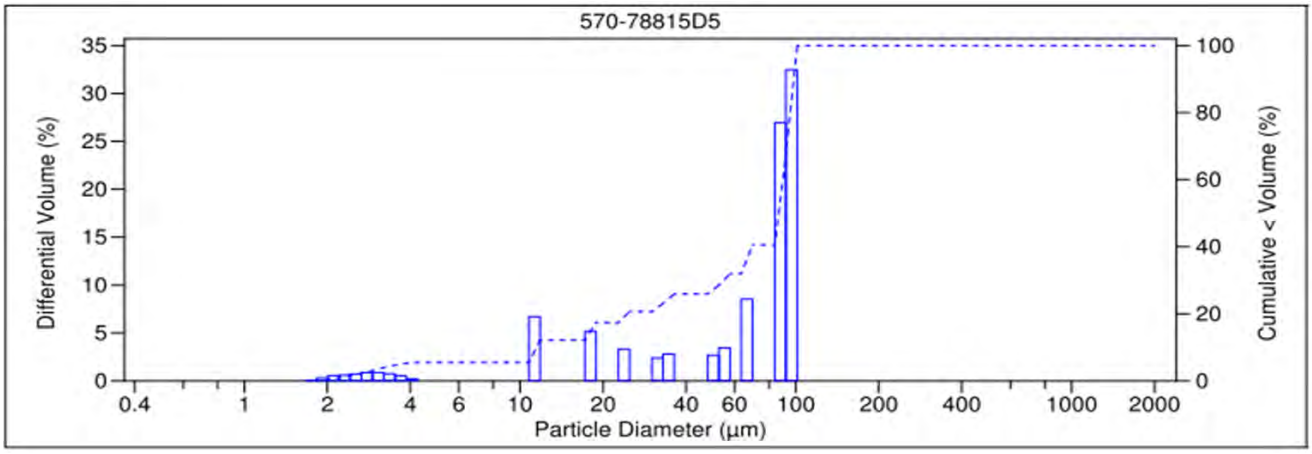
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
B1BMP0011_20211214		Very Fine Sand	0.068

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	67.99	26.69	5.32	32.01



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

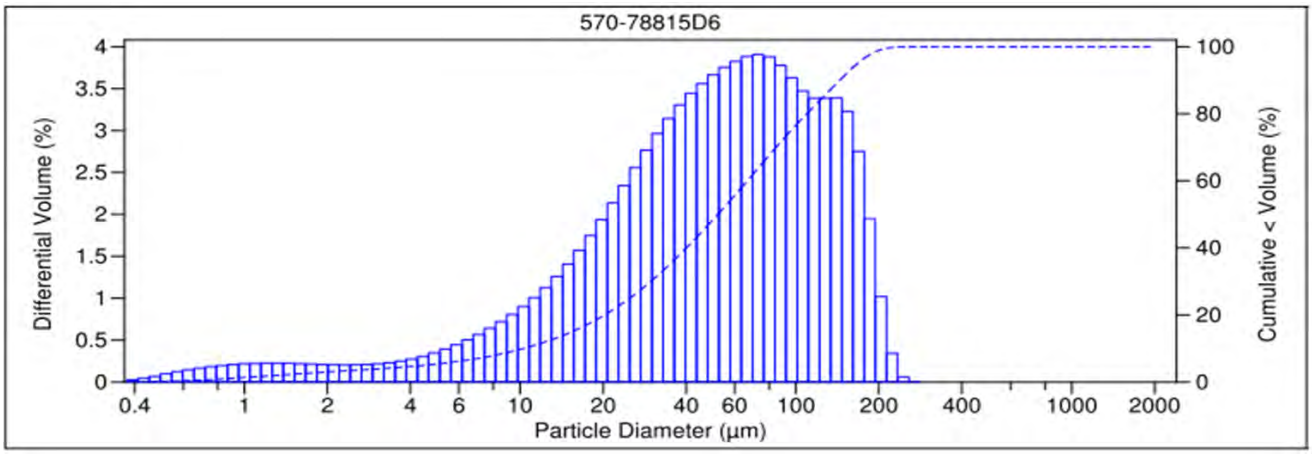
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0002_20211214		Very Fine Sand	0.065

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.02	15.21	27.45	52.76	4.57	57.32



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

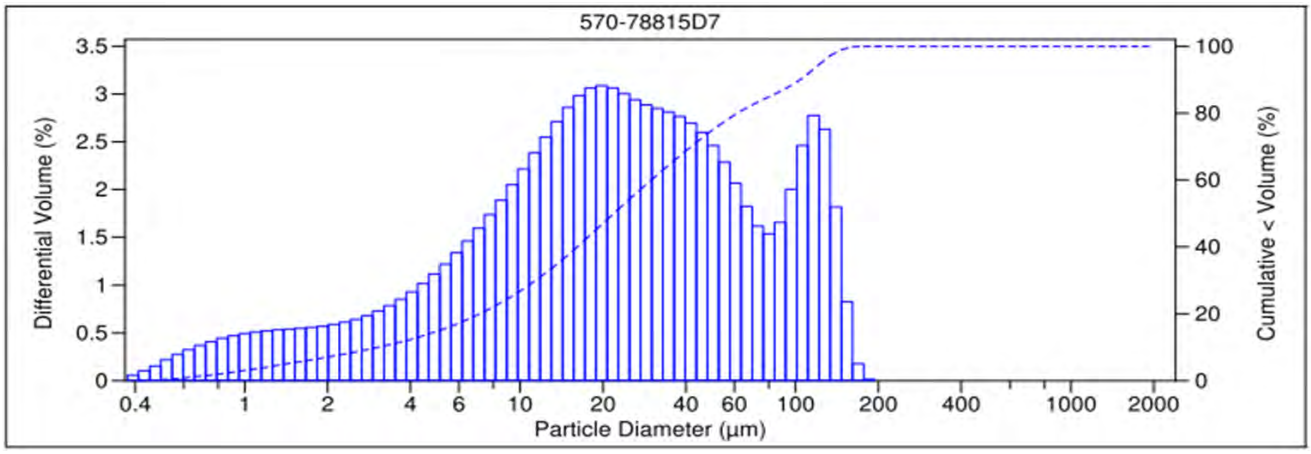
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0004_20211214		Silt	0.037

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	4.77	14.91	68.19	12.12	80.32



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

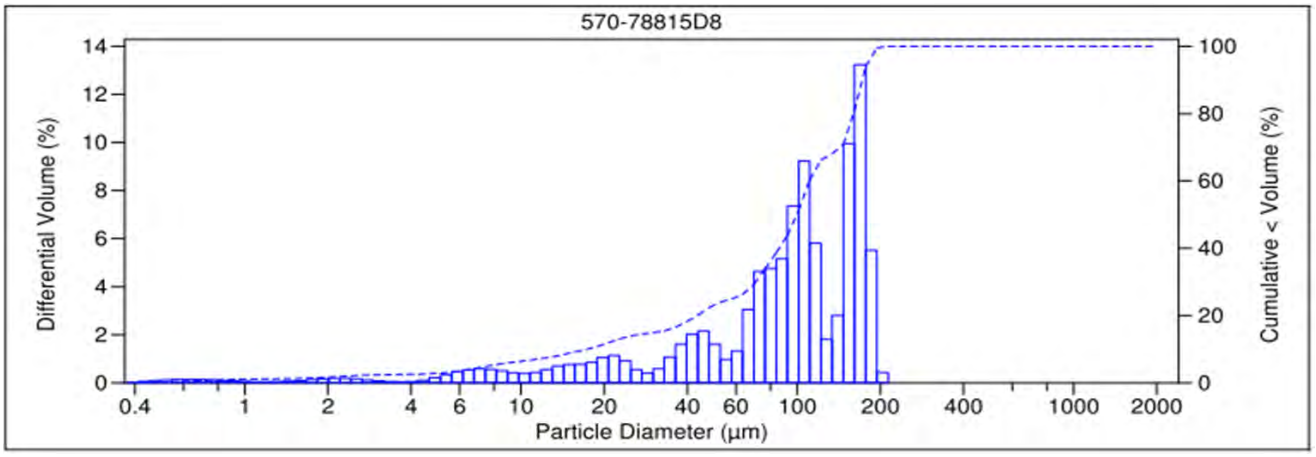
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78815
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0005_20211214		Very Fine Sand	0.099

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	33.27	40.69	23.48	2.56	26.03



V 3.0

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664613/1-A
Matrix: Water
Analysis Batch: 664704

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664613

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 09:50	1
Copper	ND		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 09:50	1
Lead	ND		1.0	0.50	ug/L		01/17/22 13:51	01/18/22 09:50	1

Lab Sample ID: LCS 440-664613/2-A
Matrix: Water
Analysis Batch: 664704

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664613

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	77.5		ug/L		97	85 - 115
Copper	80.0	78.9		ug/L		99	85 - 115
Lead	80.0	80.9		ug/L		101	85 - 115

Lab Sample ID: 570-78815-1 MS
Matrix: Water
Analysis Batch: 664704

Client Sample ID: A1BMP0002_20211214
Prep Type: Total Recoverable
Prep Batch: 664613

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	76.1		ug/L		95	70 - 130
Copper	6.8		80.0	83.1		ug/L		95	70 - 130
Lead	2.9		80.0	81.8		ug/L		99	70 - 130

Lab Sample ID: 570-78815-1 MSD
Matrix: Water
Analysis Batch: 664704

Client Sample ID: A1BMP0002_20211214
Prep Type: Total Recoverable
Prep Batch: 664613

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	75.6		ug/L		94	70 - 130	1	20
Copper	6.8		80.0	83.4		ug/L		96	70 - 130	0	20
Lead	2.9		80.0	81.1		ug/L		98	70 - 130	1	20

Lab Sample ID: 570-78815-2 MS
Matrix: Water
Analysis Batch: 664704

Client Sample ID: A1BMP0003_20211214
Prep Type: Total Recoverable
Prep Batch: 664613

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	77.7		ug/L		97	70 - 130
Copper	6.7		80.0	81.7		ug/L		94	70 - 130
Lead	5.1		80.0	84.2		ug/L		99	70 - 130

Lab Sample ID: 570-78815-2 MSD
Matrix: Water
Analysis Batch: 664704

Client Sample ID: A1BMP0003_20211214
Prep Type: Total Recoverable
Prep Batch: 664613

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	78.8		ug/L		99	70 - 130	1	20
Copper	6.7		80.0	84.0		ug/L		97	70 - 130	3	20
Lead	5.1		80.0	87.0		ug/L		102	70 - 130	3	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-664759/1-A
Matrix: Water
Analysis Batch: 664843

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664759

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/18/22 17:13	01/19/22 10:38	1
Copper	ND		2.0	0.50	ug/L		01/18/22 17:13	01/19/22 10:38	1
Lead	ND		1.0	0.50	ug/L		01/18/22 17:13	01/19/22 10:38	1

Lab Sample ID: LCS 440-664759/2-A
Matrix: Water
Analysis Batch: 664843

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664759

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	77.0		ug/L		96	85 - 115
Copper	80.0	75.3		ug/L		94	85 - 115
Lead	80.0	78.7		ug/L		98	85 - 115

Lab Sample ID: 570-80482-A-2-E MS
Matrix: Water
Analysis Batch: 664843

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664759

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	78.6		ug/L		98	70 - 130
Copper	45		80.0	124		ug/L		100	70 - 130
Lead	ND		80.0	80.0		ug/L		100	70 - 130

Lab Sample ID: 570-80482-A-2-F MSD
Matrix: Water
Analysis Batch: 664843

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664759

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	82.4		ug/L		103	70 - 130	5	20
Copper	45		80.0	128		ug/L		105	70 - 130	3	20
Lead	ND		80.0	83.3		ug/L		104	70 - 130	4	20

Lab Sample ID: MB 440-663017/1-B
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663981

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 10:06	01/07/22 13:08	1
Copper	ND		2.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:08	1
Lead	ND		1.0	0.50	ug/L		01/07/22 10:06	01/07/22 13:08	1

Lab Sample ID: LCS 440-663017/2-B
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663981

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	77.5		ug/L		97	85 - 115
Copper	80.0	78.8		ug/L		99	85 - 115
Lead	80.0	78.3		ug/L		98	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-78815-7 MS
Matrix: Water
Analysis Batch: 664011

Client Sample ID: ILBMP0004_20211214
Prep Type: Dissolved
Prep Batch: 663981

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	77.2		ug/L		96	70 - 130
Copper	1.8	J,DX	80.0	80.5		ug/L		98	70 - 130
Lead	ND		80.0	77.9		ug/L		97	70 - 130

Lab Sample ID: 570-78815-7 MSD
Matrix: Water
Analysis Batch: 664011

Client Sample ID: ILBMP0004_20211214
Prep Type: Dissolved
Prep Batch: 663981

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	78.6		ug/L		98	70 - 130	2	20
Copper	1.8	J,DX	80.0	81.8		ug/L		100	70 - 130	2	20
Lead	ND		80.0	79.2		ug/L		99	70 - 130	2	20

Lab Sample ID: 570-78815-11 MS
Matrix: Water
Analysis Batch: 664011

Client Sample ID: ILBMP0010_20211214
Prep Type: Dissolved
Prep Batch: 663981

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	79.3		ug/L		99	70 - 130
Copper	2.8		80.0	84.7		ug/L		102	70 - 130
Lead	ND		80.0	80.8		ug/L		101	70 - 130

Lab Sample ID: 570-78815-11 MSD
Matrix: Water
Analysis Batch: 664011

Client Sample ID: ILBMP0010_20211214
Prep Type: Dissolved
Prep Batch: 663981

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	78.5		ug/L		98	70 - 130	1	20
Copper	2.8		80.0	83.5		ug/L		101	70 - 130	1	20
Lead	ND		80.0	79.6		ug/L		100	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-663537/1-A
Matrix: Water
Analysis Batch: 663635

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 663537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		12/28/21 15:48	12/29/21 18:22	1

Lab Sample ID: LCS 440-663537/2-A
Matrix: Water
Analysis Batch: 663635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 663537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.99		ug/L		100	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-78810-I-1-B MS
Matrix: Water
Analysis Batch: 663635

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 663537

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	5.85		ug/L		97	75 - 125

Lab Sample ID: 570-78810-I-1-C MSD
Matrix: Water
Analysis Batch: 663635

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 663537

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	5.63		ug/L		94	75 - 125	4	20

Lab Sample ID: MB 440-663017/1-E
Matrix: Water
Analysis Batch: 664201

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664070

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:00	01/11/22 09:46	1

Lab Sample ID: LCS 440-663017/2-E
Matrix: Water
Analysis Batch: 664201

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664070

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.67		ug/L		94	85 - 115

Lab Sample ID: 570-78815-5 MS
Matrix: Water
Analysis Batch: 664201

Client Sample ID: B1BMP0011_20211214
Prep Type: Dissolved
Prep Batch: 664070

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	6.85		ug/L		114	75 - 125

Lab Sample ID: 570-78815-5 MSD
Matrix: Water
Analysis Batch: 664201

Client Sample ID: B1BMP0011_20211214
Prep Type: Dissolved
Prep Batch: 664070

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	6.85		ug/L		114	75 - 125	0	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663051/1
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/16/21 12:54	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 440-663051/2
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	941		mg/L		94	85 - 115		

Lab Sample ID: 440-292756-A-1 DU
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	86			86.0		mg/L				0	5

Metals

Filtration Batch: 663017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Dissolved	Water	FILTRATION	
570-78815-2	A1BMP0003_20211214	Dissolved	Water	FILTRATION	
570-78815-3	B1BMP0009_20211214	Dissolved	Water	FILTRATION	
570-78815-4	B1BMP0010_20211214	Dissolved	Water	FILTRATION	
570-78815-5	B1BMP0011_20211214	Dissolved	Water	FILTRATION	
570-78815-6	ILBMP0002_20211214	Dissolved	Water	FILTRATION	
570-78815-7	ILBMP0004_20211214	Dissolved	Water	FILTRATION	
570-78815-8	ILBMP0005_20211214	Dissolved	Water	FILTRATION	
570-78815-9	ILBMP0008_20211214	Dissolved	Water	FILTRATION	
570-78815-10	ILBMP0009_20211214	Dissolved	Water	FILTRATION	
570-78815-11	ILBMP0010_20211214	Dissolved	Water	FILTRATION	
MB 440-663017/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663017/1-E	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663017/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663017/2-E	Lab Control Sample	Dissolved	Water	FILTRATION	
570-78815-5 MS	B1BMP0011_20211214	Dissolved	Water	FILTRATION	
570-78815-5 MSD	B1BMP0011_20211214	Dissolved	Water	FILTRATION	
570-78815-7 MS	ILBMP0004_20211214	Dissolved	Water	FILTRATION	
570-78815-7 MSD	ILBMP0004_20211214	Dissolved	Water	FILTRATION	
570-78815-11 MS	ILBMP0010_20211214	Dissolved	Water	FILTRATION	
570-78815-11 MSD	ILBMP0010_20211214	Dissolved	Water	FILTRATION	

Prep Batch: 663537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Total/NA	Water	245.1	
570-78815-2	A1BMP0003_20211214	Total/NA	Water	245.1	
570-78815-3	B1BMP0009_20211214	Total/NA	Water	245.1	
570-78815-4	B1BMP0010_20211214	Total/NA	Water	245.1	
570-78815-5	B1BMP0011_20211214	Total/NA	Water	245.1	
570-78815-6	ILBMP0002_20211214	Total/NA	Water	245.1	
570-78815-7	ILBMP0004_20211214	Total/NA	Water	245.1	
570-78815-8	ILBMP0005_20211214	Total/NA	Water	245.1	
570-78815-9	ILBMP0008_20211214	Total/NA	Water	245.1	
570-78815-10	ILBMP0009_20211214	Total/NA	Water	245.1	
570-78815-11	ILBMP0010_20211214	Total/NA	Water	245.1	
MB 440-663537/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-663537/2-A	Lab Control Sample	Total/NA	Water	245.1	
570-78810-I-1-B MS	Matrix Spike	Total/NA	Water	245.1	
570-78810-I-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 663635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Total/NA	Water	245.1	663537
570-78815-2	A1BMP0003_20211214	Total/NA	Water	245.1	663537
570-78815-3	B1BMP0009_20211214	Total/NA	Water	245.1	663537
570-78815-4	B1BMP0010_20211214	Total/NA	Water	245.1	663537
570-78815-5	B1BMP0011_20211214	Total/NA	Water	245.1	663537
570-78815-6	ILBMP0002_20211214	Total/NA	Water	245.1	663537
570-78815-7	ILBMP0004_20211214	Total/NA	Water	245.1	663537
570-78815-8	ILBMP0005_20211214	Total/NA	Water	245.1	663537

Metals (Continued)

Analysis Batch: 663635 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-9	ILBMP0008_20211214	Total/NA	Water	245.1	663537
570-78815-10	ILBMP0009_20211214	Total/NA	Water	245.1	663537
570-78815-11	ILBMP0010_20211214	Total/NA	Water	245.1	663537
MB 440-663537/1-A	Method Blank	Total/NA	Water	245.1	663537
LCS 440-663537/2-A	Lab Control Sample	Total/NA	Water	245.1	663537
570-78810-I-1-B MS	Matrix Spike	Total/NA	Water	245.1	663537
570-78810-I-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	663537

Prep Batch: 663981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Dissolved	Water	200.2	663017
570-78815-2	A1BMP0003_20211214	Dissolved	Water	200.2	663017
570-78815-3	B1BMP0009_20211214	Dissolved	Water	200.2	663017
570-78815-4	B1BMP0010_20211214	Dissolved	Water	200.2	663017
570-78815-5	B1BMP0011_20211214	Dissolved	Water	200.2	663017
570-78815-6	ILBMP0002_20211214	Dissolved	Water	200.2	663017
570-78815-7	ILBMP0004_20211214	Dissolved	Water	200.2	663017
570-78815-8	ILBMP0005_20211214	Dissolved	Water	200.2	663017
570-78815-9	ILBMP0008_20211214	Dissolved	Water	200.2	663017
570-78815-10	ILBMP0009_20211214	Dissolved	Water	200.2	663017
570-78815-11	ILBMP0010_20211214	Dissolved	Water	200.2	663017
MB 440-663017/1-B	Method Blank	Dissolved	Water	200.2	663017
LCS 440-663017/2-B	Lab Control Sample	Dissolved	Water	200.2	663017
570-78815-7 MS	ILBMP0004_20211214	Dissolved	Water	200.2	663017
570-78815-7 MSD	ILBMP0004_20211214	Dissolved	Water	200.2	663017
570-78815-11 MS	ILBMP0010_20211214	Dissolved	Water	200.2	663017
570-78815-11 MSD	ILBMP0010_20211214	Dissolved	Water	200.2	663017

Analysis Batch: 664011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Dissolved	Water	200.8	663981
570-78815-2	A1BMP0003_20211214	Dissolved	Water	200.8	663981
570-78815-3	B1BMP0009_20211214	Dissolved	Water	200.8	663981
570-78815-4	B1BMP0010_20211214	Dissolved	Water	200.8	663981
570-78815-5	B1BMP0011_20211214	Dissolved	Water	200.8	663981
570-78815-6	ILBMP0002_20211214	Dissolved	Water	200.8	663981
570-78815-7	ILBMP0004_20211214	Dissolved	Water	200.8	663981
570-78815-8	ILBMP0005_20211214	Dissolved	Water	200.8	663981
570-78815-9	ILBMP0008_20211214	Dissolved	Water	200.8	663981
570-78815-10	ILBMP0009_20211214	Dissolved	Water	200.8	663981
570-78815-11	ILBMP0010_20211214	Dissolved	Water	200.8	663981
MB 440-663017/1-B	Method Blank	Dissolved	Water	200.8	663981
LCS 440-663017/2-B	Lab Control Sample	Dissolved	Water	200.8	663981
570-78815-7 MS	ILBMP0004_20211214	Dissolved	Water	200.8	663981
570-78815-7 MSD	ILBMP0004_20211214	Dissolved	Water	200.8	663981
570-78815-11 MS	ILBMP0010_20211214	Dissolved	Water	200.8	663981
570-78815-11 MSD	ILBMP0010_20211214	Dissolved	Water	200.8	663981

Metals

Prep Batch: 664070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Dissolved	Water	245.1	663017
570-78815-2	A1BMP0003_20211214	Dissolved	Water	245.1	663017
570-78815-3	B1BMP0009_20211214	Dissolved	Water	245.1	663017
570-78815-4	B1BMP0010_20211214	Dissolved	Water	245.1	663017
570-78815-5	B1BMP0011_20211214	Dissolved	Water	245.1	663017
570-78815-6	ILBMP0002_20211214	Dissolved	Water	245.1	663017
570-78815-7	ILBMP0004_20211214	Dissolved	Water	245.1	663017
570-78815-8	ILBMP0005_20211214	Dissolved	Water	245.1	663017
570-78815-9	ILBMP0008_20211214	Dissolved	Water	245.1	663017
570-78815-10	ILBMP0009_20211214	Dissolved	Water	245.1	663017
570-78815-11	ILBMP0010_20211214	Dissolved	Water	245.1	663017
MB 440-663017/1-E	Method Blank	Dissolved	Water	245.1	663017
LCS 440-663017/2-E	Lab Control Sample	Dissolved	Water	245.1	663017
570-78815-5 MS	B1BMP0011_20211214	Dissolved	Water	245.1	663017
570-78815-5 MSD	B1BMP0011_20211214	Dissolved	Water	245.1	663017

Analysis Batch: 664201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Dissolved	Water	245.1	664070
570-78815-2	A1BMP0003_20211214	Dissolved	Water	245.1	664070
570-78815-3	B1BMP0009_20211214	Dissolved	Water	245.1	664070
570-78815-4	B1BMP0010_20211214	Dissolved	Water	245.1	664070
570-78815-5	B1BMP0011_20211214	Dissolved	Water	245.1	664070
570-78815-6	ILBMP0002_20211214	Dissolved	Water	245.1	664070
570-78815-7	ILBMP0004_20211214	Dissolved	Water	245.1	664070
570-78815-8	ILBMP0005_20211214	Dissolved	Water	245.1	664070
570-78815-9	ILBMP0008_20211214	Dissolved	Water	245.1	664070
570-78815-10	ILBMP0009_20211214	Dissolved	Water	245.1	664070
570-78815-11	ILBMP0010_20211214	Dissolved	Water	245.1	664070
MB 440-663017/1-E	Method Blank	Dissolved	Water	245.1	664070
LCS 440-663017/2-E	Lab Control Sample	Dissolved	Water	245.1	664070
570-78815-5 MS	B1BMP0011_20211214	Dissolved	Water	245.1	664070
570-78815-5 MSD	B1BMP0011_20211214	Dissolved	Water	245.1	664070

Prep Batch: 664613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Total Recoverable	Water	200.2	
570-78815-2	A1BMP0003_20211214	Total Recoverable	Water	200.2	
570-78815-3	B1BMP0009_20211214	Total Recoverable	Water	200.2	
570-78815-4	B1BMP0010_20211214	Total Recoverable	Water	200.2	
570-78815-5	B1BMP0011_20211214	Total Recoverable	Water	200.2	
570-78815-6	ILBMP0002_20211214	Total Recoverable	Water	200.2	
570-78815-7	ILBMP0004_20211214	Total Recoverable	Water	200.2	
570-78815-8	ILBMP0005_20211214	Total Recoverable	Water	200.2	
MB 440-664613/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664613/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-78815-1 MS	A1BMP0002_20211214	Total Recoverable	Water	200.2	
570-78815-1 MSD	A1BMP0002_20211214	Total Recoverable	Water	200.2	
570-78815-2 MS	A1BMP0003_20211214	Total Recoverable	Water	200.2	
570-78815-2 MSD	A1BMP0003_20211214	Total Recoverable	Water	200.2	

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Metals

Analysis Batch: 664704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Total Recoverable	Water	200.8	664613
570-78815-2	A1BMP0003_20211214	Total Recoverable	Water	200.8	664613
570-78815-3	B1BMP0009_20211214	Total Recoverable	Water	200.8	664613
570-78815-4	B1BMP0010_20211214	Total Recoverable	Water	200.8	664613
570-78815-5	B1BMP0011_20211214	Total Recoverable	Water	200.8	664613
570-78815-6	ILBMP0002_20211214	Total Recoverable	Water	200.8	664613
570-78815-7	ILBMP0004_20211214	Total Recoverable	Water	200.8	664613
570-78815-8	ILBMP0005_20211214	Total Recoverable	Water	200.8	664613
MB 440-664613/1-A	Method Blank	Total Recoverable	Water	200.8	664613
LCS 440-664613/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664613
570-78815-1 MS	A1BMP0002_20211214	Total Recoverable	Water	200.8	664613
570-78815-1 MSD	A1BMP0002_20211214	Total Recoverable	Water	200.8	664613
570-78815-2 MS	A1BMP0003_20211214	Total Recoverable	Water	200.8	664613
570-78815-2 MSD	A1BMP0003_20211214	Total Recoverable	Water	200.8	664613

Prep Batch: 664759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-9	ILBMP0008_20211214	Total Recoverable	Water	200.2	
570-78815-10	ILBMP0009_20211214	Total Recoverable	Water	200.2	
570-78815-11	ILBMP0010_20211214	Total Recoverable	Water	200.2	
MB 440-664759/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664759/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80482-A-2-E MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80482-A-2-F MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-9	ILBMP0008_20211214	Total Recoverable	Water	200.8	664759
570-78815-10	ILBMP0009_20211214	Total Recoverable	Water	200.8	664759
570-78815-11	ILBMP0010_20211214	Total Recoverable	Water	200.8	664759
MB 440-664759/1-A	Method Blank	Total Recoverable	Water	200.8	664759
LCS 440-664759/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664759
570-80482-A-2-E MS	Matrix Spike	Total Recoverable	Water	200.8	664759
570-80482-A-2-F MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664759

General Chemistry

Analysis Batch: 663051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Total/NA	Water	SM 2540D	
570-78815-2	A1BMP0003_20211214	Total/NA	Water	SM 2540D	
570-78815-3	B1BMP0009_20211214	Total/NA	Water	SM 2540D	
570-78815-4	B1BMP0010_20211214	Total/NA	Water	SM 2540D	
570-78815-5	B1BMP0011_20211214	Total/NA	Water	SM 2540D	
570-78815-6	ILBMP0002_20211214	Total/NA	Water	SM 2540D	
570-78815-7	ILBMP0004_20211214	Total/NA	Water	SM 2540D	
570-78815-8	ILBMP0005_20211214	Total/NA	Water	SM 2540D	
570-78815-9	ILBMP0008_20211214	Total/NA	Water	SM 2540D	
570-78815-10	ILBMP0009_20211214	Total/NA	Water	SM 2540D	
570-78815-11	ILBMP0010_20211214	Total/NA	Water	SM 2540D	

General Chemistry (Continued)

Analysis Batch: 663051 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-663051/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663051/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-292756-A-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 204552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Total/NA	Water	D4464	
570-78815-2	A1BMP0003_20211214	Total/NA	Water	D4464	
570-78815-3	B1BMP0009_20211214	Total/NA	Water	D4464	
570-78815-4	B1BMP0010_20211214	Total/NA	Water	D4464	
570-78815-5	B1BMP0011_20211214	Total/NA	Water	D4464	
570-78815-6	ILBMP0002_20211214	Total/NA	Water	D4464	
570-78815-7	ILBMP0004_20211214	Total/NA	Water	D4464	
570-78815-8	ILBMP0005_20211214	Total/NA	Water	D4464	
570-78815-9	ILBMP0008_20211214	Total/NA	Water	D4464	
570-78815-10	ILBMP0009_20211214	Total/NA	Water	D4464	
570-78815-11	ILBMP0010_20211214	Total/NA	Water	D4464	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Client Sample ID: A1BMP0002_20211214

Date Collected: 12/14/21 06:47
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:18	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 09:54	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:02	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:49	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	300 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 12:55	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: A1BMP0003_20211214

Date Collected: 12/14/21 07:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:20	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 10:01	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:04	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:51	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	300 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 13:06	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Client Sample ID: B1BMP0009_20211214

Lab Sample ID: 570-78815-3

Date Collected: 12/14/21 07:50

Matrix: Water

Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:22	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 10:12	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:07	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:53	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	800 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 13:13	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: B1BMP0010_20211214

Lab Sample ID: 570-78815-4

Date Collected: 12/14/21 07:55

Matrix: Water

Date Received: 12/14/21 20:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:28	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 10:15	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:09	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:56	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	800 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 14:55	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Client Sample ID: B1BMP0011_20211214

Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:31	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 10:17	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 09:51	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 18:58	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 15:06	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: ILBMP0002_20211214

Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:33	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 10:20	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:11	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 19:00	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	100 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 15:14	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Client Sample ID: ILBMP0004_20211214

Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:12	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 10:22	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:13	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 19:07	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	200 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 15:20	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: ILBMP0005_20211214

Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:35	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 10:24	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:15	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 19:09	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	800 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 15:26	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Client Sample ID: ILBMP0008_20211214

Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:37	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664759	01/18/22 17:13		IRV 2
Total Recoverable	Analysis	200.8		1			664843	01/19/22 11:05	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:17	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 19:11	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 15:34	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: ILBMP0009_20211214

Date Collected: 12/14/21 07:25
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:39	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664759	01/18/22 17:13		IRV 2
Total Recoverable	Analysis	200.8		1			664843	01/19/22 11:08	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:19	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 19:13	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	800 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 15:44	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Client Sample ID: ILBMP0010_20211214

Date Collected: 12/14/21 07:40
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	200.2			25 mL	25 mL	663981	01/07/22 10:06	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 13:41	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664759	01/18/22 17:13		IRV 2
Total Recoverable	Analysis	200.8		1			664843	01/19/22 11:10	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663017	12/15/21 10:30	VZ0K	IRV 1
Dissolved	Prep	245.1			20 mL	30 mL	664070	01/10/22 10:00	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664201	01/11/22 10:26	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	663537	12/28/21 15:48	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			663635	12/29/21 19:15	VZ0K	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			204552	12/29/21 15:58	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 1 = Eurofins Calscience Tustin Irvine, 17461 Derian Ave, Irvine, CA 92614, TEL (949)261-1022
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78815-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 1
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	IRV 2
FILTRATION	Sample Filtration	None	IRV 1

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 1 = Eurofins Calscience Tustin Irvine, 17461 Derian Ave, Irvine, CA 92614, TEL (949)261-1022
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78815-1	A1BMP0002_20211214	Water	12/14/21 06:47	12/14/21 20:05
570-78815-2	A1BMP0003_20211214	Water	12/14/21 07:10	12/14/21 20:05
570-78815-3	B1BMP0009_20211214	Water	12/14/21 07:50	12/14/21 20:05
570-78815-4	B1BMP0010_20211214	Water	12/14/21 07:55	12/14/21 20:05
570-78815-5	B1BMP0011_20211214	Water	12/14/21 08:00	12/14/21 20:05
570-78815-6	ILBMP0002_20211214	Water	12/14/21 06:55	12/14/21 20:05
570-78815-7	ILBMP0004_20211214	Water	12/14/21 06:25	12/14/21 20:05
570-78815-8	ILBMP0005_20211214	Water	12/14/21 06:45	12/14/21 20:05
570-78815-9	ILBMP0008_20211214	Water	12/14/21 06:15	12/14/21 20:05
570-78815-10	ILBMP0009_20211214	Water	12/14/21 07:25	12/14/21 20:05
570-78815-11	ILBMP0010_20211214	Water	12/14/21 07:40	12/14/21 20:05

Loc 570
78815

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

Eurofins Calscience, Inc.

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ▫ DW ▫ NPDES ▪ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Method 200.8: Cd, Cu, Pb Method 245.1: Hg (Total Recoverable)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Dissolved)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Sample Specific Notes:
									1-250mL Poly	1-250mL Poly	2-1L Amber	1-1L Poly	1-1L Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
A1BMP0002_20211214	1	12/14/2021	647	G	WM	6	Y	N	X	X	X	X	X	
A1BMP0003_20211214	2	12/14/21	0710	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0009_20211214	3	12/14/2021	750	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0010_20211214	4	12/14/2021	755	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0011_20211214	5	12/14/2021	800	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0002_20211214	6	12/14/21	655	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0004_20211214	7	12/14/2021	625	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0005_20211214	8	12/14/2021	645	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0008_20211214	9	12/14/2021	615	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0009_20211214	10	12/14/21	725	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0010_2021214	11	12/14/21	740	G	WM	6	Y	N	X	X	X	X	X	
ILQW0007_20211214	12	12/14/21	0655	G	WM	4	Y	N	X	X	X			HOLD
									4	4	1	1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: ▫ Yes ▫ No	Custody Seal No.			Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____	
Relinquished by:	Company: J&A	Date/Time: 12/14/21 1345	Received by:	ECI	Date/Time: 12/14/21 1345
Relinquished by:	Company: ECI	Date/Time: 12/14/21 2005	Received by:	ECI	Date/Time: 12/14/21 2005
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

2.0/2.9, 2.7/3.6, 1.8/2.7, 2.5/3.4, 3.0/3.9, 2.4/3.3 SCS

570-78815 Chain of Custody

SAP COC 2019/2020 VERSION 3

1/19/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145828 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78815-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605	PO #:			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #:			
Email:	Project #: 44009815			
Project Name: Boeing SSFL ISRA and BMP	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - Di Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A1BMP0002_20211214 (570-78815-1)	12/14/21	06.47 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0003_20211214 (570-78815-2)	12/14/21	07 10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0009_20211214 (570-78815-3)	12/14/21	07 50 Pacific		Water			X	2	See QAS Boeing_w/u to zero
A1BMP0010_20211214 (570-78815-4)	12/14/21	07 55 Pacific		Water			X	2	See QAS Boeing_w/u to zero
A1BMP0011_20211214 (570-78815-5)	12/14/21	08:00 Pacific		Water			X	2	See QAS Boeing_w/u to zero
ILBMP0002_20211214 (570-78815-6)	12/14/21	06 55 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0004_20211214 (570-78815-7)	12/14/21	06.25 Pacific		Water			X	2	See QAS Boeing_w/u to zero
ILBMP0005_20211214 (570-78815-8)	12/14/21	06 45 Pacific		Water			X	2	See QAS Boeing_w/u to zero
ILBMP0008_20211214 (570-78815-9)	12/14/21	06 15 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 12/16/21 1717	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145828 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78815-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0009_20211214 (570-78815-10)	12/14/21	07 25 Pacific		Water			X	2	See QAS Boeing_w/u to zero
ILBMP010_20211214 (570-78815-11)	12/14/21	07 40 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/16/21 1717				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

1/19/2022

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax. 949-260-3297

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 440-176822 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-78815-1
Address: 7440 Lincoln Way	Due Date Requested: 12/29/2021			
City: Garden Grove	TAT Requested (days):			
State Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P - Na2O4S
E NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J DI Water	V - MCAA
K EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	D4464/ D4464-Particle Size	Total Number of containers	Special Instructions/Note
			Preservation Code:						
A1BMP0002_20211214 (570-78815-1)	12/14/21	06.47 Pacific		Water			X	1	Normal TAT
A1BMP0003_20211214 (570-78815-2)	12/14/21	07 10 Pacific		Water			X	1	Normal TAT
B1BMP0009_20211214 (570-78815-3)	12/14/21	07 50 Pacific		Water			X	1	Normal TAT
B1BMP0010_20211214 (570-78815-4)	12/14/21	07.55 Pacific		Water			X	1	Normal TAT
B1BMP0011_20211214 (570-78815-5)	12/14/21	08:00 Pacific		Water			X	1	Normal TAT
ILBMP0002_20211214 (570-78815-6)	12/14/21	06 55 Pacific		Water			X	1	Normal TAT
ILBMP0004_20211214 (570-78815-7)	12/14/21	06.25 Pacific		Water			X	1	Normal TAT
ILBMP0005_20211214 (570-78815-8)	12/14/21	06 45 Pacific		Water			X	1	Normal TAT
ILBMP0008_20211214 (570-78815-9)	12/14/21	06 15 Pacific		Water			X	1	Normal TAT

Note Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
William Rivera	12/22/21 2015	EC-IRN	[signature]	12/22/21 2015	ECCG
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No: N/A	Cooler Temperature(s) °C and Other Remarks: 2.7/3.6 IR

Ver: 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax 949-260-3297

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 440-176822 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-78815-1
Address: 7440 Lincoln Way	Due Date Requested: 12/29/2021			
City: Garden Grove	TAT Requested (days)			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	D4464/ D4464-Particle Size	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0009_20211214 (570-78815-10)	12/14/21	07 25 Pacific		Water			X	1	Normal TAT
ILBMP010_20211214 (570-78815-11)	12/14/21	07 40 Pacific		Water			X	1	Normal TAT

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
William Rivera	12/22/21 2015	EC-IRV		12/22/21 2015	ECC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No: N/A	Cooler Temperature(s) °C and Other Remarks: 2.7/3.6 IR

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-145299 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program California		Job #: 570-78815-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 12/22/2021			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	245.1/245.1_Prep Diss Mercury	200.8/200.2 Cd,Cu,Pb	200.8/FILTRATION Diss Cd,Cu,Pb	200.8/200.2 Diss Cd,Cu,Pb	2540D/ Solids, Total Suspended (TSS)	Total Number of containers	Special Instructions/Note
			Preservation Code:												
A1BMP0002_20211214 (570-78815-1)	12/14/21	06:47 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours
A1BMP0003_20211214 (570-78815-2)	12/14/21	07:10 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours
A1BMP0009_20211214 (570-78815-3)	12/14/21	07:50 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours
A1BMP0010_20211214 (570-78815-4)	12/14/21	07:55 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours
A1BMP0011_20211214 (570-78815-5)	12/14/21	08:00 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours
ILBMP0002_20211214 (570-78815-6)	12/14/21	06:55 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours
ILBMP0004_20211214 (570-78815-7)	12/14/21	06:25 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours
ILBMP0005_20211214 (570-78815-8)	12/14/21	06:45 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours
ILBMP0008_20211214 (570-78815-9)	12/14/21	06:15 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months
Deliverable Requested: I II III, IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/19/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145299 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program California		Job #: 570-78815-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 12/22/2021			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261 1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	245.1/246.1_Prep Mercury	245.1/FILTRATION Diss Mercury	246.1/246.1_Prep Diss Mercury	200.8/200.2 Cd,Cu,Pb	200.8/FILTRATION Diss Cd,Cu,Pb	200.8/200.2 Diss Cd,Cu,Pb	2540D/ Solids, Total Suspended (TSS)	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
ILBMP0009_20211214 (570-78815-10)	12/14/21	07:25 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours
ILBMP010_20211214 (570-78815-11)	12/14/21	07:40 Pacific		Water			X	X	X	X	X	X	X	2	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78815-1

Login Number: 78815
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78815-1

Login Number: 78815
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78815-2
Client Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/9/2022 8:52:28 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Haley & Aldrich, Inc. Job ID: 570-78815-2
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78815-2

Comments
No additional comments.

Receipt
The samples were received on 12/14/2021 8:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 2.7º C, 2.9º C, 3.3º C, 3.4º C, 3.6º C and 3.9º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: A1BMP0002_20211214 (570-78815-1), A1BMP0003_20211214 (570-78815-2), B1BMP0009_20211214 (570-78815-3), (CCV 320-554787/2), (LCS 320-553366/2-A), (LCSD 320-553366/3-A) and (MB 320-553366/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: B1BMP0010_20211214 (570-78815-4), B1BMP0011_20211214 (570-78815-5), ILBMP0002_20211214 (570-78815-6), ILBMP0004_20211214 (570-78815-7), ILBMP0005_20211214 (570-78815-8), ILBMP0008_20211214 (570-78815-9), ILBMP0009_20211214 (570-78815-10), ILBMP0010_20211214 (570-78815-11), (CCV 320-555893/2) and (MB 320-553395/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
Method 1613B: Elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: A1BMP0003_20211214 (570-78815-2). Nominal volume required by method is 1 liter.

preparation batch 320-553366
method: 1613B_Sox_Sep_P
matrix: Water

Method 1613B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation: B1BMP0010_20211214 (570-78815-4), B1BMP0011_20211214 (570-78815-5), ILBMP0004_20211214 (570-78815-7) and ILBMP0010_20211214 (570-78815-11).
Nominal volume required by method is 1.0 L

preparation batch 320-553395
method: 1613B_Sox_Sep_P
matrix: water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Client Sample ID: A1BMP0002_20211214 — Lab Sample ID: 570-78815-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000035	J,DX MB	0.000050	0.00000051	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000020	J,DX MB	0.000050	0.00000053	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000020	J,DX MB	0.000050	0.00000048	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000018	J,DX MB	0.000050	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000021	J,DX MB	0.000050	0.00000046	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000024	J,DX MB	0.000050	0.00000043	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000019	J,DX MB	0.000050	0.00000046	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000021	J,DX MB	0.000050	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000014	J,DX MB	0.000050	0.00000064	ug/L	1		1613B	Total/NA
OCDD	0.00011	MB	0.00010	0.00000062	ug/L	1		1613B	Total/NA
OCDF	0.000015	J,DX MB	0.00010	0.00000072	ug/L	1		1613B	Total/NA
Total HxCDD	0.000010	J,DX MB	0.000050	0.00000048	ug/L	1		1613B	Total/NA
Total HxCDF	0.000015	J,DX MB	0.000050	0.00000043	ug/L	1		1613B	Total/NA
Total HpCDD	0.000043	J,DX MB	0.000050	0.00000043	ug/L	1		1613B	Total/NA
Total HpCDF	0.000019	J,DX MB	0.000050	0.00000059	ug/L	1		1613B	Total/NA

Client Sample ID: A1BMP0003_20211214 — Lab Sample ID: 570-78815-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000041	J,DX MB	0.000057	0.00000055	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000037	J,DX MB	0.000057	0.00000058	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000038	J,DX MB	0.000057	0.00000052	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000017	J,DX MB	0.000057	0.00000058	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000019	J,DX MB	0.000057	0.00000062	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000014	J,DX q MB	0.000057	0.00000059	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000016	J,DX MB	0.000057	0.00000064	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000090	MB	0.000057	0.0000010	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000028	J,DX MB	0.000057	0.00000078	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000017	J,DX MB	0.000057	0.00000073	ug/L	1		1613B	Total/NA
OCDD	0.00067	MB	0.00011	0.0000014	ug/L	1		1613B	Total/NA
OCDF	0.000057	J,DX MB	0.00011	0.0000011	ug/L	1		1613B	Total/NA
Total HxCDD	0.000025	J,DX MB	0.000057	0.00000052	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: A1BMP0003_20211214 (Continued) — Lab Sample ID: 570-78815-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HxCDF	0.000026	J,DX q MB	0.000057	0.00000058	ug/L	1		1613B	Total/NA
Total HpCDD	0.00017	MB	0.000057	0.0000010	ug/L	1		1613B	Total/NA
Total HpCDF	0.000052	J,DX MB	0.000057	0.00000073	ug/L	1		1613B	Total/NA

Client Sample ID: B1BMP0009_20211214 — Lab Sample ID: 570-78815-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000033	J,DX	0.000052	0.0000012	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000066	J,DX MB	0.000052	0.00000075	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000078	J,DX MB	0.000052	0.00000078	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000081	J,DX MB	0.000052	0.00000070	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000029	J,DX MB	0.000052	0.00000078	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000022	J,DX MB q	0.000052	0.00000082	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000018	J,DX MB q	0.000052	0.00000076	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000016	J,DX MB	0.000052	0.00000081	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00022	MB	0.000052	0.0000022	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000046	J,DX MB	0.000052	0.0000011	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000031	J,DX MB	0.000052	0.0000010	ug/L	1		1613B	Total/NA
OCDD	0.0021	MB	0.00010	0.0000033	ug/L	1		1613B	Total/NA
OCDF	0.00012	MB	0.00010	0.0000014	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000033	J,DX	0.000052	0.0000012	ug/L	1		1613B	Total/NA
Total HxCDD	0.000056	J,DX MB	0.000052	0.00000070	ug/L	1		1613B	Total/NA
Total HxCDF	0.000044	J,DX MB q	0.000052	0.00000076	ug/L	1		1613B	Total/NA
Total HpCDD	0.00062	MB	0.000052	0.0000022	ug/L	1		1613B	Total/NA
Total HpCDF	0.00013	J,DX MB	0.000052	0.0000010	ug/L	1		1613B	Total/NA

Client Sample ID: B1BMP0010_20211214 — Lab Sample ID: 570-78815-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000011	J,DX q	0.000011	0.00000023	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000029	J,DX MB	0.000053	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000014	J,DX MB	0.000053	0.00000027	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.00000086	J,DX MB	0.000053	0.00000026	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000056	J,DX MB q	0.000053	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000090	J,DX MB	0.000053	0.00000041	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000084	J,DX MB	0.000053	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000033	J,DX MB	0.000053	0.00000029	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Client Sample ID: B1BMP0010_20211214 (Continued) — Lab Sample ID: 570-78815-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDF	0.0000021	J,DX MB q	0.000053	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000014	J,DX MB	0.000053	0.00000020	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000013	J,DX MB	0.000053	0.00000022	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00026	MB	0.000053	0.0000022	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000051	J,DX MB	0.000053	0.00000078	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000038	J,DX MB	0.000053	0.00000083	ug/L	1		1613B	Total/NA
OCDD	0.0029	MB	0.00011	0.0000016	ug/L	1		1613B	Total/NA
OCDF	0.00013	MB	0.00011	0.00000032	ug/L	1		1613B	Total/NA
Total TCDD	0.0000022	J,DX q	0.000011	0.00000023	ug/L	1		1613B	Total/NA
Total TCDF	0.0000041	J,DX MB q	0.000011	0.00000017	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000074	J,DX MB q	0.000053	0.00000036	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000060	J,DX MB q	0.000053	0.00000026	ug/L	1		1613B	Total/NA
Total HxCDD	0.000057	J,DX MB q	0.000053	0.00000035	ug/L	1		1613B	Total/NA
Total HxCDF	0.000054	J,DX MB q	0.000053	0.00000020	ug/L	1		1613B	Total/NA
Total HpCDD	0.00075	MB	0.000053	0.0000022	ug/L	1		1613B	Total/NA
Total HpCDF	0.00016	J,DX MB	0.000053	0.00000078	ug/L	1		1613B	Total/NA

Client Sample ID: B1BMP0011_20211214 — Lab Sample ID: 570-78815-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000017	J,DX q	0.000011	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000029	J,DX MB	0.000056	0.00000037	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000024	J,DX MB	0.000056	0.00000025	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000017	J,DX MB	0.000056	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000049	J,DX MB	0.000056	0.00000026	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000038	J,DX MB q	0.000056	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000045	J,DX MB	0.000056	0.00000024	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000030	J,DX MB	0.000056	0.00000030	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000026	J,DX MB	0.000056	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000026	J,DX MB	0.000056	0.00000021	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000022	J,DX MB	0.000056	0.00000023	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000081	MB	0.000056	0.00000085	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Client Sample ID: B1BMP0011_20211214 (Continued)

Lab Sample ID: 570-78815-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDF	0.000020	J,DX MB	0.000056	0.00000032	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000036	J,DX MB	0.000056	0.00000035	ug/L	1		1613B	Total/NA
OCDD	0.00079	MB	0.00011	0.00000064	ug/L	1		1613B	Total/NA
OCDF	0.000053	J,DX MB	0.00011	0.00000031	ug/L	1		1613B	Total/NA
Total TCDD	0.0000022	J,DX q	0.000011	0.00000029	ug/L	1		1613B	Total/NA
Total TCDF	0.0000027	J,DX MB q	0.000011	0.00000015	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000029	J,DX MB	0.000056	0.00000037	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000057	J,DX MB q	0.000056	0.00000025	ug/L	1		1613B	Total/NA
Total HxCDD	0.000026	J,DX MB q	0.000056	0.00000024	ug/L	1		1613B	Total/NA
Total HxCDF	0.000023	J,DX MB q	0.000056	0.00000021	ug/L	1		1613B	Total/NA
Total HpCDD	0.00023	MB	0.000056	0.00000085	ug/L	1		1613B	Total/NA
Total HpCDF	0.000054	J,DX MB	0.000056	0.00000032	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0002_20211214

Lab Sample ID: 570-78815-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000018	J,DX q	0.000010	0.00000021	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000087	J,DX MB	0.000051	0.00000037	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000037	J,DX MB	0.000051	0.00000033	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000029	J,DX MB	0.000051	0.00000034	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000011	J,DX MB	0.000051	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000022	J,DX MB	0.000051	0.00000047	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000019	J,DX MB	0.000051	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000083	J,DX MB	0.000051	0.00000041	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000099	J,DX MB	0.000051	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000034	J,DX MB	0.000051	0.00000029	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000083	J,DX MB	0.000051	0.00000032	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00046	MB	0.000051	0.0000030	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00019	MB	0.000051	0.0000019	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000088	J,DX MB	0.000051	0.0000018	ug/L	1		1613B	Total/NA
OCDD	0.0048	MB	0.00010	0.0000025	ug/L	1		1613B	Total/NA
OCDF	0.00054	MB	0.00010	0.00000045	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Client Sample ID: ILBMP0002_20211214 (Continued) — Lab Sample ID: 570-78815-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.0000033	J,DX q	0.000010	0.00000021	ug/L	1		1613B	Total/NA
Total TCDF	0.0000072	J,DX MB q	0.000010	0.00000017	ug/L	1		1613B	Total/NA
Total PeCDD	0.000021	J,DX MB q	0.000051	0.00000037	ug/L	1		1613B	Total/NA
Total PeCDF	0.000029	J,DX MB	0.000051	0.00000033	ug/L	1		1613B	Total/NA
Total HxCDD	0.00013	J,DX MB q	0.000051	0.00000039	ug/L	1		1613B	Total/NA
Total HxCDF	0.00015	J,DX MB q	0.000051	0.00000029	ug/L	1		1613B	Total/NA
Total HpCDD	0.0010	MB	0.000051	0.0000030	ug/L	1		1613B	Total/NA
Total HpCDF	0.00042	J,DX MB	0.000051	0.0000018	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0004_20211214 — Lab Sample ID: 570-78815-7

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000016	J,DX q	0.000011	0.00000026	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.000014	J,DX MB	0.000053	0.00000054	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000011	J,DX MB	0.000053	0.00000027	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.00000084	J,DX MB	0.000053	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000025	J,DX MB	0.000053	0.00000041	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000040	J,DX MB	0.000053	0.00000044	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000052	J,DX MB	0.000053	0.00000037	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000039	J,DX MB	0.000053	0.00000032	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000042	J,DX MB	0.000053	0.00000033	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000077	J,DX MB q	0.000053	0.00000022	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000033	J,DX MB	0.000053	0.00000024	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0010	MB	0.000053	0.0000083	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00011	MB	0.000053	0.00000093	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000045	J,DX MB	0.000053	0.0000010	ug/L	1		1613B	Total/NA
OCDD	0.021	MB	0.00011	0.0000089	ug/L	1		1613B	Total/NA
OCDF	0.00028	MB	0.00011	0.00000033	ug/L	1		1613B	Total/NA
Total TCDD	0.0000036	J,DX q	0.000011	0.00000026	ug/L	1		1613B	Total/NA
Total TCDF	0.0000040	J,DX MB q	0.000011	0.00000014	ug/L	1		1613B	Total/NA
Total PeCDD	0.000030	J,DX MB q	0.000053	0.00000054	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000094	J,DX MB	0.000053	0.00000027	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: ILBMP0004_20211214 (Continued)
Lab Sample ID: 570-78815-7

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	0.00026	J,DX MB	0.000053	0.00000037	ug/L	1		1613B	Total/NA
Total HxCDF	0.000075	J,DX MB q	0.000053	0.00000022	ug/L	1		1613B	Total/NA
Total HpCDD	0.0027	MB	0.000053	0.0000083	ug/L	1		1613B	Total/NA
Total HpCDF	0.00022	J,DX MB	0.000053	0.00000093	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0005_20211214
Lab Sample ID: 570-78815-8

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000012	J,DX q MB	0.000051	0.00000031	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.00000077	J,DX MB	0.000051	0.00000023	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.00000066	J,DX q MB	0.000051	0.00000024	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000028	J,DX MB	0.000051	0.00000022	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000024	J,DX q MB	0.000051	0.00000024	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000022	J,DX MB	0.000051	0.00000020	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000015	J,DX MB	0.000051	0.00000023	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000011	J,DX q MB	0.000051	0.00000024	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000011	J,DX MB	0.000051	0.00000016	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000099	J,DX q MB	0.000051	0.00000018	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000043	J,DX MB	0.000051	0.00000051	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000017	J,DX MB	0.000051	0.00000031	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000010	J,DX MB	0.000051	0.00000034	ug/L	1		1613B	Total/NA
OCDD	0.00029	MB	0.00010	0.00000040	ug/L	1		1613B	Total/NA
OCDF	0.000024	J,DX MB	0.00010	0.00000024	ug/L	1		1613B	Total/NA
Total TCDD	0.00000045	J,DX q	0.000010	0.00000025	ug/L	1		1613B	Total/NA
Total TCDF	0.0000014	J,DX q MB	0.000010	0.00000012	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000020	J,DX q MB	0.000051	0.00000031	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000039	J,DX q MB	0.000051	0.00000023	ug/L	1		1613B	Total/NA
Total HxCDD	0.000020	J,DX q MB	0.000051	0.00000020	ug/L	1		1613B	Total/NA
Total HxCDF	0.000015	J,DX q MB	0.000051	0.00000016	ug/L	1		1613B	Total/NA
Total HpCDD	0.00012	J,DX MB	0.000051	0.00000051	ug/L	1		1613B	Total/NA
Total HpCDF	0.000029	J,DX MB	0.000051	0.00000031	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Client Sample ID: ILBMP0008_20211214 — Lab Sample ID: 570-78815-9

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000015	J,DX MB	0.000052	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000012	J,DX MB q	0.000052	0.00000029	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.00000076	J,DX MB q	0.000052	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000041	J,DX MB	0.000052	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000069	J,DX MB	0.000052	0.00000042	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000028	J,DX MB q	0.000052	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000064	J,DX MB	0.000052	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000064	J,DX MB	0.000052	0.00000037	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000017	J,DX MB	0.000052	0.00000025	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000044	J,DX MB	0.000052	0.00000028	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00026	MB	0.000052	0.0000041	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00021	MB	0.000052	0.0000020	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000064	J,DX MB	0.000052	0.0000021	ug/L	1		1613B	Total/NA
OCDD	0.0022	MB	0.00010	0.0000010	ug/L	1		1613B	Total/NA
OCDF	0.00043	MB	0.00010	0.00000038	ug/L	1		1613B	Total/NA
Total TCDD	0.0000013	J,DX q	0.000010	0.00000029	ug/L	1		1613B	Total/NA
Total TCDF	0.0000058	J,DX MB q	0.000010	0.00000016	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000061	J,DX MB q	0.000052	0.00000045	ug/L	1		1613B	Total/NA
Total PeCDF	0.000018	J,DX MB q	0.000052	0.00000029	ug/L	1		1613B	Total/NA
Total HxCDD	0.000085	q J,DX MB	0.000052	0.00000035	ug/L	1		1613B	Total/NA
Total HxCDF	0.00014	q J,DX MB	0.000052	0.00000025	ug/L	1		1613B	Total/NA
Total HpCDD	0.0020	MB	0.000052	0.0000041	ug/L	1		1613B	Total/NA
Total HpCDF	0.00050	J,DX MB	0.000052	0.0000020	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0009_20211214 — Lab Sample ID: 570-78815-10

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.00000083	J,DX q	0.000010	0.00000022	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000037	J,DX MB	0.000052	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.00000069	J,DX MB q	0.000052	0.00000025	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000069	J,DX MB	0.000052	0.00000041	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000014	J,DX MB	0.000052	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000089	J,DX MB	0.000052	0.00000036	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: ILBMP0009_20211214 (Continued)

Lab Sample ID: 570-78815-10

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDF	0.0000017	J,DX MB q	0.000052	0.00000028	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000026	J,DX MB	0.000052	0.00000029	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000070	J,DX MB q	0.000052	0.00000020	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000023	J,DX MB	0.000052	0.00000022	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00025	MB	0.000052	0.0000021	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000054	MB	0.000052	0.00000046	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000013	J,DX MB q	0.000052	0.00000049	ug/L	1		1613B	Total/NA
OCDD	0.0022	MB	0.00010	0.0000012	ug/L	1		1613B	Total/NA
OCDF	0.000072	J,DX MB	0.00010	0.00000025	ug/L	1		1613B	Total/NA
Total TCDD	0.0000018	J,DX q	0.000010	0.00000022	ug/L	1		1613B	Total/NA
Total TCDF	0.0000024	J,DX MB q	0.000010	0.00000012	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000097	J,DX MB q	0.000052	0.00000035	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000095	J,DX MB q	0.000052	0.00000024	ug/L	1		1613B	Total/NA
Total HxCDD	0.000078	J,DX MB q	0.000052	0.00000036	ug/L	1		1613B	Total/NA
Total HxCDF	0.000047	J,DX MB q	0.000052	0.00000020	ug/L	1		1613B	Total/NA
Total HpCDD	0.00060	MB	0.000052	0.0000021	ug/L	1		1613B	Total/NA
Total HpCDF	0.000090	J,DX MB q	0.000052	0.00000046	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0010_20211214

Lab Sample ID: 570-78815-11

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000013	J,DX q	0.000011	0.00000027	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000078	J,DX MB	0.000053	0.00000051	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.00000091	J,DX MB q	0.000053	0.00000030	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.00000088	J,DX MB q	0.000053	0.00000031	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000097	J,DX MB q	0.000053	0.00000068	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000028	J,DX MB	0.000053	0.00000071	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000020	J,DX MB	0.000053	0.00000060	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000034	J,DX MB	0.000053	0.00000034	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000054	J,DX MB	0.000053	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000057	J,DX MB q	0.000053	0.00000024	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000044	J,DX MB	0.000053	0.00000028	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Client Sample ID: ILBMP0010_20211214 (Continued)

Lab Sample ID: 570-78815-11

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	0.00058	MB	0.000053	0.0000037	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00012	MB	0.000053	0.00000078	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000031	J,DX MB	0.000053	0.00000088	ug/L	1		1613B	Total/NA
OCDD	0.0039	MB	0.00011	0.0000021	ug/L	1		1613B	Total/NA
OCDF	0.00014	MB	0.00011	0.00000032	ug/L	1		1613B	Total/NA
Total TCDD	0.0000032	J,DX q	0.000011	0.00000027	ug/L	1		1613B	Total/NA
Total TCDF	0.0000048	J,DX MB q	0.000011	0.00000016	ug/L	1		1613B	Total/NA
Total PeCDD	0.000019	J,DX MB	0.000053	0.00000051	ug/L	1		1613B	Total/NA
Total PeCDF	0.000019	J,DX MB q	0.000053	0.00000030	ug/L	1		1613B	Total/NA
Total HxCDD	0.00015	J,DX MB q	0.000053	0.00000060	ug/L	1		1613B	Total/NA
Total HxCDF	0.000096	J,DX MB q	0.000053	0.00000024	ug/L	1		1613B	Total/NA
Total HpCDD	0.0012	MB	0.000053	0.0000037	ug/L	1		1613B	Total/NA
Total HpCDF	0.00020	J,DX MB	0.000053	0.00000078	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: A1BMP0002_20211214
Date Collected: 12/14/21 06:47
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000011	ug/L		12/23/21 07:16	12/29/21 23:14	1
2,3,7,8-TCDF	ND		0.000010	0.00000045	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000090	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000050	ug/L		12/23/21 07:16	12/29/21 23:14	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000047	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,4,7,8-HxCDD	**0.0000035**	**J,DX MB**	0.000050	0.00000051	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,6,7,8-HxCDD	**0.0000020**	**J,DX MB**	0.000050	0.00000053	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,7,8,9-HxCDD	**0.0000020**	**J,DX MB**	0.000050	0.00000048	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,4,7,8-HxCDF	**0.0000018**	**J,DX MB**	0.000050	0.00000043	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,6,7,8-HxCDF	**0.0000021**	**J,DX MB**	0.000050	0.00000046	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,7,8,9-HxCDF	**0.0000024**	**J,DX MB**	0.000050	0.00000043	ug/L		12/23/21 07:16	12/29/21 23:14	1
2,3,4,6,7,8-HxCDF	**0.0000019**	**J,DX MB**	0.000050	0.00000046	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,4,6,7,8-HpCDD	**0.000021**	**J,DX MB**	0.000050	0.00000043	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,4,6,7,8-HpCDF	**0.000014**	**J,DX MB**	0.000050	0.00000064	ug/L		12/23/21 07:16	12/29/21 23:14	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000059	ug/L		12/23/21 07:16	12/29/21 23:14	1
OCDD	**0.00011**	**MB**	0.00010	0.00000062	ug/L		12/23/21 07:16	12/29/21 23:14	1
OCDF	**0.000015**	**J,DX MB**	0.00010	0.00000072	ug/L		12/23/21 07:16	12/29/21 23:14	1
Total TCDD	ND		0.000010	0.0000011	ug/L		12/23/21 07:16	12/29/21 23:14	1
Total TCDF	ND		0.000010	0.00000045	ug/L		12/23/21 07:16	12/29/21 23:14	1
Total PeCDD	ND		0.000050	0.00000090	ug/L		12/23/21 07:16	12/29/21 23:14	1
Total PeCDF	ND		0.000050	0.00000047	ug/L		12/23/21 07:16	12/29/21 23:14	1
Total HxCDD	**0.000010**	**J,DX MB**	0.000050	0.00000048	ug/L		12/23/21 07:16	12/29/21 23:14	1
Total HxCDF	**0.000015**	**J,DX MB**	0.000050	0.00000043	ug/L		12/23/21 07:16	12/29/21 23:14	1
Total HpCDD	**0.000043**	**J,DX MB**	0.000050	0.00000043	ug/L		12/23/21 07:16	12/29/21 23:14	1
Total HpCDF	**0.000019**	**J,DX MB**	0.000050	0.00000059	ug/L		12/23/21 07:16	12/29/21 23:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*73*		*25 - 164*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-2,3,7,8-TCDF	*77*		*24 - 169*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*25 - 181*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*24 - 185*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*21 - 178*	*12/23/21 07:16*	*12/29/21 23:14*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: A1BMP0002_20211214
Date Collected: 12/14/21 06:47
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-1
Matrix: Water

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*76*		*32 - 141*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*28 - 130*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-1,2,3,4,7,8-HxCDF	*80*		*26 - 152*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-1,2,3,6,7,8-HxCDF	*81*		*26 - 123*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-1,2,3,7,8,9-HxCDF	*81*		*29 - 147*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*28 - 136*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*23 - 140*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*28 - 143*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*85*		*26 - 138*	*12/23/21 07:16*	*12/29/21 23:14*	*1*
13C-OCDD	*87*		*17 - 157*	*12/23/21 07:16*	*12/29/21 23:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*12/23/21 07:16*	*12/29/21 23:14*	*1*

Client Sample ID: A1BMP0003_20211214
Date Collected: 12/14/21 07:10
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.0000014	ug/L		12/23/21 07:16	12/30/21 00:49	1
2,3,7,8-TCDF	ND		0.000011	0.00000060	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,7,8-PeCDD	ND		0.000057	0.0000011	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,7,8-PeCDF	ND		0.000057	0.00000056	ug/L		12/23/21 07:16	12/30/21 00:49	1
2,3,4,7,8-PeCDF	ND		0.000057	0.00000055	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,4,7,8-HxCDD	**0.0000041**	**J,DX MB**	0.000057	0.00000055	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,6,7,8-HxCDD	**0.0000037**	**J,DX MB**	0.000057	0.00000058	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,7,8,9-HxCDD	**0.0000038**	**J,DX MB**	0.000057	0.00000052	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,4,7,8-HxCDF	**0.0000017**	**J,DX MB**	0.000057	0.00000058	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,6,7,8-HxCDF	**0.0000019**	**J,DX MB**	0.000057	0.00000062	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,7,8,9-HxCDF	**0.0000014**	**J,DX q MB**	0.000057	0.00000059	ug/L		12/23/21 07:16	12/30/21 00:49	1
2,3,4,6,7,8-HxCDF	**0.0000016**	**J,DX MB**	0.000057	0.00000064	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,4,6,7,8-HpCDD	**0.000090**	**MB**	0.000057	0.0000010	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,4,6,7,8-HpCDF	**0.000028**	**J,DX MB**	0.000057	0.00000078	ug/L		12/23/21 07:16	12/30/21 00:49	1
1,2,3,4,7,8,9-HpCDF	**0.0000017**	**J,DX MB**	0.000057	0.00000073	ug/L		12/23/21 07:16	12/30/21 00:49	1
OCDD	**0.00067**	**MB**	0.00011	0.0000014	ug/L		12/23/21 07:16	12/30/21 00:49	1
OCDF	**0.000057**	**J,DX MB**	0.00011	0.0000011	ug/L		12/23/21 07:16	12/30/21 00:49	1
Total TCDD	ND		0.000011	0.0000014	ug/L		12/23/21 07:16	12/30/21 00:49	1
Total TCDF	ND		0.000011	0.00000060	ug/L		12/23/21 07:16	12/30/21 00:49	1
Total PeCDD	ND		0.000057	0.0000011	ug/L		12/23/21 07:16	12/30/21 00:49	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: A1BMP0003_20211214
Date Collected: 12/14/21 07:10
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDF	ND		0.000057	0.00000055	ug/L		12/23/21 07:16	12/30/21 00:49	1
Total HxCDD	**0.000025**	**J,DX MB**	0.000057	0.00000052	ug/L		12/23/21 07:16	12/30/21 00:49	1
Total HxCDF	**0.000026**	**J,DX q MB**	0.000057	0.00000058	ug/L		12/23/21 07:16	12/30/21 00:49	1
Total HpCDD	**0.00017**	**MB**	0.000057	0.0000010	ug/L		12/23/21 07:16	12/30/21 00:49	1
Total HpCDF	**0.000052**	**J,DX MB**	0.000057	0.00000073	ug/L		12/23/21 07:16	12/30/21 00:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*25 - 181*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*24 - 185*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-2,3,4,7,8-PeCDF	*81*		*21 - 178*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-1,2,3,4,7,8-HxCDD	*79*		*32 - 141*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-1,2,3,6,7,8-HxCDD	*82*		*28 - 130*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-1,2,3,4,7,8-HxCDF	*85*		*26 - 152*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-1,2,3,6,7,8-HxCDF	*86*		*26 - 123*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-1,2,3,7,8,9-HxCDF	*85*		*29 - 147*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-2,3,4,6,7,8-HxCDF	*82*		*28 - 136*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*74*		*23 - 140*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*91*		*26 - 138*	*12/23/21 07:16*	*12/30/21 00:49*	*1*
13C-OCDD	*91*		*17 - 157*	*12/23/21 07:16*	*12/30/21 00:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*83*		*35 - 197*	*12/23/21 07:16*	*12/30/21 00:49*	*1*

Client Sample ID: B1BMP0009_20211214
Date Collected: 12/14/21 07:50
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000013	ug/L		12/23/21 07:16	12/30/21 00:02	1
2,3,7,8-TCDF	ND		0.000010	0.00000053	ug/L		12/23/21 07:16	12/30/21 00:02	1
1,2,3,7,8-PeCDD	**0.0000033**	**J,DX**	0.000052	0.0000012	ug/L		12/23/21 07:16	12/30/21 00:02	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000057	ug/L		12/23/21 07:16	12/30/21 00:02	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000056	ug/L		12/23/21 07:16	12/30/21 00:02	1
1,2,3,4,7,8-HxCDD	**0.0000066**	**J,DX MB**	0.000052	0.00000075	ug/L		12/23/21 07:16	12/30/21 00:02	1
1,2,3,6,7,8-HxCDD	**0.0000078**	**J,DX MB**	0.000052	0.00000078	ug/L		12/23/21 07:16	12/30/21 00:02	1
1,2,3,7,8,9-HxCDD	**0.0000081**	**J,DX MB**	0.000052	0.00000070	ug/L		12/23/21 07:16	12/30/21 00:02	1
1,2,3,4,7,8-HxCDF	**0.0000029**	**J,DX MB**	0.000052	0.00000078	ug/L		12/23/21 07:16	12/30/21 00:02	1
1,2,3,6,7,8-HxCDF	**0.0000022**	**J,DX MB q**	0.000052	0.00000082	ug/L		12/23/21 07:16	12/30/21 00:02	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: B1BMP0009_20211214
Date Collected: 12/14/21 07:50
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8,9-HxCDF	0.0000018	J,DX MB q	0.000052	0.00000076	ug/L		12/23/21 07:16	12/30/21 00:02	1
2,3,4,6,7,8-HxCDF	0.0000016	J,DX MB	0.000052	0.00000081	ug/L		12/23/21 07:16	12/30/21 00:02	1
1,2,3,4,6,7,8-HpCDD	0.00022	MB	0.000052	0.0000022	ug/L		12/23/21 07:16	12/30/21 00:02	1
1,2,3,4,6,7,8-HpCDF	0.000046	J,DX MB	0.000052	0.0000011	ug/L		12/23/21 07:16	12/30/21 00:02	1
1,2,3,4,7,8,9-HpCDF	0.0000031	J,DX MB	0.000052	0.0000010	ug/L		12/23/21 07:16	12/30/21 00:02	1
OCDD	0.0021	MB	0.00010	0.0000033	ug/L		12/23/21 07:16	12/30/21 00:02	1
OCDF	0.00012	MB	0.00010	0.0000014	ug/L		12/23/21 07:16	12/30/21 00:02	1
Total TCDD	ND		0.000010	0.0000013	ug/L		12/23/21 07:16	12/30/21 00:02	1
Total TCDF	ND		0.000010	0.00000053	ug/L		12/23/21 07:16	12/30/21 00:02	1
Total PeCDD	0.0000033	J,DX	0.000052	0.0000012	ug/L		12/23/21 07:16	12/30/21 00:02	1
Total PeCDF	ND		0.000052	0.00000056	ug/L		12/23/21 07:16	12/30/21 00:02	1
Total HxCDD	0.000056	J,DX MB	0.000052	0.00000070	ug/L		12/23/21 07:16	12/30/21 00:02	1
Total HxCDF	0.000044	J,DX MB q	0.000052	0.00000076	ug/L		12/23/21 07:16	12/30/21 00:02	1
Total HpCDD	0.00062	MB	0.000052	0.0000022	ug/L		12/23/21 07:16	12/30/21 00:02	1
Total HpCDF	0.00013	J,DX MB	0.000052	0.0000010	ug/L		12/23/21 07:16	12/30/21 00:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*63*		*25 - 164*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-2,3,7,8-TCDF	*67*		*24 - 169*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-1,2,3,7,8-PeCDD	*53*		*25 - 181*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-1,2,3,7,8-PeCDF	*56*		*24 - 185*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-2,3,4,7,8-PeCDF	*61*		*21 - 178*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-1,2,3,4,7,8-HxCDD	*56*		*32 - 141*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-1,2,3,6,7,8-HxCDD	*60*		*28 - 130*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-1,2,3,4,7,8-HxCDF	*59*		*26 - 152*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-1,2,3,6,7,8-HxCDF	*61*		*26 - 123*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-1,2,3,7,8,9-HxCDF	*60*		*29 - 147*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-2,3,4,6,7,8-HxCDF	*59*		*28 - 136*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*52*		*23 - 140*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*54*		*28 - 143*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*61*		*26 - 138*	*12/23/21 07:16*	*12/30/21 00:02*	*1*
13C-OCDD	*60*		*17 - 157*	*12/23/21 07:16*	*12/30/21 00:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*12/23/21 07:16*	*12/30/21 00:02*	*1*

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-4
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000011	J,DX q	0.000011	0.00000023	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,7,8-PeCDD	0.0000029	J,DX MB	0.000053	0.00000036	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,7,8-PeCDF	0.0000014	J,DX MB	0.000053	0.00000027	ug/L		12/23/21 09:11	12/30/21 06:13	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-4
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,7,8-PeCDF	0.00000086	J,DX MB	0.000053	0.00000026	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,4,7,8-HxCDD	0.0000056	J,DX MB q	0.000053	0.00000039	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,6,7,8-HxCDD	0.0000090	J,DX MB	0.000053	0.00000041	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,7,8,9-HxCDD	0.0000084	J,DX MB	0.000053	0.00000035	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,4,7,8-HxCDF	0.0000033	J,DX MB	0.000053	0.00000029	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,6,7,8-HxCDF	0.0000021	J,DX MB q	0.000053	0.00000029	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,7,8,9-HxCDF	0.0000014	J,DX MB	0.000053	0.00000020	ug/L		12/23/21 09:11	12/30/21 06:13	1
2,3,4,6,7,8-HxCDF	0.0000013	J,DX MB	0.000053	0.00000022	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,4,6,7,8-HpCDD	0.00026	MB	0.000053	0.0000022	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,4,6,7,8-HpCDF	0.000051	J,DX MB	0.000053	0.00000078	ug/L		12/23/21 09:11	12/30/21 06:13	1
1,2,3,4,7,8,9-HpCDF	0.0000038	J,DX MB	0.000053	0.00000083	ug/L		12/23/21 09:11	12/30/21 06:13	1
OCDD	0.0029	MB	0.00011	0.0000016	ug/L		12/23/21 09:11	12/30/21 06:13	1
OCDF	0.00013	MB	0.00011	0.00000032	ug/L		12/23/21 09:11	12/30/21 06:13	1
Total TCDD	0.0000022	J,DX q	0.000011	0.00000023	ug/L		12/23/21 09:11	12/30/21 06:13	1
Total TCDF	0.0000041	J,DX MB q	0.000011	0.00000017	ug/L		12/23/21 09:11	12/30/21 06:13	1
Total PeCDD	0.0000074	J,DX MB q	0.000053	0.00000036	ug/L		12/23/21 09:11	12/30/21 06:13	1
Total PeCDF	0.0000060	J,DX MB q	0.000053	0.00000026	ug/L		12/23/21 09:11	12/30/21 06:13	1
Total HxCDD	0.000057	J,DX MB q	0.000053	0.00000035	ug/L		12/23/21 09:11	12/30/21 06:13	1
Total HxCDF	0.000054	J,DX MB q	0.000053	0.00000020	ug/L		12/23/21 09:11	12/30/21 06:13	1
Total HpCDD	0.00075	MB	0.000053	0.0000022	ug/L		12/23/21 09:11	12/30/21 06:13	1
Total HpCDF	0.00016	J,DX MB	0.000053	0.00000078	ug/L		12/23/21 09:11	12/30/21 06:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*25 - 164*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-2,3,7,8-TCDF	*77*		*24 - 169*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*25 - 181*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-1,2,3,7,8-PeCDF	*70*		*24 - 185*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*21 - 178*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-1,2,3,4,7,8-HxCDD	*82*		*32 - 141*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*28 - 130*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*26 - 152*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-1,2,3,6,7,8-HxCDF	*71*		*26 - 123*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-1,2,3,7,8,9-HxCDF	*73*		*29 - 147*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-2,3,4,6,7,8-HxCDF	*74*		*28 - 136*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*23 - 140*	*12/23/21 09:11*	*12/30/21 06:13*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*12/23/21 09:11*	*12/30/21 06:13*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-4
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8,9-HpCDF	98		26 - 138	12/23/21 09:11	12/30/21 06:13	1
13C-OCDD	82		17 - 157	12/23/21 09:11	12/30/21 06:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	85		35 - 197	12/23/21 09:11	12/30/21 06:13	1

Client Sample ID: B1BMP0011_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-5
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000017	J,DX q	0.000011	0.00000029	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,7,8-PeCDD	0.0000029	J,DX MB	0.000056	0.00000037	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,7,8-PeCDF	0.0000024	J,DX MB	0.000056	0.00000025	ug/L		12/23/21 09:11	12/30/21 06:58	1
2,3,4,7,8-PeCDF	0.0000017	J,DX MB	0.000056	0.00000025	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,4,7,8-HxCDD	0.0000049	J,DX MB	0.000056	0.00000026	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,6,7,8-HxCDD	0.0000038	J,DX MB q	0.000056	0.00000029	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,7,8,9-HxCDD	0.0000045	J,DX MB	0.000056	0.00000024	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,4,7,8-HxCDF	0.0000030	J,DX MB	0.000056	0.00000030	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,6,7,8-HxCDF	0.0000026	J,DX MB	0.000056	0.00000029	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,7,8,9-HxCDF	0.0000026	J,DX MB	0.000056	0.00000021	ug/L		12/23/21 09:11	12/30/21 06:58	1
2,3,4,6,7,8-HxCDF	0.0000022	J,DX MB	0.000056	0.00000023	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,4,6,7,8-HpCDD	0.000081	MB	0.000056	0.00000085	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,4,6,7,8-HpCDF	0.000020	J,DX MB	0.000056	0.00000032	ug/L		12/23/21 09:11	12/30/21 06:58	1
1,2,3,4,7,8,9-HpCDF	0.0000036	J,DX MB	0.000056	0.00000035	ug/L		12/23/21 09:11	12/30/21 06:58	1
OCDD	0.00079	MB	0.00011	0.00000064	ug/L		12/23/21 09:11	12/30/21 06:58	1
OCDF	0.000053	J,DX MB	0.00011	0.00000031	ug/L		12/23/21 09:11	12/30/21 06:58	1
Total TCDD	0.0000022	J,DX q	0.000011	0.00000029	ug/L		12/23/21 09:11	12/30/21 06:58	1
Total TCDF	0.0000027	J,DX MB q	0.000011	0.00000015	ug/L		12/23/21 09:11	12/30/21 06:58	1
Total PeCDD	0.0000029	J,DX MB	0.000056	0.00000037	ug/L		12/23/21 09:11	12/30/21 06:58	1
Total PeCDF	0.0000057	J,DX MB q	0.000056	0.00000025	ug/L		12/23/21 09:11	12/30/21 06:58	1
Total HxCDD	0.000026	J,DX MB q	0.000056	0.00000024	ug/L		12/23/21 09:11	12/30/21 06:58	1
Total HxCDF	0.000023	J,DX MB q	0.000056	0.00000021	ug/L		12/23/21 09:11	12/30/21 06:58	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: B1BMP0011_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-5
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDD	0.00023	MB	0.000056	0.00000085	ug/L		12/23/21 09:11	12/30/21 06:58	1
Total HpCDF	0.000054	J,DX MB	0.000056	0.00000032	ug/L		12/23/21 09:11	12/30/21 06:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*81*		*25 - 164*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-2,3,7,8-TCDF	*83*		*24 - 169*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*25 - 181*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*24 - 185*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-2,3,4,7,8-PeCDF	*85*		*21 - 178*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-1,2,3,4,7,8-HxCDD	*89*		*32 - 141*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*28 - 130*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*89*		*26 - 152*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-1,2,3,6,7,8-HxCDF	*80*		*26 - 123*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-1,2,3,7,8,9-HxCDF	*81*		*29 - 147*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-2,3,4,6,7,8-HxCDF	*80*		*28 - 136*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*91*		*23 - 140*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*87*		*28 - 143*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*105*		*26 - 138*	*12/23/21 09:11*	*12/30/21 06:58*	*1*
13C-OCDD	*86*		*17 - 157*	*12/23/21 09:11*	*12/30/21 06:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*90*		*35 - 197*	*12/23/21 09:11*	*12/30/21 06:58*	*1*

Client Sample ID: ILBMP0002_20211214
Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-6
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000018	J,DX q	0.000010	0.00000021	ug/L		12/23/21 09:11	12/30/21 07:43	1
1,2,3,7,8-PeCDD	0.0000087	J,DX MB	0.000051	0.00000037	ug/L		12/23/21 09:11	12/30/21 07:43	1
1,2,3,7,8-PeCDF	0.0000037	J,DX MB	0.000051	0.00000033	ug/L		12/23/21 09:11	12/30/21 07:43	1
2,3,4,7,8-PeCDF	0.0000029	J,DX MB	0.000051	0.00000034	ug/L		12/23/21 09:11	12/30/21 07:43	1
1,2,3,4,7,8-HxCDD	0.000011	J,DX MB	0.000051	0.00000043	ug/L		12/23/21 09:11	12/30/21 07:43	1
1,2,3,6,7,8-HxCDD	0.000022	J,DX MB	0.000051	0.00000047	ug/L		12/23/21 09:11	12/30/21 07:43	1
1,2,3,7,8,9-HxCDD	0.000019	J,DX MB	0.000051	0.00000039	ug/L		12/23/21 09:11	12/30/21 07:43	1
1,2,3,4,7,8-HxCDF	0.0000083	J,DX MB	0.000051	0.00000041	ug/L		12/23/21 09:11	12/30/21 07:43	1
1,2,3,6,7,8-HxCDF	0.0000099	J,DX MB	0.000051	0.00000043	ug/L		12/23/21 09:11	12/30/21 07:43	1
1,2,3,7,8,9-HxCDF	0.0000034	J,DX MB	0.000051	0.00000029	ug/L		12/23/21 09:11	12/30/21 07:43	1
2,3,4,6,7,8-HxCDF	0.0000083	J,DX MB	0.000051	0.00000032	ug/L		12/23/21 09:11	12/30/21 07:43	1
1,2,3,4,6,7,8-HpCDD	0.00046	MB	0.000051	0.0000030	ug/L		12/23/21 09:11	12/30/21 07:43	1
1,2,3,4,6,7,8-HpCDF	0.00019	MB	0.000051	0.0000019	ug/L		12/23/21 09:11	12/30/21 07:43	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0002_20211214
Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-6
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8,9-HpCDF	0.0000088	J,DX MB	0.000051	0.0000018	ug/L		12/23/21 09:11	12/30/21 07:43	1
OCDD	0.0048	MB	0.00010	0.0000025	ug/L		12/23/21 09:11	12/30/21 07:43	1
OCDF	0.00054	MB	0.00010	0.00000045	ug/L		12/23/21 09:11	12/30/21 07:43	1
Total TCDD	0.0000033	J,DX q	0.000010	0.00000021	ug/L		12/23/21 09:11	12/30/21 07:43	1
Total TCDF	0.0000072	J,DX MB q	0.000010	0.00000017	ug/L		12/23/21 09:11	12/30/21 07:43	1
Total PeCDD	0.000021	J,DX MB q	0.000051	0.00000037	ug/L		12/23/21 09:11	12/30/21 07:43	1
Total PeCDF	0.000029	J,DX MB	0.000051	0.00000033	ug/L		12/23/21 09:11	12/30/21 07:43	1
Total HxCDD	0.00013	J,DX MB q	0.000051	0.00000039	ug/L		12/23/21 09:11	12/30/21 07:43	1
Total HxCDF	0.00015	J,DX MB q	0.000051	0.00000029	ug/L		12/23/21 09:11	12/30/21 07:43	1
Total HpCDD	0.0010	MB	0.000051	0.0000030	ug/L		12/23/21 09:11	12/30/21 07:43	1
Total HpCDF	0.00042	J,DX MB	0.000051	0.0000018	ug/L		12/23/21 09:11	12/30/21 07:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*88*		*25 - 164*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-2,3,7,8-TCDF	*90*		*24 - 169*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*25 - 181*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*24 - 185*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-2,3,4,7,8-PeCDF	*90*		*21 - 178*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-1,2,3,4,7,8-HxCDD	*94*		*32 - 141*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-1,2,3,6,7,8-HxCDD	*88*		*28 - 130*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-1,2,3,4,7,8-HxCDF	*93*		*26 - 152*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*26 - 123*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-1,2,3,7,8,9-HxCDF	*84*		*29 - 147*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-2,3,4,6,7,8-HxCDF	*85*		*28 - 136*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*97*		*23 - 140*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*82*		*28 - 143*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*112*		*26 - 138*	*12/23/21 09:11*	*12/30/21 07:43*	*1*
13C-OCDD	*93*		*17 - 157*	*12/23/21 09:11*	*12/30/21 07:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*95*		*35 - 197*	*12/23/21 09:11*	*12/30/21 07:43*	*1*

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000016	J,DX q	0.000011	0.00000026	ug/L		12/23/21 09:11	12/30/21 08:28	1
1,2,3,7,8-PeCDD	0.000014	J,DX MB	0.000053	0.00000054	ug/L		12/23/21 09:11	12/30/21 08:28	1
1,2,3,7,8-PeCDF	0.0000011	J,DX MB	0.000053	0.00000027	ug/L		12/23/21 09:11	12/30/21 08:28	1
2,3,4,7,8-PeCDF	0.00000084	J,DX MB	0.000053	0.00000029	ug/L		12/23/21 09:11	12/30/21 08:28	1
1,2,3,4,7,8-HxCDD	0.000025	J,DX MB	0.000053	0.00000041	ug/L		12/23/21 09:11	12/30/21 08:28	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,6,7,8-HxCDD	0.000040	J,DX MB	0.000053	0.00000044	ug/L		12/23/21 09:11	12/30/21 08:28	1
1,2,3,7,8,9-HxCDD	0.000052	J,DX MB	0.000053	0.00000037	ug/L		12/23/21 09:11	12/30/21 08:28	1
1,2,3,4,7,8-HxCDF	0.0000039	J,DX MB	0.000053	0.00000032	ug/L		12/23/21 09:11	12/30/21 08:28	1
1,2,3,6,7,8-HxCDF	0.0000042	J,DX MB	0.000053	0.00000033	ug/L		12/23/21 09:11	12/30/21 08:28	1
1,2,3,7,8,9-HxCDF	0.00000077	J,DX MB q	0.000053	0.00000022	ug/L		12/23/21 09:11	12/30/21 08:28	1
2,3,4,6,7,8-HxCDF	0.0000033	J,DX MB	0.000053	0.00000024	ug/L		12/23/21 09:11	12/30/21 08:28	1
1,2,3,4,6,7,8-HpCDD	0.0010	MB	0.000053	0.0000083	ug/L		12/23/21 09:11	12/30/21 08:28	1
1,2,3,4,6,7,8-HpCDF	0.00011	MB	0.000053	0.00000093	ug/L		12/23/21 09:11	12/30/21 08:28	1
1,2,3,4,7,8,9-HpCDF	0.0000045	J,DX MB	0.000053	0.0000010	ug/L		12/23/21 09:11	12/30/21 08:28	1
OCDD	0.021	MB	0.00011	0.0000089	ug/L		12/23/21 09:11	12/30/21 08:28	1
OCDF	0.00028	MB	0.00011	0.00000033	ug/L		12/23/21 09:11	12/30/21 08:28	1
Total TCDD	0.0000036	J,DX q	0.000011	0.00000026	ug/L		12/23/21 09:11	12/30/21 08:28	1
Total TCDF	0.0000040	J,DX MB q	0.000011	0.00000014	ug/L		12/23/21 09:11	12/30/21 08:28	1
Total PeCDD	0.000030	J,DX MB q	0.000053	0.00000054	ug/L		12/23/21 09:11	12/30/21 08:28	1
Total PeCDF	0.0000094	J,DX MB	0.000053	0.00000027	ug/L		12/23/21 09:11	12/30/21 08:28	1
Total HxCDD	0.00026	J,DX MB	0.000053	0.00000037	ug/L		12/23/21 09:11	12/30/21 08:28	1
Total HxCDF	0.000075	J,DX MB q	0.000053	0.00000022	ug/L		12/23/21 09:11	12/30/21 08:28	1
Total HpCDD	0.0027	MB	0.000053	0.0000083	ug/L		12/23/21 09:11	12/30/21 08:28	1
Total HpCDF	0.00022	J,DX MB	0.000053	0.00000093	ug/L		12/23/21 09:11	12/30/21 08:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*81*		*25 - 164*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-2,3,7,8-TCDF	*86*		*24 - 169*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*25 - 181*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*24 - 185*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-2,3,4,7,8-PeCDF	*83*		*21 - 178*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-1,2,3,4,7,8-HxCDD	*85*		*32 - 141*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*28 - 130*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*26 - 152*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-1,2,3,6,7,8-HxCDF	*76*		*26 - 123*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-1,2,3,7,8,9-HxCDF	*80*		*29 - 147*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-2,3,4,6,7,8-HxCDF	*80*		*28 - 136*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*90*		*23 - 140*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*85*		*28 - 143*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*103*		*26 - 138*	*12/23/21 09:11*	*12/30/21 08:28*	*1*
13C-OCDD	*88*		*17 - 157*	*12/23/21 09:11*	*12/30/21 08:28*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*12/23/21 09:11*	*12/30/21 08:28*	*1*

Client Sample ID: ILBMP0005_20211214
Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-8
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000025	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,7,8-PeCDD	**0.0000012**	**J,DX q MB**	0.000051	0.00000031	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,7,8-PeCDF	**0.00000077**	**J,DX MB**	0.000051	0.00000023	ug/L		12/23/21 09:11	12/30/21 09:13	1
2,3,4,7,8-PeCDF	**0.00000066**	**J,DX q MB**	0.000051	0.00000024	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,4,7,8-HxCDD	**0.0000028**	**J,DX MB**	0.000051	0.00000022	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,6,7,8-HxCDD	**0.0000024**	**J,DX q MB**	0.000051	0.00000024	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,7,8,9-HxCDD	**0.0000022**	**J,DX MB**	0.000051	0.00000020	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,4,7,8-HxCDF	**0.0000015**	**J,DX MB**	0.000051	0.00000023	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,6,7,8-HxCDF	**0.0000011**	**J,DX q MB**	0.000051	0.00000024	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,7,8,9-HxCDF	**0.0000011**	**J,DX MB**	0.000051	0.00000016	ug/L		12/23/21 09:11	12/30/21 09:13	1
2,3,4,6,7,8-HxCDF	**0.00000099**	**J,DX q MB**	0.000051	0.00000018	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,4,6,7,8-HpCDD	**0.000043**	**J,DX MB**	0.000051	0.00000051	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,4,6,7,8-HpCDF	**0.000017**	**J,DX MB**	0.000051	0.00000031	ug/L		12/23/21 09:11	12/30/21 09:13	1
1,2,3,4,7,8,9-HpCDF	**0.0000010**	**J,DX MB**	0.000051	0.00000034	ug/L		12/23/21 09:11	12/30/21 09:13	1
OCDD	**0.00029**	**MB**	0.00010	0.00000040	ug/L		12/23/21 09:11	12/30/21 09:13	1
OCDF	**0.000024**	**J,DX MB**	0.00010	0.00000024	ug/L		12/23/21 09:11	12/30/21 09:13	1
Total TCDD	**0.00000045**	**J,DX q**	0.000010	0.00000025	ug/L		12/23/21 09:11	12/30/21 09:13	1
Total TCDF	**0.0000014**	**J,DX q MB**	0.000010	0.00000012	ug/L		12/23/21 09:11	12/30/21 09:13	1
Total PeCDD	**0.0000020**	**J,DX q MB**	0.000051	0.00000031	ug/L		12/23/21 09:11	12/30/21 09:13	1
Total PeCDF	**0.0000039**	**J,DX q MB**	0.000051	0.00000023	ug/L		12/23/21 09:11	12/30/21 09:13	1
Total HxCDD	**0.000020**	**J,DX q MB**	0.000051	0.00000020	ug/L		12/23/21 09:11	12/30/21 09:13	1
Total HxCDF	**0.000015**	**J,DX q MB**	0.000051	0.00000016	ug/L		12/23/21 09:11	12/30/21 09:13	1
Total HpCDD	**0.00012**	**J,DX MB**	0.000051	0.00000051	ug/L		12/23/21 09:11	12/30/21 09:13	1
Total HpCDF	**0.000029**	**J,DX MB**	0.000051	0.00000031	ug/L		12/23/21 09:11	12/30/21 09:13	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-2,3,7,8-TCDF	*79*		*24 - 169*	*12/23/21 09:11*	*12/30/21 09:13*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0005_20211214
Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-8
Matrix: Water

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8-PeCDD	*70*		*25 - 181*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*24 - 185*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*21 - 178*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-1,2,3,4,7,8-HxCDD	*82*		*32 - 141*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*28 - 130*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*26 - 152*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*26 - 123*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-1,2,3,7,8,9-HxCDF	*74*		*29 - 147*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-2,3,4,6,7,8-HxCDF	*74*		*28 - 136*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*81*		*23 - 140*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*78*		*28 - 143*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*95*		*26 - 138*	*12/23/21 09:11*	*12/30/21 09:13*	*1*
13C-OCDD	*75*		*17 - 157*	*12/23/21 09:11*	*12/30/21 09:13*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*93*		*35 - 197*	*12/23/21 09:11*	*12/30/21 09:13*	*1*

Client Sample ID: ILBMP0008_20211214
Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-9
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000029	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,7,8-PeCDD	**0.0000015**	**J,DX MB**	0.000052	0.00000045	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,7,8-PeCDF	**0.0000012**	**J,DX MB q**	0.000052	0.00000029	ug/L		12/23/21 09:11	12/30/21 09:58	1
2,3,4,7,8-PeCDF	**0.00000076**	**J,DX MB q**	0.000052	0.00000029	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,4,7,8-HxCDD	**0.0000041**	**J,DX MB**	0.000052	0.00000039	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,6,7,8-HxCDD	**0.0000069**	**J,DX MB**	0.000052	0.00000042	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,7,8,9-HxCDD	**0.0000028**	**J,DX MB q**	0.000052	0.00000035	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,4,7,8-HxCDF	**0.0000064**	**J,DX MB**	0.000052	0.00000036	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,6,7,8-HxCDF	**0.0000064**	**J,DX MB**	0.000052	0.00000037	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,7,8,9-HxCDF	**0.0000017**	**J,DX MB**	0.000052	0.00000025	ug/L		12/23/21 09:11	12/30/21 09:58	1
2,3,4,6,7,8-HxCDF	**0.0000044**	**J,DX MB**	0.000052	0.00000028	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,4,6,7,8-HpCDD	**0.00026**	**MB**	0.000052	0.0000041	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,4,6,7,8-HpCDF	**0.00021**	**MB**	0.000052	0.0000020	ug/L		12/23/21 09:11	12/30/21 09:58	1
1,2,3,4,7,8,9-HpCDF	**0.0000064**	**J,DX MB**	0.000052	0.0000021	ug/L		12/23/21 09:11	12/30/21 09:58	1
OCDD	**0.0022**	**MB**	0.00010	0.0000010	ug/L		12/23/21 09:11	12/30/21 09:58	1
OCDF	**0.00043**	**MB**	0.00010	0.00000038	ug/L		12/23/21 09:11	12/30/21 09:58	1
Total TCDD	**0.0000013**	**J,DX q**	0.000010	0.00000029	ug/L		12/23/21 09:11	12/30/21 09:58	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0008_20211214
Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-9
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	**0.0000058**	**J,DX MB q**	0.000010	0.00000016	ug/L		12/23/21 09:11	12/30/21 09:58	1
Total PeCDD	**0.0000061**	**J,DX MB q**	0.000052	0.00000045	ug/L		12/23/21 09:11	12/30/21 09:58	1
Total PeCDF	**0.000018**	**J,DX MB q**	0.000052	0.00000029	ug/L		12/23/21 09:11	12/30/21 09:58	1
Total HxCDD	**0.000085**	**q J,DX MB**	0.000052	0.00000035	ug/L		12/23/21 09:11	12/30/21 09:58	1
Total HxCDF	**0.00014**	**q J,DX MB**	0.000052	0.00000025	ug/L		12/23/21 09:11	12/30/21 09:58	1
Total HpCDD	**0.0020**	**MB**	0.000052	0.0000041	ug/L		12/23/21 09:11	12/30/21 09:58	1
Total HpCDF	**0.00050**	**J,DX MB**	0.000052	0.0000020	ug/L		12/23/21 09:11	12/30/21 09:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*87*		*25 - 164*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-2,3,7,8-TCDF	*93*		*24 - 169*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*25 - 181*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*24 - 185*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-2,3,4,7,8-PeCDF	*96*		*21 - 178*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-1,2,3,4,7,8-HxCDD	*93*		*32 - 141*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-1,2,3,6,7,8-HxCDD	*88*		*28 - 130*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*92*		*26 - 152*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*26 - 123*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-1,2,3,7,8,9-HxCDF	*87*		*29 - 147*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-2,3,4,6,7,8-HxCDF	*85*		*28 - 136*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*99*		*23 - 140*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*95*		*28 - 143*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*118*		*26 - 138*	*12/23/21 09:11*	*12/30/21 09:58*	*1*
13C-OCDD	*98*		*17 - 157*	*12/23/21 09:11*	*12/30/21 09:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*95*		*35 - 197*	*12/23/21 09:11*	*12/30/21 09:58*	*1*

Client Sample ID: ILBMP0009_20211214
Date Collected: 12/14/21 07:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-10
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.00000083**	**J,DX q**	0.000010	0.00000022	ug/L		12/23/21 09:11	12/30/21 10:43	1
1,2,3,7,8-PeCDD	**0.0000037**	**J,DX MB**	0.000052	0.00000035	ug/L		12/23/21 09:11	12/30/21 10:43	1
1,2,3,7,8-PeCDF	**0.00000069**	**J,DX MB q**	0.000052	0.00000025	ug/L		12/23/21 09:11	12/30/21 10:43	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000024	ug/L		12/23/21 09:11	12/30/21 10:43	1
1,2,3,4,7,8-HxCDD	**0.0000069**	**J,DX MB**	0.000052	0.00000041	ug/L		12/23/21 09:11	12/30/21 10:43	1
1,2,3,6,7,8-HxCDD	**0.000014**	**J,DX MB**	0.000052	0.00000043	ug/L		12/23/21 09:11	12/30/21 10:43	1
1,2,3,7,8,9-HxCDD	**0.0000089**	**J,DX MB**	0.000052	0.00000036	ug/L		12/23/21 09:11	12/30/21 10:43	1
1,2,3,4,7,8-HxCDF	**0.0000017**	**J,DX MB q**	0.000052	0.00000028	ug/L		12/23/21 09:11	12/30/21 10:43	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0009_20211214
Date Collected: 12/14/21 07:25
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-10
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,6,7,8-HxCDF	0.0000026	J,DX MB	0.000052	0.00000029	ug/L		12/23/21 09:11	12/30/21 10:43	1
1,2,3,7,8,9-HxCDF	0.00000070	J,DX MB q	0.000052	0.00000020	ug/L		12/23/21 09:11	12/30/21 10:43	1
2,3,4,6,7,8-HxCDF	0.0000023	J,DX MB	0.000052	0.00000022	ug/L		12/23/21 09:11	12/30/21 10:43	1
1,2,3,4,6,7,8-HpCDD	0.00025	MB	0.000052	0.0000021	ug/L		12/23/21 09:11	12/30/21 10:43	1
1,2,3,4,6,7,8-HpCDF	0.000054	MB	0.000052	0.00000046	ug/L		12/23/21 09:11	12/30/21 10:43	1
1,2,3,4,7,8,9-HpCDF	0.0000013	J,DX MB q	0.000052	0.00000049	ug/L		12/23/21 09:11	12/30/21 10:43	1
OCDD	0.0022	MB	0.00010	0.0000012	ug/L		12/23/21 09:11	12/30/21 10:43	1
OCDF	0.000072	J,DX MB	0.00010	0.00000025	ug/L		12/23/21 09:11	12/30/21 10:43	1
Total TCDD	0.0000018	J,DX q	0.000010	0.00000022	ug/L		12/23/21 09:11	12/30/21 10:43	1
Total TCDF	0.0000024	J,DX MB q	0.000010	0.00000012	ug/L		12/23/21 09:11	12/30/21 10:43	1
Total PeCDD	0.0000097	J,DX MB q	0.000052	0.00000035	ug/L		12/23/21 09:11	12/30/21 10:43	1
Total PeCDF	0.0000095	J,DX MB q	0.000052	0.00000024	ug/L		12/23/21 09:11	12/30/21 10:43	1
Total HxCDD	0.000078	J,DX MB q	0.000052	0.00000036	ug/L		12/23/21 09:11	12/30/21 10:43	1
Total HxCDF	0.000047	J,DX MB q	0.000052	0.00000020	ug/L		12/23/21 09:11	12/30/21 10:43	1
Total HpCDD	0.00060	MB	0.000052	0.0000021	ug/L		12/23/21 09:11	12/30/21 10:43	1
Total HpCDF	0.000090	J,DX MB q	0.000052	0.00000046	ug/L		12/23/21 09:11	12/30/21 10:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*80*		*25 - 164*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-2,3,7,8-TCDF	*82*		*24 - 169*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*25 - 181*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*24 - 185*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-2,3,4,7,8-PeCDF	*85*		*21 - 178*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-1,2,3,4,7,8-HxCDD	*86*		*32 - 141*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*28 - 130*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*26 - 152*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-1,2,3,6,7,8-HxCDF	*74*		*26 - 123*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-1,2,3,7,8,9-HxCDF	*77*		*29 - 147*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-2,3,4,6,7,8-HxCDF	*76*		*28 - 136*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*23 - 140*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*99*		*26 - 138*	*12/23/21 09:11*	*12/30/21 10:43*	*1*
13C-OCDD	*81*		*17 - 157*	*12/23/21 09:11*	*12/30/21 10:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*94*		*35 - 197*	*12/23/21 09:11*	*12/30/21 10:43*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: ILBMP0010_20211214
Date Collected: 12/14/21 07:40
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-11
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000013	J,DX q	0.000011	0.00000027	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,7,8-PeCDD	0.0000078	J,DX MB	0.000053	0.00000051	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,7,8-PeCDF	0.00000091	J,DX MB q	0.000053	0.00000030	ug/L		12/23/21 09:11	12/30/21 11:28	1
2,3,4,7,8-PeCDF	0.00000088	J,DX MB q	0.000053	0.00000031	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,4,7,8-HxCDD	0.0000097	J,DX MB q	0.000053	0.00000068	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,6,7,8-HxCDD	0.000028	J,DX MB	0.000053	0.00000071	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,7,8,9-HxCDD	0.000020	J,DX MB	0.000053	0.00000060	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,4,7,8-HxCDF	0.0000034	J,DX MB	0.000053	0.00000034	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,6,7,8-HxCDF	0.0000054	J,DX MB	0.000053	0.00000035	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,7,8,9-HxCDF	0.00000057	J,DX MB q	0.000053	0.00000024	ug/L		12/23/21 09:11	12/30/21 11:28	1
2,3,4,6,7,8-HxCDF	0.0000044	J,DX MB	0.000053	0.00000028	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,4,6,7,8-HpCDD	0.00058	MB	0.000053	0.0000037	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,4,6,7,8-HpCDF	0.00012	MB	0.000053	0.00000078	ug/L		12/23/21 09:11	12/30/21 11:28	1
1,2,3,4,7,8,9-HpCDF	0.0000031	J,DX MB	0.000053	0.00000088	ug/L		12/23/21 09:11	12/30/21 11:28	1
OCDD	0.0039	MB	0.00011	0.0000021	ug/L		12/23/21 09:11	12/30/21 11:28	1
OCDF	0.00014	MB	0.00011	0.00000032	ug/L		12/23/21 09:11	12/30/21 11:28	1
Total TCDD	0.0000032	J,DX q	0.000011	0.00000027	ug/L		12/23/21 09:11	12/30/21 11:28	1
Total TCDF	0.0000048	J,DX MB q	0.000011	0.00000016	ug/L		12/23/21 09:11	12/30/21 11:28	1
Total PeCDD	0.000019	J,DX MB	0.000053	0.00000051	ug/L		12/23/21 09:11	12/30/21 11:28	1
Total PeCDF	0.000019	J,DX MB q	0.000053	0.00000030	ug/L		12/23/21 09:11	12/30/21 11:28	1
Total HxCDD	0.00015	J,DX MB q	0.000053	0.00000060	ug/L		12/23/21 09:11	12/30/21 11:28	1
Total HxCDF	0.000096	J,DX MB q	0.000053	0.00000024	ug/L		12/23/21 09:11	12/30/21 11:28	1
Total HpCDD	0.0012	MB	0.000053	0.0000037	ug/L		12/23/21 09:11	12/30/21 11:28	1
Total HpCDF	0.00020	J,DX MB	0.000053	0.00000078	ug/L		12/23/21 09:11	12/30/21 11:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*12/23/21 09:11*	*12/30/21 11:28*	*1*
13C-2,3,7,8-TCDF	*81*		*24 - 169*	*12/23/21 09:11*	*12/30/21 11:28*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*25 - 181*	*12/23/21 09:11*	*12/30/21 11:28*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*24 - 185*	*12/23/21 09:11*	*12/30/21 11:28*	*1*
13C-2,3,4,7,8-PeCDF	*83*		*21 - 178*	*12/23/21 09:11*	*12/30/21 11:28*	*1*
13C-1,2,3,4,7,8-HxCDD	*88*		*32 - 141*	*12/23/21 09:11*	*12/30/21 11:28*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*28 - 130*	*12/23/21 09:11*	*12/30/21 11:28*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0010_20211214
Date Collected: 12/14/21 07:40
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-11
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDF	84		26 - 152	12/23/21 09:11	12/30/21 11:28	1
13C-1,2,3,6,7,8-HxCDF	73		26 - 123	12/23/21 09:11	12/30/21 11:28	1
13C-1,2,3,7,8,9-HxCDF	77		29 - 147	12/23/21 09:11	12/30/21 11:28	1
13C-2,3,4,6,7,8-HxCDF	76		28 - 136	12/23/21 09:11	12/30/21 11:28	1
13C-1,2,3,4,6,7,8-HpCDD	88		23 - 140	12/23/21 09:11	12/30/21 11:28	1
13C-1,2,3,4,6,7,8-HpCDF	84		28 - 143	12/23/21 09:11	12/30/21 11:28	1
13C-1,2,3,4,7,8,9-HpCDF	102		26 - 138	12/23/21 09:11	12/30/21 11:28	1
13C-OCDD	87		17 - 157	12/23/21 09:11	12/30/21 11:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	92		35 - 197	12/23/21 09:11	12/30/21 11:28	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-4
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000011	0.0000017	ug/L		12/23/21 09:11	01/04/22 12:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*81*		*24 - 169*	*12/23/21 09:11*	*01/04/22 12:40*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*88*		*35 - 197*	*12/23/21 09:11*	*01/04/22 12:40*	*1*

Client Sample ID: B1BMP0011_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-5
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000011	0.0000020	ug/L		12/23/21 09:11	01/04/22 13:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*78*		*24 - 169*	*12/23/21 09:11*	*01/04/22 13:19*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*87*		*35 - 197*	*12/23/21 09:11*	*01/04/22 13:19*	*1*

Client Sample ID: ILBMP0002_20211214
Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-6
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000014	ug/L		12/23/21 09:11	01/04/22 13:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*93*		*24 - 169*	*12/23/21 09:11*	*01/04/22 13:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*12/23/21 09:11*	*01/04/22 13:57*	*1*

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-7
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000011	0.0000018	ug/L		12/23/21 09:11	01/04/22 14:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*83*		*24 - 169*	*12/23/21 09:11*	*01/04/22 14:35*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*12/23/21 09:11*	*01/04/22 14:35*	*1*

Client Sample ID: ILBMP0005_20211214
Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-8
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000017	ug/L		12/23/21 09:11	01/04/22 15:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*75*		*24 - 169*	*12/23/21 09:11*	*01/04/22 15:14*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	88		35 - 197	12/23/21 09:11	01/04/22 15:14	1

Client Sample ID: ILBMP0008_20211214
Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-9
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000018	ug/L		12/23/21 09:11	01/04/22 15:52	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	87		24 - 169	12/23/21 09:11	01/04/22 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	85		35 - 197	12/23/21 09:11	01/04/22 15:52	1

Client Sample ID: ILBMP0009_20211214
Date Collected: 12/14/21 07:25
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-10
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000016	ug/L		12/23/21 09:11	01/04/22 16:31	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	83		24 - 169	12/23/21 09:11	01/04/22 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	90		35 - 197	12/23/21 09:11	01/04/22 16:31	1

Client Sample ID: ILBMP0010_20211214
Date Collected: 12/14/21 07:40
Date Received: 12/14/21 20:05
Lab Sample ID: 570-78815-11
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000011	0.0000016	ug/L		12/23/21 09:11	01/04/22 17:09	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	80		24 - 169	12/23/21 09:11	01/04/22 17:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	12/23/21 09:11	01/04/22 17:09	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	37TCDD (35-197)	Percent Surrogate Recovery (Acceptance Limits)						
570-78815-1	A1BMP0002_20211214	89							
570-78815-2	A1BMP0003_20211214	83							
570-78815-3	B1BMP0009_20211214	91							
570-78815-4	B1BMP0010_20211214	85							
570-78815-4 - RA	B1BMP0010_20211214	88							
570-78815-5	B1BMP0011_20211214	90							
570-78815-5 - RA	B1BMP0011_20211214	87							
570-78815-6	ILBMP0002_20211214	95							
570-78815-6 - RA	ILBMP0002_20211214	89							
570-78815-7	ILBMP0004_20211214	91							
570-78815-7 - RA	ILBMP0004_20211214	89							
570-78815-8	ILBMP0005_20211214	93							
570-78815-8 - RA	ILBMP0005_20211214	88							
570-78815-9	ILBMP0008_20211214	95							
570-78815-9 - RA	ILBMP0008_20211214	85							
570-78815-10	ILBMP0009_20211214	94							
570-78815-10 - RA	ILBMP0009_20211214	90							
570-78815-11	ILBMP0010_20211214	92							
570-78815-11 - RA	ILBMP0010_20211214	89							
MB 320-553366/1-A	Method Blank	86							
MB 320-553395/1-A	Method Blank	92							
MB 320-553395/1-A - RA	Method Blank	88							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	37TCDD (31-191)	Percent Surrogate Recovery (Acceptance Limits)						
LCS 320-553366/2-A	Lab Control Sample	82							
LCS 320-553395/2-A	Lab Control Sample	90							
LCSD 320-553366/3-A	Lab Control Sample Dup	89							
LCSD 320-553395/3-A	Lab Control Sample Dup	92							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-78815-1	A1BMP0002_20211214	73	77	68	69	78	76	77	80
570-78815-2	A1BMP0003_20211214	77	80	69	73	81	79	82	85
570-78815-3	B1BMP0009_20211214	63	67	53	56	61	56	60	59
570-78815-4	B1BMP0010_20211214	74	77	70	70	79	82	78	79
570-78815-4 - RA	B1BMP0010_20211214		81						
570-78815-5	B1BMP0011_20211214	81	83	75	76	85	89	83	89
570-78815-5 - RA	B1BMP0011_20211214		78						
570-78815-6	ILBMP0002_20211214	88	90	81	84	90	94	88	93
570-78815-6 - RA	ILBMP0002_20211214		93						
570-78815-7	ILBMP0004_20211214	81	86	75	79	83	85	80	84
570-78815-7 - RA	ILBMP0004_20211214		83						
570-78815-8	ILBMP0005_20211214	77	79	70	74	79	82	77	81
570-78815-8 - RA	ILBMP0005_20211214		75						
570-78815-9	ILBMP0008_20211214	87	93	81	84	96	93	88	92
570-78815-9 - RA	ILBMP0008_20211214		87						
570-78815-10	ILBMP0009_20211214	80	82	74	75	85	86	76	83
570-78815-10 - RA	ILBMP0009_20211214		83						
570-78815-11	ILBMP0010_20211214	79	81	74	76	83	88	80	84
570-78815-11 - RA	ILBMP0010_20211214		80						
MB 320-553366/1-A	Method Blank	65	67	58	60	68	65	69	69
MB 320-553395/1-A	Method Blank	76	79	73	71	80	84	77	81
MB 320-553395/1-A - RA	Method Blank		80						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-78815-1	A1BMP0002_20211214	81	81	79	73	77	85	87
570-78815-2	A1BMP0003_20211214	86	85	82	74	80	91	91
570-78815-3	B1BMP0009_20211214	61	60	59	52	54	61	60
570-78815-4	B1BMP0010_20211214	71	73	74	86	80	98	82
570-78815-4 - RA	B1BMP0010_20211214							
570-78815-5	B1BMP0011_20211214	80	81	80	91	87	105	86
570-78815-5 - RA	B1BMP0011_20211214							
570-78815-6	ILBMP0002_20211214	82	84	85	97	82	112	93
570-78815-6 - RA	ILBMP0002_20211214							
570-78815-7	ILBMP0004_20211214	76	80	80	90	85	103	88
570-78815-7 - RA	ILBMP0004_20211214							
570-78815-8	ILBMP0005_20211214	72	74	74	81	78	95	75
570-78815-8 - RA	ILBMP0005_20211214							
570-78815-9	ILBMP0008_20211214	82	87	85	99	95	118	98
570-78815-9 - RA	ILBMP0008_20211214							
570-78815-10	ILBMP0009_20211214	74	77	76	86	80	99	81
570-78815-10 - RA	ILBMP0009_20211214							
570-78815-11	ILBMP0010_20211214	73	77	76	88	84	102	87
570-78815-11 - RA	ILBMP0010_20211214							
MB 320-553366/1-A	Method Blank	70	69	68	61	63	71	69
MB 320-553395/1-A	Method Blank	73	76	76	87	80	98	80
MB 320-553395/1-A - RA	Method Blank							

Surrogate Legend

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78815-2
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-553366/2-A	Lab Control Sample	64	66	59	60	68	65	68	68
LCS 320-553395/2-A	Lab Control Sample	65	68	64	61	71	73	68	72
LCSD 320-553366/3-A	Lab Control Sample Dup	69	74	65	67	75	71	73	74
LCSD 320-553395/3-A	Lab Control Sample Dup	62	64	57	59	67	68	61	65

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	
LCS 320-553366/2-A	Lab Control Sample	69	68	68	62	65	73	74	
LCS 320-553395/2-A	Lab Control Sample	65	67	67	76	70	87	70	
LCSD 320-553366/3-A	Lab Control Sample Dup	76	75	74	67	71	78	77	
LCSD 320-553395/3-A	Lab Control Sample Dup	58	61	61	69	63	78	63	

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-553366/1-A
Matrix: Water
Analysis Batch: 554787

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553366

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000014	ug/L		12/23/21 07:16	12/29/21 20:50	1
2,3,7,8-TCDF	ND		0.000010	0.00000055	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000097	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000059	ug/L		12/23/21 07:16	12/29/21 20:50	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000058	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,4,7,8-HxCDD	0.00000349	J,DX q	0.000050	0.00000046	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,6,7,8-HxCDD	0.00000156	J,DX q	0.000050	0.00000047	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,7,8,9-HxCDD	0.00000273	J,DX	0.000050	0.00000043	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,4,7,8-HxCDF	0.00000199	J,DX	0.000050	0.00000044	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,6,7,8-HxCDF	0.00000187	J,DX	0.000050	0.00000045	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,7,8,9-HxCDF	0.00000294	J,DX	0.000050	0.00000045	ug/L		12/23/21 07:16	12/29/21 20:50	1
2,3,4,6,7,8-HxCDF	0.00000226	J,DX	0.000050	0.00000045	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,4,6,7,8-HpCDD	0.00000596	J,DX q	0.000050	0.00000040	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,4,6,7,8-HpCDF	0.00000387	J,DX	0.000050	0.00000063	ug/L		12/23/21 07:16	12/29/21 20:50	1
1,2,3,4,7,8,9-HpCDF	0.00000243	J,DX	0.000050	0.00000061	ug/L		12/23/21 07:16	12/29/21 20:50	1
OCDD	0.0000190	J,DX	0.00010	0.00000062	ug/L		12/23/21 07:16	12/29/21 20:50	1
OCDF	0.00000626	J,DX	0.00010	0.00000093	ug/L		12/23/21 07:16	12/29/21 20:50	1
Total TCDD	0.00000373	J,DX q	0.000010	0.0000014	ug/L		12/23/21 07:16	12/29/21 20:50	1
Total TCDF	ND		0.000010	0.00000055	ug/L		12/23/21 07:16	12/29/21 20:50	1
Total PeCDD	ND		0.000050	0.00000097	ug/L		12/23/21 07:16	12/29/21 20:50	1
Total PeCDF	ND		0.000050	0.00000058	ug/L		12/23/21 07:16	12/29/21 20:50	1
Total HxCDD	0.0000102	J,DX q	0.000050	0.00000043	ug/L		12/23/21 07:16	12/29/21 20:50	1
Total HxCDF	0.00000906	J,DX	0.000050	0.00000044	ug/L		12/23/21 07:16	12/29/21 20:50	1
Total HpCDD	0.0000102	J,DX q	0.000050	0.00000040	ug/L		12/23/21 07:16	12/29/21 20:50	1
Total HpCDF	0.00000630	J,DX	0.000050	0.00000061	ug/L		12/23/21 07:16	12/29/21 20:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*25 - 164*	*12/23/21 07:16*	*12/29/21 20:50*	*1*
13C-2,3,7,8-TCDF	*67*		*24 - 169*	*12/23/21 07:16*	*12/29/21 20:50*	*1*
13C-1,2,3,7,8-PeCDD	*58*		*25 - 181*	*12/23/21 07:16*	*12/29/21 20:50*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-553366/1-A
Matrix: Water
Analysis Batch: 554787

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553366

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	60		24 - 185	12/23/21 07:16	12/29/21 20:50	1
13C-2,3,4,7,8-PeCDF	68		21 - 178	12/23/21 07:16	12/29/21 20:50	1
13C-1,2,3,4,7,8-HxCDD	65		32 - 141	12/23/21 07:16	12/29/21 20:50	1
13C-1,2,3,6,7,8-HxCDD	69		28 - 130	12/23/21 07:16	12/29/21 20:50	1
13C-1,2,3,4,7,8-HxCDF	69		26 - 152	12/23/21 07:16	12/29/21 20:50	1
13C-1,2,3,6,7,8-HxCDF	70		26 - 123	12/23/21 07:16	12/29/21 20:50	1
13C-1,2,3,7,8,9-HxCDF	69		29 - 147	12/23/21 07:16	12/29/21 20:50	1
13C-2,3,4,6,7,8-HxCDF	68		28 - 136	12/23/21 07:16	12/29/21 20:50	1
13C-1,2,3,4,6,7,8-HpCDD	61		23 - 140	12/23/21 07:16	12/29/21 20:50	1
13C-1,2,3,4,6,7,8-HpCDF	63		28 - 143	12/23/21 07:16	12/29/21 20:50	1
13C-1,2,3,4,7,8,9-HpCDF	71		26 - 138	12/23/21 07:16	12/29/21 20:50	1
13C-OCDD	69		17 - 157	12/23/21 07:16	12/29/21 20:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	86		35 - 197	12/23/21 07:16	12/29/21 20:50	1

Lab Sample ID: LCS 320-553366/2-A
Matrix: Water
Analysis Batch: 554787

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 553366

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000224		ug/L		112	67 - 158
2,3,7,8-TCDF	0.000200	0.000236		ug/L		118	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00114		ug/L		114	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00115		ug/L		115	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00106		ug/L		106	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.00104		ug/L		104	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00109		ug/L		109	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00102		ug/L		102	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000979		ug/L		98	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00113		ug/L		113	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00113		ug/L		113	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00120		ug/L		120	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00104		ug/L		104	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00102		ug/L		102	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000942		ug/L		94	78 - 138
OCDD	0.00200	0.00200		ug/L		100	78 - 144
OCDF	0.00200	0.00209		ug/L		105	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	64		20 - 175
13C-2,3,7,8-TCDF	66		22 - 152
13C-1,2,3,7,8-PeCDD	59		21 - 227
13C-1,2,3,7,8-PeCDF	60		21 - 192
13C-2,3,4,7,8-PeCDF	68		13 - 328
13C-1,2,3,4,7,8-HxCDD	65		21 - 193
13C-1,2,3,6,7,8-HxCDD	68		25 - 163

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-553366/2-A
Matrix: Water
Analysis Batch: 554787

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 553366

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,7,8-HxCDF	68		19 - 202
13C-1,2,3,6,7,8-HxCDF	69		21 - 159
13C-1,2,3,7,8,9-HxCDF	68		17 - 205
13C-2,3,4,6,7,8-HxCDF	68		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	62		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	65		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	73		20 - 186
13C-OCDD	74		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	82		31 - 191

Lab Sample ID: LCSD 320-553366/3-A
Matrix: Water
Analysis Batch: 554787

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 553366

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000229		ug/L		114	67 - 158	2	50
2,3,7,8-TCDF			0.000200	0.000232		ug/L		116	75 - 158	2	50
1,2,3,7,8-PeCDD			0.00100	0.00115		ug/L		115	70 - 142	0	50
1,2,3,7,8-PeCDF			0.00100	0.00117		ug/L		117	80 - 134	2	50
2,3,4,7,8-PeCDF			0.00100	0.00108		ug/L		108	68 - 160	2	50
1,2,3,4,7,8-HxCDD			0.00100	0.00111		ug/L		111	70 - 164	6	50
1,2,3,6,7,8-HxCDD			0.00100	0.00114		ug/L		114	76 - 134	5	50
1,2,3,7,8,9-HxCDD			0.00100	0.00111		ug/L		111	64 - 162	9	50
1,2,3,4,7,8-HxCDF			0.00100	0.00105		ug/L		105	72 - 134	7	50
1,2,3,6,7,8-HxCDF			0.00100	0.00120		ug/L		120	84 - 130	6	50
1,2,3,7,8,9-HxCDF			0.00100	0.00121		ug/L		121	78 - 130	7	50
2,3,4,6,7,8-HxCDF			0.00100	0.00126		ug/L		126	70 - 156	5	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00111		ug/L		111	70 - 140	6	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00108		ug/L		108	82 - 122	5	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.00102		ug/L		102	78 - 138	8	50
OCDD			0.00200	0.00210		ug/L		105	78 - 144	5	50
OCDF			0.00200	0.00226		ug/L		113	63 - 170	8	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	69		20 - 175
13C-2,3,7,8-TCDF	74		22 - 152
13C-1,2,3,7,8-PeCDD	65		21 - 227
13C-1,2,3,7,8-PeCDF	67		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	74		19 - 202
13C-1,2,3,6,7,8-HxCDF	76		21 - 159
13C-1,2,3,7,8,9-HxCDF	75		17 - 205
13C-2,3,4,6,7,8-HxCDF	74		22 - 176

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-553366/3-A
Matrix: Water
Analysis Batch: 554787

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 553366

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-1,2,3,4,6,7,8-HpCDD	*67*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*71*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*78*		*20 - 186*
13C-OCDD	*77*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*89*		*31 - 191*

Lab Sample ID: MB 320-553395/1-A
Matrix: Water
Analysis Batch: 554789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553395

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000027	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,7,8-PeCDD	0.00000153	J,DX	0.000050	0.00000029	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,7,8-PeCDF	0.00000135	J,DX	0.000050	0.00000024	ug/L		12/23/21 09:11	12/30/21 03:58	1
2,3,4,7,8-PeCDF	0.00000111	J,DX	0.000050	0.00000024	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,4,7,8-HxCDD	0.00000266	J,DX	0.000050	0.00000021	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,6,7,8-HxCDD	0.00000131	J,DX	0.000050	0.00000022	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,7,8,9-HxCDD	0.00000164	J,DX	0.000050	0.00000019	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,4,7,8-HxCDF	0.00000105	J,DX q	0.000050	0.00000019	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,6,7,8-HxCDF	0.00000112	J,DX	0.000050	0.00000019	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,7,8,9-HxCDF	0.00000172	J,DX	0.000050	0.00000013	ug/L		12/23/21 09:11	12/30/21 03:58	1
2,3,4,6,7,8-HxCDF	0.00000132	J,DX	0.000050	0.00000015	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,4,6,7,8-HpCDD	0.00000446	J,DX	0.000050	0.00000017	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,4,6,7,8-HpCDF	0.00000323	J,DX	0.000050	0.00000024	ug/L		12/23/21 09:11	12/30/21 03:58	1
1,2,3,4,7,8,9-HpCDF	0.00000219	J,DX	0.000050	0.00000026	ug/L		12/23/21 09:11	12/30/21 03:58	1
OCDD	0.0000297	J,DX	0.00010	0.00000026	ug/L		12/23/21 09:11	12/30/21 03:58	1
OCDF	0.00000487	J,DX	0.00010	0.00000024	ug/L		12/23/21 09:11	12/30/21 03:58	1
Total TCDD	ND		0.000010	0.00000027	ug/L		12/23/21 09:11	12/30/21 03:58	1
Total TCDF	0.00000192	J,DX q	0.000010	0.00000014	ug/L		12/23/21 09:11	12/30/21 03:58	1
Total PeCDD	0.00000153	J,DX	0.000050	0.00000029	ug/L		12/23/21 09:11	12/30/21 03:58	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-553395/1-A
Matrix: Water
Analysis Batch: 554789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553395

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDF	0.00000247	J,DX	0.000050	0.00000024	ug/L		12/23/21 09:11	12/30/21 03:58	1
Total HxCDD	0.00000631	J,DX	0.000050	0.00000019	ug/L		12/23/21 09:11	12/30/21 03:58	1
Total HxCDF	0.00000570	J,DX q	0.000050	0.00000013	ug/L		12/23/21 09:11	12/30/21 03:58	1
Total HpCDD	0.00000790	J,DX	0.000050	0.00000017	ug/L		12/23/21 09:11	12/30/21 03:58	1
Total HpCDF	0.00000541	J,DX	0.000050	0.00000024	ug/L		12/23/21 09:11	12/30/21 03:58	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*76*		*25 - 164*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-2,3,7,8-TCDF	*79*		*24 - 169*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*24 - 185*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*21 - 178*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-1,2,3,4,7,8-HxCDD	*84*		*32 - 141*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*28 - 130*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*26 - 152*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*26 - 123*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-1,2,3,7,8,9-HxCDF	*76*		*29 - 147*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-2,3,4,6,7,8-HxCDF	*76*		*28 - 136*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*87*		*23 - 140*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*98*		*26 - 138*	*12/23/21 09:11*	*12/30/21 03:58*	*1*
13C-OCDD	*80*		*17 - 157*	*12/23/21 09:11*	*12/30/21 03:58*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*	*12/23/21 09:11*	*12/30/21 03:58*	*1*

Lab Sample ID: LCS 320-553395/2-A
Matrix: Water
Analysis Batch: 554789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 553395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000199		ug/L		100	67 - 158
2,3,7,8-TCDF	0.000200	0.000195		ug/L		97	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00106		ug/L		106	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00102		ug/L		102	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000898		ug/L		90	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000904		ug/L		90	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000973		ug/L		97	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000952		ug/L		95	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000902		ug/L		90	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00101		ug/L		101	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00101		ug/L		101	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000988		ug/L		99	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000980		ug/L		98	70 - 140

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-553395/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 554789
Prep Batch: 553395

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000972		ug/L		97	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000885		ug/L		88	78 - 138		
OCDD			0.00200	0.00199		ug/L		100	78 - 144		
OCDF			0.00200	0.00210		ug/L		105	63 - 170		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*65*		*20 - 175*
13C-2,3,7,8-TCDF	*68*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*64*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*61*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*71*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*73*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*68*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*72*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*65*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*67*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*67*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*70*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*87*		*20 - 186*
13C-OCDD	*70*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*90*		*31 - 191*

Lab Sample ID: LCSD 320-553395/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 554789
Prep Batch: 553395

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000201		ug/L		101	67 - 158	1	50
2,3,7,8-TCDF			0.000200	0.000195		ug/L		97	75 - 158	0	50
1,2,3,7,8-PeCDD			0.00100	0.00108		ug/L		108	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00103		ug/L		103	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000909		ug/L		91	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000893		ug/L		89	70 - 164	1	50
1,2,3,6,7,8-HxCDD			0.00100	0.000970		ug/L		97	76 - 134	0	50
1,2,3,7,8,9-HxCDD			0.00100	0.000950		ug/L		95	64 - 162	0	50
1,2,3,4,7,8-HxCDF			0.00100	0.000901		ug/L		90	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.00101		ug/L		101	84 - 130	0	50
1,2,3,7,8,9-HxCDF			0.00100	0.00100		ug/L		100	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.00101		ug/L		101	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000974		ug/L		97	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000970		ug/L		97	82 - 122	0	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000899		ug/L		90	78 - 138	2	50
OCDD			0.00200	0.00196		ug/L		98	78 - 144	2	50
OCDF			0.00200	0.00208		ug/L		104	63 - 170	1	50

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	62		20 - 175
13C-2,3,7,8-TCDF	64		22 - 152
13C-1,2,3,7,8-PeCDD	57		21 - 227
13C-1,2,3,7,8-PeCDF	59		21 - 192
13C-2,3,4,7,8-PeCDF	67		13 - 328
13C-1,2,3,4,7,8-HxCDD	68		21 - 193
13C-1,2,3,6,7,8-HxCDD	61		25 - 163
13C-1,2,3,4,7,8-HxCDF	65		19 - 202
13C-1,2,3,6,7,8-HxCDF	58		21 - 159
13C-1,2,3,7,8,9-HxCDF	61		17 - 205
13C-2,3,4,6,7,8-HxCDF	61		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	69		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	63		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	78		20 - 186
13C-OCDD	63		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	92		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-553395/1-A
Matrix: Water
Analysis Batch: 555893

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553395

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000018	ug/L		12/23/21 09:11	01/04/22 12:02	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	80		24 - 169	12/23/21 09:11	01/04/22 12:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	88		35 - 197	12/23/21 09:11	01/04/22 12:02	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78815-2
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Specialty Organics

Prep Batch: 553366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Total/NA	Water	1613B	
570-78815-2	A1BMP0003_20211214	Total/NA	Water	1613B	
570-78815-3	B1BMP0009_20211214	Total/NA	Water	1613B	
MB 320-553366/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-553366/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-553366/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Prep Batch: 553395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-4	B1BMP0010_20211214	Total/NA	Water	1613B	
570-78815-4 - RA	B1BMP0010_20211214	Total/NA	Water	1613B	
570-78815-5	B1BMP0011_20211214	Total/NA	Water	1613B	
570-78815-5 - RA	B1BMP0011_20211214	Total/NA	Water	1613B	
570-78815-6	ILBMP0002_20211214	Total/NA	Water	1613B	
570-78815-6 - RA	ILBMP0002_20211214	Total/NA	Water	1613B	
570-78815-7	ILBMP0004_20211214	Total/NA	Water	1613B	
570-78815-7 - RA	ILBMP0004_20211214	Total/NA	Water	1613B	
570-78815-8	ILBMP0005_20211214	Total/NA	Water	1613B	
570-78815-8 - RA	ILBMP0005_20211214	Total/NA	Water	1613B	
570-78815-9	ILBMP0008_20211214	Total/NA	Water	1613B	
570-78815-9 - RA	ILBMP0008_20211214	Total/NA	Water	1613B	
570-78815-10	ILBMP0009_20211214	Total/NA	Water	1613B	
570-78815-10 - RA	ILBMP0009_20211214	Total/NA	Water	1613B	
570-78815-11	ILBMP0010_20211214	Total/NA	Water	1613B	
570-78815-11 - RA	ILBMP0010_20211214	Total/NA	Water	1613B	
MB 320-553395/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-553395/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-553395/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-553395/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 554787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-1	A1BMP0002_20211214	Total/NA	Water	1613B	553366
570-78815-2	A1BMP0003_20211214	Total/NA	Water	1613B	553366
570-78815-3	B1BMP0009_20211214	Total/NA	Water	1613B	553366
MB 320-553366/1-A	Method Blank	Total/NA	Water	1613B	553366
LCS 320-553366/2-A	Lab Control Sample	Total/NA	Water	1613B	553366
LCSD 320-553366/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	553366

Analysis Batch: 554789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-4	B1BMP0010_20211214	Total/NA	Water	1613B	553395
570-78815-5	B1BMP0011_20211214	Total/NA	Water	1613B	553395
570-78815-6	ILBMP0002_20211214	Total/NA	Water	1613B	553395
570-78815-7	ILBMP0004_20211214	Total/NA	Water	1613B	553395
570-78815-8	ILBMP0005_20211214	Total/NA	Water	1613B	553395
570-78815-9	ILBMP0008_20211214	Total/NA	Water	1613B	553395
570-78815-10	ILBMP0009_20211214	Total/NA	Water	1613B	553395
570-78815-11	ILBMP0010_20211214	Total/NA	Water	1613B	553395
MB 320-553395/1-A	Method Blank	Total/NA	Water	1613B	553395

Specialty Organics (Continued)

Analysis Batch: 554789 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-553395/2-A	Lab Control Sample	Total/NA	Water	1613B	553395
LCSD 320-553395/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	553395

Analysis Batch: 555893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78815-4 - RA	B1BMP0010_20211214	Total/NA	Water	1613B	553395
570-78815-5 - RA	B1BMP0011_20211214	Total/NA	Water	1613B	553395
570-78815-6 - RA	ILBMP0002_20211214	Total/NA	Water	1613B	553395
570-78815-7 - RA	ILBMP0004_20211214	Total/NA	Water	1613B	553395
570-78815-8 - RA	ILBMP0005_20211214	Total/NA	Water	1613B	553395
570-78815-9 - RA	ILBMP0008_20211214	Total/NA	Water	1613B	553395
570-78815-10 - RA	ILBMP0009_20211214	Total/NA	Water	1613B	553395
570-78815-11 - RA	ILBMP0010_20211214	Total/NA	Water	1613B	553395
MB 320-553395/1-A - RA	Method Blank	Total/NA	Water	1613B	553395

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Client Sample ID: A1BMP0002_20211214
Date Collected: 12/14/21 06:47
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			991.5 mL	20.0 uL	553366	12/23/21 07:16	FC	TAL SAC
Total/NA	Analysis	1613B		1			554787	12/29/21 23:14	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: A1BMP0003_20211214
Date Collected: 12/14/21 07:10
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			882.3 mL	20.0 uL	553366	12/23/21 07:16	FC	TAL SAC
Total/NA	Analysis	1613B		1			554787	12/30/21 00:49	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: B1BMP0009_20211214
Date Collected: 12/14/21 07:50
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			955.4 mL	20.0 uL	553366	12/23/21 07:16	FC	TAL SAC
Total/NA	Analysis	1613B		1			554787	12/30/21 00:02	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: B1BMP0010_20211214
Date Collected: 12/14/21 07:55
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			937.7 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B		1			554789	12/30/21 06:13	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		937.7 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555893	01/04/22 12:40	GRB	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: B1BMP0011_20211214
Date Collected: 12/14/21 08:00
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			894 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B		1			554789	12/30/21 06:58	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		894 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555893	01/04/22 13:19	GRB	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Client Sample ID: ILBMP0002_20211214
Date Collected: 12/14/21 06:55
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			974.8 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B		1			554789	12/30/21 07:43	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		974.8 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555893	01/04/22 13:57	GRB	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: ILBMP0004_20211214
Date Collected: 12/14/21 06:25
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			942 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B		1			554789	12/30/21 08:28	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		942 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555893	01/04/22 14:35	GRB	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: ILBMP0005_20211214
Date Collected: 12/14/21 06:45
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			975.5 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B		1			554789	12/30/21 09:13	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		975.5 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555893	01/04/22 15:14	GRB	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: ILBMP0008_20211214
Date Collected: 12/14/21 06:15
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			970.8 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B		1			554789	12/30/21 09:58	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		970.8 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555893	01/04/22 15:52	GRB	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Client Sample ID: ILBMP0009_20211214

Date Collected: 12/14/21 07:25
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			964.7 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B		1			554789	12/30/21 10:43	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		964.7 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555893	01/04/22 16:31	GRB	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: ILBMP0010_20211214

Date Collected: 12/14/21 07:40
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78815-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			944.4 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B		1			554789	12/30/21 11:28	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		944.4 mL	20.0 uL	553395	12/23/21 09:11	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555893	01/04/22 17:09	GRB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78815-2
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78815-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78815-1	A1BMP0002_20211214	Water	12/14/21 06:47	12/14/21 20:05
570-78815-2	A1BMP0003_20211214	Water	12/14/21 07:10	12/14/21 20:05
570-78815-3	B1BMP0009_20211214	Water	12/14/21 07:50	12/14/21 20:05
570-78815-4	B1BMP0010_20211214	Water	12/14/21 07:55	12/14/21 20:05
570-78815-5	B1BMP0011_20211214	Water	12/14/21 08:00	12/14/21 20:05
570-78815-6	ILBMP0002_20211214	Water	12/14/21 06:55	12/14/21 20:05
570-78815-7	ILBMP0004_20211214	Water	12/14/21 06:25	12/14/21 20:05
570-78815-8	ILBMP0005_20211214	Water	12/14/21 06:45	12/14/21 20:05
570-78815-9	ILBMP0008_20211214	Water	12/14/21 06:15	12/14/21 20:05
570-78815-10	ILBMP0009_20211214	Water	12/14/21 07:25	12/14/21 20:05
570-78815-11	ILBMP0010_20211214	Water	12/14/21 07:40	12/14/21 20:05

Loc 570
78815

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

Eurofins Calscience, Inc.

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ▫ DW ▫ NPDES ▪ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Method 200.8: Cd, Cu, Pb Method 245.1: Hg (Total Recoverable)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Dissolved)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Sample Specific Notes:
									1-250mL Poly	1-250mL Poly	2-1L Amber	1-1L Poly	1-1L Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
A1BMP0002_20211214	1	12/14/2021	647	G	WM	6	Y	N	X	X	X	X	X	
A1BMP0003_20211214	2	12/14/21	0710	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0009_20211214	3	12/14/2021	750	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0010_20211214	4	12/14/2021	755	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0011_20211214	5	12/14/2021	800	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0002_20211214	6	12/14/21	655	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0004_20211214	7	12/14/2021	625	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0005_20211214	8	12/14/2021	645	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0008_20211214	9	12/14/2021	615	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0009_20211214	10	12/14/21	725	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0010_2021214	11	12/14/21	740	G	WM	6	Y	N	X	X	X	X	X	
ILQW0007_20211214	12	12/14/21	0655	G	WM	4	Y	N	X	X	X			HOLD
									4	4	1	1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.____

	Company	Date/Time	Received by	Company	Date/Time
Relinquished by: William Brain	J&A	12/14/21 1345	Received by:	ECI	12/14/21 1345
Relinquished by:	ECI	12/14/21 2005	Received by:	ECI	12/14/21 2005
Relinquished by:	Company	Date/Time	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

2.0/2.9, 2.7/3.6, 1-8/2.7, 2.5/3.4, 3.0/3.9, 2-4/3.3 SCS

570-78815 Chain of Custody

1/9/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145828 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78815-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605	PO #:			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #:			
Email:	Project #: 44009815			
Project Name: Boeing SSFL ISRA and BMP	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - Di Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A1BMP0002_20211214 (570-78815-1)	12/14/21	06.47 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0003_20211214 (570-78815-2)	12/14/21	07 10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0009_20211214 (570-78815-3)	12/14/21	07 50 Pacific		Water			X	2	See QAS Boeing_w/u to zero
A1BMP0010_20211214 (570-78815-4)	12/14/21	07 55 Pacific		Water			X	2	See QAS Boeing_w/u to zero
A1BMP0011_20211214 (570-78815-5)	12/14/21	08:00 Pacific		Water			X	2	See QAS Boeing_w/u to zero
ILBMP0002_20211214 (570-78815-6)	12/14/21	06 55 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0004_20211214 (570-78815-7)	12/14/21	06.25 Pacific		Water			X	2	See QAS Boeing_w/u to zero
ILBMP0005_20211214 (570-78815-8)	12/14/21	06 45 Pacific		Water			X	2	See QAS Boeing_w/u to zero
ILBMP0008_20211214 (570-78815-9)	12/14/21	06 15 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 12/16/21 1717	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145828 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78815-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605	PO #:			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #:			
Email:	Project #: 44009815			
Project Name: Boeing SSFL ISRA and BMP	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0009_20211214 (570-78815-10)	12/14/21	07 25 Pacific		Water			X	2	See QAS Boeing_w/u to zero
ILBMP010_20211214 (570-78815-11)	12/14/21	07 40 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/16/21 1717				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax. 949-260-3297

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 440-176822 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-78815-1
Address: 7440 Lincoln Way	Due Date Requested: 12/29/2021			
City: Garden Grove	TAT Requested (days):			
State Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P - Na2O4S
E NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J DI Water	V - MCAA
K EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	D4464/ D4464-Particle Size	Total Number of containers	Special Instructions/Note
			Preservation Code:						
A1BMP0002_20211214 (570-78815-1)	12/14/21	06.47 Pacific		Water			X	1	Normal TAT
A1BMP0003_20211214 (570-78815-2)	12/14/21	07 10 Pacific		Water			X	1	Normal TAT
B1BMP0009_20211214 (570-78815-3)	12/14/21	07 50 Pacific		Water			X	1	Normal TAT
B1BMP0010_20211214 (570-78815-4)	12/14/21	07.55 Pacific		Water			X	1	Normal TAT
B1BMP0011_20211214 (570-78815-5)	12/14/21	08:00 Pacific		Water			X	1	Normal TAT
ILBMP0002_20211214 (570-78815-6)	12/14/21	06 55 Pacific		Water			X	1	Normal TAT
ILBMP0004_20211214 (570-78815-7)	12/14/21	06.25 Pacific		Water			X	1	Normal TAT
ILBMP0005_20211214 (570-78815-8)	12/14/21	06 45 Pacific		Water			X	1	Normal TAT
ILBMP0008_20211214 (570-78815-9)	12/14/21	06 15 Pacific		Water			X	1	Normal TAT

Note Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
William Rivera	12/22/21 2015	EC-TRN	[signature]	12/22/21 2015	ECCG
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
	N/A	2.7/3.6 IR

Ver: 06/08/2021

Eurofins Calscience Tustin
2841 Dow Avenue
Tustin CA 92780
Phone 949-261-1022 Fax 949-260-3297

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 440-176822 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-78815-1
Address: 7440 Lincoln Way	Due Date Requested: 12/29/2021			
City: Garden Grove	TAT Requested (days)			
State, Zip: CA, 92841				
Phone: 714-895-5494(Tel) 714-894-7501(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	D4464/ D4464-Particle Size	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0009_20211214 (570-78815-10)	12/14/21	07 25 Pacific		Water			X	1	Normal TAT
ILBMP010_20211214 (570-78815-11)	12/14/21	07 40 Pacific		Water			X	1	Normal TAT

Note Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
William Rivera	12/22/21 1015	EC-IRV		12/22/21 1015	ECC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No	N/A	2.7/3.6 IR

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145828.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78815-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A1BMP0002_20211214 (570-78815-1)	12/14/21	06:47 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0003_20211214 (570-78815-2)	12/14/21	07:10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0009_20211214 (570-78815-3)	12/14/21	07:50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0010_20211214 (570-78815-4)	12/14/21	07:55 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0011_20211214 (570-78815-5)	12/14/21	08:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0002_20211214 (570-78815-6)	12/14/21	06:55 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0004_20211214 (570-78815-7)	12/14/21	06:25 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0005_20211214 (570-78815-8)	12/14/21	06:45 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0008_20211214 (570-78815-9)	12/14/21	06:15 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		12/16/21 1717			12/17/21 1100	
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ▲ Yes ▲ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		1.3c

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145828.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78815-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0009_20211214 (570-78815-10)	12/14/21	07:25 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP010_20211214 (570-78815-11)	12/14/21	07:40 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:		Date/Time: 12/16/21 1717	Company	Received by:	Date/Time: 12/16/21 1100	Company	
Relinquished by:		Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:		Date/Time:	Company	Received by:	Date/Time:	Company	
Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: Seal			Cooler Temperature(s) °C and Other Remarks: 1.3c			

Ver: 06/08/2021

1/9/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145828.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78815-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A1BMP0002_20211214 (570-78815-1)	12/14/21	06:47 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0003_20211214 (570-78815-2)	12/14/21	07:10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0009_20211214 (570-78815-3)	12/14/21	07:50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0010_20211214 (570-78815-4)	12/14/21	07:55 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0011_20211214 (570-78815-5)	12/14/21	08:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0002_20211214 (570-78815-6)	12/14/21	06:55 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0004_20211214 (570-78815-7)	12/14/21	06:25 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0005_20211214 (570-78815-8)	12/14/21	06:45 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0008_20211214 (570-78815-9)	12/14/21	06:15 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 12/16/21 1717	Company	Received by:	Date/Time: 12/16/21 1100	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: Seal		Cooler Temperature(s) °C and Other Remarks: 0.9c		

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145828.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78815-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0009_20211214 (570-78815-10)	12/14/21	07:25 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP010_20211214 (570-78815-11)	12/14/21	07:40 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 12/16/21 1717	Company	Received by:	Date/Time: 12/17/21 1100	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.9c

Ver: 06/08/2021

1/9/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78815-2

Login Number: 78815
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78815-2

Login Number: 78815
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/17/21 05:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78818-1
Client Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/17/2022 4:45:41 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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Have a Question? Ask The Expert

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
LG	LG=Surrogate recovery below the acceptance limits

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
EY	Result exceeds normal dynamic range; reported as a min. est.
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Metals

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Job ID: 570-78818-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78818-1

Comments
No additional comments.

Receipt
The samples were received on 12/14/2021 8:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.4º C and 3.5º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method 625.1 SIM: Surrogate recovery for the following sample was outside control limits: EPSW001BG01_20211214 (570-78818-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 440-663560 and 440-663570 and analytical batch 440-663615 were outside control limits for Manganese. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) was within acceptance limits.

Methods 245.1, 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Mercurypreparation batch 440-664059 and analytical batch 440-664187 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPSW001BG01_20211214 (570-78818-1). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

12/29/21 @ 09:45 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-201771. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Client Sample ID: EPSW001BG01_20211214 — Lab Sample ID: 570-78818-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hexavalent chromium	0.13	J,DX	0.20	0.019	ug/L	1		218.6	Total/NA
Fluoride	0.14		0.10	0.046	mg/L	1		300.0	Total/NA
Nitrate as N	0.54		0.10	0.024	mg/L	1		300.0	Total/NA
Sulfate	2.5		1.0	0.24	mg/L	1		300.0	Total/NA
Perchlorate	1.7	J,DX	2.0	0.91	ug/L	1		314.0	Total/NA
Boron	48	J,DX	50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	600		20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	23		5.0	2.5	ug/L	5		200.8	Total Recoverable
Barium	1500		5.0	2.5	ug/L	5		200.8	Total Recoverable
Beryllium	5.0		2.5	1.3	ug/L	5		200.8	Total Recoverable
Cadmium	1.5	J,DX	5.0	1.3	ug/L	5		200.8	Total Recoverable
Chromium	120		10	2.5	ug/L	5		200.8	Total Recoverable
Copper	120		10	2.5	ug/L	5		200.8	Total Recoverable
Iron	170000		100	40	ug/L	5		200.8	Total Recoverable
Manganese	3400		5.0	2.5	ug/L	5		200.8	Total Recoverable
Nickel	99		10	2.5	ug/L	5		200.8	Total Recoverable
Lead	72		5.0	2.5	ug/L	5		200.8	Total Recoverable
Selenium	13		10	2.5	ug/L	5		200.8	Total Recoverable
Thallium	1.3	J,DX	5.0	1.0	ug/L	5		200.8	Total Recoverable
Arsenic	1.2		1.0	0.50	ug/L	1		200.8	Dissolved
Barium	23		1.0	0.50	ug/L	1		200.8	Dissolved
Chromium	1.5	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Copper	3.3		2.0	0.50	ug/L	1		200.8	Dissolved
Iron	1100		20	8.0	ug/L	1		200.8	Dissolved
Manganese	17		1.0	0.50	ug/L	1		200.8	Dissolved
Nickel	1.2	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Lead	0.76	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.33		0.20	0.10	ug/L	1		245.1	Total/NA
Total Suspended Solids	5900		100	50	mg/L	1		SM 2540D	Total/NA
Cyanide, Total	0.0023	J,DX	0.0030	0.0014	mg/L	1		SM 4500 CN E	Total/NA
Clay (less than 0.00391 mm)	16.99		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	3.23		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	47.97		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	64.96		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	31.81		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: TB_20211214 — Lab Sample ID: 570-78818-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: EPSW001BG01_20211214
Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			12/27/21 15:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 140*		*12/27/21 15:36*	*1*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*		*12/27/21 15:36*	*1*
Dibromofluoromethane	*101*		*60 - 140*		*12/27/21 15:36*	*1*
Toluene-d8 (Surr)	*103*		*60 - 140*		*12/27/21 15:36*	*1*

Client Sample ID: TB_20211214
Date Collected: 12/14/21 07:40
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			12/27/21 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*		*12/27/21 15:10*	*1*
4-Bromofluorobenzene (Surr)	*101*		*60 - 140*		*12/27/21 15:10*	*1*
Dibromofluoromethane	*99*		*60 - 140*		*12/27/21 15:10*	*1*
Toluene-d8 (Surr)	*102*		*60 - 140*		*12/27/21 15:10*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: EPSW001BG01_20211214
Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		4.9	1.8	ug/L		12/17/21 07:56	12/20/21 19:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*70*		*28 - 127*	*12/17/21 07:56*	*12/20/21 19:18*	*1*
2-Fluorobiphenyl (Surr)	*52*		*31 - 120*	*12/17/21 07:56*	*12/20/21 19:18*	*1*
2-Fluorophenol (Surr)	*44*		*17 - 120*	*12/17/21 07:56*	*12/20/21 19:18*	*1*
Nitrobenzene-d5 (Surr)	*62*		*27 - 120*	*12/17/21 07:56*	*12/20/21 19:18*	*1*
Phenol-d6 (Surr)	*28*		*10 - 120*	*12/17/21 07:56*	*12/20/21 19:18*	*1*
p-Terphenyl-d14 (Surr)	*40*	*LG*	*45 - 120*	*12/17/21 07:56*	*12/20/21 19:18*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: EPSW001BG01_20211214
Lab Sample ID: 570-78818-1
Date Collected: 12/14/21 07:33
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	0.13	J,DX	0.20	0.019	ug/L			12/15/21 03:40	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: EPSW001BG01_20211214
Lab Sample ID: 570-78818-1
Date Collected: 12/14/21 07:33
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.14**		0.10	0.046	mg/L			12/16/21 00:35	1
Nitrite as N	ND		0.10	0.018	mg/L			12/16/21 00:35	1
Nitrate as N	**0.54**		0.10	0.024	mg/L			12/16/21 00:35	1
Sulfate	**2.5**		1.0	0.24	mg/L			12/16/21 00:35	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Method: 314.0 - Perchlorate (IC)

Client Sample ID: EPSW001BG01_20211214
Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	1.7	J,DX	2.0	0.91	ug/L			12/20/21 14:31	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: EPSW001BG01_20211214
Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	48	J,DX	50	25	ug/L		01/10/22 08:20	01/10/22 17:27	1
Zinc	600		20	12	ug/L		01/10/22 08:20	01/10/22 17:27	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: EPSW001BG01_20211214
Lab Sample ID: 570-78818-1
Date Collected: 12/14/21 07:33
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		12/30/21 07:58	12/30/21 14:00	1
Zinc	ND		20	12	ug/L		12/30/21 07:58	12/30/21 14:00	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EPSW001BG01_20211214
Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		5.0	2.5	ug/L		01/05/22 10:08	01/05/22 15:29	5
Arsenic	**23**		5.0	2.5	ug/L		01/05/22 10:08	01/05/22 15:29	5
Barium	**1500**		5.0	2.5	ug/L		01/05/22 10:08	01/05/22 15:29	5
Beryllium	**5.0**		2.5	1.3	ug/L		01/05/22 10:08	01/05/22 15:29	5
Cadmium	**1.5**	**J,DX**	5.0	1.3	ug/L		01/05/22 10:08	01/05/22 15:29	5
Chromium	**120**		10	2.5	ug/L		01/05/22 10:08	01/05/22 15:29	5
Copper	**120**		10	2.5	ug/L		01/05/22 10:08	01/05/22 15:29	5
Iron	**170000**		100	40	ug/L		01/05/22 10:08	01/05/22 15:29	5
Manganese	**3400**		5.0	2.5	ug/L		01/05/22 10:08	01/05/22 15:29	5
Nickel	**99**		10	2.5	ug/L		01/05/22 10:08	01/05/22 15:29	5
Lead	**72**		5.0	2.5	ug/L		01/05/22 10:08	01/05/22 15:29	5
Antimony	ND		10	2.5	ug/L		01/05/22 10:08	01/05/22 15:29	5
Selenium	**13**		10	2.5	ug/L		01/05/22 10:08	01/05/22 15:29	5
Thallium	**1.3**	**J,DX**	5.0	1.0	ug/L		01/05/22 10:08	01/05/22 15:29	5

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: EPSW001BG01_20211214
Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:38	1
Arsenic	**1.2**		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:38	1
Barium	**23**		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:38	1
Beryllium	ND		0.50	0.25	ug/L		12/29/21 11:03	12/29/21 18:38	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 11:03	12/29/21 18:38	1
Chromium	**1.5**	**J,DX**	2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:38	1
Copper	**3.3**		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:38	1
Iron	**1100**		20	8.0	ug/L		12/29/21 11:03	12/29/21 18:38	1
Manganese	**17**		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:38	1
Nickel	**1.2**	**J,DX**	2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:38	1
Lead	**0.76**	**J,DX**	1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:38	1
Antimony	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:38	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:38	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 11:03	12/29/21 18:38	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Method: 245.1 - Mercury (CVAA)

Client Sample ID: EPSW001BG01_20211214
Lab Sample ID: 570-78818-1
Date Collected: 12/14/21 07:33
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.33		0.20	0.10	ug/L		01/10/22 10:10	01/10/22 18:37	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

General Chemistry

Client Sample ID: EPSW001BG01_20211214
Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 21:38	1
Total Suspended Solids	**5900**		100	50	mg/L			12/16/21 14:31	1
Cyanide, Total	**0.0023**	**J,DX**	0.0030	0.0014	mg/L		12/20/21 20:00	12/20/21 22:47	1

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

General Chemistry - Dissolved

Client Sample ID: EPSW001BG01_20211214
Lab Sample ID: 570-78818-1
Date Collected: 12/14/21 07:33
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 21:34	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: EPSW001BG01_20211214
Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**16.99**		0.01	0.01	%			12/29/21 16:06	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			12/29/21 16:06	1
Fine Sand (0.125 to 0.25mm)	**3.23**		0.01	0.01	%			12/29/21 16:06	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			12/29/21 16:06	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			12/29/21 16:06	1
Silt (0.00391 to 0.0625mm)	**47.97**		0.01	0.01	%			12/29/21 16:06	1
Total Silt and Clay (0 to 0.0626mm)	**64.96**		0.01	0.01	%			12/29/21 16:06	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			12/29/21 16:06	1
Very Fine Sand (0.0625 to 0.125 mm)	**31.81**		0.01	0.01	%			12/29/21 16:06	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

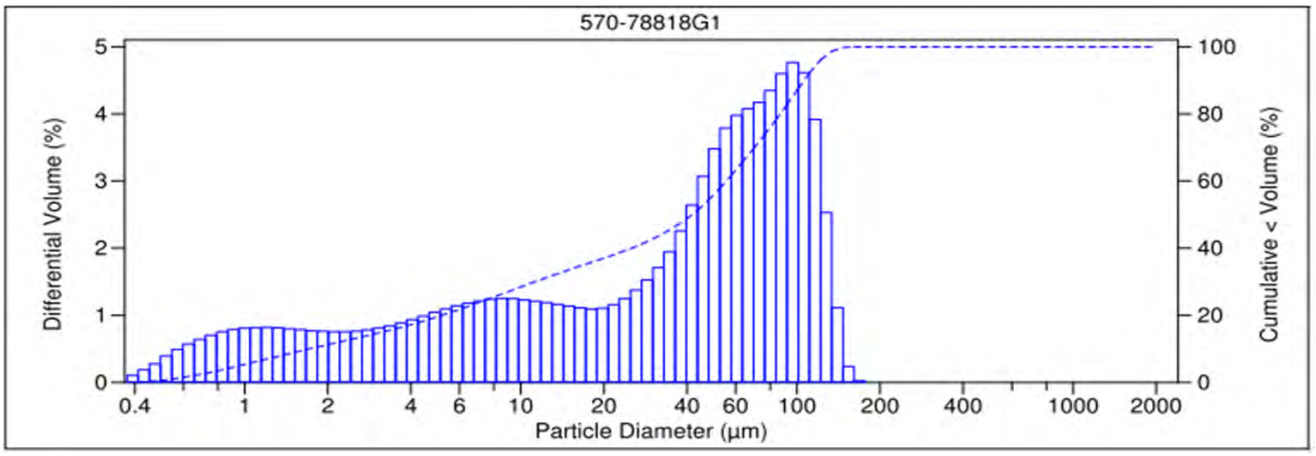
Haley & Aldrich, Inc.

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78818
Date Analyzed:	12/29/21
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
EPSW001BG01_20211214		Silt	0.047

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	3.23	31.81	47.97	16.99	64.96



V 3.0

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)	(60-140)
570-78818-1	EPSW001BG01_20211214	96	102	101	103
570-78818-2	TB_20211214	97	101	99	102
LCS 570-203771/4	Lab Control Sample	105	98	104	101
LCSD 570-203771/5	Lab Control Sample Dup	102	95	101	100
MB 570-203771/8	Method Blank	96	99	101	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL6	TPHd14
Lab Sample ID	Client Sample ID	(28-127)	(31-120)	(17-120)	(27-120)	(10-120)	(45-120)
570-78818-1	EPSW001BG01_20211214	70	52	44	62	28	40 LG
LCS 570-201771/2-A	Lab Control Sample	88	70	57	71	37	80
LCSD 570-201771/3-A	Lab Control Sample Dup	81	70	54	72	37	81
MB 570-201771/1-A	Method Blank	70	64	45	69	30	71

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-203771/8
Matrix: Water
Analysis Batch: 203771

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			12/27/21 14:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 140*		*12/27/21 14:43*	*1*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*		*12/27/21 14:43*	*1*
Dibromofluoromethane	*101*		*60 - 140*		*12/27/21 14:43*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*12/27/21 14:43*	*1*

Lab Sample ID: LCS 570-203771/4
Matrix: Water
Analysis Batch: 203771

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Trichloroethene			50.0	55.7		ug/L		111	65 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 140*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*
Dibromofluoromethane	*104*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Lab Sample ID: LCSD 570-203771/5
Matrix: Water
Analysis Batch: 203771

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene			50.0	54.9		ug/L		110	65 - 135	2	48

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*60 - 140*
4-Bromofluorobenzene (Surr)	*95*		*60 - 140*
Dibromofluoromethane	*101*		*60 - 140*
Toluene-d8 (Surr)	*100*		*60 - 140*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-201771/1-A
Matrix: Water
Analysis Batch: 202506

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201771

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/17/21 07:55	12/20/21 13:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*70*		*28 - 127*	*12/17/21 07:55*	*12/20/21 13:54*	*1*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*12/17/21 07:55*	*12/20/21 13:54*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-201771/1-A
Matrix: Water
Analysis Batch: 202506

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201771

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	45		17 - 120	12/17/21 07:55	12/20/21 13:54	1
Nitrobenzene-d5 (Surr)	69		27 - 120	12/17/21 07:55	12/20/21 13:54	1
Phenol-d6 (Surr)	30		10 - 120	12/17/21 07:55	12/20/21 13:54	1
p-Terphenyl-d14 (Surr)	71		45 - 120	12/17/21 07:55	12/20/21 13:54	1

Lab Sample ID: LCS 570-201771/2-A
Matrix: Water
Analysis Batch: 202769

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201771

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Bis(2-ethylhexyl) phthalate			20.0	19.9		ug/L		100	29 - 137		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	88		28 - 127
2-Fluorobiphenyl (Surr)	70		31 - 120
2-Fluorophenol (Surr)	57		17 - 120
Nitrobenzene-d5 (Surr)	71		27 - 120
Phenol-d6 (Surr)	37		10 - 120
p-Terphenyl-d14 (Surr)	80		45 - 120

Lab Sample ID: LCSD 570-201771/3-A
Matrix: Water
Analysis Batch: 202506

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 201771

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate			20.0	19.5		ug/L		97	29 - 137	2	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	81		28 - 127
2-Fluorobiphenyl (Surr)	70		31 - 120
2-Fluorophenol (Surr)	54		17 - 120
Nitrobenzene-d5 (Surr)	72		27 - 120
Phenol-d6 (Surr)	37		10 - 120
p-Terphenyl-d14 (Surr)	81		45 - 120

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-200794/16
Matrix: Water
Analysis Batch: 200794

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.20	0.019	ug/L			12/14/21 11:57	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 570-200794/17
Matrix: Water
Analysis Batch: 200794

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium			50.0	50.8		ug/L		102	95 - 107		

Lab Sample ID: LCSD 570-200794/18
Matrix: Water
Analysis Batch: 200794

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium			50.0	51.0		ug/L		102	95 - 107	0	20

Lab Sample ID: 570-78834-A-1 MS
Matrix: Water
Analysis Batch: 200794

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium	1.0		50.0	51.5		ug/L		101	85 - 121		

Lab Sample ID: 570-78834-A-1 MSD
Matrix: Water
Analysis Batch: 200794

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium	1.0		50.0	52.9		ug/L		104	85 - 121	3	25

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-201181/32
Matrix: Water
Analysis Batch: 201181

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.046	mg/L			12/15/21 21:53	1
Sulfate	ND		1.0	0.24	mg/L			12/15/21 21:53	1

Lab Sample ID: MB 570-201181/5
Matrix: Water
Analysis Batch: 201181

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.046	mg/L			12/15/21 12:29	1
Sulfate	ND		1.0	0.24	mg/L			12/15/21 12:29	1

Lab Sample ID: LCS 570-201181/33
Matrix: Water
Analysis Batch: 201181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			2.50	2.48		mg/L		99	90 - 110		
Sulfate			50.0	47.2		mg/L		94	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-201181/6
Matrix: Water
Analysis Batch: 201181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.41		mg/L		96	90 - 110
Sulfate	50.0	47.4		mg/L		95	90 - 110

Lab Sample ID: LCSD 570-201181/34
Matrix: Water
Analysis Batch: 201181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	2.50	2.47		mg/L		99	90 - 110	0	15
Sulfate	50.0	47.2		mg/L		94	90 - 110	0	15

Lab Sample ID: LCSD 570-201181/7
Matrix: Water
Analysis Batch: 201181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	2.50	2.41		mg/L		97	90 - 110	0	15
Sulfate	50.0	47.4		mg/L		95	90 - 110	0	15

Lab Sample ID: 570-78820-F-2 MS
Matrix: Water
Analysis Batch: 201181

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.36		2.50	2.74		mg/L		95	80 - 120
Sulfate	610	EY	50.0	650	EY BB	mg/L		86	80 - 120

Lab Sample ID: 570-78820-F-2 MSD
Matrix: Water
Analysis Batch: 201181

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.36		2.50	2.83		mg/L		99	80 - 120	3	20
Sulfate	610	EY	50.0	653	EY BB	mg/L		92	80 - 120	0	20

Lab Sample ID: MB 570-201182/32
Matrix: Water
Analysis Batch: 201182

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/15/21 21:53	1
Nitrate as N	ND		0.10	0.024	mg/L			12/15/21 21:53	1

Lab Sample ID: MB 570-201182/5
Matrix: Water
Analysis Batch: 201182

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/15/21 12:29	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 570-201182/5
Matrix: Water
Analysis Batch: 201182

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	0.024	mg/L			12/15/21 12:29	1

Lab Sample ID: LCS 570-201182/33
Matrix: Water
Analysis Batch: 201182

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	2.50	2.63		mg/L		105	90 - 110
Nitrate as N	5.00	4.55		mg/L		91	90 - 110

Lab Sample ID: LCS 570-201182/6
Matrix: Water
Analysis Batch: 201182

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	2.50	2.63		mg/L		105	90 - 110
Nitrate as N	5.00	4.59		mg/L		92	90 - 110

Lab Sample ID: LCSD 570-201182/34
Matrix: Water
Analysis Batch: 201182

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	2.50	2.64		mg/L		106	90 - 110	1	15
Nitrate as N	5.00	4.57		mg/L		91	90 - 110	0	15

Lab Sample ID: LCSD 570-201182/7
Matrix: Water
Analysis Batch: 201182

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	2.50	2.63		mg/L		105	90 - 110	0	15
Nitrate as N	5.00	4.59		mg/L		92	90 - 110	0	15

Lab Sample ID: 570-78820-F-2 MS
Matrix: Water
Analysis Batch: 201182

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	ND		2.50	2.54		mg/L		101	80 - 120
Nitrate as N	1.9		5.00	6.67		mg/L		95	80 - 120

Lab Sample ID: 570-78820-F-2 MSD
Matrix: Water
Analysis Batch: 201182

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.44		mg/L		97	80 - 120	4	20
Nitrate as N	1.9		5.00	6.79		mg/L		97	80 - 120	2	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-202443/6
Matrix: Water
Analysis Batch: 202443
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			12/20/21 11:57	1

Lab Sample ID: LCS 570-202443/7
Matrix: Water
Analysis Batch: 202443
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.6		ug/L		99	85 - 115

Lab Sample ID: LCSD 570-202443/8
Matrix: Water
Analysis Batch: 202443
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	25.0	24.6		ug/L		99	85 - 115	0	15

Lab Sample ID: 570-78850-G-1 MS
Matrix: Water
Analysis Batch: 202443
Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		50.0	47.1		ug/L		94	80 - 120

Lab Sample ID: 570-78850-G-1 MSD
Matrix: Water
Analysis Batch: 202443
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		50.0	49.0		ug/L		98	80 - 120	4	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664034/1-A
Matrix: Water
Analysis Batch: 664169
Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664034

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/10/22 08:20	01/10/22 16:41	1
Zinc	ND		20	12	ug/L		01/10/22 08:20	01/10/22 16:41	1

Lab Sample ID: LCS 440-664034/2-A
Matrix: Water
Analysis Batch: 664169
Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664034

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	500	505		ug/L		101	85 - 115
Zinc	500	516		ug/L		103	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-292939-J-1-C MS
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664034

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	ND		500	516		ug/L		103	70 - 130
Zinc	45		500	559		ug/L		103	70 - 130

Lab Sample ID: 440-292939-J-1-D MSD
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664034

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	ND		500	513		ug/L		103	70 - 130	1	20
Zinc	45		500	553		ug/L		102	70 - 130	1	20

Lab Sample ID: MB 440-663560/1-D
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663620

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		12/30/21 07:58	12/30/21 13:01	1
Zinc	ND		20	12	ug/L		12/30/21 07:58	12/30/21 13:01	1

Lab Sample ID: LCS 440-663560/2-D
Matrix: Water
Analysis Batch: 663658

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663620

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	500	465		ug/L		93	85 - 115
Zinc	500	465		ug/L		93	85 - 115

Lab Sample ID: 570-78818-1 MS
Matrix: Water
Analysis Batch: 663658

Client Sample ID: EPSW001BG01_20211214
Prep Type: Dissolved
Prep Batch: 663620

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	ND		500	476		ug/L		95	70 - 130
Zinc	ND		500	472		ug/L		94	70 - 130

Lab Sample ID: 570-78818-1 MSD
Matrix: Water
Analysis Batch: 663658

Client Sample ID: EPSW001BG01_20211214
Prep Type: Dissolved
Prep Batch: 663620

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	ND		500	472		ug/L		94	70 - 130	1	20
Zinc	ND		500	469		ug/L		94	70 - 130	1	20

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-663807/1-A
Matrix: Water
Analysis Batch: 663869

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Arsenic	ND		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Barium	ND		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Beryllium	ND		0.50	0.25	ug/L		01/05/22 10:08	01/05/22 14:57	1
Cadmium	ND		1.0	0.25	ug/L		01/05/22 10:08	01/05/22 14:57	1
Chromium	ND		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Copper	ND		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Iron	ND		20	8.0	ug/L		01/05/22 10:08	01/05/22 14:57	1
Manganese	ND		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Nickel	ND		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Lead	ND		1.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Antimony	ND		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Selenium	ND		2.0	0.50	ug/L		01/05/22 10:08	01/05/22 14:57	1
Thallium	ND		1.0	0.20	ug/L		01/05/22 10:08	01/05/22 14:57	1

Lab Sample ID: LCS 440-663807/2-A
Matrix: Water
Analysis Batch: 663869

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663807

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	78.1		ug/L		98	85 - 115
Arsenic	80.0	76.5		ug/L		96	85 - 115
Barium	80.0	81.9		ug/L		102	85 - 115
Beryllium	80.0	88.4		ug/L		110	85 - 115
Cadmium	80.0	80.6		ug/L		101	85 - 115
Chromium	80.0	81.0		ug/L		101	85 - 115
Copper	80.0	81.8		ug/L		102	85 - 115
Iron	800	821		ug/L		103	85 - 115
Manganese	80.0	81.7		ug/L		102	85 - 115
Nickel	80.0	82.5		ug/L		103	85 - 115
Lead	80.0	81.0		ug/L		101	85 - 115
Antimony	80.0	89.5		ug/L		112	85 - 115
Selenium	80.0	80.1		ug/L		100	85 - 115
Thallium	80.0	79.3		ug/L		99	85 - 115

Lab Sample ID: 440-292990-B-1-B MS
Matrix: Water
Analysis Batch: 663869

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 663807

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	79.3		ug/L		99	70 - 130
Arsenic	ND		80.0	78.2		ug/L		98	70 - 130
Barium	19		80.0	103		ug/L		105	70 - 130
Beryllium	ND		80.0	86.1		ug/L		108	70 - 130
Cadmium	ND		80.0	81.4		ug/L		102	70 - 130
Chromium	1.0	J,DX	80.0	82.8		ug/L		102	70 - 130
Copper	15		80.0	97.0		ug/L		103	70 - 130
Iron	270		800	1010		ug/L		92	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 440-292990-B-1-B MS
Matrix: Water
Analysis Batch: 663869

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 663807

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	20		80.0	101		ug/L		102	70 - 130
Nickel	7.8		80.0	89.1		ug/L		102	70 - 130
Lead	2.1		80.0	83.8		ug/L		102	70 - 130
Antimony	2.4		80.0	93.0		ug/L		113	70 - 130
Selenium	ND		80.0	80.4		ug/L		100	70 - 130
Thallium	ND		80.0	80.2		ug/L		100	70 - 130

Lab Sample ID: 440-292990-B-1-C MSD
Matrix: Water
Analysis Batch: 663869

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 663807

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	78.4		ug/L		98	70 - 130	1	20
Arsenic	ND		80.0	77.9		ug/L		97	70 - 130	0	20
Barium	19		80.0	101		ug/L		103	70 - 130	1	20
Beryllium	ND		80.0	86.6		ug/L		108	70 - 130	1	20
Cadmium	ND		80.0	80.3		ug/L		100	70 - 130	1	20
Chromium	1.0	J,DX	80.0	81.8		ug/L		101	70 - 130	1	20
Copper	15		80.0	97.0		ug/L		103	70 - 130	0	20
Iron	270		800	996		ug/L		91	70 - 130	1	20
Manganese	20		80.0	100		ug/L		101	70 - 130	1	20
Nickel	7.8		80.0	88.5		ug/L		101	70 - 130	1	20
Lead	2.1		80.0	83.3		ug/L		102	70 - 130	1	20
Antimony	2.4		80.0	91.9		ug/L		112	70 - 130	1	20
Selenium	ND		80.0	80.5		ug/L		101	70 - 130	0	20
Thallium	ND		80.0	79.5		ug/L		99	70 - 130	1	20

Lab Sample ID: MB 440-663560/1-B
Matrix: Water
Analysis Batch: 663615

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663570

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Arsenic	ND		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Barium	ND		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Beryllium	ND		0.50	0.25	ug/L		12/29/21 11:03	12/29/21 18:28	1
Cadmium	ND		1.0	0.25	ug/L		12/29/21 11:03	12/29/21 18:28	1
Chromium	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Copper	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Iron	ND		20	8.0	ug/L		12/29/21 11:03	12/29/21 18:28	1
Manganese	ND		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Nickel	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Lead	ND		1.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Antimony	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Selenium	ND		2.0	0.50	ug/L		12/29/21 11:03	12/29/21 18:28	1
Thallium	ND		1.0	0.20	ug/L		12/29/21 11:03	12/29/21 18:28	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-663560/2-B
Matrix: Water
Analysis Batch: 663615

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663570

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	76.6		ug/L		96	85 - 115
Arsenic	80.0	77.3		ug/L		97	85 - 115
Barium	80.0	75.0		ug/L		94	85 - 115
Beryllium	80.0	71.3		ug/L		89	85 - 115
Cadmium	80.0	74.6		ug/L		93	85 - 115
Chromium	80.0	74.9		ug/L		94	85 - 115
Copper	80.0	71.0		ug/L		89	85 - 115
Iron	800	759		ug/L		95	85 - 115
Manganese	80.0	77.5		ug/L		97	85 - 115
Nickel	80.0	72.9		ug/L		91	85 - 115
Lead	80.0	74.6		ug/L		93	85 - 115
Antimony	80.0	84.7		ug/L		106	85 - 115
Selenium	80.0	77.5		ug/L		97	85 - 115
Thallium	80.0	74.7		ug/L		93	85 - 115

Lab Sample ID: 570-78864-A-2-C MS
Matrix: Water
Analysis Batch: 663615

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663570

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	76.9		ug/L		96	70 - 130
Arsenic	1.4		80.0	79.1		ug/L		97	70 - 130
Barium	13		80.0	88.8		ug/L		95	70 - 130
Beryllium	ND		80.0	73.2		ug/L		91	70 - 130
Cadmium	ND		80.0	75.6		ug/L		95	70 - 130
Chromium	0.73	J,DX	80.0	76.3		ug/L		94	70 - 130
Copper	5.9		80.0	78.5		ug/L		91	70 - 130
Iron	170		800	957		ug/L		98	70 - 130
Manganese	2.3		80.0	80.4		ug/L		98	70 - 130
Nickel	1.8	J,DX	80.0	75.5		ug/L		92	70 - 130
Lead	ND		80.0	75.4		ug/L		94	70 - 130
Antimony	0.81	J,DX	80.0	85.7		ug/L		106	70 - 130
Selenium	ND		80.0	78.9		ug/L		99	70 - 130
Thallium	ND		80.0	74.9		ug/L		94	70 - 130

Lab Sample ID: 570-78864-A-2-D MSD
Matrix: Water
Analysis Batch: 663615

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663570

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	77.6		ug/L		97	70 - 130	1	20
Arsenic	1.4		80.0	78.6		ug/L		97	70 - 130	1	20
Barium	13		80.0	89.7		ug/L		96	70 - 130	1	20
Beryllium	ND		80.0	73.8		ug/L		92	70 - 130	1	20
Cadmium	ND		80.0	76.0		ug/L		95	70 - 130	1	20
Chromium	0.73	J,DX	80.0	76.7		ug/L		95	70 - 130	0	20
Copper	5.9		80.0	78.9		ug/L		91	70 - 130	0	20
Iron	170		800	957		ug/L		98	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-78864-A-2-D MSD
Matrix: Water
Analysis Batch: 663615

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663570

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	2.3		80.0	117	LM BA	ug/L		144	70 - 130	37	20
Nickel	1.8	J,DX	80.0	75.9		ug/L		93	70 - 130	1	20
Lead	ND		80.0	75.5		ug/L		94	70 - 130	0	20
Antimony	0.81	J,DX	80.0	86.5		ug/L		107	70 - 130	1	20
Selenium	ND		80.0	78.5		ug/L		98	70 - 130	1	20
Thallium	ND		80.0	75.8		ug/L		95	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-664059/1-A
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 664059

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:10	01/10/22 18:21	1

Lab Sample ID: LCS 440-664059/2-A
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 664059

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.96		ug/L		99	85 - 115

Lab Sample ID: 570-80132-F-1-D MS
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 664059

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	9.28	LM	ug/L		155	75 - 125

Lab Sample ID: 570-80132-F-1-E MSD
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 664059

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	9.04	LM	ug/L		151	75 - 125	3	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663051/1
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/16/21 12:54	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 440-663051/2
Matrix: Water
Analysis Batch: 663051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	941		mg/L		94	85 - 115

Lab Sample ID: 570-78818-1 DU
Matrix: Water
Analysis Batch: 663051

Client Sample ID: EPSW001BG01_20211214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	5900		6090		mg/L		4	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-203070/1-A
Matrix: Water
Analysis Batch: 203060

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 203070

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/20/21 20:00	12/20/21 22:39	1

Lab Sample ID: LCS 570-203070/2-A
Matrix: Water
Analysis Batch: 203060

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 203070

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.0102		mg/L		102	80 - 120

Lab Sample ID: LCSD 570-203070/3-A
Matrix: Water
Analysis Batch: 203060

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 203070

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0100	0.0113		mg/L		113	80 - 120	11	20

Lab Sample ID: 440-293034-B-2-A MS
Matrix: Water
Analysis Batch: 203060

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 203070

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0025	J,DX	0.0100	0.0142	LM	mg/L		117	74 - 115

Lab Sample ID: 440-293034-B-2-B MSD
Matrix: Water
Analysis Batch: 203060

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 203070

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0025	J,DX	0.0100	0.0174	LM	mg/L		148	74 - 115	20	20

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

GC/MS VOA

Analysis Batch: 203771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	624.1	
570-78818-2	TB_20211214	Total/NA	Water	624.1	
MB 570-203771/8	Method Blank	Total/NA	Water	624.1	
LCS 570-203771/4	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-203771/5	Lab Control Sample Dup	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 201771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	625	
MB 570-201771/1-A	Method Blank	Total/NA	Water	625	
LCS 570-201771/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-201771/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 202506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	625.1 SIM	201771
MB 570-201771/1-A	Method Blank	Total/NA	Water	625.1 SIM	201771
LCSD 570-201771/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	201771

Analysis Batch: 202769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-201771/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	201771

HPLC/IC

Analysis Batch: 200794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	218.6	
MB 570-200794/16	Method Blank	Total/NA	Water	218.6	
LCS 570-200794/17	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-200794/18	Lab Control Sample Dup	Total/NA	Water	218.6	
570-78834-A-1 MS	Matrix Spike	Total/NA	Water	218.6	
570-78834-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

Analysis Batch: 201181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	300.0	
MB 570-201181/32	Method Blank	Total/NA	Water	300.0	
MB 570-201181/5	Method Blank	Total/NA	Water	300.0	
LCS 570-201181/33	Lab Control Sample	Total/NA	Water	300.0	
LCS 570-201181/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-201181/34	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 570-201181/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-78820-F-2 MS	Matrix Spike	Total/NA	Water	300.0	
570-78820-F-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 201182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 201182 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-201182/32	Method Blank	Total/NA	Water	300.0	
MB 570-201182/5	Method Blank	Total/NA	Water	300.0	
LCS 570-201182/33	Lab Control Sample	Total/NA	Water	300.0	
LCS 570-201182/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-201182/34	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 570-201182/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-78820-F-2 MS	Matrix Spike	Total/NA	Water	300.0	
570-78820-F-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 202443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	314.0	
MB 570-202443/6	Method Blank	Total/NA	Water	314.0	
LCS 570-202443/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-202443/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-78850-G-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-78850-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Metals

Filtration Batch: 663560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Dissolved	Water	FILTRATION	
MB 440-663560/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663560/1-D	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663560/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663560/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
570-78818-1 MS	EPSW001BG01_20211214	Dissolved	Water	FILTRATION	
570-78818-1 MSD	EPSW001BG01_20211214	Dissolved	Water	FILTRATION	
570-78864-A-2-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-78864-A-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Dissolved	Water	200.2	663560
MB 440-663560/1-B	Method Blank	Dissolved	Water	200.2	663560
LCS 440-663560/2-B	Lab Control Sample	Dissolved	Water	200.2	663560
570-78864-A-2-C MS	Matrix Spike	Dissolved	Water	200.2	663560
570-78864-A-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663560

Analysis Batch: 663615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Dissolved	Water	200.8	663570
MB 440-663560/1-B	Method Blank	Dissolved	Water	200.8	663570
LCS 440-663560/2-B	Lab Control Sample	Dissolved	Water	200.8	663570
570-78864-A-2-C MS	Matrix Spike	Dissolved	Water	200.8	663570
570-78864-A-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663570

Metals

Prep Batch: 663620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Dissolved	Water	200.2	663560
MB 440-663560/1-D	Method Blank	Dissolved	Water	200.2	663560
LCS 440-663560/2-D	Lab Control Sample	Dissolved	Water	200.2	663560
570-78818-1 MS	EPSW001BG01_20211214	Dissolved	Water	200.2	663560
570-78818-1 MSD	EPSW001BG01_20211214	Dissolved	Water	200.2	663560

Analysis Batch: 663658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Dissolved	Water	200.7 Rev 4.4	663620
MB 440-663560/1-D	Method Blank	Dissolved	Water	200.7 Rev 4.4	663620
LCS 440-663560/2-D	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663620
570-78818-1 MS	EPSW001BG01_20211214	Dissolved	Water	200.7 Rev 4.4	663620
570-78818-1 MSD	EPSW001BG01_20211214	Dissolved	Water	200.7 Rev 4.4	663620

Prep Batch: 663807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total Recoverable	Water	200.2	
MB 440-663807/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663807/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-292990-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
440-292990-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 663869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total Recoverable	Water	200.8	663807
MB 440-663807/1-A	Method Blank	Total Recoverable	Water	200.8	663807
LCS 440-663807/2-A	Lab Control Sample	Total Recoverable	Water	200.8	663807
440-292990-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	663807
440-292990-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	663807

Prep Batch: 664034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total Recoverable	Water	200.2	
MB 440-664034/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664034/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-292939-J-1-C MS	Matrix Spike	Total Recoverable	Water	200.2	
440-292939-J-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	245.1	
MB 440-664059/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-664059/2-A	Lab Control Sample	Total/NA	Water	245.1	
570-80132-F-1-D MS	Matrix Spike	Total/NA	Water	245.1	
570-80132-F-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 664169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total Recoverable	Water	200.7 Rev 4.4	664034
MB 440-664034/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664034

Metals (Continued)

Analysis Batch: 664169 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-664034/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664034
440-292939-J-1-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664034
440-292939-J-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664034

Analysis Batch: 664187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	245.1	664059
MB 440-664059/1-A	Method Blank	Total/NA	Water	245.1	664059
LCS 440-664059/2-A	Lab Control Sample	Total/NA	Water	245.1	664059
570-80132-F-1-D MS	Matrix Spike	Total/NA	Water	245.1	664059
570-80132-F-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	664059

General Chemistry

Analysis Batch: 203060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	SM 4500 CN E	203070
MB 570-203070/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	203070
LCS 570-203070/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	203070
LCSD 570-203070/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	203070
440-293034-B-2-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	203070
440-293034-B-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	203070

Prep Batch: 203070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	SM 4500 CN C	
MB 570-203070/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-203070/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-203070/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
440-293034-B-2-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
440-293034-B-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 207735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Dissolved	Water	218.6 CR3	

Analysis Batch: 207736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	218.6 CR3	

Analysis Batch: 663051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	SM 2540D	
MB 440-663051/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663051/2	Lab Control Sample	Total/NA	Water	SM 2540D	
570-78818-1 DU	EPSW001BG01_20211214	Total/NA	Water	SM 2540D	

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Geotechnical

Analysis Batch: 204552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	D4464	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Client Sample ID: EPSW001BG01_20211214

Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	203771	12/27/21 15:36	OH1	ECL 2
	Instrument ID: GCMSW									
Total/NA	Prep	625			1023.6 mL	2 mL	201771	12/17/21 07:56	OAJ3	ECL 1
Total/NA	Analysis	625.1 SIM		1			202506	12/20/21 19:18	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Analysis	218.6		1			200794	12/15/21 03:40	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0		1			201181	12/16/21 00:35	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	300.0		1			201182	12/16/21 00:35	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1			202443	12/20/21 14:31	URMH	ECL 1
	Instrument ID: IC13									
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663560	12/29/21 09:25	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663620	12/30/21 07:58	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663658	12/30/21 14:00	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	664034	01/10/22 08:20	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664169	01/10/22 17:27	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663560	12/29/21 09:25	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663570	12/29/21 11:03	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663615	12/29/21 18:38	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663807	01/05/22 10:08	LZY7	IRV 2
Total Recoverable	Analysis	200.8		5			663869	01/05/22 15:29	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total/NA	Prep	245.1			20 mL	30 mL	664059	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 18:37	C0YH	IRV 2
	Instrument ID: CV-HG4									
Dissolved	Analysis	218.6 CR3		1			207735	01/16/22 21:34	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	218.6 CR3		1			207736	01/16/22 21:38	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540D		1	10 mL	1000 mL	663051	12/16/21 14:31	ZL7L	IRV 1
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	203070	12/20/21 20:00	CY2M	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5.0 mL	5.0 mL	203060	12/20/21 22:47	UAPD	ECL 1
	Instrument ID: UV8									
Total/NA	Analysis	D4464		1			204552	12/29/21 16:06	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Client Sample ID: TB_20211214

Date Collected: 12/14/21 07:40
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	203771	12/27/21 15:10	OH1	ECL 2
	Instrument ID: GCMSW									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
IRV 1 = Eurofins Calscience Tustin Irvine, 17461 Derian Ave, Irvine, CA 92614, TEL (949)261-1022
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 1
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	IRV 2
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
ASTM = ASTM International
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
IRV 1 = Eurofins Calscience Tustin Irvine, 17461 Derian Ave, Irvine, CA 92614, TEL (949)261-1022
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78818-1	EPSW001BG01_20211214	Water	12/14/21 07:33	12/14/21 20:05
570-78818-2	TB_20211214	Water	12/14/21 07:40	12/14/21 20:05

Loc 570
78818

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS / MSD (Y/N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn; – (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn – (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20211214	12/14/21	0733	G	WM	24	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
TB_20211214	12/14/21	0740	TB	WM	3	N	N															x			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

	Company	Date/Time			Date/Time
Relinquished by:	J17/1	12/14/21 1345	Received by:	ECI	12/14/21 1345
Relinquished by:	ECI	12/14/21 2005	Received by:	ECI	12/14/21 2005
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

2.5/3.4, 2.6/3.5 SCS

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

570-78818 Chain of Custody

SAP COC 2019/2020 VERSION 3

1/17/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145468 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78818-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPSW001BG01_20211214 (570-78818-1)	12/14/21	07 33 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time.	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	12/15/21 1723				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

1/17/2022

Loc: 570
78818

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

7440 Lincoln Way
Garden Grove CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	■ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	■ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	☐ 2 days			Job / SDG No.
H&A P O#:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba Be, Cd, Cr Cu, Fe Mn Ni, Pb, Se Sb, Tl, Method 200.7: B, Zn -- (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr, Cu Fe, Mn, Ni, Pb, Se, Sb, Tl Method 200.7: B, Zn -- (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20211214	12/14/21	0733	G	WM	24	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
TB_20211214	12/14/21	0740	TB	WM	3	N	N															x			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ■ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

	Company	Date/Time			Date/Time
Relinquished by:	IH	12/14/21 1345	Received by:	ECI	12/14/21 1345
Relinquished by:	ECI	12/14/21 2005	Received by:	ECI	12/14/21 2005
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

2.5/3.4, 2.6/3.5 SCS

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

570-78818 Chain of Custody

SAP COC 2019/2020 VERSION 3

1/17/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145475 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Frontier Global Sciences LLC		Accreditations Required (See note): State Program - California		Job #: 570-78818-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/7/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA 98424				
Phone:	PO #			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPSW001BG01_20211214 (570-78818-1)	12/14/21	07.33 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment.

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/15/2021 1800	EC1			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

1/17/2022

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE 15DEC21
ACTWGT 8.00 LB
CAD 1533735/INET4400

BILL SENDER

TO **SAMPLE CONTROL**
EUROFINS FRONTIER GLOBAL SCIENCES
5755 8TH STREET E

TACOMA WA 98424
(425) 686-3563 REF VP/78818
INV
PO DEPT

56DJ3/E934/FE4A

FedEx Express

E

J212221101801uv

THU - 16 DEC 11:30A
PRIORITY OVERNIGHT

TRK# 0201 **7755 1224 1695**

85 TCMA

98424
WA-US **SEA**

After printing this label
1 Use the 'Print' button on this page to print your label to your laser or inkjet printer
2 Fold the printed page along the horizontal line
3 Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned

Warning Use only the printed original label for shipping Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges along with the cancellation of your FedEx account number
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex com FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim Limitations found in the current FedEx Service Guide apply Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value Recovery cannot exceed actual documented loss Maximum for items of extraordinary value is $1,000, e g jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide Written claims must be filed within strict time limits, see current FedEx Service Guide

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145790 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78818-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/14/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44009815			
Project Name: Boeing SSFL ISRA and BMP	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPSW001BG01_20211214 (570-78818-1)	12/14/21	07:33 Pacific		Water			X	X	X	X	X	X	6	Boeing SSFL DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
	Relinquished by	Date/Time 12/16/21 1509	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/17/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145499 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-78818-1
Address: 17461 Derian Ave Suite 100	Due Date Requested: 12/22/2021			
City: Irvine	TAT Requested (days):			
State, Zip: CA 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL M Hexane
B NaOH N None
C Zn Acetate O AsNaO2
D - Nitric Acid P Na2O4S
E - NaHSO4 Q Na2SO3
F MeOH R - Na2S2O3
G - Amchlor S H2SO4
H Ascorbic Acid T TSP Dodecahydrate
I Ice U Acetone
J - DI Water V MCAA
K - EDTA W pH 4-5
L - EDA Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D/ Solids, Total Suspended (TSS)	200.8/200.2 - Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb	200.8/FILTRATION Diss. Ag,As,Ba,Be,Cr,Cu,Fe,Mn,Ni,Pb,Se	200.7/200.2 B,Zn	200.7/FILTRATION Diss. B,Zn	4500_CN_E_LL/Distill_CN									Total Number of containers	Special Instructions/Note:
				Preservation Code:																		
EPSW001BG01_20211214 (570-78818-1)	12/14/21	07 33 Pacific		Water			X	X	X	X	X	X									4	

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/16/21	ECI		12/16/21 0645	ECI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
		1 1.1 IR 09

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145499 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program California		Job #: 570-78818-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 12/22/2021			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261 1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	Di Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D/ Solids, Total Suspended (TSS)	200.8/200.2 200.8 Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb	200.8/FILTRATION Diss. Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb,Se	200.7/200.2 B,Zn	200.7/FILTRATION Diss. B,Zn	4500_CN_E_LL/Distill_CN	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPSW001BG01_20211214 (570-78818-1)	12/14/21	07 33 Pacific		Water			X	X	X	X	X	X	4	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I II III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 12/16/21	Company: ECI	Received by: [signature]	Date/Time: 12/16/21 0645	Company: ECI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.		Cooler Temperature(s) °C and Other Remarks: 11/1.1 1K 89		

Ver 06/08 2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78818-1

Login Number: 78818
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78818-1

Login Number: 78818
List Number: 2
Creator: Skinner, Alma D

List Source: Eurofins Calscience Tustin
List Creation: 12/16/21 09:06 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-78818-2
Client Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/9/2022 8:58:48 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-2

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-78818-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-78818-2

Comments
No additional comments.

Receipt
The samples were received on 12/14/2021 8:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.4º C and 3.5º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: EPSW001BG01_20211214 (570-78818-1), (CCV 320-555723/2) and (MB 320-553086/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-2

Client Sample ID: EPSW001BG01_20211214 — Lab Sample ID: 570-78818-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.00000096	J,DX q	0.0000095	0.00000034	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000031	J,DX	0.000048	0.00000054	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000019	J,DX	0.000048	0.00000044	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000025	J,DX MB	0.000048	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000076	J,DX MB	0.000048	0.00000049	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000028	J,DX MB	0.000048	0.00000052	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000014	J,DX MB	0.000048	0.00000044	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.000011	J,DX MB	0.000048	0.00000066	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.000010	J,DX MB	0.000048	0.00000069	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000011	J,DX MB	0.000048	0.00000049	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000071	J,DX MB	0.000048	0.00000055	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00098	MB	0.000048	0.0000056	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00022	q MB	0.000048	0.0000025	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.000012	J,DX MB	0.000048	0.0000026	ug/L	1		1613B	Total/NA
OCDD	0.0066	MB	0.000095	0.0000031	ug/L	1		1613B	Total/NA
OCDF	0.00067	MB	0.000095	0.00000056	ug/L	1		1613B	Total/NA
Total TCDD	0.0000043	J,DX q	0.0000095	0.00000034	ug/L	1		1613B	Total/NA
Total TCDF	0.000017	q MB	0.0000095	0.00000019	ug/L	1		1613B	Total/NA
Total PeCDD	0.000024	J,DX MB	0.000048	0.00000054	ug/L	1		1613B	Total/NA
Total PeCDF	0.000043	J,DX q MB	0.000048	0.00000043	ug/L	1		1613B	Total/NA
Total HxCDD	0.00019	J,DX q MB	0.000048	0.00000044	ug/L	1		1613B	Total/NA
Total HxCDF	0.00019	J,DX q MB	0.000048	0.00000049	ug/L	1		1613B	Total/NA
Total HpCDD	0.0022	MB	0.000048	0.0000056	ug/L	1		1613B	Total/NA
Total HpCDF	0.00055	J,DX q MB	0.000048	0.0000025	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: EPSW001BG01_20211214
Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.00000096	J,DX q	0.0000095	0.00000034	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,7,8-PeCDD	0.0000031	J,DX	0.000048	0.00000054	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,7,8-PeCDF	0.0000019	J,DX	0.000048	0.00000044	ug/L		12/22/21 10:04	12/30/21 00:28	1
2,3,4,7,8-PeCDF	0.0000025	J,DX MB	0.000048	0.00000043	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,4,7,8-HxCDD	0.0000076	J,DX MB	0.000048	0.00000049	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,6,7,8-HxCDD	0.000028	J,DX MB	0.000048	0.00000052	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,7,8,9-HxCDD	0.000014	J,DX MB	0.000048	0.00000044	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,4,7,8-HxCDF	0.000011	J,DX MB	0.000048	0.00000066	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,6,7,8-HxCDF	0.000010	J,DX MB	0.000048	0.00000069	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,7,8,9-HxCDF	0.0000011	J,DX MB	0.000048	0.00000049	ug/L		12/22/21 10:04	12/30/21 00:28	1
2,3,4,6,7,8-HxCDF	0.0000071	J,DX MB	0.000048	0.00000055	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,4,6,7,8-HpCDD	0.00098	MB	0.000048	0.0000056	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,4,6,7,8-HpCDF	0.00022	q MB	0.000048	0.0000025	ug/L		12/22/21 10:04	12/30/21 00:28	1
1,2,3,4,7,8,9-HpCDF	0.000012	J,DX MB	0.000048	0.0000026	ug/L		12/22/21 10:04	12/30/21 00:28	1
OCDD	0.0066	MB	0.000095	0.0000031	ug/L		12/22/21 10:04	12/30/21 00:28	1
OCDF	0.00067	MB	0.000095	0.00000056	ug/L		12/22/21 10:04	12/30/21 00:28	1
Total TCDD	0.0000043	J,DX q	0.0000095	0.00000034	ug/L		12/22/21 10:04	12/30/21 00:28	1
Total TCDF	0.000017	q MB	0.0000095	0.00000019	ug/L		12/22/21 10:04	12/30/21 00:28	1
Total PeCDD	0.000024	J,DX MB	0.000048	0.00000054	ug/L		12/22/21 10:04	12/30/21 00:28	1
Total PeCDF	0.000043	J,DX q MB	0.000048	0.00000043	ug/L		12/22/21 10:04	12/30/21 00:28	1
Total HxCDD	0.00019	J,DX q MB	0.000048	0.00000044	ug/L		12/22/21 10:04	12/30/21 00:28	1
Total HxCDF	0.00019	J,DX q MB	0.000048	0.00000049	ug/L		12/22/21 10:04	12/30/21 00:28	1
Total HpCDD	0.0022	MB	0.000048	0.0000056	ug/L		12/22/21 10:04	12/30/21 00:28	1
Total HpCDF	0.00055	J,DX q MB	0.000048	0.0000025	ug/L		12/22/21 10:04	12/30/21 00:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*68*		*25 - 164*	*12/22/21 10:04*	*12/30/21 00:28*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*12/22/21 10:04*	*12/30/21 00:28*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*25 - 181*	*12/22/21 10:04*	*12/30/21 00:28*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*24 - 185*	*12/22/21 10:04*	*12/30/21 00:28*	*1*
13C-2,3,4,7,8-PeCDF	*73*		*21 - 178*	*12/22/21 10:04*	*12/30/21 00:28*	*1*
13C-1,2,3,4,7,8-HxCDD	*79*		*32 - 141*	*12/22/21 10:04*	*12/30/21 00:28*	*1*
13C-1,2,3,6,7,8-HxCDD	*71*		*28 - 130*	*12/22/21 10:04*	*12/30/21 00:28*	*1*
13C-1,2,3,4,7,8-HxCDF	*77*		*26 - 152*	*12/22/21 10:04*	*12/30/21 00:28*	*1*
13C-1,2,3,6,7,8-HxCDF	*67*		*26 - 123*	*12/22/21 10:04*	*12/30/21 00:28*	*1*
13C-1,2,3,7,8,9-HxCDF	*70*		*29 - 147*	*12/22/21 10:04*	*12/30/21 00:28*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EPSW001BG01_20211214
Lab Sample ID: 570-78818-1
Date Collected: 12/14/21 07:33
Matrix: Water
Date Received: 12/14/21 20:05

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,6,7,8-HxCDF	68		28 - 136	12/22/21 10:04	12/30/21 00:28	1
13C-1,2,3,4,6,7,8-HpCDD	78		23 - 140	12/22/21 10:04	12/30/21 00:28	1
13C-1,2,3,4,6,7,8-HpCDF	71		28 - 143	12/22/21 10:04	12/30/21 00:28	1
13C-1,2,3,4,7,8,9-HpCDF	90		26 - 138	12/22/21 10:04	12/30/21 00:28	1
13C-OCDD	78		17 - 157	12/22/21 10:04	12/30/21 00:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	91		35 - 197	12/22/21 10:04	12/30/21 00:28	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: EPSW001BG01_20211214
Lab Sample ID: 570-78818-1
Date Collected: 12/14/21 07:33
Matrix: Water
Date Received: 12/14/21 20:05

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.0000095	0.0000024	ug/L		12/22/21 10:04	01/03/22 18:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*73*		*24 - 169*	*12/22/21 10:04*	*01/03/22 18:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*12/22/21 10:04*	*01/03/22 18:53*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-78818-1	EPSW001BG01_20211214	91
570-78818-1 - RA	EPSW001BG01_20211214	89
MB 320-553086/1-A	Method Blank	94
MB 320-553086/1-A - RA	Method Blank	88

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-553086/2-A	Lab Control Sample	95
LCSD 320-553086/3-A	Lab Control Sample Dup	91

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-78818-1	EPSW001BG01_20211214	68	70	65	66	73	79	71	77
570-78818-1 - RA	EPSW001BG01_20211214		73						
MB 320-553086/1-A	Method Blank	76	78	71	76	81	89	81	88
MB 320-553086/1-A - RA	Method Blank		83						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-78818-1	EPSW001BG01_20211214	67	70	68	78	71	90	78
570-78818-1 - RA	EPSW001BG01_20211214							
MB 320-553086/1-A	Method Blank	80	78	80	86	82	99	80
MB 320-553086/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-553086/2-A	Lab Control Sample	74	77	73	76	82	86	81	88
LCSD 320-553086/3-A	Lab Control Sample Dup	71	74	68	70	77	84	79	86

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-553086/2-A	Lab Control Sample	80	80	81	87	82	101	85
LCSD 320-553086/3-A	Lab Control Sample Dup	78	77	77	83	78	97	78

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-2
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-553086/1-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553086

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000054	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000040	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000025	ug/L		12/22/21 10:04	12/29/21 16:58	1
2,3,4,7,8-PeCDF	0.000000528	J,DX q	0.000050	0.00000025	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,4,7,8-HxCDD	0.00000172	J,DX	0.000050	0.00000029	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,6,7,8-HxCDD	0.000000520	J,DX	0.000050	0.00000030	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,7,8,9-HxCDD	0.00000124	J,DX	0.000050	0.00000026	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,4,7,8-HxCDF	0.000000802	J,DX	0.000050	0.00000022	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,6,7,8-HxCDF	0.000000649	J,DX	0.000050	0.00000023	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,7,8,9-HxCDF	0.000000919	J,DX q	0.000050	0.00000017	ug/L		12/22/21 10:04	12/29/21 16:58	1
2,3,4,6,7,8-HxCDF	0.000000533	J,DX	0.000050	0.00000018	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,4,6,7,8-HpCDD	0.00000382	J,DX	0.000050	0.00000018	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,4,6,7,8-HpCDF	0.00000295	J,DX q	0.000050	0.00000021	ug/L		12/22/21 10:04	12/29/21 16:58	1
1,2,3,4,7,8,9-HpCDF	0.00000189	J,DX	0.000050	0.00000023	ug/L		12/22/21 10:04	12/29/21 16:58	1
OCDD	0.0000101	J,DX	0.00010	0.00000024	ug/L		12/22/21 10:04	12/29/21 16:58	1
OCDF	0.00000301	J,DX	0.00010	0.00000032	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total TCDD	ND		0.000010	0.00000054	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total TCDF	0.00000127	J,DX q	0.000010	0.00000021	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total PeCDD	0.000000437	J,DX q	0.000050	0.00000040	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total PeCDF	0.000000528	J,DX q	0.000050	0.00000025	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total HxCDD	0.00000349	J,DX	0.000050	0.00000026	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total HxCDF	0.00000424	J,DX q	0.000050	0.00000017	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total HpCDD	0.00000799	J,DX	0.000050	0.00000018	ug/L		12/22/21 10:04	12/29/21 16:58	1
Total HpCDF	0.00000484	J,DX q	0.000050	0.00000021	ug/L		12/22/21 10:04	12/29/21 16:58	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*76*		*25 - 164*	*12/22/21 10:04*	*12/29/21 16:58*	*1*
13C-2,3,7,8-TCDF	*78*		*24 - 169*	*12/22/21 10:04*	*12/29/21 16:58*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*25 - 181*	*12/22/21 10:04*	*12/29/21 16:58*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-553086/1-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553086

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	76		24 - 185	12/22/21 10:04	12/29/21 16:58	1
13C-2,3,4,7,8-PeCDF	81		21 - 178	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,4,7,8-HxCDD	89		32 - 141	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,6,7,8-HxCDD	81		28 - 130	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,4,7,8-HxCDF	88		26 - 152	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,6,7,8-HxCDF	80		26 - 123	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,7,8,9-HxCDF	78		29 - 147	12/22/21 10:04	12/29/21 16:58	1
13C-2,3,4,6,7,8-HxCDF	80		28 - 136	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,4,6,7,8-HpCDD	86		23 - 140	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,4,6,7,8-HpCDF	82		28 - 143	12/22/21 10:04	12/29/21 16:58	1
13C-1,2,3,4,7,8,9-HpCDF	99		26 - 138	12/22/21 10:04	12/29/21 16:58	1
13C-OCDD	80		17 - 157	12/22/21 10:04	12/29/21 16:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	94		35 - 197	12/22/21 10:04	12/29/21 16:58	1

Lab Sample ID: LCS 320-553086/2-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 553086

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000214		ug/L		107	67 - 158		
2,3,7,8-TCDF			0.000200	0.000208		ug/L		104	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.00112		ug/L		112	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.00108		ug/L		108	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000964		ug/L		96	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000956		ug/L		96	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000997		ug/L		100	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000962		ug/L		96	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000948		ug/L		95	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00105		ug/L		105	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.00105		ug/L		105	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.00105		ug/L		105	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.00102		ug/L		102	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00100		ug/L		100	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000915		ug/L		91	78 - 138		
OCDD			0.00200	0.00202		ug/L		101	78 - 144		
OCDF			0.00200	0.00215		ug/L		108	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	74		20 - 175
13C-2,3,7,8-TCDF	77		22 - 152
13C-1,2,3,7,8-PeCDD	73		21 - 227
13C-1,2,3,7,8-PeCDF	76		21 - 192
13C-2,3,4,7,8-PeCDF	82		13 - 328
13C-1,2,3,4,7,8-HxCDD	86		21 - 193
13C-1,2,3,6,7,8-HxCDD	81		25 - 163

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-553086/2-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 553086

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,7,8-HxCDF	88		19 - 202
13C-1,2,3,6,7,8-HxCDF	80		21 - 159
13C-1,2,3,7,8,9-HxCDF	80		17 - 205
13C-2,3,4,6,7,8-HxCDF	81		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	87		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	82		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	101		20 - 186
13C-OCDD	85		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	95		31 - 191

Lab Sample ID: LCSD 320-553086/3-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 553086

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000205		ug/L		102	67 - 158	4	50
2,3,7,8-TCDF			0.000200	0.000202		ug/L		101	75 - 158	3	50
1,2,3,7,8-PeCDD			0.00100	0.00110		ug/L		110	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00107		ug/L		107	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000956		ug/L		96	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000936		ug/L		94	70 - 164	2	50
1,2,3,6,7,8-HxCDD			0.00100	0.00100		ug/L		100	76 - 134	1	50
1,2,3,7,8,9-HxCDD			0.00100	0.000946		ug/L		95	64 - 162	2	50
1,2,3,4,7,8-HxCDF			0.00100	0.000938		ug/L		94	72 - 134	1	50
1,2,3,6,7,8-HxCDF			0.00100	0.00105		ug/L		105	84 - 130	0	50
1,2,3,7,8,9-HxCDF			0.00100	0.00104		ug/L		104	78 - 130	0	50
2,3,4,6,7,8-HxCDF			0.00100	0.00106		ug/L		106	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00102		ug/L		102	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00102		ug/L		102	82 - 122	2	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000927		ug/L		93	78 - 138	1	50
OCDD			0.00200	0.00207		ug/L		103	78 - 144	2	50
OCDF			0.00200	0.00222		ug/L		111	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	74		22 - 152
13C-1,2,3,7,8-PeCDD	68		21 - 227
13C-1,2,3,7,8-PeCDF	70		21 - 192
13C-2,3,4,7,8-PeCDF	77		13 - 328
13C-1,2,3,4,7,8-HxCDD	84		21 - 193
13C-1,2,3,6,7,8-HxCDD	79		25 - 163
13C-1,2,3,4,7,8-HxCDF	86		19 - 202
13C-1,2,3,6,7,8-HxCDF	78		21 - 159
13C-1,2,3,7,8,9-HxCDF	77		17 - 205
13C-2,3,4,6,7,8-HxCDF	77		22 - 176

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-553086/3-A
Matrix: Water
Analysis Batch: 554788

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 553086

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDD	83		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	78		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	97		20 - 186
13C-OCDD	78		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	91		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-553086/1-A
Matrix: Water
Analysis Batch: 555723

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553086

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000025	ug/L		12/22/21 10:04	01/03/22 14:24	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	83		24 - 169	12/22/21 10:04	01/03/22 14:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	88		35 - 197	12/22/21 10:04	01/03/22 14:24	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-2
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Specialty Organics

Prep Batch: 553086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	1613B	
570-78818-1 - RA	EPSW001BG01_20211214	Total/NA	Water	1613B	
MB 320-553086/1-A	Method Blank	Total/NA	Water	1613B	
MB 320-553086/1-A - RA	Method Blank	Total/NA	Water	1613B	
LCS 320-553086/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-553086/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 554788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1	EPSW001BG01_20211214	Total/NA	Water	1613B	553086
MB 320-553086/1-A	Method Blank	Total/NA	Water	1613B	553086
LCS 320-553086/2-A	Lab Control Sample	Total/NA	Water	1613B	553086
LCSD 320-553086/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	553086

Analysis Batch: 555723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78818-1 - RA	EPSW001BG01_20211214	Total/NA	Water	1613B	553086
MB 320-553086/1-A - RA	Method Blank	Total/NA	Water	1613B	553086

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-2

Client Sample ID: EPSW001BG01_20211214

Date Collected: 12/14/21 07:33
Date Received: 12/14/21 20:05

Lab Sample ID: 570-78818-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1052.5 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B		1			554788	12/30/21 00:28	KSS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	1613B	RA		1052.5 mL	20.0 uL	553086	12/22/21 10:04	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555723	01/03/22 18:53	GRB	TAL SAC
	Instrument ID: 11D2									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-78818-2
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-78818-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78818-1	EPSW001BG01_20211214	Water	12/14/21 07:33	12/14/21 20:05

Loc 570
78818

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS / MSD (Y/N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn; – (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn – (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20211214	12/14/21	0733	G	WM	24	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
TB_20211214	12/14/21	0740	TB	WM	3	N	N															x			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

▫ Non-Hazard ▫ Flammable ▪ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal

▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815

Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ▫ Yes ▫ No	Custody Seal No.		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____		
Relinquished by:	Company:	Date/Time:	Received by:		Date/Time:
Relinquished by:	Company: ECI	Date/Time: 12/14/21 2005	Received by:	ECI	Date/Time: 12/14/21 2005
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

2.5/3.4, 2.6/3.5 SCS

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

570-78818 Chain of Custody

SAP COC 2019/2020 VERSION 3

1/9/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145468 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78818-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPSW001BG01_20211214 (570-78818-1)	12/14/21	07 33 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/15/21 1723				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No. | Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Loc: 570
78818

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

7440 Lincoln Way
Garden Grove CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program: ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O#:	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba Be, Cd, Cr Cu, Fe Mn Ni, Pb, Se Sb, Tl, Method 200.7: B, Zn – (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr, Cu Fe, Mn, Ni, Pb, Se, Sb, Tl Method 200.7: B, Zn – (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20211214	12/14/21	0733	G	WM	24	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
TB_20211214	12/14/21	0740	TB	WM	3	N	N															x			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: **ECI #44009815**
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

	Company	Date/Time			Date/Time
Relinquished by:	IH	12/14/21 1345	Received by:	ECI	12/14/21 1345
Relinquished by:	ECI	12/14/21 2005	Received by:	ECI	12/14/21 2005
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

2.5/3.4, 2.6/3.5 SCS

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

570-78818 Chain of Custody

SAP COC 2019/2020 VERSION 3

1/9/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-145475 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Frontier Global Sciences LLC		Accreditations Required (See note): State Program - California		Job #: 570-78818-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/7/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA 98424				
Phone:	PO #			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPSW001BG01_20211214 (570-78818-1)	12/14/21	07.33 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment.

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	[signature]	12/15/2021 1800	ECL			
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

ORIGIN ID:APVA (714) 895-5494
SAMPLE CONTROL
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY
GARDEN GROVE, CA 92841
UNITED STATES US

SHIP DATE: 15DEC21
ACTWGT: 8.00 LB
CAD: 1533735/INET4400

BILL SENDER

TO **SAMPLE CONTROL**
EUROFINS FRONTIER GLOBAL SCIENCES
5755 8TH STREET E
TACOMA WA 98424
(425) 686-3563
INV
PO
REF: VP/78818
DEPT

56DJ3/E934/FE4A

FedEx Express

J4122211018011us

THU - 16 DEC 11:30A
PRIORITY OVERNIGHT

TRK# 0201 **7755 1224 1695**

85 TCMA

98424
SEA
WA-US

After printing this label
1 Use the 'Print' button on this page to print your label to your laser or inkjet printer
2 Fold the printed page along the horizontal line
3 Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned

Warning Use only the printed original label for shipping Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges along with the cancellation of your FedEx account number
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex com FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim Limitations found in the current FedEx Service Guide apply Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value Recovery cannot exceed actual documented loss Maximum for items of extraordinary value is $1,000, e g jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide Written claims must be filed within strict time limits, see current FedEx Service Guide

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-145790 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78818-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/14/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M	Hexane	
B - NaOH	N	None	
C - Zn Acetate	O	AsNaO2	
D - Nitric Acid	P	Na2O4S	
E - NaHSO4	Q	Na2SO3	
F - MeOH	R	Na2S2O3	
G - Amchlor	S	H2SO4	
H - Ascorbic Acid	T	TSP Dodecahydrate	
I - Ice	U	Acetone	
J - DI Water	V	MCAA	
K - EDTA	W	pH 4-5	
L - EDA	Z	other (specify)	

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPSW001BG01_20211214 (570-78818-1)	12/14/21	07:33 Pacific		Water			X	X	X	X	X	X	6	Boeing SSFL DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
	Relinquished by	Date/Time 12/16/21 1509	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/9/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-145468.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-78818-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211214 (570-78818-1)	12/14/21	07:33 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/15/21 1723			12/17/21 1100	GLSTSAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.8c

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78818-2

Login Number: 78818
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-78818-2

Login Number: 78818
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/17/21 05:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-79044-1
Client Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/18/2022 12:28:44 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

Qualifiers

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Haley & Aldrich, Inc. Job ID: 570-79044-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-79044-1

Comments
No additional comments.

Receipt
The samples were received on 12/16/2021 4:12 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.5º C.

Metals
Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: LPBMP0002_20211215 (570-79044-1), LPBMP0003_20211215 (570-79044-2) and LPBMP0004_20211215 (570-79044-3). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to Tustin relocation.

12/29/21 @ 14:32 hours and 15:30 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method D4464: The sample duplicate precision for the following sample associated with analytical batch 570-205144 was outside control limits: LPBMP0002_20211215 (570-79044-1) and (570-79044-E-3 DU). The associated Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) precision met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

Client Sample ID: LPBMP0002_20211215 — Lab Sample ID: 570-79044-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	16		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	0.86	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	15		2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.26		0.20	0.10	ug/L	1		245.1	Dissolved
Total Suspended Solids	8.4		2.0	1.7	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	8.56		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	8.56		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	91.44		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: LPBMP0003_20211215 — Lab Sample ID: 570-79044-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	14		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	0.90	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	13		2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.11	J,DX	0.20	0.10	ug/L	1		245.1	Total/NA
Total Suspended Solids	13		2.0	1.7	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	5.92		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	19.09		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	2.27		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	8.19		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	72.71		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: LPBMP0004_20211215 — Lab Sample ID: 570-79044-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	6.1		2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	5.6		2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.16	J,DX	0.20	0.10	ug/L	1		245.1	Dissolved
Total Suspended Solids	3.4		1.3	1.0	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	3.82		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	13.53		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	5.25		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	9.08		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	77.39		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: LPBMP0002_20211215
Date Collected: 12/15/21 13:00
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 10:51	1
Copper	**16**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:51	1
Lead	**0.86**	**J,DX**	1.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:51	1

Client Sample ID: LPBMP0003_20211215
Date Collected: 12/15/21 13:05
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 10:53	1
Copper	**14**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:53	1
Lead	**0.90**	**J,DX**	1.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:53	1

Client Sample ID: LPBMP0004_20211215
Date Collected: 12/15/21 13:10
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 10:56	1
Copper	**6.1**		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:56	1
Lead	ND		1.0	0.50	ug/L		01/17/22 13:51	01/18/22 10:56	1

Client: Haley & Aldrich, Inc.
Job ID: 570-79044-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: LPBMP0002_20211215
Date Collected: 12/15/21 13:00
Date Received: 12/16/21 15:00
Lab Sample ID: 570-79044-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:17	12/30/21 11:53	1
Copper	**15**		2.0	0.50	ug/L		12/29/21 16:17	12/30/21 11:53	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:17	12/30/21 11:53	1

Client Sample ID: LPBMP0003_20211215
Date Collected: 12/15/21 13:05
Date Received: 12/16/21 15:00
Lab Sample ID: 570-79044-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:17	12/30/21 11:51	1
Copper	**13**		2.0	0.50	ug/L		12/29/21 16:17	12/30/21 11:51	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:17	12/30/21 11:51	1

Client Sample ID: LPBMP0004_20211215
Date Collected: 12/15/21 13:10
Date Received: 12/16/21 15:00
Lab Sample ID: 570-79044-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:17	12/30/21 11:44	1
Copper	**5.6**		2.0	0.50	ug/L		12/29/21 16:17	12/30/21 11:44	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:17	12/30/21 11:44	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-79044-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Method: 245.1 - Mercury (CVAA)

Client Sample ID: LPBMP0002_20211215
Lab Sample ID: 570-79044-1
Date Collected: 12/15/21 13:00
Matrix: Water
Date Received: 12/16/21 15:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:10	01/10/22 19:49	1

Client Sample ID: LPBMP0003_20211215
Lab Sample ID: 570-79044-2
Date Collected: 12/15/21 13:05
Matrix: Water
Date Received: 12/16/21 15:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**	**J,DX**	0.20	0.10	ug/L		01/10/22 10:10	01/10/22 17:44	1

Client Sample ID: LPBMP0004_20211215
Lab Sample ID: 570-79044-3
Date Collected: 12/15/21 13:10
Matrix: Water
Date Received: 12/16/21 15:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:10	01/10/22 17:47	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-79044-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: LPBMP0002_20211215
Date Collected: 12/15/21 13:00
Date Received: 12/16/21 15:00
Lab Sample ID: 570-79044-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.26**		0.20	0.10	ug/L		01/12/22 10:34	01/12/22 16:17	1

Client Sample ID: LPBMP0003_20211215
Date Collected: 12/15/21 13:05
Date Received: 12/16/21 15:00
Lab Sample ID: 570-79044-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/12/22 10:34	01/12/22 16:23	1

Client Sample ID: LPBMP0004_20211215
Date Collected: 12/15/21 13:10
Date Received: 12/16/21 15:00
Lab Sample ID: 570-79044-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.16**	**J,DX**	0.20	0.10	ug/L		01/12/22 10:34	01/12/22 16:25	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

General Chemistry

Client Sample ID: LPBMP0002_20211215
Date Collected: 12/15/21 13:00
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	8.4		2.0	1.7	mg/L			12/22/21 09:08	1

Client Sample ID: LPBMP0003_20211215
Date Collected: 12/15/21 13:05
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	13		2.0	1.7	mg/L			12/22/21 09:08	1

Client Sample ID: LPBMP0004_20211215
Date Collected: 12/15/21 13:10
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.4		1.3	1.0	mg/L			12/22/21 09:08	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: LPBMP0002_20211215
Date Collected: 12/15/21 13:00
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**8.56**		0.01	0.01	%			01/03/22 14:21	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/03/22 14:21	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/03/22 14:21	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/03/22 14:21	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/03/22 14:21	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/03/22 14:21	1
Total Silt and Clay (0 to 0.0626mm)	**8.56**		0.01	0.01	%			01/03/22 14:21	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/03/22 14:21	1
Very Fine Sand (0.0625 to 0.125 mm)	**91.44**		0.01	0.01	%			01/03/22 14:21	1

Client Sample ID: LPBMP0003_20211215
Date Collected: 12/15/21 13:05
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-2
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**5.92**		0.01	0.01	%			01/03/22 14:30	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/03/22 14:30	1
Fine Sand (0.125 to 0.25mm)	**19.09**		0.01	0.01	%			01/03/22 14:30	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/03/22 14:30	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/03/22 14:30	1
Silt (0.00391 to 0.0625mm)	**2.27**		0.01	0.01	%			01/03/22 14:30	1
Total Silt and Clay (0 to 0.0626mm)	**8.19**		0.01	0.01	%			01/03/22 14:30	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/03/22 14:30	1
Very Fine Sand (0.0625 to 0.125 mm)	**72.71**		0.01	0.01	%			01/03/22 14:30	1

Client Sample ID: LPBMP0004_20211215
Date Collected: 12/15/21 13:10
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-3
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**3.82**		0.01	0.01	%			01/03/22 14:38	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/03/22 14:38	1
Fine Sand (0.125 to 0.25mm)	**13.53**		0.01	0.01	%			01/03/22 14:38	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/03/22 14:38	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/03/22 14:38	1
Silt (0.00391 to 0.0625mm)	**5.25**		0.01	0.01	%			01/03/22 14:38	1
Total Silt and Clay (0 to 0.0626mm)	**9.08**		0.01	0.01	%			01/03/22 14:38	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/03/22 14:38	1
Very Fine Sand (0.0625 to 0.125 mm)	**77.39**		0.01	0.01	%			01/03/22 14:38	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

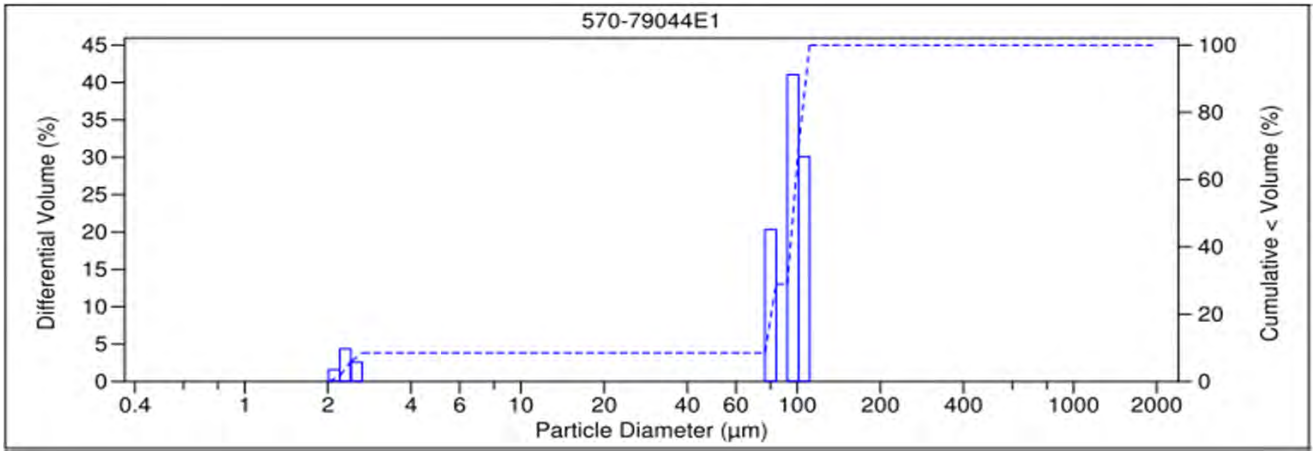
Haley & Aldrich, Inc.

Date Sampled:	12/15/21
Date Received:	12/16/21
Work Order No:	570-79044
Date Analyzed:	01/03/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
LPBMP0002_20211215		Very Fine Sand	0.088

Particle Size Distribution, wt by percent								Total Silt & Clay
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	
0.00	0.00	0.00	0.00	0.00	91.44	0.00	8.56	8.56



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PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

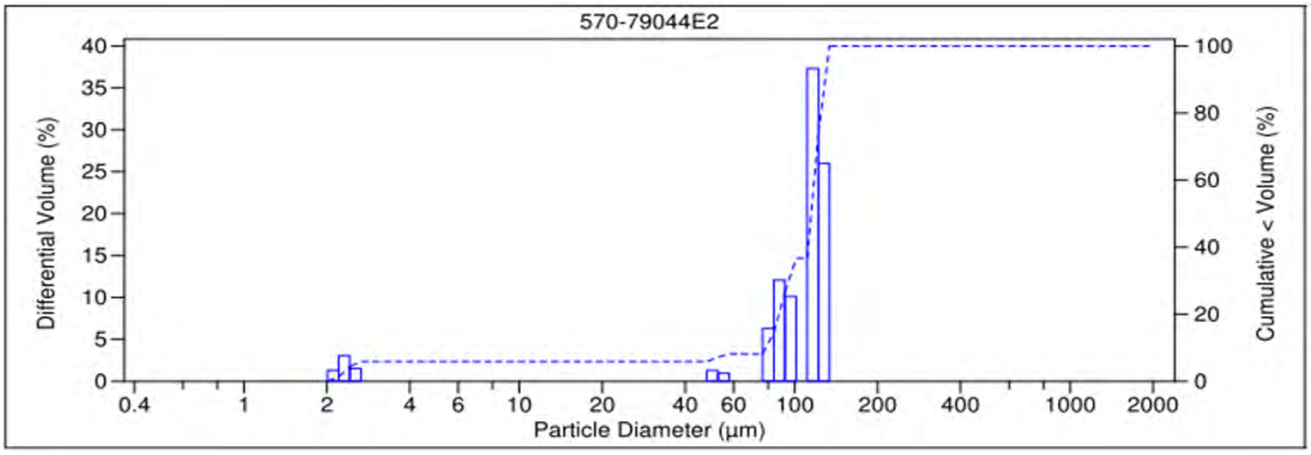
Haley & Aldrich, Inc.

Date Sampled:	12/15/21
Date Received:	12/16/21
Work Order No:	570-79044
Date Analyzed:	01/03/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
LPBMP0003_20211215		Very Fine Sand	0.103

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	19.09	72.71	2.27	5.92	8.19



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

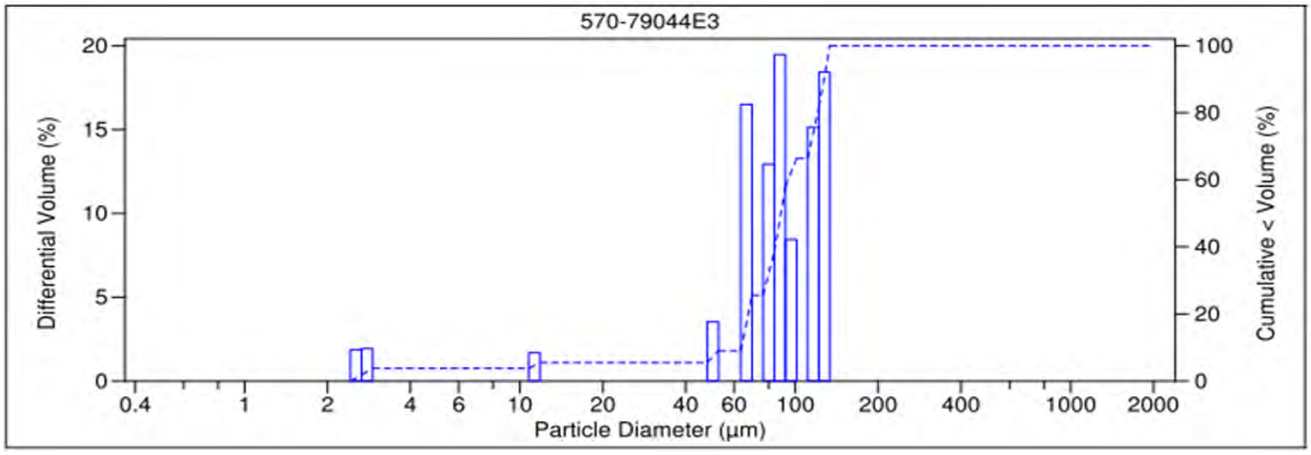
Haley & Aldrich, Inc.

Date Sampled:	12/15/21
Date Received:	12/16/21
Work Order No:	570-79044
Date Analyzed:	01/03/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
LPBMP0004_20211215		Very Fine Sand	0.090

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	13.53	77.39	5.25	3.82	9.08



V 3.0

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664613/1-A
Matrix: Water
Analysis Batch: 664704

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664613

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/17/22 13:51	01/18/22 09:50	1
Copper	ND		2.0	0.50	ug/L		01/17/22 13:51	01/18/22 09:50	1
Lead	ND		1.0	0.50	ug/L		01/17/22 13:51	01/18/22 09:50	1

Lab Sample ID: LCS 440-664613/2-A
Matrix: Water
Analysis Batch: 664704

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664613

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	77.5		ug/L		97	85 - 115
Copper	80.0	78.9		ug/L		99	85 - 115
Lead	80.0	80.9		ug/L		101	85 - 115

Lab Sample ID: 570-78815-F-2-D MS
Matrix: Water
Analysis Batch: 664704

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664613

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	77.7		ug/L		97	70 - 130
Copper	6.7		80.0	81.7		ug/L		94	70 - 130
Lead	5.1		80.0	84.2		ug/L		99	70 - 130

Lab Sample ID: 570-78815-F-2-E MSD
Matrix: Water
Analysis Batch: 664704

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664613

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	78.8		ug/L		99	70 - 130	1	20
Copper	6.7		80.0	84.0		ug/L		97	70 - 130	3	20
Lead	5.1		80.0	87.0		ug/L		102	70 - 130	3	20

Lab Sample ID: MB 440-663588/1-B
Matrix: Water
Analysis Batch: 663642

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663592

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		12/29/21 16:17	12/30/21 11:40	1
Copper	ND		2.0	0.50	ug/L		12/29/21 16:17	12/30/21 11:40	1
Lead	ND		1.0	0.50	ug/L		12/29/21 16:17	12/30/21 11:40	1

Lab Sample ID: LCS 440-663588/2-B
Matrix: Water
Analysis Batch: 663642

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663592

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	74.9		ug/L		94	85 - 115
Copper	80.0	75.1		ug/L		94	85 - 115
Lead	80.0	76.3		ug/L		95	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-79044-3 MS
Matrix: Water
Analysis Batch: 663642

Client Sample ID: LPBMP0004_20211215
Prep Type: Dissolved
Prep Batch: 663592

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	74.9		ug/L		94	70 - 130
Copper	5.6		80.0	82.3		ug/L		96	70 - 130
Lead	ND		80.0	76.6		ug/L		96	70 - 130

Lab Sample ID: 570-79044-3 MSD
Matrix: Water
Analysis Batch: 663642

Client Sample ID: LPBMP0004_20211215
Prep Type: Dissolved
Prep Batch: 663592

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	74.0		ug/L		93	70 - 130	1	20
Copper	5.6		80.0	82.3		ug/L		96	70 - 130	0	20
Lead	ND		80.0	75.8		ug/L		95	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-664074/1-A
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 664074

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 10:10	01/10/22 19:22	1

Lab Sample ID: LCS 440-664074/2-A
Matrix: Water
Analysis Batch: 664187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 664074

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	6.10		ug/L		102	85 - 115

Lab Sample ID: 570-79044-1 MS
Matrix: Water
Analysis Batch: 664187

Client Sample ID: LPBMP0002_20211215
Prep Type: Total/NA
Prep Batch: 664074

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	8.82	LM	ug/L		147	75 - 125

Lab Sample ID: 570-79044-1 MSD
Matrix: Water
Analysis Batch: 664187

Client Sample ID: LPBMP0002_20211215
Prep Type: Total/NA
Prep Batch: 664074

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	8.71	LM	ug/L		145	75 - 125	1	20

Lab Sample ID: MB 440-663586/1-D
Matrix: Water
Analysis Batch: 664328

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664263

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/12/22 10:34	01/12/22 16:29	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 440-663586/2-D
Matrix: Water
Analysis Batch: 664328

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664263

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			6.00	6.36		ug/L		106	85 - 115		

Lab Sample ID: 570-79044-1 MS
Matrix: Water
Analysis Batch: 664328

Client Sample ID: LPBMP0002_20211215
Prep Type: Dissolved
Prep Batch: 664263

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.26		6.00	6.34		ug/L		101	75 - 125		

Lab Sample ID: 570-79044-1 MSD
Matrix: Water
Analysis Batch: 664328

Client Sample ID: LPBMP0002_20211215
Prep Type: Dissolved
Prep Batch: 664263

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.26		6.00	6.84		ug/L		110	75 - 125	8	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-203098/1
Matrix: Water
Analysis Batch: 203098

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			12/22/21 09:07	1

Lab Sample ID: LCS 570-203098/2
Matrix: Water
Analysis Batch: 203098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	96.0		mg/L		96	77 - 116		

Lab Sample ID: LCSD 570-203098/3
Matrix: Water
Analysis Batch: 203098

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids			100	95.0		mg/L		95	77 - 116	1	10

Lab Sample ID: 570-79044-2 DU
Matrix: Water
Analysis Batch: 203098

Client Sample ID: LPBMP0003_20211215
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	13			13.0		mg/L				2	10

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

Metals

Filtration Batch: 663586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Dissolved	Water	FILTRATION	
570-79044-2	LPBMP0003_20211215	Dissolved	Water	FILTRATION	
570-79044-3	LPBMP0004_20211215	Dissolved	Water	FILTRATION	
MB 440-663586/1-D	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663586/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
570-79044-1 MS	LPBMP0002_20211215	Dissolved	Water	FILTRATION	
570-79044-1 MSD	LPBMP0002_20211215	Dissolved	Water	FILTRATION	

Filtration Batch: 663588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Dissolved	Water	FILTRATION	
570-79044-2	LPBMP0003_20211215	Dissolved	Water	FILTRATION	
570-79044-3	LPBMP0004_20211215	Dissolved	Water	FILTRATION	
MB 440-663588/1-B	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663588/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
570-79044-3 MS	LPBMP0004_20211215	Dissolved	Water	FILTRATION	
570-79044-3 MSD	LPBMP0004_20211215	Dissolved	Water	FILTRATION	

Prep Batch: 663592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Dissolved	Water	200.2	663588
570-79044-2	LPBMP0003_20211215	Dissolved	Water	200.2	663588
570-79044-3	LPBMP0004_20211215	Dissolved	Water	200.2	663588
MB 440-663588/1-B	Method Blank	Dissolved	Water	200.2	663588
LCS 440-663588/2-B	Lab Control Sample	Dissolved	Water	200.2	663588
570-79044-3 MS	LPBMP0004_20211215	Dissolved	Water	200.2	663588
570-79044-3 MSD	LPBMP0004_20211215	Dissolved	Water	200.2	663588

Analysis Batch: 663642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Dissolved	Water	200.8	663592
570-79044-2	LPBMP0003_20211215	Dissolved	Water	200.8	663592
570-79044-3	LPBMP0004_20211215	Dissolved	Water	200.8	663592
MB 440-663588/1-B	Method Blank	Dissolved	Water	200.8	663592
LCS 440-663588/2-B	Lab Control Sample	Dissolved	Water	200.8	663592
570-79044-3 MS	LPBMP0004_20211215	Dissolved	Water	200.8	663592
570-79044-3 MSD	LPBMP0004_20211215	Dissolved	Water	200.8	663592

Prep Batch: 664074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Total/NA	Water	245.1	
570-79044-2	LPBMP0003_20211215	Total/NA	Water	245.1	
570-79044-3	LPBMP0004_20211215	Total/NA	Water	245.1	
MB 440-664074/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-664074/2-A	Lab Control Sample	Total/NA	Water	245.1	
570-79044-1 MS	LPBMP0002_20211215	Total/NA	Water	245.1	
570-79044-1 MSD	LPBMP0002_20211215	Total/NA	Water	245.1	

Metals

Analysis Batch: 664187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Total/NA	Water	245.1	664074
570-79044-2	LPBMP0003_20211215	Total/NA	Water	245.1	664074
570-79044-3	LPBMP0004_20211215	Total/NA	Water	245.1	664074
MB 440-664074/1-A	Method Blank	Total/NA	Water	245.1	664074
LCS 440-664074/2-A	Lab Control Sample	Total/NA	Water	245.1	664074
570-79044-1 MS	LPBMP0002_20211215	Total/NA	Water	245.1	664074
570-79044-1 MSD	LPBMP0002_20211215	Total/NA	Water	245.1	664074

Prep Batch: 664263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Dissolved	Water	245.1	663586
570-79044-2	LPBMP0003_20211215	Dissolved	Water	245.1	663586
570-79044-3	LPBMP0004_20211215	Dissolved	Water	245.1	663586
MB 440-663586/1-D	Method Blank	Dissolved	Water	245.1	663586
LCS 440-663586/2-D	Lab Control Sample	Dissolved	Water	245.1	663586
570-79044-1 MS	LPBMP0002_20211215	Dissolved	Water	245.1	663586
570-79044-1 MSD	LPBMP0002_20211215	Dissolved	Water	245.1	663586

Analysis Batch: 664328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Dissolved	Water	245.1	664263
570-79044-2	LPBMP0003_20211215	Dissolved	Water	245.1	664263
570-79044-3	LPBMP0004_20211215	Dissolved	Water	245.1	664263
MB 440-663586/1-D	Method Blank	Dissolved	Water	245.1	664263
LCS 440-663586/2-D	Lab Control Sample	Dissolved	Water	245.1	664263
570-79044-1 MS	LPBMP0002_20211215	Dissolved	Water	245.1	664263
570-79044-1 MSD	LPBMP0002_20211215	Dissolved	Water	245.1	664263

Prep Batch: 664613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Total Recoverable	Water	200.2	
570-79044-2	LPBMP0003_20211215	Total Recoverable	Water	200.2	
570-79044-3	LPBMP0004_20211215	Total Recoverable	Water	200.2	
MB 440-664613/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664613/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-78815-F-2-D MS	Matrix Spike	Total Recoverable	Water	200.2	
570-78815-F-2-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Total Recoverable	Water	200.8	664613
570-79044-2	LPBMP0003_20211215	Total Recoverable	Water	200.8	664613
570-79044-3	LPBMP0004_20211215	Total Recoverable	Water	200.8	664613
MB 440-664613/1-A	Method Blank	Total Recoverable	Water	200.8	664613
LCS 440-664613/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664613
570-78815-F-2-D MS	Matrix Spike	Total Recoverable	Water	200.8	664613
570-78815-F-2-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664613

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79044-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

General Chemistry

Analysis Batch: 203098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Total/NA	Water	SM 2540D	
570-79044-2	LPBMP0003_20211215	Total/NA	Water	SM 2540D	
570-79044-3	LPBMP0004_20211215	Total/NA	Water	SM 2540D	
MB 570-203098/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-203098/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-203098/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-79044-2 DU	LPBMP0003_20211215	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 205144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Total/NA	Water	D4464	
570-79044-2	LPBMP0003_20211215	Total/NA	Water	D4464	
570-79044-3	LPBMP0004_20211215	Total/NA	Water	D4464	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

Client Sample ID: LPBMP0002_20211215

Lab Sample ID: 570-79044-1

Date Collected: 12/15/21 13:00
Date Received: 12/16/21 15:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663588	12/29/21 14:22	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663592	12/29/21 16:17	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663642	12/30/21 11:53	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 10:51	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663586	12/29/21 14:09	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664263	01/12/22 10:34	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664328	01/12/22 16:17	C0YH	IRV 2
	Instrument ID: CV-HG5									
Total/NA	Prep	245.1			20 mL	30 mL	664074	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 19:49	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	203098	12/22/21 09:08	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205144	01/03/22 14:21	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: LPBMP0003_20211215

Lab Sample ID: 570-79044-2

Date Collected: 12/15/21 13:05
Date Received: 12/16/21 15:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663588	12/29/21 14:22	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663592	12/29/21 16:17	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663642	12/30/21 11:51	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 10:53	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663586	12/29/21 14:09	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664263	01/12/22 10:34	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664328	01/12/22 16:23	C0YH	IRV 2
	Instrument ID: CV-HG5									
Total/NA	Prep	245.1			20 mL	30 mL	664074	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 17:44	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	203098	12/22/21 09:08	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205144	01/03/22 14:30	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

Client Sample ID: LPBMP0004_20211215

Date Collected: 12/15/21 13:10
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			125 mL	125 mL	663588	12/29/21 14:22	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663592	12/29/21 16:17	LZY7	IRV 2
Dissolved	Analysis	200.8		1			663642	12/30/21 11:44	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664613	01/17/22 13:51		IRV 2
Total Recoverable	Analysis	200.8		1			664704	01/18/22 10:56	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663586	12/29/21 14:09	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664263	01/12/22 10:34	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664328	01/12/22 16:25	C0YH	IRV 2
	Instrument ID: CV-HG5									
Total/NA	Prep	245.1			20 mL	30 mL	664074	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 17:47	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	800 mL	1000 mL	203098	12/22/21 09:08	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205144	01/03/22 14:38	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79044-1
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	ECL 1
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	IRV 2
FILTRATION	Sample Filtration	None	IRV 2

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-79044-1	LPBMP0002_20211215	Water	12/15/21 13:00	12/16/21 15:00
570-79044-2	LPBMP0003_20211215	Water	12/15/21 13:05	12/16/21 15:00
570-79044-3	LPBMP0004_20211215	Water	12/15/21 13:10	12/16/21 15:00

Loc: 570
79044

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☒ RCRA ☐ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 12/16/2021	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	_____ of _____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	■ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below _____			Walk-in Client:
(619) 280-9415 FAX	■ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	☐ 2 days			Job / SDG No.
H&A P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Method 200.8: Cd, Cu, Pb Method 245.1: Hg (Total Recoverable)	Method 200.8: Cd, Cu, Pb Method 245.1: Hg (Total Dissolved)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)								Sample Specific Notes:
								1-250mL Poly	1-250mL Poly	2-1L Amber	1-1L Poly	1-1L Poly								Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
LPBMP0002_20211215	12/15/21	1300	G	WM	6	Y	N	X	X	X	X	X								
LPBMP0003_20211215	12/15/21	1305	G	WM	6	Y	N	X	X	X	X	X								
LPBMP0004_20211215	12/15/21	1310	G	WM	6	Y	N	X	X	X	X	X								
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								4	4	1	1	1								

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ■ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

	Company	Date/Time		Date/Time
Relinquished by:	JHH	12/16/21 1100	Received by: Cindy Schwarz	12/16/21 1100
Relinquished by: Cindy Schwarz	ECL	12/16/21 1230	Received by:	12/16/21 1230
Relinquished by:	EDF	12/16/21 1612	Received in Laboratory by:	12/16/21 1612

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

2-6/35 SCS

570-79044 Chain of Custody

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1/18/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-146164 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-79044-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/6/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LPBMP0002_20211215 (570-79044-1)	12/15/21	13:00 Pacific		Water			X	2	See QAS Boeing_w/u to zero
LPBMP0003_20211215 (570-79044-2)	12/15/21	13:05 Pacific		Water			X	2	See QAS Boeing_w/u to zero
LPBMP0004_20211215 (570-79044-3)	12/15/21	13:10 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		12/17/21 1544				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147890 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-79044-1
Address: 2841 Dow Avenue ,	Due Date Requested: 12/28/2021			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8/200.2 Cd,Cu,Pb	200.8/FILTRATION Diss Cd,Cu,Pb	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note.
			Preservation Code:									
LPBMP0002_20211215 (570-79044-1)	12/15/21	13 00 Pacific		Water			X	X	X	X	2	Filter within 24 hours
LPBMP0003_20211215 (570-79044-2)	12/15/21	13 05 Pacific		Water			X	X	X	X	2	Filter within 24 hours
LPBMP0004_20211215 (570-79044-3)	12/15/21	13 10 Pacific		Water			X	X	X	X	2	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements ER-89 21/21

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21	EC			
2		Date/Time:	Company	Received by: [signature]	Date/Time 12/28/21 1752	Company EQT
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-147890 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-79044-1
Address: 2841 Dow Avenue	Due Date Requested: 12/28/2021			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200 8/200.2 Cd,Cu,Pb	200.8/FILTRATION Diss Cd,Cu,Pb	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note.
			Preservation Code:									
LPBMP0002_20211215 (570-79044-1)	12/15/21	13 00 Pacific		Water			X	X	X	X	2	Filter within 24 hours
LPBMP0003_20211215 (570-79044-2)	12/15/21	13 05 Pacific		Water			X	X	X	X	2	Filter within 24 hours
LPBMP0004_20211215 (570-79044-3)	12/15/21	13 10 Pacific		Water			X	X	X	X	2	Filter within 24 hours

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements EK-89 21/21

Empty Kit Relinquished by:	Date	Time	Method of Shipment

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
	12/28/21	EC			
Relinquished by:	Date/Time	Company	Received by: Olga Cuevas	Date/Time 12/28/21 1752	Company ECT
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

1/18/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-79044-1

Login Number: 79044
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-79044-1

Login Number: 79044
List Number: 3
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 10:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-79044-2
Client Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/9/2022 9:28:52 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-2

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-79044-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-79044-2

Comments
No additional comments.

Receipt
The samples were received on 12/16/2021 4:12 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.5º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: LPBMP0002_20211215 (570-79044-1), LPBMP0003_20211215 (570-79044-2), LPBMP0004_20211215 (570-79044-3), (CCV 320-555655/1), (LCS 320-554373/2-A), (LCSD 320-554373/3-A) and (MB 320-554373/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: LPBMP0004_20211215 (570-79044-3) and (CCV 320-555893/2). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-2

Client Sample ID: LPBMP0002_20211215 — Lab Sample ID: 570-79044-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000033	J,DX MB	0.000052	0.00000040	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000021	J,DX	0.000052	0.00000040	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000029	J,DX	0.000052	0.00000037	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000015	J,DX	0.000052	0.00000033	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000015	J,DX	0.000052	0.00000034	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000010	J,DX q MB	0.000052	0.00000033	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000011	J,DX MB	0.000052	0.00000031	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000027	J,DX MB	0.000052	0.00000059	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000012	J,DX MB	0.000052	0.00000053	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000011	J,DX	0.000052	0.00000053	ug/L	1		1613B	Total/NA
OCDD	0.00017	MB	0.00010	0.00000079	ug/L	1		1613B	Total/NA
OCDF	0.000015	J,DX MB	0.00010	0.00000063	ug/L	1		1613B	Total/NA
Total TCDD	0.0000013	J,DX q MB	0.000010	0.0000010	ug/L	1		1613B	Total/NA
Total HxCDD	0.000016	J,DX q MB	0.000052	0.00000037	ug/L	1		1613B	Total/NA
Total HxCDF	0.000011	J,DX q	0.000052	0.00000031	ug/L	1		1613B	Total/NA
Total HpCDD	0.000058	J,DX MB	0.000052	0.00000059	ug/L	1		1613B	Total/NA
Total HpCDF	0.000019	J,DX MB	0.000052	0.00000053	ug/L	1		1613B	Total/NA

Client Sample ID: LPBMP0003_20211215 — Lab Sample ID: 570-79044-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.00000094	J,DX q	0.000051	0.00000056	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000032	J,DX q MB	0.000051	0.00000038	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000026	J,DX	0.000051	0.00000040	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000021	J,DX	0.000051	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000012	J,DX	0.000051	0.00000031	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000011	J,DX q	0.000051	0.00000032	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000072	J,DX MB	0.000051	0.00000031	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000012	J,DX MB	0.000051	0.00000030	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000034	J,DX MB	0.000051	0.00000072	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000015	J,DX MB	0.000051	0.00000051	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-2

Client Sample ID: LPBMP0003_20211215 (Continued)

Lab Sample ID: 570-79044-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDD	0.00028	MB	0.00010	0.0000012	ug/L	1		1613B	Total/NA
OCDF	0.000016	J,DX MB	0.00010	0.0000006 8	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000017	J,DX q	0.000051	0.0000005 6	ug/L	1		1613B	Total/NA
Total HxCDD	0.000016	J,DX q MB	0.000051	0.0000003 6	ug/L	1		1613B	Total/NA
Total HxCDF	0.000012	J,DX q	0.000051	0.0000003 0	ug/L	1		1613B	Total/NA
Total HpCDD	0.000081	J,DX MB	0.000051	0.0000007 2	ug/L	1		1613B	Total/NA
Total HpCDF	0.000023	J,DX MB	0.000051	0.0000005 0	ug/L	1		1613B	Total/NA

Client Sample ID: LPBMP0004_20211215

Lab Sample ID: 570-79044-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000023	J,DX q MB	0.000052	0.0000004 4	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000013	J,DX q	0.000052	0.0000004 3	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000017	J,DX q	0.000052	0.0000004 0	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000016	J,DX	0.000052	0.0000003 2	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000010	J,DX	0.000052	0.0000003 4	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000069	J,DX MB	0.000052	0.0000003 2	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000011	J,DX q MB	0.000052	0.0000003 0	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000021	J,DX MB	0.000052	0.0000005 1	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000068	J,DX MB	0.000052	0.0000005 1	ug/L	1		1613B	Total/NA
OCDD	0.00016	MB	0.00010	0.0000008 3	ug/L	1		1613B	Total/NA
OCDF	0.0000097	J,DX MB	0.00010	0.0000006 6	ug/L	1		1613B	Total/NA
Total TCDD	0.0000049	J,DX q MB	0.000010	0.0000008 9	ug/L	1		1613B	Total/NA
Total TCDF	0.0000018	J,DX	0.000010	0.0000003 6	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000087	J,DX q MB	0.000052	0.0000004 0	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000079	J,DX q	0.000052	0.0000003 0	ug/L	1		1613B	Total/NA
Total HpCDD	0.000046	J,DX MB	0.000052	0.0000005 1	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000099	J,DX MB	0.000052	0.0000005 0	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: LPBMP0002_20211215
Date Collected: 12/15/21 13:00
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000010	ug/L		12/28/21 10:26	01/03/22 19:41	1
2,3,7,8-TCDF	ND		0.000010	0.00000031	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,7,8-PeCDD	ND		0.000052	0.00000056	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000043	ug/L		12/28/21 10:26	01/03/22 19:41	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000043	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,4,7,8-HxCDD	**0.0000033**	**J,DX MB**	0.000052	0.00000040	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,6,7,8-HxCDD	**0.0000021**	**J,DX**	0.000052	0.00000040	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,7,8,9-HxCDD	**0.0000029**	**J,DX**	0.000052	0.00000037	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,4,7,8-HxCDF	**0.0000015**	**J,DX**	0.000052	0.00000033	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,6,7,8-HxCDF	**0.0000015**	**J,DX**	0.000052	0.00000034	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,7,8,9-HxCDF	**0.0000010**	**J,DX q MB**	0.000052	0.00000033	ug/L		12/28/21 10:26	01/03/22 19:41	1
2,3,4,6,7,8-HxCDF	**0.0000011**	**J,DX MB**	0.000052	0.00000031	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,4,6,7,8-HpCDD	**0.000027**	**J,DX MB**	0.000052	0.00000059	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,4,6,7,8-HpCDF	**0.000012**	**J,DX MB**	0.000052	0.00000053	ug/L		12/28/21 10:26	01/03/22 19:41	1
1,2,3,4,7,8,9-HpCDF	**0.0000011**	**J,DX**	0.000052	0.00000053	ug/L		12/28/21 10:26	01/03/22 19:41	1
OCDD	**0.00017**	**MB**	0.00010	0.00000079	ug/L		12/28/21 10:26	01/03/22 19:41	1
OCDF	**0.000015**	**J,DX MB**	0.00010	0.00000063	ug/L		12/28/21 10:26	01/03/22 19:41	1
Total TCDD	**0.0000013**	**J,DX q MB**	0.000010	0.0000010	ug/L		12/28/21 10:26	01/03/22 19:41	1
Total TCDF	ND		0.000010	0.00000031	ug/L		12/28/21 10:26	01/03/22 19:41	1
Total PeCDD	ND		0.000052	0.00000056	ug/L		12/28/21 10:26	01/03/22 19:41	1
Total PeCDF	ND		0.000052	0.00000043	ug/L		12/28/21 10:26	01/03/22 19:41	1
Total HxCDD	**0.000016**	**J,DX q MB**	0.000052	0.00000037	ug/L		12/28/21 10:26	01/03/22 19:41	1
Total HxCDF	**0.000011**	**J,DX q**	0.000052	0.00000031	ug/L		12/28/21 10:26	01/03/22 19:41	1
Total HpCDD	**0.000058**	**J,DX MB**	0.000052	0.00000059	ug/L		12/28/21 10:26	01/03/22 19:41	1
Total HpCDF	**0.000019**	**J,DX MB**	0.000052	0.00000053	ug/L		12/28/21 10:26	01/03/22 19:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*25 - 164*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-2,3,7,8-TCDF	*85*		*24 - 169*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*25 - 181*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*24 - 185*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*21 - 178*	*12/28/21 10:26*	*01/03/22 19:41*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: LPBMP0002_20211215
Date Collected: 12/15/21 13:00
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-1
Matrix: Water

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*82*		*32 - 141*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-1,2,3,6,7,8-HxCDD	*92*		*28 - 130*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-1,2,3,4,7,8-HxCDF	*89*		*26 - 152*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-1,2,3,6,7,8-HxCDF	*93*		*26 - 123*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-1,2,3,7,8,9-HxCDF	*92*		*29 - 147*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-2,3,4,6,7,8-HxCDF	*92*		*28 - 136*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*80*		*23 - 140*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*28 - 143*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*95*		*26 - 138*	*12/28/21 10:26*	*01/03/22 19:41*	*1*
13C-OCDD	*92*		*17 - 157*	*12/28/21 10:26*	*01/03/22 19:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*86*		*35 - 197*	*12/28/21 10:26*	*01/03/22 19:41*	*1*

Client Sample ID: LPBMP0003_20211215
Date Collected: 12/15/21 13:05
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000080	ug/L		12/28/21 10:26	01/03/22 20:29	1
2,3,7,8-TCDF	ND		0.000010	0.00000027	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,7,8-PeCDD	**0.00000094**	**J,DX q**	0.000051	0.00000056	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,7,8-PeCDF	ND		0.000051	0.00000035	ug/L		12/28/21 10:26	01/03/22 20:29	1
2,3,4,7,8-PeCDF	ND		0.000051	0.00000035	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,4,7,8-HxCDD	**0.0000032**	**J,DX q MB**	0.000051	0.00000038	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,6,7,8-HxCDD	**0.0000026**	**J,DX**	0.000051	0.00000040	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,7,8,9-HxCDD	**0.0000021**	**J,DX**	0.000051	0.00000036	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,4,7,8-HxCDF	**0.0000012**	**J,DX**	0.000051	0.00000031	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,6,7,8-HxCDF	**0.0000011**	**J,DX q**	0.000051	0.00000032	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,7,8,9-HxCDF	**0.00000072**	**J,DX MB**	0.000051	0.00000031	ug/L		12/28/21 10:26	01/03/22 20:29	1
2,3,4,6,7,8-HxCDF	**0.0000012**	**J,DX MB**	0.000051	0.00000030	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,4,6,7,8-HpCDD	**0.000034**	**J,DX MB**	0.000051	0.00000072	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,4,6,7,8-HpCDF	**0.000015**	**J,DX MB**	0.000051	0.00000051	ug/L		12/28/21 10:26	01/03/22 20:29	1
1,2,3,4,7,8,9-HpCDF	ND		0.000051	0.00000050	ug/L		12/28/21 10:26	01/03/22 20:29	1
OCDD	**0.00028**	**MB**	0.00010	0.0000012	ug/L		12/28/21 10:26	01/03/22 20:29	1
OCDF	**0.000016**	**J,DX MB**	0.00010	0.00000068	ug/L		12/28/21 10:26	01/03/22 20:29	1
Total TCDD	ND		0.000010	0.00000080	ug/L		12/28/21 10:26	01/03/22 20:29	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: LPBMP0003_20211215
Date Collected: 12/15/21 13:05
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	ND		0.000010	0.00000027	ug/L		12/28/21 10:26	01/03/22 20:29	1
Total PeCDD	**0.0000017**	**J,DX q**	0.000051	0.00000056	ug/L		12/28/21 10:26	01/03/22 20:29	1
Total PeCDF	ND		0.000051	0.00000035	ug/L		12/28/21 10:26	01/03/22 20:29	1
Total HxCDD	**0.000016**	**J,DX q MB**	0.000051	0.00000036	ug/L		12/28/21 10:26	01/03/22 20:29	1
Total HxCDF	**0.000012**	**J,DX q**	0.000051	0.00000030	ug/L		12/28/21 10:26	01/03/22 20:29	1
Total HpCDD	**0.000081**	**J,DX MB**	0.000051	0.00000072	ug/L		12/28/21 10:26	01/03/22 20:29	1
Total HpCDF	**0.000023**	**J,DX MB**	0.000051	0.00000050	ug/L		12/28/21 10:26	01/03/22 20:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-2,3,7,8-TCDF	*84*		*24 - 169*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*25 - 181*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*24 - 185*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*21 - 178*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-1,2,3,4,7,8-HxCDD	*83*		*32 - 141*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-1,2,3,6,7,8-HxCDD	*89*		*28 - 130*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-1,2,3,4,7,8-HxCDF	*88*		*26 - 152*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-1,2,3,6,7,8-HxCDF	*93*		*26 - 123*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-1,2,3,7,8,9-HxCDF	*93*		*29 - 147*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-2,3,4,6,7,8-HxCDF	*92*		*28 - 136*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*23 - 140*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*84*		*28 - 143*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*96*		*26 - 138*	*12/28/21 10:26*	*01/03/22 20:29*	*1*
13C-OCDD	*91*		*17 - 157*	*12/28/21 10:26*	*01/03/22 20:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*86*		*35 - 197*	*12/28/21 10:26*	*01/03/22 20:29*	*1*

Client Sample ID: LPBMP0004_20211215
Date Collected: 12/15/21 13:10
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000089	ug/L		12/28/21 10:26	01/03/22 21:17	1
1,2,3,7,8-PeCDD	ND		0.000052	0.00000062	ug/L		12/28/21 10:26	01/03/22 21:17	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000046	ug/L		12/28/21 10:26	01/03/22 21:17	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000046	ug/L		12/28/21 10:26	01/03/22 21:17	1
1,2,3,4,7,8-HxCDD	**0.0000023**	**J,DX q MB**	0.000052	0.00000044	ug/L		12/28/21 10:26	01/03/22 21:17	1
1,2,3,6,7,8-HxCDD	**0.0000013**	**J,DX q**	0.000052	0.00000043	ug/L		12/28/21 10:26	01/03/22 21:17	1
1,2,3,7,8,9-HxCDD	**0.0000017**	**J,DX q**	0.000052	0.00000040	ug/L		12/28/21 10:26	01/03/22 21:17	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: LPBMP0004_20211215
Date Collected: 12/15/21 13:10
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDF	0.0000016	J,DX	0.000052	0.00000032	ug/L		12/28/21 10:26	01/03/22 21:17	1
1,2,3,6,7,8-HxCDF	0.0000010	J,DX	0.000052	0.00000034	ug/L		12/28/21 10:26	01/03/22 21:17	1
1,2,3,7,8,9-HxCDF	0.00000069	J,DX MB	0.000052	0.00000032	ug/L		12/28/21 10:26	01/03/22 21:17	1
2,3,4,6,7,8-HxCDF	0.0000011	J,DX q MB	0.000052	0.00000030	ug/L		12/28/21 10:26	01/03/22 21:17	1
1,2,3,4,6,7,8-HpCDD	0.000021	J,DX MB	0.000052	0.00000051	ug/L		12/28/21 10:26	01/03/22 21:17	1
1,2,3,4,6,7,8-HpCDF	0.0000068	J,DX MB	0.000052	0.00000051	ug/L		12/28/21 10:26	01/03/22 21:17	1
1,2,3,4,7,8,9-HpCDF	ND		0.000052	0.00000050	ug/L		12/28/21 10:26	01/03/22 21:17	1
OCDD	0.00016	MB	0.00010	0.00000083	ug/L		12/28/21 10:26	01/03/22 21:17	1
OCDF	0.0000097	J,DX MB	0.00010	0.00000066	ug/L		12/28/21 10:26	01/03/22 21:17	1
Total TCDD	0.0000049	J,DX q MB	0.000010	0.00000089	ug/L		12/28/21 10:26	01/03/22 21:17	1
Total TCDF	0.0000018	J,DX	0.000010	0.00000036	ug/L		12/28/21 10:26	01/03/22 21:17	1
Total PeCDD	ND		0.000052	0.00000062	ug/L		12/28/21 10:26	01/03/22 21:17	1
Total PeCDF	ND		0.000052	0.00000046	ug/L		12/28/21 10:26	01/03/22 21:17	1
Total HxCDD	0.0000087	J,DX q MB	0.000052	0.00000040	ug/L		12/28/21 10:26	01/03/22 21:17	1
Total HxCDF	0.0000079	J,DX q	0.000052	0.00000030	ug/L		12/28/21 10:26	01/03/22 21:17	1
Total HpCDD	0.000046	J,DX MB	0.000052	0.00000051	ug/L		12/28/21 10:26	01/03/22 21:17	1
Total HpCDF	0.0000099	J,DX MB	0.000052	0.00000050	ug/L		12/28/21 10:26	01/03/22 21:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*25 - 164*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-2,3,7,8-TCDF	*84*		*24 - 169*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*24 - 185*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*21 - 178*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-1,2,3,4,7,8-HxCDD	*82*		*32 - 141*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*28 - 130*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-1,2,3,4,7,8-HxCDF	*88*		*26 - 152*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-1,2,3,6,7,8-HxCDF	*91*		*26 - 123*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-1,2,3,7,8,9-HxCDF	*93*		*29 - 147*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-2,3,4,6,7,8-HxCDF	*92*		*28 - 136*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*78*		*23 - 140*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*28 - 143*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*97*		*26 - 138*	*12/28/21 10:26*	*01/03/22 21:17*	*1*
13C-OCDD	*95*		*17 - 157*	*12/28/21 10:26*	*01/03/22 21:17*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*87*		*35 - 197*	*12/28/21 10:26*	*01/03/22 21:17*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: LPBMP0004_20211215
Date Collected: 12/15/21 13:10
Date Received: 12/16/21 15:00

Lab Sample ID: 570-79044-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000017	ug/L		12/28/21 10:26	01/04/22 17:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*83*		*24 - 169*	*12/28/21 10:26*	*01/04/22 17:47*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*85*		*35 - 197*	*12/28/21 10:26*	*01/04/22 17:47*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-79044-1	LPBMP0002_20211215	86
570-79044-2	LPBMP0003_20211215	86
570-79044-3	LPBMP0004_20211215	87
570-79044-3 - RA	LPBMP0004_20211215	85
MB 320-554373/1-A	Method Blank	87

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-554373/2-A	Lab Control Sample	88
LCSD 320-554373/3-A	Lab Control Sample Dup	84

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-79044-1	LPBMP0002_20211215	78	85	72	78	86	82	92	89
570-79044-2	LPBMP0003_20211215	79	84	74	78	86	83	89	88
570-79044-3	LPBMP0004_20211215	78	84	73	79	86	82	91	88
570-79044-3 - RA	LPBMP0004_20211215		83						
MB 320-554373/1-A	Method Blank	63	68	62	65	75	74	83	80

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-79044-1	LPBMP0002_20211215	93	92	92	80	86	95	92
570-79044-2	LPBMP0003_20211215	93	93	92	79	84	96	91
570-79044-3	LPBMP0004_20211215	91	93	92	78	86	97	95
570-79044-3 - RA	LPBMP0004_20211215							
MB 320-554373/1-A	Method Blank	86	86	89	73	78	87	79

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-554373/2-A	Lab Control Sample	69	76	66	70	79	78	83	80
LCSD 320-554373/3-A	Lab Control Sample Dup	70	77	67	71	79	78	83	81

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-554373/2-A	Lab Control Sample	86	88	87	71	77	86	79
LCSD 320-554373/3-A	Lab Control Sample Dup	85	87	87	73	78	89	81

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79044-2
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-554373/1-A
Matrix: Water
Analysis Batch: 555655

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 554373

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000012	ug/L		12/28/21 10:26	01/03/22 16:30	1
2,3,7,8-TCDF	ND		0.000010	0.00000040	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000080	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000052	ug/L		12/28/21 10:26	01/03/22 16:30	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000050	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,4,7,8-HxCDD	0.00000320	J,DX	0.000050	0.00000047	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000048	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000044	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000033	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000034	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,7,8,9-HxCDF	0.000000939	J,DX	0.000050	0.00000032	ug/L		12/28/21 10:26	01/03/22 16:30	1
2,3,4,6,7,8-HxCDF	0.000000570	J,DX	0.000050	0.00000029	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,4,6,7,8-HpCDD	0.00000293	J,DX	0.000050	0.00000023	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,4,6,7,8-HpCDF	0.00000160	J,DX	0.000050	0.00000043	ug/L		12/28/21 10:26	01/03/22 16:30	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000044	ug/L		12/28/21 10:26	01/03/22 16:30	1
OCDD	0.00000683	J,DX	0.00010	0.00000038	ug/L		12/28/21 10:26	01/03/22 16:30	1
OCDF	0.00000233	J,DX	0.00010	0.00000080	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total TCDD	0.00000534	J,DX	0.000010	0.0000012	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total TCDF	ND		0.000010	0.00000040	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total PeCDD	ND		0.000050	0.00000080	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total PeCDF	ND		0.000050	0.00000050	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total HxCDD	0.00000320	J,DX	0.000050	0.00000044	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total HxCDF	0.00000151	J,DX	0.000050	0.00000029	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total HpCDD	0.00000565	J,DX	0.000050	0.00000023	ug/L		12/28/21 10:26	01/03/22 16:30	1
Total HpCDF	0.00000160	J,DX	0.000050	0.00000043	ug/L		12/28/21 10:26	01/03/22 16:30	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*63*		*25 - 164*	*12/28/21 10:26*	*01/03/22 16:30*	*1*
13C-2,3,7,8-TCDF	*68*		*24 - 169*	*12/28/21 10:26*	*01/03/22 16:30*	*1*
13C-1,2,3,7,8-PeCDD	*62*		*25 - 181*	*12/28/21 10:26*	*01/03/22 16:30*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-554373/1-A
Matrix: Water
Analysis Batch: 555655

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 554373

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	65		24 - 185	12/28/21 10:26	01/03/22 16:30	1
13C-2,3,4,7,8-PeCDF	75		21 - 178	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,4,7,8-HxCDD	74		32 - 141	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,6,7,8-HxCDD	83		28 - 130	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,4,7,8-HxCDF	80		26 - 152	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,6,7,8-HxCDF	86		26 - 123	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,7,8,9-HxCDF	86		29 - 147	12/28/21 10:26	01/03/22 16:30	1
13C-2,3,4,6,7,8-HxCDF	89		28 - 136	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,4,6,7,8-HpCDF	78		28 - 143	12/28/21 10:26	01/03/22 16:30	1
13C-1,2,3,4,7,8,9-HpCDF	87		26 - 138	12/28/21 10:26	01/03/22 16:30	1
13C-OCDD	79		17 - 157	12/28/21 10:26	01/03/22 16:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	87		35 - 197	12/28/21 10:26	01/03/22 16:30	1

Lab Sample ID: LCS 320-554373/2-A
Matrix: Water
Analysis Batch: 555655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 554373

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000224		ug/L		112	67 - 158		
2,3,7,8-TCDF			0.000200	0.000235		ug/L		117	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.00116		ug/L		116	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.00118		ug/L		118	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.00107		ug/L		107	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.00106		ug/L		106	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.00115		ug/L		115	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.00109		ug/L		109	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.00104		ug/L		104	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00116		ug/L		116	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.00116		ug/L		116	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.00121		ug/L		121	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.00110		ug/L		110	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00108		ug/L		108	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000981		ug/L		98	78 - 138		
OCDD			0.00200	0.00209		ug/L		104	78 - 144		
OCDF			0.00200	0.00231		ug/L		116	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	69		20 - 175
13C-2,3,7,8-TCDF	76		22 - 152
13C-1,2,3,7,8-PeCDD	66		21 - 227
13C-1,2,3,7,8-PeCDF	70		21 - 192
13C-2,3,4,7,8-PeCDF	79		13 - 328
13C-1,2,3,4,7,8-HxCDD	78		21 - 193
13C-1,2,3,6,7,8-HxCDD	83		25 - 163

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-554373/2-A
Matrix: Water
Analysis Batch: 555655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 554373

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,7,8-HxCDF	80		19 - 202
13C-1,2,3,6,7,8-HxCDF	86		21 - 159
13C-1,2,3,7,8,9-HxCDF	88		17 - 205
13C-2,3,4,6,7,8-HxCDF	87		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	77		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	86		20 - 186
13C-OCDD	79		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	88		31 - 191

Lab Sample ID: LCSD 320-554373/3-A
Matrix: Water
Analysis Batch: 555655

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 554373

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000223		ug/L		112	67 - 158	0	50
2,3,7,8-TCDF			0.000200	0.000230		ug/L		115	75 - 158	2	50
1,2,3,7,8-PeCDD			0.00100	0.00113		ug/L		113	70 - 142	3	50
1,2,3,7,8-PeCDF			0.00100	0.00116		ug/L		116	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.00107		ug/L		107	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.00106		ug/L		106	70 - 164	0	50
1,2,3,6,7,8-HxCDD			0.00100	0.00113		ug/L		113	76 - 134	2	50
1,2,3,7,8,9-HxCDD			0.00100	0.00107		ug/L		107	64 - 162	1	50
1,2,3,4,7,8-HxCDF			0.00100	0.00103		ug/L		103	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.00120		ug/L		120	84 - 130	3	50
1,2,3,7,8,9-HxCDF			0.00100	0.00116		ug/L		116	78 - 130	0	50
2,3,4,6,7,8-HxCDF			0.00100	0.00123		ug/L		123	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00109		ug/L		109	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00110		ug/L		110	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000988		ug/L		99	78 - 138	1	50
OCDD			0.00200	0.00222		ug/L		111	78 - 144	6	50
OCDF			0.00200	0.00241		ug/L		120	63 - 170	4	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	70		20 - 175
13C-2,3,7,8-TCDF	77		22 - 152
13C-1,2,3,7,8-PeCDD	67		21 - 227
13C-1,2,3,7,8-PeCDF	71		21 - 192
13C-2,3,4,7,8-PeCDF	79		13 - 328
13C-1,2,3,4,7,8-HxCDD	78		21 - 193
13C-1,2,3,6,7,8-HxCDD	83		25 - 163
13C-1,2,3,4,7,8-HxCDF	81		19 - 202
13C-1,2,3,6,7,8-HxCDF	85		21 - 159
13C-1,2,3,7,8,9-HxCDF	87		17 - 205
13C-2,3,4,6,7,8-HxCDF	87		22 - 176

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-554373/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 555655
Prep Batch: 554373

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDD	73		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	78		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	89		20 - 186
13C-OCDD	81		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	84		31 - 191

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79044-2
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Specialty Organics

Prep Batch: 554373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Total/NA	Water	1613B	
570-79044-2	LPBMP0003_20211215	Total/NA	Water	1613B	
570-79044-3 - RA	LPBMP0004_20211215	Total/NA	Water	1613B	
570-79044-3	LPBMP0004_20211215	Total/NA	Water	1613B	
MB 320-554373/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-554373/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-554373/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 555655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-1	LPBMP0002_20211215	Total/NA	Water	1613B	554373
570-79044-2	LPBMP0003_20211215	Total/NA	Water	1613B	554373
570-79044-3	LPBMP0004_20211215	Total/NA	Water	1613B	554373
MB 320-554373/1-A	Method Blank	Total/NA	Water	1613B	554373
LCS 320-554373/2-A	Lab Control Sample	Total/NA	Water	1613B	554373
LCSD 320-554373/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	554373

Analysis Batch: 555893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-79044-3 - RA	LPBMP0004_20211215	Total/NA	Water	1613B	554373

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-2

Client Sample ID: LPBMP0002_20211215

Lab Sample ID: 570-79044-1

Date Collected: 12/15/21 13:00
Date Received: 12/16/21 15:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			956.9 mL	20.0 uL	554373	12/28/21 10:26	CGB	TAL SAC
Total/NA	Analysis	1613B		1			555655	01/03/22 19:41	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: LPBMP0003_20211215

Lab Sample ID: 570-79044-2

Date Collected: 12/15/21 13:05
Date Received: 12/16/21 15:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			986.7 mL	20.0 uL	554373	12/28/21 10:26	CGB	TAL SAC
Total/NA	Analysis	1613B		1			555655	01/03/22 20:29	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: LPBMP0004_20211215

Lab Sample ID: 570-79044-3

Date Collected: 12/15/21 13:10
Date Received: 12/16/21 15:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		967.4 mL	20.0 uL	554373	12/28/21 10:26	CGB	TAL SAC
Total/NA	Analysis	1613B	RA	1			555893	01/04/22 17:47	GRB	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			967.4 mL	20.0 uL	554373	12/28/21 10:26	CGB	TAL SAC
Total/NA	Analysis	1613B		1			555655	01/03/22 21:17	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-79044-2
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL BMP Performance OF 001,002,009,011

Job ID: 570-79044-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-79044-1	LPBMP0002_20211215	Water	12/15/21 13:00	12/16/21 15:00
570-79044-2	LPBMP0003_20211215	Water	12/15/21 13:05	12/16/21 15:00
570-79044-3	LPBMP0004_20211215	Water	12/15/21 13:10	12/16/21 15:00

Loc: 570
79044

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ▫ DW ▫ NPDES ▪ RCRA ▫ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 12/16/2021	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	_____ of _____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below _____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Method 200.8: Cd, Cu, Pb Method 245.1: Hg (Total Recoverable)	Method 200.8: Cd, Cu, Pb Method 245.1: Hg (Total Dissolved)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)								Sample Specific Notes:
								1-250mL Poly	1-250mL Poly	2-1L Amber	1-1L Poly	1-1L Poly								Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
LPBMP0002_20211215	12/15/21	1300	G	WM	6	Y	N	X	X	X	X	X								
LPBMP0003_20211215	12/15/21	1305	G	WM	6	Y	N	X	X	X	X	X								
LPBMP0004_20211215	12/15/21	1310	G	WM	6	Y	N	X	X	X	X	X								
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								4	4	1	1	1								

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

	Company	Date/Time	Received by	Date/Time
Relinquished by:	JHI	12/16/21 1100	Received by:	12/16/21 1100
Relinquished by:	ECL	12/16/21 1230	Received by:	12/16/21 1230
Relinquished by:	ECI	12/16/21 1612	Received in Laboratory by:	12/16/21 1612

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

2-6/35 SCS

570-79044 Chain of Custody

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1/9/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-146164 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-79044-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/6/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LPBMP0002_20211215 (570-79044-1)	12/15/21	13:00 Pacific		Water			X	2	See QAS Boeing_w/u to zero
LPBMP0003_20211215 (570-79044-2)	12/15/21	13:05 Pacific		Water			X	2	See QAS Boeing_w/u to zero
LPBMP0004_20211215 (570-79044-3)	12/15/21	13:10 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time: 12/17/21 1544	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

1/9/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-147890 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-79044-1
Address: 2841 Dow Avenue ,	Due Date Requested: 12/28/2021			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8/200.2 Cd,Cu,Pb	200.8/FILTRATION Diss Cd,Cu,Pb	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	Total Number of containers	Special Instructions/Note.
Preservation Code:												
LPBMP0002_20211215 (570-79044-1)	12/15/21	13 00 Pacific		Water			X	X	X	X	2	Filter within 24 hours
LPBMP0003_20211215 (570-79044-2)	12/15/21	13 05 Pacific		Water			X	X	X	X	2	Filter within 24 hours
LPBMP0004_20211215 (570-79044-3)	12/15/21	13 10 Pacific		Water			X	X	X	X	2	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements ER-89 21/21

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/28/21	EC			
2		Date/Time:	Company	Received by: [signature]	Date/Time 12/28/21 1752	Company EQT
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Custody Seal No

Cooler Temperature(s) °C and Other Remarks

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-146164.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-79044-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/6/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LPBMP0002_20211215 (570-79044-1)	12/15/21	13:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
LPBMP0003_20211215 (570-79044-2)	12/15/21	13:05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
LPBMP0004_20211215 (570-79044-3)	12/15/21	13:10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/17/21 1544			12/18/21 1010	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 2.3c

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-79044-2

Login Number: 79044
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-79044-2

Login Number: 79044
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/18/21 03:35 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.3c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80269-1
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/14/2022 3:21:38 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
EY	Result exceeds normal dynamic range; reported as a min. est.
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80269-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80269-1

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.9º C and 3.3º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Iron for preparation batch 440-663654 and 440-663752 and analytical batch 440-663802 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Iron for preparation batch 440-663922 and analytical batch 440-664049 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.(440-293568-D-2-C MS)

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPSW001IE01_20211223 (570-80269-1), EPSW002IE01_20211223 (570-80269-2), EPSW002IE02_20211223 (570-80269-3), A1BPSW0001_20211223 (570-80269-4), A1BPSW0002_20211223 (570-80269-5) and A1BPSW0003_20211223 (570-80269-6). These samples were filtered and preserved.past 24 hrs from receipt in the laboratory due to samples received with insufficient
time to filter with the HT.

1/03/2022 08:50 HOURS
2.5 mL HNO3
Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Client Sample ID: EPSW001IE01_20211223 — Lab Sample ID: 570-80269-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	1.0		1.0	0.24	mg/L	1		300.0	Total/NA
Iron	190		0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	4100		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.59		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	1.4		0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	27		20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Cadmium	0.83	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	48		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	35		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	7.3		2.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	9.0		1.0	0.50	ug/L	1		200.8	Total Recoverable
Cadmium	0.37	J,DX	1.0	0.25	ug/L	1		200.8	Dissolved
Copper	6.4		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	2.4		1.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.22		0.20	0.10	ug/L	1		245.1	Total/NA
Total Suspended Solids	3500		250	130	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EPSW002IE01_20211223 — Lab Sample ID: 570-80269-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	0.99	J,DX	1.0	0.24	mg/L	1		300.0	Total/NA
Iron	17		0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	340		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.092		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.41		0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	7.7	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Cadmium	0.38	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	21		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	14		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	0.61	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	2.8		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	3.0		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	0.56	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	330		33	17	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EPSW002IE02_20211223 — Lab Sample ID: 570-80269-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	0.83	J,DX	1.0	0.24	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: EPSW002IE02_20211223 (Continued) — Lab Sample ID: 570-80269-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	71		0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	1700		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.23		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	1.1		0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	23		20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Cadmium	0.44	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	47		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	22		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	4.9		2.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	7.4		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	3.6		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	1.1		1.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.32		0.20	0.10	ug/L	1		245.1	Total/NA
Total Suspended Solids	2400		200	100	mg/L	1		SM 2540D	Total/NA

Client Sample ID: A1BPSW0001_20211223 — Lab Sample ID: 570-80269-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	1.7		1.0	0.24	mg/L	1		300.0	Total/NA
Iron	1.1		0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	20		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.090	J,DX	0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Copper	3.4		2.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	0.54	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	1.5	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	11		1.0	0.50	mg/L	1		SM 2540D	Total/NA

Client Sample ID: A1BPSW0002_20211223 — Lab Sample ID: 570-80269-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	2.8		1.0	0.24	mg/L	1		300.0	Total/NA
Iron	55		0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	1300		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.22		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.43		0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	9.9	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Cadmium	0.57	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	38		2.0	0.50	ug/L	1		200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: A1BPSW0002_20211223 (Continued) — Lab Sample ID: 570-80269-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	20		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	1.6	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	5.4		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	3.6		2.0	0.50	ug/L	1		200.8	Dissolved
Antimony	0.71	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.36		0.20	0.10	ug/L	1		245.1	Total/NA
Total Suspended Solids	2300		140	71	mg/L	1		SM 2540D	Total/NA

Client Sample ID: A1BPSW0003_20211223 — Lab Sample ID: 570-80269-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	1.5		1.0	0.24	mg/L	1		300.0	Total/NA
Iron	110		0.10	0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	2800		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	0.45		0.020	0.012	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.72		0.10	0.050	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	19	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Cadmium	0.97	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	81		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	32		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	3.9		2.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	11		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	3.7		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	0.78	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Antimony	0.54	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.51		0.20	0.10	ug/L	1		245.1	Total/NA
Mercury	0.10	J,DX	0.20	0.10	ug/L	1		245.1	Dissolved
Total Suspended Solids	2500		100	50	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: EPSW001IE01_20211223
Date Collected: 12/23/21 09:50
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80269-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.0		1.0	0.24	mg/L			01/07/22 23:11	1

Client Sample ID: EPSW002IE01_20211223
Date Collected: 12/23/21 10:15
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80269-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	0.99	J,DX	1.0	0.24	mg/L			01/07/22 23:28	1

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80269-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	0.83	J,DX	1.0	0.24	mg/L			01/07/22 23:44	1

Client Sample ID: A1BPSW0001_20211223
Date Collected: 12/23/21 09:30
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80269-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.7		1.0	0.24	mg/L			01/08/22 00:01	1

Client Sample ID: A1BPSW0002_20211223
Date Collected: 12/23/21 09:35
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80269-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2.8		1.0	0.24	mg/L			01/08/22 00:18	1

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.5		1.0	0.24	mg/L			01/08/22 00:35	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: EPSW001IE01_20211223
Date Collected: 12/23/21 09:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	190		0.10	0.050	mg/L		01/07/22 08:10	01/07/22 18:31	1
Manganese	4100		20	6.8	ug/L		01/07/22 08:10	01/07/22 18:31	1
Zinc	0.59		0.020	0.012	mg/L		01/07/22 08:10	01/07/22 18:31	1

Client Sample ID: EPSW002IE01_20211223
Date Collected: 12/23/21 10:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	17		0.10	0.050	mg/L		01/07/22 08:10	01/07/22 18:34	1
Manganese	340		20	6.8	ug/L		01/07/22 08:10	01/07/22 18:34	1
Zinc	0.092		0.020	0.012	mg/L		01/07/22 08:10	01/07/22 18:34	1

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	71		0.10	0.050	mg/L		01/07/22 08:10	01/07/22 18:36	1
Manganese	1700		20	6.8	ug/L		01/07/22 08:10	01/07/22 18:36	1
Zinc	0.23		0.020	0.012	mg/L		01/07/22 08:10	01/07/22 18:36	1

Client Sample ID: A1BPSW0001_20211223
Date Collected: 12/23/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.1		0.10	0.050	mg/L		01/07/22 08:10	01/07/22 18:53	1
Manganese	20		20	6.8	ug/L		01/07/22 08:10	01/07/22 18:53	1
Zinc	ND		0.020	0.012	mg/L		01/07/22 08:10	01/07/22 18:53	1

Client Sample ID: A1BPSW0002_20211223
Date Collected: 12/23/21 09:35
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	55		0.10	0.050	mg/L		01/07/22 08:10	01/07/22 18:56	1
Manganese	1300		20	6.8	ug/L		01/07/22 08:10	01/07/22 18:56	1
Zinc	0.22		0.020	0.012	mg/L		01/07/22 08:10	01/07/22 18:56	1

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	110		0.10	0.050	mg/L		01/07/22 08:10	01/07/22 18:58	1
Manganese	2800		20	6.8	ug/L		01/07/22 08:10	01/07/22 18:58	1
Zinc	0.45		0.020	0.012	mg/L		01/07/22 08:10	01/07/22 18:58	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: EPSW001IE01_20211223
Date Collected: 12/23/21 09:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.4		0.10	0.050	mg/L		01/04/22 10:40	01/04/22 18:56	1
Manganese	27		20	6.8	ug/L		01/04/22 10:40	01/04/22 18:56	1
Zinc	ND		0.020	0.012	mg/L		01/04/22 10:40	01/04/22 18:56	1

Client Sample ID: EPSW002IE01_20211223
Date Collected: 12/23/21 10:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.41		0.10	0.050	mg/L		01/04/22 10:40	01/04/22 19:03	1
Manganese	7.7	J,DX	20	6.8	ug/L		01/04/22 10:40	01/04/22 19:03	1
Zinc	ND		0.020	0.012	mg/L		01/04/22 10:40	01/04/22 19:03	1

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.1		0.10	0.050	mg/L		01/04/22 10:40	01/04/22 19:06	1
Manganese	23		20	6.8	ug/L		01/04/22 10:40	01/04/22 19:06	1
Zinc	ND		0.020	0.012	mg/L		01/04/22 10:40	01/04/22 19:06	1

Client Sample ID: A1BPSW0001_20211223
Date Collected: 12/23/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.090	J,DX	0.10	0.050	mg/L		01/04/22 10:40	01/04/22 19:08	1
Manganese	ND		20	6.8	ug/L		01/04/22 10:40	01/04/22 19:08	1
Zinc	ND		0.020	0.012	mg/L		01/04/22 10:40	01/04/22 19:08	1

Client Sample ID: A1BPSW0002_20211223
Date Collected: 12/23/21 09:35
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.43		0.10	0.050	mg/L		01/04/22 10:40	01/04/22 19:10	1
Manganese	9.9	J,DX	20	6.8	ug/L		01/04/22 10:40	01/04/22 19:10	1
Zinc	ND		0.020	0.012	mg/L		01/04/22 10:40	01/04/22 19:10	1

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.72		0.10	0.050	mg/L		01/04/22 10:40	01/04/22 19:13	1
Manganese	19	J,DX	20	6.8	ug/L		01/04/22 10:40	01/04/22 19:13	1
Zinc	ND		0.020	0.012	mg/L		01/04/22 10:40	01/04/22 19:13	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EPSW001IE01_20211223
Date Collected: 12/23/21 09:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.83	J,DX	1.0	0.25	ug/L		01/07/22 07:06	01/07/22 11:08	1
Copper	48		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:08	1
Lead	35		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:08	1
Selenium	7.3		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:08	1
Arsenic	9.0		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:08	1

Client Sample ID: EPSW002IE01_20211223
Date Collected: 12/23/21 10:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.38	J,DX	1.0	0.25	ug/L		01/07/22 07:06	01/07/22 11:11	1
Copper	21		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:11	1
Lead	14		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:11	1
Selenium	0.61	J,DX	2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:11	1
Arsenic	2.8		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:11	1

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.44	J,DX	1.0	0.25	ug/L		01/07/22 07:06	01/07/22 11:17	1
Copper	47		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:17	1
Lead	22		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:17	1
Selenium	4.9		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:17	1
Arsenic	7.4		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:17	1

Client Sample ID: A1BPSW0001_20211223
Date Collected: 12/23/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 07:06	01/07/22 11:19	1
Copper	3.4		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:19	1
Lead	ND		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:19	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:19	1
Arsenic	0.54	J,DX	1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:19	1

Client Sample ID: A1BPSW0002_20211223
Date Collected: 12/23/21 09:35
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.57	J,DX	1.0	0.25	ug/L		01/07/22 07:06	01/07/22 11:21	1
Copper	38		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:21	1
Lead	20		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:21	1
Selenium	1.6	J,DX	2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:21	1
Arsenic	5.4		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:21	1

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.97	J,DX	1.0	0.25	ug/L		01/07/22 07:06	01/07/22 11:23	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	81		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:23	1
Lead	32		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:23	1
Selenium	3.9		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:23	1
Arsenic	11		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 11:23	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: EPSW001IE01_20211223
Date Collected: 12/23/21 09:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:27	1
Cadmium	**0.37**	**J,DX**	1.0	0.25	ug/L		01/04/22 11:29	01/05/22 12:27	1
Copper	**6.4**		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:27	1
Lead	**2.4**		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:27	1
Antimony	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:27	1
Selenium	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:27	1

Client Sample ID: EPSW002IE01_20211223
Date Collected: 12/23/21 10:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:33	1
Cadmium	ND		1.0	0.25	ug/L		01/04/22 11:29	01/05/22 12:33	1
Copper	**3.0**		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:33	1
Lead	**0.56**	**J,DX**	1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:33	1
Antimony	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:33	1
Selenium	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:33	1

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:35	1
Cadmium	ND		1.0	0.25	ug/L		01/04/22 11:29	01/05/22 12:35	1
Copper	**3.6**		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:35	1
Lead	**1.1**		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:35	1
Antimony	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:35	1
Selenium	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:35	1

Client Sample ID: A1BPSW0001_20211223
Date Collected: 12/23/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:37	1
Cadmium	ND		1.0	0.25	ug/L		01/04/22 11:29	01/05/22 12:37	1
Copper	**1.5**	**J,DX**	2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:37	1
Lead	ND		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:37	1
Antimony	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:37	1
Selenium	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:37	1

Client Sample ID: A1BPSW0002_20211223
Date Collected: 12/23/21 09:35
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:39	1
Cadmium	ND		1.0	0.25	ug/L		01/04/22 11:29	01/05/22 12:39	1
Copper	**3.6**		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:39	1
Lead	ND		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:39	1
Antimony	**0.71**	**J,DX**	2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:39	1
Selenium	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:39	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:41	1
Cadmium	ND		1.0	0.25	ug/L		01/04/22 11:29	01/05/22 12:41	1
Copper	**3.7**		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:41	1
Lead	**0.78**	**J,DX**	1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:41	1
Antimony	**0.54**	**J,DX**	2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:41	1
Selenium	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:41	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: EPSW001IE01_20211223
Date Collected: 12/23/21 09:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.22**		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 12:41	1

Client Sample ID: EPSW002IE01_20211223
Date Collected: 12/23/21 10:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 12:48	1

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.32**		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 12:50	1

Client Sample ID: A1BPSW0001_20211223
Date Collected: 12/23/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 12:52	1

Client Sample ID: A1BPSW0002_20211223
Date Collected: 12/23/21 09:35
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.36**		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 12:55	1

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.51**		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 12:57	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: EPSW001IE01_20211223
Lab Sample ID: 570-80269-1
Date Collected: 12/23/21 09:50
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:28	1

Client Sample ID: EPSW002IE01_20211223
Lab Sample ID: 570-80269-2
Date Collected: 12/23/21 10:15
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:30	1

Client Sample ID: EPSW002IE02_20211223
Lab Sample ID: 570-80269-3
Date Collected: 12/23/21 10:00
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:32	1

Client Sample ID: A1BPSW0001_20211223
Lab Sample ID: 570-80269-4
Date Collected: 12/23/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:35	1

Client Sample ID: A1BPSW0002_20211223
Lab Sample ID: 570-80269-5
Date Collected: 12/23/21 09:35
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:41	1

Client Sample ID: A1BPSW0003_20211223
Lab Sample ID: 570-80269-6
Date Collected: 12/23/21 09:40
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.10**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:43	1

General Chemistry

Client Sample ID: EPSW001IE01_20211223
Date Collected: 12/23/21 09:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3500		250	130	mg/L			12/29/21 17:58	1

Client Sample ID: EPSW002IE01_20211223
Date Collected: 12/23/21 10:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	330		33	17	mg/L			12/29/21 17:58	1

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2400		200	100	mg/L			12/29/21 17:58	1

Client Sample ID: A1BPSW0001_20211223
Date Collected: 12/23/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	11		1.0	0.50	mg/L			12/29/21 17:58	1

Client Sample ID: A1BPSW0002_20211223
Date Collected: 12/23/21 09:35
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2300		140	71	mg/L			12/29/21 17:58	1

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2500		100	50	mg/L			12/29/21 17:58	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-206125/5
Matrix: Water
Analysis Batch: 206125

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.24	mg/L			01/07/22 10:39	1

Lab Sample ID: LCS 570-206125/6
Matrix: Water
Analysis Batch: 206125

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			50.0	49.8		mg/L		100	90 - 110		

Lab Sample ID: LCSD 570-206125/7
Matrix: Water
Analysis Batch: 206125

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate			50.0	49.8		mg/L		100	90 - 110	0	15

Lab Sample ID: 570-79681-A-23 MS
Matrix: Water
Analysis Batch: 206125

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	59		50.0	117	EY	mg/L		117	80 - 120		

Lab Sample ID: 570-79681-A-23 MSD
Matrix: Water
Analysis Batch: 206125

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	59		50.0	117	EY	mg/L		117	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-663922/1-A
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	0.050	mg/L		01/07/22 08:10	01/07/22 17:42	1
Manganese	ND		20	6.8	ug/L		01/07/22 08:10	01/07/22 17:42	1
Zinc	ND		0.020	0.012	mg/L		01/07/22 08:10	01/07/22 17:42	1

Lab Sample ID: LCS 440-663922/2-A
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron			0.500	0.516		mg/L		103	85 - 115		
Manganese			500	498		ug/L		100	85 - 115		
Zinc			0.500	0.507		mg/L		101	85 - 115		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-293568-D-2-C MS
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.6		0.500	2.30	LM	mg/L		133	70 - 130
Manganese	56		500	544		ug/L		98	70 - 130
Zinc	0.089		0.500	0.590		mg/L		100	70 - 130

Lab Sample ID: 440-293568-D-2-D MSD
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 663922

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.6		0.500	2.29		mg/L		130	70 - 130	1	20
Manganese	56		500	551		ug/L		99	70 - 130	1	20
Zinc	0.089		0.500	0.587		mg/L		99	70 - 130	1	20

Lab Sample ID: MB 440-663654/1-C
Matrix: Water
Analysis Batch: 663802

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663752

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	0.050	mg/L		01/04/22 10:40	01/04/22 18:51	1
Manganese	ND		20	6.8	ug/L		01/04/22 10:40	01/04/22 18:51	1
Zinc	ND		0.020	0.012	mg/L		01/04/22 10:40	01/04/22 18:51	1

Lab Sample ID: LCS 440-663654/2-C
Matrix: Water
Analysis Batch: 663802

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.500	0.522		mg/L		104	85 - 115
Manganese	500	511		ug/L		102	85 - 115
Zinc	0.500	0.509		mg/L		102	85 - 115

Lab Sample ID: 570-80269-1 MS
Matrix: Water
Analysis Batch: 663802

Client Sample ID: EPSW001IE01_20211223
Prep Type: Dissolved
Prep Batch: 663752

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.4		0.500	2.19	LM	mg/L		168	70 - 130
Manganese	27		500	526		ug/L		100	70 - 130
Zinc	ND		0.500	0.509		mg/L		102	70 - 130

Lab Sample ID: 570-80269-1 MSD
Matrix: Water
Analysis Batch: 663802

Client Sample ID: EPSW001IE01_20211223
Prep Type: Dissolved
Prep Batch: 663752

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.4		0.500	2.19	LM	mg/L		167	70 - 130	0	20
Manganese	27		500	530		ug/L		101	70 - 130	1	20
Zinc	ND		0.500	0.513		mg/L		103	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-663886/1-A
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/07/22 07:06	01/07/22 10:56	1
Copper	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Lead	ND		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1
Arsenic	ND		1.0	0.50	ug/L		01/07/22 07:06	01/07/22 10:56	1

Lab Sample ID: LCS 440-663886/2-A
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	79.4		ug/L		99	85 - 115
Copper	80.0	80.9		ug/L		101	85 - 115
Lead	80.0	80.5		ug/L		101	85 - 115
Selenium	80.0	77.3		ug/L		97	85 - 115
Arsenic	80.0	78.6		ug/L		98	85 - 115

Lab Sample ID: 440-293460-G-1-D MS
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.69	J,DX	80.0	80.7		ug/L		100	70 - 130
Copper	11		80.0	93.1		ug/L		102	70 - 130
Lead	2.7		80.0	83.2		ug/L		101	70 - 130
Selenium	ND		80.0	77.0		ug/L		96	70 - 130
Arsenic	0.79	J,DX	80.0	80.9		ug/L		100	70 - 130

Lab Sample ID: 440-293460-G-1-E MSD
Matrix: Water
Analysis Batch: 664004

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 663886

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	0.69	J,DX	80.0	82.5		ug/L		102	70 - 130	2	20
Copper	11		80.0	94.8		ug/L		104	70 - 130	2	20
Lead	2.7		80.0	84.9		ug/L		103	70 - 130	2	20
Selenium	ND		80.0	80.5		ug/L		101	70 - 130	4	20
Arsenic	0.79	J,DX	80.0	82.5		ug/L		102	70 - 130	2	20

Lab Sample ID: MB 440-663654/1-D
Matrix: Water
Analysis Batch: 663832

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663756

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:23	1
Cadmium	ND		1.0	0.25	ug/L		01/04/22 11:29	01/05/22 12:23	1
Copper	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:23	1
Lead	ND		1.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:23	1
Antimony	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:23	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-663654/1-D
Matrix: Water
Analysis Batch: 663832

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663756

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		2.0	0.50	ug/L		01/04/22 11:29	01/05/22 12:23	1

Lab Sample ID: LCS 440-663654/2-D
Matrix: Water
Analysis Batch: 663832

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663756

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	80.5		ug/L		101	85 - 115
Cadmium	80.0	81.8		ug/L		102	85 - 115
Copper	80.0	81.7		ug/L		102	85 - 115
Lead	80.0	82.2		ug/L		103	85 - 115
Antimony	80.0	91.8		ug/L		115	85 - 115
Selenium	80.0	80.0		ug/L		100	85 - 115

Lab Sample ID: 570-80269-1 MS
Matrix: Water
Analysis Batch: 663832

Client Sample ID: EPSW001IE01_20211223
Prep Type: Dissolved
Prep Batch: 663756

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	82.0		ug/L		103	70 - 130
Cadmium	0.37	J,DX	80.0	83.6		ug/L		104	70 - 130
Copper	6.4		80.0	89.8		ug/L		104	70 - 130
Lead	2.4		80.0	85.5		ug/L		104	70 - 130
Antimony	ND		80.0	92.2		ug/L		115	70 - 130
Selenium	ND		80.0	82.2		ug/L		103	70 - 130

Lab Sample ID: 570-80269-1 MSD
Matrix: Water
Analysis Batch: 663832

Client Sample ID: EPSW001IE01_20211223
Prep Type: Dissolved
Prep Batch: 663756

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	78.6		ug/L		98	70 - 130	4	20
Cadmium	0.37	J,DX	80.0	80.4		ug/L		100	70 - 130	4	20
Copper	6.4		80.0	88.1		ug/L		102	70 - 130	2	20
Lead	2.4		80.0	82.5		ug/L		100	70 - 130	4	20
Antimony	ND		80.0	88.7		ug/L		111	70 - 130	4	20
Selenium	ND		80.0	78.2		ug/L		98	70 - 130	5	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-664088/1-A
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 664088

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 12:37	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 440-664088/2-A
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 664088

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			6.00	5.65		ug/L		94	85 - 115		

Lab Sample ID: 570-80269-1 MS
Matrix: Water
Analysis Batch: 664223

Client Sample ID: EPSW001IE01_20211223
Prep Type: Total/NA
Prep Batch: 664088

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.22		6.00	6.21		ug/L		100	75 - 125		

Lab Sample ID: 570-80269-1 MSD
Matrix: Water
Analysis Batch: 664223

Client Sample ID: EPSW001IE01_20211223
Prep Type: Total/NA
Prep Batch: 664088

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.22		6.00	5.63		ug/L		90	75 - 125	10	20

Lab Sample ID: MB 440-663654/1-F
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664069

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:17	1

Lab Sample ID: LCS 440-663654/2-F
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664069

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			6.00	6.23		ug/L		104	85 - 115		

Lab Sample ID: 570-80270-A-9-D MS
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 664069

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		6.00	7.15		ug/L		119	75 - 125		

Lab Sample ID: 570-80270-A-9-E MSD
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 664069

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	6.60		ug/L		110	75 - 125	8	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663595/1
Matrix: Water
Analysis Batch: 663595

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/29/21 17:06	1

Lab Sample ID: LCS 440-663595/2
Matrix: Water
Analysis Batch: 663595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	1140		mg/L		114	85 - 115		

Lab Sample ID: 440-293633-B-2 DU
Matrix: Water
Analysis Batch: 663595

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	31			33.0		mg/L				5	5

HPLC/IC

Analysis Batch: 206125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Total/NA	Water	300.0	
570-80269-2	EPSW002IE01_20211223	Total/NA	Water	300.0	
570-80269-3	EPSW002IE02_20211223	Total/NA	Water	300.0	
570-80269-4	A1BPSW0001_20211223	Total/NA	Water	300.0	
570-80269-5	A1BPSW0002_20211223	Total/NA	Water	300.0	
570-80269-6	A1BPSW0003_20211223	Total/NA	Water	300.0	
MB 570-206125/5	Method Blank	Total/NA	Water	300.0	
LCS 570-206125/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-206125/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79681-A-23 MS	Matrix Spike	Total/NA	Water	300.0	
570-79681-A-23 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Filtration Batch: 663654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Dissolved	Water	FILTRATION	
570-80269-2	EPSW002IE01_20211223	Dissolved	Water	FILTRATION	
570-80269-3	EPSW002IE02_20211223	Dissolved	Water	FILTRATION	
570-80269-4	A1BPSW0001_20211223	Dissolved	Water	FILTRATION	
570-80269-5	A1BPSW0002_20211223	Dissolved	Water	FILTRATION	
570-80269-6	A1BPSW0003_20211223	Dissolved	Water	FILTRATION	
MB 440-663654/1-C	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663654/1-D	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663654/1-F	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663654/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663654/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663654/2-F	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80269-1 MS	EPSW001IE01_20211223	Dissolved	Water	FILTRATION	
570-80269-1 MSD	EPSW001IE01_20211223	Dissolved	Water	FILTRATION	
570-80270-A-9-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80270-A-9-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Dissolved	Water	200.2	663654
570-80269-2	EPSW002IE01_20211223	Dissolved	Water	200.2	663654
570-80269-3	EPSW002IE02_20211223	Dissolved	Water	200.2	663654
570-80269-4	A1BPSW0001_20211223	Dissolved	Water	200.2	663654
570-80269-5	A1BPSW0002_20211223	Dissolved	Water	200.2	663654
570-80269-6	A1BPSW0003_20211223	Dissolved	Water	200.2	663654
MB 440-663654/1-C	Method Blank	Dissolved	Water	200.2	663654
LCS 440-663654/2-C	Lab Control Sample	Dissolved	Water	200.2	663654
570-80269-1 MS	EPSW001IE01_20211223	Dissolved	Water	200.2	663654
570-80269-1 MSD	EPSW001IE01_20211223	Dissolved	Water	200.2	663654

Prep Batch: 663756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Dissolved	Water	200.2	663654
570-80269-2	EPSW002IE01_20211223	Dissolved	Water	200.2	663654
570-80269-3	EPSW002IE02_20211223	Dissolved	Water	200.2	663654

Metals (Continued)

Prep Batch: 663756 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-4	A1BPSW0001_20211223	Dissolved	Water	200.2	663654
570-80269-5	A1BPSW0002_20211223	Dissolved	Water	200.2	663654
570-80269-6	A1BPSW0003_20211223	Dissolved	Water	200.2	663654
MB 440-663654/1-D	Method Blank	Dissolved	Water	200.2	663654
LCS 440-663654/2-D	Lab Control Sample	Dissolved	Water	200.2	663654
570-80269-1 MS	EPSW001IE01_20211223	Dissolved	Water	200.2	663654
570-80269-1 MSD	EPSW001IE01_20211223	Dissolved	Water	200.2	663654

Analysis Batch: 663802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Dissolved	Water	200.7 Rev 4.4	663752
570-80269-2	EPSW002IE01_20211223	Dissolved	Water	200.7 Rev 4.4	663752
570-80269-3	EPSW002IE02_20211223	Dissolved	Water	200.7 Rev 4.4	663752
570-80269-4	A1BPSW0001_20211223	Dissolved	Water	200.7 Rev 4.4	663752
570-80269-5	A1BPSW0002_20211223	Dissolved	Water	200.7 Rev 4.4	663752
570-80269-6	A1BPSW0003_20211223	Dissolved	Water	200.7 Rev 4.4	663752
MB 440-663654/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663752
LCS 440-663654/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663752
570-80269-1 MS	EPSW001IE01_20211223	Dissolved	Water	200.7 Rev 4.4	663752
570-80269-1 MSD	EPSW001IE01_20211223	Dissolved	Water	200.7 Rev 4.4	663752

Analysis Batch: 663832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Dissolved	Water	200.8	663756
570-80269-2	EPSW002IE01_20211223	Dissolved	Water	200.8	663756
570-80269-3	EPSW002IE02_20211223	Dissolved	Water	200.8	663756
570-80269-4	A1BPSW0001_20211223	Dissolved	Water	200.8	663756
570-80269-5	A1BPSW0002_20211223	Dissolved	Water	200.8	663756
570-80269-6	A1BPSW0003_20211223	Dissolved	Water	200.8	663756
MB 440-663654/1-D	Method Blank	Dissolved	Water	200.8	663756
LCS 440-663654/2-D	Lab Control Sample	Dissolved	Water	200.8	663756
570-80269-1 MS	EPSW001IE01_20211223	Dissolved	Water	200.8	663756
570-80269-1 MSD	EPSW001IE01_20211223	Dissolved	Water	200.8	663756

Prep Batch: 663886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Total Recoverable	Water	200.2	
570-80269-2	EPSW002IE01_20211223	Total Recoverable	Water	200.2	
570-80269-3	EPSW002IE02_20211223	Total Recoverable	Water	200.2	
570-80269-4	A1BPSW0001_20211223	Total Recoverable	Water	200.2	
570-80269-5	A1BPSW0002_20211223	Total Recoverable	Water	200.2	
570-80269-6	A1BPSW0003_20211223	Total Recoverable	Water	200.2	
MB 440-663886/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663886/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-293460-G-1-D MS	Matrix Spike	Total Recoverable	Water	200.2	
440-293460-G-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 663922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Total Recoverable	Water	200.2	
570-80269-2	EPSW002IE01_20211223	Total Recoverable	Water	200.2	

Metals (Continued)

Prep Batch: 663922 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-3	EPSW002IE02_20211223	Total Recoverable	Water	200.2	
570-80269-4	A1BPSW0001_20211223	Total Recoverable	Water	200.2	
570-80269-5	A1BPSW0002_20211223	Total Recoverable	Water	200.2	
570-80269-6	A1BPSW0003_20211223	Total Recoverable	Water	200.2	
MB 440-663922/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663922/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-293568-D-2-C MS	Matrix Spike	Total Recoverable	Water	200.2	
440-293568-D-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Total Recoverable	Water	200.8	663886
570-80269-2	EPSW002IE01_20211223	Total Recoverable	Water	200.8	663886
570-80269-3	EPSW002IE02_20211223	Total Recoverable	Water	200.8	663886
570-80269-4	A1BPSW0001_20211223	Total Recoverable	Water	200.8	663886
570-80269-5	A1BPSW0002_20211223	Total Recoverable	Water	200.8	663886
570-80269-6	A1BPSW0003_20211223	Total Recoverable	Water	200.8	663886
MB 440-663886/1-A	Method Blank	Total Recoverable	Water	200.8	663886
LCS 440-663886/2-A	Lab Control Sample	Total Recoverable	Water	200.8	663886
440-293460-G-1-D MS	Matrix Spike	Total Recoverable	Water	200.8	663886
440-293460-G-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	663886

Analysis Batch: 664049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Total Recoverable	Water	200.7 Rev 4.4	663922
570-80269-2	EPSW002IE01_20211223	Total Recoverable	Water	200.7 Rev 4.4	663922
570-80269-3	EPSW002IE02_20211223	Total Recoverable	Water	200.7 Rev 4.4	663922
570-80269-4	A1BPSW0001_20211223	Total Recoverable	Water	200.7 Rev 4.4	663922
570-80269-5	A1BPSW0002_20211223	Total Recoverable	Water	200.7 Rev 4.4	663922
570-80269-6	A1BPSW0003_20211223	Total Recoverable	Water	200.7 Rev 4.4	663922
MB 440-663922/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	663922
LCS 440-663922/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	663922
440-293568-D-2-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	663922
440-293568-D-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	663922

Prep Batch: 664069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Dissolved	Water	245.1	663654
570-80269-2	EPSW002IE01_20211223	Dissolved	Water	245.1	663654
570-80269-3	EPSW002IE02_20211223	Dissolved	Water	245.1	663654
570-80269-4	A1BPSW0001_20211223	Dissolved	Water	245.1	663654
570-80269-5	A1BPSW0002_20211223	Dissolved	Water	245.1	663654
570-80269-6	A1BPSW0003_20211223	Dissolved	Water	245.1	663654
MB 440-663654/1-F	Method Blank	Dissolved	Water	245.1	663654
LCS 440-663654/2-F	Lab Control Sample	Dissolved	Water	245.1	663654
570-80270-A-9-D MS	Matrix Spike	Dissolved	Water	245.1	663654
570-80270-A-9-E MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	663654

Prep Batch: 664088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 664088 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-2	EPSW002IE01_20211223	Total/NA	Water	245.1	
570-80269-3	EPSW002IE02_20211223	Total/NA	Water	245.1	
570-80269-4	A1BPSW0001_20211223	Total/NA	Water	245.1	
570-80269-5	A1BPSW0002_20211223	Total/NA	Water	245.1	
570-80269-6	A1BPSW0003_20211223	Total/NA	Water	245.1	
MB 440-664088/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-664088/2-A	Lab Control Sample	Total/NA	Water	245.1	
570-80269-1 MS	EPSW001IE01_20211223	Total/NA	Water	245.1	
570-80269-1 MSD	EPSW001IE01_20211223	Total/NA	Water	245.1	

Analysis Batch: 664223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Dissolved	Water	245.1	664069
570-80269-1	EPSW001IE01_20211223	Total/NA	Water	245.1	664088
570-80269-2	EPSW002IE01_20211223	Dissolved	Water	245.1	664069
570-80269-2	EPSW002IE01_20211223	Total/NA	Water	245.1	664088
570-80269-3	EPSW002IE02_20211223	Dissolved	Water	245.1	664069
570-80269-3	EPSW002IE02_20211223	Total/NA	Water	245.1	664088
570-80269-4	A1BPSW0001_20211223	Dissolved	Water	245.1	664069
570-80269-4	A1BPSW0001_20211223	Total/NA	Water	245.1	664088
570-80269-5	A1BPSW0002_20211223	Dissolved	Water	245.1	664069
570-80269-5	A1BPSW0002_20211223	Total/NA	Water	245.1	664088
570-80269-6	A1BPSW0003_20211223	Dissolved	Water	245.1	664069
570-80269-6	A1BPSW0003_20211223	Total/NA	Water	245.1	664088
MB 440-663654/1-F	Method Blank	Dissolved	Water	245.1	664069
MB 440-664088/1-A	Method Blank	Total/NA	Water	245.1	664088
LCS 440-663654/2-F	Lab Control Sample	Dissolved	Water	245.1	664069
LCS 440-664088/2-A	Lab Control Sample	Total/NA	Water	245.1	664088
570-80269-1 MS	EPSW001IE01_20211223	Total/NA	Water	245.1	664088
570-80269-1 MSD	EPSW001IE01_20211223	Total/NA	Water	245.1	664088
570-80270-A-9-D MS	Matrix Spike	Dissolved	Water	245.1	664069
570-80270-A-9-E MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	664069

General Chemistry

Analysis Batch: 663595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Total/NA	Water	SM 2540D	
570-80269-2	EPSW002IE01_20211223	Total/NA	Water	SM 2540D	
570-80269-3	EPSW002IE02_20211223	Total/NA	Water	SM 2540D	
570-80269-4	A1BPSW0001_20211223	Total/NA	Water	SM 2540D	
570-80269-5	A1BPSW0002_20211223	Total/NA	Water	SM 2540D	
570-80269-6	A1BPSW0003_20211223	Total/NA	Water	SM 2540D	
MB 440-663595/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663595/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293633-B-2 DU	Duplicate	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Client Sample ID: EPSW001IE01_20211223

Lab Sample ID: 570-80269-1

Date Collected: 12/23/21 09:50

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			206125	01/07/22 23:11	URMH	ECL 1
	Instrument ID: IC10									
Dissolved	Filtration	FILTRATION			225 mL	225 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663752	01/04/22 10:40	FIQ7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663802	01/04/22 18:56	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663922	01/07/22 08:10	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664049	01/07/22 18:31	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			225 mL	225 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663756	01/04/22 11:29	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663832	01/05/22 12:27	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663886	01/07/22 07:06	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			664004	01/07/22 11:08	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			225 mL	225 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:28	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 12:41	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	4 mL	1000 mL	663595	12/29/21 17:58	ZL7L	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: EPSW002IE01_20211223

Lab Sample ID: 570-80269-2

Date Collected: 12/23/21 10:15

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			206125	01/07/22 23:28	URMH	ECL 1
	Instrument ID: IC10									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663752	01/04/22 10:40	FIQ7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663802	01/04/22 19:03	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663922	01/07/22 08:10	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664049	01/07/22 18:34	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663756	01/04/22 11:29	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663832	01/05/22 12:33	Y2WS	IRV 2
	Instrument ID: ICPMS6									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Client Sample ID: EPSW002IE01_20211223

Lab Sample ID: 570-80269-2

Date Collected: 12/23/21 10:15

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.2			25 mL	25 mL	663886	01/07/22 07:06	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			664004	01/07/22 11:11	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:30	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 12:48	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	30 mL	1000 mL	663595	12/29/21 17:58	ZL7L	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: EPSW002IE02_20211223

Lab Sample ID: 570-80269-3

Date Collected: 12/23/21 10:00

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			206125	01/07/22 23:44	URMH	ECL 1
	Instrument ID: IC10									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663752	01/04/22 10:40	FIQ7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663802	01/04/22 19:06	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663922	01/07/22 08:10	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664049	01/07/22 18:36	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663756	01/04/22 11:29	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663832	01/05/22 12:35	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663886	01/07/22 07:06	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			664004	01/07/22 11:17	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:32	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 12:50	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	5 mL	1000 mL	663595	12/29/21 17:58	ZL7L	IRV 2
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Client Sample ID: A1BPSW0001_20211223

Lab Sample ID: 570-80269-4

Date Collected: 12/23/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			206125	01/08/22 00:01	URMH	ECL 1
	Instrument ID: IC10									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663752	01/04/22 10:40	FIQ7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663802	01/04/22 19:08	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663922	01/07/22 08:10	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664049	01/07/22 18:53	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663756	01/04/22 11:29	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663832	01/05/22 12:37	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663886	01/07/22 07:06	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			664004	01/07/22 11:19	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:35	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 12:52	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663595	12/29/21 17:58	ZL7L	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: A1BPSW0002_20211223

Lab Sample ID: 570-80269-5

Date Collected: 12/23/21 09:35
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			206125	01/08/22 00:18	URMH	ECL 1
	Instrument ID: IC10									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663752	01/04/22 10:40	FIQ7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663802	01/04/22 19:10	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663922	01/07/22 08:10	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664049	01/07/22 18:56	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663756	01/04/22 11:29	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663832	01/05/22 12:39	Y2WS	IRV 2
	Instrument ID: ICPMS6									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Client Sample ID: A1BPSW0002_20211223

Lab Sample ID: 570-80269-5

Date Collected: 12/23/21 09:35

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.2			25 mL	25 mL	663886	01/07/22 07:06	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			664004	01/07/22 11:21	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:41	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 12:55	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	7 mL	1000 mL	663595	12/29/21 17:58	ZL7L	IRV 2
	Instrument ID: NOEQUIP									

Client Sample ID: A1BPSW0003_20211223

Lab Sample ID: 570-80269-6

Date Collected: 12/23/21 09:40

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			206125	01/08/22 00:35	URMH	ECL 1
	Instrument ID: IC10									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663752	01/04/22 10:40	FIQ7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			663802	01/04/22 19:13	P1R	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	663922	01/07/22 08:10	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664049	01/07/22 18:58	K1UV	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663756	01/04/22 11:29	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663832	01/05/22 12:41	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663886	01/07/22 07:06	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			664004	01/07/22 11:23	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:43	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 12:57	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	10 mL	1000 mL	663595	12/29/21 17:58	ZL7L	IRV 2
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	IRV 2
FILTRATION	Sample Filtration	None	IRV 2

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80269-1	EPSW001IE01_20211223	Water	12/23/21 09:50	12/28/21 18:00
570-80269-2	EPSW002IE01_20211223	Water	12/23/21 10:15	12/28/21 18:00
570-80269-3	EPSW002IE02_20211223	Water	12/23/21 10:00	12/28/21 18:00
570-80269-4	A1BPSW0001_20211223	Water	12/23/21 09:30	12/28/21 18:00
570-80269-5	A1BPSW0002_20211223	Water	12/23/21 09:35	12/28/21 18:00
570-80269-6	A1BPSW0003_20211223	Water	12/23/21 09:40	12/28/21 18:00

80269

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

eurofins Calscience

Eurofins Calscience, Inc.

Regulatory Program. ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▫ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS / MSD (Y/N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2340D)	Gross Alpha (Total Dissolved) (E900.0)	Gross Alpha (Total Recoverable) (E900.0)	SO4 (E300)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1: Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1: Hg (Total Recoverable)	Sample Specific Notes:
–	–	–	–	–	–			2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
A1BPSW001IE01_20211223	12/23/21	0950	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW002IE01_20211223	12/23/21	1015	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW002IE02_20211223	12/23/21	1000	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0001_20211223	12/23/21	0930	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0002_20211223	12/23/21	0935	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0003_20211223	12/23/21	0940	G	WM	8	Y	N	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	1	1	4	4	

570-80269 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: ▫ Yes ▫ No	Custody Seal No.		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____	
Relinquished by:	Company: M:A	Date/Time: 12-28-21/1445	Received by: ECI 12/28/21	Date/Time: 1445
Relinquished by:	Company: ECI	Date/Time: 12/28/21 1800	Received by: 12/28/21	Date/Time: 1600
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

1/14/2022

2.4|3.3, 2.0|2.9 SCS

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148130 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80269-3
Address: 13715 Rider Trail North ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation (MOD) Gross Alpha/Beta	900 0/Filtration_Rad Gross Alpha Only- Dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09:50 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10 15 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09 30 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09 35 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09 40 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/29/21 1452				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148141 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80269-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09:50 Pacific		Water			X	2	See QAS Boeing_w/u to zero
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10:15 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09:30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09:35 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09:40 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	12/29/21 1609				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80269-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/6/2022			
City: Tustin	TAT Requested (days)			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 (MOD) Al, As, Ba, Be, B, Cr, Co, Fe, Mn,	200.8/200.2 (MOD) Sb, Cd, Cu, Pb, Se, Ag, Th, Zn	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	200.7/FILTRATION (MOD) Diss Al,As,Ba,Be,B,Cr,Co,Fe,Mn,Ni,	200.8/FILTRATION (MOD) Diss Sb, Cd, Cu, Pb, Se, Ag, Th, Z	2540D/ Solids, Total Suspended (TSS)	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09:50 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10 15 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10 00 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09:30 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09:35 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09:40 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements. 13/13 IR-89

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		12/29/21 1552	EC			
	Relinquished by:	Date/Time:	Company	Received by: Olga Oineles	Date/Time: 12/29/21 1552	Company EOT
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

1/14/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80269-1

Login Number: 80269
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80269-1

Login Number: 80269
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/29/21 04:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80269-2
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/24/2022 4:01:44 PM

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80269-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80269-2

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.9º C and 3.3º C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria at 11.9C EPSW001IE01_20211223 (570-80269-1), EPSW002IE01_20211223 (570-80269-2), EPSW002IE02_20211223 (570-80269-3), A1BPSW0001_20211223 (570-80269-4), A1BPSW0002_20211223 (570-80269-5) and A1BPSW0003_20211223 (570-80269-6). The second cooler was received on 1/5/22. There were no tags on the cooler because they were attached to the first cooler.

The following sample(s) was listed on the Chain-of-Custody (COC); however, due to a shipping delay, the sample was not received. Only 1 of 2 coolers were received. Missing 7756 2990 7127

The AWB and Copy ICOCs were taped on top of coolers. Cooler 2/2 - 7756 2990 7127 AWB was rolled up an attached to the back of Cooler 1/2. So the 2/2 Cooler has no Identification on the outside. So hoping it is not lost.

1. Both Bottles were received
2. Received the H Bottle
3. Both Bottles were received
2. Received the H Bottle
4. Received the H Bottle
5. Received the H Bottle
6. Received the H Bottle

2. Missing the G Bottle
4. Missing the G Bottle
5. Missing the G Bottle
6. Missing the G Bottle

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: EPSW002IE01_20211223 (570-80269-2) and (CCV 320-559680/2). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
Method 1613B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation: EPSW001IE01_20211223 (570-80269-1), A1BPSW0001_20211223 (570-80269-4) and A1BPSW0003_20211223 (570-80269-6). Nominal volume required by method is 1.0 L

preparation batch 320-556383
method: 1613B_Sox_Sep_P
matrix: water

Job ID: 570-80269-2 (Continued)

Laboratory: Eurofins Calscience (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Client Sample ID: EPSW001IE01_20211223 — Lab Sample ID: 570-80269-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000086	J,DX MB	0.000055	0.0000016	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000058	MB	0.000055	0.0000015	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000028	J,DX MB	0.000055	0.0000015	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.000012	J,DX MB	0.000055	0.0000021	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.000017	J,DX MB	0.000055	0.0000021	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.000013	J,DX MB	0.000055	0.0000017	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00094	MB	0.000055	0.0000048	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00030	MB	0.000055	0.0000032	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.000011	J,DX MB	0.000055	0.0000028	ug/L	1		1613B	Total/NA
OCDD	0.0043	MB	0.00011	0.0000054	ug/L	1		1613B	Total/NA
OCDF	0.00051	MB	0.00011	0.0000017	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000046	J,DX	0.000055	0.0000017	ug/L	1		1613B	Total/NA
Total PeCDF	0.000036	J,DX q	0.000055	0.0000012	ug/L	1		1613B	Total/NA
Total HxCDD	0.00027	J,DX MB q	0.000055	0.0000015	ug/L	1		1613B	Total/NA
Total HxCDF	0.00023	J,DX MB	0.000055	0.0000017	ug/L	1		1613B	Total/NA
Total HpCDD	0.0015	MB	0.000055	0.0000048	ug/L	1		1613B	Total/NA
Total HpCDF	0.00056	MB	0.000055	0.0000028	ug/L	1		1613B	Total/NA

Client Sample ID: EPSW002IE01_20211223 — Lab Sample ID: 570-80269-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000036	J,DX	0.000052	0.0000014	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000011	J,DX MB	0.000052	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000039	J,DX MB	0.000052	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000025	J,DX MB	0.000052	0.0000012	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000091	J,DX MB	0.000052	0.0000024	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.000012	J,DX MB	0.000052	0.0000024	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000084	J,DX MB	0.000052	0.0000018	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0013	MB	0.000052	0.0000093	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00025	MB	0.000052	0.0000036	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.000017	J,DX MB	0.000052	0.0000036	ug/L	1		1613B	Total/NA
OCDD	0.0096	MB	0.00010	0.0000086	ug/L	1		1613B	Total/NA
OCDF	0.00077	MB	0.00010	0.0000016	ug/L	1		1613B	Total/NA
Total TCDF	0.0000027	J,DX	0.000010	0.00000079	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000067	J,DX q	0.000052	0.0000014	ug/L	1		1613B	Total/NA
Total PeCDF	0.000013	J,DX	0.000052	0.0000011	ug/L	1		1613B	Total/NA
Total HxCDD	0.00020	J,DX MB	0.000052	0.0000012	ug/L	1		1613B	Total/NA
Total HxCDF	0.00017	J,DX MB q	0.000052	0.0000018	ug/L	1		1613B	Total/NA
Total HpCDD	0.0021	MB	0.000052	0.0000093	ug/L	1		1613B	Total/NA
Total HpCDF	0.00063	MB q	0.000052	0.0000036	ug/L	1		1613B	Total/NA

Client Sample ID: EPSW002IE02_20211223 — Lab Sample ID: 570-80269-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000044	J,DX MB	0.000052	0.00000088	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000010	J,DX MB	0.000052	0.00000088	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000021	J,DX MB q	0.000052	0.00000078	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00022	MB	0.000052	0.0000022	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000041	J,DX MB	0.000052	0.0000012	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: EPSW002IE02_20211223 (Continued) — Lab Sample ID: 570-80269-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8,9-HpCDF	0.0000051	J,DX MB	0.000052	0.0000012	ug/L	1		1613B	Total/NA
OCDD	0.0018	MB	0.00010	0.0000028	ug/L	1		1613B	Total/NA
OCDF	0.00017	MB	0.00010	0.0000013	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000021	J,DX q	0.000052	0.00000081	ug/L	1		1613B	Total/NA
Total HxCDD	0.000043	J,DX MB	0.000052	0.00000088	ug/L	1		1613B	Total/NA
Total HxCDF	0.000032	J,DX MB q	0.000052	0.00000078	ug/L	1		1613B	Total/NA
Total HpCDD	0.00038	MB	0.000052	0.0000022	ug/L	1		1613B	Total/NA
Total HpCDF	0.00012	J,DX MB	0.000052	0.0000012	ug/L	1		1613B	Total/NA

Client Sample ID: A1BPSW0001_20211223 — Lab Sample ID: 570-80269-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8,9-HxCDF	0.0000013	J,DX MB	0.000055	0.00000034	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000087	J,DX MB	0.000055	0.00000041	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000018	J,DX MB q	0.000055	0.00000057	ug/L	1		1613B	Total/NA
OCDD	0.000057	J,DX MB	0.00011	0.0000012	ug/L	1		1613B	Total/NA
OCDF	0.0000032	J,DX MB q	0.00011	0.00000086	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000051	J,DX	0.000055	0.0000012	ug/L	1		1613B	Total/NA
Total PeCDF	0.00000069	J,DX q	0.000055	0.00000065	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000013	J,DX MB	0.000055	0.00000029	ug/L	1		1613B	Total/NA
Total HpCDD	0.000017	J,DX MB	0.000055	0.00000041	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000036	J,DX MB q	0.000055	0.00000057	ug/L	1		1613B	Total/NA

Client Sample ID: A1BPSW0002_20211223 — Lab Sample ID: 570-80269-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000021	J,DX MB q	0.000052	0.00000082	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000041	J,DX MB	0.000052	0.00000086	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000036	J,DX MB q	0.000052	0.00000081	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000025	J,DX MB	0.000052	0.00000069	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000017	J,DX MB q	0.000052	0.00000070	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000011	J,DX MB q	0.000052	0.00000067	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00011	MB	0.000052	0.0000014	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000015	J,DX MB	0.000052	0.00000089	ug/L	1		1613B	Total/NA
OCDD	0.00087	MB	0.00010	0.0000022	ug/L	1		1613B	Total/NA
OCDF	0.000035	J,DX MB	0.00010	0.0000012	ug/L	1		1613B	Total/NA
Total TCDD	0.0000025	J,DX q	0.000010	0.0000013	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000055	J,DX	0.000052	0.0000014	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: A1BPSW0002_20211223 (Continued) — Lab Sample ID: 570-80269-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total PeCDF	0.00000085	J,DX q	0.000052	0.00000073	ug/L	1		1613B	Total/NA
Total HxCDD	0.000023	J,DX MB q	0.000052	0.00000081	ug/L	1		1613B	Total/NA
Total HxCDF	0.000015	J,DX MB q	0.000052	0.00000055	ug/L	1		1613B	Total/NA
Total HpCDD	0.00020	MB	0.000052	0.0000014	ug/L	1		1613B	Total/NA
Total HpCDF	0.000033	J,DX MB	0.000052	0.00000085	ug/L	1		1613B	Total/NA

Client Sample ID: A1BPSW0003_20211223 — Lab Sample ID: 570-80269-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000039	J,DX MB	0.000053	0.00000089	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000051	J,DX q MB	0.000053	0.00000084	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000044	J,DX MB	0.000053	0.00000084	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000036	J,DX MB	0.000053	0.00000085	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000027	J,DX MB	0.000053	0.00000087	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000016	J,DX MB	0.000053	0.00000078	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000021	J,DX MB	0.000053	0.00000064	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00010	MB	0.000053	0.0000014	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000023	J,DX MB	0.000053	0.00000094	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000021	J,DX MB	0.000053	0.00000092	ug/L	1		1613B	Total/NA
OCDD	0.00067	MB	0.00011	0.0000024	ug/L	1		1613B	Total/NA
OCDF	0.000047	J,DX MB	0.00011	0.0000013	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000057	J,DX q	0.000053	0.0000015	ug/L	1		1613B	Total/NA
Total PeCDF	0.00000097	J,DX q	0.000053	0.00000093	ug/L	1		1613B	Total/NA
Total HxCDD	0.000028	J,DX q MB	0.000053	0.00000084	ug/L	1		1613B	Total/NA
Total HxCDF	0.000021	J,DX MB	0.000053	0.00000064	ug/L	1		1613B	Total/NA
Total HpCDD	0.00020	MB	0.000053	0.0000014	ug/L	1		1613B	Total/NA
Total HpCDF	0.000050	J,DX MB	0.000053	0.00000092	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: EPSW001IE01_20211223
Date Collected: 12/23/21 09:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.0000013	ug/L		01/06/22 08:31	01/14/22 05:49	1
2,3,7,8-TCDF	ND		0.000011	0.00000089	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,7,8-PeCDD	ND		0.000055	0.0000017	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,7,8-PeCDF	ND		0.000055	0.0000012	ug/L		01/06/22 08:31	01/14/22 05:49	1
2,3,4,7,8-PeCDF	ND		0.000055	0.0000012	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,4,7,8-HxCDD	**0.0000086**	**J,DX MB**	0.000055	0.0000016	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,6,7,8-HxCDD	**0.000058**	**MB**	0.000055	0.0000015	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,7,8,9-HxCDD	**0.000028**	**J,DX MB**	0.000055	0.0000015	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,4,7,8-HxCDF	**0.000012**	**J,DX MB**	0.000055	0.0000021	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,6,7,8-HxCDF	**0.000017**	**J,DX MB**	0.000055	0.0000021	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,7,8,9-HxCDF	ND		0.000055	0.0000018	ug/L		01/06/22 08:31	01/14/22 05:49	1
2,3,4,6,7,8-HxCDF	**0.000013**	**J,DX MB**	0.000055	0.0000017	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,4,6,7,8-HpCDD	**0.00094**	**MB**	0.000055	0.0000048	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,4,6,7,8-HpCDF	**0.00030**	**MB**	0.000055	0.0000032	ug/L		01/06/22 08:31	01/14/22 05:49	1
1,2,3,4,7,8,9-HpCDF	**0.000011**	**J,DX MB**	0.000055	0.0000028	ug/L		01/06/22 08:31	01/14/22 05:49	1
OCDD	**0.0043**	**MB**	0.00011	0.0000054	ug/L		01/06/22 08:31	01/14/22 05:49	1
OCDF	**0.00051**	**MB**	0.00011	0.0000017	ug/L		01/06/22 08:31	01/14/22 05:49	1
Total TCDD	ND		0.000011	0.0000013	ug/L		01/06/22 08:31	01/14/22 05:49	1
Total TCDF	ND		0.000011	0.00000089	ug/L		01/06/22 08:31	01/14/22 05:49	1
Total PeCDD	**0.0000046**	**J,DX**	0.000055	0.0000017	ug/L		01/06/22 08:31	01/14/22 05:49	1
Total PeCDF	**0.000036**	**J,DX q**	0.000055	0.0000012	ug/L		01/06/22 08:31	01/14/22 05:49	1
Total HxCDD	**0.00027**	**J,DX MB q**	0.000055	0.0000015	ug/L		01/06/22 08:31	01/14/22 05:49	1
Total HxCDF	**0.00023**	**J,DX MB**	0.000055	0.0000017	ug/L		01/06/22 08:31	01/14/22 05:49	1
Total HpCDD	**0.0015**	**MB**	0.000055	0.0000048	ug/L		01/06/22 08:31	01/14/22 05:49	1
Total HpCDF	**0.00056**	**MB**	0.000055	0.0000028	ug/L		01/06/22 08:31	01/14/22 05:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*25 - 164*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-2,3,7,8-TCDF	*75*		*24 - 169*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*21 - 178*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-1,2,3,4,7,8-HxCDD	*74*		*32 - 141*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-1,2,3,6,7,8-HxCDD	*70*		*28 - 130*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-1,2,3,4,7,8-HxCDF	*70*		*26 - 152*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-1,2,3,6,7,8-HxCDF	*64*		*26 - 123*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-1,2,3,7,8,9-HxCDF	*66*		*29 - 147*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-2,3,4,6,7,8-HxCDF	*68*		*28 - 136*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*23 - 140*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*68*		*28 - 143*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*26 - 138*	*01/06/22 08:31*	*01/14/22 05:49*	*1*
13C-OCDD	*72*		*17 - 157*	*01/06/22 08:31*	*01/14/22 05:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*	*01/06/22 08:31*	*01/14/22 05:49*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: EPSW002IE01_20211223
Date Collected: 12/23/21 10:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000013	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,7,8-PeCDD	**0.0000036**	**J,DX**	0.000052	0.0000014	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,7,8-PeCDF	ND		0.000052	0.0000011	ug/L		01/06/22 08:31	01/14/22 06:37	1
2,3,4,7,8-PeCDF	ND		0.000052	0.0000012	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,4,7,8-HxCDD	**0.000011**	**J,DX MB**	0.000052	0.0000013	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,6,7,8-HxCDD	**0.000039**	**J,DX MB**	0.000052	0.0000013	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,7,8,9-HxCDD	**0.000025**	**J,DX MB**	0.000052	0.0000012	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,4,7,8-HxCDF	**0.0000091**	**J,DX MB**	0.000052	0.0000024	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,6,7,8-HxCDF	**0.000012**	**J,DX MB**	0.000052	0.0000024	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,7,8,9-HxCDF	ND		0.000052	0.0000021	ug/L		01/06/22 08:31	01/14/22 06:37	1
2,3,4,6,7,8-HxCDF	**0.0000084**	**J,DX MB**	0.000052	0.0000018	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,4,6,7,8-HpCDD	**0.0013**	**MB**	0.000052	0.0000093	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,4,6,7,8-HpCDF	**0.00025**	**MB**	0.000052	0.0000036	ug/L		01/06/22 08:31	01/14/22 06:37	1
1,2,3,4,7,8,9-HpCDF	**0.000017**	**J,DX MB**	0.000052	0.0000036	ug/L		01/06/22 08:31	01/14/22 06:37	1
OCDD	**0.0096**	**MB**	0.00010	0.0000086	ug/L		01/06/22 08:31	01/14/22 06:37	1
OCDF	**0.00077**	**MB**	0.00010	0.0000016	ug/L		01/06/22 08:31	01/14/22 06:37	1
Total TCDD	ND		0.000010	0.0000013	ug/L		01/06/22 08:31	01/14/22 06:37	1
Total TCDF	**0.0000027**	**J,DX**	0.000010	0.0000007 9	ug/L		01/06/22 08:31	01/14/22 06:37	1
Total PeCDD	**0.0000067**	**J,DX q**	0.000052	0.0000014	ug/L		01/06/22 08:31	01/14/22 06:37	1
Total PeCDF	**0.000013**	**J,DX**	0.000052	0.0000011	ug/L		01/06/22 08:31	01/14/22 06:37	1
Total HxCDD	**0.00020**	**J,DX MB**	0.000052	0.0000012	ug/L		01/06/22 08:31	01/14/22 06:37	1
Total HxCDF	**0.00017**	**J,DX MB q**	0.000052	0.0000018	ug/L		01/06/22 08:31	01/14/22 06:37	1
Total HpCDD	**0.0021**	**MB**	0.000052	0.0000093	ug/L		01/06/22 08:31	01/14/22 06:37	1
Total HpCDF	**0.00063**	**MB q**	0.000052	0.0000036	ug/L		01/06/22 08:31	01/14/22 06:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*85*		*25 - 164*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-2,3,7,8-TCDF	*83*		*24 - 169*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-1,2,3,7,8-PeCDD	*86*		*25 - 181*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-1,2,3,7,8-PeCDF	*83*		*24 - 185*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-2,3,4,7,8-PeCDF	*90*		*21 - 178*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-1,2,3,4,7,8-HxCDD	*86*		*32 - 141*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*28 - 130*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*26 - 152*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-1,2,3,6,7,8-HxCDF	*78*		*26 - 123*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-1,2,3,7,8,9-HxCDF	*79*		*29 - 147*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-2,3,4,6,7,8-HxCDF	*87*		*28 - 136*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*90*		*23 - 140*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*90*		*28 - 143*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*100*		*26 - 138*	*01/06/22 08:31*	*01/14/22 06:37*	*1*
13C-OCDD	*105*		*17 - 157*	*01/06/22 08:31*	*01/14/22 06:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*01/06/22 08:31*	*01/14/22 06:37*	*1*

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000012	ug/L		01/06/22 08:31	01/14/22 07:24	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.00000076	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,7,8-PeCDD	ND		0.000052	0.0000013	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000081	ug/L		01/06/22 08:31	01/14/22 07:24	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000081	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,4,7,8-HxCDD	**0.0000044**	**J,DX MB**	0.000052	0.00000088	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,6,7,8-HxCDD	ND		0.000052	0.00000093	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,7,8,9-HxCDD	**0.000010**	**J,DX MB**	0.000052	0.00000088	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,4,7,8-HxCDF	ND		0.000052	0.00000099	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,6,7,8-HxCDF	ND		0.000052	0.0000010	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,7,8,9-HxCDF	ND		0.000052	0.00000091	ug/L		01/06/22 08:31	01/14/22 07:24	1
2,3,4,6,7,8-HxCDF	**0.0000021**	**J,DX MB q**	0.000052	0.00000078	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,4,6,7,8-HpCDD	**0.00022**	**MB**	0.000052	0.0000022	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,4,6,7,8-HpCDF	**0.000041**	**J,DX MB**	0.000052	0.0000012	ug/L		01/06/22 08:31	01/14/22 07:24	1
1,2,3,4,7,8,9-HpCDF	**0.0000051**	**J,DX MB**	0.000052	0.0000012	ug/L		01/06/22 08:31	01/14/22 07:24	1
OCDD	**0.0018**	**MB**	0.00010	0.0000028	ug/L		01/06/22 08:31	01/14/22 07:24	1
OCDF	**0.00017**	**MB**	0.00010	0.0000013	ug/L		01/06/22 08:31	01/14/22 07:24	1
Total TCDD	ND		0.000010	0.0000012	ug/L		01/06/22 08:31	01/14/22 07:24	1
Total TCDF	ND		0.000010	0.00000076	ug/L		01/06/22 08:31	01/14/22 07:24	1
Total PeCDD	ND		0.000052	0.0000013	ug/L		01/06/22 08:31	01/14/22 07:24	1
Total PeCDF	**0.0000021**	**J,DX q**	0.000052	0.00000081	ug/L		01/06/22 08:31	01/14/22 07:24	1
Total HxCDD	**0.000043**	**J,DX MB**	0.000052	0.00000088	ug/L		01/06/22 08:31	01/14/22 07:24	1
Total HxCDF	**0.000032**	**J,DX MB q**	0.000052	0.00000078	ug/L		01/06/22 08:31	01/14/22 07:24	1
Total HpCDD	**0.00038**	**MB**	0.000052	0.0000022	ug/L		01/06/22 08:31	01/14/22 07:24	1
Total HpCDF	**0.00012**	**J,DX MB**	0.000052	0.0000012	ug/L		01/06/22 08:31	01/14/22 07:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-2,3,7,8-TCDF	*74*		*24 - 169*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*25 - 181*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*24 - 185*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-2,3,4,7,8-PeCDF	*81*		*21 - 178*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-1,2,3,4,7,8-HxCDD	*82*		*32 - 141*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*28 - 130*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-1,2,3,4,7,8-HxCDF	*77*		*26 - 152*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-1,2,3,6,7,8-HxCDF	*74*		*26 - 123*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-1,2,3,7,8,9-HxCDF	*70*		*29 - 147*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-2,3,4,6,7,8-HxCDF	*78*		*28 - 136*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*23 - 140*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*01/06/22 08:31*	*01/14/22 07:24*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*85*		*26 - 138*	*01/06/22 08:31*	*01/14/22 07:24*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-3
Matrix: Water

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDD	*83*		*17 - 157*	*01/06/22 08:31*	*01/14/22 07:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*01/06/22 08:31*	*01/14/22 07:24*	*1*

Client Sample ID: A1BPSW0001_20211223
Date Collected: 12/23/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-4
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.0000010	ug/L		01/06/22 08:31	01/14/22 08:12	1
2,3,7,8-TCDF	ND		0.000011	0.00000067	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,7,8-PeCDD	ND		0.000055	0.0000012	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,7,8-PeCDF	ND		0.000055	0.00000065	ug/L		01/06/22 08:31	01/14/22 08:12	1
2,3,4,7,8-PeCDF	ND		0.000055	0.00000066	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,4,7,8-HxCDD	ND		0.000055	0.00000049	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,6,7,8-HxCDD	ND		0.000055	0.00000050	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,7,8,9-HxCDD	ND		0.000055	0.00000048	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,4,7,8-HxCDF	ND		0.000055	0.00000036	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,6,7,8-HxCDF	ND		0.000055	0.00000039	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,7,8,9-HxCDF	**0.0000013**	**J,DX MB**	0.000055	0.00000034	ug/L		01/06/22 08:31	01/14/22 08:12	1
2,3,4,6,7,8-HxCDF	ND		0.000055	0.00000029	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,4,6,7,8-HpCDD	**0.0000087**	**J,DX MB**	0.000055	0.00000041	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,4,6,7,8-HpCDF	**0.0000018**	**J,DX MB q**	0.000055	0.00000057	ug/L		01/06/22 08:31	01/14/22 08:12	1
1,2,3,4,7,8,9-HpCDF	ND		0.000055	0.00000058	ug/L		01/06/22 08:31	01/14/22 08:12	1
OCDD	**0.000057**	**J,DX MB**	0.00011	0.0000012	ug/L		01/06/22 08:31	01/14/22 08:12	1
OCDF	**0.0000032**	**J,DX MB q**	0.00011	0.00000086	ug/L		01/06/22 08:31	01/14/22 08:12	1
Total TCDD	ND		0.000011	0.0000010	ug/L		01/06/22 08:31	01/14/22 08:12	1
Total TCDF	ND		0.000011	0.00000067	ug/L		01/06/22 08:31	01/14/22 08:12	1
Total PeCDD	**0.0000051**	**J,DX**	0.000055	0.0000012	ug/L		01/06/22 08:31	01/14/22 08:12	1
Total PeCDF	**0.00000069**	**J,DX q**	0.000055	0.00000065	ug/L		01/06/22 08:31	01/14/22 08:12	1
Total HxCDD	ND		0.000055	0.00000048	ug/L		01/06/22 08:31	01/14/22 08:12	1
Total HxCDF	**0.0000013**	**J,DX MB**	0.000055	0.00000029	ug/L		01/06/22 08:31	01/14/22 08:12	1
Total HpCDD	**0.000017**	**J,DX MB**	0.000055	0.00000041	ug/L		01/06/22 08:31	01/14/22 08:12	1
Total HpCDF	**0.0000036**	**J,DX MB q**	0.000055	0.00000057	ug/L		01/06/22 08:31	01/14/22 08:12	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	89		25 - 164	01/06/22 08:31	01/14/22 08:12	1
13C-2,3,7,8-TCDF	89		24 - 169	01/06/22 08:31	01/14/22 08:12	1
13C-1,2,3,7,8-PeCDD	91		25 - 181	01/06/22 08:31	01/14/22 08:12	1
13C-1,2,3,7,8-PeCDF	88		24 - 185	01/06/22 08:31	01/14/22 08:12	1
13C-2,3,4,7,8-PeCDF	99		21 - 178	01/06/22 08:31	01/14/22 08:12	1
13C-1,2,3,4,7,8-HxCDD	99		32 - 141	01/06/22 08:31	01/14/22 08:12	1
13C-1,2,3,6,7,8-HxCDD	91		28 - 130	01/06/22 08:31	01/14/22 08:12	1
13C-1,2,3,4,7,8-HxCDF	91		26 - 152	01/06/22 08:31	01/14/22 08:12	1
13C-1,2,3,6,7,8-HxCDF	85		26 - 123	01/06/22 08:31	01/14/22 08:12	1
13C-1,2,3,7,8,9-HxCDF	83		29 - 147	01/06/22 08:31	01/14/22 08:12	1
13C-2,3,4,6,7,8-HxCDF	94		28 - 136	01/06/22 08:31	01/14/22 08:12	1
13C-1,2,3,4,6,7,8-HpCDD	97		23 - 140	01/06/22 08:31	01/14/22 08:12	1
13C-1,2,3,4,6,7,8-HpCDF	97		28 - 143	01/06/22 08:31	01/14/22 08:12	1
13C-1,2,3,4,7,8,9-HpCDF	107		26 - 138	01/06/22 08:31	01/14/22 08:12	1
13C-OCDD	108		17 - 157	01/06/22 08:31	01/14/22 08:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	90		35 - 197	01/06/22 08:31	01/14/22 08:12	1

Client Sample ID: A1BPSW0002_20211223
Date Collected: 12/23/21 09:35
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-5
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000013	ug/L		01/06/22 08:31	01/14/22 09:00	1
2,3,7,8-TCDF	ND		0.000010	0.00000082	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,7,8-PeCDD	ND		0.000052	0.0000014	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000073	ug/L		01/06/22 08:31	01/14/22 09:00	1
2,3,4,7,8-PeCDF	ND		0.000052	0.00000077	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,4,7,8-HxCDD	**0.0000021**	**J,DX MB q**	0.000052	0.00000082	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,6,7,8-HxCDD	**0.0000041**	**J,DX MB**	0.000052	0.00000086	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,7,8,9-HxCDD	**0.0000036**	**J,DX MB q**	0.000052	0.00000081	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,4,7,8-HxCDF	**0.0000025**	**J,DX MB**	0.000052	0.00000069	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,6,7,8-HxCDF	**0.0000017**	**J,DX MB q**	0.000052	0.00000070	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,7,8,9-HxCDF	**0.0000011**	**J,DX MB q**	0.000052	0.00000067	ug/L		01/06/22 08:31	01/14/22 09:00	1
2,3,4,6,7,8-HxCDF	ND		0.000052	0.00000055	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,4,6,7,8-HpCDD	**0.00011**	**MB**	0.000052	0.0000014	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,4,6,7,8-HpCDF	**0.000015**	**J,DX MB**	0.000052	0.00000089	ug/L		01/06/22 08:31	01/14/22 09:00	1
1,2,3,4,7,8,9-HpCDF	ND		0.000052	0.00000085	ug/L		01/06/22 08:31	01/14/22 09:00	1
OCDD	**0.00087**	**MB**	0.00010	0.0000022	ug/L		01/06/22 08:31	01/14/22 09:00	1
OCDF	**0.000035**	**J,DX MB**	0.00010	0.0000012	ug/L		01/06/22 08:31	01/14/22 09:00	1
Total TCDD	**0.0000025**	**J,DX q**	0.000010	0.0000013	ug/L		01/06/22 08:31	01/14/22 09:00	1
Total TCDF	ND		0.000010	0.00000082	ug/L		01/06/22 08:31	01/14/22 09:00	1
Total PeCDD	**0.0000055**	**J,DX**	0.000052	0.0000014	ug/L		01/06/22 08:31	01/14/22 09:00	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: A1BPSW0002_20211223
Date Collected: 12/23/21 09:35
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-5
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDF	**0.00000085**	**J,DX q**	0.000052	0.00000073	ug/L		01/06/22 08:31	01/14/22 09:00	1
Total HxCDD	**0.000023**	**J,DX MB q**	0.000052	0.00000081	ug/L		01/06/22 08:31	01/14/22 09:00	1
Total HxCDF	**0.000015**	**J,DX MB q**	0.000052	0.00000055	ug/L		01/06/22 08:31	01/14/22 09:00	1
Total HpCDD	**0.00020**	**MB**	0.000052	0.0000014	ug/L		01/06/22 08:31	01/14/22 09:00	1
Total HpCDF	**0.000033**	**J,DX MB**	0.000052	0.00000085	ug/L		01/06/22 08:31	01/14/22 09:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*81*		*25 - 164*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-2,3,7,8-TCDF	*81*		*24 - 169*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*25 - 181*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*24 - 185*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-2,3,4,7,8-PeCDF	*88*		*21 - 178*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-1,2,3,4,7,8-HxCDD	*87*		*32 - 141*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*28 - 130*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*26 - 152*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-1,2,3,6,7,8-HxCDF	*77*		*26 - 123*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*29 - 147*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-2,3,4,6,7,8-HxCDF	*84*		*28 - 136*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*23 - 140*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*84*		*28 - 143*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*94*		*26 - 138*	*01/06/22 08:31*	*01/14/22 09:00*	*1*
13C-OCDD	*91*		*17 - 157*	*01/06/22 08:31*	*01/14/22 09:00*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*94*		*35 - 197*	*01/06/22 08:31*	*01/14/22 09:00*	*1*

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.0000014	ug/L		01/06/22 08:31	01/14/22 09:48	1
2,3,7,8-TCDF	ND		0.000011	0.00000082	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,7,8-PeCDD	ND		0.000053	0.0000015	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,7,8-PeCDF	ND		0.000053	0.00000093	ug/L		01/06/22 08:31	01/14/22 09:48	1
2,3,4,7,8-PeCDF	ND		0.000053	0.00000098	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,4,7,8-HxCDD	**0.0000039**	**J,DX MB**	0.000053	0.00000089	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,6,7,8-HxCDD	**0.0000051**	**J,DX q MB**	0.000053	0.00000084	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,7,8,9-HxCDD	**0.0000044**	**J,DX MB**	0.000053	0.00000084	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,4,7,8-HxCDF	**0.0000036**	**J,DX MB**	0.000053	0.00000085	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,6,7,8-HxCDF	**0.0000027**	**J,DX MB**	0.000053	0.00000087	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,7,8,9-HxCDF	**0.0000016**	**J,DX MB**	0.000053	0.00000078	ug/L		01/06/22 08:31	01/14/22 09:48	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6,7,8-HxCDF	0.0000021	J,DX MB	0.000053	0.00000064	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,4,6,7,8-HpCDD	0.00010	MB	0.000053	0.0000014	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,4,6,7,8-HpCDF	0.000023	J,DX MB	0.000053	0.00000094	ug/L		01/06/22 08:31	01/14/22 09:48	1
1,2,3,4,7,8,9-HpCDF	0.0000021	J,DX MB	0.000053	0.00000092	ug/L		01/06/22 08:31	01/14/22 09:48	1
OCDD	0.00067	MB	0.00011	0.0000024	ug/L		01/06/22 08:31	01/14/22 09:48	1
OCDF	0.000047	J,DX MB	0.00011	0.0000013	ug/L		01/06/22 08:31	01/14/22 09:48	1
Total TCDD	ND		0.000011	0.0000014	ug/L		01/06/22 08:31	01/14/22 09:48	1
Total TCDF	ND		0.000011	0.00000082	ug/L		01/06/22 08:31	01/14/22 09:48	1
Total PeCDD	0.0000057	J,DX q	0.000053	0.0000015	ug/L		01/06/22 08:31	01/14/22 09:48	1
Total PeCDF	0.00000097	J,DX q	0.000053	0.00000093	ug/L		01/06/22 08:31	01/14/22 09:48	1
Total HxCDD	0.000028	J,DX q MB	0.000053	0.00000084	ug/L		01/06/22 08:31	01/14/22 09:48	1
Total HxCDF	0.000021	J,DX MB	0.000053	0.00000064	ug/L		01/06/22 08:31	01/14/22 09:48	1
Total HpCDD	0.00020	MB	0.000053	0.0000014	ug/L		01/06/22 08:31	01/14/22 09:48	1
Total HpCDF	0.000050	J,DX MB	0.000053	0.00000092	ug/L		01/06/22 08:31	01/14/22 09:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-2,3,7,8-TCDF	*74*		*24 - 169*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*25 - 181*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*24 - 185*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-2,3,4,7,8-PeCDF	*76*		*21 - 178*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-1,2,3,4,7,8-HxCDD	*79*		*32 - 141*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*28 - 130*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-1,2,3,4,7,8-HxCDF	*75*		*26 - 152*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*26 - 123*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-1,2,3,7,8,9-HxCDF	*68*		*29 - 147*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-2,3,4,6,7,8-HxCDF	*78*		*28 - 136*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*23 - 140*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*28 - 143*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*82*		*26 - 138*	*01/06/22 08:31*	*01/14/22 09:48*	*1*
13C-OCDD	*78*		*17 - 157*	*01/06/22 08:31*	*01/14/22 09:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*86*		*35 - 197*	*01/06/22 08:31*	*01/14/22 09:48*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: EPSW002IE01_20211223
Date Collected: 12/23/21 10:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000063	ug/L		01/06/22 08:31	01/21/22 14:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*121*		*24 - 169*	*01/06/22 08:31*	*01/21/22 14:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*98*		*35 - 197*	*01/06/22 08:31*	*01/21/22 14:14*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-80269-1	EPSW001IE01_20211223	92
570-80269-2	EPSW002IE01_20211223	91
570-80269-2 - RA	EPSW002IE01_20211223	98
570-80269-3	EPSW002IE02_20211223	89
570-80269-4	A1BPSW0001_20211223	90
570-80269-5	A1BPSW0002_20211223	94
570-80269-6	A1BPSW0003_20211223	86
MB 320-556383/1-A	Method Blank	91

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-556383/2-A	Lab Control Sample	91
LCSD 320-556383/3-A	Lab Control Sample Dup	93

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80269-1	EPSW001IE01_20211223	78	75	73	72	79	74	70	70
570-80269-2	EPSW002IE01_20211223	85	83	86	83	90	86	81	83
570-80269-2 - RA	EPSW002IE01_20211223		121						
570-80269-3	EPSW002IE02_20211223	75	74	75	74	81	82	78	77
570-80269-4	A1BPSW0001_20211223	89	89	91	88	99	99	91	91
570-80269-5	A1BPSW0002_20211223	81	81	81	79	88	87	83	84
570-80269-6	A1BPSW0003_20211223	75	74	71	69	76	79	77	75
MB 320-556383/1-A	Method Blank	88	88	91	86	98	94	91	91

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80269-1	EPSW001IE01_20211223	64	66	68	70	68	80	72
570-80269-2	EPSW002IE01_20211223	78	79	87	90	90	100	105
570-80269-2 - RA	EPSW002IE01_20211223							
570-80269-3	EPSW002IE02_20211223	74	70	78	79	80	85	83
570-80269-4	A1BPSW0001_20211223	85	83	94	97	97	107	108
570-80269-5	A1BPSW0002_20211223	77	75	84	85	84	94	91
570-80269-6	A1BPSW0003_20211223	72	68	78	73	77	82	78
MB 320-556383/1-A	Method Blank	84	85	88	88	91	97	93

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556383/2-A	Lab Control Sample	87	86	87	86	94	93	87	91
LCSD 320-556383/3-A	Lab Control Sample Dup	84	83	88	84	91	90	84	87

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-556383/2-A	Lab Control Sample	81	81	83	86	91	94	92
LCSD 320-556383/3-A	Lab Control Sample Dup	77	82	87	91	92	100	101

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-556383/1-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556383

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000065	ug/L		01/06/22 08:31	01/14/22 01:02	1
2,3,7,8-TCDF	ND		0.000010	0.00000052	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000074	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000060	ug/L		01/06/22 08:31	01/14/22 01:02	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000060	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,7,8-HxCDD	0.00000516	J,DX	0.000050	0.00000043	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,6,7,8-HxCDD	0.00000297	J,DX	0.000050	0.00000046	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8,9-HxCDD	0.00000627	J,DX	0.000050	0.00000043	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,7,8-HxCDF	0.00000375	J,DX	0.000050	0.00000050	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,6,7,8-HxCDF	0.00000404	J,DX	0.000050	0.00000052	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8,9-HxCDF	0.00000321	J,DX q	0.000050	0.00000046	ug/L		01/06/22 08:31	01/14/22 01:02	1
2,3,4,6,7,8-HxCDF	0.00000361	J,DX	0.000050	0.00000042	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,6,7,8-HpCDD	0.00000746	J,DX	0.000050	0.00000023	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,6,7,8-HpCDF	0.00000528	J,DX	0.000050	0.00000044	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,7,8,9-HpCDF	0.00000428	J,DX	0.000050	0.00000045	ug/L		01/06/22 08:31	01/14/22 01:02	1
OCDD	0.0000121	J,DX q	0.00010	0.00000041	ug/L		01/06/22 08:31	01/14/22 01:02	1
OCDF	0.00000701	J,DX	0.00010	0.00000071	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total TCDD	ND		0.000010	0.00000065	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total TCDF	ND		0.000010	0.00000052	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total PeCDD	ND		0.000050	0.00000074	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total PeCDF	ND		0.000050	0.00000060	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HxCDD	0.0000144	J,DX	0.000050	0.00000043	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HxCDF	0.0000146	J,DX q	0.000050	0.00000042	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HpCDD	0.0000105	J,DX	0.000050	0.00000023	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HpCDF	0.00000957	J,DX	0.000050	0.00000044	ug/L		01/06/22 08:31	01/14/22 01:02	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*88*		*25 - 164*	*01/06/22 08:31*	*01/14/22 01:02*	*1*
13C-2,3,7,8-TCDF	*88*		*24 - 169*	*01/06/22 08:31*	*01/14/22 01:02*	*1*
13C-1,2,3,7,8-PeCDD	*91*		*25 - 181*	*01/06/22 08:31*	*01/14/22 01:02*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-556383/1-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556383

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	86		24 - 185	01/06/22 08:31	01/14/22 01:02	1
13C-2,3,4,7,8-PeCDF	98		21 - 178	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,7,8-HxCDD	94		32 - 141	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,6,7,8-HxCDD	91		28 - 130	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,7,8-HxCDF	91		26 - 152	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,6,7,8-HxCDF	84		26 - 123	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,7,8,9-HxCDF	85		29 - 147	01/06/22 08:31	01/14/22 01:02	1
13C-2,3,4,6,7,8-HxCDF	88		28 - 136	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,6,7,8-HpCDD	88		23 - 140	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,6,7,8-HpCDF	91		28 - 143	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,7,8,9-HpCDF	97		26 - 138	01/06/22 08:31	01/14/22 01:02	1
13C-OCDD	93		17 - 157	01/06/22 08:31	01/14/22 01:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	91		35 - 197	01/06/22 08:31	01/14/22 01:02	1

Lab Sample ID: LCS 320-556383/2-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556383

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000173		ug/L		87	67 - 158		
2,3,7,8-TCDF			0.000200	0.000183		ug/L		92	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.000943		ug/L		94	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.000933		ug/L		93	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000863		ug/L		86	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000831	MB	ug/L		83	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000886	MB	ug/L		89	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000867	MB	ug/L		87	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000815	MB	ug/L		81	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.000915	MB	ug/L		92	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.000904	MB	ug/L		90	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000959	MB	ug/L		96	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.000898	MB	ug/L		90	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000829	MB	ug/L		83	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000803	MB	ug/L		80	78 - 138		
OCDD			0.00200	0.00169	MB	ug/L		84	78 - 144		
OCDF			0.00200	0.00167	MB	ug/L		84	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	87		20 - 175
13C-2,3,7,8-TCDF	86		22 - 152
13C-1,2,3,7,8-PeCDD	87		21 - 227
13C-1,2,3,7,8-PeCDF	86		21 - 192
13C-2,3,4,7,8-PeCDF	94		13 - 328
13C-1,2,3,4,7,8-HxCDD	93		21 - 193
13C-1,2,3,6,7,8-HxCDD	87		25 - 163
13C-1,2,3,4,7,8-HxCDF	91		19 - 202

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556383/2-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556383

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDF	81		21 - 159
13C-1,2,3,7,8,9-HxCDF	81		17 - 205
13C-2,3,4,6,7,8-HxCDF	83		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	86		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	91		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	94		20 - 186
13C-OCDD	92		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	91		31 - 191

Lab Sample ID: LCSD 320-556383/3-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556383

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000177		ug/L		88	67 - 158	2	50
2,3,7,8-TCDF			0.000200	0.000190		ug/L		95	75 - 158	4	50
1,2,3,7,8-PeCDD			0.00100	0.000959		ug/L		96	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.000952		ug/L		95	80 - 134	2	50
2,3,4,7,8-PeCDF			0.00100	0.000876		ug/L		88	68 - 160	2	50
1,2,3,4,7,8-HxCDD			0.00100	0.000835	MB	ug/L		84	70 - 164	0	50
1,2,3,6,7,8-HxCDD			0.00100	0.000923	MB	ug/L		92	76 - 134	4	50
1,2,3,7,8,9-HxCDD			0.00100	0.000939	MB	ug/L		94	64 - 162	8	50
1,2,3,4,7,8-HxCDF			0.00100	0.000846	MB	ug/L		85	72 - 134	4	50
1,2,3,6,7,8-HxCDF			0.00100	0.000972	MB	ug/L		97	84 - 130	6	50
1,2,3,7,8,9-HxCDF			0.00100	0.000916	MB	ug/L		92	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.000941	MB	ug/L		94	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000910	MB	ug/L		91	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000877	MB	ug/L		88	82 - 122	6	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000824	MB	ug/L		82	78 - 138	3	50
OCDD			0.00200	0.00170	MB	ug/L		85	78 - 144	1	50
OCDF			0.00200	0.00172	MB	ug/L		86	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	84		20 - 175
13C-2,3,7,8-TCDF	83		22 - 152
13C-1,2,3,7,8-PeCDD	88		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	91		13 - 328
13C-1,2,3,4,7,8-HxCDD	90		21 - 193
13C-1,2,3,6,7,8-HxCDD	84		25 - 163
13C-1,2,3,4,7,8-HxCDF	87		19 - 202
13C-1,2,3,6,7,8-HxCDF	77		21 - 159
13C-1,2,3,7,8,9-HxCDF	82		17 - 205
13C-2,3,4,6,7,8-HxCDF	87		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	91		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	92		21 - 158

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-556383/3-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556383

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,7,8,9-HpCDF	100		20 - 186
13C-OCDD	101		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	93		31 - 191

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Specialty Organics

Prep Batch: 556383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Total/NA	Water	1613B	
570-80269-2 - RA	EPSW002IE01_20211223	Total/NA	Water	1613B	
570-80269-2	EPSW002IE01_20211223	Total/NA	Water	1613B	
570-80269-3	EPSW002IE02_20211223	Total/NA	Water	1613B	
570-80269-4	A1BPSW0001_20211223	Total/NA	Water	1613B	
570-80269-5	A1BPSW0002_20211223	Total/NA	Water	1613B	
570-80269-6	A1BPSW0003_20211223	Total/NA	Water	1613B	
MB 320-556383/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556383/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556383/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 558744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Total/NA	Water	1613B	556383
570-80269-2	EPSW002IE01_20211223	Total/NA	Water	1613B	556383
570-80269-3	EPSW002IE02_20211223	Total/NA	Water	1613B	556383
570-80269-4	A1BPSW0001_20211223	Total/NA	Water	1613B	556383
570-80269-5	A1BPSW0002_20211223	Total/NA	Water	1613B	556383
570-80269-6	A1BPSW0003_20211223	Total/NA	Water	1613B	556383
MB 320-556383/1-A	Method Blank	Total/NA	Water	1613B	556383
LCS 320-556383/2-A	Lab Control Sample	Total/NA	Water	1613B	556383
LCSD 320-556383/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556383

Analysis Batch: 559680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-2 - RA	EPSW002IE01_20211223	Total/NA	Water	1613B	556383

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Client Sample ID: EPSW001IE01_20211223
Lab Sample ID: 570-80269-1
Date Collected: 12/23/21 09:50
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			912 mL	20.0 uL	556383	01/06/22 08:31	CB	TAL SAC
Total/NA	Analysis	1613B		1			558744	01/14/22 05:49	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: EPSW002IE01_20211223
Lab Sample ID: 570-80269-2
Date Collected: 12/23/21 10:15
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		960.5 mL	20.0 uL	556383	01/06/22 08:31	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			559680	01/21/22 14:14	DB	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			960.5 mL	20.0 uL	556383	01/06/22 08:31	CB	TAL SAC
Total/NA	Analysis	1613B		1			558744	01/14/22 06:37	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: EPSW002IE02_20211223
Lab Sample ID: 570-80269-3
Date Collected: 12/23/21 10:00
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			957.5 mL	20.0 uL	556383	01/06/22 08:31	CB	TAL SAC
Total/NA	Analysis	1613B		1			558744	01/14/22 07:24	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: A1BPSW0001_20211223
Lab Sample ID: 570-80269-4
Date Collected: 12/23/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			901.5 mL	20.0 uL	556383	01/06/22 08:31	CB	TAL SAC
Total/NA	Analysis	1613B		1			558744	01/14/22 08:12	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: A1BPSW0002_20211223
Lab Sample ID: 570-80269-5
Date Collected: 12/23/21 09:35
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			956.5 mL	20.0 uL	556383	01/06/22 08:31	CB	TAL SAC
Total/NA	Analysis	1613B		1			558744	01/14/22 09:00	GRB	TAL SAC
	Instrument ID: DFS 1									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Client Sample ID: A1BPSW0003_20211223

Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			948.5 mL	20.0 uL	556383	01/06/22 08:31	CB	TAL SAC
Total/NA	Analysis	1613B		1			558744	01/14/22 09:48	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80269-1	EPSW001IE01_20211223	Water	12/23/21 09:50	12/28/21 18:00
570-80269-2	EPSW002IE01_20211223	Water	12/23/21 10:15	12/28/21 18:00
570-80269-3	EPSW002IE02_20211223	Water	12/23/21 10:00	12/28/21 18:00
570-80269-4	A1BPSW0001_20211223	Water	12/23/21 09:30	12/28/21 18:00
570-80269-5	A1BPSW0002_20211223	Water	12/23/21 09:35	12/28/21 18:00
570-80269-6	A1BPSW0003_20211223	Water	12/23/21 09:40	12/28/21 18:00

80269

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program. ▫ DW ▫ NPDES ▫ RCRA ▫ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS / MSD (Y/N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2340D)	Gross Alpha (Total Dissolved) (E900.0)	Gross Alpha (Total Recoverable) (E900.0)	SO4 (E300)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1: Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1: Hg (Total Recoverable)	Sample Specific Notes:
–	–	–	–	–	–			2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
A1BPSW001IE01_20211223	12/23/21	0950	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW002IE01_20211223	12/23/21	1015	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW002IE02_20211223	12/23/21	1000	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0001_20211223	12/23/21	0930	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0002_20211223	12/23/21	0935	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0003_20211223	12/23/21	0940	G	WM	8	Y	N	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	1	1	4	4	

570-80269 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: ▫ Yes ▫ No	Custody Seal No.		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____	
Relinquished by:	Company: M:A	Date/Time: 12-28-21/1445	Received by: ECI 12/28/21	Date/Time: 1445
Relinquished by:	Company: ECI	Date/Time: 12/28/21 1800	Received by: 12/28/21	Date/Time: 1600
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

1/24/2022

2.4|3.3, 2.0|2.9 SCS

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148130 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80269-3
Address: 13715 Rider Trail North ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation (MOD) Gross Alpha/Beta	900 0/Filtration_Rad Gross Alpha Only- Dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09:50 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10 15 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09 30 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09 35 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09 40 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21 1452				
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148141 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80269-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09:50 Pacific		Water			X	2	See QAS Boeing_w/u to zero
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10:15 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09:30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09:35 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09:40 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/29/21 1609				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/24/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80269-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/6/2022			
City: Tustin	TAT Requested (days)			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 (MOD) Al, As, Ba, Be, B, Cr, Co, Fe, Mn,	200.8/200.2 (MOD) Sb, Cd, Cu, Pb, Se, Ag, Th, Zn	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	200.7/FILTRATION (MOD) Diss Al,As,Ba,Be,B,Cr,Co,Fe,Mn,Ni,	200.8/FILTRATION (MOD) Diss Sb, Cd, Cu, Pb, Se, Ag, Th, Z	2540D/ Solids, Total Suspended (TSS)	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09:50 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10 15 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10 00 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09:30 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09:35 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09:40 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements. 13/13 IR-89

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	[signature]	12/29/21 1552	EC			
	Relinquished by:	Date/Time:	Company	Received by: Olga Oineles	Date/Time: 12/29/21 1552	Company ECT
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

1/24/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148141.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80269-2
Address: 880 Riverside Parkway,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09:50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10:15 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09:30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09:35 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09:40 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/29/21 1609		[signature]	12/31/21 940	EBTZA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☒ Yes ☐ No	Custody Seal No.: 2 ea	Cooler Temperature(s) °C and Other Remarks: 0.9°C, 11.9°C

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80269-2

Login Number: 80269
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80269-2

Login Number: 80269
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/31/21 12:31 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80269-3
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/25/2022 5:01:40 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-3

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80269-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80269-3

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.9º C and 3.3º C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria at 11.9C EPSW001IE01_20211223 (570-80269-1), EPSW002IE01_20211223 (570-80269-2), EPSW002IE02_20211223 (570-80269-3), A1BPSW0001_20211223 (570-80269-4), A1BPSW0002_20211223 (570-80269-5) and A1BPSW0003_20211223 (570-80269-6). The second cooler was received on 1/5/22. There were no tags on the cooler because they were attached to the first cooler.

The following sample(s) was listed on the Chain-of-Custody (COC); however, due to a shipping delay, the sample was not received. Only 1 of 2 coolers were received. Missing 7756 2990 7127

The AWB and Copy ICOCs were taped on top of coolers. Cooler 2/2 - 7756 2990 7127 AWB was rolled up an attached to the back of Cooler 1/2. So the 2/2 Cooler has no Identification on the outside. So hoping it is not lost.

1. Both Bottles were received
2. Received the H Bottle
3. Both Bottles were received
2. Received the H Bottle
4. Received the H Bottle
5. Received the H Bottle
6. Received the H Bottle

2. Missing the G Bottle
4. Missing the G Bottle
5. Missing the G Bottle
6. Missing the G Bottle

RAD
Method 900.0: Gross alpha beta batch 544893
The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: EPSW001IE01_20211223 (570-80269-1), EPSW002IE01_20211223 (570-80269-2) and EPSW002IE02_20211223 (570-80269-3). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross alpha beta batch 544893
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW001IE01_20211223 (570-80269-1), EPSW002IE01_20211223 (570-80269-2), EPSW002IE02_20211223 (570-80269-3), A1BPSW0001_20211223 (570-80269-4), A1BPSW0002_20211223 (570-80269-5), A1BPSW0003_20211223 (570-80269-6), (LCS 160-544893/2-A), (MB 160-544893/1-A), (570-80269-E-6-D MS) and (570-80269-E-6-E MSD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 570-80269-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity - Dissolved

Client Sample ID: EPSW001IE01_20211223
Date Collected: 12/23/21 09:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	9.97	G	4.67	4.80	3.00	6.43	pCi/L	01/05/22 10:28	01/06/22 13:03	1

Client Sample ID: EPSW002IE01_20211223
Date Collected: 12/23/21 10:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	3.56	U G	2.51	2.54	3.00	3.76	pCi/L	01/05/22 10:28	01/06/22 13:03	1

Client Sample ID: EPSW002IE02_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	10.5	G	4.51	4.66	3.00	5.91	pCi/L	01/05/22 10:28	01/06/22 13:03	1

Client Sample ID: A1BPSW0001_20211223
Date Collected: 12/23/21 09:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.38		0.845	0.859	3.00	1.20	pCi/L	01/05/22 10:28	01/06/22 13:05	1

Client Sample ID: A1BPSW0002_20211223
Date Collected: 12/23/21 09:35
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.77		1.00	1.02	3.00	1.39	pCi/L	01/05/22 10:28	01/06/22 13:05	1

Client Sample ID: A1BPSW0003_20211223
Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	5.91		1.85	1.97	3.00	1.98	pCi/L	01/05/22 10:28	01/07/22 07:54	1

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-544893/1-A
Matrix: Water
Analysis Batch: 545087

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544893

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.077	U	0.738	0.748	3.00	1.08	pCi/L	01/05/22 10:28	01/06/22 13:03	1

Lab Sample ID: LCS 160-544893/2-A
Matrix: Water
Analysis Batch: 545087

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544893

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Alpha			50.6	55.33		8.00	3.00	2.27	pCi/L	109	75 - 125		

Lab Sample ID: 570-80269-6 MS
Matrix: Water
Analysis Batch: 545199

Client Sample ID: A1BPSW0003_20211223
Prep Type: Dissolved
Prep Batch: 544893

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Alpha	5.91		50.6	50.43		7.53	3.00	2.41	pCi/L	88	60 - 140		

Lab Sample ID: 570-80269-6 MSD
Matrix: Water
Analysis Batch: 545199

Client Sample ID: A1BPSW0003_20211223
Prep Type: Dissolved
Prep Batch: 544893

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Gross Alpha	5.91		50.6	52.30		7.75	3.00	2.44	pCi/L	92	60 - 140	0.12	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-3

Rad

Filtration Batch: 544532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Dissolved	Water	Filtration	
570-80269-2	EPSW002IE01_20211223	Dissolved	Water	Filtration	
570-80269-3	EPSW002IE02_20211223	Dissolved	Water	Filtration	
570-80269-4	A1BPSW0001_20211223	Dissolved	Water	Filtration	
570-80269-5	A1BPSW0002_20211223	Dissolved	Water	Filtration	
570-80269-6	A1BPSW0003_20211223	Dissolved	Water	Filtration	
570-80269-6 MS	A1BPSW0003_20211223	Dissolved	Water	Filtration	
570-80269-6 MSD	A1BPSW0003_20211223	Dissolved	Water	Filtration	

Prep Batch: 544893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80269-1	EPSW001IE01_20211223	Dissolved	Water	Evaporation	544532
570-80269-2	EPSW002IE01_20211223	Dissolved	Water	Evaporation	544532
570-80269-3	EPSW002IE02_20211223	Dissolved	Water	Evaporation	544532
570-80269-4	A1BPSW0001_20211223	Dissolved	Water	Evaporation	544532
570-80269-5	A1BPSW0002_20211223	Dissolved	Water	Evaporation	544532
570-80269-6	A1BPSW0003_20211223	Dissolved	Water	Evaporation	544532
MB 160-544893/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-544893/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80269-6 MS	A1BPSW0003_20211223	Dissolved	Water	Evaporation	544532
570-80269-6 MSD	A1BPSW0003_20211223	Dissolved	Water	Evaporation	544532

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-3

Client Sample ID: EPSW001IE01_20211223
Lab Sample ID: 570-80269-1
Date Collected: 12/23/21 09:50
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	544532	01/03/22 13:33	LTC	TAL SL
Dissolved	Prep	Evaporation			50.05 mL	1.0 g	544893	01/05/22 10:28	KG	TAL SL
Dissolved	Analysis	900.0		1			545087	01/06/22 13:03	MLK	TAL SL
	Instrument ID: GFPCBLUE									

Client Sample ID: EPSW002IE01_20211223
Lab Sample ID: 570-80269-2
Date Collected: 12/23/21 10:15
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	544532	01/03/22 13:33	LTC	TAL SL
Dissolved	Prep	Evaporation			75.03 mL	1.0 g	544893	01/05/22 10:28	KG	TAL SL
Dissolved	Analysis	900.0		1			545087	01/06/22 13:03	MLK	TAL SL
	Instrument ID: GFPCBLUE									

Client Sample ID: EPSW002IE02_20211223
Lab Sample ID: 570-80269-3
Date Collected: 12/23/21 10:00
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	544532	01/03/22 13:33	LTC	TAL SL
Dissolved	Prep	Evaporation			50.03 mL	1.0 g	544893	01/05/22 10:28	KG	TAL SL
Dissolved	Analysis	900.0		1			545087	01/06/22 13:03	MLK	TAL SL
	Instrument ID: GFPCBLUE									

Client Sample ID: A1BPSW0001_20211223
Lab Sample ID: 570-80269-4
Date Collected: 12/23/21 09:30
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	544532	01/03/22 13:33	LTC	TAL SL
Dissolved	Prep	Evaporation			200.02 mL	1.0 g	544893	01/05/22 10:28	KG	TAL SL
Dissolved	Analysis	900.0		1			545081	01/06/22 13:05	MLK	TAL SL
	Instrument ID: GFPCORANGE									

Client Sample ID: A1BPSW0002_20211223
Lab Sample ID: 570-80269-5
Date Collected: 12/23/21 09:35
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	544532	01/03/22 13:33	LTC	TAL SL
Dissolved	Prep	Evaporation			200.01 mL	1.0 g	544893	01/05/22 10:28	KG	TAL SL
Dissolved	Analysis	900.0		1			545081	01/06/22 13:05	MLK	TAL SL
	Instrument ID: GFPCORANGE									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-3

Client Sample ID: A1BPSW0003_20211223

Date Collected: 12/23/21 09:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80269-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	544532	01/03/22 13:33	LTC	TAL SL
Dissolved	Prep	Evaporation			200.01 mL	1.0 g	544893	01/05/22 10:28	KG	TAL SL
Dissolved	Analysis	900.0		1			545199	01/07/22 07:54	MLK	TAL SL
	Instrument ID: GFPCBLUE									

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80269-3
Project/Site: Boeing SSFL ISRA and BMP

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
Filtration	Sample Filtration	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80269-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80269-1	EPSW001IE01_20211223	Water	12/23/21 09:50	12/28/21 18:00
570-80269-2	EPSW002IE01_20211223	Water	12/23/21 10:15	12/28/21 18:00
570-80269-3	EPSW002IE02_20211223	Water	12/23/21 10:00	12/28/21 18:00
570-80269-4	A1BPSW0001_20211223	Water	12/23/21 09:30	12/28/21 18:00
570-80269-5	A1BPSW0002_20211223	Water	12/23/21 09:35	12/28/21 18:00
570-80269-6	A1BPSW0003_20211223	Water	12/23/21 09:40	12/28/21 18:00

80269

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

eurofins Calscience

Eurofins Calscience, Inc.

Regulatory Program. ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▫ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS / MSD (Y/N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2340D)	Gross Alpha (Total Dissolved) (E900.0)	Gross Alpha (Total Recoverable) (E900.0)	SO4 (E300)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1: Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1: Hg (Total Recoverable)	Sample Specific Notes:
–	–	–	–	–	–			2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
A1BPSW001IE01_20211223	12/23/21	0950	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW002IE01_20211223	12/23/21	1015	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW002IE02_20211223	12/23/21	1000	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0001_20211223	12/23/21	0930	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0002_20211223	12/23/21	0935	G	WM	8	Y	N	x	x	x	x	x	x	x	
A1BPSW0003_20211223	12/23/21	0940	G	WM	8	Y	N	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	1	1	4	4	

570-80269 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: ▫ Yes ▫ No	Custody Seal No.		Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____	
Relinquished by:	Company: H&A	Date/Time: 12/28/21 1445	Received by:	Date/Time: ECI 12/28/21 1445
Relinquished by:	Company: ECI	Date/Time: 12/28/21 1800	Received by:	Date/Time: 12/28/21 1800
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

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1/25/2022

2.4|3.3, 2.0|2.9 SCS

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148130 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80269-3
Address: 13715 Rider Trail North ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation (MOD) Gross Alpha/Beta	900 0/Filtration_Rad Gross Alpha Only- Dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09 50 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10 15 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10 00 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER, use prep date from preservation
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09 30 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09 35 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09 40 Pacific		Water			X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/29/21 1452				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148141 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80269-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09:50 Pacific		Water			X	2	See QAS Boeing_w/u to zero
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10:15 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09:30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09:35 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09:40 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/29/21 1609				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/25/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148135 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80269-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/6/2022			
City: Tustin	TAT Requested (days)			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 (MOD) Al, As, Ba, Be, B, Cr, Co, Fe, Mn,	200.8/200.2 (MOD) Sb, Cd, Cu, Pb, Se, Ag, Th, Zn	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	200.7/FILTRATION (MOD) Diss Al,As,Ba,Be,B,Cr,Co,Fe,Mn,Ni,	200.8/FILTRATION (MOD) Diss Sb, Cd, Cu, Pb, Se, Ag, Th, Z	2540D/ Solids, Total Suspended (TSS)	Total Number of containers	Special Instructions/Note.
			Preservation Code:												
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09:50 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10 15 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10 00 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09:30 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09:35 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09:40 Pacific		Water			X	X	X	X	X	X	X	3	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements. 13/13 IR-89

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	[signature]	12/29/21 1552	EC			
	Relinquished by:	Date/Time:	Company	Received by: Olga Oinelos	Date/Time: 12/29/21 1552	Company ECT
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148130.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80269-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation (MOD) Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha Only- Dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001IE01_20211223 (570-80269-1)	12/23/21	09:50 Pacific		Water			X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation
EPSW002IE01_20211223 (570-80269-2)	12/23/21	10:15 Pacific		Water			X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation
EPSW002IE02_20211223 (570-80269-3)	12/23/21	10:00 Pacific		Water			X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation
A1BPSW0001_20211223 (570-80269-4)	12/23/21	09:30 Pacific		Water			X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation
A1BPSW0002_20211223 (570-80269-5)	12/23/21	09:35 Pacific		Water			X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation
A1BPSW0003_20211223 (570-80269-6)	12/23/21	09:40 Pacific		Water			X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature] PE	12/29/21 1452		FE		
2	PE			[signature]	12/30/21 11:15	ETA SDL
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80269-3

Login Number: 80269
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80269-3

Login Number: 80269
List Number: 3
Creator: Korrinhizer, Micha L

List Source: Eurofins St. Louis
List Creation: 12/30/21 02:57 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80270-1
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

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Authorized for release by:
1/17/2022 4:49:03 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Qualifiers

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80270-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80270-1

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.1º C and 3.3º C.

Receipt Exceptions

One container for the following sample: ILBMP0004_20211224 (#7E) was received broken inside of the cooler. ILBMP0004_20211224 (570-80270-7).

Metals
Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: A1BMP0002_20211224 (570-80270-1), A1BMP0003_20211224 (570-80270-2), A1BMP0009_20211224 (570-80270-3), B1BMP0010_20211224 (570-80270-4), B1BMP0011_20211224 (570-80270-5), ILBMP0002_20211224 (570-80270-6), ILBMP0004_20211224 (570-80270-7), ILBMP0005_20211224 (570-80270-8), ILBMP0008_20211224 (570-80270-9), ILBMP0009_20211224 (570-80270-10), ILBMP0010_20211224 (570-80270-11) and LXBMP0012_20211224 (570-80270-12). These samples were filtered and preserved.past 24 hrs from receipt in the laboratory due to samples received with insufficient
time to filter with the HT.

1/03/2022 08:50 HOURS
2.5 mL HNO3
Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method D4464: Insufficient particulates in sample for analysis.

A1BMP0002_20211224 (570-80270-1), A1BMP0003_20211224 (570-80270-2), A1BMP0009_20211224 (570-80270-3), B1BMP0011_20211224 (570-80270-5) and ILBMP0002_20211224 (570-80270-6)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Client Sample ID: A1BMP0002_20211224 — Lab Sample ID: 570-80270-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.41	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	8.3		2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	7.6		2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.12	J,DX	0.20	0.10	ug/L	1		245.1	Total/NA
Mercury	0.12	J,DX	0.20	0.10	ug/L	1		245.1	Dissolved
Total Suspended Solids	4.0		1.0	0.50	mg/L	1		SM 2540D	Total/NA

Client Sample ID: A1BMP0003_20211224 — Lab Sample ID: 570-80270-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	5.0		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	0.66	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	4.2		2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.11	J,DX	0.20	0.10	ug/L	1		245.1	Total/NA
Mercury	0.11	J,DX	0.20	0.10	ug/L	1		245.1	Dissolved
Total Suspended Solids	2.1		1.0	0.50	mg/L	1		SM 2540D	Total/NA

Client Sample ID: A1BMP0009_20211224 — Lab Sample ID: 570-80270-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	6.3		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	2.0		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.8		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	18		1.1	0.53	mg/L	1		SM 2540D	Total/NA

Client Sample ID: B1BMP0010_20211224 — Lab Sample ID: 570-80270-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.6		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	1.3		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	1.9	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	12		1.0	0.50	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	0.58		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	8.12		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	30.96		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	31.54		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	60.34		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: B1BMP0011_20211224 — Lab Sample ID: 570-80270-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.1		2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	1.6	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	2.8		1.0	0.50	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Client Sample ID: ILBMP0002_20211224 — Lab Sample ID: 570-80270-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	4.2		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	1.8		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	4.1		2.0	0.50	ug/L	1		200.8	Dissolved
Lead	0.53	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.15	J,DX	0.20	0.10	ug/L	1		245.1	Total/NA
Mercury	0.14	J,DX	0.20	0.10	ug/L	1		245.1	Dissolved
Total Suspended Solids	96		2.0	1.0	mg/L	1		SM 2540D	Total/NA

Client Sample ID: ILBMP0004_20211224 — Lab Sample ID: 570-80270-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.26	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	5.8		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	2.6		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.1		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	85		2.0	1.0	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	13.40		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	75.16		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	88.56		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	11.44		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0005_20211224 — Lab Sample ID: 570-80270-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	6.7		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	0.74	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	6.0		2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.10	J,DX	0.20	0.10	ug/L	1		245.1	Total/NA
Mercury	0.10	J,DX	0.20	0.10	ug/L	1		245.1	Dissolved
Total Suspended Solids	7.1		1.1	0.53	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	17.12		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	82.88		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	100.00		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0008_20211224 — Lab Sample ID: 570-80270-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.40	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Copper	9.6		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	5.3		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.7		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	44		2.0	1.0	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	12.10		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	0.40		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	62.48		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: ILBMP0008_20211224 (Continued) — Lab Sample ID: 570-80270-9

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Silt and Clay (0 to 0.0626mm)	74.58		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	25.02		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0009_20211224 — Lab Sample ID: 570-80270-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.9		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	1.5		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	1.1	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	150		2.0	1.0	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	19.81		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	80.00		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	99.82		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	0.18		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0010_20211224 — Lab Sample ID: 570-80270-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.8		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	1.6		1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	1.1	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	22		1.1	0.53	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	11.24		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	63.66		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	74.90		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	25.10		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: LXBMP0012_20211224 — Lab Sample ID: 570-80270-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	1.5	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	0.58	J,DX	1.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	1.4	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.14	J,DX	0.20	0.10	ug/L	1		245.1	Total/NA
Mercury	0.12	J,DX	0.20	0.10	ug/L	1		245.1	Dissolved
Total Suspended Solids	24		1.1	0.53	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	11.33		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	88.41		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	99.73		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	0.27		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: A1BMP0002_20211224
Date Collected: 12/24/21 07:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.41**	**J,DX**	1.0	0.25	ug/L		01/15/22 09:45	01/17/22 11:59	1
Copper	**8.3**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 11:59	1
Lead	ND		1.0	0.50	ug/L		01/15/22 09:45	01/17/22 11:59	1

Client Sample ID: A1BMP0003_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:05	1
Copper	**5.0**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:05	1
Lead	**0.66**	**J,DX**	1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:05	1

Client Sample ID: A1BMP0009_20211224
Date Collected: 12/24/21 06:45
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:19	1
Copper	**6.3**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:19	1
Lead	**2.0**		1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:19	1

Client Sample ID: B1BMP0010_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:21	1
Copper	**3.6**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:21	1
Lead	**1.3**		1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:21	1

Client Sample ID: B1BMP0011_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:23	1
Copper	**2.1**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:23	1
Lead	ND		1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:23	1

Client Sample ID: ILBMP0002_20211224
Date Collected: 12/24/21 07:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:26	1
Copper	**4.2**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:26	1
Lead	**1.8**		1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:26	1

Client Sample ID: ILBMP0004_20211224
Date Collected: 12/24/21 06:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.26**	**J,DX**	1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:28	1
Copper	**5.8**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:28	1
Lead	**2.6**		1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:28	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: ILBMP0005_20211224
Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:30	1
Copper	**6.7**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:30	1
Lead	**0.74**	**J,DX**	1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:30	1

Client Sample ID: ILBMP0008_20211224
Date Collected: 12/24/21 06:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.40**	**J,DX**	1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:33	1
Copper	**9.6**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:33	1
Lead	**5.3**		1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:33	1

Client Sample ID: ILBMP0009_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:35	1
Copper	**2.9**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:35	1
Lead	**1.5**		1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:35	1

Client Sample ID: ILBMP0010_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:38	1
Copper	**2.8**		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:38	1
Lead	**1.6**		1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:38	1

Client Sample ID: LXBMP0012_20211224
Date Collected: 12/24/21 08:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 09:45	01/17/22 12:40	1
Copper	**1.5**	**J,DX**	2.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:40	1
Lead	**0.58**	**J,DX**	1.0	0.50	ug/L		01/15/22 09:45	01/17/22 12:40	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: A1BMP0002_20211224
Date Collected: 12/24/21 07:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:08	1
Copper	**7.6**		2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:08	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:08	1

Client Sample ID: A1BMP0003_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:14	1
Copper	**4.2**		2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:14	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:14	1

Client Sample ID: A1BMP0009_20211224
Date Collected: 12/24/21 06:45
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:16	1
Copper	**2.8**		2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:16	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:16	1

Client Sample ID: B1BMP0010_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:18	1
Copper	**1.9**	**J,DX**	2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:18	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:18	1

Client Sample ID: B1BMP0011_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:26	1
Copper	**1.6**	**J,DX**	2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:26	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:26	1

Client Sample ID: ILBMP0002_20211224
Date Collected: 12/24/21 07:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:29	1
Copper	**4.1**		2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:29	1
Lead	**0.53**	**J,DX**	1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:29	1

Client Sample ID: ILBMP0004_20211224
Date Collected: 12/24/21 06:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:31	1
Copper	**2.1**		2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:31	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:31	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: ILBMP0005_20211224
Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:33	1
Copper	**6.0**		2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:33	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:33	1

Client Sample ID: ILBMP0008_20211224
Date Collected: 12/24/21 06:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:35	1
Copper	**2.7**		2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:35	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:35	1

Client Sample ID: ILBMP0009_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:37	1
Copper	**1.1**	**J,DX**	2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:37	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:37	1

Client Sample ID: ILBMP0010_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:39	1
Copper	**1.1**	**J,DX**	2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:39	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:39	1

Client Sample ID: LXBMP0012_20211224
Date Collected: 12/24/21 08:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:41	1
Copper	**1.4**	**J,DX**	2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:41	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:41	1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: A1BMP0002_20211224
Date Collected: 12/24/21 07:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.12**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:03	1

Client Sample ID: A1BMP0003_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:06	1

Client Sample ID: A1BMP0009_20211224
Date Collected: 12/24/21 06:45
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:08	1

Client Sample ID: B1BMP0010_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:10	1

Client Sample ID: B1BMP0011_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:12	1

Client Sample ID: ILBMP0002_20211224
Date Collected: 12/24/21 07:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.15**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:14	1

Client Sample ID: ILBMP0004_20211224
Date Collected: 12/24/21 06:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:16	1

Client Sample ID: ILBMP0005_20211224
Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.10**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:18	1

Client Sample ID: ILBMP0008_20211224
Date Collected: 12/24/21 06:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:21	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: ILBMP0009_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:23	1

Client Sample ID: ILBMP0010_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:30	1

Client Sample ID: LXBMP0012_20211224
Date Collected: 12/24/21 08:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.14**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:30	01/11/22 13:32	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: A1BMP0002_20211224
Date Collected: 12/24/21 07:50
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.12**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:46	1

Client Sample ID: A1BMP0003_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:48	1

Client Sample ID: A1BMP0009_20211224
Date Collected: 12/24/21 06:45
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:50	1

Client Sample ID: B1BMP0010_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:52	1

Client Sample ID: B1BMP0011_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:54	1

Client Sample ID: ILBMP0002_20211224
Date Collected: 12/24/21 07:40
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.14**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:56	1

Client Sample ID: ILBMP0004_20211224
Date Collected: 12/24/21 06:30
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:58	1

Client Sample ID: ILBMP0005_20211224
Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.10**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:45	01/11/22 12:01	1

Client Sample ID: ILBMP0008_20211224
Date Collected: 12/24/21 06:25
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:21	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: ILBMP0009_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 12:07	1

Client Sample ID: ILBMP0010_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 12:09	1

Client Sample ID: LXBMP0012_20211224
Date Collected: 12/24/21 08:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.12**	**J,DX**	0.20	0.10	ug/L		01/10/22 13:45	01/11/22 12:12	1

General Chemistry

Client Sample ID: A1BMP0002_20211224
Date Collected: 12/24/21 07:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0		1.0	0.50	mg/L			12/30/21 12:19	1

Client Sample ID: A1BMP0003_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.1		1.0	0.50	mg/L			12/30/21 12:19	1

Client Sample ID: A1BMP0009_20211224
Date Collected: 12/24/21 06:45
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	18		1.1	0.53	mg/L			12/30/21 12:19	1

Client Sample ID: B1BMP0010_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	12		1.0	0.50	mg/L			12/30/21 12:19	1

Client Sample ID: B1BMP0011_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.8		1.0	0.50	mg/L			12/30/21 12:19	1

Client Sample ID: ILBMP0002_20211224
Date Collected: 12/24/21 07:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	96		2.0	1.0	mg/L			12/30/21 12:19	1

Client Sample ID: ILBMP0004_20211224
Date Collected: 12/24/21 06:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	85		2.0	1.0	mg/L			12/30/21 12:19	1

Client Sample ID: ILBMP0005_20211224
Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	7.1		1.1	0.53	mg/L			12/30/21 12:19	1

Client Sample ID: ILBMP0008_20211224
Date Collected: 12/24/21 06:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	44		2.0	1.0	mg/L			12/30/21 12:19	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

General Chemistry

Client Sample ID: ILBMP0009_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	150		2.0	1.0	mg/L			12/30/21 12:19	1

Client Sample ID: ILBMP0010_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	22		1.1	0.53	mg/L			12/30/21 12:19	1

Client Sample ID: LXBMP0012_20211224
Date Collected: 12/24/21 08:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	24		1.1	0.53	mg/L			12/30/21 12:19	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: A1BMP0002_20211224
Date Collected: 12/24/21 07:50
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			01/07/22 14:11	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 14:11	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 14:11	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 14:11	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 14:11	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/07/22 14:11	1
Total Silt and Clay (0 to 0.0626mm)	ND		0.01	0.01	%			01/07/22 14:11	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 14:11	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/07/22 14:11	1

Client Sample ID: A1BMP0003_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-2
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			01/07/22 14:21	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 14:21	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 14:21	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 14:21	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 14:21	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/07/22 14:21	1
Total Silt and Clay (0 to 0.0626mm)	ND		0.01	0.01	%			01/07/22 14:21	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 14:21	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/07/22 14:21	1

Client Sample ID: A1BMP0009_20211224
Date Collected: 12/24/21 06:45
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-3
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			01/07/22 14:30	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 14:30	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 14:30	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 14:30	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 14:30	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/07/22 14:30	1
Total Silt and Clay (0 to 0.0626mm)	ND		0.01	0.01	%			01/07/22 14:30	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 14:30	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/07/22 14:30	1

Client Sample ID: B1BMP0010_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00
Lab Sample ID: 570-80270-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**0.58**		0.01	0.01	%			01/07/22 14:44	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 14:44	1
Fine Sand (0.125 to 0.25mm)	**8.12**		0.01	0.01	%			01/07/22 14:44	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 14:44	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 14:44	1
Silt (0.00391 to 0.0625mm)	**30.96**		0.01	0.01	%			01/07/22 14:44	1
Total Silt and Clay (0 to 0.0626mm)	**31.54**		0.01	0.01	%			01/07/22 14:44	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 14:44	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Client Sample ID: B1BMP0010_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Very Fine Sand (0.0625 to 0.125 mm)	**60.34**		0.01	0.01	%			01/07/22 14:44	1

Client Sample ID: B1BMP0011_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-5
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			01/07/22 15:04	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 15:04	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 15:04	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 15:04	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 15:04	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/07/22 15:04	1
Total Silt and Clay (0 to 0.0626mm)	ND		0.01	0.01	%			01/07/22 15:04	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 15:04	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/07/22 15:04	1

Client Sample ID: ILBMP0002_20211224
Date Collected: 12/24/21 07:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-6
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			01/07/22 15:14	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 15:14	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 15:14	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 15:14	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 15:14	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/07/22 15:14	1
Total Silt and Clay (0 to 0.0626mm)	ND		0.01	0.01	%			01/07/22 15:14	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 15:14	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/07/22 15:14	1

Client Sample ID: ILBMP0004_20211224
Date Collected: 12/24/21 06:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-7
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**13.40**		0.01	0.01	%			01/07/22 15:18	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 15:18	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 15:18	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 15:18	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 15:18	1
Silt (0.00391 to 0.0625mm)	**75.16**		0.01	0.01	%			01/07/22 15:18	1
Total Silt and Clay (0 to 0.0626mm)	**88.56**		0.01	0.01	%			01/07/22 15:18	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 15:18	1
Very Fine Sand (0.0625 to 0.125 mm)	**11.44**		0.01	0.01	%			01/07/22 15:18	1

Client Sample ID: ILBMP0005_20211224
Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-8
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**17.12**		0.01	0.01	%			01/07/22 15:25	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Client Sample ID: ILBMP0005_20211224
Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-8
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 15:25	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 15:25	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 15:25	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 15:25	1
Silt (0.00391 to 0.0625mm)	**82.88**		0.01	0.01	%			01/07/22 15:25	1
Total Silt and Clay (0 to 0.0626mm)	**100.00**		0.01	0.01	%			01/07/22 15:25	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 15:25	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/07/22 15:25	1

Client Sample ID: ILBMP0008_20211224
Date Collected: 12/24/21 06:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-9
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**12.10**		0.01	0.01	%			01/07/22 15:39	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 15:39	1
Fine Sand (0.125 to 0.25mm)	**0.40**		0.01	0.01	%			01/07/22 15:39	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 15:39	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 15:39	1
Silt (0.00391 to 0.0625mm)	**62.48**		0.01	0.01	%			01/07/22 15:39	1
Total Silt and Clay (0 to 0.0626mm)	**74.58**		0.01	0.01	%			01/07/22 15:39	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 15:39	1
Very Fine Sand (0.0625 to 0.125 mm)	**25.02**		0.01	0.01	%			01/07/22 15:39	1

Client Sample ID: ILBMP0009_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-10
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**19.81**		0.01	0.01	%			01/07/22 15:47	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 15:47	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 15:47	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 15:47	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 15:47	1
Silt (0.00391 to 0.0625mm)	**80.00**		0.01	0.01	%			01/07/22 15:47	1
Total Silt and Clay (0 to 0.0626mm)	**99.82**		0.01	0.01	%			01/07/22 15:47	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 15:47	1
Very Fine Sand (0.0625 to 0.125 mm)	**0.18**		0.01	0.01	%			01/07/22 15:47	1

Client Sample ID: ILBMP0010_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**11.24**		0.01	0.01	%			01/07/22 16:10	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 16:10	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 16:10	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 16:10	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 16:10	1
Silt (0.00391 to 0.0625mm)	**63.66**		0.01	0.01	%			01/07/22 16:10	1
Total Silt and Clay (0 to 0.0626mm)	**74.90**		0.01	0.01	%			01/07/22 16:10	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 16:10	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Client Sample ID: ILBMP0010_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11
Matrix: Water

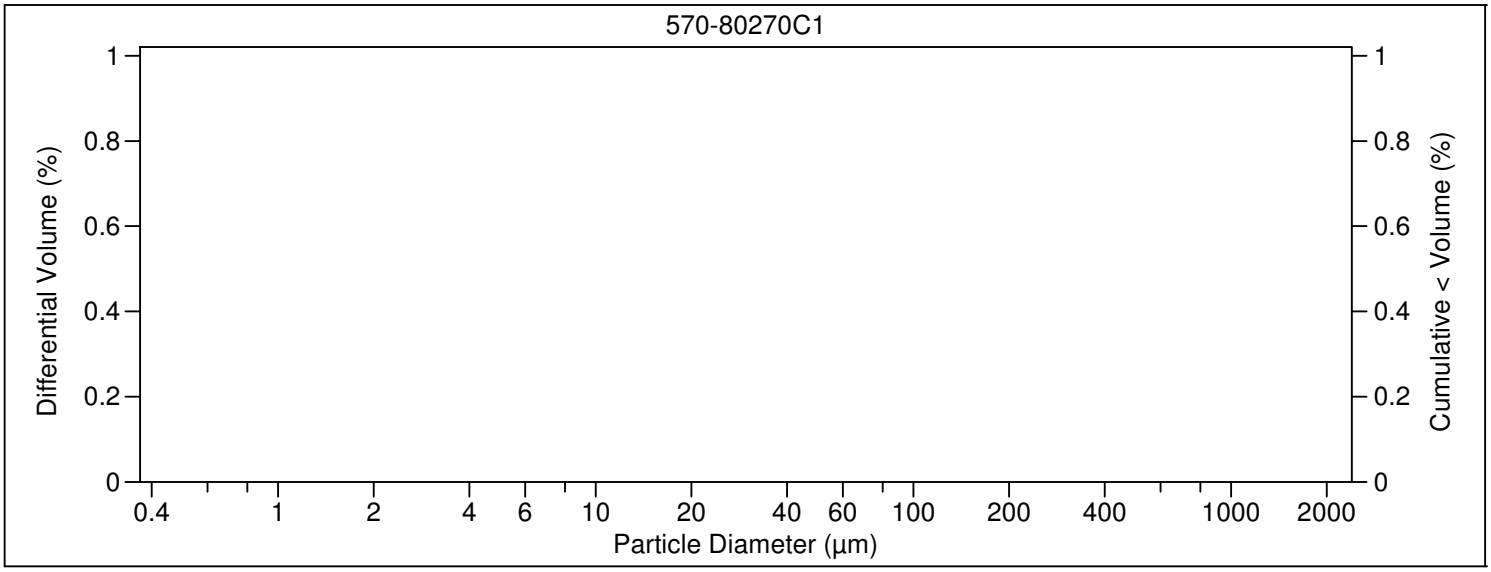
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Very Fine Sand (0.0625 to 0.125 mm)	**25.10**		0.01	0.01	%			01/07/22 16:10	1

Client Sample ID: LXBMP0012_20211224
Date Collected: 12/24/21 08:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-12
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**11.33**		0.01	0.01	%			01/07/22 16:16	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 16:16	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 16:16	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 16:16	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 16:16	1
Silt (0.00391 to 0.0625mm)	**88.41**		0.01	0.01	%			01/07/22 16:16	1
Total Silt and Clay (0 to 0.0626mm)	**99.73**		0.01	0.01	%			01/07/22 16:16	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 16:16	1
Very Fine Sand (0.0625 to 0.125 mm)	**0.27**		0.01	0.01	%			01/07/22 16:16	1

File name:	C:\LS13320\570-80270C1_ 7 Jan 2022_14.11.46.$ls 570-80270C1_ 7 Jan 2022_14.11.46.$ls		
File ID:	570-80270C1		
Sample ID:	570-80270C1		
Operator:	1106		
Run number:	2		
Comment 1:	ASTM D4464M , LPSA 1		
Optical model:	Fraunhofer.rf780d		
Residual:	4.73%		
LS 13 320	Aqueous Liquid Module		
Start time:	14:10 7 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	1%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00



Volume Statistics (Arithmetic) 570-80270C1_ 7 Jan 2022_14.11.46.$ls

Calculations from 0.375 µm to 2000 µm

Volume:	0%		
Mean:	0.000 µm	S.D.:	0 µm
Median:	0.000 µm	Variance:	0 μm^2
Mean/Median ratio:	0.000	Skewness:	0
Mode:	0.000 µm	Kurtosis:	0

d_{10}: 0.000 µm d_{50}: 0.000 µm d_{90}: 0.000 µm

Folk and Ward Statistics (Phi)

Mean:	0.00	Median:	0.00	Deviation:	0.00
Skewness:	0.00	Kurtosis:	0.00		

<5%	<16%	<25%	<40%	<50%	<75%	<84%	<95%
0.000 µm	0.000 µm	0.000 µm	0.000 µm	0.000 µm	0.000 µm	0.000 µm	0.000 µm

Particle Diameter µm	570-80270C1 _ 7 Jan 2022_14.11 .46.$ls Volume %
0.04	0
0.4	0
1.95	0
3.91	0
62.5	0
125	0
250	0
500	0
1000	0
2000	

570-80270C1_ 7 Jan 2022_14.11.46.$ls

Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %
0.375	0	24.95	0	1660	0
0.412	0	27.39	0	1822	0
0.452	0	30.07	0	2000	
0.496	0	33.01	0		
0.545	0	36.24	0		
0.598	0	39.78	0		
0.657	0	43.67	0		
0.721	0	47.94	0		
0.791	0	52.63	0		
0.869	0	57.77	0		
0.954	0	63.42	0		
1.047	0	69.62	0		
1.149	0	76.43	0		
1.261	0	83.90	0		
1.385	0	92.10	0		
1.520	0	101.1	0		
1.669	0	111.0	0		
1.832	0	121.8	0		
2.011	0	133.7	0		
2.208	0	146.8	0		
2.423	0	161.2	0		
2.660	0	176.9	0		
2.920	0	194.2	0		
3.206	0	213.2	0		
3.519	0	234.1	0		
3.863	0	256.9	0		
4.241	0	282.1	0		
4.656	0	309.6	0		
5.111	0	339.9	0		
5.611	0	373.1	0		
6.159	0	409.6	0		
6.761	0	449.7	0		
7.422	0	493.6	0		
8.148	0	541.9	0		
8.944	0	594.9	0		
9.819	0	653.0	0		
10.78	0	716.9	0		
11.83	0	786.9	0		
12.99	0	863.9	0		
14.26	0	948.3	0		
15.65	0	1041	0		
17.18	0	1143	0		
18.86	0	1255	0		
20.71	0	1377	0		
22.73	0	1512	0		

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

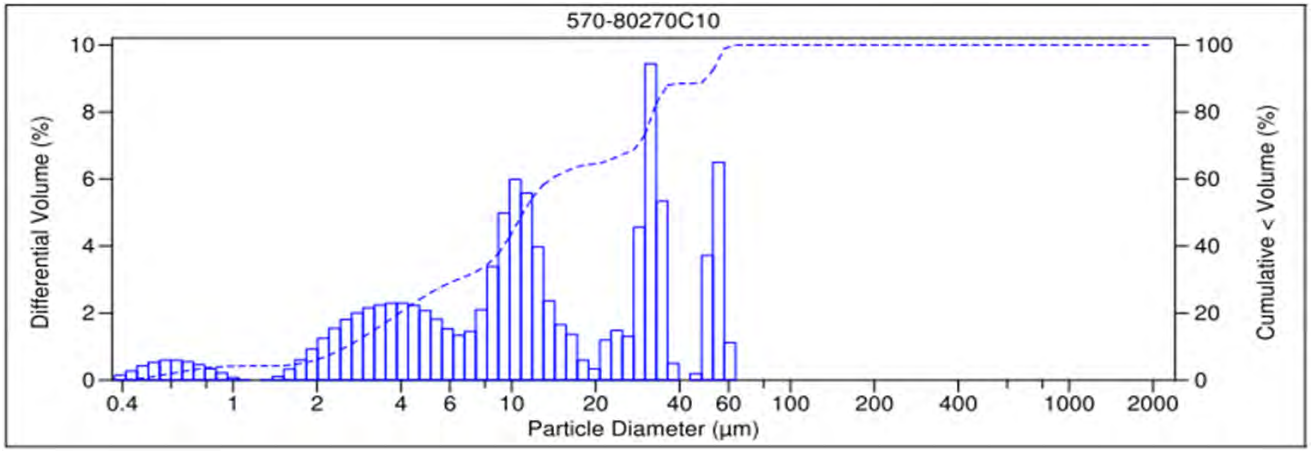
Haley & Aldrich, Inc.

Date Sampled:	12/24/21
Date Received:	12/28/21
Work Order No:	570-80270
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0009_20211224		Silt	0.018

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	0.18	80.00	19.81	99.82



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

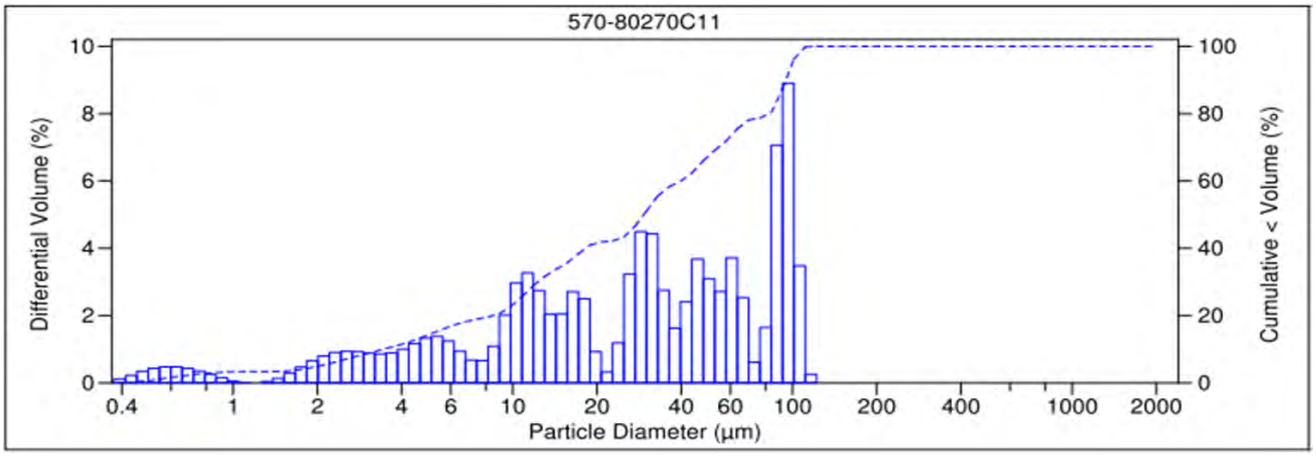
Haley & Aldrich, Inc.

Date Sampled:	12/24/21
Date Received:	12/28/21
Work Order No:	570-80270
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0010_20211224		Silt	0.039

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	25.10	63.66	11.24	74.90



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

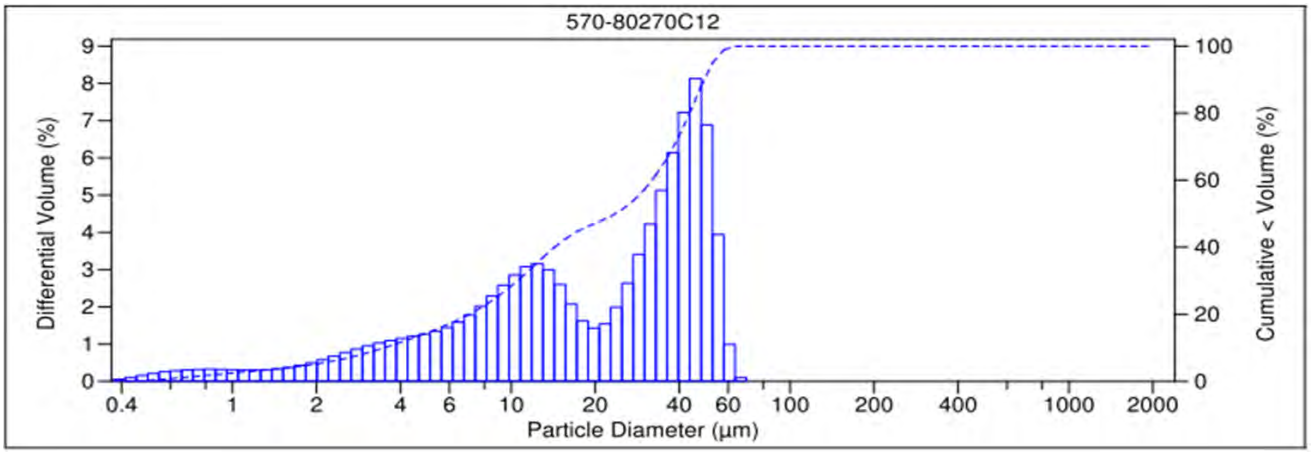
Haley & Aldrich, Inc.

Date Sampled:	12/24/21
Date Received:	12/28/21
Work Order No:	570-80270
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
LXBMP0012_20211224		Silt	0.025

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	0.27	88.41	11.33	99.73



V 3.0

File name:	C:\LS13320\570-80270C2_ 7 Jan 2022_14.21.11.$ls 570-80270C2_ 7 Jan 2022_14.21.11.$ls		
File ID:	570-80270C2		
Sample ID:	570-80270C2		
Operator:	1106		
Run number:	3		
Comment 1:	ASTM D4464M , LPSA 1		
LS 13 320	Aqueous Liquid Module		
Start time:	14:20 7 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	0%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00

File name:	C:\LS13320\570-80270C3_ 7 Jan 2022_14.30.39.$ls 570-80270C3_ 7 Jan 2022_14.30.39.$ls		
File ID:	570-80270C3		
Sample ID:	570-80270C3		
Operator:	1106		
Run number:	4		
Comment 1:	ASTM D4464M , LPSA 1		
LS 13 320	Aqueous Liquid Module		
Start time:	14:29 7 Jan 2022	Run length:	61 seconds
Pump speed:	49		
Obscuration:	-0%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

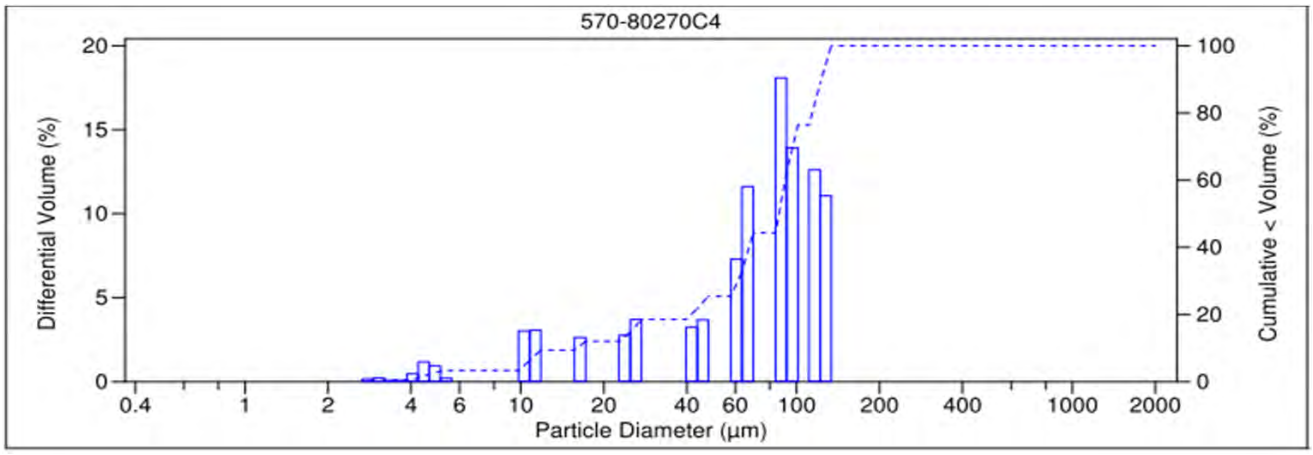
Haley & Aldrich, Inc.

Date Sampled:	12/24/21
Date Received:	12/28/21
Work Order No:	570-80270
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
B1BMP0010_20211224		Very Fine Sand	0.076

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	8.12	60.34	30.96	0.58	31.54



V 3.0

File name:	C:\LS13320\570-80270C5_ 7 Jan 2022_15.04.53.$ls 570-80270C5_ 7 Jan 2022_15.04.53.$ls		
File ID:	570-80270C5		
Sample ID:	570-80270C5		
Operator:	1106		
Run number:	6		
Comment 1:	ASTM D4464M , LPSA 1		
LS 13 320	Aqueous Liquid Module		
Start time:	15:03 7 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	2%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00

File name:	C:\LS13320\570-80270C6_ 7 Jan 2022_15.14.37.$ls 570-80270C6_ 7 Jan 2022_15.14.37.$ls		
File ID:	570-80270C6		
Sample ID:	570-80270C6		
Operator:	1106		
Run number:	7		
Comment 1:	ASTM D4464M , LPSA 1		
LS 13 320	Aqueous Liquid Module		
Start time:	15:13 7 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	3%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

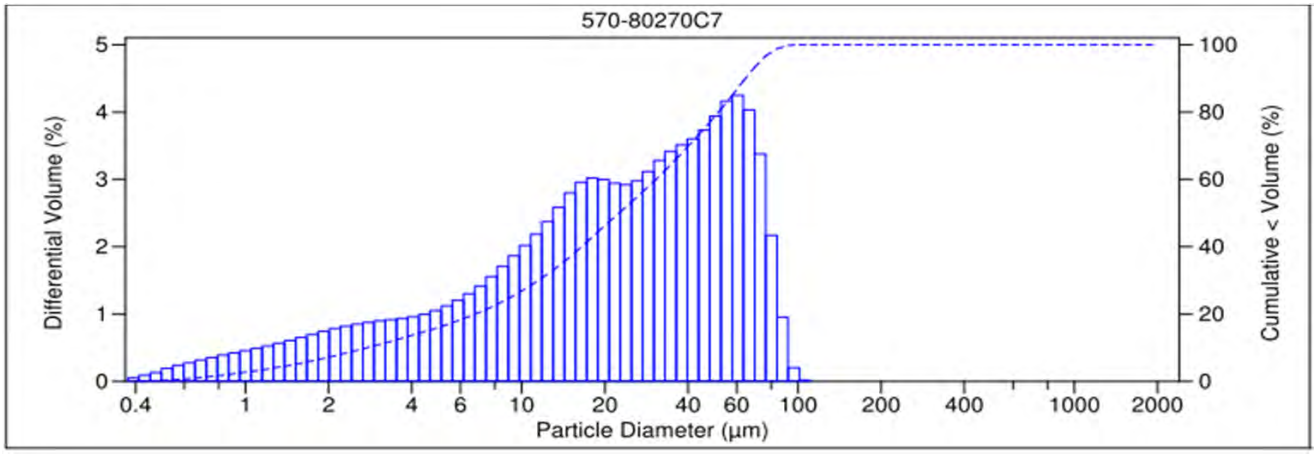
Haley & Aldrich, Inc.

Date Sampled:	12/24/21
Date Received:	12/28/21
Work Order No:	570-80270
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0004_20211224		Silt	0.029

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	11.44	75.16	13.40	88.56



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

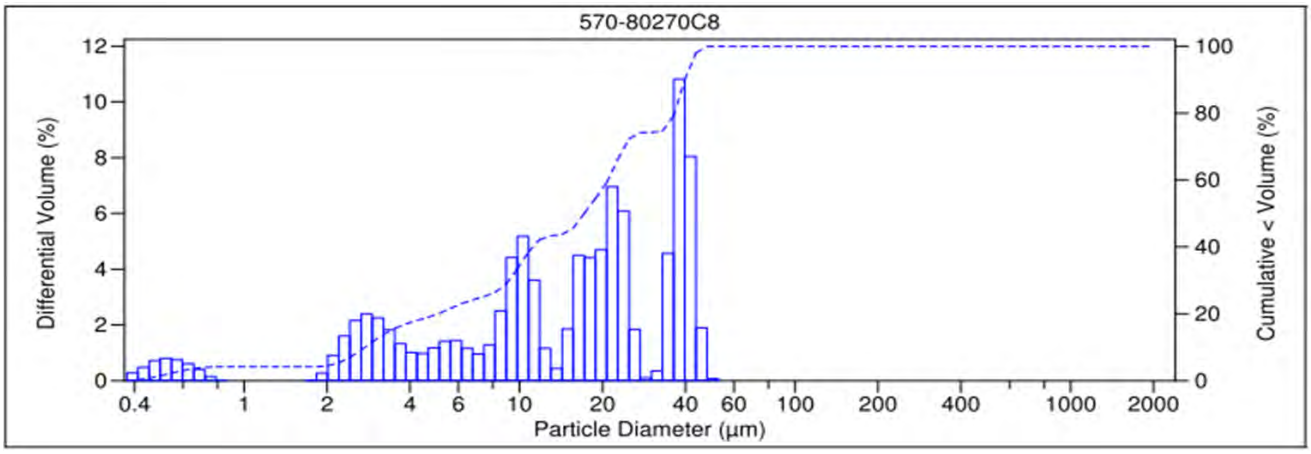
Haley & Aldrich, Inc.

Date Sampled:	12/24/21
Date Received:	12/28/21
Work Order No:	570-80270
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0005_20211224		Silt	0.019

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	0.00	82.88	17.12	100.00



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

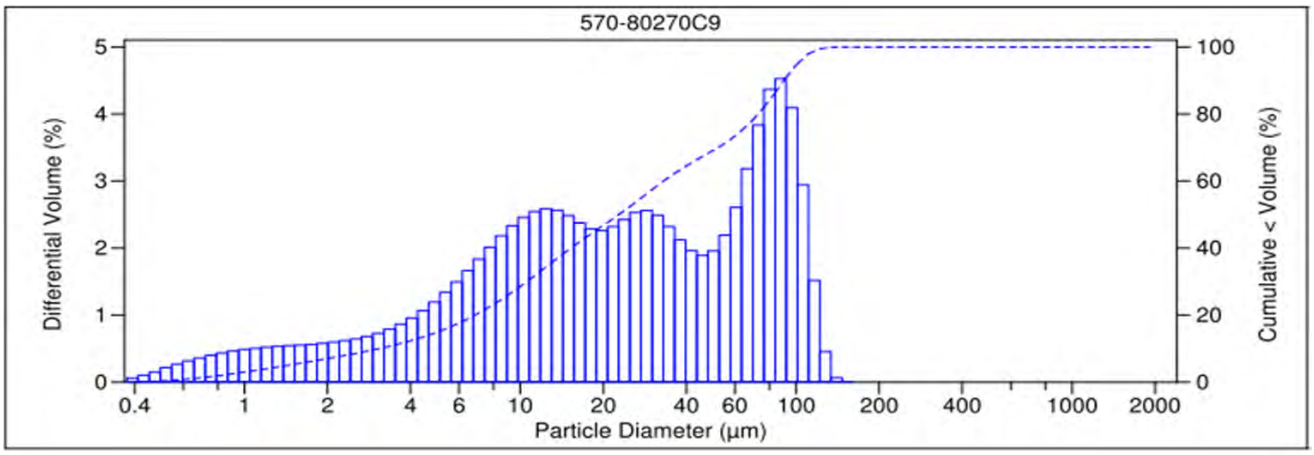
Haley & Aldrich, Inc.

Date Sampled:	12/24/21
Date Received:	12/28/21
Work Order No:	570-80270
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0008_20211224		Silt	0.036

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.40	25.02	62.48	12.10	74.58



V 3.0

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664535/1-A
Matrix: Water
Analysis Batch: 664611

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664535

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/15/22 09:45	01/17/22 11:54	1
Copper	ND		2.0	0.50	ug/L		01/15/22 09:45	01/17/22 11:54	1
Lead	ND		1.0	0.50	ug/L		01/15/22 09:45	01/17/22 11:54	1

Lab Sample ID: LCS 440-664535/2-A
Matrix: Water
Analysis Batch: 664611

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664535

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	77.7		ug/L		97	85 - 115
Copper	80.0	77.1		ug/L		96	85 - 115
Lead	80.0	80.0		ug/L		100	85 - 115

Lab Sample ID: 570-80270-1 MS
Matrix: Water
Analysis Batch: 664611

Client Sample ID: A1BMP0002_20211224
Prep Type: Total Recoverable
Prep Batch: 664535

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.41	J,DX	80.0	80.2		ug/L		100	70 - 130
Copper	8.3		80.0	88.2		ug/L		100	70 - 130
Lead	ND		80.0	82.5		ug/L		103	70 - 130

Lab Sample ID: 570-80270-1 MSD
Matrix: Water
Analysis Batch: 664611

Client Sample ID: A1BMP0002_20211224
Prep Type: Total Recoverable
Prep Batch: 664535

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	0.41	J,DX	80.0	77.4		ug/L		96	70 - 130	4	20
Copper	8.3		80.0	85.9		ug/L		97	70 - 130	3	20
Lead	ND		80.0	79.0		ug/L		99	70 - 130	4	20

Lab Sample ID: 570-80270-2 MS
Matrix: Water
Analysis Batch: 664611

Client Sample ID: A1BMP0003_20211224
Prep Type: Total Recoverable
Prep Batch: 664535

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	81.9		ug/L		102	70 - 130
Copper	5.0		80.0	87.9		ug/L		104	70 - 130
Lead	0.66	J,DX	80.0	85.5		ug/L		106	70 - 130

Lab Sample ID: 570-80270-2 MSD
Matrix: Water
Analysis Batch: 664611

Client Sample ID: A1BMP0003_20211224
Prep Type: Total Recoverable
Prep Batch: 664535

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	79.1		ug/L		99	70 - 130	3	20
Copper	5.0		80.0	83.8		ug/L		99	70 - 130	5	20
Lead	0.66	J,DX	80.0	80.8		ug/L		100	70 - 130	6	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-663654/1-B
Matrix: Water
Analysis Batch: 663778

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663751

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		01/04/22 10:13	01/04/22 14:24	1
Copper	ND		2.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:24	1
Lead	ND		1.0	0.50	ug/L		01/04/22 10:13	01/04/22 14:24	1

Lab Sample ID: LCS 440-663654/2-B
Matrix: Water
Analysis Batch: 663778

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663751

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	79.0		ug/L		99	85 - 115
Copper	80.0	79.7		ug/L		100	85 - 115
Lead	80.0	80.5		ug/L		101	85 - 115

Lab Sample ID: 570-80270-1 MS
Matrix: Water
Analysis Batch: 663778

Client Sample ID: A1BMP0002_20211224
Prep Type: Dissolved
Prep Batch: 663751

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	77.9		ug/L		97	70 - 130
Copper	7.6		80.0	87.0		ug/L		99	70 - 130
Lead	ND		80.0	78.8		ug/L		98	70 - 130

Lab Sample ID: 570-80270-1 MSD
Matrix: Water
Analysis Batch: 663778

Client Sample ID: A1BMP0002_20211224
Prep Type: Dissolved
Prep Batch: 663751

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	77.7		ug/L		97	70 - 130	0	20
Copper	7.6		80.0	86.9		ug/L		99	70 - 130	0	20
Lead	ND		80.0	78.5		ug/L		98	70 - 130	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-664088/1-A
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 664088

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:30	01/11/22 12:37	1

Lab Sample ID: LCS 440-664088/2-A
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 664088

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	5.65		ug/L		94	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-80269-C-1-D MS
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 664088

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.22		6.00	6.21		ug/L		100	75 - 125

Lab Sample ID: 570-80269-C-1-E MSD
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 664088

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.22		6.00	5.63		ug/L		90	75 - 125	10	20

Lab Sample ID: MB 440-663654/1-F
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664069

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/10/22 13:45	01/11/22 11:17	1

Lab Sample ID: LCS 440-663654/2-F
Matrix: Water
Analysis Batch: 664223

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664069

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	6.00	6.23		ug/L		104	85 - 115

Lab Sample ID: 570-80270-9 MS
Matrix: Water
Analysis Batch: 664223

Client Sample ID: ILBMP0008_20211224
Prep Type: Dissolved
Prep Batch: 664069

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		6.00	7.15		ug/L		119	75 - 125

Lab Sample ID: 570-80270-9 MSD
Matrix: Water
Analysis Batch: 664223

Client Sample ID: ILBMP0008_20211224
Prep Type: Dissolved
Prep Batch: 664069

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		6.00	6.60		ug/L		110	75 - 125	8	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663645/1
Matrix: Water
Analysis Batch: 663645

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/30/21 12:19	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 440-663645/2
Matrix: Water
Analysis Batch: 663645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	879		mg/L		88	85 - 115		

Lab Sample ID: 570-80270-6 DU
Matrix: Water
Analysis Batch: 663645

Client Sample ID: ILBMP0002_20211224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	96			96.2		mg/L				0.6	5

Metals

Filtration Batch: 663654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Dissolved	Water	FILTRATION	
570-80270-2	A1BMP0003_20211224	Dissolved	Water	FILTRATION	
570-80270-3	A1BMP0009_20211224	Dissolved	Water	FILTRATION	
570-80270-4	B1BMP0010_20211224	Dissolved	Water	FILTRATION	
570-80270-5	B1BMP0011_20211224	Dissolved	Water	FILTRATION	
570-80270-6	ILBMP0002_20211224	Dissolved	Water	FILTRATION	
570-80270-7	ILBMP0004_20211224	Dissolved	Water	FILTRATION	
570-80270-8	ILBMP0005_20211224	Dissolved	Water	FILTRATION	
570-80270-9	ILBMP0008_20211224	Dissolved	Water	FILTRATION	
570-80270-10	ILBMP0009_20211224	Dissolved	Water	FILTRATION	
570-80270-11	ILBMP0010_20211224	Dissolved	Water	FILTRATION	
570-80270-12	LXBMP0012_20211224	Dissolved	Water	FILTRATION	
MB 440-663654/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663654/1-F	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663654/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663654/2-F	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80270-1 MS	A1BMP0002_20211224	Dissolved	Water	FILTRATION	
570-80270-1 MSD	A1BMP0002_20211224	Dissolved	Water	FILTRATION	
570-80270-9 MS	ILBMP0008_20211224	Dissolved	Water	FILTRATION	
570-80270-9 MSD	ILBMP0008_20211224	Dissolved	Water	FILTRATION	

Prep Batch: 663751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Dissolved	Water	200.2	663654
570-80270-2	A1BMP0003_20211224	Dissolved	Water	200.2	663654
570-80270-3	A1BMP0009_20211224	Dissolved	Water	200.2	663654
570-80270-4	B1BMP0010_20211224	Dissolved	Water	200.2	663654
570-80270-5	B1BMP0011_20211224	Dissolved	Water	200.2	663654
570-80270-6	ILBMP0002_20211224	Dissolved	Water	200.2	663654
570-80270-7	ILBMP0004_20211224	Dissolved	Water	200.2	663654
570-80270-8	ILBMP0005_20211224	Dissolved	Water	200.2	663654
570-80270-9	ILBMP0008_20211224	Dissolved	Water	200.2	663654
570-80270-10	ILBMP0009_20211224	Dissolved	Water	200.2	663654
570-80270-11	ILBMP0010_20211224	Dissolved	Water	200.2	663654
570-80270-12	LXBMP0012_20211224	Dissolved	Water	200.2	663654
MB 440-663654/1-B	Method Blank	Dissolved	Water	200.2	663654
LCS 440-663654/2-B	Lab Control Sample	Dissolved	Water	200.2	663654
570-80270-1 MS	A1BMP0002_20211224	Dissolved	Water	200.2	663654
570-80270-1 MSD	A1BMP0002_20211224	Dissolved	Water	200.2	663654

Analysis Batch: 663778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Dissolved	Water	200.8	663751
570-80270-2	A1BMP0003_20211224	Dissolved	Water	200.8	663751
570-80270-3	A1BMP0009_20211224	Dissolved	Water	200.8	663751
570-80270-4	B1BMP0010_20211224	Dissolved	Water	200.8	663751
570-80270-5	B1BMP0011_20211224	Dissolved	Water	200.8	663751
570-80270-6	ILBMP0002_20211224	Dissolved	Water	200.8	663751
570-80270-7	ILBMP0004_20211224	Dissolved	Water	200.8	663751
570-80270-8	ILBMP0005_20211224	Dissolved	Water	200.8	663751
570-80270-9	ILBMP0008_20211224	Dissolved	Water	200.8	663751

Metals (Continued)

Analysis Batch: 663778 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-10	ILBMP0009_20211224	Dissolved	Water	200.8	663751
570-80270-11	ILBMP0010_20211224	Dissolved	Water	200.8	663751
570-80270-12	LXBMP0012_20211224	Dissolved	Water	200.8	663751
MB 440-663654/1-B	Method Blank	Dissolved	Water	200.8	663751
LCS 440-663654/2-B	Lab Control Sample	Dissolved	Water	200.8	663751
570-80270-1 MS	A1BMP0002_20211224	Dissolved	Water	200.8	663751
570-80270-1 MSD	A1BMP0002_20211224	Dissolved	Water	200.8	663751

Prep Batch: 664069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Dissolved	Water	245.1	663654
570-80270-2	A1BMP0003_20211224	Dissolved	Water	245.1	663654
570-80270-3	A1BMP0009_20211224	Dissolved	Water	245.1	663654
570-80270-4	B1BMP0010_20211224	Dissolved	Water	245.1	663654
570-80270-5	B1BMP0011_20211224	Dissolved	Water	245.1	663654
570-80270-6	ILBMP0002_20211224	Dissolved	Water	245.1	663654
570-80270-7	ILBMP0004_20211224	Dissolved	Water	245.1	663654
570-80270-8	ILBMP0005_20211224	Dissolved	Water	245.1	663654
570-80270-9	ILBMP0008_20211224	Dissolved	Water	245.1	663654
570-80270-10	ILBMP0009_20211224	Dissolved	Water	245.1	663654
570-80270-11	ILBMP0010_20211224	Dissolved	Water	245.1	663654
570-80270-12	LXBMP0012_20211224	Dissolved	Water	245.1	663654
MB 440-663654/1-F	Method Blank	Dissolved	Water	245.1	663654
LCS 440-663654/2-F	Lab Control Sample	Dissolved	Water	245.1	663654
570-80270-9 MS	ILBMP0008_20211224	Dissolved	Water	245.1	663654
570-80270-9 MSD	ILBMP0008_20211224	Dissolved	Water	245.1	663654

Prep Batch: 664088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Total/NA	Water	245.1	
570-80270-2	A1BMP0003_20211224	Total/NA	Water	245.1	
570-80270-3	A1BMP0009_20211224	Total/NA	Water	245.1	
570-80270-4	B1BMP0010_20211224	Total/NA	Water	245.1	
570-80270-5	B1BMP0011_20211224	Total/NA	Water	245.1	
570-80270-6	ILBMP0002_20211224	Total/NA	Water	245.1	
570-80270-7	ILBMP0004_20211224	Total/NA	Water	245.1	
570-80270-8	ILBMP0005_20211224	Total/NA	Water	245.1	
570-80270-9	ILBMP0008_20211224	Total/NA	Water	245.1	
570-80270-10	ILBMP0009_20211224	Total/NA	Water	245.1	
570-80270-11	ILBMP0010_20211224	Total/NA	Water	245.1	
570-80270-12	LXBMP0012_20211224	Total/NA	Water	245.1	
MB 440-664088/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-664088/2-A	Lab Control Sample	Total/NA	Water	245.1	
570-80269-C-1-D MS	Matrix Spike	Total/NA	Water	245.1	
570-80269-C-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 664223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Dissolved	Water	245.1	664069
570-80270-1	A1BMP0002_20211224	Total/NA	Water	245.1	664088
570-80270-2	A1BMP0003_20211224	Dissolved	Water	245.1	664069

Metals (Continued)

Analysis Batch: 664223 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-2	A1BMP0003_20211224	Total/NA	Water	245.1	664088
570-80270-3	A1BMP0009_20211224	Dissolved	Water	245.1	664069
570-80270-3	A1BMP0009_20211224	Total/NA	Water	245.1	664088
570-80270-4	B1BMP0010_20211224	Dissolved	Water	245.1	664069
570-80270-4	B1BMP0010_20211224	Total/NA	Water	245.1	664088
570-80270-5	B1BMP0011_20211224	Dissolved	Water	245.1	664069
570-80270-5	B1BMP0011_20211224	Total/NA	Water	245.1	664088
570-80270-6	ILBMP0002_20211224	Dissolved	Water	245.1	664069
570-80270-6	ILBMP0002_20211224	Total/NA	Water	245.1	664088
570-80270-7	ILBMP0004_20211224	Dissolved	Water	245.1	664069
570-80270-7	ILBMP0004_20211224	Total/NA	Water	245.1	664088
570-80270-8	ILBMP0005_20211224	Dissolved	Water	245.1	664069
570-80270-8	ILBMP0005_20211224	Total/NA	Water	245.1	664088
570-80270-9	ILBMP0008_20211224	Dissolved	Water	245.1	664069
570-80270-9	ILBMP0008_20211224	Total/NA	Water	245.1	664088
570-80270-10	ILBMP0009_20211224	Dissolved	Water	245.1	664069
570-80270-10	ILBMP0009_20211224	Total/NA	Water	245.1	664088
570-80270-11	ILBMP0010_20211224	Dissolved	Water	245.1	664069
570-80270-11	ILBMP0010_20211224	Total/NA	Water	245.1	664088
570-80270-12	LXBMP0012_20211224	Dissolved	Water	245.1	664069
570-80270-12	LXBMP0012_20211224	Total/NA	Water	245.1	664088
MB 440-663654/1-F	Method Blank	Dissolved	Water	245.1	664069
MB 440-664088/1-A	Method Blank	Total/NA	Water	245.1	664088
LCS 440-663654/2-F	Lab Control Sample	Dissolved	Water	245.1	664069
LCS 440-664088/2-A	Lab Control Sample	Total/NA	Water	245.1	664088
570-80269-C-1-D MS	Matrix Spike	Total/NA	Water	245.1	664088
570-80269-C-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	664088
570-80270-9 MS	ILBMP0008_20211224	Dissolved	Water	245.1	664069
570-80270-9 MSD	ILBMP0008_20211224	Dissolved	Water	245.1	664069

Prep Batch: 664535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Total Recoverable	Water	200.2	
570-80270-2	A1BMP0003_20211224	Total Recoverable	Water	200.2	
570-80270-3	A1BMP0009_20211224	Total Recoverable	Water	200.2	
570-80270-4	B1BMP0010_20211224	Total Recoverable	Water	200.2	
570-80270-5	B1BMP0011_20211224	Total Recoverable	Water	200.2	
570-80270-6	ILBMP0002_20211224	Total Recoverable	Water	200.2	
570-80270-7	ILBMP0004_20211224	Total Recoverable	Water	200.2	
570-80270-8	ILBMP0005_20211224	Total Recoverable	Water	200.2	
570-80270-9	ILBMP0008_20211224	Total Recoverable	Water	200.2	
570-80270-10	ILBMP0009_20211224	Total Recoverable	Water	200.2	
570-80270-11	ILBMP0010_20211224	Total Recoverable	Water	200.2	
570-80270-12	LXBMP0012_20211224	Total Recoverable	Water	200.2	
MB 440-664535/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664535/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80270-1 MS	A1BMP0002_20211224	Total Recoverable	Water	200.2	
570-80270-1 MSD	A1BMP0002_20211224	Total Recoverable	Water	200.2	
570-80270-2 MS	A1BMP0003_20211224	Total Recoverable	Water	200.2	
570-80270-2 MSD	A1BMP0003_20211224	Total Recoverable	Water	200.2	

Metals

Analysis Batch: 664611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Total Recoverable	Water	200.8	664535
570-80270-2	A1BMP0003_20211224	Total Recoverable	Water	200.8	664535
570-80270-3	A1BMP0009_20211224	Total Recoverable	Water	200.8	664535
570-80270-4	B1BMP0010_20211224	Total Recoverable	Water	200.8	664535
570-80270-5	B1BMP0011_20211224	Total Recoverable	Water	200.8	664535
570-80270-6	ILBMP0002_20211224	Total Recoverable	Water	200.8	664535
570-80270-7	ILBMP0004_20211224	Total Recoverable	Water	200.8	664535
570-80270-8	ILBMP0005_20211224	Total Recoverable	Water	200.8	664535
570-80270-9	ILBMP0008_20211224	Total Recoverable	Water	200.8	664535
570-80270-10	ILBMP0009_20211224	Total Recoverable	Water	200.8	664535
570-80270-11	ILBMP0010_20211224	Total Recoverable	Water	200.8	664535
570-80270-12	LXBMP0012_20211224	Total Recoverable	Water	200.8	664535
MB 440-664535/1-A	Method Blank	Total Recoverable	Water	200.8	664535
LCS 440-664535/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664535
570-80270-1 MS	A1BMP0002_20211224	Total Recoverable	Water	200.8	664535
570-80270-1 MSD	A1BMP0002_20211224	Total Recoverable	Water	200.8	664535
570-80270-2 MS	A1BMP0003_20211224	Total Recoverable	Water	200.8	664535
570-80270-2 MSD	A1BMP0003_20211224	Total Recoverable	Water	200.8	664535

General Chemistry

Analysis Batch: 663645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Total/NA	Water	SM 2540D	
570-80270-2	A1BMP0003_20211224	Total/NA	Water	SM 2540D	
570-80270-3	A1BMP0009_20211224	Total/NA	Water	SM 2540D	
570-80270-4	B1BMP0010_20211224	Total/NA	Water	SM 2540D	
570-80270-5	B1BMP0011_20211224	Total/NA	Water	SM 2540D	
570-80270-6	ILBMP0002_20211224	Total/NA	Water	SM 2540D	
570-80270-7	ILBMP0004_20211224	Total/NA	Water	SM 2540D	
570-80270-8	ILBMP0005_20211224	Total/NA	Water	SM 2540D	
570-80270-9	ILBMP0008_20211224	Total/NA	Water	SM 2540D	
570-80270-10	ILBMP0009_20211224	Total/NA	Water	SM 2540D	
570-80270-11	ILBMP0010_20211224	Total/NA	Water	SM 2540D	
570-80270-12	LXBMP0012_20211224	Total/NA	Water	SM 2540D	
MB 440-663645/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663645/2	Lab Control Sample	Total/NA	Water	SM 2540D	
570-80270-6 DU	ILBMP0002_20211224	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 206857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Total/NA	Water	D4464	
570-80270-2	A1BMP0003_20211224	Total/NA	Water	D4464	
570-80270-3	A1BMP0009_20211224	Total/NA	Water	D4464	
570-80270-4	B1BMP0010_20211224	Total/NA	Water	D4464	
570-80270-5	B1BMP0011_20211224	Total/NA	Water	D4464	
570-80270-6	ILBMP0002_20211224	Total/NA	Water	D4464	
570-80270-7	ILBMP0004_20211224	Total/NA	Water	D4464	
570-80270-8	ILBMP0005_20211224	Total/NA	Water	D4464	
570-80270-9	ILBMP0008_20211224	Total/NA	Water	D4464	

Geotechnical (Continued)

Analysis Batch: 206857 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-10	ILBMP0009_20211224	Total/NA	Water	D4464	
570-80270-11	ILBMP0010_20211224	Total/NA	Water	D4464	
570-80270-12	LXBMP0012_20211224	Total/NA	Water	D4464	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Client Sample ID: A1BMP0002_20211224

Lab Sample ID: 570-80270-1

Date Collected: 12/24/21 07:50
Date Received: 12/28/21 18:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:08	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 11:59	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:46	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:03	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 14:11	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: A1BMP0003_20211224

Lab Sample ID: 570-80270-2

Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:14	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:05	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:48	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:06	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 14:21	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: A1BMP0009_20211224

Lab Sample ID: 570-80270-3

Date Collected: 12/24/21 06:45

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:16	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:19	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:50	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:08	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 14:30	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: B1BMP0010_20211224

Lab Sample ID: 570-80270-4

Date Collected: 12/24/21 06:50

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:18	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:21	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:52	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:10	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 14:44	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Client Sample ID: B1BMP0011_20211224

Lab Sample ID: 570-80270-5

Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:26	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:23	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:54	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:12	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 15:04	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: ILBMP0002_20211224

Lab Sample ID: 570-80270-6

Date Collected: 12/24/21 07:40
Date Received: 12/28/21 18:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:29	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:26	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:56	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:14	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 15:14	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Client Sample ID: ILBMP0004_20211224

Date Collected: 12/24/21 06:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:31	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:28	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:58	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:16	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 15:18	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: ILBMP0005_20211224

Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:33	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:30	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 12:01	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:18	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 15:25	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Client Sample ID: ILBMP0008_20211224

Lab Sample ID: 570-80270-9

Date Collected: 12/24/21 06:25
Date Received: 12/28/21 18:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:35	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:33	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 11:21	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:21	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 15:39	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: ILBMP0009_20211224

Lab Sample ID: 570-80270-10

Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:37	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:35	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 12:07	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:23	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 15:47	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Client Sample ID: ILBMP0010_20211224

Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:39	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:38	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 12:09	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:30	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 16:10	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: LXBMP0012_20211224

Date Collected: 12/24/21 08:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663751	01/04/22 10:13	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			663778	01/04/22 14:41	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664535	01/15/22 09:45		IRV 2
Total Recoverable	Analysis	200.8		1			664611	01/17/22 12:40	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Dissolved	Filtration	FILTRATION			100 mL	100 mL	663654	01/03/22 08:00	LZY7	IRV 2
Dissolved	Prep	245.1			20 mL	30 mL	664069	01/10/22 13:45	VZ0K	IRV 2
Dissolved	Analysis	245.1		1			664223	01/11/22 12:12	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Prep	245.1			20 mL	30 mL	664088	01/10/22 13:30	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664223	01/11/22 13:32	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	663645	12/30/21 12:19	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			206857	01/07/22 16:16	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	IRV 2
FILTRATION	Sample Filtration	None	IRV 2

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80270-1	A1BMP0002_20211224	Water	12/24/21 07:50	12/28/21 18:00
570-80270-2	A1BMP0003_20211224	Water	12/24/21 08:10	12/28/21 18:00
570-80270-3	A1BMP0009_20211224	Water	12/24/21 06:45	12/28/21 18:00
570-80270-4	B1BMP0010_20211224	Water	12/24/21 06:50	12/28/21 18:00
570-80270-5	B1BMP0011_20211224	Water	12/24/21 06:55	12/28/21 18:00
570-80270-6	ILBMP0002_20211224	Water	12/24/21 07:40	12/28/21 18:00
570-80270-7	ILBMP0004_20211224	Water	12/24/21 06:30	12/28/21 18:00
570-80270-8	ILBMP0005_20211224	Water	12/24/21 07:05	12/28/21 18:00
570-80270-9	ILBMP0008_20211224	Water	12/24/21 06:25	12/28/21 18:00
570-80270-10	ILBMP0009_20211224	Water	12/24/21 06:50	12/28/21 18:00
570-80270-11	ILBMP0010_20211224	Water	12/24/21 06:55	12/28/21 18:00
570-80270-12	LXBMP0012_20211224	Water	12/24/21 08:25	12/28/21 18:00

80270

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins Ca sc ence

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 12/24/2021	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	☑ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	☐ 2 days			Job / SDG No.
H&A P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS / MSD (Y/N)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Recoverable)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Dissolved)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Sample Specific Notes:
								1-250mL Poly	1-250mL Poly	2-1L Amber	1-1L Poly	1-1L Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
A1BMP0002_20211224	12/24/2021	750	G	WM	6	Y	N	X	X	X	X	X	
A1BMP0003_2021224	12/24/2021	0810	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0009_20211224	12/24/2021	645	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0010_20211224	12/24/2021	0650	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0011_20211224	12/24/2021	0655	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0002_20211224	12/24/2021	0740	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0004_20211224	12/24/2021	0630	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0005_20211224	12/24/2021	705	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0008_20211224	12/24/2021	0625	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0009_20211224	12/24/2021	0650	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0010_20211224	12/24/2021	0655	G	WM	6	Y	N	X	X	X	X	X	
LXBMP0012_20211224	12/24/2021	825	G	WM	6	Y	N	X	X	X	X	X	
								4	4	1	1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the samples in the Comments Section if the lab is to dispose of the sample.

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: **ECI #44009815**
Please email data to kmiller@haleyaldrich.com and post to Total Access, Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No. ____

Relinquished by:	Company: H. A.	Date/Time: 12-28-21 1445	Received by:	ECI 12/28/21	Date/Time: 1445
Relinquished by:	Company: ECI	Date/Time: 12/28/21 1800	Received by:	12/28/21	Date/Time: 1800
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

2 4|3.3, 2.2|3.1, 1.9|2.8 SCS

570-80270 Chain of Custody

1/17/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s).	COC No: 570-148214 1
Client Contact: Shipping/Receiving	Phone.	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80270-2
Address: 880 Riverside Parkway,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A1BMP0002_20211224 (570-80270-1)	12/24/21	07 50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0003_20211224 (570-80270-2)	12/24/21	08 10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0009_20211224 (570-80270-3)	12/24/21	06 45 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
B1BMP0010_20211224 (570-80270-4)	12/24/21	06 50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
B1BMP0011_20211224 (570-80270-5)	12/24/21	06 55 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0002_20211224 (570-80270-6)	12/24/21	07 40 Pacific		Water			X	2	See QAS Boeing_w/u to zero
ILBMP0004_20211224 (570-80270-7)	12/24/21	06 30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0005_20211224 (570-80270-8)	12/24/21	07 05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0008_20211224 (570-80270-9)	12/24/21	06 25 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	12/29/21 1746				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/17/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148214 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80270-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note
			Preservation Code:						
ILBMP0009_20211224 (570-80270-10)	12/24/21	06 50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0010_20211224 (570-80270-11)	12/24/21	06 55 Pacific		Water			X	2	See QAS Boeing_w/u to zero
LXBMP0012_20211224 (570-80270-12)	12/24/21	08 25 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/29/21 1746				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148190 1
Client Contact: Shipping/Receiving	Phone	E Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80270-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/6/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C Zn Acetate	O - AsNaO2
D Nitric Acid	P - Na2O4S
E NaHSO4	Q - Na2SO3
F - MeOH	R Na2S2O3
G Amchlor	S - H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	200.8/200.2 Cd,Cu,Pb	200.8/FILTRATION Diss Cd,Cu,Pb	2540D/ Solids, Total Suspended (TSS)	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
A1BMP0002_20211224 (570-80270-1)	12/24/21	07 50 Pacific		Water			X	X	X	X	X	3	, Filter within 24 hours
A1BMP0003_20211224 (570-80270-2)	12/24/21	08 10 Pacific		Water			X	X	X	X	X	3	Filter within 24 hours
A1BMP0009_20211224 (570-80270-3)	12/24/21	06 45 Pacific		Water			X	X	X	X	X	3	Filter within 24 hours
B1BMP0010_20211224 (570-80270-4)	12/24/21	06 50 Pacific		Water			X	X	X	X	X	3	Filter within 24 hours
B1BMP0011_20211224 (570-80270-5)	12/24/21	06 55 Pacific		Water			X	X	X	X	X	3	Filter within 24 hours
ILBMP0002_20211224 (570-80270-6)	12/24/21	07 40 Pacific		Water			X	X	X	X	X	3	Filter within 24 hours
ILBMP0004_20211224 (570-80270-7)	12/24/21	06 30 Pacific		Water			X	X	X	X	X	3	Filter within 24 hours
ILBMP0005_20211224 (570-80270-8)	12/24/21	07 05 Pacific		Water			X	X	X	X	X	3	, Filter within 24 hours
ILBMP0008_20211224 (570-80270-9)	12/24/21	06 25 Pacific		Water			X	X	X	X	X	3	Filter within 24 hours

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21	GC			
2	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
3	Relinquished by	Date/Time.	Company	Received by	12/30/21	EC-7

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
		1289 4.0/4.0

Ver: 06/08/2021

1/17/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148190 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80270-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/6/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	200.8/200.2 Cd,Cu,Pb	200.8/FILTRATION Diss Cd,Cu,Pb	2540D/ Solids, Total Suspended (TSS)	Total Number of containers	Special Instructions/Note
			Preservation Code:										
ILBMP0009_20211224 (570-80270-10)	12/24/21	06 50 Pacific		Water			X	X	X	X	X	3	, Filter within 24 hours
ILBMP0010_20211224 (570-80270-11)	12/24/21	06 55 Pacific		Water			X	X	X	X	X	3	, Filter within 24 hours
LXBMP0012_20211224 (570-80270-12)	12/24/21	08 25 Pacific		Water			X	X	X	X	X	3	, Filter within 24 hours

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by:	Date/Time: 12/29/21	Company: GC	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time	Company	Received by:	Date/Time: 12/30/21	Company: GC-7

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: IR59 4.0/4.0

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80270-1

Login Number: 80270
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80270-1

Login Number: 80270
List Number: 2
Creator: Cardona, Omar D

List Source: Eurofins Calscience Tustin
List Creation: 12/30/21 11:27 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80270-2
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/24/2022 4:06:01 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Qualifiers

Dioxin

Qualifier	Qualifier Description
EY	Result exceeds normal dynamic range; reported as a min. est.
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80270-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80270-2

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.1º C and 3.3º C.

Receipt Exceptions

One container for the following sample: ILBMP0004_20211224 (#7E) was received broken inside of the cooler. ILBMP0004_20211224 (570-80270-7).

Dioxin
Method 1613B: The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: A1BMP0009_20211224 (570-80270-3) and ILBMP0004_20211224 (570-80270-7). These analytes have been qualified; however, the peaks did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: A1BMP0009_20211224 (570-80270-3), (CCV 320-559680/2) and (MB 320-556933/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
Method 1613B: Due to the matrix, the initial volumes used for the following samples deviated from the standard procedure: A1BMP0002_20211224 (570-80270-1), A1BMP0003_20211224 (570-80270-2), A1BMP0009_20211224 (570-80270-3), B1BMP0011_20211224 (570-80270-5), ILBMP0002_20211224 (570-80270-6), ILBMP0004_20211224 (570-80270-7) and ILBMP0005_20211224 (570-80270-8). The reporting limits (RLs) have been adjusted proportionately.

preparation batch 320-556604
matrix:water
method:1613B_Sox_Sep_P

Method 1613B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation: ILBMP0008_20211224 (570-80270-9), ILBMP0009_20211224 (570-80270-10), ILBMP0010_20211224 (570-80270-11) and LXBMP0012_20211224 (570-80270-12).
Nominal volume required by method is 1 liter.

preparation batch 320-556933
method: 1613B_Sox_Sep_P
matrix: Water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Client Sample ID: A1BMP0002_20211224 — Lab Sample ID: 570-80270-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.0000023	J,DX q	0.000057	0.00000069	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000045	J,DX q MB	0.000057	0.00000053	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000056	J,DX MB	0.000057	0.00000052	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000062	J,DX MB	0.000057	0.00000051	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000026	J,DX MB	0.000057	0.00000082	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000036	J,DX MB	0.000057	0.00000084	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000029	J,DX q MB	0.000057	0.00000079	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000020	J,DX q MB	0.000057	0.00000068	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000098	MB	0.000057	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000021	J,DX MB	0.000057	0.00000058	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000032	J,DX MB	0.000057	0.00000062	ug/L	1		1613B	Total/NA
OCDD	0.00072	MB	0.00011	0.0000023	ug/L	1		1613B	Total/NA
OCDF	0.000035	J,DX q MB	0.00011	0.00000096	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000059	J,DX q MB	0.000057	0.00000078	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000027	J,DX q	0.000057	0.00000069	ug/L	1		1613B	Total/NA
Total HxCDD	0.000029	J,DX q MB	0.000057	0.00000051	ug/L	1		1613B	Total/NA
Total HxCDF	0.000029	J,DX q MB	0.000057	0.00000068	ug/L	1		1613B	Total/NA
Total HpCDD	0.00023	MB	0.000057	0.0000013	ug/L	1		1613B	Total/NA
Total HpCDF	0.000046	J,DX MB	0.000057	0.00000058	ug/L	1		1613B	Total/NA

Client Sample ID: A1BMP0003_20211224 — Lab Sample ID: 570-80270-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.0000016	J,DX q	0.000056	0.00000051	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000035	J,DX MB	0.000056	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000017	J,DX q MB	0.000056	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000021	J,DX MB	0.000056	0.00000034	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000018	J,DX MB	0.000056	0.00000031	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000014	J,DX q MB	0.000056	0.00000035	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000057	J,DX MB	0.000056	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.00000067	J,DX q MB	0.000056	0.00000043	ug/L	1		1613B	Total/NA
OCDD	0.000074	J,DX MB	0.00011	0.00000098	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Client Sample ID: A1BMP0003_20211224 (Continued) — Lab Sample ID: 570-80270-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDF	0.0000089	J,DX MB	0.00011	0.00000067	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000036	J,DX q MB	0.000056	0.00000078	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000025	J,DX q	0.000056	0.00000051	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000096	J,DX q MB	0.000056	0.00000034	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000033	J,DX q MB	0.000056	0.00000027	ug/L	1		1613B	Total/NA
Total HpCDD	0.000028	J,DX q MB	0.000056	0.00000035	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000098	J,DX q MB	0.000056	0.00000043	ug/L	1		1613B	Total/NA

Client Sample ID: A1BMP0009_20211224 — Lab Sample ID: 570-80270-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.000014	J,DX q	0.000054	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.000013	J,DX	0.000054	0.0000011	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000075	J,DX q	0.000054	0.0000011	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000038	J,DX MB	0.000054	0.0000036	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00015	MB	0.000054	0.0000038	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000085	MB	0.000054	0.0000036	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.000022	J,DX MB	0.000054	0.0000029	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.000011	J,DX MB	0.000054	0.0000031	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000034	J,DX MB	0.000054	0.0000025	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000097	J,DX MB	0.000054	0.0000023	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0056	MB	0.000054	0.000047	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00034	MB	0.000054	0.0000028	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.000010	J,DX MB	0.000054	0.0000027	ug/L	1		1613B	Total/NA
OCDD	0.050	EY MB	0.00011	0.000034	ug/L	1		1613B	Total/NA
OCDF	0.00056	MB	0.00011	0.00000097	ug/L	1		1613B	Total/NA
Total TCDF	0.0000067	J,DX q	0.000011	0.00000061	ug/L	1		1613B	Total/NA
Total PeCDD	0.000047	J,DX q MB	0.000054	0.0000013	ug/L	1		1613B	Total/NA
Total PeCDF	0.000086	J,DX q	0.000054	0.0000011	ug/L	1		1613B	Total/NA
Total HxCDD	0.0015	J,DX MB	0.000054	0.0000036	ug/L	1		1613B	Total/NA
Total HxCDF	0.00066	J,DX MB	0.000054	0.0000023	ug/L	1		1613B	Total/NA
Total HpCDD	0.022	MB	0.000054	0.000047	ug/L	1		1613B	Total/NA
Total HpCDF	0.0011	J,DX MB	0.000054	0.0000027	ug/L	1		1613B	Total/NA

Client Sample ID: B1BMP0010_20211224 — Lab Sample ID: 570-80270-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000072	J,DX MB	0.000053	0.00000078	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000097	J,DX MB	0.000053	0.00000079	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000081	J,DX MB	0.000053	0.00000076	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000028	J,DX MB	0.000053	0.00000090	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B1BMP0010_20211224 (Continued) — Lab Sample ID: 570-80270-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDF	0.0000017	J,DX MB	0.000053	0.00000095	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000014	J,DX MB	0.000053	0.00000073	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00023	MB	0.000053	0.0000024	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000043	J,DX MB	0.000053	0.00000090	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000028	J,DX q MB	0.000053	0.00000090	ug/L	1		1613B	Total/NA
OCDD	0.0018	MB	0.00011	0.0000029	ug/L	1		1613B	Total/NA
OCDF	0.000074	J,DX MB	0.00011	0.00000066	ug/L	1		1613B	Total/NA
Total HxCDD	0.000059	J,DX MB	0.000053	0.00000076	ug/L	1		1613B	Total/NA
Total HxCDF	0.000046	J,DX q MB	0.000053	0.00000073	ug/L	1		1613B	Total/NA
Total HpCDD	0.00063	MB	0.000053	0.0000024	ug/L	1		1613B	Total/NA
Total HpCDF	0.00012	J,DX MB q	0.000053	0.00000090	ug/L	1		1613B	Total/NA

Client Sample ID: B1BMP0011_20211224 — Lab Sample ID: 570-80270-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000052	J,DX MB	0.000057	0.00000051	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000036	J,DX MB	0.000057	0.00000052	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000046	J,DX MB	0.000057	0.00000050	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000019	J,DX q MB	0.000057	0.00000042	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000075	MB	0.000057	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000019	J,DX MB	0.000057	0.00000073	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000020	J,DX q MB	0.000057	0.00000078	ug/L	1		1613B	Total/NA
OCDD	0.00056	MB	0.00011	0.0000013	ug/L	1		1613B	Total/NA
OCDF	0.000047	J,DX MB	0.00011	0.00000088	ug/L	1		1613B	Total/NA
Total TCDD	0.0000052	J,DX q MB	0.000011	0.00000081	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000030	J,DX q MB	0.000057	0.00000074	ug/L	1		1613B	Total/NA
Total HxCDD	0.000025	J,DX MB	0.000057	0.00000050	ug/L	1		1613B	Total/NA
Total HxCDF	0.000011	J,DX q MB	0.000057	0.00000035	ug/L	1		1613B	Total/NA
Total HpCDD	0.00021	MB	0.000057	0.0000013	ug/L	1		1613B	Total/NA
Total HpCDF	0.000054	J,DX q MB	0.000057	0.00000073	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0002_20211224 — Lab Sample ID: 570-80270-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000023	J,DX q MB	0.000054	0.00000041	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: ILBMP0002_20211224 (Continued) — Lab Sample ID: 570-80270-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	0.0000018	J,DX q MB	0.000054	0.00000040	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000022	J,DX q MB	0.000054	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000017	J,DX MB	0.000054	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000018	J,DX q MB	0.000054	0.00000074	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000071	J,DX MB	0.000054	0.00000063	ug/L	1		1613B	Total/NA
OCDD	0.00012	MB	0.00011	0.0000014	ug/L	1		1613B	Total/NA
OCDF	0.0000073	J,DX MB	0.00011	0.0000016	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000036	J,DX q MB	0.000054	0.00000094	ug/L	1		1613B	Total/NA
Total HxCDD	0.000012	J,DX q MB	0.000054	0.00000039	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000056	J,DX MB	0.000054	0.00000034	ug/L	1		1613B	Total/NA
Total HpCDD	0.000039	J,DX q MB	0.000054	0.00000074	ug/L	1		1613B	Total/NA
Total HpCDF	0.000010	J,DX MB	0.000054	0.00000063	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0004_20211224 — Lab Sample ID: 570-80270-7

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.000056	J,DX	0.000062	0.0000028	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000021	J,DX q	0.000062	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000093	MB	0.000062	0.0000034	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00020	MB	0.000062	0.0000035	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.00022	MB	0.000062	0.0000033	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.000011	J,DX MB	0.000062	0.0000019	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000055	J,DX q MB	0.000062	0.0000020	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000051	J,DX MB	0.000062	0.0000016	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0040	MB	0.000062	0.000046	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00019	MB	0.000062	0.0000032	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.000013	J,DX MB	0.000062	0.0000034	ug/L	1		1613B	Total/NA
OCDD	0.074	EY MB	0.00012	0.000045	ug/L	1		1613B	Total/NA
OCDF	0.00083	MB	0.00012	0.0000020	ug/L	1		1613B	Total/NA
Total TCDD	0.0000052	J,DX q MB	0.000012	0.0000014	ug/L	1		1613B	Total/NA
Total PeCDD	0.00013	J,DX MB q	0.000062	0.0000028	ug/L	1		1613B	Total/NA
Total PeCDF	0.000024	J,DX q	0.000062	0.0000013	ug/L	1		1613B	Total/NA
Total HxCDD	0.0012	MB	0.000062	0.0000033	ug/L	1		1613B	Total/NA
Total HxCDF	0.00020	J,DX MB q	0.000062	0.0000016	ug/L	1		1613B	Total/NA
Total HpCDD	0.011	MB	0.000062	0.000046	ug/L	1		1613B	Total/NA
Total HpCDF	0.00054	J,DX MB	0.000062	0.0000032	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0005_20211224 — Lab Sample ID: 570-80270-8

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.0000015	J,DX	0.000058	0.00000065	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000031	J,DX MB	0.000058	0.00000044	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: ILBMP0005_20211224 (Continued)

Lab Sample ID: 570-80270-8

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	0.0000025	J,DX MB	0.000058	0.00000046	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000030	J,DX MB	0.000058	0.00000043	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000014	J,DX q MB	0.000058	0.00000050	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000011	J,DX q MB	0.000058	0.00000050	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000078	J,DX MB	0.000058	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000032	J,DX MB	0.000058	0.00000089	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000011	J,DX MB	0.000058	0.00000083	ug/L	1		1613B	Total/NA
OCDD	0.00026	MB	0.00012	0.0000017	ug/L	1		1613B	Total/NA
OCDF	0.000015	J,DX MB	0.00012	0.00000092	ug/L	1		1613B	Total/NA
Total TCDD	0.0000035	J,DX q MB	0.000012	0.00000088	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000018	J,DX q	0.000058	0.00000065	ug/L	1		1613B	Total/NA
Total HxCDD	0.000015	J,DX q MB	0.000058	0.00000043	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000071	J,DX q MB	0.000058	0.00000039	ug/L	1		1613B	Total/NA
Total HpCDD	0.000075	J,DX MB	0.000058	0.00000089	ug/L	1		1613B	Total/NA
Total HpCDF	0.000018	J,DX MB	0.000058	0.00000083	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0008_20211224

Lab Sample ID: 570-80270-9

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000036	J,DX MB q	0.000060	0.0000016	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000067	J,DX MB	0.000060	0.0000015	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000015	J,DX MB	0.000060	0.0000016	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000011	J,DX MB	0.000060	0.0000015	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000088	J,DX MB	0.000060	0.0000022	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000095	J,DX MB q	0.000060	0.0000022	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000025	J,DX MB q	0.000060	0.0000020	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000082	J,DX MB q	0.000060	0.0000020	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00035	MB	0.000060	0.0000036	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00021	MB	0.000060	0.0000024	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000079	J,DX MB	0.000060	0.0000024	ug/L	1		1613B	Total/NA
OCDD	0.0022	MB	0.00012	0.0000054	ug/L	1		1613B	Total/NA
OCDF	0.00030	MB	0.00012	0.0000020	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000080	J,DX MB q	0.000060	0.0000016	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000069	J,DX MB q	0.000060	0.0000012	ug/L	1		1613B	Total/NA
Total HxCDD	0.000097	J,DX MB q	0.000060	0.0000015	ug/L	1		1613B	Total/NA
Total HxCDF	0.00015	J,DX MB q	0.000060	0.0000020	ug/L	1		1613B	Total/NA
Total HpCDD	0.00075	MB	0.000060	0.0000036	ug/L	1		1613B	Total/NA
Total HpCDF	0.00035	J,DX MB	0.000060	0.0000024	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Client Sample ID: ILBMP0009_20211224 — Lab Sample ID: 570-80270-10

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.000014	J,DX MB	0.000055	0.0000021	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000022	J,DX MB	0.000055	0.0000021	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000045	J,DX MB	0.000055	0.0000020	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000084	J,DX MB	0.000055	0.0000024	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000097	J,DX MB	0.000055	0.0000024	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000081	J,DX MB	0.000055	0.0000022	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0012	MB	0.000055	0.0000082	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00020	MB	0.000055	0.0000025	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000054	J,DX MB q	0.000055	0.0000028	ug/L	1		1613B	Total/NA
OCDD	0.0070	MB	0.00011	0.000011	ug/L	1		1613B	Total/NA
OCDF	0.00029	MB	0.00011	0.0000024	ug/L	1		1613B	Total/NA
Total PeCDD	0.000020	J,DX MB q	0.000055	0.0000021	ug/L	1		1613B	Total/NA
Total PeCDF	0.000027	J,DX MB	0.000055	0.0000014	ug/L	1		1613B	Total/NA
Total HxCDD	0.00028	J,DX MB	0.000055	0.0000020	ug/L	1		1613B	Total/NA
Total HxCDF	0.00019	J,DX MB q	0.000055	0.0000022	ug/L	1		1613B	Total/NA
Total HpCDD	0.0023	MB	0.000055	0.0000082	ug/L	1		1613B	Total/NA
Total HpCDF	0.00040	J,DX MB q	0.000055	0.0000025	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0010_20211224 — Lab Sample ID: 570-80270-11

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.000011	J,DX MB	0.000054	0.0000019	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000018	J,DX MB	0.000054	0.0000019	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000046	J,DX MB	0.000054	0.0000019	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000035	J,DX MB	0.000054	0.0000018	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000082	J,DX MB	0.000054	0.0000016	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000090	J,DX MB	0.000054	0.0000017	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000078	J,DX MB	0.000054	0.0000015	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00083	MB	0.000054	0.0000058	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00018	MB	0.000054	0.0000021	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000049	J,DX MB	0.000054	0.0000023	ug/L	1		1613B	Total/NA
OCDD	0.0051	MB	0.00011	0.0000088	ug/L	1		1613B	Total/NA
OCDF	0.00016	MB	0.00011	0.0000027	ug/L	1		1613B	Total/NA
Total TCDF	0.0000015	J,DX MB q	0.000011	0.00000089	ug/L	1		1613B	Total/NA
Total PeCDD	0.000016	J,DX MB q	0.000054	0.0000019	ug/L	1		1613B	Total/NA
Total PeCDF	0.000024	J,DX MB q	0.000054	0.0000012	ug/L	1		1613B	Total/NA
Total HxCDD	0.00028	J,DX MB q	0.000054	0.0000018	ug/L	1		1613B	Total/NA
Total HxCDF	0.00018	J,DX MB	0.000054	0.0000015	ug/L	1		1613B	Total/NA
Total HpCDD	0.0018	MB	0.000054	0.0000058	ug/L	1		1613B	Total/NA
Total HpCDF	0.00029	J,DX MB	0.000054	0.0000021	ug/L	1		1613B	Total/NA

Client Sample ID: LXBMP0012_20211224 — Lab Sample ID: 570-80270-12

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8,9-HxCDF	0.0000013	J,DX MB	0.000054	0.00000050	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000013	J,DX MB	0.000054	0.00000067	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000028	J,DX MB q	0.000054	0.00000086	ug/L	1		1613B	Total/NA
OCDD	0.000061	J,DX MB	0.00011	0.0000017	ug/L	1		1613B	Total/NA
OCDF	0.0000056	J,DX MB q	0.00011	0.0000017	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LXBMP0012_20211224 (Continued)

Lab Sample ID: 570-80270-12

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total PeCDD	0.0000036	J,DX MB q	0.000054	0.0000013	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000021	J,DX MB	0.000054	0.00000056	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000019	J,DX MB q	0.000054	0.00000048	ug/L	1		1613B	Total/NA
Total HpCDD	0.000023	J,DX MB	0.000054	0.00000067	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000049	J,DX MB q	0.000054	0.00000086	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: A1BMP0002_20211224
Date Collected: 12/24/21 07:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.00000087	ug/L		01/07/22 08:45	01/14/22 15:40	1
2,3,7,8-TCDF	ND		0.000011	0.00000054	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,7,8-PeCDD	ND		0.000057	0.00000078	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,7,8-PeCDF	**0.0000023**	**J,DX q**	0.000057	0.00000069	ug/L		01/07/22 08:45	01/14/22 15:40	1
2,3,4,7,8-PeCDF	ND		0.000057	0.00000069	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,4,7,8-HxCDD	**0.0000045**	**J,DX q MB**	0.000057	0.00000053	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,6,7,8-HxCDD	**0.0000056**	**J,DX MB**	0.000057	0.00000052	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,7,8,9-HxCDD	**0.0000062**	**J,DX MB**	0.000057	0.00000051	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,4,7,8-HxCDF	**0.0000026**	**J,DX MB**	0.000057	0.00000082	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,6,7,8-HxCDF	**0.0000036**	**J,DX MB**	0.000057	0.00000084	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,7,8,9-HxCDF	**0.0000029**	**J,DX q MB**	0.000057	0.00000079	ug/L		01/07/22 08:45	01/14/22 15:40	1
2,3,4,6,7,8-HxCDF	**0.0000020**	**J,DX q MB**	0.000057	0.00000068	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,4,6,7,8-HpCDD	**0.000098**	**MB**	0.000057	0.0000013	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,4,6,7,8-HpCDF	**0.000021**	**J,DX MB**	0.000057	0.00000058	ug/L		01/07/22 08:45	01/14/22 15:40	1
1,2,3,4,7,8,9-HpCDF	**0.0000032**	**J,DX MB**	0.000057	0.00000062	ug/L		01/07/22 08:45	01/14/22 15:40	1
OCDD	**0.00072**	**MB**	0.00011	0.0000023	ug/L		01/07/22 08:45	01/14/22 15:40	1
OCDF	**0.000035**	**J,DX q MB**	0.00011	0.00000096	ug/L		01/07/22 08:45	01/14/22 15:40	1
Total TCDD	ND		0.000011	0.00000087	ug/L		01/07/22 08:45	01/14/22 15:40	1
Total TCDF	ND		0.000011	0.00000054	ug/L		01/07/22 08:45	01/14/22 15:40	1
Total PeCDD	**0.0000059**	**J,DX q MB**	0.000057	0.00000078	ug/L		01/07/22 08:45	01/14/22 15:40	1
Total PeCDF	**0.0000027**	**J,DX q**	0.000057	0.00000069	ug/L		01/07/22 08:45	01/14/22 15:40	1
Total HxCDD	**0.000029**	**J,DX q MB**	0.000057	0.00000051	ug/L		01/07/22 08:45	01/14/22 15:40	1
Total HxCDF	**0.000029**	**J,DX q MB**	0.000057	0.00000068	ug/L		01/07/22 08:45	01/14/22 15:40	1
Total HpCDD	**0.00023**	**MB**	0.000057	0.0000013	ug/L		01/07/22 08:45	01/14/22 15:40	1
Total HpCDF	**0.000046**	**J,DX MB**	0.000057	0.00000058	ug/L		01/07/22 08:45	01/14/22 15:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*88*		*25 - 164*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-2,3,7,8-TCDF	*88*		*24 - 169*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-1,2,3,7,8-PeCDD	*86*		*25 - 181*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-1,2,3,7,8-PeCDF	*83*		*24 - 185*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-2,3,4,7,8-PeCDF	*94*		*21 - 178*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-1,2,3,4,7,8-HxCDD	*95*		*32 - 141*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*28 - 130*	*01/07/22 08:45*	*01/14/22 15:40*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: A1BMP0002_20211224
Date Collected: 12/24/21 07:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-1
Matrix: Water

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDF	*91*		*26 - 152*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-1,2,3,6,7,8-HxCDF	*85*		*26 - 123*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-1,2,3,7,8,9-HxCDF	*80*		*29 - 147*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-2,3,4,6,7,8-HxCDF	*91*		*28 - 136*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*89*		*23 - 140*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*94*		*28 - 143*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*96*		*26 - 138*	*01/07/22 08:45*	*01/14/22 15:40*	*1*
13C-OCDD	*94*		*17 - 157*	*01/07/22 08:45*	*01/14/22 15:40*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*01/07/22 08:45*	*01/14/22 15:40*	*1*

Client Sample ID: A1BMP0003_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.00000083	ug/L		01/07/22 08:45	01/14/22 16:28	1
2,3,7,8-TCDF	ND		0.000011	0.00000040	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,7,8-PeCDD	ND		0.000056	0.00000078	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,7,8-PeCDF	**0.0000016**	**J,DX q**	0.000056	0.00000051	ug/L		01/07/22 08:45	01/14/22 16:28	1
2,3,4,7,8-PeCDF	ND		0.000056	0.00000052	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,4,7,8-HxCDD	**0.0000035**	**J,DX MB**	0.000056	0.00000035	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,6,7,8-HxCDD	**0.0000017**	**J,DX q MB**	0.000056	0.00000036	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,7,8,9-HxCDD	**0.0000021**	**J,DX MB**	0.000056	0.00000034	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,4,7,8-HxCDF	ND		0.000056	0.00000034	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,6,7,8-HxCDF	ND		0.000056	0.00000035	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,7,8,9-HxCDF	**0.0000018**	**J,DX MB**	0.000056	0.00000031	ug/L		01/07/22 08:45	01/14/22 16:28	1
2,3,4,6,7,8-HxCDF	ND		0.000056	0.00000027	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,4,6,7,8-HpCDD	**0.000014**	**J,DX q MB**	0.000056	0.00000035	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,4,6,7,8-HpCDF	**0.0000057**	**J,DX MB**	0.000056	0.00000043	ug/L		01/07/22 08:45	01/14/22 16:28	1
1,2,3,4,7,8,9-HpCDF	**0.00000067**	**J,DX q MB**	0.000056	0.00000043	ug/L		01/07/22 08:45	01/14/22 16:28	1
OCDD	**0.000074**	**J,DX MB**	0.00011	0.00000098	ug/L		01/07/22 08:45	01/14/22 16:28	1
OCDF	**0.0000089**	**J,DX MB**	0.00011	0.00000067	ug/L		01/07/22 08:45	01/14/22 16:28	1
Total TCDD	ND		0.000011	0.00000083	ug/L		01/07/22 08:45	01/14/22 16:28	1
Total TCDF	ND		0.000011	0.00000040	ug/L		01/07/22 08:45	01/14/22 16:28	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: A1BMP0003_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDD	**0.0000036**	**J,DX q MB**	0.000056	0.0000078	ug/L		01/07/22 08:45	01/14/22 16:28	1
Total PeCDF	**0.0000025**	**J,DX q**	0.000056	0.0000051	ug/L		01/07/22 08:45	01/14/22 16:28	1
Total HxCDD	**0.0000096**	**J,DX q MB**	0.000056	0.0000034	ug/L		01/07/22 08:45	01/14/22 16:28	1
Total HxCDF	**0.0000033**	**J,DX q MB**	0.000056	0.0000027	ug/L		01/07/22 08:45	01/14/22 16:28	1
Total HpCDD	**0.000028**	**J,DX q MB**	0.000056	0.0000035	ug/L		01/07/22 08:45	01/14/22 16:28	1
Total HpCDF	**0.0000098**	**J,DX q MB**	0.000056	0.0000043	ug/L		01/07/22 08:45	01/14/22 16:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*80*		*25 - 164*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-2,3,7,8-TCDF	*83*		*24 - 169*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*25 - 181*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-1,2,3,7,8-PeCDF	*80*		*24 - 185*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-2,3,4,7,8-PeCDF	*89*		*21 - 178*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-1,2,3,4,7,8-HxCDD	*88*		*32 - 141*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*28 - 130*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*26 - 152*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-1,2,3,6,7,8-HxCDF	*77*		*26 - 123*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*29 - 147*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-2,3,4,6,7,8-HxCDF	*82*		*28 - 136*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*87*		*23 - 140*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*87*		*28 - 143*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*93*		*26 - 138*	*01/07/22 08:45*	*01/14/22 16:28*	*1*
13C-OCDD	*95*		*17 - 157*	*01/07/22 08:45*	*01/14/22 16:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*95*		*35 - 197*	*01/07/22 08:45*	*01/14/22 16:28*	*1*

Client Sample ID: A1BMP0009_20211224
Date Collected: 12/24/21 06:45
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.0000073	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,7,8-PeCDD	**0.000014**	**J,DX q**	0.000054	0.0000013	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,7,8-PeCDF	**0.000013**	**J,DX**	0.000054	0.0000011	ug/L		01/07/22 08:45	01/14/22 17:16	1
2,3,4,7,8-PeCDF	**0.0000075**	**J,DX q**	0.000054	0.0000011	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,4,7,8-HxCDD	**0.000038**	**J,DX MB**	0.000054	0.0000036	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,6,7,8-HxCDD	**0.00015**	**MB**	0.000054	0.0000038	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,7,8,9-HxCDD	**0.000085**	**MB**	0.000054	0.0000036	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,4,7,8-HxCDF	**0.000022**	**J,DX MB**	0.000054	0.0000029	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,6,7,8-HxCDF	**0.000011**	**J,DX MB**	0.000054	0.0000031	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,7,8,9-HxCDF	**0.0000034**	**J,DX MB**	0.000054	0.0000025	ug/L		01/07/22 08:45	01/14/22 17:16	1
2,3,4,6,7,8-HxCDF	**0.0000097**	**J,DX MB**	0.000054	0.0000023	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,4,6,7,8-HpCDD	**0.0056**	**MB**	0.000054	0.000047	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,4,6,7,8-HpCDF	**0.00034**	**MB**	0.000054	0.0000028	ug/L		01/07/22 08:45	01/14/22 17:16	1
1,2,3,4,7,8,9-HpCDF	**0.000010**	**J,DX MB**	0.000054	0.0000027	ug/L		01/07/22 08:45	01/14/22 17:16	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: A1BMP0009_20211224
Date Collected: 12/24/21 06:45
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDD	**0.050**	**EY MB**	0.00011	0.000034	ug/L		01/07/22 08:45	01/14/22 17:16	1
OCDF	**0.00056**	**MB**	0.00011	0.00000097	ug/L		01/07/22 08:45	01/14/22 17:16	1
Total TCDD	ND		0.000011	0.00000073	ug/L		01/07/22 08:45	01/14/22 17:16	1
Total TCDF	**0.0000067**	**J,DX q**	0.000011	0.00000061	ug/L		01/07/22 08:45	01/14/22 17:16	1
Total PeCDD	**0.000047**	**J,DX q MB**	0.000054	0.0000013	ug/L		01/07/22 08:45	01/14/22 17:16	1
Total PeCDF	**0.000086**	**J,DX q**	0.000054	0.0000011	ug/L		01/07/22 08:45	01/14/22 17:16	1
Total HxCDD	**0.0015**	**J,DX MB**	0.000054	0.0000036	ug/L		01/07/22 08:45	01/14/22 17:16	1
Total HxCDF	**0.00066**	**J,DX MB**	0.000054	0.0000023	ug/L		01/07/22 08:45	01/14/22 17:16	1
Total HpCDD	**0.022**	**MB**	0.000054	0.000047	ug/L		01/07/22 08:45	01/14/22 17:16	1
Total HpCDF	**0.0011**	**J,DX MB**	0.000054	0.0000027	ug/L		01/07/22 08:45	01/14/22 17:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*91*		*25 - 164*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-2,3,7,8-TCDF	*91*		*24 - 169*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-1,2,3,7,8-PeCDD	*90*		*25 - 181*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-1,2,3,7,8-PeCDF	*89*		*24 - 185*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-2,3,4,7,8-PeCDF	*97*		*21 - 178*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-1,2,3,4,7,8-HxCDD	*90*		*32 - 141*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*28 - 130*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-1,2,3,4,7,8-HxCDF	*87*		*26 - 152*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-1,2,3,6,7,8-HxCDF	*77*		*26 - 123*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-1,2,3,7,8,9-HxCDF	*80*		*29 - 147*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-2,3,4,6,7,8-HxCDF	*89*		*28 - 136*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*94*		*23 - 140*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*94*		*28 - 143*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*104*		*26 - 138*	*01/07/22 08:45*	*01/14/22 17:16*	*1*
13C-OCDD	*114*		*17 - 157*	*01/07/22 08:45*	*01/14/22 17:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*95*		*35 - 197*	*01/07/22 08:45*	*01/14/22 17:16*	*1*

Client Sample ID: B1BMP0010_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-4
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.00000087	ug/L		01/07/22 08:45	01/14/22 18:04	1
2,3,7,8-TCDF	ND		0.000011	0.00000038	ug/L		01/07/22 08:45	01/14/22 18:04	1
1,2,3,7,8-PeCDD	ND		0.000053	0.00000089	ug/L		01/07/22 08:45	01/14/22 18:04	1
1,2,3,7,8-PeCDF	ND		0.000053	0.00000062	ug/L		01/07/22 08:45	01/14/22 18:04	1
2,3,4,7,8-PeCDF	ND		0.000053	0.00000063	ug/L		01/07/22 08:45	01/14/22 18:04	1
1,2,3,4,7,8-HxCDD	**0.0000072**	**J,DX MB**	0.000053	0.00000078	ug/L		01/07/22 08:45	01/14/22 18:04	1
1,2,3,6,7,8-HxCDD	**0.0000097**	**J,DX MB**	0.000053	0.00000079	ug/L		01/07/22 08:45	01/14/22 18:04	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: B1BMP0010_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-4
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8,9-HxCDD	**0.0000081**	**J,DX MB**	0.000053	0.00000076	ug/L		01/07/22 08:45	01/14/22 18:04	1
1,2,3,4,7,8-HxCDF	**0.0000028**	**J,DX MB**	0.000053	0.00000090	ug/L		01/07/22 08:45	01/14/22 18:04	1
1,2,3,6,7,8-HxCDF	**0.0000017**	**J,DX MB**	0.000053	0.00000095	ug/L		01/07/22 08:45	01/14/22 18:04	1
1,2,3,7,8,9-HxCDF	ND		0.000053	0.00000083	ug/L		01/07/22 08:45	01/14/22 18:04	1
2,3,4,6,7,8-HxCDF	**0.0000014**	**J,DX MB**	0.000053	0.00000073	ug/L		01/07/22 08:45	01/14/22 18:04	1
1,2,3,4,6,7,8-HpCDD	**0.00023**	**MB**	0.000053	0.0000024	ug/L		01/07/22 08:45	01/14/22 18:04	1
1,2,3,4,6,7,8-HpCDF	**0.000043**	**J,DX MB**	0.000053	0.00000090	ug/L		01/07/22 08:45	01/14/22 18:04	1
1,2,3,4,7,8,9-HpCDF	**0.0000028**	**J,DX q MB**	0.000053	0.00000090	ug/L		01/07/22 08:45	01/14/22 18:04	1
OCDD	**0.0018**	**MB**	0.00011	0.0000029	ug/L		01/07/22 08:45	01/14/22 18:04	1
OCDF	**0.000074**	**J,DX MB**	0.00011	0.00000066	ug/L		01/07/22 08:45	01/14/22 18:04	1
Total TCDD	ND		0.000011	0.00000087	ug/L		01/07/22 08:45	01/14/22 18:04	1
Total TCDF	ND		0.000011	0.00000038	ug/L		01/07/22 08:45	01/14/22 18:04	1
Total PeCDD	ND		0.000053	0.00000089	ug/L		01/07/22 08:45	01/14/22 18:04	1
Total PeCDF	ND		0.000053	0.00000062	ug/L		01/07/22 08:45	01/14/22 18:04	1
Total HxCDD	**0.000059**	**J,DX MB**	0.000053	0.00000076	ug/L		01/07/22 08:45	01/14/22 18:04	1
Total HxCDF	**0.000046**	**J,DX q MB**	0.000053	0.00000073	ug/L		01/07/22 08:45	01/14/22 18:04	1
Total HpCDD	**0.00063**	**MB**	0.000053	0.0000024	ug/L		01/07/22 08:45	01/14/22 18:04	1
Total HpCDF	**0.00012**	**J,DX MB q**	0.000053	0.00000090	ug/L		01/07/22 08:45	01/14/22 18:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*84*		*25 - 164*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*25 - 181*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-1,2,3,7,8-PeCDF	*80*		*24 - 185*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-2,3,4,7,8-PeCDF	*90*		*21 - 178*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-1,2,3,4,7,8-HxCDD	*91*		*32 - 141*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-1,2,3,6,7,8-HxCDD	*84*		*28 - 130*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-1,2,3,4,7,8-HxCDF	*87*		*26 - 152*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-1,2,3,6,7,8-HxCDF	*80*		*26 - 123*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*29 - 147*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-2,3,4,6,7,8-HxCDF	*87*		*28 - 136*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*88*		*23 - 140*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*92*		*28 - 143*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*97*		*26 - 138*	*01/07/22 08:45*	*01/14/22 18:04*	*1*
13C-OCDD	*96*		*17 - 157*	*01/07/22 08:45*	*01/14/22 18:04*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*01/07/22 08:45*	*01/14/22 18:04*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: B1BMP0011_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-5
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.00000081	ug/L		01/07/22 08:45	01/14/22 18:51	1
2,3,7,8-TCDF	ND		0.000011	0.00000040	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,7,8-PeCDD	ND		0.000057	0.00000074	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,7,8-PeCDF	ND		0.000057	0.00000064	ug/L		01/07/22 08:45	01/14/22 18:51	1
2,3,4,7,8-PeCDF	ND		0.000057	0.00000062	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,4,7,8-HxCDD	**0.0000052**	**J,DX MB**	0.000057	0.00000051	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,6,7,8-HxCDD	**0.0000036**	**J,DX MB**	0.000057	0.00000052	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,7,8,9-HxCDD	**0.0000046**	**J,DX MB**	0.000057	0.00000050	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,4,7,8-HxCDF	ND		0.000057	0.00000045	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,6,7,8-HxCDF	ND		0.000057	0.00000044	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,7,8,9-HxCDF	**0.0000019**	**J,DX q MB**	0.000057	0.00000042	ug/L		01/07/22 08:45	01/14/22 18:51	1
2,3,4,6,7,8-HxCDF	ND		0.000057	0.00000035	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,4,6,7,8-HpCDD	**0.000075**	**MB**	0.000057	0.0000013	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,4,6,7,8-HpCDF	**0.000019**	**J,DX MB**	0.000057	0.00000073	ug/L		01/07/22 08:45	01/14/22 18:51	1
1,2,3,4,7,8,9-HpCDF	**0.0000020**	**J,DX q MB**	0.000057	0.00000078	ug/L		01/07/22 08:45	01/14/22 18:51	1
OCDD	**0.00056**	**MB**	0.00011	0.0000013	ug/L		01/07/22 08:45	01/14/22 18:51	1
OCDF	**0.000047**	**J,DX MB**	0.00011	0.00000088	ug/L		01/07/22 08:45	01/14/22 18:51	1
Total TCDD	**0.0000052**	**J,DX q MB**	0.000011	0.00000081	ug/L		01/07/22 08:45	01/14/22 18:51	1
Total TCDF	ND		0.000011	0.00000040	ug/L		01/07/22 08:45	01/14/22 18:51	1
Total PeCDD	**0.0000030**	**J,DX q MB**	0.000057	0.00000074	ug/L		01/07/22 08:45	01/14/22 18:51	1
Total PeCDF	ND		0.000057	0.00000062	ug/L		01/07/22 08:45	01/14/22 18:51	1
Total HxCDD	**0.000025**	**J,DX MB**	0.000057	0.00000050	ug/L		01/07/22 08:45	01/14/22 18:51	1
Total HxCDF	**0.000011**	**J,DX q MB**	0.000057	0.00000035	ug/L		01/07/22 08:45	01/14/22 18:51	1
Total HpCDD	**0.00021**	**MB**	0.000057	0.0000013	ug/L		01/07/22 08:45	01/14/22 18:51	1
Total HpCDF	**0.000054**	**J,DX q MB**	0.000057	0.00000073	ug/L		01/07/22 08:45	01/14/22 18:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*87*		*25 - 164*	*01/07/22 08:45*	*01/14/22 18:51*	*1*
13C-2,3,7,8-TCDF	*85*		*24 - 169*	*01/07/22 08:45*	*01/14/22 18:51*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*25 - 181*	*01/07/22 08:45*	*01/14/22 18:51*	*1*
13C-1,2,3,7,8-PeCDF	*83*		*24 - 185*	*01/07/22 08:45*	*01/14/22 18:51*	*1*
13C-2,3,4,7,8-PeCDF	*93*		*21 - 178*	*01/07/22 08:45*	*01/14/22 18:51*	*1*
13C-1,2,3,4,7,8-HxCDD	*94*		*32 - 141*	*01/07/22 08:45*	*01/14/22 18:51*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*28 - 130*	*01/07/22 08:45*	*01/14/22 18:51*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: B1BMP0011_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-5
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDF	90		26 - 152	01/07/22 08:45	01/14/22 18:51	1
13C-1,2,3,6,7,8-HxCDF	84		26 - 123	01/07/22 08:45	01/14/22 18:51	1
13C-1,2,3,7,8,9-HxCDF	81		29 - 147	01/07/22 08:45	01/14/22 18:51	1
13C-2,3,4,6,7,8-HxCDF	92		28 - 136	01/07/22 08:45	01/14/22 18:51	1
13C-1,2,3,4,6,7,8-HpCDD	92		23 - 140	01/07/22 08:45	01/14/22 18:51	1
13C-1,2,3,4,6,7,8-HpCDF	97		28 - 143	01/07/22 08:45	01/14/22 18:51	1
13C-1,2,3,4,7,8,9-HpCDF	98		26 - 138	01/07/22 08:45	01/14/22 18:51	1
13C-OCDD	99		17 - 157	01/07/22 08:45	01/14/22 18:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	01/07/22 08:45	01/14/22 18:51	1

Client Sample ID: ILBMP0002_20211224
Date Collected: 12/24/21 07:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-6
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.00000078	ug/L		01/07/22 08:45	01/14/22 19:39	1
2,3,7,8-TCDF	ND		0.000011	0.00000036	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,7,8-PeCDD	ND		0.000054	0.00000094	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,7,8-PeCDF	ND		0.000054	0.00000052	ug/L		01/07/22 08:45	01/14/22 19:39	1
2,3,4,7,8-PeCDF	ND		0.000054	0.00000052	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,4,7,8-HxCDD	**0.0000023**	**J,DX q MB**	0.000054	0.00000041	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,6,7,8-HxCDD	**0.0000018**	**J,DX q MB**	0.000054	0.00000040	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,7,8,9-HxCDD	**0.0000022**	**J,DX q MB**	0.000054	0.00000039	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,4,7,8-HxCDF	ND		0.000054	0.00000043	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,6,7,8-HxCDF	ND		0.000054	0.00000044	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,7,8,9-HxCDF	**0.0000017**	**J,DX MB**	0.000054	0.00000039	ug/L		01/07/22 08:45	01/14/22 19:39	1
2,3,4,6,7,8-HxCDF	ND		0.000054	0.00000034	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,4,6,7,8-HpCDD	**0.000018**	**J,DX q MB**	0.000054	0.00000074	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,4,6,7,8-HpCDF	**0.0000071**	**J,DX MB**	0.000054	0.00000063	ug/L		01/07/22 08:45	01/14/22 19:39	1
1,2,3,4,7,8,9-HpCDF	ND		0.000054	0.00000066	ug/L		01/07/22 08:45	01/14/22 19:39	1
OCDD	**0.00012**	**MB**	0.00011	0.0000014	ug/L		01/07/22 08:45	01/14/22 19:39	1
OCDF	**0.0000073**	**J,DX MB**	0.00011	0.0000016	ug/L		01/07/22 08:45	01/14/22 19:39	1
Total TCDD	ND		0.000011	0.00000078	ug/L		01/07/22 08:45	01/14/22 19:39	1
Total TCDF	ND		0.000011	0.00000036	ug/L		01/07/22 08:45	01/14/22 19:39	1
Total PeCDD	**0.0000036**	**J,DX q MB**	0.000054	0.00000094	ug/L		01/07/22 08:45	01/14/22 19:39	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0002_20211224
Date Collected: 12/24/21 07:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-6
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDF	ND		0.000054	0.00000052	ug/L		01/07/22 08:45	01/14/22 19:39	1
Total HxCDD	**0.000012**	**J,DX q MB**	0.000054	0.00000039	ug/L		01/07/22 08:45	01/14/22 19:39	1
Total HxCDF	**0.0000056**	**J,DX MB**	0.000054	0.00000034	ug/L		01/07/22 08:45	01/14/22 19:39	1
Total HpCDD	**0.000039**	**J,DX q MB**	0.000054	0.00000074	ug/L		01/07/22 08:45	01/14/22 19:39	1
Total HpCDF	**0.000010**	**J,DX MB**	0.000054	0.00000063	ug/L		01/07/22 08:45	01/14/22 19:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*82*		*25 - 164*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-2,3,7,8-TCDF	*79*		*24 - 169*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*25 - 181*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*24 - 185*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*21 - 178*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-1,2,3,4,7,8-HxCDD	*88*		*32 - 141*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-1,2,3,6,7,8-HxCDD	*85*		*28 - 130*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*26 - 152*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-1,2,3,6,7,8-HxCDF	*79*		*26 - 123*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-1,2,3,7,8,9-HxCDF	*74*		*29 - 147*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-2,3,4,6,7,8-HxCDF	*85*		*28 - 136*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*84*		*23 - 140*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*88*		*28 - 143*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*89*		*26 - 138*	*01/07/22 08:45*	*01/14/22 19:39*	*1*
13C-OCDD	*88*		*17 - 157*	*01/07/22 08:45*	*01/14/22 19:39*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*	*01/07/22 08:45*	*01/14/22 19:39*	*1*

Client Sample ID: ILBMP0004_20211224
Date Collected: 12/24/21 06:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-7
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000012	0.0000014	ug/L		01/07/22 08:45	01/14/22 20:27	1
2,3,7,8-TCDF	ND		0.000012	0.00000076	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,7,8-PeCDD	**0.000056**	**J,DX**	0.000062	0.0000028	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,7,8-PeCDF	ND		0.000062	0.0000013	ug/L		01/07/22 08:45	01/14/22 20:27	1
2,3,4,7,8-PeCDF	**0.0000021**	**J,DX q**	0.000062	0.0000013	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,4,7,8-HxCDD	**0.000093**	**MB**	0.000062	0.0000034	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,6,7,8-HxCDD	**0.00020**	**MB**	0.000062	0.0000035	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,7,8,9-HxCDD	**0.00022**	**MB**	0.000062	0.0000033	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,4,7,8-HxCDF	**0.000011**	**J,DX MB**	0.000062	0.0000019	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,6,7,8-HxCDF	**0.0000055**	**J,DX q MB**	0.000062	0.0000020	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,7,8,9-HxCDF	ND		0.000062	0.0000019	ug/L		01/07/22 08:45	01/14/22 20:27	1
2,3,4,6,7,8-HxCDF	**0.0000051**	**J,DX MB**	0.000062	0.0000016	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,4,6,7,8-HpCDD	**0.0040**	**MB**	0.000062	0.000046	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,4,6,7,8-HpCDF	**0.00019**	**MB**	0.000062	0.0000032	ug/L		01/07/22 08:45	01/14/22 20:27	1
1,2,3,4,7,8,9-HpCDF	**0.000013**	**J,DX MB**	0.000062	0.0000034	ug/L		01/07/22 08:45	01/14/22 20:27	1
OCDD	**0.074**	**EY MB**	0.00012	0.000045	ug/L		01/07/22 08:45	01/14/22 20:27	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0004_20211224
Date Collected: 12/24/21 06:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-7
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDF	**0.00083**	**MB**	0.00012	0.0000020	ug/L		01/07/22 08:45	01/14/22 20:27	1
Total TCDD	**0.0000052**	**J,DX q MB**	0.000012	0.0000014	ug/L		01/07/22 08:45	01/14/22 20:27	1
Total TCDF	ND		0.000012	0.00000076	ug/L		01/07/22 08:45	01/14/22 20:27	1
Total PeCDD	**0.00013**	**J,DX MB q**	0.000062	0.0000028	ug/L		01/07/22 08:45	01/14/22 20:27	1
Total PeCDF	**0.000024**	**J,DX q**	0.000062	0.0000013	ug/L		01/07/22 08:45	01/14/22 20:27	1
Total HxCDD	**0.0012**	**MB**	0.000062	0.0000033	ug/L		01/07/22 08:45	01/14/22 20:27	1
Total HxCDF	**0.00020**	**J,DX MB q**	0.000062	0.0000016	ug/L		01/07/22 08:45	01/14/22 20:27	1
Total HpCDD	**0.011**	**MB**	0.000062	0.000046	ug/L		01/07/22 08:45	01/14/22 20:27	1
Total HpCDF	**0.00054**	**J,DX MB**	0.000062	0.0000032	ug/L		01/07/22 08:45	01/14/22 20:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*66*		*25 - 164*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-2,3,7,8-TCDF	*66*		*24 - 169*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*25 - 181*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-1,2,3,7,8-PeCDF	*63*		*24 - 185*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-2,3,4,7,8-PeCDF	*70*		*21 - 178*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-1,2,3,4,7,8-HxCDD	*71*		*32 - 141*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-1,2,3,6,7,8-HxCDD	*63*		*28 - 130*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-1,2,3,4,7,8-HxCDF	*65*		*26 - 152*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-1,2,3,6,7,8-HxCDF	*60*		*26 - 123*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-1,2,3,7,8,9-HxCDF	*58*		*29 - 147*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-2,3,4,6,7,8-HxCDF	*65*		*28 - 136*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*68*		*23 - 140*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*70*		*28 - 143*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*73*		*26 - 138*	*01/07/22 08:45*	*01/14/22 20:27*	*1*
13C-OCDD	*82*		*17 - 157*	*01/07/22 08:45*	*01/14/22 20:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*	*01/07/22 08:45*	*01/14/22 20:27*	*1*

Client Sample ID: ILBMP0005_20211224
Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-8
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000012	0.00000088	ug/L		01/07/22 08:45	01/14/22 21:15	1
2,3,7,8-TCDF	ND		0.000012	0.00000044	ug/L		01/07/22 08:45	01/14/22 21:15	1
1,2,3,7,8-PeCDD	ND		0.000058	0.0000011	ug/L		01/07/22 08:45	01/14/22 21:15	1
1,2,3,7,8-PeCDF	**0.0000015**	**J,DX**	0.000058	0.00000065	ug/L		01/07/22 08:45	01/14/22 21:15	1
2,3,4,7,8-PeCDF	ND		0.000058	0.00000069	ug/L		01/07/22 08:45	01/14/22 21:15	1
1,2,3,4,7,8-HxCDD	**0.0000031**	**J,DX MB**	0.000058	0.00000044	ug/L		01/07/22 08:45	01/14/22 21:15	1
1,2,3,6,7,8-HxCDD	**0.0000025**	**J,DX MB**	0.000058	0.00000046	ug/L		01/07/22 08:45	01/14/22 21:15	1
1,2,3,7,8,9-HxCDD	**0.0000030**	**J,DX MB**	0.000058	0.00000043	ug/L		01/07/22 08:45	01/14/22 21:15	1
1,2,3,4,7,8-HxCDF	**0.0000014**	**J,DX q MB**	0.000058	0.00000050	ug/L		01/07/22 08:45	01/14/22 21:15	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0005_20211224
Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-8
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,6,7,8-HxCDF	**0.0000011**	**J,DX q MB**	0.000058	0.00000050	ug/L		01/07/22 08:45	01/14/22 21:15	1
1,2,3,7,8,9-HxCDF	ND		0.000058	0.00000048	ug/L		01/07/22 08:45	01/14/22 21:15	1
2,3,4,6,7,8-HxCDF	**0.00000078**	**J,DX MB**	0.000058	0.00000039	ug/L		01/07/22 08:45	01/14/22 21:15	1
1,2,3,4,6,7,8-HpCDD	**0.000032**	**J,DX MB**	0.000058	0.00000089	ug/L		01/07/22 08:45	01/14/22 21:15	1
1,2,3,4,6,7,8-HpCDF	**0.000011**	**J,DX MB**	0.000058	0.00000083	ug/L		01/07/22 08:45	01/14/22 21:15	1
1,2,3,4,7,8,9-HpCDF	ND		0.000058	0.00000087	ug/L		01/07/22 08:45	01/14/22 21:15	1
OCDD	**0.00026**	**MB**	0.00012	0.0000017	ug/L		01/07/22 08:45	01/14/22 21:15	1
OCDF	**0.000015**	**J,DX MB**	0.00012	0.00000092	ug/L		01/07/22 08:45	01/14/22 21:15	1
Total TCDD	**0.0000035**	**J,DX q MB**	0.000012	0.00000088	ug/L		01/07/22 08:45	01/14/22 21:15	1
Total TCDF	ND		0.000012	0.00000044	ug/L		01/07/22 08:45	01/14/22 21:15	1
Total PeCDD	ND		0.000058	0.0000011	ug/L		01/07/22 08:45	01/14/22 21:15	1
Total PeCDF	**0.0000018**	**J,DX q**	0.000058	0.00000065	ug/L		01/07/22 08:45	01/14/22 21:15	1
Total HxCDD	**0.000015**	**J,DX q MB**	0.000058	0.00000043	ug/L		01/07/22 08:45	01/14/22 21:15	1
Total HxCDF	**0.0000071**	**J,DX q MB**	0.000058	0.00000039	ug/L		01/07/22 08:45	01/14/22 21:15	1
Total HpCDD	**0.000075**	**J,DX MB**	0.000058	0.00000089	ug/L		01/07/22 08:45	01/14/22 21:15	1
Total HpCDF	**0.000018**	**J,DX MB**	0.000058	0.00000083	ug/L		01/07/22 08:45	01/14/22 21:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*86*		*25 - 164*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-2,3,7,8-TCDF	*85*		*24 - 169*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-1,2,3,7,8-PeCDD	*85*		*25 - 181*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-1,2,3,7,8-PeCDF	*83*		*24 - 185*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-2,3,4,7,8-PeCDF	*94*		*21 - 178*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-1,2,3,4,7,8-HxCDD	*94*		*32 - 141*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*28 - 130*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*91*		*26 - 152*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-1,2,3,6,7,8-HxCDF	*86*		*26 - 123*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-1,2,3,7,8,9-HxCDF	*76*		*29 - 147*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-2,3,4,6,7,8-HxCDF	*91*		*28 - 136*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*23 - 140*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*92*		*28 - 143*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*94*		*26 - 138*	*01/07/22 08:45*	*01/14/22 21:15*	*1*
13C-OCDD	*88*		*17 - 157*	*01/07/22 08:45*	*01/14/22 21:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*01/07/22 08:45*	*01/14/22 21:15*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: ILBMP0008_20211224
Date Collected: 12/24/21 06:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-9
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000012	0.0000018	ug/L		01/10/22 05:25	01/17/22 21:38	1
2,3,7,8-TCDF	ND		0.000012	0.00000096	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,7,8-PeCDD	**0.0000036**	**J,DX MB q**	0.000060	0.0000016	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,7,8-PeCDF	ND		0.000060	0.0000012	ug/L		01/10/22 05:25	01/17/22 21:38	1
2,3,4,7,8-PeCDF	ND		0.000060	0.0000012	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,4,7,8-HxCDD	**0.0000067**	**J,DX MB**	0.000060	0.0000015	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,6,7,8-HxCDD	**0.000015**	**J,DX MB**	0.000060	0.0000016	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,7,8,9-HxCDD	**0.000011**	**J,DX MB**	0.000060	0.0000015	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,4,7,8-HxCDF	**0.0000088**	**J,DX MB**	0.000060	0.0000022	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,6,7,8-HxCDF	**0.0000095**	**J,DX MB q**	0.000060	0.0000022	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,7,8,9-HxCDF	**0.0000025**	**J,DX MB q**	0.000060	0.0000020	ug/L		01/10/22 05:25	01/17/22 21:38	1
2,3,4,6,7,8-HxCDF	**0.0000082**	**J,DX MB q**	0.000060	0.0000020	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,4,6,7,8-HpCDD	**0.00035**	**MB**	0.000060	0.0000036	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,4,6,7,8-HpCDF	**0.00021**	**MB**	0.000060	0.0000024	ug/L		01/10/22 05:25	01/17/22 21:38	1
1,2,3,4,7,8,9-HpCDF	**0.0000079**	**J,DX MB**	0.000060	0.0000024	ug/L		01/10/22 05:25	01/17/22 21:38	1
OCDD	**0.0022**	**MB**	0.00012	0.0000054	ug/L		01/10/22 05:25	01/17/22 21:38	1
OCDF	**0.00030**	**MB**	0.00012	0.0000020	ug/L		01/10/22 05:25	01/17/22 21:38	1
Total TCDD	ND		0.000012	0.0000018	ug/L		01/10/22 05:25	01/17/22 21:38	1
Total TCDF	ND		0.000012	0.00000096	ug/L		01/10/22 05:25	01/17/22 21:38	1
Total PeCDD	**0.0000080**	**J,DX MB q**	0.000060	0.0000016	ug/L		01/10/22 05:25	01/17/22 21:38	1
Total PeCDF	**0.0000069**	**J,DX MB q**	0.000060	0.0000012	ug/L		01/10/22 05:25	01/17/22 21:38	1
Total HxCDD	**0.000097**	**J,DX MB q**	0.000060	0.0000015	ug/L		01/10/22 05:25	01/17/22 21:38	1
Total HxCDF	**0.00015**	**J,DX MB q**	0.000060	0.0000020	ug/L		01/10/22 05:25	01/17/22 21:38	1
Total HpCDD	**0.00075**	**MB**	0.000060	0.0000036	ug/L		01/10/22 05:25	01/17/22 21:38	1
Total HpCDF	**0.00035**	**J,DX MB**	0.000060	0.0000024	ug/L		01/10/22 05:25	01/17/22 21:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*76*		*25 - 164*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-2,3,7,8-TCDF	*76*		*24 - 169*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*25 - 181*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-1,2,3,7,8-PeCDF	*70*		*24 - 185*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*21 - 178*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-1,2,3,4,7,8-HxCDD	*77*		*32 - 141*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*28 - 130*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-1,2,3,4,7,8-HxCDF	*78*		*26 - 152*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*26 - 123*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-1,2,3,7,8,9-HxCDF	*69*		*29 - 147*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-2,3,4,6,7,8-HxCDF	*69*		*28 - 136*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*23 - 140*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*78*		*28 - 143*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*85*		*26 - 138*	*01/10/22 05:25*	*01/17/22 21:38*	*1*
13C-OCDD	*81*		*17 - 157*	*01/10/22 05:25*	*01/17/22 21:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*88*		*35 - 197*	*01/10/22 05:25*	*01/17/22 21:38*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: ILBMP0009_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-10
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.0000020	ug/L		01/10/22 05:25	01/17/22 22:26	1
2,3,7,8-TCDF	ND		0.000011	0.0000011	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,7,8-PeCDD	**0.000014**	**J,DX MB**	0.000055	0.0000021	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,7,8-PeCDF	ND		0.000055	0.0000014	ug/L		01/10/22 05:25	01/17/22 22:26	1
2,3,4,7,8-PeCDF	ND		0.000055	0.0000014	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,4,7,8-HxCDD	**0.000022**	**J,DX MB**	0.000055	0.0000021	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,6,7,8-HxCDD	ND		0.000055	0.0000020	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,7,8,9-HxCDD	**0.000045**	**J,DX MB**	0.000055	0.0000020	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,4,7,8-HxCDF	**0.0000084**	**J,DX MB**	0.000055	0.0000024	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,6,7,8-HxCDF	**0.0000097**	**J,DX MB**	0.000055	0.0000024	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,7,8,9-HxCDF	ND		0.000055	0.0000024	ug/L		01/10/22 05:25	01/17/22 22:26	1
2,3,4,6,7,8-HxCDF	**0.0000081**	**J,DX MB**	0.000055	0.0000022	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,4,6,7,8-HpCDD	**0.0012**	**MB**	0.000055	0.0000082	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,4,6,7,8-HpCDF	**0.00020**	**MB**	0.000055	0.0000025	ug/L		01/10/22 05:25	01/17/22 22:26	1
1,2,3,4,7,8,9-HpCDF	**0.0000054**	**J,DX MB q**	0.000055	0.0000028	ug/L		01/10/22 05:25	01/17/22 22:26	1
OCDD	**0.0070**	**MB**	0.00011	0.000011	ug/L		01/10/22 05:25	01/17/22 22:26	1
OCDF	**0.00029**	**MB**	0.00011	0.0000024	ug/L		01/10/22 05:25	01/17/22 22:26	1
Total TCDD	ND		0.000011	0.0000020	ug/L		01/10/22 05:25	01/17/22 22:26	1
Total TCDF	ND		0.000011	0.0000011	ug/L		01/10/22 05:25	01/17/22 22:26	1
Total PeCDD	**0.000020**	**J,DX MB q**	0.000055	0.0000021	ug/L		01/10/22 05:25	01/17/22 22:26	1
Total PeCDF	**0.000027**	**J,DX MB**	0.000055	0.0000014	ug/L		01/10/22 05:25	01/17/22 22:26	1
Total HxCDD	**0.00028**	**J,DX MB**	0.000055	0.0000020	ug/L		01/10/22 05:25	01/17/22 22:26	1
Total HxCDF	**0.00019**	**J,DX MB q**	0.000055	0.0000022	ug/L		01/10/22 05:25	01/17/22 22:26	1
Total HpCDD	**0.0023**	**MB**	0.000055	0.0000082	ug/L		01/10/22 05:25	01/17/22 22:26	1
Total HpCDF	**0.00040**	**J,DX MB q**	0.000055	0.0000025	ug/L		01/10/22 05:25	01/17/22 22:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*25 - 164*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-2,3,7,8-TCDF	*73*		*24 - 169*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*25 - 181*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-1,2,3,7,8-PeCDF	*70*		*24 - 185*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*21 - 178*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*32 - 141*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-1,2,3,6,7,8-HxCDD	*79*		*28 - 130*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-1,2,3,4,7,8-HxCDF	*78*		*26 - 152*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-1,2,3,6,7,8-HxCDF	*74*		*26 - 123*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-1,2,3,7,8,9-HxCDF	*66*		*29 - 147*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-2,3,4,6,7,8-HxCDF	*71*		*28 - 136*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*75*		*23 - 140*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*28 - 143*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*81*		*26 - 138*	*01/10/22 05:25*	*01/17/22 22:26*	*1*
13C-OCDD	*76*		*17 - 157*	*01/10/22 05:25*	*01/17/22 22:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*84*		*35 - 197*	*01/10/22 05:25*	*01/17/22 22:26*	*1*

Client Sample ID: ILBMP0010_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.0000019	ug/L		01/10/22 05:25	01/17/22 23:14	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0010_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000011	0.00000089	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,7,8-PeCDD	**0.000011**	**J,DX MB**	0.000054	0.0000019	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,7,8-PeCDF	ND		0.000054	0.0000012	ug/L		01/10/22 05:25	01/17/22 23:14	1
2,3,4,7,8-PeCDF	ND		0.000054	0.0000012	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,4,7,8-HxCDD	**0.000018**	**J,DX MB**	0.000054	0.0000019	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,6,7,8-HxCDD	**0.000046**	**J,DX MB**	0.000054	0.0000019	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,7,8,9-HxCDD	**0.000035**	**J,DX MB**	0.000054	0.0000018	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,4,7,8-HxCDF	**0.0000082**	**J,DX MB**	0.000054	0.0000016	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,6,7,8-HxCDF	**0.0000090**	**J,DX MB**	0.000054	0.0000017	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,7,8,9-HxCDF	ND		0.000054	0.0000016	ug/L		01/10/22 05:25	01/17/22 23:14	1
2,3,4,6,7,8-HxCDF	**0.0000078**	**J,DX MB**	0.000054	0.0000015	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,4,6,7,8-HpCDD	**0.00083**	**MB**	0.000054	0.0000058	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,4,6,7,8-HpCDF	**0.00018**	**MB**	0.000054	0.0000021	ug/L		01/10/22 05:25	01/17/22 23:14	1
1,2,3,4,7,8,9-HpCDF	**0.0000049**	**J,DX MB**	0.000054	0.0000023	ug/L		01/10/22 05:25	01/17/22 23:14	1
OCDD	**0.0051**	**MB**	0.00011	0.0000088	ug/L		01/10/22 05:25	01/17/22 23:14	1
OCDF	**0.00016**	**MB**	0.00011	0.0000027	ug/L		01/10/22 05:25	01/17/22 23:14	1
Total TCDD	ND		0.000011	0.0000019	ug/L		01/10/22 05:25	01/17/22 23:14	1
Total TCDF	**0.0000015**	**J,DX MB q**	0.000011	0.00000089	ug/L		01/10/22 05:25	01/17/22 23:14	1
Total PeCDD	**0.000016**	**J,DX MB q**	0.000054	0.0000019	ug/L		01/10/22 05:25	01/17/22 23:14	1
Total PeCDF	**0.000024**	**J,DX MB q**	0.000054	0.0000012	ug/L		01/10/22 05:25	01/17/22 23:14	1
Total HxCDD	**0.00028**	**J,DX MB q**	0.000054	0.0000018	ug/L		01/10/22 05:25	01/17/22 23:14	1
Total HxCDF	**0.00018**	**J,DX MB**	0.000054	0.0000015	ug/L		01/10/22 05:25	01/17/22 23:14	1
Total HpCDD	**0.0018**	**MB**	0.000054	0.0000058	ug/L		01/10/22 05:25	01/17/22 23:14	1
Total HpCDF	**0.00029**	**J,DX MB**	0.000054	0.0000021	ug/L		01/10/22 05:25	01/17/22 23:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*76*		*25 - 164*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-2,3,7,8-TCDF	*78*		*24 - 169*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*25 - 181*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-2,3,4,7,8-PeCDF	*81*		*21 - 178*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*32 - 141*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*28 - 130*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*26 - 152*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*26 - 123*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-1,2,3,7,8,9-HxCDF	*67*		*29 - 147*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-2,3,4,6,7,8-HxCDF	*70*		*28 - 136*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*75*		*23 - 140*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*82*		*26 - 138*	*01/10/22 05:25*	*01/17/22 23:14*	*1*
13C-OCDD	*76*		*17 - 157*	*01/10/22 05:25*	*01/17/22 23:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*01/10/22 05:25*	*01/17/22 23:14*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: LXBMP0012_20211224
Date Collected: 12/24/21 08:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-12
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.0000017	ug/L		01/10/22 05:25	01/18/22 00:02	1
2,3,7,8-TCDF	ND		0.000011	0.00000078	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,7,8-PeCDD	ND		0.000054	0.0000013	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,7,8-PeCDF	ND		0.000054	0.00000080	ug/L		01/10/22 05:25	01/18/22 00:02	1
2,3,4,7,8-PeCDF	ND		0.000054	0.00000082	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,4,7,8-HxCDD	ND		0.000054	0.00000057	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,6,7,8-HxCDD	ND		0.000054	0.00000059	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,7,8,9-HxCDD	ND		0.000054	0.00000056	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,4,7,8-HxCDF	ND		0.000054	0.00000058	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,6,7,8-HxCDF	ND		0.000054	0.00000059	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,7,8,9-HxCDF	**0.0000013**	**J,DX MB**	0.000054	0.00000050	ug/L		01/10/22 05:25	01/18/22 00:02	1
2,3,4,6,7,8-HxCDF	ND		0.000054	0.00000048	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,4,6,7,8-HpCDD	**0.000013**	**J,DX MB**	0.000054	0.00000067	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,4,6,7,8-HpCDF	**0.0000028**	**J,DX MB q**	0.000054	0.00000086	ug/L		01/10/22 05:25	01/18/22 00:02	1
1,2,3,4,7,8,9-HpCDF	ND		0.000054	0.00000092	ug/L		01/10/22 05:25	01/18/22 00:02	1
OCDD	**0.000061**	**J,DX MB**	0.00011	0.0000017	ug/L		01/10/22 05:25	01/18/22 00:02	1
OCDF	**0.0000056**	**J,DX MB q**	0.00011	0.0000017	ug/L		01/10/22 05:25	01/18/22 00:02	1
Total TCDD	ND		0.000011	0.0000017	ug/L		01/10/22 05:25	01/18/22 00:02	1
Total TCDF	ND		0.000011	0.00000078	ug/L		01/10/22 05:25	01/18/22 00:02	1
Total PeCDD	**0.0000036**	**J,DX MB q**	0.000054	0.0000013	ug/L		01/10/22 05:25	01/18/22 00:02	1
Total PeCDF	ND		0.000054	0.00000080	ug/L		01/10/22 05:25	01/18/22 00:02	1
Total HxCDD	**0.0000021**	**J,DX MB**	0.000054	0.00000056	ug/L		01/10/22 05:25	01/18/22 00:02	1
Total HxCDF	**0.0000019**	**J,DX MB q**	0.000054	0.00000048	ug/L		01/10/22 05:25	01/18/22 00:02	1
Total HpCDD	**0.000023**	**J,DX MB**	0.000054	0.00000067	ug/L		01/10/22 05:25	01/18/22 00:02	1
Total HpCDF	**0.0000049**	**J,DX MB q**	0.000054	0.00000086	ug/L		01/10/22 05:25	01/18/22 00:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*25 - 164*	*01/10/22 05:25*	*01/18/22 00:02*	*1*
13C-2,3,7,8-TCDF	*74*		*24 - 169*	*01/10/22 05:25*	*01/18/22 00:02*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*25 - 181*	*01/10/22 05:25*	*01/18/22 00:02*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*24 - 185*	*01/10/22 05:25*	*01/18/22 00:02*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*21 - 178*	*01/10/22 05:25*	*01/18/22 00:02*	*1*
13C-1,2,3,4,7,8-HxCDD	*74*		*32 - 141*	*01/10/22 05:25*	*01/18/22 00:02*	*1*
13C-1,2,3,6,7,8-HxCDD	*69*		*28 - 130*	*01/10/22 05:25*	*01/18/22 00:02*	*1*
13C-1,2,3,4,7,8-HxCDF	*71*		*26 - 152*	*01/10/22 05:25*	*01/18/22 00:02*	*1*
13C-1,2,3,6,7,8-HxCDF	*68*		*26 - 123*	*01/10/22 05:25*	*01/18/22 00:02*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: LXBMP0012_20211224
Date Collected: 12/24/21 08:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-12
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	66		29 - 147	01/10/22 05:25	01/18/22 00:02	1
13C-2,3,4,6,7,8-HxCDF	67		28 - 136	01/10/22 05:25	01/18/22 00:02	1
13C-1,2,3,4,6,7,8-HpCDD	70		23 - 140	01/10/22 05:25	01/18/22 00:02	1
13C-1,2,3,4,6,7,8-HpCDF	73		28 - 143	01/10/22 05:25	01/18/22 00:02	1
13C-1,2,3,4,7,8,9-HpCDF	78		26 - 138	01/10/22 05:25	01/18/22 00:02	1
13C-OCDD	75		17 - 157	01/10/22 05:25	01/18/22 00:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	87		35 - 197	01/10/22 05:25	01/18/22 00:02	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: A1BMP0009_20211224
Date Collected: 12/24/21 06:45
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000011	0.0000045	ug/L		01/07/22 08:45	01/21/22 14:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*127*		*24 - 169*	*01/07/22 08:45*	*01/21/22 14:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*106*		*35 - 197*	*01/07/22 08:45*	*01/21/22 14:52*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-80270-1	A1BMP0002_20211224	91
570-80270-2	A1BMP0003_20211224	95
570-80270-3	A1BMP0009_20211224	95
570-80270-3 - RA	A1BMP0009_20211224	106
570-80270-4	B1BMP0010_20211224	91
570-80270-5	B1BMP0011_20211224	89
570-80270-6	ILBMP0002_20211224	92
570-80270-7	ILBMP0004_20211224	92
570-80270-8	ILBMP0005_20211224	89
570-80270-9	ILBMP0008_20211224	88
570-80270-10	ILBMP0009_20211224	84
570-80270-11	ILBMP0010_20211224	89
570-80270-12	LXBMP0012_20211224	87
MB 320-556604/1-A	Method Blank	93
MB 320-556933/1-A	Method Blank	89
MB 320-556933/1-A - RA	Method Blank	95

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-556604/2-A	Lab Control Sample	91
LCS 320-556933/2-A	Lab Control Sample	82
LCSD 320-556604/3-A	Lab Control Sample Dup	93
LCSD 320-556933/3-A	Lab Control Sample Dup	87

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80270-1	A1BMP0002_20211224	88	88	86	83	94	95	91	91
570-80270-2	A1BMP0003_20211224	80	83	81	80	89	88	80	83
570-80270-3	A1BMP0009_20211224	91	91	90	89	97	90	83	87
570-80270-3 - RA	A1BMP0009_20211224		127						
570-80270-4	B1BMP0010_20211224	84	80	83	80	90	91	84	87
570-80270-5	B1BMP0011_20211224	87	85	83	83	93	94	91	90
570-80270-6	ILBMP0002_20211224	82	79	79	78	86	88	85	84
570-80270-7	ILBMP0004_20211224	66	66	64	63	70	71	63	65
570-80270-8	ILBMP0005_20211224	86	85	85	83	94	94	91	91
570-80270-9	ILBMP0008_20211224	76	76	74	70	80	77	74	78
570-80270-10	ILBMP0009_20211224	74	73	68	70	79	78	79	78
570-80270-11	ILBMP0010_20211224	76	78	75	72	81	78	77	79
570-80270-12	LXBMP0012_20211224	71	74	70	69	78	74	69	71
MB 320-556604/1-A	Method Blank	77	79	72	70	82	78	73	74
MB 320-556933/1-A	Method Blank	79	80	73	72	83	80	78	78
MB 320-556933/1-A - RA	Method Blank		111						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80270-1	A1BMP0002_20211224	85	80	91	89	94	96	94
570-80270-2	A1BMP0003_20211224	77	75	82	87	87	93	95
570-80270-3	A1BMP0009_20211224	77	80	89	94	94	104	114
570-80270-3 - RA	A1BMP0009_20211224							
570-80270-4	B1BMP0010_20211224	80	75	87	88	92	97	96
570-80270-5	B1BMP0011_20211224	84	81	92	92	97	98	99
570-80270-6	ILBMP0002_20211224	79	74	85	84	88	89	88
570-80270-7	ILBMP0004_20211224	60	58	65	68	70	73	82
570-80270-8	ILBMP0005_20211224	86	76	91	86	92	94	88
570-80270-9	ILBMP0008_20211224	73	69	69	76	78	85	81
570-80270-10	ILBMP0009_20211224	74	66	71	75	79	81	76
570-80270-11	ILBMP0010_20211224	75	67	70	75	80	82	76
570-80270-12	LXBMP0012_20211224	68	66	67	70	73	78	75
MB 320-556604/1-A	Method Blank	68	70	77	73	74	80	80
MB 320-556933/1-A	Method Blank	76	69	72	75	78	82	74
MB 320-556933/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80270-2
Project/Site: Boeing SSFL ISRA and BMP

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556604/2-A	Lab Control Sample	78	78	76	75	85	82	78	79
LCS 320-556933/2-A	Lab Control Sample	73	72	65	64	75	69	68	69
LCSD 320-556604/3-A	Lab Control Sample Dup	80	79	79	75	86	80	74	75
LCSD 320-556933/3-A	Lab Control Sample Dup	76	75	68	67	76	71	73	70

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-556604/2-A	Lab Control Sample	72	74	81	77	82	85	82
LCS 320-556933/2-A	Lab Control Sample	64	61	63	63	65	70	64
LCSD 320-556604/3-A	Lab Control Sample Dup	71	72	77	76	79	86	85
LCSD 320-556933/3-A	Lab Control Sample Dup	68	60	65	63	67	70	61

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-556604/1-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556604

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000084	ug/L		01/07/22 08:45	01/14/22 13:17	1
2,3,7,8-TCDF	ND		0.000010	0.00000053	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000087	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000078	ug/L		01/07/22 08:45	01/14/22 13:17	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000075	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,4,7,8-HxCDD	0.00000320	J,DX	0.000050	0.00000047	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,6,7,8-HxCDD	0.00000275	J,DX q	0.000050	0.00000047	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,7,8,9-HxCDD	0.00000249	J,DX q	0.000050	0.00000046	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,4,7,8-HxCDF	0.00000187	J,DX q	0.000050	0.00000045	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,6,7,8-HxCDF	0.00000228	J,DX	0.000050	0.00000048	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,7,8,9-HxCDF	0.00000260	J,DX q	0.000050	0.00000040	ug/L		01/07/22 08:45	01/14/22 13:17	1
2,3,4,6,7,8-HxCDF	0.00000199	J,DX	0.000050	0.00000034	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,4,6,7,8-HpCDD	0.00000548	J,DX	0.000050	0.00000025	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,4,6,7,8-HpCDF	0.00000353	J,DX	0.000050	0.00000048	ug/L		01/07/22 08:45	01/14/22 13:17	1
1,2,3,4,7,8,9-HpCDF	0.00000266	J,DX	0.000050	0.00000051	ug/L		01/07/22 08:45	01/14/22 13:17	1
OCDD	0.00000907	J,DX	0.00010	0.00000082	ug/L		01/07/22 08:45	01/14/22 13:17	1
OCDF	0.00000533	J,DX	0.00010	0.00000062	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total TCDD	0.00000455	J,DX q	0.000010	0.00000084	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total TCDF	ND		0.000010	0.00000053	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total PeCDD	0.00000498	J,DX	0.000050	0.00000087	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total PeCDF	ND		0.000050	0.00000075	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total HxCDD	0.00000844	J,DX q	0.000050	0.00000046	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total HxCDF	0.00000875	J,DX q	0.000050	0.00000034	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total HpCDD	0.00000839	J,DX	0.000050	0.00000025	ug/L		01/07/22 08:45	01/14/22 13:17	1
Total HpCDF	0.00000618	J,DX	0.000050	0.00000048	ug/L		01/07/22 08:45	01/14/22 13:17	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*01/07/22 08:45*	*01/14/22 13:17*	*1*
13C-2,3,7,8-TCDF	*79*		*24 - 169*	*01/07/22 08:45*	*01/14/22 13:17*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*25 - 181*	*01/07/22 08:45*	*01/14/22 13:17*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-556604/1-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556604

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	70		24 - 185	01/07/22 08:45	01/14/22 13:17	1
13C-2,3,4,7,8-PeCDF	82		21 - 178	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,4,7,8-HxCDD	78		32 - 141	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,6,7,8-HxCDD	73		28 - 130	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,4,7,8-HxCDF	74		26 - 152	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,6,7,8-HxCDF	68		26 - 123	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,7,8,9-HxCDF	70		29 - 147	01/07/22 08:45	01/14/22 13:17	1
13C-2,3,4,6,7,8-HxCDF	77		28 - 136	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,4,6,7,8-HpCDF	74		28 - 143	01/07/22 08:45	01/14/22 13:17	1
13C-1,2,3,4,7,8,9-HpCDF	80		26 - 138	01/07/22 08:45	01/14/22 13:17	1
13C-OCDD	80		17 - 157	01/07/22 08:45	01/14/22 13:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	93		35 - 197	01/07/22 08:45	01/14/22 13:17	1

Lab Sample ID: LCS 320-556604/2-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556604

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000206		ug/L		103	67 - 158		
2,3,7,8-TCDF			0.000200	0.000213		ug/L		106	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.00110		ug/L		110	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.00111		ug/L		111	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000992		ug/L		99	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.00101	MB	ug/L		101	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.00104	MB	ug/L		104	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.00103	MB	ug/L		103	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000991	MB	ug/L		99	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00111	MB	ug/L		111	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.00106	MB	ug/L		106	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.00108	MB	ug/L		108	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.00108	MB	ug/L		108	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00101	MB	ug/L		101	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000952	MB	ug/L		95	78 - 138		
OCDD			0.00200	0.00197	MB	ug/L		99	78 - 144		
OCDF			0.00200	0.00198	MB	ug/L		99	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	78		20 - 175
13C-2,3,7,8-TCDF	78		22 - 152
13C-1,2,3,7,8-PeCDD	76		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	85		13 - 328
13C-1,2,3,4,7,8-HxCDD	82		21 - 193
13C-1,2,3,6,7,8-HxCDD	78		25 - 163
13C-1,2,3,4,7,8-HxCDF	79		19 - 202

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556604/2-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556604

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDF	72		21 - 159
13C-1,2,3,7,8,9-HxCDF	74		17 - 205
13C-2,3,4,6,7,8-HxCDF	81		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	77		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	82		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	85		20 - 186
13C-OCDD	82		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	91		31 - 191

Lab Sample ID: LCSD 320-556604/3-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556604

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000198		ug/L		99	67 - 158	4	50
2,3,7,8-TCDF			0.000200	0.000210		ug/L		105	75 - 158	1	50
1,2,3,7,8-PeCDD			0.00100	0.00110		ug/L		110	70 - 142	0	50
1,2,3,7,8-PeCDF			0.00100	0.00110		ug/L		110	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000995		ug/L		100	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.000963	MB	ug/L		96	70 - 164	4	50
1,2,3,6,7,8-HxCDD			0.00100	0.00103	MB	ug/L		103	76 - 134	1	50
1,2,3,7,8,9-HxCDD			0.00100	0.00102	MB	ug/L		102	64 - 162	1	50
1,2,3,4,7,8-HxCDF			0.00100	0.000996	MB	ug/L		100	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.00108	MB	ug/L		108	84 - 130	3	50
1,2,3,7,8,9-HxCDF			0.00100	0.00107	MB	ug/L		107	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.00110	MB	ug/L		110	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00106	MB	ug/L		106	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00101	MB	ug/L		101	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000956	MB	ug/L		96	78 - 138	0	50
OCDD			0.00200	0.00199	MB	ug/L		99	78 - 144	1	50
OCDF			0.00200	0.00200	MB	ug/L		100	63 - 170	1	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	80		20 - 175
13C-2,3,7,8-TCDF	79		22 - 152
13C-1,2,3,7,8-PeCDD	79		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	86		13 - 328
13C-1,2,3,4,7,8-HxCDD	80		21 - 193
13C-1,2,3,6,7,8-HxCDD	74		25 - 163
13C-1,2,3,4,7,8-HxCDF	75		19 - 202
13C-1,2,3,6,7,8-HxCDF	71		21 - 159
13C-1,2,3,7,8,9-HxCDF	72		17 - 205
13C-2,3,4,6,7,8-HxCDF	77		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	76		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	79		21 - 158

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-556604/3-A
Matrix: Water
Analysis Batch: 558745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556604

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,7,8,9-HpCDF	86		20 - 186
13C-OCDD	85		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	93		31 - 191

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000016	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8-PeCDD	0.00000467	J,DX	0.000050	0.0000014	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8-PeCDF	0.00000401	J,DX	0.000050	0.00000089	ug/L		01/10/22 05:25	01/17/22 19:15	1
2,3,4,7,8-PeCDF	0.00000412	J,DX	0.000050	0.00000090	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8-HxCDD	0.00000550	J,DX q	0.000050	0.00000077	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,6,7,8-HxCDD	0.00000657	J,DX	0.000050	0.00000074	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8,9-HxCDD	0.00000690	J,DX q	0.000050	0.00000073	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8-HxCDF	0.00000382	J,DX q	0.000050	0.00000070	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,6,7,8-HxCDF	0.00000445	J,DX q	0.000050	0.00000072	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8,9-HxCDF	0.00000579	J,DX	0.000050	0.00000067	ug/L		01/10/22 05:25	01/17/22 19:15	1
2,3,4,6,7,8-HxCDF	0.00000499	J,DX	0.000050	0.00000063	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,6,7,8-HpCDD	0.00000880	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,6,7,8-HpCDF	0.00000623	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8,9-HpCDF	0.00000709	J,DX	0.000050	0.00000064	ug/L		01/10/22 05:25	01/17/22 19:15	1
OCDD	0.0000172	J,DX	0.00010	0.0000010	ug/L		01/10/22 05:25	01/17/22 19:15	1
OCDF	0.0000123	J,DX	0.00010	0.0000015	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total TCDD	0.00000271	J,DX q	0.000010	0.0000016	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total TCDF	0.00000188	J,DX q	0.000010	0.00000085	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total PeCDD	0.00000467	J,DX	0.000050	0.0000014	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total PeCDF	0.00000813	J,DX	0.000050	0.00000089	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HxCDD	0.0000190	J,DX q	0.000050	0.00000073	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HxCDF	0.0000205	J,DX q	0.000050	0.00000063	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HpCDD	0.0000127	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HpCDF	0.0000133	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	79		25 - 164	01/10/22 05:25	01/17/22 19:15	1
13C-2,3,7,8-TCDF	80		24 - 169	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,7,8-PeCDD	73		25 - 181	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,7,8-PeCDF	72		24 - 185	01/10/22 05:25	01/17/22 19:15	1
13C-2,3,4,7,8-PeCDF	83		21 - 178	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,7,8-HxCDD	80		32 - 141	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,6,7,8-HxCDD	78		28 - 130	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,7,8-HxCDF	78		26 - 152	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,6,7,8-HxCDF	76		26 - 123	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,7,8,9-HxCDF	69		29 - 147	01/10/22 05:25	01/17/22 19:15	1
13C-2,3,4,6,7,8-HxCDF	72		28 - 136	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,6,7,8-HpCDD	75		23 - 140	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,6,7,8-HpCDF	78		28 - 143	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,7,8,9-HpCDF	82		26 - 138	01/10/22 05:25	01/17/22 19:15	1
13C-OCDD	74		17 - 157	01/10/22 05:25	01/17/22 19:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	01/10/22 05:25	01/17/22 19:15	1

Lab Sample ID: LCS 320-556933/2-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000206		ug/L		103	67 - 158
2,3,7,8-TCDF	0.000200	0.000210	MB	ug/L		105	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00114	MB	ug/L		114	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00113	MB	ug/L		113	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00103	MB	ug/L		103	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000989	MB	ug/L		99	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00107	MB	ug/L		107	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00105	MB	ug/L		105	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000988	MB	ug/L		99	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00111	MB	ug/L		111	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00107	MB	ug/L		107	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00112	MB	ug/L		112	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00109	MB	ug/L		109	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00105	MB	ug/L		105	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000972	MB	ug/L		97	78 - 138
OCDD	0.00200	0.00199	MB	ug/L		99	78 - 144
OCDF	0.00200	0.00204	MB	ug/L		102	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	73		20 - 175
13C-2,3,7,8-TCDF	72		22 - 152
13C-1,2,3,7,8-PeCDD	65		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	69		21 - 193
13C-1,2,3,6,7,8-HxCDD	68		25 - 163
13C-1,2,3,4,7,8-HxCDF	69		19 - 202

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556933/2-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556933

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDF	64		21 - 159
13C-1,2,3,7,8,9-HxCDF	61		17 - 205
13C-2,3,4,6,7,8-HxCDF	63		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	63		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	65		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186
13C-OCDD	64		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	82		31 - 191

Lab Sample ID: LCSD 320-556933/3-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556933

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000197		ug/L		98	67 - 158	5	50
2,3,7,8-TCDF			0.000200	0.000209	MB	ug/L		104	75 - 158	1	50
1,2,3,7,8-PeCDD			0.00100	0.00112	MB	ug/L		112	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00113	MB	ug/L		113	80 - 134	0	50
2,3,4,7,8-PeCDF			0.00100	0.00103	MB	ug/L		103	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.00102	MB	ug/L		102	70 - 164	3	50
1,2,3,6,7,8-HxCDD			0.00100	0.00104	MB	ug/L		104	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.00102	MB	ug/L		102	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134	2	50
1,2,3,6,7,8-HxCDF			0.00100	0.00108	MB	ug/L		108	84 - 130	2	50
1,2,3,7,8,9-HxCDF			0.00100	0.00112	MB	ug/L		112	78 - 130	5	50
2,3,4,6,7,8-HxCDF			0.00100	0.00110	MB	ug/L		110	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00110	MB	ug/L		110	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00106	MB	ug/L		106	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000988	MB	ug/L		99	78 - 138	2	50
OCDD			0.00200	0.00204	MB	ug/L		102	78 - 144	3	50
OCDF			0.00200	0.00207	MB	ug/L		104	63 - 170	2	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	76		20 - 175
13C-2,3,7,8-TCDF	75		22 - 152
13C-1,2,3,7,8-PeCDD	68		21 - 227
13C-1,2,3,7,8-PeCDF	67		21 - 192
13C-2,3,4,7,8-PeCDF	76		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	68		21 - 159
13C-1,2,3,7,8,9-HxCDF	60		17 - 205
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	63		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-556933/3-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556933

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186
13C-OCDD	61		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	87		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 559680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000054	ug/L		01/10/22 05:25	01/21/22 13:35	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	111		24 - 169	01/10/22 05:25	01/21/22 13:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	95		35 - 197	01/10/22 05:25	01/21/22 13:35	1

Specialty Organics

Prep Batch: 556604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Total/NA	Water	1613B	
570-80270-2	A1BMP0003_20211224	Total/NA	Water	1613B	
570-80270-3 - RA	A1BMP0009_20211224	Total/NA	Water	1613B	
570-80270-3	A1BMP0009_20211224	Total/NA	Water	1613B	
570-80270-4	B1BMP0010_20211224	Total/NA	Water	1613B	
570-80270-5	B1BMP0011_20211224	Total/NA	Water	1613B	
570-80270-6	ILBMP0002_20211224	Total/NA	Water	1613B	
570-80270-7	ILBMP0004_20211224	Total/NA	Water	1613B	
570-80270-8	ILBMP0005_20211224	Total/NA	Water	1613B	
MB 320-556604/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556604/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556604/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Prep Batch: 556933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-9	ILBMP0008_20211224	Total/NA	Water	1613B	
570-80270-10	ILBMP0009_20211224	Total/NA	Water	1613B	
570-80270-11	ILBMP0010_20211224	Total/NA	Water	1613B	
570-80270-12	LXBMP0012_20211224	Total/NA	Water	1613B	
MB 320-556933/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-556933/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556933/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556933/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 558745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-1	A1BMP0002_20211224	Total/NA	Water	1613B	556604
570-80270-2	A1BMP0003_20211224	Total/NA	Water	1613B	556604
570-80270-3	A1BMP0009_20211224	Total/NA	Water	1613B	556604
570-80270-4	B1BMP0010_20211224	Total/NA	Water	1613B	556604
570-80270-5	B1BMP0011_20211224	Total/NA	Water	1613B	556604
570-80270-6	ILBMP0002_20211224	Total/NA	Water	1613B	556604
570-80270-7	ILBMP0004_20211224	Total/NA	Water	1613B	556604
570-80270-8	ILBMP0005_20211224	Total/NA	Water	1613B	556604
MB 320-556604/1-A	Method Blank	Total/NA	Water	1613B	556604
LCS 320-556604/2-A	Lab Control Sample	Total/NA	Water	1613B	556604
LCSD 320-556604/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556604

Analysis Batch: 558766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-9	ILBMP0008_20211224	Total/NA	Water	1613B	556933
570-80270-10	ILBMP0009_20211224	Total/NA	Water	1613B	556933
570-80270-11	ILBMP0010_20211224	Total/NA	Water	1613B	556933
570-80270-12	LXBMP0012_20211224	Total/NA	Water	1613B	556933
MB 320-556933/1-A	Method Blank	Total/NA	Water	1613B	556933
LCS 320-556933/2-A	Lab Control Sample	Total/NA	Water	1613B	556933
LCSD 320-556933/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556933

Analysis Batch: 559680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80270-3 - RA	A1BMP0009_20211224	Total/NA	Water	1613B	556604

Specialty Organics (Continued)

Analysis Batch: 559680 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-556933/1-A - RA	Method Blank	Total/NA	Water	1613B	556933

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Client Sample ID: A1BMP0002_20211224
Date Collected: 12/24/21 07:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			880.7 mL	20.0 uL	556604	01/07/22 08:45	FC	TAL SAC
Total/NA	Analysis	1613B		1			558745	01/14/22 15:40	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: A1BMP0003_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			894.2 mL	20.0 uL	556604	01/07/22 08:45	FC	TAL SAC
Total/NA	Analysis	1613B		1			558745	01/14/22 16:28	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: A1BMP0009_20211224
Date Collected: 12/24/21 06:45
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		923.2 mL	20.0 uL	556604	01/07/22 08:45	FC	TAL SAC
Total/NA	Analysis	1613B	RA	1			559680	01/21/22 14:52	DB	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			923.2 mL	20.0 uL	556604	01/07/22 08:45	FC	TAL SAC
Total/NA	Analysis	1613B		1			558745	01/14/22 17:16	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: B1BMP0010_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			950.2 mL	20.0 uL	556604	01/07/22 08:45	FC	TAL SAC
Total/NA	Analysis	1613B		1			558745	01/14/22 18:04	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: B1BMP0011_20211224
Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			881.5 mL	20.0 uL	556604	01/07/22 08:45	FC	TAL SAC
Total/NA	Analysis	1613B		1			558745	01/14/22 18:51	GRB	TAL SAC
	Instrument ID: DFS 1									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Client Sample ID: ILBMP0002_20211224
Date Collected: 12/24/21 07:40
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			921.9 mL	20.0 uL	556604	01/07/22 08:45	FC	TAL SAC
Total/NA	Analysis	1613B		1			558745	01/14/22 19:39	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: ILBMP0004_20211224
Date Collected: 12/24/21 06:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			809.3 mL	20.0 uL	556604	01/07/22 08:45	FC	TAL SAC
Total/NA	Analysis	1613B		1			558745	01/14/22 20:27	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: ILBMP0005_20211224
Date Collected: 12/24/21 07:05
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			859.1 mL	20.0 uL	556604	01/07/22 08:45	FC	TAL SAC
Total/NA	Analysis	1613B		1			558745	01/14/22 21:15	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: ILBMP0008_20211224
Date Collected: 12/24/21 06:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			834.9 mL	20.0 uL	556933	01/10/22 05:25	FC	TAL SAC
Total/NA	Analysis	1613B		1			558766	01/17/22 21:38	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: ILBMP0009_20211224
Date Collected: 12/24/21 06:50
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			916.6 mL	20.0 uL	556933	01/10/22 05:25	FC	TAL SAC
Total/NA	Analysis	1613B		1			558766	01/17/22 22:26	GRB	TAL SAC
	Instrument ID: DFS 1									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Client Sample ID: ILBMP0010_20211224

Date Collected: 12/24/21 06:55
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			925.4 mL	20.0 uL	556933	01/10/22 05:25	FC	TAL SAC
Total/NA	Analysis	1613B		1			558766	01/17/22 23:14	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: LXBMP0012_20211224

Date Collected: 12/24/21 08:25
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80270-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			921.3 mL	20.0 uL	556933	01/10/22 05:25	FC	TAL SAC
Total/NA	Analysis	1613B		1			558766	01/18/22 00:02	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80270-2
Project/Site: Boeing SSFL ISRA and BMP

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80270-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80270-1	A1BMP0002_20211224	Water	12/24/21 07:50	12/28/21 18:00
570-80270-2	A1BMP0003_20211224	Water	12/24/21 08:10	12/28/21 18:00
570-80270-3	A1BMP0009_20211224	Water	12/24/21 06:45	12/28/21 18:00
570-80270-4	B1BMP0010_20211224	Water	12/24/21 06:50	12/28/21 18:00
570-80270-5	B1BMP0011_20211224	Water	12/24/21 06:55	12/28/21 18:00
570-80270-6	ILBMP0002_20211224	Water	12/24/21 07:40	12/28/21 18:00
570-80270-7	ILBMP0004_20211224	Water	12/24/21 06:30	12/28/21 18:00
570-80270-8	ILBMP0005_20211224	Water	12/24/21 07:05	12/28/21 18:00
570-80270-9	ILBMP0008_20211224	Water	12/24/21 06:25	12/28/21 18:00
570-80270-10	ILBMP0009_20211224	Water	12/24/21 06:50	12/28/21 18:00
570-80270-11	ILBMP0010_20211224	Water	12/24/21 06:55	12/28/21 18:00
570-80270-12	LXBMP0012_20211224	Water	12/24/21 08:25	12/28/21 18:00

80270

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins Ca sc ence

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 12/24/2021	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	☑ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	☐ 2 days			Job / SDG No.
H&A P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS / MSD (Y/N)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Recoverable)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Dissolved)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Sample Specific Notes:
								1-250mL Poly	1-250mL Poly	2-1L Amber	1-1L Poly	1-1L Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
A1BMP0002_20211224	12/24/2021	750	G	WM	6	Y	N	X	X	X	X	X	
A1BMP0003_2021224	12/24/2021	0810	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0009_20211224	12/24/2021	645	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0010_20211224	12/24/2021	0650	G	WM	6	Y	N	X	X	X	X	X	
B1BMP0011_20211224	12/24/2021	0655	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0002_20211224	12/24/2021	0740	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0004_20211224	12/24/2021	0630	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0005_20211224	12/24/2021	705	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0008_20211224	12/24/2021	0625	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0009_20211224	12/24/2021	0650	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0010_20211224	12/24/2021	0655	G	WM	6	Y	N	X	X	X	X	X	
LXBMP0012_20211224	12/24/2021	825	G	WM	6	Y	N	X	X	X	X	X	
								4	4	1	1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the samples in the Comments Section if the lab is to dispose of the sample.

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: **ECI #44009815**
Please email data to kmiller@haleyaldrich.com and post to Total Access, Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.			Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No. ____	
Relinquished by:	Company: H. A.	Date/Time: 12-23-21 1445	Received by:	ECI 12/28/21 1445	Date/Time:
Relinquished by:	Company: ECI	Date/Time: 12/28/21 1800	Received by:	12/28/21 1800	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

2.4/3.3, 2.2/3.1, 1.9/2.8 SCS

570-80270 Chain of Custody

1/24/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s).	COC No: 570-148214 1
Client Contact: Shipping/Receiving	Phone.	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80270-2
Address: 880 Riverside Parkway,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A1BMP0002_20211224 (570-80270-1)	12/24/21	07 50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0003_20211224 (570-80270-2)	12/24/21	08 10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0009_20211224 (570-80270-3)	12/24/21	06 45 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
B1BMP0010_20211224 (570-80270-4)	12/24/21	06 50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
B1BMP0011_20211224 (570-80270-5)	12/24/21	06 55 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0002_20211224 (570-80270-6)	12/24/21	07 40 Pacific		Water			X	2	See QAS Boeing_w/u to zero
ILBMP0004_20211224 (570-80270-7)	12/24/21	06 30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0005_20211224 (570-80270-8)	12/24/21	07 05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0008_20211224 (570-80270-9)	12/24/21	06 25 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/29/21 1746				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148214 2
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80270-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note
			Preservation Code:						
ILBMP0009_20211224 (570-80270-10)	12/24/21	06 50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0010_20211224 (570-80270-11)	12/24/21	06 55 Pacific		Water			X	2	See QAS Boeing_w/u to zero
LXBMP0012_20211224 (570-80270-12)	12/24/21	08 25 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	[signature]	12/29/21 1746				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148214.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80270-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A1BMP0002_20211224 (570-80270-1)	12/24/21	07:50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0003_20211224 (570-80270-2)	12/24/21	08:10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
A1BMP0009_20211224 (570-80270-3)	12/24/21	06:45 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
B1BMP0010_20211224 (570-80270-4)	12/24/21	06:50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
B1BMP0011_20211224 (570-80270-5)	12/24/21	06:55 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0002_20211224 (570-80270-6)	12/24/21	07:40 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0004_20211224 (570-80270-7)	12/24/21	06:30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0005_20211224 (570-80270-8)	12/24/21	07:05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0008_20211224 (570-80270-9)	12/24/21	06:25 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/29/21 1746	Company	Received by:	Date/Time: 12/31/21 9:40	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.9

Δ - #7E Broken in transit. 12/31/21

Ver: 06/08/2021

1/24/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148214.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80270-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0009_20211224 (570-80270-10)	12/24/21	06:50 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0010_20211224 (570-80270-11)	12/24/21	06:55 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
LXBMP0012_20211224 (570-80270-12)	12/24/21	08:25 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
1	[signature]	12/29/21 1746		[signature]	12/31/21 9:40	[illegible]
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.9c

Ver: 06 08 2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80270-2

Login Number: 80270
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80270-2

Login Number: 80270
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/31/21 12:31 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80272-1
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/27/2022 10:27:46 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BV	Sample received after holding time expired

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank

General Chemistry

Qualifier	Qualifier Description
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80272-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80272-1

Comments
No additional comments.

Receipt
The sample was received on 12/28/2021 6:00 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.0º C.

Receipt Exceptions

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): LXBMP001_20211224 (570-80272-1). Received 24 containers, while the COC lists 27.

GC/MS VOA
Method 624.1: Internal standard (ISTD) response for TBA-d9 for the following samples in analytical batch 570-205379 was outside acceptance criteria: LXBMP001_20211224 (570-80272-1) and (CCVIS 570-205379/6). This ISTD does not correspond to any of the requested target compounds reported from this analytical batch; therefore, the data have been reported.

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-205379.The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
Method 300.0: The following sample was received outside of holding time: LXBMP001_20211224 (570-80272-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.2: The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient preservation at a pH of >2: Outfall009_20211215_Comp (570-78864-1) and LXBMP001_20211224 (570-80272-1). The sample was preserved to the appropriate pH in the laboratory.

01/07/22 @ 08:36 hours
1.0 mL 1:1 HNO3
1:1 HNO3 # 6803471

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: LXBMP001_20211224 (570-80272-1). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method 200.8: The method blank for preparation batch 440-664156 and analytical batch 440-664217 contained Iron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 245.1, 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Mercurypreparation batch 440-664074 and analytical batch 440-664187 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the

Job ID: 570-80272-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

associated laboratory control sample (LCS) recovery was within acceptance limits.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: LXBMP001_20211224 (570-80272-1). These samples were filtered and preserved upon receipt to the laboratory past 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

1/05/22 11:30 Hours
2.5 HNO3
HNO3 LOT # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-204641. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Client Sample ID: LXBMP001_20211224

Lab Sample ID: 570-80272-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	5.1	BU BV	0.20	0.048	mg/L	2		300.0	Total/NA
Sulfate	3.6		2.0	0.47	mg/L	2		300.0	Total/NA
Boron	59		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	13	J,DX	20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	52		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Arsenic	1.2		1.0	0.50	ug/L	1		200.8	Total Recoverable
Barium	21		1.0	0.50	ug/L	1		200.8	Total Recoverable
Chromium	0.70	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	5.0		2.0	0.50	ug/L	1		200.8	Total Recoverable
Iron	400	MB	20	8.0	ug/L	1		200.8	Total Recoverable
Manganese	22		1.0	0.50	ug/L	1		200.8	Total Recoverable
Nickel	2.1		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	1.1		1.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	0.98	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Barium	12		1.0	0.50	ug/L	1		200.8	Dissolved
Chromium	4.5		2.0	0.50	ug/L	1		200.8	Dissolved
Copper	1.9	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Iron	68		20	8.0	ug/L	1		200.8	Dissolved
Manganese	3.2		1.0	0.50	ug/L	1		200.8	Dissolved
Nickel	2.4		2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.15	J,DX	0.25	0.12	ug/L	1		245.1	Total/NA
Total Suspended Solids	17		1.3	0.67	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	5.40		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	61.61		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	67.01		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	32.99		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			01/04/22 19:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 140*		*01/04/22 19:40*	*1*
4-Bromofluorobenzene (Surr)	*85*		*60 - 140*		*01/04/22 19:40*	*1*
Dibromofluoromethane	*102*		*60 - 140*		*01/04/22 19:40*	*1*
Toluene-d8 (Surr)	*99*		*60 - 140*		*01/04/22 19:40*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		4.8	1.7	ug/L		12/30/21 08:15	01/03/22 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*28 - 127*	*12/30/21 08:15*	*01/03/22 15:41*	*1*
2-Fluorobiphenyl (Surr)	*66*		*31 - 120*	*12/30/21 08:15*	*01/03/22 15:41*	*1*
2-Fluorophenol (Surr)	*48*		*17 - 120*	*12/30/21 08:15*	*01/03/22 15:41*	*1*
Nitrobenzene-d5 (Surr)	*74*		*27 - 120*	*12/30/21 08:15*	*01/03/22 15:41*	*1*
Phenol-d6 (Surr)	*33*		*10 - 120*	*12/30/21 08:15*	*01/03/22 15:41*	*1*
p-Terphenyl-d14 (Surr)	*71*		*45 - 120*	*12/30/21 08:15*	*01/03/22 15:41*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND	BU BV	0.40	0.039	ug/L			12/30/21 18:23	2

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.20	0.092	mg/L			12/30/21 15:03	2
Nitrite as N	ND	BU BV	0.20	0.036	mg/L			12/30/21 15:03	2
Nitrate as N	**5.1**	**BU BV**	0.20	0.048	mg/L			12/30/21 15:03	2
Sulfate	**3.6**		2.0	0.47	mg/L			12/30/21 15:03	2

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 314.0 - Perchlorate (IC)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 17:06	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	59		50	25	ug/L		01/10/22 11:32	01/11/22 06:19	1
Zinc	13	J,DX	20	12	ug/L		01/10/22 11:32	01/11/22 06:19	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**52**		50	25	ug/L		01/25/22 13:40	01/25/22 16:33	1
Zinc	ND		20	12	ug/L		01/25/22 13:40	01/25/22 16:33	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:32	1
Arsenic	**1.2**		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:32	1
Barium	**21**		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:32	1
Beryllium	ND		0.50	0.25	ug/L		01/10/22 16:20	01/11/22 12:32	1
Cadmium	ND		1.0	0.25	ug/L		01/10/22 16:20	01/11/22 12:32	1
Chromium	**0.70**	**J,DX**	2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:32	1
Copper	**5.0**		2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:32	1
Iron	**400**	**MB**	20	8.0	ug/L		01/10/22 16:20	01/11/22 12:32	1
Manganese	**22**		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:32	1
Nickel	**2.1**		2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:32	1
Lead	**1.1**		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:32	1
Antimony	ND		2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:32	1
Selenium	ND		2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:32	1
Thallium	ND		1.0	0.20	ug/L		01/10/22 16:20	01/11/22 12:32	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:10	1
Arsenic	**0.98**	**J,DX**	1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:10	1
Barium	**12**		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:10	1
Beryllium	ND		0.50	0.25	ug/L		01/07/22 08:22	01/07/22 14:10	1
Cadmium	ND		1.0	0.25	ug/L		01/07/22 08:22	01/07/22 14:10	1
Chromium	**4.5**		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:10	1
Copper	**1.9**	**J,DX**	2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:10	1
Iron	**68**		20	8.0	ug/L		01/07/22 08:22	01/07/22 14:10	1
Manganese	**3.2**		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:10	1
Nickel	**2.4**		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:10	1
Lead	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:10	1
Antimony	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:10	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:10	1
Thallium	ND		1.0	0.20	ug/L		01/07/22 08:22	01/07/22 14:10	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.15	J,DX	0.25	0.12	ug/L		01/15/22 16:00	01/17/22 16:33	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/19/22 17:58	01/20/22 20:05	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

General Chemistry

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 22:00	1
Total Suspended Solids	**17**		1.3	0.67	mg/L			12/30/21 14:09	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:29	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

General Chemistry - Dissolved

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 21:49	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**5.40**		0.01	0.01	%			01/07/22 16:23	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 16:23	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 16:23	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 16:23	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 16:23	1
Silt (0.00391 to 0.0625mm)	**61.61**		0.01	0.01	%			01/07/22 16:23	1
Total Silt and Clay (0 to 0.0626mm)	**67.01**		0.01	0.01	%			01/07/22 16:23	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 16:23	1
Very Fine Sand (0.0625 to 0.125 mm)	**32.99**		0.01	0.01	%			01/07/22 16:23	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

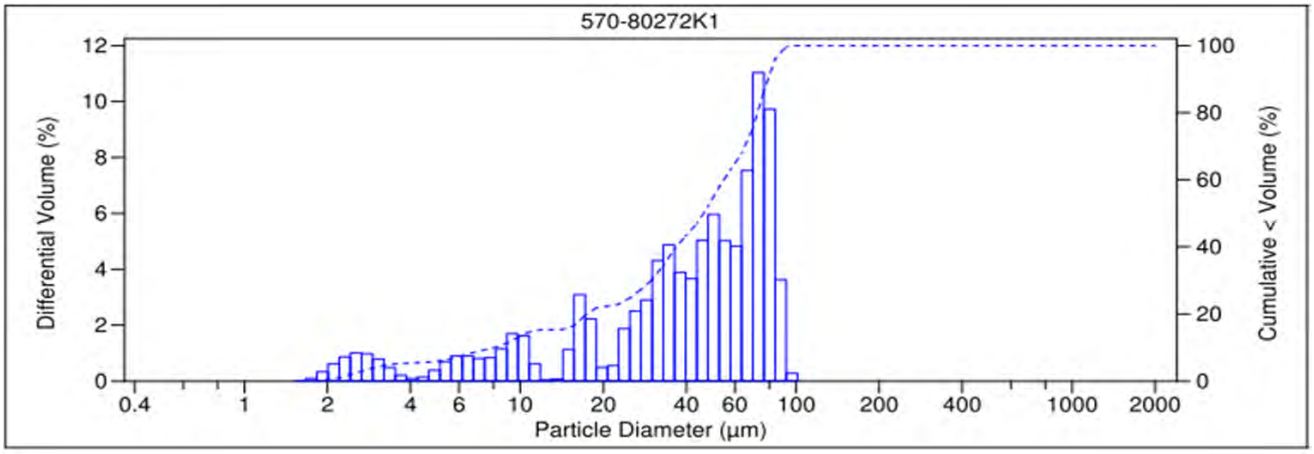
Haley & Aldrich, Inc.

Date Sampled:	12/24/21
Date Received:	12/28/21
Work Order No:	570-80272
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
LXBMP0011_20211224		Silt	0.046

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	32.99	61.61	5.40	67.01



V 3.0

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		DCA	BFB	DBFM	TOL				
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)	(60-140)				
570-80272-1	LXBMP001_20211224	96	85	102	99				
LCS 570-205379/7	Lab Control Sample	95	96	103	102				
LCSD 570-205379/8	Lab Control Sample Dup	95	94	104	101				
MB 570-205379/11	Method Blank	95	84	102	100				

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		TBP	FBP	2FP	NBZ	PHL6	TPHd14		
Lab Sample ID	Client Sample ID	(28-127)	(31-120)	(17-120)	(27-120)	(10-120)	(45-120)		
570-80272-1	LXBMP001_20211224	79	66	48	74	33	71		
LCS 570-204641/2-A	Lab Control Sample	90	71	60	74	40	85		
LCSD 570-204641/3-A	Lab Control Sample Dup	90	74	59	73	39	86		
MB 570-204641/1-A	Method Blank	87	70	53	75	34	75		

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-205379/11
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			01/04/22 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*		*01/04/22 16:47*	*1*
4-Bromofluorobenzene (Surr)	*84*		*60 - 140*		*01/04/22 16:47*	*1*
Dibromofluoromethane	*102*		*60 - 140*		*01/04/22 16:47*	*1*
Toluene-d8 (Surr)	*100*		*60 - 140*		*01/04/22 16:47*	*1*

Lab Sample ID: LCS 570-205379/7
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Trichloroethene			50.0	52.0		ug/L		104	65 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
4-Bromofluorobenzene (Surr)	*96*		*60 - 140*
Dibromofluoromethane	*103*		*60 - 140*
Toluene-d8 (Surr)	*102*		*60 - 140*

Lab Sample ID: LCSD 570-205379/8
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene			50.0	51.3		ug/L		103	65 - 135	1	48

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
4-Bromofluorobenzene (Surr)	*94*		*60 - 140*
Dibromofluoromethane	*104*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-204641/1-A
Matrix: Water
Analysis Batch: 205129

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/30/21 08:14	01/03/22 14:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*28 - 127*	*12/30/21 08:14*	*01/03/22 14:37*	*1*
2-Fluorobiphenyl (Surr)	*70*		*31 - 120*	*12/30/21 08:14*	*01/03/22 14:37*	*1*
2-Fluorophenol (Surr)	*53*		*17 - 120*	*12/30/21 08:14*	*01/03/22 14:37*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-204641/1-A
Matrix: Water
Analysis Batch: 205129

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204641

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	75		27 - 120	12/30/21 08:14	01/03/22 14:37	1
Phenol-d6 (Surr)	34		10 - 120	12/30/21 08:14	01/03/22 14:37	1
p-Terphenyl-d14 (Surr)	75		45 - 120	12/30/21 08:14	01/03/22 14:37	1

Lab Sample ID: LCS 570-204641/2-A
Matrix: Water
Analysis Batch: 205129

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204641

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Bis(2-ethylhexyl) phthalate			20.0	21.5		ug/L		108	29 - 137		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	90		28 - 127
2-Fluorobiphenyl (Surr)	71		31 - 120
2-Fluorophenol (Surr)	60		17 - 120
Nitrobenzene-d5 (Surr)	74		27 - 120
Phenol-d6 (Surr)	40		10 - 120
p-Terphenyl-d14 (Surr)	85		45 - 120

Lab Sample ID: LCSD 570-204641/3-A
Matrix: Water
Analysis Batch: 205129

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204641

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate			20.0	21.4		ug/L		107	29 - 137	1	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	90		28 - 127
2-Fluorobiphenyl (Surr)	74		31 - 120
2-Fluorophenol (Surr)	59		17 - 120
Nitrobenzene-d5 (Surr)	73		27 - 120
Phenol-d6 (Surr)	39		10 - 120
p-Terphenyl-d14 (Surr)	86		45 - 120

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-204701/6
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.20	0.019	ug/L			12/30/21 12:34	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 570-204701/7
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium			50.0	50.4		ug/L		101	95 - 107		

Lab Sample ID: LCSD 570-204701/8
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium			50.0	50.1		ug/L		100	95 - 107	1	20

Lab Sample ID: 570-80408-H-1 MS
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium	ND		50.0	50.8		ug/L		102	85 - 121		

Lab Sample ID: 570-80408-H-1 MSD
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium	ND		50.0	51.5		ug/L		103	85 - 121	1	25

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-204681/5
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.046	mg/L			12/30/21 11:01	1
Sulfate	ND		1.0	0.24	mg/L			12/30/21 11:01	1

Lab Sample ID: LCS 570-204681/6
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			2.50	2.73		mg/L		109	90 - 110		
Sulfate			50.0	49.1		mg/L		98	90 - 110		

Lab Sample ID: LCSD 570-204681/7
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			2.50	2.73		mg/L		109	90 - 110	0	15
Sulfate			50.0	49.3		mg/L		99	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 570-80272-1 MS
Matrix: Water
Analysis Batch: 204681

Client Sample ID: LXBMP001_20211224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	ND		2.50	2.61		mg/L		104	80 - 120		
Sulfate	3.6		50.0	49.6		mg/L		92	80 - 120		

Lab Sample ID: 570-80272-1 MSD
Matrix: Water
Analysis Batch: 204681

Client Sample ID: LXBMP001_20211224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		2.50	2.61		mg/L		104	80 - 120	0	20
Sulfate	3.6		50.0	50.0		mg/L		93	80 - 120	1	20

Lab Sample ID: MB 570-204682/5
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/30/21 11:01	1
Nitrate as N	ND		0.10	0.024	mg/L			12/30/21 11:01	1

Lab Sample ID: LCS 570-204682/6
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	2.50	2.37		mg/L		95	90 - 110		
Nitrate as N	5.00	4.97		mg/L		99	90 - 110		

Lab Sample ID: LCSD 570-204682/7
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	2.50	2.35		mg/L		94	90 - 110	1	15
Nitrate as N	5.00	4.95		mg/L		99	90 - 110	0	15

Lab Sample ID: 570-80272-1 MS
Matrix: Water
Analysis Batch: 204682

Client Sample ID: LXBMP001_20211224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	ND	BU BV	2.50	2.48		mg/L		99	80 - 120		
Nitrate as N	5.1	BU BV	5.00	9.99		mg/L		98	80 - 120		

Lab Sample ID: 570-80272-1 MSD
Matrix: Water
Analysis Batch: 204682

Client Sample ID: LXBMP001_20211224
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND	BU BV	2.50	2.53		mg/L		101	80 - 120	2	20
Nitrate as N	5.1	BU BV	5.00	10.1		mg/L		100	80 - 120	1	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-205091/6
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 13:07	1

Lab Sample ID: LCS 570-205091/7
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.3		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-205091/8
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	25.0	23.6		ug/L		94	85 - 115	3	15

Lab Sample ID: 570-80231-E-1 MS
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		50.0	52.0		ug/L		104	80 - 120

Lab Sample ID: 570-80231-E-1 MSD
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		50.0	51.9		ug/L		104	80 - 120	0	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664133/1-A
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664133

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/10/22 11:32	01/11/22 06:00	1
Zinc	ND		20	12	ug/L		01/10/22 11:32	01/11/22 06:00	1

Lab Sample ID: LCS 440-664133/2-A
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664133

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	500	501		ug/L		100	85 - 115
Zinc	500	521		ug/L		104	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80419-H-1-C MS
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664133

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	ND		500	503		ug/L		101	70 - 130
Zinc	1400		500	1900		ug/L		95	70 - 130

Lab Sample ID: 570-80419-H-1-D MSD
Matrix: Water
Analysis Batch: 664169

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664133

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	ND		500	498		ug/L		100	70 - 130	1	20
Zinc	1400		500	1930		ug/L		102	70 - 130	2	20

Lab Sample ID: MB 440-663810/1-F
Matrix: Water
Analysis Batch: 665507

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 665383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/25/22 13:40	01/25/22 16:08	1
Zinc	ND		20	12	ug/L		01/25/22 13:40	01/25/22 16:08	1

Lab Sample ID: LCS 440-663810/2-F
Matrix: Water
Analysis Batch: 665507

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 665383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	500	485		ug/L		97	85 - 115
Zinc	500	518		ug/L		104	85 - 115

Lab Sample ID: LCSD 440-663810/3-C
Matrix: Water
Analysis Batch: 665507

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 665383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	500	488		ug/L		98	85 - 115	1	20
Zinc	500	512		ug/L		102	85 - 115	1	20

Lab Sample ID: 570-80274-G-2-H MS
Matrix: Water
Analysis Batch: 665507

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 665383

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	29	J,DX	500	506		ug/L		95	70 - 130
Zinc	ND		500	500		ug/L		100	70 - 130

Lab Sample ID: 570-80274-G-2-I MSD
Matrix: Water
Analysis Batch: 665507

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 665383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	29	J,DX	500	506		ug/L		95	70 - 130	0	20
Zinc	ND		500	497		ug/L		99	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-663970/1-A
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663970

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Arsenic	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Barium	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Beryllium	ND		0.50	0.25	ug/L		01/07/22 08:22	01/07/22 14:12	1
Cadmium	ND		1.0	0.25	ug/L		01/07/22 08:22	01/07/22 14:12	1
Chromium	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Copper	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Iron	ND		20	8.0	ug/L		01/07/22 08:22	01/07/22 14:12	1
Manganese	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Nickel	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Lead	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Antimony	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Thallium	ND		1.0	0.20	ug/L		01/07/22 08:22	01/07/22 14:12	1

Lab Sample ID: LCS 440-663970/2-A
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663970

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	78.6		ug/L		98	85 - 115
Arsenic	80.0	78.0		ug/L		97	85 - 115
Barium	80.0	83.3		ug/L		104	85 - 115
Beryllium	80.0	85.4		ug/L		107	85 - 115
Cadmium	80.0	80.3		ug/L		100	85 - 115
Chromium	80.0	81.5		ug/L		102	85 - 115
Copper	80.0	83.0		ug/L		104	85 - 115
Iron	800	827		ug/L		103	85 - 115
Manganese	80.0	81.3		ug/L		102	85 - 115
Nickel	80.0	81.9		ug/L		102	85 - 115
Lead	80.0	81.0		ug/L		101	85 - 115
Antimony	80.0	90.3		ug/L		113	85 - 115
Selenium	80.0	78.2		ug/L		98	85 - 115
Thallium	80.0	80.2		ug/L		100	85 - 115

Lab Sample ID: MB 440-664156/1-A
Matrix: Water
Analysis Batch: 664217

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664156

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:19	1
Arsenic	ND		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:19	1
Barium	ND		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:19	1
Beryllium	ND		0.50	0.25	ug/L		01/10/22 16:20	01/11/22 12:19	1
Cadmium	ND		1.0	0.25	ug/L		01/10/22 16:20	01/11/22 12:19	1
Chromium	ND		2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:19	1
Copper	ND		2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:19	1
Iron	14.8	J,DX	20	8.0	ug/L		01/10/22 16:20	01/11/22 12:19	1
Manganese	ND		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:19	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-664156/1-A
Matrix: Water
Analysis Batch: 664217

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664156

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	ND		2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:19	1
Lead	ND		1.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:19	1
Antimony	ND		2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:19	1
Selenium	ND		2.0	0.50	ug/L		01/10/22 16:20	01/11/22 12:19	1
Thallium	ND		1.0	0.20	ug/L		01/10/22 16:20	01/11/22 12:19	1

Lab Sample ID: LCS 440-664156/2-A
Matrix: Water
Analysis Batch: 664217

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664156

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	81.1		ug/L		101	85 - 115
Arsenic	80.0	80.2		ug/L		100	85 - 115
Barium	80.0	83.0		ug/L		104	85 - 115
Beryllium	80.0	83.2		ug/L		104	85 - 115
Cadmium	80.0	82.9		ug/L		104	85 - 115
Chromium	80.0	90.5		ug/L		113	85 - 115
Copper	80.0	86.3		ug/L		108	85 - 115
Iron	800	919		ug/L		115	85 - 115
Manganese	80.0	81.7		ug/L		102	85 - 115
Nickel	80.0	83.0		ug/L		104	85 - 115
Lead	80.0	82.8		ug/L		103	85 - 115
Antimony	80.0	91.2		ug/L		114	85 - 115
Selenium	80.0	79.9		ug/L		100	85 - 115
Thallium	80.0	82.2		ug/L		103	85 - 115

Lab Sample ID: 440-293801-B-1-B MS
Matrix: Water
Analysis Batch: 664217

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664156

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	81.4		ug/L		102	70 - 130
Arsenic	0.68	J,DX	80.0	82.4		ug/L		102	70 - 130
Barium	47		80.0	131		ug/L		104	70 - 130
Beryllium	ND		80.0	85.2		ug/L		106	70 - 130
Cadmium	ND		80.0	84.5		ug/L		106	70 - 130
Chromium	3.8		80.0	87.0		ug/L		104	70 - 130
Copper	44		80.0	131		ug/L		109	70 - 130
Iron	1300	MB	800	2200		ug/L		114	70 - 130
Manganese	47		80.0	132		ug/L		106	70 - 130
Nickel	6.0		80.0	89.5		ug/L		104	70 - 130
Lead	5.4		80.0	89.7		ug/L		105	70 - 130
Antimony	1.4	J,DX	80.0	92.9		ug/L		114	70 - 130
Selenium	ND		80.0	80.6		ug/L		101	70 - 130
Thallium	ND		80.0	83.5		ug/L		104	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 440-293801-B-1-C MSD
Matrix: Water
Analysis Batch: 664217

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664156

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	79.6		ug/L		99	70 - 130	2	20
Arsenic	0.68	J,DX	80.0	78.9		ug/L		98	70 - 130	4	20
Barium	47		80.0	129		ug/L		103	70 - 130	1	20
Beryllium	ND		80.0	84.0		ug/L		105	70 - 130	1	20
Cadmium	ND		80.0	82.4		ug/L		103	70 - 130	3	20
Chromium	3.8		80.0	86.5		ug/L		103	70 - 130	1	20
Copper	44		80.0	128		ug/L		105	70 - 130	2	20
Iron	1300	MB	800	2180		ug/L		111	70 - 130	1	20
Manganese	47		80.0	129		ug/L		102	70 - 130	2	20
Nickel	6.0		80.0	88.8		ug/L		103	70 - 130	1	20
Lead	5.4		80.0	87.4		ug/L		103	70 - 130	3	20
Antimony	1.4	J,DX	80.0	91.3		ug/L		112	70 - 130	2	20
Selenium	ND		80.0	77.8		ug/L		97	70 - 130	4	20
Thallium	ND		80.0	79.6		ug/L		99	70 - 130	5	20

Lab Sample ID: 570-80272-1 MS
Matrix: Water
Analysis Batch: 664011

Client Sample ID: LXBMP001_20211224
Prep Type: Dissolved
Prep Batch: 663970

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	78.9		ug/L		99	70 - 130
Arsenic	0.98	J,DX	80.0	79.1		ug/L		98	70 - 130
Barium	12		80.0	93.4		ug/L		102	70 - 130
Beryllium	ND		80.0	87.3		ug/L		109	70 - 130
Cadmium	ND		80.0	80.5		ug/L		101	70 - 130
Chromium	4.5		80.0	82.0		ug/L		97	70 - 130
Copper	1.9	J,DX	80.0	85.5		ug/L		104	70 - 130
Iron	68		800	886		ug/L		102	70 - 130
Manganese	3.2		80.0	83.0		ug/L		100	70 - 130
Nickel	2.4		80.0	83.3		ug/L		101	70 - 130
Lead	ND		80.0	81.0		ug/L		101	70 - 130
Antimony	ND		80.0	90.1		ug/L		113	70 - 130
Selenium	ND		80.0	76.1		ug/L		95	70 - 130
Thallium	ND		80.0	79.5		ug/L		99	70 - 130

Lab Sample ID: 570-80272-1 MSD
Matrix: Water
Analysis Batch: 664011

Client Sample ID: LXBMP001_20211224
Prep Type: Dissolved
Prep Batch: 663970

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	80.7		ug/L		101	70 - 130	2	20
Arsenic	0.98	J,DX	80.0	81.3		ug/L		100	70 - 130	3	20
Barium	12		80.0	98.3		ug/L		108	70 - 130	5	20
Beryllium	ND		80.0	89.4		ug/L		112	70 - 130	2	20
Cadmium	ND		80.0	82.2		ug/L		103	70 - 130	2	20
Chromium	4.5		80.0	84.3		ug/L		100	70 - 130	3	20
Copper	1.9	J,DX	80.0	87.4		ug/L		107	70 - 130	2	20
Iron	68		800	982		ug/L		114	70 - 130	10	20
Manganese	3.2		80.0	84.7		ug/L		102	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80272-1 MSD — **Client Sample ID: LXBMP001_20211224**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 664011 — **Prep Batch: 663970**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nickel	2.4		80.0	86.0		ug/L		104	70 - 130	3	20
Lead	ND		80.0	83.0		ug/L		104	70 - 130	2	20
Antimony	ND		80.0	92.3		ug/L		115	70 - 130	2	20
Selenium	ND		80.0	79.2		ug/L		99	70 - 130	4	20
Thallium	ND		80.0	82.2		ug/L		103	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-207716/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207896 — **Prep Batch: 207716**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/15/22 16:00	01/17/22 15:10	1

Lab Sample ID: LCS 570-207716/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207896 — **Prep Batch: 207716**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.56		ug/L		96	85 - 115

Lab Sample ID: LCSD 570-207716/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207896 — **Prep Batch: 207716**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.76		ug/L		98	85 - 115	2	10

Lab Sample ID: 570-80274-H-2-F MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207896 — **Prep Batch: 207716**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	8.72		ug/L		87	70 - 130

Lab Sample ID: 570-80274-H-2-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207896 — **Prep Batch: 207716**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	8.86		ug/L		89	70 - 130	2	10

Lab Sample ID: MB 570-208358/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 208671 — **Prep Batch: 208361**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 17:58	01/20/22 19:43	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 570-208358/2-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 208361

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			10.0	9.71		ug/L		97	85 - 115		

Lab Sample ID: LCSD 570-208358/3-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 208361

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			10.0	9.72		ug/L		97	85 - 115	0	10

Lab Sample ID: 570-80124-C-3-I MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		10.0	9.27		ug/L		93	70 - 130		

Lab Sample ID: 570-80124-C-3-L MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.28		ug/L		93	70 - 130	0	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663657/1
Matrix: Water
Analysis Batch: 663657

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/30/21 14:09	1

Lab Sample ID: LCS 440-663657/2
Matrix: Water
Analysis Batch: 663657

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	908		mg/L		91	85 - 115		

Lab Sample ID: 440-293483-A-1 DU
Matrix: Water
Analysis Batch: 663657

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	220			217		mg/L				0.9	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-204823/1-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:07	1

Lab Sample ID: LCS 570-204823/2-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.0104		mg/L		104	80 - 120

Lab Sample ID: LCSD 570-204823/3-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0100	0.0111		mg/L		111	80 - 120	7	20

Lab Sample ID: 570-79831-I-1-A MS
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		0.0100	0.0119	LM	mg/L		119	74 - 115

Lab Sample ID: 570-79831-I-1-B MSD
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.0100	0.0110		mg/L		110	74 - 115	8	20

GC/MS VOA

Analysis Batch: 205379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	624.1	
MB 570-205379/11	Method Blank	Total/NA	Water	624.1	
LCS 570-205379/7	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-205379/8	Lab Control Sample Dup	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 204641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	625	
MB 570-204641/1-A	Method Blank	Total/NA	Water	625	
LCS 570-204641/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-204641/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 205129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	625.1 SIM	204641
MB 570-204641/1-A	Method Blank	Total/NA	Water	625.1 SIM	204641
LCS 570-204641/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	204641
LCSD 570-204641/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	204641

HPLC/IC

Analysis Batch: 204681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	300.0	
MB 570-204681/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204681/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204681/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80272-1 MS	LXBMP001_20211224	Total/NA	Water	300.0	
570-80272-1 MSD	LXBMP001_20211224	Total/NA	Water	300.0	

Analysis Batch: 204682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	300.0	
MB 570-204682/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204682/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204682/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80272-1 MS	LXBMP001_20211224	Total/NA	Water	300.0	
570-80272-1 MSD	LXBMP001_20211224	Total/NA	Water	300.0	

Analysis Batch: 204701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	218.6	
MB 570-204701/6	Method Blank	Total/NA	Water	218.6	
LCS 570-204701/7	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-204701/8	Lab Control Sample Dup	Total/NA	Water	218.6	
570-80408-H-1 MS	Matrix Spike	Total/NA	Water	218.6	
570-80408-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

HPLC/IC

Analysis Batch: 205091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	314.0	
MB 570-205091/6	Method Blank	Total/NA	Water	314.0	
LCS 570-205091/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-205091/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80231-E-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-80231-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Metals

Prep Batch: 207716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	245.1	
MB 570-207716/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-207716/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-207716/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-80274-H-2-F MS	Matrix Spike	Total/NA	Water	245.1	
570-80274-H-2-G MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 207896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	245.1	207716
MB 570-207716/1-A	Method Blank	Total/NA	Water	245.1	207716
LCS 570-207716/2-A	Lab Control Sample	Total/NA	Water	245.1	207716
LCSD 570-207716/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	207716
570-80274-H-2-F MS	Matrix Spike	Total/NA	Water	245.1	207716
570-80274-H-2-G MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	207716

Filtration Batch: 208358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	Filtration	
MB 570-208358/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	Filtration	
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 208361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	245.1	208358
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208358
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208358
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208358
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	245.1	208358
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208358

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	245.1	208361
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208361
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208361
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208361

Metals (Continued)

Analysis Batch: 208671 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	245.1	208361
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208361

Filtration Batch: 663810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	FILTRATION	
MB 440-663810/1-F	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663810/2-F	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 440-663810/3-C	Lab Control Sample Dup	Dissolved	Water	FILTRATION	
570-80272-1 MS	LXBMP001_20211224	Dissolved	Water	FILTRATION	
570-80272-1 MSD	LXBMP001_20211224	Dissolved	Water	FILTRATION	
570-80274-G-2-H MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80274-G-2-I MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	200.2	663810
MB 440-663970/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663970/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80272-1 MS	LXBMP001_20211224	Dissolved	Water	200.2	663810
570-80272-1 MSD	LXBMP001_20211224	Dissolved	Water	200.2	663810

Analysis Batch: 664011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	200.8	663970
MB 440-663970/1-A	Method Blank	Total Recoverable	Water	200.8	663970
LCS 440-663970/2-A	Lab Control Sample	Total Recoverable	Water	200.8	663970
570-80272-1 MS	LXBMP001_20211224	Dissolved	Water	200.8	663970
570-80272-1 MSD	LXBMP001_20211224	Dissolved	Water	200.8	663970

Prep Batch: 664133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total Recoverable	Water	200.2	
MB 440-664133/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664133/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80419-H-1-C MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80419-H-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total Recoverable	Water	200.2	
MB 440-664156/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664156/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
440-293801-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
440-293801-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total Recoverable	Water	200.7 Rev 4.4	664133
MB 440-664133/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664133
LCS 440-664133/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664133

Metals (Continued)

Analysis Batch: 664169 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80419-H-1-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664133
570-80419-H-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664133

Analysis Batch: 664217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total Recoverable	Water	200.8	664156
MB 440-664156/1-A	Method Blank	Total Recoverable	Water	200.8	664156
LCS 440-664156/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664156
440-293801-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	664156
440-293801-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664156

Prep Batch: 665383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	200.2	663810
MB 440-663810/1-F	Method Blank	Dissolved	Water	200.2	663810
LCS 440-663810/2-F	Lab Control Sample	Dissolved	Water	200.2	663810
LCSD 440-663810/3-C	Lab Control Sample Dup	Dissolved	Water	200.2	663810
570-80274-G-2-H MS	Matrix Spike	Dissolved	Water	200.2	663810
570-80274-G-2-I MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663810

Analysis Batch: 665507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	200.7 Rev 4.4	665383
MB 440-663810/1-F	Method Blank	Dissolved	Water	200.7 Rev 4.4	665383
LCS 440-663810/2-F	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	665383
LCSD 440-663810/3-C	Lab Control Sample Dup	Dissolved	Water	200.7 Rev 4.4	665383
570-80274-G-2-H MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	665383
570-80274-G-2-I MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	665383

General Chemistry

Analysis Batch: 204811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	SM 4500 CN E	204823
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	204823
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	204823
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	204823

Prep Batch: 204823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	SM 4500 CN C	
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

General Chemistry

Analysis Batch: 207737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	218.6 CR3	

Analysis Batch: 207738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	218.6 CR3	

Analysis Batch: 663657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	SM 2540D	
MB 440-663657/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663657/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-293483-A-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 206857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	D4464	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Client Sample ID: LXBMP001_20211224

Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	205379	01/04/22 19:40	N1A	ECL 2
	Instrument ID: GCMSXX									
Total/NA	Prep	625			1042.2 mL	2 mL	204641	12/30/21 08:15	OAJ3	ECL 1
Total/NA	Analysis	625.1 SIM		1			205129	01/03/22 15:41	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Analysis	218.6		2			204701	12/30/21 18:23	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0		2			204681	12/30/21 15:03	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	300.0		2			204682	12/30/21 15:03	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1			205091	01/03/22 17:06	URMH	ECL 1
	Instrument ID: IC8									
Dissolved	Filtration	FILTRATION			250 mL	250 mL	663810	01/05/22 10:44	FIQ7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	665383	01/25/22 13:40	C0YH	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			665507	01/25/22 16:33	K1UV	IRV 2
	Instrument ID: ICP10									
Total Recoverable	Prep	200.2			25 mL	25 mL	664133	01/10/22 11:32	LZY7	IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664169	01/11/22 06:19	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			250 mL	250 mL	663810	01/05/22 10:44	FIQ7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663970	01/07/22 08:22	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 14:10	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664156	01/10/22 16:20	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			664217	01/11/22 12:32	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 20:05	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207716	01/15/22 16:00	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207896	01/17/22 16:33	VWJ7	ECL 4
	Instrument ID: HG9									
Dissolved	Analysis	218.6 CR3		1			207737	01/16/22 21:49	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	218.6 CR3		1			207738	01/16/22 22:00	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540D		1	750 mL	1000 mL	663657	12/30/21 14:09	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	204823	12/29/21 13:00	UAPD	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	204811	12/30/21 15:29	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	D4464		1			206857	01/07/22 16:23	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80272-1
Project/Site: Boeing SSFL ISRA and BMP

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
ASTM = ASTM International
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80272-1	LXBMP001_20211224	Water	12/24/21 08:10	12/28/21 18:00

60272

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Ca sc ence

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 12/24/2021	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	☑ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 1 week			Job / SDG No.
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	☐ 2 days			
H&A P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable (E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable (Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Ti; Method 200.7: B, Zn; -- (Total Dissolved)	Method 200.8 Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Ti; Method 200.7: B, Zn -- (Total Recoverable)	LL Mercury, total recoverable + dissolved (E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
LXBMP0011_20211224	12/24/21	0810	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access, Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No. ____

Relinquished by	Company	Date/Time: 12-23-21/1445	Received by	EG 12/23/21 1445	Date/Time:
Relinquished by	Company EG	Date/Time: 12/23/21 1800	Received by	12/23/21 1800	Date/Time:
Relinquished by	Company	Date/Time:	Received in Laboratory by		Date/Time:

Form No. CA-C-WI-045, Rev. 1.2, dated 1/8/2016

3 1/4.0 SCS

570-80272 Chain of Custody

1/27/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148196 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80272-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LXBMP001_20211224 (570-80272-1)	12/24/21	08 10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time.	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/29/21 1746				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80272-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
LXBMP001_20211224 (570-80272-1)	12/24/21	08 10 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/3/22 1321				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80272-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: ~~44009815~~ 570-80272			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LXBMP001_20211224 (570-80272-1)	12/24/21	08:10 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/3/22 1735	EGL			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No. | Cooler Temperature(s) °C and Other Remarks.

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148192 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80272-1
Address: 2841 Dow Avenue	Due Date Requested: 1/6/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M - Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D/ Solids, Total Suspended (TSS)	246.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	200.8/200.2 200.8 - Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb	200.8/FILTRATION Diss. Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb,Se	200 7/200.2 B,Zn	200.7/FILTRATION Diss. B,Zn	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
LXBMP001_20211224 (570-80272-1)	12/24/21	08 10 Pacific		Water			X	X	X	X	X	X	X	5	Filter within 24 hours

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/29/21	EC			
2		Date/Time:	Company	Received by	Date/Time	Company
3		Date/Time	Company	Received by	Date/Time 12/30/21 1915	Company ECT

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
		1284 4.0/4.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80272-1

Login Number: 80272
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80272-1

Login Number: 80272
List Number: 2
Creator: Cardona, Omar D

List Source: Eurofins Calscience Tustin
List Creation: 12/30/21 11:27 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80272-2
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/24/2022 4:07:37 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-2

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80272-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80272-2

Comments
No additional comments.

Receipt
The sample was received on 12/28/2021 6:00 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.0º C.

Receipt Exceptions

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): LXBMP001_20211224 (570-80272-1). Received 24 containers, while the COC lists 27.

Dioxin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.2: The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient preservation at a pH of >2: Outfall009_20211215_Comp (570-78864-1) and LXBMP001_20211224 (570-80272-1). The sample was preserved to the appropriate pH in the laboratory.

01/07/22 @ 08:36 hours
1.0 mL 1:1 HNO3
1:1 HNO3 # 6803471

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method EPA 1631E LL Mercury: This method was subcontracted to Eurofins Frontier Global Sciences LLC. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-2

Client Sample ID: LXBMP001_20211224

Lab Sample ID: 570-80272-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000035	J,DX MB	0.000048	0.00000037	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000015	J,DX MB q	0.000048	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000016	J,DX MB	0.000048	0.00000037	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000016	J,DX MB	0.000048	0.00000042	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000013	J,DX MB	0.000048	0.00000044	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000025	J,DX MB	0.000048	0.00000038	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000012	J,DX MB q	0.000048	0.00000032	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000071	J,DX MB	0.000048	0.00000031	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000019	J,DX MB	0.000048	0.00000046	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000016	J,DX MB	0.000048	0.00000047	ug/L	1		1613B	Total/NA
OCDD	0.000026	J,DX MB	0.000096	0.00000077	ug/L	1		1613B	Total/NA
OCDF	0.0000033	J,DX MB	0.000096	0.00000070	ug/L	1		1613B	Total/NA
Total PeCDF	0.00000078	J,DX q	0.000048	0.00000052	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000066	J,DX MB q	0.000048	0.00000037	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000065	J,DX MB q	0.000048	0.00000032	ug/L	1		1613B	Total/NA
Total HpCDD	0.000013	J,DX MB	0.000048	0.00000031	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000036	J,DX MB	0.000048	0.00000046	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000096	0.00000089	ug/L		01/06/22 08:31	01/14/22 05:01	1
2,3,7,8-TCDF	ND		0.0000096	0.00000053	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,7,8-PeCDD	ND		0.000048	0.00000097	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,7,8-PeCDF	ND		0.000048	0.00000052	ug/L		01/06/22 08:31	01/14/22 05:01	1
2,3,4,7,8-PeCDF	ND		0.000048	0.00000053	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,4,7,8-HxCDD	**0.0000035**	**J,DX MB**	0.000048	0.00000037	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,6,7,8-HxCDD	**0.0000015**	**J,DX MB q**	0.000048	0.00000039	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,7,8,9-HxCDD	**0.0000016**	**J,DX MB**	0.000048	0.00000037	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,4,7,8-HxCDF	**0.0000016**	**J,DX MB**	0.000048	0.00000042	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,6,7,8-HxCDF	**0.0000013**	**J,DX MB**	0.000048	0.00000044	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,7,8,9-HxCDF	**0.0000025**	**J,DX MB**	0.000048	0.00000038	ug/L		01/06/22 08:31	01/14/22 05:01	1
2,3,4,6,7,8-HxCDF	**0.0000012**	**J,DX MB q**	0.000048	0.00000032	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,4,6,7,8-HpCDD	**0.0000071**	**J,DX MB**	0.000048	0.00000031	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,4,6,7,8-HpCDF	**0.0000019**	**J,DX MB**	0.000048	0.00000046	ug/L		01/06/22 08:31	01/14/22 05:01	1
1,2,3,4,7,8,9-HpCDF	**0.0000016**	**J,DX MB**	0.000048	0.00000047	ug/L		01/06/22 08:31	01/14/22 05:01	1
OCDD	**0.000026**	**J,DX MB**	0.000096	0.00000077	ug/L		01/06/22 08:31	01/14/22 05:01	1
OCDF	**0.0000033**	**J,DX MB**	0.000096	0.00000070	ug/L		01/06/22 08:31	01/14/22 05:01	1
Total TCDD	ND		0.0000096	0.00000089	ug/L		01/06/22 08:31	01/14/22 05:01	1
Total TCDF	ND		0.0000096	0.00000053	ug/L		01/06/22 08:31	01/14/22 05:01	1
Total PeCDD	ND		0.000048	0.00000097	ug/L		01/06/22 08:31	01/14/22 05:01	1
Total PeCDF	**0.00000078**	**J,DX q**	0.000048	0.00000052	ug/L		01/06/22 08:31	01/14/22 05:01	1
Total HxCDD	**0.0000066**	**J,DX MB q**	0.000048	0.00000037	ug/L		01/06/22 08:31	01/14/22 05:01	1
Total HxCDF	**0.0000065**	**J,DX MB q**	0.000048	0.00000032	ug/L		01/06/22 08:31	01/14/22 05:01	1
Total HpCDD	**0.000013**	**J,DX MB**	0.000048	0.00000031	ug/L		01/06/22 08:31	01/14/22 05:01	1
Total HpCDF	**0.0000036**	**J,DX MB**	0.000048	0.00000046	ug/L		01/06/22 08:31	01/14/22 05:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*90*		*25 - 164*	*01/06/22 08:31*	*01/14/22 05:01*	*1*
13C-2,3,7,8-TCDF	*88*		*24 - 169*	*01/06/22 08:31*	*01/14/22 05:01*	*1*
13C-1,2,3,7,8-PeCDD	*90*		*25 - 181*	*01/06/22 08:31*	*01/14/22 05:01*	*1*
13C-1,2,3,7,8-PeCDF	*87*		*24 - 185*	*01/06/22 08:31*	*01/14/22 05:01*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: LXBMP001_20211224
Lab Sample ID: 570-80272-1
Date Collected: 12/24/21 08:10
Matrix: Water
Date Received: 12/28/21 18:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	97		21 - 178	01/06/22 08:31	01/14/22 05:01	1
13C-1,2,3,4,7,8-HxCDD	94		32 - 141	01/06/22 08:31	01/14/22 05:01	1
13C-1,2,3,6,7,8-HxCDD	89		28 - 130	01/06/22 08:31	01/14/22 05:01	1
13C-1,2,3,4,7,8-HxCDF	89		26 - 152	01/06/22 08:31	01/14/22 05:01	1
13C-1,2,3,6,7,8-HxCDF	82		26 - 123	01/06/22 08:31	01/14/22 05:01	1
13C-1,2,3,7,8,9-HxCDF	81		29 - 147	01/06/22 08:31	01/14/22 05:01	1
13C-2,3,4,6,7,8-HxCDF	89		28 - 136	01/06/22 08:31	01/14/22 05:01	1
13C-1,2,3,4,6,7,8-HpCDD	90		23 - 140	01/06/22 08:31	01/14/22 05:01	1
13C-1,2,3,4,6,7,8-HpCDF	95		28 - 143	01/06/22 08:31	01/14/22 05:01	1
13C-1,2,3,4,7,8,9-HpCDF	103		26 - 138	01/06/22 08:31	01/14/22 05:01	1
13C-OCDD	104		17 - 157	01/06/22 08:31	01/14/22 05:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	01/06/22 08:31	01/14/22 05:01	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-80272-1	LXBMP001_20211224	89
MB 320-556383/1-A	Method Blank	91

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-556383/2-A	Lab Control Sample	91
LCSD 320-556383/3-A	Lab Control Sample Dup	93

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80272-1	LXBMP001_20211224	90	88	90	87	97	94	89	89
MB 320-556383/1-A	Method Blank	88	88	91	86	98	94	91	91

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80272-1	LXBMP001_20211224	82	81	89	90	95	103	104
MB 320-556383/1-A	Method Blank	84	85	88	88	91	97	93

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556383/2-A	Lab Control Sample	87	86	87	86	94	93	87	91
LCSD 320-556383/3-A	Lab Control Sample Dup	84	83	88	84	91	90	84	87

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-556383/2-A	Lab Control Sample	81	81	83	86	91	94	92
LCSD 320-556383/3-A	Lab Control Sample Dup	77	82	87	91	92	100	101

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80272-2
Project/Site: Boeing SSFL ISRA and BMP

13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-556383/1-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556383

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000065	ug/L		01/06/22 08:31	01/14/22 01:02	1
2,3,7,8-TCDF	ND		0.000010	0.00000052	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000074	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000060	ug/L		01/06/22 08:31	01/14/22 01:02	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000060	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,7,8-HxCDD	0.00000516	J,DX	0.000050	0.00000043	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,6,7,8-HxCDD	0.00000297	J,DX	0.000050	0.00000046	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8,9-HxCDD	0.00000627	J,DX	0.000050	0.00000043	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,7,8-HxCDF	0.00000375	J,DX	0.000050	0.00000050	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,6,7,8-HxCDF	0.00000404	J,DX	0.000050	0.00000052	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,7,8,9-HxCDF	0.00000321	J,DX q	0.000050	0.00000046	ug/L		01/06/22 08:31	01/14/22 01:02	1
2,3,4,6,7,8-HxCDF	0.00000361	J,DX	0.000050	0.00000042	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,6,7,8-HpCDD	0.00000746	J,DX	0.000050	0.00000023	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,6,7,8-HpCDF	0.00000528	J,DX	0.000050	0.00000044	ug/L		01/06/22 08:31	01/14/22 01:02	1
1,2,3,4,7,8,9-HpCDF	0.00000428	J,DX	0.000050	0.00000045	ug/L		01/06/22 08:31	01/14/22 01:02	1
OCDD	0.0000121	J,DX q	0.00010	0.00000041	ug/L		01/06/22 08:31	01/14/22 01:02	1
OCDF	0.00000701	J,DX	0.00010	0.00000071	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total TCDD	ND		0.000010	0.00000065	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total TCDF	ND		0.000010	0.00000052	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total PeCDD	ND		0.000050	0.00000074	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total PeCDF	ND		0.000050	0.00000060	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HxCDD	0.0000144	J,DX	0.000050	0.00000043	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HxCDF	0.0000146	J,DX q	0.000050	0.00000042	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HpCDD	0.0000105	J,DX	0.000050	0.00000023	ug/L		01/06/22 08:31	01/14/22 01:02	1
Total HpCDF	0.00000957	J,DX	0.000050	0.00000044	ug/L		01/06/22 08:31	01/14/22 01:02	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*88*		*25 - 164*	*01/06/22 08:31*	*01/14/22 01:02*	*1*
13C-2,3,7,8-TCDF	*88*		*24 - 169*	*01/06/22 08:31*	*01/14/22 01:02*	*1*
13C-1,2,3,7,8-PeCDD	*91*		*25 - 181*	*01/06/22 08:31*	*01/14/22 01:02*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-556383/1-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556383

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	86		24 - 185	01/06/22 08:31	01/14/22 01:02	1
13C-2,3,4,7,8-PeCDF	98		21 - 178	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,7,8-HxCDD	94		32 - 141	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,6,7,8-HxCDD	91		28 - 130	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,7,8-HxCDF	91		26 - 152	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,6,7,8-HxCDF	84		26 - 123	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,7,8,9-HxCDF	85		29 - 147	01/06/22 08:31	01/14/22 01:02	1
13C-2,3,4,6,7,8-HxCDF	88		28 - 136	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,6,7,8-HpCDD	88		23 - 140	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,6,7,8-HpCDF	91		28 - 143	01/06/22 08:31	01/14/22 01:02	1
13C-1,2,3,4,7,8,9-HpCDF	97		26 - 138	01/06/22 08:31	01/14/22 01:02	1
13C-OCDD	93		17 - 157	01/06/22 08:31	01/14/22 01:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	91		35 - 197	01/06/22 08:31	01/14/22 01:02	1

Lab Sample ID: LCS 320-556383/2-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000173		ug/L		87	67 - 158
2,3,7,8-TCDF	0.000200	0.000183		ug/L		92	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000943		ug/L		94	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000933		ug/L		93	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000863		ug/L		86	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000831	MB	ug/L		83	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000886	MB	ug/L		89	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000867	MB	ug/L		87	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000815	MB	ug/L		81	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000915	MB	ug/L		92	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000904	MB	ug/L		90	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000959	MB	ug/L		96	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000898	MB	ug/L		90	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000829	MB	ug/L		83	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000803	MB	ug/L		80	78 - 138
OCDD	0.00200	0.00169	MB	ug/L		84	78 - 144
OCDF	0.00200	0.00167	MB	ug/L		84	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	87		20 - 175
13C-2,3,7,8-TCDF	86		22 - 152
13C-1,2,3,7,8-PeCDD	87		21 - 227
13C-1,2,3,7,8-PeCDF	86		21 - 192
13C-2,3,4,7,8-PeCDF	94		13 - 328
13C-1,2,3,4,7,8-HxCDD	93		21 - 193
13C-1,2,3,6,7,8-HxCDD	87		25 - 163
13C-1,2,3,4,7,8-HxCDF	91		19 - 202

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556383/2-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556383

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDF	81		21 - 159
13C-1,2,3,7,8,9-HxCDF	81		17 - 205
13C-2,3,4,6,7,8-HxCDF	83		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	86		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	91		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	94		20 - 186
13C-OCDD	92		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	91		31 - 191

Lab Sample ID: LCSD 320-556383/3-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556383

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000177		ug/L		88	67 - 158	2	50
2,3,7,8-TCDF			0.000200	0.000190		ug/L		95	75 - 158	4	50
1,2,3,7,8-PeCDD			0.00100	0.000959		ug/L		96	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.000952		ug/L		95	80 - 134	2	50
2,3,4,7,8-PeCDF			0.00100	0.000876		ug/L		88	68 - 160	2	50
1,2,3,4,7,8-HxCDD			0.00100	0.000835	MB	ug/L		84	70 - 164	0	50
1,2,3,6,7,8-HxCDD			0.00100	0.000923	MB	ug/L		92	76 - 134	4	50
1,2,3,7,8,9-HxCDD			0.00100	0.000939	MB	ug/L		94	64 - 162	8	50
1,2,3,4,7,8-HxCDF			0.00100	0.000846	MB	ug/L		85	72 - 134	4	50
1,2,3,6,7,8-HxCDF			0.00100	0.000972	MB	ug/L		97	84 - 130	6	50
1,2,3,7,8,9-HxCDF			0.00100	0.000916	MB	ug/L		92	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.000941	MB	ug/L		94	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000910	MB	ug/L		91	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000877	MB	ug/L		88	82 - 122	6	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000824	MB	ug/L		82	78 - 138	3	50
OCDD			0.00200	0.00170	MB	ug/L		85	78 - 144	1	50
OCDF			0.00200	0.00172	MB	ug/L		86	63 - 170	3	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	84		20 - 175
13C-2,3,7,8-TCDF	83		22 - 152
13C-1,2,3,7,8-PeCDD	88		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	91		13 - 328
13C-1,2,3,4,7,8-HxCDD	90		21 - 193
13C-1,2,3,6,7,8-HxCDD	84		25 - 163
13C-1,2,3,4,7,8-HxCDF	87		19 - 202
13C-1,2,3,6,7,8-HxCDF	77		21 - 159
13C-1,2,3,7,8,9-HxCDF	82		17 - 205
13C-2,3,4,6,7,8-HxCDF	87		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	91		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	92		21 - 158

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-556383/3-A
Matrix: Water
Analysis Batch: 558744

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556383

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,7,8,9-HpCDF	100		20 - 186
13C-OCDD	101		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	93		31 - 191

Specialty Organics

Prep Batch: 556383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	1613B	
MB 320-556383/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556383/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556383/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 558744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	1613B	556383
MB 320-556383/1-A	Method Blank	Total/NA	Water	1613B	556383
LCS 320-556383/2-A	Lab Control Sample	Total/NA	Water	1613B	556383
LCSD 320-556383/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556383

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80272-2
Project/Site: Boeing SSFL ISRA and BMP

Client Sample ID: LXBMP001_20211224
Lab Sample ID: 570-80272-1
Date Collected: 12/24/21 08:10
Matrix: Water
Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1044.2 mL	20.0 uL	556383	01/06/22 08:31	CB	TAL SAC
Total/NA	Analysis	1613B		1			558744	01/14/22 05:01	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

FGS = Eurofins Frontier Global Sciences LLC, 5755 8th Street E, Tacoma, WA 98424

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-2

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-18-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1631E	EPA 1631E Low Level Mercury	EPA	FGS
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

FGS = Eurofins Frontier Global Sciences LLC, 5755 8th Street E, Tacoma, WA 98424

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80272-1	LXBMP001_20211224	Water	12/24/21 08:10	12/28/21 18:00

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5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

12 January 2022

Virendra Patel
Eurofins Calscience, LLC
7440 Lincoln Way
Garden Grove, CA 92841

RE: Low Level Hg - 2019

Enclosed are the analytical results for samples received by Eurofins Frontier Global Sciences. All quality control measurements are within established control limits and there were no analytical difficulties encountered with the exception of those listed in the case narrative section of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Curtis Deer
Project Manager

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80272-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	12-Jan-22 15:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LXBMP001_20211224 (570-80272-1)	2A00014-01	Water	24-Dec-21 08:10	04-Jan-22 10:45

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5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80272-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	12-Jan-22 15:32

SAMPLE RECEIPT

Samples were received at Eurofins Frontier Global Sciences (EFGS) on 04-Jan-22 10:45. The samples were received intact, on-ice within a sealed cooler at

Cooler	Temp C°
Default Cooler	0.5

SAMPLE PREPARATION AND ANALYSIS

Samples were prepared and analyzed for total mercury by flow injection atomic fluorescence spectrometry (FI-AFS) in accordance with EPA 1631E.

ANALYTICAL AND QUALITY CONTROL ISSUES

Method blanks were prepared for every preparation to assess possible blank contribution from the sample preparation procedure. The method blanks were carried through the entire analytical procedure. All blanks fell within the established acceptance criteria with the exception of any items narrated above or flagged and described in the notes and definitions section of the report.

Liquid spikes, certified reference material (CRM) or a quality control samples (QCS) were prepared for every preparation as a measure of accuracy. All liquid spikes, CRMs and/or QCS samples fell within the established acceptance criteria with the exception of any items narrated above or flagged and described in the notes and definitions section of the report.

As an additional measure of the accuracy of the methods used and to check for matrix interference, matrix spikes (MS) and matrix spike duplicates (MSD) were digested and analyzed. All of the matrix spike recoveries fell within the established acceptance criteria with the exception of any items flagged and described in the notes and definitions section of the report.

A reasonable measure of the precision of the analytical methods is the relative percent difference (RPD) between a matrix spike recovery and a matrix spike duplicate recovery and between laboratory control sample recovery and laboratory control sample duplicate recoveries. All of the relative percent differences fell within established acceptance criteria with the exception of any items flagged and described in the notes and definitions section of the report.

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Sample Receipt Checklist

Client: Calscience Date & Time Received: 1/4/22 10:45 Date Labeled: 1-4-22 Labeled By: [illegible]

Matrix: Water Received By: [illegible] Label Verified By: [illegible] 1/4/22

# of Coolers Received: 2 Samples Arrived By: X Shipping Service ____ Courier ____ Hand ____ Other (Specify: ____)

Coolant: ☐ None/Ambient ☒ Loose Ice ☐ Gel Ice ☐ Dry Ice Coolant Required: Y / N Temp Blank Used: Y/N for Cooler(s): ____

Notify Project Manager if packages/coolers are received without coolant or with thawed coolant and at a temperature in excess of 6°C. PM notified: Y/N

Samples from Wisconsin have special requirements. Shipment received includes samples from Wisconsin: Y/N

Cooler Information:	Y/N/NA	Comments
The coolers do not appear to be tampered with:	Y	
Custody Seals are present and intact:	Y	
Custody seals signed:	Y	

TID: 181139780 CF: 0.0 °C		Date/time: 1/4/22 10:45 By: [illegible]	
Cooler 1: 0.5 °C	w/ CF: 0.5 °C	Cooler 4: °C	w/ CF: °C
Cooler 2: 0.4 °C	w/ CF: 0.4 °C	Cooler 5: °C	w/ CF: °C
Cooler 3: °C	w/ CF: °C	Cooler 6: °C	w/ CF: °C

Chain of Custody:	Y/N/NA	Comments
Sample ID/Description:	Y	
Date and time of collection:	Y	
Sampled by:	N	
Preservation type:	Y	
Requested analyses:	Y	
Required signatures:	Y	
Internal COC required:	No	

Sample Condition/Integrity:	Y/N/NA	Comments
Sample containers intact/present:	Y	
Sample labels are present and legible:	Y	
Sample ID on container/bag matches COC:	Y	
Correct sample containers used:	Y	
Samples received within holding times:	Y	
Sample volume sufficient for requested analyses:	Y	
Correct preservative used for requested analyses:	NA	

Anomalies/Non-conformances (attach additional pages if needed):

2A00014

EFGS Environmental Sample Receipt Checklist Revision 8; 9/6/2019 EFSR-P-SH-WI16894

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148834.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80272-2
Address: 5755 8th Street E,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815 570-80272			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code						
LXBMP001_20211224 (570-80272-1)	12/24/21	08:10 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements: 7756 5253 8370

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/3/22 1735	ECI		1/4/22 10:45	FEDEX
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

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5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80272-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	12-Jan-22 15:32

LXBMP001_20211224 (570-80272-1)

2A00014-01

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
Sample Preparation: EFGS SOP2796 EPA 1631 Oxidation											
Mercury	**20.6**	0.08	0.50	ng/L	1	F201315	07-Jan-22	2A10022	07-Jan-22	EPA 1631E	

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Tacoma, WA 98424
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Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80272-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	12-Jan-22 15:32

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F201300 - EFGS SOP2796 EPA 1631 Oxidation											
Blank (F201300-BLK1)					Prepared & Analyzed: 05-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
Blank (F201300-BLK2)					Prepared & Analyzed: 05-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
Blank (F201300-BLK3)					Prepared & Analyzed: 05-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
LCS (F201300-BS1)					Prepared & Analyzed: 05-Jan-22						
Mercury	4.62	0.08	0.50	ng/L	5.0000		92.3	77-123			
LCS Dup (F201300-BSD1)					Prepared & Analyzed: 05-Jan-22						
Mercury	4.65	0.08	0.50	ng/L	5.0000		93.1	77-123	0.823	24	
Matrix Spike (F201300-MS1)		**Source: 1L00198-01**			Prepared & Analyzed: 05-Jan-22						
Mercury	43.93	0.42	2.50	ng/L	25.250	20.30	93.6	71-125			
Matrix Spike (F201300-MS2)		**Source: 2A00016-02**			Prepared & Analyzed: 05-Jan-22						
Mercury	5.52	0.08	0.50	ng/L	5.0000	1.14	87.7	71-125			
Matrix Spike Dup (F201300-MSD1)		**Source: 1L00198-01**			Prepared & Analyzed: 05-Jan-22						
Mercury	42.74	0.42	2.50	ng/L	25.250	20.30	88.9	71-125	2.73	24	
Matrix Spike Dup (F201300-MSD2)		**Source: 2A00016-02**			Prepared & Analyzed: 05-Jan-22						
Mercury	5.39	0.08	0.50	ng/L	5.0000	1.14	85.0	71-125	2.51	24	
Batch F201315 - EFGS SOP2796 EPA 1631 Oxidation											
Blank (F201315-BLK1)					Prepared & Analyzed: 07-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U

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Tacoma, WA 98424
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Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80272-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	12-Jan-22 15:32

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F201315 - EFGS SOP2796 EPA 1631 Oxidation											
Blank (F201315-BLK2)					Prepared & Analyzed: 07-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
Blank (F201315-BLK3)					Prepared & Analyzed: 07-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
Blank (F201315-BLK4)					Prepared & Analyzed: 07-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
LCS (F201315-BS1)					Prepared & Analyzed: 07-Jan-22						
Mercury	4.63	0.08	0.50	ng/L	5.0000		92.6	77-123			
LCS Dup (F201315-BSD1)					Prepared & Analyzed: 07-Jan-22						
Mercury	4.50	0.08	0.50	ng/L	5.0000		90.0	77-123	2.82	24	
Matrix Spike (F201315-MS1)		**Source: 1L00195-21RE1**			Prepared & Analyzed: 07-Jan-22						
Mercury	617.5	4.17	25.0	ng/L	505.00	178.6	86.9	71-125			
Matrix Spike (F201315-MS2)		**Source: 1L00195-23RE1**			Prepared & Analyzed: 07-Jan-22						
Mercury	4.75	0.08	0.50	ng/L	5.0000	0.42	86.6	71-125			
Matrix Spike Dup (F201315-MSD1)		**Source: 1L00195-21RE1**			Prepared & Analyzed: 07-Jan-22						
Mercury	620.5	4.17	25.0	ng/L	505.00	178.6	87.5	71-125	0.473	24	
Matrix Spike Dup (F201315-MSD2)		**Source: 1L00195-23RE1**			Prepared & Analyzed: 07-Jan-22						
Mercury	4.65	0.08	0.50	ng/L	5.0000	0.42	84.6	71-125	2.16	24	

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5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80272-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	12-Jan-22 15:32

Notes and Definitions

U	Analyte was not detected and is reported as less than the LOD or as defined by the client. The LOD has been adjusted for any dilution or concentration of the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the method detection limit if reported to the MDL or above the reporting limit if reported to the MRL.
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

60272

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 12/24/2021	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	☑ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	☐ 2 days			Job / SDG No.
H&A P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable (E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable (Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn; -- (Total Dissolved)	Method 200.8 Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn -- (Total Recoverable)	LL Mercury, total recoverable + dissolved (E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
LXBMP0011_20211224	12/24/21	0810	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access, Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No. ____

Relinquished by	Company	Date/Time: 12-23-21/1445	Received by	EG 12/23/21 1445	Date/Time:
Relinquished by	Company EG	Date/Time: 12/23/21 1800	Received by	12/23/21 1800	Date/Time:
Relinquished by	Company	Date/Time:	Received in Laboratory by		Date/Time:

Form No. CA-C-WI-045, Rev. 1.2, dated 1/8/2016

3 1/4.0 SCS

570-80272 Chain of Custody

1/24/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148196 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80272-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LXBMP001_20211224 (570-80272-1)	12/24/21	08 10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time.	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/29/21 1746				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80272-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
LXBMP001_20211224 (570-80272-1)	12/24/21	08 10 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
1	[signature]	1/3/22 1321				
2	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80272-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: ~~44009815~~ 570-80272			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LXBMP001_20211224 (570-80272-1)	12/24/21	08:10 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/3/22 1735	ECL			
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: | Custody Seal No. | Cooler Temperature(s) °C and Other Remarks.

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148196.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80272-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LXBMP001_20211224 (570-80272-1)	12/24/21	08:10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/29/21 1746	Company	Received by:	Date/Time: 12/31/21 9:40	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.9c

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80272-2

Login Number: 80272
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80272-2

Login Number: 80272
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/31/21 12:31 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80272-3
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/31/2022 10:47:46 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Qualifiers

Rad

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80272-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80272-3

Comments
No additional comments.

Receipt
The sample was received on 12/28/2021 6:00 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.0º C.

Receipt Exceptions

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC):
LXBMP001_20211224 (570-80272-1). Received 24 containers, while the COC lists 27.

RAD
Method 900.0: Gross alpha beta batch 544905
The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass:
LXBMP001_20211224 (570-80272-1). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross alpha beta batch 544905
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
LXBMP001_20211224 (570-80272-1), (LCS 160-544905/2-A), (LCSB 160-544905/3-A), (MB 160-544905/1-A), (570-80145-R-1-G), (570-80145-R-1-J DU), (570-80145-R-1-H MS) and (570-80145-R-1-I MSBT)

Method 900.0: Gross alpha beta batch 546013
The matrix spike (MS) recoveries for gross alpha were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (570-80422-S-1-G MS)

Method 900.0: Gross alpha beta batch 546013
The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass:
(570-80422-S-1-D) and (570-80422-S-1-I DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross alpha beta batch 546013
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

LXBMP001_20211224 (570-80272-1), (LCS 160-546013/2-A), (LCSB 160-546013/3-A), (MB 160-546013/1-A), (570-80422-S-1-D), (570-80422-S-1-I DU), (570-80422-S-1-G MS) and (570-80422-S-1-H MSBT)

Methods 903.0, 9315: Radium 226 batch 544912
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

LXBMP001_20211224 (570-80272-1), (LCS 160-544912/1-A), (LCSD 160-544912/2-A) and (MB 160-544912/19-A)

Job ID: 570-80272-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Methods 904.0, 9320: Radium 228 batch 544914
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

LXBMP001_20211224 (570-80272-1), (LCS 160-544914/1-A), (LCSD 160-544914/2-A) and (MB 160-544914/19-A)

Method 905: Strontium 90 batch 544884
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

LXBMP001_20211224 (570-80272-1), (LCS 160-544884/1-A), (LCSD 160-544884/2-A) and (MB 160-544884/16-A)

Method 906.0: Tritium in liquid batch 160-544885
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
LXBMP001_20211224 (570-80272-1), (LCS 160-544885/2-A), (MB 160-544885/1-A), (570-80272-X-1-B DU), (570-80274-V-3-A) and (570-80274-V-3-B MS)

Method LSC_Dist_Susp: Tritium Prep Batch 544885:

The following samples had unclear matrices: LXBMP001_20211224 (570-80272-1). The samples were slightly yellow-orange in color and transparent.

Method PrecSep_0: Radium-228 Prep Batch 160-544914

The following samples were prepared at a reduced aliquot due to Matrix: LXBMP001_20211224 (570-80272-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-544912

The following samples were prepared at a reduced aliquot due to Matrix: LXBMP001_20211224 (570-80272-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-544884

The following samples were prepared at a reduced aliquot due to Matrix: LXBMP001_20211224 (570-80272-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch

Job ID: 570-80272-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.2: The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient preservation at a pH of >2: Outfall009_20211215_Comp (570-78864-1) and LXBMP001_20211224 (570-80272-1). The sample was preserved to the appropriate pH in the laboratory.

01/07/22 @ 08:36 hours
1.0 mL 1:1 HNO3
1:1 HNO3 # 6803471

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Client Sample ID: LXBMP001_20211224 **Lab Sample ID: 570-80272-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	14.8	G	4.94	5.22	3.00	5.73	pCi/L	01/05/22 10:40	01/07/22 08:03	1
Gross Beta	16.2		3.49	3.84	4.00	3.78	pCi/L	01/05/22 10:40	01/07/22 08:03	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity - Dissolved

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	4.01		1.75	1.81	3.00	2.17	pCi/L	01/12/22 10:46	01/14/22 12:18	1
Gross Beta	4.81		0.888	1.01	4.00	0.875	pCi/L	01/12/22 10:46	01/14/22 12:18	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.190	U	0.198	0.199	1.00	0.313	pCi/L	01/05/22 12:51	01/28/22 09:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.5*		*40 - 110*	*01/05/22 12:51*	*01/28/22 09:38*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.567	U	0.404	0.407	1.00	0.633	pCi/L	01/05/22 13:38	01/27/22 13:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.5*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:29*	*1*
Y Carrier	*77.8*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:29*	*1*

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.244	U	0.493	0.494	3.00	0.843	pCi/L	01/05/22 09:29	01/20/22 15:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.8*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:45*	*1*
Y Carrier	*72.5*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:45*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: LXBMP001_20211224
Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-199	U	195	196	500	382	pCi/L	01/05/22 09:41	01/06/22 10:44	1

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80272-1	LXBMP001_20211224	97.5
LCS 160-544912/1-A	Lab Control Sample	96.7
LCSD 160-544912/2-A	Lab Control Sample Dup	91.4
MB 160-544912/19-A	Method Blank	99.2

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80272-1	LXBMP001_20211224	97.5	77.8
LCS 160-544914/1-A	Lab Control Sample	96.7	80.7
LCSD 160-544914/2-A	Lab Control Sample Dup	91.4	81.5
MB 160-544914/19-A	Method Blank	99.2	84.9

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80272-1	LXBMP001_20211224	81.8	72.5
LCS 160-544884/1-A	Lab Control Sample	77.6	85.2
LCSD 160-544884/2-A	Lab Control Sample Dup	79.2	84.9
MB 160-544884/16-A	Method Blank	84.7	78.9

Tracer/Carrier Legend

Sr = Sr Carrier

Y = Y Carrier

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-544905/1-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544905

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.8965	U	0.678	0.686	3.00	1.01	pCi/L	01/05/22 10:40	01/06/22 14:23	1
Gross Beta	0.1978	U	0.523	0.524	4.00	0.880	pCi/L	01/05/22 10:40	01/06/22 14:23	1

Lab Sample ID: LCS 160-544905/2-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	59.45		8.64	3.00	2.32	pCi/L	117	75 - 125

Lab Sample ID: LCSB 160-544905/3-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.7	74.99		8.03	4.00	1.03	pCi/L	99	75 - 125

Lab Sample ID: 570-80145-R-1-H MS
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	2.10		50.6	53.08		7.32	3.00	1.34	pCi/L	101	60 - 140

Lab Sample ID: 570-80145-R-1-I MSBT
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	4.10		75.7	76.77		8.19	4.00	0.790	pCi/L	96	60 - 140

Lab Sample ID: 570-80145-R-1-J DU
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	2.10		1.928		1.04	3.00	1.33	pCi/L	0.08	1
Gross Beta	4.10		5.162		1.00	4.00	0.789	pCi/L	0.56	1

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: MB 160-546013/1-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546013

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.9192	U	0.730	0.738	3.00	1.11	pCi/L	01/12/22 10:46	01/14/22 08:40	1
Gross Beta	1.200		0.604	0.616	4.00	0.863	pCi/L	01/12/22 10:46	01/14/22 08:40	1

Lab Sample ID: LCS 160-546013/2-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546013

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Alpha			50.6	49.91		7.39	3.00	2.12	pCi/L	99	75 - 125		

Lab Sample ID: LCSB 160-546013/3-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546013

Analyte			Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Beta			75.6	71.71		7.70	4.00	0.856	pCi/L	95	75 - 125		

Lab Sample ID: 570-80422-S-1-G MS
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Alpha	7.34	G	50.6	32.48	F1	8.08	3.00	6.16	pCi/L	50	60 - 140		

Lab Sample ID: 570-80422-S-1-H MSBT
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Beta	6.41		75.5	90.25		10.1	4.00	1.80	pCi/L	111	60 - 140		

Lab Sample ID: 570-80422-S-1-I DU
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Duplicate
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Gross Alpha	7.34	G		9.617	G	5.00	3.00	6.52	pCi/L			0.23	1
Gross Beta	6.41			7.231		1.87	4.00	1.98	pCi/L			0.22	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-544912/19-A
Matrix: Water
Analysis Batch: 548468

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544912

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.2001	U	0.245	0.245	1.00	0.404	pCi/L	01/05/22 12:51	01/28/22 11:29	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.2*		*40 - 110*	*01/05/22 12:51*	*01/28/22 11:29*	*1*

Lab Sample ID: LCS 160-544912/1-A
Matrix: Water
Analysis Batch: 548468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544912

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.72		1.68	1.00	0.440	pCi/L	91	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*96.7*		*40 - 110*

Lab Sample ID: LCSD 160-544912/2-A
Matrix: Water
Analysis Batch: 548468

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544912

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.12		1.63	1.00	0.450	pCi/L	87	75 - 125	0.18	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-544914/19-A
Matrix: Water
Analysis Batch: 548438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544914

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2462	U	0.312	0.312	1.00	0.517	pCi/L	01/05/22 13:38	01/27/22 13:33	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.2*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:33*	*1*
Y Carrier	*84.9*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:33*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-544914/1-A
Matrix: Water
Analysis Batch: 548425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544914

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.56		1.57	1.00	0.523	pCi/L	114	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*96.7*		*40 - 110*
Y Carrier	*80.7*		*40 - 110*

Lab Sample ID: LCSD 160-544914/2-A
Matrix: Water
Analysis Batch: 548425

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544914

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	14.47		1.68	1.00	0.553	pCi/L	122	75 - 125	0.28	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*
Y Carrier	*81.5*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-544884/16-A
Matrix: Water
Analysis Batch: 547239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544884

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.1328	U	0.444	0.444	3.00	0.811	pCi/L	01/05/22 09:29	01/20/22 15:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*84.7*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*
Y Carrier	*78.9*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*

Lab Sample ID: LCS 160-544884/1-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			15.1	15.49		1.76	3.00	0.788	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*77.6*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: LCSD 160-544884/2-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			15.1	16.58		1.84	3.00	0.739	pCi/L	110	75 - 125	0.30	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*79.2*		*40 - 110*
Y Carrier	*84.9*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-544885/1-A
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544885

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	166.7	U	220	221	500	369	pCi/L	01/05/22 09:41	01/06/22 09:14	1

Lab Sample ID: LCS 160-544885/2-A
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544885

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2250	2063		389	500	384	pCi/L	92	75 - 125		

Lab Sample ID: 570-80274-V-3-B MS
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544885

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	-27.0	U	2240	2860		457	500	382	pCi/L	128	60 - 140		

Lab Sample ID: 570-80272-1 DU
Matrix: Water
Analysis Batch: 545183

Client Sample ID: LXBMP001_20211224
Prep Type: Total/NA
Prep Batch: 544885

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-199	U		-45.05	U	201	500	365	pCi/L			0.39	1

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Prep Batch: 544884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	PrecSep-7	
MB 160-544884/16-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-544884/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-544884/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 544885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	LSC_Dist_Susp	
MB 160-544885/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-544885/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80274-V-3-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-80272-1 DU	LXBMP001_20211224	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 544905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	Evaporation	
MB 160-544905/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-544905/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-544905/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80145-R-1-H MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-I MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-J DU	Duplicate	Total/NA	Water	Evaporation	

Prep Batch: 544912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	PrecSep-21	
MB 160-544912/19-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-544912/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-544912/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 544914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Total/NA	Water	PrecSep_0	
MB 160-544914/19-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-544914/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-544914/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Filtration Batch: 545628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	Filtration	
570-80422-S-1-G MS	Matrix Spike	Dissolved	Water	Filtration	
570-80422-S-1-H MSBT	Matrix Spike	Dissolved	Water	Filtration	
570-80422-S-1-I DU	Duplicate	Dissolved	Water	Filtration	

Prep Batch: 546013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-1	LXBMP001_20211224	Dissolved	Water	Evaporation	545628
MB 160-546013/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-546013/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-546013/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80422-S-1-G MS	Matrix Spike	Dissolved	Water	Evaporation	545628

Rad (Continued)

Prep Batch: 546013 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-S-1-H MSBT	Matrix Spike	Dissolved	Water	Evaporation	545628
570-80422-S-1-I DU	Duplicate	Dissolved	Water	Evaporation	545628

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Client Sample ID: LXBMP001_20211224

Date Collected: 12/24/21 08:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80272-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1000 mL	545628	01/10/22 12:35	LTC	TAL SL
Dissolved	Prep	Evaporation			200.02 mL	1.0 g	546013	01/12/22 10:46	KG	TAL SL
Dissolved	Analysis	900.0		1			546411	01/14/22 12:18	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Evaporation			50.05 mL	1.0 g	544905	01/05/22 10:40	KG	TAL SL
Total/NA	Analysis	900.0		1			545199	01/07/22 08:03	MLK	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-21			749.75 mL	1.0 g	544912	01/05/22 12:51	LPS	TAL SL
Total/NA	Analysis	903.0		1			548468	01/28/22 09:38	SCB	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			749.75 mL	1.0 g	544914	01/05/22 13:38	LPS	TAL SL
Total/NA	Analysis	904.0		1			548425	01/27/22 13:29	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			499.89 mL	1.0 g	544884	01/05/22 09:29	LPS	TAL SL
Total/NA	Analysis	905		1			547239	01/20/22 15:45	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	LSC_Dist_Susp			100.63 mL	1.0 g	544885	01/05/22 09:41	BAL	TAL SL
Total/NA	Analysis	906.0		1			545183	01/06/22 10:44	JLP	TAL SL
	Instrument ID: LSCAQUA									

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80272-3
Project/Site: Boeing SSFL ISRA and BMP

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
Filtration	Sample Filtration	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80272-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80272-1	LXBMP001_20211224	Water	12/24/21 08:10	12/28/21 18:00

60272

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Ca sc ence

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 12/24/2021	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	☑ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 1 week			Job / SDG No.
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	☐ 2 days			
H&A P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable (E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable (Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Ti; Method 200.7: B, Zn; -- (Total Dissolved)	Method 200.8 Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Ti; Method 200.7: B, Zn -- (Total Recoverable)	LL Mercury, total recoverable + dissolved (E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
LXBMP0011_20211224	12/24/21	0810	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access, Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No. ____

	Company	Date/Time		Company	Date/Time
Relinquished by	H A	12-23-21/1445	Received by	EG	12/28/21 1445
Relinquished by	EG	12/28/21 1800	Received by		12/28/21 1800
Relinquished by		Date/Time:	Received in Laboratory by		Date/Time:

Form No. CA-C-WI-045, Rev. 1.2, dated 1/8/2016

3 1/4.0 SCS

570-80272 Chain of Custody

1/31/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148196 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80272-2
Address: 880 Riverside Parkway	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LXBMP001_20211224 (570-80272-1)	12/24/21	08 10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time.	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/29/21 1746				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80272-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
LXBMP001_20211224 (570-80272-1)	12/24/21	08 10 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL, DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
1	[signature]	1/3/22 1321				
2	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80272-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: ~~44009815~~ 570-80272			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LXBMP001_20211224 (570-80272-1)	12/24/21	08:10 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
[signature]	1/3/22 1735	ECL			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No. | Cooler Temperature(s) °C and Other Remarks.

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80272-3

Login Number: 80272
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80272-3

Login Number: 80272
List Number: 4
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/04/22 11:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80274-1
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/27/2022 10:31:42 AM

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BV	Sample received after holding time expired
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
IB	CCV recovery above limit; analyte not detected
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)
MB	Analyte present in the method blank

General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Job ID: 570-80274-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80274-1

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.7º C, 2.9º C and 3.5º C.

Receipt Exceptions

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): EPSW001BG01_20211223 (570-80274-1) and EPSW001PV01_20211223 (570-80274-2). Received 24 containers, while the COC lists 27.

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): EPSW001B003_20211223 (570-80274-3). Received 23 containers, while the COC lists 23.

Received unpreserved 1L plastic instead on 1L plastic w/NaOH for CN: EPSW001PV01_20211223 (570-80274-2).

The laboratory did not receive 1L plastic container w/NaOH for EPA Cyanide analysis that was requested on the Chain-of-Custody on the following sample: EPSW001B003_20211223 (570-80274-3).

GC/MS VOA
Method 624.1: Internal standard (ISTD) response for TBA-d9 for the following samples in analytical batch 570-205379 was outside acceptance criteria: EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2), EPSW001B003_20211223 (570-80274-3) and (CCVIS 570-205379/6). This ISTD does not correspond to any of the requested target compounds reported from this analytical batch; therefore, the data have been reported.

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-205379.The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
Method 300.0: The following samples were received outside of holding time: EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2) and EPSW001B003_20211223 (570-80274-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2) and EPSW001B003_20211223 (570-80274-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision of Zinc for preparation batch 440-664527 and analytical batch 440-664607 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Job ID: 570-80274-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method 200.8: The method blank for preparation batch 440-663889 and analytical batch 440-663967 contained Iron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 200.8: The method blank for preparation batch 440-663889 and analytical batch 440-664004 contained Iron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Methods 245.1, 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Mercurypreparation batch 440-664074 and analytical batch 440-664187 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2) and EPSW001B003_20211223 (570-80274-3). These samples were filtered and preserved upon receipt to the laboratory past 24 hrs from receipt in the laboratory due to
samples received with insufficient time to filter within the HT.

1/05/22 11:30 Hours
2.5 HNO3
HNO3 LOT # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-204641. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1 Sim

Method D4464: Insufficient particulates in sample for analysis.

EPSW001B003_20211223 (570-80274-3)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Client Sample ID: EPSW001BG01_20211223 — Lab Sample ID: 570-80274-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hexavalent chromium	0.29	J,DX BU BV	0.40	0.039	ug/L	2		218.6	Total/NA
Fluoride	0.13	J,DX	0.20	0.092	mg/L	2		300.0	Total/NA
Nitrate as N	0.45	BU BV	0.20	0.048	mg/L	2		300.0	Total/NA
Sulfate	2.3		2.0	0.47	mg/L	2		300.0	Total/NA
Boron	29	J,DX	50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	380		20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	18	J,DX	20	12	ug/L	1		200.7 Rev 4.4	Dissolved
Arsenic	10		1.0	0.50	ug/L	1		200.8	Total Recoverable
Barium	990		1.0	0.50	ug/L	1		200.8	Total Recoverable
Beryllium	3.4		0.50	0.25	ug/L	1		200.8	Total Recoverable
Cadmium	0.94	J,DX	1.0	0.25	ug/L	1		200.8	Total Recoverable
Chromium	51		2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	55		2.0	0.50	ug/L	1		200.8	Total Recoverable
Iron	68000	MB	200	80	ug/L	10		200.8	Total Recoverable
Manganese	2300		1.0	0.50	ug/L	1		200.8	Total Recoverable
Nickel	44		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	33		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	7.6		2.0	0.50	ug/L	1		200.8	Total Recoverable
Thallium	0.37	J,DX	1.0	0.20	ug/L	1		200.8	Total Recoverable
Arsenic	1.0		1.0	0.50	ug/L	1		200.8	Dissolved
Barium	26		1.0	0.50	ug/L	1		200.8	Dissolved
Chromium	2.2		2.0	0.50	ug/L	1		200.8	Dissolved
Copper	3.1		2.0	0.50	ug/L	1		200.8	Dissolved
Iron	1700		20	8.0	ug/L	1		200.8	Dissolved
Manganese	28		1.0	0.50	ug/L	1		200.8	Dissolved
Nickel	1.6	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Lead	1.2		1.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.21	J,DX	0.25	0.12	ug/L	1		245.1	Total/NA
Mercury	0.14	J,DX BU	0.25	0.12	ug/L	1		245.1	Dissolved
Cr (III)	0.051		0.050	0.0069	mg/L	1		218.6 CR3	Total/NA
Total Suspended Solids	3500		330	170	mg/L	1		SM 2540D	Total/NA
Cyanide, Total	0.0015	J,DX	0.0030	0.0014	mg/L	1		SM 4500 CN E	Total/NA
Clay (less than 0.00391 mm)	48.65		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	51.35		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	100.00		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: EPSW001PV01_20211223 — Lab Sample ID: 570-80274-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	1.9	BU BV	0.20	0.048	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Client Sample ID: EPSW001PV01_20211223 (Continued) — Lab Sample ID: 570-80274-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	1.8	J,DX	2.0	0.47	mg/L	2		300.0	Total/NA
Boron	32	J,DX	50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	29		20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	29	J,DX	50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Arsenic	2.1		1.0	0.50	ug/L	1		200.8	Total Recoverable
Barium	52		1.0	0.50	ug/L	1		200.8	Total Recoverable
Beryllium	0.27	J,DX	0.50	0.25	ug/L	1		200.8	Total Recoverable
Chromium	5.6		2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	5.9		2.0	0.50	ug/L	1		200.8	Total Recoverable
Iron	5700	MB	20	8.0	ug/L	1		200.8	Total Recoverable
Manganese	140		1.0	0.50	ug/L	1		200.8	Total Recoverable
Nickel	5.9		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	4.9		1.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	1.1	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	0.78	J,DX	1.0	0.50	ug/L	1		200.8	Dissolved
Barium	12		1.0	0.50	ug/L	1		200.8	Dissolved
Chromium	0.90	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Copper	3.3		2.0	0.50	ug/L	1		200.8	Dissolved
Iron	340		20	8.0	ug/L	1		200.8	Dissolved
Manganese	9.0		1.0	0.50	ug/L	1		200.8	Dissolved
Nickel	2.1		2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.12	J,DX BU	0.25	0.12	ug/L	1		245.1	Dissolved
Total Suspended Solids	110		6.7	3.3	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	27.09		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	66.25		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	93.34		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	6.66		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: EPSW001B003_20211223 — Lab Sample ID: 570-80274-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	2.1	BU BV	0.20	0.048	mg/L	2		300.0	Total/NA
Sulfate	1.6	J,DX	2.0	0.47	mg/L	2		300.0	Total/NA
Boron	31	J,DX	50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	27	J,DX	50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Barium	11		1.0	0.50	ug/L	1		200.8	Total Recoverable
Chromium	0.53	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	2.1		2.0	0.50	ug/L	1		200.8	Total Recoverable
Iron	240	MB	20	8.0	ug/L	1		200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: EPSW001B003_20211223 (Continued)
Lab Sample ID: 570-80274-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	6.0		1.0	0.50	ug/L	1		200.8	Total Recoverable
Nickel	0.97	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	0.50	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Barium	9.7		1.0	0.50	ug/L	1		200.8	Dissolved
Copper	2.1		2.0	0.50	ug/L	1		200.8	Dissolved
Iron	66		20	8.0	ug/L	1		200.8	Dissolved
Manganese	2.1		1.0	0.50	ug/L	1		200.8	Dissolved
Nickel	0.95	J,DX	2.0	0.50	ug/L	1		200.8	Dissolved
Mercury	0.13	J,DX	0.25	0.12	ug/L	1		245.1	Total/NA
Total Suspended Solids	5.6		1.0	0.50	mg/L	1		SM 2540D	Total/NA
Cyanide, Total	0.0019	J,DX	0.0030	0.0014	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: TB_20211223
Lab Sample ID: 570-80274-4

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			01/04/22 20:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*		*01/04/22 20:54*	*1*
4-Bromofluorobenzene (Surr)	*85*		*60 - 140*		*01/04/22 20:54*	*1*
Dibromofluoromethane	*103*		*60 - 140*		*01/04/22 20:54*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*01/04/22 20:54*	*1*

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			01/04/22 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*		*01/04/22 21:19*	*1*
4-Bromofluorobenzene (Surr)	*84*		*60 - 140*		*01/04/22 21:19*	*1*
Dibromofluoromethane	*100*		*60 - 140*		*01/04/22 21:19*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*01/04/22 21:19*	*1*

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			01/04/22 21:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*		*01/04/22 21:43*	*1*
4-Bromofluorobenzene (Surr)	*84*		*60 - 140*		*01/04/22 21:43*	*1*
Dibromofluoromethane	*102*		*60 - 140*		*01/04/22 21:43*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*01/04/22 21:43*	*1*

Client Sample ID: TB_20211223
Date Collected: 12/23/21 11:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			01/04/22 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 140*		*01/04/22 17:12*	*1*
4-Bromofluorobenzene (Surr)	*84*		*60 - 140*		*01/04/22 17:12*	*1*
Dibromofluoromethane	*103*		*60 - 140*		*01/04/22 17:12*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*01/04/22 17:12*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/30/21 08:15	01/04/22 11:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*28 - 127*	*12/30/21 08:15*	*01/04/22 11:28*	*1*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*12/30/21 08:15*	*01/04/22 11:28*	*1*
2-Fluorophenol (Surr)	*49*		*17 - 120*	*12/30/21 08:15*	*01/04/22 11:28*	*1*
Nitrobenzene-d5 (Surr)	*72*		*27 - 120*	*12/30/21 08:15*	*01/04/22 11:28*	*1*
Phenol-d6 (Surr)	*33*		*10 - 120*	*12/30/21 08:15*	*01/04/22 11:28*	*1*
p-Terphenyl-d14 (Surr)	*50*		*45 - 120*	*12/30/21 08:15*	*01/04/22 11:28*	*1*

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		4.8	1.8	ug/L		12/30/21 08:15	01/04/22 11:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*28 - 127*	*12/30/21 08:15*	*01/04/22 11:49*	*1*
2-Fluorobiphenyl (Surr)	*67*		*31 - 120*	*12/30/21 08:15*	*01/04/22 11:49*	*1*
2-Fluorophenol (Surr)	*48*		*17 - 120*	*12/30/21 08:15*	*01/04/22 11:49*	*1*
Nitrobenzene-d5 (Surr)	*75*		*27 - 120*	*12/30/21 08:15*	*01/04/22 11:49*	*1*
Phenol-d6 (Surr)	*32*		*10 - 120*	*12/30/21 08:15*	*01/04/22 11:49*	*1*
p-Terphenyl-d14 (Surr)	*79*		*45 - 120*	*12/30/21 08:15*	*01/04/22 11:49*	*1*

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/30/21 08:15	01/04/22 12:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*81*		*28 - 127*	*12/30/21 08:15*	*01/04/22 12:11*	*1*
2-Fluorobiphenyl (Surr)	*66*		*31 - 120*	*12/30/21 08:15*	*01/04/22 12:11*	*1*
2-Fluorophenol (Surr)	*47*		*17 - 120*	*12/30/21 08:15*	*01/04/22 12:11*	*1*
Nitrobenzene-d5 (Surr)	*69*		*27 - 120*	*12/30/21 08:15*	*01/04/22 12:11*	*1*
Phenol-d6 (Surr)	*30*		*10 - 120*	*12/30/21 08:15*	*01/04/22 12:11*	*1*
p-Terphenyl-d14 (Surr)	*70*		*45 - 120*	*12/30/21 08:15*	*01/04/22 12:11*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	**0.29**	**J,DX BU BV**	0.40	0.039	ug/L			12/30/21 17:48	2

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND	BU BV	0.40	0.039	ug/L			12/30/21 17:59	2

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND	BU BV	0.40	0.039	ug/L			12/30/21 18:11	2

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.13**	**J,DX**	0.20	0.092	mg/L			12/30/21 14:09	2
Nitrite as N	ND	BU BV	0.20	0.036	mg/L			12/30/21 14:09	2
Nitrate as N	**0.45**	**BU BV**	0.20	0.048	mg/L			12/30/21 14:09	2
Sulfate	**2.3**		2.0	0.47	mg/L			12/30/21 14:09	2

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.20	0.092	mg/L			12/30/21 14:27	2
Nitrite as N	ND	BU BV	0.20	0.036	mg/L			12/30/21 14:27	2
Nitrate as N	**1.9**	**BU BV**	0.20	0.048	mg/L			12/30/21 14:27	2
Sulfate	**1.8**	**J,DX**	2.0	0.47	mg/L			12/30/21 14:27	2

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.20	0.092	mg/L			12/30/21 14:45	2
Nitrite as N	ND	BU BV	0.20	0.036	mg/L			12/30/21 14:45	2
Nitrate as N	**2.1**	**BU BV**	0.20	0.048	mg/L			12/30/21 14:45	2
Sulfate	**1.6**	**J,DX**	2.0	0.47	mg/L			12/30/21 14:45	2

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Method: 314.0 - Perchlorate (IC)

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 17:45	1

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 18:05	1

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 18:25	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	29	J,DX	50	25	ug/L		01/15/22 06:16	01/17/22 12:02	1
Zinc	380		20	12	ug/L		01/15/22 06:16	01/17/22 12:02	1

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	32	J,DX	50	25	ug/L		01/15/22 06:16	01/17/22 12:34	1
Zinc	29		20	12	ug/L		01/15/22 06:16	01/17/22 12:34	1

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	31	J,DX	50	25	ug/L		01/15/22 06:16	01/17/22 12:37	1
Zinc	ND		20	12	ug/L		01/15/22 06:16	01/17/22 12:37	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: EPSW001BG01_20211223
Lab Sample ID: 570-80274-1
Date Collected: 12/23/21 10:00
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/25/22 13:40	01/25/22 16:29	1
Zinc	**18**	**J,DX**	20	12	ug/L		01/25/22 13:40	01/25/22 16:29	1

Client Sample ID: EPSW001PV01_20211223
Lab Sample ID: 570-80274-2
Date Collected: 12/23/21 12:10
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**29**	**J,DX**	50	25	ug/L		01/25/22 13:40	01/25/22 16:15	1
Zinc	ND		20	12	ug/L		01/25/22 13:40	01/25/22 16:15	1

Client Sample ID: EPSW001B003_20211223
Lab Sample ID: 570-80274-3
Date Collected: 12/23/21 11:15
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**27**	**J,DX**	50	25	ug/L		01/25/22 13:40	01/25/22 16:31	1
Zinc	ND		20	12	ug/L		01/25/22 13:40	01/25/22 16:31	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:47	1
Arsenic	**10**		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:47	1
Barium	**990**		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:47	1
Beryllium	**3.4**		0.50	0.25	ug/L		01/06/22 09:52	01/06/22 15:47	1
Cadmium	**0.94**	**J,DX**	1.0	0.25	ug/L		01/06/22 09:52	01/06/22 15:47	1
Chromium	**51**		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:47	1
Copper	**55**		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:47	1
Iron	**68000**	**MB**	200	80	ug/L		01/06/22 09:52	01/07/22 11:39	10
Manganese	**2300**		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:47	1
Nickel	**44**		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:47	1
Lead	**33**		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:47	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:47	1
Selenium	**7.6**		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:47	1
Thallium	**0.37**	**J,DX**	1.0	0.20	ug/L		01/06/22 09:52	01/06/22 15:47	1

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:49	1
Arsenic	**2.1**		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:49	1
Barium	**52**		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:49	1
Beryllium	**0.27**	**J,DX**	0.50	0.25	ug/L		01/06/22 09:52	01/06/22 15:49	1
Cadmium	ND		1.0	0.25	ug/L		01/06/22 09:52	01/06/22 15:49	1
Chromium	**5.6**		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:49	1
Copper	**5.9**		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:49	1
Iron	**5700**	**MB**	20	8.0	ug/L		01/06/22 09:52	01/06/22 15:49	1
Manganese	**140**		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:49	1
Nickel	**5.9**		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:49	1
Lead	**4.9**		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:49	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:49	1
Selenium	**1.1**	**J,DX**	2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:49	1
Thallium	ND		1.0	0.20	ug/L		01/06/22 09:52	01/06/22 15:49	1

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:51	1
Arsenic	ND		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:51	1
Barium	**11**		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:51	1
Beryllium	ND		0.50	0.25	ug/L		01/06/22 09:52	01/06/22 15:51	1
Cadmium	ND		1.0	0.25	ug/L		01/06/22 09:52	01/06/22 15:51	1
Chromium	**0.53**	**J,DX**	2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:51	1
Copper	**2.1**		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:51	1
Iron	**240**	**MB**	20	8.0	ug/L		01/06/22 09:52	01/06/22 15:51	1
Manganese	**6.0**		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:51	1
Nickel	**0.97**	**J,DX**	2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:51	1
Lead	ND		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:51	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:51	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: EPSW001B003_20211223
Lab Sample ID: 570-80274-3
Date Collected: 12/23/21 11:15
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	**0.50**	**J,DX**	2.0	0.50	ug/L		01/06/22 09:52	01/06/22 15:51	1
Thallium	ND		1.0	0.20	ug/L		01/06/22 09:52	01/06/22 15:51	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:18	1
Arsenic	**1.0**		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:18	1
Barium	**26**		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:18	1
Beryllium	ND		0.50	0.25	ug/L		01/07/22 08:22	01/07/22 14:18	1
Cadmium	ND		1.0	0.25	ug/L		01/07/22 08:22	01/07/22 14:18	1
Chromium	**2.2**		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:18	1
Copper	**3.1**		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:18	1
Iron	**1700**		20	8.0	ug/L		01/07/22 08:22	01/07/22 14:18	1
Manganese	**28**		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:18	1
Nickel	**1.6**	**J,DX**	2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:18	1
Lead	**1.2**		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:18	1
Antimony	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:18	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:18	1
Thallium	ND		1.0	0.20	ug/L		01/07/22 08:22	01/07/22 14:18	1

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:20	1
Arsenic	**0.78**	**J,DX**	1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:20	1
Barium	**12**		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:20	1
Beryllium	ND		0.50	0.25	ug/L		01/07/22 08:22	01/07/22 14:20	1
Cadmium	ND		1.0	0.25	ug/L		01/07/22 08:22	01/07/22 14:20	1
Chromium	**0.90**	**J,DX**	2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:20	1
Copper	**3.3**		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:20	1
Iron	**340**		20	8.0	ug/L		01/07/22 08:22	01/07/22 14:20	1
Manganese	**9.0**		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:20	1
Nickel	**2.1**		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:20	1
Lead	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:20	1
Antimony	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:20	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:20	1
Thallium	ND		1.0	0.20	ug/L		01/07/22 08:22	01/07/22 14:20	1

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:22	1
Arsenic	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:22	1
Barium	**9.7**		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:22	1
Beryllium	ND		0.50	0.25	ug/L		01/07/22 08:22	01/07/22 14:22	1
Cadmium	ND		1.0	0.25	ug/L		01/07/22 08:22	01/07/22 14:22	1
Chromium	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:22	1
Copper	**2.1**		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:22	1
Iron	**66**		20	8.0	ug/L		01/07/22 08:22	01/07/22 14:22	1
Manganese	**2.1**		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:22	1
Nickel	**0.95**	**J,DX**	2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:22	1
Lead	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:22	1
Antimony	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:22	1

Method: 200.8 - Metals (ICP/MS) - Dissolved (Continued)

Client Sample ID: EPSW001B003_20211223
Lab Sample ID: 570-80274-3
Date Collected: 12/23/21 11:15
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:22	1
Thallium	ND		1.0	0.20	ug/L		01/07/22 08:22	01/07/22 14:22	1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: EPSW001BG01_20211223
Lab Sample ID: 570-80274-1
Date Collected: 12/23/21 10:00
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.21**	**J,DX**	0.25	0.12	ug/L		01/15/22 16:00	01/17/22 16:29	1

Client Sample ID: EPSW001PV01_20211223
Lab Sample ID: 570-80274-2
Date Collected: 12/23/21 12:10
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/15/22 16:00	01/17/22 15:36	1

Client Sample ID: EPSW001B003_20211223
Lab Sample ID: 570-80274-3
Date Collected: 12/23/21 11:15
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.13**	**J,DX**	0.25	0.12	ug/L		01/15/22 16:00	01/17/22 16:31	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: EPSW001BG01_20211223
Lab Sample ID: 570-80274-1
Date Collected: 12/23/21 10:00
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.14**	**J,DX BU**	0.25	0.12	ug/L		01/19/22 17:58	01/20/22 20:07	1

Client Sample ID: EPSW001PV01_20211223
Lab Sample ID: 570-80274-2
Date Collected: 12/23/21 12:10
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.12**	**J,DX BU**	0.25	0.12	ug/L		01/19/22 17:58	01/20/22 20:09	1

Client Sample ID: EPSW001B003_20211223
Lab Sample ID: 570-80274-3
Date Collected: 12/23/21 11:15
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/19/22 17:58	01/20/22 20:11	1

General Chemistry

Client Sample ID: EPSW001BG01_20211223
Lab Sample ID: 570-80274-1
Date Collected: 12/23/21 10:00
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	**0.051**		0.050	0.0069	mg/L			01/16/22 22:00	1
Total Suspended Solids	**3500**		330	170	mg/L			12/30/21 16:54	1
Cyanide, Total	**0.0015**	**J,DX**	0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:30	1

Client Sample ID: EPSW001PV01_20211223
Lab Sample ID: 570-80274-2
Date Collected: 12/23/21 12:10
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 22:00	1
Total Suspended Solids	**110**		6.7	3.3	mg/L			12/30/21 16:54	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:31	1

Client Sample ID: EPSW001B003_20211223
Lab Sample ID: 570-80274-3
Date Collected: 12/23/21 11:15
Matrix: Water
Date Received: 12/28/21 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 22:00	1
Total Suspended Solids	**5.6**		1.0	0.50	mg/L			12/30/21 16:54	1
Cyanide, Total	**0.0019**	**J,DX**	0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:32	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

General Chemistry - Dissolved

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 21:49	1

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 21:49	1

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 21:49	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**48.65**		0.01	0.01	%			01/07/22 16:31	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 16:31	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 16:31	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 16:31	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 16:31	1
Silt (0.00391 to 0.0625mm)	**51.35**		0.01	0.01	%			01/07/22 16:31	1
Total Silt and Clay (0 to 0.0626mm)	**100.00**		0.01	0.01	%			01/07/22 16:31	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 16:31	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/07/22 16:31	1

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

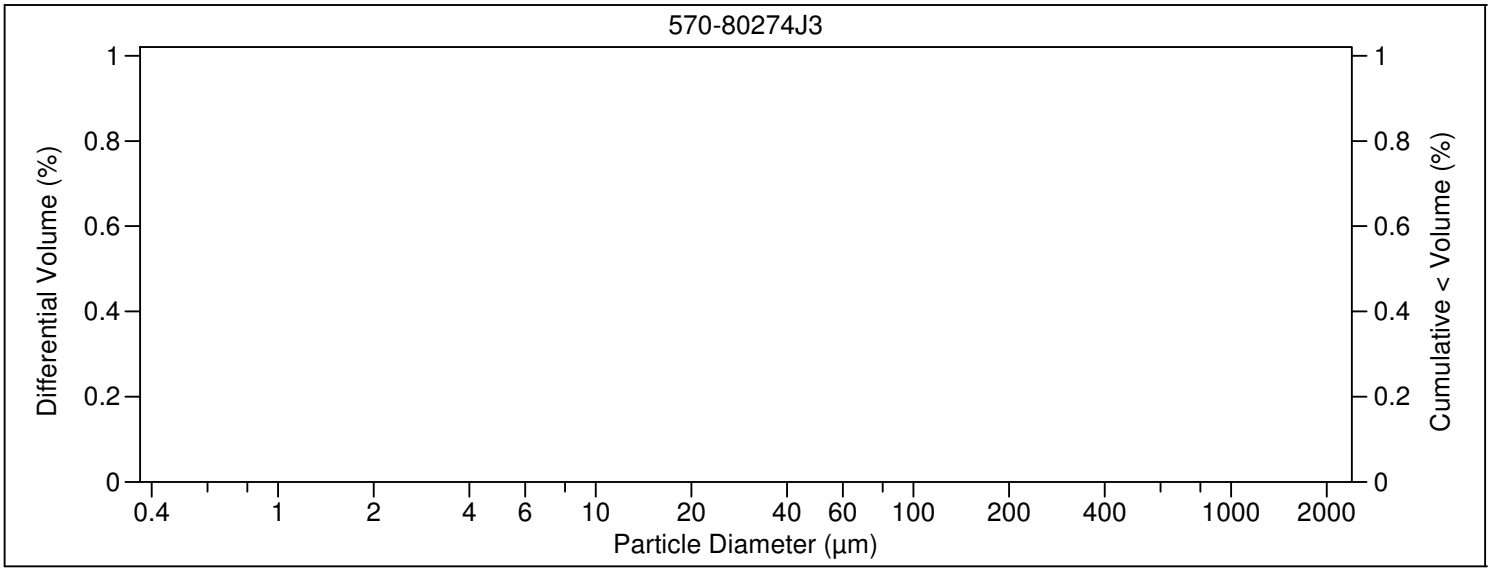
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**27.09**		0.01	0.01	%			01/07/22 16:37	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 16:37	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 16:37	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 16:37	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 16:37	1
Silt (0.00391 to 0.0625mm)	**66.25**		0.01	0.01	%			01/07/22 16:37	1
Total Silt and Clay (0 to 0.0626mm)	**93.34**		0.01	0.01	%			01/07/22 16:37	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 16:37	1
Very Fine Sand (0.0625 to 0.125 mm)	**6.66**		0.01	0.01	%			01/07/22 16:37	1

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			01/07/22 16:49	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 16:49	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 16:49	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 16:49	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 16:49	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/07/22 16:49	1
Total Silt and Clay (0 to 0.0626mm)	ND		0.01	0.01	%			01/07/22 16:49	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 16:49	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/07/22 16:49	1

File name:	C:\LS13320\570-80274J3_ 7 Jan 2022_16.49.22.$ls 570-80274J3_ 7 Jan 2022_16.49.22.$ls		
File ID:	570-80274J3		
Sample ID:	570-80274J3		
Operator:	1106		
Run number:	18		
Comment 1:	ASTM D4464M , LPSA 1		
Optical model:	Fraunhofer.rf780d		
Residual:	3.12%		
LS 13 320	Aqueous Liquid Module		
Start time:	16:47 7 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	1%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00



Volume Statistics (Arithmetic) 570-80274J3_ 7 Jan 2022_16.49.22.$ls

Calculations from 0.375 µm to 2000 µm

Volume:	0%		
Mean:	0.000 µm	S.D.:	0 µm
Median:	0.000 µm	Variance:	0 μm^2
Mean/Median ratio:	0.000	Skewness:	0
Mode:	0.000 µm	Kurtosis:	0

d_{10}: 0.000 µm d_{50}: 0.000 µm d_{90}: 0.000 µm

Folk and Ward Statistics (Phi)

Mean:	0.00	Median:	0.00	Deviation:	0.00
Skewness:	0.00	Kurtosis:	0.00		

<5%	<16%	<25%	<40%	<50%	<75%	<84%	<95%
0.000 µm	0.000 µm	0.000 µm	0.000 µm	0.000 µm	0.000 µm	0.000 µm	0.000 µm

Particle Diameter µm	570-80274J3 _ 7 Jan 2022_16.49 .22.$ls Volume %
0.04	0
0.4	0
1.95	0
3.91	0
62.5	0
125	0
250	0
500	0
1000	0
2000	

570-80274J3_ 7 Jan 2022_16.49.22.$ls

Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %
0.375	0	24.95	0	1660	0
0.412	0	27.39	0	1822	0
0.452	0	30.07	0	2000	
0.496	0	33.01	0		
0.545	0	36.24	0		
0.598	0	39.78	0		
0.657	0	43.67	0		
0.721	0	47.94	0		
0.791	0	52.63	0		
0.869	0	57.77	0		
0.954	0	63.42	0		
1.047	0	69.62	0		
1.149	0	76.43	0		
1.261	0	83.90	0		
1.385	0	92.10	0		
1.520	0	101.1	0		
1.669	0	111.0	0		
1.832	0	121.8	0		
2.011	0	133.7	0		
2.208	0	146.8	0		
2.423	0	161.2	0		
2.660	0	176.9	0		
2.920	0	194.2	0		
3.206	0	213.2	0		
3.519	0	234.1	0		
3.863	0	256.9	0		
4.241	0	282.1	0		
4.656	0	309.6	0		
5.111	0	339.9	0		
5.611	0	373.1	0		
6.159	0	409.6	0		
6.761	0	449.7	0		
7.422	0	493.6	0		
8.148	0	541.9	0		
8.944	0	594.9	0		
9.819	0	653.0	0		
10.78	0	716.9	0		
11.83	0	786.9	0		
12.99	0	863.9	0		
14.26	0	948.3	0		
15.65	0	1041	0		
17.18	0	1143	0		
18.86	0	1255	0		
20.71	0	1377	0		
22.73	0	1512	0		

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

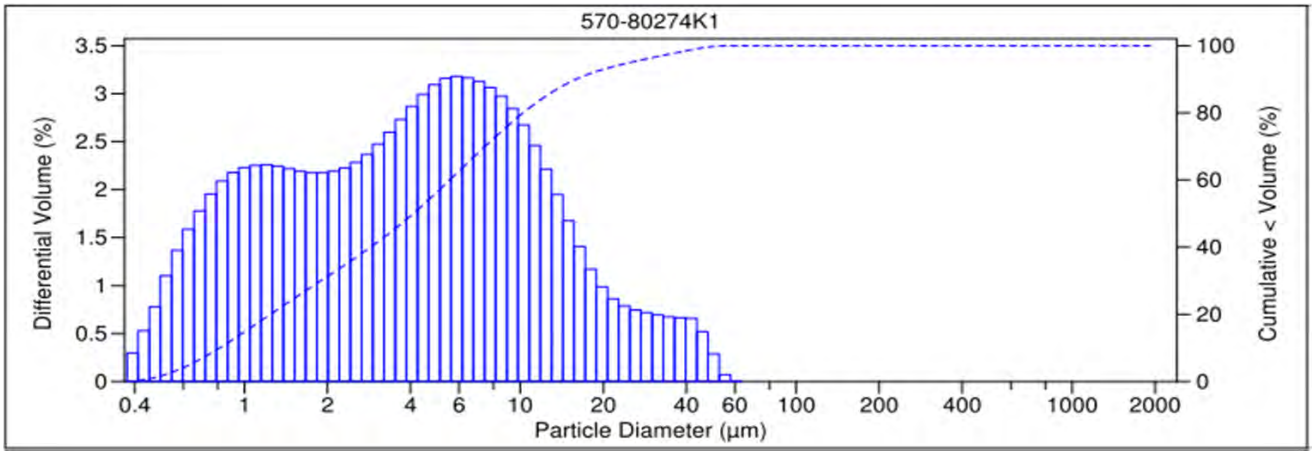
Haley & Aldrich, Inc.

Date Sampled:	12/23/22
Date Received:	12/28/21
Work Order No:	570-80274
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
EPSW001BG01_20211223		Silt	0.007

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	0.00	51.35	48.65	100.00



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

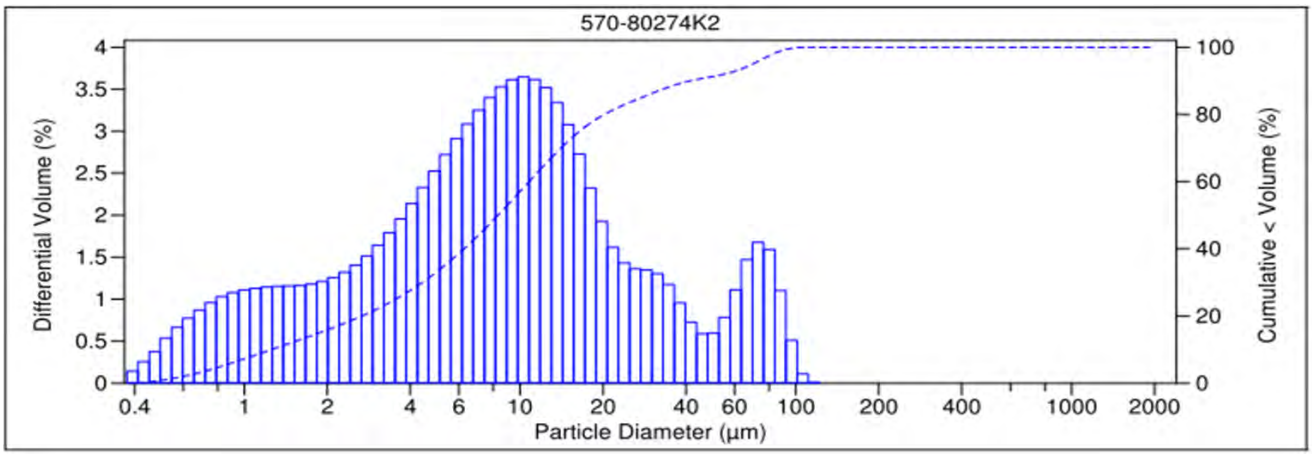
Haley & Aldrich, Inc.

Date Sampled:	12/23/22
Date Received:	12/28/21
Work Order No:	570-80274
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
EPSW001PV01_20211223		Silt	0.016

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	6.66	66.25	27.09	93.34



V 3.0

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)	(60-140)
570-80274-1	EPSW001BG01_20211223	95	85	103	101
570-80274-2	EPSW001PV01_20211223	97	84	100	101
570-80274-3	EPSW001B003_20211223	97	84	102	101
570-80274-4	TB_20211223	96	84	103	101
LCS 570-205379/7	Lab Control Sample	95	96	103	102
LCSD 570-205379/8	Lab Control Sample Dup	95	94	104	101
MB 570-205379/11	Method Blank	95	84	102	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL6	TPHd14
Lab Sample ID	Client Sample ID	(28-127)	(31-120)	(17-120)	(27-120)	(10-120)	(45-120)
570-80274-1	EPSW001BG01_20211223	85	64	49	72	33	50
570-80274-2	EPSW001PV01_20211223	88	67	48	75	32	79
570-80274-3	EPSW001B003_20211223	81	66	47	69	30	70
LCS 570-204641/2-A	Lab Control Sample	90	71	60	74	40	85
LCSD 570-204641/3-A	Lab Control Sample Dup	90	74	59	73	39	86
MB 570-204641/1-A	Method Blank	87	70	53	75	34	75

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80274-2	EPSW001PV01_20211223	77	86	72	78	87	71	79	84
570-80274-3	EPSW001B003_20211223	81	90	79	84	91	81	87	92
MB 320-556042/1-A	Method Blank	73	81	64	69	79	64	71	74

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80274-2	EPSW001PV01_20211223	82	85	83	73	78	89	91
570-80274-3	EPSW001B003_20211223	90	95	93	86	89	104	108
MB 320-556042/1-A	Method Blank	74	79	77	65	70	80	85

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556042/2-A	Lab Control Sample	74	83	70	75	84	71	76	81
LCSD 320-556042/3-A	Lab Control Sample Dup	71	80	63	69	77	62	67	70

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-556042/2-A	Lab Control Sample	80	84	82	70	76	88	85
LCSD 320-556042/3-A	Lab Control Sample Dup	70	73	72	61	65	75	76

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-205379/11
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			01/04/22 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*		*01/04/22 16:47*	*1*
4-Bromofluorobenzene (Surr)	*84*		*60 - 140*		*01/04/22 16:47*	*1*
Dibromofluoromethane	*102*		*60 - 140*		*01/04/22 16:47*	*1*
Toluene-d8 (Surr)	*100*		*60 - 140*		*01/04/22 16:47*	*1*

Lab Sample ID: LCS 570-205379/7
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Trichloroethene			50.0	52.0		ug/L		104	65 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
4-Bromofluorobenzene (Surr)	*96*		*60 - 140*
Dibromofluoromethane	*103*		*60 - 140*
Toluene-d8 (Surr)	*102*		*60 - 140*

Lab Sample ID: LCSD 570-205379/8
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene			50.0	51.3		ug/L		103	65 - 135	1	48

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
4-Bromofluorobenzene (Surr)	*94*		*60 - 140*
Dibromofluoromethane	*104*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-204641/1-A
Matrix: Water
Analysis Batch: 205129

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		12/30/21 08:14	01/03/22 14:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*28 - 127*	*12/30/21 08:14*	*01/03/22 14:37*	*1*
2-Fluorobiphenyl (Surr)	*70*		*31 - 120*	*12/30/21 08:14*	*01/03/22 14:37*	*1*
2-Fluorophenol (Surr)	*53*		*17 - 120*	*12/30/21 08:14*	*01/03/22 14:37*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-204641/1-A
Matrix: Water
Analysis Batch: 205129

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204641

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	75		27 - 120	12/30/21 08:14	01/03/22 14:37	1
Phenol-d6 (Surr)	34		10 - 120	12/30/21 08:14	01/03/22 14:37	1
p-Terphenyl-d14 (Surr)	75		45 - 120	12/30/21 08:14	01/03/22 14:37	1

Lab Sample ID: LCS 570-204641/2-A
Matrix: Water
Analysis Batch: 205129

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204641

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Bis(2-ethylhexyl) phthalate			20.0	21.5		ug/L		108	29 - 137		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	90		28 - 127
2-Fluorobiphenyl (Surr)	71		31 - 120
2-Fluorophenol (Surr)	60		17 - 120
Nitrobenzene-d5 (Surr)	74		27 - 120
Phenol-d6 (Surr)	40		10 - 120
p-Terphenyl-d14 (Surr)	85		45 - 120

Lab Sample ID: LCSD 570-204641/3-A
Matrix: Water
Analysis Batch: 205129

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204641

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate			20.0	21.4		ug/L		107	29 - 137	1	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	90		28 - 127
2-Fluorobiphenyl (Surr)	74		31 - 120
2-Fluorophenol (Surr)	59		17 - 120
Nitrobenzene-d5 (Surr)	73		27 - 120
Phenol-d6 (Surr)	39		10 - 120
p-Terphenyl-d14 (Surr)	86		45 - 120

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-204701/6
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.20	0.019	ug/L			12/30/21 12:34	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 570-204701/7
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium			50.0	50.4		ug/L		101	95 - 107		

Lab Sample ID: LCSD 570-204701/8
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium			50.0	50.1		ug/L		100	95 - 107	1	20

Lab Sample ID: 570-80408-H-1 MS
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium	ND		50.0	50.8		ug/L		102	85 - 121		

Lab Sample ID: 570-80408-H-1 MSD
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium	ND		50.0	51.5		ug/L		103	85 - 121	1	25

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-204681/5
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.046	mg/L			12/30/21 11:01	1
Sulfate	ND		1.0	0.24	mg/L			12/30/21 11:01	1

Lab Sample ID: LCS 570-204681/6
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			2.50	2.73		mg/L		109	90 - 110		
Sulfate			50.0	49.1		mg/L		98	90 - 110		

Lab Sample ID: LCSD 570-204681/7
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			2.50	2.73		mg/L		109	90 - 110	0	15
Sulfate			50.0	49.3		mg/L		99	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 570-80272-K-1 MS
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		2.50	2.61		mg/L		104	80 - 120
Sulfate	3.6		50.0	49.6		mg/L		92	80 - 120

Lab Sample ID: 570-80272-K-1 MSD
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		2.50	2.61		mg/L		104	80 - 120	0	20
Sulfate	3.6		50.0	50.0		mg/L		93	80 - 120	1	20

Lab Sample ID: MB 570-204682/5
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/30/21 11:01	1
Nitrate as N	ND		0.10	0.024	mg/L			12/30/21 11:01	1

Lab Sample ID: LCS 570-204682/6
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	2.50	2.37		mg/L		95	90 - 110
Nitrate as N	5.00	4.97		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-204682/7
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	2.50	2.35		mg/L		94	90 - 110	1	15
Nitrate as N	5.00	4.95		mg/L		99	90 - 110	0	15

Lab Sample ID: 570-80272-K-1 MS
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	ND		2.50	2.48		mg/L		99	80 - 120
Nitrate as N	5.1		5.00	9.99		mg/L		98	80 - 120

Lab Sample ID: 570-80272-K-1 MSD
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.53		mg/L		101	80 - 120	2	20
Nitrate as N	5.1		5.00	10.1		mg/L		100	80 - 120	1	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-205091/6
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 13:07	1

Lab Sample ID: LCS 570-205091/7
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.3		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-205091/8
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	25.0	23.6		ug/L		94	85 - 115	3	15

Lab Sample ID: 570-80231-E-1 MS
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		50.0	52.0		ug/L		104	80 - 120

Lab Sample ID: 570-80231-E-1 MSD
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		50.0	51.9		ug/L		104	80 - 120	0	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664527/1-A
Matrix: Water
Analysis Batch: 664607

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/15/22 06:16	01/17/22 11:18	1
Zinc	ND		20	12	ug/L		01/15/22 06:16	01/17/22 11:18	1

Lab Sample ID: LCS 440-664527/2-A
Matrix: Water
Analysis Batch: 664607

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	500	525		ug/L		105	85 - 115
Zinc	500	555		ug/L		111	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80095-A-1-B MS
Matrix: Water
Analysis Batch: 664607

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664527

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	130		500	667		ug/L		108	70 - 130
Zinc	460		500	1020		ug/L		111	70 - 130

Lab Sample ID: 570-80095-A-1-C MSD
Matrix: Water
Analysis Batch: 664607

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664527

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	130		500	646		ug/L		103	70 - 130	3	20
Zinc	460		500	1250	LM	ug/L		157	70 - 130	20	20

Lab Sample ID: MB 440-663810/1-F
Matrix: Water
Analysis Batch: 665507

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 665383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/25/22 13:40	01/25/22 16:08	1
Zinc	ND		20	12	ug/L		01/25/22 13:40	01/25/22 16:08	1

Lab Sample ID: LCS 440-663810/2-F
Matrix: Water
Analysis Batch: 665507

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 665383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	500	485		ug/L		97	85 - 115
Zinc	500	518		ug/L		104	85 - 115

Lab Sample ID: LCSD 440-663810/3-C
Matrix: Water
Analysis Batch: 665507

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 665383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	500	488		ug/L		98	85 - 115	1	20
Zinc	500	512		ug/L		102	85 - 115	1	20

Lab Sample ID: 570-80274-2 MS
Matrix: Water
Analysis Batch: 665507

Client Sample ID: EPSW001PV01_20211223
Prep Type: Dissolved
Prep Batch: 665383

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	29	J,DX	500	506		ug/L		95	70 - 130
Zinc	ND		500	500		ug/L		100	70 - 130

Lab Sample ID: 570-80274-2 MSD
Matrix: Water
Analysis Batch: 665507

Client Sample ID: EPSW001PV01_20211223
Prep Type: Dissolved
Prep Batch: 665383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	29	J,DX	500	506		ug/L		95	70 - 130	0	20
Zinc	ND		500	497		ug/L		99	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-663889/1-A
Matrix: Water
Analysis Batch: 663967

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663889

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 14:47	1
Arsenic	ND		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 14:47	1
Barium	ND		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 14:47	1
Beryllium	ND	IB	0.50	0.25	ug/L		01/06/22 09:52	01/06/22 14:47	1
Cadmium	ND		1.0	0.25	ug/L		01/06/22 09:52	01/06/22 14:47	1
Chromium	ND		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 14:47	1
Copper	ND		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 14:47	1
Iron	19.7	J,DX	20	8.0	ug/L		01/06/22 09:52	01/06/22 14:47	1
Manganese	ND		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 14:47	1
Nickel	ND		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 14:47	1
Lead	ND		1.0	0.50	ug/L		01/06/22 09:52	01/06/22 14:47	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 14:47	1
Selenium	ND		2.0	0.50	ug/L		01/06/22 09:52	01/06/22 14:47	1
Thallium	ND		1.0	0.20	ug/L		01/06/22 09:52	01/06/22 14:47	1

Lab Sample ID: LCS 440-663889/2-A
Matrix: Water
Analysis Batch: 663967

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663889

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	77.6		ug/L		97	85 - 115
Arsenic	80.0	77.1		ug/L		96	85 - 115
Barium	80.0	78.9		ug/L		99	85 - 115
Beryllium	80.0	88.6	IB	ug/L		111	85 - 115
Cadmium	80.0	79.2		ug/L		99	85 - 115
Chromium	80.0	81.4		ug/L		102	85 - 115
Copper	80.0	81.9		ug/L		102	85 - 115
Iron	800	817		ug/L		102	85 - 115
Manganese	80.0	81.8		ug/L		102	85 - 115
Nickel	80.0	81.3		ug/L		102	85 - 115
Lead	80.0	81.2		ug/L		102	85 - 115
Antimony	80.0	89.1		ug/L		111	85 - 115
Selenium	80.0	77.7		ug/L		97	85 - 115
Thallium	80.0	80.2		ug/L		100	85 - 115

Lab Sample ID: 440-293517-A-1-B MS
Matrix: Water
Analysis Batch: 663967

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 663889

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	72.5		ug/L		91	70 - 130
Arsenic	4.1		80.0	80.0		ug/L		95	70 - 130
Barium	32		80.0	108		ug/L		95	70 - 130
Beryllium	ND		80.0	76.9		ug/L		96	70 - 130
Cadmium	ND		80.0	76.0		ug/L		95	70 - 130
Chromium	1.9	J,DX	80.0	77.2		ug/L		94	70 - 130
Copper	24		80.0	95.5		ug/L		90	70 - 130
Iron	780	MB	800	1550		ug/L		96	70 - 130
Manganese	28		80.0	106		ug/L		98	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 440-293517-A-1-B MS
Matrix: Water
Analysis Batch: 663967

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 663889

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel	2.2		80.0	74.9		ug/L		91	70 - 130
Lead	5.4		80.0	81.7		ug/L		95	70 - 130
Antimony	1.1	J,DX	80.0	87.0		ug/L		107	70 - 130
Selenium	0.67	J,DX	80.0	79.8		ug/L		99	70 - 130
Thallium	ND		80.0	60.5		ug/L		76	70 - 130

Lab Sample ID: 440-293517-A-1-C MSD
Matrix: Water
Analysis Batch: 663967

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 663889

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	74.7		ug/L		93	70 - 130	3	20
Arsenic	4.1		80.0	81.6		ug/L		97	70 - 130	2	20
Barium	32		80.0	113		ug/L		102	70 - 130	5	20
Beryllium	ND		80.0	80.1		ug/L		100	70 - 130	4	20
Cadmium	ND		80.0	77.9		ug/L		97	70 - 130	3	20
Chromium	1.9	J,DX	80.0	80.9		ug/L		99	70 - 130	5	20
Copper	24		80.0	98.2		ug/L		93	70 - 130	3	20
Iron	780	MB	800	1590		ug/L		101	70 - 130	3	20
Manganese	28		80.0	110		ug/L		103	70 - 130	4	20
Nickel	2.2		80.0	77.2		ug/L		94	70 - 130	3	20
Lead	5.4		80.0	83.4		ug/L		97	70 - 130	2	20
Antimony	1.1	J,DX	80.0	89.1		ug/L		110	70 - 130	2	20
Selenium	0.67	J,DX	80.0	82.6		ug/L		102	70 - 130	3	20
Thallium	ND		80.0	60.6		ug/L		76	70 - 130	0	20

Lab Sample ID: MB 440-663970/1-A
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 663970

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Arsenic	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Barium	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Beryllium	ND		0.50	0.25	ug/L		01/07/22 08:22	01/07/22 14:12	1
Cadmium	ND		1.0	0.25	ug/L		01/07/22 08:22	01/07/22 14:12	1
Chromium	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Copper	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Iron	ND		20	8.0	ug/L		01/07/22 08:22	01/07/22 14:12	1
Manganese	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Nickel	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Lead	ND		1.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Antimony	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Selenium	ND		2.0	0.50	ug/L		01/07/22 08:22	01/07/22 14:12	1
Thallium	ND		1.0	0.20	ug/L		01/07/22 08:22	01/07/22 14:12	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-663970/2-A
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 663970

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	78.6		ug/L		98	85 - 115
Arsenic	80.0	78.0		ug/L		97	85 - 115
Barium	80.0	83.3		ug/L		104	85 - 115
Beryllium	80.0	85.4		ug/L		107	85 - 115
Cadmium	80.0	80.3		ug/L		100	85 - 115
Chromium	80.0	81.5		ug/L		102	85 - 115
Copper	80.0	83.0		ug/L		104	85 - 115
Iron	800	827		ug/L		103	85 - 115
Manganese	80.0	81.3		ug/L		102	85 - 115
Nickel	80.0	81.9		ug/L		102	85 - 115
Lead	80.0	81.0		ug/L		101	85 - 115
Antimony	80.0	90.3		ug/L		113	85 - 115
Selenium	80.0	78.2		ug/L		98	85 - 115
Thallium	80.0	80.2		ug/L		100	85 - 115

Lab Sample ID: 570-80272-F-1-G MS
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663970

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	78.9		ug/L		99	70 - 130
Arsenic	0.98	J,DX	80.0	79.1		ug/L		98	70 - 130
Barium	12		80.0	93.4		ug/L		102	70 - 130
Beryllium	ND		80.0	87.3		ug/L		109	70 - 130
Cadmium	ND		80.0	80.5		ug/L		101	70 - 130
Chromium	4.5		80.0	82.0		ug/L		97	70 - 130
Copper	1.9	J,DX	80.0	85.5		ug/L		104	70 - 130
Iron	68		800	886		ug/L		102	70 - 130
Manganese	3.2		80.0	83.0		ug/L		100	70 - 130
Nickel	2.4		80.0	83.3		ug/L		101	70 - 130
Lead	ND		80.0	81.0		ug/L		101	70 - 130
Antimony	ND		80.0	90.1		ug/L		113	70 - 130
Selenium	ND		80.0	76.1		ug/L		95	70 - 130
Thallium	ND		80.0	79.5		ug/L		99	70 - 130

Lab Sample ID: 570-80272-F-1-H MSD
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663970

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	80.7		ug/L		101	70 - 130	2	20
Arsenic	0.98	J,DX	80.0	81.3		ug/L		100	70 - 130	3	20
Barium	12		80.0	98.3		ug/L		108	70 - 130	5	20
Beryllium	ND		80.0	89.4		ug/L		112	70 - 130	2	20
Cadmium	ND		80.0	82.2		ug/L		103	70 - 130	2	20
Chromium	4.5		80.0	84.3		ug/L		100	70 - 130	3	20
Copper	1.9	J,DX	80.0	87.4		ug/L		107	70 - 130	2	20
Iron	68		800	982		ug/L		114	70 - 130	10	20
Manganese	3.2		80.0	84.7		ug/L		102	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80272-F-1-H MSD
Matrix: Water
Analysis Batch: 664011

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663970

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nickel	2.4		80.0	86.0		ug/L		104	70 - 130	3	20
Lead	ND		80.0	83.0		ug/L		104	70 - 130	2	20
Antimony	ND		80.0	92.3		ug/L		115	70 - 130	2	20
Selenium	ND		80.0	79.2		ug/L		99	70 - 130	4	20
Thallium	ND		80.0	82.2		ug/L		103	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-207716/1-A
Matrix: Water
Analysis Batch: 207896

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 207716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/15/22 16:00	01/17/22 15:10	1

Lab Sample ID: LCS 570-207716/2-A
Matrix: Water
Analysis Batch: 207896

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 207716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.56		ug/L		96	85 - 115

Lab Sample ID: LCSD 570-207716/3-A
Matrix: Water
Analysis Batch: 207896

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 207716

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.76		ug/L		98	85 - 115	2	10

Lab Sample ID: 570-80274-2 MS
Matrix: Water
Analysis Batch: 207896

Client Sample ID: EPSW001PV01_20211223
Prep Type: Total/NA
Prep Batch: 207716

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	8.72		ug/L		87	70 - 130

Lab Sample ID: 570-80274-2 MSD
Matrix: Water
Analysis Batch: 207896

Client Sample ID: EPSW001PV01_20211223
Prep Type: Total/NA
Prep Batch: 207716

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	8.86		ug/L		89	70 - 130	2	10

Lab Sample ID: MB 570-208358/1-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 208361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 17:58	01/20/22 19:43	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 570-208358/2-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.71		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-208358/3-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	9.72		ug/L		97	85 - 115	0	10

Lab Sample ID: 570-80124-C-3-I MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		10.0	9.27		ug/L		93	70 - 130

Lab Sample ID: 570-80124-C-3-L MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.28		ug/L		93	70 - 130	0	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663674/1
Matrix: Water
Analysis Batch: 663674

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			12/30/21 16:54	1

Lab Sample ID: LCS 440-663674/2
Matrix: Water
Analysis Batch: 663674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	974		mg/L		97	85 - 115

Lab Sample ID: 570-80274-1 DU
Matrix: Water
Analysis Batch: 663674

Client Sample ID: EPSW001BG01_20211223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	3500		3330		mg/L		5	5

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 570-80274-2 DU
Matrix: Water
Analysis Batch: 663674

Client Sample ID: EPSW001PV01_20211223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	110			111		mg/L				5	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-204823/1-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/29/21 13:00	12/30/21 15:07	1

Lab Sample ID: LCS 570-204823/2-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204823

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0100	0.0104		mg/L		104	80 - 120		

Lab Sample ID: LCSD 570-204823/3-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 204823

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total			0.0100	0.0111		mg/L		111	80 - 120	7	20

Lab Sample ID: 570-79831-I-1-A MS
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		0.0100	0.0119	LM	mg/L		119	74 - 115		

Lab Sample ID: 570-79831-I-1-B MSD
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 204823

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.0100	0.0110		mg/L		110	74 - 115	8	20

GC/MS VOA

Analysis Batch: 205379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	624.1	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	624.1	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	624.1	
570-80274-4	TB_20211223	Total/NA	Water	624.1	
MB 570-205379/11	Method Blank	Total/NA	Water	624.1	
LCS 570-205379/7	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-205379/8	Lab Control Sample Dup	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 204641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	625	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	625	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	625	
MB 570-204641/1-A	Method Blank	Total/NA	Water	625	
LCS 570-204641/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-204641/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 205129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-204641/1-A	Method Blank	Total/NA	Water	625.1 SIM	204641
LCS 570-204641/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	204641
LCSD 570-204641/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	204641

Analysis Batch: 205338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	625.1 SIM	204641
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	625.1 SIM	204641
570-80274-3	EPSW001B003_20211223	Total/NA	Water	625.1 SIM	204641

HPLC/IC

Analysis Batch: 204681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	300.0	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	300.0	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	300.0	
MB 570-204681/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204681/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204681/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80272-K-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-80272-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	300.0	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	300.0	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	300.0	
MB 570-204682/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204682/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204682/7	Lab Control Sample Dup	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 204682 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80272-K-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-80272-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	218.6	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	218.6	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	218.6	
MB 570-204701/6	Method Blank	Total/NA	Water	218.6	
LCS 570-204701/7	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-204701/8	Lab Control Sample Dup	Total/NA	Water	218.6	
570-80408-H-1 MS	Matrix Spike	Total/NA	Water	218.6	
570-80408-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

Analysis Batch: 205091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	314.0	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	314.0	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	314.0	
MB 570-205091/6	Method Blank	Total/NA	Water	314.0	
LCS 570-205091/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-205091/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80231-E-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-80231-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Metals

Prep Batch: 207716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	245.1	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	245.1	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	245.1	
MB 570-207716/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-207716/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-207716/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-80274-2 MS	EPSW001PV01_20211223	Total/NA	Water	245.1	
570-80274-2 MSD	EPSW001PV01_20211223	Total/NA	Water	245.1	

Analysis Batch: 207896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	245.1	207716
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	245.1	207716
570-80274-3	EPSW001B003_20211223	Total/NA	Water	245.1	207716
MB 570-207716/1-A	Method Blank	Total/NA	Water	245.1	207716
LCS 570-207716/2-A	Lab Control Sample	Total/NA	Water	245.1	207716
LCSD 570-207716/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	207716
570-80274-2 MS	EPSW001PV01_20211223	Total/NA	Water	245.1	207716
570-80274-2 MSD	EPSW001PV01_20211223	Total/NA	Water	245.1	207716

Metals

Filtration Batch: 208358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	Filtration	
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	Filtration	
570-80274-3	EPSW001B003_20211223	Dissolved	Water	Filtration	
MB 570-208358/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	Filtration	
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 208361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	245.1	208358
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	245.1	208358
570-80274-3	EPSW001B003_20211223	Dissolved	Water	245.1	208358
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208358
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208358
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208358
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	245.1	208358
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208358

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	245.1	208361
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	245.1	208361
570-80274-3	EPSW001B003_20211223	Dissolved	Water	245.1	208361
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208361
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208361
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208361
570-80124-C-3-I MS	Matrix Spike	Dissolved	Water	245.1	208361
570-80124-C-3-L MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208361

Filtration Batch: 663810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	FILTRATION	
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	FILTRATION	
570-80274-3	EPSW001B003_20211223	Dissolved	Water	FILTRATION	
MB 440-663810/1-F	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663810/2-F	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 440-663810/3-C	Lab Control Sample Dup	Dissolved	Water	FILTRATION	
570-80272-F-1-G MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80272-F-1-H MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-80274-2 MS	EPSW001PV01_20211223	Dissolved	Water	FILTRATION	
570-80274-2 MSD	EPSW001PV01_20211223	Dissolved	Water	FILTRATION	

Prep Batch: 663889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total Recoverable	Water	200.2	
570-80274-2	EPSW001PV01_20211223	Total Recoverable	Water	200.2	
570-80274-3	EPSW001B003_20211223	Total Recoverable	Water	200.2	
MB 440-663889/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663889/2-A	Lab Control Sample	Total Recoverable	Water	200.2	

Metals (Continued)

Prep Batch: 663889 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-293517-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
440-293517-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 663967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total Recoverable	Water	200.8	663889
570-80274-2	EPSW001PV01_20211223	Total Recoverable	Water	200.8	663889
570-80274-3	EPSW001B003_20211223	Total Recoverable	Water	200.8	663889
MB 440-663889/1-A	Method Blank	Total Recoverable	Water	200.8	663889
LCS 440-663889/2-A	Lab Control Sample	Total Recoverable	Water	200.8	663889
440-293517-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	663889
440-293517-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	663889

Prep Batch: 663970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	200.2	663810
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	200.2	663810
570-80274-3	EPSW001B003_20211223	Dissolved	Water	200.2	663810
MB 440-663970/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-663970/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80272-F-1-G MS	Matrix Spike	Dissolved	Water	200.2	663810
570-80272-F-1-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663810

Analysis Batch: 664004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total Recoverable	Water	200.8	663889

Analysis Batch: 664011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	200.8	663970
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	200.8	663970
570-80274-3	EPSW001B003_20211223	Dissolved	Water	200.8	663970
MB 440-663970/1-A	Method Blank	Total Recoverable	Water	200.8	663970
LCS 440-663970/2-A	Lab Control Sample	Total Recoverable	Water	200.8	663970
570-80272-F-1-G MS	Matrix Spike	Dissolved	Water	200.8	663970
570-80272-F-1-H MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663970

Prep Batch: 664527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total Recoverable	Water	200.2	
570-80274-2	EPSW001PV01_20211223	Total Recoverable	Water	200.2	
570-80274-3	EPSW001B003_20211223	Total Recoverable	Water	200.2	
MB 440-664527/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664527/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80095-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80095-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total Recoverable	Water	200.7 Rev 4.4	664527
570-80274-2	EPSW001PV01_20211223	Total Recoverable	Water	200.7 Rev 4.4	664527

Metals (Continued)

Analysis Batch: 664607 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-3	EPSW001B003_20211223	Total Recoverable	Water	200.7 Rev 4.4	664527
MB 440-664527/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664527
LCS 440-664527/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664527
570-80095-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664527
570-80095-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664527

Prep Batch: 665383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	200.2	663810
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	200.2	663810
570-80274-3	EPSW001B003_20211223	Dissolved	Water	200.2	663810
MB 440-663810/1-F	Method Blank	Dissolved	Water	200.2	663810
LCS 440-663810/2-F	Lab Control Sample	Dissolved	Water	200.2	663810
LCSD 440-663810/3-C	Lab Control Sample Dup	Dissolved	Water	200.2	663810
570-80274-2 MS	EPSW001PV01_20211223	Dissolved	Water	200.2	663810
570-80274-2 MSD	EPSW001PV01_20211223	Dissolved	Water	200.2	663810

Analysis Batch: 665507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	200.7 Rev 4.4	665383
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	200.7 Rev 4.4	665383
570-80274-3	EPSW001B003_20211223	Dissolved	Water	200.7 Rev 4.4	665383
MB 440-663810/1-F	Method Blank	Dissolved	Water	200.7 Rev 4.4	665383
LCS 440-663810/2-F	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	665383
LCSD 440-663810/3-C	Lab Control Sample Dup	Dissolved	Water	200.7 Rev 4.4	665383
570-80274-2 MS	EPSW001PV01_20211223	Dissolved	Water	200.7 Rev 4.4	665383
570-80274-2 MSD	EPSW001PV01_20211223	Dissolved	Water	200.7 Rev 4.4	665383

General Chemistry

Analysis Batch: 204811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	SM 4500 CN E	204823
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	SM 4500 CN E	204823
570-80274-3	EPSW001B003_20211223	Total/NA	Water	SM 4500 CN E	204823
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	204823
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	204823
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	204823
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	204823

Prep Batch: 204823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	SM 4500 CN C	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	SM 4500 CN C	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	SM 4500 CN C	
MB 570-204823/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-204823/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-204823/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-79831-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

General Chemistry

Analysis Batch: 207737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	218.6 CR3	
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	218.6 CR3	
570-80274-3	EPSW001B003_20211223	Dissolved	Water	218.6 CR3	

Analysis Batch: 207738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	218.6 CR3	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	218.6 CR3	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	218.6 CR3	

Analysis Batch: 663674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	SM 2540D	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	SM 2540D	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	SM 2540D	
MB 440-663674/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663674/2	Lab Control Sample	Total/NA	Water	SM 2540D	
570-80274-1 DU	EPSW001BG01_20211223	Total/NA	Water	SM 2540D	
570-80274-2 DU	EPSW001PV01_20211223	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 206857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	D4464	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	D4464	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	D4464	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Client Sample ID: EPSW001BG01_20211223

Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	205379	01/04/22 20:54	N1A	ECL 2
	Instrument ID: GCMSXX									
Total/NA	Prep	625			1003.1 mL	2 mL	204641	12/30/21 08:15	OAJ3	ECL 1
Total/NA	Analysis	625.1 SIM		1			205338	01/04/22 11:28	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Analysis	218.6		2			204701	12/30/21 17:48	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0		2			204681	12/30/21 14:09	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	300.0		2			204682	12/30/21 14:09	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1			205091	01/03/22 17:45	URMH	ECL 1
	Instrument ID: IC8									
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663810	01/05/22 10:44	FIQ7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	665383	01/25/22 13:40	C0YH	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			665507	01/25/22 16:29	K1UV	IRV 2
	Instrument ID: ICP10									
Total Recoverable	Prep	200.2			25 mL	25 mL	664527	01/15/22 06:16		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664607	01/17/22 12:02	VZ0K	IRV 2
	Instrument ID: ICP10									
Dissolved	Filtration	FILTRATION			200 mL	200 mL	663810	01/05/22 10:44	FIQ7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663970	01/07/22 08:22	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 14:18	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663889	01/06/22 09:52	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			663967	01/06/22 15:47	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663889	01/06/22 09:52	LZY7	IRV 2
Total Recoverable	Analysis	200.8		10			664004	01/07/22 11:39	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 20:07	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207716	01/15/22 16:00	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207896	01/17/22 16:29	VWJ7	ECL 4
	Instrument ID: HG9									
Dissolved	Analysis	218.6 CR3		1			207737	01/16/22 21:49	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	218.6 CR3		1			207738	01/16/22 22:00	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540D		1	3 mL	1000 mL	663674	12/30/21 16:54	ZL7L	IRV 2
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Client Sample ID: EPSW001BG01_20211223

Lab Sample ID: 570-80274-1

Date Collected: 12/23/21 10:00

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	204823	12/29/21 13:00	UAPD	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	204811	12/30/21 15:30	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	D4464		1			206857	01/07/22 16:31	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: EPSW001PV01_20211223

Lab Sample ID: 570-80274-2

Date Collected: 12/23/21 12:10

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	205379	01/04/22 21:19	N1A	ECL 2
	Instrument ID: GCMSXX									
Total/NA	Prep	625			1039.2 mL	2 mL	204641	12/30/21 08:15	OAJ3	ECL 1
Total/NA	Analysis	625.1 SIM		1			205338	01/04/22 11:49	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Analysis	218.6		2			204701	12/30/21 17:59	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0		2			204681	12/30/21 14:27	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	300.0		2			204682	12/30/21 14:27	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1			205091	01/03/22 18:05	URMH	ECL 1
	Instrument ID: IC8									
Dissolved	Filtration	FILTRATION			250 mL	250 mL	663810	01/05/22 10:44	FIQ7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	665383	01/25/22 13:40	C0YH	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			665507	01/25/22 16:15	K1UV	IRV 2
	Instrument ID: ICP10									
Total Recoverable	Prep	200.2			25 mL	25 mL	664527	01/15/22 06:16		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664607	01/17/22 12:34	VZ0K	IRV 2
	Instrument ID: ICP10									
Dissolved	Filtration	FILTRATION			250 mL	250 mL	663810	01/05/22 10:44	FIQ7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663970	01/07/22 08:22	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 14:20	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663889	01/06/22 09:52	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			663967	01/06/22 15:49	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 20:09	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207716	01/15/22 16:00	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207896	01/17/22 15:36	VWJ7	ECL 4
	Instrument ID: HG9									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Client Sample ID: EPSW001PV01_20211223

Lab Sample ID: 570-80274-2

Date Collected: 12/23/21 12:10

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	218.6 CR3		1			207737	01/16/22 21:49	URMH	ECL 1
Total/NA	Analysis	218.6 CR3		1			207738	01/16/22 22:00	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540D		1	150 mL	1000 mL	663674	12/30/21 16:54	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	204823	12/29/21 13:00	UAPD	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	204811	12/30/21 15:31	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	D4464		1			206857	01/07/22 16:37	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: EPSW001B003_20211223

Lab Sample ID: 570-80274-3

Date Collected: 12/23/21 11:15

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	205379	01/04/22 21:43	N1A	ECL 2
	Instrument ID: GCMSXX									
Total/NA	Prep	625			999.6 mL	2 mL	204641	12/30/21 08:15	OAJ3	ECL 1
Total/NA	Analysis	625.1 SIM		1			205338	01/04/22 12:11	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Analysis	218.6		2			204701	12/30/21 18:11	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0		2			204681	12/30/21 14:45	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	300.0		2			204682	12/30/21 14:45	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1			205091	01/03/22 18:25	URMH	ECL 1
	Instrument ID: IC8									
Dissolved	Filtration	FILTRATION			250 mL	250 mL	663810	01/05/22 10:44	FIQ7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	665383	01/25/22 13:40	C0YH	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			665507	01/25/22 16:31	K1UV	IRV 2
	Instrument ID: ICP10									
Total Recoverable	Prep	200.2			25 mL	25 mL	664527	01/15/22 06:16		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664607	01/17/22 12:37	VZ0K	IRV 2
	Instrument ID: ICP10									
Dissolved	Filtration	FILTRATION			250 mL	250 mL	663810	01/05/22 10:44	FIQ7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663970	01/07/22 08:22	FIQ7	IRV 2
Dissolved	Analysis	200.8		1			664011	01/07/22 14:22	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	663889	01/06/22 09:52	LZY7	IRV 2
Total Recoverable	Analysis	200.8		1			663967	01/06/22 15:51	Y2WS	IRV 2
	Instrument ID: ICPMS6									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Client Sample ID: EPSW001B003_20211223

Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 20:11	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207716	01/15/22 16:00	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207896	01/17/22 16:31	VWJ7	ECL 4
	Instrument ID: HG9									
Dissolved	Analysis	218.6 CR3		1			207737	01/16/22 21:49	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	218.6 CR3		1			207738	01/16/22 22:00	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	663674	12/30/21 16:54	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	204823	12/29/21 13:00	UAPD	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	204811	12/30/21 15:32	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	D4464		1			206857	01/07/22 16:49	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: TB_20211223

Date Collected: 12/23/21 11:30
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	205379	01/04/22 17:12	N1A	ECL 2
	Instrument ID: GCMSXX									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
ASTM = ASTM International
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80274-1	EPSW001BG01_20211223	Water	12/23/21 10:00	12/28/21 18:00
570-80274-2	EPSW001PV01_20211223	Water	12/23/21 12:10	12/28/21 18:00
570-80274-3	EPSW001B003_20211223	Water	12/23/21 11:15	12/28/21 18:00
570-80274-4	TB_20211223	Water	12/23/21 11:30	12/28/21 18:00

Patel, Virendra

From: Miller, Katherine <KMiller@haleyaldrich.com>
Sent: Monday, January 3, 2022 8:22 AM
To: Patel, Virendra; Barr, Anastasia; Dominick, Mark
Subject: RE: <RESPONSE REQUESTED> Eurofins Calscience report files from 570-80274-1 Boeing SSFL ISRA and BMP

EXTERNAL EMAIL*

1. Please run cyanide from unpreserved bottle.
2. Do we have extra volume from another method (even if unpreserved)?

Katherine Miller
HALEY & ALDRICH
Tel: 520.289.8606

From: Virendra Patel <Virendra.Patel@eurofinset.com>
Sent: Thursday, December 30, 2021 7:50 AM
To: Barr, Anastasia <ABarr@haleyaldrich.com>; Miller, Katherine <KMiller@haleyaldrich.com>; Dominick, Mark <MDominick@haleyaldrich.com>; Patel Virendra <Virendra.Patel@eurofinset.com>
Subject: <RESPONSE REQUESTED> Eurofins Calscience report files from 570-80274-1 Boeing SSFL ISRA and BMP
Importance: High

CAUTION: External Email

Hello,

Attached please find the report files for job 570-80274-1; Boeing SSFL ISRA and BMP

1. Sample #2 - EPSW001PV01_20211223 -- received Cyanide bottle unpreserved

ACTION: Please provide directoin on how to proceed.

2. Sample #3 - EPSW001B001_20211223 -- we did not receive a Cyanide bottle?

ACTION: Please provide directoin on how to proceed.

Please feel free to contact me if you have any questions.

Thank you.

Virendra Patel

Project Manager

Eurofins Calscience LLC
Phone: 714-895-5494 Ext: 218

E-mail: Virendra.Patel@eurofinset.com
www.eurofinsus.com/env

Reference: [570-275057]
Attachments: 1

> > Bank information has changed, please refer to remittance information on invoice. < <

* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

80274

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below _____			Walk-in Client:
(619) 280-9415 FAX	▫ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba, Be Cd, Cr, Cu, Fe, Mn Ni Pb, Se, Sb, Tl; Method 200.7: B, Zn – (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr, Cu Fe, Mn, Ni Pb, Se, Sb, Tl Method 200.7: B, Zn – (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20211223	12/23/21	1000	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
EPSW001PV01_20211223	12/23/21	1210	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
BGBMP0003_20211223	12/23/21	1115	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
TB_20211223	12/23/21	1130	TB	WM	3	N	N															x			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	1	1	1	1	1	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ▫ Yes ▫ No | 44553 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	T.A	12-28-21 1445		ECI	12/28/21 1445
	ECI	12/28/21 1800			12/28/21 1800
			Received in Laboratory by		

2.6/3.5, 1.8/2.7, 2.0/2.9 scs

570-80274 Chain of Custody

SAP COC 2019/2020 VERSION 3

, dated 1/8/2016

1/27/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80274-1
Address: 13715 Rider Trail North	Due Date Requested: 1/12/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12 10 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL DO NOT FILTER, use prep date from preservation
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL DO NOT FILTER use prep date from preservation

Note Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time: 1/3/22 1321		Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80274-3
Address: 13715 Rider Trail North	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrepSep_21 Radium-226	904.0/PrepSep_0 Radium-228	905_Sr90/PrepSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium							Total Number of containers	Special Instructions/Note:
				Preservation Code:																
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	X	X	X	X	X							7	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/3/22 1321	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/27/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80274-1
Address: 880 Riverside Parkway ,	Due Date Requested: 1/12/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12.10 Pacific		Water			X	2	See QAS Boeing_w/u to zero
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/3/22 1730				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/3/21 1730				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: ~~44009815~~ 570-80274			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	1	
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12.10 Pacific		Water			X	1	
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/3/22 1735	Company EOI	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks.

1/27/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days)			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	1	
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12.10 Pacific		Water			X	1	
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
1		1/6/22 1252				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	1	
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12:10 Pacific		Water			X	1	
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/6/22 1252				
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

1/27/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148833.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80274-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/12/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12:10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW001B003_20211223 (570-80274-3)	12/23/21	11:15 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/3/22 1730			1/4/22 1200	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.9

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148833.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 1/3/21 1730	Company	Received by	Date/Time: 1/4/22 1000	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.9c

Ver: 06/08/2021

1/27/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148408 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Calscience LLC		Accreditations Required (See note): State Program - California		Job #: 570-80274-1
Address: 2841 Dow Avenue	Due Date Requested: 1/6/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M - Hexane
B NaOH	N None
C - Zn Acetate	O - AsNaO2
D Nitric Acid	P - Na2O4S
E NaHSO4	Q - Na2SO3
F MeOH	R Na2S2O3
G Amchlor	S - H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I Ice	U - Acetone
J DI Water	V - MCAA
K EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D/ Solids, Total Suspended (TSS)	245.1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	200.8/200.2 200.8 - Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb	200.8/FILTRATION Diss Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb,Se	200.7/200.2 B,Zn	200 7/FILTRATION Diss. B,Zn	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	X	X	X	X	X	X	4	Filter within 24 hours
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12 10 Pacific		Water			X	X	X	X	X	X	X	4	Filter within 24 hours
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	X	X	X	X	X	X	4	Filter within 24 hours

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	12/30/21	EC	Olga Oinelas	12/30/21	EC
Relinquished by	Date/Time:	Company	Received by	Date/Time 12/30/21 1600	Company SECT
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
		1 2/1.2 IR-89

Ver: 06/08/2021

1/27/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80274-1

Login Number: 80274
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80274-1

Login Number: 80274
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 12/30/21 04:39 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80274-2
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/15/2022 11:37:21 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-2

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80274-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80274-2

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.7º C, 2.9º C and 3.5º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: EPSW001BG01_20211223 (570-80274-1), (CCV 320-556660/2), (LCS 320-556042/2-A), (LCSD 320-556042/3-A), (MB 320-556042/1-A) and (WDM 320-556660/1). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: EPSW001BG01_20211223 (570-80274-1) and (CCV 320-557131/2). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-2

Client Sample ID: EPSW001BG01_20211223 — Lab Sample ID: 570-80274-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000068	J,DX	0.000047	0.0000010	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000023	J,DX q	0.000047	0.0000005 1	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000020	J,DX	0.000047	0.0000005 2	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000018	J,DX MB	0.000047	0.0000014	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00012	MB	0.000047	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000062		0.000047	0.0000012	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.000019	J,DX MB	0.000047	0.0000012	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.000021	J,DX MB	0.000047	0.0000013	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.000016	J,DX MB	0.000047	0.0000012	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0023	MB	0.000047	0.000013	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00048	MB	0.000047	0.0000046	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.000025	J,DX	0.000047	0.0000040	ug/L	1		1613B	Total/NA
OCDD	0.013	MB	0.000095	0.000013	ug/L	1		1613B	Total/NA
OCDF	0.0014	MB	0.000095	0.0000017	ug/L	1		1613B	Total/NA
Total TCDF	0.0000044	J,DX q	0.0000095	0.0000003 2	ug/L	1		1613B	Total/NA
Total PeCDD	0.000053	J,DX MB	0.000047	0.0000010	ug/L	1		1613B	Total/NA
Total PeCDF	0.000034	J,DX q	0.000047	0.0000005 1	ug/L	1		1613B	Total/NA
Total HxCDD	0.00055	J,DX MB	0.000047	0.0000012	ug/L	1		1613B	Total/NA
Total HxCDF	0.00031	J,DX MB	0.000047	0.0000012	ug/L	1		1613B	Total/NA
Total HpCDD	0.0040	J,DX MB	0.000047	0.000013	ug/L	1		1613B	Total/NA
Total HpCDF	0.0010	MB	0.000047	0.0000040	ug/L	1		1613B	Total/NA

Client Sample ID: EPSW001PV01_20211223 — Lab Sample ID: 570-80274-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000031	J,DX MB	0.000048	0.0000004 5	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000067	J,DX MB	0.000048	0.0000004 3	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000033	J,DX q	0.000048	0.0000004 1	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000031	J,DX MB	0.000048	0.0000004 4	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000044	J,DX MB	0.000048	0.0000004 8	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000065	J,DX MB q	0.000048	0.0000004 7	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000033	J,DX MB	0.000048	0.0000004 5	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00011	MB	0.000048	0.0000010	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000078	MB	0.000048	0.0000007 7	ug/L	1		1613B	Total/NA
OCDD	0.00064	MB	0.000095	0.0000015	ug/L	1		1613B	Total/NA
OCDF	0.000076	J,DX MB	0.000095	0.0000006 5	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000052	J,DX q	0.000048	0.0000003 4	ug/L	1		1613B	Total/NA
Total HxCDD	0.000035	J,DX MB q	0.000048	0.0000004 1	ug/L	1		1613B	Total/NA
Total HxCDF	0.000060	J,DX MB q	0.000048	0.0000004 4	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: EPSW001PV01_20211223 (Continued)

Lab Sample ID: 570-80274-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HpCDD	0.00021	MB	0.000048	0.0000010	ug/L	1		1613B	Total/NA
Total HpCDF	0.00011	MB	0.000048	0.0000007 1	ug/L	1		1613B	Total/NA

Client Sample ID: EPSW001B003_20211223

Lab Sample ID: 570-80274-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000021	J,DX q MB	0.000049	0.0000002 9	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.00000078	J,DX MB	0.000049	0.0000002 9	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000089	J,DX MB	0.000049	0.0000001 6	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000050	J,DX MB	0.000049	0.0000001 6	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000030	J,DX q MB	0.000049	0.0000002 1	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000014	J,DX MB	0.000049	0.0000004 0	ug/L	1		1613B	Total/NA
OCDD	0.000013	J,DX MB	0.000099	0.0000004 0	ug/L	1		1613B	Total/NA
OCDF	0.0000022	J,DX MB	0.000099	0.0000004 2	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000011	J,DX q MB	0.000049	0.0000004 3	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000029	J,DX q MB	0.000049	0.0000002 7	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000014	J,DX MB	0.000049	0.0000001 6	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000056	J,DX q MB	0.000049	0.0000002 1	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000014	J,DX MB	0.000049	0.0000003 6	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.00000054	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,7,8-PeCDD	**0.0000068**	**J,DX**	0.000047	0.0000010	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,7,8-PeCDF	**0.0000023**	**J,DX q**	0.000047	0.00000051	ug/L		01/05/22 05:07	01/07/22 15:08	1
2,3,4,7,8-PeCDF	**0.0000020**	**J,DX**	0.000047	0.00000052	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,4,7,8-HxCDD	**0.000018**	**J,DX MB**	0.000047	0.0000014	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,6,7,8-HxCDD	**0.00012**	**MB**	0.000047	0.0000013	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,7,8,9-HxCDD	**0.000062**		0.000047	0.0000012	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,4,7,8-HxCDF	**0.000019**	**J,DX MB**	0.000047	0.0000012	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,6,7,8-HxCDF	**0.000021**	**J,DX MB**	0.000047	0.0000013	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,7,8,9-HxCDF	ND		0.000047	0.0000012	ug/L		01/05/22 05:07	01/07/22 15:08	1
2,3,4,6,7,8-HxCDF	**0.000016**	**J,DX MB**	0.000047	0.0000012	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,4,6,7,8-HpCDD	**0.0023**	**MB**	0.000047	0.000013	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,4,6,7,8-HpCDF	**0.00048**	**MB**	0.000047	0.0000046	ug/L		01/05/22 05:07	01/07/22 15:08	1
1,2,3,4,7,8,9-HpCDF	**0.000025**	**J,DX**	0.000047	0.0000040	ug/L		01/05/22 05:07	01/07/22 15:08	1
OCDD	**0.013**	**MB**	0.000095	0.000013	ug/L		01/05/22 05:07	01/07/22 15:08	1
OCDF	**0.0014**	**MB**	0.000095	0.0000017	ug/L		01/05/22 05:07	01/07/22 15:08	1
Total TCDD	ND		0.0000095	0.00000054	ug/L		01/05/22 05:07	01/07/22 15:08	1
Total TCDF	**0.0000044**	**J,DX q**	0.0000095	0.00000032	ug/L		01/05/22 05:07	01/07/22 15:08	1
Total PeCDD	**0.000053**	**J,DX MB**	0.000047	0.0000010	ug/L		01/05/22 05:07	01/07/22 15:08	1
Total PeCDF	**0.000034**	**J,DX q**	0.000047	0.00000051	ug/L		01/05/22 05:07	01/07/22 15:08	1
Total HxCDD	**0.00055**	**J,DX MB**	0.000047	0.0000012	ug/L		01/05/22 05:07	01/07/22 15:08	1
Total HxCDF	**0.00031**	**J,DX MB**	0.000047	0.0000012	ug/L		01/05/22 05:07	01/07/22 15:08	1
Total HpCDD	**0.0040**	**J,DX MB**	0.000047	0.000013	ug/L		01/05/22 05:07	01/07/22 15:08	1
Total HpCDF	**0.0010**	**MB**	0.000047	0.0000040	ug/L		01/05/22 05:07	01/07/22 15:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*84*		*25 - 164*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-2,3,7,8-TCDF	*96*		*24 - 169*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-1,2,3,7,8-PeCDD	*82*		*25 - 181*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-1,2,3,7,8-PeCDF	*89*		*24 - 185*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-2,3,4,7,8-PeCDF	*96*		*21 - 178*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*32 - 141*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-1,2,3,6,7,8-HxCDD	*87*		*28 - 130*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-1,2,3,4,7,8-HxCDF	*93*		*26 - 152*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-1,2,3,6,7,8-HxCDF	*92*		*26 - 123*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-1,2,3,7,8,9-HxCDF	*98*		*29 - 147*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-2,3,4,6,7,8-HxCDF	*94*		*28 - 136*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*84*		*23 - 140*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*87*		*28 - 143*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*105*		*26 - 138*	*01/05/22 05:07*	*01/07/22 15:08*	*1*
13C-OCDD	*109*		*17 - 157*	*01/05/22 05:07*	*01/07/22 15:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*88*		*35 - 197*	*01/05/22 05:07*	*01/07/22 15:08*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.00000065	ug/L		01/05/22 05:07	01/07/22 15:56	1
2,3,7,8-TCDF	ND		0.0000095	0.00000023	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,7,8-PeCDD	ND		0.000048	0.00000065	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,7,8-PeCDF	ND		0.000048	0.00000034	ug/L		01/05/22 05:07	01/07/22 15:56	1
2,3,4,7,8-PeCDF	ND		0.000048	0.00000034	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,4,7,8-HxCDD	**0.0000031**	**J,DX MB**	0.000048	0.00000045	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,6,7,8-HxCDD	**0.0000067**	**J,DX MB**	0.000048	0.00000043	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,7,8,9-HxCDD	**0.0000033**	**J,DX q**	0.000048	0.00000041	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,4,7,8-HxCDF	**0.0000031**	**J,DX MB**	0.000048	0.00000044	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,6,7,8-HxCDF	**0.0000044**	**J,DX MB**	0.000048	0.00000048	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,7,8,9-HxCDF	**0.00000065**	**J,DX MB q**	0.000048	0.00000047	ug/L		01/05/22 05:07	01/07/22 15:56	1
2,3,4,6,7,8-HxCDF	**0.0000033**	**J,DX MB**	0.000048	0.00000045	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,4,6,7,8-HpCDD	**0.00011**	**MB**	0.000048	0.0000010	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,4,6,7,8-HpCDF	**0.000078**	**MB**	0.000048	0.00000077	ug/L		01/05/22 05:07	01/07/22 15:56	1
1,2,3,4,7,8,9-HpCDF	ND		0.000048	0.00000071	ug/L		01/05/22 05:07	01/07/22 15:56	1
OCDD	**0.00064**	**MB**	0.000095	0.0000015	ug/L		01/05/22 05:07	01/07/22 15:56	1
OCDF	**0.000076**	**J,DX MB**	0.000095	0.00000065	ug/L		01/05/22 05:07	01/07/22 15:56	1
Total TCDD	ND		0.0000095	0.00000065	ug/L		01/05/22 05:07	01/07/22 15:56	1
Total TCDF	ND		0.0000095	0.00000023	ug/L		01/05/22 05:07	01/07/22 15:56	1
Total PeCDD	ND		0.000048	0.00000065	ug/L		01/05/22 05:07	01/07/22 15:56	1
Total PeCDF	**0.0000052**	**J,DX q**	0.000048	0.00000034	ug/L		01/05/22 05:07	01/07/22 15:56	1
Total HxCDD	**0.000035**	**J,DX MB q**	0.000048	0.00000041	ug/L		01/05/22 05:07	01/07/22 15:56	1
Total HxCDF	**0.000060**	**J,DX MB q**	0.000048	0.00000044	ug/L		01/05/22 05:07	01/07/22 15:56	1
Total HpCDD	**0.00021**	**MB**	0.000048	0.0000010	ug/L		01/05/22 05:07	01/07/22 15:56	1
Total HpCDF	**0.00011**	**MB**	0.000048	0.00000071	ug/L		01/05/22 05:07	01/07/22 15:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*01/05/22 05:07*	*01/07/22 15:56*	*1*
13C-2,3,7,8-TCDF	*86*		*24 - 169*	*01/05/22 05:07*	*01/07/22 15:56*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*25 - 181*	*01/05/22 05:07*	*01/07/22 15:56*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*24 - 185*	*01/05/22 05:07*	*01/07/22 15:56*	*1*
13C-2,3,4,7,8-PeCDF	*87*		*21 - 178*	*01/05/22 05:07*	*01/07/22 15:56*	*1*
13C-1,2,3,4,7,8-HxCDD	*71*		*32 - 141*	*01/05/22 05:07*	*01/07/22 15:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*79*		*28 - 130*	*01/05/22 05:07*	*01/07/22 15:56*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDF	84		26 - 152	01/05/22 05:07	01/07/22 15:56	1
13C-1,2,3,6,7,8-HxCDF	82		26 - 123	01/05/22 05:07	01/07/22 15:56	1
13C-1,2,3,7,8,9-HxCDF	85		29 - 147	01/05/22 05:07	01/07/22 15:56	1
13C-2,3,4,6,7,8-HxCDF	83		28 - 136	01/05/22 05:07	01/07/22 15:56	1
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	01/05/22 05:07	01/07/22 15:56	1
13C-1,2,3,4,6,7,8-HpCDF	78		28 - 143	01/05/22 05:07	01/07/22 15:56	1
13C-1,2,3,4,7,8,9-HpCDF	89		26 - 138	01/05/22 05:07	01/07/22 15:56	1
13C-OCDD	91		17 - 157	01/05/22 05:07	01/07/22 15:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	88		35 - 197	01/05/22 05:07	01/07/22 15:56	1

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000099	0.00000061	ug/L		01/05/22 05:07	01/07/22 16:43	1
2,3,7,8-TCDF	ND		0.0000099	0.00000017	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,7,8-PeCDD	ND		0.000049	0.00000043	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,7,8-PeCDF	ND		0.000049	0.00000026	ug/L		01/05/22 05:07	01/07/22 16:43	1
2,3,4,7,8-PeCDF	ND		0.000049	0.00000027	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,4,7,8-HxCDD	**0.0000021**	**J,DX q MB**	0.000049	0.00000029	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,6,7,8-HxCDD	**0.00000078**	**J,DX MB**	0.000049	0.00000029	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,7,8,9-HxCDD	ND		0.000049	0.00000027	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,4,7,8-HxCDF	ND		0.000049	0.00000016	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,6,7,8-HxCDF	ND		0.000049	0.00000017	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,7,8,9-HxCDF	**0.00000089**	**J,DX MB**	0.000049	0.00000016	ug/L		01/05/22 05:07	01/07/22 16:43	1
2,3,4,6,7,8-HxCDF	**0.00000050**	**J,DX MB**	0.000049	0.00000016	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,4,6,7,8-HpCDD	**0.0000030**	**J,DX q MB**	0.000049	0.00000021	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,4,6,7,8-HpCDF	**0.0000014**	**J,DX MB**	0.000049	0.00000040	ug/L		01/05/22 05:07	01/07/22 16:43	1
1,2,3,4,7,8,9-HpCDF	ND		0.000049	0.00000036	ug/L		01/05/22 05:07	01/07/22 16:43	1
OCDD	**0.000013**	**J,DX MB**	0.000099	0.00000040	ug/L		01/05/22 05:07	01/07/22 16:43	1
OCDF	**0.0000022**	**J,DX MB**	0.000099	0.00000042	ug/L		01/05/22 05:07	01/07/22 16:43	1
Total TCDD	ND		0.0000099	0.00000061	ug/L		01/05/22 05:07	01/07/22 16:43	1
Total TCDF	ND		0.0000099	0.00000017	ug/L		01/05/22 05:07	01/07/22 16:43	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDD	**0.0000011**	**J,DX q MB**	0.000049	0.00000043	ug/L		01/05/22 05:07	01/07/22 16:43	1
Total PeCDF	ND		0.000049	0.00000026	ug/L		01/05/22 05:07	01/07/22 16:43	1
Total HxCDD	**0.0000029**	**J,DX q MB**	0.000049	0.00000027	ug/L		01/05/22 05:07	01/07/22 16:43	1
Total HxCDF	**0.0000014**	**J,DX MB**	0.000049	0.00000016	ug/L		01/05/22 05:07	01/07/22 16:43	1
Total HpCDD	**0.0000056**	**J,DX q MB**	0.000049	0.00000021	ug/L		01/05/22 05:07	01/07/22 16:43	1
Total HpCDF	**0.0000014**	**J,DX MB**	0.000049	0.00000036	ug/L		01/05/22 05:07	01/07/22 16:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*81*		*25 - 164*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-2,3,7,8-TCDF	*90*		*24 - 169*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*25 - 181*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*24 - 185*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-2,3,4,7,8-PeCDF	*91*		*21 - 178*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-1,2,3,4,7,8-HxCDD	*81*		*32 - 141*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-1,2,3,6,7,8-HxCDD	*87*		*28 - 130*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-1,2,3,4,7,8-HxCDF	*92*		*26 - 152*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-1,2,3,6,7,8-HxCDF	*90*		*26 - 123*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-1,2,3,7,8,9-HxCDF	*95*		*29 - 147*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-2,3,4,6,7,8-HxCDF	*93*		*28 - 136*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*23 - 140*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*89*		*28 - 143*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*104*		*26 - 138*	*01/05/22 05:07*	*01/07/22 16:43*	*1*
13C-OCDD	*108*		*17 - 157*	*01/05/22 05:07*	*01/07/22 16:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*88*		*35 - 197*	*01/05/22 05:07*	*01/07/22 16:43*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.0000095	0.00000081	ug/L		01/05/22 05:07	01/10/22 18:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*89*		*24 - 169*	*01/05/22 05:07*	*01/10/22 18:06*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*109*		*35 - 197*	*01/05/22 05:07*	*01/10/22 18:06*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-80274-1	EPSW001BG01_20211223	88
570-80274-1 - RA	EPSW001BG01_20211223	109
570-80274-2	EPSW001PV01_20211223	88
570-80274-3	EPSW001B003_20211223	88
MB 320-556042/1-A	Method Blank	89

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-556042/2-A	Lab Control Sample	86
LCSD 320-556042/3-A	Lab Control Sample Dup	86

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80274-1	EPSW001BG01_20211223	84	96	82	89	96	78	87	93
570-80274-1 - RA	EPSW001BG01_20211223		89						
570-80274-2	EPSW001PV01_20211223	77	86	72	78	87	71	79	84
570-80274-3	EPSW001B003_20211223	81	90	79	84	91	81	87	92
MB 320-556042/1-A	Method Blank	73	81	64	69	79	64	71	74

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80274-1	EPSW001BG01_20211223	92	98	94	84	87	105	109
570-80274-1 - RA	EPSW001BG01_20211223							
570-80274-2	EPSW001PV01_20211223	82	85	83	73	78	89	91
570-80274-3	EPSW001B003_20211223	90	95	93	86	89	104	108
MB 320-556042/1-A	Method Blank	74	79	77	65	70	80	85

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556042/2-A	Lab Control Sample	74	83	70	75	84	71	76	81
LCSD 320-556042/3-A	Lab Control Sample Dup	71	80	63	69	77	62	67	70

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-556042/2-A	Lab Control Sample	80	84	82	70	76	88	85
LCSD 320-556042/3-A	Lab Control Sample Dup	70	73	72	61	65	75	76

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80274-2
Project/Site: Boeing SSFL ISRA and BMP

PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-556042/1-A
Matrix: Water
Analysis Batch: 556660

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556042

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000060	ug/L		01/05/22 05:07	01/07/22 12:44	1
2,3,7,8-TCDF	ND		0.000010	0.00000022	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000052	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000025	ug/L		01/05/22 05:07	01/07/22 12:44	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000025	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,4,7,8-HxCDD	0.00000247	J,DX	0.000050	0.00000035	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,6,7,8-HxCDD	0.000000963	J,DX q	0.000050	0.00000035	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000032	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,4,7,8-HxCDF	0.000000648	J,DX	0.000050	0.00000022	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,6,7,8-HxCDF	0.000000560	J,DX q	0.000050	0.00000024	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,7,8,9-HxCDF	0.000000855	J,DX	0.000050	0.00000023	ug/L		01/05/22 05:07	01/07/22 12:44	1
2,3,4,6,7,8-HxCDF	0.000000468	J,DX q	0.000050	0.00000022	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,4,6,7,8-HpCDD	0.00000366	J,DX	0.000050	0.00000023	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,4,6,7,8-HpCDF	0.00000188	J,DX	0.000050	0.00000039	ug/L		01/05/22 05:07	01/07/22 12:44	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000038	ug/L		01/05/22 05:07	01/07/22 12:44	1
OCDD	0.0000109	J,DX	0.00010	0.00000049	ug/L		01/05/22 05:07	01/07/22 12:44	1
OCDF	0.00000240	J,DX q	0.00010	0.00000064	ug/L		01/05/22 05:07	01/07/22 12:44	1
Total TCDD	ND		0.000010	0.00000060	ug/L		01/05/22 05:07	01/07/22 12:44	1
Total TCDF	ND		0.000010	0.00000022	ug/L		01/05/22 05:07	01/07/22 12:44	1
Total PeCDD	0.00000128	J,DX q	0.000050	0.00000052	ug/L		01/05/22 05:07	01/07/22 12:44	1
Total PeCDF	ND		0.000050	0.00000025	ug/L		01/05/22 05:07	01/07/22 12:44	1
Total HxCDD	0.00000343	J,DX q	0.000050	0.00000032	ug/L		01/05/22 05:07	01/07/22 12:44	1
Total HxCDF	0.00000253	J,DX q	0.000050	0.00000022	ug/L		01/05/22 05:07	01/07/22 12:44	1
Total HpCDD	0.00000612	J,DX q	0.000050	0.00000023	ug/L		01/05/22 05:07	01/07/22 12:44	1
Total HpCDF	0.00000188	J,DX	0.000050	0.00000038	ug/L		01/05/22 05:07	01/07/22 12:44	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*73*		*25 - 164*	*01/05/22 05:07*	*01/07/22 12:44*	*1*
13C-2,3,7,8-TCDF	*81*		*24 - 169*	*01/05/22 05:07*	*01/07/22 12:44*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*25 - 181*	*01/05/22 05:07*	*01/07/22 12:44*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-556042/1-A
Matrix: Water
Analysis Batch: 556660

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556042

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	69		24 - 185	01/05/22 05:07	01/07/22 12:44	1
13C-2,3,4,7,8-PeCDF	79		21 - 178	01/05/22 05:07	01/07/22 12:44	1
13C-1,2,3,4,7,8-HxCDD	64		32 - 141	01/05/22 05:07	01/07/22 12:44	1
13C-1,2,3,6,7,8-HxCDD	71		28 - 130	01/05/22 05:07	01/07/22 12:44	1
13C-1,2,3,4,7,8-HxCDF	74		26 - 152	01/05/22 05:07	01/07/22 12:44	1
13C-1,2,3,6,7,8-HxCDF	74		26 - 123	01/05/22 05:07	01/07/22 12:44	1
13C-1,2,3,7,8,9-HxCDF	79		29 - 147	01/05/22 05:07	01/07/22 12:44	1
13C-2,3,4,6,7,8-HxCDF	77		28 - 136	01/05/22 05:07	01/07/22 12:44	1
13C-1,2,3,4,6,7,8-HpCDD	65		23 - 140	01/05/22 05:07	01/07/22 12:44	1
13C-1,2,3,4,6,7,8-HpCDF	70		28 - 143	01/05/22 05:07	01/07/22 12:44	1
13C-1,2,3,4,7,8,9-HpCDF	80		26 - 138	01/05/22 05:07	01/07/22 12:44	1
13C-OCDD	85		17 - 157	01/05/22 05:07	01/07/22 12:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	01/05/22 05:07	01/07/22 12:44	1

Lab Sample ID: LCS 320-556042/2-A
Matrix: Water
Analysis Batch: 556660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556042

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000223		ug/L		112	67 - 158		
2,3,7,8-TCDF			0.000200	0.000238		ug/L		119	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.00114		ug/L		114	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.00119		ug/L		119	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.00108		ug/L		108	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.00102	MB	ug/L		102	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.00117	MB	ug/L		117	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.00115		ug/L		115	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.00105	MB	ug/L		105	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00122	MB	ug/L		122	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.00120	MB	ug/L		120	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.00125	MB	ug/L		125	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.00111	MB	ug/L		111	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00109	MB	ug/L		109	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000991		ug/L		99	78 - 138		
OCDD			0.00200	0.00215	MB	ug/L		108	78 - 144		
OCDF			0.00200	0.00236	MB	ug/L		118	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	74		20 - 175
13C-2,3,7,8-TCDF	83		22 - 152
13C-1,2,3,7,8-PeCDD	70		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	84		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	76		25 - 163
13C-1,2,3,4,7,8-HxCDF	81		19 - 202

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556042/2-A
Matrix: Water
Analysis Batch: 556660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556042

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,6,7,8-HxCDF	80		21 - 159
13C-1,2,3,7,8,9-HxCDF	84		17 - 205
13C-2,3,4,6,7,8-HxCDF	82		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	70		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	76		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	88		20 - 186
13C-OCDD	85		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	86		31 - 191

Lab Sample ID: LCSD 320-556042/3-A
Matrix: Water
Analysis Batch: 556660

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556042

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000221		ug/L		110	67 - 158	1	50
2,3,7,8-TCDF			0.000200	0.000234		ug/L		117	75 - 158	2	50
1,2,3,7,8-PeCDD			0.00100	0.00115		ug/L		115	70 - 142	1	50
1,2,3,7,8-PeCDF			0.00100	0.00117		ug/L		117	80 - 134	2	50
2,3,4,7,8-PeCDF			0.00100	0.00107		ug/L		107	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.00104	MB	ug/L		104	70 - 164	2	50
1,2,3,6,7,8-HxCDD			0.00100	0.00118	MB	ug/L		118	76 - 134	1	50
1,2,3,7,8,9-HxCDD			0.00100	0.00116		ug/L		116	64 - 162	1	50
1,2,3,4,7,8-HxCDF			0.00100	0.00108	MB	ug/L		108	72 - 134	3	50
1,2,3,6,7,8-HxCDF			0.00100	0.00123	MB	ug/L		123	84 - 130	1	50
1,2,3,7,8,9-HxCDF			0.00100	0.00121	MB	ug/L		121	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.00127	MB	ug/L		127	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00113	MB	ug/L		113	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00112	MB	ug/L		112	82 - 122	3	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.00103		ug/L		103	78 - 138	4	50
OCDD			0.00200	0.00224	MB	ug/L		112	78 - 144	4	50
OCDF			0.00200	0.00245	MB	ug/L		122	63 - 170	4	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	80		22 - 152
13C-1,2,3,7,8-PeCDD	63		21 - 227
13C-1,2,3,7,8-PeCDF	69		21 - 192
13C-2,3,4,7,8-PeCDF	77		13 - 328
13C-1,2,3,4,7,8-HxCDD	62		21 - 193
13C-1,2,3,6,7,8-HxCDD	67		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	70		21 - 159
13C-1,2,3,7,8,9-HxCDF	73		17 - 205
13C-2,3,4,6,7,8-HxCDF	72		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	61		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	65		21 - 158

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-556042/3-A
Matrix: Water
Analysis Batch: 556660

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556042

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,7,8,9-HpCDF	75		20 - 186
13C-OCDD	76		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	86		31 - 191

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-2

Specialty Organics

Prep Batch: 556042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1 - RA	EPSW001BG01_20211223	Total/NA	Water	1613B	
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	1613B	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	1613B	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	1613B	
MB 320-556042/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556042/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556042/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 556660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	1613B	556042
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	1613B	556042
570-80274-3	EPSW001B003_20211223	Total/NA	Water	1613B	556042
MB 320-556042/1-A	Method Blank	Total/NA	Water	1613B	556042
LCS 320-556042/2-A	Lab Control Sample	Total/NA	Water	1613B	556042
LCSD 320-556042/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556042

Analysis Batch: 557131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1 - RA	EPSW001BG01_20211223	Total/NA	Water	1613B	556042

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-2

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		1057 mL	20.0 uL	556042	01/05/22 05:07	FC	TAL SAC
Total/NA	Analysis	1613B	RA	1			557131	01/10/22 18:06	DB	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			1057 mL	20.0 uL	556042	01/05/22 05:07	FC	TAL SAC
Total/NA	Analysis	1613B		1			556660	01/07/22 15:08	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1048.7 mL	20.0 uL	556042	01/05/22 05:07	FC	TAL SAC
Total/NA	Analysis	1613B		1			556660	01/07/22 15:56	GRB	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1010.6 mL	20.0 uL	556042	01/05/22 05:07	FC	TAL SAC
Total/NA	Analysis	1613B		1			556660	01/07/22 16:43	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

FGS = Eurofins Frontier Global Sciences LLC, 5755 8th Street E, Tacoma, WA 98424

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-2

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-22
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1631E	EPA 1631E Low Level Mercury	EPA	FGS
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

FGS = Eurofins Frontier Global Sciences LLC, 5755 8th Street E, Tacoma, WA 98424

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80274-1	EPSW001BG01_20211223	Water	12/23/21 10:00	12/28/21 18:00
570-80274-2	EPSW001PV01_20211223	Water	12/23/21 12:10	12/28/21 18:00
570-80274-3	EPSW001B003_20211223	Water	12/23/21 11:15	12/28/21 18:00

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5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

13 January 2022

Virendra Patel
Eurofins Calscience, LLC
7440 Lincoln Way
Garden Grove, CA 92841

RE: Low Level Hg - 2019

Enclosed are the analytical results for samples received by Eurofins Frontier Global Sciences. All quality control measurements are within established control limits and there were no analytical difficulties encountered with the exception of those listed in the case narrative section of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Curtis Deer
Project Manager

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80274-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	13-Jan-22 10:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EPSW0001BG01_2021123 (570-80274-1)	2A00049-01	Water	23-Dec-21 10:00	07-Jan-22 11:00
EPSW0001PV01_2021123 (570-80274-2)	2A00049-02	Water	23-Dec-21 12:10	07-Jan-22 11:00
EPSW0001B001_2021123 (570-80274-3)	2A00049-03	Water	23-Dec-21 11:15	07-Jan-22 11:00

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Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80274-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	13-Jan-22 10:15

SAMPLE RECEIPT

Samples were received at Eurofins Frontier Global Sciences (EFGS) on 07-Jan-22 11:00. The samples were received intact, on-ice within a sealed cooler at

Cooler	Temp C°
Default Cooler	0.7

SAMPLE PREPARATION AND ANALYSIS

Samples were prepared and analyzed for total mercury by flow injection atomic fluorescence spectrometry (FI-AFS) in accordance with EPA 1631E.

ANALYTICAL AND QUALITY CONTROL ISSUES

Method blanks were prepared for every preparation to assess possible blank contribution from the sample preparation procedure. The method blanks were carried through the entire analytical procedure. All blanks fell within the established acceptance criteria with the exception of any items narrated above or flagged and described in the notes and definitions section of the report.

Liquid spikes, certified reference material (CRM) or a quality control samples (QCS) were prepared for every preparation as a measure of accuracy. All liquid spikes, CRMs and/or QCS samples fell within the established acceptance criteria with the exception of any items narrated above or flagged and described in the notes and definitions section of the report.

As an additional measure of the accuracy of the methods used and to check for matrix interference, matrix spikes (MS) and matrix spike duplicates (MSD) were digested and analyzed. All of the matrix spike recoveries fell within the established acceptance criteria with the exception of any items flagged and described in the notes and definitions section of the report.

A reasonable measure of the precision of the analytical methods is the relative percent difference (RPD) between a matrix spike recovery and a matrix spike duplicate recovery and between laboratory control sample recovery and laboratory control sample duplicate recoveries. All of the relative percent differences fell within established acceptance criteria with the exception of any items flagged and described in the notes and definitions section of the report.

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Sample Receipt Checklist

Client: GA Science Date & Time Received: 1/7/22 11:00 Date Labeled: 1/7/22 Labeled By: VR

Matrix: Water Received By: VR Label Verified By: VR 1/7/22

# of Coolers Received: 1 Samples Arrived By: VR Shipping Service ____ Courier ____ Hand ____ Other (Specify:____)

Coolant: ☐ None/Ambient ☑ Loose Ice ☐ Gel Ice ☐ Dry Ice Coolant Required: Y / (N) Temp Blank Used: Y/N for Cooler(s):____

Notify Project Manager if packages/coolers are received without coolant or with thawed coolant and at a temperature in excess of 6°C. PM notified: Y/N

Samples from Wisconsin have special requirements. Shipment received includes samples from Wisconsin: Y/N

Cooler Information:	Y/N/NA	Comments
The coolers do not appear to be tampered with:	Y	
Custody Seals are present and intact:	Y	
Custody seals signed:	Y	

TID: 80187819 CF: 0.5 °C Date/time: 1/7/22 11:00 By: VR

Cooler 1:	1.2 °C	w/ CF:	0.7 °C	Cooler 4:	°C	w/ CF:	°C
Cooler 2:	°C	w/ CF:	°C	Cooler 5:	°C	w/ CF:	°C
Cooler 3:	°C	w/ CF:	°C	Cooler 6:	°C	w/ CF:	°C

Chain of Custody:	Y/N/NA	Comments
Sample ID/Description:	Y	
Date and time of collection:	Y	
Sampled by:	Y	
Preservation type:	Y	
Requested analyses:	Y	
Required signatures:	Y	
Internal COC required:	NA	

Sample Condition/Integrity:	Y/N/NA	Comments
Sample containers intact/present:	Y	
Sample labels are present and legible:	Y	
Sample ID on container/bag matches COC:	Y	
Correct sample containers used:	Y	
Samples received within holding times:	Y	
Sample volume sufficient for requested analyses:	Y	
Correct preservative used for requested analyses:	Y	

Anomalies/Non-conformances (attach additional pages if needed):

2A00049

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148834.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	1	
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12:10 Pacific		Water			X	1	
EPSW001B003_20211223 (570-80274-3)	12/23/21	11:15 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements: 7756 8506 7140

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 1/6/22 1252	Company	Received by: [signature]	Date/Time: 1/7/22 11:10	Company: EFGS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No: NO | Cooler Temperature(s) °C and Other Remarks: 0.7

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5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80274-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	13-Jan-22 10:15

EPSW0001BG01_2021123 (570-80274-1)

2A00049-01

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
Sample Preparation: EFGS SOP2796 EPA 1631 Oxidation											
Mercury	**29.9**	0.08	0.50	ng/L	1	F201323	11-Jan-22	2A12009	11-Jan-22	EPA 1631E	

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Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80274-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	13-Jan-22 10:15

EPSW0001PV01_2021123 (570-80274-2)

2A00049-02

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
Sample Preparation: EFGS SOP2796 EPA 1631 Oxidation											
Mercury	**19.3**	0.08	0.50	ng/L	1	F201323	11-Jan-22	2A12009	11-Jan-22	EPA 1631E	

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Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80274-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	13-Jan-22 10:15

EPSW0001B001_2021123 (570-80274-3)

2A00049-03

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
Sample Preparation: EFGS SOP2796 EPA 1631 Oxidation											
Mercury	**16.4**	0.08	0.50	ng/L	1	F201323	11-Jan-22	2A12009	11-Jan-22	EPA 1631E	

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80274-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	13-Jan-22 10:15

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F201323 - EFGS SOP2796 EPA 1631 Oxidation											
Blank (F201323-BLK1)					Prepared & Analyzed: 11-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
Blank (F201323-BLK2)					Prepared & Analyzed: 11-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
Blank (F201323-BLK3)					Prepared & Analyzed: 11-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
LCS (F201323-BS1)					Prepared & Analyzed: 11-Jan-22						
Mercury	4.68	0.08	0.50	ng/L	5.0000		93.5	77-123			
LCS Dup (F201323-BSD1)					Prepared & Analyzed: 11-Jan-22						
Mercury	4.78	0.08	0.50	ng/L	5.0000		95.5	77-123	2.13	24	
Matrix Spike (F201323-MS1)		**Source: 2A00051-03**			Prepared & Analyzed: 11-Jan-22						
Mercury	12.31	0.08	0.50	ng/L	10.000	2.06	102	71-125			
Matrix Spike (F201323-MS2)		**Source: 2A00058-03**			Prepared & Analyzed: 11-Jan-22						
Mercury	12.61	0.08	0.50	ng/L	10.000	3.25	93.6	71-125			
Matrix Spike Dup (F201323-MSD1)		**Source: 2A00051-03**			Prepared & Analyzed: 11-Jan-22						
Mercury	12.63	0.08	0.50	ng/L	10.000	2.06	106	71-125	2.56	24	
Matrix Spike Dup (F201323-MSD2)		**Source: 2A00058-03**			Prepared & Analyzed: 11-Jan-22						
Mercury	12.32	0.08	0.50	ng/L	10.000	3.25	90.6	71-125	2.36	24	

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80274-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	13-Jan-22 10:15

Notes and Definitions

U	Analyte was not detected and is reported as less than the LOD or as defined by the client. The LOD has been adjusted for any dilution or concentration of the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the method detection limit if reported to the MDL or above the reporting limit if reported to the MRL.
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Patel, Virendra

From: Miller, Katherine <KMiller@haleyaldrich.com>
Sent: Monday, January 3, 2022 8:22 AM
To: Patel, Virendra; Barr, Anastasia; Dominick, Mark
Subject: RE: <RESPONSE REQUESTED> Eurofins Calscience report files from 570-80274-1 Boeing SSFL ISRA and BMP

EXTERNAL EMAIL*

1. Please run cyanide from unpreserved bottle.
2. Do we have extra volume from another method (even if unpreserved)?

Katherine Miller
HALEY & ALDRICH
Tel: 520.289.8606

From: Virendra Patel <Virendra.Patel@eurofinset.com>
Sent: Thursday, December 30, 2021 7:50 AM
To: Barr, Anastasia <ABarr@haleyaldrich.com>; Miller, Katherine <KMiller@haleyaldrich.com>; Dominick, Mark <MDominick@haleyaldrich.com>; Patel Virendra <Virendra.Patel@eurofinset.com>
Subject: <RESPONSE REQUESTED> Eurofins Calscience report files from 570-80274-1 Boeing SSFL ISRA and BMP
Importance: High

CAUTION: External Email

Hello,

Attached please find the report files for job 570-80274-1; Boeing SSFL ISRA and BMP

1. Sample #2 - EPSW001PV01_20211223 -- received Cyanide bottle unpreserved

ACTION: Please provide directoin on how to proceed.

2. Sample #3 - EPSW001B001_20211223 -- we did not receive a Cyanide bottle?

ACTION: Please provide directoin on how to proceed.

Please feel free to contact me if you have any questions.

Thank you.

Virendra Patel

Project Manager

Eurofins Calscience LLC
Phone: 714-895-5494 Ext: 218

E-mail: Virendra.Patel@eurofinset.com
www.eurofinsus.com/env

Reference: [570-275057]
Attachments: 1

> > Bank information has changed, please refer to remittance information on invoice. < <

* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

80274

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

eurofins Calscience

Eurofins Calscience, Inc.

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▫ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba, Be Cd, Cr, Cu, Fe, Mn Ni Pb, Se, Sb, Tl; Method 200.7: B, Zn – (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr, Cu Fe, Mn, Ni Pb, Se, Sb, Tl Method 200.7: B, Zn – (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20211223	12/23/21	1000	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
EPSW001PV01_20211223	12/23/21	1210	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
BGBMP0003_20211223	12/23/21	1115	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
TB_20211223	12/23/21	1130	TB	WM	3	N	N															x			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	1	1	1	1	1	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ▫ Yes ▫ No | 44553 | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	T:A	12-28-21 1445		ECI	12/28/21 1445
	ECI	12/28/21 1800			12/28/21 1800
			Received in Laboratory by		

2.6/3.5, 1.8/2.7, 2.0/2.9 scs

570-80274 Chain of Custody

SAP COC 2019/2020 VERSION 3

, dated 1/8/2016

1/15/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80274-1
Address: 13715 Rider Trail North	Due Date Requested: 1/12/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12 10 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL DO NOT FILTER, use prep date from preservation
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL DO NOT FILTER use prep date from preservation

Note Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time: 1/3/22 1321	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/15/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80274-3
Address: 13715 Rider Trail North	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
				Preservation Code:										
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/3/22 1321	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/15/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80274-1
Address: 880 Riverside Parkway ,	Due Date Requested: 1/12/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12.10 Pacific		Water			X	2	See QAS Boeing_w/u to zero
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/3/22 1730				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/15/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/3/21 1730				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/15/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: ~~44009815~~ 570-80274			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	1	
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12.10 Pacific		Water			X	1	
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/3/22 1735	EOI			
Relinquished by:	Date/Time.	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks.

1/15/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days)			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	1	
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12.10 Pacific		Water			X	1	
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/6/22 1252				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	1	
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12:10 Pacific		Water			X	1	
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/6/22 1252				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

1/15/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148833.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80274-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/12/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12:10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
EPSW001B003_20211223 (570-80274-3)	12/23/21	11:15 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/3/22 1730			1/4/22 1200	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.9

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148833.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 1/3/21 1730	Company	Received by	Date/Time: 1/4/22 1000	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.9c

Ver: 06/08/2021

1/15/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80274-2

Login Number: 80274
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80274-2

Login Number: 80274
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/04/22 03:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80274-3
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/31/2022 10:50:12 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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Visit us at:
www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-3

Qualifiers

Rad

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80274-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80274-3

Comments
No additional comments.

Receipt
The samples were received on 12/28/2021 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.7º C, 2.9º C and 3.5º C.

Receipt Exceptions

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): EPSW001BG01_20211223 (570-80274-1) and EPSW001PV01_20211223 (570-80274-2). Received 24 containers, while the COC lists 27.

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): EPSW001B003_20211223 (570-80274-3). Received 23 containers, while the COC lists 23.

Received unpreserved 1L plastic instead on 1L plastic w/NaOH for CN: EPSW001PV01_20211223 (570-80274-2).

The laboratory did not receive 1L plastic container w/NaOH for EPA Cyanide analysis that was requested on the Chain-of-Custody on the following sample: EPSW001B003_20211223 (570-80274-3).

RAD
Method 900.0: Gross alpha beta batch 544905
The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: EPSW001BG01_20211223 (570-80274-1) and EPSW001PV01_20211223 (570-80274-2). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross alpha beta batch 544905
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2), EPSW001B003_20211223 (570-80274-3), (LCS 160-544905/2-A), (LCSB 160-544905/3-A), (MB 160-544905/1-A), (570-80145-R-1-G), (570-80145-R-1-J DU), (570-80145-R-1-H MS) and (570-80145-R-1-I MSBT)

Method 900.0: Gross alpha beta batch 546013
The matrix spike (MS) recoveries for gross alpha were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (570-80422-S-1-G MS)

Method 900.0: Gross alpha beta batch 546013
The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2), (570-80422-S-1-D) and (570-80422-S-1-I DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross alpha beta batch 546013
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Job ID: 570-80274-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2), EPSW001B003_20211223 (570-80274-3), (LCS 160-546013/2-A), (LCSB 160-546013/3-A), (MB 160-546013/1-A), (570-80422-S-1-D), (570-80422-S-1-I DU), (570-80422-S-1-G MS) and (570-80422-S-1-H MSBT)

Methods 903.0, 9315: Radium 226 batch 544912
The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: EPSW001BG01_20211223 (570-80274-1). Analytical results are reported with the detection limit achieved.

Methods 903.0, 9315: Radium 226 batch 544912
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2), EPSW001B003_20211223 (570-80274-3), (LCS 160-544912/1-A), (LCSD 160-544912/2-A) and (MB 160-544912/19-A)

Methods 904.0, 9320: Radium 228 batch 544914
The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: EPSW001BG01_20211223 (570-80274-1). Analytical results are reported with the detection limit achieved.

Methods 904.0, 9320: Radium 228 batch 544914
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2), EPSW001B003_20211223 (570-80274-3), (LCS 160-544914/1-A), (LCSD 160-544914/2-A) and (MB 160-544914/19-A)

Method 905: Strontium 90 batch 544884
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2), EPSW001B003_20211223 (570-80274-3), (LCS 160-544884/1-A), (LCSD 160-544884/2-A) and (MB 160-544884/16-A)

Method 906.0: Tritium in liquid batch 160-544885
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Job ID: 570-80274-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2), EPSW001B003_20211223 (570-80274-3), (LCS 160-544885/2-A), (MB 160-544885/1-A), (570-80272-X-1-A), (570-80272-X-1-B DU), (570-80274-V-3-A) and (570-80274-V-3-B MS)

Method LSC_Dist_Susp: Tritium Prep Batch 544885:

The following samples had unclear matrices: EPSW001BG01_20211223 (570-80274-1) and EPSW001PV01_20211223 (570-80274-2). The samples were orange-tan in color and cloudy.

Method LSC_Dist_Susp: Tritium Prep Batch 544885:

The following samples had unclear matrices: EPSW001B003_20211223 (570-80274-3). The samples were slightly yellow-orange in color and transparent.

Method PrecSep_0: Radium-228 Prep Batch 160-544914

The following samples were prepared at a reduced aliquot due to Matrix: EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2) and EPSW001B003_20211223 (570-80274-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-544912

The following samples were prepared at a reduced aliquot due to Matrix: EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2) and EPSW001B003_20211223 (570-80274-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-544884

The following samples were prepared at a reduced aliquot due to Matrix: EPSW001BG01_20211223 (570-80274-1), EPSW001PV01_20211223 (570-80274-2) and EPSW001B003_20211223 (570-80274-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-3

Client Sample ID: EPSW001BG01_20211223 — Lab Sample ID: 570-80274-1

No Detections.

Client Sample ID: EPSW001PV01_20211223 — Lab Sample ID: 570-80274-2

No Detections.

Client Sample ID: EPSW001B003_20211223 — Lab Sample ID: 570-80274-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**88.5**	**G**	17.5	20.2	3.00	16.0	pCi/L	01/05/22 10:40	01/06/22 14:23	1
Gross Beta	**49.1**	**G**	5.74	7.56	4.00	5.00	pCi/L	01/05/22 10:40	01/06/22 14:23	1

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**5.94**	**G**	2.70	2.78	3.00	3.41	pCi/L	01/05/22 10:40	01/06/22 14:24	1
Gross Beta	**7.99**		1.98	2.13	4.00	2.21	pCi/L	01/05/22 10:40	01/06/22 14:24	1

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.26	U	0.913	0.924	3.00	1.37	pCi/L	01/05/22 10:40	01/06/22 14:24	1
Gross Beta	**2.31**		0.707	0.743	4.00	0.893	pCi/L	01/05/22 10:40	01/06/22 14:24	1

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity - Dissolved

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**8.14**	**G**	3.94	4.04	3.00	4.94	pCi/L	01/12/22 10:46	01/14/22 08:42	1
Gross Beta	**7.81**		2.69	2.80	4.00	3.45	pCi/L	01/12/22 10:46	01/14/22 08:42	1

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**8.08**	**G**	5.01	5.09	3.00	6.88	pCi/L	01/12/22 10:46	01/14/22 08:42	1
Gross Beta	1.55	U G	3.21	3.21	4.00	5.26	pCi/L	01/12/22 10:46	01/14/22 08:42	1

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**1.60**		1.06	1.07	3.00	1.53	pCi/L	01/12/22 10:46	01/14/22 08:42	1
Gross Beta	**1.44**		0.630	0.646	4.00	0.855	pCi/L	01/12/22 10:46	01/14/22 08:42	1

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.50**	**G**	0.914	0.924	1.00	1.28	pCi/L	01/05/22 12:51	01/28/22 09:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*40 - 110*	*01/05/22 12:51*	*01/28/22 09:35*	*1*

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.190	U	0.308	0.309	1.00	0.534	pCi/L	01/05/22 12:51	01/28/22 09:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*40 - 110*	*01/05/22 12:51*	*01/28/22 09:35*	*1*

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.193	U	0.222	0.223	1.00	0.362	pCi/L	01/05/22 12:51	01/28/22 09:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.6*		*40 - 110*	*01/05/22 12:51*	*01/28/22 09:36*	*1*

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**3.11**	**G**	1.30	1.33	1.00	1.86	pCi/L	01/05/22 13:38	01/27/22 13:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:28*	*1*
Y Carrier	*79.3*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:28*	*1*

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.634	U	0.537	0.540	1.00	0.857	pCi/L	01/05/22 13:38	01/27/22 13:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:28*	*1*
Y Carrier	*80.0*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:28*	*1*

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0981	U	0.359	0.359	1.00	0.627	pCi/L	01/05/22 13:38	01/27/22 13:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.6*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:28*	*1*
Y Carrier	*77.0*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:28*	*1*

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	1.24	U	1.12	1.12	3.00	1.80	pCi/L	01/05/22 09:29	01/20/22 15:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*60.8*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:40*	*1*
Y Carrier	*84.1*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:40*	*1*

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.0621	U	0.504	0.504	3.00	0.914	pCi/L	01/05/22 09:29	01/20/22 15:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*66.1*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:40*	*1*
Y Carrier	*82.6*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:40*	*1*

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.235	U	0.536	0.537	3.00	0.924	pCi/L	01/05/22 09:29	01/20/22 15:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*63.1*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:40*	*1*
Y Carrier	*79.6*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:40*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-3

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: EPSW001BG01_20211223
Date Collected: 12/23/21 10:00
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-4.50	U	211	211	500	381	pCi/L	01/05/22 09:41	01/06/22 11:07	1

Client Sample ID: EPSW001PV01_20211223
Date Collected: 12/23/21 12:10
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-140	U	196	197	500	372	pCi/L	01/05/22 09:41	01/06/22 09:59	1

Client Sample ID: EPSW001B003_20211223
Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-27.0	U	199	199	500	357	pCi/L	01/05/22 09:41	01/06/22 10:22	1

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-3

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
570-80274-1	EPSW001BG01_20211223	95.2
570-80274-2	EPSW001PV01_20211223	98.0
570-80274-3	EPSW001B003_20211223	88.6
LCS 160-544912/1-A	Lab Control Sample	96.7
LCSD 160-544912/2-A	Lab Control Sample Dup	91.4
MB 160-544912/19-A	Method Blank	99.2

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
570-80274-1	EPSW001BG01_20211223	95.2	79.3
570-80274-2	EPSW001PV01_20211223	98.0	80.0
570-80274-3	EPSW001B003_20211223	88.6	77.0
LCS 160-544914/1-A	Lab Control Sample	96.7	80.7
LCSD 160-544914/2-A	Lab Control Sample Dup	91.4	81.5
MB 160-544914/19-A	Method Blank	99.2	84.9

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Sr (40-110)	Y (40-110)
570-80274-1	EPSW001BG01_20211223	60.8	84.1
570-80274-2	EPSW001PV01_20211223	66.1	82.6
570-80274-3	EPSW001B003_20211223	63.1	79.6
LCS 160-544884/1-A	Lab Control Sample	77.6	85.2
LCSD 160-544884/2-A	Lab Control Sample Dup	79.2	84.9
MB 160-544884/16-A	Method Blank	84.7	78.9

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-544905/1-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544905

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.8965	U	0.678	0.686	3.00	1.01	pCi/L	01/05/22 10:40	01/06/22 14:23	1
Gross Beta	0.1978	U	0.523	0.524	4.00	0.880	pCi/L	01/05/22 10:40	01/06/22 14:23	1

Lab Sample ID: LCS 160-544905/2-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	59.45		8.64	3.00	2.32	pCi/L	117	75 - 125

Lab Sample ID: LCSB 160-544905/3-A
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.7	74.99		8.03	4.00	1.03	pCi/L	99	75 - 125

Lab Sample ID: 570-80145-R-1-H MS
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	2.10		50.6	53.08		7.32	3.00	1.34	pCi/L	101	60 - 140

Lab Sample ID: 570-80145-R-1-I MSBT
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	4.10		75.7	76.77		8.19	4.00	0.790	pCi/L	96	60 - 140

Lab Sample ID: 570-80145-R-1-J DU
Matrix: Water
Analysis Batch: 545103

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544905

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	2.10		1.928		1.04	3.00	1.33	pCi/L	0.08	1
Gross Beta	4.10		5.162		1.00	4.00	0.789	pCi/L	0.56	1

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: MB 160-546013/1-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546013

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.9192	U	0.730	0.738	3.00	1.11	pCi/L	01/12/22 10:46	01/14/22 08:40	1
Gross Beta	1.200		0.604	0.616	4.00	0.863	pCi/L	01/12/22 10:46	01/14/22 08:40	1

Lab Sample ID: LCS 160-546013/2-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546013

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Alpha			50.6	49.91		7.39	3.00	2.12	pCi/L	99	75 - 125		

Lab Sample ID: LCSB 160-546013/3-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546013

Analyte			Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Beta			75.6	71.71		7.70	4.00	0.856	pCi/L	95	75 - 125		

Lab Sample ID: 570-80422-S-1-G MS
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Alpha	7.34	G	50.6	32.48	F1	8.08	3.00	6.16	pCi/L	50	60 - 140		

Lab Sample ID: 570-80422-S-1-H MSBT
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Beta	6.41		75.5	90.25		10.1	4.00	1.80	pCi/L	111	60 - 140		

Lab Sample ID: 570-80422-S-1-I DU
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Duplicate
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Gross Alpha	7.34	G		9.617	G	5.00	3.00	6.52	pCi/L			0.23	1
Gross Beta	6.41			7.231		1.87	4.00	1.98	pCi/L			0.22	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-544912/19-A
Matrix: Water
Analysis Batch: 548468

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544912

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.2001	U	0.245	0.245	1.00	0.404	pCi/L	01/05/22 12:51	01/28/22 11:29	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.2*		*40 - 110*	*01/05/22 12:51*	*01/28/22 11:29*	*1*

Lab Sample ID: LCS 160-544912/1-A
Matrix: Water
Analysis Batch: 548468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544912

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.72		1.68	1.00	0.440	pCi/L	91	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*96.7*		*40 - 110*

Lab Sample ID: LCSD 160-544912/2-A
Matrix: Water
Analysis Batch: 548468

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544912

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.12		1.63	1.00	0.450	pCi/L	87	75 - 125	0.18	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-544914/19-A
Matrix: Water
Analysis Batch: 548438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544914

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2462	U	0.312	0.312	1.00	0.517	pCi/L	01/05/22 13:38	01/27/22 13:33	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.2*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:33*	*1*
Y Carrier	*84.9*		*40 - 110*	*01/05/22 13:38*	*01/27/22 13:33*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-544914/1-A
Matrix: Water
Analysis Batch: 548425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544914

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.56		1.57	1.00	0.523	pCi/L	114	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*96.7*		*40 - 110*
Y Carrier	*80.7*		*40 - 110*

Lab Sample ID: LCSD 160-544914/2-A
Matrix: Water
Analysis Batch: 548425

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544914

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	14.47		1.68	1.00	0.553	pCi/L	122	75 - 125	0.28	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*
Y Carrier	*81.5*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-544884/16-A
Matrix: Water
Analysis Batch: 547239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544884

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.1328	U	0.444	0.444	3.00	0.811	pCi/L	01/05/22 09:29	01/20/22 15:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*84.7*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*
Y Carrier	*78.9*		*40 - 110*	*01/05/22 09:29*	*01/20/22 15:46*	*1*

Lab Sample ID: LCS 160-544884/1-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			15.1	15.49		1.76	3.00	0.788	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*77.6*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: LCSD 160-544884/2-A
Matrix: Water
Analysis Batch: 547233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 544884

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			15.1	16.58		1.84	3.00	0.739	pCi/L	110	75 - 125	0.30	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*79.2*		*40 - 110*
Y Carrier	*84.9*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-544885/1-A
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544885

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	166.7	U	220	221	500	369	pCi/L	01/05/22 09:41	01/06/22 09:14	1

Lab Sample ID: LCS 160-544885/2-A
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544885

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2250	2063		389	500	384	pCi/L	92	75 - 125		

Lab Sample ID: 570-80274-3 MS
Matrix: Water
Analysis Batch: 545183

Client Sample ID: EPSW001B003_20211223
Prep Type: Total/NA
Prep Batch: 544885

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	-27.0	U	2240	2860		457	500	382	pCi/L	128	60 - 140		

Lab Sample ID: 570-80272-X-1-B DU
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544885

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-199	U		-45.05	U	201	500	365	pCi/L			0.39	1

Rad

Prep Batch: 544884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	PrecSep-7	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	PrecSep-7	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	PrecSep-7	
MB 160-544884/16-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-544884/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-544884/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 544885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	LSC_Dist_Susp	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	LSC_Dist_Susp	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	LSC_Dist_Susp	
MB 160-544885/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-544885/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80274-3 MS	EPSW001B003_20211223	Total/NA	Water	LSC_Dist_Susp	
570-80272-X-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 544905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	Evaporation	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	Evaporation	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	Evaporation	
MB 160-544905/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-544905/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-544905/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80145-R-1-H MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-I MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80145-R-1-J DU	Duplicate	Total/NA	Water	Evaporation	

Prep Batch: 544912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	PrecSep-21	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	PrecSep-21	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	PrecSep-21	
MB 160-544912/19-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-544912/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-544912/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 544914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Total/NA	Water	PrecSep_0	
570-80274-2	EPSW001PV01_20211223	Total/NA	Water	PrecSep_0	
570-80274-3	EPSW001B003_20211223	Total/NA	Water	PrecSep_0	
MB 160-544914/19-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-544914/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-544914/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Filtration Batch: 545380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	Filtration	
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	Filtration	

Rad (Continued)

Filtration Batch: 545380 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-3	EPSW001B003_20211223	Dissolved	Water	Filtration	

Filtration Batch: 545628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-S-1-G MS	Matrix Spike	Dissolved	Water	Filtration	
570-80422-S-1-H MSBT	Matrix Spike	Dissolved	Water	Filtration	
570-80422-S-1-I DU	Duplicate	Dissolved	Water	Filtration	

Prep Batch: 546013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80274-1	EPSW001BG01_20211223	Dissolved	Water	Evaporation	545380
570-80274-2	EPSW001PV01_20211223	Dissolved	Water	Evaporation	545380
570-80274-3	EPSW001B003_20211223	Dissolved	Water	Evaporation	545380
MB 160-546013/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-546013/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-546013/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80422-S-1-G MS	Matrix Spike	Dissolved	Water	Evaporation	545628
570-80422-S-1-H MSBT	Matrix Spike	Dissolved	Water	Evaporation	545628
570-80422-S-1-I DU	Duplicate	Dissolved	Water	Evaporation	545628

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-3

Client Sample ID: EPSW001BG01_20211223

Lab Sample ID: 570-80274-1

Date Collected: 12/23/21 10:00

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	545380	01/07/22 18:55	ZTH	TAL SL
Dissolved	Prep	Evaporation			50.09 mL	1.0 g	546013	01/12/22 10:46	KG	TAL SL
Dissolved	Analysis	900.0		1			546411	01/14/22 08:42	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Evaporation			50.04 mL	1.0 g	544905	01/05/22 10:40	KG	TAL SL
Total/NA	Analysis	900.0		1			545103	01/06/22 14:23	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep-21			250.38 mL	1.0 g	544912	01/05/22 12:51	LPS	TAL SL
Total/NA	Analysis	903.0		1			548468	01/28/22 09:35	SCB	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			250.38 mL	1.0 g	544914	01/05/22 13:38	LPS	TAL SL
Total/NA	Analysis	904.0		1			548425	01/27/22 13:28	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			250.45 mL	1.0 g	544884	01/05/22 09:29	LPS	TAL SL
Total/NA	Analysis	905		1			547233	01/20/22 15:40	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			100.43 mL	1.0 g	544885	01/05/22 09:41	BAL	TAL SL
Total/NA	Analysis	906.0		1			545183	01/06/22 11:07	JLP	TAL SL
	Instrument ID: LSCAQUA									

Client Sample ID: EPSW001PV01_20211223

Lab Sample ID: 570-80274-2

Date Collected: 12/23/21 12:10

Matrix: Water

Date Received: 12/28/21 18:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	545380	01/07/22 18:55	ZTH	TAL SL
Dissolved	Prep	Evaporation			30.06 mL	1.0 g	546013	01/12/22 10:46	KG	TAL SL
Dissolved	Analysis	900.0		1			546411	01/14/22 08:42	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Evaporation			75.01 mL	1.0 g	544905	01/05/22 10:40	KG	TAL SL
Total/NA	Analysis	900.0		1			545103	01/06/22 14:24	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep-21			500.62 mL	1.0 g	544912	01/05/22 12:51	LPS	TAL SL
Total/NA	Analysis	903.0		1			548468	01/28/22 09:35	SCB	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			500.62 mL	1.0 g	544914	01/05/22 13:38	LPS	TAL SL
Total/NA	Analysis	904.0		1			548425	01/27/22 13:28	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			500.23 mL	1.0 g	544884	01/05/22 09:29	LPS	TAL SL
Total/NA	Analysis	905		1			547233	01/20/22 15:40	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			100.38 mL	1.0 g	544885	01/05/22 09:41	BAL	TAL SL
Total/NA	Analysis	906.0		1			545183	01/06/22 09:59	JLP	TAL SL
	Instrument ID: LSCAQUA									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-3

Client Sample ID: EPSW001B003_20211223

Date Collected: 12/23/21 11:15
Date Received: 12/28/21 18:00

Lab Sample ID: 570-80274-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	545380	01/07/22 18:55	ZTH	TAL SL
Dissolved	Prep	Evaporation			200.05 mL	1.0 g	546013	01/12/22 10:46	KG	TAL SL
Dissolved	Analysis	900.0		1			546411	01/14/22 08:42	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Evaporation			200.03 mL	1.0 g	544905	01/05/22 10:40	KG	TAL SL
Total/NA	Analysis	900.0		1			545103	01/06/22 14:24	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep-21			750.31 mL	1.0 g	544912	01/05/22 12:51	LPS	TAL SL
Total/NA	Analysis	903.0		1			548468	01/28/22 09:36	SCB	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			750.31 mL	1.0 g	544914	01/05/22 13:38	LPS	TAL SL
Total/NA	Analysis	904.0		1			548425	01/27/22 13:28	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-7			499.71 mL	1.0 g	544884	01/05/22 09:29	LPS	TAL SL
Total/NA	Analysis	905		1			547233	01/20/22 15:40	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	LSC_Dist_Susp			100.39 mL	1.0 g	544885	01/05/22 09:41	BAL	TAL SL
Total/NA	Analysis	906.0		1			545183	01/06/22 10:22	JLP	TAL SL
	Instrument ID: LSCAQUA									

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80274-3
Project/Site: Boeing SSFL ISRA and BMP

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
Filtration	Sample Filtration	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-80274-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80274-1	EPSW001BG01_20211223	Water	12/23/21 10:00	12/28/21 18:00
570-80274-2	EPSW001PV01_20211223	Water	12/23/21 12:10	12/28/21 18:00
570-80274-3	EPSW001B003_20211223	Water	12/23/21 11:15	12/28/21 18:00

Patel, Virendra

From: Miller, Katherine <KMiller@haleyaldrich.com>
Sent: Monday, January 3, 2022 8:22 AM
To: Patel, Virendra; Barr, Anastasia; Dominick, Mark
Subject: RE: <RESPONSE REQUESTED> Eurofins Calscience report files from 570-80274-1 Boeing SSFL ISRA and BMP

EXTERNAL EMAIL*

1. Please run cyanide from unpreserved bottle.
2. Do we have extra volume from another method (even if unpreserved)?

Katherine Miller
HALEY & ALDRICH
Tel: 520.289.8606

From: Virendra Patel <Virendra.Patel@eurofinset.com>
Sent: Thursday, December 30, 2021 7:50 AM
To: Barr, Anastasia <ABarr@haleyaldrich.com>; Miller, Katherine <KMiller@haleyaldrich.com>; Dominick, Mark <MDominick@haleyaldrich.com>; Patel Virendra <Virendra.Patel@eurofinset.com>
Subject: <RESPONSE REQUESTED> Eurofins Calscience report files from 570-80274-1 Boeing SSFL ISRA and BMP
Importance: High

CAUTION: External Email

Hello,

Attached please find the report files for job 570-80274-1; Boeing SSFL ISRA and BMP

1. Sample #2 - EPSW001PV01_20211223 -- received Cyanide bottle unpreserved

ACTION: Please provide directoin on how to proceed.

2. Sample #3 - EPSW001B001_20211223 -- we did not receive a Cyanide bottle?

ACTION: Please provide directoin on how to proceed.

Please feel free to contact me if you have any questions.

Thank you.

Virendra Patel

Project Manager

Eurofins Calscience LLC
Phone: 714-895-5494 Ext: 218

E-mail: Virendra.Patel@eurofinset.com
www.eurofinsus.com/env

Reference: [570-275057]
Attachments: 1

> > Bank information has changed, please refer to remittance information on invoice. < <

* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

80274

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Eurofins Calscience, Inc.

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date:	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below _____			Walk-in Client:
(619) 280-9415 FAX	▫ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba, Be Cd, Cr, Cu, Fe, Mn Ni Pb, Se, Sb, Tl; Method 200.7: B, Zn – (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr, Cu Fe, Mn, Ni Pb, Se, Sb, Tl Method 200.7: B, Zn – (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20211223	12/23/21	1000	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
EPSW001PV01_20211223	12/23/21	1210	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
BGBMP0003_20211223	12/23/21	1115	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
TB_20211223	12/23/21	1130	TB	WM	3	N	N															x			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	1	1	1	1	1	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com; Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ▫ Yes ▫ No | 44553 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

	Company	Date/Time		Company	Date/Time
Relinquished by	T.A	12-28-21 1445	Received by	ECI	12/28/21 1445
Relinquished by	ECI	12/28/21 1800	Received by		12/28/21 1800
Relinquished by	Company:	Date/Time:	Received in Laboratory by		Date/Time:

2.6/3.5, 1.8/2.7, 2.0/2.9 scs

570-80274 Chain of Custody

SAP COC 2019/2020 VERSION 3

, dated 1/8/2016

1/31/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80274-1
Address: 13715 Rider Trail North	Due Date Requested: 1/12/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12 10 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL DO NOT FILTER, use prep date from preservation
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL DO NOT FILTER use prep date from preservation

Note Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		1/3/22 1321				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/31/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80274-3
Address: 13715 Rider Trail North	Due Date Requested: 1/26/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	X	X	X	X	X	7	Boeing SSFL DO NOT FILTER, use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/3/22 1321	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/31/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80274-1
Address: 880 Riverside Parkway ,	Due Date Requested: 1/12/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12.10 Pacific		Water			X	2	See QAS Boeing_w/u to zero
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
1		1/3/22 1730				
2	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/31/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/14/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/3/21 1730				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/31/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: ~~44009815~~ 570-80274			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	1	
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12.10 Pacific		Water			X	1	
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/3/22 1735	EOI			
Relinquished by:	Date/Time.	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks.

1/31/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days)			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R - Na2S2O3, S H2SO4, T - TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	1	
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12.10 Pacific		Water			X	1	
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
1		1/6/22 1252				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80274-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/19/2022			
City: Tacoma	TAT Requested (days):			
State Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20211223 (570-80274-1)	12/23/21	10:00 Pacific		Water			X	1	
EPSW001PV01_20211223 (570-80274-2)	12/23/21	12:10 Pacific		Water			X	1	
EPSW001B003_20211223 (570-80274-3)	12/23/21	11 15 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	1/6/22 1252				
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80274-3

Login Number: 80274
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80274-3

Login Number: 80274
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/04/22 11:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80422-1
Client Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/24/2022 4:16:56 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Haley & Aldrich, Inc. Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80422-1

Comments
No additional comments.

Receipt
The samples were received on 12/30/2021 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.2º C and 3.5º C.

GC/MS VOA
Method 624.1: Internal standard (ISTD) response for TBA-d9 for the following samples in analytical batch 570-205379 was outside acceptance criteria: EPBLLC_20211230 (570-80422-1) and (CCVIS 570-205379/6). This ISTD does not correspond to any of the requested target compounds reported from this analytical batch; therefore, the data have been reported.

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-205379.The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 624.1: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: EPBLLC_20211230 (570-80422-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: EPBLLC_20211230 (570-80422-1). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPBLLC_20211230 (570-80422-1). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/06/21 @ 15:40 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPBLLC_20211230 (570-80422-1). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/06/21 @ 16:17 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

Job ID: 570-80422-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 4500 CN E: The matrix spike (MS) recoveries for the following sample associated with preparation batch 570-205185 and analytical batch 570-204811 were outside control limits: (570-80494-I-2-A) and (570-80494-C-2-A MS). The associated laboratory control sample (LCS) recovery met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205520. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Client Sample ID: EPBLLC_20211230 — Lab Sample ID: 570-80422-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.48		0.20	0.092	mg/L	2		300.0	Total/NA
Nitrate as N	3.1		0.20	0.048	mg/L	2		300.0	Total/NA
Sulfate - DL	370		10	2.4	mg/L	10		300.0	Total/NA
Boron	550		50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	130		20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	490		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Arsenic	7.1		1.0	0.50	ug/L	1		200.8	Total Recoverable
Barium	170		1.0	0.50	ug/L	1		200.8	Total Recoverable
Beryllium	0.78		0.50	0.25	ug/L	1		200.8	Total Recoverable
Cadmium	3.7		1.0	0.25	ug/L	1		200.8	Total Recoverable
Chromium	30		2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	40		2.0	0.50	ug/L	1		200.8	Total Recoverable
Iron	23000		20	8.0	ug/L	1		200.8	Total Recoverable
Manganese	940		1.0	0.50	ug/L	1		200.8	Total Recoverable
Nickel	42		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	14		1.0	0.50	ug/L	1		200.8	Total Recoverable
Antimony	0.63	J,DX	2.0	0.50	ug/L	1		200.8	Total Recoverable
Selenium	11		2.0	0.50	ug/L	1		200.8	Total Recoverable
Thallium	0.26	J,DX	1.0	0.20	ug/L	1		200.8	Total Recoverable
Arsenic	1.2		1.0	0.50	ug/L	1		200.8	Dissolved
Barium	31		1.0	0.50	ug/L	1		200.8	Dissolved
Cadmium	0.34	J,DX	1.0	0.25	ug/L	1		200.8	Dissolved
Copper	3.7		2.0	0.50	ug/L	1		200.8	Dissolved
Iron	47		20	8.0	ug/L	1		200.8	Dissolved
Manganese	8.3		1.0	0.50	ug/L	1		200.8	Dissolved
Nickel	3.6		2.0	0.50	ug/L	1		200.8	Dissolved
Selenium	6.7		2.0	0.50	ug/L	1		200.8	Dissolved
Cr (III)	0.030	J,DX	0.050	0.0069	mg/L	1		218.6 CR3	Total/NA
Total Suspended Solids	1300		20	10	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	28.73		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	70.30		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	99.02		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	0.98		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1
Date Collected: 12/30/21 07:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		2.0	0.65	ug/L			01/04/22 22:08	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 140*		*01/04/22 22:08*	*2*
4-Bromofluorobenzene (Surr)	*85*		*60 - 140*		*01/04/22 22:08*	*2*
Dibromofluoromethane	*101*		*60 - 140*		*01/04/22 22:08*	*2*
Toluene-d8 (Surr)	*101*		*60 - 140*		*01/04/22 22:08*	*2*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		5.5	2.0	ug/L		01/05/22 06:03	01/05/22 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*73*		*28 - 127*	*01/05/22 06:03*	*01/05/22 19:15*	*1*
2-Fluorobiphenyl (Surr)	*57*		*31 - 120*	*01/05/22 06:03*	*01/05/22 19:15*	*1*
2-Fluorophenol (Surr)	*38*		*17 - 120*	*01/05/22 06:03*	*01/05/22 19:15*	*1*
Nitrobenzene-d5 (Surr)	*64*		*27 - 120*	*01/05/22 06:03*	*01/05/22 19:15*	*1*
Phenol-d6 (Surr)	*26*		*10 - 120*	*01/05/22 06:03*	*01/05/22 19:15*	*1*
p-Terphenyl-d14 (Surr)	*52*		*45 - 120*	*01/05/22 06:03*	*01/05/22 19:15*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.40	0.039	ug/L			12/30/21 21:18	2

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1
Date Collected: 12/30/21 07:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.48**		0.20	0.092	mg/L			12/31/21 03:41	2
Nitrite as N	ND		0.20	0.036	mg/L			12/31/21 03:41	2
Nitrate as N	**3.1**		0.20	0.048	mg/L			12/31/21 03:41	2

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1
Date Collected: 12/30/21 07:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**370**		10	2.4	mg/L			01/12/22 16:47	10

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 314.0 - Perchlorate (IC)

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1
Date Collected: 12/30/21 07:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 14:26	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	550		50	25	ug/L		01/15/22 08:34	01/17/22 14:39	1
Zinc	130		20	12	ug/L		01/15/22 08:34	01/17/22 14:39	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**490**		50	25	ug/L		01/06/22 17:20	01/07/22 21:37	1
Zinc	ND		20	12	ug/L		01/06/22 17:20	01/07/22 21:37	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1
Date Collected: 12/30/21 07:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 13:03	1
Arsenic	**7.1**		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 13:03	1
Barium	**170**		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 13:03	1
Beryllium	**0.78**		0.50	0.25	ug/L		01/15/22 06:32	01/17/22 13:03	1
Cadmium	**3.7**		1.0	0.25	ug/L		01/15/22 06:32	01/17/22 13:03	1
Chromium	**30**		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 13:03	1
Copper	**40**		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 13:03	1
Iron	**23000**		20	8.0	ug/L		01/15/22 06:32	01/17/22 13:03	1
Manganese	**940**		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 13:03	1
Nickel	**42**		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 13:03	1
Lead	**14**		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 13:03	1
Antimony	**0.63**	**J,DX**	2.0	0.50	ug/L		01/15/22 06:32	01/17/22 13:03	1
Selenium	**11**		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 13:03	1
Thallium	**0.26**	**J,DX**	1.0	0.20	ug/L		01/15/22 06:32	01/17/22 13:03	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:45	1
Arsenic	**1.2**		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:45	1
Barium	**31**		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:45	1
Beryllium	ND		0.50	0.25	ug/L		01/06/22 17:16	01/07/22 14:45	1
Cadmium	**0.34**	**J,DX**	1.0	0.25	ug/L		01/06/22 17:16	01/07/22 14:45	1
Chromium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:45	1
Copper	**3.7**		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:45	1
Iron	**47**		20	8.0	ug/L		01/06/22 17:16	01/07/22 14:45	1
Manganese	**8.3**		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:45	1
Nickel	**3.6**		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:45	1
Lead	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:45	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:45	1
Selenium	**6.7**		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:45	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 245.1 - Mercury (CVAA)

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1
Date Collected: 12/30/21 07:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 15:04	01/20/22 19:32	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1
Date Collected: 12/30/21 07:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		01/19/22 17:58	01/20/22 20:15	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

General Chemistry

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1
Date Collected: 12/30/21 07:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	**0.030**	**J,DX**	0.050	0.0069	mg/L			01/21/22 12:27	1
Total Suspended Solids	**1300**		20	10	mg/L			01/05/22 14:00	1
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/30/21 16:00	12/30/21 23:53	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

General Chemistry - Dissolved

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1
Date Collected: 12/30/21 07:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 22:09	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**28.73**		0.01	0.01	%			01/07/22 16:54	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 16:54	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/07/22 16:54	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 16:54	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 16:54	1
Silt (0.00391 to 0.0625mm)	**70.30**		0.01	0.01	%			01/07/22 16:54	1
Total Silt and Clay (0 to 0.0626mm)	**99.02**		0.01	0.01	%			01/07/22 16:54	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 16:54	1
Very Fine Sand (0.0625 to 0.125 mm)	**0.98**		0.01	0.01	%			01/07/22 16:54	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

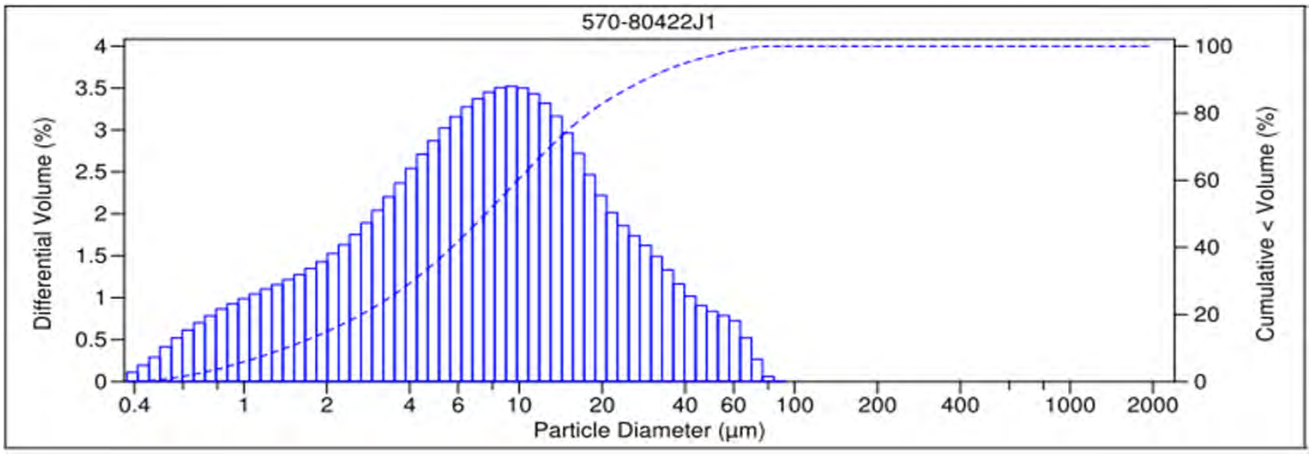
Haley & Aldrich, Inc.

Date Sampled:	12/30/21
Date Received:	12/30/21
Work Order No:	570-80422
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
EPBLLC_20211230		Silt	0.012

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	0.98	70.30	28.73	99.02



V 3.0

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		DCA	BFB	DBFM	TOL				
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)	(60-140)				
570-80422-1	EPBLLC_20211230	98	85	101	101				
LCS 570-205379/7	Lab Control Sample	95	96	103	102				
LCSD 570-205379/8	Lab Control Sample Dup	95	94	104	101				
MB 570-205379/11	Method Blank	95	84	102	100				

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		TBP	FBP	2FP	NBZ	PHL6	TPHd14		
Lab Sample ID	Client Sample ID	(28-127)	(31-120)	(17-120)	(27-120)	(10-120)	(45-120)		
570-80422-1	EPBLLC_20211230	73	57	38	64	26	52		
LCS 570-205520/2-A	Lab Control Sample	85	59	49	65	32	80		
LCSD 570-205520/3-A	Lab Control Sample Dup	81	65	50	67	33	79		
MB 570-205520/1-A	Method Blank	91	64	50	71	31	72		

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-205379/11
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			01/04/22 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*		*01/04/22 16:47*	*1*
4-Bromofluorobenzene (Surr)	*84*		*60 - 140*		*01/04/22 16:47*	*1*
Dibromofluoromethane	*102*		*60 - 140*		*01/04/22 16:47*	*1*
Toluene-d8 (Surr)	*100*		*60 - 140*		*01/04/22 16:47*	*1*

Lab Sample ID: LCS 570-205379/7
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Trichloroethene			50.0	52.0		ug/L		104	65 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
4-Bromofluorobenzene (Surr)	*96*		*60 - 140*
Dibromofluoromethane	*103*		*60 - 140*
Toluene-d8 (Surr)	*102*		*60 - 140*

Lab Sample ID: LCSD 570-205379/8
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene			50.0	51.3		ug/L		103	65 - 135	1	48

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
4-Bromofluorobenzene (Surr)	*94*		*60 - 140*
Dibromofluoromethane	*104*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/05/22 06:03	01/05/22 17:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*28 - 127*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	50		17 - 120	01/05/22 06:03	01/05/22 17:08	1
Nitrobenzene-d5 (Surr)	71		27 - 120	01/05/22 06:03	01/05/22 17:08	1
Phenol-d6 (Surr)	31		10 - 120	01/05/22 06:03	01/05/22 17:08	1
p-Terphenyl-d14 (Surr)	72		45 - 120	01/05/22 06:03	01/05/22 17:08	1

Lab Sample ID: LCS 570-205520/2-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205520

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Bis(2-ethylhexyl) phthalate			20.0	20.2		ug/L		101	29 - 137		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	85		28 - 127
2-Fluorobiphenyl (Surr)	59		31 - 120
2-Fluorophenol (Surr)	49		17 - 120
Nitrobenzene-d5 (Surr)	65		27 - 120
Phenol-d6 (Surr)	32		10 - 120
p-Terphenyl-d14 (Surr)	80		45 - 120

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate			20.0	19.7		ug/L		98	29 - 137	3	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	81		28 - 127
2-Fluorobiphenyl (Surr)	65		31 - 120
2-Fluorophenol (Surr)	50		17 - 120
Nitrobenzene-d5 (Surr)	67		27 - 120
Phenol-d6 (Surr)	33		10 - 120
p-Terphenyl-d14 (Surr)	79		45 - 120

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-204701/6
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.20	0.019	ug/L			12/30/21 12:34	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 570-204701/7
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium			50.0	50.4		ug/L		101	95 - 107		

Lab Sample ID: LCSD 570-204701/8
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium			50.0	50.1		ug/L		100	95 - 107	1	20

Lab Sample ID: 570-80408-H-1 MS
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium	ND		50.0	50.8		ug/L		102	85 - 121		

Lab Sample ID: 570-80408-H-1 MSD
Matrix: Water
Analysis Batch: 204701

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium	ND		50.0	51.5		ug/L		103	85 - 121	1	25

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-204681/34
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.046	mg/L			12/30/21 23:13	1

Lab Sample ID: MB 570-204681/5
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.046	mg/L			12/30/21 11:01	1

Lab Sample ID: LCS 570-204681/35
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			2.50	2.73		mg/L		109	90 - 110		
Sulfate			50.0	49.1		mg/L		98	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-204681/6
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.73		mg/L		109	90 - 110

Lab Sample ID: LCSD 570-204681/36
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	2.50	2.75		mg/L		110	90 - 110	1	15
Sulfate	50.0	49.3		mg/L		99	90 - 110	0	15

Lab Sample ID: LCSD 570-204681/7
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	2.50	2.73		mg/L		109	90 - 110	0	15

Lab Sample ID: 570-80272-K-1 MS
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		2.50	2.61		mg/L		104	80 - 120
Sulfate	3.6		50.0	49.6		mg/L		92	80 - 120

Lab Sample ID: 570-80272-K-1 MSD
Matrix: Water
Analysis Batch: 204681

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		2.50	2.61		mg/L		104	80 - 120	0	20
Sulfate	3.6		50.0	50.0		mg/L		93	80 - 120	1	20

Lab Sample ID: MB 570-204682/34
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/30/21 23:13	1
Nitrate as N	ND		0.10	0.024	mg/L			12/30/21 23:13	1

Lab Sample ID: MB 570-204682/5
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			12/30/21 11:01	1
Nitrate as N	ND		0.10	0.024	mg/L			12/30/21 11:01	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 570-204682/35
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			2.50	2.44		mg/L		97	90 - 110		
Nitrate as N			5.00	4.95		mg/L		99	90 - 110		

Lab Sample ID: LCS 570-204682/6
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			2.50	2.37		mg/L		95	90 - 110		
Nitrate as N			5.00	4.97		mg/L		99	90 - 110		

Lab Sample ID: LCSD 570-204682/36
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N			2.50	2.36		mg/L		95	90 - 110	3	15
Nitrate as N			5.00	4.91		mg/L		98	90 - 110	1	15

Lab Sample ID: LCSD 570-204682/7
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N			2.50	2.35		mg/L		94	90 - 110	1	15
Nitrate as N			5.00	4.95		mg/L		99	90 - 110	0	15

Lab Sample ID: 570-80272-K-1 MS
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	ND		2.50	2.48		mg/L		99	80 - 120		
Nitrate as N	5.1		5.00	9.99		mg/L		98	80 - 120		

Lab Sample ID: 570-80272-K-1 MSD
Matrix: Water
Analysis Batch: 204682

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.53		mg/L		101	80 - 120	2	20
Nitrate as N	5.1		5.00	10.1		mg/L		100	80 - 120	1	20

Lab Sample ID: MB 570-206951/5
Matrix: Water
Analysis Batch: 206951

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.24	mg/L			01/12/22 10:28	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 570-206951/6
Matrix: Water
Analysis Batch: 206951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	51.4		mg/L		103	90 - 110

Lab Sample ID: LCSD 570-206951/7
Matrix: Water
Analysis Batch: 206951

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	50.0	50.7		mg/L		101	90 - 110	1	15

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 570-81289-A-6 MS
Matrix: Water
Analysis Batch: 206951

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate - DL	280		50.0	350	BB	mg/L		134	80 - 120

Lab Sample ID: 570-81289-A-6 MSD
Matrix: Water
Analysis Batch: 206951

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate - DL	280		50.0	347	BB	mg/L		127	80 - 120	1	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-205091/6
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/03/22 13:07	1

Lab Sample ID: LCS 570-205091/7
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.3		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-205091/8
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	25.0	23.6		ug/L		94	85 - 115	3	15

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 570-80231-E-1 MS
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		50.0	52.0		ug/L		104	80 - 120

Lab Sample ID: 570-80231-E-1 MSD
Matrix: Water
Analysis Batch: 205091

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		50.0	51.9		ug/L		104	80 - 120	0	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664534/1-A
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/15/22 08:34	01/17/22 14:08	1
Zinc	ND		20	12	ug/L		01/15/22 08:34	01/17/22 14:08	1

Lab Sample ID: LCS 440-664534/2-A
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	500	516		ug/L		103	85 - 115
Zinc	500	539		ug/L		108	85 - 115

Lab Sample ID: 570-80231-F-1-C MS
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	44	J,DX	500	558		ug/L		103	70 - 130
Zinc	ND		500	547		ug/L		109	70 - 130

Lab Sample ID: 570-80231-F-1-D MSD
Matrix: Water
Analysis Batch: 664616

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664534

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	44	J,DX	500	569		ug/L		105	70 - 130	2	20
Zinc	ND		500	552		ug/L		110	70 - 130	1	20

Lab Sample ID: MB 440-663928/1-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663949

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/06/22 17:20	01/07/22 21:20	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 440-663928/1-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663949

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		20	12	ug/L		01/06/22 17:20	01/07/22 21:20	1

Lab Sample ID: LCS 440-663928/2-C
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	500	462		ug/L		92	85 - 115
Zinc	500	472		ug/L		94	85 - 115

Lab Sample ID: 570-80532-R-1-D MS
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	56		500	545		ug/L		98	70 - 130
Zinc	19	J,DX	500	513		ug/L		99	70 - 130

Lab Sample ID: 570-80532-R-1-E MSD
Matrix: Water
Analysis Batch: 664049

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663949

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	56		500	545		ug/L		98	70 - 130	0	20
Zinc	19	J,DX	500	515		ug/L		99	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664528/1-A
Matrix: Water
Analysis Batch: 664594

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Arsenic	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Barium	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Beryllium	ND		0.50	0.25	ug/L		01/15/22 06:32	01/17/22 11:37	1
Cadmium	ND		1.0	0.25	ug/L		01/15/22 06:32	01/17/22 11:37	1
Chromium	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Copper	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Iron	ND		20	8.0	ug/L		01/15/22 06:32	01/17/22 11:37	1
Manganese	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Nickel	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Lead	ND		1.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Antimony	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Selenium	ND		2.0	0.50	ug/L		01/15/22 06:32	01/17/22 11:37	1
Thallium	ND		1.0	0.20	ug/L		01/15/22 06:32	01/17/22 11:37	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-664528/2-A
Matrix: Water
Analysis Batch: 664594

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	80.5		ug/L		101	85 - 115
Arsenic	80.0	82.5		ug/L		103	85 - 115
Barium	80.0	83.3		ug/L		104	85 - 115
Beryllium	80.0	81.4		ug/L		102	85 - 115
Cadmium	80.0	81.4		ug/L		102	85 - 115
Chromium	80.0	84.9		ug/L		106	85 - 115
Copper	80.0	81.9		ug/L		102	85 - 115
Iron	800	869		ug/L		109	85 - 115
Manganese	80.0	83.9		ug/L		105	85 - 115
Nickel	80.0	82.9		ug/L		104	85 - 115
Lead	80.0	84.5		ug/L		106	85 - 115
Antimony	80.0	85.8		ug/L		107	85 - 115
Selenium	80.0	84.2		ug/L		105	85 - 115
Thallium	80.0	83.0		ug/L		104	85 - 115

Lab Sample ID: 570-80421-A-1-D MS
Matrix: Water
Analysis Batch: 664610

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	80.0		ug/L		100	70 - 130
Arsenic	0.83	J,DX	80.0	80.9		ug/L		100	70 - 130
Barium	18		80.0	100		ug/L		103	70 - 130
Beryllium	ND		80.0	78.3		ug/L		98	70 - 130
Cadmium	ND		80.0	81.3		ug/L		102	70 - 130
Chromium	1.5	J,DX	80.0	82.3		ug/L		101	70 - 130
Copper	3.0		80.0	84.7		ug/L		102	70 - 130
Iron	1000		800	1860		ug/L		107	70 - 130
Manganese	26		80.0	107		ug/L		101	70 - 130
Nickel	2.5		80.0	83.9		ug/L		102	70 - 130
Lead	2.2		80.0	83.9		ug/L		102	70 - 130
Antimony	ND		80.0	87.0		ug/L		109	70 - 130
Selenium	ND		80.0	79.9		ug/L		100	70 - 130
Thallium	ND		80.0	80.8		ug/L		101	70 - 130

Lab Sample ID: 570-80421-A-1-E MSD
Matrix: Water
Analysis Batch: 664610

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	86.2		ug/L		108	70 - 130	7	20
Arsenic	0.83	J,DX	80.0	85.9		ug/L		106	70 - 130	6	20
Barium	18		80.0	108		ug/L		113	70 - 130	8	20
Beryllium	ND		80.0	84.0		ug/L		105	70 - 130	7	20
Cadmium	ND		80.0	87.9		ug/L		110	70 - 130	8	20
Chromium	1.5	J,DX	80.0	92.8		ug/L		114	70 - 130	12	20
Copper	3.0		80.0	92.0		ug/L		111	70 - 130	8	20
Iron	1000		800	2020		ug/L		127	70 - 130	8	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80421-A-1-E MSD
Matrix: Water
Analysis Batch: 664610

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	26		80.0	117		ug/L		113	70 - 130	8	20
Nickel	2.5		80.0	94.5		ug/L		115	70 - 130	12	20
Lead	2.2		80.0	90.9		ug/L		111	70 - 130	8	20
Antimony	ND		80.0	93.9		ug/L		117	70 - 130	8	20
Selenium	ND		80.0	83.4		ug/L		104	70 - 130	4	20
Thallium	ND		80.0	87.1		ug/L		109	70 - 130	7	20

Lab Sample ID: MB 440-663928/1-B
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 663947

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Arsenic	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Barium	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Beryllium	ND		0.50	0.25	ug/L		01/06/22 17:16	01/07/22 14:30	1
Cadmium	ND		1.0	0.25	ug/L		01/06/22 17:16	01/07/22 14:30	1
Chromium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Copper	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Iron	ND		20	8.0	ug/L		01/06/22 17:16	01/07/22 14:30	1
Manganese	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Nickel	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Lead	ND		1.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Antimony	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1
Selenium	ND		2.0	0.50	ug/L		01/06/22 17:16	01/07/22 14:30	1

Lab Sample ID: LCS 440-663928/2-B
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	78.5		ug/L		98	85 - 115
Arsenic	80.0	76.8		ug/L		96	85 - 115
Barium	80.0	79.3		ug/L		99	85 - 115
Beryllium	80.0	86.0		ug/L		108	85 - 115
Cadmium	80.0	79.3		ug/L		99	85 - 115
Chromium	80.0	81.1		ug/L		101	85 - 115
Copper	80.0	81.3		ug/L		102	85 - 115
Iron	800	809		ug/L		101	85 - 115
Manganese	80.0	79.3		ug/L		99	85 - 115
Nickel	80.0	81.0		ug/L		101	85 - 115
Lead	80.0	79.4		ug/L		99	85 - 115
Antimony	80.0	89.2		ug/L		111	85 - 115
Selenium	80.0	75.7		ug/L		95	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80544-C-2-C MS
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	79.2		ug/L		99	70 - 130
Arsenic	0.82	J,DX	80.0	79.6		ug/L		98	70 - 130
Barium	19		80.0	101		ug/L		102	70 - 130
Beryllium	ND		80.0	87.7		ug/L		110	70 - 130
Cadmium	ND		80.0	80.4		ug/L		100	70 - 130
Chromium	ND		80.0	82.4		ug/L		103	70 - 130
Copper	3.5		80.0	87.2		ug/L		105	70 - 130
Iron	23		800	835		ug/L		102	70 - 130
Manganese	4.1		80.0	84.2		ug/L		100	70 - 130
Nickel	1.6	J,DX	80.0	84.0		ug/L		103	70 - 130
Lead	ND		80.0	81.1		ug/L		101	70 - 130
Antimony	1.3	J,DX	80.0	92.0		ug/L		113	70 - 130
Selenium	ND		80.0	79.8		ug/L		100	70 - 130

Lab Sample ID: 570-80544-C-2-D MSD
Matrix: Water
Analysis Batch: 664013

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 663947

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	79.1		ug/L		99	70 - 130	0	20
Arsenic	0.82	J,DX	80.0	78.4		ug/L		97	70 - 130	1	20
Barium	19		80.0	101		ug/L		102	70 - 130	0	20
Beryllium	ND		80.0	88.5		ug/L		111	70 - 130	1	20
Cadmium	ND		80.0	80.5		ug/L		101	70 - 130	0	20
Chromium	ND		80.0	82.0		ug/L		102	70 - 130	1	20
Copper	3.5		80.0	86.8		ug/L		104	70 - 130	1	20
Iron	23		800	836		ug/L		102	70 - 130	0	20
Manganese	4.1		80.0	84.3		ug/L		100	70 - 130	0	20
Nickel	1.6	J,DX	80.0	83.3		ug/L		102	70 - 130	1	20
Lead	ND		80.0	80.6		ug/L		101	70 - 130	1	20
Antimony	1.3	J,DX	80.0	91.5		ug/L		113	70 - 130	1	20
Selenium	ND		80.0	77.7		ug/L		97	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-208325/1-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 15:04	01/20/22 18:41	1

Lab Sample ID: LCS 570-208325/2-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	9.44		ug/L		94	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 570-208325/3-A
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208325

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			10.0	9.47		ug/L		95	85 - 115	0	10

Lab Sample ID: 570-81280-A-2-B MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		10.0	8.92		ug/L		89	70 - 130		

Lab Sample ID: 570-81280-A-2-C MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.44		ug/L		94	70 - 130	6	10

Lab Sample ID: MB 570-208358/1-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 208361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		01/19/22 17:58	01/20/22 19:43	1

Lab Sample ID: LCS 570-208358/2-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 208361

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			10.0	9.71		ug/L		97	85 - 115		

Lab Sample ID: LCSD 570-208358/3-B
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 208361

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			10.0	9.72		ug/L		97	85 - 115	0	10

Lab Sample ID: 570-80548-C-3-H MS
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		10.0	9.05		ug/L		90	70 - 130		

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-80548-C-3-I MSD
Matrix: Water
Analysis Batch: 208671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 208361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		10.0	9.21		ug/L		92	70 - 130	2	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663834/1
Matrix: Water
Analysis Batch: 663834

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/05/22 14:00	1

Lab Sample ID: LCS 440-663834/2
Matrix: Water
Analysis Batch: 663834

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1000	984		mg/L		98	85 - 115		

Lab Sample ID: 570-80560-A-3 DU
Matrix: Water
Analysis Batch: 663834

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	48			50.0		mg/L				4	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-205185/1-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205185

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		12/30/21 16:00	12/30/21 23:39	1

Lab Sample ID: LCS 570-205185/2-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205185

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0100	0.00906		mg/L		91	80 - 120		

Lab Sample ID: LCSD 570-205185/3-A
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205185

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total			0.0100	0.00867		mg/L		87	80 - 120	4	20

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: 570-80494-C-2-A MS
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 205185

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		0.0100	0.0120	LM	mg/L		120	74 - 115		

Lab Sample ID: 570-80494-C-2-B MSD
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 205185

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.0100	0.0107		mg/L		107	74 - 115	11	20

Lab Sample ID: 570-80494-C-2-C DU
Matrix: Water
Analysis Batch: 204811

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 205185

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Cyanide, Total	ND			ND		mg/L				NC	25

GC/MS VOA

Analysis Batch: 205379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	624.1	
MB 570-205379/11	Method Blank	Total/NA	Water	624.1	
LCS 570-205379/7	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-205379/8	Lab Control Sample Dup	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 205520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	625	
MB 570-205520/1-A	Method Blank	Total/NA	Water	625	
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 205774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	625.1 SIM	205520
MB 570-205520/1-A	Method Blank	Total/NA	Water	625.1 SIM	205520
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	205520
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	205520

HPLC/IC

Analysis Batch: 204681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	300.0	
MB 570-204681/34	Method Blank	Total/NA	Water	300.0	
MB 570-204681/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204681/35	Lab Control Sample	Total/NA	Water	300.0	
LCS 570-204681/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204681/36	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 570-204681/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80272-K-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-80272-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	300.0	
MB 570-204682/34	Method Blank	Total/NA	Water	300.0	
MB 570-204682/5	Method Blank	Total/NA	Water	300.0	
LCS 570-204682/35	Lab Control Sample	Total/NA	Water	300.0	
LCS 570-204682/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-204682/36	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 570-204682/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-80272-K-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-80272-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 204701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	218.6	
MB 570-204701/6	Method Blank	Total/NA	Water	218.6	

HPLC/IC (Continued)

Analysis Batch: 204701 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-204701/7	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-204701/8	Lab Control Sample Dup	Total/NA	Water	218.6	
570-80408-H-1 MS	Matrix Spike	Total/NA	Water	218.6	
570-80408-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

Analysis Batch: 205091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	314.0	
MB 570-205091/6	Method Blank	Total/NA	Water	314.0	
LCS 570-205091/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-205091/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80231-E-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-80231-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Analysis Batch: 206951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1 - DL	EPBLLC_20211230	Total/NA	Water	300.0	
MB 570-206951/5	Method Blank	Total/NA	Water	300.0	
LCS 570-206951/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-206951/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-81289-A-6 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-81289-A-6 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 208325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	245.1	
MB 570-208325/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-208325/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-208325/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-81280-A-2-B MS	Matrix Spike	Total/NA	Water	245.1	
570-81280-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Filtration Batch: 208358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	Filtration	
MB 570-208358/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80548-C-3-H MS	Matrix Spike	Dissolved	Water	Filtration	
570-80548-C-3-I MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 208361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	245.1	208358
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208358
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208358
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208358
570-80548-C-3-H MS	Matrix Spike	Dissolved	Water	245.1	208358

Metals (Continued)

Prep Batch: 208361 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-C-3-I MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208358

Analysis Batch: 208671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	245.1	208361
570-80422-1	EPBLLC_20211230	Total/NA	Water	245.1	208325
MB 570-208325/1-A	Method Blank	Total/NA	Water	245.1	208325
MB 570-208358/1-B	Method Blank	Dissolved	Water	245.1	208361
LCS 570-208325/2-A	Lab Control Sample	Total/NA	Water	245.1	208325
LCS 570-208358/2-B	Lab Control Sample	Dissolved	Water	245.1	208361
LCSD 570-208325/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	208325
LCSD 570-208358/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	208361
570-80548-C-3-H MS	Matrix Spike	Dissolved	Water	245.1	208361
570-80548-C-3-I MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	208361
570-81280-A-2-B MS	Matrix Spike	Total/NA	Water	245.1	208325
570-81280-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	208325

Filtration Batch: 663928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	FILTRATION	
MB 440-663928/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-663928/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 663947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	200.2	663928
MB 440-663928/1-B	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	200.2	663928
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	200.2	663928
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663928

Prep Batch: 663949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	200.2	663928
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.2	663928
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.2	663928
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.2	663928
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	663928

Analysis Batch: 664013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	200.8	663947
MB 440-663928/1-B	Method Blank	Dissolved	Water	200.8	663947
LCS 440-663928/2-B	Lab Control Sample	Dissolved	Water	200.8	663947

Metals (Continued)

Analysis Batch: 664013 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80544-C-2-C MS	Matrix Spike	Dissolved	Water	200.8	663947
570-80544-C-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	663947

Analysis Batch: 664049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	200.7 Rev 4.4	663949
MB 440-663928/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	663949
LCS 440-663928/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	663949
570-80532-R-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	663949

Prep Batch: 664528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total Recoverable	Water	200.2	
MB 440-664528/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664528/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80421-A-1-D MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80421-A-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total Recoverable	Water	200.2	
MB 440-664534/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664534/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80231-F-1-C MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80231-F-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-664528/1-A	Method Blank	Total Recoverable	Water	200.8	664528
LCS 440-664528/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664528

Analysis Batch: 664610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total Recoverable	Water	200.8	664528
570-80421-A-1-D MS	Matrix Spike	Total Recoverable	Water	200.8	664528
570-80421-A-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664528

Analysis Batch: 664616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total Recoverable	Water	200.7 Rev 4.4	664534
MB 440-664534/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664534
LCS 440-664534/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664534
570-80231-F-1-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664534
570-80231-F-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664534

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

General Chemistry

Analysis Batch: 204811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	SM 4500 CN E	205185
MB 570-205185/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	205185
LCS 570-205185/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	205185
LCSD 570-205185/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	205185
570-80494-C-2-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	205185
570-80494-C-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	205185
570-80494-C-2-C DU	Duplicate	Total/NA	Water	SM 4500 CN E	205185

Prep Batch: 205185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	SM 4500 CN C	
MB 570-205185/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-205185/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-205185/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-80494-C-2-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-80494-C-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	
570-80494-C-2-C DU	Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 207739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	218.6 CR3	

Analysis Batch: 208759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	218.6 CR3	

Analysis Batch: 663834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	SM 2540D	
MB 440-663834/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663834/2	Lab Control Sample	Total/NA	Water	SM 2540D	
570-80560-A-3 DU	Duplicate	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 206857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	D4464	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Client Sample ID: EPBLLC_20211230

Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		2	5 mL	5 mL	205379	01/04/22 22:08	N1A	ECL 2
	Instrument ID: GCMSXX									
Total/NA	Prep	625			916.8 mL	2 mL	205520	01/05/22 06:03	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			205774	01/05/22 19:15	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Analysis	218.6		2			204701	12/30/21 21:18	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0	DL	10			206951	01/12/22 16:47	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	300.0		2			204681	12/31/21 03:41	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	300.0		2	4 mL	1.0 mL	204682	12/31/21 03:41	URMH	ECL 1
	Instrument ID: IC15									
Total/NA	Analysis	314.0		1			205091	01/03/22 14:26	URMH	ECL 1
	Instrument ID: IC8									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	663928	01/06/22 15:15	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663949	01/06/22 17:20	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664049	01/07/22 21:37	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	664534	01/15/22 08:34		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664616	01/17/22 14:39	VZ0K	IRV 2
	Instrument ID: ICP10									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	663928	01/06/22 15:15	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	663947	01/06/22 17:16	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664013	01/07/22 14:45	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664528	01/15/22 06:32		IRV 2
Total Recoverable	Analysis	200.8		1			664610	01/17/22 13:03	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	208358	01/19/22 17:49	UIAS	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	208361	01/19/22 17:58	VWJ7	ECL 4
Dissolved	Analysis	245.1		1			208671	01/20/22 20:15	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	208325	01/19/22 15:04	VWJ7	ECL 4
Total/NA	Analysis	245.1		1			208671	01/20/22 19:32	VWJ7	ECL 1
	Instrument ID: HG7									
Dissolved	Analysis	218.6 CR3		1			207739	01/16/22 22:09	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	218.6 CR3		1			208759	01/21/22 12:27	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540D		1	50 mL	1000 mL	663834	01/05/22 14:00	ZL7L	IRV 2
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Client Sample ID: EPBLLC_20211230

Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	205185	12/30/21 16:00	CY2M	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5 mL	5 mL	204811	12/30/21 23:53	UAPD	ECL 1
	Instrument ID: UV9									
Total/NA	Analysis	D4464		1			206857	01/07/22 16:54	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
ASTM = ASTM International
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80422-1	EPBLLC_20211230	Water	12/30/21 07:00	12/30/21 15:50

80422

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins

Ca sc nce

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8806	Lab Contact: Virendra Patel (714) 895-5494	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time: ☑ CALENDAR DAYS ☐ WORKING DAYS		Sampler:
San Diego, California 92108	TAT if different from Below ____		For Lab Use Only:
(619) 280-9210 Phone	☑ 2 weeks		Walk-in Client:
(619) 280-9415 FAX	☐ 1 week		Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 2 days		Job / SDG No.:
Site: EP offsite background sampling	☐ 1 day		
H&A P O #			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable (E900.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Trifluralin (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable (Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr, Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn; -- (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr, Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn -- (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
EPBLLC_20211230	12/30/2021	0700	G	W	19			2-1L Amber	1-1L Poly	1-1L Poly	1-2.5 gallon cube Poly			1-250mL Poly	1-250mL Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
~~EPBMC_20211230~~	~~12/30/2021~~																							
~~EPBSC_20211230~~	~~12/30/2021~~																							
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	1			1	1	1	1	1	4	4	2	2	1	5	

570-80422 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.	Cooler Temp. (°C): Obs'd:	Corr'd:	Therm ID No.:	
Relinquished by	Company: H&A	Date/Time: 12/30/21 1340	Received by:		Date/Time: 12/30/21 1345
Relinquished by	Company: 12/30/21 1550	Date/Time:	Received by:	ECL	Date/Time: 12/30/21 1550
Relinquished by	Company	Date/Time:	Received in Laboratory by		Date/Time:

Form No. CA-C-WI-045, Rev. 1.2, dated 1/8/2016

23|3.2, 26|3.5 SCS

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80422-3
Address: 13715 Rider Trail North	Due Date Requested: 1/28/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPBLLC_20211230 (570-80422-1)	12/30/21	07 00 Pacific		Water			X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		~~12~~ 1/3/22 1321				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80422-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/18/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPBLLC_20211230 (570-80422-1)	12/30/21	07:00 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 1/3/21 1730	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80422-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/21/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: ~~44009815~~ 570-80422			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)											Total Number of containers	Special Instructions/Note.
			Preservation Code:																
EPBLLC_20211230 (570-80422-1)	12/30/21	07:00 Pacific		Water			X											1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	1/3/22 1735	ECI			
Relinquished by	Date/Time.	Company	Received by	Date/Time	Company
Relinquished by	Date/Time.	Company	Received by	Date/Time	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148854 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80422-1
Address: 2841 Dow Avenue	Due Date Requested: 1/10/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email:	WO #			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B NaOH	N - None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I Ice	U Acetone
J - DI Water	V MCAA
K EDTA	W pH 4-5
L EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D/ Solids, Total Suspended (TSS)	245 1/245.1_Prep Mercury	245.1/FILTRATION Diss Mercury	200.8/200.2 200.8 - Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb	200.8/FILTRATION Diss. Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb,Se	200.7/200.2 B,Zn	200.7/FILTRATION Diss. B,Zn	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
EPBLLC_20211230 (570-80422-1)	12/30/21	07 00 Pacific		Water			X	X	X	X	X	X	X	4	, Filter within 24 hours

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	01/04/22 1725	ECI			
2	Relinquished by:	Date/Time:	Company	Received by: Olga Omelas	01/04/22 1725	ECT
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact. ☐ Yes ☐ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.	2.9/2.4 IR-90

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80422-1

Login Number: 80422
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80422-1

Login Number: 80422
List Number: 4
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/04/22 06:15 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80422-2
Client Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/4/2022 12:00:12 PM

Virendra Patel, Project Manager I
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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-2
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80422-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80422-2

Comments
No additional comments.

Receipt
The samples were received on 12/30/2021 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.2º C and 3.5º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: (CCV 320-559680/2) and (MB 320-556933/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method EPA 1631E LL Mercury: This method was subcontracted to Eurofins Frontier Global Sciences LLC. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-2

Client Sample ID: EPBLLC_20211230

Lab Sample ID: 570-80422-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000031	J,DX MB	0.000050	0.00000054	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000052	J,DX MB	0.000050	0.00000060	ug/L	1		1613B	Total/NA
OCDD	0.000017	J,DX MB	0.000099	0.0000013	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000031	J,DX MB	0.000050	0.00000053	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000090	J,DX MB	0.000050	0.00000060	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000099	0.0000016	ug/L		01/10/22 05:25	01/18/22 01:37	1
2,3,7,8-TCDF	ND		0.0000099	0.00000083	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000014	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000085	ug/L		01/10/22 05:25	01/18/22 01:37	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000084	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,4,7,8-HxCDD	**0.0000031**	**J,DX MB**	0.000050	0.00000054	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000054	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000053	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000060	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000059	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000059	ug/L		01/10/22 05:25	01/18/22 01:37	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000054	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,4,6,7,8-HpCDD	**0.0000052**	**J,DX MB**	0.000050	0.00000060	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,4,6,7,8-HpCDF	ND		0.000050	0.00000055	ug/L		01/10/22 05:25	01/18/22 01:37	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000060	ug/L		01/10/22 05:25	01/18/22 01:37	1
OCDD	**0.000017**	**J,DX MB**	0.000099	0.0000013	ug/L		01/10/22 05:25	01/18/22 01:37	1
OCDF	ND		0.000099	0.0000017	ug/L		01/10/22 05:25	01/18/22 01:37	1
Total TCDD	ND		0.0000099	0.0000016	ug/L		01/10/22 05:25	01/18/22 01:37	1
Total TCDF	ND		0.0000099	0.00000083	ug/L		01/10/22 05:25	01/18/22 01:37	1
Total PeCDD	ND		0.000050	0.0000014	ug/L		01/10/22 05:25	01/18/22 01:37	1
Total PeCDF	ND		0.000050	0.00000084	ug/L		01/10/22 05:25	01/18/22 01:37	1
Total HxCDD	**0.0000031**	**J,DX MB**	0.000050	0.00000053	ug/L		01/10/22 05:25	01/18/22 01:37	1
Total HxCDF	ND		0.000050	0.00000054	ug/L		01/10/22 05:25	01/18/22 01:37	1
Total HpCDD	**0.0000090**	**J,DX MB**	0.000050	0.00000060	ug/L		01/10/22 05:25	01/18/22 01:37	1
Total HpCDF	ND		0.000050	0.00000055	ug/L		01/10/22 05:25	01/18/22 01:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*01/10/22 05:25*	*01/18/22 01:37*	*1*
13C-2,3,7,8-TCDF	*73*		*24 - 169*	*01/10/22 05:25*	*01/18/22 01:37*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*25 - 181*	*01/10/22 05:25*	*01/18/22 01:37*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*24 - 185*	*01/10/22 05:25*	*01/18/22 01:37*	*1*
13C-2,3,4,7,8-PeCDF	*81*		*21 - 178*	*01/10/22 05:25*	*01/18/22 01:37*	*1*
13C-1,2,3,4,7,8-HxCDD	*82*		*32 - 141*	*01/10/22 05:25*	*01/18/22 01:37*	*1*
13C-1,2,3,6,7,8-HxCDD	*84*		*28 - 130*	*01/10/22 05:25*	*01/18/22 01:37*	*1*
13C-1,2,3,4,7,8-HxCDF	*82*		*26 - 152*	*01/10/22 05:25*	*01/18/22 01:37*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDF	81		26 - 123	01/10/22 05:25	01/18/22 01:37	1
13C-1,2,3,7,8,9-HxCDF	73		29 - 147	01/10/22 05:25	01/18/22 01:37	1
13C-2,3,4,6,7,8-HxCDF	73		28 - 136	01/10/22 05:25	01/18/22 01:37	1
13C-1,2,3,4,6,7,8-HpCDD	81		23 - 140	01/10/22 05:25	01/18/22 01:37	1
13C-1,2,3,4,6,7,8-HpCDF	84		28 - 143	01/10/22 05:25	01/18/22 01:37	1
13C-1,2,3,4,7,8,9-HpCDF	89		26 - 138	01/10/22 05:25	01/18/22 01:37	1
13C-OCDD	82		17 - 157	01/10/22 05:25	01/18/22 01:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	85		35 - 197	01/10/22 05:25	01/18/22 01:37	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (35-197)								
570-80422-1	EPBLLC_20211230	85								
MB 320-556933/1-A	Method Blank	89								
MB 320-556933/1-A - RA	Method Blank	95								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (31-191)								
LCS 320-556933/2-A	Lab Control Sample	82								
LCSD 320-556933/3-A	Lab Control Sample Dup	87								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80422-1	EPBLLC_20211230	77	73	76	71	81	82	84	82
MB 320-556933/1-A	Method Blank	79	80	73	72	83	80	78	78
MB 320-556933/1-A - RA	Method Blank		111						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-80422-1	EPBLLC_20211230	81	73	73	81	84	89	82
MB 320-556933/1-A	Method Blank	76	69	72	75	78	82	74
MB 320-556933/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556933/2-A	Lab Control Sample	73	72	65	64	75	69	68	69
LCSD 320-556933/3-A	Lab Control Sample Dup	76	75	68	67	76	71	73	70

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-556933/2-A	Lab Control Sample	64	61	63	63	65	70	64
LCSD 320-556933/3-A	Lab Control Sample Dup	68	60	65	63	67	70	61

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-2
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite
Sampling

HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000016	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8-PeCDD	0.00000467	J,DX	0.000050	0.0000014	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8-PeCDF	0.00000401	J,DX	0.000050	0.00000089	ug/L		01/10/22 05:25	01/17/22 19:15	1
2,3,4,7,8-PeCDF	0.00000412	J,DX	0.000050	0.00000090	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8-HxCDD	0.00000550	J,DX q	0.000050	0.00000077	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,6,7,8-HxCDD	0.00000657	J,DX	0.000050	0.00000074	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8,9-HxCDD	0.00000690	J,DX q	0.000050	0.00000073	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8-HxCDF	0.00000382	J,DX q	0.000050	0.00000070	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,6,7,8-HxCDF	0.00000445	J,DX q	0.000050	0.00000072	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8,9-HxCDF	0.00000579	J,DX	0.000050	0.00000067	ug/L		01/10/22 05:25	01/17/22 19:15	1
2,3,4,6,7,8-HxCDF	0.00000499	J,DX	0.000050	0.00000063	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,6,7,8-HpCDD	0.00000880	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,6,7,8-HpCDF	0.00000623	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8,9-HpCDF	0.00000709	J,DX	0.000050	0.00000064	ug/L		01/10/22 05:25	01/17/22 19:15	1
OCDD	0.0000172	J,DX	0.00010	0.0000010	ug/L		01/10/22 05:25	01/17/22 19:15	1
OCDF	0.0000123	J,DX	0.00010	0.0000015	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total TCDD	0.00000271	J,DX q	0.000010	0.0000016	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total TCDF	0.00000188	J,DX q	0.000010	0.00000085	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total PeCDD	0.00000467	J,DX	0.000050	0.0000014	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total PeCDF	0.00000813	J,DX	0.000050	0.00000089	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HxCDD	0.0000190	J,DX q	0.000050	0.00000073	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HxCDF	0.0000205	J,DX q	0.000050	0.00000063	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HpCDD	0.0000127	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HpCDF	0.0000133	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-2,3,4,7,8-PeCDF	*83*		*21 - 178*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,4,7,8-HxCDD	*80*		*32 - 141*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*28 - 130*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*78*		*26 - 152*	*01/10/22 05:25*	*01/17/22 19:15*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDF	76		26 - 123	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,7,8,9-HxCDF	69		29 - 147	01/10/22 05:25	01/17/22 19:15	1
13C-2,3,4,6,7,8-HxCDF	72		28 - 136	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,6,7,8-HpCDD	75		23 - 140	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,6,7,8-HpCDF	78		28 - 143	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,7,8,9-HpCDF	82		26 - 138	01/10/22 05:25	01/17/22 19:15	1
13C-OCDD	74		17 - 157	01/10/22 05:25	01/17/22 19:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	01/10/22 05:25	01/17/22 19:15	1

Lab Sample ID: LCS 320-556933/2-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556933

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000206		ug/L		103	67 - 158		
2,3,7,8-TCDF			0.000200	0.000210	MB	ug/L		105	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.00114	MB	ug/L		114	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.00113	MB	ug/L		113	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.00103	MB	ug/L		103	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000989	MB	ug/L		99	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.00107	MB	ug/L		107	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.00105	MB	ug/L		105	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000988	MB	ug/L		99	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00111	MB	ug/L		111	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.00107	MB	ug/L		107	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.00109	MB	ug/L		109	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00105	MB	ug/L		105	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000972	MB	ug/L		97	78 - 138		
OCDD			0.00200	0.00199	MB	ug/L		99	78 - 144		
OCDF			0.00200	0.00204	MB	ug/L		102	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	73		20 - 175
13C-2,3,7,8-TCDF	72		22 - 152
13C-1,2,3,7,8-PeCDD	65		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	69		21 - 193
13C-1,2,3,6,7,8-HxCDD	68		25 - 163
13C-1,2,3,4,7,8-HxCDF	69		19 - 202
13C-1,2,3,6,7,8-HxCDF	64		21 - 159
13C-1,2,3,7,8,9-HxCDF	61		17 - 205
13C-2,3,4,6,7,8-HxCDF	63		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	63		26 - 166

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556933/2-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556933

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDF	65		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186
13C-OCDD	64		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	82		31 - 191

Lab Sample ID: LCSD 320-556933/3-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556933

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000197		ug/L		98	67 - 158	5	50
2,3,7,8-TCDF			0.000200	0.000209	MB	ug/L		104	75 - 158	1	50
1,2,3,7,8-PeCDD			0.00100	0.00112	MB	ug/L		112	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00113	MB	ug/L		113	80 - 134	0	50
2,3,4,7,8-PeCDF			0.00100	0.00103	MB	ug/L		103	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.00102	MB	ug/L		102	70 - 164	3	50
1,2,3,6,7,8-HxCDD			0.00100	0.00104	MB	ug/L		104	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.00102	MB	ug/L		102	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134	2	50
1,2,3,6,7,8-HxCDF			0.00100	0.00108	MB	ug/L		108	84 - 130	2	50
1,2,3,7,8,9-HxCDF			0.00100	0.00112	MB	ug/L		112	78 - 130	5	50
2,3,4,6,7,8-HxCDF			0.00100	0.00110	MB	ug/L		110	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00110	MB	ug/L		110	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00106	MB	ug/L		106	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000988	MB	ug/L		99	78 - 138	2	50
OCDD			0.00200	0.00204	MB	ug/L		102	78 - 144	3	50
OCDF			0.00200	0.00207	MB	ug/L		104	63 - 170	2	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	76		20 - 175
13C-2,3,7,8-TCDF	75		22 - 152
13C-1,2,3,7,8-PeCDD	68		21 - 227
13C-1,2,3,7,8-PeCDF	67		21 - 192
13C-2,3,4,7,8-PeCDF	76		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	68		21 - 159
13C-1,2,3,7,8,9-HxCDF	60		17 - 205
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	63		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186
13C-OCDD	61		13 - 199

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-556933/3-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556933

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*87*		*31 - 191*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 559680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000054	ug/L		01/10/22 05:25	01/21/22 13:35	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF - RA	*111*		*24 - 169*	*01/10/22 05:25*	*01/21/22 13:35*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD - RA	*95*		*35 - 197*	*01/10/22 05:25*	*01/21/22 13:35*	*1*

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-2
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Specialty Organics

Prep Batch: 556933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	1613B	
MB 320-556933/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-556933/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556933/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556933/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 558766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	1613B	556933
MB 320-556933/1-A	Method Blank	Total/NA	Water	1613B	556933
LCS 320-556933/2-A	Lab Control Sample	Total/NA	Water	1613B	556933
LCSD 320-556933/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556933

Analysis Batch: 559680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-556933/1-A - RA	Method Blank	Total/NA	Water	1613B	556933

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-2

Client Sample ID: EPBLLC_20211230

Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1008.1 mL	20.0 uL	556933	01/10/22 05:25	FC	TAL SAC
Total/NA	Analysis	1613B		1			558766	01/18/22 01:37	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

FGS = Eurofins Frontier Global Sciences LLC, 5755 8th Street E, Tacoma, WA 98424

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-2
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-2
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1631E	EPA 1631E Low Level Mercury	EPA	FGS
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

FGS = Eurofins Frontier Global Sciences LLC, 5755 8th Street E, Tacoma, WA 98424

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80422-1	EPBLLC_20211230	Water	12/30/21 07:00	12/30/21 15:50

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

06 January 2022

Virendra Patel
Eurofins Calscience, LLC
7440 Lincoln Way
Garden Grove, CA 92841

RE: Low Level Hg - 2019

Enclosed are the analytical results for samples received by Eurofins Frontier Global Sciences. All quality control measurements are within established control limits and there were no analytical difficulties encountered with the exception of those listed in the case narrative section of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Curtis Deer
Project Manager

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80422--2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	06-Jan-22 15:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EPBLLC_20211230 (570-80422-1)	2A00025-01	Water	30-Dec-21 07:00	04-Jan-22 10:45

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80422--2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	06-Jan-22 15:32

SAMPLE RECEIPT

Samples were received at Eurofins Frontier Global Sciences (EFGS) on 04-Jan-22 10:45. The samples were received intact, on-ice within a sealed cooler at

Cooler	Temp C°
Default Cooler	0.5
New Cooler	0.4

SAMPLE PREPARATION AND ANALYSIS

Samples were prepared and analyzed for total mercury by flow injection atomic fluorescence spectrometry (FI-AFS) in accordance with EPA 1631E.

ANALYTICAL AND QUALITY CONTROL ISSUES

Method blanks were prepared for every preparation to assess possible blank contribution from the sample preparation procedure. The method blanks were carried through the entire analytical procedure. All blanks fell within the established acceptance criteria with the exception of any items narrated above or flagged and described in the notes and definitions section of the report.

Liquid spikes, certified reference material (CRM) or a quality control samples (QCS) were prepared for every preparation as a measure of accuracy. All liquid spikes, CRMs and/or QCS samples fell within the established acceptance criteria with the exception of any items narrated above or flagged and described in the notes and definitions section of the report.

As an additional measure of the accuracy of the methods used and to check for matrix interference, matrix spikes (MS) and matrix spike duplicates (MSD) were digested and analyzed. All of the matrix spike recoveries fell within the established acceptance criteria with the exception of any items flagged and described in the notes and definitions section of the report.

A reasonable measure of the precision of the analytical methods is the relative percent difference (RPD) between a matrix spike recovery and a matrix spike duplicate recovery and between laboratory control sample recovery and laboratory control sample duplicate recoveries. All of the relative percent differences fell within established acceptance criteria with the exception of any items flagged and described in the notes and definitions section of the report.

eurofins | Frontier Global Sciences

Sample Receipt Checklist

Client: Calscience

Date & Time Received: 1/4/22 10:45 Date Labeled: 1/4/22 Labeled By: [illegible]

Matrix: Water

Received By: [illegible]

Label Verified By: [illegible] 1/4/22

# of Coolers Received: 2

Samples Arrived By: X Shipping Service ____ Courier ____ Hand ____ Other (Specify: ____)

Coolant: ☐ None/Ambient ☒ Loose Ice ☐ Gel Ice ☐ Dry Ice Coolant Required: Y / N Temp Blank Used: Y/N for Cooler(s): ____

Notify Project Manager if packages/coolers are received without coolant or with thawed coolant and at a temperature in excess of 6°C. PM notified: Y/N

Samples from Wisconsin have special requirements. Shipment received includes samples from Wisconsin: Y/N

Cooler Information:	Y/N/NA	Comments
The coolers do not appear to be tampered with:	Y	
Custody Seals are present and intact:	Y	
Custody seals signed:	Y	

TID: 181139780 CF: 0.0 °C		Date/time: 1/4/22 10:45 By: [illegible]	
Cooler 1: 0.5 °C	w/ CF: 0.5 °C	Cooler 4: °C	w/ CF: °C
Cooler 2: 0.4 °C	w/ CF: 0.4 °C	Cooler 5: °C	w/ CF: °C
Cooler 3: °C	w/ CF: °C	Cooler 6: °C	w/ CF: °C

Chain of Custody:	Y/N/NA	Comments
Sample ID/Description:	Y	
Date and time of collection:	Y	
Sampled by:	N	
Preservation type:	Y	
Requested analyses:	Y	
Required signatures:	Y	
Internal COC required:	NO	

Sample Condition/Integrity:	Y/N/NA	Comments
Sample containers intact/present:	Y	
Sample labels are present and legible:	Y	
Sample ID on container/bag matches COC:	Y	
Correct sample containers used:	Y	
Samples received within holding times:	Y	
Sample volume sufficient for requested analyses:	Y	
Correct preservative used for requested analyses:	Y	

Anomalies/Non-conformances (attach additional pages if needed):

2A00025

EFGS Environmental Sample Receipt Checklist Revision 8; 9/6/2019 EFSR-P-SH-WI16894

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148834.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80422-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/21/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: ~~44009845~~ 570-80422			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code						
EPBLLC_20211230 (570-80422-1)	12/30/21	07:00 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/3/22 1735	ECI		1/4/22 1014	EFHS
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Custody Seal No.: Cooler Temperature(s) °C and Other Remarks:

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80422--2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	06-Jan-22 15:32

EPBLLC_20211230 (570-80422-1)

2A00025-01

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
Sample Preparation: EFGS SOP2796 EPA 1631 Oxidation											
Mercury	**79.4**	0.83	5.00	ng/L	10	F201301	05-Jan-22	2A06015	05-Jan-22	EPA 1631E	

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5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80422--2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	06-Jan-22 15:32

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F201301 - EFGS SOP2796 EPA 1631 Oxidation											
Blank (F201301-BLK1)					Prepared & Analyzed: 05-Jan-22						
Mercury	0.08	0.08	0.50	ng/L							J
Blank (F201301-BLK2)					Prepared & Analyzed: 05-Jan-22						
Mercury	0.08	0.08	0.50	ng/L							J
Blank (F201301-BLK3)					Prepared & Analyzed: 05-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
LCS (F201301-BS1)					Prepared & Analyzed: 05-Jan-22						
Mercury	4.51	0.08	0.50	ng/L	5.0000		90.2	77-123			
LCS Dup (F201301-BSD1)					Prepared & Analyzed: 05-Jan-22						
Mercury	4.53	0.08	0.50	ng/L	5.0000		90.6	77-123	0.407	24	
Duplicate (F201301-DUP1)		**Source: 2A00027-01**			Prepared & Analyzed: 05-Jan-22						
Mercury	5.31	0.08	0.50	ng/L		5.23			1.44	24	
Duplicate (F201301-DUP2)		**Source: 2A00027-02**			Prepared & Analyzed: 05-Jan-22						
Mercury	1.79	0.08	0.50	ng/L		1.80			0.603	24	
Matrix Spike (F201301-MS1)		**Source: 2A00027-01**			Prepared & Analyzed: 05-Jan-22						
Mercury	13.00	0.08	0.50	ng/L	10.000	5.23	77.7	71-125			
Matrix Spike (F201301-MS2)		**Source: 2A00027-02**			Prepared & Analyzed: 05-Jan-22						
Mercury	5.78	0.08	0.50	ng/L	5.0000	1.80	79.6	71-125			
Matrix Spike Dup (F201301-MSD1)		**Source: 2A00027-01**			Prepared & Analyzed: 05-Jan-22						
Mercury	12.43	0.08	0.50	ng/L	10.000	5.23	72.0	71-125	4.45	24	

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5755 8th Street East
Tacoma, WA 98424
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Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80422--2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	06-Jan-22 15:32

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F201301 - EFGS SOP2796 EPA 1631 Oxidation											
Matrix Spike Dup (F201301-MSD2)		**Source: 2A00027-02**			Prepared & Analyzed: 05-Jan-22						
Mercury	5.77	0.08	0.50	ng/L	5.0000	1.80	79.5	71-125	0.0811	24	

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5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80422--2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	06-Jan-22 15:32

Notes and Definitions

U	Analyte was not detected and is reported as less than the LOD or as defined by the client. The LOD has been adjusted for any dilution or concentration of the sample.
J	The result is an estimated concentration.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the method detection limit if reported to the MDL or above the reporting limit if reported to the MRL.
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

80422

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins

Ca sc nce

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8806	Lab Contact: Virendra Patel (714) 895-5494	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time: ☑ CALENDAR DAYS ☐ WORKING DAYS		Sampler:
San Diego, California 92108	TAT if different from Below ____		For Lab Use Only:
(619) 280-9210 Phone	☑ 2 weeks		Walk-in Client:
(619) 280-9415 FAX	☐ 1 week		Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 2 days		Job / SDG No.:
Site: EP offsite background sampling	☐ 1 day		
H&A P O #			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable (E900.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Trifilum (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable (Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn; -- (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn -- (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
EPBLLC_20211230	12/30/2021	0700	G	W	19			2-1L Amber	1-1L Poly	1-1L Poly	1-2.5 gallon cube Poly			1-250mL Poly	1-250mL Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
~~EPBMC_20211230~~	~~12/30/2021~~																								
~~EPBSC_20211230~~	~~12/30/2021~~																								
								1	1	1	1			1	1	1	1	1	4	4	2	2	1	5	

570-80422 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

	Company	Date/Time		Company	Date/Time
Relinquished by	H&A	12/30/21 1340	Received by		
Relinquished by		12/30/21 1550	Received by	ECL	12/30/21 1550
Relinquished by			Received in Laboratory by		

Form No. CA-C-WI-045, Rev. 1.2, dated 1/8/2016

23|3.2, 26|3.5 SCS

Page 29 of 34

2/4/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80422-3
Address: 13715 Rider Trail North	Due Date Requested: 1/28/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreSep_21 Radium-226	904.0/PreSep_0 Radium-228	905_Sr90/PreSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPBLLC_20211230 (570-80422-1)	12/30/21	07 00 Pacific		Water			X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		~~12~~ 1/3/22 1321				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80422-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/18/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPBLLC_20211230 (570-80422-1)	12/30/21	07:00 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/3/21 1730				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80422-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/21/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: ~~44009815~~ 570-80422			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPBLLC_20211230 (570-80422-1)	12/30/21	07:00 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	1/3/22 1735	ECI			
Relinquished by	Date/Time.	Company	Received by	Date/Time	Company
Relinquished by	Date/Time.	Company	Received by	Date/Time	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80422-2

Login Number: 80422
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80422-2

Login Number: 80422
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/04/22 03:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80422-3
Client Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/7/2022 3:01:37 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Qualifiers

Rad

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80422-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80422-3

Comments
No additional comments.

Receipt
The samples were received on 12/30/2021 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.2º C and 3.5º C.

RAD
Method 900.0: Gross alpha beta batch 546013
The matrix spike (MS) recoveries for gross alpha were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (570-80422-S-1-G MS)

Method 900.0: Gross alpha beta batch 546013
The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: EPBLLC_20211230 (570-80422-1) and (570-80422-S-1-I DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross alpha beta batch 546013
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPBLLC_20211230 (570-80422-1), (LCS 160-546013/2-A), (LCSB 160-546013/3-A), (MB 160-546013/1-A), (570-80422-S-1-I DU), (570-80422-S-1-G MS) and (570-80422-S-1-H MSBT)

Method 900.0: Gross alpha beta batch 547126
The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: EPBLLC_20211230 (570-80422-1). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha Beta prep batch 160-547126:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. EPBLLC_20211230 (570-80422-1), (LCS 160-547126/2-A), (LCSB 160-547126/3-A), (MB 160-547126/1-A), (570-80548-R-1-O), (570-80548-R-1-U DU), (570-80548-R-1-S MS) and (570-80548-R-1-T MSBT)

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Method 903.0: Radium 226 Batch 160-545836:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPBLLC_20211230 (570-80422-1), (LCS 160-545836/1-A), (LCSD 160-545836/2-A) and (MB 160-545836/24-A)

Method 903.0: Radium 226 Batch 160-545836:

The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: EPBLLC_20211230 (570-80422-1). Analytical results are reported with the detection limit achieved.

Job ID: 570-80422-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method 904.0: Radium 228 batch 545838
The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: EPBLLC_20211230 (570-80422-1). Analytical results are reported with the detection limit achieved.

Method 904.0: Radium 228 batch 545838
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPBLLC_20211230 (570-80422-1), (LCS 160-545838/1-A), (LCSD 160-545838/2-A) and (MB 160-545838/24-A)

Method 905: Strontium 90 batch 546021
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

EPBLLC_20211230 (570-80422-1), (LCS 160-546021/1-A), (LCSD 160-546021/2-A) and (MB 160-546021/18-A)

Method 906.0: Tritium in liquid batch 160-544885
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
EPBLLC_20211230 (570-80422-1), (LCS 160-544885/2-A), (MB 160-544885/1-A), (570-80272-X-1-A), (570-80272-X-1-B DU), (570-80274-V-3-A) and (570-80274-V-3-B MS)

Method Evaporation: Gross Alpha/Beta preparation batch 160-545628 and 160-546013

The following samples had a final mass above the 100 mg limit: EPBLLC_20211230 (570-80422-1), (570-80422-S-1-A DU), (570-80422-S-1-A MS) and (570-80422-S-1-A MSBT). A dilution was performed and is reflected in the initial amount used.

Method Evaporation: Gross Alpha/Beta preparation batch 160-546014

The following samples had a final mall above the 100 mg limit: EPBLLC_20211230 (570-80422-1). A dilution was performed and is reflected in the initial amount used.

Method Evaporation: Gross Alpha/Beta preparation batch 160-547126

The following samples had a final mass above the 100 mg limit: EPBLLC_20211230 (570-80422-1). A dilution was performed and is reflected in the initial amount used.

Method LSC_Dist_Susp: Tritium Prep Batch 544885:

The following samples had unclear matrices: EPBLLC_20211230 (570-80422-1). The samples were orange-tan in color and cloudy.

Method PrecSep_0: Radium-228 Prep Batch 160-545838

The following samples were prepared at a reduced aliquot due to Matrix: EPBLLC_20211230 (570-80422-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Job ID: 570-80422-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Method PrecSep-21: Radium-226 Prep Batch 160-545836

The following samples were prepared at a reduced aliquot due to Matrix: EPBLLC_20211230 (570-80422-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-546021

The following samples were prepared at a reduced aliquot due to Matrix: EPBLLC_20211230 (570-80422-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	20.6	G	7.11	7.49	3.00	8.31	pCi/L	01/19/22 09:35	01/21/22 13:54	1
Gross Beta	13.2		2.64	2.95	4.00	2.82	pCi/L	01/19/22 09:35	01/21/22 13:54	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity - Dissolved

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1
Date Collected: 12/30/21 07:00
Matrix: Water
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**7.34**	**G**	4.73	4.81	3.00	6.87	pCi/L	01/12/22 10:46	01/14/22 12:18	1
Gross Beta	**6.41**		1.66	1.78	4.00	1.97	pCi/L	01/12/22 10:46	01/14/22 12:18	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.21**	**G**	1.09	1.11	1.00	1.41	pCi/L	01/11/22 12:38	02/07/22 11:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*66.4*		*40 - 110*	*01/11/22 12:38*	*02/07/22 11:46*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**4.26**	**G**	1.52	1.57	1.00	2.02	pCi/L	01/11/22 13:24	02/05/22 12:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*66.4*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:27*	*1*
Y Carrier	*84.1*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:27*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.560	U	0.873	0.874	3.00	1.47	pCi/L	01/12/22 12:11	01/24/22 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*77.3*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:52*	*1*
Y Carrier	*90.8*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:52*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: EPBLLC_20211230
Date Collected: 12/30/21 07:00
Date Received: 12/30/21 15:50

Lab Sample ID: 570-80422-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	279	U	224	225	500	359	pCi/L	01/05/22 09:41	01/06/22 11:52	1

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-3

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80422-1	EPBLLC_20211230	66.4
LCS 160-545836/1-A	Lab Control Sample	91.4
LCSD 160-545836/2-A	Lab Control Sample Dup	95.2
MB 160-545836/24-A	Method Blank	103

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80422-1	EPBLLC_20211230	66.4	84.1
LCS 160-545838/1-A	Lab Control Sample	91.4	83.4
LCSD 160-545838/2-A	Lab Control Sample Dup	95.2	84.5
MB 160-545838/24-A	Method Blank	103	90.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80422-1	EPBLLC_20211230	77.3	90.8
LCS 160-546021/1-A	Lab Control Sample	88.0	86.7
LCSD 160-546021/2-A	Lab Control Sample Dup	69.5	81.1
MB 160-546021/18-A	Method Blank	81.5	91.2

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-546013/1-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546013

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.9192	U	0.730	0.738	3.00	1.11	pCi/L	01/12/22 10:46	01/14/22 08:40	1
Gross Beta	1.200		0.604	0.616	4.00	0.863	pCi/L	01/12/22 10:46	01/14/22 08:40	1

Lab Sample ID: LCS 160-546013/2-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546013

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	49.91		7.39	3.00	2.12	pCi/L	99	75 - 125

Lab Sample ID: LCSB 160-546013/3-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546013

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	71.71		7.70	4.00	0.856	pCi/L	95	75 - 125

Lab Sample ID: MB 160-547126/1-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547126

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.04269	U	0.612	0.612	3.00	1.19	pCi/L	01/19/22 09:35	01/21/22 13:53	1
Gross Beta	0.5433	U	0.532	0.535	4.00	0.861	pCi/L	01/19/22 09:35	01/21/22 13:53	1

Lab Sample ID: LCS 160-547126/2-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	52.84		7.62	3.00	2.09	pCi/L	104	75 - 125

Lab Sample ID: LCSB 160-547126/3-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	74.43		7.97	4.00	1.06	pCi/L	98	75 - 125

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: 570-80548-R-1-S MS
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Alpha	3.00	U G	50.6	33.21		6.09	3.00	3.28	pCi/L	64	60 - 140		

Lab Sample ID: 570-80548-R-1-T MSBT
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Beta	3.81		75.6	76.60		8.22	4.00	1.01	pCi/L	98	60 - 140		

Lab Sample ID: 570-80548-R-1-U DU
Matrix: Water
Analysis Batch: 547960

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Gross Alpha	1.07	U		1.137	U	1.53	3.00	2.53	pCi/L			0.02	1
Gross Beta	2.34			2.080		0.584	4.00	0.728	pCi/L			0.21	1

Lab Sample ID: 570-80422-1 MS
Matrix: Water
Analysis Batch: 546411

Client Sample ID: EPBLLC_20211230
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Alpha	7.34	G	50.6	32.48	F1	8.08	3.00	6.16	pCi/L	50	60 - 140		

Lab Sample ID: 570-80422-1 MSBT
Matrix: Water
Analysis Batch: 546411

Client Sample ID: EPBLLC_20211230
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Gross Beta	6.41		75.5	90.25		10.1	4.00	1.80	pCi/L	111	60 - 140		

Lab Sample ID: 570-80422-1 DU
Matrix: Water
Analysis Batch: 546411

Client Sample ID: EPBLLC_20211230
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Gross Alpha	7.34	G		9.617	G	5.00	3.00	6.52	pCi/L			0.23	1
Gross Beta	6.41			7.231		1.87	4.00	1.98	pCi/L			0.22	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-545836/24-A
Matrix: Water
Analysis Batch: 549570

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545836

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.03016	U	0.101	0.101	1.00	0.228	pCi/L	01/11/22 12:38	02/07/22 12:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 12:38*	*02/07/22 12:17*	*1*

Lab Sample ID: LCS 160-545836/1-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545836

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.84		1.60	1.00	0.255	pCi/L	92	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*

Lab Sample ID: LCSD 160-545836/2-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545836

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.98		1.60	1.00	0.279	pCi/L	92	75 - 125	0.04	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-545838/24-A
Matrix: Water
Analysis Batch: 549231

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545838

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6159		0.326	0.331	1.00	0.487	pCi/L	01/11/22 13:24	02/05/22 12:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*
Y Carrier	*90.1*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-545838/1-A
Matrix: Water
Analysis Batch: 549232

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545838

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.74		1.58	1.00	0.462	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Lab Sample ID: LCSD 160-545838/2-A
Matrix: Water
Analysis Batch: 549232

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545838

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	14.06		1.60	1.00	0.452	pCi/L	119	75 - 125	0.10	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*
Y Carrier	*84.5*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-546021/18-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546021

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.4294		0.203	0.206	3.00	0.290	pCi/L	01/12/22 12:11	01/24/22 16:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.5*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*
Y Carrier	*91.2*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*

Lab Sample ID: LCS 160-546021/1-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.56	7.562		0.824	3.00	0.290	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*88.0*		*40 - 110*
Y Carrier	*86.7*		*40 - 110*

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: LCSD 160-546021/2-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.56	6.786		0.827	3.00	0.408	pCi/L	90	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*69.5*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-544885/1-A
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 544885

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	166.7	U	220	221	500	369	pCi/L	01/05/22 09:41	01/06/22 09:14	1

Lab Sample ID: LCS 160-544885/2-A
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 544885

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2250	2063		389	500	384	pCi/L	92	75 - 125		

Lab Sample ID: 570-80274-V-3-B MS
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 544885

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	-27.0	U	2240	2860		457	500	382	pCi/L	128	60 - 140		

Lab Sample ID: 570-80272-X-1-B DU
Matrix: Water
Analysis Batch: 545183

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 544885

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-199	U		-45.05	U	201	500	365	pCi/L			0.39	1

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-3

Rad

Prep Batch: 544885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	LSC_Dist_Susp	
MB 160-544885/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-544885/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-80274-V-3-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-80272-X-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Filtration Batch: 545628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	Filtration	
570-80422-1 MS	EPBLLC_20211230	Dissolved	Water	Filtration	
570-80422-1 MSBT	EPBLLC_20211230	Dissolved	Water	Filtration	
570-80422-1 DU	EPBLLC_20211230	Dissolved	Water	Filtration	

Prep Batch: 545836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	PrecSep-21	
MB 160-545836/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-545836/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-545836/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 545838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	PrecSep_0	
MB 160-545838/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-545838/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-545838/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 546013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Dissolved	Water	Evaporation	545628
MB 160-546013/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-546013/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-546013/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80422-1 MS	EPBLLC_20211230	Dissolved	Water	Evaporation	545628
570-80422-1 MSBT	EPBLLC_20211230	Dissolved	Water	Evaporation	545628
570-80422-1 DU	EPBLLC_20211230	Dissolved	Water	Evaporation	545628

Prep Batch: 546021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	PrecSep-7	
MB 160-546021/18-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-546021/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-546021/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 547126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80422-1	EPBLLC_20211230	Total/NA	Water	Evaporation	
MB 160-547126/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-547126/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-547126/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Rad (Continued)

Prep Batch: 547126 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-R-1-S MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-T MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-U DU	Duplicate	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Client Sample ID: EPBLLC_20211230
Lab Sample ID: 570-80422-1

Date Collected: 12/30/21 07:00
Matrix: Water

Date Received: 12/30/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1000 mL	545628	01/10/22 12:35	LTC	TAL SL
Dissolved	Prep	Evaporation			100.01 mL	1.0 g	546013	01/12/22 10:46	KG	TAL SL
Dissolved	Analysis	900.0		1			546411	01/14/22 12:18	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Evaporation			74.995 mL	1.0 g	547126	01/19/22 09:35	KG	TAL SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	547481	01/21/22 13:54	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-21			250.57 mL	1.0 g	545836	01/11/22 12:38	LPS	TAL SL
Total/NA	Analysis	903.0		1			549569	02/07/22 11:46	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			250.57 mL	1.0 g	545838	01/11/22 13:24	LPS	TAL SL
Total/NA	Analysis	904.0		1			549232	02/05/22 12:27	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep-7			250.91 mL	1.0 g	546021	01/12/22 12:11	LPS	TAL SL
Total/NA	Analysis	905		1			547796	01/24/22 16:52	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	LSC_Dist_Susp			100.33 mL	1.0 g	544885	01/05/22 09:41	BAL	TAL SL
Total/NA	Analysis	906.0		1			545183	01/06/22 11:52	JLP	TAL SL
	Instrument ID: LSCAQUA									

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80422-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
Filtration	Sample Filtration	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80422-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80422-1	EPBLLC_20211230	Water	12/30/21 07:00	12/30/21 15:50

80422

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins

Ca sc nce

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8806	Lab Contact: Virendra Patel (714) 895-5494	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time: ☑ CALENDAR DAYS ☐ WORKING DAYS		Sampler:
San Diego, California 92108	TAT if different from Below ____		For Lab Use Only:
(619) 280-9210 Phone	☑ 2 weeks		Walk-in Client:
(619) 280-9415 FAX	☐ 1 week		Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 2 days		Job / SDG No.:
Site: EP offsite background sampling	☐ 1 day		
H&A P O #			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable (E900.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Trifluralin (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable (Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr, Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn; -- (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr, Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn -- (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
EPBLLC_20211230	12/30/2021	0700	G	W	19			2-1L Amber	1-1L Poly	1-1L Poly	1-2.5 gallon cube Poly			1-250mL Poly	1-250mL Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
~~EPBMC_20211230~~	~~12/30/2021~~																							
~~EPBSC_20211230~~	~~12/30/2021~~																							
								1	1	1	1			1	1	1	1	1	4	4	2	2	1	5	

570-80422 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access; Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

	Company	Date/Time		Company	Date/Time
Relinquished by	H&A	12/30/21 1340	Received by		
Relinquished by		12/30/21 1550	Received by	ECL	12/30/21 1550
Relinquished by			Received in Laboratory by		

Form No. CA-C-WI-045, Rev. 1.2, dated 1/8/2016

23|3.2, 26|3.5 SCS

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2/7/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone. 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148778 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80422-3
Address: 13715 Rider Trail North	Due Date Requested: 1/28/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreSep_21 Radium-226	904.0/PreSep_0 Radium-228	905_Sr90/PreSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPBLLC_20211230 (570-80422-1)	12/30/21	07 00 Pacific		Water			X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		~~12~~ 1/3/22 1321				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80422-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/18/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPBLLC_20211230 (570-80422-1)	12/30/21	07:00 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/3/21 1730				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone. 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148834 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80422-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/21/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: ~~44009815~~ 570-80422			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPBLLC_20211230 (570-80422-1)	12/30/21	07:00 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	1/3/22 1735	ECI			
Relinquished by	Date/Time.	Company	Received by	Date/Time	Company
Relinquished by	Date/Time.	Company	Received by	Date/Time	Company

Custody Seals Intact: | Custody Seal No | Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80422-3

Login Number: 80422
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80422-3

Login Number: 80422
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/04/22 11:10 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80531-1
Client Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/24/2022 4:19:54 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Analyzed out of holding time
BV	Sample received after holding time expired
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Metals

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)
MB	Analyte present in the method blank

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80531-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80531-1

Comments
No additional comments.

Receipt
The sample was received on 1/3/2022 4:48 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.4º C.

GC/MS VOA
Method 624.1: Internal standard (ISTD) response for TBA-d9 for the following samples in analytical batch 570-205379 was outside acceptance criteria: EPBBC_20211231 (570-80531-1) and (CCVIS 570-205379/6). This ISTD does not correspond to any of the requested target compounds reported from this analytical batch; therefore, the data have been reported.

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-205379.The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
Method 218.6: The following sample was received outside of holding time: EPBBC_20211231 (570-80531-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 440-664037 and 440-664109 and analytical batch 440-664141 were outside control limits for Chromium and Iron. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) was within acceptance limits.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPBBC_20211231 (570-80531-1). These samples were filtered and preserved past the 24 hrs from receipt in the laboratory due to samples received with insufficient time to filter within the HT.

01/07/21 @ 19:54 hours
2.5 mL HNO3
HNO3 Lot # 0000280251

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-205520. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 570-80531-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-1

Client Sample ID: EPBBC_20211231 — Lab Sample ID: 570-80531-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hexavalent chromium	0.046	J,DX BU BV	0.40	0.039	ug/L	2		218.6	Total/NA
Nitrate as N	7.0	BU BV	0.50	0.12	mg/L	5		300.0	Total/NA
Sulfate	79		5.0	1.2	mg/L	5		300.0	Total/NA
Zinc	75		20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Boron	170		50	25	ug/L	1		200.7 Rev 4.4	Dissolved
Arsenic	2.0		1.0	0.50	ug/L	1		200.8	Total Recoverable
Barium	49		1.0	0.50	ug/L	1		200.8	Total Recoverable
Chromium	3.2		2.0	0.50	ug/L	1		200.8	Total Recoverable
Copper	6.3		2.0	0.50	ug/L	1		200.8	Total Recoverable
Iron	2200		20	8.0	ug/L	1		200.8	Total Recoverable
Manganese	120		1.0	0.50	ug/L	1		200.8	Total Recoverable
Nickel	4.4		2.0	0.50	ug/L	1		200.8	Total Recoverable
Lead	2.4		1.0	0.50	ug/L	1		200.8	Total Recoverable
Arsenic	1.4		1.0	0.50	ug/L	1		200.8	Dissolved
Barium	35		1.0	0.50	ug/L	1		200.8	Dissolved
Chromium	0.58	J,DX MB	2.0	0.50	ug/L	1		200.8	Dissolved
Copper	5.4		2.0	0.50	ug/L	1		200.8	Dissolved
Iron	49	MB	20	8.0	ug/L	1		200.8	Dissolved
Manganese	24		1.0	0.50	ug/L	1		200.8	Dissolved
Nickel	2.2		2.0	0.50	ug/L	1		200.8	Dissolved
Total Suspended Solids	76		5.0	2.5	mg/L	1		SM 2540D	Total/NA
Cyanide, Total	0.0043		0.0030	0.0014	mg/L	1		SM 4500 CN E	Total/NA
Clay (less than 0.00391 mm)	13.01		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	0.12		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	70.81		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	83.81		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	16.07		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: EPBBC_20211231
Lab Sample ID: 570-80531-1
Date Collected: 12/31/21 09:30
Matrix: Water
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			01/04/22 20:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*		*01/04/22 20:29*	*1*
4-Bromofluorobenzene (Surr)	*85*		*60 - 140*		*01/04/22 20:29*	*1*
Dibromofluoromethane	*102*		*60 - 140*		*01/04/22 20:29*	*1*
Toluene-d8 (Surr)	*100*		*60 - 140*		*01/04/22 20:29*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		6.0	2.2	ug/L		01/05/22 06:03	01/05/22 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*70*		*28 - 127*	*01/05/22 06:03*	*01/05/22 19:36*	*1*
2-Fluorobiphenyl (Surr)	*54*		*31 - 120*	*01/05/22 06:03*	*01/05/22 19:36*	*1*
2-Fluorophenol (Surr)	*40*		*17 - 120*	*01/05/22 06:03*	*01/05/22 19:36*	*1*
Nitrobenzene-d5 (Surr)	*62*		*27 - 120*	*01/05/22 06:03*	*01/05/22 19:36*	*1*
Phenol-d6 (Surr)	*27*		*10 - 120*	*01/05/22 06:03*	*01/05/22 19:36*	*1*
p-Terphenyl-d14 (Surr)	*53*		*45 - 120*	*01/05/22 06:03*	*01/05/22 19:36*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	0.046	J,DX BU BV	0.40	0.039	ug/L			01/04/22 23:01	2

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: EPBBC_20211231
Lab Sample ID: 570-80531-1
Date Collected: 12/31/21 09:30
Matrix: Water
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.23	mg/L			01/04/22 17:57	5
Nitrite as N	ND	BU BV	0.50	0.090	mg/L			01/04/22 17:57	5
Nitrate as N	**7.0**	**BU BV**	0.50	0.12	mg/L			01/04/22 17:57	5
Sulfate	**79**		5.0	1.2	mg/L			01/04/22 17:57	5

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 314.0 - Perchlorate (IC)

Client Sample ID: EPBBC_20211231
Lab Sample ID: 570-80531-1
Date Collected: 12/31/21 09:30
Matrix: Water
Date Received: 01/03/22 16:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/05/22 18:14	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/17/22 10:54	01/18/22 17:59	1
Zinc	**75**		20	12	ug/L		01/17/22 10:54	01/18/22 17:59	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**170**		50	25	ug/L		01/10/22 08:35	01/10/22 16:03	1
Zinc	ND		20	12	ug/L		01/10/22 08:35	01/10/22 16:03	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/17/22 05:53	01/17/22 14:20	1
Arsenic	**2.0**		1.0	0.50	ug/L		01/17/22 05:53	01/17/22 14:20	1
Barium	**49**		1.0	0.50	ug/L		01/17/22 05:53	01/17/22 14:20	1
Beryllium	ND		0.50	0.25	ug/L		01/17/22 05:53	01/17/22 14:20	1
Cadmium	ND		1.0	0.25	ug/L		01/17/22 05:53	01/17/22 14:20	1
Chromium	**3.2**		2.0	0.50	ug/L		01/17/22 05:53	01/17/22 14:20	1
Copper	**6.3**		2.0	0.50	ug/L		01/17/22 05:53	01/17/22 14:20	1
Iron	**2200**		20	8.0	ug/L		01/17/22 05:53	01/17/22 14:20	1
Manganese	**120**		1.0	0.50	ug/L		01/17/22 05:53	01/17/22 14:20	1
Nickel	**4.4**		2.0	0.50	ug/L		01/17/22 05:53	01/17/22 14:20	1
Lead	**2.4**		1.0	0.50	ug/L		01/17/22 05:53	01/17/22 14:20	1
Antimony	ND		2.0	0.50	ug/L		01/17/22 05:53	01/17/22 14:20	1
Selenium	ND		2.0	0.50	ug/L		01/17/22 05:53	01/17/22 14:20	1
Thallium	ND		1.0	0.20	ug/L		01/17/22 05:53	01/17/22 14:20	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:50	1
Arsenic	**1.4**		1.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:50	1
Barium	**35**		1.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:50	1
Beryllium	ND		0.50	0.25	ug/L		01/10/22 08:26	01/10/22 13:50	1
Cadmium	ND		1.0	0.25	ug/L		01/10/22 08:26	01/10/22 13:50	1
Chromium	**0.58**	**J,DX MB**	2.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:50	1
Copper	**5.4**		2.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:50	1
Iron	**49**	**MB**	20	8.0	ug/L		01/10/22 08:26	01/10/22 13:50	1
Manganese	**24**		1.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:50	1
Nickel	**2.2**		2.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:50	1
Lead	ND		1.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:50	1
Antimony	ND		2.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:50	1
Selenium	ND		2.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:50	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

General Chemistry

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/21/22 12:30	1
Total Suspended Solids	**76**		5.0	2.5	mg/L			01/05/22 14:00	1
Cyanide, Total	**0.0043**		0.0030	0.0014	mg/L		01/04/22 16:30	01/04/22 19:13	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-1

General Chemistry - Dissolved

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		0.050	0.0069	mg/L			01/16/22 22:13	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**13.01**		0.01	0.01	%			01/07/22 17:00	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/07/22 17:00	1
Fine Sand (0.125 to 0.25mm)	**0.12**		0.01	0.01	%			01/07/22 17:00	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/07/22 17:00	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/07/22 17:00	1
Silt (0.00391 to 0.0625mm)	**70.81**		0.01	0.01	%			01/07/22 17:00	1
Total Silt and Clay (0 to 0.0626mm)	**83.81**		0.01	0.01	%			01/07/22 17:00	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/07/22 17:00	1
Very Fine Sand (0.0625 to 0.125 mm)	**16.07**		0.01	0.01	%			01/07/22 17:00	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

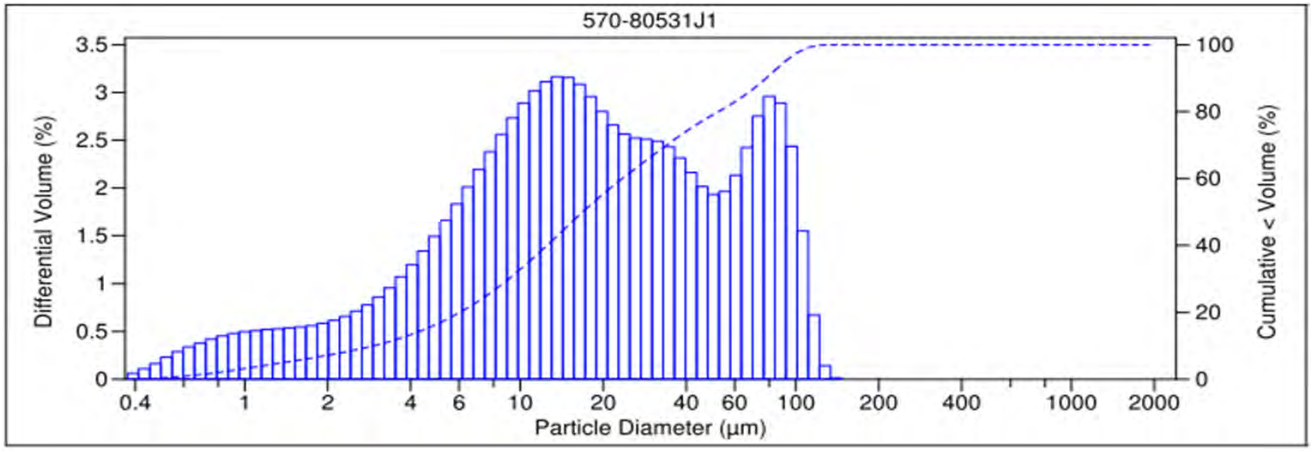
Haley & Aldrich, Inc.

Date Sampled:	12/31/21
Date Received:	01/03/22
Work Order No:	570-80531
Date Analyzed:	01/07/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
EPBBC_20211231		Silt	0.029

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.12	16.07	70.81	13.01	83.81



V 3.0

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)	(60-140)
570-80531-1	EPBBC_20211231	97	85	102	100
LCS 570-205379/7	Lab Control Sample	95	96	103	102
LCSD 570-205379/8	Lab Control Sample Dup	95	94	104	101
MB 570-205379/11	Method Blank	95	84	102	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL6	TPHd14
Lab Sample ID	Client Sample ID	(28-127)	(31-120)	(17-120)	(27-120)	(10-120)	(45-120)
570-80531-1	EPBBC_20211231	70	54	40	62	27	53
LCS 570-205520/2-A	Lab Control Sample	85	59	49	65	32	80
LCSD 570-205520/3-A	Lab Control Sample Dup	81	65	50	67	33	79
MB 570-205520/1-A	Method Blank	91	64	50	71	31	72

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-205379/11
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.32	ug/L			01/04/22 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*		*01/04/22 16:47*	*1*
4-Bromofluorobenzene (Surr)	*84*		*60 - 140*		*01/04/22 16:47*	*1*
Dibromofluoromethane	*102*		*60 - 140*		*01/04/22 16:47*	*1*
Toluene-d8 (Surr)	*100*		*60 - 140*		*01/04/22 16:47*	*1*

Lab Sample ID: LCS 570-205379/7
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Trichloroethene			50.0	52.0		ug/L		104	65 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
4-Bromofluorobenzene (Surr)	*96*		*60 - 140*
Dibromofluoromethane	*103*		*60 - 140*
Toluene-d8 (Surr)	*102*		*60 - 140*

Lab Sample ID: LCSD 570-205379/8
Matrix: Water
Analysis Batch: 205379

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene			50.0	51.3		ug/L		103	65 - 135	1	48

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
4-Bromofluorobenzene (Surr)	*94*		*60 - 140*
Dibromofluoromethane	*104*		*60 - 140*
Toluene-d8 (Surr)	*101*		*60 - 140*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		01/05/22 06:03	01/05/22 17:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*28 - 127*	*01/05/22 06:03*	*01/05/22 17:08*	*1*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*01/05/22 06:03*	*01/05/22 17:08*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-205520/1-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205520

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	50		17 - 120	01/05/22 06:03	01/05/22 17:08	1
Nitrobenzene-d5 (Surr)	71		27 - 120	01/05/22 06:03	01/05/22 17:08	1
Phenol-d6 (Surr)	31		10 - 120	01/05/22 06:03	01/05/22 17:08	1
p-Terphenyl-d14 (Surr)	72		45 - 120	01/05/22 06:03	01/05/22 17:08	1

Lab Sample ID: LCS 570-205520/2-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205520

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Bis(2-ethylhexyl) phthalate			20.0	20.2		ug/L		101	29 - 137		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	85		28 - 127
2-Fluorobiphenyl (Surr)	59		31 - 120
2-Fluorophenol (Surr)	49		17 - 120
Nitrobenzene-d5 (Surr)	65		27 - 120
Phenol-d6 (Surr)	32		10 - 120
p-Terphenyl-d14 (Surr)	80		45 - 120

Lab Sample ID: LCSD 570-205520/3-A
Matrix: Water
Analysis Batch: 205774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205520

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate			20.0	19.7		ug/L		98	29 - 137	3	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	81		28 - 127
2-Fluorobiphenyl (Surr)	65		31 - 120
2-Fluorophenol (Surr)	50		17 - 120
Nitrobenzene-d5 (Surr)	67		27 - 120
Phenol-d6 (Surr)	33		10 - 120
p-Terphenyl-d14 (Surr)	79		45 - 120

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-205253/6
Matrix: Water
Analysis Batch: 205253

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.20	0.019	ug/L			01/04/22 09:55	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 570-205253/7
Matrix: Water
Analysis Batch: 205253

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium			50.0	51.6		ug/L		103	95 - 107		

Lab Sample ID: LCSD 570-205253/8
Matrix: Water
Analysis Batch: 205253

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium			50.0	51.2		ug/L		102	95 - 107	1	20

Lab Sample ID: 570-80545-J-1 MS
Matrix: Water
Analysis Batch: 205253

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium	0.15	J,DX	50.0	51.7		ug/L		103	85 - 121		

Lab Sample ID: 570-80545-J-1 MSD
Matrix: Water
Analysis Batch: 205253

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium	0.15	J,DX	50.0	52.8		ug/L		105	85 - 121	2	25

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-205308/5
Matrix: Water
Analysis Batch: 205308

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.046	mg/L			01/04/22 11:02	1
Sulfate	ND		1.0	0.24	mg/L			01/04/22 11:02	1

Lab Sample ID: LCS 570-205308/6
Matrix: Water
Analysis Batch: 205308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			2.50	2.37		mg/L		95	90 - 110		
Sulfate			50.0	49.9		mg/L		100	90 - 110		

Lab Sample ID: LCSD 570-205308/7
Matrix: Water
Analysis Batch: 205308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			2.50	2.37		mg/L		95	90 - 110	0	15
Sulfate			50.0	49.8		mg/L		100	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 570-205309/5
Matrix: Water
Analysis Batch: 205309

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			01/04/22 11:02	1
Nitrate as N	ND		0.10	0.024	mg/L			01/04/22 11:02	1

Lab Sample ID: LCS 570-205309/6
Matrix: Water
Analysis Batch: 205309

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			2.50	2.44		mg/L		98	90 - 110		
Nitrate as N			5.00	4.97		mg/L		99	90 - 110		

Lab Sample ID: LCSD 570-205309/7
Matrix: Water
Analysis Batch: 205309

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N			2.50	2.44		mg/L		97	90 - 110	0	15
Nitrate as N			5.00	4.99		mg/L		100	90 - 110	0	15

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 570-79895-I-3 MS
Matrix: Water
Analysis Batch: 205308

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride - DL	ND		2.50	1.50	LN	mg/L		60	80 - 120		
Sulfate - DL	350		50.0	398	BB	mg/L		100	80 - 120		

Lab Sample ID: 570-79895-I-3 MSD
Matrix: Water
Analysis Batch: 205308

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride - DL	ND		2.50	1.58	LN	mg/L		63	80 - 120	5	20
Sulfate - DL	350		50.0	407	BB	mg/L		118	80 - 120	2	20

Lab Sample ID: 570-79895-I-3 MS
Matrix: Water
Analysis Batch: 205309

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N - DL	ND		2.50	6.37	LM	mg/L		255	80 - 120		
Nitrate as N - DL	ND		5.00	5.58		mg/L		112	80 - 120		

Method: 300.0 - Anions, Ion Chromatography - DL (Continued)

Lab Sample ID: 570-79895-I-3 MSD
Matrix: Water
Analysis Batch: 205309

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N - DL	ND		2.50	6.64	LM	mg/L		266	80 - 120	4	20
Nitrate as N - DL	ND		5.00	5.44		mg/L		109	80 - 120	3	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-205610/6
Matrix: Water
Analysis Batch: 205610

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/05/22 11:56	1

Lab Sample ID: LCS 570-205610/7
Matrix: Water
Analysis Batch: 205610

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	24.8		ug/L		99	85 - 115

Lab Sample ID: LCSD 570-205610/8
Matrix: Water
Analysis Batch: 205610

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	25.0	25.1		ug/L		100	85 - 115	1	15

Lab Sample ID: 570-80578-G-1 MS
Matrix: Water
Analysis Batch: 205610

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1500		50.0	1530	BB	ug/L		34	80 - 120

Lab Sample ID: 570-80578-G-1 MSD
Matrix: Water
Analysis Batch: 205610

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	1500		50.0	1520	BB	ug/L		1	80 - 120	1	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-664587/1-A
Matrix: Water
Analysis Batch: 664775

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664587

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/17/22 10:54	01/18/22 17:41	1
Zinc	ND		20	12	ug/L		01/17/22 10:54	01/18/22 17:41	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-664587/2-A
Matrix: Water
Analysis Batch: 664775

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664587

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron			500	546		ug/L		109	85 - 115		
Zinc			500	568		ug/L		114	85 - 115		

Lab Sample ID: 570-80460-N-1-C MS
Matrix: Water
Analysis Batch: 664775

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664587

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron	ND		500	532		ug/L		106	70 - 130		
Zinc	25		500	571		ug/L		109	70 - 130		

Lab Sample ID: 570-80460-N-1-D MSD
Matrix: Water
Analysis Batch: 664775

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664587

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	ND		500	543		ug/L		109	70 - 130	2	20
Zinc	25		500	578		ug/L		111	70 - 130	1	20

Lab Sample ID: MB 440-664037/1-D
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664111

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		01/10/22 08:35	01/10/22 15:45	1
Zinc	ND		20	12	ug/L		01/10/22 08:35	01/10/22 15:45	1

Lab Sample ID: LCS 440-664037/2-D
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664111

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron			500	495		ug/L		99	85 - 115		
Zinc			500	502		ug/L		100	85 - 115		

Lab Sample ID: 570-80749-C-3-D MS
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 664111

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron	52		500	549		ug/L		99	70 - 130		
Zinc	ND		500	509		ug/L		102	70 - 130		

Lab Sample ID: 570-80749-C-3-E MSD
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 664111

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	52		500	552		ug/L		100	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-80749-C-3-E MSD
Matrix: Water
Analysis Batch: 664155

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 664111

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Zinc	ND		500	513		ug/L		103	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664572/1-A
Matrix: Water
Analysis Batch: 664610

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664572

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/17/22 05:53	01/17/22 13:09	1
Arsenic	ND		1.0	0.50	ug/L		01/17/22 05:53	01/17/22 13:09	1
Barium	ND		1.0	0.50	ug/L		01/17/22 05:53	01/17/22 13:09	1
Beryllium	ND		0.50	0.25	ug/L		01/17/22 05:53	01/17/22 13:09	1
Cadmium	ND		1.0	0.25	ug/L		01/17/22 05:53	01/17/22 13:09	1
Chromium	ND		2.0	0.50	ug/L		01/17/22 05:53	01/17/22 13:09	1
Copper	ND		2.0	0.50	ug/L		01/17/22 05:53	01/17/22 13:09	1
Iron	ND		20	8.0	ug/L		01/17/22 05:53	01/17/22 13:09	1
Manganese	ND		1.0	0.50	ug/L		01/17/22 05:53	01/17/22 13:09	1
Nickel	ND		2.0	0.50	ug/L		01/17/22 05:53	01/17/22 13:09	1
Lead	ND		1.0	0.50	ug/L		01/17/22 05:53	01/17/22 13:09	1
Antimony	ND		2.0	0.50	ug/L		01/17/22 05:53	01/17/22 13:09	1
Selenium	ND		2.0	0.50	ug/L		01/17/22 05:53	01/17/22 13:09	1
Thallium	ND		1.0	0.20	ug/L		01/17/22 05:53	01/17/22 13:09	1

Lab Sample ID: LCS 440-664572/2-A
Matrix: Water
Analysis Batch: 664610

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664572

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	85.3		ug/L		107	85 - 115
Arsenic	80.0	85.6		ug/L		107	85 - 115
Barium	80.0	86.1		ug/L		108	85 - 115
Beryllium	80.0	84.7		ug/L		106	85 - 115
Cadmium	80.0	85.7		ug/L		107	85 - 115
Chromium	80.0	86.5		ug/L		108	85 - 115
Copper	80.0	85.1		ug/L		106	85 - 115
Iron	800	851		ug/L		106	85 - 115
Manganese	80.0	85.5		ug/L		107	85 - 115
Nickel	80.0	85.7		ug/L		107	85 - 115
Lead	80.0	87.0		ug/L		109	85 - 115
Antimony	80.0	90.4		ug/L		113	85 - 115
Selenium	80.0	84.7		ug/L		106	85 - 115
Thallium	80.0	85.9		ug/L		107	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80608-B-1-B MS
Matrix: Water
Analysis Batch: 664610

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664572

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	83.0		ug/L		104	70 - 130
Arsenic	0.96	J,DX	80.0	81.9		ug/L		101	70 - 130
Barium	16		80.0	102		ug/L		108	70 - 130
Beryllium	ND		80.0	83.1		ug/L		104	70 - 130
Cadmium	ND		80.0	84.2		ug/L		105	70 - 130
Chromium	2.1		80.0	85.0		ug/L		104	70 - 130
Copper	18		80.0	102		ug/L		104	70 - 130
Iron	620		800	1410		ug/L		99	70 - 130
Manganese	20		80.0	104		ug/L		104	70 - 130
Nickel	4.3		80.0	87.4		ug/L		104	70 - 130
Lead	1.1		80.0	85.1		ug/L		105	70 - 130
Antimony	1.7	J,DX	80.0	92.5		ug/L		114	70 - 130
Selenium	ND		80.0	79.2		ug/L		99	70 - 130
Thallium	ND		80.0	80.1		ug/L		100	70 - 130

Lab Sample ID: 570-80608-B-1-C MSD
Matrix: Water
Analysis Batch: 664610

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664572

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	80.0		ug/L		100	70 - 130	4	20
Arsenic	0.96	J,DX	80.0	81.8		ug/L		101	70 - 130	0	20
Barium	16		80.0	103		ug/L		108	70 - 130	1	20
Beryllium	ND		80.0	81.3		ug/L		102	70 - 130	2	20
Cadmium	ND		80.0	82.6		ug/L		103	70 - 130	2	20
Chromium	2.1		80.0	86.8		ug/L		106	70 - 130	2	20
Copper	18		80.0	103		ug/L		106	70 - 130	1	20
Iron	620		800	1580		ug/L		121	70 - 130	12	20
Manganese	20		80.0	105		ug/L		106	70 - 130	2	20
Nickel	4.3		80.0	86.8		ug/L		103	70 - 130	1	20
Lead	1.1		80.0	84.1		ug/L		104	70 - 130	1	20
Antimony	1.7	J,DX	80.0	91.2		ug/L		112	70 - 130	1	20
Selenium	ND		80.0	78.0		ug/L		97	70 - 130	2	20
Thallium	ND		80.0	79.8		ug/L		100	70 - 130	0	20

Lab Sample ID: MB 440-664037/1-B
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664109

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:46	1
Arsenic	ND		1.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:46	1
Barium	ND		1.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:46	1
Beryllium	ND		0.50	0.25	ug/L		01/10/22 08:26	01/10/22 13:46	1
Cadmium	ND		1.0	0.25	ug/L		01/10/22 08:26	01/10/22 13:46	1
Chromium	0.676	J,DX	2.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:46	1
Copper	ND		2.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:46	1
Iron	8.14	J,DX	20	8.0	ug/L		01/10/22 08:26	01/10/22 13:46	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 440-664037/1-B
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 664109

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		1.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:46	1
Nickel	ND		2.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:46	1
Lead	ND		1.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:46	1
Antimony	ND		2.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:46	1
Selenium	ND		2.0	0.50	ug/L		01/10/22 08:26	01/10/22 13:46	1

Lab Sample ID: LCS 440-664037/2-B
Matrix: Water
Analysis Batch: 664141

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 664109

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	80.0	76.6		ug/L		96	85 - 115
Arsenic	80.0	78.0		ug/L		98	85 - 115
Barium	80.0	79.3		ug/L		99	85 - 115
Beryllium	80.0	86.2		ug/L		108	85 - 115
Cadmium	80.0	78.1		ug/L		98	85 - 115
Chromium	80.0	81.2		ug/L		102	85 - 115
Copper	80.0	83.1		ug/L		104	85 - 115
Iron	800	825		ug/L		103	85 - 115
Manganese	80.0	81.0		ug/L		101	85 - 115
Nickel	80.0	82.0		ug/L		103	85 - 115
Lead	80.0	81.3		ug/L		102	85 - 115
Antimony	80.0	89.1		ug/L		111	85 - 115
Selenium	80.0	77.4		ug/L		97	85 - 115

Lab Sample ID: 570-80531-1 MS
Matrix: Water
Analysis Batch: 664141

Client Sample ID: EPBBC_20211231
Prep Type: Dissolved
Prep Batch: 664109

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		80.0	78.1		ug/L		98	70 - 130
Arsenic	1.4		80.0	81.5		ug/L		100	70 - 130
Barium	35		80.0	117		ug/L		103	70 - 130
Beryllium	ND		80.0	88.3		ug/L		110	70 - 130
Cadmium	ND		80.0	80.1		ug/L		100	70 - 130
Chromium	0.58	J,DX MB	80.0	122	LM	ug/L		152	70 - 130
Copper	5.4		80.0	88.9		ug/L		104	70 - 130
Iron	49	MB	800	1430	LM	ug/L		173	70 - 130
Manganese	24		80.0	109		ug/L		106	70 - 130
Nickel	2.2		80.0	85.0		ug/L		103	70 - 130
Lead	ND		80.0	80.8		ug/L		101	70 - 130
Antimony	ND		80.0	93.9		ug/L		117	70 - 130
Selenium	ND		80.0	76.7		ug/L		96	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-80531-1 MSD
Matrix: Water
Analysis Batch: 664141

Client Sample ID: EPBBC_20211231
Prep Type: Dissolved
Prep Batch: 664109

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		80.0	77.1		ug/L		96	70 - 130	1	20
Arsenic	1.4		80.0	81.0		ug/L		99	70 - 130	1	20
Barium	35		80.0	115		ug/L		101	70 - 130	1	20
Beryllium	ND		80.0	89.1		ug/L		111	70 - 130	1	20
Cadmium	ND		80.0	79.1		ug/L		99	70 - 130	1	20
Chromium	0.58	J,DX MB	80.0	82.3	BA	ug/L		102	70 - 130	39	20
Copper	5.4		80.0	88.6		ug/L		104	70 - 130	0	20
Iron	49	MB	800	873	BA	ug/L		103	70 - 130	49	20
Manganese	24		80.0	105		ug/L		101	70 - 130	4	20
Nickel	2.2		80.0	83.2		ug/L		101	70 - 130	2	20
Lead	ND		80.0	81.1		ug/L		101	70 - 130	0	20
Antimony	ND		80.0	92.4		ug/L		116	70 - 130	2	20
Selenium	ND		80.0	77.3		ug/L		97	70 - 130	1	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-663834/1
Matrix: Water
Analysis Batch: 663834

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			01/05/22 14:00	1

Lab Sample ID: LCS 440-663834/2
Matrix: Water
Analysis Batch: 663834

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	984		mg/L		98	85 - 115

Lab Sample ID: 570-80560-A-3 DU
Matrix: Water
Analysis Batch: 663834

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	48		50.0		mg/L		4	5

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 570-205516/1-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205516

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0030	0.0014	mg/L		01/04/22 16:30	01/04/22 19:10	1

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: LCS 570-205516/2-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205516

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0100	0.0102		mg/L		102	80 - 120		

Lab Sample ID: LCSD 570-205516/3-A
Matrix: Water
Analysis Batch: 205489

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205516

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total			0.0100	0.0100		mg/L		100	80 - 120	2	20

Lab Sample ID: 570-80531-1 MS
Matrix: Water
Analysis Batch: 205489

Client Sample ID: EPBBC_20211231
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	0.0043		0.0100	0.0150		mg/L		108	74 - 115		

Lab Sample ID: 570-80531-1 MSD
Matrix: Water
Analysis Batch: 205489

Client Sample ID: EPBBC_20211231
Prep Type: Total/NA
Prep Batch: 205516

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0043		0.0100	0.0140		mg/L		97	74 - 115	7	20

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-1

GC/MS VOA

Analysis Batch: 205379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	624.1	
MB 570-205379/11	Method Blank	Total/NA	Water	624.1	
LCS 570-205379/7	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-205379/8	Lab Control Sample Dup	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 205520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	625	
MB 570-205520/1-A	Method Blank	Total/NA	Water	625	
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 205774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	625.1 SIM	205520
MB 570-205520/1-A	Method Blank	Total/NA	Water	625.1 SIM	205520
LCS 570-205520/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	205520
LCSD 570-205520/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	205520

HPLC/IC

Analysis Batch: 205253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	218.6	
MB 570-205253/6	Method Blank	Total/NA	Water	218.6	
LCS 570-205253/7	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-205253/8	Lab Control Sample Dup	Total/NA	Water	218.6	
570-80545-J-1 MS	Matrix Spike	Total/NA	Water	218.6	
570-80545-J-1 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

Analysis Batch: 205308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	300.0	
MB 570-205308/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205308/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205308/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79895-I-3 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-79895-I-3 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 205309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	300.0	
MB 570-205309/5	Method Blank	Total/NA	Water	300.0	
LCS 570-205309/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-205309/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-79895-I-3 MS - DL	Matrix Spike	Total/NA	Water	300.0	
570-79895-I-3 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	300.0	

HPLC/IC

Analysis Batch: 205610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	314.0	
MB 570-205610/6	Method Blank	Total/NA	Water	314.0	
LCS 570-205610/7	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-205610/8	Lab Control Sample Dup	Total/NA	Water	314.0	
570-80578-G-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-80578-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

Metals

Filtration Batch: 664037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Dissolved	Water	FILTRATION	
MB 440-664037/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-664037/1-D	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-664037/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-664037/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
570-80531-1 MS	EPBBC_20211231	Dissolved	Water	FILTRATION	
570-80531-1 MSD	EPBBC_20211231	Dissolved	Water	FILTRATION	
570-80749-C-3-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-80749-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 664109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Dissolved	Water	200.2	664037
MB 440-664037/1-B	Method Blank	Dissolved	Water	200.2	664037
LCS 440-664037/2-B	Lab Control Sample	Dissolved	Water	200.2	664037
570-80531-1 MS	EPBBC_20211231	Dissolved	Water	200.2	664037
570-80531-1 MSD	EPBBC_20211231	Dissolved	Water	200.2	664037

Prep Batch: 664111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Dissolved	Water	200.2	664037
MB 440-664037/1-D	Method Blank	Dissolved	Water	200.2	664037
LCS 440-664037/2-D	Lab Control Sample	Dissolved	Water	200.2	664037
570-80749-C-3-D MS	Matrix Spike	Dissolved	Water	200.2	664037
570-80749-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	664037

Analysis Batch: 664141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Dissolved	Water	200.8	664109
MB 440-664037/1-B	Method Blank	Dissolved	Water	200.8	664109
LCS 440-664037/2-B	Lab Control Sample	Dissolved	Water	200.8	664109
570-80531-1 MS	EPBBC_20211231	Dissolved	Water	200.8	664109
570-80531-1 MSD	EPBBC_20211231	Dissolved	Water	200.8	664109

Analysis Batch: 664155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Dissolved	Water	200.7 Rev 4.4	664111
MB 440-664037/1-D	Method Blank	Dissolved	Water	200.7 Rev 4.4	664111
LCS 440-664037/2-D	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	664111

Metals (Continued)

Analysis Batch: 664155 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80749-C-3-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	664111
570-80749-C-3-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	664111

Prep Batch: 664572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total Recoverable	Water	200.2	
MB 440-664572/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664572/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80608-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80608-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 664587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total Recoverable	Water	200.2	
MB 440-664587/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664587/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80460-N-1-C MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80460-N-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total Recoverable	Water	200.8	664572
MB 440-664572/1-A	Method Blank	Total Recoverable	Water	200.8	664572
LCS 440-664572/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664572
570-80608-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	664572
570-80608-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664572

Analysis Batch: 664775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total Recoverable	Water	200.7 Rev 4.4	664587
MB 440-664587/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	664587
LCS 440-664587/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	664587
570-80460-N-1-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	664587
570-80460-N-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	664587

General Chemistry

Analysis Batch: 205489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	SM 4500 CN E	205516
MB 570-205516/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	205516
LCS 570-205516/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	205516
LCSD 570-205516/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	205516
570-80531-1 MS	EPBBC_20211231	Total/NA	Water	SM 4500 CN E	205516
570-80531-1 MSD	EPBBC_20211231	Total/NA	Water	SM 4500 CN E	205516

Prep Batch: 205516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	SM 4500 CN C	
MB 570-205516/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	

General Chemistry (Continued)

Prep Batch: 205516 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-205516/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-205516/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-80531-1 MS	EPBBC_20211231	Total/NA	Water	SM 4500 CN C	
570-80531-1 MSD	EPBBC_20211231	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 207740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Dissolved	Water	218.6 CR3	

Analysis Batch: 208761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	218.6 CR3	

Analysis Batch: 663834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	SM 2540D	
MB 440-663834/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-663834/2	Lab Control Sample	Total/NA	Water	SM 2540D	
570-80560-A-3 DU	Duplicate	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 206857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	D4464	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-1

Client Sample ID: EPBBC_20211231

Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	205379	01/04/22 20:29	N1A	ECL 2
	Instrument ID: GCMSXX									
Total/NA	Prep	625			836.1 mL	2 mL	205520	01/05/22 06:03	H1SH	ECL 1
Total/NA	Analysis	625.1 SIM		1			205774	01/05/22 19:36	ULLI	ECL 1
	Instrument ID: GCMSJJJ									
Total/NA	Analysis	218.6		2			205253	01/04/22 23:01	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	300.0		5			205308	01/04/22 17:57	URMH	ECL 1
	Instrument ID: IC7									
Total/NA	Analysis	300.0		5			205309	01/04/22 17:57	URMH	ECL 1
	Instrument ID: IC7									
Total/NA	Analysis	314.0		1			205610	01/05/22 18:14	URMH	ECL 1
	Instrument ID: IC13									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	664037	01/07/22 18:54	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	664111	01/10/22 08:35	LZY7	IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			664155	01/10/22 16:03	K1UV	IRV 2
	Instrument ID: ICP8									
Total Recoverable	Prep	200.2			25 mL	25 mL	664587	01/17/22 10:54		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			664775	01/18/22 17:59	P1R	IRV 2
	Instrument ID: ICP10									
Dissolved	Filtration	FILTRATION			150 mL	150 mL	664037	01/07/22 18:54	LZY7	IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	664109	01/10/22 08:26	LZY7	IRV 2
Dissolved	Analysis	200.8		1			664141	01/10/22 13:50	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Total Recoverable	Prep	200.2			25 mL	25 mL	664572	01/17/22 05:53		IRV 2
Total Recoverable	Analysis	200.8		1			664610	01/17/22 14:20	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Analysis	218.6 CR3		1			207740	01/16/22 22:13	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	218.6 CR3		1			208761	01/21/22 12:30	URMH	ECL 1
	Instrument ID: IC16									
Total/NA	Analysis	SM 2540D		1	200 mL	1000 mL	663834	01/05/22 14:00	ZL7L	IRV 2
	Instrument ID: NOEQUIP									
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	205516	01/04/22 16:30	CY2M	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	5.0 mL	5.0 mL	205489	01/04/22 19:13	CY2M	ECL 1
	Instrument ID: UV8									
Total/NA	Analysis	D4464		1			206857	01/07/22 17:00	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-1
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	ECL 2
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 1
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 1
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 1
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 1
SM 2540D	Solids, Total Suspended (TSS)	SM	IRV 2
SM 4500 CN E	Cyanide, Total (Low Level)	SM	ECL 1
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
FILTRATION	Sample Filtration	None	IRV 2
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
ASTM = ASTM International
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 2 = Eurofins Calscience Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80531-1	EPBBC_20211231	Water	12/31/21 09:30	01/03/22 16:48

80531

570-80531 Chain of Custody

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time: ☑ CALENDAR DAYS ☐ WORKING DAYS		Sampler:
San Diego, California 92108	TAT if different from Below ____		For Lab Use Only:
(619) 280-9210 Phone	☑ 2 weeks		Walk-in Client:
(619) 280-9415 FAX	☐ 1 week		Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 2 days		Job / SDG No.:
Site: EP offsite background sampling	☐ 1 day		
H&A P O #			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable (E900.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable (Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn -- (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn -- (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
			G	W	19			2-1L Amber	1-1L Poly	1-1L Poly	1-2.5 gallon cube Poly			1-250mL Poly	1-250mL Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPBLLC_																								
EPBBC_20211231	12/31/2021	0930	G	W	19			X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	
EPBBC_																								
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	1			1	1	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access, Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____		
Relinquished by:	Company: H A	Date/Time: 1-3-2022 1330	Received by:		Date/Time: 1/3/22 1330
Relinquished by: VICTOR M.	Company: ECI	Date/Time: 1-3-22 1648	Received by:	ECI	Date/Time: 1-3-2022 16:48
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev. 1.2, dated 1/8/2016

3.5/4.4 SCS

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148846 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80531-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/31/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44009815			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/4/22 1303	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/24/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148850 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80531-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/19/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	1/4/22 1345				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148860 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80531-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/17/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	Relinquished by:	Date/Time: 1/4/22 1417	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/24/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148859 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State Program - California		Job #: 570-80531-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/11/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL	M - Hexane
B NaOH	N None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G Amchlor	S H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D/ Solids, Total Suspended (TSS)	200.8/200.2 200 8 - Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb	200.8/FILTRATION Diss. Ag,As,Ba,Be,C,Cr,Cu,Fe,Mn,Ni,Pb,Se	200 7/200.2 B,Zn	200.7/FILTRATION Diss. B,Zn	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
EPBBC_20211231 (570-80531-1)	12/31/21	09 30 Pacific		Water			X	X	X	X	X	4	

Note Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
1	[signature]	01/04/22 1725	ECI			
2	Relinquished by	Date/Time:	Company	Received by: Olga Dimelas	Date/Time: 01/04/22 1725	Company: ECI
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: IR-90 2.5/2.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80531-1

Login Number: 80531
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80531-1

Login Number: 80531
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience Tustin
List Creation: 01/04/22 05:54 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80531-2
Client Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
1/24/2022 4:21:08 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-2
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80531-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80531-2

Comments
No additional comments.

Receipt
The sample was received on 1/3/2022 4:48 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.4º C.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: (CCV 320-559680/2) and (MB 320-556933/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Admin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Subcontract Work
Method EPA 1631E LL Mercury: This method was subcontracted to Eurofins Frontier Global Sciences LLC. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-2

Client Sample ID: EPBBC_20211231

Lab Sample ID: 570-80531-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000028	J,DX MB	0.000048	0.00000061	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000027	J,DX MB	0.000048	0.00000060	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000041	J,DX MB	0.000048	0.00000075	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000023	J,DX MB	0.000048	0.00000071	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000048	MB	0.000048	0.0000010	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000010	J,DX MB	0.000048	0.00000088	ug/L	1		1613B	Total/NA
OCDD	0.00027	MB	0.000095	0.0000023	ug/L	1		1613B	Total/NA
OCDF	0.000018	J,DX MB q	0.000095	0.0000017	ug/L	1		1613B	Total/NA
Total HxCDD	0.000014	J,DX MB q	0.000048	0.00000059	ug/L	1		1613B	Total/NA
Total HxCDF	0.000010	J,DX MB	0.000048	0.00000071	ug/L	1		1613B	Total/NA
Total HpCDD	0.000087	MB	0.000048	0.0000010	ug/L	1		1613B	Total/NA
Total HpCDF	0.000018	J,DX MB	0.000048	0.00000087	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.0000015	ug/L		01/10/22 05:25	01/18/22 03:13	1
2,3,7,8-TCDF	ND		0.0000095	0.00000080	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,7,8-PeCDD	ND		0.000048	0.0000013	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,7,8-PeCDF	ND		0.000048	0.00000083	ug/L		01/10/22 05:25	01/18/22 03:13	1
2,3,4,7,8-PeCDF	ND		0.000048	0.00000086	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,4,7,8-HxCDD	**0.0000028**	**J,DX MB**	0.000048	0.00000061	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,6,7,8-HxCDD	**0.0000027**	**J,DX MB**	0.000048	0.00000060	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,7,8,9-HxCDD	ND		0.000048	0.00000059	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,4,7,8-HxCDF	**0.0000041**	**J,DX MB**	0.000048	0.00000075	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,6,7,8-HxCDF	ND		0.000048	0.00000076	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,7,8,9-HxCDF	ND		0.000048	0.00000075	ug/L		01/10/22 05:25	01/18/22 03:13	1
2,3,4,6,7,8-HxCDF	**0.0000023**	**J,DX MB**	0.000048	0.00000071	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,4,6,7,8-HpCDD	**0.000048**	**MB**	0.000048	0.0000010	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,4,6,7,8-HpCDF	**0.000010**	**J,DX MB**	0.000048	0.00000088	ug/L		01/10/22 05:25	01/18/22 03:13	1
1,2,3,4,7,8,9-HpCDF	ND		0.000048	0.00000087	ug/L		01/10/22 05:25	01/18/22 03:13	1
OCDD	**0.00027**	**MB**	0.000095	0.0000023	ug/L		01/10/22 05:25	01/18/22 03:13	1
OCDF	**0.000018**	**J,DX MB q**	0.000095	0.0000017	ug/L		01/10/22 05:25	01/18/22 03:13	1
Total TCDD	ND		0.0000095	0.0000015	ug/L		01/10/22 05:25	01/18/22 03:13	1
Total TCDF	ND		0.0000095	0.00000080	ug/L		01/10/22 05:25	01/18/22 03:13	1
Total PeCDD	ND		0.000048	0.0000013	ug/L		01/10/22 05:25	01/18/22 03:13	1
Total PeCDF	ND		0.000048	0.00000083	ug/L		01/10/22 05:25	01/18/22 03:13	1
Total HxCDD	**0.000014**	**J,DX MB q**	0.000048	0.00000059	ug/L		01/10/22 05:25	01/18/22 03:13	1
Total HxCDF	**0.000010**	**J,DX MB**	0.000048	0.00000071	ug/L		01/10/22 05:25	01/18/22 03:13	1
Total HpCDD	**0.000087**	**MB**	0.000048	0.0000010	ug/L		01/10/22 05:25	01/18/22 03:13	1
Total HpCDF	**0.000018**	**J,DX MB**	0.000048	0.00000087	ug/L		01/10/22 05:25	01/18/22 03:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*01/10/22 05:25*	*01/18/22 03:13*	*1*
13C-2,3,7,8-TCDF	*75*		*24 - 169*	*01/10/22 05:25*	*01/18/22 03:13*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*01/10/22 05:25*	*01/18/22 03:13*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*01/10/22 05:25*	*01/18/22 03:13*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*21 - 178*	*01/10/22 05:25*	*01/18/22 03:13*	*1*
13C-1,2,3,4,7,8-HxCDD	*75*		*32 - 141*	*01/10/22 05:25*	*01/18/22 03:13*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*28 - 130*	*01/10/22 05:25*	*01/18/22 03:13*	*1*
13C-1,2,3,4,7,8-HxCDF	*76*		*26 - 152*	*01/10/22 05:25*	*01/18/22 03:13*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*26 - 123*	*01/10/22 05:25*	*01/18/22 03:13*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	68		29 - 147	01/10/22 05:25	01/18/22 03:13	1
13C-2,3,4,6,7,8-HxCDF	67		28 - 136	01/10/22 05:25	01/18/22 03:13	1
13C-1,2,3,4,6,7,8-HpCDD	74		23 - 140	01/10/22 05:25	01/18/22 03:13	1
13C-1,2,3,4,6,7,8-HpCDF	76		28 - 143	01/10/22 05:25	01/18/22 03:13	1
13C-1,2,3,4,7,8,9-HpCDF	81		26 - 138	01/10/22 05:25	01/18/22 03:13	1
13C-OCDD	75		17 - 157	01/10/22 05:25	01/18/22 03:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	86		35 - 197	01/10/22 05:25	01/18/22 03:13	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (35-197)								
570-80531-1	EPBBC_20211231	86								
MB 320-556933/1-A	Method Blank	89								
MB 320-556933/1-A - RA	Method Blank	95								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (31-191)								
LCS 320-556933/2-A	Lab Control Sample	82								
LCSD 320-556933/3-A	Lab Control Sample Dup	87								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-80531-1	EPBBC_20211231	75	75	73	72	80	75	76	76
MB 320-556933/1-A	Method Blank	79	80	73	72	83	80	78	78
MB 320-556933/1-A - RA	Method Blank		111						

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	
570-80531-1	EPBBC_20211231	73	68	67	74	76	81	75	
MB 320-556933/1-A	Method Blank	76	69	72	75	78	82	74	
MB 320-556933/1-A - RA	Method Blank								

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-556933/2-A	Lab Control Sample	73	72	65	64	75	69	68	69
LCSD 320-556933/3-A	Lab Control Sample Dup	76	75	68	67	76	71	73	70

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	
LCS 320-556933/2-A	Lab Control Sample	64	61	63	63	65	70	64	
LCSD 320-556933/3-A	Lab Control Sample Dup	68	60	65	63	67	70	61	

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-2
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite
Sampling

HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000016	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8-PeCDD	0.00000467	J,DX	0.000050	0.0000014	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8-PeCDF	0.00000401	J,DX	0.000050	0.00000089	ug/L		01/10/22 05:25	01/17/22 19:15	1
2,3,4,7,8-PeCDF	0.00000412	J,DX	0.000050	0.00000090	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8-HxCDD	0.00000550	J,DX q	0.000050	0.00000077	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,6,7,8-HxCDD	0.00000657	J,DX	0.000050	0.00000074	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8,9-HxCDD	0.00000690	J,DX q	0.000050	0.00000073	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8-HxCDF	0.00000382	J,DX q	0.000050	0.00000070	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,6,7,8-HxCDF	0.00000445	J,DX q	0.000050	0.00000072	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,7,8,9-HxCDF	0.00000579	J,DX	0.000050	0.00000067	ug/L		01/10/22 05:25	01/17/22 19:15	1
2,3,4,6,7,8-HxCDF	0.00000499	J,DX	0.000050	0.00000063	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,6,7,8-HpCDD	0.00000880	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,6,7,8-HpCDF	0.00000623	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
1,2,3,4,7,8,9-HpCDF	0.00000709	J,DX	0.000050	0.00000064	ug/L		01/10/22 05:25	01/17/22 19:15	1
OCDD	0.0000172	J,DX	0.00010	0.0000010	ug/L		01/10/22 05:25	01/17/22 19:15	1
OCDF	0.0000123	J,DX	0.00010	0.0000015	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total TCDD	0.00000271	J,DX q	0.000010	0.0000016	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total TCDF	0.00000188	J,DX q	0.000010	0.00000085	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total PeCDD	0.00000467	J,DX	0.000050	0.0000014	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total PeCDF	0.00000813	J,DX	0.000050	0.00000089	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HxCDD	0.0000190	J,DX q	0.000050	0.00000073	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HxCDF	0.0000205	J,DX q	0.000050	0.00000063	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HpCDD	0.0000127	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1
Total HpCDF	0.0000133	J,DX	0.000050	0.00000059	ug/L		01/10/22 05:25	01/17/22 19:15	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*79*		*25 - 164*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*25 - 181*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-2,3,4,7,8-PeCDF	*83*		*21 - 178*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,4,7,8-HxCDD	*80*		*32 - 141*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*28 - 130*	*01/10/22 05:25*	*01/17/22 19:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*78*		*26 - 152*	*01/10/22 05:25*	*01/17/22 19:15*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDF	76		26 - 123	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,7,8,9-HxCDF	69		29 - 147	01/10/22 05:25	01/17/22 19:15	1
13C-2,3,4,6,7,8-HxCDF	72		28 - 136	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,6,7,8-HpCDD	75		23 - 140	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,6,7,8-HpCDF	78		28 - 143	01/10/22 05:25	01/17/22 19:15	1
13C-1,2,3,4,7,8,9-HpCDF	82		26 - 138	01/10/22 05:25	01/17/22 19:15	1
13C-OCDD	74		17 - 157	01/10/22 05:25	01/17/22 19:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	01/10/22 05:25	01/17/22 19:15	1

Lab Sample ID: LCS 320-556933/2-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556933

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000206		ug/L		103	67 - 158		
2,3,7,8-TCDF			0.000200	0.000210	MB	ug/L		105	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.00114	MB	ug/L		114	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.00113	MB	ug/L		113	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.00103	MB	ug/L		103	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000989	MB	ug/L		99	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.00107	MB	ug/L		107	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.00105	MB	ug/L		105	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000988	MB	ug/L		99	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00111	MB	ug/L		111	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.00107	MB	ug/L		107	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.00112	MB	ug/L		112	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.00109	MB	ug/L		109	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00105	MB	ug/L		105	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000972	MB	ug/L		97	78 - 138		
OCDD			0.00200	0.00199	MB	ug/L		99	78 - 144		
OCDF			0.00200	0.00204	MB	ug/L		102	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	73		20 - 175
13C-2,3,7,8-TCDF	72		22 - 152
13C-1,2,3,7,8-PeCDD	65		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	75		13 - 328
13C-1,2,3,4,7,8-HxCDD	69		21 - 193
13C-1,2,3,6,7,8-HxCDD	68		25 - 163
13C-1,2,3,4,7,8-HxCDF	69		19 - 202
13C-1,2,3,6,7,8-HxCDF	64		21 - 159
13C-1,2,3,7,8,9-HxCDF	61		17 - 205
13C-2,3,4,6,7,8-HxCDF	63		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	63		26 - 166

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-556933/2-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556933

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDF	65		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186
13C-OCDD	64		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	82		31 - 191

Lab Sample ID: LCSD 320-556933/3-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556933

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000197		ug/L		98	67 - 158	5	50
2,3,7,8-TCDF			0.000200	0.000209	MB	ug/L		104	75 - 158	1	50
1,2,3,7,8-PeCDD			0.00100	0.00112	MB	ug/L		112	70 - 142	2	50
1,2,3,7,8-PeCDF			0.00100	0.00113	MB	ug/L		113	80 - 134	0	50
2,3,4,7,8-PeCDF			0.00100	0.00103	MB	ug/L		103	68 - 160	0	50
1,2,3,4,7,8-HxCDD			0.00100	0.00102	MB	ug/L		102	70 - 164	3	50
1,2,3,6,7,8-HxCDD			0.00100	0.00104	MB	ug/L		104	76 - 134	3	50
1,2,3,7,8,9-HxCDD			0.00100	0.00102	MB	ug/L		102	64 - 162	3	50
1,2,3,4,7,8-HxCDF			0.00100	0.00101	MB	ug/L		101	72 - 134	2	50
1,2,3,6,7,8-HxCDF			0.00100	0.00108	MB	ug/L		108	84 - 130	2	50
1,2,3,7,8,9-HxCDF			0.00100	0.00112	MB	ug/L		112	78 - 130	5	50
2,3,4,6,7,8-HxCDF			0.00100	0.00110	MB	ug/L		110	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.00110	MB	ug/L		110	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.00106	MB	ug/L		106	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000988	MB	ug/L		99	78 - 138	2	50
OCDD			0.00200	0.00204	MB	ug/L		102	78 - 144	3	50
OCDF			0.00200	0.00207	MB	ug/L		104	63 - 170	2	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	76		20 - 175
13C-2,3,7,8-TCDF	75		22 - 152
13C-1,2,3,7,8-PeCDD	68		21 - 227
13C-1,2,3,7,8-PeCDF	67		21 - 192
13C-2,3,4,7,8-PeCDF	76		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	68		21 - 159
13C-1,2,3,7,8,9-HxCDF	60		17 - 205
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	63		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186
13C-OCDD	61		13 - 199

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-556933/3-A
Matrix: Water
Analysis Batch: 558766

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556933

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*87*		*31 - 191*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-556933/1-A
Matrix: Water
Analysis Batch: 559680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556933

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	ND		0.000010	0.0000054	ug/L		01/10/22 05:25	01/21/22 13:35	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF - RA	*111*		*24 - 169*	*01/10/22 05:25*	*01/21/22 13:35*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD - RA	*95*		*35 - 197*	*01/10/22 05:25*	*01/21/22 13:35*	*1*

QC Association Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-2
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Specialty Organics

Prep Batch: 556933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	1613B	
MB 320-556933/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-556933/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-556933/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-556933/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 558766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	1613B	556933
MB 320-556933/1-A	Method Blank	Total/NA	Water	1613B	556933
LCS 320-556933/2-A	Lab Control Sample	Total/NA	Water	1613B	556933
LCSD 320-556933/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	556933

Analysis Batch: 559680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-556933/1-A - RA	Method Blank	Total/NA	Water	1613B	556933

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-2

Client Sample ID: EPBBC_20211231

Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1048.3 mL	20.0 uL	556933	01/10/22 05:25	FC	TAL SAC
Total/NA	Analysis	1613B		1			558766	01/18/22 03:13	GRB	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-2
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-22
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	07-31-24
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21 *
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-2
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80531-1	EPBBC_20211231	Water	12/31/21 09:30	01/03/22 16:48

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

17 January 2022

Virendra Patel
Eurofins Calscience, LLC
7440 Lincoln Way
Garden Grove, CA 92841

RE: Low Level Hg - 2019

Enclosed are the analytical results for samples received by Eurofins Frontier Global Sciences. All quality control measurements are within established control limits and there were no analytical difficulties encountered with the exception of those listed in the case narrative section of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Curtis Deer
Project Manager

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80531-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	17-Jan-22 10:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EPBBC_20211231 (570-80531-1)	2A00033-01	Water	31-Dec-21 09:30	05-Jan-22 11:24

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80531-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	17-Jan-22 10:11

SAMPLE RECEIPT

Samples were received at Eurofins Frontier Global Sciences (EFGS) on 05-Jan-22 11:24. The samples were received intact, on-ice within a sealed cooler at

Cooler	Temp C°
Default Cooler	-0.8

SAMPLE PREPARATION AND ANALYSIS

Samples were prepared and analyzed for total mercury by flow injection atomic fluorescence spectrometry (FI-AFS) in accordance with EPA 1631E.

ANALYTICAL AND QUALITY CONTROL ISSUES

Method blanks were prepared for every preparation to assess possible blank contribution from the sample preparation procedure. The method blanks were carried through the entire analytical procedure. All blanks fell within the established acceptance criteria with the exception of any items narrated above or flagged and described in the notes and definitions section of the report.

Liquid spikes, certified reference material (CRM) or a quality control samples (QCS) were prepared for every preparation as a measure of accuracy. All liquid spikes, CRMs and/or QCS samples fell within the established acceptance criteria with the exception of any items narrated above or flagged and described in the notes and definitions section of the report.

As an additional measure of the accuracy of the methods used and to check for matrix interference, matrix spikes (MS) and matrix spike duplicates (MSD) were digested and analyzed. All of the matrix spike recoveries fell within the established acceptance criteria with the exception of any items flagged and described in the notes and definitions section of the report.

A reasonable measure of the precision of the analytical methods is the relative percent difference (RPD) between a matrix spike recovery and a matrix spike duplicate recovery and between laboratory control sample recovery and laboratory control sample duplicate recoveries. All of the relative percent differences fell within established acceptance criteria with the exception of any items flagged and described in the notes and definitions section of the report.

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Sample Receipt Checklist

Client: Calscience Date & Time Received: 1/5/22 10:40 Date Labeled: 1/5/22 Labeled By: ID

Matrix: Water Received By: ID Label Verified By: CM 1-5-22

# of Coolers Received: 1 Samples Arrived By: X Shipping Service ____ Courier ____ Hand ____ Other (Specify: ____)

Coolant: ☐ None/Ambient ☒ Loose Ice ☐ Gel Ice ☐ Dry Ice Coolant Required: Y / (N) Temp Blank Used: Y/N for Cooler(s): ____

Notify Project Manager if packages/coolers are received without coolant or with thawed coolant and at a temperature in excess of 6°C. PM notified: Y/N

Samples from Wisconsin have special requirements. Shipment received includes samples from Wisconsin: Y/N

Cooler Information:	Y/N/NA	Comments
The coolers do not appear to be tampered with:	Y	
Custody Seals are present and intact:	Y	
Custody seals signed:	Y	

TID: 50487815 CF: -0.5°C			Date/time: 1/5/22 10:40 By: R		
Cooler 1: -0.3°C	w/ CF: -0.8°C		Cooler 4: °C	w/ CF: °C	
Cooler 2: °C	w/ CF: °C		Cooler 5: °C	w/ CF: °C	
Cooler 3: °C	w/ CF: °C		Cooler 6: °C	w/ CF: °C	

Chain of Custody:	Y/N/NA	Comments
Sample ID/Description:	Y	
Date and time of collection:	Y	
Sampled by:	Y	
Preservation type:	Y	
Requested analyses:	Y	
Required signatures:	Y	
Internal COC required:	NA	

Sample Condition/Integrity:	Y/N/NA	Comments
Sample containers intact/present:	Y	
Sample labels are present and legible:	Y	
Sample ID on container/bag matches COC:	Y	
Correct sample containers used:	Y	
Samples received within holding times:	Y	
Sample volume sufficient for requested analyses:	Y	
Correct preservative used for requested analyses:	Y	

Anomalies/Non-conformances (attach additional pages if needed):

2A00033

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148860.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80531-2
Address: 5755 8th Street E,	Due Date Requested: 1/17/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code						
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements: 7756 6291 1894

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 1/4/22 1417	Company	Received by: Date/Time: 1/5/22 10:40 Company: FEDEX
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: NO | Cooler Temperature(s) °C and Other Remarks: -0.8

V

eurofins | Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80531-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	17-Jan-22 10:11

EPBBC_20211231 (570-80531-1)

2A00033-01

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
Sample Preparation: EFGS SOP2796 EPA 1631 Oxidation											
Mercury	**13.8**	0.08	0.50	ng/L	1	F201327	12-Jan-22	2A13015	12-Jan-22	EPA 1631E	

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5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80531-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	17-Jan-22 10:11

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F201327 - EFGS SOP2796 EPA 1631 Oxidation											
Blank (F201327-BLK1)					Prepared & Analyzed: 12-Jan-22						
Mercury	0.12	0.08	0.50	ng/L							J
Blank (F201327-BLK2)					Prepared & Analyzed: 12-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
Blank (F201327-BLK3)					Prepared & Analyzed: 12-Jan-22						
Mercury	ND	0.08	0.50	ng/L							U
LCS (F201327-BS1)					Prepared & Analyzed: 12-Jan-22						
Mercury	4.77	0.08	0.50	ng/L	5.0000		95.4	77-123			
LCS Dup (F201327-BSD1)					Prepared & Analyzed: 12-Jan-22						
Mercury	4.72	0.08	0.50	ng/L	5.0000		94.5	77-123	0.991	24	
Matrix Spike (F201327-MS1)		**Source: 2A00029-01RE1**			Prepared & Analyzed: 12-Jan-22						
Mercury	313.4	4.17	25.0	ng/L	252.50	85.41	90.3	71-125			
Matrix Spike (F201327-MS2)		**Source: 2A00034-01RE1**			Prepared & Analyzed: 12-Jan-22						
Mercury	57.74	0.42	2.50	ng/L	50.500	13.69	87.2	71-125			
Matrix Spike Dup (F201327-MSD1)		**Source: 2A00029-01RE1**			Prepared & Analyzed: 12-Jan-22						
Mercury	307.9	4.17	25.0	ng/L	252.50	85.41	88.1	71-125	1.77	24	
Matrix Spike Dup (F201327-MSD2)		**Source: 2A00034-01RE1**			Prepared & Analyzed: 12-Jan-22						
Mercury	57.33	0.42	2.50	ng/L	50.500	13.69	86.4	71-125	0.705	24	

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5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Eurofins Calscience, LLC	Project: Low Level Hg - 2019	
7440 Lincoln Way	Project Number: 570-80531-2	**Reported:**
Garden Grove CA, 92841	Project Manager: Virendra Patel	17-Jan-22 10:11

Notes and Definitions

U	Analyte was not detected and is reported as less than the LOD or as defined by the client. The LOD has been adjusted for any dilution or concentration of the sample.
J	The result is an estimated concentration.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the method detection limit if reported to the MDL or above the reporting limit if reported to the MRL.
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

80531

570-80531 Chain of Custody

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time: ☑ CALENDAR DAYS ☐ WORKING DAYS		Sampler:
San Diego, California 92108	TAT if different from Below ____		For Lab Use Only:
(619) 280-9210 Phone	☑ 2 weeks		Walk-in Client:
(619) 280-9415 FAX	☐ 1 week		Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 2 days		Job / SDG No.:
Site: EP offsite background sampling	☐ 1 day		
H&A P O #			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable (E900.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable (Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn -- (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn -- (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
			G	W	19			2-1L Amber	1-1L Poly	1-1L Poly	1-2.5 gallon cube Poly			1-250mL Poly	1-250mL Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPBLLC_																								
EPBBC_20211231	12/31/2021	0930	G	W	19			X	X	X	X			X	X	X	X	X	X	X	X	X	X	X
EPBBC_																								
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	1			1	1	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access, Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

	Company	Date/Time		Company	Date/Time
Relinquished by:	H&A	1-3-2022/1330	Received by:	ECI	1/3/22 1330 VM
Relinquished by: VICTOR M.	ECI	1-3-22 1648	Received by:	ECI	1-3-2022 16:48
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev. 1.2, dated 1/8/2016

3.5/4.4 SCS

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148846 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80531-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/31/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44009815			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/4/22 1303				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148850 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80531-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/19/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	1/4/22 1345				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148860 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80531-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/17/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	Relinquished by:	Date/Time: 1/4/22 1417	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148850.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80531-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/19/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/4/22 1345			1/5/22 1150	BEST
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.9c

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80531-2

Login Number: 80531
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80531-2

Login Number: 80531
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 01/05/22 01:23 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-80531-3
Client Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
2/7/2022 3:27:41 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@eurofinset.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Qualifiers

Rad

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-80531-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-80531-3

Comments
No additional comments.

Receipt
The sample was received on 1/3/2022 4:48 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.4º C.

RAD
Method 900.0: Gross alpha beta batch 546013
The matrix spike (MS) recoveries for gross alpha were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (570-80422-S-1-G MS)

Method 900.0: Gross alpha beta batch 546013
The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: EPBBC_20211231 (570-80531-1), (570-80422-S-1-D) and (570-80422-S-1-I DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross alpha beta batch 546013
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPBBC_20211231 (570-80531-1), (LCS 160-546013/2-A), (LCSB 160-546013/3-A), (MB 160-546013/1-A), (570-80422-S-1-D), (570-80422-S-1-I DU), (570-80422-S-1-G MS) and (570-80422-S-1-H MSBT)

Method 900.0: Gross alpha beta batch 547126
The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: EPBBC_20211231 (570-80531-1). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha Beta prep batch 160-547126:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. EPBBC_20211231 (570-80531-1), (LCS 160-547126/2-A), (LCSB 160-547126/3-A), (MB 160-547126/1-A), (570-80548-R-1-O), (570-80548-R-1-U DU), (570-80548-R-1-S MS) and (570-80548-R-1-T MSBT)

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

Method 903.0: Radium 226 Batch 160-545836:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPBBC_20211231 (570-80531-1), (LCS 160-545836/1-A), (LCSD 160-545836/2-A) and (MB 160-545836/24-A)

Method 904.0: Radium 228 batch 545838
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time

Job ID: 570-80531-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

applied as the Activity Reference Date.

EPBBC_20211231 (570-80531-1), (LCS 160-545838/1-A), (LCSD 160-545838/2-A) and (MB 160-545838/24-A)

Method 905: Strontium 90 batch 546021
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The GFPC long monthly backgrounds (ICB) were counted for 800 minutes, but due to current software limitations with the Protean instruments the long monthly backgrounds are calculated at 1000 minutes. This discrepancy has been manually updated, and data is correct, but the raw data printouts still show the incorrect time of 1000 minutes. The ICB raw data includes the correct count time of 800 minutes and counts.

EPBBC_20211231 (570-80531-1), (LCS 160-546021/1-A), (LCSD 160-546021/2-A) and (MB 160-546021/18-A)

Method 906.0: Tritium in Liquid batch 160-545059
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
EPBBC_20211231 (570-80531-1), (LCS 160-545059/2-A), (MB 160-545059/1-A), (160-44147-A-2-B), (160-44147-A-2-D DU) and (160-44147-A-2-C MS)

Method LSC_Dist_Susp: Tritium Prep Batch 545059:

The following sample had an unclear matrix: EPBBC_20211231 (570-80531-1). The sample was yellow in color with traces of cloudiness and some particles in it.

Method PrecSep_0: Radium-228 Prep Batch 160-545838

The following samples were prepared at a reduced aliquot due to Matrix: EPBBC_20211231 (570-80531-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-545836

The following samples were prepared at a reduced aliquot due to Matrix: EPBBC_20211231 (570-80531-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-546021

The following samples were prepared at a reduced aliquot due to Matrix: EPBBC_20211231 (570-80531-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Client Sample ID: EPBBC_20211231
Lab Sample ID: 570-80531-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.507	U G	6.08	6.08	3.00	11.4	pCi/L	01/19/22 09:35	01/21/22 13:54	1
Gross Beta	5.48	U G	3.76	3.80	4.00	5.80	pCi/L	01/19/22 09:35	01/21/22 13:54	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity - Dissolved

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	5.99	G	3.73	3.79	3.00	5.32	pCi/L	01/12/22 10:46	01/14/22 12:19	1
Gross Beta	2.34		1.59	1.60	4.00	2.34	pCi/L	01/12/22 10:46	01/14/22 12:19	1

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.154	U	0.308	0.308	1.00	0.543	pCi/L	01/11/22 12:38	02/07/22 11:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.2*		*40 - 110*	*01/11/22 12:38*	*02/07/22 11:46*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.799		0.500	0.505	1.00	0.758	pCi/L	01/11/22 13:24	02/05/22 12:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.2*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:27*	*1*
Y Carrier	*83.0*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:27*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.282	U	0.458	0.459	3.00	0.771	pCi/L	01/12/22 12:11	01/24/22 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*80.2*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:52*	*1*
Y Carrier	*86.7*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:52*	*1*

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: EPBBC_20211231
Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-143	U	170	171	500	326	pCi/L	01/06/22 08:48	01/06/22 14:51	1

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-3

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-80531-1	EPBBC_20211231	90.2
LCS 160-545836/1-A	Lab Control Sample	91.4
LCSD 160-545836/2-A	Lab Control Sample Dup	95.2
MB 160-545836/24-A	Method Blank	103

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80531-1	EPBBC_20211231	90.2	83.0
LCS 160-545838/1-A	Lab Control Sample	91.4	83.4
LCSD 160-545838/2-A	Lab Control Sample Dup	95.2	84.5
MB 160-545838/24-A	Method Blank	103	90.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-80531-1	EPBBC_20211231	80.2	86.7
LCS 160-546021/1-A	Lab Control Sample	88.0	86.7
LCSD 160-546021/2-A	Lab Control Sample Dup	69.5	81.1
MB 160-546021/18-A	Method Blank	81.5	91.2

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-546013/1-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546013

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.9192	U	0.730	0.738	3.00	1.11	pCi/L	01/12/22 10:46	01/14/22 08:40	1
Gross Beta	1.200		0.604	0.616	4.00	0.863	pCi/L	01/12/22 10:46	01/14/22 08:40	1

Lab Sample ID: LCS 160-546013/2-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546013

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	49.91		7.39	3.00	2.12	pCi/L	99	75 - 125

Lab Sample ID: LCSB 160-546013/3-A
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546013

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	71.71		7.70	4.00	0.856	pCi/L	95	75 - 125

Lab Sample ID: MB 160-547126/1-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 547126

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.04269	U	0.612	0.612	3.00	1.19	pCi/L	01/19/22 09:35	01/21/22 13:53	1
Gross Beta	0.5433	U	0.532	0.535	4.00	0.861	pCi/L	01/19/22 09:35	01/21/22 13:53	1

Lab Sample ID: LCS 160-547126/2-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.6	52.84		7.62	3.00	2.09	pCi/L	104	75 - 125

Lab Sample ID: LCSB 160-547126/3-A
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	75.6	74.43		7.97	4.00	1.06	pCi/L	98	75 - 125

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: 570-80548-R-1-S MS
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	3.00	U G	50.6	33.21		6.09	3.00	3.28	pCi/L	64	60 - 140

Lab Sample ID: 570-80548-R-1-T MSBT
Matrix: Water
Analysis Batch: 547481

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	3.81		75.6	76.60		8.22	4.00	1.01	pCi/L	98	60 - 140

Lab Sample ID: 570-80548-R-1-U DU
Matrix: Water
Analysis Batch: 547960

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 547126

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	1.07	U	1.137	U	1.53	3.00	2.53	pCi/L	0.02	1
Gross Beta	2.34		2.080		0.584	4.00	0.728	pCi/L	0.21	1

Lab Sample ID: 570-80422-S-1-G MS
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	7.34	G	50.6	32.48	F1	8.08	3.00	6.16	pCi/L	50	60 - 140

Lab Sample ID: 570-80422-S-1-H MSBT
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	6.41		75.5	90.25		10.1	4.00	1.80	pCi/L	111	60 - 140

Lab Sample ID: 570-80422-S-1-I DU
Matrix: Water
Analysis Batch: 546411

Client Sample ID: Duplicate
Prep Type: Dissolved
Prep Batch: 546013

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	7.34	G	9.617	G	5.00	3.00	6.52	pCi/L	0.23	1
Gross Beta	6.41		7.231		1.87	4.00	1.98	pCi/L	0.22	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-545836/24-A
Matrix: Water
Analysis Batch: 549570

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545836

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.03016	U	0.101	0.101	1.00	0.228	pCi/L	01/11/22 12:38	02/07/22 12:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 12:38*	*02/07/22 12:17*	*1*

Lab Sample ID: LCS 160-545836/1-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545836

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.84		1.60	1.00	0.255	pCi/L	92	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*

Lab Sample ID: LCSD 160-545836/2-A
Matrix: Water
Analysis Batch: 549569

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545836

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.98		1.60	1.00	0.279	pCi/L	92	75 - 125	0.04	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-545838/24-A
Matrix: Water
Analysis Batch: 549231

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545838

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6159		0.326	0.331	1.00	0.487	pCi/L	01/11/22 13:24	02/05/22 12:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*
Y Carrier	*90.1*		*40 - 110*	*01/11/22 13:24*	*02/05/22 12:35*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-545838/1-A
Matrix: Water
Analysis Batch: 549232

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545838

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.9	13.74		1.58	1.00	0.462	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Lab Sample ID: LCSD 160-545838/2-A
Matrix: Water
Analysis Batch: 549232

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 545838

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.9	14.06		1.60	1.00	0.452	pCi/L	119	75 - 125	0.10	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*
Y Carrier	*84.5*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-546021/18-A
Matrix: Water
Analysis Batch: 547796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546021

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.4294		0.203	0.206	3.00	0.290	pCi/L	01/12/22 12:11	01/24/22 16:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.5*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*
Y Carrier	*91.2*		*40 - 110*	*01/12/22 12:11*	*01/24/22 16:53*	*1*

Lab Sample ID: LCS 160-546021/1-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			7.56	7.562		0.824	3.00	0.290	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*88.0*		*40 - 110*
Y Carrier	*86.7*		*40 - 110*

Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: LCSD 160-546021/2-A
Matrix: Water
Analysis Batch: 547958

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 546021

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium-90			7.56	6.786		0.827	3.00	0.408	pCi/L	90	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*69.5*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-545059/1-A
Matrix: Water
Analysis Batch: 545184

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545059

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-207.2	U	163	164	500	324	pCi/L	01/06/22 08:48	01/06/22 13:43	1

Lab Sample ID: LCS 160-545059/2-A
Matrix: Water
Analysis Batch: 545184

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545059

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2240	1860		348	500	325	pCi/L	83	75 - 125		

Lab Sample ID: 160-44147-A-2-C MS
Matrix: Water
Analysis Batch: 545184

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 545059

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	-159	U	2240	1901		356	500	333	pCi/L	85	60 - 140		

Lab Sample ID: 160-44147-A-2-D DU
Matrix: Water
Analysis Batch: 545184

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 545059

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	-159	U		-31.53	U	185	500	336	pCi/L			0.36	1

Rad

Prep Batch: 545059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	LSC_Dist_Susp	
MB 160-545059/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-545059/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
160-44147-A-2-C MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
160-44147-A-2-D DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Filtration Batch: 545628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Dissolved	Water	Filtration	
570-80422-S-1-G MS	Matrix Spike	Dissolved	Water	Filtration	
570-80422-S-1-H MSBT	Matrix Spike	Dissolved	Water	Filtration	
570-80422-S-1-I DU	Duplicate	Dissolved	Water	Filtration	

Prep Batch: 545836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	PrecSep-21	
MB 160-545836/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-545836/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-545836/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 545838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	PrecSep_0	
MB 160-545838/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-545838/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-545838/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 546013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Dissolved	Water	Evaporation	545628
MB 160-546013/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-546013/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-546013/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-80422-S-1-G MS	Matrix Spike	Dissolved	Water	Evaporation	545628
570-80422-S-1-H MSBT	Matrix Spike	Dissolved	Water	Evaporation	545628
570-80422-S-1-I DU	Duplicate	Dissolved	Water	Evaporation	545628

Prep Batch: 546021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	PrecSep-7	
MB 160-546021/18-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-546021/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-546021/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 547126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80531-1	EPBBC_20211231	Total/NA	Water	Evaporation	
MB 160-547126/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-547126/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-547126/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Rad (Continued)

Prep Batch: 547126 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80548-R-1-S MS	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-T MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-80548-R-1-U DU	Duplicate	Total/NA	Water	Evaporation	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-3

Client Sample ID: EPBBC_20211231

Date Collected: 12/31/21 09:30
Date Received: 01/03/22 16:48

Lab Sample ID: 570-80531-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1000 mL	545628	01/10/22 12:35	LTC	TAL SL
Dissolved	Prep	Evaporation			75.08 mL	1.0 g	546013	01/12/22 10:46	KG	TAL SL
Dissolved	Analysis	900.0		1			546411	01/14/22 12:19	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	Evaporation			30.00 mL	1.0 g	547126	01/19/22 09:35	KG	TAL SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	547481	01/21/22 13:54	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-21			500.36 mL	1.0 g	545836	01/11/22 12:38	LPS	TAL SL
Total/NA	Analysis	903.0		1			549569	02/07/22 11:46	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			500.36 mL	1.0 g	545838	01/11/22 13:24	LPS	TAL SL
Total/NA	Analysis	904.0		1			549232	02/05/22 12:27	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep-7			499.88 mL	1.0 g	546021	01/12/22 12:11	LPS	TAL SL
Total/NA	Analysis	905		1			547796	01/24/22 16:52	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	LSC_Dist_Susp			100.46 mL	1.0 g	545059	01/06/22 08:48	BAL	TAL SL
Total/NA	Analysis	906.0		1			545184	01/06/22 14:51	JLP	TAL SL
	Instrument ID: LSCAQUA									

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-80531-3
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
Filtration	Sample Filtration	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP - EP Offsite Sampling

Job ID: 570-80531-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80531-1	EPBBC_20211231	Water	12/31/21 09:30	01/03/22 16:48

80531

570-80531 Chain of Custody

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time: ☑ CALENDAR DAYS ☐ WORKING DAYS		Sampler:
San Diego, California 92108	TAT if different from Below ____		For Lab Use Only:
(619) 280-9210 Phone	☑ 2 weeks		Walk-in Client:
(619) 280-9415 FAX	☐ 1 week		Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 2 days		Job / SDG No.:
Site: EP offsite background sampling	☐ 1 day		
H&A P O #			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable (E900.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable (Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn, -- (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu, Fe, Mn, Ni, Pb, Se, Sb, Tl; Method 200.7: B, Zn -- (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
			G	W	19			2-1L Amber	1-1L Poly	1-1L Poly	1-2.5 gallon cube Poly			1-250mL Poly	1-250mL Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPBLLC_																								
EPBBC_20211231	12/31/2021	0930	G	W	19			X	X	X	X			X	X	X	X	X	X	X	X	X	X	X
EPBBC_																								
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	1	1	1			1	1	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☑ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access, Bill to Haley & Aldrich at AP@haleyaldrich.com, Report Level II Data Package and provide EDD; All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold. Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L).

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

	Company	Date/Time		Company	Date/Time
Relinquished by:	H&A	1-3-2022/1330	Received by:	ECI	1/3/22 1330 VM
Relinquished by: VICTOR M.	ECI	1-3-22 1648	Received by:	ECI	1-3-2022 16:48
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev. 1.2, dated 1/8/2016

3.5/4.4 SCS

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel Virendra	Carrier Tracking No(s):	COC No: 570-148846 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80531-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/31/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 44009815			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	SSOW#:			
Site:				

Analysis Requested

Preservation Codes

A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreoSep_21 Radium-226	904.0/PreoSep_0 Radium-228	905_Sr90/PreoSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	X	X	X	X	X	2	Boeing SSFL, DO NOT FILTER use prep date from preservation

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/4/22 1303	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel Virendra	Carrier Tracking No(s)	COC No: 570-148850 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Virendra Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-80531-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/19/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	2	See QAS Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	1/4/22 1345				
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s)	COC No: 570-148860 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-80531-2
Address: 5755 8th Street E, ,	Due Date Requested: 1/17/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (EPA 1631E LL Mercury)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	Relinquished by:	Date/Time: 1/4/22 1417	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-148846.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-80531-3
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/31/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP - EP Offsite Sampling	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	905_Sr90/PrecSep_7 Strontium-90	900.0/Evaporation Gross Alpha/Beta	900.0/Filtration_Rad Gross Alpha/Beta - Dissolved	906.0/LSC_Dist_Susp Tritium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
EPBBC_20211231 (570-80531-1)	12/31/21	09:30 Pacific		Water			X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	FEDEX	1/4/22 1303		FEDEX		
2	FEDEX	Date/Time:	Company	Sierra Worthington	1/5/22 0910	EDFSR
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80531-3

Login Number: 80531
List Number: 1
Creator: Patel, Virendra

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-80531-3

Login Number: 80531
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 01/05/22 10:19 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-89945-1
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/14/2022 10:00:07 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

LINKS

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
LQ	LCS/LCSD recovery above method control limits

HPLC/IC

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-89945-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-89945-1

Comments
No additional comments.

Receipt
The samples were received on 3/28/2022 5:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.5º C and 2.8º C.

Receipt Exceptions

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): EPSW001BG01_20220328 (570-89945-1). Received 20 containers, while the COC lists 27.

GC/MS VOA
Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-225803. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 625.1 SIM: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 570-223177 and analytical batch 570-224431 recovered outside control limits for the following analytes: Bis(2-ethylhexyl) phthalate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 625.1 SIM: The continuing calibration verification (CCV) associated with batch 570-224431 recovered above the upper control limit for Bis(2-ethylhexyl) phthalate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: EPSW001BG01_20220328 (570-89945-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-670461 and analytical batch 440-670531 were outside control limits for Antimony. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 200.8: The following sample was diluted due to the nature of the sample matrix: EPSW001BG01_20220328 (570-89945-1). Elevated reporting limits (RLs) are provided.

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPSW001BG01_20220328 (570-89945-1). These samples were filtered and preserved upon receipt to the laboratory.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with

Job ID: 570-89945-1 (Continued)

Laboratory: Eurofins Calscience (Continued)

preparation batch 570-223177. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Client Sample ID: EPSW001BG01_20220328

Lab Sample ID: 570-89945-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.054	J,DX	0.10	0.046	mg/L	1		300.0	Total/NA
Nitrite as N	0.025	J,DX	0.10	0.018	mg/L	1		300.0	Total/NA
Nitrate as N	0.37		0.10	0.024	mg/L	1		300.0	Total/NA
Sulfate	3.5		1.0	0.24	mg/L	1		300.0	Total/NA
Boron	25	J,DX	50	25	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	170		20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	11		5.0	0.68	ug/L	5		200.8	Total Recoverable
Barium	1100		5.0	2.4	ug/L	5		200.8	Total Recoverable
Beryllium	4.0		2.5	1.3	ug/L	5		200.8	Total Recoverable
Cadmium	1.3	J,DX	5.0	0.71	ug/L	5		200.8	Total Recoverable
Chromium	62		10	8.1	ug/L	5		200.8	Total Recoverable
Copper	82		10	7.8	ug/L	5		200.8	Total Recoverable
Iron	74000		100	87	ug/L	5		200.8	Total Recoverable
Manganese	2400		5.0	3.1	ug/L	5		200.8	Total Recoverable
Nickel	57		10	4.0	ug/L	5		200.8	Total Recoverable
Lead	41		5.0	0.61	ug/L	5		200.8	Total Recoverable
Antimony	6.7	J,DX	10	1.3	ug/L	5		200.8	Total Recoverable
Selenium	8.8	J,DX	10	2.4	ug/L	5		200.8	Total Recoverable
Thallium	1.0	J,DX	5.0	0.59	ug/L	5		200.8	Total Recoverable
Arsenic	1.2		1.0	0.14	ug/L	1		200.8	Dissolved
Barium	26		1.0	0.47	ug/L	1		200.8	Dissolved
Copper	11		2.0	1.6	ug/L	1		200.8	Dissolved
Iron	820		20	17	ug/L	1		200.8	Dissolved
Manganese	22		1.0	0.62	ug/L	1		200.8	Dissolved
Nickel	1.1	J,DX	2.0	0.80	ug/L	1		200.8	Dissolved
Lead	0.53	J,DX	1.0	0.12	ug/L	1		200.8	Dissolved
Antimony	1.7	J,DX	2.0	0.26	ug/L	1		200.8	Dissolved
Cr (III)	0.062		0.050	0.0069	mg/L	1		218.6 CR3	Total/NA
Total Suspended Solids	6100		100	83	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	20.43		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	74.28		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	94.72		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	5.28		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.41	ug/L			04/11/22 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*		*04/11/22 18:30*	*1*
4-Bromofluorobenzene (Surr)	*81*		*60 - 140*		*04/11/22 18:30*	*1*
Dibromofluoromethane	*107*		*60 - 140*		*04/11/22 18:30*	*1*
Toluene-d8 (Surr)	*101*		*60 - 140*		*04/11/22 18:30*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND	LQ	4.8	1.7	ug/L		03/31/22 05:50	04/05/22 17:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*28 - 127*	*03/31/22 05:50*	*04/05/22 17:29*	*1*
2-Fluorobiphenyl (Surr)	*53*		*31 - 120*	*03/31/22 05:50*	*04/05/22 17:29*	*1*
2-Fluorophenol (Surr)	*48*		*17 - 120*	*03/31/22 05:50*	*04/05/22 17:29*	*1*
Nitrobenzene-d5 (Surr)	*66*		*27 - 120*	*03/31/22 05:50*	*04/05/22 17:29*	*1*
Phenol-d6 (Surr)	*28*		*10 - 120*	*03/31/22 05:50*	*04/05/22 17:29*	*1*
p-Terphenyl-d14 (Surr)	*68*		*45 - 120*	*03/31/22 05:50*	*04/05/22 17:29*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.20	0.019	ug/L			03/29/22 01:25	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.054	J,DX	0.10	0.046	mg/L			03/29/22 17:36	1
Nitrite as N	0.025	J,DX	0.10	0.018	mg/L			03/29/22 17:36	1
Nitrate as N	0.37		0.10	0.024	mg/L			03/29/22 17:36	1
Sulfate	3.5		1.0	0.24	mg/L			03/29/22 17:36	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: 314.0 - Perchlorate (IC)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/31/22 14:37	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25	J,DX	50	25	ug/L		04/06/22 15:37	04/07/22 17:31	1
Zinc	170		20	12	ug/L		04/06/22 15:37	04/07/22 17:31	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		04/08/22 07:12	04/08/22 13:18	1
Zinc	ND		20	12	ug/L		04/08/22 07:12	04/08/22 13:18	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		5.0	0.85	ug/L		04/05/22 10:25	04/06/22 09:30	5
Arsenic	**11**		5.0	0.68	ug/L		04/05/22 10:25	04/06/22 09:30	5
Barium	**1100**		5.0	2.4	ug/L		04/05/22 10:25	04/06/22 09:30	5
Beryllium	**4.0**		2.5	1.3	ug/L		04/05/22 10:25	04/06/22 09:30	5
Cadmium	**1.3**	**J,DX**	5.0	0.71	ug/L		04/05/22 10:25	04/06/22 09:30	5
Chromium	**62**		10	8.1	ug/L		04/05/22 10:25	04/06/22 09:30	5
Copper	**82**		10	7.8	ug/L		04/05/22 10:25	04/06/22 09:30	5
Iron	**74000**		100	87	ug/L		04/05/22 10:25	04/06/22 09:30	5
Manganese	**2400**		5.0	3.1	ug/L		04/05/22 10:25	04/06/22 09:30	5
Nickel	**57**		10	4.0	ug/L		04/05/22 10:25	04/06/22 09:30	5
Lead	**41**		5.0	0.61	ug/L		04/05/22 10:25	04/06/22 09:30	5
Antimony	**6.7**	**J,DX**	10	1.3	ug/L		04/05/22 10:25	04/06/22 09:30	5
Selenium	**8.8**	**J,DX**	10	2.4	ug/L		04/05/22 10:25	04/06/22 09:30	5
Thallium	**1.0**	**J,DX**	5.0	0.59	ug/L		04/05/22 10:25	04/06/22 09:30	5

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.17	ug/L		04/08/22 05:26	04/08/22 10:24	1
Arsenic	**1.2**		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:24	1
Barium	**26**		1.0	0.47	ug/L		04/08/22 05:26	04/08/22 10:24	1
Beryllium	ND		0.50	0.25	ug/L		04/08/22 05:26	04/08/22 10:24	1
Cadmium	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:24	1
Chromium	ND		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:24	1
Copper	**11**		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:24	1
Iron	**820**		20	17	ug/L		04/08/22 05:26	04/08/22 10:24	1
Manganese	**22**		1.0	0.62	ug/L		04/08/22 05:26	04/08/22 10:24	1
Nickel	**1.1**	**J,DX**	2.0	0.80	ug/L		04/08/22 05:26	04/08/22 10:24	1
Lead	**0.53**	**J,DX**	1.0	0.12	ug/L		04/08/22 05:26	04/08/22 10:24	1
Antimony	**1.7**	**J,DX**	2.0	0.26	ug/L		04/08/22 05:26	04/08/22 10:24	1
Selenium	ND		2.0	0.48	ug/L		04/08/22 05:26	04/08/22 10:24	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

General Chemistry

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	**0.062**		0.050	0.0069	mg/L			04/08/22 17:38	1
Total Suspended Solids	**6100**		100	83	mg/L			03/31/22 23:49	1
Cyanide, Total	ND		5.0	2.5	ug/L		03/31/22 15:30	03/31/22 20:15	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**20.43**		0.01	0.01	%			04/05/22 15:45	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			04/05/22 15:45	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			04/05/22 15:45	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			04/05/22 15:45	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			04/05/22 15:45	1
Silt (0.00391 to 0.0625mm)	**74.28**		0.01	0.01	%			04/05/22 15:45	1
Total Silt and Clay (0 to 0.0626mm)	**94.72**		0.01	0.01	%			04/05/22 15:45	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			04/05/22 15:45	1
Very Fine Sand (0.0625 to 0.125 mm)	**5.28**		0.01	0.01	%			04/05/22 15:45	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

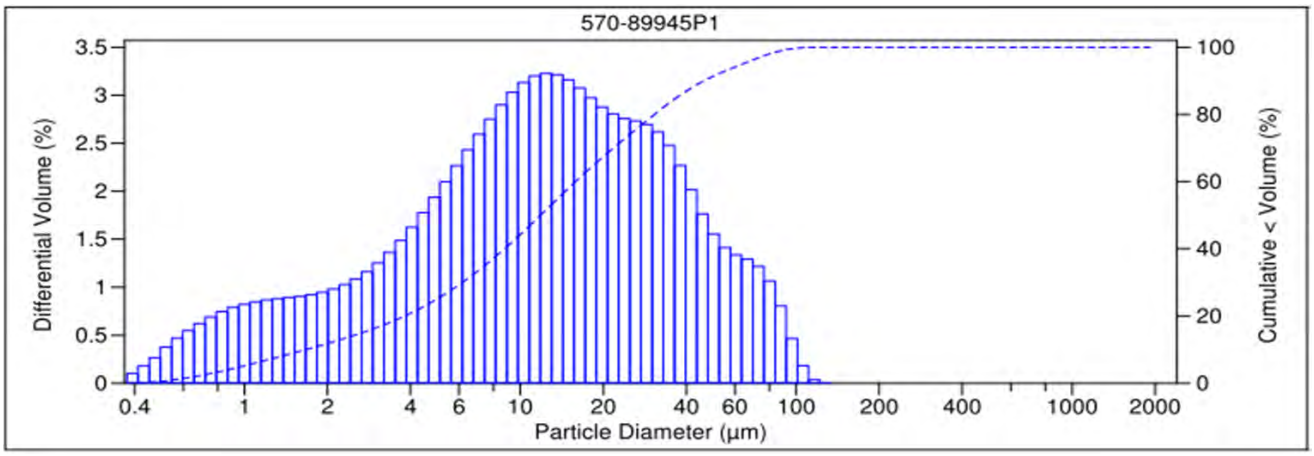
Haley & Aldrich, Inc.

Date Sampled:	03/28/22
Date Received:	03/28/22
Work Order No:	570-89945
Date Analyzed:	04/05/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
EPSW001BG01_20220328		Silt	0.019

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	5.28	74.28	20.43	94.72



V 3.0

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		DCA	BFB	DBFM	TOL				
Lab Sample ID	Client Sample ID	(60-140)	(60-140)	(60-140)	(60-140)				
570-89945-1	EPSW001BG01_20220328	97	81	107	101				
LCS 570-225803/3	Lab Control Sample	94	92	103	100				
LCSD 570-225803/4	Lab Control Sample Dup	95	92	106	100				
MB 570-225803/7	Method Blank	97	83	108	103				

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		TBP	FBP	2FP	NBZ	PHL6	TPHd14		
Lab Sample ID	Client Sample ID	(28-127)	(31-120)	(17-120)	(27-120)	(10-120)	(45-120)		
570-89945-1	EPSW001BG01_20220328	97	53	48	66	28	68		
LCS 570-223177/2-A	Lab Control Sample	108	76	51	73	28	85		
LCSD 570-223177/3-A	Lab Control Sample Dup	113	84	53	76	30	93		
MB 570-223177/1-A	Method Blank	96	65	82	79	54	90		

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL6 = Phenol-d6 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-225803/7
Matrix: Water
Analysis Batch: 225803

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0	0.41	ug/L			04/11/22 15:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*		*04/11/22 15:49*	*1*
4-Bromofluorobenzene (Surr)	*83*		*60 - 140*		*04/11/22 15:49*	*1*
Dibromofluoromethane	*108*		*60 - 140*		*04/11/22 15:49*	*1*
Toluene-d8 (Surr)	*103*		*60 - 140*		*04/11/22 15:49*	*1*

Lab Sample ID: LCS 570-225803/3
Matrix: Water
Analysis Batch: 225803

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Trichloroethene			50.0	53.9		ug/L		108	65 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*60 - 140*
4-Bromofluorobenzene (Surr)	*92*		*60 - 140*
Dibromofluoromethane	*103*		*60 - 140*
Toluene-d8 (Surr)	*100*		*60 - 140*

Lab Sample ID: LCSD 570-225803/4
Matrix: Water
Analysis Batch: 225803

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Trichloroethene			50.0	54.5		ug/L		109	65 - 135	1	48

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
4-Bromofluorobenzene (Surr)	*92*		*60 - 140*
Dibromofluoromethane	*106*		*60 - 140*
Toluene-d8 (Surr)	*100*		*60 - 140*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-223177/1-A
Matrix: Water
Analysis Batch: 224431

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 223177

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		5.0	1.8	ug/L		03/30/22 12:14	04/05/22 13:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*28 - 127*	*03/30/22 12:14*	*04/05/22 13:59*	*1*
2-Fluorobiphenyl (Surr)	*65*		*31 - 120*	*03/30/22 12:14*	*04/05/22 13:59*	*1*
2-Fluorophenol (Surr)	*82*		*17 - 120*	*03/30/22 12:14*	*04/05/22 13:59*	*1*

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: MB 570-223177/1-A
Matrix: Water
Analysis Batch: 224431

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 223177

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	79		27 - 120	03/30/22 12:14	04/05/22 13:59	1
Phenol-d6 (Surr)	54		10 - 120	03/30/22 12:14	04/05/22 13:59	1
p-Terphenyl-d14 (Surr)	90		45 - 120	03/30/22 12:14	04/05/22 13:59	1

Lab Sample ID: LCS 570-223177/2-A
Matrix: Water
Analysis Batch: 224431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223177

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Bis(2-ethylhexyl) phthalate			20.0	28.3	LQ	ug/L		142	29 - 137		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	108		28 - 127
2-Fluorobiphenyl (Surr)	76		31 - 120
2-Fluorophenol (Surr)	51		17 - 120
Nitrobenzene-d5 (Surr)	73		27 - 120
Phenol-d6 (Surr)	28		10 - 120
p-Terphenyl-d14 (Surr)	85		45 - 120

Lab Sample ID: LCSD 570-223177/3-A
Matrix: Water
Analysis Batch: 224431

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 223177

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate			20.0	30.6	LQ	ug/L		153	29 - 137	8	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	113		28 - 127
2-Fluorobiphenyl (Surr)	84		31 - 120
2-Fluorophenol (Surr)	53		17 - 120
Nitrobenzene-d5 (Surr)	76		27 - 120
Phenol-d6 (Surr)	30		10 - 120
p-Terphenyl-d14 (Surr)	93		45 - 120

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 570-222688/5
Matrix: Water
Analysis Batch: 222688

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.20	0.019	ug/L			03/28/22 16:28	1

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

Lab Sample ID: LCS 570-222688/6
Matrix: Water
Analysis Batch: 222688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexavalent chromium	50.0	51.2		ug/L		102	95 - 107

Lab Sample ID: LCSD 570-222688/7
Matrix: Water
Analysis Batch: 222688

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexavalent chromium	50.0	51.2		ug/L		102	95 - 107	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-222874/5
Matrix: Water
Analysis Batch: 222874

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.018	mg/L			03/29/22 11:54	1
Nitrate as N	ND		0.10	0.024	mg/L			03/29/22 11:54	1

Lab Sample ID: LCS 570-222874/6
Matrix: Water
Analysis Batch: 222874

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.42		mg/L		97	90 - 110
Nitrate as N	5.00	4.77		mg/L		95	90 - 110

Lab Sample ID: LCSD 570-222874/7
Matrix: Water
Analysis Batch: 222874

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.46		mg/L		98	90 - 110	1	15
Nitrate as N	5.00	4.77		mg/L		95	90 - 110	0	15

Lab Sample ID: MB 570-222875/5
Matrix: Water
Analysis Batch: 222875

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.046	mg/L			03/29/22 11:54	1
Sulfate	ND		1.0	0.24	mg/L			03/29/22 11:54	1

Lab Sample ID: LCS 570-222875/6
Matrix: Water
Analysis Batch: 222875

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.50	2.30		mg/L		92	90 - 110
Sulfate	50.0	48.4		mg/L		97	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 570-222875/7
Matrix: Water
Analysis Batch: 222875

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride			2.50	2.41		mg/L		96	90 - 110	4	15
Sulfate			50.0	48.4		mg/L		97	90 - 110	0	15

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-223392/7
Matrix: Water
Analysis Batch: 223392

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/31/22 12:58	1

Lab Sample ID: LCS 570-223392/8
Matrix: Water
Analysis Batch: 223392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate			25.0	25.3		ug/L		101	85 - 115

Lab Sample ID: LCSD 570-223392/9
Matrix: Water
Analysis Batch: 223392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate			25.0	24.7		ug/L		99	85 - 115	2	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-670555/1-A
Matrix: Water
Analysis Batch: 670631

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 670555

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		04/06/22 15:37	04/07/22 14:56	1
Zinc	ND		20	12	ug/L		04/06/22 15:37	04/07/22 14:56	1

Lab Sample ID: LCS 440-670555/2-A
Matrix: Water
Analysis Batch: 670631

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 670555

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron			500	511		ug/L		102	85 - 115
Zinc			500	541		ug/L		108	85 - 115

Lab Sample ID: MB 440-670674/1-C
Matrix: Water
Analysis Batch: 670714

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 670678

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		50	25	ug/L		04/08/22 07:12	04/08/22 13:14	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 440-670674/1-C
Matrix: Water
Analysis Batch: 670714

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 670678

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		20	12	ug/L		04/08/22 07:12	04/08/22 13:14	1

Lab Sample ID: LCS 440-670674/2-C
Matrix: Water
Analysis Batch: 670714

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 670678

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron			500	507		ug/L		101	85 - 115		
Zinc			500	523		ug/L		105	85 - 115		

Lab Sample ID: 570-89945-1 MS
Matrix: Water
Analysis Batch: 670714

Client Sample ID: EPSW001BG01_20220328
Prep Type: Dissolved
Prep Batch: 670678

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron	ND		500	531		ug/L		106	70 - 130		
Zinc	ND		500	530		ug/L		106	70 - 130		

Lab Sample ID: 570-89945-1 MSD
Matrix: Water
Analysis Batch: 670714

Client Sample ID: EPSW001BG01_20220328
Prep Type: Dissolved
Prep Batch: 670678

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	ND		500	524		ug/L		105	70 - 130	1	20
Zinc	ND		500	524		ug/L		105	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-670461/1-A
Matrix: Water
Analysis Batch: 670531

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 670461

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.17	ug/L		04/05/22 10:25	04/06/22 09:26	1
Arsenic	ND		1.0	0.14	ug/L		04/05/22 10:25	04/06/22 09:26	1
Barium	ND		1.0	0.47	ug/L		04/05/22 10:25	04/06/22 09:26	1
Beryllium	ND		0.50	0.25	ug/L		04/05/22 10:25	04/06/22 09:26	1
Cadmium	ND		1.0	0.14	ug/L		04/05/22 10:25	04/06/22 09:26	1
Chromium	ND		2.0	1.6	ug/L		04/05/22 10:25	04/06/22 09:26	1
Copper	ND		2.0	1.6	ug/L		04/05/22 10:25	04/06/22 09:26	1
Iron	ND		20	17	ug/L		04/05/22 10:25	04/06/22 09:26	1
Manganese	ND		1.0	0.62	ug/L		04/05/22 10:25	04/06/22 09:26	1
Nickel	ND		2.0	0.80	ug/L		04/05/22 10:25	04/06/22 09:26	1
Lead	ND		1.0	0.12	ug/L		04/05/22 10:25	04/06/22 09:26	1
Antimony	ND		2.0	0.26	ug/L		04/05/22 10:25	04/06/22 09:26	1
Selenium	ND		2.0	0.48	ug/L		04/05/22 10:25	04/06/22 09:26	1
Thallium	ND		1.0	0.12	ug/L		04/05/22 10:25	04/06/22 09:26	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-670461/2-A
Matrix: Water
Analysis Batch: 670531

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 670461

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	80.0	78.5		ug/L		98	85 - 115
Arsenic	80.0	80.9		ug/L		101	85 - 115
Barium	80.0	80.3		ug/L		100	85 - 115
Beryllium	80.0	79.8		ug/L		100	85 - 115
Cadmium	80.0	79.2		ug/L		99	85 - 115
Chromium	80.0	82.7		ug/L		103	85 - 115
Copper	80.0	82.1		ug/L		103	85 - 115
Iron	800	896		ug/L		112	85 - 115
Manganese	80.0	83.0		ug/L		104	85 - 115
Nickel	80.0	81.8		ug/L		102	85 - 115
Lead	80.0	81.6		ug/L		102	85 - 115
Antimony	80.0	83.2		ug/L		104	85 - 115
Selenium	80.0	81.3		ug/L		102	85 - 115
Thallium	80.0	81.3		ug/L		102	85 - 115

Lab Sample ID: 570-89945-1 MS
Matrix: Water
Analysis Batch: 670531

Client Sample ID: EPSW001BG01_20220328
Prep Type: Total Recoverable
Prep Batch: 670461

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	ND		80.0	69.8		ug/L		87	70 - 130
Arsenic	11		80.0	71.8		ug/L		76	70 - 130
Barium	1100		80.0	1220	BB	ug/L		115	70 - 130
Beryllium	4.0		80.0	83.0		ug/L		99	70 - 130
Cadmium	1.3	J,DX	80.0	82.7		ug/L		102	70 - 130
Chromium	62		80.0	145		ug/L		104	70 - 130
Copper	82		80.0	162		ug/L		100	70 - 130
Iron	74000		800	77900	BB	ug/L		517	70 - 130
Manganese	2400		80.0	2550	BB	ug/L		143	70 - 130
Nickel	57		80.0	140		ug/L		104	70 - 130
Lead	41		80.0	122		ug/L		102	70 - 130
Antimony	6.7	J,DX	80.0	22.9	LN	ug/L		20	70 - 130
Selenium	8.8	J,DX	80.0	69.2		ug/L		76	70 - 130
Thallium	1.0	J,DX	80.0	75.9		ug/L		94	70 - 130

Lab Sample ID: 570-89945-1 MSD
Matrix: Water
Analysis Batch: 670531

Client Sample ID: EPSW001BG01_20220328
Prep Type: Total Recoverable
Prep Batch: 670461

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver	ND		80.0	70.1		ug/L		88	70 - 130	0	20
Arsenic	11		80.0	72.3		ug/L		77	70 - 130	1	20
Barium	1100		80.0	1240	BB	ug/L		132	70 - 130	1	20
Beryllium	4.0		80.0	83.0		ug/L		99	70 - 130	0	20
Cadmium	1.3	J,DX	80.0	83.1		ug/L		102	70 - 130	1	20
Chromium	62		80.0	147		ug/L		106	70 - 130	1	20
Copper	82		80.0	163		ug/L		102	70 - 130	1	20
Iron	74000		800	78600	BB	ug/L		605	70 - 130	1	20
Manganese	2400		80.0	2570	BB	ug/L		175	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-89945-1 MSD
Matrix: Water
Analysis Batch: 670531

Client Sample ID: EPSW001BG01_20220328
Prep Type: Total Recoverable
Prep Batch: 670461

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nickel	57		80.0	141		ug/L		106	70 - 130	1	20
Lead	41		80.0	123		ug/L		103	70 - 130	0	20
Antimony	6.7	J,DX	80.0	21.8	LN	ug/L		19	70 - 130	5	20
Selenium	8.8	J,DX	80.0	66.5		ug/L		72	70 - 130	4	20
Thallium	1.0	J,DX	80.0	76.5		ug/L		94	70 - 130	1	20

Lab Sample ID: MB 440-670674/1-B
Matrix: Water
Analysis Batch: 670686

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 670675

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.17	ug/L		04/08/22 05:26	04/08/22 10:14	1
Arsenic	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:14	1
Barium	ND		1.0	0.47	ug/L		04/08/22 05:26	04/08/22 10:14	1
Beryllium	ND		0.50	0.25	ug/L		04/08/22 05:26	04/08/22 10:14	1
Cadmium	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:14	1
Chromium	ND		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:14	1
Copper	ND		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:14	1
Iron	ND		20	17	ug/L		04/08/22 05:26	04/08/22 10:14	1
Manganese	ND		1.0	0.62	ug/L		04/08/22 05:26	04/08/22 10:14	1
Nickel	ND		2.0	0.80	ug/L		04/08/22 05:26	04/08/22 10:14	1
Lead	ND		1.0	0.12	ug/L		04/08/22 05:26	04/08/22 10:14	1
Antimony	ND		2.0	0.26	ug/L		04/08/22 05:26	04/08/22 10:14	1
Selenium	ND		2.0	0.48	ug/L		04/08/22 05:26	04/08/22 10:14	1

Lab Sample ID: LCS 440-670674/2-B
Matrix: Water
Analysis Batch: 670686

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 670675

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	80.0	75.6		ug/L		95	85 - 115
Arsenic	80.0	77.5		ug/L		97	85 - 115
Barium	80.0	78.4		ug/L		98	85 - 115
Beryllium	80.0	74.9		ug/L		94	85 - 115
Cadmium	80.0	78.1		ug/L		98	85 - 115
Chromium	80.0	78.7		ug/L		98	85 - 115
Copper	80.0	77.5		ug/L		97	85 - 115
Iron	800	778		ug/L		97	85 - 115
Manganese	80.0	78.8		ug/L		98	85 - 115
Nickel	80.0	78.1		ug/L		98	85 - 115
Lead	80.0	80.6		ug/L		101	85 - 115
Antimony	80.0	80.7		ug/L		101	85 - 115
Selenium	80.0	76.8		ug/L		96	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-89945-1 MS
Matrix: Water
Analysis Batch: 670686

Client Sample ID: EPSW001BG01_20220328
Prep Type: Dissolved
Prep Batch: 670675

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	ND		80.0	79.4		ug/L		99	70 - 130
Arsenic	1.2		80.0	84.8		ug/L		105	70 - 130
Barium	26		80.0	109		ug/L		104	70 - 130
Beryllium	ND		80.0	79.1		ug/L		99	70 - 130
Cadmium	ND		80.0	82.7		ug/L		103	70 - 130
Chromium	ND		80.0	84.5		ug/L		106	70 - 130
Copper	11		80.0	86.6		ug/L		95	70 - 130
Iron	820		800	1610		ug/L		100	70 - 130
Manganese	22		80.0	105		ug/L		104	70 - 130
Nickel	1.1	J,DX	80.0	84.3		ug/L		104	70 - 130
Lead	0.53	J,DX	80.0	87.0		ug/L		108	70 - 130
Antimony	1.7	J,DX	80.0	89.0		ug/L		109	70 - 130
Selenium	ND		80.0	82.7		ug/L		103	70 - 130

Lab Sample ID: 570-89945-1 MSD
Matrix: Water
Analysis Batch: 670686

Client Sample ID: EPSW001BG01_20220328
Prep Type: Dissolved
Prep Batch: 670675

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver	ND		80.0	79.1		ug/L		99	70 - 130	0	20
Arsenic	1.2		80.0	84.7		ug/L		104	70 - 130	0	20
Barium	26		80.0	109		ug/L		104	70 - 130	0	20
Beryllium	ND		80.0	77.6		ug/L		97	70 - 130	2	20
Cadmium	ND		80.0	81.9		ug/L		102	70 - 130	1	20
Chromium	ND		80.0	85.5		ug/L		107	70 - 130	1	20
Copper	11		80.0	87.3		ug/L		96	70 - 130	1	20
Iron	820		800	1620		ug/L		100	70 - 130	0	20
Manganese	22		80.0	106		ug/L		105	70 - 130	1	20
Nickel	1.1	J,DX	80.0	85.7		ug/L		106	70 - 130	2	20
Lead	0.53	J,DX	80.0	86.7		ug/L		108	70 - 130	0	20
Antimony	1.7	J,DX	80.0	89.8		ug/L		110	70 - 130	1	20
Selenium	ND		80.0	83.1		ug/L		104	70 - 130	1	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-223635/1
Matrix: Water
Analysis Batch: 223635

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			03/31/22 23:49	1

Lab Sample ID: LCS 570-223635/2
Matrix: Water
Analysis Batch: 223635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	109		mg/L		109	77 - 116

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCSD 570-223635/3
Matrix: Water
Analysis Batch: 223635

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids			100	114		mg/L		114	77 - 116	4	10

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-670250/11-A
Matrix: Water
Analysis Batch: 670257

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 670250

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L		03/31/22 15:30	03/31/22 20:14	1

Lab Sample ID: LCS 440-670250/12-A
Matrix: Water
Analysis Batch: 670257

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 670250

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cyanide, Total			100	91.9		ug/L		92	80 - 120		

GC/MS VOA

Analysis Batch: 225803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	624.1	
MB 570-225803/7	Method Blank	Total/NA	Water	624.1	
LCS 570-225803/3	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-225803/4	Lab Control Sample Dup	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 223177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	625	
MB 570-223177/1-A	Method Blank	Total/NA	Water	625	
LCS 570-223177/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-223177/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 224431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	625.1 SIM	223177
MB 570-223177/1-A	Method Blank	Total/NA	Water	625.1 SIM	223177
LCS 570-223177/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	223177
LCSD 570-223177/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	223177

HPLC/IC

Analysis Batch: 222688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	218.6	
MB 570-222688/5	Method Blank	Total/NA	Water	218.6	
LCS 570-222688/6	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-222688/7	Lab Control Sample Dup	Total/NA	Water	218.6	

Analysis Batch: 222874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	300.0	
MB 570-222874/5	Method Blank	Total/NA	Water	300.0	
LCS 570-222874/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-222874/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 222875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	300.0	
MB 570-222875/5	Method Blank	Total/NA	Water	300.0	
LCS 570-222875/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-222875/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 223392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	314.0	
MB 570-223392/7	Method Blank	Total/NA	Water	314.0	
LCS 570-223392/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-223392/9	Lab Control Sample Dup	Total/NA	Water	314.0	

Metals

Prep Batch: 670461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total Recoverable	Water	200.2	
MB 440-670461/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-670461/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-89945-1 MS	EPSW001BG01_20220328	Total Recoverable	Water	200.2	
570-89945-1 MSD	EPSW001BG01_20220328	Total Recoverable	Water	200.2	

Analysis Batch: 670531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total Recoverable	Water	200.8	670461
MB 440-670461/1-A	Method Blank	Total Recoverable	Water	200.8	670461
LCS 440-670461/2-A	Lab Control Sample	Total Recoverable	Water	200.8	670461
570-89945-1 MS	EPSW001BG01_20220328	Total Recoverable	Water	200.8	670461
570-89945-1 MSD	EPSW001BG01_20220328	Total Recoverable	Water	200.8	670461

Prep Batch: 670555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total Recoverable	Water	200.2	
MB 440-670555/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-670555/2-A	Lab Control Sample	Total Recoverable	Water	200.2	

Analysis Batch: 670631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-670555/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	670555
LCS 440-670555/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	670555

Analysis Batch: 670639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total Recoverable	Water	200.7 Rev 4.4	670555

Filtration Batch: 670674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	FILTRATION	
MB 440-670674/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-670674/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-670674/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-670674/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-89945-1 MS	EPSW001BG01_20220328	Dissolved	Water	FILTRATION	
570-89945-1 MSD	EPSW001BG01_20220328	Dissolved	Water	FILTRATION	

Prep Batch: 670675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	200.2	670674
MB 440-670674/1-B	Method Blank	Dissolved	Water	200.2	670674
LCS 440-670674/2-B	Lab Control Sample	Dissolved	Water	200.2	670674
570-89945-1 MS	EPSW001BG01_20220328	Dissolved	Water	200.2	670674
570-89945-1 MSD	EPSW001BG01_20220328	Dissolved	Water	200.2	670674

Prep Batch: 670678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	200.2	670674
MB 440-670674/1-C	Method Blank	Dissolved	Water	200.2	670674

Metals (Continued)

Prep Batch: 670678 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-670674/2-C	Lab Control Sample	Dissolved	Water	200.2	670674
570-89945-1 MS	EPSW001BG01_20220328	Dissolved	Water	200.2	670674
570-89945-1 MSD	EPSW001BG01_20220328	Dissolved	Water	200.2	670674

Analysis Batch: 670686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	200.8	670675
MB 440-670674/1-B	Method Blank	Dissolved	Water	200.8	670675
LCS 440-670674/2-B	Lab Control Sample	Dissolved	Water	200.8	670675
570-89945-1 MS	EPSW001BG01_20220328	Dissolved	Water	200.8	670675
570-89945-1 MSD	EPSW001BG01_20220328	Dissolved	Water	200.8	670675

Analysis Batch: 670714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	200.7 Rev 4.4	670678
MB 440-670674/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	670678
LCS 440-670674/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	670678
570-89945-1 MS	EPSW001BG01_20220328	Dissolved	Water	200.7 Rev 4.4	670678
570-89945-1 MSD	EPSW001BG01_20220328	Dissolved	Water	200.7 Rev 4.4	670678

General Chemistry

Analysis Batch: 223635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	SM 2540D	
MB 570-223635/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-223635/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-223635/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 225423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	218.6 CR3	

Prep Batch: 670250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	Distill/CN	
MB 440-670250/11-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-670250/12-A	Lab Control Sample	Total/NA	Water	Distill/CN	

Analysis Batch: 670257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	SM 4500 CN E	670250
MB 440-670250/11-A	Method Blank	Total/NA	Water	SM 4500 CN E	670250
LCS 440-670250/12-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	670250

Geotechnical

Analysis Batch: 225104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	D4464	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Client Sample ID: EPSW001BG01_20220328

Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	225803	04/11/22 18:30	OH1	ECL 4
	Instrument ID: GCMSQQ									
Total/NA	Prep	625			1048.9 mL	2 mL	223177	03/31/22 05:50	H1SH	ECL 4
Total/NA	Analysis	625.1 SIM		1			224431	04/05/22 17:29	ULLI	ECL 4
	Instrument ID: GCMSJJJ									
Total/NA	Analysis	218.6		1			222688	03/29/22 01:25	YO8L	ECL 4
	Instrument ID: IC17									
Total/NA	Analysis	300.0		1			222874	03/29/22 17:36	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	300.0		1			222875	03/29/22 17:36	URMH	ECL 1
	Instrument ID: IC10									
Total/NA	Analysis	314.0		1			223392	03/31/22 14:37	URMH	ECL 4
	Instrument ID: IC13									
Dissolved	Filtration	FILTRATION			150 mL	25 mL	670674	04/08/22 04:58		IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	670678	04/08/22 07:12		IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			670714	04/08/22 13:18	K1UV	IRV 2
	Instrument ID: ICP10									
Total Recoverable	Prep	200.2			25 mL	25 mL	670555	04/06/22 15:37		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			670639	04/07/22 17:31	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			150 mL	25 mL	670674	04/08/22 04:58		IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	670675	04/08/22 05:26		IRV 2
Dissolved	Analysis	200.8		1			670686	04/08/22 10:24	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Total Recoverable	Prep	200.2			25 mL	25 mL	670461	04/05/22 10:25		IRV 2
Total Recoverable	Analysis	200.8		5			670531	04/06/22 09:30	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Total/NA	Analysis	218.6 CR3		1			225423	04/08/22 17:38	URMH	ECL 4
	Instrument ID: IC17									
Total/NA	Analysis	SM 2540D		1	10 mL	1000 mL	223635	03/31/22 23:49	HBR9	ECL 4
	Instrument ID: NOEQUIP									
Total/NA	Prep	Distill/CN			50 mL	50 mL	670250	03/31/22 15:30	GG0B	IRV 2
Total/NA	Analysis	SM 4500 CN E		1			670257	03/31/22 20:15	GG0B	IRV 2
	Instrument ID: Genesys30-5									
Total/NA	Analysis	D4464		1			225104	04/05/22 15:45	C4LT	ECL 4
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	ECL 4
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	ECL 4
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	ECL 4
300.0	Anions, Ion Chromatography	MCAWW	ECL 1
314.0	Perchlorate (IC)	EPA	ECL 4
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	ECL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	ECL 4
SM 4500 CN E	Cyanide, Total (Low Level)	SM	IRV 2
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 4
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
625	Liquid-Liquid Extraction	40CFR136A	ECL 4
Distill/CN	Distillation, Cyanide	None	IRV 2
FILTRATION	Sample Filtration	None	IRV 2

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
ASTM = ASTM International
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-89945-1	EPSW001BG01_20220328	Water	03/28/22 10:00	03/28/22 17:50

89945

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Eurofins Calscience, Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 3/28/2022	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu Fe, Mn Ni Pb Se Sb, Tl; Method 200.7 B, Zn, – (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu Fe, Mn Ni Pb, Se, Sb, Tl; Method 200.7 B, Zn – (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1 1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20220328	3/28/22	1000	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other ____								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access Bill to Haley & Aldrich at AP@haleyaldrich.com Report Level II Data Package and provide EDD All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L)

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

	Company	Date/Time			Date/Time
Relinquished by: M Birney	Company: H&A	Date/Time: 3/28/22 1400	Received by:	EC	Date/Time: 03/28/22 13 53
Relinquished by:	Company: EC	Date/Time: 3/28/2022 1500	Received by: Olga Cmelas	EC	Date/Time: 3/28/22 1750
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

40125 43128 ~~39124~~ HP SC6

570-89945 Chain of Custody

4/14/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience
2841 Dow Avenue Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-163439 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-89945-2
Address: 5755 8th Street East,	Due Date Requested: 4/13/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1631E/ Mercury, Total	1631E/Filtration_ME Mercury, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001BG01_20220328 (570-89945-1)	3/28/22	10 00 Pacific		Water			X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	3/30/22 1500				
2						
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel, Virendra	Carrier Tracking No(s):	COC No. 570-163461 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-89945-2
Address: 880 Riverside Parkway, ,	Due Date Requested 4/13/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20220328 (570-89945-1)	3/28/22	10 00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date.	Time.	Method of Shipment:

Relinquished by:	Date/Time: 3/30/22 1530	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver. 06/08/2021

4/14/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89945-1

Login Number: 89945
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-89945-2
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/18/2022 4:13:53 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-89945-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-89945-2

Comments
No additional comments.

Receipt
The samples were received on 3/28/2022 5:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.5º C and 2.8º C.

Receipt Exceptions

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): EPSW001BG01_20220328 (570-89945-1). Received 20 containers, while the COC lists 27.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 12D5 exceeded this criteria: EPSW001BG01_20220328 (570-89945-1), (CCV 320-578339/2), (LCS 320-577112/2-A), (LCSD 320-577112/3-A) and (MB 320-577112/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV041822). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: EPSW001BG01_20220328 (570-89945-1), (CCV 320-580944/2), (MB 320-577112/1-A) and (WDM 320-580944/1). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

Client Sample ID: EPSW001BG01_20220328

Lab Sample ID: 570-89945-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000017	J,DX q	0.0000096	0.00000050	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000081	J,DX	0.000048	0.0000011	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000043	J,DX MB	0.000048	0.00000086	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000030	J,DX q	0.000048	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000020	J,DX MB	0.000048	0.0000018	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000043	J,DX MB	0.000048	0.0000017	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000046	J,DX	0.000048	0.0000014	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.000020	J,DX	0.000048	0.0000029	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.000030	J,DX	0.000048	0.0000025	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000042	J,DX MB	0.000048	0.0000014	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.000012	J,DX	0.000048	0.0000017	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00093	MB	0.000048	0.000024	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00033	MB	0.000048	0.000015	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.000024	J,DX MB	0.000048	0.000012	ug/L	1		1613B	Total/NA
OCDD	0.0069	MB	0.000096	0.000014	ug/L	1		1613B	Total/NA
OCDF	0.0011	MB	0.000096	0.0000028	ug/L	1		1613B	Total/NA
Total TCDD	0.0000017	J,DX q	0.0000096	0.00000050	ug/L	1		1613B	Total/NA
Total TCDF	0.0000064	J,DX q MB	0.0000096	0.00000050	ug/L	1		1613B	Total/NA
Total PeCDD	0.000022	J,DX q	0.000048	0.0000011	ug/L	1		1613B	Total/NA
Total PeCDF	0.000043	J,DX q MB	0.000048	0.0000011	ug/L	1		1613B	Total/NA
Total HxCDD	0.00031	q MB	0.000048	0.0000016	ug/L	1		1613B	Total/NA
Total HxCDF	0.00025	q MB	0.000048	0.0000021	ug/L	1		1613B	Total/NA
Total HpCDD	0.0020	MB	0.000048	0.000024	ug/L	1		1613B	Total/NA
Total HpCDF	0.00094	MB	0.000048	0.000013	ug/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	0.00000072	J,DX MB q	0.0000096	0.00000066	ug/L	1		1613B	Total/NA
Mercury	120		5.0	0.79	ng/L	10		1631E	Total/NA
Mercury	4.2		0.50	0.079	ng/L	1		1631E	Dissolved

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000017	J,DX q	0.0000096	0.00000050	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,7,8-PeCDD	0.0000081	J,DX	0.000048	0.0000011	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,7,8-PeCDF	0.0000043	J,DX MB	0.000048	0.00000086	ug/L		04/01/22 08:18	04/06/22 20:20	1
2,3,4,7,8-PeCDF	0.0000030	J,DX q	0.000048	0.0000013	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,4,7,8-HxCDD	0.000020	J,DX MB	0.000048	0.0000018	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,6,7,8-HxCDD	0.000043	J,DX MB	0.000048	0.0000017	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,7,8,9-HxCDD	0.000046	J,DX	0.000048	0.0000014	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,4,7,8-HxCDF	0.000020	J,DX	0.000048	0.0000029	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,6,7,8-HxCDF	0.000030	J,DX	0.000048	0.0000025	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,7,8,9-HxCDF	0.0000042	J,DX MB	0.000048	0.0000014	ug/L		04/01/22 08:18	04/06/22 20:20	1
2,3,4,6,7,8-HxCDF	0.000012	J,DX	0.000048	0.0000017	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,4,6,7,8-HpCDD	0.00093	MB	0.000048	0.000024	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,4,6,7,8-HpCDF	0.00033	MB	0.000048	0.000015	ug/L		04/01/22 08:18	04/06/22 20:20	1
1,2,3,4,7,8,9-HpCDF	0.000024	J,DX MB	0.000048	0.000012	ug/L		04/01/22 08:18	04/06/22 20:20	1
OCDD	0.0069	MB	0.000096	0.000014	ug/L		04/01/22 08:18	04/06/22 20:20	1
OCDF	0.0011	MB	0.000096	0.0000028	ug/L		04/01/22 08:18	04/06/22 20:20	1
Total TCDD	0.0000017	J,DX q	0.0000096	0.00000050	ug/L		04/01/22 08:18	04/06/22 20:20	1
Total TCDF	0.0000064	J,DX q MB	0.0000096	0.00000050	ug/L		04/01/22 08:18	04/06/22 20:20	1
Total PeCDD	0.000022	J,DX q	0.000048	0.0000011	ug/L		04/01/22 08:18	04/06/22 20:20	1
Total PeCDF	0.000043	J,DX q MB	0.000048	0.0000011	ug/L		04/01/22 08:18	04/06/22 20:20	1
Total HxCDD	0.00031	q MB	0.000048	0.0000016	ug/L		04/01/22 08:18	04/06/22 20:20	1
Total HxCDF	0.00025	q MB	0.000048	0.0000021	ug/L		04/01/22 08:18	04/06/22 20:20	1
Total HpCDD	0.0020	MB	0.000048	0.000024	ug/L		04/01/22 08:18	04/06/22 20:20	1
Total HpCDF	0.00094	MB	0.000048	0.000013	ug/L		04/01/22 08:18	04/06/22 20:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*25 - 164*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-2,3,7,8-TCDF	*54*		*24 - 169*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-1,2,3,7,8-PeCDD	*55*		*25 - 181*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-1,2,3,7,8-PeCDF	*52*		*24 - 185*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-2,3,4,7,8-PeCDF	*38*		*21 - 178*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-1,2,3,4,7,8-HxCDD	*42*		*32 - 141*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-1,2,3,6,7,8-HxCDD	*45*		*28 - 130*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-1,2,3,4,7,8-HxCDF	*47*		*26 - 152*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-1,2,3,6,7,8-HxCDF	*46*		*26 - 123*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-1,2,3,7,8,9-HxCDF	*65*		*29 - 147*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-2,3,4,6,7,8-HxCDF	*52*		*28 - 136*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*59*		*23 - 140*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*36*		*28 - 143*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*63*		*26 - 138*	*04/01/22 08:18*	*04/06/22 20:20*	*1*
13C-OCDD	*71*		*17 - 157*	*04/01/22 08:18*	*04/06/22 20:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*78*		*35 - 197*	*04/01/22 08:18*	*04/06/22 20:20*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.00000072**	**J,DX MB q**	0.0000096	0.00000066	ug/L		04/01/22 08:18	04/18/22 11:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*59*		*24 - 169*	*04/01/22 08:18*	*04/18/22 11:04*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*87*		*35 - 197*	*04/01/22 08:18*	*04/18/22 11:04*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

Method: 1631E - Mercury, Low Level (CVAFS)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	120		5.0	0.79	ng/L			04/12/22 14:32	10

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

Method: 1631E - Mercury, Low Level (CVAFS) - Dissolved

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	4.2		0.50	0.079	ng/L			04/04/22 15:06	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-89945-1	EPSW001BG01_20220328	78
570-89945-1 - RA	EPSW001BG01_20220328	87
MB 320-577112/1-A	Method Blank	84
MB 320-577112/1-A - RA	Method Blank	90

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-577112/2-A	Lab Control Sample	83
LCSD 320-577112/3-A	Lab Control Sample Dup	81

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-89945-1	EPSW001BG01_20220328	65	54	55	52	38	42	45	47
570-89945-1 - RA	EPSW001BG01_20220328		59						
MB 320-577112/1-A	Method Blank	72	65	77	72	72	81	79	85
MB 320-577112/1-A - RA	Method Blank		71						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-89945-1	EPSW001BG01_20220328	46	65	52	59	36	63	71
570-89945-1 - RA	EPSW001BG01_20220328							
MB 320-577112/1-A	Method Blank	82	73	79	82	74	75	83
MB 320-577112/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-577112/2-A	Lab Control Sample	71	65	77	72	72	81	77	83
LCSD 320-577112/3-A	Lab Control Sample Dup	66	60	71	66	67	73	73	78

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-577112/2-A	Lab Control Sample	79	73	79	81	74	77	82
LCSD 320-577112/3-A	Lab Control Sample Dup	73	68	73	74	67	71	74

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-577112/1-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 577112

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000057	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000066	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8-PeCDF	0.00000146	J,DX	0.000050	0.00000045	ug/L		04/01/22 08:18	04/06/22 18:02	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000050	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,7,8-HxCDD	0.00000196	J,DX q	0.000050	0.00000048	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,6,7,8-HxCDD	0.000000607	J,DX q	0.000050	0.00000046	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000039	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000054	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000049	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8,9-HxCDF	0.00000365	J,DX	0.000050	0.00000045	ug/L		04/01/22 08:18	04/06/22 18:02	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000041	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,6,7,8-HpCDD	0.00000186	J,DX	0.000050	0.00000037	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,6,7,8-HpCDF	0.00000144	J,DX	0.000050	0.00000029	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,7,8,9-HpCDF	0.000000994	J,DX q	0.000050	0.00000042	ug/L		04/01/22 08:18	04/06/22 18:02	1
OCDD	0.00000849	J,DX q	0.00010	0.00000078	ug/L		04/01/22 08:18	04/06/22 18:02	1
OCDF	0.00000239	J,DX q	0.00010	0.00000061	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total TCDD	ND		0.000010	0.00000057	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total TCDF	0.000000938	J,DX q	0.000010	0.00000031	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total PeCDD	ND		0.000050	0.00000066	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total PeCDF	0.00000146	J,DX	0.000050	0.00000048	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HxCDD	0.00000256	J,DX q	0.000050	0.00000044	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HxCDF	0.00000365	J,DX	0.000050	0.00000047	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HpCDD	0.00000435	J,DX	0.000050	0.00000037	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HpCDF	0.00000243	J,DX q	0.000050	0.00000035	ug/L		04/01/22 08:18	04/06/22 18:02	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*72*		*25 - 164*	*04/01/22 08:18*	*04/06/22 18:02*	*1*
13C-2,3,7,8-TCDF	*65*		*24 - 169*	*04/01/22 08:18*	*04/06/22 18:02*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*25 - 181*	*04/01/22 08:18*	*04/06/22 18:02*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*04/01/22 08:18*	*04/06/22 18:02*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-577112/1-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 577112

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	72		21 - 178	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,7,8-HxCDD	81		32 - 141	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,6,7,8-HxCDD	79		28 - 130	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,7,8-HxCDF	85		26 - 152	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,6,7,8-HxCDF	82		26 - 123	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,7,8,9-HxCDF	73		29 - 147	04/01/22 08:18	04/06/22 18:02	1
13C-2,3,4,6,7,8-HxCDF	79		28 - 136	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,6,7,8-HpCDD	82		23 - 140	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,6,7,8-HpCDF	74		28 - 143	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,7,8,9-HpCDF	75		26 - 138	04/01/22 08:18	04/06/22 18:02	1
13C-OCDD	83		17 - 157	04/01/22 08:18	04/06/22 18:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	84		35 - 197	04/01/22 08:18	04/06/22 18:02	1

Lab Sample ID: LCS 320-577112/2-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 577112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	0.000200	0.000186		ug/L		93	67 - 158
2,3,7,8-TCDF	0.000200	0.000194	MB	ug/L		97	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000913		ug/L		91	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000911	MB	ug/L		91	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000914		ug/L		91	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000874	MB	ug/L		87	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000935		ug/L		94	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000847		ug/L		85	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000917		ug/L		92	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000895		ug/L		90	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000913	MB	ug/L		91	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000911		ug/L		91	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000885	MB	ug/L		88	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000889	MB	ug/L		89	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000882	MB	ug/L		88	78 - 138
OCDD	0.00200	0.00180	MB	ug/L		90	78 - 144
OCDF	0.00200	0.00169	MB	ug/L		84	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	65		22 - 152
13C-1,2,3,7,8-PeCDD	77		21 - 227
13C-1,2,3,7,8-PeCDF	72		21 - 192
13C-2,3,4,7,8-PeCDF	72		13 - 328
13C-1,2,3,4,7,8-HxCDD	81		21 - 193
13C-1,2,3,6,7,8-HxCDD	77		25 - 163
13C-1,2,3,4,7,8-HxCDF	83		19 - 202
13C-1,2,3,6,7,8-HxCDF	79		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-577112/2-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 577112

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	73		17 - 205
13C-2,3,4,6,7,8-HxCDF	79		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	81		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	74		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	77		20 - 186
13C-OCDD	82		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	83		31 - 191

Lab Sample ID: LCSD 320-577112/3-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 577112

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000185		ug/L		93	67 - 158	1	50
2,3,7,8-TCDF			0.000200	0.000194	MB	ug/L		97	75 - 158	0	50
1,2,3,7,8-PeCDD			0.00100	0.000913		ug/L		91	70 - 142	0	50
1,2,3,7,8-PeCDF			0.00100	0.000922	MB	ug/L		92	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000922		ug/L		92	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000893	MB	ug/L		89	70 - 164	2	50
1,2,3,6,7,8-HxCDD			0.00100	0.000947		ug/L		95	76 - 134	1	50
1,2,3,7,8,9-HxCDD			0.00100	0.000851		ug/L		85	64 - 162	0	50
1,2,3,4,7,8-HxCDF			0.00100	0.000918		ug/L		92	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.000923		ug/L		92	84 - 130	3	50
1,2,3,7,8,9-HxCDF			0.00100	0.000922	MB	ug/L		92	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.000923		ug/L		92	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000904	MB	ug/L		90	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000917	MB	ug/L		92	82 - 122	3	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000902	MB	ug/L		90	78 - 138	2	50
OCDD			0.00200	0.00181	MB	ug/L		90	78 - 144	1	50
OCDF			0.00200	0.00170	MB	ug/L		85	63 - 170	1	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	66		20 - 175
13C-2,3,7,8-TCDF	60		22 - 152
13C-1,2,3,7,8-PeCDD	71		21 - 227
13C-1,2,3,7,8-PeCDF	66		21 - 192
13C-2,3,4,7,8-PeCDF	67		13 - 328
13C-1,2,3,4,7,8-HxCDD	73		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	78		19 - 202
13C-1,2,3,6,7,8-HxCDF	73		21 - 159
13C-1,2,3,7,8,9-HxCDF	68		17 - 205
13C-2,3,4,6,7,8-HxCDF	73		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	74		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	71		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-577112/3-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 577112

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	74		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	81		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-577112/1-A
Matrix: Water
Analysis Batch: 580944

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 577112

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	0.000000774	J,DX	0.000010	0.00000037	ug/L		04/01/22 08:18	04/18/22 10:26	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	71		24 - 169	04/01/22 08:18	04/18/22 10:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	90		35 - 197	04/01/22 08:18	04/18/22 10:26	1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 580-386352/11
Matrix: Water
Analysis Batch: 386352

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.50	0.079	ng/L			04/04/22 13:09	1

Lab Sample ID: MB 580-386352/12
Matrix: Water
Analysis Batch: 386352

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.50	0.079	ng/L			04/04/22 13:13	1

Lab Sample ID: MB 580-386352/13
Matrix: Water
Analysis Batch: 386352

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.50	0.079	ng/L			04/04/22 13:17	1

Lab Sample ID: LCS 580-386352/17
Matrix: Water
Analysis Batch: 386352

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.95		ng/L		99	77 - 123

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: LCSD 580-386352/18
Matrix: Water
Analysis Batch: 386352

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			5.00	4.90		ng/L		98	77 - 123	1	24

Lab Sample ID: 320-86269-A-1 MS
Matrix: Water
Analysis Batch: 386352

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	3.3		5.00	7.86		ng/L		91	71 - 125		

Lab Sample ID: 320-86269-A-1 MSD
Matrix: Water
Analysis Batch: 386352

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	3.3		5.00	7.66		ng/L		87	71 - 125	3	24

Lab Sample ID: 570-90158-B-1 MS
Matrix: Water
Analysis Batch: 386352

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	0.68		5.00	4.77		ng/L		82	71 - 125		

Lab Sample ID: 570-90158-B-1 MSD
Matrix: Water
Analysis Batch: 386352

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.68		5.00	4.78		ng/L		82	71 - 125	0	24

Lab Sample ID: MB 580-387451/11
Matrix: Water
Analysis Batch: 387451

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.50	0.079	ng/L			04/12/22 12:22	1

Lab Sample ID: MB 580-387451/12
Matrix: Water
Analysis Batch: 387451

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.50	0.079	ng/L			04/12/22 12:26	1

Lab Sample ID: MB 580-387451/13
Matrix: Water
Analysis Batch: 387451

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.50	0.079	ng/L			04/12/22 12:30	1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: LCS 580-387451/25
Matrix: Water
Analysis Batch: 387451

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.71		ng/L		94	77 - 123

Lab Sample ID: LCSD 580-387451/26
Matrix: Water
Analysis Batch: 387451

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	5.00	4.75		ng/L		95	77 - 123	1	24

Lab Sample ID: 580-112211-R-1 MS
Matrix: Water
Analysis Batch: 387451

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.4		5.00	5.83		ng/L		89	71 - 125

Lab Sample ID: 580-112211-R-1 MSD
Matrix: Water
Analysis Batch: 387451

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	1.4		5.00	5.77		ng/L		88	71 - 125	1	24

Lab Sample ID: 580-112455-A-1 MS
Matrix: Water
Analysis Batch: 387451

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.8		5.00	6.28		ng/L		90	71 - 125

Lab Sample ID: 580-112455-A-1 MSD
Matrix: Water
Analysis Batch: 387451

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	1.8		5.00	6.30		ng/L		90	71 - 125	0	24

Lab Sample ID: MB 580-386053/1-A
Matrix: Water
Analysis Batch: 386352

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.50	0.079	ng/L			04/04/22 14:03	1

Specialty Organics

Prep Batch: 577112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1 - RA	EPSW001BG01_20220328	Total/NA	Water	1613B	
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	1613B	
MB 320-577112/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-577112/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-577112/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-577112/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 578339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	1613B	577112
MB 320-577112/1-A	Method Blank	Total/NA	Water	1613B	577112
LCS 320-577112/2-A	Lab Control Sample	Total/NA	Water	1613B	577112
LCSD 320-577112/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	577112

Analysis Batch: 580944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1 - RA	EPSW001BG01_20220328	Total/NA	Water	1613B	577112
MB 320-577112/1-A - RA	Method Blank	Total/NA	Water	1613B	577112

Metals

Filtration Batch: 386053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	Filtration	
MB 580-386053/1-A	Method Blank	Dissolved	Water	Filtration	

Analysis Batch: 386352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	1631E	386053
MB 580-386053/1-A	Method Blank	Dissolved	Water	1631E	386053
MB 580-386352/11	Method Blank	Total/NA	Water	1631E	
MB 580-386352/12	Method Blank	Total/NA	Water	1631E	
MB 580-386352/13	Method Blank	Total/NA	Water	1631E	
LCS 580-386352/17	Lab Control Sample	Total/NA	Water	1631E	
LCSD 580-386352/18	Lab Control Sample Dup	Total/NA	Water	1631E	
320-86269-A-1 MS	Matrix Spike	Total/NA	Water	1631E	
320-86269-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
570-90158-B-1 MS	Matrix Spike	Total/NA	Water	1631E	
570-90158-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	

Analysis Batch: 387451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	1631E	
MB 580-387451/11	Method Blank	Total/NA	Water	1631E	
MB 580-387451/12	Method Blank	Total/NA	Water	1631E	
MB 580-387451/13	Method Blank	Total/NA	Water	1631E	
LCS 580-387451/25	Lab Control Sample	Total/NA	Water	1631E	
LCSD 580-387451/26	Lab Control Sample Dup	Total/NA	Water	1631E	
580-112211-R-1 MS	Matrix Spike	Total/NA	Water	1631E	
580-112211-R-1 MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
580-112455-A-1 MS	Matrix Spike	Total/NA	Water	1631E	

Metals (Continued)

Analysis Batch: 387451 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-112455-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

Client Sample ID: EPSW001BG01_20220328

Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		1045.5 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			580944	04/18/22 11:04	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			1045.5 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B		1			578339	04/06/22 20:20	KSS	TAL SAC
	Instrument ID: 12D5									
Dissolved	Filtration	Filtration			250 mL	250 mL	386053	04/01/22 14:37	DRM	FGS SEA
Dissolved	Analysis	1631E		1			386352	04/04/22 15:06	V1R	FGS SEA
	Instrument ID: 2600-3									
Total/NA	Analysis	1631E		10			387451	04/12/22 14:32	V1R	FGS SEA
	Instrument ID: 2600-3									

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-23
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-30-23
Hawaii	State	<cert No.>	01-29-23
Illinois	NELAP	200060	03-17-23
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-02-23
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-23
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	01-23-23
Utah	NELAP	CA000442021-12	03-01-22 *
Virginia	NELAP	460278	03-14-23
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

Laboratory: Eurofins Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-004	02-19-25
ANAB	Dept. of Defense ELAP	L2236	01-19-25
ANAB	Dept. of Energy	L2236	01-19-25
ANAB	ISO/IEC 17025	L2236	01-19-25
California	State	2954	07-07-22
Florida	NELAP	E87575	06-30-22
Louisiana	NELAP	03073	06-30-22
Maine	State	2020012	05-02-22
Montana (UST)	State	NA	04-14-27
New Jersey	NELAP	WA014	06-30-22
New York	NELAP	11662	04-01-23
Oregon	NELAP	4167	07-07-22
US Fish & Wildlife	US Federal Programs	058448	05-31-22
USDA	US Federal Programs	P330-20-00031	02-10-23
Washington	State	C788	07-13-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-89945-2
Project/Site: Boeing SSFL ISRA and BMP

Laboratory: Eurofins Seattle (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	399133460	08-31-22

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1631E	Mercury, Low Level (CVAFS)	EPA	FGS SEA
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC
Filtration	Sample Filtration	None	FGS SEA

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-89945-1	EPSW001BG01_20220328	Water	03/28/22 10:00	03/28/22 17:50

89945

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Eurofins Calscience, Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 3/28/2022	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu Fe, Mn Ni Pb Se Sb, Tl; Method 200.7 B, Zn, – (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu Fe, Mn Ni Pb, Se, Sb, Tl; Method 200.7 B, Zn – (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1 1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20220328	3/28/22	1000	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other ____								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access Bill to Haley & Aldrich at AP@haleyaldrich.com Report Level II Data Package and provide EDD All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L)

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

	Company	Date/Time			Date/Time
Relinquished by: M Birney	Company: HA	Date/Time: 3/28/22 1400	Received by: Olga Cmelas	EC	Date/Time: 03/28/22 13 53
Relinquished by:	Company: EC	Date/Time: 3/28/22 1750	Received by:	EC	Date/Time: 3/28/22 1750
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

570-89945 Chain of Custody

40125 43128 ~~39124~~ HP SC6

4/18/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience
2841 Dow Avenue Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-163439 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-89945-2
Address: 5755 8th Street East,	Due Date Requested: 4/13/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1631E/ Mercury, Total	1631E/Filtration_ME Mercury, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001BG01_20220328 (570-89945-1)	3/28/22	10 00 Pacific		Water			X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	[signature]	3/30/22 1500				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

4/18/2022

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel, Virendra	Carrier Tracking No(s):	COC No. 570-163461 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-89945-2
Address: 880 Riverside Parkway, ,	Due Date Requested 4/13/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20220328 (570-89945-1)	3/28/22	10 00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date.	Time.	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	3/30/22 1530				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver. 06/08/2021

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-163461.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-89945-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 4/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20220328 (570-89945-1)	3/28/22	10:00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 3/30/22 1530	Company	Received by:	Date/Time: 3/31/22 9:10	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.9

Ver: 06/08/2021

4/18/2022

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

-1.7

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-163439.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-89945-2
Address: 5755 8th Street East, ,	Due Date Requested: 4/13/2022	Analysis Requested		Preservation Codes:
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424	PO #:			
Phone: 253-922-2310(Tel)	WO #:			
Email:	Project #: 44009815			
Project Name: Boeing SSFL ISRA and BMP	SSOW#:			
Site:				

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1631E/ Mercury, Total	1631E/Filtration_ME Mercury, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001BG01_20220328 (570-89945-1)	3/28/22	10:00 Pacific		Water			X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements: 5739 4182 8800

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		3/30/22 1500			3/31/22 9:30	EFGS
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: (Δ Yes) Δ No
Custody Seal No.: NA Small Blue
Cooler Temperature(s) °C and Other Remarks: -1.7 Dig 3 -2.2

Ver: 06/08/2021

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-163439.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-89945-2
Address: 5755 8th Street East, ,	Due Date Requested: 4/13/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1631E/Filtration_ME Mercury, Total	Total Number of containers	Special Instructions/Note:
EPSW001BG01_20220328 (570-89945-1)	3/28/22	10:00 Pacific		Water				X	1	

Re-sumbitting unpreserved aliquot for above analyses. See Curtis Deer for questions at EFGS or contact Virendra Patel at Eurofins Calscience (Tustin, CA).

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		3/31/22 1500	EC		4/1/22 9:30	EFGS
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: NA Large Red

Cooler Temperature(s) °C and Other Remarks: 4.6 Dig 2 5.0

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89945-2

Login Number: 89945
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89945-2

Login Number: 89945
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 03/31/22 12:33 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9c 1.1c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89945-2

Login Number: 89945
List Number: 5
Creator: Miller, Darren R

List Source: Eurofins Seattle
List Creation: 03/31/22 02:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-89945-3
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/28/2022 6:46:54 AM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

LINKS

Review your project results through TotalAccess

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Qualifiers

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-89945-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-89945-3

Comments
No additional comments.

Receipt
The samples were received on 3/28/2022 5:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.5º C and 2.8º C.

Receipt Exceptions

The number of containers for the following samples did not match the information listed on the Chain-of-Custody (COC): EPSW001BG01_20220328 (570-89945-1). Received 20 containers, while the COC lists 27.

RAD
Method 900.0: Gross Alpha Beta Batch 160-561057:

The gross alpha laboratory control sample (LCS) associated with the following samples recovered at 128%: EPSW001BG01_20220328 (570-89945-1), (LCS 160-561057/2-A), (160-45136-A-1-C), (160-45136-A-1-F DU), (160-45136-A-1-D MS) and (160-45136-A-1-E MSBT). The limits in our LIMS system at 75-125% reflect the requirements of a regulatory agency that represents a large amount of our work. However, the samples associated with this LCS are not from this agency and are, therefore, held to our in-house statistical limits of 68-130% per method requirements. The LCS is within criteria and no further action is required.

Method 900.0: Gross Alpha Beta batch 160-561057

The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: EPSW001BG01_20220328 (570-89945-1). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha Beta Batch 160-561057:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW001BG01_20220328 (570-89945-1), (LCS 160-561057/2-A), (LCSB 160-561057/3-A), (MB 160-561057/1-A), (160-45136-A-1-C), (160-45136-A-1-F DU), (160-45136-A-1-D MS) and (160-45136-A-1-E MSBT)

Method 900.0: Gross Alpha and Gross Beta batch 561268
The gross alpha laboratory control sample recovery is outside the upper QC limit indicating a potential positive bias for that analyte. This analyte was not observed above the MDC/RL in the associated samples; therefore the sample data is not adversely affected by this excursion. The data have been reported with this narrative.

(LCS 160-561268/2-A)

Method 900.0: Gross Alpha and Gross Beta batch 561268
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW001BG01_20220328 (570-89945-1), (LCS 160-561268/2-A), (LCSB 160-561268/3-A), (MB 160-561268/1-A), (570-89945-S-1-U DU), (570-89945-S-1-S MS) and (570-89945-S-1-T MSBT)

Method 901.1: Gamma Prep Batch 160-558289

Job ID: 570-89945-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW001BG01_20220328 (570-89945-1), (MB 160-558289/1-A) and (570-89945-T-1-F DU)

Method 901.1: Gamma Prep Batch 160-558291

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228

Job ID: 570-89945-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW001BG01_20220328 (570-89945-1), (MB 160-558291/1-A) and (570-89945-S-1-E DU)

Method 903.0: Radium 226 batch 558490
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date

EPSW001BG01_20220328 (570-89945-1), (LCS 160-558490/1-A), (LCSD 160-558490/2-A) and (MB 160-558490/22-A)

Method 903.0: Radium 226 Batch 160-558279:

The following sample(s) did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interference. During preparation the analyst visually noted matrix effects. The data have been reported with this narrative.

EPSW001BG01_20220328 (570-89945-1)

Methods 903.0, 9315: Radium 226 Batch 558279:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date

EPSW001BG01_20220328 (570-89945-1), (LCS 160-558279/1-A), (MB 160-558279/22-A), (310-227804-C-7-A), (310-227804-D-7-A MS) and (310-227804-C-7-B MSD)

Method 904.0: Radium 228 Batch 160-558496:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date

EPSW001BG01_20220328 (570-89945-1), (LCS 160-558496/1-A), (LCSD 160-558496/2-A) and (MB 160-558496/22-A)

Methods 904.0, 9320: Radium-228 batch 558282
The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: EPSW001BG01_20220328 (570-89945-1). Analytical results are reported with the detection limit achieved.

Methods 904.0, 9320: Radium-228 batch 558282
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date

Job ID: 570-89945-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

EPSW001BG01_20220328 (570-89945-1), (LCS 160-558282/1-A), (MB 160-558282/22-A), (310-227804-C-7-C), (310-227804-D-7-B MS) and (310-227804-C-7-D MSD)

Method 905: Strontium-90 batch 558284
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW001BG01_20220328 (570-89945-1), (LCS 160-558284/1-A), (LCSD 160-558284/2-A) and (MB 160-558284/7-A)

Method 905: Strontium 90 Batch 560457:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date

EPSW001BG01_20220328 (570-89945-1), (LCS 160-560457/1-A), (LCSD 160-560457/2-A) and (MB 160-560457/4-A)

Method 906.0: Tritium in liquid batch 160-558259
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
EPSW001BG01_20220328 (570-89945-1), (LCS 160-558259/2-A), (MB 160-558259/1-A), (280-160270-A-7-A), (280-160270-A-7-B MS), (280-160270-A-8-A) and (280-160270-A-8-B DU)

Method A-01-R: Isotopic Uranium Batch 160-559861:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW001BG01_20220328 (570-89945-1), (LCS 160-559861/2-A), (LCSD 160-559861/3-A) and (MB 160-559861/1-A)

Method ExtChrom: Uranium Prep Batch 160-559861

The following samples were prepared at a reduced aliquot due to heavy sediment levels and discoloration: EPSW001BG01_20220328 (570-89945-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision

Method ExtChrom: Uranium Prep Batch 160-559861

The following samples were prepared at a reduced aliquot due to insufficient sample volume: EPSW001BG01_20220328 (570-89945-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision

Method LSC_Dist_Susp:

Method PrecSep_0:

Method PrecSep_0:

Method PrecSep_0: Radium-228 Prep Batch 160-558496

Job ID: 570-89945-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

The following samples were prepared at a reduced aliquot due to Matrix: EPSW001BG01_20220328 (570-89945-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21:

Method PrecSep-21: Radium-226 Prep Batch 160-558490

The following samples were prepared at a reduced aliquot due to Matrix: EPSW001BG01_20220328 (570-89945-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21:

Method PrecSep-7: Strontium-90 Prep Batch 160-558284

The following samples were prepared at a reduced aliquot due to Matrix: EPSW001BG01_20220328 (570-89945-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-559629

The following samples were prepared at a reduced aliquot due to Matrix: EPSW001BG01_20220328 (570-89945-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-560205:

The following samples were prepared at a reduced aliquot due to Matrix: EPSW001BG01_20220328 (570-89945-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7:

Method PrecSep-7:

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Client Sample ID: EPSW001BG01_20220328 **Lab Sample ID: 570-89945-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	46.8	G	9.28	10.7	3.00	7.06	pCi/L	04/19/22 10:27	04/20/22 18:05	1
Gross Beta	26.3		3.41	4.31	4.00	3.08	pCi/L	04/19/22 10:27	04/20/22 18:05	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity - Dissolved

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.509	U *	1.15	1.15	3.00	2.00	pCi/L	04/20/22 10:05	04/21/22 17:25	1
Gross Beta	**2.36**		0.730	0.767	4.00	0.945	pCi/L	04/20/22 10:05	04/21/22 17:25	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	1.87	U	10.6	10.6	20.0	12.9	pCi/L	04/01/22 15:35	04/06/22 13:56	1
Potassium-40	42.9	U	125	125		135	pCi/L	04/01/22 15:35	04/06/22 13:56	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - Dissolved

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	3.96	U	8.84	8.85	20.0	11.0	pCi/L	04/01/22 16:04	04/06/22 13:55	1
Potassium-40	31.9	U	120	120		166	pCi/L	04/01/22 16:04	04/06/22 13:55	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 903.0 - Radium-226 (GFPC)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**4.79**	**G**	2.52	2.56	1.00	3.35	pCi/L	04/01/22 14:00	04/27/22 16:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.3*		*40 - 110*	*04/01/22 14:00*	*04/27/22 16:17*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.114	U	0.328	0.328	1.00	0.619	pCi/L	04/04/22 14:35	04/26/22 18:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.1*		*40 - 110*	*04/04/22 14:35*	*04/26/22 18:38*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.37	U G	2.55	2.56	1.00	4.35	pCi/L	04/01/22 14:24	04/26/22 20:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.3*		*40 - 110*	*04/01/22 14:24*	*04/26/22 20:43*	*1*
Y Carrier	*83.4*		*40 - 110*	*04/01/22 14:24*	*04/26/22 20:43*	*1*

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Client Sample ID: EPSW001BG01_20220328
Lab Sample ID: 570-89945-1
Date Collected: 03/28/22 10:00
Matrix: Water
Date Received: 03/28/22 17:50

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0925	U	0.451	0.451	1.00	0.798	pCi/L	04/04/22 15:09	04/26/22 12:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.1*		*40 - 110*	*04/04/22 15:09*	*04/26/22 12:54*	*1*
Y Carrier	*81.1*		*40 - 110*	*04/04/22 15:09*	*04/26/22 12:54*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 905 - Strontium-90 (GFPC)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	2.37	U	1.61	1.62	3.00	2.46	pCi/L	04/01/22 14:32	04/11/22 13:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*85.1*		*40 - 110*	*04/01/22 14:32*	*04/11/22 13:27*	*1*
Y Carrier	*93.8*		*40 - 110*	*04/01/22 14:32*	*04/11/22 13:27*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 905 - Strontium-90 (GFPC) - Dissolved

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.0125	U	0.166	0.166	3.00	0.294	pCi/L	04/14/22 20:06	04/27/22 12:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Y Carrier	*84.9*		*40 - 110*	*04/14/22 20:06*	*04/27/22 12:43*	*1*
Sr Carrier	*86.4*		*40 - 110*	*04/14/22 20:06*	*04/27/22 12:43*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	0.000	U	173	173	500	311	pCi/L	04/01/22 11:36	04/02/22 07:51	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: EPSW001BG01_20220328
Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	2.42		0.594	0.610	1.00	0.239	pCi/L	04/12/22 14:39	04/18/22 15:08	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*95.3*		*30 - 110*	*04/12/22 14:39*	*04/18/22 15:08*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - Dissolved

Client Sample ID: EPSW001BG01_20220328
Lab Sample ID: 570-89945-1
Date Collected: 03/28/22 10:00
Matrix: Water
Date Received: 03/28/22 17:50

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-234	0.154	U	0.145	0.145	1.00	0.179	pCi/L	04/12/22 14:57	04/18/22 15:08	1
Uranium-235/236	0.00227	U	0.0789	0.0789	1.00	0.235	pCi/L	04/12/22 14:57	04/18/22 15:08	1
Uranium-238	0.0474	U	0.0840	0.0841	1.00	0.152	pCi/L	04/12/22 14:57	04/18/22 15:08	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*104*		*30 - 110*	*04/12/22 14:57*	*04/18/22 15:08*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-227804-C-7-B MSD	Matrix Spike Duplicate	89.4
310-227804-D-7-A MS	Matrix Spike	91.4
570-89945-1	EPSW001BG01_20220328	79.3
LCS 160-558279/1-A	Lab Control Sample	89.9
LCS 160-558490/1-A	Lab Control Sample	90.1
LCSD 160-558490/2-A	Lab Control Sample Dup	99.0
MB 160-558279/22-A	Method Blank	97.0
MB 160-558490/22-A	Method Blank	95.6

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water — **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
570-89945-1	EPSW001BG01_20220328	95.1

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-227804-C-7-D MSD	Matrix Spike Duplicate	89.4	83.4
310-227804-D-7-B MS	Matrix Spike	91.4	83.4
570-89945-1	EPSW001BG01_20220328	79.3	83.4
LCS 160-558282/1-A	Lab Control Sample	89.9	83.4
LCS 160-558496/1-A	Lab Control Sample	90.1	84.5
LCSD 160-558496/2-A	Lab Control Sample Dup	99.0	85.6
MB 160-558282/22-A	Method Blank	97.0	86.0
MB 160-558496/22-A	Method Blank	95.6	91.2

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water — **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-89945-1	EPSW001BG01_20220328	95.1	81.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method: 905 - Strontium-90 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Sr	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-89945-1	EPSW001BG01_20220328	85.1	93.8
LCS 160-558284/1-A	Lab Control Sample	84.8	94.6
LCS 160-560457/1-A	Lab Control Sample	83.8	90.8
LCSD 160-558284/2-A	Lab Control Sample Dup	85.1	90.8
LCSD 160-560457/2-A	Lab Control Sample Dup	85.1	87.5
MB 160-558284/7-A	Method Blank	84.8	86.4
MB 160-560457/4-A	Method Blank	84.8	90.5

Tracer/Carrier Legend

Sr = Sr Carrier
Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water — **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)	
		Y	Sr
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
570-89945-1	EPSW001BG01_20220328	84.9	86.4

Tracer/Carrier Legend

Y = Y Carrier
Sr = Sr Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-89945-1	EPSW001BG01_20220328	95.3
LCS 160-559861/2-A	Lab Control Sample	81.9
LCSD 160-559861/3-A	Lab Control Sample Dup	85.6
MB 160-559861/1-A	Method Blank	93.7

Tracer/Carrier Legend

U-232 = Uranium-232

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water — **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
570-89945-1	EPSW001BG01_20220328	104

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-561057/1-A
Matrix: Water
Analysis Batch: 561279

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 561057

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.3890	U	0.668	0.669	3.00	1.14	pCi/L	04/19/22 10:27	04/20/22 18:04	1
Gross Beta	-0.03829	U	0.409	0.409	4.00	0.730	pCi/L	04/19/22 10:27	04/20/22 18:04	1

Lab Sample ID: LCS 160-561057/2-A
Matrix: Water
Analysis Batch: 561279

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 561057

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	40.5	51.79		7.72	3.00	2.68	pCi/L	128	75 - 125

Lab Sample ID: LCSB 160-561057/3-A
Matrix: Water
Analysis Batch: 561279

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 561057

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	60.1	60.82		6.51	4.00	0.720	pCi/L	101	75 - 125

Lab Sample ID: 160-45136-A-1-D MS
Matrix: Water
Analysis Batch: 561271

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 561057

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	0.518	U	67.4	51.53		8.44	3.00	4.00	pCi/L	76	60 - 140

Lab Sample ID: 160-45136-A-1-E MSBT
Matrix: Water
Analysis Batch: 561271

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 561057

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	2.48		100	94.94		10.2	4.00	1.12	pCi/L	92	60 - 140

Lab Sample ID: 160-45136-A-1-F DU
Matrix: Water
Analysis Batch: 561500

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 561057

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	0.518	U	0.2063	U	1.38	3.00	2.59	pCi/L	0.11	1
Gross Beta	2.48		1.370		0.803	4.00	1.19	pCi/L	0.64	1

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: MB 160-561268/1-A
Matrix: Water
Analysis Batch: 561508

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 561268

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.3647	U	0.745	0.747	3.00	1.30	pCi/L	04/20/22 10:05	04/21/22 17:25	1
Gross Beta	0.4351	U	0.547	0.549	4.00	0.897	pCi/L	04/20/22 10:05	04/21/22 17:25	1

Lab Sample ID: LCS 160-561268/2-A
Matrix: Water
Analysis Batch: 561508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 561268

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	50.6	72.94	*	10.6	3.00	3.09	pCi/L	144	75 - 125

Lab Sample ID: LCSB 160-561268/3-A
Matrix: Water
Analysis Batch: 561508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 561268

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	75.1	76.82		8.22	4.00	0.988	pCi/L	102	75 - 125

Lab Sample ID: 570-89945-1 MS
Matrix: Water
Analysis Batch: 561508

Client Sample ID: EPSW001BG01_20220328
Prep Type: Dissolved
Prep Batch: 561268

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	0.509	U *	50.6	47.19		6.52	3.00	1.53	pCi/L	92	60 - 140

Lab Sample ID: 570-89945-1 MSBT
Matrix: Water
Analysis Batch: 561497

Client Sample ID: EPSW001BG01_20220328
Prep Type: Dissolved
Prep Batch: 561268

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	2.36		75.1	67.62		7.26	4.00	0.890	pCi/L	87	60 - 140

Lab Sample ID: 570-89945-1 DU
Matrix: Water
Analysis Batch: 561497

Client Sample ID: EPSW001BG01_20220328
Prep Type: Dissolved
Prep Batch: 561268

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	0.509	U *	0.7341	U *	0.879	3.00	1.44	pCi/L	0.11	1
Gross Beta	2.36		1.196		0.623	4.00	0.885	pCi/L	0.84	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-558289/1-A
Matrix: Water
Analysis Batch: 558727

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558289

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	1.507	U	9.78	9.79	20.0	12.5	pCi/L	04/01/22 15:35	04/06/22 18:46	1
Potassium-40	5.325	U	75.1	75.1		135	pCi/L	04/01/22 15:35	04/06/22 18:46	1

Lab Sample ID: LCS 160-558289/2-A
Matrix: Water
Analysis Batch: 558721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558289

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	140500		16700		416	pCi/L	104	75 - 125
Cesium-137	41800	42480		5060	20.0	97.5	pCi/L	102	75 - 125
Cobalt-60	20200	20760		2480		48.3	pCi/L	103	75 - 125

Lab Sample ID: 570-89945-1 DU
Matrix: Water
Analysis Batch: 558725

Client Sample ID: EPSW001BG01_20220328
Prep Type: Total/NA
Prep Batch: 558289

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	1.87	U	7.874		6.95	20.0	7.72	pCi/L	0.34	1
Potassium-40	42.9	U	-4.221	U	127		181	pCi/L	0.19	1

Lab Sample ID: MB 160-558291/1-A
Matrix: Water
Analysis Batch: 558727

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558291

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	2.261	U	8.62	8.63	20.0	11.0	pCi/L	04/01/22 16:04	04/06/22 17:37	1
Potassium-40	-20.29	U	113	113		166	pCi/L	04/01/22 16:04	04/06/22 17:37	1

Lab Sample ID: LCS 160-558291/2-A
Matrix: Water
Analysis Batch: 558725

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558291

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	136900		16300		439	pCi/L	101	75 - 125
Cesium-137	41800	42770		5100	20.0	108	pCi/L	102	75 - 125
Cobalt-60	20200	21230		2530		67.3	pCi/L	105	75 - 125

Lab Sample ID: 570-89945-1 DU
Matrix: Water
Analysis Batch: 558726

Client Sample ID: EPSW001BG01_20220328
Prep Type: Dissolved
Prep Batch: 558291

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	3.96	U	2.793	U	10.5	20.0	12.1	pCi/L	0.06	1
Potassium-40	31.9	U	107.4	U	99.3		143	pCi/L	0.34	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-558279/22-A
Matrix: Water
Analysis Batch: 562245

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558279

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.05397	U	0.149	0.149	1.00	0.276	pCi/L	04/01/22 14:00	04/27/22 16:18	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.0*		*40 - 110*	*04/01/22 14:00*	*04/27/22 16:18*	*1*

Lab Sample ID: LCS 160-558279/1-A
Matrix: Water
Analysis Batch: 562245

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558279

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	8.814		1.16	1.00	0.301	pCi/L	78	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.9*		*40 - 110*

Lab Sample ID: 310-227804-C-7-B MSD
Matrix: Water
Analysis Batch: 562410

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 558279

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	0.127	U	11.4	9.675		1.22	1.00	0.292	pCi/L	84	60 - 140	0.17	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*89.4*		*40 - 110*

Lab Sample ID: 310-227804-D-7-A MS
Matrix: Water
Analysis Batch: 562410

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 558279

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226	0.127	U	11.4	10.10		1.29	1.00	0.379	pCi/L	88	60 - 140		

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*91.4*		*40 - 110*

Lab Sample ID: MB 160-558490/22-A
Matrix: Water
Analysis Batch: 562034

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558490

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1378	U	0.198	0.198	1.00	0.336	pCi/L	04/04/22 14:35	04/26/22 18:38	1

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-558490/22-A
Matrix: Water
Analysis Batch: 562034

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558490

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110	04/04/22 14:35	04/26/22 18:38	1

Lab Sample ID: LCS 160-558490/1-A
Matrix: Water
Analysis Batch: 562034

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558490

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226			11.3	9.738		1.32	1.00	0.402	pCi/L	86	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	90.1		40 - 110

Lab Sample ID: LCSD 160-558490/2-A
Matrix: Water
Analysis Batch: 562034

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 558490

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226			11.3	10.03		1.32	1.00	0.351	pCi/L	88	75 - 125	0.11	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	99.0		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-558282/22-A
Matrix: Water
Analysis Batch: 562219

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558282

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1567	U	0.218	0.218	1.00	0.416	pCi/L	04/01/22 14:24	04/26/22 20:43	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.0		40 - 110	04/01/22 14:24	04/26/22 20:43	1
Y Carrier	86.0		40 - 110	04/01/22 14:24	04/26/22 20:43	1

Lab Sample ID: LCS 160-558282/1-A
Matrix: Water
Analysis Batch: 562035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558282

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228			8.67	9.456		1.12	1.00	0.423	pCi/L	109	75 - 125		

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-558282/1-A
Matrix: Water
Analysis Batch: 562035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558282

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	89.9		40 - 110
Y Carrier	83.4		40 - 110

Lab Sample ID: 310-227804-C-7-D MSD
Matrix: Water
Analysis Batch: 562219

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 558282

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	0.0294	U	8.69	9.574		1.14	1.00	0.413	pCi/L	110	60 - 140	0.21	1

Carrier	MSD %Yield	MSD Qualifier	Limits
Ba Carrier	89.4		40 - 110
Y Carrier	83.4		40 - 110

Lab Sample ID: 310-227804-D-7-B MS
Matrix: Water
Analysis Batch: 562219

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 558282

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	0.0294	U	8.69	10.05		1.18	1.00	0.419	pCi/L	115	60 - 140

Carrier	MS %Yield	MS Qualifier	Limits
Ba Carrier	91.4		40 - 110
Y Carrier	83.4		40 - 110

Lab Sample ID: MB 160-558496/22-A
Matrix: Water
Analysis Batch: 562036

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558496

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4083		0.228	0.231	1.00	0.338	pCi/L	04/04/22 15:09	04/26/22 12:50	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110	04/04/22 15:09	04/26/22 12:50	1
Y Carrier	91.2		40 - 110	04/04/22 15:09	04/26/22 12:50	1

Lab Sample ID: LCS 160-558496/1-A
Matrix: Water
Analysis Batch: 562034

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558496

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	8.67	9.167		1.09	1.00	0.380	pCi/L	106	75 - 125

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-558496/1-A
Matrix: Water
Analysis Batch: 562034

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558496

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	90.1		40 - 110
Y Carrier	84.5		40 - 110

Lab Sample ID: LCSD 160-558496/2-A
Matrix: Water
Analysis Batch: 562034

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 558496

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228			8.67	8.454		1.02	1.00	0.440	pCi/L	97	75 - 125	0.34	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	99.0		40 - 110
Y Carrier	85.6		40 - 110

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-558284/7-A
Matrix: Water
Analysis Batch: 559791

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558284

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.3459		0.199	0.201	3.00	0.298	pCi/L	04/01/22 14:32	04/11/22 13:28	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	86.4		40 - 110	04/01/22 14:32	04/11/22 13:28	1
Sr Carrier	84.8		40 - 110	04/01/22 14:32	04/11/22 13:28	1

Lab Sample ID: LCS 160-558284/1-A
Matrix: Water
Analysis Batch: 559797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558284

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Strontium-90			7.52	8.317		0.884	3.00	0.342	pCi/L	111	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Y Carrier	94.6		40 - 110
Sr Carrier	84.8		40 - 110

Lab Sample ID: LCSD 160-558284/2-A
Matrix: Water
Analysis Batch: 559797

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 558284

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Strontium-90			7.52	8.063		0.860	3.00	0.304	pCi/L	107	75 - 125	0.15	1

Method: 905 - Strontium-90 (GFPC) (Continued)

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Y Carrier	90.8		40 - 110
Sr Carrier	85.1		40 - 110

Lab Sample ID: MB 160-560457/4-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 562245 — **Prep Batch: 560457**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.1019	U	0.148	0.149	3.00	0.249	pCi/L	04/14/22 20:06	04/27/22 12:43	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	90.5		40 - 110	04/14/22 20:06	04/27/22 12:43	1
Sr Carrier	84.8		40 - 110	04/14/22 20:06	04/27/22 12:43	1

Lab Sample ID: LCS 160-560457/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 562245 — **Prep Batch: 560457**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Strontium-90			7.51	7.646		0.802	3.00	0.267	pCi/L	102	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Y Carrier	90.8		40 - 110
Sr Carrier	83.8		40 - 110

Lab Sample ID: LCSD 160-560457/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 562245 — **Prep Batch: 560457**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Strontium-90			7.51	7.004		0.752	3.00	0.268	pCi/L	93	75 - 125	0.41	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Y Carrier	87.5		40 - 110
Sr Carrier	85.1		40 - 110

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-558259/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 558460 — **Prep Batch: 558259**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	35.14	U	182	182	500	323	pCi/L	04/01/22 11:36	04/02/22 05:13	1

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: LCS 160-558259/2-A
Matrix: Water
Analysis Batch: 558460

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558259

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Tritium			2220	2192		394	500	323	pCi/L	99	75 - 125		

Lab Sample ID: 280-160270-A-7-B MS
Matrix: Water
Analysis Batch: 558460

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 558259

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Tritium	35.6	U	2210	2426		410	500	312	pCi/L	108	60 - 140		

Lab Sample ID: 280-160270-A-8-B DU
Matrix: Water
Analysis Batch: 558460

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 558259

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Tritium	70.3	U		2.252	U	174	500	312	pCi/L			0.19	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-559861/1-A
Matrix: Water
Analysis Batch: 560847

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 559861

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-234	0.03301	U	0.0705	0.0705	1.00	0.139	pCi/L	04/12/22 14:39	04/18/22 15:08	1
Uranium-235/236	0.02434	U	0.0487	0.0487	1.00	0.0730	pCi/L	04/12/22 14:39	04/18/22 15:08	1
Uranium-238	-0.007321	U	0.0104	0.0104	1.00	0.101	pCi/L	04/12/22 14:39	04/18/22 15:08	1
Total Uranium	0.05735	U	0.08631	0.08631	1.00	0.139	pCi/L	04/12/22 14:39	04/18/22 15:08	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*93.7*		*30 - 110*	*04/12/22 14:39*	*04/18/22 15:08*	*1*

Lab Sample ID: LCS 160-559861/2-A
Matrix: Water
Analysis Batch: 560865

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 559861

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Uranium-234			12.7	12.75		1.52	1.00	0.0690	pCi/L	100	75 - 125		
Uranium-238			13.0	13.39		1.58	1.00	0.105	pCi/L	103	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*81.9*		*30 - 110*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCSD 160-559861/3-A
Matrix: Water
Analysis Batch: 560873

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 559861

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Uranium-234			12.7	12.46		1.48	1.00	0.193	pCi/L	98	75 - 125	0.1	1
Uranium-238			13.0	12.41		1.47	1.00	0.141	pCi/L	95	75 - 125	0.32	1

Tracer	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Uranium-232	*85.6*		*30 - 110*

Rad

Filtration Batch: 558041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	Filtration	
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	Filtration	
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	Filtration	
570-89945-1 MS	EPSW001BG01_20220328	Dissolved	Water	Filtration	
570-89945-1 MSBT	EPSW001BG01_20220328	Dissolved	Water	Filtration	
570-89945-1 DU	EPSW001BG01_20220328	Dissolved	Water	Filtration	
570-89945-1 DU	EPSW001BG01_20220328	Dissolved	Water	Filtration	

Prep Batch: 558259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	LSC_Dist_Susp	
MB 160-558259/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-558259/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
280-160270-A-7-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
280-160270-A-8-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Prep Batch: 558279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	PrecSep-21	
MB 160-558279/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-558279/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
310-227804-C-7-B MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep-21	
310-227804-D-7-A MS	Matrix Spike	Total/NA	Water	PrecSep-21	

Prep Batch: 558282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	PrecSep_0	
MB 160-558282/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-558282/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
310-227804-C-7-D MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep_0	
310-227804-D-7-B MS	Matrix Spike	Total/NA	Water	PrecSep_0	

Prep Batch: 558284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	PrecSep-7	
MB 160-558284/7-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-558284/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-558284/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 558289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	Fill_Geo-0	
MB 160-558289/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-558289/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-89945-1 DU	EPSW001BG01_20220328	Total/NA	Water	Fill_Geo-0	

Prep Batch: 558291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	Fill_Geo-0	558041
MB 160-558291/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-558291/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

Rad (Continued)

Prep Batch: 558291 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1 DU	EPSW001BG01_20220328	Dissolved	Water	Fill_Geo-0	558041

Prep Batch: 558490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	PrecSep-21	558041
MB 160-558490/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-558490/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-558490/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 558496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	PrecSep_0	558041
MB 160-558496/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-558496/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-558496/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 559861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	ExtChrom	558041
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	ExtChrom	
MB 160-559861/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-559861/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
LCSD 160-559861/3-A	Lab Control Sample Dup	Total/NA	Water	ExtChrom	

Prep Batch: 560457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	PrecSep-7	558041
MB 160-560457/4-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-560457/1-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-560457/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

Prep Batch: 561057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Total/NA	Water	Evaporation	
MB 160-561057/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-561057/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-561057/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
160-45136-A-1-D MS	Matrix Spike	Total/NA	Water	Evaporation	
160-45136-A-1-E MSBT	Matrix Spike	Total/NA	Water	Evaporation	
160-45136-A-1-F DU	Duplicate	Total/NA	Water	Evaporation	

Prep Batch: 561268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-1	EPSW001BG01_20220328	Dissolved	Water	Evaporation	558041
MB 160-561268/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-561268/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-561268/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-89945-1 MS	EPSW001BG01_20220328	Dissolved	Water	Evaporation	558041
570-89945-1 MSBT	EPSW001BG01_20220328	Dissolved	Water	Evaporation	558041
570-89945-1 DU	EPSW001BG01_20220328	Dissolved	Water	Evaporation	558041

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Client Sample ID: EPSW001BG01_20220328

Date Collected: 03/28/22 10:00
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89945-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	558041	03/31/22 09:06	SRE	TAL SL
Dissolved	Prep	Evaporation			200.00 mL	1.0 g	561268	04/20/22 10:05	ASG	TAL SL
Dissolved	Analysis	900.0		1			561508	04/21/22 17:25	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	Evaporation			74.97 mL	1.0 g	561057	04/19/22 10:27	ASG	TAL SL
Total/NA	Analysis	900.0		1			561279	04/20/22 18:05	FLC	TAL SL
	Instrument ID: GFPCRED									
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	558041	03/31/22 09:18	SRE	TAL SL
Dissolved	Prep	Fill_Geo-0			1000 mL	1.0 g	558291	04/01/22 16:04	ZTH	TAL SL
Dissolved	Analysis	901.1		1			558727	04/06/22 13:55	JCB	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	558289	04/01/22 15:35	ZTH	TAL SL
Total/NA	Analysis	901.1		1			558719	04/06/22 13:56	JCB	TAL SL
	Instrument ID: GAMMAVISION									
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	558041	03/31/22 09:06	SRE	TAL SL
Dissolved	Prep	PrecSep-21			496.93 mL	1.0 g	558490	04/04/22 14:35	BMP	TAL SL
Dissolved	Analysis	903.0		1			562034	04/26/22 18:38	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep-21			109.36 mL	1.0 g	558279	04/01/22 14:00	LPS	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	562245	04/27/22 16:17	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	558041	03/31/22 09:06	SRE	TAL SL
Dissolved	Prep	PrecSep_0			496.93 mL	1.0 g	558496	04/04/22 15:09	BMP	TAL SL
Dissolved	Analysis	904.0		1			562036	04/26/22 12:54	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			109.36 mL	1.0 g	558282	04/01/22 14:24	LPS	TAL SL
Total/NA	Analysis	904.0		1			562219	04/26/22 20:43	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	558041	03/31/22 09:18	SRE	TAL SL
Dissolved	Prep	PrecSep-7			994.80 mL	1.0 g	560457	04/14/22 20:06	MLK	TAL SL
Dissolved	Analysis	905		1			562245	04/27/22 12:43	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep-7			107.45 mL	1.0 g	558284	04/01/22 14:32	LPS	TAL SL
Total/NA	Analysis	905		1			559791	04/11/22 13:27	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	LSC_Dist_Susp			100.05 mL	1.0 g	558259	04/01/22 11:36	BAL	TAL SL
Total/NA	Analysis	906.0		1			558460	04/02/22 07:51	JLP	TAL SL
	Instrument ID: LSCTEAL									
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	558041	03/31/22 09:06	SRE	TAL SL
Dissolved	Prep	ExtChrom			350.60 mL	1.0 mL	559861	04/12/22 14:57	MLO	TAL SL
Dissolved	Analysis	A-01-R		1			560916	04/18/22 15:08	CLP	TAL SL
	Instrument ID: ALPHAVISION									
Total/NA	Prep	ExtChrom			275.68 mL	1.0 mL	559861	04/12/22 14:39	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			560883	04/18/22 15:08	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
Filtration	Sample Filtration	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89945-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-89945-1	EPSW001BG01_20220328	Water	03/28/22 10:00	03/28/22 17:50

89945

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. and its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Eurofins Calscience, Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 3/28/2022	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu Fe, Mn Ni Pb Se Sb, Ti; Method 200.7 B, Zn, – (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu Fe, Mn Ni Pb, Se, Sb, Ti; Method 200.7 B, Zn – (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1 1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20220328	3/28/22	1000	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other ____								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison 3 ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access Bill to Haley & Aldrich at AP@haleyaldrich.com Report Level II Data Package and provide EDD All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L)

To be both Total Recoverable and Total Dissolved for the following: Uranium (E908.0); K-40, Cs-137 (E901.0 or E901.1); Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905).

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

Relinquished by	Company	Date/Time	Received by		Date/Time
M Birney	JHA	3/28/22		EC	03/28/22 1353
	EC	3/28/22 1400	Olga Cmelas	EC	3/28/22 1750

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

40125 43128 ~~39124~~ HP SC6

Modified COC received from Mark Dominick (H&A) on 03/31/2022 at 15:09pm. - Virendra (ECI)

570-89945 Chain of Custody

SAP COC 2019/2020 VERSION 3

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4/28/2022

89945

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins | Calscience

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Eurofins Calscience, Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 3/28/2022	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	▪ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	▪ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Gross Alpha & Beta, total dissolved (E900.0)	Gross Alpha & Beta, total recoverable(E900.0)	SO4, Fluoride, Nitrate-N, Nitrite-N (E300)	Perchlorate (E314.0)	Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905)	Tritium (E906.0)	Chromium VI, total dissolved (Method 218.6)	Chromium VI, total recoverable(Method 218.6)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu Fe, Mn Ni Pb Se Sb, Tl; Method 200.7 B, Zn, – (Total Dissolved)	Method 200.8: Ag, As, Ba, Be, Cd, Cr Cu Fe, Mn Ni Pb, Se, Sb, Tl; Method 200.7 B, Zn – (Total Recoverable)	LL Mercury, total recoverable + dissolved(E1631)	Trichloroethene (E624.1)	bis (2-ethylhexyl) phthalate (E625.1)	Cyanide (SM 4500-CN-E)	Sample Specific Notes:
								2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1 1L Poly	1-250mL Poly	1-250mL Poly	4-1L Poly	1-250mL Amber	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	1-250mL Clear Glass	3-40mL VOA	2-1L Amber	1-500mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW001BG01_20220328	3/28/22	1000	G	WM	27	Y	N	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other ____								1	1	1	4	4	1	1	4	1	1	1	4	4	2	2	1	5	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ▪ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access Bill to Haley & Aldrich at AP@haleyaldrich.com Report Level II Data Package and provide EDD All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold Low limits needed for Mercury (MDL 0.017 ug/L, RL 0.05 ug/L)

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

	Company	Date/Time			Date/Time
Relinquished by: M Birney	Company: H&A	Date/Time: 3/28/22 1400	Received by:	EC	Date/Time: 03/28/22 13 53
Relinquished by:	Company: EC	Date/Time: 3/28/2022 1500	Received by: Olga Cmelas	EC	Date/Time: 3/28/22 1750
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

40125 43128 ~~39124~~ HP SC6

570-89945 Chain of Custody

4/28/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience
2841 Dow Avenue Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-163439 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northwest,		Accreditations Required (See note): State Program - California		Job #: 570-89945-2
Address: 5755 8th Street East,	Due Date Requested: 4/13/2022			
City: Tacoma	TAT Requested (days):			
State, Zip: WA, 98424				
Phone: 253-922-2310(Tel)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1631E/ Mercury, Total	1631E/Filtration_ME Mercury, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EPSW001BG01_20220328 (570-89945-1)	3/28/22	10 00 Pacific		Water			X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	3/30/22 1500				
2						
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel, Virendra	Carrier Tracking No(s):	COC No. 570-163461 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-89945-2
Address: 880 Riverside Parkway, ,	Due Date Requested 4/13/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW001BG01_20220328 (570-89945-1)	3/28/22	10 00 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date.	Time.	Method of Shipment:

Relinquished by:	Date/Time: 3/30/22 1530	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver. 06/08/2021

4/28/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89945-3

Login Number: 89945
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89945-3

Login Number: 89945
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 03/30/22 03:05 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-89949-1
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/11/2022 1:04:55 PM

Virendra Patel, Project Manager I
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LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
EY	Result exceeds normal dynamic range; reported as a min. est.

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-89949-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-89949-1

Comments
No additional comments.

Receipt
The sample was received on 3/28/2022 5:50 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

Receipt Exceptions

The laboratory received 250 ml plastic with HNO3 instead of 250 ml plastic unpreserved container for Dissolved Metals analysis on the following sample: EPSW002IE01_20220328 (570-89949-1).

The laboratory split off some volume from one of the 1 Liter amber bottles received for Dioxins/Furans for Dissolved Metals analyses post receipt at the lab.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method Filtration: The following samples requested dissolved metals and were not filtered in the field: EPSW002IE01_20220328 (570-89949-1). These samples were filtered and preserved upon receipt to the laboratory.

Method 245.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: EPSW002IE01_20220328 (570-89949-1).

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: EPSW002IE01_20220328 (570-89949-1). These samples were filtered and preserved upon receipt to the laboratory.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Client Sample ID: EPSW002IE01_20220328

Lab Sample ID: 570-89949-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	2.2		0.50	0.25	mg/L	1		300.0	Total/NA
Iron	5300		100	50	ug/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	170		20	6.8	ug/L	1		200.7 Rev 4.4	Total Recoverable
Zinc	38		20	12	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	220		100	50	ug/L	1		200.7 Rev 4.4	Dissolved
Manganese	7.5	J,DX	20	6.8	ug/L	1		200.7 Rev 4.4	Dissolved
Arsenic	1.8		1.0	0.14	ug/L	1		200.8	Total Recoverable
Cadmium	0.24	J,DX	1.0	0.14	ug/L	1		200.8	Total Recoverable
Copper	14		2.0	1.6	ug/L	1		200.8	Total Recoverable
Lead	7.4		1.0	0.12	ug/L	1		200.8	Total Recoverable
Selenium	0.48	J,DX	2.0	0.48	ug/L	1		200.8	Total Recoverable
Arsenic	0.35	J,DX	1.0	0.14	ug/L	1		200.8	Dissolved
Copper	2.3		2.0	1.6	ug/L	1		200.8	Dissolved
Total Suspended Solids	300		4.0	3.3	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**2.2**		0.50	0.25	mg/L			03/30/22 06:24	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	5300		100	50	ug/L		04/06/22 15:37	04/07/22 17:33	1
Manganese	170		20	6.8	ug/L		04/06/22 15:37	04/07/22 17:33	1
Zinc	38		20	12	ug/L		04/06/22 15:37	04/07/22 17:33	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**220**		100	50	ug/L		04/08/22 07:12	04/08/22 13:38	1
Manganese	**7.5**	**J,DX**	20	6.8	ug/L		04/08/22 07:12	04/08/22 13:38	1
Zinc	ND		20	12	ug/L		04/08/22 07:12	04/08/22 13:38	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.8		1.0	0.14	ug/L		04/07/22 10:09	04/07/22 14:48	1
Cadmium	0.24	J,DX	1.0	0.14	ug/L		04/07/22 10:09	04/07/22 14:48	1
Copper	14		2.0	1.6	ug/L		04/07/22 10:09	04/07/22 14:48	1
Lead	7.4		1.0	0.12	ug/L		04/07/22 10:09	04/07/22 14:48	1
Selenium	0.48	J,DX	2.0	0.48	ug/L		04/07/22 10:09	04/07/22 14:48	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.35**	**J,DX**	1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:38	1
Cadmium	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:38	1
Copper	**2.3**		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:38	1
Lead	ND		1.0	0.12	ug/L		04/08/22 05:26	04/08/22 10:38	1
Selenium	ND		2.0	0.48	ug/L		04/08/22 05:26	04/08/22 10:38	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		04/08/22 09:03	04/08/22 15:17	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		04/08/22 10:09	04/08/22 17:51	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

General Chemistry

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	300		4.0	3.3	mg/L			03/31/22 23:49	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-670109/6
Matrix: Water
Analysis Batch: 670109

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.50	0.25	mg/L			03/30/22 05:26	1

Lab Sample ID: LCS 440-670109/5
Matrix: Water
Analysis Batch: 670109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	5.00	4.87		mg/L		97	90 - 110

Lab Sample ID: 570-90188-A-1 MS
Matrix: Water
Analysis Batch: 670109

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	69	EY	5.00	74.9	EY BB	mg/L		127	80 - 120

Lab Sample ID: 570-90188-A-1 MSD
Matrix: Water
Analysis Batch: 670109

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	69	EY	5.00	75.1	EY BB	mg/L		131	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-670555/1-A
Matrix: Water
Analysis Batch: 670631

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 670555

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		100	50	ug/L		04/06/22 15:37	04/07/22 14:56	1
Manganese	ND		20	6.8	ug/L		04/06/22 15:37	04/07/22 14:56	1
Zinc	ND		20	12	ug/L		04/06/22 15:37	04/07/22 14:56	1

Lab Sample ID: LCS 440-670555/2-A
Matrix: Water
Analysis Batch: 670631

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 670555

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	500	515		ug/L		103	85 - 115
Manganese	500	514		ug/L		103	85 - 115
Zinc	500	541		ug/L		108	85 - 115

Lab Sample ID: 570-89895-A-1-B MS
Matrix: Water
Analysis Batch: 670639

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 670555

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	280		500	829		ug/L		109	70 - 130
Manganese	16	J,DX	500	541		ug/L		105	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 570-89895-A-1-B MS
Matrix: Water
Analysis Batch: 670639

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 670555

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Zinc	410		500	963		ug/L		111	70 - 130

Lab Sample ID: 570-89895-A-1-C MSD
Matrix: Water
Analysis Batch: 670639

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 670555

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	280		500	826		ug/L		109	70 - 130	0	20
Manganese	16	J,DX	500	544		ug/L		106	70 - 130	1	20
Zinc	410		500	966		ug/L		111	70 - 130	0	20

Lab Sample ID: MB 440-670674/1-C
Matrix: Water
Analysis Batch: 670714

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 670678

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		100	50	ug/L		04/08/22 07:12	04/08/22 13:14	1
Manganese	ND		20	6.8	ug/L		04/08/22 07:12	04/08/22 13:14	1
Zinc	ND		20	12	ug/L		04/08/22 07:12	04/08/22 13:14	1

Lab Sample ID: LCS 440-670674/2-C
Matrix: Water
Analysis Batch: 670714

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 670678

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	500	506		ug/L		101	85 - 115
Manganese	500	522		ug/L		104	85 - 115
Zinc	500	523		ug/L		105	85 - 115

Lab Sample ID: 570-89945-F-1-F MS
Matrix: Water
Analysis Batch: 670714

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 670678

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	710		500	1250		ug/L		108	70 - 130
Manganese	21		500	544		ug/L		105	70 - 130
Zinc	ND		500	530		ug/L		106	70 - 130

Lab Sample ID: 570-89945-F-1-G MSD
Matrix: Water
Analysis Batch: 670714

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 670678

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	710		500	1190		ug/L		95	70 - 130	5	20
Manganese	21		500	538		ug/L		103	70 - 130	1	20
Zinc	ND		500	524		ug/L		105	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-670611/1-A
Matrix: Water
Analysis Batch: 670626

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 670611

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.14	ug/L		04/07/22 10:09	04/07/22 14:22	1
Cadmium	ND		1.0	0.14	ug/L		04/07/22 10:09	04/07/22 14:22	1
Copper	ND		2.0	1.6	ug/L		04/07/22 10:09	04/07/22 14:22	1
Lead	ND		1.0	0.12	ug/L		04/07/22 10:09	04/07/22 14:22	1
Selenium	ND		2.0	0.48	ug/L		04/07/22 10:09	04/07/22 14:22	1

Lab Sample ID: LCS 440-670611/2-A
Matrix: Water
Analysis Batch: 670626

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 670611

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	80.0	82.6		ug/L		103	85 - 115
Cadmium	80.0	81.3		ug/L		102	85 - 115
Copper	80.0	81.4		ug/L		102	85 - 115
Lead	80.0	82.7		ug/L		103	85 - 115
Selenium	80.0	82.2		ug/L		103	85 - 115

Lab Sample ID: 570-89889-A-1-B MS
Matrix: Water
Analysis Batch: 670626

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 670611

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.59	J,DX	80.0	83.8		ug/L		104	70 - 130
Cadmium	ND		80.0	80.2		ug/L		100	70 - 130
Copper	33		80.0	102		ug/L		85	70 - 130
Lead	ND		80.0	82.3		ug/L		103	70 - 130
Selenium	ND		80.0	81.9		ug/L		102	70 - 130

Lab Sample ID: 570-89889-A-1-C MSD
Matrix: Water
Analysis Batch: 670626

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 670611

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.59	J,DX	80.0	82.9		ug/L		103	70 - 130	1	20
Cadmium	ND		80.0	79.7		ug/L		100	70 - 130	1	20
Copper	33		80.0	109		ug/L		94	70 - 130	7	20
Lead	ND		80.0	81.7		ug/L		102	70 - 130	1	20
Selenium	ND		80.0	83.2		ug/L		104	70 - 130	2	20

Lab Sample ID: MB 440-670674/1-B
Matrix: Water
Analysis Batch: 670686

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 670675

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:14	1
Cadmium	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:14	1
Copper	ND		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:14	1
Lead	ND		1.0	0.12	ug/L		04/08/22 05:26	04/08/22 10:14	1
Selenium	ND		2.0	0.48	ug/L		04/08/22 05:26	04/08/22 10:14	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-670674/2-B
Matrix: Water
Analysis Batch: 670686

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 670675

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	80.0	77.5		ug/L		97	85 - 115
Cadmium	80.0	78.1		ug/L		98	85 - 115
Copper	80.0	77.5		ug/L		97	85 - 115
Lead	80.0	80.6		ug/L		101	85 - 115
Selenium	80.0	76.8		ug/L		96	85 - 115

Lab Sample ID: 570-89945-F-1-C MS
Matrix: Water
Analysis Batch: 670686

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 670675

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	1.2		80.0	84.8		ug/L		105	70 - 130
Cadmium	ND		80.0	82.7		ug/L		103	70 - 130
Copper	11		80.0	86.6		ug/L		95	70 - 130
Lead	0.53	J,DX	80.0	87.0		ug/L		108	70 - 130
Selenium	ND		80.0	82.7		ug/L		103	70 - 130

Lab Sample ID: 570-89945-F-1-D MSD
Matrix: Water
Analysis Batch: 670686

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 670675

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	1.2		80.0	84.7		ug/L		104	70 - 130	0	20
Cadmium	ND		80.0	81.9		ug/L		102	70 - 130	1	20
Copper	11		80.0	87.3		ug/L		96	70 - 130	1	20
Lead	0.53	J,DX	80.0	86.7		ug/L		108	70 - 130	0	20
Selenium	ND		80.0	83.1		ug/L		104	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-225296/1-A
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 225296

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		04/08/22 09:03	04/08/22 14:44	1

Lab Sample ID: LCS 570-225296/2-A
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 225296

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	10.0	10.4		ug/L		104	85 - 115

Lab Sample ID: LCSD 570-225296/3-A
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 225296

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	10.0	10.3		ug/L		103	85 - 115	1	10

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: 570-89877-A-1-D MS
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 225296

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		10.0	10.8		ug/L		108	70 - 130

Lab Sample ID: 570-89877-A-1-E MSD
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 225296

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		10.0	10.7		ug/L		107	70 - 130	1	10

Lab Sample ID: MB 570-225307/1-B
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 225313

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		04/08/22 10:09	04/08/22 17:42	1

Lab Sample ID: LCS 570-225307/2-B
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 225313

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	10.0	9.71		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-225307/3-B
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 225313

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	10.0	9.70		ug/L		97	85 - 115	0	10

Lab Sample ID: 570-89949-1 MS
Matrix: Water
Analysis Batch: 225396

Client Sample ID: EPSW002IE01_20220328
Prep Type: Dissolved
Prep Batch: 225313

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	BU	10.0	9.65		ug/L		96	70 - 130

Lab Sample ID: 570-89949-1 MSD
Matrix: Water
Analysis Batch: 225396

Client Sample ID: EPSW002IE01_20220328
Prep Type: Dissolved
Prep Batch: 225313

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	BU	10.0	9.57		ug/L		96	70 - 130	1	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-223635/1
Matrix: Water
Analysis Batch: 223635

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			03/31/22 23:49	1

Lab Sample ID: LCS 570-223635/2
Matrix: Water
Analysis Batch: 223635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			100	109		mg/L		109	77 - 116		

Lab Sample ID: LCSD 570-223635/3
Matrix: Water
Analysis Batch: 223635

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids			100	114		mg/L		114	77 - 116	4	10

Lab Sample ID: 570-90047-D-2 MS
Matrix: Water
Analysis Batch: 223635

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids	33		14.3	46.0		mg/L		88	85 - 115		

Lab Sample ID: 570-90047-D-2 MSD
Matrix: Water
Analysis Batch: 223635

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	33		14.3	47.0		mg/L		95	85 - 115	2	10

Lab Sample ID: 570-90047-D-2 DU
Matrix: Water
Analysis Batch: 223635

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	33			36.4		mg/L				9	10

HPLC/IC

Analysis Batch: 670109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Total/NA	Water	300.0	
MB 440-670109/6	Method Blank	Total/NA	Water	300.0	
LCS 440-670109/5	Lab Control Sample	Total/NA	Water	300.0	
570-90188-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
570-90188-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 225296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Total/NA	Water	245.1	
MB 570-225296/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-225296/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-225296/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-89877-A-1-D MS	Matrix Spike	Total/NA	Water	245.1	
570-89877-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Filtration Batch: 225307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	Filtration	
MB 570-225307/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-225307/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-225307/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-89949-1 MS	EPSW002IE01_20220328	Dissolved	Water	Filtration	
570-89949-1 MSD	EPSW002IE01_20220328	Dissolved	Water	Filtration	

Prep Batch: 225313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	245.1	225307
MB 570-225307/1-B	Method Blank	Dissolved	Water	245.1	225307
LCS 570-225307/2-B	Lab Control Sample	Dissolved	Water	245.1	225307
LCSD 570-225307/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	225307
570-89949-1 MS	EPSW002IE01_20220328	Dissolved	Water	245.1	225307
570-89949-1 MSD	EPSW002IE01_20220328	Dissolved	Water	245.1	225307

Analysis Batch: 225396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	245.1	225313
570-89949-1	EPSW002IE01_20220328	Total/NA	Water	245.1	225296
MB 570-225296/1-A	Method Blank	Total/NA	Water	245.1	225296
MB 570-225307/1-B	Method Blank	Dissolved	Water	245.1	225313
LCS 570-225296/2-A	Lab Control Sample	Total/NA	Water	245.1	225296
LCS 570-225307/2-B	Lab Control Sample	Dissolved	Water	245.1	225313
LCSD 570-225296/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	225296
LCSD 570-225307/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	225313
570-89877-A-1-D MS	Matrix Spike	Total/NA	Water	245.1	225296
570-89877-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	225296
570-89949-1 MS	EPSW002IE01_20220328	Dissolved	Water	245.1	225313
570-89949-1 MSD	EPSW002IE01_20220328	Dissolved	Water	245.1	225313

Metals

Prep Batch: 670555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Total Recoverable	Water	200.2	
MB 440-670555/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-670555/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-89895-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-89895-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Prep Batch: 670611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Total Recoverable	Water	200.2	
MB 440-670611/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-670611/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-89889-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-89889-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 670626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Total Recoverable	Water	200.8	670611
MB 440-670611/1-A	Method Blank	Total Recoverable	Water	200.8	670611
LCS 440-670611/2-A	Lab Control Sample	Total Recoverable	Water	200.8	670611
570-89889-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	670611
570-89889-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	670611

Analysis Batch: 670631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-670555/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	670555
LCS 440-670555/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	670555

Analysis Batch: 670639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Total Recoverable	Water	200.7 Rev 4.4	670555
570-89895-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	670555
570-89895-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	670555

Filtration Batch: 670674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	FILTRATION	
MB 440-670674/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-670674/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-670674/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-670674/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
570-89945-F-1-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-89945-F-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
570-89945-F-1-F MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-89945-F-1-G MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 670675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	200.2	670674
MB 440-670674/1-B	Method Blank	Dissolved	Water	200.2	670674
LCS 440-670674/2-B	Lab Control Sample	Dissolved	Water	200.2	670674
570-89945-F-1-C MS	Matrix Spike	Dissolved	Water	200.2	670674

Metals (Continued)

Prep Batch: 670675 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89945-F-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	670674

Prep Batch: 670678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	200.2	670674
MB 440-670674/1-C	Method Blank	Dissolved	Water	200.2	670674
LCS 440-670674/2-C	Lab Control Sample	Dissolved	Water	200.2	670674
570-89945-F-1-F MS	Matrix Spike	Dissolved	Water	200.2	670674
570-89945-F-1-G MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	670674

Analysis Batch: 670686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	200.8	670675
MB 440-670674/1-B	Method Blank	Dissolved	Water	200.8	670675
LCS 440-670674/2-B	Lab Control Sample	Dissolved	Water	200.8	670675
570-89945-F-1-C MS	Matrix Spike	Dissolved	Water	200.8	670675
570-89945-F-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	670675

Analysis Batch: 670714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	200.7 Rev 4.4	670678
MB 440-670674/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	670678
LCS 440-670674/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	670678
570-89945-F-1-F MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	670678
570-89945-F-1-G MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	670678

General Chemistry

Analysis Batch: 223635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Total/NA	Water	SM 2540D	
MB 570-223635/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-223635/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-223635/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-90047-D-2 MS	Matrix Spike	Total/NA	Water	SM 2540D	
570-90047-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 2540D	
570-90047-D-2 DU	Duplicate	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Client Sample ID: EPSW002IE01_20220328

Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			670109	03/30/22 06:24	YO8L	IRV 2
	Instrument ID: IC-28									
Dissolved	Filtration	FILTRATION			25 mL	25 mL	670674	04/08/22 04:58		IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	670678	04/08/22 07:12		IRV 2
Dissolved	Analysis	200.7 Rev 4.4		1			670714	04/08/22 13:38	K1UV	IRV 2
	Instrument ID: ICP10									
Total Recoverable	Prep	200.2			25 mL	25 mL	670555	04/06/22 15:37		IRV 2
Total Recoverable	Analysis	200.7 Rev 4.4		1			670639	04/07/22 17:33	P1R	IRV 2
	Instrument ID: ICP8									
Dissolved	Filtration	FILTRATION			25 mL	25 mL	670674	04/08/22 04:58		IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	670675	04/08/22 05:26		IRV 2
Dissolved	Analysis	200.8		1			670686	04/08/22 10:38	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Total Recoverable	Prep	200.2			25 mL	25 mL	670611	04/07/22 10:09		IRV 2
Total Recoverable	Analysis	200.8		1			670626	04/07/22 14:48	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			150 mL	150 mL	225307	04/08/22 08:03	WL8G	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	225313	04/08/22 10:09	WL8G	ECL 4
Dissolved	Analysis	245.1		1			225396	04/08/22 17:51	VWJ7	ECL 4
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	225296	04/08/22 09:03	WL8G	ECL 4
Total/NA	Analysis	245.1		1			225396	04/08/22 15:17	VWJ7	ECL 4
	Instrument ID: HG7									
Total/NA	Analysis	SM 2540D		1	250 mL	1000 mL	223635	03/31/22 23:49	HBR9	ECL 4
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	IRV 2
200.7 Rev 4.4	Metals (ICP)	EPA	IRV 2
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	ECL 4
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-89949-1	EPSW002IE01_20220328	Water	03/28/22 09:05	03/28/22 17:50

84949

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22 TestAmerica by and between Haley & Aldrich, Inc its subsidiaries and affiliates and TestAmerica Laboratories Inc

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 3/28/2022	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	■ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	■ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	☐ 2 days			Job / SDG No.
H&A P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS/MSD (Y/N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Gross Alpha (Total Dissolved) (E900.0)	Gross Alpha (Total Recoverable) (E900.0)	SO4 (E300)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1 Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7 Fe, Mn, Zn Method 245.1 Hg (Total Recoverable)	Sample Specific Notes:
--	--	--	--	--	--			2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW002IE01_20220328	3/28/22	0905	G	WM	8	Y	N	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other ____								1	1	4	4	1	4	4	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ■ Archive for 6 Months

Special Instructions/QC Requirements & Comments: **ECI #44009815**
Please email data to kmiller@haleyaldrich.com and post to Total Access Bill to Haley & Aldrich at AP@haleyaldrich.com Report Level II Data Package and provide EDD All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

Relinquished by: M Birney	Company: J H/A	Date/Time: 3/28/22 1400	Received by:	EC	Date/Time: 3/28/22	1353
Relinquished by:	Company: EC	Date/Time: 3/28/22 1750	Received by: Olger Cuellas	EC	Date/Time: 3/28/22	1750
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:	

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

3 9 | 2 4 SC6

570-89949 Chain of Custody

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4/11/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel Virendra	Carrier Tracking No(s):	COC No: 570-163461 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin. California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note) State Program - California		Job #: 570-89949-2
Address: 880 Riverside Parkway, ,	Due Date Requested 4/13/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW002IE01_20220328 (570-89949-1)	3/28/22	09:05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	3/30/22 1530				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

4/11/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89949-1

Login Number: 89949
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Improper containers received.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-89949-2
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/18/2022 4:18:11 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-2

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-89949-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-89949-2

Comments
No additional comments.

Receipt
The sample was received on 3/28/2022 5:50 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

Receipt Exceptions

The laboratory received 250 ml plastic with HNO3 instead of 250 ml plastic unpreserved container for Dissolved Metals analysis on the following sample: EPSW002IE01_20220328 (570-89949-1).

The laboratory split off some volume from one of the 1 Liter amber bottles received for Dioxins/Furans for Dissolved Metals analyses post receipt at the lab.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 12D5 exceeded this criteria: EPSW002IE01_20220328 (570-89949-1), (CCV 320-578339/2), (LCS 320-577112/2-A), (LCSD 320-577112/3-A) and (MB 320-577112/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV041822). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: EPSW002IE01_20220328 (570-89949-1), (CCV 320-580944/2), (MB 320-577112/1-A) and (WDM 320-580944/1). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-2

Client Sample ID: EPSW002IE01_20220328

Lab Sample ID: 570-89949-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000021	J,DX q	0.000010	0.00000053	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000056	J,DX	0.000050	0.00000086	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000033	J,DX MB	0.000050	0.00000080	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000026	J,DX	0.000050	0.00000085	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.000016	J,DX MB	0.000050	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000029	J,DX MB	0.000050	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000022	J,DX	0.000050	0.0000011	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.000019	J,DX	0.000050	0.0000019	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.000017	J,DX	0.000050	0.0000018	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000049	J,DX MB	0.000050	0.0000016	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.000013	J,DX	0.000050	0.0000015	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00071	MB	0.000050	0.000018	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00031	MB	0.000050	0.0000084	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.000024	J,DX MB	0.000050	0.000012	ug/L	1		1613B	Total/NA
OCDD	0.0078	MB	0.00010	0.000015	ug/L	1		1613B	Total/NA
OCDF	0.00085	MB	0.00010	0.0000020	ug/L	1		1613B	Total/NA
Total TCDD	0.0000028	J,DX q	0.000010	0.00000053	ug/L	1		1613B	Total/NA
Total TCDF	0.000010	q MB	0.000010	0.00000031	ug/L	1		1613B	Total/NA
Total PeCDD	0.000017	J,DX q	0.000050	0.00000086	ug/L	1		1613B	Total/NA
Total PeCDF	0.000037	J,DX q MB	0.000050	0.00000083	ug/L	1		1613B	Total/NA
Total HxCDD	0.00019	q MB	0.000050	0.0000012	ug/L	1		1613B	Total/NA
Total HxCDF	0.00031	q MB	0.000050	0.0000017	ug/L	1		1613B	Total/NA
Total HpCDD	0.0013	MB	0.000050	0.000018	ug/L	1		1613B	Total/NA
Total HpCDF	0.00081	MB	0.000050	0.000010	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000021	J,DX q	0.000010	0.00000053	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,7,8-PeCDD	0.0000056	J,DX	0.000050	0.00000086	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,7,8-PeCDF	0.0000033	J,DX MB	0.000050	0.00000080	ug/L		04/01/22 08:18	04/06/22 21:06	1
2,3,4,7,8-PeCDF	0.0000026	J,DX	0.000050	0.00000085	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,4,7,8-HxCDD	0.000016	J,DX MB	0.000050	0.0000013	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,6,7,8-HxCDD	0.000029	J,DX MB	0.000050	0.0000013	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,7,8,9-HxCDD	0.000022	J,DX	0.000050	0.0000011	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,4,7,8-HxCDF	0.000019	J,DX	0.000050	0.0000019	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,6,7,8-HxCDF	0.000017	J,DX	0.000050	0.0000018	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,7,8,9-HxCDF	0.0000049	J,DX MB	0.000050	0.0000016	ug/L		04/01/22 08:18	04/06/22 21:06	1
2,3,4,6,7,8-HxCDF	0.000013	J,DX	0.000050	0.0000015	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,4,6,7,8-HpCDD	0.00071	MB	0.000050	0.000018	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,4,6,7,8-HpCDF	0.00031	MB	0.000050	0.0000084	ug/L		04/01/22 08:18	04/06/22 21:06	1
1,2,3,4,7,8,9-HpCDF	0.000024	J,DX MB	0.000050	0.000012	ug/L		04/01/22 08:18	04/06/22 21:06	1
OCDD	0.0078	MB	0.00010	0.000015	ug/L		04/01/22 08:18	04/06/22 21:06	1
OCDF	0.00085	MB	0.00010	0.0000020	ug/L		04/01/22 08:18	04/06/22 21:06	1
Total TCDD	0.0000028	J,DX q	0.000010	0.00000053	ug/L		04/01/22 08:18	04/06/22 21:06	1
Total TCDF	0.000010	q MB	0.000010	0.00000031	ug/L		04/01/22 08:18	04/06/22 21:06	1
Total PeCDD	0.000017	J,DX q	0.000050	0.00000086	ug/L		04/01/22 08:18	04/06/22 21:06	1
Total PeCDF	0.000037	J,DX q MB	0.000050	0.00000083	ug/L		04/01/22 08:18	04/06/22 21:06	1
Total HxCDD	0.00019	q MB	0.000050	0.0000012	ug/L		04/01/22 08:18	04/06/22 21:06	1
Total HxCDF	0.00031	q MB	0.000050	0.0000017	ug/L		04/01/22 08:18	04/06/22 21:06	1
Total HpCDD	0.0013	MB	0.000050	0.000018	ug/L		04/01/22 08:18	04/06/22 21:06	1
Total HpCDF	0.00081	MB	0.000050	0.000010	ug/L		04/01/22 08:18	04/06/22 21:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*58*		*25 - 164*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-2,3,7,8-TCDF	*54*		*24 - 169*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-1,2,3,7,8-PeCDD	*58*		*25 - 181*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-1,2,3,7,8-PeCDF	*54*		*24 - 185*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-2,3,4,7,8-PeCDF	*55*		*21 - 178*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-1,2,3,4,7,8-HxCDD	*57*		*32 - 141*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*28 - 130*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-1,2,3,4,7,8-HxCDF	*63*		*26 - 152*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-1,2,3,6,7,8-HxCDF	*58*		*26 - 123*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-1,2,3,7,8,9-HxCDF	*54*		*29 - 147*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-2,3,4,6,7,8-HxCDF	*57*		*28 - 136*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*58*		*23 - 140*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*51*		*28 - 143*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*55*		*26 - 138*	*04/01/22 08:18*	*04/06/22 21:06*	*1*
13C-OCDD	*59*		*17 - 157*	*04/01/22 08:18*	*04/06/22 21:06*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*84*		*35 - 197*	*04/01/22 08:18*	*04/06/22 21:06*	*1*

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.00000069	ug/L		04/01/22 08:18	04/18/22 11:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*60*		*24 - 169*	*04/01/22 08:18*	*04/18/22 11:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*93*		*35 - 197*	*04/01/22 08:18*	*04/18/22 11:42*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-89949-1	EPSW002IE01_20220328	84
570-89949-1 - RA	EPSW002IE01_20220328	93
MB 320-577112/1-A	Method Blank	84
MB 320-577112/1-A - RA	Method Blank	90

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-577112/2-A	Lab Control Sample	83
LCSD 320-577112/3-A	Lab Control Sample Dup	81

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-89949-1	EPSW002IE01_20220328	58	54	58	54	55	57	59	63
570-89949-1 - RA	EPSW002IE01_20220328		60						
MB 320-577112/1-A	Method Blank	72	65	77	72	72	81	79	85
MB 320-577112/1-A - RA	Method Blank		71						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
570-89949-1	EPSW002IE01_20220328	58	54	57	58	51	55	59
570-89949-1 - RA	EPSW002IE01_20220328							
MB 320-577112/1-A	Method Blank	82	73	79	82	74	75	83
MB 320-577112/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-577112/2-A	Lab Control Sample	71	65	77	72	72	81	77	83
LCSD 320-577112/3-A	Lab Control Sample Dup	66	60	71	66	67	73	73	78

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-577112/2-A	Lab Control Sample	79	73	79	81	74	77	82
LCSD 320-577112/3-A	Lab Control Sample Dup	73	68	73	74	67	71	74

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-2

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-577112/1-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 577112

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000057	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000066	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8-PeCDF	0.00000146	J,DX	0.000050	0.00000045	ug/L		04/01/22 08:18	04/06/22 18:02	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000050	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,7,8-HxCDD	0.00000196	J,DX q	0.000050	0.00000048	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,6,7,8-HxCDD	0.000000607	J,DX q	0.000050	0.00000046	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000039	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000054	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000049	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8,9-HxCDF	0.00000365	J,DX	0.000050	0.00000045	ug/L		04/01/22 08:18	04/06/22 18:02	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000041	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,6,7,8-HpCDD	0.00000186	J,DX	0.000050	0.00000037	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,6,7,8-HpCDF	0.00000144	J,DX	0.000050	0.00000029	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,7,8,9-HpCDF	0.000000994	J,DX q	0.000050	0.00000042	ug/L		04/01/22 08:18	04/06/22 18:02	1
OCDD	0.00000849	J,DX q	0.00010	0.00000078	ug/L		04/01/22 08:18	04/06/22 18:02	1
OCDF	0.00000239	J,DX q	0.00010	0.00000061	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total TCDD	ND		0.000010	0.00000057	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total TCDF	0.000000938	J,DX q	0.000010	0.00000031	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total PeCDD	ND		0.000050	0.00000066	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total PeCDF	0.00000146	J,DX	0.000050	0.00000048	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HxCDD	0.00000256	J,DX q	0.000050	0.00000044	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HxCDF	0.00000365	J,DX	0.000050	0.00000047	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HpCDD	0.00000435	J,DX	0.000050	0.00000037	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HpCDF	0.00000243	J,DX q	0.000050	0.00000035	ug/L		04/01/22 08:18	04/06/22 18:02	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*72*		*25 - 164*	*04/01/22 08:18*	*04/06/22 18:02*	*1*
13C-2,3,7,8-TCDF	*65*		*24 - 169*	*04/01/22 08:18*	*04/06/22 18:02*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*25 - 181*	*04/01/22 08:18*	*04/06/22 18:02*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*04/01/22 08:18*	*04/06/22 18:02*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-577112/1-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 577112

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	72		21 - 178	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,7,8-HxCDD	81		32 - 141	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,6,7,8-HxCDD	79		28 - 130	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,7,8-HxCDF	85		26 - 152	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,6,7,8-HxCDF	82		26 - 123	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,7,8,9-HxCDF	73		29 - 147	04/01/22 08:18	04/06/22 18:02	1
13C-2,3,4,6,7,8-HxCDF	79		28 - 136	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,6,7,8-HpCDD	82		23 - 140	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,6,7,8-HpCDF	74		28 - 143	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,7,8,9-HpCDF	75		26 - 138	04/01/22 08:18	04/06/22 18:02	1
13C-OCDD	83		17 - 157	04/01/22 08:18	04/06/22 18:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	84		35 - 197	04/01/22 08:18	04/06/22 18:02	1

Lab Sample ID: LCS 320-577112/2-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 577112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	0.000200	0.000186		ug/L		93	67 - 158
2,3,7,8-TCDF	0.000200	0.000194	MB	ug/L		97	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000913		ug/L		91	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000911	MB	ug/L		91	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000914		ug/L		91	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000874	MB	ug/L		87	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000935		ug/L		94	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000847		ug/L		85	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000917		ug/L		92	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000895		ug/L		90	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000913	MB	ug/L		91	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000911		ug/L		91	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000885	MB	ug/L		88	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000889	MB	ug/L		89	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000882	MB	ug/L		88	78 - 138
OCDD	0.00200	0.00180	MB	ug/L		90	78 - 144
OCDF	0.00200	0.00169	MB	ug/L		84	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	65		22 - 152
13C-1,2,3,7,8-PeCDD	77		21 - 227
13C-1,2,3,7,8-PeCDF	72		21 - 192
13C-2,3,4,7,8-PeCDF	72		13 - 328
13C-1,2,3,4,7,8-HxCDD	81		21 - 193
13C-1,2,3,6,7,8-HxCDD	77		25 - 163
13C-1,2,3,4,7,8-HxCDF	83		19 - 202
13C-1,2,3,6,7,8-HxCDF	79		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-577112/2-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 577112

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	73		17 - 205
13C-2,3,4,6,7,8-HxCDF	79		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	81		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	74		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	77		20 - 186
13C-OCDD	82		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	83		31 - 191

Lab Sample ID: LCSD 320-577112/3-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 577112

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000185		ug/L		93	67 - 158	1	50
2,3,7,8-TCDF			0.000200	0.000194	MB	ug/L		97	75 - 158	0	50
1,2,3,7,8-PeCDD			0.00100	0.000913		ug/L		91	70 - 142	0	50
1,2,3,7,8-PeCDF			0.00100	0.000922	MB	ug/L		92	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000922		ug/L		92	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000893	MB	ug/L		89	70 - 164	2	50
1,2,3,6,7,8-HxCDD			0.00100	0.000947		ug/L		95	76 - 134	1	50
1,2,3,7,8,9-HxCDD			0.00100	0.000851		ug/L		85	64 - 162	0	50
1,2,3,4,7,8-HxCDF			0.00100	0.000918		ug/L		92	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.000923		ug/L		92	84 - 130	3	50
1,2,3,7,8,9-HxCDF			0.00100	0.000922	MB	ug/L		92	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.000923		ug/L		92	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000904	MB	ug/L		90	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000917	MB	ug/L		92	82 - 122	3	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000902	MB	ug/L		90	78 - 138	2	50
OCDD			0.00200	0.00181	MB	ug/L		90	78 - 144	1	50
OCDF			0.00200	0.00170	MB	ug/L		85	63 - 170	1	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	66		20 - 175
13C-2,3,7,8-TCDF	60		22 - 152
13C-1,2,3,7,8-PeCDD	71		21 - 227
13C-1,2,3,7,8-PeCDF	66		21 - 192
13C-2,3,4,7,8-PeCDF	67		13 - 328
13C-1,2,3,4,7,8-HxCDD	73		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	78		19 - 202
13C-1,2,3,6,7,8-HxCDF	73		21 - 159
13C-1,2,3,7,8,9-HxCDF	68		17 - 205
13C-2,3,4,6,7,8-HxCDF	73		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	74		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	71		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-577112/3-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 577112

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	74		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	81		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-577112/1-A
Matrix: Water
Analysis Batch: 580944

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 577112

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	0.000000774	J,DX	0.000010	0.00000037	ug/L		04/01/22 08:18	04/18/22 10:26	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	71		24 - 169	04/01/22 08:18	04/18/22 10:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	90		35 - 197	04/01/22 08:18	04/18/22 10:26	1

Specialty Organics

Prep Batch: 577112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1 - RA	EPSW002IE01_20220328	Total/NA	Water	1613B	
570-89949-1	EPSW002IE01_20220328	Total/NA	Water	1613B	
MB 320-577112/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-577112/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-577112/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-577112/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 578339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Total/NA	Water	1613B	577112
MB 320-577112/1-A	Method Blank	Total/NA	Water	1613B	577112
LCS 320-577112/2-A	Lab Control Sample	Total/NA	Water	1613B	577112
LCSD 320-577112/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	577112

Analysis Batch: 580944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1 - RA	EPSW002IE01_20220328	Total/NA	Water	1613B	577112
MB 320-577112/1-A - RA	Method Blank	Total/NA	Water	1613B	577112

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-2

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		994.7 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			580944	04/18/22 11:42	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			994.7 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B		1			578339	04/06/22 21:06	KSS	TAL SAC
	Instrument ID: 12D5									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-2

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-23
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-30-23
Hawaii	State	<cert No.>	01-29-23
Illinois	NELAP	200060	03-17-23
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-02-23
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-23
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	01-23-23
Utah	NELAP	CA000442021-12	03-01-22 *
Virginia	NELAP	460278	03-14-23
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-89949-1	EPSW002IE01_20220328	Water	03/28/22 09:05	03/28/22 17:50

84949

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22 TestAmerica by and between Haley & Aldrich, Inc its subsidiaries and affiliates and TestAmerica Laboratories Inc

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 3/28/2022	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	■ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	■ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	☐ 2 days			Job / SDG No.
H&A P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS/MSD (Y/N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Gross Alpha (Total Dissolved) (E900.0)	Gross Alpha (Total Recoverable) (E900.0)	SO4 (E300)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1 Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7 Fe, Mn, Zn Method 245.1 Hg (Total Recoverable)	Sample Specific Notes:
--	--	--	--	--	--			2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW002IE01_20220328	3/28/22	0905	G	WM	8	Y	N	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other ____								1	1	4	4	1	4	4	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ■ Archive for 6 Months

Special Instructions/QC Requirements & Comments: **ECI #44009815**
Please email data to kmiller@haleyaldrich.com and post to Total Access Bill to Haley & Aldrich at AP@haleyaldrich.com Report Level II Data Package and provide EDD All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

Relinquished by: M Birney	Company: J H/A	Date/Time: 3/28/22 1750	Received by:	EC	Date/Time: 3/28/22	1353
Relinquished by:	Company: EC	Date/Time: 3/28/22 1750	Received by: Olger Cuellas	EC	Date/Time: 3/28/22	1750
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:	

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

39/24 SC6

570-89949 Chain of Custody

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4/18/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel Virendra	Carrier Tracking No(s):	COC No: 570-163461 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin. California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note) State Program - California		Job #: 570-89949-2
Address: 880 Riverside Parkway, ,	Due Date Requested 4/13/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW002IE01_20220328 (570-89949-1)	3/28/22	09:05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time: 3/30/22 1530	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

4/18/2022

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-163461.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-89949-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 4/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW002IE01_20220328 (570-89949-1)	3/28/22	09:05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		3/30/22 1530			3/31/22 9:10	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-163461.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-89949-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 4/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW002IE01_20220328 (570-89949-1)	3/28/22	09:05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		3/30/22 1530			3/31/22 9:10	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.9

Ver: 06/08/2021

4/18/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89949-2

Login Number: 89949
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Improper containers received.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89949-2

Login Number: 89949
List Number: 4
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 03/31/22 12:33 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.1c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-89949-3
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/22/2022 3:13:02 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Qualifiers

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-89949-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-89949-3

Comments
No additional comments.

Receipt
The sample was received on 3/28/2022 5:50 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

RAD
Method 900.0: Gross Alpha Beta Batch 160-561057:

The gross alpha laboratory control sample (LCS) associated with the following samples recovered at 128%: EPSW002IE01_20220328 (570-89949-1), (LCS 160-561057/2-A), (160-45136-A-1-C), (160-45136-A-1-F DU), (160-45136-A-1-D MS) and (160-45136-A-1-E MSBT). The limits in our LIMS system at 75-125% reflect the requirements of a regulatory agency that represents a large amount of our work. However, the samples associated with this LCS are not from this agency and are, therefore, held to our in-house statistical limits of 68-130% per method requirements. The LCS is within criteria and no further action is required.

Method 900.0: Gross Alpha Beta Batch 160-561057:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW002IE01_20220328 (570-89949-1), (LCS 160-561057/2-A), (LCSB 160-561057/3-A), (MB 160-561057/1-A), (160-45136-A-1-C), (160-45136-A-1-F DU), (160-45136-A-1-D MS) and (160-45136-A-1-E MSBT)

Method 900.0: Gross Alpha and Gross Beta batch 561268
The gross alpha laboratory control sample recovery is outside the upper QC limit indicating a potential positive bias for that analyte. This analyte was not observed above the MDC/RL in the associated samples; therefore the sample data is not adversely affected by this excursion. The data have been reported with this narrative.

(LCS 160-561268/2-A)

Method 900.0: Gross Alpha and Gross Beta batch 561268
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW002IE01_20220328 (570-89949-1), (LCS 160-561268/2-A), (LCSB 160-561268/3-A), (MB 160-561268/1-A), (570-89945-S-1-R), (570-89945-S-1-U DU), (570-89945-S-1-S MS) and (570-89945-S-1-T MSBT)

Method 901.1: Gamma Prep Batch 160-558289

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216

Job ID: 570-89949-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW002IE01_20220328 (570-89949-1), (MB 160-558289/1-A), (570-89945-T-1-E) and (570-89945-T-1-F DU)

Method 901.1: Gamma Prep Batch 160-558291

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Job ID: 570-89949-3 (Continued)

Laboratory: Eurofins Calscience (Continued)

EPSW002IE01_20220328 (570-89949-1), (MB 160-558291/1-A), (570-89945-S-1-D) and (570-89945-S-1-E DU)

Method A-01-R: Isotopic Uranium Batch 160-559861:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EPSW002IE01_20220328 (570-89949-1), (LCS 160-559861/2-A), (LCSD 160-559861/3-A) and (MB 160-559861/1-A)

Method ExtChrom: Uranium Prep Batch 160-559861

The following samples were prepared at a reduced aliquot due to heavy sediment levels and discoloration: EPSW002IE01_20220328 (570-89949-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision

Method ExtChrom: Uranium Prep Batch 160-559861

The following samples were prepared at a reduced aliquot due to insufficient sample volume: EPSW002IE01_20220328 (570-89949-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Client Sample ID: EPSW002IE01_20220328 **Lab Sample ID: 570-89949-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	6.38		2.11	2.24	3.00	2.19	pCi/L	04/19/22 10:27	04/20/22 18:05	1
Gross Beta	9.07		1.21	1.51	4.00	1.06	pCi/L	04/19/22 10:27	04/20/22 18:05	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity - Dissolved

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.425	U *	1.01	1.01	3.00	1.77	pCi/L	04/20/22 10:05	04/21/22 17:26	1
Gross Beta	**1.28**		0.646	0.659	4.00	0.951	pCi/L	04/20/22 10:05	04/21/22 17:26	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.963	U	10.9	10.9	20.0	13.2	pCi/L	04/01/22 15:35	04/06/22 13:56	1
Potassium-40	34.1	U	151	151		157	pCi/L	04/01/22 15:35	04/06/22 13:56	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) - Dissolved

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	4.19	U	8.41	8.42	20.0	9.66	pCi/L	04/01/22 16:04	04/06/22 12:45	1
Potassium-40	-143	U	154	155		218	pCi/L	04/01/22 16:04	04/06/22 12:45	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.431		0.271	0.272	1.00	0.227	pCi/L	04/12/22 14:39	04/18/22 15:08	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*90.0*		*30 - 110*	*04/12/22 14:39*	*04/18/22 15:08*	*1*

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) - Dissolved

Client Sample ID: EPSW002IE01_20220328
Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-234	0.159	U	0.156	0.157	1.00	0.204	pCi/L	04/12/22 14:57	04/18/22 15:08	1
Uranium-235/236	0.0171	U	0.0823	0.0823	1.00	0.223	pCi/L	04/12/22 14:57	04/18/22 15:08	1
Uranium-238	-0.00589	U	0.0118	0.0118	1.00	0.143	pCi/L	04/12/22 14:57	04/18/22 15:08	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*99.3*		*30 - 110*	*04/12/22 14:57*	*04/18/22 15:08*	*1*

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	U-232 (30-110)
570-89949-1	EPSW002IE01_20220328	90.0
LCS 160-559861/2-A	Lab Control Sample	81.9
LCSD 160-559861/3-A	Lab Control Sample Dup	85.6
MB 160-559861/1-A	Method Blank	93.7

Tracer/Carrier Legend

U-232 = Uranium-232

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	U-232 (30-110)
570-89949-1	EPSW002IE01_20220328	99.3

Tracer/Carrier Legend

U-232 = Uranium-232

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-561057/1-A
Matrix: Water
Analysis Batch: 561279

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 561057

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.3890	U	0.668	0.669	3.00	1.14	pCi/L	04/19/22 10:27	04/20/22 18:04	1
Gross Beta	-0.03829	U	0.409	0.409	4.00	0.730	pCi/L	04/19/22 10:27	04/20/22 18:04	1

Lab Sample ID: LCS 160-561057/2-A
Matrix: Water
Analysis Batch: 561279

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 561057

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	40.5	51.79		7.72	3.00	2.68	pCi/L	128	75 - 125

Lab Sample ID: LCSB 160-561057/3-A
Matrix: Water
Analysis Batch: 561279

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 561057

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	60.1	60.82		6.51	4.00	0.720	pCi/L	101	75 - 125

Lab Sample ID: 160-45136-A-1-D MS
Matrix: Water
Analysis Batch: 561271

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 561057

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	0.518	U	67.4	51.53		8.44	3.00	4.00	pCi/L	76	60 - 140

Lab Sample ID: 160-45136-A-1-E MSBT
Matrix: Water
Analysis Batch: 561271

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 561057

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	2.48		100	94.94		10.2	4.00	1.12	pCi/L	92	60 - 140

Lab Sample ID: 160-45136-A-1-F DU
Matrix: Water
Analysis Batch: 561500

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 561057

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	0.518	U	0.2063	U	1.38	3.00	2.59	pCi/L	0.11	1
Gross Beta	2.48		1.370		0.803	4.00	1.19	pCi/L	0.64	1

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: MB 160-561268/1-A
Matrix: Water
Analysis Batch: 561508

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 561268

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.3647	U	0.745	0.747	3.00	1.30	pCi/L	04/20/22 10:05	04/21/22 17:25	1
Gross Beta	0.4351	U	0.547	0.549	4.00	0.897	pCi/L	04/20/22 10:05	04/21/22 17:25	1

Lab Sample ID: LCS 160-561268/2-A
Matrix: Water
Analysis Batch: 561508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 561268

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	50.6	72.94	*	10.6	3.00	3.09	pCi/L	144	75 - 125

Lab Sample ID: LCSB 160-561268/3-A
Matrix: Water
Analysis Batch: 561508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 561268

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	75.1	76.82		8.22	4.00	0.988	pCi/L	102	75 - 125

Lab Sample ID: 570-89945-S-1-S MS
Matrix: Water
Analysis Batch: 561508

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 561268

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	0.509	U *	50.6	47.19		6.52	3.00	1.53	pCi/L	92	60 - 140

Lab Sample ID: 570-89945-S-1-T MSBT
Matrix: Water
Analysis Batch: 561497

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 561268

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	2.36		75.1	67.62		7.26	4.00	0.890	pCi/L	87	60 - 140

Lab Sample ID: 570-89945-S-1-U DU
Matrix: Water
Analysis Batch: 561497

Client Sample ID: Duplicate
Prep Type: Dissolved
Prep Batch: 561268

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	0.509	U *	0.7341	U *	0.879	3.00	1.44	pCi/L	0.11	1
Gross Beta	2.36		1.196		0.623	4.00	0.885	pCi/L	0.84	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-558289/1-A
Matrix: Water
Analysis Batch: 558727

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558289

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	1.507	U	9.78	9.79	20.0	12.5	pCi/L	04/01/22 15:35	04/06/22 18:46	1
Potassium-40	5.325	U	75.1	75.1		135	pCi/L	04/01/22 15:35	04/06/22 18:46	1

Lab Sample ID: LCS 160-558289/2-A
Matrix: Water
Analysis Batch: 558721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558289

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	140500		16700		416	pCi/L	104	75 - 125
Cesium-137	41800	42480		5060	20.0	97.5	pCi/L	102	75 - 125
Cobalt-60	20200	20760		2480		48.3	pCi/L	103	75 - 125

Lab Sample ID: 570-89945-T-1-F DU
Matrix: Water
Analysis Batch: 558725

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 558289

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	1.87	U	7.874		6.95	20.0	7.72	pCi/L	0.34	1
Potassium-40	42.9	U	-4.221	U	127		181	pCi/L	0.19	1

Lab Sample ID: MB 160-558291/1-A
Matrix: Water
Analysis Batch: 558727

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558291

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	2.261	U	8.62	8.63	20.0	11.0	pCi/L	04/01/22 16:04	04/06/22 17:37	1
Potassium-40	-20.29	U	113	113		166	pCi/L	04/01/22 16:04	04/06/22 17:37	1

Lab Sample ID: LCS 160-558291/2-A
Matrix: Water
Analysis Batch: 558725

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558291

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	135000	136900		16300		439	pCi/L	101	75 - 125
Cesium-137	41800	42770		5100	20.0	108	pCi/L	102	75 - 125
Cobalt-60	20200	21230		2530		67.3	pCi/L	105	75 - 125

Lab Sample ID: 570-89945-S-1-E DU
Matrix: Water
Analysis Batch: 558726

Client Sample ID: Duplicate
Prep Type: Dissolved
Prep Batch: 558291

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	3.96	U	2.793	U	10.5	20.0	12.1	pCi/L	0.06	1
Potassium-40	31.9	U	107.4	U	99.3		143	pCi/L	0.34	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-559861/1-A
Matrix: Water
Analysis Batch: 560847

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 559861

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium-234	0.03301	U	0.0705	0.0705	1.00	0.139	pCi/L	04/12/22 14:39	04/18/22 15:08	1
Uranium-235/236	0.02434	U	0.0487	0.0487	1.00	0.0730	pCi/L	04/12/22 14:39	04/18/22 15:08	1
Uranium-238	-0.007321	U	0.0104	0.0104	1.00	0.101	pCi/L	04/12/22 14:39	04/18/22 15:08	1
Total Uranium	0.05735	U	0.08631	0.08631	1.00	0.139	pCi/L	04/12/22 14:39	04/18/22 15:08	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Uranium-232	*93.7*		*30 - 110*	*04/12/22 14:39*	*04/18/22 15:08*	*1*

Lab Sample ID: LCS 160-559861/2-A
Matrix: Water
Analysis Batch: 560865

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 559861

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Uranium-234			12.7	12.75		1.52	1.00	0.0690	pCi/L	100	75 - 125		
Uranium-238			13.0	13.39		1.58	1.00	0.105	pCi/L	103	75 - 125		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*81.9*		*30 - 110*

Lab Sample ID: LCSD 160-559861/3-A
Matrix: Water
Analysis Batch: 560873

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 559861

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Uranium-234			12.7	12.46		1.48	1.00	0.193	pCi/L	98	75 - 125	0.1	1
Uranium-238			13.0	12.41		1.47	1.00	0.141	pCi/L	95	75 - 125	0.32	1

Tracer	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Uranium-232	*85.6*		*30 - 110*

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Filtration Batch: 558041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	Filtration	
570-89945-S-1-S MS	Matrix Spike	Dissolved	Water	Filtration	
570-89945-S-1-T MSBT	Matrix Spike	Dissolved	Water	Filtration	
570-89945-S-1-E DU	Duplicate	Dissolved	Water	Filtration	
570-89945-S-1-U DU	Duplicate	Dissolved	Water	Filtration	

Prep Batch: 558289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Total/NA	Water	Fill_Geo-0	
MB 160-558289/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-558289/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-89945-T-1-F DU	Duplicate	Total/NA	Water	Fill_Geo-0	

Prep Batch: 558291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	Fill_Geo-0	558041
MB 160-558291/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-558291/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-89945-S-1-E DU	Duplicate	Dissolved	Water	Fill_Geo-0	558041

Prep Batch: 559861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	ExtChrom	558041
570-89949-1	EPSW002IE01_20220328	Total/NA	Water	ExtChrom	
MB 160-559861/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-559861/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
LCSD 160-559861/3-A	Lab Control Sample Dup	Total/NA	Water	ExtChrom	

Prep Batch: 561057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Total/NA	Water	Evaporation	
MB 160-561057/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-561057/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-561057/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
160-45136-A-1-D MS	Matrix Spike	Total/NA	Water	Evaporation	
160-45136-A-1-E MSBT	Matrix Spike	Total/NA	Water	Evaporation	
160-45136-A-1-F DU	Duplicate	Total/NA	Water	Evaporation	

Prep Batch: 561268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89949-1	EPSW002IE01_20220328	Dissolved	Water	Evaporation	558041
MB 160-561268/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-561268/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-561268/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-89945-S-1-S MS	Matrix Spike	Dissolved	Water	Evaporation	558041
570-89945-S-1-T MSBT	Matrix Spike	Dissolved	Water	Evaporation	558041
570-89945-S-1-U DU	Duplicate	Dissolved	Water	Evaporation	558041

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Client Sample ID: EPSW002IE01_20220328

Date Collected: 03/28/22 09:05
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89949-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	558041	03/31/22 09:06	SRE	TAL SL
Dissolved	Prep	Evaporation			199.99 mL	1.0 g	561268	04/20/22 10:05	ASG	TAL SL
Dissolved	Analysis	900.0		1			561497	04/21/22 17:26	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	Evaporation			200.04 mL	1.0 g	561057	04/19/22 10:27	ASG	TAL SL
Total/NA	Analysis	900.0		1			561279	04/20/22 18:05	FLC	TAL SL
	Instrument ID: GFPCRED									
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	558041	03/31/22 09:06	SRE	TAL SL
Dissolved	Prep	Fill_Geo-0			1000 mL	1.0 g	558291	04/01/22 16:04	ZTH	TAL SL
Dissolved	Analysis	901.1		1			558726	04/06/22 12:45	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	558289	04/01/22 15:35	ZTH	TAL SL
Total/NA	Analysis	901.1		1			558721	04/06/22 13:56	CAH	TAL SL
	Instrument ID: GAMMAVISION									
Dissolved	Filtration	Filtration			1.0 mL	1.0 mL	558041	03/31/22 09:06	SRE	TAL SL
Dissolved	Prep	ExtChrom			349.44 mL	1.0 mL	559861	04/12/22 14:57	MLO	TAL SL
Dissolved	Analysis	A-01-R		1			560917	04/18/22 15:08	CLP	TAL SL
	Instrument ID: ALPHAVISION									
Total/NA	Prep	ExtChrom			299.59 mL	1.0 mL	559861	04/12/22 14:39	MLO	TAL SL
Total/NA	Analysis	A-01-R		1			560910	04/18/22 15:08	CLP	TAL SL
	Instrument ID: ALPHAVISION									

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Evaporation	Preparation, Evaporation	None	TAL SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
Filtration	Sample Filtration	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89949-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-89949-1	EPSW002IE01_20220328	Water	03/28/22 09:05	03/28/22 17:50

84949

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc its subsidiaries and affiliates and TestAmerica Laboratories Inc

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 3/28/2022	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	☐ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	☐ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	☐ 2 days			Job / SDG No.
H&A P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y / N)	Perform MS / MSD (Y / N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Gross Alpha (Total Dissolved) (E900.0)	Gross Alpha (Total Recoverable) (E900.0)	SO4 (E300)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1 Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7 Fe, Mn, Zn Method 245.1 Hg (Total Recoverable)	Sample Specific Notes:
--	--	--	--	--	--			2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW002IE01_20220328	3/28/22	0905	G	WM	8	Y	N	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other ____								1	1	4	4	1	4	4	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal ☐ Return to Client

Gross Alpha total dissolved not needed. If it has not already been filtered, use the sample water from both 1-Liter bottles to analyze for total recoverable for the following: Uranium (E908.0); K-40, Cs-137 (E901.0 or E901.1); Total Combined Radium 226 & 228, Sr-90 (E903.0/E903, E904, E905). Total Combined Radium 226 & 228, Sr-90 is lowest priority if not enough sample.

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access Bill to Haley & Aldrich at AP@haleyaldrich.com Report Level II Data Package and provide EDD All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

Relinquished by:	Company:	Date/Time:	Received by:		Date/Time:
M Birney	JHA	3/28/22 1400	[signature]	EC	3/28/22 1353
[signature]	EC	3/28/22 1750	Olger Oinelas EC	EC	3/28/22 1750
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

39|24 SC6

Modified COC received from Mark Dominick (H&A) on 03/31/2022 at 15:09pm. - Virendra (ECI)

570-89949 Chain of Custody

SAP COC 2019/2020 VERSION 3

4/22/2022

84949

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program ▫ DW ▫ NPDES ▫ RCRA ▫ Other

Eurofins Calscience, Inc.

TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc its subsidiaries and affiliates and TestAmerica Laboratories Inc

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 3/28/2022	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	■ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only: Walk-in Client: Lab Sampling:
(619) 280-9210 Phone	TAT if different from Below ____			
(619) 280-9415 FAX	■ 2 weeks			
H&A Project Number 129095-006-001-06	▫ 1 week			Job / SDG No.
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS/MSD (Y/N)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Gross Alpha (Total Dissolved) (E900.0)	Gross Alpha (Total Recoverable) (E900.0)	SO4 (E300)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7: Fe, Mn, Zn Method 245.1 Hg (Total Dissolved)	Method 200.8: As, Cd, Cu, Pb, Se Method 200.7 Fe, Mn, Zn Method 245.1 Hg (Total Recoverable)							Sample Specific Notes:
--	--	--	--	--	--			2-1L Amber	1-1L Poly	1-1L Poly	1-1L Poly	1-250mL Poly	1-250mL Poly	1-250mL Poly							Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
EPSW002IE01_20220328	3/28/22	0905	G	WM	8	Y	N	x	x	x	x	x	x	x							
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other ____								1	1	4	4	1	4	4							

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ■ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access Bill to Haley & Aldrich at AP@haleyaldrich.com Report Level II Data Package and provide EDD All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold

Custody Seals Intact: ▫ Yes ▫ No	Custody Seal No.		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____		
Relinquished by: M Birney	Company: J H/H	Date/Time: 3/28/22 1750	Received by:	EC	Date/Time: 3/28/22 1353
Relinquished by:	Company: EC	Date/Time: 3/28/22 1750	Received by: Olger Cuellas EC	EC	Date/Time: 3/28/22 1750
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

3 9 | 2 4 SC6

570-89949 Chain of Custody

Page 25 of 28

4/22/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel Virendra	Carrier Tracking No(s):	COC No: 570-163461 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin. California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note) State Program - California		Job #: 570-89949-2
Address: 880 Riverside Parkway, ,	Due Date Requested 4/13/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C Zn Acetate	O AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EPSW002IE01_20220328 (570-89949-1)	3/28/22	09:05 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time: 3/30/22 1530	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

4/22/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89949-3

Login Number: 89949
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Improper containers received.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89949-3

Login Number: 89949
List Number: 3
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 03/30/22 03:05 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-89952-1
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/11/2022 1:09:21 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

Qualifiers

Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

Job ID: 570-89952-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-89952-1

Comments
No additional comments.

Receipt
The samples were received on 3/28/2022 5:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 2.4º C.

Receipt Exceptions

The laboratory received 250 ml plastic with HNO3 instead of 250 ml plastic unpreserve container for Dissolve metals analysis on the following sample: ILBMP0004_20220328 (570-89952-1), ILBMP0005_20220328 (570-89952-2) and ILBMP0008_20220328 (570-89952-3). The client was contacted, and the lab was instructed to <EXPLANATION_REQUIRED>.

Metals
Method Filtration: The following samples requested dissolved metals and were not filtered in the field: ILBMP0004_20220328 (570-89952-1), ILBMP0005_20220328 (570-89952-2), ILBMP0008_20220328 (570-89952-3) and LXBMP0010_20220328 (570-89952-4). These samples were filtered and preserved upon receipt to the laboratory.

Method 245.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: ILBMP0004_20220328 (570-89952-1), ILBMP0005_20220328 (570-89952-2), ILBMP0008_20220328 (570-89952-3) and LXBMP0010_20220328 (570-89952-4).

Method FILTRATION: The following samples requested dissolved metals and were not filtered in the field: ILBMP0004_20220328 (570-89952-1), ILBMP0005_20220328 (570-89952-2), ILBMP0008_20220328 (570-89952-3) and LXBMP0010_20220328 (570-89952-4). These samples were filtered and preserved upon receipt to the laboratory.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

Client Sample ID: ILBMP0004_20220328 — Lab Sample ID: 570-89952-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.24	J,DX	1.0	0.14	ug/L	1		200.8	Total Recoverable
Copper	7.2		2.0	1.6	ug/L	1		200.8	Total Recoverable
Lead	3.8		1.0	0.12	ug/L	1		200.8	Total Recoverable
Copper	10		2.0	1.6	ug/L	1		200.8	Dissolved
Lead	0.26	J,DX	1.0	0.12	ug/L	1		200.8	Dissolved
Total Suspended Solids	57		1.1	0.87	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	14.96		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	1.10		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	67.13		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	82.09		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	16.81		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0005_20220328 — Lab Sample ID: 570-89952-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	11		2.0	1.6	ug/L	1		200.8	Total Recoverable
Lead	1.3		1.0	0.12	ug/L	1		200.8	Total Recoverable
Copper	3.2		2.0	1.6	ug/L	1		200.8	Dissolved
Lead	0.13	J,DX	1.0	0.12	ug/L	1		200.8	Dissolved
Total Suspended Solids	18		1.1	0.87	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	11.73		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	79.93		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	91.66		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	8.34		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: ILBMP0008_20220328 — Lab Sample ID: 570-89952-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	5.3		2.0	1.6	ug/L	1		200.8	Total Recoverable
Lead	1.5		1.0	0.12	ug/L	1		200.8	Total Recoverable
Copper	2.3		2.0	1.6	ug/L	1		200.8	Dissolved
Lead	0.43	J,DX	1.0	0.12	ug/L	1		200.8	Dissolved
Total Suspended Solids	46		1.1	0.87	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	10.18		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	1.24		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	52.91		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	63.09		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	35.67		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: LXBMP0010_20220328 — Lab Sample ID: 570-89952-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.5		2.0	1.6	ug/L	1		200.8	Total Recoverable
Lead	2.0		1.0	0.12	ug/L	1		200.8	Total Recoverable
Copper	2.3		2.0	1.6	ug/L	1		200.8	Dissolved
Lead	0.44	J,DX	1.0	0.12	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

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Client Sample ID: LXBMP0010_20220328 (Continued)
Lab Sample ID: 570-89952-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	18		1.1	0.87	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	13.08		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	79.68		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	92.76		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	7.24		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: ILBMP0004_20220328
Date Collected: 03/28/22 10:20
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	**0.24**	**J,DX**	1.0	0.14	ug/L		04/07/22 10:09	04/07/22 14:50	1
Copper	**7.2**		2.0	1.6	ug/L		04/07/22 10:09	04/07/22 14:50	1
Lead	**3.8**		1.0	0.12	ug/L		04/07/22 10:09	04/07/22 14:50	1

Client Sample ID: ILBMP0005_20220328
Date Collected: 03/28/22 10:30
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.14	ug/L		04/07/22 10:09	04/07/22 14:52	1
Copper	**11**		2.0	1.6	ug/L		04/07/22 10:09	04/07/22 14:52	1
Lead	**1.3**		1.0	0.12	ug/L		04/07/22 10:09	04/07/22 14:52	1

Client Sample ID: ILBMP0008_20220328
Date Collected: 03/28/22 10:10
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.14	ug/L		04/07/22 10:09	04/07/22 14:54	1
Copper	**5.3**		2.0	1.6	ug/L		04/07/22 10:09	04/07/22 14:54	1
Lead	**1.5**		1.0	0.12	ug/L		04/07/22 10:09	04/07/22 14:54	1

Client Sample ID: LXBMP0010_20220328
Date Collected: 03/28/22 09:36
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.14	ug/L		04/07/22 10:09	04/07/22 14:57	1
Copper	**3.5**		2.0	1.6	ug/L		04/07/22 10:09	04/07/22 14:57	1
Lead	**2.0**		1.0	0.12	ug/L		04/07/22 10:09	04/07/22 14:57	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: ILBMP0004_20220328
Date Collected: 03/28/22 10:20
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:41	1
Copper	**10**		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:41	1
Lead	**0.26**	**J,DX**	1.0	0.12	ug/L		04/08/22 05:26	04/08/22 10:41	1

Client Sample ID: ILBMP0005_20220328
Date Collected: 03/28/22 10:30
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:43	1
Copper	**3.2**		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:43	1
Lead	**0.13**	**J,DX**	1.0	0.12	ug/L		04/08/22 05:26	04/08/22 10:43	1

Client Sample ID: ILBMP0008_20220328
Date Collected: 03/28/22 10:10
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:46	1
Copper	**2.3**		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:46	1
Lead	**0.43**	**J,DX**	1.0	0.12	ug/L		04/08/22 05:26	04/08/22 10:46	1

Client Sample ID: LXBMP0010_20220328
Date Collected: 03/28/22 09:36
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:48	1
Copper	**2.3**		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:48	1
Lead	**0.44**	**J,DX**	1.0	0.12	ug/L		04/08/22 05:26	04/08/22 10:48	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: ILBMP0004_20220328
Date Collected: 03/28/22 10:20
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		04/08/22 09:03	04/08/22 15:19	1

Client Sample ID: ILBMP0005_20220328
Date Collected: 03/28/22 10:30
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		04/08/22 09:03	04/08/22 15:21	1

Client Sample ID: ILBMP0008_20220328
Date Collected: 03/28/22 10:10
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		04/08/22 09:03	04/08/22 15:23	1

Client Sample ID: LXBMP0010_20220328
Date Collected: 03/28/22 09:36
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		04/08/22 09:03	04/08/22 15:28	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: ILBMP0004_20220328
Date Collected: 03/28/22 10:20
Date Received: 03/28/22 17:50
Lab Sample ID: 570-89952-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		04/08/22 10:09	04/08/22 17:57	1

Client Sample ID: ILBMP0005_20220328
Date Collected: 03/28/22 10:30
Date Received: 03/28/22 17:50
Lab Sample ID: 570-89952-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		04/08/22 10:09	04/08/22 17:59	1

Client Sample ID: ILBMP0008_20220328
Date Collected: 03/28/22 10:10
Date Received: 03/28/22 17:50
Lab Sample ID: 570-89952-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		04/08/22 10:09	04/08/22 18:00	1

Client Sample ID: LXBMP0010_20220328
Date Collected: 03/28/22 09:36
Date Received: 03/28/22 17:50
Lab Sample ID: 570-89952-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.25	0.12	ug/L		04/08/22 10:09	04/08/22 18:02	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

General Chemistry

Client Sample ID: ILBMP0004_20220328
Date Collected: 03/28/22 10:20
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	57		1.1	0.87	mg/L			03/31/22 14:02	1

Client Sample ID: ILBMP0005_20220328
Date Collected: 03/28/22 10:30
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	18		1.1	0.87	mg/L			03/31/22 14:02	1

Client Sample ID: ILBMP0008_20220328
Date Collected: 03/28/22 10:10
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	46		1.1	0.87	mg/L			03/31/22 14:02	1

Client Sample ID: LXBMP0010_20220328
Date Collected: 03/28/22 09:36
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	18		1.1	0.87	mg/L			03/31/22 14:02	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: ILBMP0004_20220328
Date Collected: 03/28/22 10:20
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**14.96**		0.01	0.01	%			04/05/22 15:54	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			04/05/22 15:54	1
Fine Sand (0.125 to 0.25mm)	**1.10**		0.01	0.01	%			04/05/22 15:54	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			04/05/22 15:54	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			04/05/22 15:54	1
Silt (0.00391 to 0.0625mm)	**67.13**		0.01	0.01	%			04/05/22 15:54	1
Total Silt and Clay (0 to 0.0626mm)	**82.09**		0.01	0.01	%			04/05/22 15:54	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			04/05/22 15:54	1
Very Fine Sand (0.0625 to 0.125 mm)	**16.81**		0.01	0.01	%			04/05/22 15:54	1

Client Sample ID: ILBMP0005_20220328
Date Collected: 03/28/22 10:30
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-2
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**11.73**		0.01	0.01	%			04/05/22 16:03	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			04/05/22 16:03	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			04/05/22 16:03	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			04/05/22 16:03	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			04/05/22 16:03	1
Silt (0.00391 to 0.0625mm)	**79.93**		0.01	0.01	%			04/05/22 16:03	1
Total Silt and Clay (0 to 0.0626mm)	**91.66**		0.01	0.01	%			04/05/22 16:03	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			04/05/22 16:03	1
Very Fine Sand (0.0625 to 0.125 mm)	**8.34**		0.01	0.01	%			04/05/22 16:03	1

Client Sample ID: ILBMP0008_20220328
Date Collected: 03/28/22 10:10
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-3
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**10.18**		0.01	0.01	%			04/05/22 16:12	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			04/05/22 16:12	1
Fine Sand (0.125 to 0.25mm)	**1.24**		0.01	0.01	%			04/05/22 16:12	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			04/05/22 16:12	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			04/05/22 16:12	1
Silt (0.00391 to 0.0625mm)	**52.91**		0.01	0.01	%			04/05/22 16:12	1
Total Silt and Clay (0 to 0.0626mm)	**63.09**		0.01	0.01	%			04/05/22 16:12	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			04/05/22 16:12	1
Very Fine Sand (0.0625 to 0.125 mm)	**35.67**		0.01	0.01	%			04/05/22 16:12	1

Client Sample ID: LXBMP0010_20220328
Date Collected: 03/28/22 09:36
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**13.08**		0.01	0.01	%			04/05/22 16:20	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			04/05/22 16:20	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			04/05/22 16:20	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			04/05/22 16:20	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			04/05/22 16:20	1
Silt (0.00391 to 0.0625mm)	**79.68**		0.01	0.01	%			04/05/22 16:20	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Client Sample ID: LXBMP0010_20220328
Date Collected: 03/28/22 09:36
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Silt and Clay (0 to 0.0626mm)	**92.76**		0.01	0.01	%			04/05/22 16:20	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			04/05/22 16:20	1
Very Fine Sand (0.0625 to 0.125 mm)	**7.24**		0.01	0.01	%			04/05/22 16:20	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

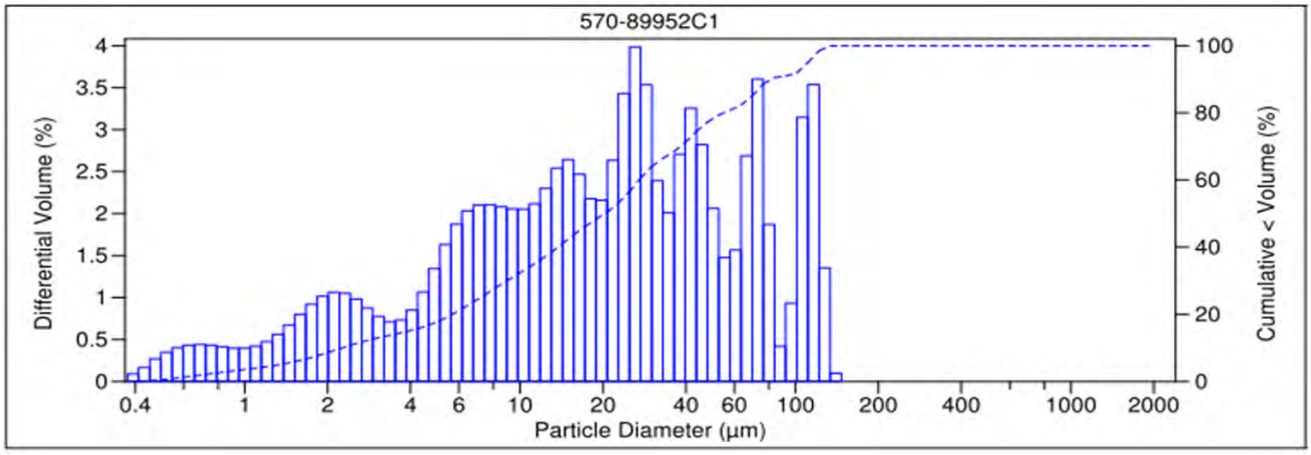
Haley & Aldrich, Inc.

Date Sampled:	03/28/22
Date Received:	03/28/22
Work Order No:	570-89952
Date Analyzed:	04/05/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0004_20220328		Silt	0.032

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	1.10	16.81	67.13	14.96	82.09



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PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

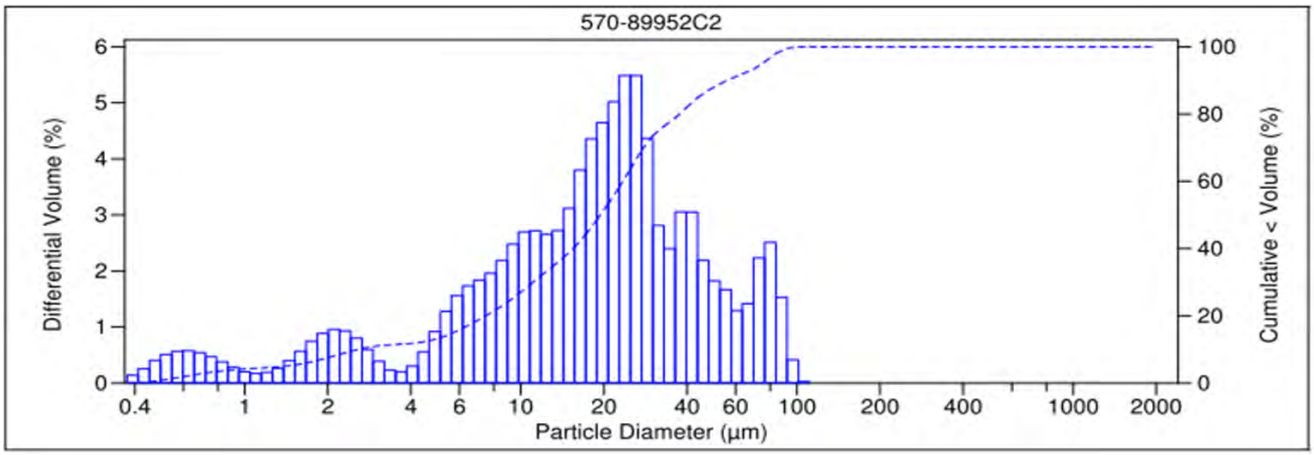
Haley & Aldrich, Inc.

Date Sampled:	03/28/22
Date Received:	03/28/22
Work Order No:	570-89952
Date Analyzed:	04/05/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0005_20220328		Silt	0.025

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	8.34	79.93	11.73	91.66



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

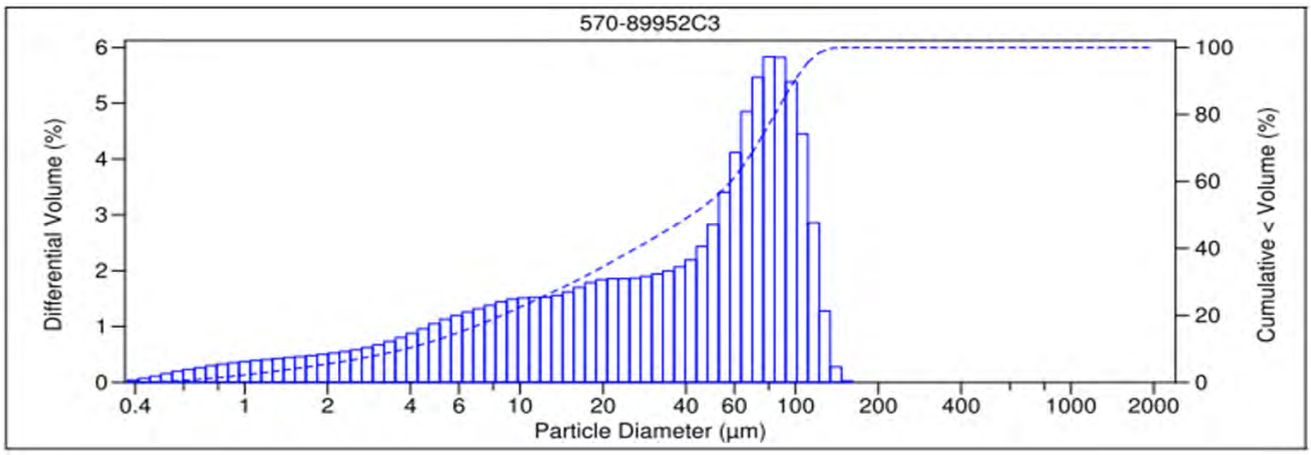
Haley & Aldrich, Inc.

Date Sampled:	03/28/22
Date Received:	03/28/22
Work Order No:	570-89952
Date Analyzed:	04/05/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0008_20220328		Silt	0.047

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	1.24	35.67	52.91	10.18	63.09



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

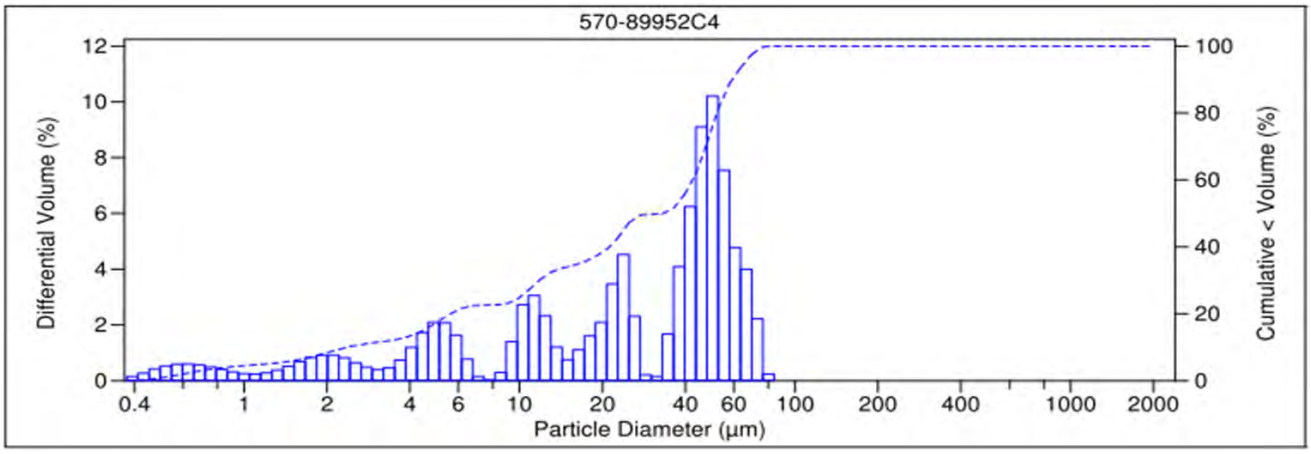
Haley & Aldrich, Inc.

Date Sampled:	03/28/22
Date Received:	03/28/22
Work Order No:	570-89952
Date Analyzed:	04/05/22
Method:	ASTM D4464M

Project:

Sample ID	Depth ft	Description	Mean Grain Size mm
ILBMP0010_20220328		Silt	0.031

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	7.24	79.68	13.08	92.76



V 3.0

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-670611/1-A
Matrix: Water
Analysis Batch: 670626

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 670611

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.14	ug/L		04/07/22 10:09	04/07/22 14:22	1
Copper	ND		2.0	1.6	ug/L		04/07/22 10:09	04/07/22 14:22	1
Lead	ND		1.0	0.12	ug/L		04/07/22 10:09	04/07/22 14:22	1

Lab Sample ID: LCS 440-670611/2-A
Matrix: Water
Analysis Batch: 670626

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 670611

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	81.3		ug/L		102	85 - 115
Copper	80.0	81.4		ug/L		102	85 - 115
Lead	80.0	82.7		ug/L		103	85 - 115

Lab Sample ID: 570-89889-A-1-B MS
Matrix: Water
Analysis Batch: 670626

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 670611

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		80.0	80.2		ug/L		100	70 - 130
Copper	33		80.0	102		ug/L		85	70 - 130
Lead	ND		80.0	82.3		ug/L		103	70 - 130

Lab Sample ID: 570-89889-A-1-C MSD
Matrix: Water
Analysis Batch: 670626

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 670611

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND		80.0	79.7		ug/L		100	70 - 130	1	20
Copper	33		80.0	109		ug/L		94	70 - 130	7	20
Lead	ND		80.0	81.7		ug/L		102	70 - 130	1	20

Lab Sample ID: MB 440-670674/1-B
Matrix: Water
Analysis Batch: 670686

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 670675

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.14	ug/L		04/08/22 05:26	04/08/22 10:14	1
Copper	ND		2.0	1.6	ug/L		04/08/22 05:26	04/08/22 10:14	1
Lead	ND		1.0	0.12	ug/L		04/08/22 05:26	04/08/22 10:14	1

Lab Sample ID: LCS 440-670674/2-B
Matrix: Water
Analysis Batch: 670686

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 670675

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	78.1		ug/L		98	85 - 115
Copper	80.0	77.5		ug/L		97	85 - 115
Lead	80.0	80.6		ug/L		101	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-89945-F-1-C MS
Matrix: Water
Analysis Batch: 670686

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 670675

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		80.0	82.7		ug/L		103	70 - 130
Copper	11		80.0	86.6		ug/L		95	70 - 130
Lead	0.53	J,DX	80.0	87.0		ug/L		108	70 - 130

Lab Sample ID: 570-89945-F-1-D MSD
Matrix: Water
Analysis Batch: 670686

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 670675

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND		80.0	81.9		ug/L		102	70 - 130	1	20
Copper	11		80.0	87.3		ug/L		96	70 - 130	1	20
Lead	0.53	J,DX	80.0	86.7		ug/L		108	70 - 130	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-225296/1-A
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 225296

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		04/08/22 09:03	04/08/22 14:44	1

Lab Sample ID: LCS 570-225296/2-A
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 225296

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	10.0	10.4		ug/L		104	85 - 115

Lab Sample ID: LCSD 570-225296/3-A
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 225296

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	10.0	10.3		ug/L		103	85 - 115	1	10

Lab Sample ID: 570-89877-A-1-D MS
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 225296

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		10.0	10.8		ug/L		108	70 - 130

Lab Sample ID: 570-89877-A-1-E MSD
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 225296

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		10.0	10.7		ug/L		107	70 - 130	1	10

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: MB 570-225307/1-B
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 225313

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.12	ug/L		04/08/22 10:09	04/08/22 17:42	1

Lab Sample ID: LCS 570-225307/2-B
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 225313

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	10.0	9.71		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-225307/3-B
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 225313

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	10.0	9.70		ug/L		97	85 - 115	0	10

Lab Sample ID: 570-89949-A-1-F MS
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 225313

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		10.0	9.65		ug/L		96	70 - 130

Lab Sample ID: 570-89949-A-1-G MSD
Matrix: Water
Analysis Batch: 225396

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 225313

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		10.0	9.57		ug/L		96	70 - 130	1	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-223489/1
Matrix: Water
Analysis Batch: 223489

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			03/31/22 14:02	1

Lab Sample ID: LCS 570-223489/2
Matrix: Water
Analysis Batch: 223489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	104		mg/L		104	77 - 116

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCSD 570-223489/3
Matrix: Water
Analysis Batch: 223489

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids			100	95.0		mg/L		95	77 - 116	9	10

Lab Sample ID: 570-89903-A-7 DU
Matrix: Water
Analysis Batch: 223489

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	99			103		mg/L				4	10

Metals

Prep Batch: 225296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Total/NA	Water	245.1	
570-89952-2	ILBMP0005_20220328	Total/NA	Water	245.1	
570-89952-3	ILBMP0008_20220328	Total/NA	Water	245.1	
570-89952-4	LXBMP0010_20220328	Total/NA	Water	245.1	
MB 570-225296/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-225296/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-225296/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-89877-A-1-D MS	Matrix Spike	Total/NA	Water	245.1	
570-89877-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Filtration Batch: 225307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Dissolved	Water	Filtration	
570-89952-2	ILBMP0005_20220328	Dissolved	Water	Filtration	
570-89952-3	ILBMP0008_20220328	Dissolved	Water	Filtration	
570-89952-4	LXBMP0010_20220328	Dissolved	Water	Filtration	
MB 570-225307/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-225307/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-225307/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-89949-A-1-F MS	Matrix Spike	Dissolved	Water	Filtration	
570-89949-A-1-G MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 225313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Dissolved	Water	245.1	225307
570-89952-2	ILBMP0005_20220328	Dissolved	Water	245.1	225307
570-89952-3	ILBMP0008_20220328	Dissolved	Water	245.1	225307
570-89952-4	LXBMP0010_20220328	Dissolved	Water	245.1	225307
MB 570-225307/1-B	Method Blank	Dissolved	Water	245.1	225307
LCS 570-225307/2-B	Lab Control Sample	Dissolved	Water	245.1	225307
LCSD 570-225307/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	225307
570-89949-A-1-F MS	Matrix Spike	Dissolved	Water	245.1	225307
570-89949-A-1-G MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	225307

Analysis Batch: 225396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Dissolved	Water	245.1	225313
570-89952-1	ILBMP0004_20220328	Total/NA	Water	245.1	225296
570-89952-2	ILBMP0005_20220328	Dissolved	Water	245.1	225313
570-89952-2	ILBMP0005_20220328	Total/NA	Water	245.1	225296
570-89952-3	ILBMP0008_20220328	Dissolved	Water	245.1	225313
570-89952-3	ILBMP0008_20220328	Total/NA	Water	245.1	225296
570-89952-4	LXBMP0010_20220328	Dissolved	Water	245.1	225313
570-89952-4	LXBMP0010_20220328	Total/NA	Water	245.1	225296
MB 570-225296/1-A	Method Blank	Total/NA	Water	245.1	225296
MB 570-225307/1-B	Method Blank	Dissolved	Water	245.1	225313
LCS 570-225296/2-A	Lab Control Sample	Total/NA	Water	245.1	225296
LCS 570-225307/2-B	Lab Control Sample	Dissolved	Water	245.1	225313
LCSD 570-225296/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	225296
LCSD 570-225307/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	225313
570-89877-A-1-D MS	Matrix Spike	Total/NA	Water	245.1	225296

Metals (Continued)

Analysis Batch: 225396 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89877-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	225296
570-89949-A-1-F MS	Matrix Spike	Dissolved	Water	245.1	225313
570-89949-A-1-G MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	225313

Prep Batch: 670611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Total Recoverable	Water	200.2	
570-89952-2	ILBMP0005_20220328	Total Recoverable	Water	200.2	
570-89952-3	ILBMP0008_20220328	Total Recoverable	Water	200.2	
570-89952-4	LXBMP0010_20220328	Total Recoverable	Water	200.2	
MB 440-670611/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-670611/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-89889-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-89889-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 670626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Total Recoverable	Water	200.8	670611
570-89952-2	ILBMP0005_20220328	Total Recoverable	Water	200.8	670611
570-89952-3	ILBMP0008_20220328	Total Recoverable	Water	200.8	670611
570-89952-4	LXBMP0010_20220328	Total Recoverable	Water	200.8	670611
MB 440-670611/1-A	Method Blank	Total Recoverable	Water	200.8	670611
LCS 440-670611/2-A	Lab Control Sample	Total Recoverable	Water	200.8	670611
570-89889-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	670611
570-89889-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	670611

Filtration Batch: 670674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Dissolved	Water	FILTRATION	
570-89952-2	ILBMP0005_20220328	Dissolved	Water	FILTRATION	
570-89952-3	ILBMP0008_20220328	Dissolved	Water	FILTRATION	
570-89952-4	LXBMP0010_20220328	Dissolved	Water	FILTRATION	
MB 440-670674/1-B	Method Blank	Dissolved	Water	FILTRATION	
LCS 440-670674/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
570-89945-F-1-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
570-89945-F-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Prep Batch: 670675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Dissolved	Water	200.2	670674
570-89952-2	ILBMP0005_20220328	Dissolved	Water	200.2	670674
570-89952-3	ILBMP0008_20220328	Dissolved	Water	200.2	670674
570-89952-4	LXBMP0010_20220328	Dissolved	Water	200.2	670674
MB 440-670674/1-B	Method Blank	Dissolved	Water	200.2	670674
LCS 440-670674/2-B	Lab Control Sample	Dissolved	Water	200.2	670674
570-89945-F-1-C MS	Matrix Spike	Dissolved	Water	200.2	670674
570-89945-F-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	670674

Analysis Batch: 670686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Dissolved	Water	200.8	670675

Metals (Continued)

Analysis Batch: 670686 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-2	ILBMP0005_20220328	Dissolved	Water	200.8	670675
570-89952-3	ILBMP0008_20220328	Dissolved	Water	200.8	670675
570-89952-4	LXBMP0010_20220328	Dissolved	Water	200.8	670675
MB 440-670674/1-B	Method Blank	Dissolved	Water	200.8	670675
LCS 440-670674/2-B	Lab Control Sample	Dissolved	Water	200.8	670675
570-89945-F-1-C MS	Matrix Spike	Dissolved	Water	200.8	670675
570-89945-F-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	670675

General Chemistry

Analysis Batch: 223489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Total/NA	Water	SM 2540D	
570-89952-2	ILBMP0005_20220328	Total/NA	Water	SM 2540D	
570-89952-3	ILBMP0008_20220328	Total/NA	Water	SM 2540D	
570-89952-4	LXBMP0010_20220328	Total/NA	Water	SM 2540D	
MB 570-223489/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-223489/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-223489/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-89903-A-7 DU	Duplicate	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 225104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Total/NA	Water	D4464	
570-89952-2	ILBMP0005_20220328	Total/NA	Water	D4464	
570-89952-3	ILBMP0008_20220328	Total/NA	Water	D4464	
570-89952-4	LXBMP0010_20220328	Total/NA	Water	D4464	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

Client Sample ID: ILBMP0004_20220328

Date Collected: 03/28/22 10:20
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			25 mL	25 mL	670674	04/08/22 04:58		IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	670675	04/08/22 05:26		IRV 2
Dissolved	Analysis	200.8		1			670686	04/08/22 10:41	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Total Recoverable	Prep	200.2			25 mL	25 mL	670611	04/07/22 10:09		IRV 2
Total Recoverable	Analysis	200.8		1			670626	04/07/22 14:50	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	225307	04/08/22 08:03	WL8G	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	225313	04/08/22 10:09	WL8G	ECL 4
Dissolved	Analysis	245.1		1			225396	04/08/22 17:57	VWJ7	ECL 4
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	225296	04/08/22 09:03	WL8G	ECL 4
Total/NA	Analysis	245.1		1			225396	04/08/22 15:19	VWJ7	ECL 4
	Instrument ID: HG7									
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	223489	03/31/22 14:02	HBR9	ECL 4
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			225104	04/05/22 15:54	C4LT	ECL 4
	Instrument ID: NOEQUIP									

Client Sample ID: ILBMP0005_20220328

Date Collected: 03/28/22 10:30
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			25 mL	25 mL	670674	04/08/22 04:58		IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	670675	04/08/22 05:26		IRV 2
Dissolved	Analysis	200.8		1			670686	04/08/22 10:43	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Total Recoverable	Prep	200.2			25 mL	25 mL	670611	04/07/22 10:09		IRV 2
Total Recoverable	Analysis	200.8		1			670626	04/07/22 14:52	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	225307	04/08/22 08:03	WL8G	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	225313	04/08/22 10:09	WL8G	ECL 4
Dissolved	Analysis	245.1		1			225396	04/08/22 17:59	VWJ7	ECL 4
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	225296	04/08/22 09:03	WL8G	ECL 4
Total/NA	Analysis	245.1		1			225396	04/08/22 15:21	VWJ7	ECL 4
	Instrument ID: HG7									
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	223489	03/31/22 14:02	HBR9	ECL 4
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			225104	04/05/22 16:03	C4LT	ECL 4
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

Client Sample ID: ILBMP0008_20220328

Lab Sample ID: 570-89952-3

Date Collected: 03/28/22 10:10
Date Received: 03/28/22 17:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			25 mL	25 mL	670674	04/08/22 04:58		IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	670675	04/08/22 05:26		IRV 2
Dissolved	Analysis	200.8		1			670686	04/08/22 10:46	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Total Recoverable	Prep	200.2			25 mL	25 mL	670611	04/07/22 10:09		IRV 2
Total Recoverable	Analysis	200.8		1			670626	04/07/22 14:54	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	225307	04/08/22 08:03	WL8G	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	225313	04/08/22 10:09	WL8G	ECL 4
Dissolved	Analysis	245.1		1			225396	04/08/22 18:00	VWJ7	ECL 4
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	225296	04/08/22 09:03	WL8G	ECL 4
Total/NA	Analysis	245.1		1			225396	04/08/22 15:23	VWJ7	ECL 4
	Instrument ID: HG7									
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	223489	03/31/22 14:02	HBR9	ECL 4
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			225104	04/05/22 16:12	C4LT	ECL 4
	Instrument ID: NOEQUIP									

Client Sample ID: LXBMP0010_20220328

Lab Sample ID: 570-89952-4

Date Collected: 03/28/22 09:36
Date Received: 03/28/22 17:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			25 mL	25 mL	670674	04/08/22 04:58		IRV 2
Dissolved	Prep	200.2			25 mL	25 mL	670675	04/08/22 05:26		IRV 2
Dissolved	Analysis	200.8		1			670686	04/08/22 10:48	Y2WS	IRV 2
	Instrument ID: ICPMS5									
Total Recoverable	Prep	200.2			25 mL	25 mL	670611	04/07/22 10:09		IRV 2
Total Recoverable	Analysis	200.8		1			670626	04/07/22 14:57	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	225307	04/08/22 08:03	WL8G	ECL 4
Dissolved	Prep	245.1			50 mL	100 mL	225313	04/08/22 10:09	WL8G	ECL 4
Dissolved	Analysis	245.1		1			225396	04/08/22 18:02	VWJ7	ECL 4
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	225296	04/08/22 09:03	WL8G	ECL 4
Total/NA	Analysis	245.1		1			225396	04/08/22 15:28	VWJ7	ECL 4
	Instrument ID: HG7									
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	223489	03/31/22 14:02	HBR9	ECL 4
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			225104	04/05/22 16:20	C4LT	ECL 4
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-22
California	SCAQMD LAP	17LA0919	11-30-21 *
California	State	2944	09-30-22
Guam	State	21-003R	06-22-22
Nevada	State	CA00111	07-31-22
Oregon	NELAP	CA300001	01-31-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	ECL 4
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 4
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 4
Filtration	Sample Filtration	None	ECL 4
FILTRATION	Sample Filtration	None	IRV 2

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-89952-1	ILBMP0004_20220328	Water	03/28/22 10:20	03/28/22 17:50
570-89952-2	ILBMP0005_20220328	Water	03/28/22 10:30	03/28/22 17:50
570-89952-3	ILBMP0008_20220328	Water	03/28/22 10:10	03/28/22 17:50
570-89952-4	LXBMP0010_20220328	Water	03/28/22 09:36	03/28/22 17:50

89952

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ▫ DW ▫ NPDES ▫ RCRA ▫ Other

Eurofins Calscience, Inc.

estAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-estAmerica between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories, Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 3/28/2022	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	■ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	■ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS / MSD (Y/N)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Recoverable)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Dissolved)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)	Sample Specific Notes:
								1-250mL Poly	1-250mL Poly	2-1L Amber	1-1L Poly	1 1L Poly	Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
ILBMP0004_20220328	3/28/22	1020	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0005_20220328	3/28/22	1030	G	WM	6	Y	N	X	X	X	X	X	
ILBMP0008_20220328	3/28/22	1010	G	WM	6	Y	N	X	X	X	X	X	
LXBMP0010_20220328	3/28/22	0936	G	WM	6	Y	N	X	X	X	X	X	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other ____								4	4	1	1	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ■ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access Bill to Haley & Aldrich at AP@haleyaldrich.com Report Level II Data Package and provide EDD All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

	Company	Date/Time		Company	Date/Time
Relinquished by: M Burney	JHH	03/28/22 1400	Received by:	EC	03/28/22 1353
Relinquished by:	EC	3/28/22 1750	Received by: Olga Omelas	ECI	03/28/22 1750
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

36121, 39124 SC6

570-89952 Chain of Custody

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4/11/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience
2841 Dow Avenue Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel Virendra	Carrier Tracking No(s):	COC No 570-163461 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-89952-2
Address: 880 Riverside Parkway, ,	Due Date Requested 4/13/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0004_20220328 (570-89952-1)	3/28/22	10:20 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0005_20220328 (570-89952-2)	3/28/22	10 30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0008_20220328 (570-89952-3)	3/28/22	10 10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
LXBMP0010_20220328 (570-89952-4)	3/28/22	09 36 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time.	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	3/30/22 1530				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

4/11/2022

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89952-1

Login Number: 89952
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Improper containers received.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-89952-2
Client Project/Site: Boeing SSFL ISRA and BMP

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Ms. Katherine Miller

Virendra R Patel

Authorized for release by:
4/18/2022 4:19:20 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Job ID: 570-89952-2
Project/Site: Boeing SSFL ISRA and BMP

Qualifiers

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-89952-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-89952-2

Comments
No additional comments.

Receipt
The samples were received on 3/28/2022 5:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 2.4º C.

Receipt Exceptions

The laboratory received 250 ml plastic with HNO3 instead of 250 ml plastic unpreserve container for Dissolve metals analysis on the following sample: ILBMP0004_20220328 (570-89952-1), ILBMP0005_20220328 (570-89952-2) and ILBMP0008_20220328 (570-89952-3). The client was contacted, and the lab was instructed to <EXPLANATION_REQUIRED>.

Dioxin
Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 12D5 exceeded this criteria: ILBMP0004_20220328 (570-89952-1), ILBMP0005_20220328 (570-89952-2), ILBMP0008_20220328 (570-89952-3), LXBMP0010_20220328 (570-89952-4), (CCV 320-578339/2), (LCS 320-577112/2-A), (LCSD 320-577112/3-A) and (MB 320-577112/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV041822). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: ILBMP0004_20220328 (570-89952-1), ILBMP0005_20220328 (570-89952-2), ILBMP0008_20220328 (570-89952-3), LXBMP0010_20220328 (570-89952-4), (CCV 320-580944/2), (MB 320-577112/1-A) and (WDM 320-580944/1). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
Method 1613B: Elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: ILBMP0008_20220328 (570-89952-3).
Nominal volume required by method is 1.0 L

preparation batch 320-577112
method: 1613B_Sox_Sep_P
matrix: water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-2

Client Sample ID: ILBMP0004_20220328 — Lab Sample ID: 570-89952-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.0000011	J,DX q	0.000010	0.00000044	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000044	J,DX	0.000052	0.00000075	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000028	J,DX MB	0.000052	0.00000054	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000020	J,DX q	0.000052	0.00000059	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000084	J,DX q MB	0.000052	0.00000086	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000016	J,DX MB	0.000052	0.00000086	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000013	J,DX	0.000052	0.00000071	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.000011	J,DX q	0.000052	0.0000011	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000091	J,DX q	0.000052	0.00000098	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000045	J,DX MB	0.000052	0.00000086	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000079	J,DX	0.000052	0.00000082	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00030	MB	0.000052	0.000011	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00019	MB	0.000052	0.0000032	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000091	J,DX MB	0.000052	0.0000044	ug/L	1		1613B	Total/NA
OCDD	0.0047	MB	0.00010	0.0000098	ug/L	1		1613B	Total/NA
OCDF	0.00027	MB	0.00010	0.0000010	ug/L	1		1613B	Total/NA
Total TCDD	0.0000027	J,DX q	0.000010	0.00000044	ug/L	1		1613B	Total/NA
Total TCDF	0.0000072	J,DX q MB	0.000010	0.00000029	ug/L	1		1613B	Total/NA
Total PeCDD	0.000013	J,DX q	0.000052	0.00000075	ug/L	1		1613B	Total/NA
Total PeCDF	0.000026	J,DX q MB	0.000052	0.00000057	ug/L	1		1613B	Total/NA
Total HxCDD	0.00012	q MB	0.000052	0.00000081	ug/L	1		1613B	Total/NA
Total HxCDF	0.00016	q MB	0.000052	0.00000093	ug/L	1		1613B	Total/NA
Total HpCDD	0.00089	MB	0.000052	0.000011	ug/L	1		1613B	Total/NA
Total HpCDF	0.00035	MB	0.000052	0.0000038	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0005_20220328 — Lab Sample ID: 570-89952-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000011	J,DX q	0.000052	0.00000074	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000020	J,DX MB	0.000052	0.00000058	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.00000091	J,DX q	0.000052	0.00000061	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000023	J,DX q MB	0.000052	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000018	J,DX MB	0.000052	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000015	J,DX	0.000052	0.00000037	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: ILBMP0005_20220328 (Continued)
Lab Sample ID: 570-89952-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDF	0.0000018	J,DX	0.000052	0.00000058	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000015	J,DX	0.000052	0.00000055	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000048	J,DX MB	0.000052	0.00000048	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000013	J,DX	0.000052	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000027	J,DX MB	0.000052	0.0000010	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000021	J,DX MB	0.000052	0.00000061	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.00000089	J,DX q MB	0.000052	0.00000084	ug/L	1		1613B	Total/NA
OCDD	0.00023	MB	0.00010	0.00000090	ug/L	1		1613B	Total/NA
OCDF	0.000022	J,DX MB	0.00010	0.00000054	ug/L	1		1613B	Total/NA
Total TCDF	0.0000030	J,DX q MB	0.000010	0.00000028	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000017	J,DX q	0.000052	0.00000074	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000088	J,DX q MB	0.000052	0.00000060	ug/L	1		1613B	Total/NA
Total HxCDD	0.000019	J,DX q MB	0.000052	0.00000043	ug/L	1		1613B	Total/NA
Total HxCDF	0.000023	J,DX q MB	0.000052	0.00000051	ug/L	1		1613B	Total/NA
Total HpCDD	0.000080	MB	0.000052	0.0000010	ug/L	1		1613B	Total/NA
Total HpCDF	0.000036	J,DX q MB	0.000052	0.00000072	ug/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	0.00000067	J,DX MB	0.000010	0.00000056	ug/L	1		1613B	Total/NA

Client Sample ID: ILBMP0008_20220328
Lab Sample ID: 570-89952-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.00000072	J,DX q	0.000012	0.00000040	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000016	J,DX	0.000058	0.00000086	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000031	J,DX q MB	0.000058	0.00000087	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000023	J,DX	0.000058	0.00000095	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000085	J,DX MB	0.000058	0.0000019	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.000024	J,DX MB	0.000058	0.0000018	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.000013	J,DX	0.000058	0.0000015	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.000025	J,DX	0.000058	0.0000027	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.000021	J,DX	0.000058	0.0000024	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000046	J,DX MB	0.000058	0.0000022	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.000016	J,DX	0.000058	0.0000020	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.00068	MB	0.000058	0.000046	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00056	MB	0.000058	0.000011	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.000020	J,DX MB	0.000058	0.000016	ug/L	1		1613B	Total/NA
OCDD	0.0049	MB	0.00012	0.000010	ug/L	1		1613B	Total/NA
OCDF	0.0010	MB	0.00012	0.0000021	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: ILBMP0008_20220328 (Continued)
Lab Sample ID: 570-89952-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.0000016	J,DX q	0.000012	0.00000040	ug/L	1		1613B	Total/NA
Total TCDF	0.000011	J,DX q MB	0.000012	0.00000032	ug/L	1		1613B	Total/NA
Total PeCDD	0.000026	J,DX q	0.000058	0.00000086	ug/L	1		1613B	Total/NA
Total PeCDF	0.000063	q MB	0.000058	0.00000091	ug/L	1		1613B	Total/NA
Total HxCDD	0.00038	MB	0.000058	0.0000017	ug/L	1		1613B	Total/NA
Total HxCDF	0.00048	MB	0.000058	0.0000023	ug/L	1		1613B	Total/NA
Total HpCDD	0.0053	MB	0.000058	0.000046	ug/L	1		1613B	Total/NA
Total HpCDF	0.0014	MB	0.000058	0.000014	ug/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	0.0000011	J,DX MB	0.000012	0.00000072	ug/L	1		1613B	Total/NA

Client Sample ID: LXBMP0010_20220328
Lab Sample ID: 570-89952-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.00000064	J,DX q	0.000010	0.00000039	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	0.0000012	J,DX	0.000052	0.00000060	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000022	J,DX MB	0.000052	0.00000050	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000011	J,DX	0.000052	0.00000054	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000028	J,DX q MB	0.000052	0.00000045	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000022	J,DX q MB	0.000052	0.00000044	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000021	J,DX	0.000052	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000022	J,DX	0.000052	0.00000047	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000015	J,DX	0.000052	0.00000044	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000055	J,DX MB	0.000052	0.00000038	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000086	J,DX q	0.000052	0.00000036	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000042	J,DX MB	0.000052	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000020	J,DX MB	0.000052	0.00000084	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000020	J,DX MB	0.000052	0.0000011	ug/L	1		1613B	Total/NA
OCDD	0.00031	MB	0.00010	0.0000013	ug/L	1		1613B	Total/NA
OCDF	0.000057	J,DX MB	0.00010	0.00000064	ug/L	1		1613B	Total/NA
Total TCDD	0.00000064	J,DX q	0.000010	0.00000039	ug/L	1		1613B	Total/NA
Total TCDF	0.0000028	J,DX q MB	0.000010	0.00000023	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000027	J,DX q	0.000052	0.00000060	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000086	J,DX q MB	0.000052	0.00000052	ug/L	1		1613B	Total/NA
Total HxCDD	0.000016	J,DX q MB	0.000052	0.00000042	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LXBMP0010_20220328 (Continued)
Lab Sample ID: 570-89952-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HxCDF	0.000024	J,DX q MB	0.000052	0.00000041	ug/L	1		1613B	Total/NA
Total HpCDD	0.000085	MB	0.000052	0.0000013	ug/L	1		1613B	Total/NA
Total HpCDF	0.000051	J,DX MB	0.000052	0.00000099	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: ILBMP0004_20220328
Lab Sample ID: 570-89952-1
Date Collected: 03/28/22 10:20
Matrix: Water
Date Received: 03/28/22 17:50

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000011	J,DX q	0.000010	0.00000044	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,7,8-PeCDD	0.0000044	J,DX	0.000052	0.00000075	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,7,8-PeCDF	0.0000028	J,DX MB	0.000052	0.00000054	ug/L		04/01/22 08:18	04/06/22 21:52	1
2,3,4,7,8-PeCDF	0.0000020	J,DX q	0.000052	0.00000059	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,4,7,8-HxCDD	0.0000084	J,DX q MB	0.000052	0.00000086	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,6,7,8-HxCDD	0.000016	J,DX MB	0.000052	0.00000086	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,7,8,9-HxCDD	0.000013	J,DX	0.000052	0.00000071	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,4,7,8-HxCDF	0.000011	J,DX q	0.000052	0.0000011	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,6,7,8-HxCDF	0.0000091	J,DX q	0.000052	0.00000098	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,7,8,9-HxCDF	0.0000045	J,DX MB	0.000052	0.00000086	ug/L		04/01/22 08:18	04/06/22 21:52	1
2,3,4,6,7,8-HxCDF	0.0000079	J,DX	0.000052	0.00000082	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,4,6,7,8-HpCDD	0.00030	MB	0.000052	0.000011	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,4,6,7,8-HpCDF	0.00019	MB	0.000052	0.0000032	ug/L		04/01/22 08:18	04/06/22 21:52	1
1,2,3,4,7,8,9-HpCDF	0.0000091	J,DX MB	0.000052	0.0000044	ug/L		04/01/22 08:18	04/06/22 21:52	1
OCDD	0.0047	MB	0.00010	0.0000098	ug/L		04/01/22 08:18	04/06/22 21:52	1
OCDF	0.00027	MB	0.00010	0.0000010	ug/L		04/01/22 08:18	04/06/22 21:52	1
Total TCDD	0.0000027	J,DX q	0.000010	0.00000044	ug/L		04/01/22 08:18	04/06/22 21:52	1
Total TCDF	0.0000072	J,DX q MB	0.000010	0.00000029	ug/L		04/01/22 08:18	04/06/22 21:52	1
Total PeCDD	0.000013	J,DX q	0.000052	0.00000075	ug/L		04/01/22 08:18	04/06/22 21:52	1
Total PeCDF	0.000026	J,DX q MB	0.000052	0.00000057	ug/L		04/01/22 08:18	04/06/22 21:52	1
Total HxCDD	0.00012	q MB	0.000052	0.00000081	ug/L		04/01/22 08:18	04/06/22 21:52	1
Total HxCDF	0.00016	q MB	0.000052	0.00000093	ug/L		04/01/22 08:18	04/06/22 21:52	1
Total HpCDD	0.00089	MB	0.000052	0.000011	ug/L		04/01/22 08:18	04/06/22 21:52	1
Total HpCDF	0.00035	MB	0.000052	0.0000038	ug/L		04/01/22 08:18	04/06/22 21:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*25 - 164*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-2,3,7,8-TCDF	*65*		*24 - 169*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*25 - 181*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*24 - 185*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-2,3,4,7,8-PeCDF	*72*		*21 - 178*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-1,2,3,4,7,8-HxCDD	*84*		*32 - 141*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*28 - 130*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-1,2,3,4,7,8-HxCDF	*87*		*26 - 152*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-1,2,3,6,7,8-HxCDF	*80*		*26 - 123*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-1,2,3,7,8,9-HxCDF	*73*		*29 - 147*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*28 - 136*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*23 - 140*	*04/01/22 08:18*	*04/06/22 21:52*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0004_20220328
Date Collected: 03/28/22 10:20
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-1
Matrix: Water

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDF	*75*		*28 - 143*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*79*		*26 - 138*	*04/01/22 08:18*	*04/06/22 21:52*	*1*
13C-OCDD	*86*		*17 - 157*	*04/01/22 08:18*	*04/06/22 21:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*83*		*35 - 197*	*04/01/22 08:18*	*04/06/22 21:52*	*1*

Client Sample ID: ILBMP0005_20220328
Date Collected: 03/28/22 10:30
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000042	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,7,8-PeCDD	**0.0000011**	**J,DX q**	0.000052	0.00000074	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,7,8-PeCDF	**0.0000020**	**J,DX MB**	0.000052	0.00000058	ug/L		04/01/22 08:18	04/06/22 22:38	1
2,3,4,7,8-PeCDF	**0.00000091**	**J,DX q**	0.000052	0.00000061	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,4,7,8-HxCDD	**0.0000023**	**J,DX q MB**	0.000052	0.00000045	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,6,7,8-HxCDD	**0.0000018**	**J,DX MB**	0.000052	0.00000045	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,7,8,9-HxCDD	**0.0000015**	**J,DX**	0.000052	0.00000037	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,4,7,8-HxCDF	**0.0000018**	**J,DX**	0.000052	0.00000058	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,6,7,8-HxCDF	**0.0000015**	**J,DX**	0.000052	0.00000055	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,7,8,9-HxCDF	**0.0000048**	**J,DX MB**	0.000052	0.00000048	ug/L		04/01/22 08:18	04/06/22 22:38	1
2,3,4,6,7,8-HxCDF	**0.0000013**	**J,DX**	0.000052	0.00000045	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,4,6,7,8-HpCDD	**0.000027**	**J,DX MB**	0.000052	0.0000010	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,4,6,7,8-HpCDF	**0.000021**	**J,DX MB**	0.000052	0.00000061	ug/L		04/01/22 08:18	04/06/22 22:38	1
1,2,3,4,7,8,9-HpCDF	**0.00000089**	**J,DX q MB**	0.000052	0.00000084	ug/L		04/01/22 08:18	04/06/22 22:38	1
OCDD	**0.00023**	**MB**	0.00010	0.00000090	ug/L		04/01/22 08:18	04/06/22 22:38	1
OCDF	**0.000022**	**J,DX MB**	0.00010	0.00000054	ug/L		04/01/22 08:18	04/06/22 22:38	1
Total TCDD	ND		0.000010	0.00000042	ug/L		04/01/22 08:18	04/06/22 22:38	1
Total TCDF	**0.0000030**	**J,DX q MB**	0.000010	0.00000028	ug/L		04/01/22 08:18	04/06/22 22:38	1
Total PeCDD	**0.0000017**	**J,DX q**	0.000052	0.00000074	ug/L		04/01/22 08:18	04/06/22 22:38	1
Total PeCDF	**0.0000088**	**J,DX q MB**	0.000052	0.00000060	ug/L		04/01/22 08:18	04/06/22 22:38	1
Total HxCDD	**0.000019**	**J,DX q MB**	0.000052	0.00000043	ug/L		04/01/22 08:18	04/06/22 22:38	1
Total HxCDF	**0.000023**	**J,DX q MB**	0.000052	0.00000051	ug/L		04/01/22 08:18	04/06/22 22:38	1
Total HpCDD	**0.000080**	**MB**	0.000052	0.0000010	ug/L		04/01/22 08:18	04/06/22 22:38	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0005_20220328
Date Collected: 03/28/22 10:30
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-2
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDF	0.000036	J,DX q MB	0.000052	0.00000072	ug/L		04/01/22 08:18	04/06/22 22:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*72*		*25 - 164*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-2,3,7,8-TCDF	*66*		*24 - 169*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*25 - 181*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*24 - 185*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-2,3,4,7,8-PeCDF	*73*		*21 - 178*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-1,2,3,4,7,8-HxCDD	*81*		*32 - 141*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*28 - 130*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-1,2,3,4,7,8-HxCDF	*87*		*26 - 152*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-1,2,3,6,7,8-HxCDF	*81*		*26 - 123*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*29 - 147*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-2,3,4,6,7,8-HxCDF	*80*		*28 - 136*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*83*		*23 - 140*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*73*		*28 - 143*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*79*		*26 - 138*	*04/01/22 08:18*	*04/06/22 22:38*	*1*
13C-OCDD	*83*		*17 - 157*	*04/01/22 08:18*	*04/06/22 22:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*82*		*35 - 197*	*04/01/22 08:18*	*04/06/22 22:38*	*1*

Client Sample ID: ILBMP0008_20220328
Date Collected: 03/28/22 10:10
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.00000072	J,DX q	0.000012	0.00000040	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,7,8-PeCDD	0.0000016	J,DX	0.000058	0.00000086	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,7,8-PeCDF	0.0000031	J,DX q MB	0.000058	0.00000087	ug/L		04/01/22 08:18	04/06/22 23:24	1
2,3,4,7,8-PeCDF	0.0000023	J,DX	0.000058	0.00000095	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,4,7,8-HxCDD	0.0000085	J,DX MB	0.000058	0.0000019	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,6,7,8-HxCDD	0.000024	J,DX MB	0.000058	0.0000018	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,7,8,9-HxCDD	0.000013	J,DX	0.000058	0.0000015	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,4,7,8-HxCDF	0.000025	J,DX	0.000058	0.0000027	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,6,7,8-HxCDF	0.000021	J,DX	0.000058	0.0000024	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,7,8,9-HxCDF	0.0000046	J,DX MB	0.000058	0.0000022	ug/L		04/01/22 08:18	04/06/22 23:24	1
2,3,4,6,7,8-HxCDF	0.000016	J,DX	0.000058	0.0000020	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,4,6,7,8-HpCDD	0.00068	MB	0.000058	0.000046	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,4,6,7,8-HpCDF	0.00056	MB	0.000058	0.000011	ug/L		04/01/22 08:18	04/06/22 23:24	1
1,2,3,4,7,8,9-HpCDF	0.000020	J,DX MB	0.000058	0.000016	ug/L		04/01/22 08:18	04/06/22 23:24	1
OCDD	0.0049	MB	0.00012	0.000010	ug/L		04/01/22 08:18	04/06/22 23:24	1
OCDF	0.0010	MB	0.00012	0.0000021	ug/L		04/01/22 08:18	04/06/22 23:24	1
Total TCDD	0.0000016	J,DX q	0.000012	0.00000040	ug/L		04/01/22 08:18	04/06/22 23:24	1
Total TCDF	0.000011	J,DX q MB	0.000012	0.00000032	ug/L		04/01/22 08:18	04/06/22 23:24	1
Total PeCDD	0.000026	J,DX q	0.000058	0.00000086	ug/L		04/01/22 08:18	04/06/22 23:24	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: ILBMP0008_20220328
Date Collected: 03/28/22 10:10
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-3
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDF	0.000063	q MB	0.000058	0.0000091	ug/L		04/01/22 08:18	04/06/22 23:24	1
Total HxCDD	0.00038	MB	0.000058	0.0000017	ug/L		04/01/22 08:18	04/06/22 23:24	1
Total HxCDF	0.00048	MB	0.000058	0.0000023	ug/L		04/01/22 08:18	04/06/22 23:24	1
Total HpCDD	0.0053	MB	0.000058	0.000046	ug/L		04/01/22 08:18	04/06/22 23:24	1
Total HpCDF	0.0014	MB	0.000058	0.000014	ug/L		04/01/22 08:18	04/06/22 23:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-1,2,3,7,8-PeCDD	*78*		*25 - 181*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*24 - 185*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-2,3,4,7,8-PeCDF	*76*		*21 - 178*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-1,2,3,4,7,8-HxCDD	*86*		*32 - 141*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*28 - 130*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-1,2,3,4,7,8-HxCDF	*92*		*26 - 152*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-1,2,3,6,7,8-HxCDF	*86*		*26 - 123*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-1,2,3,7,8,9-HxCDF	*79*		*29 - 147*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-2,3,4,6,7,8-HxCDF	*84*		*28 - 136*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*89*		*23 - 140*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*86*		*26 - 138*	*04/01/22 08:18*	*04/06/22 23:24*	*1*
13C-OCDD	*92*		*17 - 157*	*04/01/22 08:18*	*04/06/22 23:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*82*		*35 - 197*	*04/01/22 08:18*	*04/06/22 23:24*	*1*

Client Sample ID: LXBMP0010_20220328
Date Collected: 03/28/22 09:36
Date Received: 03/28/22 17:50

Lab Sample ID: 570-89952-4
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.00000064	J,DX q	0.000010	0.00000039	ug/L		04/01/22 08:18	04/07/22 00:10	1
1,2,3,7,8-PeCDD	0.0000012	J,DX	0.000052	0.00000060	ug/L		04/01/22 08:18	04/07/22 00:10	1
1,2,3,7,8-PeCDF	0.0000022	J,DX MB	0.000052	0.00000050	ug/L		04/01/22 08:18	04/07/22 00:10	1
2,3,4,7,8-PeCDF	0.0000011	J,DX	0.000052	0.00000054	ug/L		04/01/22 08:18	04/07/22 00:10	1
1,2,3,4,7,8-HxCDD	0.0000028	J,DX q MB	0.000052	0.00000045	ug/L		04/01/22 08:18	04/07/22 00:10	1
1,2,3,6,7,8-HxCDD	0.0000022	J,DX q MB	0.000052	0.00000044	ug/L		04/01/22 08:18	04/07/22 00:10	1
1,2,3,7,8,9-HxCDD	0.0000021	J,DX	0.000052	0.00000036	ug/L		04/01/22 08:18	04/07/22 00:10	1
1,2,3,4,7,8-HxCDF	0.0000022	J,DX	0.000052	0.00000047	ug/L		04/01/22 08:18	04/07/22 00:10	1
1,2,3,6,7,8-HxCDF	0.0000015	J,DX	0.000052	0.00000044	ug/L		04/01/22 08:18	04/07/22 00:10	1
1,2,3,7,8,9-HxCDF	0.0000055	J,DX MB	0.000052	0.00000038	ug/L		04/01/22 08:18	04/07/22 00:10	1
2,3,4,6,7,8-HxCDF	0.00000086	J,DX q	0.000052	0.00000036	ug/L		04/01/22 08:18	04/07/22 00:10	1
1,2,3,4,6,7,8-HpCDD	0.000042	J,DX MB	0.000052	0.0000013	ug/L		04/01/22 08:18	04/07/22 00:10	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: LXBMP0010_20220328
Lab Sample ID: 570-89952-4
Date Collected: 03/28/22 09:36
Matrix: Water
Date Received: 03/28/22 17:50

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDF	0.000020	J,DX MB	0.000052	0.00000084	ug/L		04/01/22 08:18	04/07/22 00:10	1
1,2,3,4,7,8,9-HpCDF	0.0000020	J,DX MB	0.000052	0.0000011	ug/L		04/01/22 08:18	04/07/22 00:10	1
OCDD	0.00031	MB	0.00010	0.0000013	ug/L		04/01/22 08:18	04/07/22 00:10	1
OCDF	0.000057	J,DX MB	0.00010	0.00000064	ug/L		04/01/22 08:18	04/07/22 00:10	1
Total TCDD	0.00000064	J,DX q	0.000010	0.00000039	ug/L		04/01/22 08:18	04/07/22 00:10	1
Total TCDF	0.0000028	J,DX q MB	0.000010	0.00000023	ug/L		04/01/22 08:18	04/07/22 00:10	1
Total PeCDD	0.0000027	J,DX q	0.000052	0.00000060	ug/L		04/01/22 08:18	04/07/22 00:10	1
Total PeCDF	0.0000086	J,DX q MB	0.000052	0.00000052	ug/L		04/01/22 08:18	04/07/22 00:10	1
Total HxCDD	0.000016	J,DX q MB	0.000052	0.00000042	ug/L		04/01/22 08:18	04/07/22 00:10	1
Total HxCDF	0.000024	J,DX q MB	0.000052	0.00000041	ug/L		04/01/22 08:18	04/07/22 00:10	1
Total HpCDD	0.000085	MB	0.000052	0.0000013	ug/L		04/01/22 08:18	04/07/22 00:10	1
Total HpCDF	0.000051	J,DX MB	0.000052	0.00000099	ug/L		04/01/22 08:18	04/07/22 00:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*25 - 181*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*24 - 185*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-2,3,4,7,8-PeCDF	*76*		*21 - 178*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-1,2,3,4,7,8-HxCDD	*84*		*32 - 141*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-1,2,3,6,7,8-HxCDD	*87*		*28 - 130*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-1,2,3,4,7,8-HxCDF	*94*		*26 - 152*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-1,2,3,6,7,8-HxCDF	*88*		*26 - 123*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-1,2,3,7,8,9-HxCDF	*82*		*29 - 147*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-2,3,4,6,7,8-HxCDF	*86*		*28 - 136*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*90*		*23 - 140*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*87*		*26 - 138*	*04/01/22 08:18*	*04/07/22 00:10*	*1*
13C-OCDD	*90*		*17 - 157*	*04/01/22 08:18*	*04/07/22 00:10*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*80*		*35 - 197*	*04/01/22 08:18*	*04/07/22 00:10*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: ILBMP0004_20220328
Lab Sample ID: 570-89952-1
Date Collected: 03/28/22 10:20
Matrix: Water
Date Received: 03/28/22 17:50

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.00000063	ug/L		04/01/22 08:18	04/18/22 12:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*73*		*24 - 169*	*04/01/22 08:18*	*04/18/22 12:21*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*90*		*35 - 197*	*04/01/22 08:18*	*04/18/22 12:21*	*1*

Client Sample ID: ILBMP0005_20220328
Lab Sample ID: 570-89952-2
Date Collected: 03/28/22 10:30
Matrix: Water
Date Received: 03/28/22 17:50

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.00000067**	**J,DX MB**	0.000010	0.00000056	ug/L		04/01/22 08:18	04/18/22 12:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*74*		*24 - 169*	*04/01/22 08:18*	*04/18/22 12:59*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*93*		*35 - 197*	*04/01/22 08:18*	*04/18/22 12:59*	*1*

Client Sample ID: ILBMP0008_20220328
Lab Sample ID: 570-89952-3
Date Collected: 03/28/22 10:10
Matrix: Water
Date Received: 03/28/22 17:50

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.0000011**	**J,DX MB**	0.000012	0.00000072	ug/L		04/01/22 08:18	04/18/22 13:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*76*		*24 - 169*	*04/01/22 08:18*	*04/18/22 13:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*93*		*35 - 197*	*04/01/22 08:18*	*04/18/22 13:38*	*1*

Client Sample ID: LXBMP0010_20220328
Lab Sample ID: 570-89952-4
Date Collected: 03/28/22 09:36
Matrix: Water
Date Received: 03/28/22 17:50

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.00000078	ug/L		04/01/22 08:18	04/18/22 14:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*76*		*24 - 169*	*04/01/22 08:18*	*04/18/22 14:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*86*		*35 - 197*	*04/01/22 08:18*	*04/18/22 14:16*	*1*

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		37TCDD
Lab Sample ID	Client Sample ID	(35-197)
570-89952-1	ILBMP0004_20220328	83
570-89952-1 - RA	ILBMP0004_20220328	90
570-89952-2	ILBMP0005_20220328	82
570-89952-2 - RA	ILBMP0005_20220328	93
570-89952-3	ILBMP0008_20220328	82
570-89952-3 - RA	ILBMP0008_20220328	93
570-89952-4	LXBMP0010_20220328	80
570-89952-4 - RA	LXBMP0010_20220328	86
MB 320-577112/1-A	Method Blank	84
MB 320-577112/1-A - RA	Method Blank	90

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		37TCDD
Lab Sample ID	Client Sample ID	(31-191)
LCS 320-577112/2-A	Lab Control Sample	83
LCSD 320-577112/3-A	Lab Control Sample Dup	81

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
570-89952-1	ILBMP0004_20220328	71	65	75	71	72	84	77	87
570-89952-1 - RA	ILBMP0004_20220328		73						
570-89952-2	ILBMP0005_20220328	72	66	76	73	73	81	80	87
570-89952-2 - RA	ILBMP0005_20220328		74						
570-89952-3	ILBMP0008_20220328	75	70	78	76	76	86	83	92
570-89952-3 - RA	ILBMP0008_20220328		76						
570-89952-4	LXBMP0010_20220328	75	70	79	76	76	84	87	94
570-89952-4 - RA	LXBMP0010_20220328		76						
MB 320-577112/1-A	Method Blank	72	65	77	72	72	81	79	85
MB 320-577112/1-A - RA	Method Blank		71						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
570-89952-1	ILBMP0004_20220328	80	73	79	82	75	79	86
570-89952-1 - RA	ILBMP0004_20220328							
570-89952-2	ILBMP0005_20220328	81	75	80	83	73	79	83
570-89952-2 - RA	ILBMP0005_20220328							
570-89952-3	ILBMP0008_20220328	86	79	84	89	80	86	92
570-89952-3 - RA	ILBMP0008_20220328							
570-89952-4	LXBMP0010_20220328	88	82	86	90	80	87	90
570-89952-4 - RA	LXBMP0010_20220328							
MB 320-577112/1-A	Method Blank	82	73	79	82	74	75	83
MB 320-577112/1-A - RA	Method Blank							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-577112/2-A	Lab Control Sample	71	65	77	72	72	81	77	83
LCSD 320-577112/3-A	Lab Control Sample Dup	66	60	71	66	67	73	73	78

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-577112/2-A	Lab Control Sample	79	73	79	81	74	77	82
LCSD 320-577112/3-A	Lab Control Sample Dup	73	68	73	74	67	71	74

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-577112/1-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 577112

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000057	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000066	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8-PeCDF	0.00000146	J,DX	0.000050	0.00000045	ug/L		04/01/22 08:18	04/06/22 18:02	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000050	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,7,8-HxCDD	0.00000196	J,DX q	0.000050	0.00000048	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,6,7,8-HxCDD	0.000000607	J,DX q	0.000050	0.00000046	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000039	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000054	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000049	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,7,8,9-HxCDF	0.00000365	J,DX	0.000050	0.00000045	ug/L		04/01/22 08:18	04/06/22 18:02	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000041	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,6,7,8-HpCDD	0.00000186	J,DX	0.000050	0.00000037	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,6,7,8-HpCDF	0.00000144	J,DX	0.000050	0.00000029	ug/L		04/01/22 08:18	04/06/22 18:02	1
1,2,3,4,7,8,9-HpCDF	0.000000994	J,DX q	0.000050	0.00000042	ug/L		04/01/22 08:18	04/06/22 18:02	1
OCDD	0.00000849	J,DX q	0.00010	0.00000078	ug/L		04/01/22 08:18	04/06/22 18:02	1
OCDF	0.00000239	J,DX q	0.00010	0.00000061	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total TCDD	ND		0.000010	0.00000057	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total TCDF	0.000000938	J,DX q	0.000010	0.00000031	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total PeCDD	ND		0.000050	0.00000066	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total PeCDF	0.00000146	J,DX	0.000050	0.00000048	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HxCDD	0.00000256	J,DX q	0.000050	0.00000044	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HxCDF	0.00000365	J,DX	0.000050	0.00000047	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HpCDD	0.00000435	J,DX	0.000050	0.00000037	ug/L		04/01/22 08:18	04/06/22 18:02	1
Total HpCDF	0.00000243	J,DX q	0.000050	0.00000035	ug/L		04/01/22 08:18	04/06/22 18:02	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*72*		*25 - 164*	*04/01/22 08:18*	*04/06/22 18:02*	*1*
13C-2,3,7,8-TCDF	*65*		*24 - 169*	*04/01/22 08:18*	*04/06/22 18:02*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*25 - 181*	*04/01/22 08:18*	*04/06/22 18:02*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*04/01/22 08:18*	*04/06/22 18:02*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-577112/1-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 577112

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	72		21 - 178	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,7,8-HxCDD	81		32 - 141	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,6,7,8-HxCDD	79		28 - 130	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,7,8-HxCDF	85		26 - 152	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,6,7,8-HxCDF	82		26 - 123	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,7,8,9-HxCDF	73		29 - 147	04/01/22 08:18	04/06/22 18:02	1
13C-2,3,4,6,7,8-HxCDF	79		28 - 136	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,6,7,8-HpCDD	82		23 - 140	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,6,7,8-HpCDF	74		28 - 143	04/01/22 08:18	04/06/22 18:02	1
13C-1,2,3,4,7,8,9-HpCDF	75		26 - 138	04/01/22 08:18	04/06/22 18:02	1
13C-OCDD	83		17 - 157	04/01/22 08:18	04/06/22 18:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	84		35 - 197	04/01/22 08:18	04/06/22 18:02	1

Lab Sample ID: LCS 320-577112/2-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 577112

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2,3,7,8-TCDD			0.000200	0.000186		ug/L		93	67 - 158		
2,3,7,8-TCDF			0.000200	0.000194	MB	ug/L		97	75 - 158		
1,2,3,7,8-PeCDD			0.00100	0.000913		ug/L		91	70 - 142		
1,2,3,7,8-PeCDF			0.00100	0.000911	MB	ug/L		91	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000914		ug/L		91	68 - 160		
1,2,3,4,7,8-HxCDD			0.00100	0.000874	MB	ug/L		87	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000935		ug/L		94	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000847		ug/L		85	64 - 162		
1,2,3,4,7,8-HxCDF			0.00100	0.000917		ug/L		92	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.000895		ug/L		90	84 - 130		
1,2,3,7,8,9-HxCDF			0.00100	0.000913	MB	ug/L		91	78 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000911		ug/L		91	70 - 156		
1,2,3,4,6,7,8-HpCDD			0.00100	0.000885	MB	ug/L		88	70 - 140		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000889	MB	ug/L		89	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000882	MB	ug/L		88	78 - 138		
OCDD			0.00200	0.00180	MB	ug/L		90	78 - 144		
OCDF			0.00200	0.00169	MB	ug/L		84	63 - 170		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	65		22 - 152
13C-1,2,3,7,8-PeCDD	77		21 - 227
13C-1,2,3,7,8-PeCDF	72		21 - 192
13C-2,3,4,7,8-PeCDF	72		13 - 328
13C-1,2,3,4,7,8-HxCDD	81		21 - 193
13C-1,2,3,6,7,8-HxCDD	77		25 - 163
13C-1,2,3,4,7,8-HxCDF	83		19 - 202
13C-1,2,3,6,7,8-HxCDF	79		21 - 159

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-577112/2-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 577112

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,7,8,9-HxCDF	73		17 - 205
13C-2,3,4,6,7,8-HxCDF	79		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	81		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	74		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	77		20 - 186
13C-OCDD	82		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	83		31 - 191

Lab Sample ID: LCSD 320-577112/3-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 577112

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD			0.000200	0.000185		ug/L		93	67 - 158	1	50
2,3,7,8-TCDF			0.000200	0.000194	MB	ug/L		97	75 - 158	0	50
1,2,3,7,8-PeCDD			0.00100	0.000913		ug/L		91	70 - 142	0	50
1,2,3,7,8-PeCDF			0.00100	0.000922	MB	ug/L		92	80 - 134	1	50
2,3,4,7,8-PeCDF			0.00100	0.000922		ug/L		92	68 - 160	1	50
1,2,3,4,7,8-HxCDD			0.00100	0.000893	MB	ug/L		89	70 - 164	2	50
1,2,3,6,7,8-HxCDD			0.00100	0.000947		ug/L		95	76 - 134	1	50
1,2,3,7,8,9-HxCDD			0.00100	0.000851		ug/L		85	64 - 162	0	50
1,2,3,4,7,8-HxCDF			0.00100	0.000918		ug/L		92	72 - 134	0	50
1,2,3,6,7,8-HxCDF			0.00100	0.000923		ug/L		92	84 - 130	3	50
1,2,3,7,8,9-HxCDF			0.00100	0.000922	MB	ug/L		92	78 - 130	1	50
2,3,4,6,7,8-HxCDF			0.00100	0.000923		ug/L		92	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD			0.00100	0.000904	MB	ug/L		90	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF			0.00100	0.000917	MB	ug/L		92	82 - 122	3	50
1,2,3,4,7,8,9-HpCDF			0.00100	0.000902	MB	ug/L		90	78 - 138	2	50
OCDD			0.00200	0.00181	MB	ug/L		90	78 - 144	1	50
OCDF			0.00200	0.00170	MB	ug/L		85	63 - 170	1	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	66		20 - 175
13C-2,3,7,8-TCDF	60		22 - 152
13C-1,2,3,7,8-PeCDD	71		21 - 227
13C-1,2,3,7,8-PeCDF	66		21 - 192
13C-2,3,4,7,8-PeCDF	67		13 - 328
13C-1,2,3,4,7,8-HxCDD	73		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	78		19 - 202
13C-1,2,3,6,7,8-HxCDF	73		21 - 159
13C-1,2,3,7,8,9-HxCDF	68		17 - 205
13C-2,3,4,6,7,8-HxCDF	73		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	74		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	71		20 - 186

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-577112/3-A
Matrix: Water
Analysis Batch: 578339

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 577112

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-OCDD	74		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	81		31 - 191

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: MB 320-577112/1-A
Matrix: Water
Analysis Batch: 580944

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 577112

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF - RA	0.000000774	J,DX	0.000010	0.00000037	ug/L		04/01/22 08:18	04/18/22 10:26	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF - RA	71		24 - 169	04/01/22 08:18	04/18/22 10:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD - RA	90		35 - 197	04/01/22 08:18	04/18/22 10:26	1

Specialty Organics

Prep Batch: 577112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1 - RA	ILBMP0004_20220328	Total/NA	Water	1613B	
570-89952-1	ILBMP0004_20220328	Total/NA	Water	1613B	
570-89952-2 - RA	ILBMP0005_20220328	Total/NA	Water	1613B	
570-89952-2	ILBMP0005_20220328	Total/NA	Water	1613B	
570-89952-3 - RA	ILBMP0008_20220328	Total/NA	Water	1613B	
570-89952-3	ILBMP0008_20220328	Total/NA	Water	1613B	
570-89952-4 - RA	LXBMP0010_20220328	Total/NA	Water	1613B	
570-89952-4	LXBMP0010_20220328	Total/NA	Water	1613B	
MB 320-577112/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-577112/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-577112/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-577112/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 578339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1	ILBMP0004_20220328	Total/NA	Water	1613B	577112
570-89952-2	ILBMP0005_20220328	Total/NA	Water	1613B	577112
570-89952-3	ILBMP0008_20220328	Total/NA	Water	1613B	577112
570-89952-4	LXBMP0010_20220328	Total/NA	Water	1613B	577112
MB 320-577112/1-A	Method Blank	Total/NA	Water	1613B	577112
LCS 320-577112/2-A	Lab Control Sample	Total/NA	Water	1613B	577112
LCSD 320-577112/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	577112

Analysis Batch: 580944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-89952-1 - RA	ILBMP0004_20220328	Total/NA	Water	1613B	577112
570-89952-2 - RA	ILBMP0005_20220328	Total/NA	Water	1613B	577112
570-89952-3 - RA	ILBMP0008_20220328	Total/NA	Water	1613B	577112
570-89952-4 - RA	LXBMP0010_20220328	Total/NA	Water	1613B	577112
MB 320-577112/1-A - RA	Method Blank	Total/NA	Water	1613B	577112

Lab Chronicle

Client: Haley & Aldrich, Inc.
Job ID: 570-89952-2
Project/Site: Boeing SSFL ISRA and BMP

Client Sample ID: ILBMP0004_20220328
Lab Sample ID: 570-89952-1
Date Collected: 03/28/22 10:20
Matrix: Water
Date Received: 03/28/22 17:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		953.6 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			580944	04/18/22 12:21	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			953.6 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B		1			578339	04/06/22 21:52	KSS	TAL SAC
	Instrument ID: 12D5									

Client Sample ID: ILBMP0005_20220328
Lab Sample ID: 570-89952-2
Date Collected: 03/28/22 10:30
Matrix: Water
Date Received: 03/28/22 17:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		969.2 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			580944	04/18/22 12:59	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			969.2 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B		1			578339	04/06/22 22:38	KSS	TAL SAC
	Instrument ID: 12D5									

Client Sample ID: ILBMP0008_20220328
Lab Sample ID: 570-89952-3
Date Collected: 03/28/22 10:10
Matrix: Water
Date Received: 03/28/22 17:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		868.9 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			580944	04/18/22 13:38	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			868.9 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B		1			578339	04/06/22 23:24	KSS	TAL SAC
	Instrument ID: 12D5									

Client Sample ID: LXBMP0010_20220328
Lab Sample ID: 570-89952-4
Date Collected: 03/28/22 09:36
Matrix: Water
Date Received: 03/28/22 17:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		952.8 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B	RA	1			580944	04/18/22 14:16	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	1613B			952.8 mL	20.0 uL	577112	04/01/22 08:18	CB	TAL SAC
Total/NA	Analysis	1613B		1			578339	04/07/22 00:10	KSS	TAL SAC
	Instrument ID: 12D5									

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Job ID: 570-89952-2
Project/Site: Boeing SSFL ISRA and BMP

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-23
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-30-23
Hawaii	State	<cert No.>	01-29-23
Illinois	NELAP	200060	03-17-23
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-02-23
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-23
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	01-23-23
Utah	NELAP	CA000442021-12	03-01-22 *
Virginia	NELAP	460278	03-14-23
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL ISRA and BMP

Job ID: 570-89952-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-89952-1	ILBMP0004_20220328	Water	03/28/22 10:20	03/28/22 17:50
570-89952-2	ILBMP0005_20220328	Water	03/28/22 10:30	03/28/22 17:50
570-89952-3	ILBMP0008_20220328	Water	03/28/22 10:10	03/28/22 17:50
570-89952-4	LXBMP0010_20220328	Water	03/28/22 09:36	03/28/22 17:50

89952

Chain of Custody Record for
Haley & Aldrich, Inc. Blanket Service Agreement #2019-22-TestAmerica

eurofins

7440 Lincoln Way
Garden Grove, CA 92841
phone 714 895 5494 fax 714 894 7501

Regulatory Program: ▫ DW ▫ NPDES ▫ RCRA ▫ Other

Eurofins Calscience, Inc.

esAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-estAmerica b and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories, Inc.

Client Contact	H&A Project Manager: Katherine Miller	H&A Site Contact: Matt Birney (818) 466-8782	Date: 3/28/2022	COC No:
Haley & Aldrich, Inc.	Tel/Fax: (520) 289-8606	Lab Contact: Virendra Patel (714) 895-5494	Carrier:	____ of ____ COCs
5333 Mission Center Road, Suite 300	Analysis Turnaround Time			Sampler:
San Diego, California 92108	■ CALENDAR DAYS ▫ WORKING DAYS			For Lab Use Only:
(619) 280-9210 Phone	TAT if different from Below ____			Walk-in Client:
(619) 280-9415 FAX	■ 2 weeks			Lab Sampling:
H&A Project Number 129095-006-001-06	▫ 1 week			
Site: BMP Performance OF 001 002, 009 and/or 011 Watersheds	▫ 2 days			Job / SDG No.
H&A P O #	▫ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filter Sample (Y/N)	Perform MS / MSD (Y/N)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Recoverable)	Method 200.8: Cd, Cu, Pb Method 245.1 Hg (Total Dissolved)	Dioxins (Method 1613)	Total Suspended Solids (Method 2540D)	Particle Size Distribution (Method ASTM D422)								Sample Specific Notes:
								1-250mL Poly	1-250mL Poly	2-1L Amber	1-1L Poly	1 1L Poly								Field Staff Notes: Lab may substitute 250mL Poly for 500mL for metals. Only need to fill half of 500mL. Must fill TSS to the top.
ILBMP0004_20220328	3/28/22	1020	G	WM	6	Y	N	X	X	X	X	X								
ILBMP0005_20220328	3/28/22	1030	G	WM	6	Y	N	X	X	X	X	X								
ILBMP0008_20220328	3/28/22	1010	G	WM	6	Y	N	X	X	X	X	X								
LXBMP0010_20220328	3/28/22	0936	G	WM	6	Y	N	X	X	X	X	X								
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other ____								4	4	1	1	1								

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
▫ Non-Hazard ▫ Flammable ▫ Skin Irritant ▫ Poison B ▫ Unknown

Sample Disposal
▫ Return to Client ▫ Disposal by Lab ■ Archive for 6 Months

Special Instructions/QC Requirements & Comments: ECI #44009815
Please email data to kmiller@haleyaldrich.com and post to Total Access Bill to Haley & Aldrich at AP@haleyaldrich.com Report Level II Data Package and provide EDD All dissolved samples are to be filtered within 24 hours of receipt, even those placed on hold

Custody Seals Intact: ▫ Yes ▫ No | Custody Seal No. | Cooler Temp (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

	Company	Date/Time		Company	Date/Time
Relinquished by: M Birney	JHH	03/28/22 1400	Received by: EC	EC	03/28/22 1353
Relinquished by:	EC	3/28/22 1750	Received by: Olga Omelas	ECI	03/28/22 1750
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:		Date/Time:

Form No. CA-C-WI-045, Rev 1.2, dated 1/8/2016

36121, 39124 SC6

570-89952 Chain of Custody

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4/18/2022

SAP COC 2019/2020 VERSION 3

Eurofins Calscience
2841 Dow Avenue Suite 100
Tustin CA 92780
Phone. 714-895-5494

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM. Patel Virendra	Carrier Tracking No(s):	COC No 570-163461 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-89952-2
Address: 880 Riverside Parkway, ,	Due Date Requested 4/13/2022			
City: West Sacramento	TAT Requested (days)			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0004_20220328 (570-89952-1)	3/28/22	10:20 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0005_20220328 (570-89952-2)	3/28/22	10 30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0008_20220328 (570-89952-3)	3/28/22	10 10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
LXBMP0010_20220328 (570-89952-4)	3/28/22	09 36 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time.	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	3/30/22 1530				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

4/18/2022

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-163461.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-89952-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 4/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0004_20220328 (570-89952-1)	3/28/22	10:20 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0005_20220328 (570-89952-2)	3/28/22	10:30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0008_20220328 (570-89952-3)	3/28/22	10:10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
LXBMP0010_20220328 (570-89952-4)	3/28/22	09:36 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 3/30/22 1530	Company	Received by:	Date/Time: 3/31/22 9:10	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.9C

Ver: 06/08/2021

4/18/2022

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone: 714-895-5494

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-163461.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Virendra.Patel@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-89952-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 4/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL ISRA and BMP	Project #: 44009815			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
ILBMP0004_20220328 (570-89952-1)	3/28/22	10:20 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0005_20220328 (570-89952-2)	3/28/22	10:30 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
ILBMP0008_20220328 (570-89952-3)	3/28/22	10:10 Pacific		Water			X	2	See QAS, Boeing_w/u to zero
LXBMP0010_20220328 (570-89952-4)	3/28/22	09:36 Pacific		Water			X	2	See QAS, Boeing_w/u to zero

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		3/30/22 1530			3/31/22 9:10	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.1c

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89952-2

Login Number: 89952

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Jayesh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Improper containers received.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-89952-2

Login Number: 89952
List Number: 3
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 03/31/22 12:33 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9c 1.1c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 570-78855-1

Job Description: NASA SSFL CJ042 Stormwater

For:
Jacobs Engineering Group, Inc.
4121 Carmichael Rd #400
Montgomery, AL 36106

Attention: Mark Fesler

Approved for release.
Jimmy Jin
Project Manager I
1/13/2022 3:00 PM

Designee for
Lori Thompson, Project Manager I
7440 Lincoln Way, Garden Grove, CA, 92841
(714)895-5494
Lori.Thompson@eurofinset.com
01/13/2022

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Southwest Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Definitions/Glossary

Client: Jacobs Engineering Group, Inc. Job ID: 570-78855-1
Project/Site: NASA SSFL CJ042 Stormwater

Qualifiers

Dioxin

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Geotechnical

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

CASE NARRATIVE

Client: Jacobs Engineering Group, Inc.

Project: NASA SSFL CJ042 Stormwater

Report Number: 570-78855-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 12/14/2021 at 8:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.8ºC and 4.0ºC.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2 degrees Celsius of the required temperature or method specified range. For samples with a specified temperature of 4 degrees Celsius, samples with a temperature ranging from just above freezing temperature of water to 6 degrees Celsius shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

Dioxins and Furans (HRGC/HRMS)
Samples A2BMP0006S012 (570-78855-1), A2BMP0007S020 (570-78855-2), A2BMP0012S009 (570-78855-3), EVBMP0001S018 (570-78855-4) and EVBMP0003S031 (570-78855-5) were analyzed for Dioxins and Furans in accordance with EPA SW-846 Method 8290. The samples were prepared on 12/21/2021 and analyzed on 12/28/2021.

Several analytes were detected in method blank MB 320-552716/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DISSOLVED METALS (ICPMS)
Samples A2BMP0006S012 (570-78855-1), A2BMP0007S020 (570-78855-2), A2BMP0012S009 (570-78855-3), EVBMP0001S018 (570-78855-4) and EVBMP0003S031 (570-78855-5) were analyzed for dissolved metals (ICPMS) in accordance with EPA Method 200.8. The samples were analyzed on 12/19/2021.

The following samples were not filtered within 15 minutes of sample collection as required by the method: A2BMP0006S012 (570-78855-1), A2BMP0007S020 (570-78855-2), A2BMP0012S009 (570-78855-3), EVBMP0001S018 (570-78855-4), EVBMP0003S031 (570-78855-5), (570-78855-B-1 MS) and (570-78855-B-1 MSD). The samples were filtered prior to analysis at the laboratory, and the results have been reported.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS (ICPMS)
Samples A2BMP0006S012 (570-78855-1), A2BMP0007S020 (570-78855-2), A2BMP0012S009 (570-78855-3), EVBMP0001S018 (570-78855-4) and EVBMP0003S031 (570-78855-5) were analyzed for total recoverable metals (ICPMS) in accordance with EPA Method 200.8. The samples were prepared and analyzed on 01/04/2022.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DISSOLVED MERCURY (CVAA)
Samples A2BMP0006S012 (570-78855-1), A2BMP0007S020 (570-78855-2), A2BMP0012S009 (570-78855-3), EVBMP0001S018

(570-78855-4) and EVBMP0003S031 (570-78855-5) were analyzed for dissolved mercury (CVAA) in accordance with EPA Method 245.1. The samples were prepared on 12/16/2021 and analyzed on 12/17/2021.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY (CVAA)
Samples A2BMP0006S012 (570-78855-1), A2BMP0007S020 (570-78855-2), A2BMP0012S009 (570-78855-3), EVBMP0001S018 (570-78855-4) and EVBMP0003S031 (570-78855-5) were analyzed for total mercury (CVAA) in accordance with EPA Method 245.1. The samples were prepared and analyzed on 01/10/2022.

The following samples were not filtered within 15 minutes of sample collection as required by the method: A2BMP0006S012 (570-78855-1), A2BMP0007S020 (570-78855-2), A2BMP0012S009 (570-78855-3), EVBMP0001S018 (570-78855-4), EVBMP0003S031 (570-78855-5), (570-78855-B-2 MS) and (570-78855-B-2 MSD). The samples were filtered prior to analysis at the laboratory, and the results have been reported.

Mercury failed the recovery criteria high for the MS /MSD of sample 570-79044-1 in batch 440-664187. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL SUSPENDED SOLIDS
Samples A2BMP0006S012 (570-78855-1), A2BMP0007S020 (570-78855-2), A2BMP0012S009 (570-78855-3), EVBMP0001S018 (570-78855-4) and EVBMP0003S031 (570-78855-5) were analyzed for total suspended solids in accordance with SM20 2540D. The samples were analyzed on 12/17/2021.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PARTICLE SIZE
Samples A2BMP0006S012 (570-78855-1), A2BMP0007S020 (570-78855-2), A2BMP0012S009 (570-78855-3), EVBMP0001S018 (570-78855-4) and EVBMP0003S031 (570-78855-5) were analyzed for Particle Size in accordance with ASTM D 4464. The samples were analyzed on 01/04/2022.

Fine Sand (0.125 to 0.25mm) exceeded the RPD limit for the duplicate of sample EVBMP0003S031DU (570-78855-5). Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TURBIDITY
Samples A2BMP0012S009 (570-78855-3) and EVBMP0001S018 (570-78855-4) were analyzed for turbidity in accordance with SM 2130B. The samples were analyzed on 12/15/2021.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method D4464: The sample duplicate precision for the following sample associated with analytical batch 570-205446 was outside control limits: EVBMP0003S031 (570-78855-5) and (570-78855-C-5 DU). The associated Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) precision met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
Method 8290: Elevated reporting limits are provided for the following sample due to sample provided for preparation: A2BMP0006S012 (570-78855-1).
Nominal volume required by method is 1.0 L but due to bottle shortage, only 950ml bottles were available.

preparation batch 320-552716
method: 8290_Sep_P
matrix: water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Jacobs Engineering Group, Inc.
Job ID: 570-78855-1
Project/Site: NASA SSFL CJ042 Stormwater

Client Sample ID: A2BMP0006S012
Lab Sample ID: 570-78855-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	1.3	J B	59	0.40	pg/L	1		8290	Total/NA
1,2,3,4,7,8-HxCDD	3.9	J q B	59	0.63	pg/L	1		8290	Total/NA
1,2,3,6,7,8-HxCDD	5.1	J B	59	0.63	pg/L	1		8290	Total/NA
1,2,3,7,8,9-HxCDD	5.0	J B	59	0.58	pg/L	1		8290	Total/NA
1,2,3,4,7,8-HxCDF	1.2	J B	59	0.43	pg/L	1		8290	Total/NA
1,2,3,6,7,8-HxCDF	1.1	J q B	59	0.43	pg/L	1		8290	Total/NA
2,3,4,6,7,8-HxCDF	0.99	J B	59	0.46	pg/L	1		8290	Total/NA
1,2,3,7,8,9-HxCDF	1.6	J B	59	0.48	pg/L	1		8290	Total/NA
1,2,3,4,6,7,8-HpCDD	93	B	59	1.1	pg/L	1		8290	Total/NA
1,2,3,4,6,7,8-HpCDF	17	J B	59	0.57	pg/L	1		8290	Total/NA
1,2,3,4,7,8,9-HpCDF	1.9	J B	59	0.64	pg/L	1		8290	Total/NA
OCDD	880	B	120	1.7	pg/L	1		8290	Total/NA
OCDF	47	J B	120	0.78	pg/L	1		8290	Total/NA
Copper	3.83		1.00	0.610	ug/L	1		200.8	Total Recoverable
Lead	2.08		1.00	0.190	ug/L	1		200.8	Total Recoverable
Copper	1.34	H	1.00	0.610	ug/L	1		200.8	Dissolved
Lead	0.247	J H	1.00	0.190	ug/L	1		200.8	Dissolved
Total Suspended Solids	16.5		1.18	0.975	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	15.77		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	65.33		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	81.10		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	18.90		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: A2BMP0007S020
Lab Sample ID: 570-78855-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	2.4	J	49	0.77	pg/L	1		8290	Total/NA
1,2,3,7,8-PeCDF	0.92	J q B	49	0.35	pg/L	1		8290	Total/NA
1,2,3,4,7,8-HxCDD	4.4	J B	49	0.49	pg/L	1		8290	Total/NA
1,2,3,6,7,8-HxCDD	5.4	J B	49	0.49	pg/L	1		8290	Total/NA
1,2,3,7,8,9-HxCDD	5.8	J B	49	0.45	pg/L	1		8290	Total/NA
1,2,3,4,7,8-HxCDF	0.92	J q B	49	0.38	pg/L	1		8290	Total/NA
1,2,3,6,7,8-HxCDF	1.1	J B	49	0.38	pg/L	1		8290	Total/NA
2,3,4,6,7,8-HxCDF	0.88	J B	49	0.40	pg/L	1		8290	Total/NA
1,2,3,7,8,9-HxCDF	1.3	J B	49	0.43	pg/L	1		8290	Total/NA
1,2,3,4,6,7,8-HpCDD	110	B	49	1.1	pg/L	1		8290	Total/NA
1,2,3,4,6,7,8-HpCDF	18	J B	49	0.62	pg/L	1		8290	Total/NA
1,2,3,4,7,8,9-HpCDF	1.7	J q B	49	0.71	pg/L	1		8290	Total/NA
OCDD	970	B	98	1.6	pg/L	1		8290	Total/NA
OCDF	48	J B	98	0.54	pg/L	1		8290	Total/NA
Copper	4.35		1.00	0.610	ug/L	1		200.8	Total Recoverable
Lead	2.03		1.00	0.190	ug/L	1		200.8	Total Recoverable
Copper	1.40	H	1.00	0.610	ug/L	1		200.8	Dissolved
Lead	0.308	J H	1.00	0.190	ug/L	1		200.8	Dissolved
Total Suspended Solids	21.7		1.43	1.18	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	13.76		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	72.92		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	86.68		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: A2BMP0007S020 (Continued) Lab Sample ID: 570-78855-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Very Fine Sand (0.0625 to 0.125 mm)	13.32		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: A2BMP0012S009 Lab Sample ID: 570-78855-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.68	J q B	48	0.38	pg/L	1		8290	Total/NA
1,2,3,4,7,8-HxCDD	4.8	J B	48	0.48	pg/L	1		8290	Total/NA
1,2,3,6,7,8-HxCDD	9.8	J B	48	0.48	pg/L	1		8290	Total/NA
1,2,3,7,8,9-HxCDD	6.1	J B	48	0.44	pg/L	1		8290	Total/NA
1,2,3,4,7,8-HxCDF	1.7	J B	48	0.41	pg/L	1		8290	Total/NA
1,2,3,6,7,8-HxCDF	1.8	J B	48	0.40	pg/L	1		8290	Total/NA
2,3,4,6,7,8-HxCDF	1.4	J q B	48	0.43	pg/L	1		8290	Total/NA
1,2,3,7,8,9-HxCDF	1.2	J B	48	0.46	pg/L	1		8290	Total/NA
1,2,3,4,6,7,8-HpCDD	190	B	48	1.5	pg/L	1		8290	Total/NA
1,2,3,4,6,7,8-HpCDF	37	J B	48	0.75	pg/L	1		8290	Total/NA
1,2,3,4,7,8,9-HpCDF	2.2	J B	48	0.85	pg/L	1		8290	Total/NA
OCDD	1500	B	96	2.1	pg/L	1		8290	Total/NA
OCDF	89	J B	96	0.63	pg/L	1		8290	Total/NA
Copper	2.49		1.00	0.610	ug/L	1		200.8	Total Recoverable
Lead	5.14		1.00	0.190	ug/L	1		200.8	Total Recoverable
Copper	1.47	H	1.00	0.610	ug/L	1		200.8	Dissolved
Lead	0.228	J H	1.00	0.190	ug/L	1		200.8	Dissolved
Turbidity	32		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Suspended Solids	37.1		1.25	1.04	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	5.87		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	12.44		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	68.81		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	74.68		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	12.88		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: EVBMP0001S018 Lab Sample ID: 570-78855-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.83	J q B	48	0.31	pg/L	1		8290	Total/NA
1,2,3,4,7,8-HxCDD	2.7	J B	48	0.37	pg/L	1		8290	Total/NA
1,2,3,6,7,8-HxCDD	0.74	J B	48	0.37	pg/L	1		8290	Total/NA
1,2,3,7,8,9-HxCDD	0.71	J B	48	0.34	pg/L	1		8290	Total/NA
1,2,3,7,8,9-HxCDF	1.7	J B	48	0.32	pg/L	1		8290	Total/NA
1,2,3,4,6,7,8-HpCDD	5.8	J q B	48	0.29	pg/L	1		8290	Total/NA
1,2,3,4,6,7,8-HpCDF	3.1	J B	48	0.43	pg/L	1		8290	Total/NA
OCDD	43	J B	97	0.51	pg/L	1		8290	Total/NA
OCDF	4.8	J B	97	0.51	pg/L	1		8290	Total/NA
Copper	1.94		1.00	0.610	ug/L	1		200.8	Total Recoverable
Lead	2.85		1.00	0.190	ug/L	1		200.8	Total Recoverable
Copper	1.16	H	1.00	0.610	ug/L	1		200.8	Dissolved
Turbidity	18		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Suspended Solids	11.4		1.11	0.921	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	1.74		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	72.63		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: EVBMP0001S018 (Continued) Lab Sample ID: 570-78855-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Silt and Clay (0 to 0.0626mm)	74.36		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	25.64		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: EVBMP0003S031 Lab Sample ID: 570-78855-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	4.2	J	48	0.80	pg/L	1		8290	Total/NA
1,2,3,7,8-PeCDF	1.6	J B	48	0.41	pg/L	1		8290	Total/NA
1,2,3,4,7,8-HxCDD	8.8	J B	48	0.63	pg/L	1		8290	Total/NA
1,2,3,6,7,8-HxCDD	21	J B	48	0.63	pg/L	1		8290	Total/NA
1,2,3,7,8,9-HxCDD	13	J B	48	0.58	pg/L	1		8290	Total/NA
1,2,3,4,7,8-HxCDF	4.4	J B	48	0.52	pg/L	1		8290	Total/NA
1,2,3,6,7,8-HxCDF	3.9	J B	48	0.52	pg/L	1		8290	Total/NA
2,3,4,6,7,8-HxCDF	3.4	J B	48	0.56	pg/L	1		8290	Total/NA
1,2,3,7,8,9-HxCDF	1.8	J B	48	0.59	pg/L	1		8290	Total/NA
1,2,3,4,6,7,8-HpCDD	410	B	48	2.8	pg/L	1		8290	Total/NA
1,2,3,4,6,7,8-HpCDF	83	B	48	1.0	pg/L	1		8290	Total/NA
1,2,3,4,7,8,9-HpCDF	5.0	J B	48	1.2	pg/L	1		8290	Total/NA
OCDD	3200	B	96	3.7	pg/L	1		8290	Total/NA
OCDF	210	B	96	0.68	pg/L	1		8290	Total/NA
Copper	3.09		1.00	0.610	ug/L	1		200.8	Total Recoverable
Lead	5.62		1.00	0.190	ug/L	1		200.8	Total Recoverable
Copper	1.29	H	1.00	0.610	ug/L	1		200.8	Dissolved
Lead	0.251	J H	1.00	0.190	ug/L	1		200.8	Dissolved
Total Suspended Solids	181		4.00	3.31	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	4.52		0.01	0.01	%	1		D4464	Total/NA
Fine Sand (0.125 to 0.25mm)	10.48		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	56.05		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	60.57		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	28.95		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8290 - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: A2BMP0006S012 **Lab Sample ID: 570-78855-1**
Date Collected: 12/14/21 07:49 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		12	1.3	pg/L		12/21/21 08:52	12/28/21 00:09	1
2,3,7,8-TCDF	ND		12	0.38	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,7,8-PeCDD	ND		59	0.91	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,7,8-PeCDF	**1.3**	**J B**	59	0.40	pg/L		12/21/21 08:52	12/28/21 00:09	1
2,3,4,7,8-PeCDF	ND		59	0.41	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,4,7,8-HxCDD	**3.9**	**J q B**	59	0.63	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,6,7,8-HxCDD	**5.1**	**J B**	59	0.63	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,7,8,9-HxCDD	**5.0**	**J B**	59	0.58	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,4,7,8-HxCDF	**1.2**	**J B**	59	0.43	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,6,7,8-HxCDF	**1.1**	**J q B**	59	0.43	pg/L		12/21/21 08:52	12/28/21 00:09	1
2,3,4,6,7,8-HxCDF	**0.99**	**J B**	59	0.46	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,7,8,9-HxCDF	**1.6**	**J B**	59	0.48	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,4,6,7,8-HpCDD	**93**	**B**	59	1.1	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,4,6,7,8-HpCDF	**17**	**J B**	59	0.57	pg/L		12/21/21 08:52	12/28/21 00:09	1
1,2,3,4,7,8,9-HpCDF	**1.9**	**J B**	59	0.64	pg/L		12/21/21 08:52	12/28/21 00:09	1
OCDD	**880**	**B**	120	1.7	pg/L		12/21/21 08:52	12/28/21 00:09	1
OCDF	**47**	**J B**	120	0.78	pg/L		12/21/21 08:52	12/28/21 00:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*91*		*40 - 135*	*12/21/21 08:52*	*12/28/21 00:09*	*1*
13C-2,3,7,8-TCDF	*93*		*40 - 135*	*12/21/21 08:52*	*12/28/21 00:09*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*40 - 135*	*12/21/21 08:52*	*12/28/21 00:09*	*1*
13C-1,2,3,7,8-PeCDF	*88*		*40 - 135*	*12/21/21 08:52*	*12/28/21 00:09*	*1*
13C-1,2,3,6,7,8-HxCDD	*96*		*40 - 135*	*12/21/21 08:52*	*12/28/21 00:09*	*1*
13C-1,2,3,4,7,8-HxCDF	*87*		*40 - 135*	*12/21/21 08:52*	*12/28/21 00:09*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*93*		*40 - 135*	*12/21/21 08:52*	*12/28/21 00:09*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*93*		*40 - 135*	*12/21/21 08:52*	*12/28/21 00:09*	*1*
13C-OCDD	*109*		*40 - 135*	*12/21/21 08:52*	*12/28/21 00:09*	*1*

Client Sample ID: A2BMP0007S020 **Lab Sample ID: 570-78855-2**
Date Collected: 12/14/21 08:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.8	0.86	pg/L		12/21/21 08:52	12/28/21 00:57	1
2,3,7,8-TCDF	ND		9.8	0.36	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,7,8-PeCDD	**2.4**	**J**	49	0.77	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,7,8-PeCDF	**0.92**	**J q B**	49	0.35	pg/L		12/21/21 08:52	12/28/21 00:57	1
2,3,4,7,8-PeCDF	ND		49	0.36	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,4,7,8-HxCDD	**4.4**	**J B**	49	0.49	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,6,7,8-HxCDD	**5.4**	**J B**	49	0.49	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,7,8,9-HxCDD	**5.8**	**J B**	49	0.45	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,4,7,8-HxCDF	**0.92**	**J q B**	49	0.38	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,6,7,8-HxCDF	**1.1**	**J B**	49	0.38	pg/L		12/21/21 08:52	12/28/21 00:57	1
2,3,4,6,7,8-HxCDF	**0.88**	**J B**	49	0.40	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,7,8,9-HxCDF	**1.3**	**J B**	49	0.43	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,4,6,7,8-HpCDD	**110**	**B**	49	1.1	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,4,6,7,8-HpCDF	**18**	**J B**	49	0.62	pg/L		12/21/21 08:52	12/28/21 00:57	1
1,2,3,4,7,8,9-HpCDF	**1.7**	**J q B**	49	0.71	pg/L		12/21/21 08:52	12/28/21 00:57	1
OCDD	**970**	**B**	98	1.6	pg/L		12/21/21 08:52	12/28/21 00:57	1
OCDF	**48**	**J B**	98	0.54	pg/L		12/21/21 08:52	12/28/21 00:57	1

Method: 8290 - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	84		40 - 135	12/21/21 08:52	12/28/21 00:57	1
13C-2,3,7,8-TCDF	86		40 - 135	12/21/21 08:52	12/28/21 00:57	1
13C-1,2,3,7,8-PeCDD	77		40 - 135	12/21/21 08:52	12/28/21 00:57	1
13C-1,2,3,7,8-PeCDF	82		40 - 135	12/21/21 08:52	12/28/21 00:57	1
13C-1,2,3,6,7,8-HxCDD	91		40 - 135	12/21/21 08:52	12/28/21 00:57	1
13C-1,2,3,4,7,8-HxCDF	82		40 - 135	12/21/21 08:52	12/28/21 00:57	1
13C-1,2,3,4,6,7,8-HpCDD	86		40 - 135	12/21/21 08:52	12/28/21 00:57	1
13C-1,2,3,4,6,7,8-HpCDF	86		40 - 135	12/21/21 08:52	12/28/21 00:57	1
13C-OCDD	102		40 - 135	12/21/21 08:52	12/28/21 00:57	1

Client Sample ID: A2BMP0012S009 **Lab Sample ID: 570-78855-3**
Date Collected: 12/14/21 08:15 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.94	pg/L		12/21/21 08:52	12/28/21 01:45	1
2,3,7,8-TCDF	ND		9.6	0.31	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,7,8-PeCDD	ND		48	0.70	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,7,8-PeCDF	**0.68**	**J q B**	48	0.38	pg/L		12/21/21 08:52	12/28/21 01:45	1
2,3,4,7,8-PeCDF	ND		48	0.40	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,4,7,8-HxCDD	**4.8**	**J B**	48	0.48	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,6,7,8-HxCDD	**9.8**	**J B**	48	0.48	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,7,8,9-HxCDD	**6.1**	**J B**	48	0.44	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,4,7,8-HxCDF	**1.7**	**J B**	48	0.41	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,6,7,8-HxCDF	**1.8**	**J B**	48	0.40	pg/L		12/21/21 08:52	12/28/21 01:45	1
2,3,4,6,7,8-HxCDF	**1.4**	**J q B**	48	0.43	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,7,8,9-HxCDF	**1.2**	**J B**	48	0.46	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,4,6,7,8-HpCDD	**190**	**B**	48	1.5	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,4,6,7,8-HpCDF	**37**	**J B**	48	0.75	pg/L		12/21/21 08:52	12/28/21 01:45	1
1,2,3,4,7,8,9-HpCDF	**2.2**	**J B**	48	0.85	pg/L		12/21/21 08:52	12/28/21 01:45	1
OCDD	**1500**	**B**	96	2.1	pg/L		12/21/21 08:52	12/28/21 01:45	1
OCDF	**89**	**J B**	96	0.63	pg/L		12/21/21 08:52	12/28/21 01:45	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	86		40 - 135	12/21/21 08:52	12/28/21 01:45	1
13C-2,3,7,8-TCDF	89		40 - 135	12/21/21 08:52	12/28/21 01:45	1
13C-1,2,3,7,8-PeCDD	80		40 - 135	12/21/21 08:52	12/28/21 01:45	1
13C-1,2,3,7,8-PeCDF	84		40 - 135	12/21/21 08:52	12/28/21 01:45	1
13C-1,2,3,6,7,8-HxCDD	92		40 - 135	12/21/21 08:52	12/28/21 01:45	1
13C-1,2,3,4,7,8-HxCDF	85		40 - 135	12/21/21 08:52	12/28/21 01:45	1
13C-1,2,3,4,6,7,8-HpCDD	89		40 - 135	12/21/21 08:52	12/28/21 01:45	1
13C-1,2,3,4,6,7,8-HpCDF	90		40 - 135	12/21/21 08:52	12/28/21 01:45	1
13C-OCDD	108		40 - 135	12/21/21 08:52	12/28/21 01:45	1

Client Sample ID: EVBMP0001S018 **Lab Sample ID: 570-78855-4**
Date Collected: 12/14/21 07:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.7	0.89	pg/L		12/21/21 08:52	12/28/21 02:33	1
2,3,7,8-TCDF	ND		9.7	0.32	pg/L		12/21/21 08:52	12/28/21 02:33	1
1,2,3,7,8-PeCDD	ND		48	0.66	pg/L		12/21/21 08:52	12/28/21 02:33	1
1,2,3,7,8-PeCDF	**0.83**	**J q B**	48	0.31	pg/L		12/21/21 08:52	12/28/21 02:33	1
2,3,4,7,8-PeCDF	ND		48	0.32	pg/L		12/21/21 08:52	12/28/21 02:33	1
1,2,3,4,7,8-HxCDD	**2.7**	**J B**	48	0.37	pg/L		12/21/21 08:52	12/28/21 02:33	1
1,2,3,6,7,8-HxCDD	**0.74**	**J B**	48	0.37	pg/L		12/21/21 08:52	12/28/21 02:33	1

Method: 8290 - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EVBMP0001S018 **Lab Sample ID: 570-78855-4**
Date Collected: 12/14/21 07:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8,9-HxCDD	**0.71**	**J B**	48	0.34	pg/L		12/21/21 08:52	12/28/21 02:33	1
1,2,3,4,7,8-HxCDF	ND		48	0.29	pg/L		12/21/21 08:52	12/28/21 02:33	1
1,2,3,6,7,8-HxCDF	ND		48	0.29	pg/L		12/21/21 08:52	12/28/21 02:33	1
2,3,4,6,7,8-HxCDF	ND		48	0.31	pg/L		12/21/21 08:52	12/28/21 02:33	1
1,2,3,7,8,9-HxCDF	**1.7**	**J B**	48	0.32	pg/L		12/21/21 08:52	12/28/21 02:33	1
1,2,3,4,6,7,8-HpCDD	**5.8**	**J q B**	48	0.29	pg/L		12/21/21 08:52	12/28/21 02:33	1
1,2,3,4,6,7,8-HpCDF	**3.1**	**J B**	48	0.43	pg/L		12/21/21 08:52	12/28/21 02:33	1
1,2,3,4,7,8,9-HpCDF	ND		48	0.49	pg/L		12/21/21 08:52	12/28/21 02:33	1
OCDD	**43**	**J B**	97	0.51	pg/L		12/21/21 08:52	12/28/21 02:33	1
OCDF	**4.8**	**J B**	97	0.51	pg/L		12/21/21 08:52	12/28/21 02:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*86*		*40 - 135*	*12/21/21 08:52*	*12/28/21 02:33*	*1*
13C-2,3,7,8-TCDF	*88*		*40 - 135*	*12/21/21 08:52*	*12/28/21 02:33*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*40 - 135*	*12/21/21 08:52*	*12/28/21 02:33*	*1*
13C-1,2,3,7,8-PeCDF	*83*		*40 - 135*	*12/21/21 08:52*	*12/28/21 02:33*	*1*
13C-1,2,3,6,7,8-HxCDD	*92*		*40 - 135*	*12/21/21 08:52*	*12/28/21 02:33*	*1*
13C-1,2,3,4,7,8-HxCDF	*87*		*40 - 135*	*12/21/21 08:52*	*12/28/21 02:33*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*40 - 135*	*12/21/21 08:52*	*12/28/21 02:33*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*88*		*40 - 135*	*12/21/21 08:52*	*12/28/21 02:33*	*1*
13C-OCDD	*101*		*40 - 135*	*12/21/21 08:52*	*12/28/21 02:33*	*1*

Client Sample ID: EVBMP0003S031 **Lab Sample ID: 570-78855-5**
Date Collected: 12/14/21 08:01 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.90	pg/L		12/21/21 08:52	12/28/21 03:21	1
2,3,7,8-TCDF	ND		9.6	0.39	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,7,8-PeCDD	**4.2**	**J**	48	0.80	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,7,8-PeCDF	**1.6**	**J B**	48	0.41	pg/L		12/21/21 08:52	12/28/21 03:21	1
2,3,4,7,8-PeCDF	ND		48	0.42	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,4,7,8-HxCDD	**8.8**	**J B**	48	0.63	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,6,7,8-HxCDD	**21**	**J B**	48	0.63	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,7,8,9-HxCDD	**13**	**J B**	48	0.58	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,4,7,8-HxCDF	**4.4**	**J B**	48	0.52	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,6,7,8-HxCDF	**3.9**	**J B**	48	0.52	pg/L		12/21/21 08:52	12/28/21 03:21	1
2,3,4,6,7,8-HxCDF	**3.4**	**J B**	48	0.56	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,7,8,9-HxCDF	**1.8**	**J B**	48	0.59	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,4,6,7,8-HpCDD	**410**	**B**	48	2.8	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,4,6,7,8-HpCDF	**83**	**B**	48	1.0	pg/L		12/21/21 08:52	12/28/21 03:21	1
1,2,3,4,7,8,9-HpCDF	**5.0**	**J B**	48	1.2	pg/L		12/21/21 08:52	12/28/21 03:21	1
OCDD	**3200**	**B**	96	3.7	pg/L		12/21/21 08:52	12/28/21 03:21	1
OCDF	**210**	**B**	96	0.68	pg/L		12/21/21 08:52	12/28/21 03:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*86*		*40 - 135*	*12/21/21 08:52*	*12/28/21 03:21*	*1*
13C-2,3,7,8-TCDF	*89*		*40 - 135*	*12/21/21 08:52*	*12/28/21 03:21*	*1*
13C-1,2,3,7,8-PeCDD	*80*		*40 - 135*	*12/21/21 08:52*	*12/28/21 03:21*	*1*
13C-1,2,3,7,8-PeCDF	*85*		*40 - 135*	*12/21/21 08:52*	*12/28/21 03:21*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*40 - 135*	*12/21/21 08:52*	*12/28/21 03:21*	*1*
13C-1,2,3,4,7,8-HxCDF	*86*		*40 - 135*	*12/21/21 08:52*	*12/28/21 03:21*	*1*

Method: 8290 - Dioxins and Furans (HRGC/HRMS) (Continued)

Client Sample ID: EVBMP0003S031 **Lab Sample ID: 570-78855-5**
Date Collected: 12/14/21 08:01 **Matrix: Water**
Date Received: 12/15/21 11:21

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	87		40 - 135	12/21/21 08:52	12/28/21 03:21	1
13C-1,2,3,4,6,7,8-HpCDF	89		40 - 135	12/21/21 08:52	12/28/21 03:21	1
13C-OCDD	108		40 - 135	12/21/21 08:52	12/28/21 03:21	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: A2BMP0006S012 **Lab Sample ID: 570-78855-1**
Date Collected: 12/14/21 07:49 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.980	ug/L		01/04/22 08:28	01/04/22 19:53	1
Copper	**3.83**		1.00	0.610	ug/L		01/04/22 08:28	01/04/22 19:53	1
Lead	**2.08**		1.00	0.190	ug/L		01/04/22 08:28	01/04/22 19:53	1

Client Sample ID: A2BMP0007S020 **Lab Sample ID: 570-78855-2**
Date Collected: 12/14/21 08:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.980	ug/L		01/04/22 08:28	01/04/22 19:56	1
Copper	**4.35**		1.00	0.610	ug/L		01/04/22 08:28	01/04/22 19:56	1
Lead	**2.03**		1.00	0.190	ug/L		01/04/22 08:28	01/04/22 19:56	1

Client Sample ID: A2BMP0012S009 **Lab Sample ID: 570-78855-3**
Date Collected: 12/14/21 08:15 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.980	ug/L		01/04/22 08:28	01/04/22 19:59	1
Copper	**2.49**		1.00	0.610	ug/L		01/04/22 08:28	01/04/22 19:59	1
Lead	**5.14**		1.00	0.190	ug/L		01/04/22 08:28	01/04/22 19:59	1

Client Sample ID: EVBMP0001S018 **Lab Sample ID: 570-78855-4**
Date Collected: 12/14/21 07:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.980	ug/L		01/04/22 08:28	01/04/22 20:02	1
Copper	**1.94**		1.00	0.610	ug/L		01/04/22 08:28	01/04/22 20:02	1
Lead	**2.85**		1.00	0.190	ug/L		01/04/22 08:28	01/04/22 20:02	1

Client Sample ID: EVBMP0003S031 **Lab Sample ID: 570-78855-5**
Date Collected: 12/14/21 08:01 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.980	ug/L		01/04/22 08:28	01/04/22 20:05	1
Copper	**3.09**		1.00	0.610	ug/L		01/04/22 08:28	01/04/22 20:05	1
Lead	**5.62**		1.00	0.190	ug/L		01/04/22 08:28	01/04/22 20:05	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: A2BMP0006S012 **Lab Sample ID: 570-78855-1**
Date Collected: 12/14/21 07:49 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			12/19/21 20:55	1
Copper	**1.34**	**H**	1.00	0.610	ug/L			12/19/21 20:55	1
Lead	**0.247**	**J H**	1.00	0.190	ug/L			12/19/21 20:55	1

Client Sample ID: A2BMP0007S020 **Lab Sample ID: 570-78855-2**
Date Collected: 12/14/21 08:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			12/19/21 21:04	1
Copper	**1.40**	**H**	1.00	0.610	ug/L			12/19/21 21:04	1
Lead	**0.308**	**J H**	1.00	0.190	ug/L			12/19/21 21:04	1

Client Sample ID: A2BMP0012S009 **Lab Sample ID: 570-78855-3**
Date Collected: 12/14/21 08:15 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			12/19/21 21:08	1
Copper	**1.47**	**H**	1.00	0.610	ug/L			12/19/21 21:08	1
Lead	**0.228**	**J H**	1.00	0.190	ug/L			12/19/21 21:08	1

Client Sample ID: EVBMP0001S018 **Lab Sample ID: 570-78855-4**
Date Collected: 12/14/21 07:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			12/19/21 21:11	1
Copper	**1.16**	**H**	1.00	0.610	ug/L			12/19/21 21:11	1
Lead	ND	H	1.00	0.190	ug/L			12/19/21 21:11	1

Client Sample ID: EVBMP0003S031 **Lab Sample ID: 570-78855-5**
Date Collected: 12/14/21 08:01 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			12/19/21 21:14	1
Copper	**1.29**	**H**	1.00	0.610	ug/L			12/19/21 21:14	1
Lead	**0.251**	**J H**	1.00	0.190	ug/L			12/19/21 21:14	1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: A2BMP0006S012 **Lab Sample ID: 570-78855-1**
Date Collected: 12/14/21 07:49 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		01/10/22 10:10	01/10/22 17:49	1

Client Sample ID: A2BMP0007S020 **Lab Sample ID: 570-78855-2**
Date Collected: 12/14/21 08:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		01/10/22 10:10	01/10/22 17:51	1

Client Sample ID: A2BMP0012S009 **Lab Sample ID: 570-78855-3**
Date Collected: 12/14/21 08:15 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		01/10/22 10:10	01/10/22 17:53	1

Client Sample ID: EVBMP0001S018 **Lab Sample ID: 570-78855-4**
Date Collected: 12/14/21 07:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		01/10/22 10:10	01/10/22 17:55	1

Client Sample ID: EVBMP0003S031 **Lab Sample ID: 570-78855-5**
Date Collected: 12/14/21 08:01 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		01/10/22 10:10	01/10/22 17:57	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: A2BMP0006S012 **Lab Sample ID: 570-78855-1**
Date Collected: 12/14/21 07:49 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/16/21 12:02	12/17/21 17:59	1

Client Sample ID: A2BMP0007S020 **Lab Sample ID: 570-78855-2**
Date Collected: 12/14/21 08:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/16/21 12:02	12/17/21 18:01	1

Client Sample ID: A2BMP0012S009 **Lab Sample ID: 570-78855-3**
Date Collected: 12/14/21 08:15 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/16/21 12:02	12/17/21 18:07	1

Client Sample ID: EVBMP0001S018 **Lab Sample ID: 570-78855-4**
Date Collected: 12/14/21 07:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/16/21 12:02	12/17/21 18:09	1

Client Sample ID: EVBMP0003S031 **Lab Sample ID: 570-78855-5**
Date Collected: 12/14/21 08:01 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/16/21 12:02	12/17/21 18:11	1

General Chemistry

Client Sample ID: A2BMP0006S012 **Lab Sample ID: 570-78855-1**
Date Collected: 12/14/21 07:49 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	16.5		1.18	0.975	mg/L			12/17/21 15:51	1

Client Sample ID: A2BMP0007S020 **Lab Sample ID: 570-78855-2**
Date Collected: 12/14/21 08:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	21.7		1.43	1.18	mg/L			12/17/21 15:51	1

Client Sample ID: A2BMP0012S009 **Lab Sample ID: 570-78855-3**
Date Collected: 12/14/21 08:15 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	32		0.05	0.05	NTU			12/15/21 15:08	1
Total Suspended Solids	37.1		1.25	1.04	mg/L			12/17/21 15:51	1

Client Sample ID: EVBMP0001S018 **Lab Sample ID: 570-78855-4**
Date Collected: 12/14/21 07:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	18		0.05	0.05	NTU			12/15/21 15:08	1
Total Suspended Solids	11.4		1.11	0.921	mg/L			12/17/21 15:51	1

Client Sample ID: EVBMP0003S031 **Lab Sample ID: 570-78855-5**
Date Collected: 12/14/21 08:01 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	181		4.00	3.31	mg/L			12/17/21 15:51	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: A2BMP0006S012 **Lab Sample ID: 570-78855-1**
Date Collected: 12/14/21 07:49 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**15.77**		0.01	0.01	%			01/04/22 13:36	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 13:36	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 13:36	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 13:36	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 13:36	1
Silt (0.00391 to 0.0625mm)	**65.33**		0.01	0.01	%			01/04/22 13:36	1
Total Silt and Clay (0 to 0.0626mm)	**81.10**		0.01	0.01	%			01/04/22 13:36	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 13:36	1
Very Fine Sand (0.0625 to 0.125 mm)	**18.90**		0.01	0.01	%			01/04/22 13:36	1

Client Sample ID: A2BMP0007S020 **Lab Sample ID: 570-78855-2**
Date Collected: 12/14/21 08:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**13.76**		0.01	0.01	%			01/04/22 13:44	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 13:44	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 13:44	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 13:44	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 13:44	1
Silt (0.00391 to 0.0625mm)	**72.92**		0.01	0.01	%			01/04/22 13:44	1
Total Silt and Clay (0 to 0.0626mm)	**86.68**		0.01	0.01	%			01/04/22 13:44	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 13:44	1
Very Fine Sand (0.0625 to 0.125 mm)	**13.32**		0.01	0.01	%			01/04/22 13:44	1

Client Sample ID: A2BMP0012S009 **Lab Sample ID: 570-78855-3**
Date Collected: 12/14/21 08:15 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**5.87**		0.01	0.01	%			01/04/22 13:51	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 13:51	1
Fine Sand (0.125 to 0.25mm)	**12.44**		0.01	0.01	%			01/04/22 13:51	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 13:51	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 13:51	1
Silt (0.00391 to 0.0625mm)	**68.81**		0.01	0.01	%			01/04/22 13:51	1
Total Silt and Clay (0 to 0.0626mm)	**74.68**		0.01	0.01	%			01/04/22 13:51	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 13:51	1
Very Fine Sand (0.0625 to 0.125 mm)	**12.88**		0.01	0.01	%			01/04/22 13:51	1

Client Sample ID: EVBMP0001S018 **Lab Sample ID: 570-78855-4**
Date Collected: 12/14/21 07:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**1.74**		0.01	0.01	%			01/04/22 13:57	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 13:57	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 13:57	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 13:57	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 13:57	1
Silt (0.00391 to 0.0625mm)	**72.63**		0.01	0.01	%			01/04/22 13:57	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Client Sample ID: EVBMP0001S018 **Lab Sample ID: 570-78855-4**
Date Collected: 12/14/21 07:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Silt and Clay (0 to 0.0626mm)	**74.36**		0.01	0.01	%			01/04/22 13:57	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 13:57	1
Very Fine Sand (0.0625 to 0.125 mm)	**25.64**		0.01	0.01	%			01/04/22 13:57	1

Client Sample ID: EVBMP0003S031 **Lab Sample ID: 570-78855-5**
Date Collected: 12/14/21 08:01 **Matrix: Water**
Date Received: 12/15/21 11:21

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**4.52**		0.01	0.01	%			01/04/22 14:04	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 14:04	1
Fine Sand (0.125 to 0.25mm)	**10.48**		0.01	0.01	%			01/04/22 14:04	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 14:04	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 14:04	1
Silt (0.00391 to 0.0625mm)	**56.05**		0.01	0.01	%			01/04/22 14:04	1
Total Silt and Clay (0 to 0.0626mm)	**60.57**		0.01	0.01	%			01/04/22 14:04	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 14:04	1
Very Fine Sand (0.0625 to 0.125 mm)	**28.95**		0.01	0.01	%			01/04/22 14:04	1

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

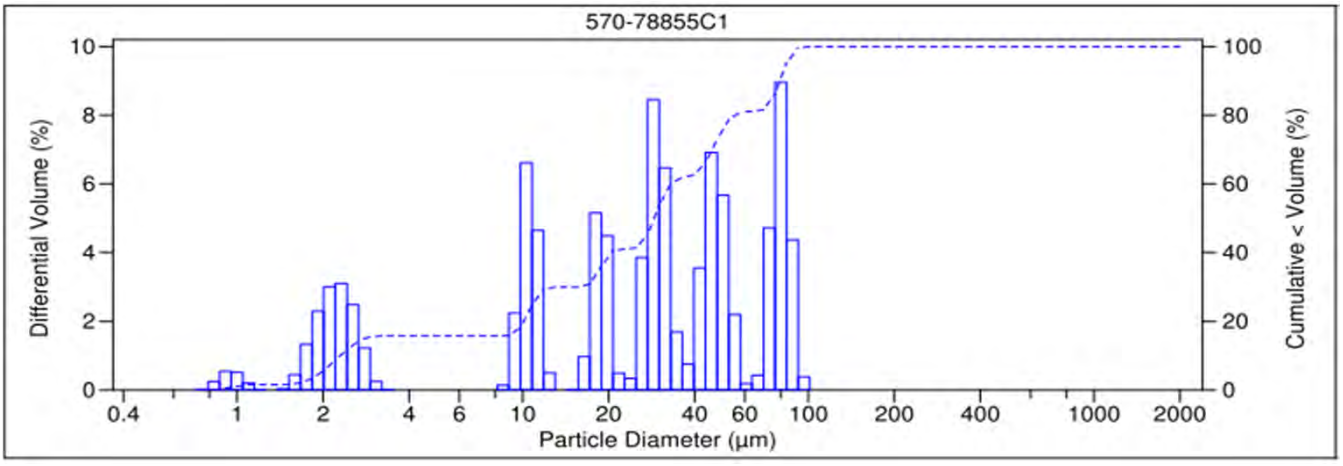
Jacobs

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78855
Date Analyzed:	01/04/22
Method:	ASTM D4464M

Project: CJ042 Stormwater

Sample ID	Depth ft	Description	Mean Grain Size mm
A2BMP0006S012		Silt	0.034

Particle Size Distribution, wt by percent								Total Silt & Clay
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	
0.00	0.00	0.00	0.00	0.00	18.90	65.33	15.77	81.10



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

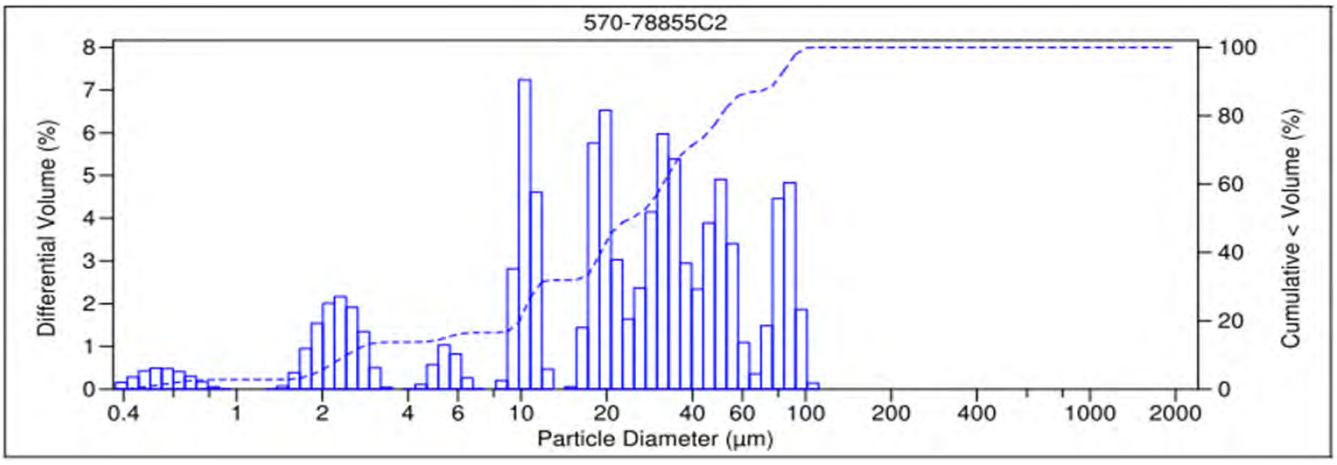
Jacobs

Date Sampled:	12/14/21
Date Received:	12/14/21
Work Order No:	570-78855
Date Analyzed:	01/04/22
Method:	ASTM D4464M

Project: CJ042 Stormwater

Sample ID	Depth ft	Description	Mean Grain Size mm
A2BMP0007S020		Silt	0.031

Particle Size Distribution, wt by percent								Total Silt & Clay
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	
0.00	0.00	0.00	0.00	0.00	13.32	72.92	13.76	86.68



V 3.0

PARTICLE SIZE SUMMARY

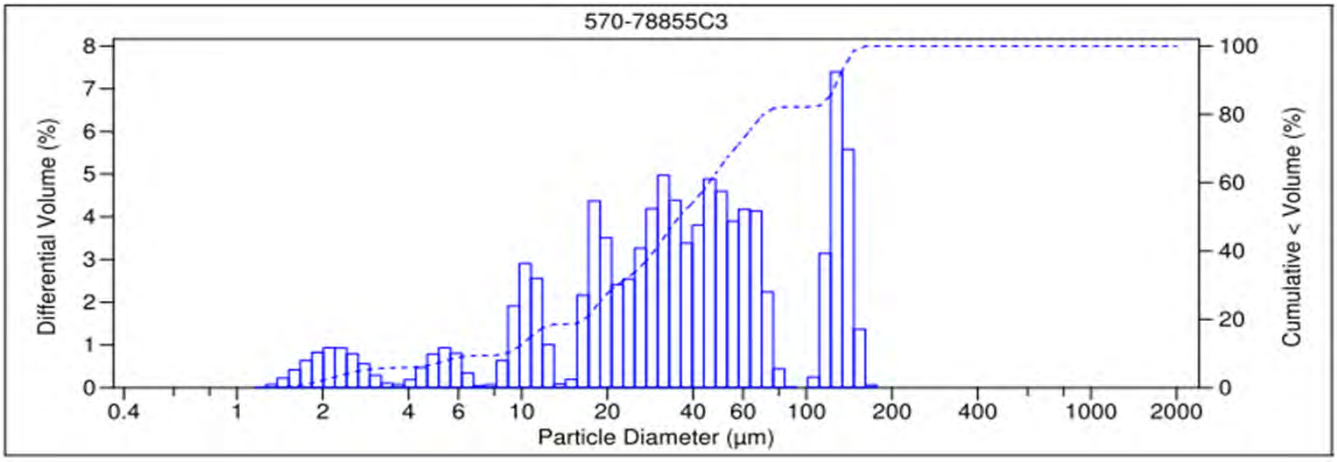
(ASTM D422 / D4464M)

Jacobs		Date Sampled:	12/14/21
		Date Received:	12/14/21
		Work Order No:	570-78855
		Date Analyzed:	01/04/22
		Method:	ASTM D4464M

Project: CJ042 Stormwater

Sample ID	Depth ft	Description	Mean Grain Size mm
A2BMP0012S009		Silt	0.050

Particle Size Distribution, wt by percent								Total Silt & Clay
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	
0.00	0.00	0.00	0.00	12.44	12.88	68.81	5.87	74.68



V 3.0

PARTICLE SIZE SUMMARY

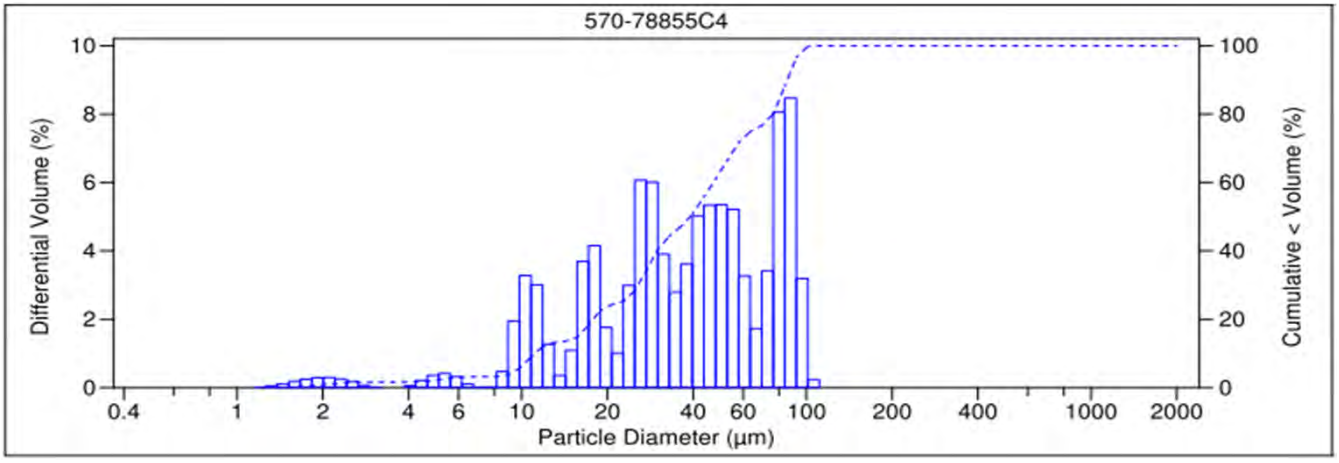
(ASTM D422 / D4464M)

Jacobs		Date Sampled:	12/14/21
		Date Received:	12/14/21
		Work Order No:	570-78855
		Date Analyzed:	01/04/22
		Method:	ASTM D4464M

Project: CJ042 Stormwater

Sample ID	Depth ft	Description	Mean Grain Size mm
EVBMP0001S018		Silt	0.044

Particle Size Distribution, wt by percent								Total Silt & Clay
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	
0.00	0.00	0.00	0.00	0.00	25.64	72.63	1.74	74.36



V 3.0

PARTICLE SIZE SUMMARY

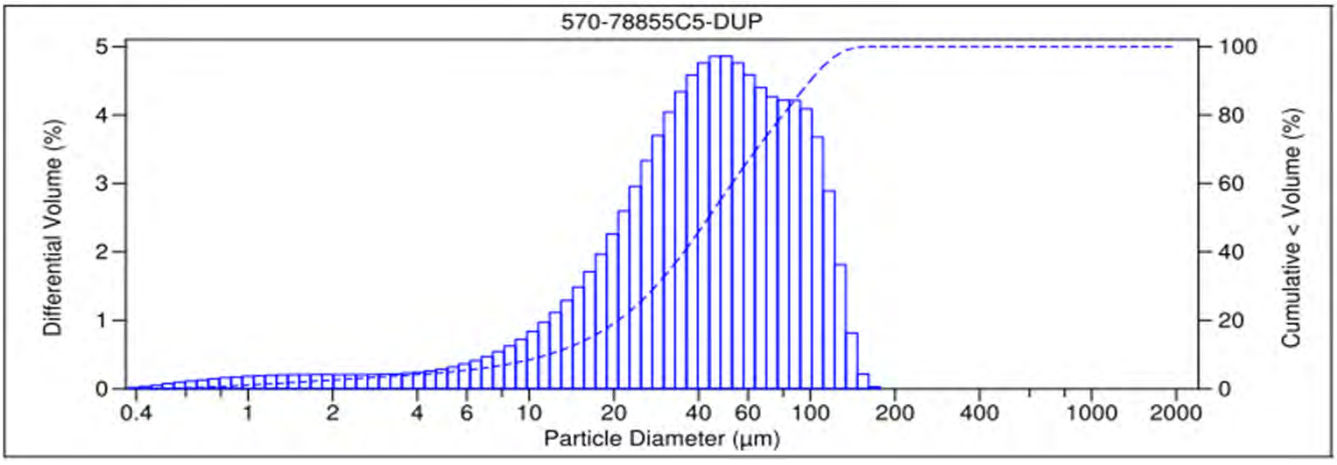
(ASTM D422 / D4464M)

Jacobs		Date Sampled:	12/14/21
		Date Received:	12/14/21
		Work Order No:	570-78855
		Date Analyzed:	01/04/22
		Method:	ASTM D4464M

Project: CJ042 Stormwater

Sample ID	Depth ft	Description	Mean Grain Size mm
EVBMP0003S031		Silt	0.050

Particle Size Distribution, wt by percent								Total Silt & Clay
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	
0.00	0.00	0.00	0.00	2.39	28.99	64.50	4.12	68.62



V 3.0

PARTICLE SIZE SUMMARY

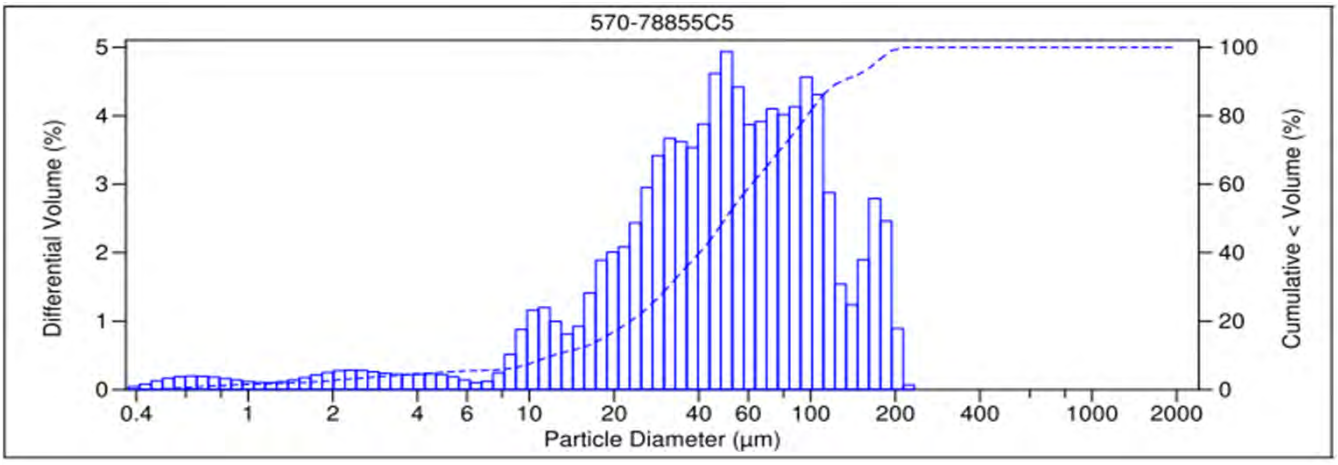
(ASTM D422 / D4464M)

Jacobs		Date Sampled:	12/14/21
		Date Received:	12/14/21
		Work Order No:	570-78855
		Date Analyzed:	01/04/22
		Method:	ASTM D4464M

Project: CJ042 Stormwater

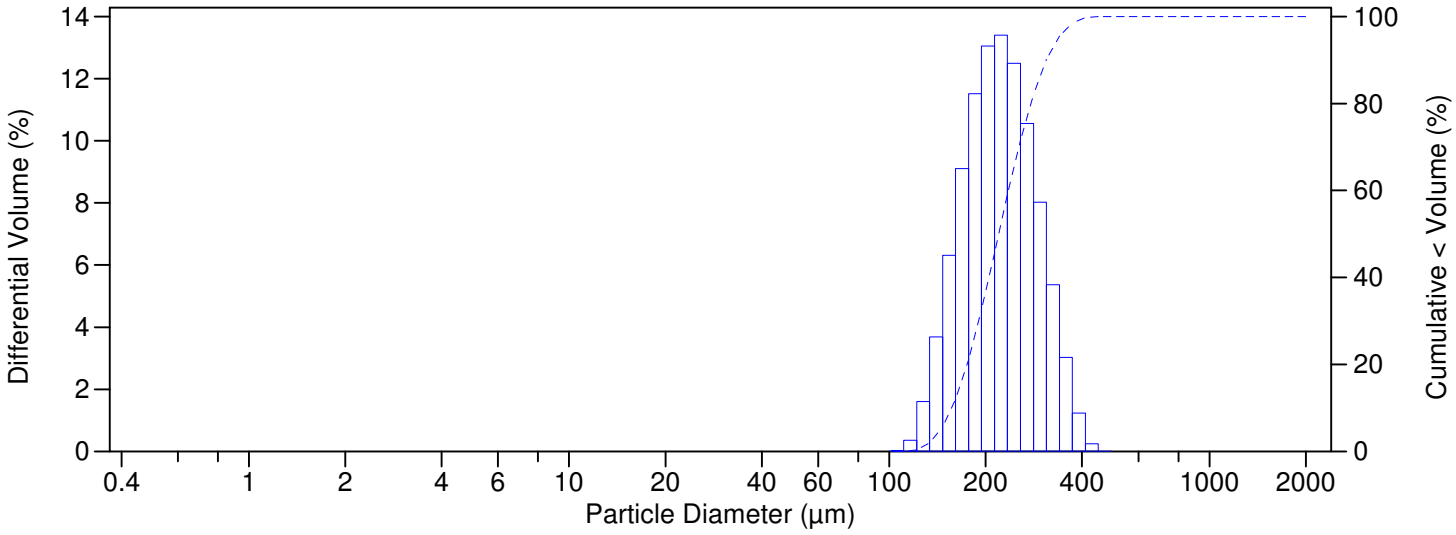
Sample ID	Depth ft	Description	Mean Grain Size mm
EVBMP0003S031		Silt	0.062

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	10.48	28.95	56.05	4.52	60.57



V 3.0

File name:	C:\LS13320\STD SAND_ 4 Jan 2022_15.25.54.$ls		
	STD SAND_ 4 Jan 2022_15.25.54.$ls		
File ID:	STD SAND		
Sample ID:	STD SAND		
Operator:	1106		
Run number:	16		
	Control Sample		
Comment 1:	ASTM D4464M , LPSA 1		
Comment 2:	1986955		
Optical model:	Fraunhofer.rf780d		
Residual:	7.74%		
LS 13 320	Aqueous Liquid Module		
Start time:	15:24 4 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	9%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00



Volume Statistics (Arithmetic) STD SAND_ 4 Jan 2022_15.25.54.$ls

Calculations from 0.375 µm to 2000 µm

Volume:	100%		
Mean:	227.4 µm	S.D.:	58.84 µm
Median:	220.0 µm	Variance:	3462 µm^2
Mean/Median ratio:	1.034	Skewness:	0.605 Right skewed
Mode:	223.4 µm	Kurtosis:	0.0083 Leptokurtic

d_{10}: 156.7 µm d_{50}: 220.0 µm d_{90}: 309.2 µm

Folk and Ward Statistics (Phi)

Mean:	2.18	Median:	2.18	Deviation:	0.38
Skewness:	-0.01	Kurtosis:	0.93		

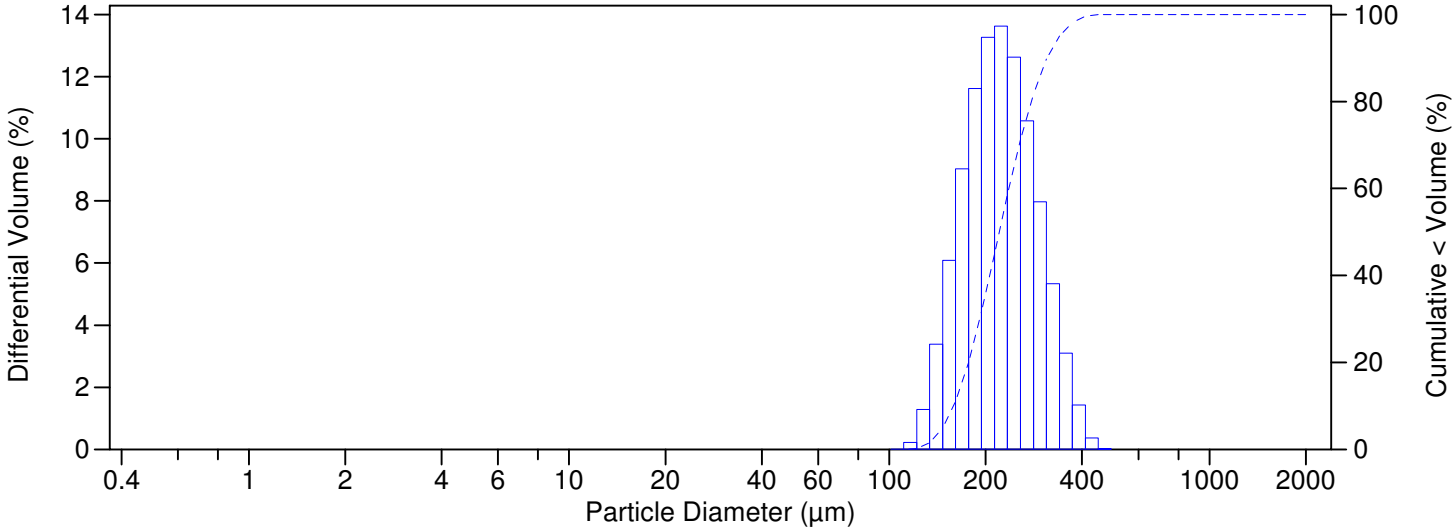
<5%	<16%	<25%	<40%	<50%	<75%	<84%	<95%
144.4 µm	168.1 µm	182.8 µm	205.0 µm	220.0 µm	265.2 µm	288.6 µm	337.2 µm

Particle Diameter µm	STD SAND_ 4 Jan 2022 _15.25.54 .$ls Volume %
0.04	0
0.4	0
1.95	0
3.91	0
62.5	0.81
125	66.9
250	32.3
500	0
1000	0
2000	

STD SAND_ 4 Jan 2022_15.25.54.$ls

Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %
0.375	0	24.95	0	1660	0
0.412	0	27.39	0	1822	0
0.452	0	30.07	0	2000	
0.496	0	33.01	0		
0.545	0	36.24	0		
0.598	0	39.78	0		
0.657	0	43.67	0		
0.721	0	47.94	0		
0.791	0	52.63	0		
0.869	0	57.77	0		
0.954	0	63.42	0		
1.047	0	69.62	0		
1.149	0	76.43	0		
1.261	0	83.90	0		
1.385	0	92.10	0		
1.520	0	101.1	0.020		
1.669	0	111.0	0.36		
1.832	0	121.8	1.60		
2.011	0	133.7	3.69		
2.208	0	146.8	6.31		
2.423	0	161.2	9.10		
2.660	0	176.9	11.5		
2.920	0	194.2	13.0		
3.206	0	213.2	13.4		
3.519	0	234.1	12.5		
3.863	0	256.9	10.6		
4.241	0	282.1	8.02		
4.656	0	309.6	5.36		
5.111	0	339.9	3.03		
5.611	0	373.1	1.24		
6.159	0	409.6	0.25		
6.761	0	449.7	0.011		
7.422	0	493.6	0		
8.148	0	541.9	0		
8.944	0	594.9	0		
9.819	0	653.0	0		
10.78	0	716.9	0		
11.83	0	786.9	0		
12.99	0	863.9	0		
14.26	0	948.3	0		
15.65	0	1041	0		
17.18	0	1143	0		
18.86	0	1255	0		
20.71	0	1377	0		
22.73	0	1512	0		

File name:	C:\LS13320\STD SAND_ 4 Jan 2022_16.02.56.$ls		
	STD SAND_ 4 Jan 2022_16.02.56.$ls		
File ID:	STD SAND		
Sample ID:	STD SAND		
Operator:	1106		
Run number:	18		
	Control Sample		
Comment 1:	ASTM D4464M , LPSA 1		
Comment 2:	1986955		
Optical model:	Fraunhofer.rf780d		
Residual:	8.94%		
LS 13 320	Aqueous Liquid Module		
Start time:	16:01 4 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	10%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00



Volume Statistics (Arithmetic) STD SAND_ 4 Jan 2022_16.02.56.$ls

Calculations from 0.375 µm to 2000 µm

Volume:	100%		
Mean:	229.0 µm	S.D.:	59.13 µm
Median:	221.0 µm	Variance:	3497 μm^2
Mean/Median ratio:	1.036	Skewness:	0.666 Right skewed
Mode:	223.4 µm	Kurtosis:	0.153 Leptokurtic

d_{10}: 158.8 µm d_{50}: 221.0 µm d_{90}: 311.2 µm

Folk and Ward Statistics (Phi)

Mean:	2.17	Median:	2.18	Deviation:	0.38
Skewness:	-0.02	Kurtosis:	0.93		

<5%	<16%	<25%	<40%	<50%	<75%	<84%	<95%
147.0 µm	169.9 µm	184.3 µm	206.2 µm	221.0 µm	266.0 µm	289.8 µm	339.5 µm

Particle Diameter µm	STD SAND_ 4 Jan 2022 _16.02.56 .$ls Volume %
0.04	0
0.4	0
1.95	0
3.91	0
62.5	0.58
125	66.8
250	32.7
500	0
1000	0
2000	

STD SAND_ 4 Jan 2022_16.02.56.$ls

Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %
0.375	0	24.95	0	1660	0
0.412	0	27.39	0	1822	0
0.452	0	30.07	0	2000	
0.496	0	33.01	0		
0.545	0	36.24	0		
0.598	0	39.78	0		
0.657	0	43.67	0		
0.721	0	47.94	0		
0.791	0	52.63	0		
0.869	0	57.77	0		
0.954	0	63.42	0		
1.047	0	69.62	0		
1.149	0	76.43	0		
1.261	0	83.90	0		
1.385	0	92.10	0		
1.520	0	101.1	0.0087		
1.669	0	111.0	0.23		
1.832	0	121.8	1.29		
2.011	0	133.7	3.38		
2.208	0	146.8	6.09		
2.423	0	161.2	9.04		
2.660	0	176.9	11.6		
2.920	0	194.2	13.3		
3.206	0	213.2	13.6		
3.519	0	234.1	12.6		
3.863	0	256.9	10.6		
4.241	0	282.1	7.97		
4.656	0	309.6	5.34		
5.111	0	339.9	3.10		
5.611	0	373.1	1.43		
6.159	0	409.6	0.37		
6.761	0	449.7	0.024		
7.422	0	493.6	0		
8.148	0	541.9	0		
8.944	0	594.9	0		
9.819	0	653.0	0		
10.78	0	716.9	0		
11.83	0	786.9	0		
12.99	0	863.9	0		
14.26	0	948.3	0		
15.65	0	1041	0		
17.18	0	1143	0		
18.86	0	1255	0		
20.71	0	1377	0		
22.73	0	1512	0		

Default Detection Limits

Client: Jacobs Engineering Group, Inc. Job ID: 570-78855-1
Project/Site: NASA SSFL CJ042 Stormwater

Method: 8290 - Dioxins and Furans (HRGC/HRMS)

Prep: 8290

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Prep: 200.8

Analyte	RL	MDL	Units
Cadmium	1.00	0.980	ug/L
Copper	1.00	0.610	ug/L
Lead	1.00	0.190	ug/L

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	RL	MDL	Units
Cadmium	1.00	0.980	ug/L
Copper	1.00	0.610	ug/L
Lead	1.00	0.190	ug/L

Method: 245.1 - Mercury (CVAA)

Prep: 245.1

Analyte	RL	MDL	Units
Mercury	0.000200	0.000100	mg/L

Method: 245.1 - Mercury (CVAA) - Dissolved

Prep: 245.1

Analyte	RL	MDL	Units
Mercury	0.000248	0.000124	mg/L

General Chemistry

Analyte	RL	MDL	Units
Turbidity	0.05	0.05	NTU
Total Suspended Solids	1.00	0.829	mg/L

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	RL	MDL	Units
Clay (less than 0.00391 mm)	0.01	0.01	%
Coarse Sand (0.5mm to 1mm)	0.01	0.01	%

Default Detection Limits

Client: Jacobs Engineering Group, Inc. Job ID: 570-78855-1
Project/Site: NASA SSFL CJ042 Stormwater

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Analyte	RL	MDL	Units
Fine Sand (0.125 to 0.25mm)	0.01	0.01	%
Gravel (greater than 2 mm)	0.01	0.01	%
Medium Sand (0.25 to 0.5 mm)	0.01	0.01	%
Silt (0.00391 to 0.0625mm)	0.01	0.01	%
Total Silt and Clay (0 to 0.0626mm)	0.01	0.01	%
Very Coarse Sand (1 to 2mm)	0.01	0.01	%
Very Fine Sand (0.0625 to 0.125 mm)	0.01	0.01	%

Isotope Dilution Summary

Client: Jacobs Engineering Group, Inc. Job ID: 570-78855-1
Project/Site: NASA SSFL CJ042 Stormwater

Method: 8290 - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	TCDF (40-135)	PeCDD (40-135)	PeCDF (40-135)	HxDD (40-135)	HxCDF (40-135)	HpCDD (40-135)	HpCDF (40-135)
570-78855-1	A2BMP0006S012	91	93	84	88	96	87	93	93
570-78855-2	A2BMP0007S020	84	86	77	82	91	82	86	86
570-78855-3	A2BMP0012S009	86	89	80	84	92	85	89	90
570-78855-4	EVBMP0001S018	86	88	79	83	92	87	86	88
570-78855-5	EVBMP0003S031	86	89	80	85	91	86	87	89
LCS 320-552716/2-A	Lab Control Sample	85	92	79	86	90	88	88	90
LCSD 320-552716/3-A	Lab Control Sample Dup	90	96	88	91	93	80	92	89
MB 320-552716/1-A	Method Blank	86	91	80	87	90	85	82	87

		Percent Isotope Dilution Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	OCDD (40-135)
570-78855-1	A2BMP0006S012	109
570-78855-2	A2BMP0007S020	102
570-78855-3	A2BMP0012S009	108
570-78855-4	EVBMP0001S018	101
570-78855-5	EVBMP0003S031	108
LCS 320-552716/2-A	Lab Control Sample	106
LCSD 320-552716/3-A	Lab Control Sample Dup	108
MB 320-552716/1-A	Method Blank	98

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
OCDD = 13C-OCDD

Method: 8290 - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-552716/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 554312 **Prep Batch: 552716**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	1.1	pg/L		12/21/21 08:52	12/27/21 20:58	1
2,3,7,8-TCDF	ND		10	0.35	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,7,8-PeCDD	ND		50	0.68	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,7,8-PeCDF	1.266	J	50	0.35	pg/L		12/21/21 08:52	12/27/21 20:58	1
2,3,4,7,8-PeCDF	ND		50	0.37	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,4,7,8-HxCDD	2.883	J	50	0.40	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,6,7,8-HxCDD	1.314	J q	50	0.40	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,7,8,9-HxCDD	1.770	J	50	0.37	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,4,7,8-HxCDF	1.029	J q	50	0.28	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,6,7,8-HxCDF	1.431	J q	50	0.28	pg/L		12/21/21 08:52	12/27/21 20:58	1
2,3,4,6,7,8-HxCDF	1.271	J q	50	0.30	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,7,8,9-HxCDF	2.617	J	50	0.32	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,4,6,7,8-HpCDD	3.004	J	50	0.25	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,4,6,7,8-HpCDF	1.800	J q	50	0.38	pg/L		12/21/21 08:52	12/27/21 20:58	1
1,2,3,4,7,8,9-HpCDF	1.307	J q	50	0.43	pg/L		12/21/21 08:52	12/27/21 20:58	1
OCDD	6.779	J	100	0.37	pg/L		12/21/21 08:52	12/27/21 20:58	1
OCDF	4.313	J	100	0.62	pg/L		12/21/21 08:52	12/27/21 20:58	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*86*		*40 - 135*	*12/21/21 08:52*	*12/27/21 20:58*	*1*
13C-2,3,7,8-TCDF	*91*		*40 - 135*	*12/21/21 08:52*	*12/27/21 20:58*	*1*
13C-1,2,3,7,8-PeCDD	*80*		*40 - 135*	*12/21/21 08:52*	*12/27/21 20:58*	*1*
13C-1,2,3,7,8-PeCDF	*87*		*40 - 135*	*12/21/21 08:52*	*12/27/21 20:58*	*1*
13C-1,2,3,6,7,8-HxCDD	*90*		*40 - 135*	*12/21/21 08:52*	*12/27/21 20:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*85*		*40 - 135*	*12/21/21 08:52*	*12/27/21 20:58*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*40 - 135*	*12/21/21 08:52*	*12/27/21 20:58*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*87*		*40 - 135*	*12/21/21 08:52*	*12/27/21 20:58*	*1*
13C-OCDD	*98*		*40 - 135*	*12/21/21 08:52*	*12/27/21 20:58*	*1*

Lab Sample ID: LCS 320-552716/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 554312 **Prep Batch: 552716**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	191.6		pg/L		96	72 - 128
2,3,7,8-TCDF	200	180.1		pg/L		90	67 - 135
1,2,3,7,8-PeCDD	1000	995.2		pg/L		100	71 - 135
1,2,3,7,8-PeCDF	1000	939.0		pg/L		94	70 - 133
2,3,4,7,8-PeCDF	1000	925.8		pg/L		93	69 - 135
1,2,3,4,7,8-HxCDD	1000	875.3		pg/L		88	67 - 130
1,2,3,6,7,8-HxCDD	1000	938.6		pg/L		94	61 - 144
1,2,3,7,8,9-HxCDD	1000	921.7		pg/L		92	61 - 140
1,2,3,4,7,8-HxCDF	1000	814.5		pg/L		81	69 - 140
1,2,3,6,7,8-HxCDF	1000	1005		pg/L		101	62 - 155
2,3,4,6,7,8-HxCDF	1000	1052		pg/L		105	70 - 146
1,2,3,7,8,9-HxCDF	1000	990.6		pg/L		99	71 - 142
1,2,3,4,6,7,8-HpCDD	1000	941.4		pg/L		94	71 - 134
1,2,3,4,6,7,8-HpCDF	1000	885.0		pg/L		89	68 - 137
1,2,3,4,7,8,9-HpCDF	1000	928.9		pg/L		93	74 - 134

Method: 8290 - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-552716/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 554312 **Prep Batch: 552716**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
OCDD			2000	1675		pg/L		84	72 - 134		
OCDF			2000	1654		pg/L		83	65 - 143		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*85*		*40 - 135*
13C-2,3,7,8-TCDF	*92*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*79*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*86*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*90*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*88*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*88*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*90*		*40 - 135*
13C-OCDD	*106*		*40 - 135*

Lab Sample ID: LCSD 320-552716/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 554312 **Prep Batch: 552716**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			200	187.9		pg/L		94	72 - 128	2	20
2,3,7,8-TCDF			200	180.3		pg/L		90	67 - 135	0	20
1,2,3,7,8-PeCDD			1000	991.3		pg/L		99	71 - 135	0	20
1,2,3,7,8-PeCDF			1000	922.3		pg/L		92	70 - 133	2	20
2,3,4,7,8-PeCDF			1000	861.8		pg/L		86	69 - 135	7	20
1,2,3,4,7,8-HxCDD			1000	783.3		pg/L		78	67 - 130	11	20
1,2,3,6,7,8-HxCDD			1000	890.3		pg/L		89	61 - 144	5	20
1,2,3,7,8,9-HxCDD			1000	912.7		pg/L		91	61 - 140	1	20
1,2,3,4,7,8-HxCDF			1000	821.8		pg/L		82	69 - 140	1	20
1,2,3,6,7,8-HxCDF			1000	1031		pg/L		103	62 - 155	3	20
2,3,4,6,7,8-HxCDF			1000	1142		pg/L		114	70 - 146	8	20
1,2,3,7,8,9-HxCDF			1000	1064		pg/L		106	71 - 142	7	20
1,2,3,4,6,7,8-HpCDD			1000	928.6		pg/L		93	71 - 134	1	20
1,2,3,4,6,7,8-HpCDF			1000	868.6		pg/L		87	68 - 137	2	20
1,2,3,4,7,8,9-HpCDF			1000	946.9		pg/L		95	74 - 134	2	20
OCDD			2000	1678		pg/L		84	72 - 134	0	20
OCDF			2000	1631		pg/L		82	65 - 143	1	20

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*90*		*40 - 135*
13C-2,3,7,8-TCDF	*96*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*88*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*91*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*93*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*80*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*92*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*89*		*40 - 135*
13C-OCDD	*108*		*40 - 135*

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-205346/1-A
Matrix: Water
Analysis Batch: 205320

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 205346

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.980	ug/L		01/04/22 08:28	01/04/22 19:40	1
Copper	ND		1.00	0.610	ug/L		01/04/22 08:28	01/04/22 19:40	1
Lead	ND		1.00	0.190	ug/L		01/04/22 08:28	01/04/22 19:40	1

Lab Sample ID: LCS 570-205346/2-A
Matrix: Water
Analysis Batch: 205320

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 205346

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	100	99.75		ug/L		100	80 - 120
Copper	100	98.71		ug/L		99	80 - 120
Lead	100	92.76		ug/L		93	80 - 120

Lab Sample ID: LCSD 570-205346/3-A
Matrix: Water
Analysis Batch: 205320

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 205346

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	100	101.2		ug/L		101	80 - 120	1	20
Copper	100	100.0		ug/L		100	80 - 120	1	20
Lead	100	94.04		ug/L		94	80 - 120	1	20

Lab Sample ID: 570-80514-A-1-B MS ^5
Matrix: Water
Analysis Batch: 205320

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 205346

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		100	99.95		ug/L		100	80 - 120
Copper	4.24	J	100	97.40		ug/L		93	80 - 120
Lead	4.36	J	100	95.08		ug/L		91	80 - 120

Lab Sample ID: 570-80514-A-1-C MSD ^5
Matrix: Water
Analysis Batch: 205320

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 205346

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		100	89.71		ug/L		90	80 - 120	11	20
Copper	4.24	J	100	85.57		ug/L		81	80 - 120	13	20
Lead	4.36	J	100	85.46		ug/L		81	80 - 120	11	20

Lab Sample ID: MB 570-201722/1-A
Matrix: Water
Analysis Batch: 202353

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.980	ug/L			12/19/21 20:36	1
Copper	ND		1.00	0.610	ug/L			12/19/21 20:36	1
Lead	ND		1.00	0.190	ug/L			12/19/21 20:36	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 570-201722/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 202353

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium			100	92.53		ug/L		93	80 - 120		
Copper			100	96.83		ug/L		97	80 - 120		
Lead			100	89.35		ug/L		89	80 - 120		

Lab Sample ID: LCSD 570-201722/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 202353

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium			100	92.73		ug/L		93	80 - 120	0	20
Copper			100	97.16		ug/L		97	80 - 120	0	20
Lead			100	90.09		ug/L		90	80 - 120	1	20

Lab Sample ID: 570-78855-1 MS — **Client Sample ID: A2BMP0006S012**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 202353

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium	ND	H	100	91.73		ug/L		92	80 - 120		
Copper	1.34	H	100	95.64		ug/L		94	80 - 120		
Lead	0.247	J H	100	87.56		ug/L		87	80 - 120		

Lab Sample ID: 570-78855-1 MSD — **Client Sample ID: A2BMP0006S012**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 202353

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND	H	100	98.23		ug/L		98	80 - 120	7	20
Copper	1.34	H	100	102.1		ug/L		101	80 - 120	7	20
Lead	0.247	J H	100	94.58		ug/L		94	80 - 120	8	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-664074/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664187 — **Prep Batch: 664074**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		01/10/22 10:10	01/10/22 19:22	1

Lab Sample ID: LCS 440-664074/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664187 — **Prep Batch: 664074**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00600	0.006098		mg/L		102	85 - 115		

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-79044-B-1-F MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664187 — **Prep Batch: 664074**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	F1	0.00600	0.008825	F1	mg/L		147	75 - 125

Lab Sample ID: 570-79044-B-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 664187 — **Prep Batch: 664074**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	F1	0.00600	0.008713	F1	mg/L		145	75 - 125	1	20

Lab Sample ID: MB 570-201724/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 201952 — **Prep Batch: 201728**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/16/21 12:02	12/17/21 17:54	1

Lab Sample ID: LCS 570-201724/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 201952 — **Prep Batch: 201728**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0100	0.01063		mg/L		106	85 - 115

Lab Sample ID: LCSD 570-201724/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 201952 — **Prep Batch: 201728**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0100	0.01065		mg/L		107	85 - 115	0	10

Lab Sample ID: 570-78855-2 MS — **Client Sample ID: A2BMP0007S020**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 201952 — **Prep Batch: 201728**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.0100	0.01100		mg/L		110	70 - 130

Lab Sample ID: 570-78855-2 MSD — **Client Sample ID: A2BMP0007S020**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 201952 — **Prep Batch: 201728**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0100	0.01098		mg/L		110	70 - 130	0	10

Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-201399/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201399

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	1000	1000		NTU		100.3	99.0 - 101.0

Lab Sample ID: LCSSRM 570-201399/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201399

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	10.0	10		NTU		101.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-201399/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201399

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

Lab Sample ID: 570-78570-T-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201399

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	70		70		NTU		0.7	25

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-201997/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.00	0.829	mg/L			12/17/21 15:51	1

Lab Sample ID: LCS 570-201997/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201997

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	103.0		mg/L		103	77 - 116

Lab Sample ID: LCSD 570-201997/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 201997

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	101.0		mg/L		101	77 - 116	2	10

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 570-78845-B-1 DU **Client Sample ID: Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 201997

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	66.2			72.60		mg/L				9	10

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Lab Sample ID: 570-78855-5 DU **Client Sample ID: EVBMP0003S031**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205446

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay (less than 0.00391 mm)	4.52			4.12		%				9	20
Coarse Sand (0.5mm to 1mm)	ND			ND		%				NC	20
Fine Sand (0.125 to 0.25mm)	10.48			2.39	F3	%				126	20
Gravel (greater than 2 mm)	ND			ND		%				NC	20
Medium Sand (0.25 to 0.5 mm)	ND			ND		%				NC	20
Silt (0.00391 to 0.0625mm)	56.05			64.50		%				14	20
Total Silt and Clay (0 to 0.0626mm)	60.57			68.62		%				12	20
Very Coarse Sand (1 to 2mm)	ND			ND		%				NC	20
Very Fine Sand (0.0625 to 0.125 mm)	28.95			28.99		%				0.1	20

Specialty Organics

Prep Batch: 552716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Total/NA	Water	8290	
570-78855-2	A2BMP0007S020	Total/NA	Water	8290	
570-78855-3	A2BMP0012S009	Total/NA	Water	8290	
570-78855-4	EVBMP0001S018	Total/NA	Water	8290	
570-78855-5	EVBMP0003S031	Total/NA	Water	8290	
MB 320-552716/1-A	Method Blank	Total/NA	Water	8290	
LCS 320-552716/2-A	Lab Control Sample	Total/NA	Water	8290	
LCSD 320-552716/3-A	Lab Control Sample Dup	Total/NA	Water	8290	

Analysis Batch: 554312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Total/NA	Water	8290	552716
570-78855-2	A2BMP0007S020	Total/NA	Water	8290	552716
570-78855-3	A2BMP0012S009	Total/NA	Water	8290	552716
570-78855-4	EVBMP0001S018	Total/NA	Water	8290	552716
570-78855-5	EVBMP0003S031	Total/NA	Water	8290	552716
MB 320-552716/1-A	Method Blank	Total/NA	Water	8290	552716
LCS 320-552716/2-A	Lab Control Sample	Total/NA	Water	8290	552716
LCSD 320-552716/3-A	Lab Control Sample Dup	Total/NA	Water	8290	552716

Metals

Filtration Batch: 201722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Dissolved	Water	Filtration	
570-78855-2	A2BMP0007S020	Dissolved	Water	Filtration	
570-78855-3	A2BMP0012S009	Dissolved	Water	Filtration	
570-78855-4	EVBMP0001S018	Dissolved	Water	Filtration	
570-78855-5	EVBMP0003S031	Dissolved	Water	Filtration	
MB 570-201722/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-201722/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-201722/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-78855-1 MS	A2BMP0006S012	Dissolved	Water	Filtration	
570-78855-1 MSD	A2BMP0006S012	Dissolved	Water	Filtration	

Filtration Batch: 201724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Dissolved	Water	Filtration	
570-78855-2	A2BMP0007S020	Dissolved	Water	Filtration	
570-78855-3	A2BMP0012S009	Dissolved	Water	Filtration	
570-78855-4	EVBMP0001S018	Dissolved	Water	Filtration	
570-78855-5	EVBMP0003S031	Dissolved	Water	Filtration	
MB 570-201724/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-201724/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-201724/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-78855-2 MS	A2BMP0007S020	Dissolved	Water	Filtration	
570-78855-2 MSD	A2BMP0007S020	Dissolved	Water	Filtration	

Prep Batch: 201728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Dissolved	Water	245.1	201724

Metals (Continued)

Prep Batch: 201728 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-2	A2BMP0007S020	Dissolved	Water	245.1	201724
570-78855-3	A2BMP0012S009	Dissolved	Water	245.1	201724
570-78855-4	EVBMP0001S018	Dissolved	Water	245.1	201724
570-78855-5	EVBMP0003S031	Dissolved	Water	245.1	201724
MB 570-201724/1-B	Method Blank	Dissolved	Water	245.1	201724
LCS 570-201724/2-B	Lab Control Sample	Dissolved	Water	245.1	201724
LCSD 570-201724/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	201724
570-78855-2 MS	A2BMP0007S020	Dissolved	Water	245.1	201724
570-78855-2 MSD	A2BMP0007S020	Dissolved	Water	245.1	201724

Analysis Batch: 201952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Dissolved	Water	245.1	201728
570-78855-2	A2BMP0007S020	Dissolved	Water	245.1	201728
570-78855-3	A2BMP0012S009	Dissolved	Water	245.1	201728
570-78855-4	EVBMP0001S018	Dissolved	Water	245.1	201728
570-78855-5	EVBMP0003S031	Dissolved	Water	245.1	201728
MB 570-201724/1-B	Method Blank	Dissolved	Water	245.1	201728
LCS 570-201724/2-B	Lab Control Sample	Dissolved	Water	245.1	201728
LCSD 570-201724/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	201728
570-78855-2 MS	A2BMP0007S020	Dissolved	Water	245.1	201728
570-78855-2 MSD	A2BMP0007S020	Dissolved	Water	245.1	201728

Analysis Batch: 202353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Dissolved	Water	200.8	201722
570-78855-2	A2BMP0007S020	Dissolved	Water	200.8	201722
570-78855-3	A2BMP0012S009	Dissolved	Water	200.8	201722
570-78855-4	EVBMP0001S018	Dissolved	Water	200.8	201722
570-78855-5	EVBMP0003S031	Dissolved	Water	200.8	201722
MB 570-201722/1-A	Method Blank	Dissolved	Water	200.8	201722
LCS 570-201722/2-A	Lab Control Sample	Dissolved	Water	200.8	201722
LCSD 570-201722/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	201722
570-78855-1 MS	A2BMP0006S012	Dissolved	Water	200.8	201722
570-78855-1 MSD	A2BMP0006S012	Dissolved	Water	200.8	201722

Analysis Batch: 205320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Total Recoverable	Water	200.8	205346
570-78855-2	A2BMP0007S020	Total Recoverable	Water	200.8	205346
570-78855-3	A2BMP0012S009	Total Recoverable	Water	200.8	205346
570-78855-4	EVBMP0001S018	Total Recoverable	Water	200.8	205346
570-78855-5	EVBMP0003S031	Total Recoverable	Water	200.8	205346
MB 570-205346/1-A	Method Blank	Total Recoverable	Water	200.8	205346
LCS 570-205346/2-A	Lab Control Sample	Total Recoverable	Water	200.8	205346
LCSD 570-205346/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	205346
570-80514-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	200.8	205346
570-80514-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	200.8	205346

Metals

Prep Batch: 205346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Total Recoverable	Water	200.8	
570-78855-2	A2BMP0007S020	Total Recoverable	Water	200.8	
570-78855-3	A2BMP0012S009	Total Recoverable	Water	200.8	
570-78855-4	EVBMP0001S018	Total Recoverable	Water	200.8	
570-78855-5	EVBMP0003S031	Total Recoverable	Water	200.8	
MB 570-205346/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-205346/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-205346/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-80514-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	200.8	
570-80514-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

Prep Batch: 664074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Total/NA	Water	245.1	
570-78855-2	A2BMP0007S020	Total/NA	Water	245.1	
570-78855-3	A2BMP0012S009	Total/NA	Water	245.1	
570-78855-4	EVBMP0001S018	Total/NA	Water	245.1	
570-78855-5	EVBMP0003S031	Total/NA	Water	245.1	
MB 440-664074/1-A	Method Blank	Total/NA	Water	245.1	
LCS 440-664074/2-A	Lab Control Sample	Total/NA	Water	245.1	
570-79044-B-1-F MS	Matrix Spike	Total/NA	Water	245.1	
570-79044-B-1-G MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 664187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Total/NA	Water	245.1	664074
570-78855-2	A2BMP0007S020	Total/NA	Water	245.1	664074
570-78855-3	A2BMP0012S009	Total/NA	Water	245.1	664074
570-78855-4	EVBMP0001S018	Total/NA	Water	245.1	664074
570-78855-5	EVBMP0003S031	Total/NA	Water	245.1	664074
MB 440-664074/1-A	Method Blank	Total/NA	Water	245.1	664074
LCS 440-664074/2-A	Lab Control Sample	Total/NA	Water	245.1	664074
570-79044-B-1-F MS	Matrix Spike	Total/NA	Water	245.1	664074
570-79044-B-1-G MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	664074

General Chemistry

Analysis Batch: 201399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-3	A2BMP0012S009	Total/NA	Water	SM 2130B	
570-78855-4	EVBMP0001S018	Total/NA	Water	SM 2130B	
LCSSRM 570-201399/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-201399/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-201399/3	Lab Control Sample	Total/NA	Water	SM 2130B	
570-78570-T-1 DU	Duplicate	Total/NA	Water	SM 2130B	

Analysis Batch: 201997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Total/NA	Water	SM 2540D	
570-78855-2	A2BMP0007S020	Total/NA	Water	SM 2540D	
570-78855-3	A2BMP0012S009	Total/NA	Water	SM 2540D	

General Chemistry (Continued)

Analysis Batch: 201997 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-4	EVBMP0001S018	Total/NA	Water	SM 2540D	
570-78855-5	EVBMP0003S031	Total/NA	Water	SM 2540D	
MB 570-201997/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-201997/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-201997/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-78845-B-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 205446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-78855-1	A2BMP0006S012	Total/NA	Water	D4464	
570-78855-2	A2BMP0007S020	Total/NA	Water	D4464	
570-78855-3	A2BMP0012S009	Total/NA	Water	D4464	
570-78855-4	EVBMP0001S018	Total/NA	Water	D4464	
570-78855-5	EVBMP0003S031	Total/NA	Water	D4464	
LCS 570-205446/16	Lab Control Sample	Total/NA	Water	D4464	
LCSD 570-205446/18	Lab Control Sample Dup	Total/NA	Water	D4464	
570-78855-5 DU	EVBMP0003S031	Total/NA	Water	D4464	

Client Sample ID: A2BMP0006S012 — Lab Sample ID: 570-78855-1

Date Collected: 12/14/21 07:49 — **Matrix: Water**
Date Received: 12/15/21 11:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			849.7 mL	20.0 uL	552716	12/21/21 08:52	CB	TAL SAC
Total/NA	Analysis	8290		1			554312	12/28/21 00:09	GRB	TAL SAC
	Instrument ID: DFS 1									
Dissolved	Filtration	Filtration			50 mL	50 mL	201722	12/15/21 14:39	UIAS	ECL 1
Dissolved	Analysis	200.8		1			202353	12/19/21 20:55	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.8			50 mL	50 mL	205346	01/04/22 08:28	UFLE	ECL 1
Total Recoverable	Analysis	200.8		1			205320	01/04/22 19:53	UFLE	ECL 1
	Instrument ID: ICPMS05									
Dissolved	Filtration	Filtration			50 mL	50 mL	201724	12/15/21 14:39	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	201728	12/16/21 12:02	WL8G	ECL 1
Dissolved	Analysis	245.1		1			201952	12/17/21 17:59	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			20 mL	30 mL	664074	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 17:49	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	850 mL	1000 mL	201997	12/17/21 15:51	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 13:36	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: A2BMP0007S020 — Lab Sample ID: 570-78855-2

Date Collected: 12/14/21 08:30 — **Matrix: Water**
Date Received: 12/15/21 11:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1016.6 mL	20.0 uL	552716	12/21/21 08:52	CB	TAL SAC
Total/NA	Analysis	8290		1			554312	12/28/21 00:57	GRB	TAL SAC
	Instrument ID: DFS 1									
Dissolved	Filtration	Filtration			50 mL	50 mL	201722	12/15/21 14:39	UIAS	ECL 1
Dissolved	Analysis	200.8		1			202353	12/19/21 21:04	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.8			50 mL	50 mL	205346	01/04/22 08:28	UFLE	ECL 1
Total Recoverable	Analysis	200.8		1			205320	01/04/22 19:56	UFLE	ECL 1
	Instrument ID: ICPMS05									
Dissolved	Filtration	Filtration			50 mL	50 mL	201724	12/15/21 14:39	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	201728	12/16/21 12:02	WL8G	ECL 1
Dissolved	Analysis	245.1		1			201952	12/17/21 18:01	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			20 mL	30 mL	664074	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 17:51	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	700 mL	1000 mL	201997	12/17/21 15:51	VWM4	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: A2BMP0007S020 — Lab Sample ID: 570-78855-2

Date Collected: 12/14/21 08:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D4464		1			205446	01/04/22 13:44	C4LT	ECL 1

Client Sample ID: A2BMP0012S009 — Lab Sample ID: 570-78855-3

Date Collected: 12/14/21 08:15 **Matrix: Water**
Date Received: 12/15/21 11:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1043 mL	20.0 uL	552716	12/21/21 08:52	CB	TAL SAC
Total/NA	Analysis	8290		1			554312	12/28/21 01:45	GRB	TAL SAC
	Instrument ID: DFS 1									
Dissolved	Filtration	Filtration			50 mL	50 mL	201722	12/15/21 14:39	UIAS	ECL 1
Dissolved	Analysis	200.8		1			202353	12/19/21 21:08	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.8			50 mL	50 mL	205346	01/04/22 08:28	UFLE	ECL 1
Total Recoverable	Analysis	200.8		1			205320	01/04/22 19:59	UFLE	ECL 1
	Instrument ID: ICPMS05									
Dissolved	Filtration	Filtration			50 mL	50 mL	201724	12/15/21 14:39	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	201728	12/16/21 12:02	WL8G	ECL 1
Dissolved	Analysis	245.1		1			201952	12/17/21 18:07	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			20 mL	30 mL	664074	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 17:53	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2130B		1			201399	12/15/21 15:08	WN6Y	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	800 mL	1000 mL	201997	12/17/21 15:51	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 13:51	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: EVBMP0001S018 — Lab Sample ID: 570-78855-4

Date Collected: 12/14/21 07:30 **Matrix: Water**
Date Received: 12/15/21 11:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1031.1 mL	20.0 uL	552716	12/21/21 08:52	CB	TAL SAC
Total/NA	Analysis	8290		1			554312	12/28/21 02:33	GRB	TAL SAC
	Instrument ID: DFS 1									
Dissolved	Filtration	Filtration			50 mL	50 mL	201722	12/15/21 14:39	UIAS	ECL 1
Dissolved	Analysis	200.8		1			202353	12/19/21 21:11	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.8			50 mL	50 mL	205346	01/04/22 08:28	UFLE	ECL 1
Total Recoverable	Analysis	200.8		1			205320	01/04/22 20:02	UFLE	ECL 1
	Instrument ID: ICPMS05									

Client Sample ID: EVBMP0001S018 — Lab Sample ID: 570-78855-4

Date Collected: 12/14/21 07:30 — **Matrix: Water**
Date Received: 12/15/21 11:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	201724	12/15/21 14:39	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	201728	12/16/21 12:02	WL8G	ECL 1
Dissolved	Analysis	245.1		1			201952	12/17/21 18:09	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			20 mL	30 mL	664074	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 17:55	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2130B		1			201399	12/15/21 15:08	WN6Y	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	900 mL	1000 mL	201997	12/17/21 15:51	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 13:57	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: EVBMP0003S031 — Lab Sample ID: 570-78855-5

Date Collected: 12/14/21 08:01 — **Matrix: Water**
Date Received: 12/15/21 11:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1040.4 mL	20.0 uL	552716	12/21/21 08:52	CB	TAL SAC
Total/NA	Analysis	8290		1			554312	12/28/21 03:21	GRB	TAL SAC
	Instrument ID: DFS 1									
Dissolved	Filtration	Filtration			50 mL	50 mL	201722	12/15/21 14:39	UIAS	ECL 1
Dissolved	Analysis	200.8		1			202353	12/19/21 21:14	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.8			50 mL	50 mL	205346	01/04/22 08:28	UFLE	ECL 1
Total Recoverable	Analysis	200.8		1			205320	01/04/22 20:05	UFLE	ECL 1
	Instrument ID: ICPMS05									
Dissolved	Filtration	Filtration			50 mL	50 mL	201724	12/15/21 14:39	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	201728	12/16/21 12:02	WL8G	ECL 1
Dissolved	Analysis	245.1		1			201952	12/17/21 18:11	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			20 mL	30 mL	664074	01/10/22 10:10	VZ0K	IRV 2
Total/NA	Analysis	245.1		1			664187	01/10/22 17:57	C0YH	IRV 2
	Instrument ID: CV-HG4									
Total/NA	Analysis	SM 2540D		1	250 mL	1000 mL	201997	12/17/21 15:51	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 14:04	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022
TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Jacobs Engineering Group, Inc. Job ID: 570-78855-1
Project/Site: NASA SSFL CJ042 Stormwater

Laboratory: Eurofins Calscience

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2944	09-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D4464		Water	Clay (less than 0.00391 mm)
D4464		Water	Coarse Sand (0.5mm to 1mm)
D4464		Water	Fine Sand (0.125 to 0.25mm)
D4464		Water	Gravel (greater than 2 mm)
D4464		Water	Medium Sand (0.25 to 0.5 mm)
D4464		Water	Silt (0.00391 to 0.0625mm)
D4464		Water	Total Silt and Clay (0 to 0.0626mm)
D4464		Water	Very Coarse Sand (1 to 2mm)
D4464		Water	Very Fine Sand (0.0625 to 0.125 mm)

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2897	01-31-22

Method Summary

Client: Jacobs Engineering Group, Inc. Job ID: 570-78855-1
Project/Site: NASA SSFL CJ042 Stormwater

Method	Method Description	Protocol	Laboratory
8290	Dioxins and Furans (HRGC/HRMS)	SW846	TAL SAC
200.8	Metals (ICP/MS)	EPA	ECL 1
245.1	Mercury (CVAA)	EPA	ECL 1
245.1	Mercury (CVAA)	EPA	IRV 2
SM 2130B	Turbidity	SM	ECL 1
SM 2540D	Solids, Total Suspended (TSS)	SM	ECL 1
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.8	Preparation, Total Recoverable Metals	EPA	ECL 1
245.1	Preparation, Mercury	EPA	ECL 1
245.1	Preparation, Mercury	EPA	IRV 2
8290	Separatory Funnel (Liquid-Liquid) Extraction of Dioxins and Furans	SW846	TAL SAC
Filtration	Sample Filtration	None	ECL 1

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022
TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Jacobs Engineering Group, Inc. Job ID: 570-78855-1
Project/Site: NASA SSFL CJ042 Stormwater

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-78855-1	A2BMP0006S012	Water	12/14/21 07:49	12/15/21 11:21
570-78855-2	A2BMP0007S020	Water	12/14/21 08:30	12/15/21 11:21
570-78855-3	A2BMP0012S009	Water	12/14/21 08:15	12/15/21 11:21
570-78855-4	EVBMP0001S018	Water	12/14/21 07:30	12/15/21 11:21
570-78855-5	EVBMP0003S031	Water	12/14/21 08:01	12/15/21 11:21

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Instrument ID: DFS 1 Analysis Batch Number: 543974

Lab Sample ID: IC 320-543974/3 Client Sample ID:

Date Analyzed: 11/18/21 15:26 Lab File ID: 18no21adfs1_4.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-1,2,3,4-TCDD	22.46	Peak assignment corrected	stephensk	11/18/21 16:21

Lab Sample ID: ICV 320-543974/9 Client Sample ID:

Date Analyzed: 11/18/21 20:32 Lab File ID: 18no21adfs1_11.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDD	22.91	Poor chromatography	stephensk	11/19/21 09:06

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Instrument ID: DFS 1 Analysis Batch Number: 554312

Lab Sample ID: CCV 320-554312/2 Client Sample ID:

Date Analyzed: 12/27/21 20:10 Lab File ID: 27de21adfs1_13.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	20.03	Peak assignment corrected	stephensk	12/28/21 08:27

Lab Sample ID: MB 320-552716/1-A Client Sample ID:

Date Analyzed: 12/27/21 20:58 Lab File ID: 27de21adfs1_14.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	26.99	Missed Peak	bilottag	12/28/21 13:42
13C-1,2,3,4,7,8-HxCDF	34.73	Peak assignment corrected	stephensk	12/28/21 08:35
1,2,3,4,7,8-HxCDF	34.74	Missed Peak	bilottag	12/28/21 13:42
1,2,3,6,7,8-HxCDF	34.93	Missed Peak	bilottag	12/28/21 13:42
2,3,4,6,7,8-HxCDF	35.76	Missed Peak	bilottag	12/28/21 13:43
1,2,3,4,7,8-HxCDD	35.99	Split Peak	bilottag	12/28/21 13:43
1,2,3,6,7,8-HxCDD	36.09	Split Peak	bilottag	12/28/21 13:43
1,2,3,7,8,9-HxCDF	36.69	Incomplete Integration	bilottag	12/28/21 13:43
1,2,3,4,6,7,8-HpCDF	38.55	Peak Tail	bilottag	12/28/21 13:45
1,2,3,4,7,8,9-HpCDF	39.80	Missed Peak	bilottag	12/28/21 13:44
OCDF	42.10	Peak Tail	bilottag	12/28/21 13:46

Lab Sample ID: 570-78855-1 Client Sample ID: A2BMP0006S012

Date Analyzed: 12/28/21 00:09 Lab File ID: 27de21adfs1_18.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	26.97	Missed Peak	bilottag	12/28/21 13:55
1,2,3,4,7,8-HxCDF	34.74	Missed Peak	bilottag	12/28/21 13:55
1,2,3,6,7,8-HxCDF	34.88	Missed Peak	bilottag	12/28/21 13:55
2,3,4,6,7,8-HxCDF	35.74	Missed Peak	bilottag	12/28/21 13:56
1,2,3,7,8,9-HxCDD	36.46	Split Peak	bilottag	12/28/21 13:58
1,2,3,7,8,9-HxCDF	36.66	Missed Peak	bilottag	12/28/21 13:56

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DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Instrument ID: DFS 1 Analysis Batch Number: 554312

Lab Sample ID: 570-78855-2 Client Sample ID: A2BMP0007S020

Date Analyzed: 12/28/21 00:57 Lab File ID: 27de21adfs1_19.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	26.97	Peak Tail	bilottag	12/28/21 13:59
1,2,3,7,8-PeCDD	29.26	Missed Peak	bilottag	12/28/21 14:00
1,2,3,4,7,8-HxCDF	34.72	Missed Peak	bilottag	12/28/21 14:01
1,2,3,6,7,8-HxCDF	34.88	Missed Peak	bilottag	12/28/21 14:01
2,3,4,6,7,8-HxCDF	35.71	Peak Tail	bilottag	12/28/21 14:02
1,2,3,7,8,9-HxCDD	36.45	Peak Tail	bilottag	12/28/21 14:02
1,2,3,7,8,9-HxCDF	36.65	Peak Tail	bilottag	12/28/21 14:02
1,2,3,4,7,8,9-HpCDF	39.77	Missed Peak	bilottag	12/28/21 14:02

Lab Sample ID: 570-78855-3 Client Sample ID: A2BMP0012S009

Date Analyzed: 12/28/21 01:45 Lab File ID: 27de21adfs1_20.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	26.94	Missed Peak	bilottag	12/28/21 14:04
2,3,4,6,7,8-HxCDF	35.74	Split Peak	bilottag	12/28/21 14:04
1,2,3,7,8,9-HxCDD	36.46	Split Peak	bilottag	12/28/21 14:05
1,2,3,7,8,9-HxCDF	36.64	Split Peak	bilottag	12/28/21 14:04

Lab Sample ID: 570-78855-4 Client Sample ID: EVBMP0001S018

Date Analyzed: 12/28/21 02:33 Lab File ID: 27de21adfs1_21.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	26.93	Missed Peak	bilottag	12/28/21 14:05
13C-1,2,3,4,7,8-HxCDF	34.69	Missed Peak	bilottag	12/28/21 14:06
1,2,3,7,8,9-HxCDD	36.46	Baseline	bilottag	12/28/21 14:06
1,2,3,7,8,9-HxCDF	36.64	Peak Tail	bilottag	12/28/21 14:06
1,2,3,4,6,7,8-HpCDD	39.48	Peak Tail	bilottag	12/28/21 14:07
OCDF	42.06	Peak Tail	bilottag	12/28/21 14:07

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DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Instrument ID: DFS 1 Analysis Batch Number: 554312

Lab Sample ID: 570-78855-5 Client Sample ID: EVBMP0003S031

Date Analyzed: 12/28/21 03:21 Lab File ID: 27de21adfs1_22.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	26.97	Missed Peak	bilottag	12/28/21 14:09
1,2,3,7,8-PeCDD	29.28	Peak Tail	bilottag	12/28/21 14:09
13C-1,2,3,4,7,8-HxCDF	34.70	Peak assignment corrected	stephensk	12/28/21 08:38
1,2,3,4,7,8-HxCDF	34.71	Split Peak	bilottag	12/28/21 14:10
1,2,3,6,7,8-HxCDF	34.89	Split Peak	bilottag	12/28/21 14:10
1,2,3,6,7,8-HxCDD	36.08	Peak Tail	bilottag	12/28/21 14:11
1,2,3,7,8,9-HxCDD	36.46	Peak Tail	bilottag	12/28/21 14:11
1,2,3,7,8,9-HxCDF	36.65	Split Peak	bilottag	12/28/21 14:10

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HG_1ppm ICV_00035	12/30/21	07/01/21	DI Water, Lot n/a	100 mL	MT-Hg-CS_00005	0.1 mL	Mercury	1 mg/L
.MT-Hg-CS_00005	11/30/22	High Purity Standards, Lot 2107432-50			(Purchased Reagent)		Mercury	1000 ug/mL
HG_1ppm STD_00040	12/31/21	11/30/21	DI Water, Lot n/a	100 mL	Hg 100ppm 1st_00001	1 mL	Mercury	1 mg/L
.Hg 100ppm 1st_00001	01/30/25	AccuStandard, Lot 220015025			(Purchased Reagent)		Mercury	100 ug/mL
Hg_H2SO4_00010	06/29/22	Fisher, Lot 3120011			(Purchased Reagent)		Sulfuric acid	98 mg/L
Hg_K2S2O3_00006	02/22/22	02/22/21	DI Water, Lot N/A	10 L	HG_7440K2S2O8_00001	500 g	Potassium persulfate	4950000 mg/L
.HG_7440K2S2O8_00001	02/27/22	AcrosOrganic, Lot A0379062			(Purchased Reagent)		Potassium persulfate	99 g/g
Hg_KMnO4_00006	07/28/22	07/30/21	DI Water, Lot N/A	10 L	HG_7471_KMNO4_00002	500 g	Potassium Permanganate	5000000 mg/L
.HG_7471_KMNO4_00002	08/22/23	VWR, Lot 0277-C094			(Purchased Reagent)		Potassium Permanganate	100 g/g
Hg_NaCl-NH2OH_00018	07/06/22	07/07/21	DI Water, Lot N/A	10 L	HG_7470_NH3OH_00006	500 g	Hydroxylamine hydrochloride	0.00495 L
					HG_7470_NaCl_00003	10 Kg	Sodium Chloride	99000 L
.HG_7470_NH3OH_00006	03/20/25	FISHER, Lot 200072			(Purchased Reagent)		Hydroxylamine hydrochloride	99 g
.HG_7470_NaCl_00003	10/06/25	Fisher, Lot 196616			(Purchased Reagent)		Sodium Chloride	99 g/g
MI_Fine Sand_00006	06/13/23	10/06/21		1295 g	MI_WashedSand_00002	1295 g	Fine Sand (0.125 to 0.25mm)	100 %
							Medium Sand (0.25 to 0.5 mm)	100 %
.MI_WashedSand_00002	06/19/25	Fisher, Lot 204834A			(Purchased Reagent)		Fine Sand (0.125 to 0.25mm)	100 %
							Medium Sand (0.25 to 0.5 mm)	100 %
MT: 1:1 HCl_00005	07/09/22	07/16/21	DI Water, Lot Di water	500 mL	MT_ HCl Conc._00016	250 mL	Hydrogen Chloride	18.5 mL
.MT_ HCl Conc._00016	07/09/22	Fisher Scientific, Lot 4120070			(Purchased Reagent)		Hydrogen Chloride	37 mL
MT_1:1HNO3_00008	04/28/22	06/14/21	DI Water, Lot di water	2500 mL	MT_HNO3 Con_00020	1250 mL	Nitric acid	0.0035 %
.MT_HNO3 Con_00020	04/28/22	Fisher Chemical, Lot 1120120			(Purchased Reagent)		Nitric acid	70 mL
MT_1:1HNO3_00009	07/09/22	07/14/21	DI Water, Lot di water	2500 mL	MT_HNO3 Con_00025	1250 mL	Nitric acid	0.0035 %
.MT_HNO3 Con_00025	07/09/22	Fisher Chemical, Lot 1120120			(Purchased Reagent)		Nitric acid	70 mL
MT_HNO3 Con_00022	05/27/22	Fisher Chemical, Lot 1120050			(Purchased Reagent)		Nitric acid	70 mL
MT_ICP_Spike1_00012	04/30/22	08/02/21	DI Water, Lot 101320	1000 mL	MT-As-SpS_00001	10 mL	As	100 ug/mL
					MT-Be-SpS_00001	10 mL	Be	100 ug/mL
					MT-Ca-SpS_00001	10 mL	Ca	100 ug/mL
					MT-Cd-SpS_00001	10 mL	Cadmium	100 ug/mL
					MT-Co-SpS_00001	10 mL	Co	100 ug/mL
					MT-Cr-SpS_00001	10 mL	Cr	100 ug/mL
					MT-Fe-SpS_00001	10 mL	Fe	100 ug/mL
					MT-Mg-SpS_00001	10 mL	Mg	100 ug/mL
					MT-Mn-SpS_00001	10 mL	Mn	100 ug/mL
					MT-Ni-SpS_00001	10 mL	Ni	100 ug/mL
					MT-P-SpS_00001	10 mL	P	100 ug/mL
					MT-Pb-SpS_00001	10 mL	Lead	100 ug/mL
					MT-Sb-SpS_00001	10 mL	Sb	100 ug/mL
					MT-Se-SpS_00001	10 mL	Se	100 ug/mL
					MT-Sr-SpS_00001	10 mL	Sr	100 ug/mL
					MT-Ti-SpS_00001	10 mL	Ti	100 ug/mL
					MT-Tl-SpS_00001	10 mL	Tl	100 ug/mL
					MT-V-SpS_00001	10 mL	V	100 ug/mL
					MT-Zn-SpS_00001	10 mL	Zn	100 ug/mL
					MT_ICP_Cu_SpS_00003	10 mL	Copper	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MT_ICP_Mo_SpS_00003	10 mL	Mo	100.14 ug/mL
					MT_ICP_Sn_SpS_00004	10 mL	Sn	100.06 ug/mL
.MT-As-SpS_00001	04/30/23	AccuStandard, Lot 218045118			(Purchased Reagent)		As	10000 ug/mL
.MT-Be-SpS_00001	02/28/23	Ultra, Lot CP-0170			(Purchased Reagent)		Be	10000 ug/mL
.MT-Ca-SpS_00001	04/30/23	Ultra, Lot CP-0877			(Purchased Reagent)		Ca	10000 ug/mL
.MT-Cd-SpS_00001	02/28/23	Ultra, Lot CP-0156			(Purchased Reagent)		Cadmium	10000 ug/mL
.MT-Co-SpS_00001	05/31/23	Ultra, Lot CP-2011			(Purchased Reagent)		Co	10000 ug/mL
.MT-Cr-SpS_00001	05/31/23	Ultra, Lot CP-1768			(Purchased Reagent)		Cr	10000 ug/mL
.MT-Fe-SpS_00001	08/31/24	Ultra, Lot CR-3137			(Purchased Reagent)		Fe	10000 ug/mL
.MT-Mg-SpS_00001	09/30/22	Ultra, Lot CM-4445			(Purchased Reagent)		Mg	10000 ug/mL
.MT-Mn-SpS_00001	01/31/24	Ultra, Lot M00334A			(Purchased Reagent)		Mn	10000 ug/mL
.MT-Ni-SpS_00001	02/28/23	Ultra, Lot CP-0006			(Purchased Reagent)		Ni	10000 ug/mL
.MT-P-SpS_00001	09/10/23	Ultra, Lot CP-4381			(Purchased Reagent)		P	10000 ug/mL
.MT-Pb-SpS_00001	07/31/22	Ultra, Lot CM-3300			(Purchased Reagent)		Lead	10000 ug/mL
.MT-Sb-SpS_00001	06/30/23	Ultra, Lot CP-2412			(Purchased Reagent)		Sb	10000 ug/mL
.MT-Se-SpS_00001	11/30/22	Ultra, Lot CM-5316			(Purchased Reagent)		Se	10000 ug/mL
.MT-Sr-SpS_00001	09/30/22	Ultra, Lot CM-4363			(Purchased Reagent)		Sr	10000 ug/mL
.MT-Ti-SpS_00001	04/30/22	Ultra, Lot CM-1138			(Purchased Reagent)		Ti	10000 ug/mL
.MT-Tl-SpS_00001	05/31/23	Ultra, Lot CP-2010			(Purchased Reagent)		Tl	10000 ug/mL
.MT-V-SpS_00001	08/31/23	Ultra, Lot CP-3591			(Purchased Reagent)		V	10000 ug/mL
.MT-Zn-SpS_00001	02/28/23	Ultra, Lot CP-0155			(Purchased Reagent)		Zn	10000 ug/mL
.MT_ICP_Cu_SpS_00003	03/31/26	Agilent, Lot CT-0623			(Purchased Reagent)		Copper	10000 ug/mL
.MT_ICP_Mo_SpS_00003	02/28/26	Agilent, Lot CS-6398			(Purchased Reagent)		Mo	10014 ug/mL
.MT_ICP_Sn_SpS_00004	11/30/26	Agilent, Lot CT-0014			(Purchased Reagent)		Sn	10006 ug/mL
MT_ICP_Spike2_00015	01/31/23	09/01/21	HNO3, Lot 092220	1000 mL	MT-Na-SpS_00004	100 mL	Na	1000 ug/mL
					MT_ICP_Ag_SpS_00004	50 mL	Ag	50 ug/mL
					MT_ICP_Al_SpS_00003	10 mL	Al	100 ug/mL
					MT_ICP_B_SpS_00003	10 mL	B	100 ug/mL
					MT_ICP_Ba_SpS_00002	10 mL	Ba	100 ug/mL
					MT_ICP_K_SpS_00001	100 mL	K	1000 ug/mL
					MT_ICP_Si_SpS_00009	10 mL	Si	100 ug/mL
							SiO2	214 ug/mL
.MT-Na-SpS_00004	12/30/26	Agilent, Lot 0006505205			(Purchased Reagent)		Na	10000 ug/mL
.MT_ICP_Ag_SpS_00004	09/30/23	Ultra, Lot CP-4409			(Purchased Reagent)		Ag	1000 ug/mL
.MT_ICP_Al_SpS_00003	09/30/23	Ultra, Lot CS-5087			(Purchased Reagent)		Al	10000 ug/mL
.MT_ICP_B_SpS_00003	04/30/25	Ultra, Lot CS-1374			(Purchased Reagent)		B	10000 ug/mL
.MT_ICP_Ba_SpS_00002	01/31/23	Ultra Scientific, Lot CM-6544			(Purchased Reagent)		Ba	10000 ug/mL
.MT_ICP_K_SpS_00001	04/30/24	Ultra, Lot CR-0917			(Purchased Reagent)		K	10000 ug/mL
.MT_ICP_Si_SpS_00009	06/30/26	Agilent, Lot 0006468201			(Purchased Reagent)		Si	10000 ug/mL
							SiO2	21400 ug/mL
MT_MS_CCV_00010	12/30/21	03/30/21	1% HNO3, Lot DIWATER	1000 mL	MT_MS_IC_00014	500 mL	Cadmium	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
.MT_MS_IC_00014	12/30/21	03/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00005	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
..MT_MS_ICS2_00005	12/30/21	SPEX, Lot CL1-12MJY			(Purchased Reagent)		Cadmium	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_CCV_00011	09/30/22	01/03/22	1% HNO3, Lot DIWATER	1000 mL	MT_MS_IC_00015	500 mL	Cadmium	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
.MT_MS_IC_00015	09/30/22	12/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00006	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
..MT_MS_ICS2_00006	11/30/22		SPEX, Lot CL3-144MJY		(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_IC_00014	12/30/21	03/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00005	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
.MT_MS_ICS2_00005	12/30/21		SPEX, Lot CL1-12MJY		(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_IC_00015	09/30/22	12/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00006	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
.MT_MS_ICS2_00006	11/30/22		SPEX, Lot CL3-144MJY		(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_ICS_A_00006	04/30/22	04/14/21	1% HNO3, Lot DIWATER	500 mL	MT_MS_INT_A_00005	5 mL	Al	10 mg/L
							Ca	30 mg/L
							Fe	25 mg/L
							K	10 mg/L
							Mg	10 mg/L
							Mo	0.2 mg/L
							Na	25 mg/L
							Ti	0.2 mg/L
.MT_MS_INT_A_00005	04/30/22		Spex, Lot CL51-063CRY		(Purchased Reagent)		Al	1000 mg/L
							Ca	3000 mg/L
							Fe	2500 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	2500 mg/L
							Ti	20 mg/L
MT_MS_ICS_AB_00008	02/26/22	11/01/21	1% HNO3, Lot DIWAATER	500 mL	MT_MS_INT_A_00005	5 mL	Al	10 mg/L
							Ca	30 mg/L
							Fe	25 mg/L
							K	10 mg/L
							Mg	10 mg/L
							Mo	0.2 mg/L
							Na	25 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ti	0.2 mg/L
					MT_MS_Int_B_00006	0.5 mL	Ag	0.005 mg/L
							As	0.01 mg/L
							Cadmium	0.01 mg/L
							Co	0.02 mg/L
							Copper	0.02 mg/L
							Cr	0.02 mg/L
							Mn	0.02 mg/L
							Ni	0.02 mg/L
							Se	0.01 mg/L
							V	0.02 mg/L
							Zn	0.01 mg/L
.MT_MS_INT_A_00005	04/30/22		Spex, Lot CL51-063CRY		(Purchased Reagent)		Al	1000 mg/L
							Ca	3000 mg/L
							Fe	2500 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	2500 mg/L
							Ti	20 mg/L
.MT_MS_Int_B_00006	10/28/22		Spex, Lot CL3-075SGY		(Purchased Reagent)		Ag	5 mg/L
							As	10 mg/L
							Cadmium	10 mg/L
							Co	20 mg/L
							Copper	20 mg/L
							Cr	20 mg/L
							Mn	20 mg/L
							Ni	20 mg/L
							Se	10 mg/L
							V	20 mg/L
							Zn	10 mg/L
MT_MS_ICV1_00007	04/30/22	08/02/21	1% Nitric Acid, Lot DIWATER	2000 mL	MT_ICP_Spike1_00012	2 mL	Cadmium	0.1 ug/mL
							Lead	0.1 ug/mL
							Copper	0.1 ug/mL
.MT_ICP_Spike1_00012	04/30/22	08/02/21	DI Water, Lot 101320	1000 mL	MT-Cd-SpS_00001	10 mL	Cadmium	100 ug/mL
					MT-Pb-SpS_00001	10 mL	Lead	100 ug/mL
					MT_ICP_Cu_SpS_00003	10 mL	Copper	100 ug/mL
..MT-Cd-SpS_00001	02/28/23		Ultra, Lot CP-0156		(Purchased Reagent)		Cadmium	10000 ug/mL
..MT-Pb-SpS_00001	07/31/22		Ultra, Lot CM-3300		(Purchased Reagent)		Lead	10000 ug/mL
..MT_ICP_Cu_SpS_00003	03/31/26		Agilent, Lot CT-0623		(Purchased Reagent)		Copper	10000 ug/mL
MT_MS_LL_00010	12/30/21	03/30/21	1% HNO3, Lot DIWATER	100 mL	MT_MS_CCV_00010	1 mL	Cadmium	0.001 mg/L
							Copper	0.001 mg/L
							Lead	0.001 mg/L
.MT_MS_CCV_00010	12/30/21	03/30/21	1% HNO3, Lot DIWATER	1000 mL	MT_MS_IC_00014	500 mL	Cadmium	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MT_MS_IC_00014	12/30/21	03/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00005	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
...MT_MS_ICS2_00005	12/30/21	SPEX, Lot CL1-12MJY			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_LL_00011	03/12/22	01/03/22	1% HNO3, Lot DIWATER	100 mL	MT_MS_CCV_00011	1 mL	Cadmium	0.001 mg/L
							Copper	0.001 mg/L
							Lead	0.001 mg/L
.MT_MS_CCV_00011	09/30/22	01/03/22	1% HNO3, Lot DIWATER	1000 mL	MT_MS_IC_00015	500 mL	Cadmium	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
..MT_MS_IC_00015	09/30/22	12/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00006	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
...MT_MS_ICS2_00006	11/30/22	SPEX, Lot CL3-144MJY			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_SPIKE_3_00002	12/31/22	07/09/19	2% Nitric Acid, Lot DIWATER	1000 mL	MT_MS_Ca10000_00001	100 mL	Ca	1000 mg/L
					MT_MS_Fe10000_00001	100 mL	Fe	1000 mg/L
					MT_MS_Mg10000_00001	100 mL	Mg	1000 mg/L
.MT_MS_Ca10000_00001	09/30/24	Ultra, Lot CR-3808			(Purchased Reagent)		Ca	10000 mg/L
.MT_MS_Fe10000_00001	08/31/24	Ultra, Lot ICP-126-L			(Purchased Reagent)		Fe	10000 mg/L
.MT_MS_Mg10000_00001	04/20/23	Ultra, Lot ICP-112-L			(Purchased Reagent)		Mg	10000 mg/L
WC_TSS_STD_00029	05/05/22	11/05/21	DI Water, Lot NA	10 L	WC_TSS_STK_00006	1 g	Total Suspended Solids	100 mg/L
.WC_TSS_STK_00006	11/05/26	SIGMA, Lot SLCB7764			(Purchased Reagent)		Total Suspended Solids	1 g/g
WC_TUR_STD_00017	02/28/23	PROCAL, Lot 210292/210274			(Purchased Reagent)		Turbidity	0.02 NTU
WC_TUR_STD_00018	02/28/23	PROCAL, Lot 210292/210250			(Purchased Reagent)		Turbidity	10 NTU
WC_TUR_STD_00019	02/28/23	PROCAL, Lot 210292/210221			(Purchased Reagent)		Turbidity	1000 NTU
WC_TUR_STD_00022	07/31/22	HACH, Lot A0196			(Purchased Reagent)		Turbidity	4000 NTU

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ME .5 PPM HG1_00166	06/21/22	12/21/21	0.15% HNO3, Lot 0000269681	50 mL	ME 0.15% HNO3_00043	47.5 mL	Nitric acid	983.25 mg/L
					ME 10PPM HG2_00021	2.5 mL	Mercury	0.5 mg/L
.ME 0.15% HNO3_00043	06/21/22	12/21/21	Di Water, Lot N/A	1 L	ME HNO3_00724	1.5 mL	Nitric acid	1035 mg/L
..ME HNO3_00724	12/20/22		Fisher, Lot 1121070		(Purchased Reagent)		Nitric acid	69 %
.ME 10PPM HG2_00021	09/30/22		CPI, Lot 10120615-2		(Purchased Reagent)		Mercury	10 mg/L
ME .5 PPM HG1_00167	03/15/22	12/21/21	0.15% HNO3, Lot 0000269681	50 mL	ME 0.15% HNO3_00043	47.5 mL	Nitric acid	983.25 mg/L
					ME 10PPM_00020	2.5 mL	Mercury	0.5 mg/L
.ME 0.15% HNO3_00043	06/21/22	12/21/21	Di Water, Lot N/A	1 L	ME HNO3_00724	1.5 mL	Nitric acid	1035 mg/L
..ME HNO3_00724	12/20/22		Fisher, Lot 1121070		(Purchased Reagent)		Nitric acid	69 %
.ME 10PPM_00020	03/15/22		CPI, Lot 1132795-17		(Purchased Reagent)		Mercury	10 mg/L
ME 1 PPM HG1_00529	03/15/22	12/21/21	0.15% HNO3, Lot 0000269681	50 mL	ME 0.15% HNO3_00043	45 mL	Nitric acid	931.5 mg/L
					ME 10PPM_00020	5 mL	Mercury	1 mg/L
.ME 0.15% HNO3_00043	06/21/22	12/21/21	Di Water, Lot N/A	1 L	ME HNO3_00724	1.5 mL	Nitric acid	1035 mg/L
..ME HNO3_00724	12/20/22		Fisher, Lot 1121070		(Purchased Reagent)		Nitric acid	69 %
.ME 10PPM_00020	03/15/22		CPI, Lot 1132795-17		(Purchased Reagent)		Mercury	10 mg/L
ME H2SO4_00102	12/29/25		Avantor, Lot 0000276386		(Purchased Reagent)		Sulfuric acid	96.5 %
ME HNO3_00724	12/20/22		Fisher, Lot 1121070		(Purchased Reagent)		Nitric acid	69 %
ME HYDROX SOL_00161	06/30/22	12/30/21	Di Water, Lot n/a	1 L	ME H8N2O6S_00096	120 g	Hydroxylamine sulfate	11.952 %
					ME NACL_00036	120 g	Sodium Chloride	11.964 %
.ME H8N2O6S_00096	06/10/31		Alfa Aesar, Lot S11H065		(Purchased Reagent)		Hydroxylamine sulfate	99.6 %
.ME NACL_00036	05/31/24		Fisher Chemical, Lot 212967		(Purchased Reagent)		Sodium Chloride	99.7 %
ME K2S2O8_00109	04/07/22	12/21/21	Di Water, Lot n/a	1 L	ME K2S2O8_00106	50 g	Potassium persulfate	5 %
.ME K2S2O8_00106	12/31/25		fisher, Lot 206028		(Purchased Reagent)		Potassium persulfate	100 %
ME KMNO4_00236	06/21/22	12/21/21	Di Water, Lot n/a	6 L	ME KMNO4_00056	300 g	Potassium Permanganate	4.965 %
.ME KMNO4_00056	03/31/26		Fisher, Lot 210839		(Purchased Reagent)		Potassium Permanganate	99.3 %

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00044	05/12/22	05/12/21	C14, Lot STBJ7343	6 mL	HRDXNCP_00043	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00043	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00048	08/02/22	09/10/21	C14, Lot STBJ3715	0.5 mL	HRDXNIDA_00435	125 uL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00465	250 uL	13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
					HRDXNIDA_00486	250 uL	13C-OCDD	200 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
					HRDXNSU_00258	50 uL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00124	500 uL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00435	05/31/26	08/25/20	Isooctane, Lot B00S6184	100 mL	HRDXNIDA_00419	800 uL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00419	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00465	08/31/24	01/19/21	Isooctane, Lot B00S6184	250 mL	HRDXNIDA_00460	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00461	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00462	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
..HRDXNIDA_00460	01/31/29		CIL, Lot ER102111904		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00461	10/31/26		CIL, Lot ER09271601		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00462	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
.HRDXNIDA_00486	10/27/24	09/09/21	Isooctane, Lot B00S6184	25 mL	HRDXNIDA_00483	2.5 mL	13C-OCDD	0.4 ug/mL
							13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
							13C-2,3,7,8-TCDF	0.2 ug/mL
							13C-2,3,7,8-TCDD	0.2 ug/mL
							13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
..HRDXNIDA_00483	11/30/24	08/21/21	Acetone, Lot 0000274597	25 mL	HRDXNIDA_00398	10 mL	13C-OCDD	4 ug/mL
					HRDXNIDA_00475	1 mL	13C-1,2,3,6,7,8-HxCDD	2 ug/mL
					HRDXNIDA_00476	1 mL	13C-2,3,7,8-TCDF	2 ug/mL
					HRDXNIDA_00477	1 mL	13C-2,3,7,8-TCDD	2 ug/mL
					HRDXNIDA_00478	1 mL	13C-1,2,3,4,6,7,8-HpCDF	2 ug/mL
...HRDXNIDA_00398	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
...HRDXNIDA_00475	10/31/30		CIL, Lot ER10152004		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
...HRDXNIDA_00476	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
...HRDXNIDA_00477	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
...HRDXNIDA_00478	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
.HRDXNSU_00258	08/01/24	09/09/21	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00233	0.8 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNSU_00233	08/01/24	01/22/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00201	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00201	08/01/24	WELLINGTON LABS, Lot MCDD0480505			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00124	10/17/26	Wellington Labs, Lot 13PAR1019			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00492	12/08/22	12/08/21	Acetone, Lot 210987	500 mL	HRDXNIDA_00435	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
					HRDXNIDA_00465	5 mL	13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
					HRDXNIDA_00486	5 mL	13C-OCDD	4 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
.HRDXNIDA_00435	05/31/26	08/25/20	Isooctane, Lot B00S6184	100 mL	HRDXNIDA_00417	800 uL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00418	800 uL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00419	800 uL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
					HRDXNIDA_00420	800 uL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
..HRDXNIDA_00417	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00418	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00419	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00420	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
.HRDXNIDA_00465	08/31/24	01/19/21	Isooctane, Lot B00S6184	250 mL	HRDXNIDA_00457	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00458	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00459	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00460	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00461	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00462	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
..HRDXNIDA_00457	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00458	01/31/30		CIL, Lot ER01062015		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00459	12/31/30		CIL, Lot ER01062016		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00460	01/31/29		CIL, Lot ER102111904		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00461	10/31/26		CIL, Lot ER09271601		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00462	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
.HRDXNIDA_00486	10/27/24	09/09/21	Isooctane, Lot B00S6184	25 mL	HRDXNIDA_00483	2.5 mL	13C-OCDD	0.4 ug/mL
							13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
							13C-2,3,7,8-TCDF	0.2 ug/mL
							13C-2,3,7,8-TCDD	0.2 ug/mL
							13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
..HRDXNIDA_00483	11/30/24	08/21/21	Acetone, Lot 0000274597	25 mL	HRDXNIDA_00398	10 mL	13C-OCDD	4 ug/mL
					HRDXNIDA_00475	1 mL	13C-1,2,3,6,7,8-HxCDD	2 ug/mL
					HRDXNIDA_00476	1 mL	13C-2,3,7,8-TCDF	2 ug/mL
					HRDXNIDA_00477	1 mL	13C-2,3,7,8-TCDD	2 ug/mL
					HRDXNIDA_00478	1 mL	13C-1,2,3,4,6,7,8-HpCDF	2 ug/mL
...HRDXNIDA_00398	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
...HRDXNIDA_00475	10/31/30		CIL, Lot ER10152004		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
...HRDXNIDA_00476	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
...HRDXNIDA_00477	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
...HRDXNIDA_00478	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
HRDXNIS_00137	08/02/22	08/02/21	C14, Lot STBJ3715	100 mL	HRDXNIS_00128	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00128	05/05/25	05/05/20	Isooctane, Lot 0000221197	10 mL	HRDXNIS_00126	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00127	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00126	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00127	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00033	08/02/22	09/10/21	C14, Lot STBJ3715	1 mL	HRDXNIDA_00435	250 uL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00465	500 uL	13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
					HRDXNIDA_00486	500 uL	13C-OCDD	200 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
					HRDXNIS_00137	1000 uL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00257	625 uL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00138	125 uL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00435	05/31/26	08/25/20	Isooctane, Lot B00S6184	100 mL	HRDXNIDA_00419	800 uL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00419	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00465	08/31/24	01/19/21	Isooctane, Lot B00S6184	250 mL	HRDXNIDA_00460	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00461	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00462	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
..HRDXNIDA_00460	01/31/29		CIL, Lot ER102111904		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00461	10/31/26		CIL, Lot ER09271601		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00462	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
.HRDXNIDA_00486	10/27/24	09/09/21	Isooctane, Lot B00S6184	25 mL	HRDXNIDA_00483	2.5 mL	13C-OCDD	0.4 ug/mL
							13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
							13C-2,3,7,8-TCDF	0.2 ug/mL
							13C-2,3,7,8-TCDD	0.2 ug/mL
							13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
..HRDXNIDA_00483	11/30/24	08/21/21	Acetone, Lot 0000274597	25 mL	HRDXNIDA_00398	10 mL	13C-OCDD	4 ug/mL
					HRDXNIDA_00475	1 mL	13C-1,2,3,6,7,8-HxCDD	2 ug/mL
					HRDXNIDA_00476	1 mL	13C-2,3,7,8-TCDF	2 ug/mL
					HRDXNIDA_00477	1 mL	13C-2,3,7,8-TCDD	2 ug/mL
					HRDXNIDA_00478	1 mL	13C-1,2,3,4,6,7,8-HpCDF	2 ug/mL
...HRDXNIDA_00398	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
...HRDXNIDA_00475	10/31/30		CIL, Lot ER10152004		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
...HRDXNIDA_00476	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
...HRDXNIDA_00477	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
...HRDXNIDA_00478	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
.HRDXNIS_00137	08/02/22	08/02/21	C14, Lot STBJ3715	100 mL	HRDXNIS_00128	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00128	05/05/25	05/05/20	Isooctane, Lot 0000221197	10 mL	HRDXNIS_00126	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00127	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00126	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00127	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00257	09/08/22	09/08/21	Isooctane, Lot R24F725	500 mL	HRDXNSU_00233	0.08 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00233	08/01/24	01/22/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00201	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00201	08/01/24		WELLINGTON LABS, Lot MCDD0480505		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00138	09/02/22	09/02/21	Acetone, Lot 00000274597	25 mL	HRDXNTA_00132	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00132	08/31/30		CIL, Lot ER09031903		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2000 ng/mL
							1,2,3,4,6,7,8-HpCDF	2000 ng/mL
							1,2,3,4,7,8,9-HpCDF	2000 ng/mL
							1,2,3,4,7,8-HxCDD	2000 ng/mL
							1,2,3,4,7,8-HxCDF	2000 ng/mL
							1,2,3,6,7,8-HxCDD	2000 ng/mL
							1,2,3,6,7,8-HxCDF	2000 ng/mL
							1,2,3,7,8,9-HxCDD	2000 ng/mL
							1,2,3,7,8,9-HxCDF	2000 ng/mL
							1,2,3,7,8-PeCDD	2000 ng/mL
							1,2,3,7,8-PeCDF	2000 ng/mL
							2,3,4,6,7,8-HxCDF	2000 ng/mL
							2,3,4,7,8-PeCDF	2000 ng/mL
							2,3,7,8-TCDD	400 ng/mL
							2,3,7,8-TCDF	400 ng/mL
							OCDD	4000 ng/mL
							OCDF	4000 ng/mL
HRDXNL3_00030	08/02/22	09/10/21	C14, Lot STBJ3715	0.5 mL	HRDXNIDA_00435	125 uL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00465	250 uL	13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
					HRDXNIDA_00486	250 uL	13C-OCDD	200 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
					HRDXNIS_00137	500 uL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00257	1250 uL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00138	250 uL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL
							OCDF	20 ng/mL
.HRDXNIDA_00435	05/31/26	08/25/20	Isooctane, Lot B00S6184	100 mL	HRDXNIDA_00419	800 uL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00419	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00465	08/31/24	01/19/21	Isooctane, Lot B00S6184	250 mL	HRDXNIDA_00460	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00461	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00462	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
..HRDXNIDA_00460	01/31/29		CIL, Lot ER102111904		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00461	10/31/26		CIL, Lot ER09271601		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00462	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
.HRDXNIDA_00486	10/27/24	09/09/21	Isooctane, Lot B00S6184	25 mL	HRDXNIDA_00483	2.5 mL	13C-OCDD	0.4 ug/mL
							13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
							13C-2,3,7,8-TCDF	0.2 ug/mL
							13C-2,3,7,8-TCDD	0.2 ug/mL
							13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
..HRDXNIDA_00483	11/30/24	08/21/21	Acetone, Lot 0000274597	25 mL	HRDXNIDA_00398	10 mL	13C-OCDD	4 ug/mL
					HRDXNIDA_00475	1 mL	13C-1,2,3,6,7,8-HxCDD	2 ug/mL
					HRDXNIDA_00476	1 mL	13C-2,3,7,8-TCDF	2 ug/mL
					HRDXNIDA_00477	1 mL	13C-2,3,7,8-TCDD	2 ug/mL
					HRDXNIDA_00478	1 mL	13C-1,2,3,4,6,7,8-HpCDF	2 ug/mL
...HRDXNIDA_00398	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
...HRDXNIDA_00475	10/31/30		CIL, Lot ER10152004		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
...HRDXNIDA_00476	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
...HRDXNIDA_00477	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
...HRDXNIDA_00478	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
.HRDXNIS_00137	08/02/22	08/02/21	C14, Lot STBJ3715	100 mL	HRDXNIS_00128	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00128	05/05/25	05/05/20	Isooctane, Lot 0000221197	10 mL	HRDXNIS_00126	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00127	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00126	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00127	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00257	09/08/22	09/08/21	Isooctane, Lot R24F725	500 mL	HRDXNSU_00233	0.08 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00233	08/01/24	01/22/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00201	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00201	08/01/24		WELLINGTON LABS, Lot MCDD0480505		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.HRDXNTA_00138	09/02/22	09/02/21	Acetone, Lot 00000274597	25 mL	HRDXNTA_00132	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00132	08/31/30		CIL, Lot ER09031903		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2000 ng/mL
							1,2,3,4,6,7,8-HpCDF	2000 ng/mL
							1,2,3,4,7,8,9-HpCDF	2000 ng/mL
							1,2,3,4,7,8-HxCDD	2000 ng/mL
							1,2,3,4,7,8-HxCDF	2000 ng/mL
							1,2,3,6,7,8-HxCDD	2000 ng/mL
							1,2,3,6,7,8-HxCDF	2000 ng/mL
							1,2,3,7,8,9-HxCDD	2000 ng/mL
							1,2,3,7,8,9-HxCDF	2000 ng/mL
							1,2,3,7,8-PeCDD	2000 ng/mL
							1,2,3,7,8-PeCDF	2000 ng/mL
							2,3,4,6,7,8-HxCDF	2000 ng/mL
							2,3,4,7,8-PeCDF	2000 ng/mL
							2,3,7,8-TCDD	400 ng/mL
							2,3,7,8-TCDF	400 ng/mL
							OCDD	4000 ng/mL
							OCDF	4000 ng/mL
HRDXNL4_00104	08/02/22	11/17/21	C14, Lot STBJ3715	1 mL	HRDXNIDA_00435	250 uL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00465	500 uL	13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
					HRDXNIDA_00486	500 uL	13C-OCDD	200 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
					HRDXNIS_00137	1000 uL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00258	25 uL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00132	25 uL	1,2,3,4,6,7,8-HpCDD	50 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00435	05/31/26	08/25/20	Isooctane, Lot B00S6184	100 mL	HRDXNIDA_00419	800 uL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00419	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00465	08/31/24	01/19/21	Isooctane, Lot B00S6184	250 mL	HRDXNIDA_00460	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00461	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00462	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
..HRDXNIDA_00460	01/31/29		CIL, Lot ER102111904		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00461	10/31/26		CIL, Lot ER09271601		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00462	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
.HRDXNIDA_00486	10/27/24	09/09/21	Isooctane, Lot B00S6184	25 mL	HRDXNIDA_00483	2.5 mL	13C-OCDD	0.4 ug/mL
							13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
							13C-2,3,7,8-TCDF	0.2 ug/mL
							13C-2,3,7,8-TCDD	0.2 ug/mL
							13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
..HRDXNIDA_00483	11/30/24	08/21/21	Acetone, Lot 0000274597	25 mL	HRDXNIDA_00398	10 mL	13C-OCDD	4 ug/mL
					HRDXNIDA_00475	1 mL	13C-1,2,3,6,7,8-HxCDD	2 ug/mL
					HRDXNIDA_00476	1 mL	13C-2,3,7,8-TCDF	2 ug/mL
					HRDXNIDA_00477	1 mL	13C-2,3,7,8-TCDD	2 ug/mL
					HRDXNIDA_00478	1 mL	13C-1,2,3,4,6,7,8-HpCDF	2 ug/mL
...HRDXNIDA_00398	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
...HRDXNIDA_00475	10/31/30		CIL, Lot ER10152004		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
...HRDXNIDA_00476	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
...HRDXNIDA_00477	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
...HRDXNIDA_00478	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
.HRDXNIS_00137	08/02/22	08/02/21	C14, Lot STBJ3715	100 mL	HRDXNIS_00128	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00128	05/05/25	05/05/20	Isooctane, Lot 0000221197	10 mL	HRDXNIS_00126	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00127	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00126	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00127	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00258	08/01/24	09/09/21	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00233	0.8 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNSU_00233	08/01/24	01/22/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00201	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00201	08/01/24	WELLINGTON LABS, Lot MCDD0480505			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00132	08/31/30	CIL, Lot ER09031903			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2000 ng/mL
							1,2,3,4,6,7,8-HpCDF	2000 ng/mL
							1,2,3,4,7,8,9-HpCDF	2000 ng/mL
							1,2,3,4,7,8-HxCDD	2000 ng/mL
							1,2,3,4,7,8-HxCDF	2000 ng/mL
							1,2,3,6,7,8-HxCDD	2000 ng/mL
							1,2,3,6,7,8-HxCDF	2000 ng/mL
							1,2,3,7,8,9-HxCDD	2000 ng/mL
							1,2,3,7,8,9-HxCDF	2000 ng/mL
							1,2,3,7,8-PeCDD	2000 ng/mL
							1,2,3,7,8-PeCDF	2000 ng/mL
							2,3,4,6,7,8-HxCDF	2000 ng/mL
							2,3,4,7,8-PeCDF	2000 ng/mL
							2,3,7,8-TCDD	400 ng/mL
							2,3,7,8-TCDF	400 ng/mL
							OCDD	4000 ng/mL
							OCDF	4000 ng/mL
HRDXNL5_00033	08/02/22	09/10/21	C14, Lot STBJ3715	0.2 mL	HRDXNIDA_00435	50 uL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00465	100 uL	13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
					HRDXNIDA_00486	100 uL	13C-OCDD	200 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
					HRDXNIS_00137	200 uL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00258	20 uL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00132	20 uL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							OCDF	400 ng/mL
.HRDXNIDA_00435	05/31/26	08/25/20	Isooctane, Lot B00S6184	100 mL	HRDXNIDA_00419	800 uL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00419	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00465	08/31/24	01/19/21	Isooctane, Lot B00S6184	250 mL	HRDXNIDA_00460	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00461	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00462	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
..HRDXNIDA_00460	01/31/29		CIL, Lot ER102111904		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00461	10/31/26		CIL, Lot ER09271601		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00462	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
.HRDXNIDA_00486	10/27/24	09/09/21	Isooctane, Lot B00S6184	25 mL	HRDXNIDA_00483	2.5 mL	13C-OCDD	0.4 ug/mL
							13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
							13C-2,3,7,8-TCDF	0.2 ug/mL
							13C-2,3,7,8-TCDD	0.2 ug/mL
							13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
..HRDXNIDA_00483	11/30/24	08/21/21	Acetone, Lot 0000274597	25 mL	HRDXNIDA_00398	10 mL	13C-OCDD	4 ug/mL
					HRDXNIDA_00475	1 mL	13C-1,2,3,6,7,8-HxCDD	2 ug/mL
					HRDXNIDA_00476	1 mL	13C-2,3,7,8-TCDF	2 ug/mL
					HRDXNIDA_00477	1 mL	13C-2,3,7,8-TCDD	2 ug/mL
					HRDXNIDA_00478	1 mL	13C-1,2,3,4,6,7,8-HpCDF	2 ug/mL
...HRDXNIDA_00398	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
...HRDXNIDA_00475	10/31/30		CIL, Lot ER10152004		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
...HRDXNIDA_00476	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
...HRDXNIDA_00477	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
...HRDXNIDA_00478	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
.HRDXNIS_00137	08/02/22	08/02/21	C14, Lot STBJ3715	100 mL	HRDXNIS_00128	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00128	05/05/25	05/05/20	Isooctane, Lot 0000221197	10 mL	HRDXNIS_00126	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00127	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00126	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00127	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00258	08/01/24	09/09/21	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00233	0.8 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00233	08/01/24	01/22/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00201	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00201	08/01/24		WELLINGTON LABS, Lot MCDD0480505		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00132	08/31/30		CIL, Lot ER09031903		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2000 ng/mL
							1,2,3,4,6,7,8-HpCDF	2000 ng/mL
							1,2,3,4,7,8,9-HpCDF	2000 ng/mL
							1,2,3,4,7,8-HxCDD	2000 ng/mL
							1,2,3,4,7,8-HxCDF	2000 ng/mL
							1,2,3,6,7,8-HxCDD	2000 ng/mL
							1,2,3,6,7,8-HxCDF	2000 ng/mL
							1,2,3,7,8,9-HxCDD	2000 ng/mL
							1,2,3,7,8,9-HxCDF	2000 ng/mL
							1,2,3,7,8-PeCDD	2000 ng/mL
							1,2,3,7,8-PeCDF	2000 ng/mL
							2,3,4,6,7,8-HxCDF	2000 ng/mL

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,7,8-PeCDF	2000 ng/mL
							2,3,7,8-TCDD	400 ng/mL
							2,3,7,8-TCDF	400 ng/mL
							OCDD	4000 ng/mL
							OCDF	4000 ng/mL
HRDXNL6_00030	08/02/22	09/10/21	C14, Lot STBJ3715	0.2 mL	HRDXNIDA_00435	50 uL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00465	100 uL	13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
					HRDXNIDA_00486	100 uL	13C-OCDD	200 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
					HRDXNIS_00137	200 uL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00258	100 uL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00132	100 uL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00435	05/31/26	08/25/20	Isooctane, Lot B00S6184	100 mL	HRDXNIDA_00419	800 uL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00419	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00465	08/31/24	01/19/21	Isooctane, Lot B00S6184	250 mL	HRDXNIDA_00460	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00461	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00462	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
..HRDXNIDA_00460	01/31/29		CIL, Lot ER102111904		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00461	10/31/26		CIL, Lot ER09271601		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00462	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
.HRDXNIDA_00486	10/27/24	09/09/21	Isooctane, Lot B00S6184	25 mL	HRDXNIDA_00483	2.5 mL	13C-OCDD	0.4 ug/mL
							13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
							13C-2,3,7,8-TCDF	0.2 ug/mL
							13C-2,3,7,8-TCDD	0.2 ug/mL
							13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00483	11/30/24	08/21/21	Acetone, Lot 0000274597	25 mL	HRDXNIDA_00398	10 mL	13C-OCDD	4 ug/mL
					HRDXNIDA_00475	1 mL	13C-1,2,3,6,7,8-HxCDD	2 ug/mL
					HRDXNIDA_00476	1 mL	13C-2,3,7,8-TCDF	2 ug/mL
					HRDXNIDA_00477	1 mL	13C-2,3,7,8-TCDD	2 ug/mL
					HRDXNIDA_00478	1 mL	13C-1,2,3,4,6,7,8-HpCDF	2 ug/mL
...HRDXNIDA_00398	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
...HRDXNIDA_00475	10/31/30		CIL, Lot ER10152004		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
...HRDXNIDA_00476	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
...HRDXNIDA_00477	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
...HRDXNIDA_00478	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
.HRDXNIS_00137	08/02/22	08/02/21	C14, Lot STBJ3715	100 mL	HRDXNIS_00128	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00128	05/05/25	05/05/20	Isooctane, Lot 0000221197	10 mL	HRDXNIS_00126	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00127	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00126	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00127	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00258	08/01/24	09/09/21	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00233	0.8 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00233	08/01/24	01/22/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00201	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00201	08/01/24		WELLINGTON LABS, Lot MCDD0480505		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00132	08/31/30		CIL, Lot ER09031903		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2000 ng/mL
							1,2,3,4,6,7,8-HpCDF	2000 ng/mL
							1,2,3,4,7,8,9-HpCDF	2000 ng/mL
							1,2,3,4,7,8-HxCDD	2000 ng/mL
							1,2,3,4,7,8-HxCDF	2000 ng/mL
							1,2,3,6,7,8-HxCDD	2000 ng/mL
							1,2,3,6,7,8-HxCDF	2000 ng/mL
							1,2,3,7,8,9-HxCDD	2000 ng/mL
							1,2,3,7,8,9-HxCDF	2000 ng/mL
							1,2,3,7,8-PeCDD	2000 ng/mL
							1,2,3,7,8-PeCDF	2000 ng/mL
							2,3,4,6,7,8-HxCDF	2000 ng/mL
							2,3,4,7,8-PeCDF	2000 ng/mL
							2,3,7,8-TCDD	400 ng/mL
							2,3,7,8-TCDF	400 ng/mL
							OCDD	4000 ng/mL
							OCDF	4000 ng/mL
HRDXNSU_00262	12/08/22	12/08/21	Isooctane, Lot B0771850	500 mL	HRDXNSU_00233	0.08 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00233	08/01/24	01/22/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00201	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
..HRDXNSU_00201	08/01/24		WELLINGTON LABS, Lot MCDD0480505		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00147	11/04/22	11/04/21	Acetone, Lot 00000285502	25 mL	HRDXNTA_00133	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-78855-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00133	08/31/30		CIL, Lot ER09031903		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2000 ng/mL
							1,2,3,4,6,7,8-HpCDF	2000 ng/mL
							1,2,3,4,7,8,9-HpCDF	2000 ng/mL
							1,2,3,4,7,8-HxCDD	2000 ng/mL
							1,2,3,4,7,8-HxCDF	2000 ng/mL
							1,2,3,6,7,8-HxCDD	2000 ng/mL
							1,2,3,6,7,8-HxCDF	2000 ng/mL
							1,2,3,7,8,9-HxCDD	2000 ng/mL
							1,2,3,7,8,9-HxCDF	2000 ng/mL
							1,2,3,7,8-PeCDD	2000 ng/mL
							1,2,3,7,8-PeCDF	2000 ng/mL
							2,3,4,6,7,8-HxCDF	2000 ng/mL
							2,3,4,7,8-PeCDF	2000 ng/mL
							2,3,7,8-TCDD	400 ng/mL
							2,3,7,8-TCDF	400 ng/mL
							OCDD	4000 ng/mL
							OCDF	4000 ng/mL

Reagent

HG_7471_KMNO4_00002

Certificate of Analysis

Potassium Permanganate

Material: **0277**

Grade: **ACS GRADE**

Batch Number: **20H0456701**

Chemical Formula: KMnO4
Molecular Weight: 158.03
CAS #: 7722-64-7
Appearance:

Dark solid.

Manufacture Date: 02/29/2020
Reassay Date: 02/29/2024

Storage: Room Temperature

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Chloride & Chlorate	<= 0.005 %	<=0.005 %	PASS
Insolubles	<= 0.2 %	0.1 %	PASS
Purity	>= 99.0 %	99.4 %	PASS
Sulfate	<= 0.02 %	<=0.02 %	PASS

Spec Set: 0277ACS

Internal ID #: 647

Signature

We certify that this batch conforms to the specifications listed.

This document has been electronically produced and is valid without a signature.

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.

Reagent

MT-Hg-CS_00005

high-purity standards

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Product Description: Mercury

Product Number:	**100033-1-50**
Lot Number:	**2107432-50**
Matrix:	2% HNO3
Density:	1.014 g/mL ± 0.002 g/mL @ 22.0°C ± 0.3°C

Certified Value:

Element	µg/mL	SRM ID
Hg	1000 ± 6	3133

The Certified value is based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Uncertified Values:

Trace Metal Impurity Scan: The data reported are based upon a scan of this specific lot via ICP-OES/ICP-MS analysis. The values are reported in µg/L.

Ag	7	Cu	<0.02	La	<0.02	Pt	<2	Te	<0.02
Al	<0.3	Dy	<0.02	Li	<0.02	Rb	<0.02	Th	<0.02
As	na	Er	<0.02	Lu	<0.02	Re	<0.02	Ti	<0.02
Au	<0.02	Eu	<0.02	Mg	<0.1	Rh	<0.02	Tl	<0.02
B	<1	Fe	<1	Mn	<0.5	Ru	<0.02	Tm	<0.02
Ba	<0.02	Ga	<0.02	Mo	<0.02	Sb	<0.02	U	<0.05
Be	<0.02	Gd	<0.02	Na	<3	Sc	<3	V	<0.05
Bi	<0.02	Ge	<0.02	Nb	<0.02	Se	<0.1	W	<0.02
Ca	<1	Hf	<0.02	Nd	<0.02	Si	<5	Y	<0.02
Cd	<0.02	Hg	M	Ni	<0.6	Sm	<0.02	Yb	<0.02
Ce	<0.02	Ho	<0.02	Os	<2	Sn	<0.5	Zn	<0.02
Co	<0.05	In	<0.02	Pb	<0.05	Sr	<0.02	Zr	<0.02
Cr	<0.05	Ir	<0.02	Pd	<0.02	Ta	<0.02		
Cs	na	K	<1	Pr	<0.02	Tb	<0.02		

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for eighteen months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: May 2021
Expiration Date: November 30, 2022
Certificate Issue Date: April 26, 2021

Moven Mutuvari
Moven Mutuvari, Ph. D, VP Manufacturing

Reagent

MT-Na-SpS_00004

Agilent

Certificate of Analysis
ISO 17034

Product Number: ICP-111
Lot Number: 0006505205

Lot Issue Date: 25-Nov 2019
Expiration Date: 31-Dec 2026

Product Name: Sodium ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO 17034 and under Agilent's ISO 9001 registered quality system. The neat materials used for this product have been verified by Agilent's ISO 17025 laboratory and under Agilent's ISO 17034 accreditation. The analyte concentrations were verified by Agilent's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Calculated Value	Traceability & Method
sodium	sodium nitrate	RM10629	99.999%	10008± 20 µg/mL	NIST SRM 3152a; ICP-OES

Solvent: 2% nitric acid in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 1.0329 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*	Al	<0.005 ND	*	Ga	<0.005 ND	n	Nb		n	S			
*	Sb	<0.005 ND	n	Ge		n	Os		n	Ta			
*	As	<0.005 ND	n	Au		*	Pd	<0.005 ND	n	Te			
*	Ba	<0.005 ND	n	Hf		*	P	<0.005 ND	n	Tb			
*	Be	<0.005 ND	n	Ho		*	Pt	<0.005 ND	*	Tl	<0.005 ND		
*	Bi	<0.005 ND	*	In	<0.005 ND	*	K	<0.005 ND	n	Th			
*	B	<0.005 ND	n	Ir		n	Pr		n	Tm			
*	Cd	<0.005 ND	*	Fe	<0.04 D	n	Re		*	Sn	<0.005 ND		
n	Cs		*	La	<0.005 ND	n	Rh		*	Ti	<0.005 ND		
*	Ca	<0.3 D	*	Pb	<0.005 ND	n	Rb		n	W			
n	Ce		*	Li	<0.005 ND	n	Ru		n	U			
*	Cr	<0.005 ND	n	Lu		n	Sm		*	V	<0.005 ND		
*	Co	<0.005 ND	*	Mg	<0.04 D	n	Sc		n	Yb			
*	Cu	<0.005 ND	*	Mn	<0.005 ND	*	Se	<0.005 ND	n	Y			
n	Dy		*	Hg	<0.005 ND	*	Si	<0.005 ND	*	Zn	<0.005 ND		
*	Er	<0.005 ND	*	Mo	<0.005 ND	*	Ag	<0.005 ND	n	Zr			
*	Eu	<0.005 ND	n	Nd		s	Na						
*	Gd	<0.005 ND	*	Ni	<0.005 ND	*	Sr	<0.005 ND					

* - element checked; i - spectral interference; n – element not checked; D – element detected; ND – element not detected;
s - standard element

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

ANAB ACCREDITED TESTING LABORATORY
ISO 17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Reagent

MT_ICP_Si_SpS_00009

Agilent

Certificate of Analysis
ISO Guide 34

Product Number: ICP-114
Lot Number: 0006468201

Lot Issue Date: 23-May 2019
Expiration Date: 30-Jun 2026

Product Name: Silicon ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under Agilent's ISO 9001 registered quality system. The neat materials used for this product have been verified by Agilent's ISO 17025 laboratory and under Agilent's ISO Guide 34 accreditation. The analyte concentrations were verified by Agilent's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Analyte Concentration	Traceability & Method
silicon	ammonium hexafluorosilicate	RM11386	99.999	10002 ± 20 µg/mL	NIST SRM 3150; ICP-OES

Solvent: 2% nitric acid and trace hydrofluoric acid in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 1.0448 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*	Al	<0.005 D	*	Ga	<0.005 ND	n	Nb		n	S	
*	Sb	<0.005 ND	n	Ge		n	Os		n	Ta	
*	As	<0.005 ND	n	Au		*	Pd	<0.005 ND	n	Te	
*	Ba	<0.005 ND	n	Hf		*	P	<0.005 ND	n	Tb	
*	Be	<0.005 ND	n	Ho		*	Pt	<0.005 ND	*	Tl	<0.005 ND
*	Bi	<0.005 ND	*	In	<0.005 ND	*	K	<0.005 ND	n	Th	
*	B	<0.005 ND	n	Ir		n	Pr		n	Tm	
*	Cd	<0.005 ND	*	Fe	<0.005 ND	n	Re		*	Sn	<0.005 ND
n	Cs		*	La	<0.005 ND	n	Rh		*	Ti	<0.005 D
*	Ca	<0.005 D	*	Pb	<0.005 ND	n	Rb		n	W	
n	Ce		n	Li		n	Ru		n	U	
*	Cr	<0.005 ND	n	Lu		n	Sm		*	V	<0.005 ND
*	Co	<0.005 ND	*	Mg	<0.005 ND	n	Sc		n	Yb	
*	Cu	<0.005 ND	*	Mn	<0.005 ND	*	Se	<0.005 ND	n	Y	
n	Dy		*	Hg	<0.005 ND	s	Si		*	Zn	<0.005 ND
*	Er	<0.005 ND	*	Mo	<0.005 ND	*	Ag	<0.005 ND	n	Zr	
*	Eu	<0.005 ND	n	Nd		*	Na	<0.005 ND			
*	Gd	<0.005 ND	*	Ni	<0.005 ND	*	Sr	<0.005 ND			

* - element checked; I - spectral interference; n – element not checked; D – element detected; ND – element not detected; s - standard element

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No. AR-1936

Produced in accordance with TUV USA Inc S6 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED TESTING LABORATORY
ISO17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Reagent

MT_MS_ICS2_00005

ACCREDITED
Reference Materials Producer
Cert #2495.01

1274709
ID: M1_MS_ICS2_00005
Exp:12/30/21 Prpd:UFLE Opn:01/11/21
100 ppm Cal Std 2 SPEX

SPEXertificate®
Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: CL-CAL-2 **Lot No.** CL3-12MJY
Description: Instrument Calibration Standard 2
Matrix: 5% HNO_3 / Tr. Tart. Acid / Tr. HF

This **CLARITAS PPT®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations. See side 2 for details of certification.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Certified	Uncertainty	SRM	Analyte	Labeled	Certified	Uncertainty	SRM
Ag	100 µg/mL	100 µg/mL	±0.5 µg/mL	3151*	Mn	100 µg/mL	99.8 µg/mL	±0.5 µg/mL	3132*
Al	100 µg/mL	100 µg/mL	±0.5 µg/mL	3101a*	Mo	100 µg/mL	101 µg/mL	±0.5 µg/mL	3134*
As	100 µg/mL	99.9 µg/mL	±0.5 µg/mL	3103a*	Na	100 µg/mL	100 µg/mL	±0.5 µg/mL	3152a*
Ba	100 µg/mL	100 µg/mL	±0.5 µg/mL	3104a*	Ni	100 µg/mL	101 µg/mL	±0.5 µg/mL	3136*
Be	100 µg/mL	100 µg/mL	±0.5 µg/mL	3105a*	Pb	100 µg/mL	100 µg/mL	±0.5 µg/mL	3128*
Ca	100 µg/mL	100 µg/mL	±0.5 µg/mL	3109a*	Sb	100 µg/mL	100 µg/mL	±0.5 µg/mL	3102a*
Cd	100 µg/mL	100 µg/mL	±0.5 µg/mL	3108*	Se	100 µg/mL	100 µg/mL	±0.5 µg/mL	3149*
Co	100 µg/mL	100 µg/mL	±0.5 µg/mL	3113*	Sn	100 µg/mL	101 µg/mL	±0.5 µg/mL	3161a*
Cr	100 µg/mL	100 µg/mL	±0.5 µg/mL	3112a*	Sr	100 µg/mL	101 µg/mL	±0.5 µg/mL	3153a*
Cu	100 µg/mL	102 µg/mL	±0.5 µg/mL	3114*	Ti	100 µg/mL	101 µg/mL	±0.5 µg/mL	3162a*
Fe	100 µg/mL	99.2 µg/mL	±0.5 µg/mL	3126a*	Tl	100 µg/mL	101 µg/mL	±0.5 µg/mL	3158*
K	100 µg/mL	99.9 µg/mL	±0.5 µg/mL	3141a*	V	100 µg/mL	100 µg/mL	±0.5 µg/mL	3165*
Mg	100 µg/mL	100 µg/mL	±0.5 µg/mL	3131a*	Zn	100 µg/mL	100 µg/mL	±0.5 µg/mL	3168a*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# 2-69WG, 2-112MJ, CL2-06YJ, CL13-72YP, CL1-205YJ

Trace Metallic Impurities in the Actual Solution via ICP-MS Analysis:

Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L
Au	<0.5	Eu	<1	In	<1	P	<500	Ru	0.7	Th	<0.06
B	<7	Ga	1	Ir	<0.6	Pd	<30	Sc	<0.6	Tm	<0.03
Bi	1	Gd	0.4	La	5	Pr	<0.09	Si	<200	U	<0.05
Ce	0.7	Ge	<2	Li	<0.5	Pt	<0.2	Sm	20	W	8
Cs	0.7	Hf	0.2	Lu	0.02	Rb	<2	Ta	2	Y	2
Dy	0.2	Hg	<2	Nb	1	Re	1	Tb	<0.06	Yb	<0.02
Er	<0.01	Ho	<0.01	Nd	<0.1	Rh	6	Te	<4	Zr	10

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±0.5% of the certified value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. No measured concentration of any individual component exceeds ±2% of the labeled value. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: DEC - - 2020

Certifying Officer: Katherine Cullinan
Katherine Cullinan, QC Manager

Rev. 0
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Reagent

MT_MS_INT_A_00005

1517491

ID: M1_MS_INT_A_00005
Exp:04/30/22 Prod:UFLE Opn:04/14/21
Interferents A

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: CL-INT-A1 **Lot No.** CL51-063CRY
Description: Interferents A
Matrix: 5% HNO_3 / tr HF

This **CLARITAS PPT®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations. See side 2 for details of certification.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Certified	Uncertainty	SRM	Analyte	Labeled	Certified	Uncertainty	SRM
Cl^-	21215 µg/mL	21437 µg/mL	±110 µg/mL	3182*	K	1000 µg/mL	1001 µg/mL	±5 µg/mL	3141a*
Ca	3000 µg/mL	3011 µg/mL	±20 µg/mL	3109a*	Mg	1000 µg/mL	999 µg/mL	±5 µg/mL	3131a*
Fe	2500 µg/mL	2512 µg/mL	±10 µg/mL	3126a*	P	1000 µg/mL	998 µg/mL	±5 µg/mL	3139a*
Na	2500 µg/mL	2489 µg/mL	±10 µg/mL	3152a*	S	1000 µg/mL	997 µg/mL	±5 µg/mL	3154*
C	2000 µg/mL	1975 µg/mL	±10 µg/mL	0312A†	Mo	20 µg/mL	20.0 µg/mL	±0.1 µg/mL	3134*
Al	1000 µg/mL	1000 µg/mL	±5 µg/mL	3101a*	Ti	20 µg/mL	19.9 µg/mL	±0.1 µg/mL	3162a*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# CL1-119YJ, CL51-020CR

Trace Metallic Impurities in the Actual Solution via ICP-MS Analysis:

Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L
Ag	2	Cr	10	Hg	<4	Ni	10	Sc	<5	Tl	40
As	<6	Cs	<4	Ho	<0.1	Pb	100	Se	<30	Tm	<0.2
Au	<0.9	Cu	4	In	1	Pd	<1	Si	1000	U	<0.3
B	50	Dy	<0.3	Ir	<0.4	Pr	<0.2	Sm	<0.4	V	2
Ba	20	Er	<0.3	La	2	Pt	10	Sn	<2	W	<2
Be	<0.8	Eu	<0.2	Li	<2	Rb	40	Sr	<50	Y	<1
Bi	0.1	Ga	<2	Lu	<0.2	Re	<0.7	Ta	<0.4	Yb	<0.2
Cd	4	Gd	<0.4	Mn	8	Rh	<0.4	Tb	<0.07	Zn	20
Ce	4	Ge	<10	Nb	<0.4	Ru	<0.9	Te	<6	Zr	6
Co	5	Hf	<0.7	Nd	<0.3	Sb	7	Th	<0.6		

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±0.5% of the certified value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. No measured concentration of any individual component exceeds ±2% of the labeled value. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: APR - - 2021 Certifying Officer: Katherine Cullinan, QC Manager

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Reagent

WC_TUR_STD_00017

scientific
A WATTS Brand
3170 Old Metro Parkway | Fort Myers, FL 33916 | T: (888) 203-7248 | F: (239) 332-7643

ProCal

Turbidity Calibration Standards

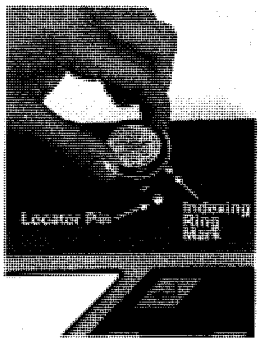
CERTIFICATE OF COMPLIANCE

Calibration Set# **39957** **Kit Lot# 210292**

TEST PERFORMED: An HF laboratory turbidimeter was used to measure the standards listed below. This instrument was calibrated on standards that are traceable to the Stock Primary Standard Formazin Suspension as specified in the 22nd Edition of Standard Methods, Section 2130 B, part 3b and EN-ISO 7027:1999(E) Section 6.2

Value	Variation	Value	Variation	Value	Variation
0.02 NTU	± 0.02 NTU	10.0 NTU	± 1%	1000 NTU	±1%
Lot 210274		Lot 210250		Lot 210221	
Exp. Date: FEB 2023		Exp. Date: FEB 2023		Exp. Date: FEB 2023	

HF scientific *ProCal* turbidity standards are produced with HF Scientific's styrene divinylbenzene co-polymer microspheres approved as Primary Calibration Standards in compliance with USEPA Method 180.1.** Also Certified as Alternative Use Secondary Standards Equivalent to Freshly Prepared Formazin Suspensions Ref EN-ISO 7027: 1999(E)Section 6.2.4 Water Quality - Determination of Turbidity.



**Standard Methods for the Examination of Water and Wastewater, 22nd Edition 2012 Section 2130 Turbidity
**EPA Guidance Manual for Compliance with the Interim Enhanced Surface Treatment Rule: Turbidity Provisions. EPA 815-R-99-010 April 1999 Section 3.4.5 Calibration Standards

The USEPA & HF scientific recommend that cuvettes used for instrument calibration or sample measurement be indexed. Indexing the cuvette will achieve the greatest accuracy, and account for normal scratches and aberrations in cuvette glass when calibrating.
Standards and standard kits purchased from HF scientific are supplied with indexing rings.

The following steps allow repeatable indexing of calibration standards.

THIS PROCEDURE REPLACES PREVIOUS INDEXING INSTRUCTIONS:

1. With the instrument in AUTO or normal reading mode insert the standard.
2. Slowly rotate the standard, inside the optical well, one complete revolution (360°). While rotating the standard slowly, observe the measured turbidity and locate the position of the cuvette having the lowest reading.
3. With the calibration standard positioned at the location having the lowest turbidity reading, install the Indexing Ring over the cap on the standard so that the pointer of the **INDEXING RING FACES DIRECTLY FORWARD, TOWARD THE OPERATOR.**
4. Repeat this procedure for all standards in the kit.

When using the standards in the future, **ALWAYS INSERT THE STANDARD SO THAT THE POINTER OF THE INDEXING RING FACES FORWARD.** Slowly rotate the standard back and forth about 5° to find the lowest point. The standard is now indexed and ready for use. Follow the calibration instructions in the owner's manual that accompanied the instrument.

Note: *ProCal* Standard values above 1000 NTU/FNU should be gently agitated prior to use in order to remix any settled particles. The latest version of owner's manuals may be downloaded from HF scientific's website: www.hfscientific.com.

Reagent

WC_TUR_STD_00018

scientific
A WATTS Brand
3170 Old Metro Parkway | Fort Myers, FL 33916 | T: (888) 203-7248 | F: (239) 332-7643

ProCal

Turbidity Calibration Standards

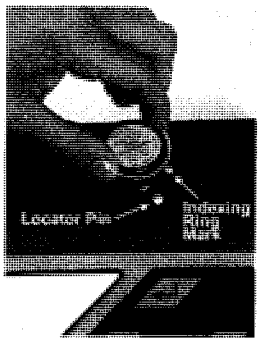
CERTIFICATE OF COMPLIANCE

Calibration Set# **39957** **Kit Lot# 210292**

TEST PERFORMED: An HF laboratory turbidimeter was used to measure the standards listed below. This instrument was calibrated on standards that are traceable to the Stock Primary Standard Formazin Suspension as specified in the 22nd Edition of Standard Methods, Section 2130 B, part 3b and EN-ISO 7027:1999(E) Section 6.2

Value	Variation	Value	Variation	Value	Variation
0.02 NTU	± 0.02 NTU	10.0 NTU	± 1%	1000 NTU	±1%
Lot 210274		Lot 210250		Lot 210221	
Exp. Date: FEB 2023		Exp. Date: FEB 2023		Exp. Date: FEB 2023	

HF scientific *ProCal* turbidity standards are produced with HF Scientific's styrene divinylbenzene co-polymer microspheres approved as Primary Calibration Standards in compliance with USEPA Method 180.1.** Also Certified as Alternative Use Secondary Standards Equivalent to Freshly Prepared Formazin Suspensions Ref EN-ISO 7027: 1999(E)Section 6.2.4 Water Quality - Determination of Turbidity.



**Standard Methods for the Examination of Water and Wastewater, 22nd Edition 2012 Section 2130 Turbidity
**EPA Guidance Manual for Compliance with the Interim Enhanced Surface Treatment Rule: Turbidity Provisions. EPA 815-R-99-010 April 1999 Section 3.4.5 Calibration Standards

The USEPA & HF scientific recommend that cuvettes used for instrument calibration or sample measurement be indexed. Indexing the cuvette will achieve the greatest accuracy, and account for normal scratches and aberrations in cuvette glass when calibrating.
Standards and standard kits purchased from HF scientific are supplied with indexing rings.

The following steps allow repeatable indexing of calibration standards.

THIS PROCEDURE REPLACES PREVIOUS INDEXING INSTRUCTIONS:

1. With the instrument in AUTO or normal reading mode insert the standard.
2. Slowly rotate the standard, inside the optical well, one complete revolution (360°). While rotating the standard slowly, observe the measured turbidity and locate the position of the cuvette having the lowest reading.
3. With the calibration standard positioned at the location having the lowest turbidity reading, install the Indexing Ring over the cap on the standard so that the pointer of the **INDEXING RING FACES DIRECTLY FORWARD, TOWARD THE OPERATOR.**
4. Repeat this procedure for all standards in the kit.

When using the standards in the future, **ALWAYS INSERT THE STANDARD SO THAT THE POINTER OF THE INDEXING RING FACES FORWARD.** Slowly rotate the standard back and forth about 5° to find the lowest point. The standard is now indexed and ready for use. Follow the calibration instructions in the owner's manual that accompanied the instrument.

Note: *ProCal* Standard values above 1000 NTU/FNU should be gently agitated prior to use in order to remix any settled particles. The latest version of owner's manuals may be downloaded from HF scientific's website: www.hfscientific.com.

Reagent

WC_TUR_STD_00019

scientific
A WATTS Brand
3170 Old Metro Parkway | Fort Myers, FL 33916 | T: (888) 203-7248 | F: (239) 332-7643

ProCal

Turbidity Calibration Standards

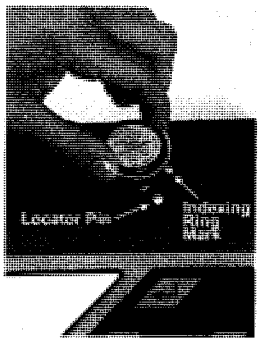
CERTIFICATE OF COMPLIANCE

Calibration Set# **39957** **Kit Lot# 210292**

TEST PERFORMED: An HF laboratory turbidimeter was used to measure the standards listed below. This instrument was calibrated on standards that are traceable to the Stock Primary Standard Formazin Suspension as specified in the 22nd Edition of Standard Methods, Section 2130 B, part 3b and EN-ISO 7027:1999(E) Section 6.2

Value	Variation	Value	Variation	Value	Variation
0.02 NTU	± 0.02 NTU	10.0 NTU	± 1%	1000 NTU	±1%
Lot 210274		Lot 210250		Lot 210221	
Exp. Date: FEB 2023		Exp. Date: FEB 2023		Exp. Date: FEB 2023	

HF scientific *ProCal* turbidity standards are produced with HF Scientific's styrene divinylbenzene co-polymer microspheres approved as Primary Calibration Standards in compliance with USEPA Method 180.1.** Also Certified as Alternative Use Secondary Standards Equivalent to Freshly Prepared Formazin Suspensions Ref EN-ISO 7027: 1999(E)Section 6.2.4 Water Quality - Determination of Turbidity.



**Standard Methods for the Examination of Water and Wastewater, 22nd Edition 2012 Section 2130 Turbidity
**EPA Guidance Manual for Compliance with the Interim Enhanced Surface Treatment Rule: Turbidity Provisions. EPA 815-R-99-010 April 1999 Section 3.4.5 Calibration Standards

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Standards and standard kits purchased from HF scientific are supplied with indexing rings.

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3. With the calibration standard positioned at the location having the lowest turbidity reading, install the Indexing Ring over the cap on the standard so that the pointer of the **INDEXING RING FACES DIRECTLY FORWARD, TOWARD THE OPERATOR.**
4. Repeat this procedure for all standards in the kit.

When using the standards in the future, **ALWAYS INSERT THE STANDARD SO THAT THE POINTER OF THE INDEXING RING FACES FORWARD.** Slowly rotate the standard back and forth about 5° to find the lowest point. The standard is now indexed and ready for use. Follow the calibration instructions in the owner's manual that accompanied the instrument.

Note: *ProCal* Standard values above 1000 NTU/FNU should be gently agitated prior to use in order to remix any settled particles. The latest version of owner's manuals may be downloaded from HF scientific's website: www.hfscientific.com.

Reagent

ME 10PPM HG2_00021

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-10PPM331-SS

Mercury (Hg) – 10 µg/mL

Lot #: 10120615-2

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Hg	**10.01 ± 0.05 µg/mL**

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to a nominal concentration of 10 µg/mL by gravimetric methods using a single-element concentrate diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3133**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

March 31, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Reagent

ME 10PPM_00020

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-10PPM331-100

Mercury (Hg) – 10 µg/mL

Lot #: 1132795-17

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Hg	10.0 ± 0.1 µg/mL (w/v)
	9.99 ± 0.10 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10 µg/mL by gravimetric methods using 99.999% pure mercury (Hg). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3133, lot #160921**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	MAJOR	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

October 15, 2021
Certification Date

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5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Reagent

ME H2SO4_00102

Sulfuric Acid
AR Select® (ACS)
For Trace Element Analysis

avantor™ | MACRON FINE CHEMICALS™

Material No.: 5557-46
Batch No.: 0000276386
Manufactured Date: 2020/12/30
Retest Date: 2025/12/29
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

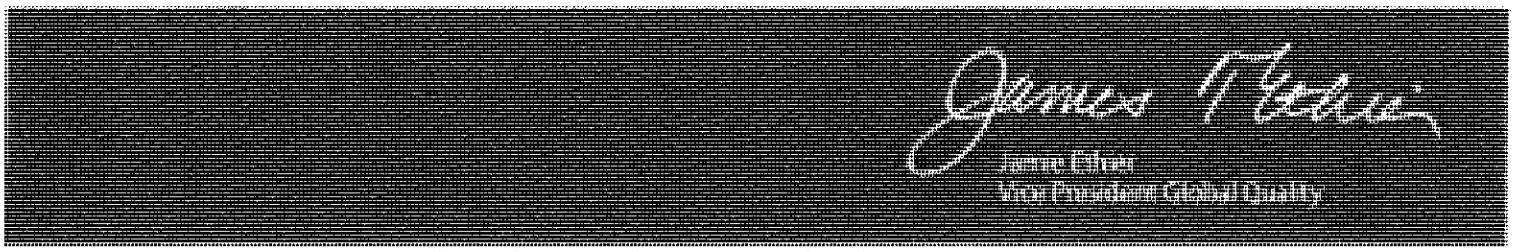
Test	Specification	Result
ACS - Assay (H_2SO_4) (by acidimetry)	95.0 - 98.0 %	96.5
Appearance	Passes Test	PT
ACS - Ammonium (NH_4)	<= 0.5 ppm	< 0.5
ACS - Arsenic and Antimony (as As)	<= 0.003 ppm	< 0.002
ACS - Chloride (Cl)	<= 0.05 ppm	< 0.05
ACS - Color (APHA)	<= 8	5
ACS - Heavy Metals (as Pb)	<= 0.1 ppm	< 0.1
ACS - Nitrate (NO_3)	<= 0.1 ppm	0.1
ACS - Residue after Ignition	<= 1 ppm	< 1
ACS - Substances Reducing Permanganate (as SO_2)	<= 2 ppm	< 2
Determine by Flame Photometry & ICP - Aluminum (Al)	<= 50.0 ppb	< 5.0
Determine by Flame Photometry & ICP - Barium (Ba)	<= 10.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Beryllium (Be)	<= 50.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Bismuth (Bi)	<= 100.0 ppb	< 10.0
Determine by Flame Photometry & ICP - Boron (B)	<= 10.0 ppb	< 5.0
Determine by Flame Photometry & ICP - Cadmium (Cd)	<= 5.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Calcium (Ca)	<= 50.0 ppb	21.9
Determine by Flame Photometry & ICP - Chromium (Cr)	<= 10.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Cobalt (Co)	<= 5.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Copper (Cu)	<= 5.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Gallium (Ga)	<= 100.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Germanium (Ge)	<= 100.0 ppb	< 10.0

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Test	Specification	Result
Determine by Flame Photometry & ICP - Gold (Au)	<= 100.0 ppb	< 5.0
Determine by Flame Photometry & ICP - Iron (Fe)	<= 50.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Lead (Pb)	<= 1.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Lithium (Li)	<= 10.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Magnesium (Mg)	<= 50.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Manganese (Mn)	<= 5.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Mercury (Hg)	<= 1.0 ppb	< 0.1
Determine by Flame Photometry & ICP - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Determine by Flame Photometry & ICP - Nickel (Ni)	<= 5.0 ppb	< 5.0
Determine by Flame Photometry & ICP - Potassium (K)	<= 50.0 ppb	< 10.0
Determine by Flame Photometry & ICP - Silicon (Si)	<= 100.0 ppb	< 10.0
Determine by Flame Photometry & ICP - Silver (Ag)	<= 10.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Sodium (Na)	<= 500.0 ppb	< 5.0
Determine by Flame Photometry & ICP - Strontium (Sr)	<= 10.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Thallium (Tl)	<= 200.0 ppb	< 5.0
Determine by Flame Photometry & ICP - Tin (Sn)	<= 50.0 ppb	< 10.0
Determine by Flame Photometry & ICP - Vanadium (V)	<= 10.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Zinc (Zn)	<= 5.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Zirconium (Zr)	<= 10.0 ppb	< 1.0

For Laboratory, Research or Manufacturing Use
Determine by Flame Photometry & ICP

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC



Reagent

ME H8N2O6S_00096

ThermoFisher SCIENTIFIC

Certificate of Analysis

Product No.: 88944

Product: Hydroxylamine sulfate, 99%

Lot No.: S11H065

Appearance	White crystalline powder
Purity	99.6 %
Iron	< 0.0001 %
Water solubility	Clear
Chloride	< 0.0002 %
Heavy metals	< 0.0002 %
Ignition residue	0.001 %

Retest date: June 10, 2031

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Reagent

ME HNO3_00724

ThermoFisher
SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

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Catalog Number	**A509**	**Mfg. Date**	07/30/2021
Lot Number	**1121070**	**Sample Id**	N/A
Product Description	Nitric Acid (TRACEMETAL GRADE)		
Chemical Origin	Inorganic		
BSE/TSE Comment:	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Country Origin	Canada

Result Name	Units	Specifications	Test Value
Expiry Date	mm/dd/yyyy	2 yrs	07/30/2023
Assay (HNO_3, w/w)	% by w/w	67 - 70%	69%
Color	APHA	<= 10	< 7
Aluminum (Al)	ppb	<= 1	< 0.5
Antimony (Sb)	ppb	<= 0.5	< 0.1
Arsenic (As)	ppb	<= 0.5	< 0.1
Barium (Ba)	ppb	<= 0.1	< 0.1
Beryllium (Be)	ppb	<= 0.1	< 0.1
Bismuth (Bi)	ppb	<= 0.1	< 0.1
Boron (B)	ppb	<= 1	< 0.5
Cadmium (Cd)	ppb	<= 0.5	< 0.1
Calcium (Ca)	ppb	<= 1	< 1
Cerium (Ce)	ppb	<= 0.1	< 0.1
Cesium (Cs)	ppb	<= 0.1	< 0.1
Chromium (Cr)	ppb	<= 1	< 0.5
Cobalt (Co)	ppb	<= 0.5	< 0.1
Copper (Cu)	ppb	<= 0.5	< 0.1
Dysprosium (Dy)	ppb	<= 0.1	< 0.1
Erbium (Er)	ppb	<= 0.1	< 0.1
Europium (Eu)	ppb	<= 0.1	< 0.1
Gadolinium (Gd)	ppb	<= 0.1	< 0.1
Gallium (Ga)	ppb	<= 0.1	< 0.1
Germanium (Ge)	ppb	<= 0.1	< 0.1
Gold (Au)	ppb	<= 0.1	< 0.1
Hafnium (Hf)	ppb	<= 0.1	< 0.1
Holmium (Ho)	ppb	<= 0.1	< 0.1
Indium (In)	ppb	<= 0.1	< 0.1
Iron (Fe)	ppb	<= 1	< 0.5
Lanthanum (La)	ppb	<= 0.1	< 0.1
Lead (Pb)	ppb	<= 0.1	< 0.1

Lithium (Li)	ppb	<= 0.1	< 0.1
Lutetium (Lu)	ppb	<= 0.1	< 0.1
Magnesium (Mg)	ppb	<= 1	< 0.2
Manganese (Mn)	ppb	<= 0.1	< 0.1
Mercury (Hg)	ppb	<= 0.1	< 0.02
Molybdenum (Mo)	ppb	<= 0.1	< 0.1
Neodymium (Nd)	ppb	<= 0.1	< 0.1
Nickel (Ni)	ppb	<= 0.5	< 0.5
Niobium (Nb)	ppb	<= 0.1	< 0.1
Palladium (Pd)	ppb	<= 0.5	< 0.1
Platinum (Pt)	ppb	<= 0.5	< 0.1
Potassium (K)	ppb	<= 1	< 0.1
Praseodymium (Pr)	ppb	<= 0.1	< 0.1
Rhenium (Re)	ppb	<= 0.1	< 0.1
Rhodium (Rh)	ppb	<= 0.5	< 0.1
Rubidium (Rb)	ppb	<= 0.1	< 0.1
Ruthenium (Ru)	ppb	<= 0.5	< 0.1
Samarium (Sm)	ppb	<= 0.1	< 0.1
Scandium (Sc)	ppb	<= 0.1	< 0.1
Selenium (Se)	ppb	<= 1	< 0.2
Silver (Ag)	ppb	<= 0.1	< 0.1
Sodium (Na)	ppb	<= 1	< 0.5
Strontium (Sr)	ppb	<= 0.1	< 0.1
Tantalum (Ta)	ppb	Information Only	< 0.1
Tellurium (Te)	ppb	<= 0.1	< 0.1
Terbium (Tb)	ppb	<= 0.1	< 0.1
Thallium (Tl)	ppb	<= 0.1	< 0.1
Thorium (Th)	ppb	<= 0.1	< 0.1
Thulium (Tm)	ppb	<= 0.1	< 0.1
Tin (Sn)	ppb	<= 0.5	< 0.1
Titanium (Ti)	ppb	<= 0.5	< 0.1
Tungsten (W)	ppb	<= 0.1	< 0.1
Uranium (U)	ppb	<= 0.1	< 0.1
Vanadium (V)	ppb	<= 0.5	< 0.1
Ytterbium (Yb)	ppb	<= 0.1	< 0.1
Yttrium (Y)	ppb	<= 0.1	< 0.1
Zinc (Zn)	ppb	<= 0.5	< 0.5
Zirconium (Zr)	ppb	<= 0.1	< 0.1
Chloride (Cl^-)	ppm	<= 0.2	< 0.2
Total Phosphorus (P)	ppm	<= 0.01	< 0.01
Total Sulfur (S)	ppm	<= 0.3	< 0.3

Julian Burton

Julian Burton - Quality Control Manager - Bridgewater

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Reagent

ME K2S2O8_00106

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

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Catalog Number	P282	Quality Test / Release Date	12/18/2020
Lot Number	206028		
Description	POTASSIUM PERSULFATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Dec/2025
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A

Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Fine, colorless to white crystals
ASSAY	%	>= 99	100.0
CHLORINE COMPOUNDS	%	<= 0.001	<0.001
HEAVY METALS (as Pb)	%	<= 0.001	<0.001
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.005	0.002
IRON (Fe)	ppm	<= 5	<5
MANGANESE (Mn)	ppm	<= 2	<2
MERCURY (Hg)	ppm	<= 0.05	<0.05

Julian Burton

Julian Burton - Quality Control Manager – Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Reagent

ME KMNO4_00056

Certificate of Analysis

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201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	P279	Quality Test / Release Date	03/08/2021
Lot Number	210839		
Description	POTASSIUM PERMANGANATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Mar/2026

N/A

Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Dark Purple Crystals
ASSAY	%	>= 99	99.3
CHLORIDE & CHLORATE	%	<= 0.005	<0.005
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.2	<0.2
MERCURY (Hg)	ppm	<= 0.05	<0.004
SULFATE (SO4)	%	<= 0.02	<0.02

Julian Burton - Quality Control Manager – Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Reagent

ME NACL_00036

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	S271	Quality Test / Release Date	06/18/2021
Lot Number	212967		
Description	SODIUM CHLORIDE, CERTIFIED A.C.S.		
Country of Origin	United States	Suggested Retest Date	May/2024
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Comment	This material does not contain any BPA (Bisphenol A), phthalates/phthalate esters or animal derived substances.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Small, white crystals
ASSAY	%	>= 99.0	99.7
BARIUM (Ba)	PASS/FAIL	= PASS TEST	pass test
BROMIDE	%	<= 0.01	<0.01
CALCIUM	%	<= 0.002	<0.002
CHLORATE & NITRATE	%	<= 0.003	<0.003
HEAVY METALS BY ICP-OES	ppm	<= 5	<5
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
INSOLUBLE MATTER	%	<= 0.005	<0.005
IODIDE	%	<= 0.002	<0.002
IRON (Fe)	ppm	<= 2	<2
MAGNESIUM	%	<= 0.001	<0.001
PH 5% SOLUTION @ 25 DEG C		Inclusive Between 5.0 - 9.0	6.2
PHOSPHATE (PO4)	ppm	<= 5	<5
POTASSIUM (K)	%	<= 0.005	<0.005
SULFATE (SO4)	%	<= 0.004	<0.004

Julian Burton

Julian Burton - Quality Control Manager – Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Reagent

HRDXNCP_00043

n 5/6/2021 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200.4	± 10%	1.6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1.6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196.8	± 10%	2.7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197.2	± 10%	2.8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194.6	± 10%	2.8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194.7	± 10%	2.3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195.3	± 10%	1.7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2.3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2.5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196.7	± 10%	2.1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202.3	± 10%	2.1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194.4	± 10%	2.4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198.0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198.9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195.0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

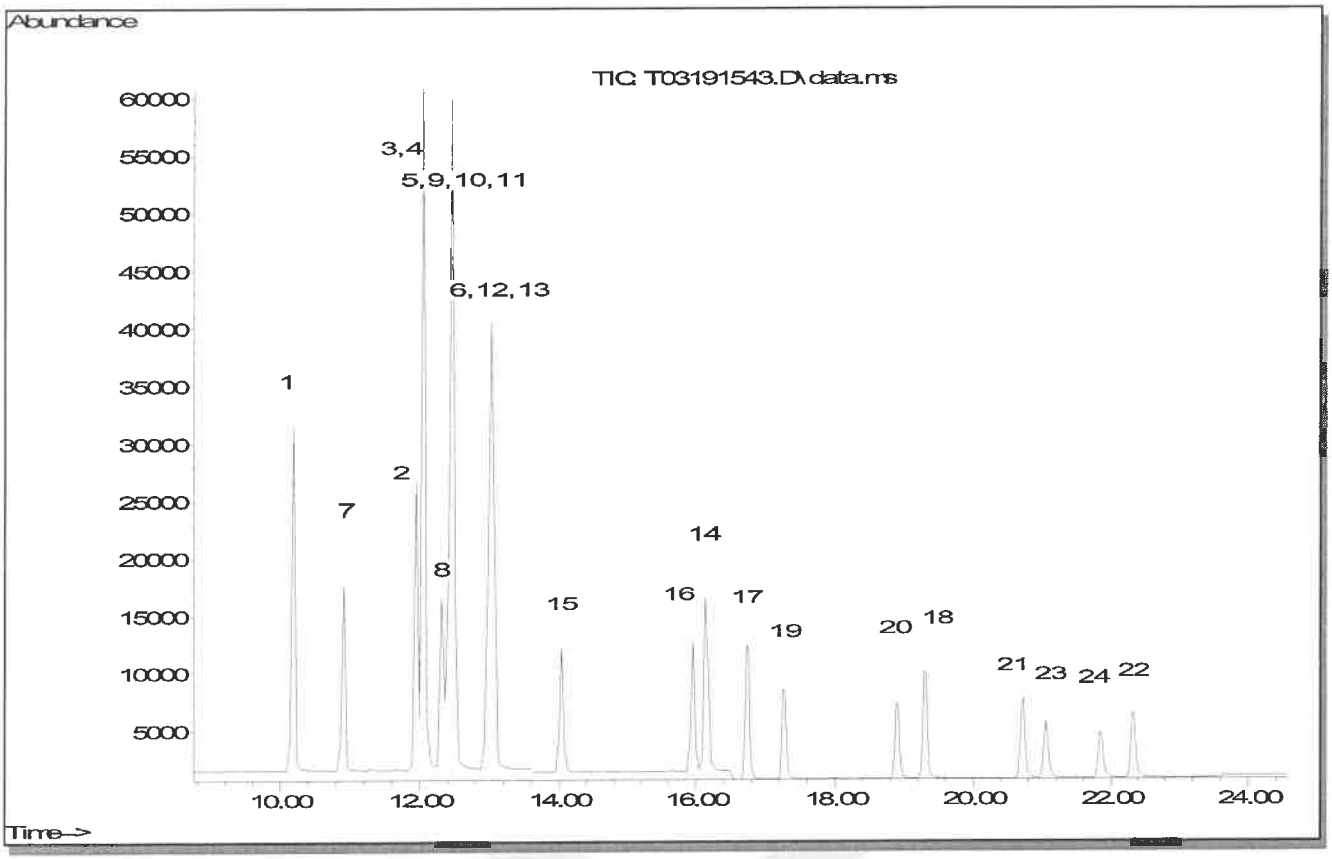
- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis



1	1,3,6,8-Tetrachlorodibenzofuran
2	2,3,4,7-Tetrachlorodibenzofuran
3	2,3,7,8-Tetrachlorodibenzofuran
4	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5	1,2,3,9-Tetrachlorodibenzofuran
6	1,2,8,9-Tetrachlorodibenzofuran
7	1,3,6,8-Tetrachlorodibenzo-p-dioxin
8	1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9	1,2,3,9-Tetrachlorodibenzo-p-dioxin
10	2,3,7,8-Tetrachlorodibenzo-p-dioxin
11	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12	1,2,8,9-Tetrachlorodibenzo-p-dioxin
13	1,3,4,6,8-Pentachlorodibenzofuran
14	1,2,3,8,9-Pentachlorodibenzofuran
15	1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16	1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17	1,2,3,4,6,8-Hexachlorodibenzofuran
18	1,2,3,4,8,9-Hexachlorodibenzofuran
19	1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20	1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21	1,2,3,4,6,7,8-Heptachlorodibenzofuran
22	1,2,3,4,7,8,9-Heptachlorodibenzofuran
23	1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00398

9280 I-PA
Revised 11-11-19
GWS

Cerilliant
Analytical Reference Standards
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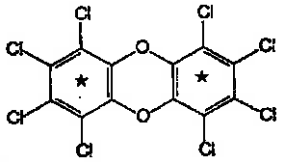
Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

VBL OCPD

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-981-1.2
Solution Lot:	ER04051701
Expiration Date:	April 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0.8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	70°C to 200°C at 40°C/min 200°C to 280°C at 10°C/min hold 15 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	3
Linearity (r):	0.997

Neat Material Data

Compound Name:	Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_8O_2$
Compound Lot:	ER04041601	**CAS Number:**	114423-97-1
		Molecular Weight:	471.66

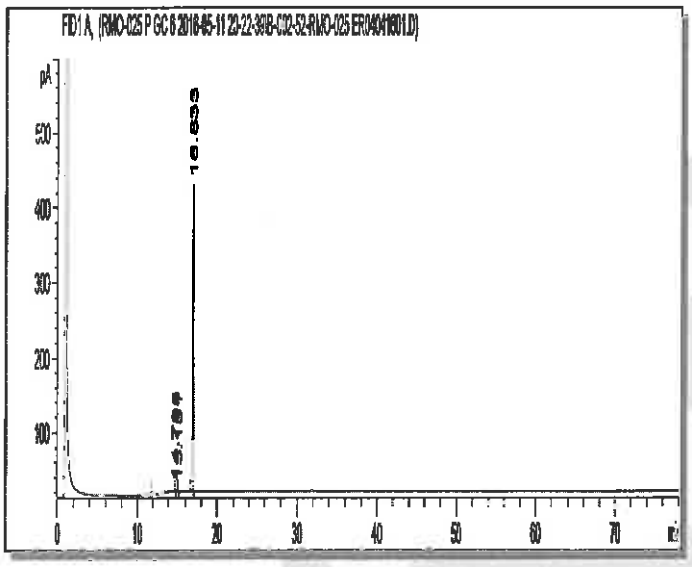
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

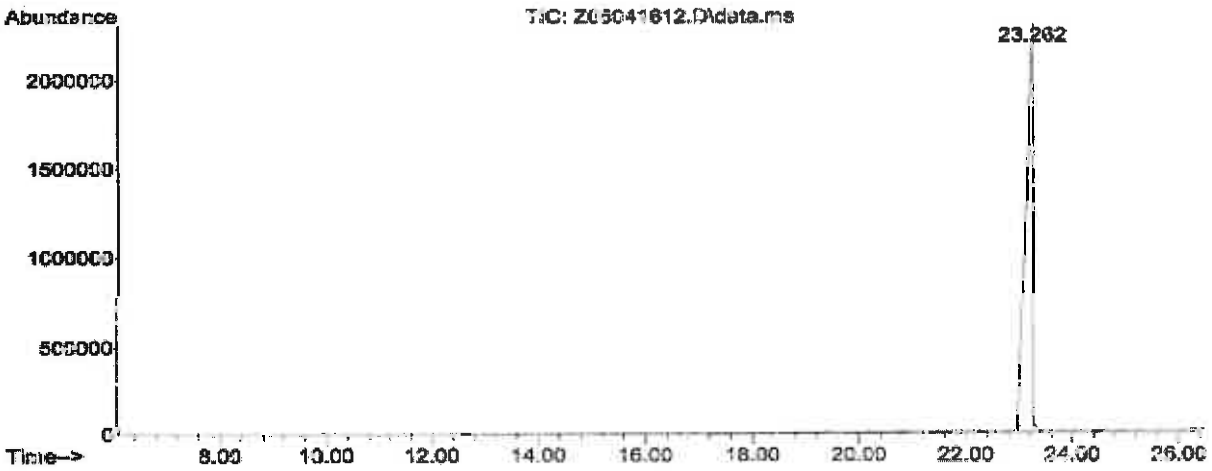
Peak #	Ret Time	Area	Height	Area %
1	14 80	12 12	3.62	0.61
2	15 15	4 72	1.32	0.24
3	16 83	1980 56	409.54	99.16

Spectral and Physical Data (cont.)

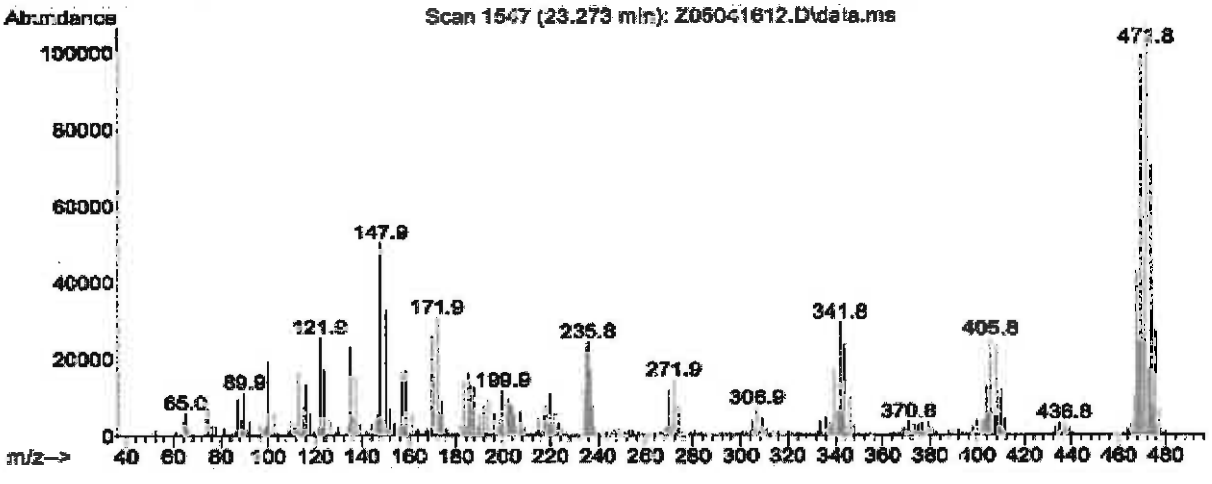
GC/MS

```
Compound Name          : Octachlorodibenzo-p-dioxin-13C12
Lot Number             : ERC4041601
Instrument             : Agilent GCMS
Operator               : ECM(SCIUFFRE)
Date Reported          : Wed May 04 13:45:40 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram



Mass Spectrum



Reagent

HRDXNIDA_00417

r: 3/30/20

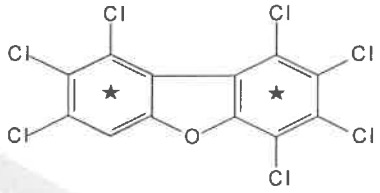
Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$



Catalog Number:	EF-988
Solution Lot:	ER04251601
Expiration Date:	May 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

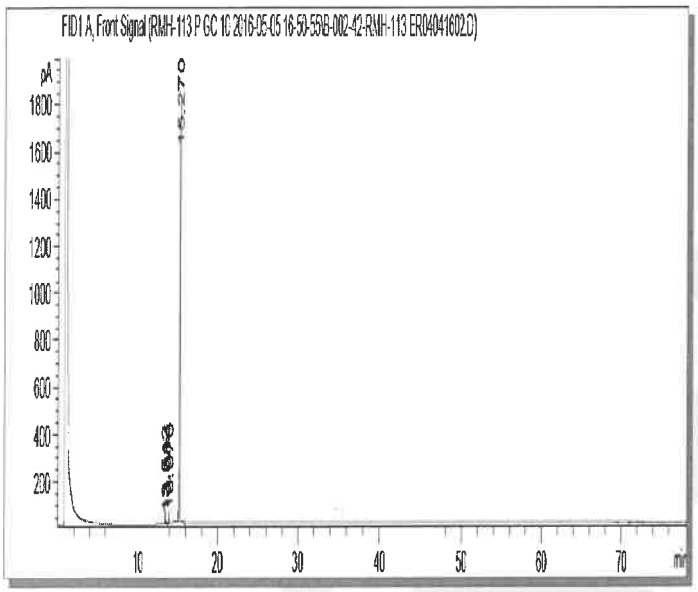
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data (cont.)

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

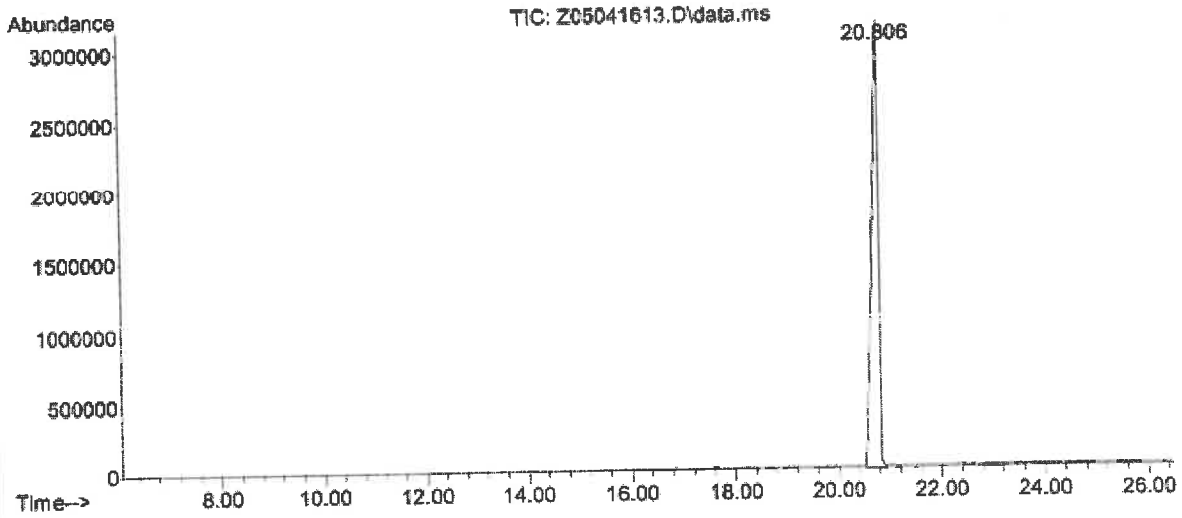
Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

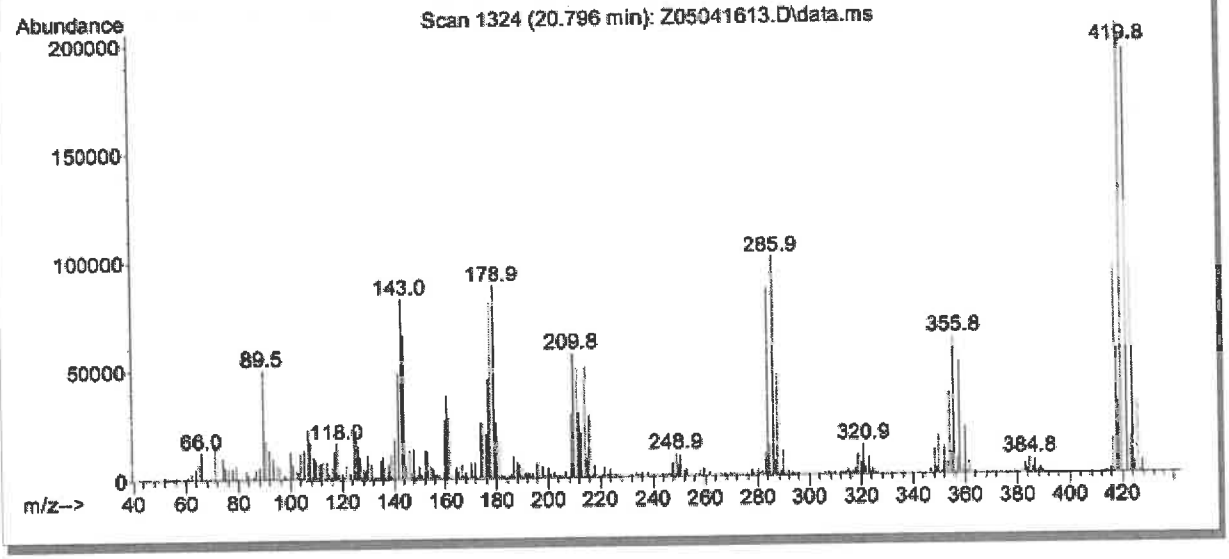
GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram



Mass Spectrum



COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00418

Cerilliant
Analytical Reference Standards
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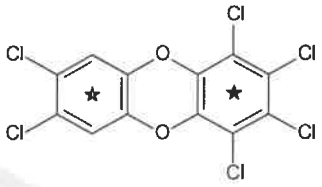
Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s); measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

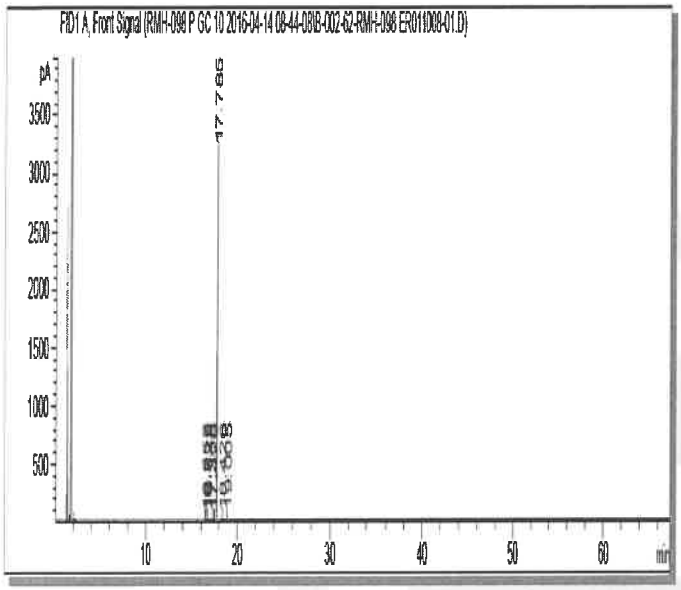
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument:	GC#10
Sample Name:	ER011008-01
Acquired:	April 14, 2016

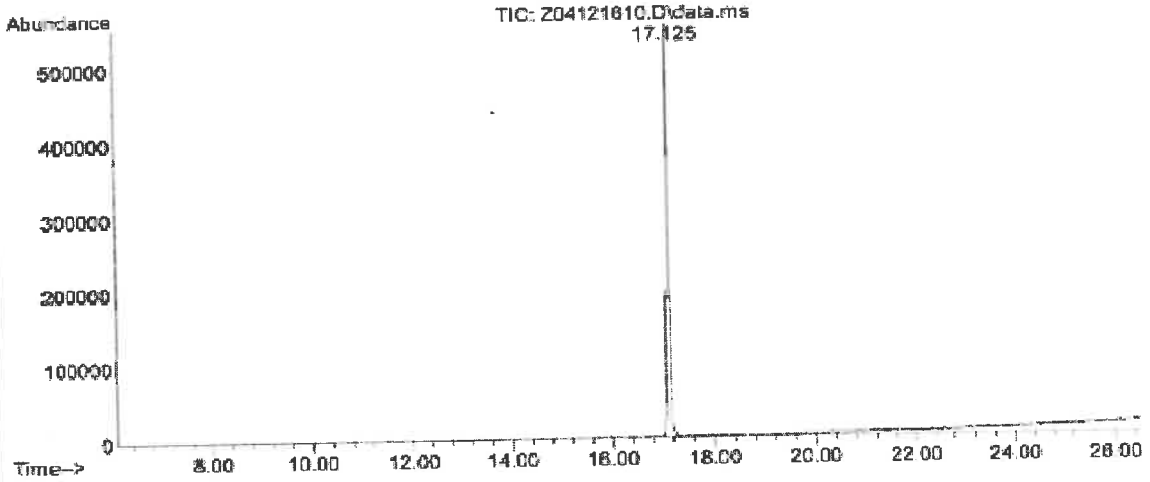
Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

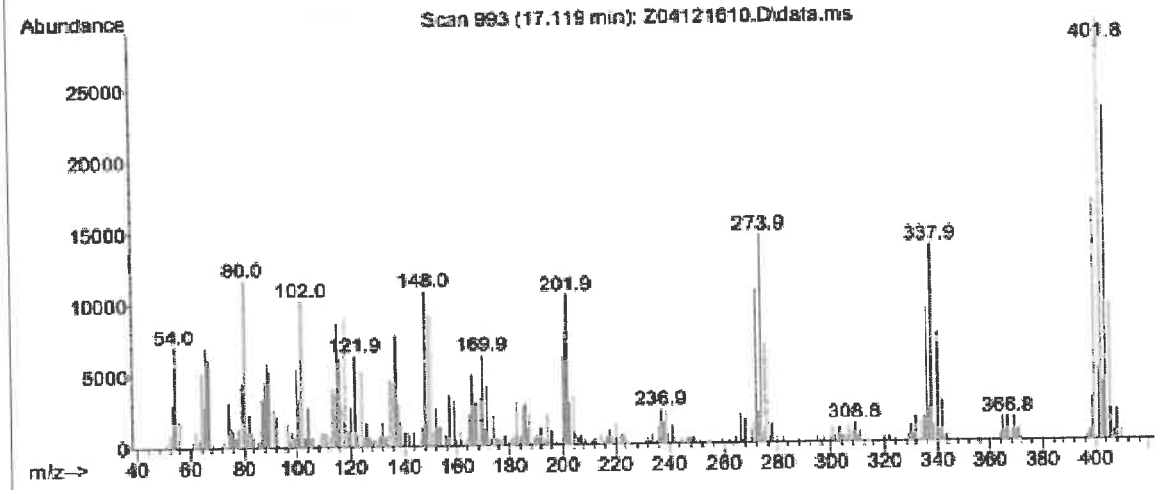
GC/MS

Compound Name	: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number	: BR011008-01
Instrument	: Agilent GCMS
Operator	: RCM(SGIUFFRE)
Date Reported	: Wed Apr 13 07:10:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram



Mass Spectrum



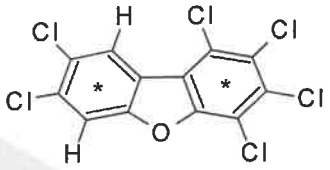
Reagent

HRDXNIDA_00419

Certificate of Analysis

Certificant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$



Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darren Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

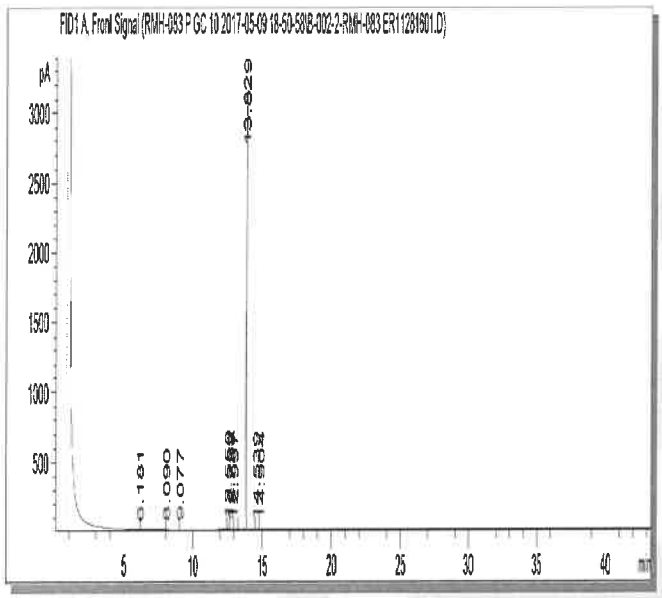
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

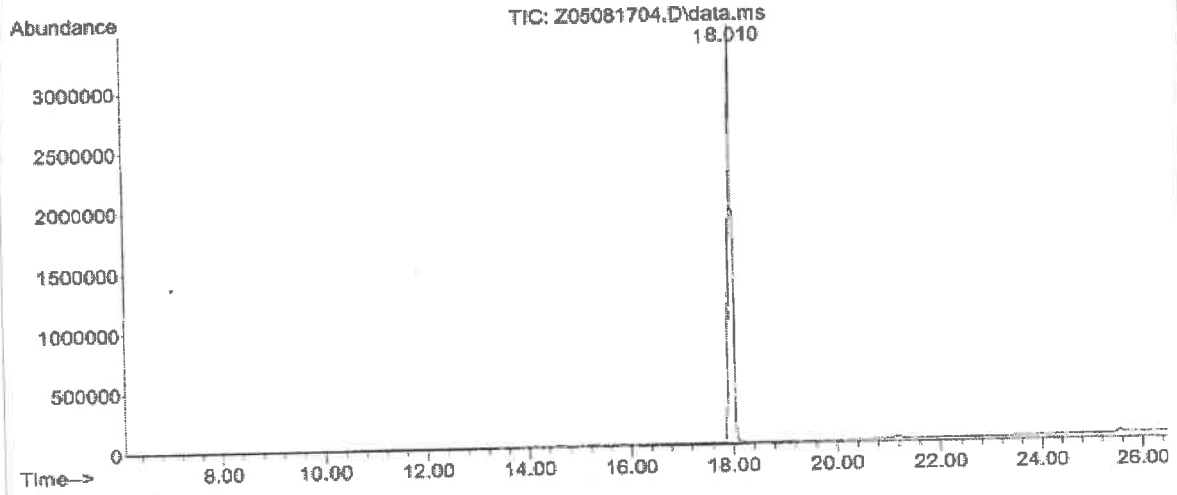
Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

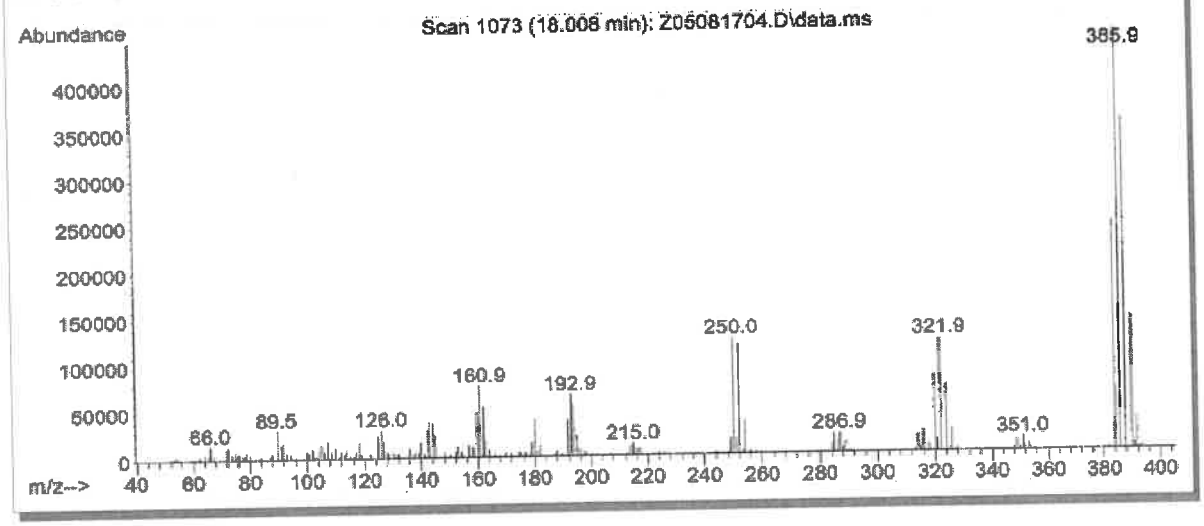
GC/MS

Compound Name	: 1,2,3,4,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER1128160I
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Mon May 08 09:30:09 2017
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram



Mass Spectrum



Reagent

HRDXNIDA_00420

r: 3/20/20 SKV

Cerilliant
Analytical Reference Standards
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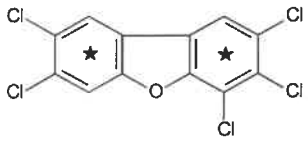
Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$



Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

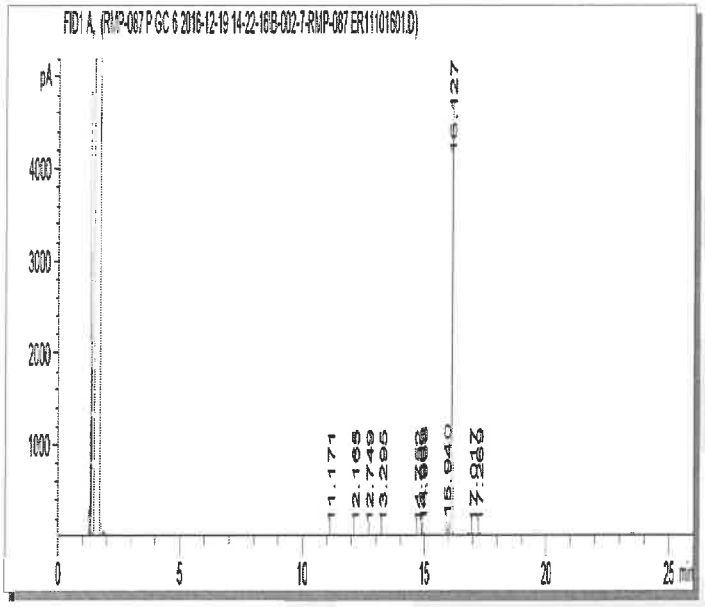
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

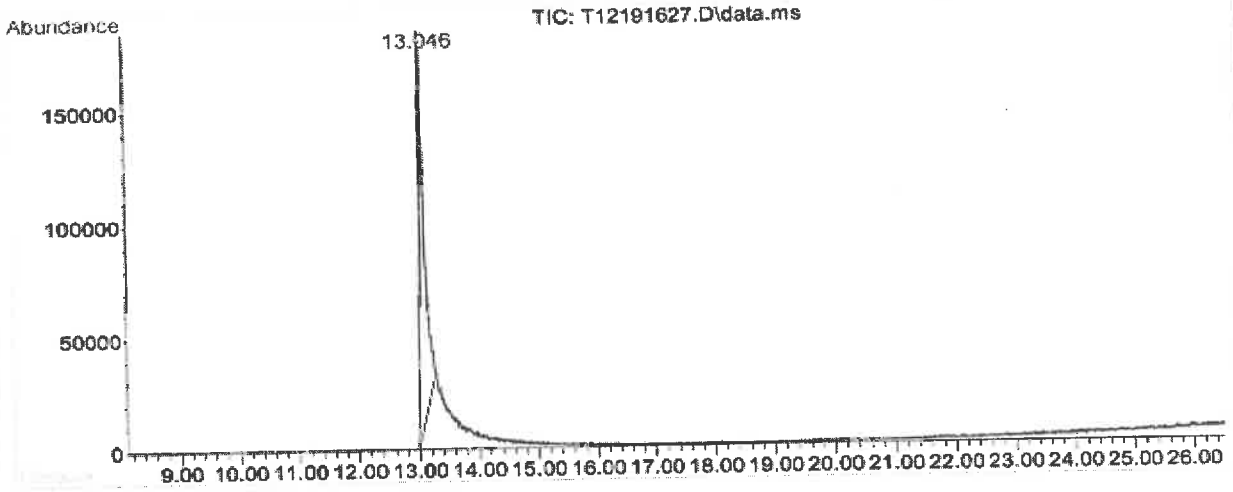
Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

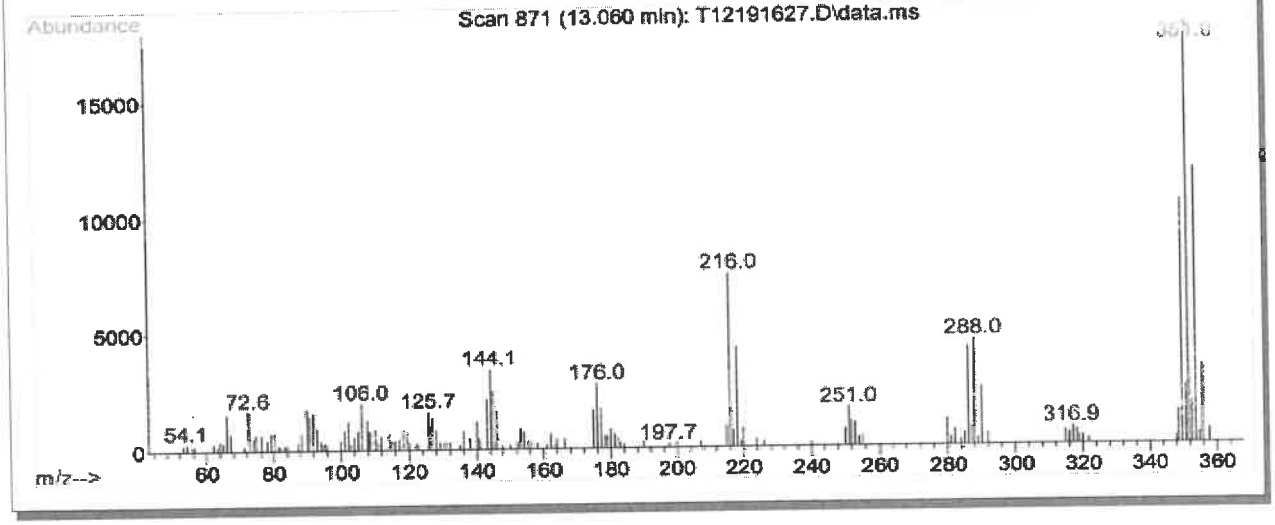
GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram



Mass Spectrum



Reagent

HRDXNIDA_00457

R: 1/18/21 SW

Cerilliant
Analytical Reference Standards
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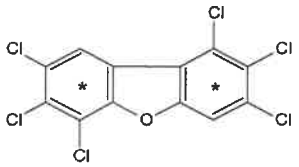
CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$



Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

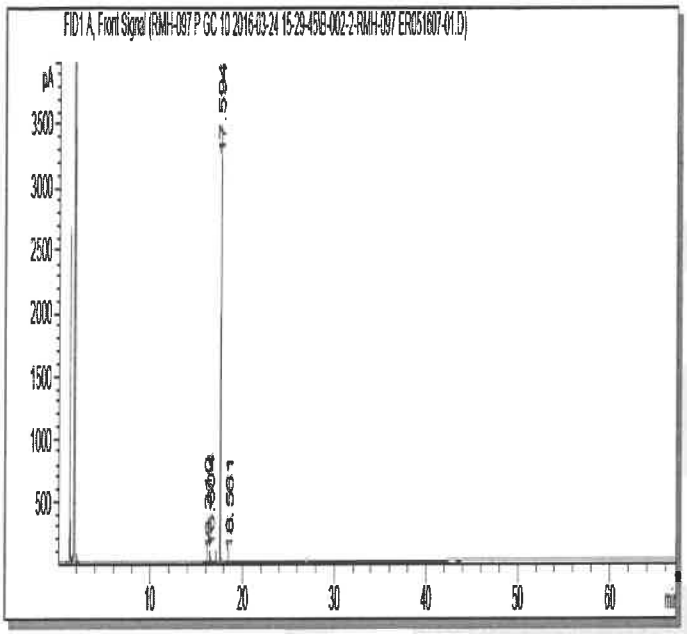
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor.
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

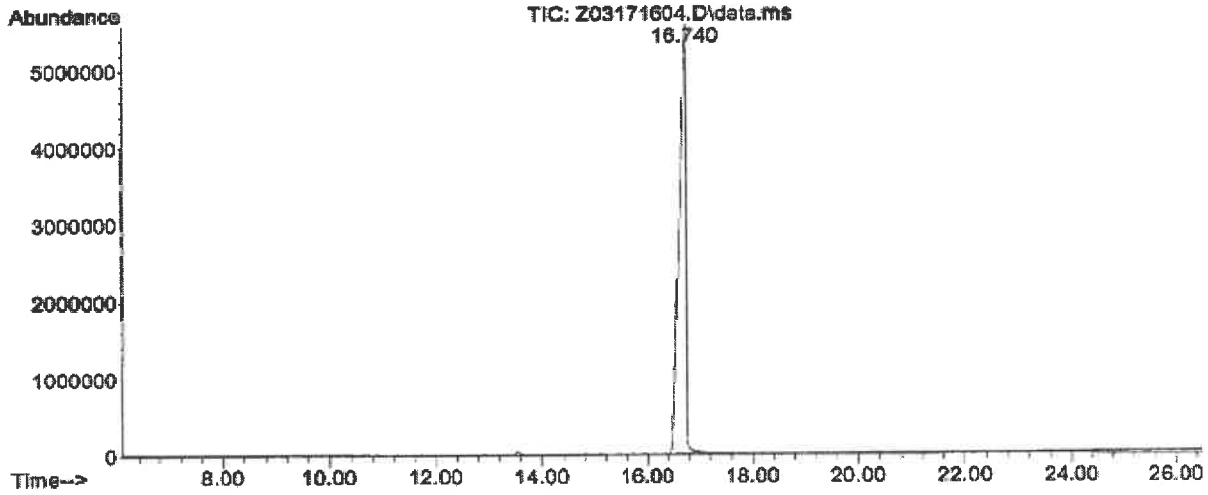
Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

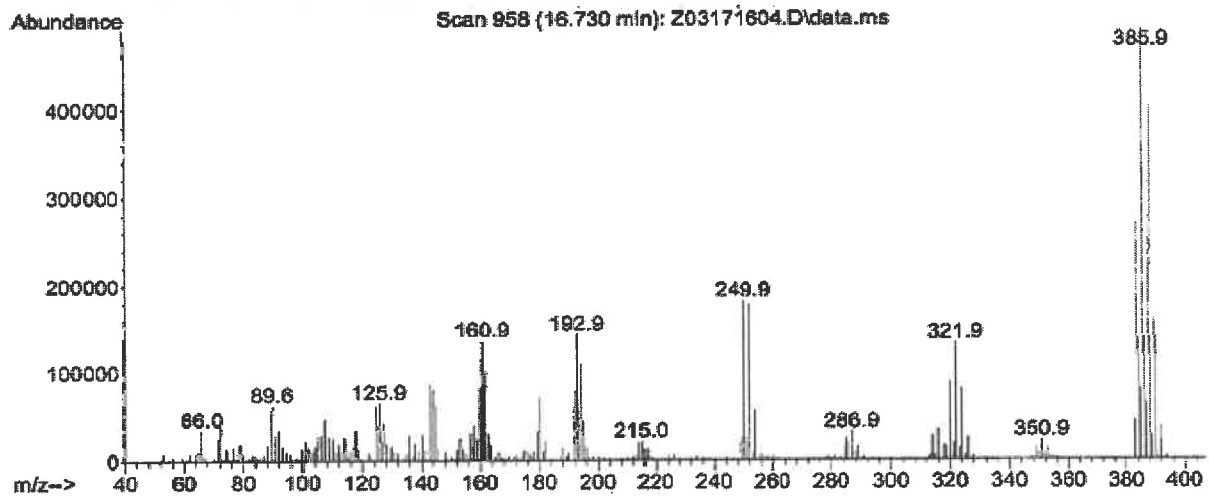
GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram



Mass Spectrum



COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00458

R: 1/18/21 SKV

Cerilliant
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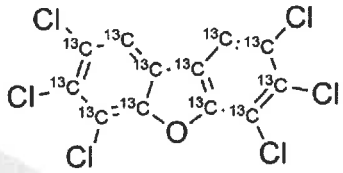
Cerilliant Quality
ISO 17034
ISO/IEC 17025
ISO 13485
ISO 14001
ISO 9001

Certificate of Analysis

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$



Catalog Number: EF-987
Solution Lot: ER01062015
Expiration Date: January 2030
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.3%	49.97 ± 0.27 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and ISO 17034 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01062015	50.13	± 5%	0.3	≤ 3%
Previous Lot	ER100610-02	49.53	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 16, 2020
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER09051801	**CAS Number:**	116843-05-1
		Molecular Weight:	386.77

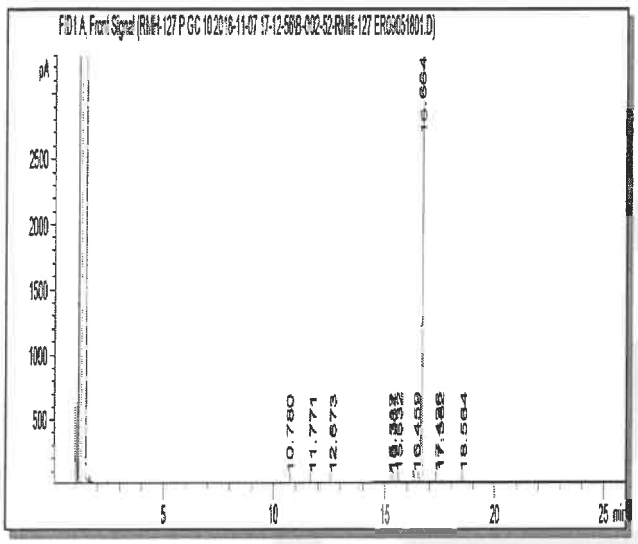
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Sample Name:	ER09051801
Acquired:	February 13, 2018

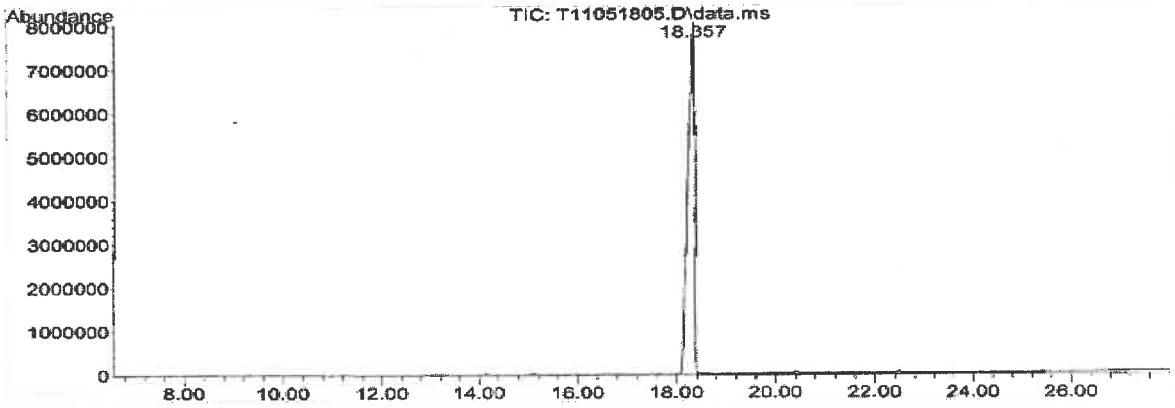
Peak #	Ret Time	Area %
1	12.66	0.03
2	13.01	0.03
3	14.00	98.87
4	24.77	0.09
5	41.14	0.19
6	44.28	0.79

Spectral and Physical Data (cont.)

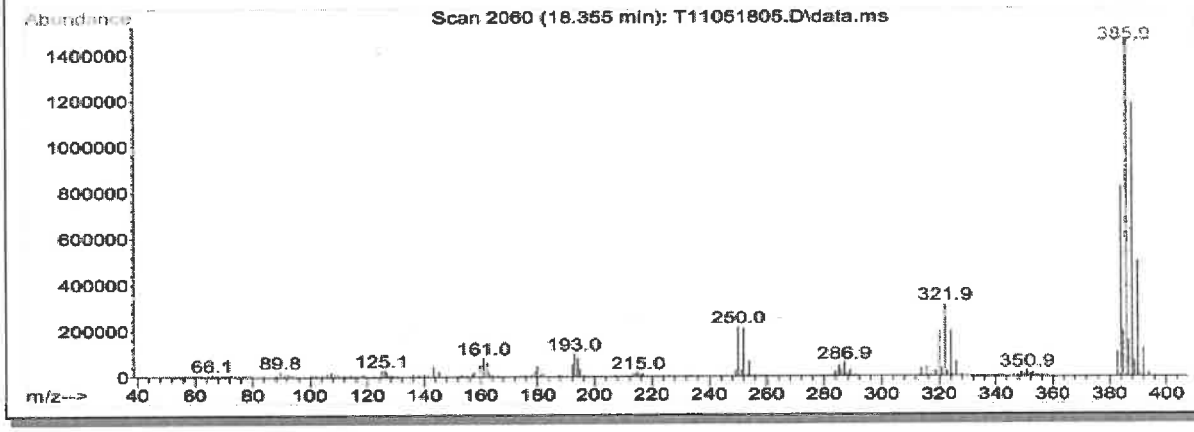
GC/MS

Compound Name	:	2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	:	ER09051801
Instrument	:	Agilent GCMS
Operator	:	ECM(SGIUFFRE)
Date Reported	:	Mon Nov 05 12:24:41 2018
Column Type	:	DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	:	140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	:	Cool on-column
Carrier Gas	:	Helium
Flow Rate (mL\min)	:	0.80 mL/min
Transfer Line Temp.	:	280°C
Scan Range	:	50-550

Total Ion Chromatogram



Mass Spectrum



COA Revision History

Revision No.	Date	Reason for Revision
00	April 16, 2020	Initial version

Reagent

HRDXNIDA_00459

r: 1/16/24 SKJ

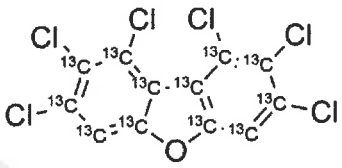
Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Cerilliant Quality
ISO 17034
ISO/IEC 17025
ISO 13485
ISO 14001
ISO 9001

Certificate of Analysis

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$



Catalog Number: EF-986
Solution Lot: ER01062016
Expiration Date: January 2030
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and ISO 17034 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01062016	49.54	± 5%	0.5	≤ 3%
Previous Lot	ER100610-01	49.08	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

February 03, 2020
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

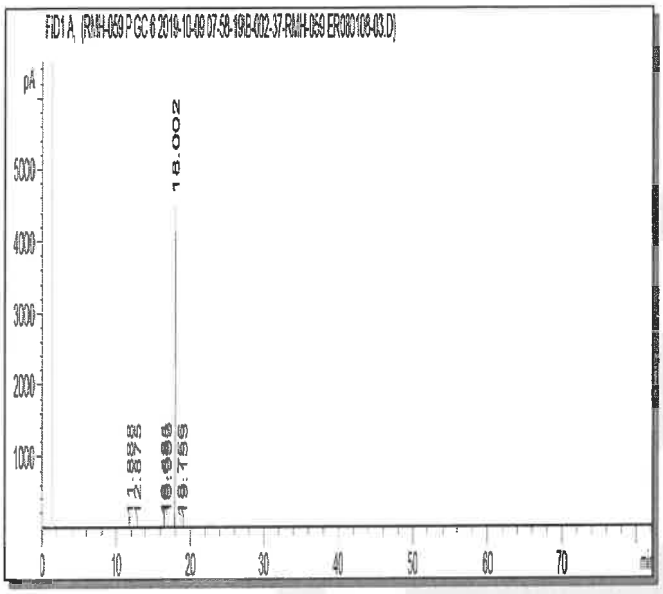
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_6$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity by GC/MS SIM Analysis	SP10-0105	No single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.47%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Sample Name:	ER080108-03
Acquired:	October 09, 2019

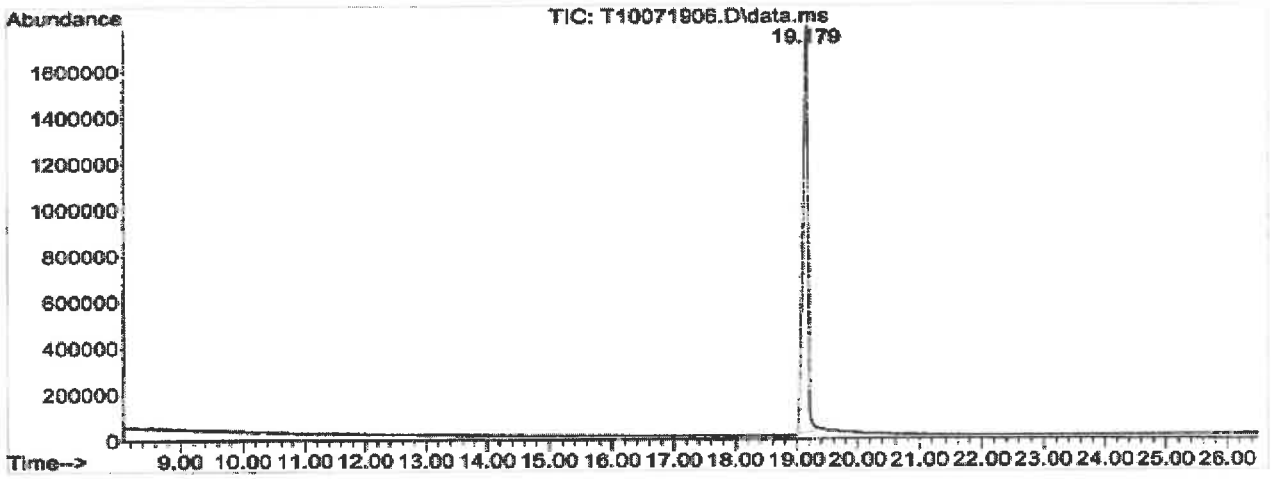
Peak #	Ret Time	Area %
1	11.89	0.00
2	12.88	0.00
3	16.48	0.33
4	16.64	0.01
5	16.95	0.17
6	18.00	99.47
7	18.76	0.00
8	19.15	0.00

Spectral and Physical Data (cont.)

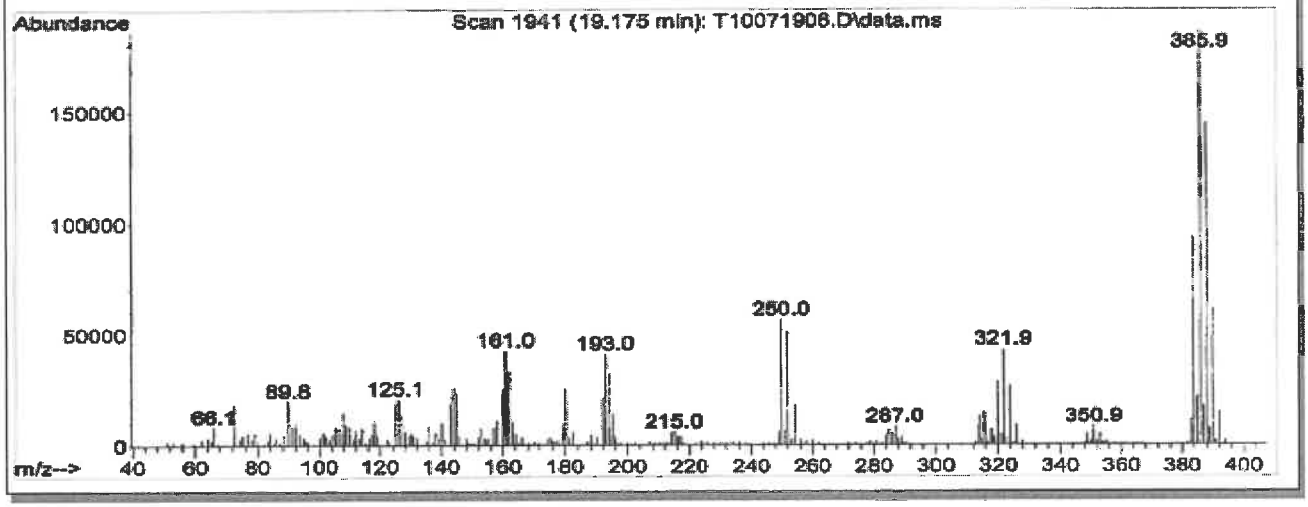
GC/MS

Compound Name	:	1,2,3,7,8,9-Hexachlorodibenzofuran-13C12
Lot Number	:	ER080108-03
Instrument	:	Agilent GCMS
Operator	:	ECM(SGIUFFRE)
Date Reported	:	Tue Oct 08 10:54:22 2019
Column Type	:	DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	:	140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp.	:	Cool on-column
Carrier Gas	:	Helium
Flow Rate (mL\min)	:	0.80 mL/min
Transfer Line Temp.	:	280°C
Scan Range	:	50-550

Total Ion Chromatogram



Mass Spectrum



COA Revision History

Revision No.	Date	Reason for Revision
00	February 03, 2020	Initial version

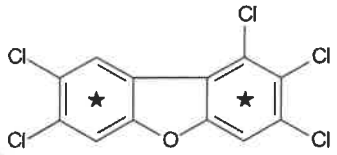
Reagent

HRDXNIDA_00460

Cerilliant Quality
ISO 17034
ISO/IEC 17025
ISO 13485
ISO 14001
ISO 9001

Certificate of Analysis

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$



Catalog Number: EF-952
Solution Lot: ER10211904
Expiration Date: December 2029
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and ISO 17034 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER10211904	49.25	± 5%	0.2	≤ 3%
Previous Lot	ER012111-01	48.12	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 07, 2020
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.32

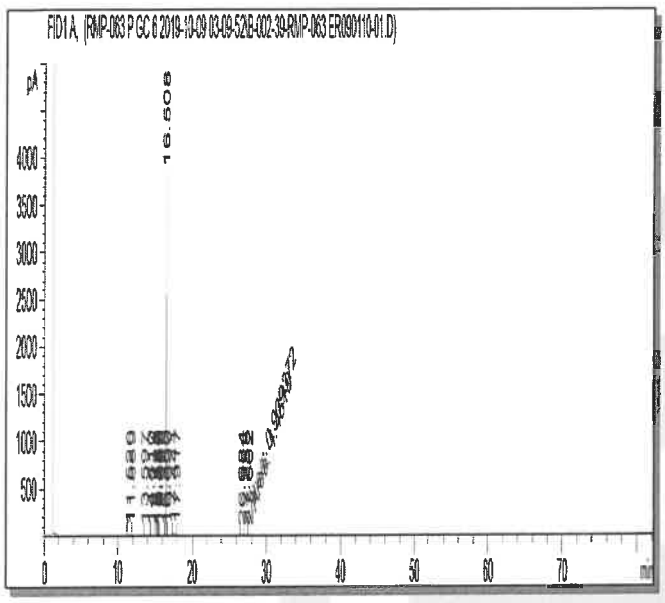
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.6%
Identity by GC/MS Analysis	AM1029	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	AM1029	0.00% $^{13}C_0$ vs $^{13}C_6$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Impurity by GC/MS SIM Analysis	AM1029	No single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		98.59%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 40°C to 300°C at 15°C/min hold 65 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Sample Name: ER090110-01
Acquired: October 09, 2019

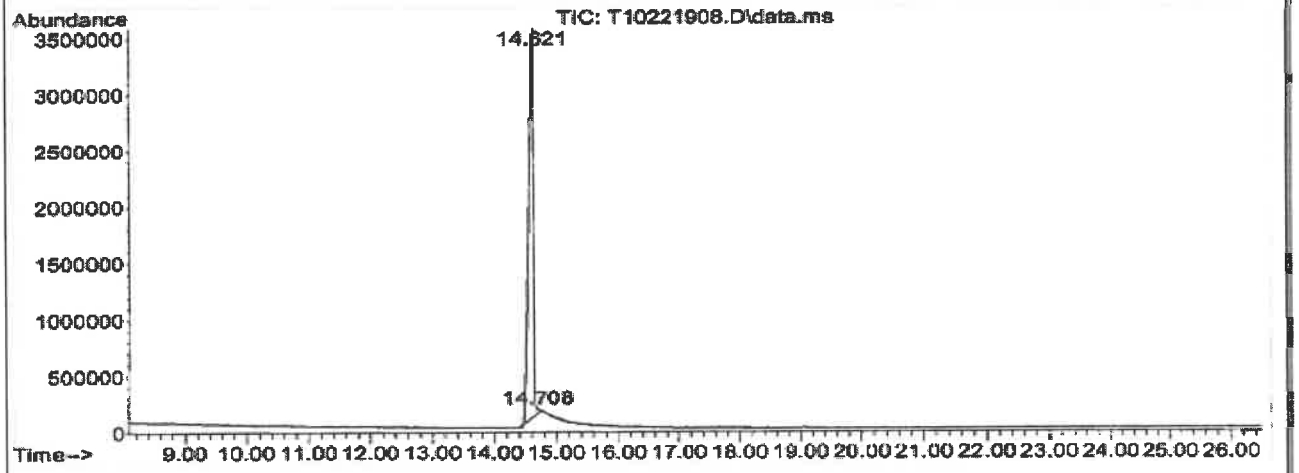
Peak #	Ret Time	Area %
1	11.52	0.24
2	11.89	0.02
3	13.60	0.26
4	14.41	0.01
5	14.52	0.01
6	15.12	0.01
7	15.34	0.01
8	15.39	0.03
9	15.46	0.13
10	15.56	0.15
11	15.69	0.01
12	16.38	0.00
13	16.51	98.61
14	16.63	0.02
15	16.69	0.01
16	17.44	0.21
17	17.92	0.21
18	26.68	0.04
19	27.26	0.01
20	27.66	0.02

Spectral and Physical Data (cont.)

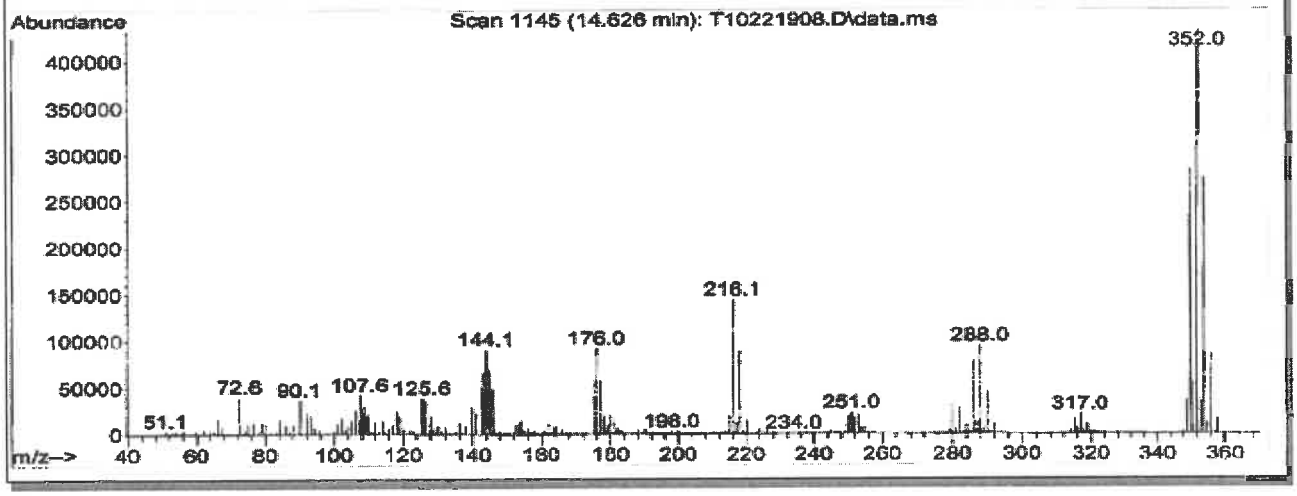
GC/MS

Compound Name	:	1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number	:	ER090110-01
Instrument	:	Agilent GCMS
Operator	:	ECM(SGIUFFRE)
Date Reported	:	Wed Oct 23 08:39:22 2019
Column Type	:	DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	:	140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	:	Cool on-column
Carrier Gas	:	Helium
Flow Rate (mL\min)	:	0.80 mL/min
Transfer Line Temp.	:	280°C
Scan Range	:	50-550

Total Ion Chromatogram



Mass Spectrum



COA Revision History

Revision No.	Date	Reason for Revision
00	January 07, 2020	Initial version

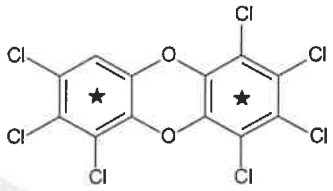
Reagent

HRDXNIDA_00461

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-972
Solution Lot:	ER09271601
Expiration Date:	October 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09271601	51.51	± 5%	0.2	≤ 3%
Previous Lot	ER111010-01	52.04	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

Darron Ellsworth, Quality Assurance Manager

October 26, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	0.999

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O_2$
Compound Lot:	ER100110-01	**CAS Number:**	109719-83-7
		Molecular Weight:	437.22

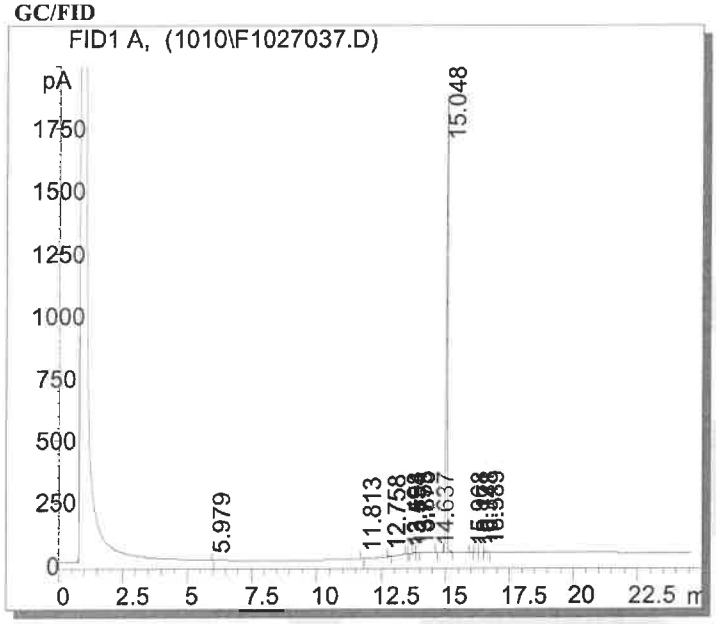
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		98.91%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lot Number             : ER100110-01
Instrument             : Agilent 5973N MSD/6890N GC
Operator-Inst ID       : RPC - C10106
Data Reported          : Wed Oct 27 15:05:05 2010
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 ml/min
Transfer Line Temp.    : 280°C

Scan Range             : 50-550
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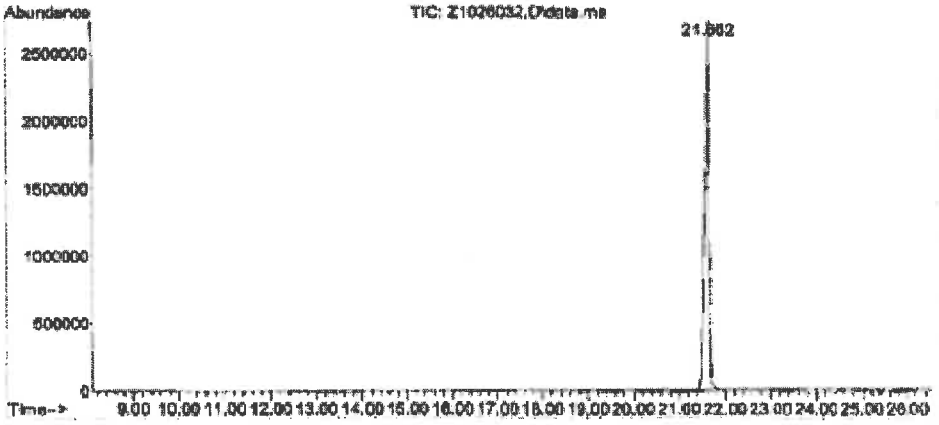
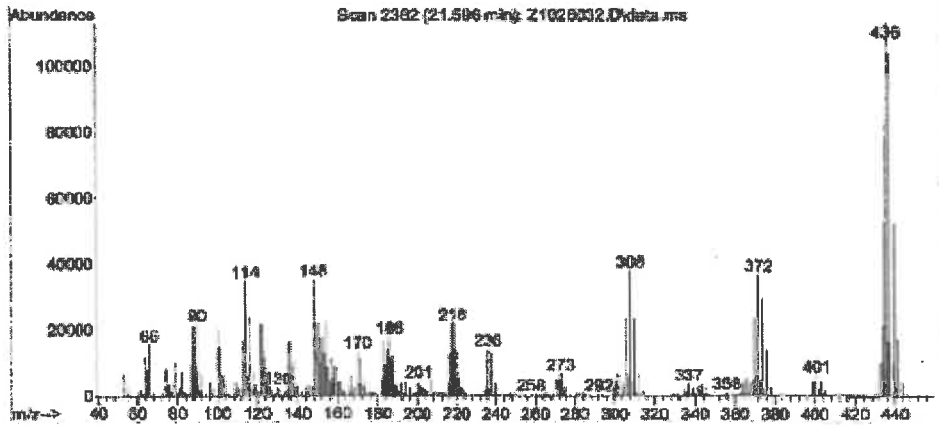
Total Ion Chromatogram



Mass Spectrum



Reagent

HRDXNIDA_00462

r: 1/18b1 skv

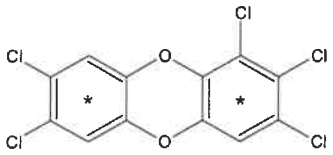
Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

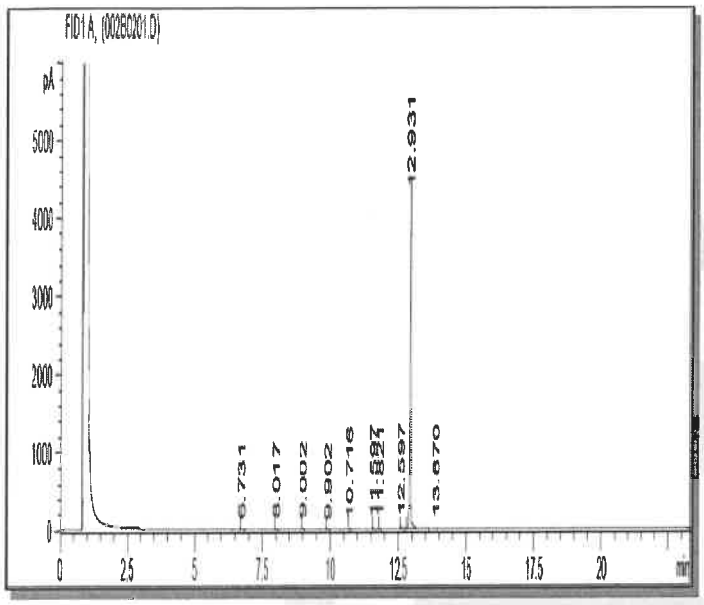
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

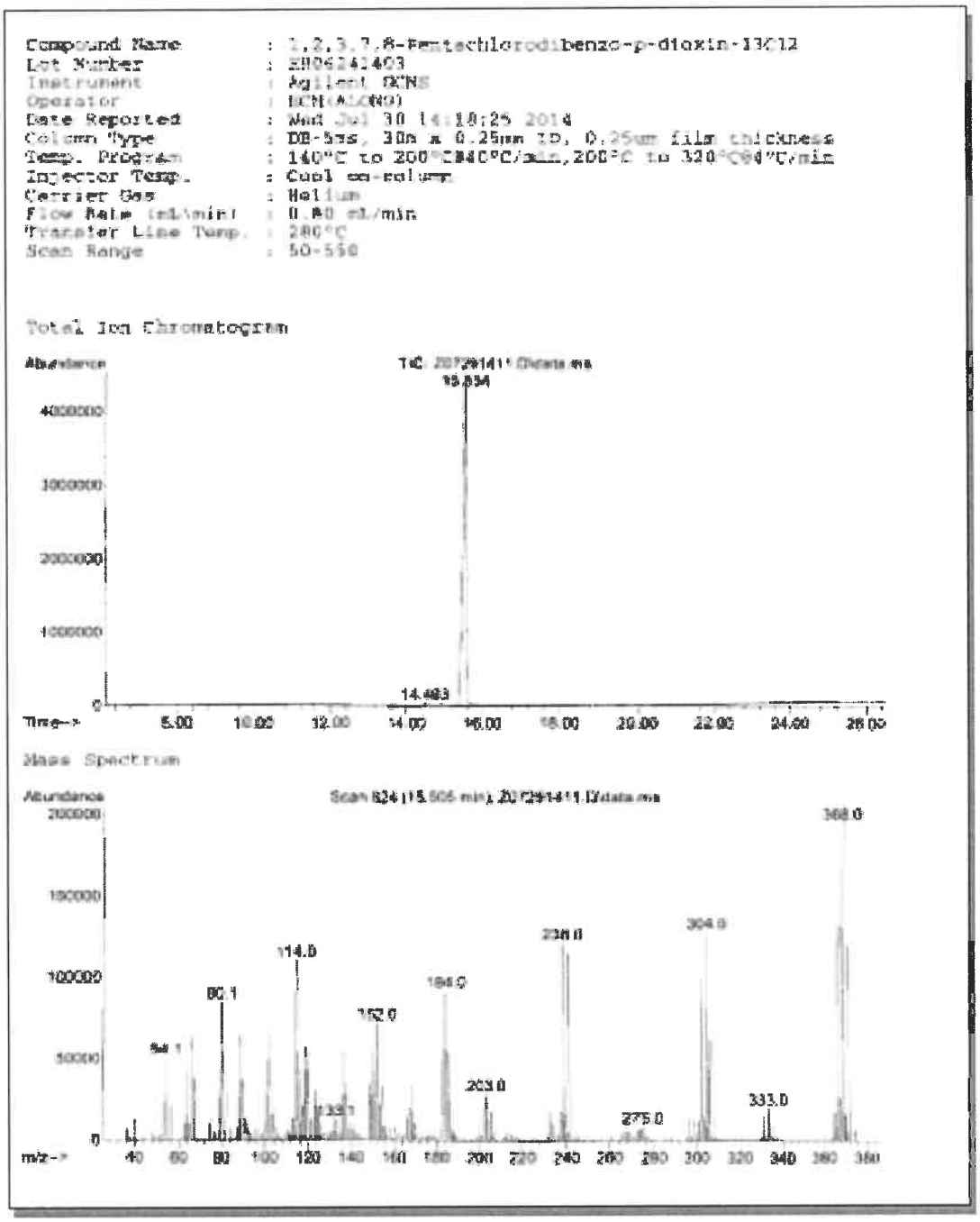


Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min, hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument:	GC#6
Sample Name:	ER06241403
Acquired:	July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.73	7.32	3.42	0.07
2	8.02	3.79	1.60	0.04
3	9.00	8.74	3.64	0.08
4	9.90	3.38	1.35	0.03
5	10.72	1.31	0.45	0.01
6	11.60	14.46	6.69	0.14
7	11.82	2.21	1.11	0.02
8	12.60	68.05	28.10	0.64
9	12.93	10594.10	4235.85	98.91
10	13.87	7.09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS



COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00475

r: 6/28/21

Cerilliant®
Analytical Reference Standards
a SIGMA-ALDRICH company

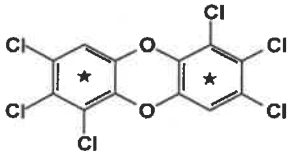
2566265
ID: HRDXNIDA_00475
Exp: 10/31/30 Prpd: SKV
13C-1,2,3,6,7,8-HxCDD [50

CIL

Certificate of Analysis

Cerilliant Quality
ISO 17034
ISO/IEC 17025
ISO 14001
ISO 9001

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-966
Solution Lot:	ER10152004
Expiration Date:	October 2030
Solvent:	n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.1%	50.1 ± 0.3 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and ISO 17034 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER10152004	51.9	± 5%	0.2	≤ 3%
Previous Lot	ER03151801	50.2	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening. This material is a product of the USA.

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

March 09, 2021
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

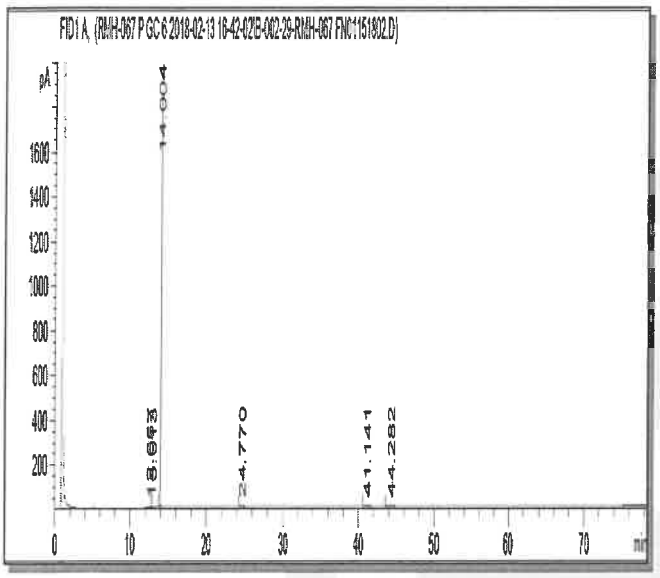
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Sample Name:	FN01151802
Acquired:	February 13, 2018

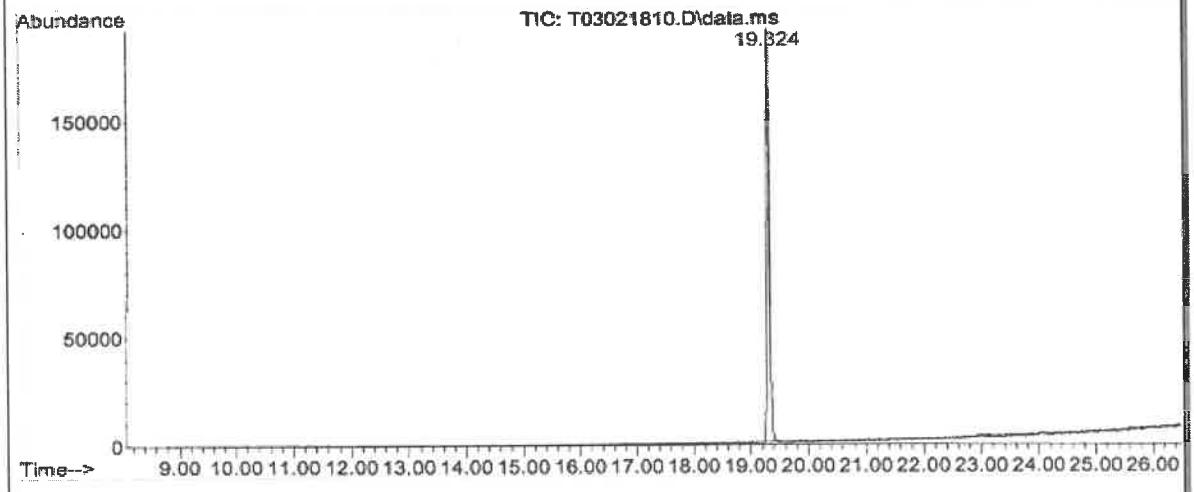
Peak #	Ret Time	Area %
1	12.66	0.03
2	13.01	0.03
3	14.00	98.87
4	24.77	0.09
5	41.14	0.19
6	44.28	0.79

Spectral and Physical Data (cont.)

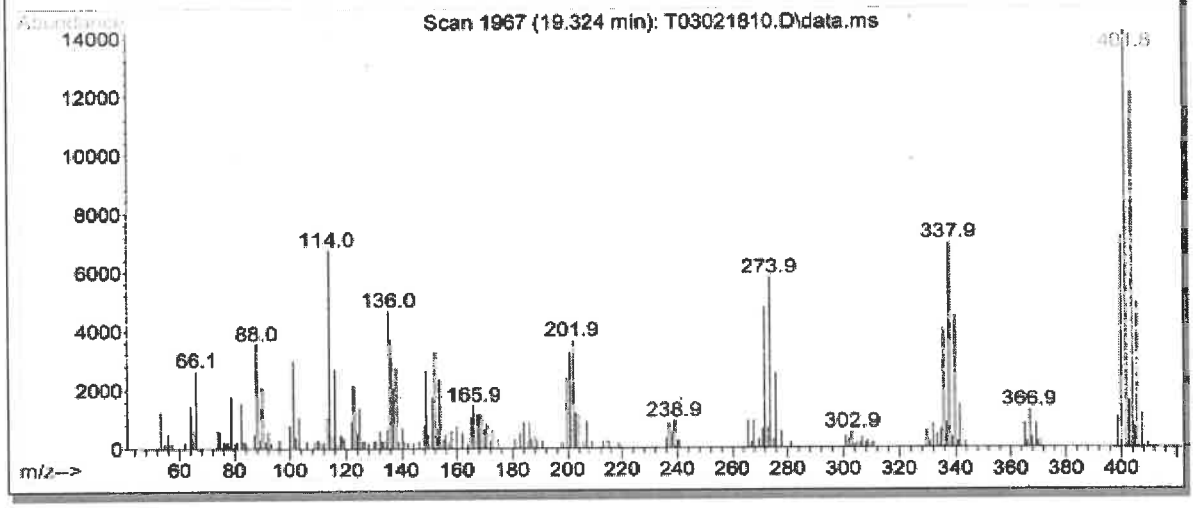
GC/MS

Compound Name	:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number	:	FN01151802
Instrument	:	Agilent GCMS
Operator	:	ECM(SGIUFFRE)
Date Reported	:	Mon Mar 05 10:17:33 2018
Column Type	:	DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	:	140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	:	Cool on-column
Carrier Gas	:	Helium
Flow Rate (mL\min)	:	0.80 mL/min
Transfer Line Temp.	:	280°C
Scan Range	:	50-550

Total Ion Chromatogram



Mass Spectrum



COA Revision History

Revision No.	Date	Reason for Revision
00	March 09, 2021	Initial version

Reagent

HRDXNIDA_00476

R: 6/28/21 SKV

2566270
ID: HRDXNIDA_00476
Exp: 09/30/26 Prpd: SKV
13C-2,3,7,8-TCDF [50ug/ml

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Analytical Reference Standards
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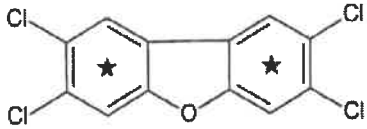
CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$



Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

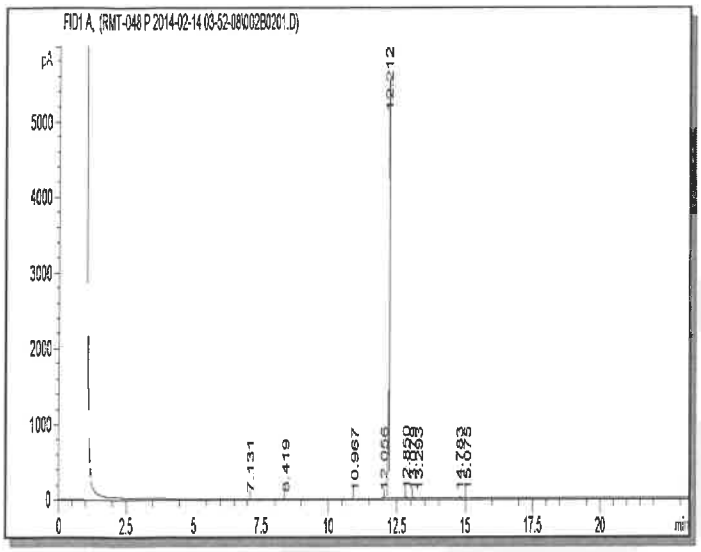
Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

GC/FID



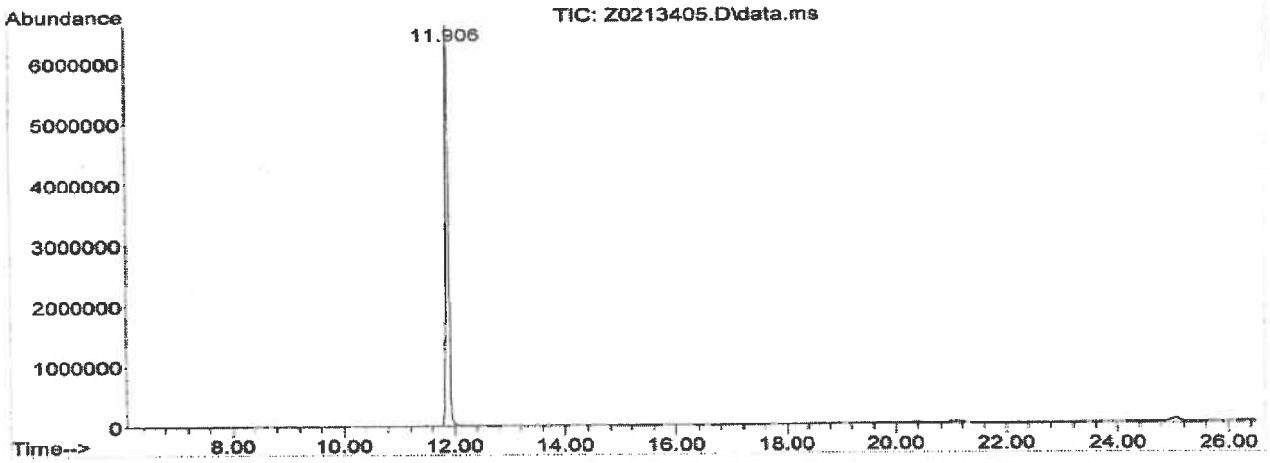
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

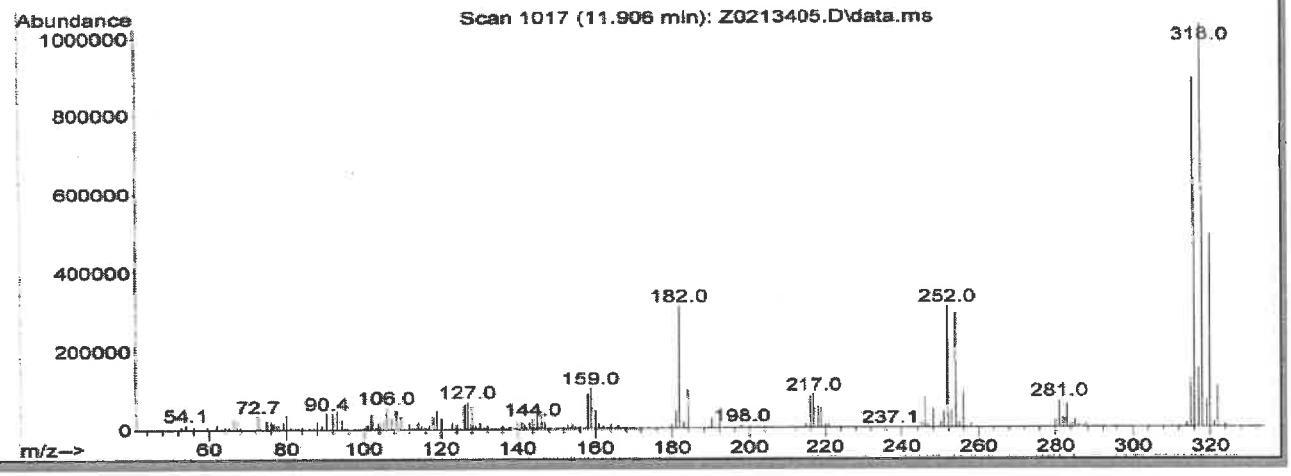
GC/MS

Compound Name	:	2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	:	ER01161401
Instrument	:	Agilent GCMS
Operator	:	ECM(SAMUEL_GIUFFRE)
Date Reported	:	Thu Feb 13 11:57:07 2014
Column Type	:	DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	:	140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	:	Cool on-column
Carrier Gas	:	Helium
Flow Rate (mL\min)	:	0.80 mL/min
Transfer Line Temp.	:	280°C
Scan Range	:	50-550

Total Ion Chromatogram



Mass Spectrum



COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00477

R: 6/20/24 SKV

Cerilliant
Analytical Reference Standards
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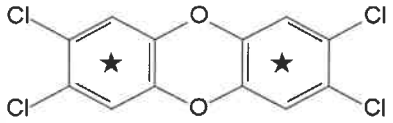
2566271
ID: HRDXNIDA_00477
Exp: 03/31/26 Prpd: SKV
13C-2,3,7,8-TCDD [50ug/ml

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-900
Solution Lot:	ER03031601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darren Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

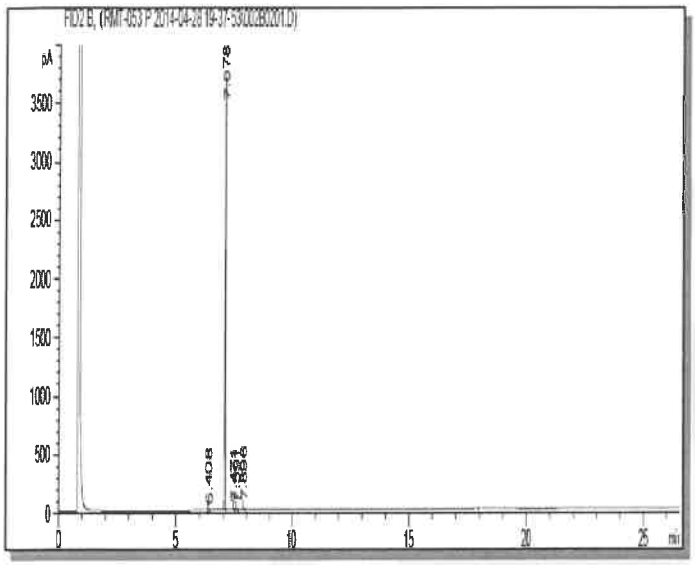
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$ 0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



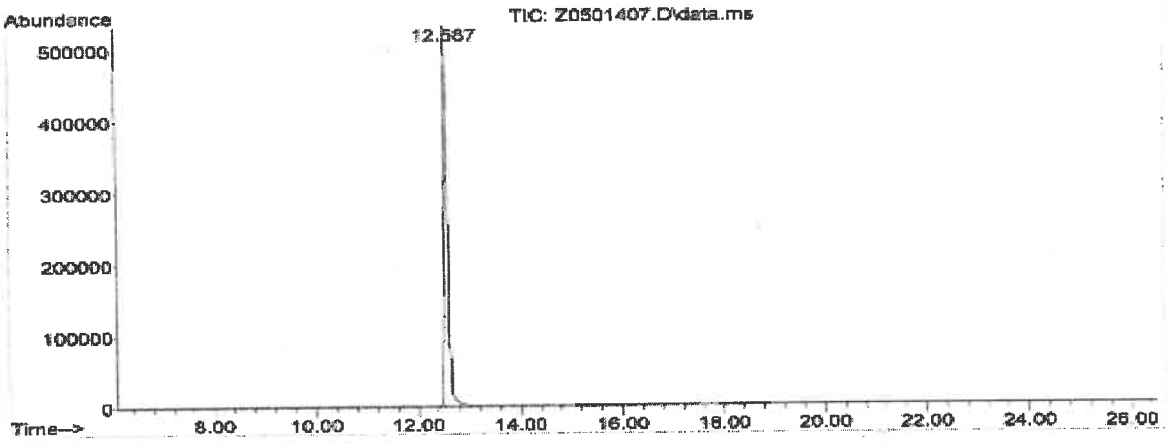
Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4.36	2.80	0.08
2	7.08	5225.21	3678.99	99.32
3	7.47	5.29	3.00	0.10
4	7.59	9.11	4.81	0.17
5	7.90	17.05	9.22	0.32

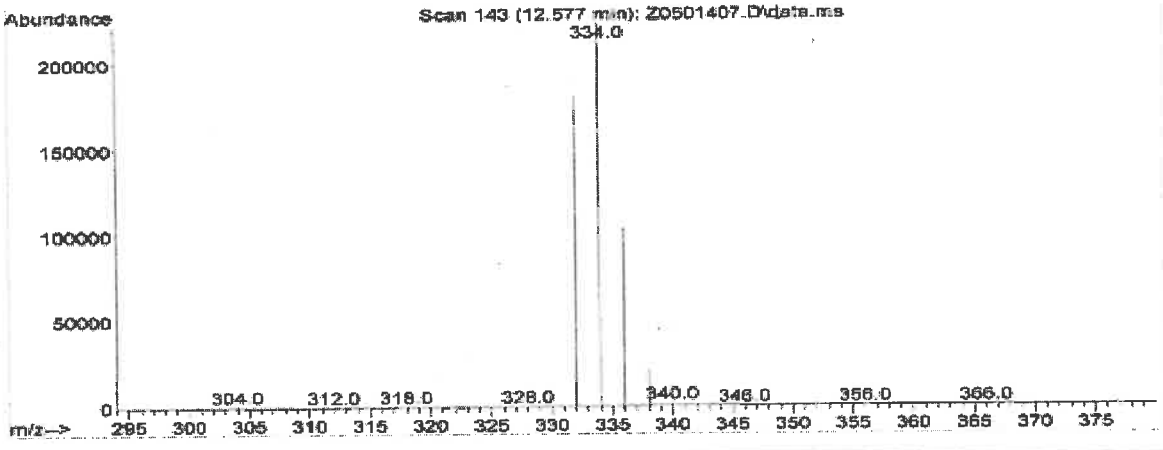
GC/MS

Compound Name	:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	:	ERC1201405
Instrument	:	Agilent GCMS
Operator	:	ECM(SAMUEL GIUFFRE)
Date Reported	:	Tue May 06 09:30:26 2014
Column Type	:	DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	:	140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	:	Cool on-column
Carrier Gas	:	Hellum
Flow Rate (mL\min)	:	0.80 mL/min
Transfer Line Temp.	:	280°C
Scan Range	:	50-550

Total Ion Chromatogram



Mass Spectrum



Reagent

HRDXNIDA_00478

R: 6/28/21 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

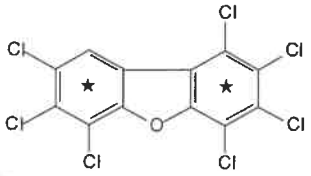
2566272
ID: HRDXNIDA_00478
Exp: 11/30/24 Prpd: SKV
13C-1,2,3,4,6,7,8-HpCDF [

CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$



Catalog Number:	EF-974
Solution Lot:	ER08101404
Expiration Date:	November 2024
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER020507-02	**CAS Number:**	109719-84-8
		Molecular Weight:	421.22

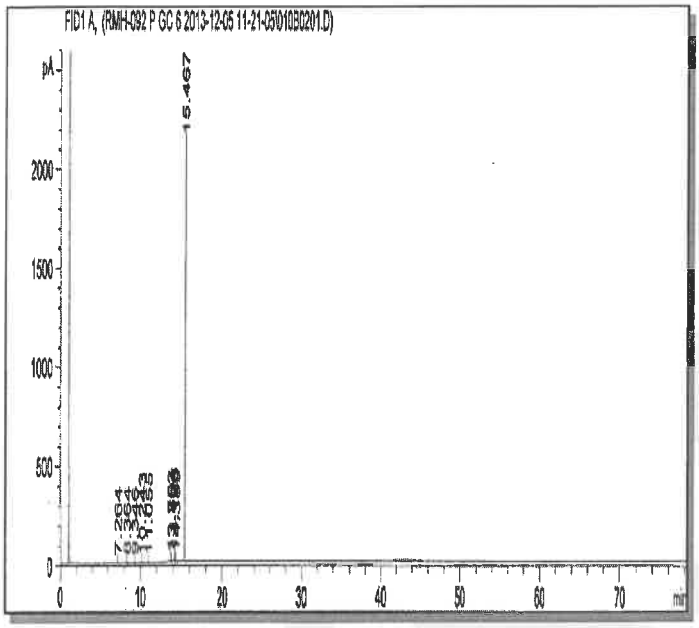
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

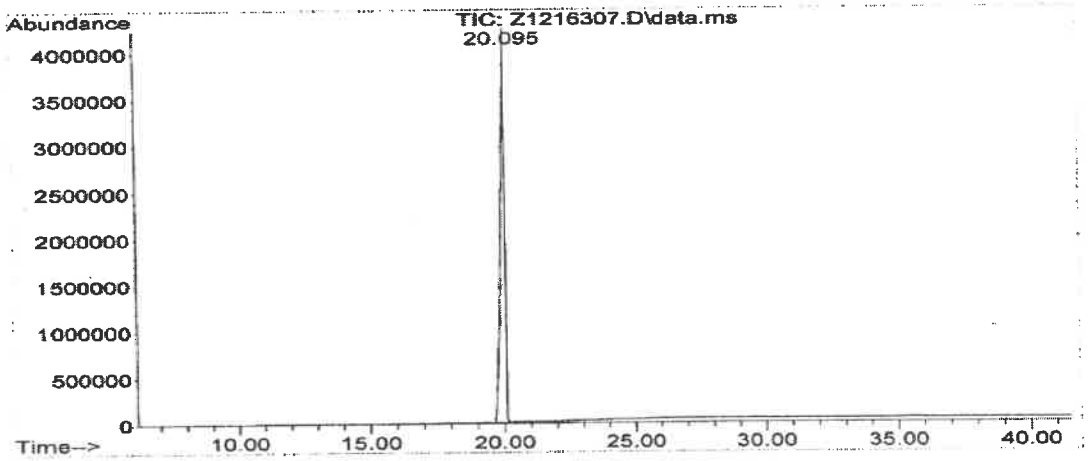
Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11.76	5.45	0.12
3	9.35	5.20	2.32	0.05
4	10.24	1.47	0.62	0.02
5	11.06	0.34	0.17	0.00
6	13.75	8.81	4.38	0.09
7	13.80	23.67	9.98	0.25
8	14.13	43.07	16.42	0.45
9	14.20	21.73	8.77	0.23
10	14.39	4.79	1.81	0.05
11	15.47	9349.36	2200.33	98.68

Spectral and Physical Data (cont.)

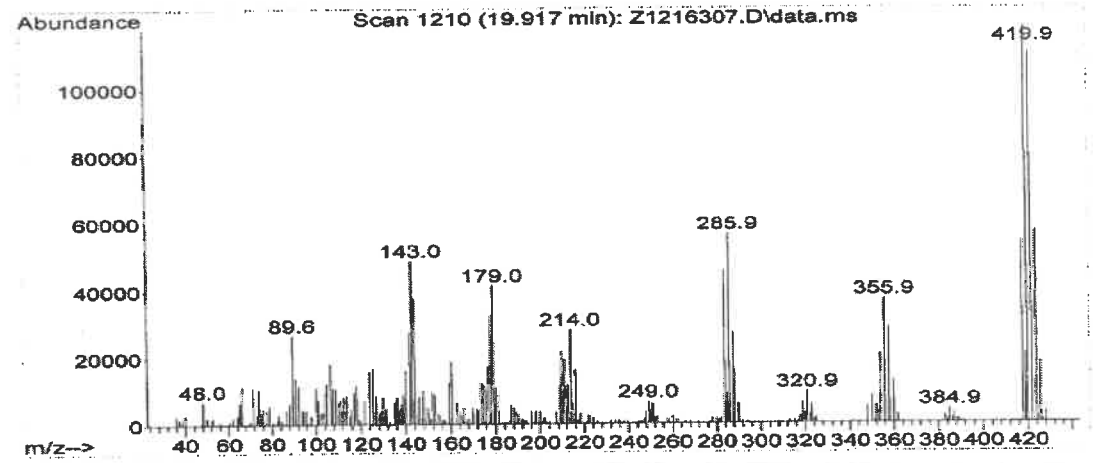
GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram



Mass Spectrum



COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIS_00126

Rec'd 3/26/20 SW

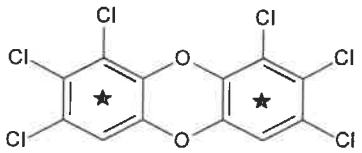
Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-996
Solution Lot:	ER08221601
Expiration Date:	September 2026
Solvent:	n-Nonane:Toluene (80:20)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

August 16, 2019
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

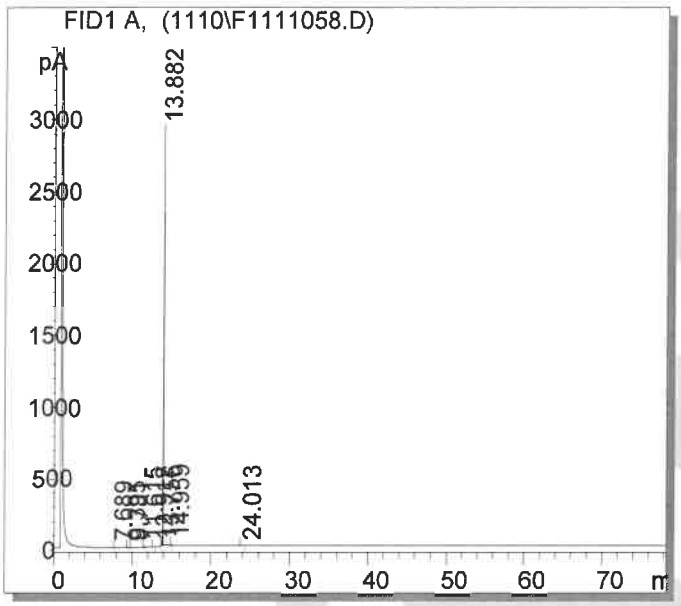
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

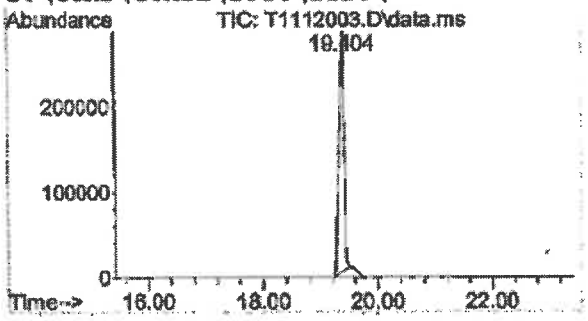
Peak #	Ret Time	Area	Height	Area %
1	4.69	0.45	0.10	0.01
2	9.40	0.72	0.14	0.01
3	9.78	0.80	0.13	0.01
4	11.62	7.34	2.54	0.09
5	12.91	2.59	0.23	0.03
6	13.76	1.91	1.00	0.02
7	13.88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

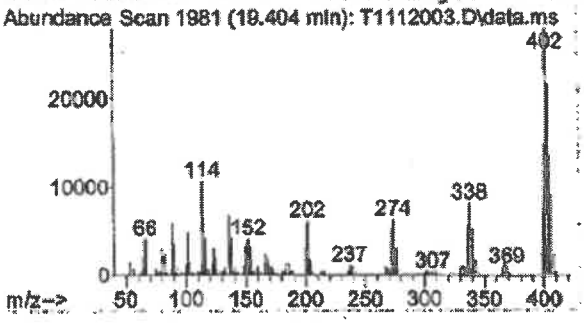
GC/MS

```
Compound Name     : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number        : ER110510-01
Instrument        : Agilent 5973N MSD /6890N GC
Operator-Inst ID  : RPC - A147434
Date Reported     : Fri Nov 12 16:41:14 2010
Column Type       : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program     : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp.    : Cool on-column          Trans. Line Temp : 280°C
Carrier Gas       : Helium                  Flow Rate        : 0.80 mL/min
```

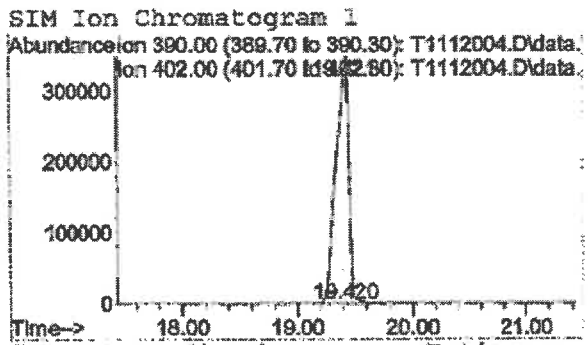
Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\



Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

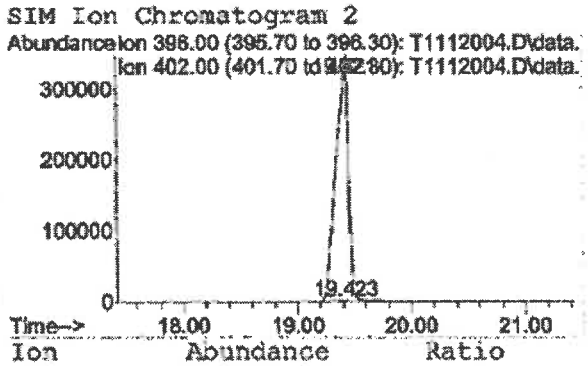


SIM Ion Chromatogram 1



Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2



Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

COA Revision History

Revision No.	Date	Reason for Revision
00	September 28, 2016	Initial version
01	August 16, 2019	Corrected Solvent from n-Nonane to n-Nonane:Toluene (80:20)
		Added Structure

Reagent

HRDXNIS_00127

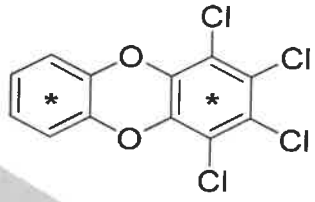
r: 3/26/20 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$



Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	ED-911
Solution Lot:	ER11081602
Expiration Date:	January 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER02021602	**CAS Number:**	114423-99-3
		Molecular Weight:	333.88

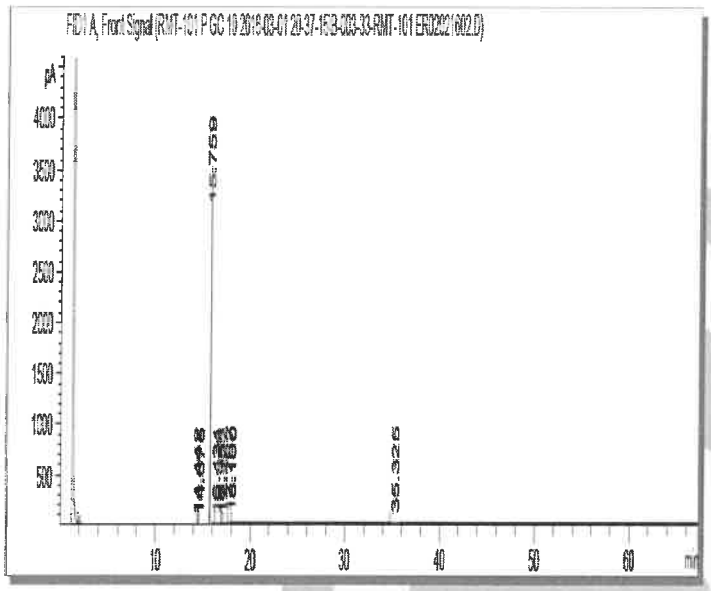
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

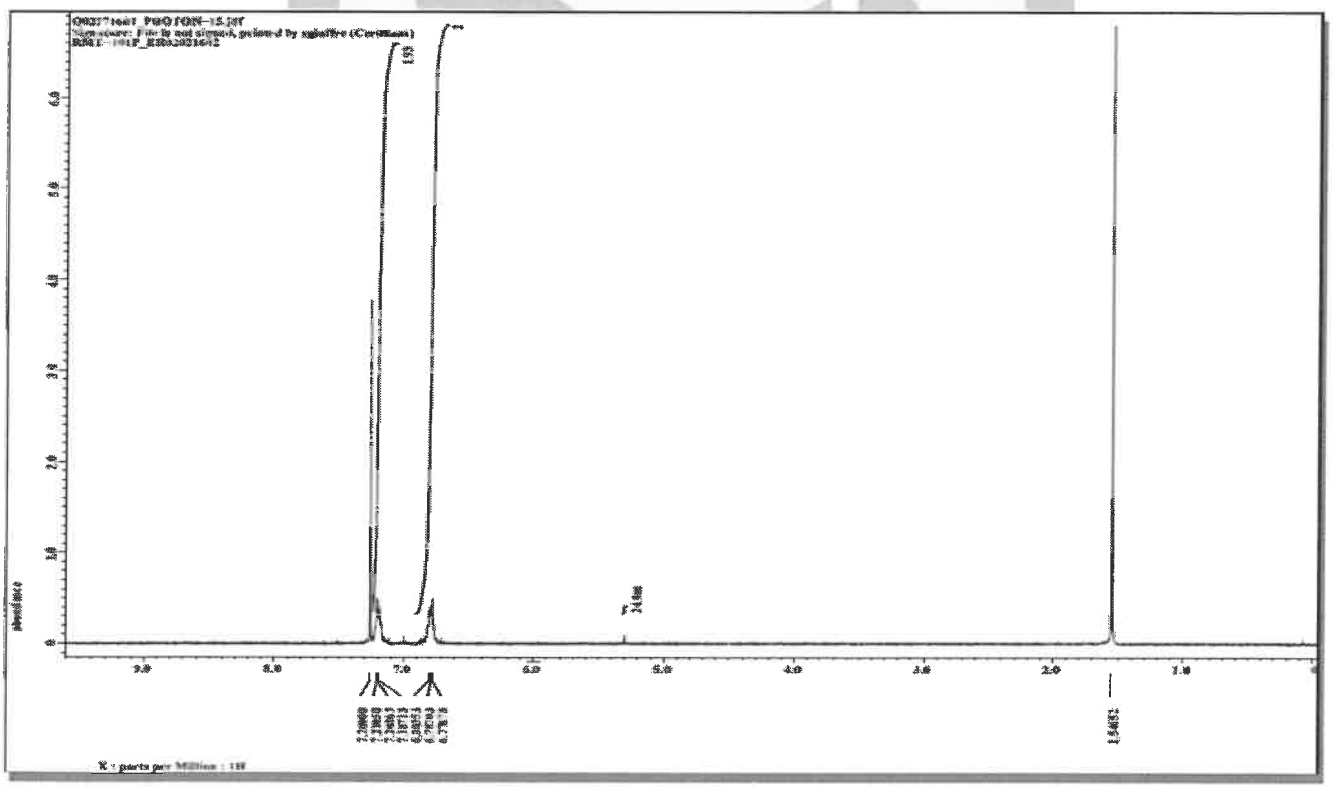


Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

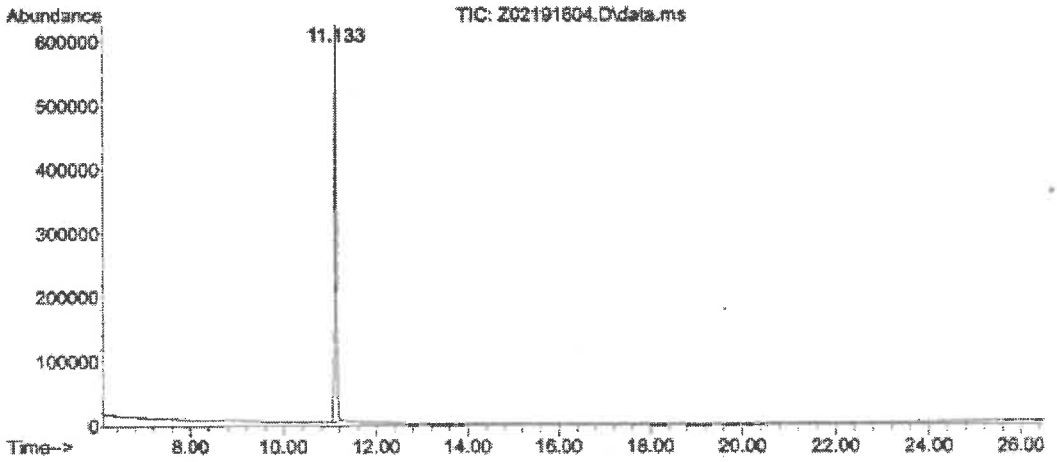


Spectral and Physical Data (cont.)

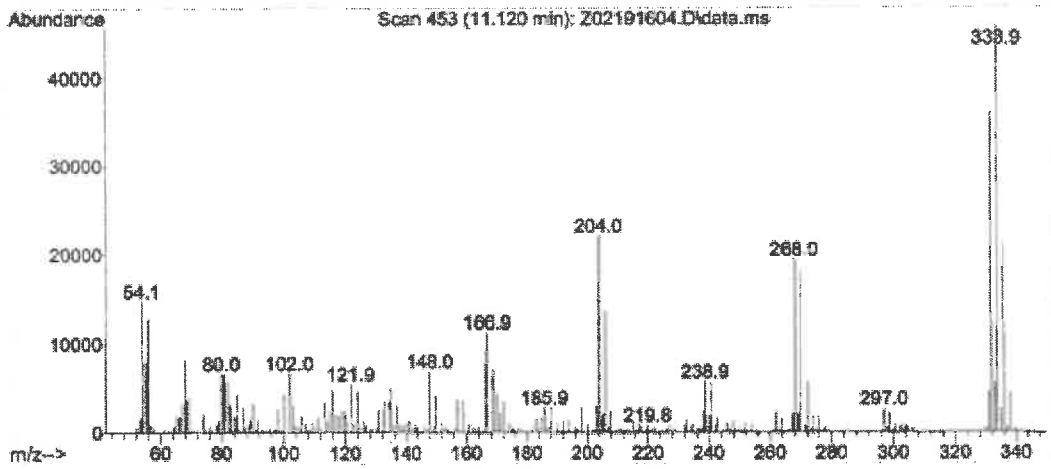
GC/MS

```
Compound Name          : 1,2,3,4-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number             : ER02021602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Fri Feb 19 12:55:12 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram



Mass Spectrum



Reagent

HRDXNTA_00124

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR1019
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/16/2019
LAST TESTED: (mm/dd/yyyy)	10/17/2019
EXPIRY DATE: (mm/dd/yyyy)	10/17/2026
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

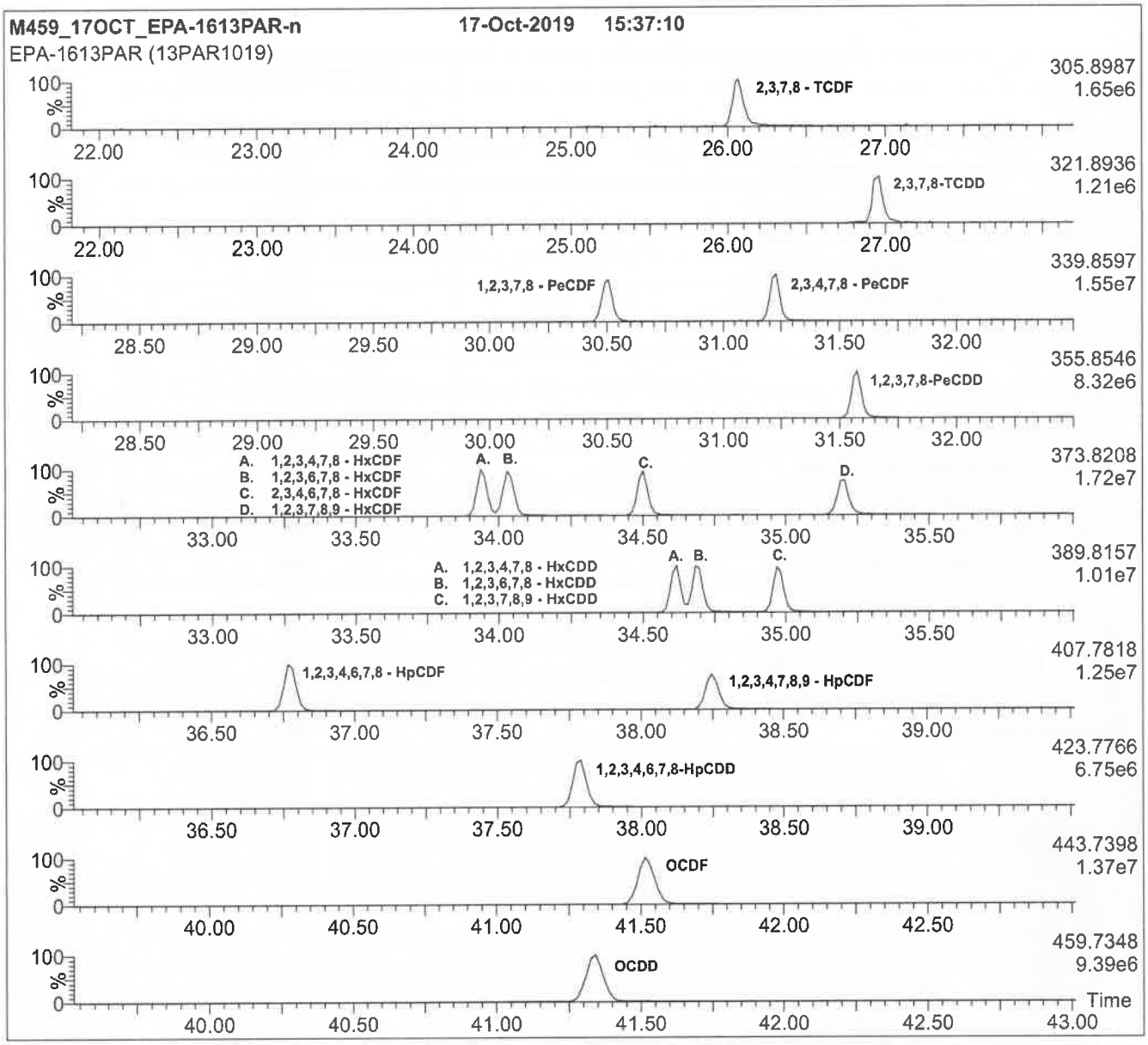
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

Component	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 11/07/2019
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column:	60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W
Flow:	Constant at 1 ml/min
Injector:	280 °C (Splitless Injection)
Ionization:	EI+
Detector:	280 °C SIR at 10,000 mass resolving power

Oven:	150 °C (1 min) 12 °C/min to 200 °C 3 °C/min to 235 °C 235 °C (8 min) 8 °C/min to 310 °C 310 °C (8 min)

Reagent

HRDXNTA_00132

r: 5/10/21 SKV

Cerilliant
Analytical Reference Standards
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CIL

Revision 00
Page 1 of 3
Product of USA

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO 17034
ISO/IEC 17025
ISO 14001
ISO 9001

Catalog Number: EDF-7999-10X
Solution Lot: ER09031903
Expiration Date: August 2030
Solvent: n-Nonane
Volume per Ampoule: Not less than 1.2 mL
Storage: Room Temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet**

- Expiration Date has been established through real time stability studies.
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER12161901	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.1%	400.6 ± 4.2 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.4 ± 4.2 ng/mL
1,2,3,7,8-PeCDD	ER07091901	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.1%	2002 ± 21 ng/mL
1,2,3,7,8-PeCDF	ER11081603	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.7%	1992 ± 21 ng/mL
2,3,4,7,8-PeCDF	ER03211901	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	2011 ± 21 ng/mL
1,2,3,4,7,8-HxCDD	ER05012008	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2004 ± 21 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2013 ± 21 ng/mL
1,2,3,7,8,9-HxCDD	ER01142001	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2017 ± 21 ng/mL
1,2,3,4,7,8-HxCDF	ER03022008	70648-26-9	$C_{12}H_2Cl_6O$	374.86	98.3%	2004 ± 21 ng/mL
1,2,3,6,7,8-HxCDF	ER06231602	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.1%	2005 ± 21 ng/mL
1,2,3,7,8,9-HxCDF	ER10281601	72918-21-9	$C_{12}H_2Cl_6O$	374.86	99.7%	2005 ± 21 ng/mL
2,3,4,6,7,8-HxCDF	ER070131801	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2004 ± 21 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	2002 ± 21 ng/mL
1,2,3,4,6,7,8-HpCDF	ER12261901	67562-39-4	$C_{12}HCl_7O$	409.31	98.7%	2005 ± 21 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01261701	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	2003 ± 21 ng/mL
OCDD	ER09191601	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3975 ± 42 ng/mL
OCDF	ER03031701	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4002 ± 42 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and ISO 17034 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 16, 2020
Date

Traceability

- This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 292°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

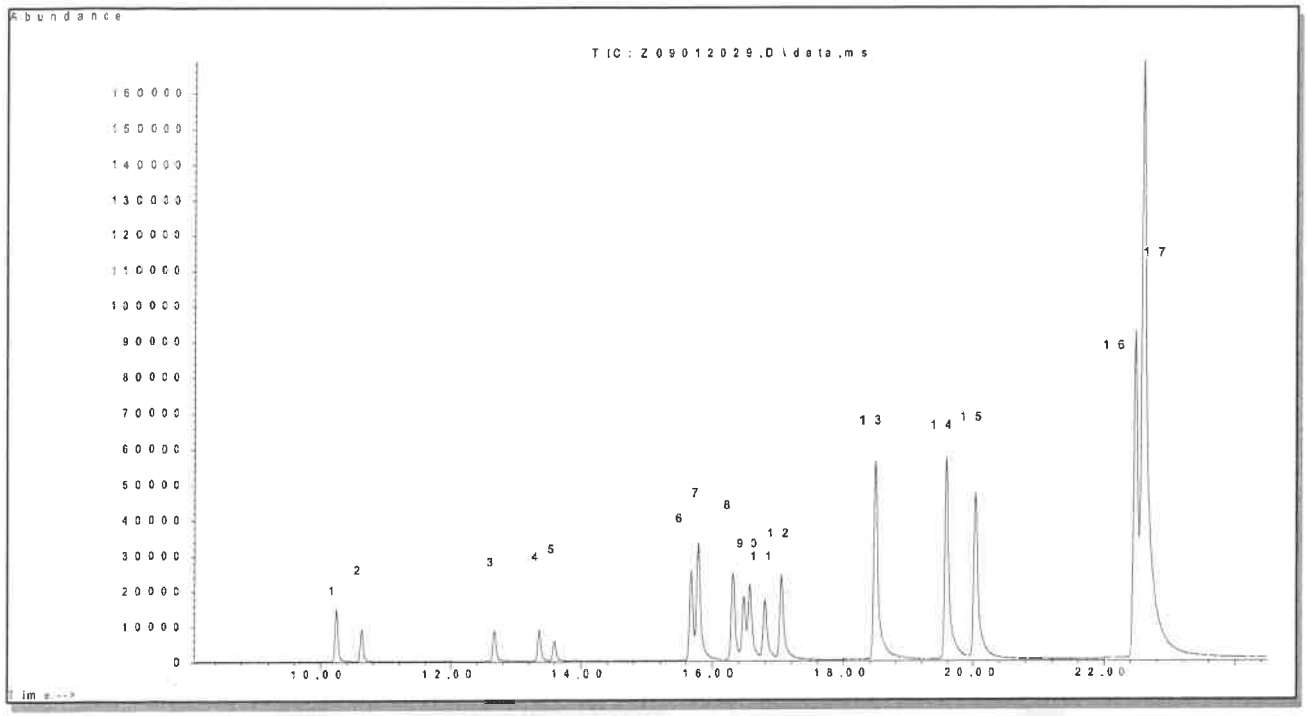
Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	407.4	± 10%	0.9	≤ 10%
2,3,7,8-TeCDF	402.5	± 10%	0.8	≤ 10%
1,2,3,7,8-PeCDD	2014	± 10%	0.6	≤ 10%
1,2,3,7,8-PeCDF	2008	± 10%	2.7	≤ 10%
2,3,4,7,8-PeCDF	2033	± 10%	1.1	≤ 10%
1,2,3,4,7,8-HxCDD	2000	± 10%	3.4	≤ 10%
1,2,3,6,7,8-HxCDD	1903	± 10%	4.0	≤ 10%
1,2,3,7,8,9-HxCDD	2025	± 10%	1.6	≤ 10%
1,2,3,4,7,8-HxCDF	2010	± 10%	1.4	≤ 10%
1,2,3,6,7,8-HxCDF	2024	± 10%	1.3	≤ 10%
1,2,3,7,8,9-HxCDF	2024	± 10%	1.2	≤ 10%
2,3,4,6,7,8-HxCDF	1995	± 10%	1.0	≤ 10%
1,2,3,4,6,7,8-HpCDD	1993	± 10%	1.1	≤ 10%
1,2,3,4,6,7,8-HpCDF	2007	± 10%	1.5	≤ 10%
1,2,3,4,7,8,9-HpCDF	2038	± 10%	2.0	≤ 10%
OCDD	3964	± 10%	1.6	≤ 10%
OCDF	4081	± 10%	3.5	≤ 10%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration curve.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis



1. 2,3,7,8-Tetrachlorodibenzofuran
2. 2,3,7,8-Tetrachlorodibenzo-p-dioxin
3. 1,2,3,7,8-Pentachlorodibenzofuran
4. 2,3,4,7,8-Pentachlorodibenzofuran
5. 1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6. 1,2,3,4,7,8-Hexachlorodibenzofuran
7. 1,2,3,6,7,8-Hexachlorodibenzofuran
8. 2,3,4,6,7,8-Hexachlorodibenzofuran
9. 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10. 1,2,3,6,7,8,-Hexachlorodibenzo-p-dioxin
11. 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12. 1,2,3,7,8,9-Hexachlorodibenzofuran
13. 1,2,3,4,6,7,8-Heptachlorodibenzofuran
14. 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15. 1,2,3,4,7,8,9-Heptachlorodibenzofuran
16. Octachlorodibenzo-p-dioxin
17. Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	September 16, 2020	Initial version

Reagent

HRDXNTA_00133

r: 5/10/21 SKV

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Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO 17034
ISO/IEC 17025
ISO 14001
ISO 9001

Catalog Number: EDF-7999-10X
Solution Lot: ER09031903
Expiration Date: August 2030
Solvent: n-Nonane
Volume per Ampoule: Not less than 1.2 mL
Storage: Room Temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet**

- Expiration Date has been established through real time stability studies.
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER12161901	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.1%	400.6 ± 4.2 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.4 ± 4.2 ng/mL
1,2,3,7,8-PeCDD	ER07091901	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.1%	2002 ± 21 ng/mL
1,2,3,7,8-PeCDF	ER11081603	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.7%	1992 ± 21 ng/mL
2,3,4,7,8-PeCDF	ER03211901	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	2011 ± 21 ng/mL
1,2,3,4,7,8-HxCDD	ER05012008	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2004 ± 21 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2013 ± 21 ng/mL
1,2,3,7,8,9-HxCDD	ER01142001	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2017 ± 21 ng/mL
1,2,3,4,7,8-HxCDF	ER03022008	70648-26-9	$C_{12}H_2Cl_6O$	374.86	98.3%	2004 ± 21 ng/mL
1,2,3,6,7,8-HxCDF	ER06231602	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.1%	2005 ± 21 ng/mL
1,2,3,7,8,9-HxCDF	ER10281601	72918-21-9	$C_{12}H_2Cl_6O$	374.86	99.7%	2005 ± 21 ng/mL
2,3,4,6,7,8-HxCDF	ER070131801	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2004 ± 21 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	2002 ± 21 ng/mL
1,2,3,4,6,7,8-HpCDF	ER12261901	67562-39-4	$C_{12}HCl_7O$	409.31	98.7%	2005 ± 21 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01261701	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	2003 ± 21 ng/mL
OCDD	ER09191601	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3975 ± 42 ng/mL
OCDF	ER03031701	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4002 ± 42 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and ISO 17034 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 16, 2020
Date

Traceability

- This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 292°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

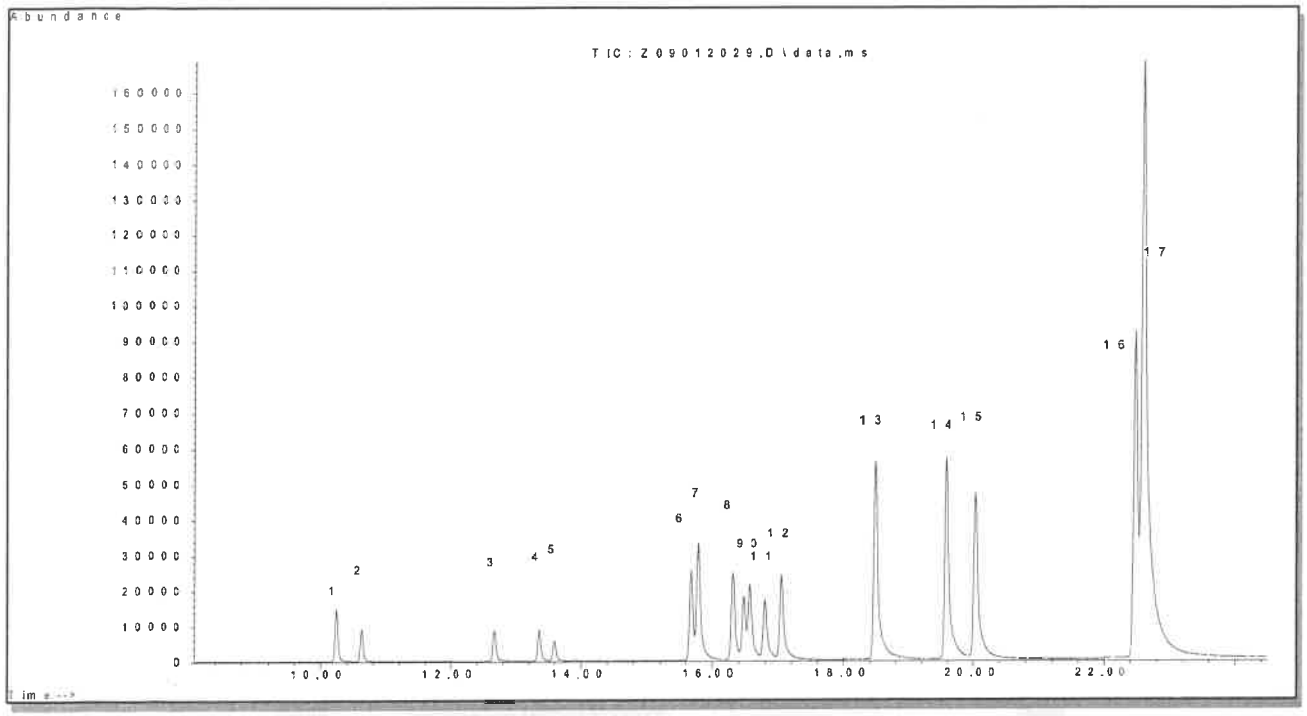
Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	407.4	± 10%	0.9	≤ 10%
2,3,7,8-TeCDF	402.5	± 10%	0.8	≤ 10%
1,2,3,7,8-PeCDD	2014	± 10%	0.6	≤ 10%
1,2,3,7,8-PeCDF	2008	± 10%	2.7	≤ 10%
2,3,4,7,8-PeCDF	2033	± 10%	1.1	≤ 10%
1,2,3,4,7,8-HxCDD	2000	± 10%	3.4	≤ 10%
1,2,3,6,7,8-HxCDD	1903	± 10%	4.0	≤ 10%
1,2,3,7,8,9-HxCDD	2025	± 10%	1.6	≤ 10%
1,2,3,4,7,8-HxCDF	2010	± 10%	1.4	≤ 10%
1,2,3,6,7,8-HxCDF	2024	± 10%	1.3	≤ 10%
1,2,3,7,8,9-HxCDF	2024	± 10%	1.2	≤ 10%
2,3,4,6,7,8-HxCDF	1995	± 10%	1.0	≤ 10%
1,2,3,4,6,7,8-HpCDD	1993	± 10%	1.1	≤ 10%
1,2,3,4,6,7,8-HpCDF	2007	± 10%	1.5	≤ 10%
1,2,3,4,7,8,9-HpCDF	2038	± 10%	2.0	≤ 10%
OCDD	3964	± 10%	1.6	≤ 10%
OCDF	4081	± 10%	3.5	≤ 10%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration curve.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis



1. 2,3,7,8-Tetrachlorodibenzofuran
2. 2,3,7,8-Tetrachlorodibenzo-p-dioxin
3. 1,2,3,7,8-Pentachlorodibenzofuran
4. 2,3,4,7,8-Pentachlorodibenzofuran
5. 1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6. 1,2,3,4,7,8-Hexachlorodibenzofuran
7. 1,2,3,6,7,8-Hexachlorodibenzofuran
8. 2,3,4,6,7,8-Hexachlorodibenzofuran
9. 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10. 1,2,3,6,7,8,-Hexachlorodibenzo-p-dioxin
11. 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12. 1,2,3,7,8,9-Hexachlorodibenzofuran
13. 1,2,3,4,6,7,8-Heptachlorodibenzofuran
14. 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15. 1,2,3,4,7,8,9-Heptachlorodibenzofuran
16. Octachlorodibenzo-p-dioxin
17. Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	September 16, 2020	Initial version

Method 8290

Dioxins and Furans (HRGC/HRMS) by Method 8290

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	PeCDF #	PeCDD #	HxCDF #	HxDD #	HpCDF #	HpCDD #
A2BMP0006S012	570-78855-1	93	91	88	84	87	96	93	93
A2BMP0007S020	570-78855-2	86	84	82	77	82	91	86	86
A2BMP0012S009	570-78855-3	89	86	84	80	85	92	90	89
EVBMP0001S018	570-78855-4	88	86	83	79	87	92	88	86
EVBMP0003S031	570-78855-5	89	86	85	80	86	91	89	87
	MB 320-552716/1-A	91	86	87	80	85	90	87	82
	LCS 320-552716/2-A	92	85	86	79	88	90	90	88
	LCSD 320-552716/3-A	96	90	91	88	80	93	89	92

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	40-135
TCDD = 13C-2,3,7,8-TCDD	40-135
PeCDF = 13C-1,2,3,7,8-PeCDF	40-135
PeCDD = 13C-1,2,3,7,8-PeCDD	40-135
HxCDF = 13C-1,2,3,4,7,8-HxCDF	40-135
HxDD = 13C-1,2,3,6,7,8-HxCDD	40-135
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	40-135
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	40-135

Column to be used to flag recovery values

FORM II 8290

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	OCDD #
A2BMP0006S012	570-78855-1	109
A2BMP0007S020	570-78855-2	102
A2BMP0012S009	570-78855-3	108
EVBMP0001S018	570-78855-4	101
EVBMP0003S031	570-78855-5	108
	MB 320-552716/1-A	98
	LCS 320-552716/2-A	106
	LCSD 320-552716/3-A	108

	QC LIMITS
OCDD = 13C-OCDD	40-135

Column to be used to flag recovery values

FORM II 8290

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 27de21adfs1_15.d

Lab ID: LCS 320-552716/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	191.6	96	72-128	
2,3,7,8-TCDF	200	180.1	90	67-135	
1,2,3,7,8-PeCDD	1000	995.2	100	71-135	
1,2,3,7,8-PeCDF	1000	939.0	94	70-133	
2,3,4,7,8-PeCDF	1000	925.8	93	69-135	
1,2,3,4,7,8-HxCDD	1000	875.3	88	67-130	
1,2,3,6,7,8-HxCDD	1000	938.6	94	61-144	
1,2,3,7,8,9-HxCDD	1000	921.7	92	61-140	
1,2,3,4,7,8-HxCDF	1000	814.5	81	69-140	
1,2,3,6,7,8-HxCDF	1000	1005	101	62-155	
2,3,4,6,7,8-HxCDF	1000	1052	105	70-146	
1,2,3,7,8,9-HxCDF	1000	990.6	99	71-142	
1,2,3,4,6,7,8-HpCDD	1000	941.4	94	71-134	
1,2,3,4,6,7,8-HpCDF	1000	885.0	89	68-137	
1,2,3,4,7,8,9-HpCDF	1000	928.9	93	74-134	
OCDD	2000	1675	84	72-134	
OCDF	2000	1654	83	65-143	
13C-2,3,7,8-TCDD	2000	1708	85	40-135	
13C-2,3,7,8-TCDF	2000	1834	92	40-135	
13C-1,2,3,7,8-PeCDD	2000	1588	79	40-135	
13C-1,2,3,7,8-PeCDF	2000	1724	86	40-135	
13C-1,2,3,6,7,8-HxCDD	2000	1797	90	40-135	
13C-1,2,3,4,7,8-HxCDF	2000	1768	88	40-135	
13C-1,2,3,4,6,7,8-HpCDD	2000	1756	88	40-135	
13C-1,2,3,4,6,7,8-HpCDF	2000	1798	90	40-135	
13C-OCDD	4000	4234	106	40-135	

Column to be used to flag recovery and RPD values

FORM III 8290

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 27de21adfs1_16.d

Lab ID: LCSD 320-552716/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	187.9	94	2	20	72-128	
2,3,7,8-TCDF	200	180.3	90	0	20	67-135	
1,2,3,7,8-PeCDD	1000	991.3	99	0	20	71-135	
1,2,3,7,8-PeCDF	1000	922.3	92	2	20	70-133	
2,3,4,7,8-PeCDF	1000	861.8	86	7	20	69-135	
1,2,3,4,7,8-HxCDD	1000	783.3	78	11	20	67-130	
1,2,3,6,7,8-HxCDD	1000	890.3	89	5	20	61-144	
1,2,3,7,8,9-HxCDD	1000	912.7	91	1	20	61-140	
1,2,3,4,7,8-HxCDF	1000	821.8	82	1	20	69-140	
1,2,3,6,7,8-HxCDF	1000	1031	103	3	20	62-155	
2,3,4,6,7,8-HxCDF	1000	1142	114	8	20	70-146	
1,2,3,7,8,9-HxCDF	1000	1064	106	7	20	71-142	
1,2,3,4,6,7,8-HpCDD	1000	928.6	93	1	20	71-134	
1,2,3,4,6,7,8-HpCDF	1000	868.6	87	2	20	68-137	
1,2,3,4,7,8,9-HpCDF	1000	946.9	95	2	20	74-134	
OCDD	2000	1678	84	0	20	72-134	
OCDF	2000	1631	82	1	20	65-143	
13C-2,3,7,8-TCDD	2000	1796	90			40-135	
13C-2,3,7,8-TCDF	2000	1910	96			40-135	
13C-1,2,3,7,8-PeCDD	2000	1751	88			40-135	
13C-1,2,3,7,8-PeCDF	2000	1826	91			40-135	
13C-1,2,3,6,7,8-HxCDD	2000	1859	93			40-135	
13C-1,2,3,4,7,8-HxCDF	2000	1607	80			40-135	
13C-1,2,3,4,6,7,8-HpCDD	2000	1844	92			40-135	
13C-1,2,3,4,6,7,8-HpCDF	2000	1774	89			40-135	
13C-OCDD	4000	4328	108			40-135	

Column to be used to flag recovery and RPD values

FORM III 8290

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Lab File ID: 27de21adfs1_14.d Lab Sample ID: MB 320-552716/1-A

Matrix: Water Date Extracted: 12/21/2021 08:52

Instrument ID: DFS 1 Date Analyzed: 12/27/2021 20:58

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-552716/2-A	27de21adfs1_15.d	12/27/2021 21:46
	LCSD 320-552716/3-A	27de21adfs1_16.d	12/27/2021 22:34
A2BMP0006S012	570-78855-1	27de21adfs1_18.d	12/28/2021 00:09
A2BMP0007S020	570-78855-2	27de21adfs1_19.d	12/28/2021 00:57
A2BMP0012S009	570-78855-3	27de21adfs1_20.d	12/28/2021 01:45
EVBMP0001S018	570-78855-4	27de21adfs1_21.d	12/28/2021 02:33
EVBMP0003S031	570-78855-5	27de21adfs1_22.d	12/28/2021 03:21

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Client Sample ID: A2BMP0006S012 Lab Sample ID: 570-78855-1

Matrix: Water Lab File ID: 27de21adfs1_18.d

Analysis Method: 8290 Date Collected: 12/14/2021 07:49

Extract. Method: 8290 Date Extracted: 12/21/2021 08:52

Sample wt/vol: 849.7(mL) Date Analyzed: 12/28/2021 00:09

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 554312 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		12	1.3
51207-31-9	2,3,7,8-TCDF	ND		12	0.38
40321-76-4	1,2,3,7,8-PeCDD	ND		59	0.91
57117-41-6	1,2,3,7,8-PeCDF	1.3	J B	59	0.40
57117-31-4	2,3,4,7,8-PeCDF	ND		59	0.41
39227-28-6	1,2,3,4,7,8-HxCDD	3.9	J q B	59	0.63
57653-85-7	1,2,3,6,7,8-HxCDD	5.1	J B	59	0.63
19408-74-3	1,2,3,7,8,9-HxCDD	5.0	J B	59	0.58
70648-26-9	1,2,3,4,7,8-HxCDF	1.2	J B	59	0.43
57117-44-9	1,2,3,6,7,8-HxCDF	1.1	J q B	59	0.43
60851-34-5	2,3,4,6,7,8-HxCDF	0.99	J B	59	0.46
72918-21-9	1,2,3,7,8,9-HxCDF	1.6	J B	59	0.48
35822-46-9	1,2,3,4,6,7,8-HpCDD	93	B	59	1.1
67562-39-4	1,2,3,4,6,7,8-HpCDF	17	J B	59	0.57
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.9	J B	59	0.64
3268-87-9	OCDD	880	B	120	1.7
39001-02-0	OCDF	47	J B	120	0.78

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	91		40-135
89059-46-1	13C-2,3,7,8-TCDF	93		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	84		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	88		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	96		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	87		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	93		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	93		40-135
114423-97-1	13C-OCDD	109		40-135

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d
Lims ID: 570-78855-F-1-A
Client ID: A2BMP0006S012
Sample Type: Client
Inject. Date: 28-Dec-2021 00:09:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-78855-f-1-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: bilottag Date: 28-Dec-2021 13:58:26

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.954	22239989	0.82	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	20.001	26605448	0.82	1.2917	92.6	92.6	0.3091	0.3091	92.61	
2,3,7,8-TCDF	20.025						0.0161	0.0161		
A Non-2,3,7,8-sub-TCDF	19.632						0.0161	0.0161		
S Total TCDF							0.0161	0.0161		
D 13C-2,3,7,8-TCDD	21.341	16816467	0.80	0.8271	91.4	91.4	0.2481	0.2481	91.42	
2,3,7,8-TCDD	21.384						0.0569	0.0569		
A Non-2,3,7,8-sub-TCDD	20.470						0.0569	0.0569		
S Total TCDD							0.0569	0.0569		
D 13C-1,2,3,7,8-PeCDF	26.933	22874501	1.59	1.1665	88.2	88.2	0.4461	0.4461	88.17	
1,2,3,7,8-PeCDF	26.967	13842	1.39	1.0987	0.0551	0.0551	0.0168	0.0168		M
2,3,4,7,8-PeCDF	28.486						0.0174	0.0174		
A F1 PeCDFs	24.442						0.007278	0.007278		
A Non-2,3,7,8-sub-PeCDF	27.884						0.0171	0.0171		
S Total PeCDF					0.0551	0.0551	0.0171	0.0171		
D 13C-1,2,3,7,8-PeCDD	29.249	12801690	1.60	0.6835	84.2	84.2	0.1605	0.1605	84.21	
1,2,3,7,8-PeCDD	29.303						0.0386	0.0386		
A Non-2,3,7,8-sub-PeCDD	28.134						0.0386	0.0386		
S Total PeCDD							0.0386	0.0386		
D 13C-1,2,3,4,7,8-HxCDF	34.703	26224025	0.54	1.1776	87.5	87.5	0.3935	0.3935	87.49	
1,2,3,4,7,8-HxCDF	34.737	12339	1.38	0.9504	0.0495	0.0495	0.0183	0.0183		Ma
1,2,3,6,7,8-HxCDF	34.880	11780	1.24	0.9524	0.0525	0.0472	0.0182	0.0182		RQM
2,3,4,6,7,8-HxCDF	35.740	9849	1.35	0.8893	0.0422	0.0422	0.0195	0.0195		M
D 13C-1,2,3,7,8,9-HxCDF	36.633	19624488	0.53							
1,2,3,7,8,9-HxCDF	36.659	15350	1.24	0.8433	0.0694	0.0694	0.0206	0.0206		M
A Non-2,3,7,8-sub-HxCDF	34.874	83100	1.24	0.9089	0.3798	0.3487	0.0191	0.1893		RQ
S Total HxCDF					0.5934	0.5570	0.0191	0.0191		RQ
* 13C-1,2,3,7,8,9-HxCDD	36.448	25452253	1.27	2.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.967	29919	1.24	1.0079	0.1803	0.1652	0.0268	0.0268		RQ
D 13C-1,2,3,6,7,8-HxCDD	36.069	17972717	1.29	0.7339	96.2	96.2	0.2984	0.2984	96.21	
1,2,3,6,7,8-HxCDD	36.094	39088	1.31	1.0111	0.2151	0.2151	0.0268	0.0268		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.456	42096	1.13	1.0993	0.2131	0.2131	0.0246	0.0246		M
A Non-2,3,7,8-sub-HxCDD	35.257	93330	1.22	1.0394	0.4996	0.4996	0.0260	0.3354		
S Total HxCDD					1.108	1.093	0.0261	0.0261		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.507	15868687	0.46	0.6698	93.1	93.1	0.5420	0.5420	93.08	
1,2,3,4,6,7,8-HpCDF	38.524	176267	1.14	1.5184	0.7316	0.7316	0.0241	0.0241		
1,2,3,4,7,8,9-HpCDF	39.796	17278	1.10	1.3387	0.0813	0.0813	0.0274	0.0274		
A Non-2,3,7,8-sub-HpCDF	39.191	248046	1.06	1.4286	1.094	1.094	0.0256	1.094		
S Total HpCDF					1.907	1.907	0.0257	0.0257		
D 13C-1,2,3,4,6,7,8-HpCDD	39.476	14081948	1.09	0.5943	93.1	93.1	0.3041	0.3041	93.10	
1,2,3,4,6,7,8-HpCDD	39.484	610563	1.10	1.0953	3.959	3.959	0.0466	0.0466		
A Non-2,3,7,8-sub-HpCDD	39.200	669658	1.08	1.0953	4.342	4.342	0.0466	4.342		
S Total HpCDD					8.300	8.300	0.0466	0.0466		
D 13C-OCDD	41.990	26880341	0.91	0.4838	218.3	218.3	0.4251	0.4251	109	
OCDF	42.074	376311	0.85	1.3979	2.003	2.003	0.0331	0.0331		
OCDD	41.998	5607150	0.89	1.1116	37.5	37.5	0.0707	0.0707		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d
Lims ID: 570-78855-F-1-A
Client ID: A2BMP0006S012
Sample Type: Client
Inject. Date: 28-Dec-2021 00:09:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-78855-f-1-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: bilottag Date: 28-Dec-2021 13:58:26

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.954	20.980	-2		10034770	1395840	1713	4282	815		
333.9338	20.963	20.980	-1		12205219	1801213	912	2280	1975	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	20.001	20.017	-1	0.954	11952928	1705935	3079	7697	554		
317.9389	20.001	20.017	-1	0.954	14652520	2166220	2027	5067	1069	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	20.025						32	80			
305.8987	20.025						243	607			
A Non-2,3,7,8-sub-TCDF											
303.9016	19.632						32	80			
305.8987	19.632						243	607			
13C-2,3,7,8-TCDD											
331.9368	21.341	21.350	-1	1.018	7488676	1018396	1713	4282	595		
333.9338	21.332	21.350	-1	1.018	9327791	1259691	912	2280	1381	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.384						459	1147			
321.8936	21.384						122	305			
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						459	1147			
321.8936	20.470						122	305			
13C-1,2,3,7,8-PeCDF											
351.9000	26.933	26.962	-2	1.285	14049837	2269622	3941	9852	576		
353.8970	26.933	26.962	-2	1.285	8824664	1425859	2714	6785	525	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	26.967	26.979	-1	1.001	8044	1400	55	137	25		
341.8567	26.941	26.979	-2	1.000	5798	1109	218	545	5	1.39(1.32-1.78)	M

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.486						55	137			
341.8567	28.486						218	545			
A F1 PeCDFs											
339.8597	24.442						2	5			
341.8567	24.442						114	285			
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.884						55	137			
341.8567	27.884						218	545			
13C-1,2,3,7,8-PeCDD											
367.8949	29.249	29.269	-1	1.396	7873370	1144880	847	2117	1352		
369.8919	29.249	29.269	-1	1.396	4928320	701539	556	1390	1262	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.303						272	680			
357.8516	29.303						43	107			
A Non-2,3,7,8-sub-PeCDD											
355.8546	28.134						272	680			
357.8516	28.134						43	107			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.703	34.727	-1	0.952	9191283	1799009	3542	8855	508		
385.8610	34.703	34.727	-1	0.952	17032742	3339787	7117	17792	469	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											Ma
373.8208	34.737	34.752	-1	1.001	7151	1683	243	607	7		M
375.8178	34.737	34.752	-1	1.001	5188	1063	114	285	9	1.38(1.05-1.43)	a
1,2,3,6,7,8-HxCDF											RQM
373.8208	34.880	34.920	-2	1.005	7842	1585	243	607	7		M
	Empc Correction				6521	1268	243	607	5		
375.8178	34.880	34.920	-2	1.005	5259	1023	114	285	9	1.49(1.05-1.43)	M
2,3,4,6,7,8-HxCDF											M
373.8208	35.740	35.762	-1	1.030	5659	1668	243	607	7		M
375.8178	35.740	35.762	-1	1.030	4190	1209	114	285	11	1.35(1.05-1.43)	M
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.633	36.655	-1	1.005	6782605	1475501	3542	8855	417		
385.8610	36.633	36.655	-1	1.005	12841883	2862001	7117	17792	402	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.659	36.671	-1	1.056	8495	2103	243	607	9		M
375.8178	36.667	36.671	0	1.057	6855	1491	114	285	13	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	33.186	34.874	-101	0.956	21020	2844	243	607	12		
375.8178	33.169	34.874	-102	0.956	24369	3413	114	285	30	0.86(1.05-1.43)	
	Empc Correction				16951	2293	114	285	20		
373.8208	34.079	34.874	-48	0.982	24873	4029	243	607	17		
375.8178	34.062	34.874	-49	0.982	20256	3738	114	285	33	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.448	36.469	-1		14228491	3212008	2732	6830	1176		
403.8529	36.448	36.469	-1		11223762	2538584	2306	5765	1101	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											RQ
389.8158	35.967	35.981	-1	0.997	19296	4979	230	575	22		
Empc Correction					16562	3676	230	575	16		
391.8127	35.967	35.981	-1	0.997	13357	2965	183	457	16	1.44(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.069	36.090	-1	0.990	10118456	2140517	2732	6830	783		
403.8529	36.069	36.090	-1	0.990	7854261	1673034	2306	5765	726	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	36.094	36.107	-1	1.001	22192	4657	230	575	20		
391.8127	36.094	36.107	-1	1.001	16896	3901	183	457	21	1.31(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8158	36.456	36.478	-1	1.011	22319	4707	230	575	20		M
391.8127	36.448	36.478	-2	1.011	19777	4153	183	457	23	1.13(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.020	35.257	-74	0.943	17525	3284	230	575	14		
391.8127	34.037	35.257	-73	0.944	13147	2046	183	457	11	1.33(1.05-1.43)	
389.8158	35.158	35.257	-6	0.975	33797	5755	230	575	25		
391.8127	35.158	35.257	-6	0.975	28861	4787	183	457	26	1.17(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.507	38.526	-1	1.056	5021958	1377524	3094	7735	445		
419.8220	38.507	38.526	-1	1.056	10846729	2950300	5256	13140	561	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.524	38.543	-1	1.000	93725	24648	469	1172	53		
409.7788	38.524	38.543	-1	1.000	82542	21527	165	412	130	1.14(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.796	39.806	-1	1.033	9049	2602	469	1172	6		
409.7788	39.796	39.806	-1	1.033	8229	2482	165	412	15	1.10(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.894	39.191	-18	1.010	127561	36472	469	1172	78		
409.7788	38.894	39.191	-18	1.010	120485	32875	165	412	199	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.476	39.495	-1	1.083	7350579	2100584	2182	5455	963		
437.8140	39.476	39.495	-1	1.083	6731369	1905684	1975	4937	965	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.484	39.503	-1	1.000	319301	84875	463	1157	183		
425.7737	39.484	39.503	-1	1.000	291262	82414	355	887	232	1.10(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.844	39.200	-21	0.984	348198	92404	463	1157	200		
425.7737	38.844	39.200	-21	0.984	321460	91111	355	887	257	1.08(0.88-1.20)	
13C-OCDD											
469.7780	41.990	42.008	-1	1.152	12824165	3216631	2378	5945	1353		
471.7750	41.990	42.008	-1	1.152	14056176	3489487	2352	5880	1484	0.91(0.76-1.02)	
OCDF											
441.7428	42.074	42.101	-2	1.002	172398	42736	160	400	267		
443.7399	42.074	42.101	-2	1.002	203913	46897	460	1150	102	0.85(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	41.998	42.016	-1	1.000	2636777	666473	490	1225	1360		
459.7348	41.998	42.016	-1	1.000	2970373	742214	564	1410	1316	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d
Lims ID: 570-78855-F-1-A
Client ID: A2BMP0006S012
Inject. Date: 28-Dec-2021 00:09:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 7

Non-2,3,7,8-sub-HxCDF, RT: 34.874

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.950	D 13C-1,2,3,4,7,8-HxCDF	100.000	26224025	5138796
1,2,3,6,7,8-HxCDF	0.952				
2,3,4,6,7,8-HxCDF	0.889				
1,2,3,7,8,9-HxCDF	0.843				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.909		100.000	26224025	5138796

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
33.186	21020	2844	24369	3413	0.1904	0.86	RQ
33.186	21020	2844	16951	2293	0.1593		Empc Correction
34.079	24873	4029	20256	3738	0.1893	1.23	
Signal Totals:							
	45893	6873	37207	6031			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	90518	14024				1.03	RQ
	83100	12904					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3798 = (90518 * 100.000) / (26224025 * 0.909)
Empc Amount: 0.3487 = (83100 * 100.000) / (26224025 * 0.909)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d
Lims ID: 570-78855-F-1-A
Client ID: A2BMP0006S012
Inject. Date: 28-Dec-2021 00:09:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 7

Non-2,3,7,8-sub-HxCDD, RT: 35.257

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.008	D 13C-1,2,3,6,7,8-HxCDD	100.000	17972717	3813551
1,2,3,6,7,8-HxCDD	1.011				
1,2,3,7,8,9-HxCDD	1.099				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.039		100.000	17972717	3813551

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
34.020	17525	3284	13147	2046	0.1642	1.33	
35.158	33797	5755	28861	4787	0.3354	1.17	
Signal Totals:							
	51322	9039	42008	6833			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	93330	15872				1.22	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4996 = (93330 * 100.000) / (17972717 * 1.039)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d
Lims ID: 570-78855-F-1-A
Client ID: A2BMP0006S012
Inject. Date: 28-Dec-2021 00:09:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 7

Non-2,3,7,8-sub-HpCDF, RT: 39.191

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.518	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	15868687	4327824
1,2,3,4,7,8,9-HpCDF	1.339				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.429		100.000	15868687	4327824

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.894	127561	36472	120485	32875	1.09	1.06	
Signal Totals:							
	127561	36472	120485	32875			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	248046	69347				1.06	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.094 = (248046 * 100.000) / (15868687 * 1.429)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d
Lims ID: 570-78855-F-1-A
Client ID: A2BMP0006S012
Inject. Date: 28-Dec-2021 00:09:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 7

Non-2,3,7,8-sub-HpCDD, RT: 39.200

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.095	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	14081948	4006268

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.095		100.000	14081948	4006268

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.844	348198	92404	321460	91111	4.34	1.08	
Signal Totals:							
	348198	92404	321460	91111			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	669658	183515				1.08	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.342 = (669658 * 100.000) / (14081948 * 1.095)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

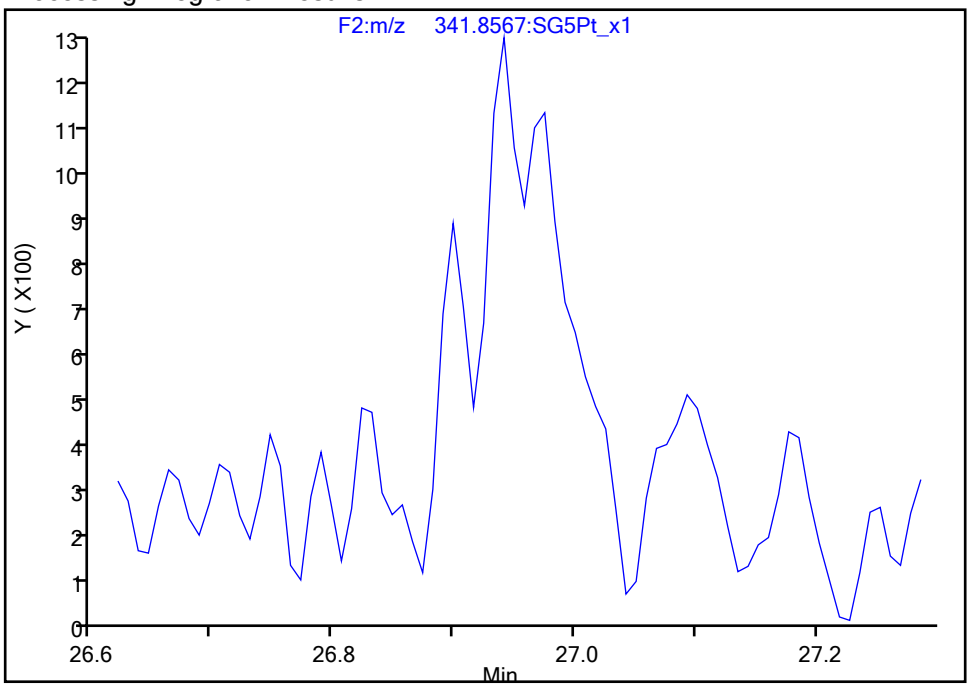
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d				
Injection Date:	28-Dec-2021 00:09:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-1-A	Lab Sample ID:	320-78855-1		
Client ID:	A2BMP0006S012				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

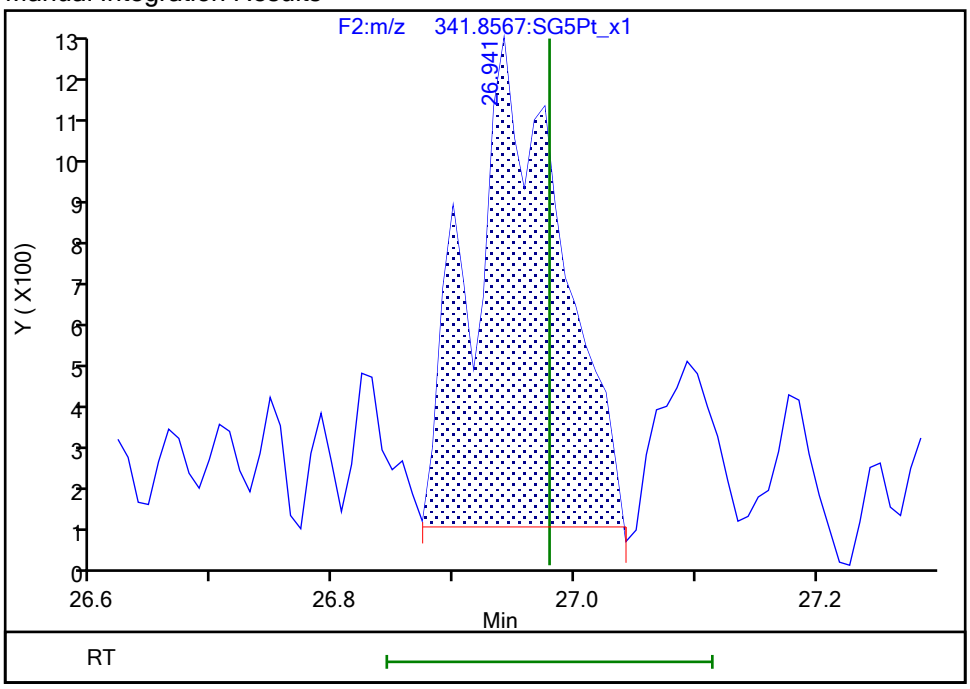
Not Detected
Expected RT: 26.98

Processing Integration Results



Manual Integration Results

RT: 26.94
Area: 5798
Amount: 0.055075
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:55:34
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

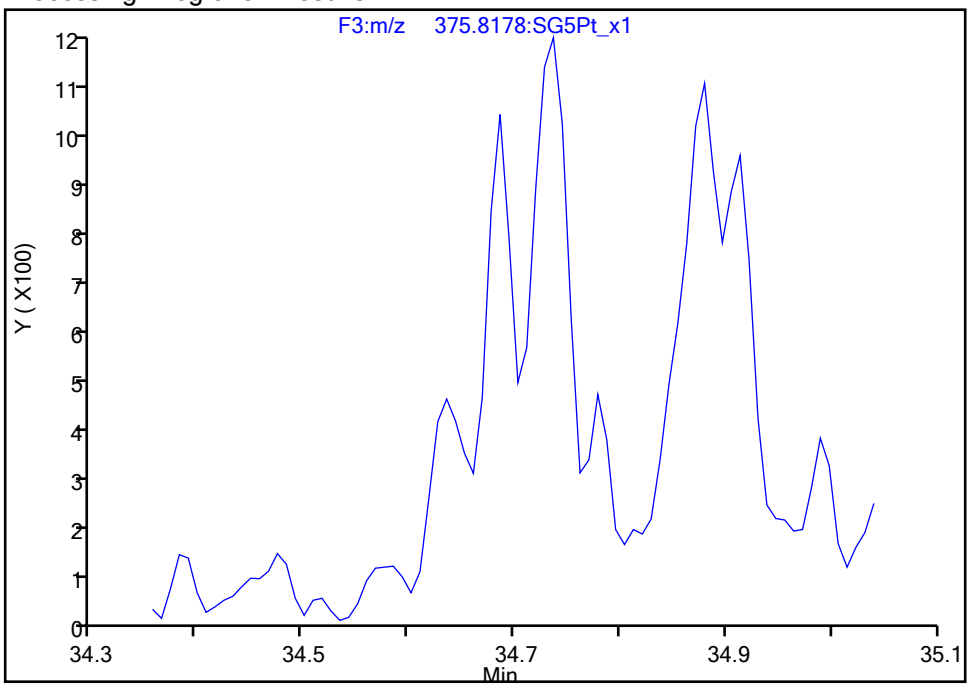
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d				
Injection Date:	28-Dec-2021 00:09:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-1-A	Lab Sample ID:	320-78855-1		
Client ID:	A2BMP0006S012				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

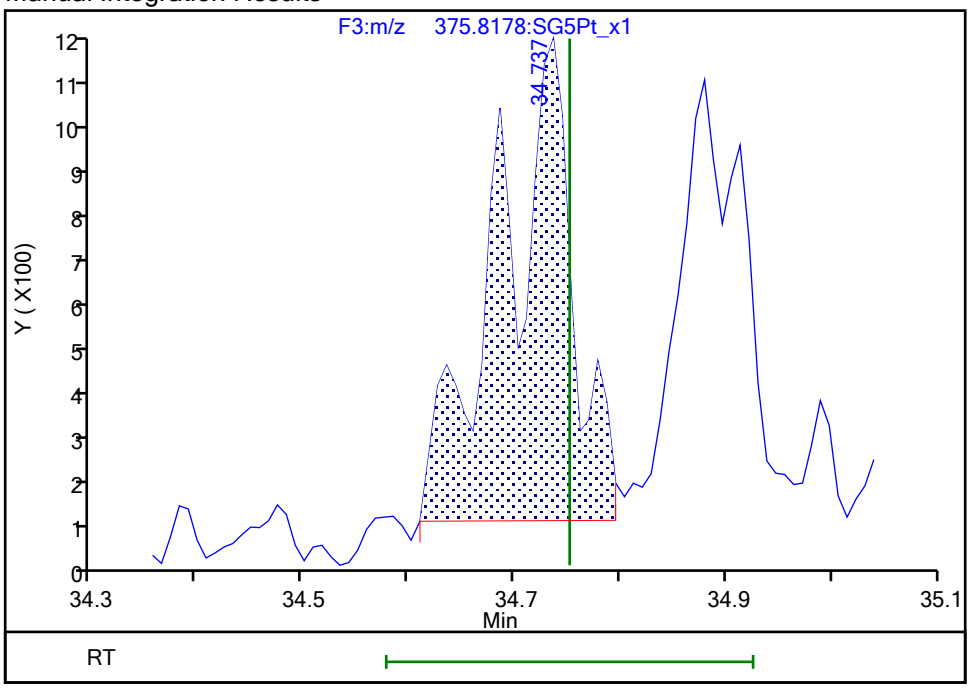
Not Detected
Expected RT: 34.75

Processing Integration Results



Manual Integration Results

RT: 34.74
Area: 5188
Amount: 0.049506
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:55:47
Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

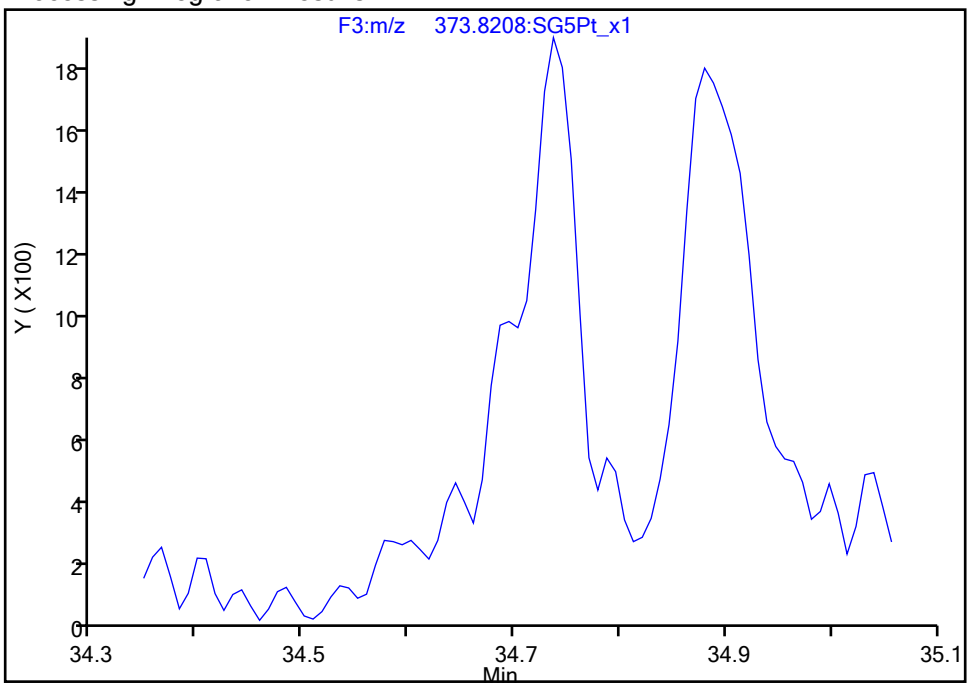
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d				
Injection Date:	28-Dec-2021 00:09:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-1-A	Lab Sample ID:	320-78855-1		
Client ID:	A2BMP0006S012				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

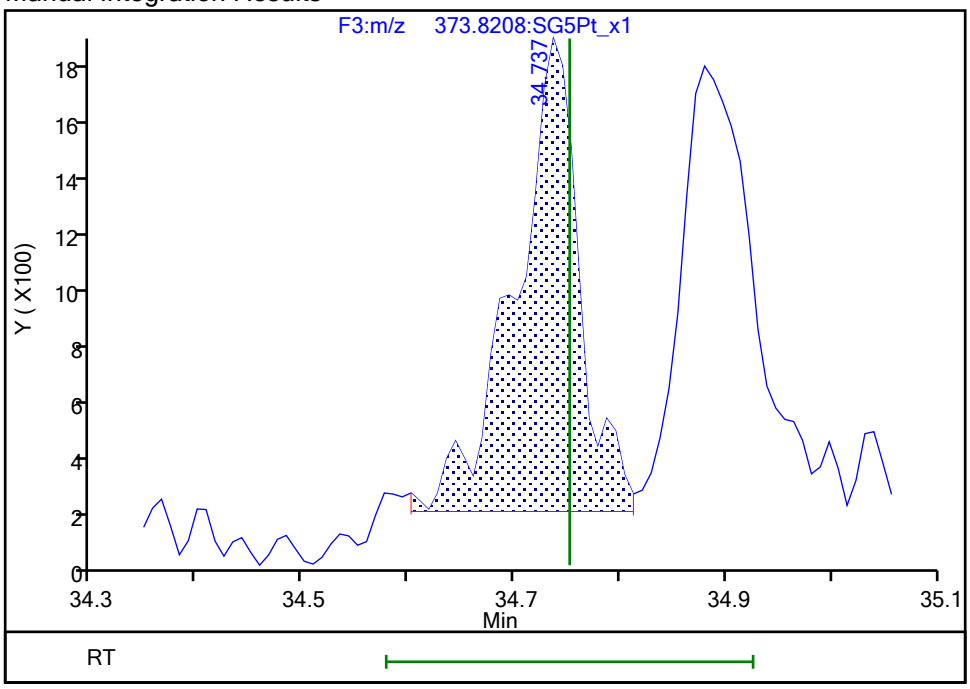
Not Detected
Expected RT: 34.75

Processing Integration Results



Manual Integration Results

RT: 34.74
Area: 7151
Amount: 0.049506
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:55:51
Audit Action: Split an Integrated Peak Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

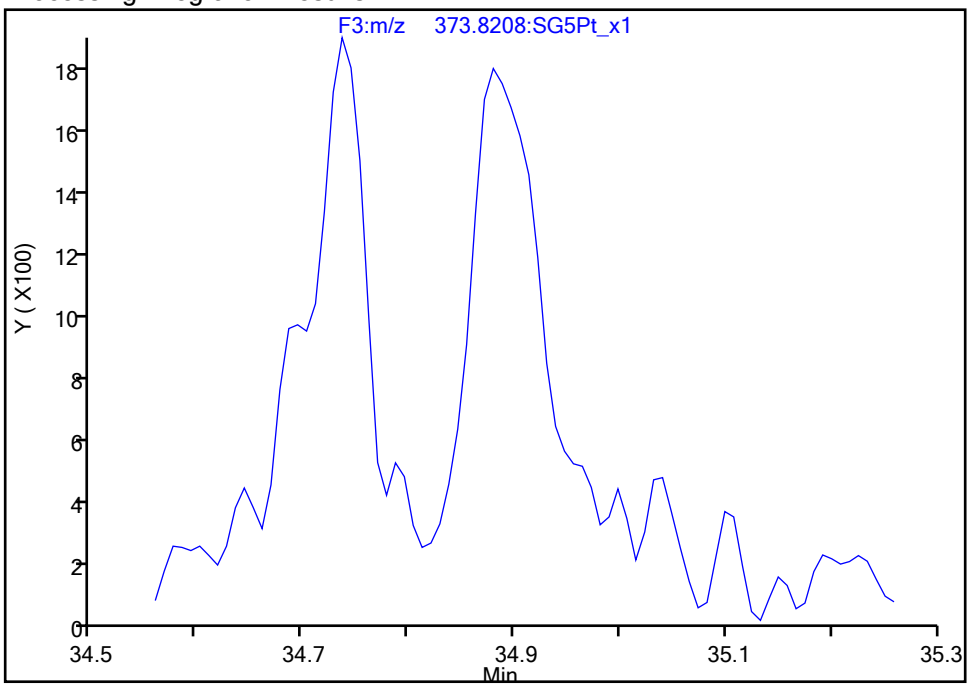
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d				
Injection Date:	28-Dec-2021 00:09:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-1-A	Lab Sample ID:	320-78855-1		
Client ID:	A2BMP0006S012				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

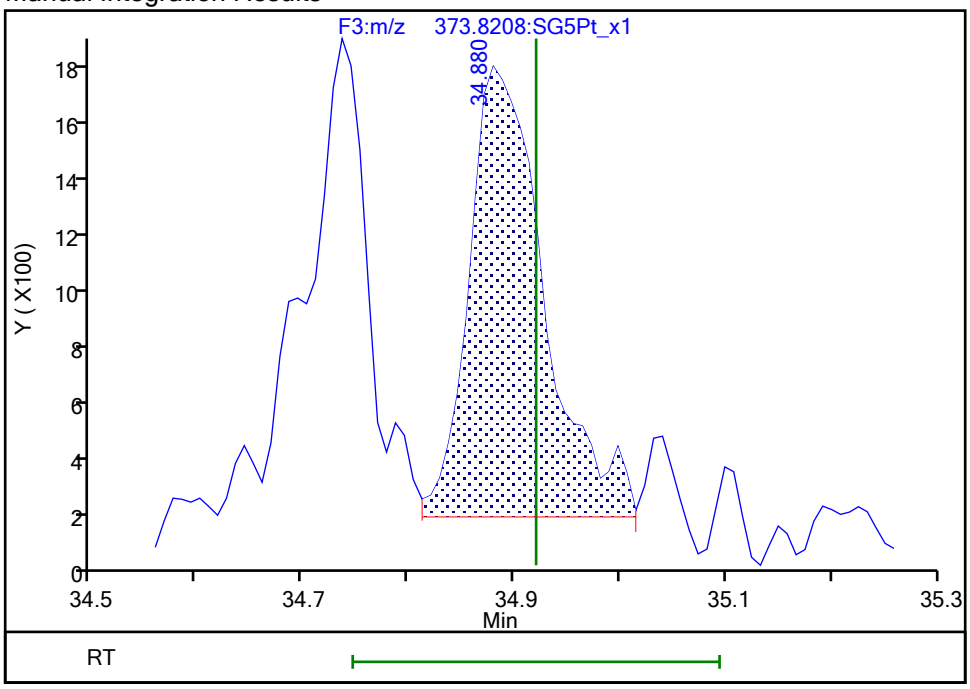
Not Detected
Expected RT: 34.92

Processing Integration Results



Manual Integration Results

RT: 34.88
Area: 7842
Amount: 0.052454
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:55:54
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

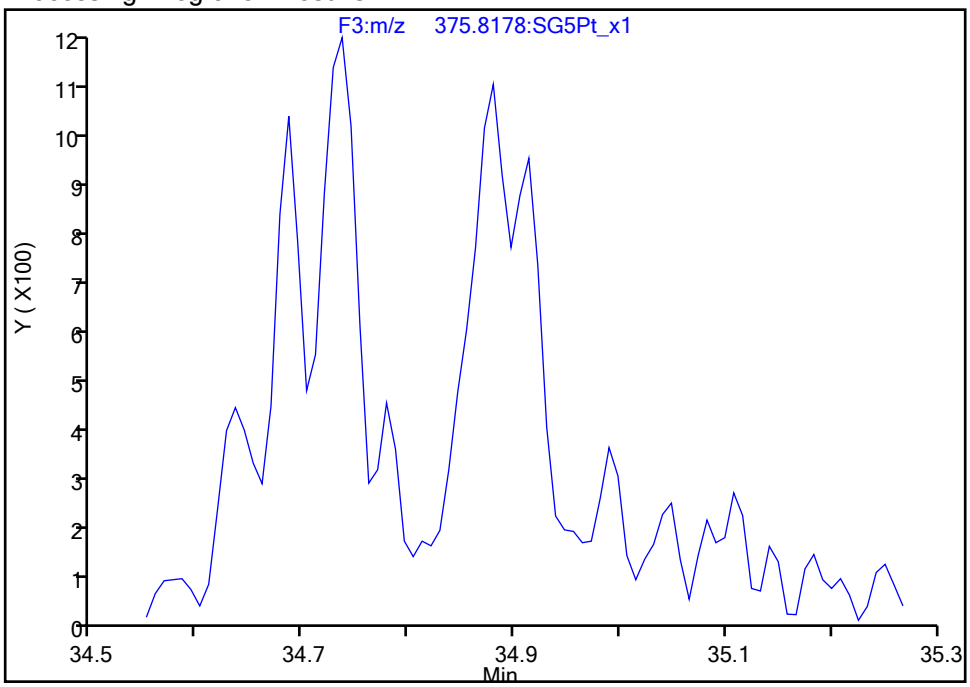
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d				
Injection Date:	28-Dec-2021 00:09:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-1-A	Lab Sample ID:	320-78855-1		
Client ID:	A2BMP0006S012				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

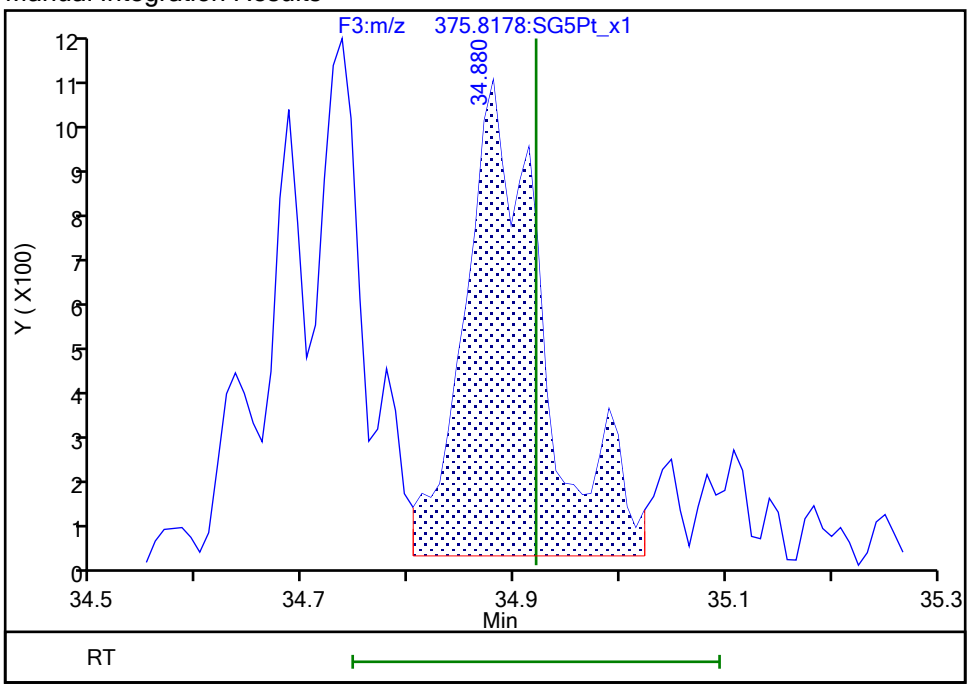
Not Detected
Expected RT: 34.92

Processing Integration Results



Manual Integration Results

RT: 34.88
Area: 5259
Amount: 0.052454
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:56:55
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

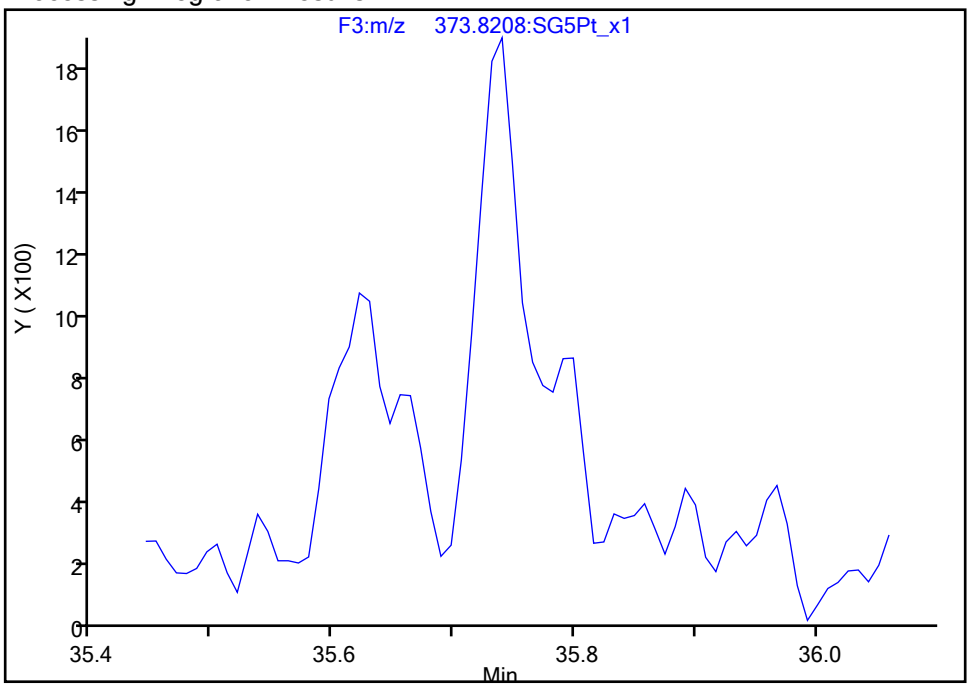
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d				
Injection Date:	28-Dec-2021 00:09:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-1-A	Lab Sample ID:	320-78855-1		
Client ID:	A2BMP0006S012				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

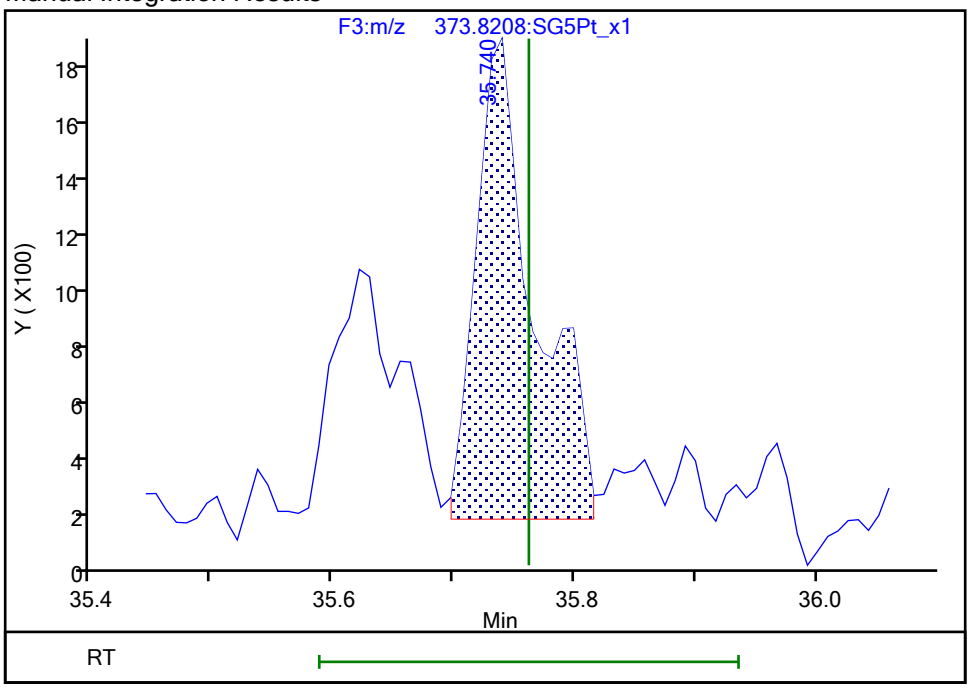
Not Detected
Expected RT: 35.76

Processing Integration Results



Manual Integration Results

RT: 35.74
Area: 5659
Amount: 0.042233
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:56:03
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

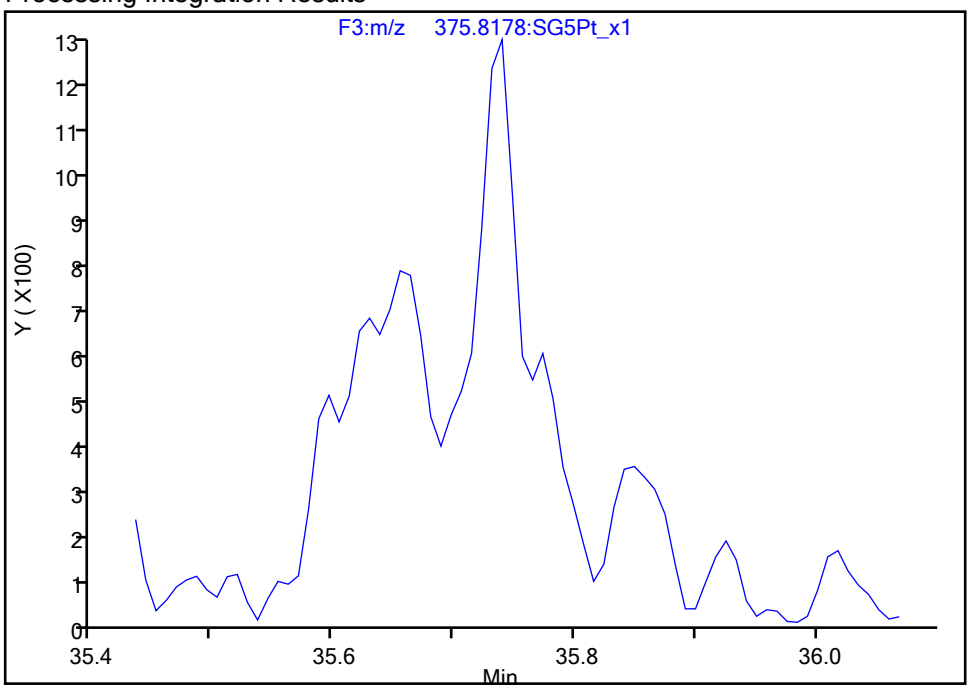
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d				
Injection Date:	28-Dec-2021 00:09:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-1-A	Lab Sample ID:	320-78855-1		
Client ID:	A2BMP0006S012				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

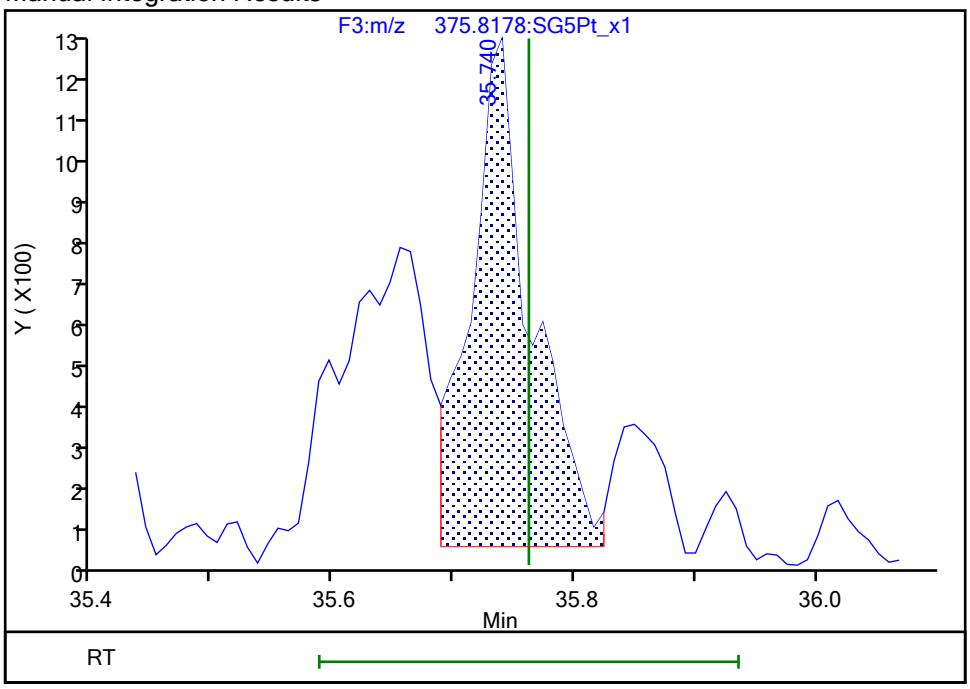
Not Detected
Expected RT: 35.76

Processing Integration Results



Manual Integration Results

RT: 35.74
Area: 4190
Amount: 0.042233
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:56:25
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

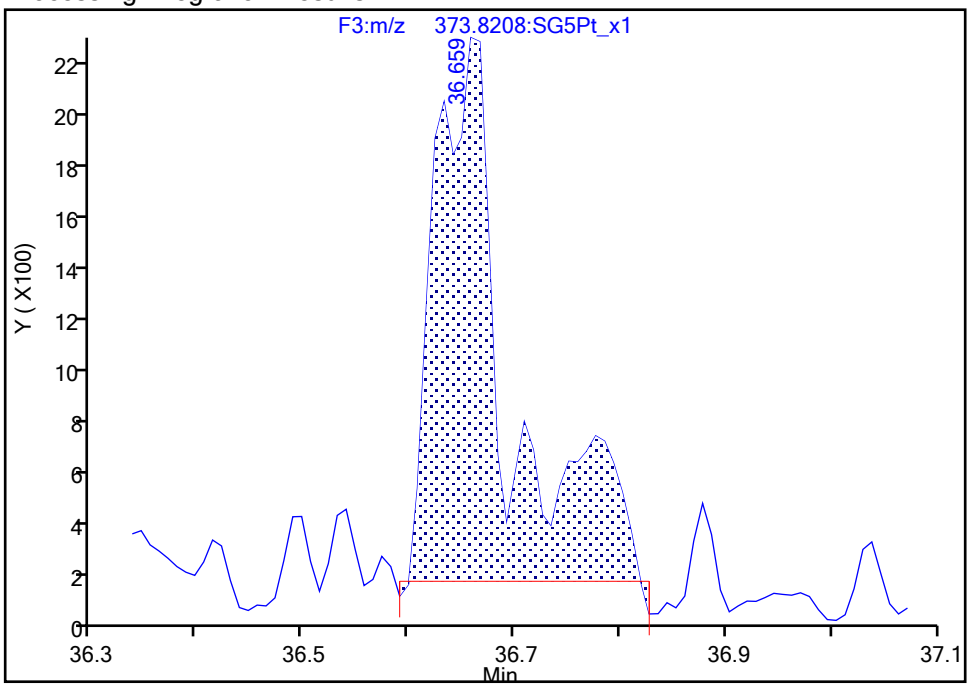
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d				
Injection Date:	28-Dec-2021 00:09:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-1-A	Lab Sample ID:	320-78855-1		
Client ID:	A2BMP0006S012				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

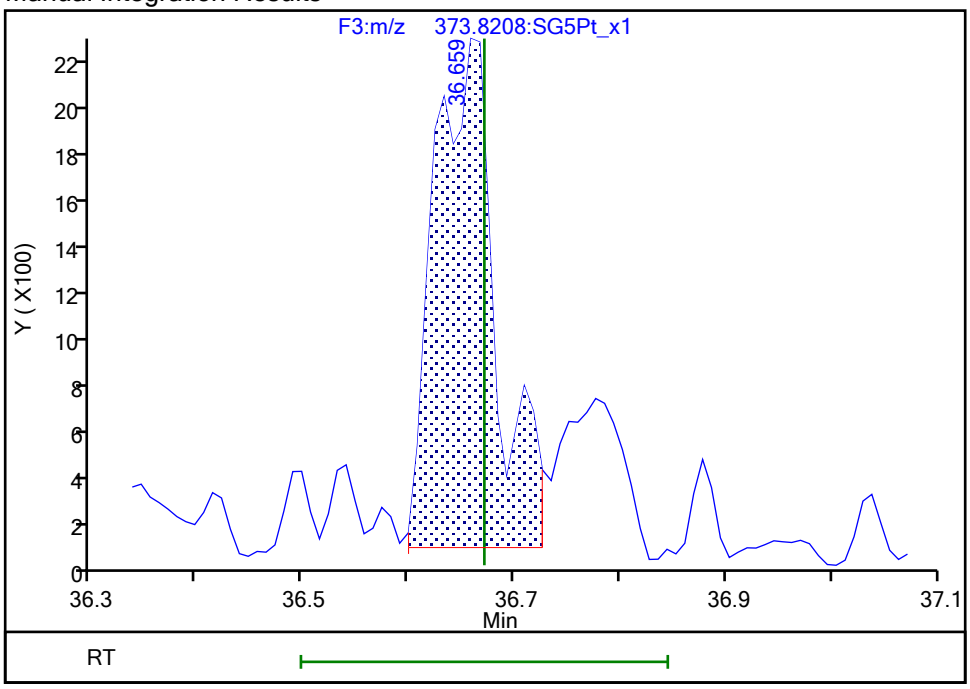
Processing Integration Results

RT: 36.66
Area: 9964
Amount: 0.076054
Amount Units: pg/ul



Manual Integration Results

RT: 36.66
Area: 8495
Amount: 0.069411
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:56:09

Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

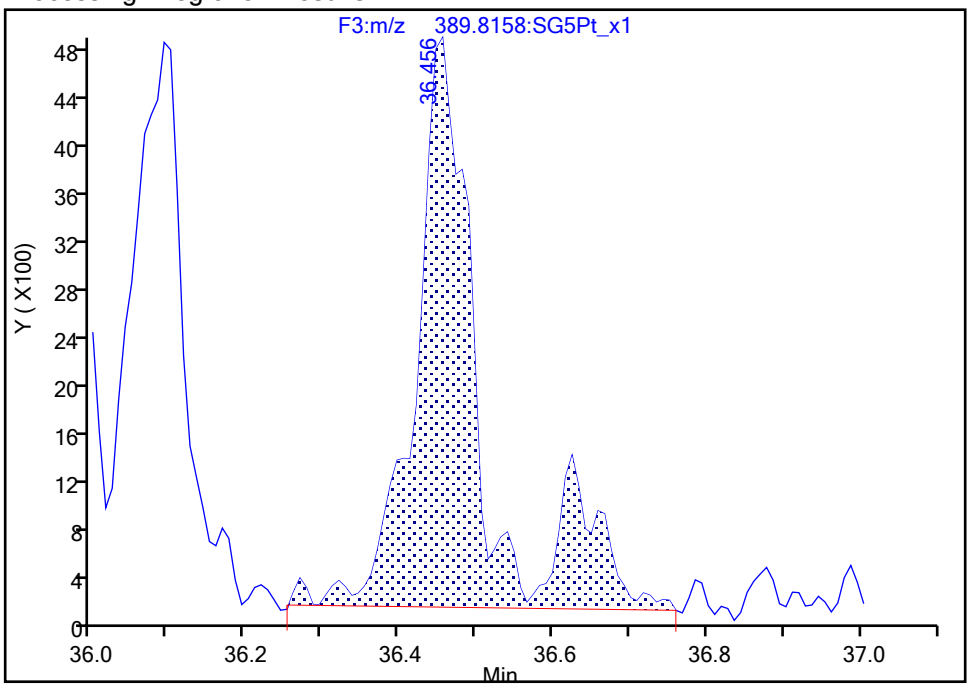
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d				
Injection Date:	28-Dec-2021 00:09:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-1-A	Lab Sample ID:	320-78855-1		
Client ID:	A2BMP0006S012				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

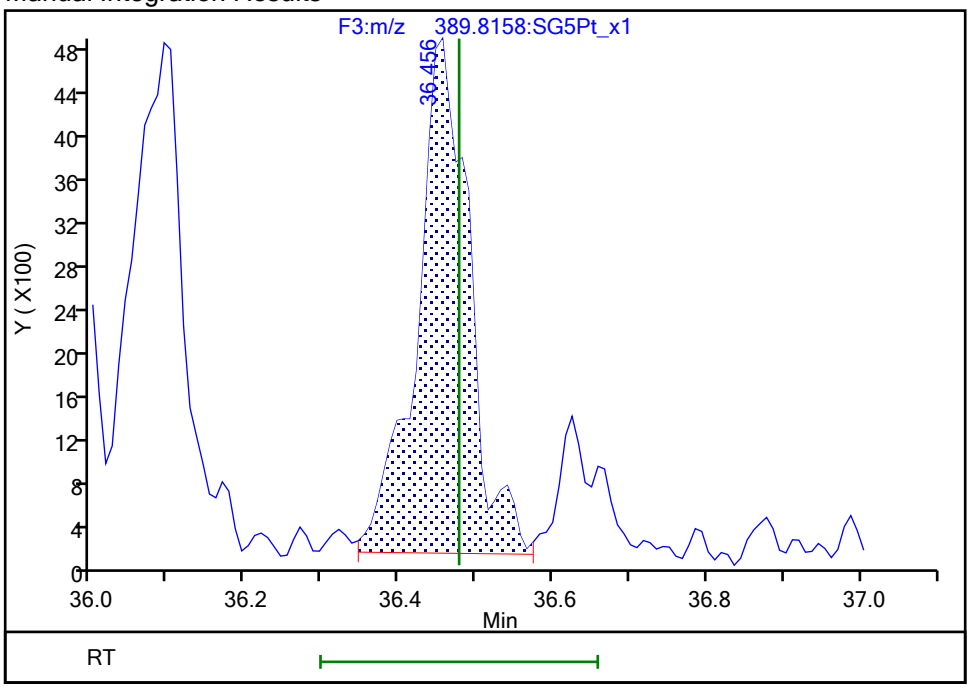
Processing Integration Results

RT: 36.46
Area: 27646
Amount: 0.240028
Amount Units: pg/ul



Manual Integration Results

RT: 36.46
Area: 22319
Amount: 0.213066
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:58:11

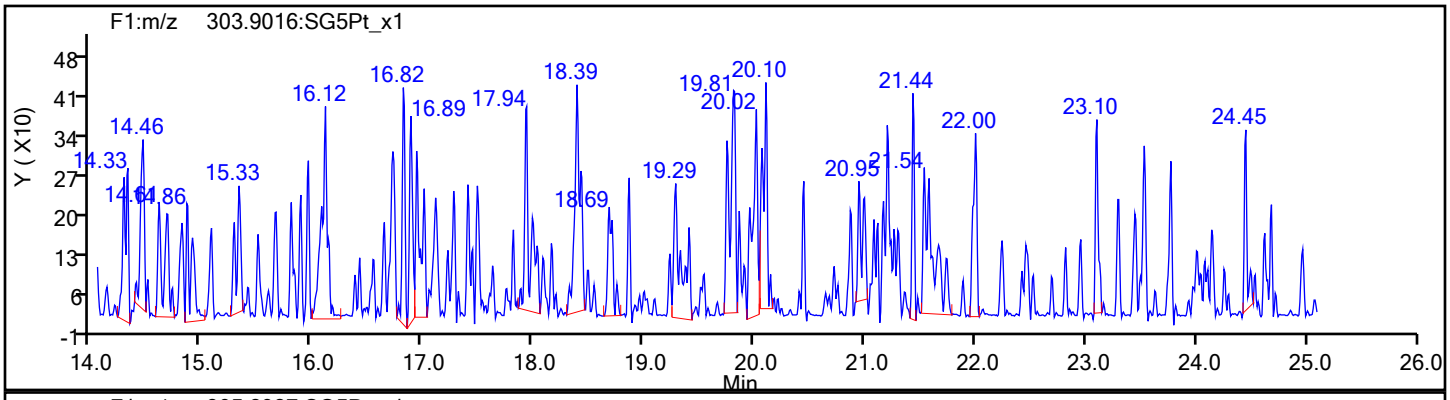
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

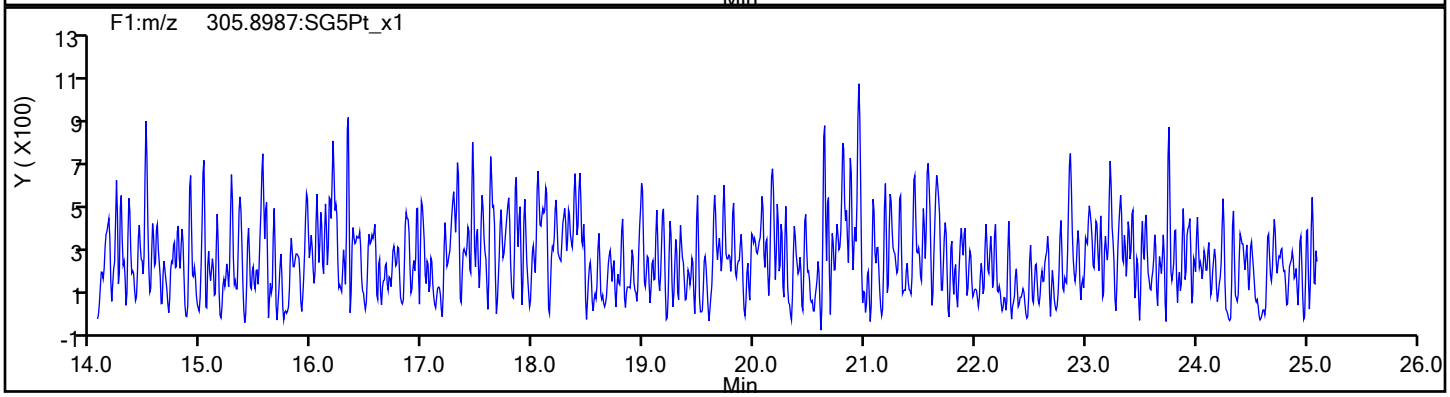
Report Date: 28-Dec-2021 14:24:47 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

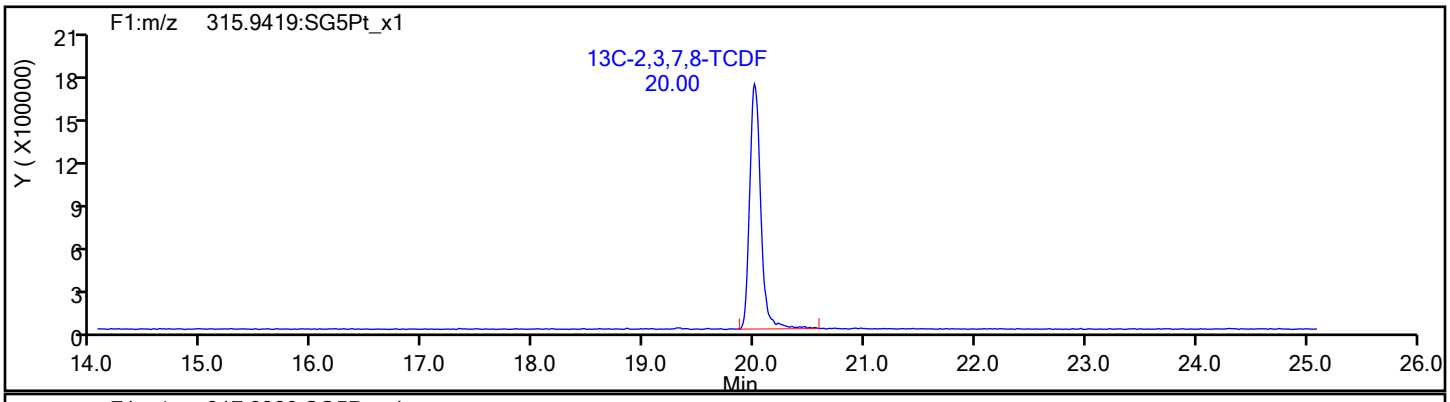
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

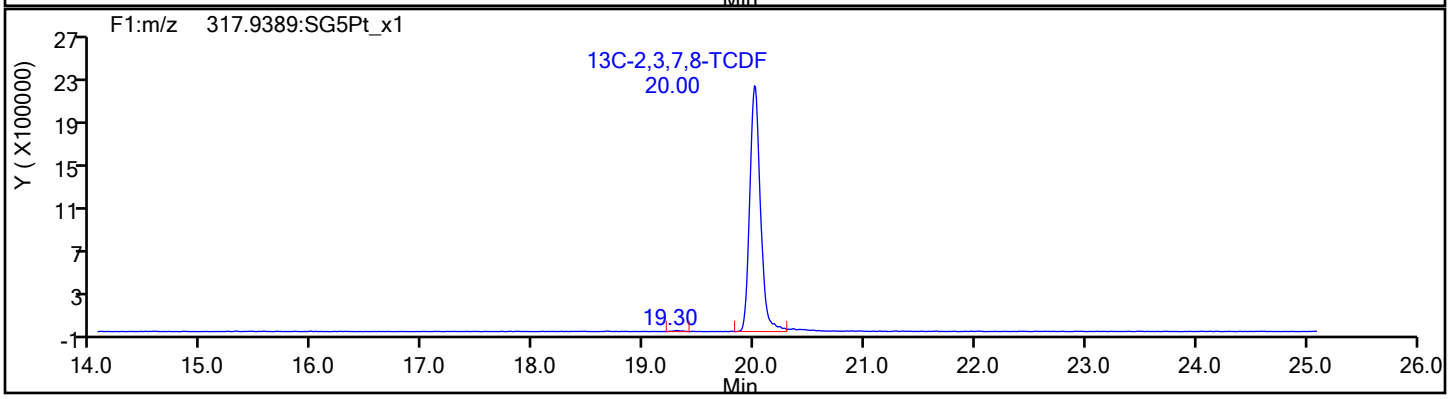
TCDF





TCDF Standards

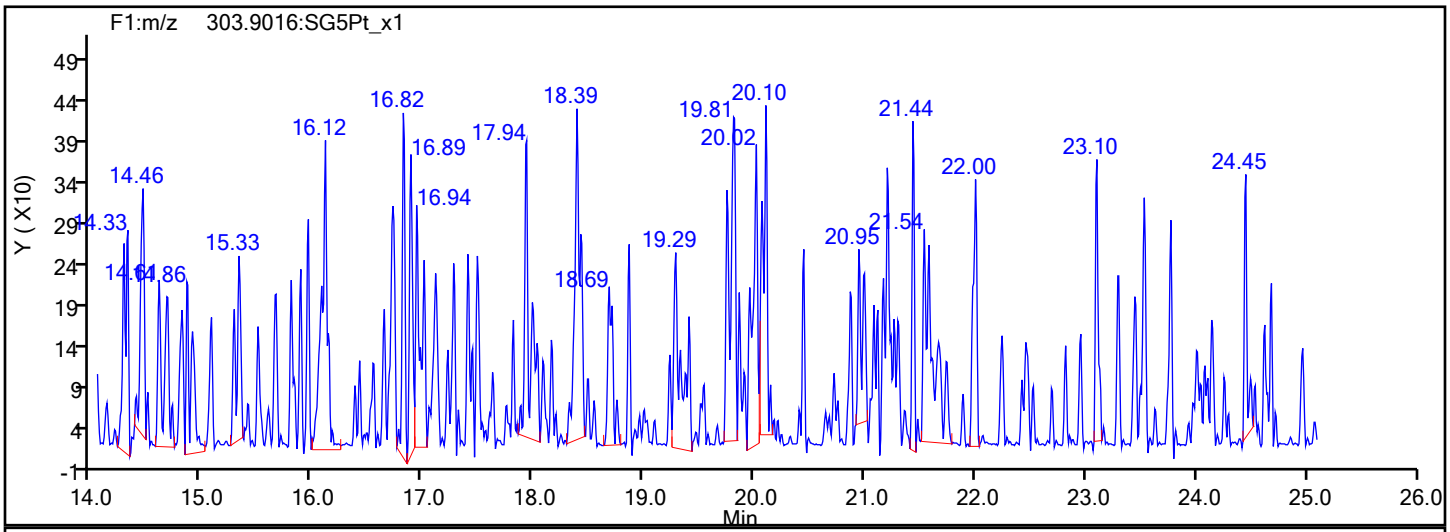


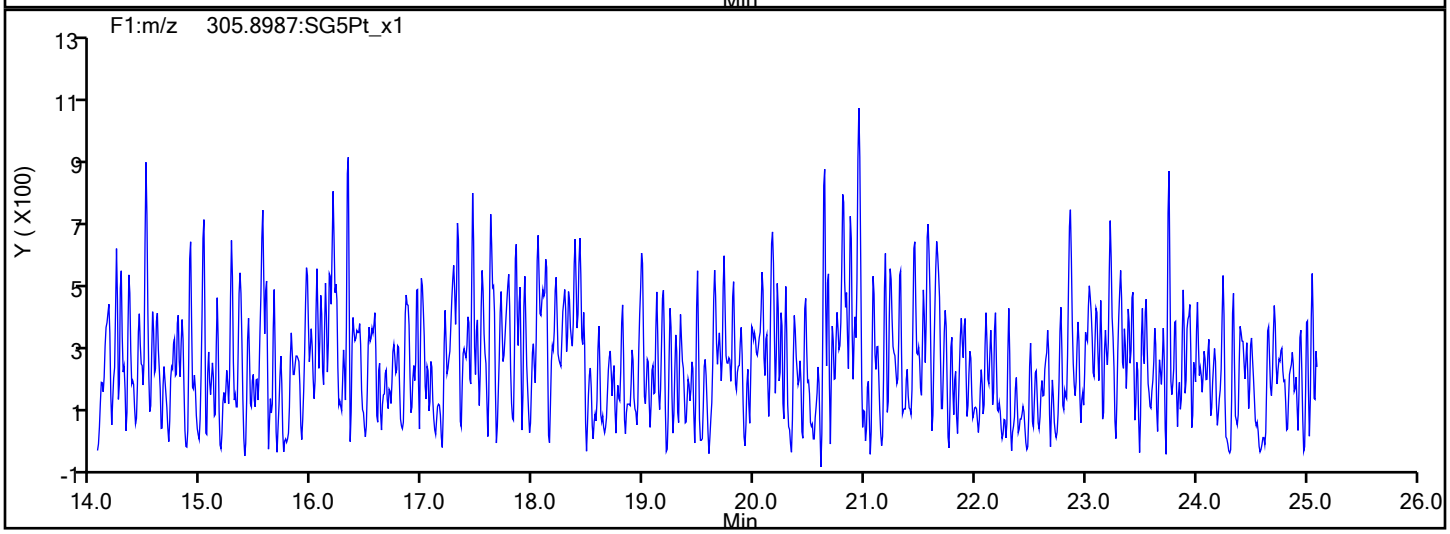


Eurofins TestAmerica, Sacramento

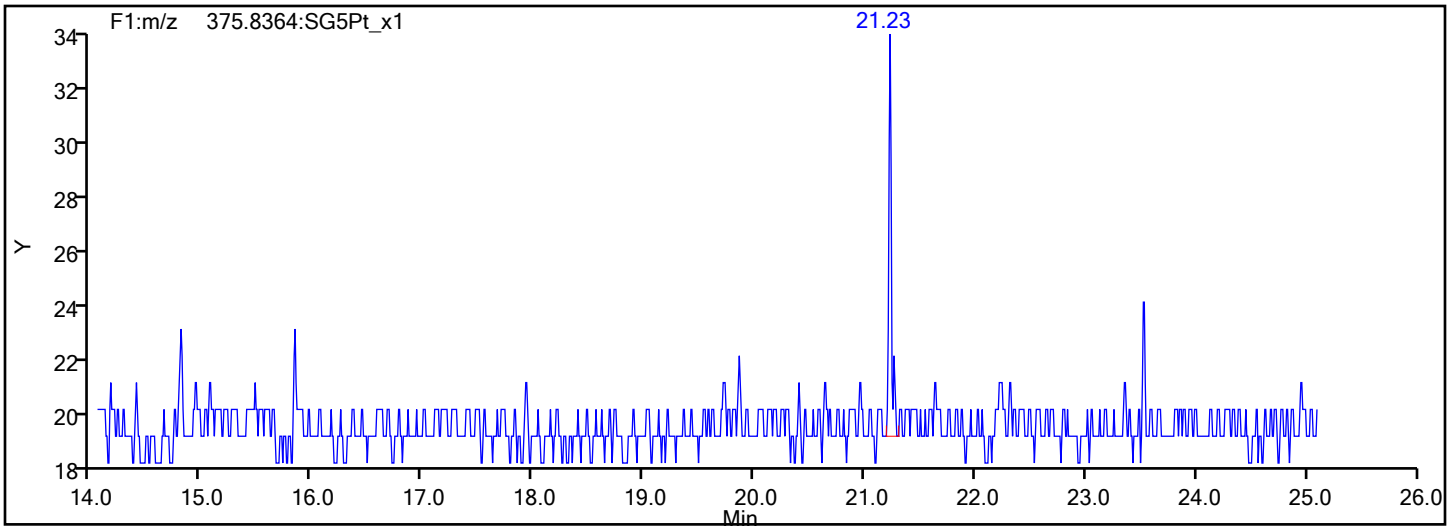
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





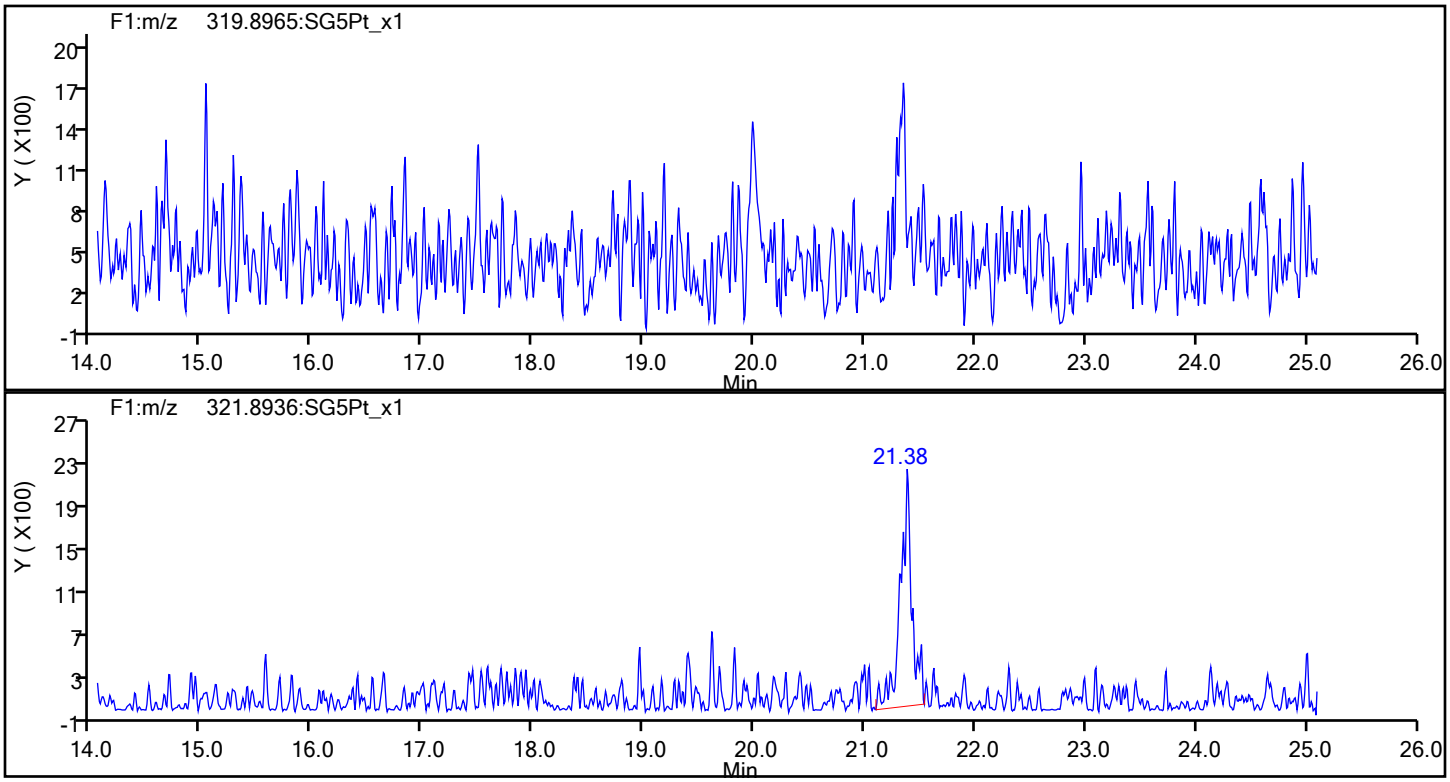
TCDF Interference Mass



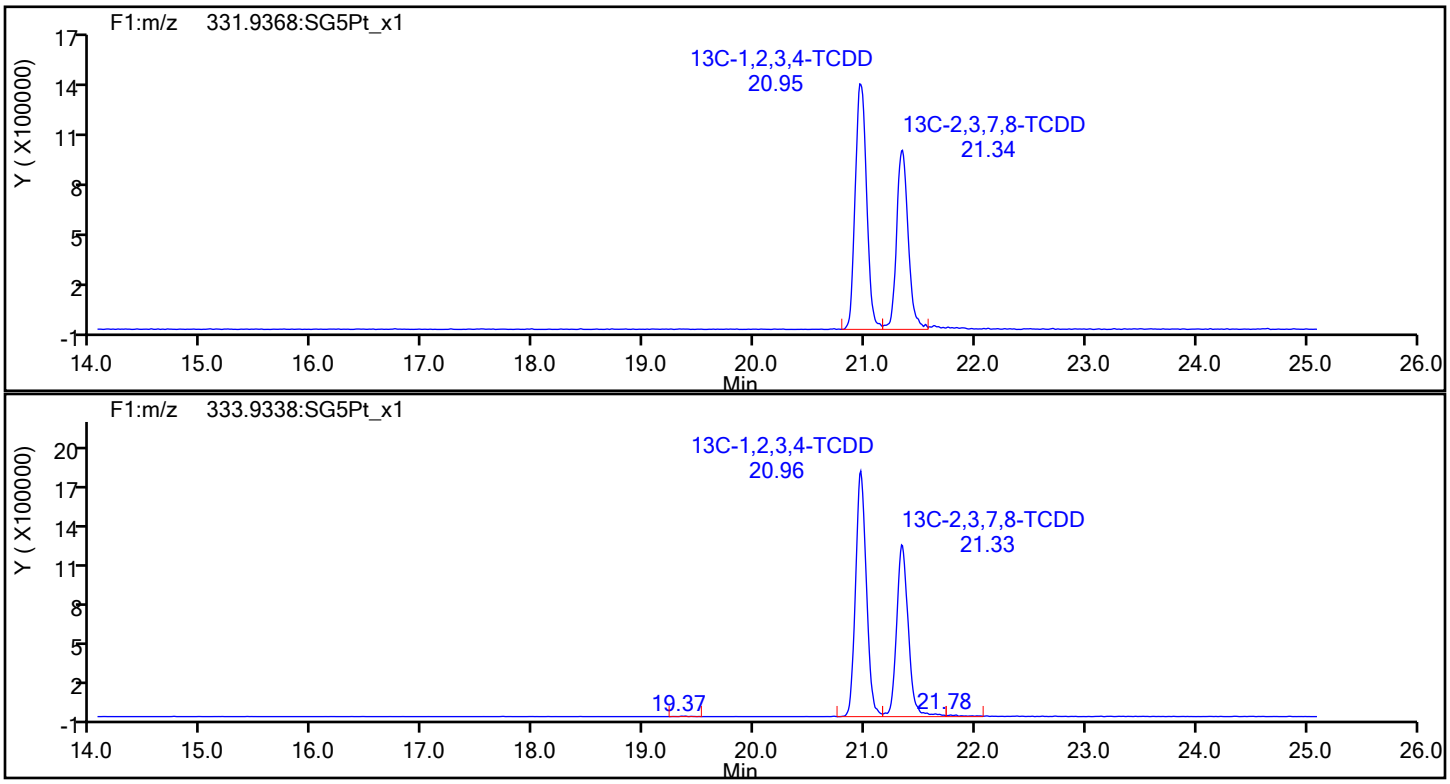
Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD



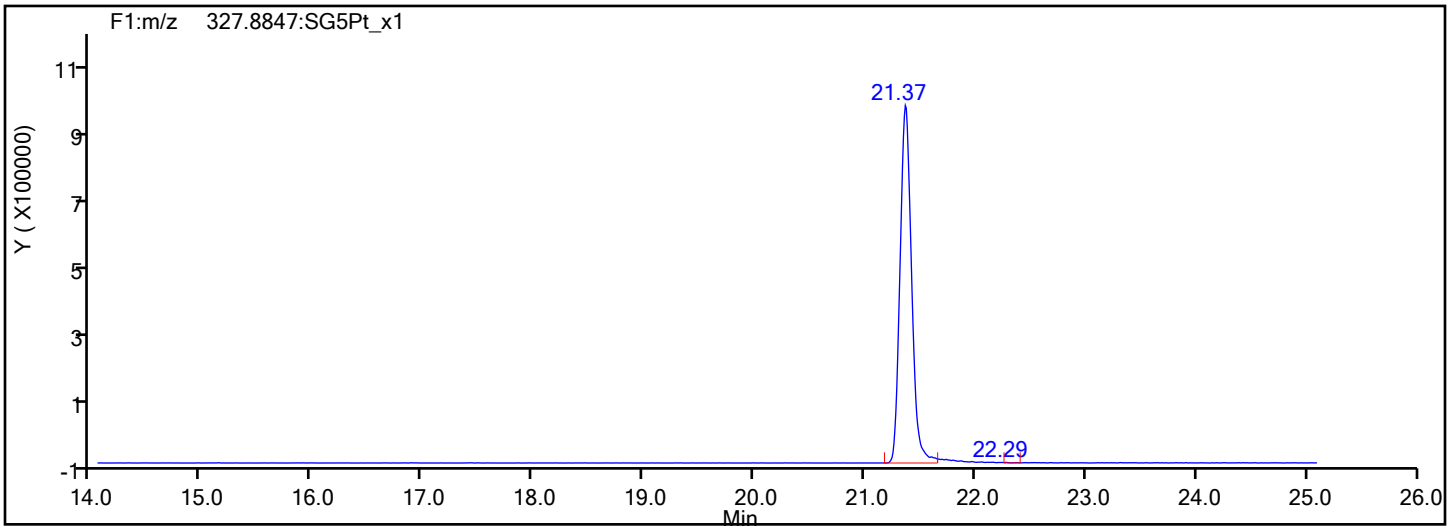
TCDD Standards



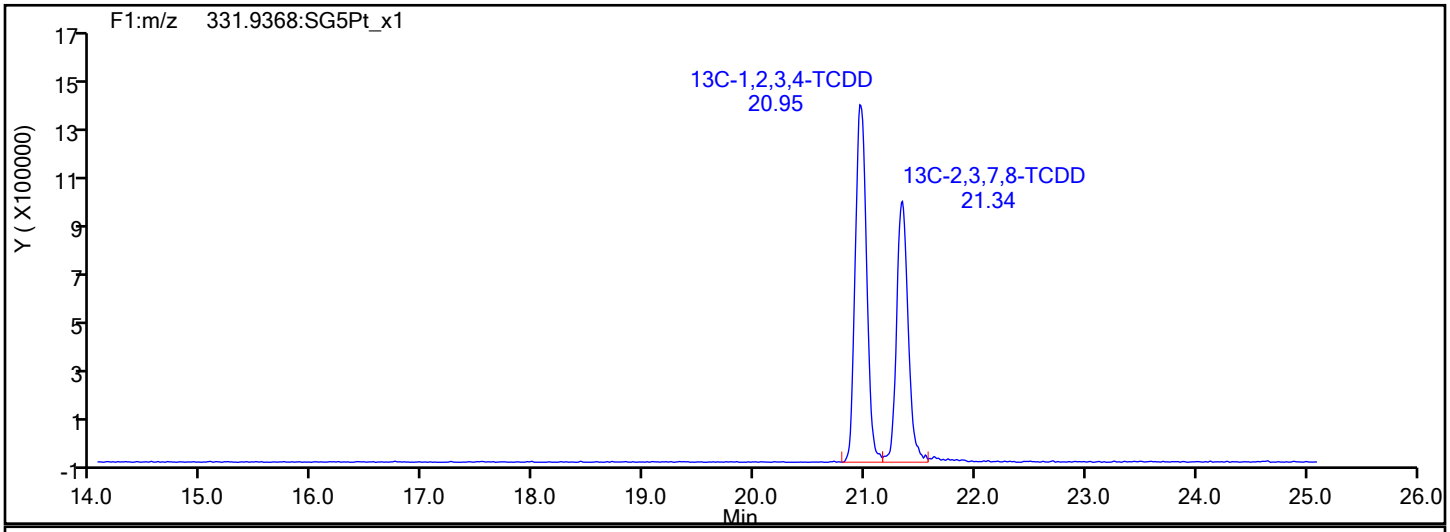
Eurofins TestAmerica, Sacramento

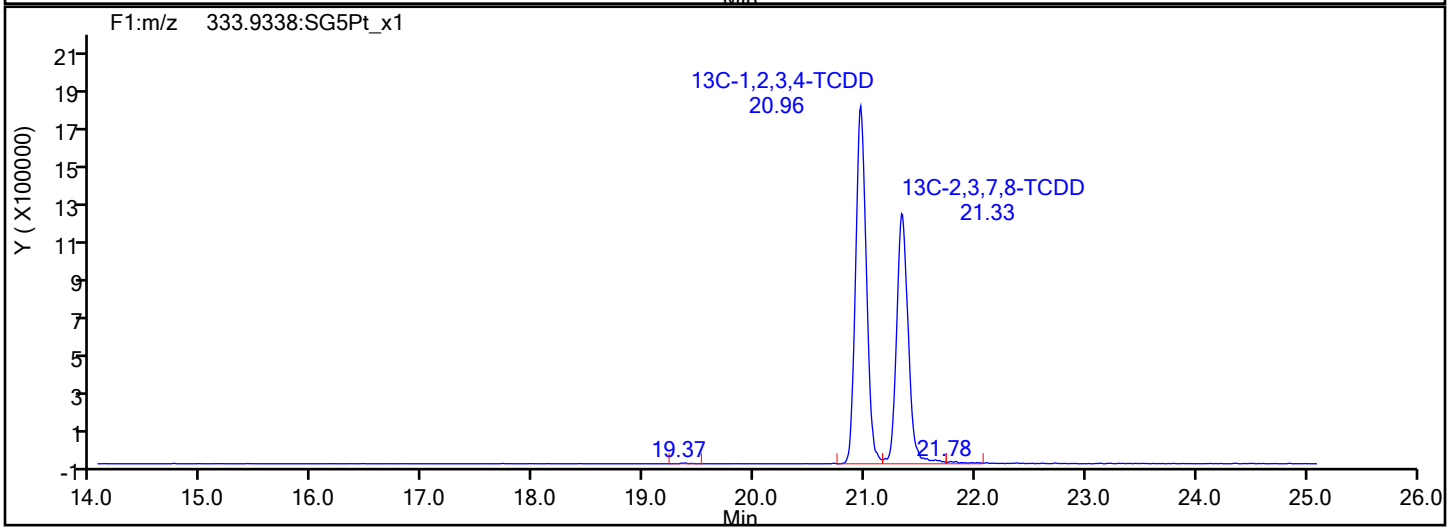
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



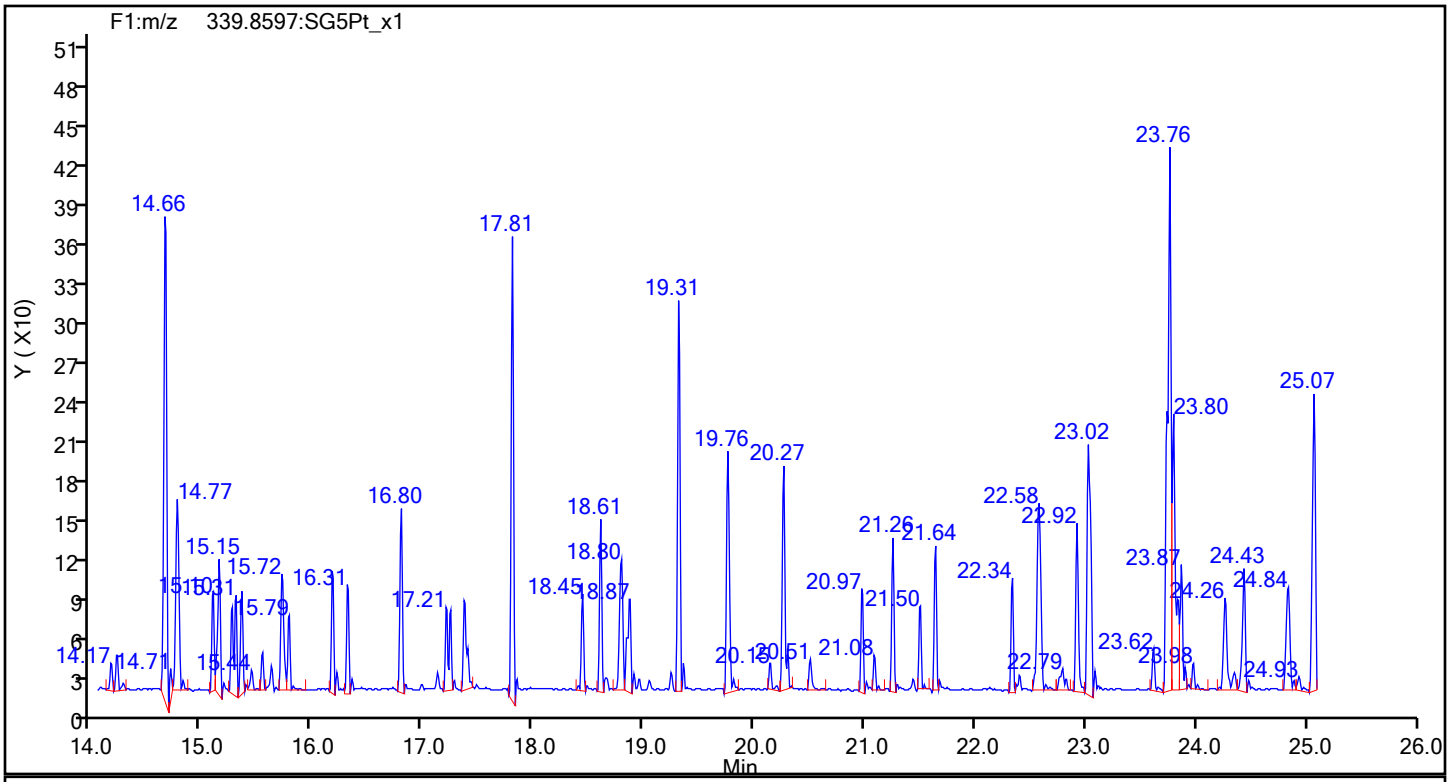


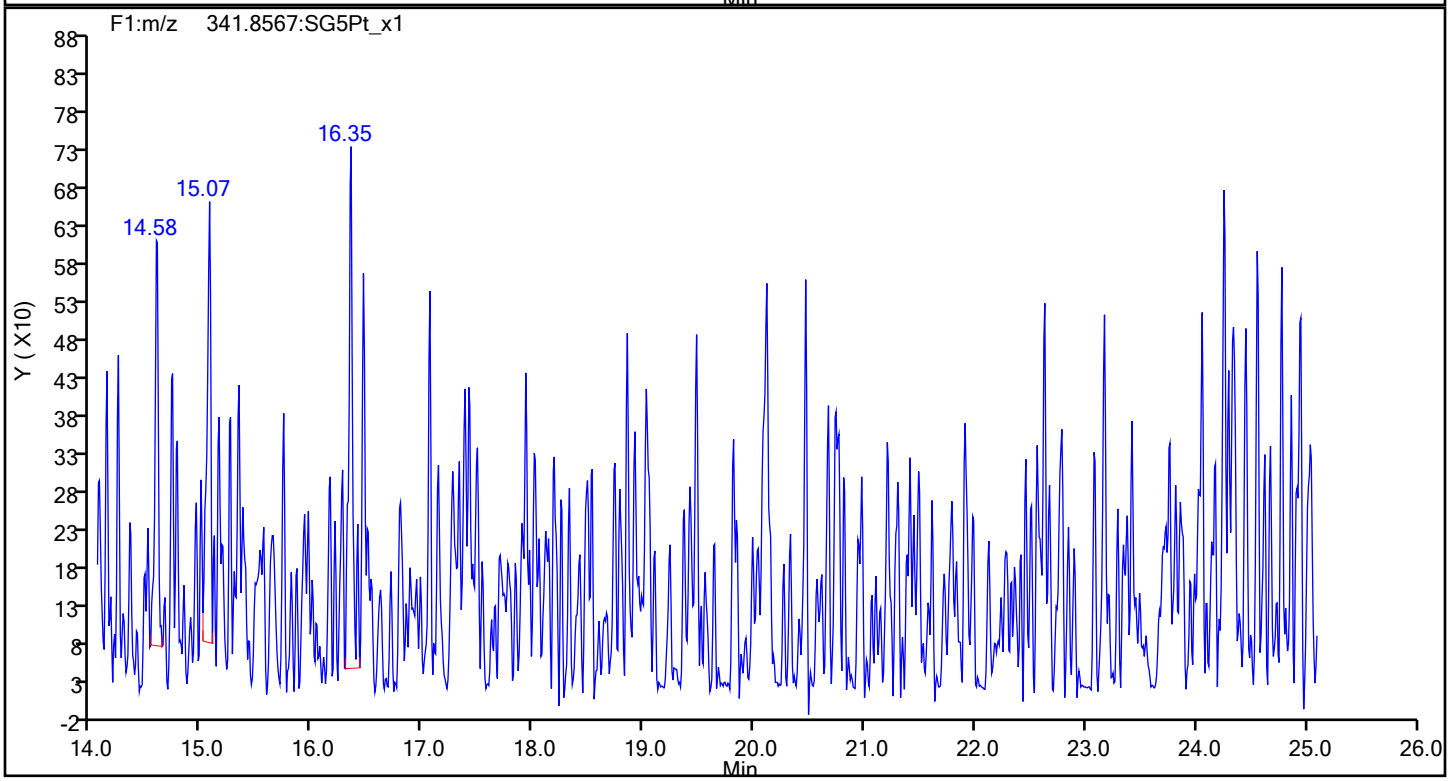
Report Date: 28-Dec-2021 14:24:47 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Report Date: 28-Dec-2021 14:24:47 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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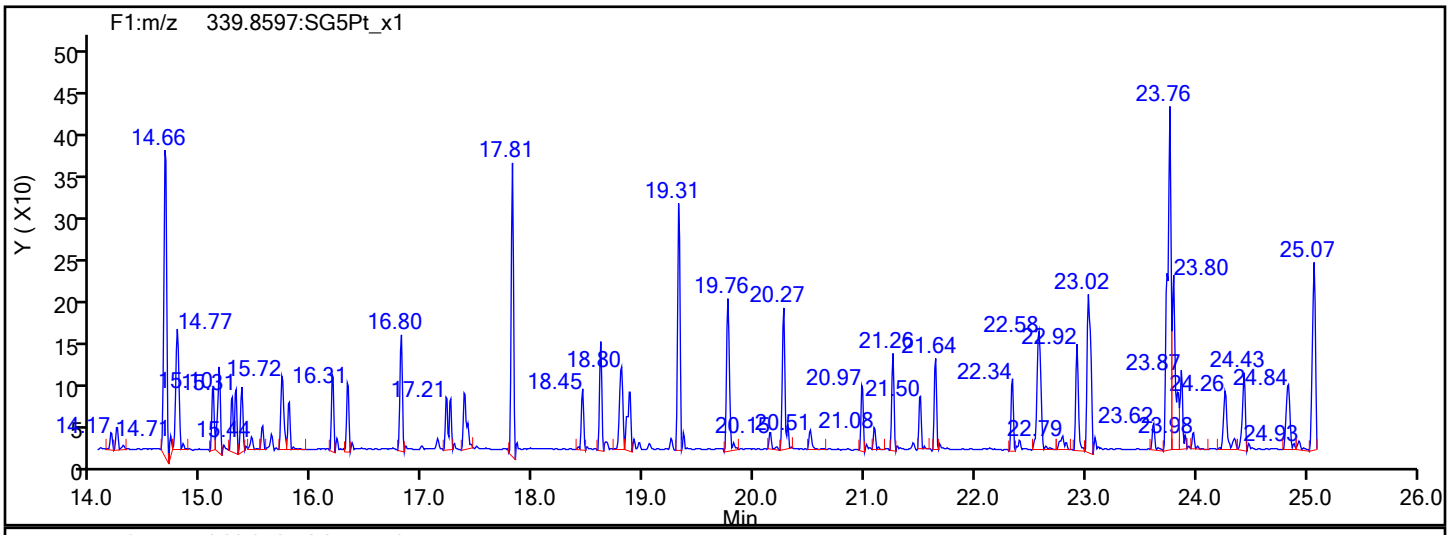
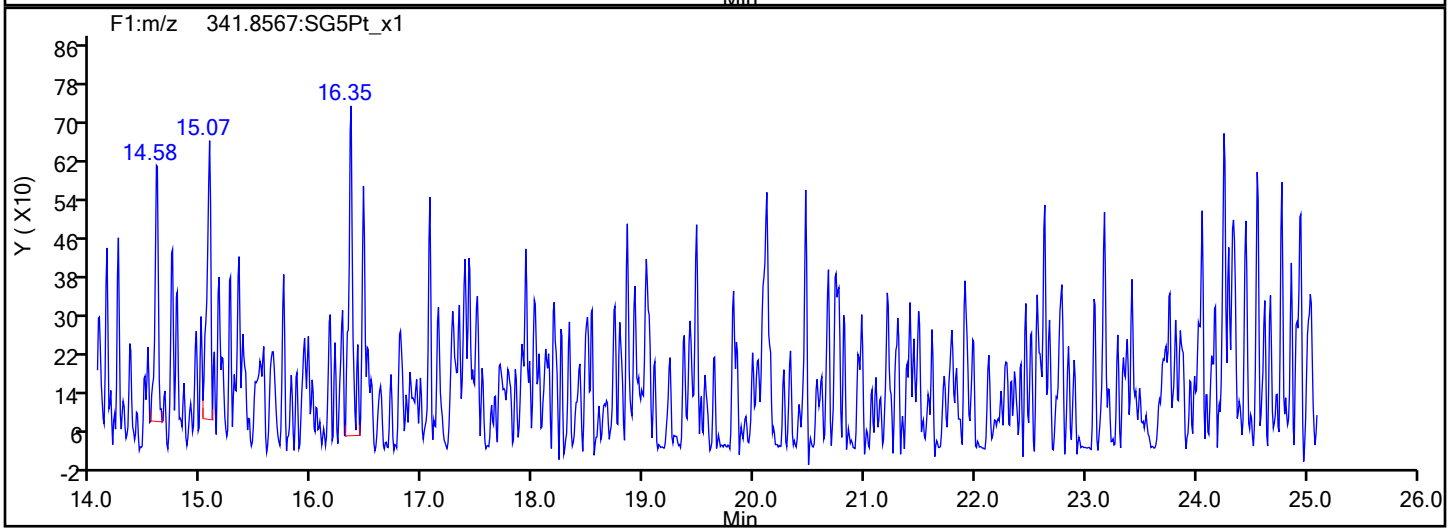
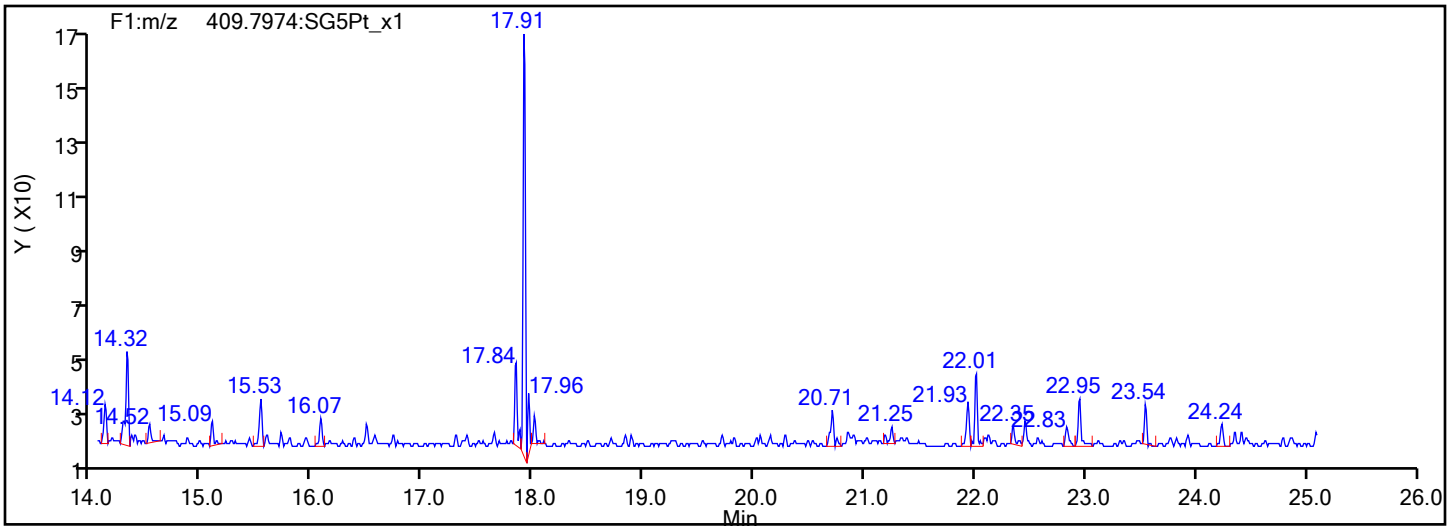
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

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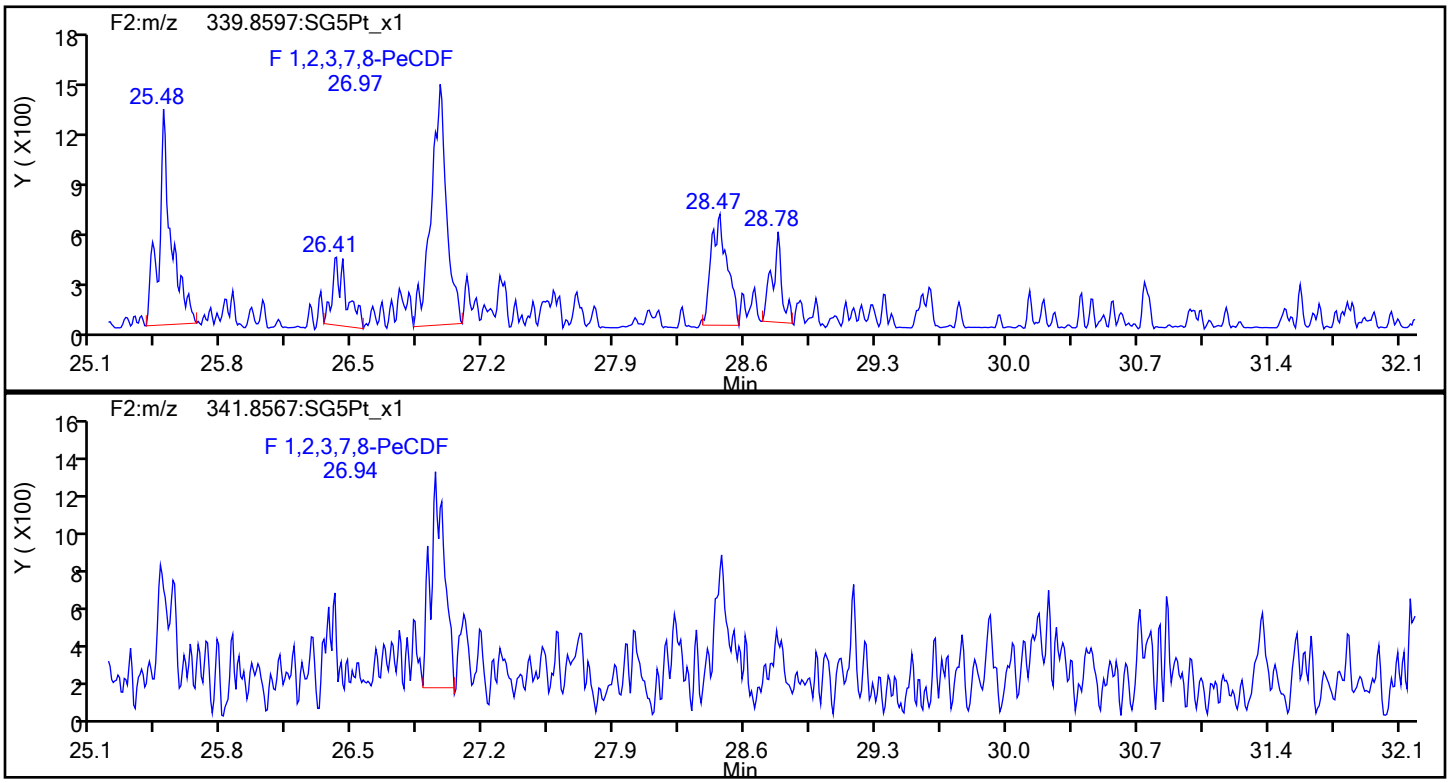
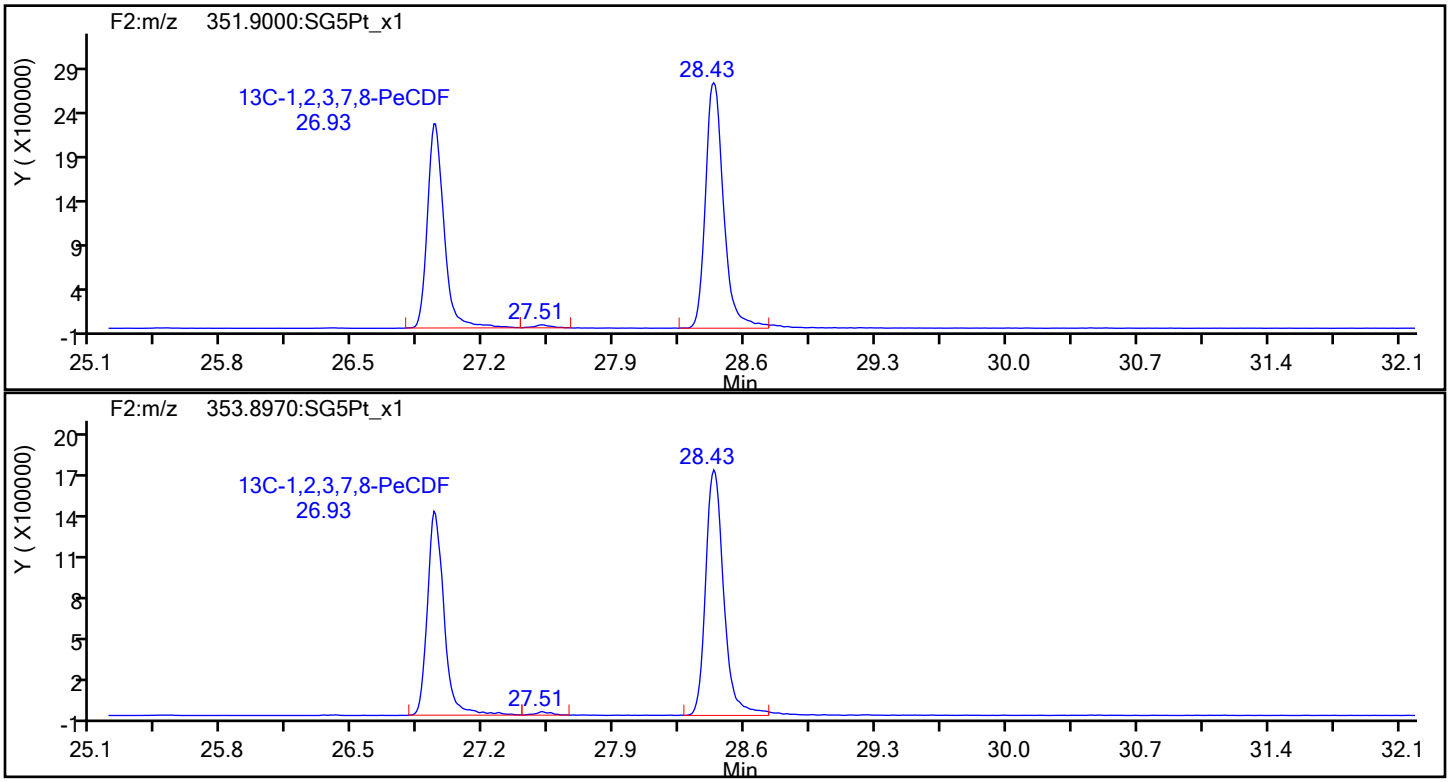


PeCDF Standards



Eurofins TestAmerica, Sacramento

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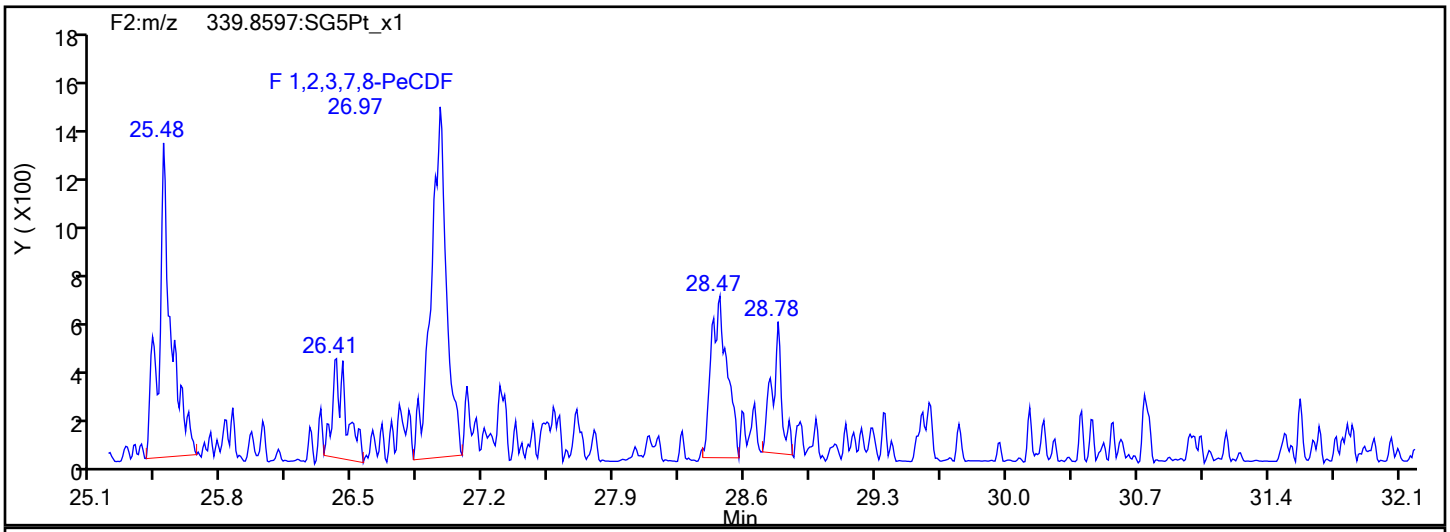
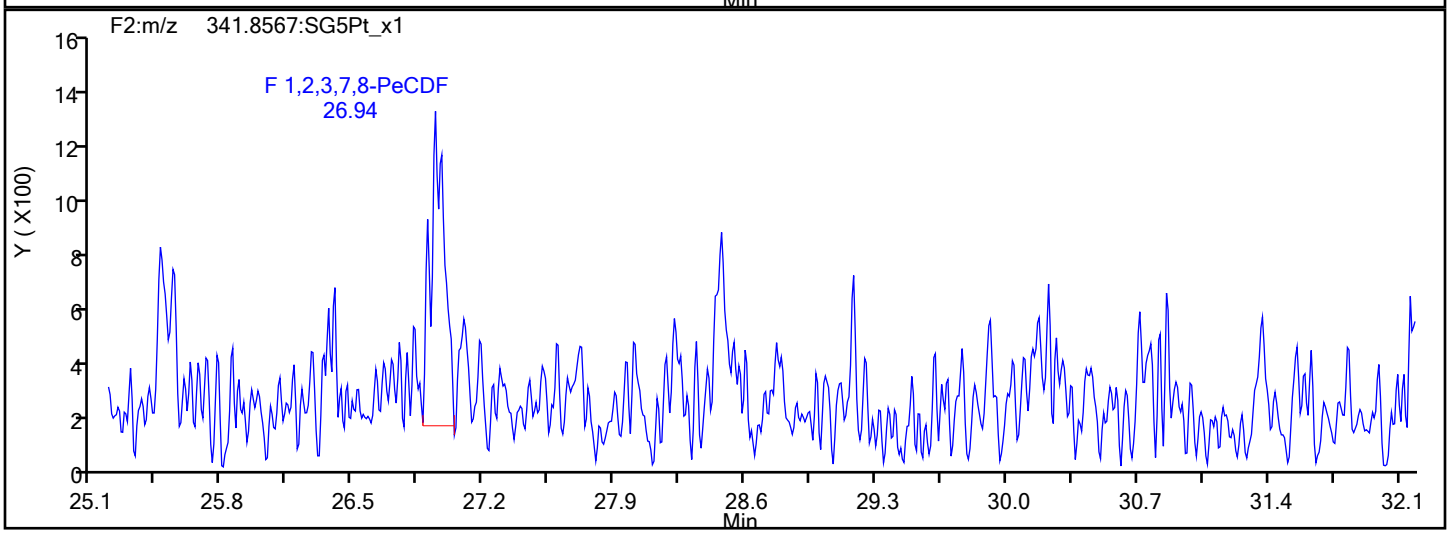
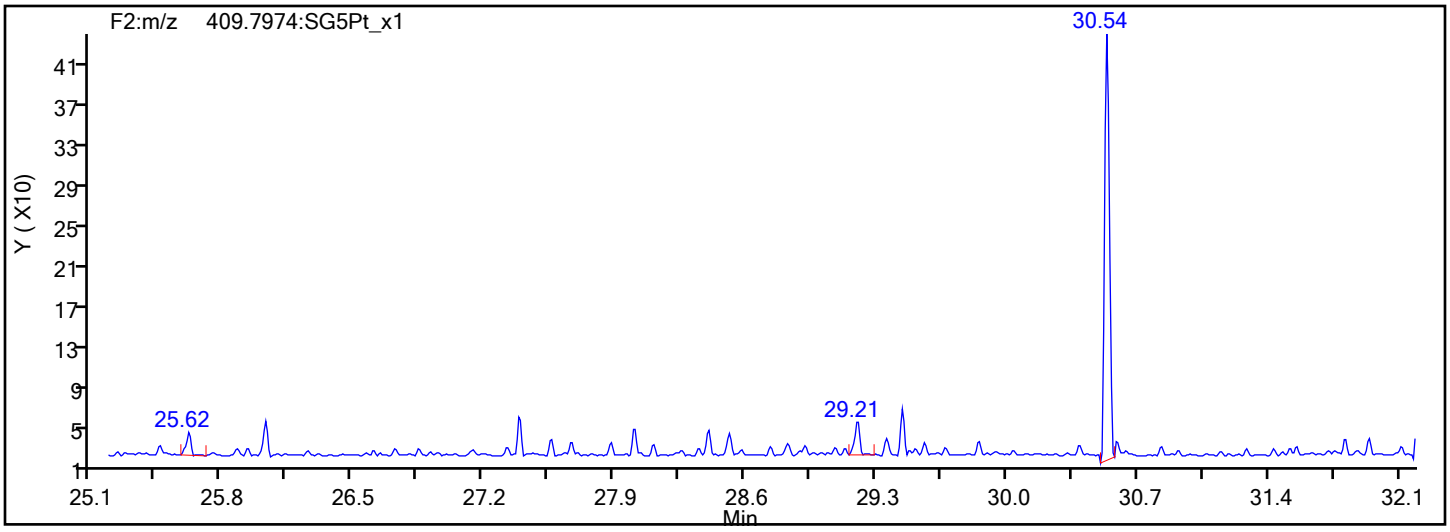




PeCDF Interference Mass



Report Date: 28-Dec-2021 14:24:47 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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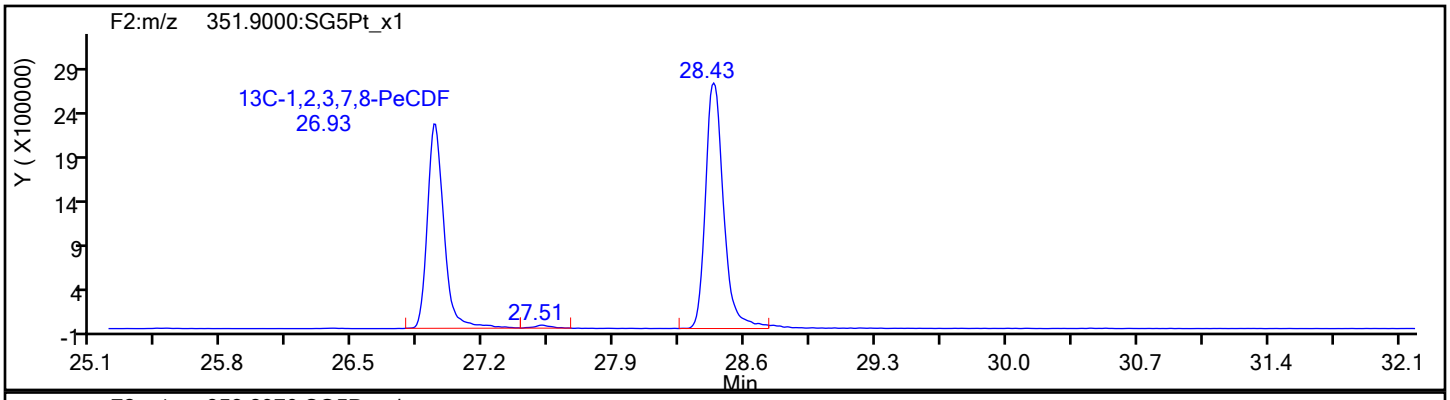
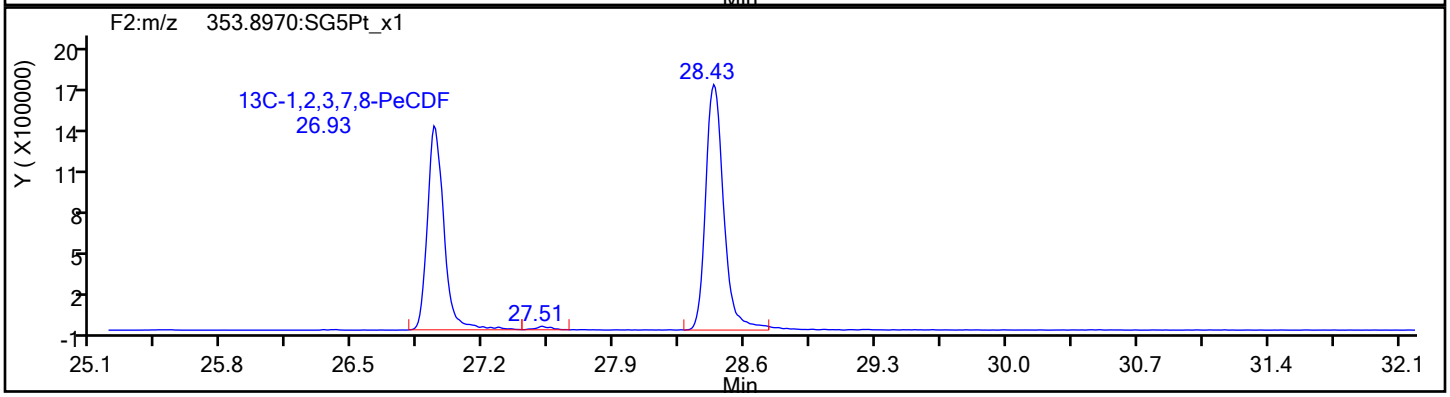
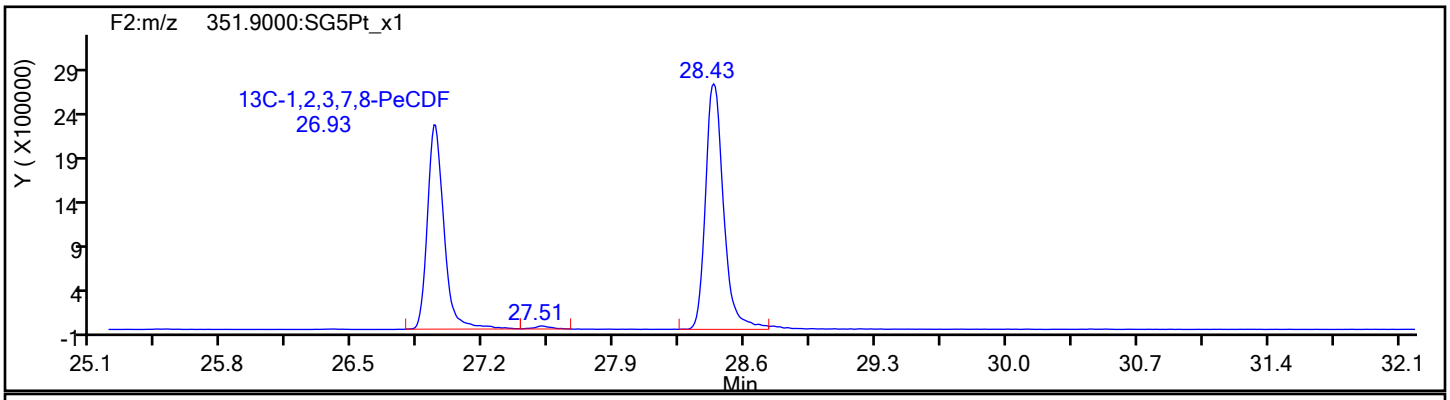
Column Type:	DB-5	Column Dia:	0.32 mm

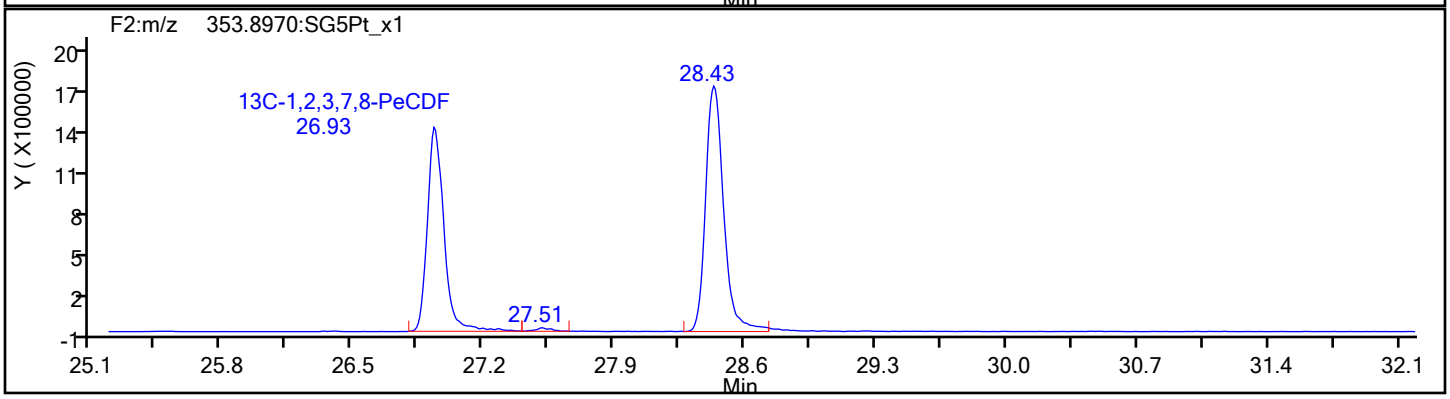
13C-PeCDF





13C-PeCDF Standards





Eurofins TestAmerica, Sacramento

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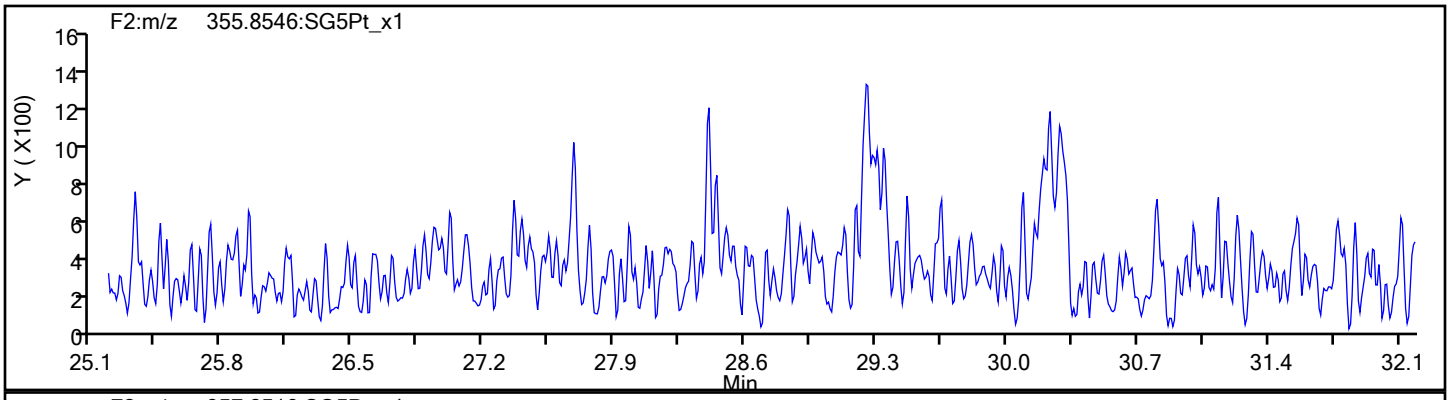
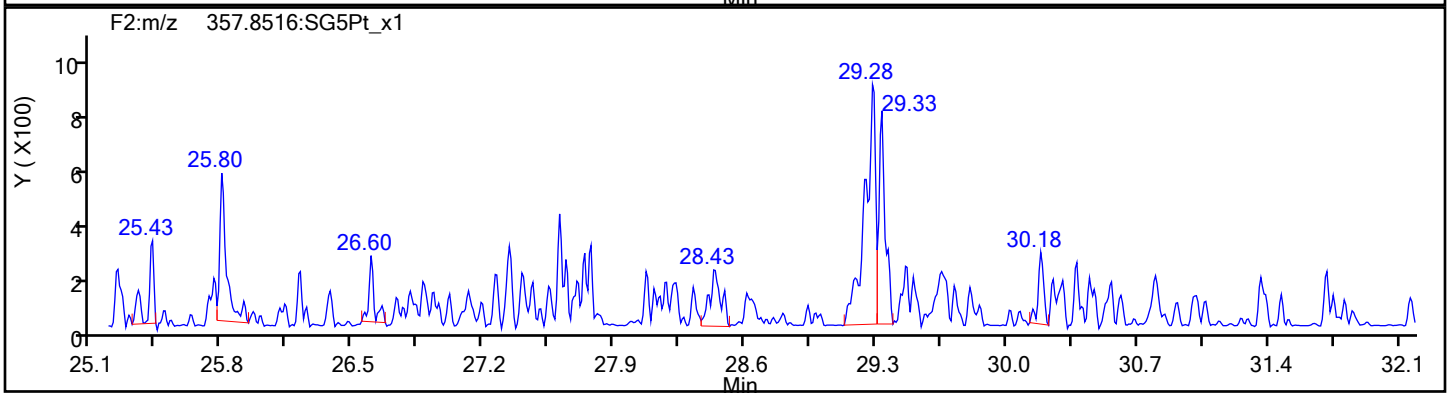
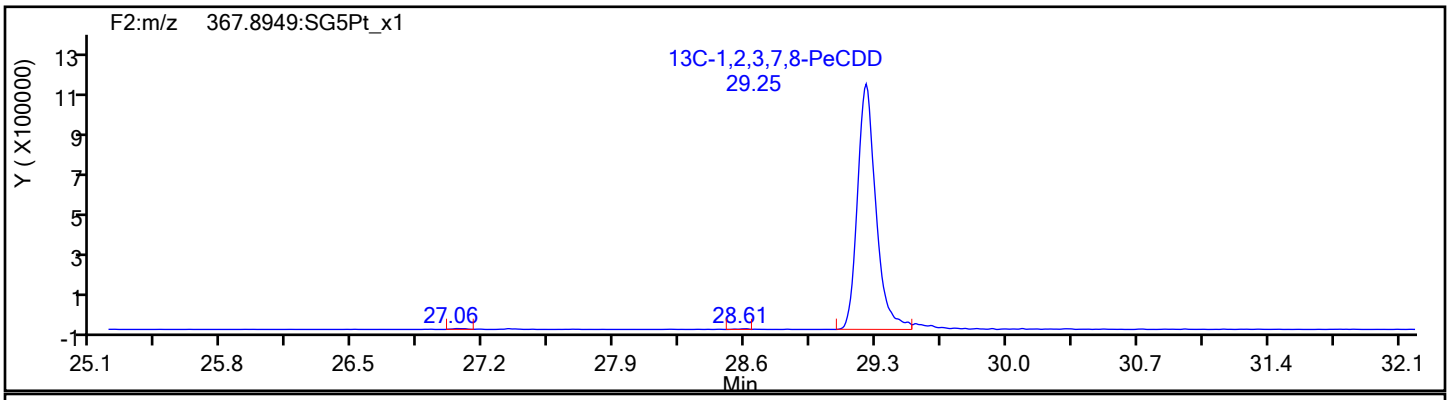
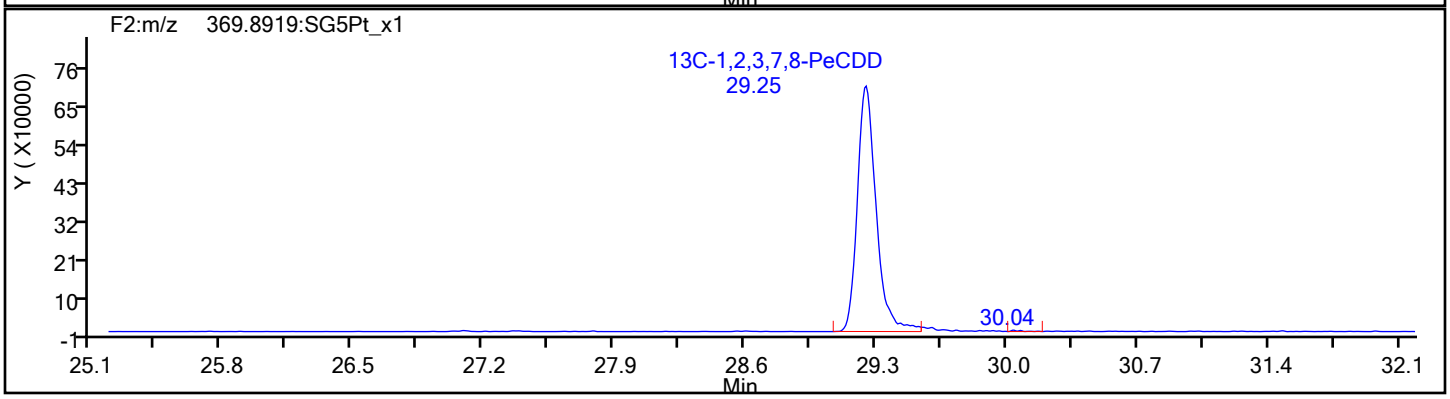
PeCDD





PeCDD Standards





Eurofins TestAmerica, Sacramento

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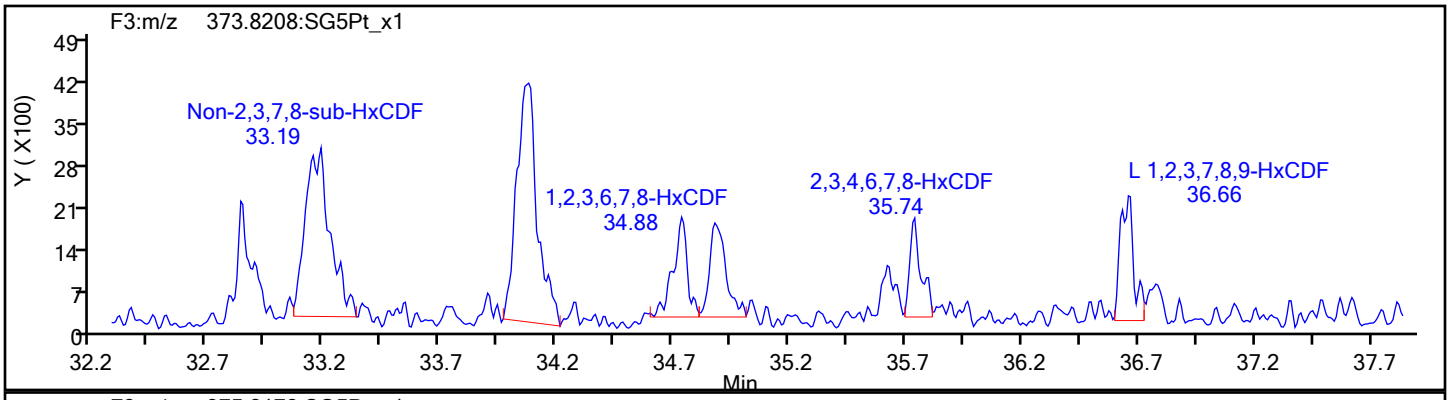
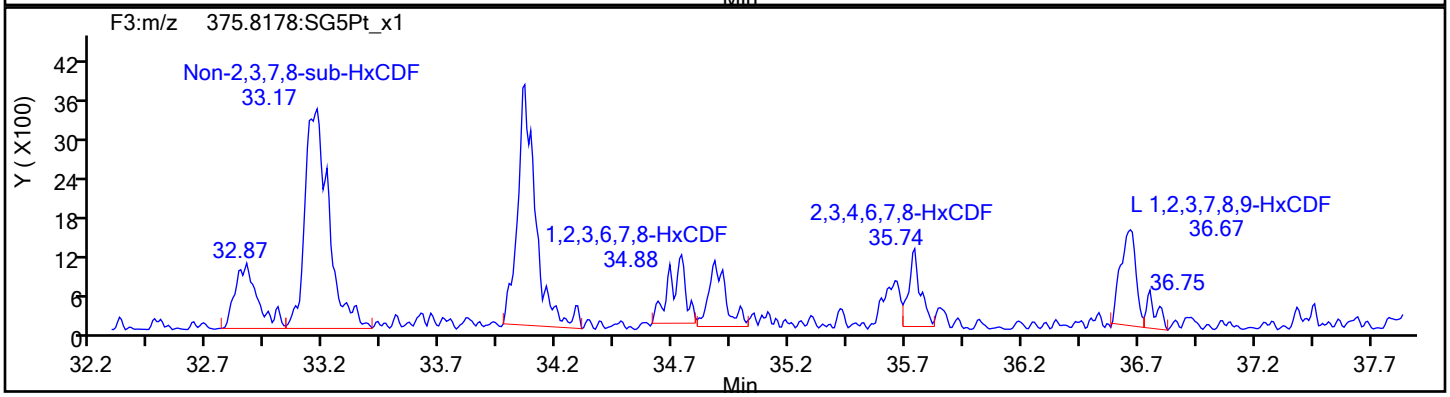
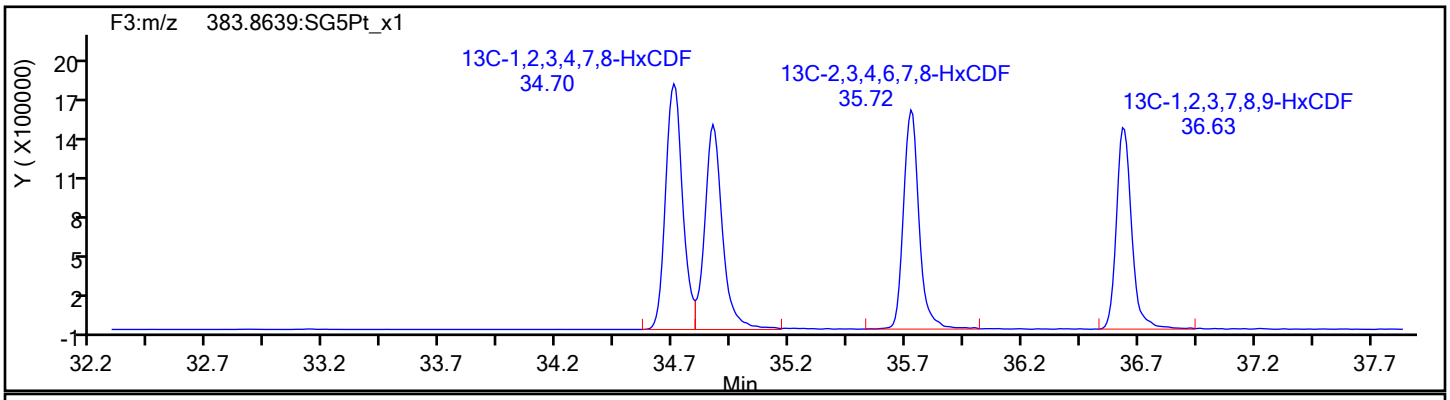
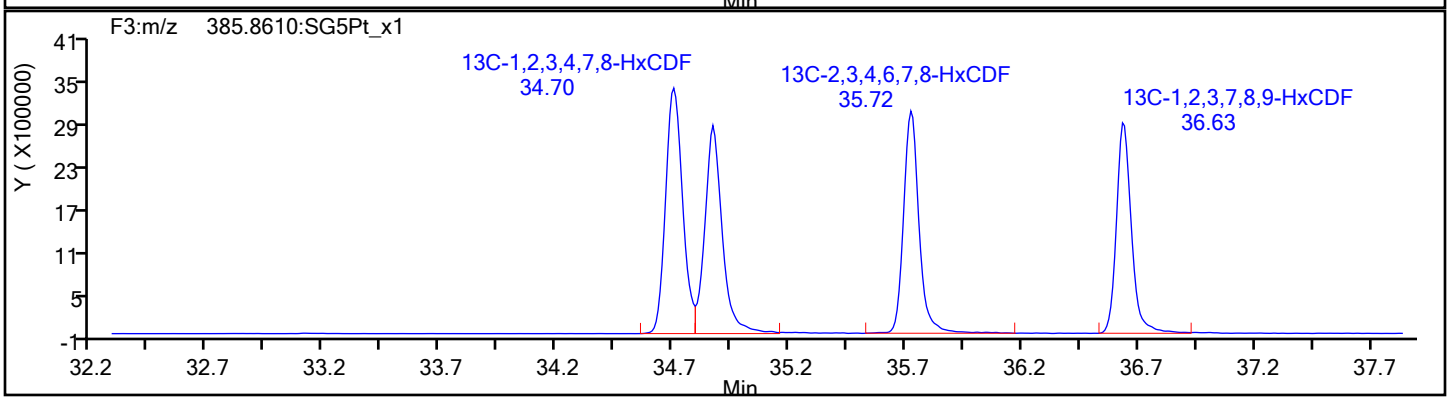
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

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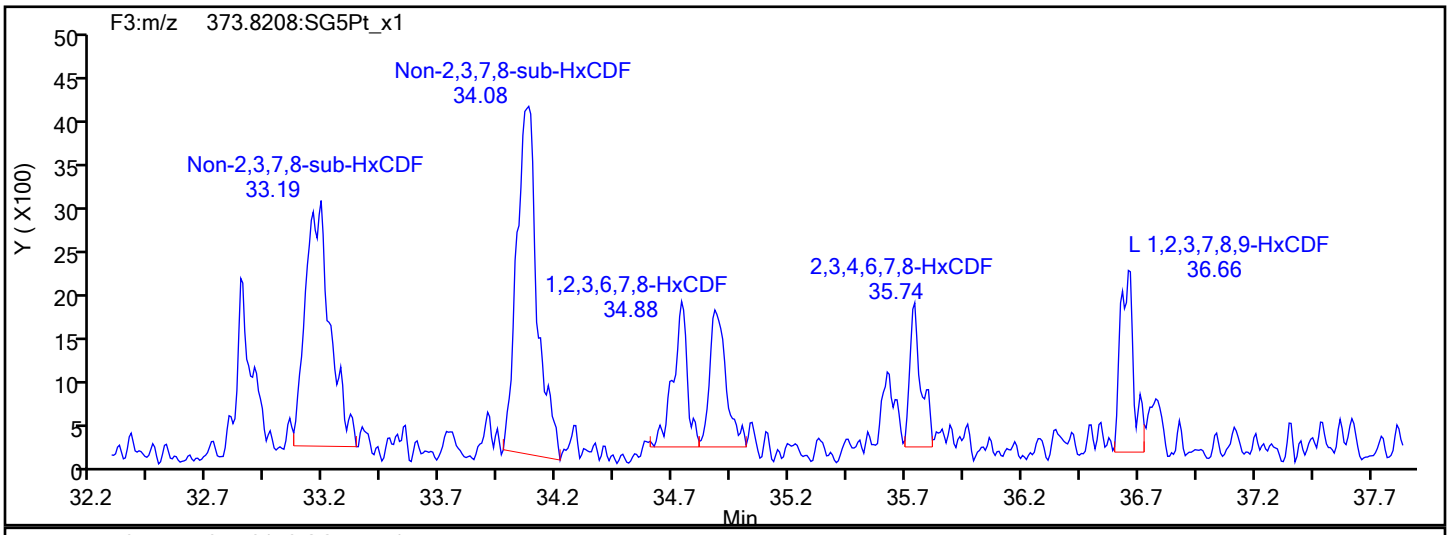
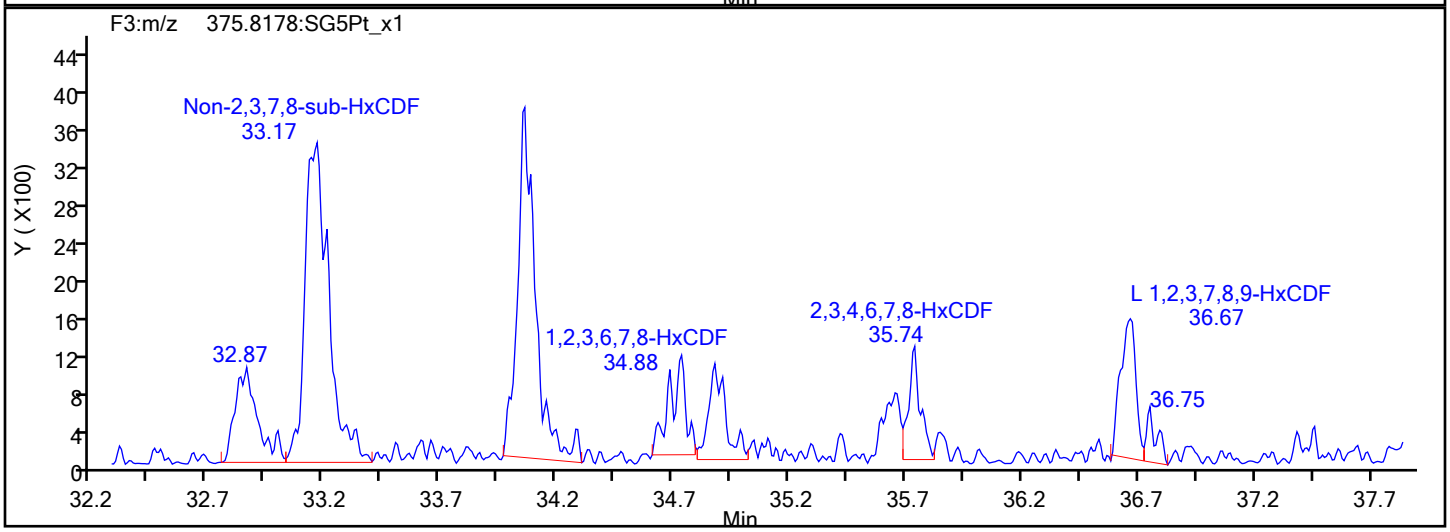
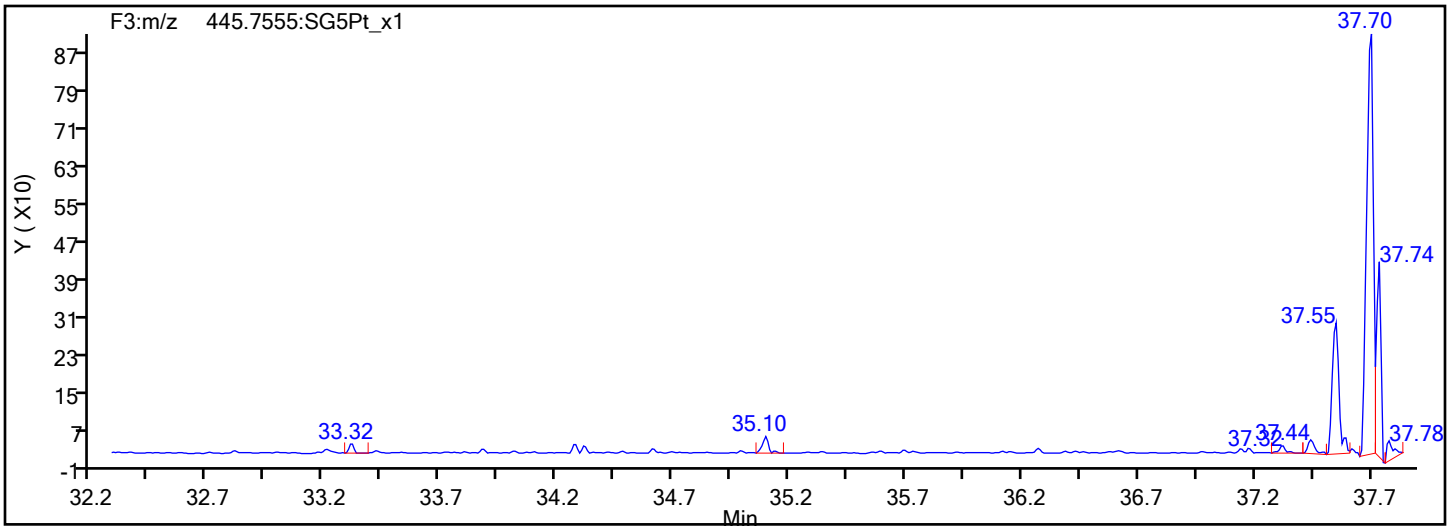




HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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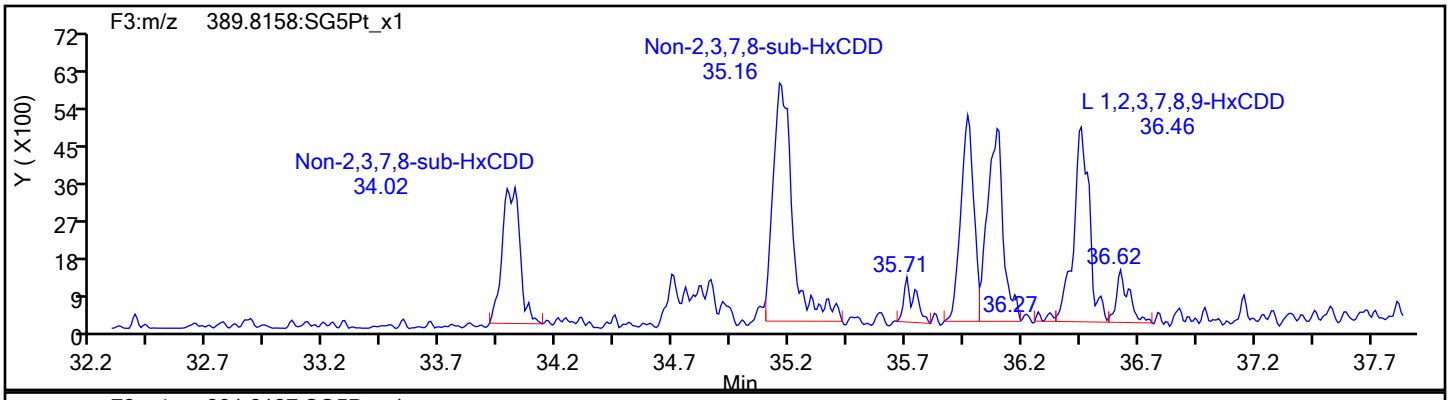
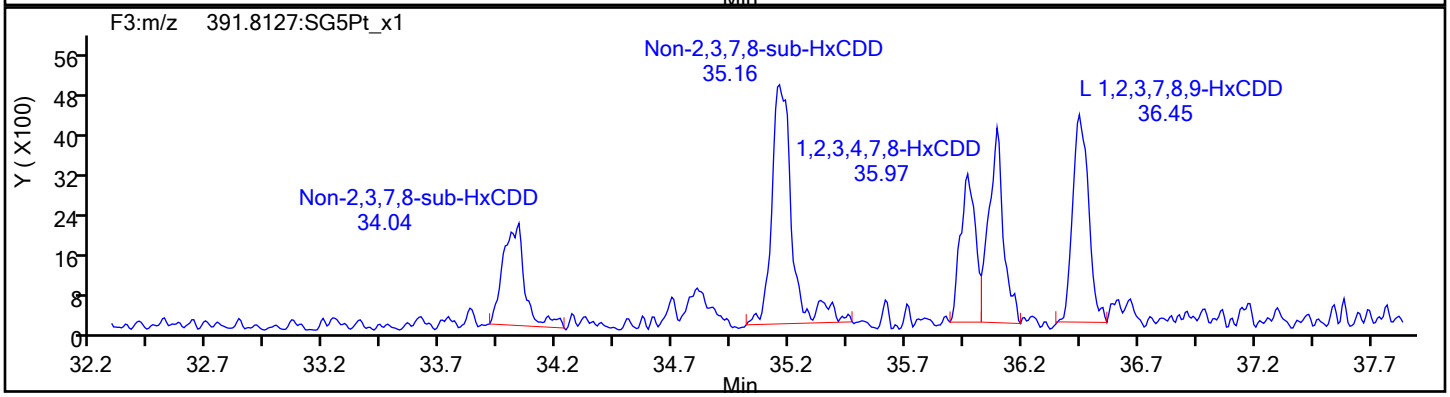
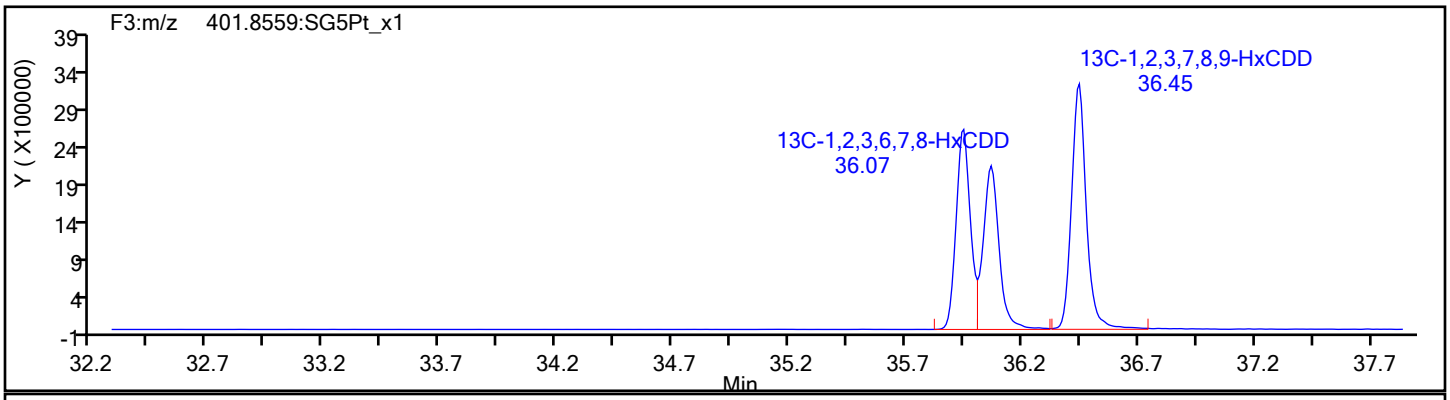
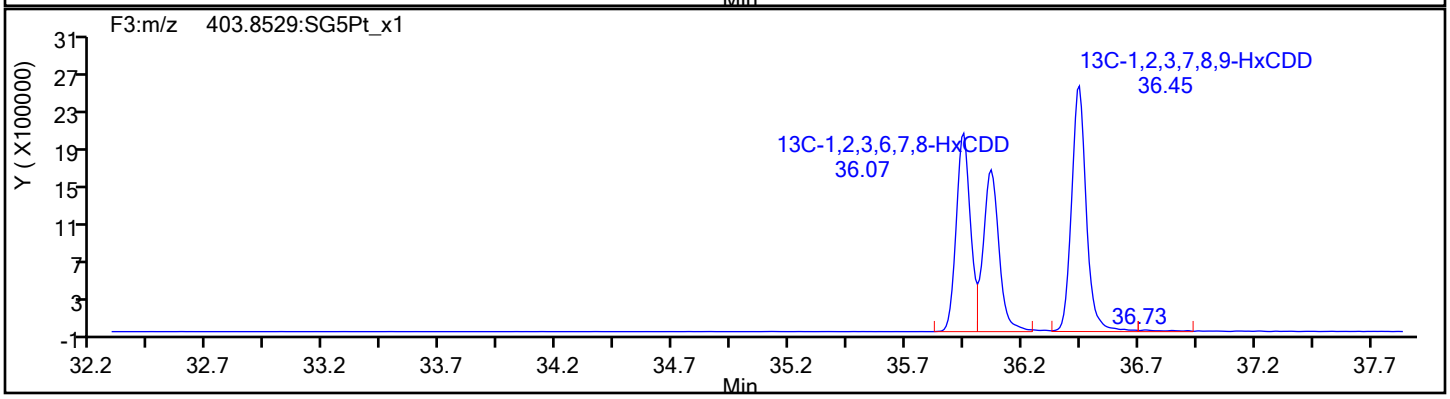
HxCDD





HxCDD Standards





Report Date: 28-Dec-2021 14:24:48 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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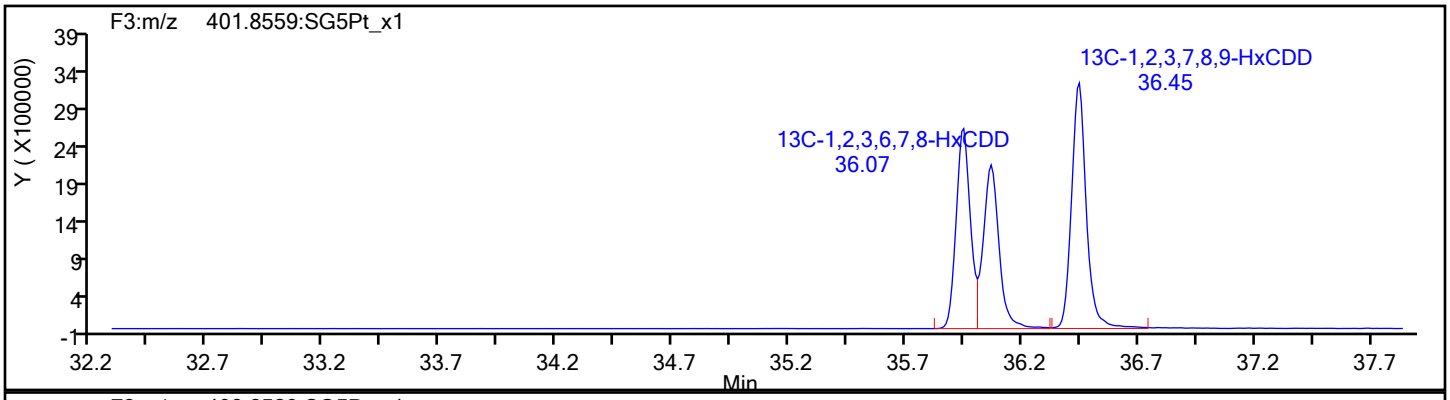
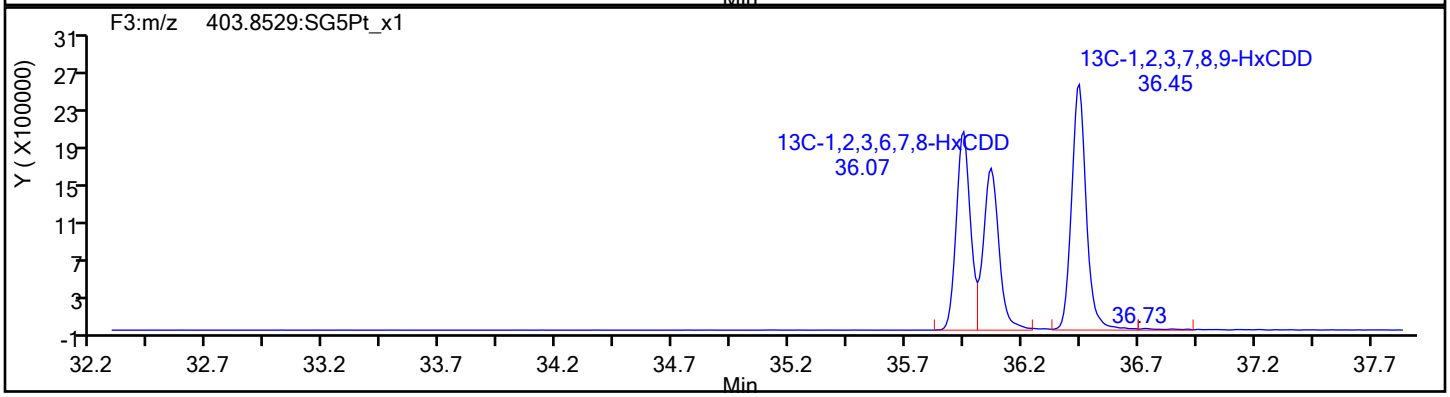
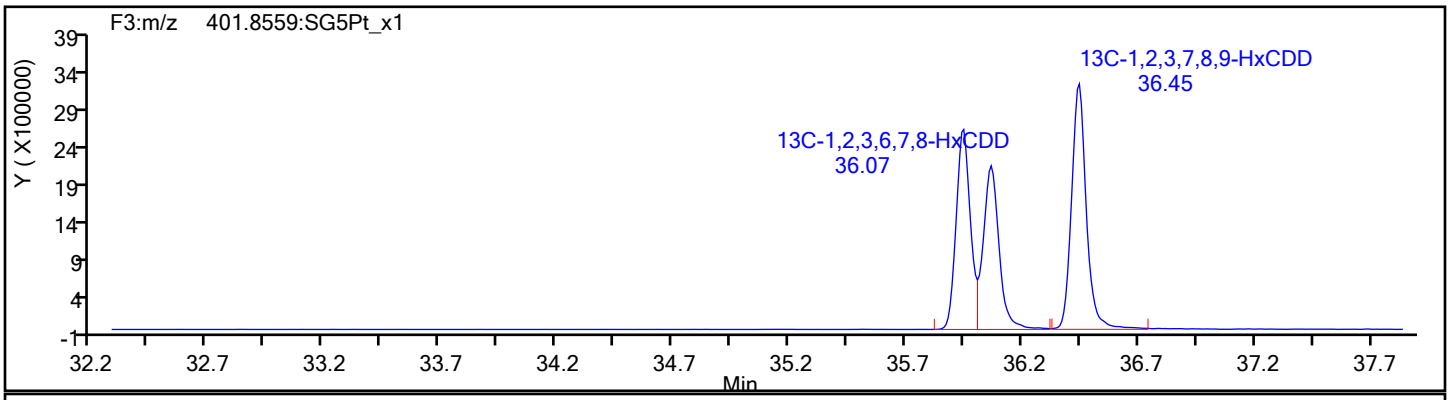
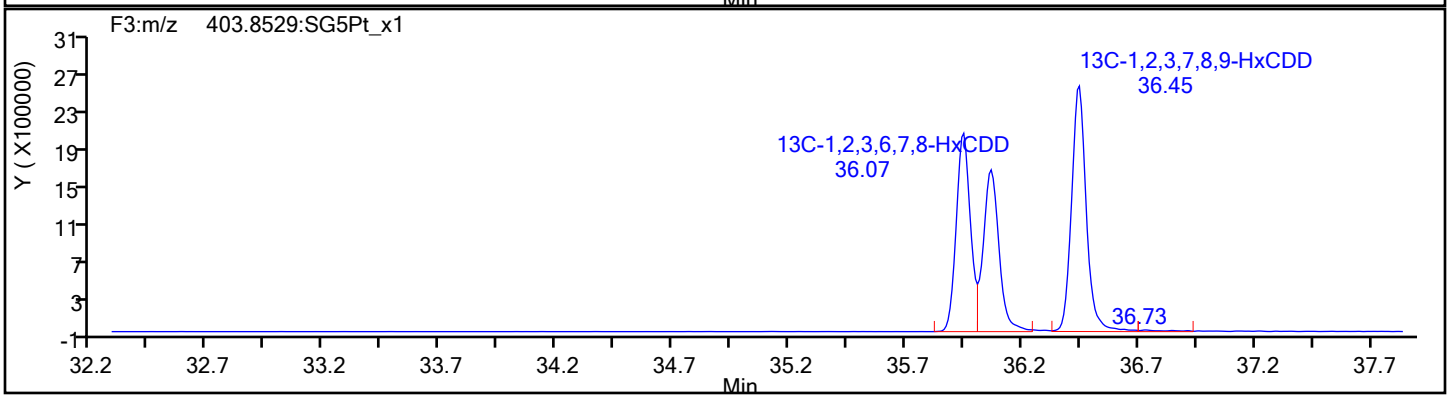
13C-HxCDD





13C-HxCDD Standards





Eurofins TestAmerica, Sacramento

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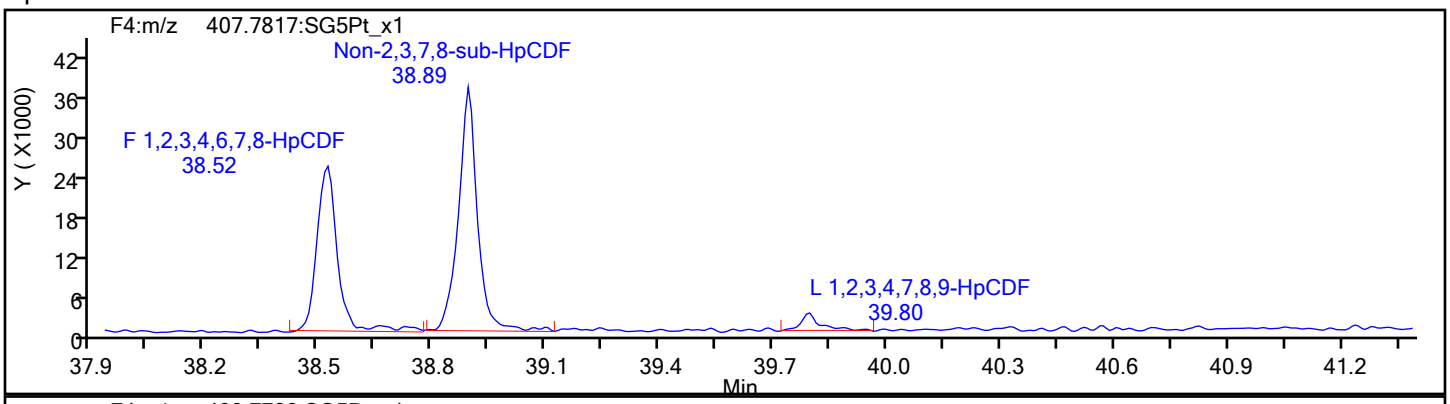
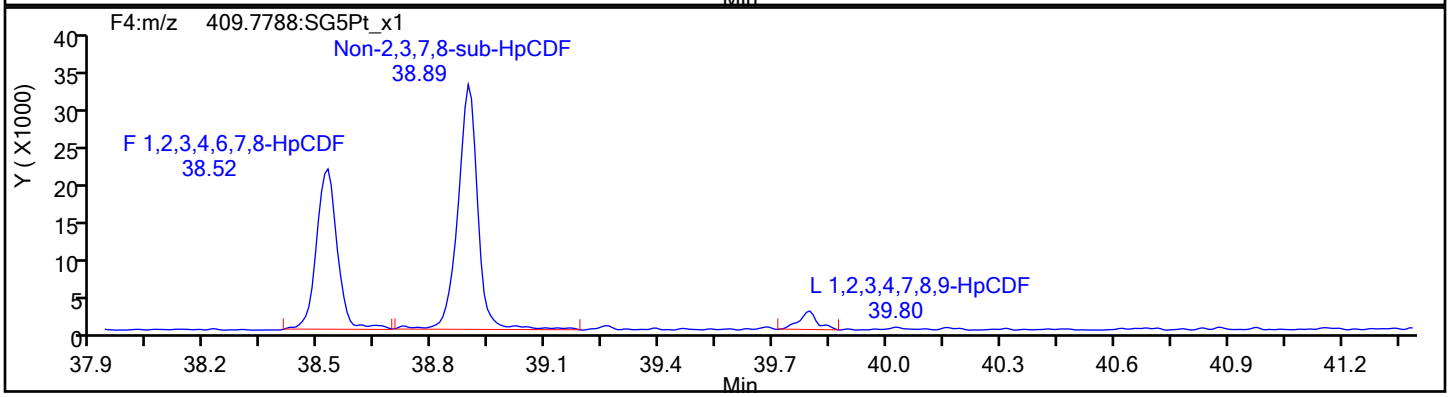
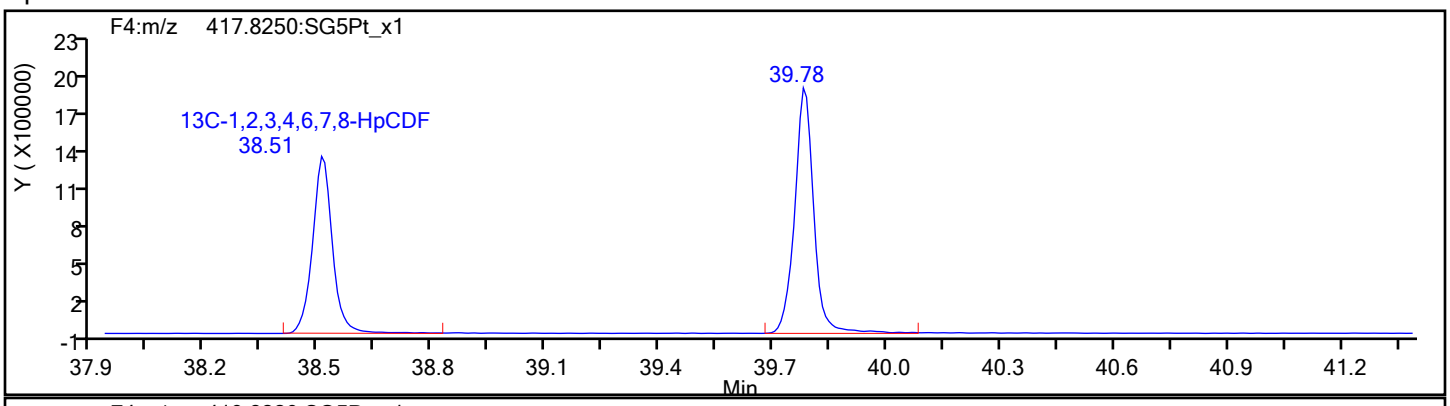
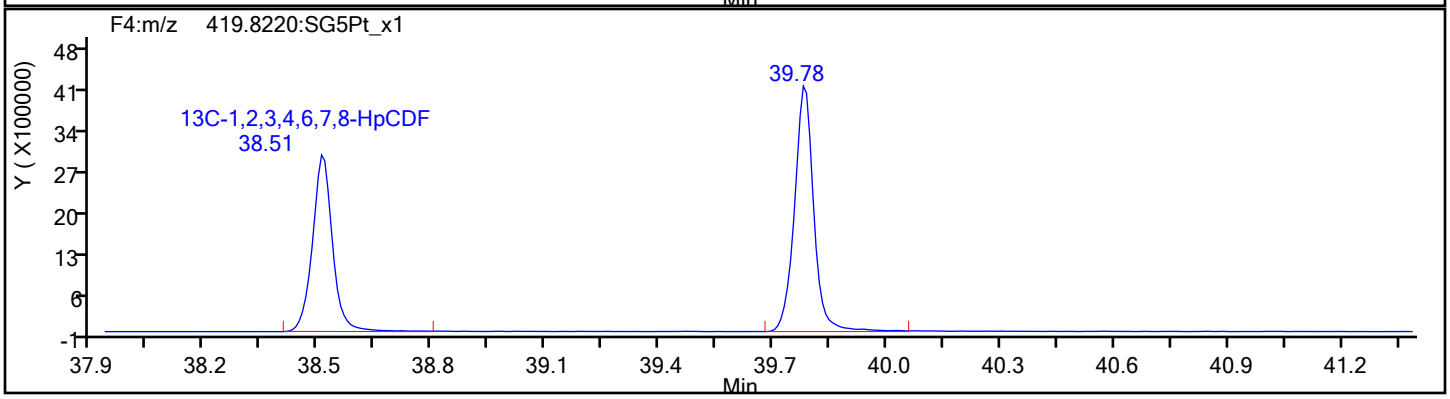
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

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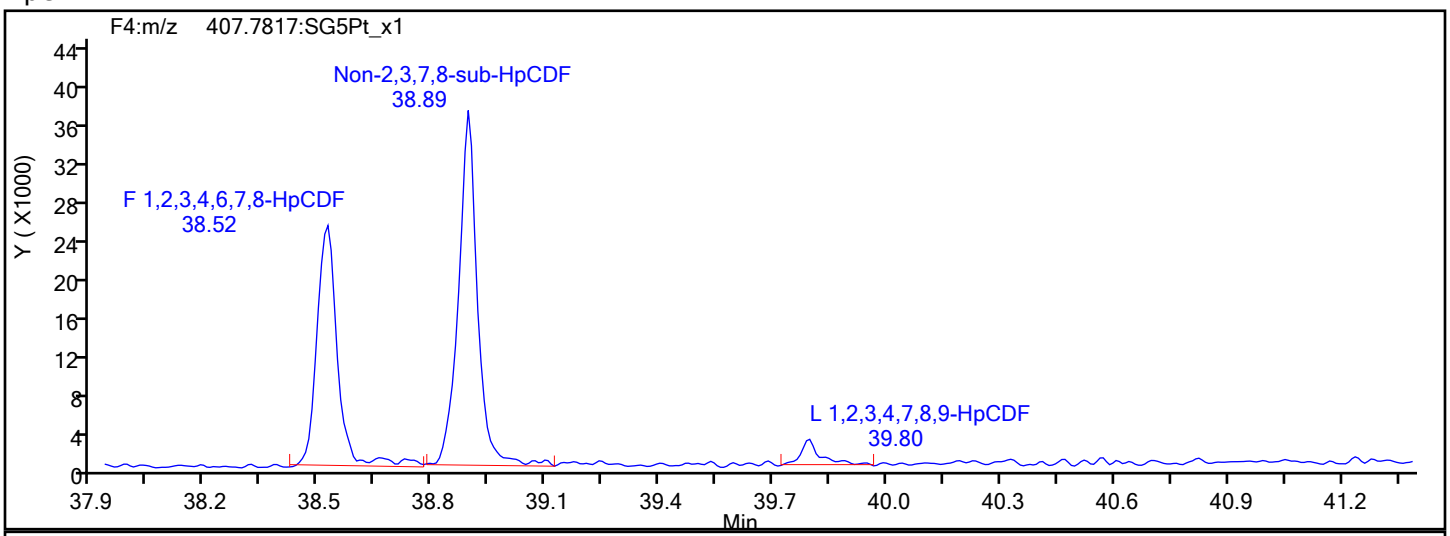
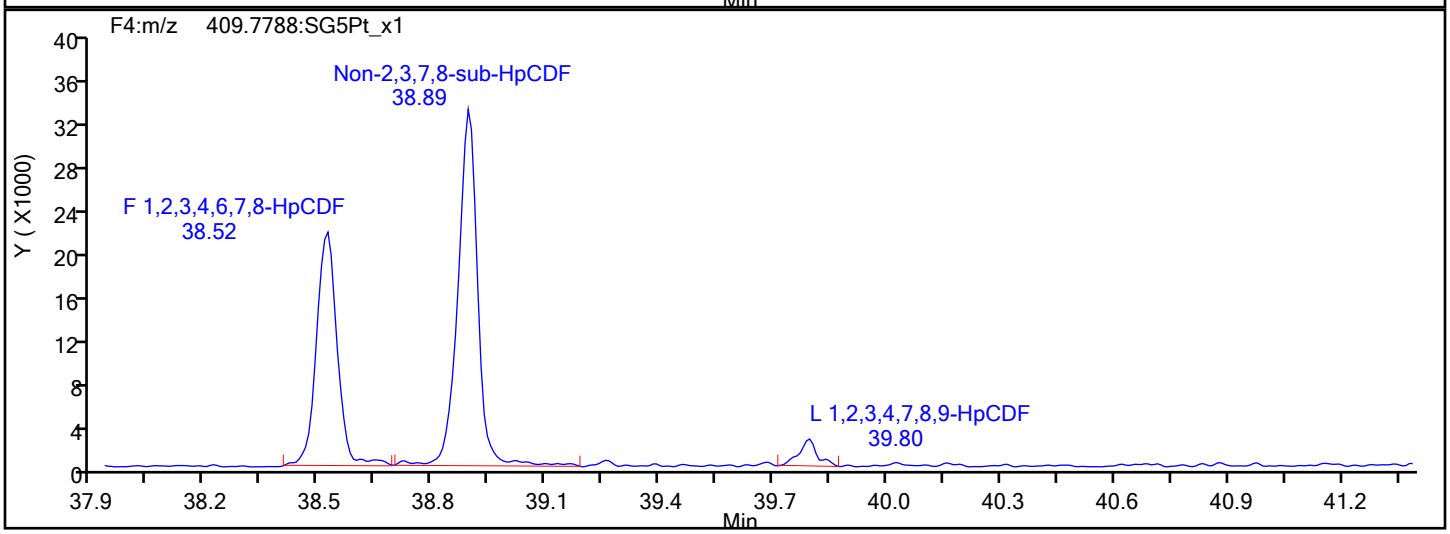
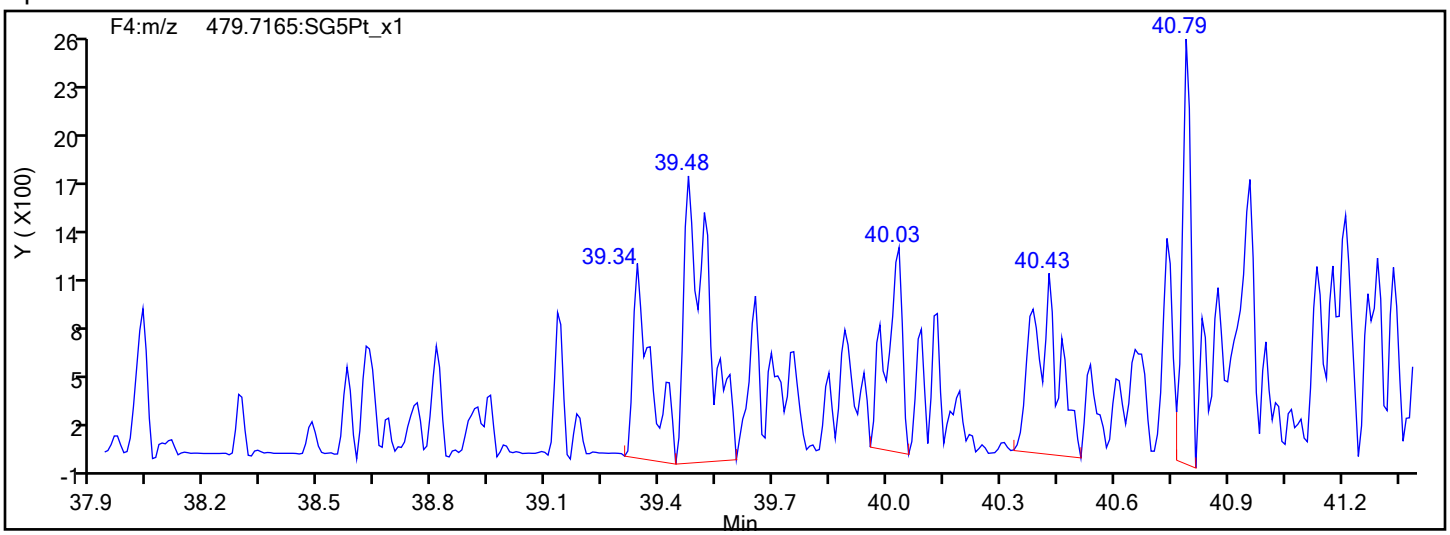




HpCDF Interference Mass



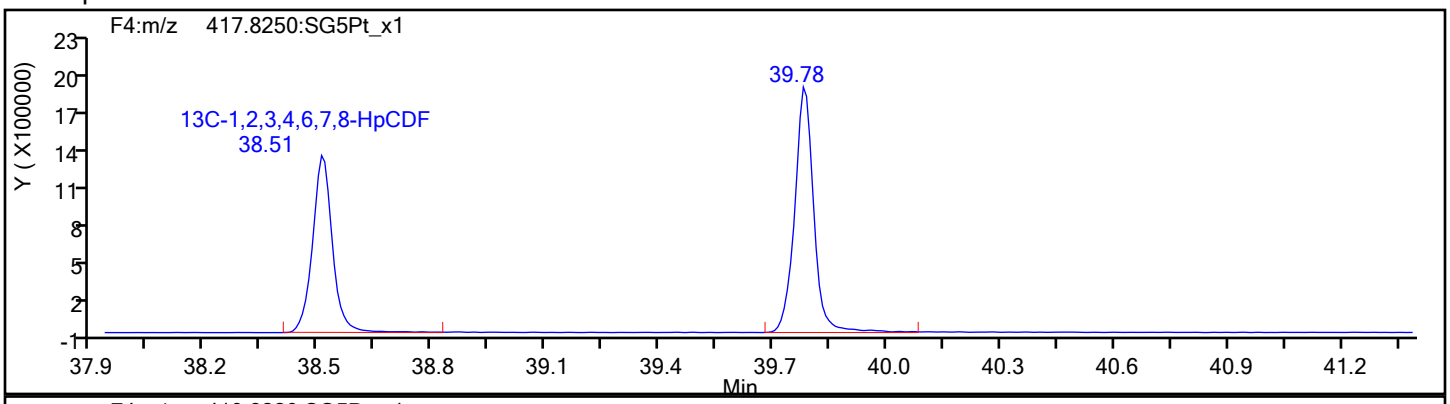
Report Date: 28-Dec-2021 14:24:48 Chrom Revision: 2.3 15-Nov-2021 20:34:30

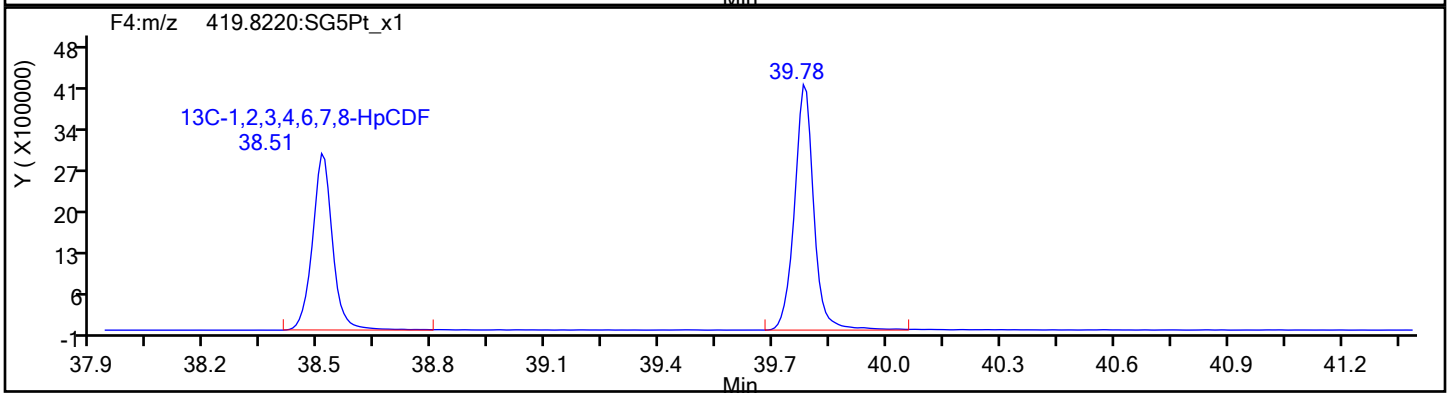
Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d

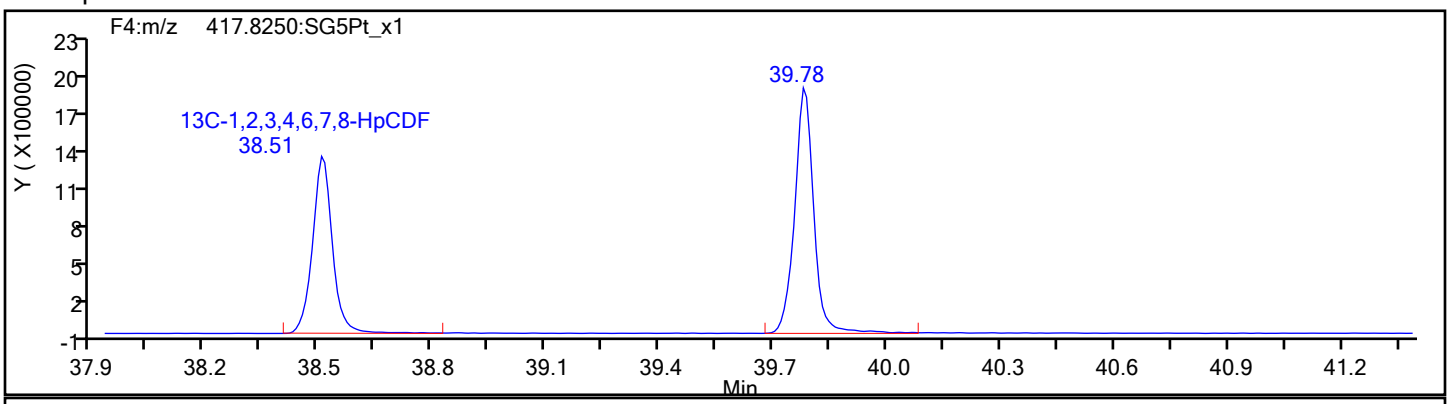
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

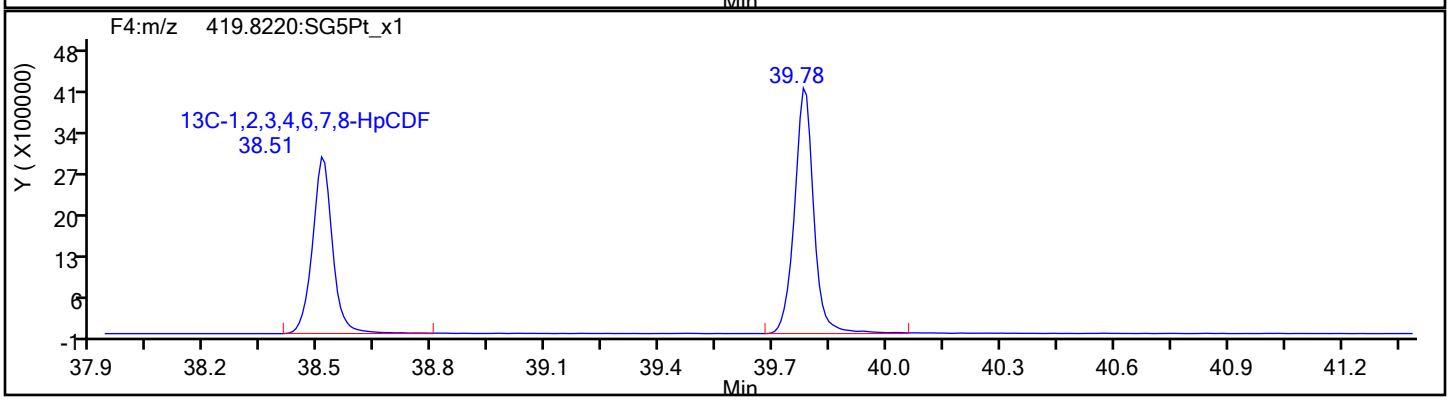
13C-HpCDF





13C-HpCDF Standards



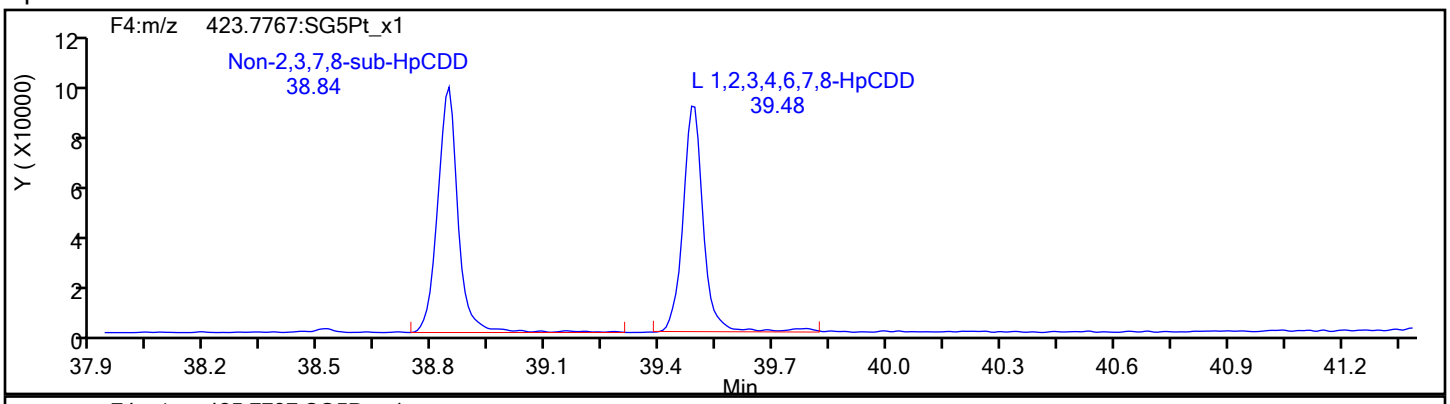


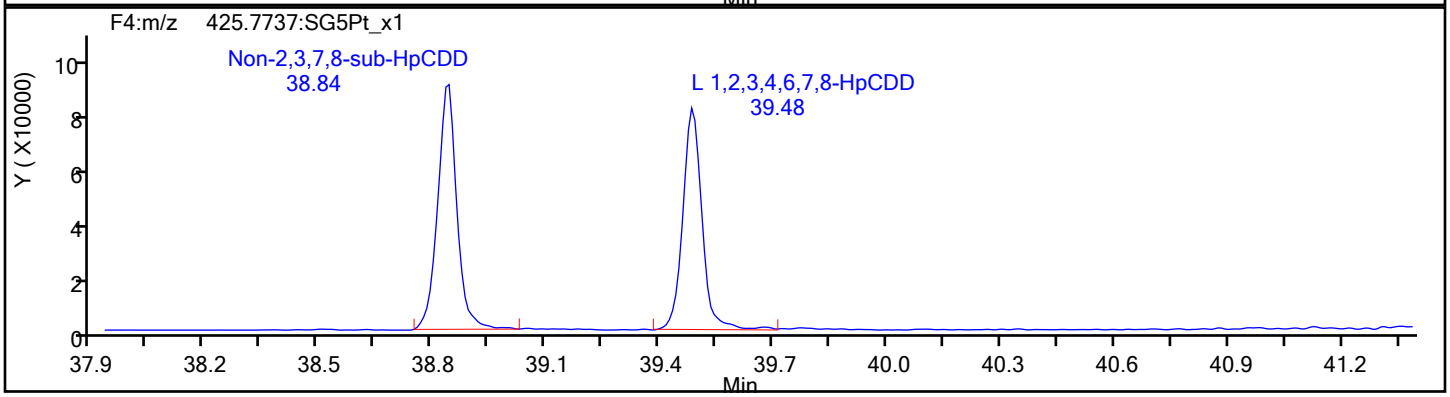
Report Date: 28-Dec-2021 14:24:48 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

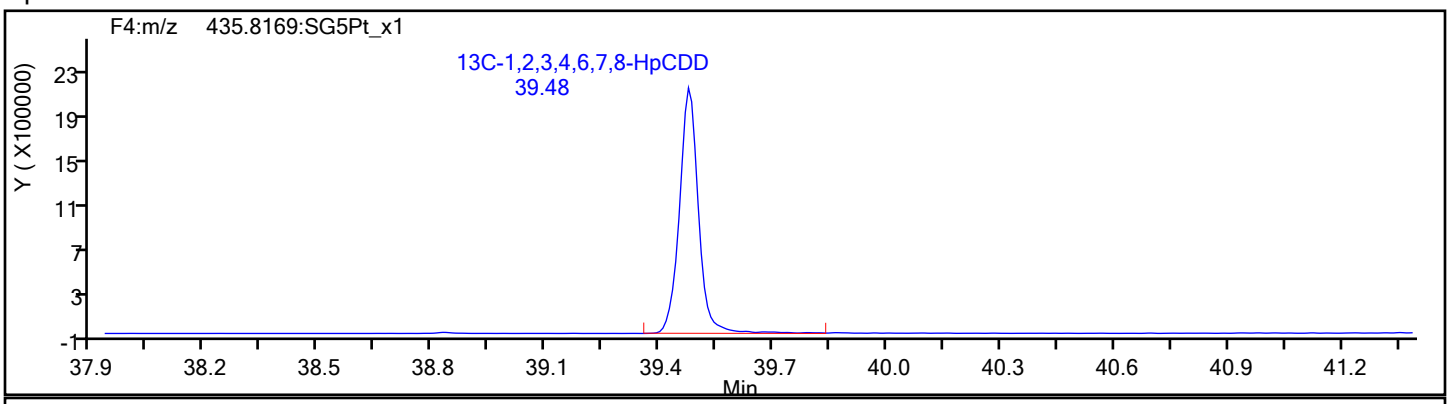
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

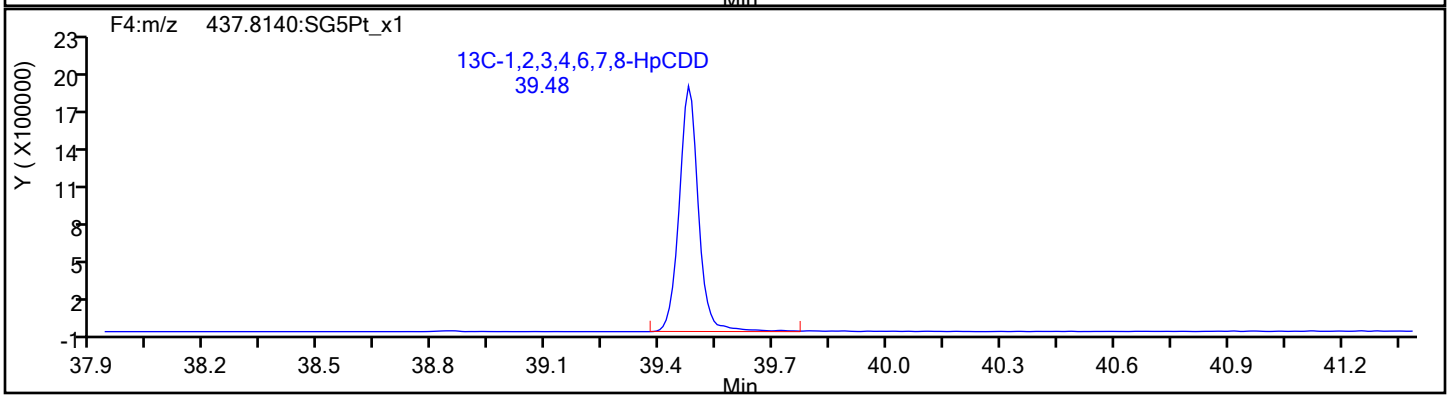
HpCDD





HpCDD Standards

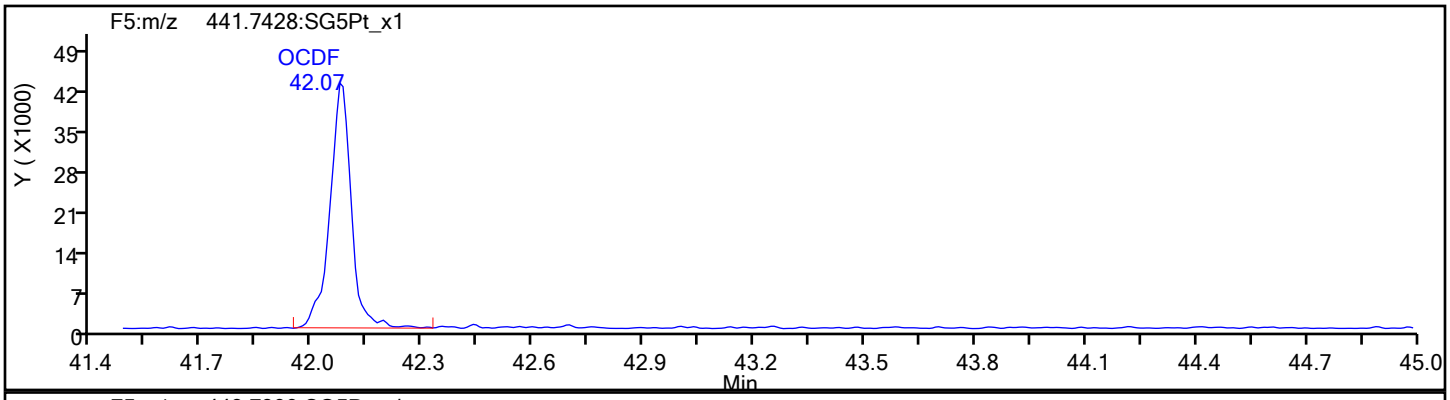


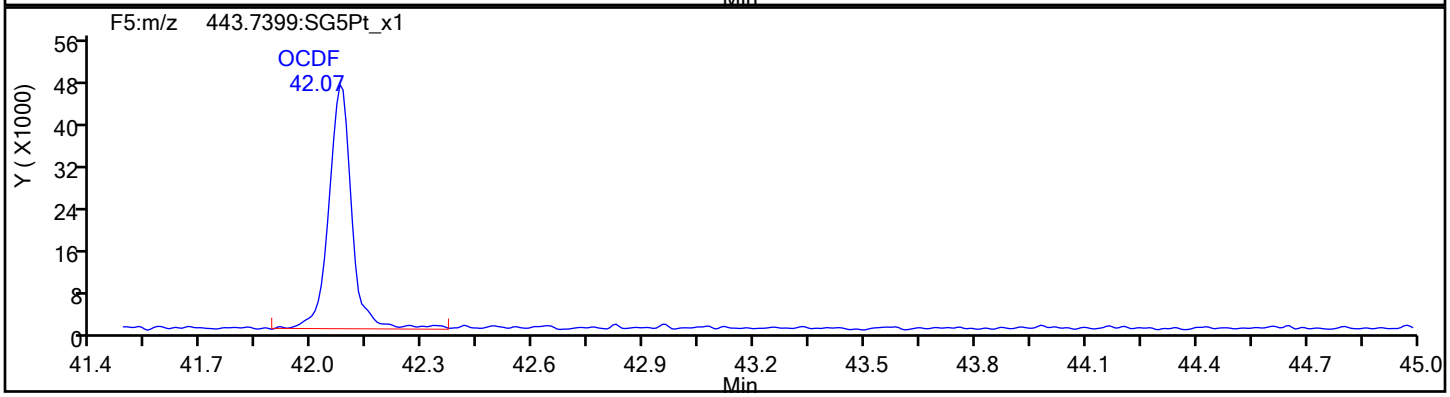


Eurofins TestAmerica, Sacramento

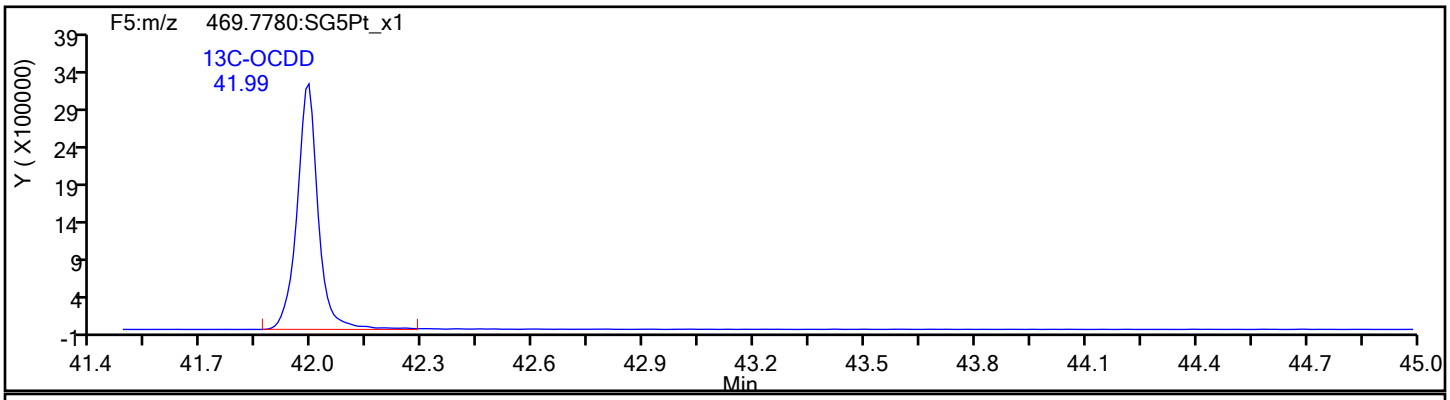
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

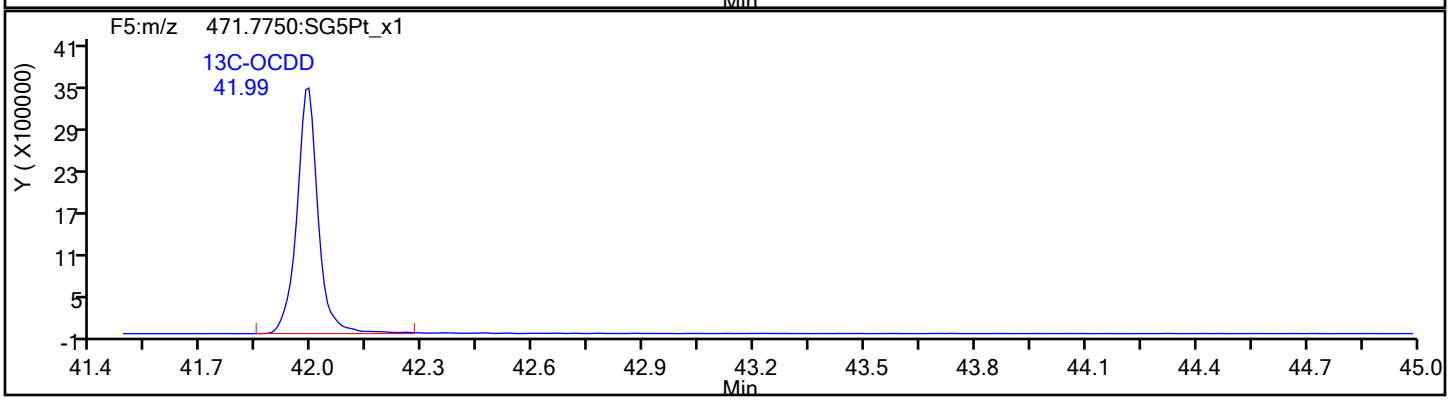
OCDF





OCDF Standards

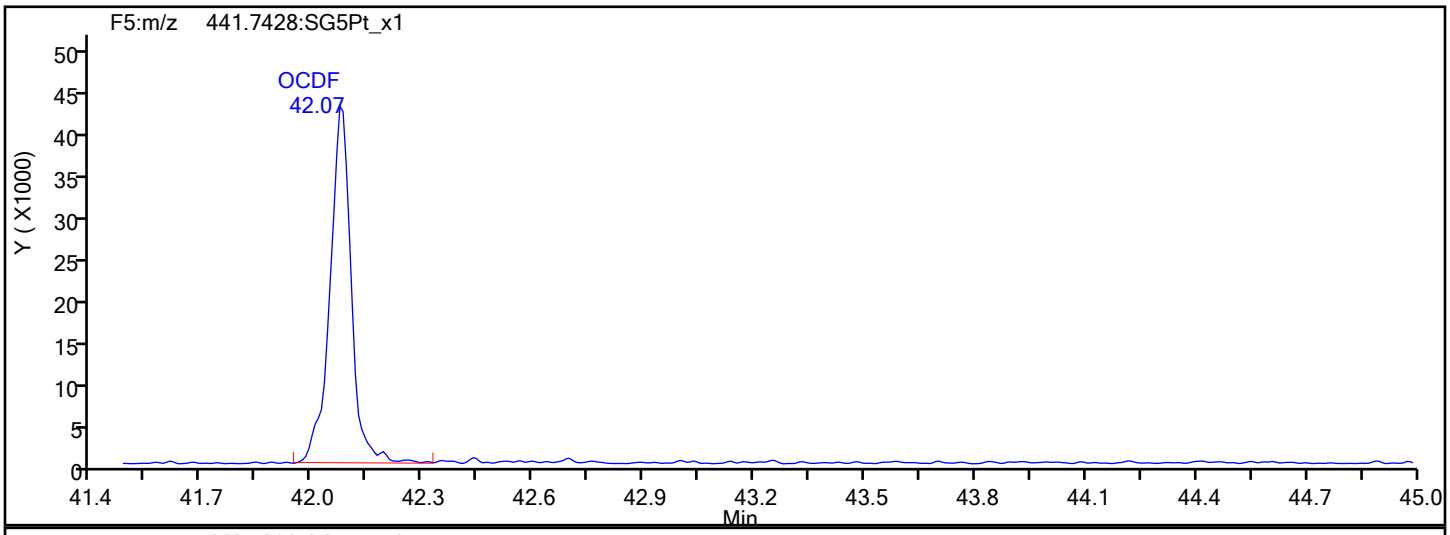


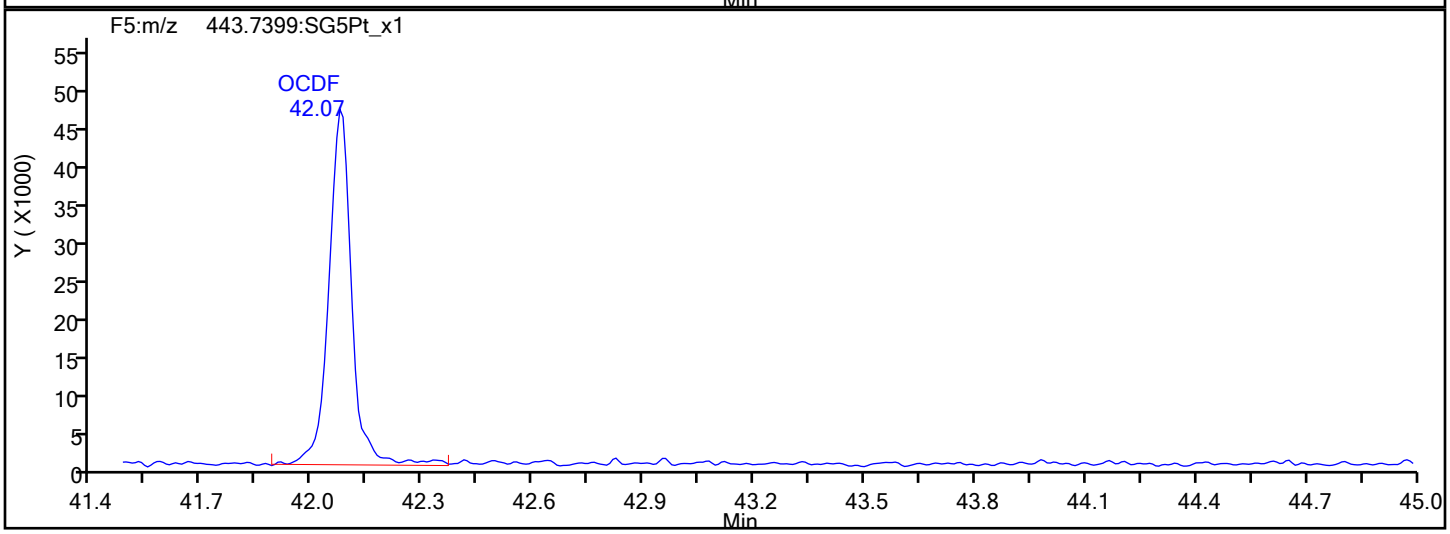


Eurofins TestAmerica, Sacramento

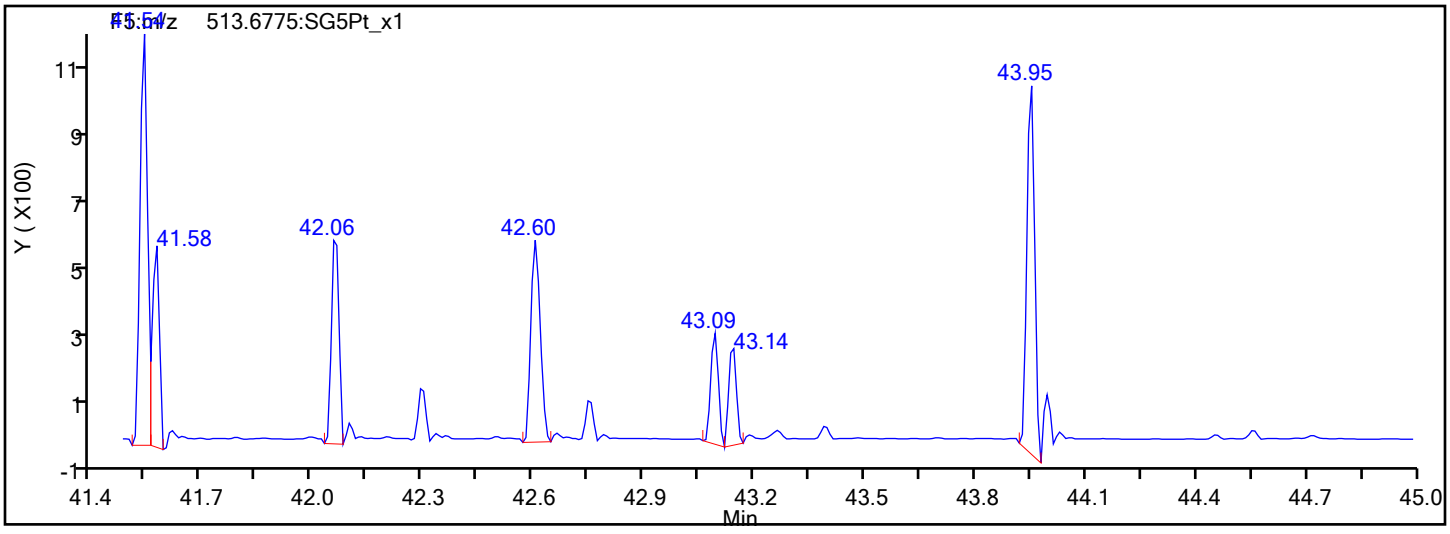
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

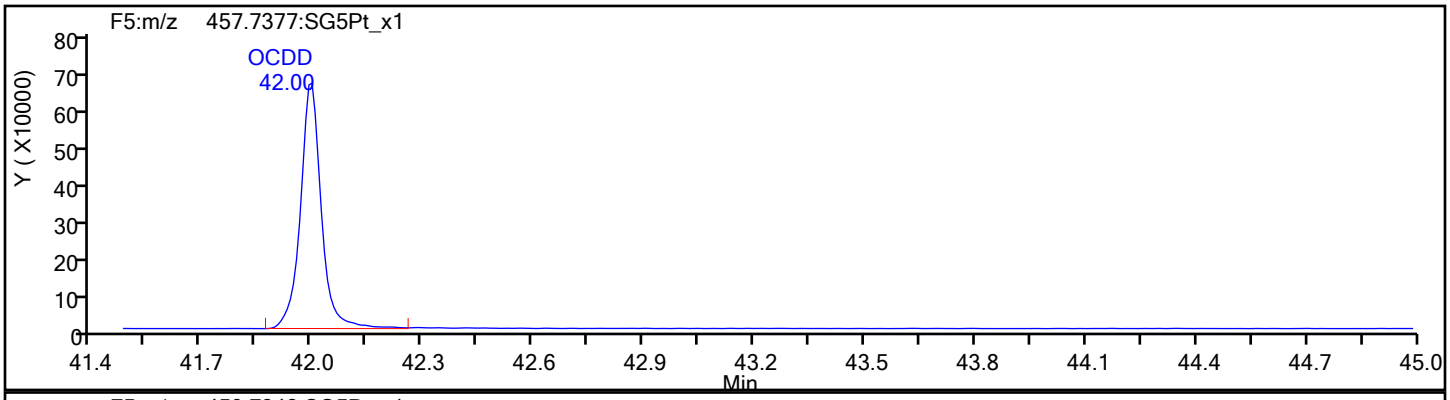


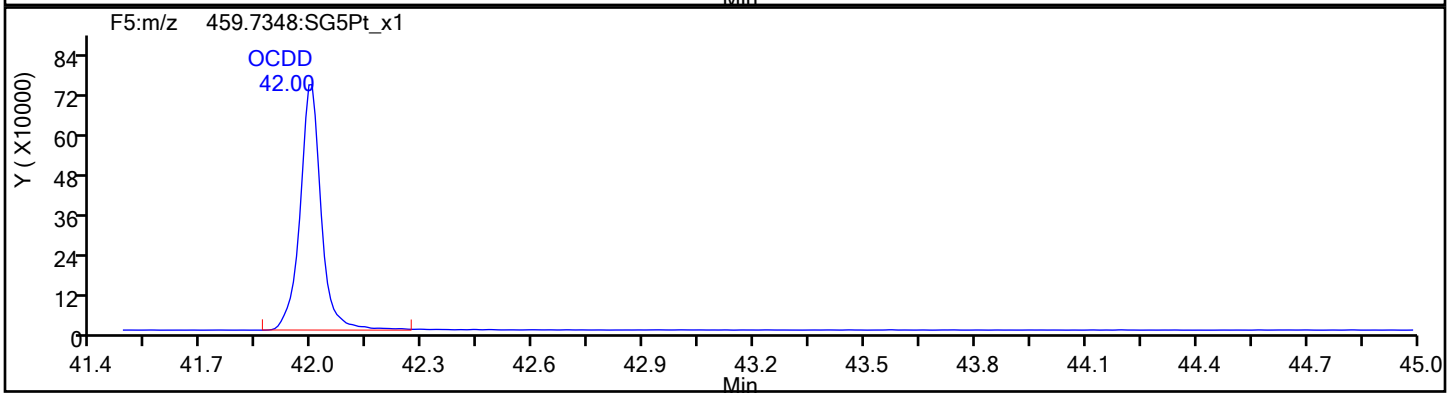
Report Date: 28-Dec-2021 14:24:48 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

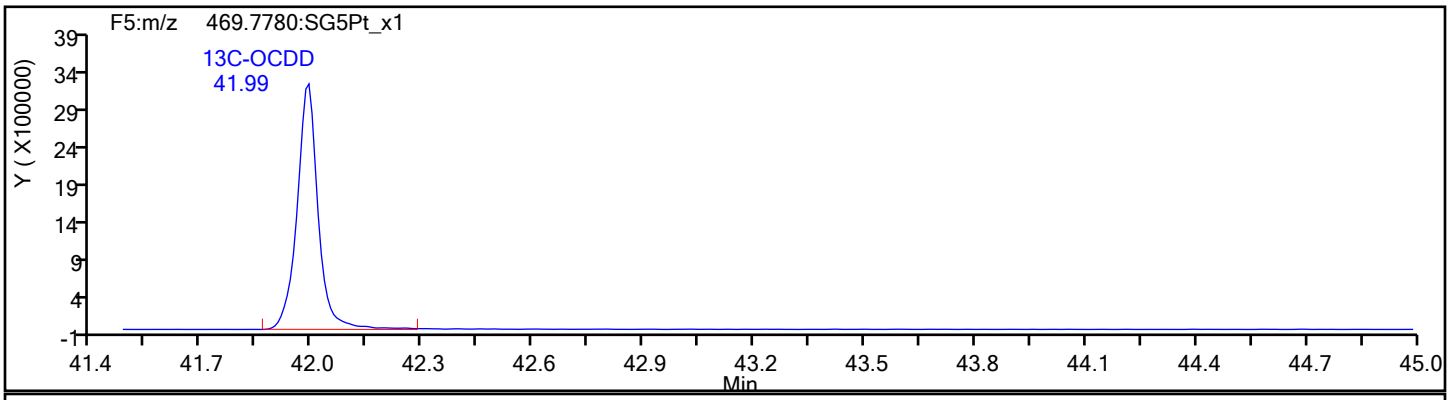
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

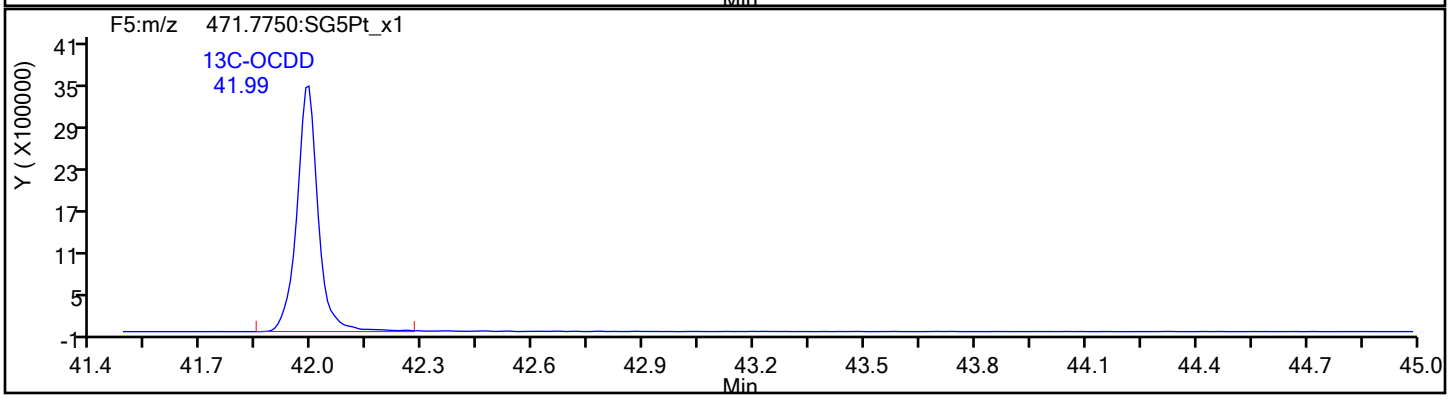
OCDD





OCDD Standards

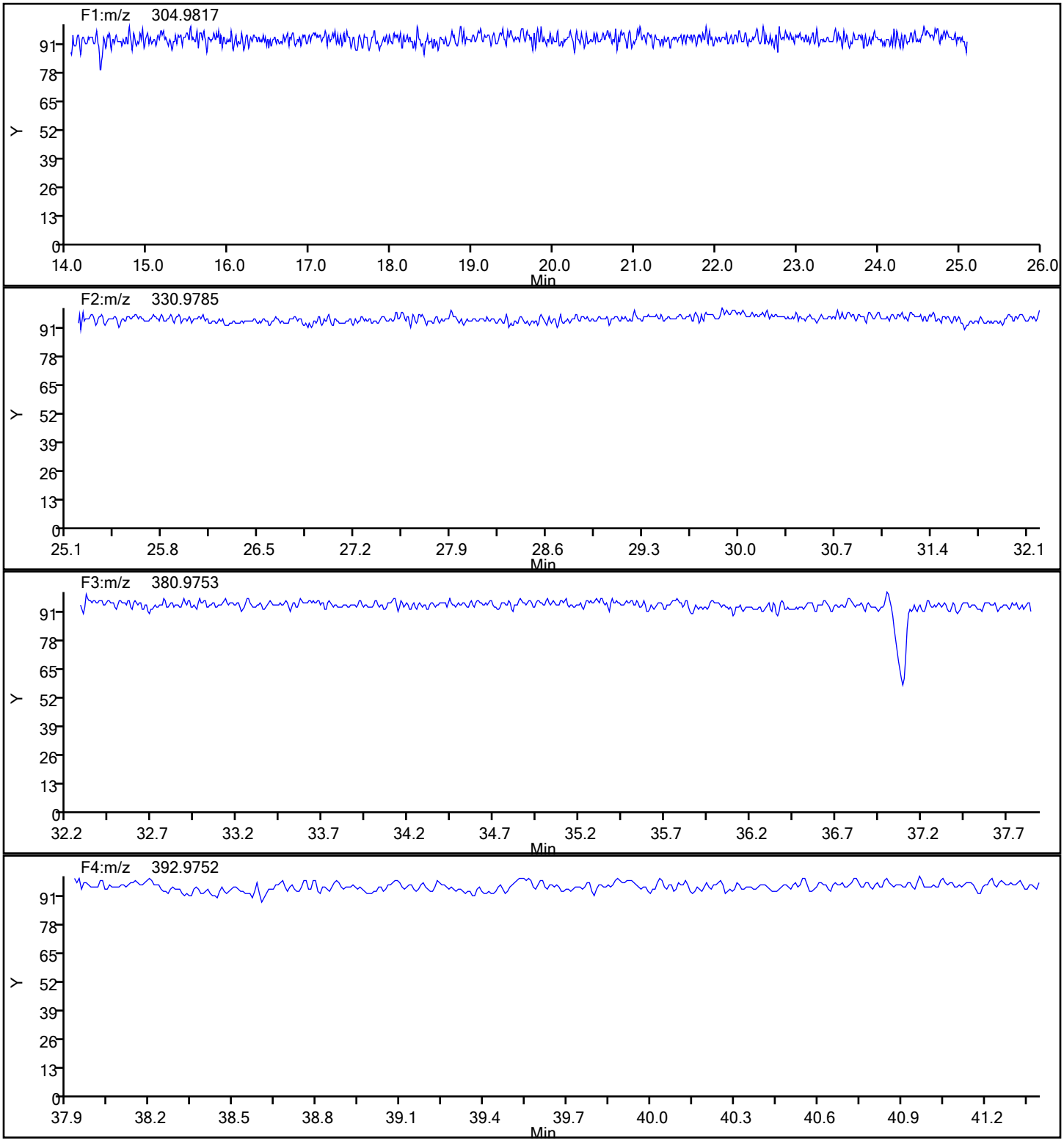




Report Date: 28-Dec-2021 14:24:48 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

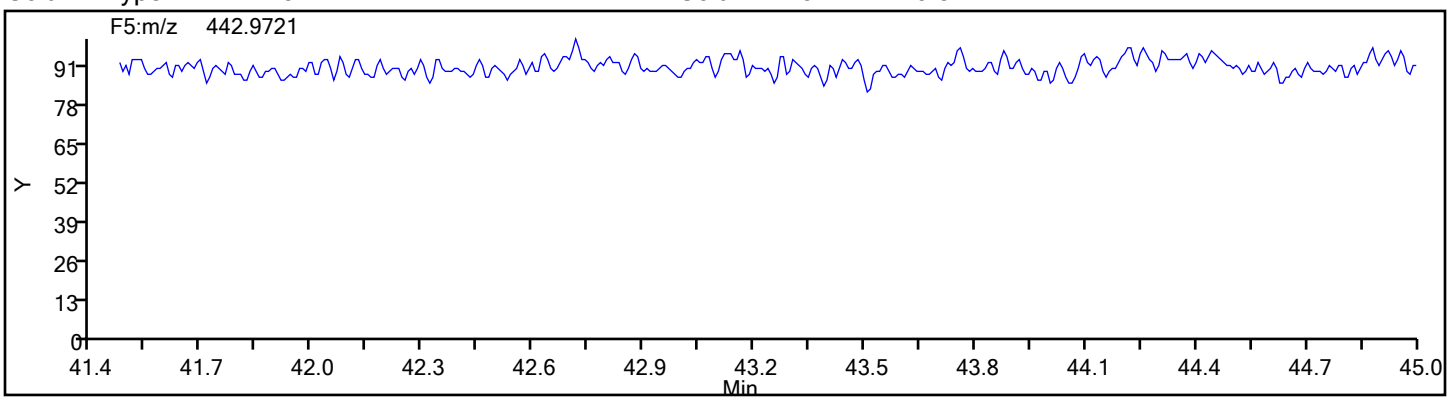
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 28-Dec-2021 14:24:48 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_18.d		
Injection Date:	28-Dec-2021 00:09:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S012		
Worklist#:	554312	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Client Sample ID: A2BMP0007S020 Lab Sample ID: 570-78855-2

Matrix: Water Lab File ID: 27de21adfs1_19.d

Analysis Method: 8290 Date Collected: 12/14/2021 08:30

Extract. Method: 8290 Date Extracted: 12/21/2021 08:52

Sample wt/vol: 1016.6(mL) Date Analyzed: 12/28/2021 00:57

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 554312 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.8	0.86
51207-31-9	2,3,7,8-TCDF	ND		9.8	0.36
40321-76-4	1,2,3,7,8-PeCDD	2.4	J	49	0.77
57117-41-6	1,2,3,7,8-PeCDF	0.92	J q B	49	0.35
57117-31-4	2,3,4,7,8-PeCDF	ND		49	0.36
39227-28-6	1,2,3,4,7,8-HxCDD	4.4	J B	49	0.49
57653-85-7	1,2,3,6,7,8-HxCDD	5.4	J B	49	0.49
19408-74-3	1,2,3,7,8,9-HxCDD	5.8	J B	49	0.45
70648-26-9	1,2,3,4,7,8-HxCDF	0.92	J q B	49	0.38
57117-44-9	1,2,3,6,7,8-HxCDF	1.1	J B	49	0.38
60851-34-5	2,3,4,6,7,8-HxCDF	0.88	J B	49	0.40
72918-21-9	1,2,3,7,8,9-HxCDF	1.3	J B	49	0.43
35822-46-9	1,2,3,4,6,7,8-HpCDD	110	B	49	1.1
67562-39-4	1,2,3,4,6,7,8-HpCDF	18	J B	49	0.62
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.7	J q B	49	0.71
3268-87-9	OCDD	970	B	98	1.6
39001-02-0	OCDF	48	J B	98	0.54

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	84		40-135
89059-46-1	13C-2,3,7,8-TCDF	86		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	77		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	82		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	91		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	82		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	86		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	86		40-135
114423-97-1	13C-OCDD	102		40-135

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d
Lims ID: 570-78855-F-2-A
Client ID: A2BMP0007S020
Sample Type: Client
Inject. Date: 28-Dec-2021 00:57:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-78855-f-2-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:37:42

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.944	26458078	0.83	2.2E+05	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.981	29235842	0.78	1.2917	85.5	85.5	0.2608	0.2608	85.55	
2,3,7,8-TCDF	20.025						0.0182	0.0182		
A Non-2,3,7,8-sub-TCDF	19.632						0.0182	0.0182		
S Total TCDF							0.0182	0.0182		
D 13C-2,3,7,8-TCDD	21.314	18288234	0.83	0.8271	83.6	83.6	0.2431	0.2431	83.57	
2,3,7,8-TCDD	21.384						0.0436	0.0436		
A Non-2,3,7,8-sub-TCDD	20.470						0.0436	0.0436		
S Total TCDD							0.0436	0.0436		
D 13C-1,2,3,7,8-PeCDF	26.917	25261913	1.59	1.1665	81.9	81.9	0.3594	0.3594	81.85	
1,2,3,7,8-PeCDF	26.968	12995	1.55	1.0987	0.0556	0.0468	0.0176	0.0176		RQM
2,3,4,7,8-PeCDF	28.486						0.0182	0.0182		
A F1 PeCDFs	24.442						0.007115	0.007115		
A Non-2,3,7,8-sub-PeCDF	27.884						0.0179	0.0179		
S Total PeCDF					0.0556	0.0468	0.0179	0.0179		RQ
D 13C-1,2,3,7,8-PeCDD	29.235	13981507	1.56	0.6835	77.3	77.3	0.1422	0.1422	77.31	
1,2,3,7,8-PeCDD	29.261	18740	1.56	1.1030	0.1215	0.1215	0.0390	0.0390		M
A Non-2,3,7,8-sub-PeCDD	28.134						0.0390	0.0390		
S Total PeCDD					0.1215	0.1215	0.0390	0.0390		
D 13C-1,2,3,4,7,8-HxCDF	34.690	28841554	0.54	1.1776	82.3	82.3	0.3707	0.3707	82.33	
1,2,3,4,7,8-HxCDF	34.715	12826	1.24	0.9504	0.0594	0.0468	0.0192	0.0192		RQM
1,2,3,6,7,8-HxCDF	34.884	15929	1.05	0.9524	0.0580	0.0580	0.0192	0.0192		Ma
2,3,4,6,7,8-HxCDF	35.710	11463	1.08	0.8893	0.0447	0.0447	0.0205	0.0205		M
D 13C-1,2,3,7,8,9-HxCDF	36.629	21930991	0.54							
1,2,3,7,8,9-HxCDF	36.645	16428	1.14	0.8433	0.0675	0.0675	0.0217	0.0217		M
A Non-2,3,7,8-sub-HxCDF	34.874	117585	1.25	0.9089	0.4486	0.4486	0.0201	0.2396		
S Total HxCDF					0.6782	0.6656	0.0201	0.0201		RQ
* 13C-1,2,3,7,8,9-HxCDD	36.435	29748467	1.29	2.6E+05	100.0	100.0				a
1,2,3,4,7,8-HxCDD	35.954	45175	1.14	1.0079	0.2259	0.2259	0.0251	0.0251		
D 13C-1,2,3,6,7,8-HxCDD	36.055	19841407	1.29	0.7339	90.9	90.9	0.2864	0.2864	90.88	
1,2,3,6,7,8-HxCDD	36.064	55218	1.40	1.0111	0.2752	0.2752	0.0250	0.0250		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.451	63869	1.22	1.0993	0.2928	0.2928	0.0230	0.0230		M
A Non-2,3,7,8-sub-HxCDD	35.257	154978	1.15	1.0394	0.7515	0.7515	0.0243	0.5123		
S Total HxCDD					1.545	1.545	0.0243	0.0243		
D 13C-1,2,3,4,6,7,8-HpCDF	38.495	17129341	0.47	0.6698	86.0	86.0	0.5024	0.5024	85.97	
1,2,3,4,6,7,8-HpCDF	38.512	232887	0.99	1.5184	0.8954	0.8954	0.0317	0.0317		
1,2,3,4,7,8,9-HpCDF	39.768	20200	1.04	1.3387	0.1022	0.0881	0.0360	0.0360		RQM
A Non-2,3,7,8-sub-HpCDF	39.191	339691	1.07	1.4286	1.388	1.388	0.0337	1.388		
S Total HpCDF					2.386	2.372	0.0338	0.0338		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	39.465	15136658	1.09	0.5943	85.6	85.6	0.2664	0.2664	85.62	
1,2,3,4,6,7,8-HpCDD	39.473	949682	1.04	1.0953	5.728	5.728	0.0578	0.0578		
A Non-2,3,7,8-sub-HpCDD	39.200	902567	1.05	1.0953	5.444	5.444	0.0578	5.444		
S Total HpCDD					11.2	11.2	0.0578	0.0578		
D 13C-OCDD	41.970	29286396	0.91	0.4838	203.5	203.5	0.3623	0.3623	102	
OCDF	42.063	497083	0.89	1.3979	2.428	2.428	0.0273	0.0273		
OCDD	41.978	8007370	0.90	1.1116	49.2	49.2	0.0795	0.0795		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d
Lims ID: 570-78855-F-2-A
Client ID: A2BMP0007S020
Sample Type: Client
Inject. Date: 28-Dec-2021 00:57:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-78855-f-2-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:37:42

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	20.944	20.980	-2		12016000	1750019	2101	5252	833		a
333.9338	20.936	20.980	-3		14442078	2101035	996	2490	2109	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.981	20.017	-2	0.954	12824057	1884477	3459	8647	545		
317.9389	19.981	20.017	-2	0.954	16411785	2362577	1731	4327	1365	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	20.025						33	82			
305.8987	20.025						308	770			
A Non-2,3,7,8-sub-TCDF											
303.9016	19.632						33	82			
305.8987	19.632						308	770			
13C-2,3,7,8-TCDD											
331.9368	21.314	21.350	-2	1.018	8308097	1165434	2101	5252	555		
333.9338	21.314	21.350	-2	1.018	9980137	1411254	996	2490	1417	0.83(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.384						415	1037			
321.8936	21.384						89	222			
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						415	1037			
321.8936	20.470						89	222			
13C-1,2,3,7,8-PeCDF											
351.9000	26.917	26.962	-3	1.285	15524758	2482885	3249	8122	764		
353.8970	26.926	26.962	-2	1.286	9737155	1557845	3209	8022	485	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											RQM
339.8597	26.968	26.979	-1	1.002	7899	1665	53	132	31		M
341.8567	26.934	26.979	-3	1.001	7541	1587	259	647	6	1.05(1.32-1.78)	M
	Empc Correction				5096	1074	259	647	4		

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.486						53	132			
341.8567	28.486						259	647			
A F1 PeCDFs											
339.8597	24.442						2	5			
341.8567	24.442						122	305			
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.884						53	132			
341.8567	27.884						259	647			
13C-1,2,3,7,8-PeCDD											
367.8949	29.235	29.269	-2	1.396	8529057	1226383	646	1615	1898		
369.8919	29.227	29.269	-3	1.395	5452450	773655	851	2127	909	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											M
355.8546	29.261	29.303	-3	1.001	11412	1614	301	752	5		M
357.8516	29.269	29.303	-2	1.001	7328	1449	43	107	34	1.56(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDD											
355.8546	28.134						301	752			
357.8516	28.134						43	107			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.690	34.727	-2	0.952	10090423	2005971	4039	10097	497		
385.8610	34.690	34.727	-2	0.952	18751131	3700788	7702	19255	480	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											RQM
373.8208	34.715	34.752	-2	1.001	10558	2251	261	652	9		M
	Empc Correction				7100	1227	261	652	5		
375.8178	34.682	34.752	-4	1.000	5726	990	156	390	6	1.84(1.05-1.43)	M
1,2,3,6,7,8-HxCDF											Ma
373.8208	34.884	34.920	-2	1.006	8158	1301	261	652	5		M
375.8178	34.875	34.920	-3	1.005	7771	1431	156	390	9	1.05(1.05-1.43)	
2,3,4,6,7,8-HxCDF											M
373.8208	35.710	35.762	-3	1.029	5959	1770	261	652	7		M
375.8178	35.727	35.762	-2	1.030	5504	1563	156	390	10	1.08(1.05-1.43)	M
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.629	36.655	-2	1.005	7668482	1728387	4039	10097	428		
385.8610	36.629	36.655	-2	1.005	14262509	3278447	7702	19255	426	0.54(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.645	36.671	-2	1.056	8757	2259	261	652	9		M
375.8178	36.637	36.671	-2	1.056	7671	2067	156	390	13	1.14(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	33.157	34.874	-103	0.956	30018	5347	261	652	20		
375.8178	33.157	34.874	-103	0.956	24768	4461	156	390	29	1.21(1.05-1.43)	
373.8208	34.067	34.874	-48	0.982	35387	5677	261	652	22		
375.8178	34.067	34.874	-48	0.982	27412	4546	156	390	29	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											a
401.8559	36.435	36.469	-2		16733080	3802780	3131	7827	1215		a
403.8529	36.435	36.469	-2		13015387	2921124	2523	6307	1158	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											
389.8158	35.954	35.981	-2	0.997	24022	6187	215	537	29		
391.8127	35.954	35.981	-2	0.997	21153	4494	217	542	21	1.14(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.055	36.090	-2	0.990	11186850	2426659	3131	7827	775		
403.8529	36.055	36.090	-2	0.990	8654557	1850336	2523	6307	733	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	36.064	36.107	-3	1.000	32245	6985	215	537	32		
391.8127	36.064	36.107	-3	1.000	22973	5003	217	542	23	1.40(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8158	36.451	36.478	-2	1.011	35053	7751	215	537	36		M
391.8127	36.460	36.478	-1	1.011	28816	5403	217	542	25	1.22(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	33.991	35.257	-76	0.943	26947	4965	215	537	23		
391.8127	33.974	35.257	-77	0.942	22371	4194	217	542	19	1.20(1.05-1.43)	
389.8158	35.154	35.257	-6	0.975	55992	9832	215	537	46		
391.8127	35.162	35.257	-6	0.975	49668	8689	217	542	40	1.13(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.495	38.526	-2	1.057	5445163	1458283	3364	8410	433		
419.8220	38.495	38.526	-2	1.057	11684178	3137487	5687	14217	552	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.512	38.543	-2	1.000	115655	32892	624	1560	53		
409.7788	38.504	38.543	-2	1.000	117232	30982	261	652	119	0.99(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											RQM
407.7817	39.768	39.806	-2	1.033	13540	2756	624	1560	4		M
	Empc Correction				10298	2809	624	1560	5		
409.7788	39.768	39.806	-2	1.033	9902	2701	261	652	10	1.37(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.883	39.191	-18	1.010	175862	49618	624	1560	80		
409.7788	38.883	39.191	-18	1.010	163829	43551	261	652	167	1.07(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.465	39.495	-2	1.083	7880003	2260716	2187	5467	1034		
437.8140	39.465	39.495	-2	1.083	7256655	2058774	2071	5177	994	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.473	39.503	-2	1.000	483607	140758	648	1620	217		
425.7737	39.473	39.503	-2	1.000	466075	130435	446	1115	292	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.824	39.200	-23	0.984	461237	126514	648	1620	195		
425.7737	38.824	39.200	-23	0.984	441330	124449	446	1115	279	1.05(0.88-1.20)	
13C-OCDD											
469.7780	41.970	42.008	-2	1.152	13967740	3571624	2385	5962	1498		
471.7750	41.970	42.008	-2	1.152	15318656	3894062	2329	5822	1672	0.91(0.76-1.02)	
OCDF											
441.7428	42.063	42.101	-2	1.002	233837	59285	162	405	366		
443.7399	42.063	42.101	-2	1.002	263246	66740	407	1017	164	0.89(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	41.978	42.016	-2	1.000	3789800	954045	620	1550	1539		
459.7348	41.978	42.016	-2	1.000	4217570	1067452	700	1750	1525	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d
Lims ID: 570-78855-F-2-A
Client ID: A2BMP0007S020
Inject. Date: 28-Dec-2021 00:57:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDF, RT: 34.874

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.950	D 13C-1,2,3,4,7,8-HxCDF	100.000	28841554	5706759
1,2,3,6,7,8-HxCDF	0.952				
2,3,4,6,7,8-HxCDF	0.889				
1,2,3,7,8,9-HxCDF	0.843				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.909		100.000	28841554	5706759

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
33.157	30018	5347	24768	4461	0.2090	1.21	
34.067	35387	5677	27412	4546	0.2396	1.29	
Signal Totals:							
	65405	11024	52180	9007			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	117585	20031				1.25	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4486 = (117585 * 100.000) / (28841554 * 0.909)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d
Lims ID: 570-78855-F-2-A
Client ID: A2BMP0007S020
Inject. Date: 28-Dec-2021 00:57:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDD, RT: 35.257

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.008	D 13C-1,2,3,6,7,8-HxCDD	100.000	19841407	4276995
1,2,3,6,7,8-HxCDD	1.011				
1,2,3,7,8,9-HxCDD	1.099				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.039		100.000	19841407	4276995

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.991	26947	4965	22371	4194	0.2391	1.20	
35.154	55992	9832	49668	8689	0.5123	1.13	
Signal Totals:							
	82939	14797	72039	12883			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	154978	27680				1.15	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7515 = (154978 * 100.000) / (19841407 * 1.039)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d
Lims ID: 570-78855-F-2-A
Client ID: A2BMP0007S020
Inject. Date: 28-Dec-2021 00:57:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDF, RT: 39.191

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.518	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	17129341	4595770
1,2,3,4,7,8,9-HpCDF	1.339				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.429		100.000	17129341	4595770

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.883	175862	49618	163829	43551	1.39	1.07	
Signal Totals:							
	175862	49618	163829	43551			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	339691	93169				1.07	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.388 = (339691 * 100.000) / (17129341 * 1.429)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d
Lims ID: 570-78855-F-2-A
Client ID: A2BMP0007S020
Inject. Date: 28-Dec-2021 00:57:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDD, RT: 39.200

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.095	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	15136658	4319490

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.095		100.000	15136658	4319490

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.824	461237	126514	441330	124449	5.44	1.05	
Signal Totals:							
	461237	126514	441330	124449			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	902567	250963				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.444 = (902567 * 100.000) / (15136658 * 1.095)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

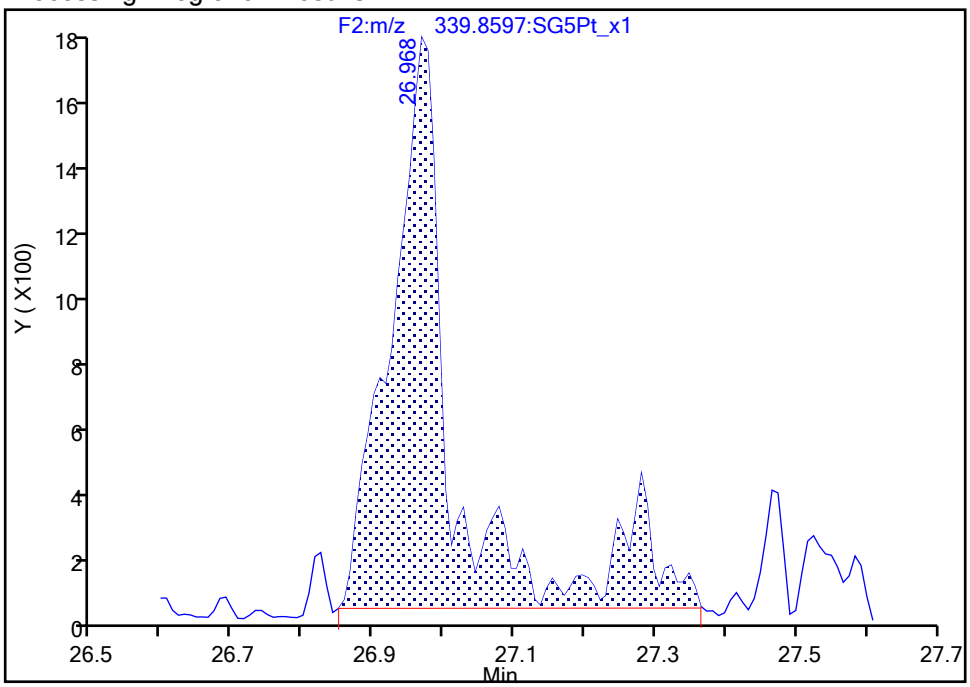
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

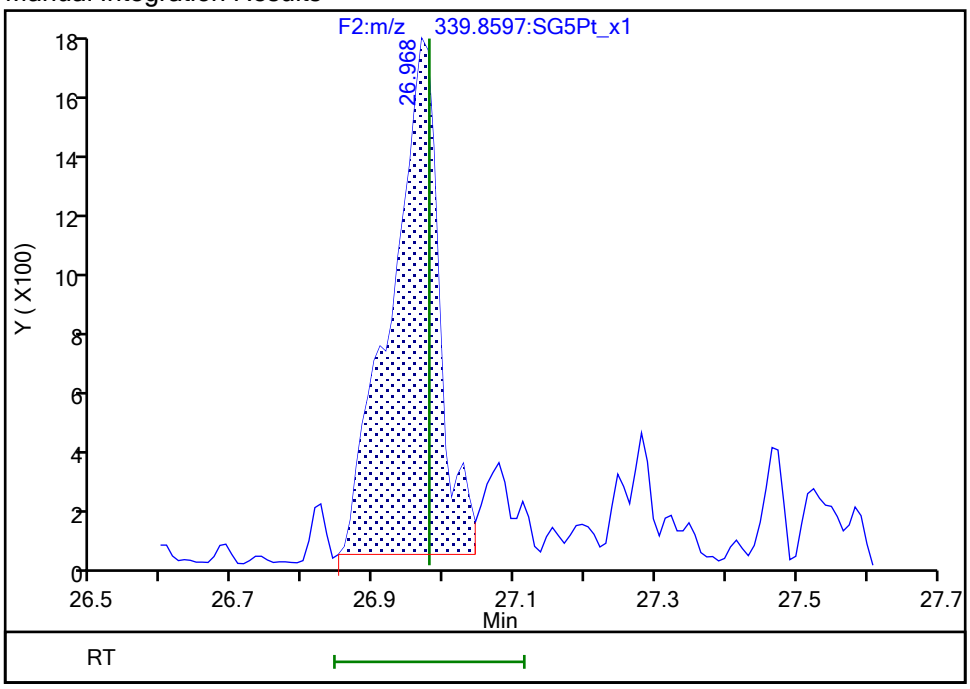
Processing Integration Results

RT: 26.97
Area: 10410
Amount: 0.062257
Amount Units: pg/ul



Manual Integration Results

RT: 26.97
Area: 7899
Amount: 0.055628
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:59:54
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

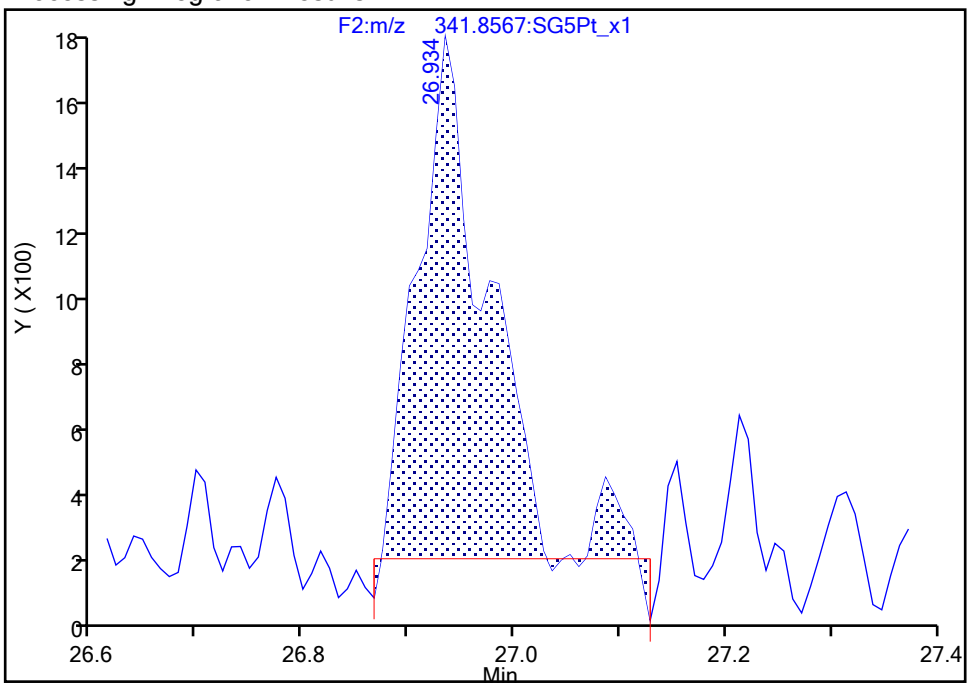
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

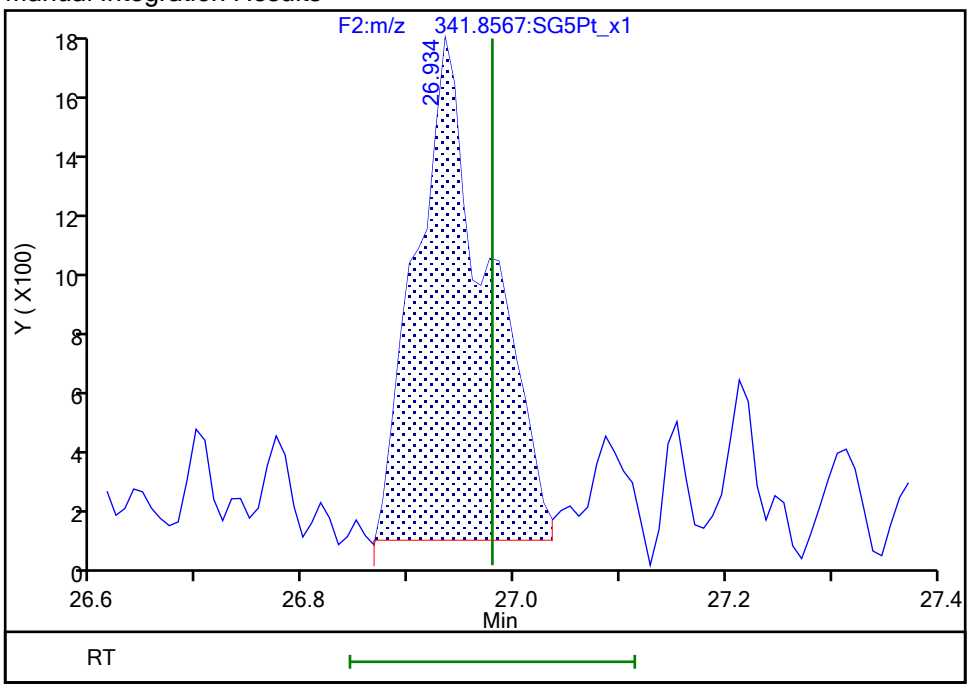
Processing Integration Results

RT: 26.93
Area: 6870
Amount: 0.062257
Amount Units: pg/ul



Manual Integration Results

RT: 26.93
Area: 7541
Amount: 0.055628
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:00:04
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

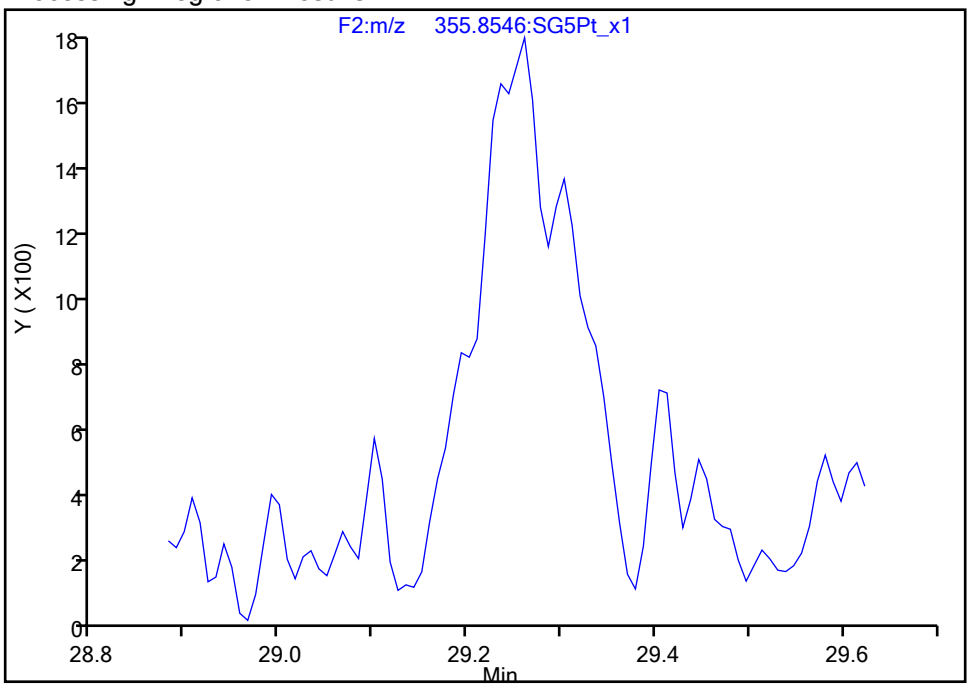
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 1

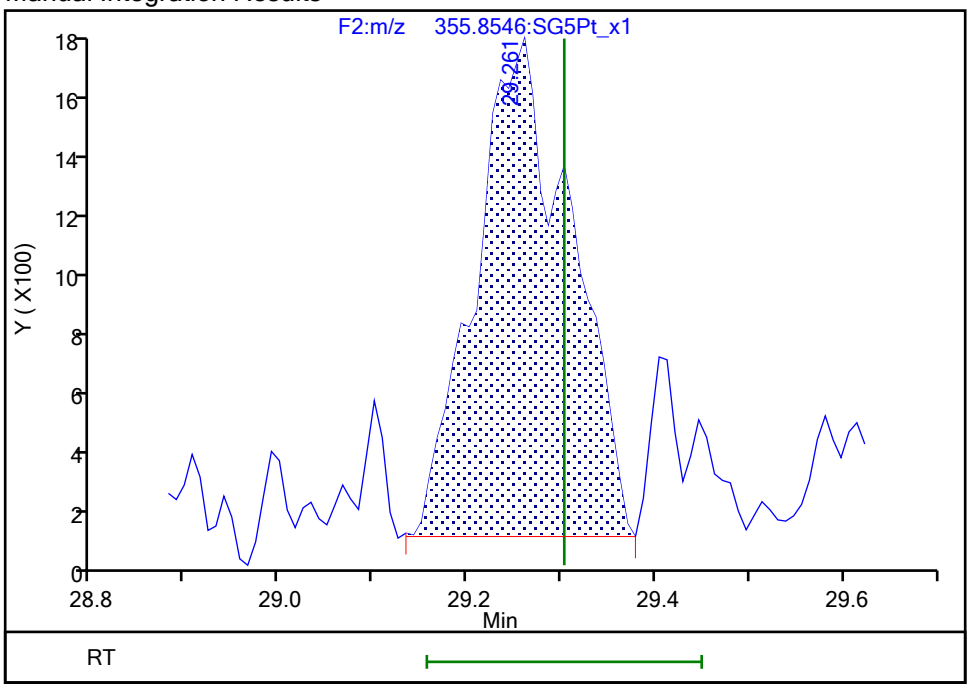
Not Detected
Expected RT: 29.30

Processing Integration Results



Manual Integration Results

RT: 29.26
Area: 11412
Amount: 0.121522
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:00:27
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

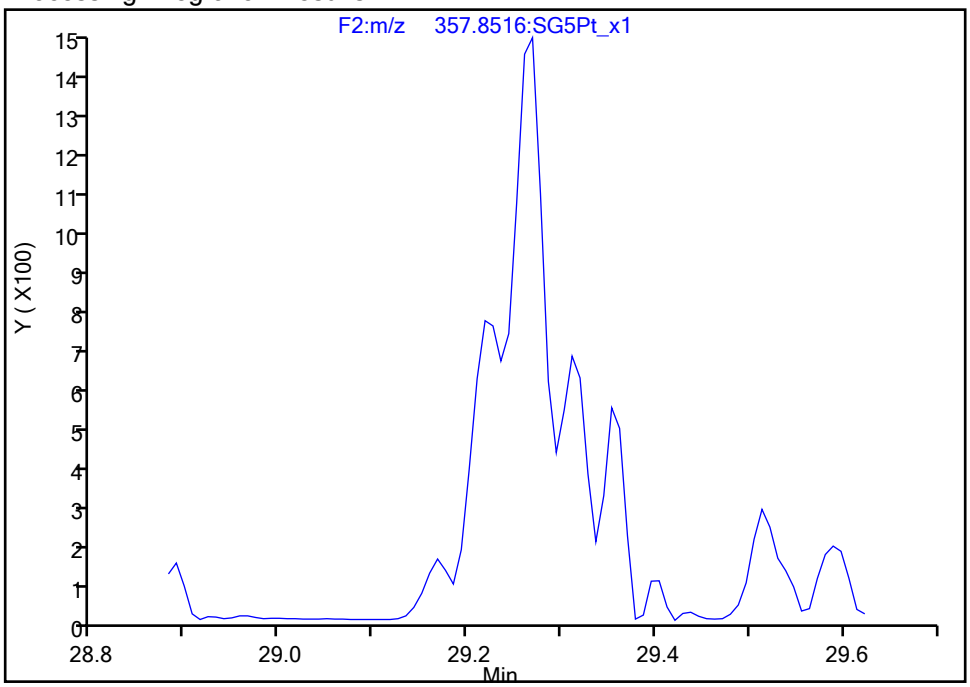
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

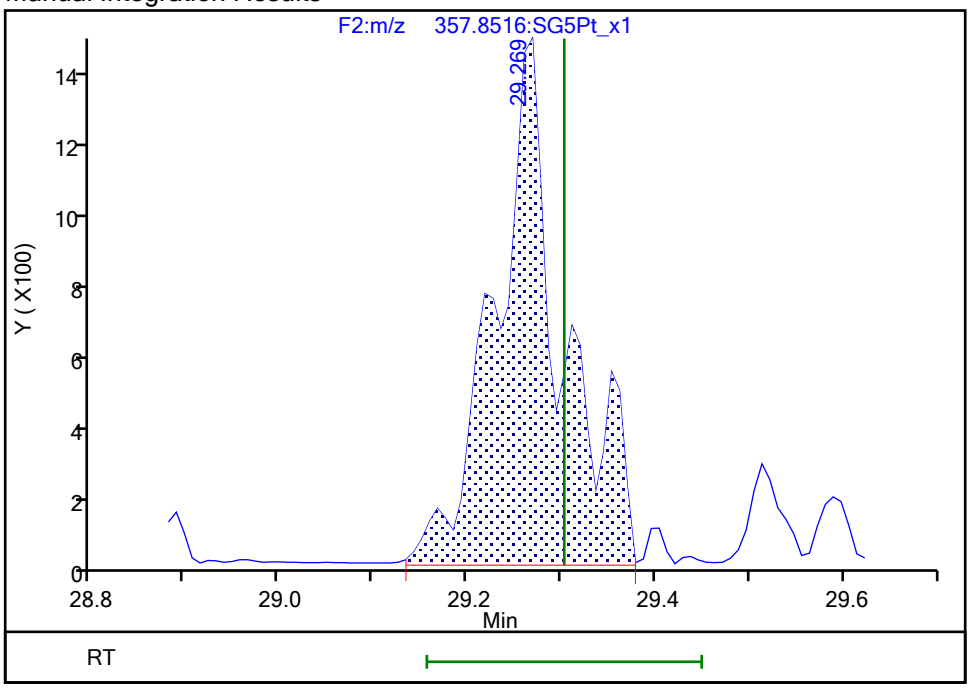
Processing Integration Results

Not Detected
Expected RT: 29.30



Manual Integration Results

RT: 29.27
Area: 7328
Amount: 0.121522
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:00:32
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

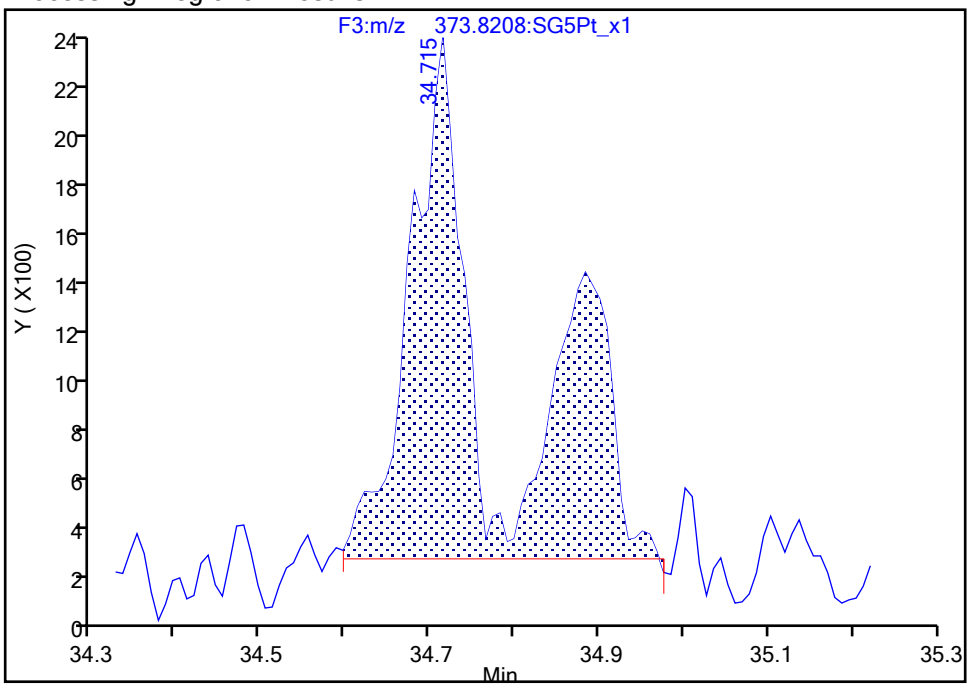
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

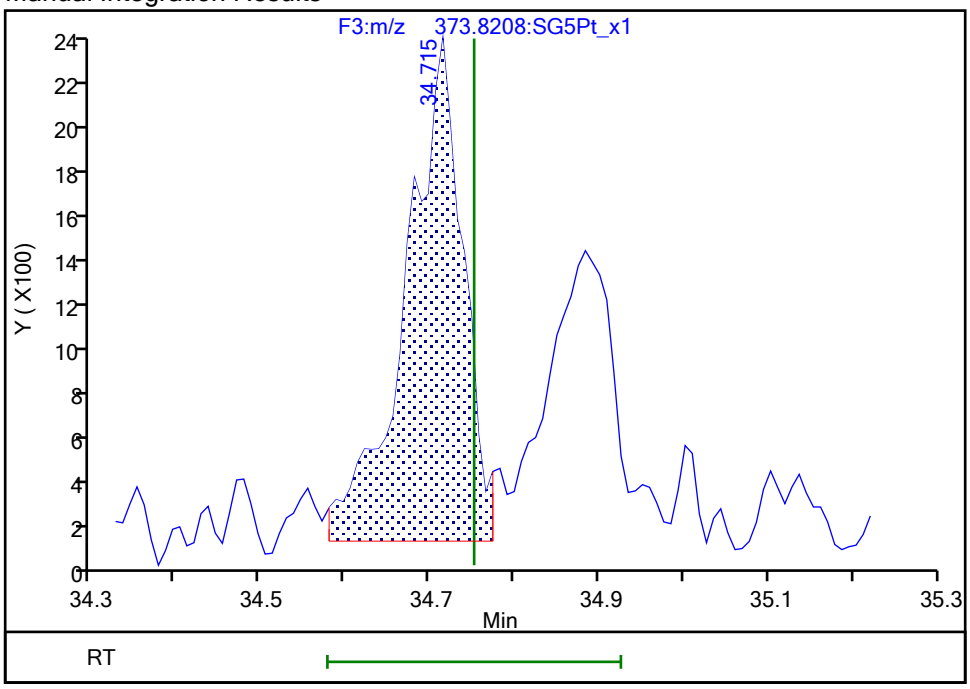
Processing Integration Results

RT: 34.72
Area: 14683
Amount: 0.077553
Amount Units: pg/ul



Manual Integration Results

RT: 34.72
Area: 10558
Amount: 0.059404
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:01:06

Audit Action: Split an Integrated Peak Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

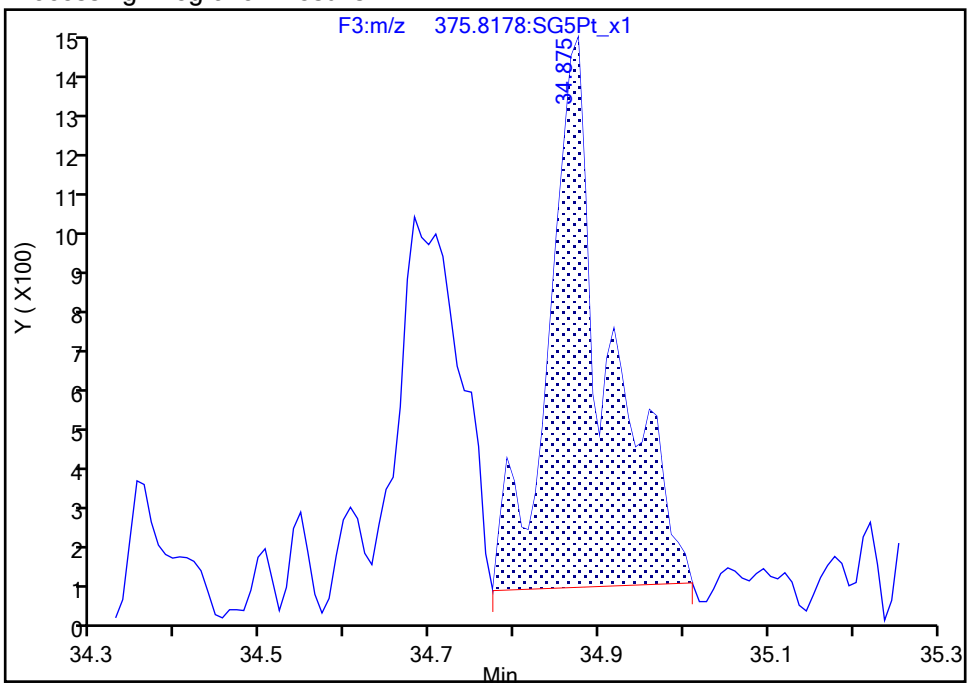
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

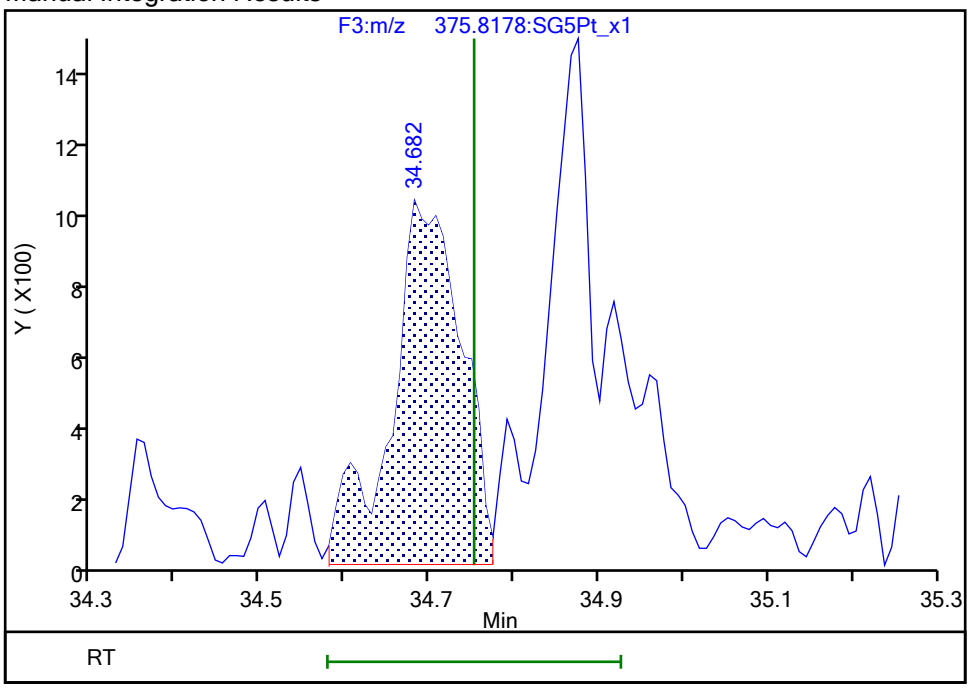
Processing Integration Results

RT: 34.88
Area: 6576
Amount: 0.077553
Amount Units: pg/ul



Manual Integration Results

RT: 34.68
Area: 5726
Amount: 0.059404
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:01:09
Audit Action: Split an Integrated Peak Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

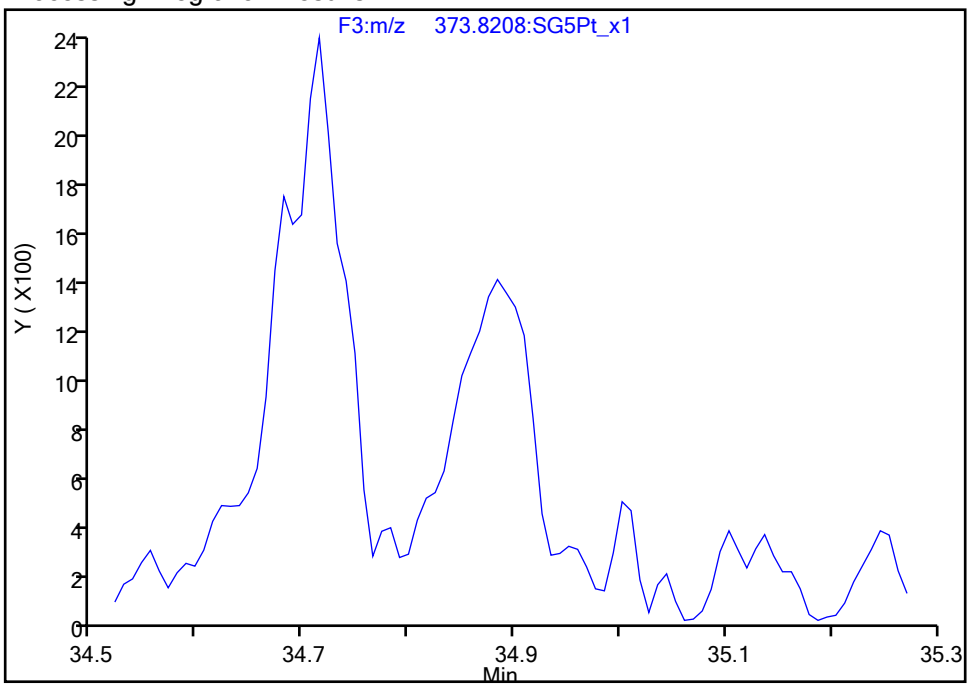
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

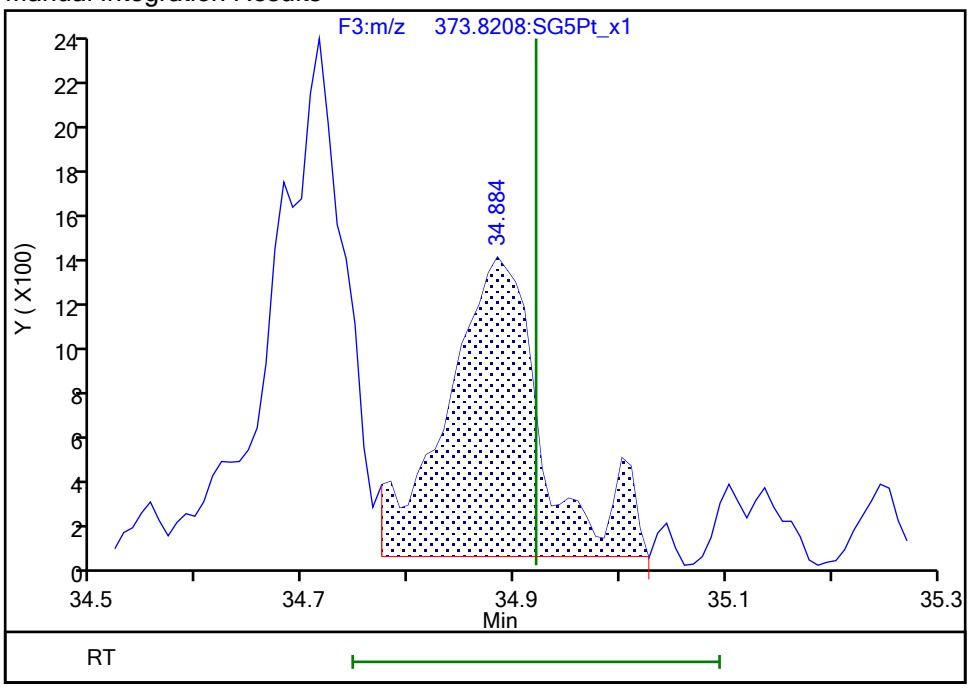
Not Detected
Expected RT: 34.92

Processing Integration Results



Manual Integration Results

RT: 34.88
Area: 8158
Amount: 0.057989
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:01:12
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

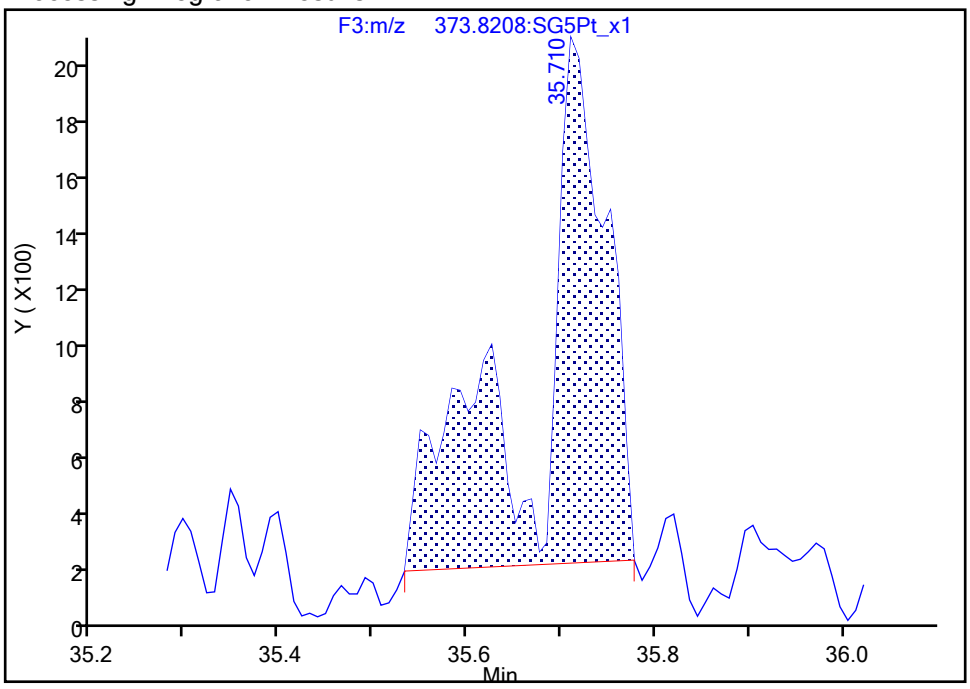
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

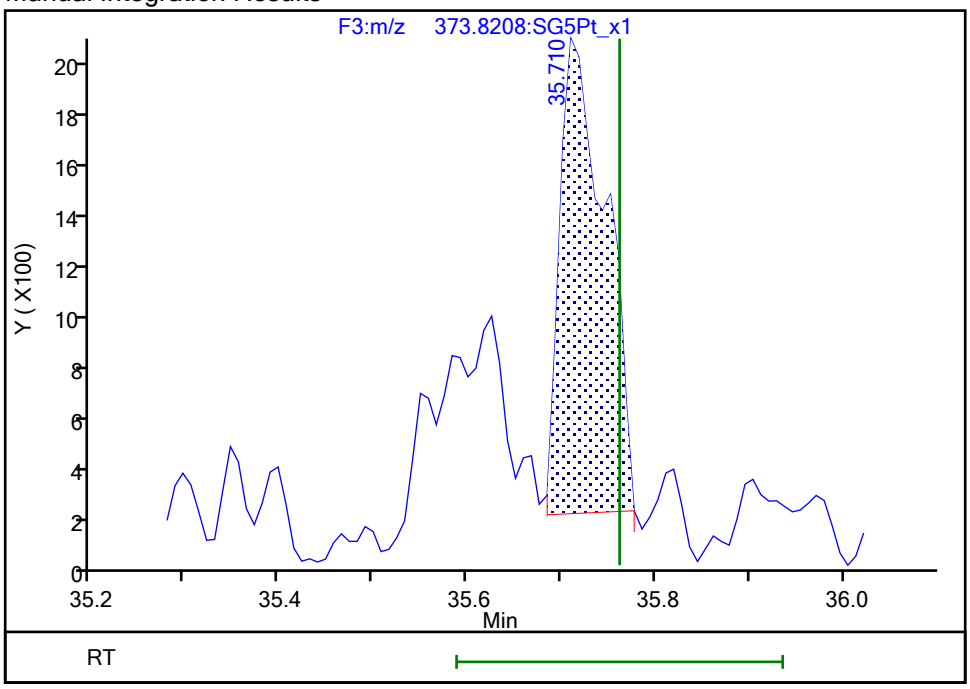
Processing Integration Results

RT: 35.71
Area: 9596
Amount: 0.070508
Amount Units: pg/ul



Manual Integration Results

RT: 35.71
Area: 5959
Amount: 0.044693
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:02:01

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

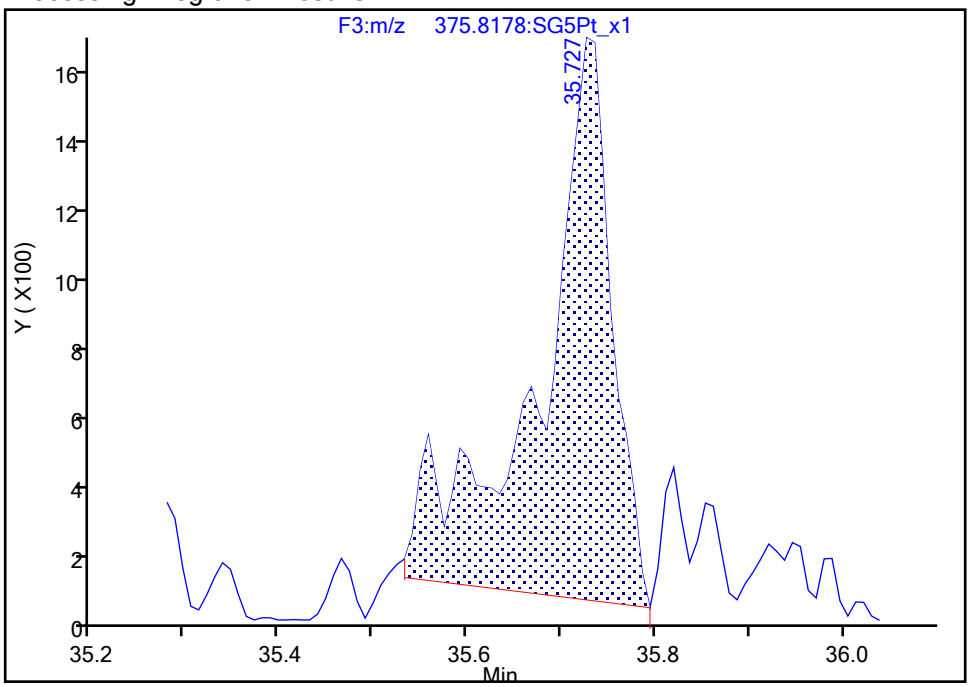
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

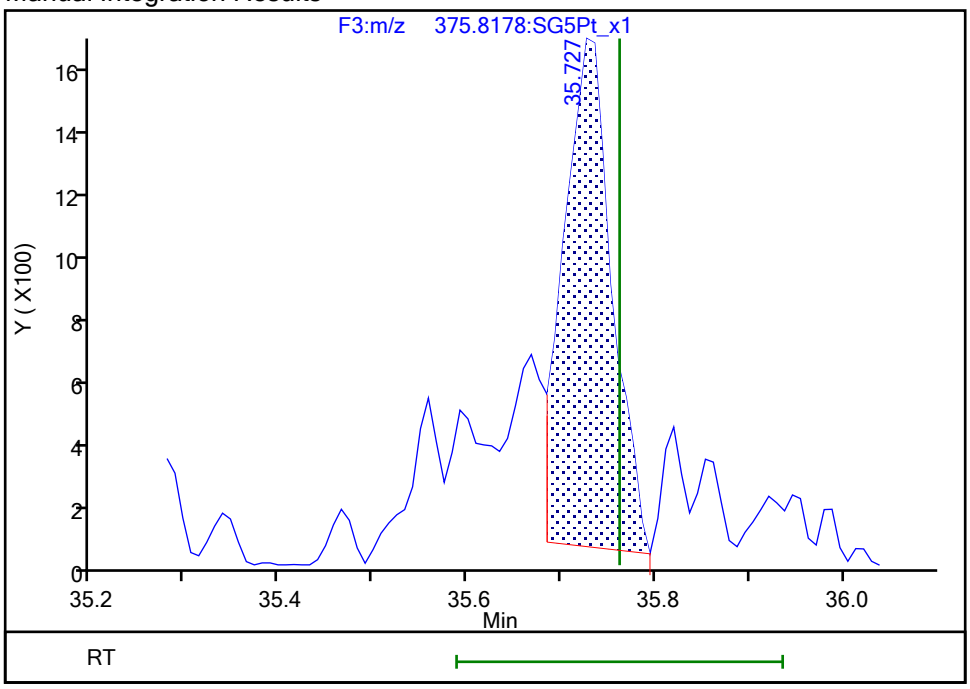
Processing Integration Results

RT: 35.73
Area: 8488
Amount: 0.070508
Amount Units: pg/ul



Manual Integration Results

RT: 35.73
Area: 5504
Amount: 0.044693
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:02:04
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

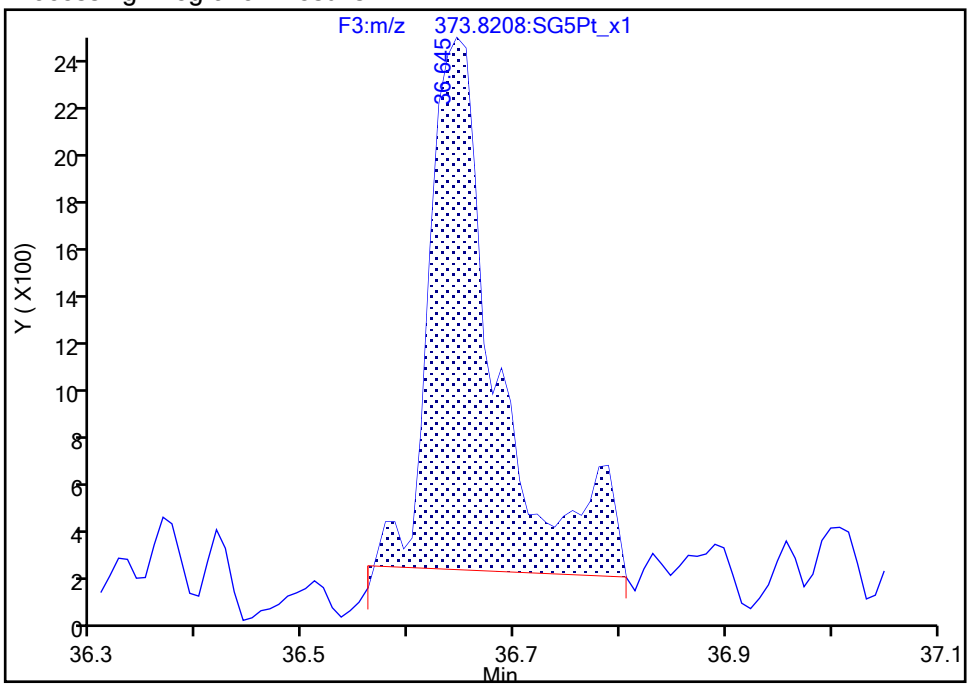
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

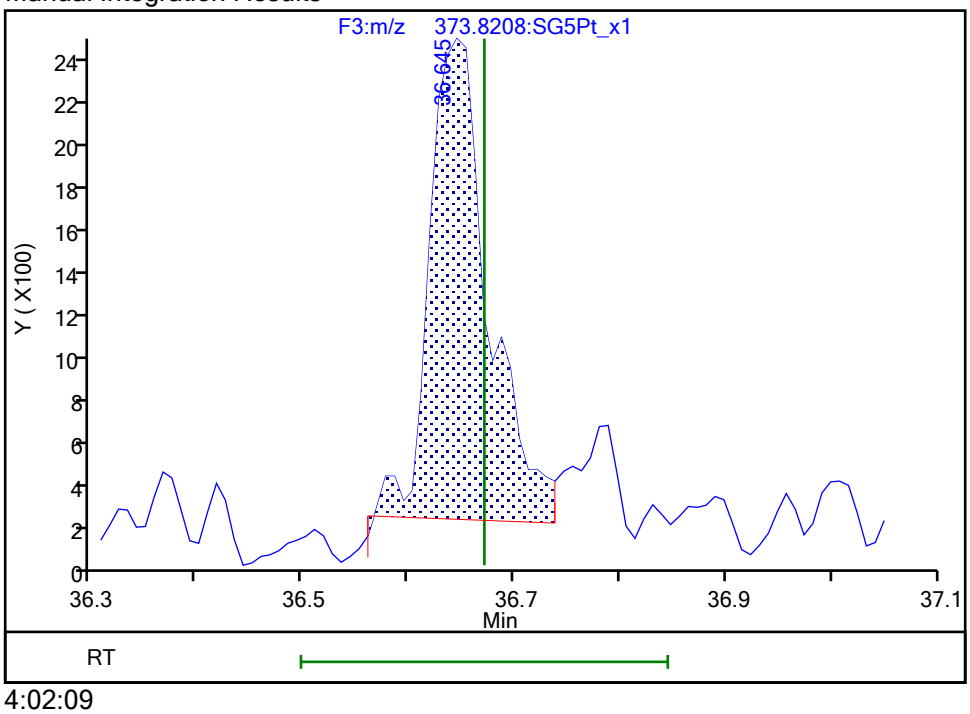
Processing Integration Results

RT: 36.65
Area: 9951
Amount: 0.079973
Amount Units: pg/ul



Manual Integration Results

RT: 36.65
Area: 8757
Amount: 0.067544
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:02:09
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

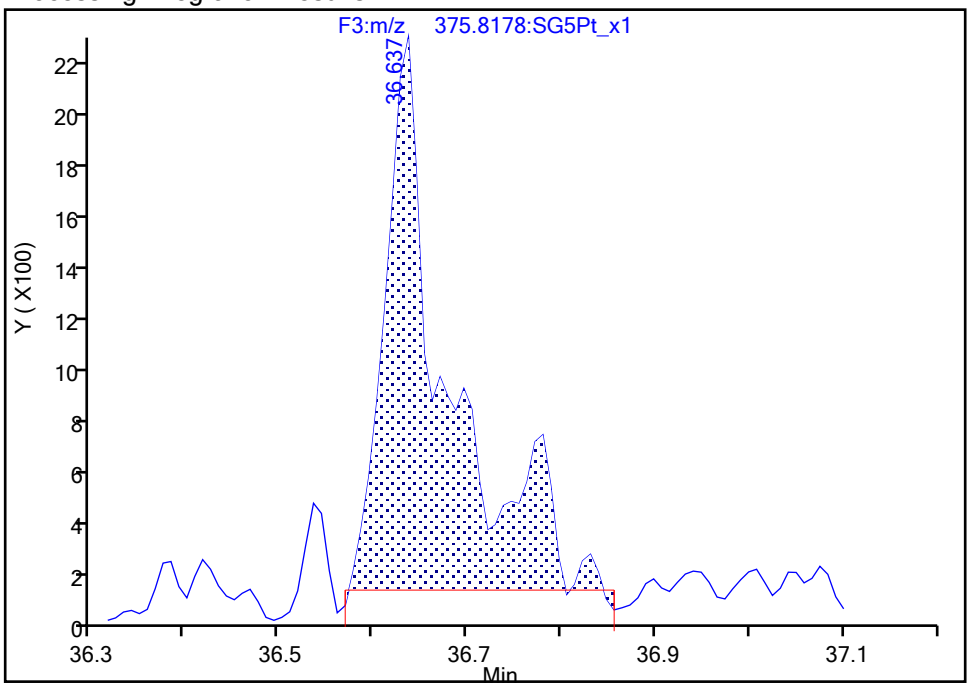
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

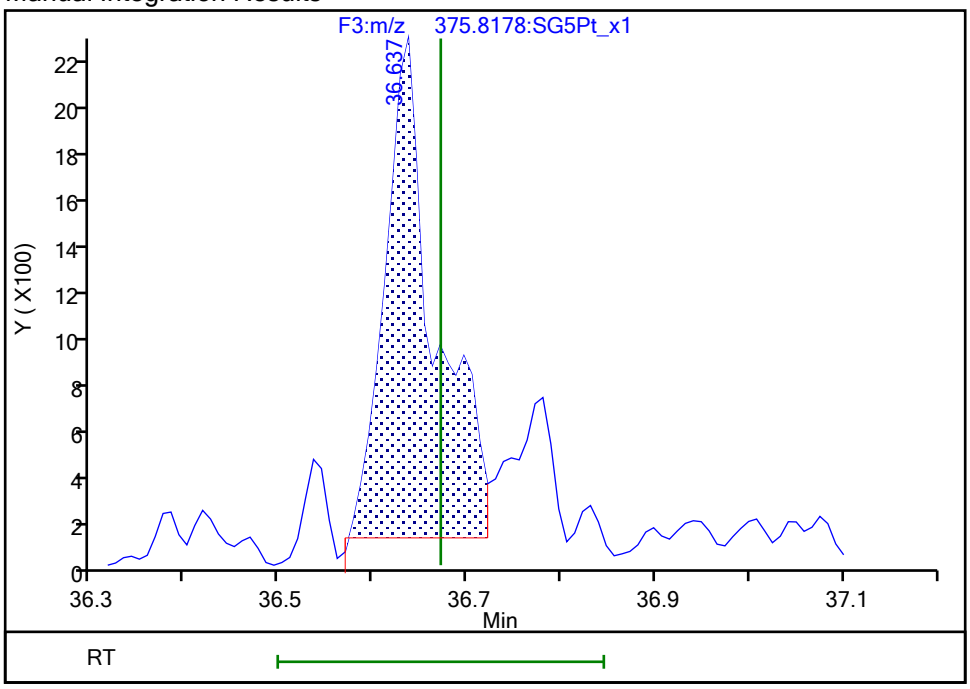
Processing Integration Results

RT: 36.64
Area: 9500
Amount: 0.079973
Amount Units: pg/ul



Manual Integration Results

RT: 36.64
Area: 7671
Amount: 0.067544
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:02:11
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

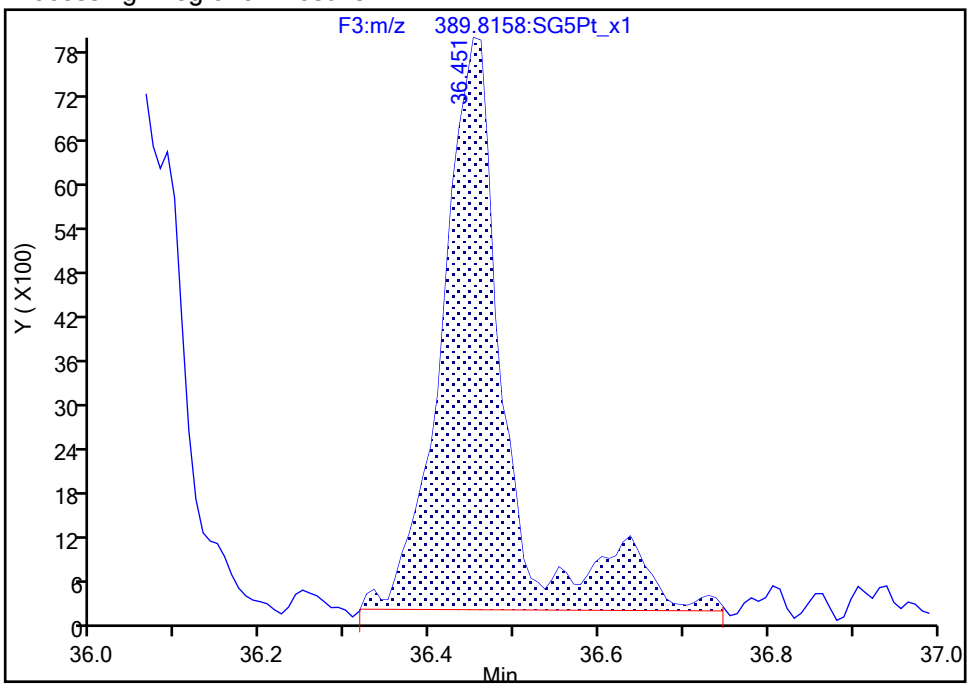
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

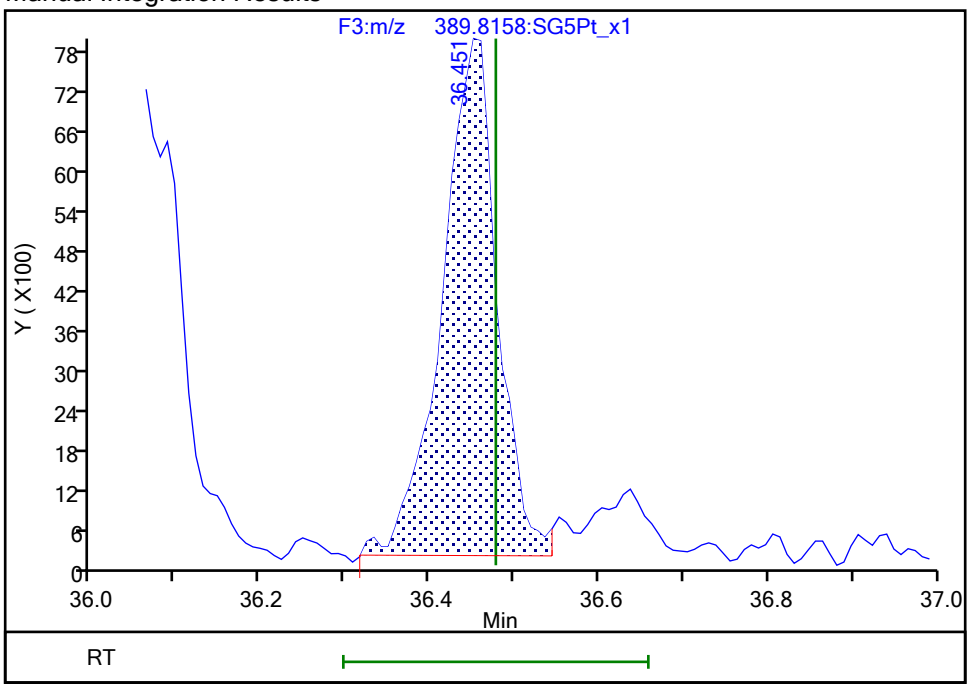
Processing Integration Results

RT: 36.45
Area: 40382
Amount: 0.317255
Amount Units: pg/ul



Manual Integration Results

RT: 36.45
Area: 35053
Amount: 0.292823
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:02:18

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

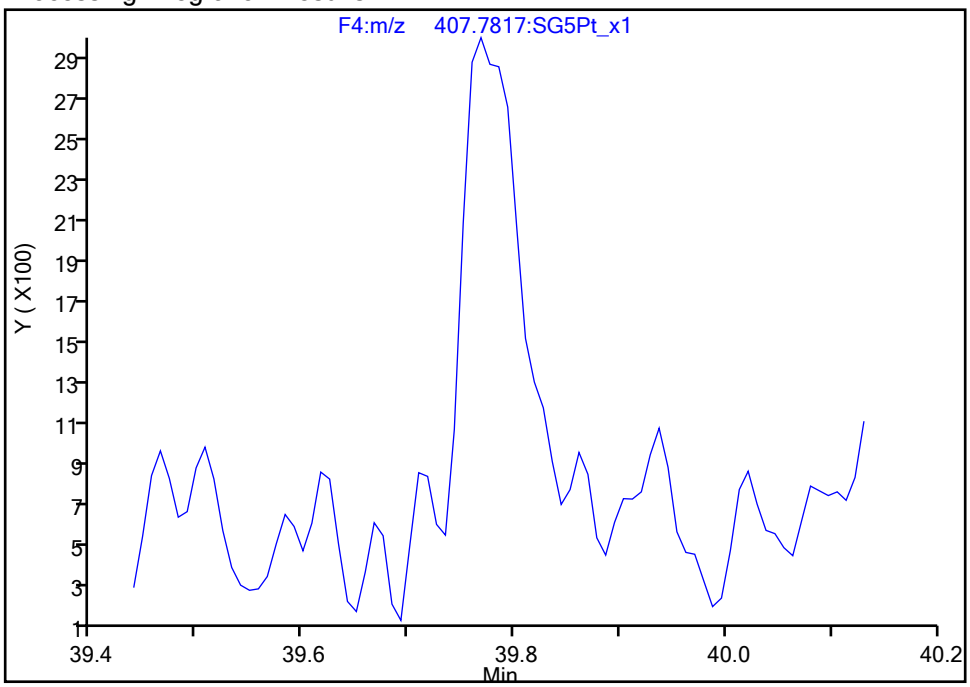
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

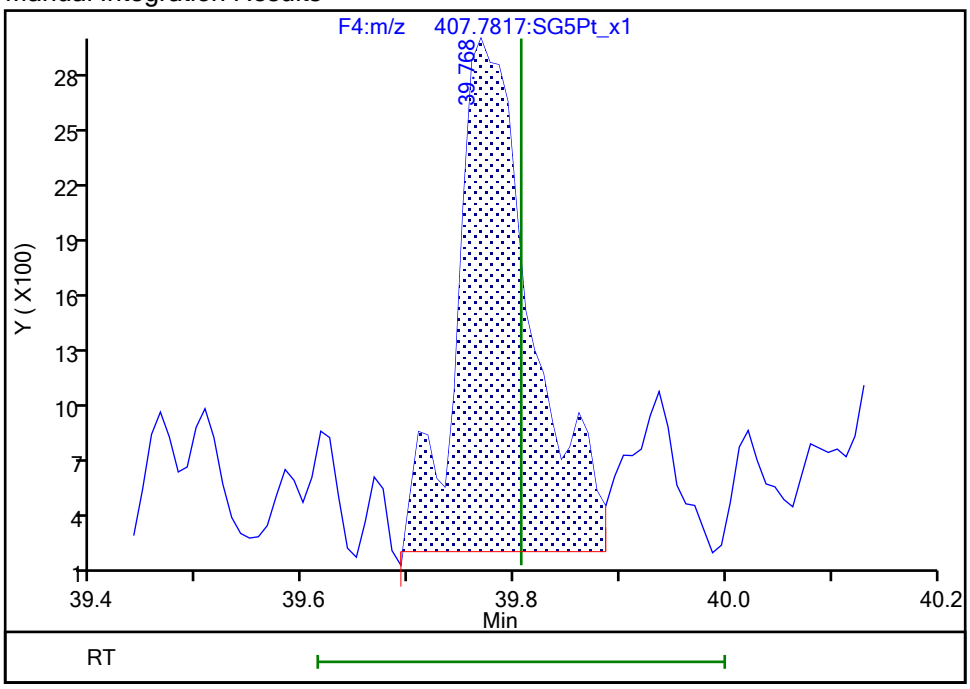
Not Detected
Expected RT: 39.81

Processing Integration Results



Manual Integration Results

RT: 39.77
Area: 13540
Amount: 0.102227
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:02:36
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

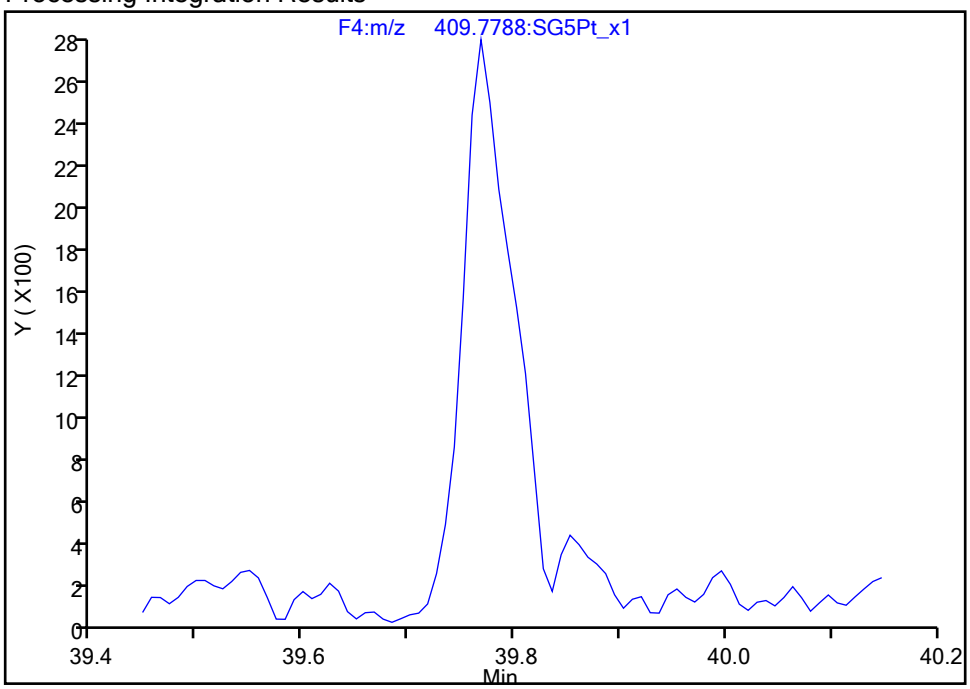
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d				
Injection Date:	28-Dec-2021 00:57:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-2-A	Lab Sample ID:	320-78855-2		
Client ID:	A2BMP0007S020				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

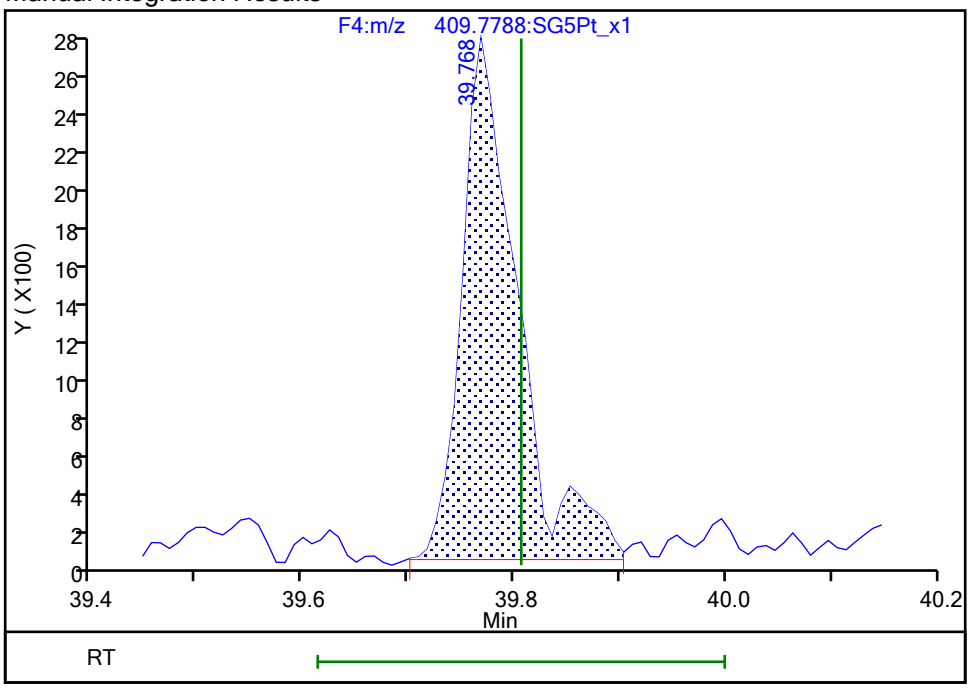
Not Detected
Expected RT: 39.81

Processing Integration Results



Manual Integration Results

RT: 39.77
Area: 9902
Amount: 0.102227
Amount Units: pg/ul

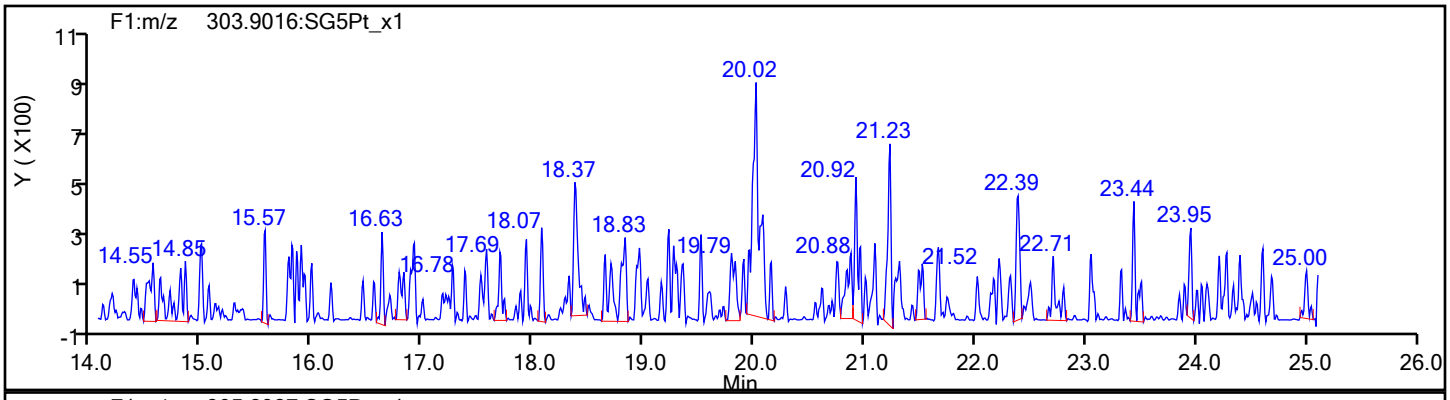


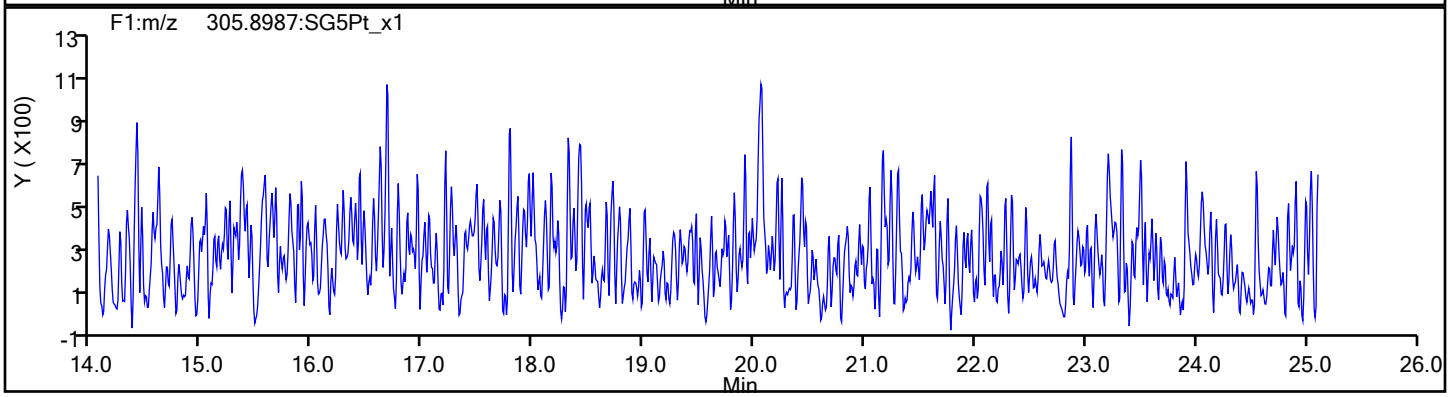
Reviewer: bilottag, 28-Dec-2021 14:02:43
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Sacramento

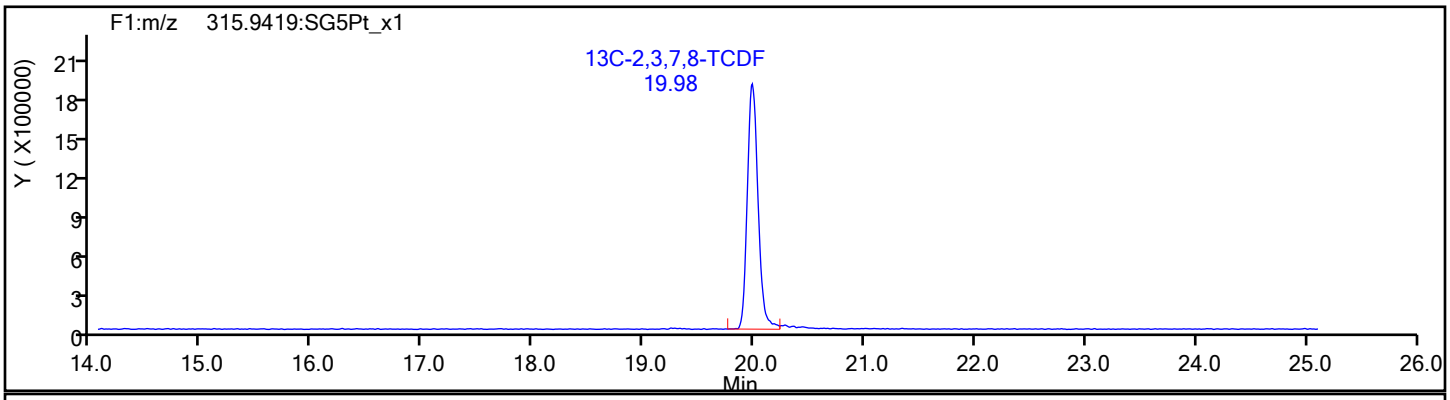
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d		
Injection Date:	28-Dec-2021 00:57:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S020		
Worklist#:	554312	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

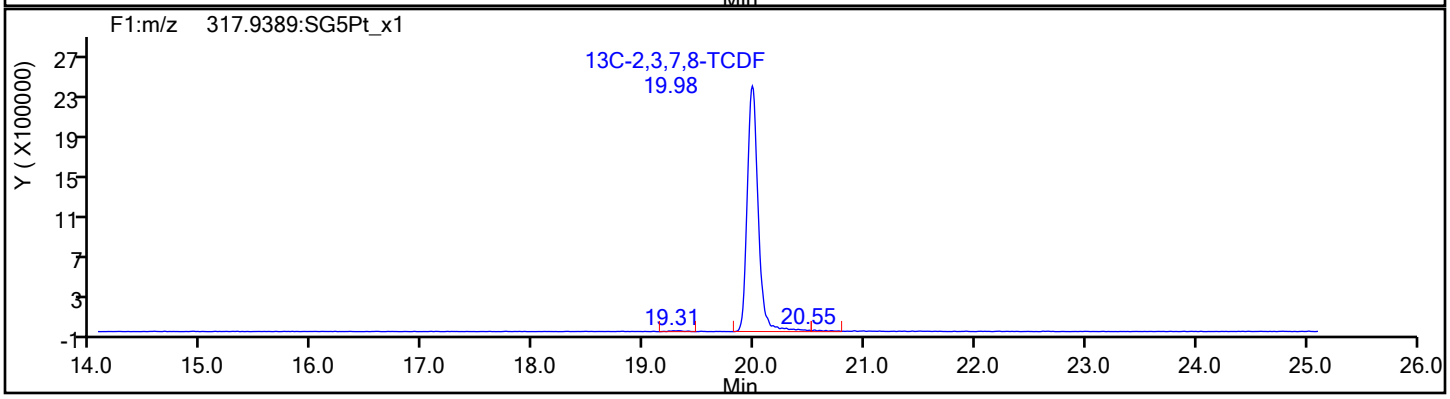
TCDF





TCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d		
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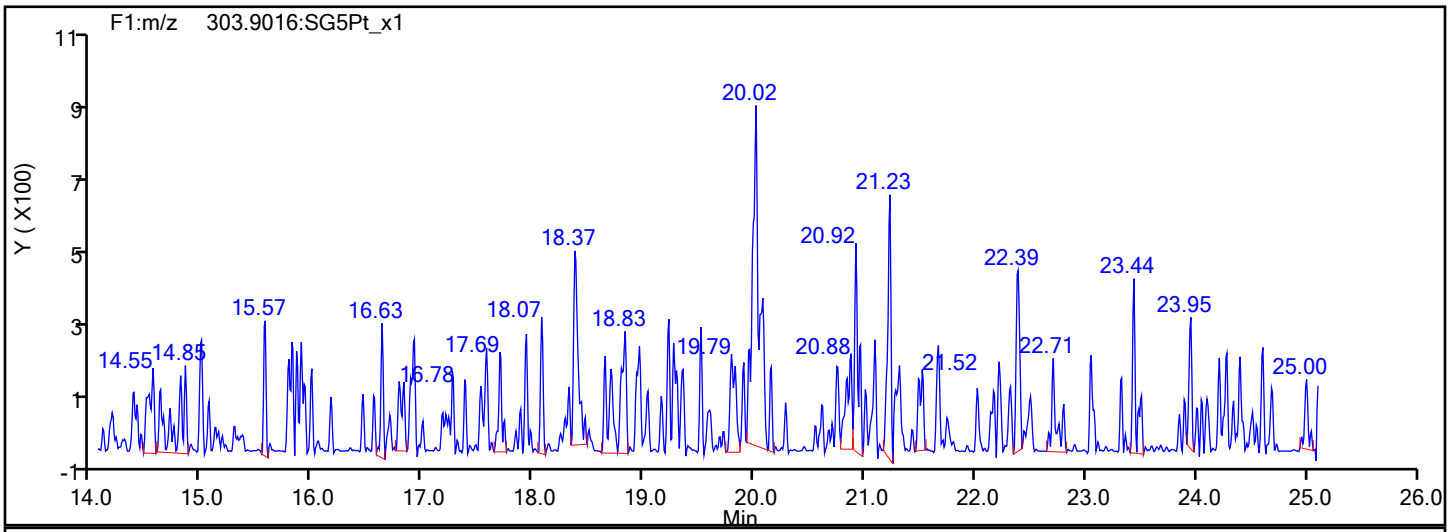
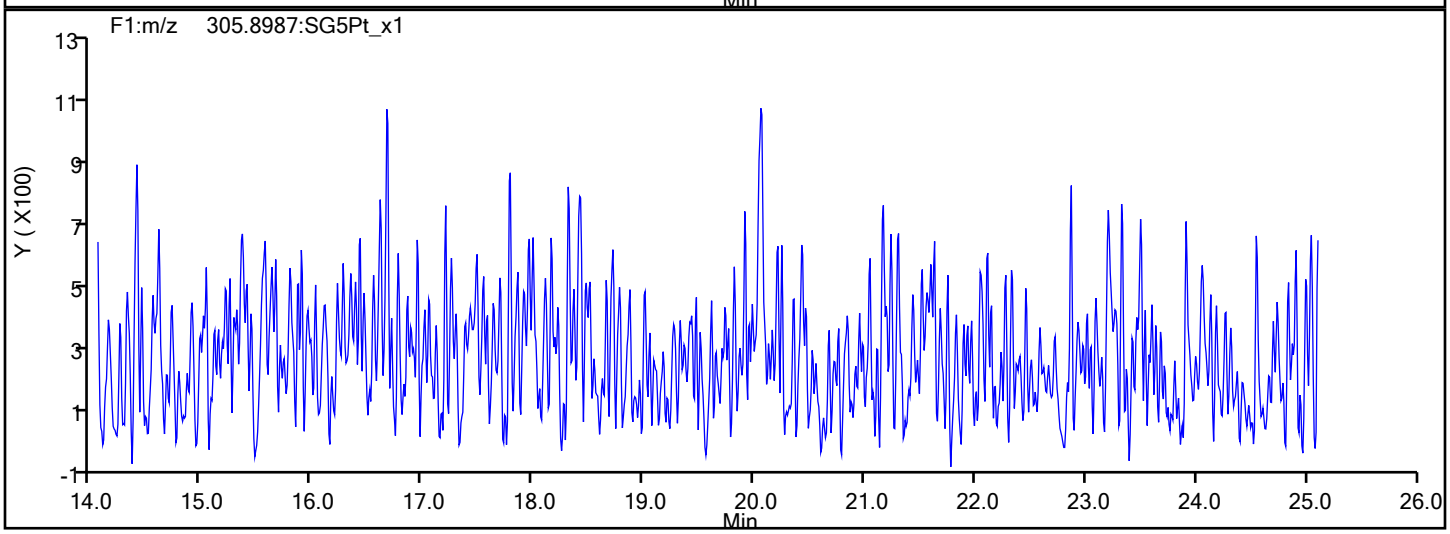
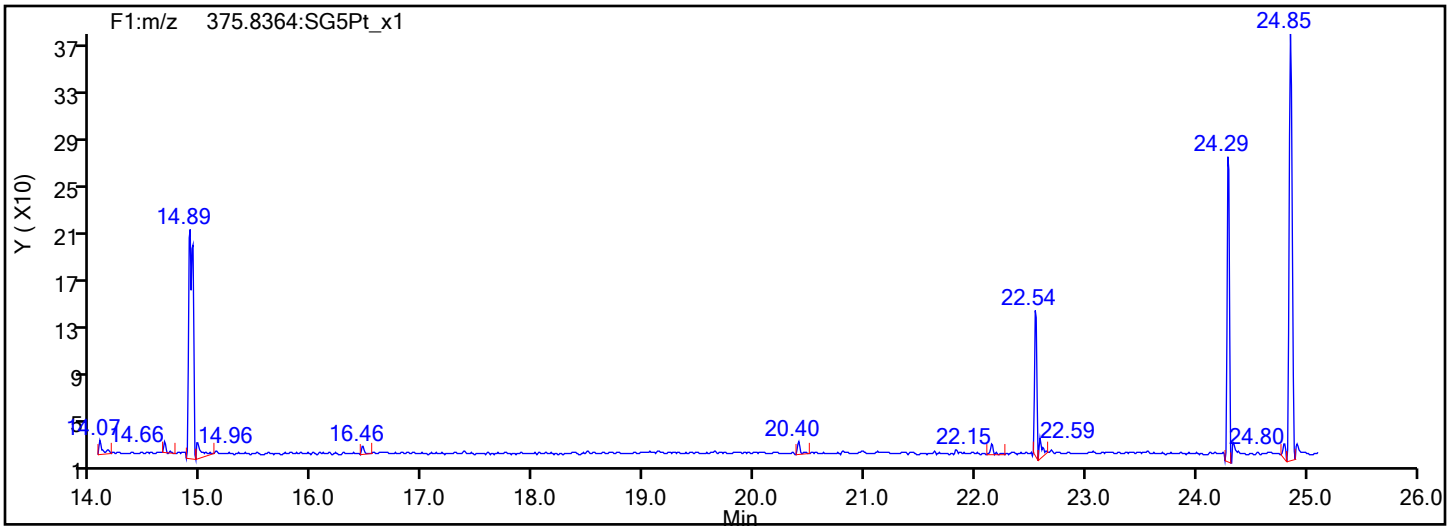
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S020		
Worklist#:	554312	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d		
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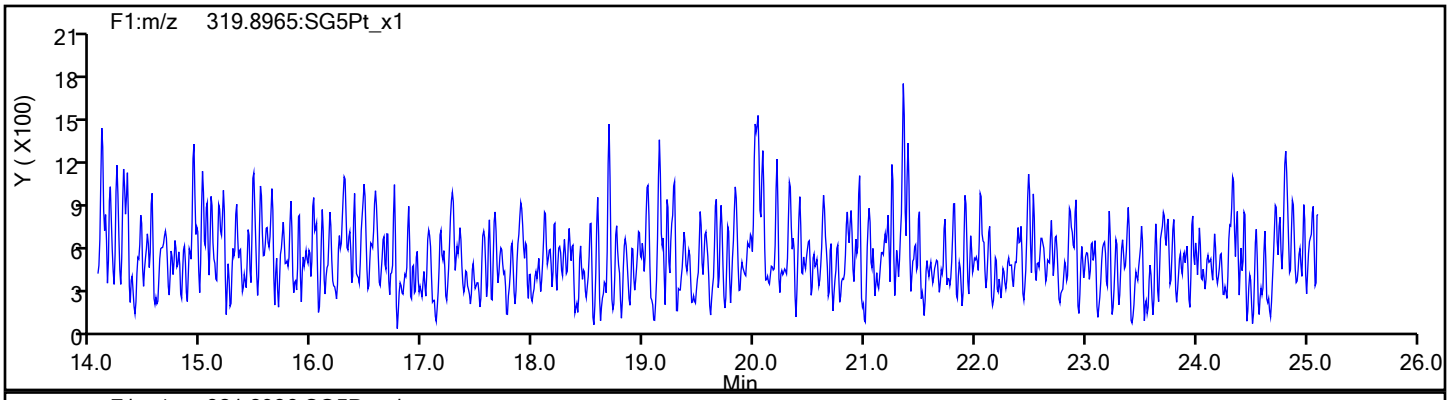
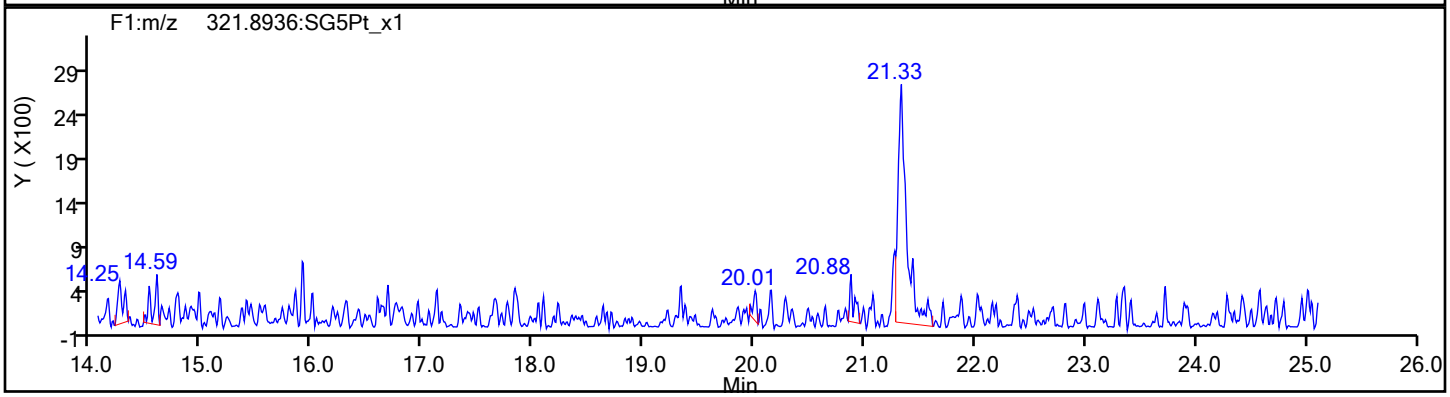
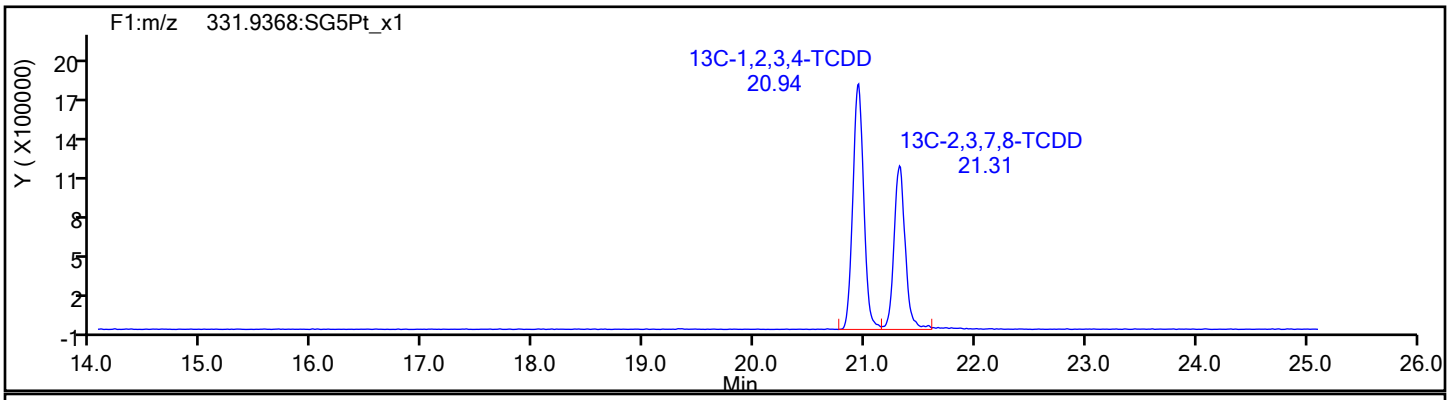
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S020		
Worklist#:	554312	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

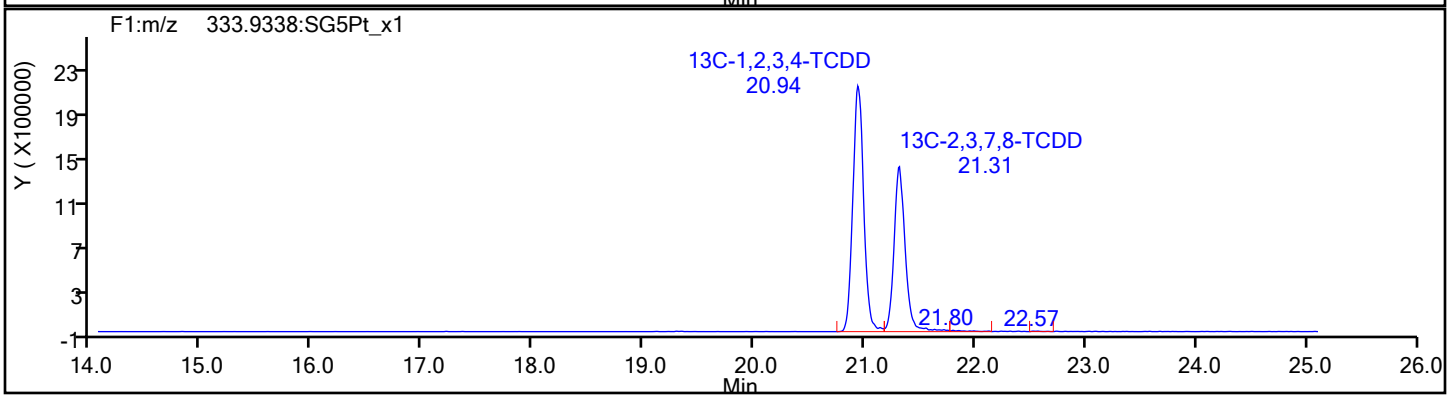
TCDD





TCDD Standards





Report Date: 28-Dec-2021 14:24:50 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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Client ID:	A2BMP0007S020		
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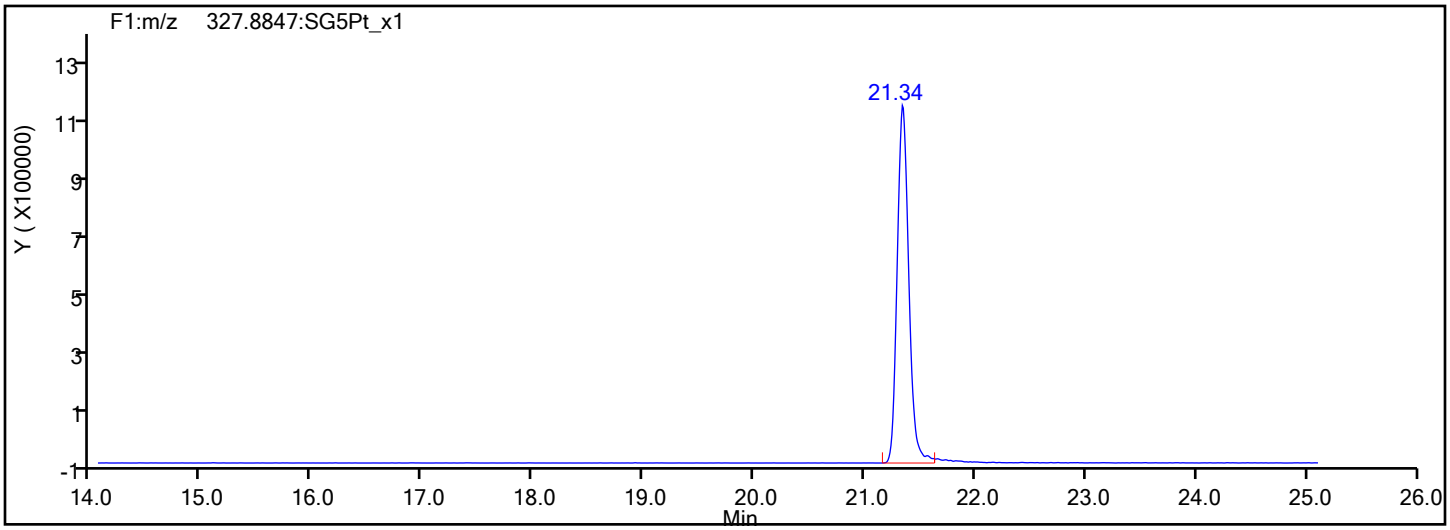
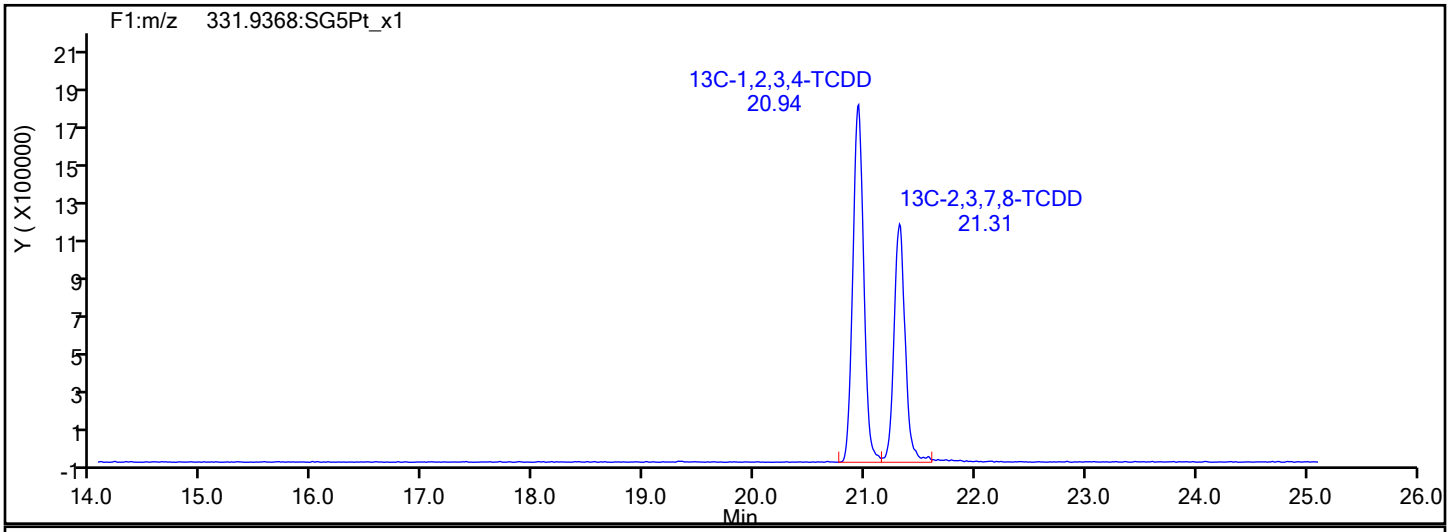
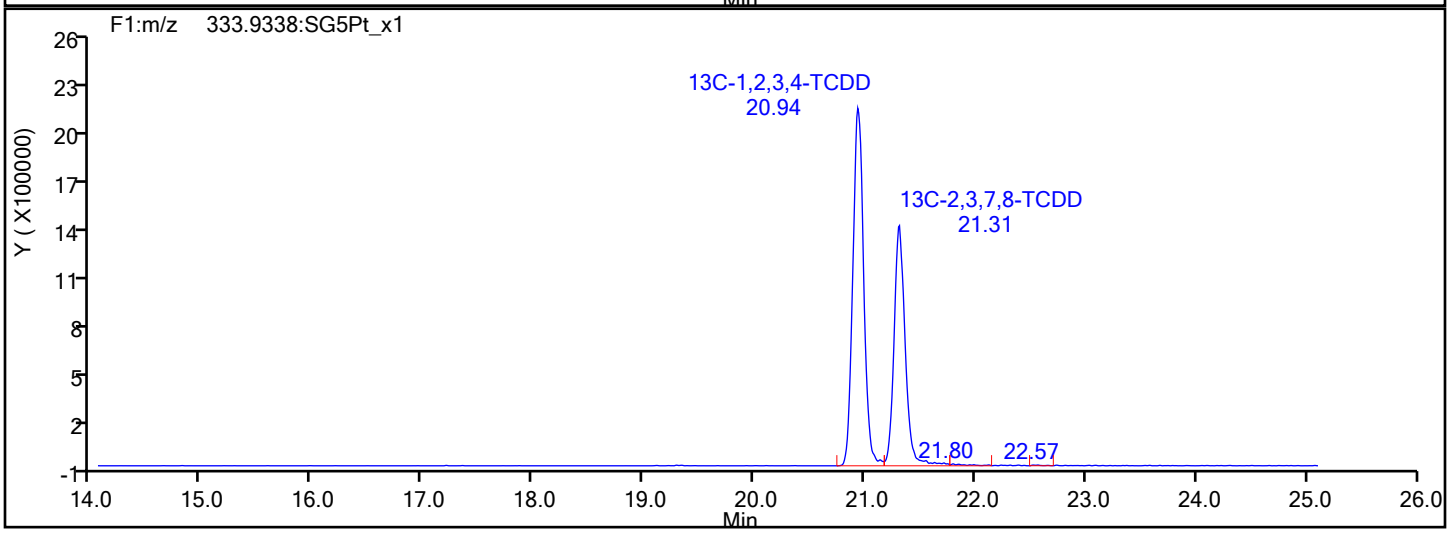
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 28-Dec-2021 14:24:50 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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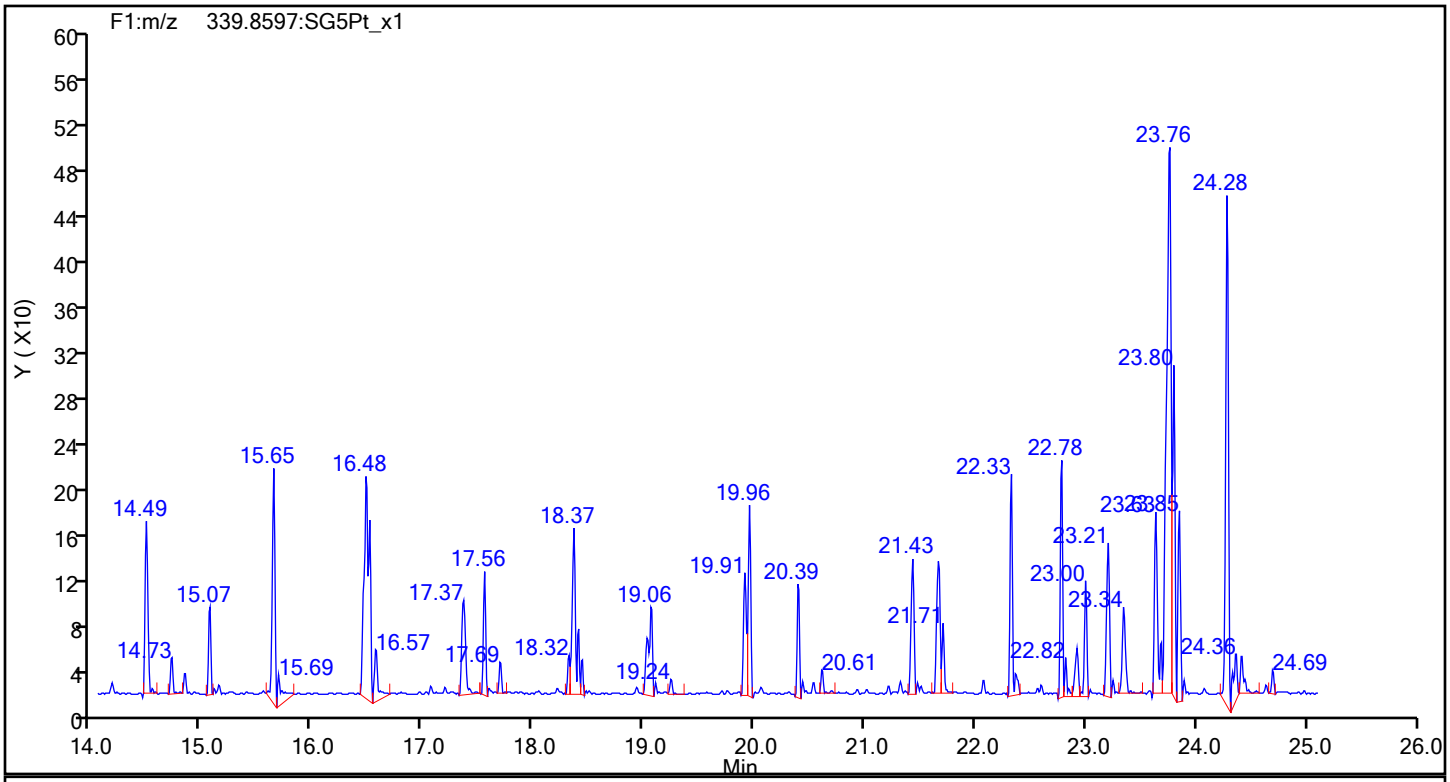
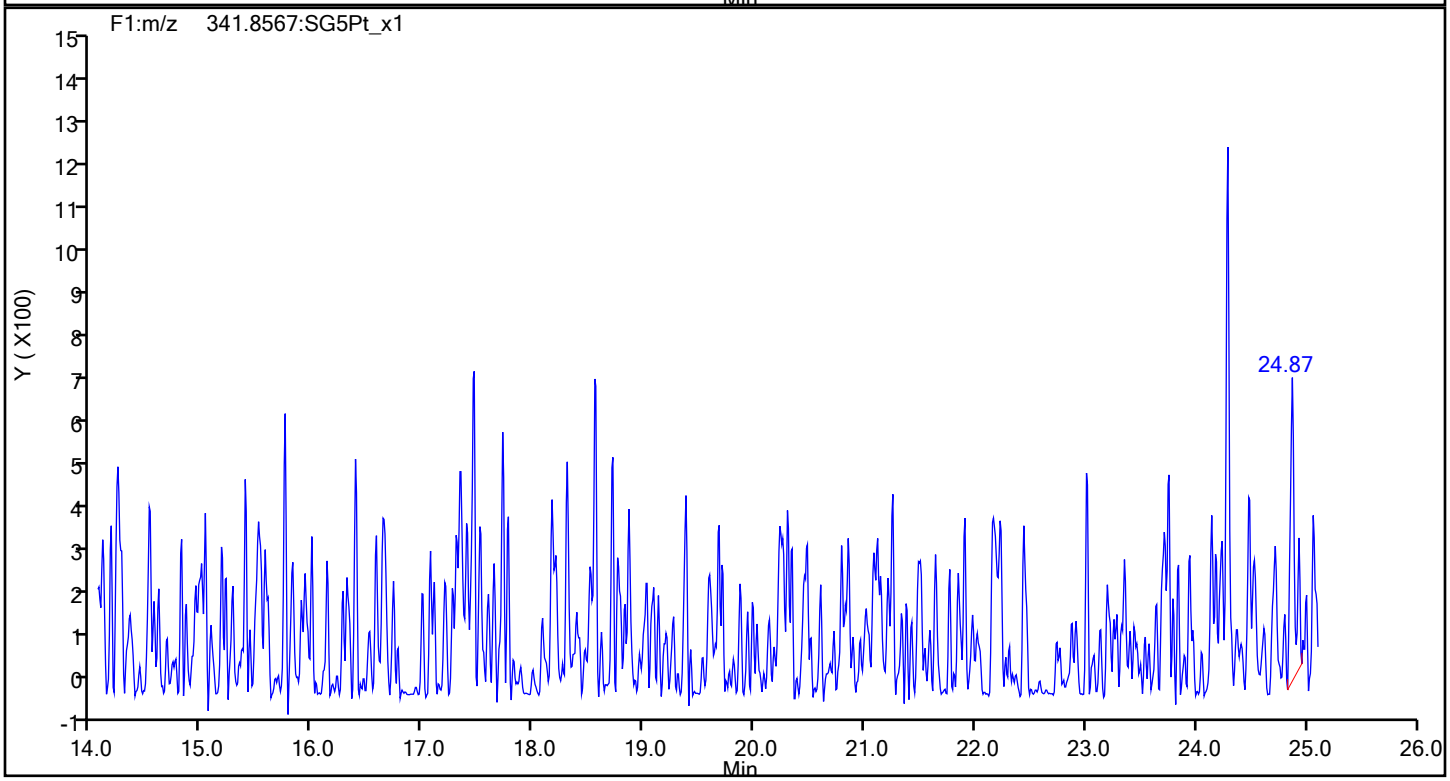
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d		
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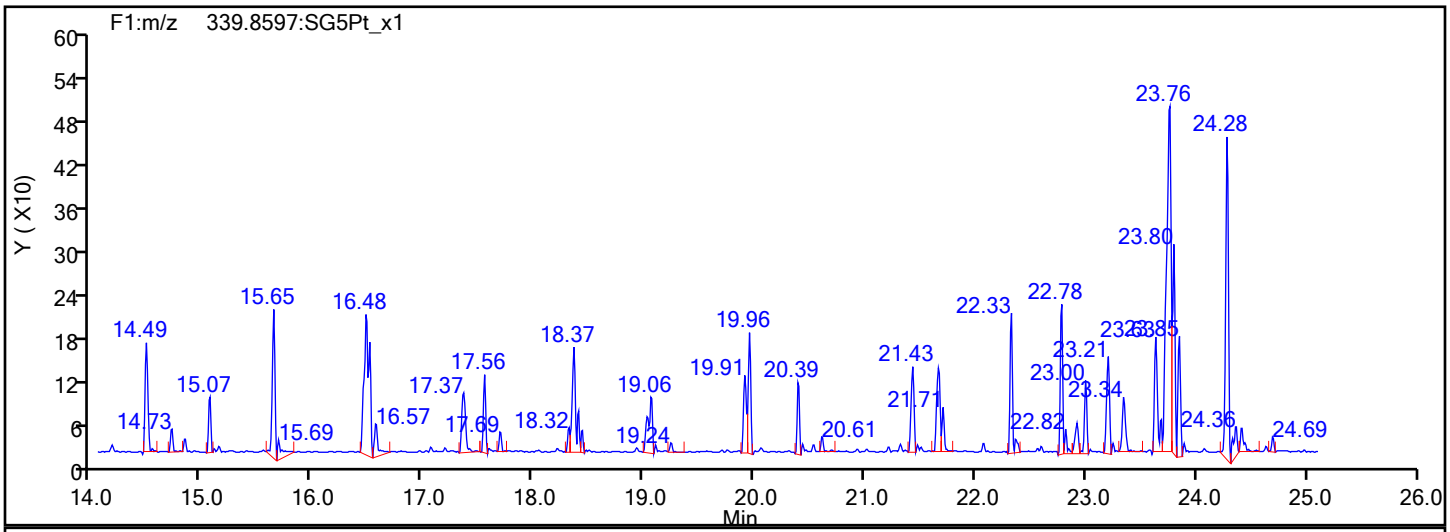
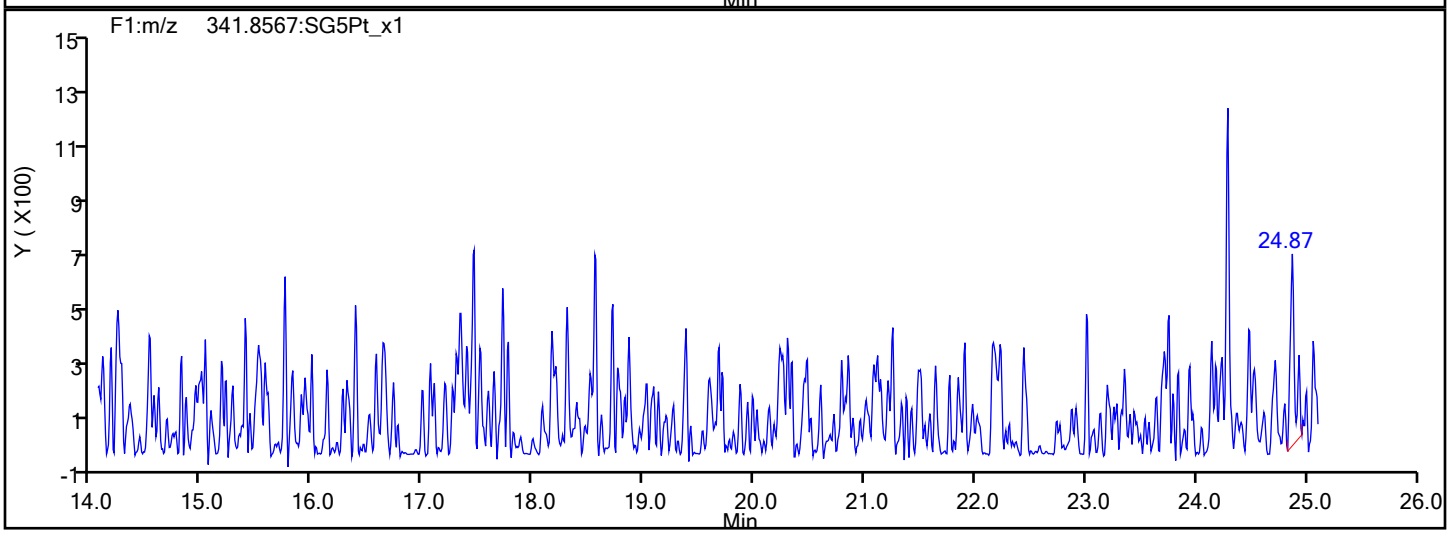
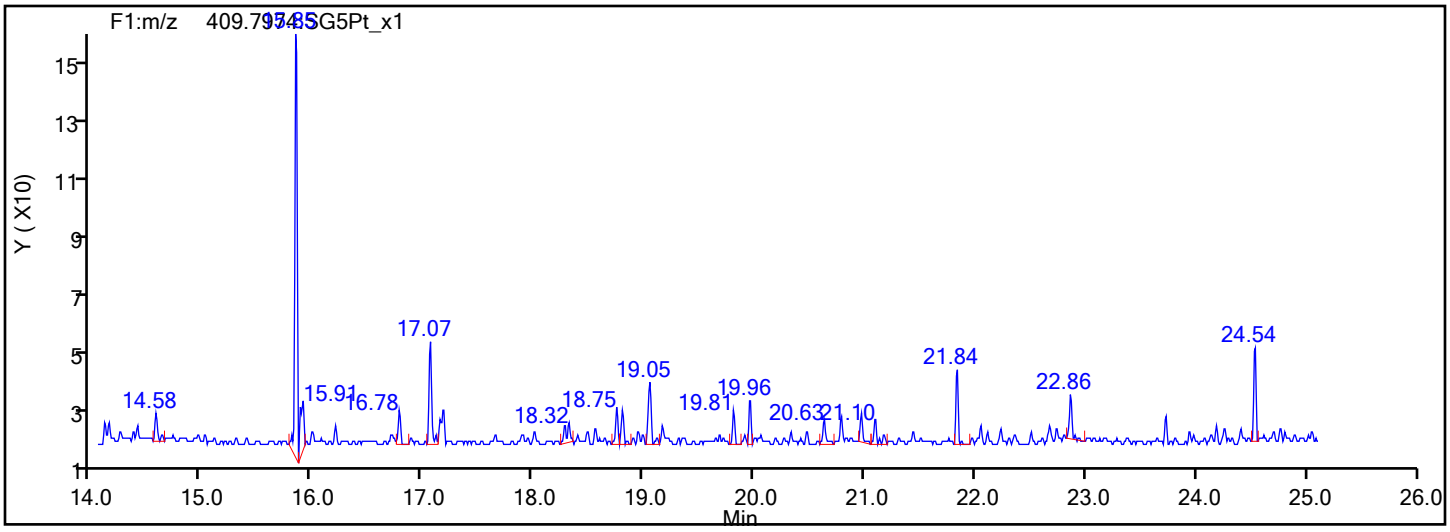
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S020		
Worklist#:	554312	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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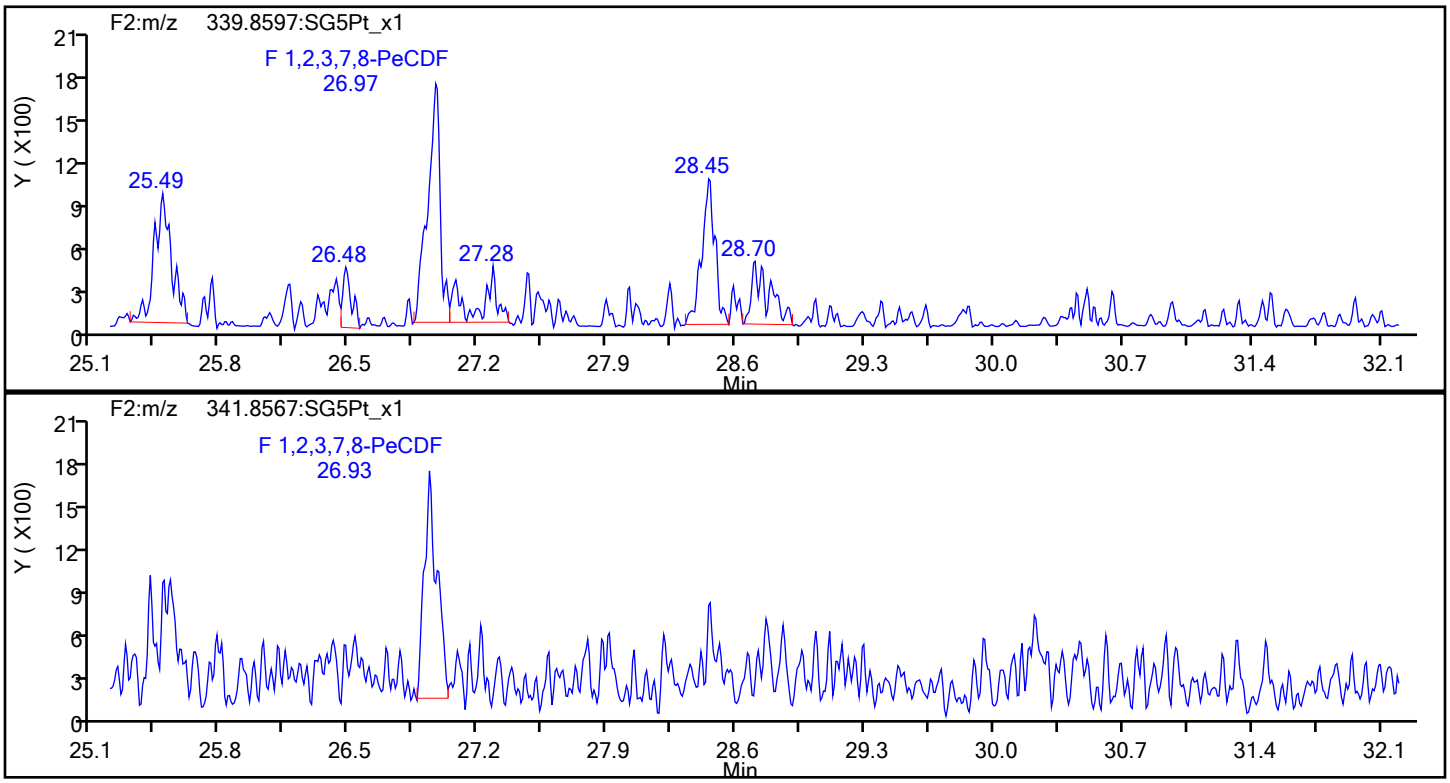
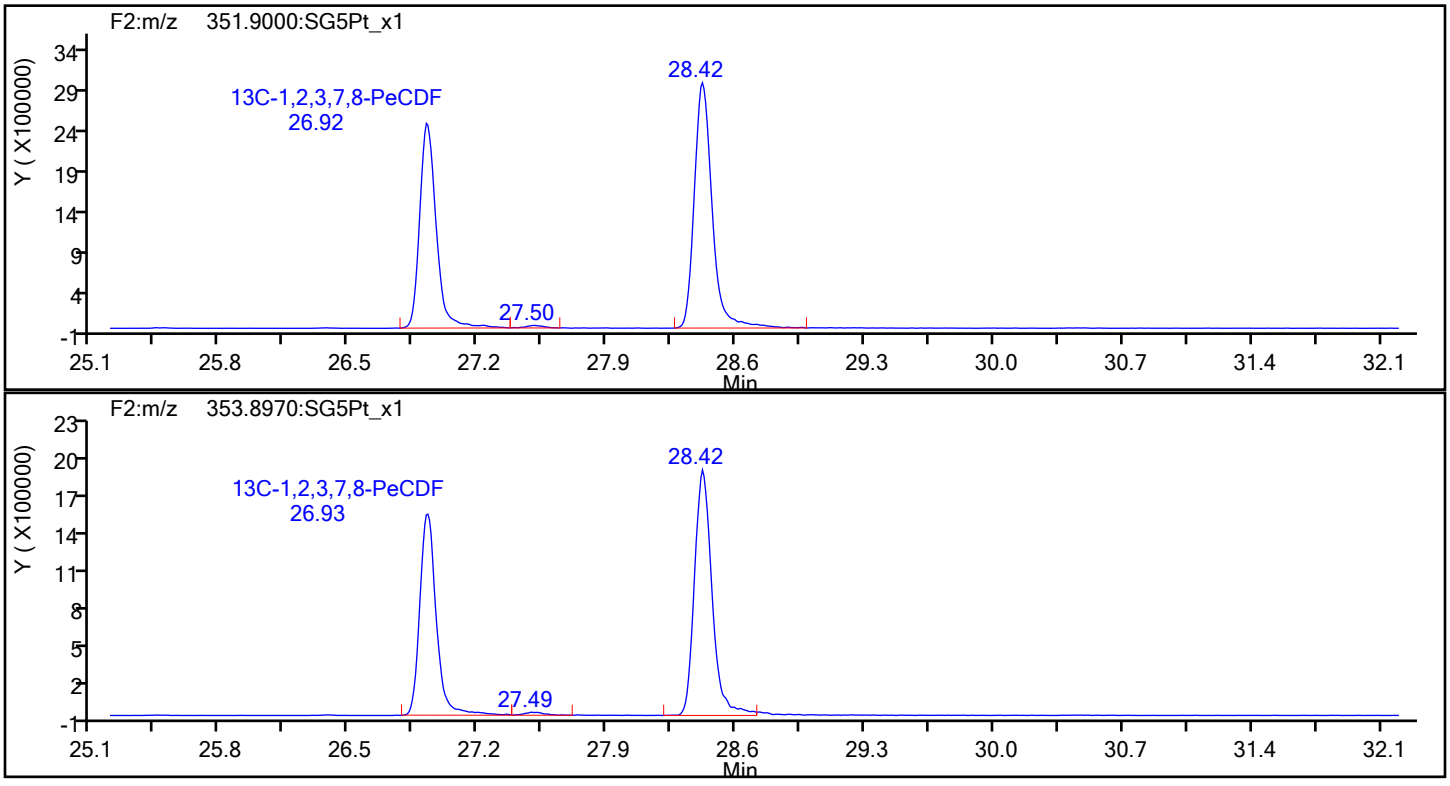
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d		
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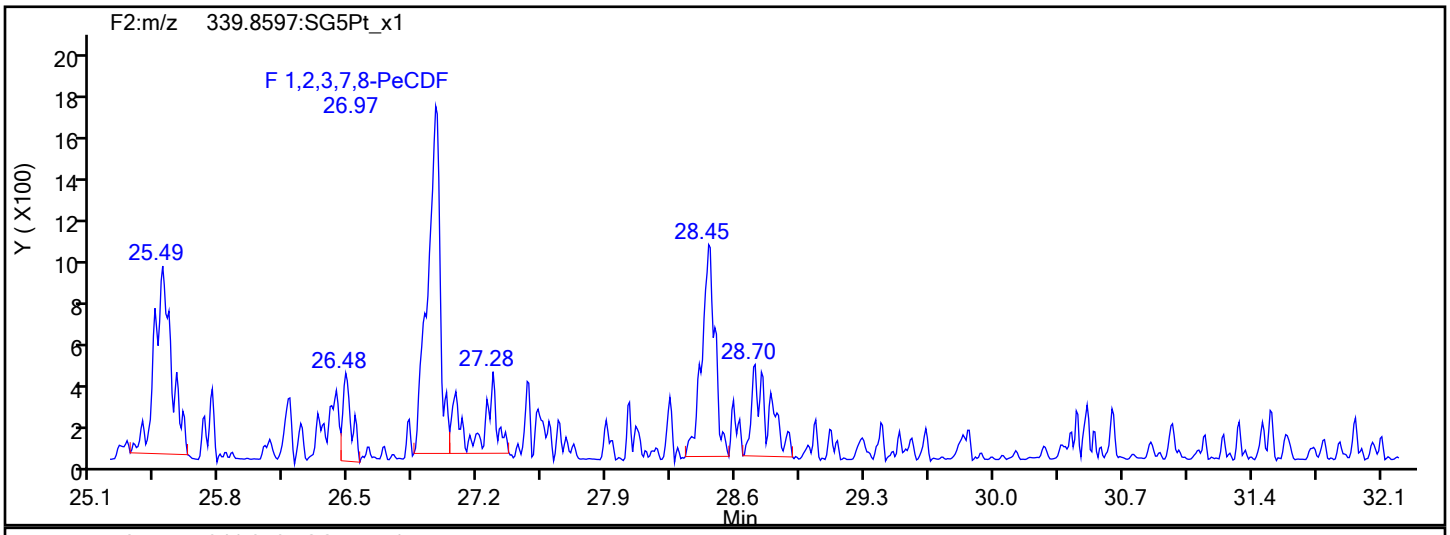
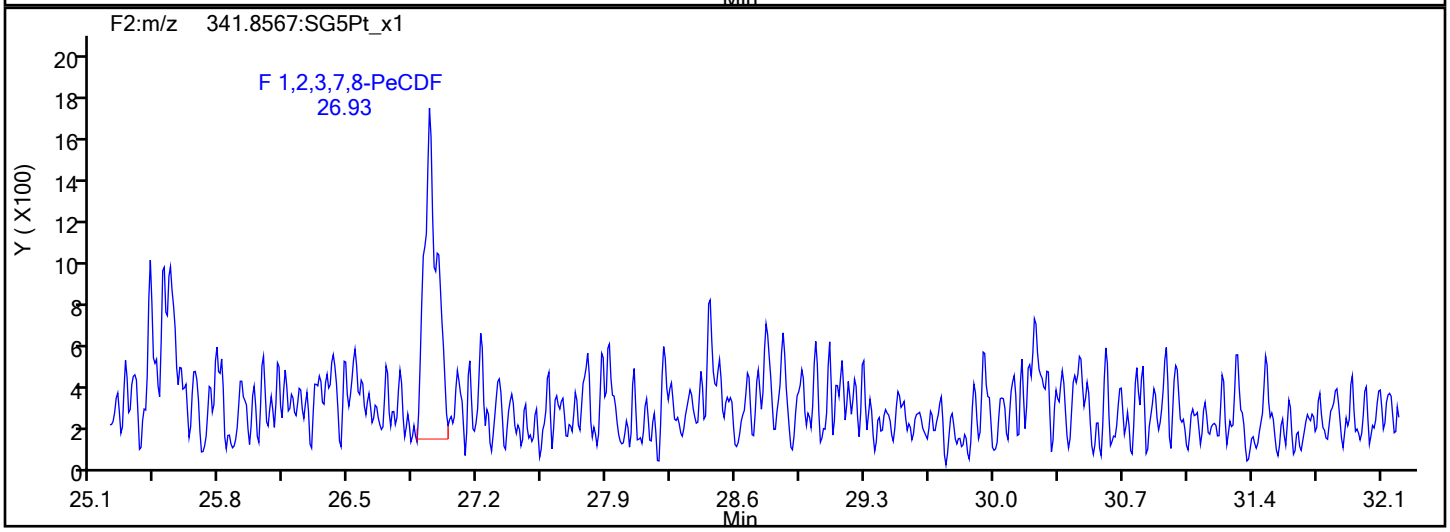
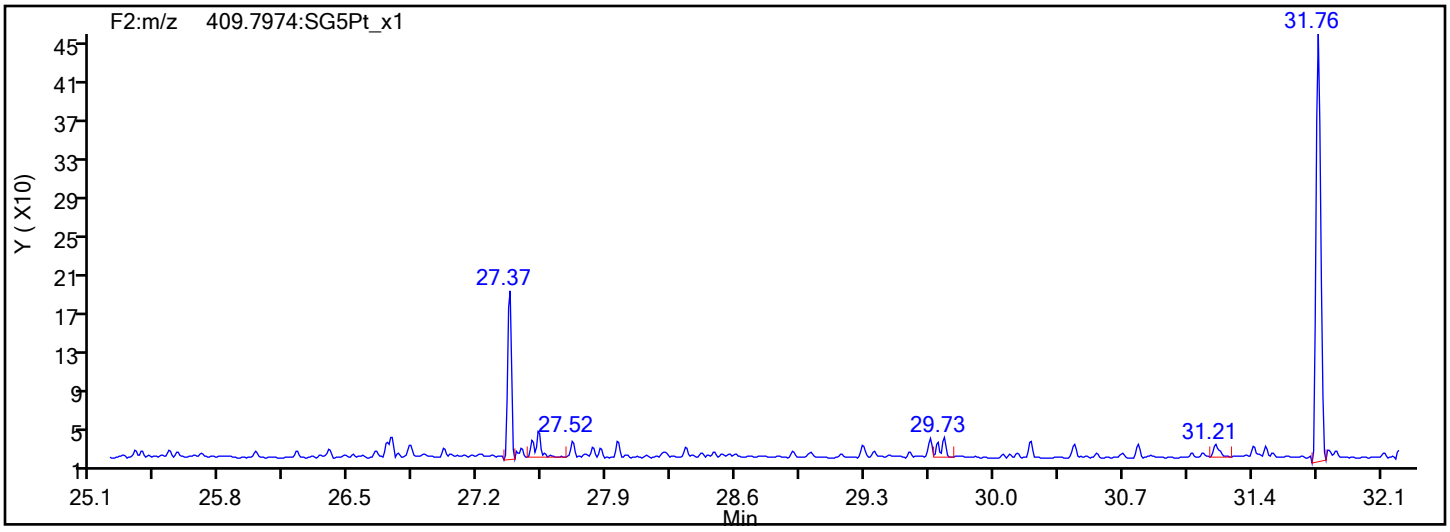
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S020		
Worklist#:	554312	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Report Date: 28-Dec-2021 14:24:51 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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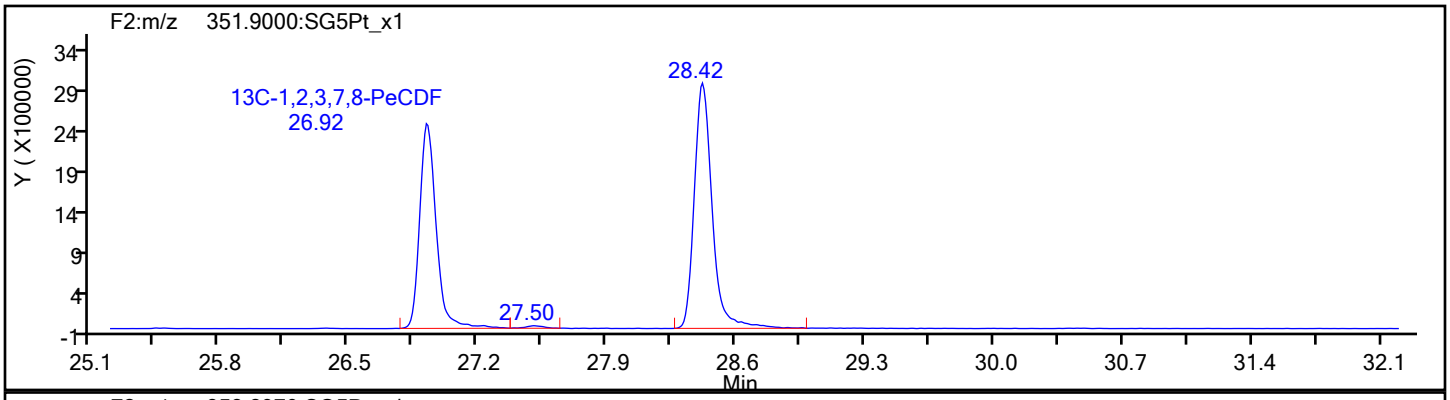
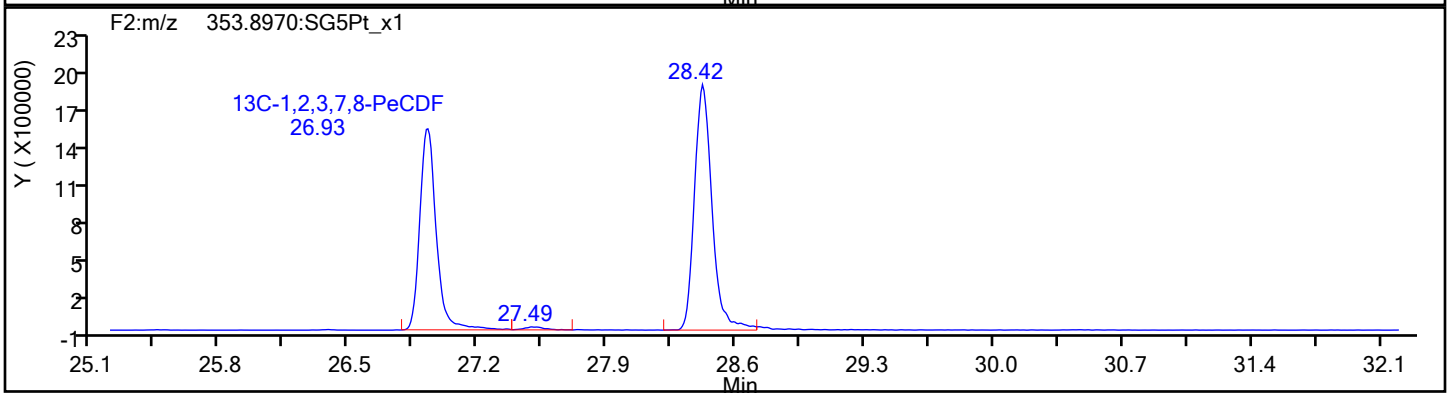
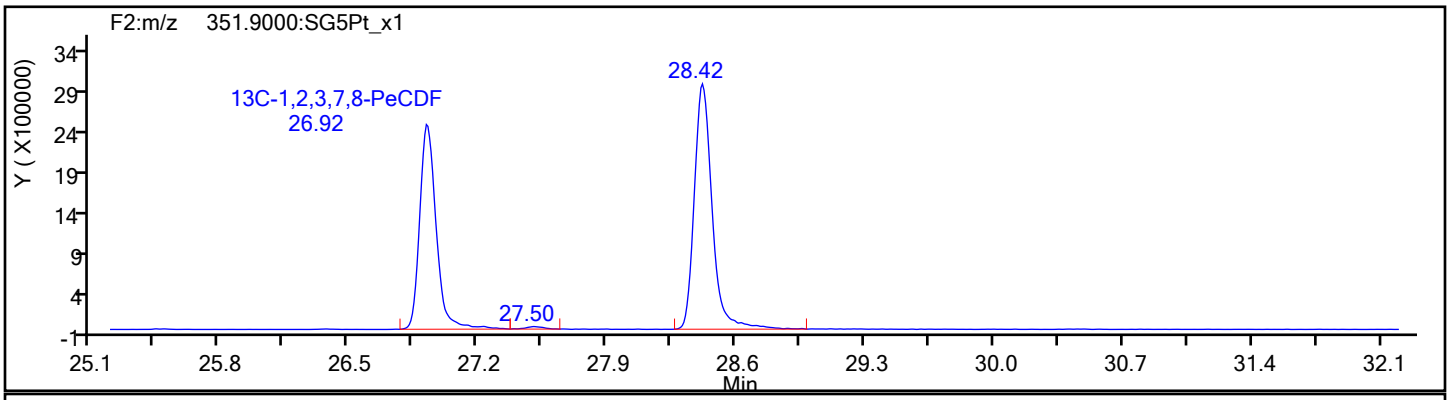
Column Type:	DB-5	Column Dia:	0.32 mm

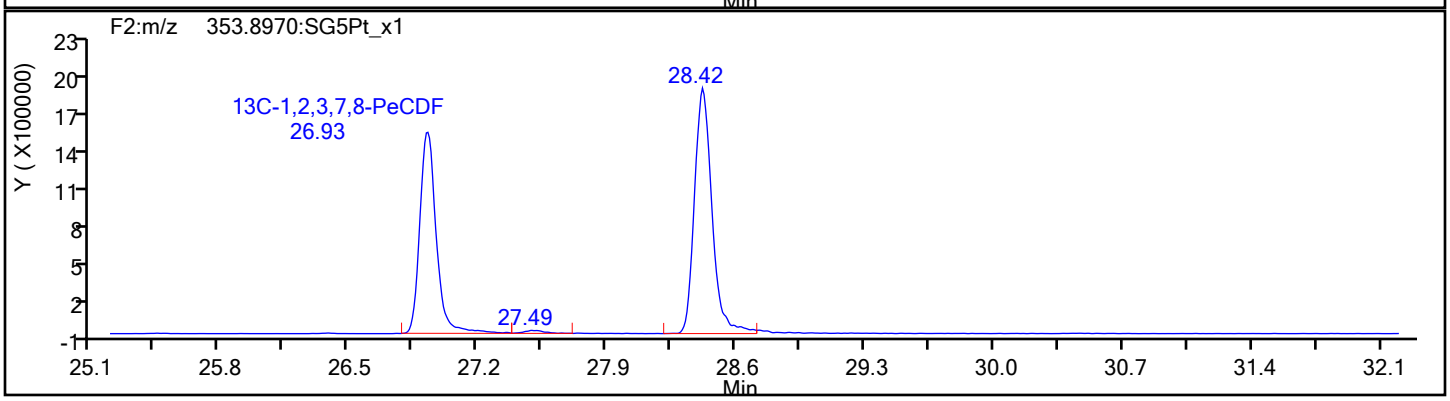
13C-PeCDF





13C-PeCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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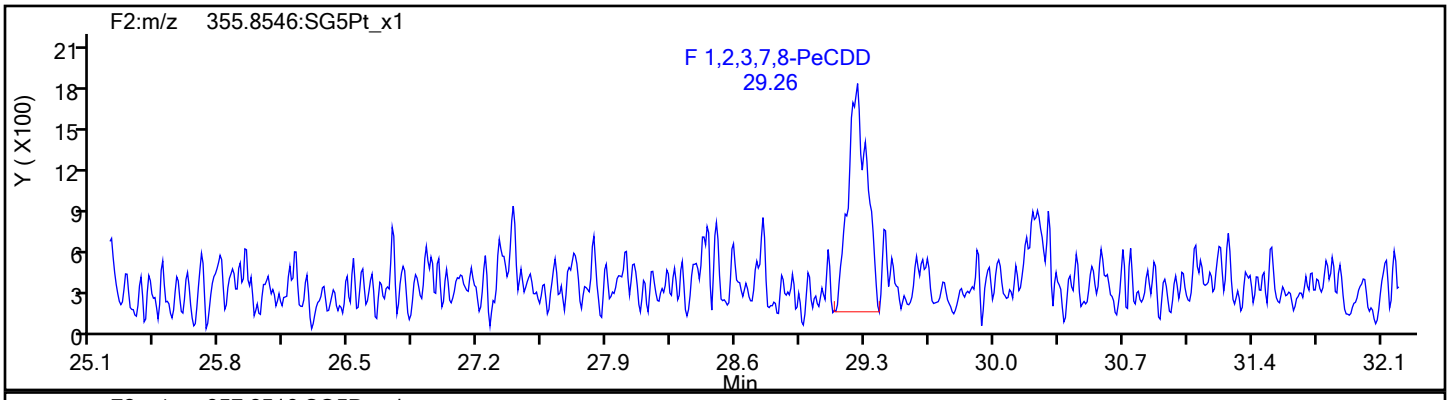
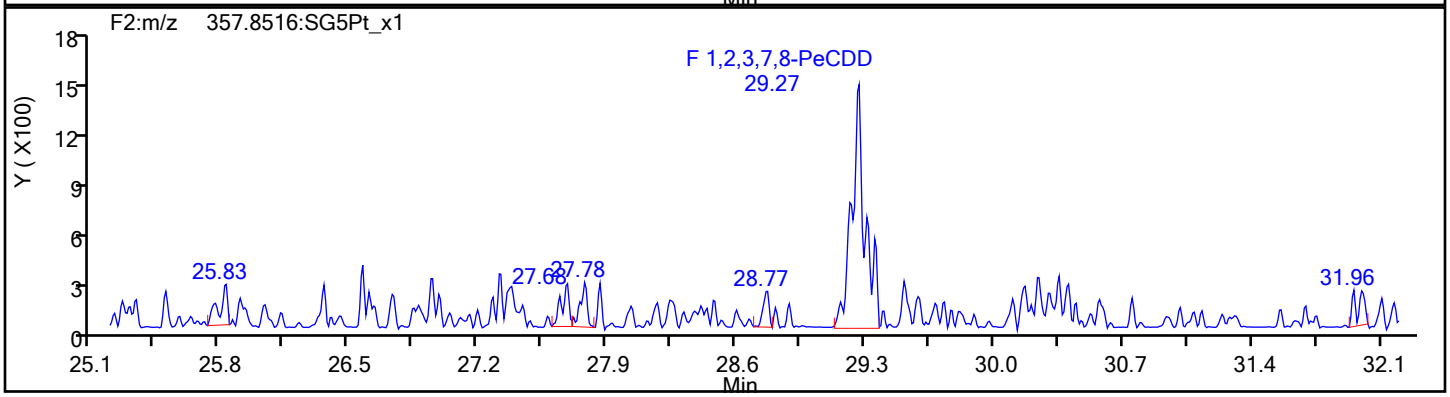
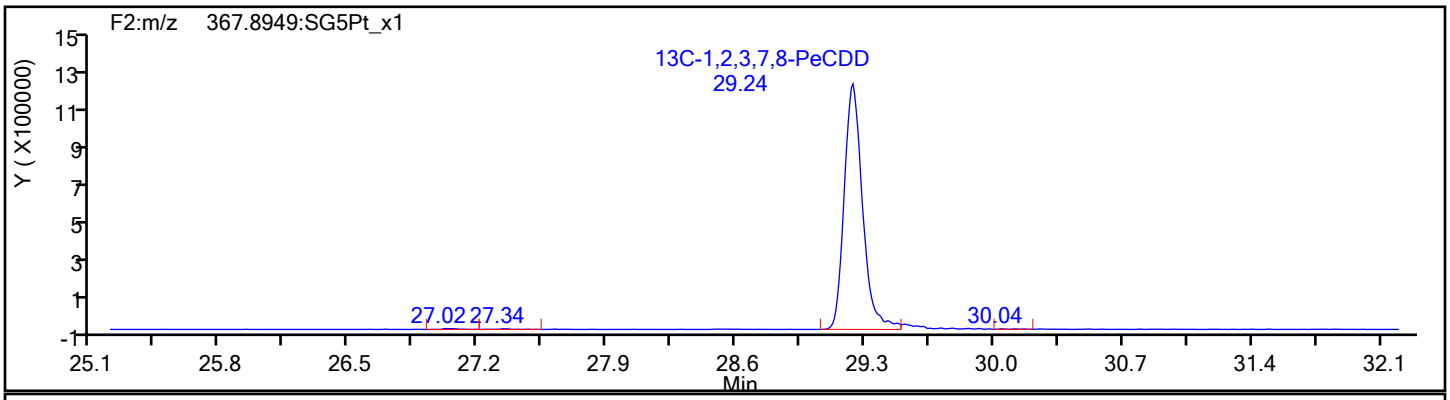
Column Type:	DB-5	Column Dia:	0.32 mm

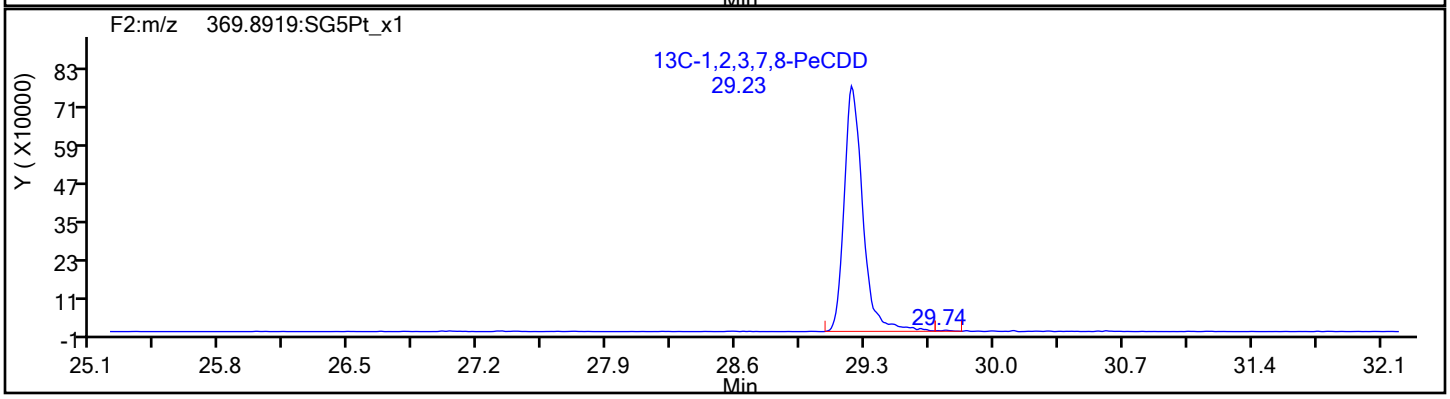
PeCDD





PeCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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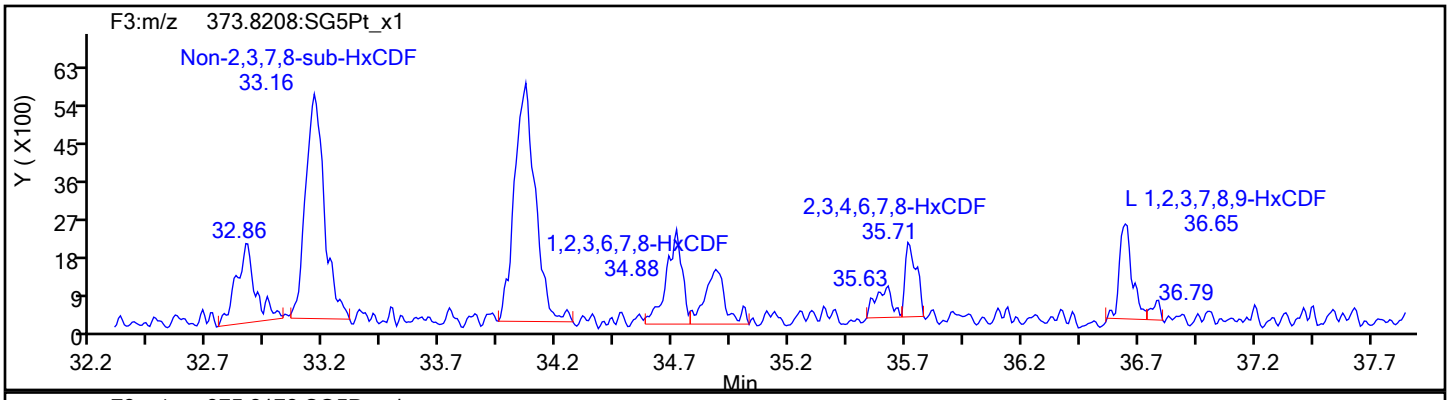
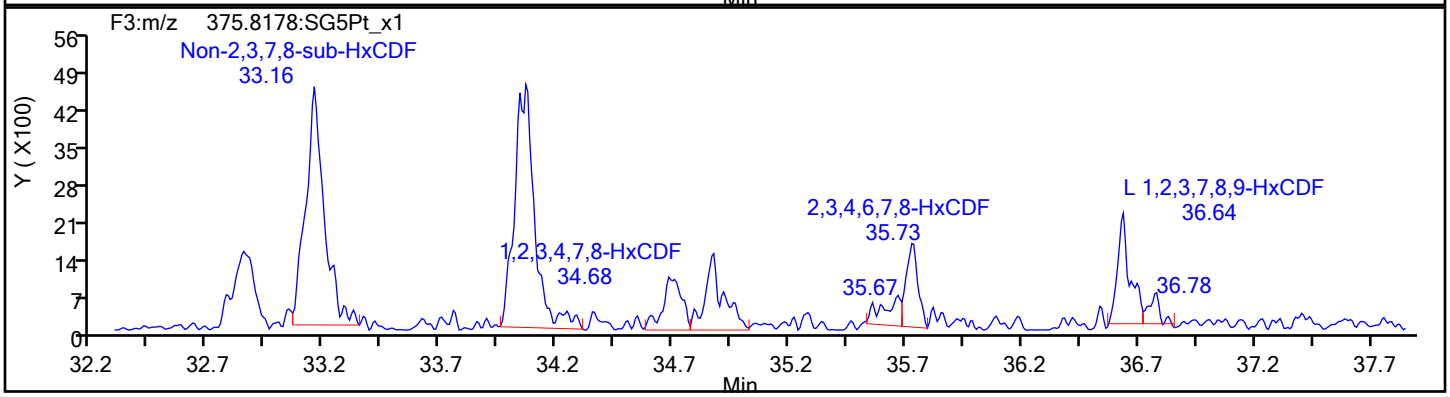
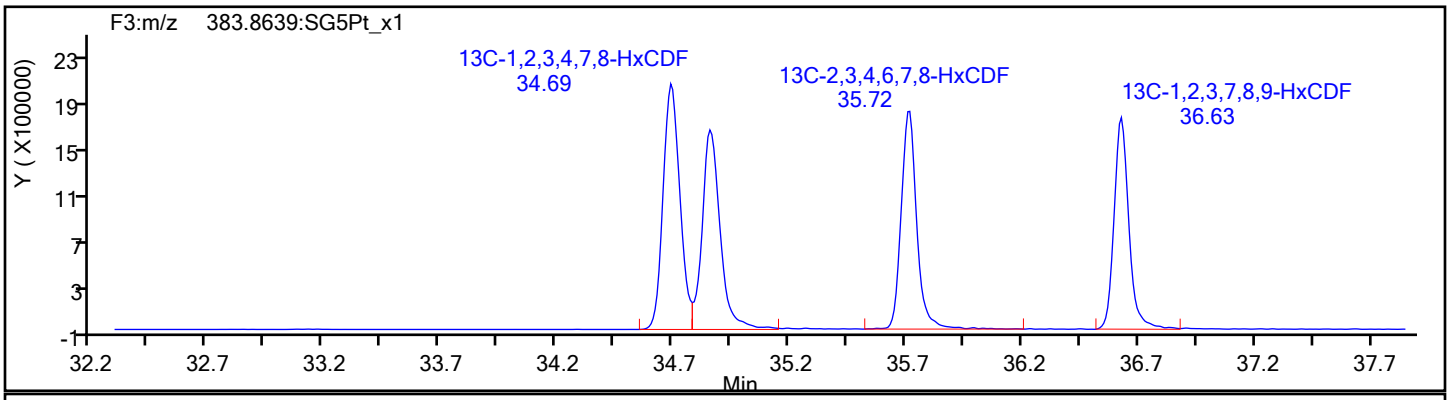
Worklist#:	554312	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

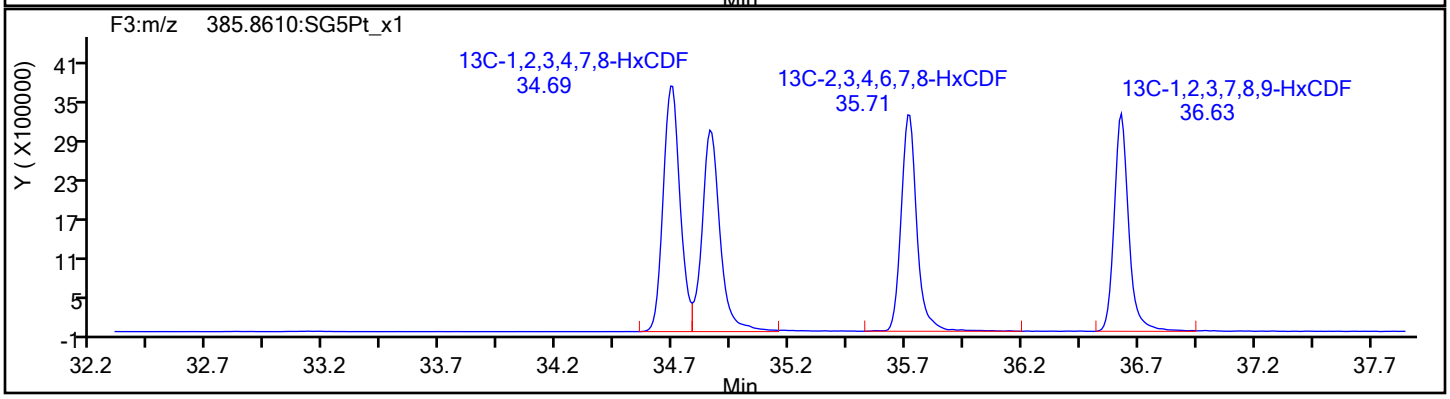
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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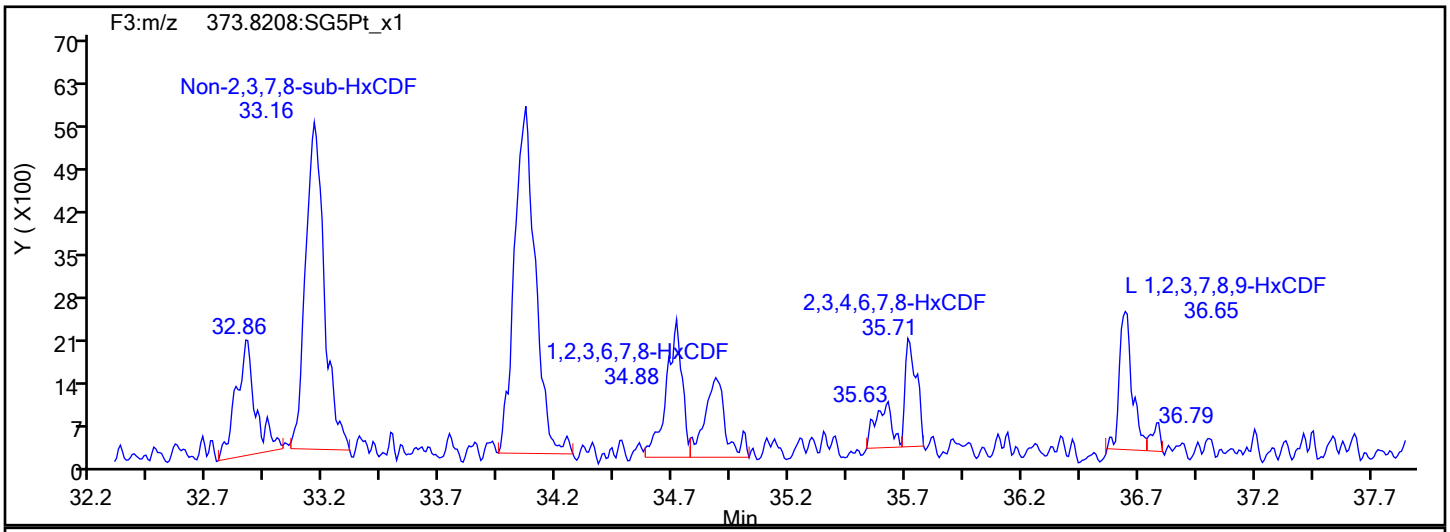
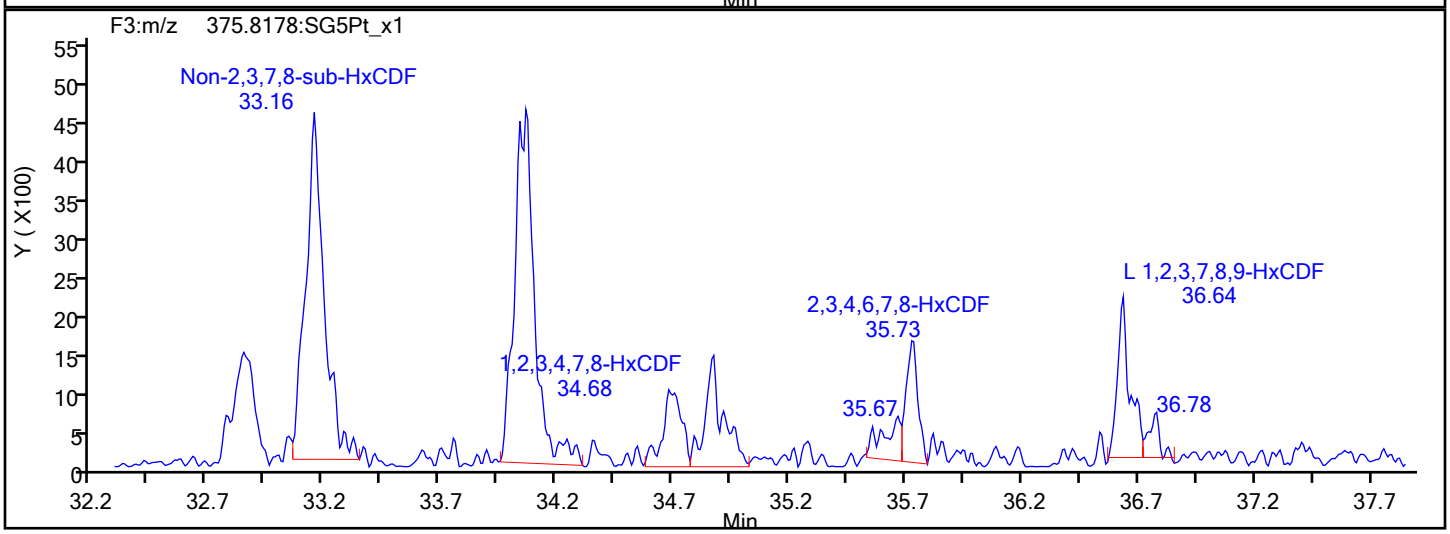
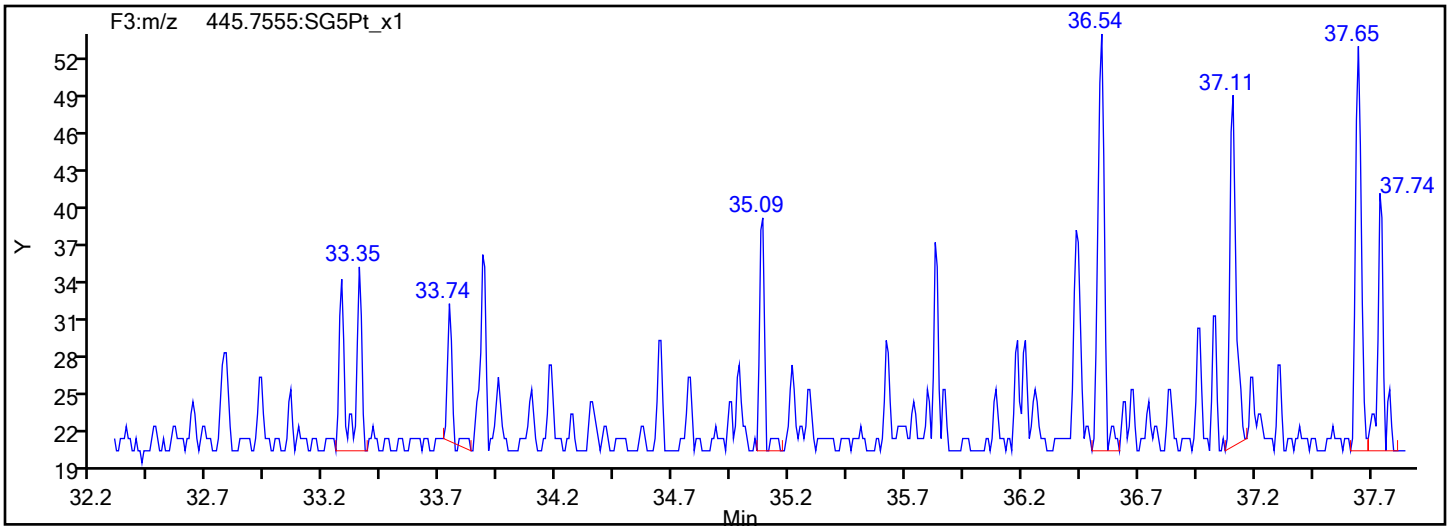
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_19.d		
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Client ID:	A2BMP0007S020		
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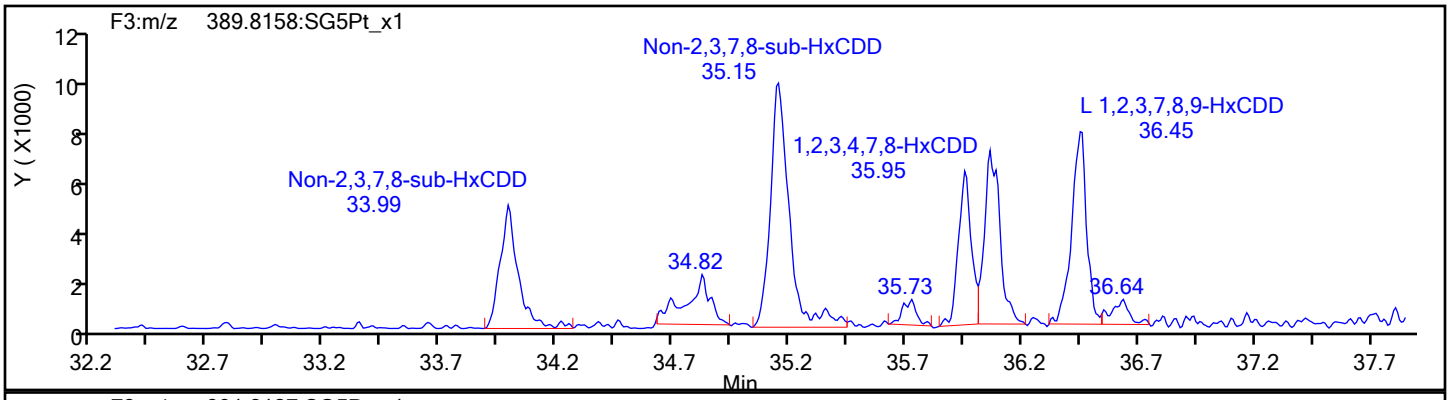
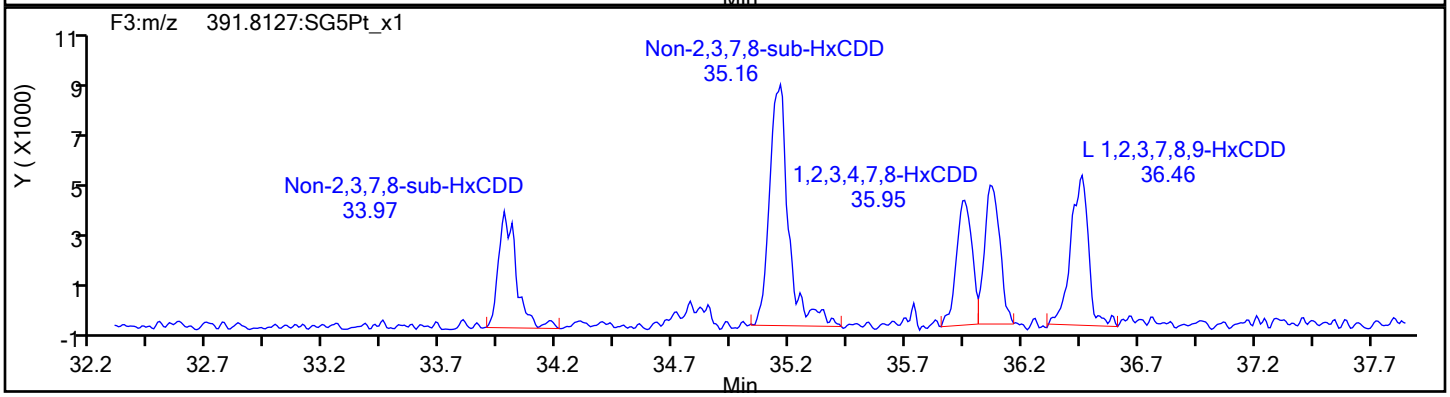
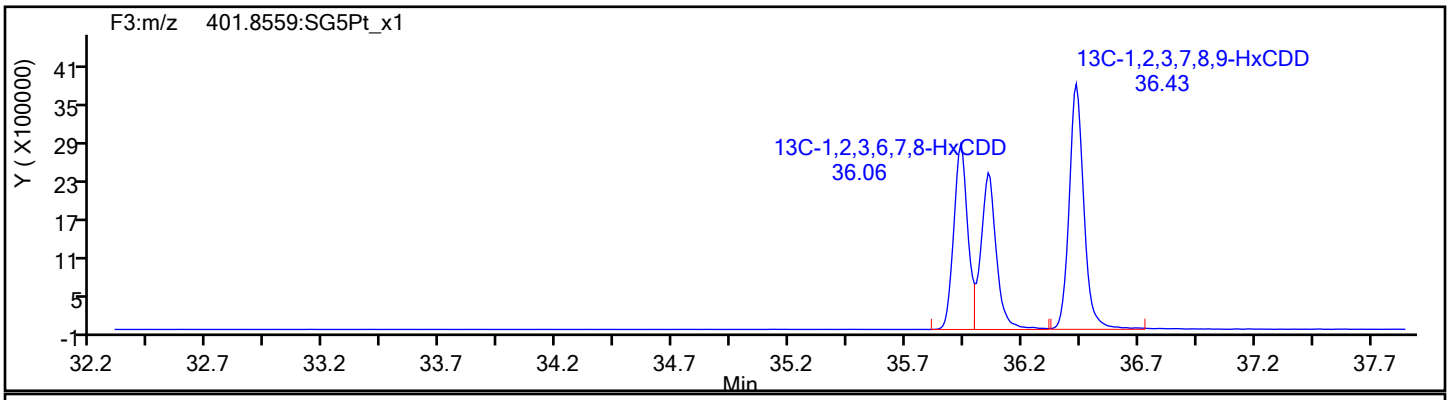
Column Type:	DB-5	Column Dia:	0.32 mm

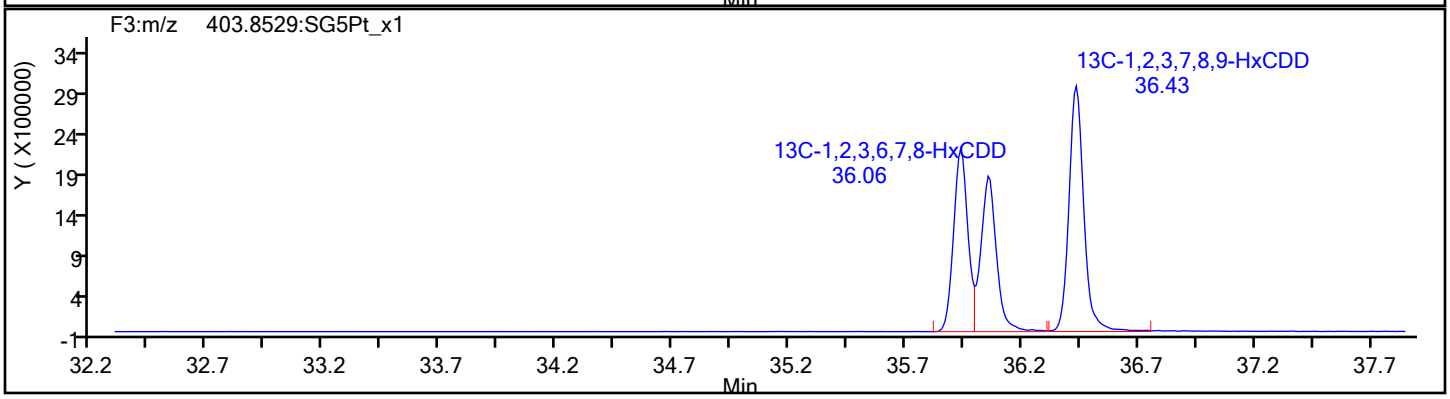
HxCDD





HxCDD Standards





Eurofins TestAmerica, Sacramento

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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S020		
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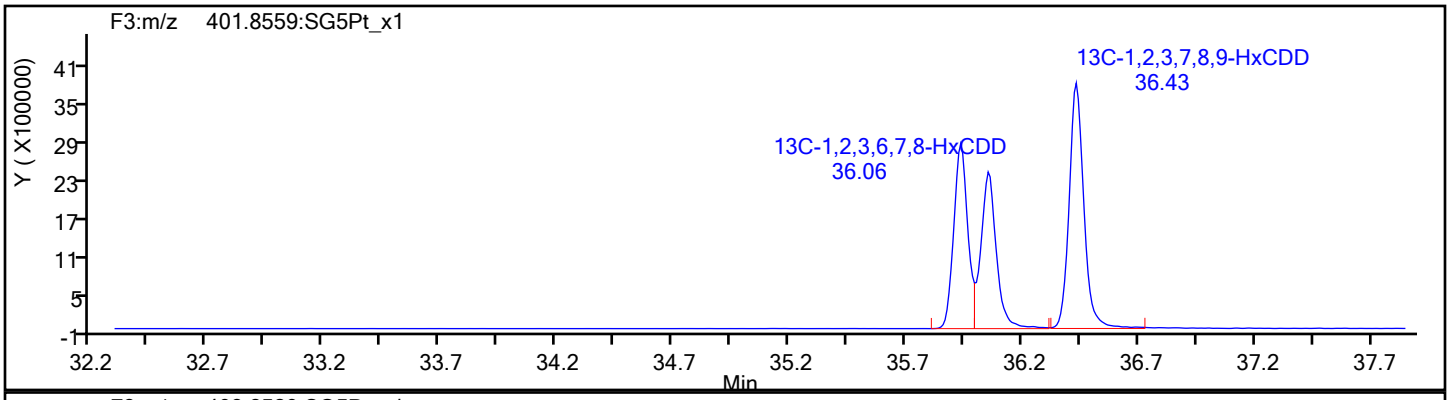
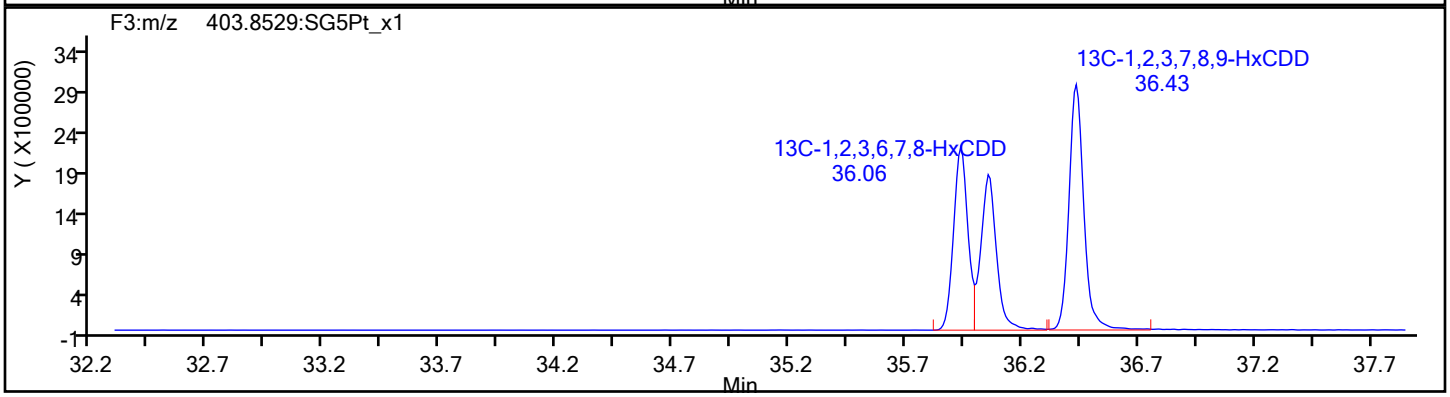
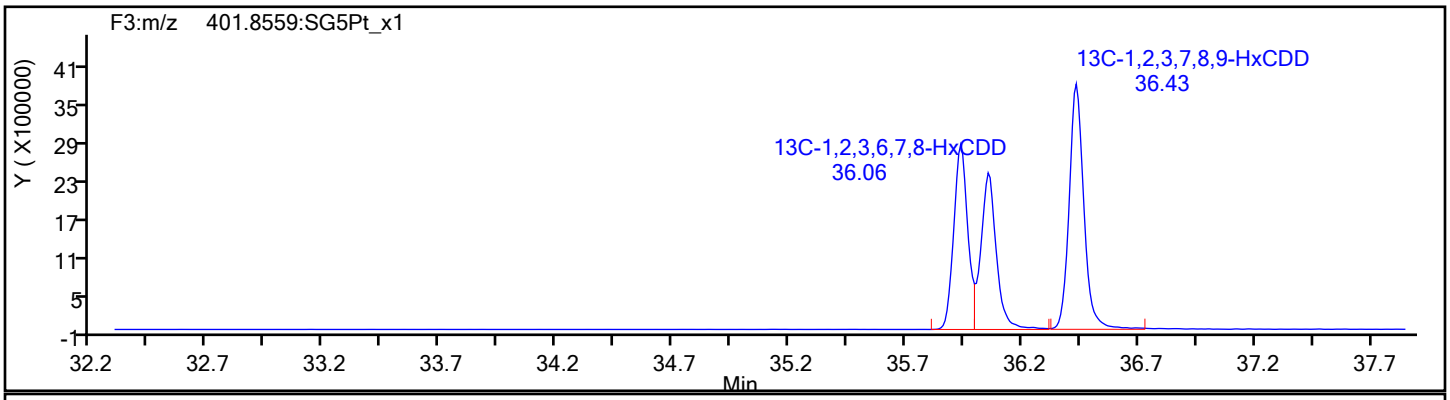
Column Type:	DB-5	Column Dia:	0.32 mm

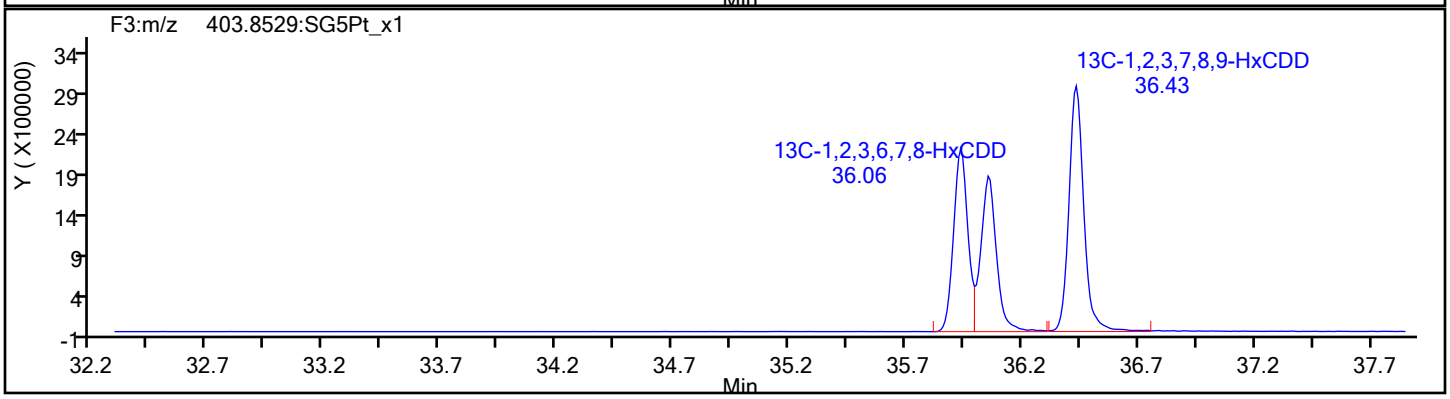
13C-HxCDD





13C-HxCDD Standards





Report Date: 28-Dec-2021 14:24:51 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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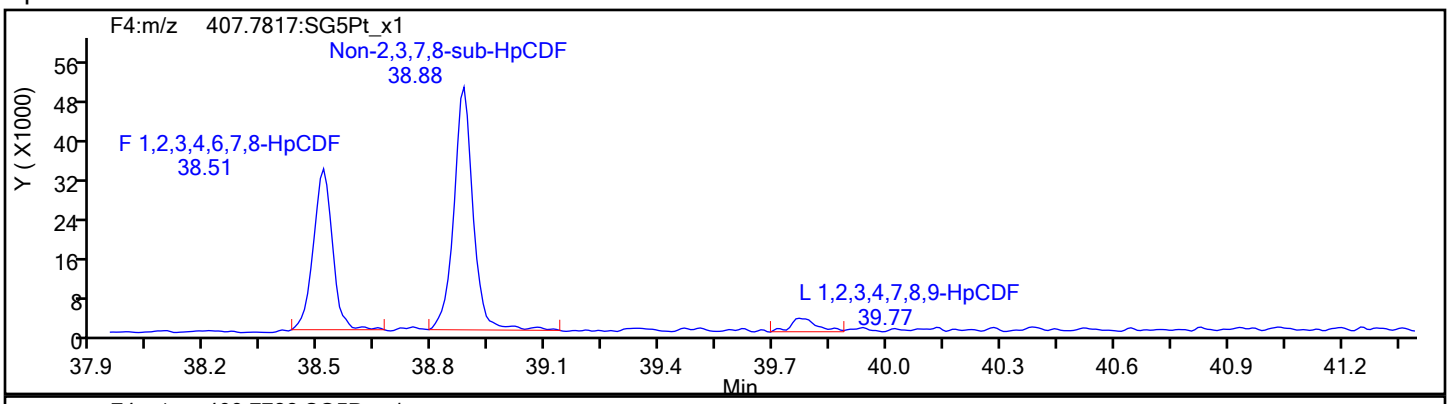
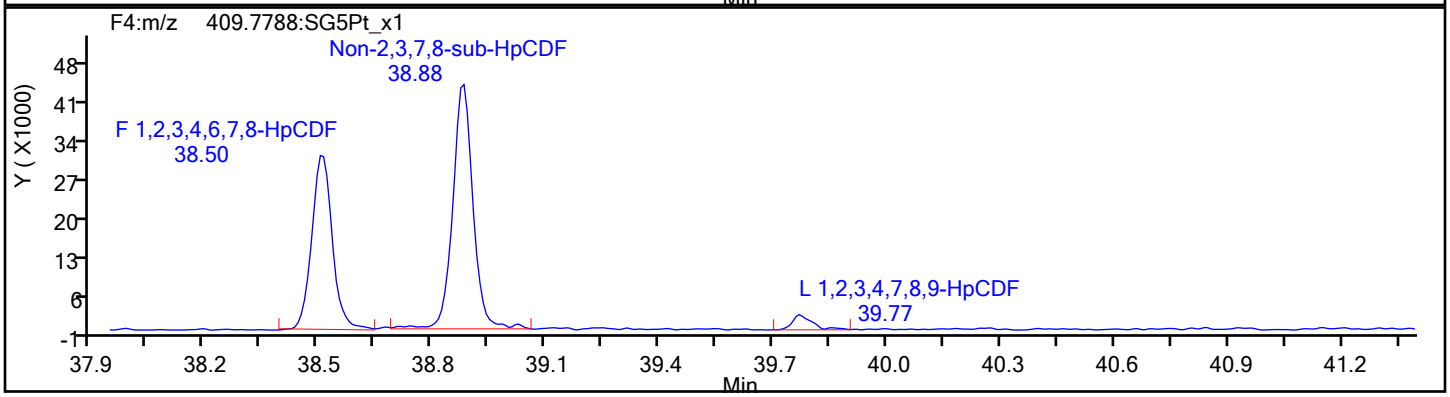
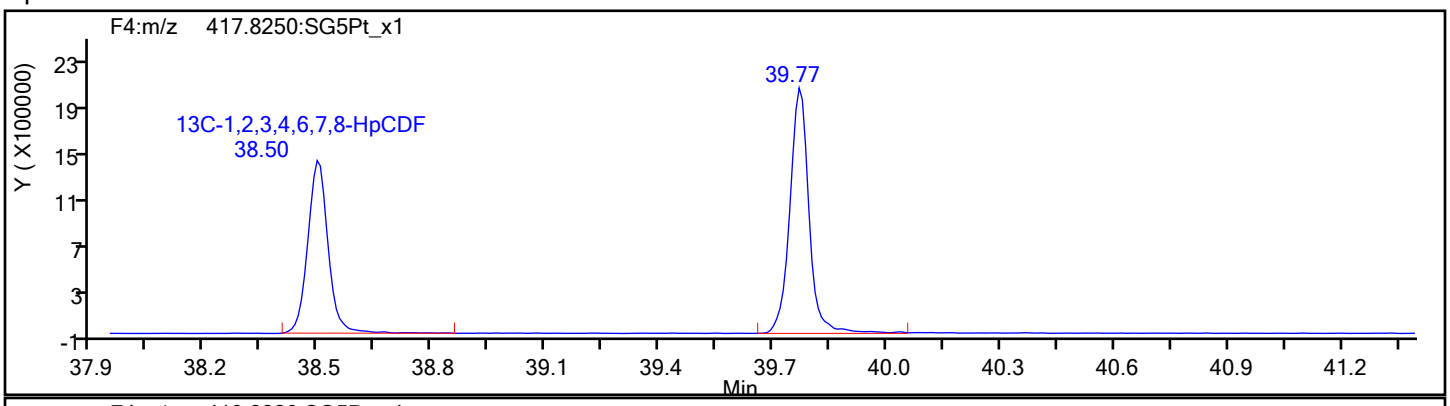
Column Type:	DB-5	Column Dia:	0.32 mm

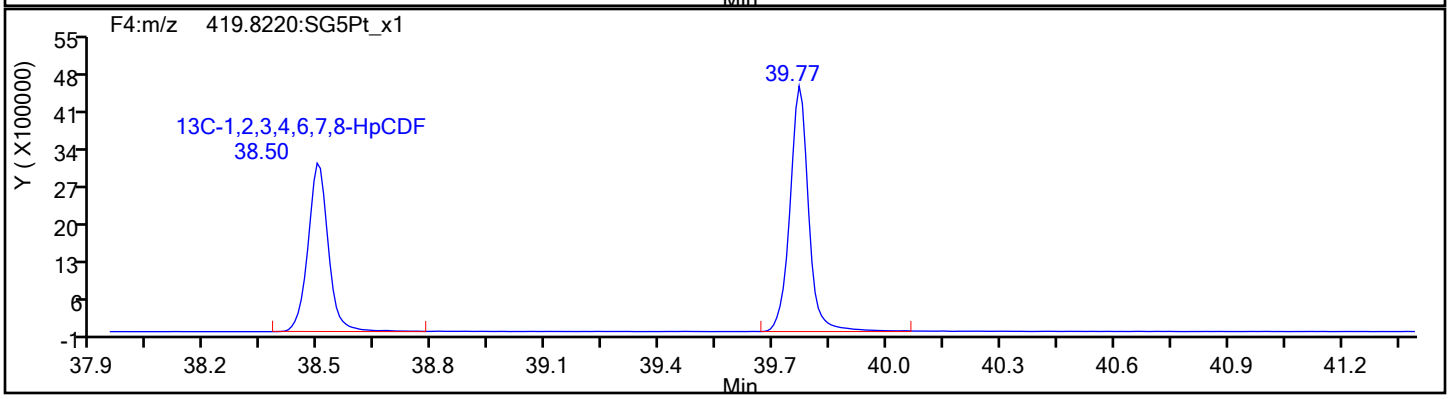
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

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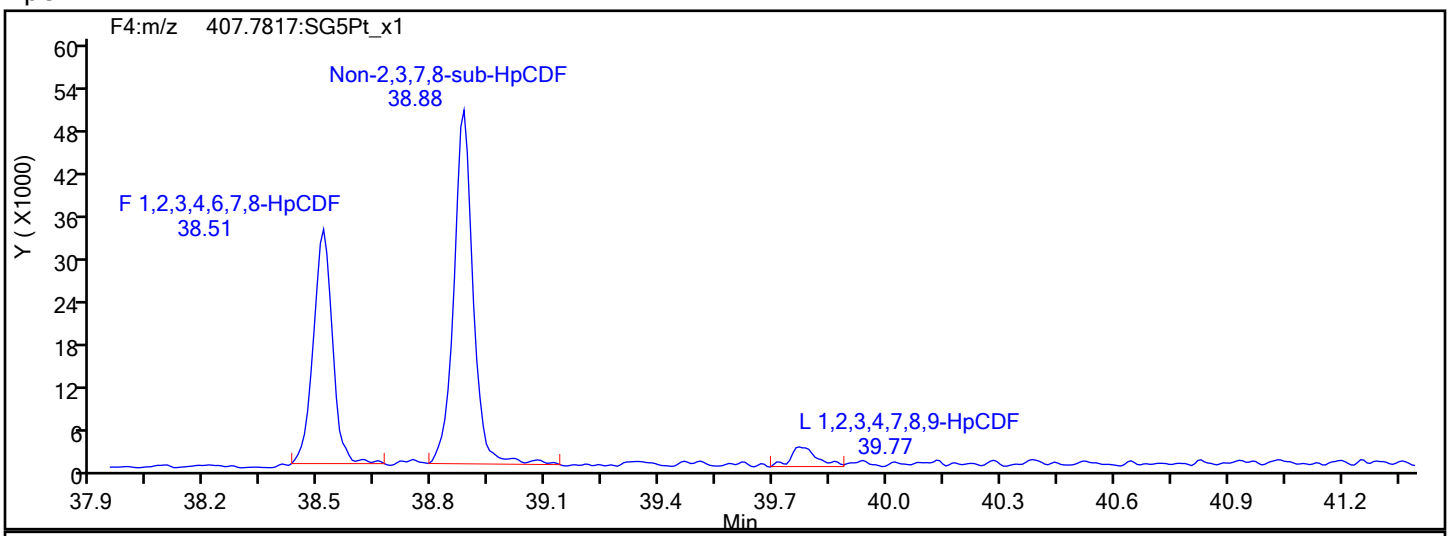
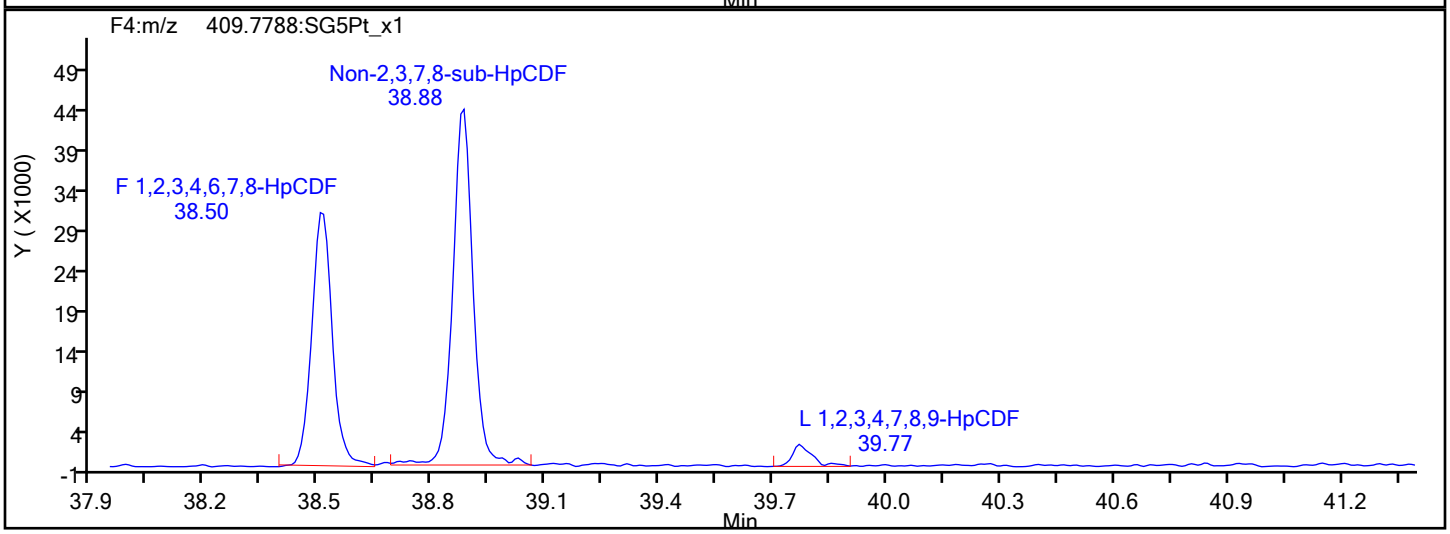
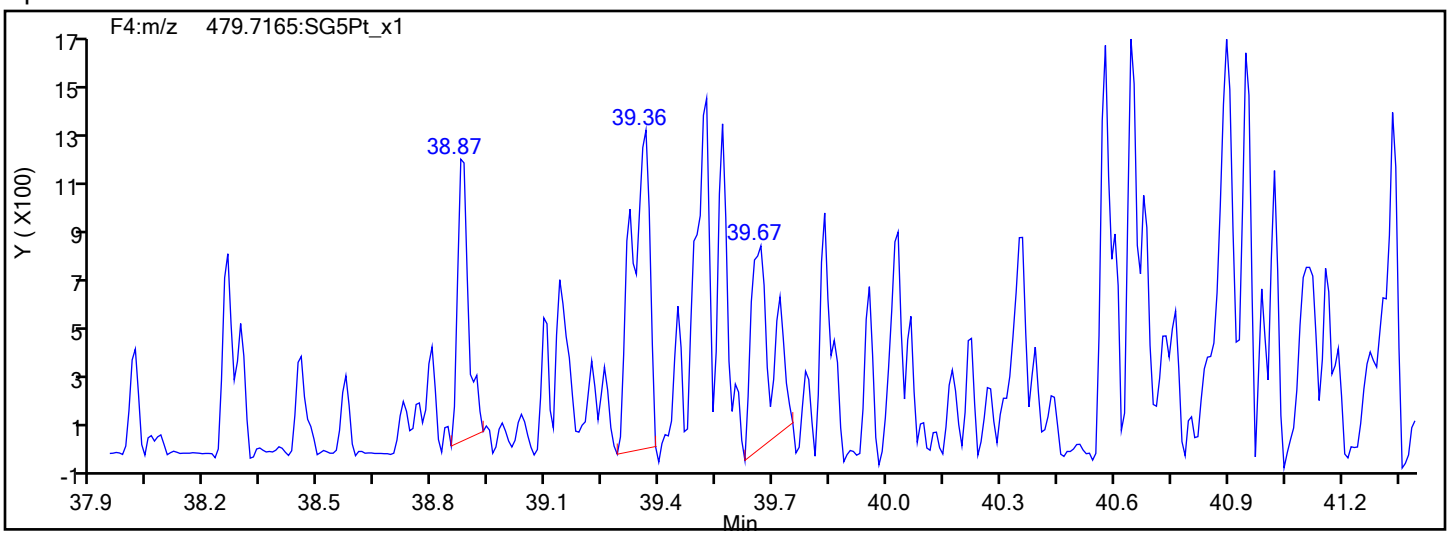
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S020		
Worklist#:	554312	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S020		
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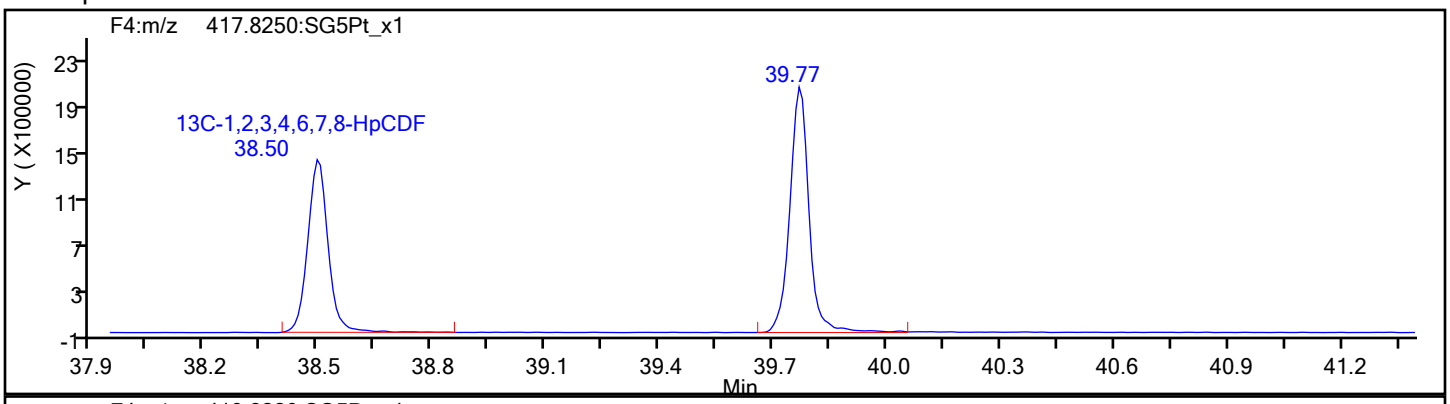
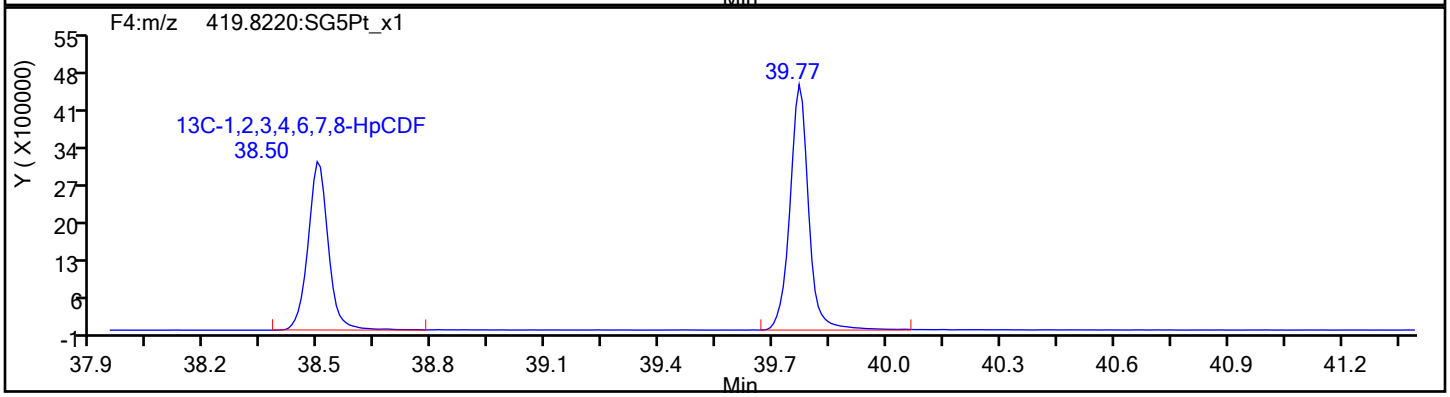
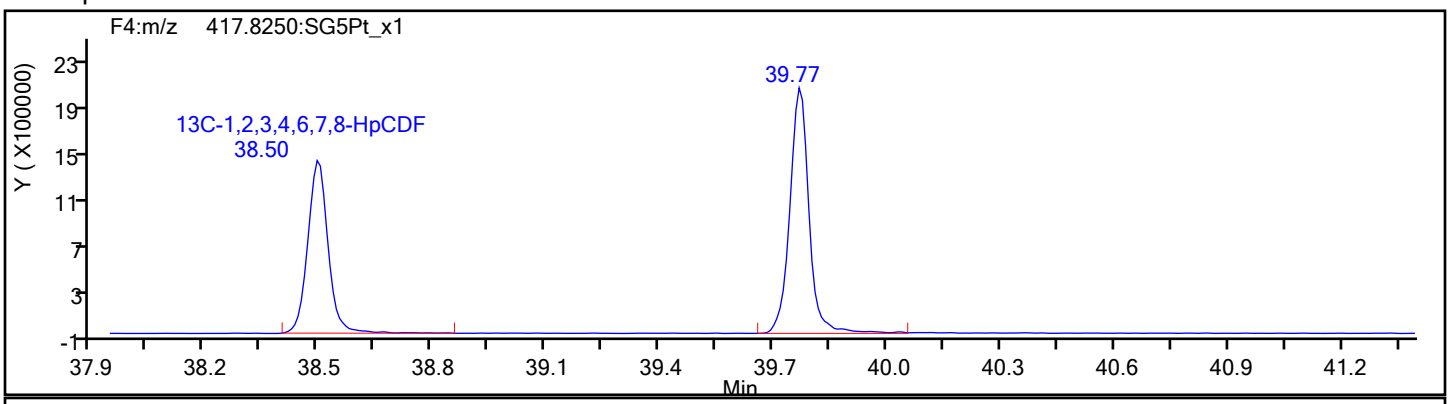
Column Type:	DB-5	Column Dia:	0.32 mm

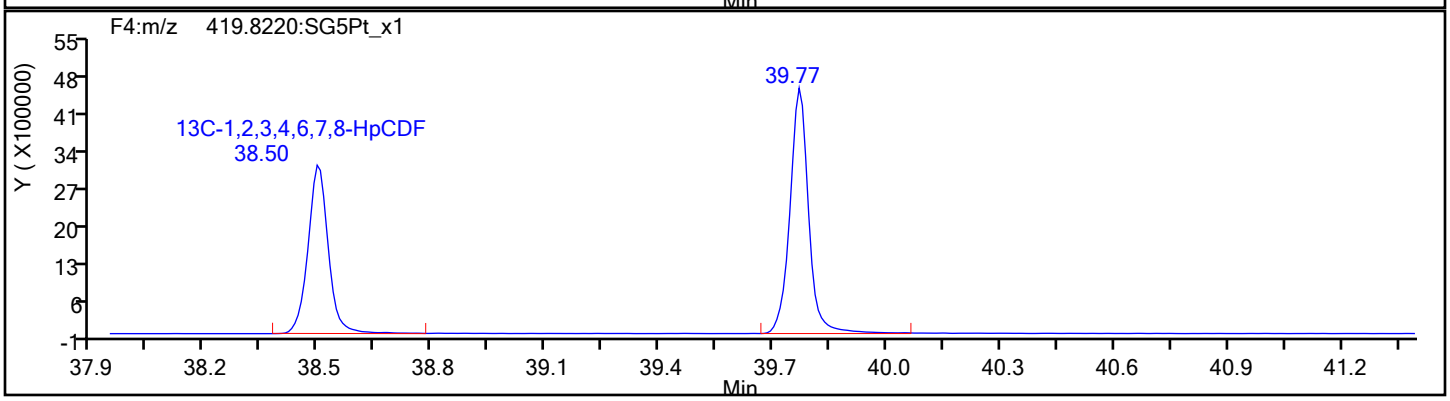
13C-HpCDF





13C-HpCDF Standards





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Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: A2BMP0007S020
Worklist#: 554312 Sample Line#: 8
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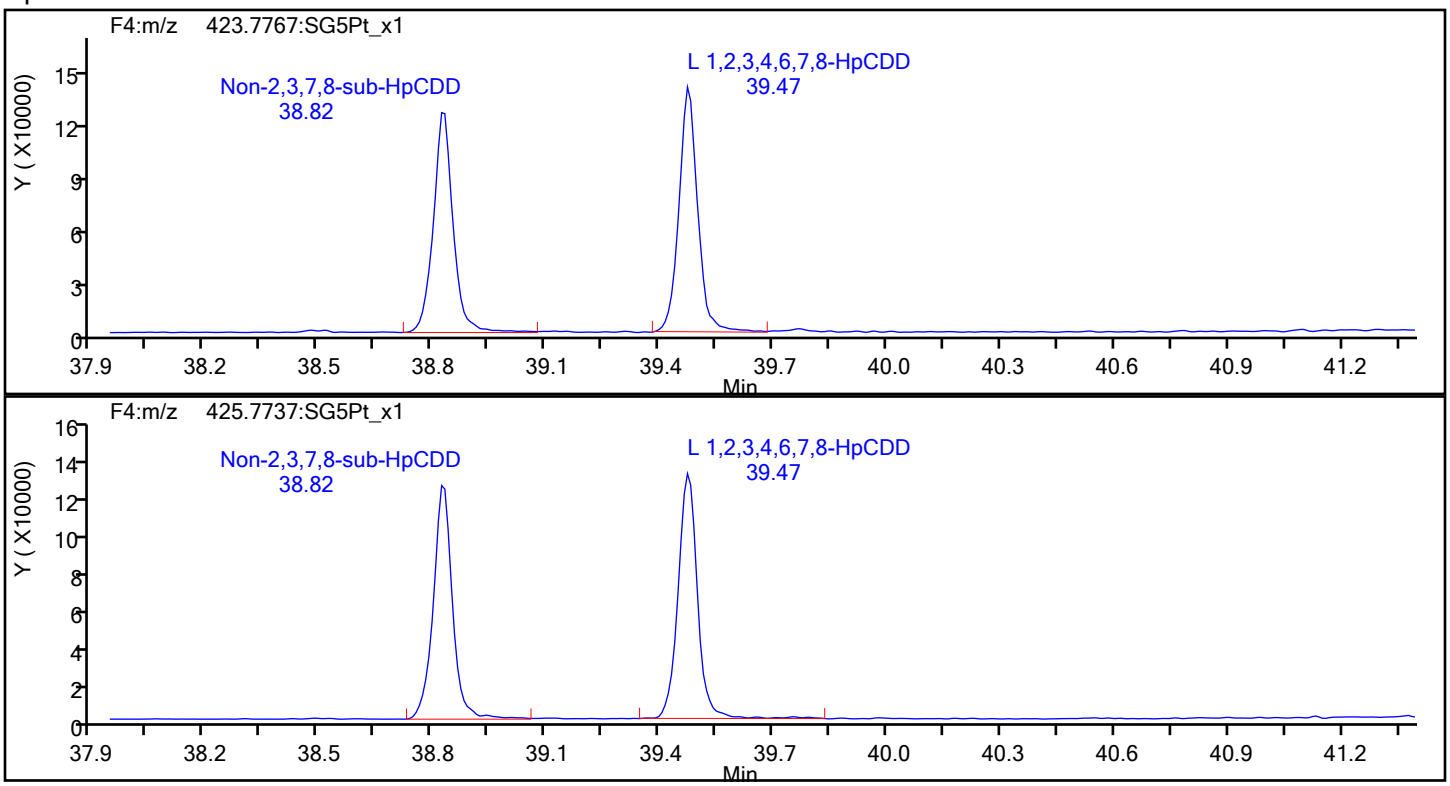
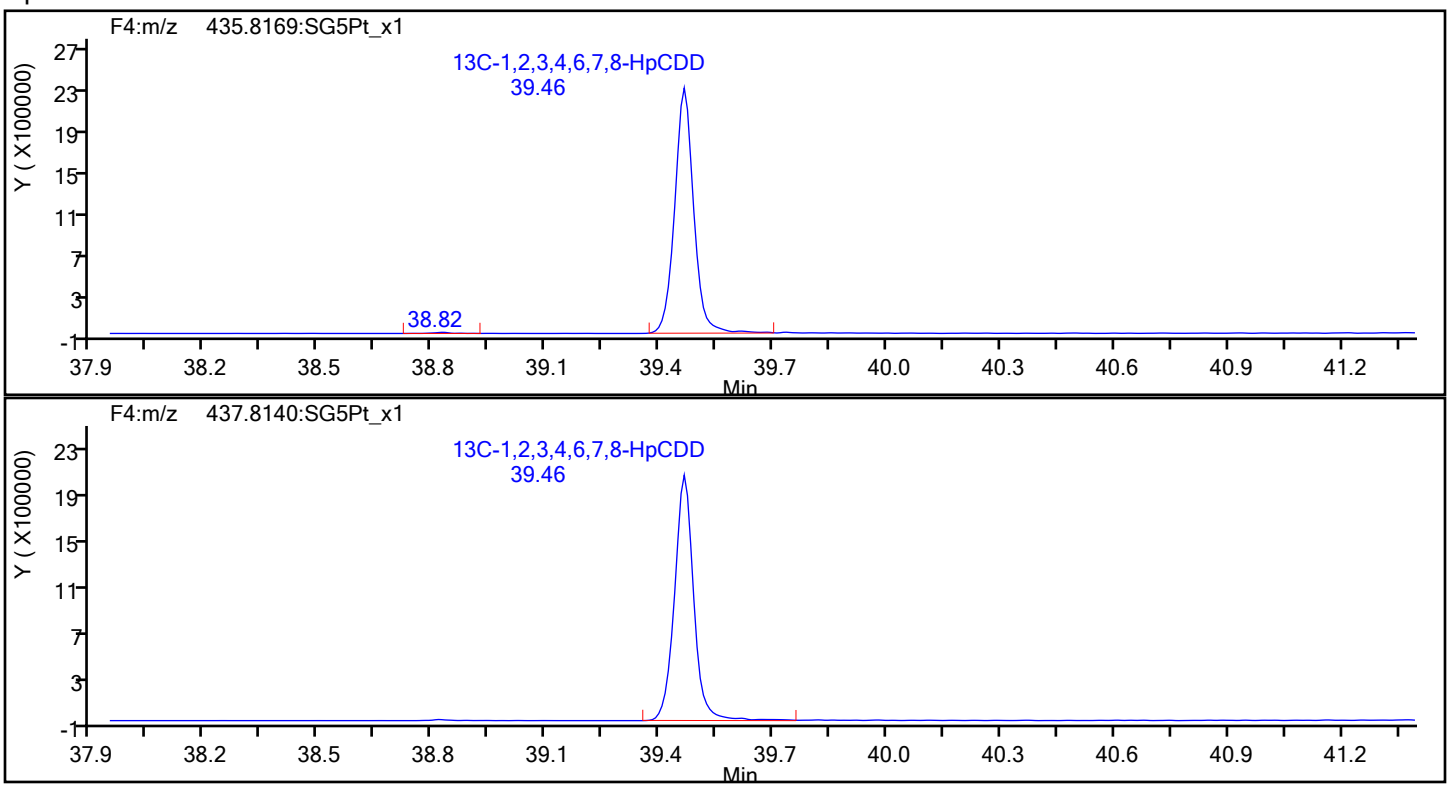
HpCDD



HpCDD Standards



Report Date: 28-Dec-2021 14:24:51 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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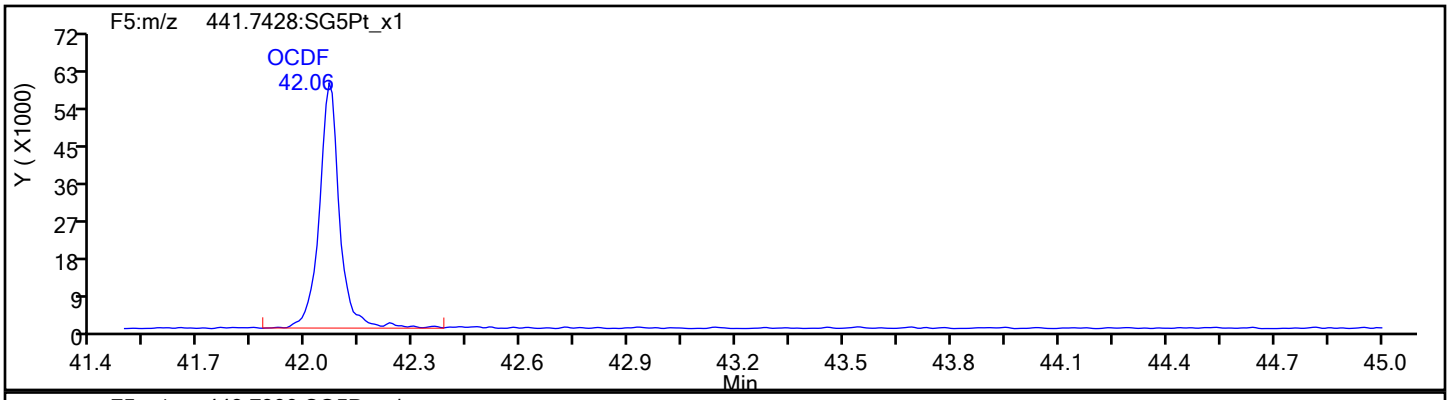
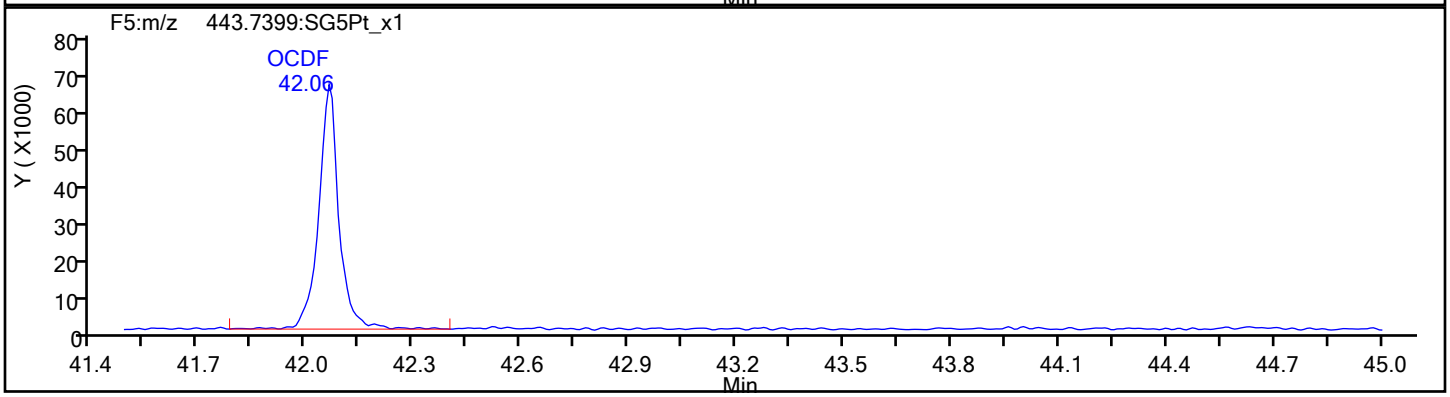
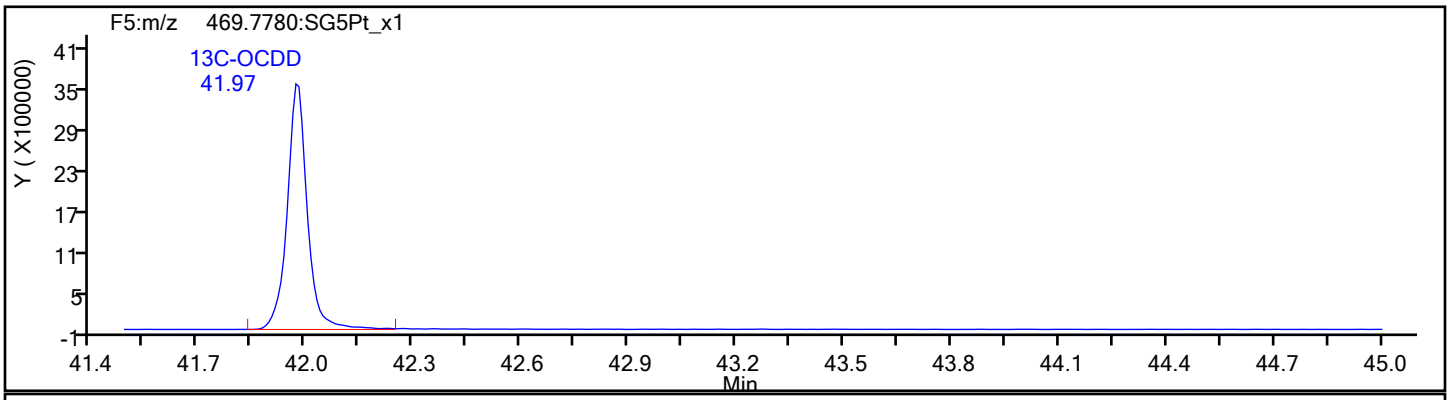
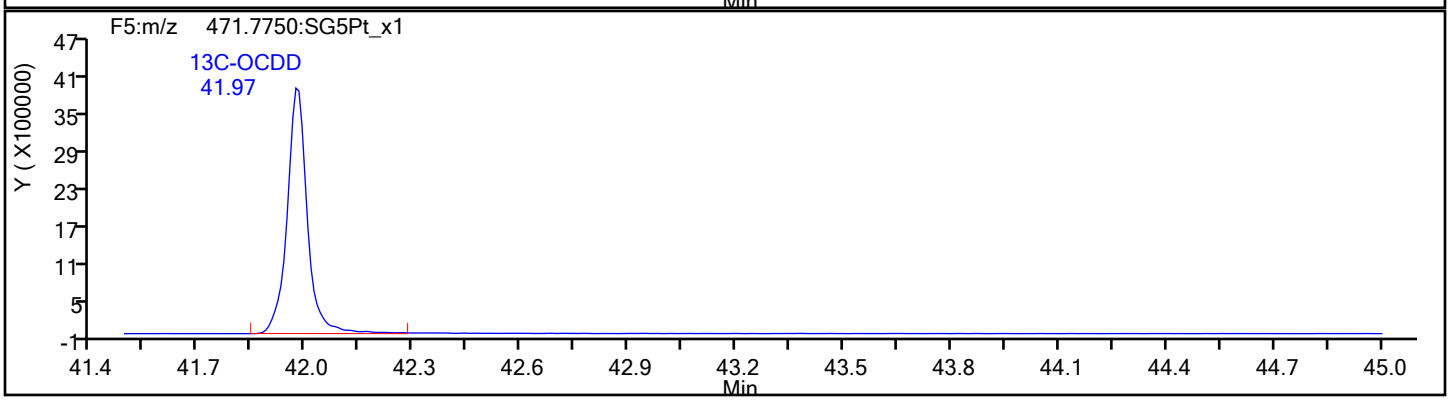
OCDF





OCDF Standards





Eurofins TestAmerica, Sacramento

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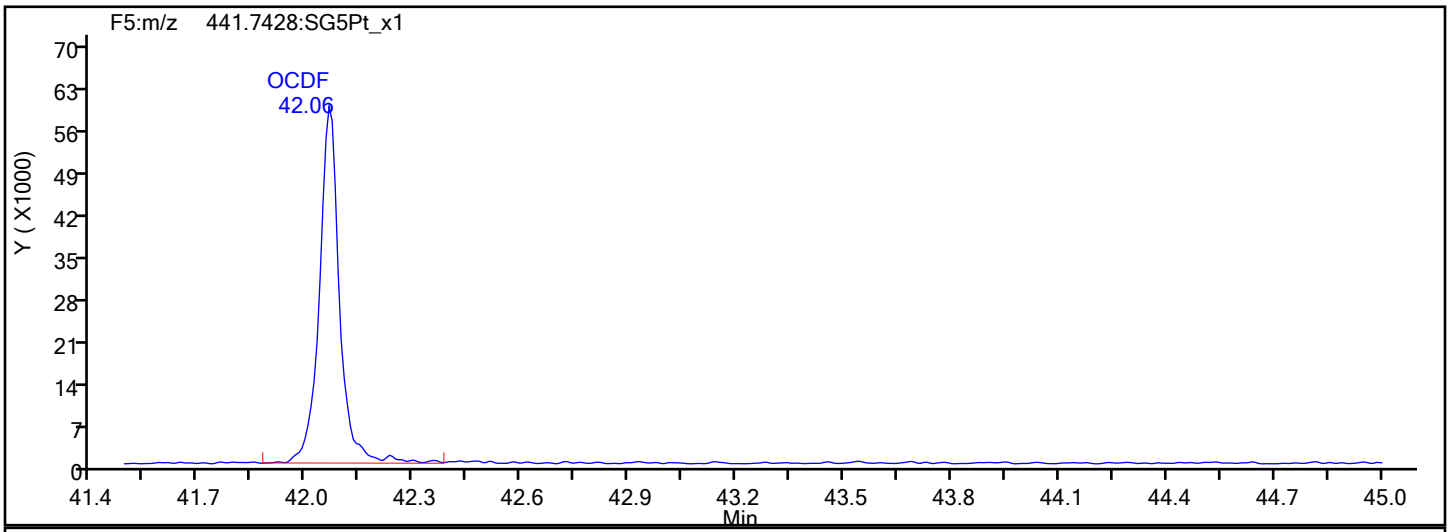
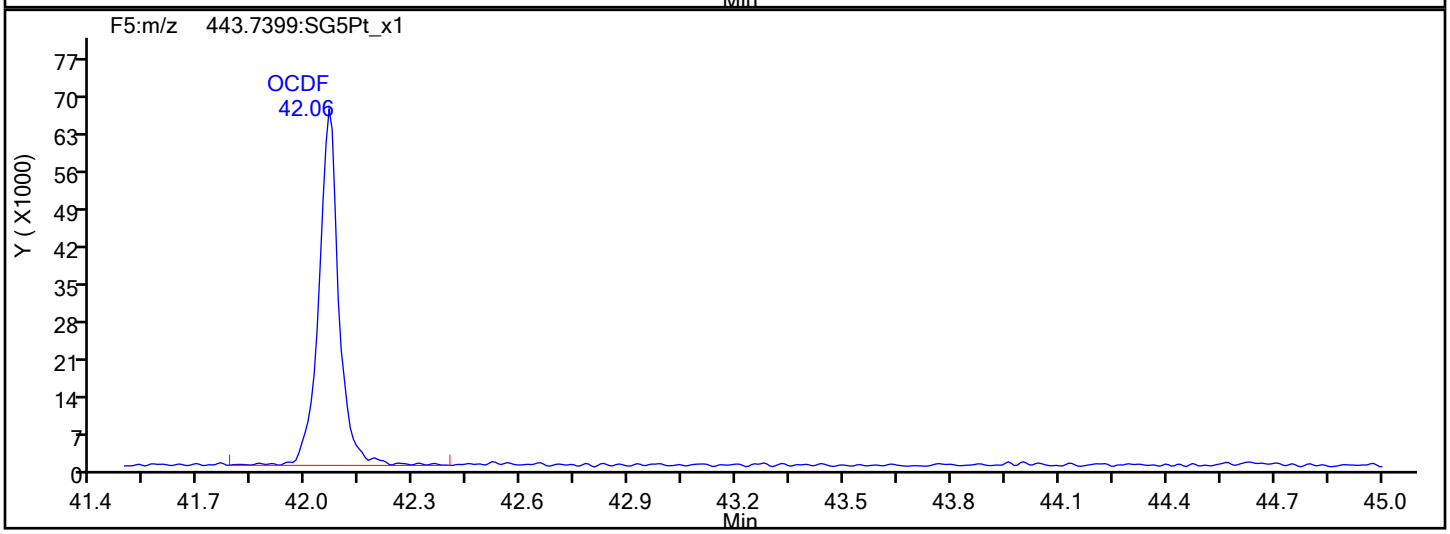
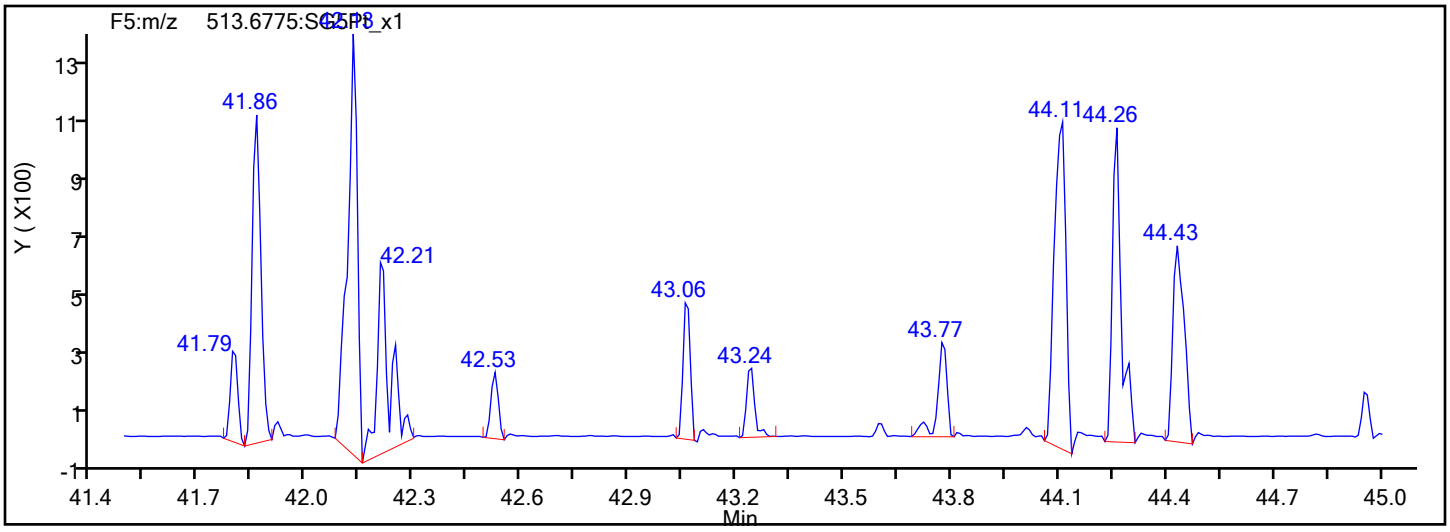
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



Report Date: 28-Dec-2021 14:24:51 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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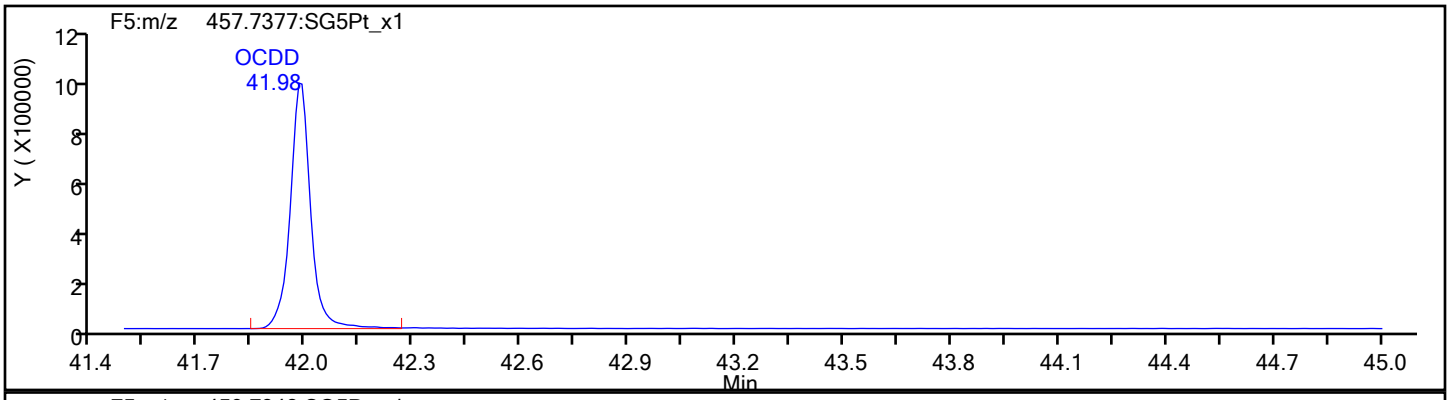
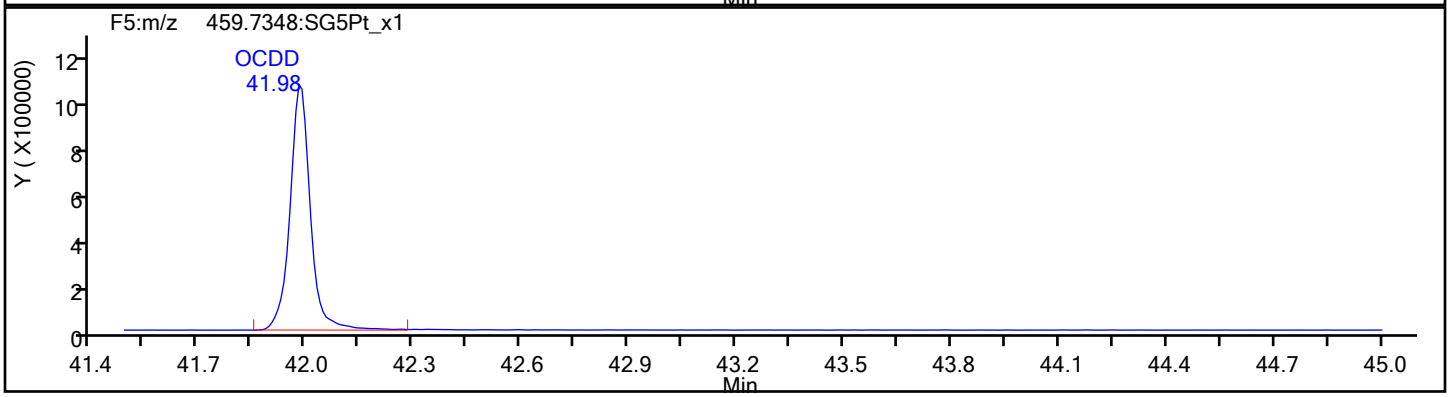
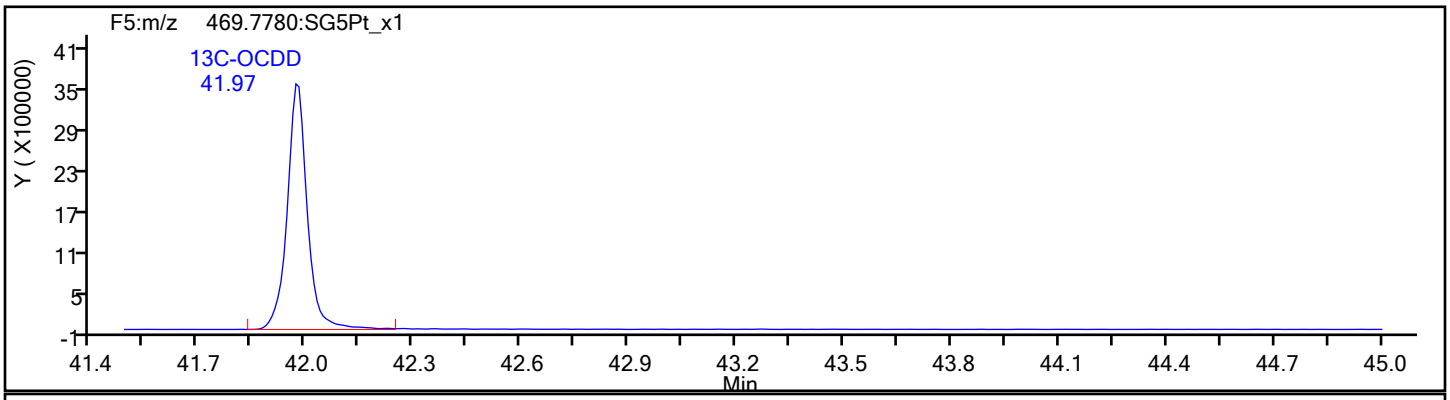
Column Type:	DB-5	Column Dia:	0.32 mm

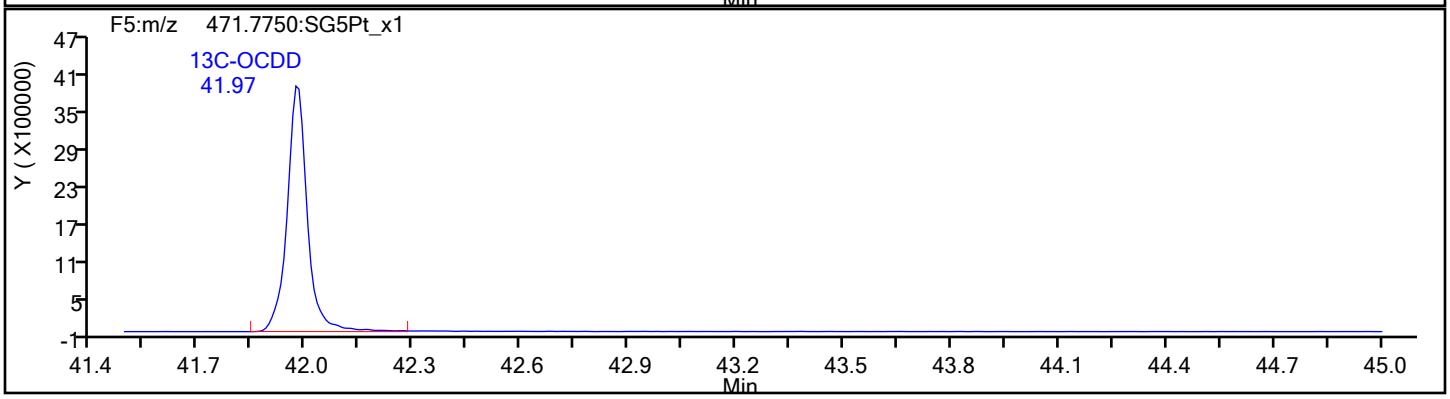
OCDD





OCDD Standards





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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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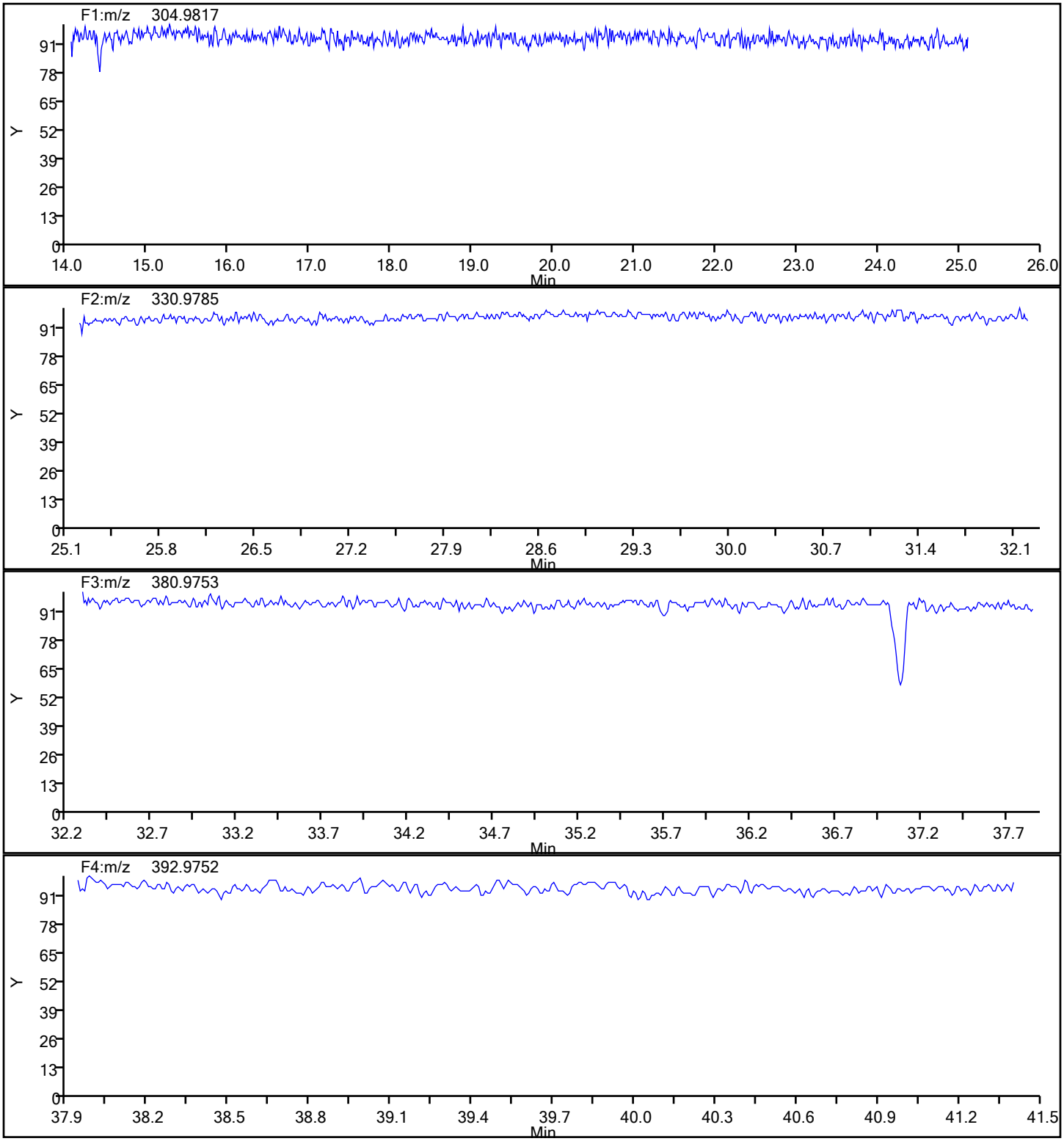

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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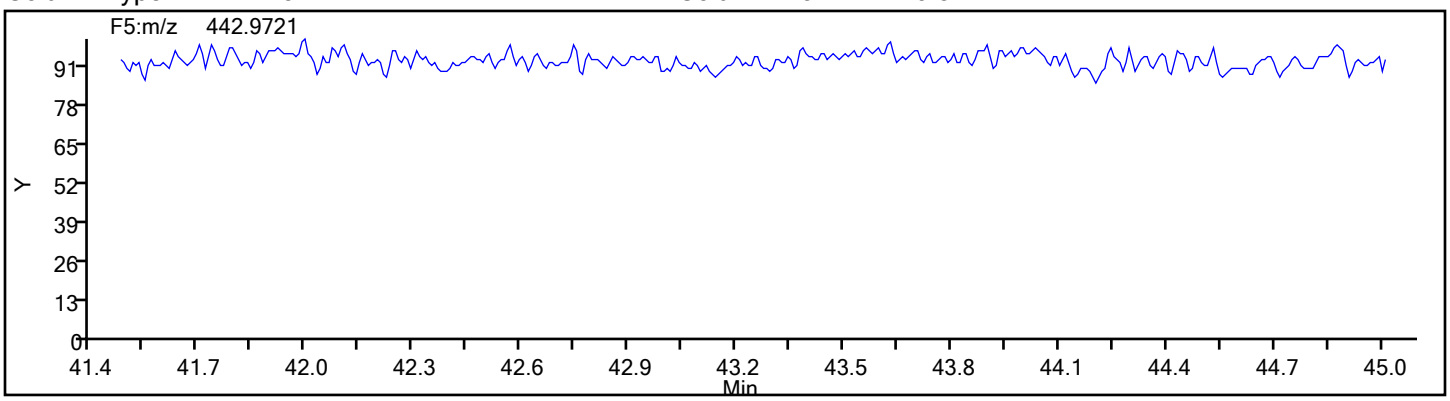


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Client Sample ID: A2BMP0012S009 Lab Sample ID: 570-78855-3

Matrix: Water Lab File ID: 27de21adfs1_20.d

Analysis Method: 8290 Date Collected: 12/14/2021 08:15

Extract. Method: 8290 Date Extracted: 12/21/2021 08:52

Sample wt/vol: 1043(mL) Date Analyzed: 12/28/2021 01:45

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 554312 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.6	0.94
51207-31-9	2,3,7,8-TCDF	ND		9.6	0.31
40321-76-4	1,2,3,7,8-PeCDD	ND		48	0.70
57117-41-6	1,2,3,7,8-PeCDF	0.68	J q B	48	0.38
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.40
39227-28-6	1,2,3,4,7,8-HxCDD	4.8	J B	48	0.48
57653-85-7	1,2,3,6,7,8-HxCDD	9.8	J B	48	0.48
19408-74-3	1,2,3,7,8,9-HxCDD	6.1	J B	48	0.44
70648-26-9	1,2,3,4,7,8-HxCDF	1.7	J B	48	0.41
57117-44-9	1,2,3,6,7,8-HxCDF	1.8	J B	48	0.40
60851-34-5	2,3,4,6,7,8-HxCDF	1.4	J q B	48	0.43
72918-21-9	1,2,3,7,8,9-HxCDF	1.2	J B	48	0.46
35822-46-9	1,2,3,4,6,7,8-HpCDD	190	B	48	1.5
67562-39-4	1,2,3,4,6,7,8-HpCDF	37	J B	48	0.75
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.2	J B	48	0.85
3268-87-9	OCDD	1500	B	96	2.1
39001-02-0	OCDF	89	J B	96	0.63

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	86		40-135
89059-46-1	13C-2,3,7,8-TCDF	89		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	80		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	84		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	92		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	85		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	89		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	90		40-135
114423-97-1	13C-OCDD	108		40-135

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d
Lims ID: 570-78855-E-3-A
Client ID: A2BMP0012S009
Sample Type: Client
Inject. Date: 28-Dec-2021 01:45:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-78855-e-3-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:37:59

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.949	26114650	0.81	2.2E+05	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.986	30025913	0.82	1.2917	89.0	89.0	0.3088	0.3088	89.01	
2,3,7,8-TCDF	20.025						0.0164	0.0164		
A Non-2,3,7,8-sub-TCDF	19.632						0.0164	0.0164		
S Total TCDF							0.0164	0.0164		
D 13C-2,3,7,8-TCDD	21.319	18663214	0.82	0.8271	86.4	86.4	0.2255	0.2255	86.40	
2,3,7,8-TCDD	21.384						0.0489	0.0489		
A Non-2,3,7,8-sub-TCDD	20.470						0.0489	0.0489		
S Total TCDD							0.0489	0.0489		
D 13C-1,2,3,7,8-PeCDF	26.925	25559035	1.63	1.1665	83.9	83.9	0.4118	0.4118	83.90	
1,2,3,7,8-PeCDF	26.942	9963	1.55	1.0987	0.0445	0.0355	0.0199	0.0199		RQM
2,3,4,7,8-PeCDF	28.486						0.0207	0.0207		
A F1 PeCDFs	24.442						0.008063	0.008063		
A Non-2,3,7,8-sub-PeCDF	27.884	18891	1.55	1.0783	0.0771	0.0685	0.0203	0.0685		RQ
S Total PeCDF					0.1216	0.1040	0.0203	0.0203		RQ
D 13C-1,2,3,7,8-PeCDD	29.242	14229779	1.59	0.6835	79.7	79.7	0.1455	0.1455	79.72	
1,2,3,7,8-PeCDD	29.303						0.0364	0.0364		
A Non-2,3,7,8-sub-PeCDD	28.134						0.0364	0.0364		
S Total PeCDD							0.0364	0.0364		
D 13C-1,2,3,4,7,8-HxCDF	34.704	29587332	0.54	1.1776	85.5	85.5	0.3752	0.3752	85.47	
1,2,3,4,7,8-HxCDF	34.713	25353	1.20	0.9504	0.0902	0.0902	0.0212	0.0212		
1,2,3,6,7,8-HxCDF	34.890	26237	1.16	0.9524	0.0931	0.0931	0.0211	0.0211		
2,3,4,6,7,8-HxCDF	35.741	19635	1.24	0.8893	0.0842	0.0746	0.0226	0.0226		RQM
D 13C-1,2,3,7,8,9-HxCDF	36.634	22963733	0.54							
1,2,3,7,8,9-HxCDF	36.643	14998	1.12	0.8433	0.0601	0.0601	0.0238	0.0238		M
A Non-2,3,7,8-sub-HxCDF	34.874	334745	1.17	0.9089	1.245	1.245	0.0221	0.6859		
S Total HxCDF					1.572	1.563	0.0222	0.0222		RQ
* 13C-1,2,3,7,8,9-HxCDD	36.449	29396952	1.27	2.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.960	50014	1.23	1.0079	0.2506	0.2506	0.0249	0.0249		
D 13C-1,2,3,6,7,8-HxCDD	36.070	19802104	1.28	0.7339	91.8	91.8	0.2485	0.2485	91.78	
1,2,3,6,7,8-HxCDD	36.086	102142	1.09	1.0111	0.5101	0.5101	0.0248	0.0248		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.457	69396	1.23	1.0993	0.3188	0.3188	0.0228	0.0228		M
A Non-2,3,7,8-sub-HxCDD	35.257	232358	1.24	1.0394	1.161	1.129	0.0241	0.7756		RQ
S Total HxCDD					2.241	2.208	0.0241	0.0241		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.517	17707153	0.46	0.6698	89.9	89.9	0.5291	0.5291	89.93	
1,2,3,4,6,7,8-HpCDF	38.525	517235	1.11	1.5184	1.924	1.924	0.0390	0.0390		
1,2,3,4,7,8,9-HpCDF	39.798	26601	1.09	1.3387	0.1122	0.1122	0.0442	0.0442		
A Non-2,3,7,8-sub-HpCDF	39.191	820167	1.00	1.4286	3.242	3.242	0.0414	3.242		
S Total HpCDF					5.278	5.278	0.0416	0.0416		
D 13C-1,2,3,4,6,7,8-HpCDD	39.477	15624173	1.08	0.5943	89.4	89.4	0.2895	0.2895	89.43	
1,2,3,4,6,7,8-HpCDD	39.494	1707520	1.07	1.0953	9.978	9.978	0.0804	0.0804		
A Non-2,3,7,8-sub-HpCDD	39.200	1277826	1.04	1.0953	7.467	7.467	0.0804	7.467		
S Total HpCDD					17.4	17.4	0.0804	0.0804		
D 13C-OCDD	41.991	30845525	0.90	0.4838	216.9	216.9	0.4033	0.4033	108	
OCDF	42.083	999321	0.86	1.3979	4.635	4.635	0.0330	0.0330		
OCDD	41.999	13268156	0.91	1.1116	77.4	77.4	0.1081	0.1081		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d
Lims ID: 570-78855-E-3-A
Client ID: A2BMP0012S009
Sample Type: Client
Inject. Date: 28-Dec-2021 01:45:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-78855-e-3-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:37:59

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	20.949	20.980	-2		11682178	1686914	2066	5165	817		a
333.9338	20.949	20.980	-2		14432472	2061564	731	1827	2820	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.986	20.017	-2	0.954	13527624	1979085	3733	9332	530		
317.9389	19.986	20.017	-2	0.954	16498289	2528767	2248	5620	1125	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	20.025						37	92			
305.8987	20.025						289	722			
A Non-2,3,7,8-sub-TCDF											
303.9016	19.632						37	92			
305.8987	19.632						289	722			
13C-2,3,7,8-TCDD											
331.9368	21.319	21.350	-2	1.018	8423193	1215347	2066	5165	588		
333.9338	21.319	21.350	-2	1.018	10240021	1445946	731	1827	1978	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.384						487	1217			
321.8936	21.384						97	242			
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						487	1217			
321.8936	20.470						97	242			
13C-1,2,3,7,8-PeCDF											
351.9000	26.925	26.962	-2	1.285	15822846	2505165	4329	10822	579		
353.8970	26.925	26.962	-2	1.285	9736189	1578090	2874	7185	549	1.63(1.32-1.78)	
1,2,3,7,8-PeCDF											RQM
339.8597	26.942	26.979	-2	1.001	6056	1253	87	217	14		M
341.8567	26.985	26.979	0	1.002	6444	1391	271	677	5	0.94(1.32-1.78)	M
	Empc Correction				3907	808	271	677	3		

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.486						87	217			
341.8567	28.486						271	677			
A F1 PeCDFs											
339.8597	24.442						19	47			
341.8567	24.442						123	307			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	25.518	27.884	-142	0.948	11483	1579	87	217	18		
341.8567	25.501	27.884	-143	0.947	9769	1754	271	677	6	1.18(1.32-1.78)	
	Empc Correction				7408	1018	271	677	4		
13C-1,2,3,7,8-PeCDD											
367.8949	29.242	29.269	-2	1.396	8742275	1259536	1028	2570	1225		
369.8919	29.242	29.269	-2	1.396	5487504	801732	463	1157	1732	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.303						299	747			
357.8516	29.303						32	80			
A Non-2,3,7,8-sub-PeCDD											
355.8546	28.134						299	747			
357.8516	28.134						32	80			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.704	34.727	-1	0.952	10330920	2033320	3995	9987	509		
385.8610	34.704	34.727	-1	0.952	19256412	3859575	7384	18460	523	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.713	34.752	-2	1.000	13814	2561	269	672	10		
375.8178	34.730	34.752	-1	1.001	11539	2371	205	512	12	1.20(1.05-1.43)	
1,2,3,6,7,8-HxCDF											
373.8208	34.890	34.920	-2	1.005	14077	2648	269	672	10		
375.8178	34.873	34.920	-3	1.005	12160	2384	205	512	12	1.16(1.05-1.43)	
2,3,4,6,7,8-HxCDF											RQM
373.8208	35.741	35.762	-1	1.030	13377	2632	269	672	10		
	Empc Correction				10869	2105	269	672	8		
375.8178	35.732	35.762	-2	1.030	8766	1698	205	512	8	1.53(1.05-1.43)	M
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.634	36.655	-1	1.005	8071518	1791792	3995	9987	449		
385.8610	36.634	36.655	-1	1.005	14892215	3354071	7384	18460	454	0.54(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.643	36.671	-2	1.056	7940	1706	269	672	6		M
375.8178	36.643	36.671	-2	1.056	7058	1917	205	512	9	1.12(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	33.154	34.874	-103	0.955	82097	11657	269	672	43		
375.8178	33.171	34.874	-102	0.956	68210	10409	205	512	51	1.20(1.05-1.43)	
373.8208	34.072	34.874	-48	0.982	98288	16463	269	672	61		
375.8178	34.072	34.874	-48	0.982	86150	14404	205	512	70	1.14(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.449	36.469	-1		16442855	3620831	2854	7135	1269		
403.8529	36.449	36.469	-1		12954097	2817530	1842	4605	1530	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											
389.8158	35.960	35.981	-1	0.997	27587	7339	227	567	32		
391.8127	35.960	35.981	-1	0.997	22427	5477	210	525	26	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.070	36.090	-1	0.990	11133415	2458153	2854	7135	861		
403.8529	36.070	36.090	-1	0.990	8668689	1901722	1842	4605	1032	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	36.086	36.107	-1	1.000	53299	11601	227	567	51		
391.8127	36.078	36.107	-2	1.000	48843	10280	210	525	49	1.09(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8158	36.457	36.478	-1	1.011	38255	9002	227	567	40		M
391.8127	36.457	36.478	-1	1.011	31141	6398	210	525	30	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8158	33.996	35.257	-75	0.943	34552	6317	227	567	28		
391.8127	33.988	35.257	-76	0.942	25296	4892	210	525	23	1.37(1.05-1.43)	
389.8158	34.814	35.257	-27	0.965	13778	2343	227	567	10		
	Empc Correction				7122	1581	227	567	7		
391.8127	34.805	35.257	-27	0.965	5744	1275	210	525	6	2.40(1.05-1.43)	
389.8158	35.185	35.257	-4	0.975	87383	14368	227	567	63		
391.8127	35.176	35.257	-5	0.975	72261	12458	210	525	59	1.21(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.517	38.526	-1	1.057	5594800	1518377	3141	7852	483		
419.8220	38.517	38.526	-1	1.057	12112353	3307314	5986	14965	553	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.525	38.543	-1	1.000	272041	74692	766	1915	98		
409.7788	38.525	38.543	-1	1.000	245194	69437	377	942	184	1.11(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.798	39.806	-1	1.033	13853	4951	766	1915	6		
409.7788	39.798	39.806	-1	1.033	12748	4130	377	942	11	1.09(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.896	39.191	-18	1.010	409766	117179	766	1915	153		
409.7788	38.896	39.191	-18	1.010	410401	114151	377	942	303	1.00(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.477	39.495	-1	1.083	8124104	2378218	2337	5842	1018		
437.8140	39.477	39.495	-1	1.083	7500069	2193749	2094	5235	1048	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.494	39.503	-1	1.000	880970	265308	904	2260	293		
425.7737	39.494	39.503	-1	1.000	826550	240641	707	1767	340	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.845	39.200	-21	0.984	652375	187239	904	2260	207		
425.7737	38.845	39.200	-21	0.984	625451	175473	707	1767	248	1.04(0.88-1.20)	
13C-OCDD											
469.7780	41.991	42.008	-1	1.152	14614268	3979944	2924	7310	1361		
471.7750	41.991	42.008	-1	1.152	16231257	4378587	2101	5252	2084	0.90(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDF											
441.7428	42.083	42.101	-1	1.002	460824	117219	254	635	461		
443.7399	42.083	42.101	-1	1.002	538497	136727	517	1292	264	0.86(0.76-1.02)	
OCDD											
457.7377	41.999	42.016	-1	1.000	6306694	1672908	933	2332	1793		
459.7348	41.999	42.016	-1	1.000	6961462	1849342	1076	2690	1719	0.91(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d
Lims ID: 570-78855-E-3-A
Client ID: A2BMP0012S009
Inject. Date: 28-Dec-2021 01:45:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 9

Non-2,3,7,8-sub-PeCDF, RT: 27.884

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.099	D 13C-1,2,3,7,8-PeCDF	100.000	25559035	4083255
2,3,4,7,8-PeCDF	1.058				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.078		100.000	25559035	4083255

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
25.518	11483	1579	9769	1754	0.0771	1.18	RQ
25.518	11483	1579	7408	1018	0.0685		Empc Correction
Signal Totals:							
	11483	1579	7408	1018			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	21252	3333				1.18	RQ
	18891	2597					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0771 = (21252 * 100.000) / (25559035 * 1.078)
Empc Amount: 0.0685 = (18891 * 100.000) / (25559035 * 1.078)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d
Lims ID: 570-78855-E-3-A
Client ID: A2BMP0012S009
Inject. Date: 28-Dec-2021 01:45:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDF, RT: 34.874

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.950	D 13C-1,2,3,4,7,8-HxCDF	100.000	29587332	5892895
1,2,3,6,7,8-HxCDF	0.952				
2,3,4,6,7,8-HxCDF	0.889				
1,2,3,7,8,9-HxCDF	0.843				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.909		100.000	29587332	5892895

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
33.154	82097	11657	68210	10409	0.5590	1.20	
34.072	98288	16463	86150	14404	0.6859	1.14	
Signal Totals:	180385	28120	154360	24813			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	334745	52933				1.17	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.245 = (334745 * 100.000) / (29587332 * 0.909)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d
Lims ID: 570-78855-E-3-A
Client ID: A2BMP0012S009
Inject. Date: 28-Dec-2021 01:45:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDD, RT: 35.257

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.008	D 13C-1,2,3,6,7,8-HxCDD	100.000	19802104	4359875
1,2,3,6,7,8-HxCDD	1.011				
1,2,3,7,8,9-HxCDD	1.099				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.039		100.000	19802104	4359875

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.996	34552	6317	25296	4892	0.2908	1.37	
34.814	13778	2343	5744	1275	0.0948	2.40	RQ
34.814	7122	1581	5744	1275	0.0625		Empc Correction
35.185	87383	14368	72261	12458	0.7756	1.21	
Signal Totals:							
	129057	22266	103301	18625			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	239014	41653				1.31	RQ
	232358	40891					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.161 = (239014 * 100.000) / (19802104 * 1.039)
Empc Amount: 1.129 = (232358 * 100.000) / (19802104 * 1.039)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d
Lims ID: 570-78855-E-3-A
Client ID: A2BMP0012S009
Inject. Date: 28-Dec-2021 01:45:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDF, RT: 39.191

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.518	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	17707153	4825691
1,2,3,4,7,8,9-HpCDF	1.339				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.429		100.000	17707153	4825691

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.896	409766	117179	410401	114151	3.24	1.00	
Signal Totals:							
	409766	117179	410401	114151			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	820167	231330				1.00	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.242 = (820167 * 100.000) / (17707153 * 1.429)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d
Lims ID: 570-78855-E-3-A
Client ID: A2BMP0012S009
Inject. Date: 28-Dec-2021 01:45:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDD, RT: 39.200

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.095	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	15624173	4571967

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.095		100.000	15624173	4571967

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.845	652375	187239	625451	175473	7.47	1.04	
Signal Totals:	652375	187239	625451	175473			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1277826	362712				1.04	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 7.467 = (1277826 * 100.000) / (15624173 * 1.095)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

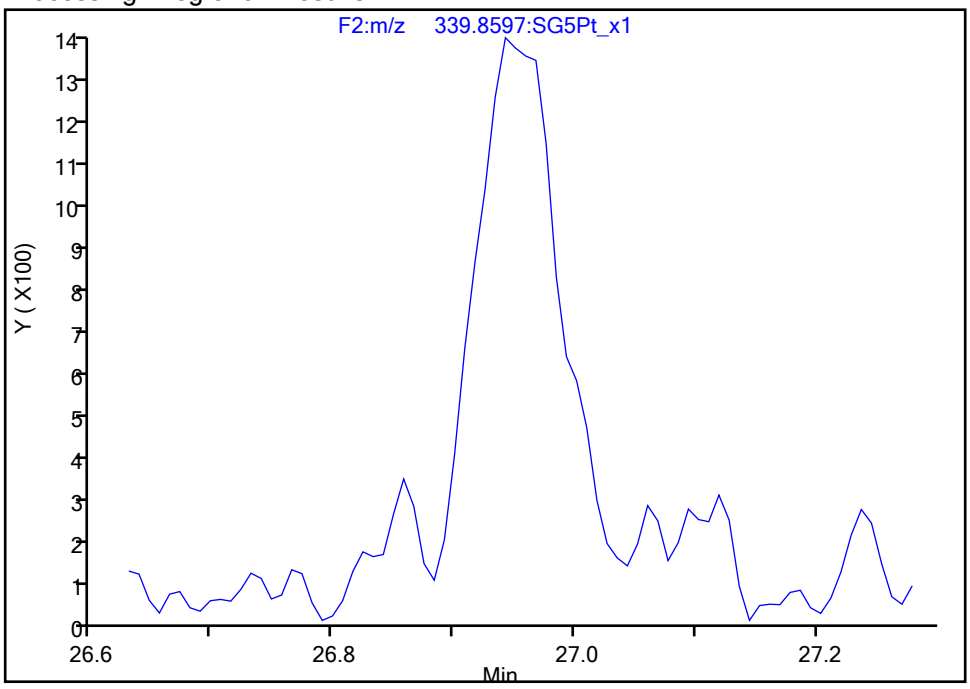
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d				
Injection Date:	28-Dec-2021 01:45:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-E-3-A	Lab Sample ID:	320-78855-3		
Client ID:	A2BMP0012S009				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

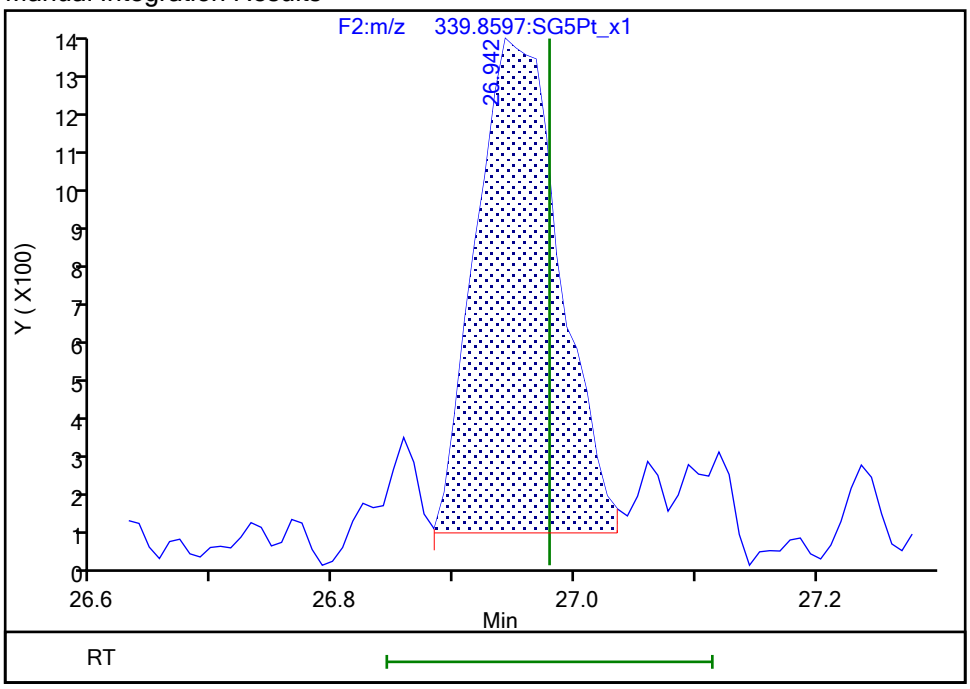
Not Detected
Expected RT: 26.98

Processing Integration Results



Manual Integration Results

RT: 26.94
Area: 6056
Amount: 0.044512
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:04:12
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

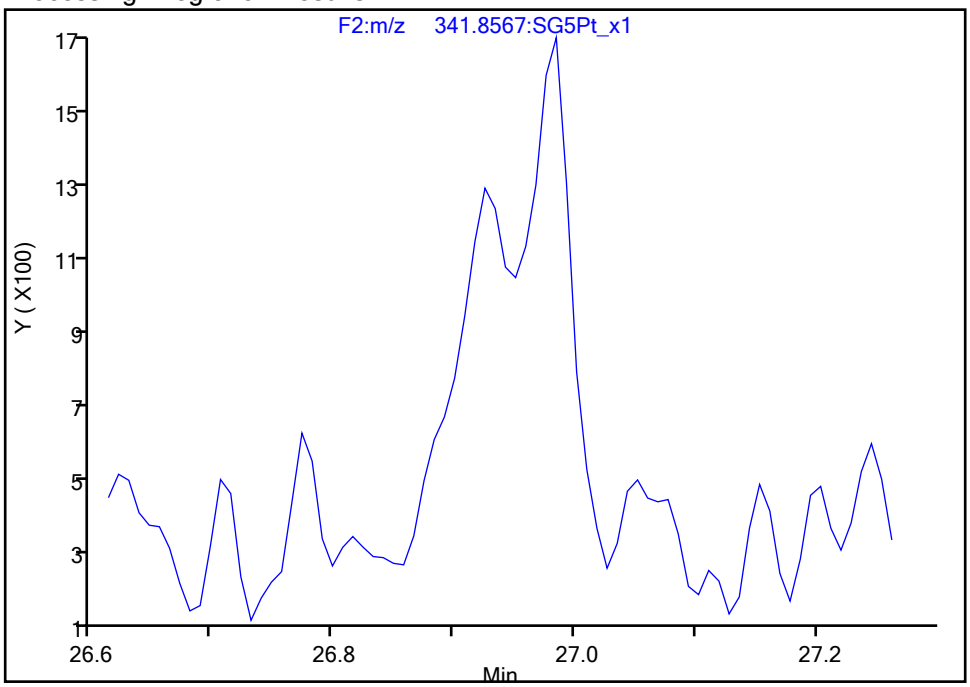
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d				
Injection Date:	28-Dec-2021 01:45:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-E-3-A	Lab Sample ID:	320-78855-3		
Client ID:	A2BMP0012S009				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

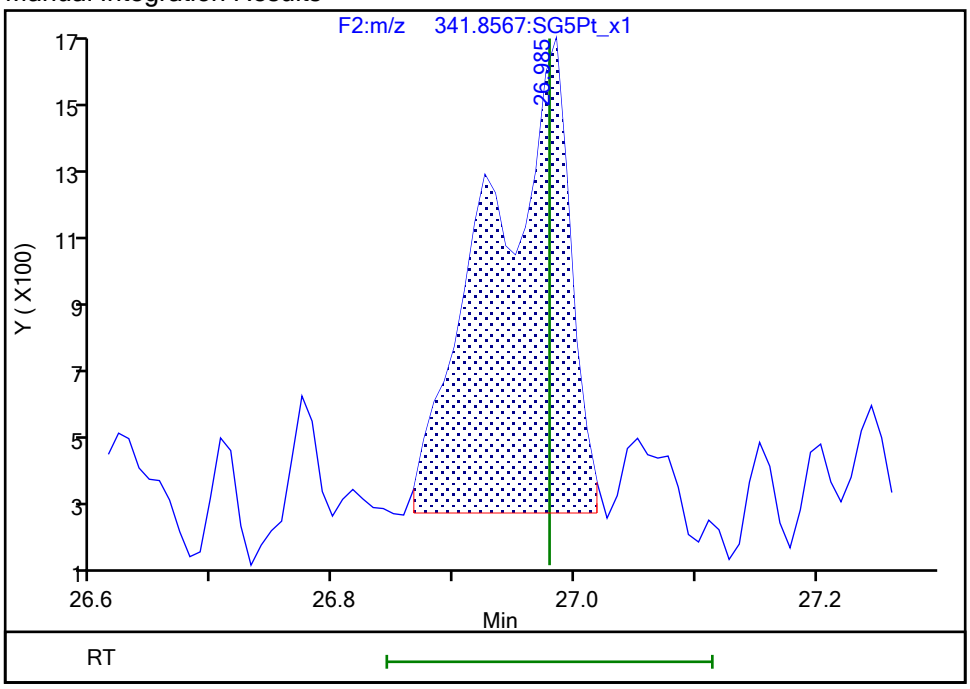
Not Detected
Expected RT: 26.98

Processing Integration Results



Manual Integration Results

RT: 26.98
Area: 6444
Amount: 0.044512
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:04:16
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

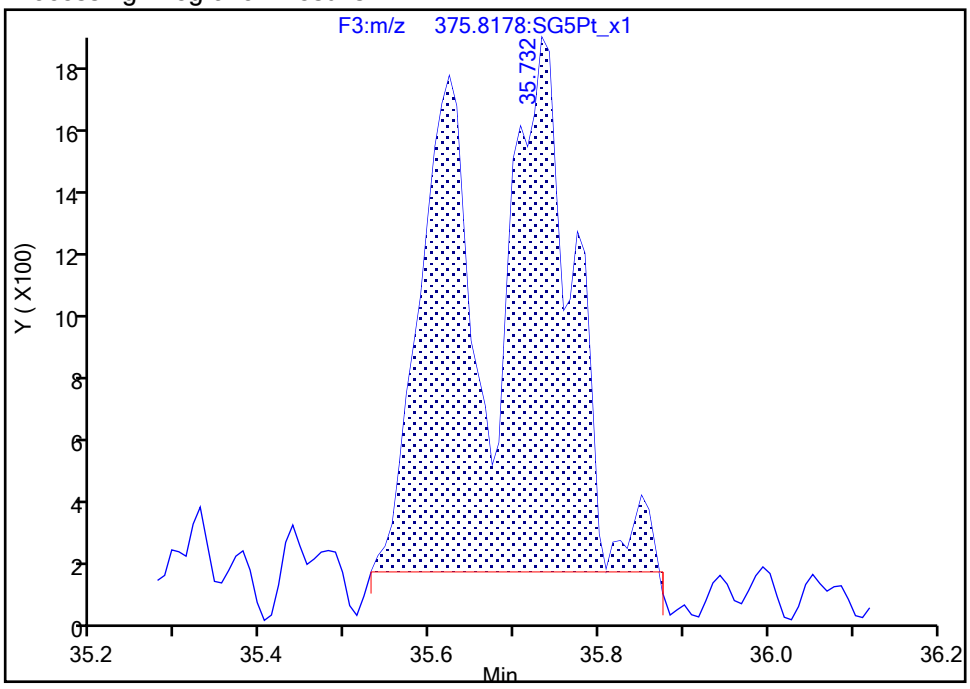
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d				
Injection Date:	28-Dec-2021 01:45:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-E-3-A	Lab Sample ID:	320-78855-3		
Client ID:	A2BMP0012S009				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

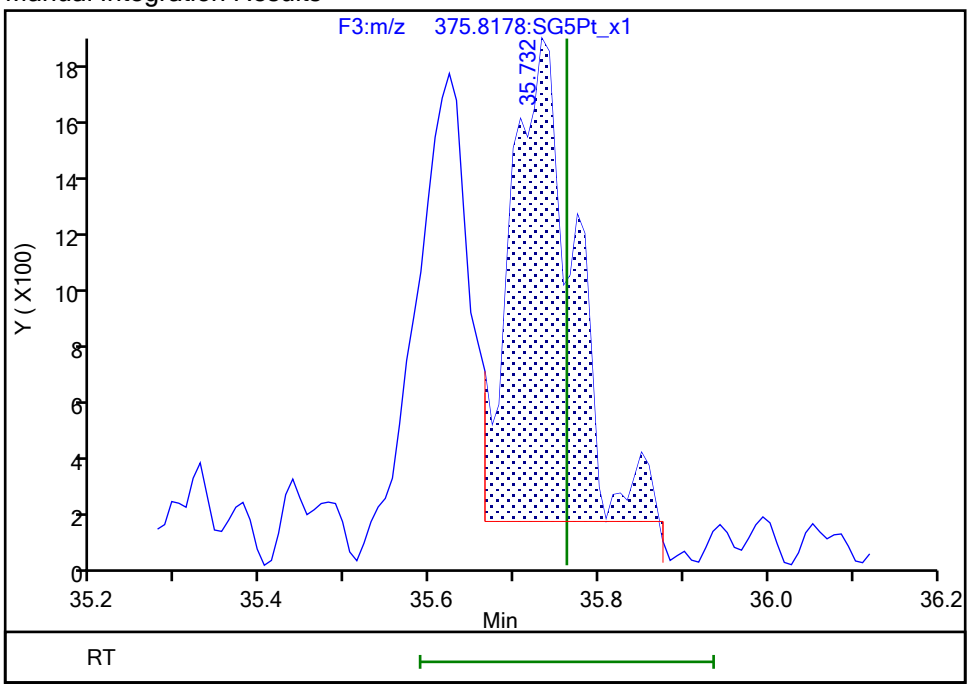
Processing Integration Results

RT: 35.73
Area: 15104
Amount: 0.108246
Amount Units: pg/ul



Manual Integration Results

RT: 35.73
Area: 8766
Amount: 0.084158
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:04:38

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

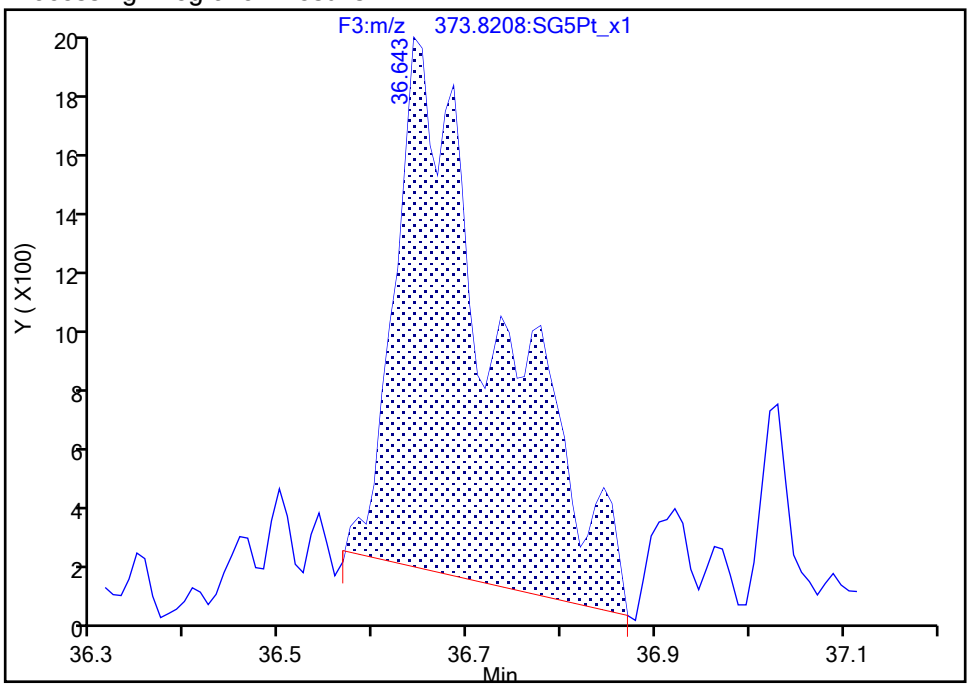
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d				
Injection Date:	28-Dec-2021 01:45:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-E-3-A	Lab Sample ID:	320-78855-3		
Client ID:	A2BMP0012S009				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

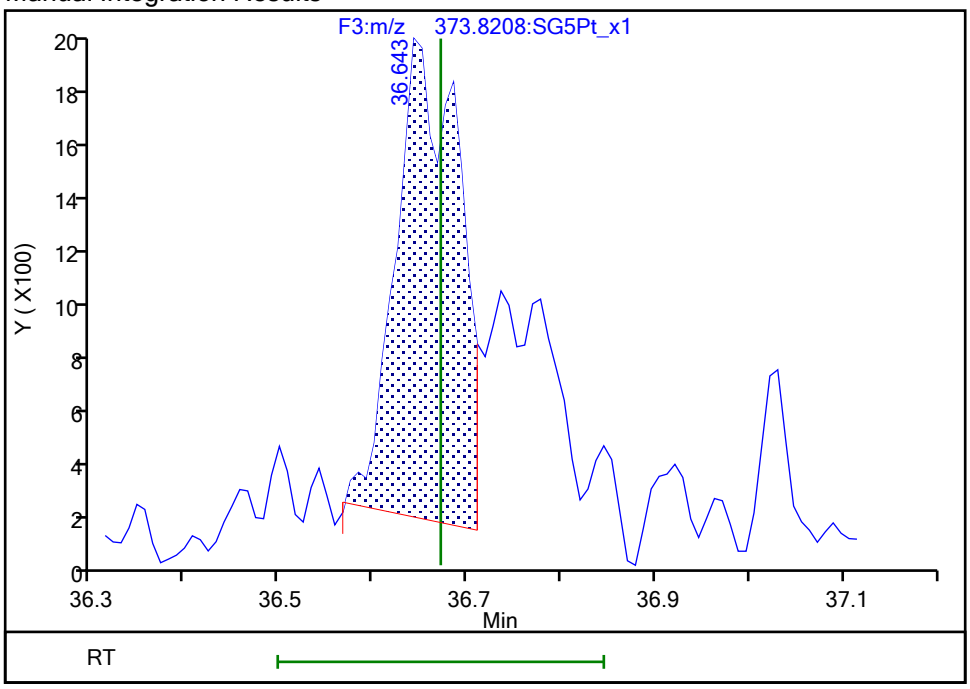
Processing Integration Results

RT: 36.64
Area: 13165
Amount: 0.090654
Amount Units: pg/ul



Manual Integration Results

RT: 36.64
Area: 7940
Amount: 0.060110
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:04:54

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

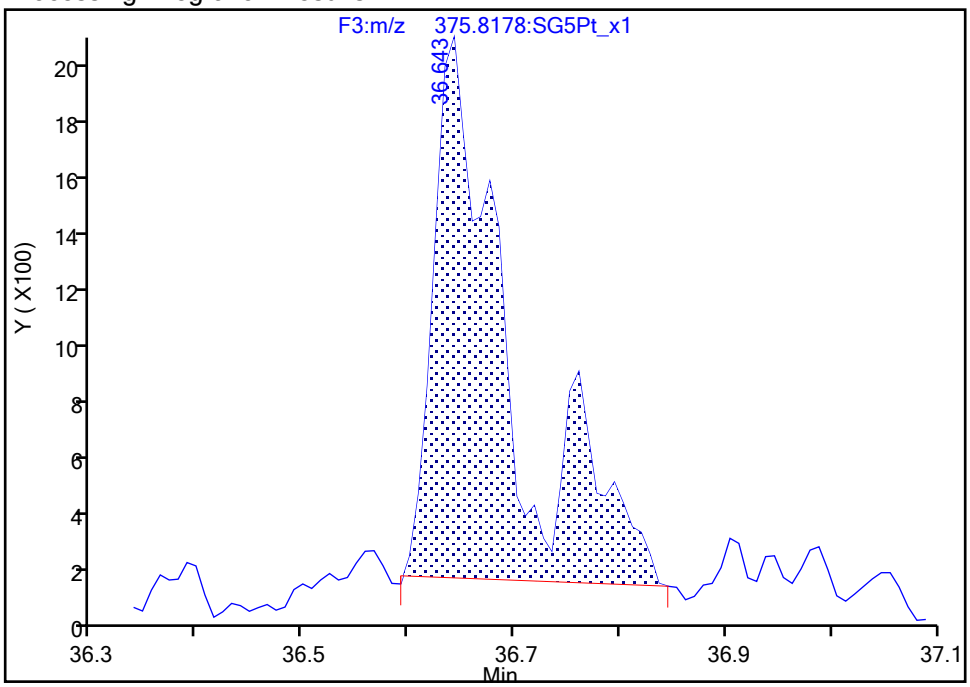
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d				
Injection Date:	28-Dec-2021 01:45:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-E-3-A	Lab Sample ID:	320-78855-3		
Client ID:	A2BMP0012S009				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

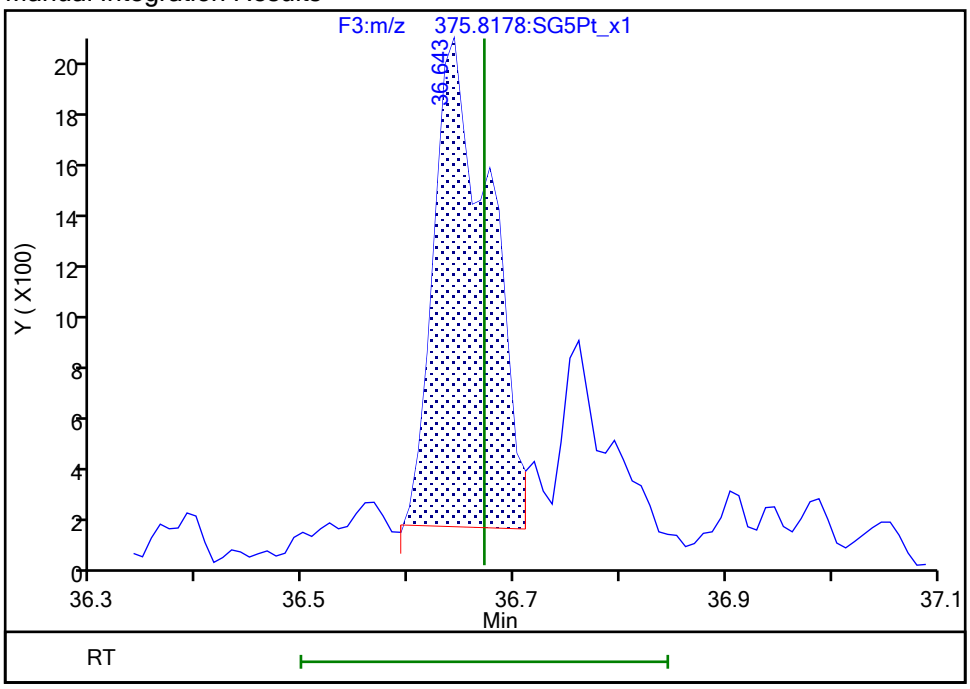
Processing Integration Results

RT: 36.64
Area: 9454
Amount: 0.090654
Amount Units: pg/ul



Manual Integration Results

RT: 36.64
Area: 7058
Amount: 0.060110
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:04:56
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

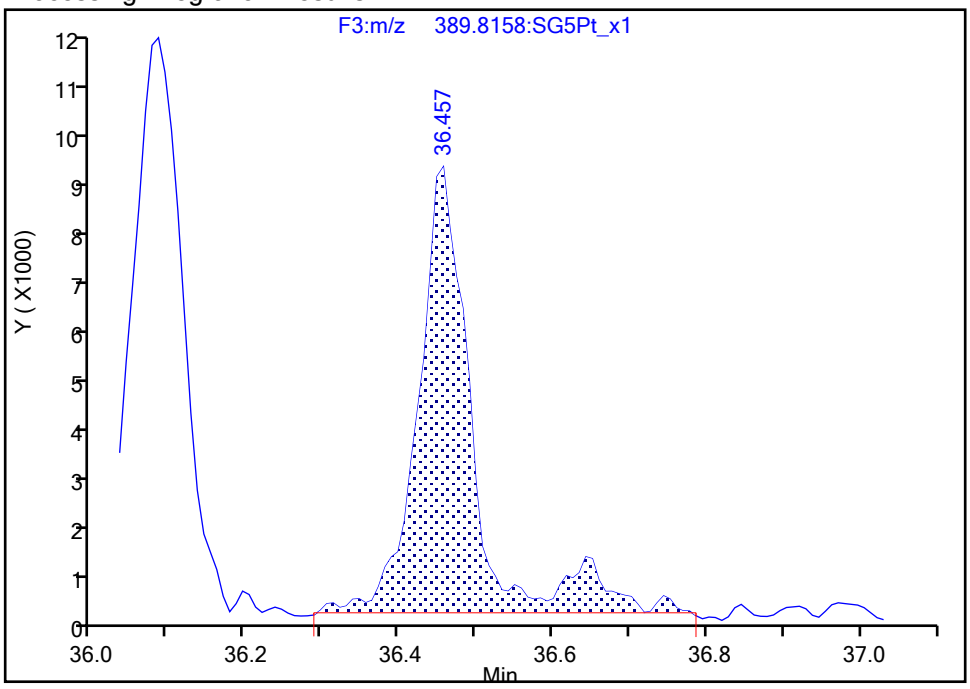
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d				
Injection Date:	28-Dec-2021 01:45:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-E-3-A	Lab Sample ID:	320-78855-3		
Client ID:	A2BMP0012S009				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

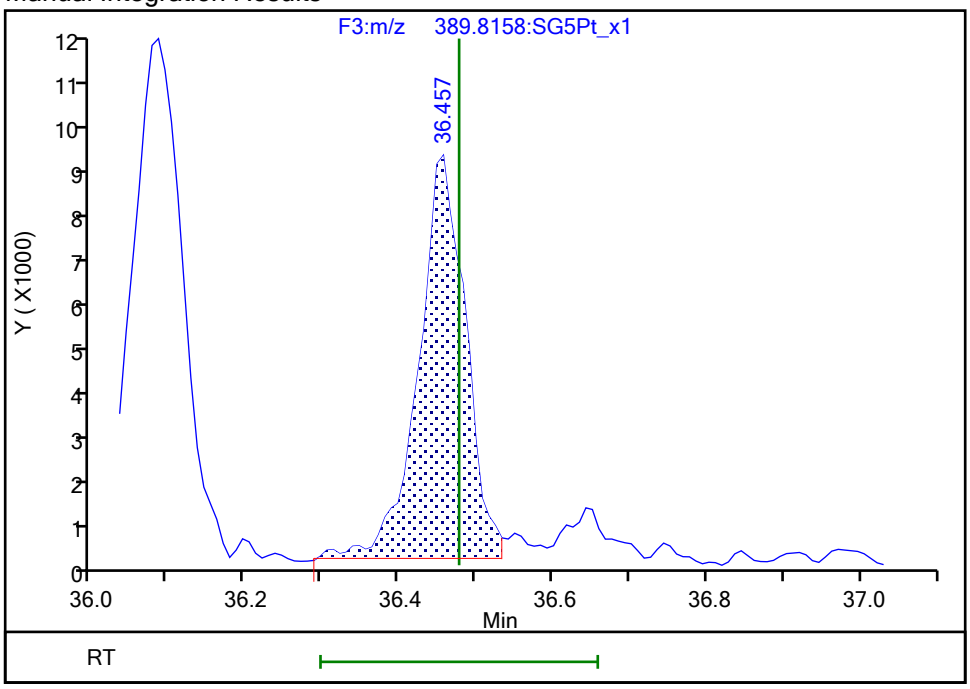
Processing Integration Results

RT: 36.46
Area: 44271
Amount: 0.346431
Amount Units: pg/ul



Manual Integration Results

RT: 36.46
Area: 38255
Amount: 0.318794
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:05:06

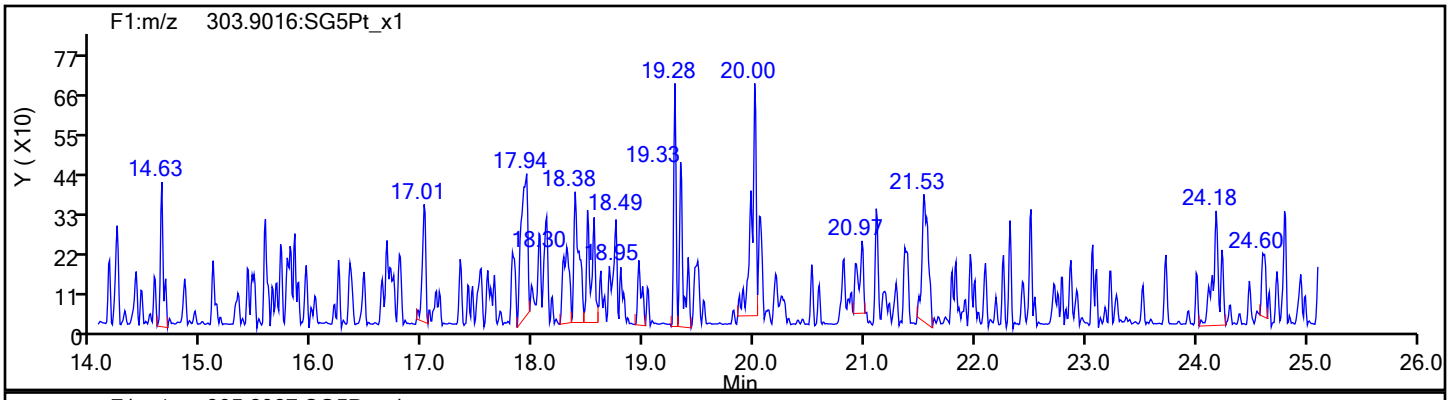
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

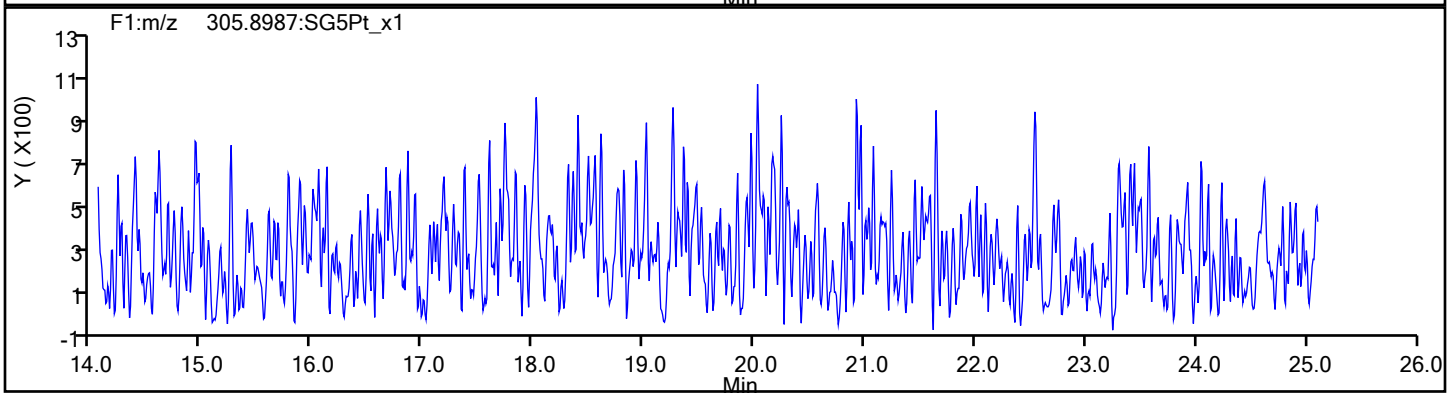
Report Date: 28-Dec-2021 14:24:53 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

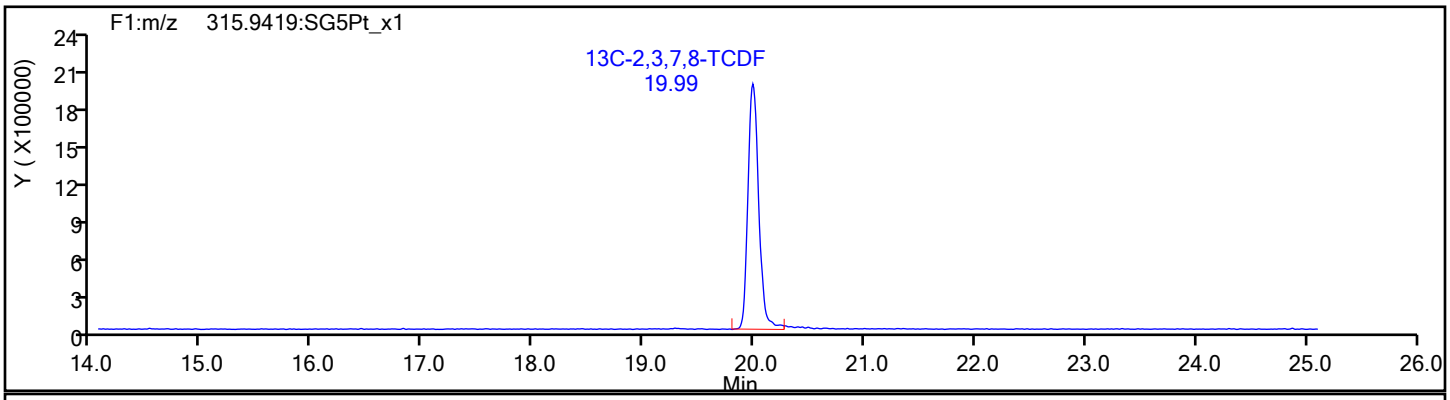
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

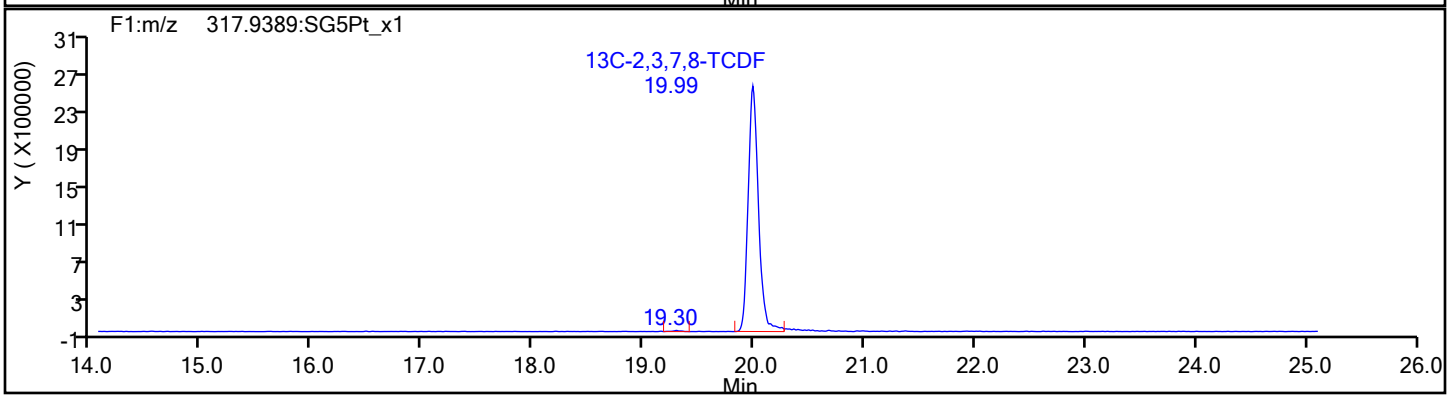
TCDF





TCDF Standards

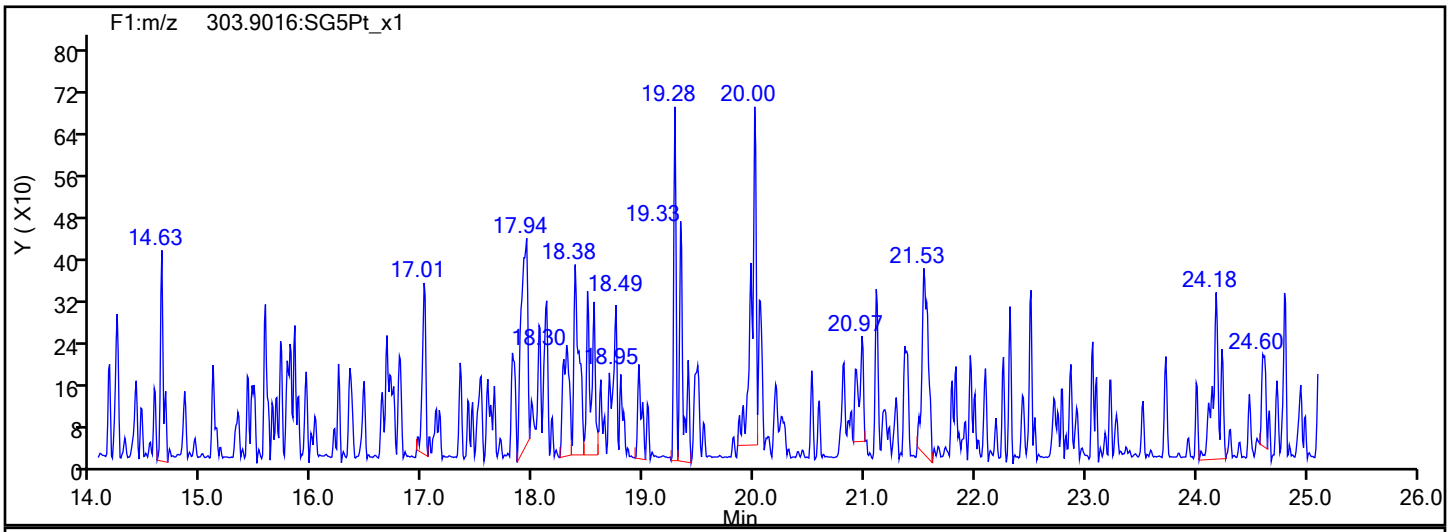


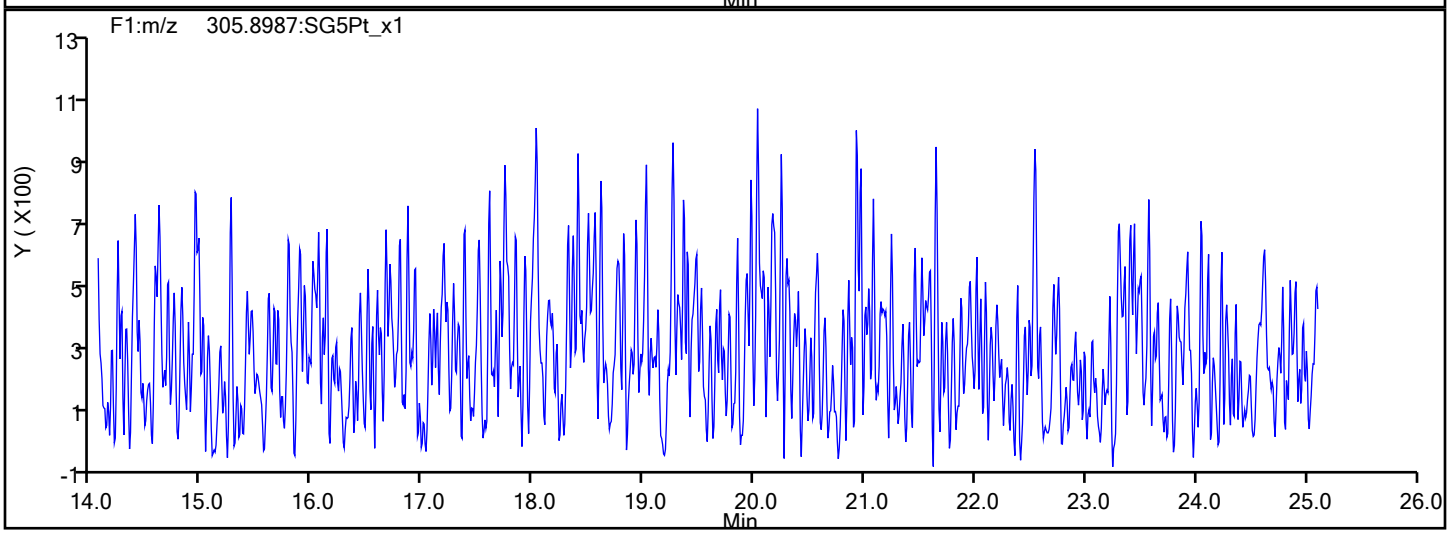


Eurofins TestAmerica, Sacramento

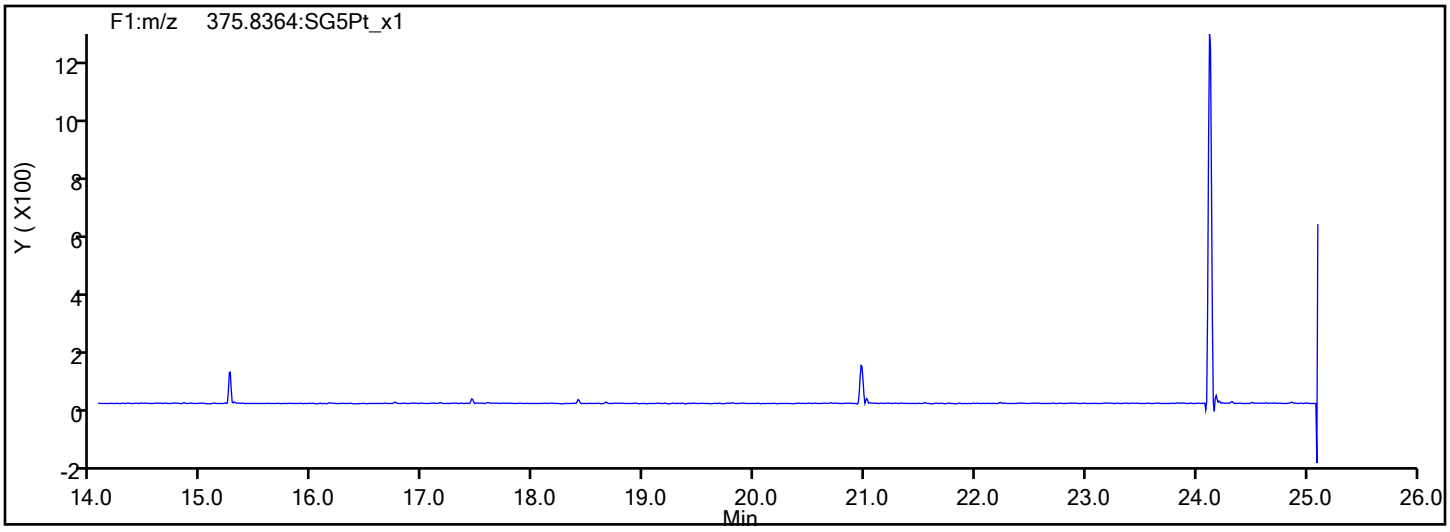
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





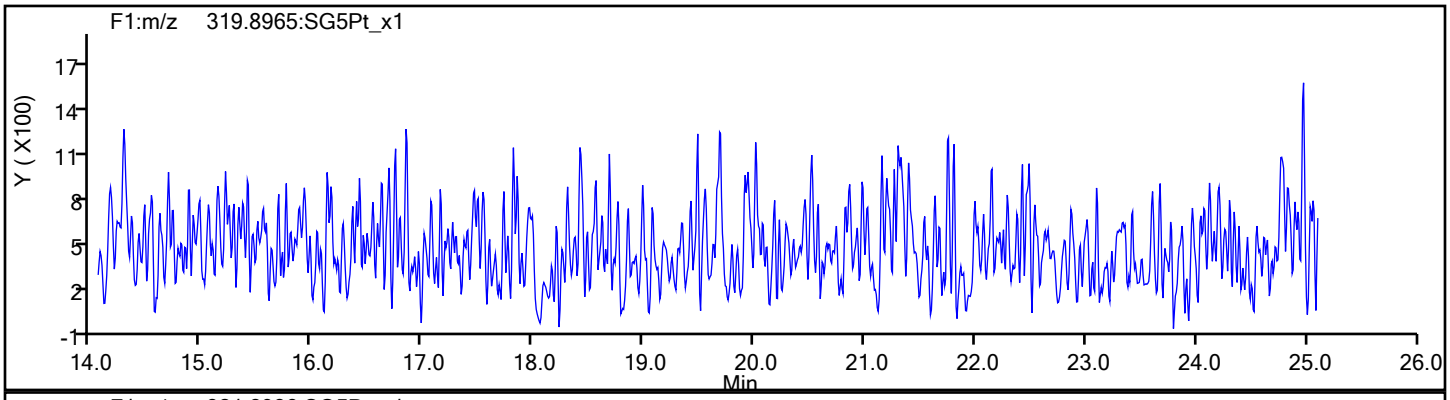
TCDF Interference Mass

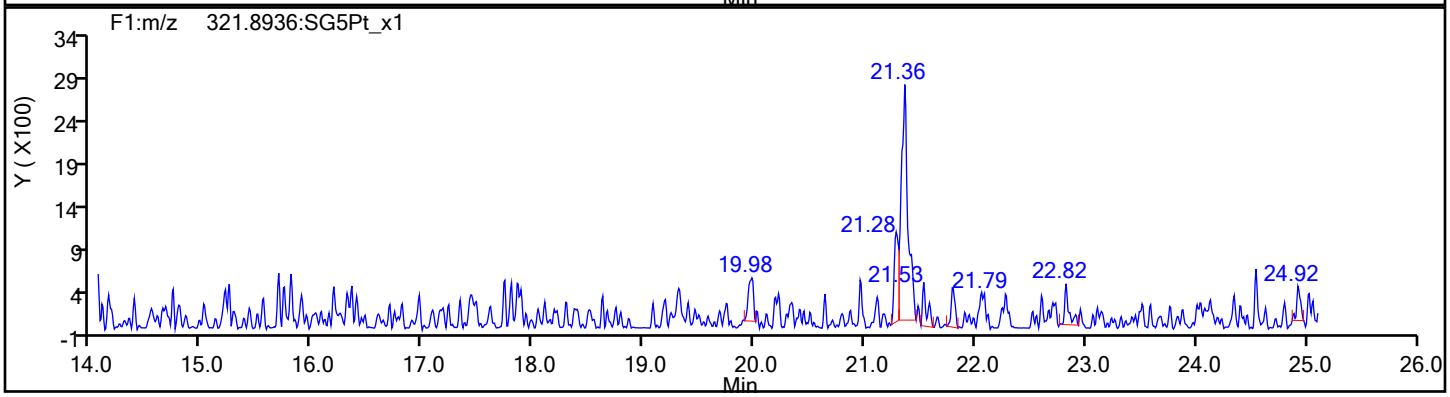


Eurofins TestAmerica, Sacramento

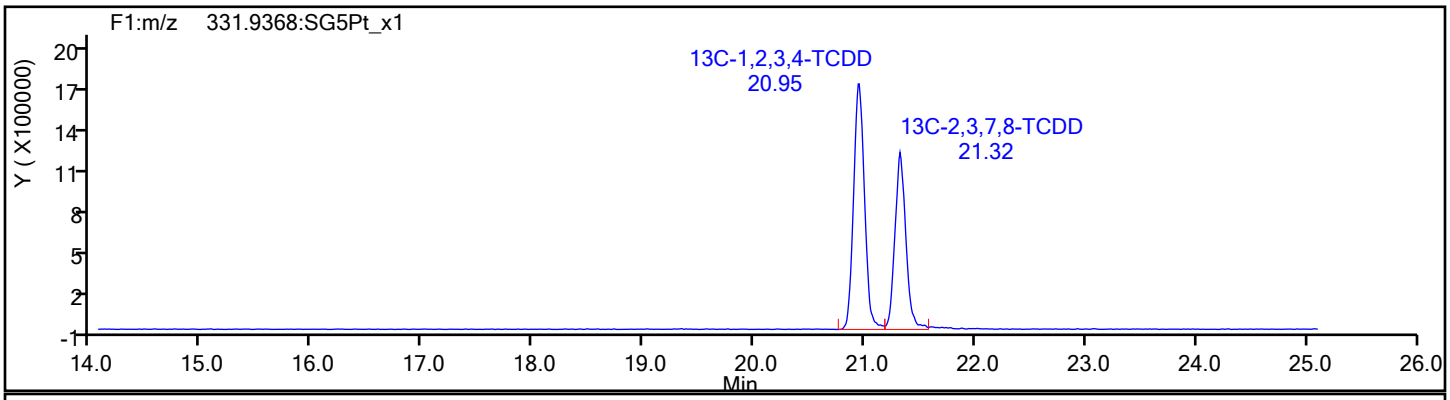
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

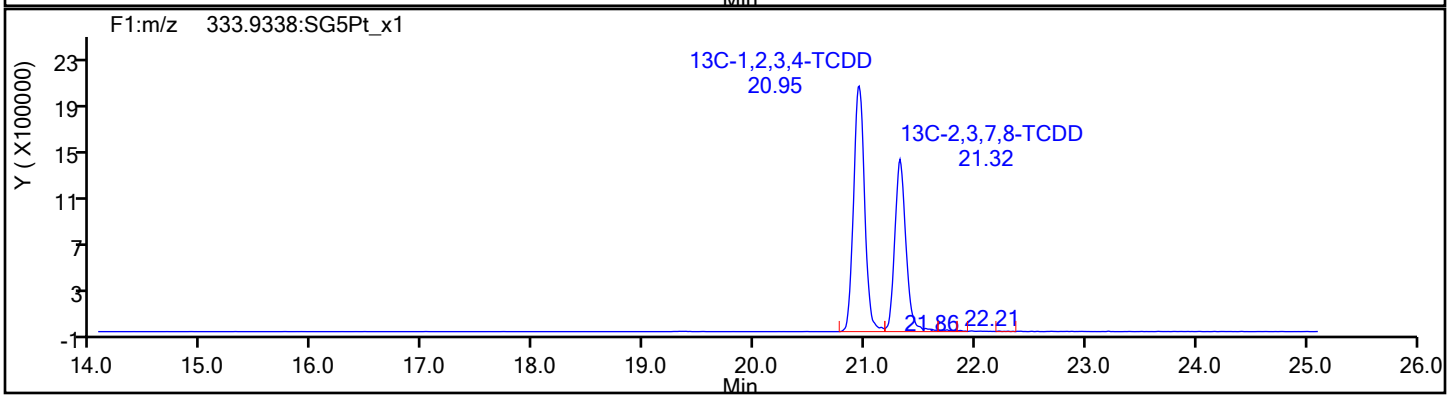
TCDD





TCDD Standards





Report Date: 28-Dec-2021 14:24:53 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
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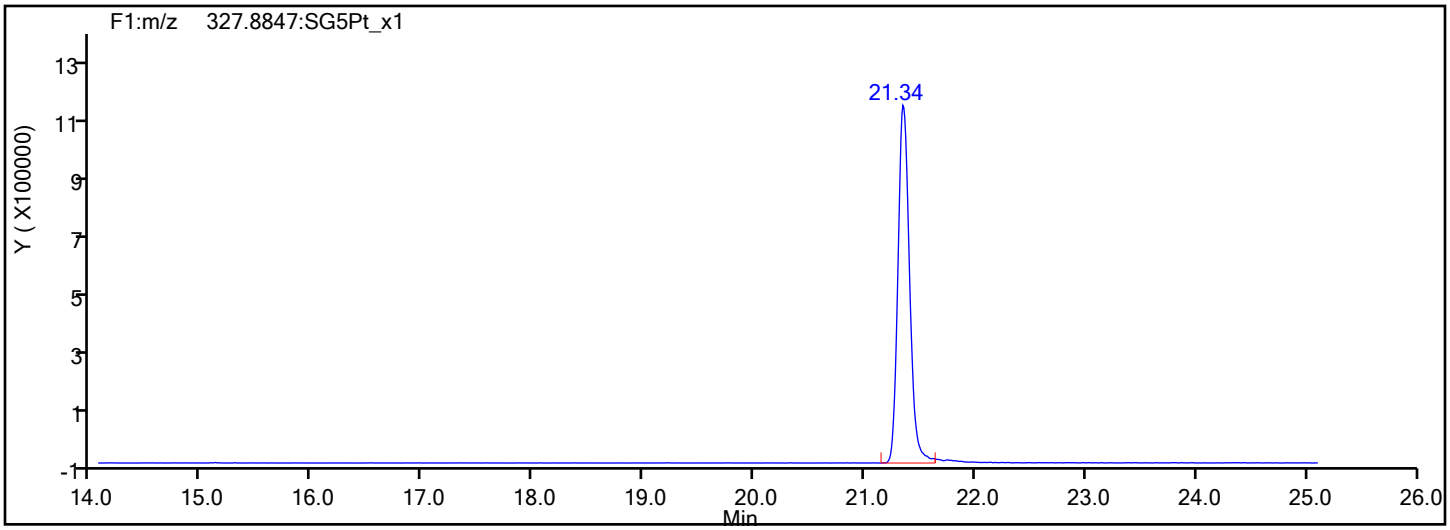
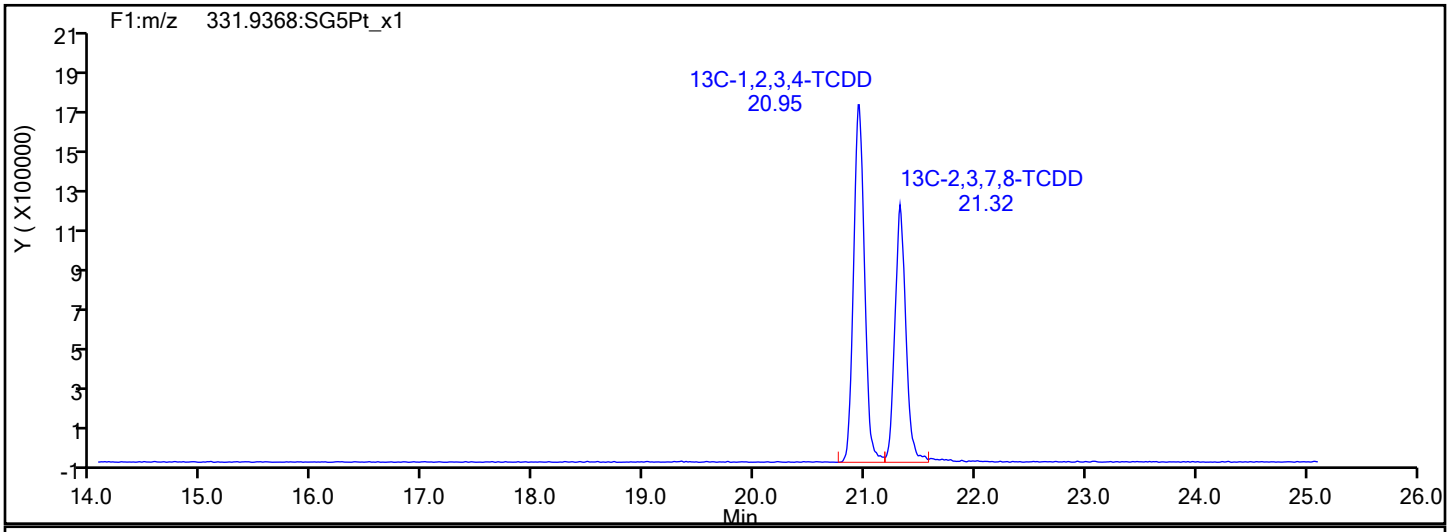
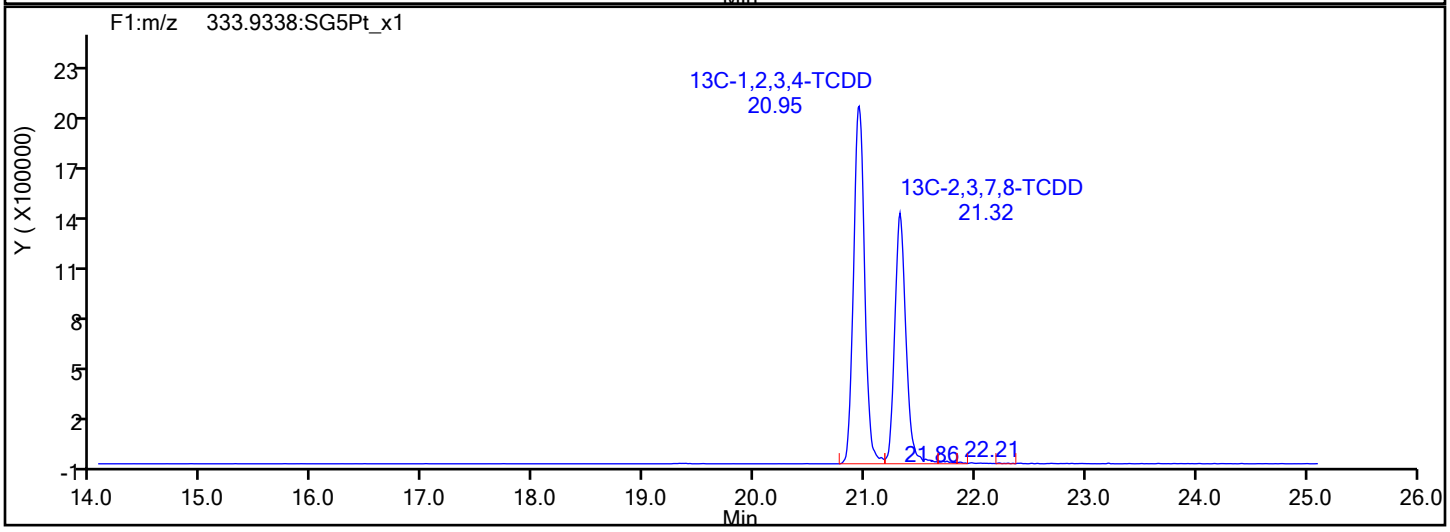
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 28-Dec-2021 14:24:53 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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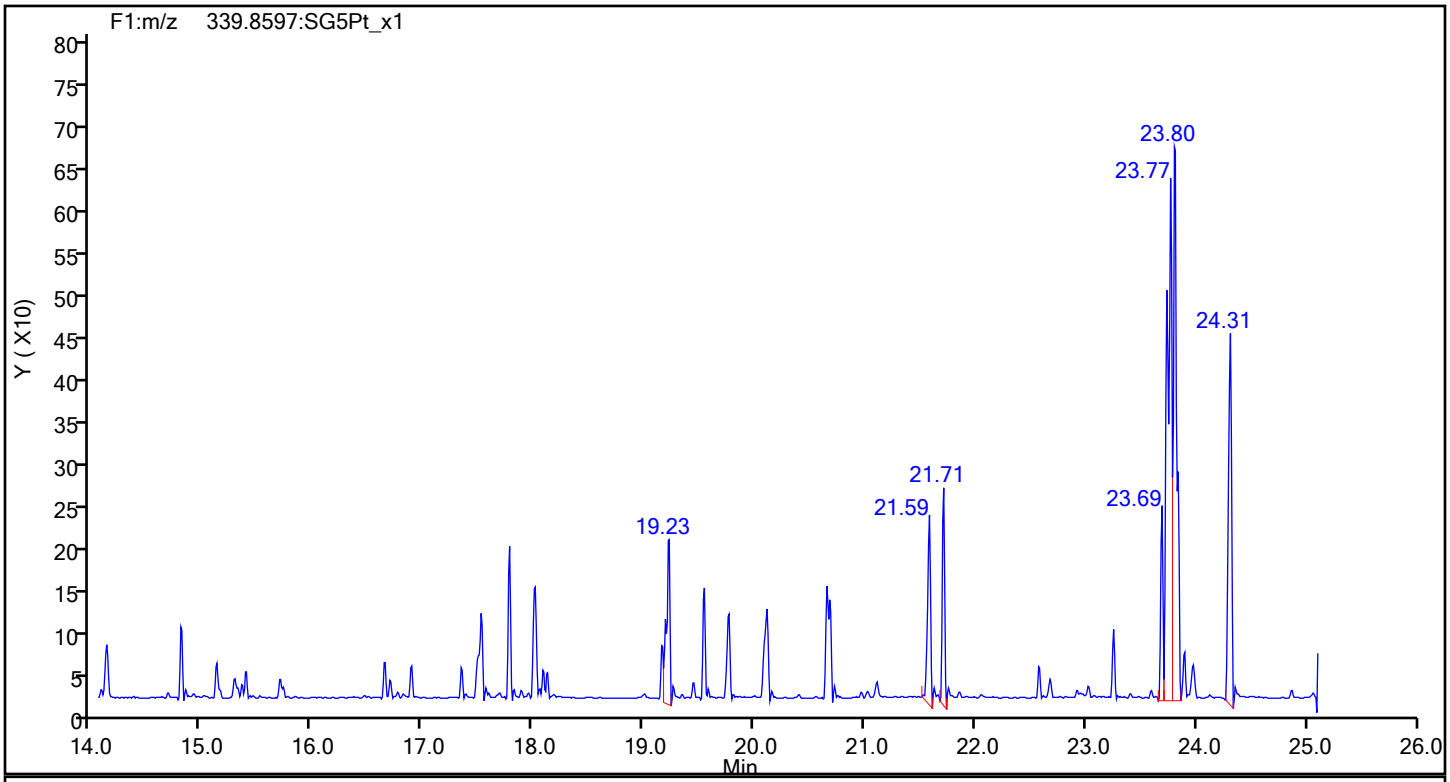
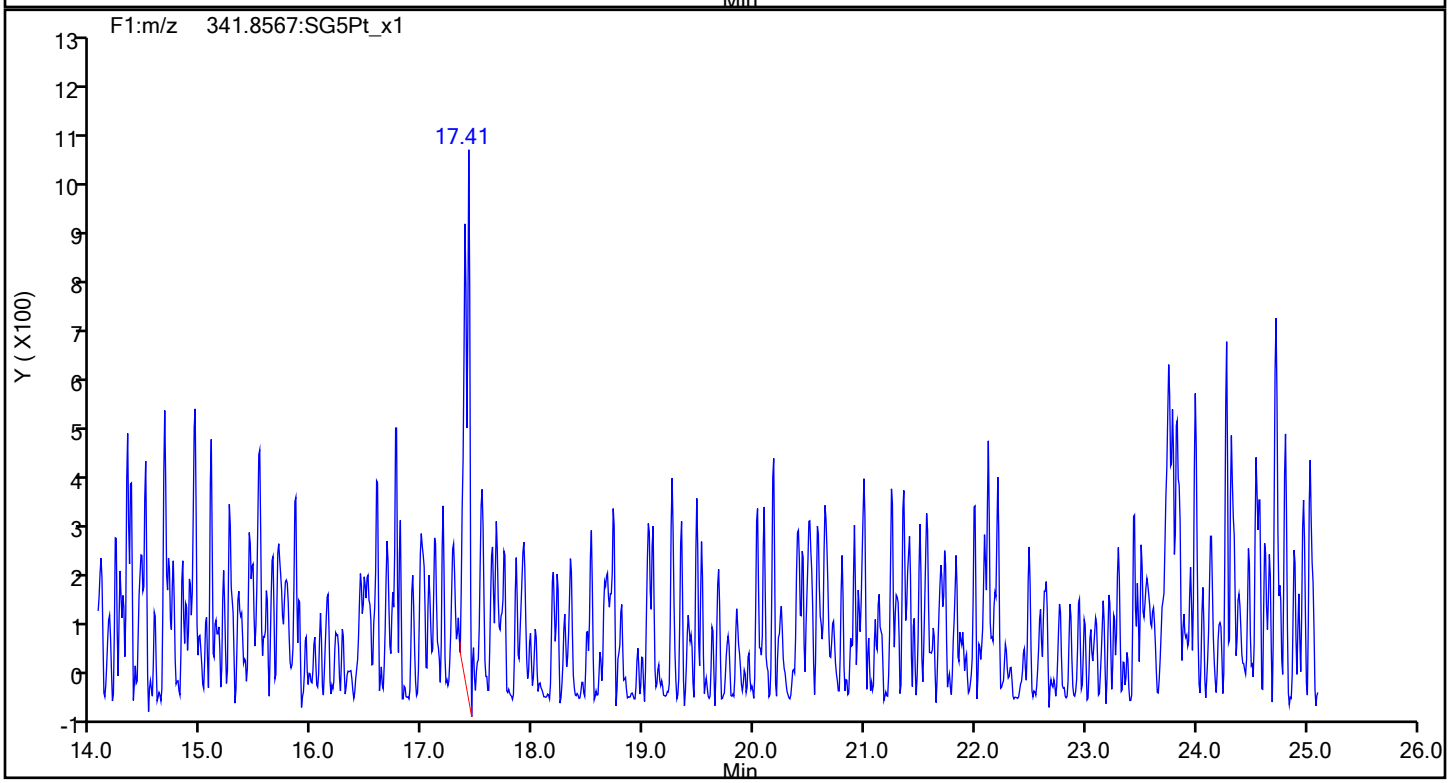
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

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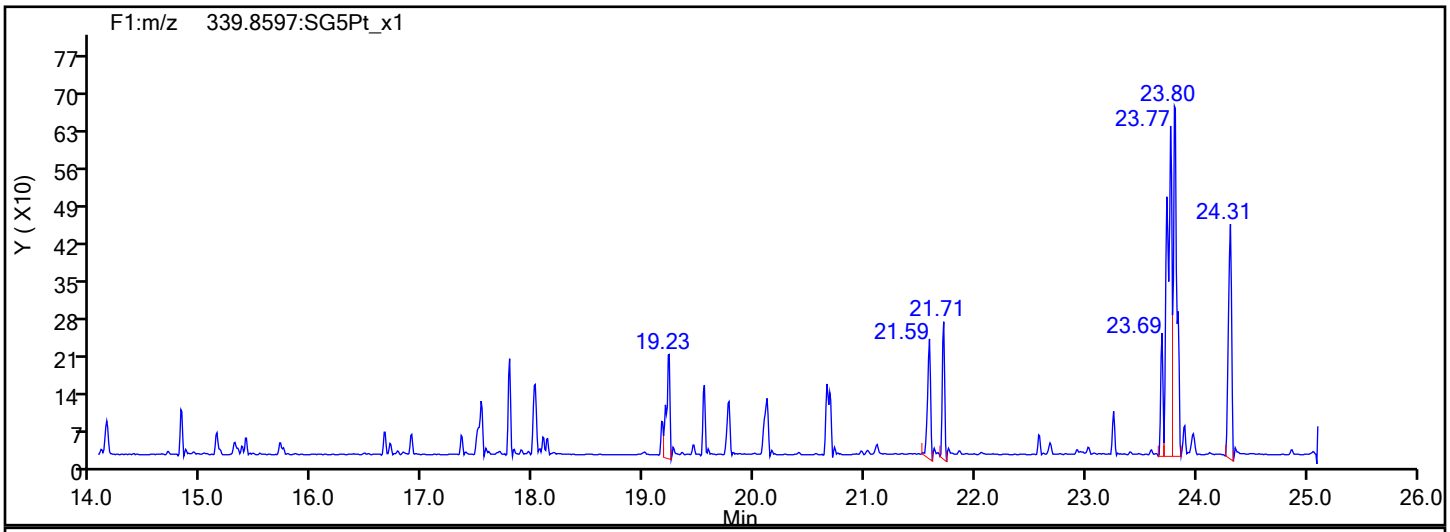
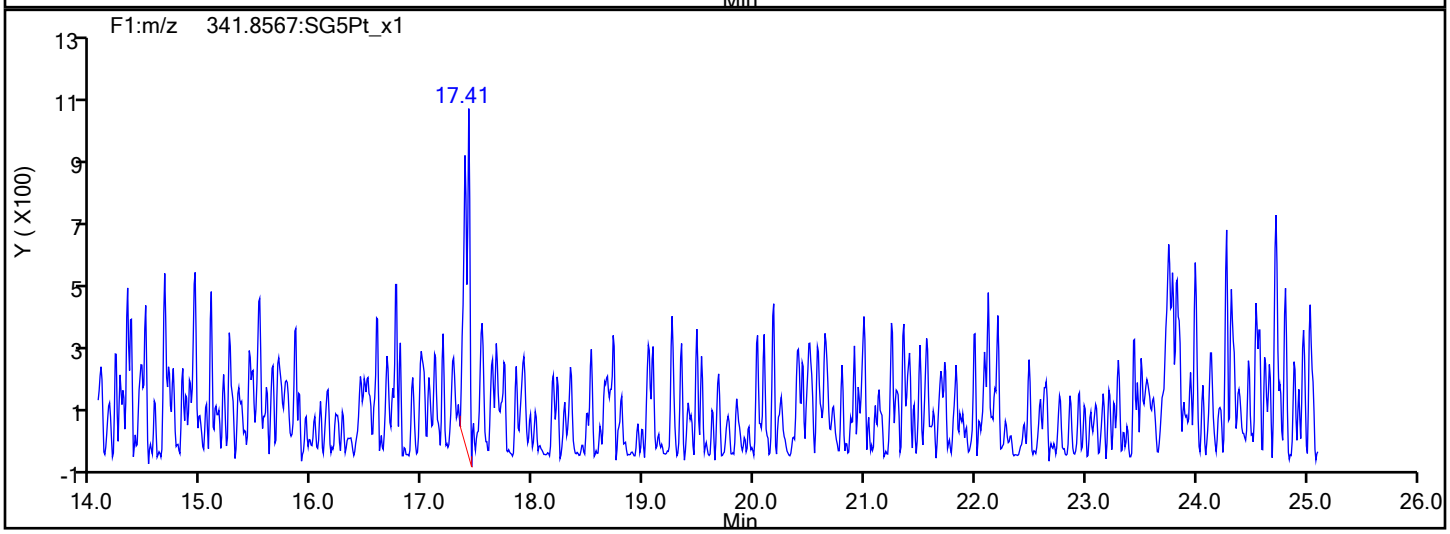
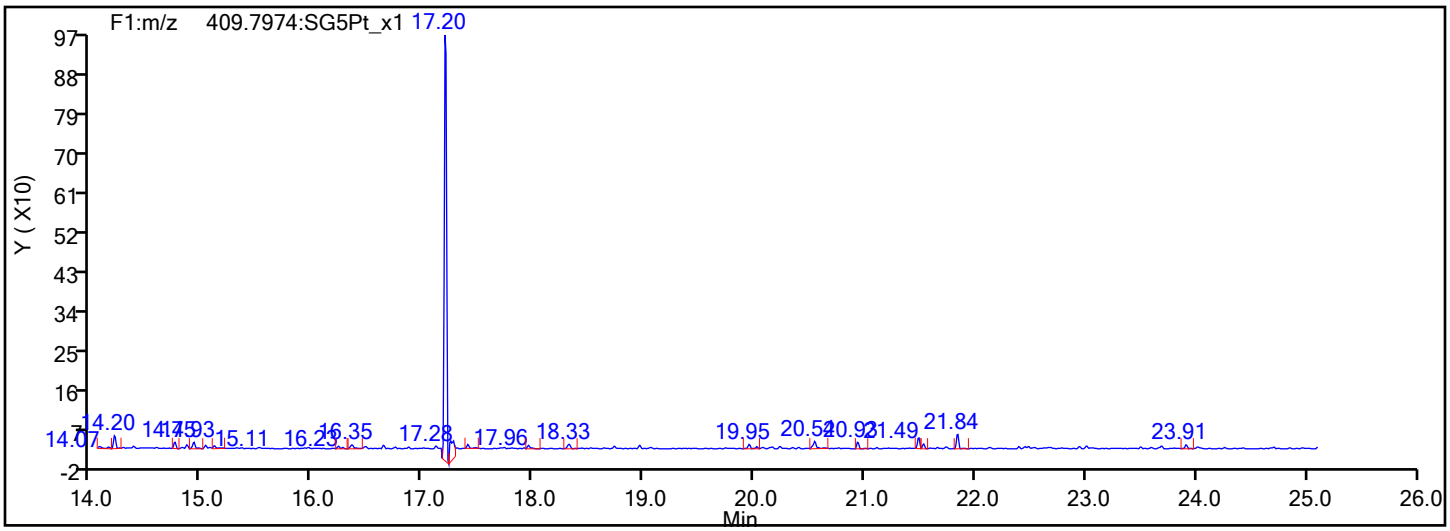




F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

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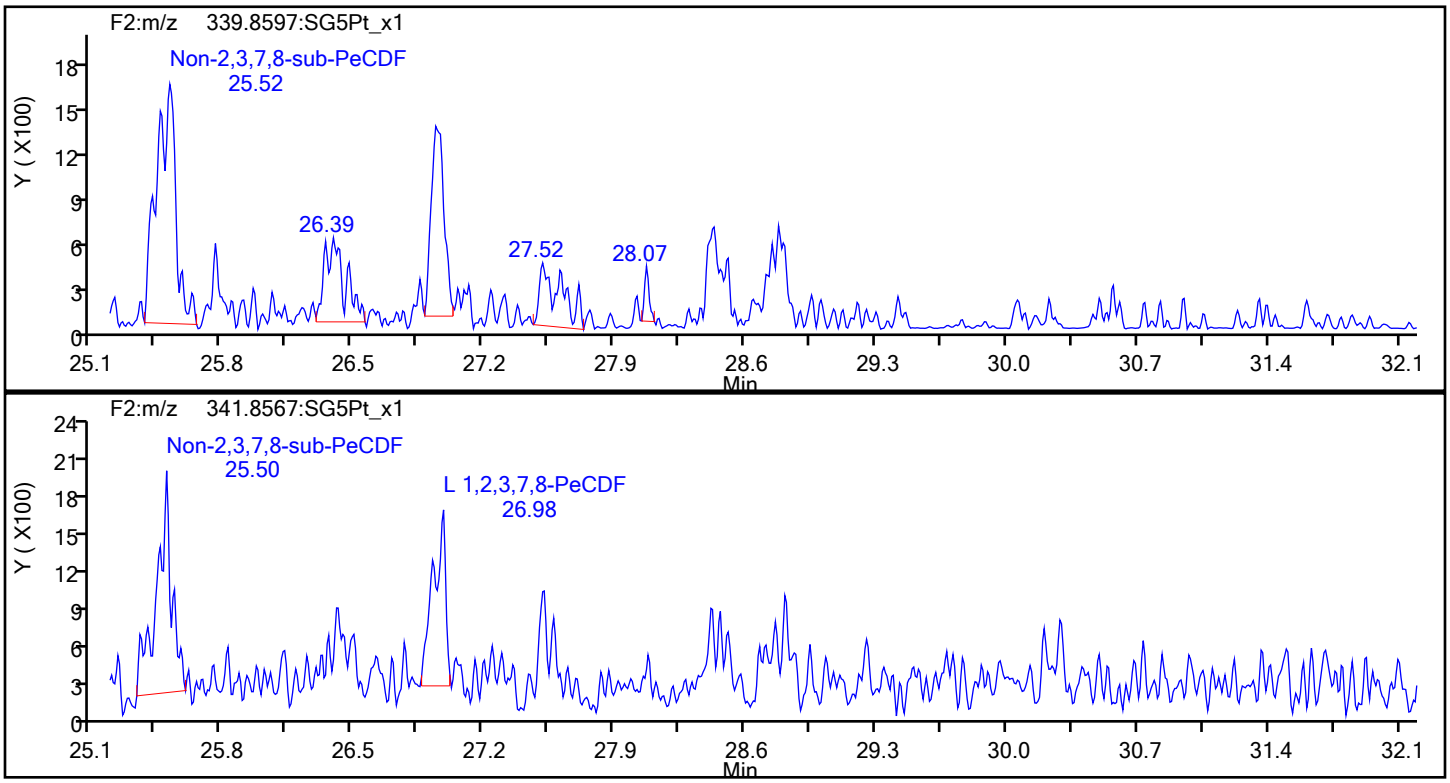
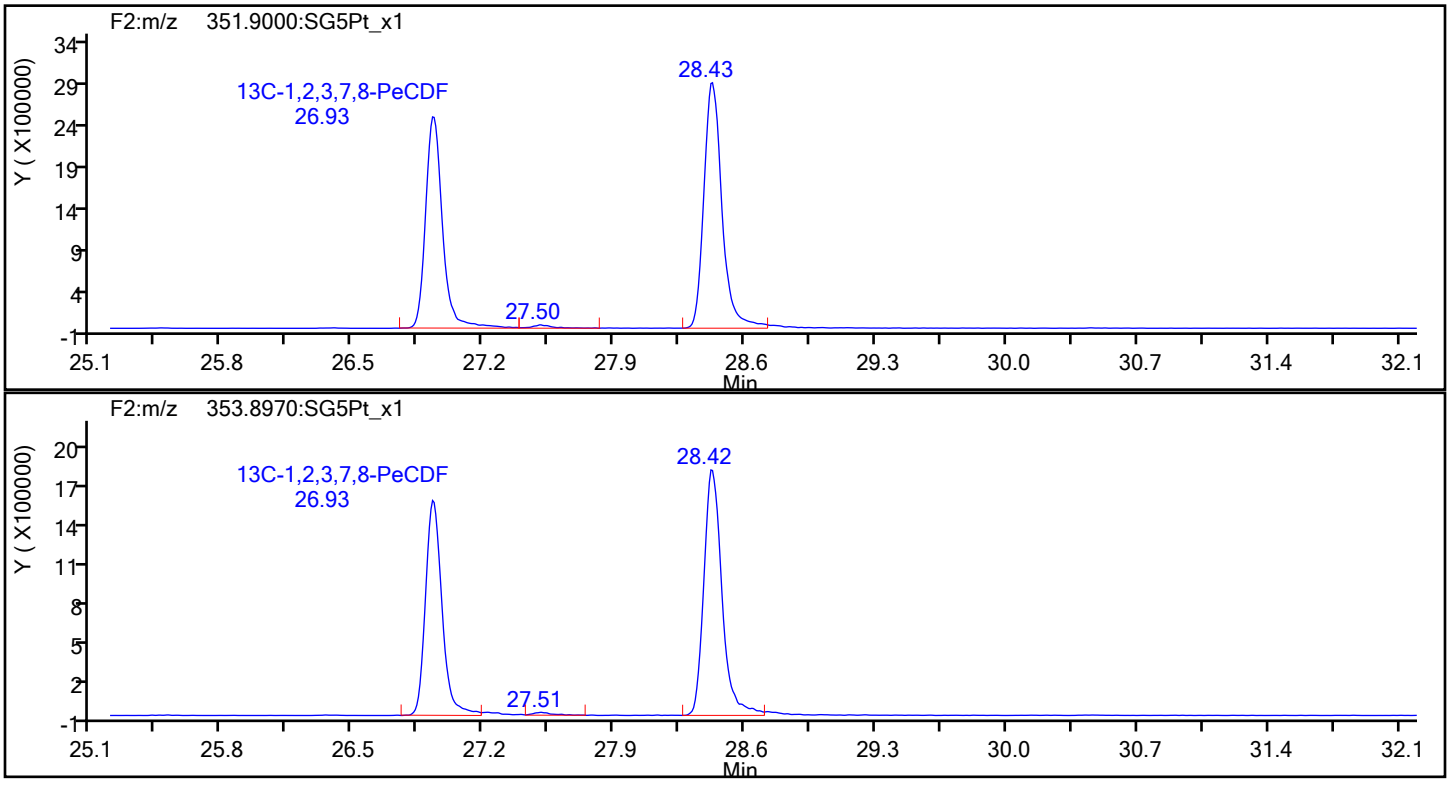


PeCDF Standards



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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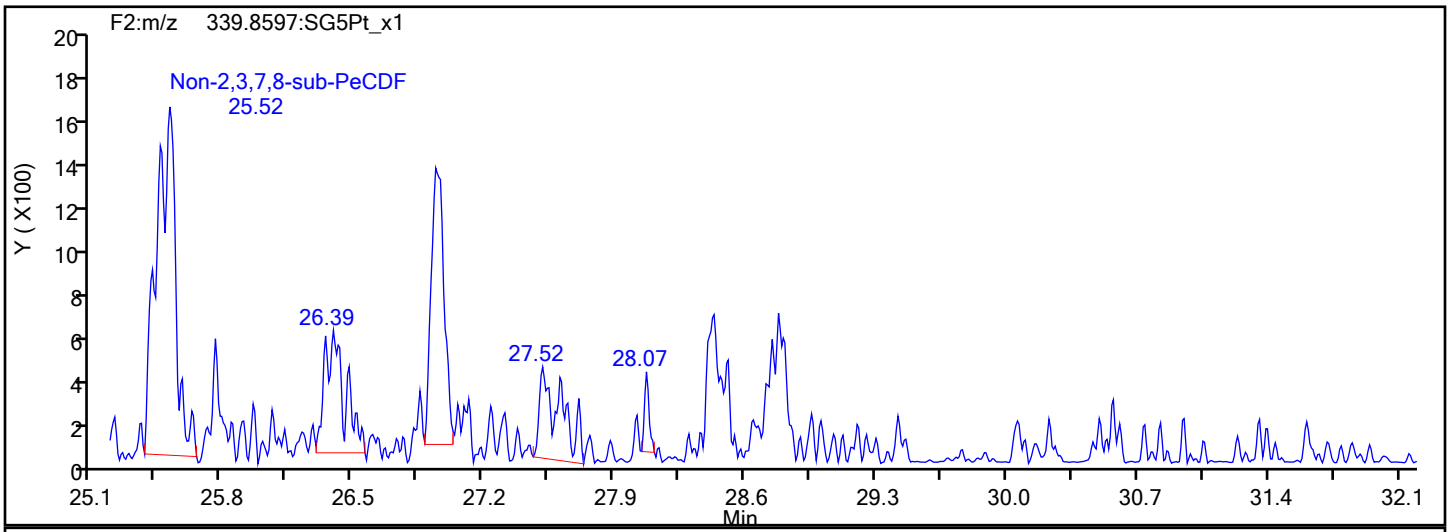
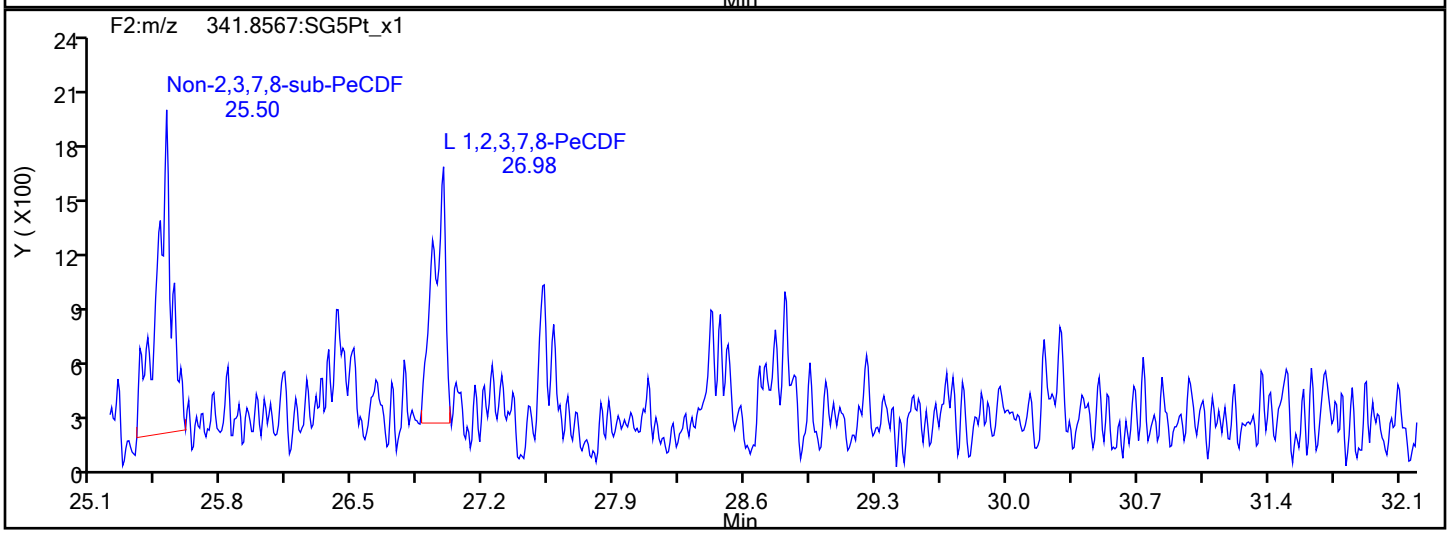
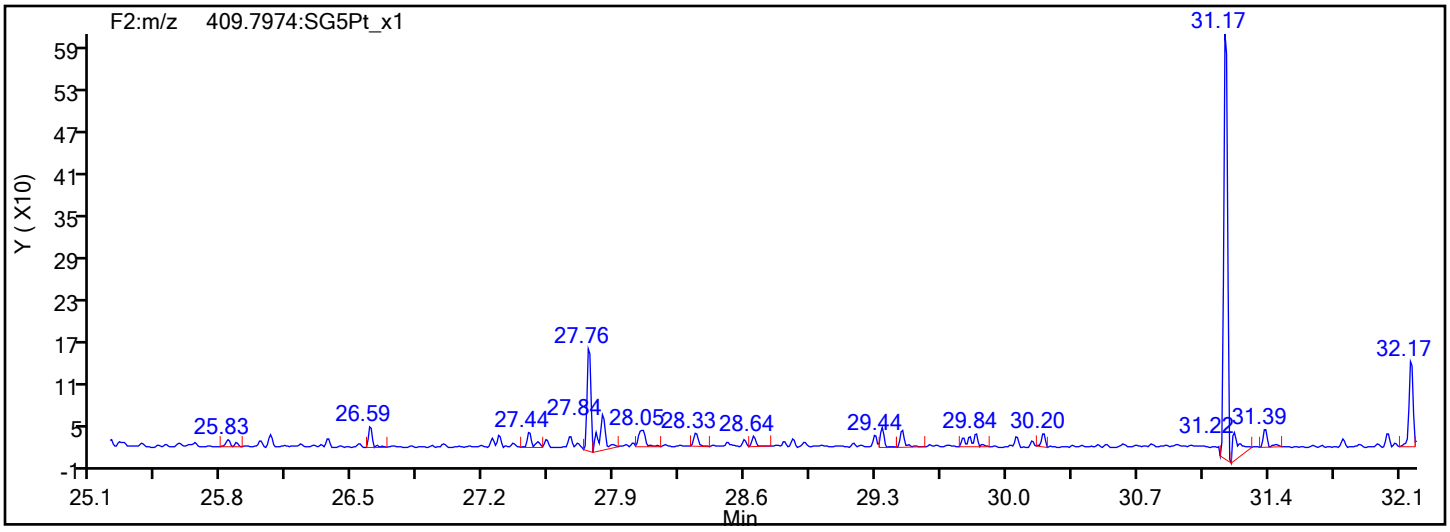
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Report Date: 28-Dec-2021 14:24:53 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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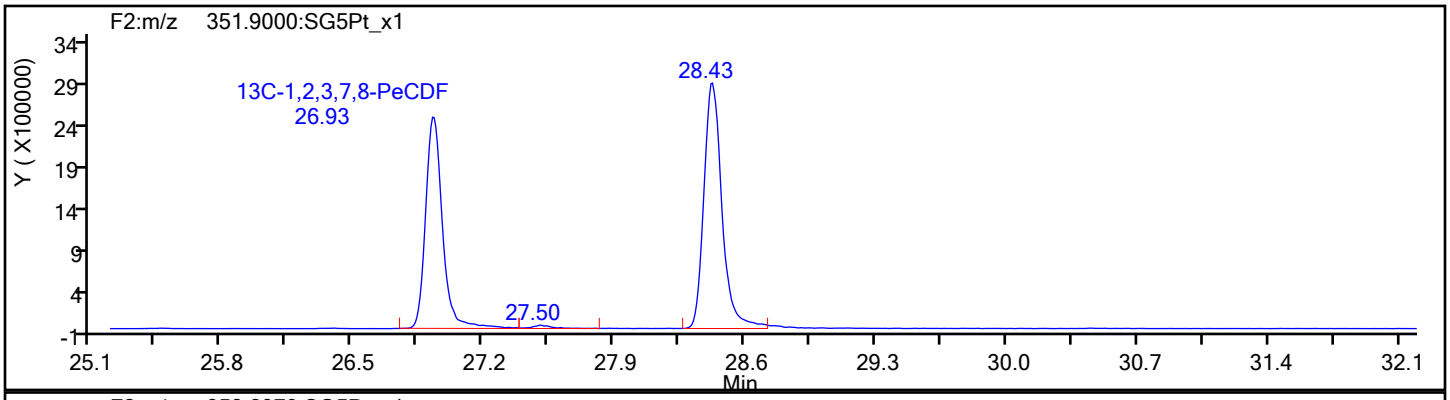
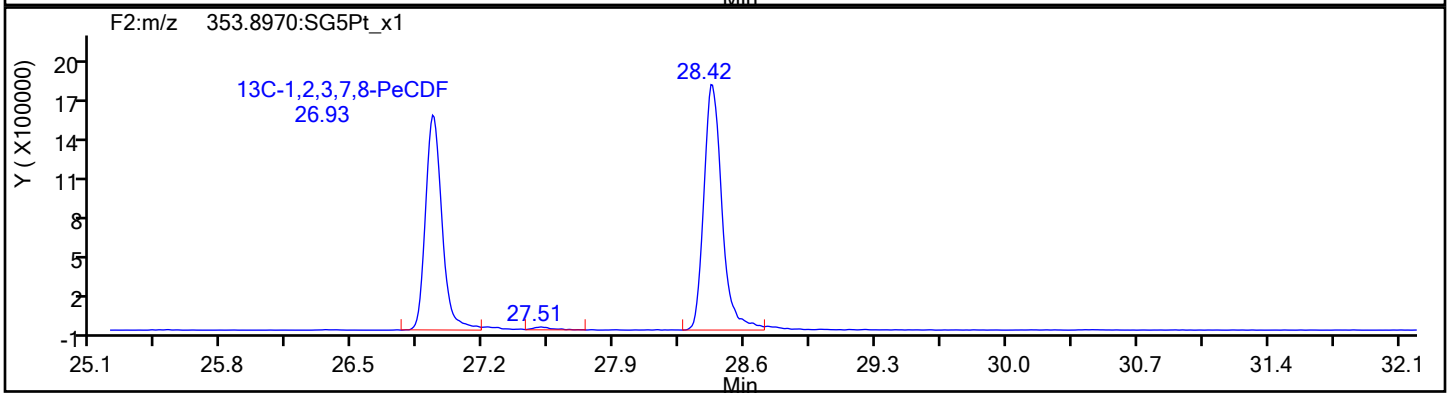
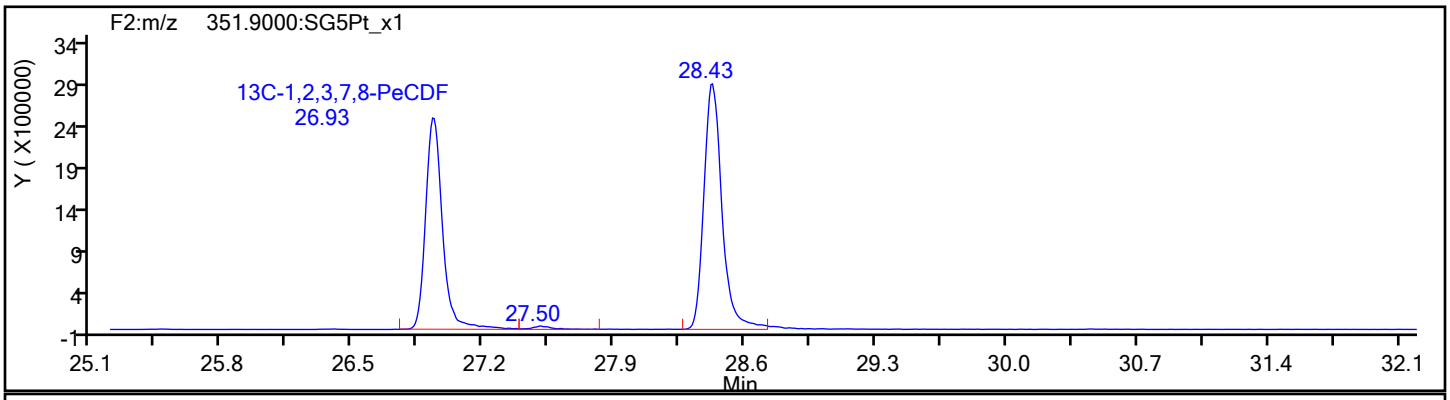
Column Type:	DB-5	Column Dia:	0.32 mm

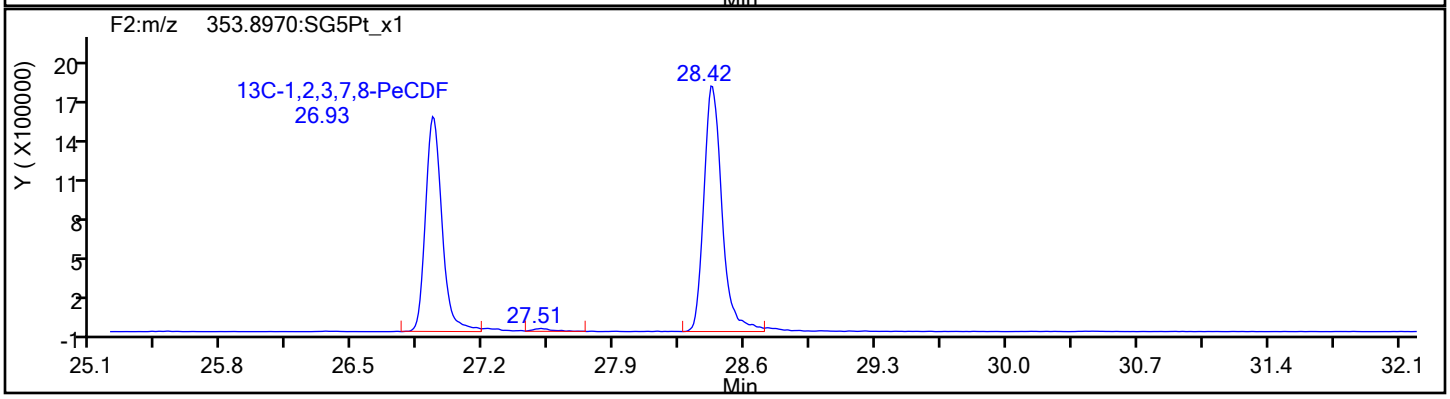
13C-PeCDF





13C-PeCDF Standards





Report Date: 28-Dec-2021 14:24:53 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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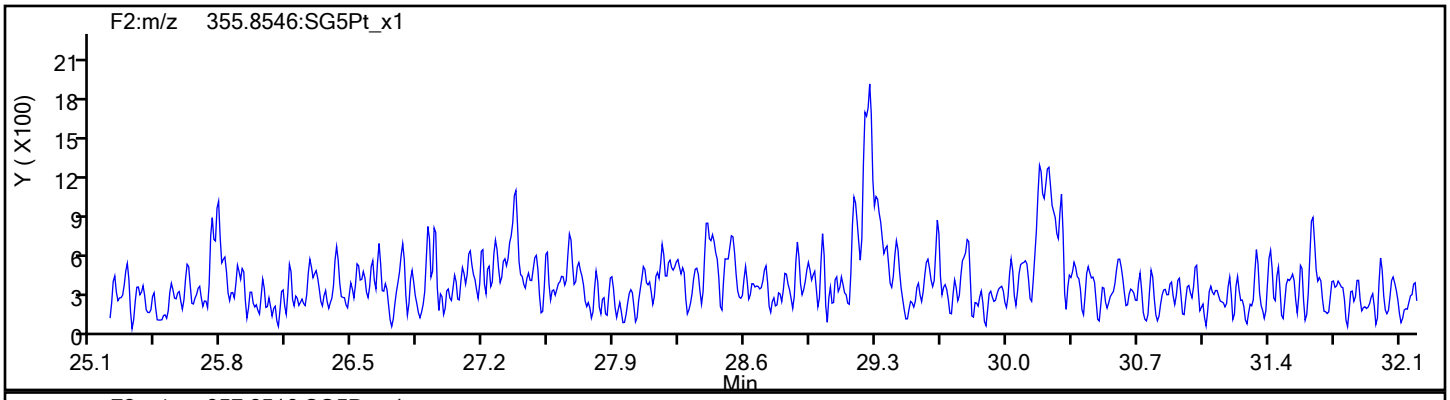
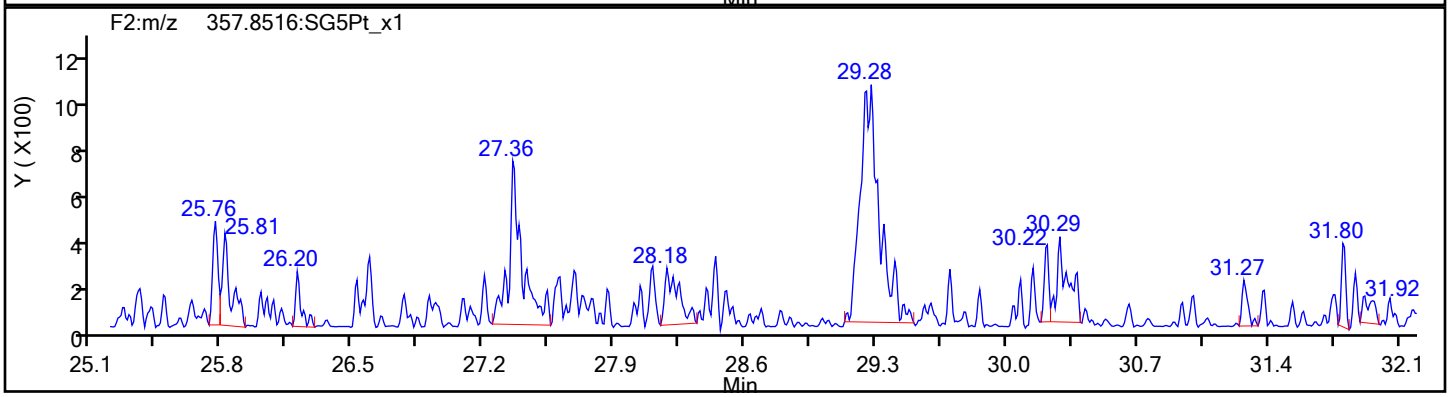
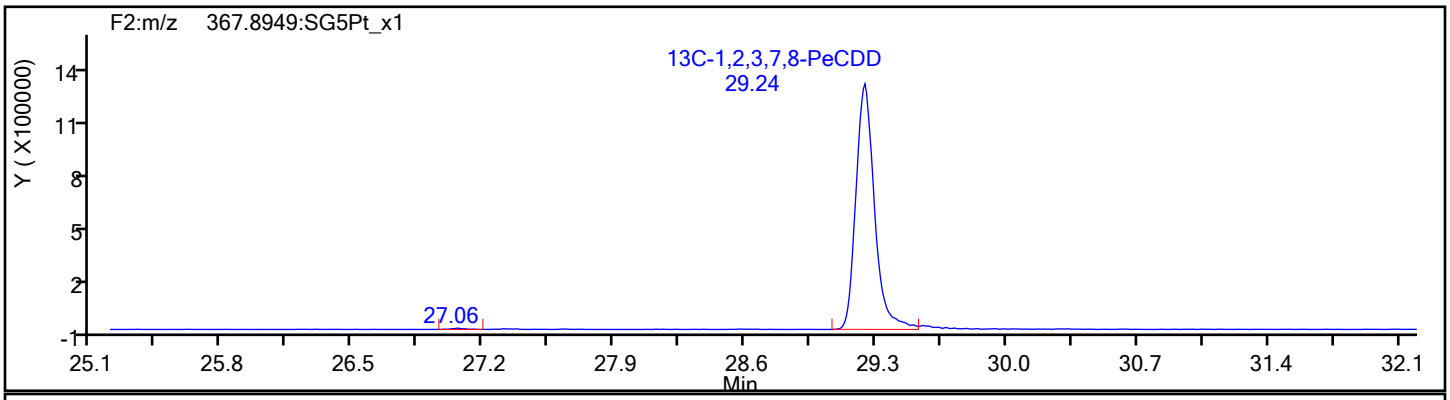
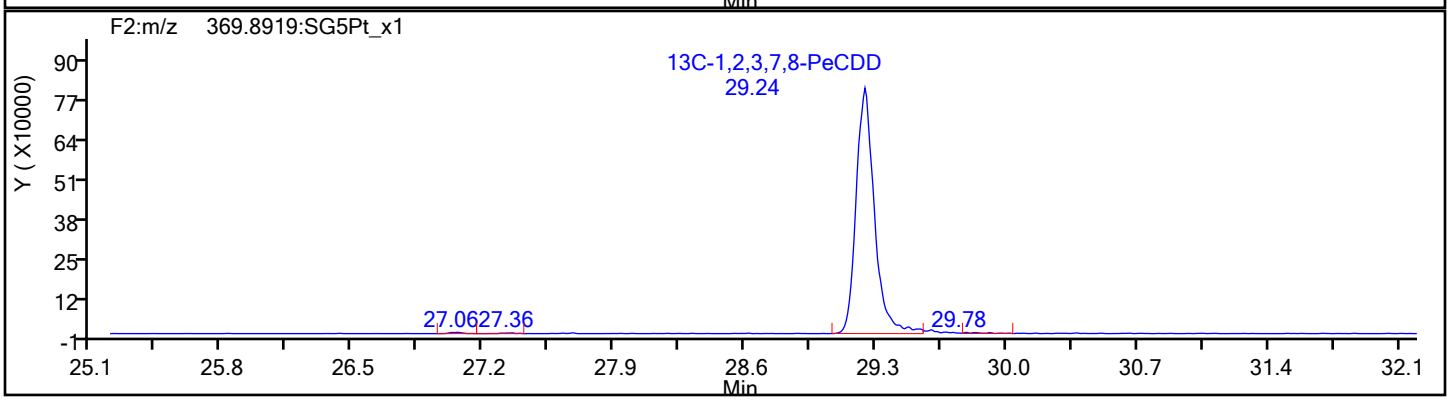
PeCDD





PeCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
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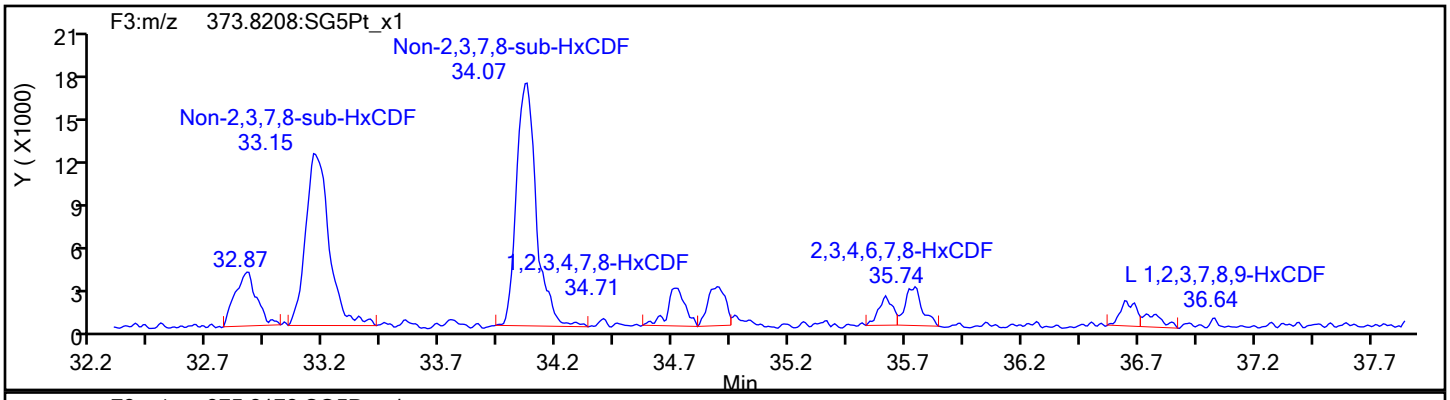
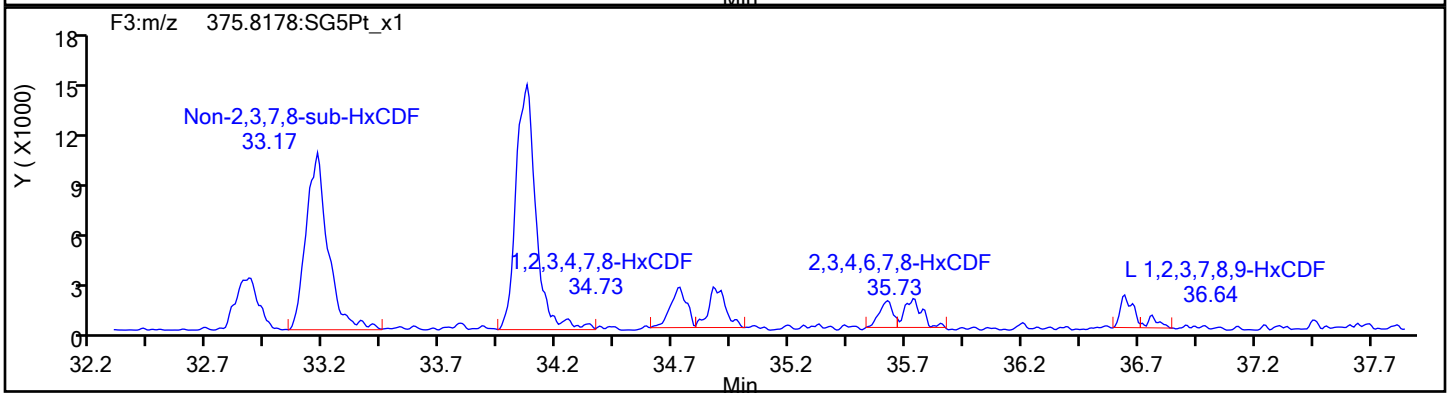
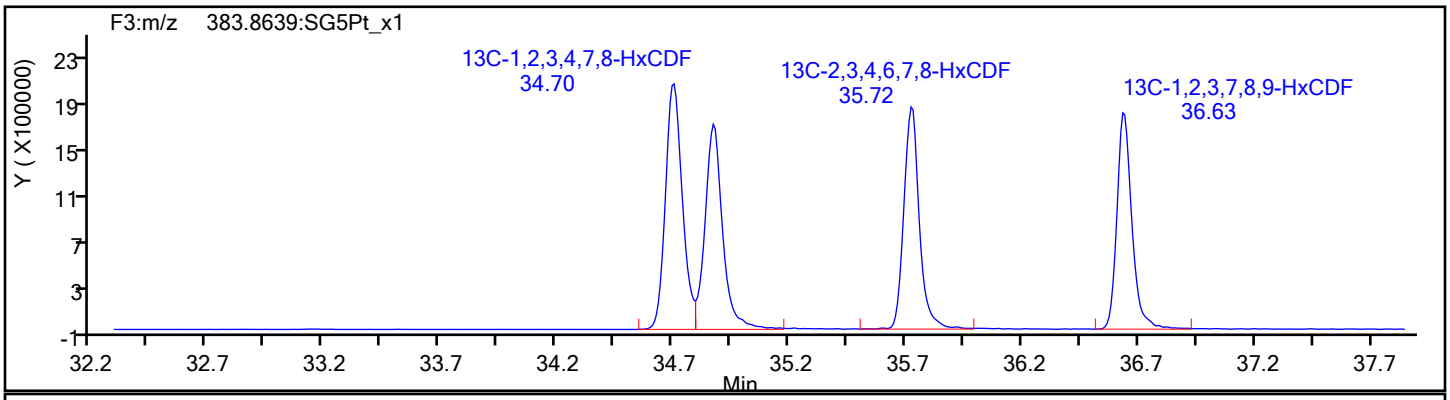
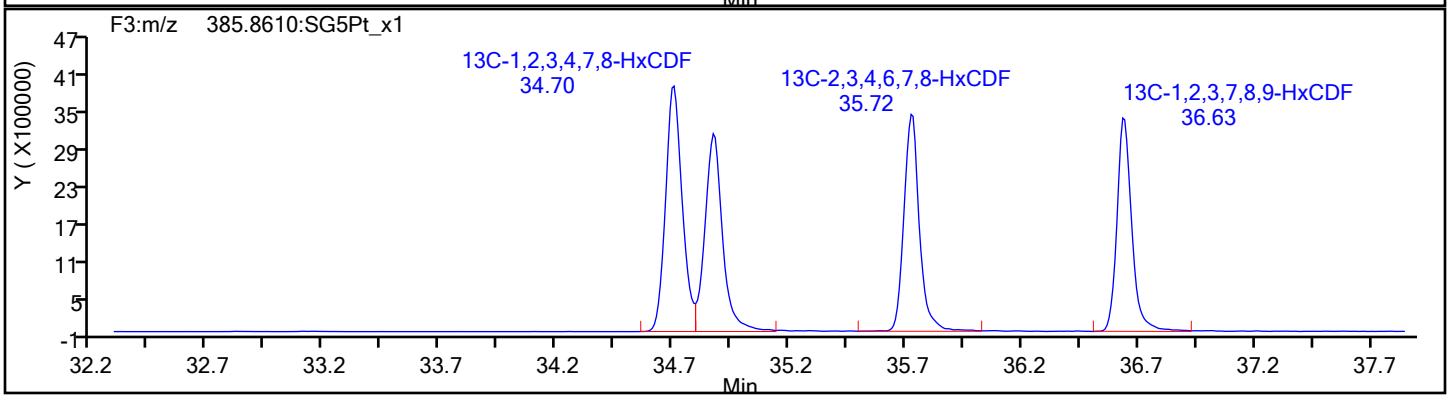
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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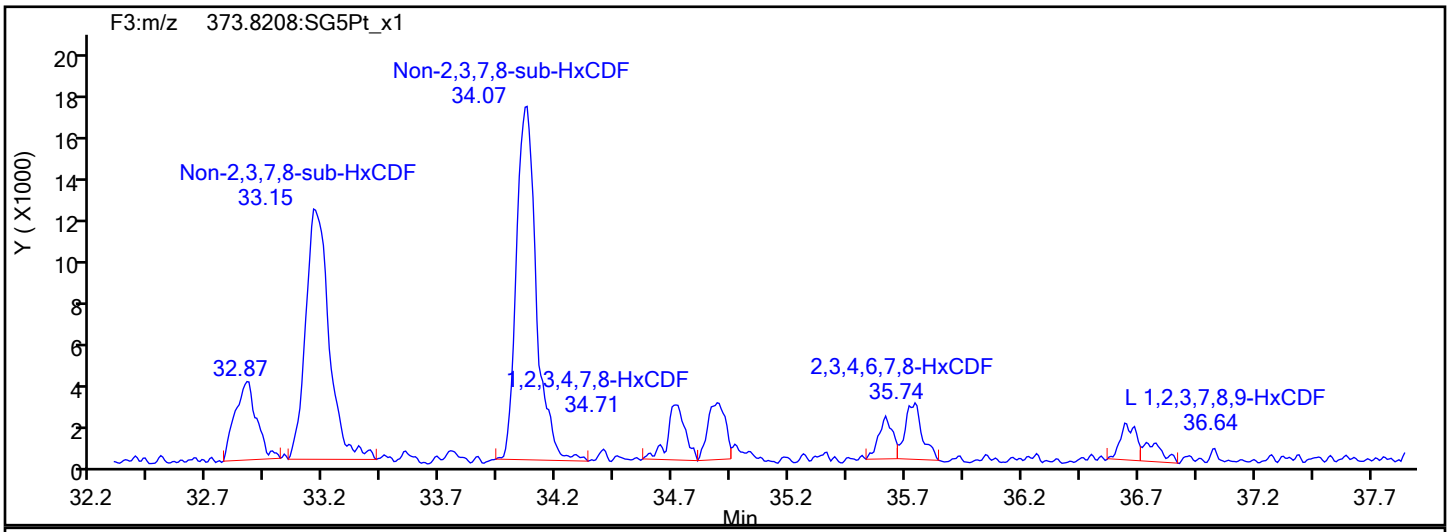
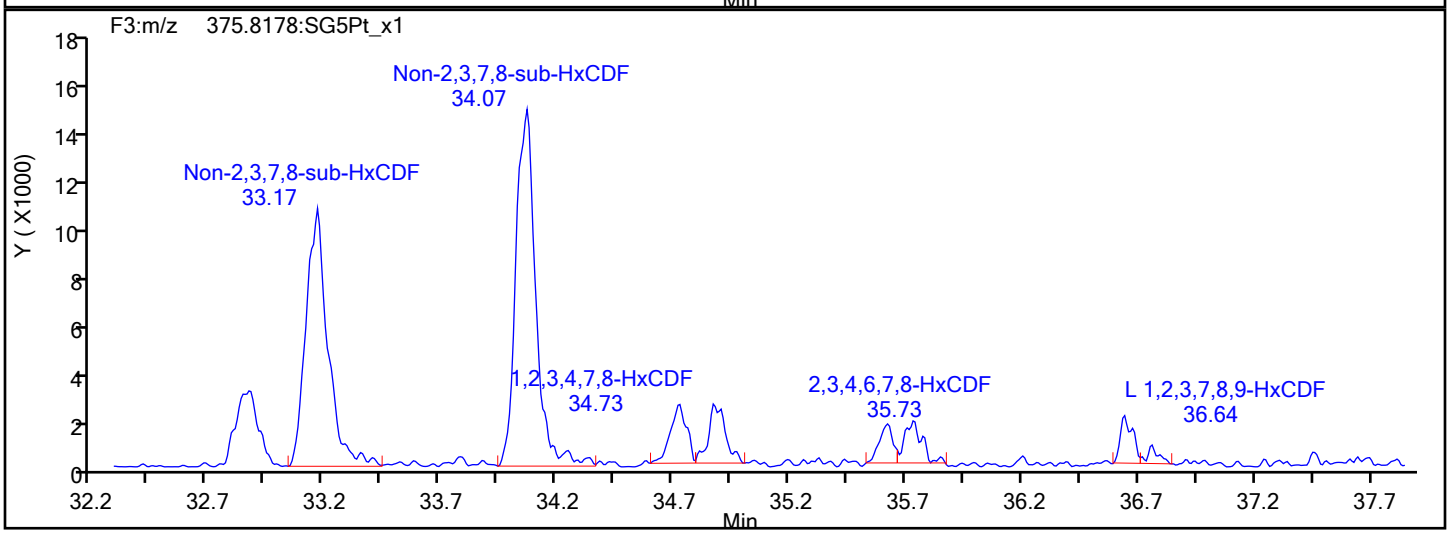
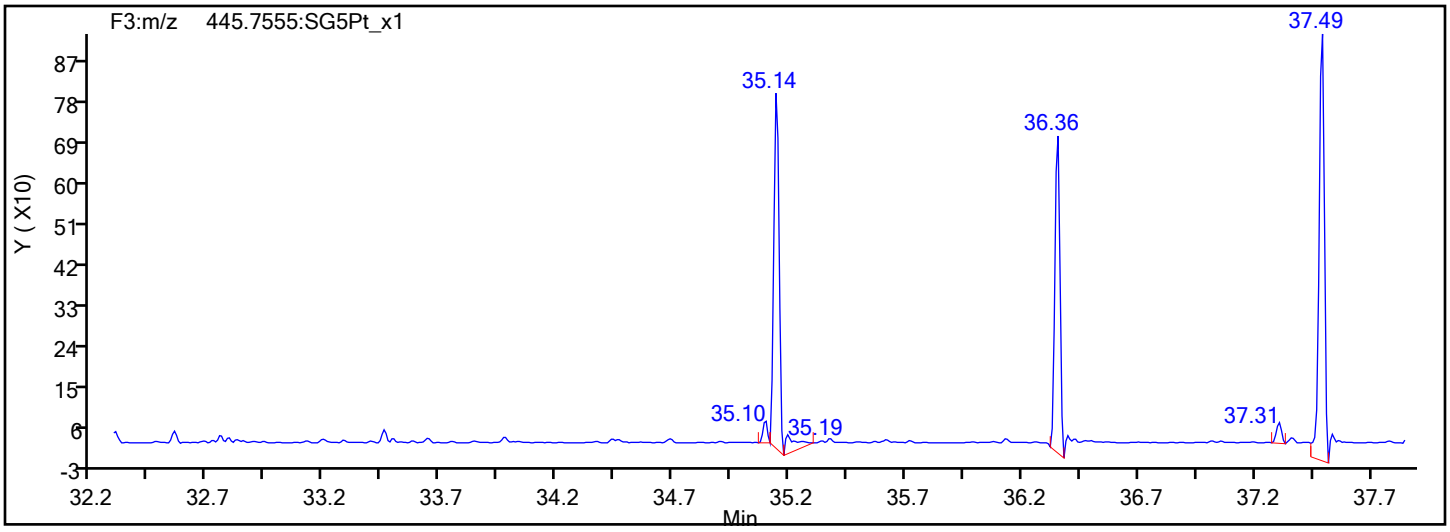
HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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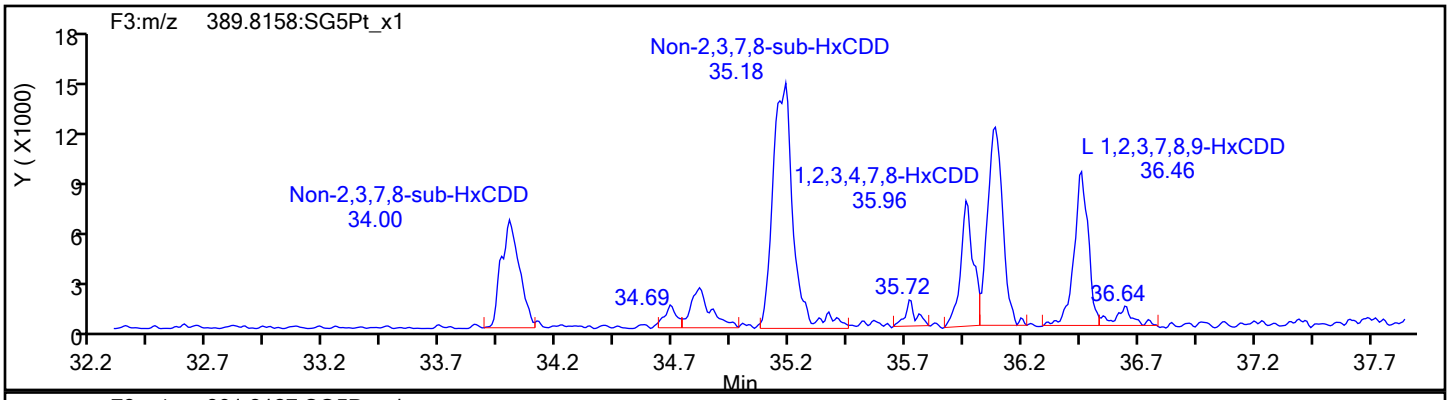
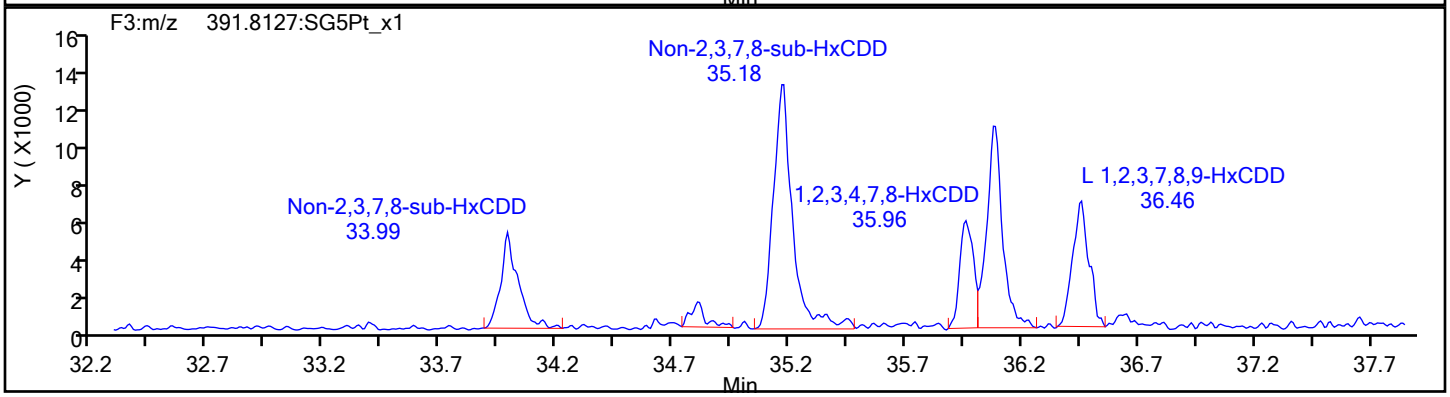
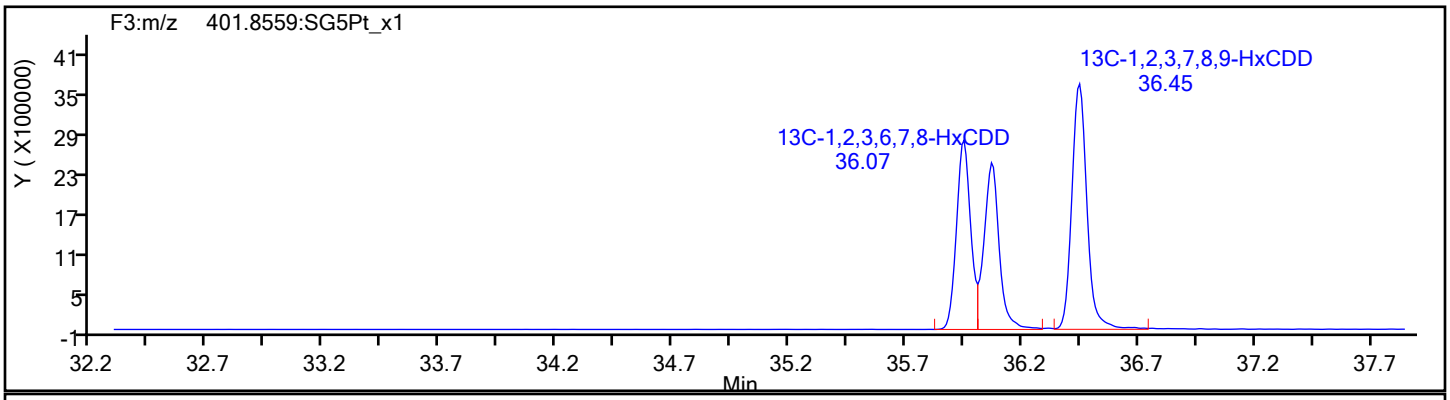
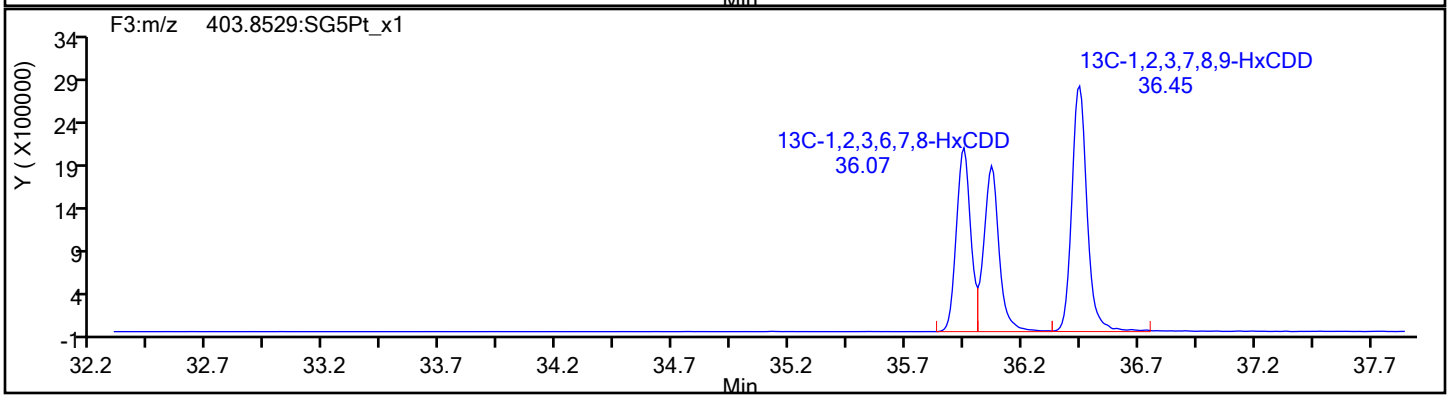
HxCDD





HxCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
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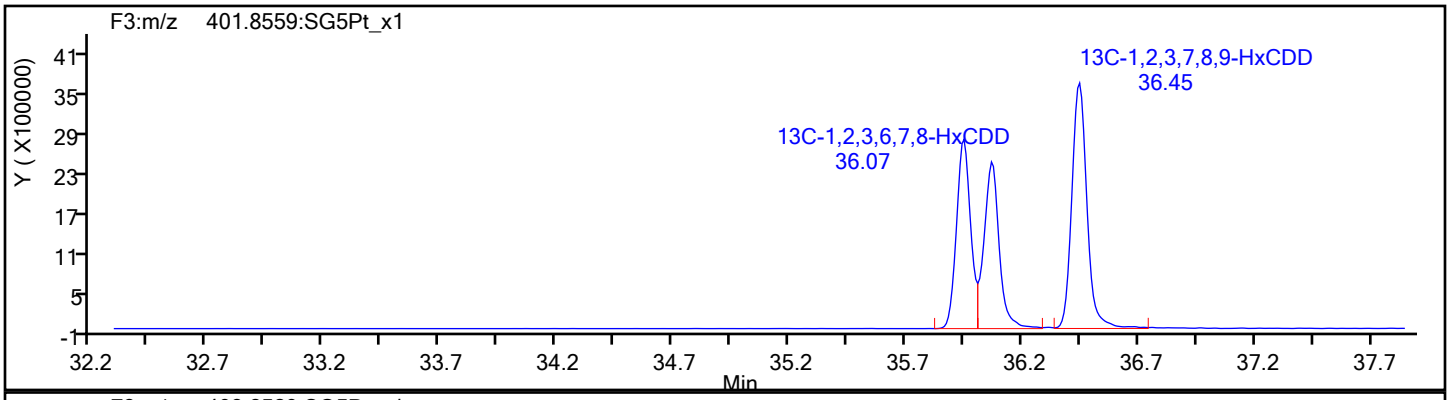
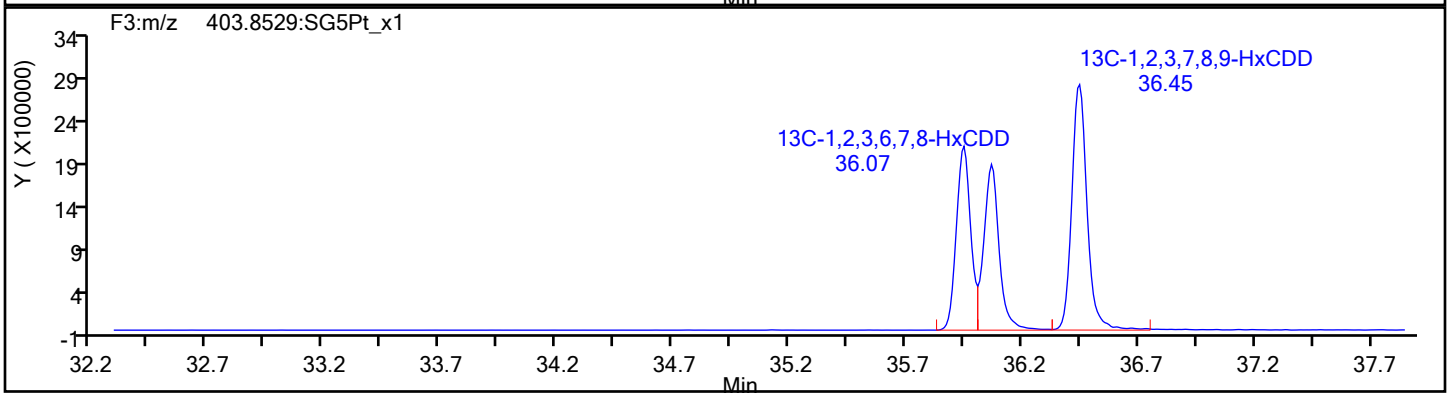
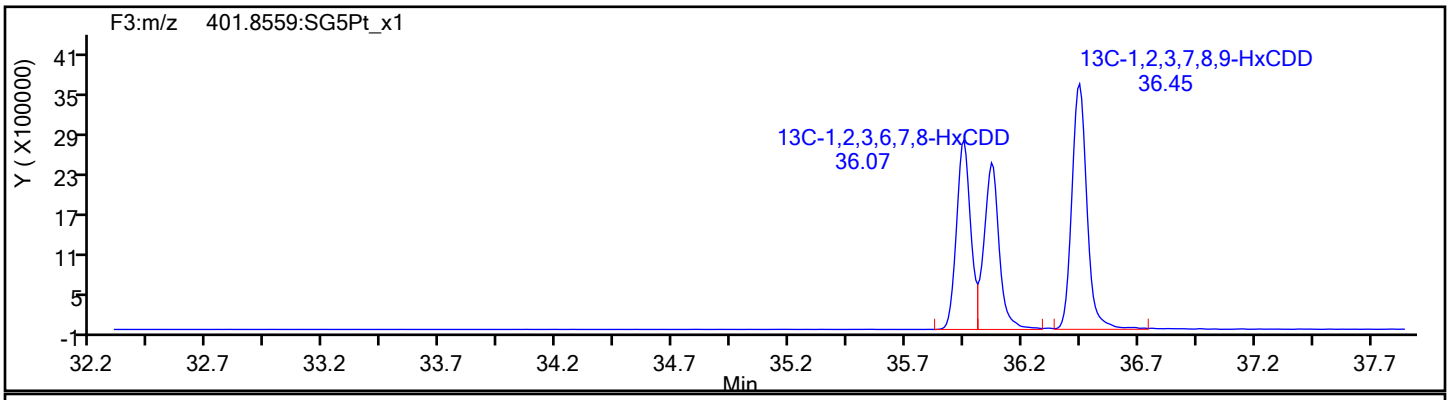
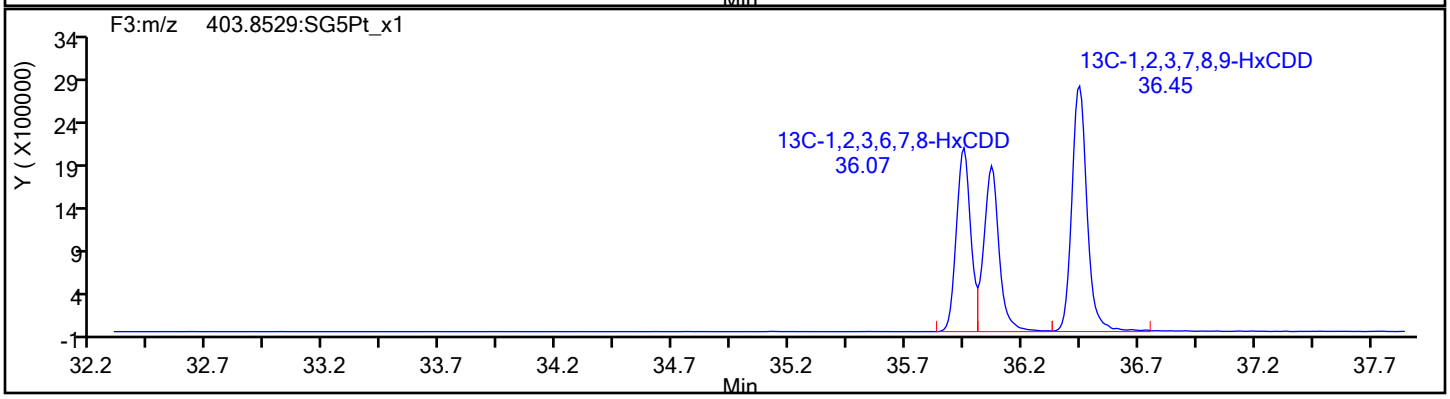
13C-HxCDD





13C-HxCDD Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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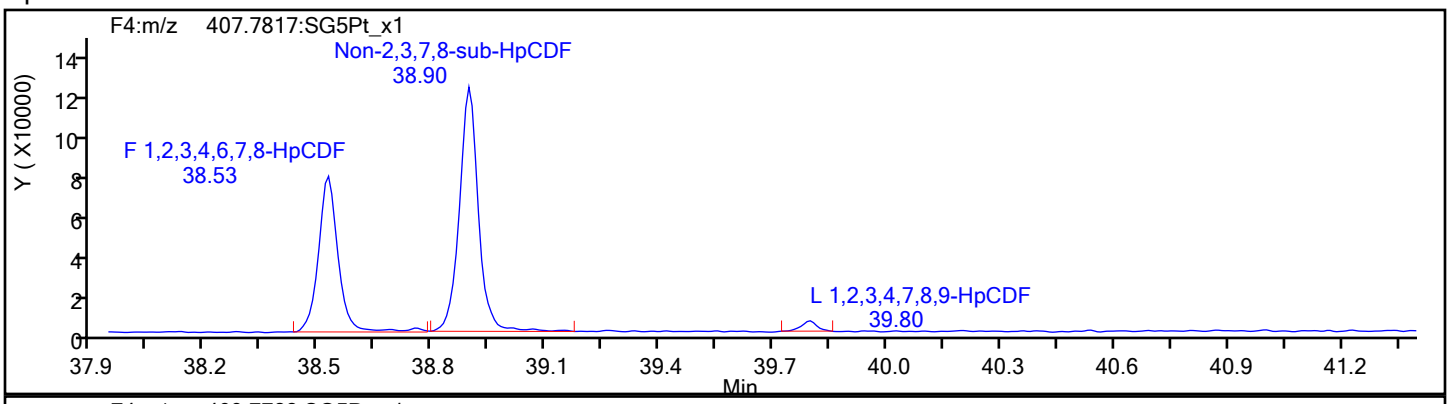
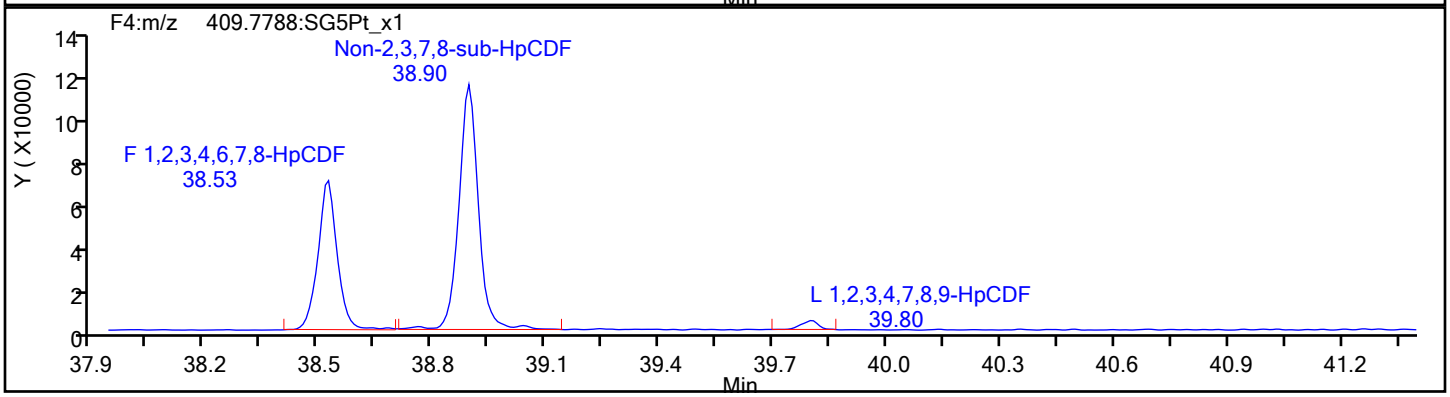
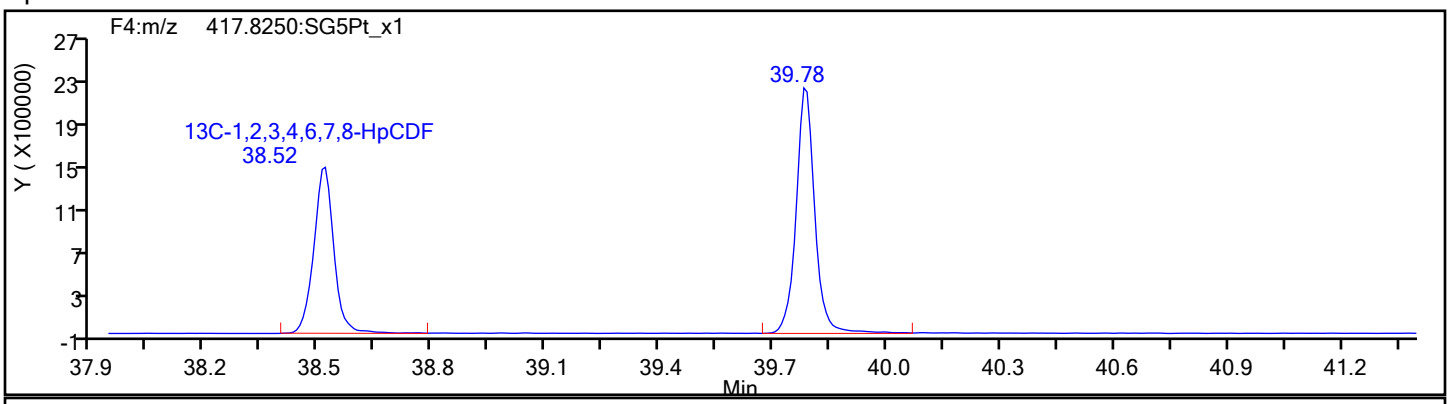
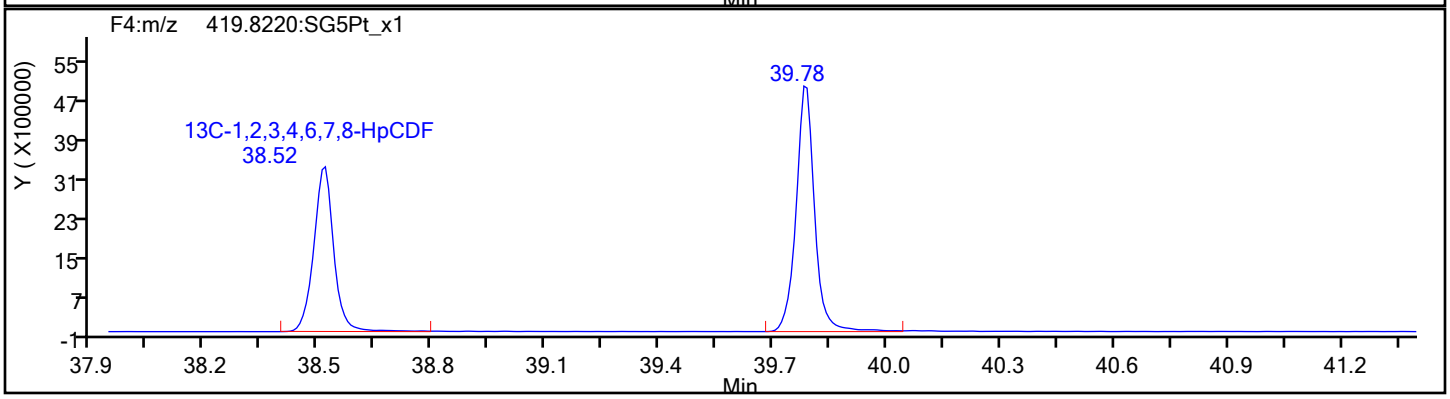
HpCDF





HpCDF Standards

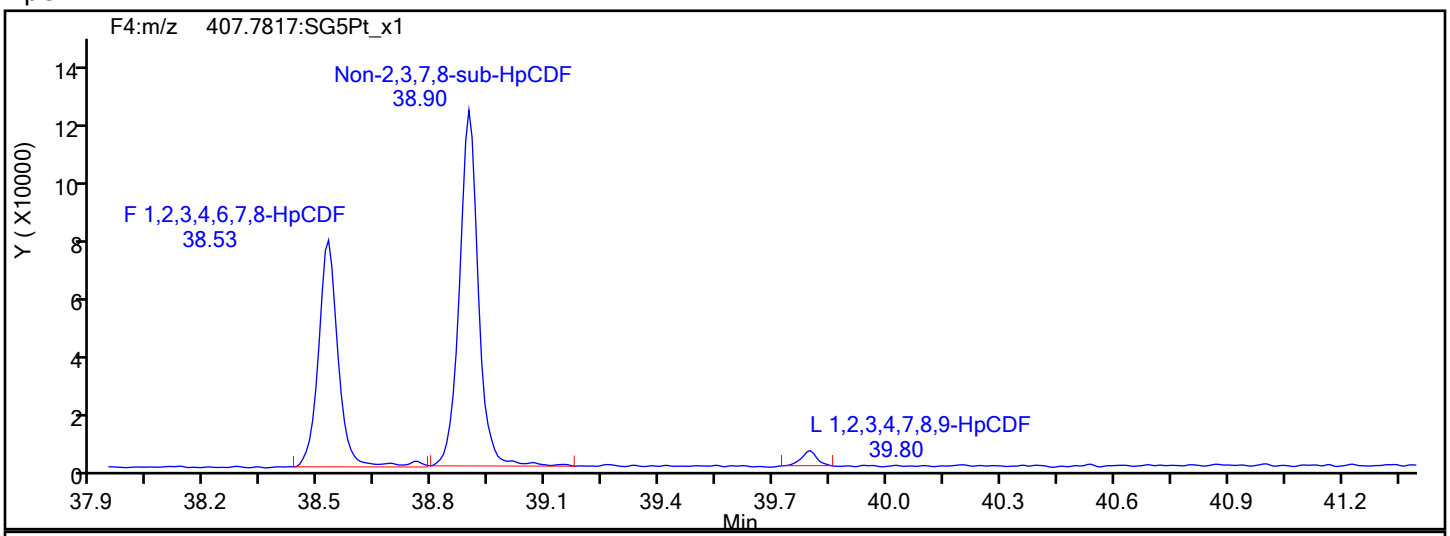


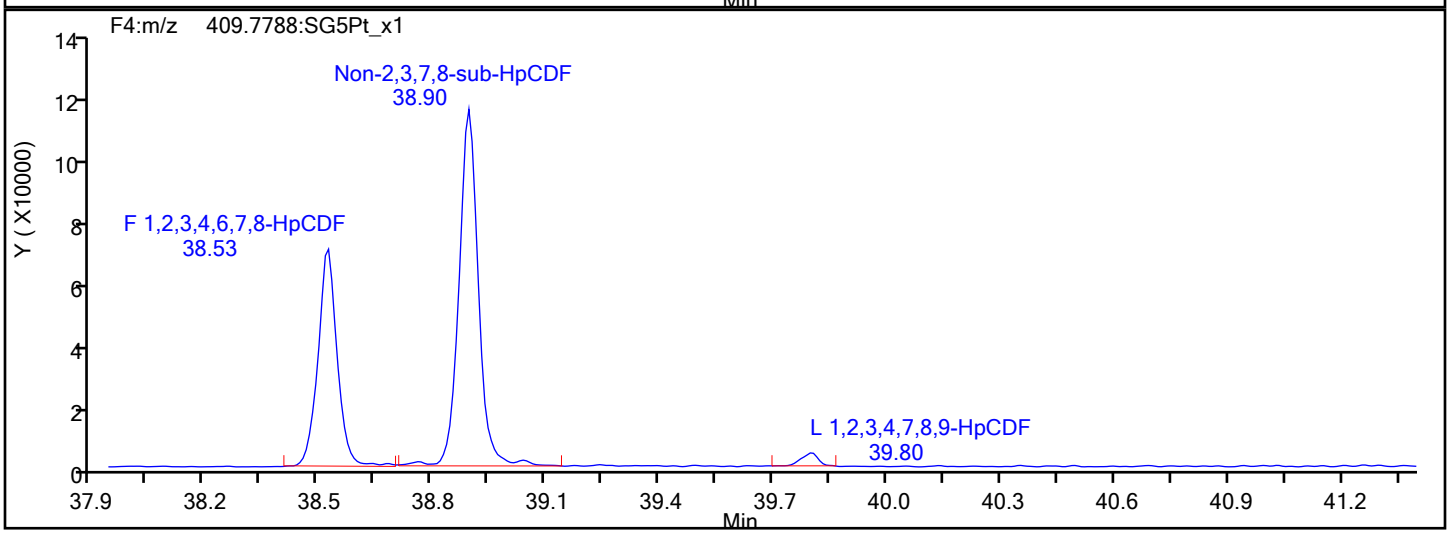


Eurofins TestAmerica, Sacramento

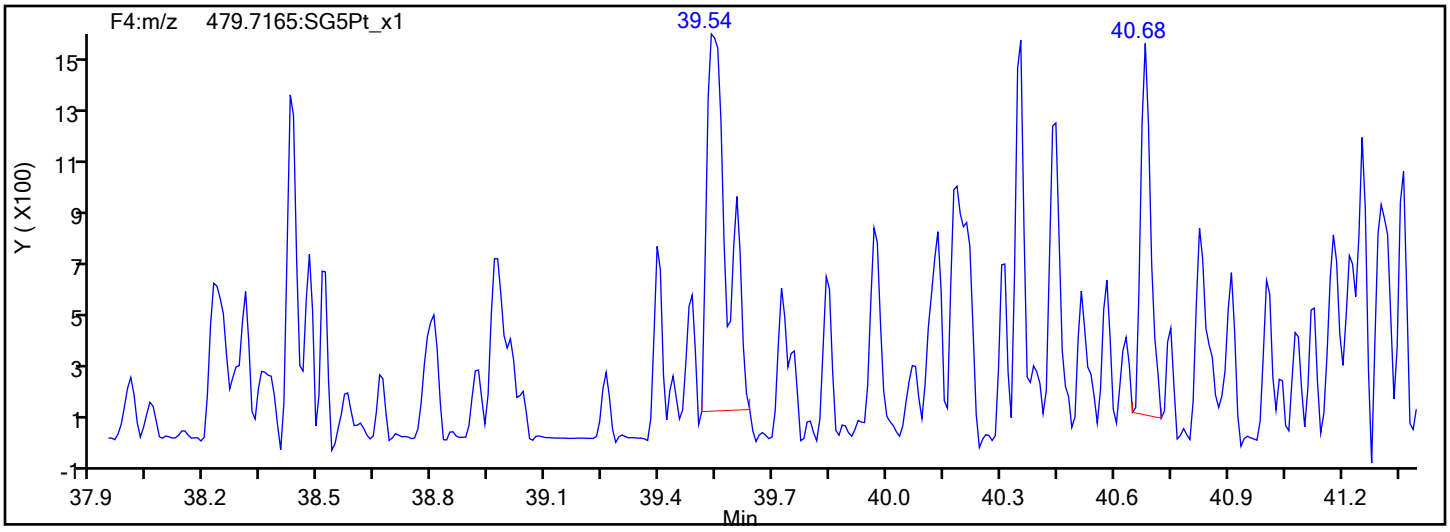
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



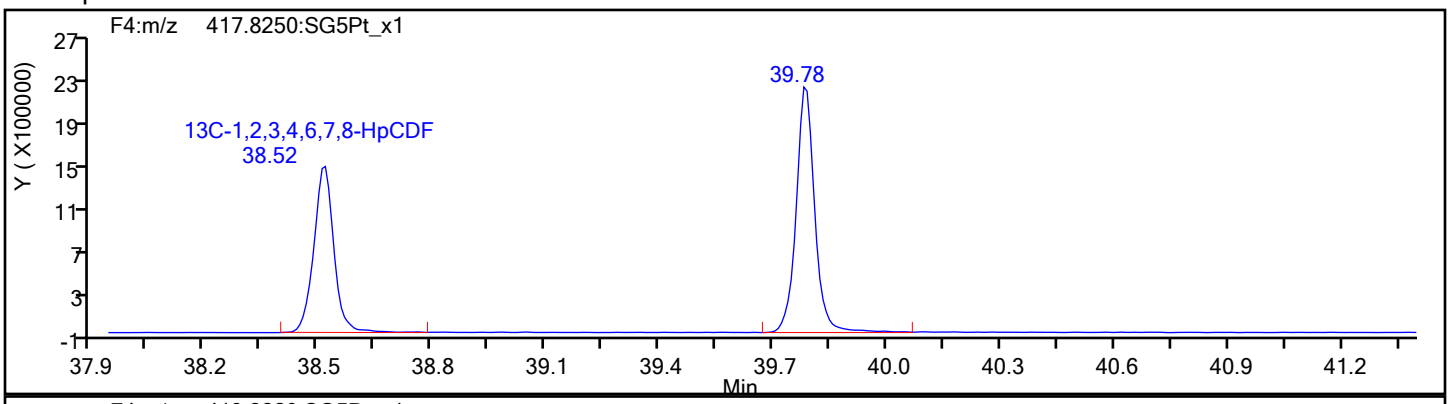
Report Date: 28-Dec-2021 14:24:54 Chrom Revision: 2.3 15-Nov-2021 20:34:30

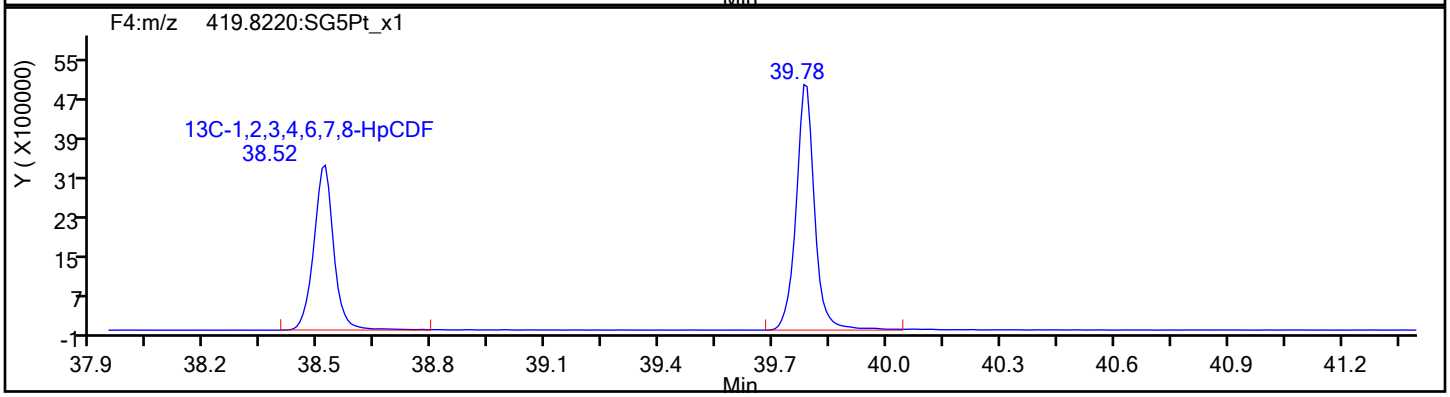
Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d

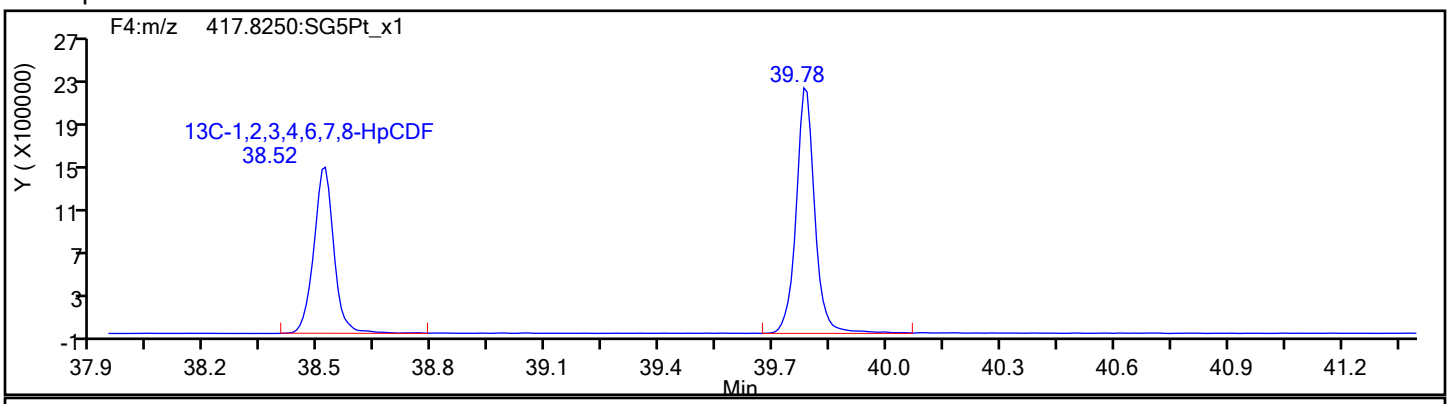
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

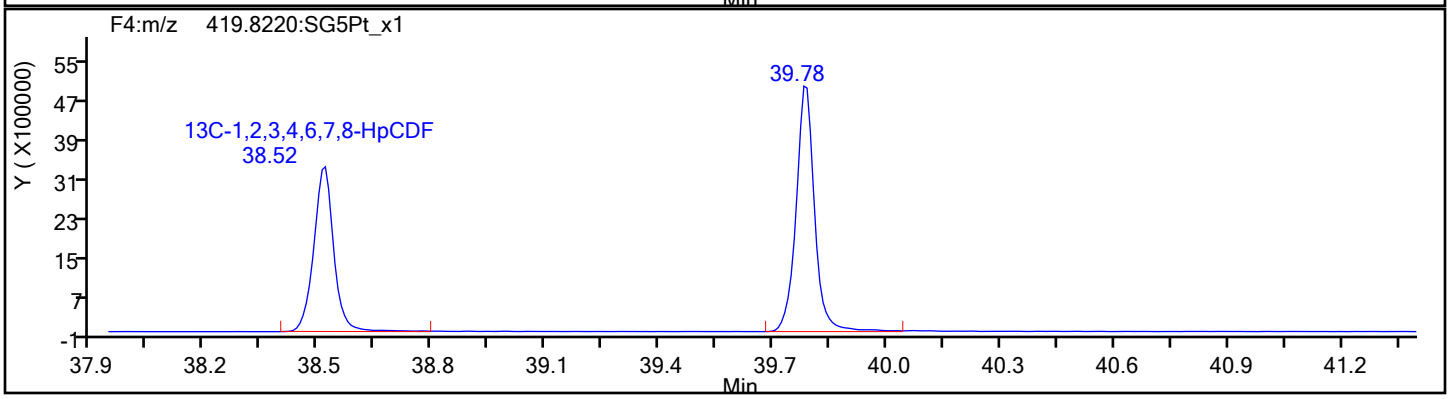
13C-HpCDF





13C-HpCDF Standards





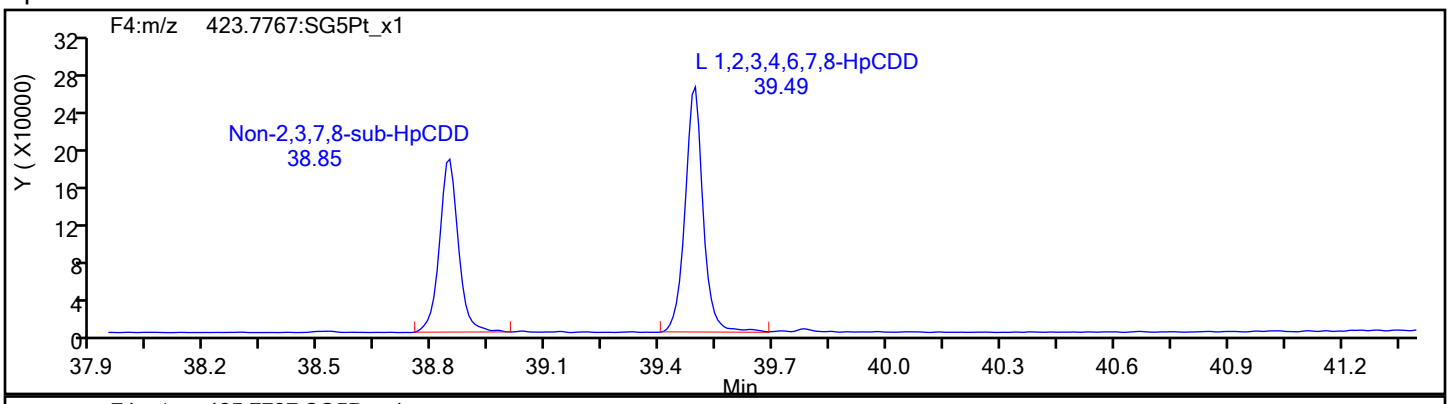
Report Date: 28-Dec-2021 14:24:54 Chrom Revision: 2.3 15-Nov-2021 20:34:30

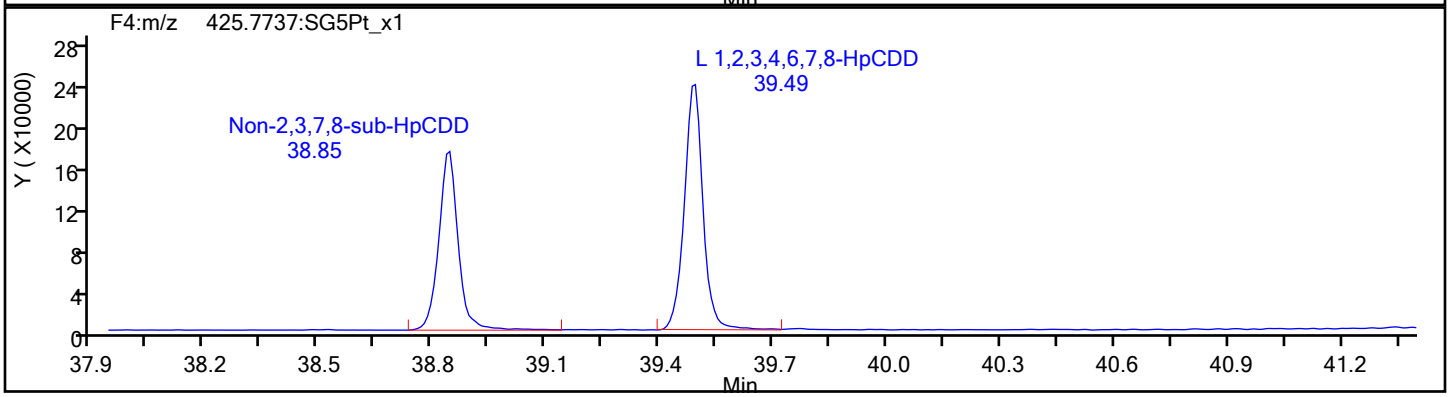
Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d

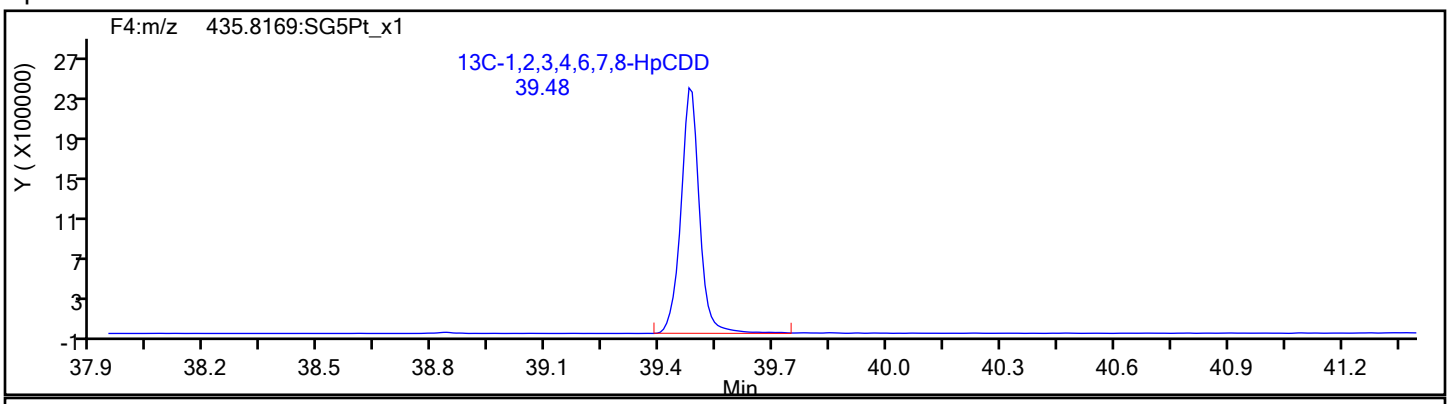
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

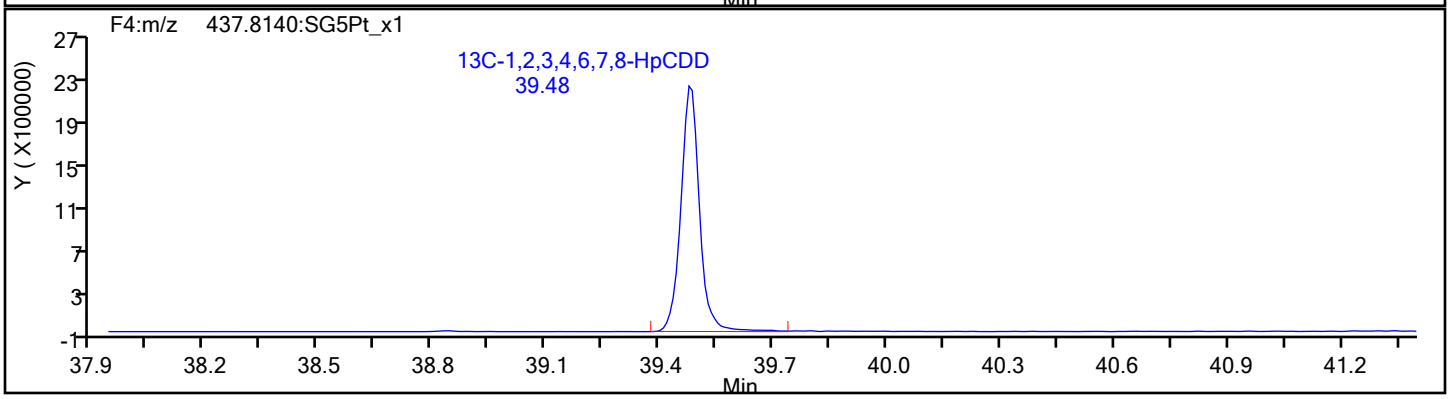
HpCDD





HpCDD Standards

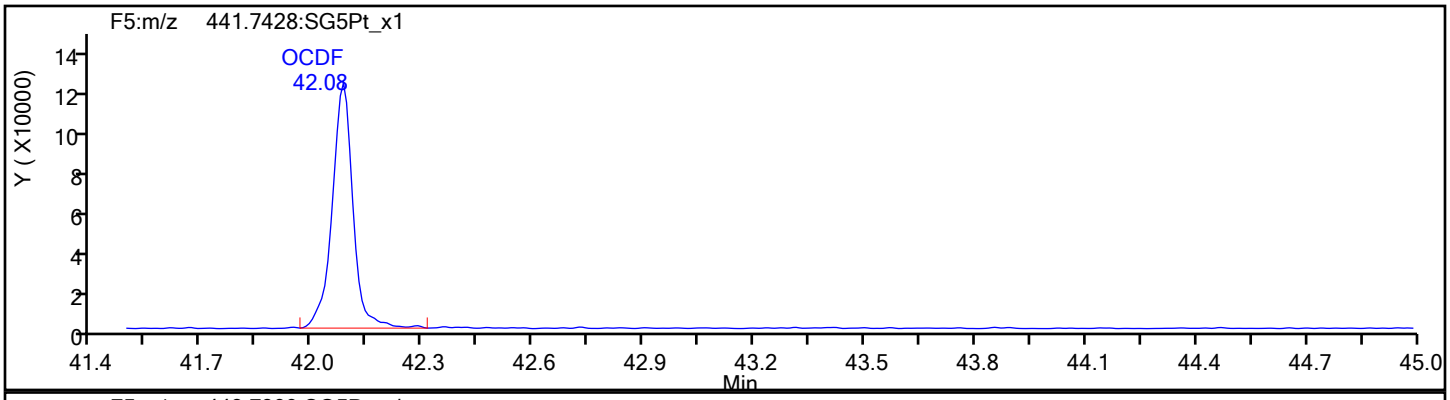


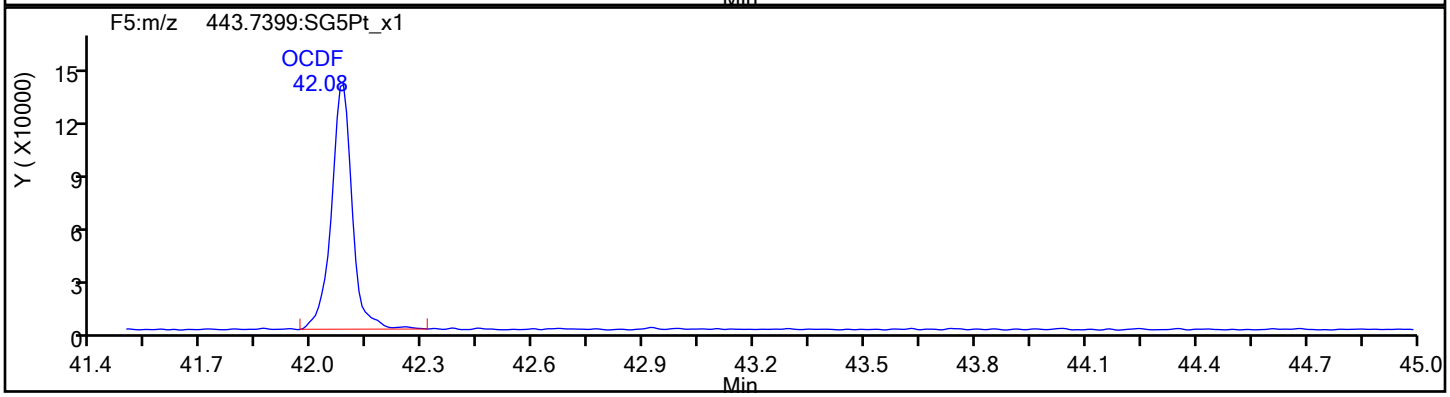


Eurofins TestAmerica, Sacramento

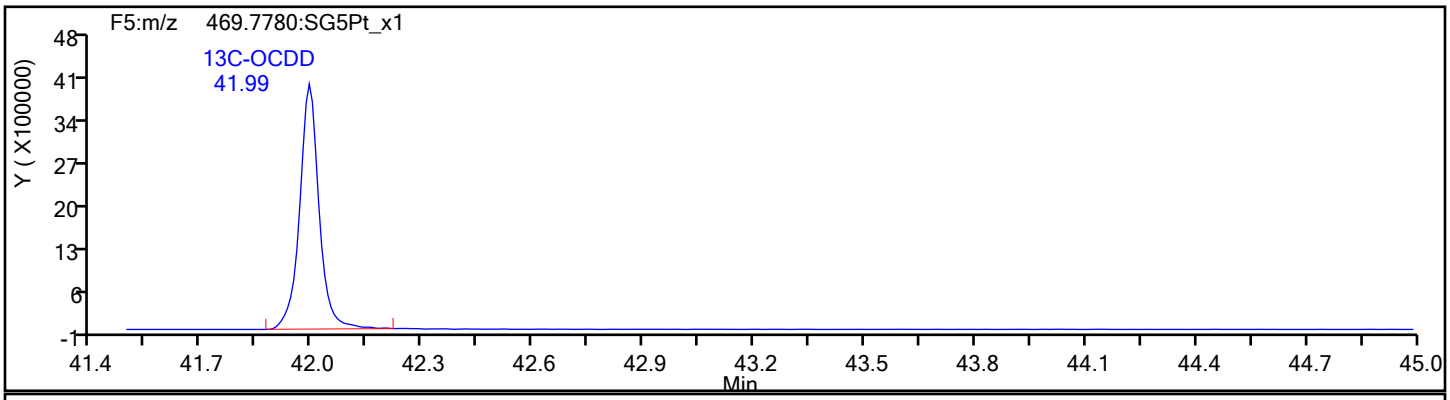
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

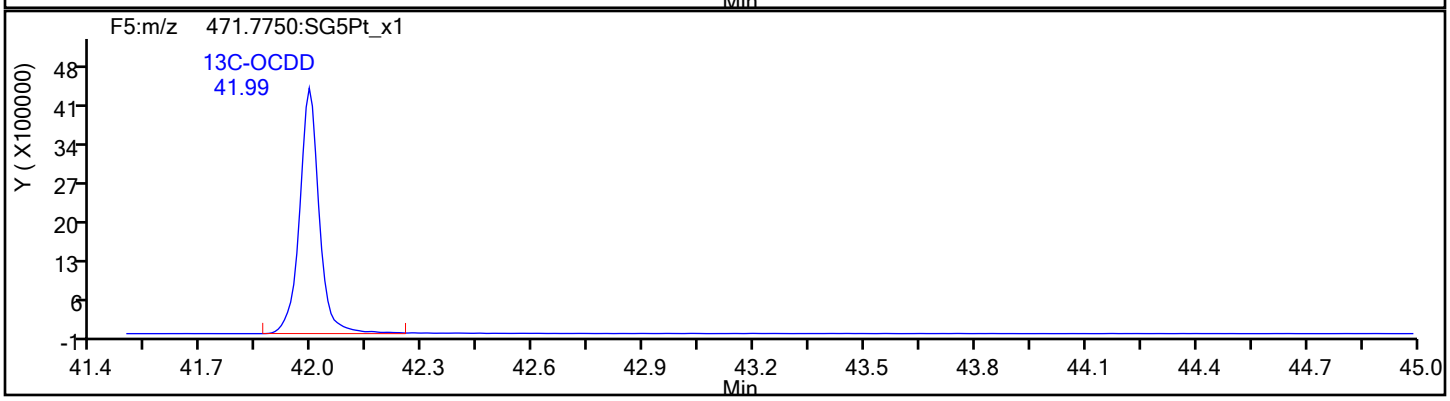
OCDF





OCDF Standards



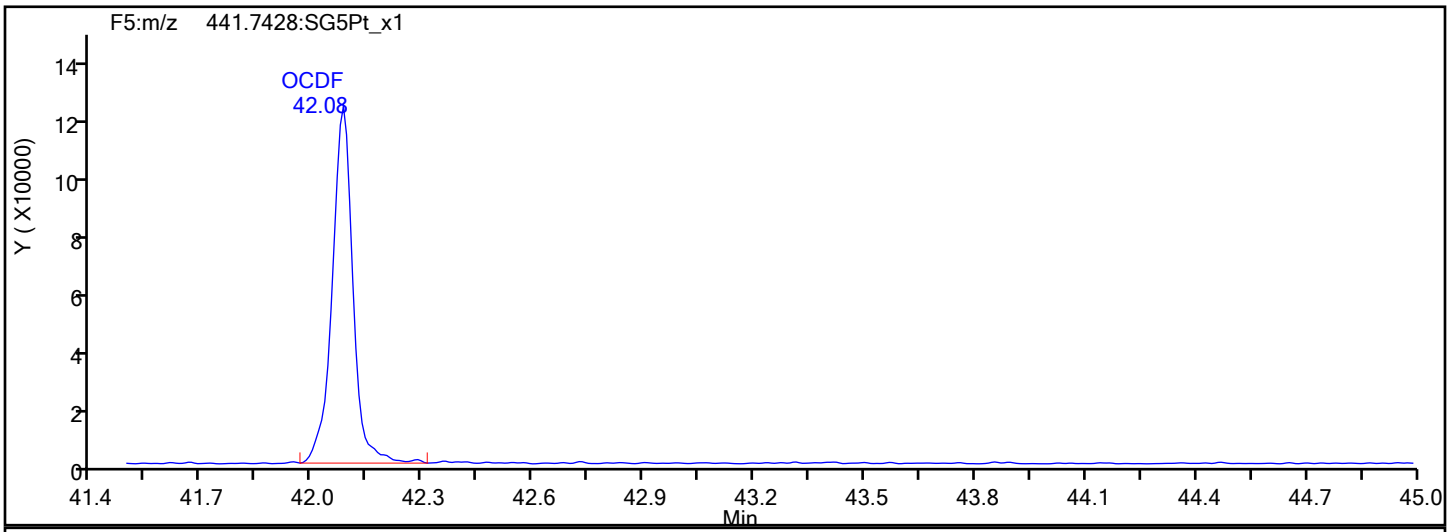


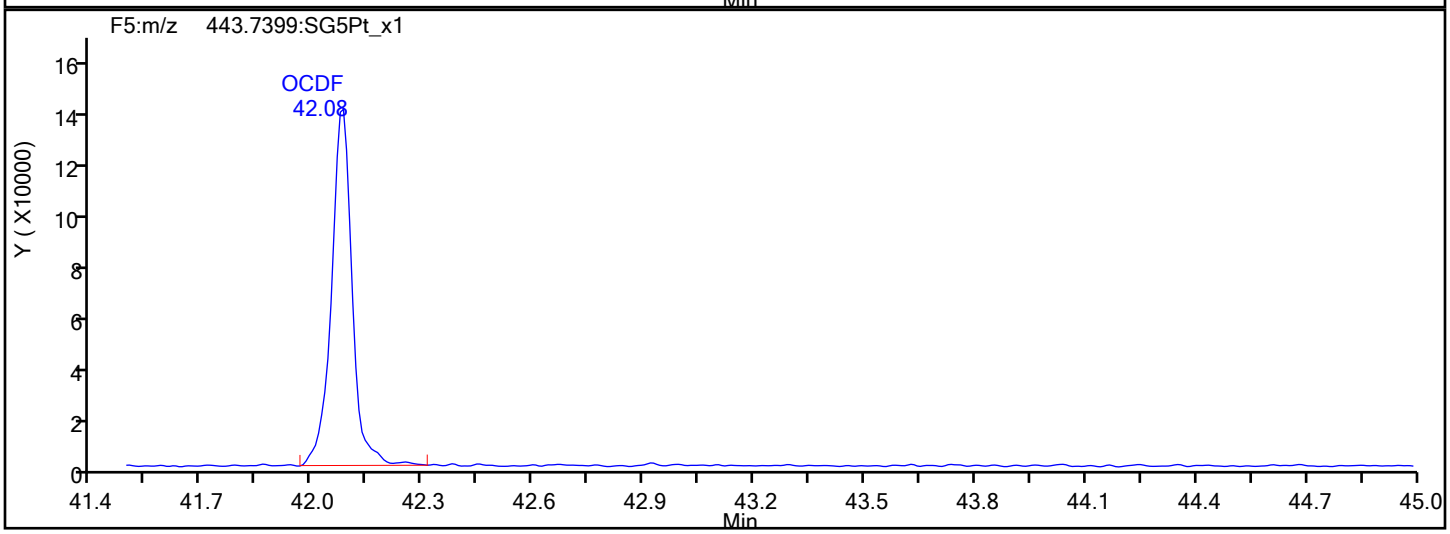
Report Date: 28-Dec-2021 14:24:54 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

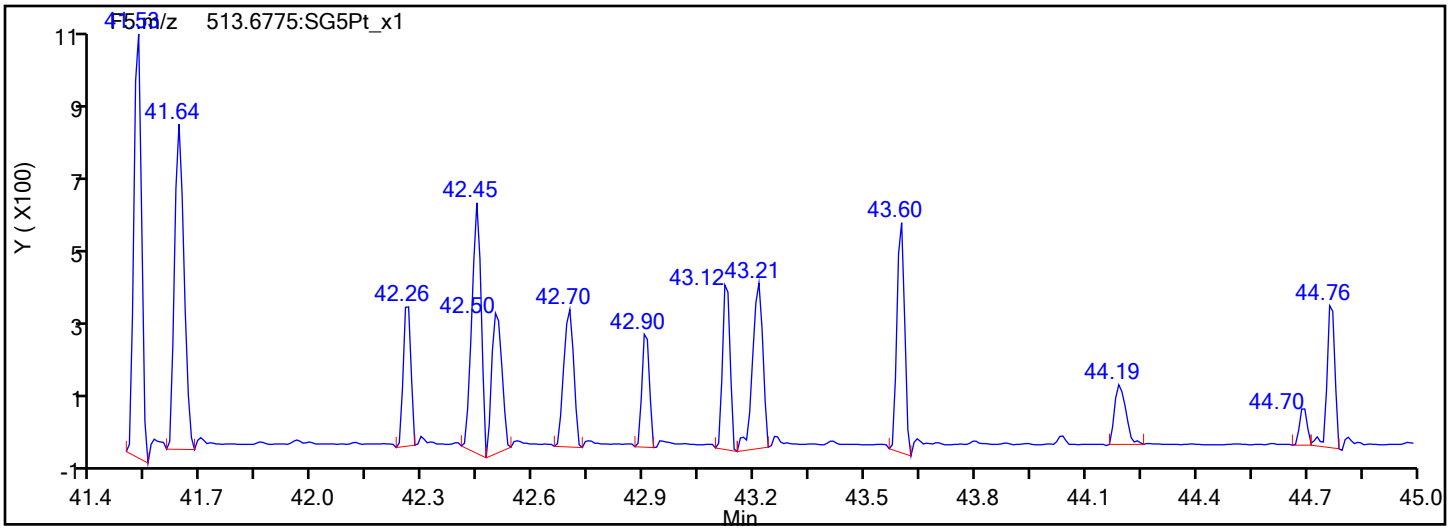
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

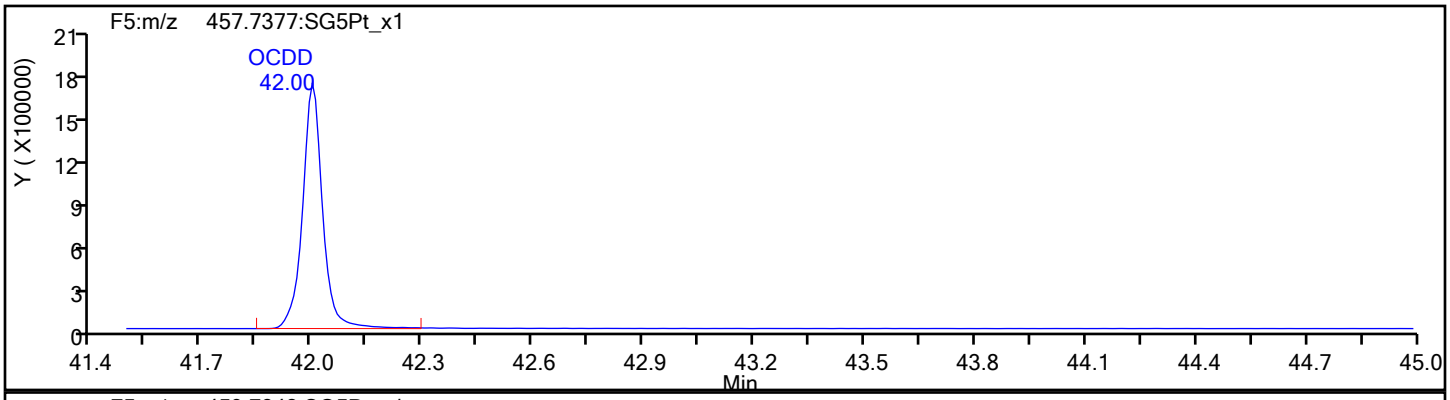


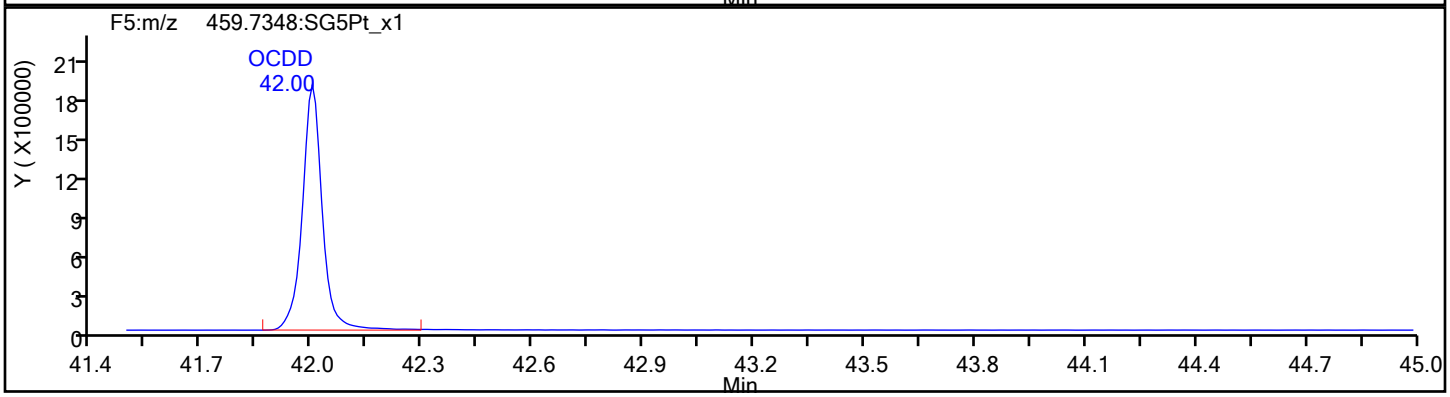
Report Date: 28-Dec-2021 14:24:54 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

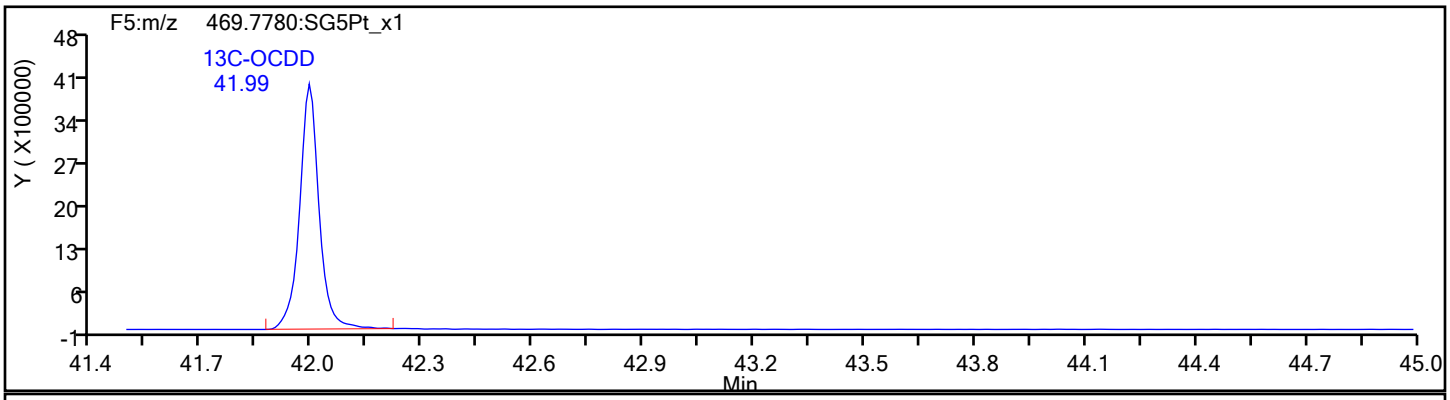
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

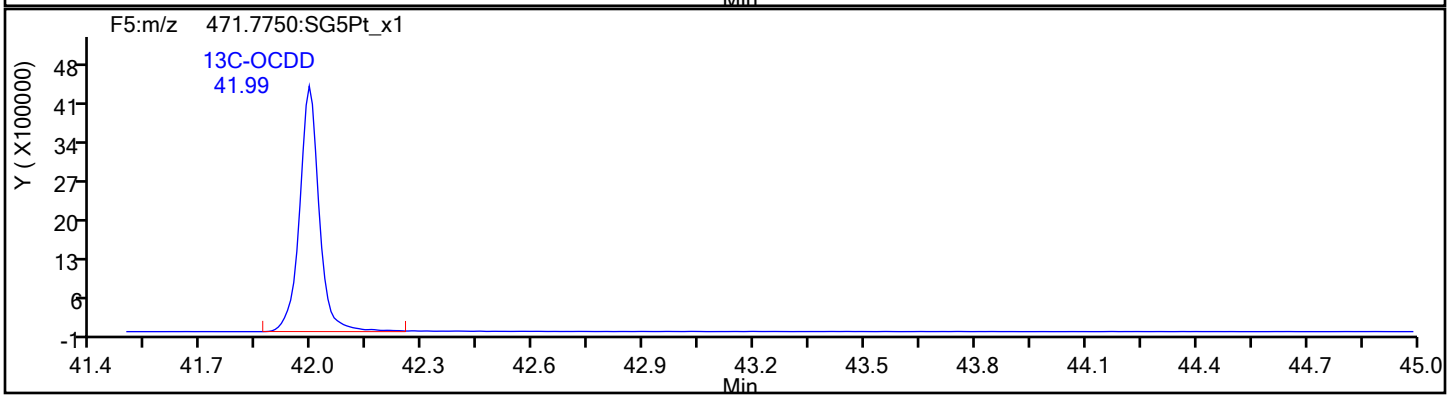
OCDD





OCDD Standards

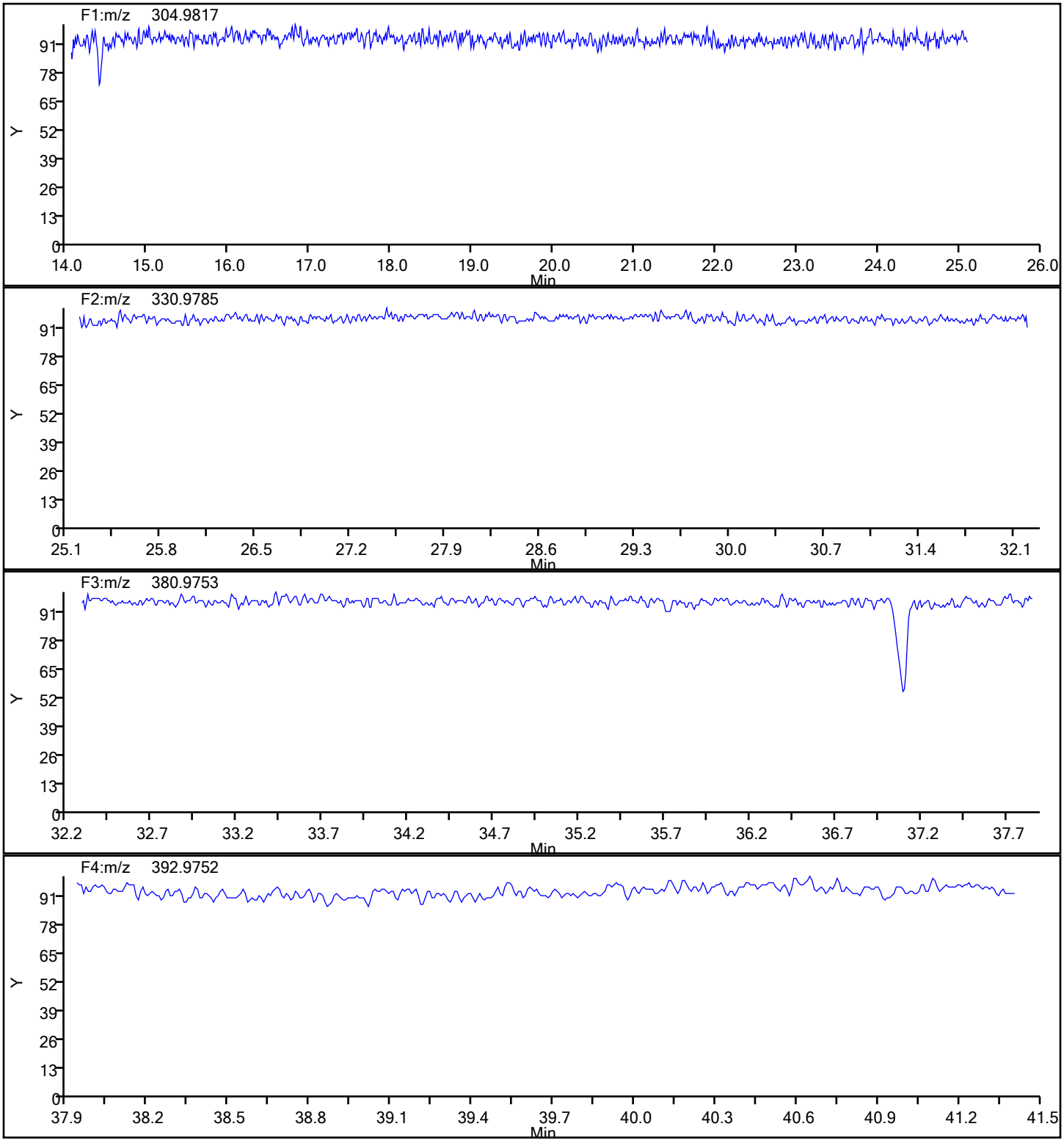




Report Date: 28-Dec-2021 14:24:54 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

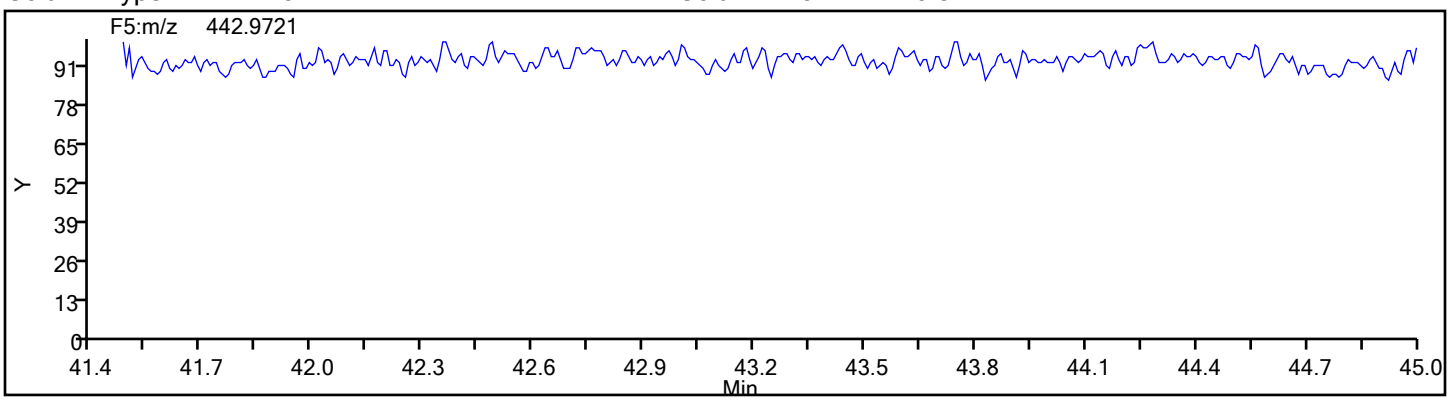
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 28-Dec-2021 14:24:54 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_20.d		
Injection Date:	28-Dec-2021 01:45:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S009		
Worklist#:	554312	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Client Sample ID: EVBMP0001S018 Lab Sample ID: 570-78855-4

Matrix: Water Lab File ID: 27de21adfs1_21.d

Analysis Method: 8290 Date Collected: 12/14/2021 07:30

Extract. Method: 8290 Date Extracted: 12/21/2021 08:52

Sample wt/vol: 1031.1(mL) Date Analyzed: 12/28/2021 02:33

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 554312 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.7	0.89
51207-31-9	2,3,7,8-TCDF	ND		9.7	0.32
40321-76-4	1,2,3,7,8-PeCDD	ND		48	0.66
57117-41-6	1,2,3,7,8-PeCDF	0.83	J q B	48	0.31
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.32
39227-28-6	1,2,3,4,7,8-HxCDD	2.7	J B	48	0.37
57653-85-7	1,2,3,6,7,8-HxCDD	0.74	J B	48	0.37
19408-74-3	1,2,3,7,8,9-HxCDD	0.71	J B	48	0.34
70648-26-9	1,2,3,4,7,8-HxCDF	ND		48	0.29
57117-44-9	1,2,3,6,7,8-HxCDF	ND		48	0.29
60851-34-5	2,3,4,6,7,8-HxCDF	ND		48	0.31
72918-21-9	1,2,3,7,8,9-HxCDF	1.7	J B	48	0.32
35822-46-9	1,2,3,4,6,7,8-HpCDD	5.8	J q B	48	0.29
67562-39-4	1,2,3,4,6,7,8-HpCDF	3.1	J B	48	0.43
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		48	0.49
3268-87-9	OCDD	43	J B	97	0.51
39001-02-0	OCDF	4.8	J B	97	0.51

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	86		40-135
89059-46-1	13C-2,3,7,8-TCDF	88		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	79		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	83		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	92		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	87		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	86		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	88		40-135
114423-97-1	13C-OCDD	101		40-135

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d
Lims ID: 570-78855-F-4-A
Client ID: EVBMP0001S018
Sample Type: Client
Inject. Date: 28-Dec-2021 02:33:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-78855-f-4-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:38:46

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.937	26890293	0.84	2.2E+05	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.982	30511521	0.80	1.2917	87.8	87.8	0.3175	0.3175	87.84	
2,3,7,8-TCDF	20.025						0.0167	0.0167		
A Non-2,3,7,8-sub-TCDF	19.632						0.0167	0.0167		
S Total TCDF							0.0167	0.0167		
D 13C-2,3,7,8-TCDD	21.307	19086228	0.79	0.8271	85.8	85.8	0.2095	0.2095	85.81	
2,3,7,8-TCDD	21.384						0.0461	0.0461		
A Non-2,3,7,8-sub-TCDD	20.470						0.0461	0.0461		
S Total TCDD							0.0461	0.0461		
D 13C-1,2,3,7,8-PeCDF	26.914	26106963	1.59	1.1665	83.2	83.2	0.4754	0.4754	83.23	
1,2,3,7,8-PeCDF	26.931	12239	1.55	1.0987	0.0482	0.0427	0.0159	0.0159		RQM
2,3,4,7,8-PeCDF	28.486						0.0165	0.0165		
A F1 PeCDFs	24.442						0.007865	0.007865		
A Non-2,3,7,8-sub-PeCDF	27.884						0.0162	0.0162		
S Total PeCDF					0.0482	0.0427	0.0162	0.0162		RQ
D 13C-1,2,3,7,8-PeCDD	29.222	14482554	1.60	0.6835	78.8	78.8	0.1409	0.1409	78.80	
1,2,3,7,8-PeCDD	29.303						0.0341	0.0341		
A Non-2,3,7,8-sub-PeCDD	28.134						0.0341	0.0341		
S Total PeCDD							0.0341	0.0341		
D 13C-1,2,3,4,7,8-HxCDF	34.686	30681736	0.54	1.1776	86.6	86.6	0.3766	0.3766	86.61	a
1,2,3,4,7,8-HxCDF	34.752						0.0148	0.0148		
1,2,3,6,7,8-HxCDF	34.920						0.0148	0.0148		
2,3,4,6,7,8-HxCDF	35.762						0.0158	0.0158		U
D 13C-1,2,3,7,8,9-HxCDF	36.624	22789937	0.54							
1,2,3,7,8,9-HxCDF	36.641	23172	1.36	0.8433	0.0896	0.0896	0.0167	0.0167		M
A Non-2,3,7,8-sub-HxCDF	34.874	12868	1.24	0.9089	0.0518	0.0461	0.0155	0.0461		RQ
S Total HxCDF					0.1413	0.1357	0.0155	0.0155		RQ
* 13C-1,2,3,7,8,9-HxCDD	36.430	30083826	1.29	2.6E+05	100.0	100.0				a
1,2,3,4,7,8-HxCDD	35.950	27964	1.27	1.0079	0.1372	0.1372	0.0192	0.0192		
D 13C-1,2,3,6,7,8-HxCDD	36.051	20218274	1.28	0.7339	91.6	91.6	0.2410	0.2410	91.57	
1,2,3,6,7,8-HxCDD	36.076	7800	1.18	1.0111	0.0382	0.0382	0.0192	0.0192		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.455	8102	1.29	1.0993	0.0365	0.0365	0.0176	0.0176		M
A Non-2,3,7,8-sub-HxCDD	35.257						0.0186	0.0186		
S Total HxCDD					0.2118	0.2118	0.0187	0.0187		
D 13C-1,2,3,4,6,7,8-HpCDF	38.498	17754716	0.46	0.6698	88.1	88.1	0.5181	0.5181	88.11	
1,2,3,4,6,7,8-HpCDF	38.498	43342	1.05	1.5184	0.1608	0.1608	0.0223	0.0223		
1,2,3,4,7,8,9-HpCDF	39.806						0.0253	0.0253		
A Non-2,3,7,8-sub-HpCDF	39.191	28824	0.98	1.4286	0.1136	0.1136	0.0237	0.1136		
S Total HpCDF					0.2744	0.2744	0.0238	0.0238		
D 13C-1,2,3,4,6,7,8-HpCDD	39.460	15368128	1.09	0.5943	86.0	86.0	0.2825	0.2825	85.96	
1,2,3,4,6,7,8-HpCDD	39.477	50230	1.04	1.0953	0.3329	0.2984	0.0152	0.0152		RQM
A Non-2,3,7,8-sub-HpCDD	39.200	57013	1.04	1.0953	0.3678	0.3387	0.0152	0.3387		RQ
S Total HpCDD					0.7007	0.6371	0.0152	0.0152		RQ
D 13C-OCDD	41.972	29368999	0.90	0.4838	201.8	201.8	0.4064	0.4064	101	
OCDF	42.056	51147	0.87	1.3979	0.2492	0.2492	0.0263	0.0263		M
OCDD	41.981	362711	0.85	1.1116	2.222	2.222	0.0262	0.0262		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d
Lims ID: 570-78855-F-4-A
Client ID: EVBMP0001S018
Sample Type: Client
Inject. Date: 28-Dec-2021 02:33:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-78855-f-4-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:38:46

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	20.937	20.980	-3		12262199	1787391	1797	4492	995		a
333.9338	20.937	20.980	-3		14628094	2108324	904	2260	2332	0.84(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.982	20.017	-2	0.954	13565918	2049205	4184	10460	490		
317.9389	19.982	20.017	-2	0.954	16945603	2514913	2206	5515	1140	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	20.025						47	117			
305.8987	20.025						290	725			
A Non-2,3,7,8-sub-TCDF											
303.9016	19.632						47	117			
305.8987	19.632						290	725			
13C-2,3,7,8-TCDD											
331.9368	21.307	21.350	-3	1.018	8424078	1181083	1797	4492	657		
333.9338	21.307	21.350	-3	1.018	10662150	1453291	904	2260	1608	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.384						438	1095			
321.8936	21.384						107	267			
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						438	1095			
321.8936	20.470						107	267			
13C-1,2,3,7,8-PeCDF											
351.9000	26.914	26.962	-3	1.285	16009470	2649040	5183	12957	511		
353.8970	26.914	26.962	-3	1.285	10097493	1654842	3459	8647	478	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											RQM
339.8597	26.931	26.979	-3	1.001	9018	1530	47	117	33		M
	Empc Correction				7439	1611	47	117	34		
341.8567	26.939	26.979	-2	1.001	4800	1040	254	635	4	1.88(1.32-1.78)	M

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.486						47	117			
341.8567	28.486						254	635			
A F1 PeCDFs											
339.8597	24.442						22	55			
341.8567	24.442						124	310			
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.884						47	117			
341.8567	27.884						254	635			
13C-1,2,3,7,8-PeCDD											
367.8949	29.222	29.269	-3	1.396	8906624	1237540	893	2232	1386		
369.8919	29.222	29.269	-3	1.396	5575930	762371	608	1520	1254	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.303						276	690			
357.8516	29.303						25	62			
A Non-2,3,7,8-sub-PeCDD											
355.8546	28.134						276	690			
357.8516	28.134						25	62			
13C-1,2,3,4,7,8-HxCDF											a
383.8639	34.686	34.727	-2	0.952	10720810	2138372	4164	10410	514		a
385.8610	34.686	34.727	-2	0.952	19960926	3931140	7845	19612	501	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.752						211	527			
375.8178	34.752						131	327			
1,2,3,6,7,8-HxCDF											
373.8208	34.920						211	527			
375.8178	34.920						131	327			
2,3,4,6,7,8-HxCDF											U
373.8208	35.762						211	527			
375.8178	35.762						131	327			
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.624	36.655	-2	1.005	7975758	1811763	4164	10410	435		
385.8610	36.624	36.655	-2	1.005	14814179	3388090	7845	19612	432	0.54(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.641	36.671	-2	1.056	13372	2738	211	527	13		M
375.8178	36.641	36.671	-2	1.056	9800	2169	131	327	17	1.36(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	33.178	34.874	-102	0.957	8692	1387	211	527	7		
	Empc Correction				7123	1376	211	527	7		
375.8178	33.170	34.874	-102	0.956	5745	1110	131	327	8	1.51(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											a
401.8559	36.430	36.469	-2		16936541	3811118	3174	7935	1201		a
403.8529	36.430	36.469	-2		13147285	2958055	1615	4037	1832	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.950	35.981	-2	0.997	15663	3967	153	382	26		
391.8127	35.941	35.981	-2	0.997	12301	2814	187	467	15	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.051	36.090	-2	0.990	11350333	2454044	3174	7935	773		
403.8529	36.051	36.090	-2	0.990	8867941	1931090	1615	4037	1196	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	36.076	36.107	-2	1.001	4226	1151	153	382	8		
391.8127	36.084	36.107	-1	1.001	3574	853	187	467	5	1.18(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8158	36.455	36.478	-1	1.011	4564	1097	153	382	7		M
391.8127	36.438	36.478	-2	1.011	3538	757	187	467	4	1.29(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											
389.8158	35.257						153	382			
391.8127	35.257						187	467			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.498	38.526	-2	1.057	5570232	1518869	3258	8145	466		
419.8220	38.490	38.526	-2	1.057	12184484	3332632	6138	15345	543	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.498	38.543	-3	1.000	22168	6013	508	1270	12		
409.7788	38.507	38.543	-2	1.000	21174	5795	150	375	39	1.05(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.806						508	1270			
409.7788	39.806						150	375			
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.878	39.191	-19	1.010	14280	4533	508	1270	9		
409.7788	38.878	39.191	-19	1.010	14544	3716	150	375	25	0.98(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.460	39.495	-2	1.083	8012610	2282480	2515	6287	908		
437.8140	39.460	39.495	-2	1.083	7355518	2082160	2031	5077	1025	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RQM
423.7767	39.477	39.503	-2	1.000	31413	9016	199	497	45		M
	Empc Correction				25607	6856	199	497	34		
425.7737	39.477	39.503	-2	1.000	24623	6593	92	230	72	1.28(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											RQ
423.7767	38.827	39.200	-22	0.984	33965	9202	199	497	46		
	Empc Correction				29065	8997	199	497	45		
425.7737	38.827	39.200	-22	0.984	27948	8651	92	230	94	1.22(0.88-1.20)	
13C-OCDD											
469.7780	41.972	42.008	-2	1.152	13912610	3652764	2750	6875	1328		
471.7750	41.972	42.008	-2	1.152	15456389	3991773	2573	6432	1551	0.90(0.76-1.02)	
OCDF											M
441.7428	42.056	42.101	-3	1.002	23851	6181	154	385	40		
443.7399	42.056	42.101	-3	1.002	27296	7208	409	1022	18	0.87(0.76-1.02)	M
OCDD											
457.7377	41.981	42.016	-2	1.000	166572	43519	218	545	200		
459.7348	41.981	42.016	-2	1.000	196139	50821	227	567	224	0.85(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d
Lims ID: 570-78855-F-4-A
Client ID: EVBMP0001S018
Inject. Date: 28-Dec-2021 02:33:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 10

Non-2,3,7,8-sub-HxCDF, RT: 34.874

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.950	D 13C-1,2,3,4,7,8-HxCDF	100.000	30681736	6069512
1,2,3,6,7,8-HxCDF	0.952				
2,3,4,6,7,8-HxCDF	0.889				
1,2,3,7,8,9-HxCDF	0.843				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.909		100.000	30681736	6069512

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
33.178	8692	1387	5745	1110	0.0518	1.51	RQ
33.178	7123	1376	5745	1110	0.0461		Empc Correction
Signal Totals:							
	7123	1376	5745	1110			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	14437	2497				1.51	RQ
	12868	2486					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0518 = (14437 * 100.000) / (30681736 * 0.909)
Empc Amount: 0.0461 = (12868 * 100.000) / (30681736 * 0.909)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d
Lims ID: 570-78855-F-4-A
Client ID: EVBMP0001S018
Inject. Date: 28-Dec-2021 02:33:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 10

Non-2,3,7,8-sub-HpCDF, RT: 39.191

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.518	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	17754716	4851501
1,2,3,4,7,8,9-HpCDF	1.339				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.429		100.000	17754716	4851501

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.878	14280	4533	14544	3716	0.1136	0.98	
Signal Totals:							
	14280	4533	14544	3716			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	28824	8249				0.98	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1136 = (28824 * 100.000) / (17754716 * 1.429)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d
Lims ID: 570-78855-F-4-A
Client ID: EVBMP0001S018
Inject. Date: 28-Dec-2021 02:33:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 10

Non-2,3,7,8-sub-HpCDD, RT: 39.200

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.095	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	15368128	4364640

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.095		100.000	15368128	4364640

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.827	33965	9202	27948	8651	0.3678	1.22	RQ
38.827	29065	8997	27948	8651	0.3387		Empc Correction
Signal Totals:							
	29065	8997	27948	8651			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	61913	17853				1.22	RQ
	57013	17648					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3678 = (61913 * 100.000) / (15368128 * 1.095)
Empc Amount: 0.3387 = (57013 * 100.000) / (15368128 * 1.095)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

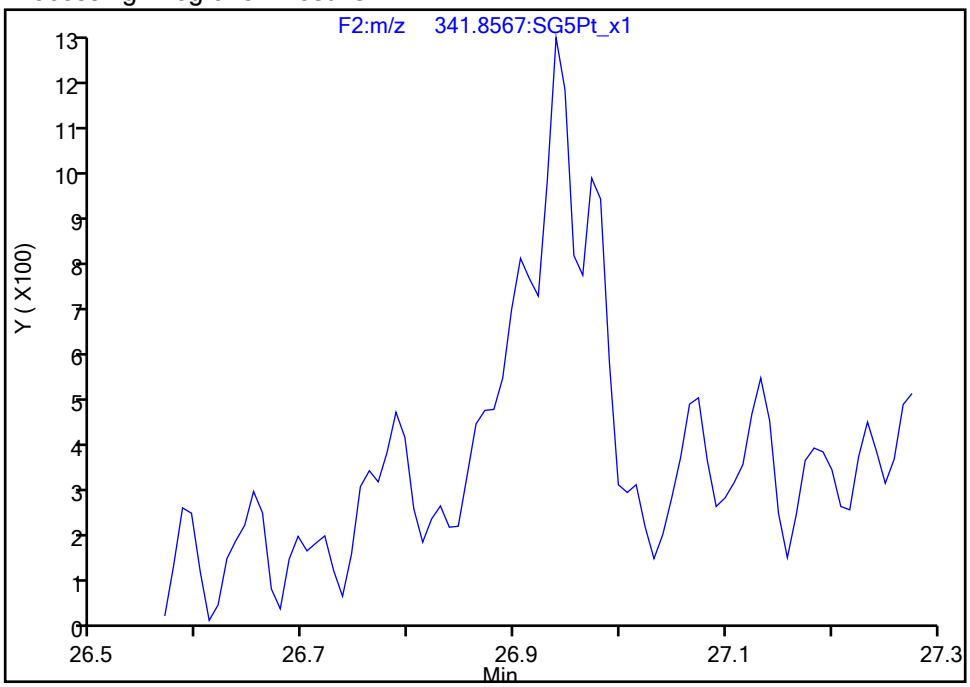
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d				
Injection Date:	28-Dec-2021 02:33:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-4-A	Lab Sample ID:	320-78855-4		
Client ID:	EVBMP0001S018				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

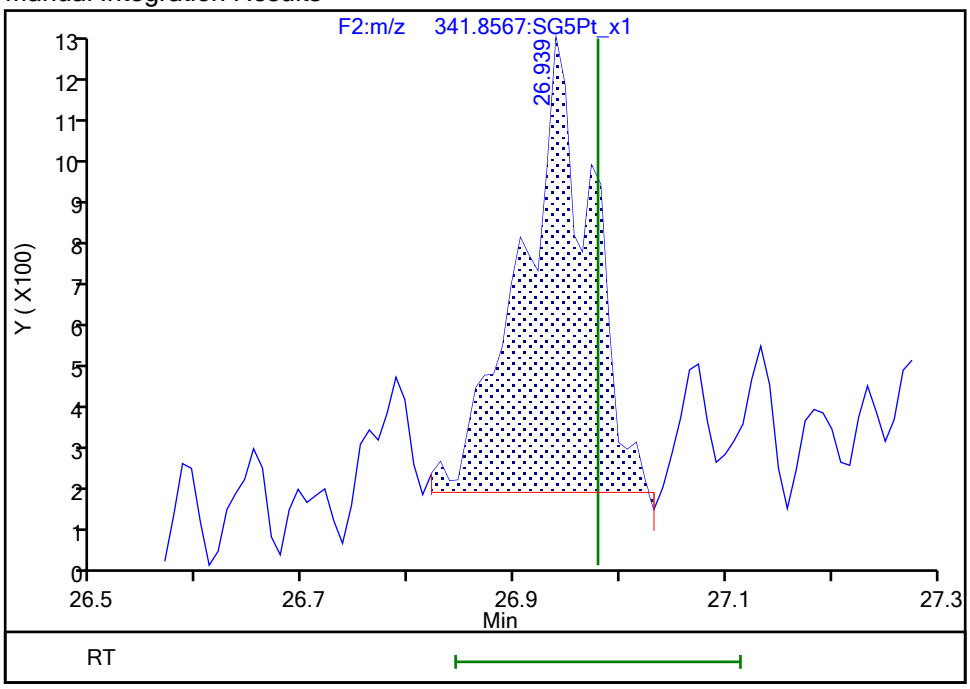
Not Detected
Expected RT: 26.98

Processing Integration Results



Manual Integration Results

RT: 26.94
Area: 4800
Amount: 0.048172
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:05:58
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

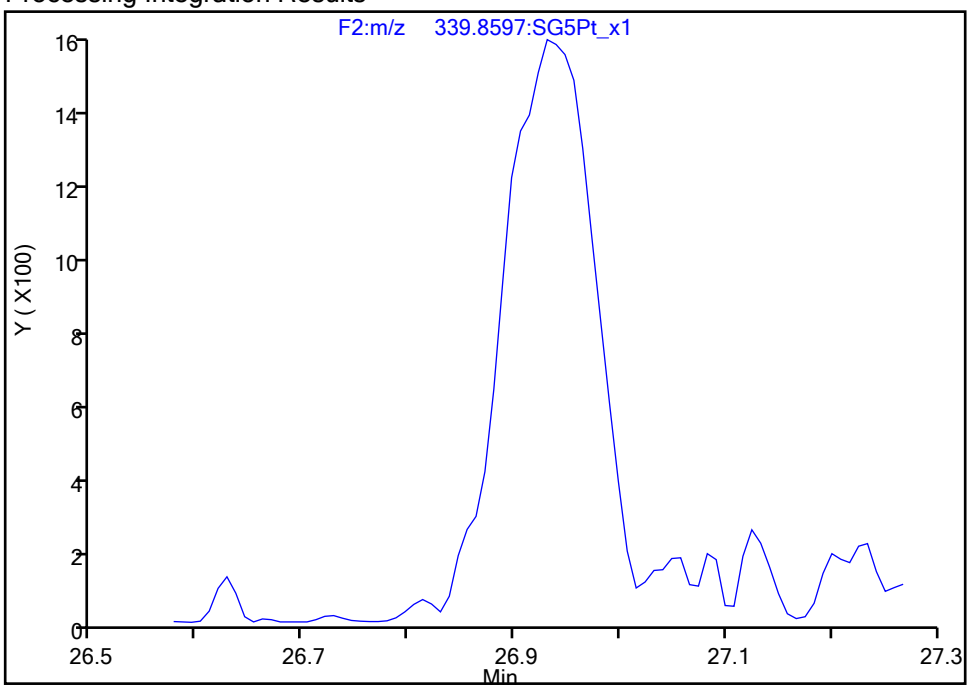
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d				
Injection Date:	28-Dec-2021 02:33:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-4-A	Lab Sample ID:	320-78855-4		
Client ID:	EVBMP0001S018				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

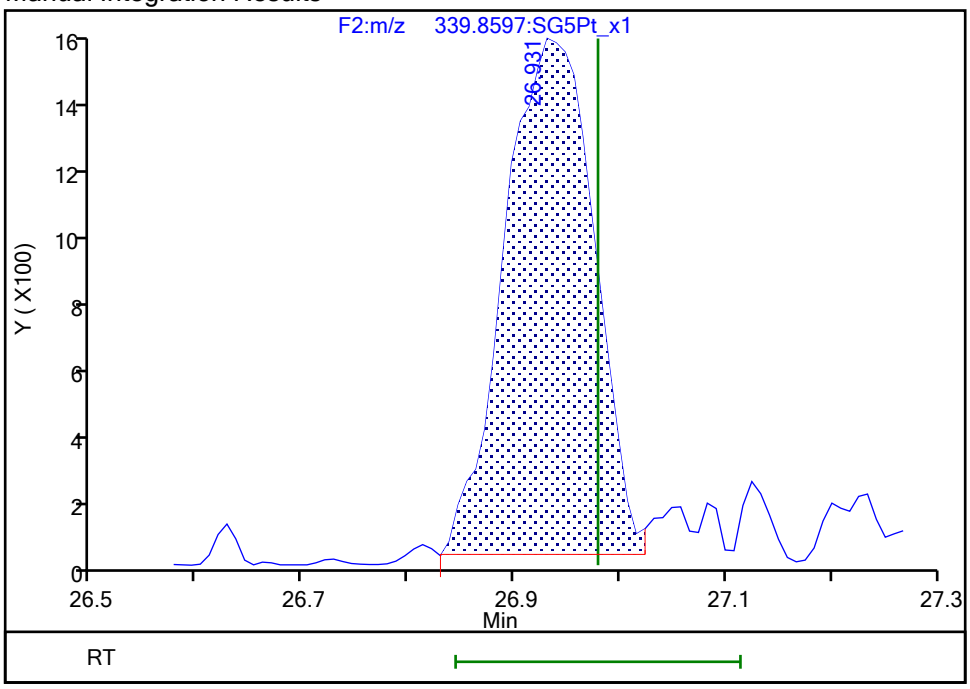
Not Detected
Expected RT: 26.98

Processing Integration Results



Manual Integration Results

RT: 26.93
Area: 9018
Amount: 0.048172
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:06:02
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

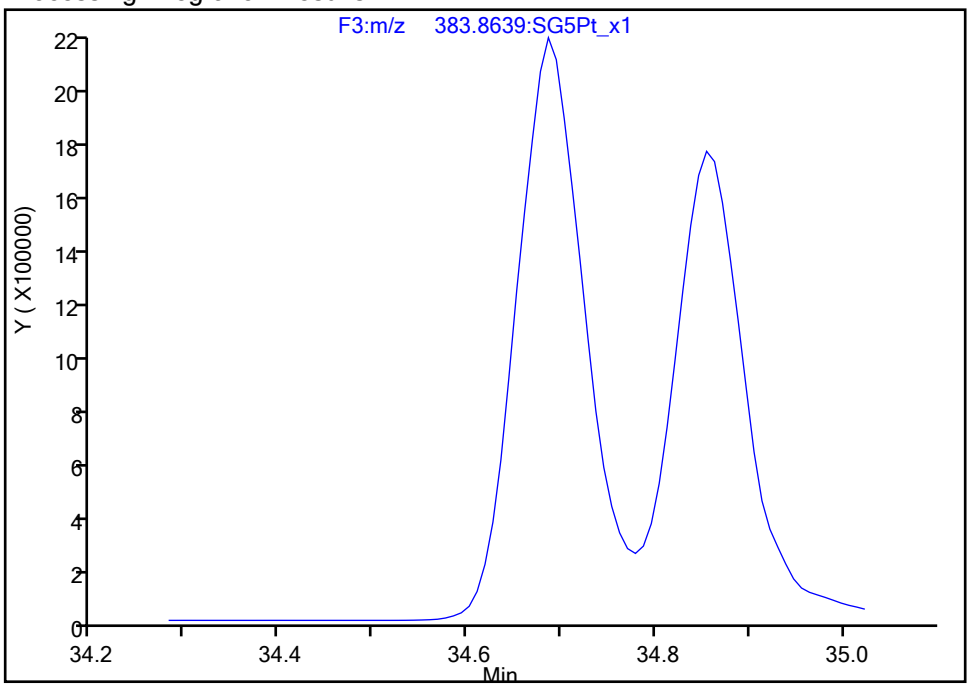
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d				
Injection Date:	28-Dec-2021 02:33:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-4-A	Lab Sample ID:	320-78855-4		
Client ID:	EVBMP0001S018				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

13C-1,2,3,4,7,8-HxCDF, CAS: 114423-98-2

Signal: 1

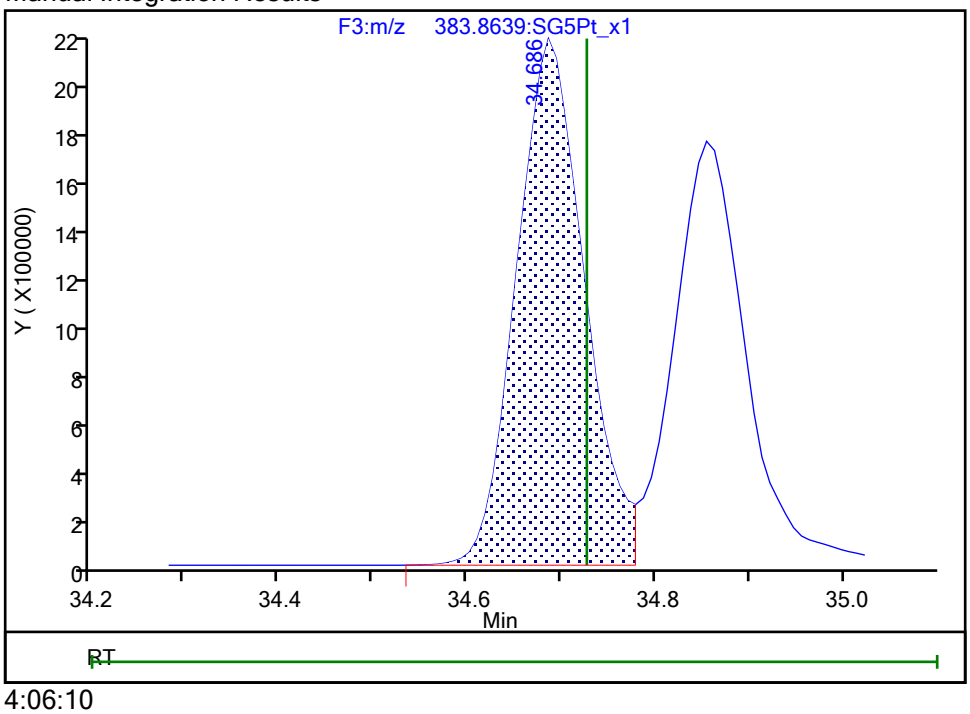
Not Detected
Expected RT: 34.73

Processing Integration Results



Manual Integration Results

RT: 34.69
Area: 10720810
Amount: 86.607490
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:06:10
Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

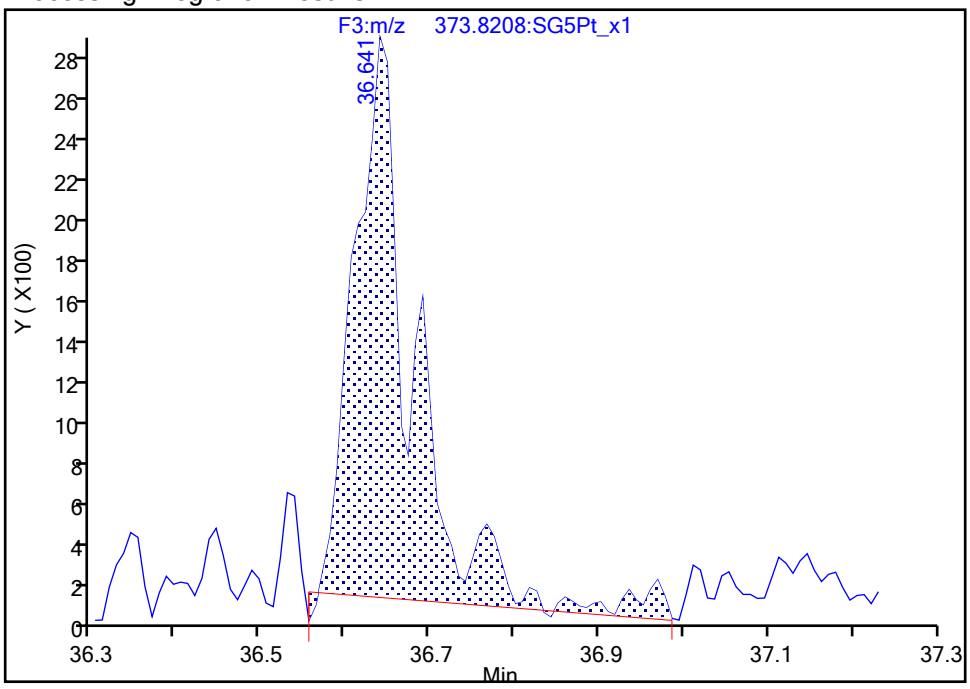
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d				
Injection Date:	28-Dec-2021 02:33:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-4-A	Lab Sample ID:	320-78855-4		
Client ID:	EVBMP0001S018				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

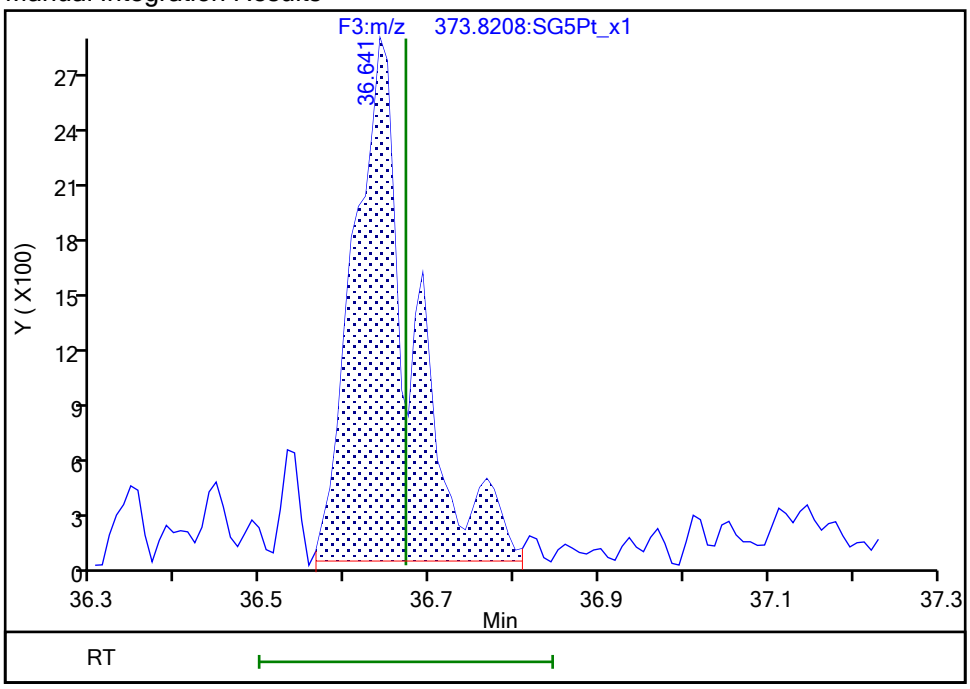
Processing Integration Results

RT: 36.64
Area: 12935
Amount: 0.087869
Amount Units: pg/ul



Manual Integration Results

RT: 36.64
Area: 13372
Amount: 0.089558
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:06:24

Audit Action: Manually Integrated Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

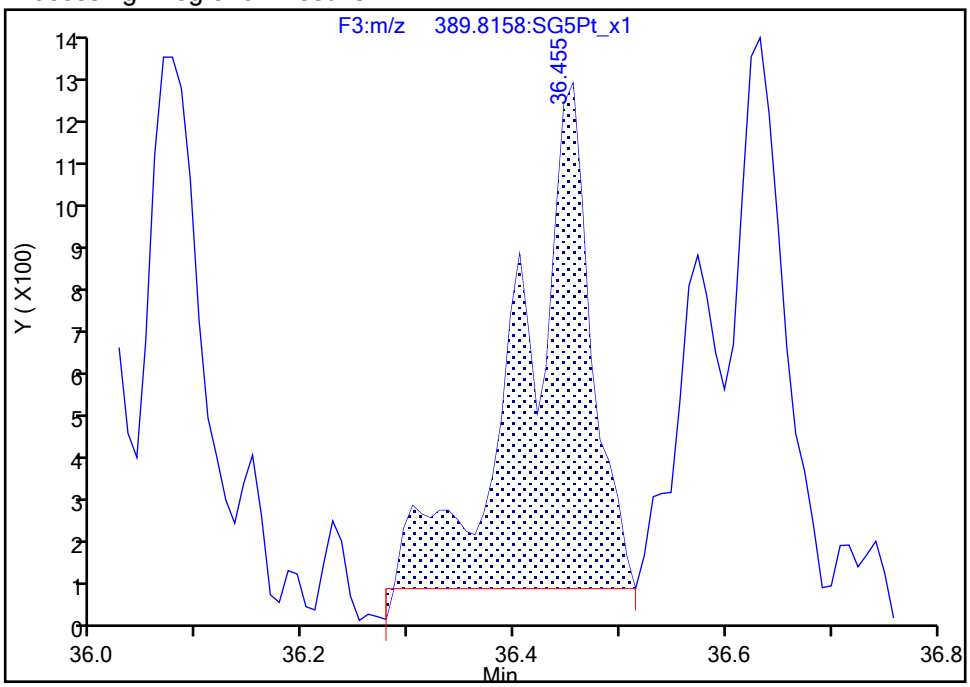
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d				
Injection Date:	28-Dec-2021 02:33:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-4-A	Lab Sample ID:	320-78855-4		
Client ID:	EVBMP0001S018				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

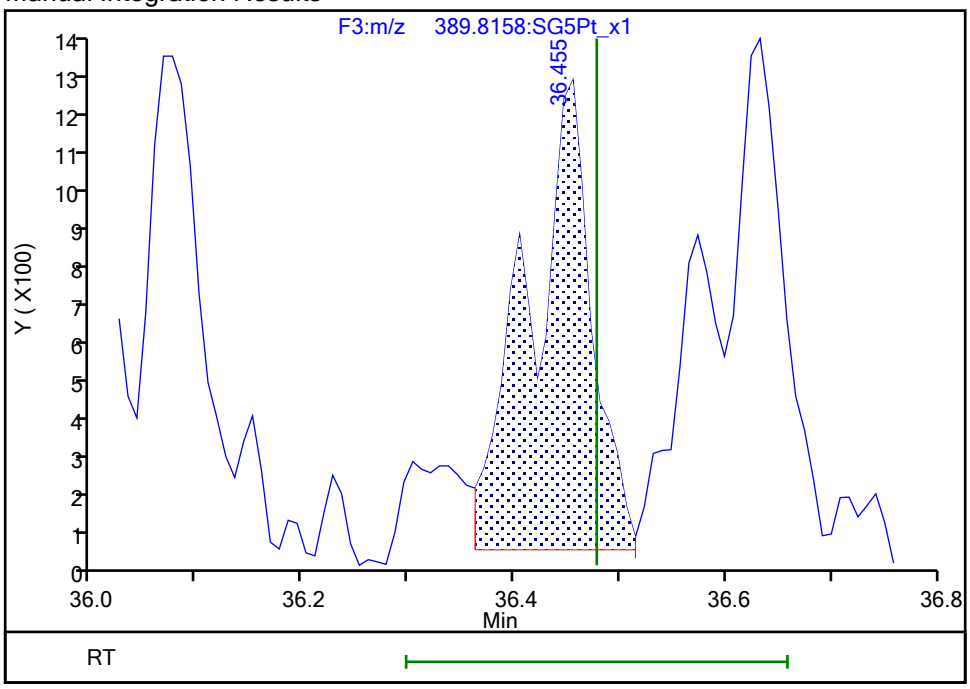
Processing Integration Results

RT: 36.46
Area: 4908
Amount: 0.036035
Amount Units: pg/ul



Manual Integration Results

RT: 36.46
Area: 4564
Amount: 0.036453
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:06:37
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

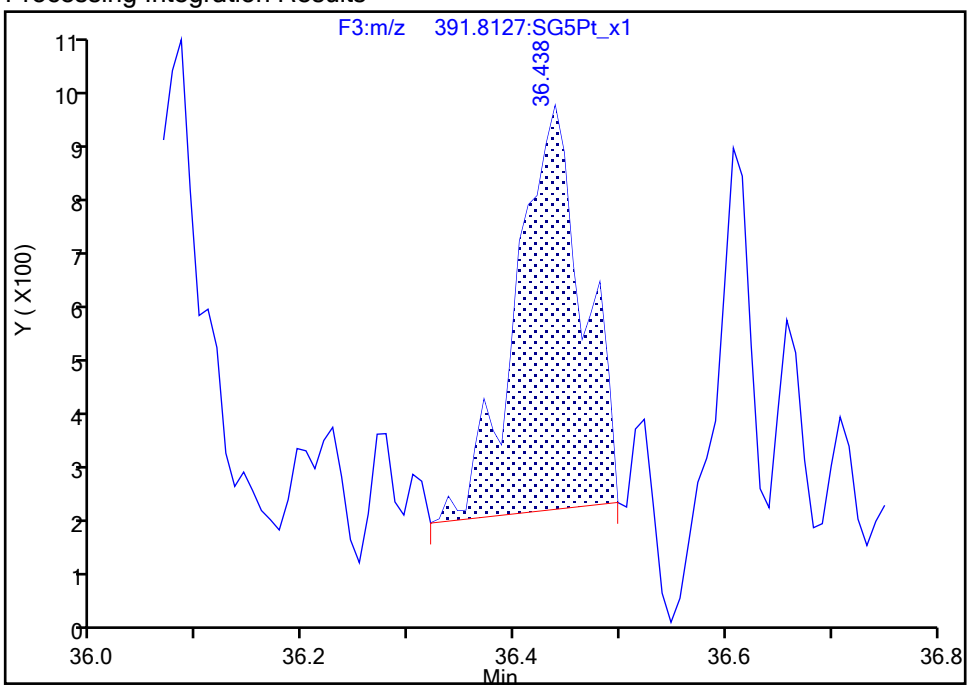
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d				
Injection Date:	28-Dec-2021 02:33:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-4-A	Lab Sample ID:	320-78855-4		
Client ID:	EVBMP0001S018				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

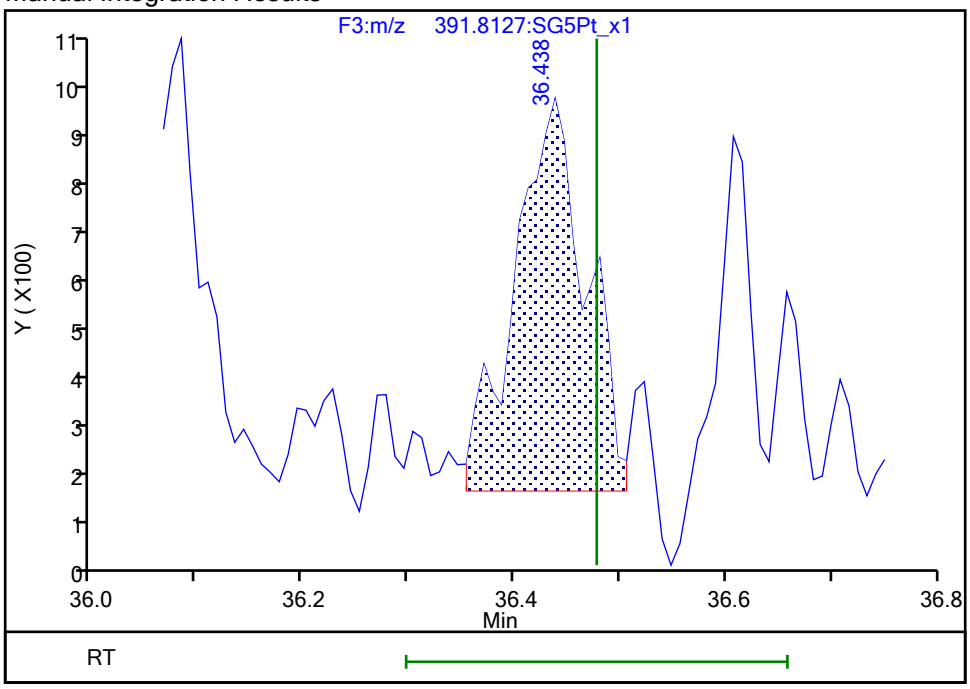
Processing Integration Results

RT: 36.44
Area: 3101
Amount: 0.036035
Amount Units: pg/ul



Manual Integration Results

RT: 36.44
Area: 3538
Amount: 0.036453
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:06:48
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

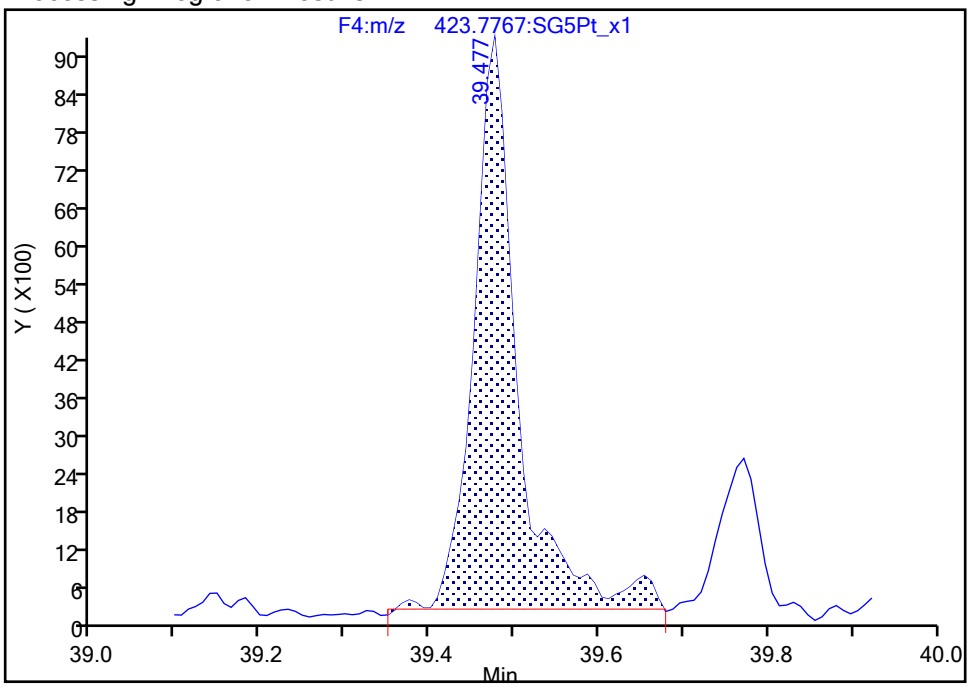
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d				
Injection Date:	28-Dec-2021 02:33:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-4-A	Lab Sample ID:	320-78855-4		
Client ID:	EVBMP0001S018				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

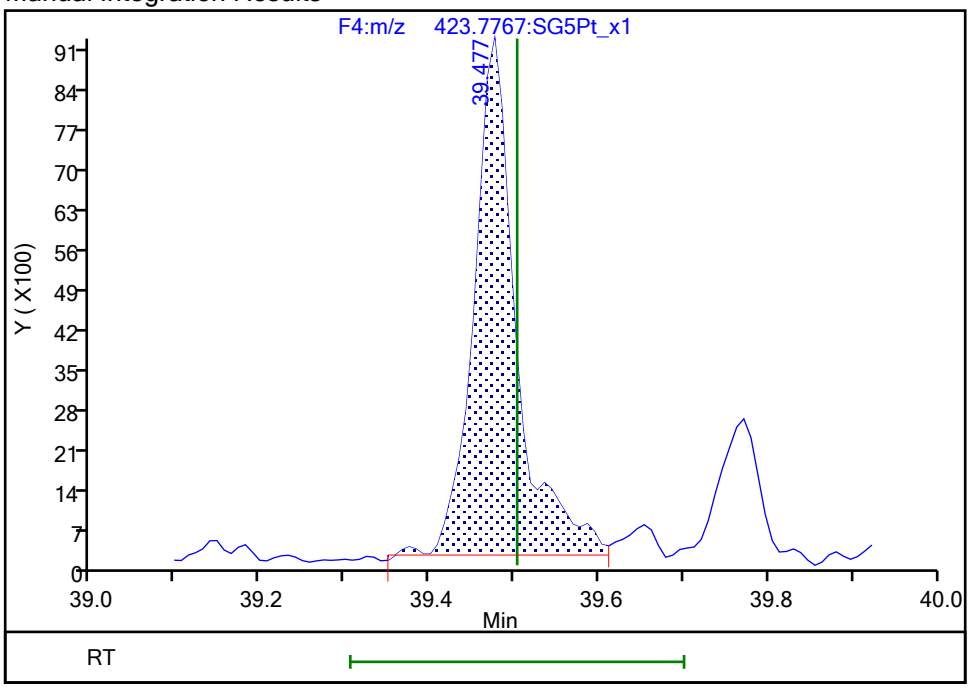
Processing Integration Results

RT: 39.48
Area: 32681
Amount: 0.340443
Amount Units: pg/ul



Manual Integration Results

RT: 39.48
Area: 31413
Amount: 0.332910
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:07:27

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

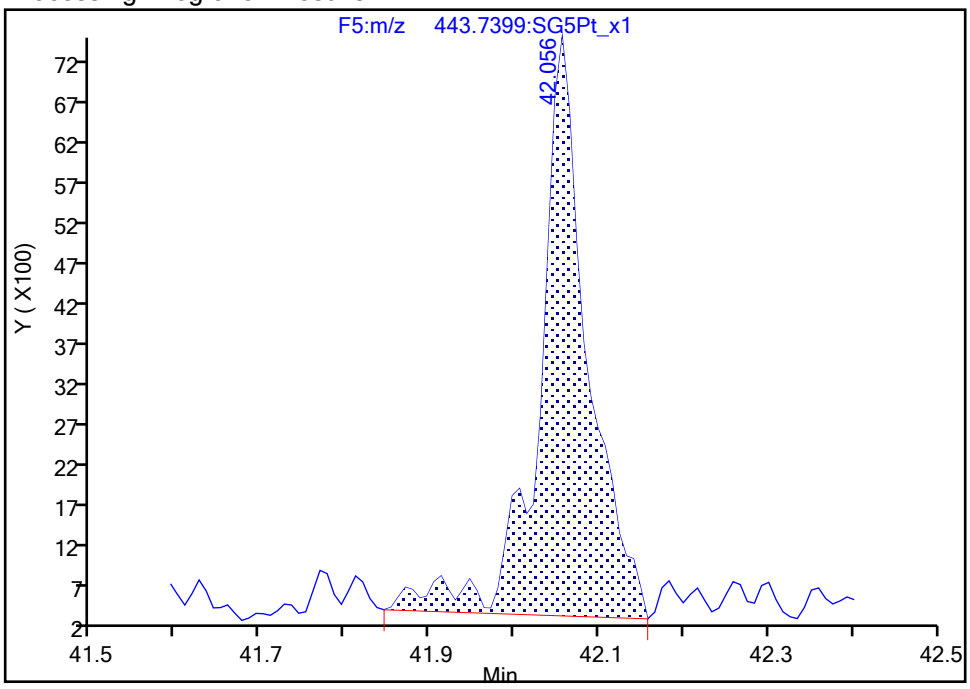
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d				
Injection Date:	28-Dec-2021 02:33:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-4-A	Lab Sample ID:	320-78855-4		
Client ID:	EVBMP0001S018				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5(41.08 :46.00)		

OCDF, CAS: 39001-02-0

Signal: 2

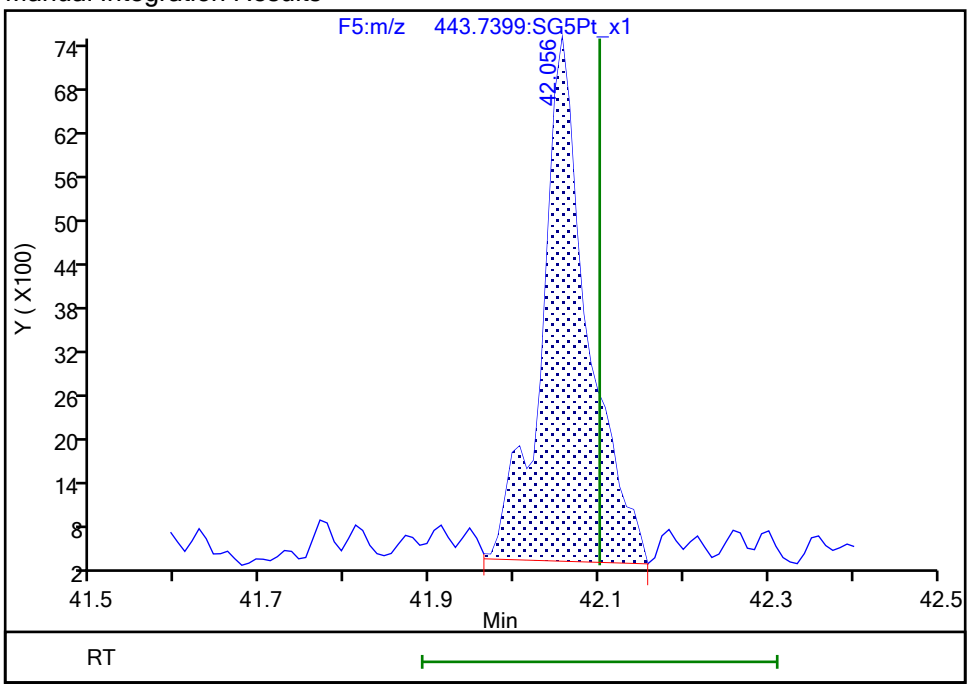
Processing Integration Results

RT: 42.06
Area: 28987
Amount: 0.257398
Amount Units: pg/ul



Manual Integration Results

RT: 42.06
Area: 27296
Amount: 0.249161
Amount Units: pg/ul



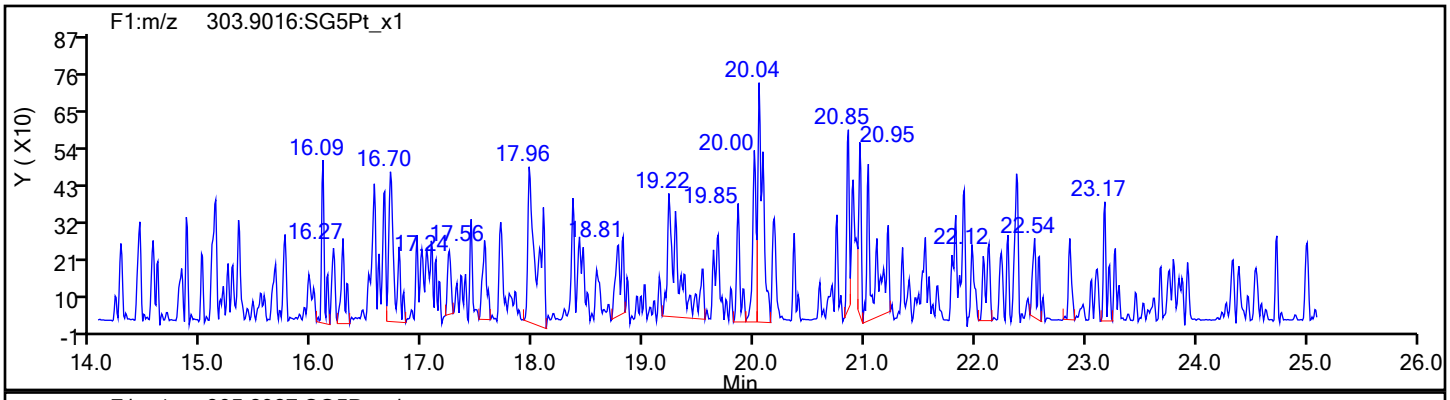
Reviewer: bilottag, 28-Dec-2021 14:07:34

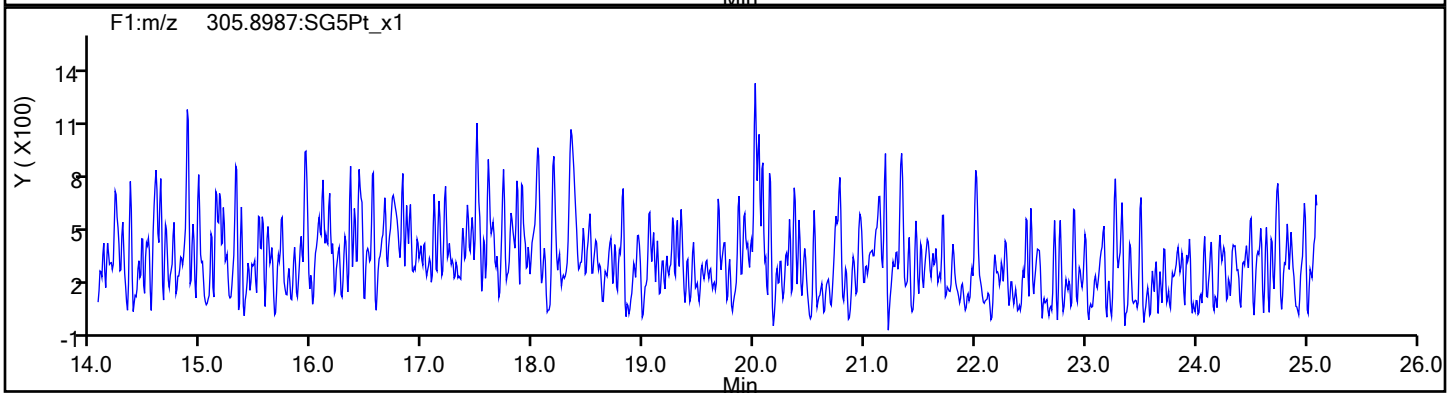
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Eurofins TestAmerica, Sacramento

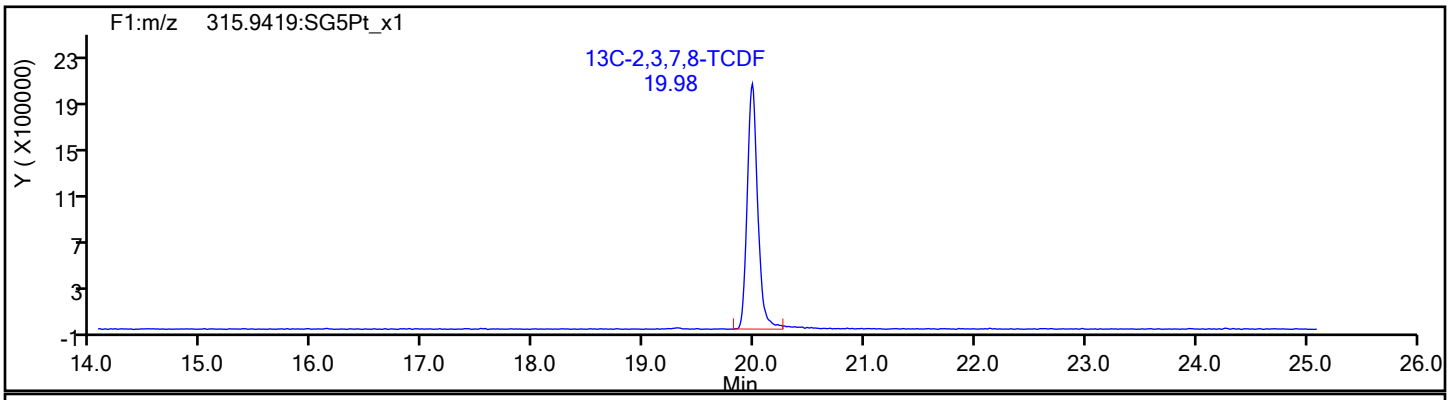
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

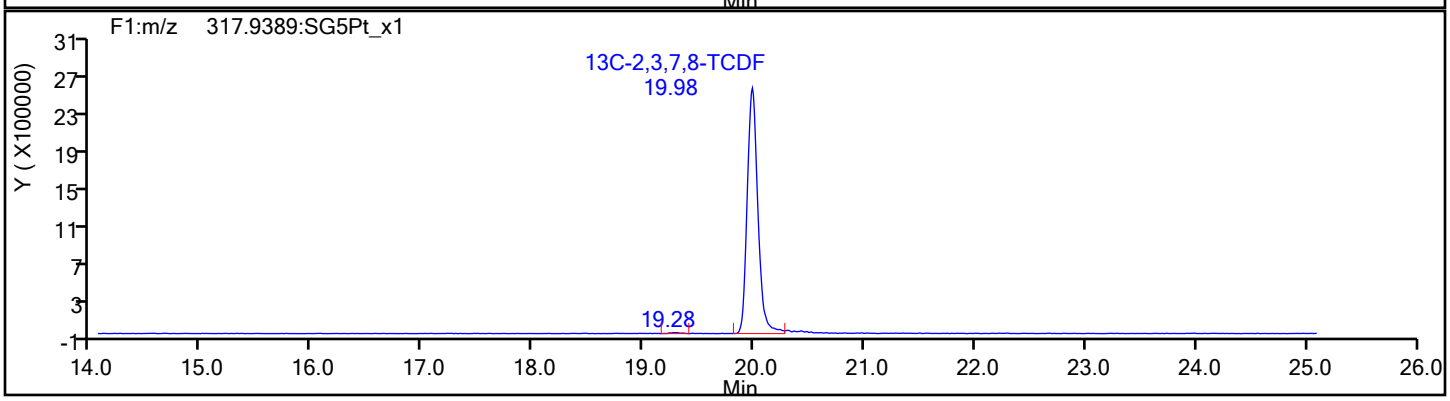
TCDF





TCDF Standards

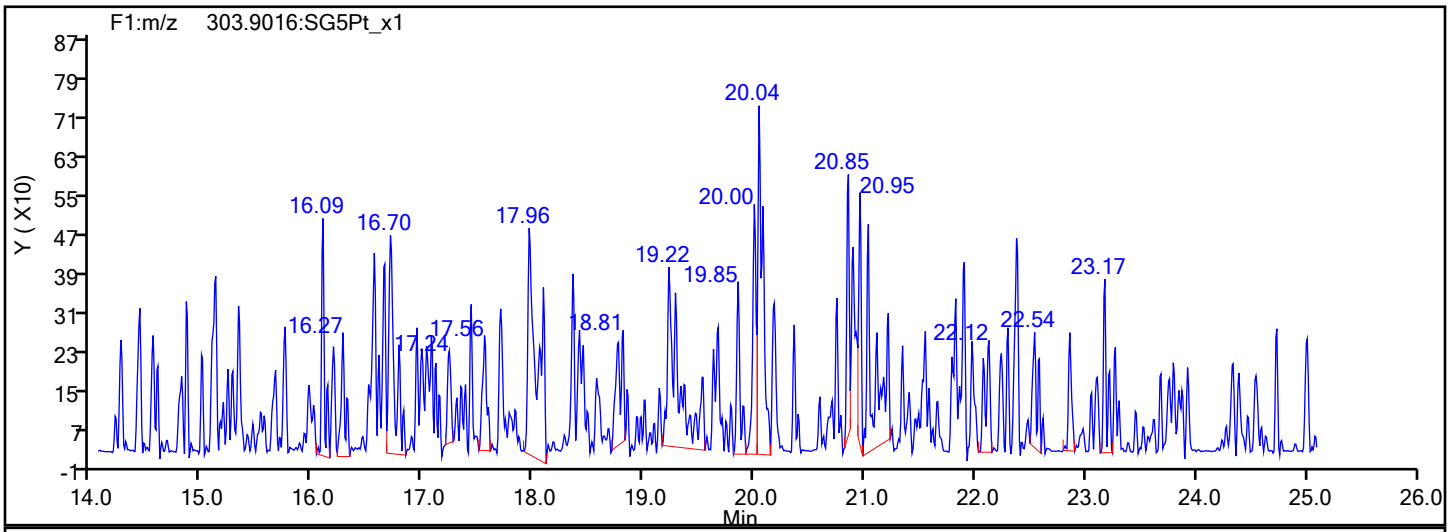


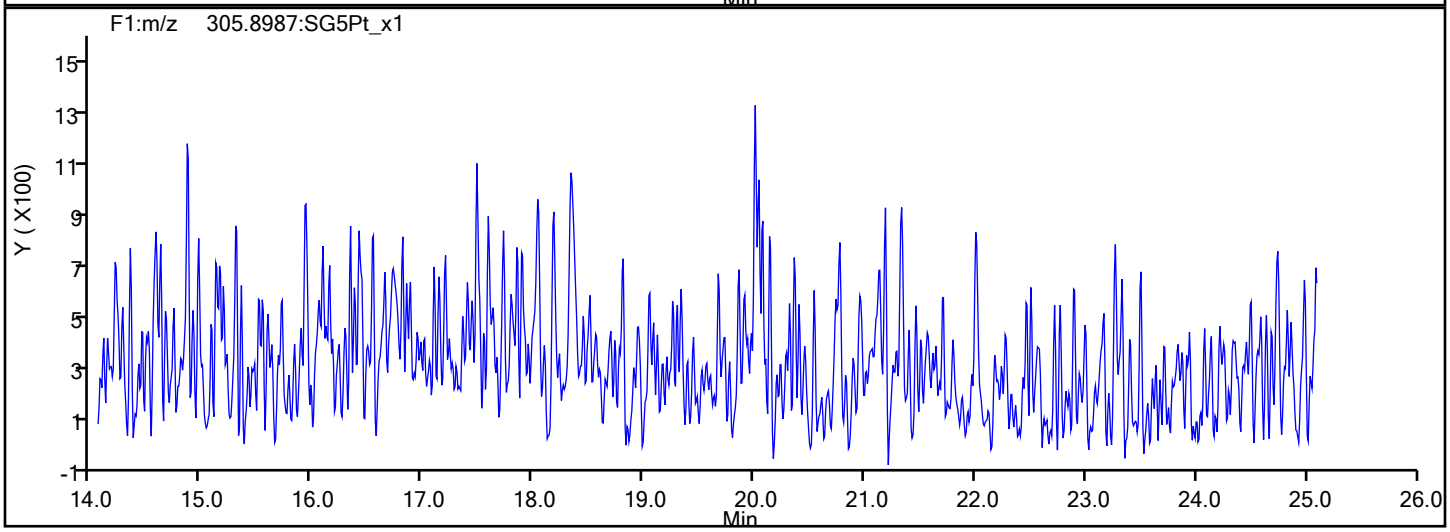


Eurofins TestAmerica, Sacramento

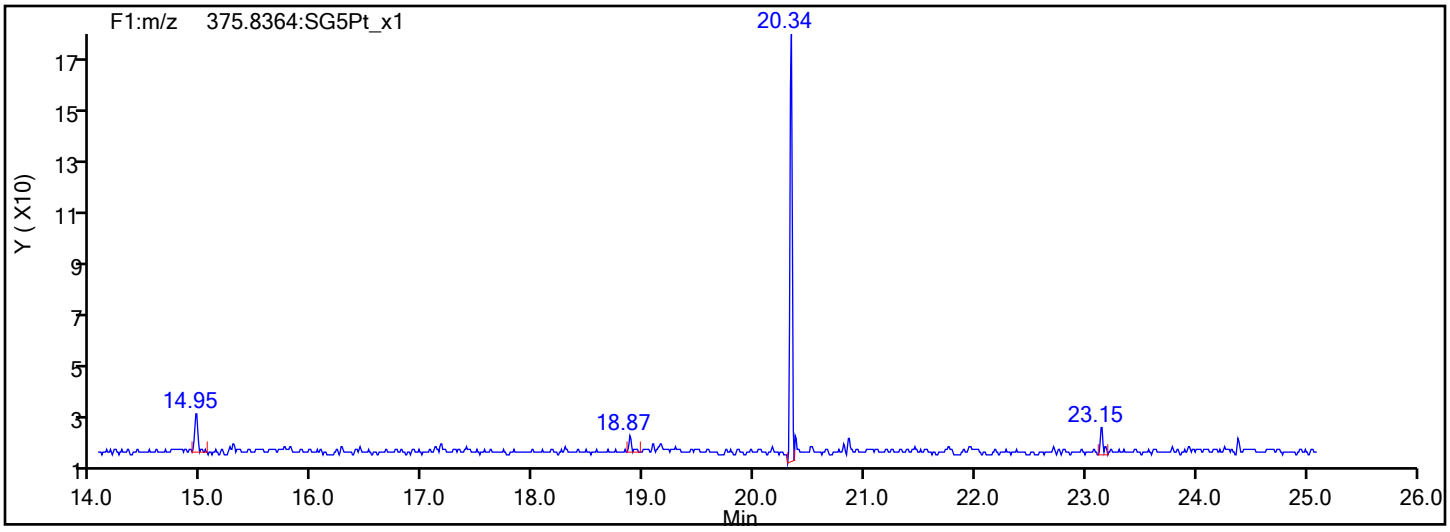
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





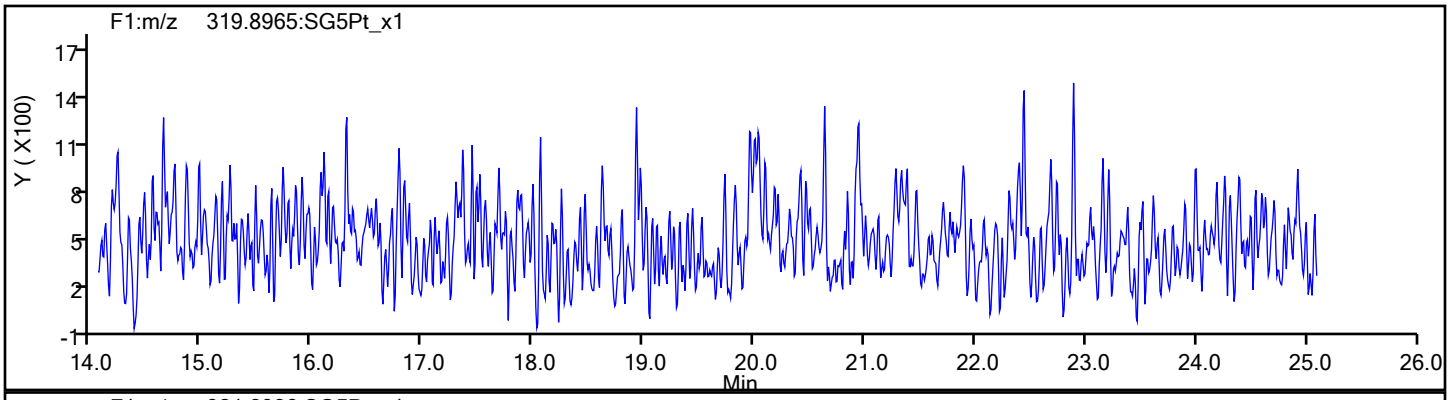
TCDF Interference Mass

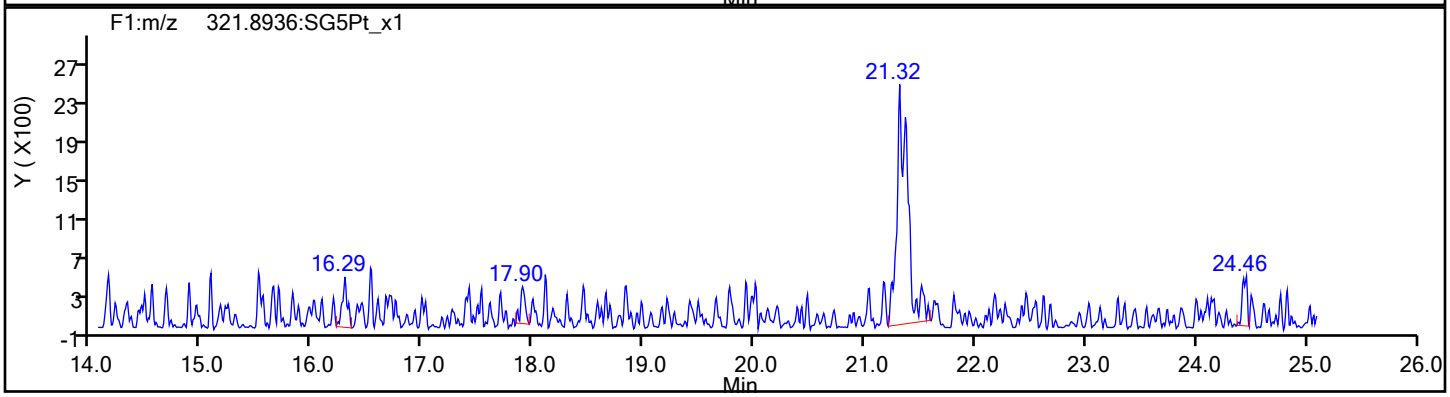


Eurofins TestAmerica, Sacramento

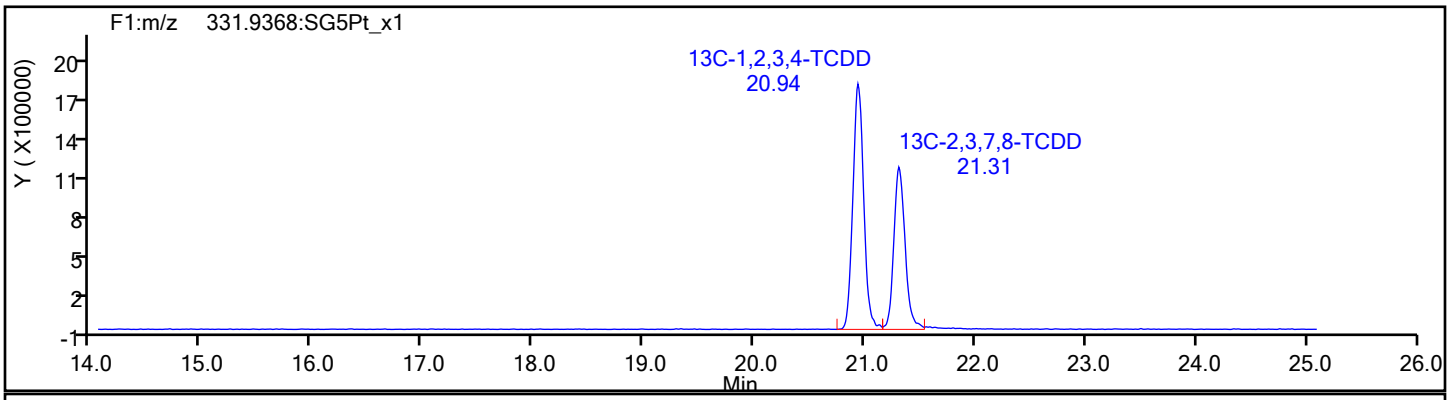
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

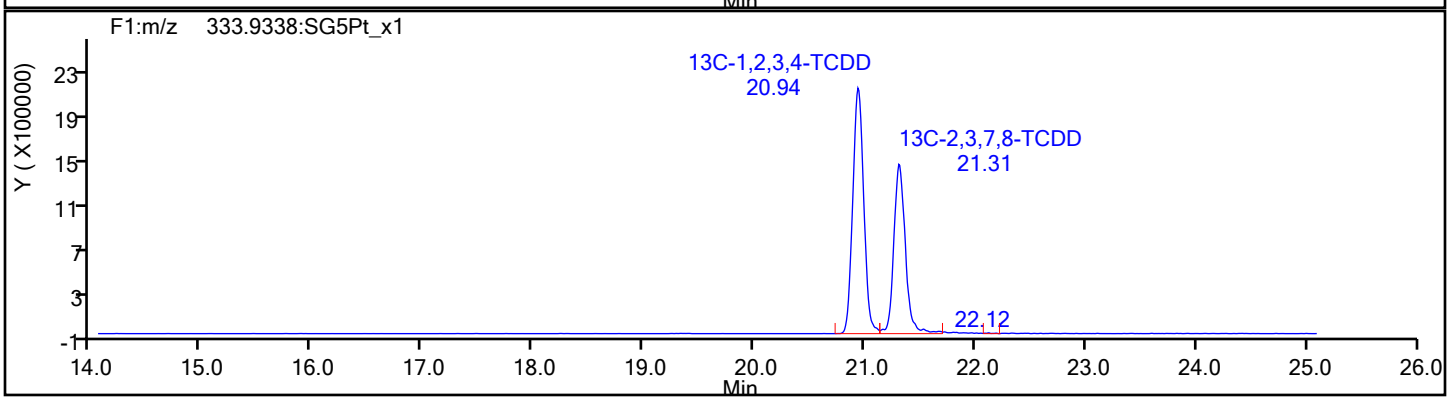
TCDD





TCDD Standards



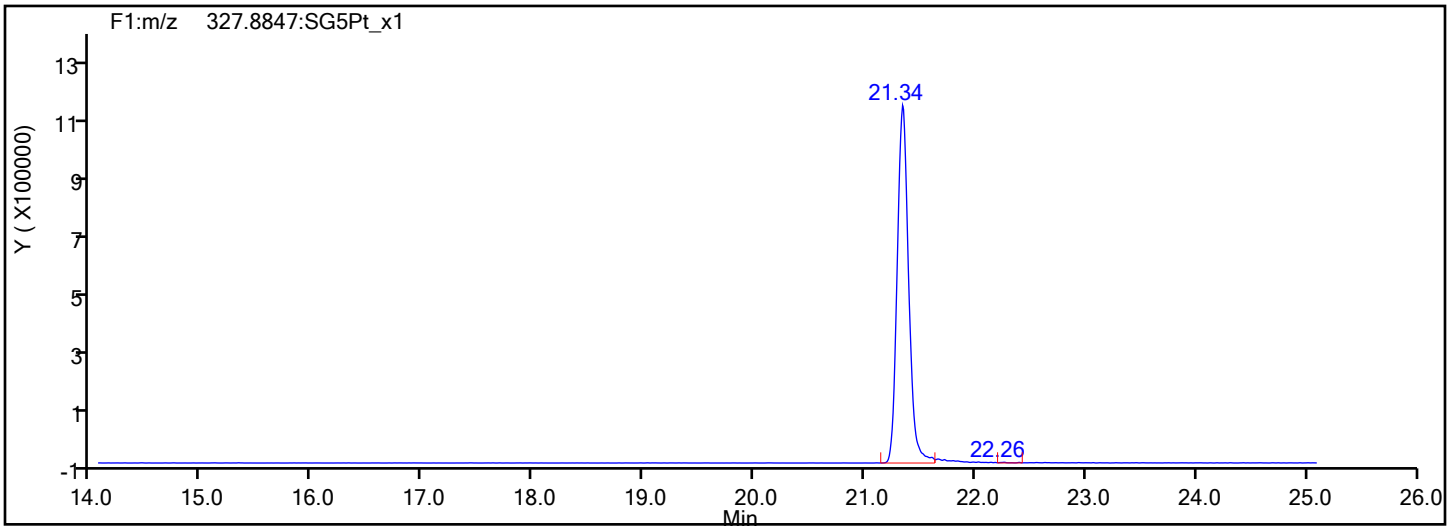


Report Date: 28-Dec-2021 14:24:56 Chrom Revision: 2.3 15-Nov-2021 20:34:30

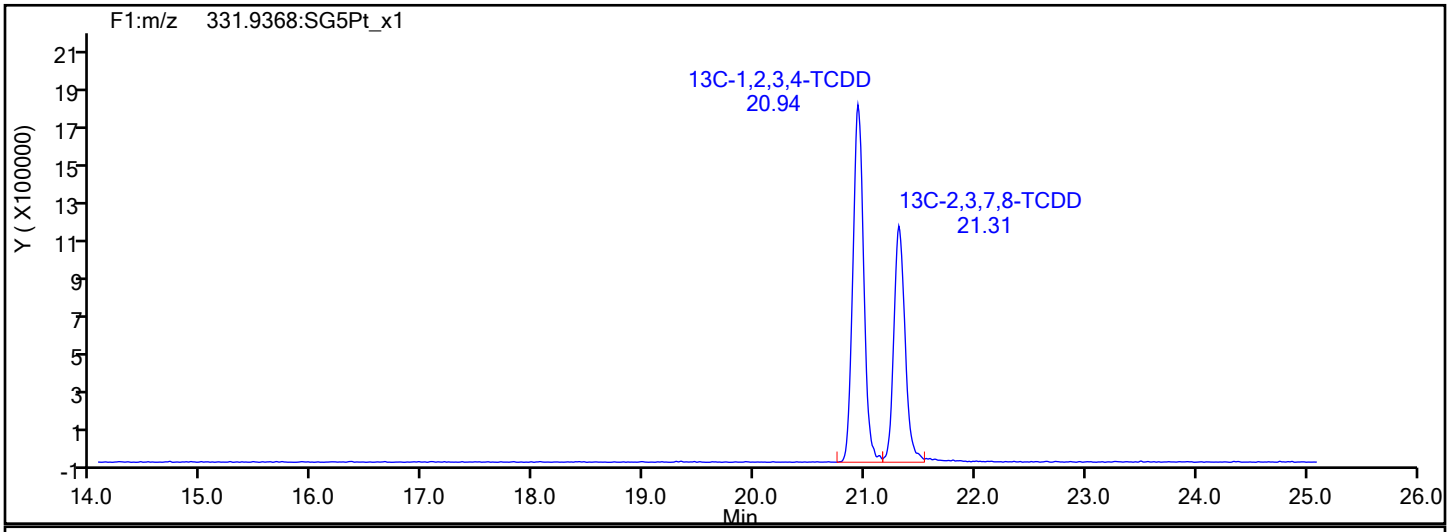
Eurofins TestAmerica, Sacramento

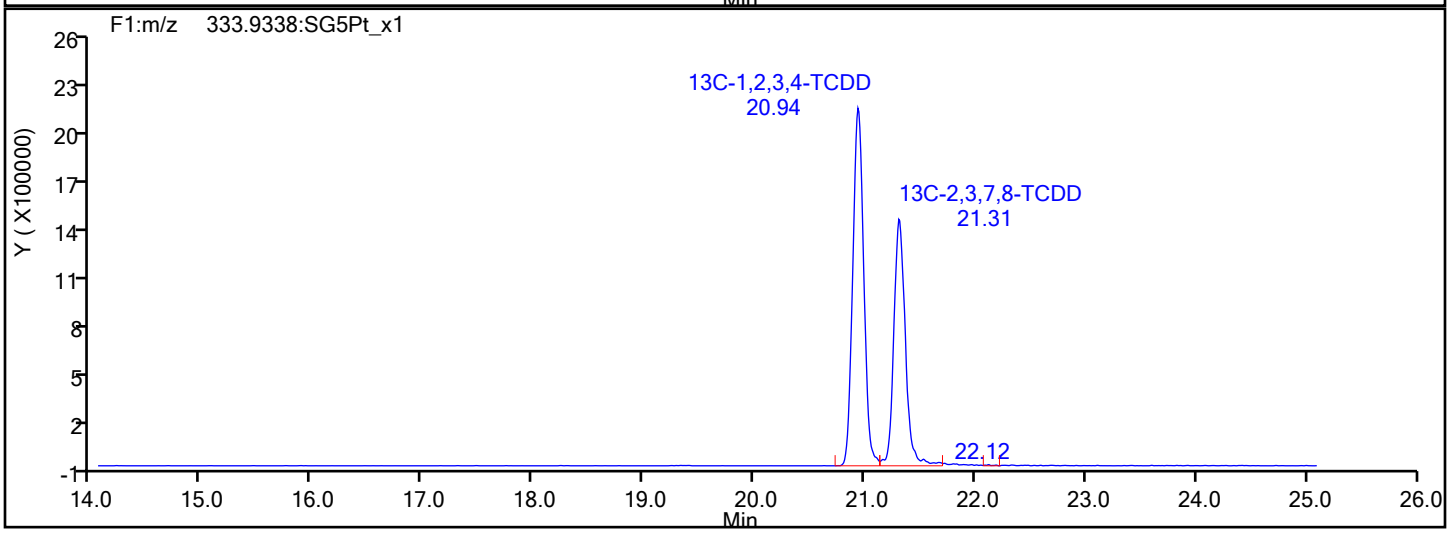
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



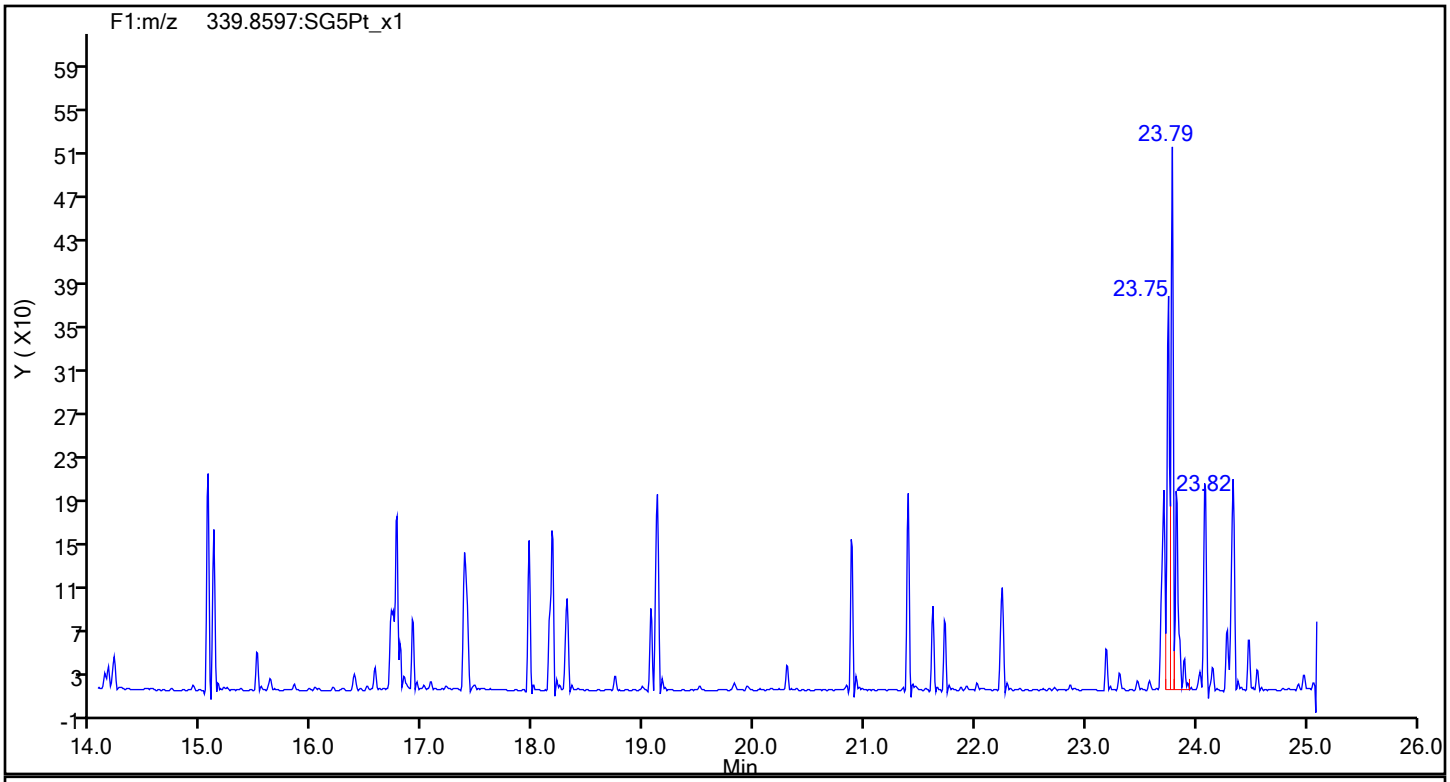


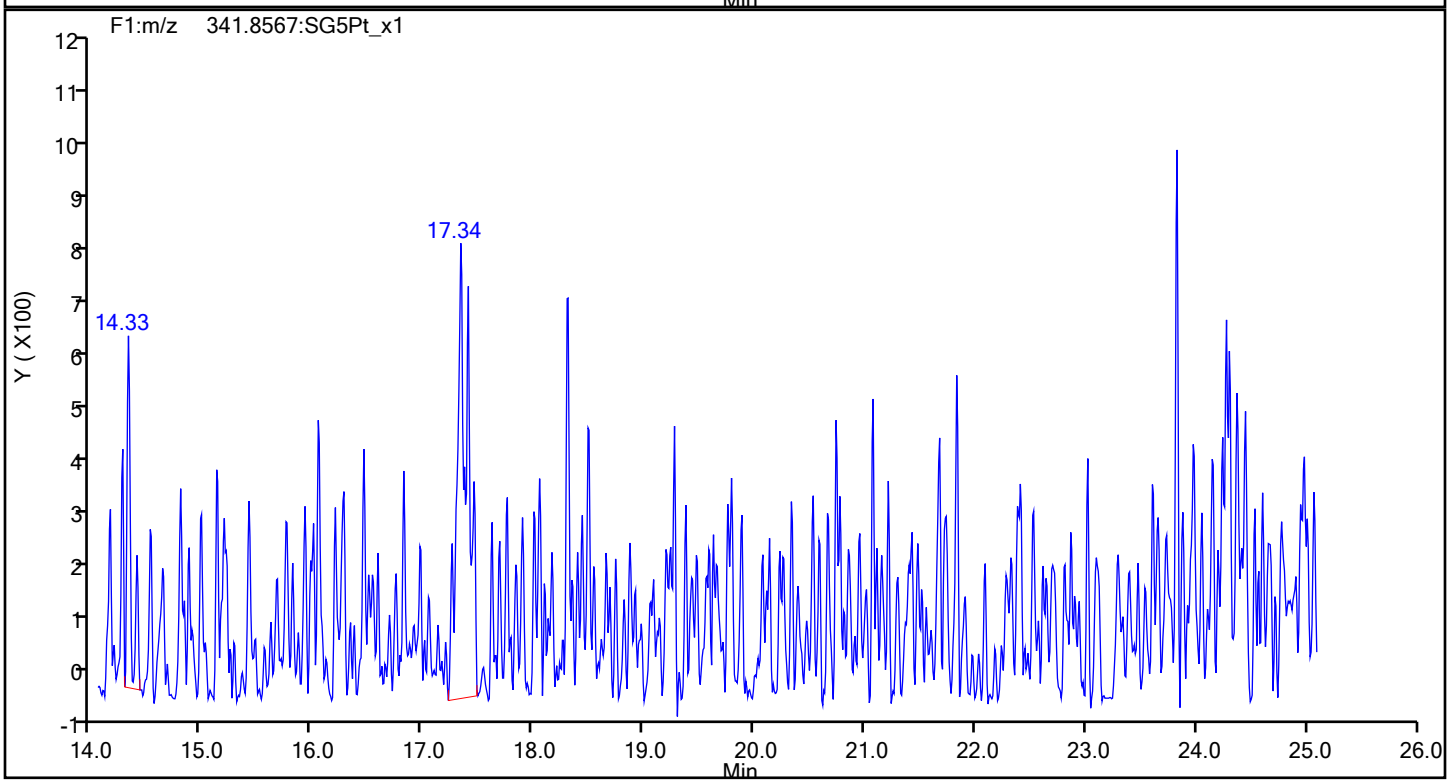
Report Date: 28-Dec-2021 14:24:56 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

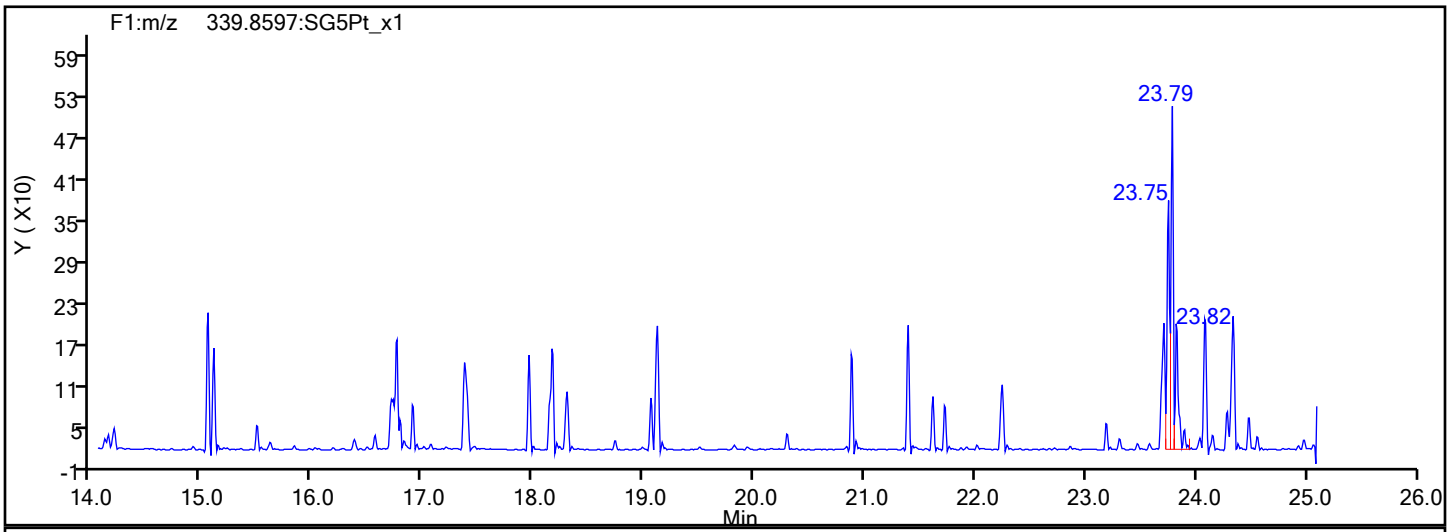


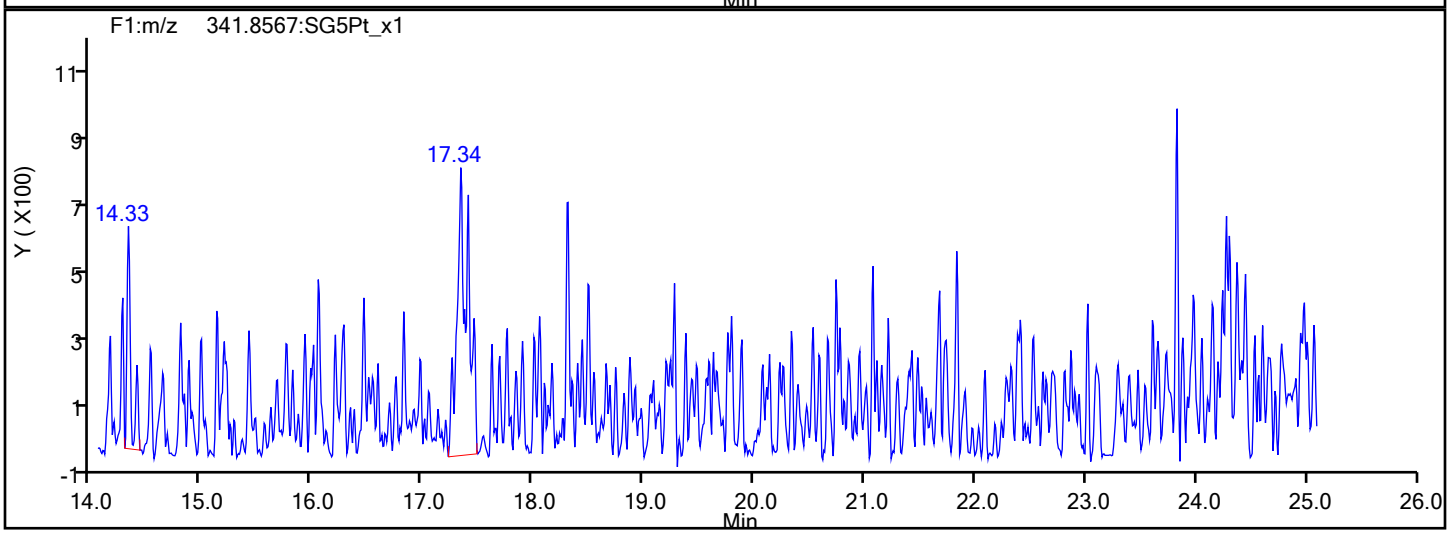


Eurofins TestAmerica, Sacramento

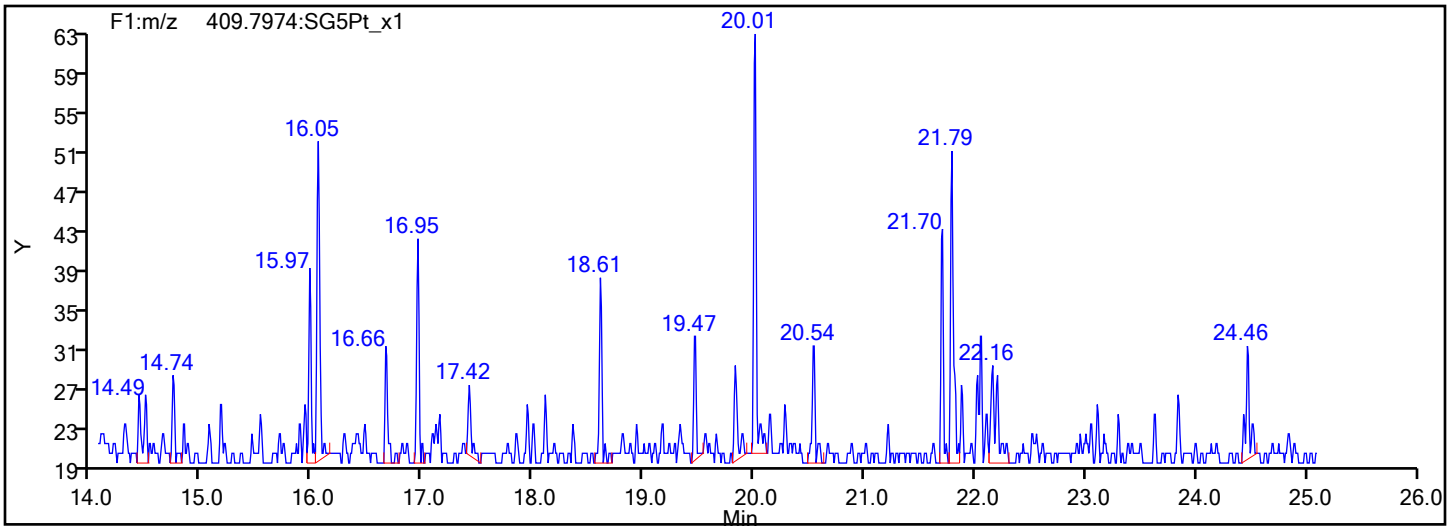
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





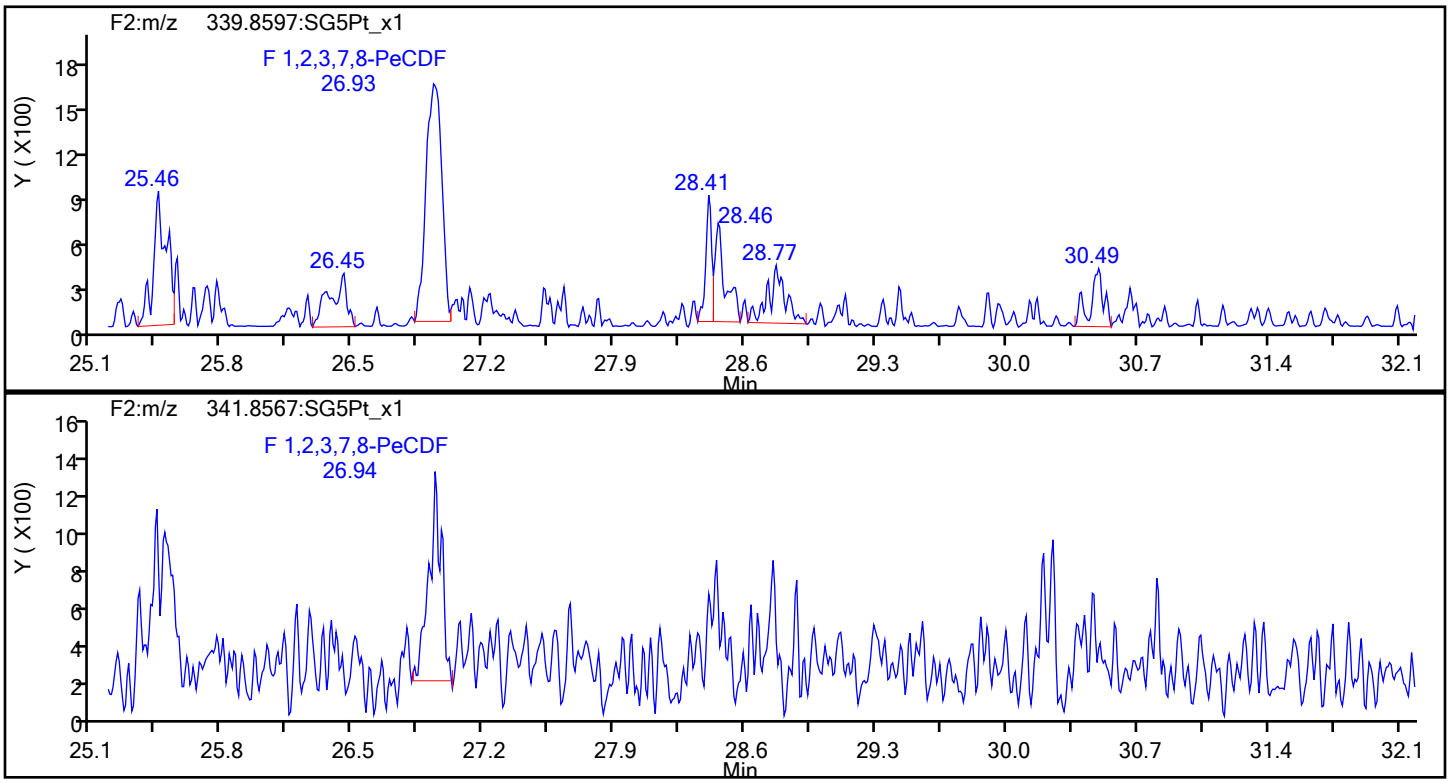
F1 PeCDFs Interference Mass



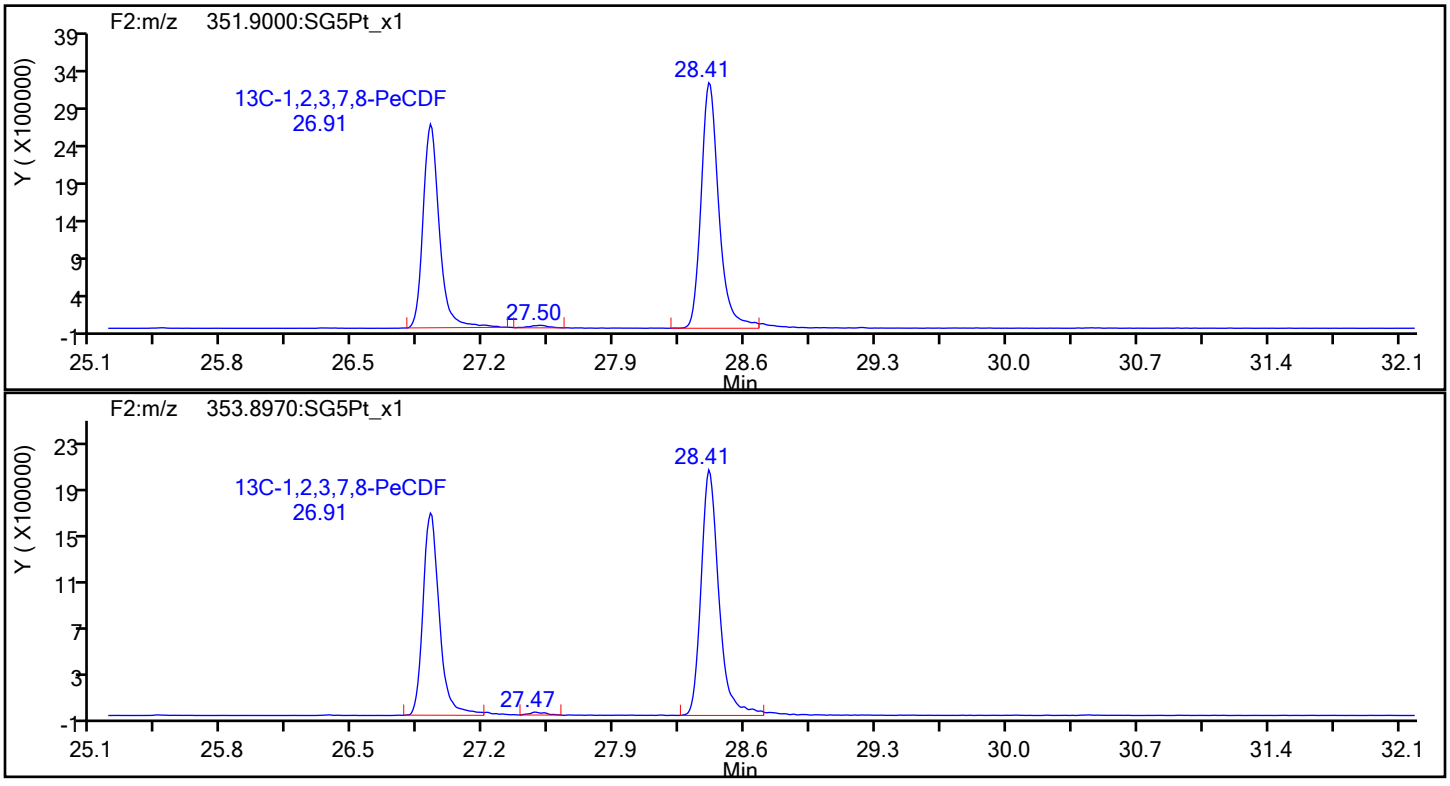
Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
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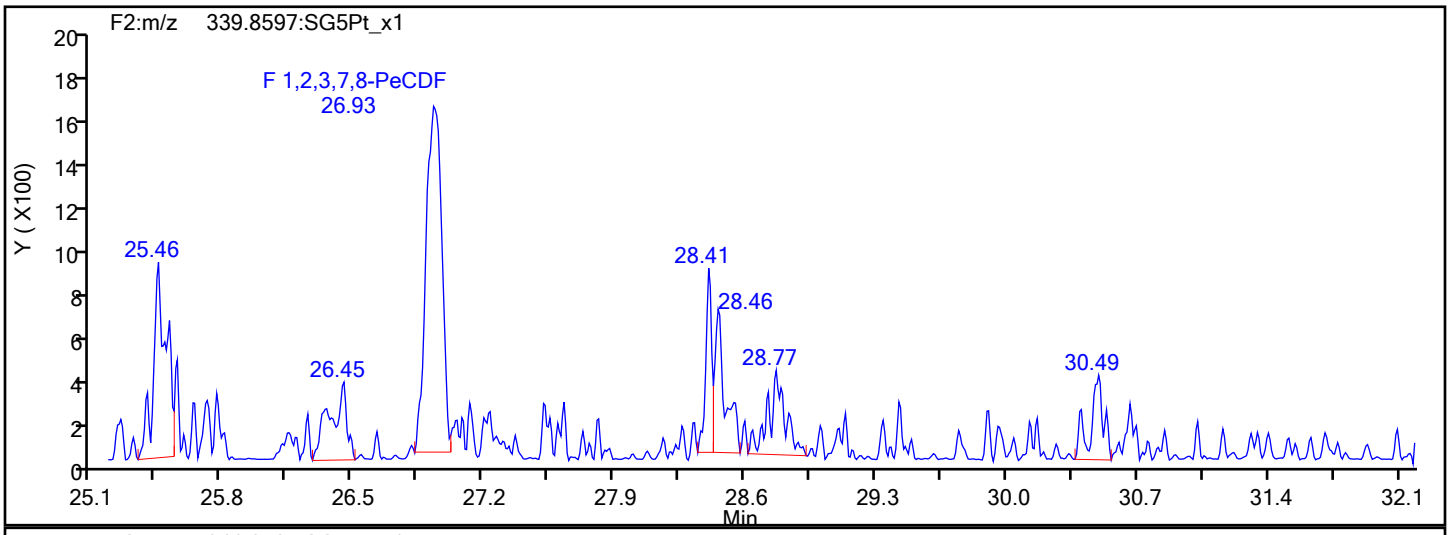
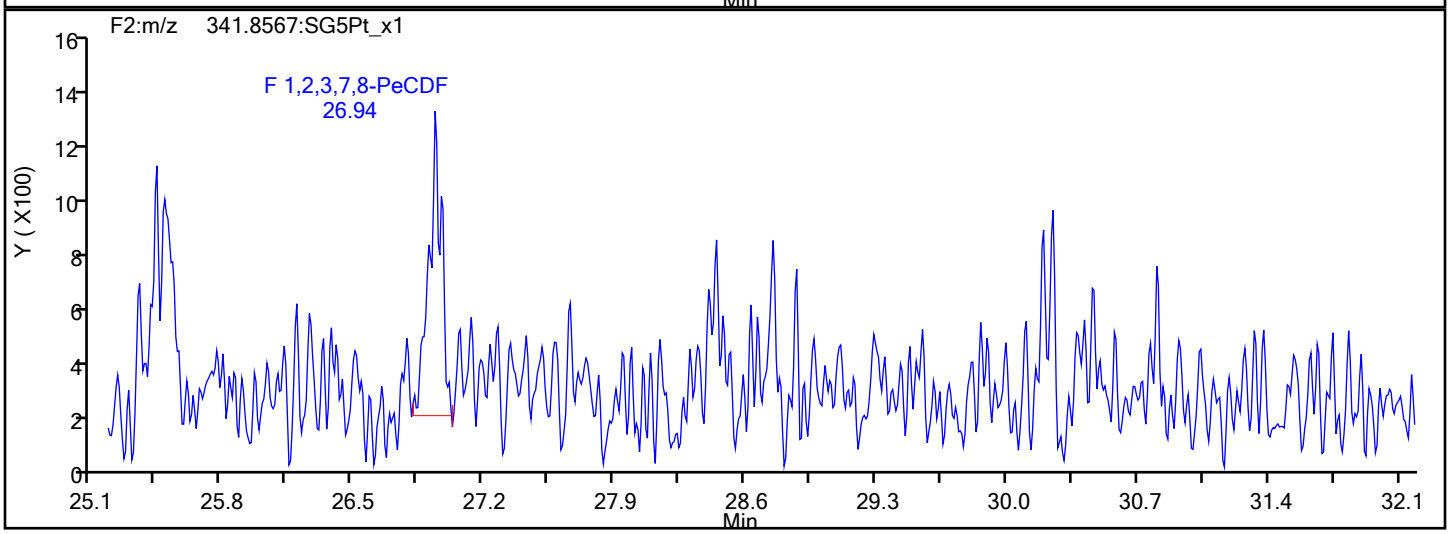
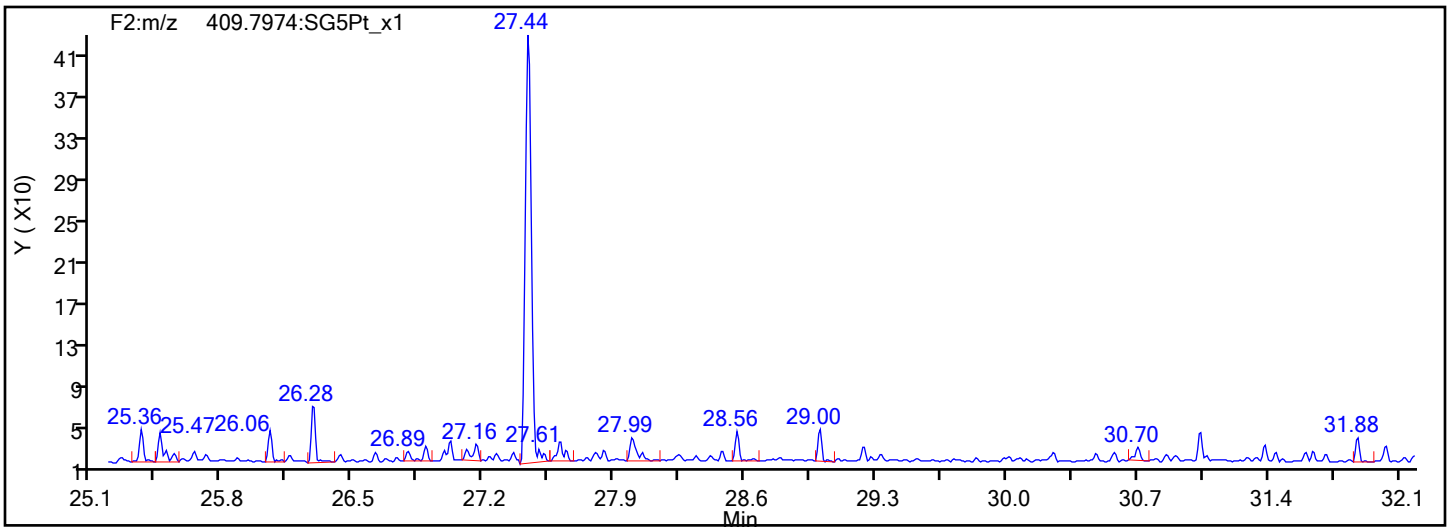
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Report Date: 28-Dec-2021 14:24:56 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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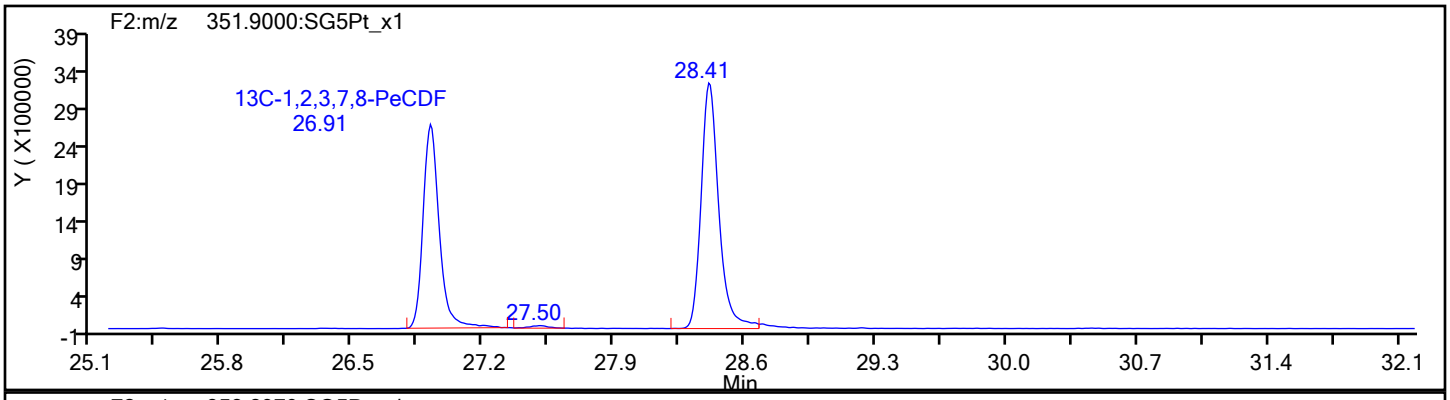
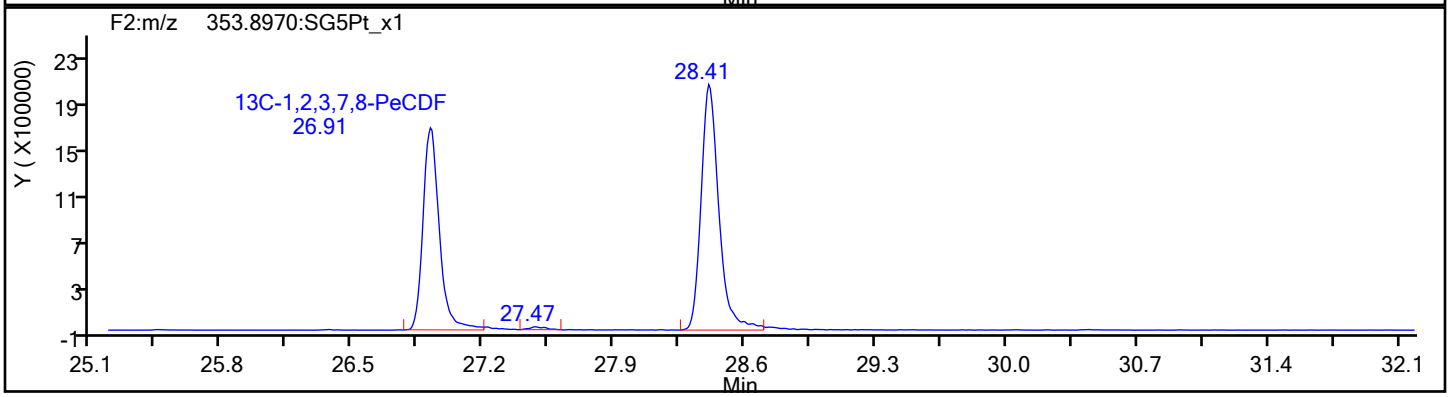
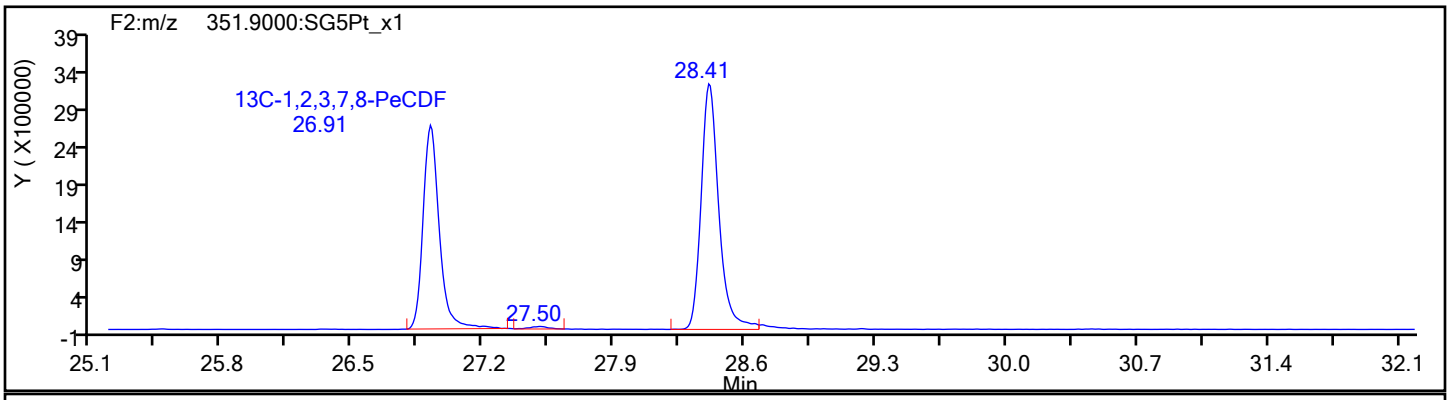
Column Type:	DB-5	Column Dia:	0.32 mm

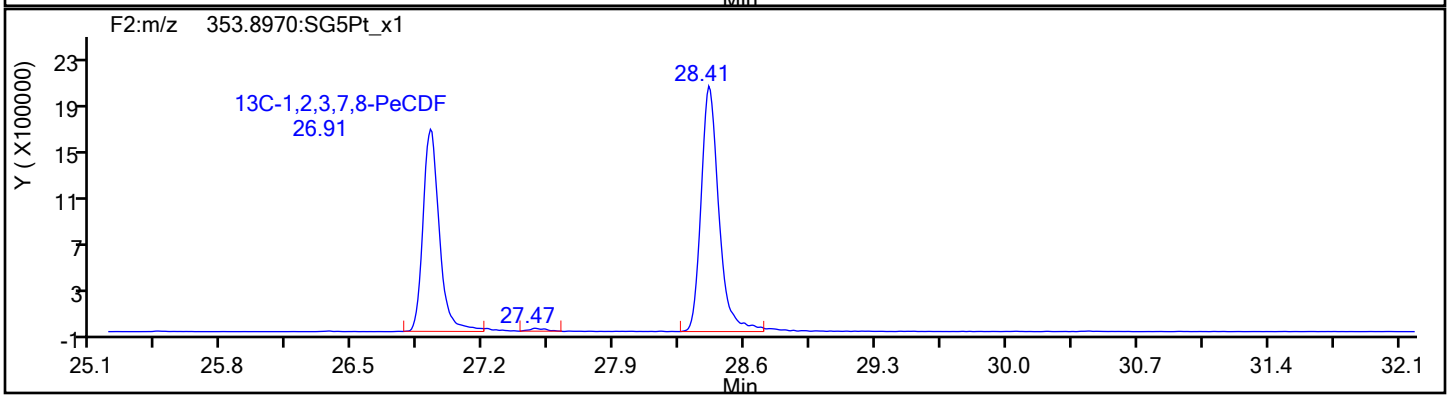
13C-PeCDF





13C-PeCDF Standards





Eurofins TestAmerica, Sacramento

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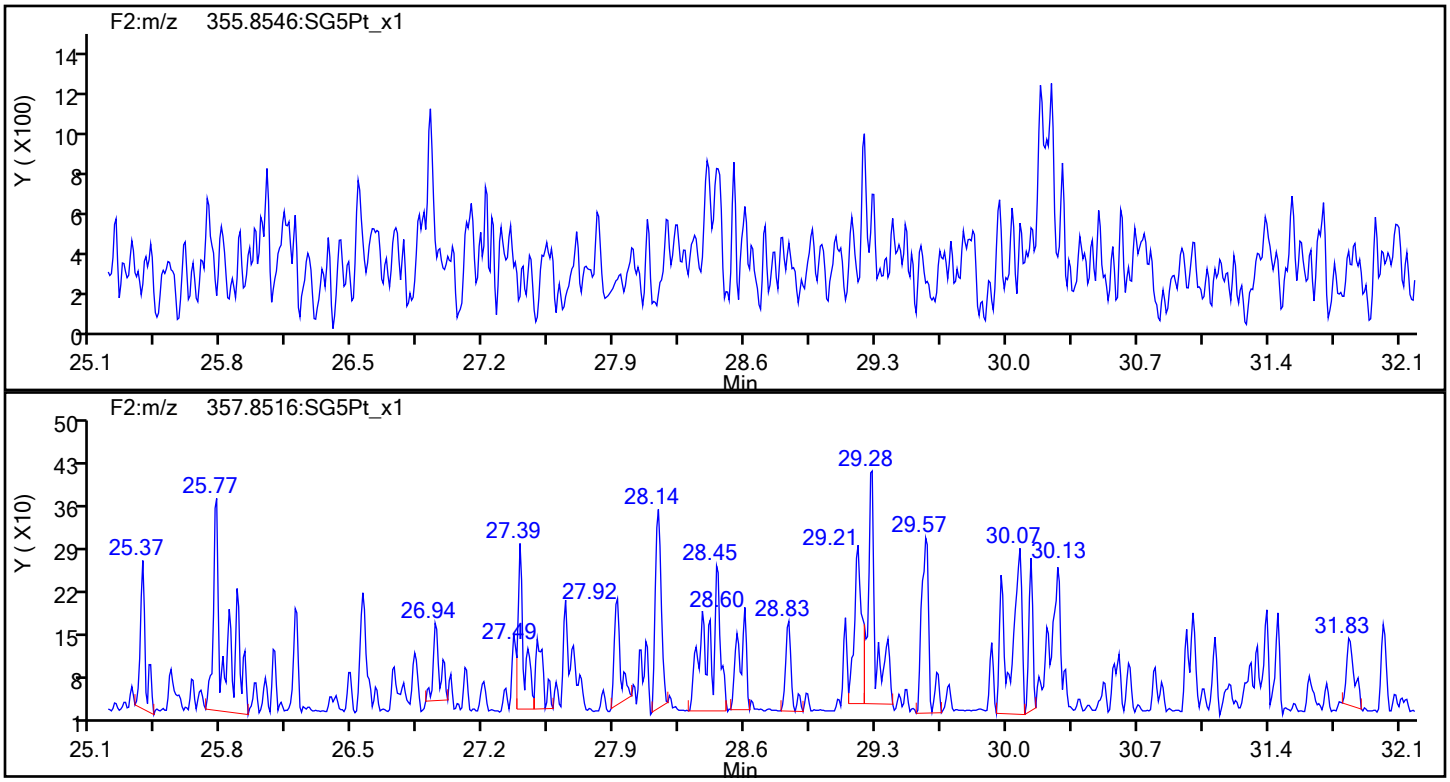
PeCDD



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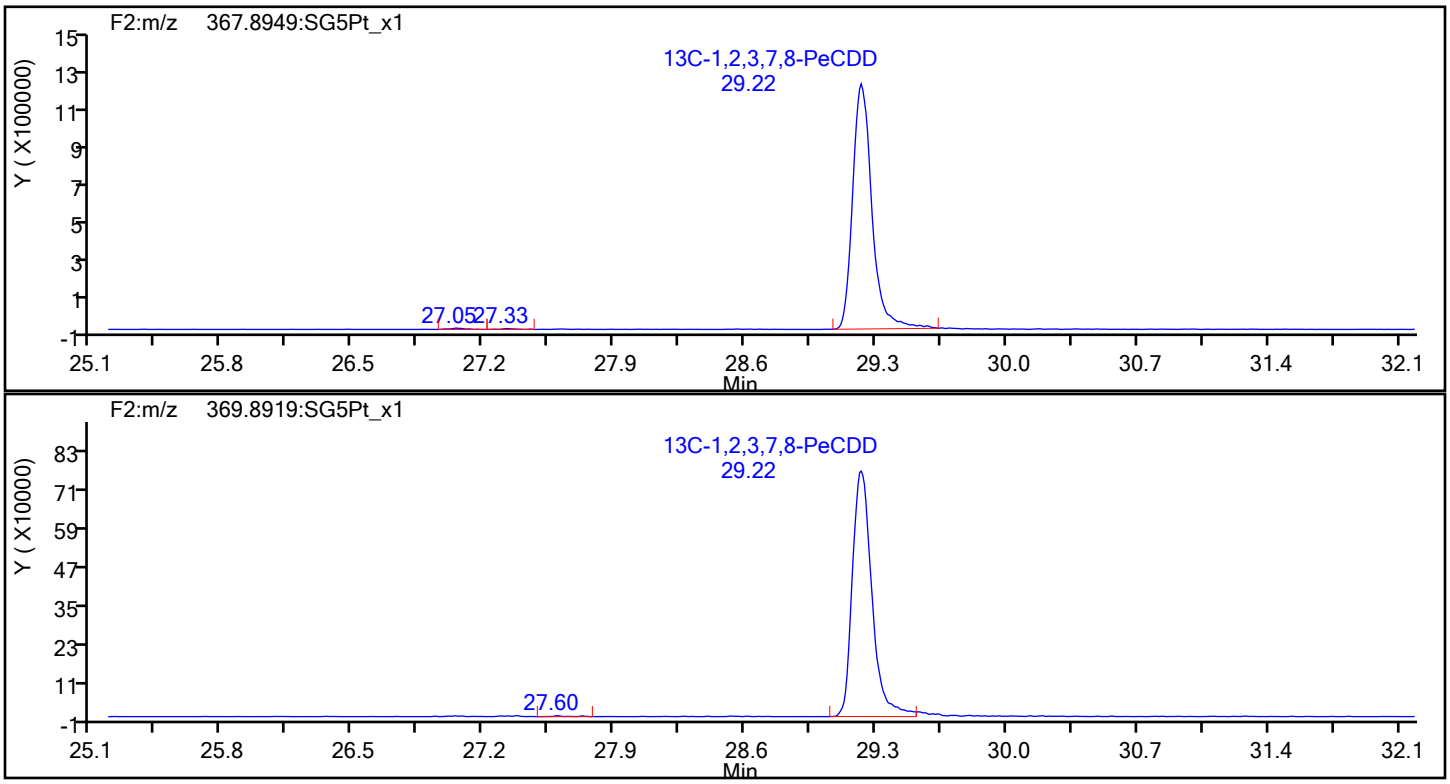

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Eurofins TestAmerica, Sacramento

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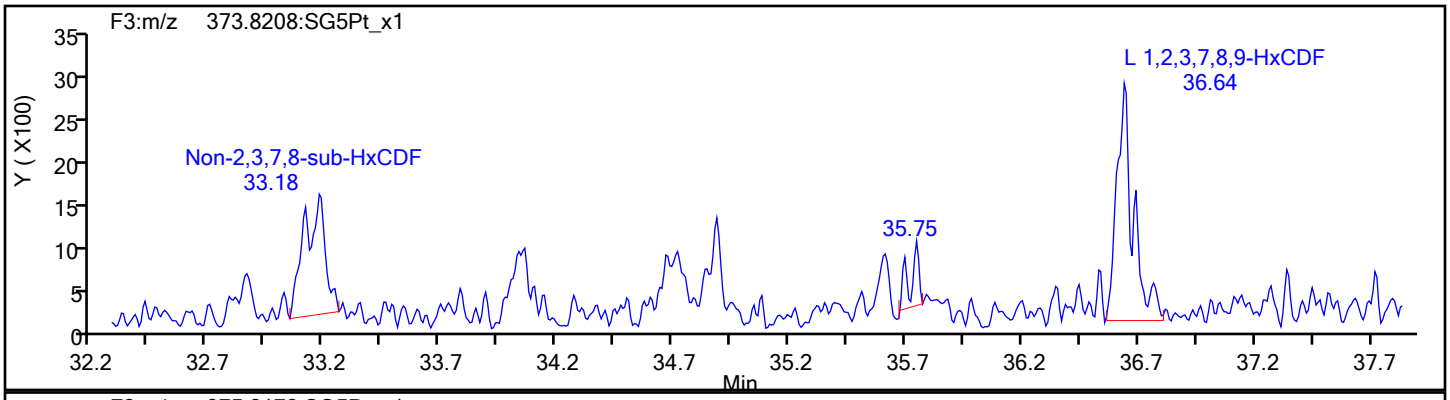
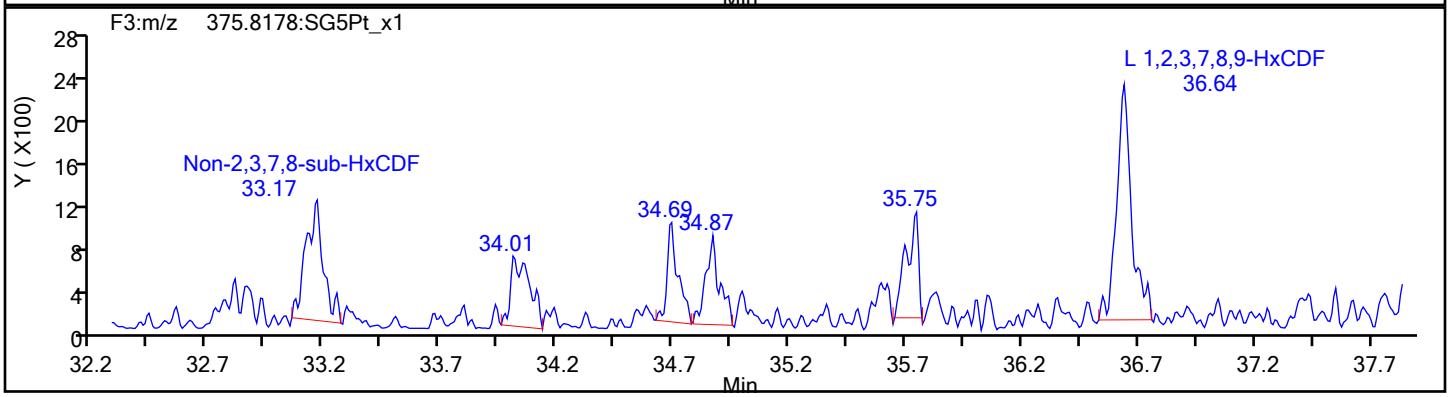
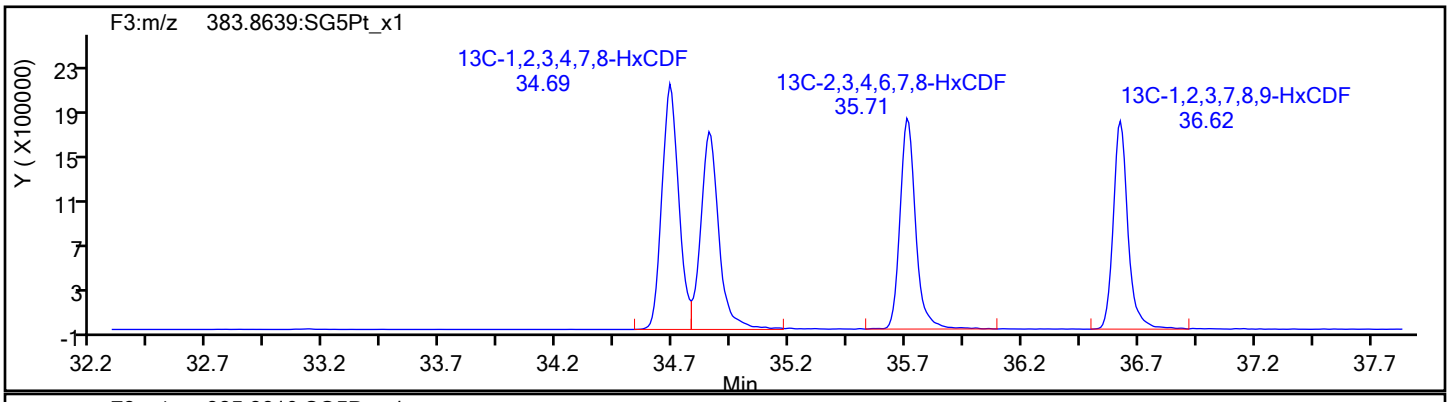
Column Type:	DB-5	Column Dia:	0.32 mm

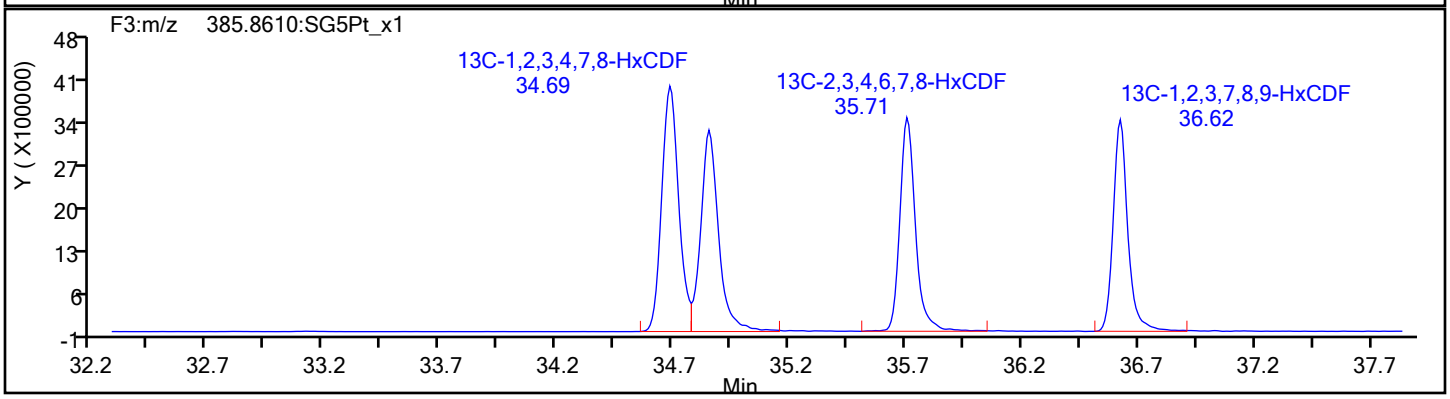
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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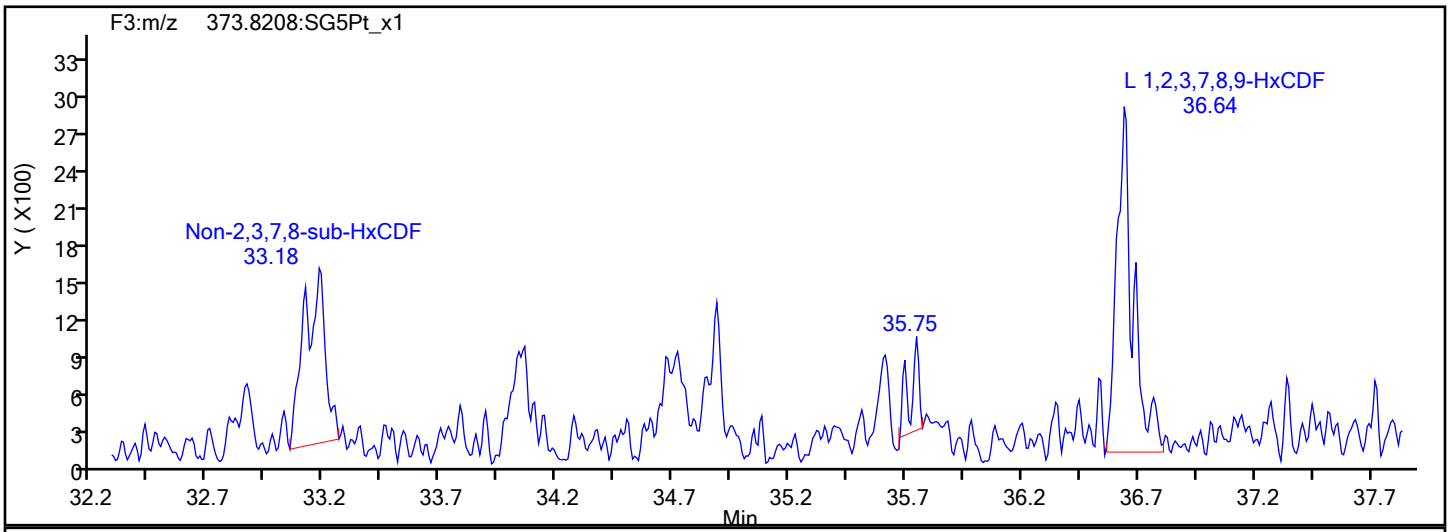
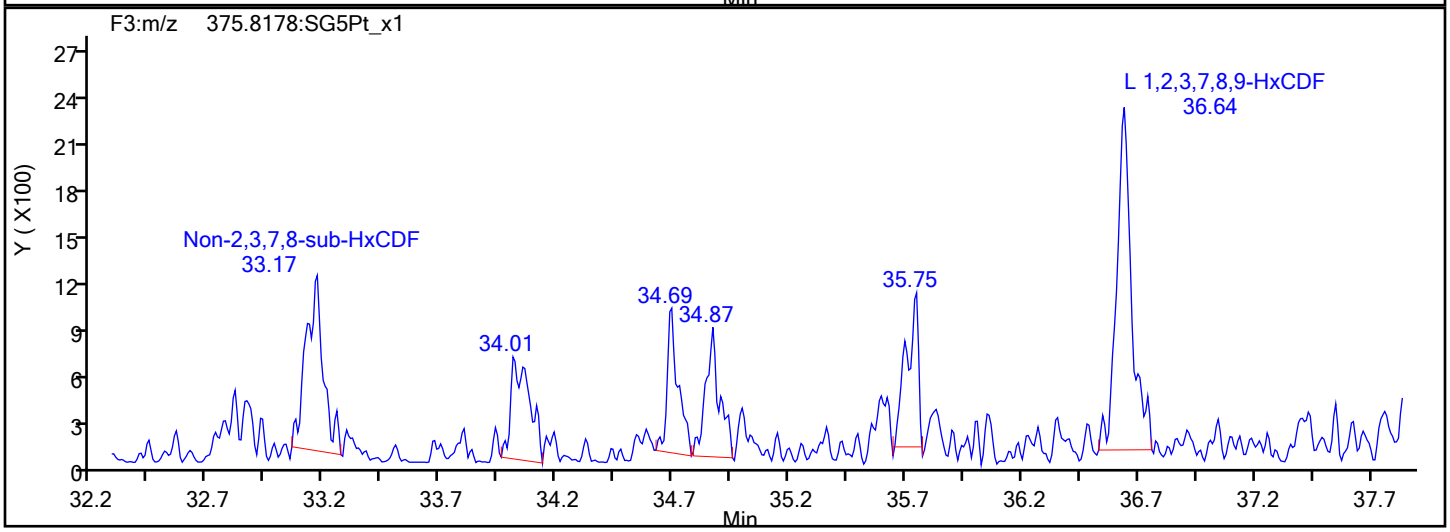
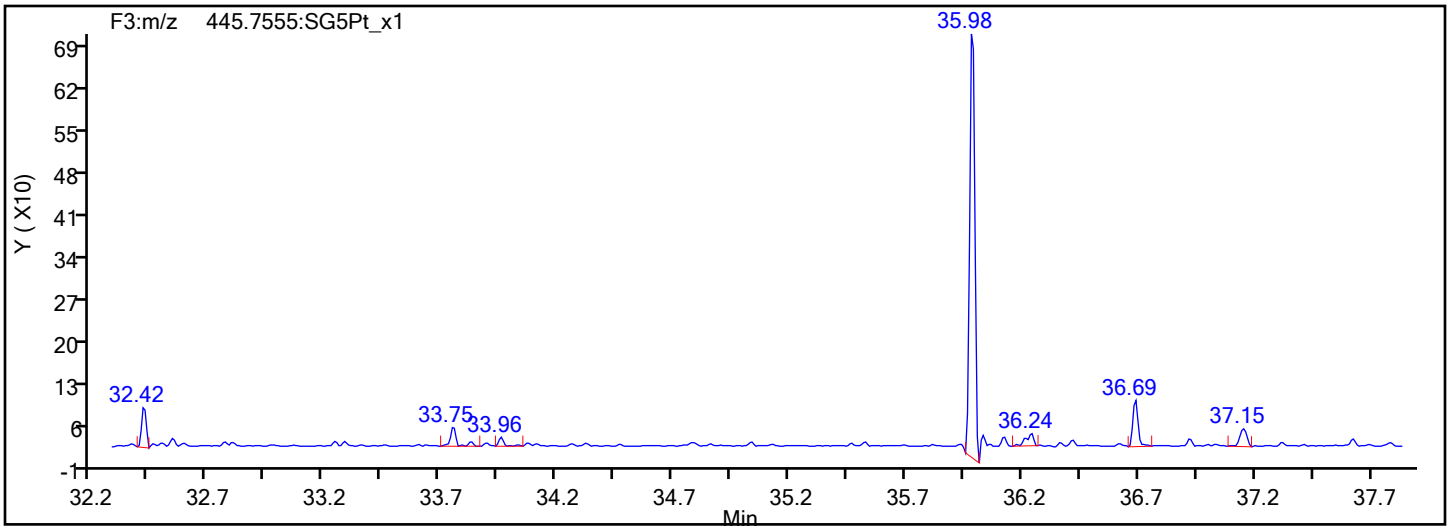
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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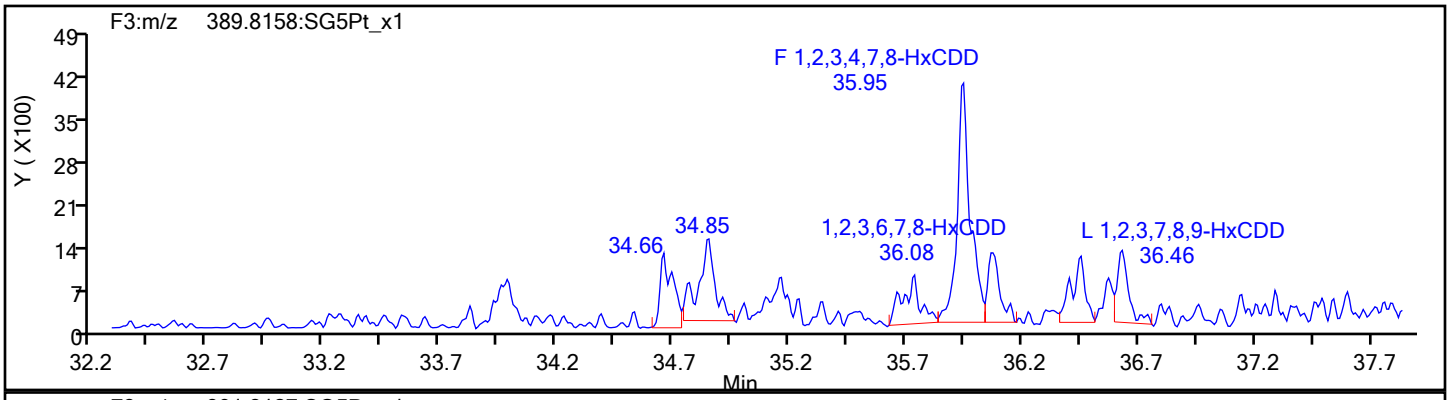
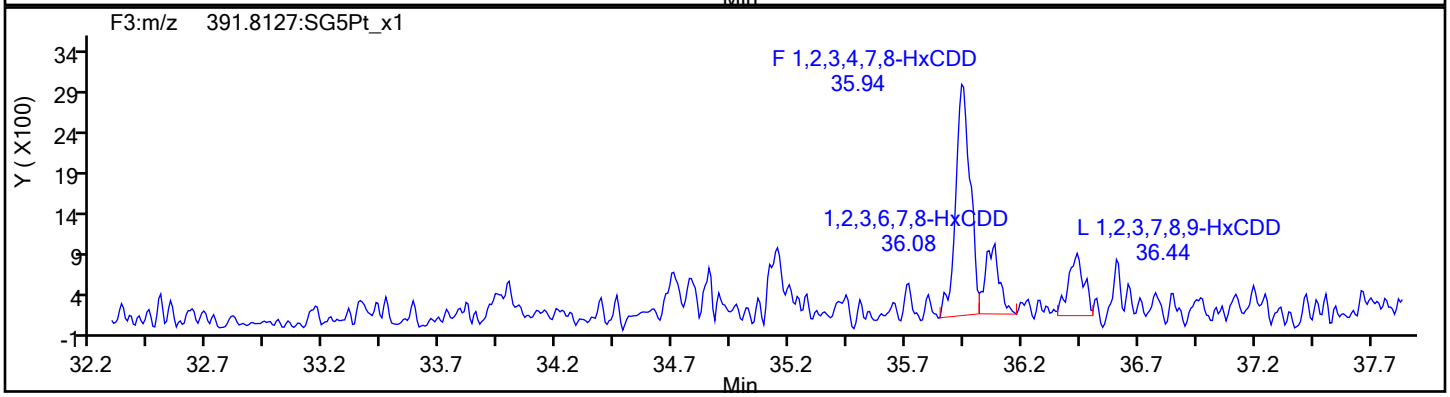
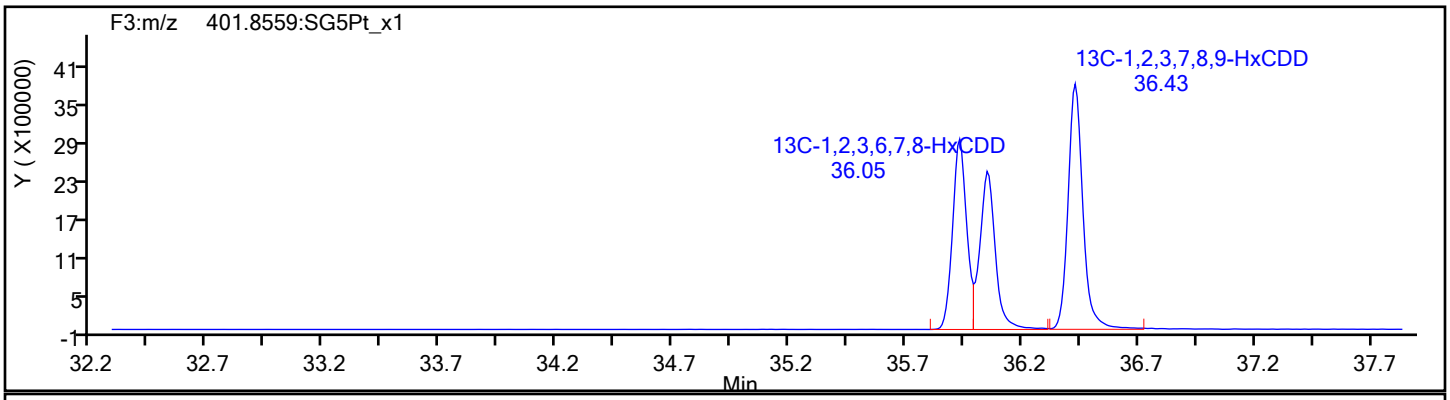
Column Type:	DB-5	Column Dia:	0.32 mm

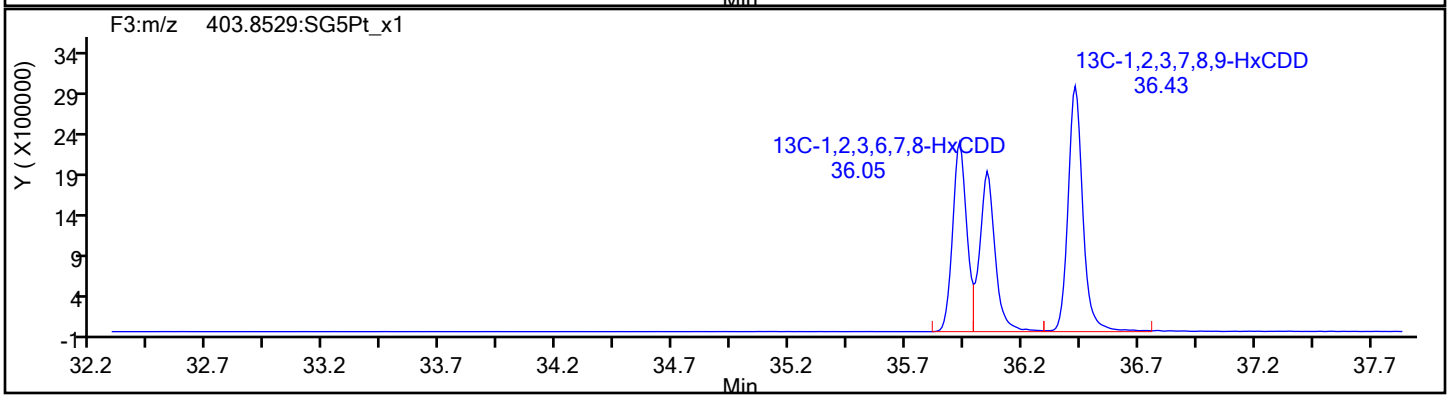
HxCDD





HxCDD Standards





Eurofins TestAmerica, Sacramento

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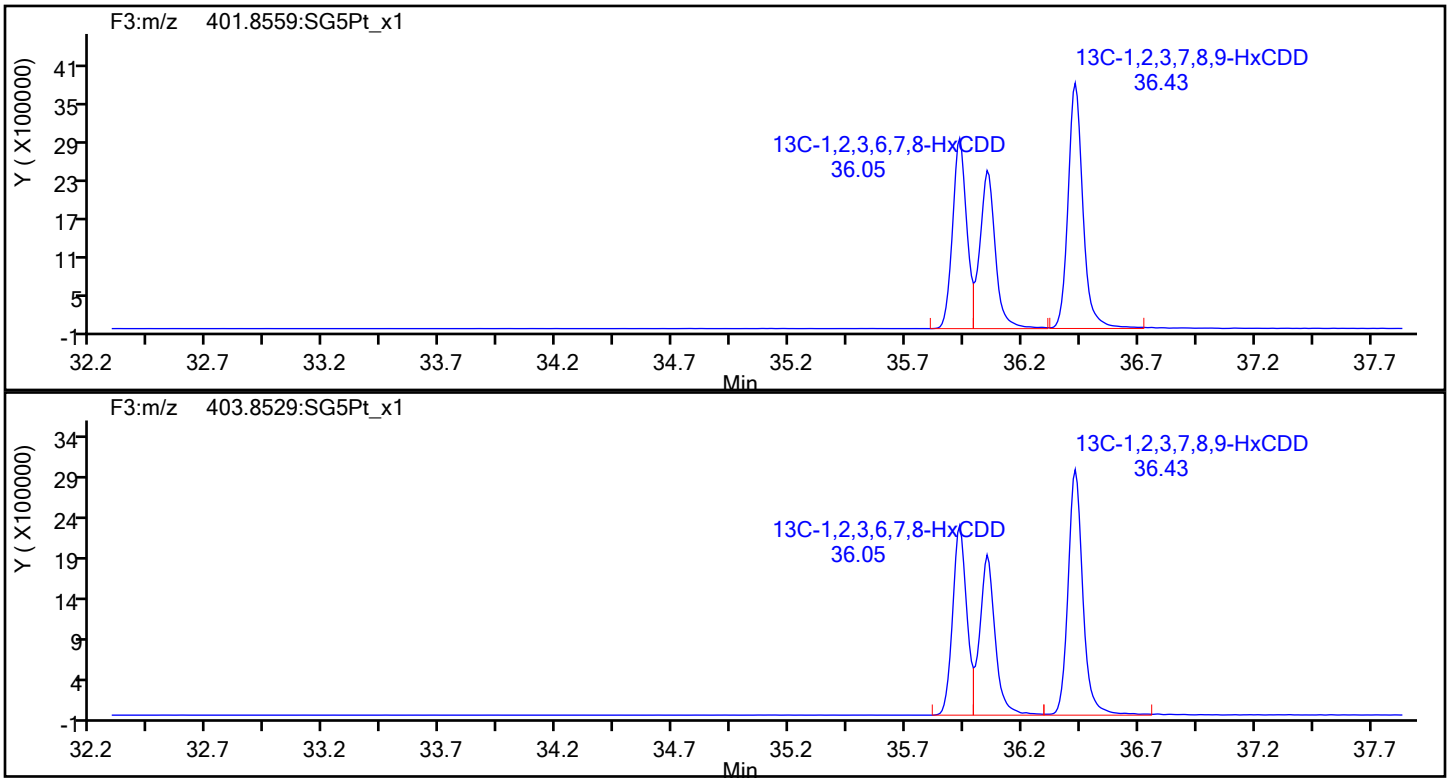
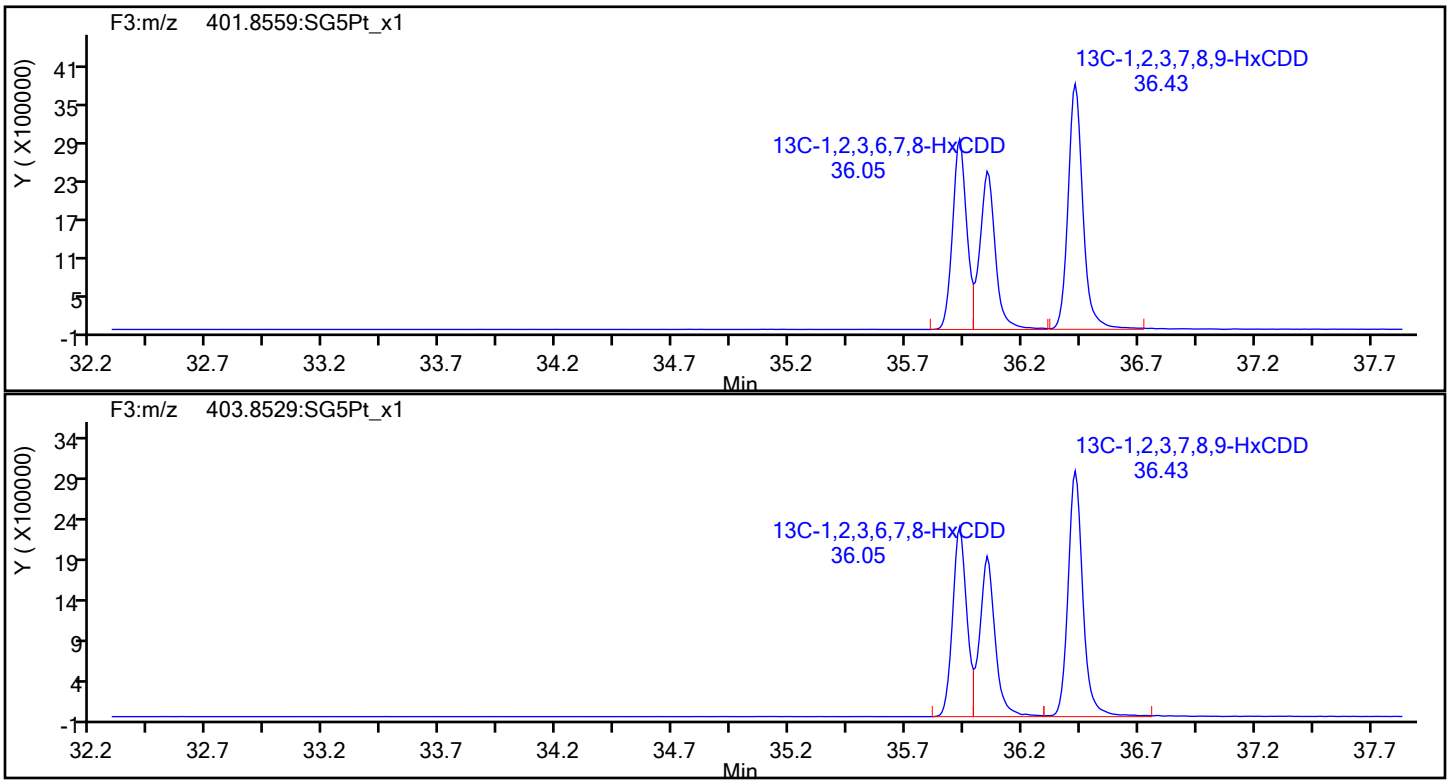
13C-HxCDD



13C-HxCDD Standards



Report Date: 28-Dec-2021 14:24:57 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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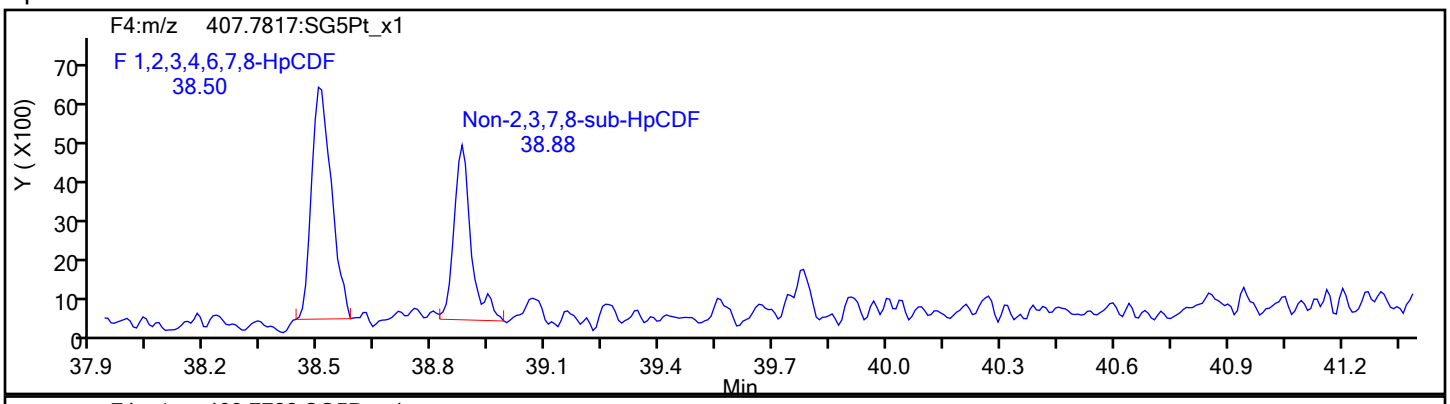
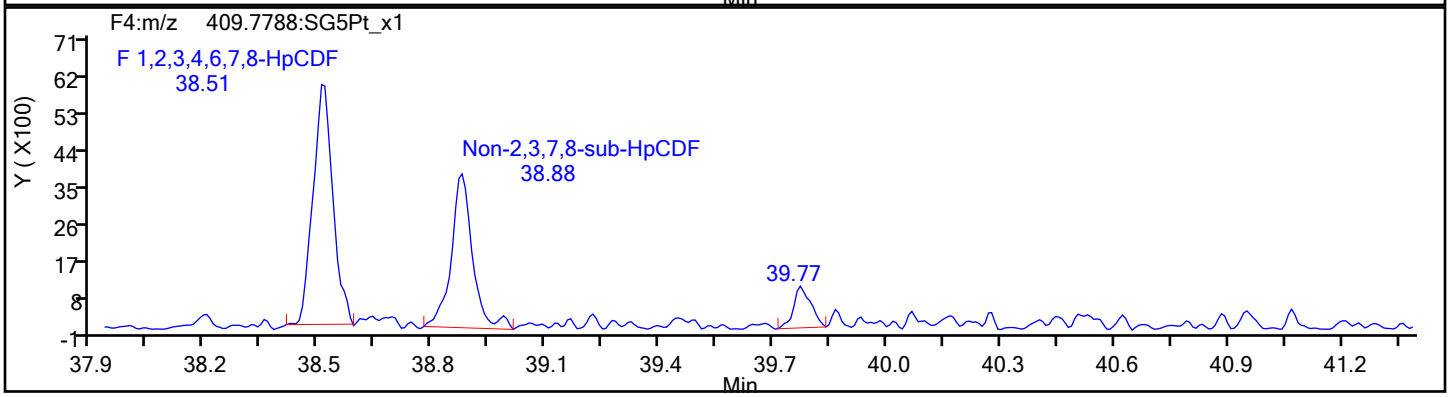
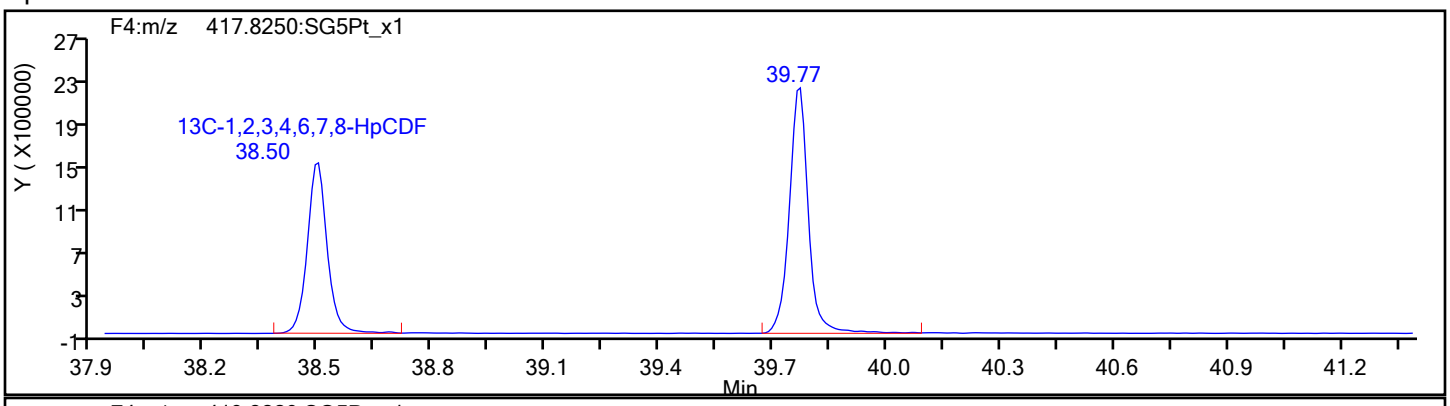
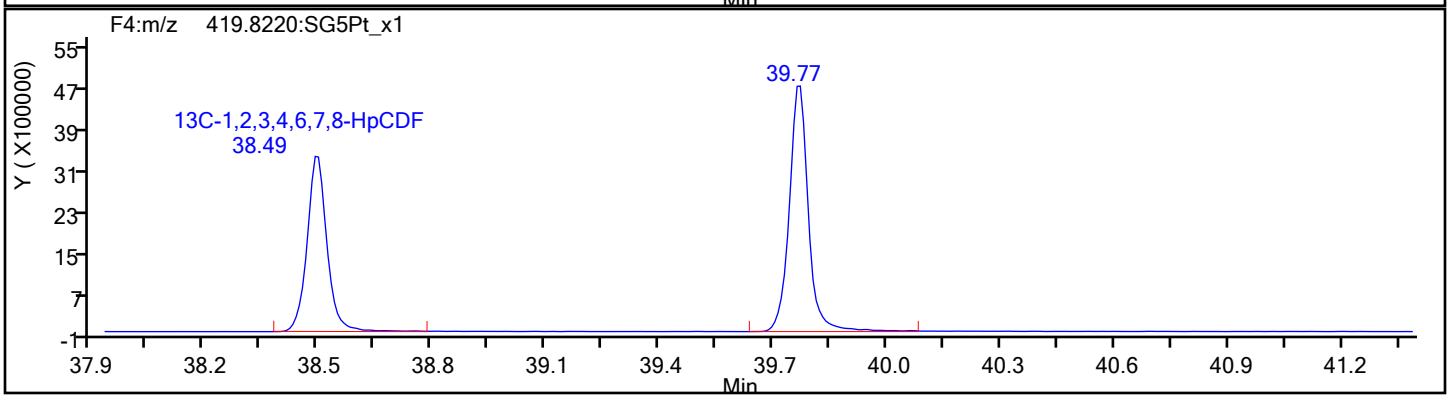
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

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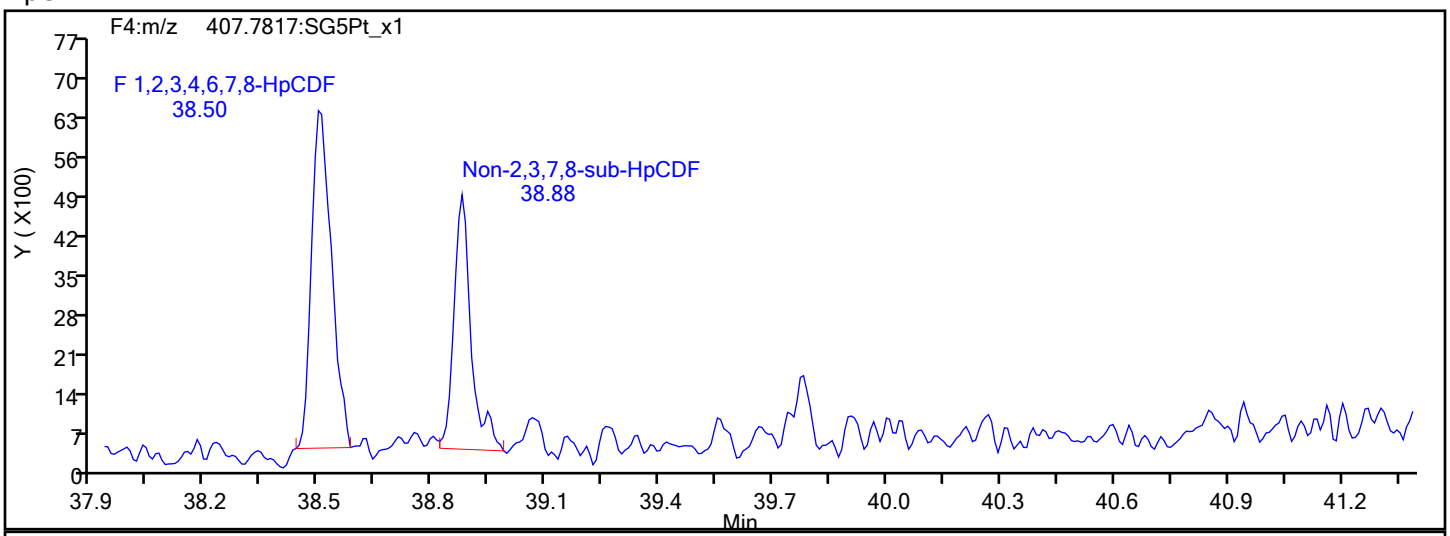
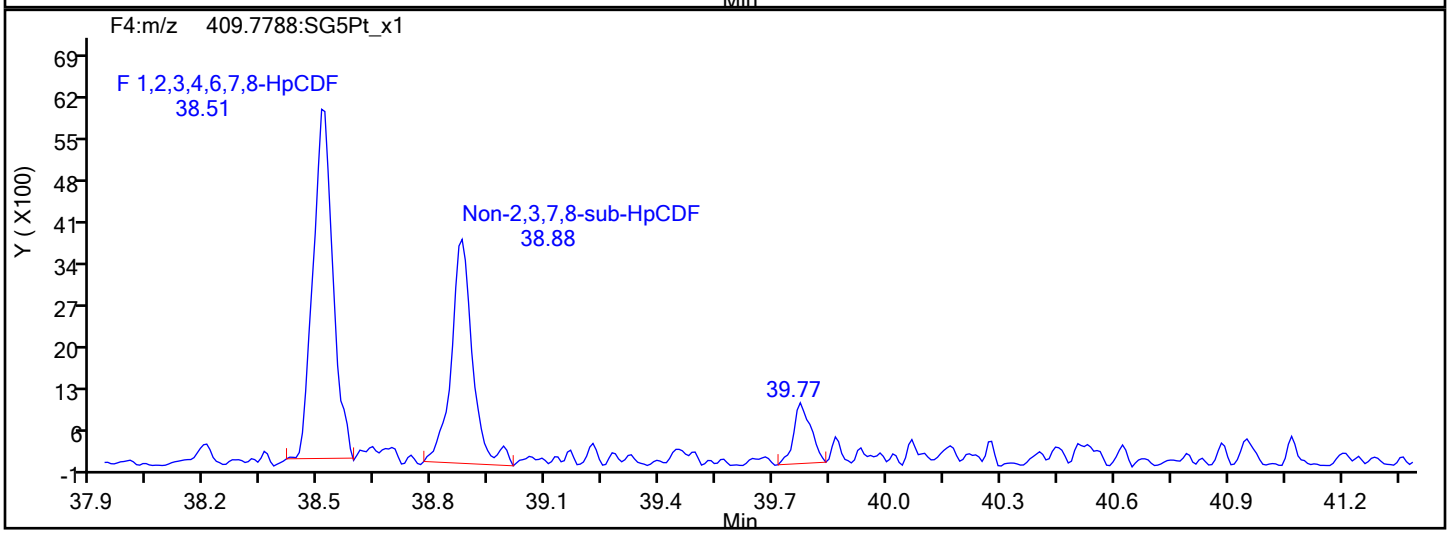
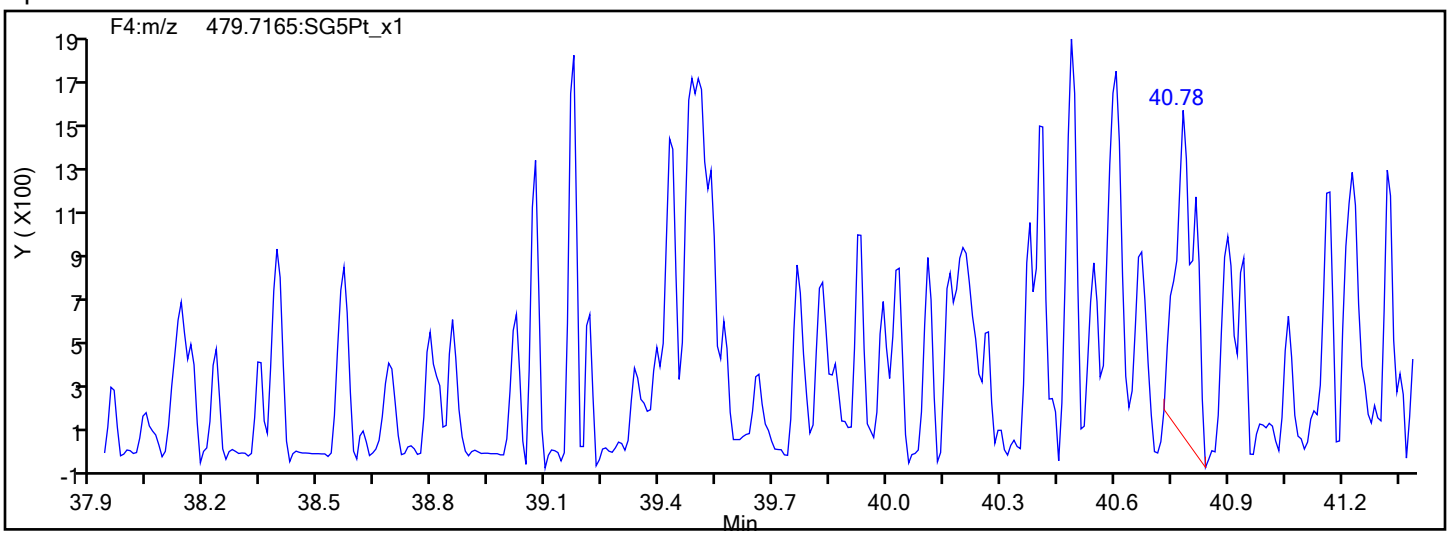
HpCDF





HpCDF Interference Mass



Eurofins TestAmerica, Sacramento

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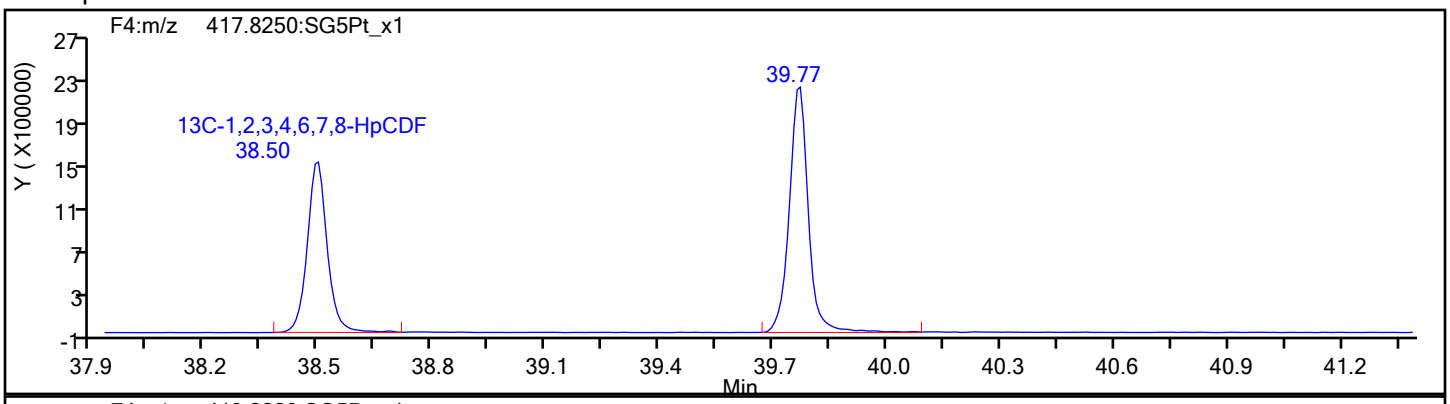
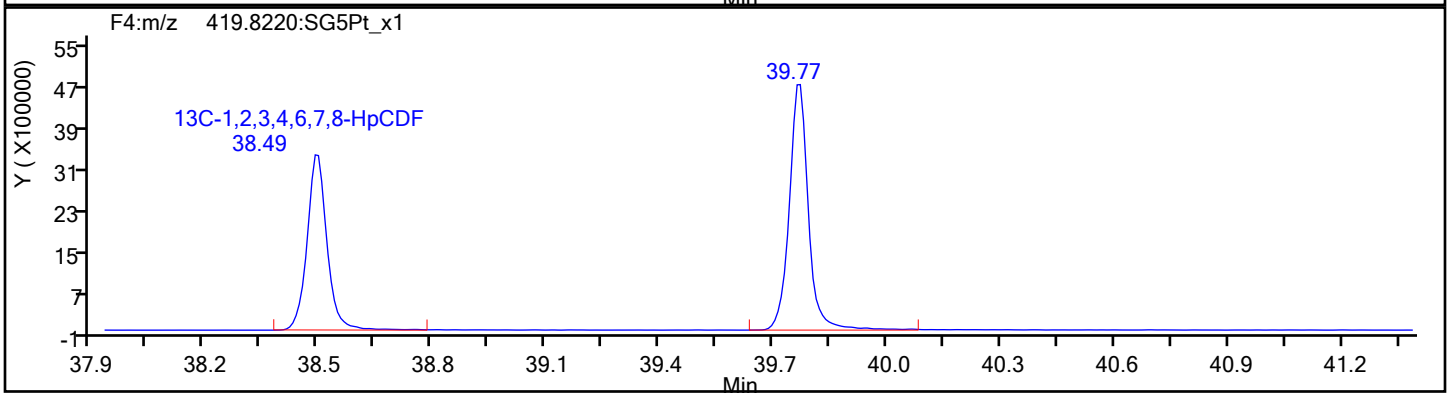
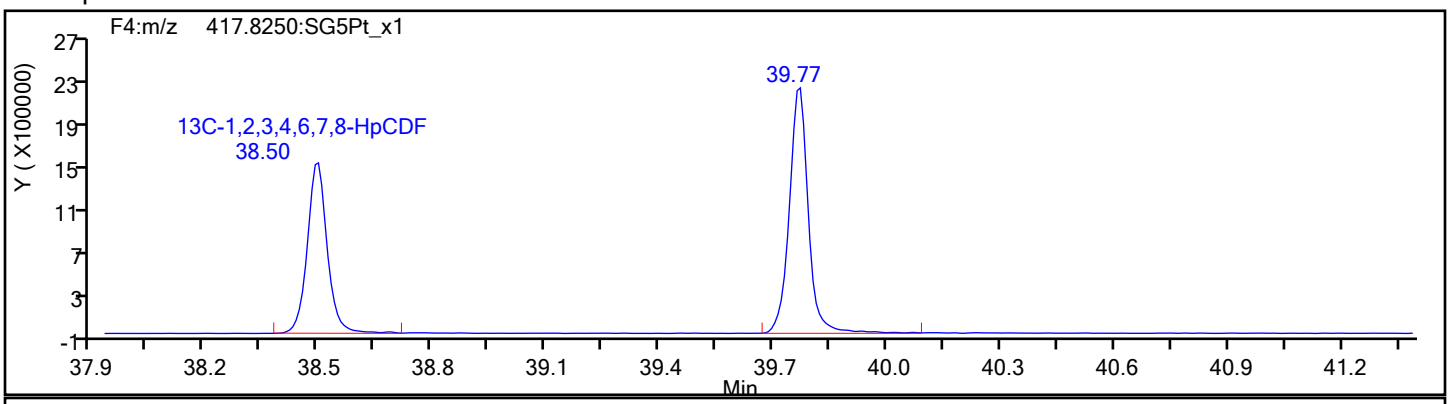
Column Type:	DB-5	Column Dia:	0.32 mm

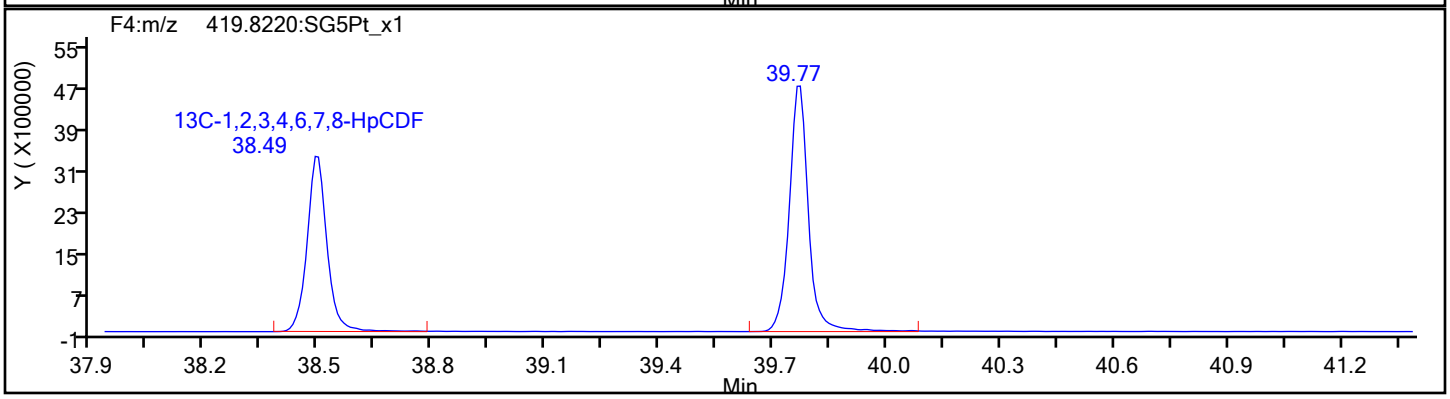
13C-HpCDF





13C-HpCDF Standards





Report Date: 28-Dec-2021 14:24:57 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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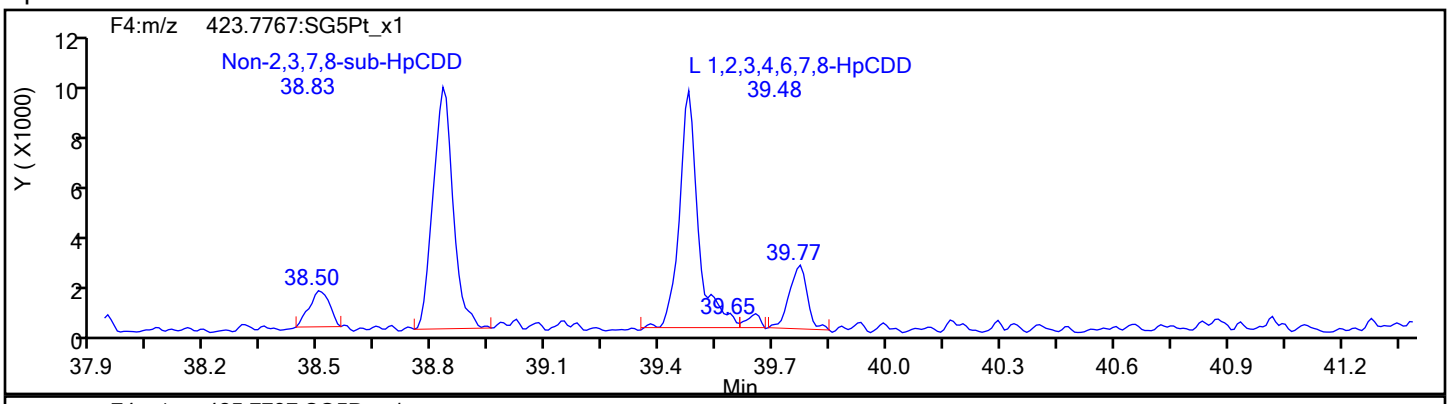
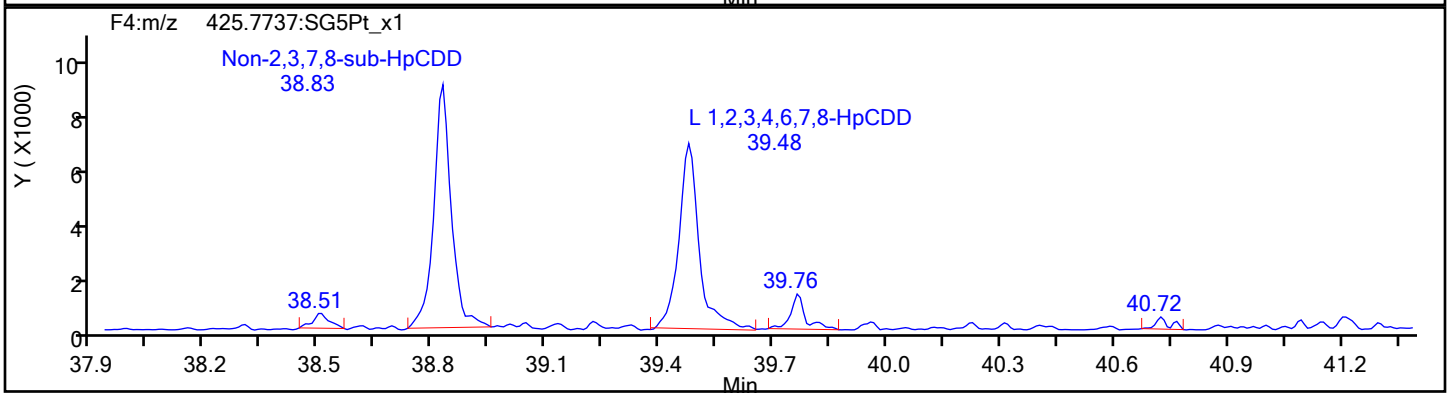
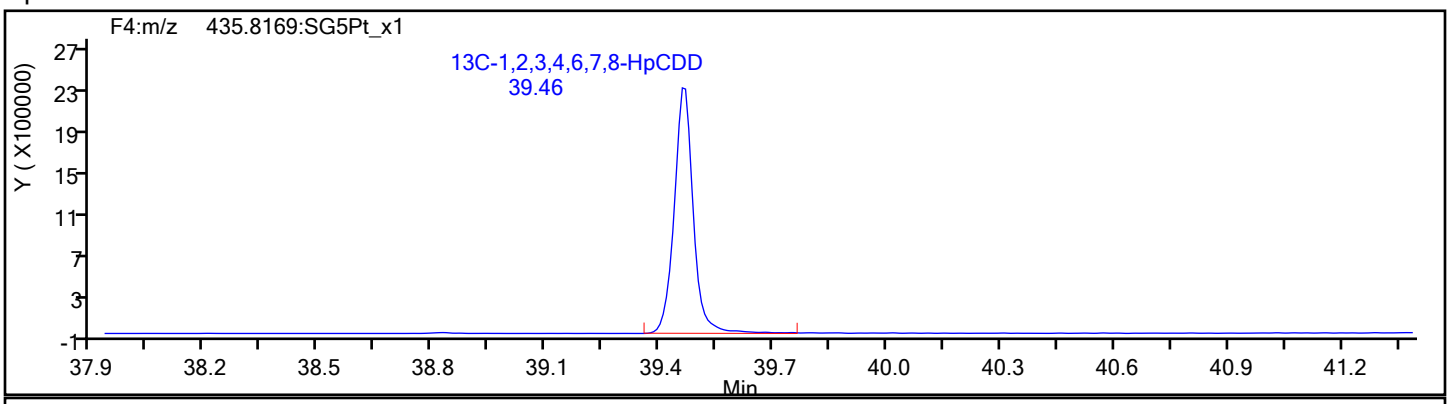
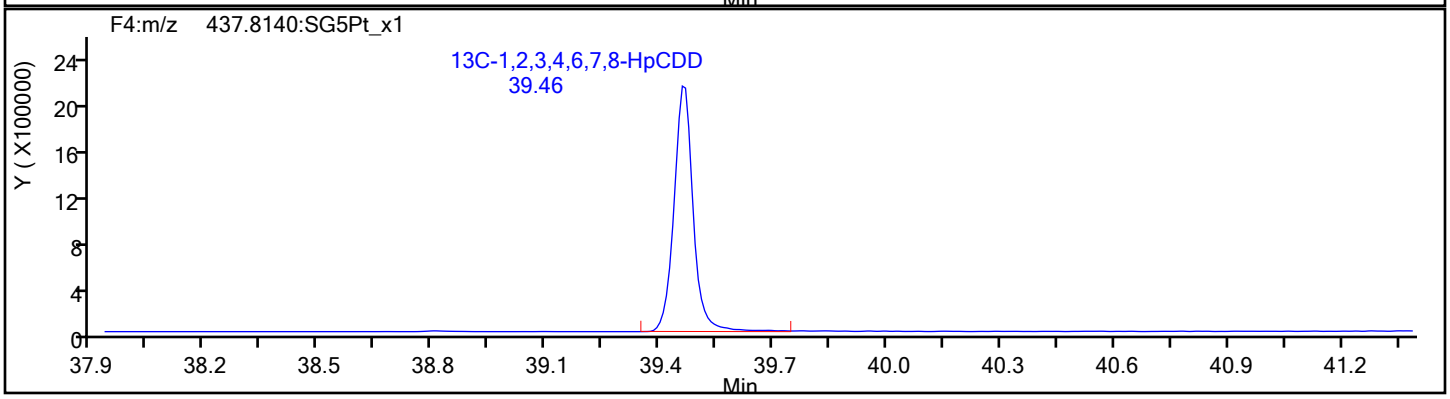
HpCDD





HpCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
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Client ID:	EVBMP0001S018		
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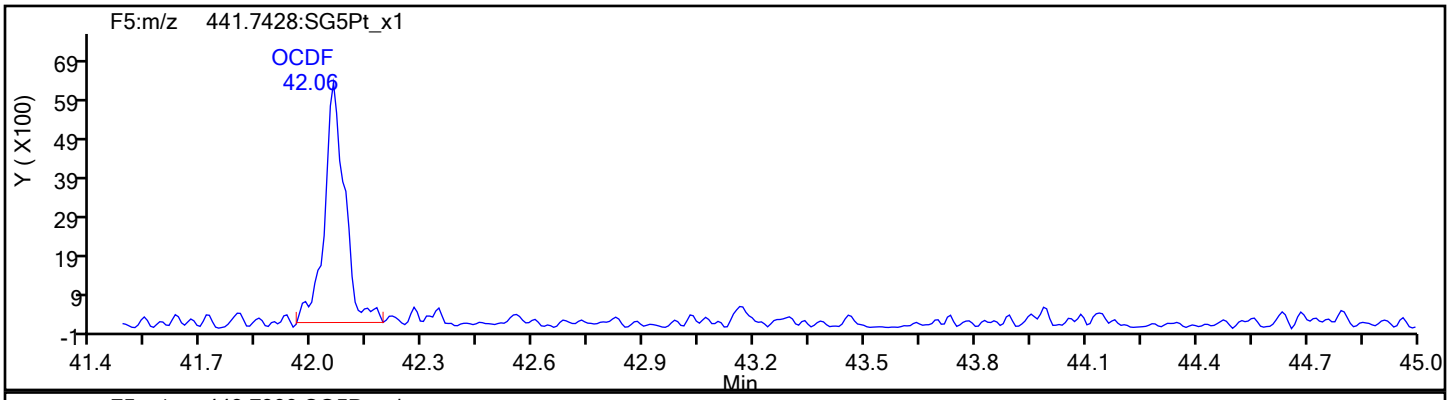
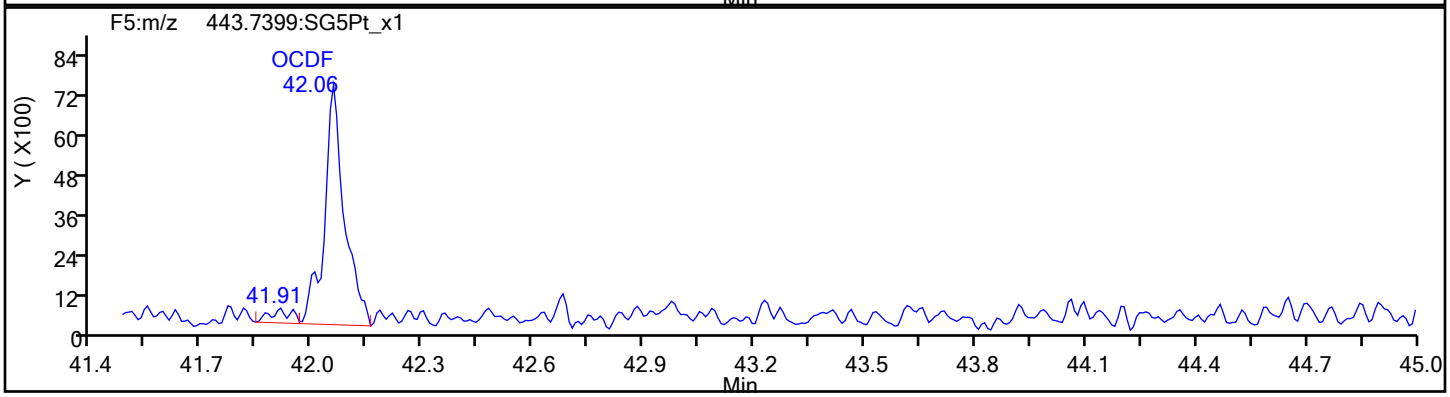
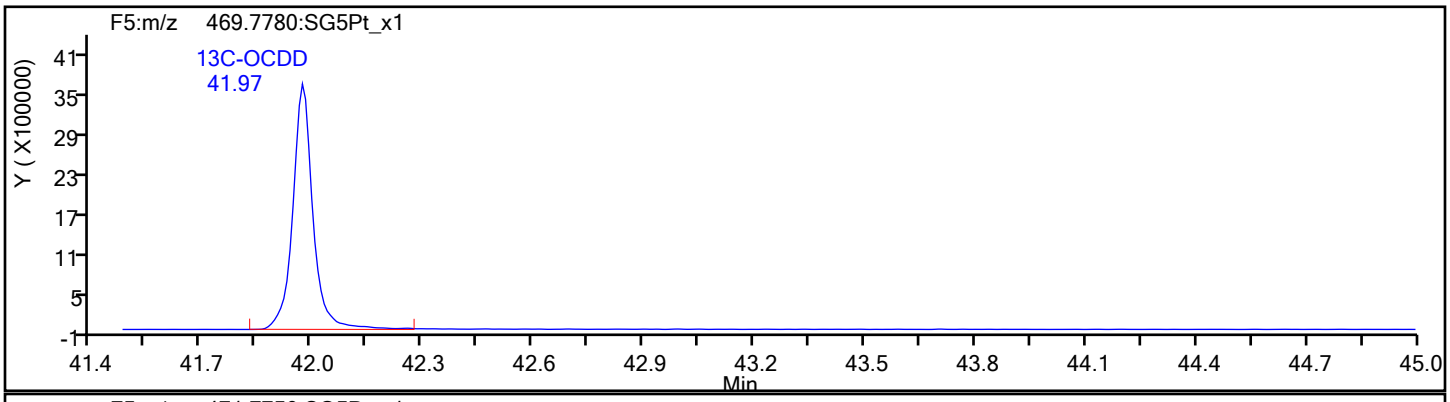
Column Type:	DB-5	Column Dia:	0.32 mm

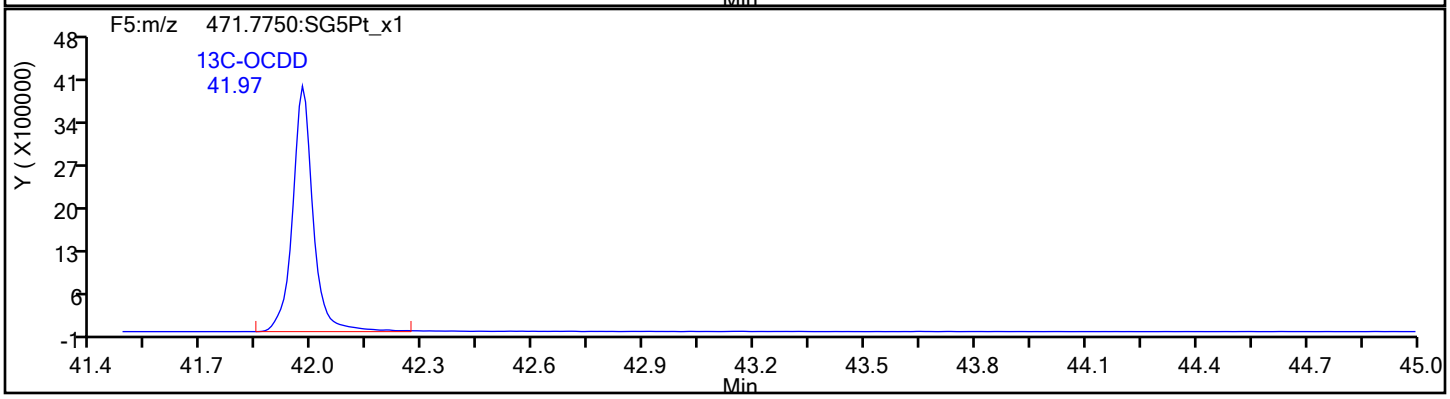
OCDF





OCDF Standards

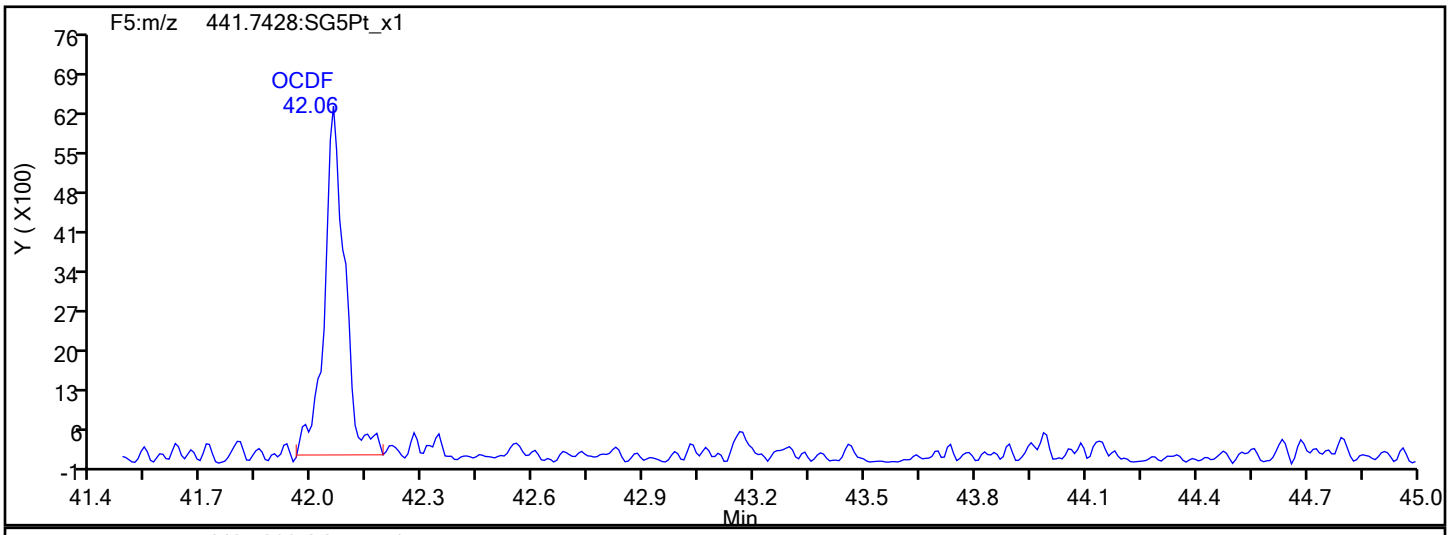


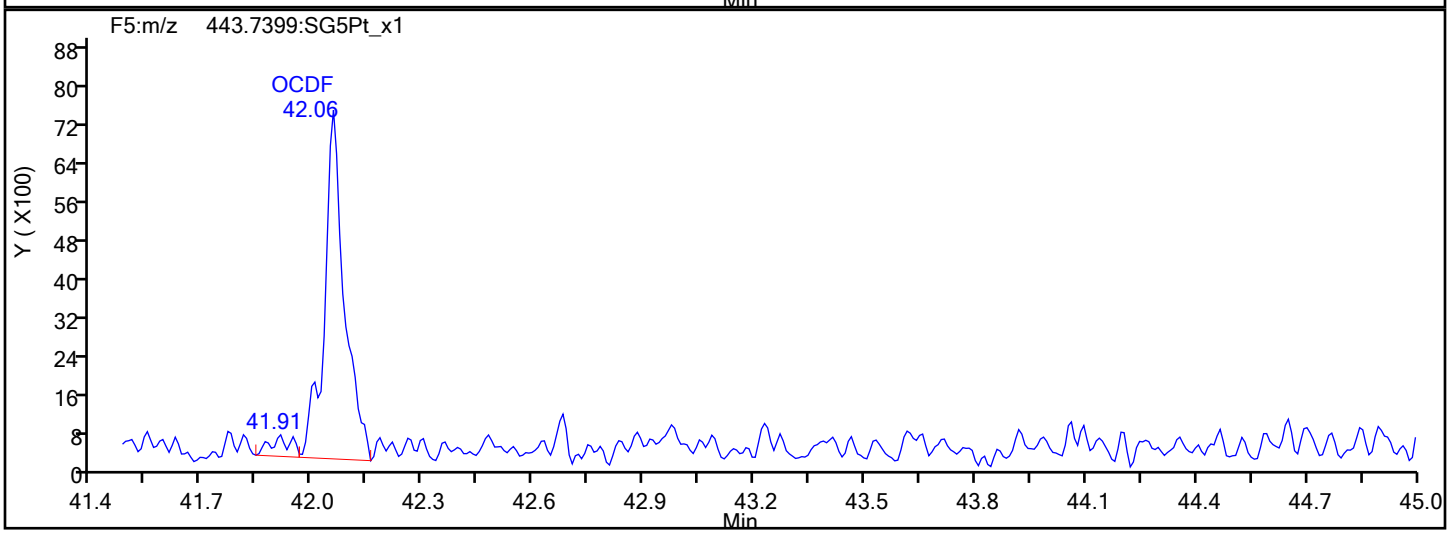


Eurofins TestAmerica, Sacramento

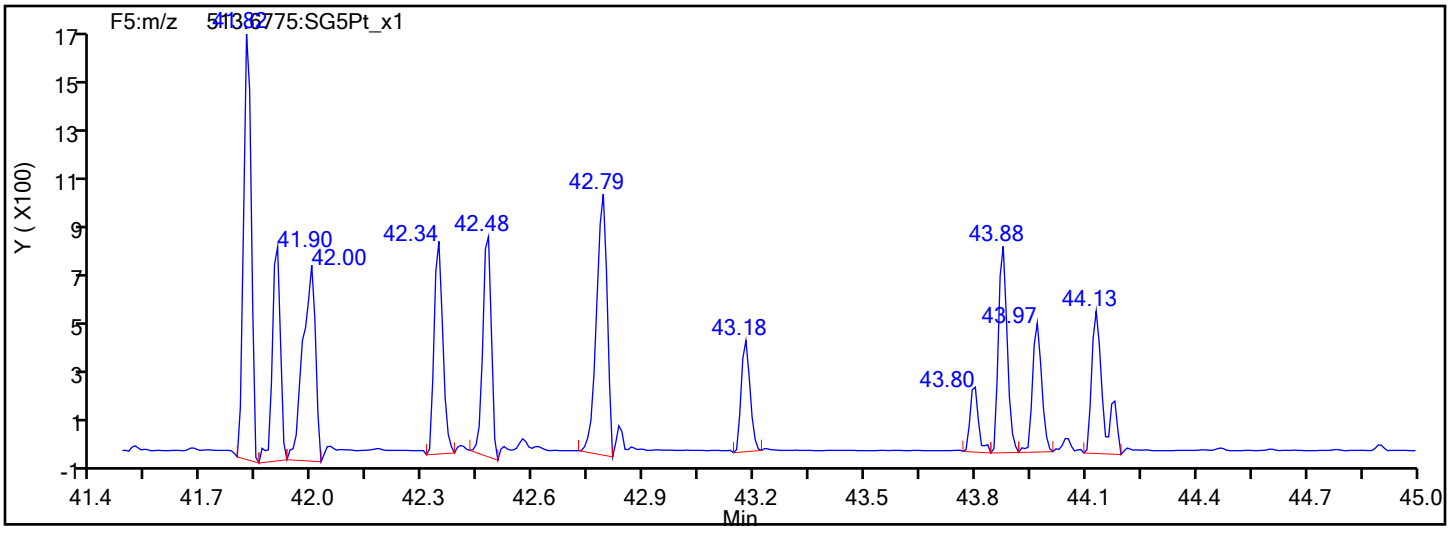
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





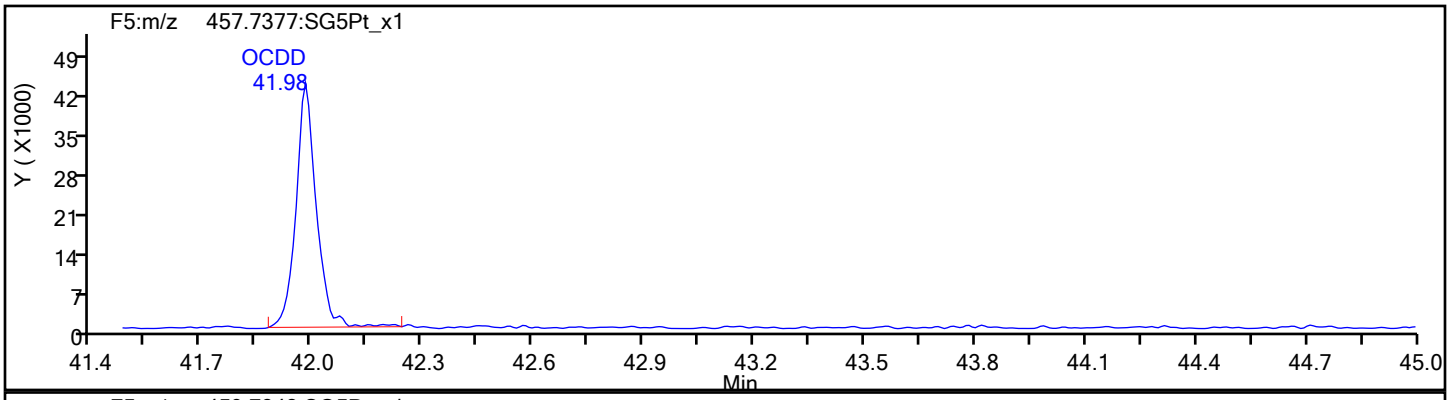
OCDF Interference Mass

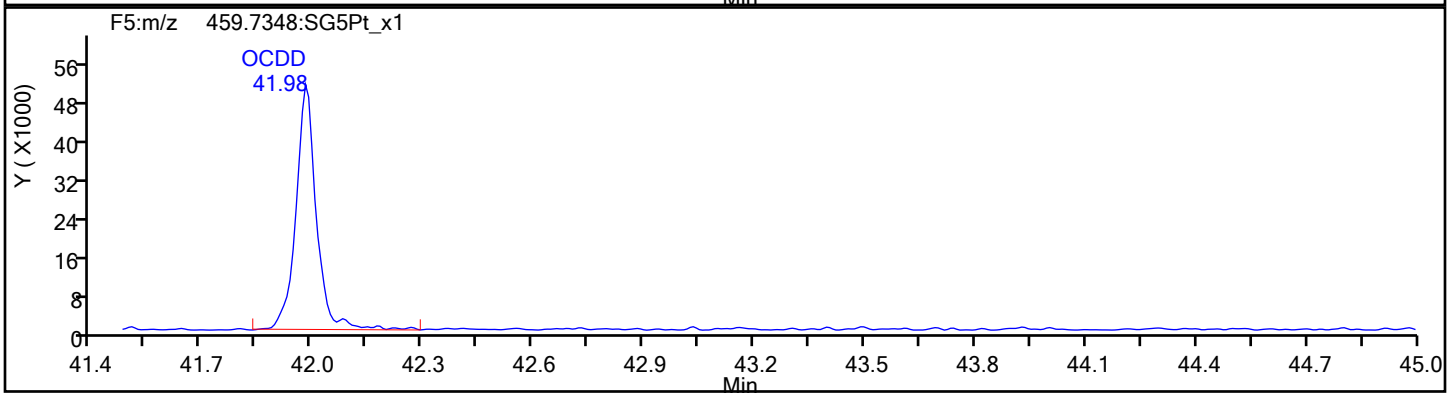


Eurofins TestAmerica, Sacramento

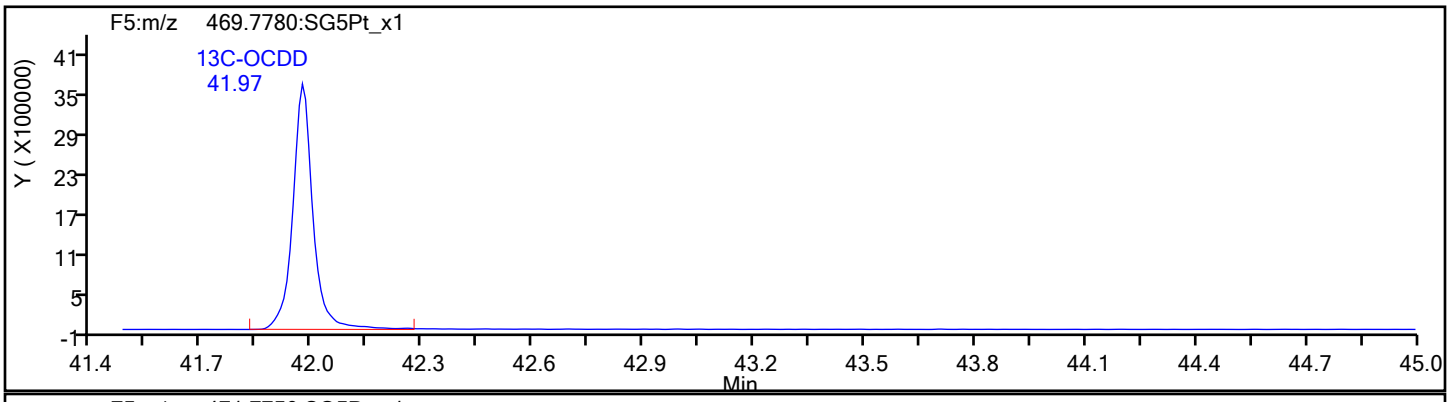
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

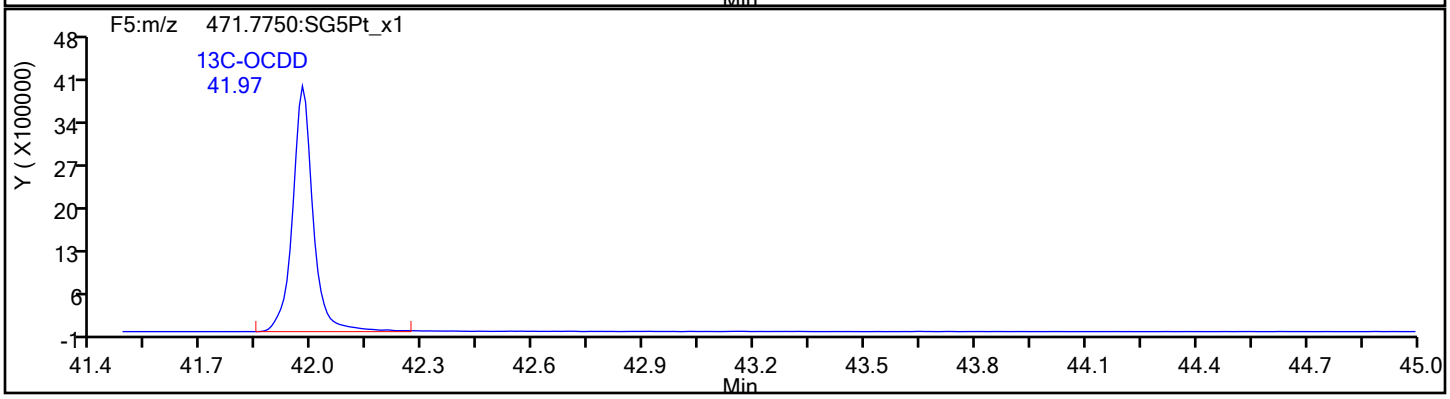
OCDD





OCDD Standards

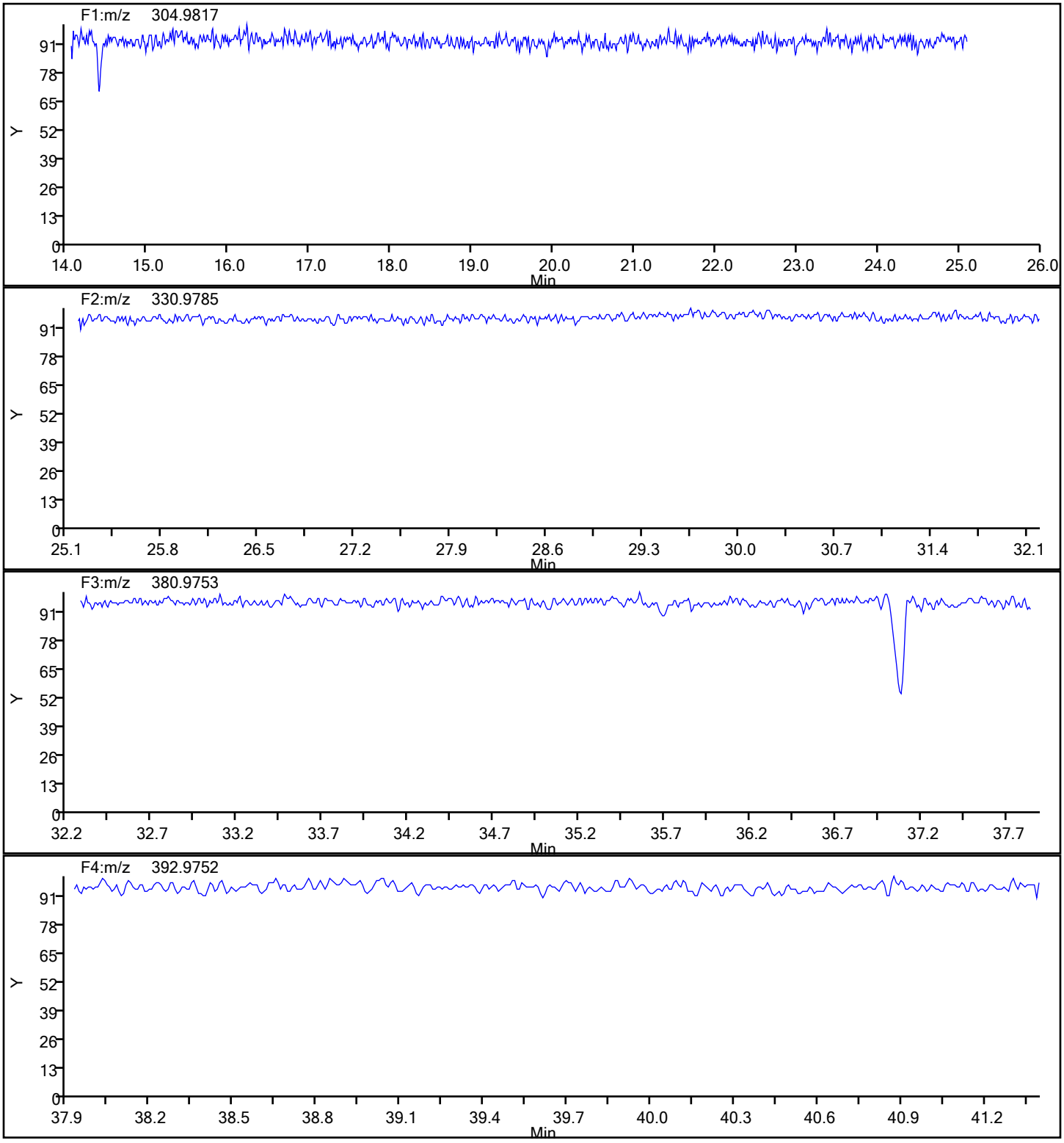




Report Date: 28-Dec-2021 14:24:57 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

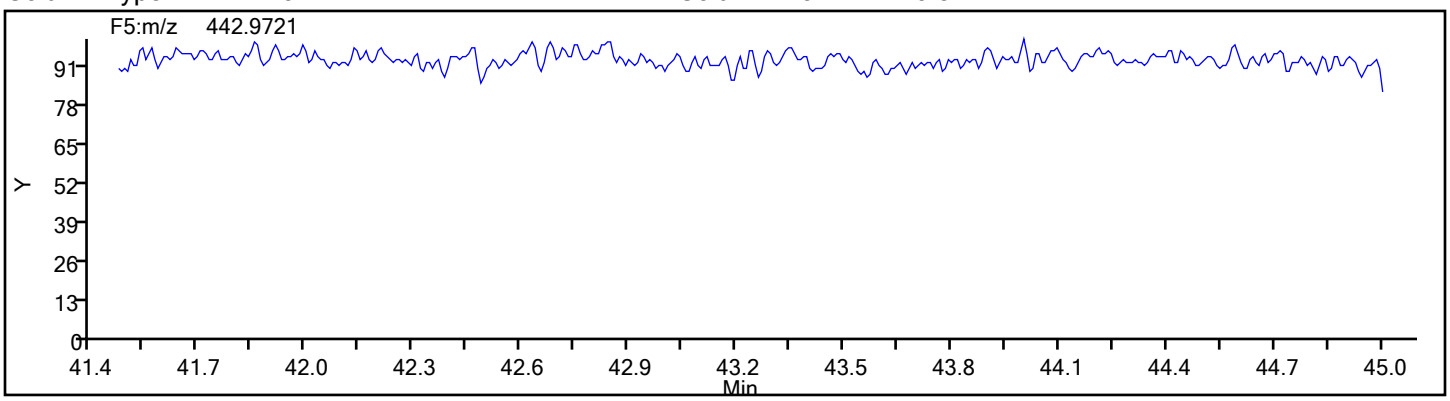
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 28-Dec-2021 14:24:57 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_21.d		
Injection Date:	28-Dec-2021 02:33:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S018		
Worklist#:	554312	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Client Sample ID: EVBMP0003S031 Lab Sample ID: 570-78855-5

Matrix: Water Lab File ID: 27de21adfs1_22.d

Analysis Method: 8290 Date Collected: 12/14/2021 08:01

Extract. Method: 8290 Date Extracted: 12/21/2021 08:52

Sample wt/vol: 1040.4(mL) Date Analyzed: 12/28/2021 03:21

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 554312 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.6	0.90
51207-31-9	2,3,7,8-TCDF	ND		9.6	0.39
40321-76-4	1,2,3,7,8-PeCDD	4.2	J	48	0.80
57117-41-6	1,2,3,7,8-PeCDF	1.6	J B	48	0.41
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.42
39227-28-6	1,2,3,4,7,8-HxCDD	8.8	J B	48	0.63
57653-85-7	1,2,3,6,7,8-HxCDD	21	J B	48	0.63
19408-74-3	1,2,3,7,8,9-HxCDD	13	J B	48	0.58
70648-26-9	1,2,3,4,7,8-HxCDF	4.4	J B	48	0.52
57117-44-9	1,2,3,6,7,8-HxCDF	3.9	J B	48	0.52
60851-34-5	2,3,4,6,7,8-HxCDF	3.4	J B	48	0.56
72918-21-9	1,2,3,7,8,9-HxCDF	1.8	J B	48	0.59
35822-46-9	1,2,3,4,6,7,8-HpCDD	410	B	48	2.8
67562-39-4	1,2,3,4,6,7,8-HpCDF	83	B	48	1.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	5.0	J B	48	1.2
3268-87-9	OCDD	3200	B	96	3.7
39001-02-0	OCDF	210	B	96	0.68

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	86		40-135
89059-46-1	13C-2,3,7,8-TCDF	89		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	80		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	85		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	91		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	86		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	87		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	89		40-135
114423-97-1	13C-OCDD	108		40-135

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d
Lims ID: 570-78855-F-5-A
Client ID: EVBMP0003S031
Sample Type: Client
Inject. Date: 28-Dec-2021 03:21:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-78855-f-5-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:39:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.955	29266706	0.83	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.999	33816318	0.83	1.2917	89.5	89.5	0.2851	0.2851	89.45	
2,3,7,8-TCDF	20.025						0.0203	0.0203		U
A Non-2,3,7,8-sub-TCDF	19.632						0.0203	0.0203		
S Total TCDF							0.0203	0.0203		
D 13C-2,3,7,8-TCDD	21.333	20853629	0.82	0.8271	86.1	86.1	0.2163	0.2163	86.15	
2,3,7,8-TCDD	21.384						0.0468	0.0468		
A Non-2,3,7,8-sub-TCDD	20.470						0.0468	0.0468		
S Total TCDD							0.0468	0.0468		
D 13C-1,2,3,7,8-PeCDF	26.934	28875404	1.59	1.1665	84.6	84.6	0.4114	0.4114	84.58	
1,2,3,7,8-PeCDF	26.967	26909	1.70	1.0987	0.0848	0.0848	0.0212	0.0212		M
2,3,4,7,8-PeCDF	28.486						0.0220	0.0220		
A F1 PeCDFs	24.442	20034	1.36	1.0783	0.0643	0.0643	0.007838	0.0643		
A Non-2,3,7,8-sub-PeCDF	27.884	96410	1.55	1.0783	0.3338	0.3096	0.0216	0.2240		RQ
S Total PeCDF					0.4830	0.4588	0.0216	0.0216		RQ
D 13C-1,2,3,7,8-PeCDD	29.241	16062469	1.59	0.6835	80.3	80.3	0.1278	0.1278	80.30	
1,2,3,7,8-PeCDD	29.275	38704	1.44	1.1030	0.2185	0.2185	0.0418	0.0418		M
A Non-2,3,7,8-sub-PeCDD	28.134						0.0418	0.0418		
S Total PeCDD					0.2185	0.2185	0.0418	0.0418		
D 13C-1,2,3,4,7,8-HxCDF	34.701	34580665	0.53	1.1776	85.8	85.8	0.3349	0.3349	85.76	a
1,2,3,4,7,8-HxCDF	34.709	75850	1.14	0.9504	0.2308	0.2308	0.0271	0.0271		Ma
1,2,3,6,7,8-HxCDF	34.886	66161	1.34	0.9524	0.2009	0.2009	0.0270	0.0270		M
2,3,4,6,7,8-HxCDF	35.736	53660	1.22	0.8893	0.1745	0.1745	0.0290	0.0290		
D 13C-1,2,3,7,8,9-HxCDF	36.637	25650109	0.53							
1,2,3,7,8,9-HxCDF	36.654	27411	1.32	0.8433	0.0940	0.0940	0.0305	0.0305		M
A Non-2,3,7,8-sub-HxCDF	34.874	1178735	1.23	0.9089	3.750	3.750	0.0283	1.777		
S Total HxCDF					4.451	4.451	0.0284	0.0284		
* 13C-1,2,3,7,8,9-HxCDD	36.443	34243605	1.30	2.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.972	105329	1.29	1.0079	0.4583	0.4583	0.0330	0.0330		
D 13C-1,2,3,6,7,8-HxCDD	36.064	22803209	1.30	0.7339	90.7	90.7	0.2422	0.2422	90.73	
1,2,3,6,7,8-HxCDD	36.081	255415	1.22	1.0111	1.108	1.108	0.0329	0.0329		M

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.460	169400	1.22	1.0993	0.6758	0.6758	0.0302	0.0302		M
A Non-2,3,7,8-sub-HxCDD	35.257	664833	1.24	1.0394	2.824	2.805	0.0320	1.771		RQ
S Total HxCDD					5.066	5.047	0.0320	0.0320		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.509	20488589	0.46	0.6698	89.3	89.3	0.4511	0.4511	89.33	
1,2,3,4,6,7,8-HpCDF	38.518	1350714	1.07	1.5184	4.342	4.342	0.0544	0.0544		
1,2,3,4,7,8,9-HpCDF	39.789	70644	1.03	1.3387	0.2576	0.2576	0.0617	0.0617		
A Non-2,3,7,8-sub-HpCDF	39.191	2246832	1.03	1.4286	7.676	7.676	0.0578	7.676		
S Total HpCDF					12.3	12.3	0.0580	0.0580		
D 13C-1,2,3,4,6,7,8-HpCDD	39.477	17609390	1.08	0.5943	86.5	86.5	0.2538	0.2538	86.53	
1,2,3,4,6,7,8-HpCDD	39.486	4155042	1.04	1.0953	21.5	21.5	0.1446	0.1446		
A Non-2,3,7,8-sub-HpCDD	39.200	3835471	1.08	1.0953	19.9	19.9	0.1446	19.9		
S Total HpCDD					41.4	41.4	0.1446	0.1446		
D 13C-OCDD	41.990	35665542	0.90	0.4838	215.3	215.3	0.3273	0.3273	108	
OCDF	42.074	2775458	0.91	1.3979	11.1	11.1	0.0352	0.0352		
OCDD	41.998	32600586	0.89	1.1116	164.5	164.5	0.1932	0.1932		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d
Lims ID: 570-78855-F-5-A
Client ID: EVBMP0003S031
Sample Type: Client
Inject. Date: 28-Dec-2021 03:21:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-78855-f-5-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:39:14

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.955	20.980	-1		13275427	1945498	2061	5152	944		
333.9338	20.955	20.980	-1		15991279	2273690	958	2395	2373	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.999	20.017	-1	0.954	15306778	2281103	4146	10365	550		
317.9389	19.999	20.017	-1	0.954	18509540	2790470	2069	5172	1349	0.83(0.65-0.89)	
2,3,7,8-TCDF											U
303.9016	20.025						93	232			
305.8987	20.025						361	902			
A Non-2,3,7,8-sub-TCDF											
303.9016	19.632						93	232			
305.8987	19.632						361	902			
13C-2,3,7,8-TCDD											
331.9368	21.333	21.350	-1	1.018	9398786	1329200	2061	5152	645		
333.9338	21.333	21.350	-1	1.018	11454843	1586030	958	2395	1656	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.384						506	1265			
321.8936	21.384						106	265			
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						506	1265			
321.8936	20.470						106	265			
13C-1,2,3,7,8-PeCDF											
351.9000	26.934	26.962	-2	1.285	17737799	2877785	4876	12190	590		
353.8970	26.934	26.962	-2	1.285	11137605	1855009	3223	8057	576	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	26.967	26.979	-1	1.001	16941	2954	143	357	21		M
341.8567	26.950	26.979	-2	1.001	9968	2085	298	745	7	1.70(1.32-1.78)	M

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.486						143	357			
341.8567	28.486						298	745			
A F1 PeCDFs											
339.8597	23.804	24.442	-38	0.884	11530	2672	8	20	334		
341.8567	23.795	24.442	-39	0.883	8504	1812	152	380	12	1.36(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	25.485	27.884	-144	0.946	49917	5976	143	357	42		
	Empc Correction				42390	6274	143	357	44		
341.8567	25.519	27.884	-142	0.947	27349	4048	298	745	14	1.83(1.32-1.78)	
339.8597	26.412	27.884	-88	0.981	15549	2414	143	357	17		
341.8567	26.353	27.884	-92	0.978	11122	1459	298	745	5	1.40(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	29.241	29.269	-2	1.395	9870317	1408479	874	2185	1612		
369.8919	29.233	29.269	-2	1.395	6192152	891358	601	1502	1483	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											M
355.8546	29.275	29.303	-2	1.001	22844	3990	365	912	11		M
357.8516	29.249	29.303	-3	1.000	15860	2333	59	147	40	1.44(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDD											
355.8546	28.134						365	912			
357.8516	28.134						59	147			
13C-1,2,3,4,7,8-HxCDF											a
383.8639	34.701	34.727	-2	0.952	12017721	2406024	4219	10547	570		a
385.8610	34.701	34.727	-2	0.952	22562944	4641537	8280	20700	561	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											Ma
373.8208	34.709	34.752	-3	1.000	40420	6879	441	1102	16		M
375.8178	34.709	34.752	-3	1.000	35430	6134	285	712	22	1.14(1.05-1.43)	
1,2,3,6,7,8-HxCDF											M
373.8208	34.886	34.920	-2	1.005	37931	7152	441	1102	16		M
375.8178	34.886	34.920	-2	1.005	28230	6332	285	712	22	1.34(1.05-1.43)	
2,3,4,6,7,8-HxCDF											
373.8208	35.736	35.762	-2	1.030	29471	6630	441	1102	15		
375.8178	35.753	35.762	-1	1.030	24189	5226	285	712	18	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.637	36.655	-1	1.005	8915101	2110366	4219	10547	500		
385.8610	36.637	36.655	-1	1.005	16735008	3973496	8280	20700	480	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.654	36.671	-1	1.056	15619	3448	441	1102	8		M
375.8178	36.645	36.671	-2	1.056	11792	3134	285	712	11	1.32(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	32.848	34.874	-121	0.947	63707	10366	441	1102	24		
375.8178	32.856	34.874	-121	0.947	56384	8522	285	712	30	1.13(1.05-1.43)	
373.8208	33.168	34.874	-102	0.956	253504	39566	441	1102	90		
375.8178	33.160	34.874	-103	0.956	207232	32293	285	712	113	1.22(1.05-1.43)	
373.8208	34.061	34.874	-49	0.982	310208	53534	441	1102	121		
375.8178	34.052	34.874	-49	0.981	248231	44383	285	712	156	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
373.8208	35.610	34.874	44	1.026	22124	4951	441	1102	11		
375.8178	35.610	34.874	44	1.026	17345	4038	285	712	14	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.443	36.469	-2		19322901	4481033	3018	7545	1485		
403.8529	36.443	36.469	-2		14920704	3443269	2616	6540	1316	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.972	35.981	-1	0.997	59378	14507	369	922	39		
391.8127	35.963	35.981	-1	0.997	45951	11503	292	730	39	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.064	36.090	-2	0.990	12908967	2781913	3018	7545	922		
403.8529	36.064	36.090	-2	0.990	9894242	2186517	2616	6540	836	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											M
389.8158	36.081	36.107	-2	1.000	140620	33369	369	922	90		M
391.8127	36.090	36.107	-1	1.001	114795	26013	292	730	89	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8158	36.460	36.478	-1	1.011	93262	17510	369	922	47		M
391.8127	36.460	36.478	-1	1.011	76138	16183	292	730	55	1.22(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											RQ
389.8158	33.985	35.257	-76	0.942	108161	20728	369	922	56		
391.8127	33.985	35.257	-76	0.942	95236	16082	292	730	55	1.14(1.05-1.43)	
389.8158	34.793	35.257	-28	0.965	27686	4574	369	922	12		
	Empc Correction				23057	3675	369	922	10		
391.8127	34.785	35.257	-28	0.965	18595	2964	292	730	10	1.49(1.05-1.43)	
389.8158	35.164	35.257	-6	0.975	232718	40746	369	922	110		
391.8127	35.164	35.257	-6	0.975	187066	31564	292	730	108	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.509	38.526	-1	1.057	6497823	1832438	3645	9112	503		
419.8220	38.509	38.526	-1	1.057	13990766	3985708	5932	14830	672	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.518	38.543	-1	1.000	697212	197915	1155	2887	171		
409.7788	38.518	38.543	-1	1.000	653502	186078	766	1915	243	1.07(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.789	39.806	-1	1.033	35912	11395	1155	2887	10		
409.7788	39.789	39.806	-1	1.033	34732	10301	766	1915	13	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.896	39.191	-18	1.010	1141480	338106	1155	2887	293		
409.7788	38.896	39.191	-18	1.010	1105352	318504	766	1915	416	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.477	39.495	-1	1.083	9125354	2809904	2593	6482	1084		
437.8140	39.477	39.495	-1	1.083	8484036	2581599	2188	5470	1180	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.486	39.503	-1	1.000	2115873	638897	1834	4585	348		
425.7737	39.486	39.503	-1	1.000	2039169	622929	1581	3952	394	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
423.7767	38.846	39.200	-21	0.984	1995304	576185	1834	4585	314		
425.7737	38.837	39.200	-22	0.984	1840167	540486	1581	3952	342	1.08(0.88-1.20)	
13C-OCDD											
469.7780	41.990	42.008	-1	1.152	16939147	4639425	2547	6367	1822		
471.7750	41.990	42.008	-1	1.152	18726395	5108708	2472	6180	2067	0.90(0.76-1.02)	
OCDF											
441.7428	42.074	42.101	-2	1.002	1324244	352978	311	777	1135		
443.7399	42.074	42.101	-2	1.002	1451214	388342	648	1620	599	0.91(0.76-1.02)	
OCDD											
457.7377	41.998	42.016	-1	1.000	15338795	4147249	2035	5087	2038		
459.7348	41.998	42.016	-1	1.000	17261791	4679348	2151	5377	2175	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d
Lims ID: 570-78855-F-5-A
Client ID: EVBMP0003S031
Inject. Date: 28-Dec-2021 03:21:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 11

Non-2,3,7,8-sub-TCDF, RT: 19.632

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.105	D 13C-2,3,7,8-TCDF	100.000	33816318	5071573

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags

Signal Totals:

0 0 0 0

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d
Lims ID: 570-78855-F-5-A
Client ID: EVBMP0003S031
Inject. Date: 28-Dec-2021 03:21:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 11

F1 PeCDFs, RT: 24.442

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.099	D 13C-1,2,3,7,8-PeCDF	100.000	28875404	4732794
2,3,4,7,8-PeCDF	1.058				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.078		100.000	28875404	4732794

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.804	11530	2672	8504	1812	0.0643	1.36	
Signal Totals:							
	11530	2672	8504	1812			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	20034	4484				1.36	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0643 = (20034 * 100.000) / (28875404 * 1.078)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d
Lims ID: 570-78855-F-5-A
Client ID: EVBMP0003S031
Inject. Date: 28-Dec-2021 03:21:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 11

Non-2,3,7,8-sub-PeCDF, RT: 27.884

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.099	D 13C-1,2,3,7,8-PeCDF	100.000	28875404	4732794
2,3,4,7,8-PeCDF	1.058				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.078		100.000	28875404	4732794

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
25.485	49917	5976	27349	4048	0.2482	1.83	RQ
25.485	42390	6274	27349	4048	0.2240		Empc Correction
26.412	15549	2414	11122	1459	0.0857	1.40	
Signal Totals:							
	57939	8688	38471	5507			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	103937	13897				1.70	RQ
	96410	14195					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3338 = (103937 * 100.000) / (28875404 * 1.078)
Empc Amount: 0.3096 = (96410 * 100.000) / (28875404 * 1.078)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d
Lims ID: 570-78855-F-5-A
Client ID: EVBMP0003S031
Inject. Date: 28-Dec-2021 03:21:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 11

Non-2,3,7,8-sub-HxCDF, RT: 34.874

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.950	D 13C-1,2,3,4,7,8-HxCDF	100.000	34580665	7047561
1,2,3,6,7,8-HxCDF	0.952				
2,3,4,6,7,8-HxCDF	0.889				
1,2,3,7,8,9-HxCDF	0.843				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.909		100.000	34580665	7047561

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
32.848	63707	10366	56384	8522	0.3821	1.13	
33.168	253504	39566	207232	32293	1.47	1.22	
34.061	310208	53534	248231	44383	1.78	1.25	
35.610	22124	4951	17345	4038	0.1256	1.28	
Signal Totals:							
	649543	108417	529192	89236			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1178735	197653				1.23	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.750 = (1178735 * 100.000) / (34580665 * 0.909)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d
Lims ID: 570-78855-F-5-A
Client ID: EVBMP0003S031
Inject. Date: 28-Dec-2021 03:21:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 11

Non-2,3,7,8-sub-HxCDD, RT: 35.257

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.008	D 13C-1,2,3,6,7,8-HxCDD	100.000	22803209	4968430
1,2,3,6,7,8-HxCDD	1.011				
1,2,3,7,8,9-HxCDD	1.099				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.039		100.000	22803209	4968430

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.985	108161	20728	95236	16082	0.8581	1.14	
34.793	27686	4574	18595	2964	0.1953	1.49	RQ
34.793	23057	3675	18595	2964	0.1757		Empc Correction
35.164	232718	40746	187066	31564	1.77	1.24	
Signal Totals:							
	363936	65149	300897	50610			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	669462	116658				1.22	RQ
	664833	115759					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.824 = (669462 * 100.000) / (22803209 * 1.039)
Empc Amount: 2.805 = (664833 * 100.000) / (22803209 * 1.039)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d
Lims ID: 570-78855-F-5-A
Client ID: EVBMP0003S031
Inject. Date: 28-Dec-2021 03:21:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 11

Non-2,3,7,8-sub-HpCDF, RT: 39.191

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.518	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	20488589	5818146
1,2,3,4,7,8,9-HpCDF	1.339				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.429		100.000	20488589	5818146

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.896	1141480	338106	1105352	318504	7.68	1.03	
Signal Totals:							
	1141480	338106	1105352	318504			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2246832	656610				1.03	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 7.676 = (2246832 * 100.000) / (20488589 * 1.429)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d
Lims ID: 570-78855-F-5-A
Client ID: EVBMP0003S031
Inject. Date: 28-Dec-2021 03:21:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 11

Non-2,3,7,8-sub-HpCDD, RT: 39.200

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.095	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	17609390	5391503

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.095		100.000	17609390	5391503

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.846	1995304	576185	1840167	540486	19.9	1.08	
Signal Totals:							
	1995304	576185	1840167	540486			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3835471	1116671				1.08	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 19.886 = (3835471 * 100.000) / (17609390 * 1.095)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

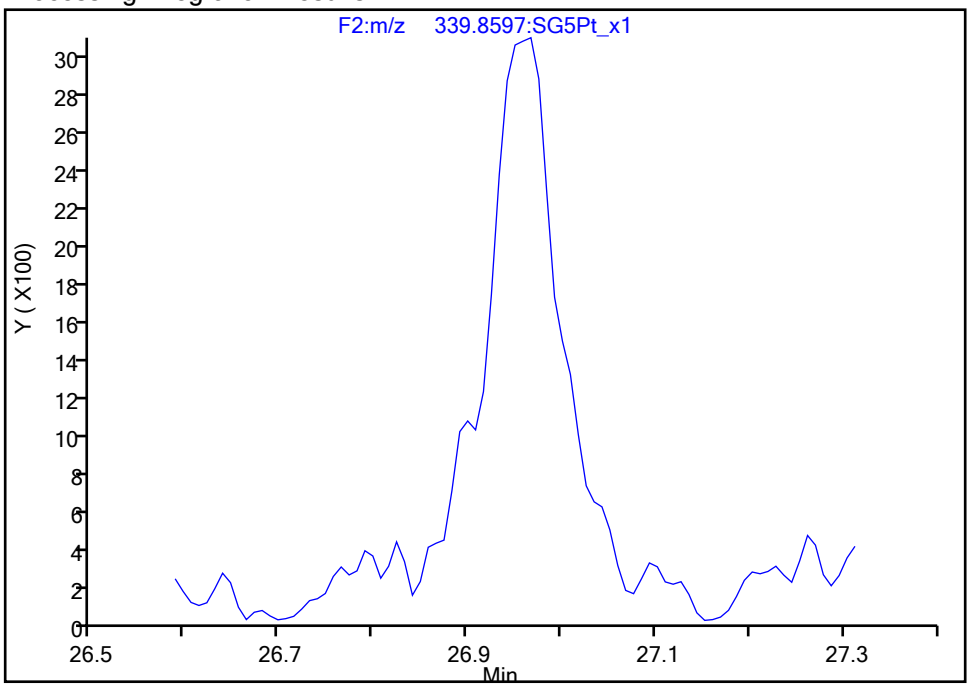
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

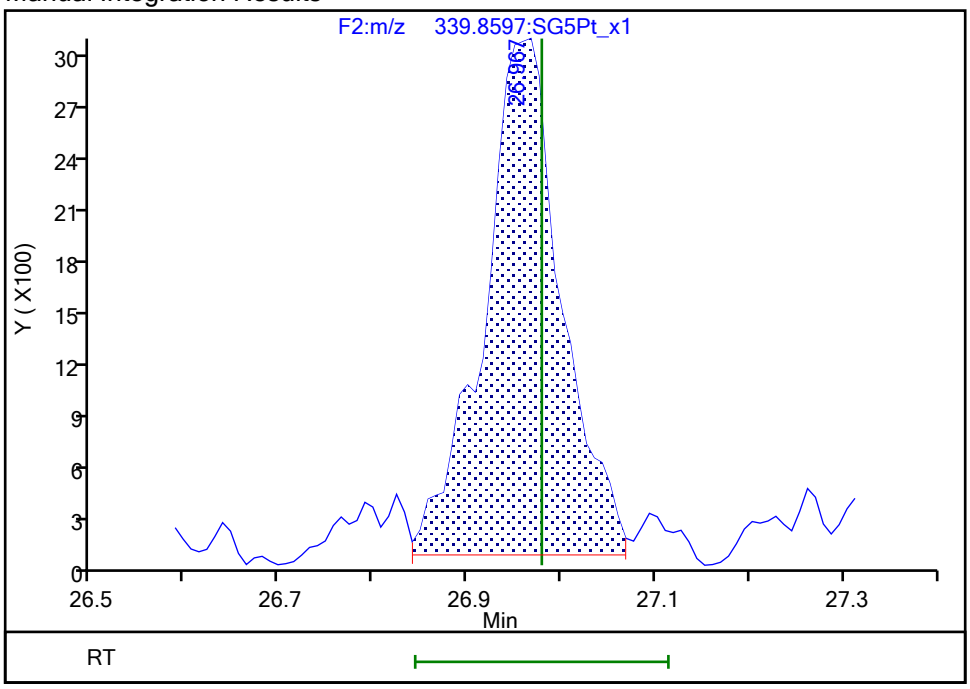
Not Detected
Expected RT: 26.98

Processing Integration Results



Manual Integration Results

RT: 26.97
Area: 16941
Amount: 0.084816
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:09:11
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

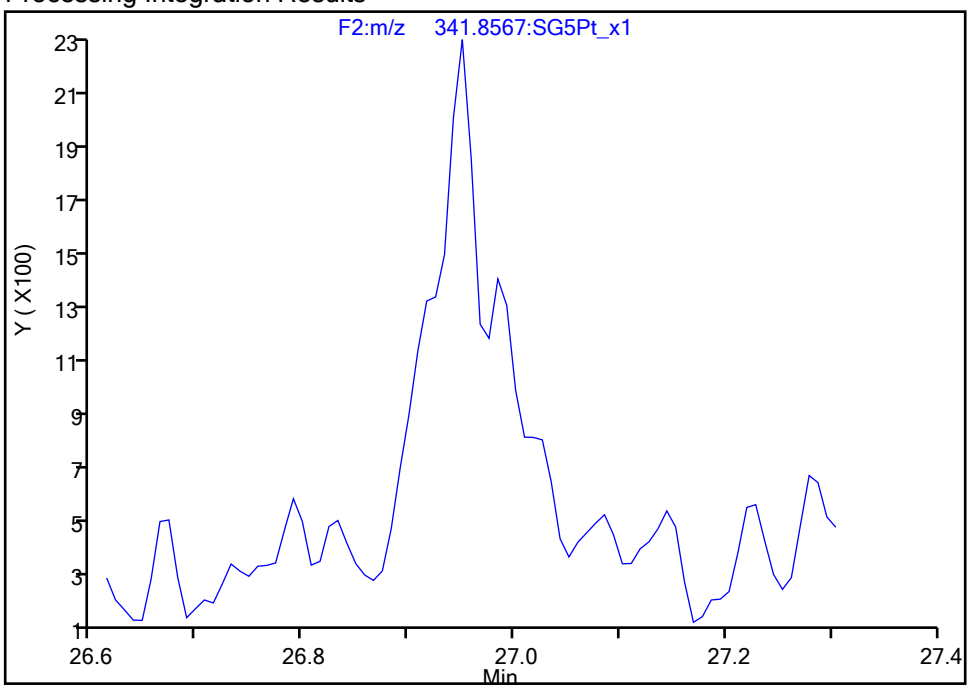
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

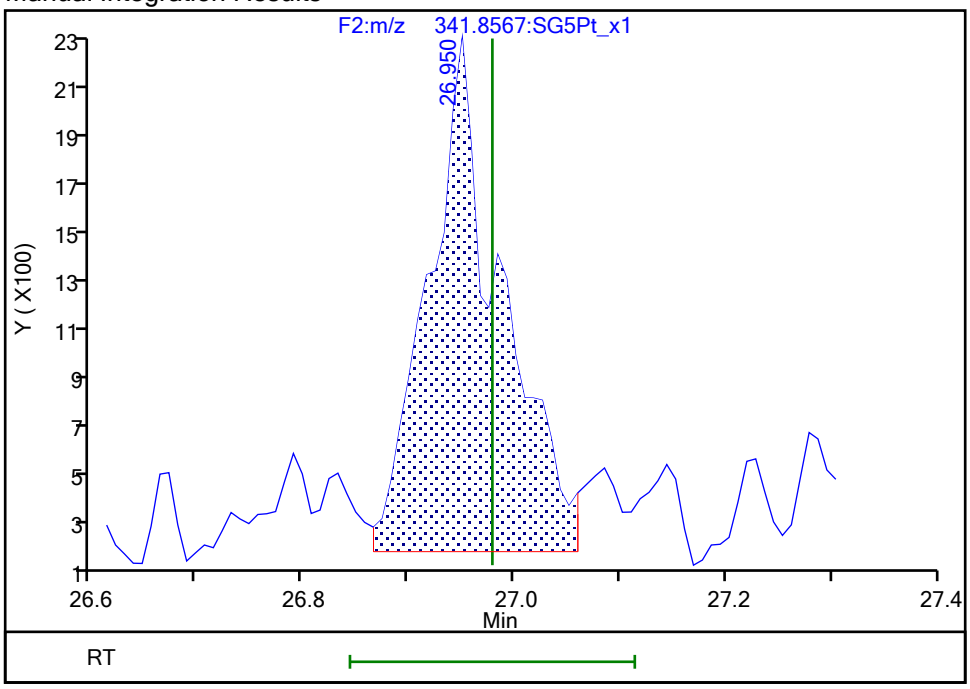
Not Detected
Expected RT: 26.98

Processing Integration Results



Manual Integration Results

RT: 26.95
Area: 9968
Amount: 0.084816
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:09:20
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

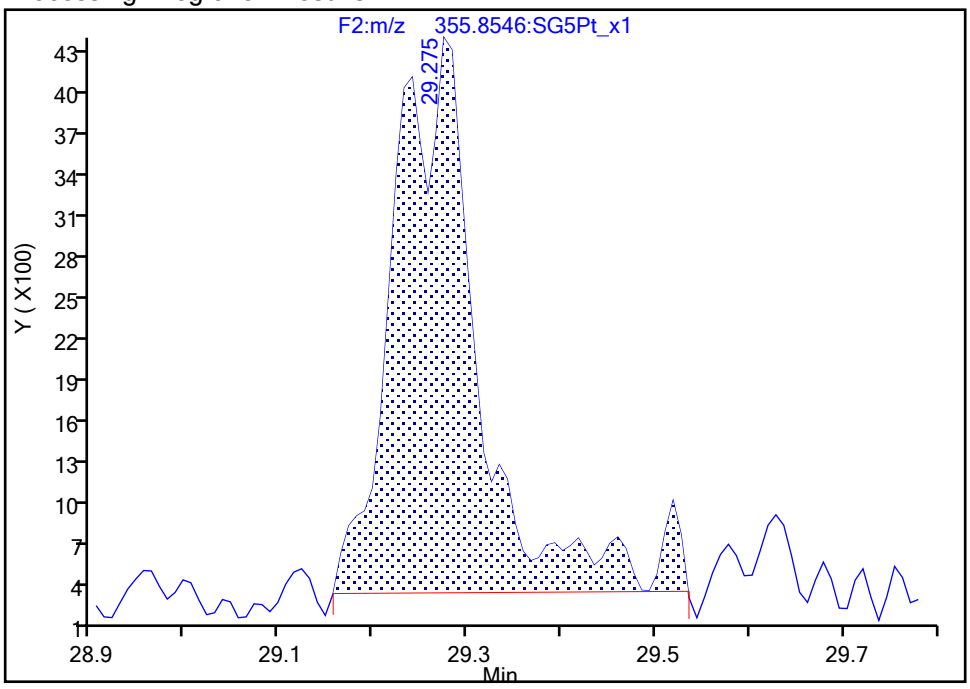
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 1

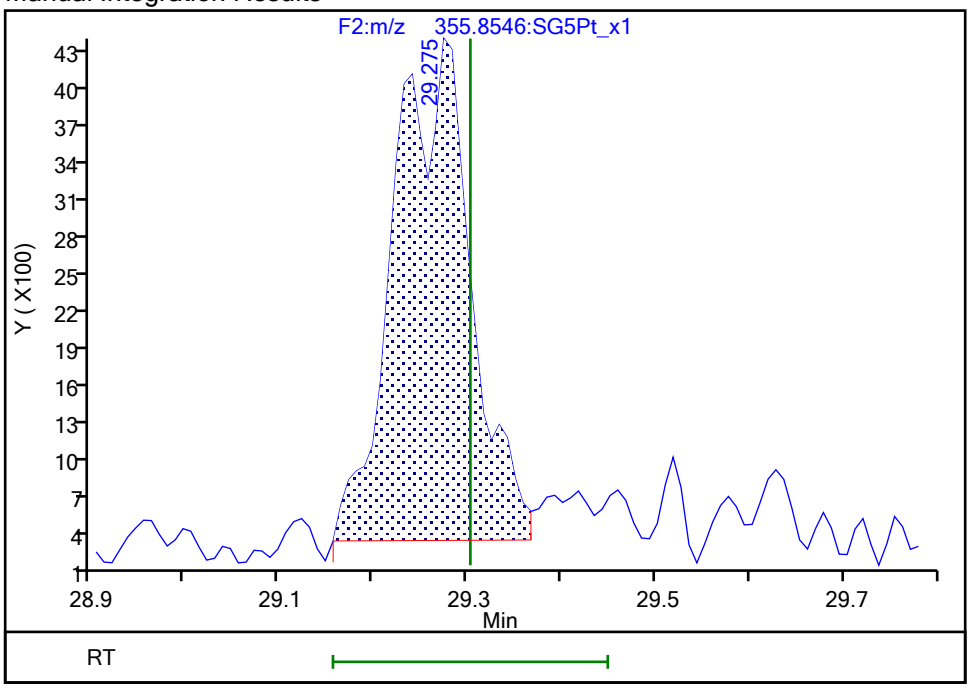
Processing Integration Results

RT: 29.27
Area: 25653
Amount: 0.246236
Amount Units: pg/ul



Manual Integration Results

RT: 29.27
Area: 22844
Amount: 0.218465
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:09:32

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

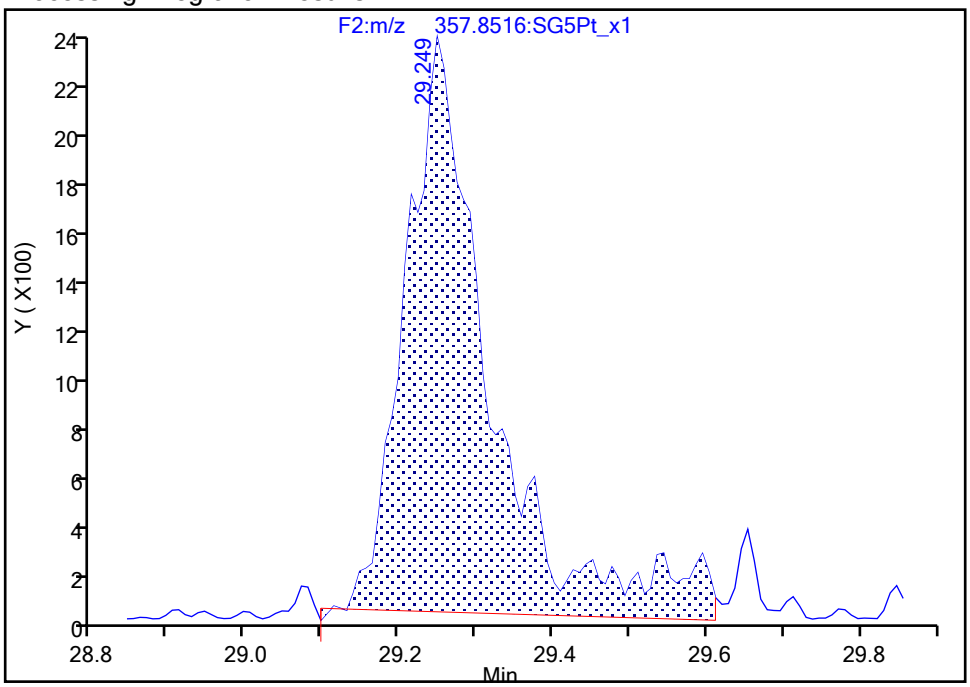
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

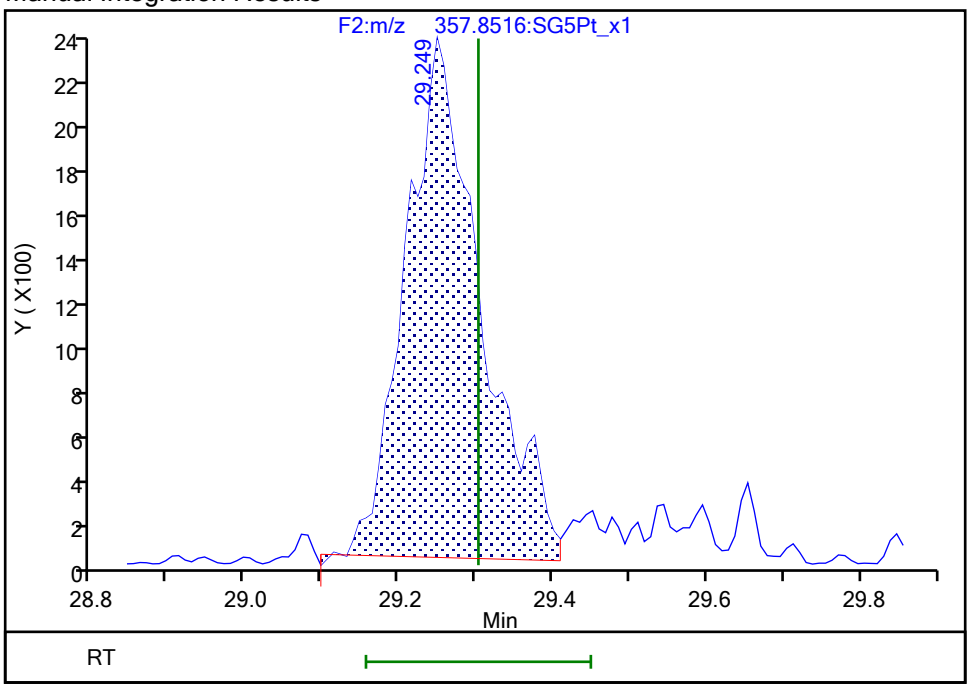
Processing Integration Results

RT: 29.25
Area: 17971
Amount: 0.246236
Amount Units: pg/ul



Manual Integration Results

RT: 29.25
Area: 15860
Amount: 0.218465
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:09:34
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

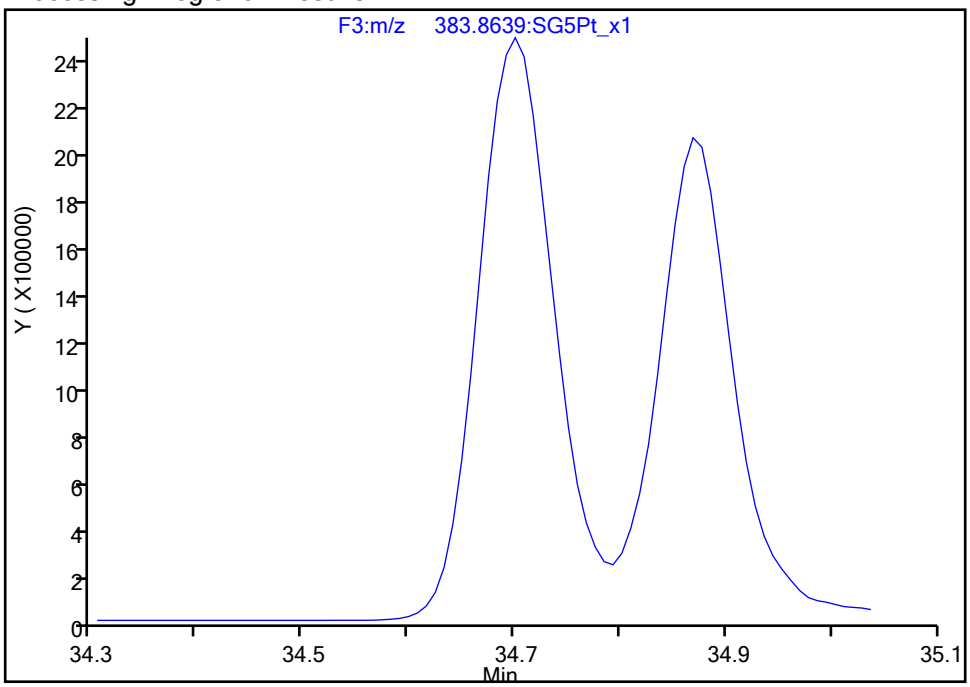
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

13C-1,2,3,4,7,8-HxCDF, CAS: 114423-98-2

Signal: 1

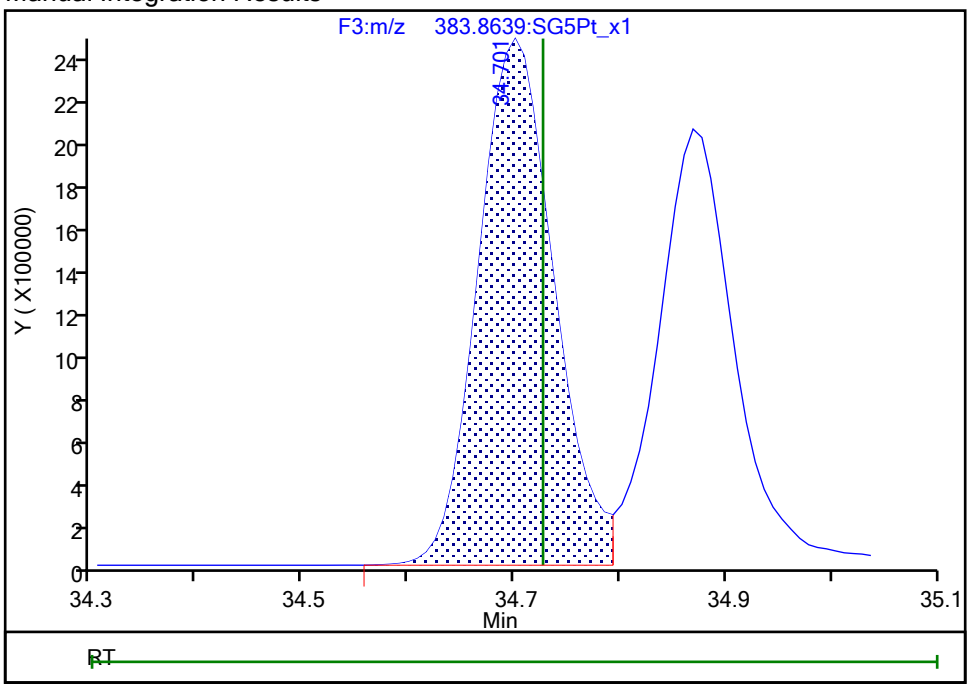
Not Detected
Expected RT: 34.73

Processing Integration Results



Manual Integration Results

RT: 34.70
Area: 12017721
Amount: 85.755593
Amount Units: pg/ul



Reviewer: stephensk, 28-Dec-2021 08:38:54
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

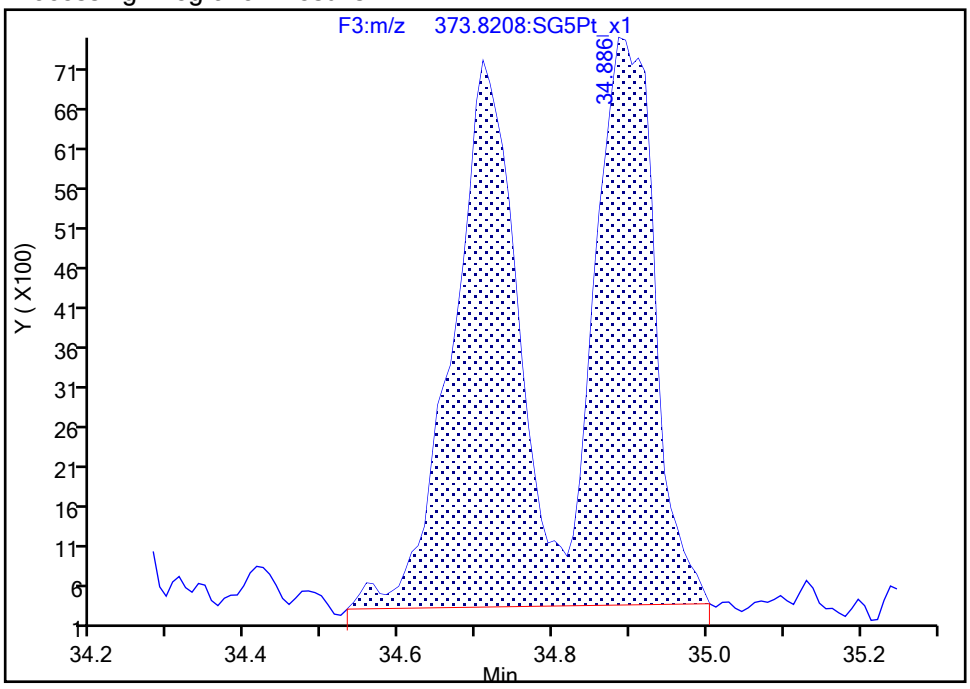
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

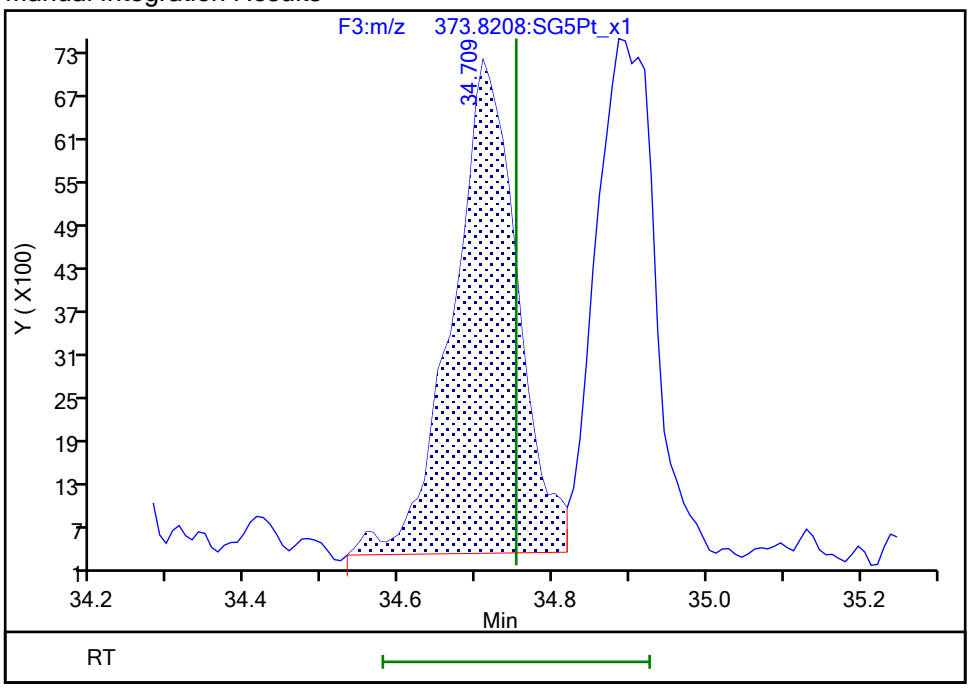
Processing Integration Results

RT: 34.89
Area: 78333
Amount: 0.324226
Amount Units: pg/ul



Manual Integration Results

RT: 34.71
Area: 40420
Amount: 0.230779
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:10:40
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

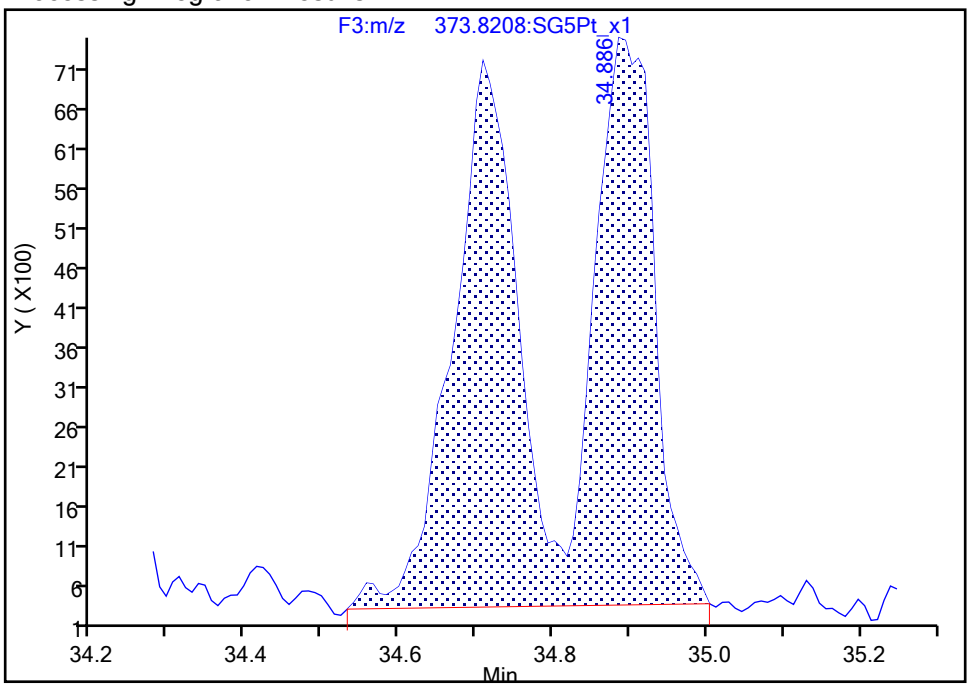
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

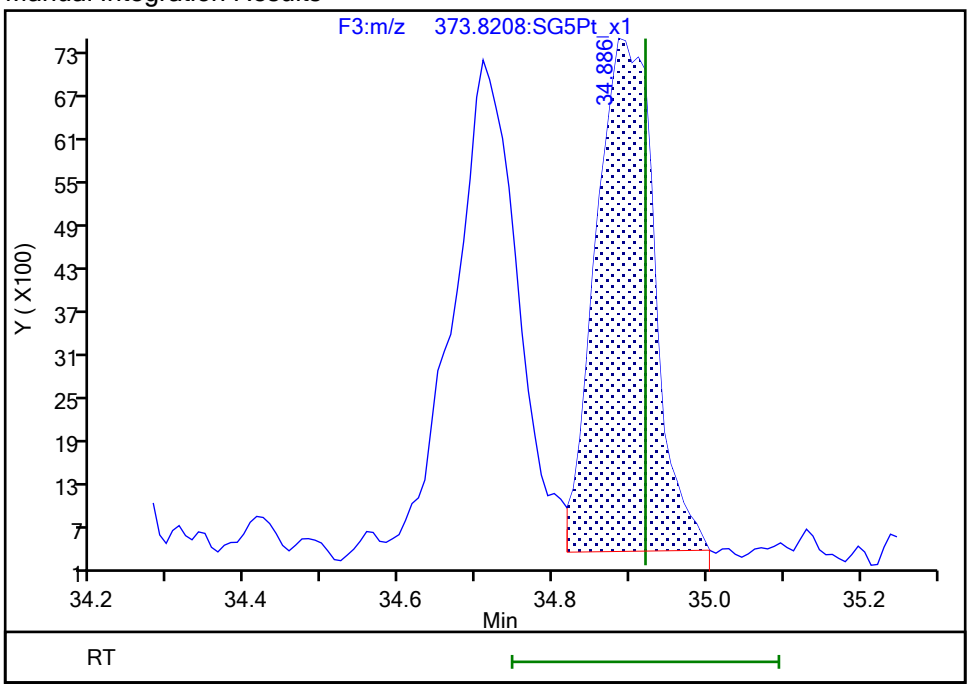
Processing Integration Results

RT: 34.89
Area: 78333
Amount: 0.323554
Amount Units: pg/ul



Manual Integration Results

RT: 34.89
Area: 37931
Amount: 0.200883
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:10:37

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

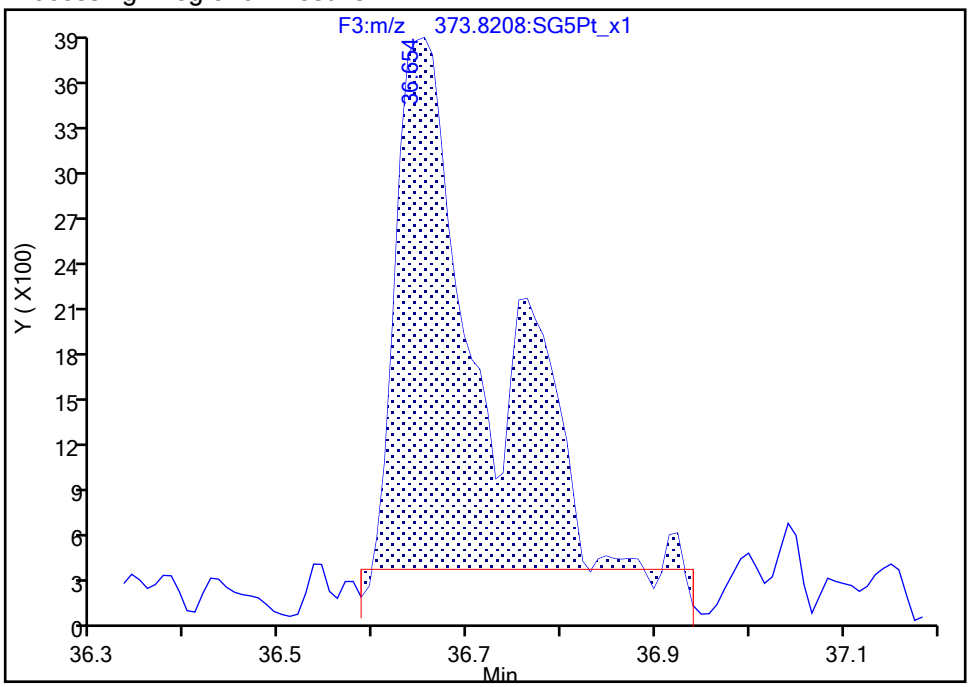
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

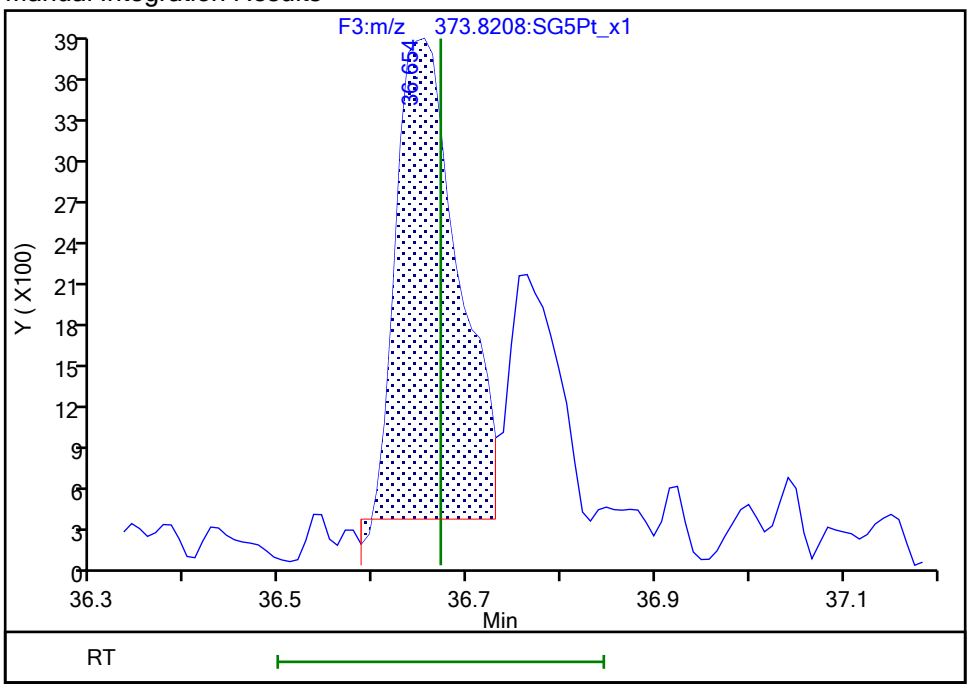
Processing Integration Results

RT: 36.65
Area: 22222
Amount: 0.112263
Amount Units: pg/ul



Manual Integration Results

RT: 36.65
Area: 15619
Amount: 0.093996
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:10:45

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

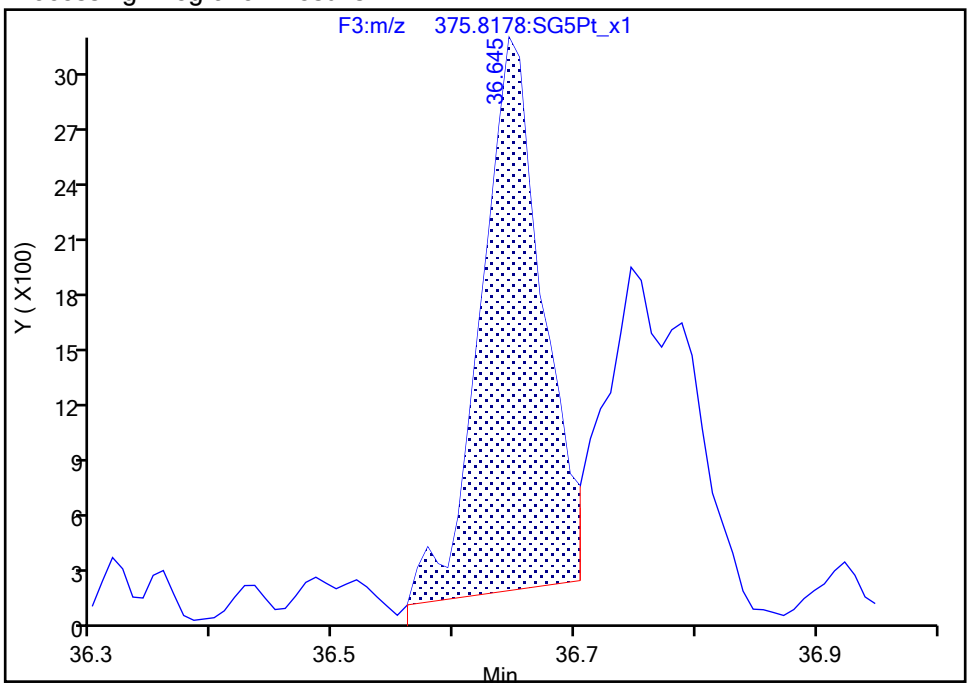
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

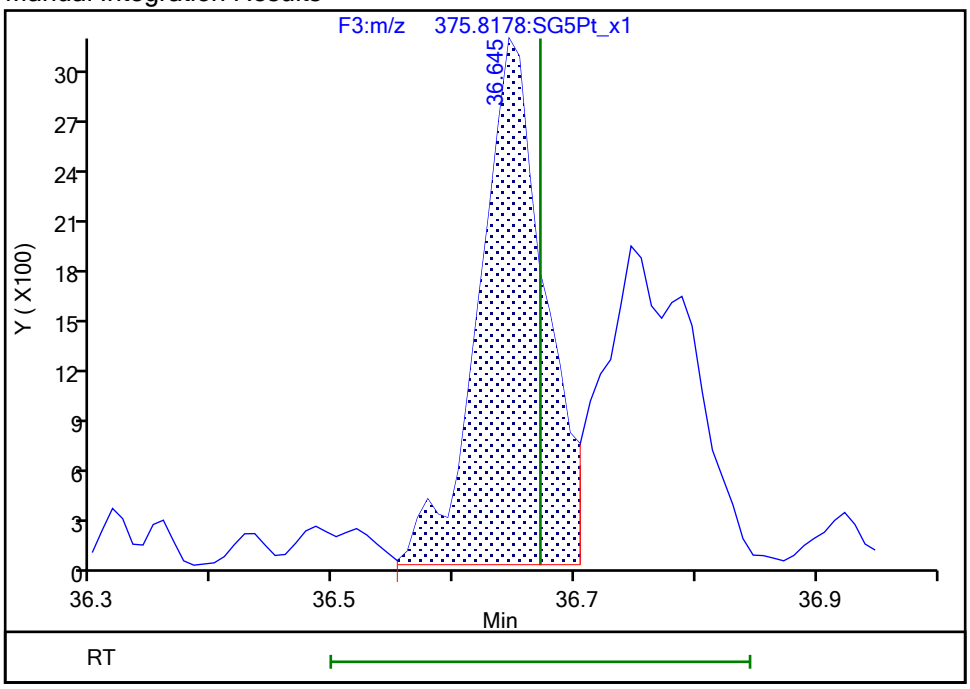
Processing Integration Results

RT: 36.65
Area: 10516
Amount: 0.112263
Amount Units: pg/ul



Manual Integration Results

RT: 36.65
Area: 11792
Amount: 0.093996
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:10:57
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

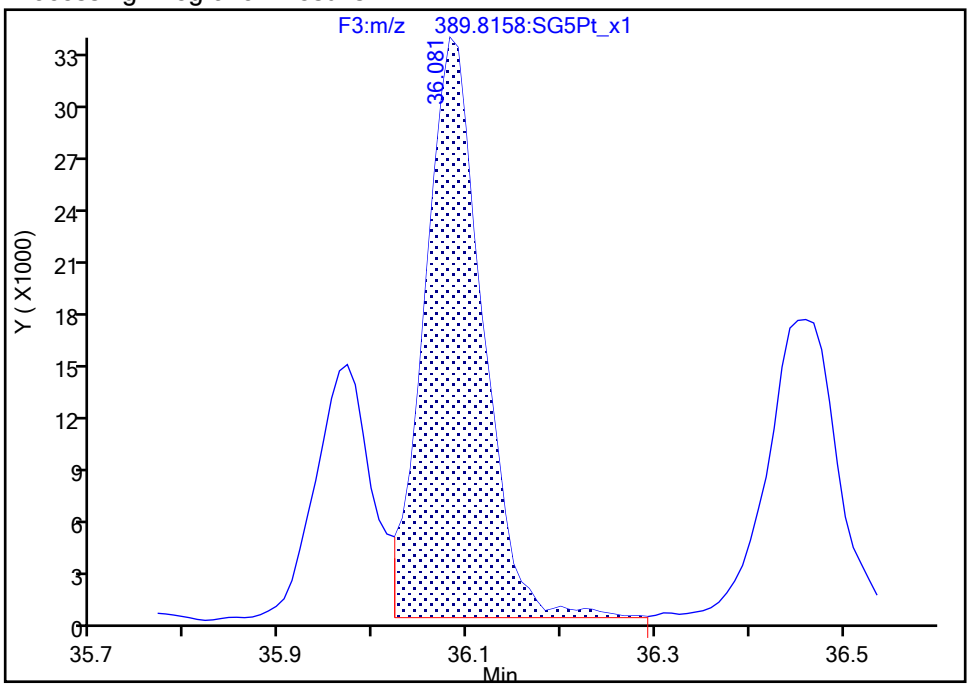
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

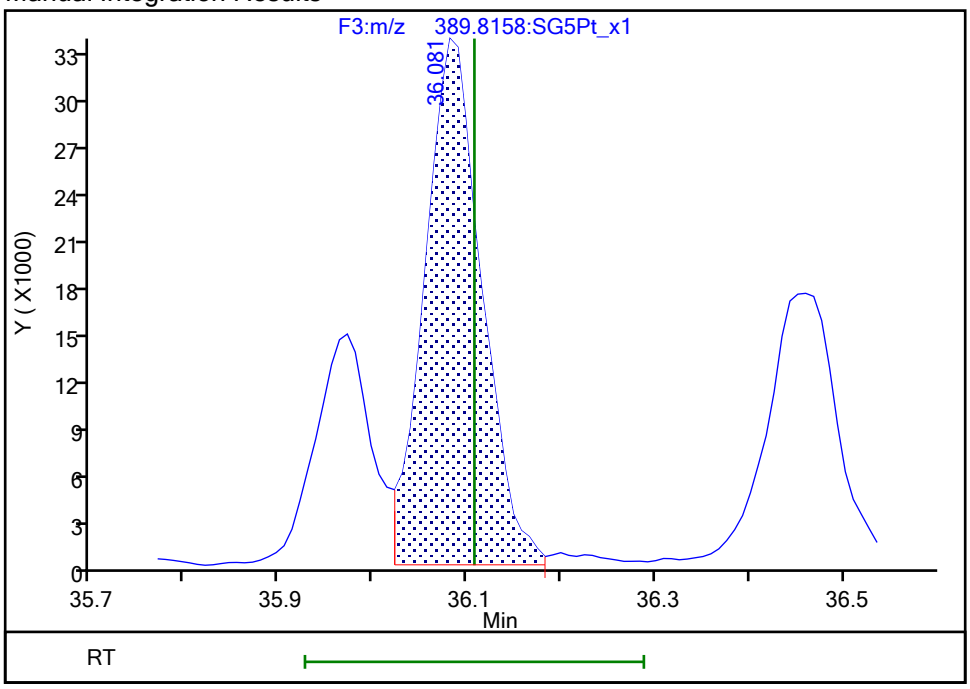
Processing Integration Results

RT: 36.08
Area: 141540
Amount: 1.111764
Amount Units: pg/ul



Manual Integration Results

RT: 36.08
Area: 140620
Amount: 1.107773
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:11:42

Audit Action: Manually Integrated Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

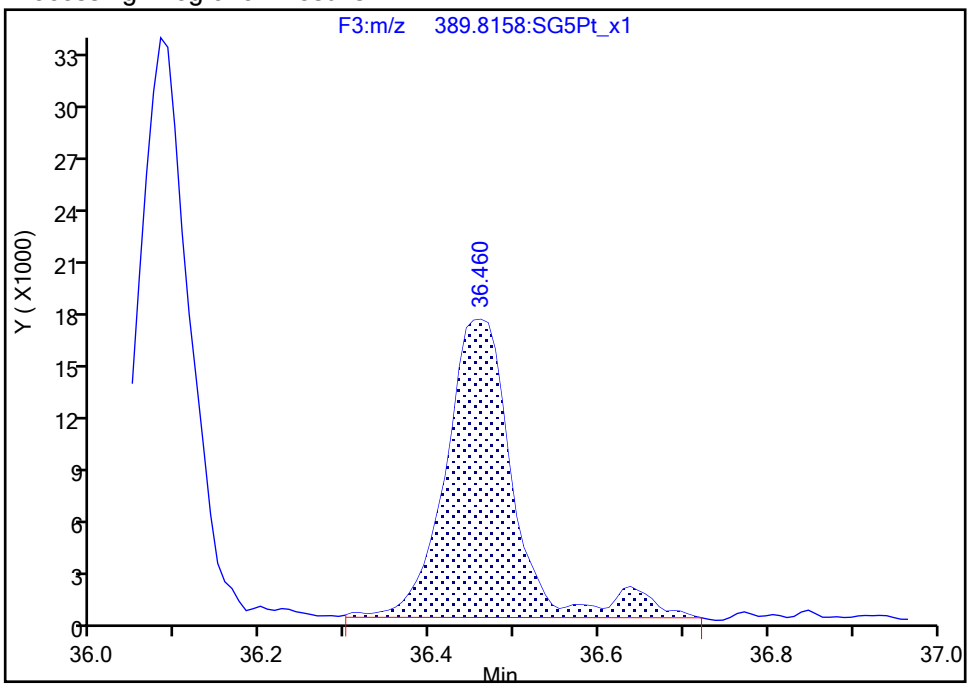
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

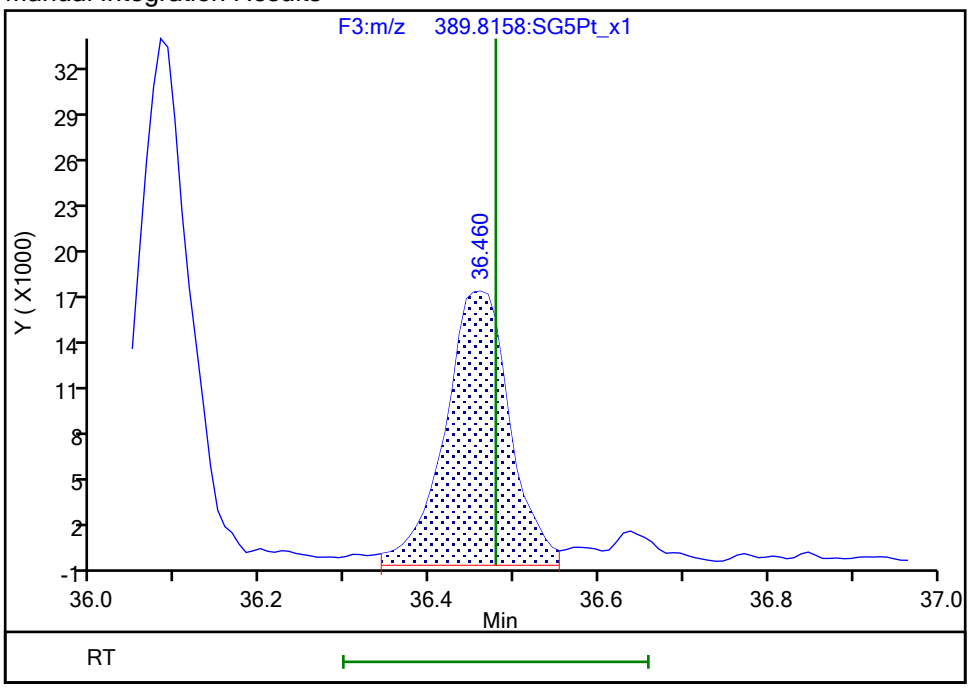
Processing Integration Results

RT: 36.46
Area: 96221
Amount: 0.702746
Amount Units: pg/ul



Manual Integration Results

RT: 36.46
Area: 93262
Amount: 0.675779
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 14:11:15

Audit Action: Manually Integrated Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

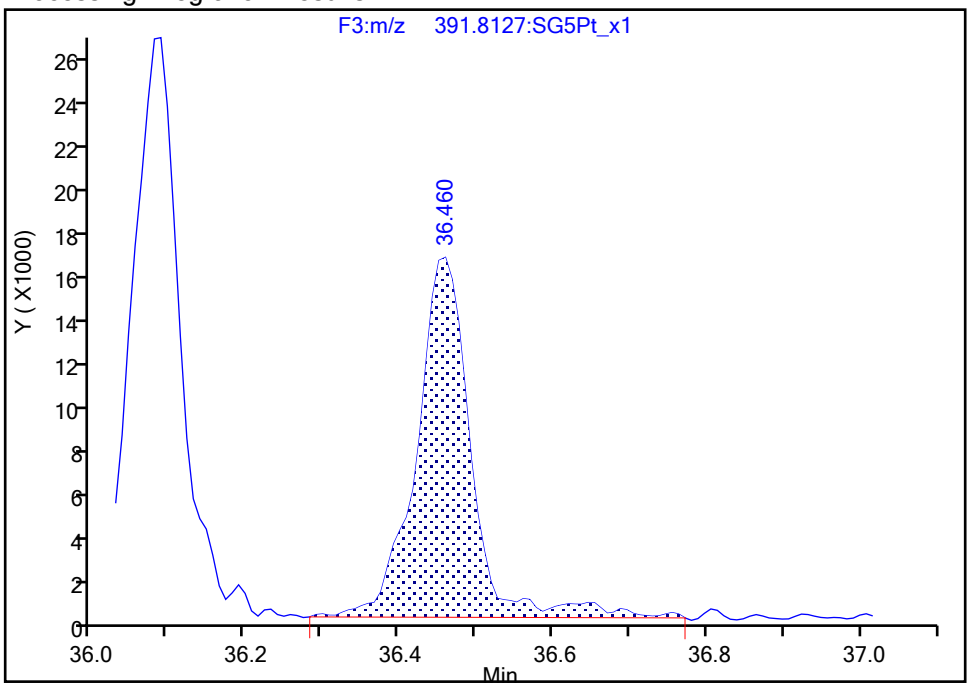
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d				
Injection Date:	28-Dec-2021 03:21:00	Instrument ID:	DFS 1		
Lims ID:	570-78855-F-5-A	Lab Sample ID:	320-78855-5		
Client ID:	EVBMP0003S031				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

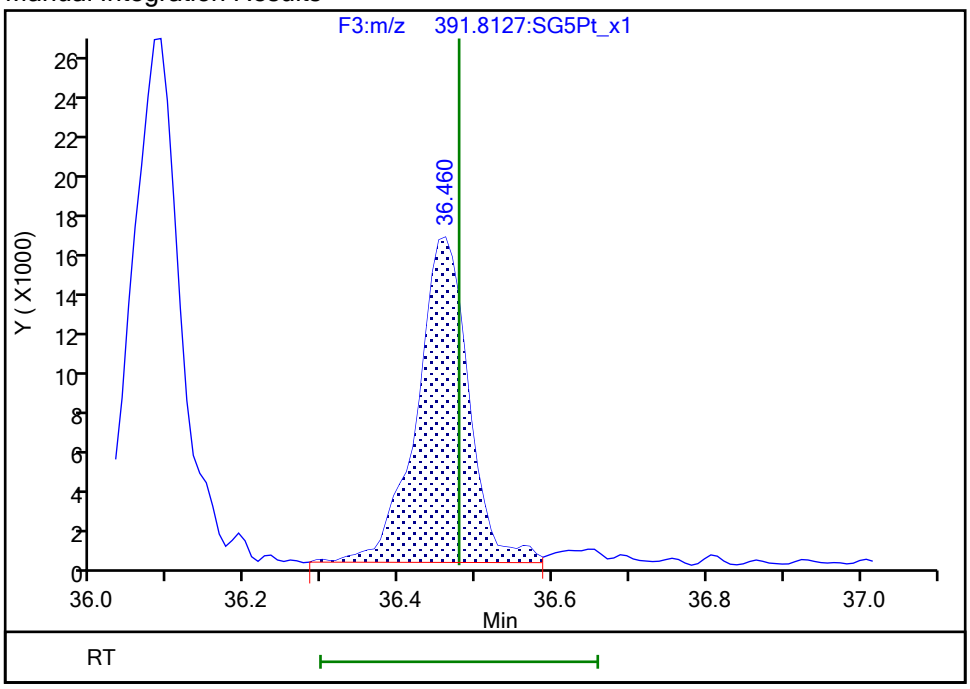
Processing Integration Results

RT: 36.46
Area: 79939
Amount: 0.702746
Amount Units: pg/ul



Manual Integration Results

RT: 36.46
Area: 76138
Amount: 0.675779
Amount Units: pg/ul

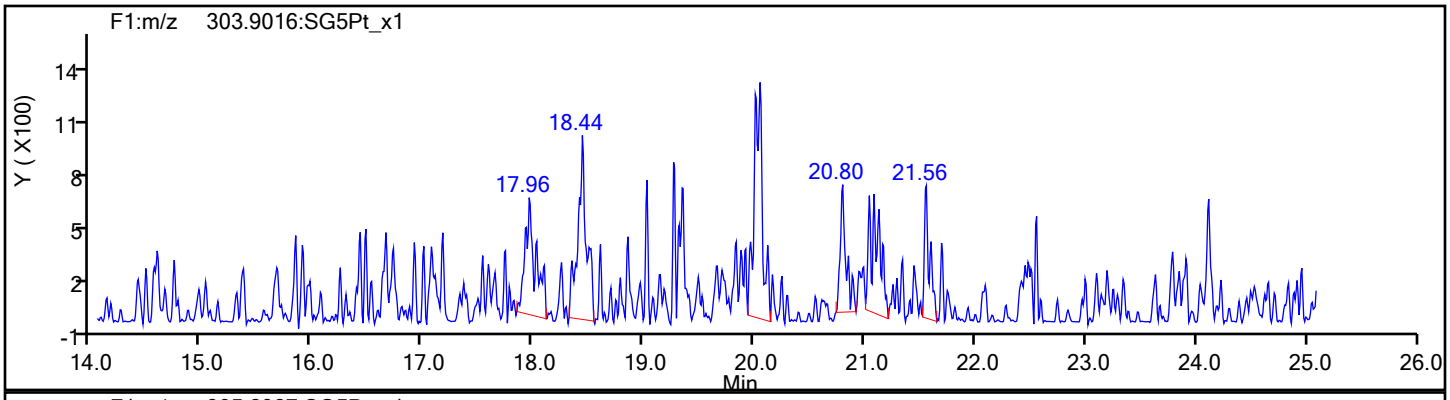


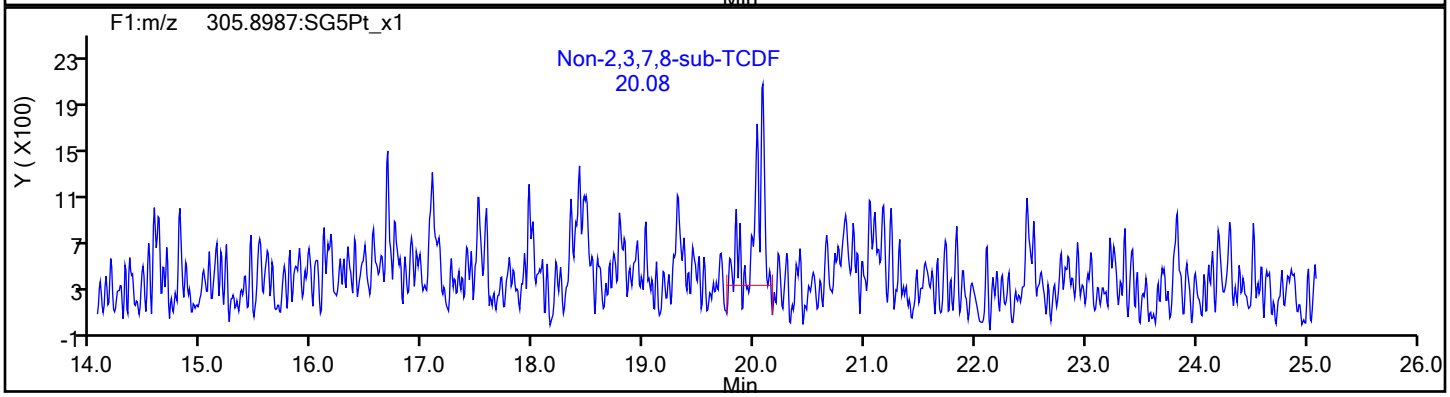
Reviewer: bilottag, 28-Dec-2021 14:11:18
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Eurofins TestAmerica, Sacramento

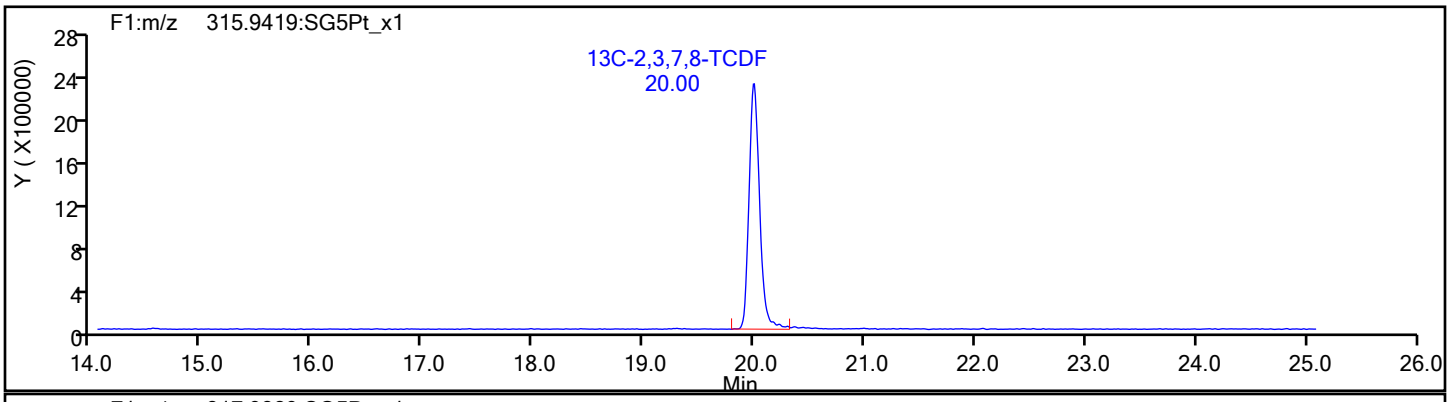
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
Injection Date:	28-Dec-2021 03:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

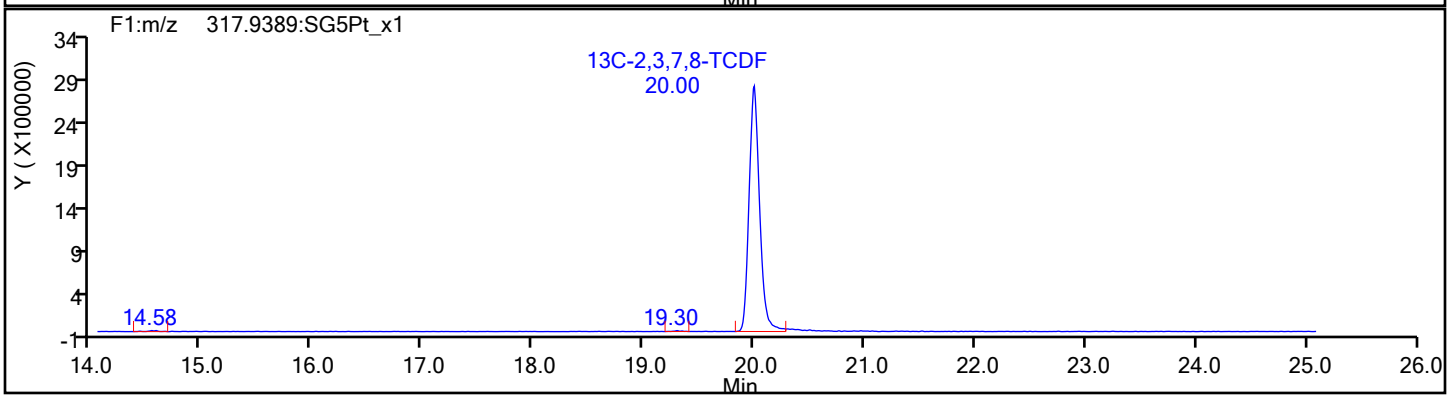
TCDF





TCDF Standards

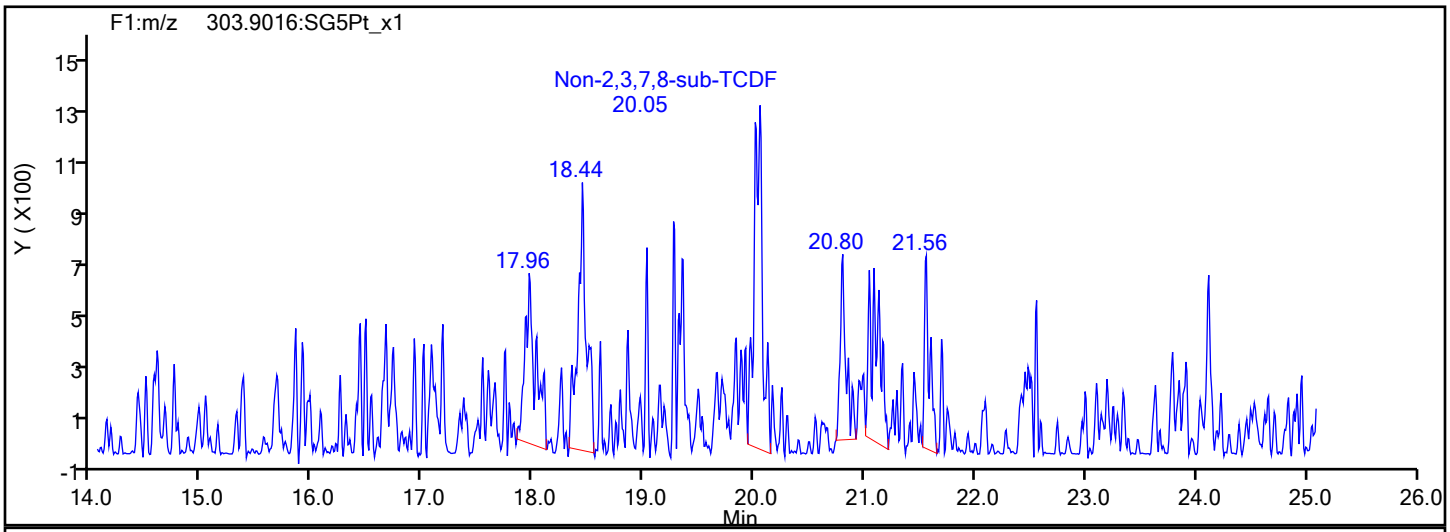


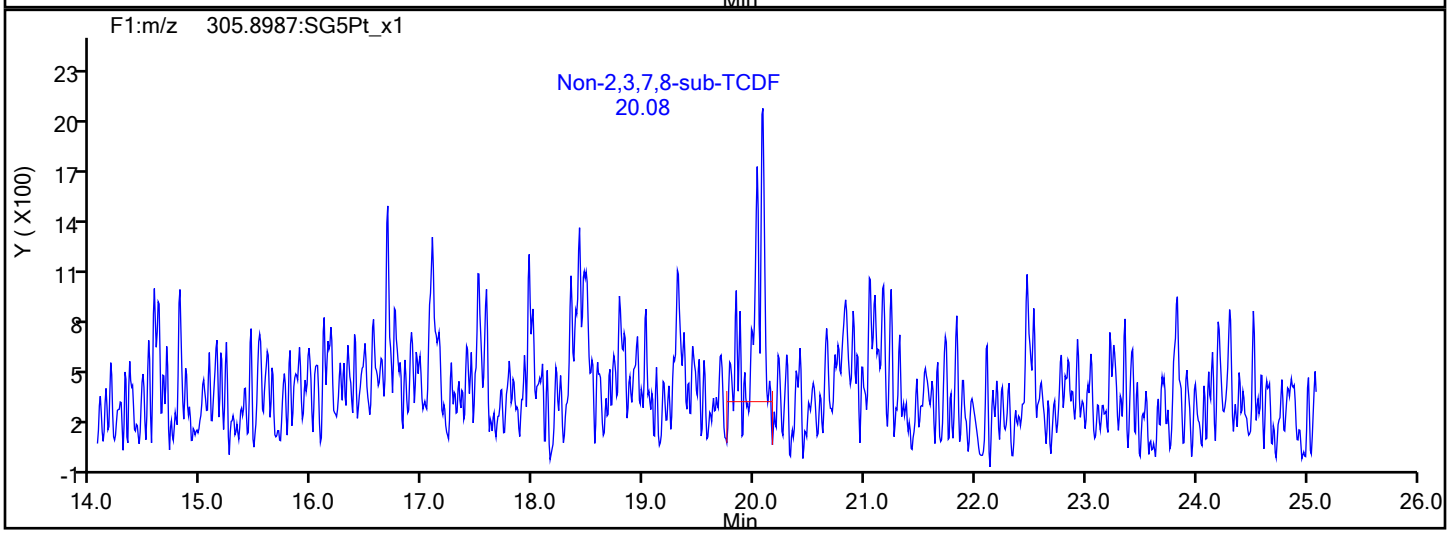


Eurofins TestAmerica, Sacramento

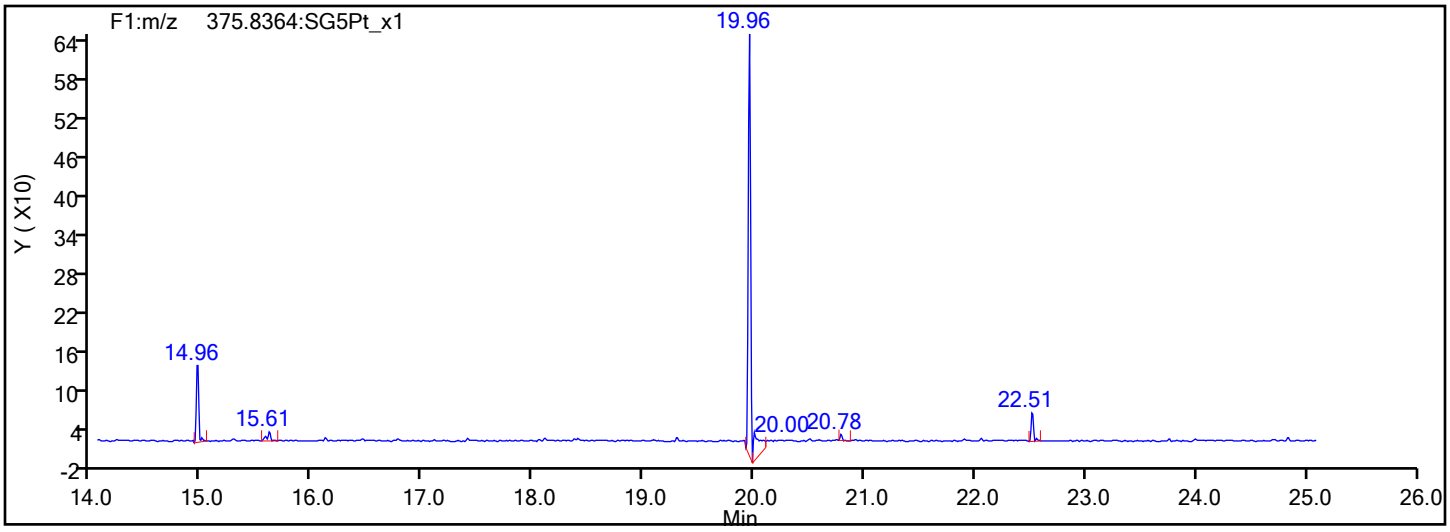
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
Injection Date:	28-Dec-2021 03:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
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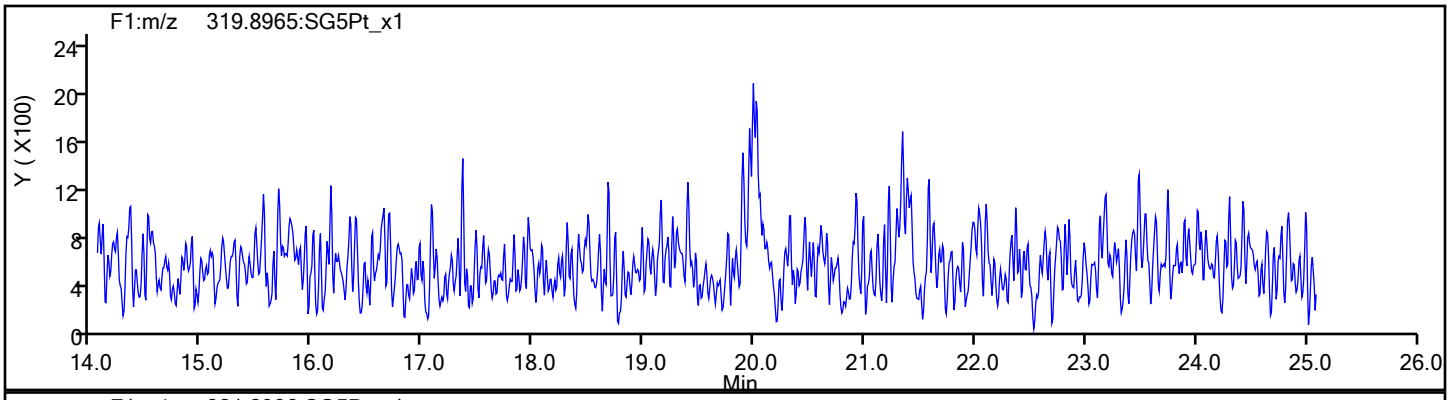
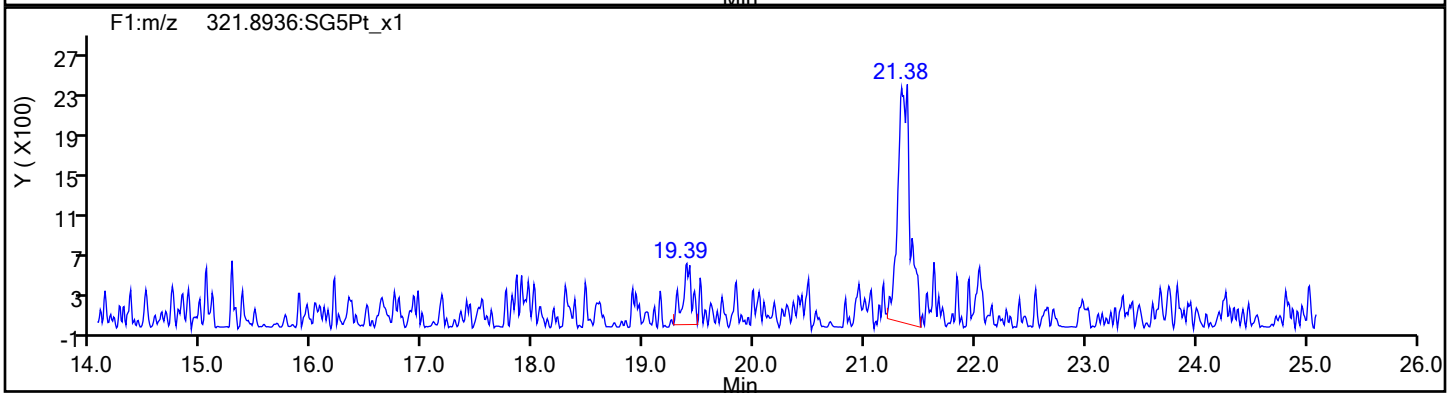
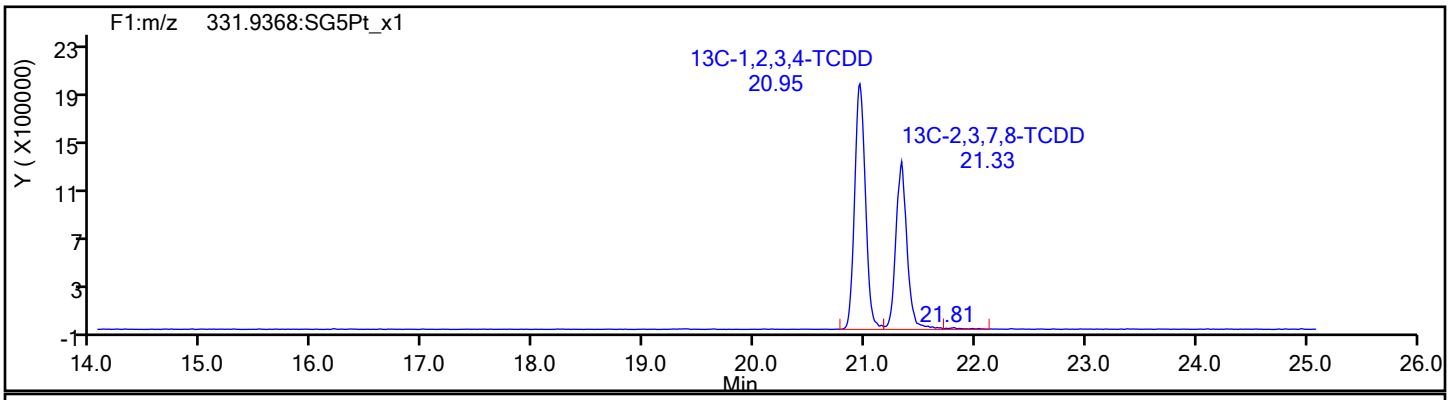
Column Type:	DB-5	Column Dia:	0.32 mm

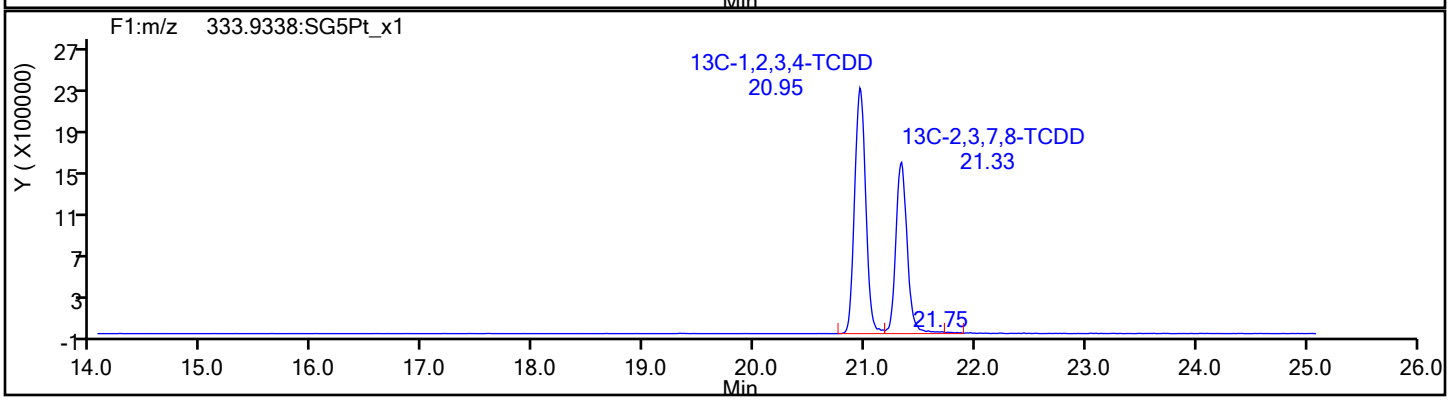
TCDD





TCDD Standards





Report Date: 28-Dec-2021 14:24:59 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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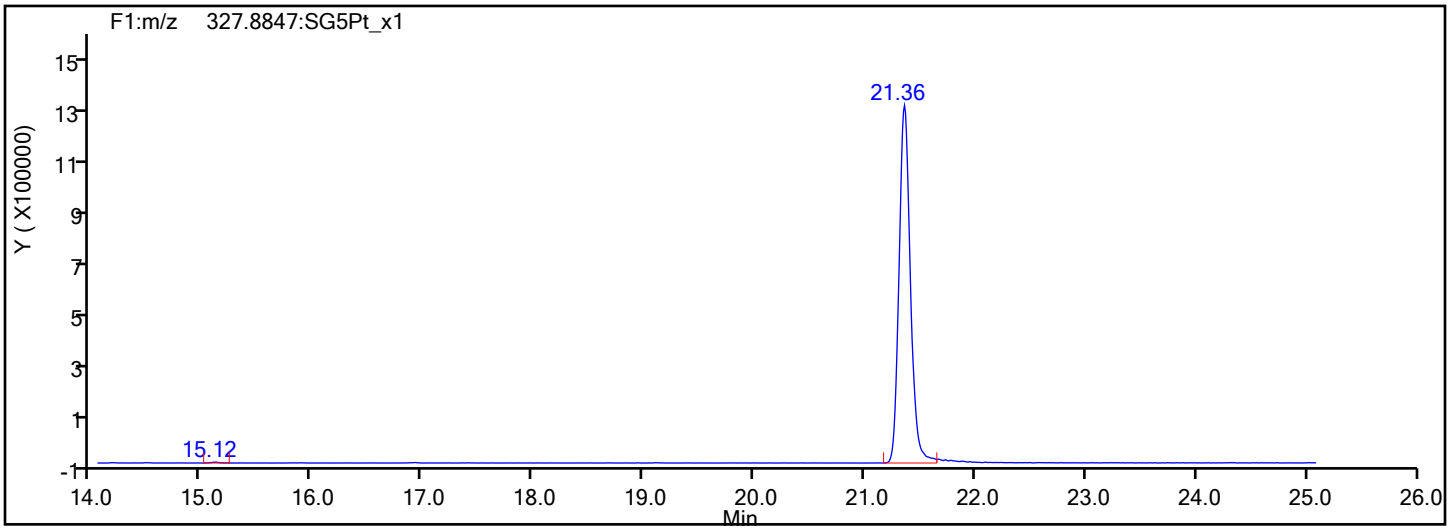
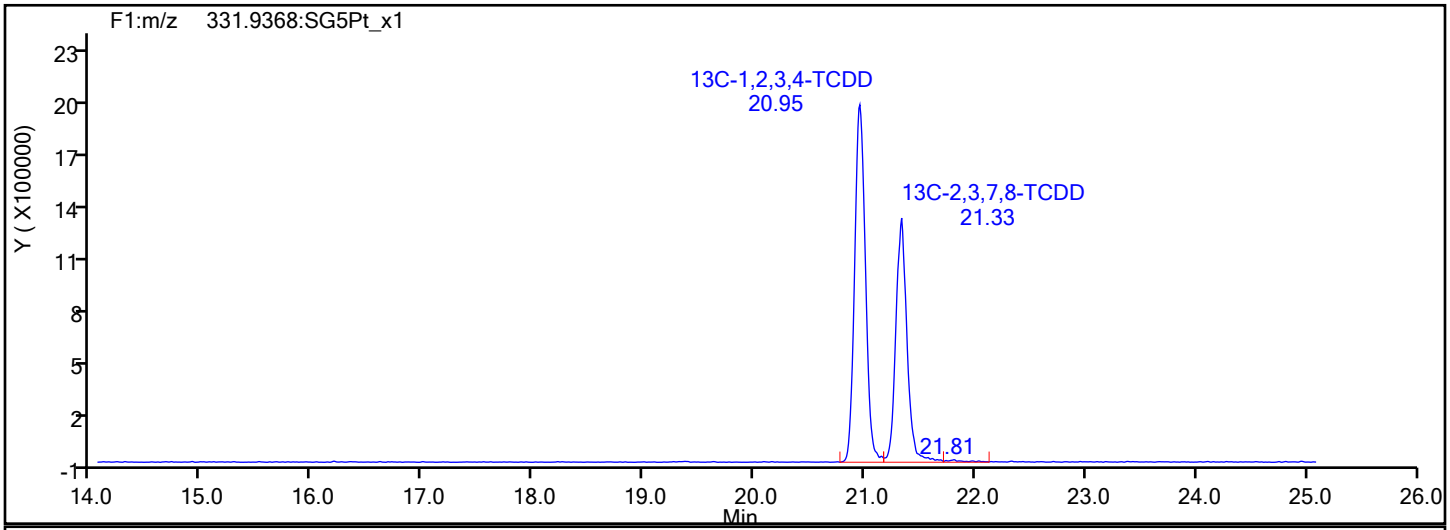
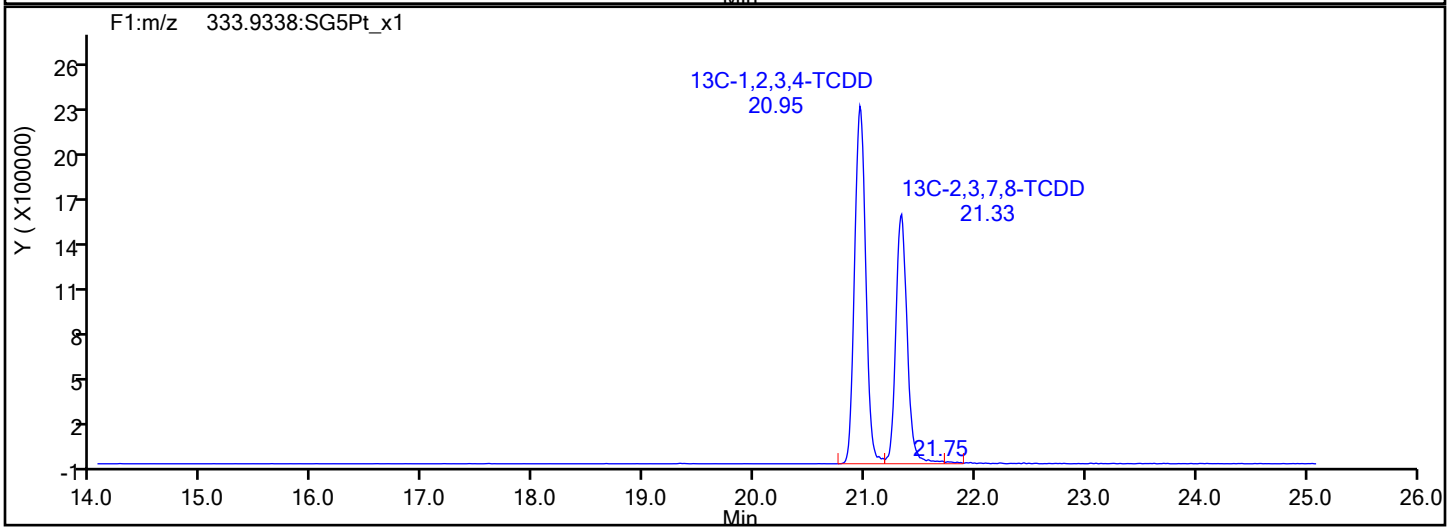
37Cl4-TCDD



37Cl4-TCDD Standards





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Eurofins TestAmerica, Sacramento

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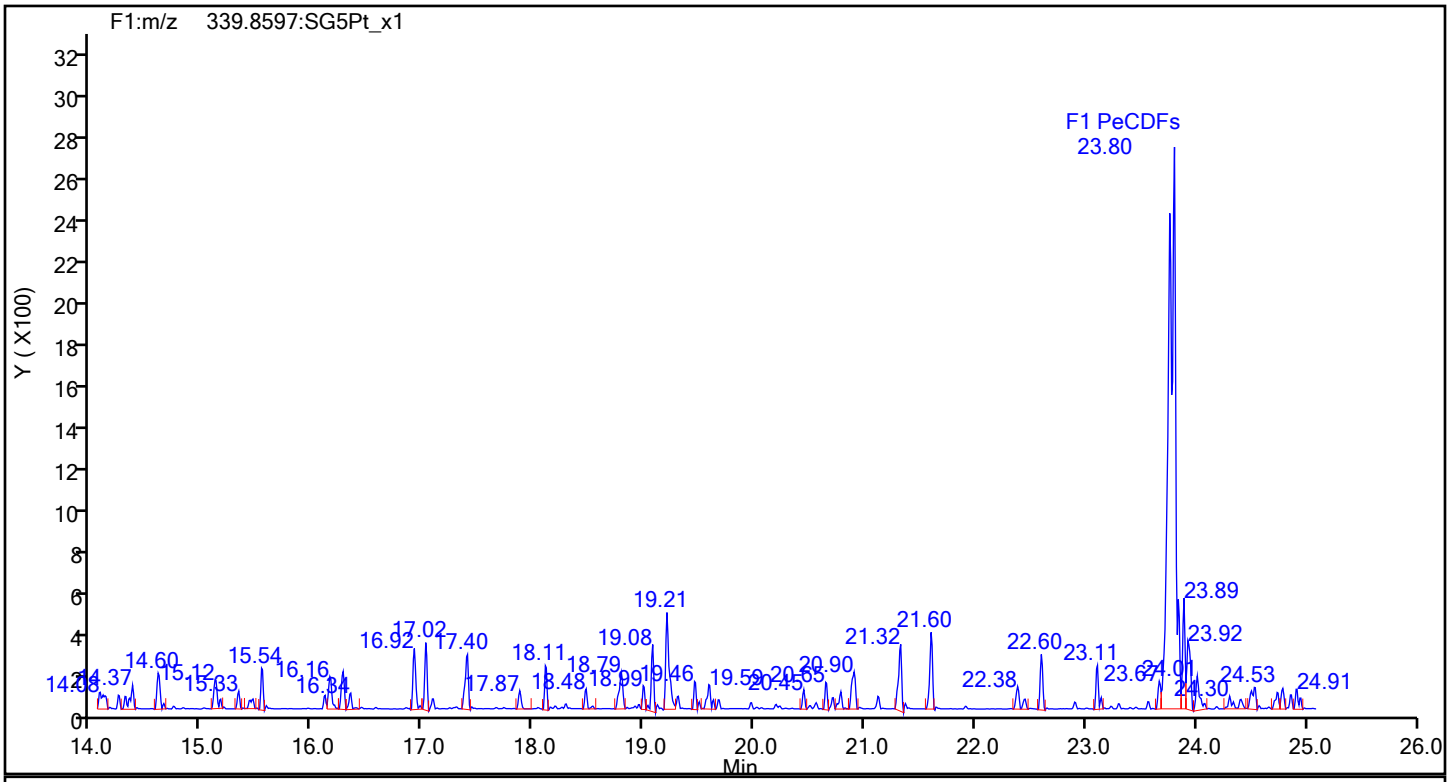
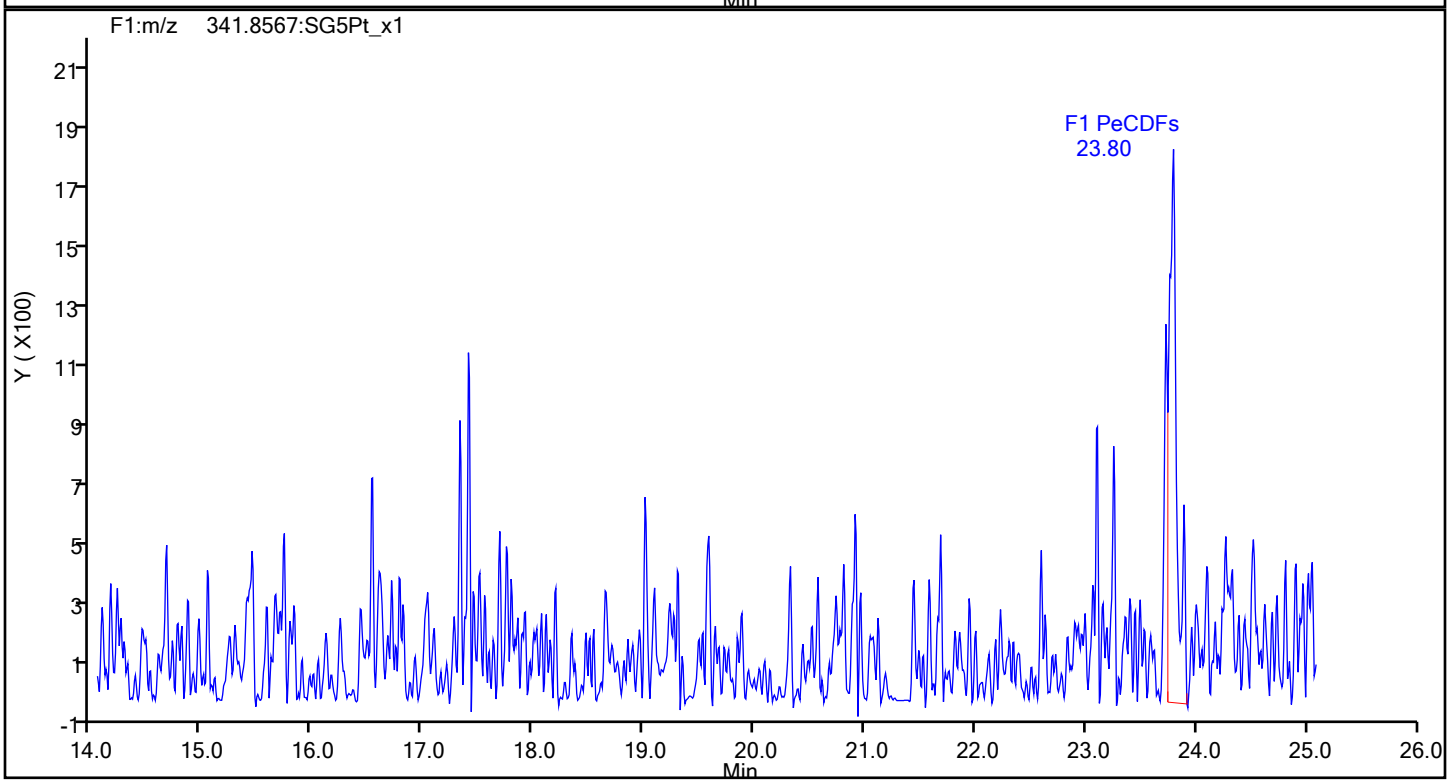
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
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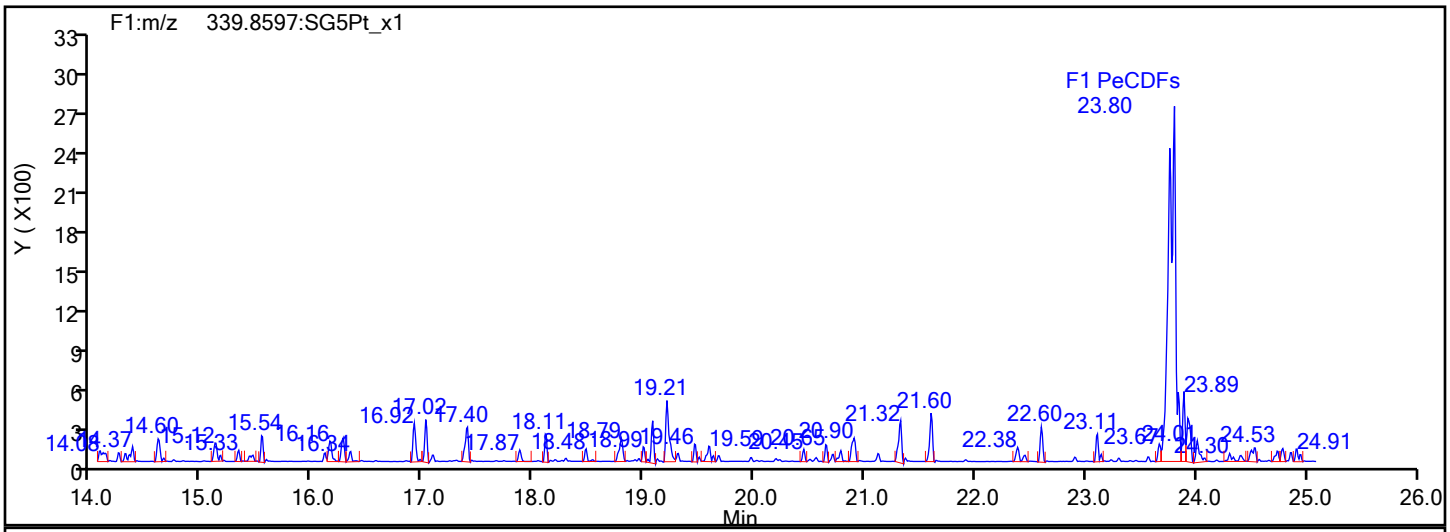
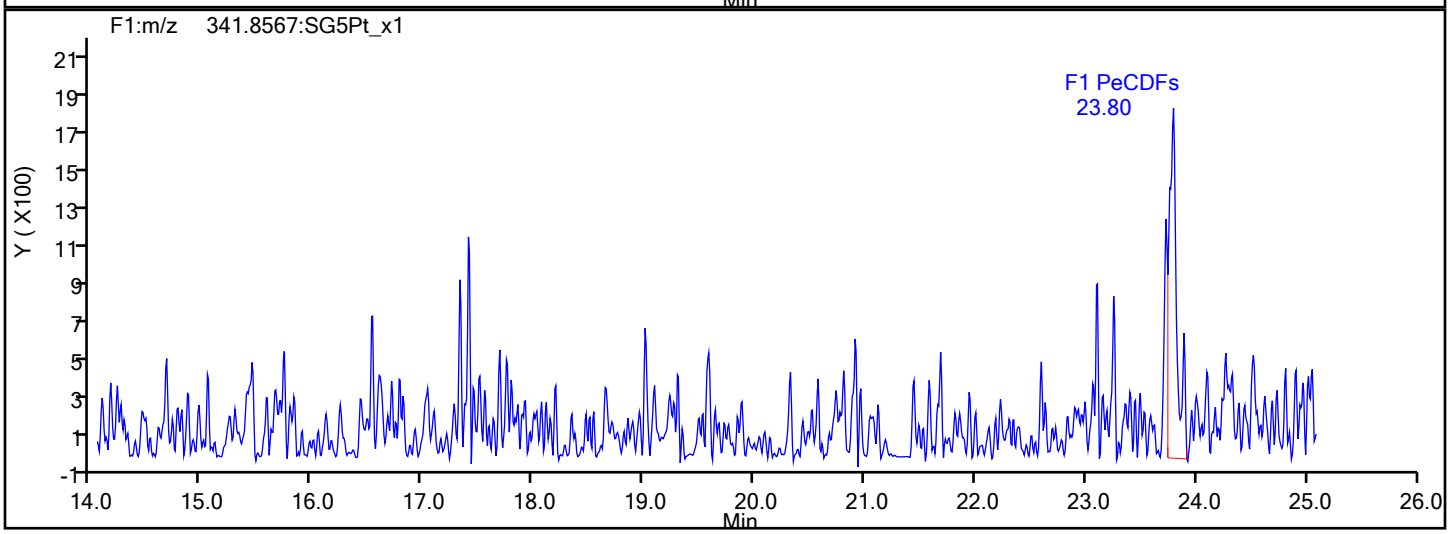
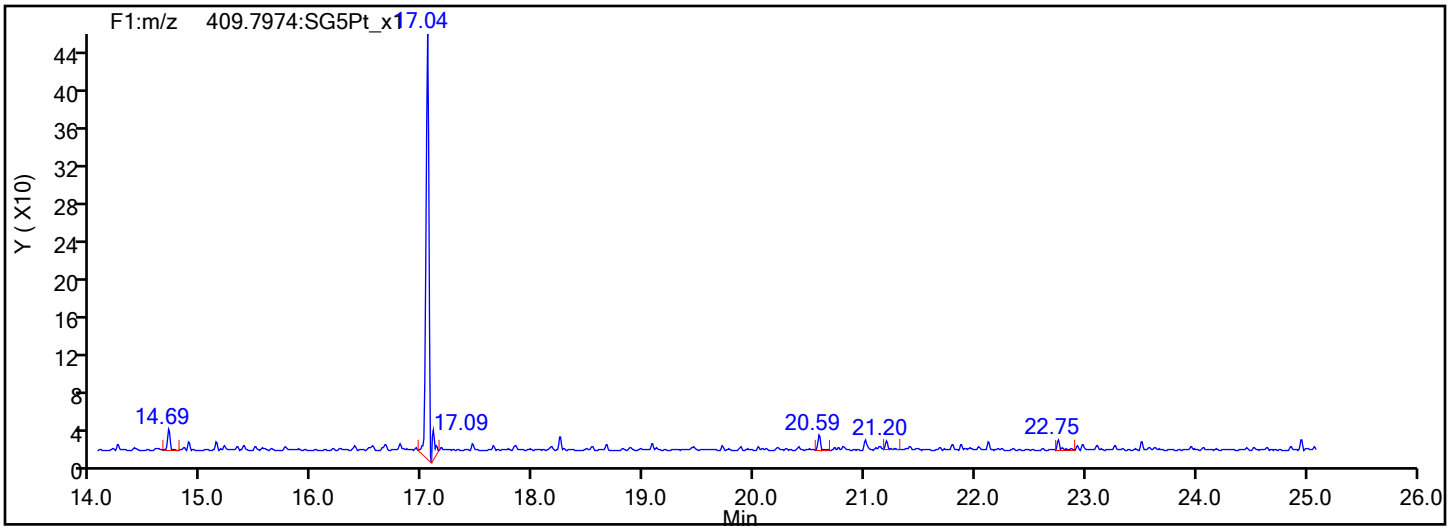
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 28-Dec-2021 14:24:59 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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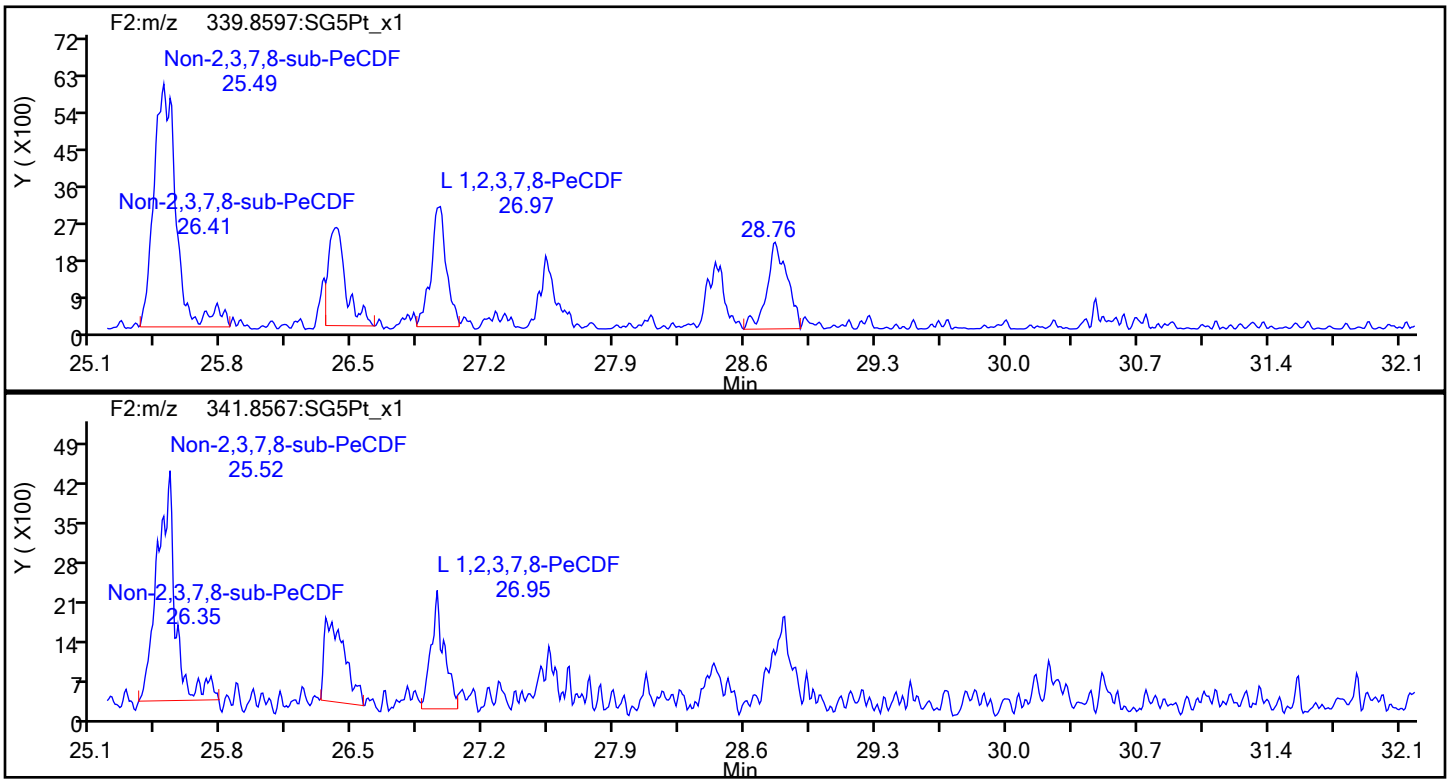
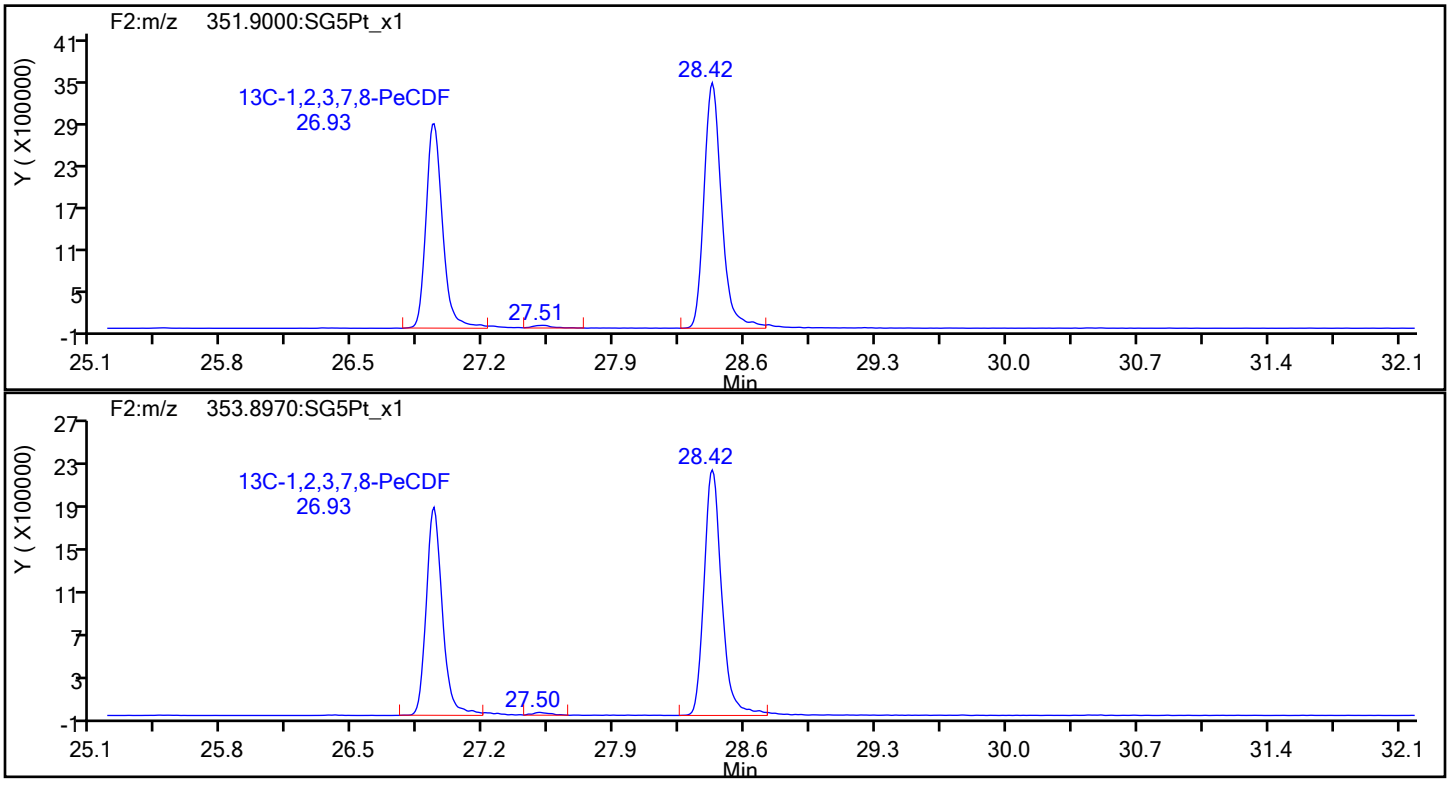
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Report Date: 28-Dec-2021 14:24:59 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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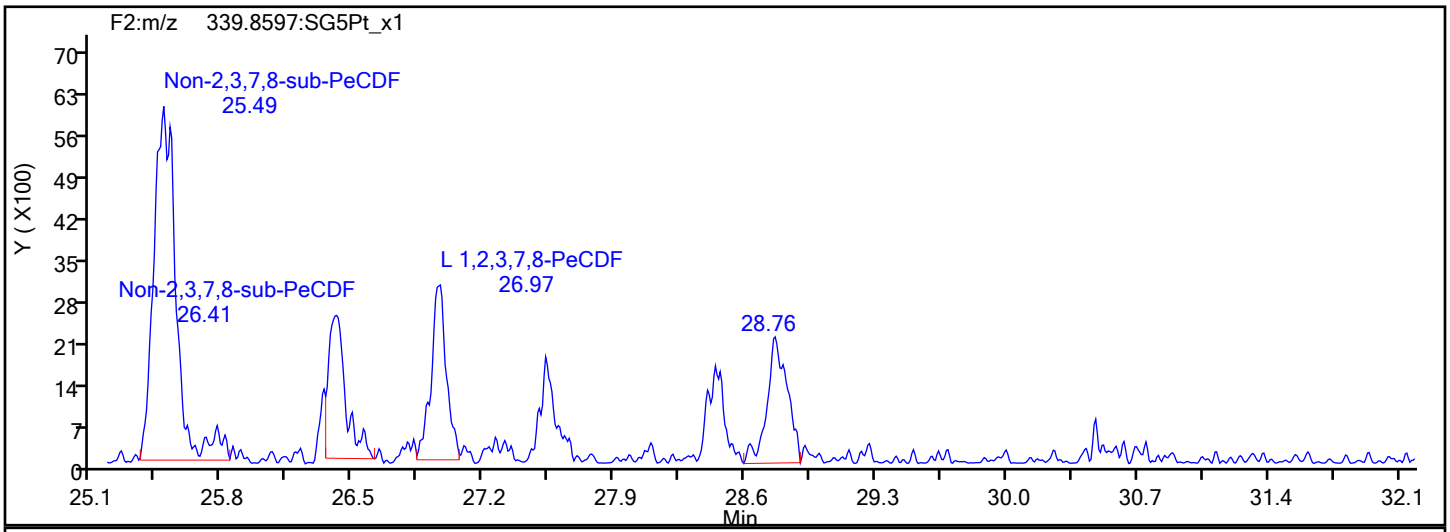
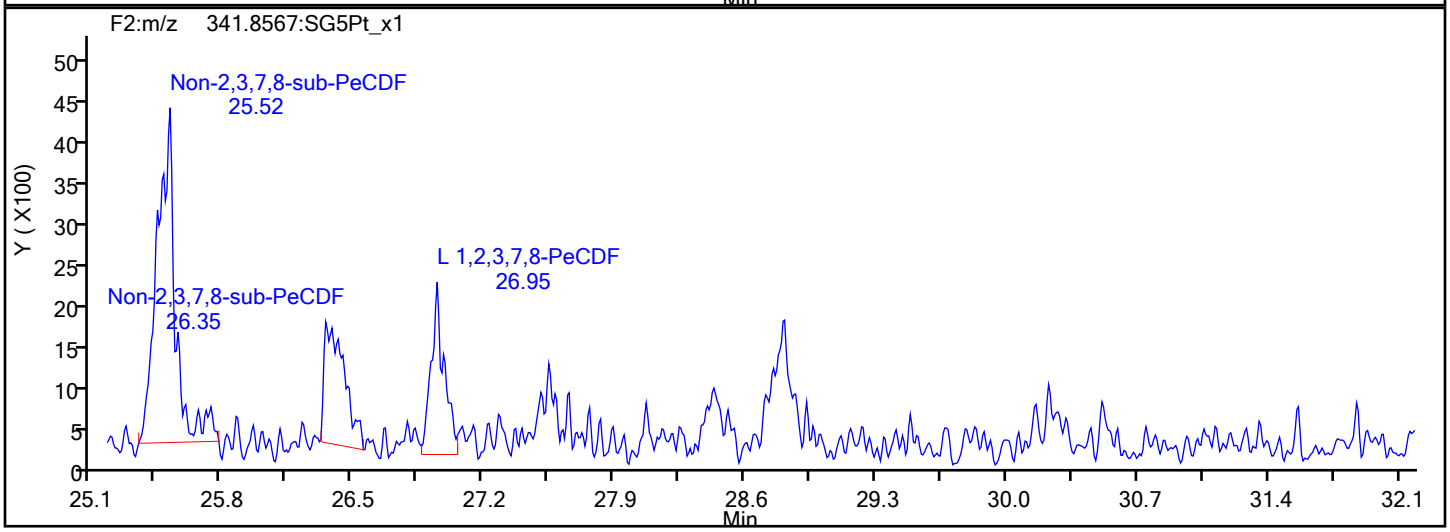
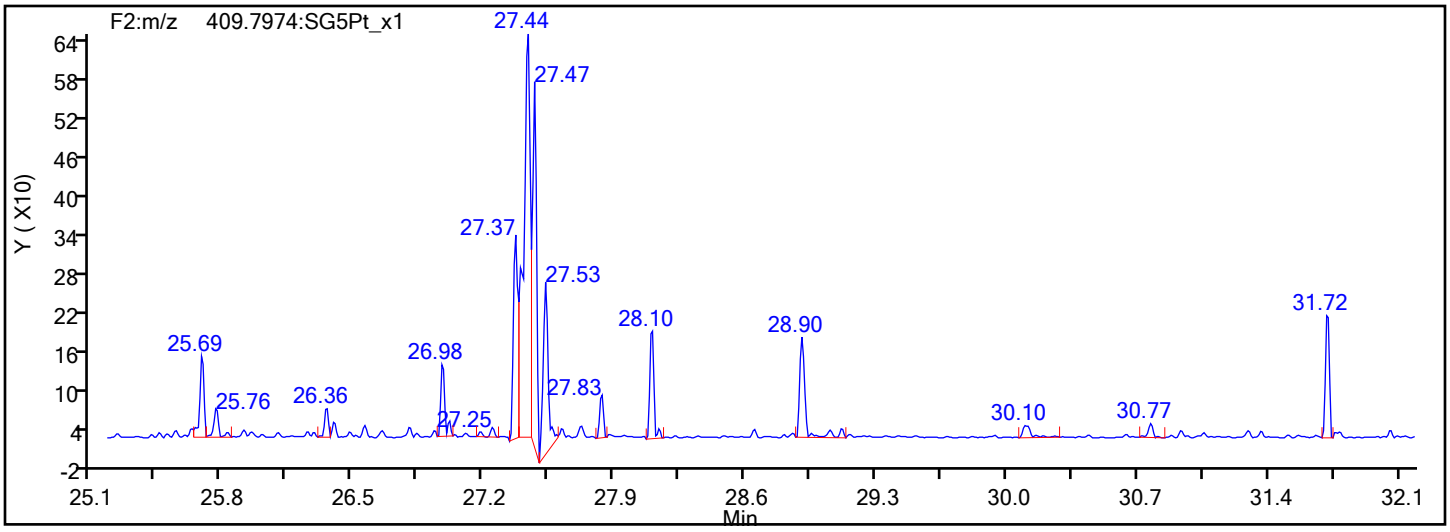
PeCDF





PeCDF Interference Mass



Report Date: 28-Dec-2021 14:24:59 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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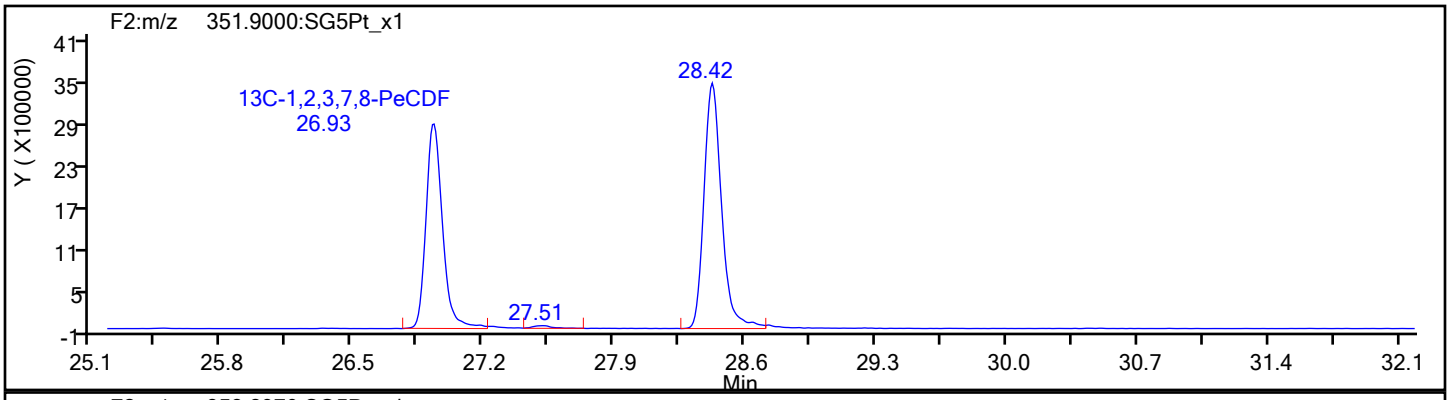
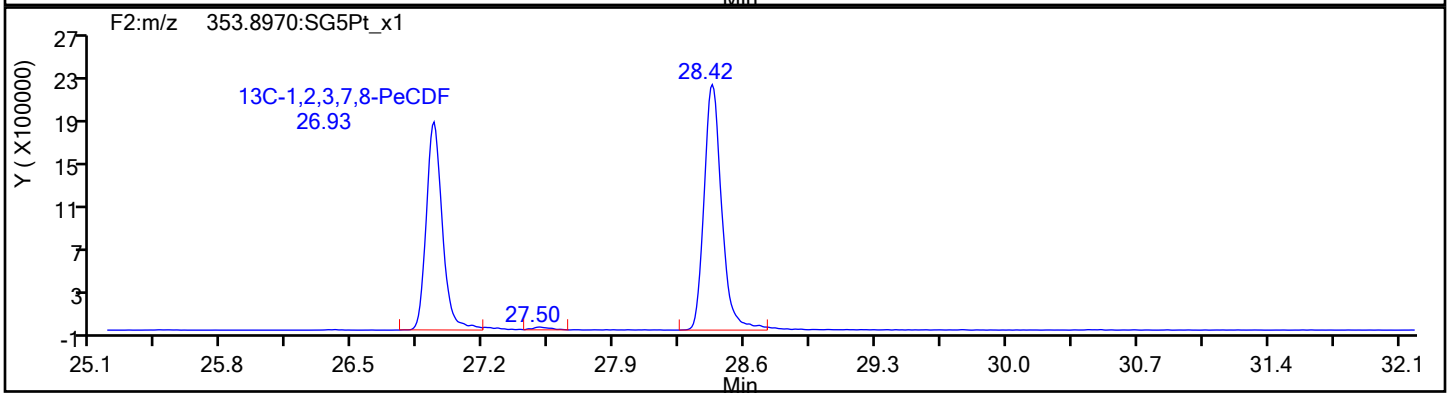
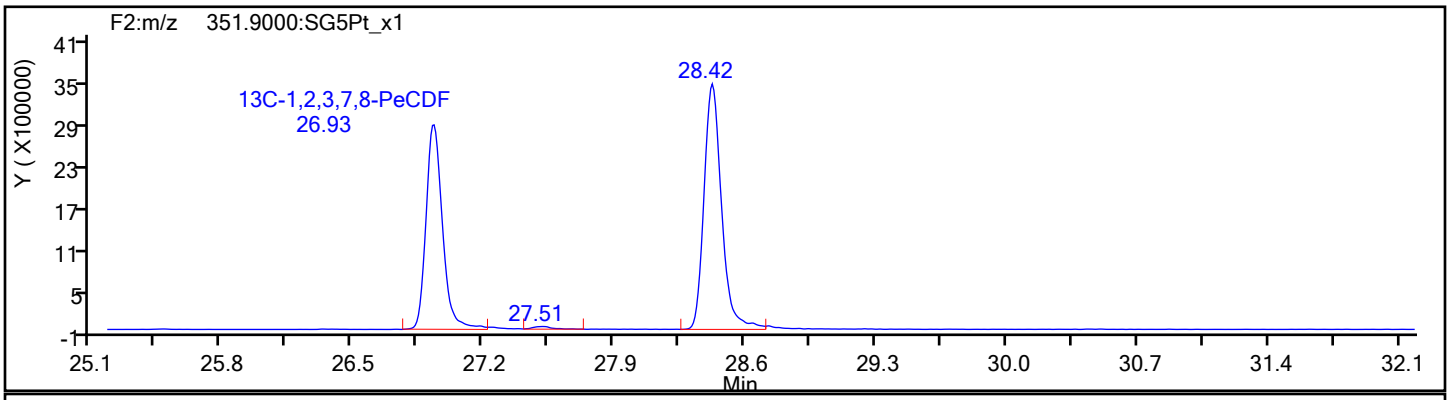
Column Type:	DB-5	Column Dia:	0.32 mm

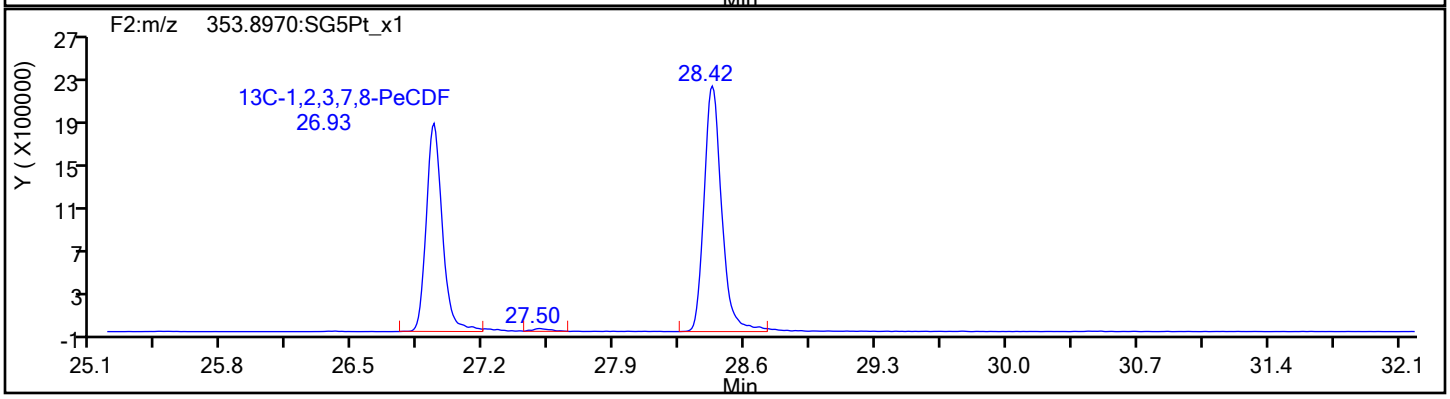
13C-PeCDF





13C-PeCDF Standards





Eurofins TestAmerica, Sacramento

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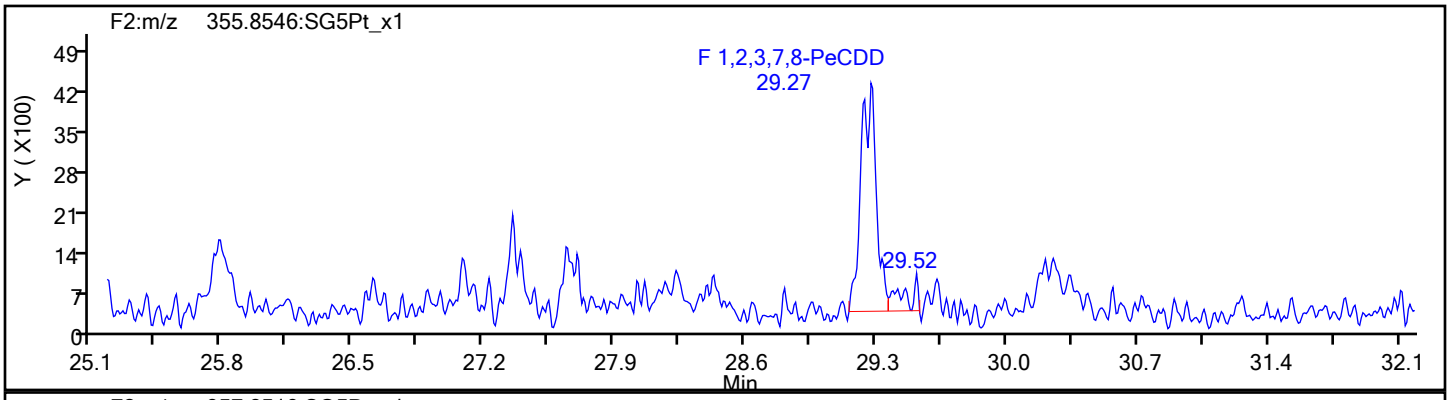
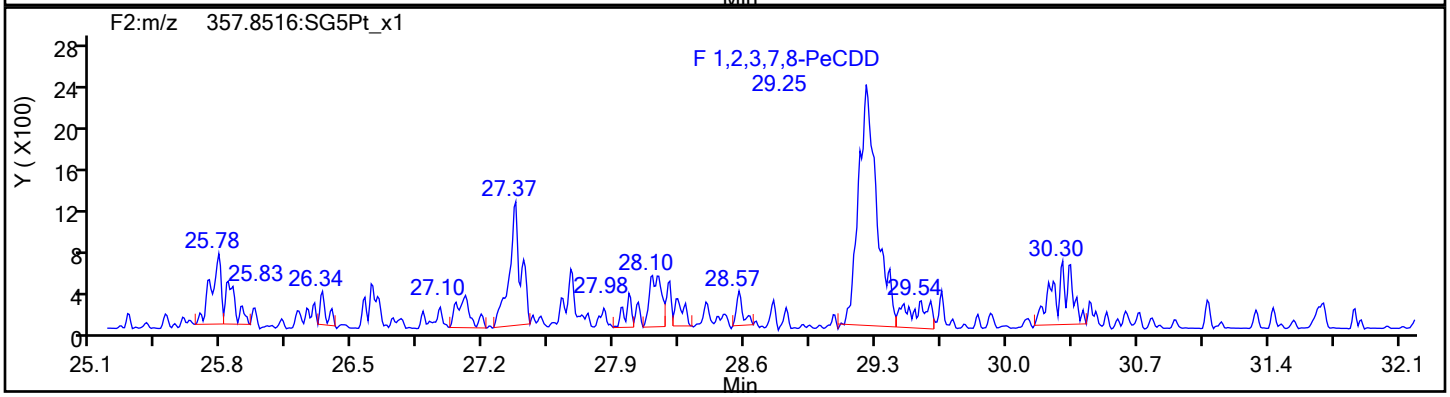
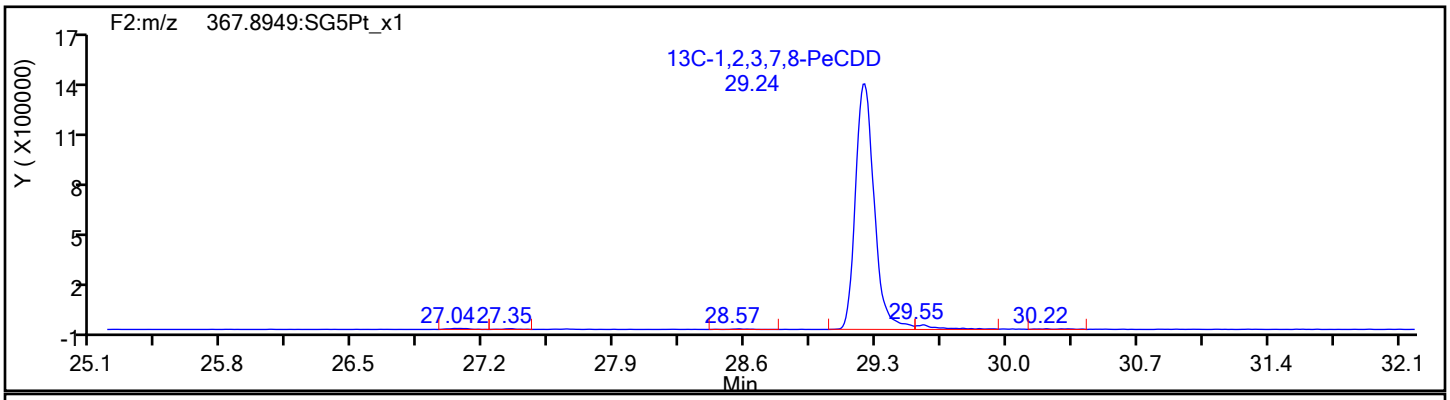
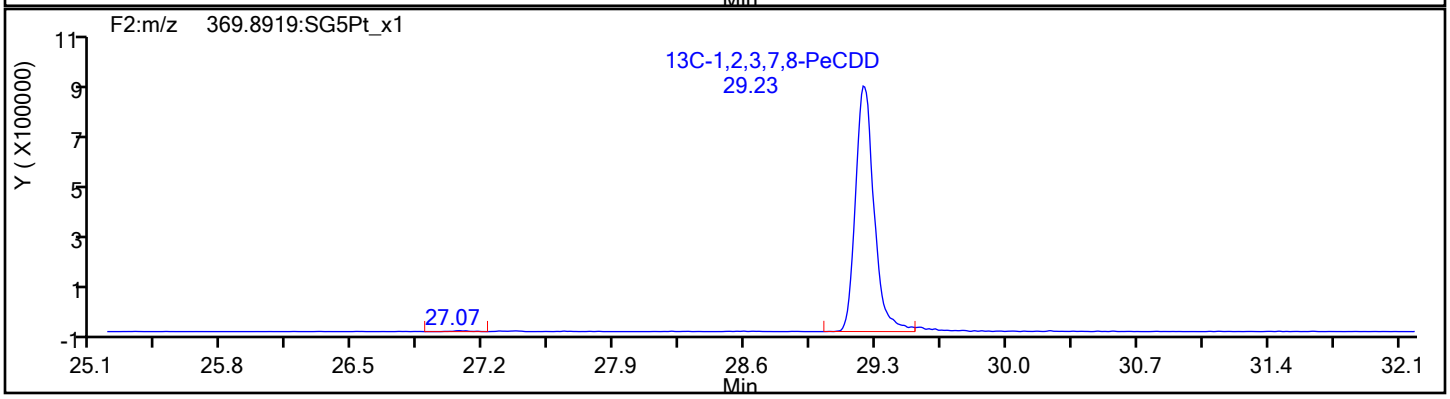
PeCDD





PeCDD Standards





Eurofins TestAmerica, Sacramento

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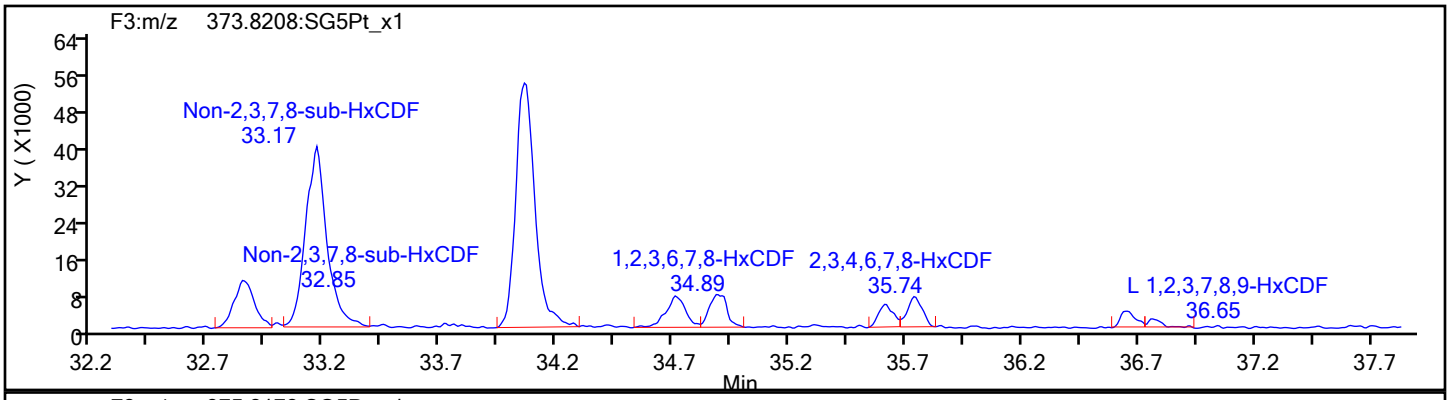
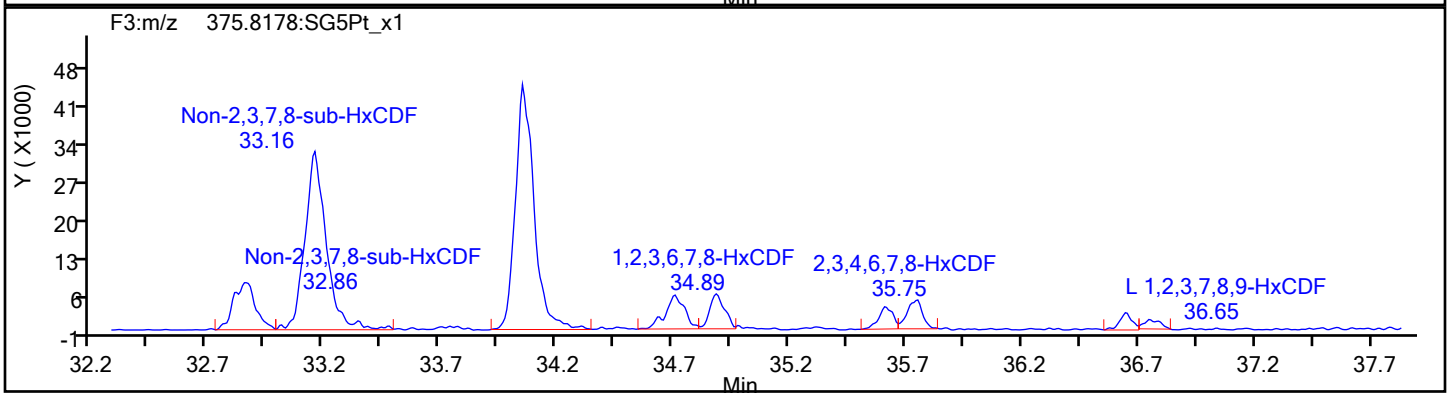
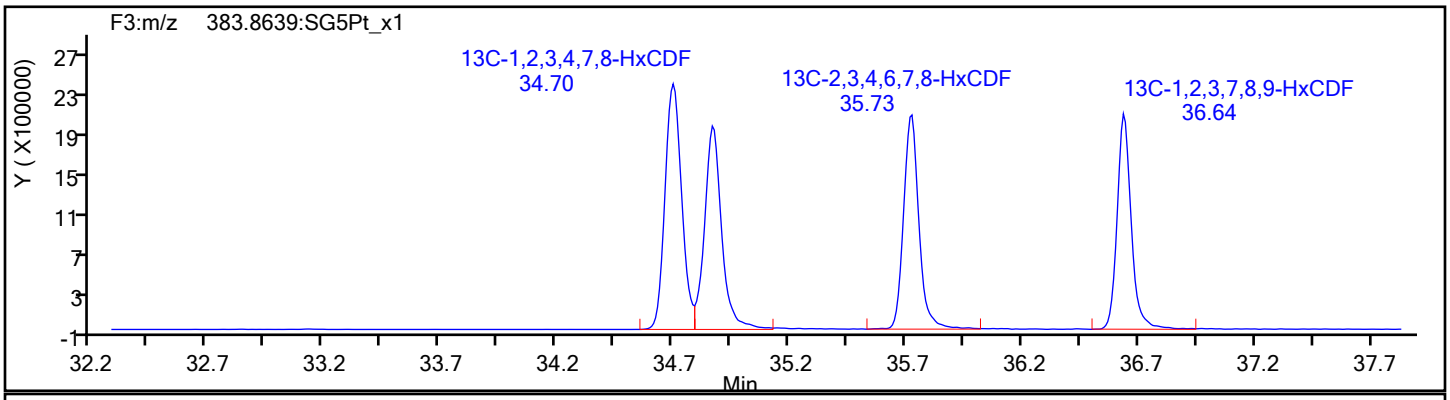
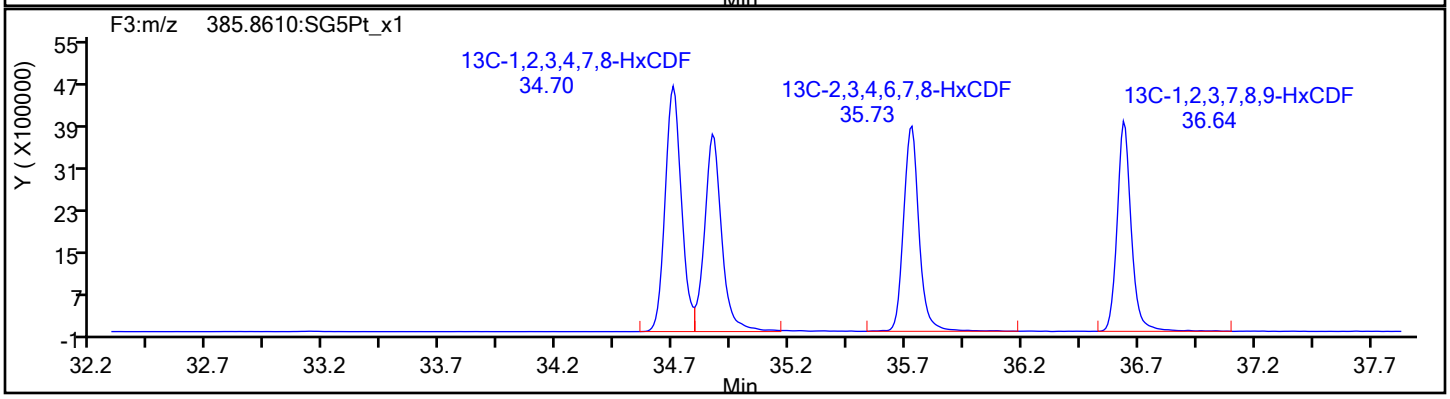
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

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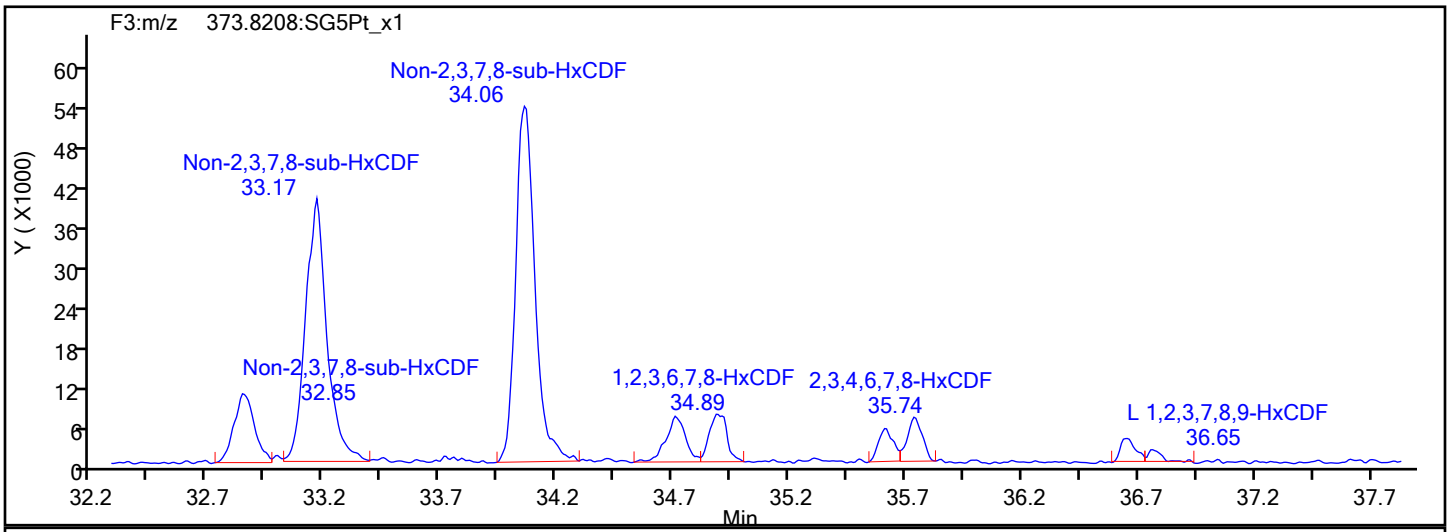
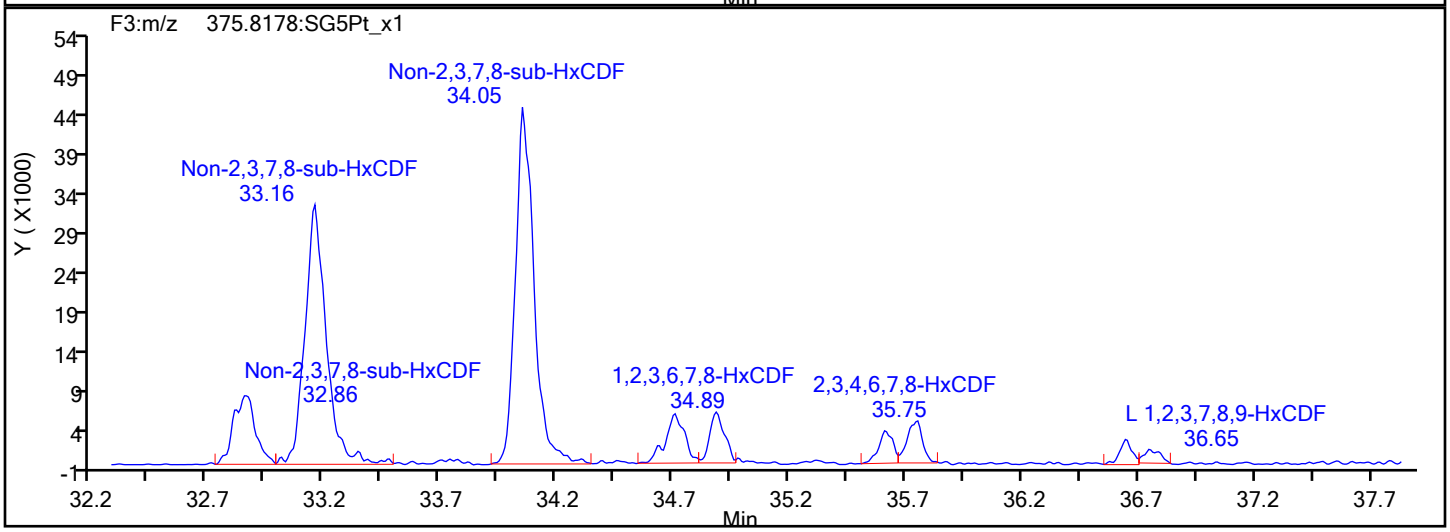
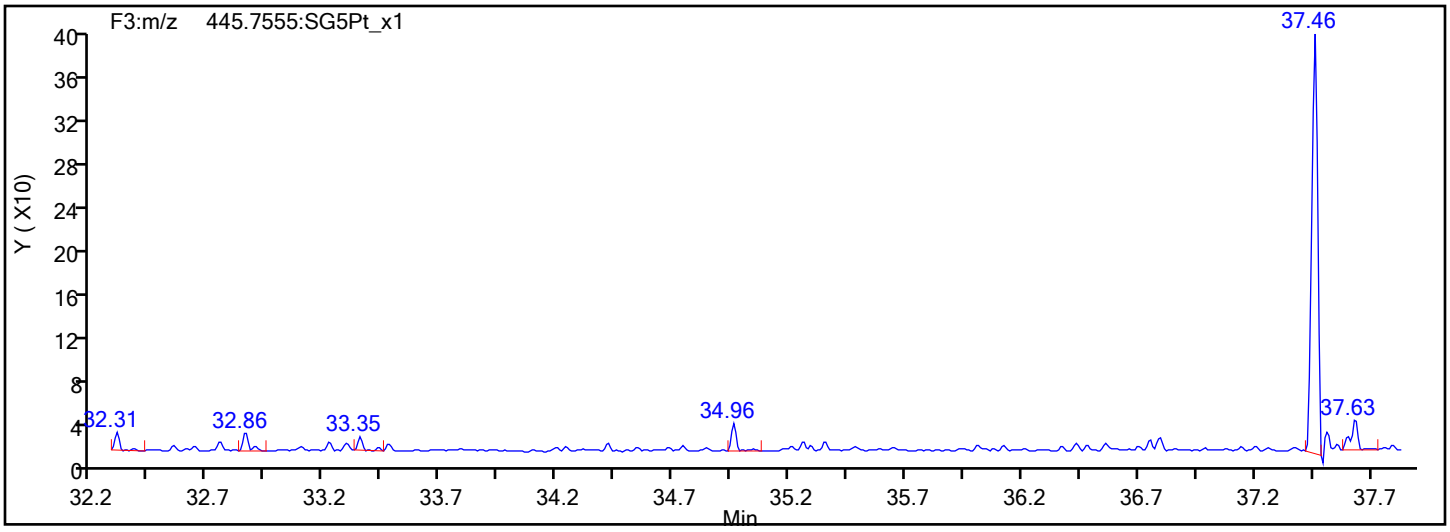
HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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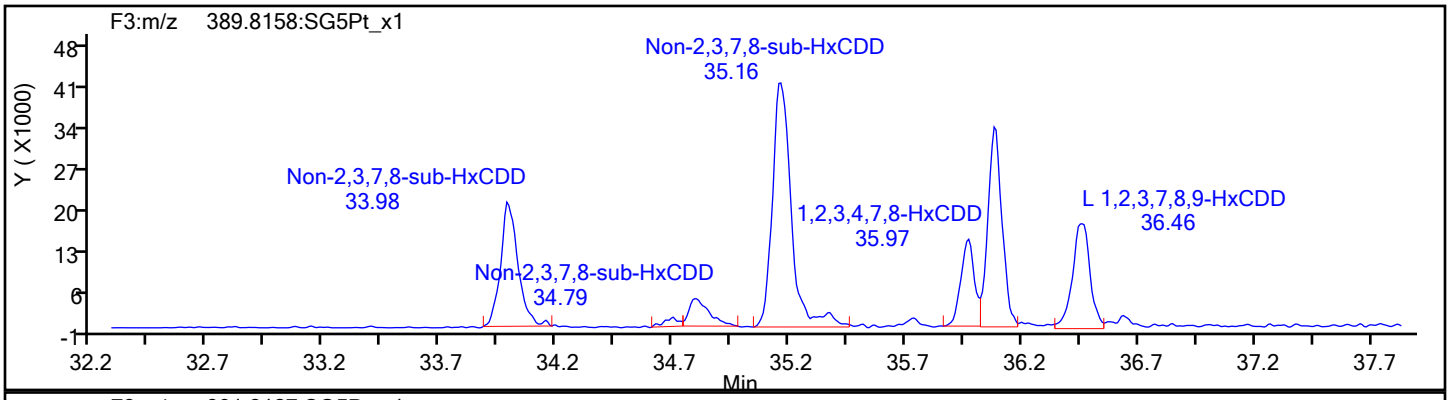
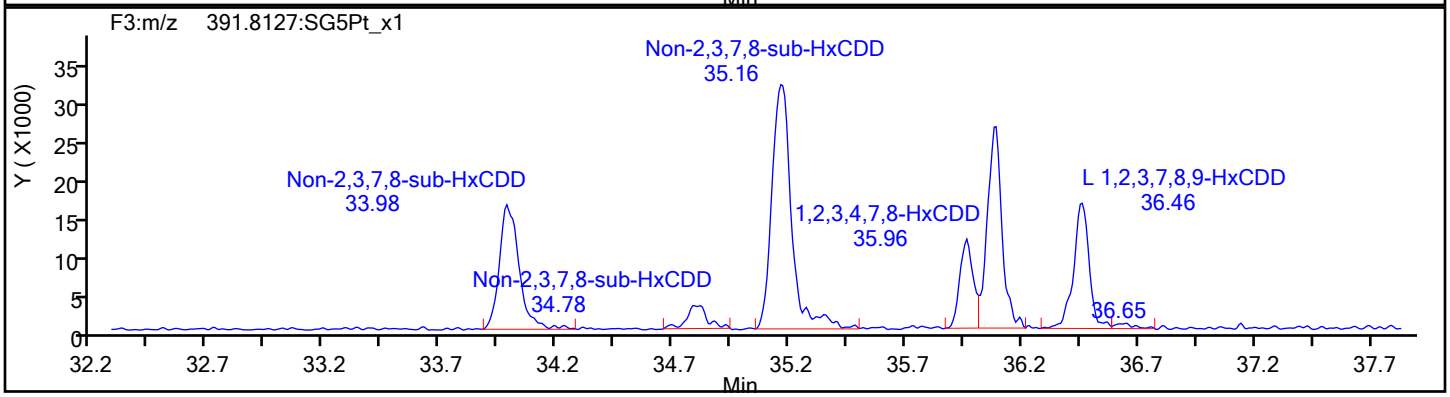
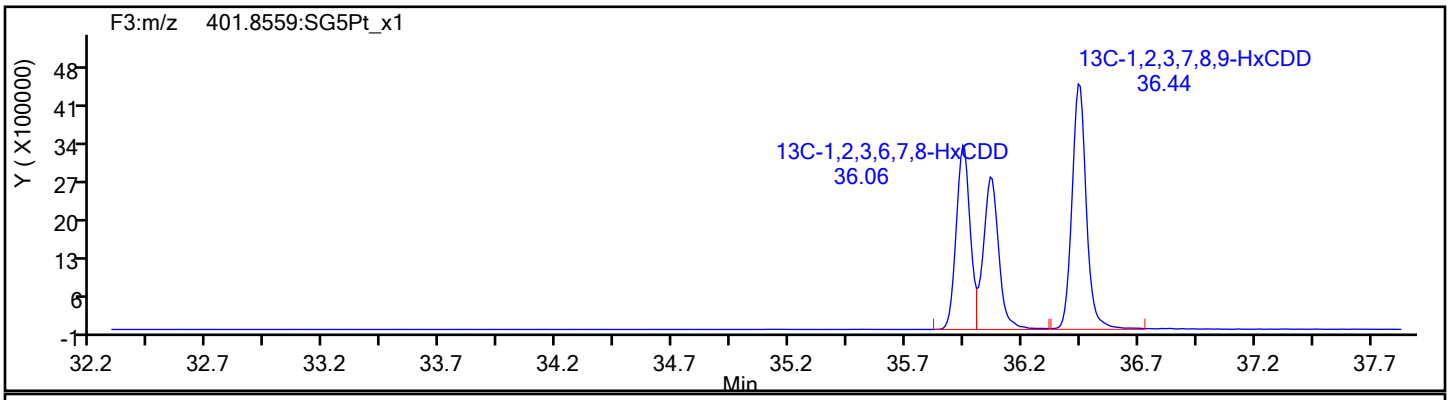
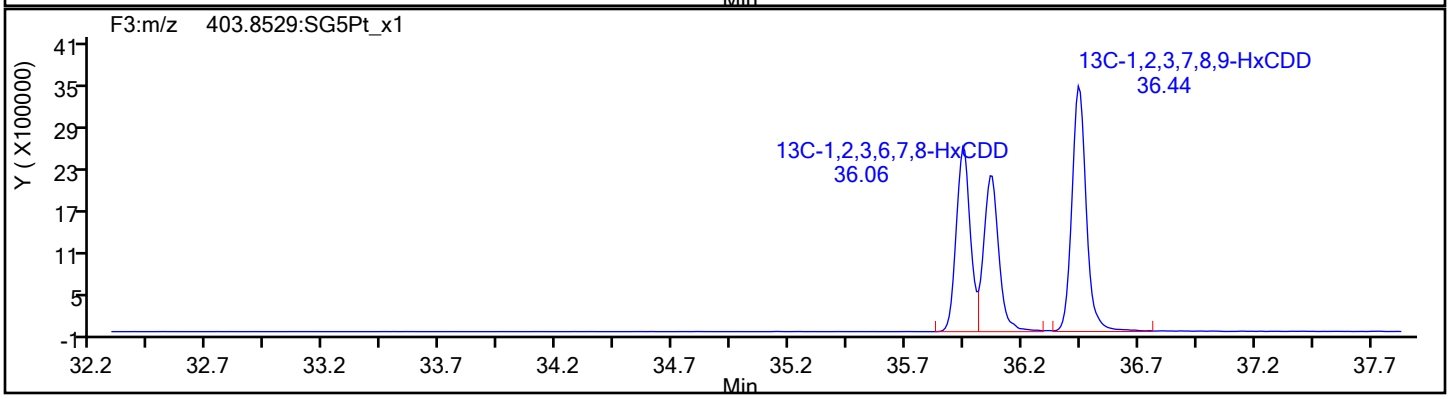
HxCDD





HxCDD Standards





Eurofins TestAmerica, Sacramento

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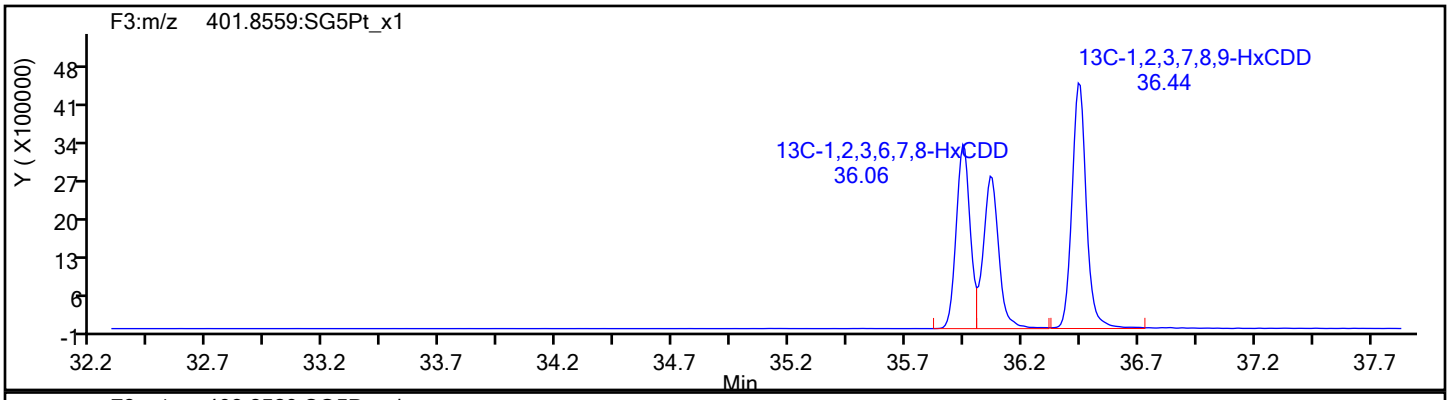
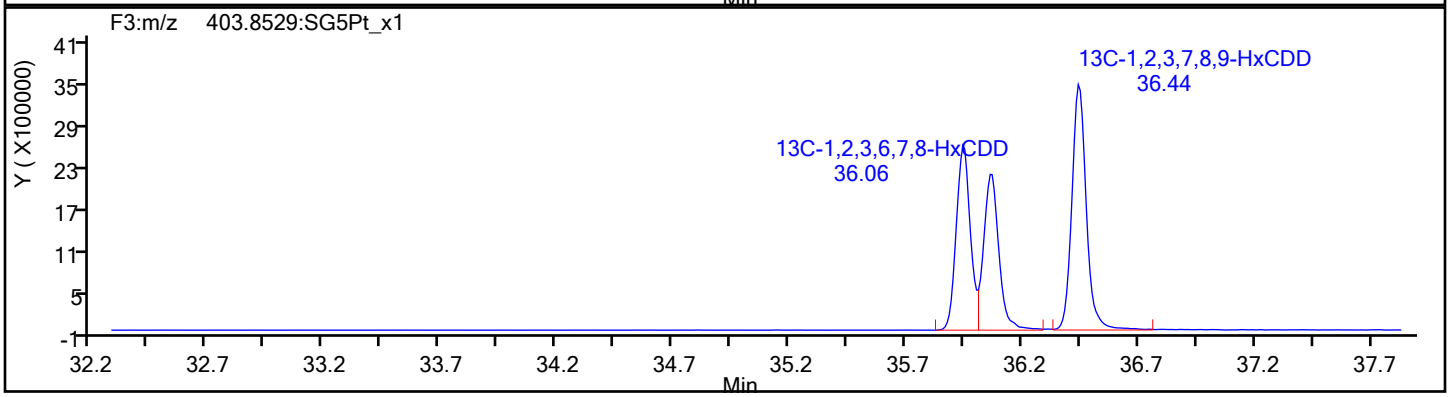
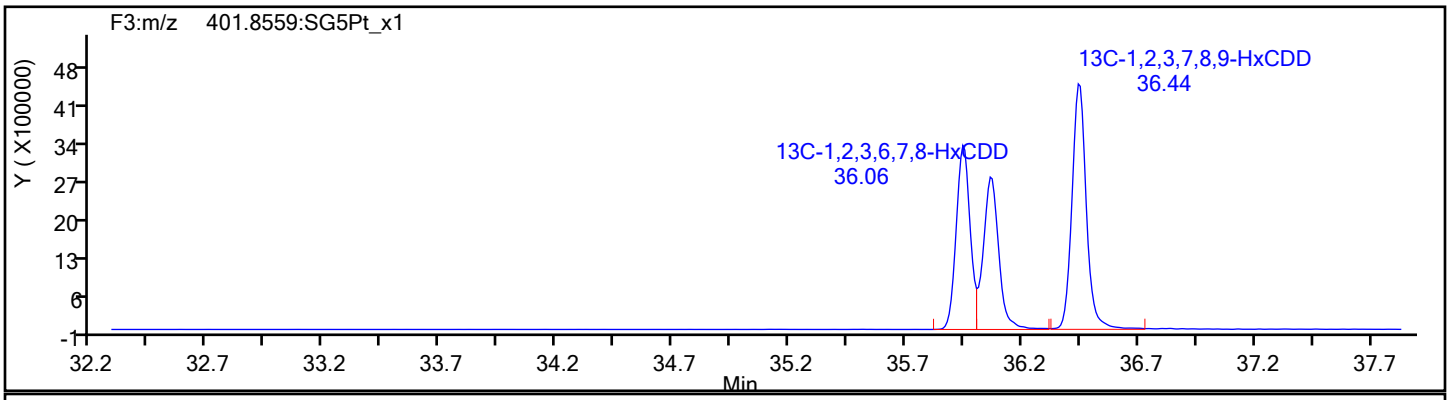
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

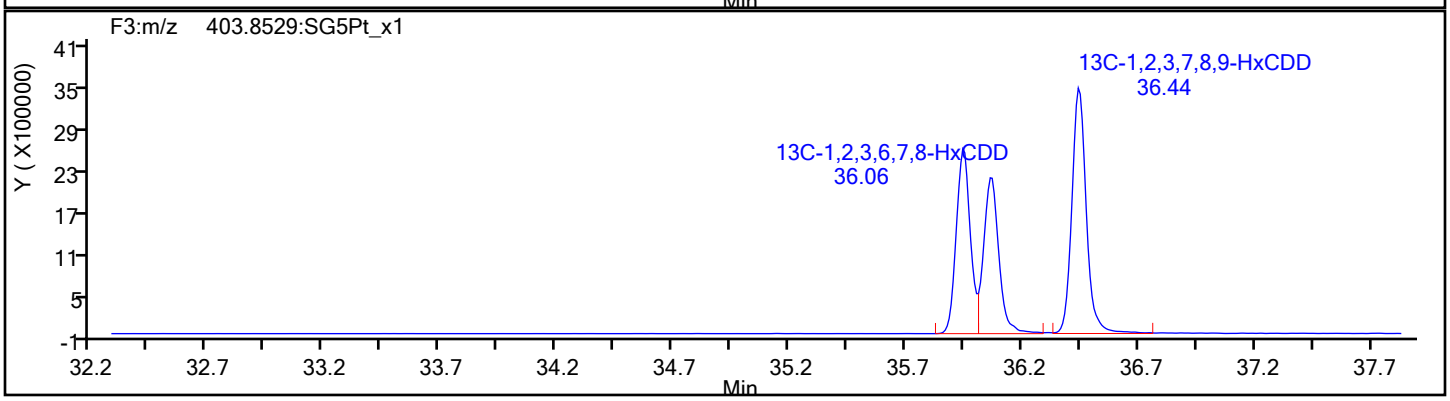
13C-HxCDD





13C-HxCDD Standards

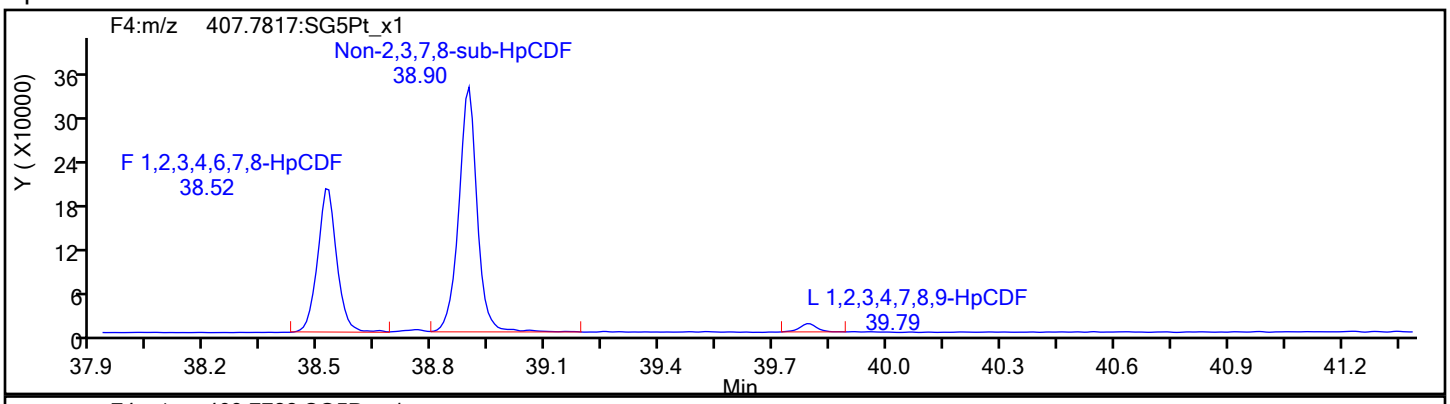


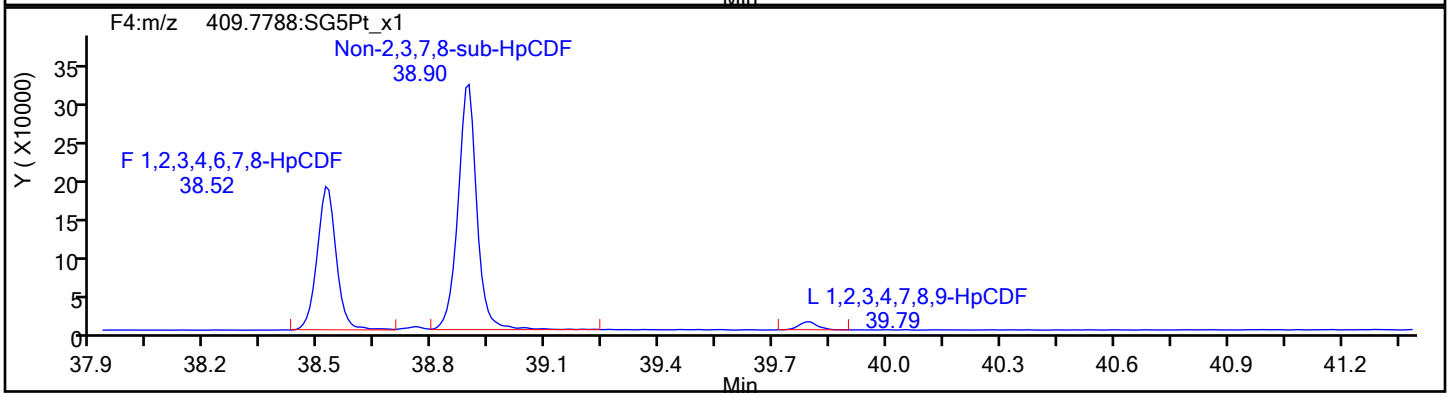


Eurofins TestAmerica, Sacramento

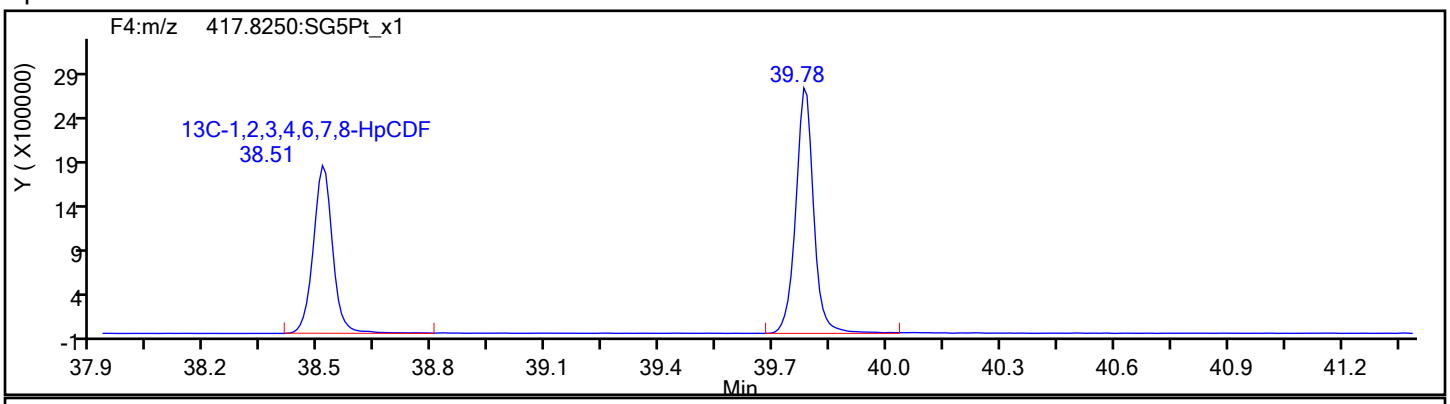
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
Injection Date:	28-Dec-2021 03:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

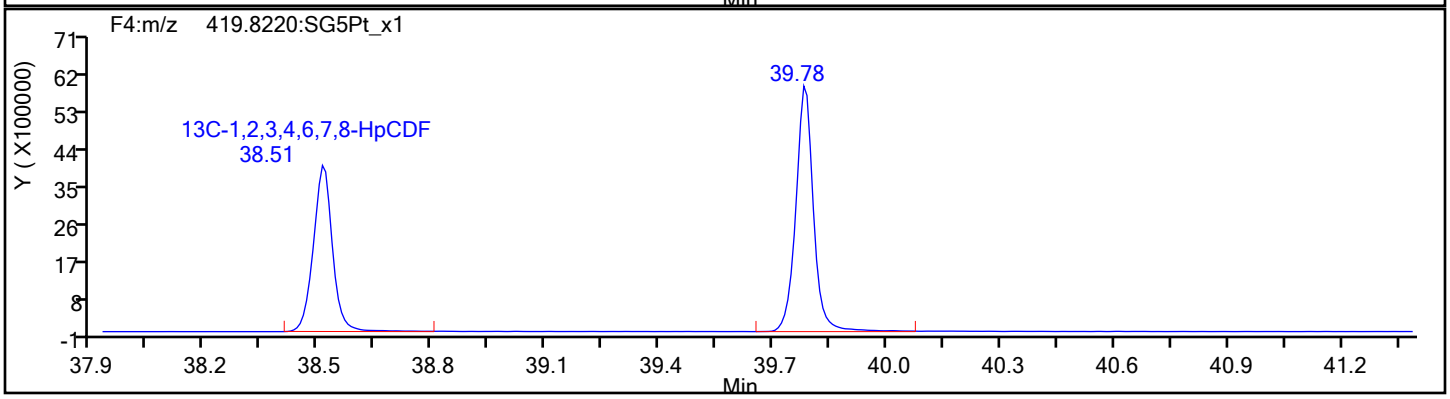
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
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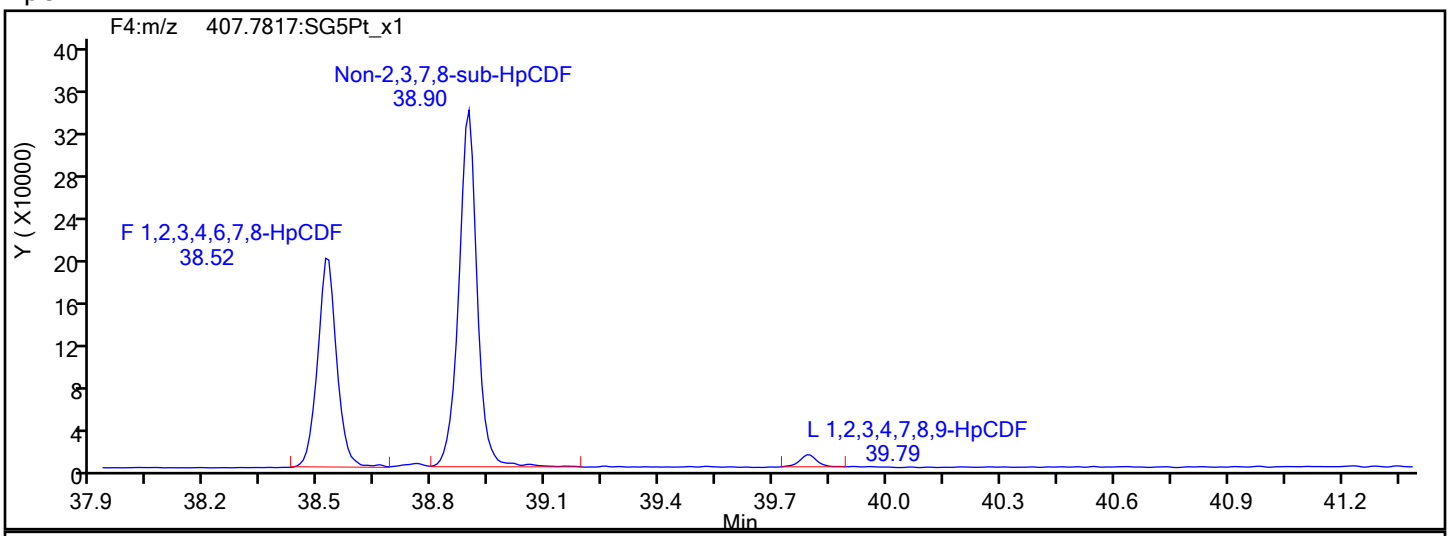
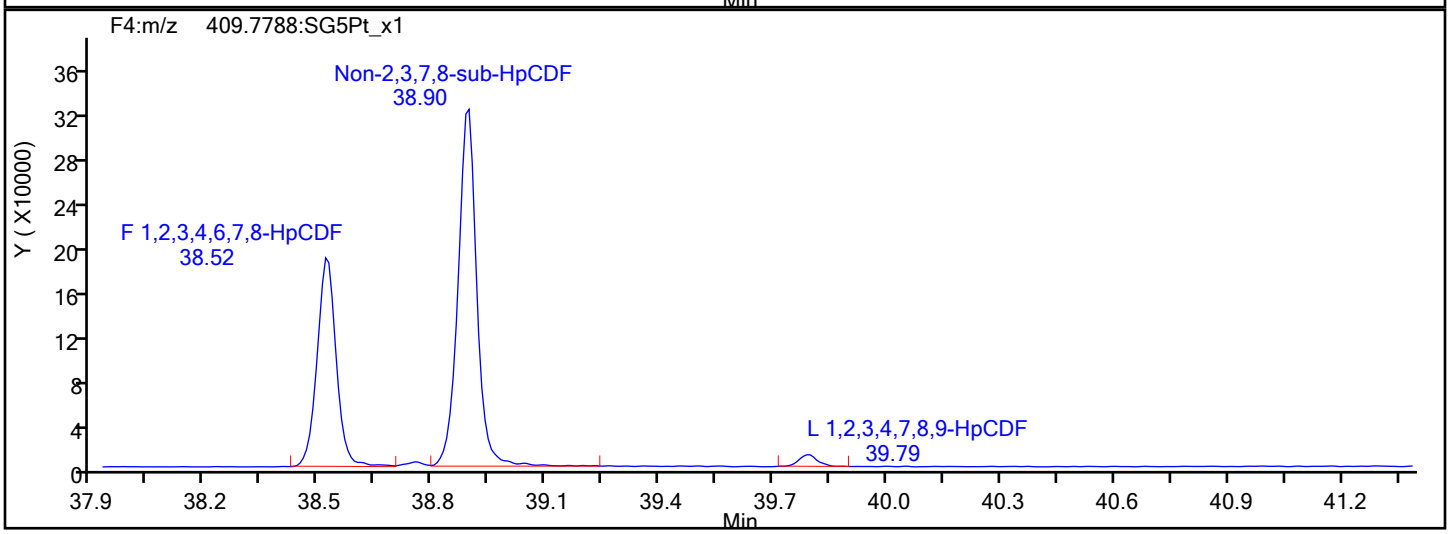
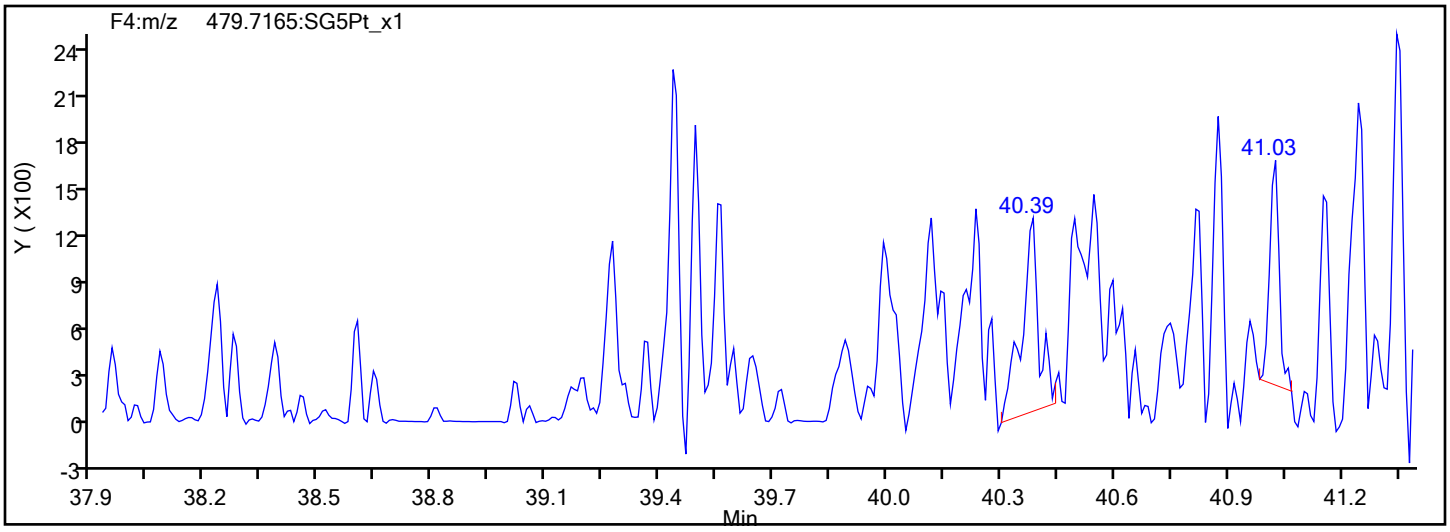
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Report Date: 28-Dec-2021 14:25:00 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
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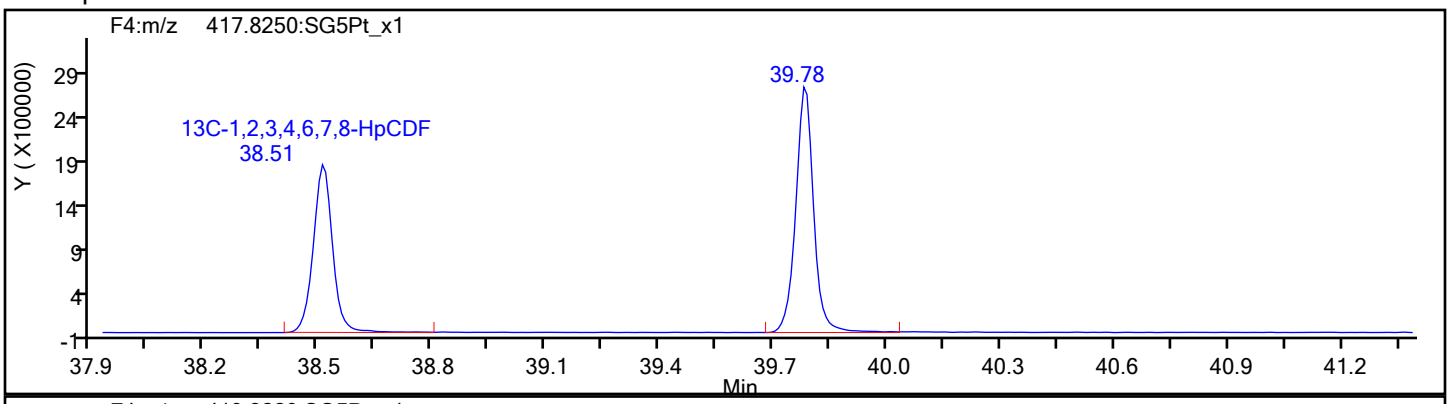
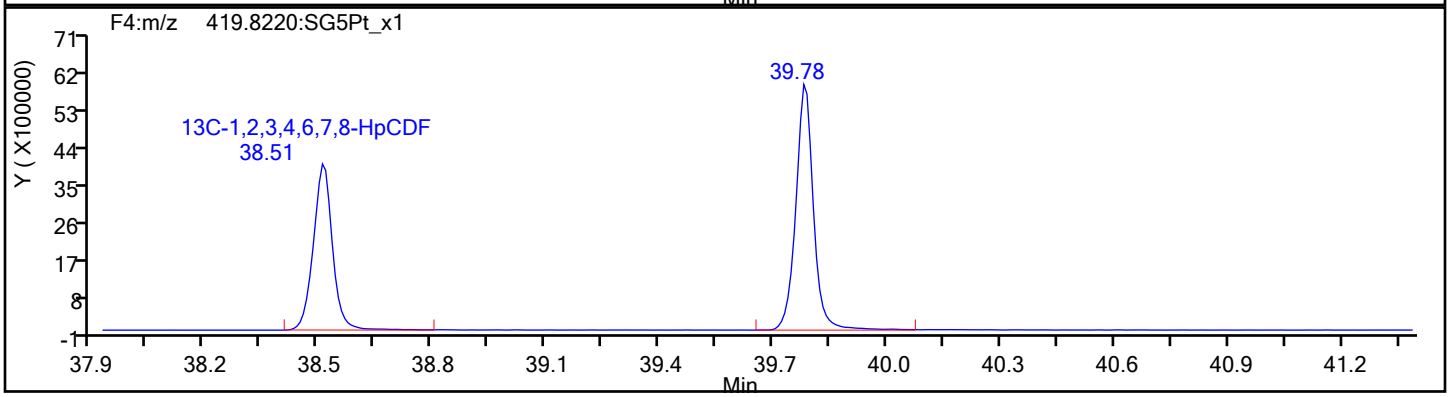
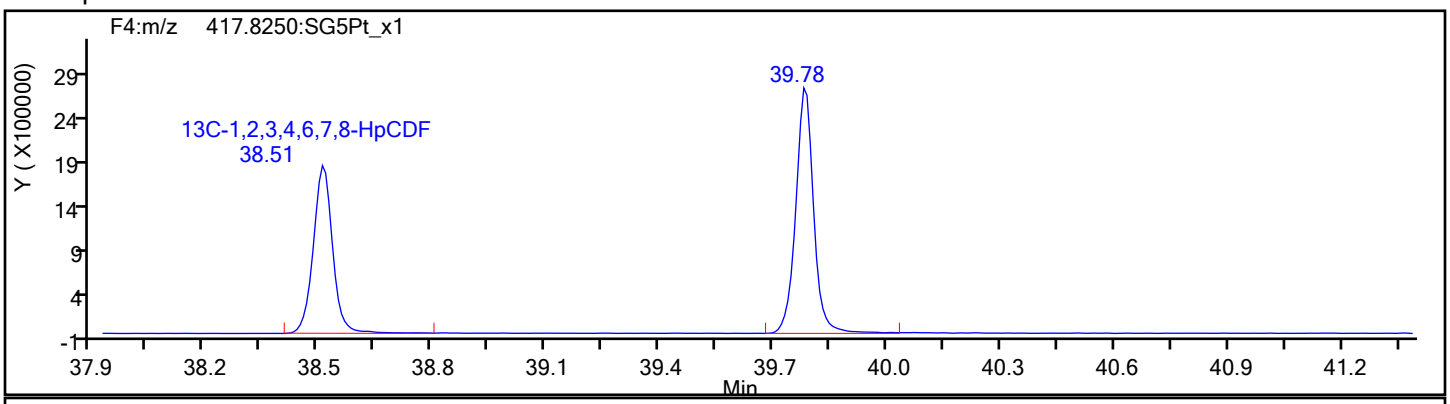
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

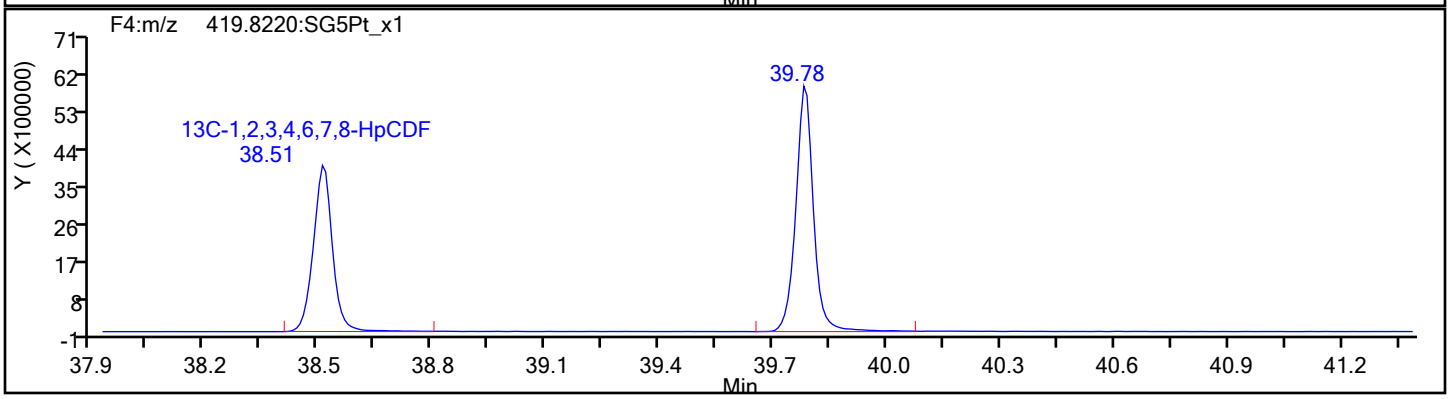
13C-HpCDF





13C-HpCDF Standards





Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
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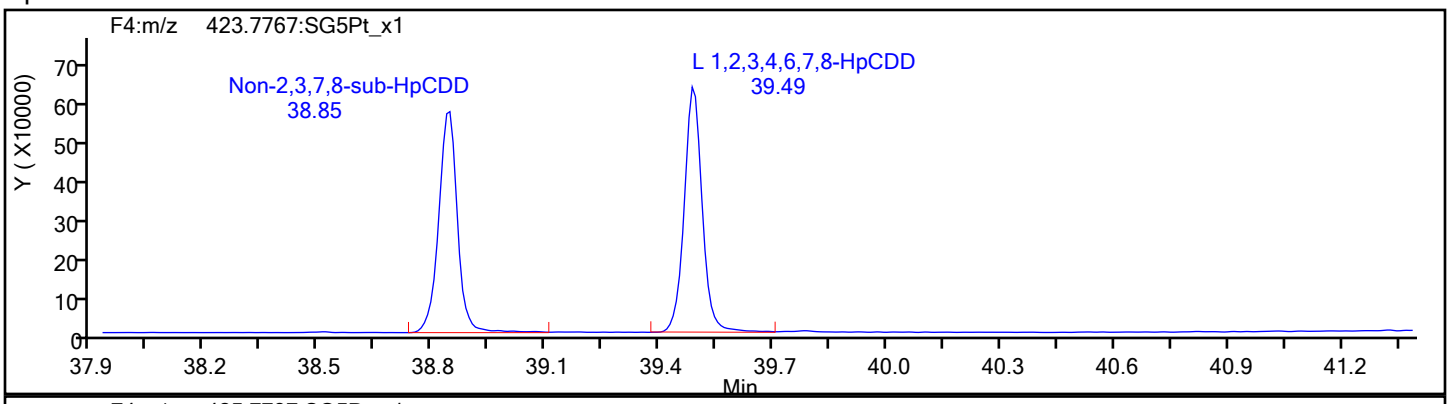
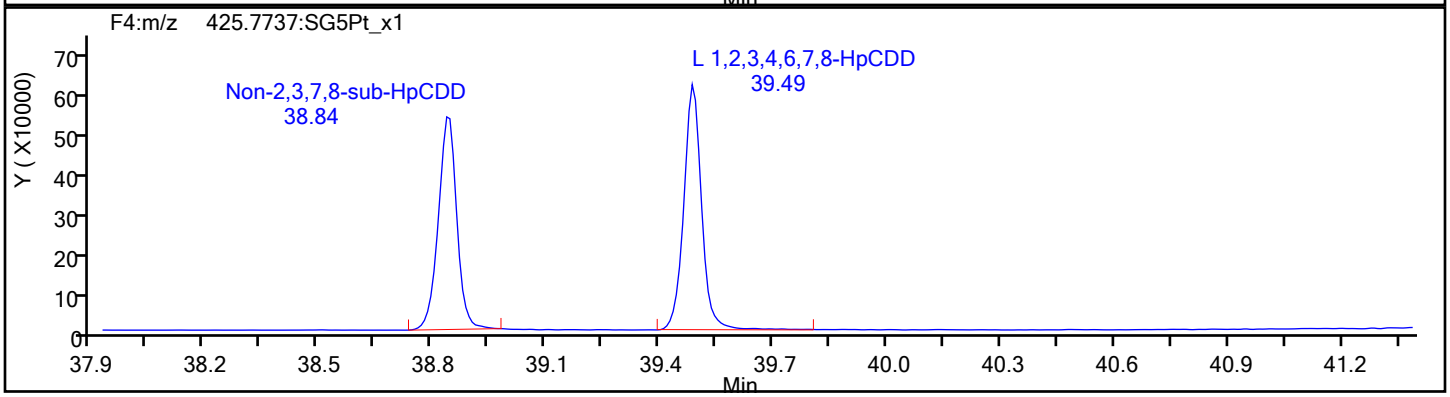
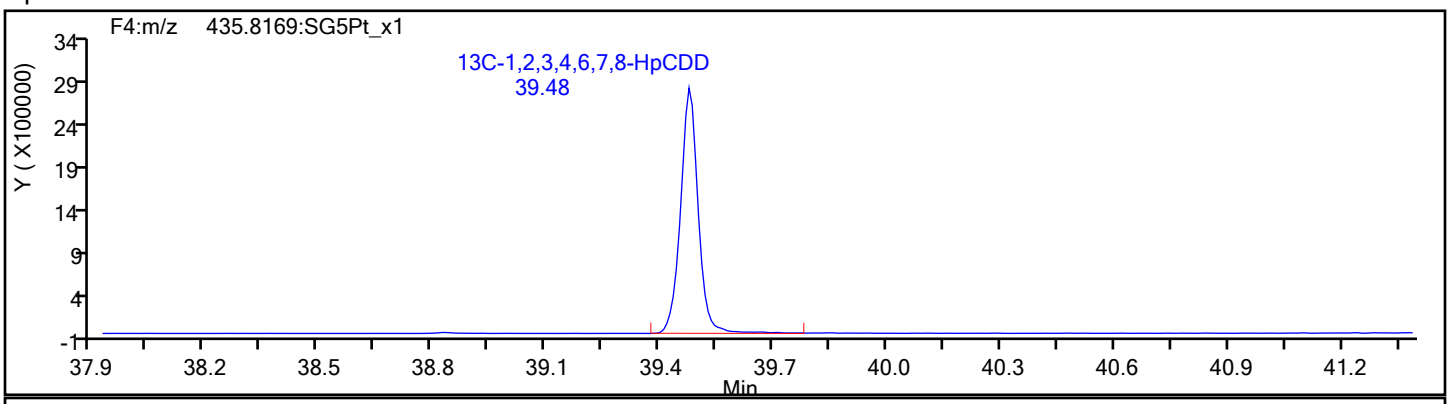
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

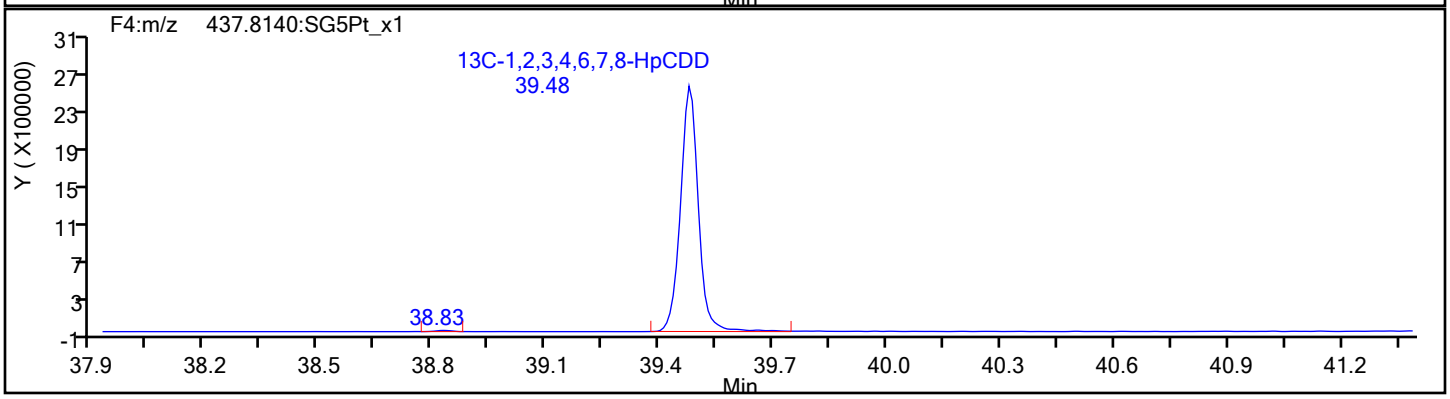
HpCDD





HpCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
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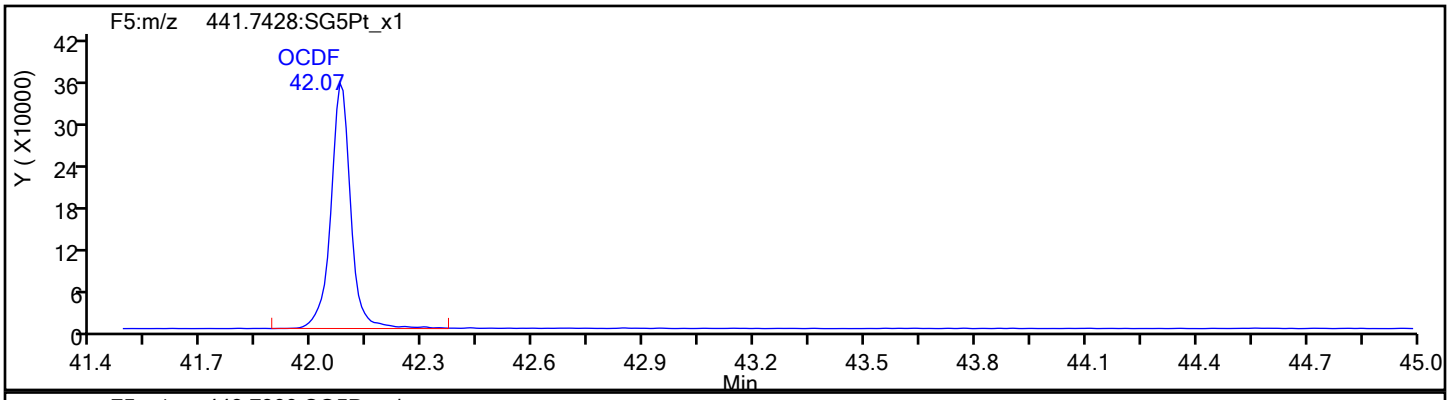
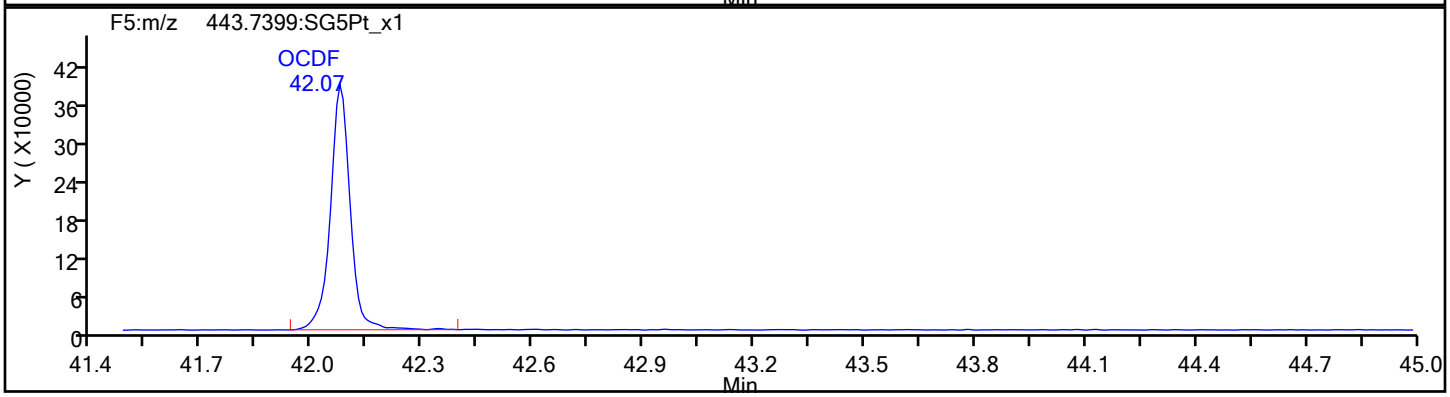
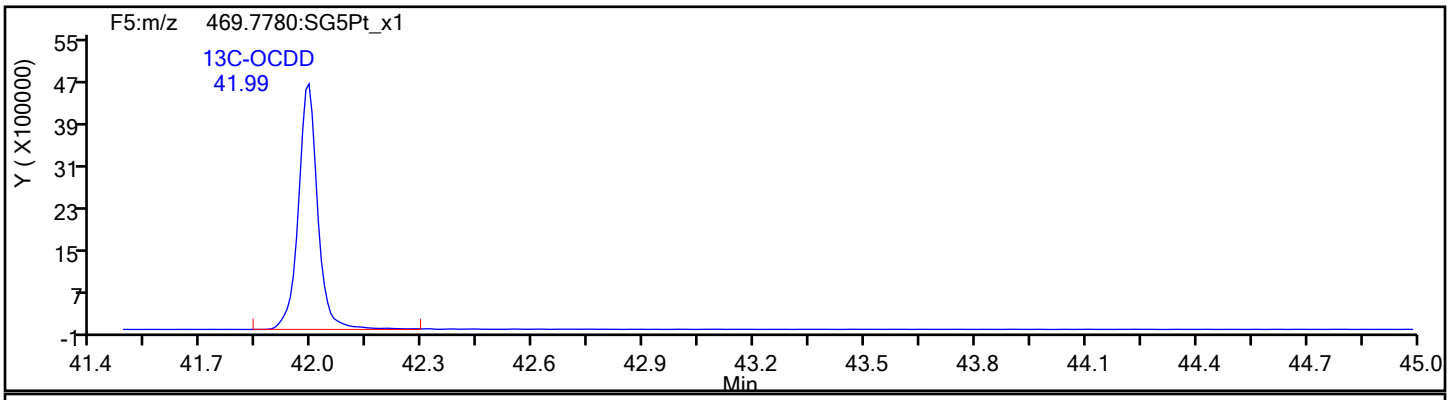
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

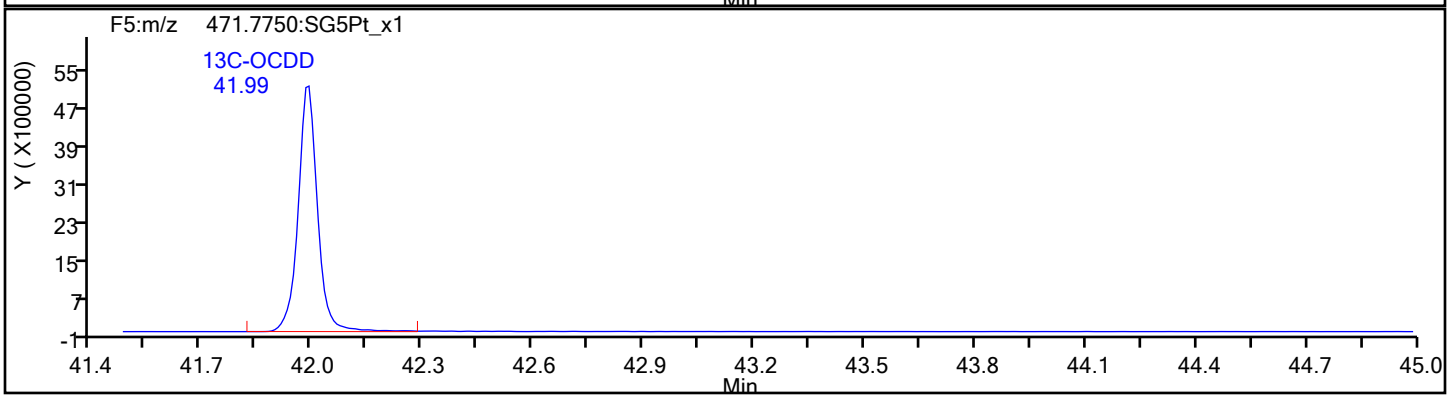
OCDF





OCDF Standards

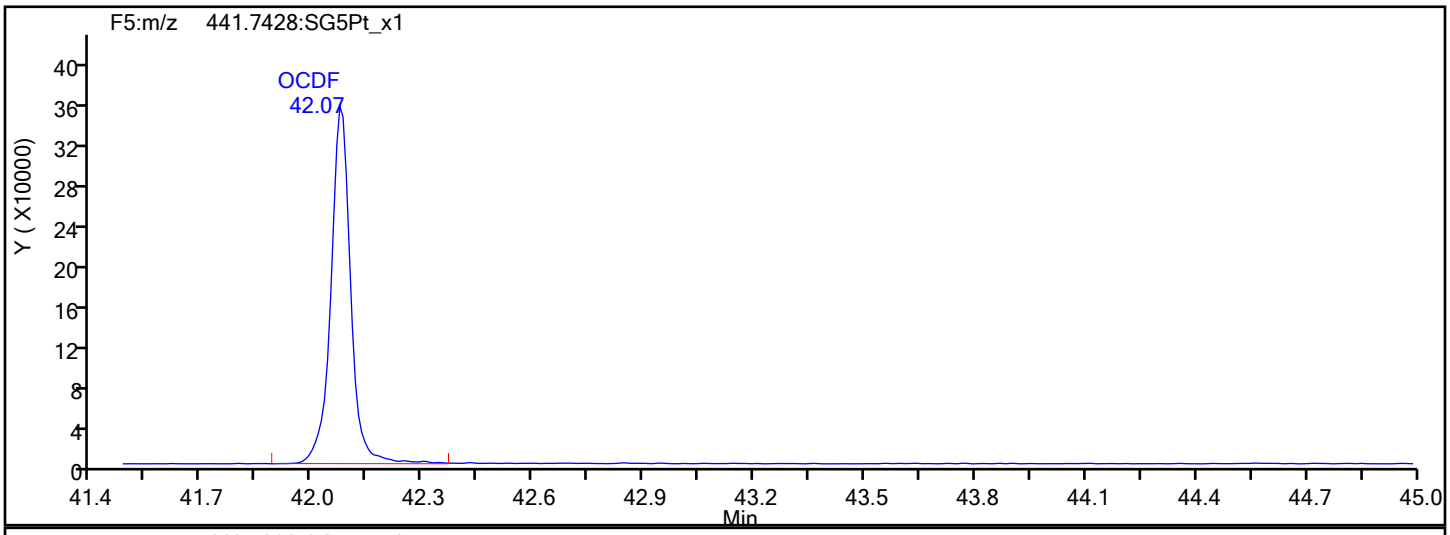


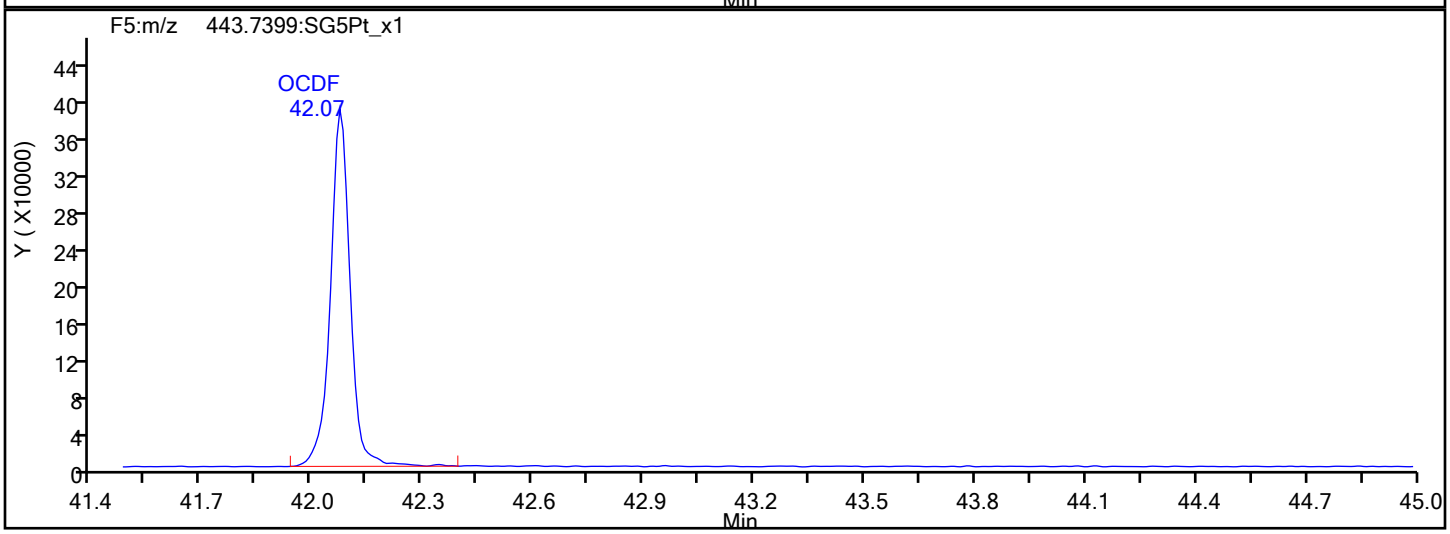


Eurofins TestAmerica, Sacramento

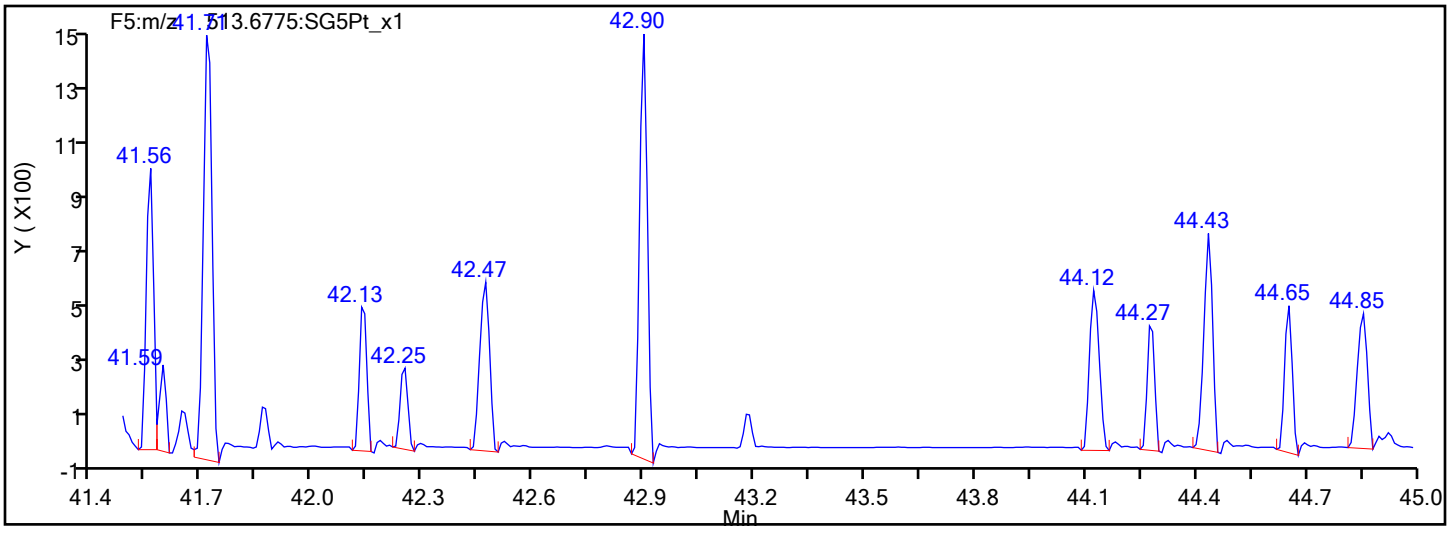
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
Injection Date:	28-Dec-2021 03:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

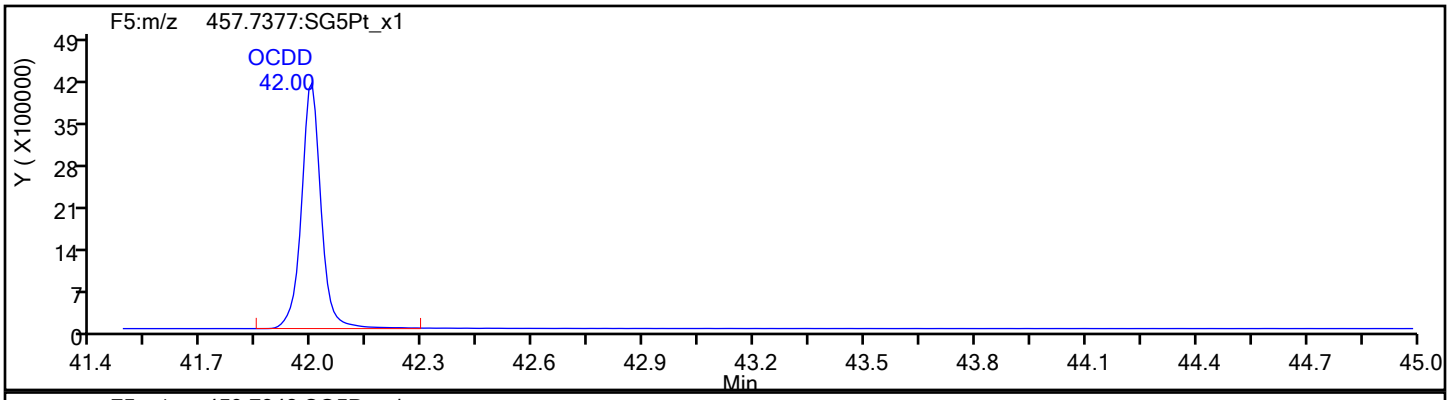


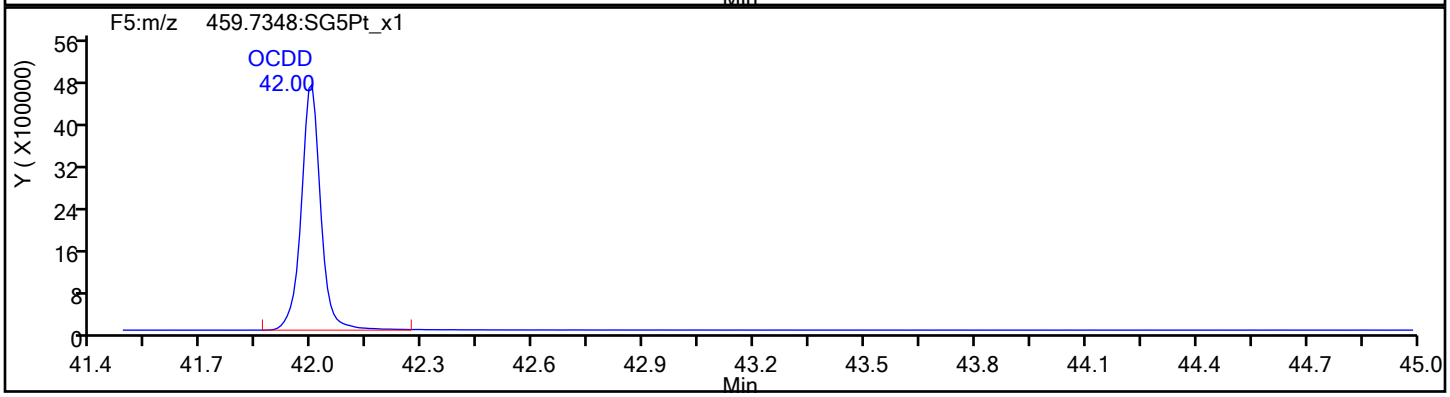
Report Date: 28-Dec-2021 14:25:00 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

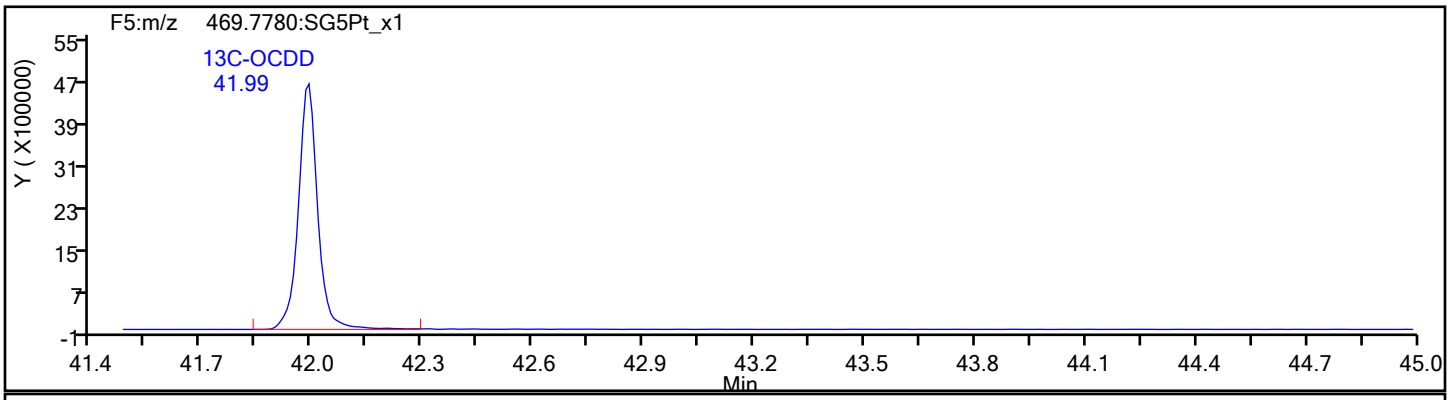
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
Injection Date:	28-Dec-2021 03:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

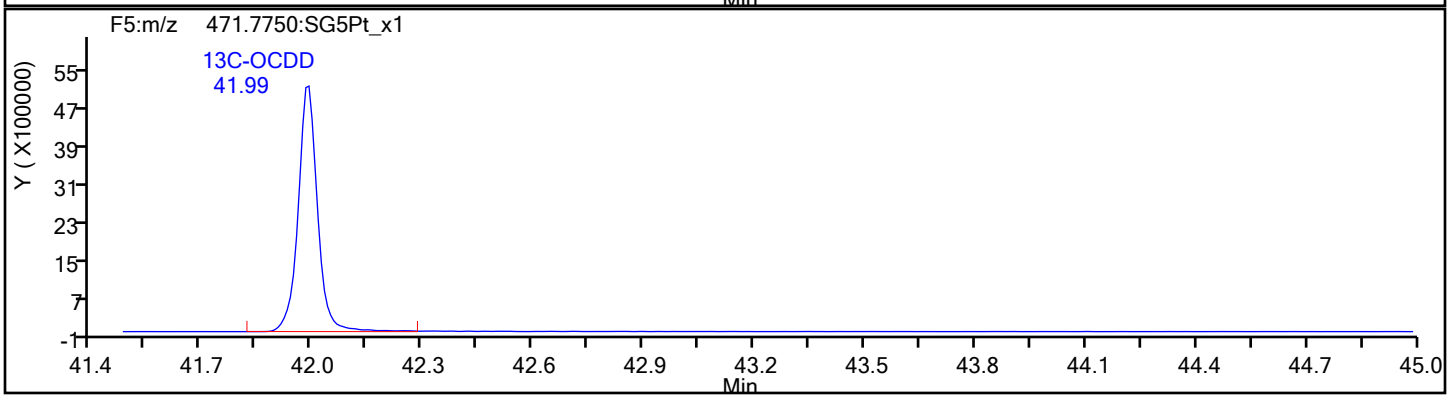
OCDD





OCDD Standards

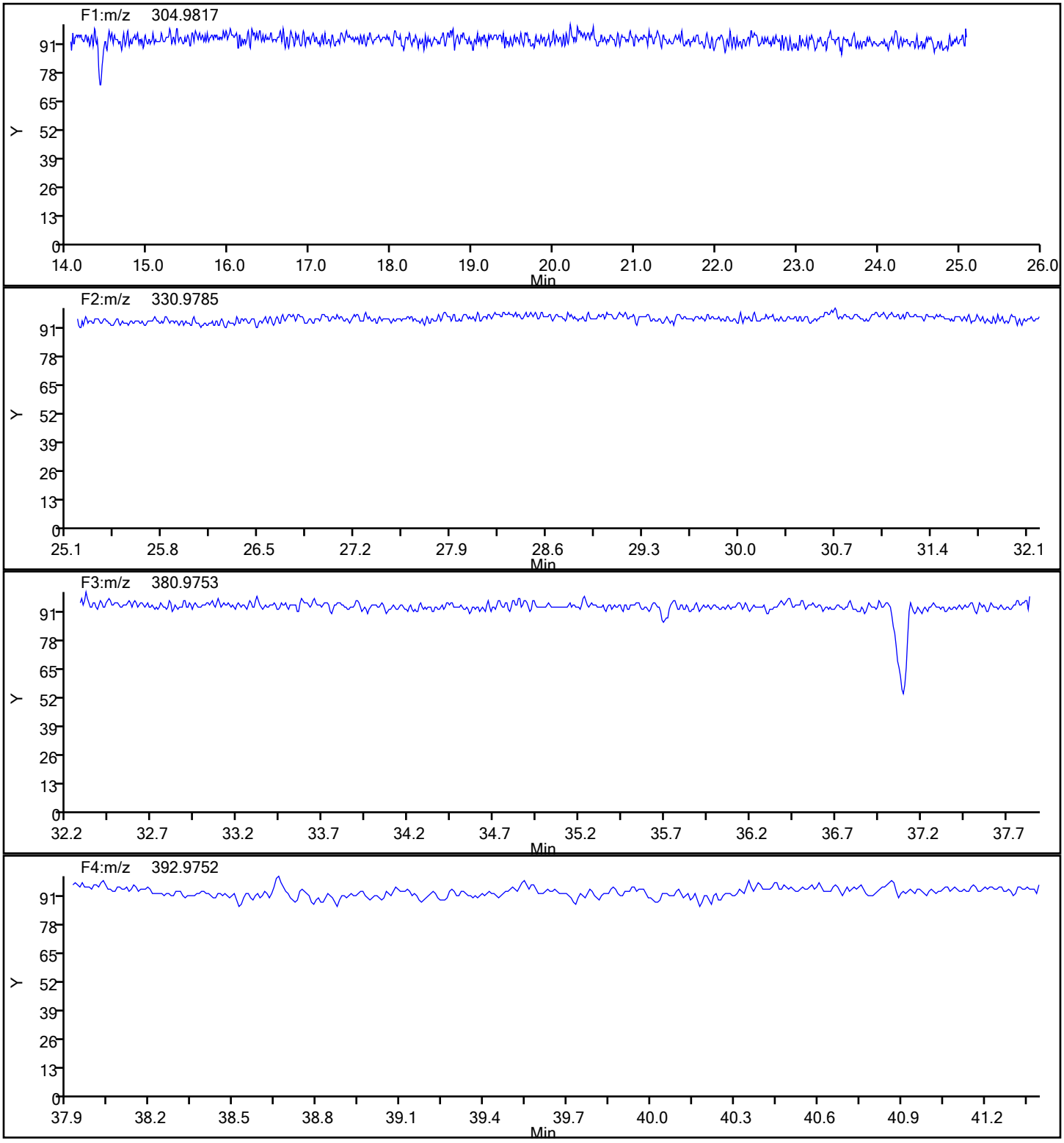




Report Date: 28-Dec-2021 14:25:00 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
Injection Date:	28-Dec-2021 03:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 28-Dec-2021 14:25:00 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_22.d		
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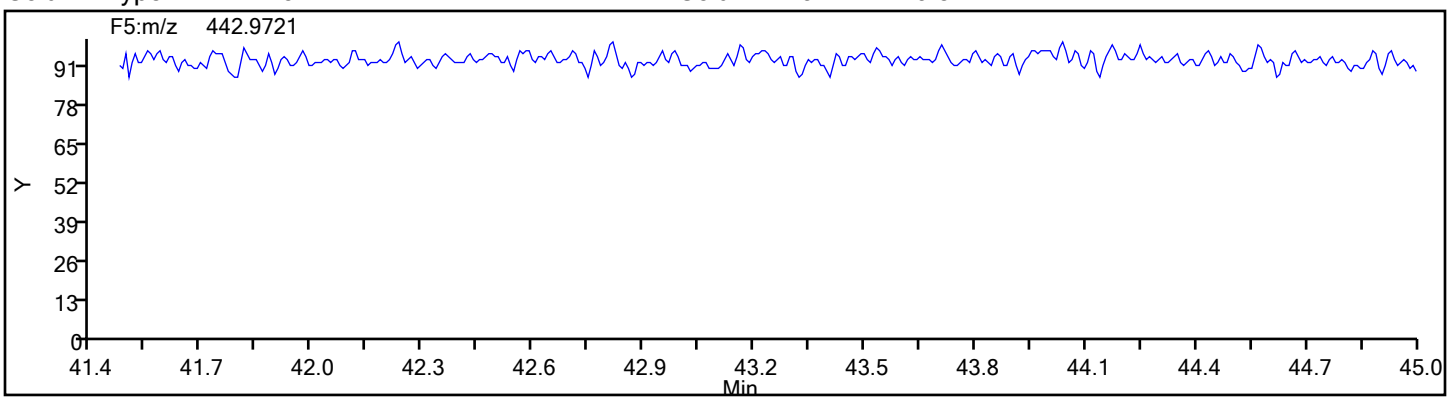
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S031		
Worklist#:	554312	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1 Analy Batch No.: 543974

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/18/2021 15:26 Calibration End Date: 11/18/2021 18:38 Calibration ID: 58188

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-543974/3	18no21adfs1_4.d
Level 2	IC 320-543974/4	18no21adfs1_5.d
Level 3	IC 320-543974/5	18no21adfs1_6.d
Level 4	IC 320-543974/6	18no21adfs1_7.d
Level 5	IC 320-543974/7	18no21adfs1_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	1.2630	1.1559	1.0012	1.0819	1.0206	AveID		1.1045				9.7		20.0			
2,3,7,8-TCDD	1.1530	1.1902	1.0426	1.1405	1.0789	AveID		1.1211				5.3		20.0			
1,2,3,7,8-PeCDF	1.1907	1.1698	0.9897	1.0413	1.1021	AveID		1.0987				7.7		20.0			
2,3,4,7,8-PeCDF	1.1749	1.1337	0.9744	1.0191	0.9873	AveID		1.0579				8.6		20.0			
1,2,3,7,8-PeCDD	1.1758	1.2132	1.0148	1.0795	1.0315	AveID		1.1030				8.0		20.0			
1,2,3,4,7,8-HxCDF	1.0450	1.0404	0.8283	0.9074	0.9312	AveID		0.9504				9.7		20.0			
1,2,3,6,7,8-HxCDF	1.0288	1.0743	0.8467	0.9303	0.8819	AveID		0.9524				10.1		20.0			
2,3,4,6,7,8-HxCDF	0.9669	1.0093	0.7982	0.8603	0.8117	AveID		0.8893				10.6		20.0			
1,2,3,4,7,8-HxCDD	1.0988	1.1117	0.9096	0.9665	0.9528	AveID		1.0079				9.1		20.0			
1,2,3,6,7,8-HxCDD	1.0790	1.1156	0.9256	0.9964	0.9390	AveID		1.0111				8.3		20.0			
1,2,3,7,8,9-HxCDD	1.1566	1.2257	1.0135	1.0779	1.0228	AveID		1.0993				8.3		20.0			
1,2,3,7,8,9-HxCDF	0.8825	0.9689	0.7703	0.8080	0.7868	AveID		0.8433				9.8		20.0			
1,2,3,4,6,7,8-HpCDF	1.5482	1.6597	1.3434	1.5018	1.5389	AveID		1.5184				7.5		20.0			
1,2,3,4,6,7,8-HpCDD	1.1522	1.1876	0.9649	1.0829	1.0887	AveID		1.0953				7.8		20.0			
1,2,3,4,7,8,9-HpCDF	1.4257	1.4683	1.1800	1.3360	1.2836	AveID		1.3387				8.6		20.0			
OCDD	1.1686	1.2306	0.9867	1.0698	1.1024	AveID		1.1116				8.4		20.0			
OCDF	1.4137	1.5935	1.2716	1.3624	1.3485	AveID		1.3979				8.6		20.0			
13C-2,3,7,8-TCDF	1.2692	1.2454	1.3537	1.2881	1.3020	Ave		1.2917				3.1		30.0			
13C-2,3,7,8-TCDD	0.8140	0.8134	0.8269	0.8354	0.8460	Ave		0.8271				1.7		30.0			
13C-1,2,3,7,8-PeCDF	1.1613	1.0969	1.1826	1.1873	1.2043	Ave		1.1665				3.6		30.0			
13C-1,2,3,7,8-PeCDD	0.6105	0.6003	0.6966	0.7113	0.7988	Ave		0.6835				11.9		30.0			
13C-1,2,3,4,7,8-HxCDF	1.2170	1.1968	1.2346	1.1605	1.0790	Ave		1.1776				5.2		30.0			
13C-1,2,3,6,7,8-HxCDD	0.7461	0.7212	0.7359	0.7301	0.7364	Ave		0.7339				1.2		30.0			
13C-1,2,3,4,6,7,8-HpCDF	0.7073	0.6681	0.6788	0.6586	0.6361	Ave		0.6698				3.9		30.0			
13C-1,2,3,4,6,7,8-HpCDD	0.6212	0.5889	0.6055	0.5710	0.5847	Ave		0.5943				3.3		30.0			
13C-OCDD	0.5207	0.4799	0.4904	0.4898	0.4380	Ave		0.4838				6.2		30.0			
37Cl4-2,3,7,8-TCDD	0.9227	0.8640	0.8493	0.8993	0.8974	Ave		0.8866				3.3		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1 Analy Batch No.: 543974

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/18/2021 15:26 Calibration End Date: 11/18/2021 18:38 Calibration ID: 58188

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-543974/3	18no21adfs1_4.d
Level 2	IC 320-543974/4	18no21adfs1_5.d
Level 3	IC 320-543974/5	18no21adfs1_6.d
Level 4	IC 320-543974/6	18no21adfs1_7.d
Level 5	IC 320-543974/7	18no21adfs1_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	158422	402364	3125847	16105861	70361564	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	92752	270588	1988183	11010844	48337010	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	683283	1793144	13496177	71438807	351439457	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	674165	1737826	13287542	69916108	314824731	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	354709	1017817	8152026	44369129	218163855	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	722536	1774041	13734866	70595232	314582877	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	711360	1831807	14040398	72381699	297947435	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	668525	1720989	13236171	66931319	274234389	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	465728	1142265	8991431	47303224	219688438	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	457339	1146327	9149126	48767448	216491684	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	490210	1259459	10018491	52756967	235807639	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	610201	1652051	12773956	62863874	265800422	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	622145	1579895	12248420	66304440	306510981	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	406650	996508	7848091	41452939	199315962	2.50	10.0	50.0	200	1000

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1 Analy Batch No.: 543974

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/18/2021 15:26 Calibration End Date: 11/18/2021 18:38 Calibration ID: 58188

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
1,2,3,4,7,8,9-HpCDF		AveID	572932	1397686	10758363	58984877	255655259	2.50	10.0	50.0	200	1000
OCDD		AveID	691378	1682887	12999167	70253771	302346576	5.00	20.0	100	400	2000
OCDF		AveID	836383	2179149	16752905	89466394	369846951	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTCDD	Ave	25086647	17404920	31220284	37215258	34471994	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTCDD	Ave	16089210	11367108	19069570	24135099	22400301	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTCDD	Ave	22953172	15329023	27274270	34302010	31886919	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTCDD	Ave	12066497	8389682	16066202	20551065	21149998	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHxCD	Ave	27657574	17051491	33164101	38901018	33783657	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHxCD	Ave	16954170	10275282	19769638	24472124	23055935	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHxCD	Ave	16074440	9519087	18234696	22075088	19917414	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHxCD	Ave	14117592	8390734	16266902	19140309	18307130	100	100	100	100	100
13C-OCDD	13CHxCD	Ave	23665496	13675624	26348519	32835195	27427204	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTCDD	Ave	91192	241496	1958703	10393211	47520860	0.500	2.00	10.0	40.0	200

Curve Type Legend
Ave = Average ISTD
AveID = Average isotope dilution

	File Name	SampleName	Sample ID	Position	Method/Matrix	Box	User	Sample Vol	Units
1	18NO21ADFS1_1	Resolution Check	RC 111821	46			KSS	1.000	
2	18NO21ADFS1_2	WDM HRDXNCP_00044	WDM 111821	1	Dioxin		KSS	1.000	
3	18NO21ADFS1_3	SB Solvent Blank C14	SB 111821	3	Dioxin		KSS	1.000	
4	18NO21ADFS1_4	IC CS2_HRDXNL2_00033	IC CS2_HRDXNL2_00033	4	DXN/ICAL	ICAL	KSS	1.000	
5	18NO21ADFS1_5	IC CS3_HRDXNL3_00030	IC CS3_HRDXNL3_00030	5	DXN/ICAL		KSS	1.000	
6	18NO21ADFS1_6	IC CS4_HRDXNL4_00104	IC CS4_HRDXNL4_00104	2	DXN/ICAL		KSS	1.000	
7	18NO21ADFS1_7	IC CS5_HRDXNL5_00033	IC CS5_HRDXNL5_00033	6	DXN/ICAL		KSS	1.000	
8	18NO21ADFS1_8	IC CS6_HRDXNL6_00030	IC CS6_HRDXNL6_00030	7	DXN/ICAL		KSS	1.000	
9	18NO21ADFS1_9	SB Solvent Blank C14	SB 111821A	3	Dioxin		KSS	1.000	
10	18NO21ADFS1_10	Resolution Check	RC 111821A	46			KSS	1.000	
11	18NO21ADFS1_11	ICV HRDXNIC_00048	ICV HRDXNIC_00048	8	DXN/ICAL		KSS	1.000	
12	18NO21ADFS1_12	Resolution Check	RC 111821B	46			KSS	1.000	

LOGFILE CHECKED
DB 11/18/21

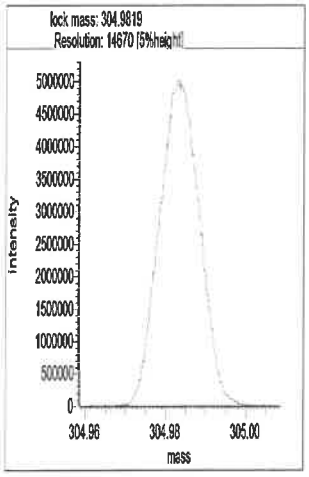
Resolution Check Report (DFS SN: 3487)

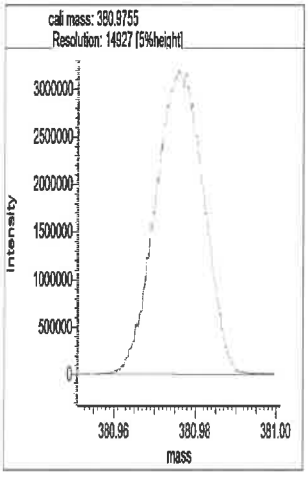
eurofins | Environment Testing TestAmerica

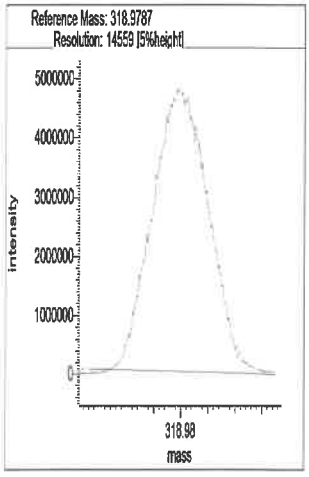
Date:	18 Nov 2021 13:32
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9500
Resolution Error :	8000
Reference:	pfk
Status:	RESOLUTION PASSED

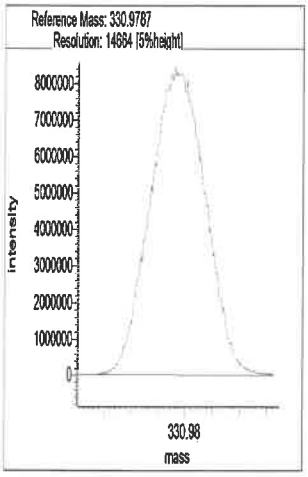
Segment 1

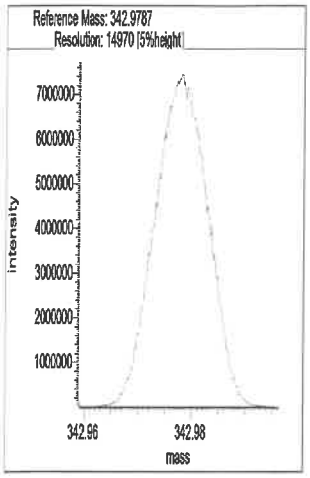
Lock mass 304.9819 [m/z] Resolution: 14670 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 14927 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 14559 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 14664 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 14970 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 14751 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 14749 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 14495 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 14945 [5%height]

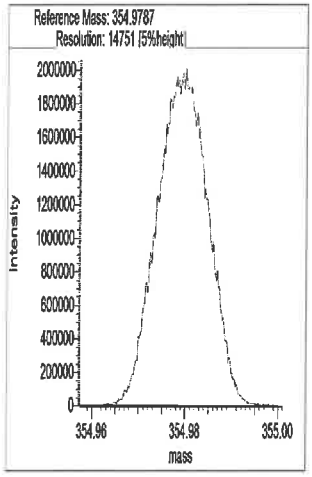


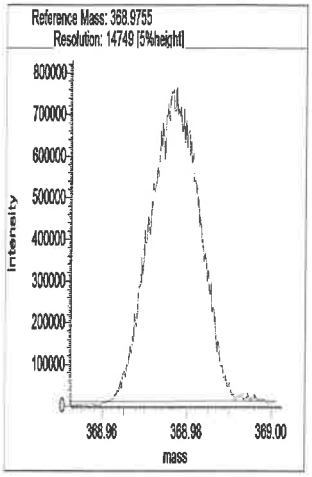


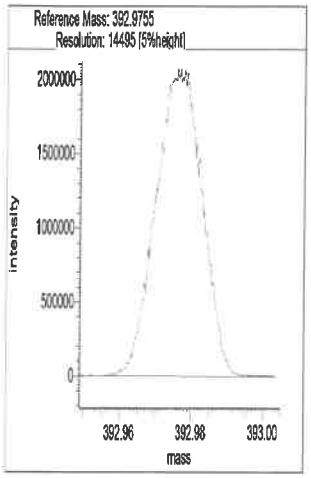


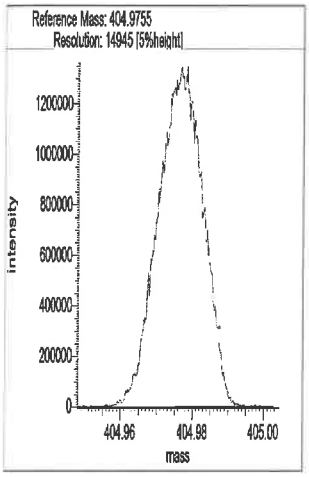












Segment 2

Lock mass 330.9787 [m/z] Resolution: 15223 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 14891 [5%height]

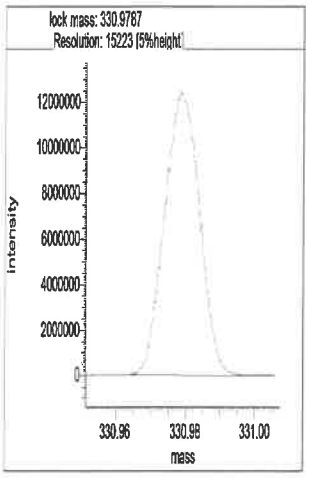
Ref. mass 342.9787 [m/z] Resolution: 14823 [5%height]

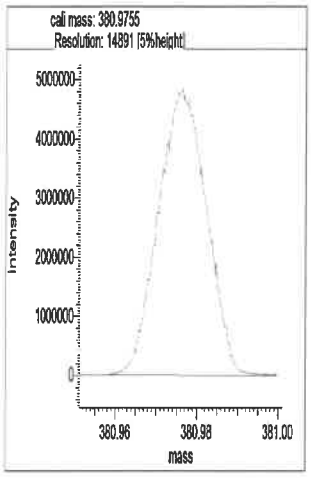
Ref. mass 354.9787 [m/z] Resolution: 15072 [5%height]

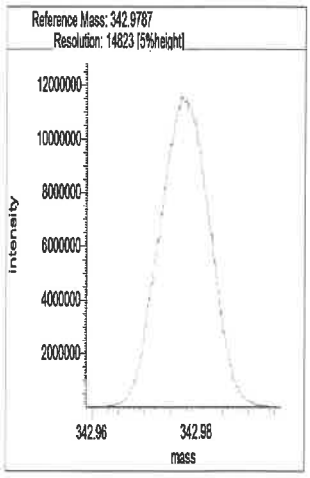
Ref. mass 368.9755 [m/z] Resolution: 14445 [5%height]

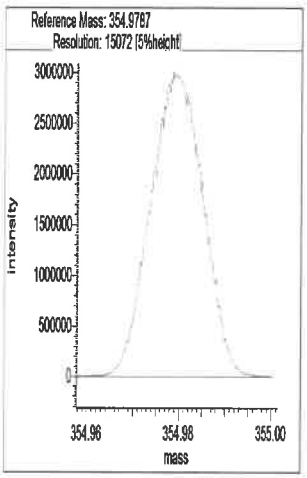
Ref. mass 392.9755 [m/z] Resolution: 14885 [5%height]

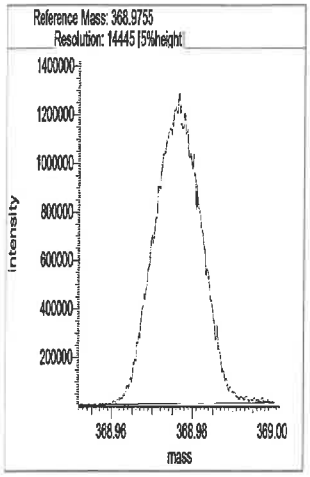
Ref. mass 404.9755 [m/z] Resolution: 14743 [5%height]

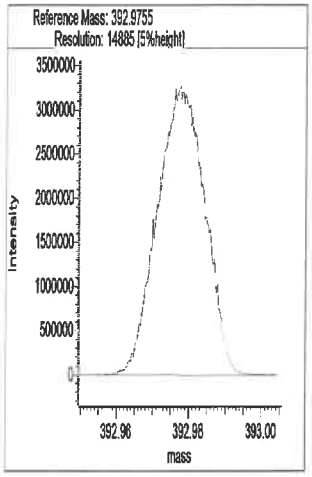


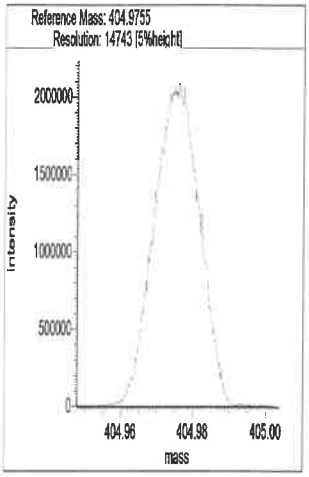












Segment 3

Lock mass 380.9755 [m/z] Resolution: 14812 [5%height]

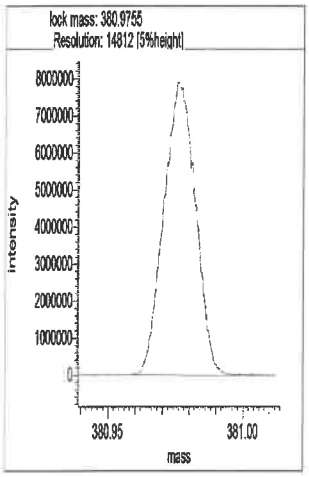
Cali. mass 430.9723 [m/z] Resolution: 14875 [5%height]

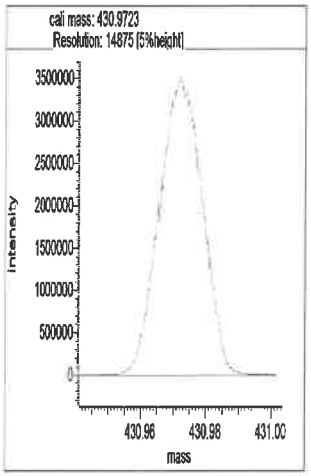
Ref. mass 392.9755 [m/z] Resolution: 15179 [5%height]

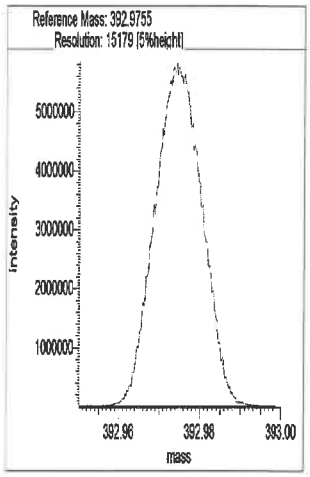
Ref. mass 404.9755 [m/z] Resolution: 14615 [5%height]

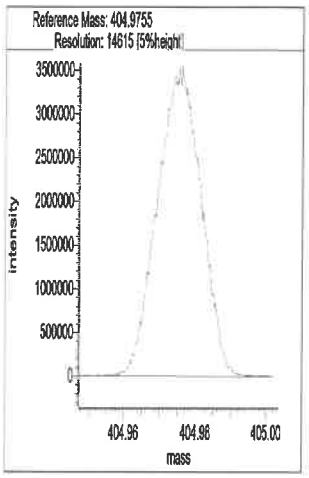
Ref. mass 416.9755 [m/z] Resolution: 15188 [5%height]

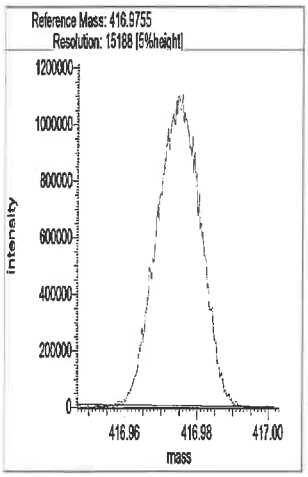
Ref. mass 442.9723 [m/z] Resolution: 14854 [5%height]

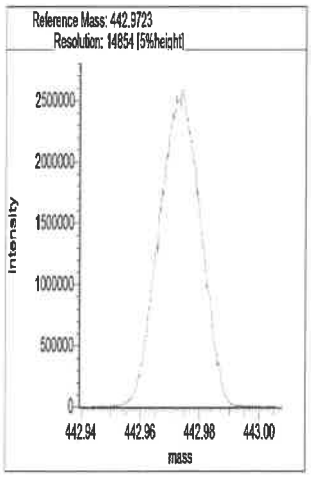












Segment 4

Lock mass 392.9754 [m/z] Resolution: 14990 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 14965 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 15049 [5%height]

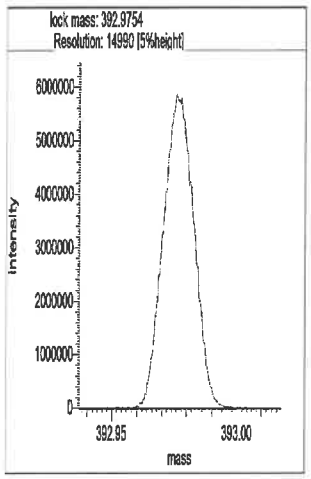
Ref. mass 416.9755 [m/z] Resolution: 14489 [5%height]

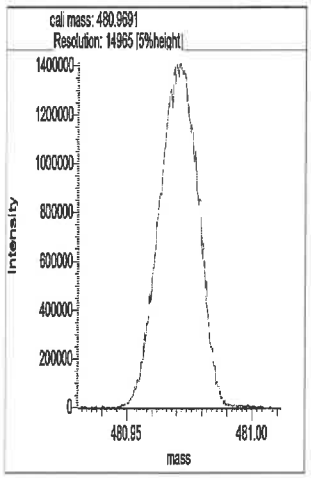
Ref. mass 430.9723 [m/z] Resolution: 14772 [5%height]

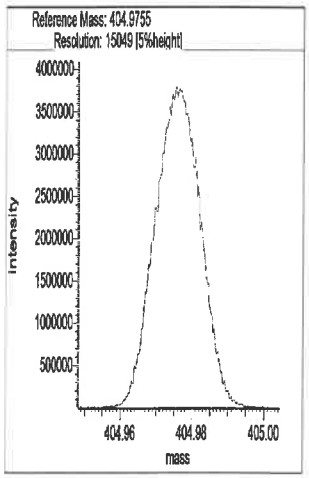
Ref. mass 442.9723 [m/z] Resolution: 14895 [5%height]

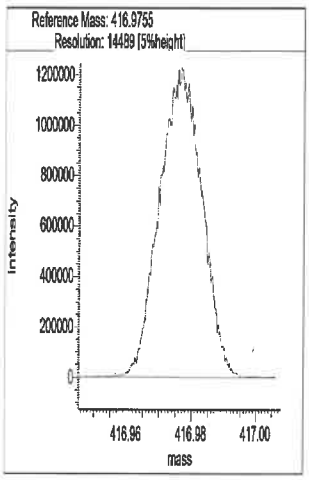
Ref. mass 454.9723 [m/z] Resolution: 14984 [5%height]

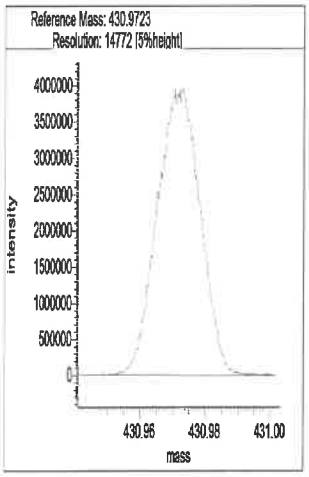
Ref. mass 466.9723 [m/z] Resolution: 14462 [5%height]

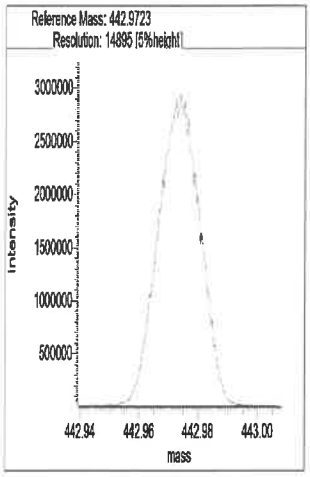


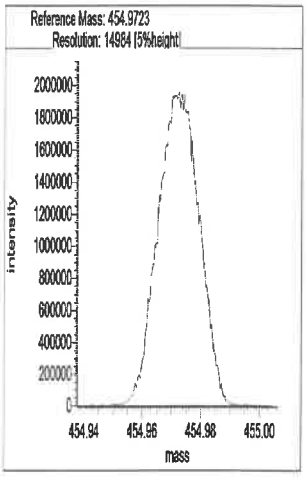


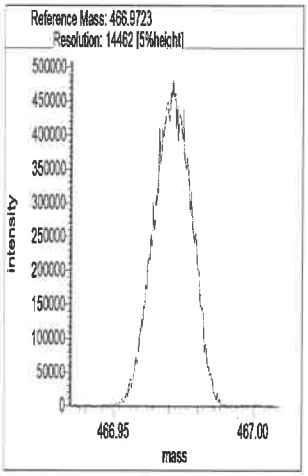












Segment 5

Lock mass 442.9723 [m/z] Resolution: 14630 [5%height]

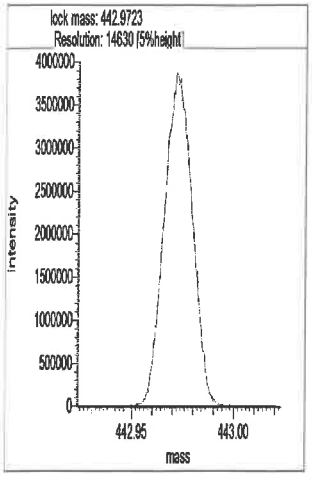
Cali. mass 504.9691 [m/z] Resolution: 15155 [5%height]

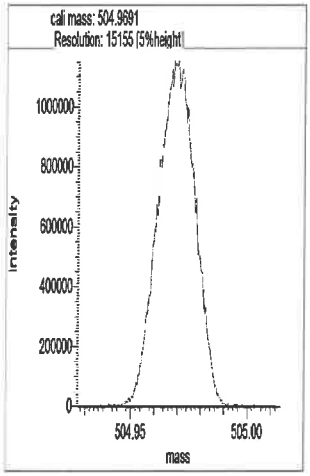
Ref. mass 454.9723 [m/z] Resolution: 14506 [5%height]

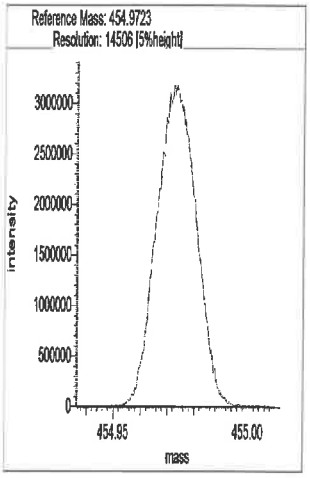
Ref. mass 466.9723 [m/z] Resolution: 14775 [5%height]

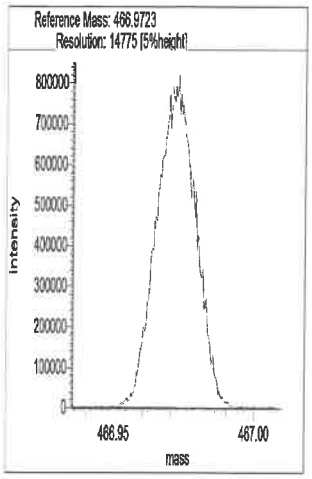
Ref. mass 480.9691 [m/z] Resolution: 14479 [5%height]

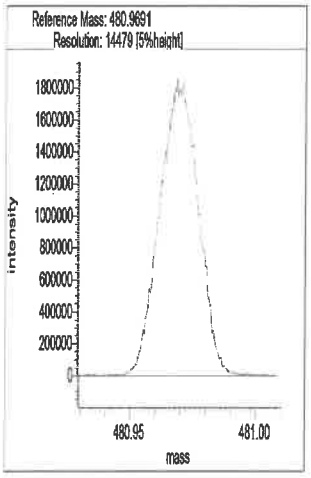
Ref. mass 492.9691 [m/z] Resolution: 14871 [5%height]

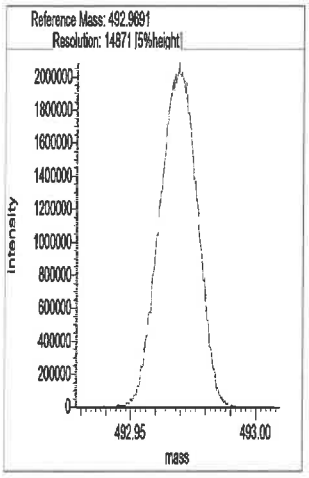

lock mass: 442.9723
Resolution: 14630 [5%height]
intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 15155 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 14506 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 14775 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 14479 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 14871 [5%height]
intensity
mass
492.95
493.00

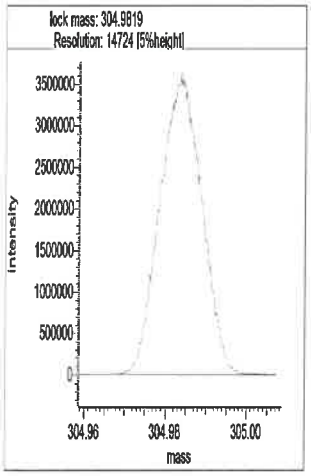
Resolution Check Report (DFS SN: 3487)

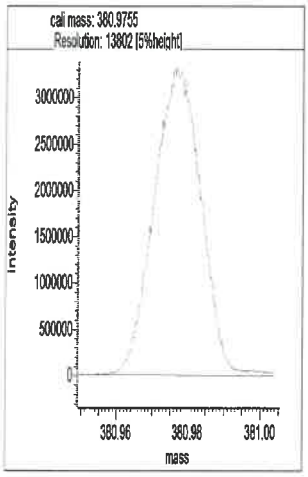
eurofins | Environment Testing TestAmerica

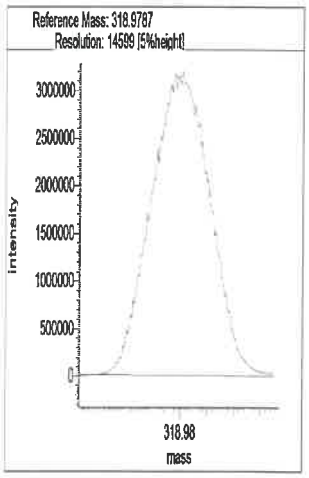
Date:	18 Nov 2021 20:14
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9500
Resolution Error :	8000
Reference:	pfk
Status:	RESOLUTION PASSED

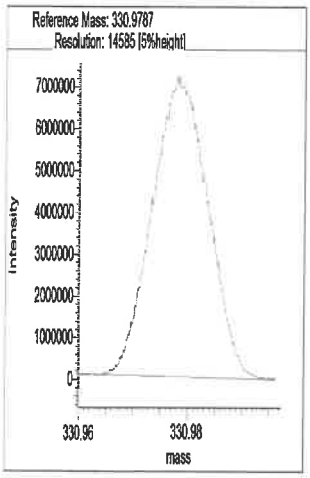
Segment 1

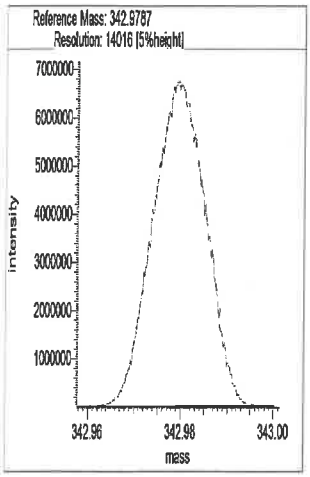
Lock mass 304.9819 [m/z] Resolution: 14724 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 13802 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 14599 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 14585 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 14016 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 14170 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 11843 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 14140 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 36606 [5%height] ✓ OK 11/19/21 KSS

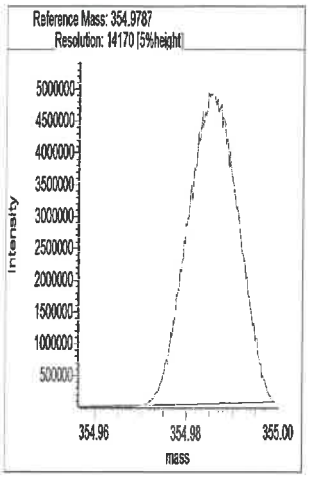


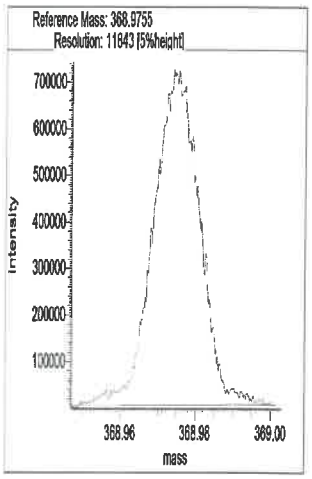


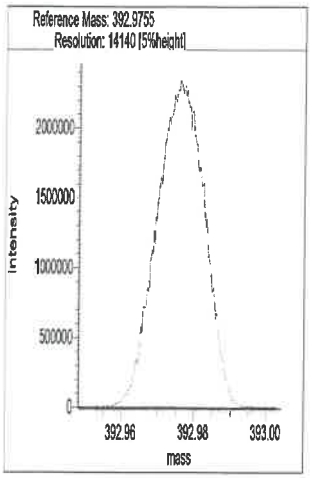


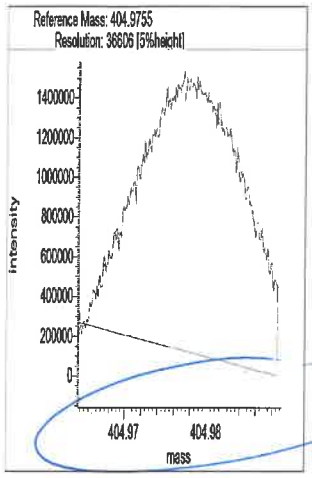












Graphics software glitch 11/19/21 nss

Segment 2

Lock mass 330.9787 [m/z] Resolution: 14719 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 13993 [5%height]

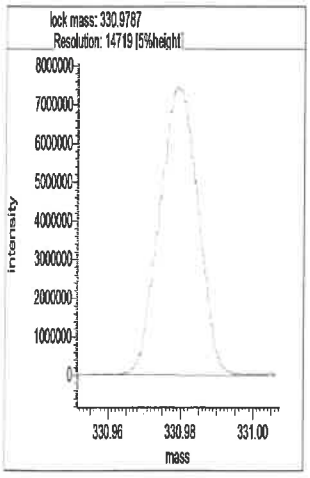
Ref. mass 342.9787 [m/z] Resolution: 14192 [5%height]

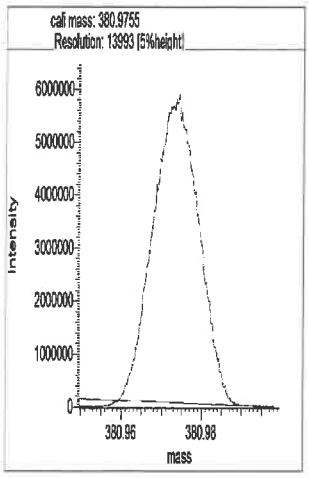
Ref. mass 354.9787 [m/z] Resolution: 14257 [5%height]

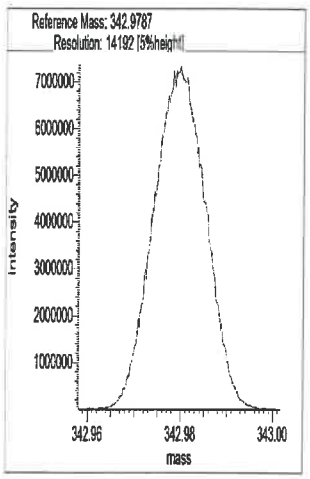
Ref. mass 368.9755 [m/z] Resolution: 13737 [5%height]

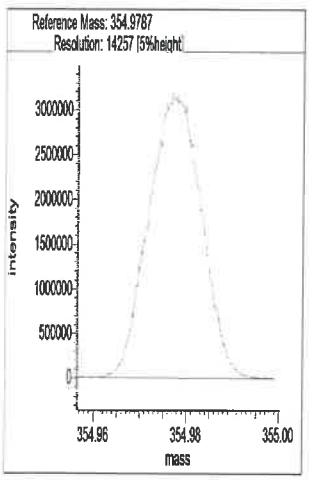
Ref. mass 392.9755 [m/z] Resolution: 14044 [5%height]

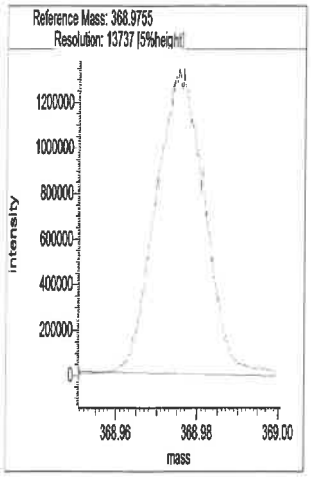
Ref. mass 404.9755 [m/z] Resolution: 13947 [5%height]

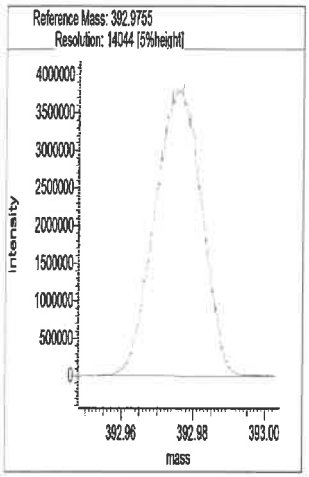


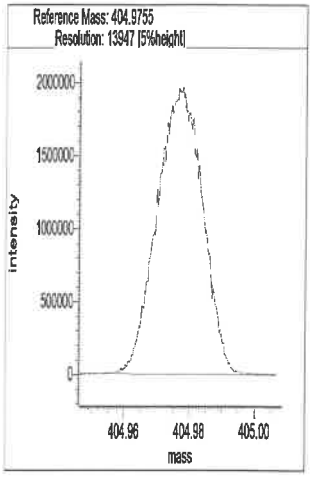












Segment 3

Lock mass 380.9755 [m/z] Resolution: 14336 [5%height]

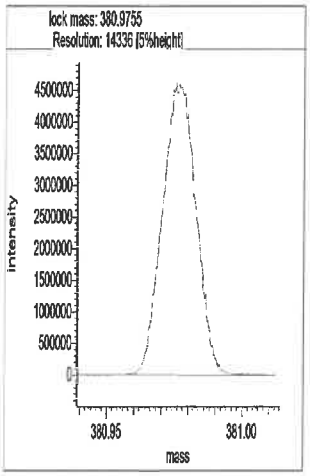
Cali. mass 430.9723 [m/z] Resolution: 14100 [5%height]

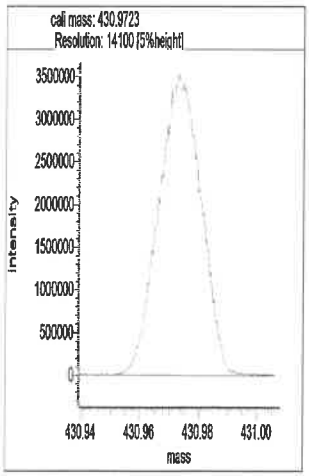
Ref. mass 392.9755 [m/z] Resolution: 14465 [5%height]

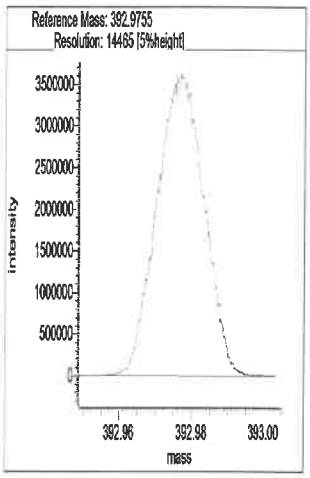
Ref. mass 404.9755 [m/z] Resolution: 14242 [5%height]

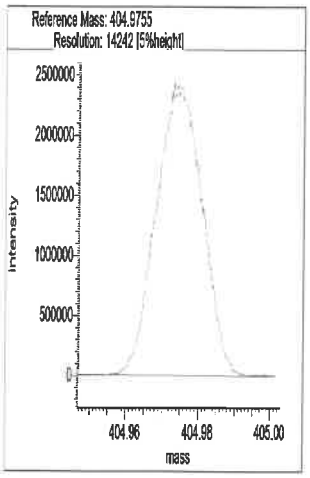
Ref. mass 416.9755 [m/z] Resolution: 14552 [5%height]

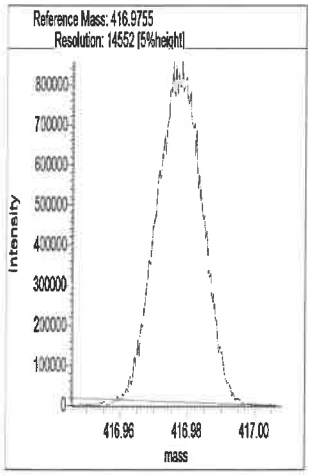
Ref. mass 442.9723 [m/z] Resolution: 14204 [5%height]

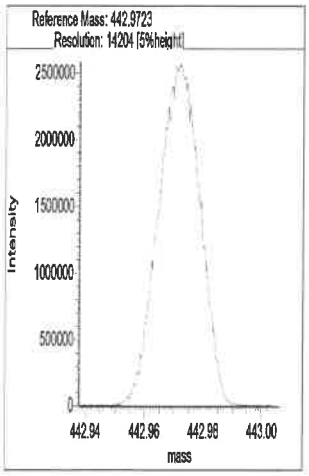












Segment 4

Lock mass 392.9754 [m/z] Resolution: 14543 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 13916 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 14462 [5%height]

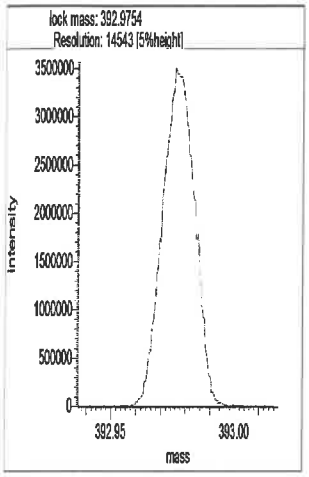
Ref. mass 416.9755 [m/z] Resolution: 14318 [5%height]

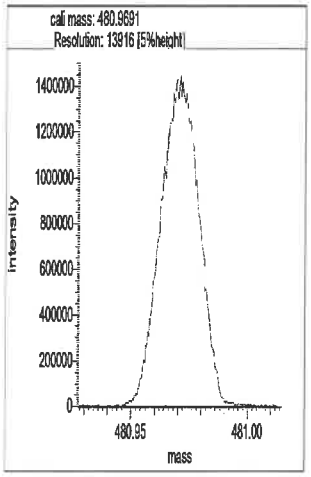
Ref. mass 430.9723 [m/z] Resolution: 14147 [5%height]

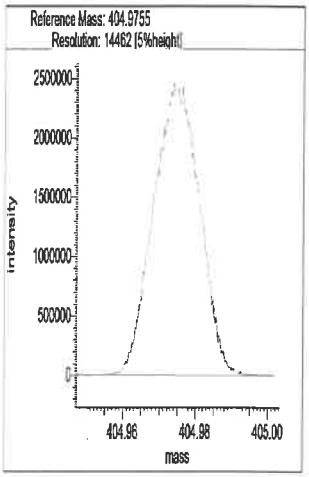
Ref. mass 442.9723 [m/z] Resolution: 13908 [5%height]

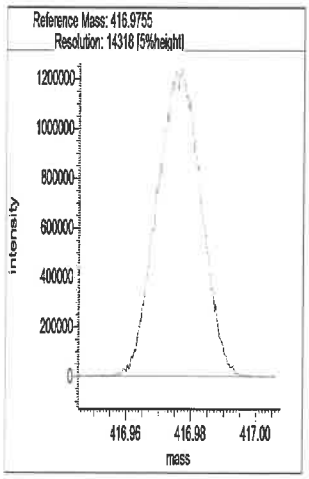
Ref. mass 454.9723 [m/z] Resolution: 14050 [5%height]

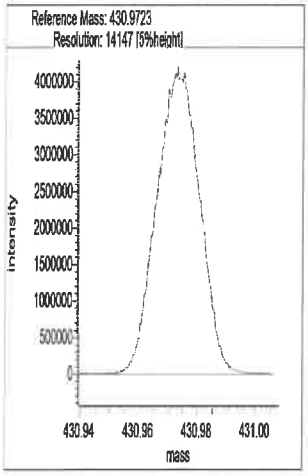
Ref. mass 466.9723 [m/z] Resolution: 14180 [5%height]

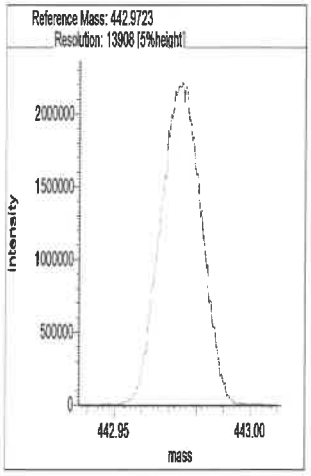


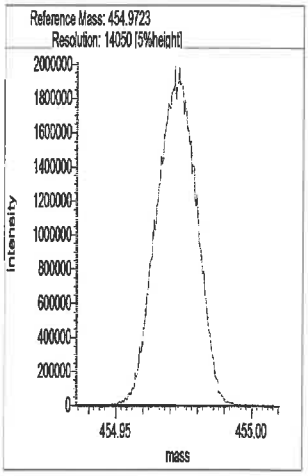


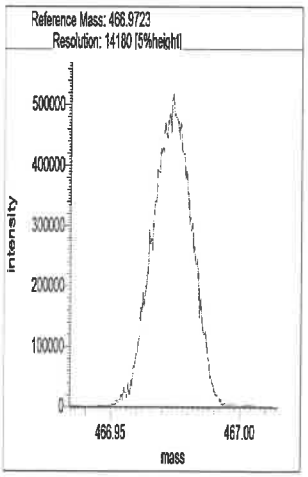












Segment 5

Lock mass 442.9723 [m/z] Resolution: 14300 [5%height]

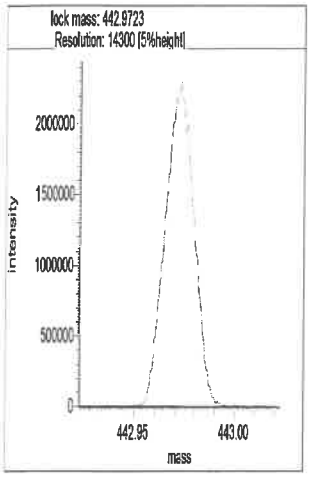
Cali. mass 504.9691 [m/z] Resolution: 14110 [5%height]

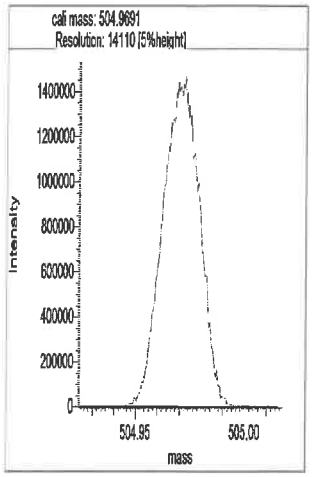
Ref. mass 454.9723 [m/z] Resolution: 14478 [5%height]

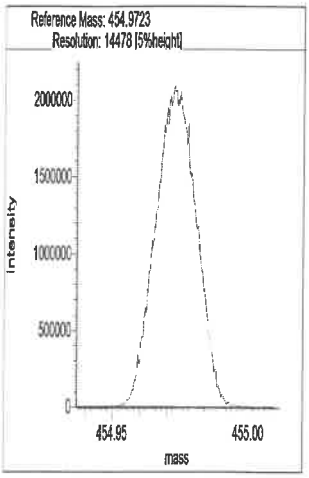
Ref. mass 466.9723 [m/z] Resolution: 14288 [5%height]

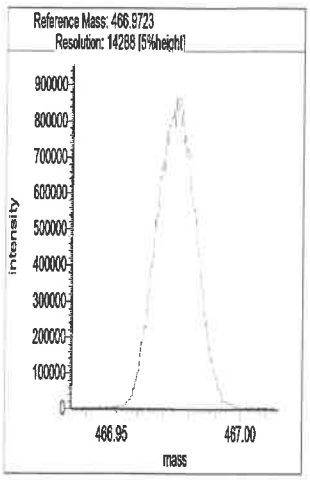
Ref. mass 480.9691 [m/z] Resolution: 14162 [5%height]

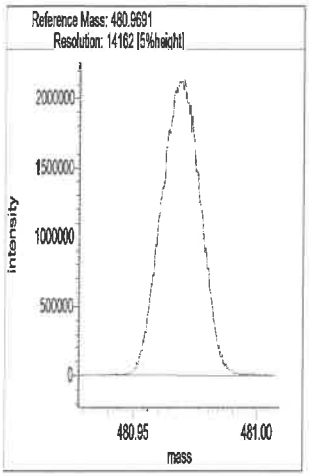
Ref. mass 492.9691 [m/z] Resolution: 13869 [5%height]

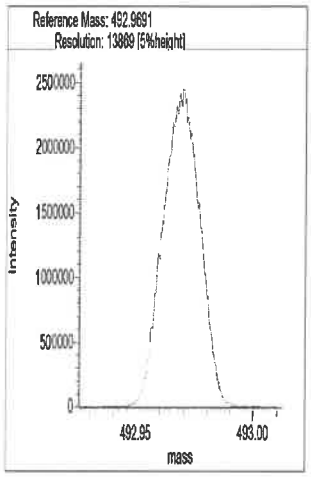

lock mass: 442.9723
Resolution: 14300 [5%height]
intensity
2000000
1500000
1000000
500000
0
442.95
443.00
mass


cali mass: 504.9691
Resolution: 14110 [5%height]
intensity
1400000
1200000
1000000
800000
600000
400000
200000
0
504.95
505.00
mass


Reference Mass: 454.9723
Resolution: 14478 [5%height]
intensity
2000000
1500000
1000000
500000
0
454.95
455.00
mass


Reference Mass: 466.9723
Resolution: 14288 [5%height]
intensity
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
466.95
467.00
mass


Reference Mass: 480.9691
Resolution: 14162 [5%height]
intensity
2000000
1500000
1000000
500000
0
480.95
481.00
mass


Reference Mass: 492.9691
Resolution: 13889 [5%height]
intensity
2500000
2000000
1500000
1000000
500000
0
492.95
493.00
mass

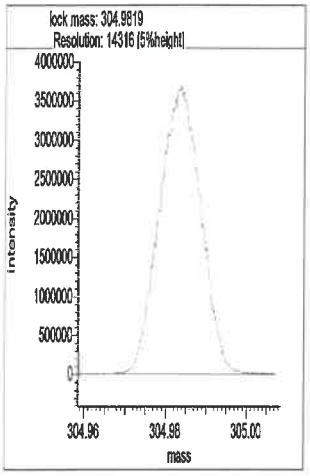
Resolution Check Report (DFS SN: 3487)

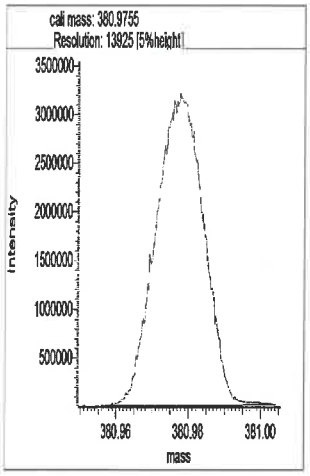
eurofins | Environment Testing TestAmerica

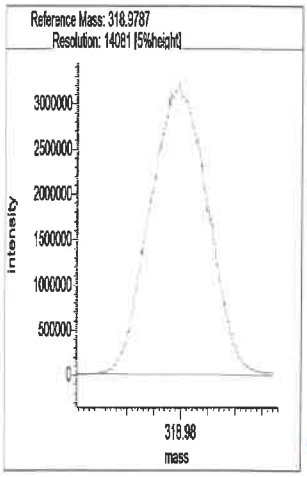
Date:	18 Nov 2021 21:20
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9500
Resolution Error :	8000
Reference:	pfk
Status:	RESOLUTION PASSED

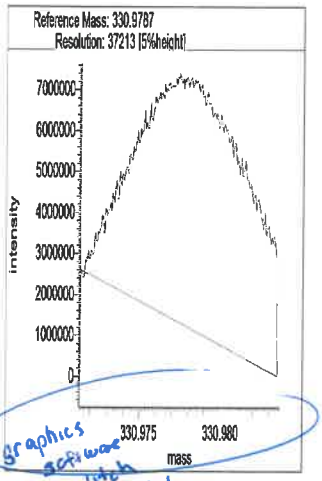
Segment 1

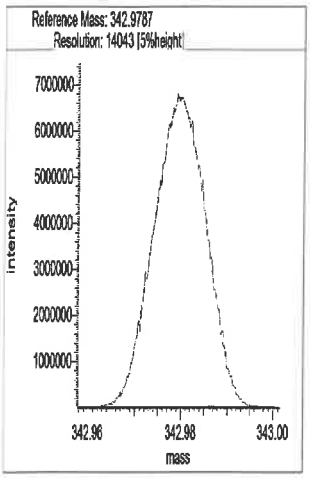
Lock mass 304.9819 [m/z] Resolution: 14316 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 13925 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 14081 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 37213 [5%height] ✓ CMC 11/19/21 KGS
Ref. mass 342.9787 [m/z] Resolution: 14043 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 14305 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 11855 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 13880 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 14156 [5%height]

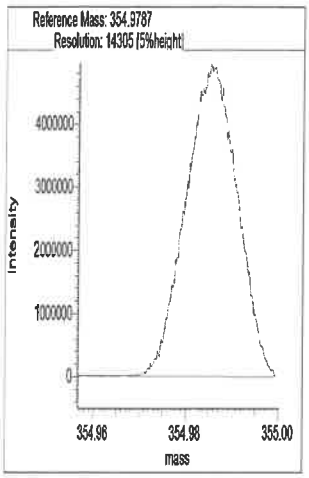


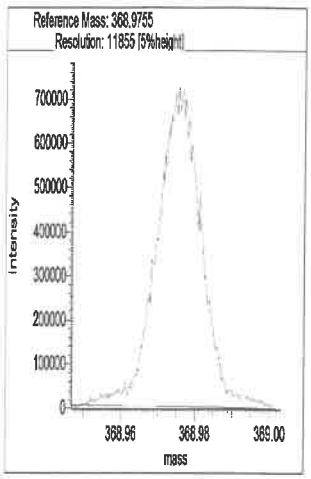


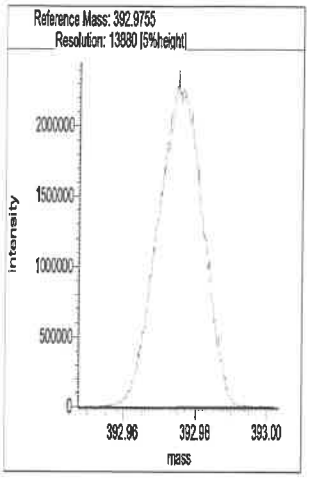


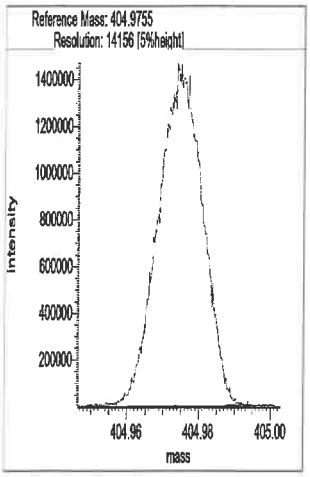












Segment 2

Lock mass 330.9787 [m/z] Resolution: 14337 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 13951 [5%height]

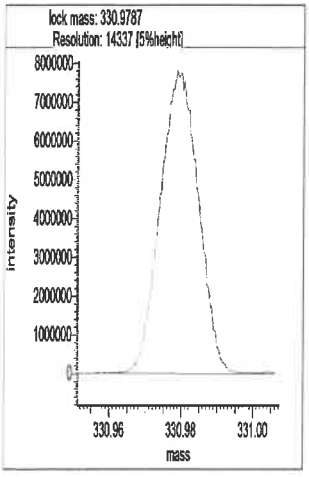
Ref. mass 342.9787 [m/z] Resolution: 14167 [5%height]

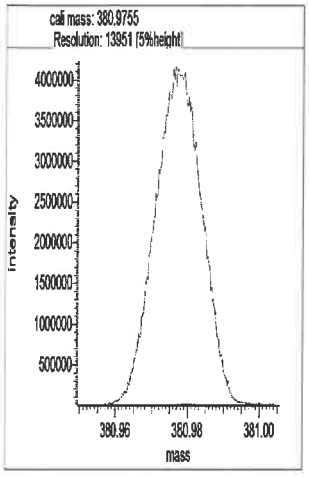
Ref. mass 354.9787 [m/z] Resolution: 14327 [5%height]

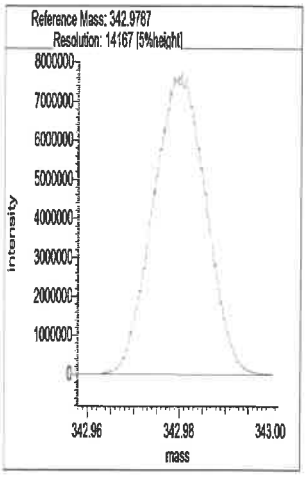
Ref. mass 368.9755 [m/z] Resolution: 13068 [5%height]

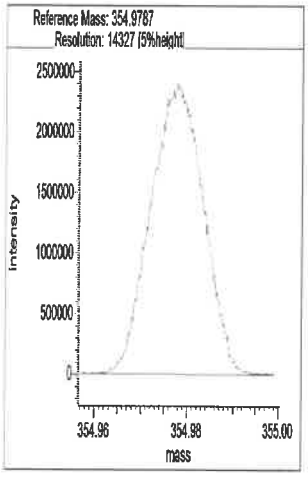
Ref. mass 392.9755 [m/z] Resolution: 14035 [5%height]

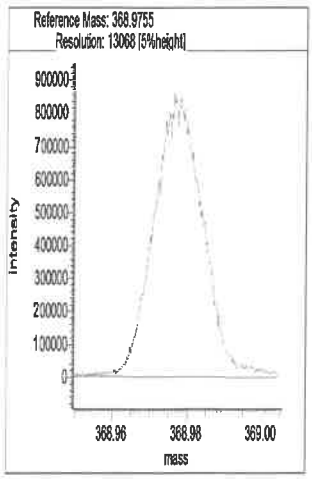
Ref. mass 404.9755 [m/z] Resolution: 14113 [5%height]

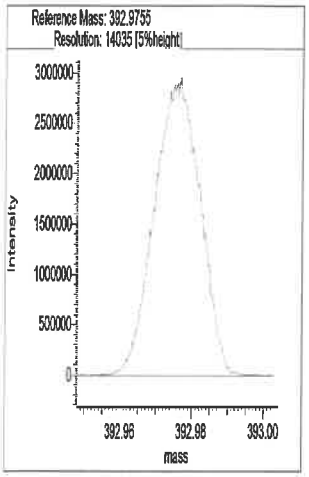


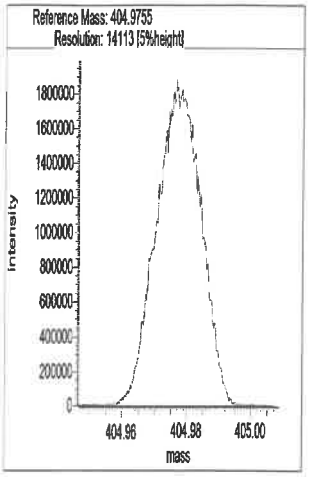












Segment 3

Lock mass 380.9755 [m/z] Resolution: 14166 [5%height]

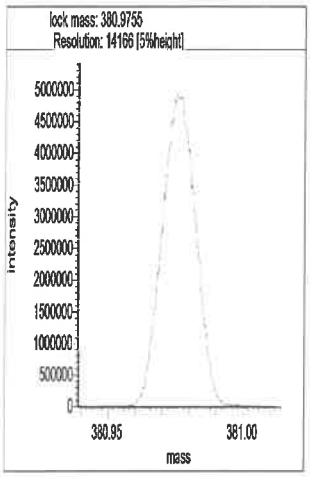
Cali. mass 430.9723 [m/z] Resolution: 14016 [5%height]

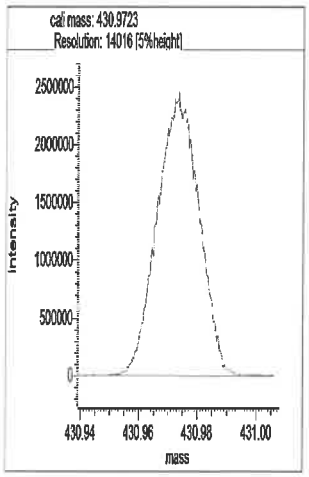
Ref. mass 392.9755 [m/z] Resolution: 14212 [5%height]

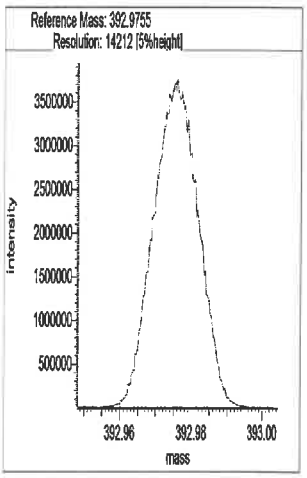
Ref. mass 404.9755 [m/z] Resolution: 13844 [5%height]

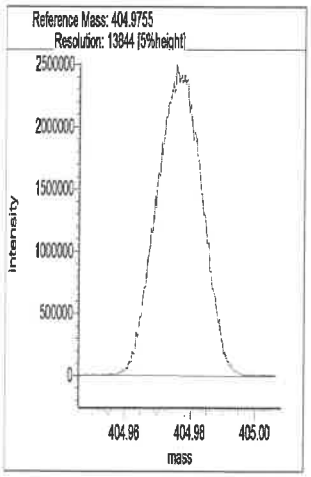
Ref. mass 416.9755 [m/z] Resolution: 14105 [5%height]

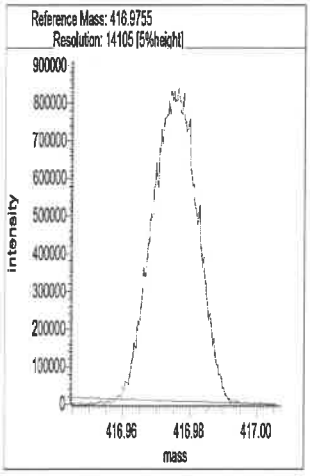
Ref. mass 442.9723 [m/z] Resolution: 14331 [5%height]

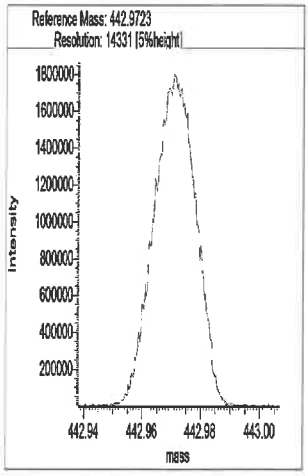












Segment 4

Lock mass 392.9754 [m/z] Resolution: 14104 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 14239 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 14026 [5%height]

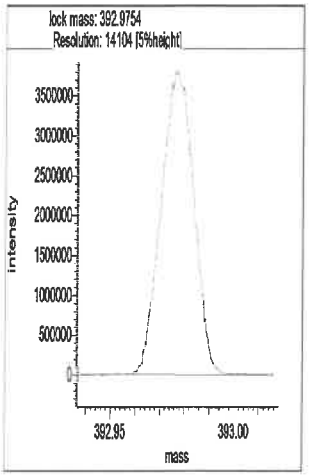
Ref. mass 416.9755 [m/z] Resolution: 14004 [5%height]

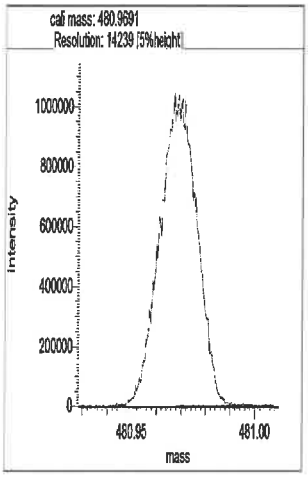
Ref. mass 430.9723 [m/z] Resolution: 13925 [5%height]

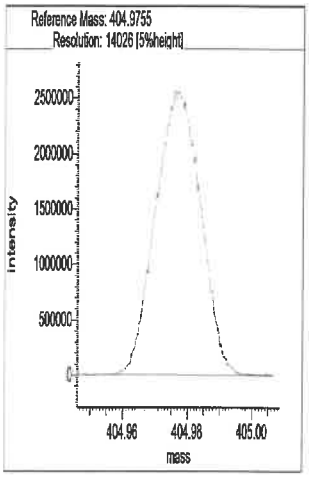
Ref. mass 442.9723 [m/z] Resolution: 14106 [5%height]

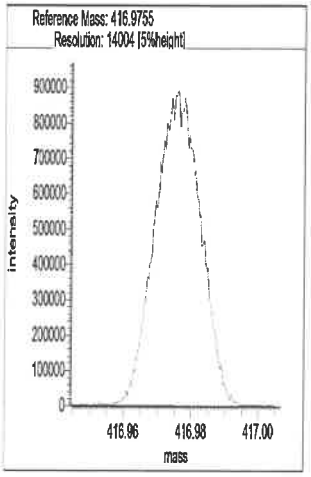
Ref. mass 454.9723 [m/z] Resolution: 13993 [5%height]

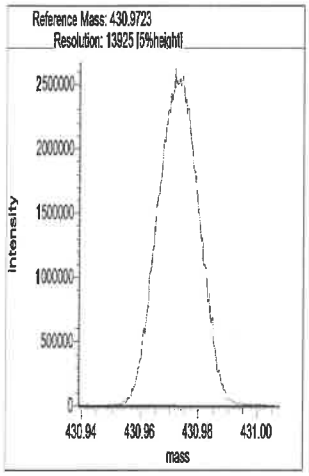
Ref. mass 466.9723 [m/z] Resolution: 14109 [5%height]

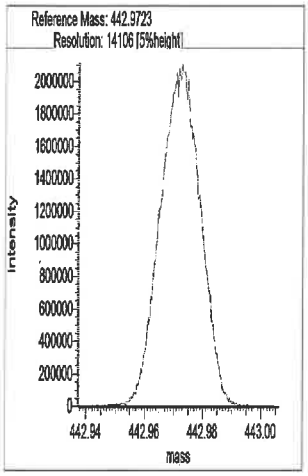


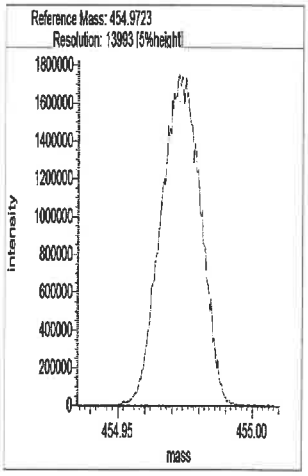


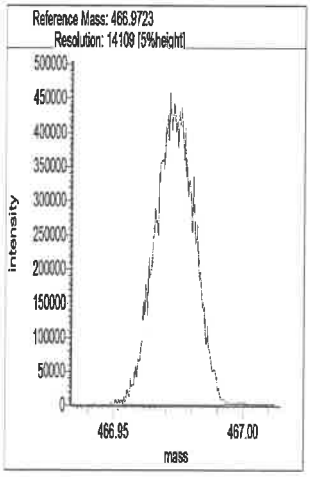












Segment 5

Lock mass 442.9723 [m/z] Resolution: 14137 [5%height]

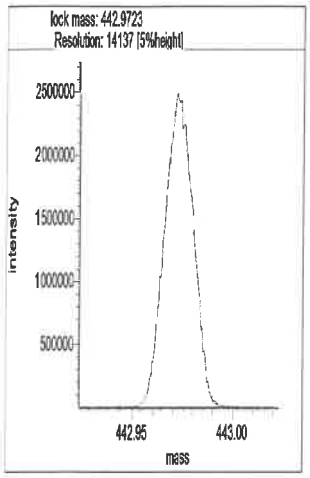
Cali. mass 504.9691 [m/z] Resolution: 13848 [5%height]

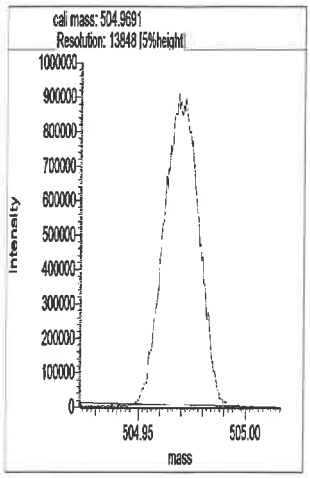
Ref. mass 454.9723 [m/z] Resolution: 14199 [5%height]

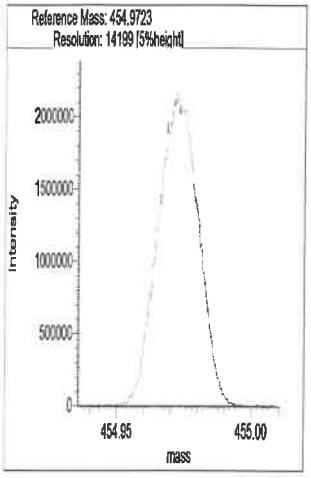
Ref. mass 466.9723 [m/z] Resolution: 14084 [5%height]

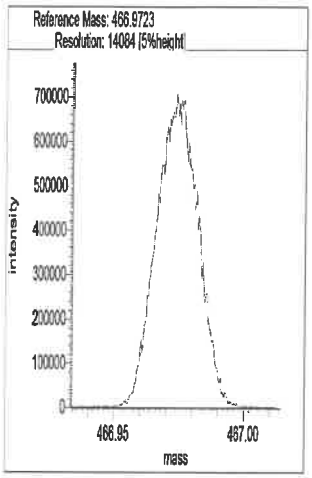
Ref. mass 480.9691 [m/z] Resolution: 13940 [5%height]

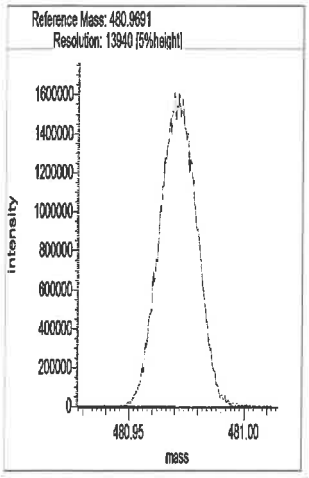
Ref. mass 492.9691 [m/z] Resolution: 13842 [5%height]

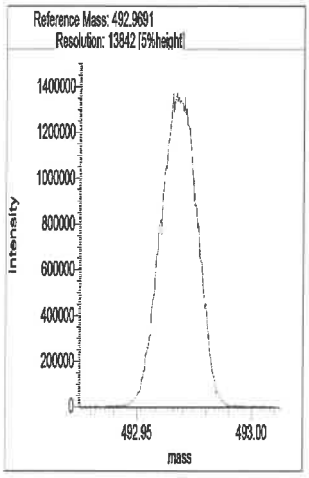

lock mass: 442.9723
Resolution: 14137 [5%height]
intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 13848 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 14199 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 14084 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 13940 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 13842 [5%height]
intensity
mass
492.95
493.00

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-Nov-2021 15:26:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS2_HRDXNL2_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 11:38:10 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 11:38:10

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	22.464	19765482	0.81	2.2E+05	100.0	100.0				a
D 13C-2,3,7,8-TCDF	21.399	25086647	0.83	1.2917	98.3	98.3	0.2667	0.2667	98.26	
2,3,7,8-TCDF	21.425	158422	0.87	1.1045	0.5717	0.5717	0.0127	0.0127	114	
S Total TCDF					0.5717	0.5717	0.0127	0.0127		
D 13C-2,3,7,8-TCDD	22.859	16089210	0.81	0.8271	98.4	98.4	0.1967	0.1967	98.41	
2,3,7,8-TCDD	22.868	92752	0.82	1.1211	0.5142	0.5142	0.0396	0.0396	103	
$ 37Cl4-2,3,7,8-TCDD	22.885	91192		0.8866	0.5204	0.5204	0.0241	0.0241	104	
S Total TCDD					0.5142	0.5142	0.0396	0.0396		
D 13C-1,2,3,7,8-PeCDF	28.227	22953172	1.59	1.1665	99.6	99.6	0.3384	0.3384	99.55	
1,2,3,7,8-PeCDF	28.260	683283	1.54	1.0987	2.709	2.709	0.0307	0.0307	108	
D 13C-2,3,4,7,8-PeCDF	29.844	26582480	1.56							
2,3,4,7,8-PeCDF	29.886	674165	1.53	1.0579	2.776	2.776	0.0319	0.0319	111	
S Total PeCDF					5.486	5.486	0.0313	0.0313		
D 13C-1,2,3,7,8-PeCDD	30.712	12066497	1.59	0.6835	89.3	89.3	0.1256	0.1256	89.32	
1,2,3,7,8-PeCDD	30.737	354709	1.59	1.1030	2.665	2.665	0.0495	0.0495	107	
S Total PeCDD					2.665	2.665	0.0495	0.0495		
D 13C-1,2,3,4,7,8-HxCDF	35.593	27657574	0.54	1.1776	103.4	103.4	0.2413	0.2413	103	
1,2,3,4,7,8-HxCDF	35.610	722536	1.28	0.9504	2.749	2.749	0.0279	0.0279	110	
D 13C-1,2,3,6,7,8-HxCDF	35.745	22900857	0.53							
1,2,3,6,7,8-HxCDF	35.762	711360	1.23	0.9524	2.701	2.701	0.0278	0.0278	108	
D 13C-2,3,4,6,7,8-HxCDF	36.495	21554319	0.53							
2,3,4,6,7,8-HxCDF	36.512	668525	1.17	0.8893	2.718	2.718	0.0298	0.0298	109	
D 13C-1,2,3,7,8,9-HxCDF	37.329	20329157	0.53							
1,2,3,7,8,9-HxCDF	37.346	610201	1.18	0.8433	2.616	2.616	0.0314	0.0314	105	
S Total HxCDF					10.8	10.8	0.0292	0.0292		
* 13C-1,2,3,7,8,9-HxCDD	37.144	22725105	1.27	2.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	36.689	19335285	1.28							
1,2,3,4,7,8-HxCDD	36.706	465728	1.26	1.0079	2.726	2.726	0.0458	0.0458	109	
D 13C-1,2,3,6,7,8-HxCDD	36.798	16954170	1.26	0.7339	101.7	101.7	0.2063	0.2063	102	
1,2,3,6,7,8-HxCDD	36.815	457339	1.24	1.0111	2.668	2.668	0.0456	0.0456	107	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	37.152	490210	1.23	1.0993	2.630	2.630	0.0420	0.0420	105	
S Total HxCDD					8.024	8.024	0.0444	0.0444		
D 13C-1,2,3,4,6,7,8-HpCDF	39.042	16074440	0.46	0.6698	105.6	105.6	0.3032	0.3032	106	
1,2,3,4,6,7,8-HpCDF	39.059	622145	1.05	1.5184	2.549	2.549	0.0329	0.0329	102	
D 13C-1,2,3,4,7,8,9-HpCDF	40.255	18596601	0.46							
1,2,3,4,7,8,9-HpCDF	40.264	572932	1.05	1.3387	2.662	2.662	0.0373	0.0373	106	
S Total HpCDF					5.211	5.211	0.0351	0.0351		
D 13C-1,2,3,4,6,7,8-HpCDD	39.952	14117592	1.06	0.5943	104.5	104.5	0.2537	0.2537	105	
1,2,3,4,6,7,8-HpCDD	39.960	406650	1.07	1.0953	2.630	2.630	0.0182	0.0182	105	
S Total HpCDD					2.630	2.630	0.0182	0.0182		
D 13C-OCDD	42.484	23665496	0.90	0.4838	215.3	215.3	0.2362	0.2362	108	
OCDF	42.593	836383	0.86	1.3979	5.056	5.056	0.0290	0.0290	101	
OCDD	42.500	691378	0.88	1.1116	5.256	5.256	0.0398	0.0398	105	

QC Flag Legend

Processing Flags
Review Flags
a - User Assigned ID

Reagents:

HRDXNL2_00033 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-Nov-2021 15:26:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS2_HRDXNL2_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 11:38:10 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 11:38:10

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	22.464	22.456	0		8854126	1216157	1461	3652	832		a
333.9338	22.464	22.456	0		10911356	1510019	313	782	4824	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	21.399	21.398	0	0.953	11408111	1755311	2728	6820	643		
317.9389	21.399	21.398	0	0.953	13678536	2030827	1028	2570	1976	0.83(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	21.425	21.426	0	1.001	73739	11627	29	72	401		
305.8987	21.408	21.426	-1	1.000	84683	12419	184	460	67	0.87(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	22.859	22.855	0	1.018	7190360	971633	1461	3652	665		
333.9338	22.851	22.855	0	1.017	8898850	1208821	313	782	3862	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	22.868	22.887	-1	1.000	41909	6509	327	817	20		
321.8936	22.876	22.887	-1	1.001	50843	7232	60	150	121	0.82(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	22.885	22.891	0	1.019	91192	12753	233	582	55		
13C-1,2,3,7,8-PeCDF											
351.9000	28.227	28.227	0	1.257	14078682	2345676	2638	6595	889		
353.8970	28.227	28.227	0	1.257	8874490	1496043	1667	4167	897	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	28.260	28.252	1	1.001	414770	67689	127	317	533		
341.8567	28.252	28.252	0	1.001	268513	45209	391	977	116	1.54(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	29.844	29.841	0	1.329	16207253	2410402	2638	6595	914		
353.8970	29.844	29.841	0	1.329	10375227	1520420	1667	4167	912	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	29.886	29.871	1	1.001	407769	60924	127	317	480		
341.8567	29.869	29.871	0	1.001	266396	39971	391	977	102	1.53(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	30.712	30.710	0	1.367	7403117	1041124	536	1340	1942		
369.8919	30.712	30.710	0	1.367	4663380	654331	400	1000	1636	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	30.737	30.739	0	1.001	217888	33510	303	757	111		
357.8516	30.754	30.739	1	1.001	136821	19899	67	167	297	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	35.593	35.596	0	0.958	9680724	2469197	2556	6390	966		
385.8610	35.593	35.596	0	0.958	17976850	4610815	5013	12532	920	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	35.610	35.611	0	1.000	405488	99199	421	1052	236		
375.8178	35.610	35.611	0	1.000	317048	78082	329	822	237	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	35.745	35.743	0	0.962	7979927	2026378	2556	6390	793		
385.8610	35.745	35.743	0	0.962	14920930	3762062	5013	12532	750	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	35.762	35.758	0	1.000	392648	98834	421	1052	235		
375.8178	35.762	35.758	0	1.000	318712	80367	329	822	244	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	36.495	36.495	0	0.983	7467757	2127062	2556	6390	832		
385.8610	36.495	36.495	0	0.983	14086562	4008807	5013	12532	800	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	36.512	36.510	0	1.000	360583	105911	421	1052	252		
375.8178	36.512	36.510	0	1.000	307942	88098	329	822	268	1.17(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	37.329	37.329	0	1.005	7024169	2136679	2556	6390	836		
385.8610	37.329	37.329	0	1.005	13304988	4090913	5013	12532	816	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	37.346	37.344	0	1.000	330737	103419	421	1052	246		
375.8178	37.346	37.344	0	1.000	279464	87324	329	822	265	1.18(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	37.144	37.140	0		12712257	3747786	2288	5720	1638		
403.8529	37.144	37.140	0		10012848	2910374	1745	4362	1668	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	36.689	36.687	0	0.988	10848242	3173350	2288	5720	1387		
403.8529	36.689	36.687	0	0.988	8487043	2468138	1745	4362	1414	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	36.706	36.704	0	1.000	260058	79708	595	1487	134		
391.8127	36.706	36.704	0	1.000	205670	60911	347	867	176	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.798	36.796	0	0.991	9439452	2874089	2288	5720	1256		
403.8529	36.798	36.796	0	0.991	7514718	2231357	1745	4362	1279	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	36.815	36.813	0	1.000	252824	76223	595	1487	128		
391.8127	36.815	36.813	0	1.000	204515	61082	347	867	176	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	37.152	37.150	0	1.013	270413	79625	595	1487	134		
391.8127	37.152	37.150	0	1.013	219797	63205	347	867	182	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	39.042	39.042	0	1.051	5063330	1762950	2458	6145	717		
419.8220	39.042	39.042	0	1.051	11011110	3882302	2950	7375	1316	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	39.059	39.053	0	1.000	318855	117262	871	2177	135		
409.7788	39.059	39.053	0	1.000	303290	106828	258	645	414	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	40.255	40.256	0	1.084	5886179	2180063	2458	6145	887		
419.8220	40.255	40.256	0	1.084	12710422	4825121	2950	7375	1636	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	40.264	40.264	0	1.000	294120	105492	871	2177	121		
409.7788	40.264	40.264	0	1.000	278812	106855	258	645	414	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.952	39.949	0	1.076	7269403	2863219	2097	5242	1365		
437.8140	39.952	39.949	0	1.076	6848189	2688751	1919	4797	1401	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.960	39.959	0	1.000	210567	82439	274	685	301		
425.7737	39.960	39.959	0	1.000	196083	79205	168	420	471	1.07(0.88-1.20)	
13C-OCDD											
469.7780	42.484	42.485	0	1.144	11216507	3765182	1725	4312	2183		
471.7750	42.484	42.485	0	1.144	12448989	4152976	1318	3295	3151	0.90(0.76-1.02)	
OCDF											
441.7428	42.593	42.589	0	1.003	385919	125885	211	527	597		
443.7399	42.593	42.589	0	1.003	450464	151540	432	1080	351	0.86(0.76-1.02)	
OCDD											
457.7377	42.500	42.495	0	1.000	323754	104801	361	902	290		
459.7348	42.492	42.495	0	1.000	367624	124150	339	847	366	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

Review Flags

a - User Assigned ID

Reagents:

HRDXNL2_00033 Amount Added: 1.00 Units: uL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

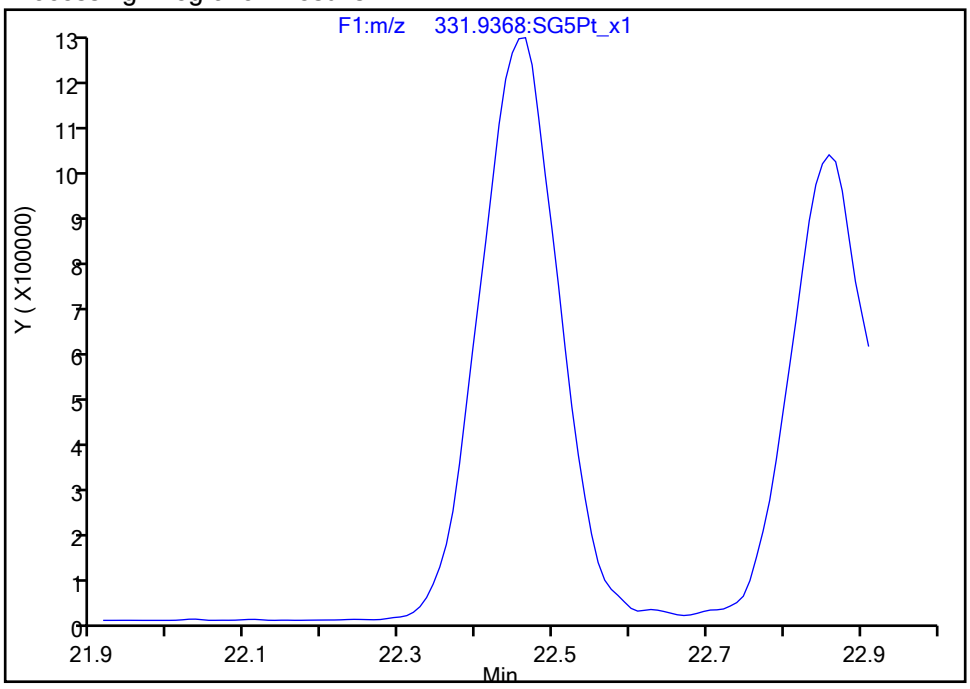
Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d
Injection Date: 18-Nov-2021 15:26:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

13C-1,2,3,4-TCDD, CAS: 114423-99-3

Signal: 1

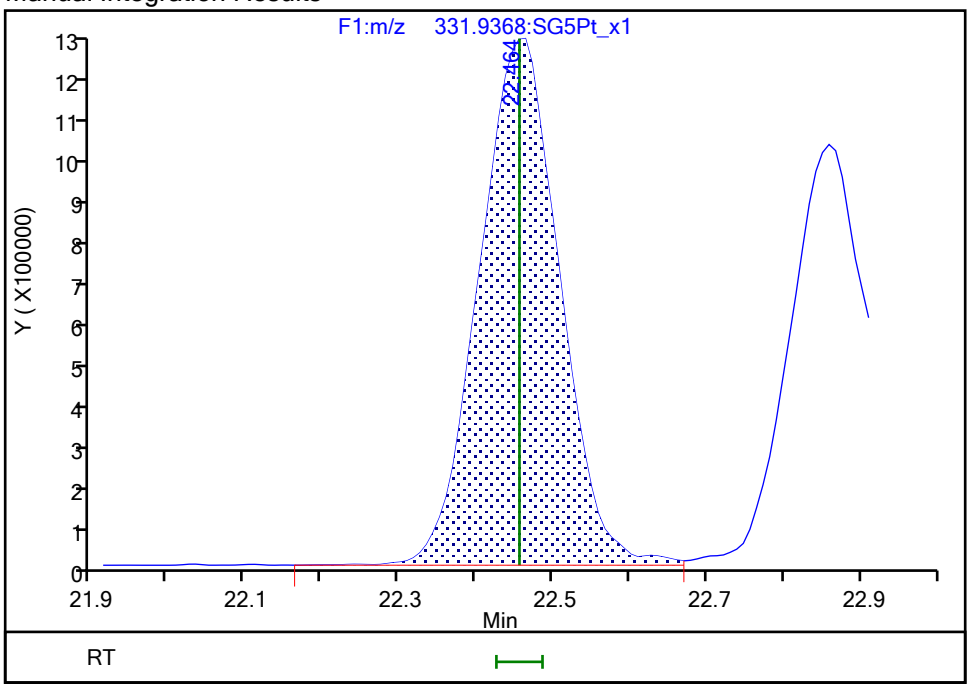
Not Detected
Expected RT: 22.46

Processing Integration Results



Manual Integration Results

RT: 22.46
Area: 8854126
Amount: 100.0000
Amount Units: pg/ul

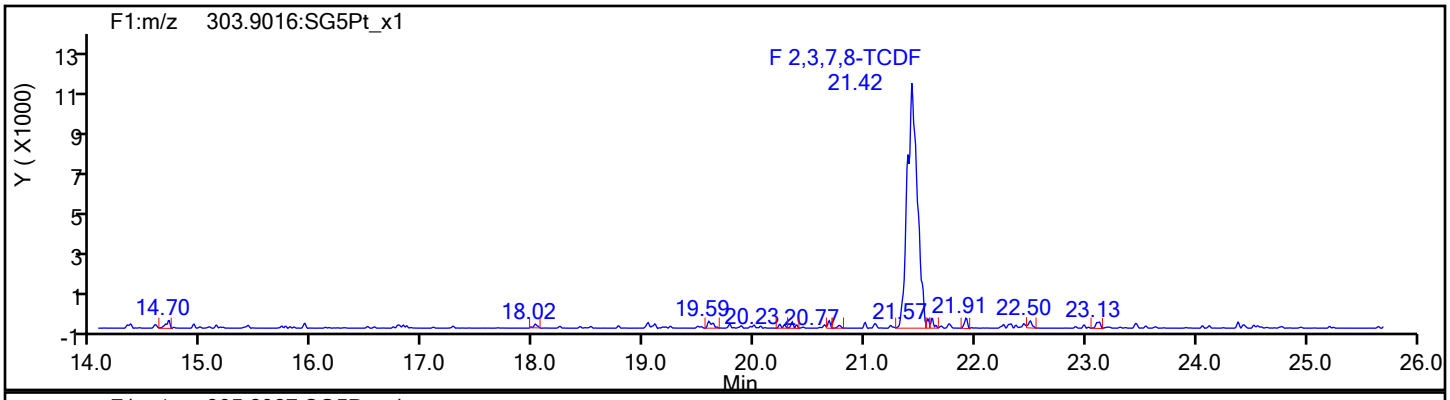


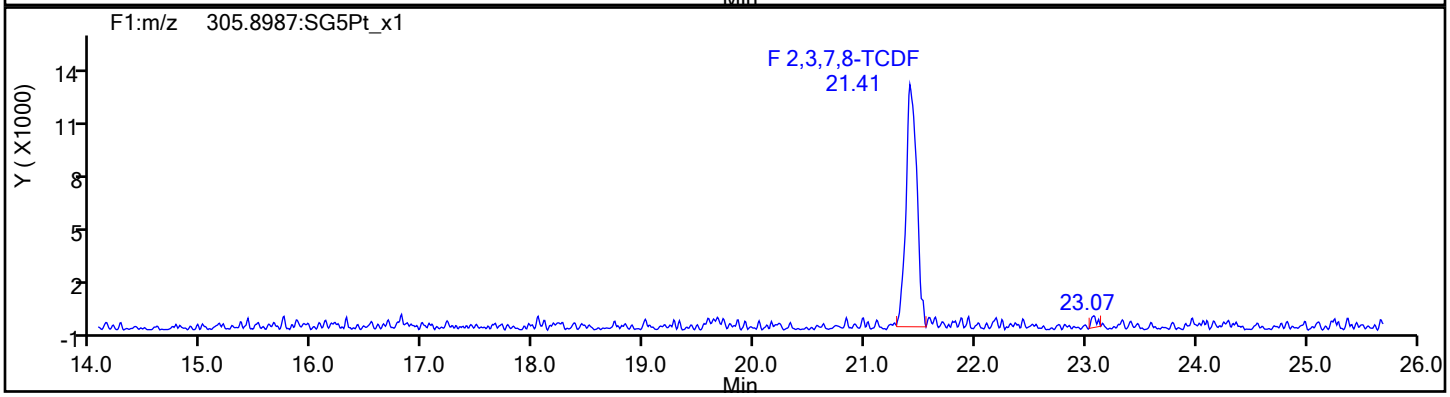
Reviewer: stephensk, 18-Nov-2021 16:21:25
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Sacramento

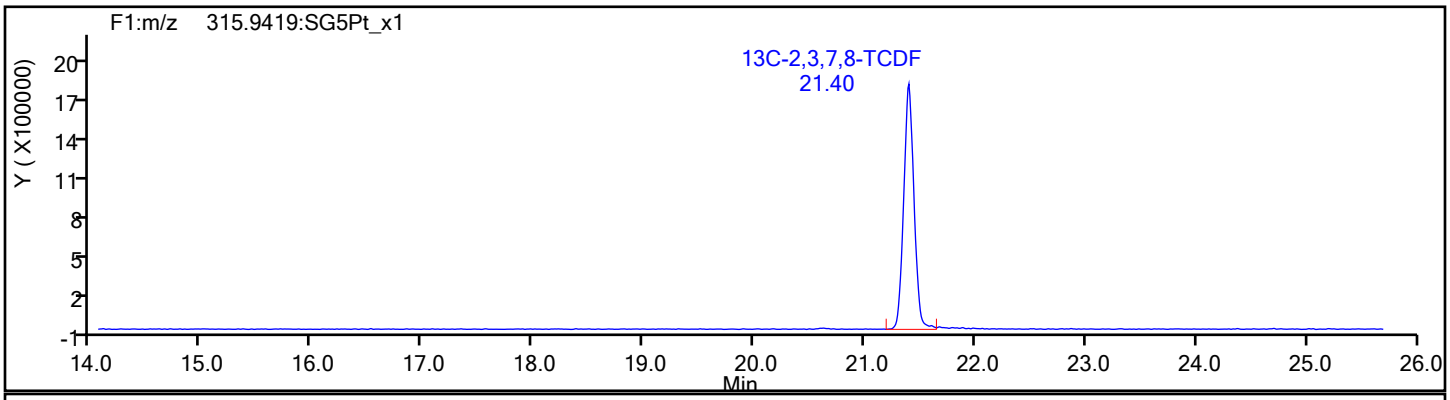
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d		
Injection Date:	18-Nov-2021 15:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

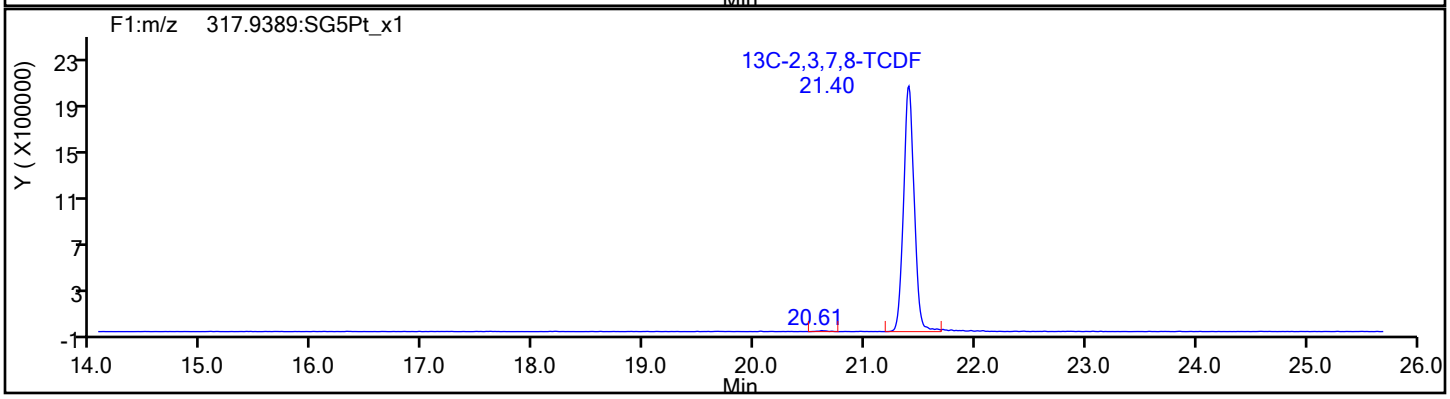
TCDF





TCDF Standards

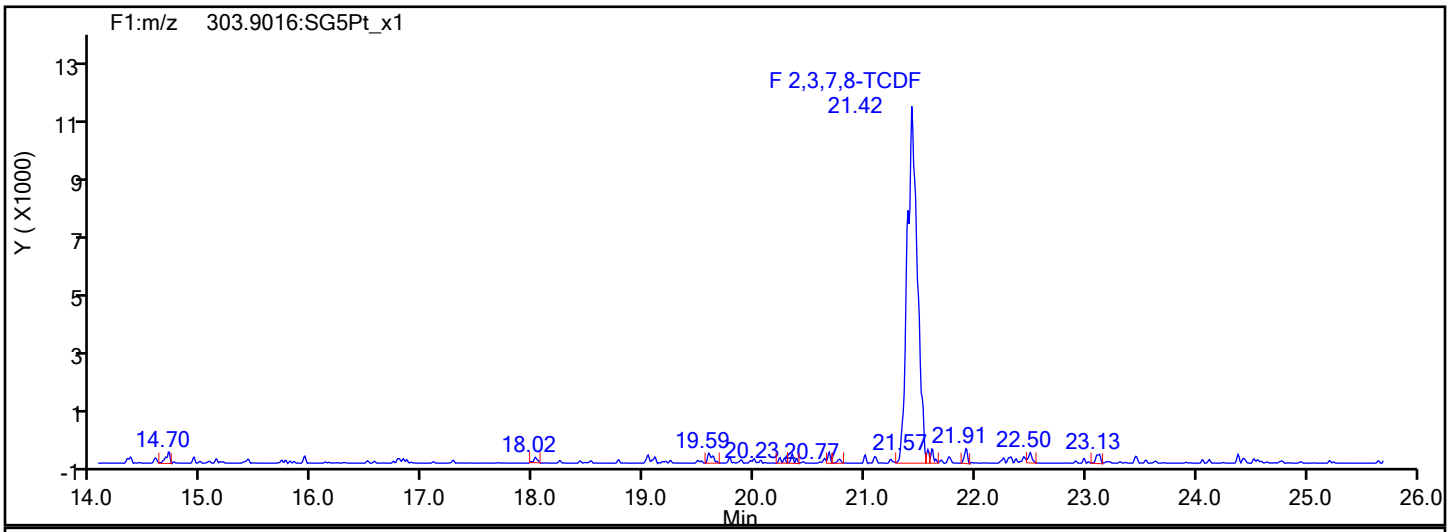


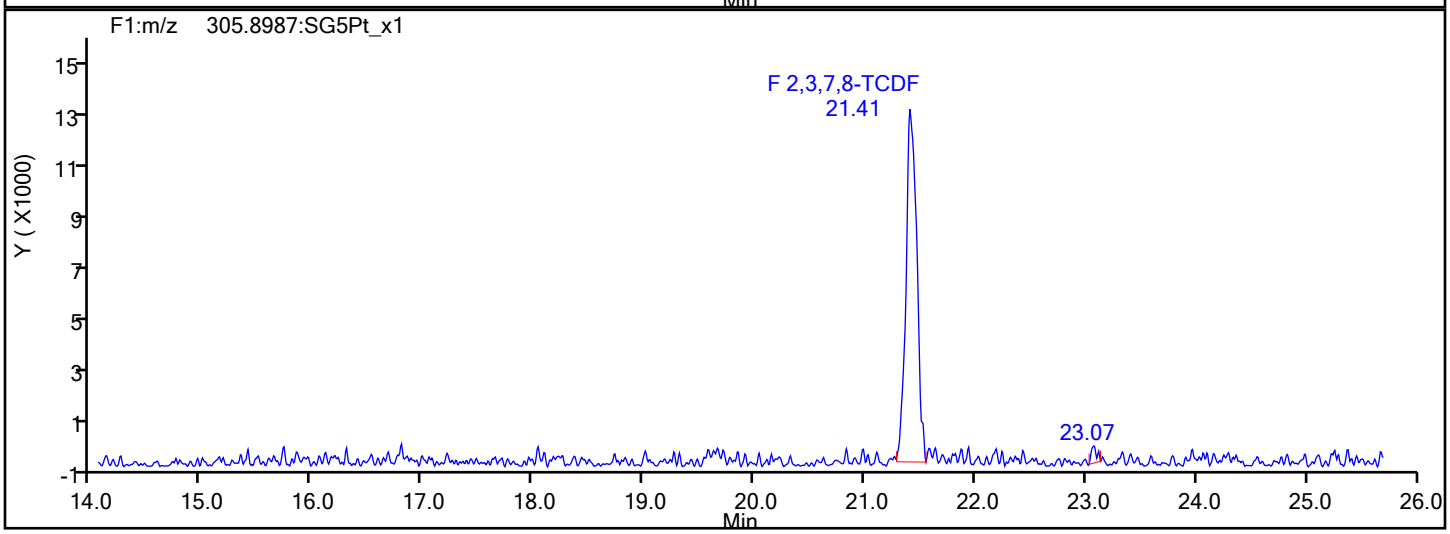


Eurofins TestAmerica, Sacramento

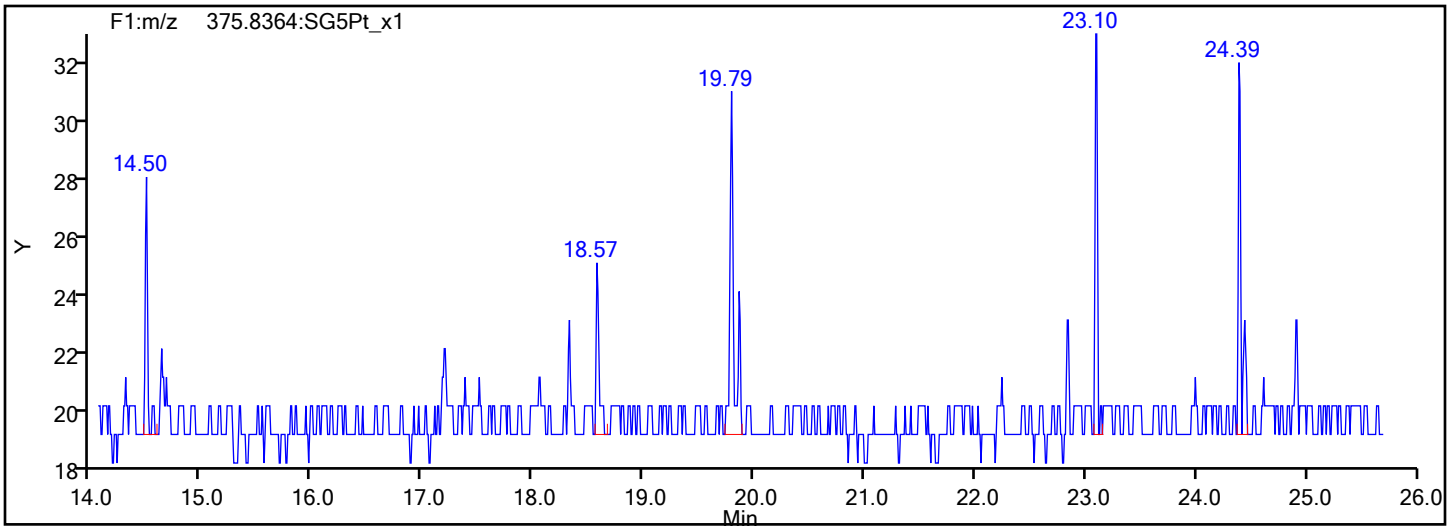
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d		
Injection Date:	18-Nov-2021 15:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





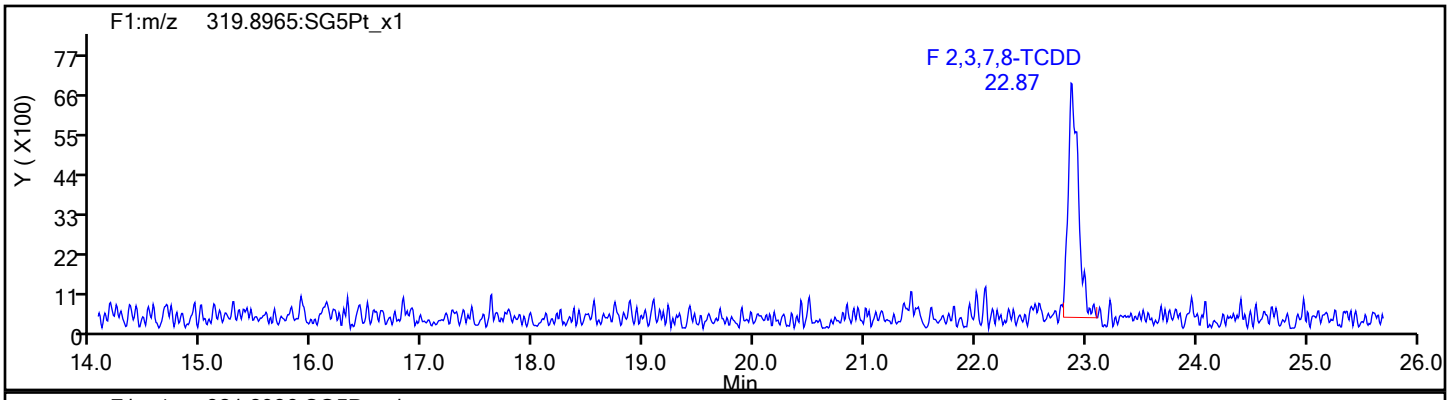
TCDF Interference Mass

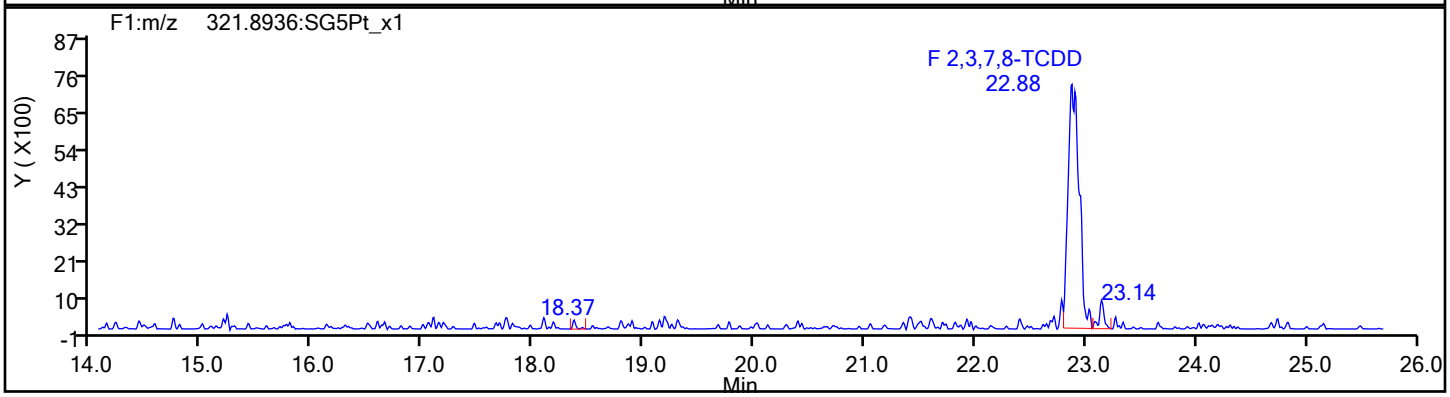


Eurofins TestAmerica, Sacramento

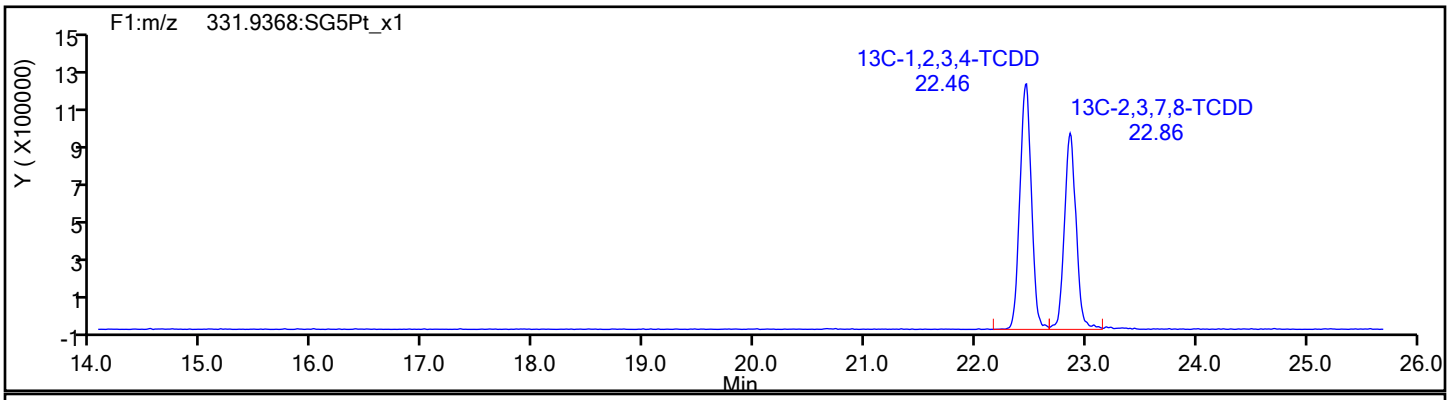
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d		
Injection Date:	18-Nov-2021 15:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

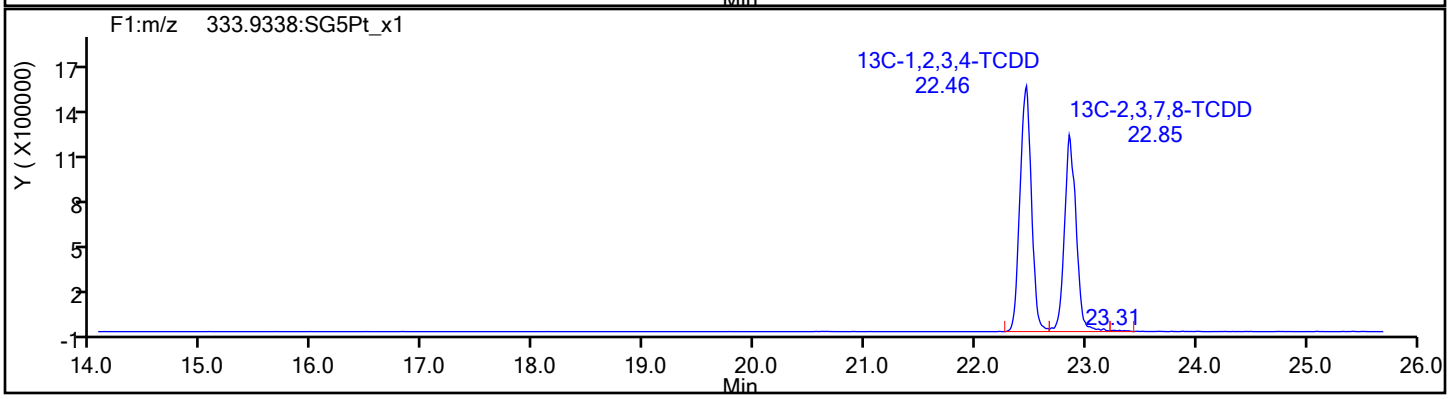
TCDD





TCDD Standards

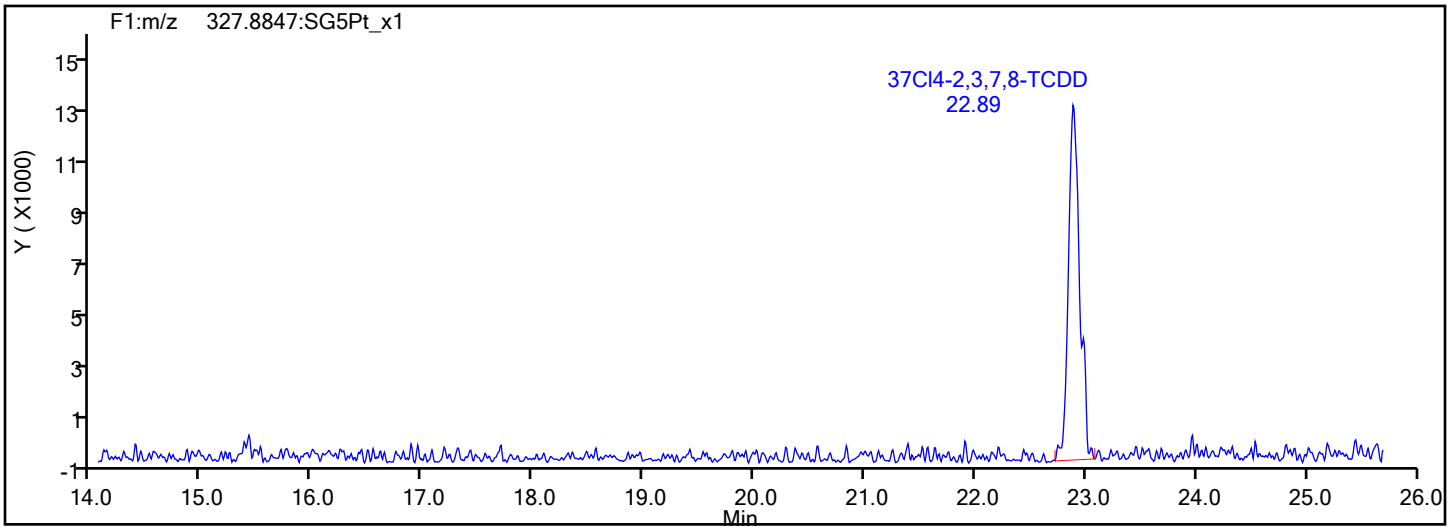




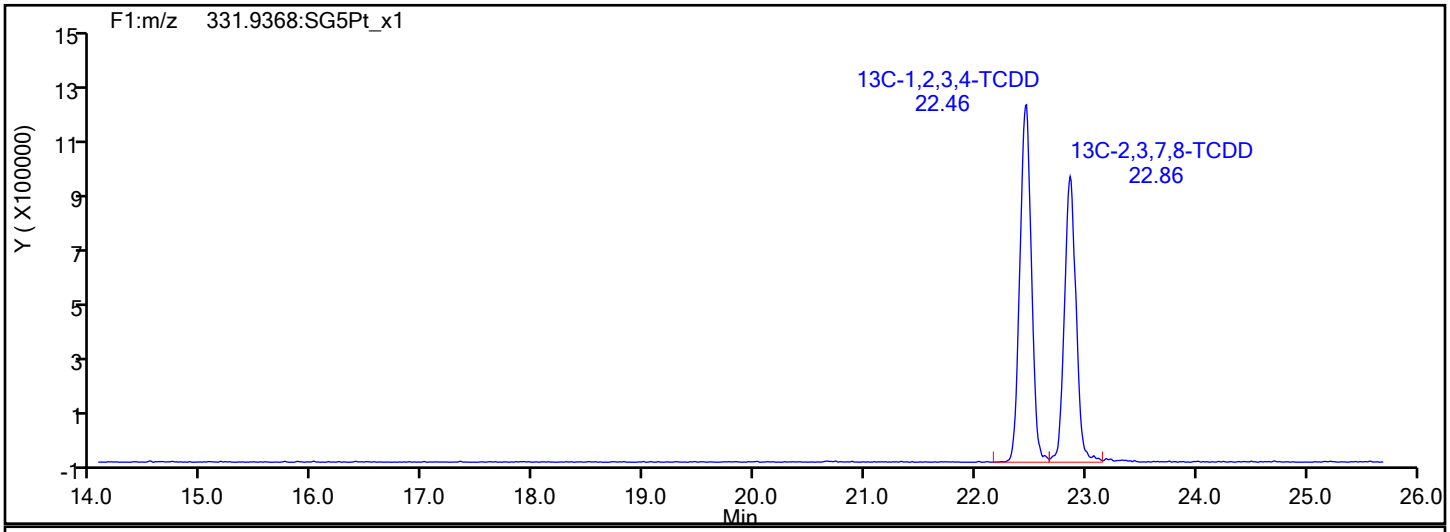
Eurofins TestAmerica, Sacramento

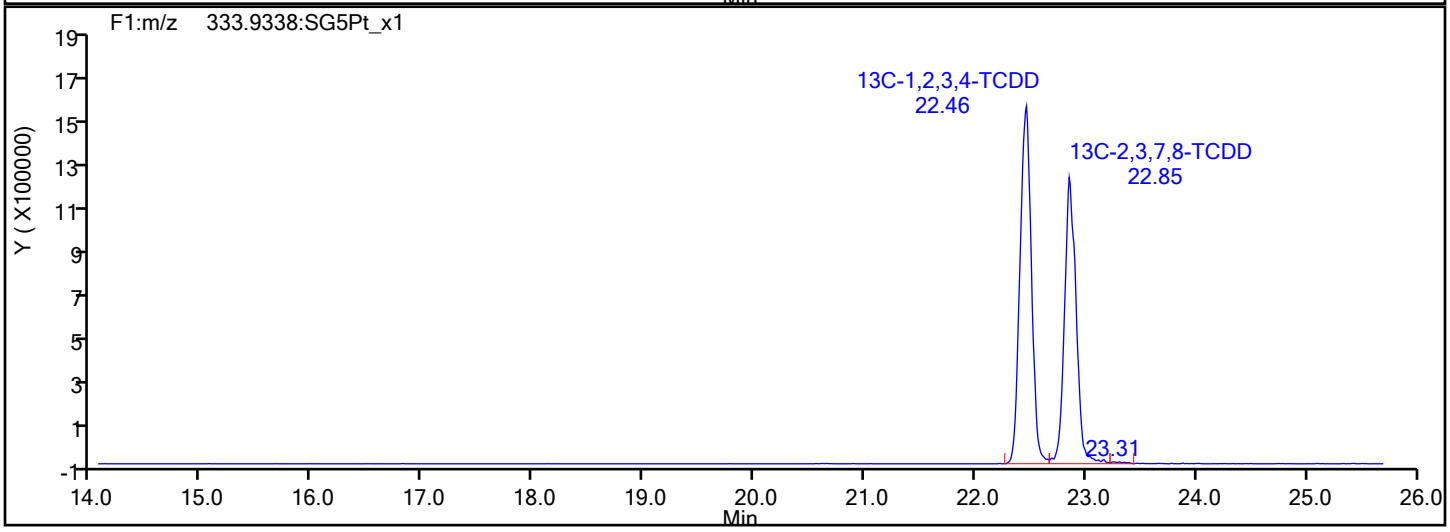
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d		
Injection Date:	18-Nov-2021 15:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 19-Nov-2021 11:38:12 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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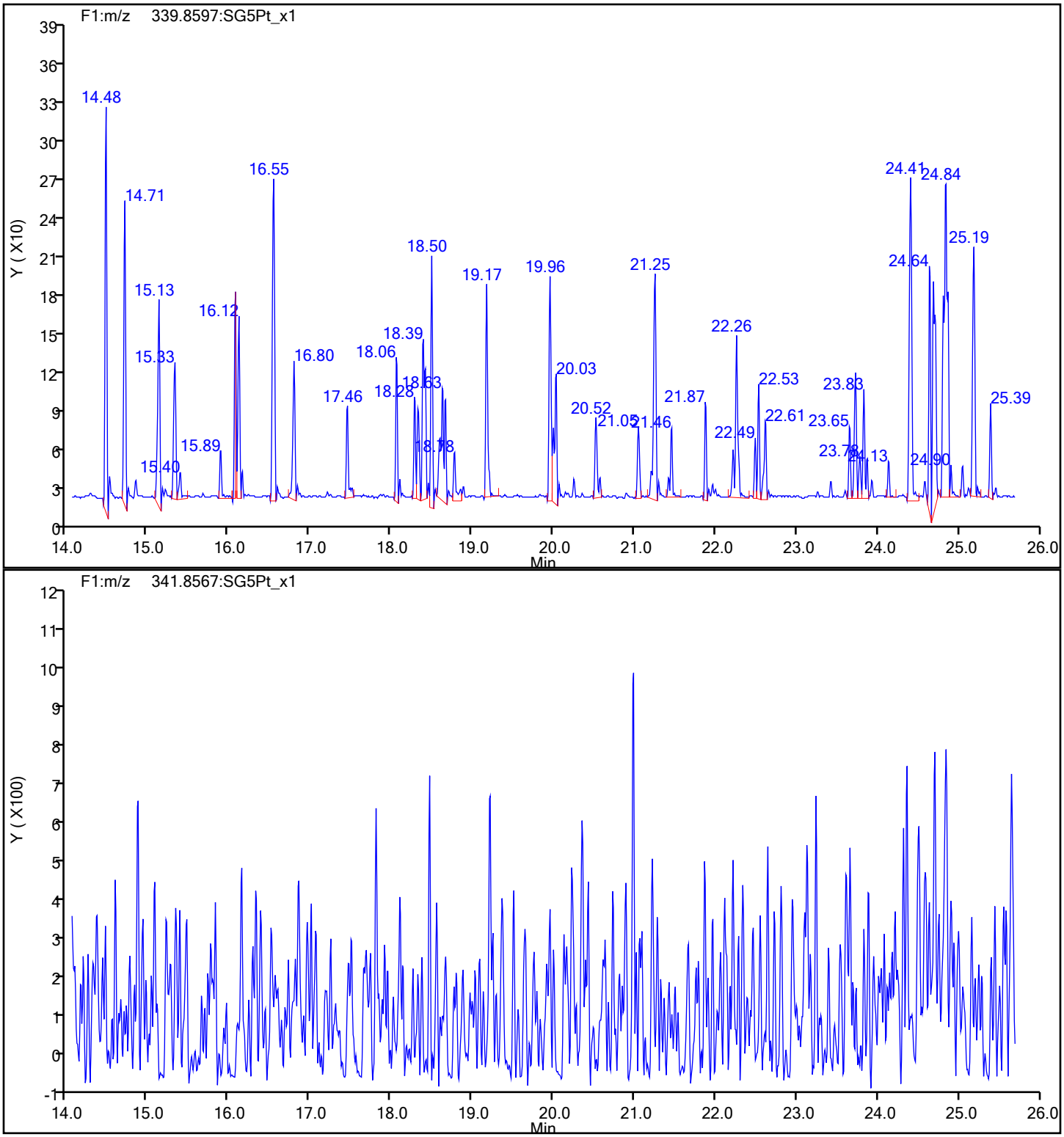
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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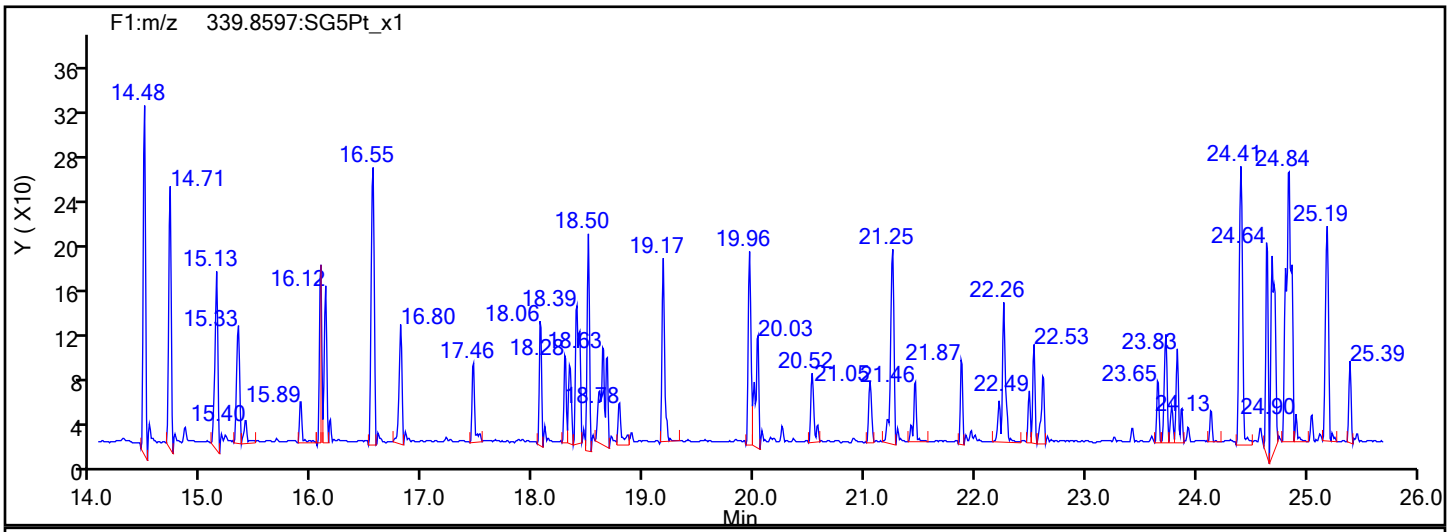
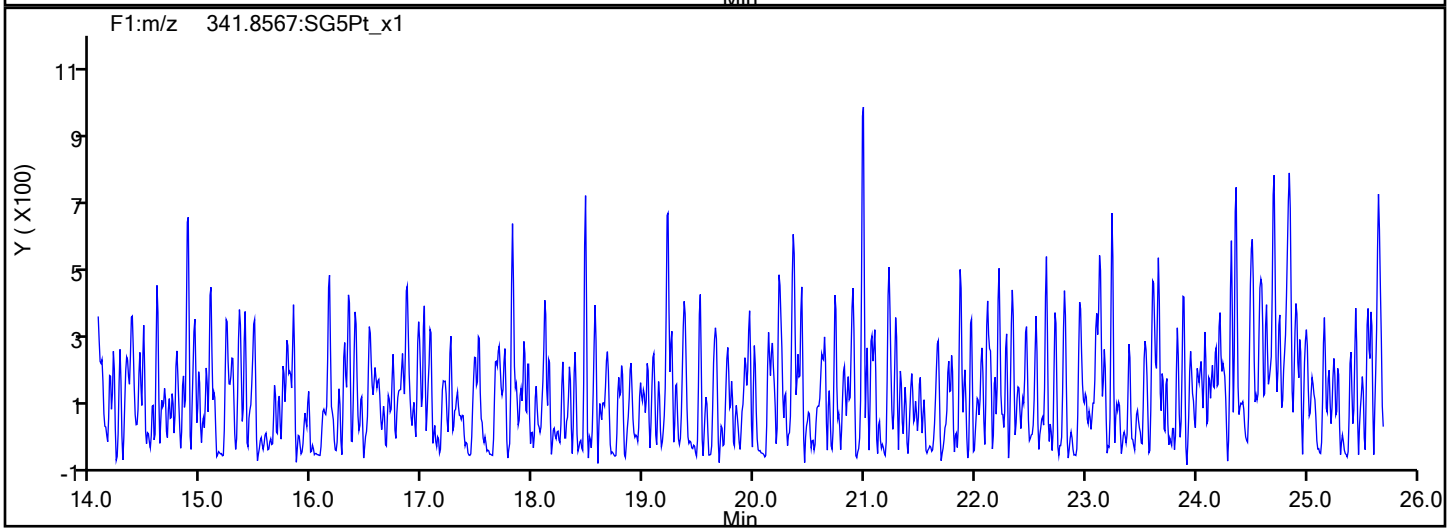
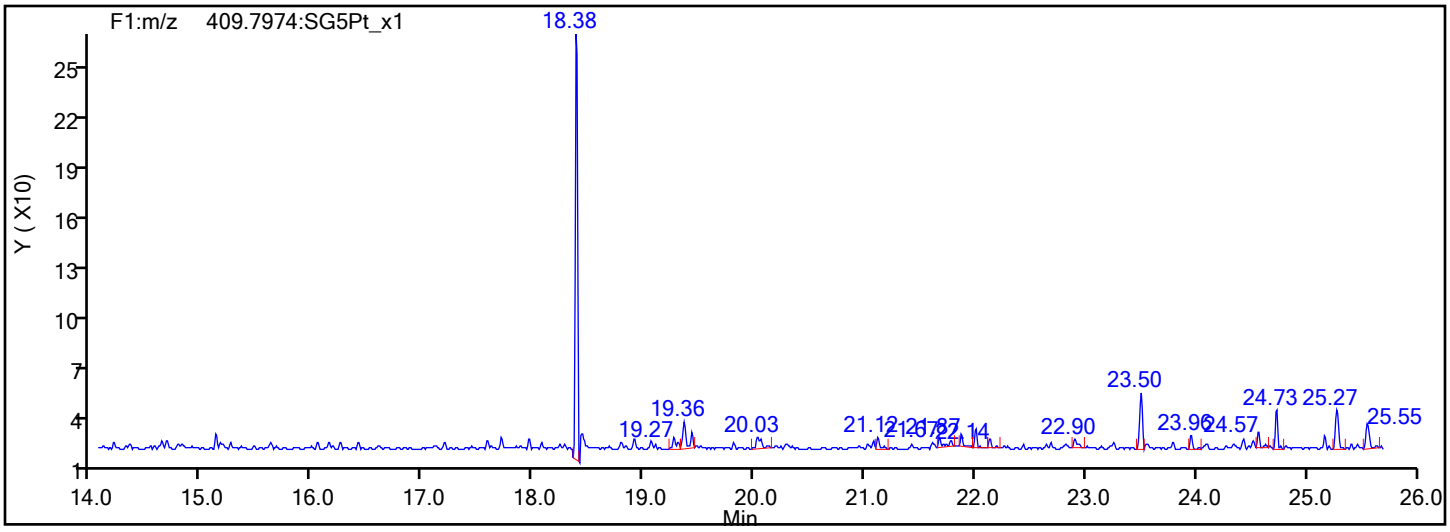




F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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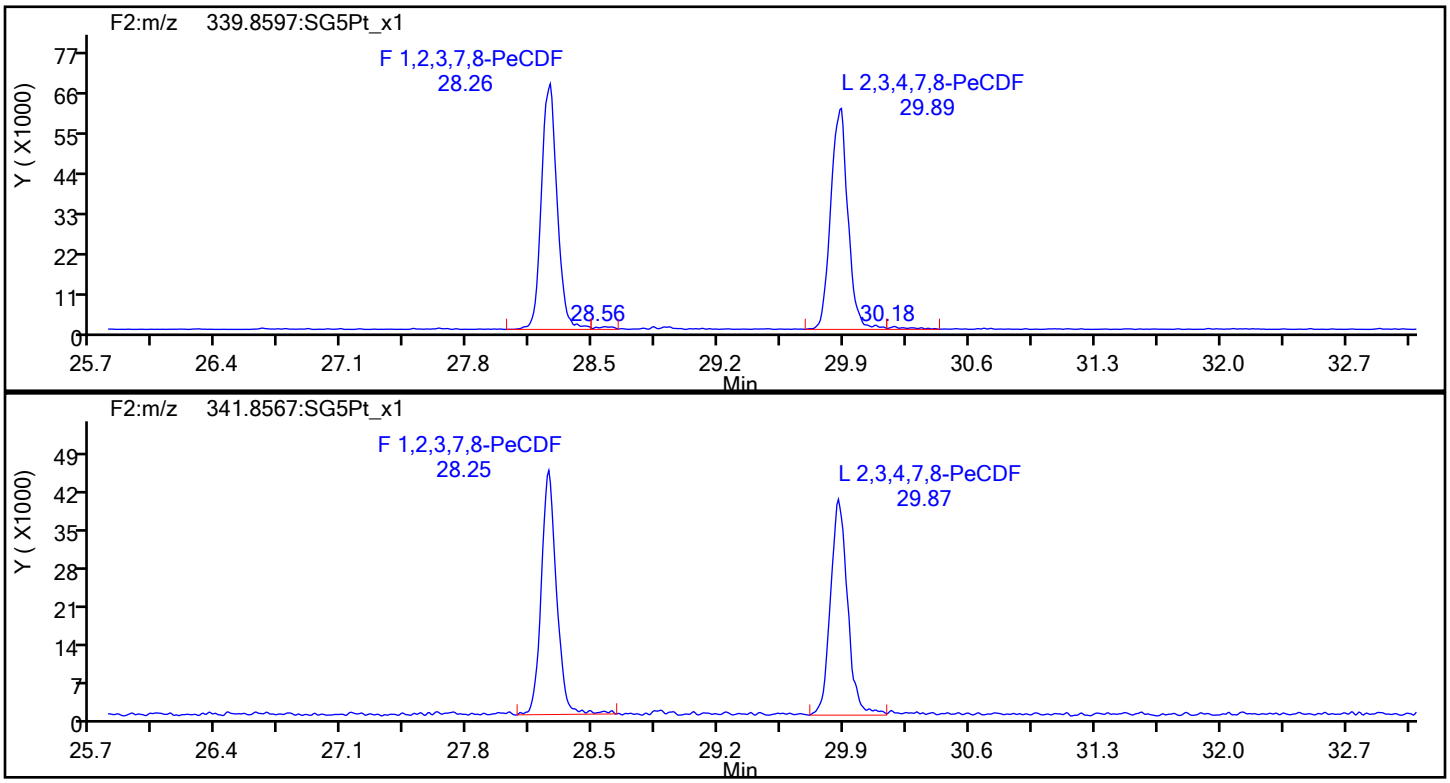
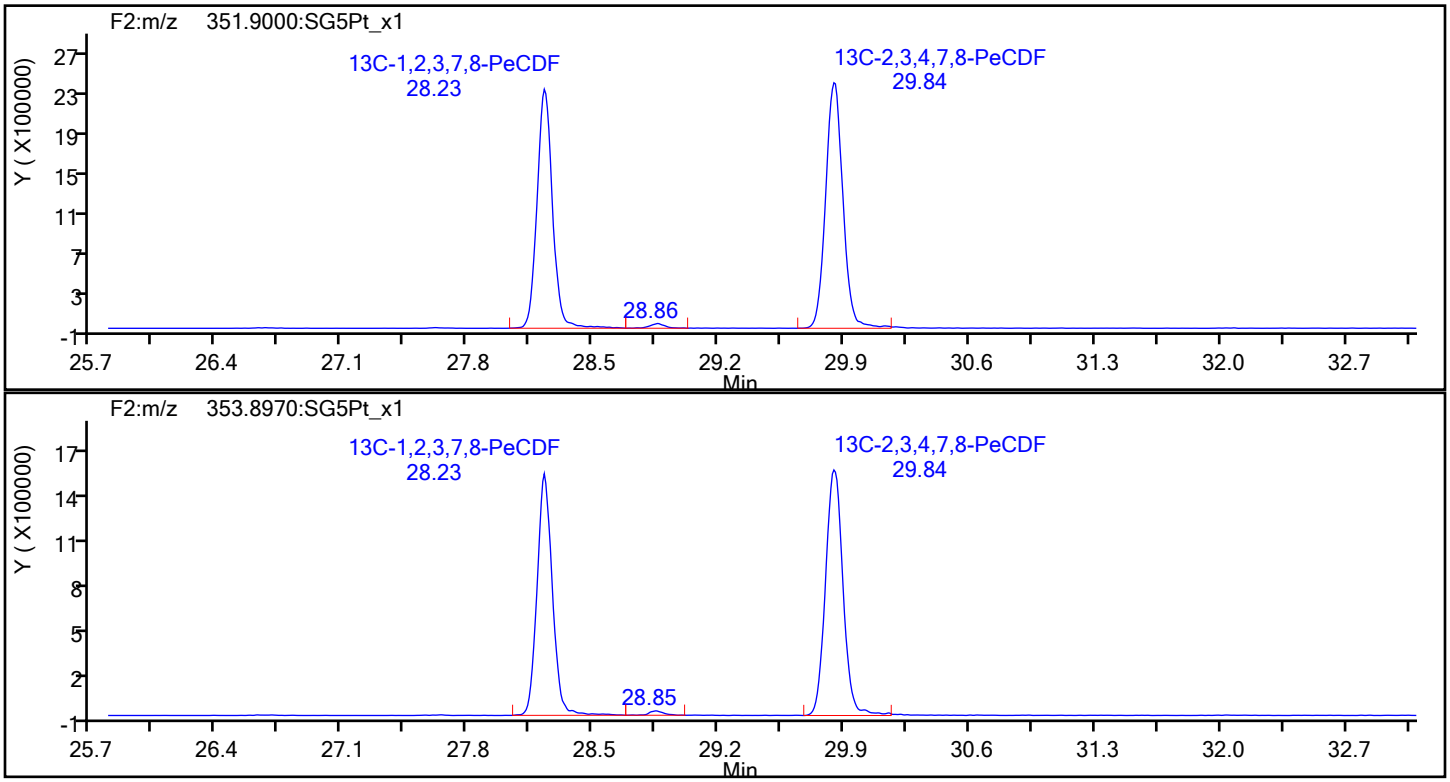


PeCDF Standards



Eurofins TestAmerica, Sacramento

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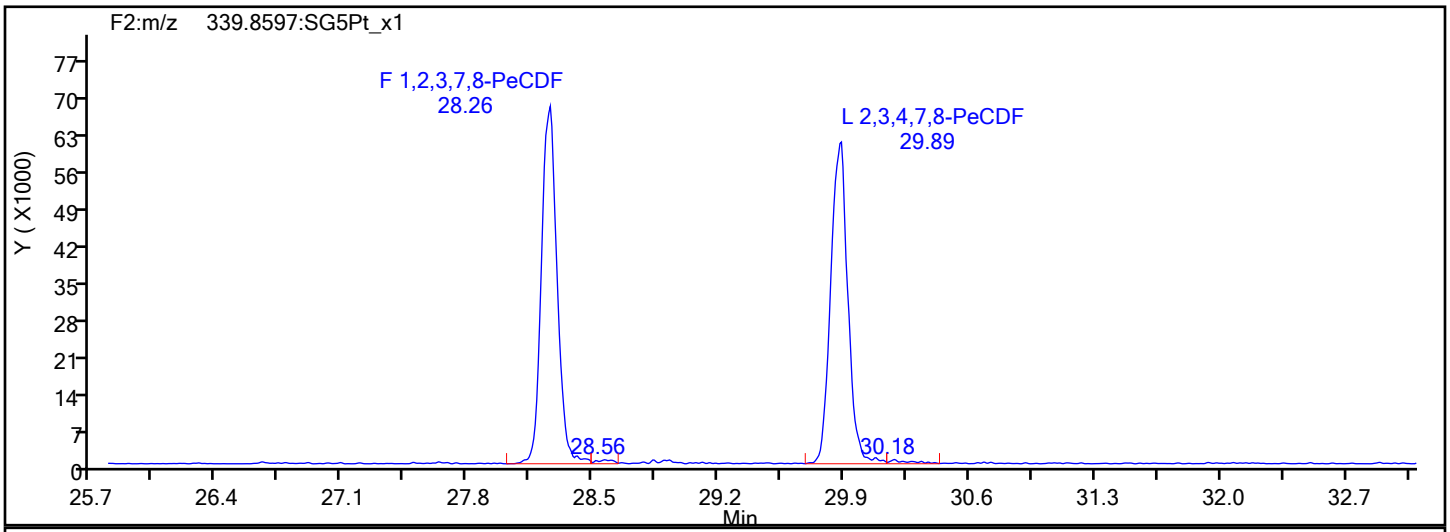
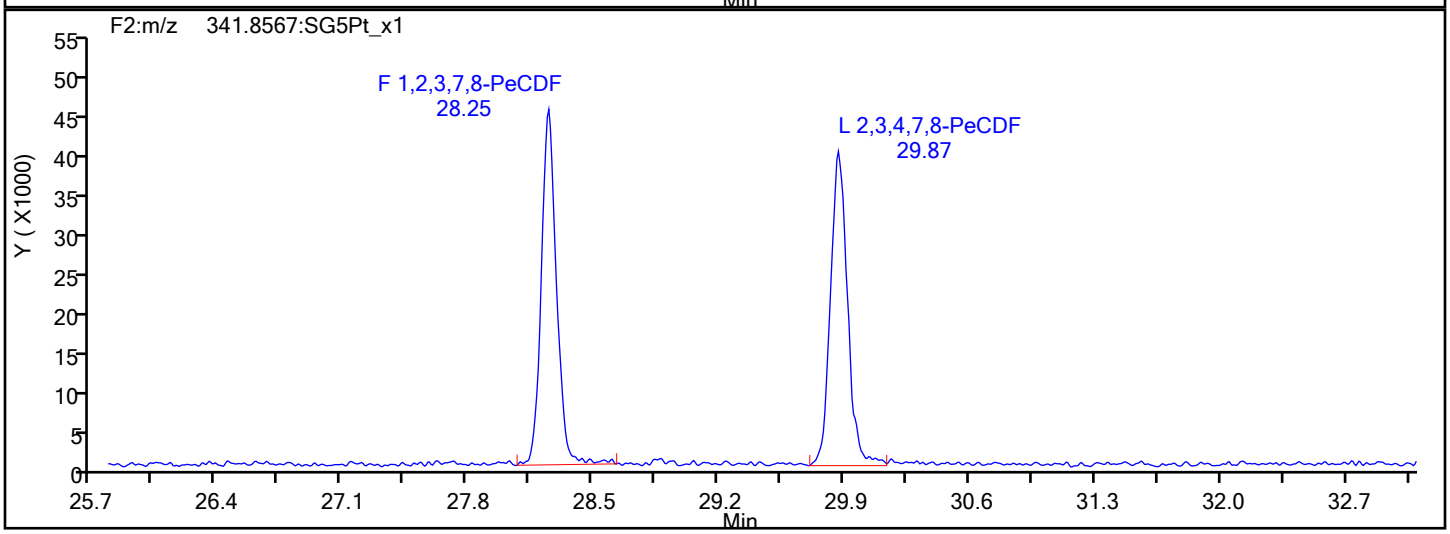
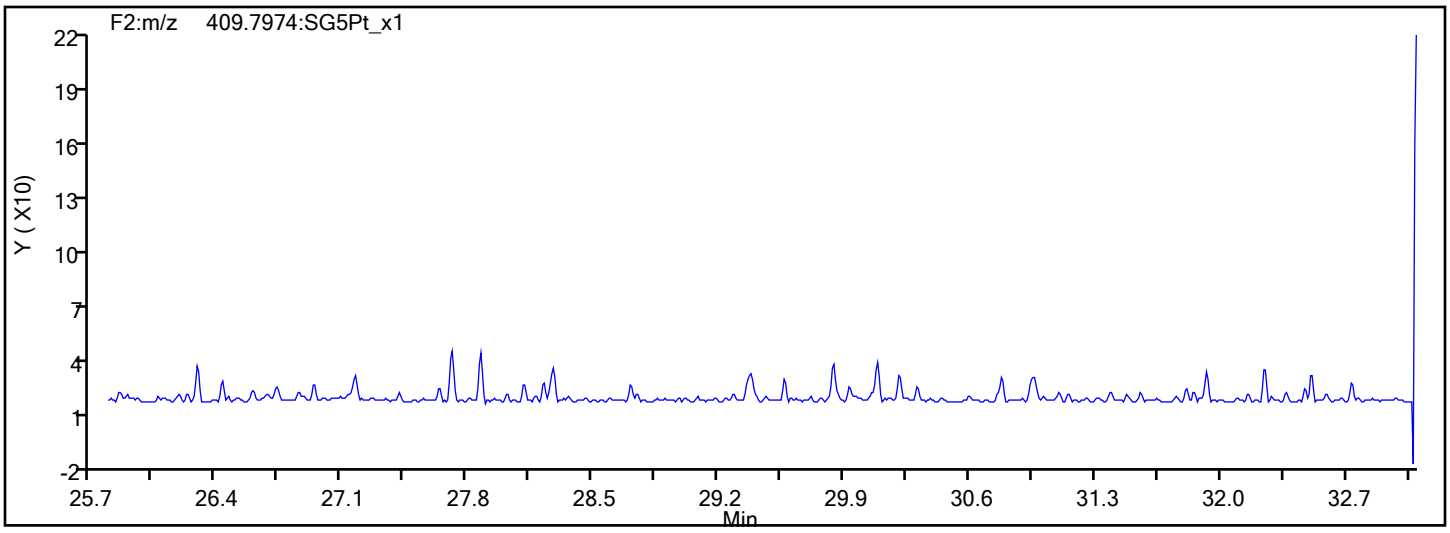




PeCDF Interference Mass



Eurofins TestAmerica, Sacramento

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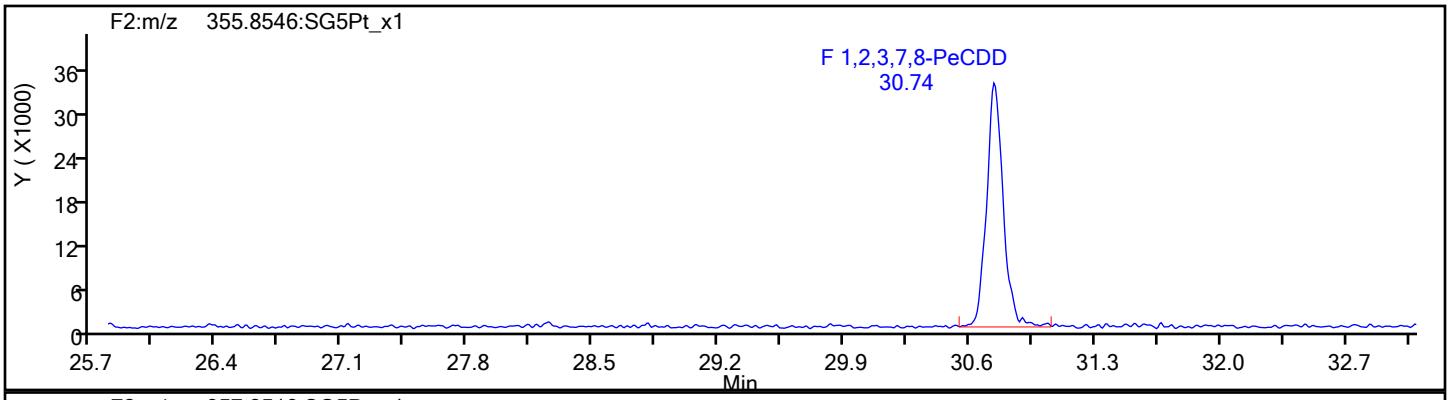
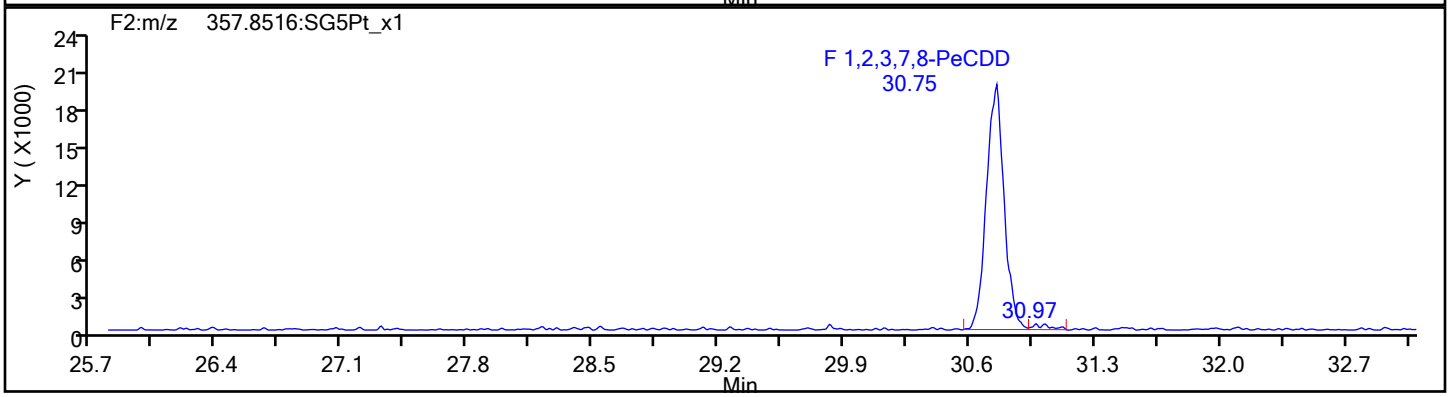
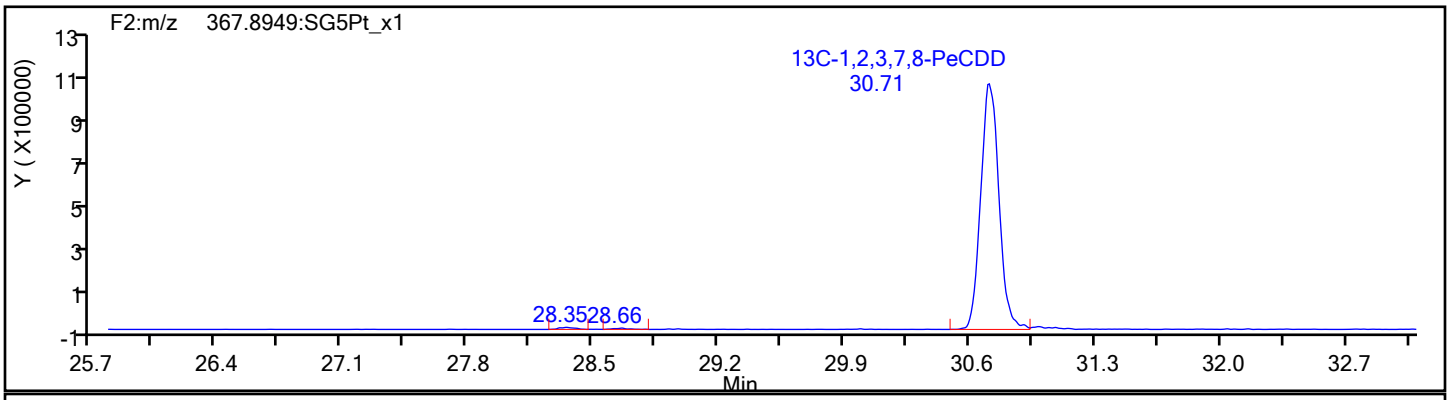
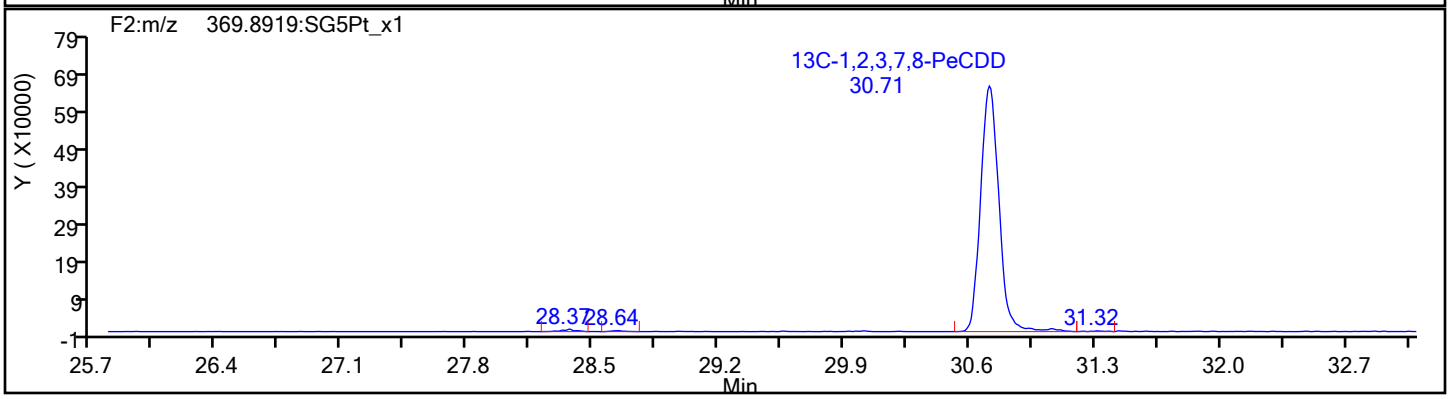
PeCDD





PeCDD Standards





Eurofins TestAmerica, Sacramento

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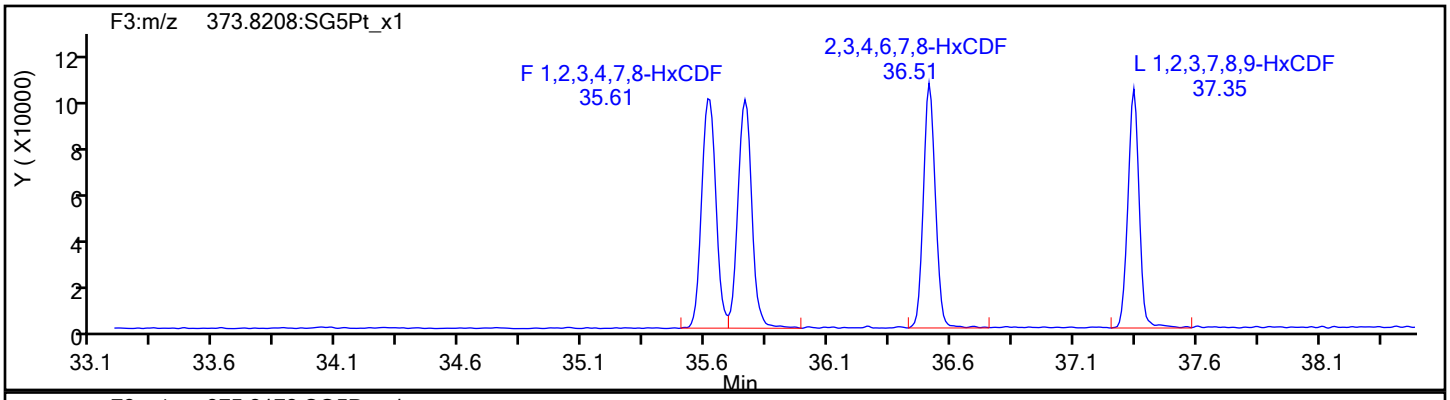
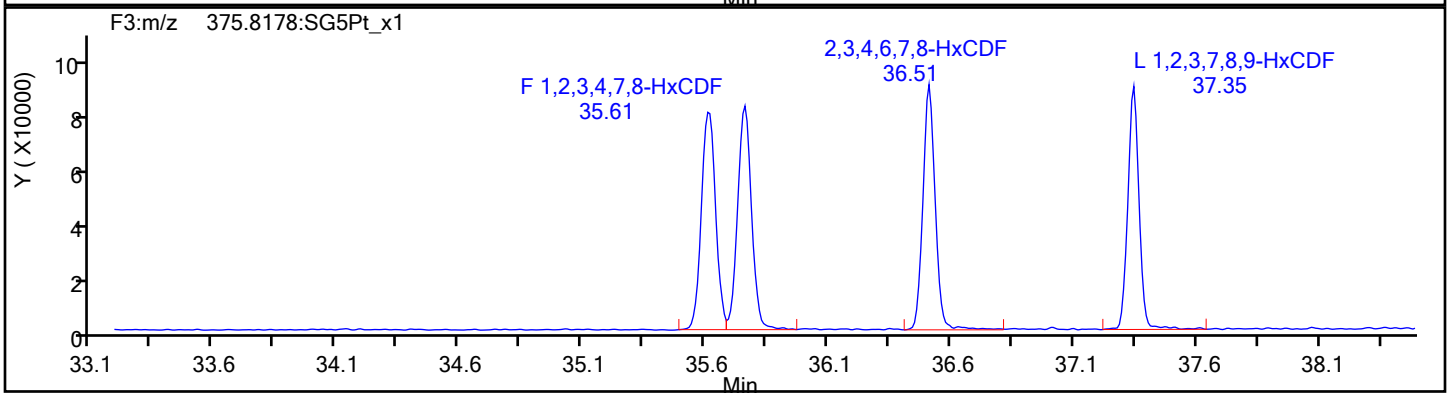
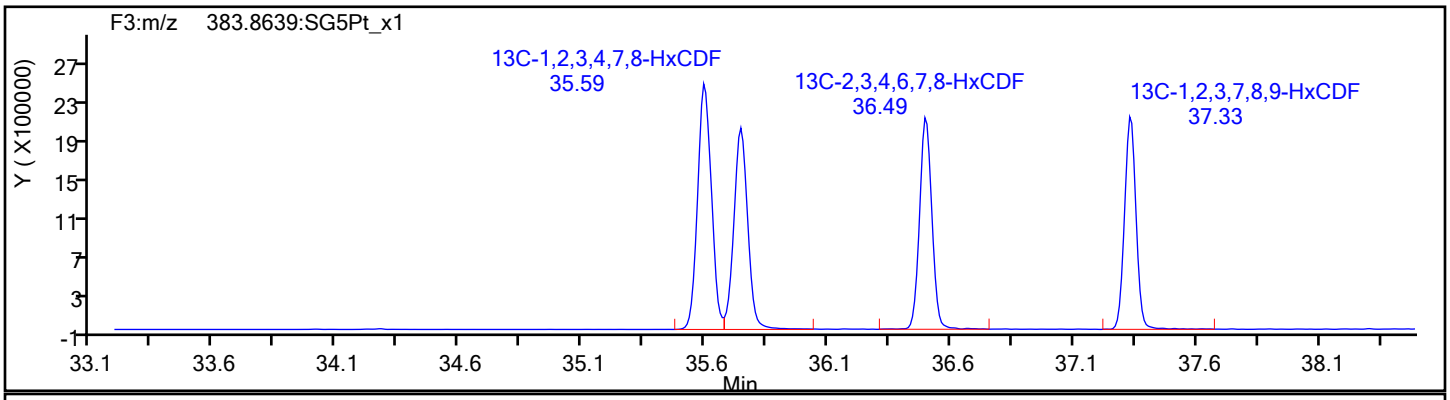
Column Type:	DB-5	Column Dia:	0.32 mm

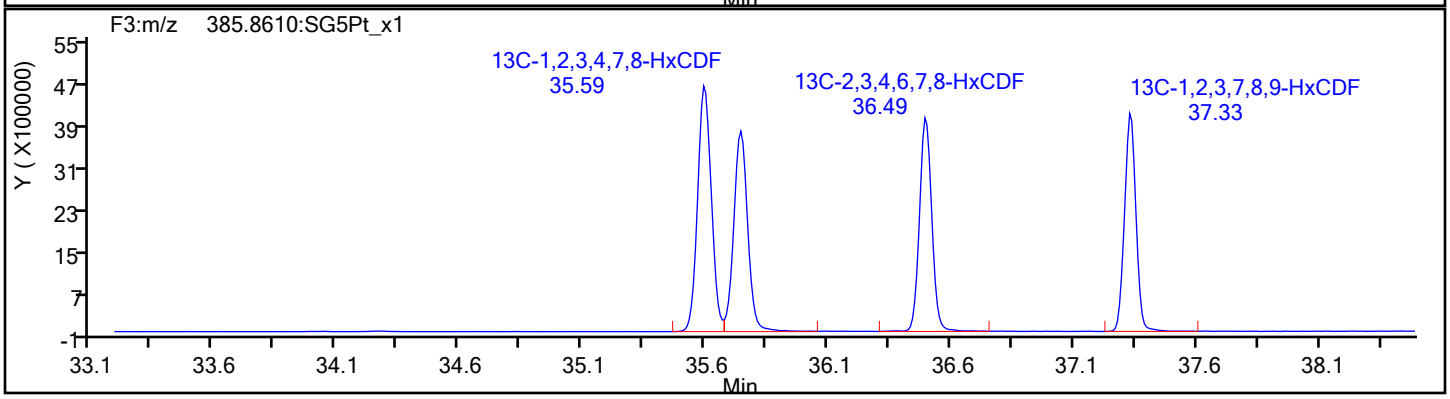
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

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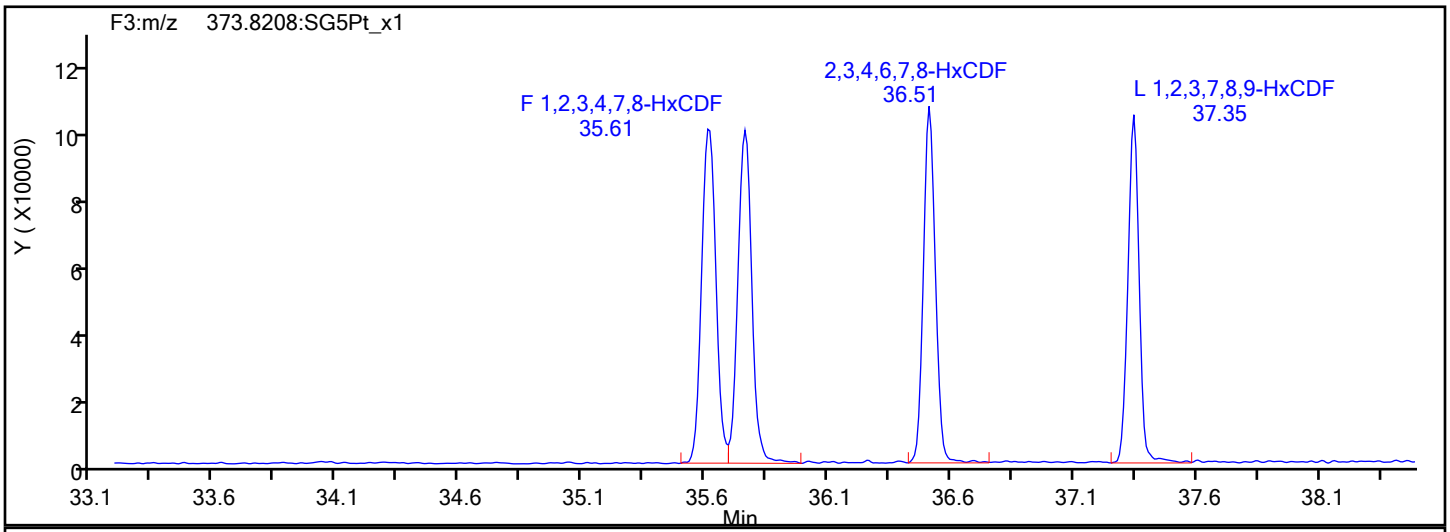
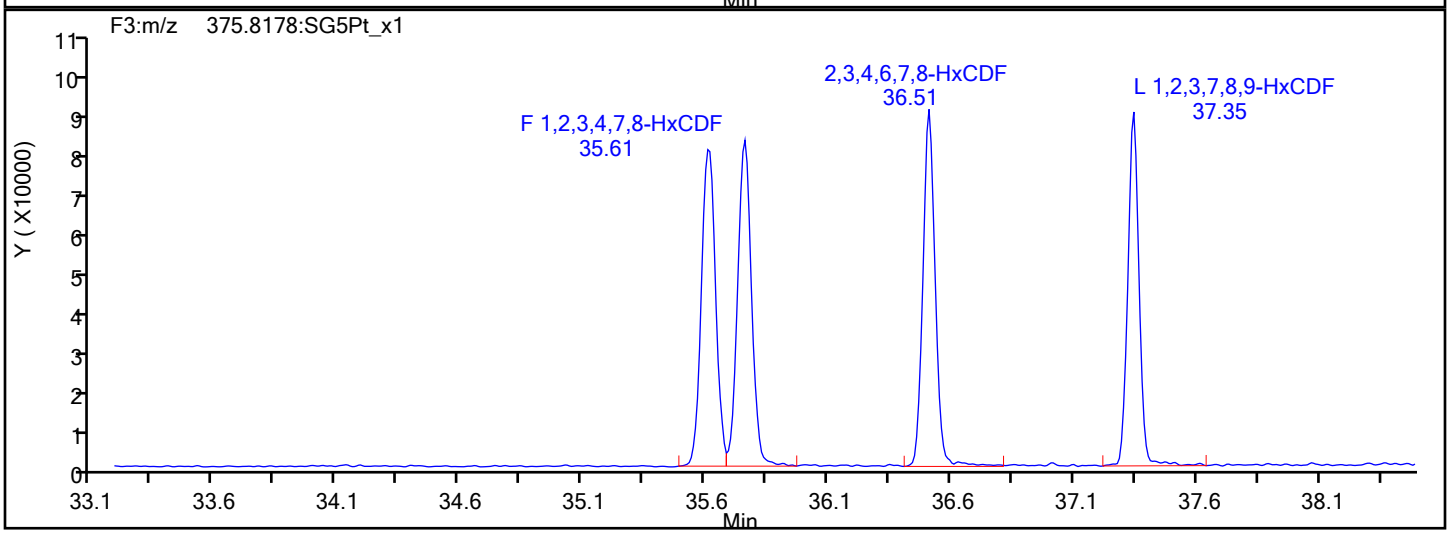
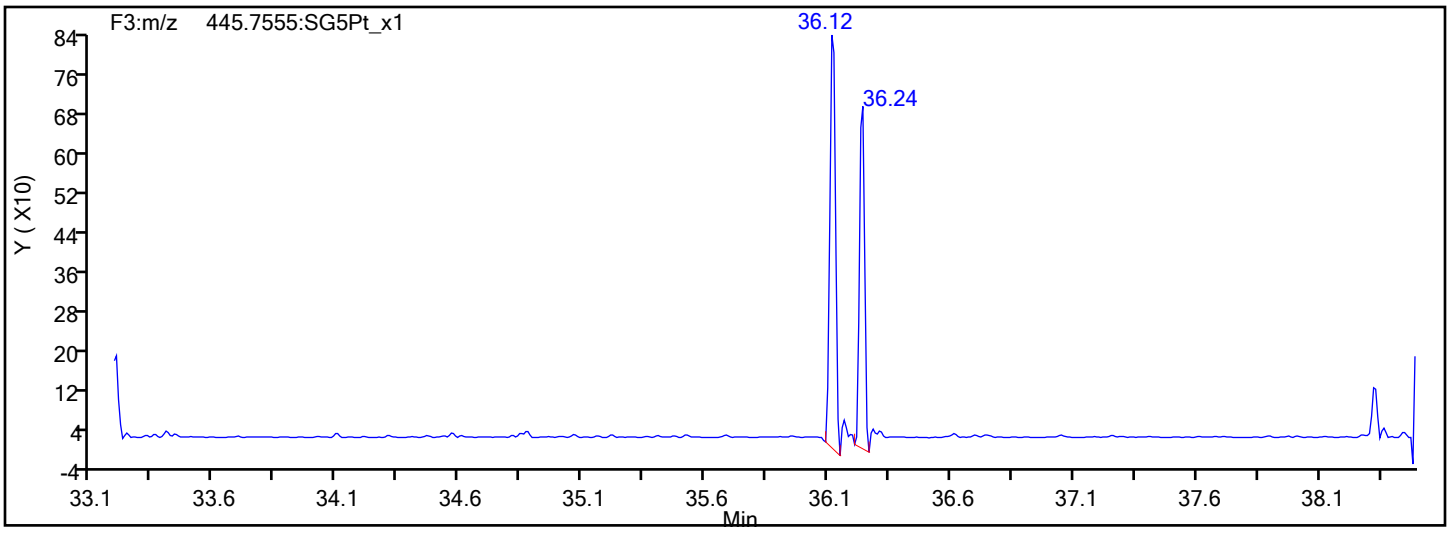
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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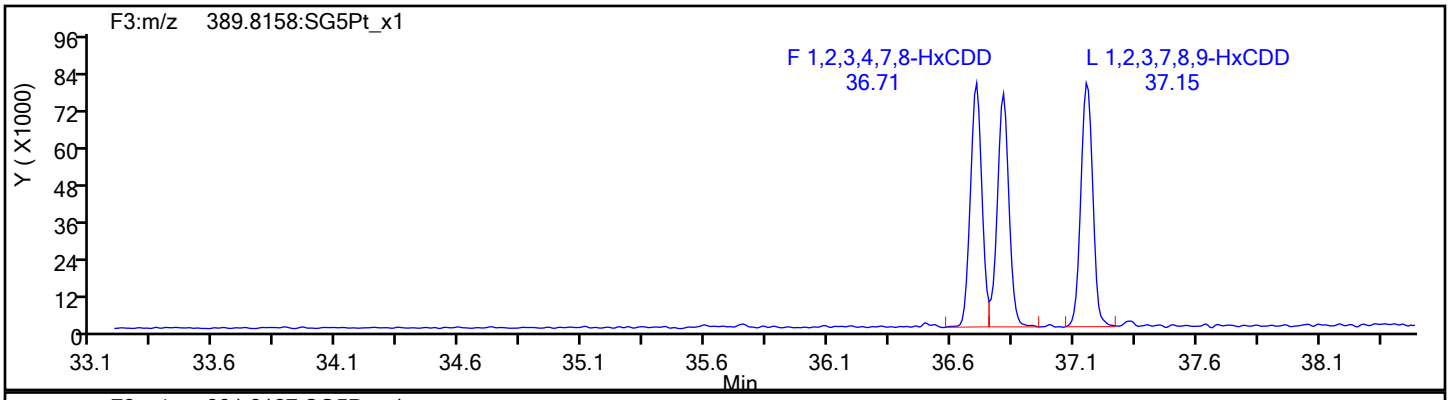
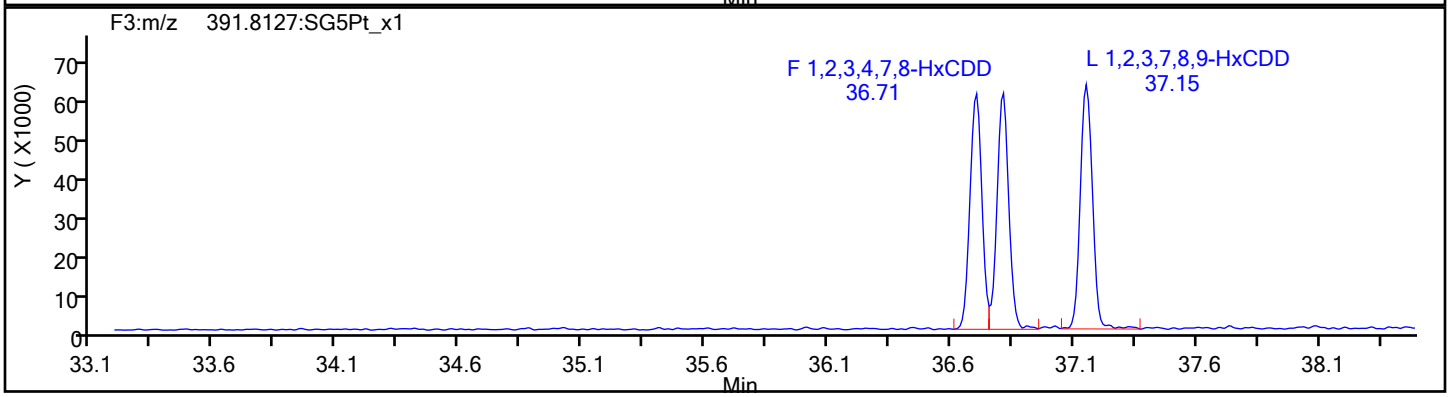
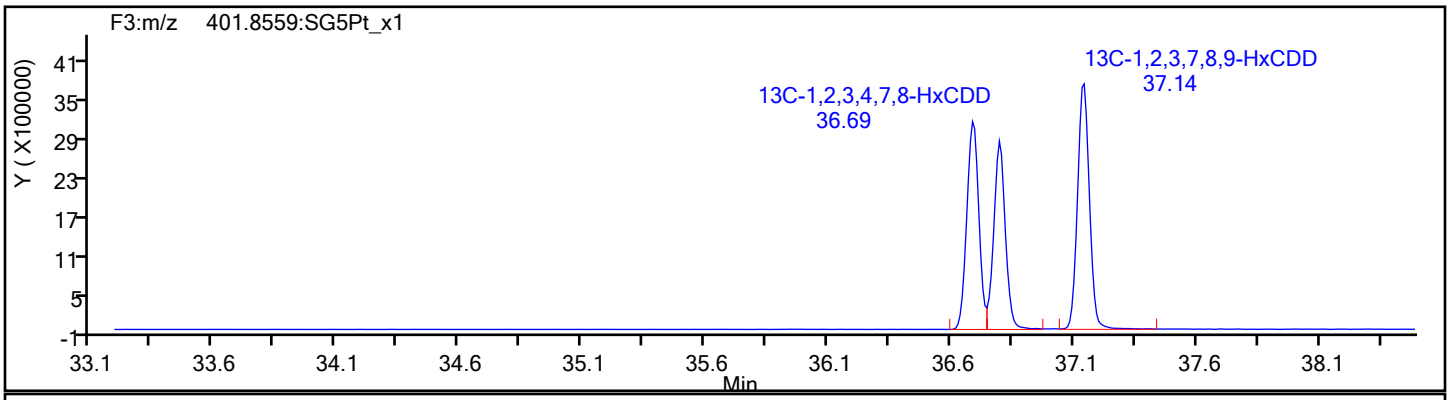
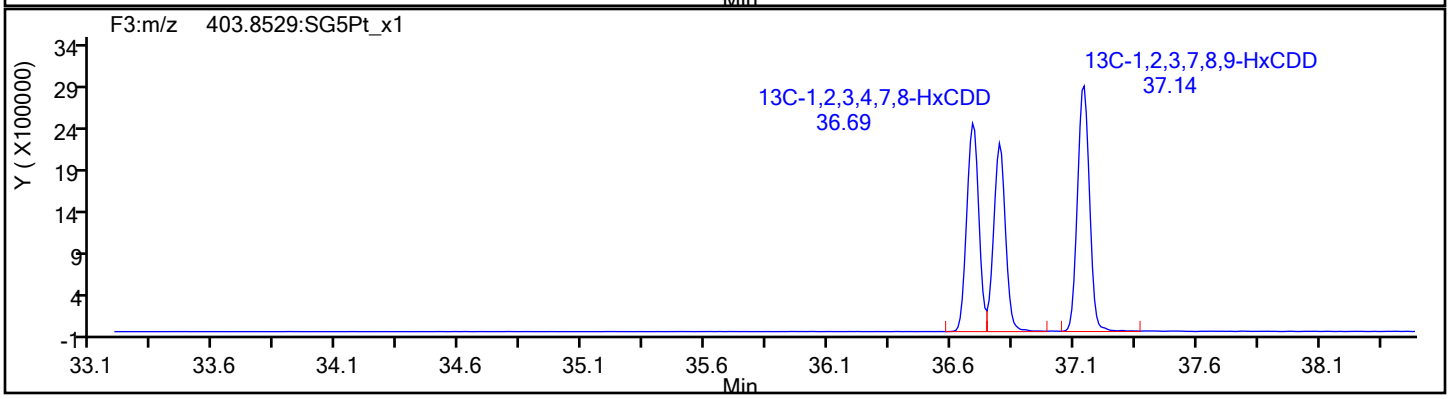
HxCDD





HxCDD Standards





Eurofins TestAmerica, Sacramento

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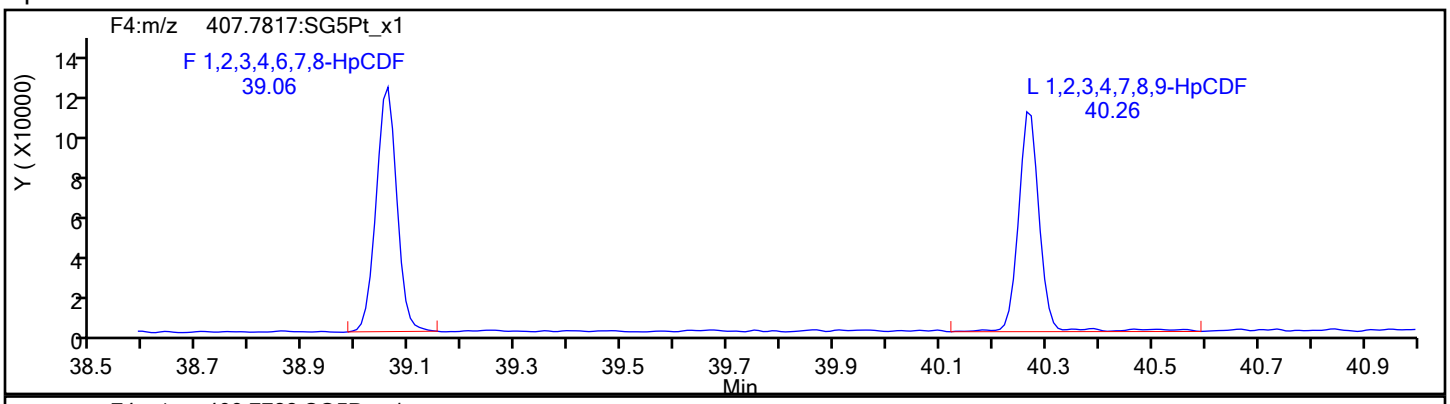
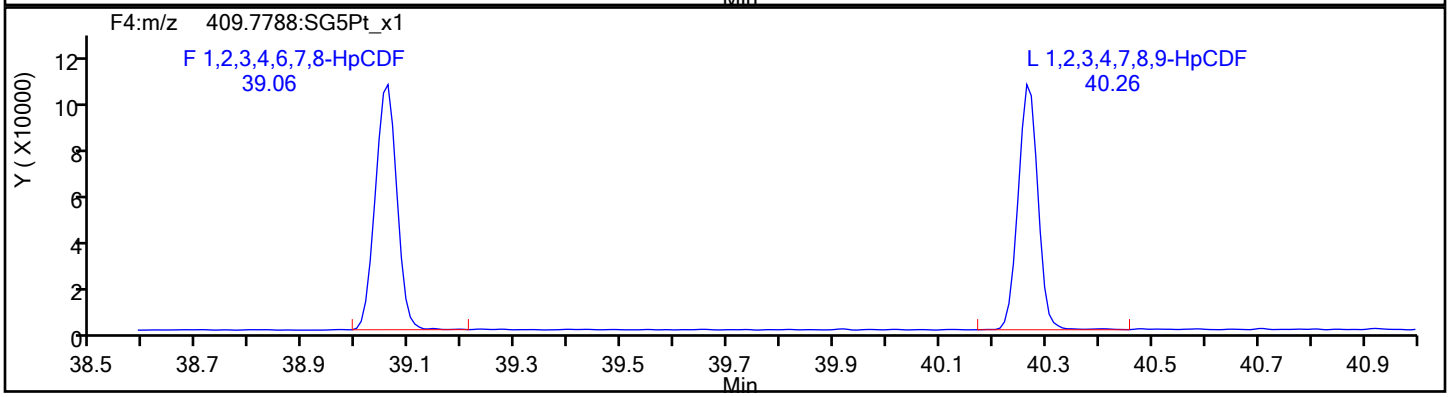
HpCDF





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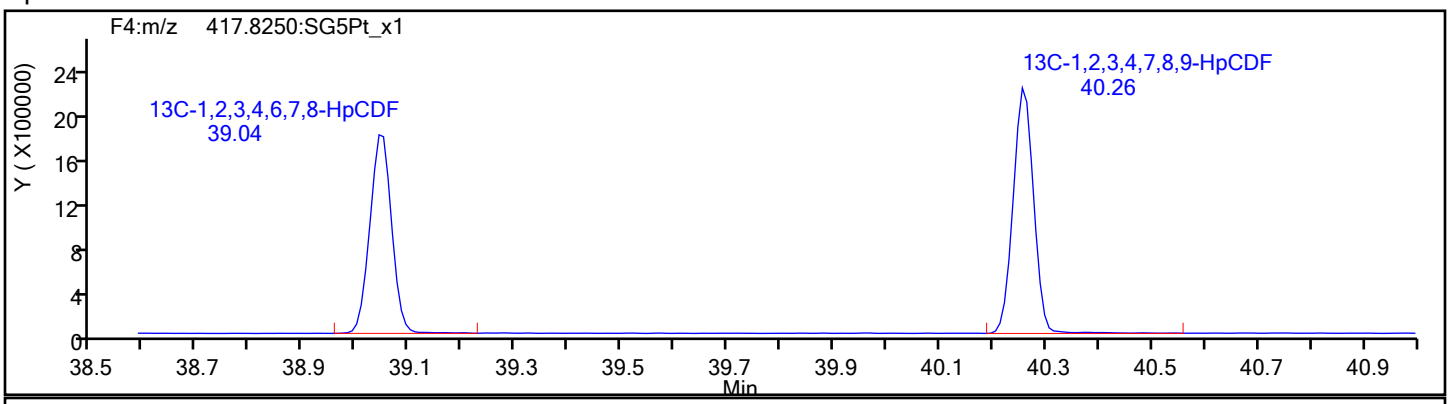

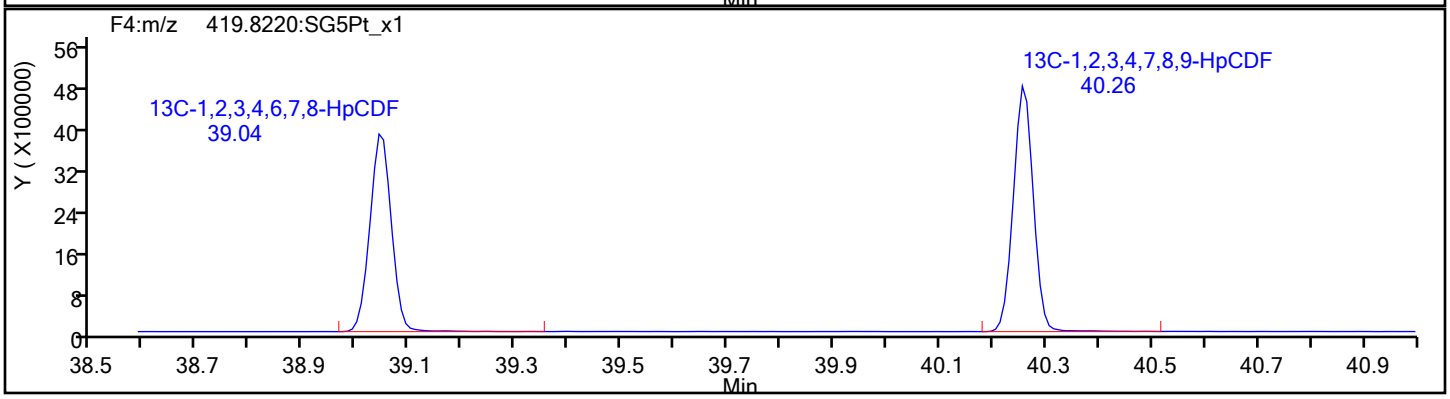

Eurofins TestAmerica, Sacramento

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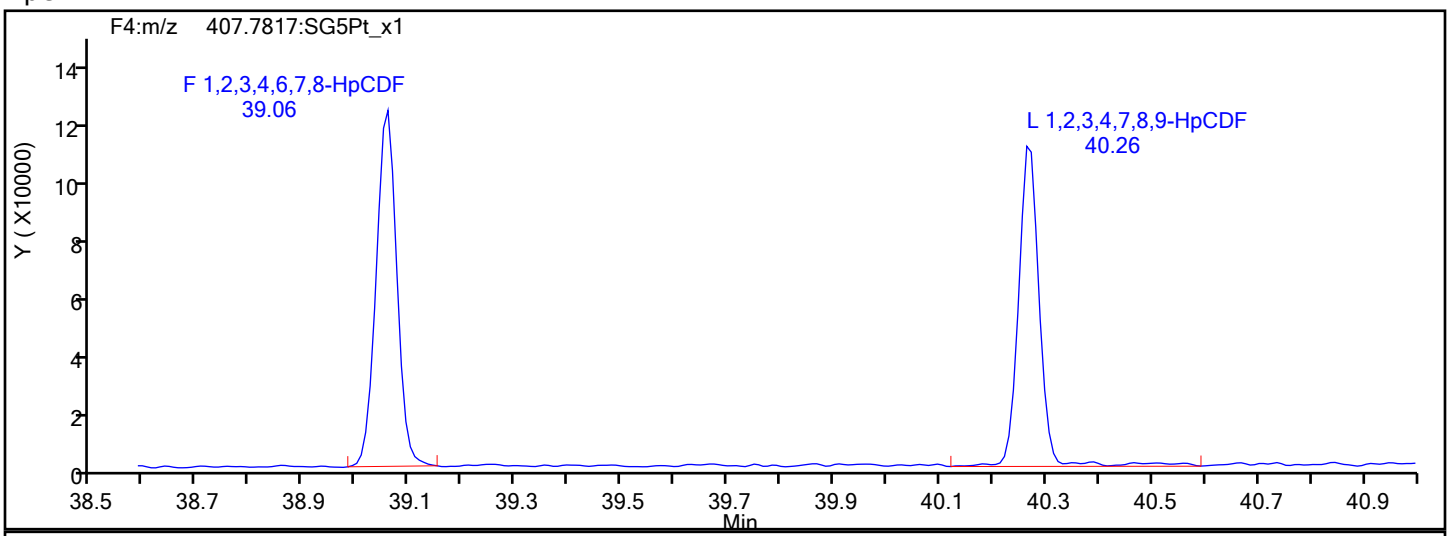
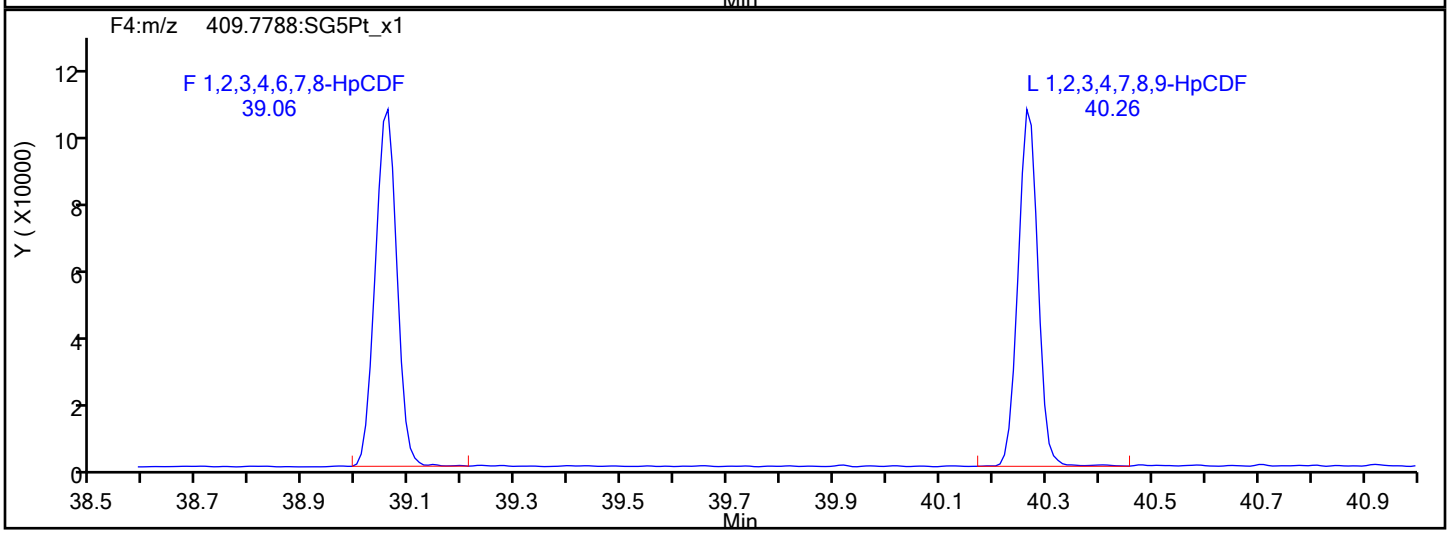
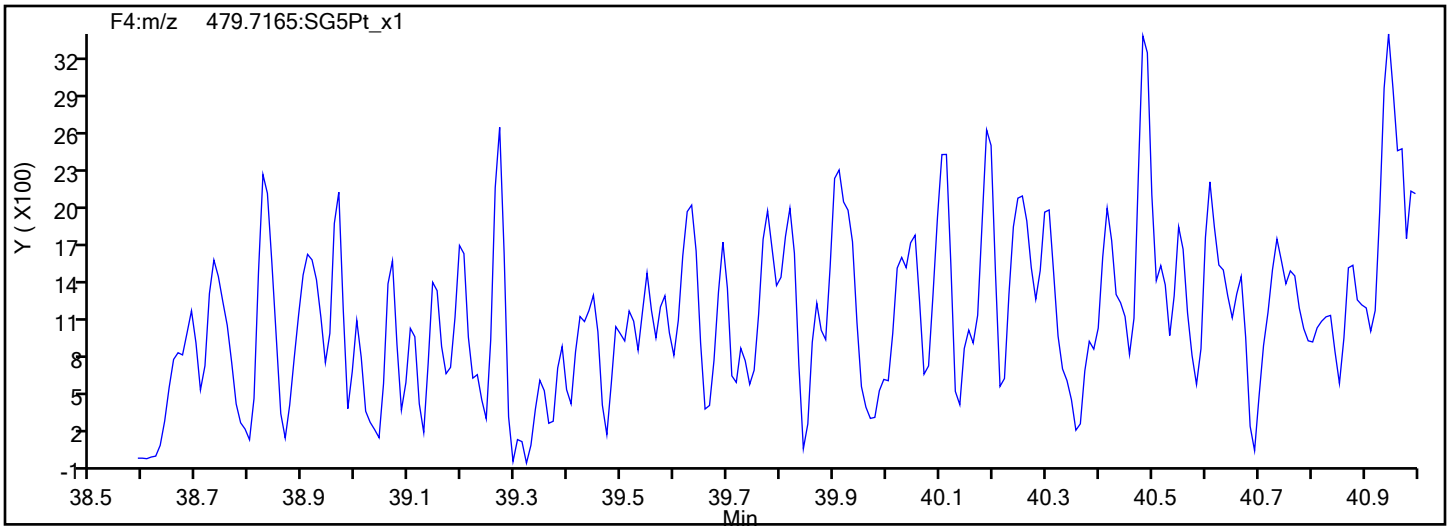
HpCDF





HpCDF Interference Mass



Report Date: 19-Nov-2021 11:38:12 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

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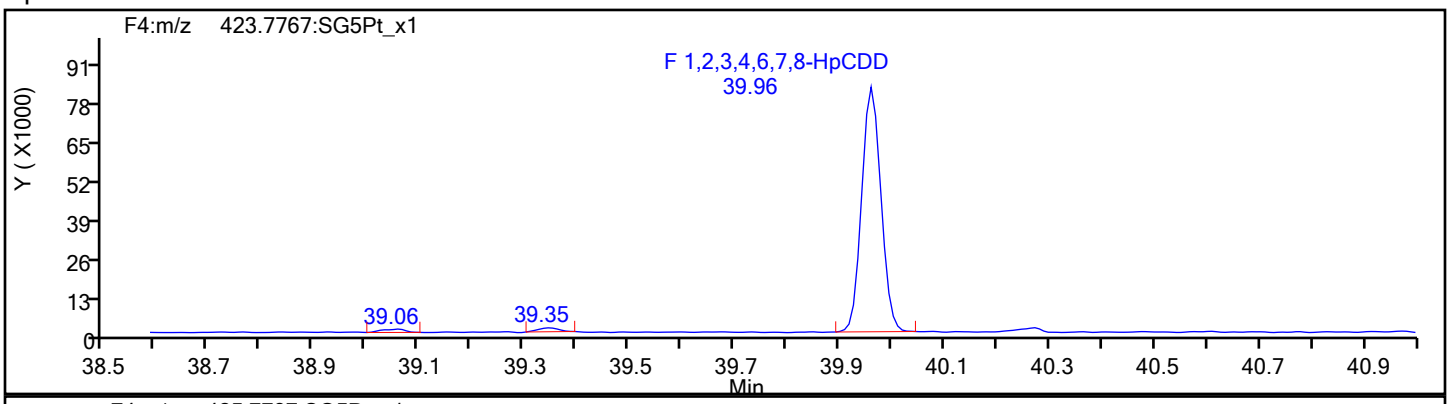
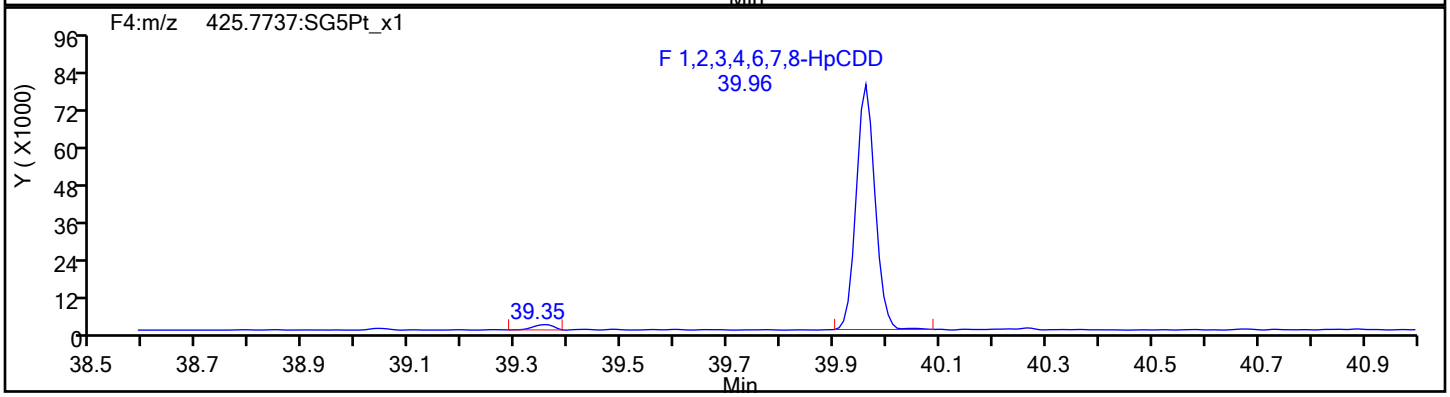
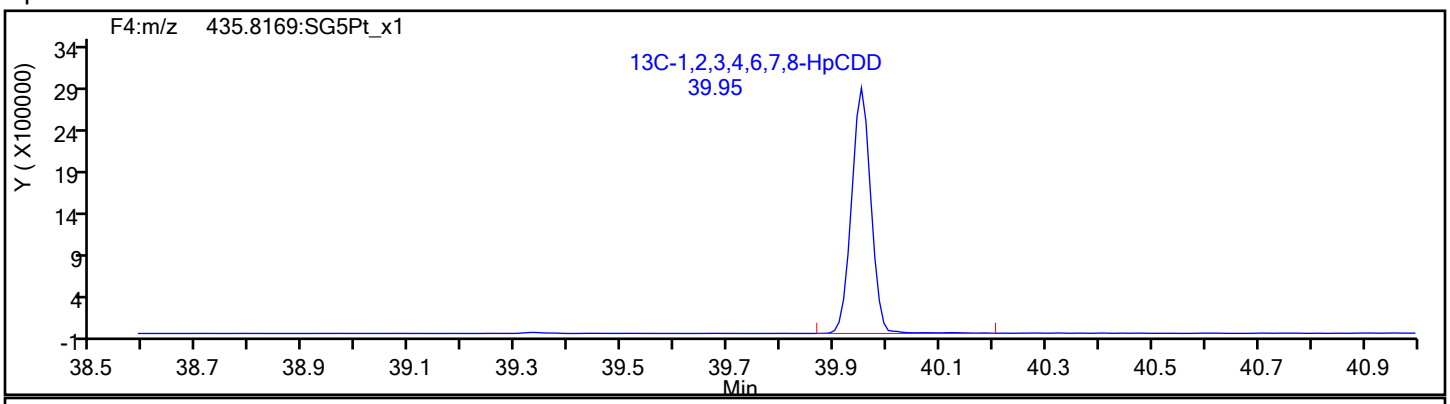
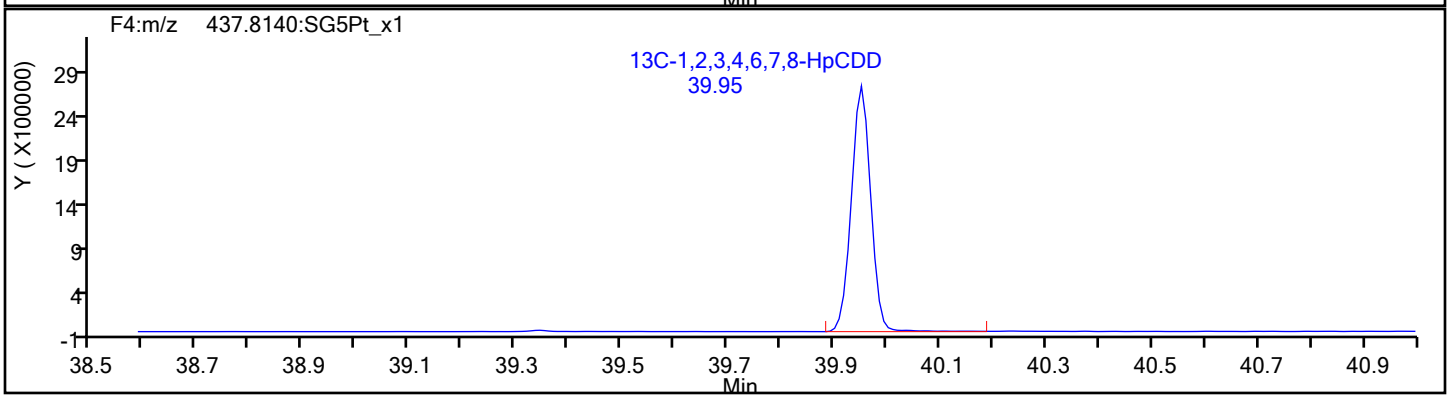
HpCDD





HpCDD Standards





Eurofins TestAmerica, Sacramento

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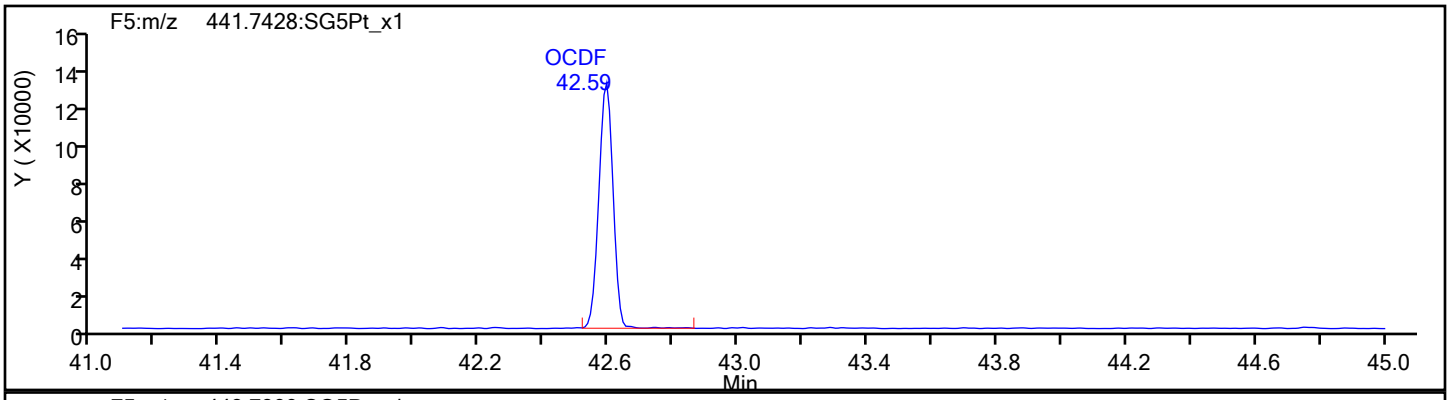
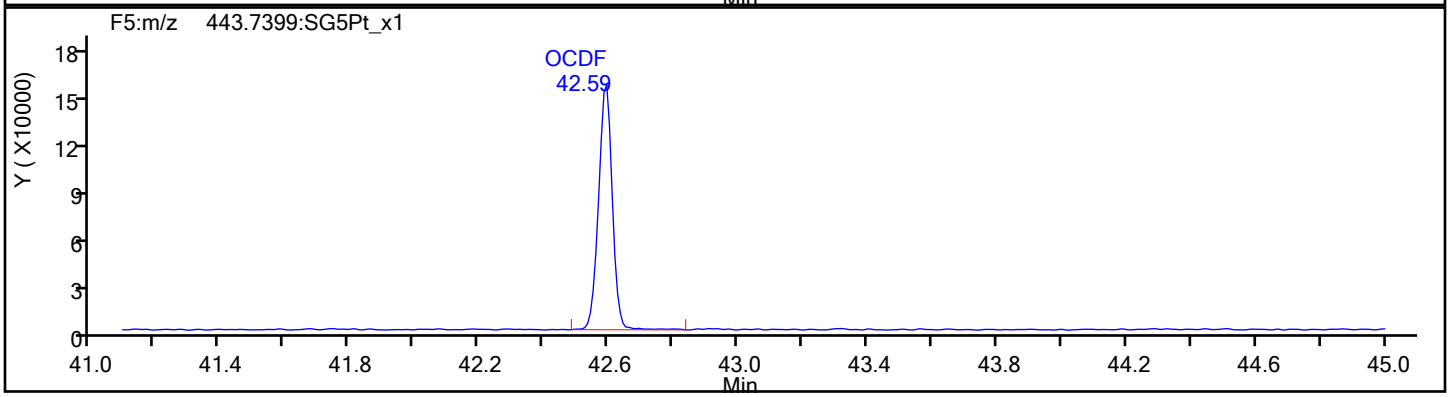
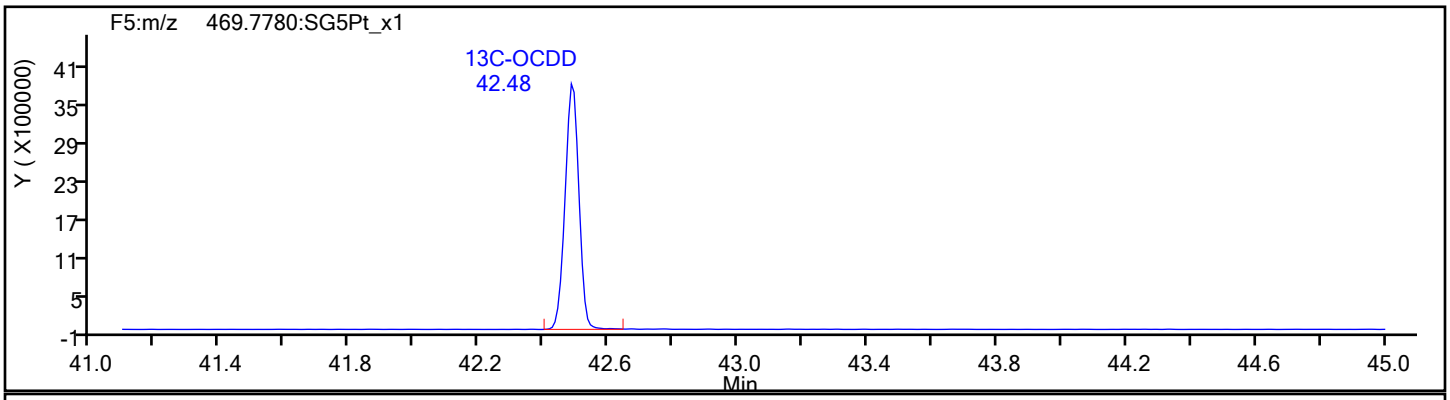
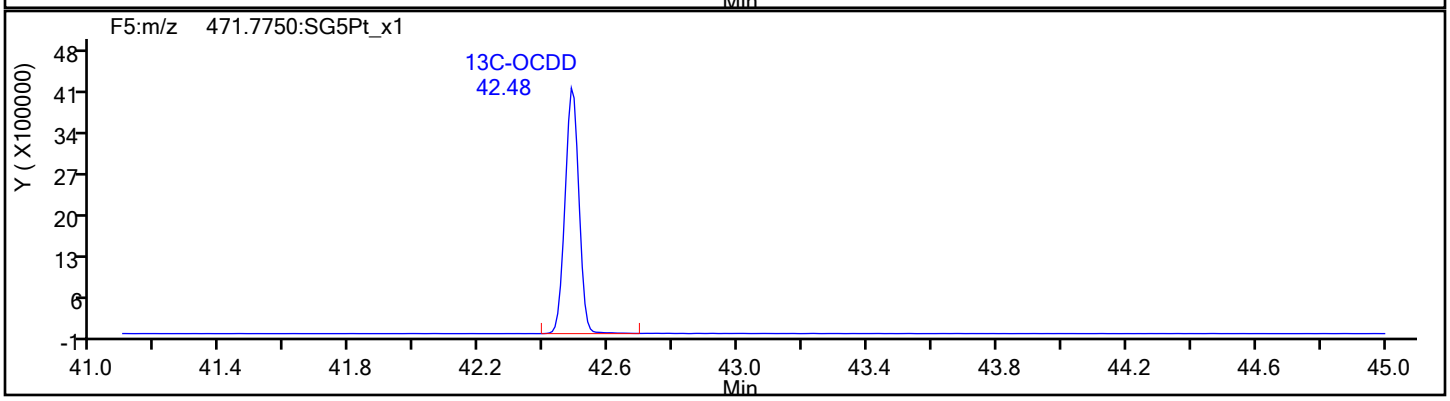
OCDF





OCDF Standards

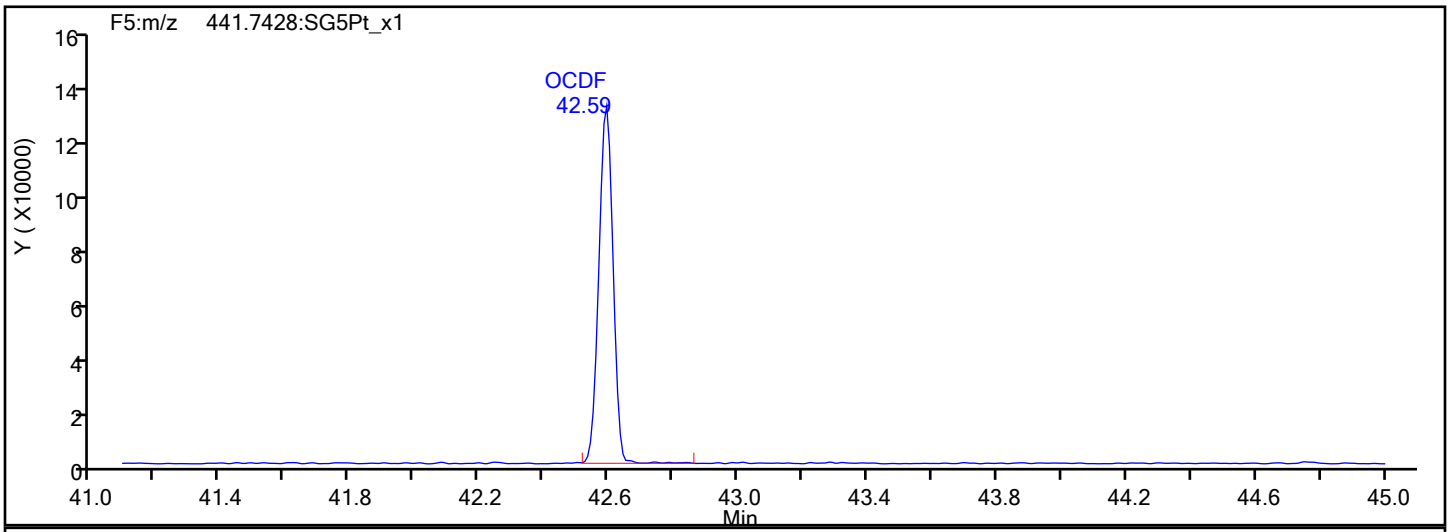


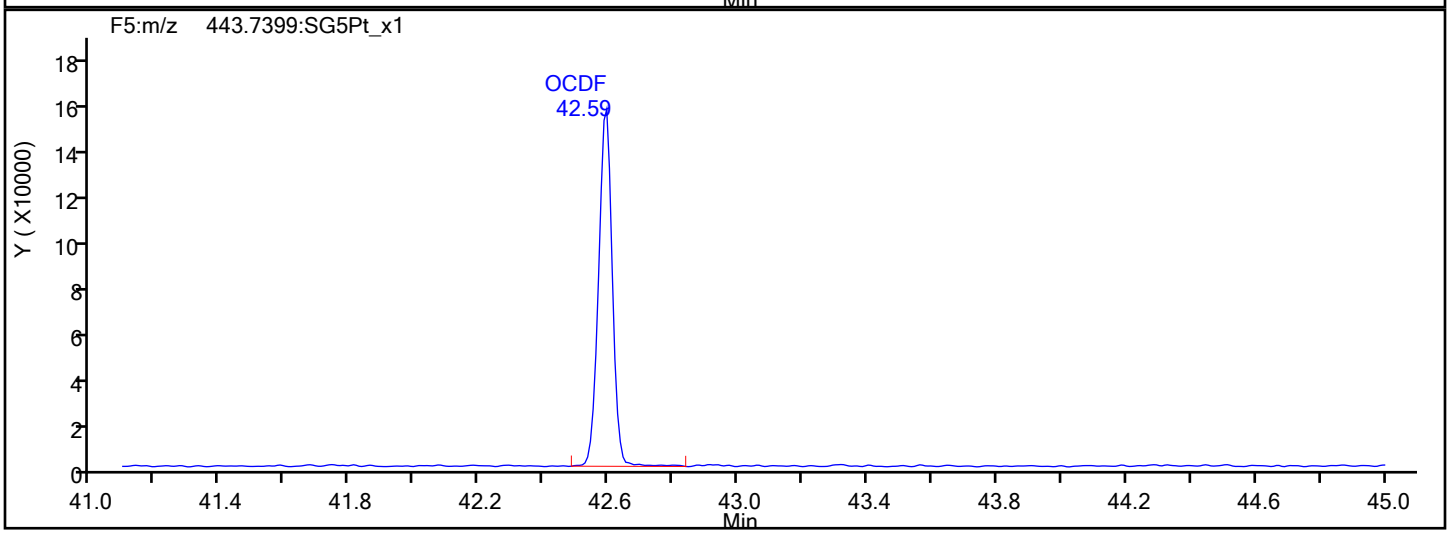


Eurofins TestAmerica, Sacramento

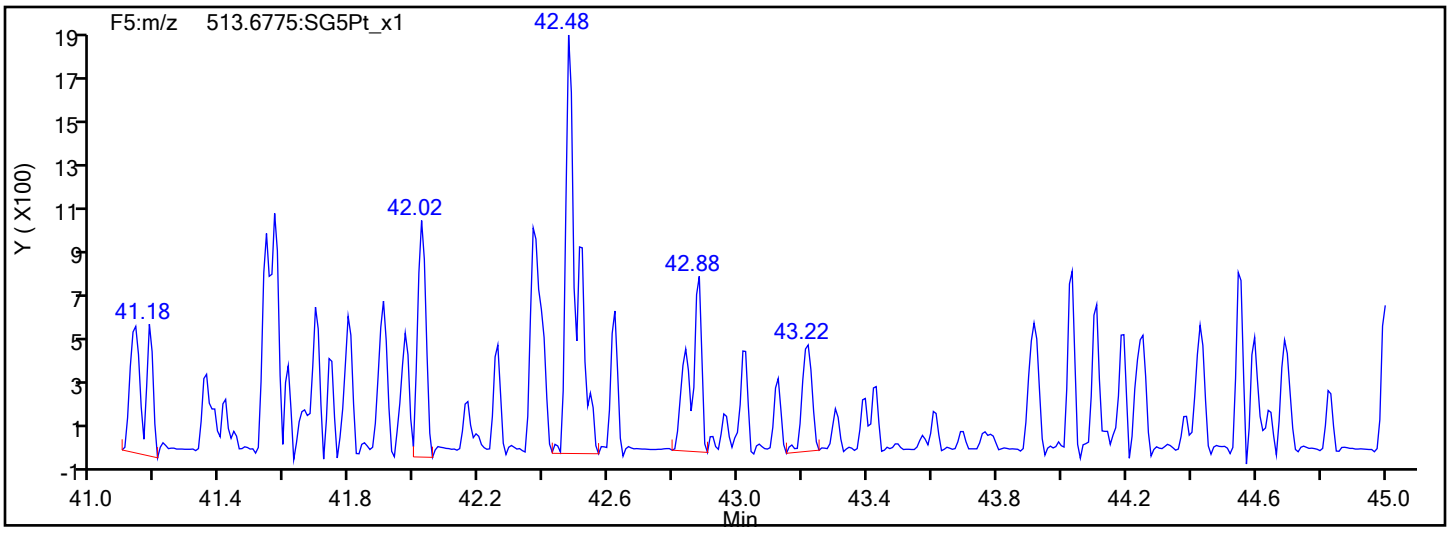
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d		
Injection Date:	18-Nov-2021 15:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





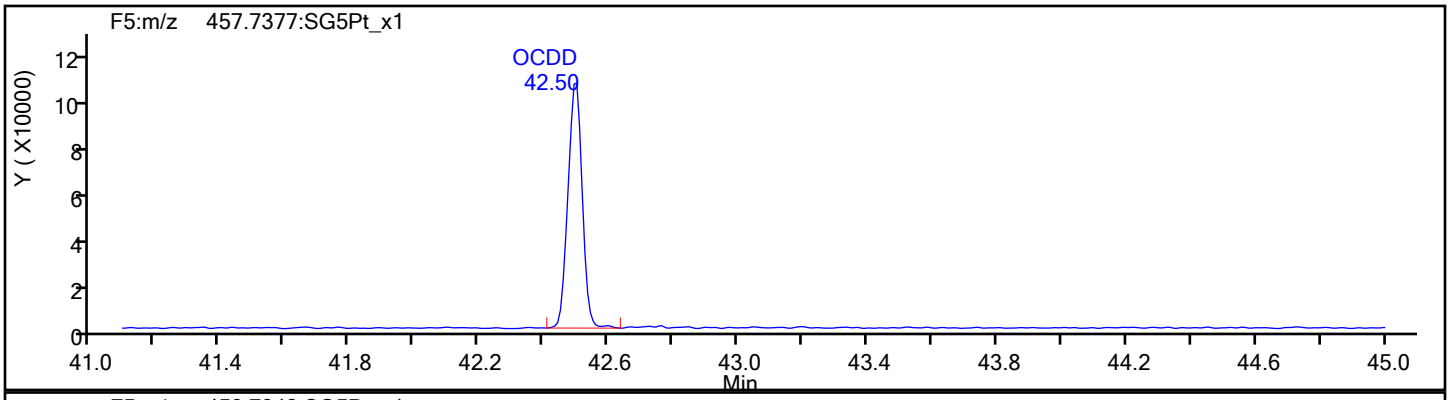
OCDF Interference Mass

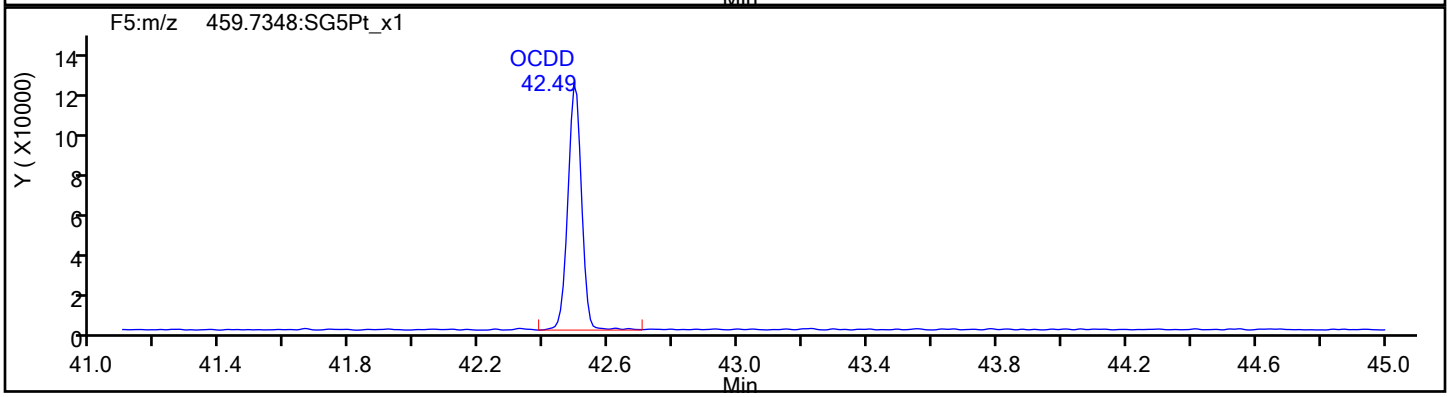


Eurofins TestAmerica, Sacramento

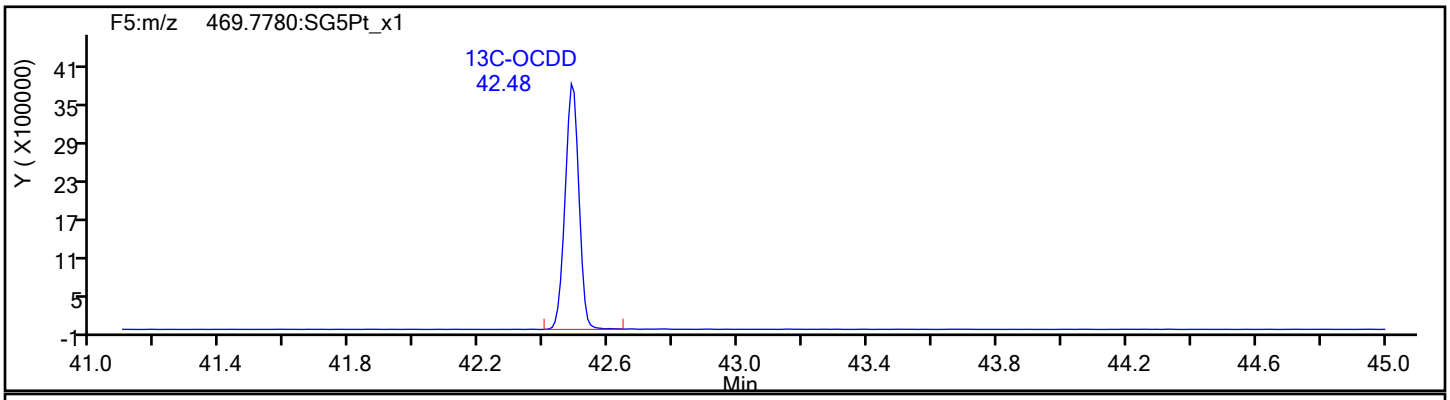
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d		
Injection Date:	18-Nov-2021 15:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

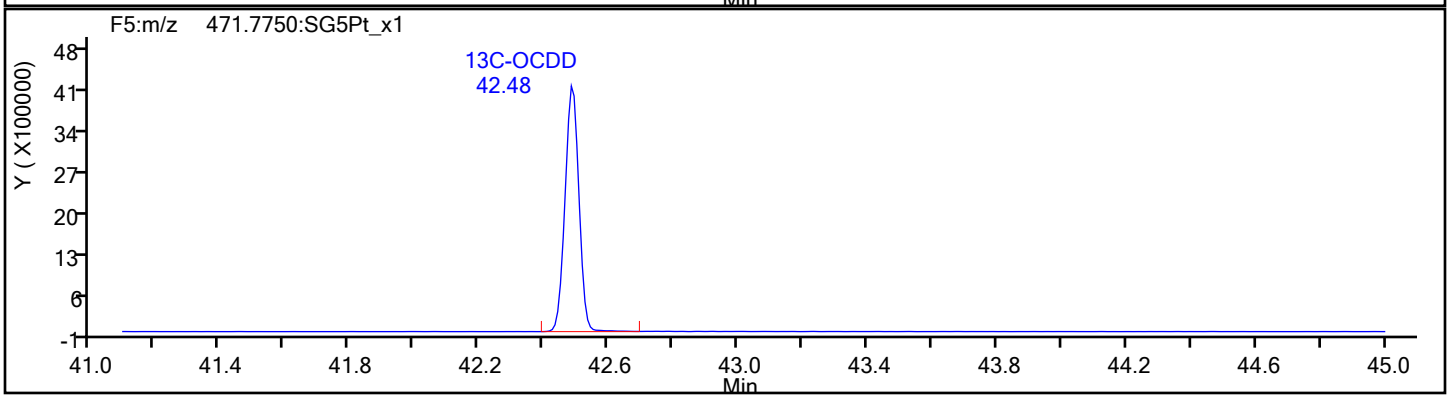
OCDD





OCDD Standards

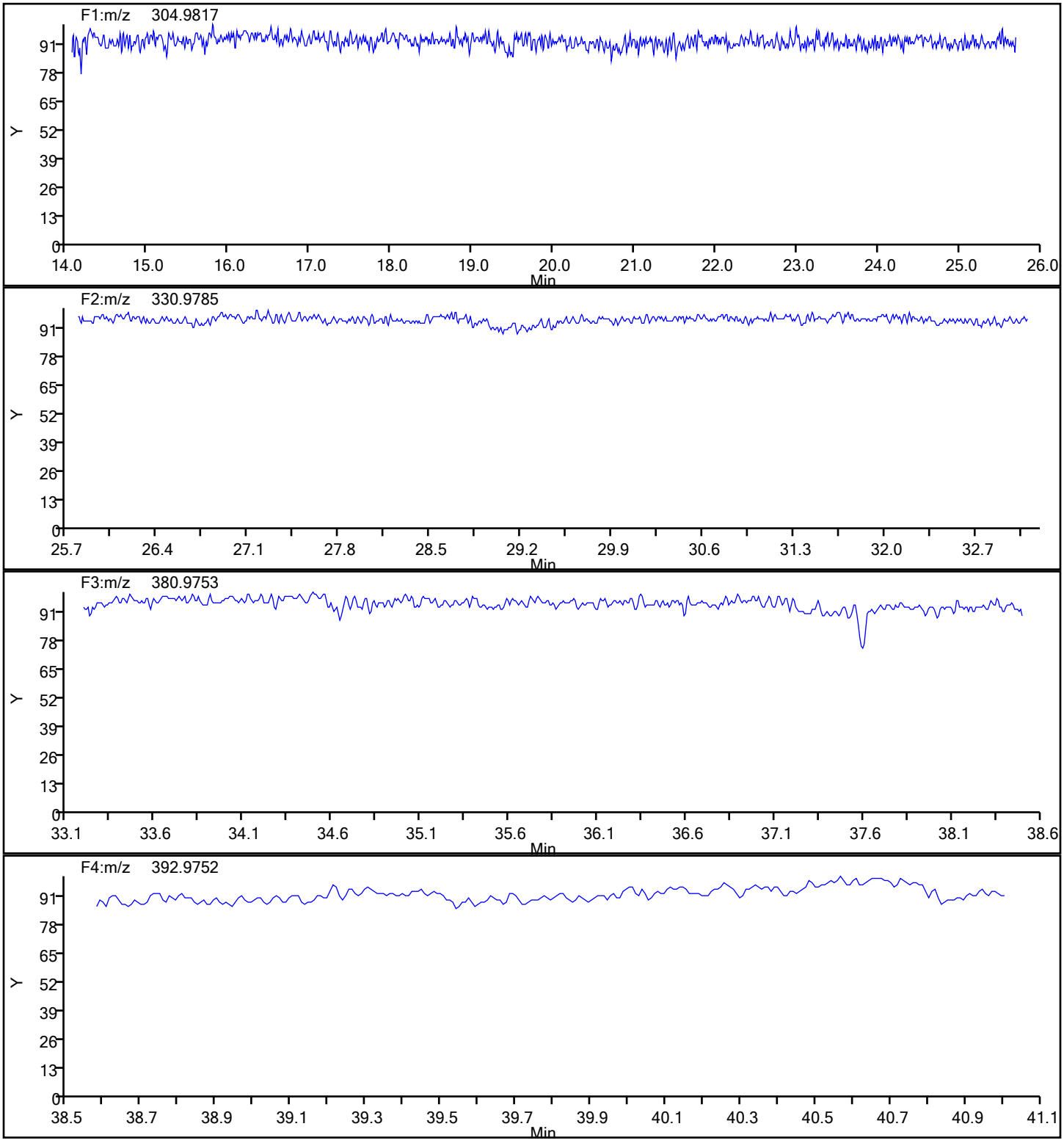




Report Date: 19-Nov-2021 11:38:13 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

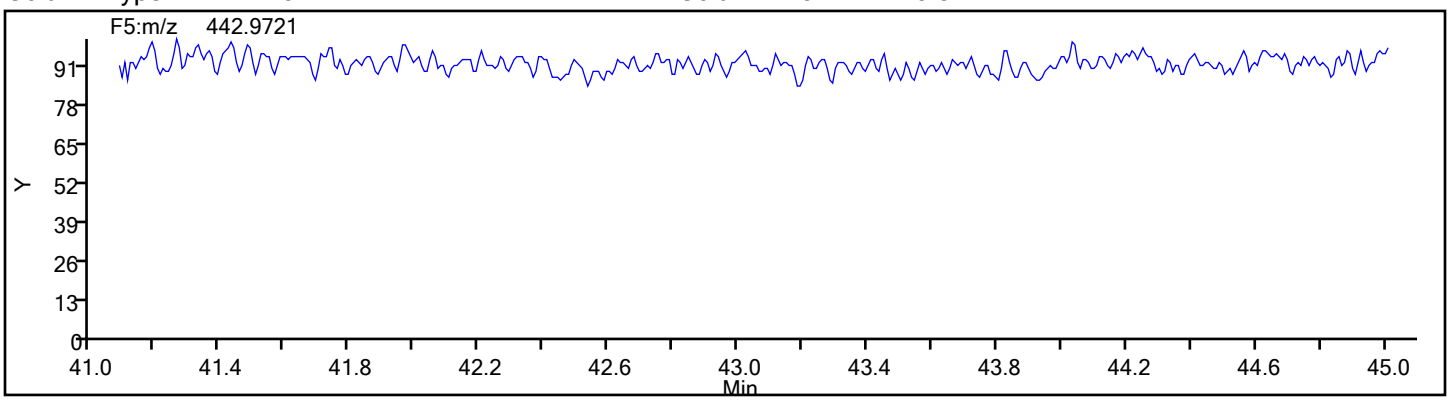
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d		
Injection Date:	18-Nov-2021 15:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 19-Nov-2021 11:38:13 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_4.d		
Injection Date:	18-Nov-2021 15:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-Nov-2021 16:14:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS3_HRDXNL3_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 11:38:28 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 08:56:58

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	22.471	13975169	0.84	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	21.415	17404920	0.81	1.2917	96.4	96.4	0.3879	0.3879	96.42	
2,3,7,8-TCDF	21.440	402364	0.77	1.1045	2.093	2.093	0.0223	0.0223	105	
S Total TCDF					2.093	2.093	0.0223	0.0223		
D 13C-2,3,7,8-TCDD	22.875	11367108	0.81	0.8271	98.3	98.3	0.2873	0.2873	98.34	
2,3,7,8-TCDD	22.918	270588	0.85	1.1211	2.123	2.123	0.0619	0.0619	106	
$ 37Cl4-2,3,7,8-TCDD	22.918	241496		0.8866	1.949	1.949	0.0400	0.0400	97.46	
S Total TCDD					2.123	2.123	0.0619	0.0619		
D 13C-1,2,3,7,8-PeCDF	28.249	15329023	1.61	1.1665	94.0	94.0	0.3464	0.3464	94.03	
1,2,3,7,8-PeCDF	28.266	1793144	1.58	1.0987	10.6	10.6	0.0637	0.0637	106	
D 13C-2,3,4,7,8-PeCDF	29.867	18184811	1.58							
2,3,4,7,8-PeCDF	29.892	1737826	1.59	1.0579	10.7	10.7	0.0662	0.0662	107	
S Total PeCDF					21.4	21.4	0.0649	0.0649		
D 13C-1,2,3,7,8-PeCDD	30.735	8389682	1.59	0.6835	87.8	87.8	0.1921	0.1921	87.83	
1,2,3,7,8-PeCDD	30.768	1017817	1.57	1.1030	11.0	11.0	0.0737	0.0737	110	
S Total PeCDD					11.0	11.0	0.0737	0.0737		
D 13C-1,2,3,4,7,8-HxCDF	35.614	17051491	0.54	1.1776	101.6	101.6	0.2441	0.2441	102	
1,2,3,4,7,8-HxCDF	35.622	1774041	1.24	0.9504	10.9	10.9	0.0629	0.0629	109	
D 13C-1,2,3,6,7,8-HxCDF	35.757	14033258	0.55							
1,2,3,6,7,8-HxCDF	35.774	1831807	1.28	0.9524	11.3	11.3	0.0628	0.0628	113	
D 13C-2,3,4,6,7,8-HxCDF	36.507	13235833	0.54							
2,3,4,6,7,8-HxCDF	36.524	1720989	1.21	0.8893	11.3	11.3	0.0673	0.0673	113	
D 13C-1,2,3,7,8,9-HxCDF	37.341	12625398	0.54							
1,2,3,7,8,9-HxCDF	37.358	1652051	1.27	0.8433	11.5	11.5	0.0709	0.0709	115	
S Total HxCDF					45.1	45.1	0.0660	0.0660		
* 13C-1,2,3,7,8,9-HxCDD	37.156	14247864	1.30	2.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	36.701	11919667	1.30							
1,2,3,4,7,8-HxCDD	36.717	1142265	1.24	1.0079	11.0	11.0	0.0864	0.0864	110	
D 13C-1,2,3,6,7,8-HxCDD	36.810	10275282	1.28	0.7339	98.3	98.3	0.2551	0.2551	98.26	
1,2,3,6,7,8-HxCDD	36.827	1146327	1.27	1.0111	11.0	11.0	0.0861	0.0861	110	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	37.164	1259459	1.28	1.0993	11.2	11.2	0.0792	0.0792	112	
S Total HxCDD					33.2	33.2	0.0839	0.0839		
D 13C-1,2,3,4,6,7,8-HpCDF	39.053	9519087	0.47	0.6698	99.7	99.7	0.3672	0.3672	99.75	
1,2,3,4,6,7,8-HpCDF	39.062	1579895	1.05	1.5184	10.9	10.9	0.0795	0.0795	109	
D 13C-1,2,3,4,7,8,9-HpCDF	40.267	11495552	0.46							
1,2,3,4,7,8,9-HpCDF	40.276	1397686	1.04	1.3387	11.0	11.0	0.0902	0.0902	110	
S Total HpCDF					21.9	21.9	0.0848	0.0848		
D 13C-1,2,3,4,6,7,8-HpCDD	39.955	8390734	1.05	0.5943	99.1	99.1	0.2520	0.2520	99.10	
1,2,3,4,6,7,8-HpCDD	39.964	996508	1.05	1.0953	10.8	10.8	0.0365	0.0365	108	
S Total HpCDD					10.8	10.8	0.0365	0.0365		
D 13C-OCDD	42.494	13675624	0.92	0.4838	198.4	198.4	0.2841	0.2841	99.21	
OCDF	42.595	2179149	0.88	1.3979	22.8	22.8	0.0609	0.0609	114	
OCDD	42.503	1682887	0.88	1.1116	22.1	22.1	0.0676	0.0676	111	

QC Flag Legend

Processing Flags

Reagents:

HRDXNL3_00030 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-Nov-2021 16:14:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS3_HRDXNL3_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 11:38:28 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 08:56:58

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	22.471	22.456	1		6376765	863152	1416	3540	610		
333.9338	22.480	22.456	1		7598404	1046035	399	997	2622	0.84(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	21.415	21.398	1	0.953	7787416	1134965	2779	6947	408		
317.9389	21.415	21.398	1	0.953	9617504	1393431	1047	2617	1331	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	21.440	21.426	1	1.001	174481	26114	39	97	670		
305.8987	21.440	21.426	1	1.001	227883	33195	210	525	158	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	22.875	22.855	1	1.018	5081256	678532	1416	3540	479		
333.9338	22.884	22.855	2	1.018	6285852	870177	399	997	2181	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	22.918	22.887	2	1.002	124058	17428	350	875	50		
321.8936	22.926	22.887	2	1.002	146530	21062	80	200	263	0.85(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	22.918	22.891	2	1.020	241496	32841	271	677	121		
13C-1,2,3,7,8-PeCDF											
351.9000	28.249	28.227	1	1.257	9450282	1532616	1814	4535	845		
353.8970	28.241	28.227	1	1.257	5878741	960603	1272	3180	755	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	28.266	28.252	1	1.001	1097429	172078	231	577	745		
341.8567	28.266	28.252	1	1.001	695715	114053	467	1167	244	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	29.867	29.841	2	1.329	11144843	1682047	1814	4535	927		
353.8970	29.867	29.841	2	1.329	7039968	1078892	1272	3180	848	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	29.892	29.871	1	1.001	1066078	164351	231	577	711		
341.8567	29.892	29.871	1	1.001	671748	104644	467	1167	224	1.59(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	30.735	30.710	1	1.368	5153170	726679	587	1467	1238		
369.8919	30.726	30.710	1	1.367	3236512	466201	416	1040	1121	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	30.768	30.739	2	1.001	622262	88930	294	735	302		
357.8516	30.760	30.739	1	1.001	395555	57850	94	235	615	1.57(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	35.614	35.596	1	0.959	5972993	1534937	1596	3990	962		
385.8610	35.614	35.596	1	0.959	11078498	2852616	3223	8057	885	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	35.622	35.611	1	1.000	983203	253728	595	1487	426		
375.8178	35.622	35.611	1	1.000	790838	201764	455	1137	443	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	35.757	35.743	1	0.962	4952476	1217579	1596	3990	763		
385.8610	35.757	35.743	1	0.962	9080782	2238669	3223	8057	695	0.55(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	35.774	35.758	1	1.000	1028000	260697	595	1487	438		
375.8178	35.774	35.758	1	1.000	803807	205589	455	1137	452	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	36.507	36.495	1	0.983	4616216	1294866	1596	3990	811		
385.8610	36.507	36.495	1	0.983	8619617	2399611	3223	8057	745	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	36.524	36.510	1	1.000	942536	262986	595	1487	442		
375.8178	36.524	36.510	1	1.000	778453	223703	455	1137	492	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	37.341	37.329	1	1.005	4453596	1362512	1596	3990	854		
385.8610	37.341	37.329	1	1.005	8171802	2453413	3223	8057	761	0.54(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	37.358	37.344	1	1.000	924582	278190	595	1487	468		
375.8178	37.349	37.344	0	1.000	727469	222205	455	1137	488	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	37.156	37.140	1		8050779	2380649	1720	4300	1384		
403.8529	37.156	37.140	1		6197085	1810633	1419	3547	1276	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	36.701	36.687	1	0.988	6741797	1984088	1720	4300	1154		
403.8529	36.701	36.687	1	0.988	5177870	1511955	1419	3547	1066	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	36.717	36.704	1	1.000	632979	181437	644	1610	282		
391.8127	36.717	36.704	1	1.000	509286	144780	385	962	376	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.810	36.796	1	0.991	5758811	1662615	1720	4300	967		
403.8529	36.810	36.796	1	0.991	4516471	1291412	1419	3547	910	1.28(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	36.827	36.813	1	1.000	642279	182876	644	1610	284		
391.8127	36.827	36.813	1	1.000	504048	143420	385	962	373	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	37.164	37.150	1	1.013	706237	216017	644	1610	335		
391.8127	37.164	37.150	1	1.013	553222	174488	385	962	453	1.28(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	39.053	39.042	1	1.051	3040137	1098318	2115	5287	519		
419.8220	39.053	39.042	1	1.051	6478950	2288070	2008	5020	1139	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	39.062	39.053	1	1.000	810702	290401	1191	2977	244		
409.7788	39.062	39.053	1	1.000	769193	271893	444	1110	612	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	40.267	40.256	1	1.084	3641734	1353620	2115	5287	640		
419.8220	40.267	40.256	1	1.084	7853818	2927819	2008	5020	1458	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	40.276	40.264	1	1.000	713949	264692	1191	2977	222		
409.7788	40.276	40.264	1	1.000	683737	255381	444	1110	575	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.955	39.949	0	1.075	4303366	1632999	1282	3205	1274		
437.8140	39.955	39.949	0	1.075	4087368	1545053	1229	3072	1257	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.964	39.959	0	1.000	511566	192493	298	745	646		
425.7737	39.964	39.959	0	1.000	484942	190308	211	527	902	1.05(0.88-1.20)	
13C-OCDD											
469.7780	42.494	42.485	1	1.144	6562317	2170812	1417	3542	1532		
471.7750	42.494	42.485	1	1.144	7113307	2317905	887	2217	2613	0.92(0.76-1.02)	
OCDF											
441.7428	42.595	42.589	0	1.002	1021658	334892	248	620	1350		
443.7399	42.595	42.589	0	1.002	1157491	385689	516	1290	747	0.88(0.76-1.02)	
OCDD											
457.7377	42.503	42.495	0	1.000	789886	267116	345	862	774		
459.7348	42.503	42.495	0	1.000	893001	302465	330	825	917	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

Reagents:

HRDXNL3_00030 Amount Added: 1.00 Units: uL

Report Date: 19-Nov-2021 11:38:29 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d		
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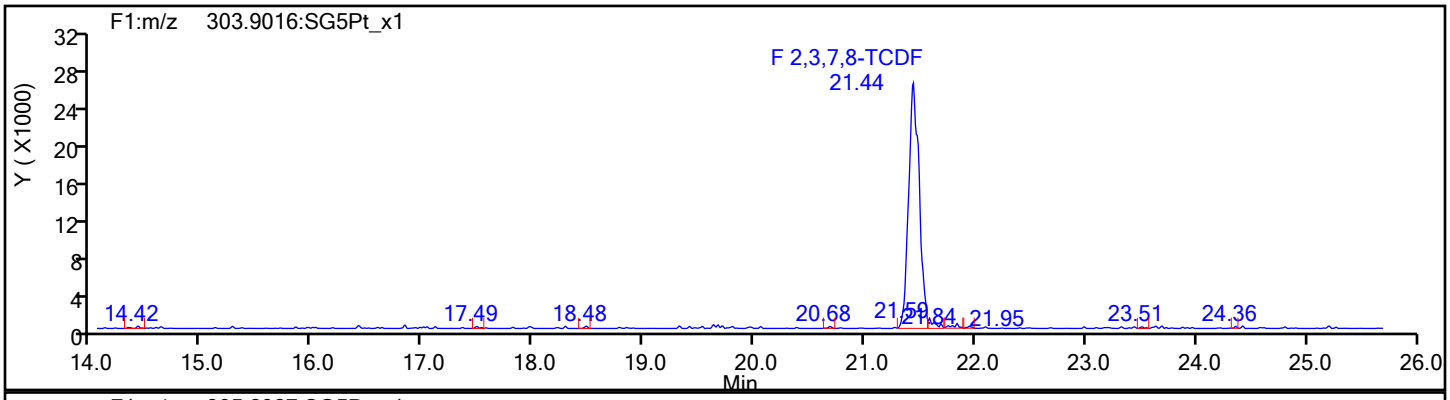
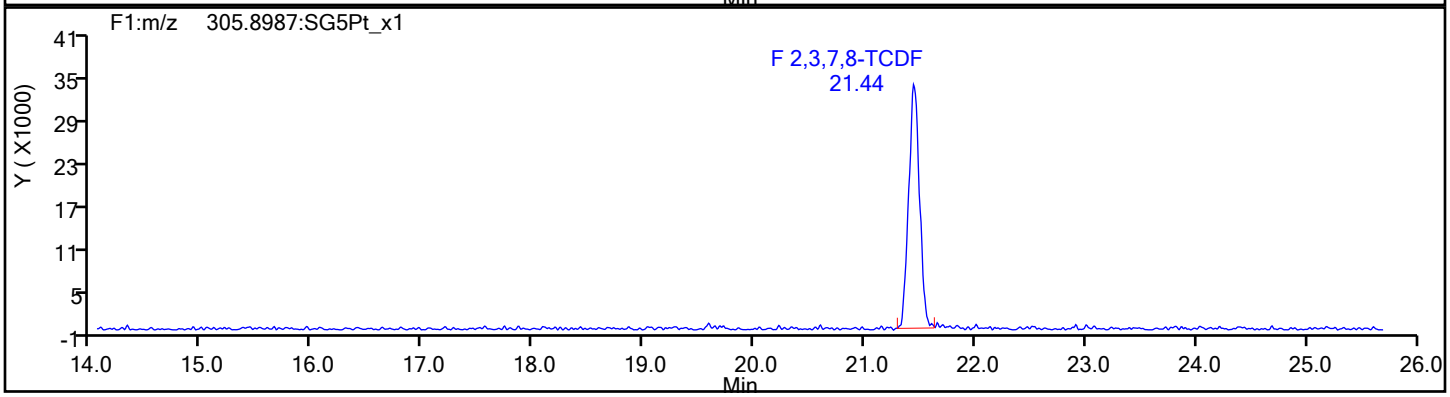
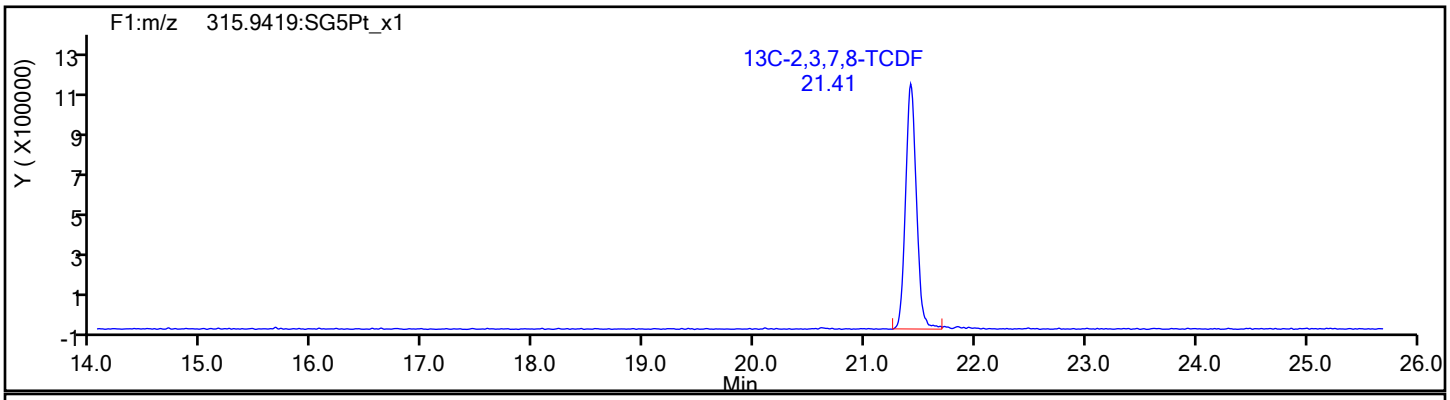
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

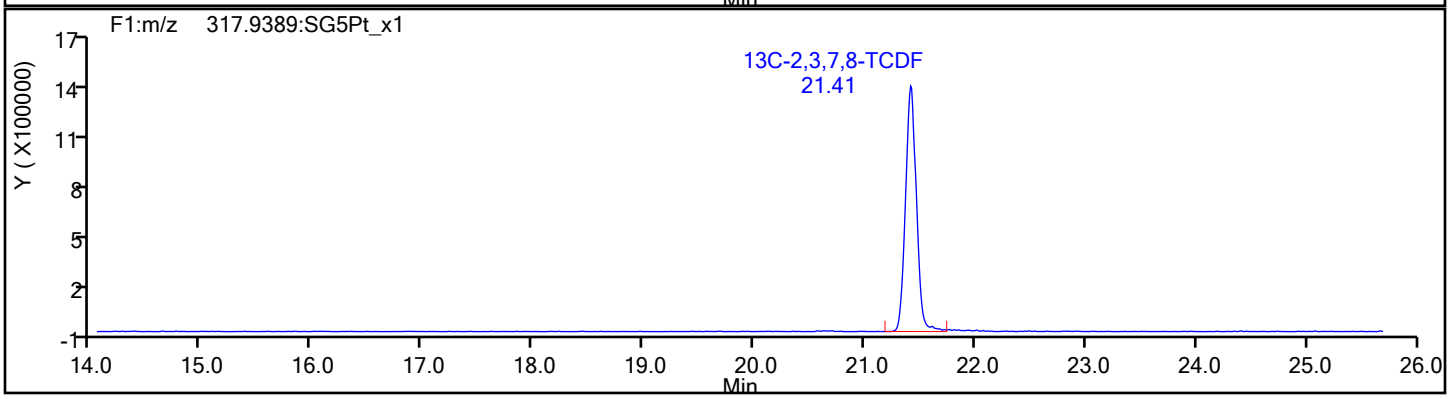
TCDF





TCDF Standards





Eurofins TestAmerica, Sacramento

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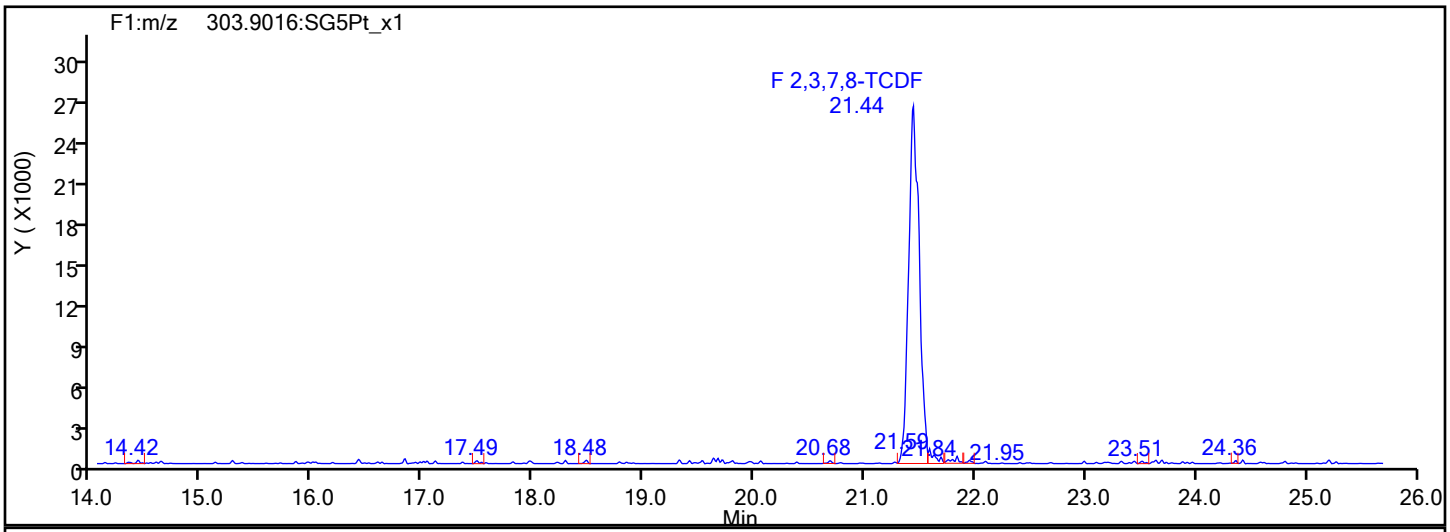
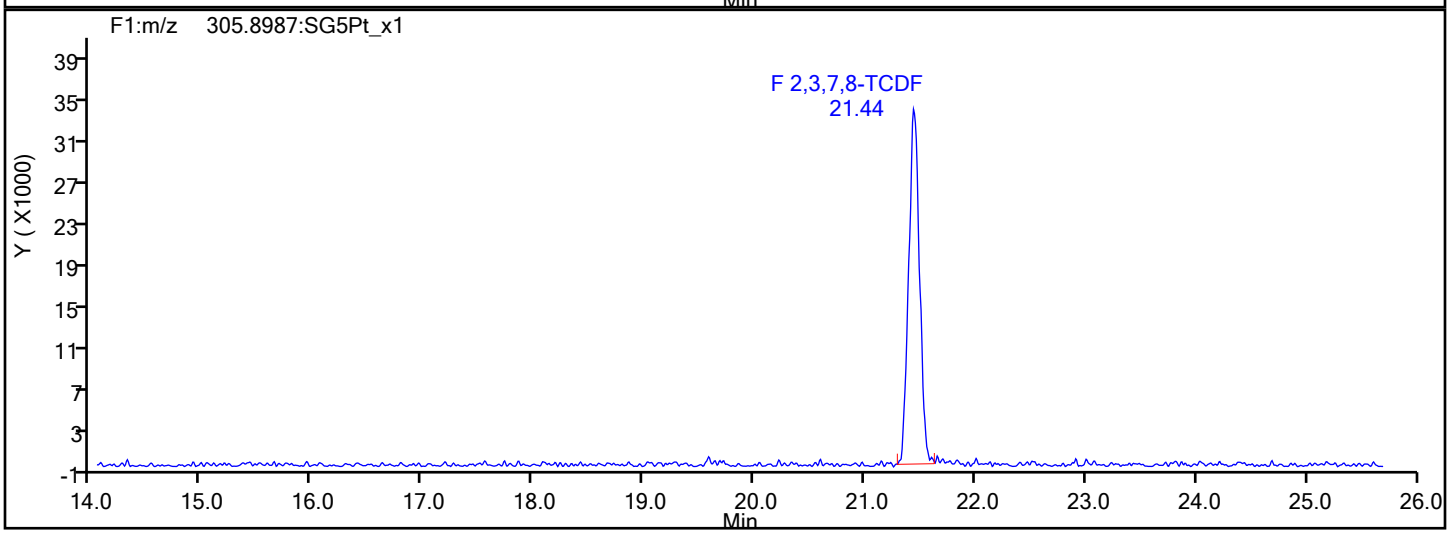
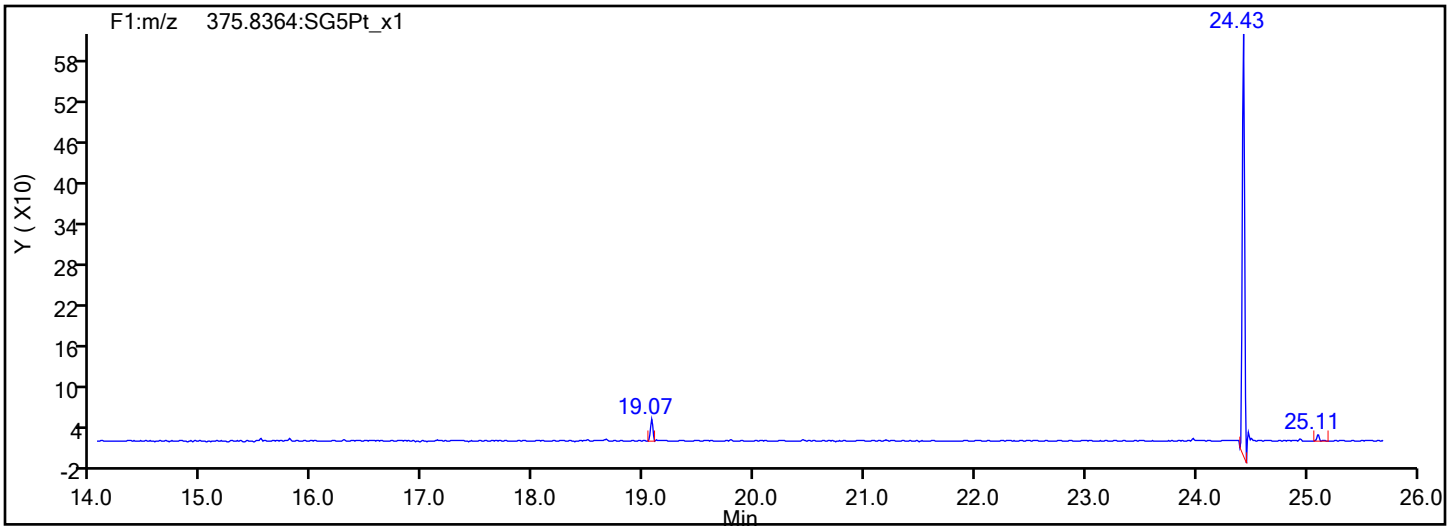
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Eurofins TestAmerica, Sacramento

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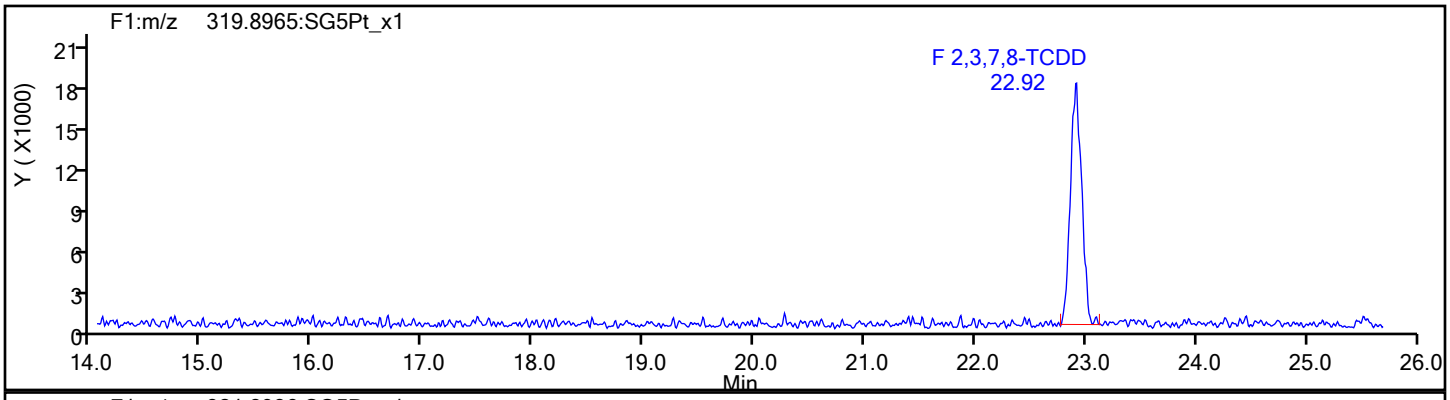
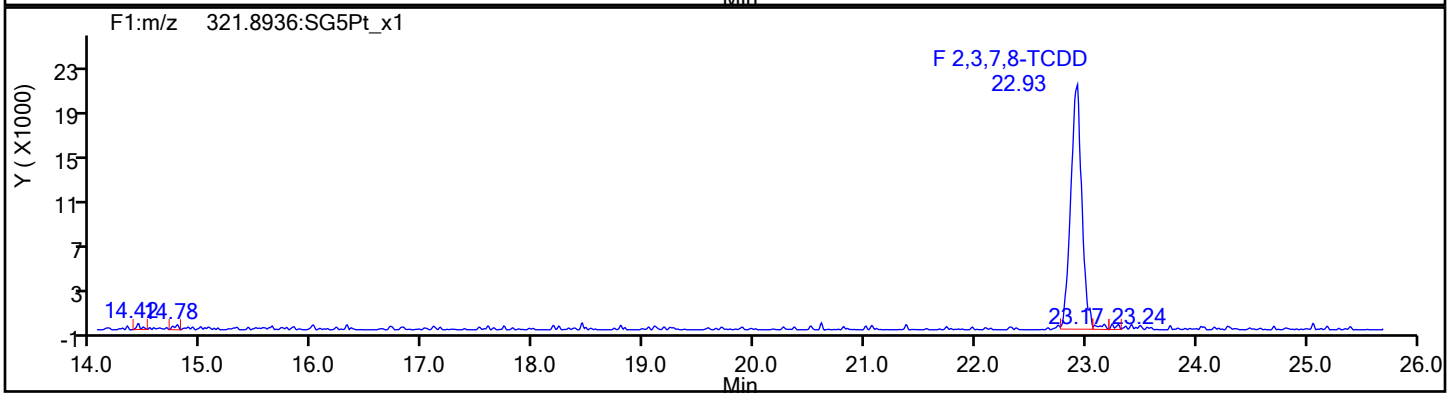
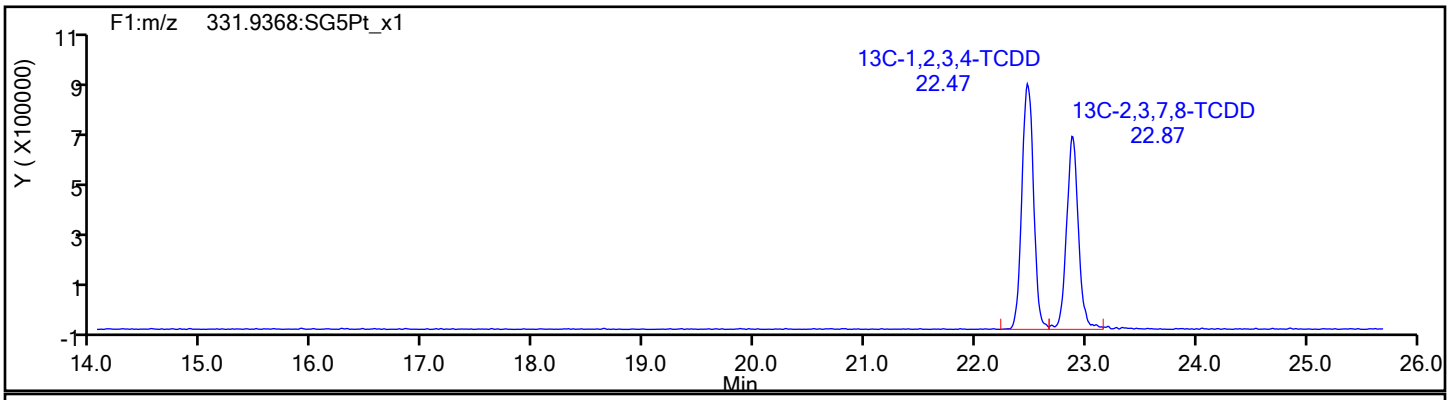
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

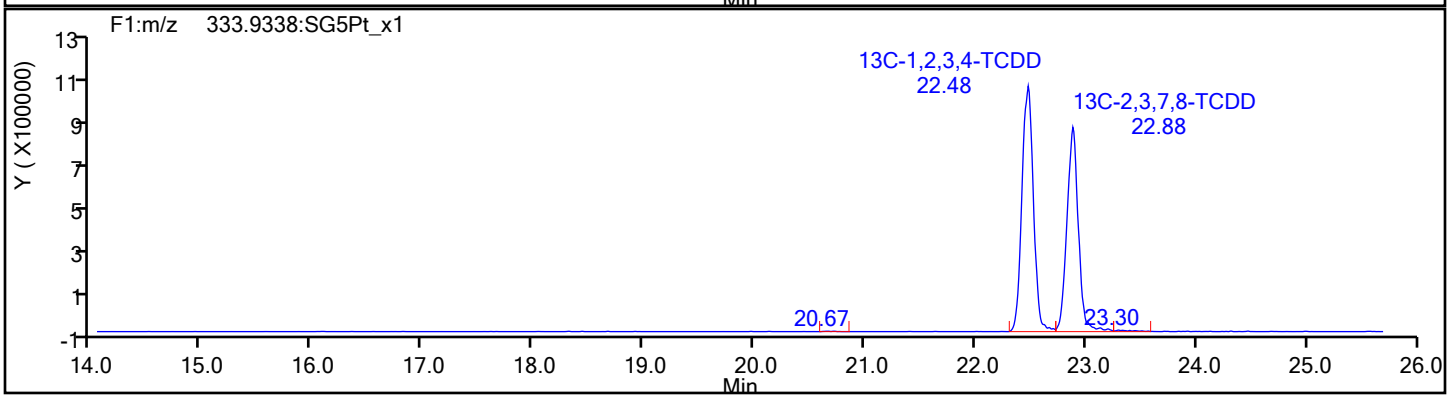
TCDD





TCDD Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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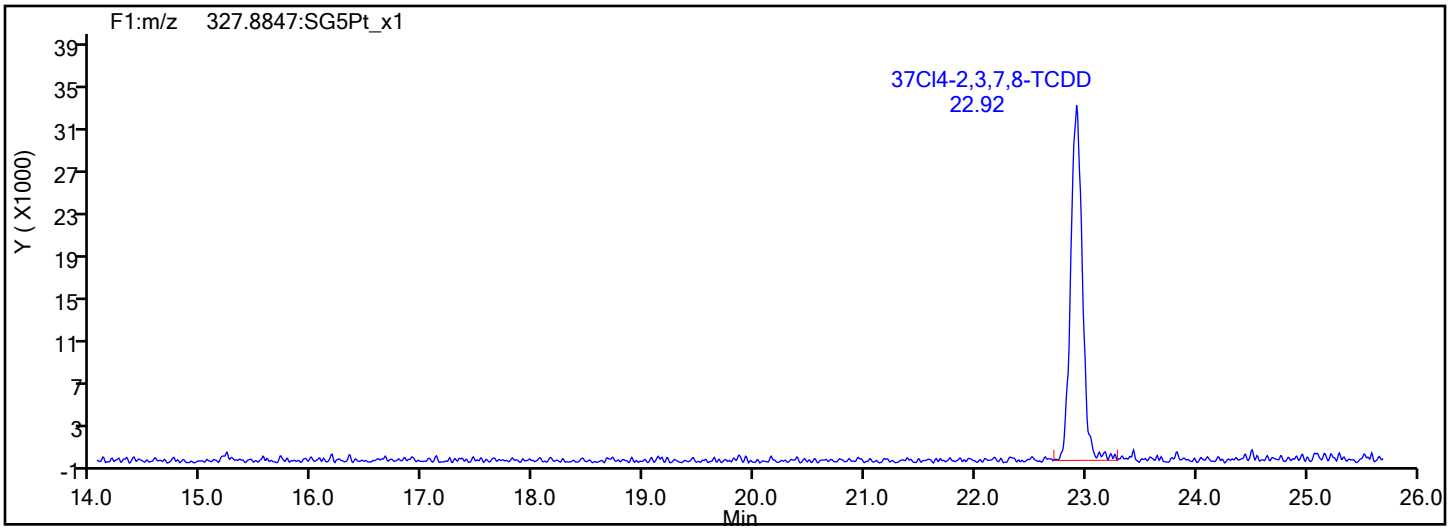
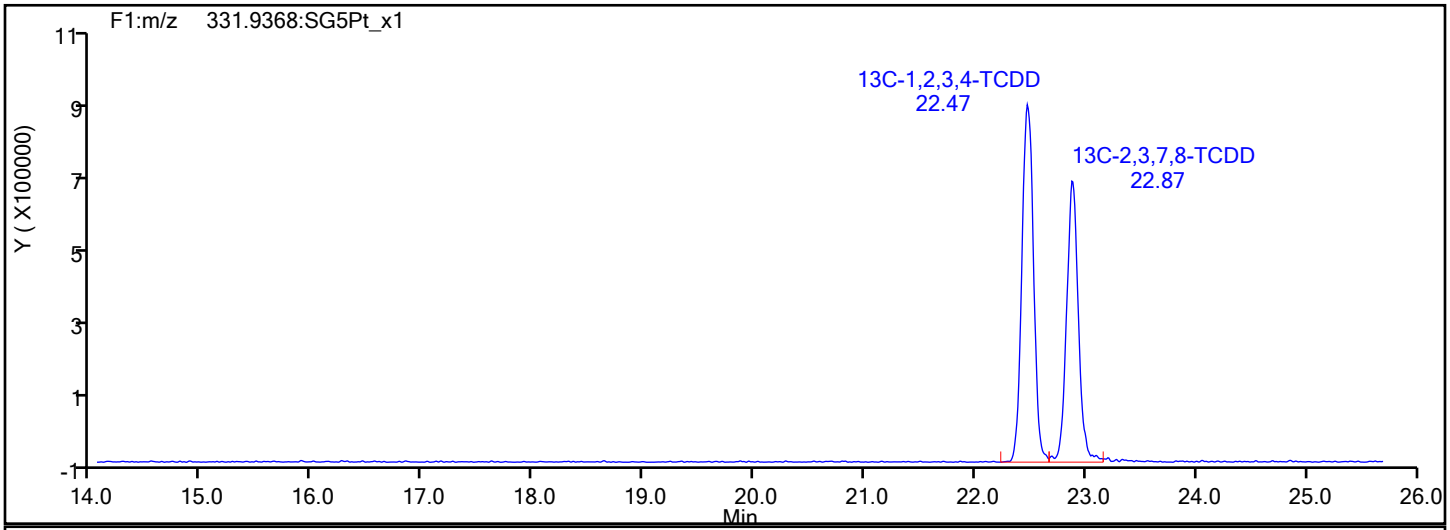
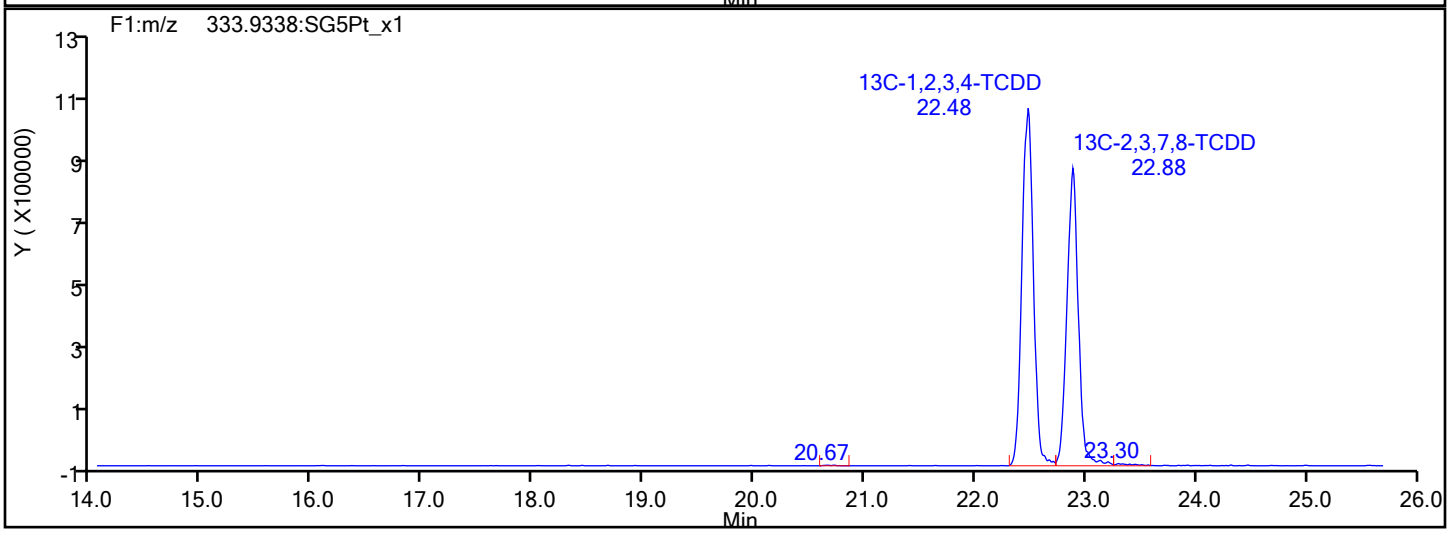
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 19-Nov-2021 11:38:30 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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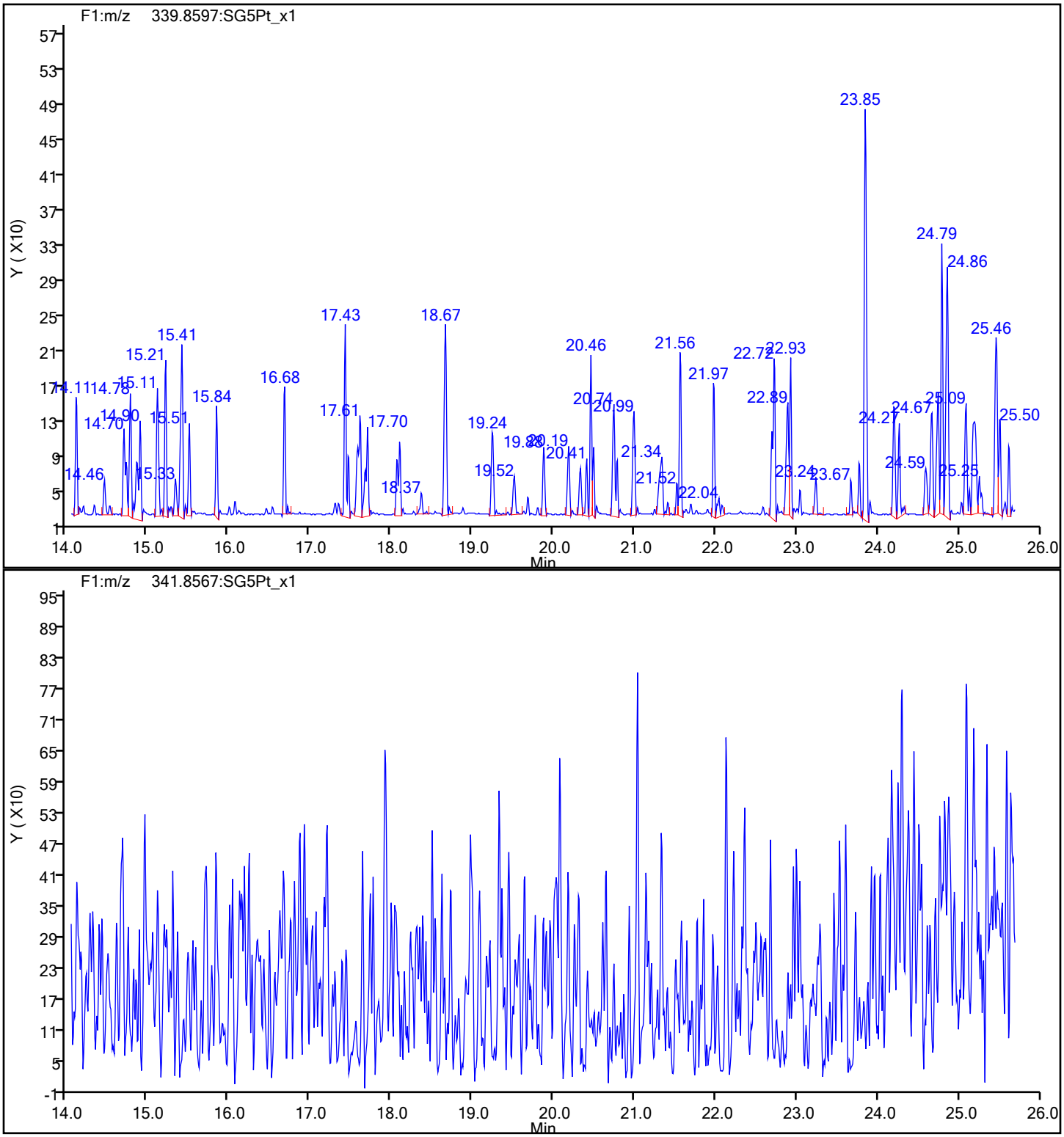
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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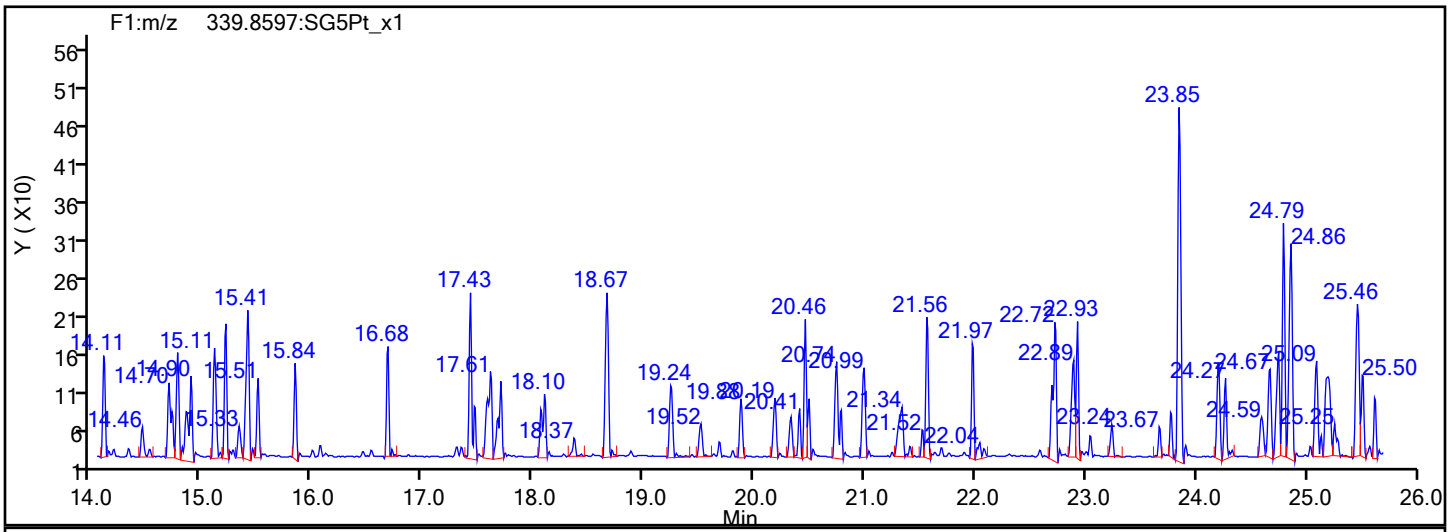
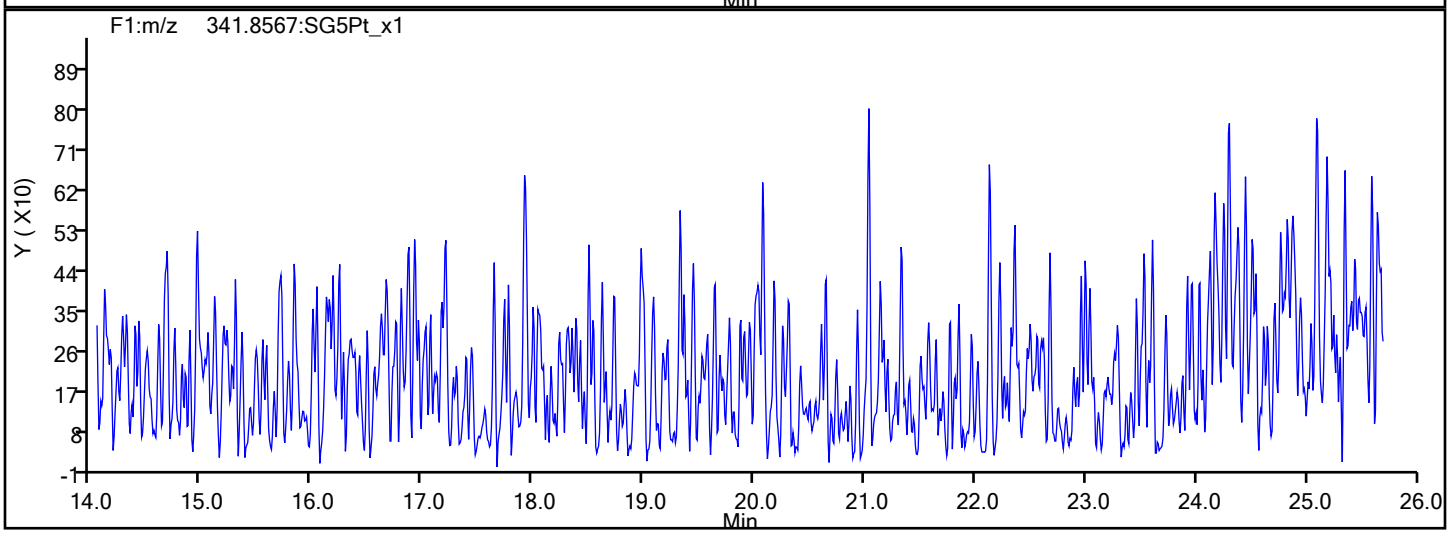
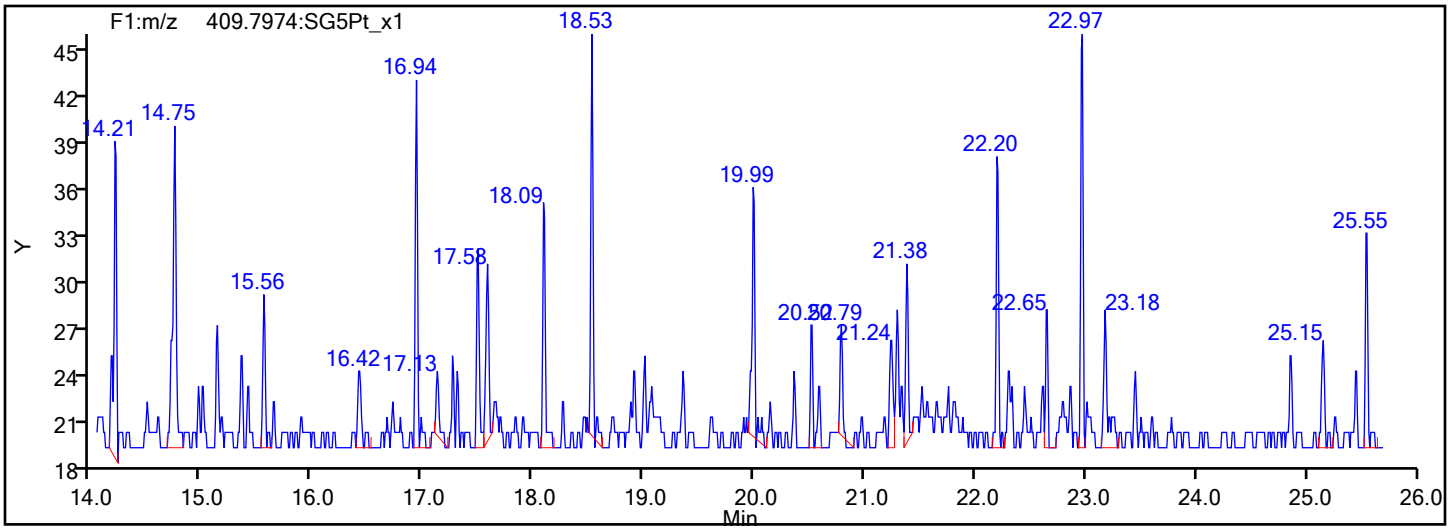
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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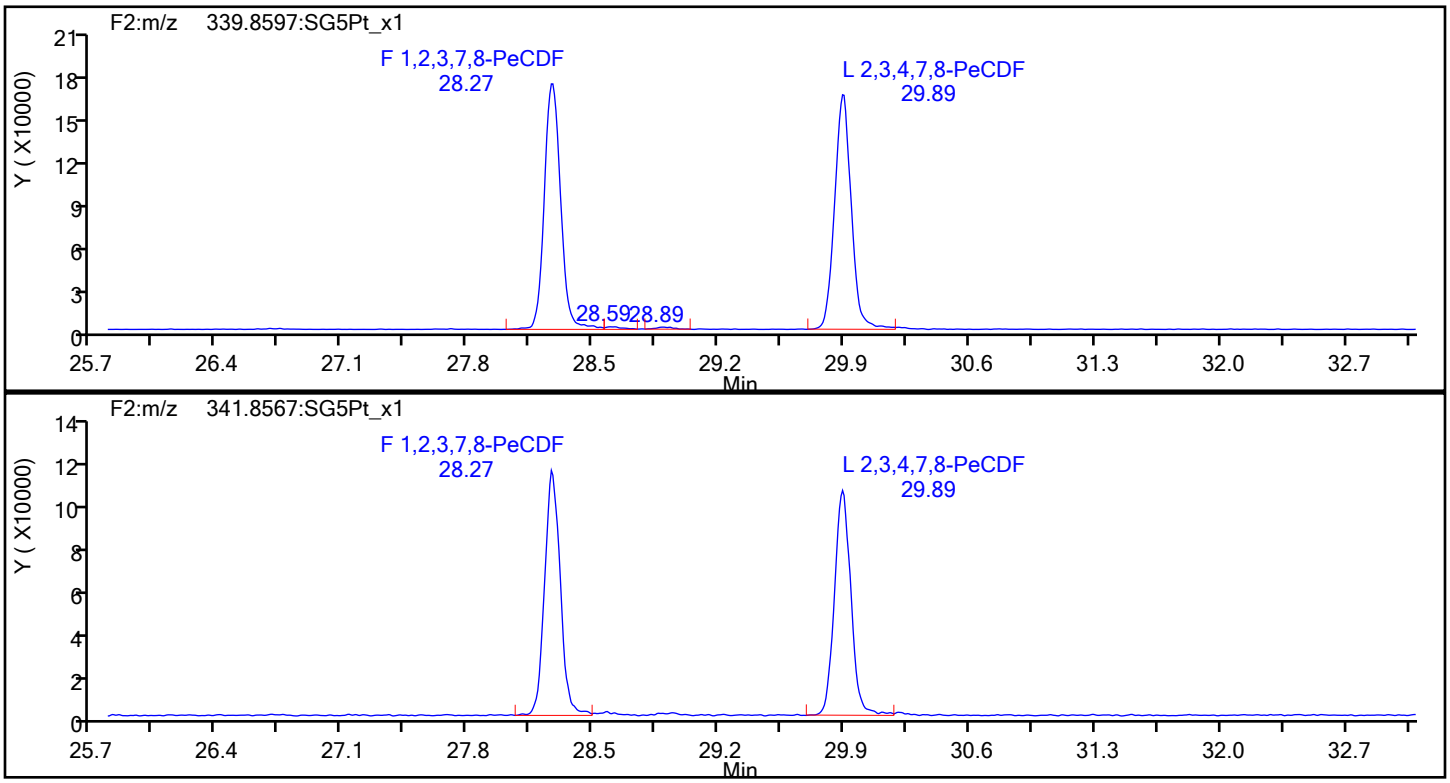
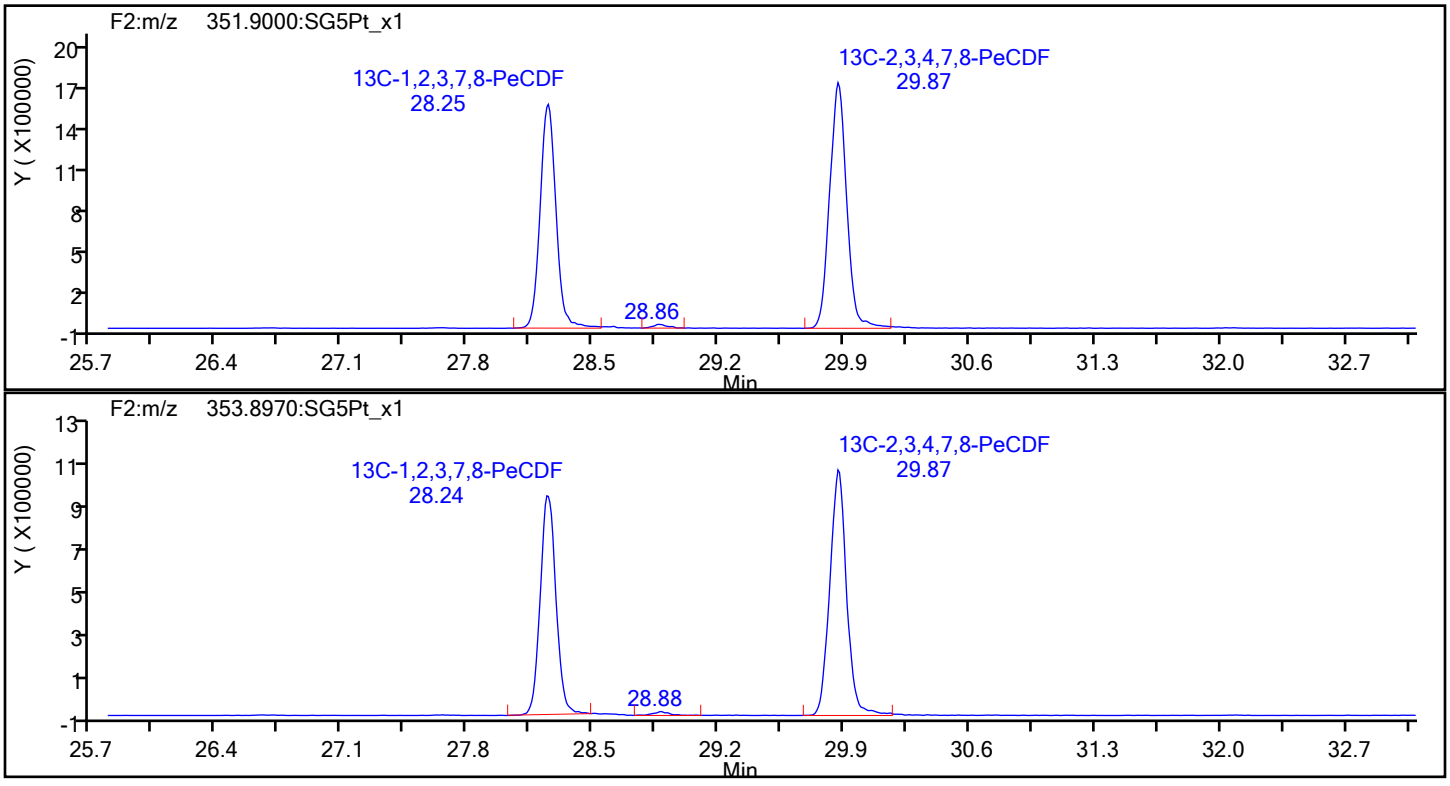
PeCDF



PeCDF Standards



Eurofins TestAmerica, Sacramento

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Client ID:			
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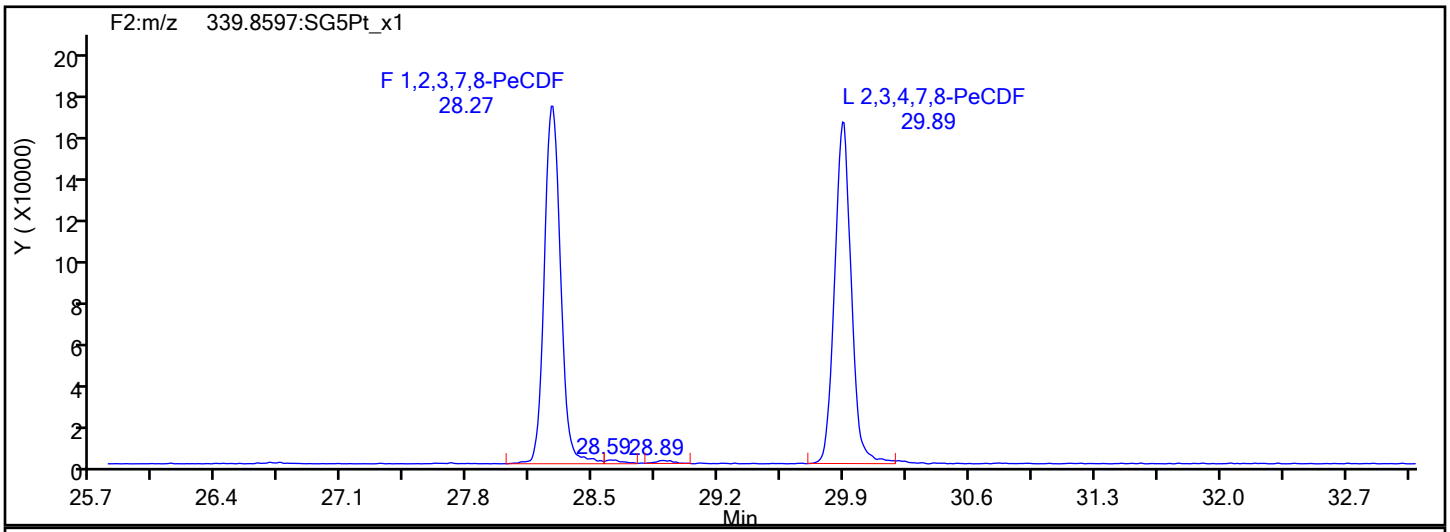
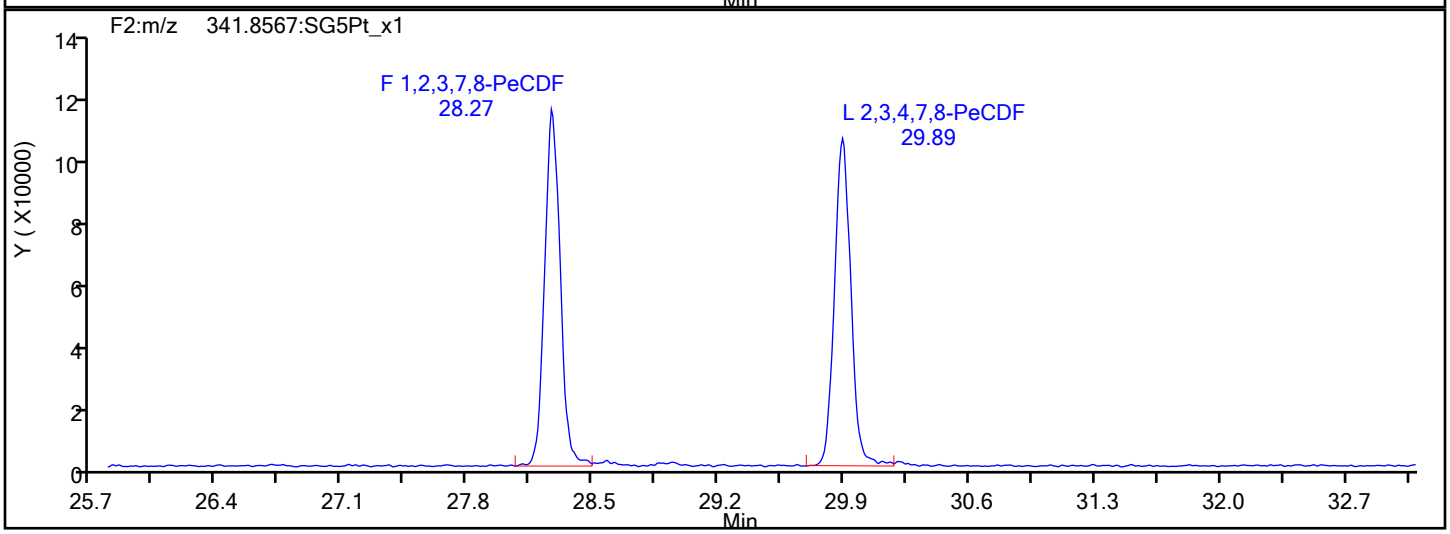
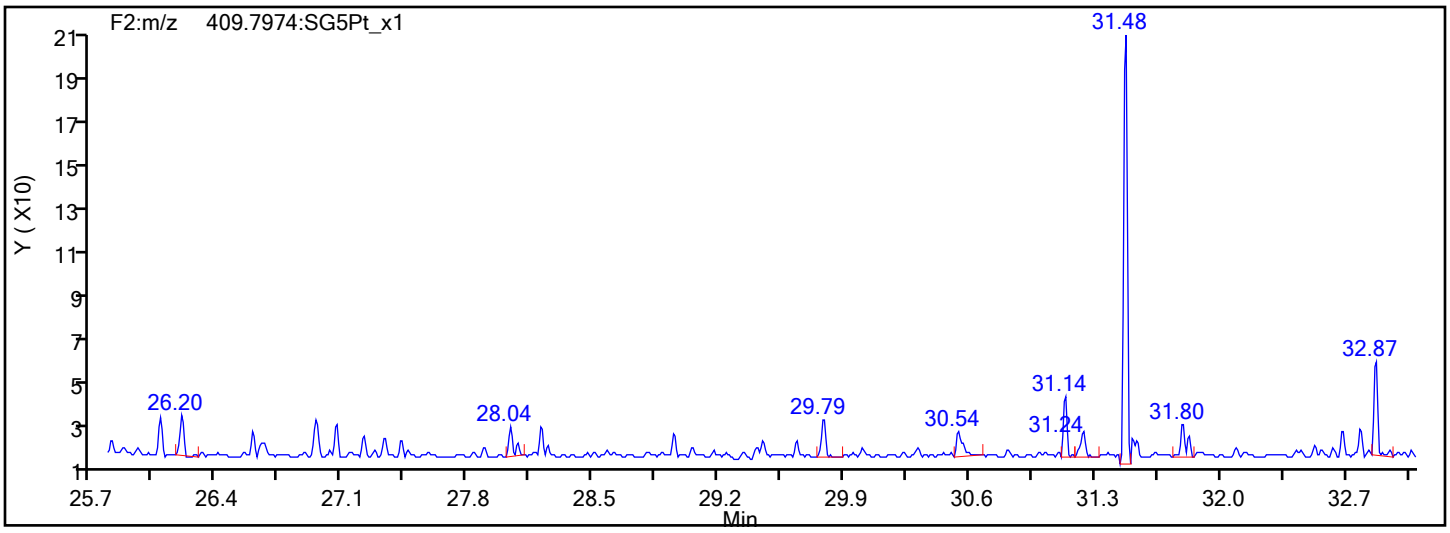
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Eurofins TestAmerica, Sacramento

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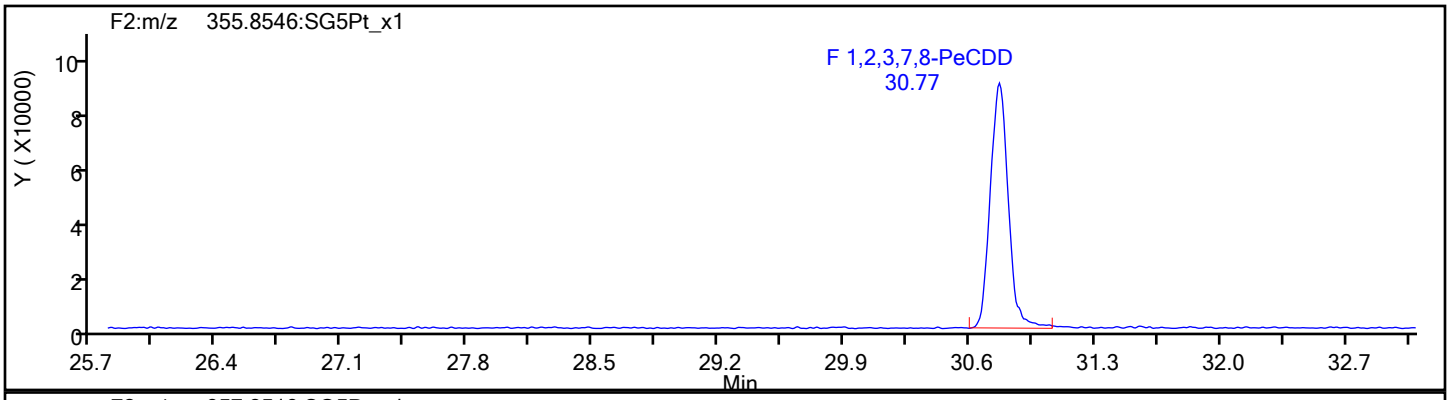
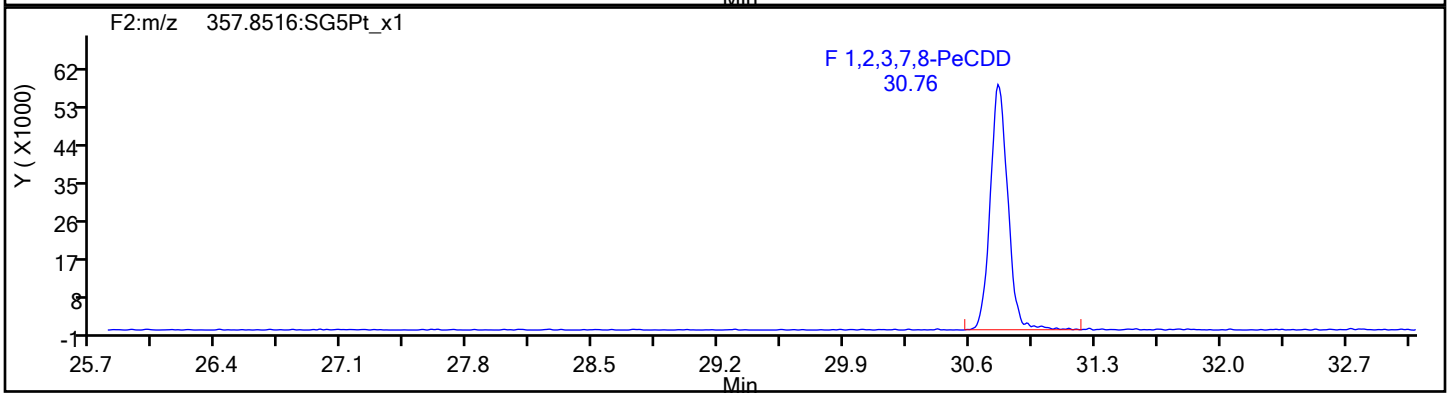
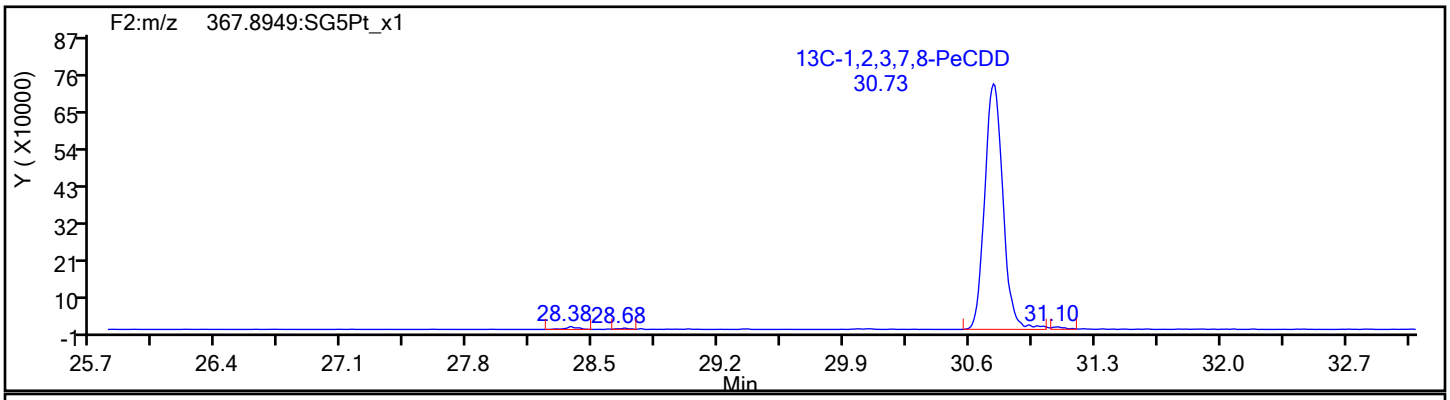
Column Type:	DB-5	Column Dia:	0.32 mm

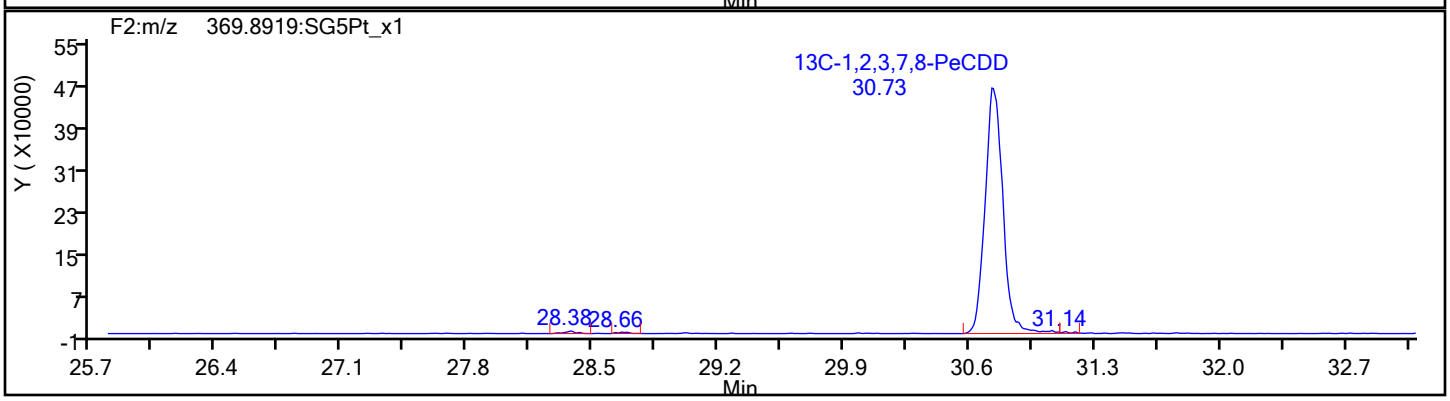
PeCDD





PeCDD Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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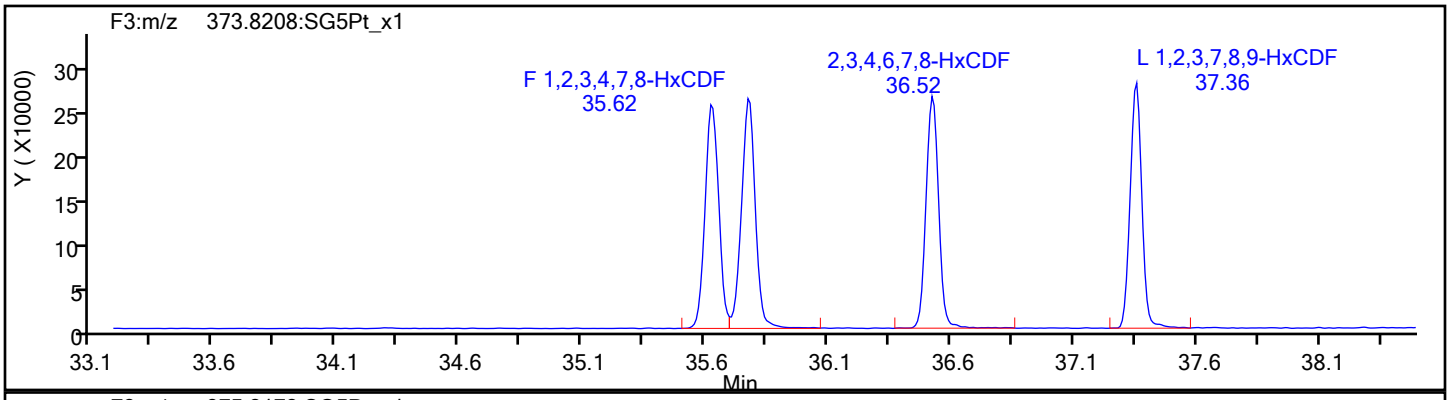
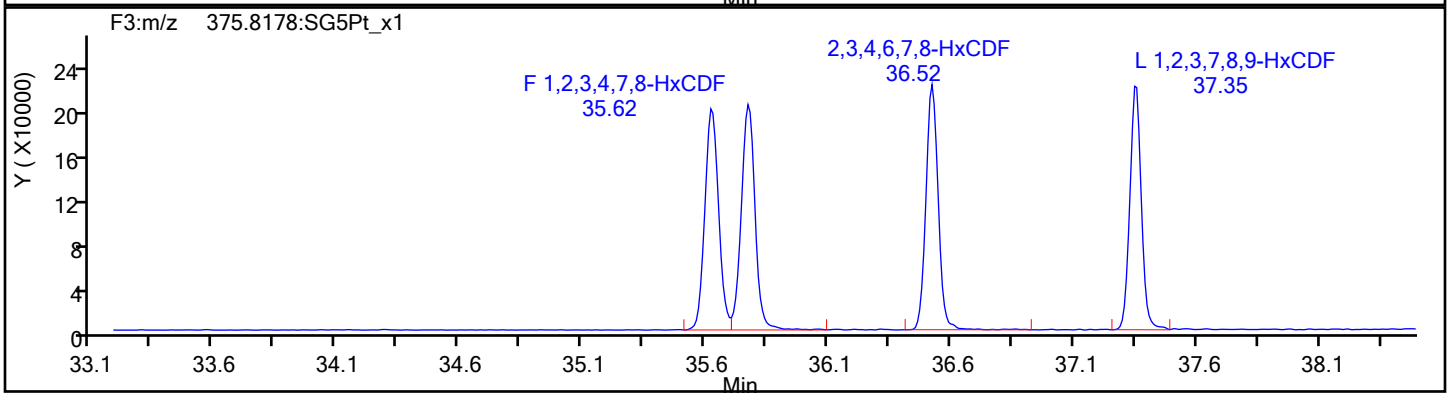
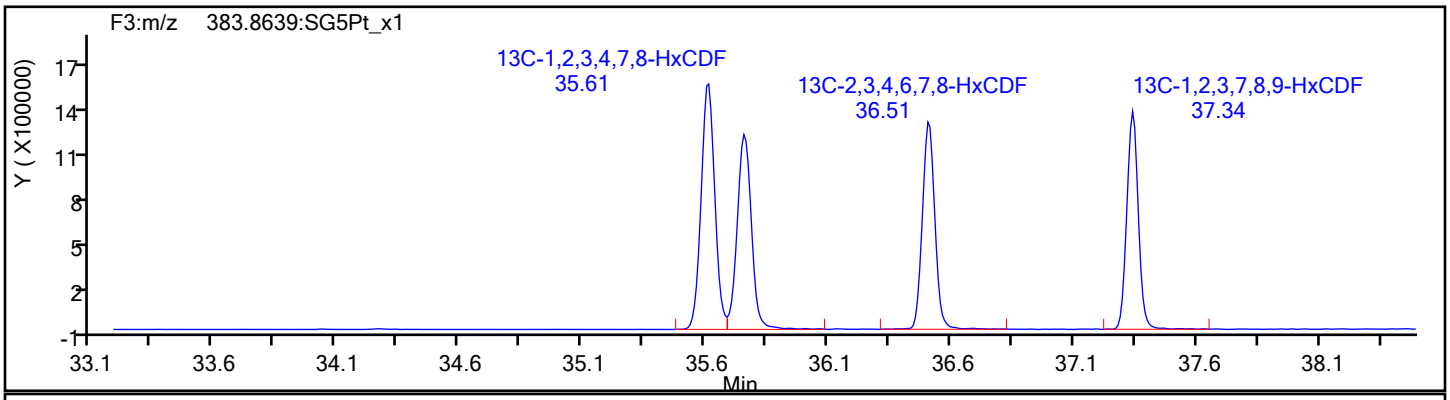
Column Type:	DB-5	Column Dia:	0.32 mm

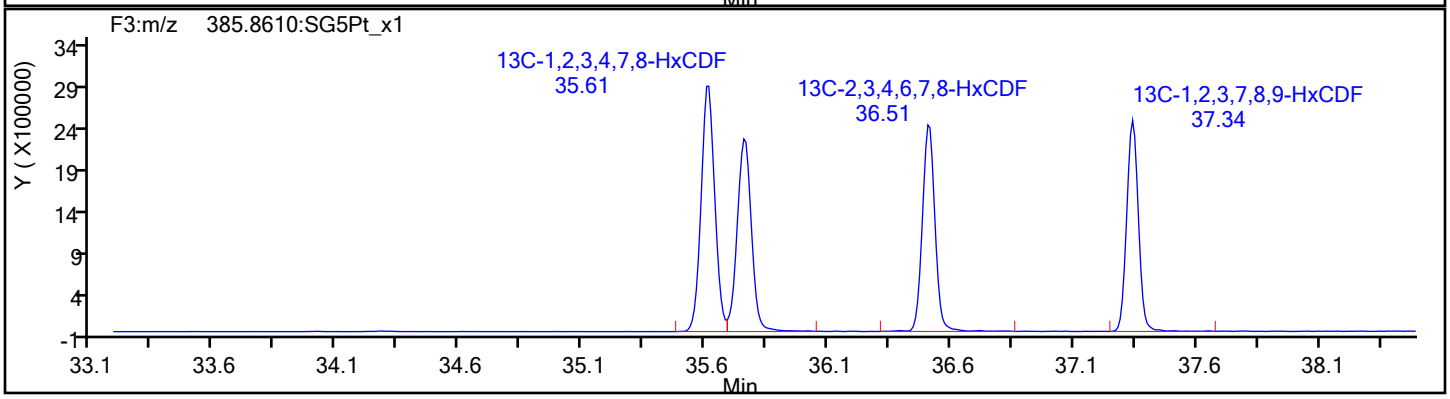
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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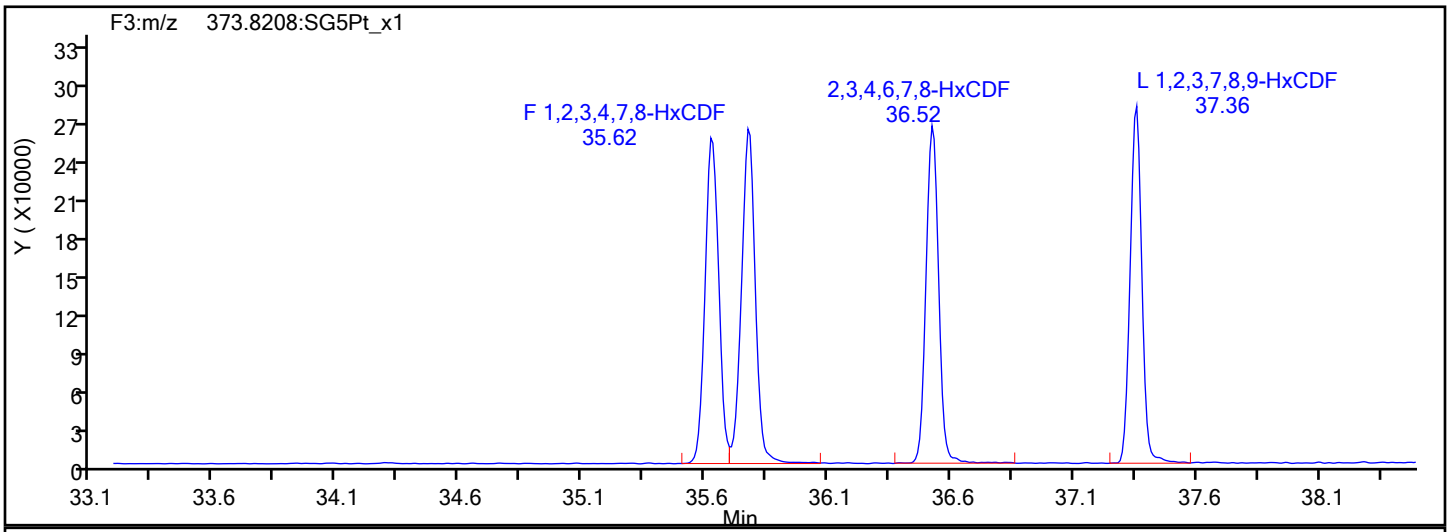
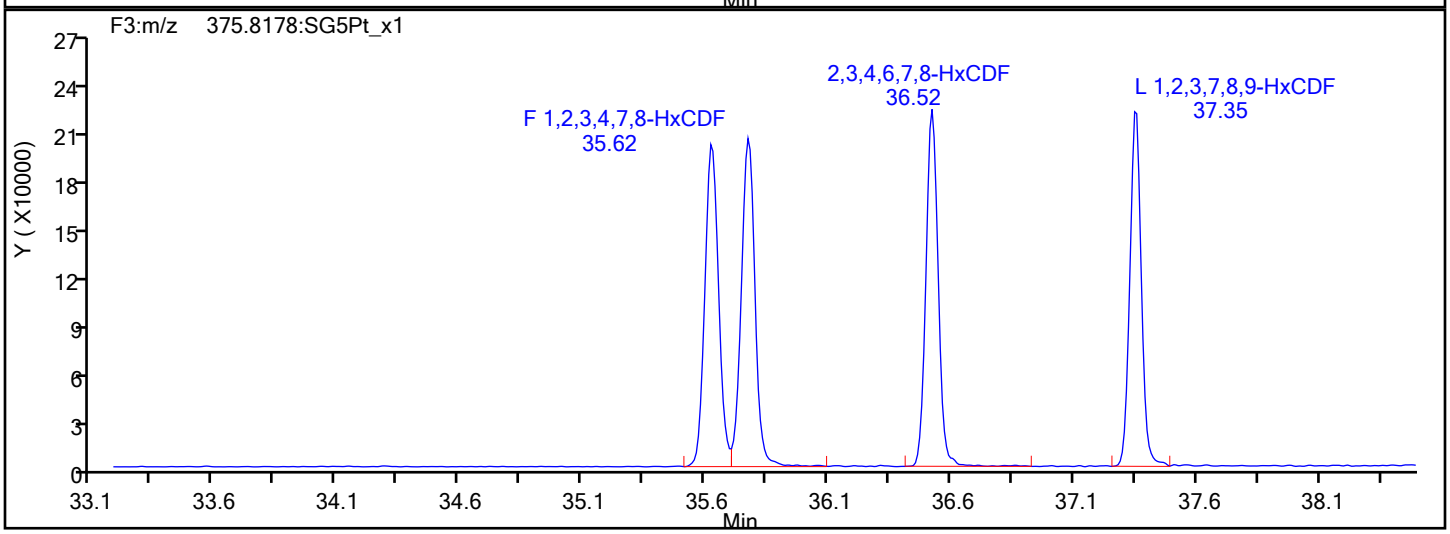
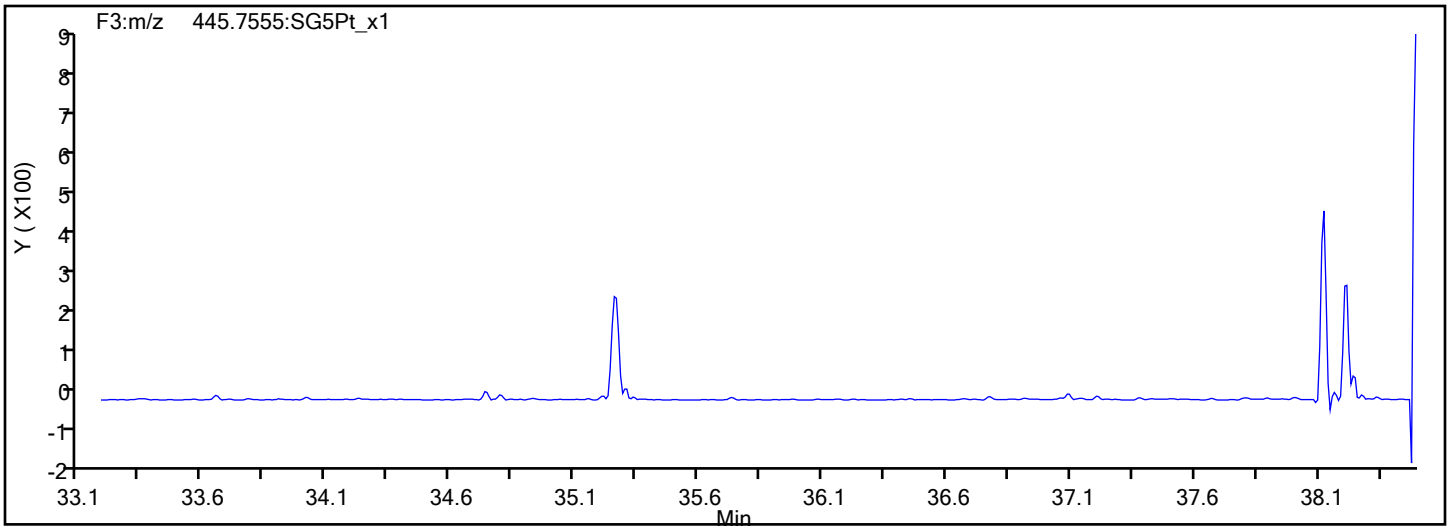
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





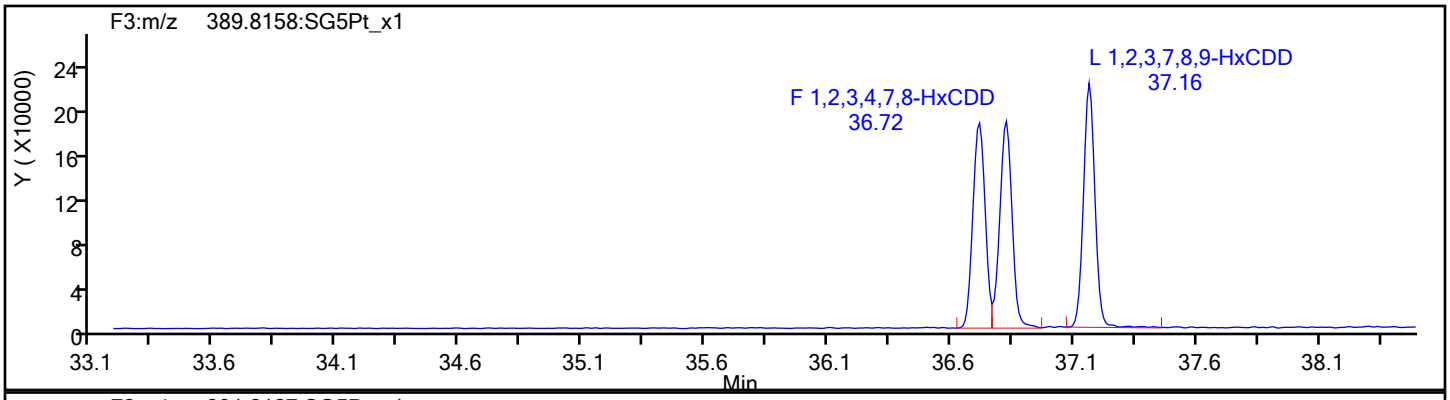
HxCDF Interference Mass

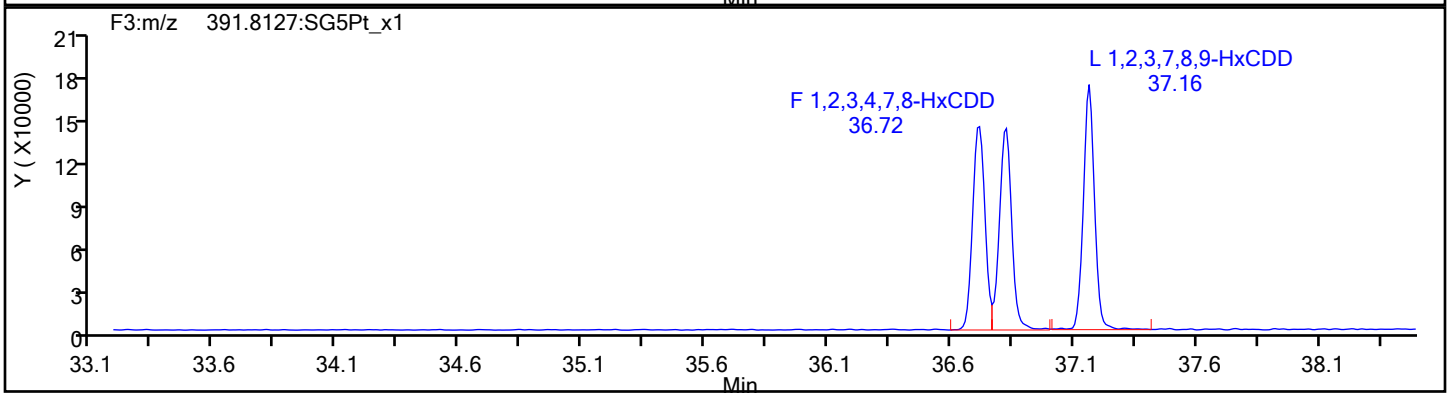


Eurofins TestAmerica, Sacramento

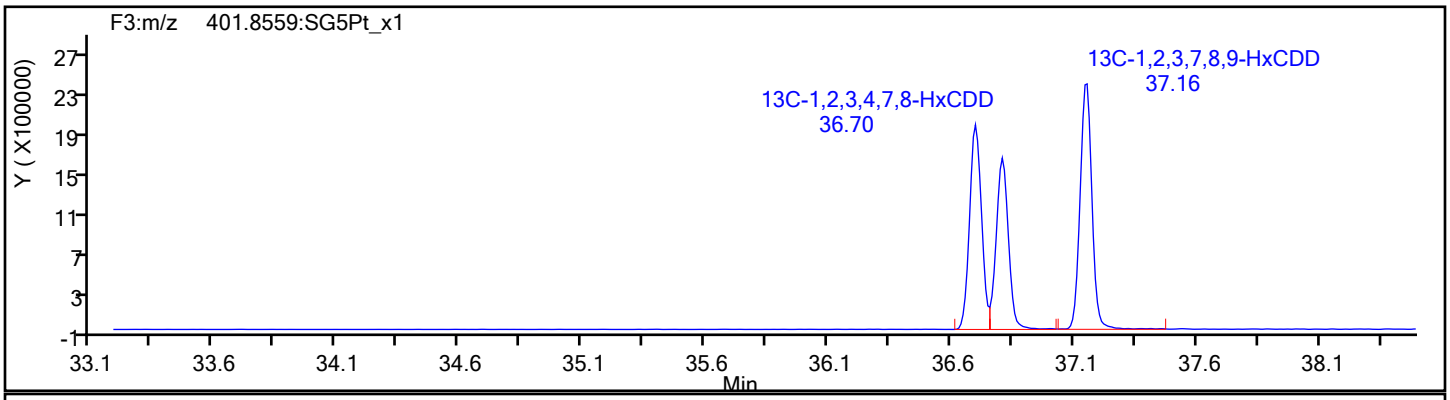
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d		
Injection Date:	18-Nov-2021 16:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

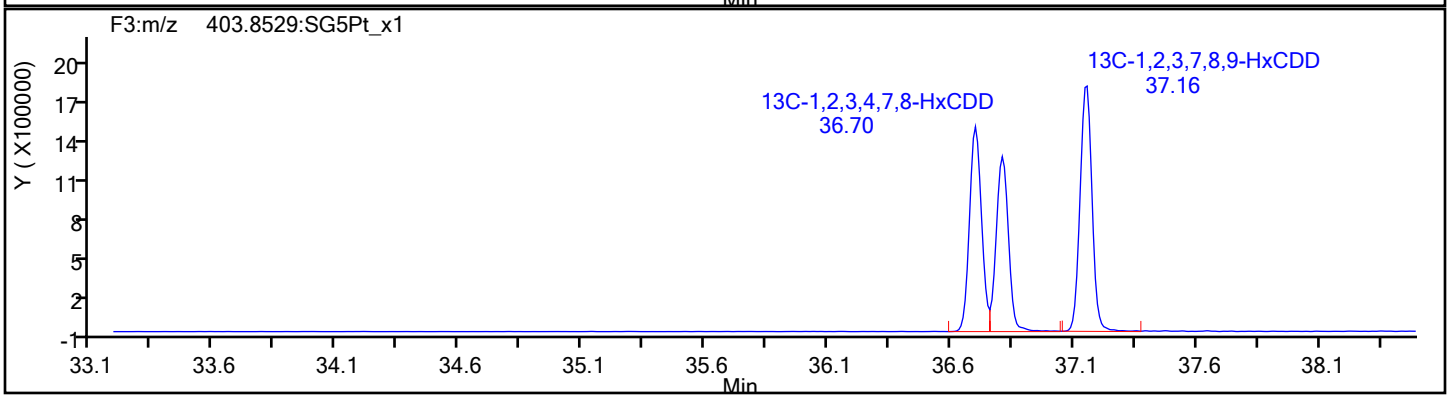
HxCDD





HxCDD Standards



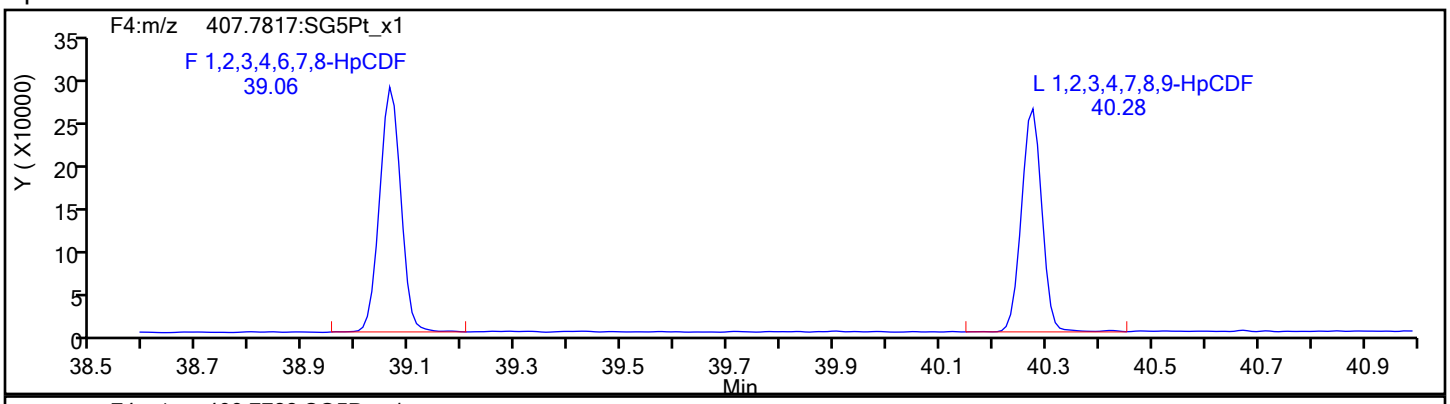


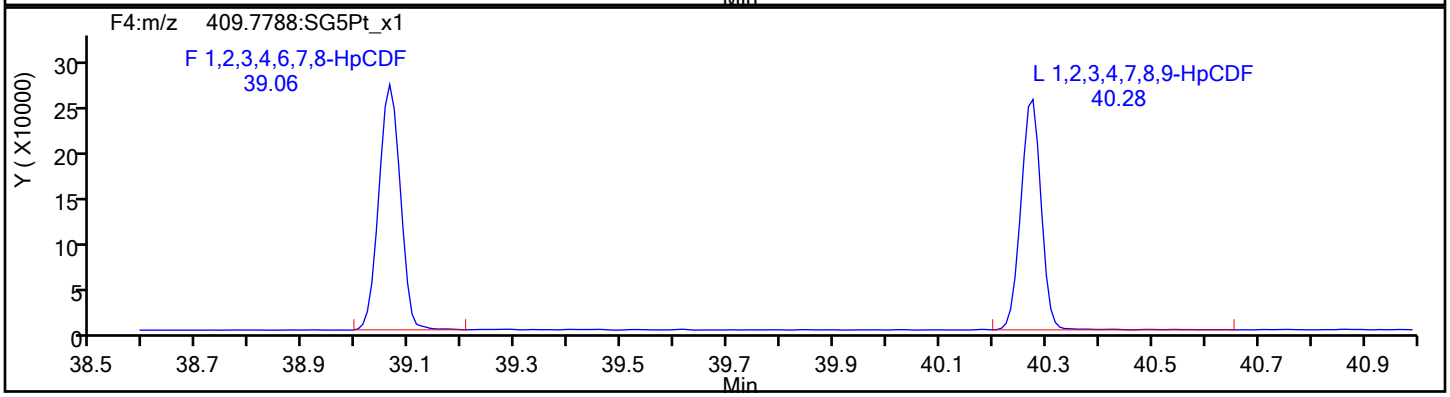
Report Date: 19-Nov-2021 11:38:30 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

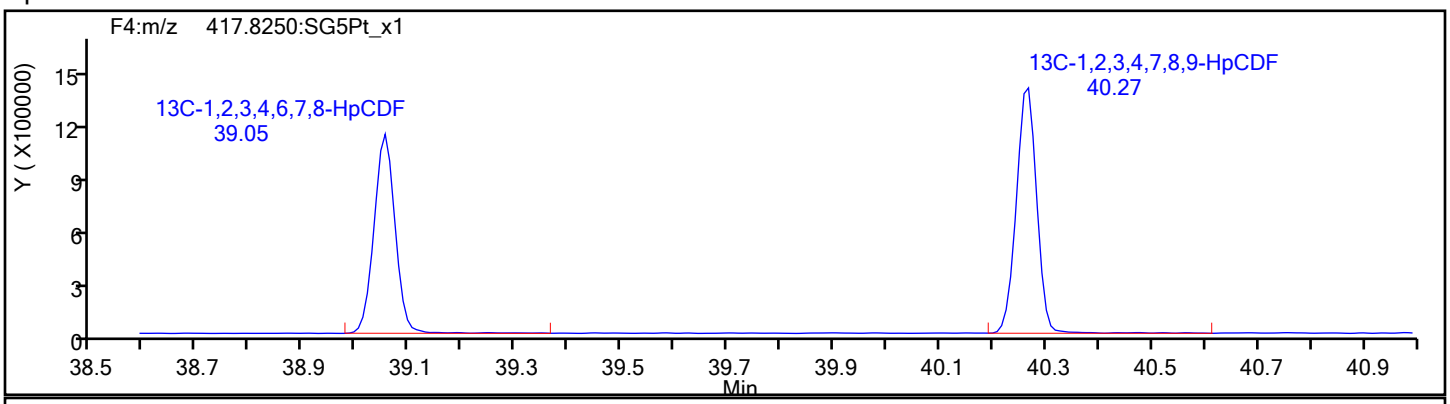
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d		
Injection Date:	18-Nov-2021 16:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

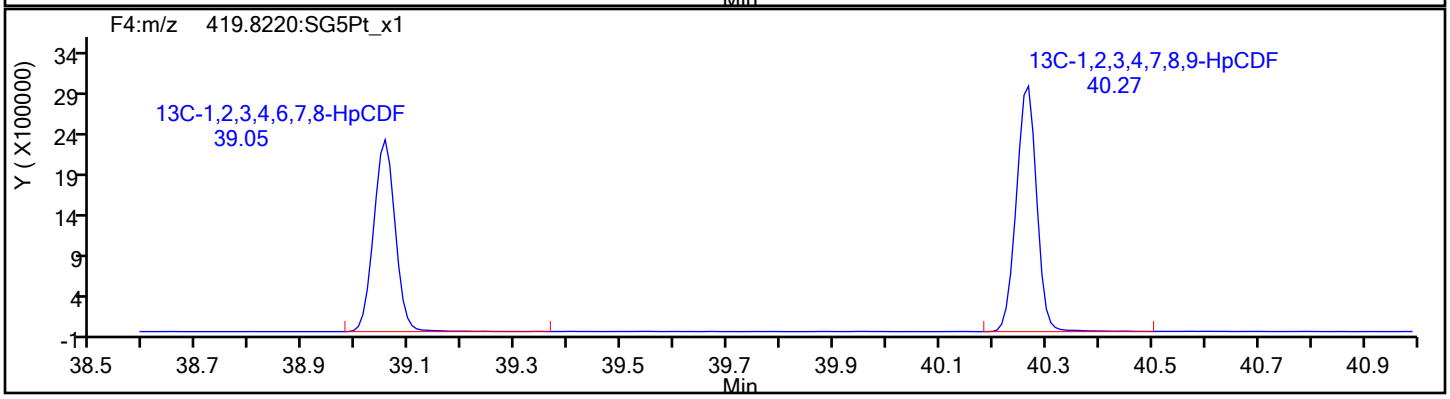
HpCDF





HpCDF Standards

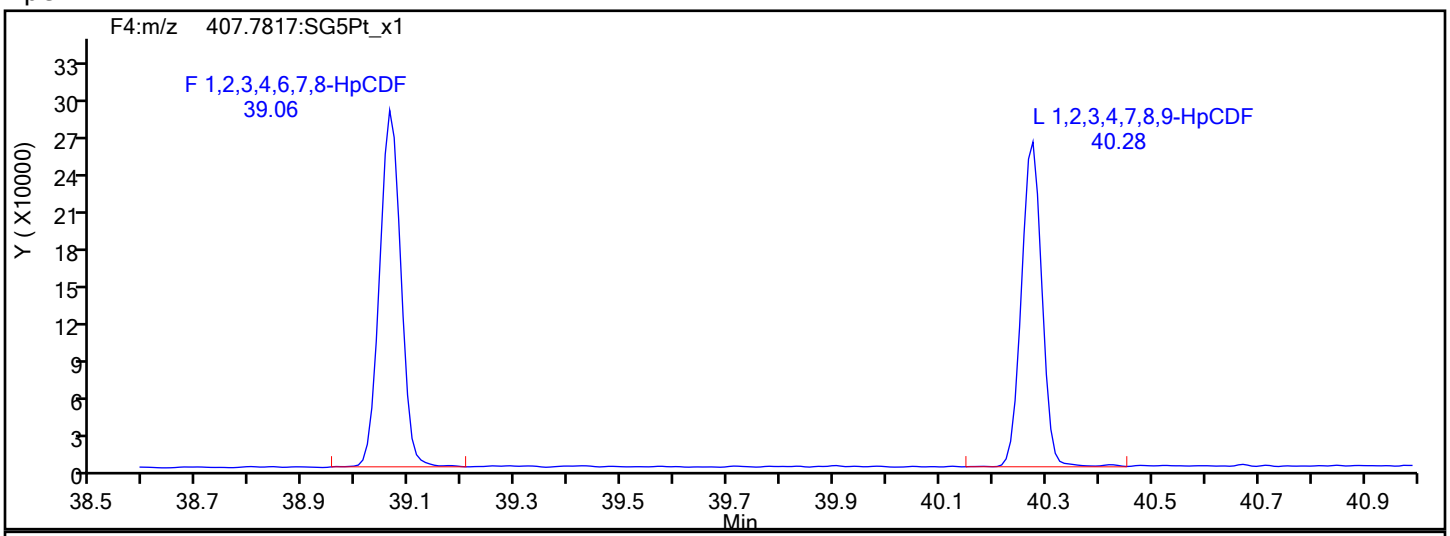


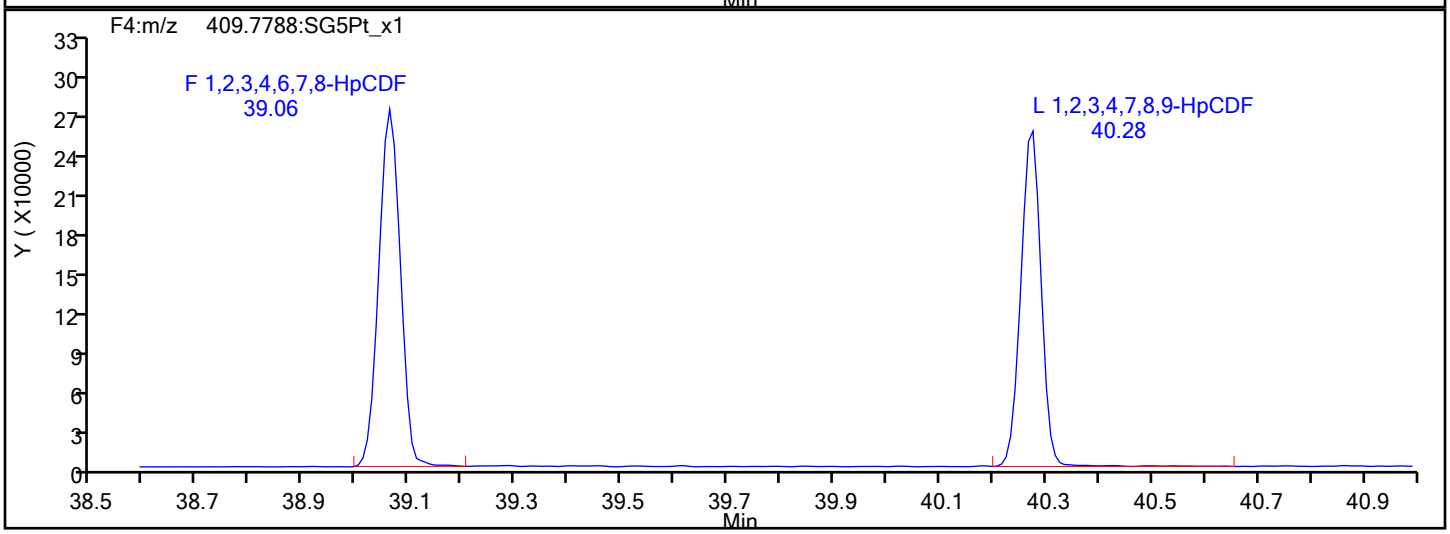


Eurofins TestAmerica, Sacramento

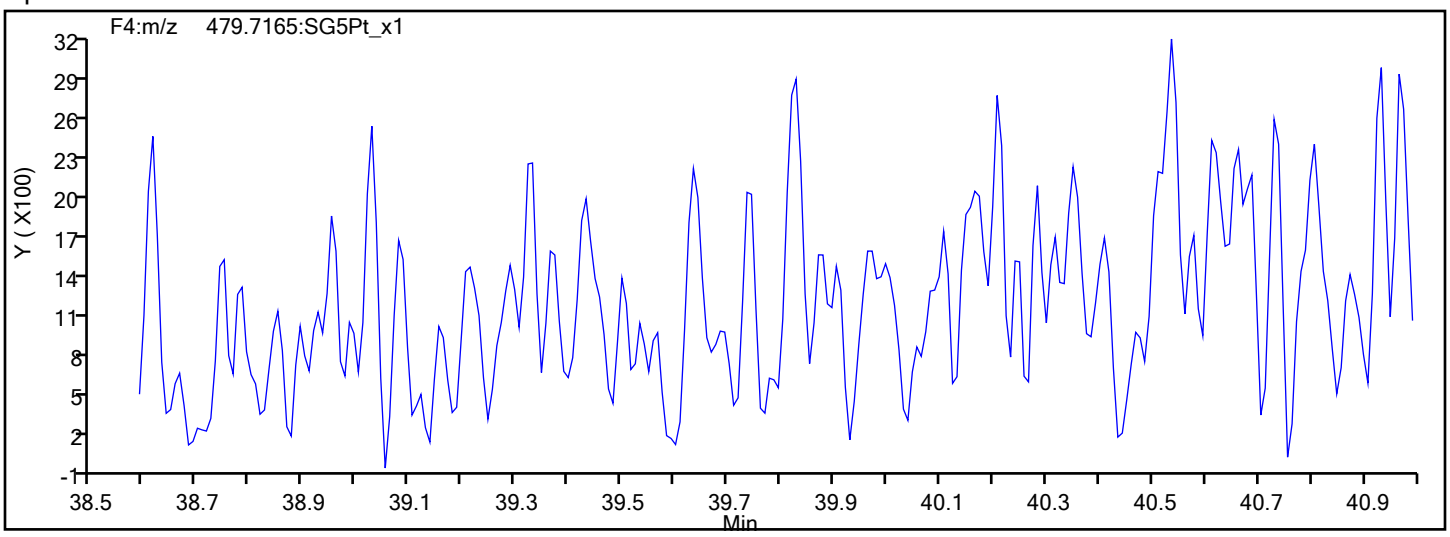
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d		
Injection Date:	18-Nov-2021 16:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





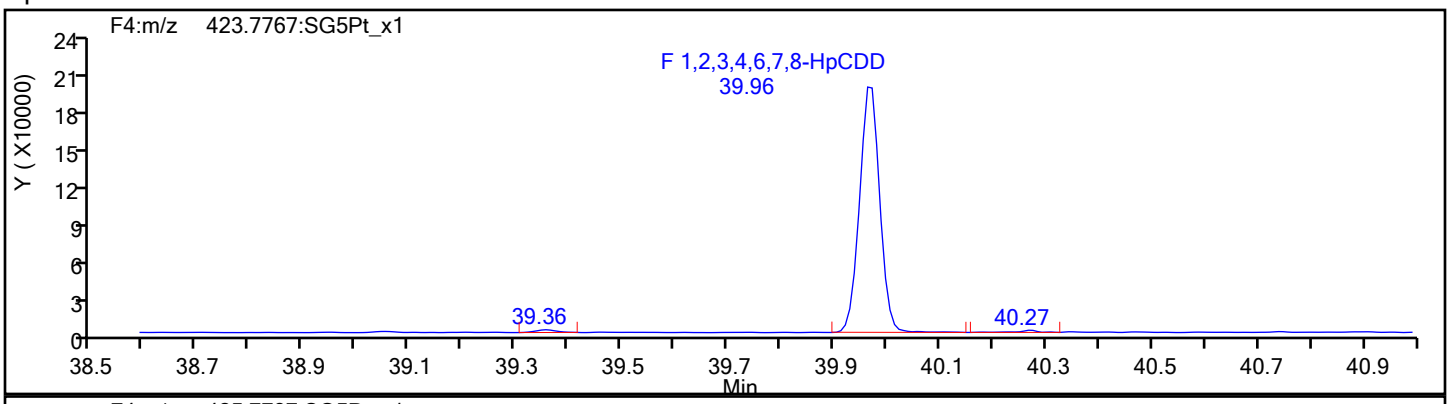
HpCDF Interference Mass

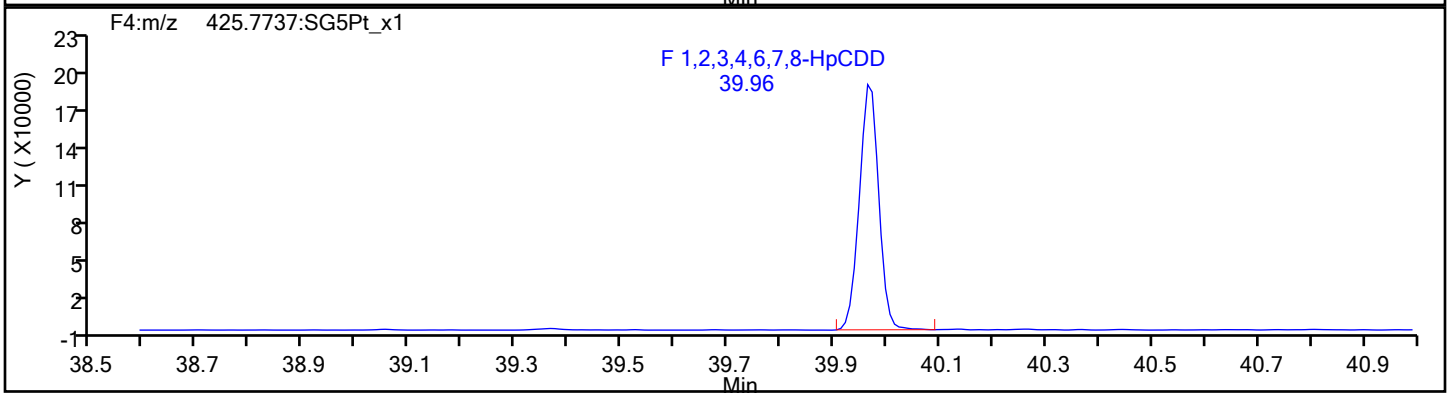


Eurofins TestAmerica, Sacramento

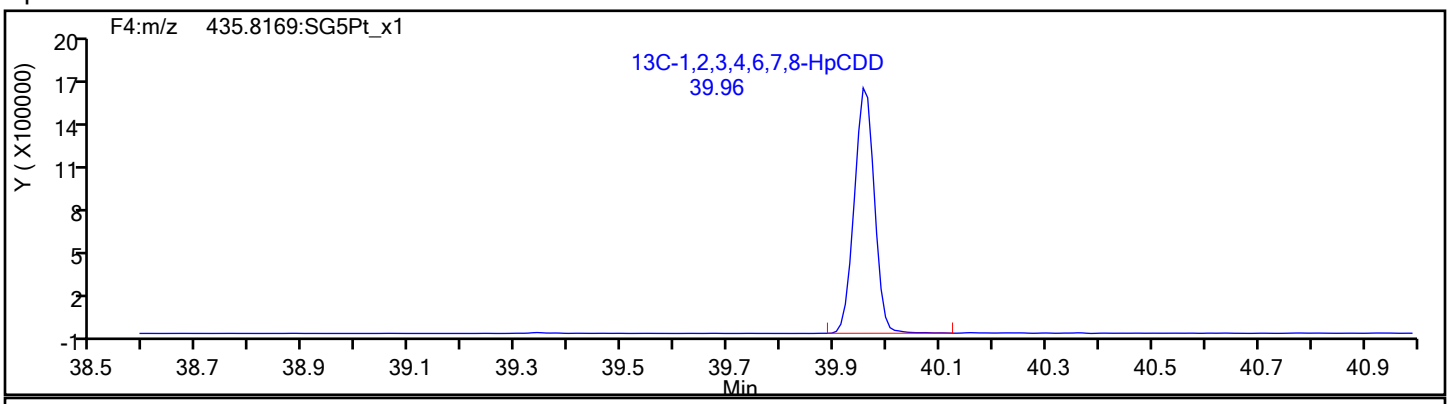
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d		
Injection Date:	18-Nov-2021 16:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

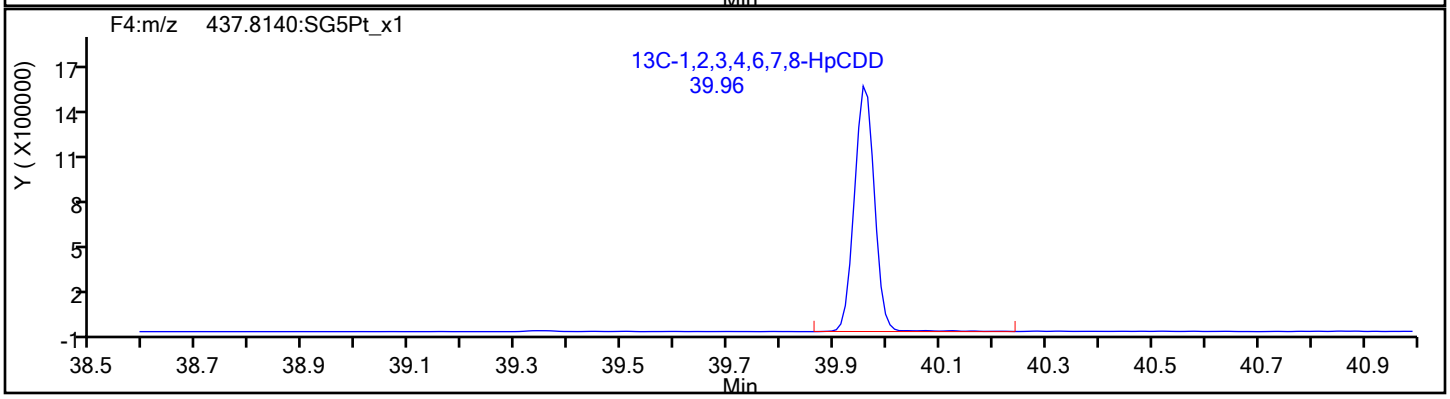
HpCDD





HpCDD Standards

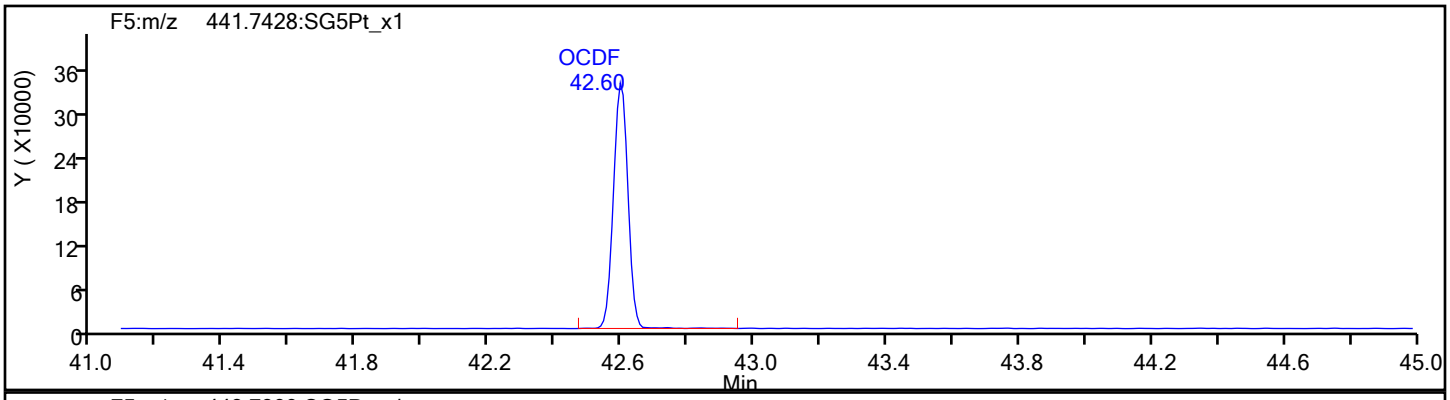


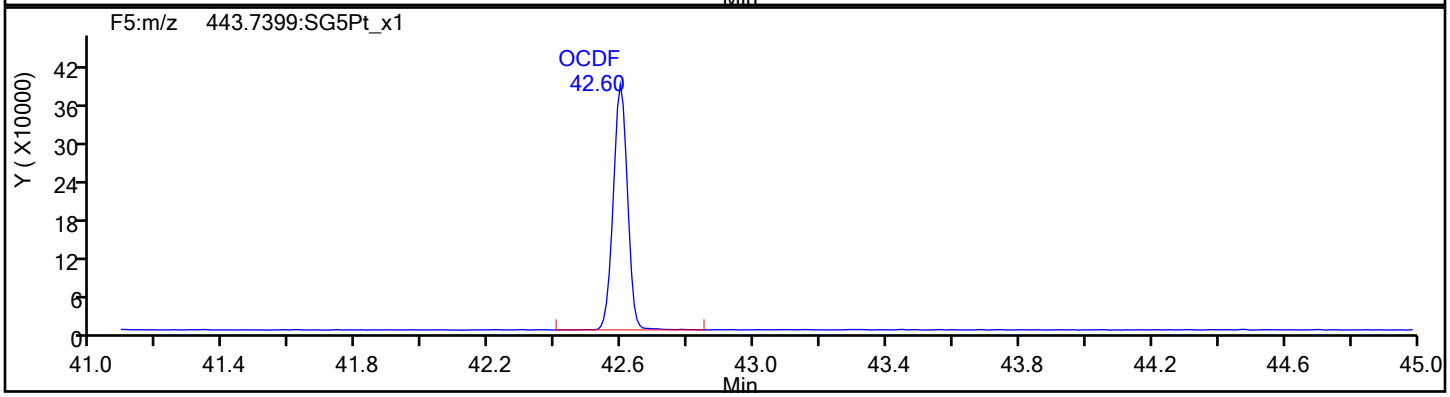


Eurofins TestAmerica, Sacramento

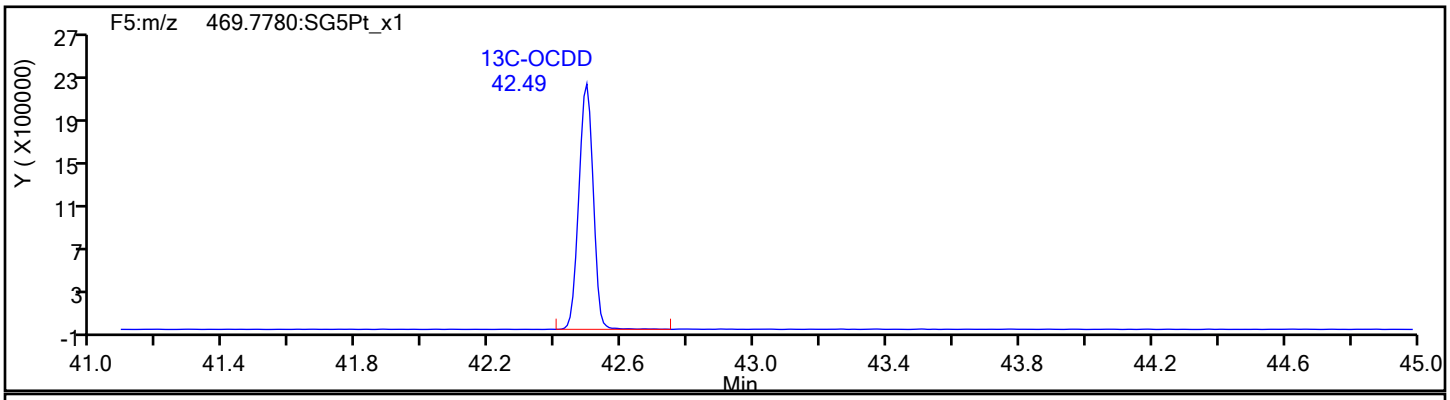
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d		
Injection Date:	18-Nov-2021 16:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

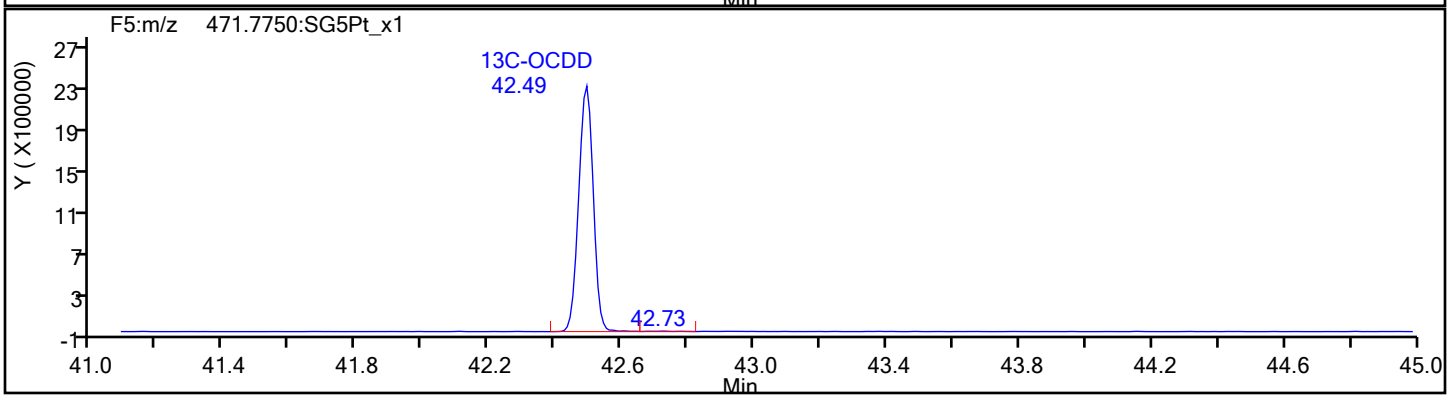
OCDF





OCDF Standards

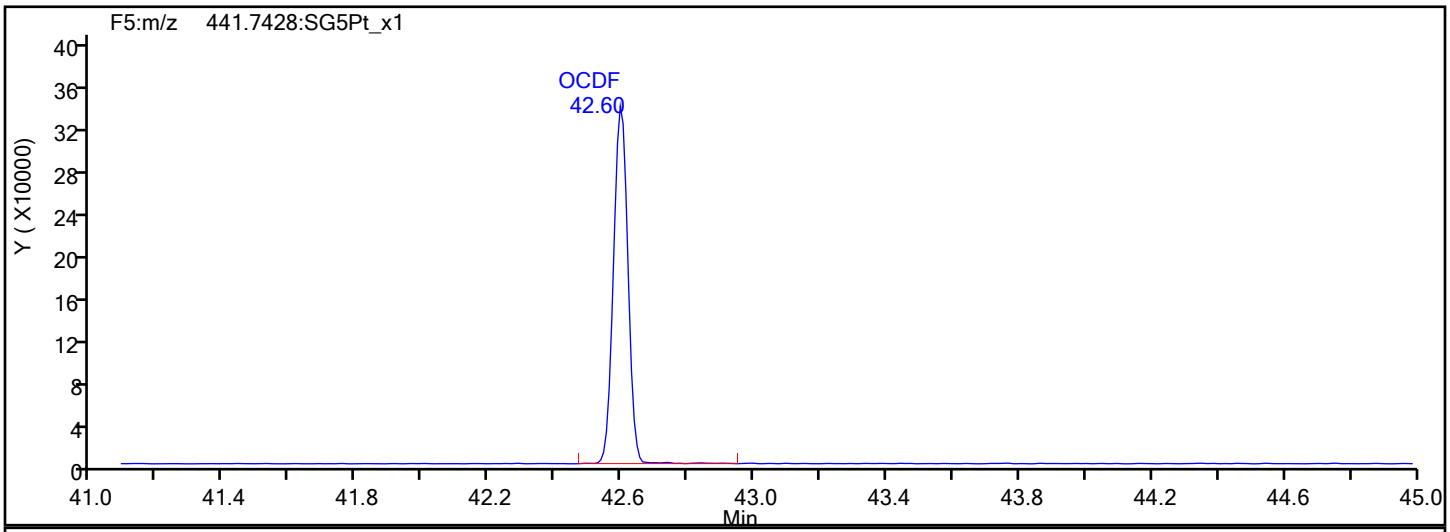


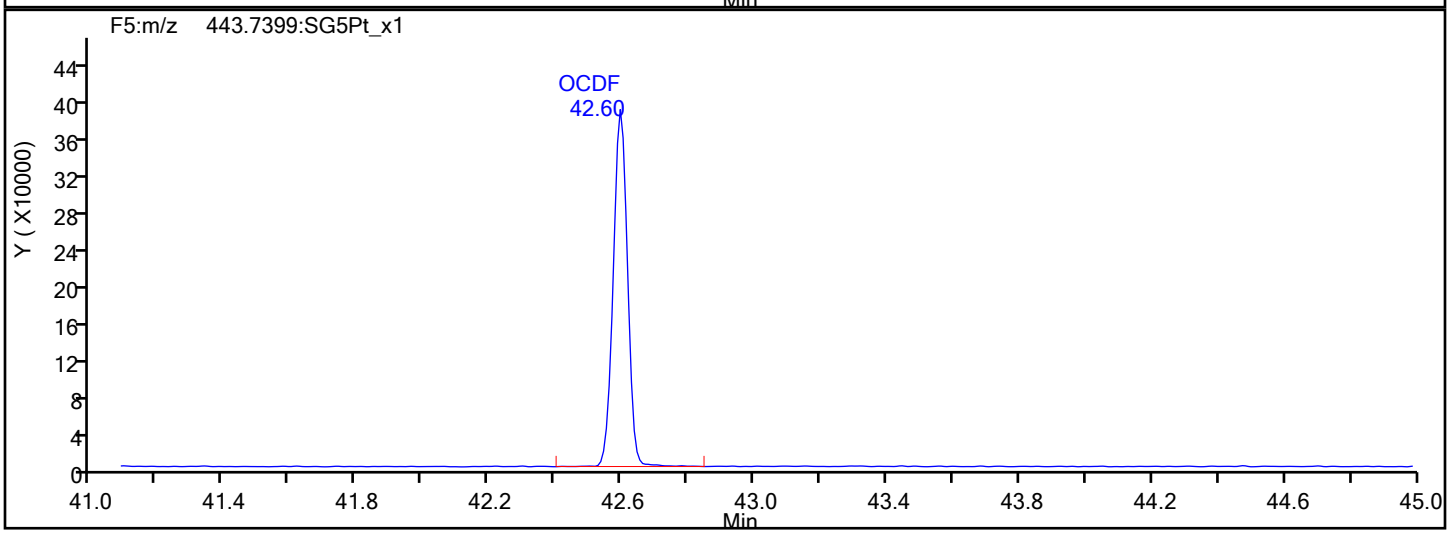


Eurofins TestAmerica, Sacramento

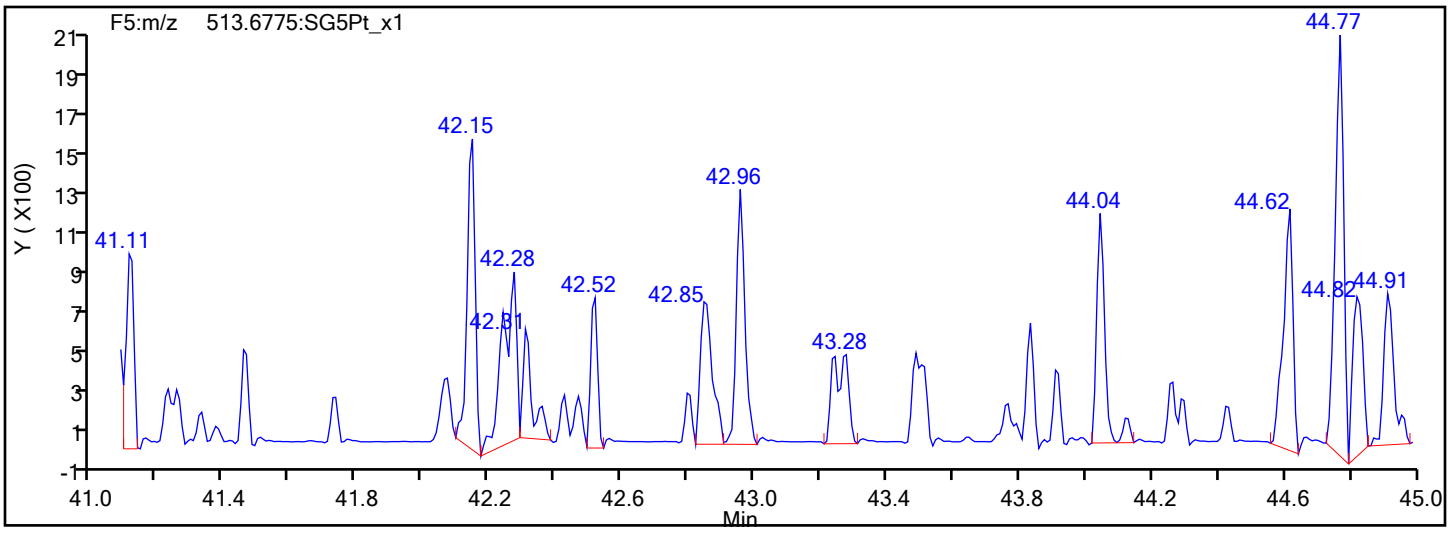
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d		
Injection Date:	18-Nov-2021 16:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





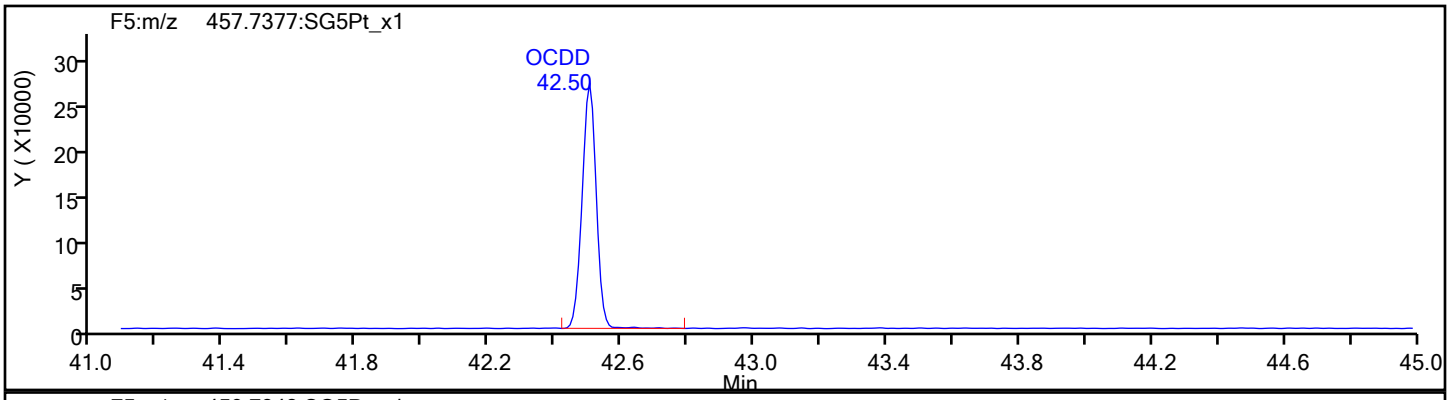
OCDF Interference Mass

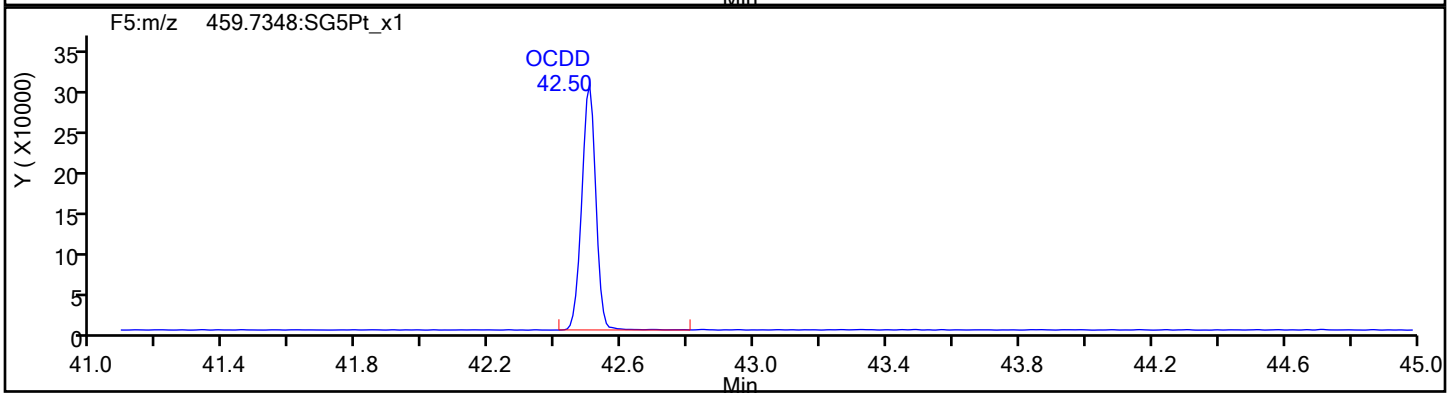


Eurofins TestAmerica, Sacramento

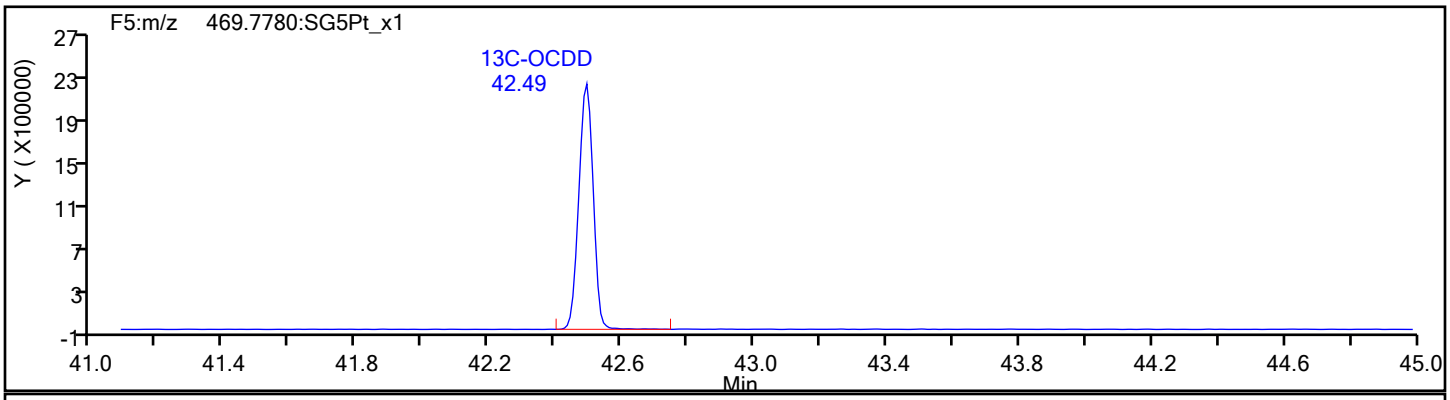
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d		
Injection Date:	18-Nov-2021 16:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

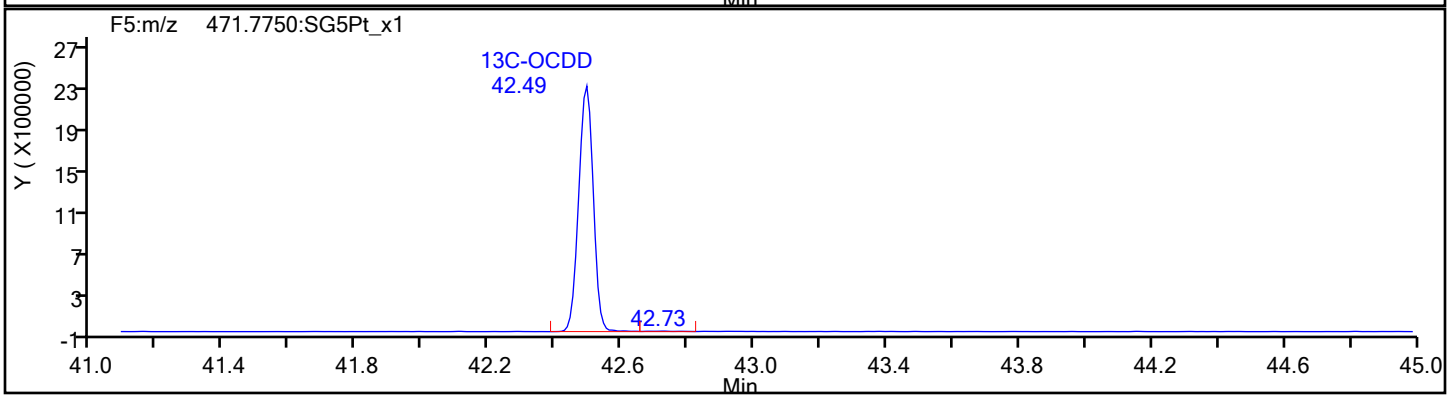
OCDD





OCDD Standards

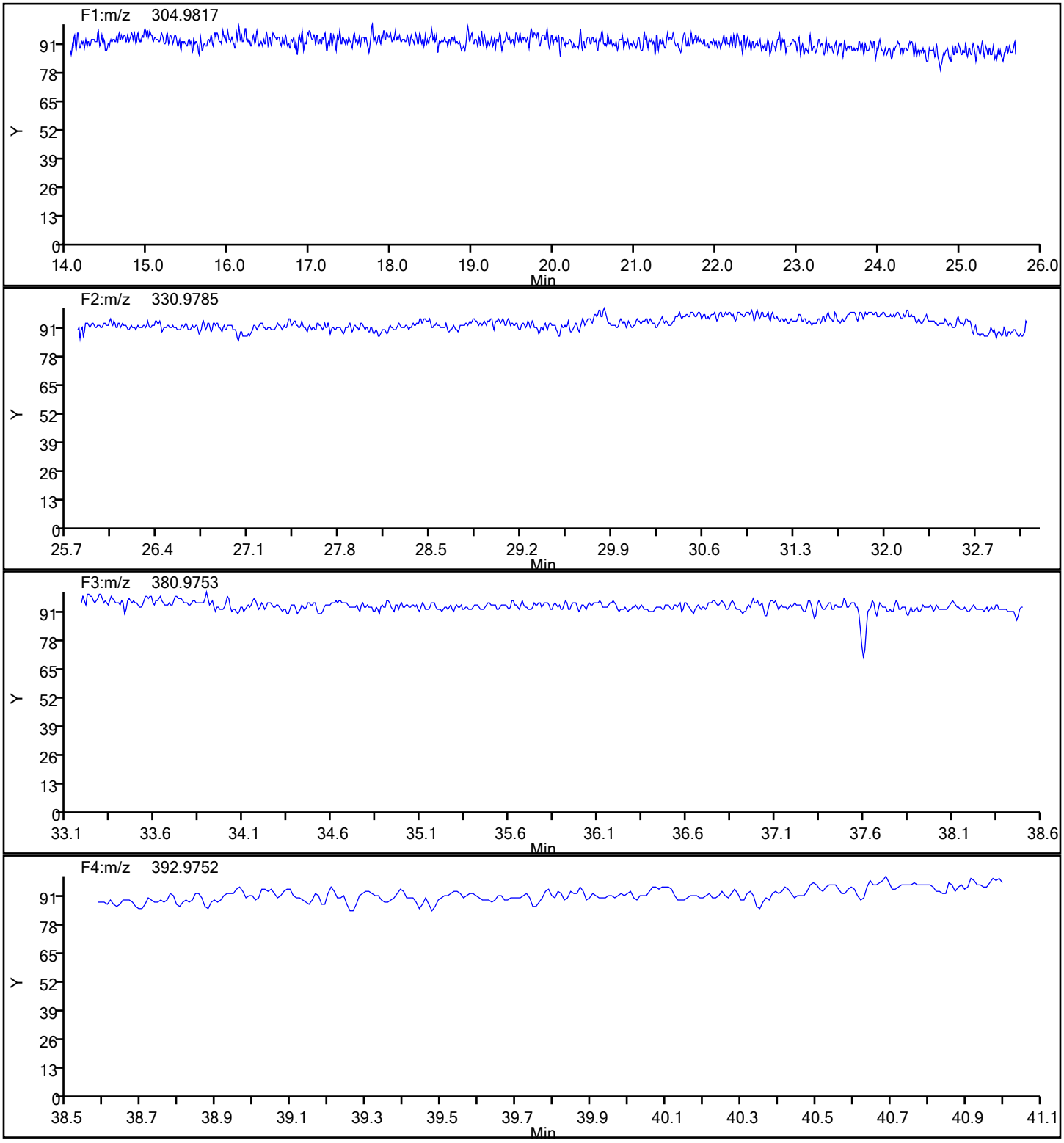




Report Date: 19-Nov-2021 11:38:31 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

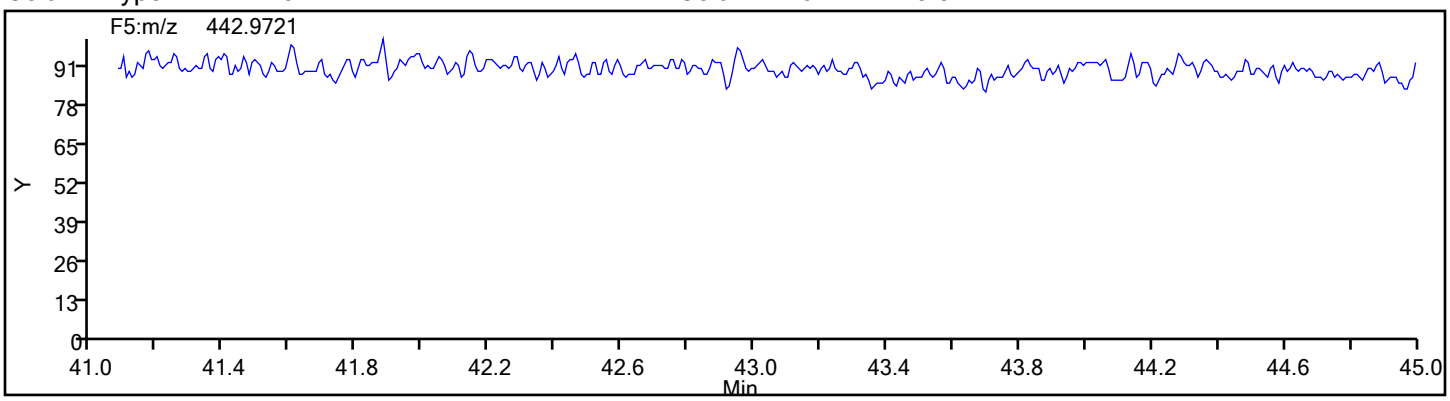
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d		
Injection Date:	18-Nov-2021 16:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 19-Nov-2021 11:38:31 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_5.d		
Injection Date:	18-Nov-2021 16:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-Nov-2021 17:02:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS4_HRDXNL4_00104
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 11:38:45 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 08:57:27

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	22.443	23062754	0.82	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	21.378	31220284	0.81	1.2917	104.8	104.8	0.2856	0.2856	105	
2,3,7,8-TCDF	21.412	3125847	0.76	1.1045	9.065	9.065	0.0215	0.0215	90.65	
S Total TCDF					9.065	9.065	0.0215	0.0215		
D 13C-2,3,7,8-TCDD	22.838	19069570	0.81	0.8271	100.0	100.0	0.1787	0.1787	99.97	
2,3,7,8-TCDD	22.881	1988183	0.82	1.1211	9.300	9.300	0.0494	0.0494	93.00	
$ 37Cl4-2,3,7,8-TCDD	22.881	1958703		0.8866	9.580	9.580	0.0346	0.0346	95.80	
S Total TCDD					9.300	9.300	0.0494	0.0494		
D 13C-1,2,3,7,8-PeCDF	28.230	27274270	1.57	1.1665	101.4	101.4	0.3746	0.3746	101	
1,2,3,7,8-PeCDF	28.255	13496177	1.57	1.0987	45.0	45.0	0.1389	0.1389	90.07	
D 13C-2,3,4,7,8-PeCDF	29.848	34607439	1.57							
2,3,4,7,8-PeCDF	29.873	13287542	1.55	1.0579	46.1	46.1	0.1442	0.1442	92.11	
S Total PeCDF					91.1	91.1	0.1415	0.1415		
D 13C-1,2,3,7,8-PeCDD	30.716	16066202	1.56	0.6835	101.9	101.9	0.1763	0.1763	102	
1,2,3,7,8-PeCDD	30.741	8152026	1.60	1.1030	46.0	46.0	0.0549	0.0549	92.01	
S Total PeCDD					46.0	46.0	0.0549	0.0549		
D 13C-1,2,3,4,7,8-HxCDF	35.596	33164101	0.53	1.1776	104.8	104.8	0.2402	0.2402	105	
1,2,3,4,7,8-HxCDF	35.613	13734866	1.22	0.9504	43.6	43.6	0.1395	0.1395	87.15	
D 13C-1,2,3,6,7,8-HxCDF	35.739	26483444	0.52							
1,2,3,6,7,8-HxCDF	35.756	14040398	1.22	0.9524	44.5	44.5	0.1392	0.1392	88.90	
D 13C-2,3,4,6,7,8-HxCDF	36.489	24786086	0.54							
2,3,4,6,7,8-HxCDF	36.506	13236171	1.22	0.8893	44.9	44.9	0.1491	0.1491	89.76	
D 13C-1,2,3,7,8,9-HxCDF	37.323	23819438	0.53							
1,2,3,7,8,9-HxCDF	37.340	12773956	1.22	0.8433	45.7	45.7	0.1572	0.1572	91.35	
S Total HxCDF					178.6	178.6	0.1463	0.1463		
* 13C-1,2,3,7,8,9-HxCDD	37.129	26863248	1.27	2.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	36.683	23379455	1.29							
1,2,3,4,7,8-HxCDD	36.700	8991431	1.25	1.0079	45.1	45.1	0.0938	0.0938	90.25	
D 13C-1,2,3,6,7,8-HxCDD	36.792	19769638	1.27	0.7339	100.3	100.3	0.1968	0.1968	100	
1,2,3,6,7,8-HxCDD	36.809	9149126	1.24	1.0111	45.8	45.8	0.0935	0.0935	91.54	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	37.146	10018491	1.24	1.0993	46.1	46.1	0.0860	0.0860	92.20	
S Total HxCDD					137.0	137.0	0.0911	0.0911		
D 13C-1,2,3,4,6,7,8-HpCDF	39.036	18234696	0.46	0.6698	101.3	101.3	0.3038	0.3038	101	
1,2,3,4,6,7,8-HpCDF	39.045	12248420	1.04	1.5184	44.2	44.2	0.1473	0.1473	88.48	
D 13C-1,2,3,4,7,8,9-HpCDF	40.250	22259537	0.46							
1,2,3,4,7,8,9-HpCDF	40.258	10758363	1.04	1.3387	44.1	44.1	0.1670	0.1670	88.14	
S Total HpCDF					88.3	88.3	0.1572	0.1572		
D 13C-1,2,3,4,6,7,8-HpCDD	39.946	16266902	1.08	0.5943	101.9	101.9	0.2486	0.2486	102	
1,2,3,4,6,7,8-HpCDD	39.955	7848091	1.06	1.0953	44.0	44.0	0.0795	0.0795	88.10	
S Total HpCDD					44.0	44.0	0.0795	0.0795		
D 13C-OCDD	42.477	26348519	0.90	0.4838	202.8	202.8	0.1968	0.1968	101	
OCDF	42.586	16752905	0.90	1.3979	91.0	91.0	0.0602	0.0602	90.97	
OCDD	42.485	12999167	0.88	1.1116	88.8	88.8	0.0684	0.0684	88.76	

QC Flag Legend

Processing Flags

Reagents:

HRDXNL4_00104 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-Nov-2021 17:02:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS4_HRDXNL4_00104
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 11:38:45 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 08:57:27

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	22.443	22.456	-1		10416000	1411972	1506	3765	938		
333.9338	22.434	22.456	-1		12646754	1759056	369	922	4767	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	21.378	21.398	-1	0.953	13966928	2036013	3188	7970	639		
317.9389	21.387	21.398	-1	0.953	17253356	2519105	1492	3730	1688	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	21.412	21.426	-1	1.002	1354317	190781	119	297	1603		
305.8987	21.412	21.426	-1	1.002	1771530	265488	314	785	846	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	22.838	22.855	-1	1.018	8547128	1149837	1506	3765	764		
333.9338	22.847	22.855	0	1.018	10522442	1406504	369	922	3812	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	22.881	22.887	0	1.002	893725	121052	435	1087	278		
321.8936	22.881	22.887	0	1.002	1094458	148405	132	330	1124	0.82(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	22.881	22.891	-1	1.020	1958703	270232	389	972	695		
13C-1,2,3,7,8-PeCDF											
351.9000	28.230	28.227	0	1.258	16653682	2675758	3480	8700	769		
353.8970	28.230	28.227	0	1.258	10620588	1709336	2063	5157	829	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	28.255	28.252	0	1.001	8241772	1345633	1503	3757	895		
341.8567	28.255	28.252	0	1.001	5254405	862611	1173	2932	735	1.57(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	29.848	29.841	0	1.330	21135450	3177223	3480	8700	913		
353.8970	29.839	29.841	0	1.330	13471989	2025462	2063	5157	982	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	29.873	29.871	0	1.001	8078043	1206445	1503	3757	803		
341.8567	29.865	29.871	0	1.001	5209499	787842	1173	2932	672	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	30.716	30.710	0	1.369	9787676	1471780	993	2482	1482		
369.8919	30.716	30.710	0	1.369	6278526	919109	536	1340	1715	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	30.741	30.739	0	1.001	5011142	742483	411	1027	1807		
357.8516	30.741	30.739	0	1.001	3140884	458266	168	420	2728	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	35.596	35.596	0	0.959	11485085	2948389	3116	7790	946		
385.8610	35.588	35.596	-1	0.958	21679016	5671173	5897	14742	962	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	35.613	35.611	0	1.000	7542146	1942711	2492	6230	780		
375.8178	35.604	35.611	0	1.000	6192720	1594713	2080	5200	767	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	35.739	35.743	0	0.963	9106085	2324130	3116	7790	746		
385.8610	35.739	35.743	0	0.963	17377359	4476910	5897	14742	759	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	35.756	35.758	0	1.000	7720899	1915713	2492	6230	769		
375.8178	35.756	35.758	0	1.000	6319499	1579501	2080	5200	759	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	36.489	36.495	0	0.983	8676866	2442761	3116	7790	784		
385.8610	36.489	36.495	0	0.983	16109220	4592708	5897	14742	779	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	36.506	36.510	0	1.000	7280607	2123817	2492	6230	852		
375.8178	36.506	36.510	0	1.000	5955564	1749315	2080	5200	841	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	37.323	37.329	0	1.005	8234986	2520095	3116	7790	809		
385.8610	37.323	37.329	0	1.005	15584452	4750341	5897	14742	806	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	37.340	37.344	0	1.000	7012446	2159810	2492	6230	867		
375.8178	37.340	37.344	0	1.000	5761510	1752976	2080	5200	843	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	37.129	37.140	-1		15023604	4449980	2612	6530	1704		
403.8529	37.129	37.140	-1		11839644	3516736	1991	4977	1766	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	36.683	36.687	0	0.988	13183135	3960438	2612	6530	1516		
403.8529	36.683	36.687	0	0.988	10196320	3025924	1991	4977	1520	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	36.700	36.704	0	1.000	4994540	1504509	1269	3172	1186		
391.8127	36.700	36.704	0	1.000	3996891	1174827	905	2262	1298	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.792	36.796	0	0.991	11061583	3205457	2612	6530	1227		
403.8529	36.792	36.796	0	0.991	8708055	2541981	1991	4977	1277	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	36.809	36.813	0	1.000	5073122	1472468	1269	3172	1160		
391.8127	36.809	36.813	0	1.000	4076004	1186379	905	2262	1311	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	37.146	37.150	0	1.013	5554149	1649480	1269	3172	1300		
391.8127	37.146	37.150	0	1.013	4464342	1341580	905	2262	1482	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	39.036	39.042	0	1.051	5712564	2033838	3028	7570	672		
419.8220	39.036	39.042	0	1.051	12522132	4515483	3457	8642	1306	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	39.045	39.053	0	1.000	6244541	2229707	3391	8477	658		
409.7788	39.045	39.053	0	1.000	6003879	2166729	2467	6167	878	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	40.250	40.256	0	1.084	7036452	2671747	3028	7570	882		
419.8220	40.250	40.256	0	1.084	15223085	5872155	3457	8642	1699	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	40.258	40.264	0	1.000	5488560	2053705	3391	8477	606		
409.7788	40.258	40.264	0	1.000	5269803	1980338	2467	6167	803	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.946	39.949	0	1.076	8430154	3261539	2574	6435	1267		
437.8140	39.946	39.949	0	1.076	7836748	3011086	2135	5337	1410	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.955	39.959	0	1.000	4038152	1579637	1150	2875	1374		
425.7737	39.955	39.959	0	1.000	3809939	1473584	1035	2587	1424	1.06(0.88-1.20)	
13C-OCDD											
469.7780	42.477	42.485	0	1.144	12497646	4260405	1693	4232	2516		
471.7750	42.477	42.485	0	1.144	13850873	4702573	1341	3352	3507	0.90(0.76-1.02)	
OCDF											
441.7428	42.586	42.589	0	1.003	7937852	2664686	650	1625	4100		
443.7399	42.578	42.589	-1	1.002	8815053	2991905	859	2147	3483	0.90(0.76-1.02)	
OCDD											
457.7377	42.485	42.495	-1	1.000	6094974	2047284	634	1585	3229		
459.7348	42.485	42.495	-1	1.000	6904193	2337389	728	1820	3211	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

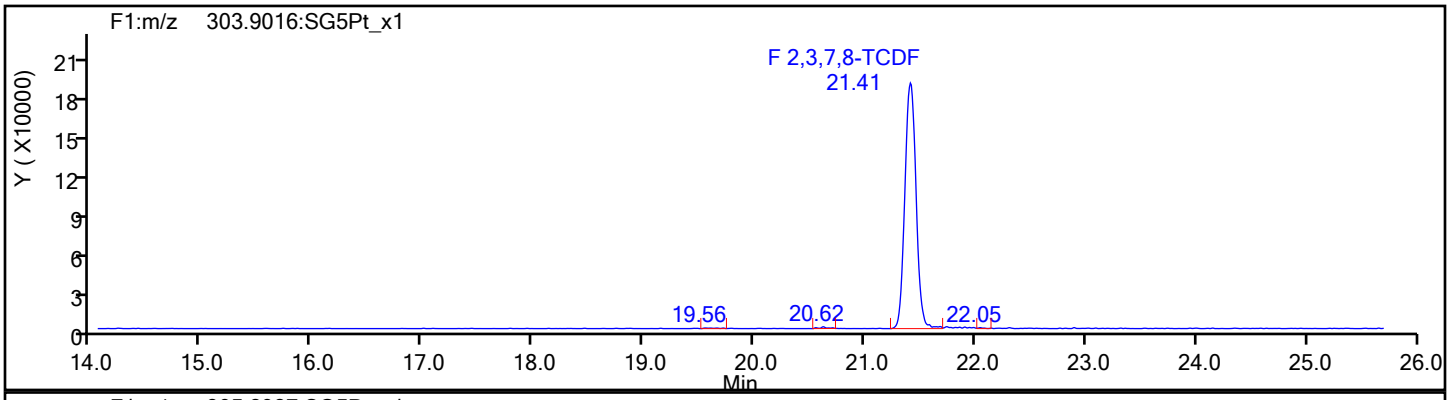
Reagents:

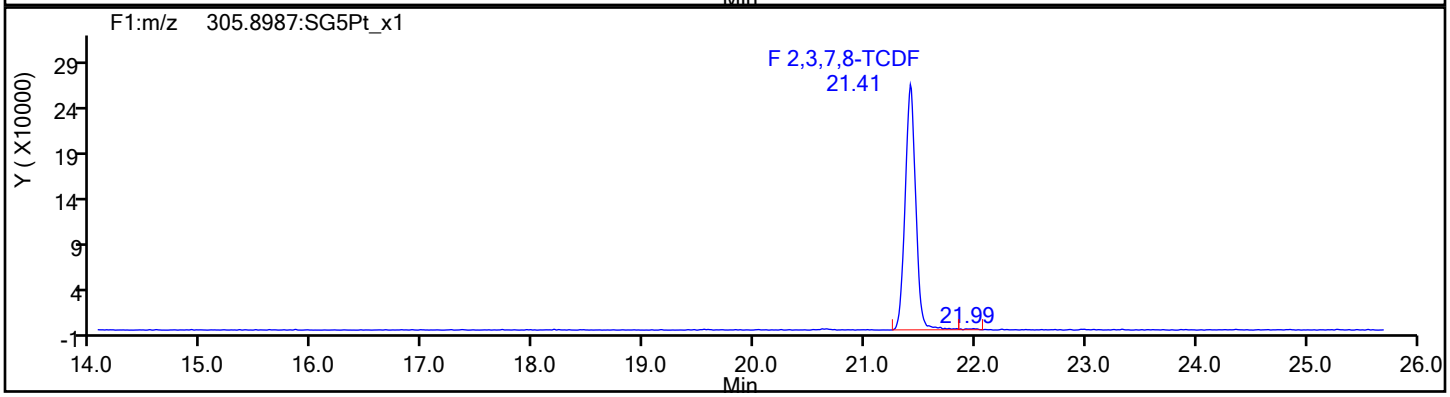
HRDXNL4_00104 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento

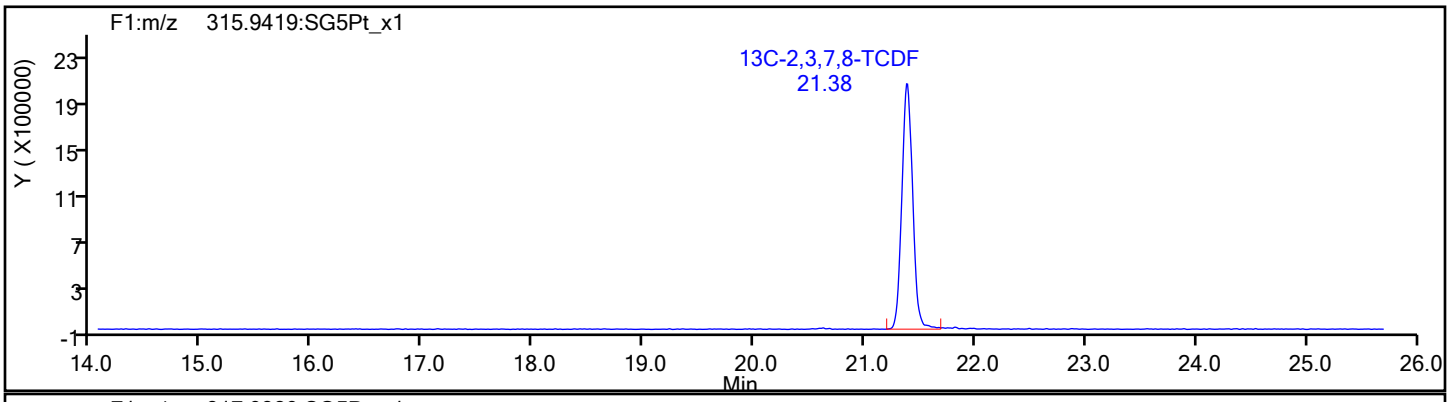
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_6.d		
Injection Date:	18-Nov-2021 17:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

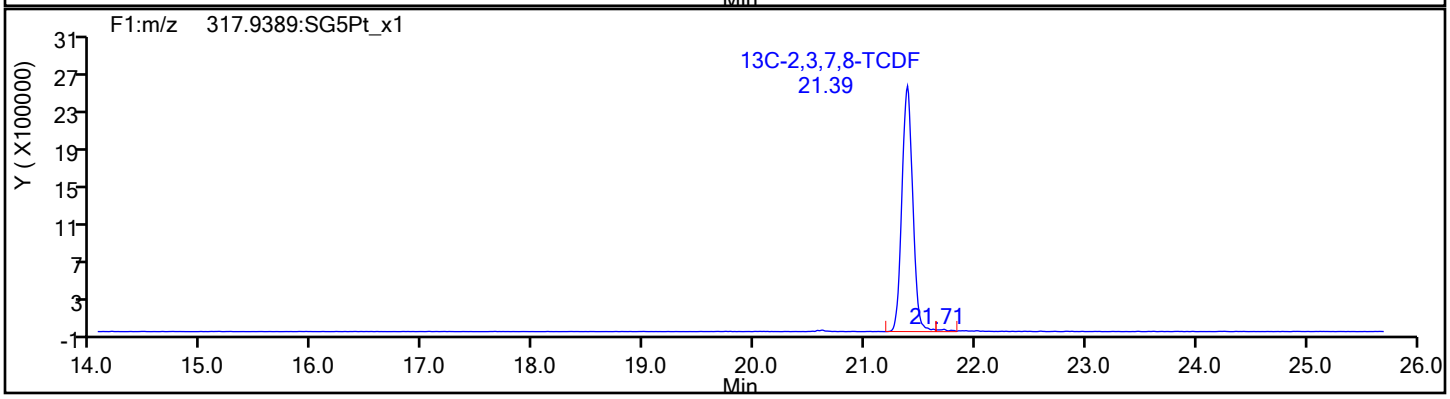
TCDF





TCDF Standards

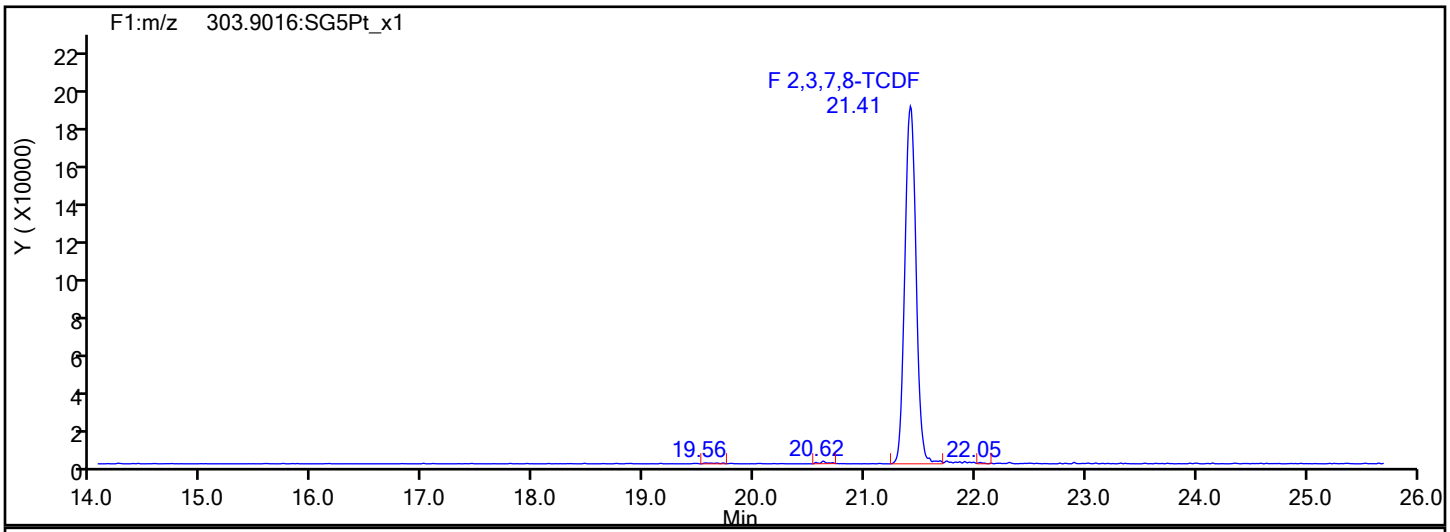


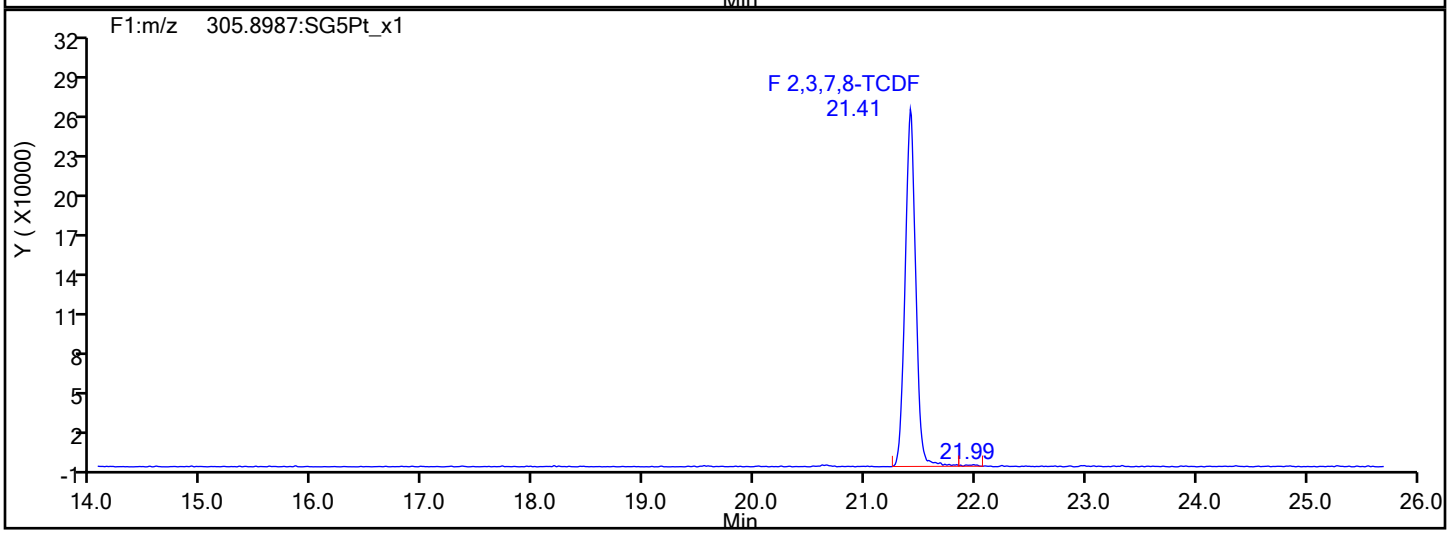


Eurofins TestAmerica, Sacramento

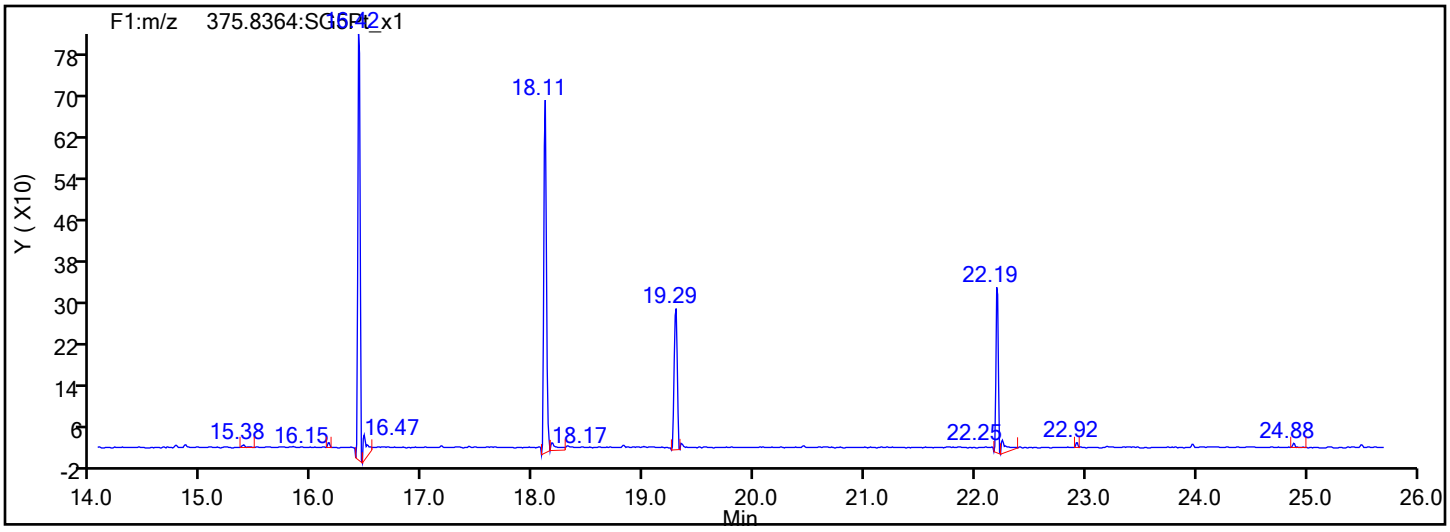
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_6.d		
Injection Date:	18-Nov-2021 17:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





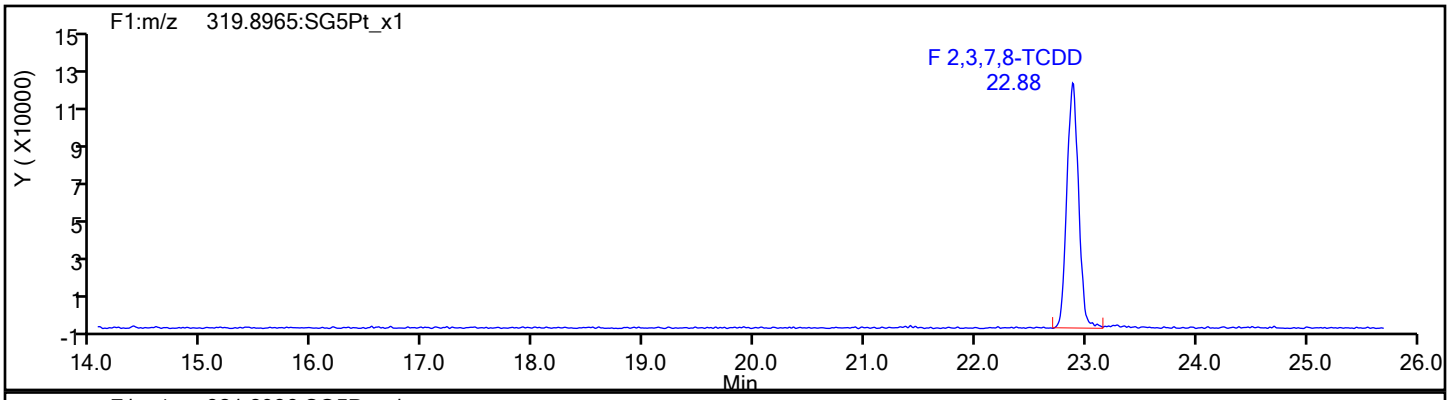
TCDF Interference Mass

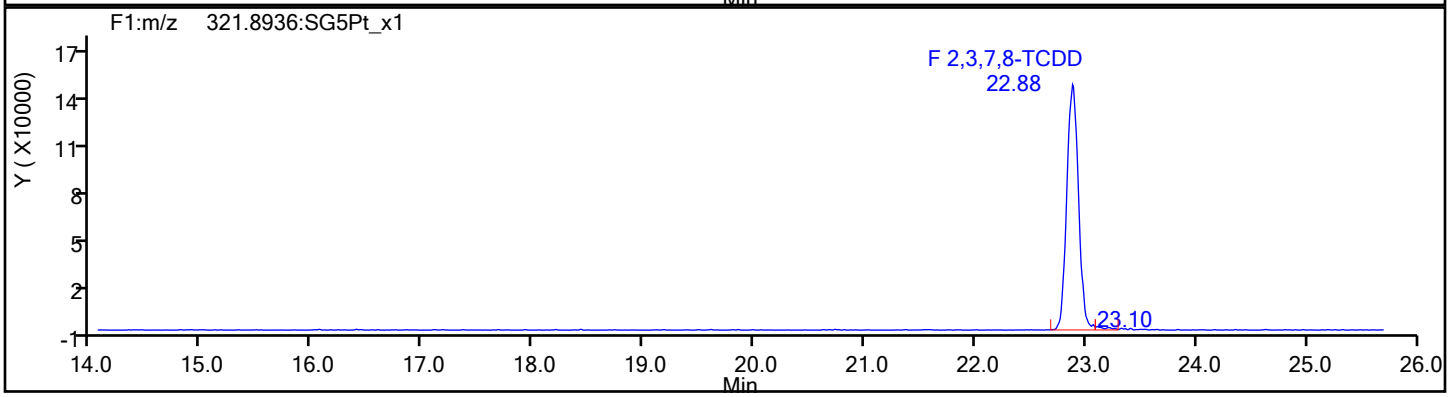


Eurofins TestAmerica, Sacramento

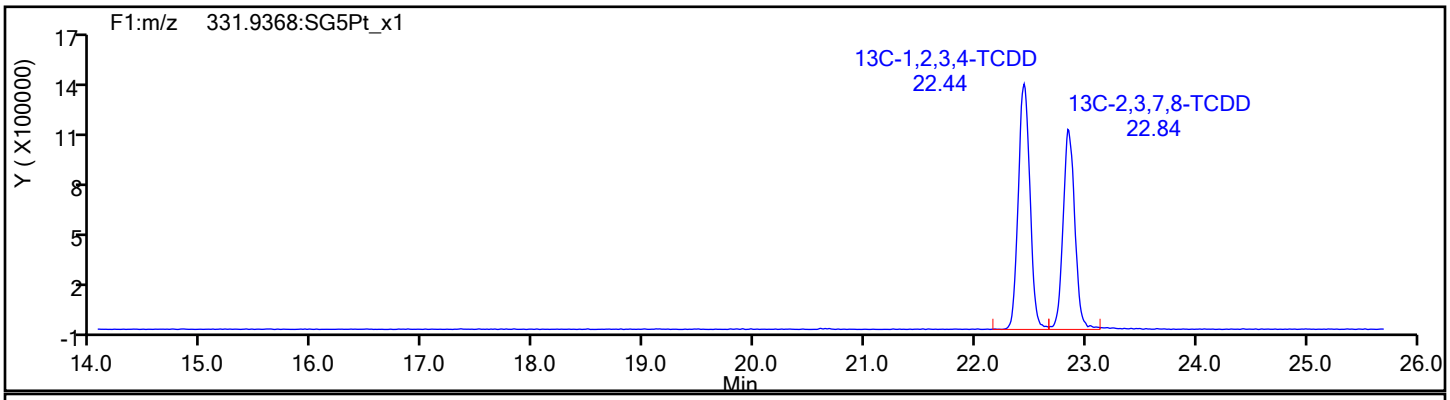
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_6.d		
Injection Date:	18-Nov-2021 17:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

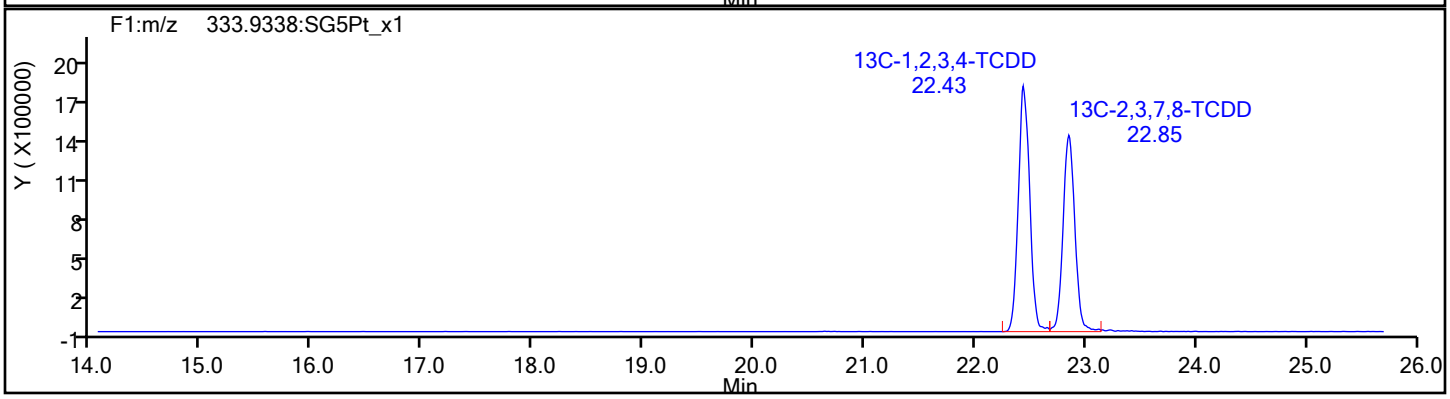
TCDD





TCDD Standards

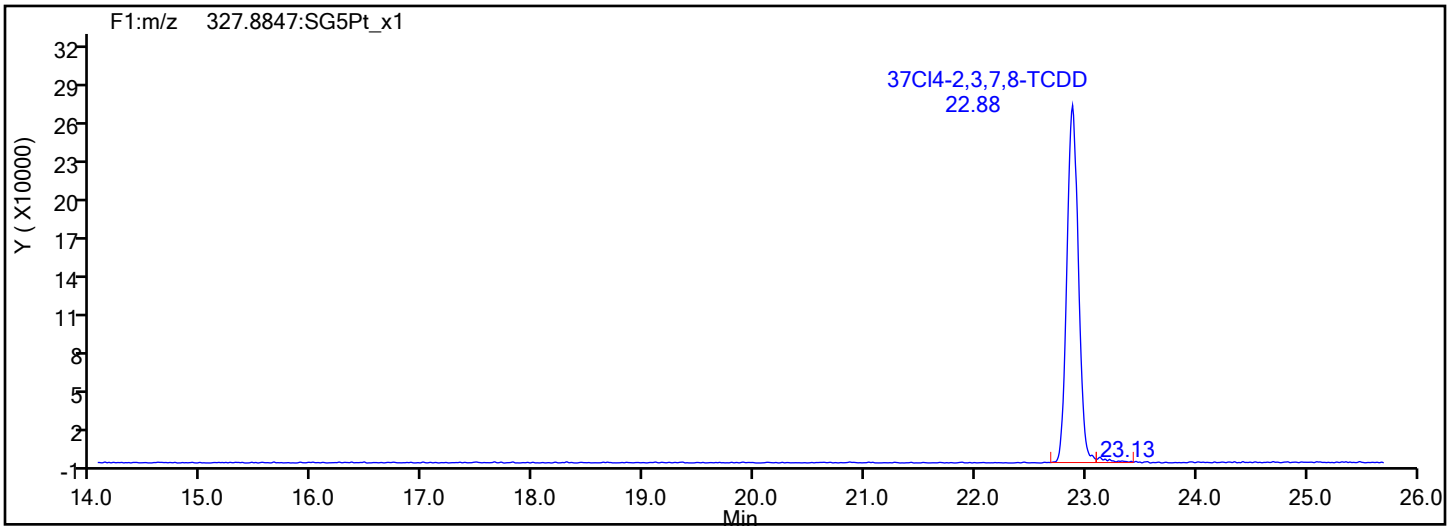




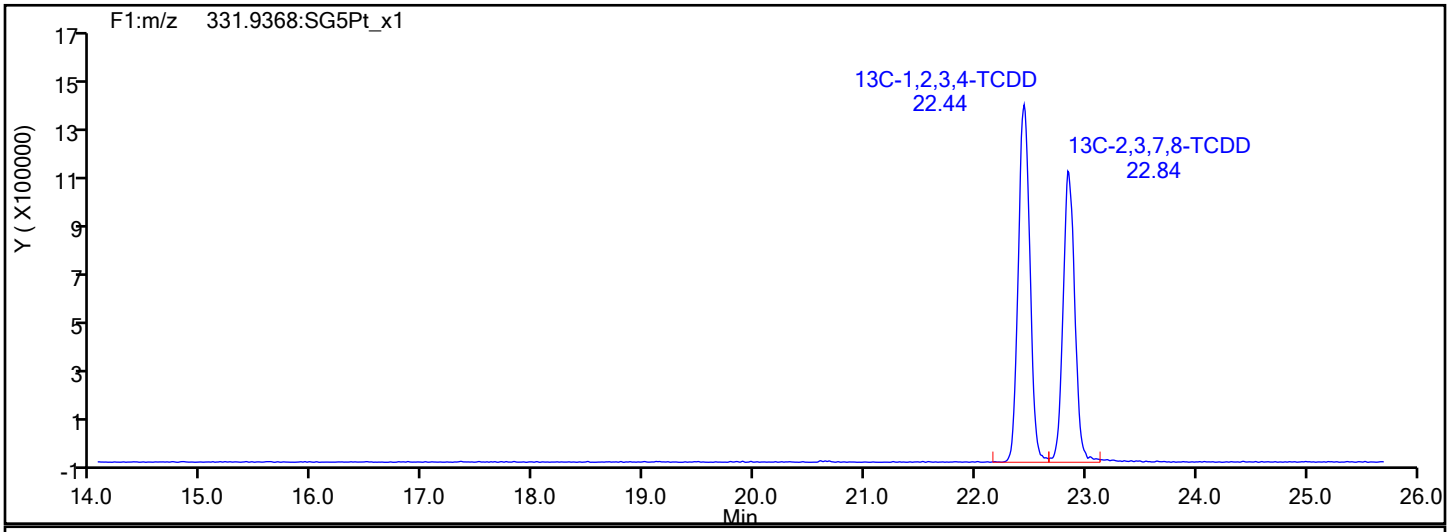
Eurofins TestAmerica, Sacramento

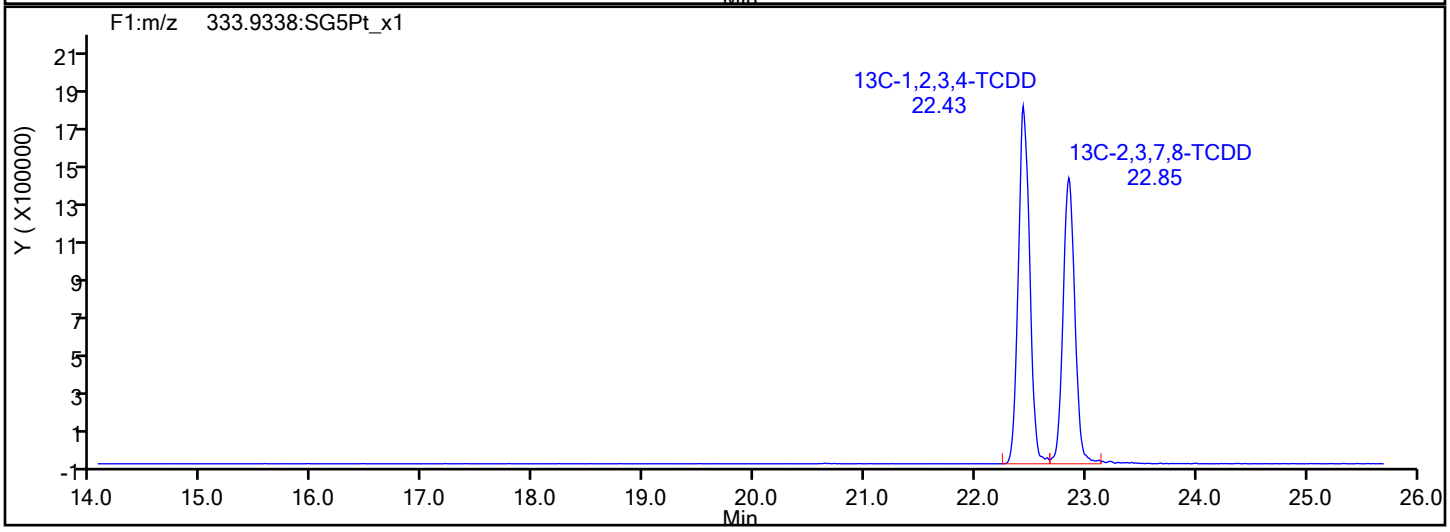
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_6.d		
Injection Date:	18-Nov-2021 17:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_6.d		
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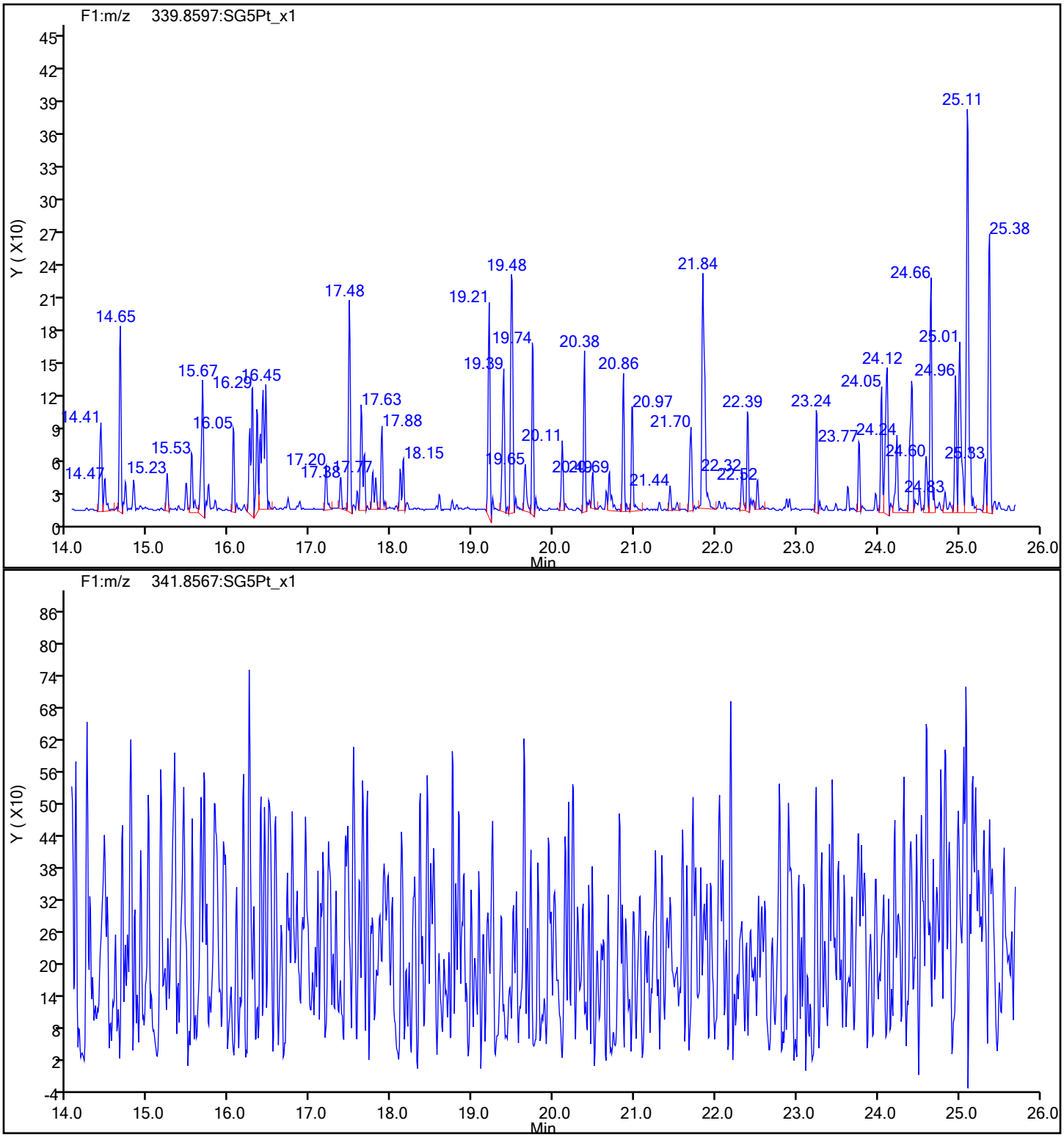
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

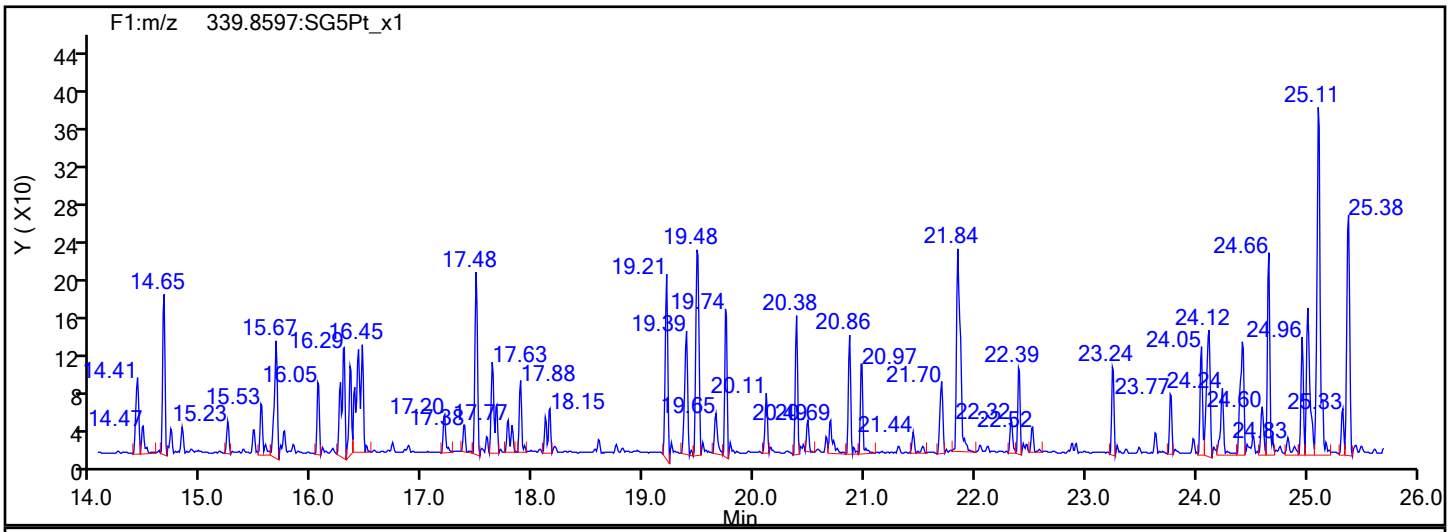
F1 PeCDFs

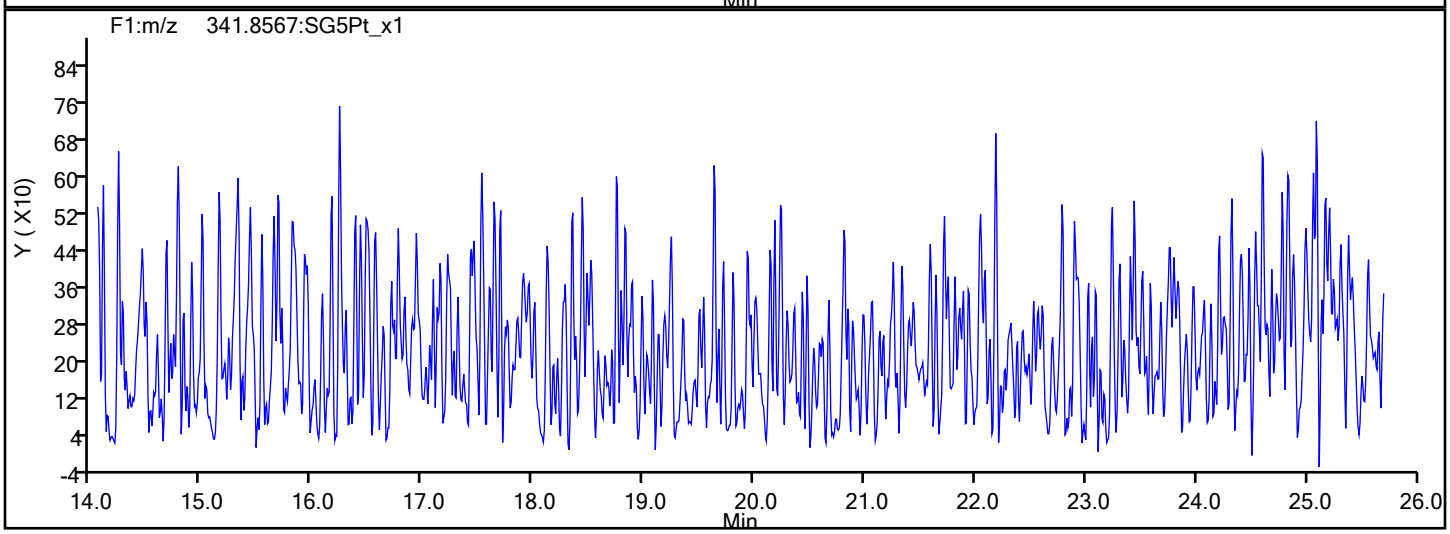


Eurofins TestAmerica, Sacramento

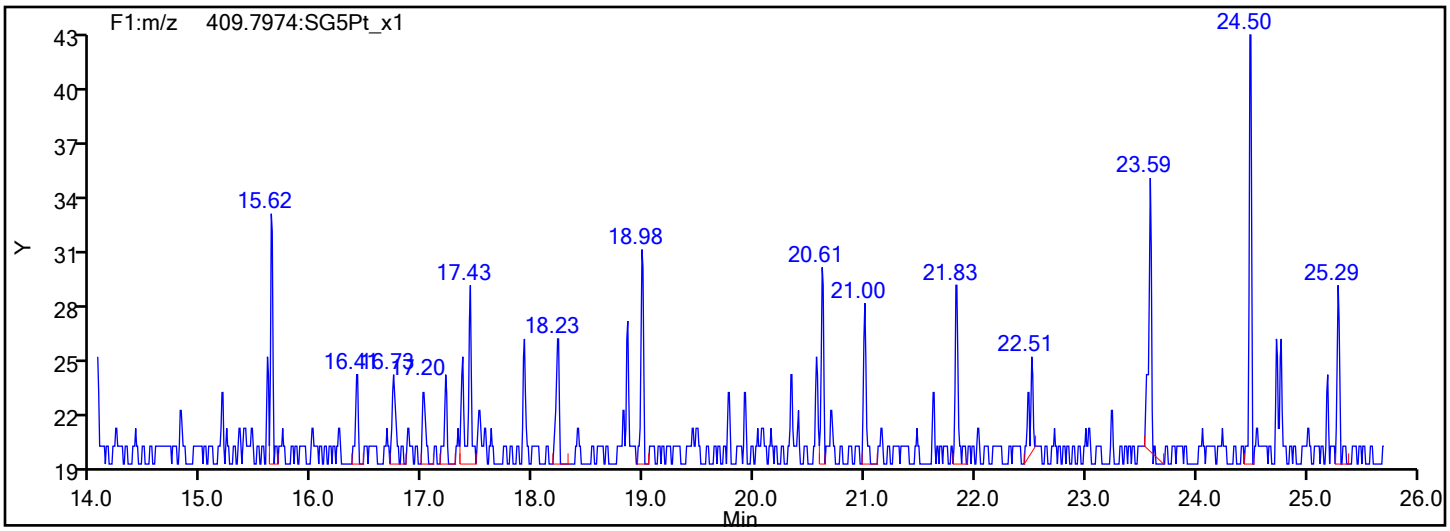
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_6.d		
Injection Date:	18-Nov-2021 17:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

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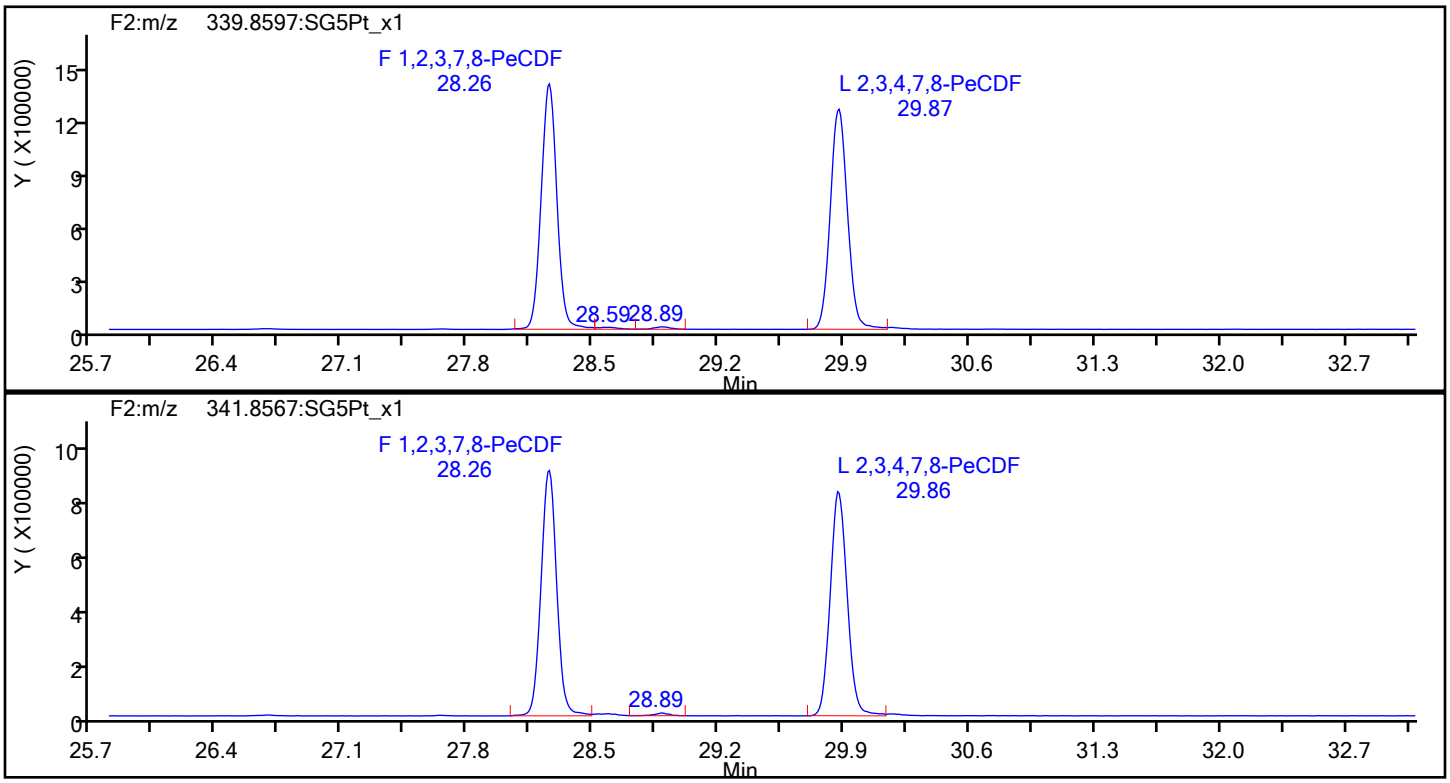
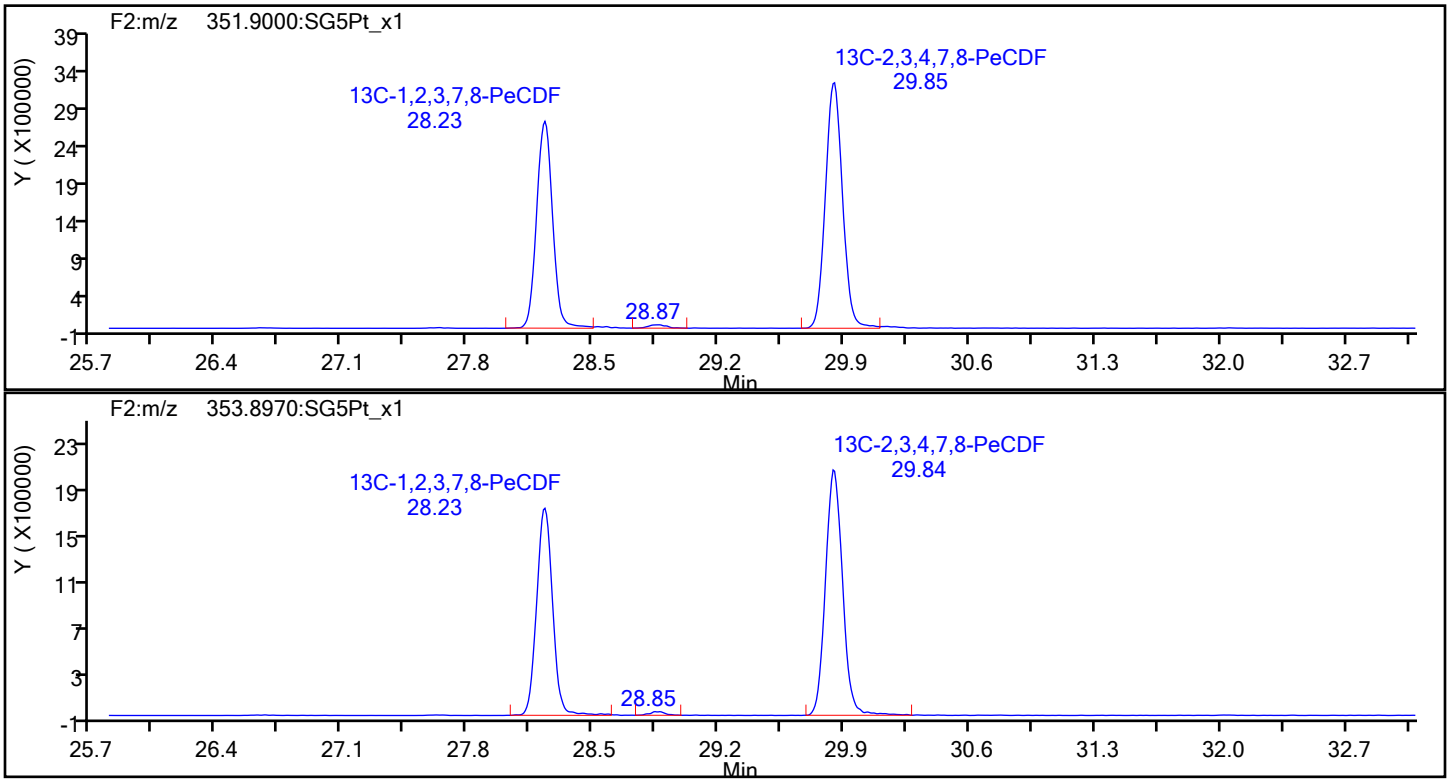
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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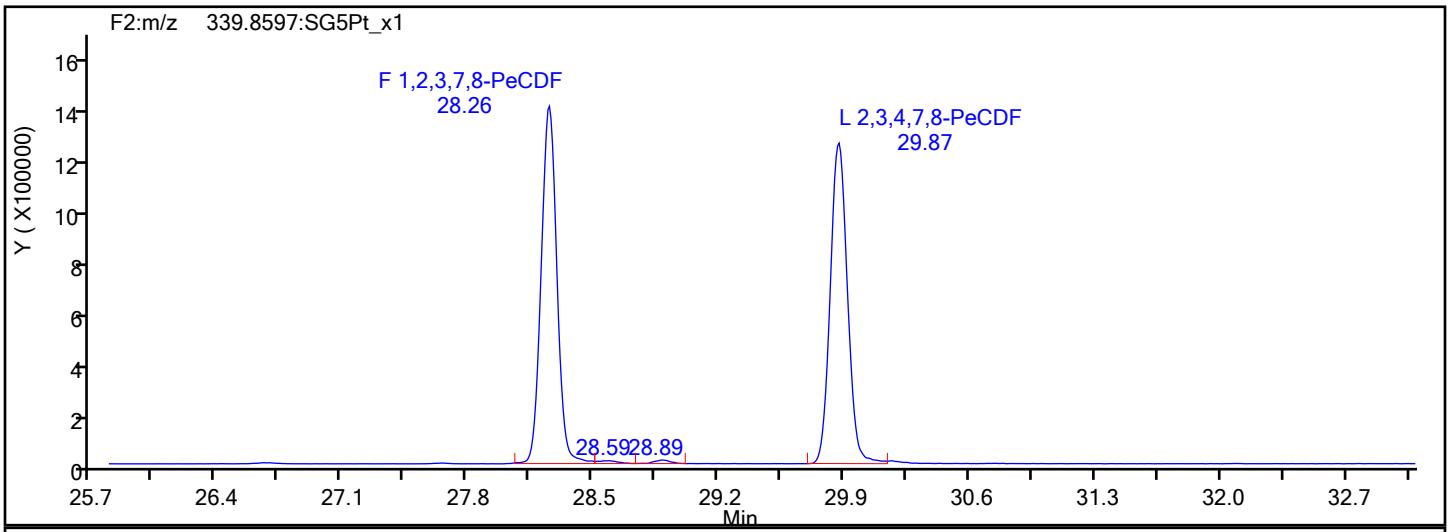
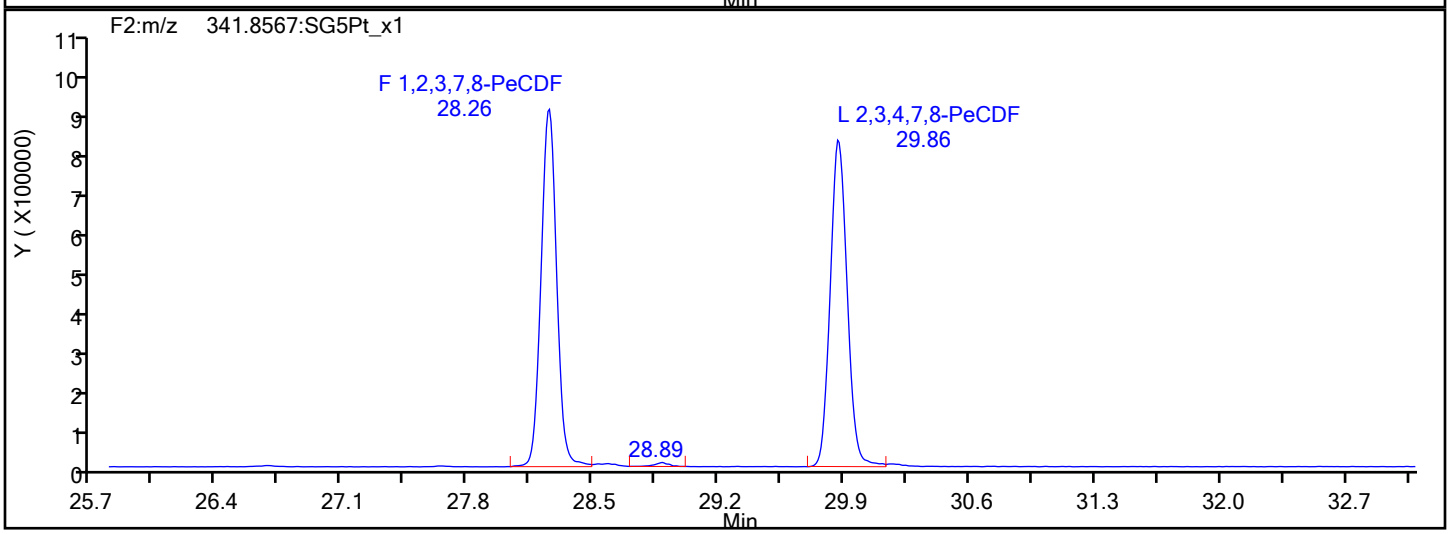
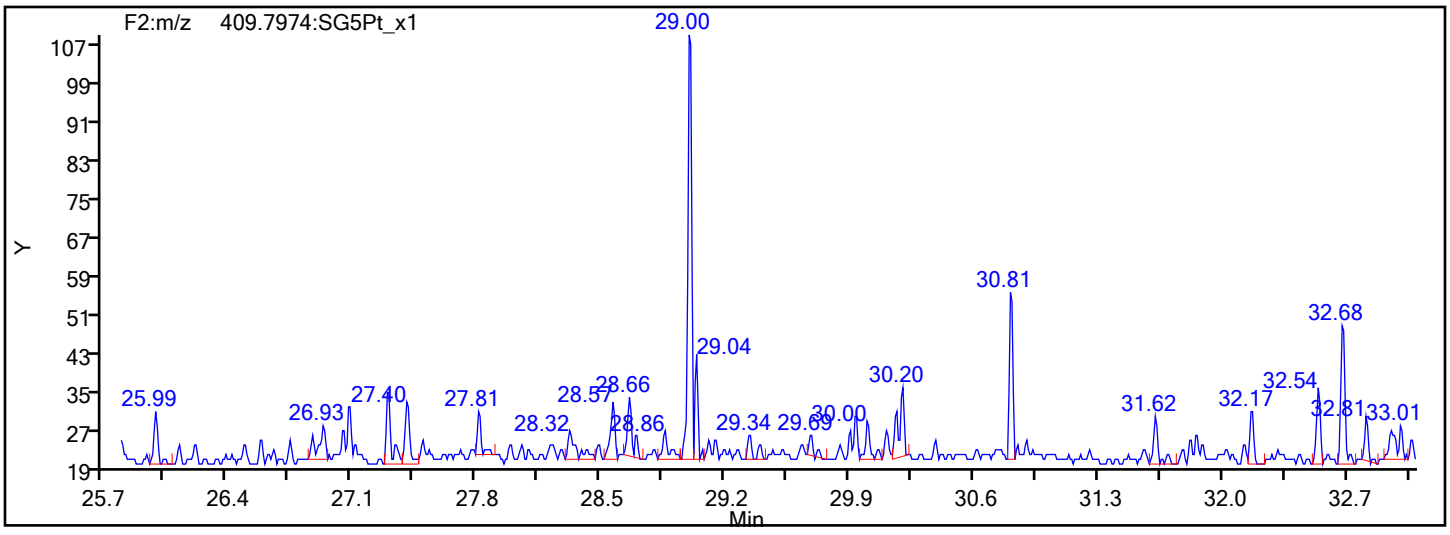




PeCDF Interference Mass



Eurofins TestAmerica, Sacramento

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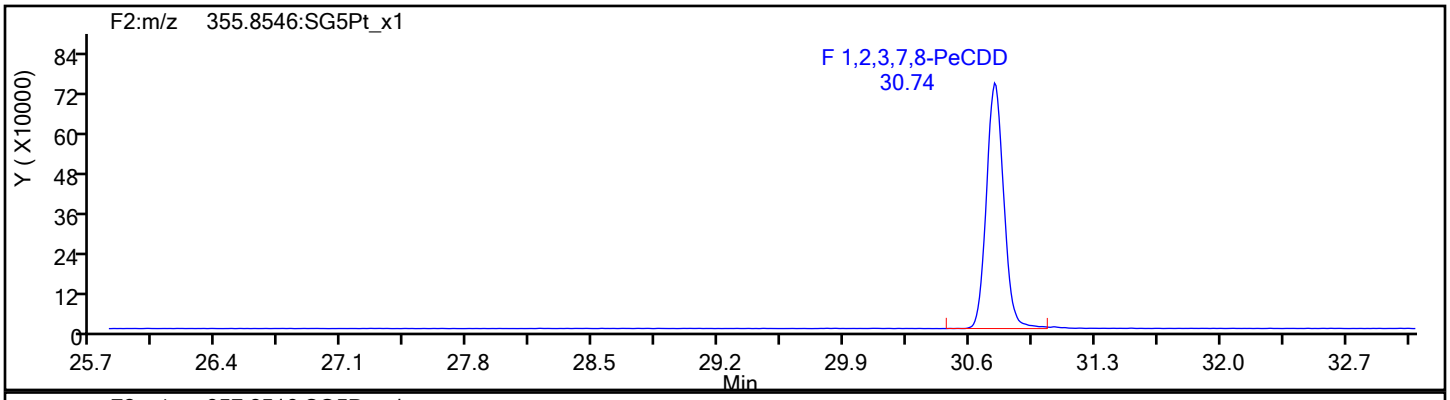
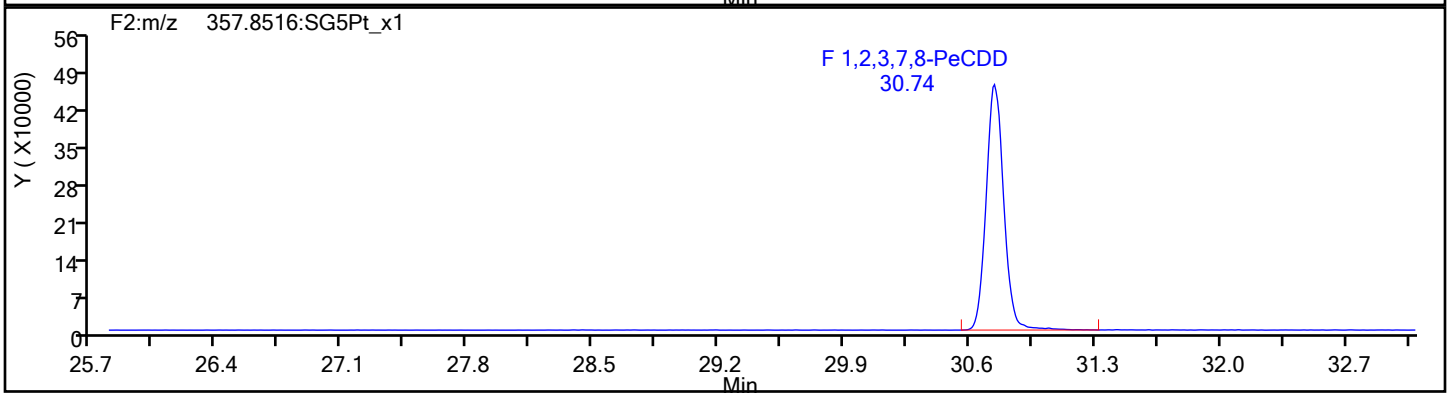
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD





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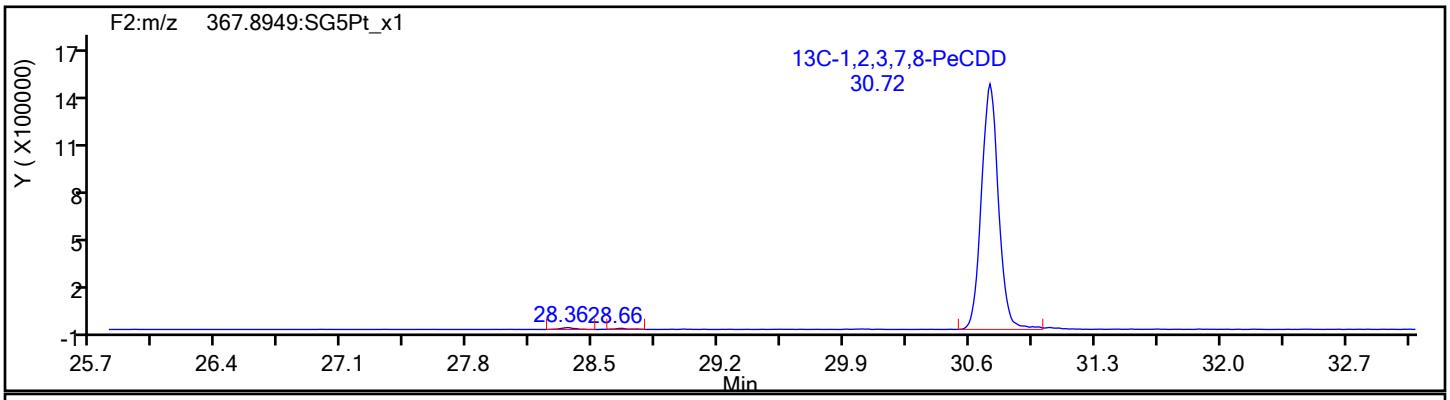

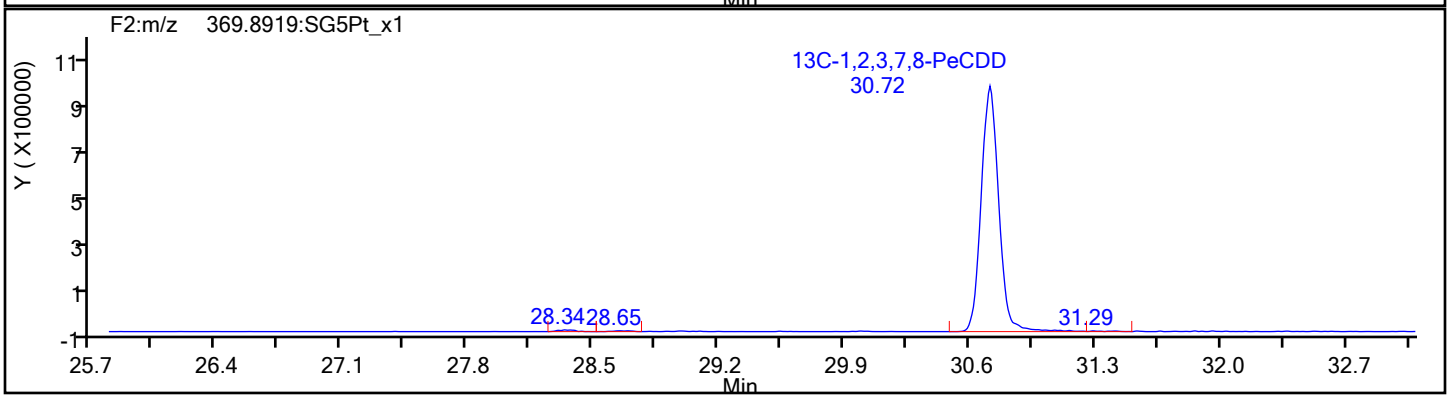

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

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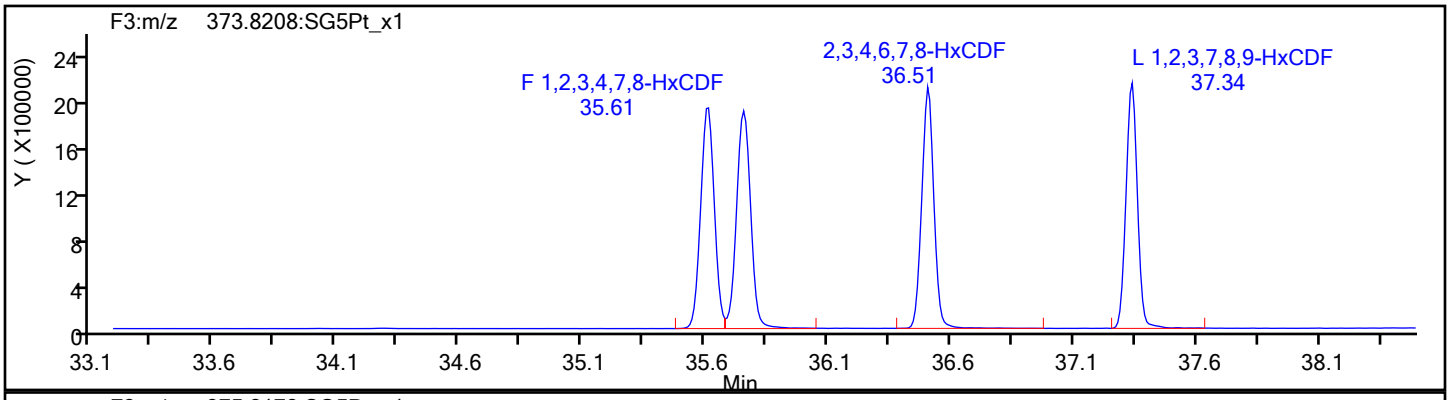
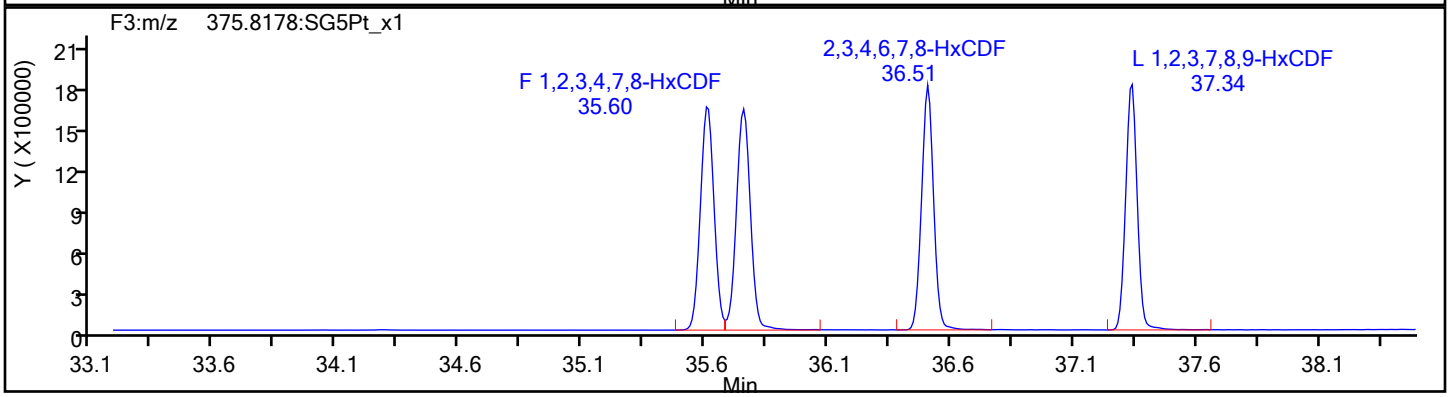
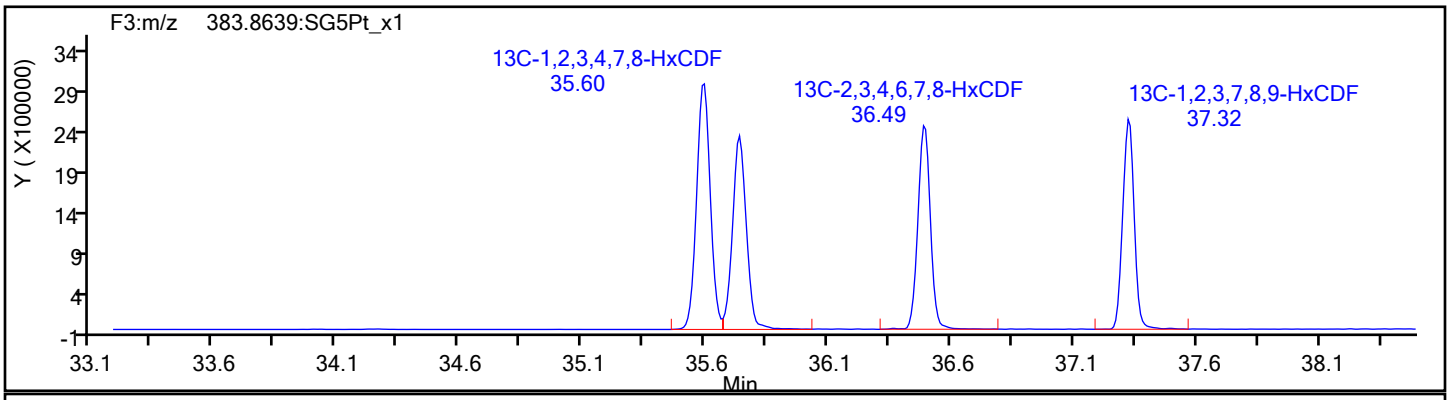
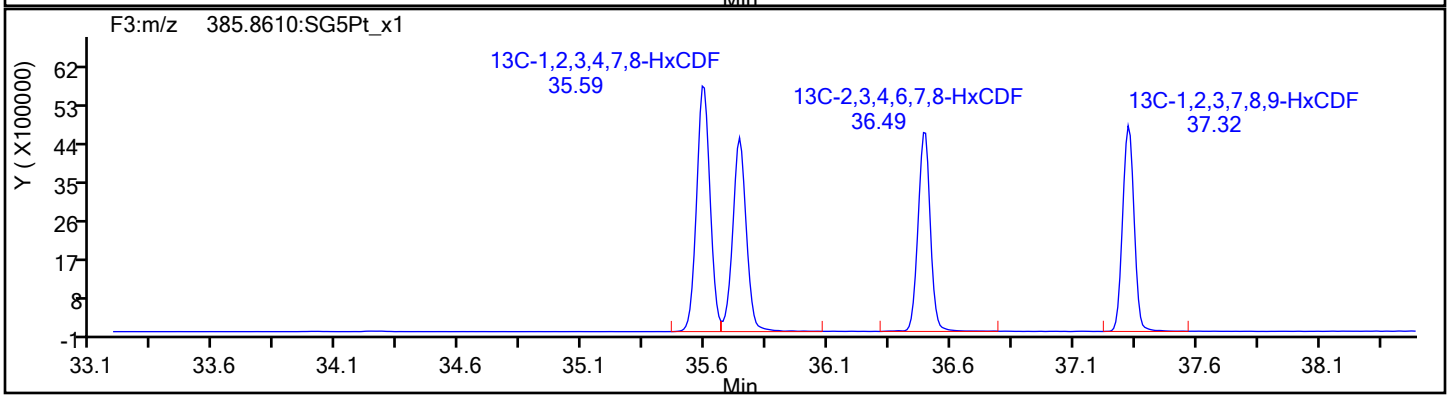




HxCDF Standards





Eurofins TestAmerica, Sacramento

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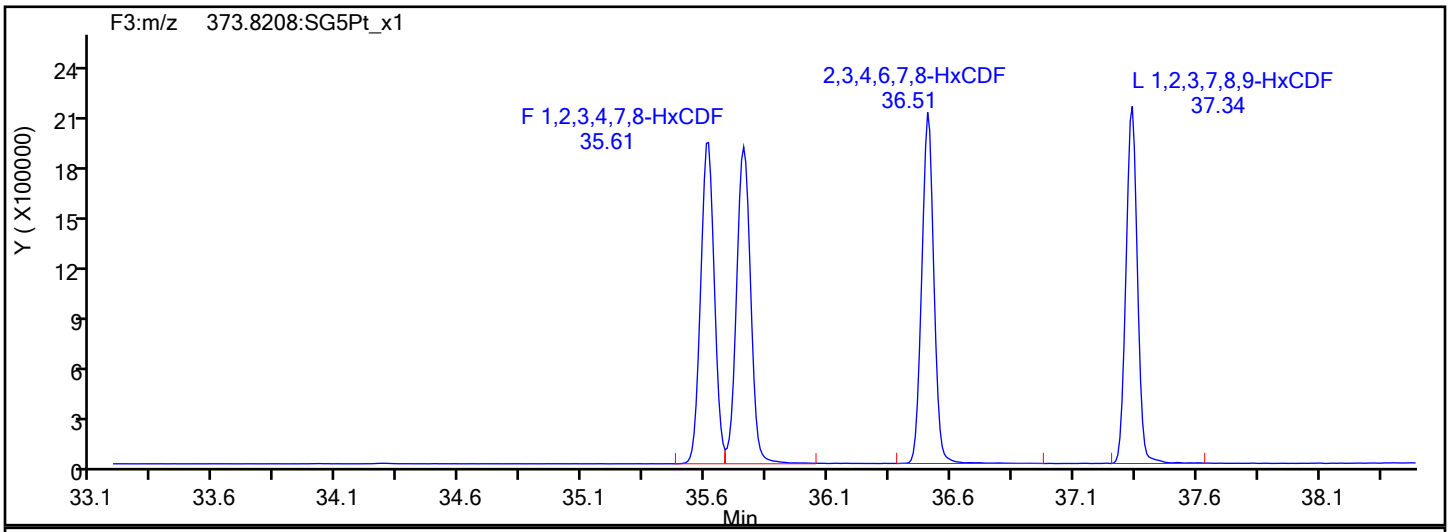
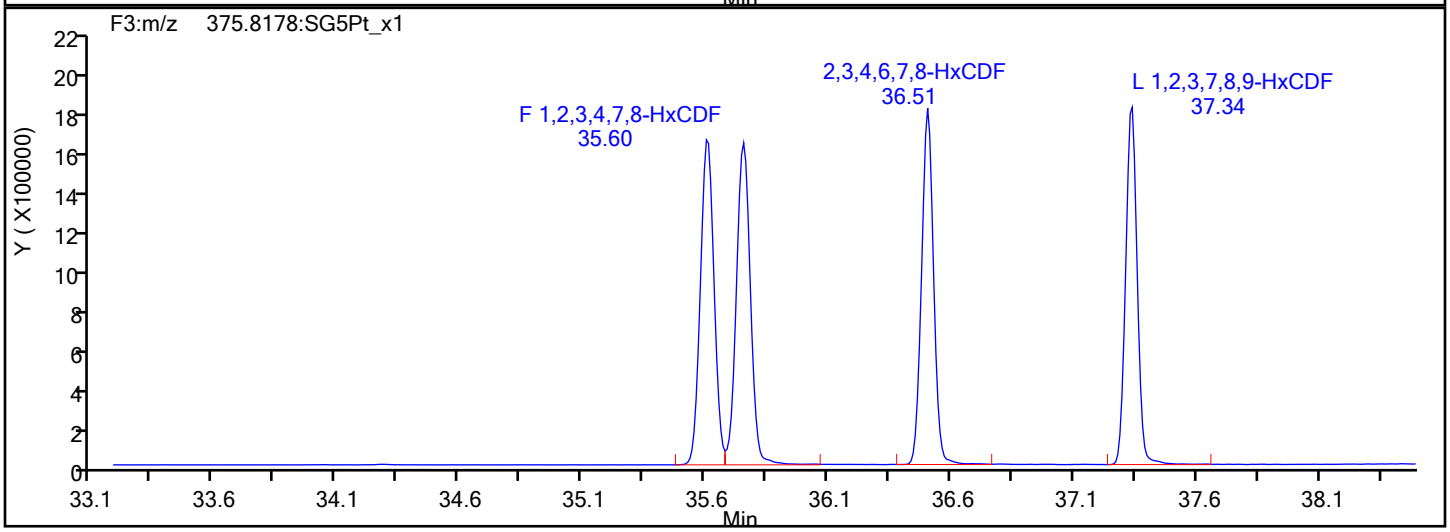
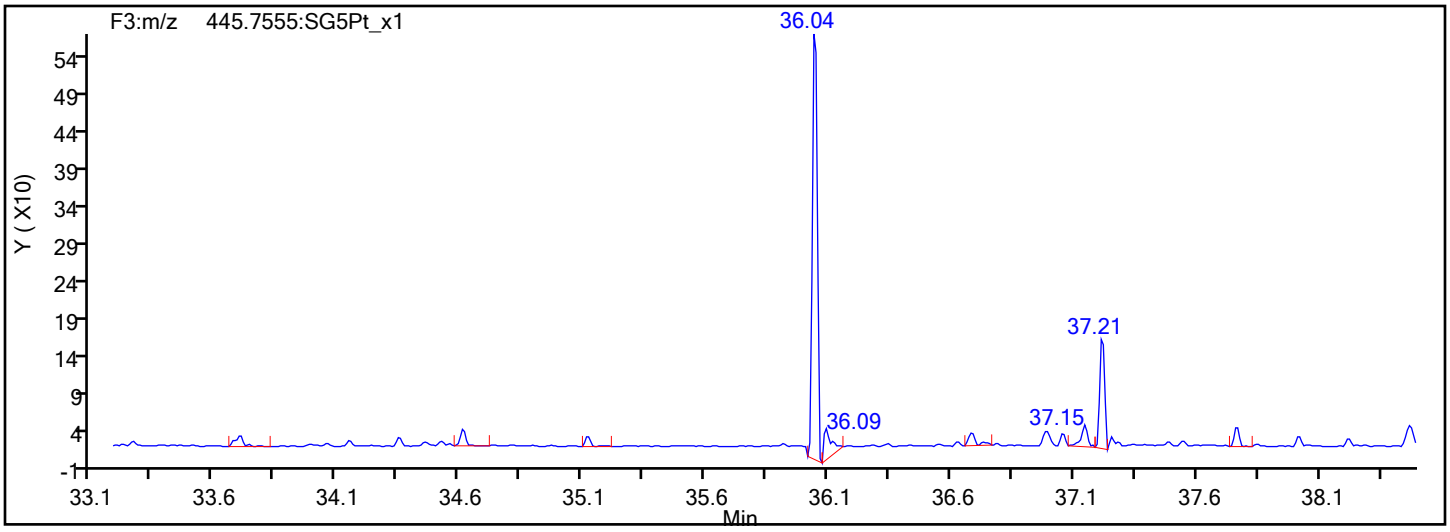




HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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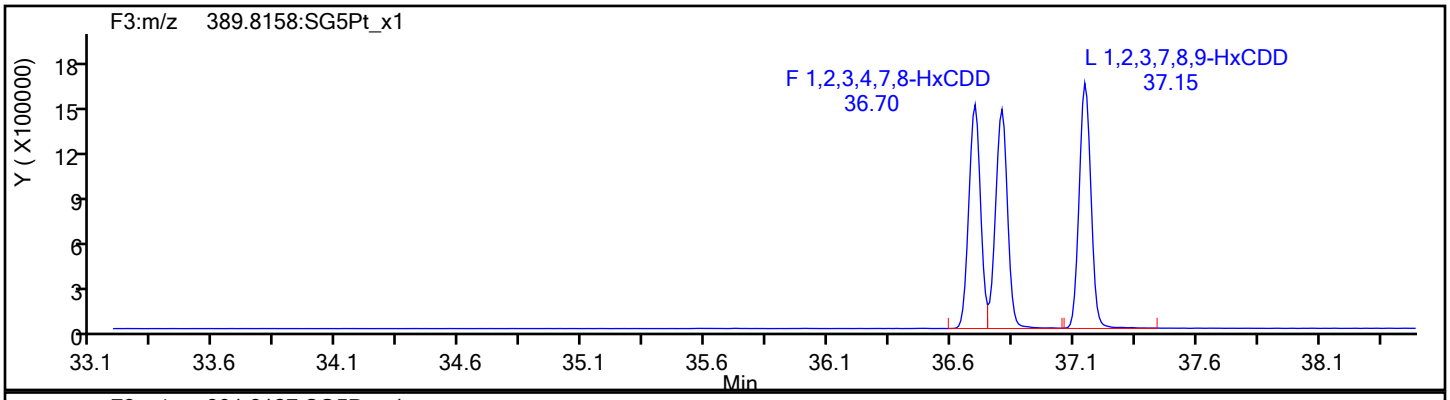
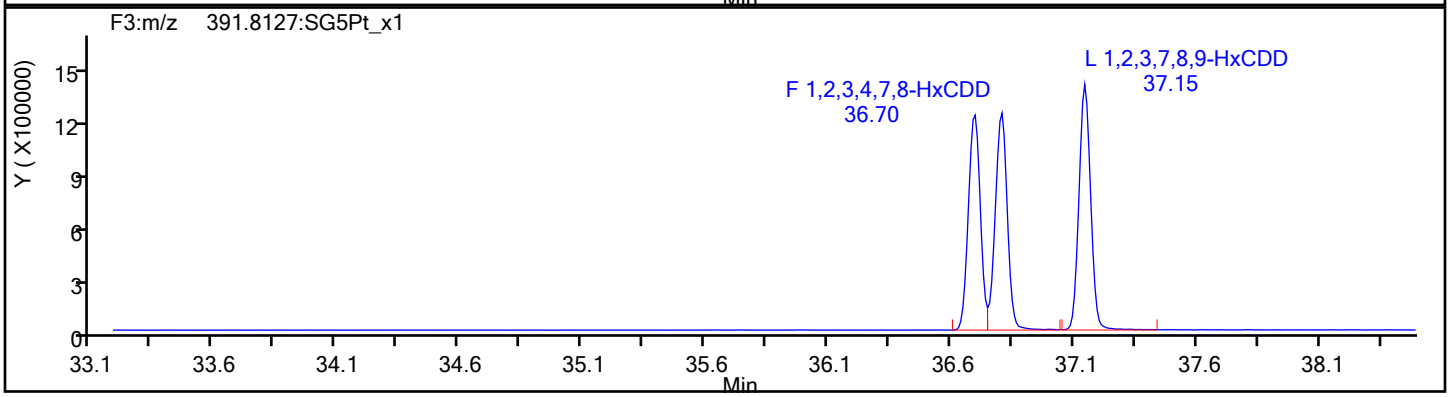
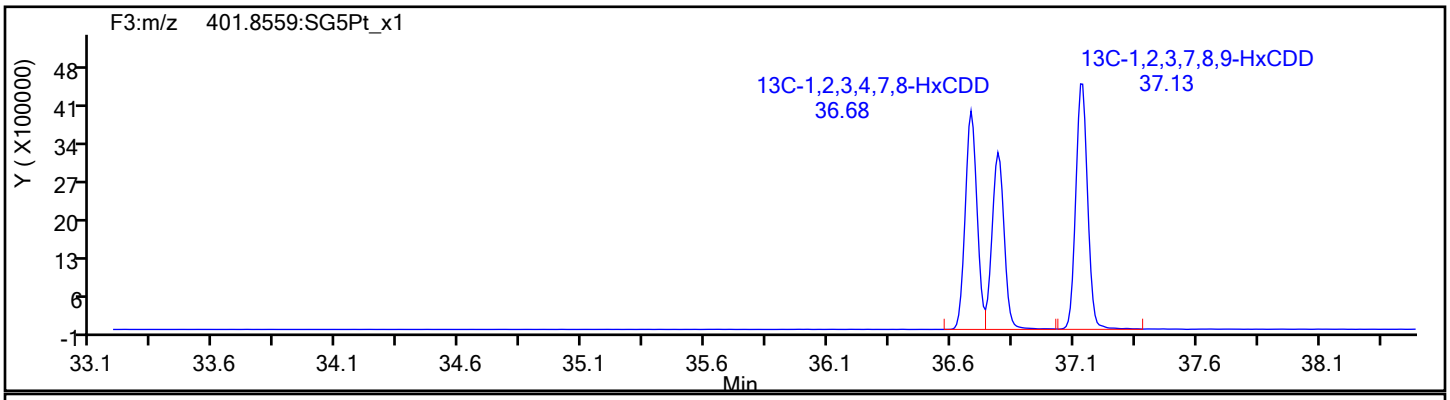
Column Type:	DB-5	Column Dia:	0.32 mm

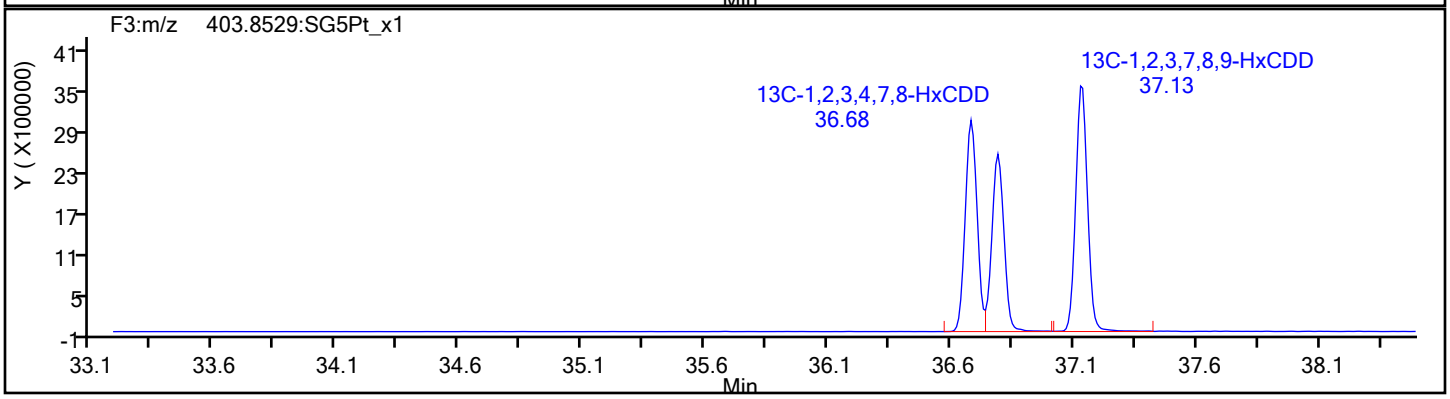
HxCDD





HxCDD Standards





Eurofins TestAmerica, Sacramento

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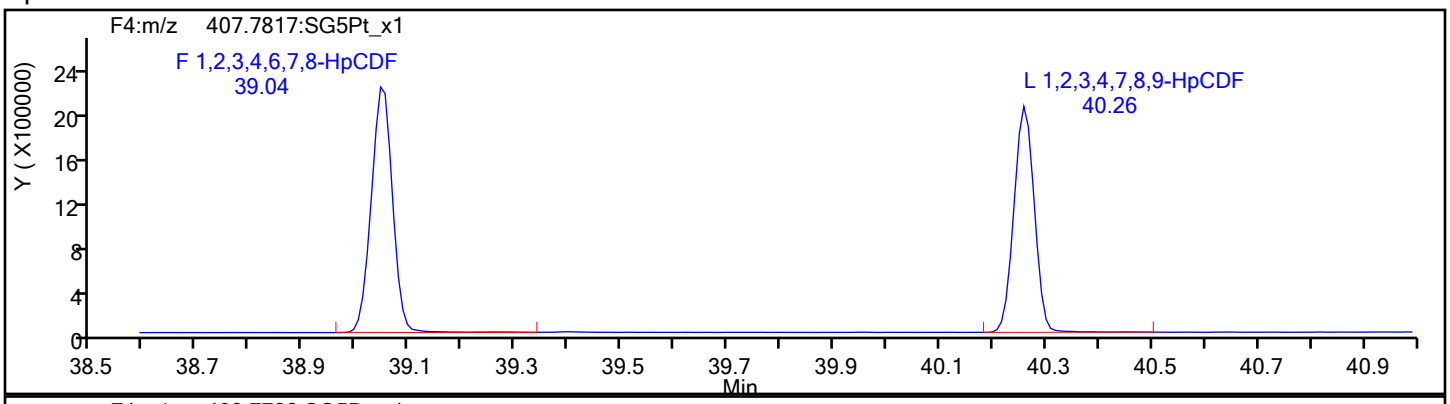
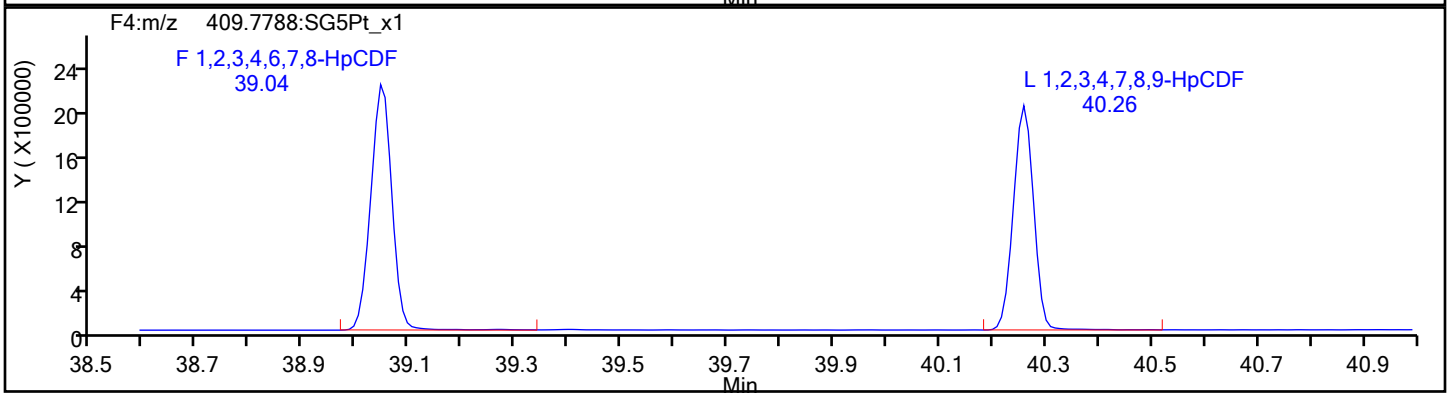
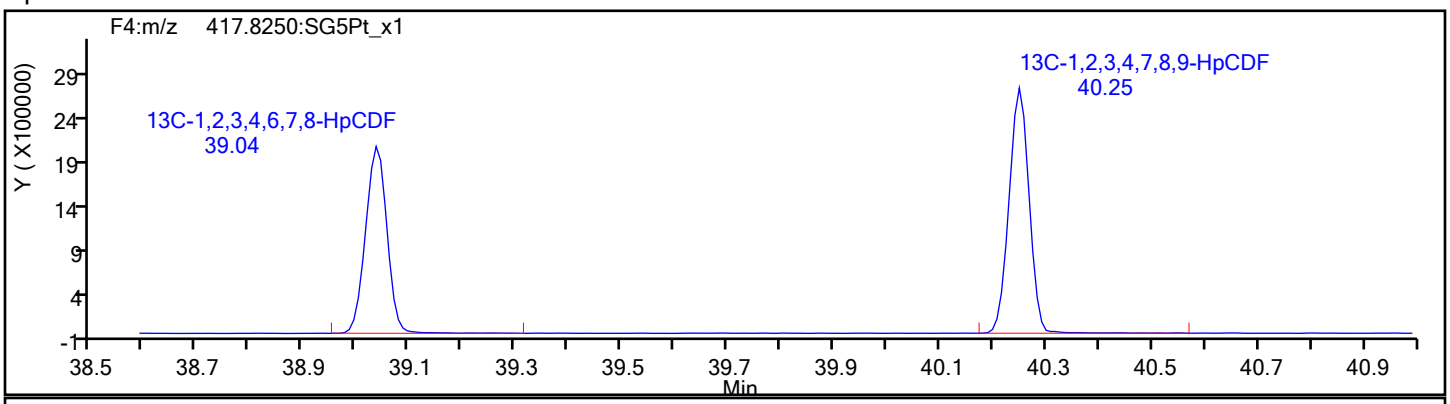
Column Type:	DB-5	Column Dia:	0.32 mm

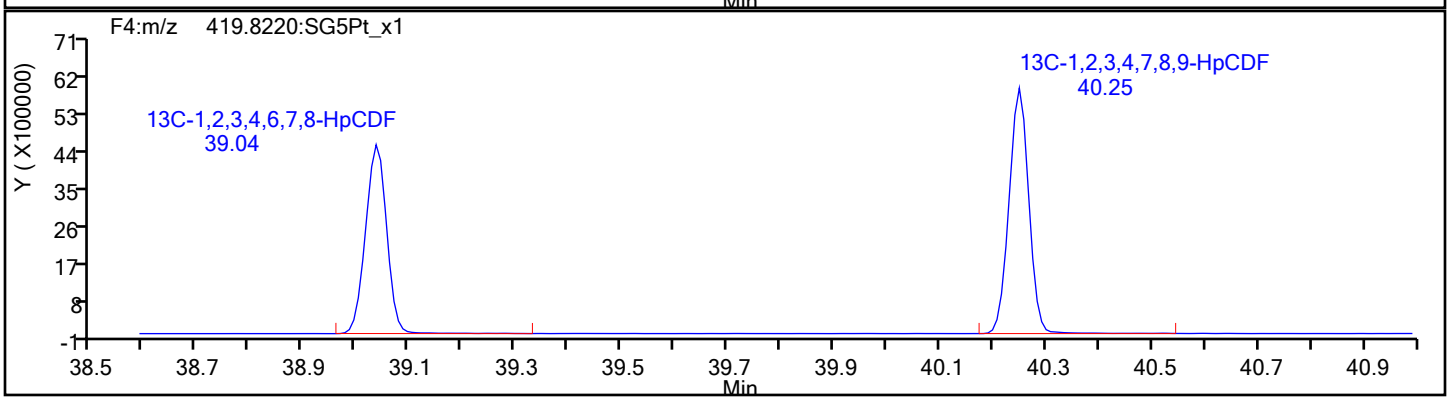
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

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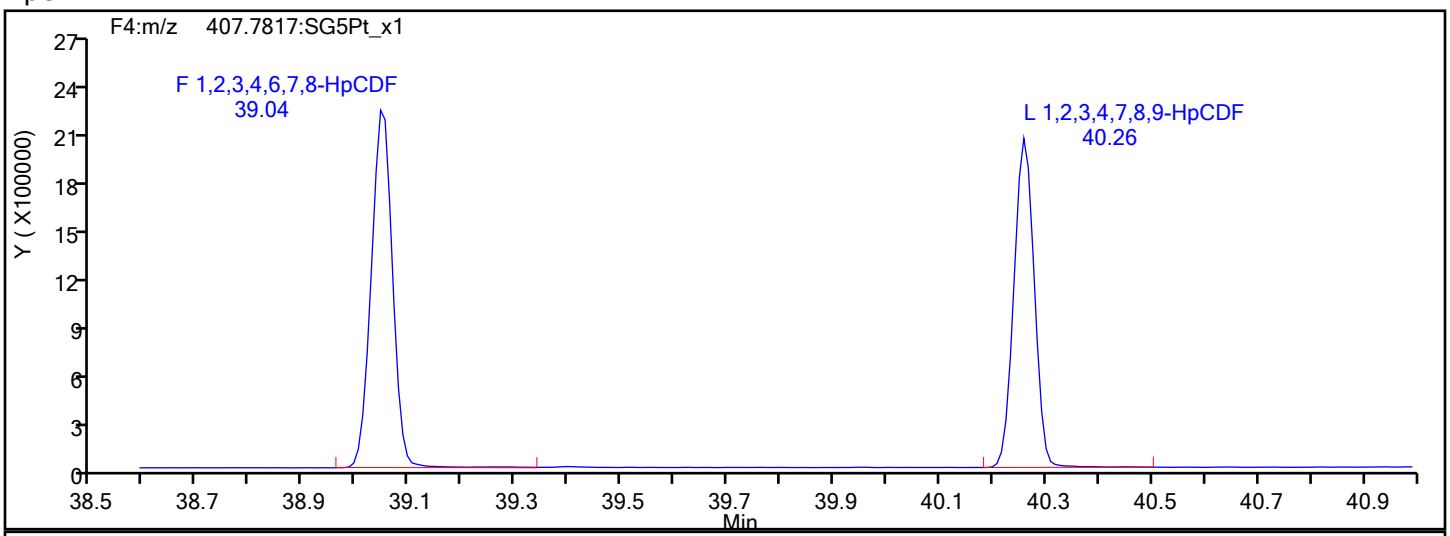
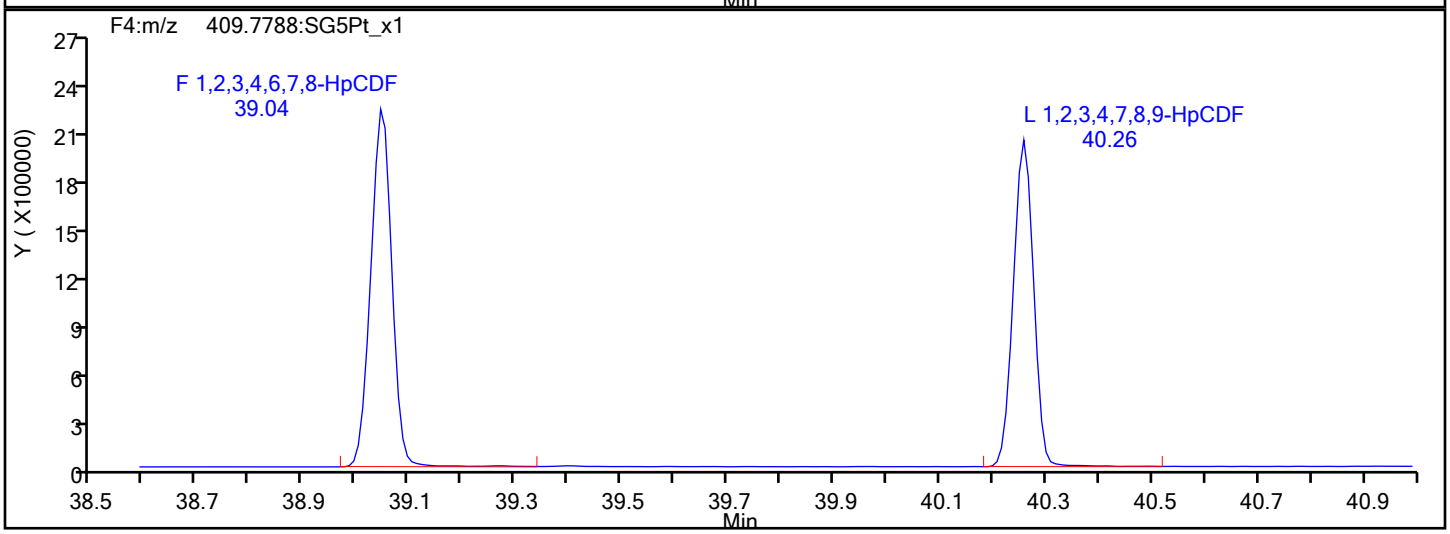
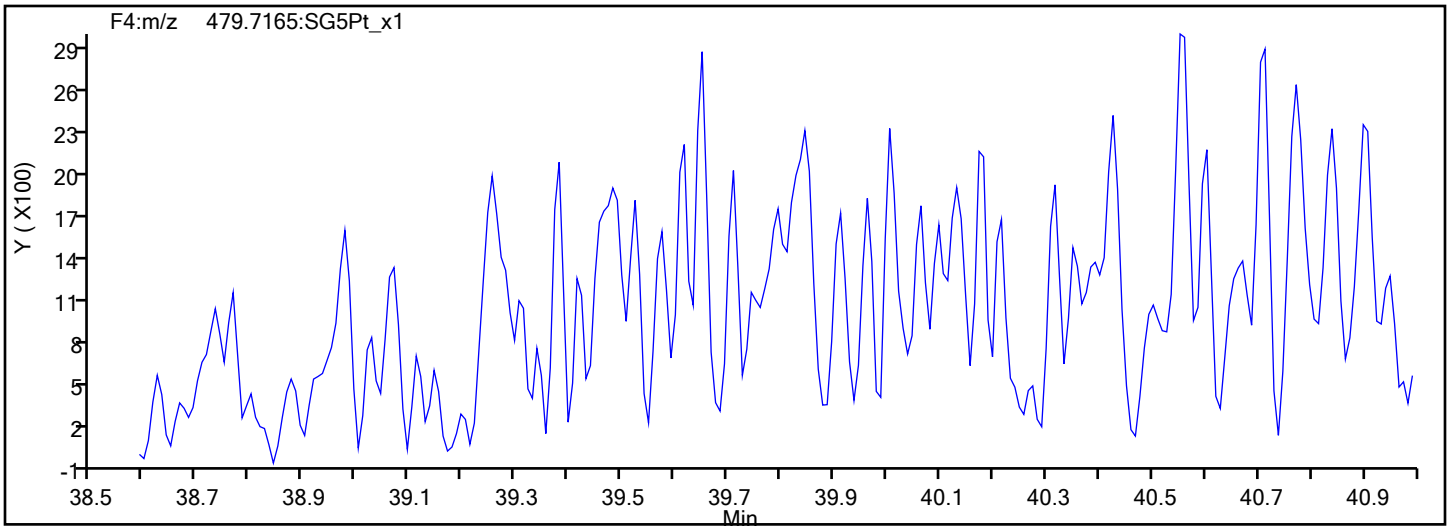
HpCDF





HpCDF Interference Mass



Eurofins TestAmerica, Sacramento

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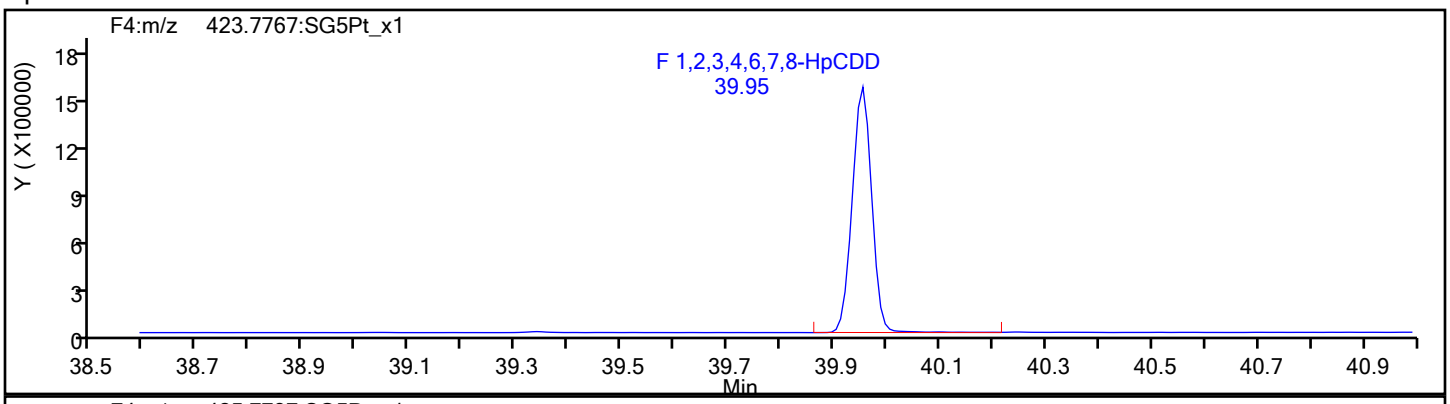
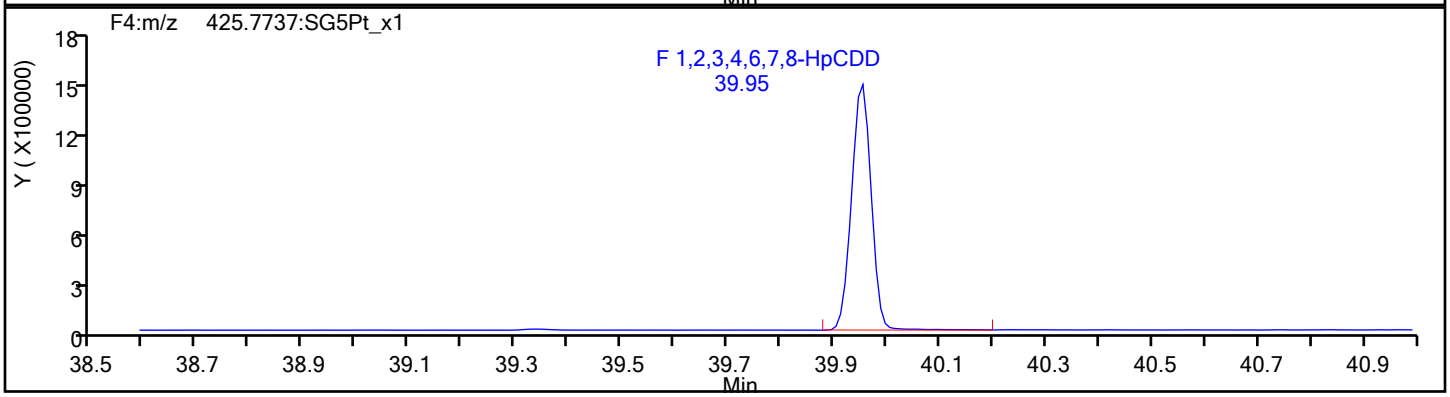
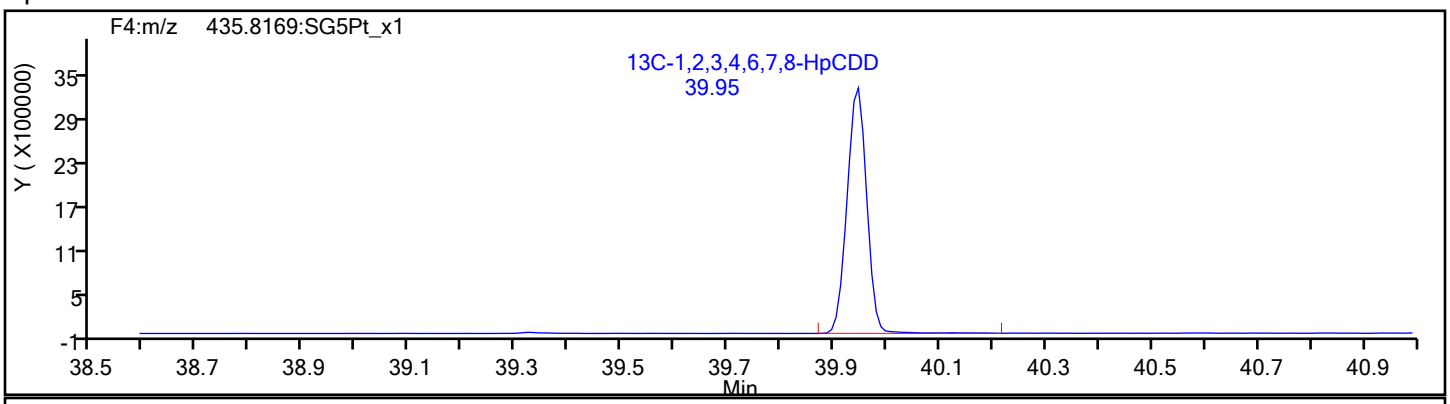
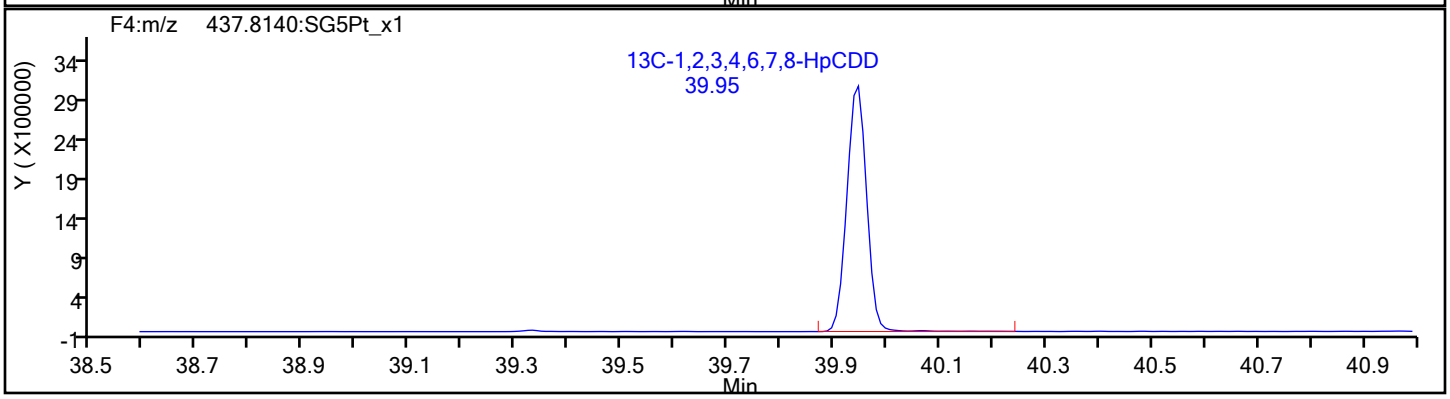
HpCDD





HpCDD Standards





Eurofins TestAmerica, Sacramento

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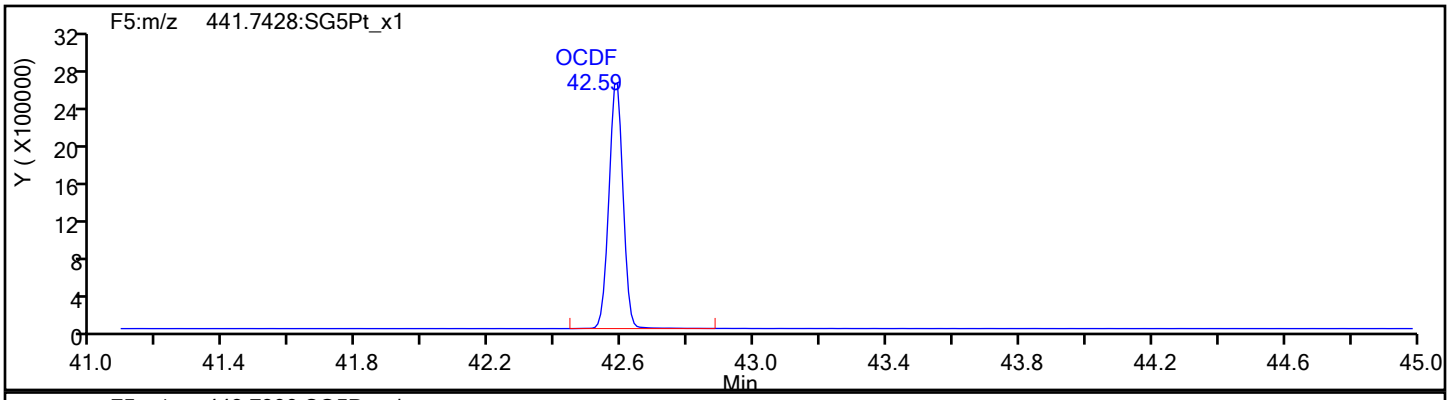
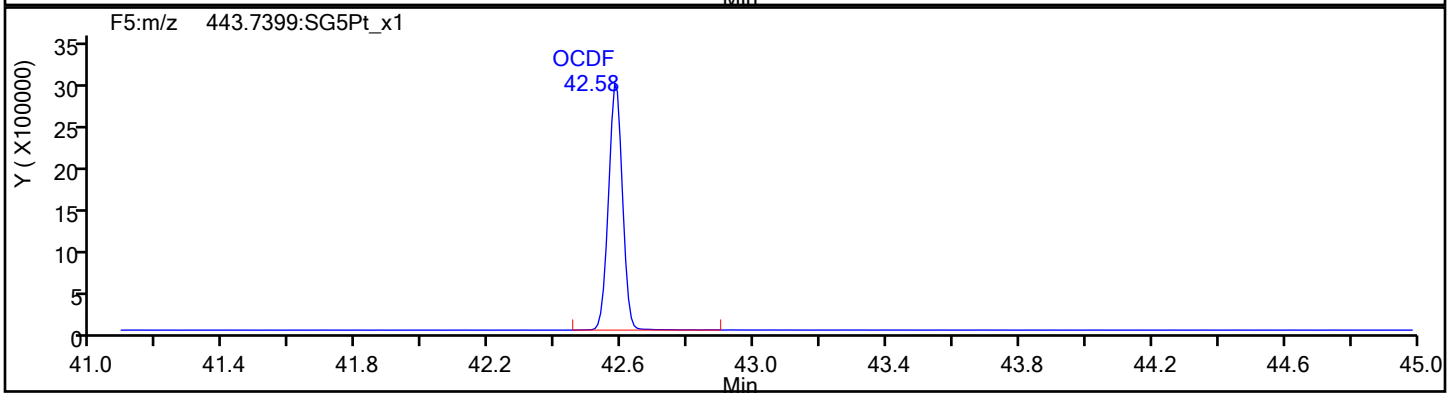
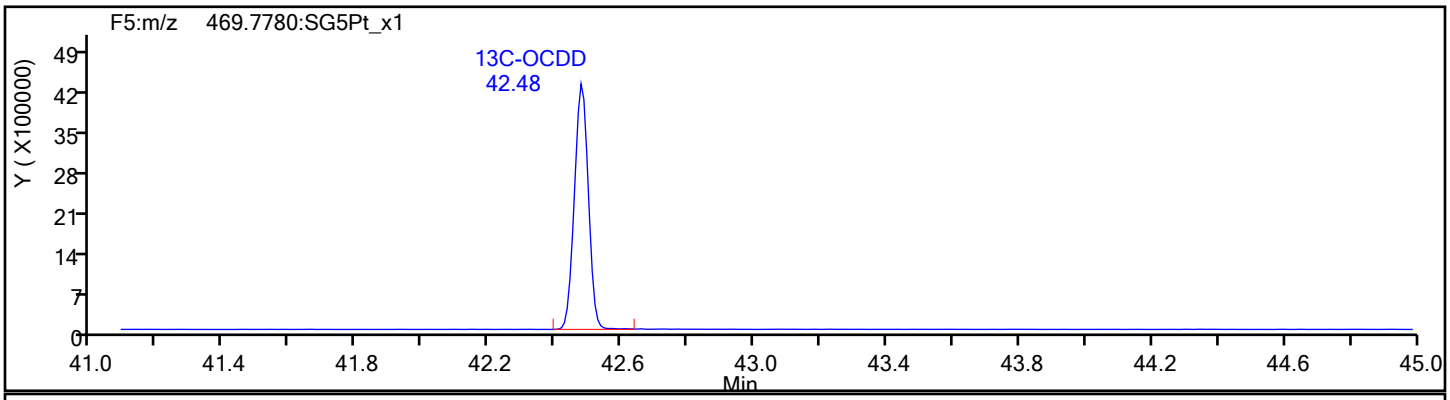
Column Type:	DB-5	Column Dia:	0.32 mm

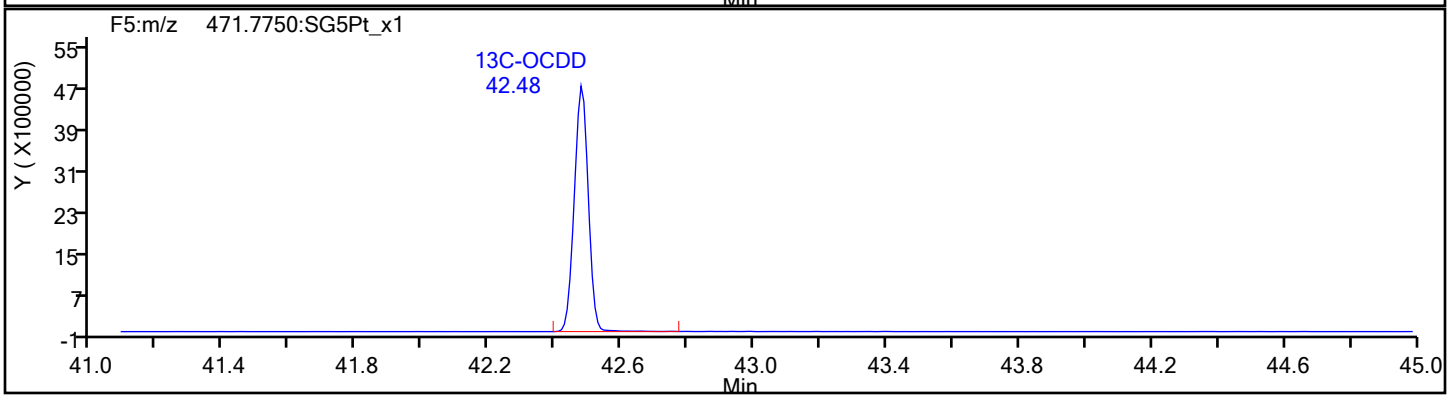
OCDF





OCDF Standards





Eurofins TestAmerica, Sacramento

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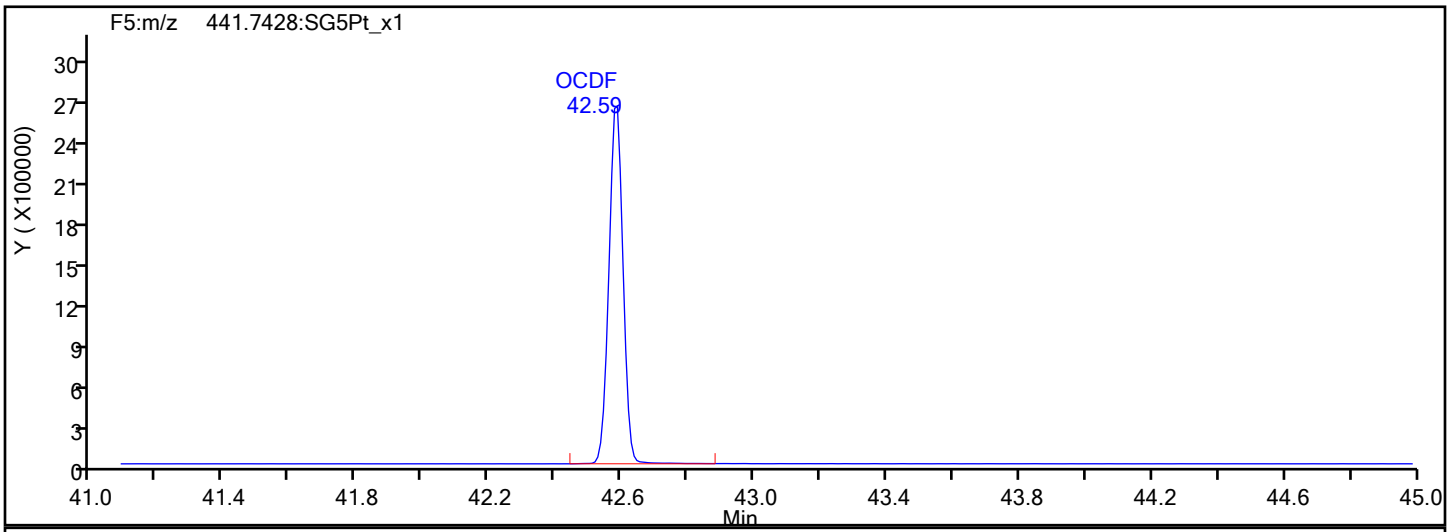
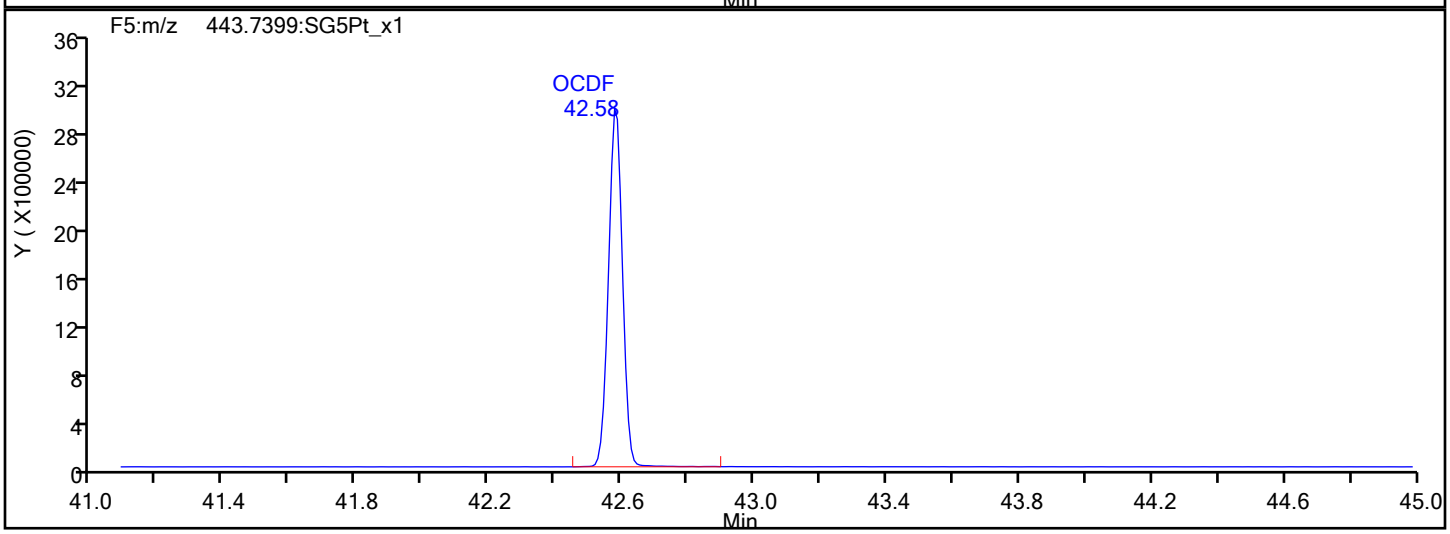
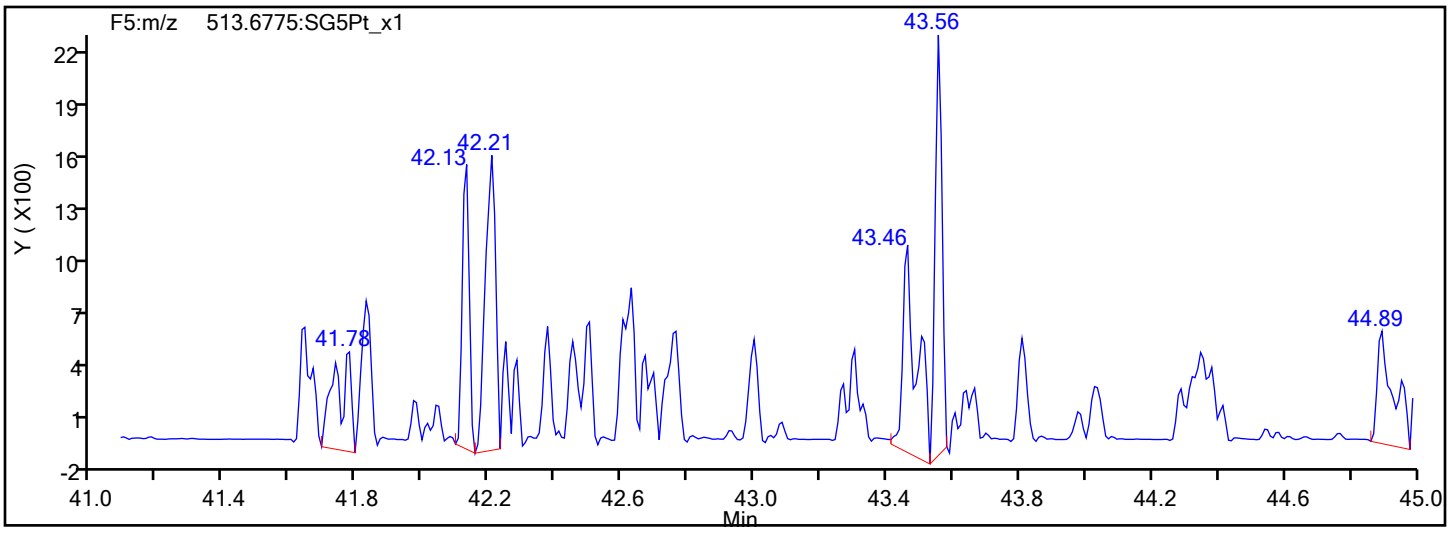




OCDF Interference Mass



Eurofins TestAmerica, Sacramento

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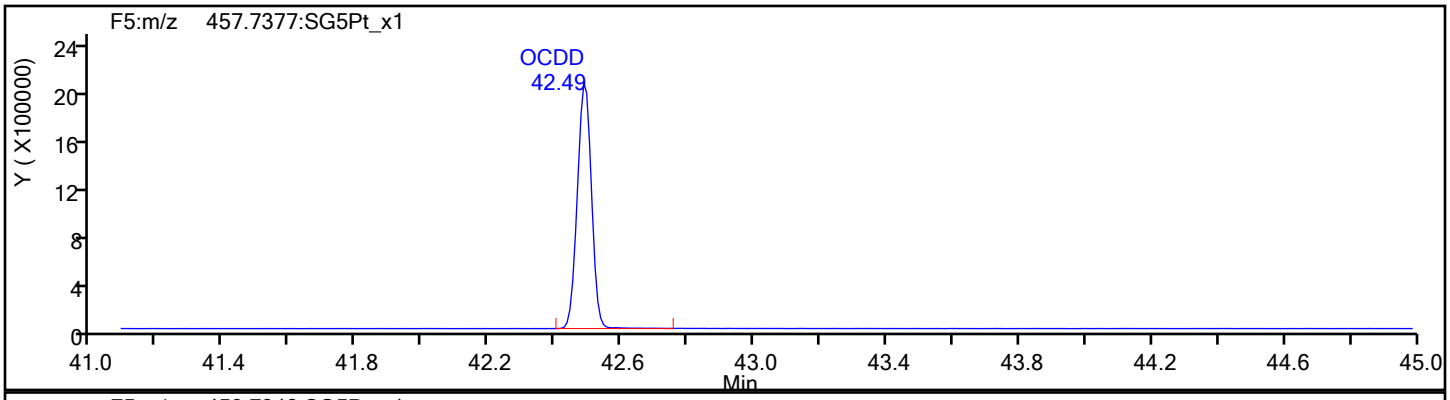
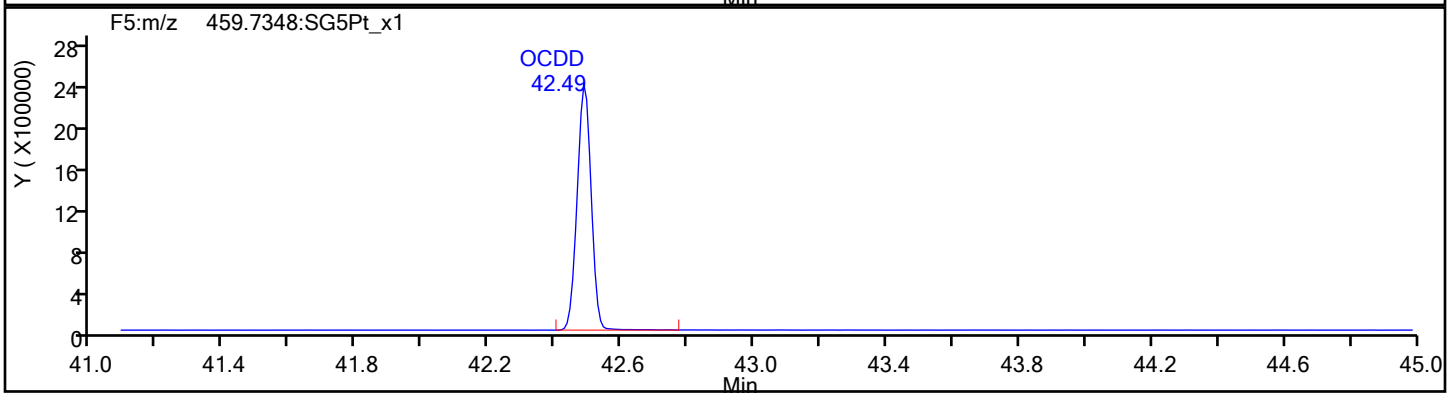
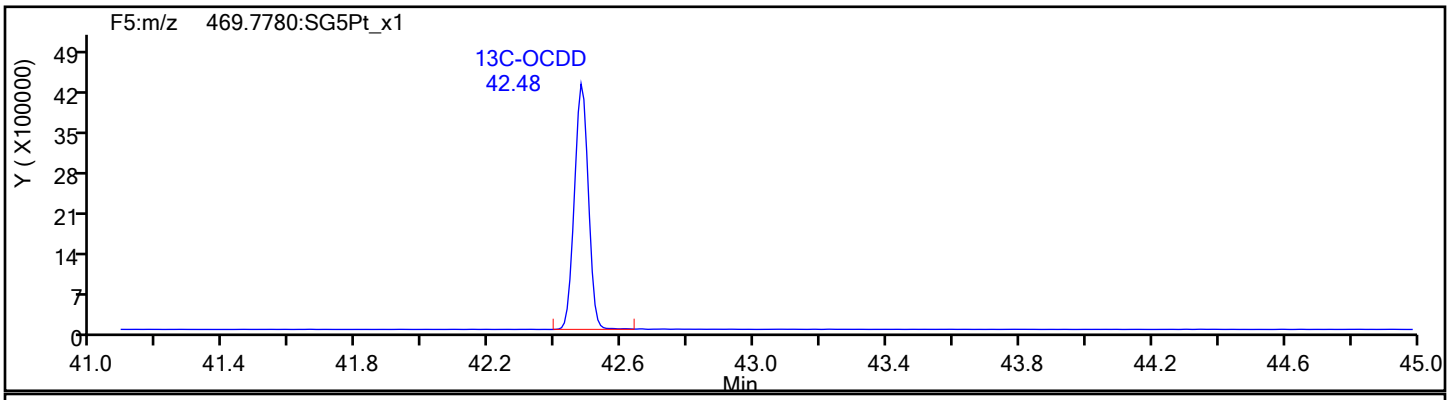
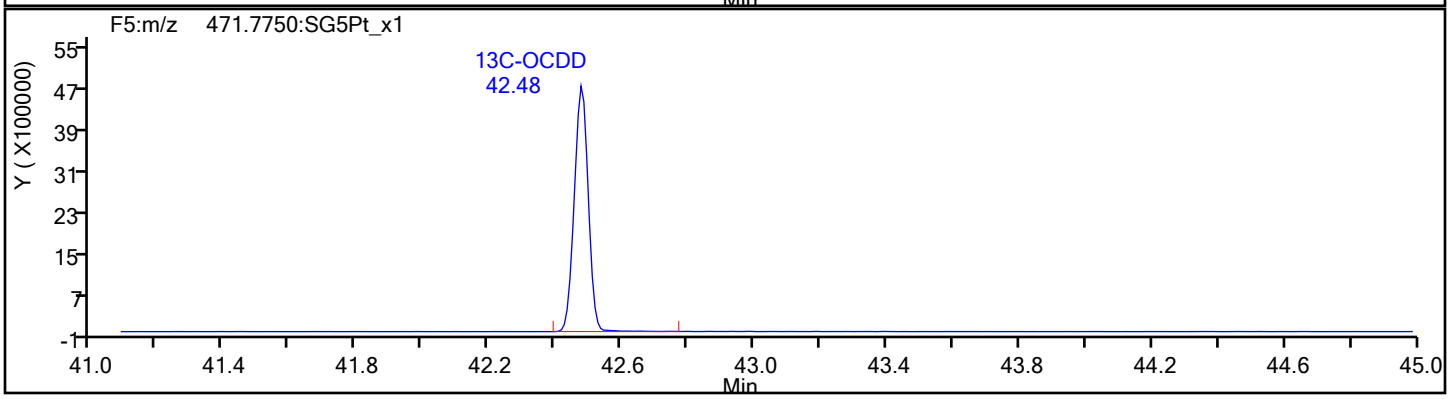
OCDD





OCDD Standards

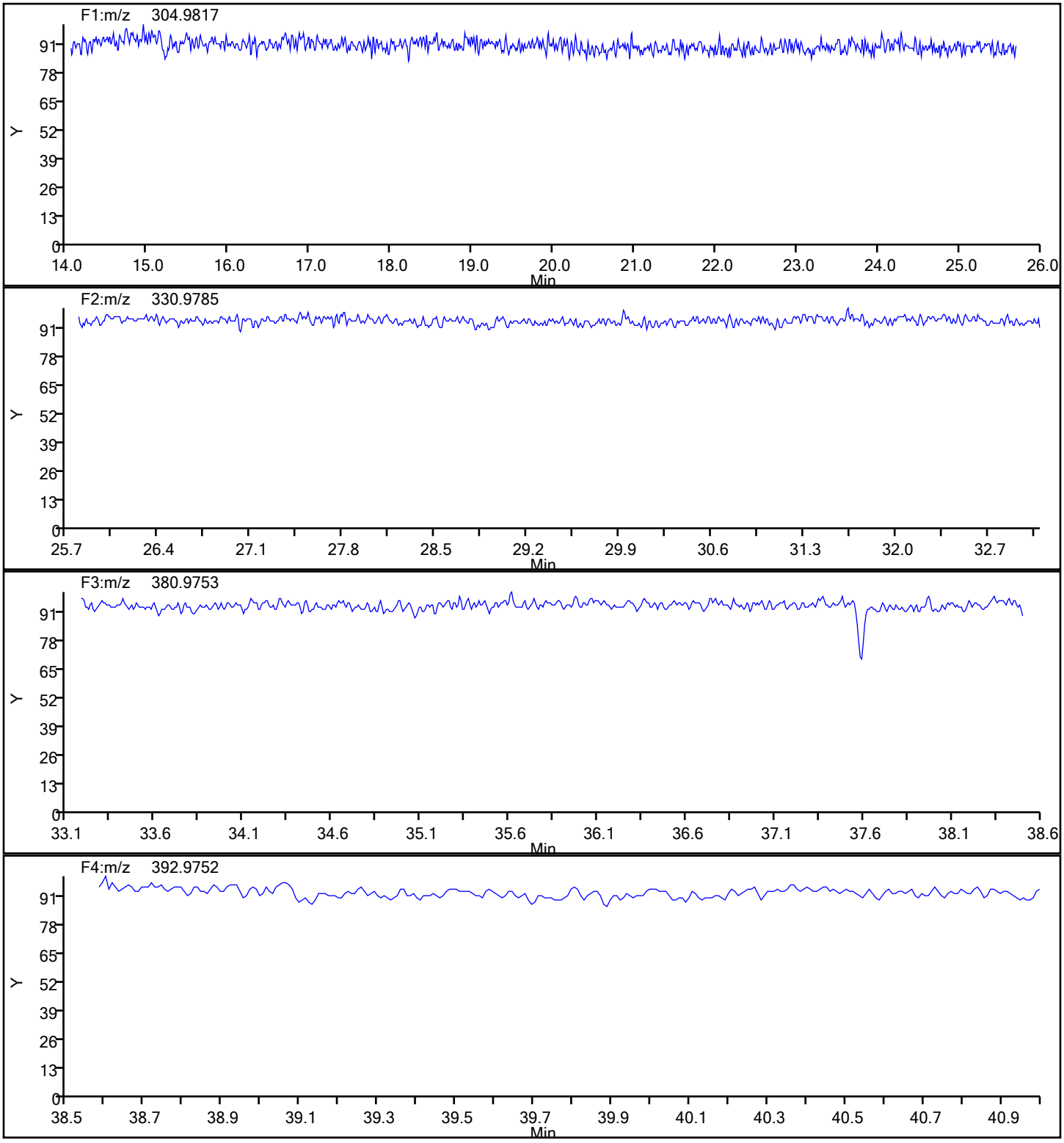




Report Date: 19-Nov-2021 11:38:47 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

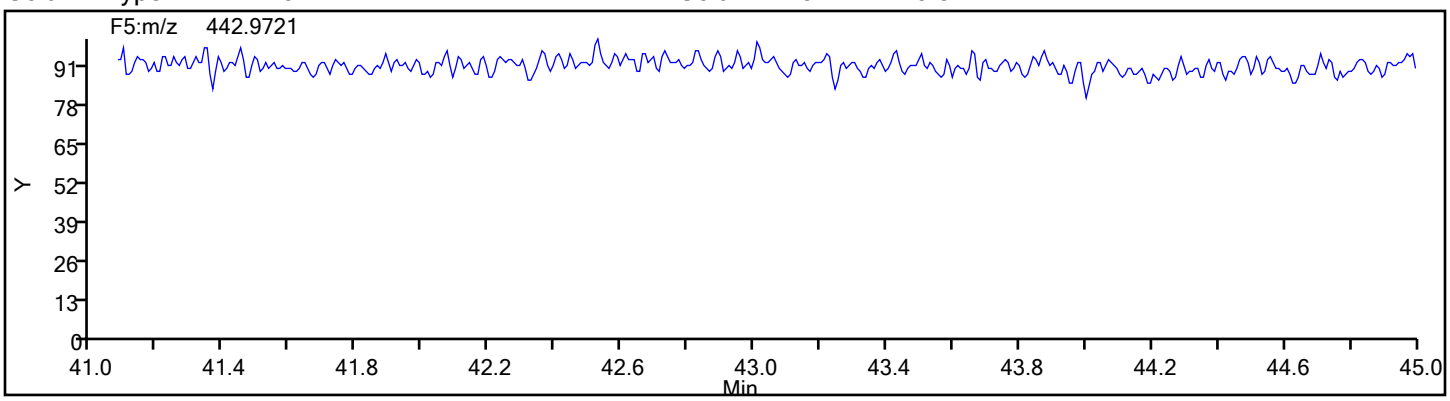
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_6.d		
Injection Date:	18-Nov-2021 17:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 19-Nov-2021 11:38:47 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_6.d		
Injection Date:	18-Nov-2021 17:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-Nov-2021 17:50:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS5_HRDXNL5_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 11:39:05 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 08:57:56

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	22.450	28891210	0.83	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	21.394	37215258	0.81	1.2917	99.7	99.7	0.2050	0.2050	99.72	
2,3,7,8-TCDF	21.419	16105861	0.76	1.1045	39.2	39.2	0.0485	0.0485	97.96	
S Total TCDF					39.2	39.2	0.0485	0.0485		
D 13C-2,3,7,8-TCDD	22.845	24135099	0.80	0.8271	101.0	101.0	0.1897	0.1897	101	
2,3,7,8-TCDD	22.889	11010844	0.80	1.1211	40.7	40.7	0.0562	0.0562	102	
$ 37Cl4-2,3,7,8-TCDD	22.889	10393211		0.8866	40.6	40.6	0.0328	0.0328	101	
S Total TCDD					40.7	40.7	0.0562	0.0562		
D 13C-1,2,3,7,8-PeCDF	28.223	34302010	1.56	1.1665	101.8	101.8	0.3634	0.3634	102	
1,2,3,7,8-PeCDF	28.248	71438807	1.57	1.0987	189.6	189.6	0.5026	0.5026	94.78	
D 13C-2,3,4,7,8-PeCDF	29.841	40893912	1.59							
2,3,4,7,8-PeCDF	29.866	69916108	1.57	1.0579	192.7	192.7	0.5220	0.5220	96.34	
S Total PeCDF					382.2	382.2	0.5123	0.5123		
D 13C-1,2,3,7,8-PeCDD	30.708	20551065	1.58	0.6835	104.1	104.1	0.1682	0.1682	104	
1,2,3,7,8-PeCDD	30.742	44369129	1.57	1.1030	195.7	195.7	0.1450	0.1450	97.87	
S Total PeCDD					195.7	195.7	0.1450	0.1450		
D 13C-1,2,3,4,7,8-HxCDF	35.591	38901018	0.52	1.1776	98.6	98.6	0.2111	0.2111	98.55	
1,2,3,4,7,8-HxCDF	35.608	70595232	1.21	0.9504	190.9	190.9	0.5301	0.5301	95.47	
D 13C-1,2,3,6,7,8-HxCDF	35.743	32194537	0.53							
1,2,3,6,7,8-HxCDF	35.751	72381699	1.22	0.9524	195.4	195.4	0.5290	0.5290	97.68	
D 13C-2,3,4,6,7,8-HxCDF	36.493	29786963	0.51							
2,3,4,6,7,8-HxCDF	36.501	66931319	1.20	0.8893	193.5	193.5	0.5665	0.5665	96.74	
D 13C-1,2,3,7,8,9-HxCDF	37.327	28241640	0.53							
1,2,3,7,8,9-HxCDF	37.336	62863874	1.21	0.8433	191.6	191.6	0.5974	0.5974	95.81	
S Total HxCDF					771.4	771.4	0.5557	0.5557		
* 13C-1,2,3,7,8,9-HxCDD	37.134	33519849	1.27	2.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	36.678	28031431	1.28							
1,2,3,4,7,8-HxCDD	36.695	47303224	1.26	1.0079	191.8	191.8	0.2519	0.2519	95.89	
D 13C-1,2,3,6,7,8-HxCDD	36.788	24472124	1.26	0.7339	99.5	99.5	0.1763	0.1763	99.48	
1,2,3,6,7,8-HxCDD	36.805	48767448	1.26	1.0111	197.1	197.1	0.2511	0.2511	98.54	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	37.142	52756967	1.26	1.0993	196.1	196.1	0.2309	0.2309	98.05	
S Total HxCDD					585.0	585.0	0.2446	0.2446		
D 13C-1,2,3,4,6,7,8-HpCDF	39.035	22075088	0.45	0.6698	98.3	98.3	0.2655	0.2655	98.32	
1,2,3,4,6,7,8-HpCDF	39.043	66304440	1.03	1.5184	197.8	197.8	0.5225	0.5225	98.91	
D 13C-1,2,3,4,7,8,9-HpCDF	40.248	25669178	0.46							
1,2,3,4,7,8,9-HpCDF	40.257	58984877	1.05	1.3387	199.6	199.6	0.5926	0.5926	99.80	
S Total HpCDF					397.4	397.4	0.5576	0.5576		
D 13C-1,2,3,4,6,7,8-HpCDD	39.937	19140309	1.07	0.5943	96.1	96.1	0.2128	0.2128	96.08	
1,2,3,4,6,7,8-HpCDD	39.953	41452939	1.06	1.0953	197.7	197.7	0.3091	0.3091	98.87	
S Total HpCDD					197.7	197.7	0.3091	0.3091		
D 13C-OCDD	42.475	32835195	0.91	0.4838	202.5	202.5	0.1894	0.1894	101	
OCDF	42.576	89466394	0.87	1.3979	389.8	389.8	0.1620	0.1620	97.46	
OCDD	42.484	70253771	0.89	1.1116	385.0	385.0	0.1840	0.1840	96.24	

QC Flag Legend

Processing Flags

Reagents:

HRDXNL5_00033 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-Nov-2021 17:50:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS5_HRDXNL5_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 11:39:05 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 08:57:56

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	22.450	22.456	0		13093379	1815595	1753	4382	1036		
333.9338	22.442	22.456	-1		15797831	2177851	754	1885	2888	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	21.394	21.398	0	0.953	16692154	2447047	2816	7040	869		
317.9389	21.394	21.398	0	0.953	20523104	2997279	1415	3537	2118	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	21.419	21.426	0	1.001	6969374	1015269	463	1157	2193		
305.8987	21.419	21.426	0	1.001	9136487	1326016	703	1757	1886	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	22.845	22.855	-1	1.018	10708702	1454677	1753	4382	830		
333.9338	22.854	22.855	0	1.018	13426397	1800484	754	1885	2388	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	22.889	22.887	0	1.002	4892003	666773	547	1367	1219		
321.8936	22.889	22.887	0	1.002	6118841	841202	274	685	3070	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	22.889	22.891	0	1.020	10393211	1426124	464	1160	3074		
13C-1,2,3,7,8-PeCDF											
351.9000	28.223	28.227	0	1.257	20915397	3481247	3995	9987	871		
353.8970	28.223	28.227	0	1.257	13386613	2221636	2776	6940	800	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	28.248	28.252	0	1.001	43685853	7258622	7580	18950	958		
341.8567	28.248	28.252	0	1.001	27752954	4581049	5016	12540	913	1.57(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	29.841	29.841	0	1.329	25090079	3830629	3995	9987	959		
353.8970	29.841	29.841	0	1.329	15803833	2393855	2776	6940	862	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	29.866	29.871	0	1.001	42709945	6764074	7580	18950	892		
341.8567	29.866	29.871	0	1.001	27206163	4245455	5016	12540	846	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	30.708	30.710	0	1.368	12578816	1795042	1185	2962	1515		
369.8919	30.717	30.710	0	1.368	7972249	1141334	652	1630	1751	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	30.742	30.739	0	1.001	27109875	3885956	1227	3067	3167		
357.8516	30.742	30.739	0	1.001	17259254	2454642	651	1627	3771	1.57(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	35.591	35.596	0	0.958	13374927	3473971	3483	8707	997		
385.8610	35.591	35.596	0	0.958	25526091	6701266	6904	17260	971	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	35.608	35.611	0	1.000	38632243	10393047	11234	28085	925		
375.8178	35.608	35.611	0	1.000	31962989	8517074	9271	23177	919	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	35.743	35.743	0	0.963	11142003	2856176	3483	8707	820		
385.8610	35.734	35.743	-1	0.962	21052534	5423477	6904	17260	786	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	35.751	35.758	0	1.000	39738763	10626398	11234	28085	946		
375.8178	35.751	35.758	0	1.000	32642936	8681369	9271	23177	936	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	36.493	36.495	0	0.983	10103435	2964287	3483	8707	851		
385.8610	36.493	36.495	0	0.983	19683528	5798225	6904	17260	840	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	36.501	36.510	-1	1.000	36464214	10887182	11234	28085	969		
375.8178	36.501	36.510	-1	1.000	30467105	9284483	9271	23177	1001	1.20(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	37.327	37.329	0	1.005	9746253	2963088	3483	8707	851		
385.8610	37.319	37.329	-1	1.005	18495387	5760858	6904	17260	834	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	37.336	37.344	0	1.000	34463972	11169849	11234	28085	994		
375.8178	37.336	37.344	0	1.000	28399902	9169402	9271	23177	989	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	37.134	37.140	0		18771648	5876373	2989	7472	1966		
403.8529	37.134	37.140	0		14748201	4571017	2417	6042	1891	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	36.678	36.687	-1	0.988	15749697	4732936	2989	7472	1583		
403.8529	36.678	36.687	-1	0.988	12281734	3590197	2417	6042	1485	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	36.695	36.704	0	1.000	26358873	7955021	4090	10225	1945		
391.8127	36.695	36.704	0	1.000	20944351	6278804	3119	7797	2013	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.788	36.796	0	0.991	13647100	3937515	2989	7472	1317		
403.8529	36.788	36.796	0	0.991	10825024	3162099	2417	6042	1308	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	36.805	36.813	0	1.000	27172297	8109810	4090	10225	1983		
391.8127	36.805	36.813	0	1.000	21595151	6433230	3119	7797	2063	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	37.142	37.150	0	1.013	29419685	9136241	4090	10225	2234		
391.8127	37.142	37.150	0	1.013	23337282	7262321	3119	7797	2328	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	39.035	39.042	0	1.051	6874731	2388261	3171	7927	753		
419.8220	39.035	39.042	0	1.051	15200357	5423810	4261	10652	1273	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	39.043	39.053	-1	1.000	33668278	12384393	13046	32615	949		
409.7788	39.043	39.053	-1	1.000	32636162	12083017	11746	29365	1029	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	40.248	40.256	0	1.084	8077146	3026304	3171	7927	954		
419.8220	40.248	40.256	0	1.084	17592032	6706724	4261	10652	1574	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	40.257	40.264	0	1.000	30161400	11701679	13046	32615	897		
409.7788	40.257	40.264	0	1.000	28823477	11130599	11746	29365	948	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.937	39.949	-1	1.075	9897813	3798227	2725	6812	1394		
437.8140	39.937	39.949	-1	1.075	9242496	3560937	2559	6397	1392	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.953	39.959	0	1.000	21299367	8203521	5156	12890	1591		
425.7737	39.945	39.959	-1	1.000	20153572	7778733	4810	12025	1617	1.06(0.88-1.20)	
13C-OCDD											
469.7780	42.475	42.485	-1	1.144	15675340	5417863	2198	5495	2465		
471.7750	42.475	42.485	-1	1.144	17159855	5919237	1631	4077	3629	0.91(0.76-1.02)	
OCDF											
441.7428	42.576	42.589	-1	1.002	41654949	14128255	2270	5675	6224		
443.7399	42.576	42.589	-1	1.002	47811445	16178623	2864	7160	5649	0.87(0.76-1.02)	
OCDD											
457.7377	42.484	42.495	-1	1.000	33046016	11693012	2281	5702	5126		
459.7348	42.484	42.495	-1	1.000	37207755	13172927	2357	5892	5589	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

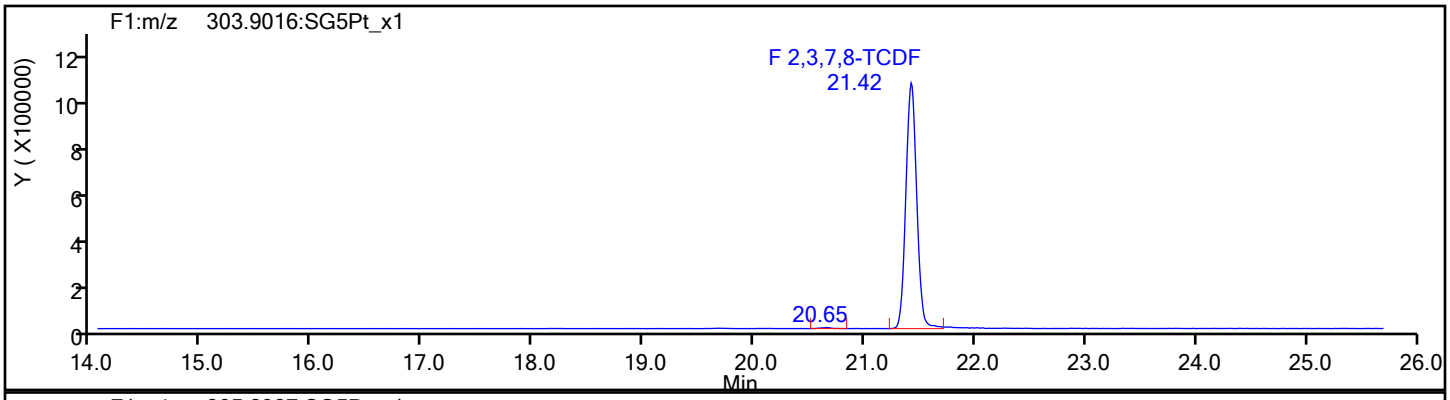
Reagents:

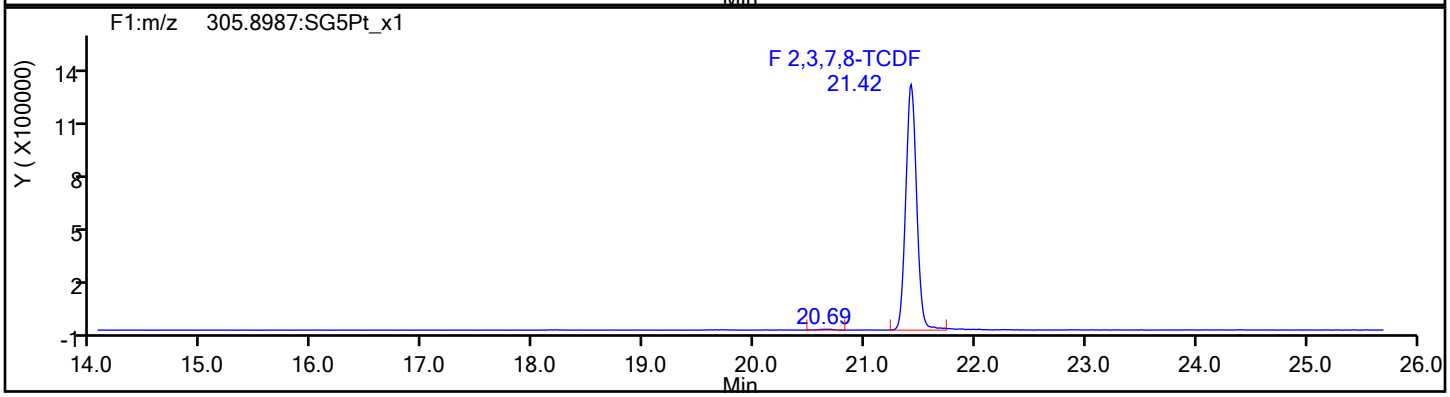
HRDXNL5_00033 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento

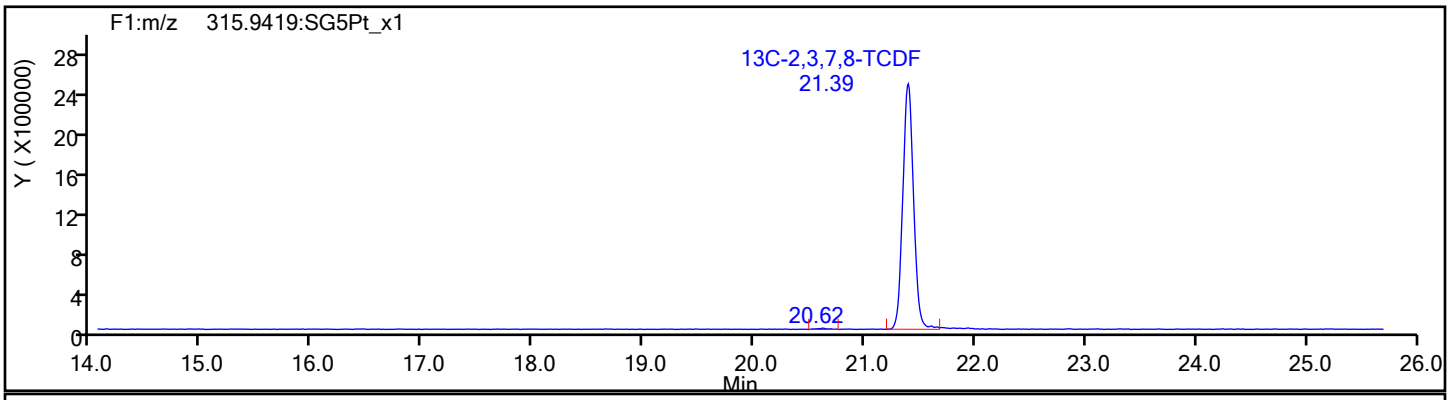
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
Injection Date:	18-Nov-2021 17:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

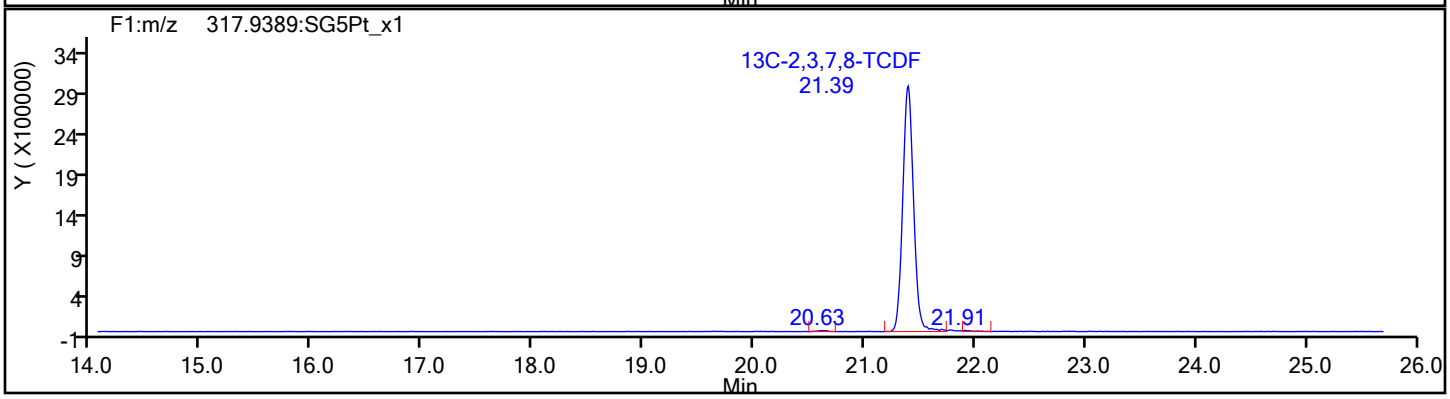
TCDF





TCDF Standards

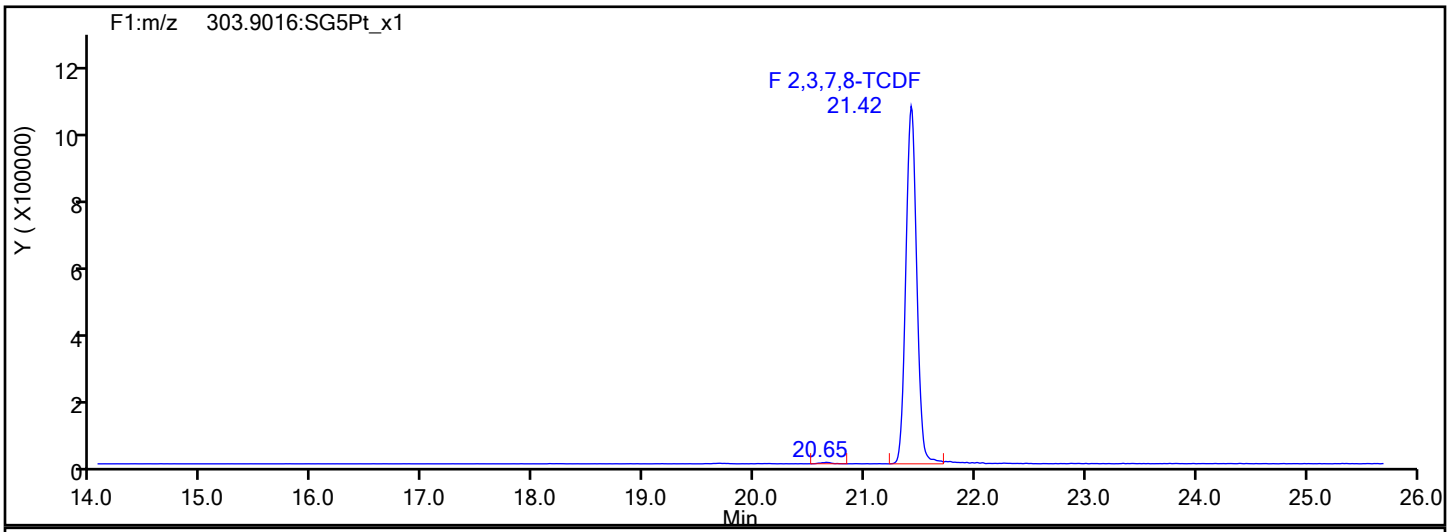


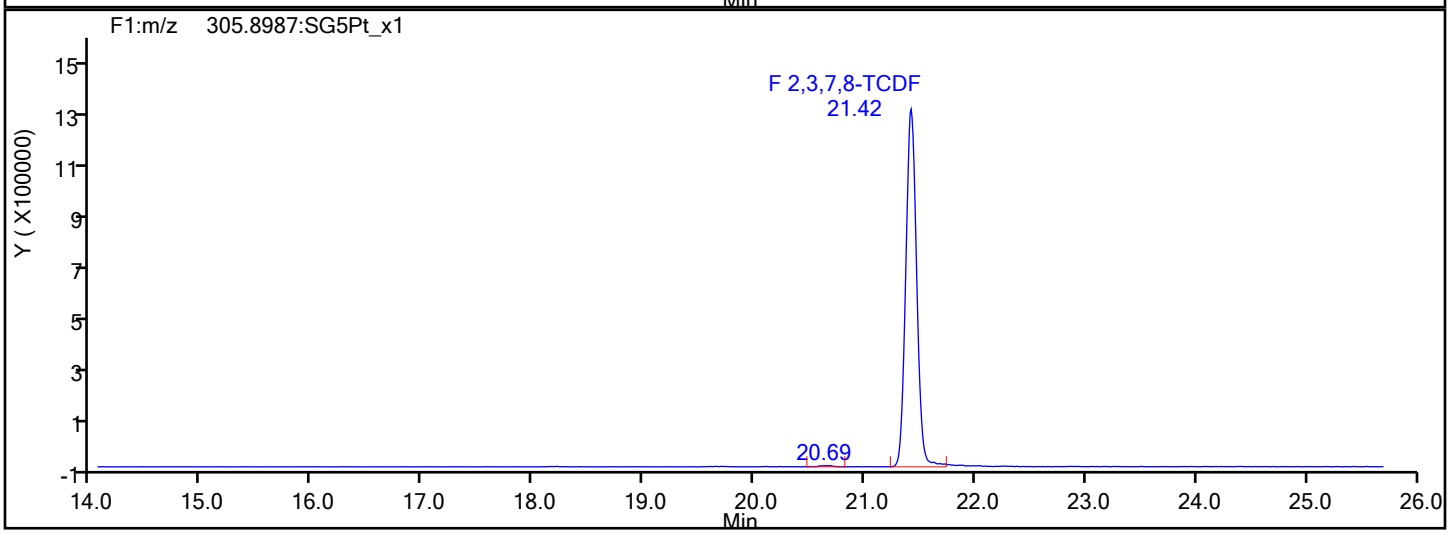


Eurofins TestAmerica, Sacramento

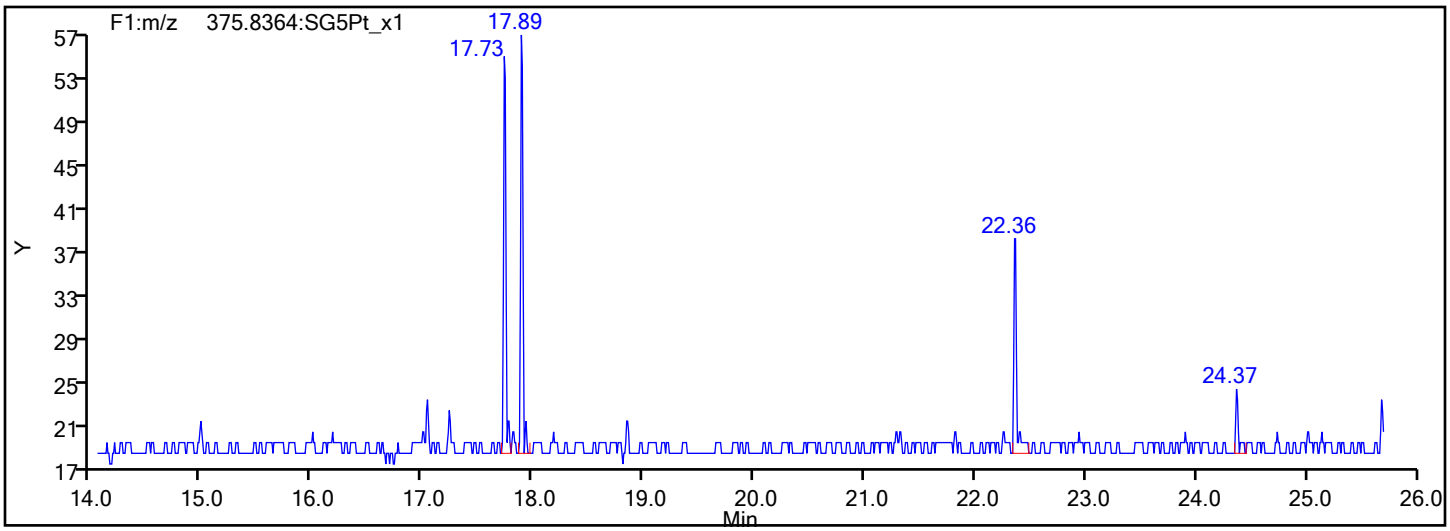
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
Injection Date:	18-Nov-2021 17:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
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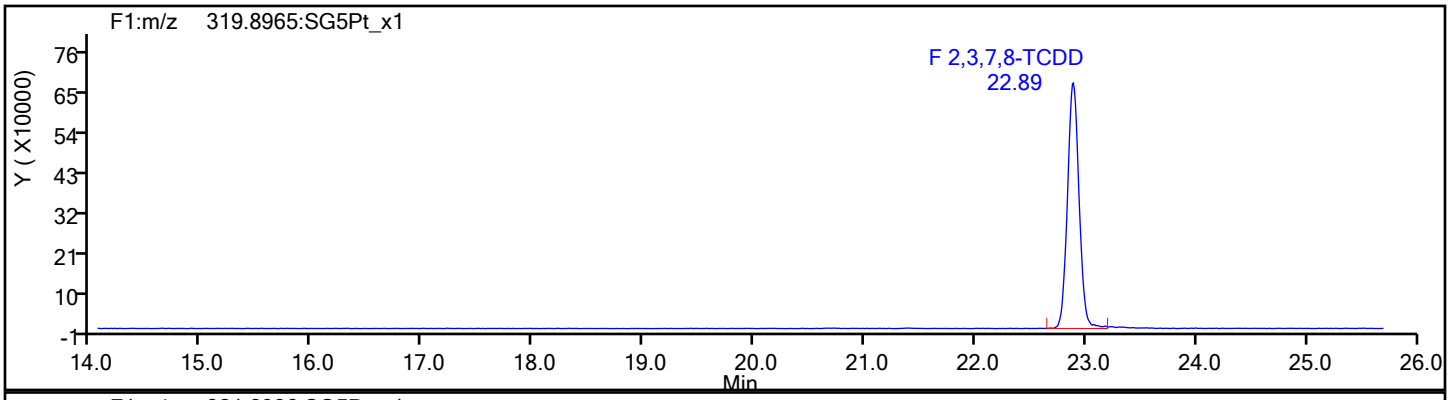
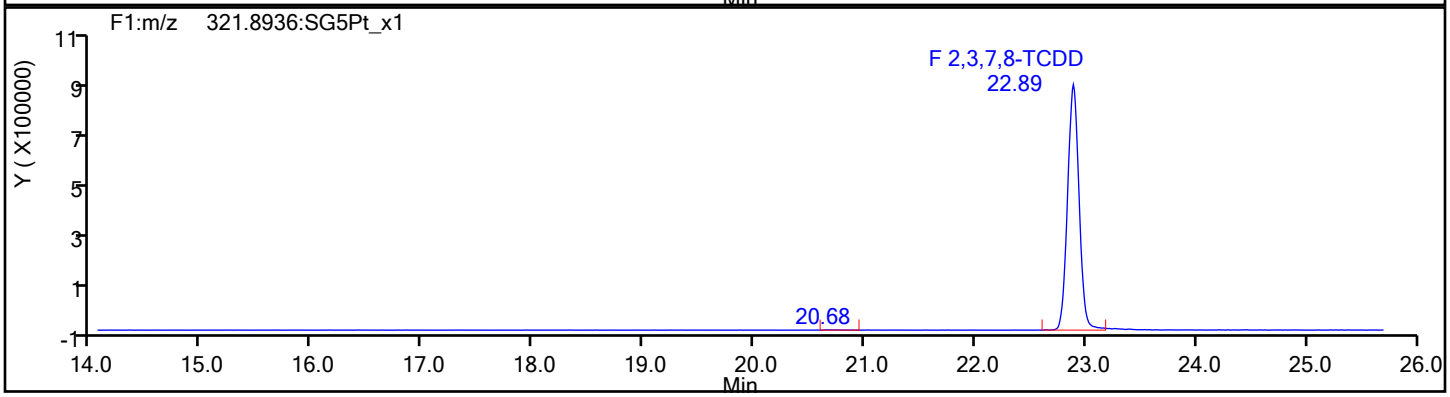
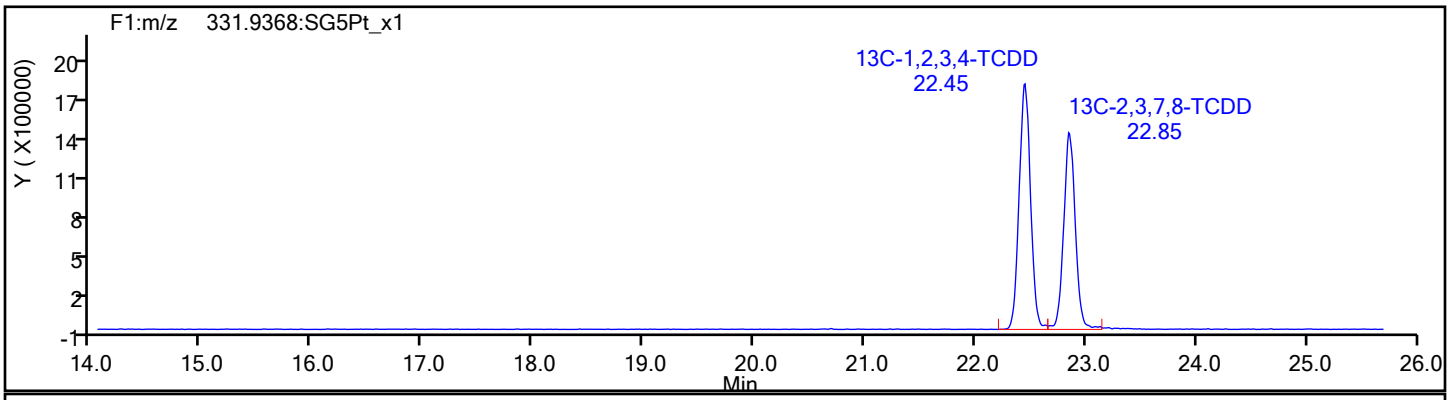
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

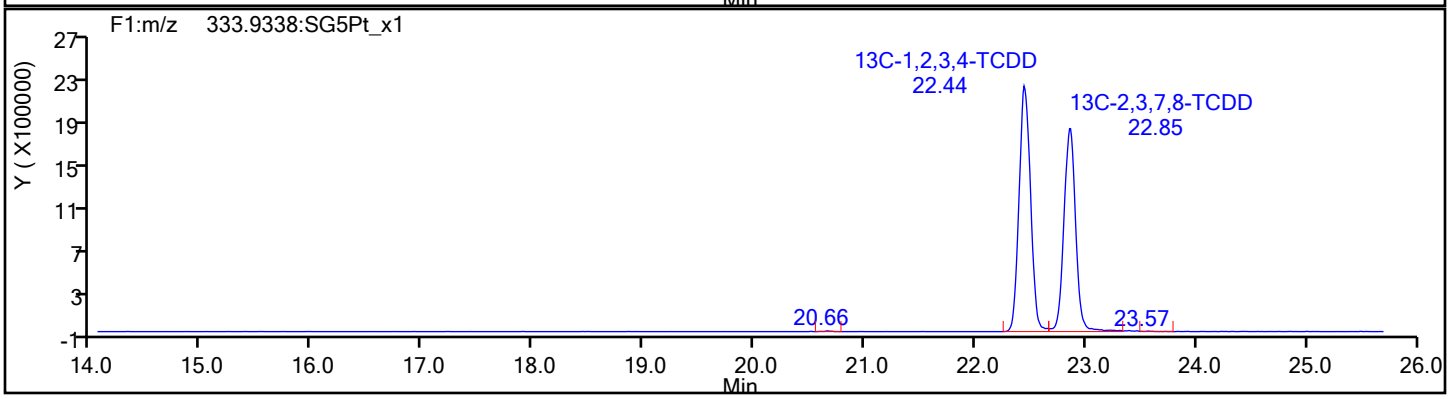
TCDD





TCDD Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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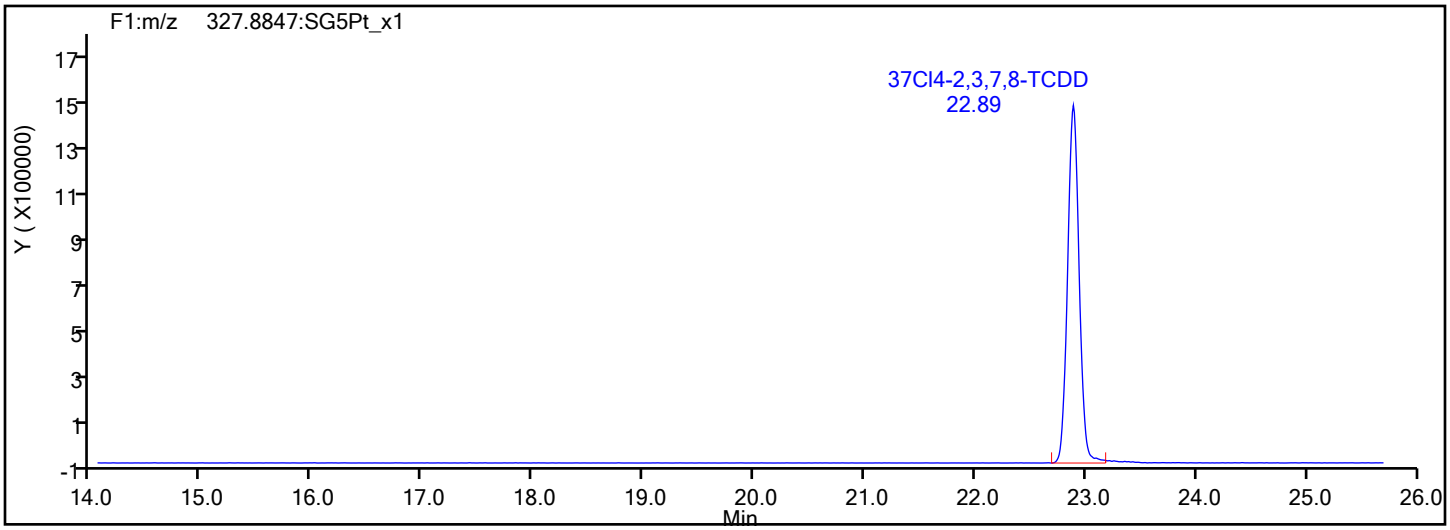
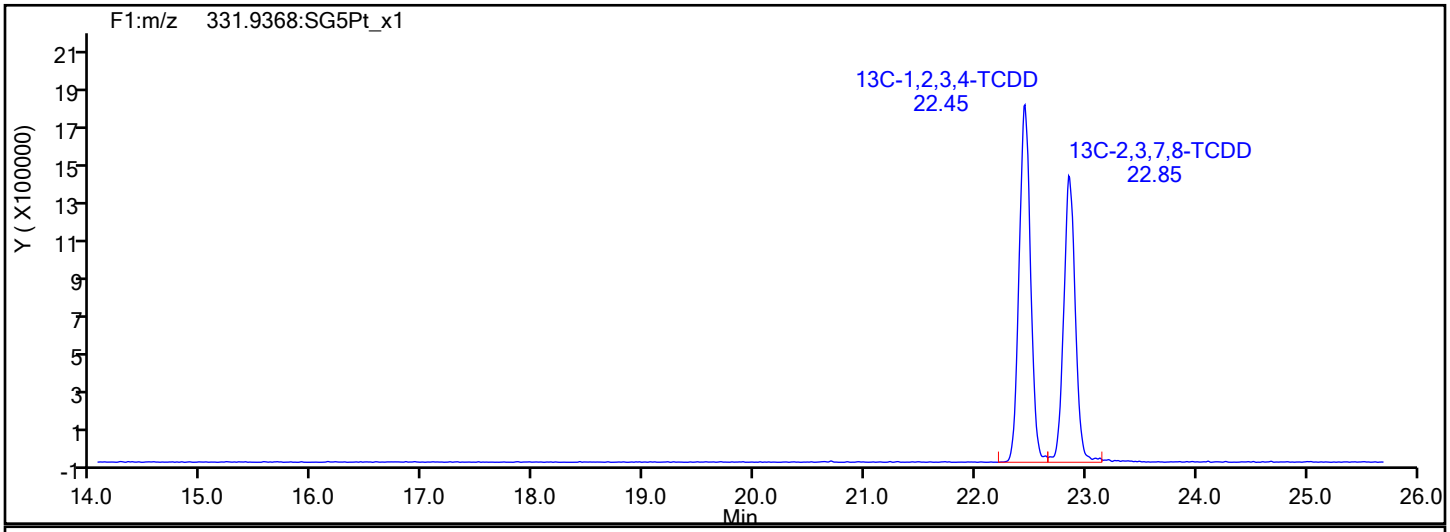
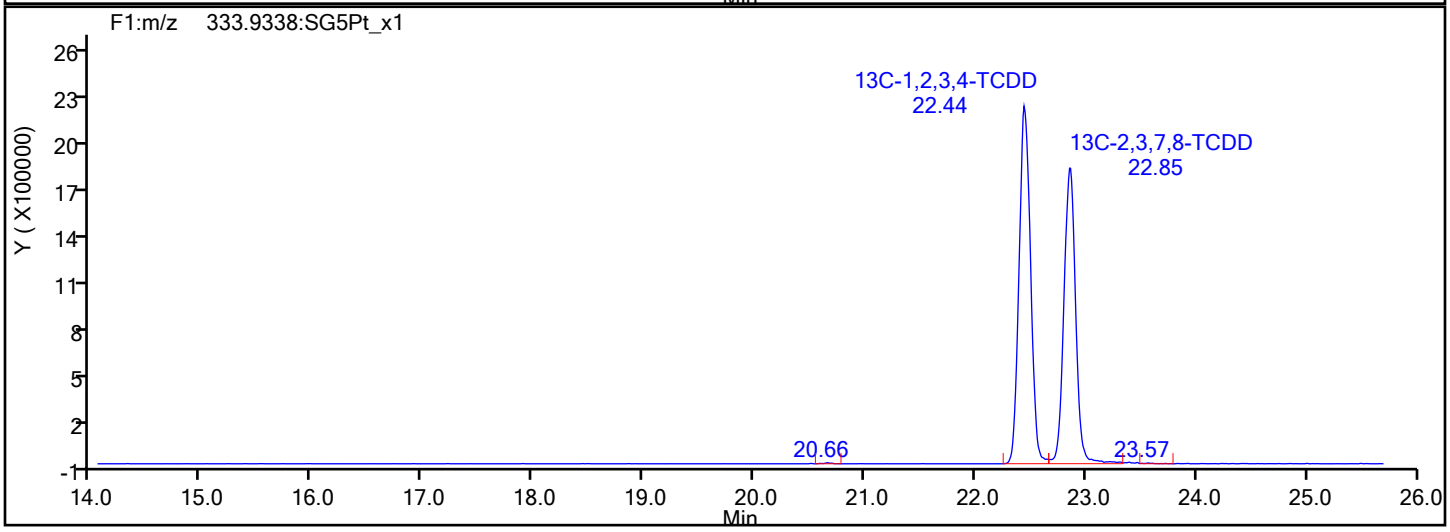
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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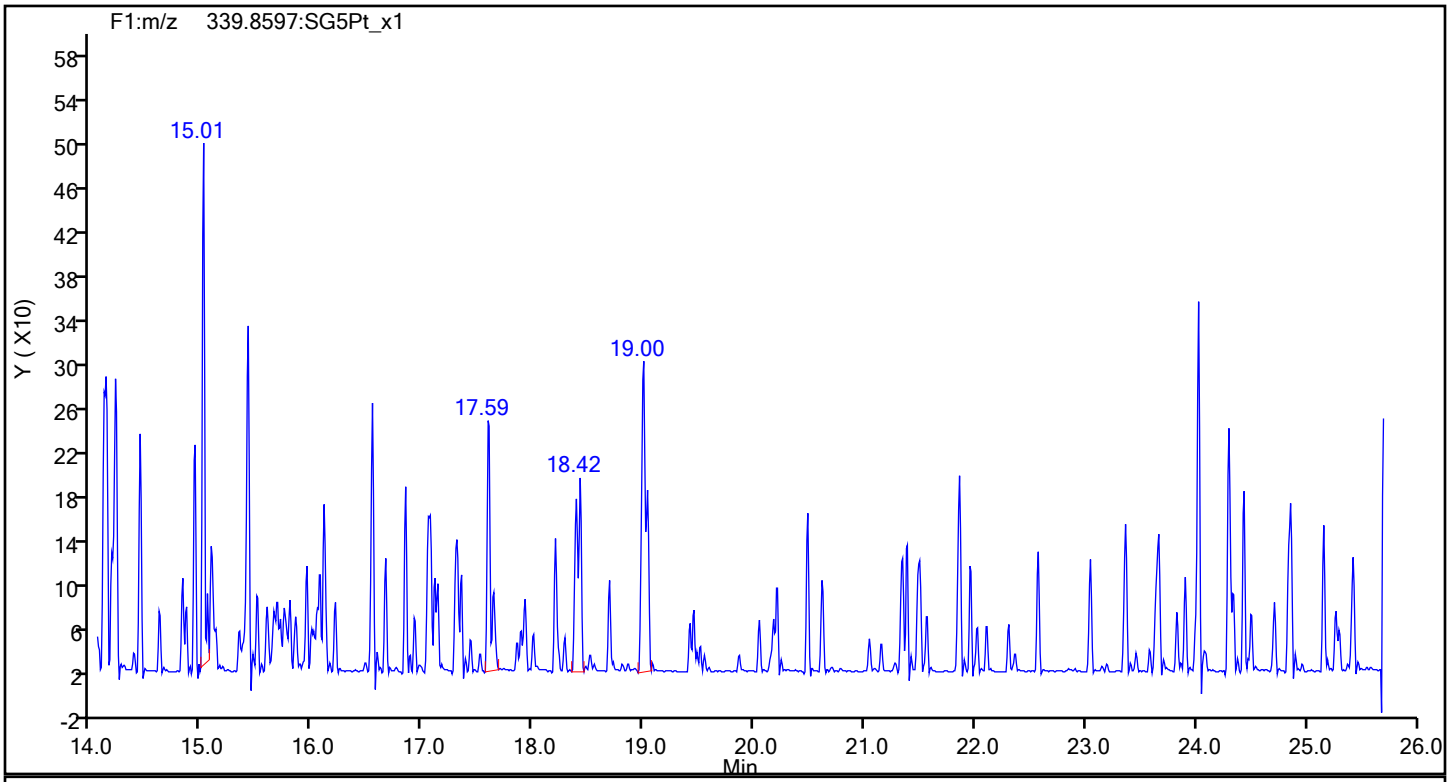
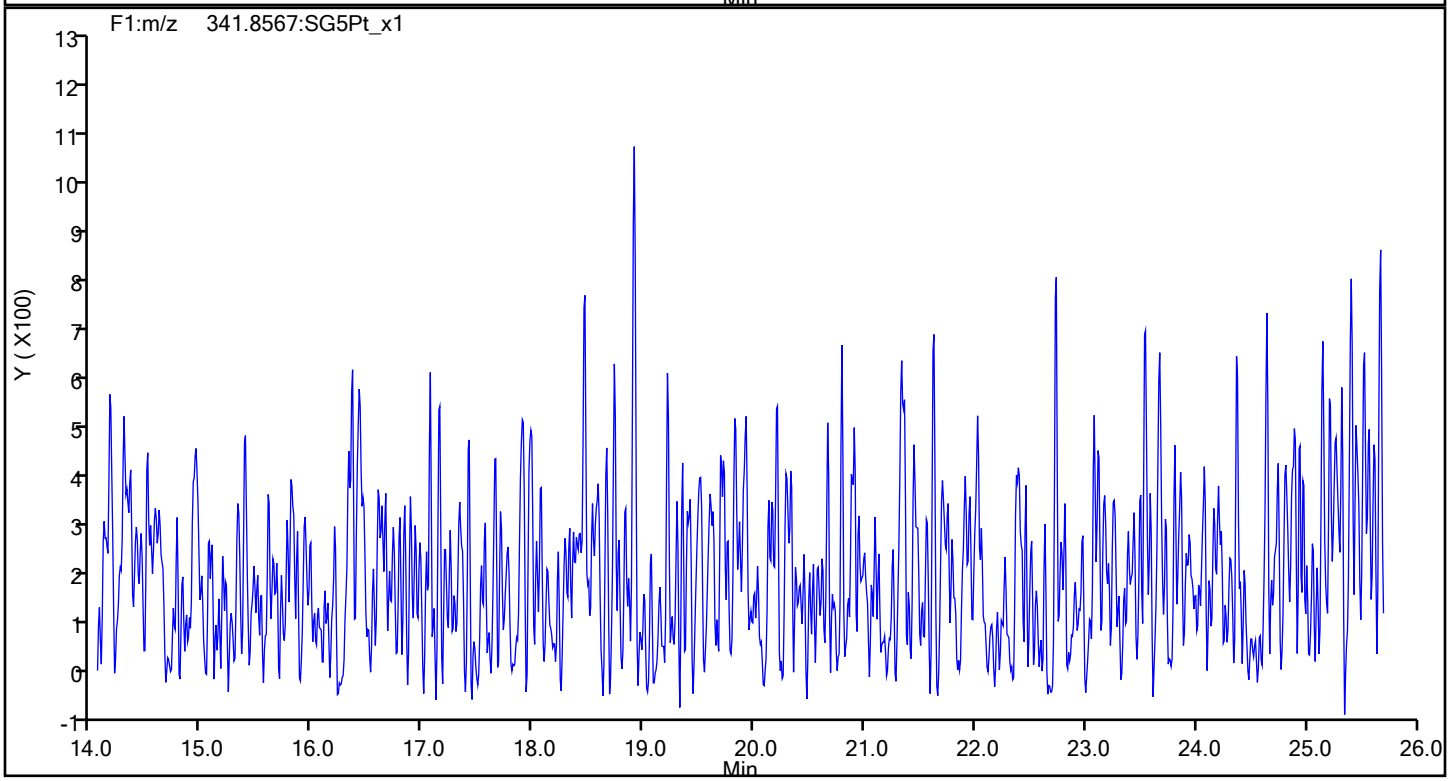
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
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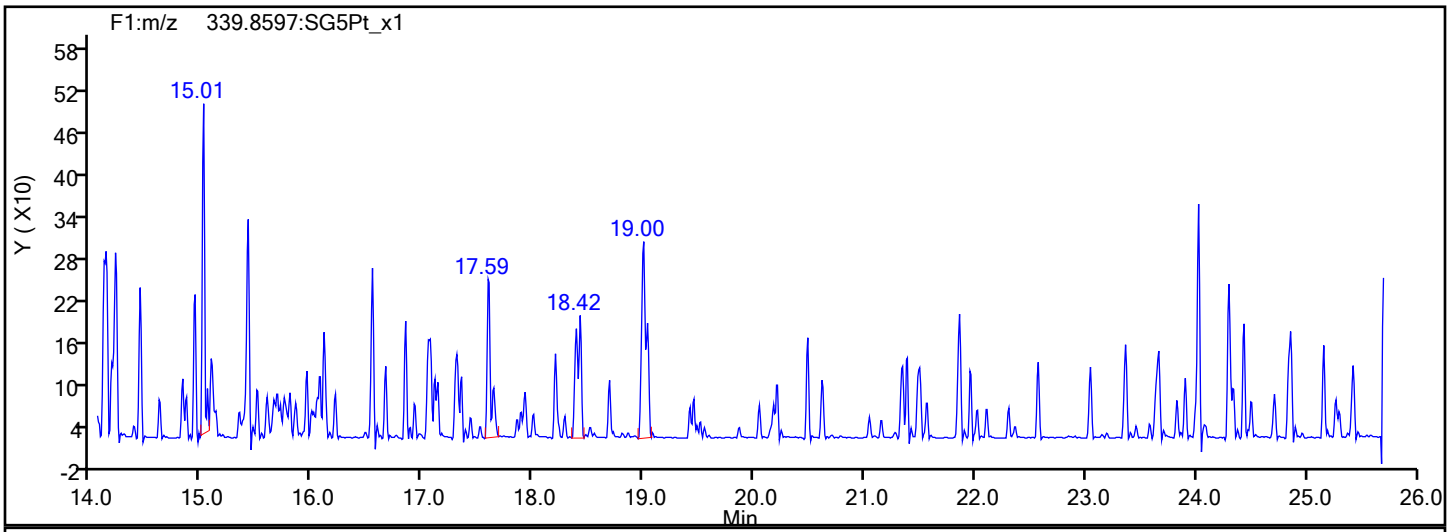
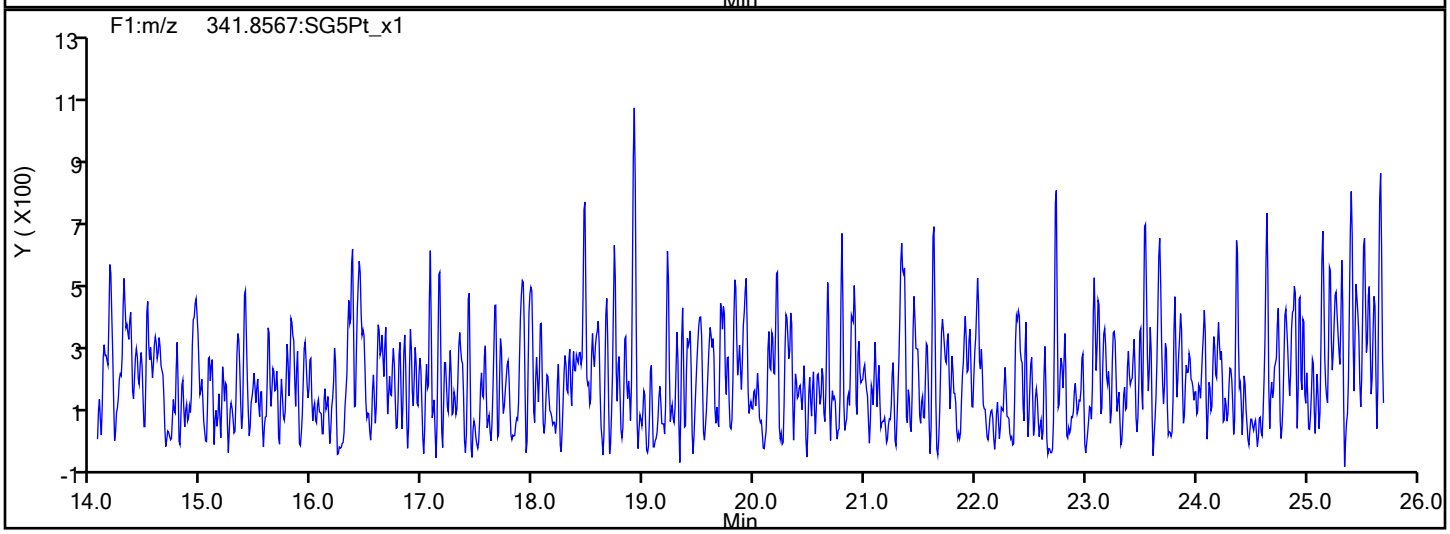
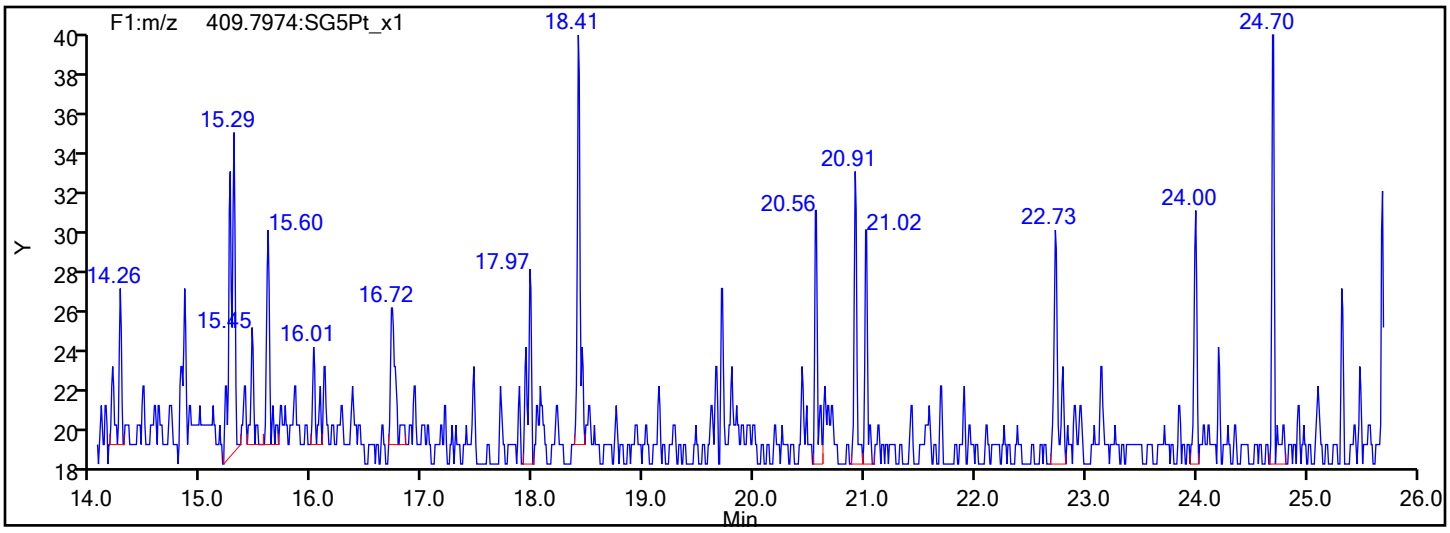
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
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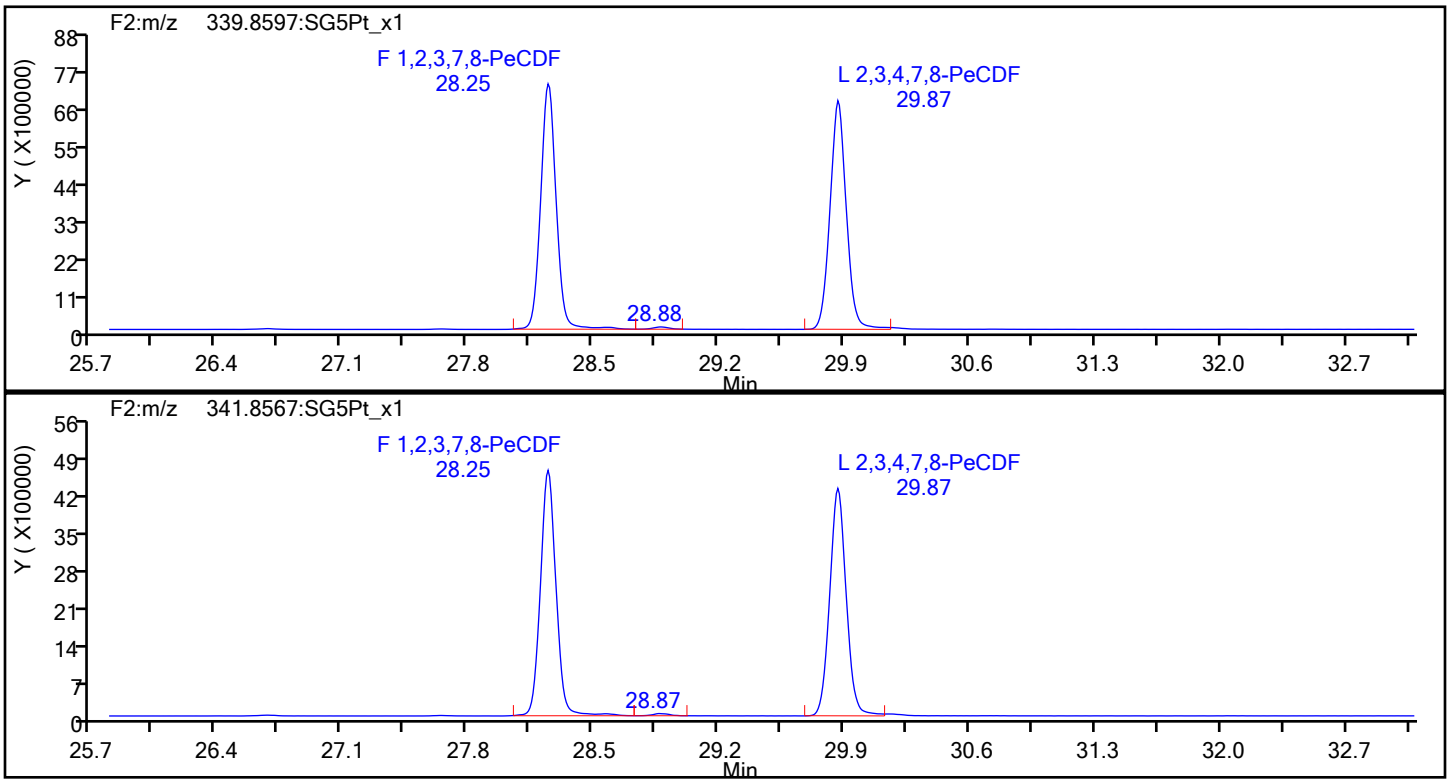
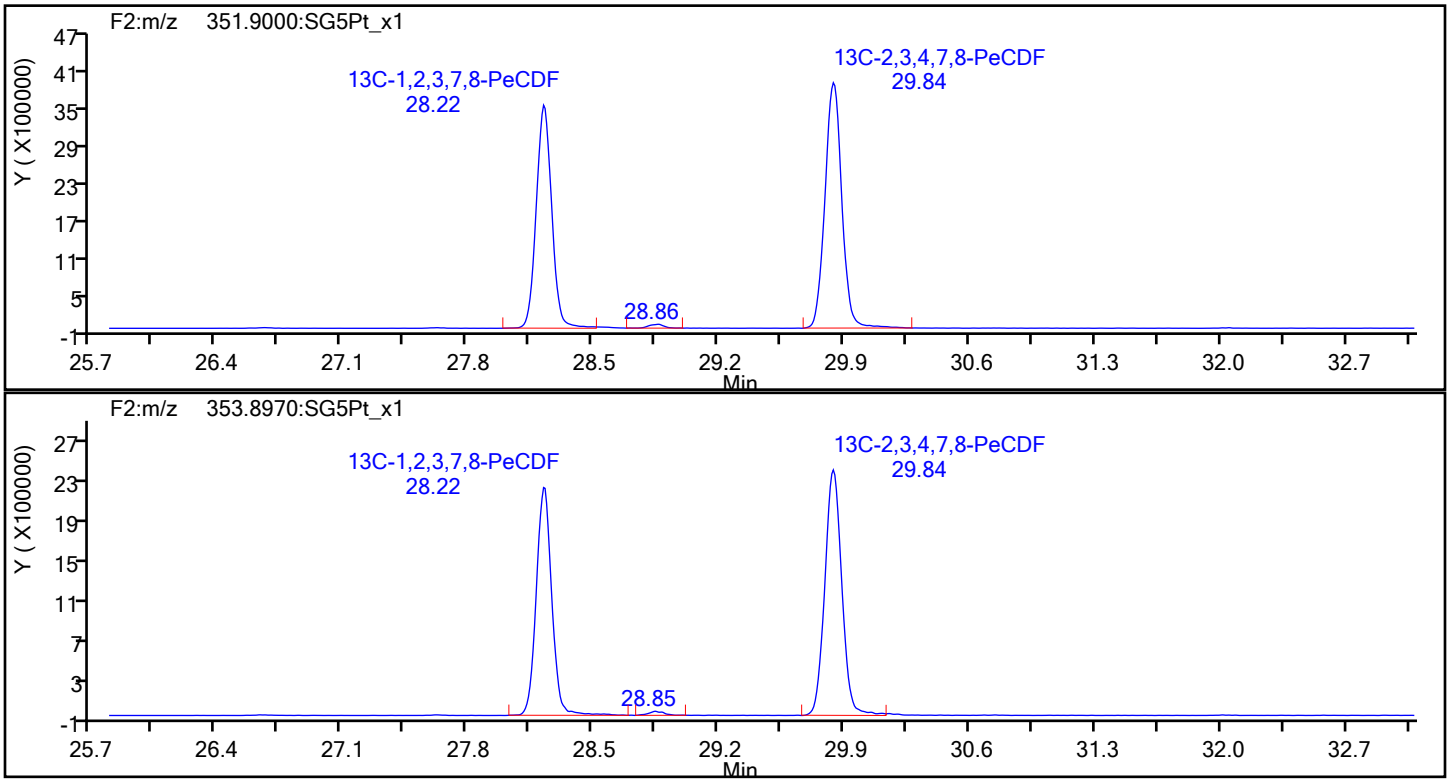
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
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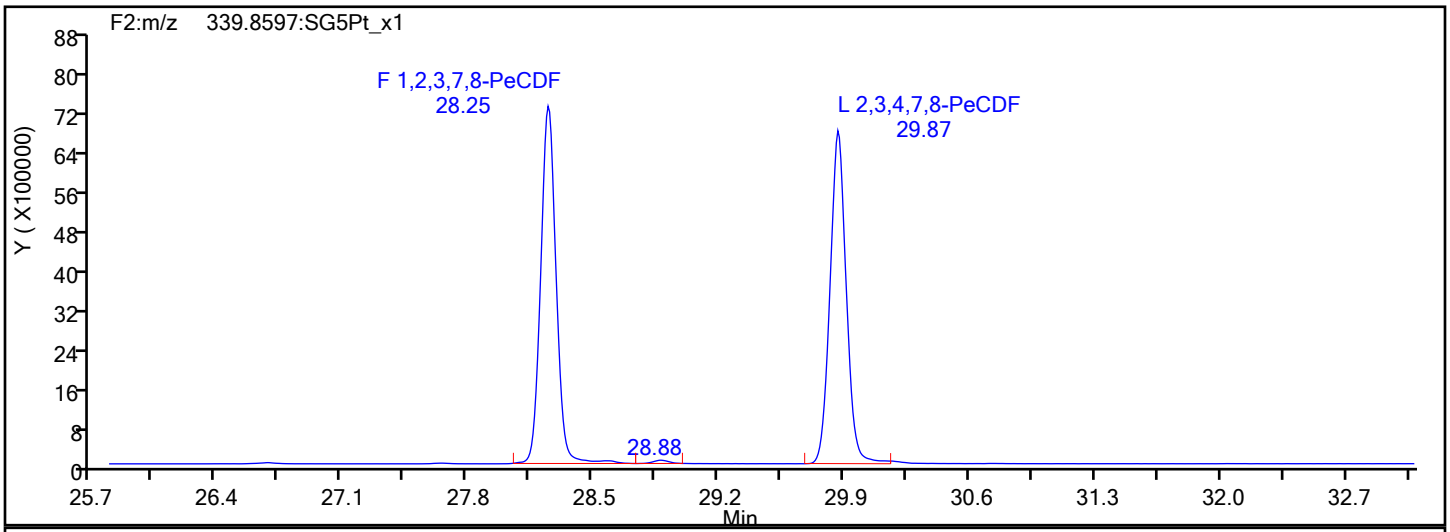
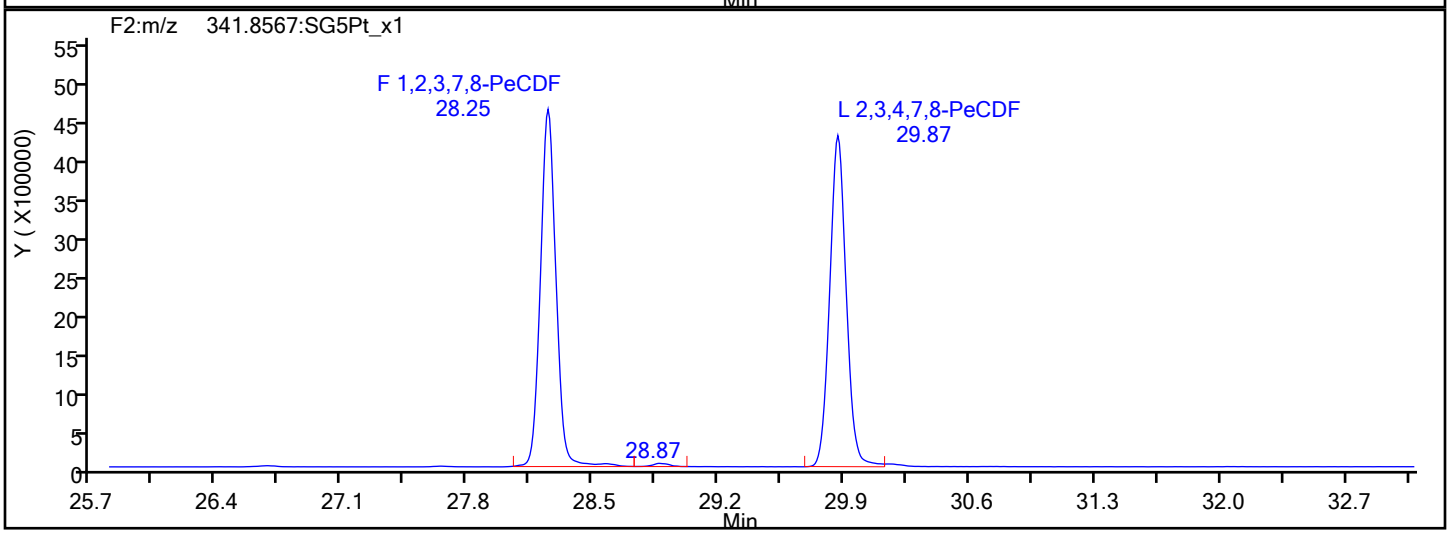
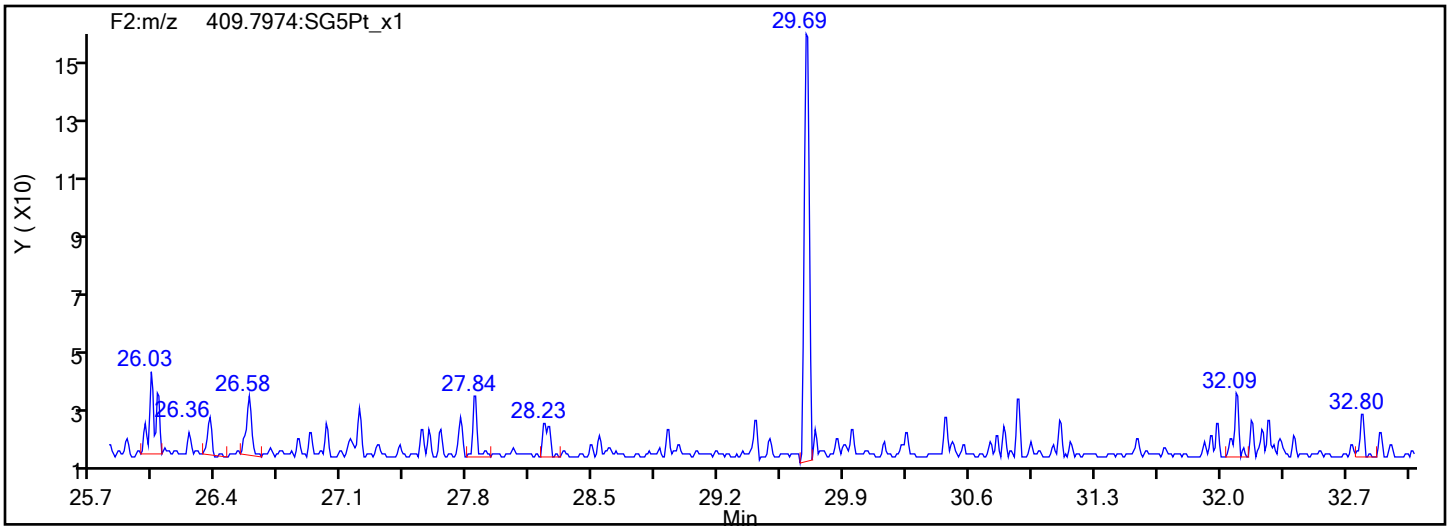
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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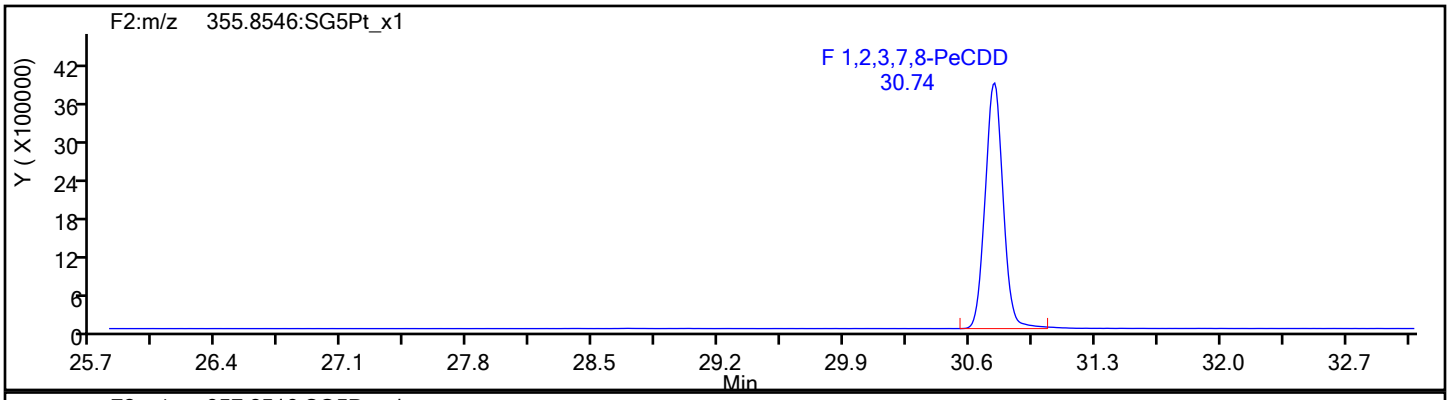
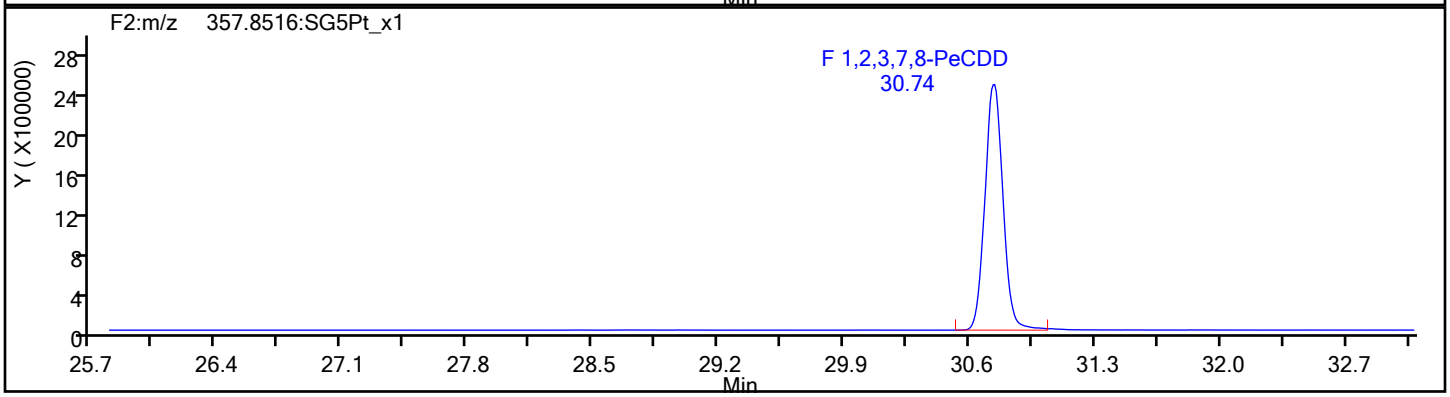
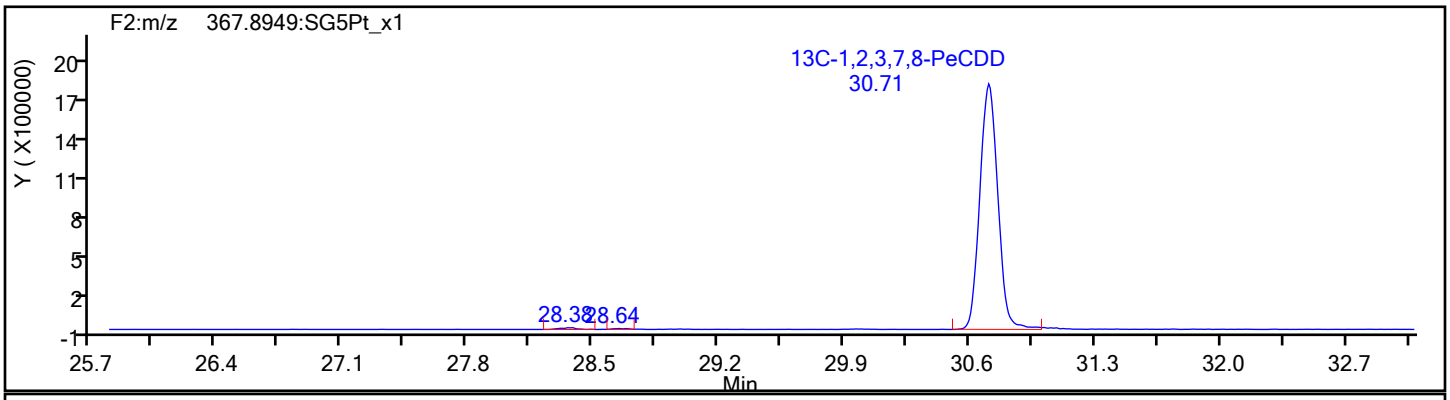
Column Type:	DB-5	Column Dia:	0.32 mm

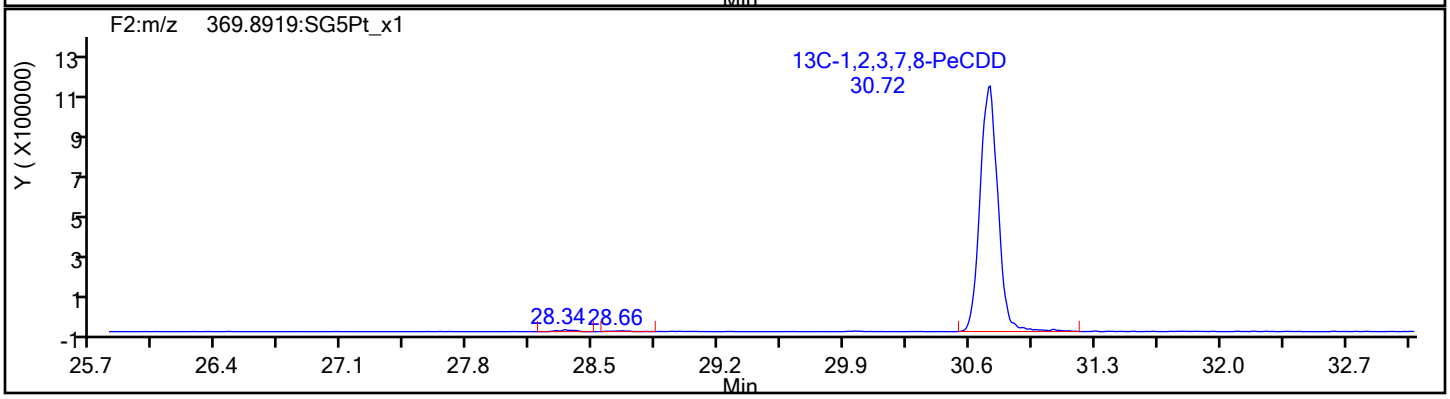
PeCDD





PeCDD Standards





Report Date: 19-Nov-2021 11:39:08 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

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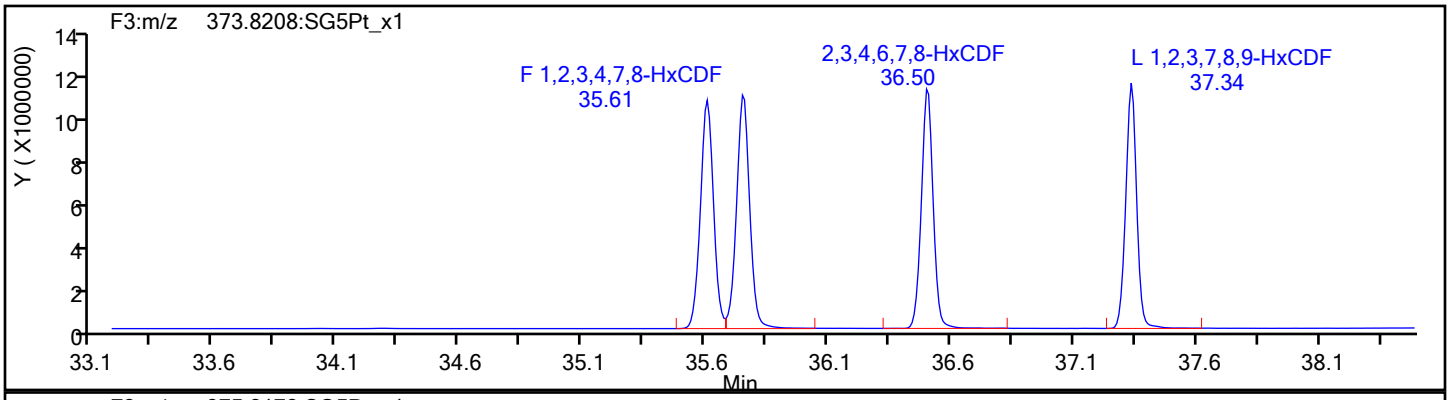
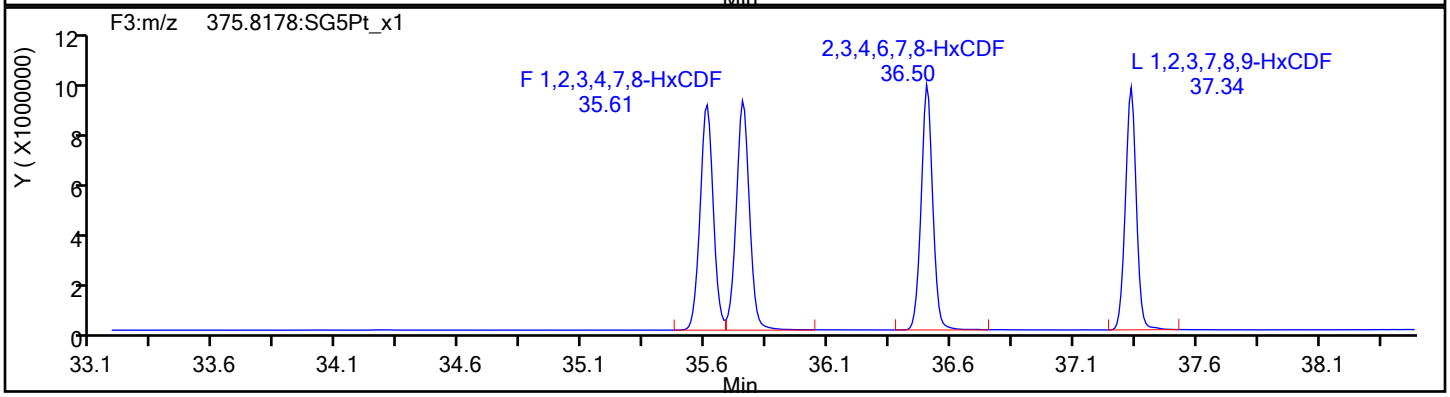
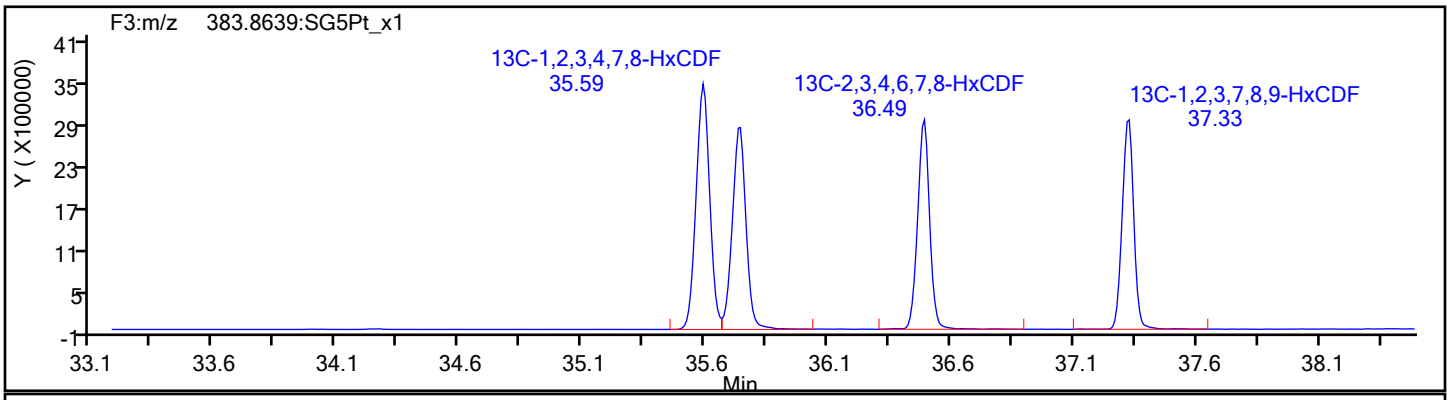
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

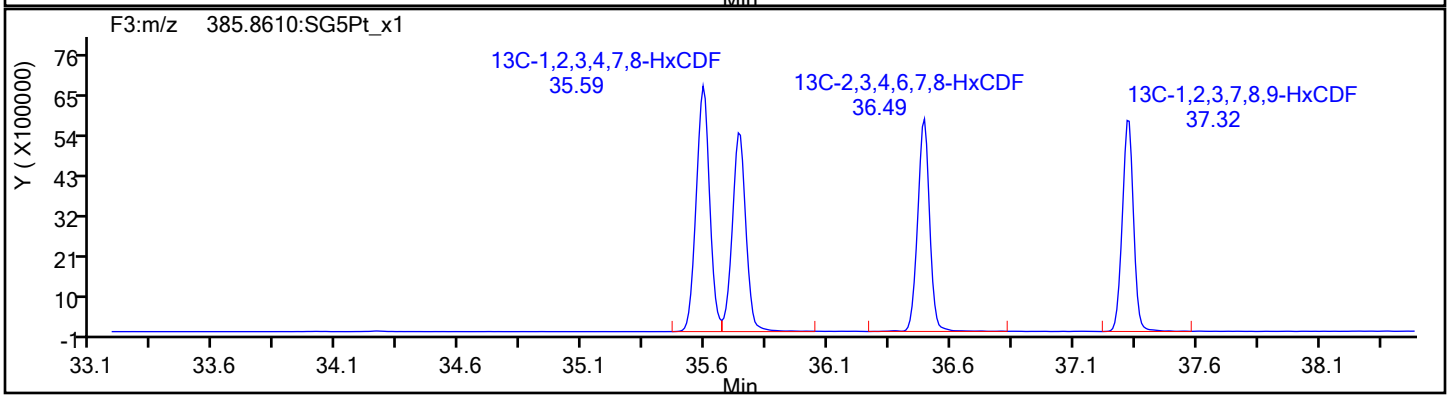
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
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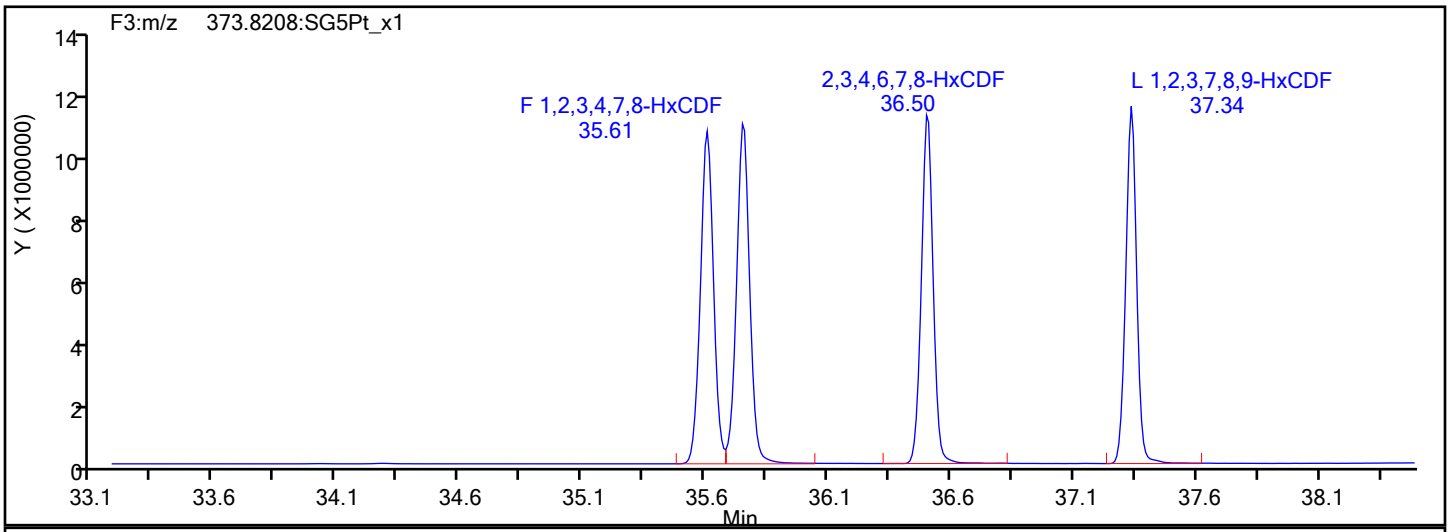
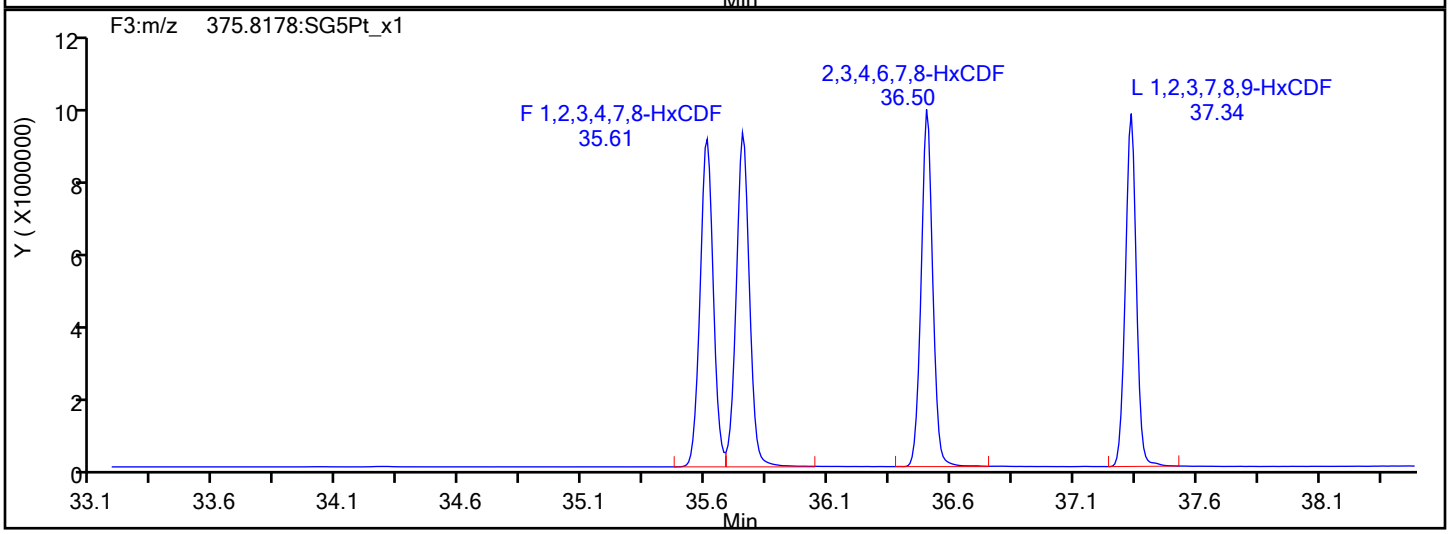
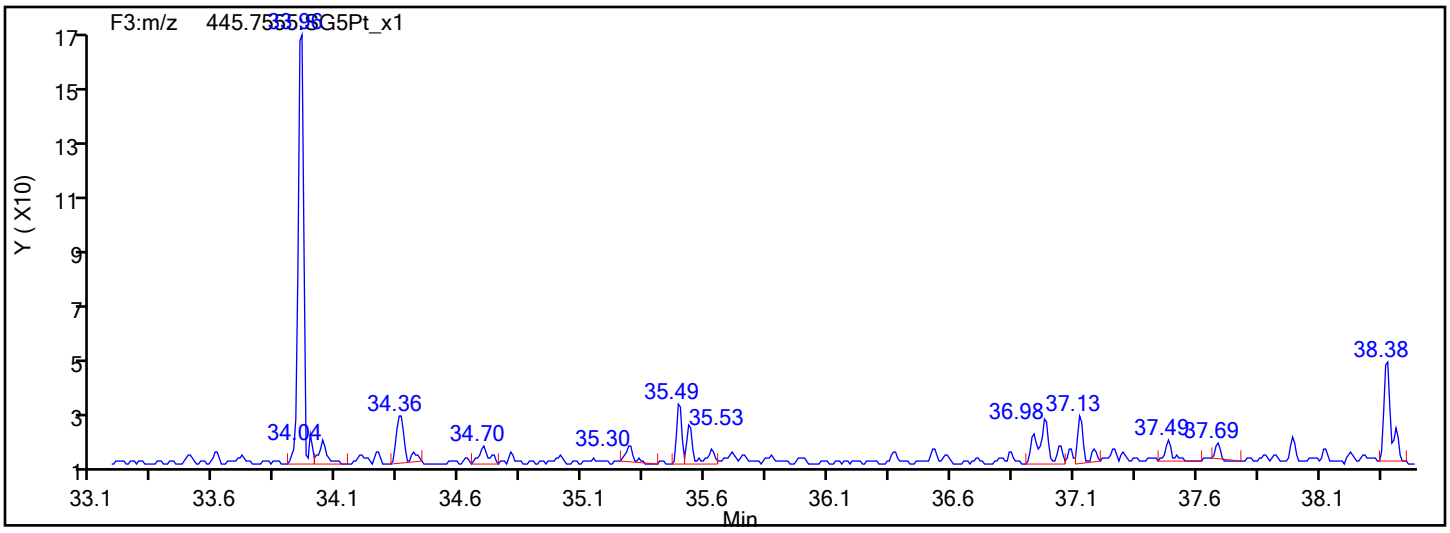
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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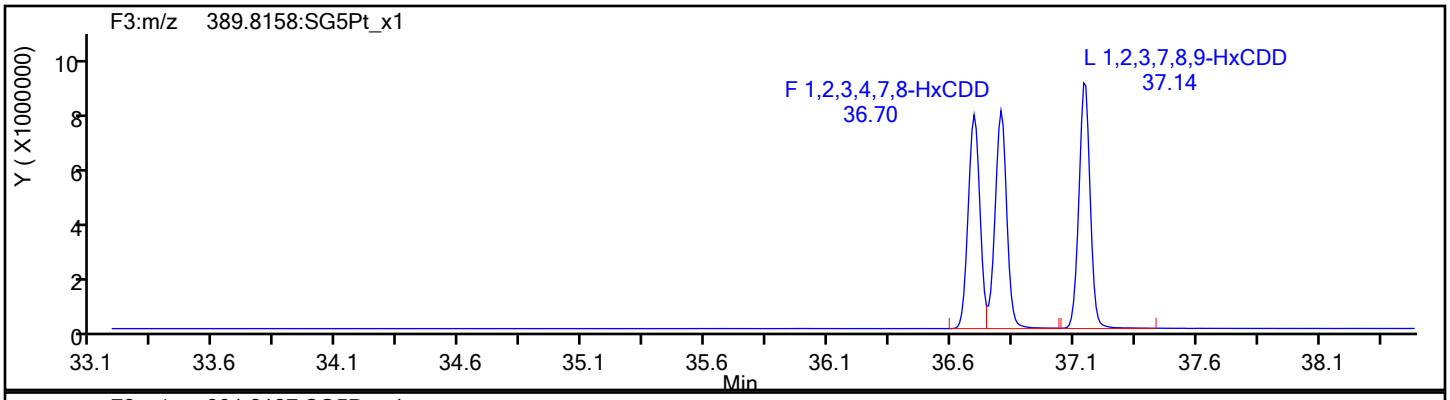
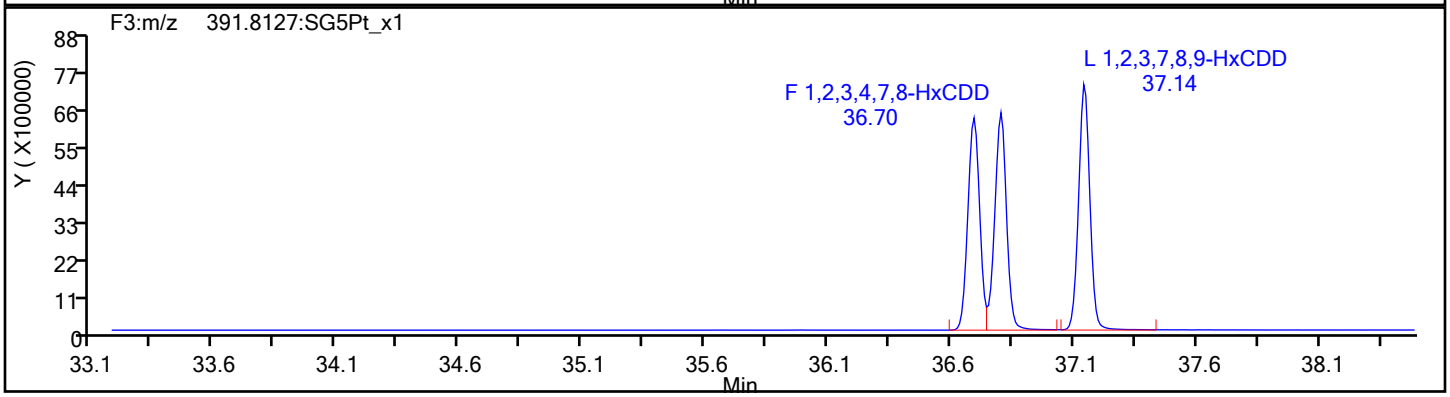
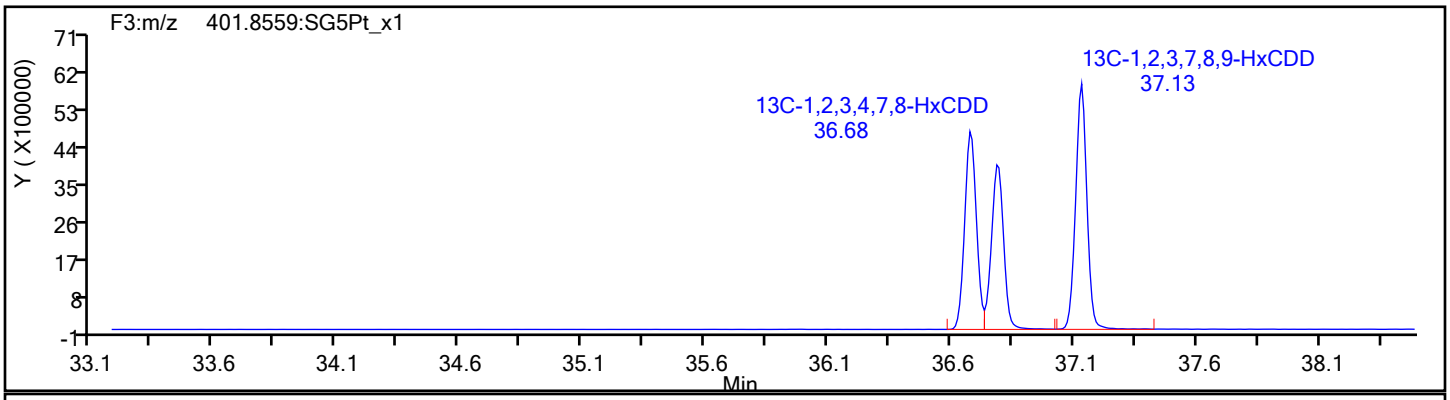
Column Type:	DB-5	Column Dia:	0.32 mm

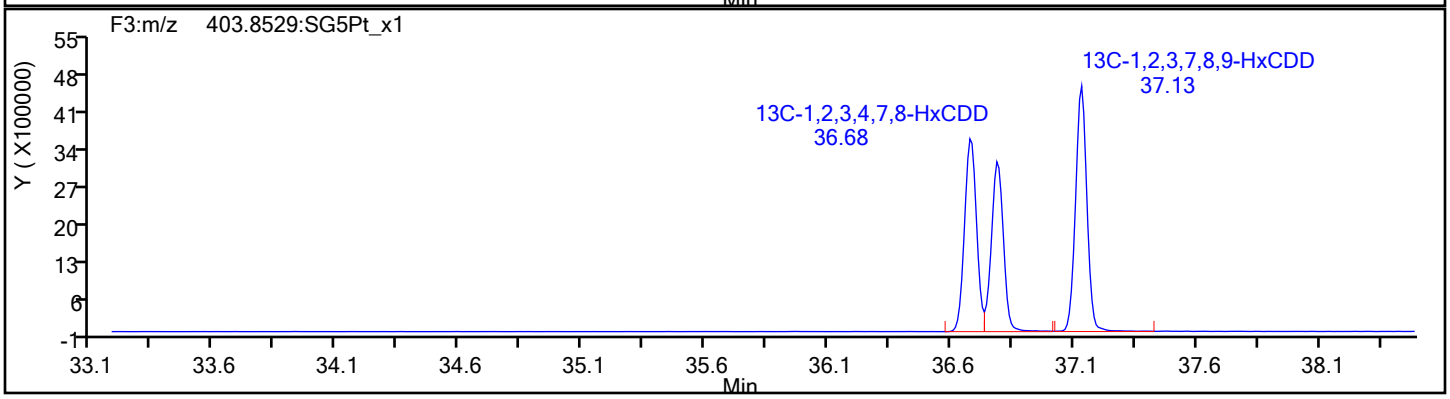
HxCDD





HxCDD Standards





Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d
Injection Date: 18-Nov-2021 17:50:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
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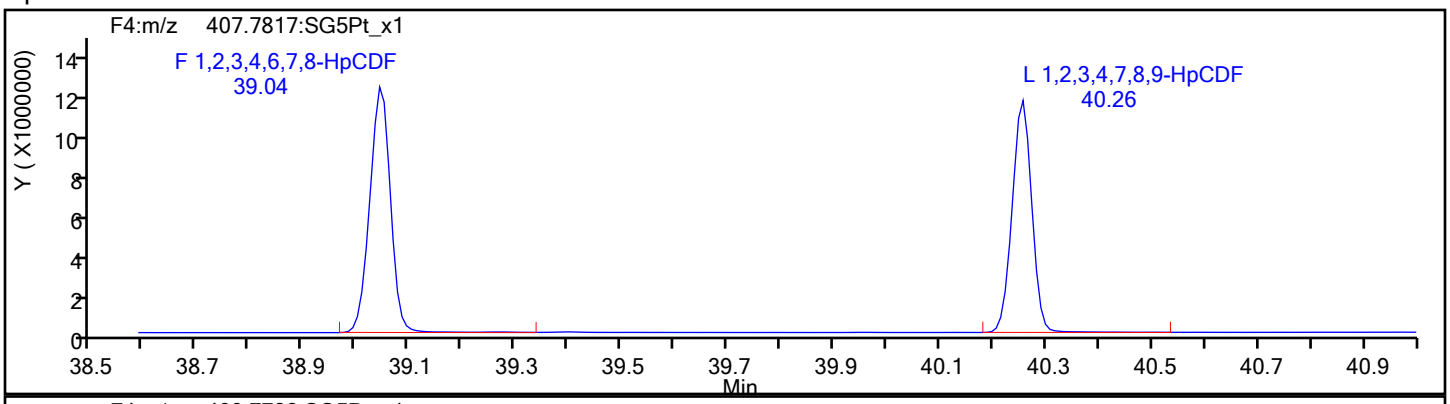
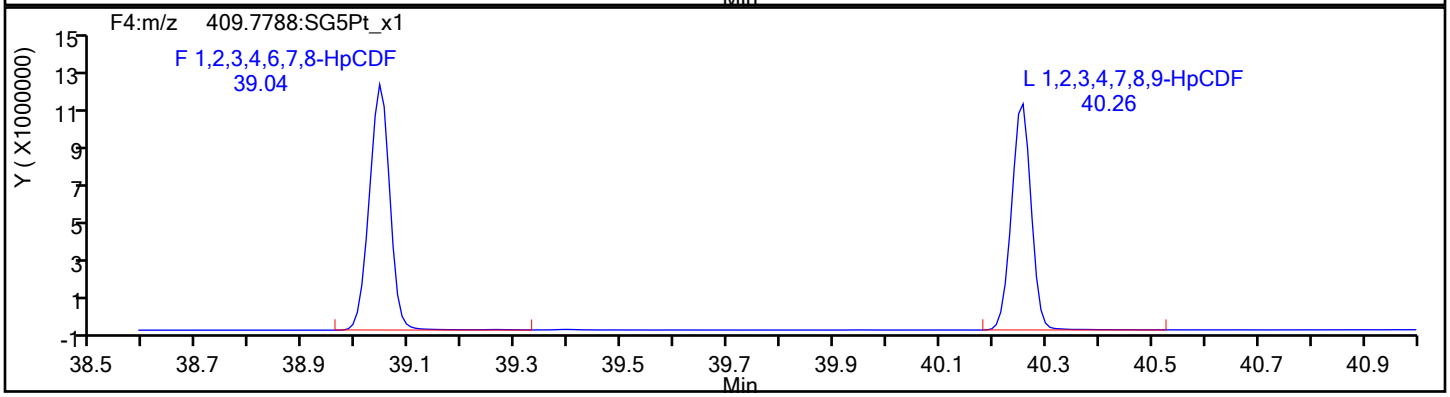
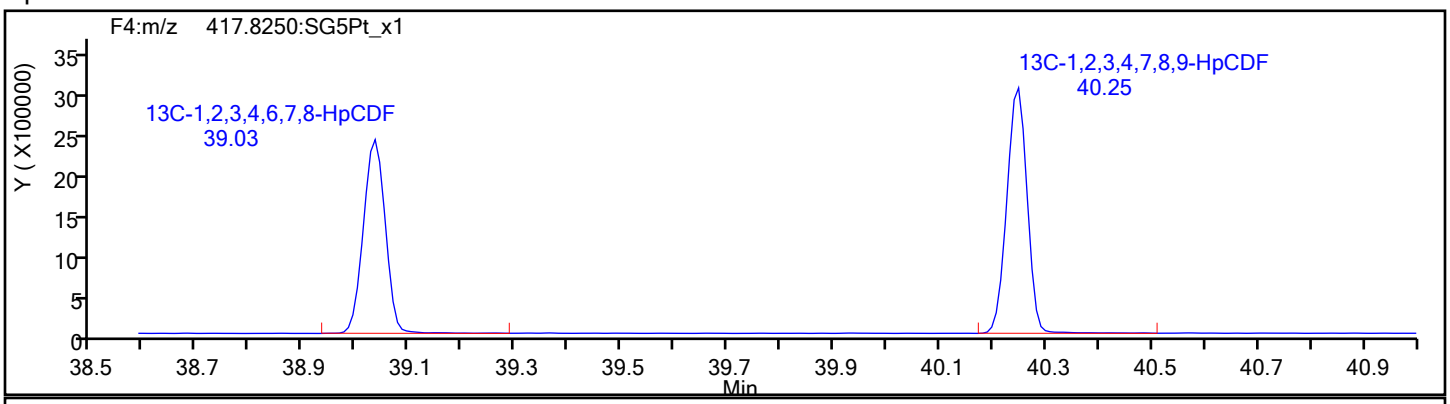
Column Type: DB-5 Column Dia: 0.32 mm

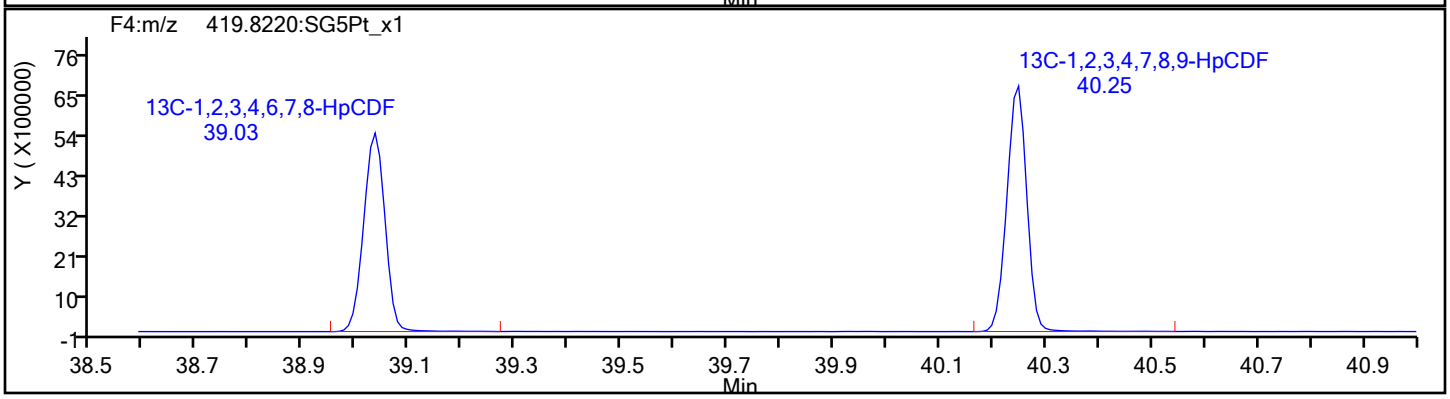
HpCDF





HpCDF Standards

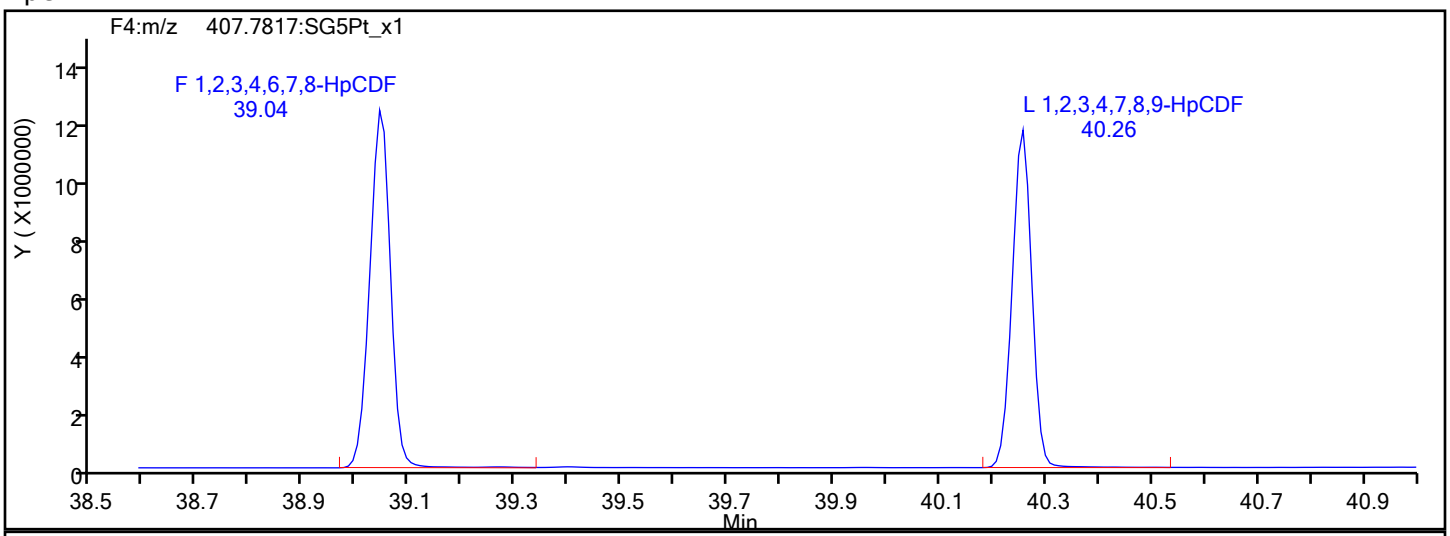


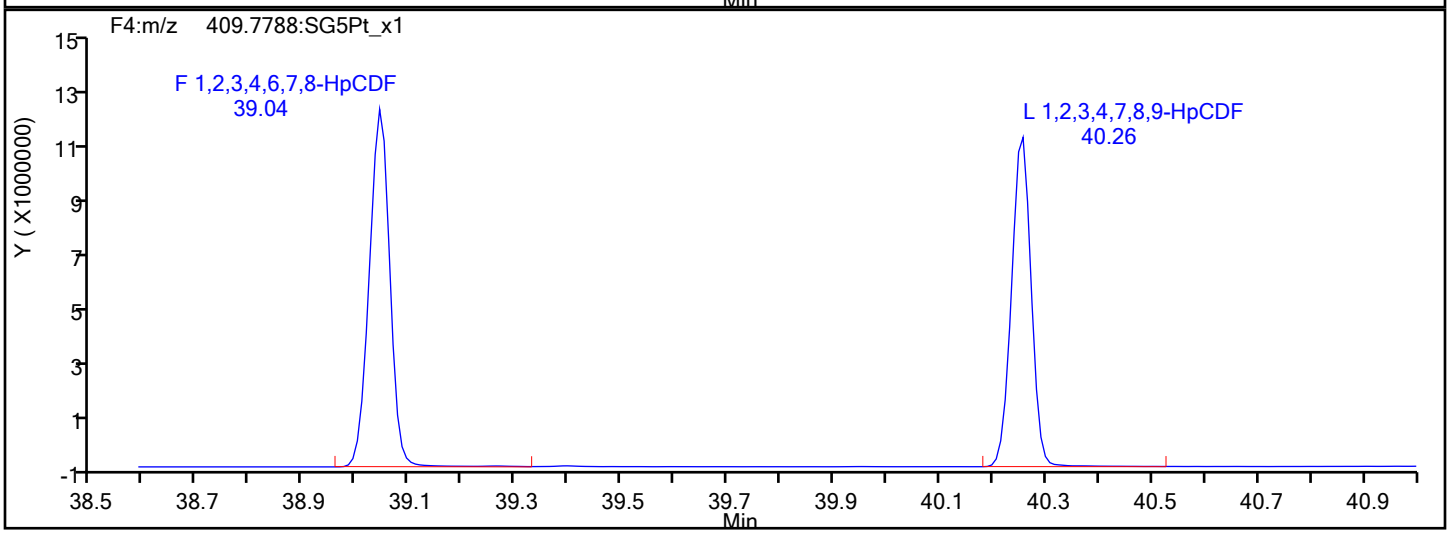


Eurofins TestAmerica, Sacramento

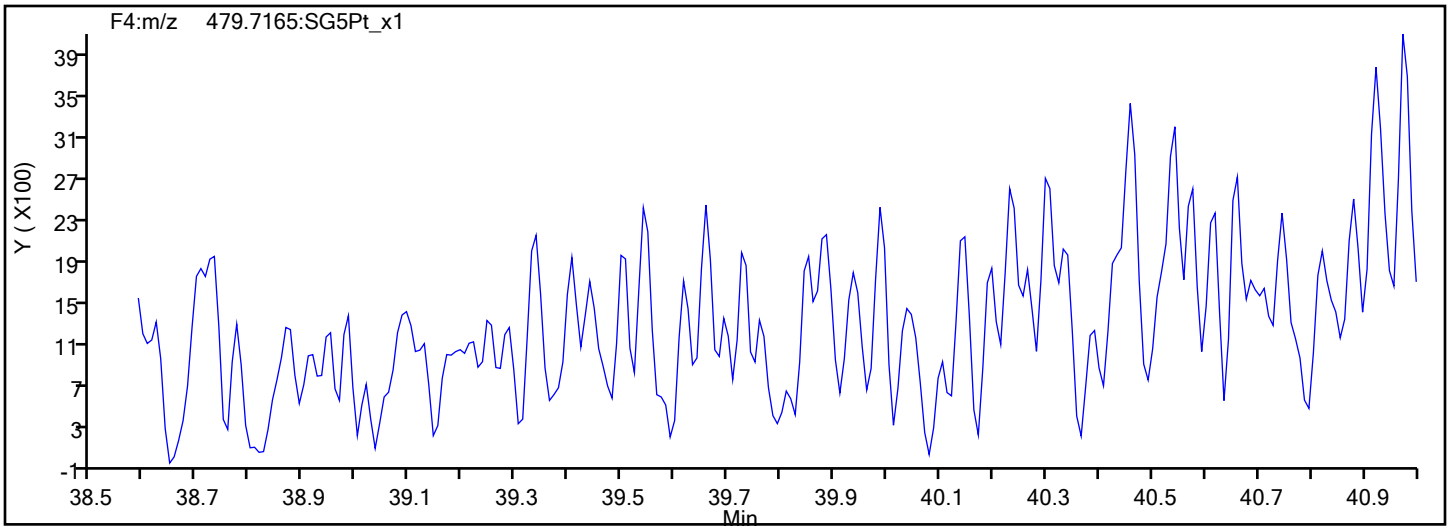
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
Injection Date:	18-Nov-2021 17:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





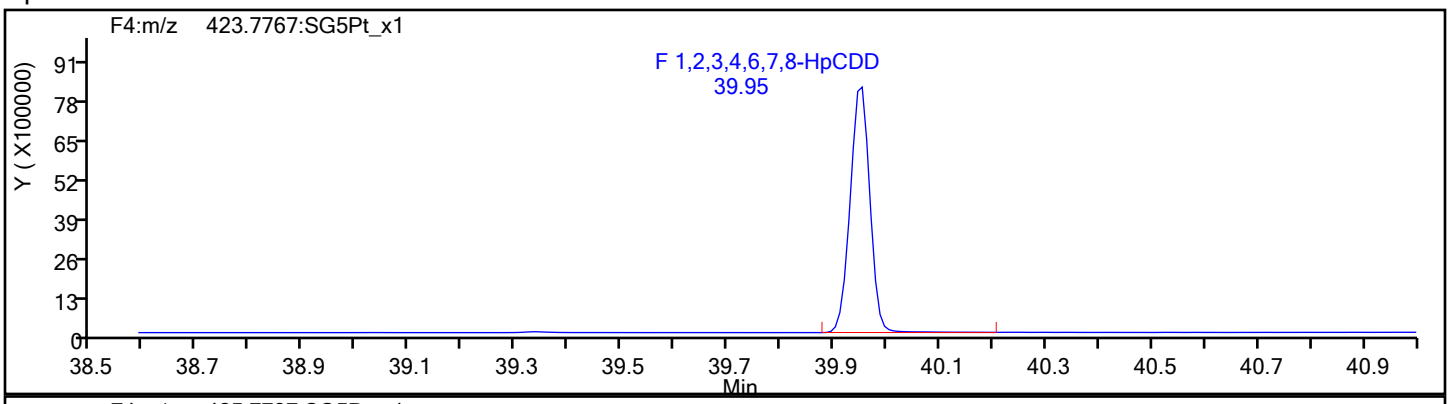
HpCDF Interference Mass

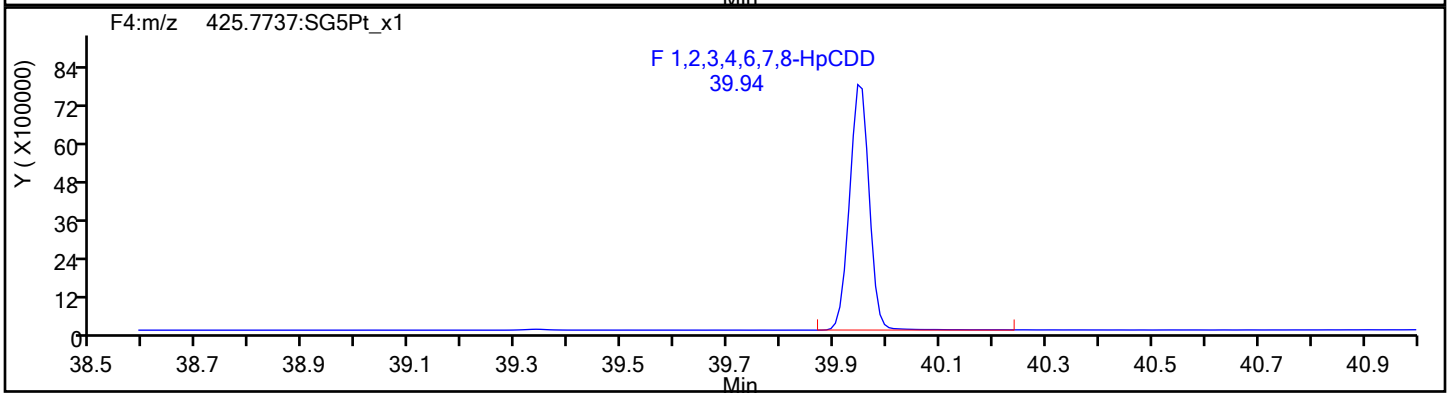


Eurofins TestAmerica, Sacramento

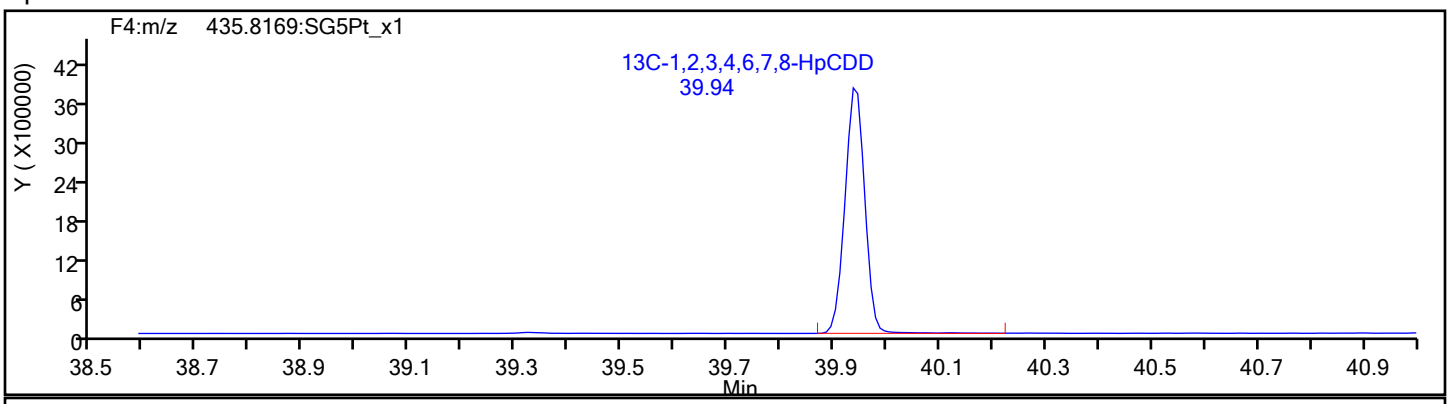
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
Injection Date:	18-Nov-2021 17:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

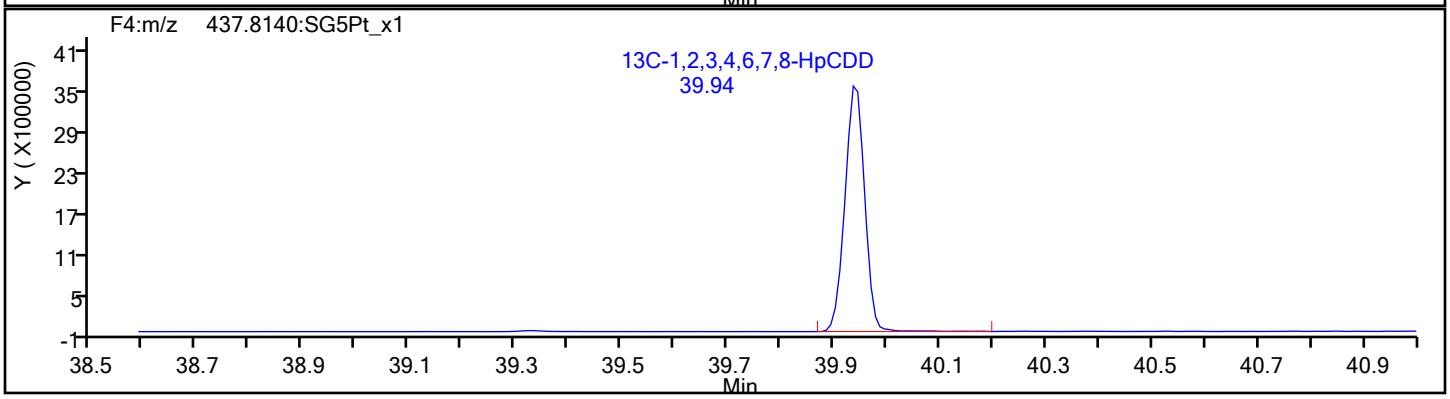
HpCDD





HpCDD Standards

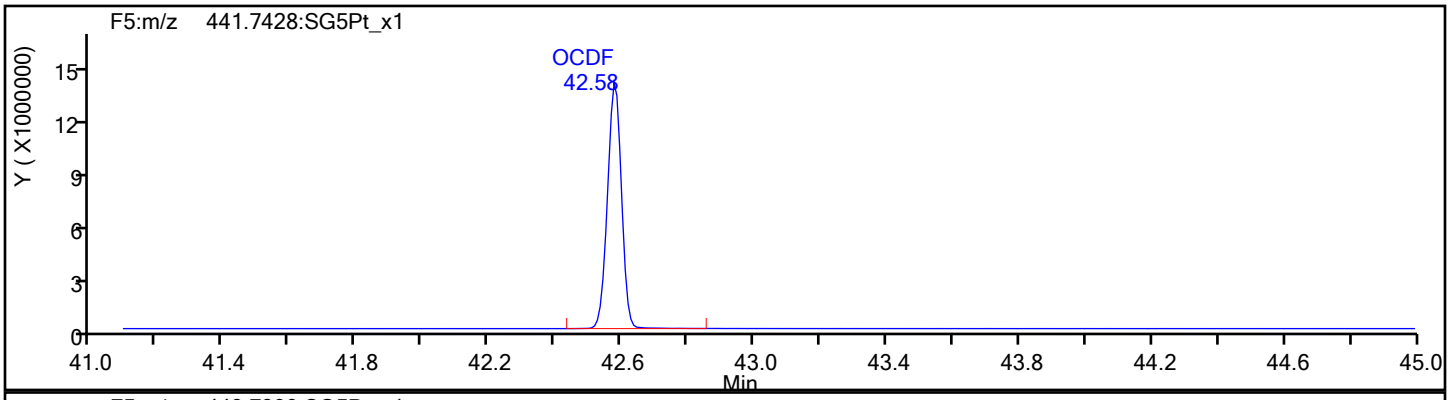


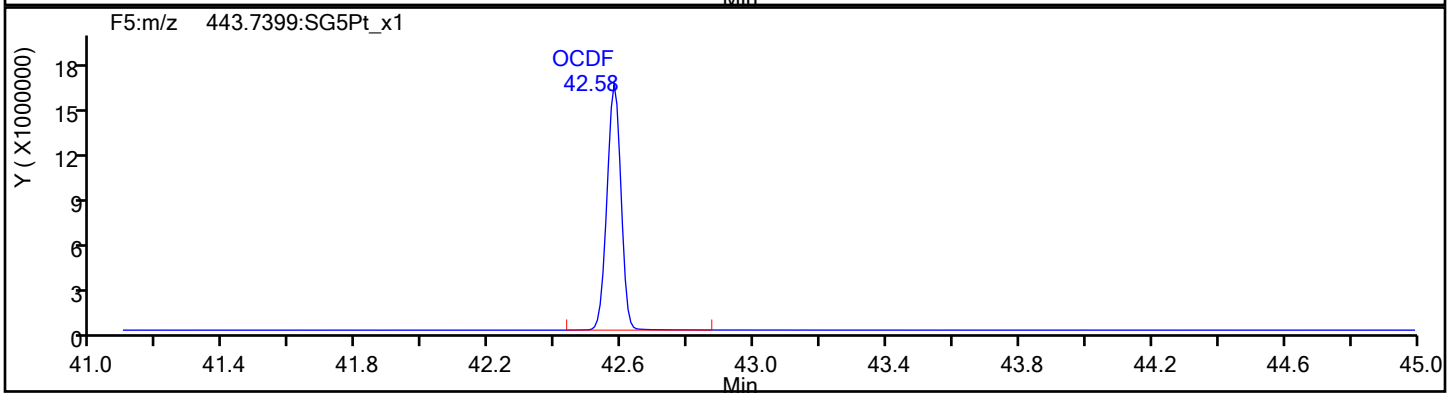


Eurofins TestAmerica, Sacramento

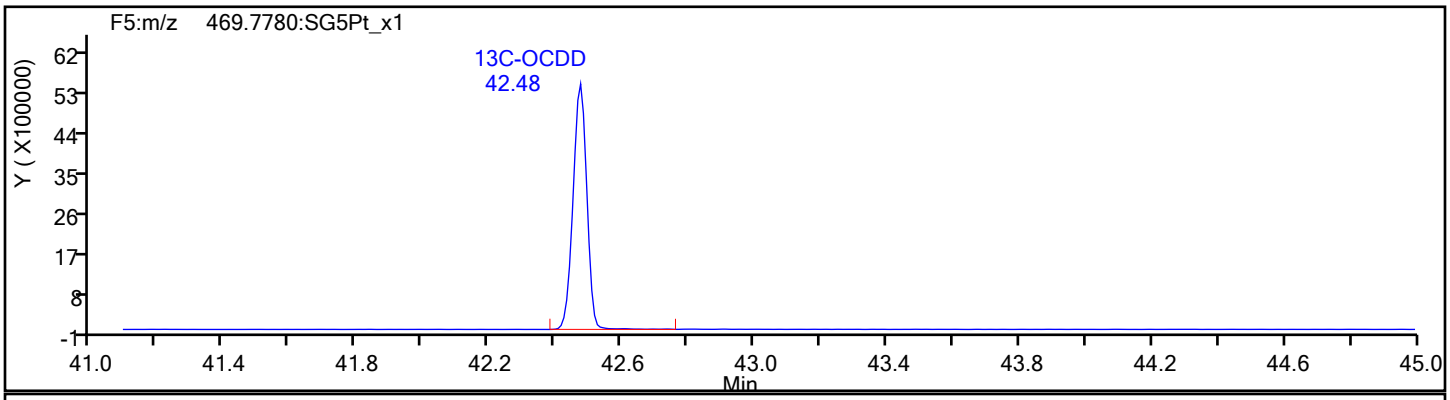
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
Injection Date:	18-Nov-2021 17:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

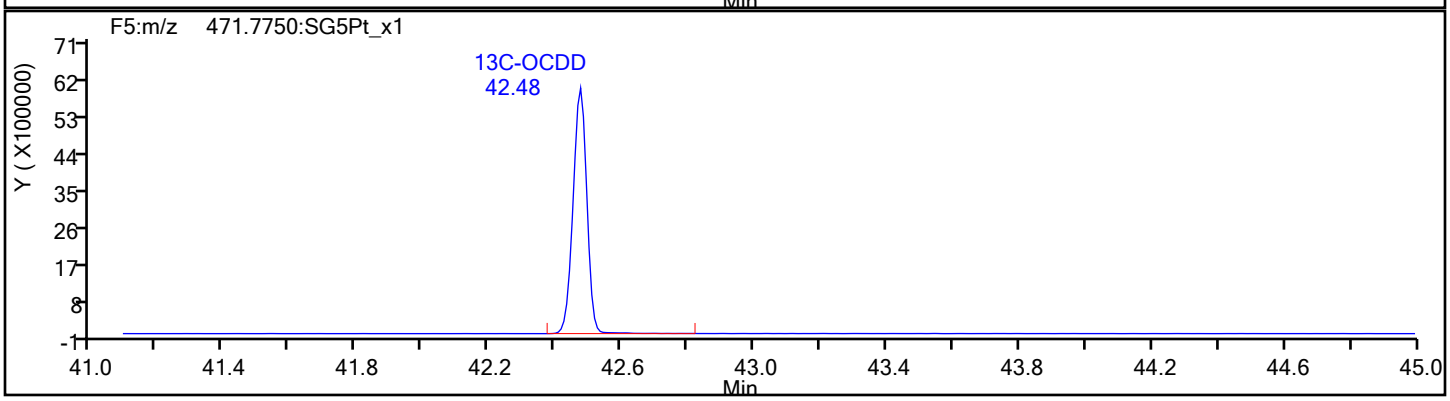
OCDF





OCDF Standards

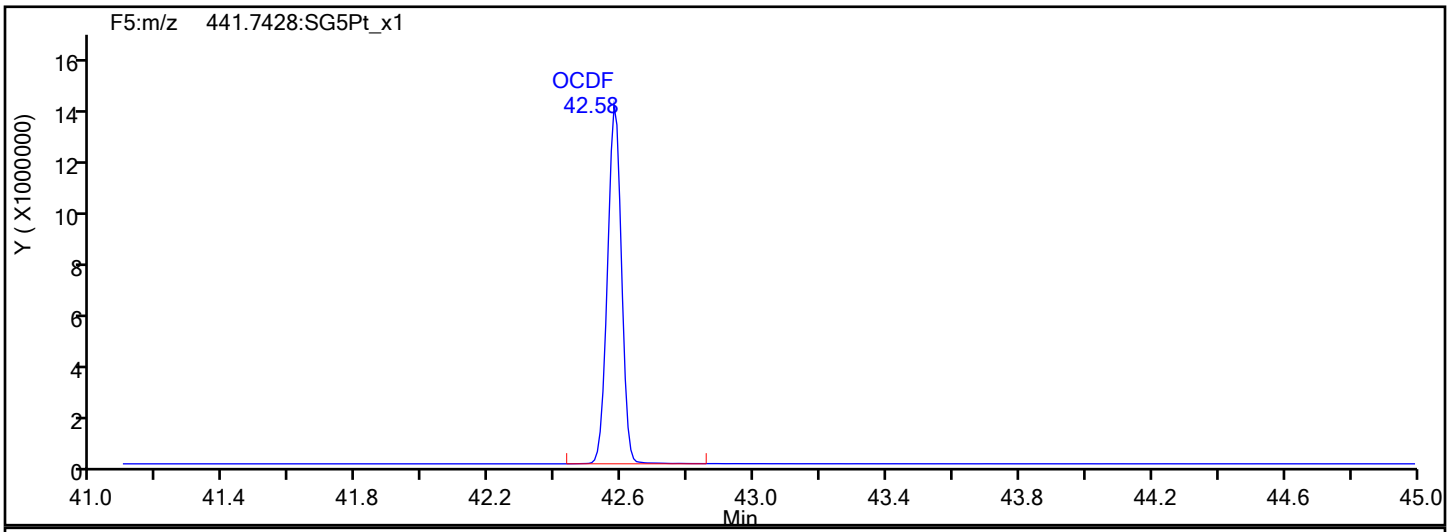


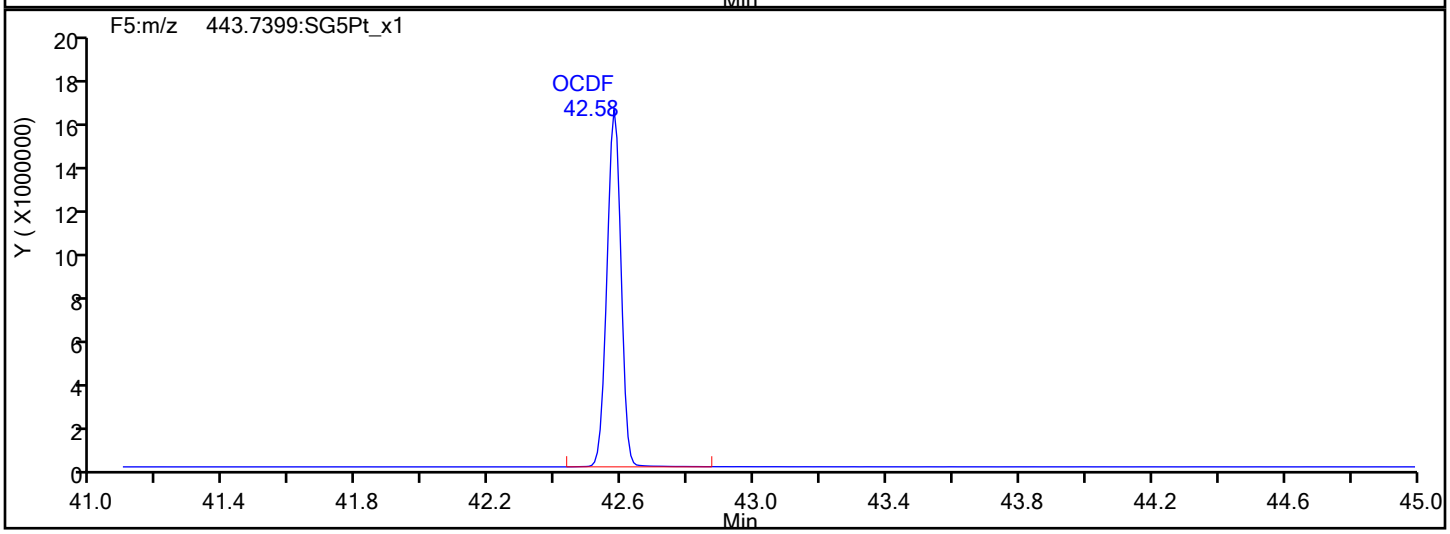


Eurofins TestAmerica, Sacramento

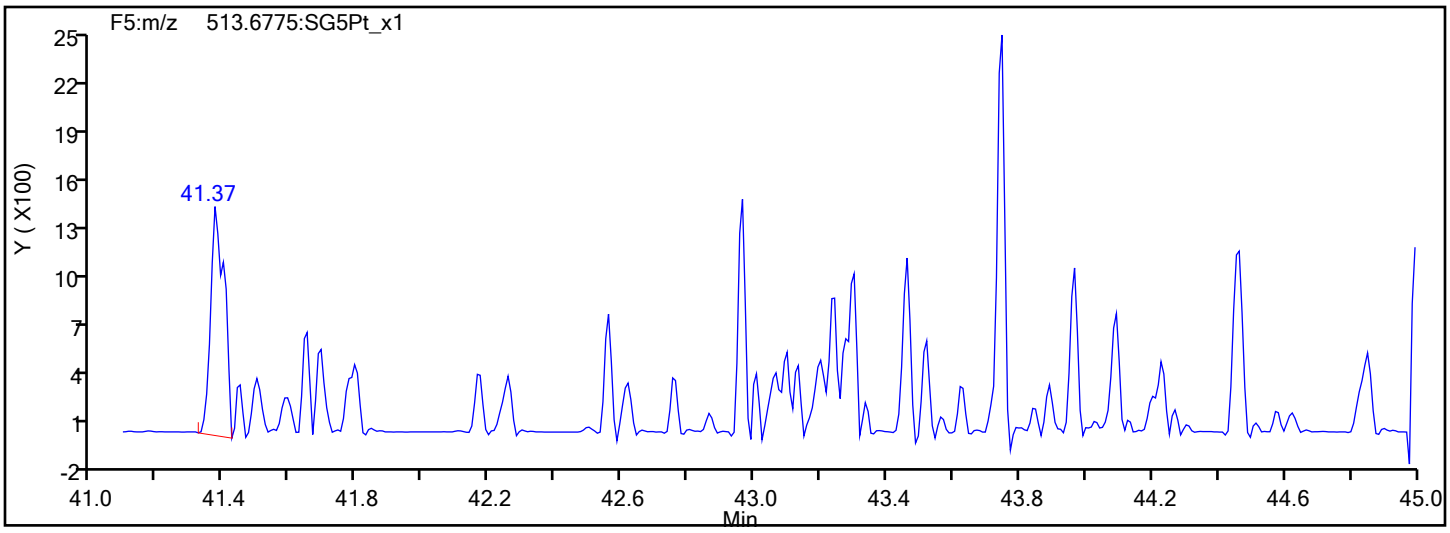
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
Injection Date:	18-Nov-2021 17:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





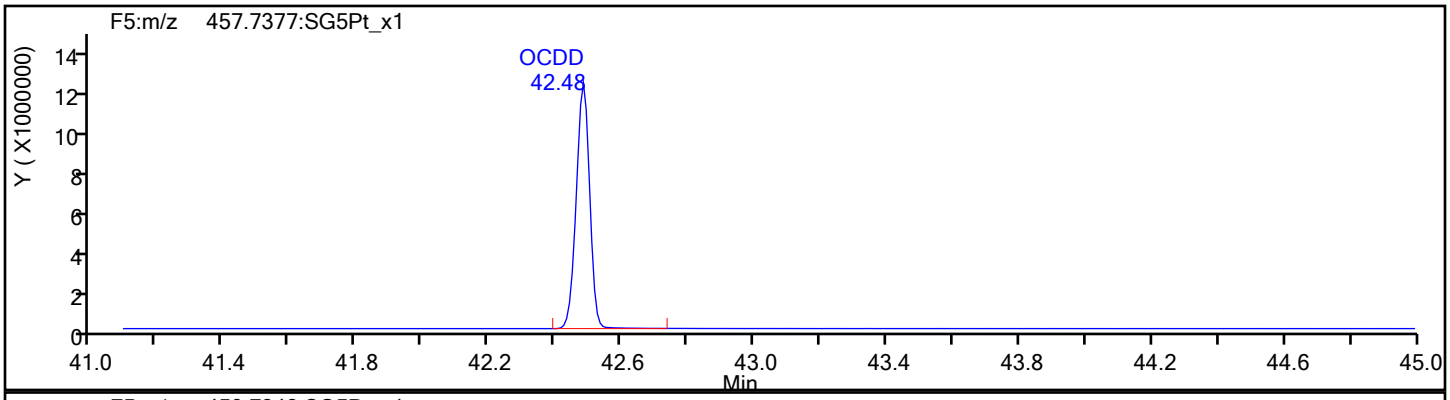
OCDF Interference Mass

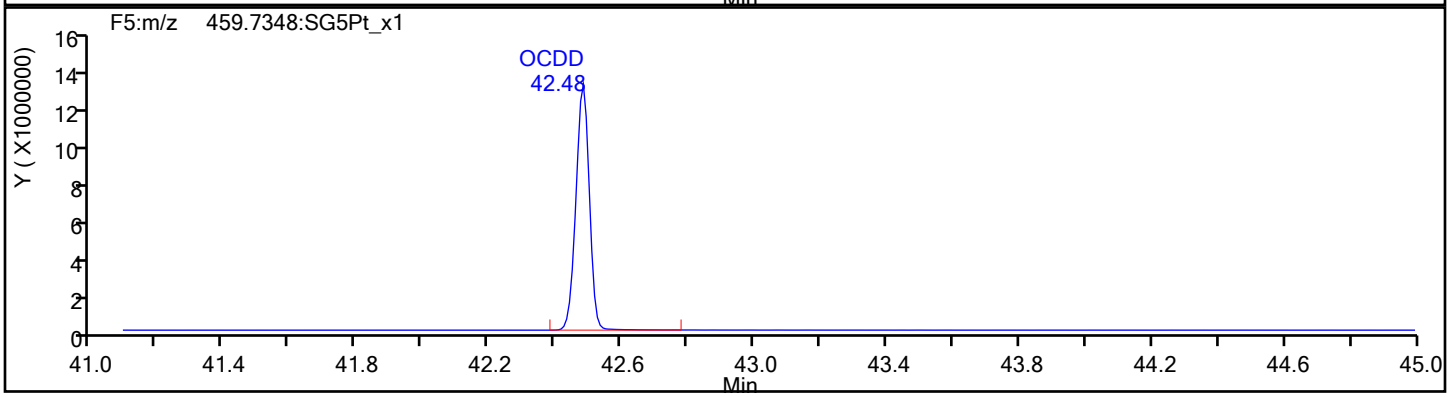


Eurofins TestAmerica, Sacramento

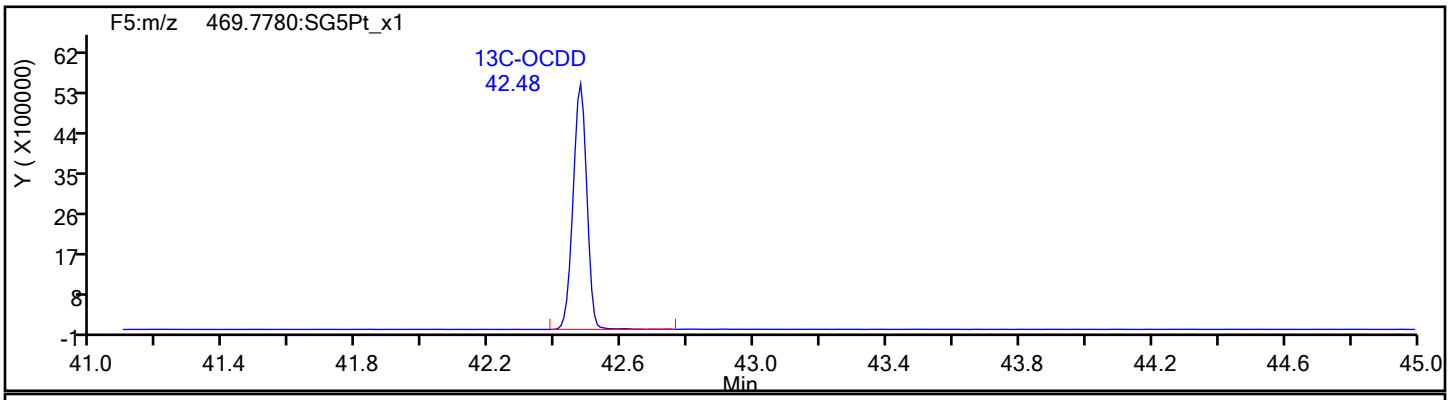
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
Injection Date:	18-Nov-2021 17:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

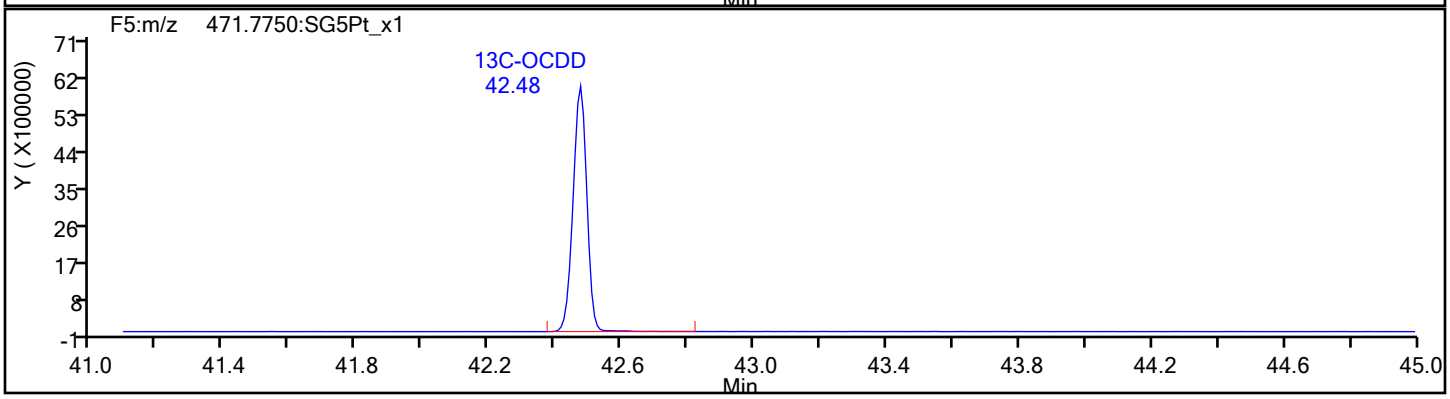
OCDD





OCDD Standards

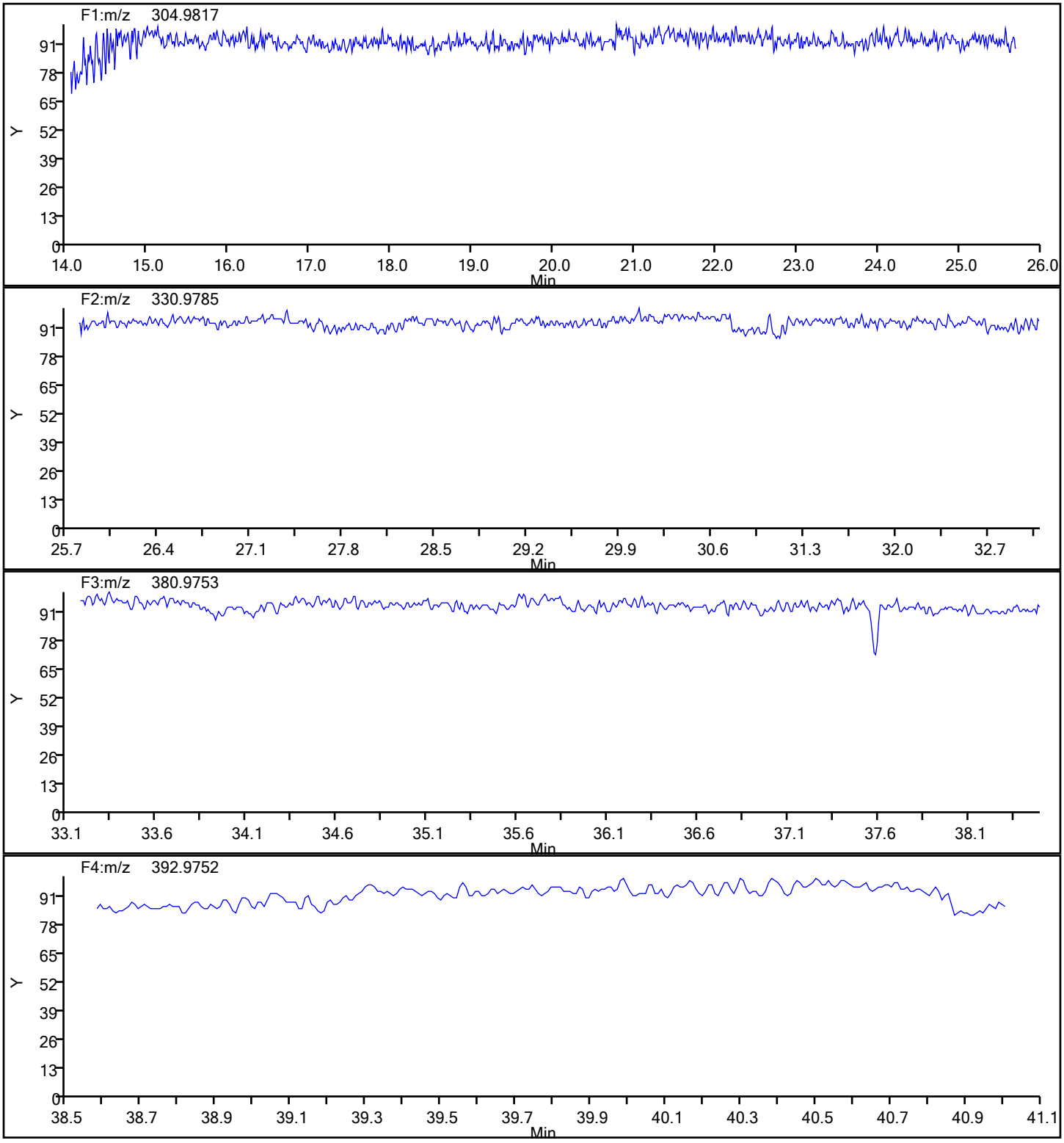




Report Date: 19-Nov-2021 11:39:08 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

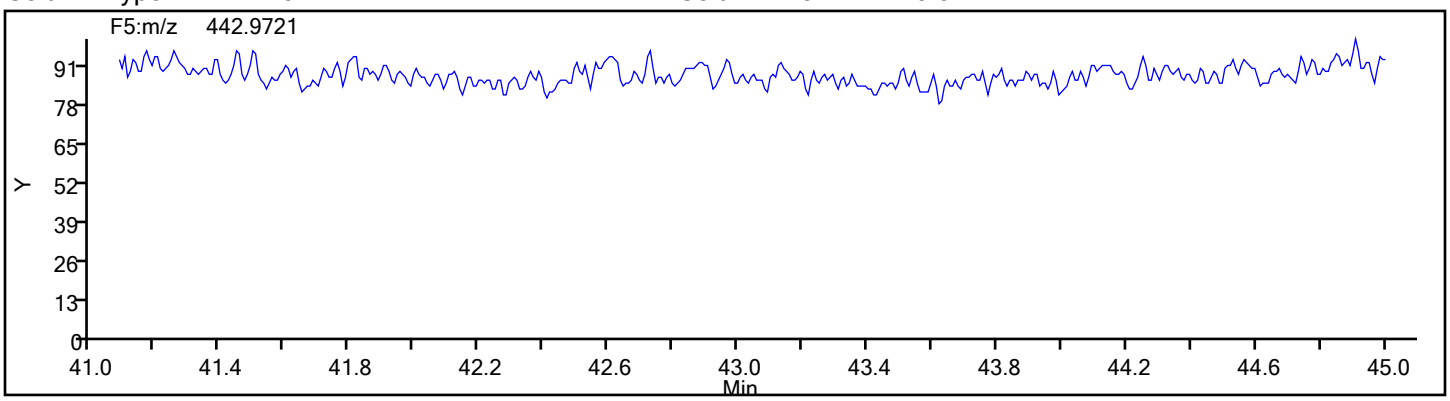
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
Injection Date:	18-Nov-2021 17:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 19-Nov-2021 11:39:08 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_7.d		
Injection Date:	18-Nov-2021 17:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 18-Nov-2021 18:38:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS6_HRDXNL6_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 11:39:24 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 09:00:29

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	22.453	26476592	0.81	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	21.405	34471994	0.83	1.2917	100.8	100.8	0.2460	0.2460	101	
2,3,7,8-TCDF	21.431	70361564	0.75	1.1045	184.8	184.8	0.1892	0.1892	92.40	
S Total TCDF					184.8	184.8	0.1892	0.1892		
D 13C-2,3,7,8-TCDD	22.856	22400301	0.81	0.8271	102.3	102.3	0.1709	0.1709	102	
2,3,7,8-TCDD	22.882	48337010	0.79	1.1211	192.5	192.5	0.1245	0.1245	96.24	
$ 37Cl4-2,3,7,8-TCDD	22.882	47520860		0.8866	202.4	202.4	0.0699	0.0699	101	
S Total TCDD					192.5	192.5	0.1245	0.1245		
D 13C-1,2,3,7,8-PeCDF	28.204	31886919	1.58	1.1665	103.2	103.2	0.3252	0.3252	103	
1,2,3,7,8-PeCDF	28.230	351439457	1.61	1.0987	1003.1	1003.1	2.109	2.109	100	
D 13C-2,3,4,7,8-PeCDF	29.805	39204110	1.58							
2,3,4,7,8-PeCDF	29.838	314824731	1.56	1.0579	933.3	933.3	2.190	2.190	93.33	
S Total PeCDF					1936.4	1936.4	2.150	2.150		
D 13C-1,2,3,7,8-PeCDD	30.681	21149998	1.56	0.6835	116.9	116.9	0.1568	0.1568	117	
1,2,3,7,8-PeCDD	30.706	218163855	1.61	1.1030	935.2	935.2	0.5337	0.5337	93.52	
S Total PeCDD					935.2	935.2	0.5337	0.5337		
D 13C-1,2,3,4,7,8-HxCDF	35.587	33783657	0.52	1.1776	91.6	91.6	0.2070	0.2070	91.63	
1,2,3,4,7,8-HxCDF	35.604	314582877	1.22	0.9504	979.7	979.7	2.413	2.413	97.97	
D 13C-1,2,3,6,7,8-HxCDF	35.731	27675930	0.53							
1,2,3,6,7,8-HxCDF	35.747	297947435	1.22	0.9524	926.0	926.0	2.408	2.408	92.60	
D 13C-2,3,4,6,7,8-HxCDF	36.489	24866933	0.52							
2,3,4,6,7,8-HxCDF	36.506	274234389	1.20	0.8893	912.8	912.8	2.579	2.579	91.28	
D 13C-1,2,3,7,8,9-HxCDF	37.323	24136751	0.53							
1,2,3,7,8,9-HxCDF	37.340	265800422	1.22	0.8433	933.0	933.0	2.720	2.720	93.30	
S Total HxCDF					3751.5	3751.5	2.530	2.530		
* 13C-1,2,3,7,8,9-HxCDD	37.138	31310181	1.26	2.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	36.683	25885546	1.26							
1,2,3,4,7,8-HxCDD	36.700	219688438	1.26	1.0079	945.4	945.4	0.9707	0.9707	94.54	
D 13C-1,2,3,6,7,8-HxCDD	36.793	23055935	1.24	0.7339	100.3	100.3	0.1905	0.1905	100	
1,2,3,6,7,8-HxCDD	36.809	216491684	1.26	1.0111	928.7	928.7	0.9676	0.9676	92.87	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	37.146	235807639	1.25	1.0993	930.4	930.4	0.8900	0.8900	93.04	
S Total HxCDD					2804.4	2804.4	0.9428	0.9428		
D 13C-1,2,3,4,6,7,8-HpCDF	39.046	19917414	0.46	0.6698	95.0	95.0	0.2555	0.2555	94.97	
1,2,3,4,6,7,8-HpCDF	39.055	306510981	1.02	1.5184	1013.5	1013.5	2.250	2.250	101	
D 13C-1,2,3,4,7,8,9-HpCDF	40.259	23007923	0.45							
1,2,3,4,7,8,9-HpCDF	40.268	255655259	1.01	1.3387	958.8	958.8	2.552	2.552	95.88	
S Total HpCDF					1972.3	1972.3	2.401	2.401		
D 13C-1,2,3,4,6,7,8-HpCDD	39.956	18307130	1.06	0.5943	98.4	98.4	0.2189	0.2189	98.39	
1,2,3,4,6,7,8-HpCDD	39.965	199315962	1.05	1.0953	994.0	994.0	1.375	1.375	99.40	
S Total HpCDD					994.0	994.0	1.375	1.375		
D 13C-OCDD	42.495	27427204	0.88	0.4838	181.1	181.1	0.2117	0.2117	90.54	
OCDF	42.596	369846951	0.86	1.3979	1929.3	1929.3	0.7054	0.7054	96.46	
OCDD	42.503	302346576	0.87	1.1116	1983.4	1983.4	0.8683	0.8683	99.17	

QC Flag Legend

Processing Flags

Reagents:

HRDXNL6_00030 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 18-Nov-2021 18:38:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS6_HRDXNL6_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 11:39:24 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 09:00:29

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	22.453	22.456	0		11858451	1724283	1530	3825	1127		
333.9338	22.453	22.456	0		14618141	2095616	630	1575	3326	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	21.405	21.398	0	0.953	15618222	2335122	3135	7837	745		
317.9389	21.396	21.398	0	0.953	18853772	2824476	1721	4302	1641	0.83(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	21.431	21.426	0	1.001	30245492	4532296	1836	4590	2469		
305.8987	21.431	21.426	0	1.001	40116072	6064476	2478	6195	2447	0.75(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	22.856	22.855	0	1.018	10028064	1388226	1530	3825	907		
333.9338	22.856	22.855	0	1.018	12372237	1657426	630	1575	2631	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	22.882	22.887	0	1.001	21403361	3014057	864	2160	3488		
321.8936	22.882	22.887	0	1.001	26933649	3798206	836	2090	4543	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	22.882	22.891	-1	1.019	47520860	6814062	947	2367	7195		
13C-1,2,3,7,8-PeCDF											
351.9000	28.204	28.227	-1	1.256	19550732	3194278	3450	8625	926		
353.8970	28.204	28.227	-1	1.256	12336187	1950145	2346	5865	831	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	28.230	28.252	-1	1.001	216738024	38937182	29302	73255	1329		
341.8567	28.230	28.252	-1	1.001	134701433	23649127	18376	45940	1287	1.61(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	29.805	29.841	-2	1.327	24030773	3577224	3450	8625	1037		
353.8970	29.805	29.841	-2	1.327	15173337	2266961	2346	5865	966	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	29.838	29.871	-2	1.001	191850871	30650663	29302	73255	1046		
341.8567	29.838	29.871	-2	1.001	122973860	19616844	18376	45940	1068	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	30.681	30.710	-2	1.366	12904182	1931060	1068	2670	1808		
369.8919	30.681	30.710	-2	1.366	8245816	1222260	570	1425	2144	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	30.706	30.739	-2	1.001	134492119	21429735	4495	11237	4767		
357.8516	30.698	30.739	-2	1.001	83671736	13287412	2930	7325	4535	1.61(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	35.587	35.596	-1	0.958	11562581	2763616	2957	7392	935		
385.8610	35.579	35.596	-1	0.958	22221076	5378846	5499	13747	978	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	35.604	35.611	0	1.000	173187128	46510591	40848	102120	1139		
375.8178	35.604	35.611	0	1.000	141395749	37298090	33855	84637	1102	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	35.731	35.743	-1	0.962	9559189	2288008	2957	7392	774		
385.8610	35.731	35.743	-1	0.962	18116741	4404134	5499	13747	801	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	35.747	35.758	-1	1.000	163545827	41998715	40848	102120	1028		
375.8178	35.747	35.758	-1	1.000	134401608	34447076	33855	84637	1017	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	36.489	36.495	0	0.983	8475594	2276126	2957	7392	770		
385.8610	36.489	36.495	0	0.983	16391339	4388045	5499	13747	798	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	36.506	36.510	0	1.000	149298559	43432911	40848	102120	1063		
375.8178	36.506	36.510	0	1.000	124935830	35742223	33855	84637	1056	1.20(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	37.323	37.329	0	1.005	8311512	2288400	2957	7392	774		
385.8610	37.323	37.329	0	1.005	15825239	4376755	5499	13747	796	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	37.340	37.344	0	1.000	145897190	43676203	40848	102120	1069		
375.8178	37.340	37.344	0	1.000	119903232	35666857	33855	84637	1054	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	37.138	37.140	0		17462294	4825475	2799	6997	1724		
403.8529	37.129	37.140	-1		13847887	3848701	2052	5130	1876	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	36.683	36.687	0	0.988	14448220	3831386	2799	6997	1369		
403.8529	36.683	36.687	0	0.988	11437326	3049623	2052	5130	1486	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	36.700	36.704	0	1.000	122277466	35359133	13829	34572	2557		
391.8127	36.700	36.704	0	1.000	97410972	27598930	11063	27657	2495	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.793	36.796	0	0.991	12752806	3508401	2799	6997	1253		
403.8529	36.793	36.796	0	0.991	10303129	2852157	2052	5130	1390	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	36.809	36.813	0	1.000	120702868	35023930	13829	34572	2533		
391.8127	36.801	36.813	-1	1.000	95788816	27634828	11063	27657	2498	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	37.146	37.150	0	1.013	130797892	37854441	13829	34572	2737		
391.8127	37.146	37.150	0	1.013	105009747	30404194	11063	27657	2748	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	39.046	39.042	0	1.051	6299237	2042001	2564	6410	796		
419.8220	39.046	39.042	0	1.051	13618177	4395990	3375	8437	1303	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	39.055	39.053	0	1.000	154506589	53406784	45133	112832	1183		
409.7788	39.055	39.053	0	1.000	152004392	52483387	42832	107080	1225	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	40.259	40.256	0	1.084	7190958	2402536	2564	6410	937		
419.8220	40.259	40.256	0	1.084	15816965	5396721	3375	8437	1599	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	40.268	40.264	0	1.000	128749074	45270082	45133	112832	1003		
409.7788	40.268	40.264	0	1.000	126906185	45046364	42832	107080	1052	1.01(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.956	39.949	0	1.076	9440603	3233256	2275	5687	1421		
437.8140	39.956	39.949	0	1.076	8866527	3062662	2239	5597	1368	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.965	39.959	0	1.000	102244446	37021487	19383	48457	1910		
425.7737	39.965	39.959	0	1.000	97071516	34928668	18544	46360	1884	1.05(0.88-1.20)	
13C-OCDD											
469.7780	42.495	42.485	1	1.144	12871502	3933216	2075	5187	1896		
471.7750	42.495	42.485	1	1.144	14555702	4470847	1479	3697	3023	0.88(0.76-1.02)	
OCDF											
441.7428	42.596	42.589	0	1.002	171029787	54742269	7802	19505	7016		
443.7399	42.596	42.589	0	1.002	198817164	64393510	8773	21932	7340	0.86(0.76-1.02)	
OCDD											
457.7377	42.503	42.495	0	1.000	140242762	45468497	7675	19187	5924		
459.7348	42.503	42.495	0	1.000	162103814	53078672	8549	21372	6209	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

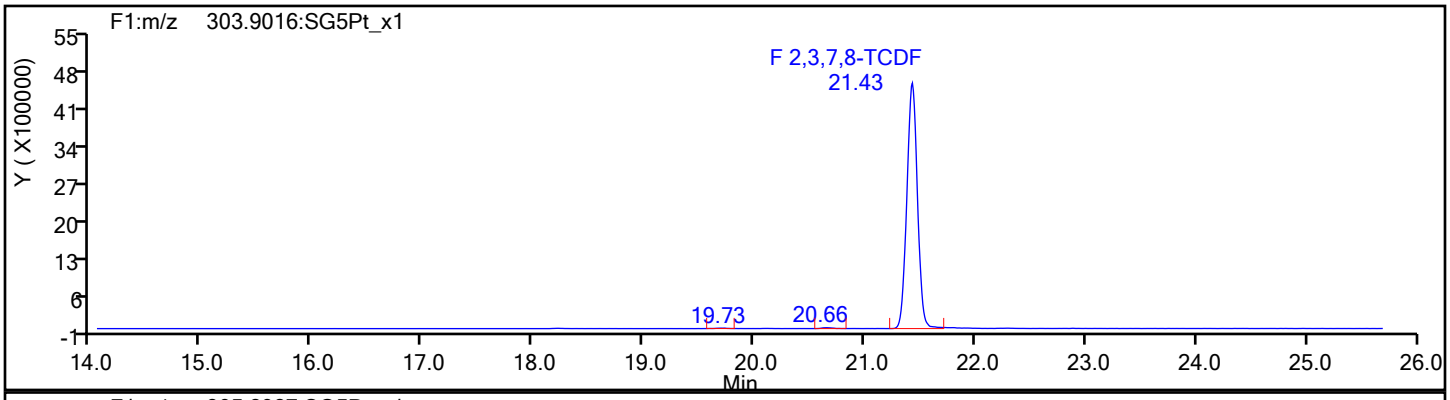
Reagents:

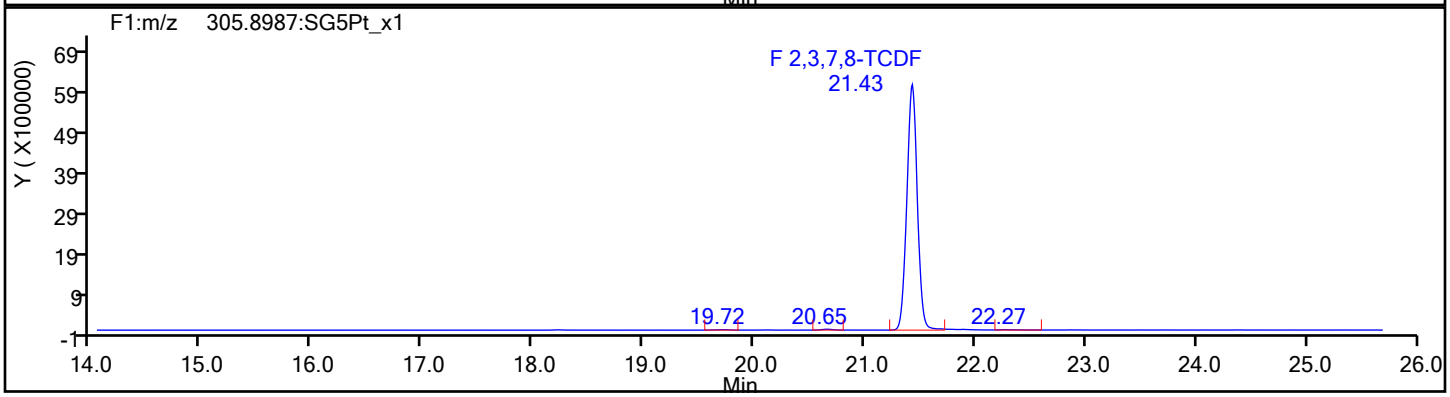
HRDXNL6_00030 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento

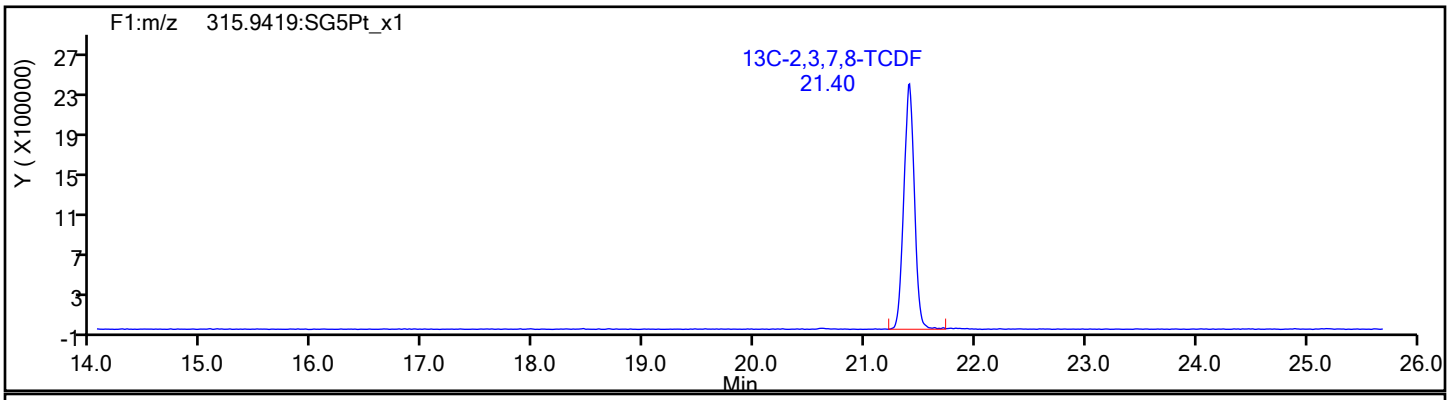
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d		
Injection Date:	18-Nov-2021 18:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

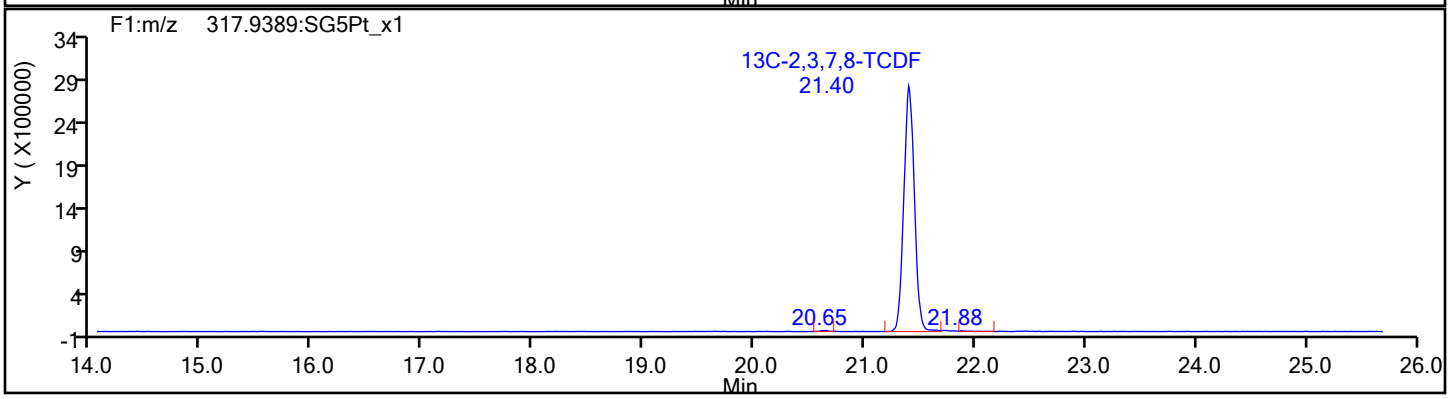
TCDF





TCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d		
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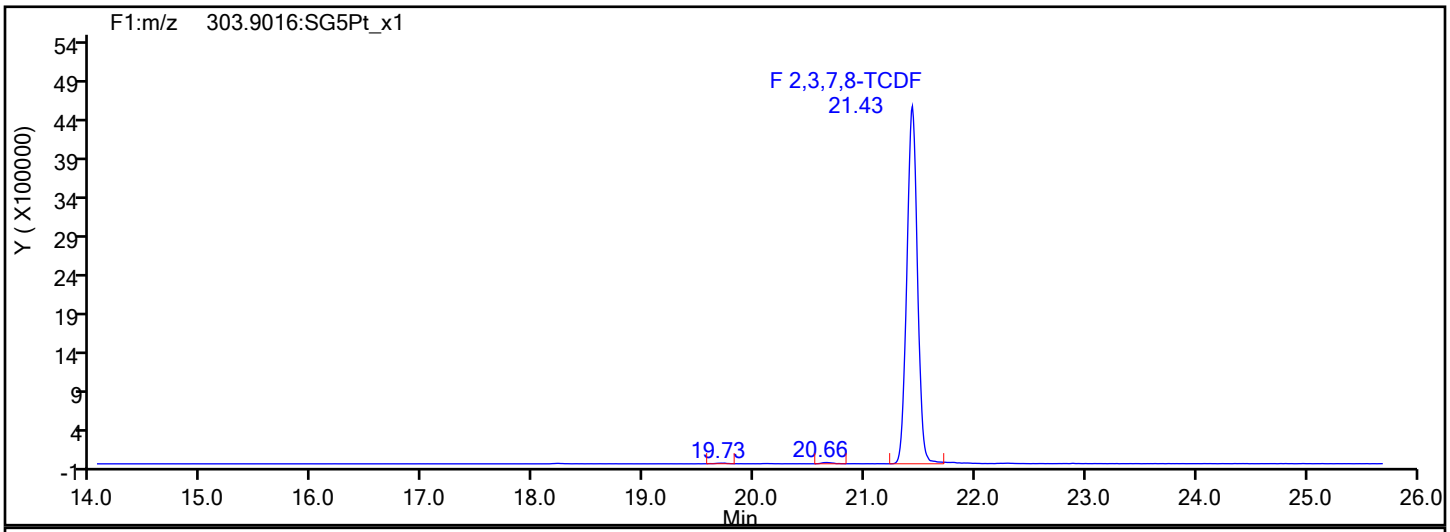
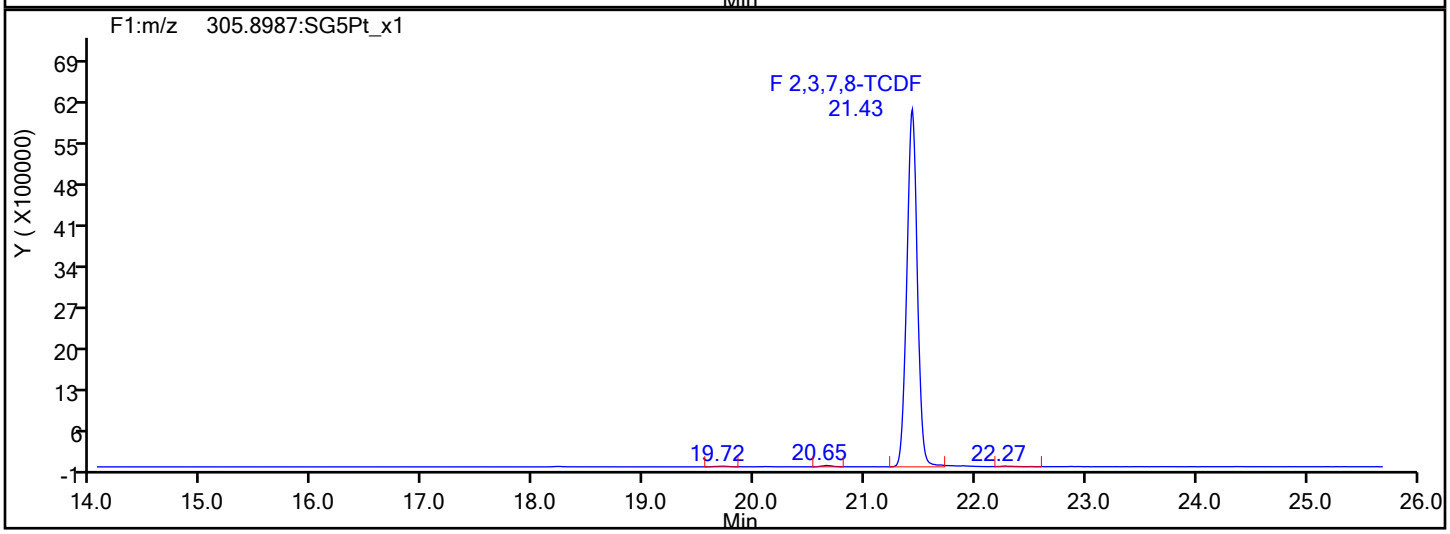
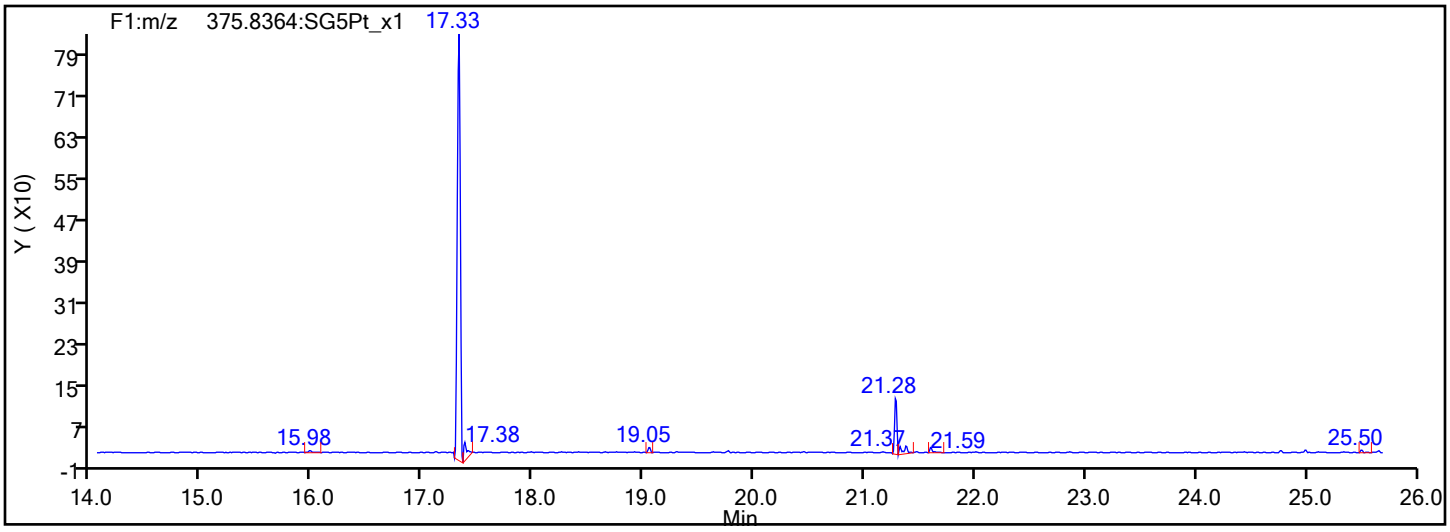
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d		
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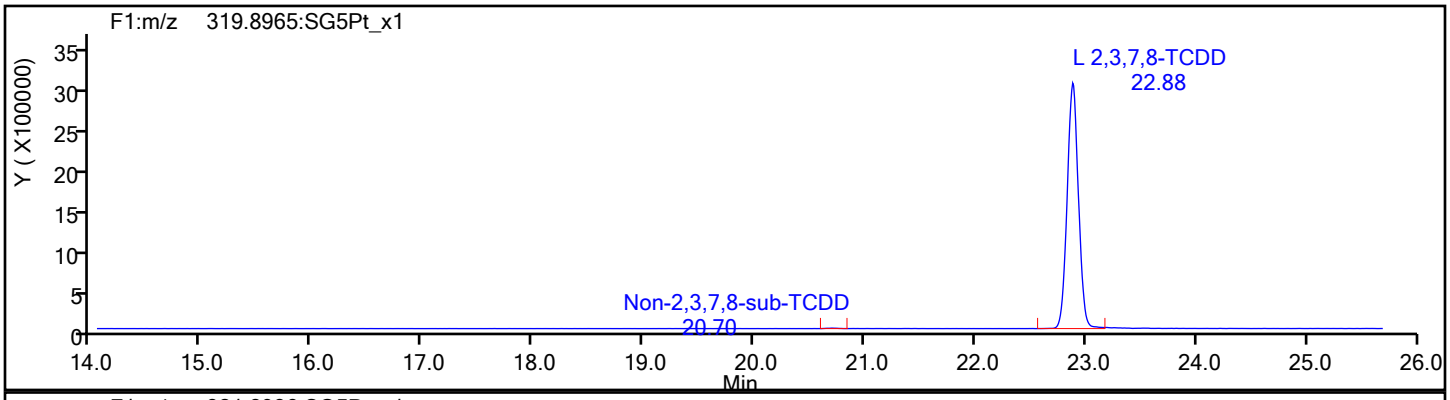
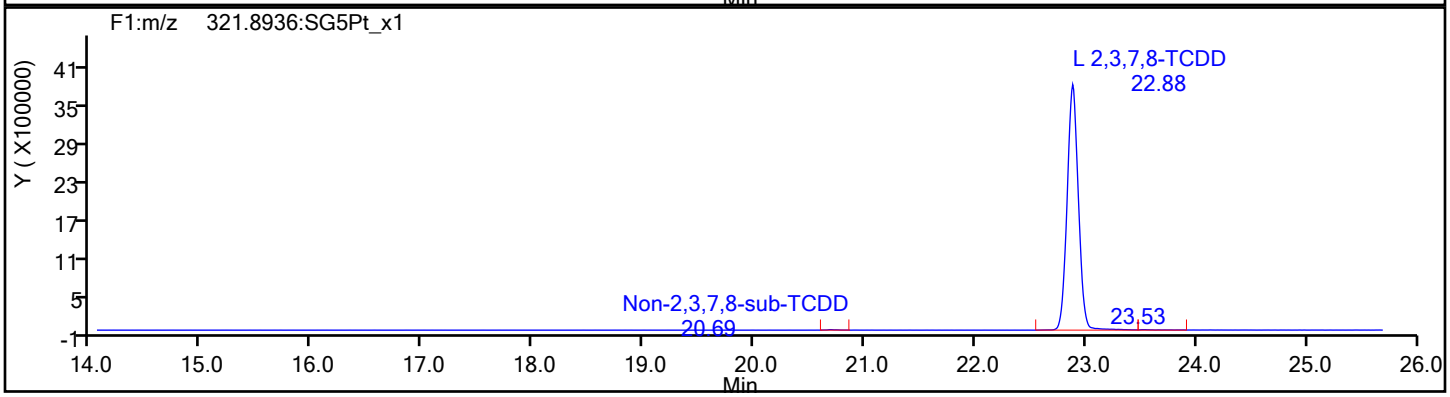
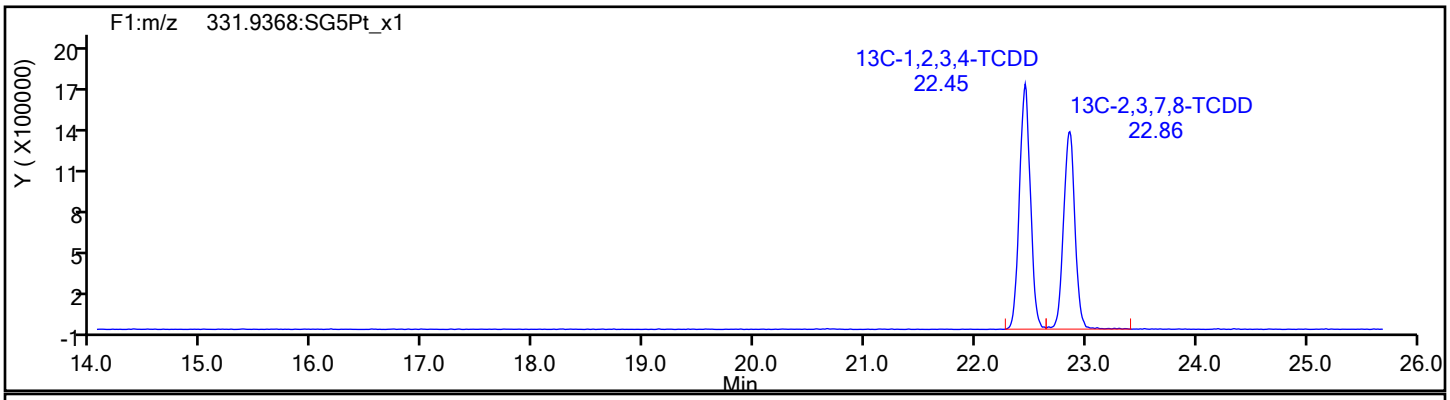
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

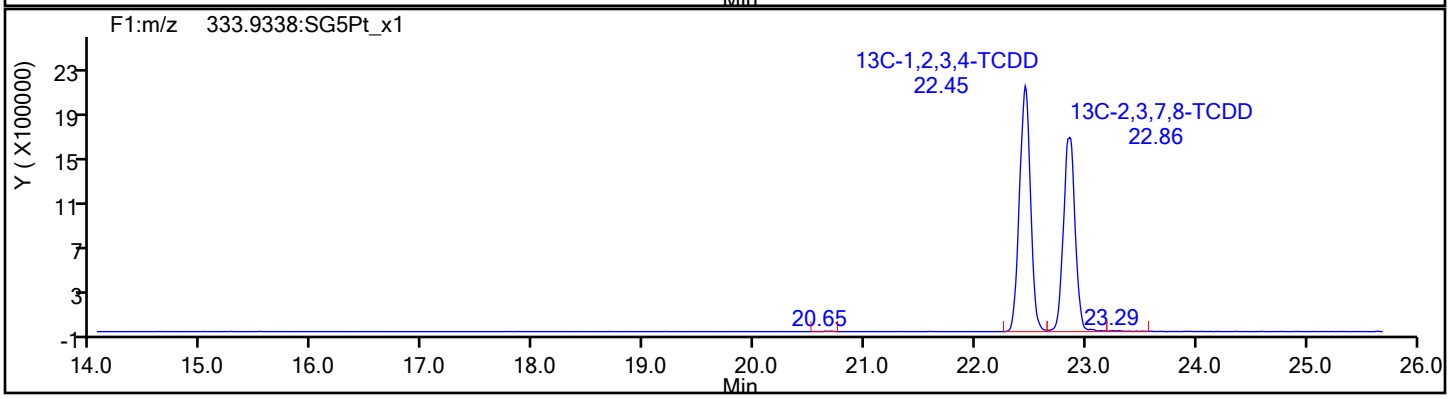
TCDD





TCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d		
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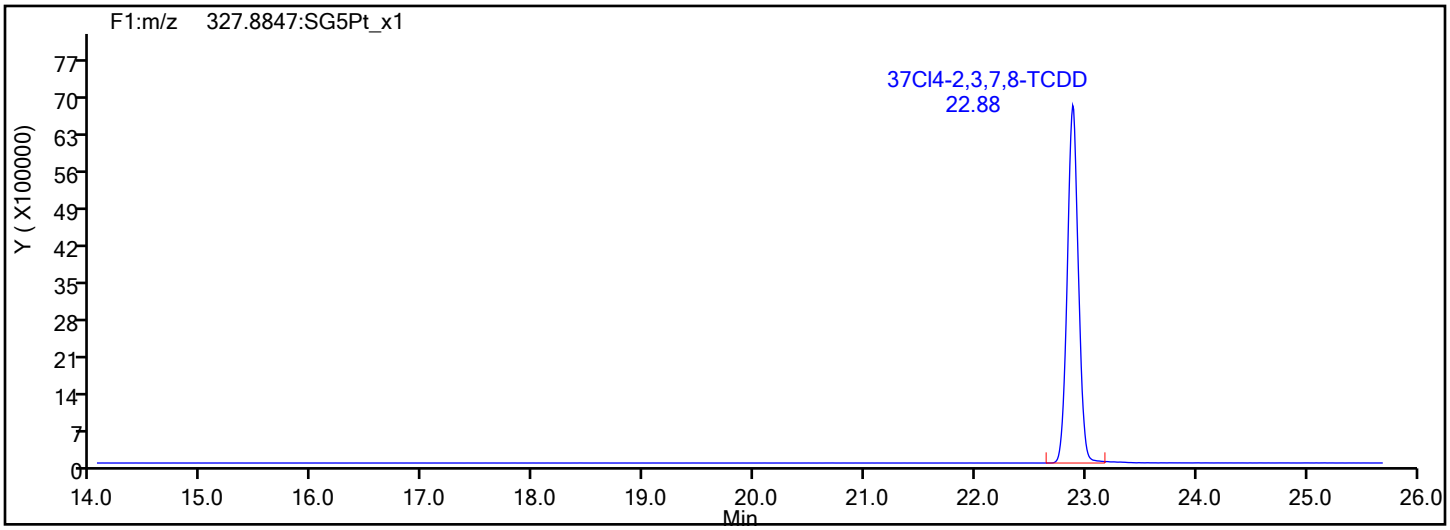
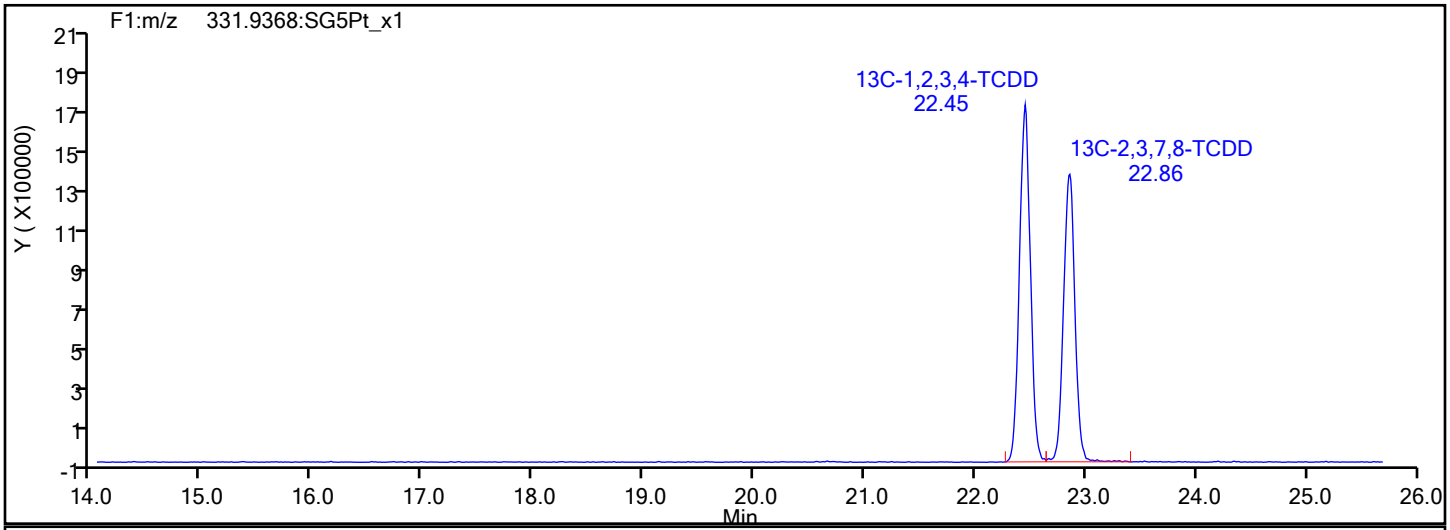
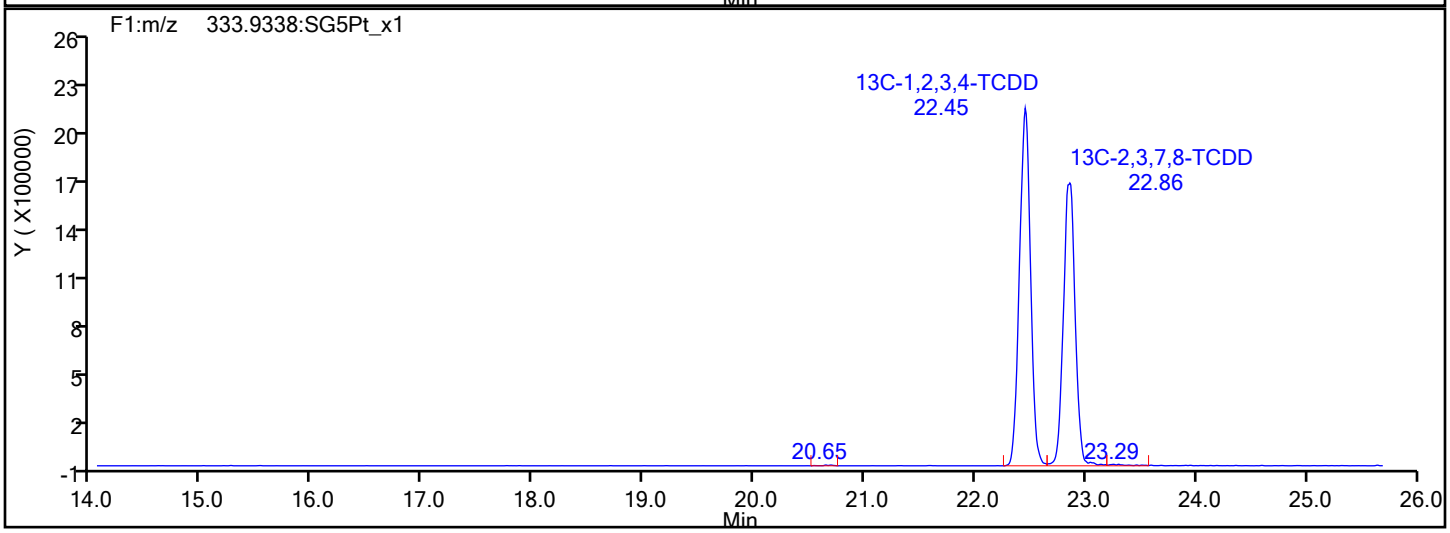
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 19-Nov-2021 11:39:26 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d		
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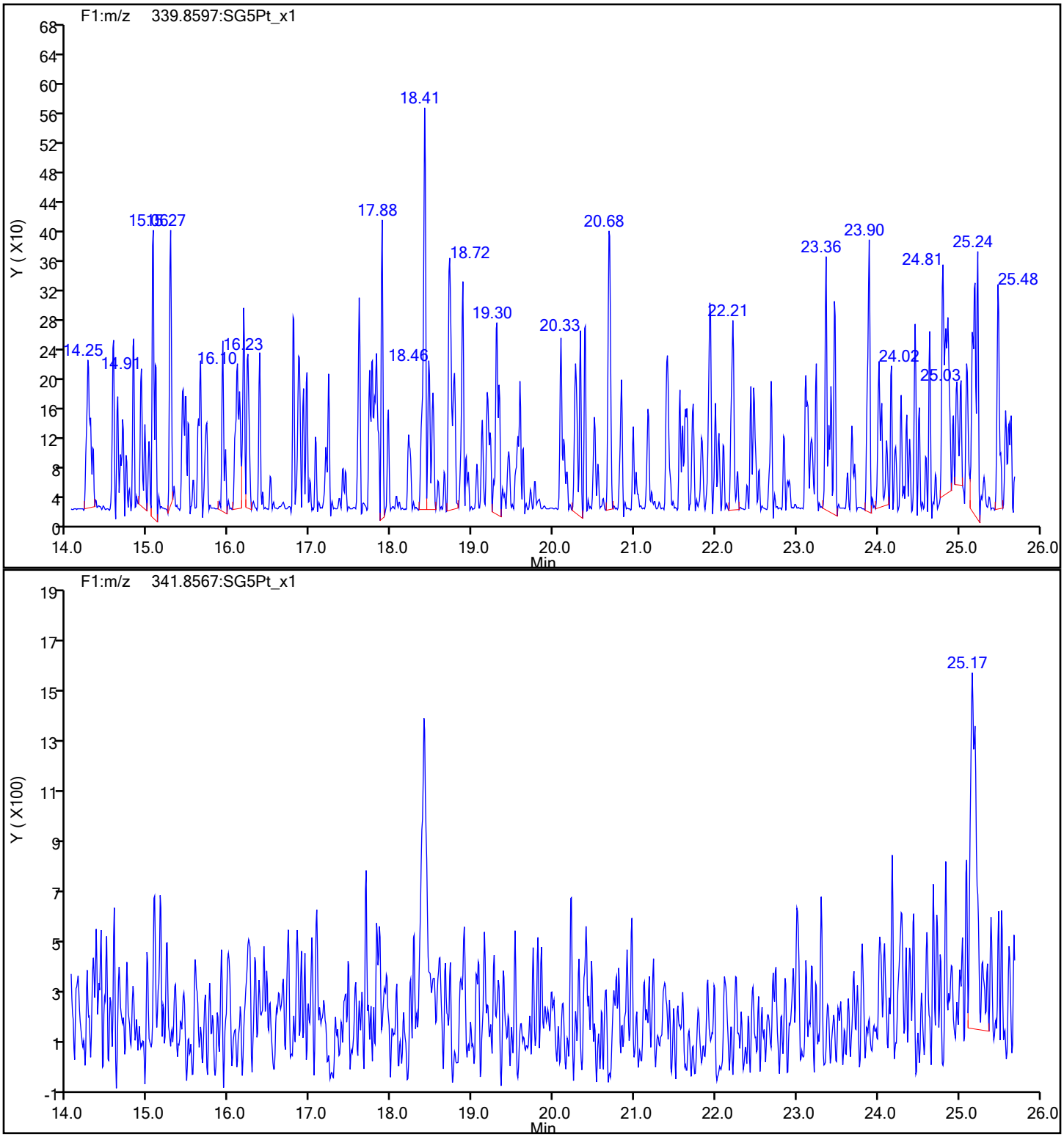
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d		
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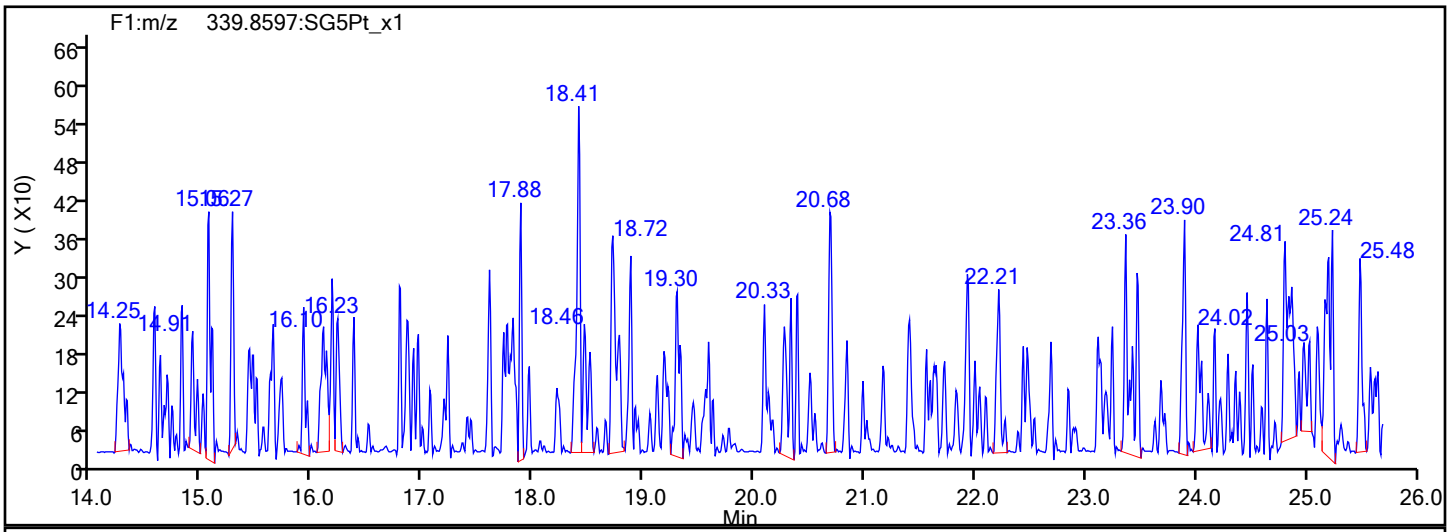
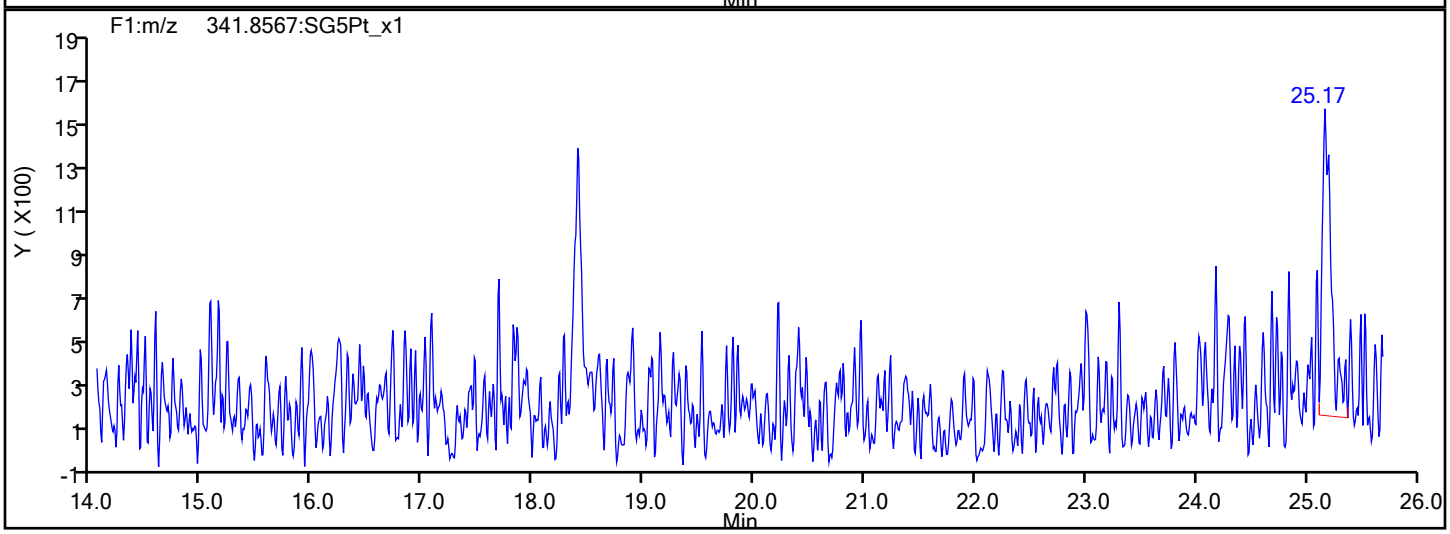
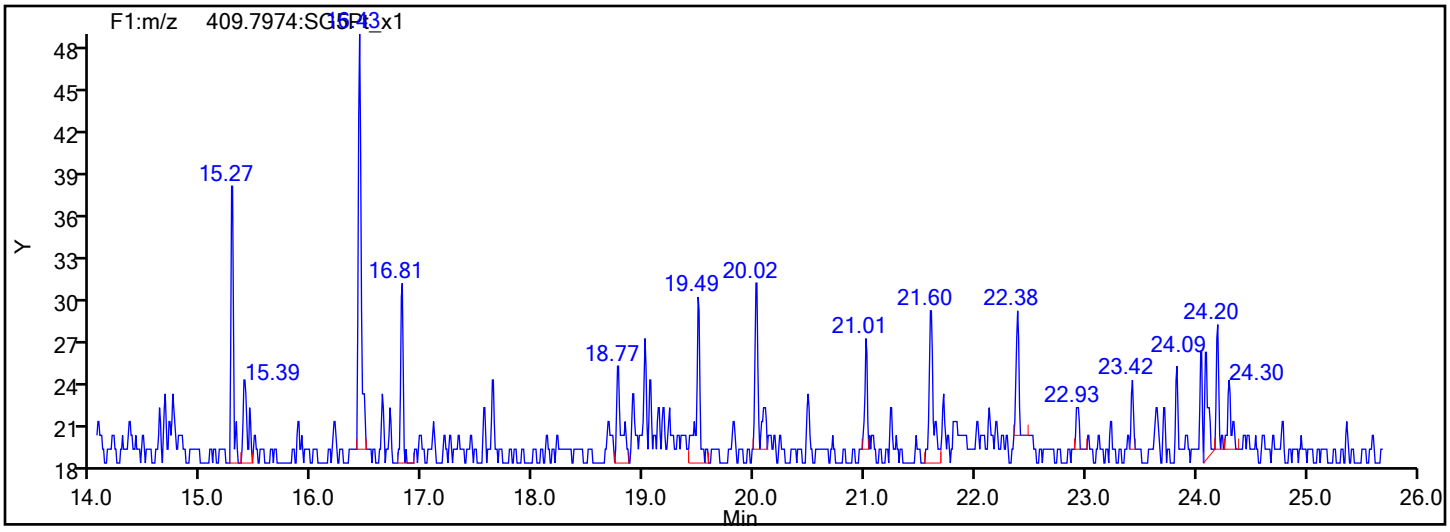
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d		
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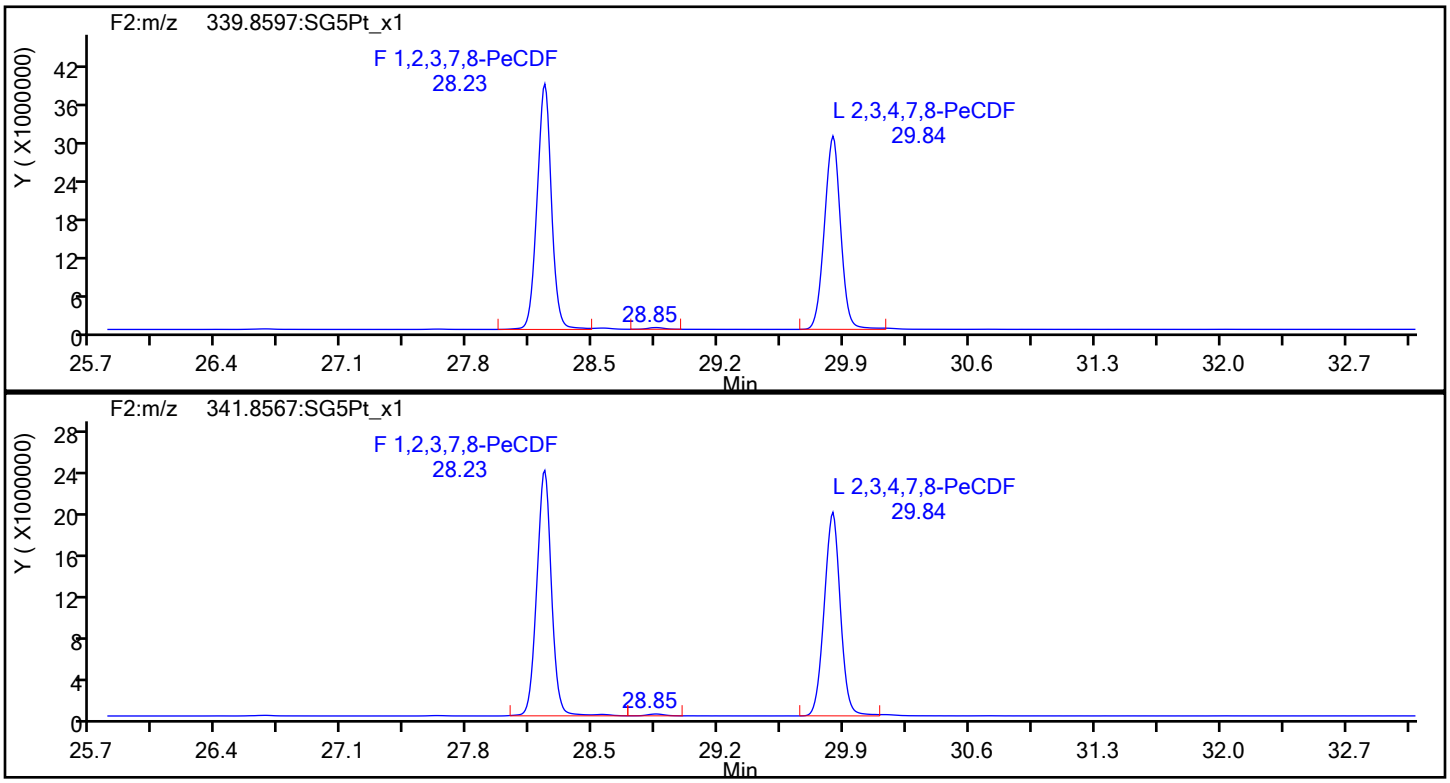
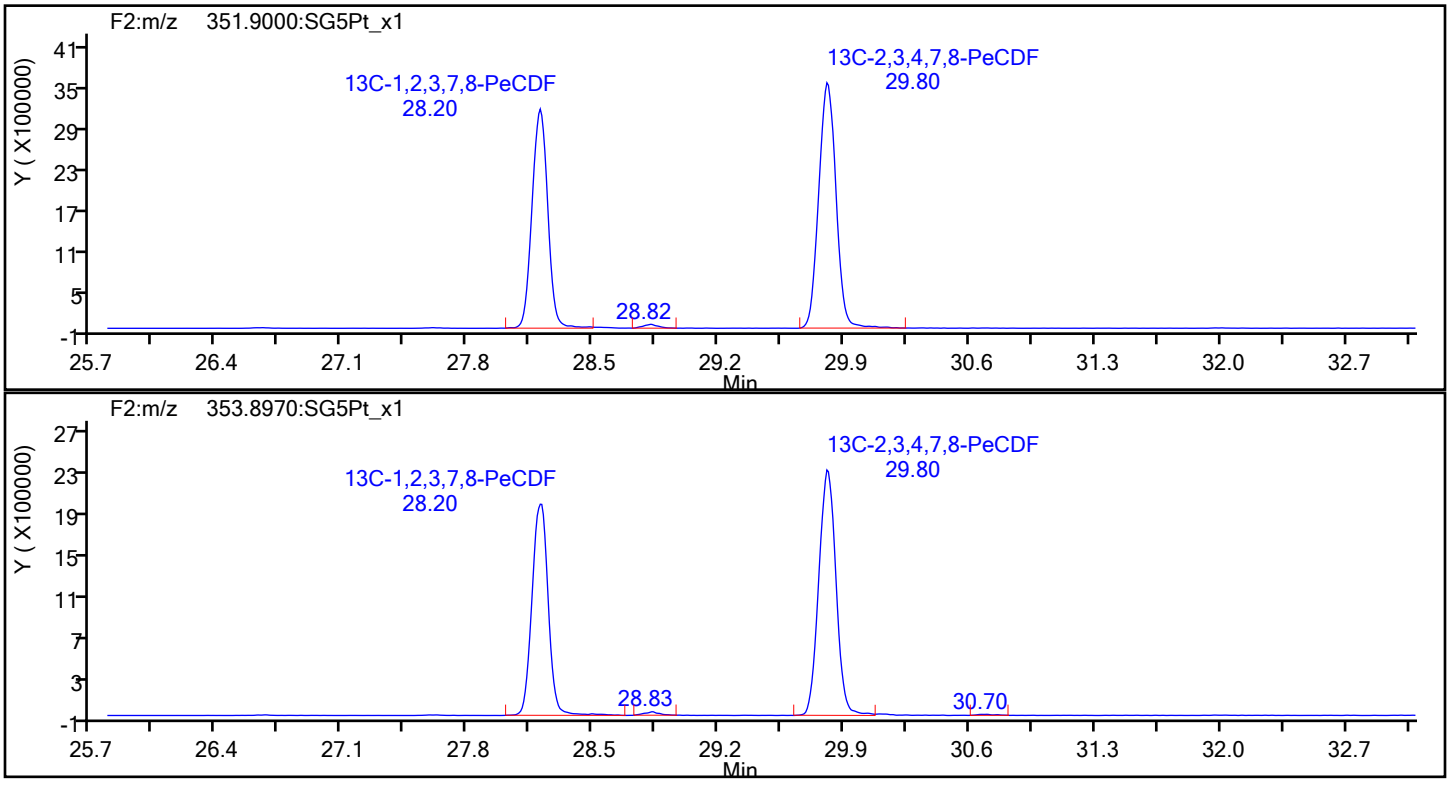
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d		
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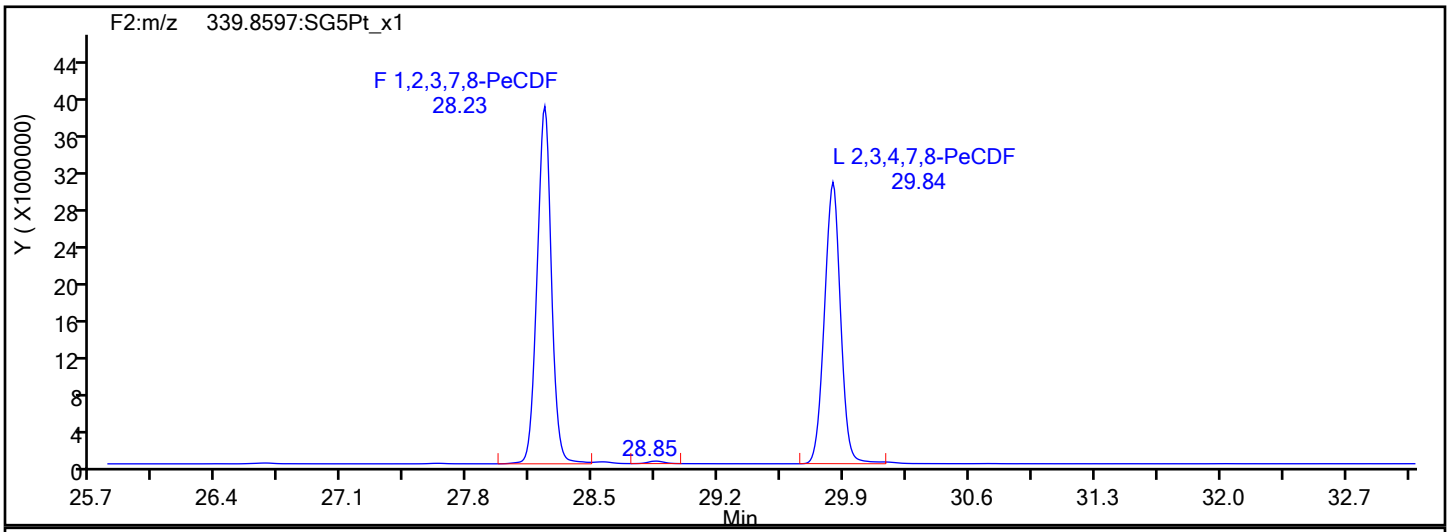
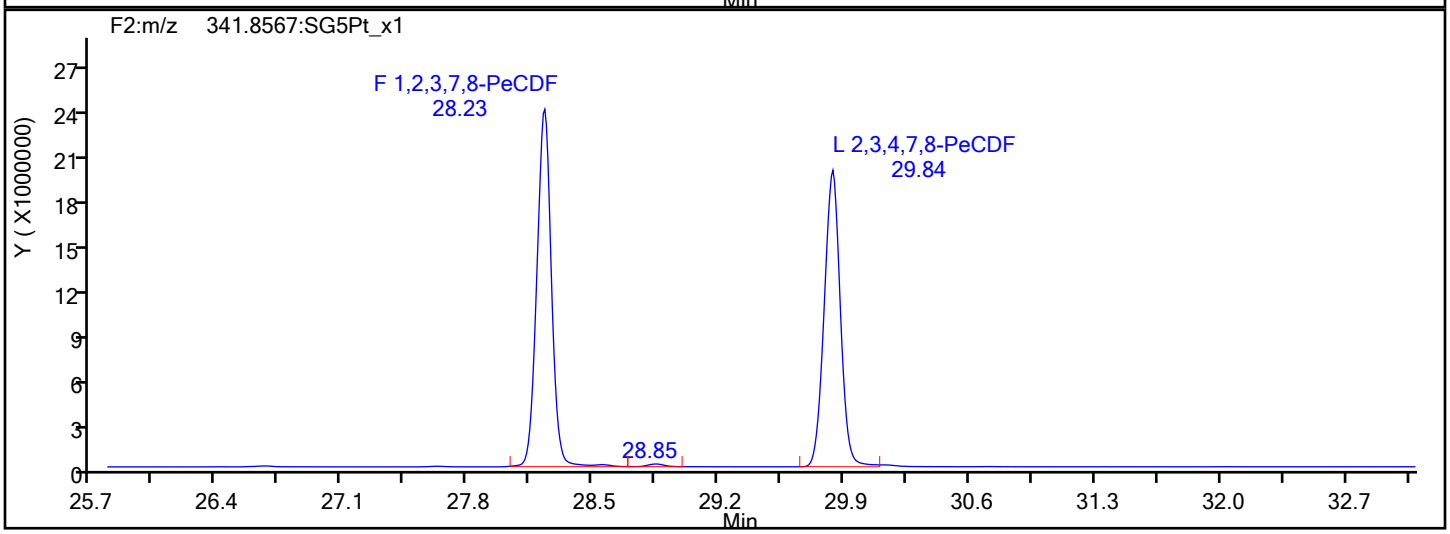
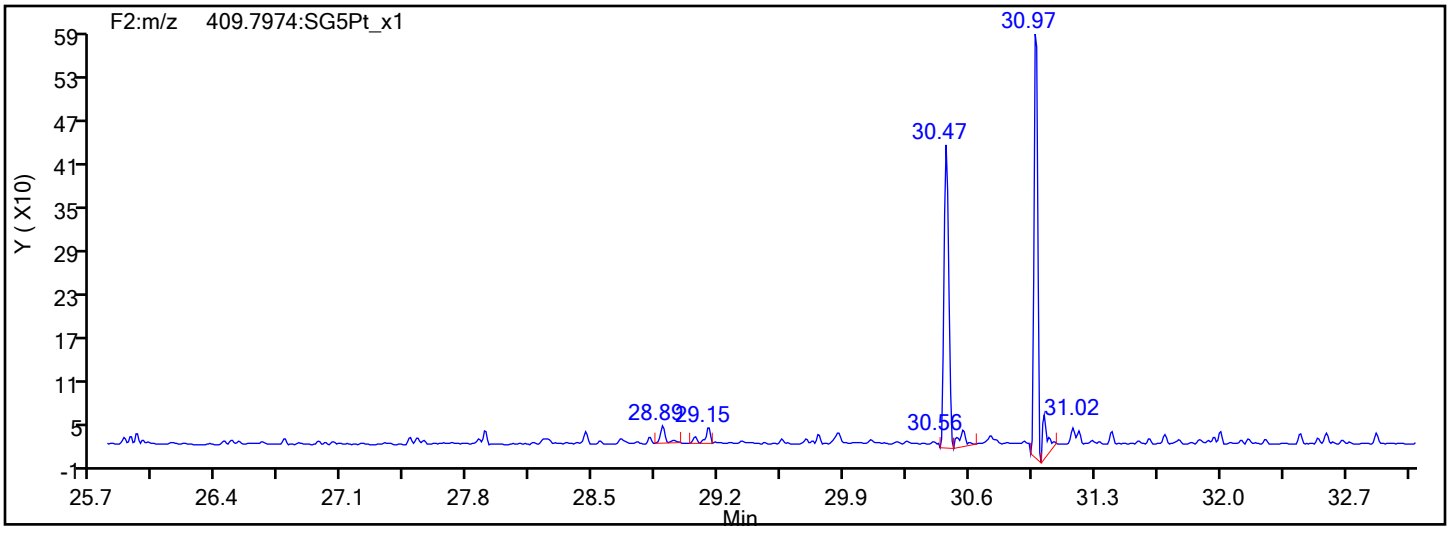
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Eurofins TestAmerica, Sacramento

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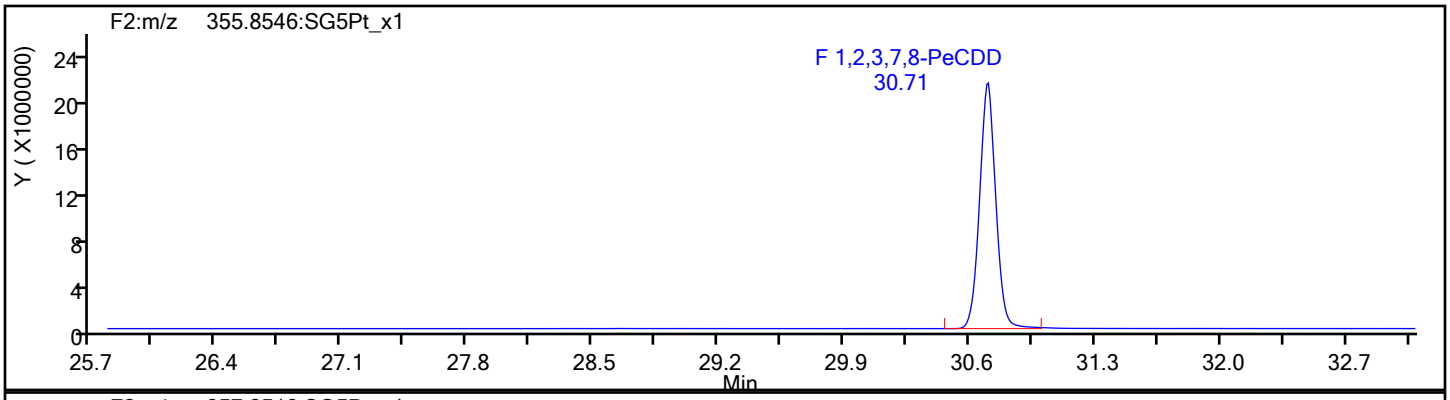
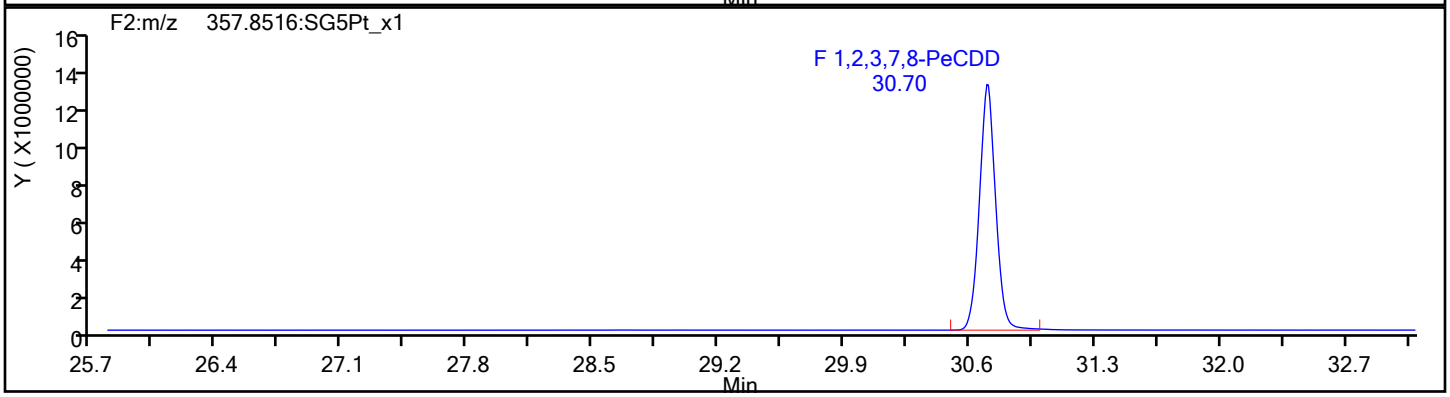
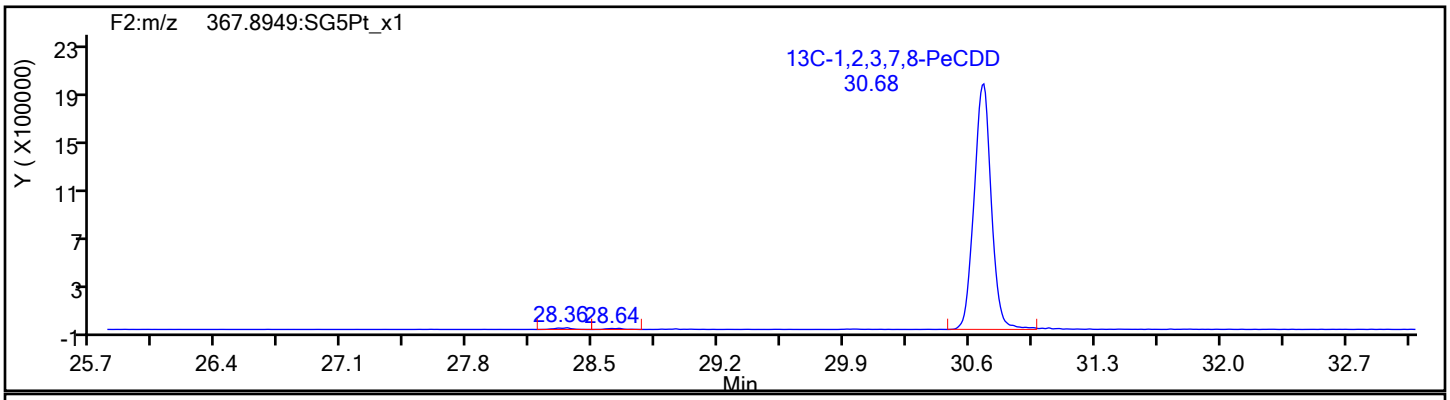
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

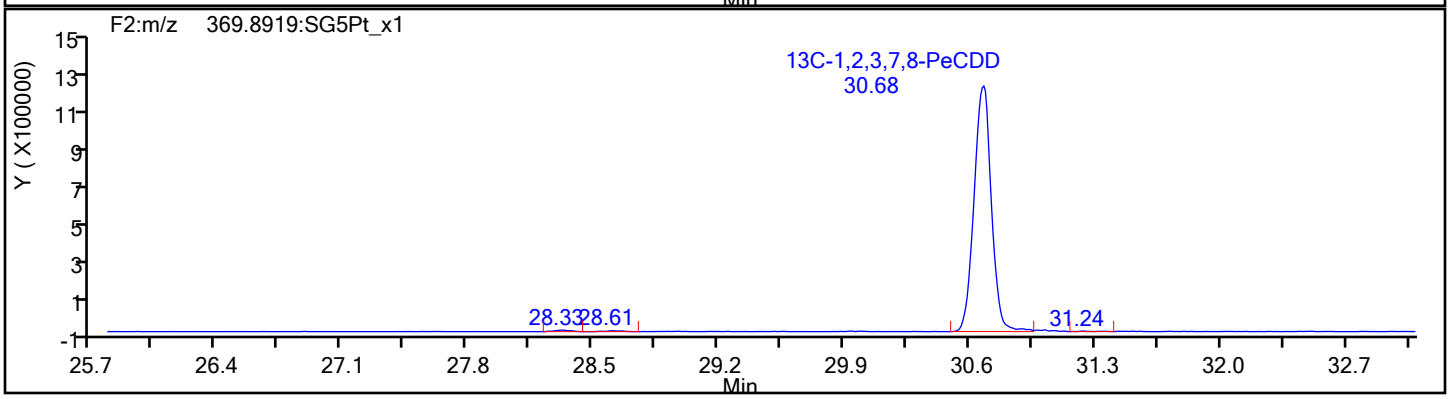
PeCDD





PeCDD Standards





Eurofins TestAmerica, Sacramento

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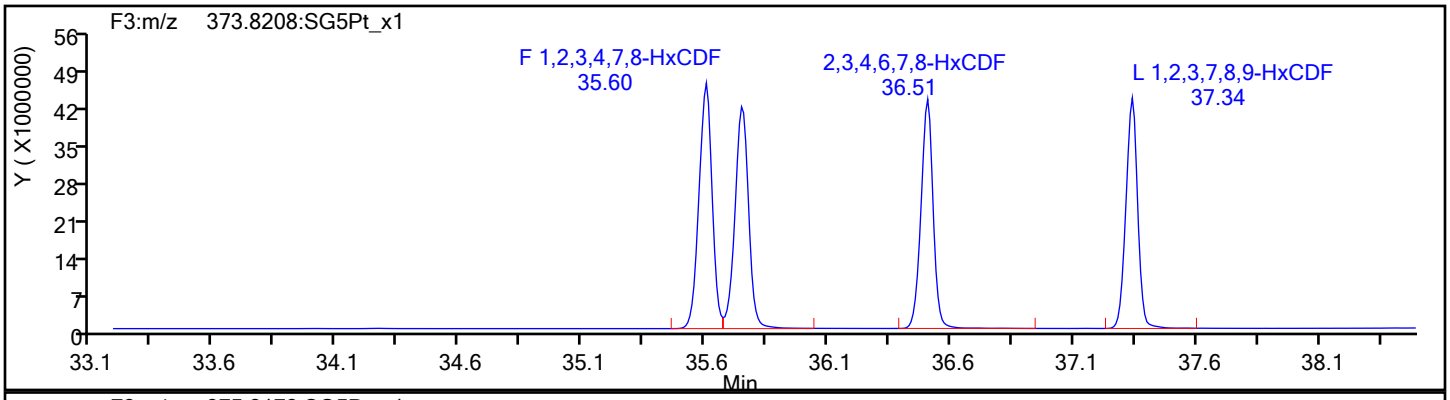
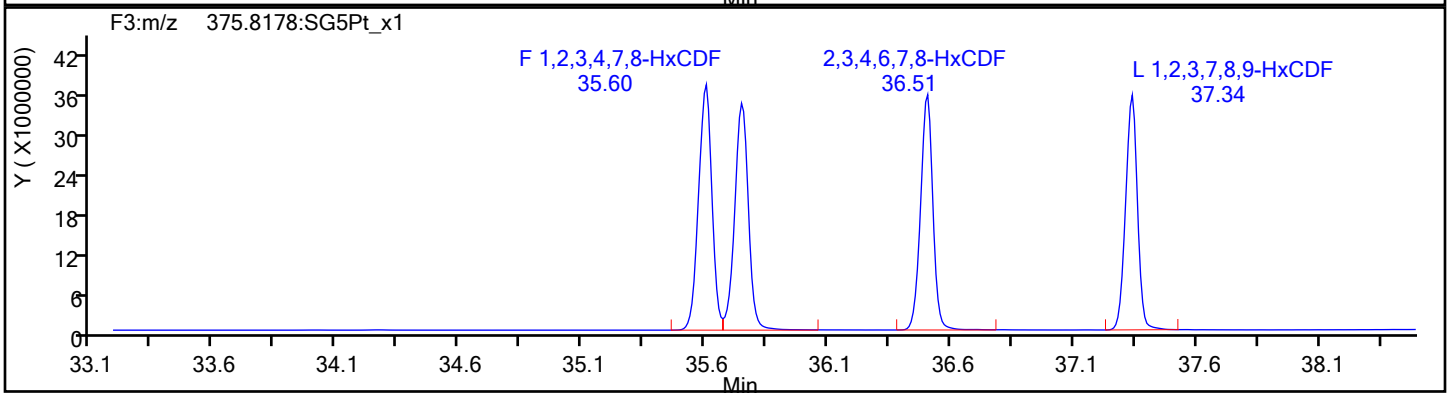
HxCDF





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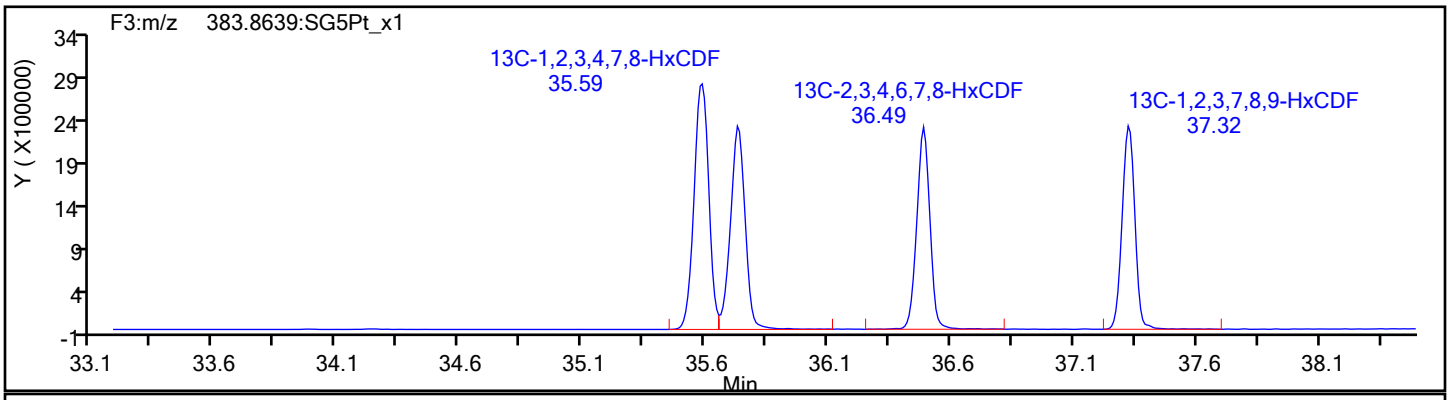

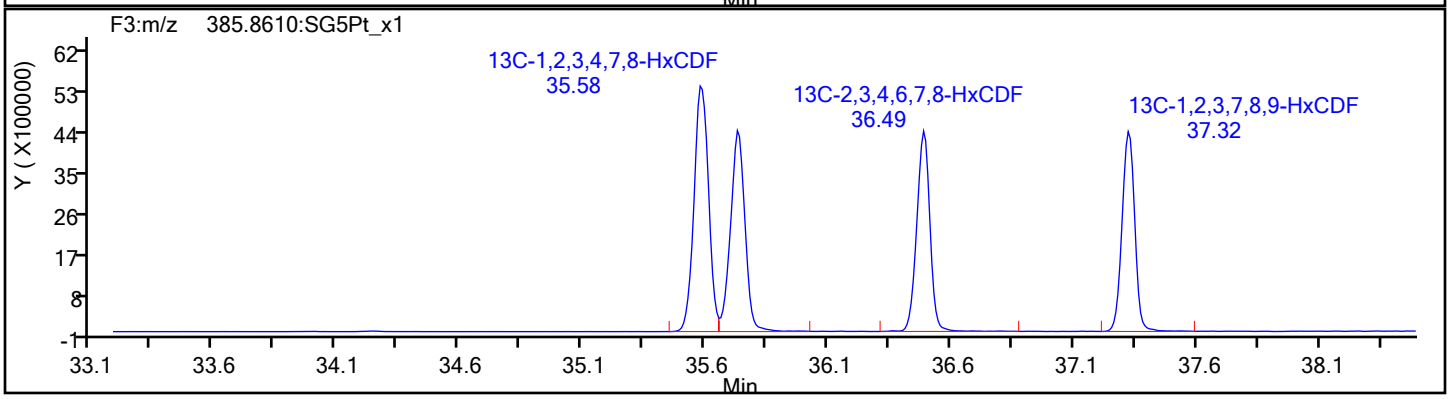

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

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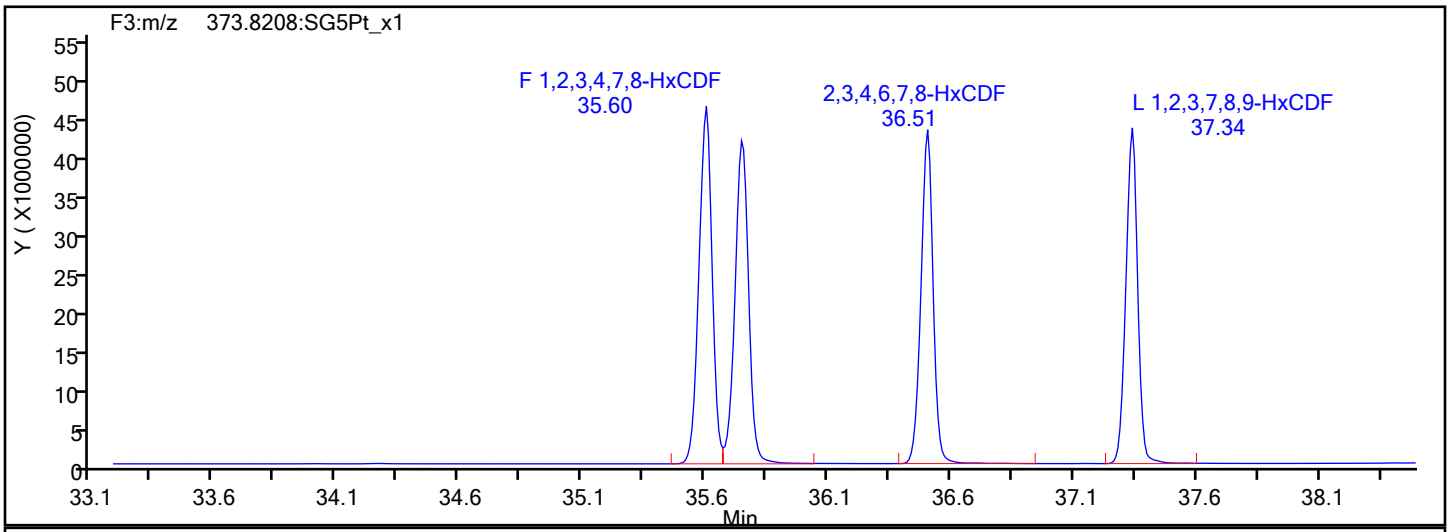
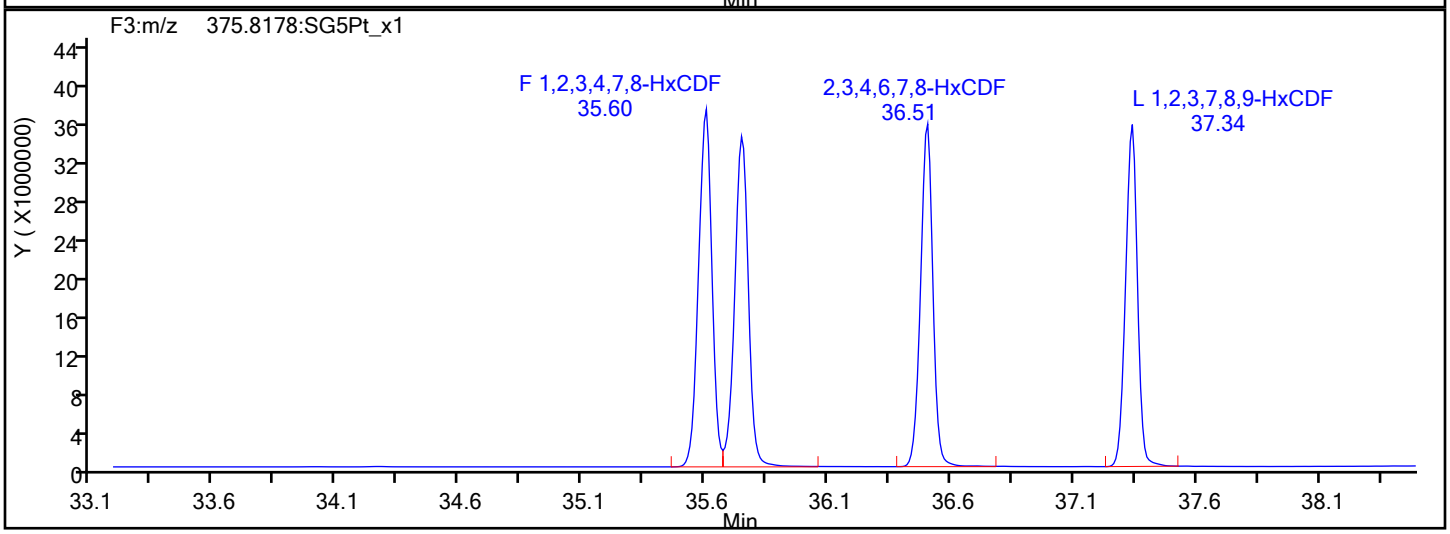
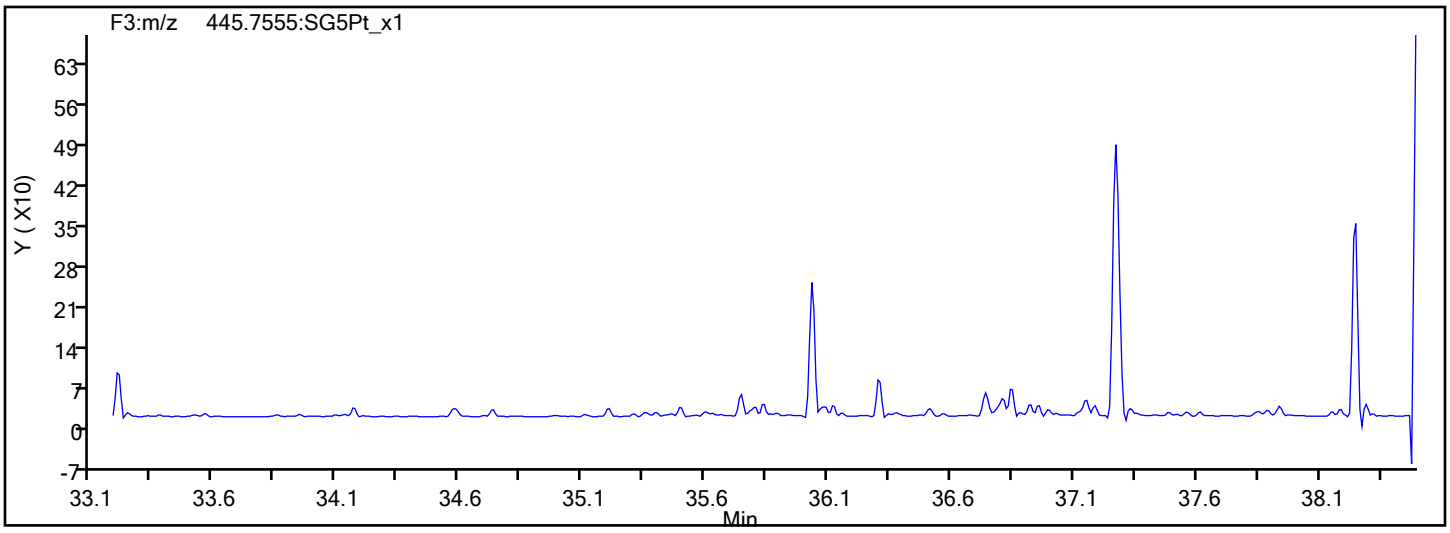




HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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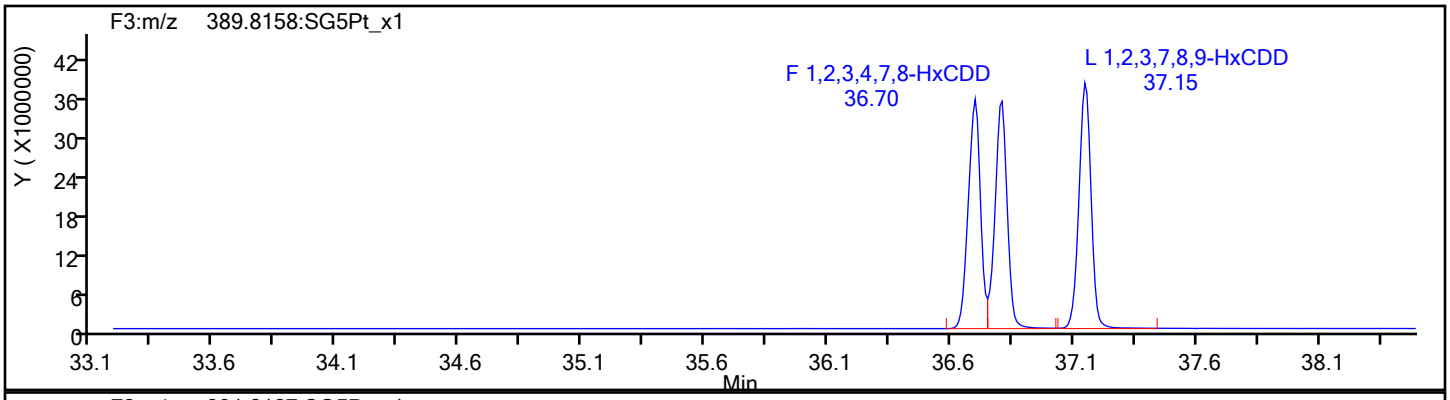
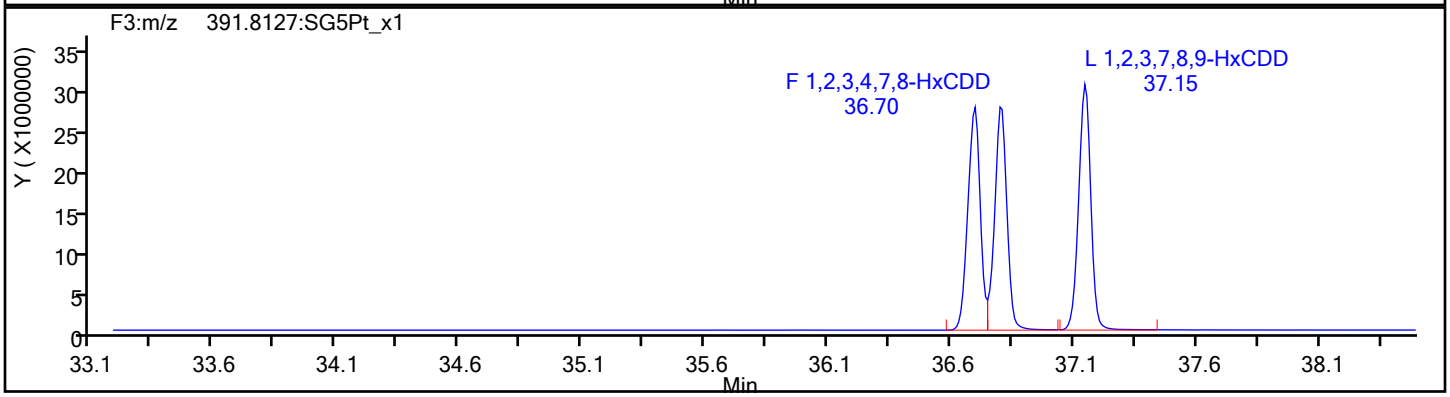
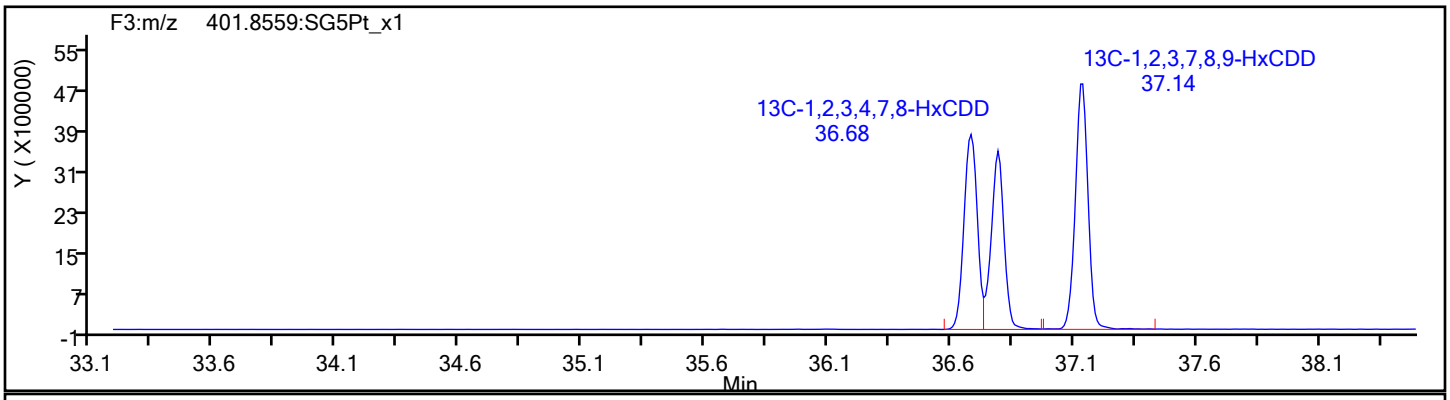
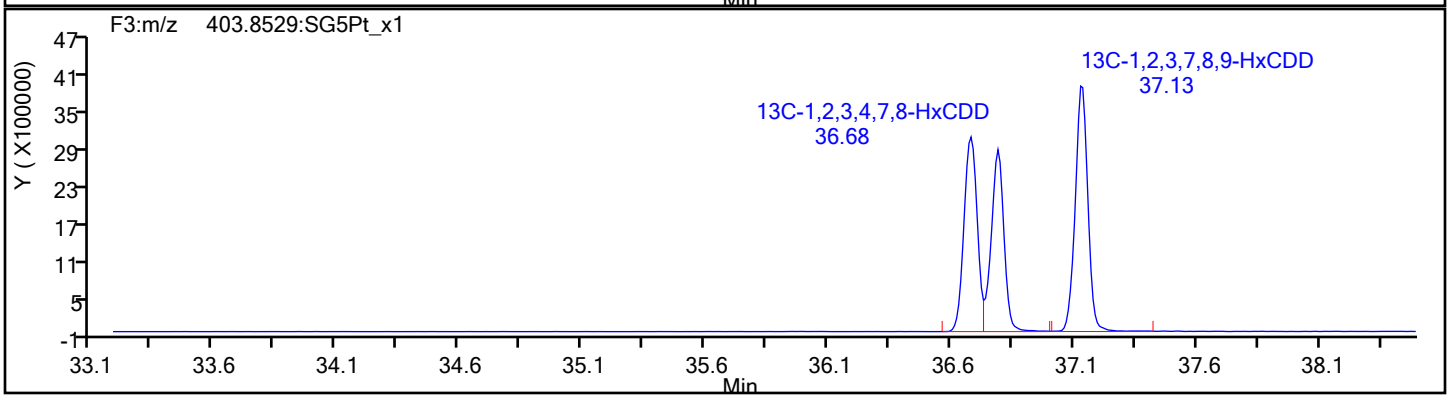
HxCDD





HxCDD Standards





Report Date: 19-Nov-2021 11:39:26 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

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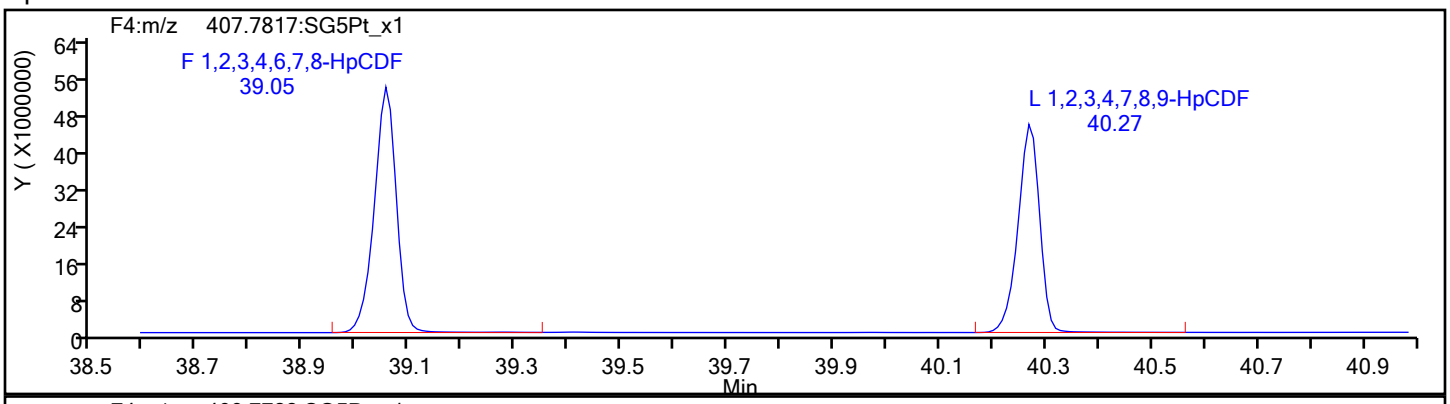
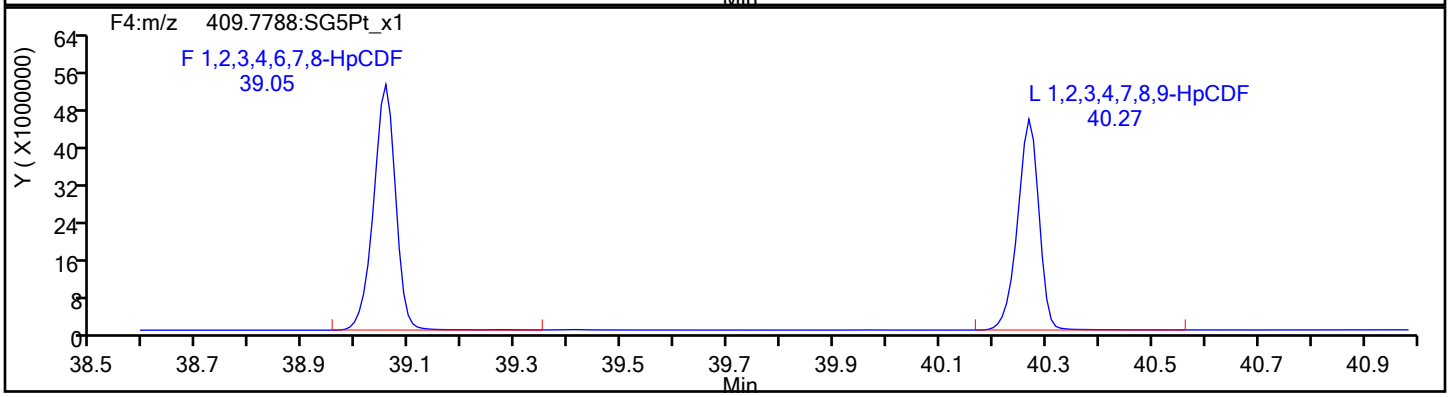
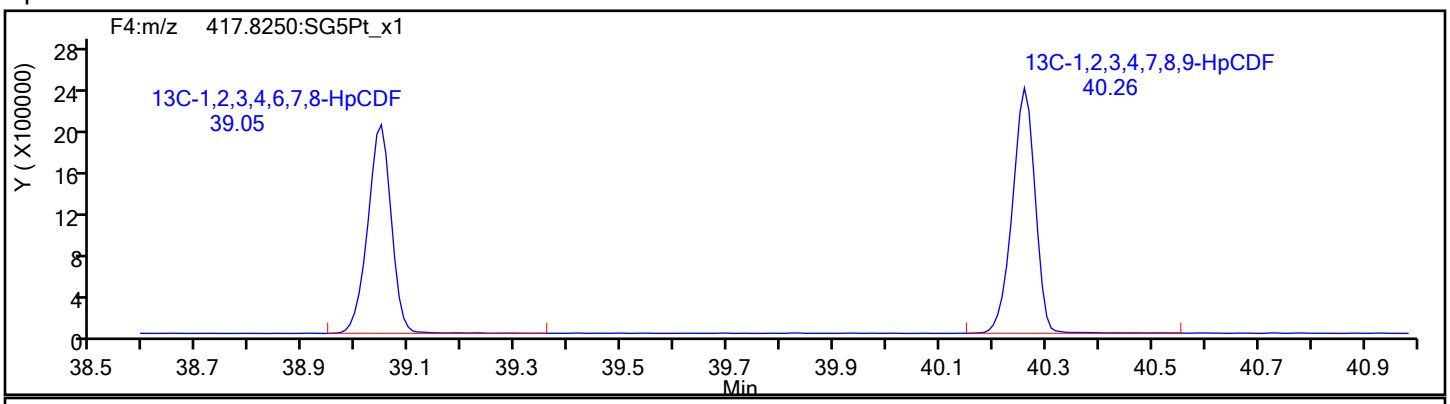
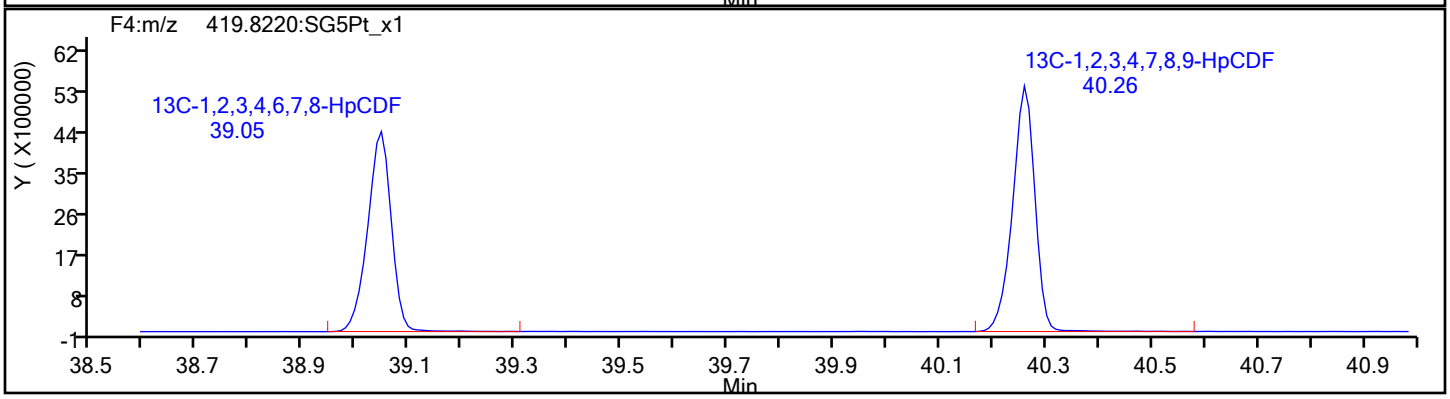
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

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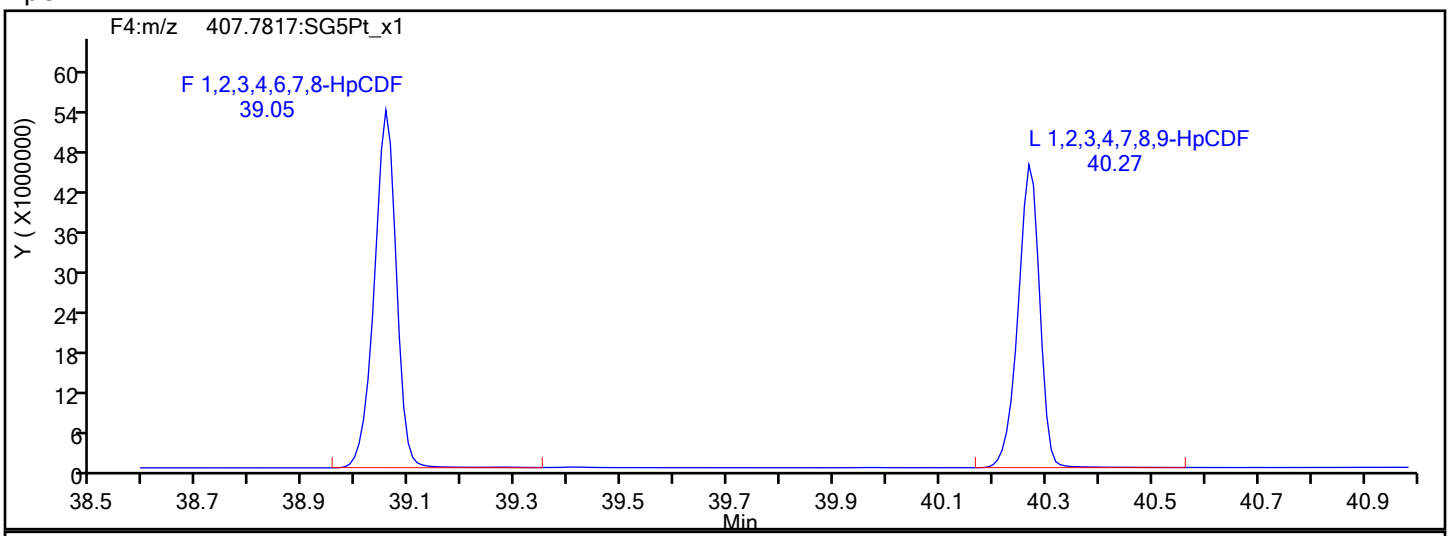
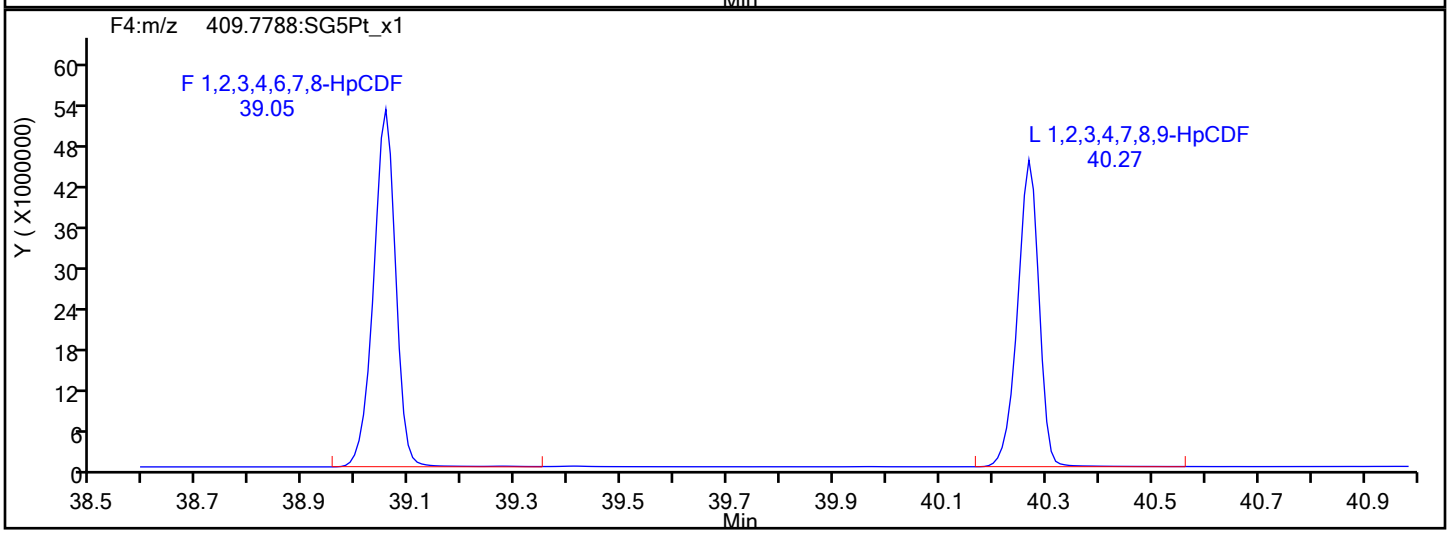
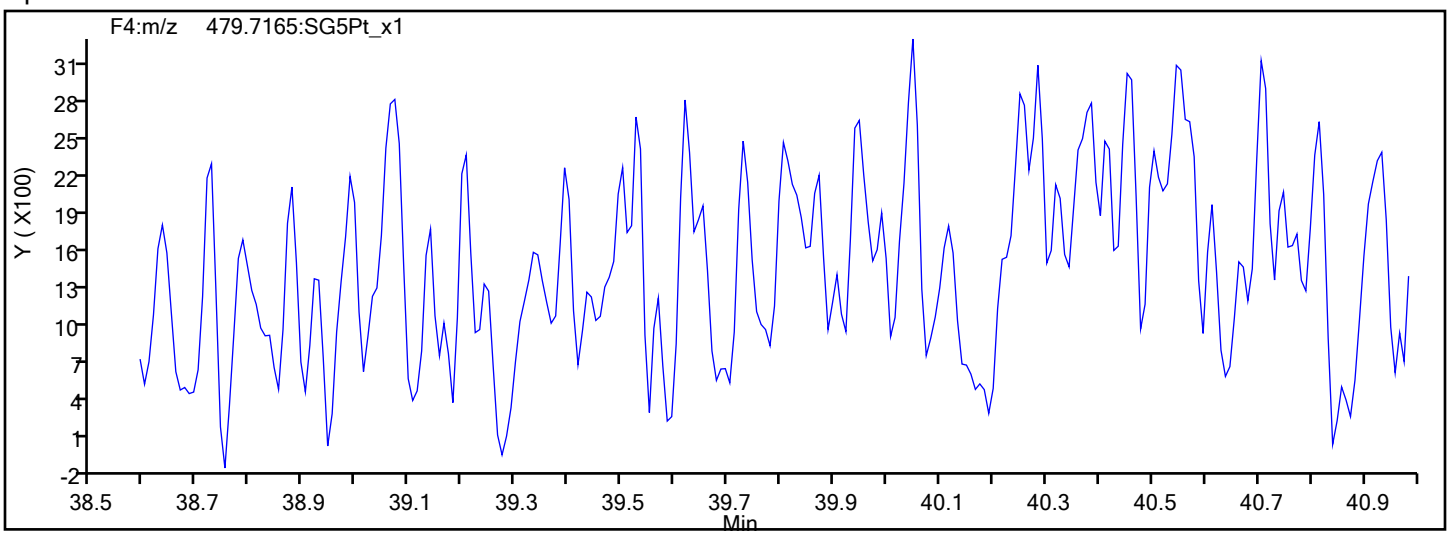
HpCDF





HpCDF Interference Mass



Eurofins TestAmerica, Sacramento

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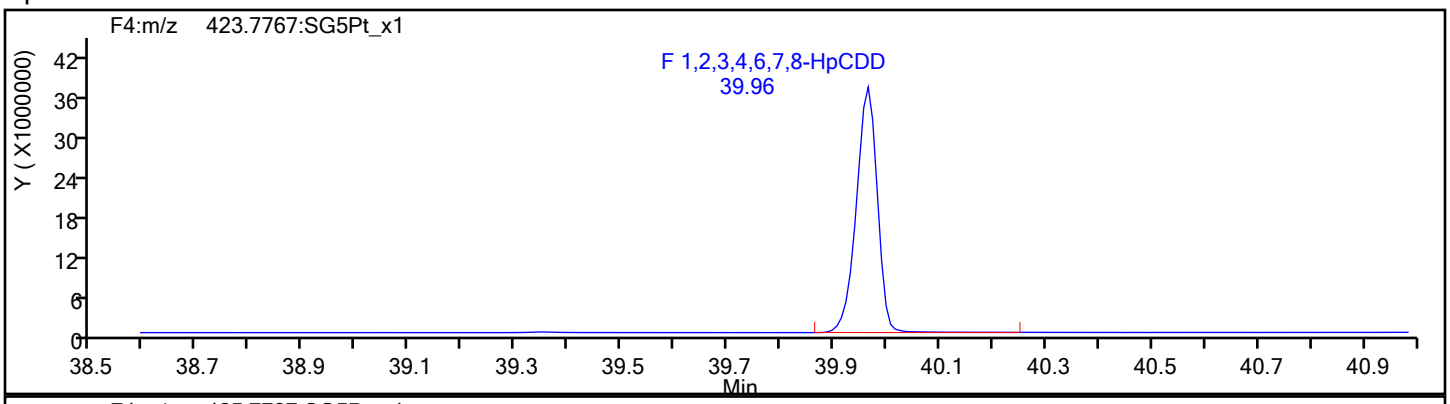
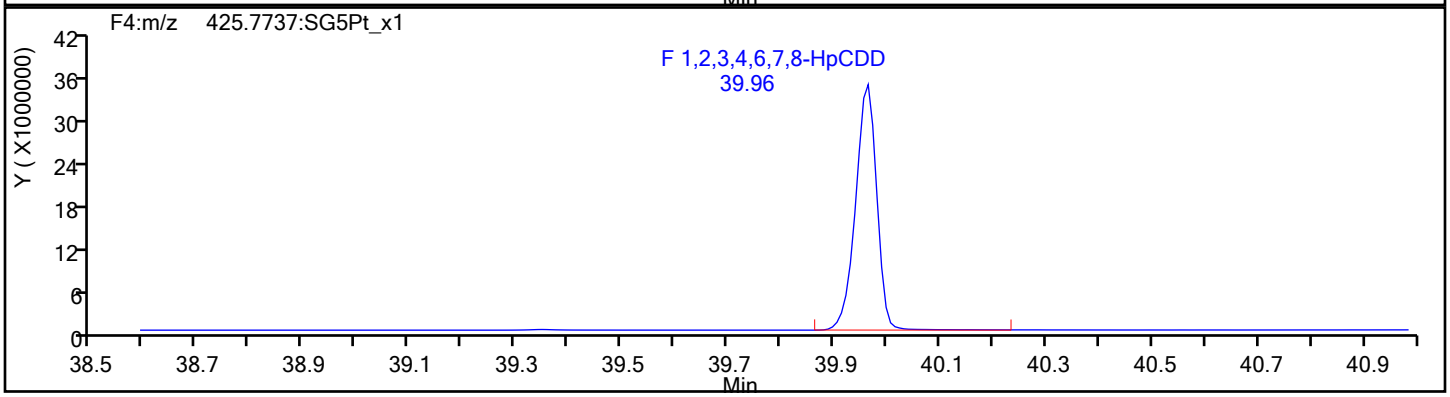
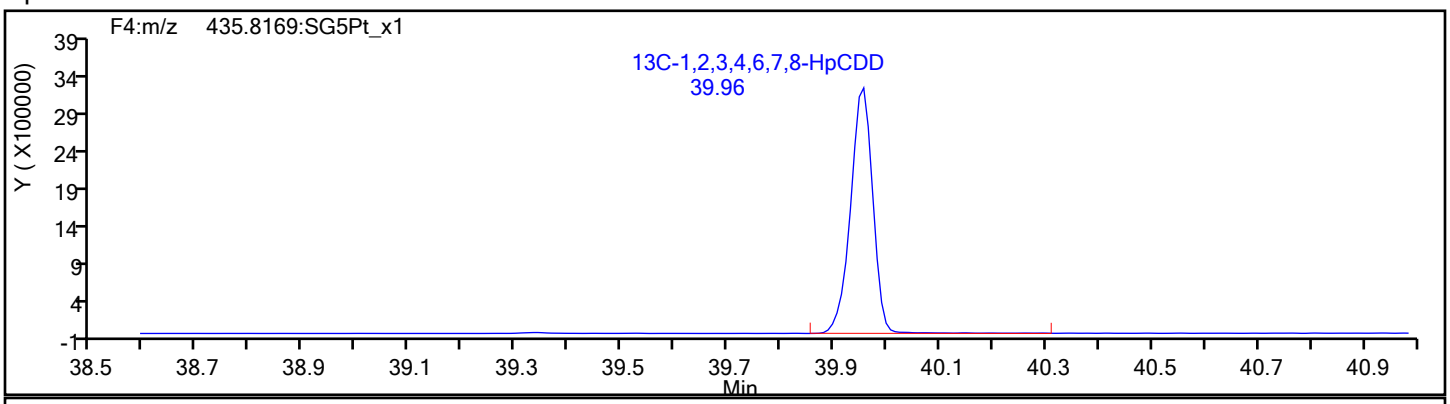
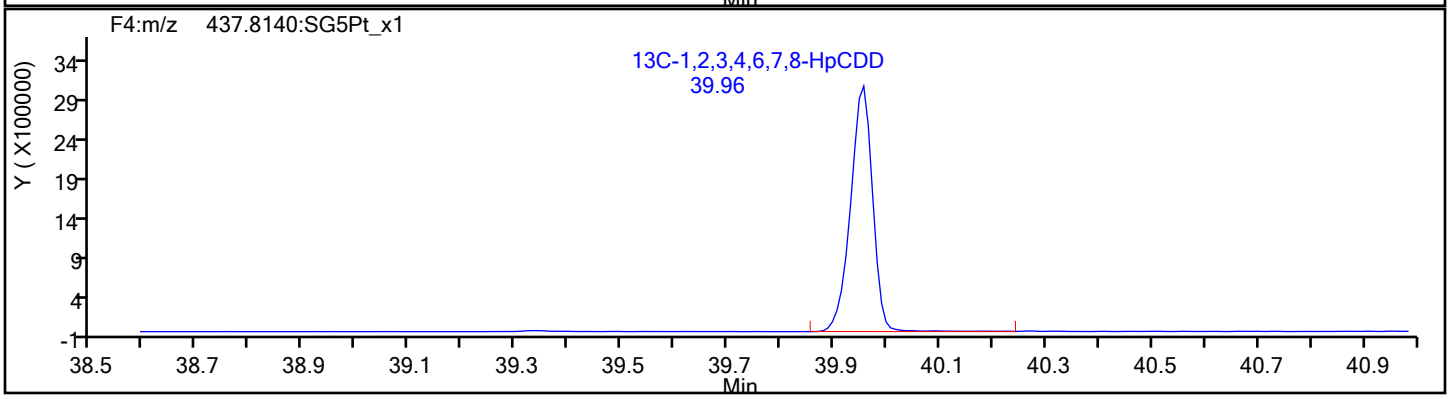
HpCDD





HpCDD Standards





Eurofins TestAmerica, Sacramento

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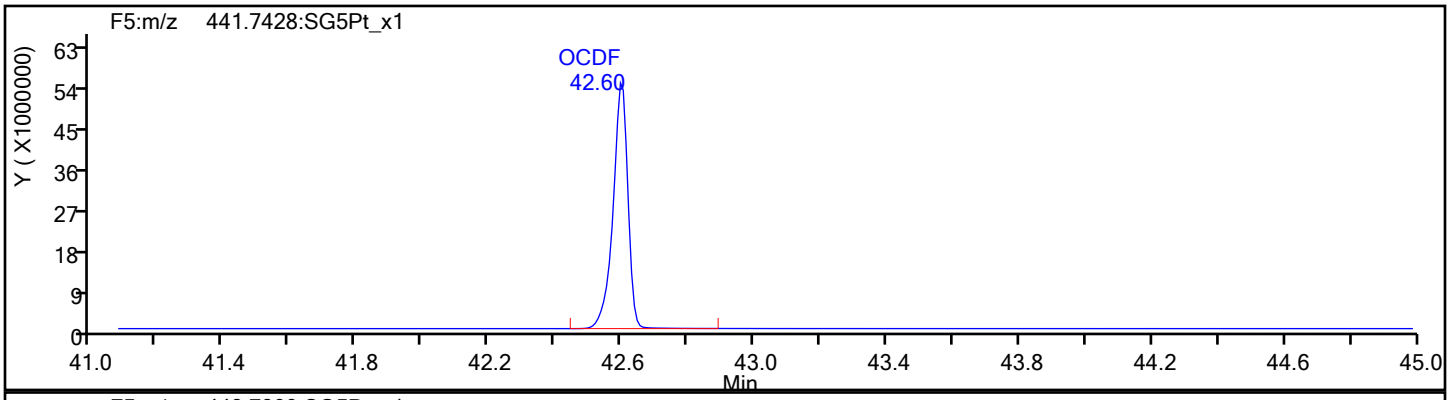
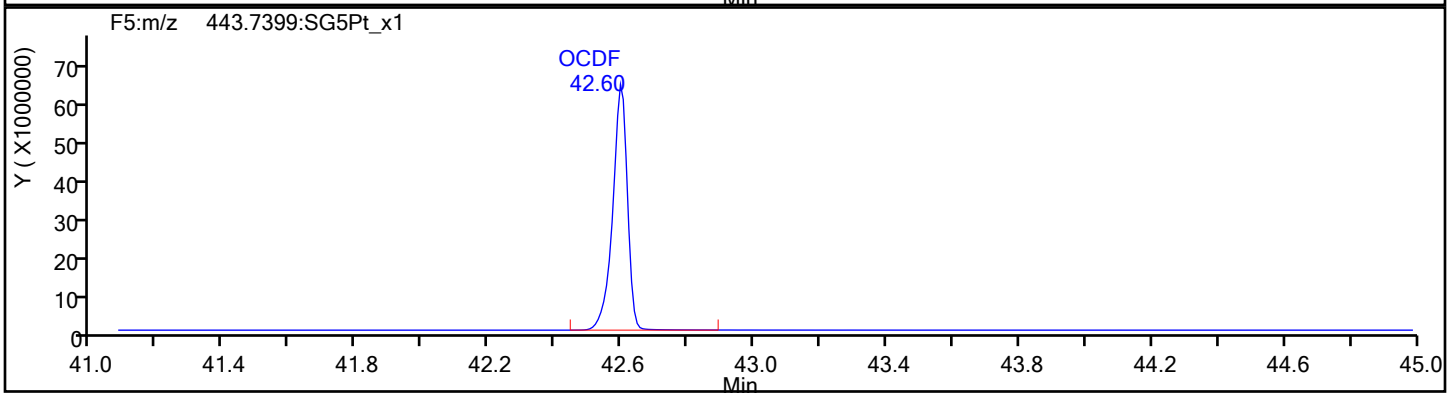
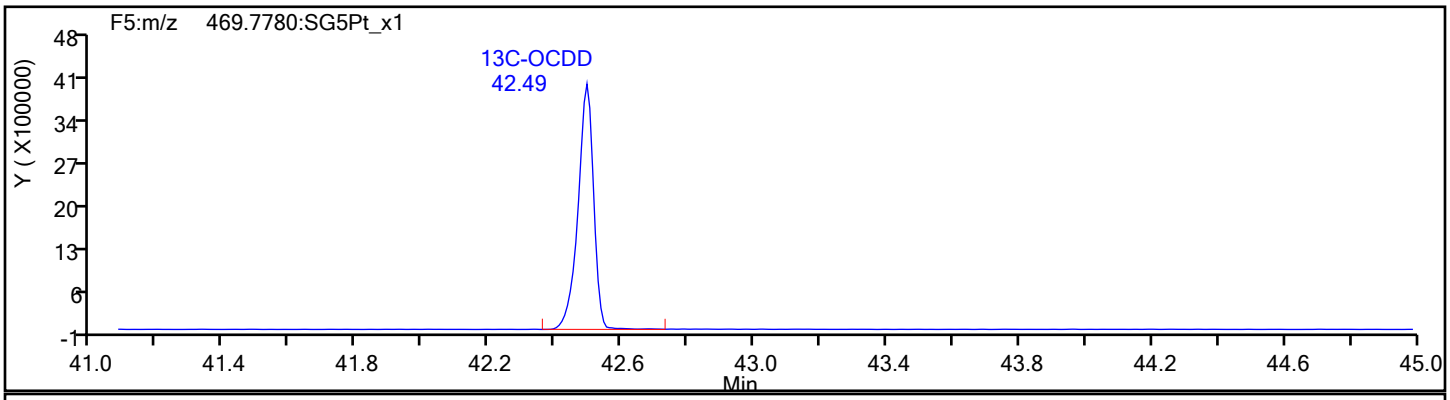
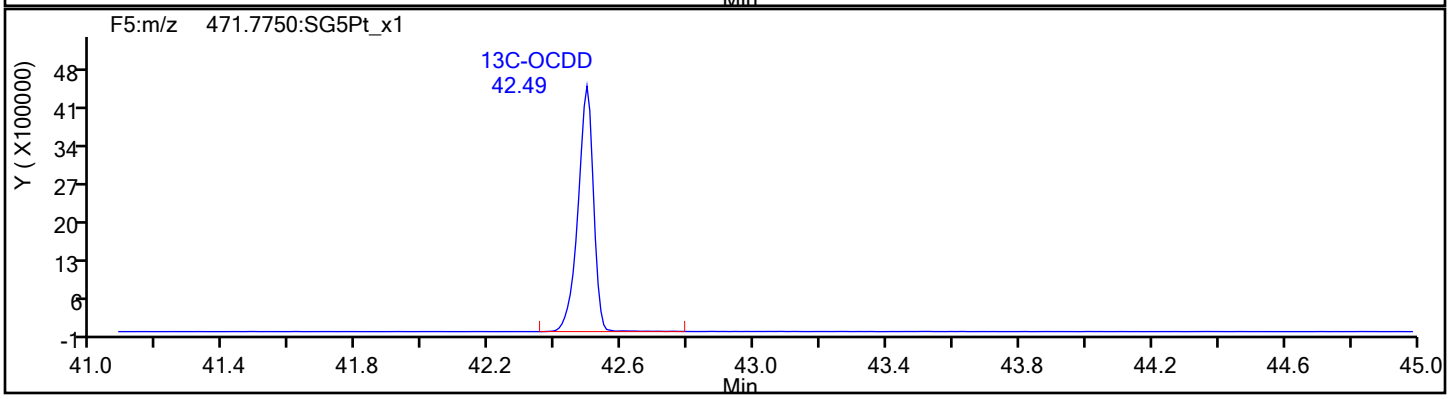
OCDF





OCDF Standards





Eurofins TestAmerica, Sacramento

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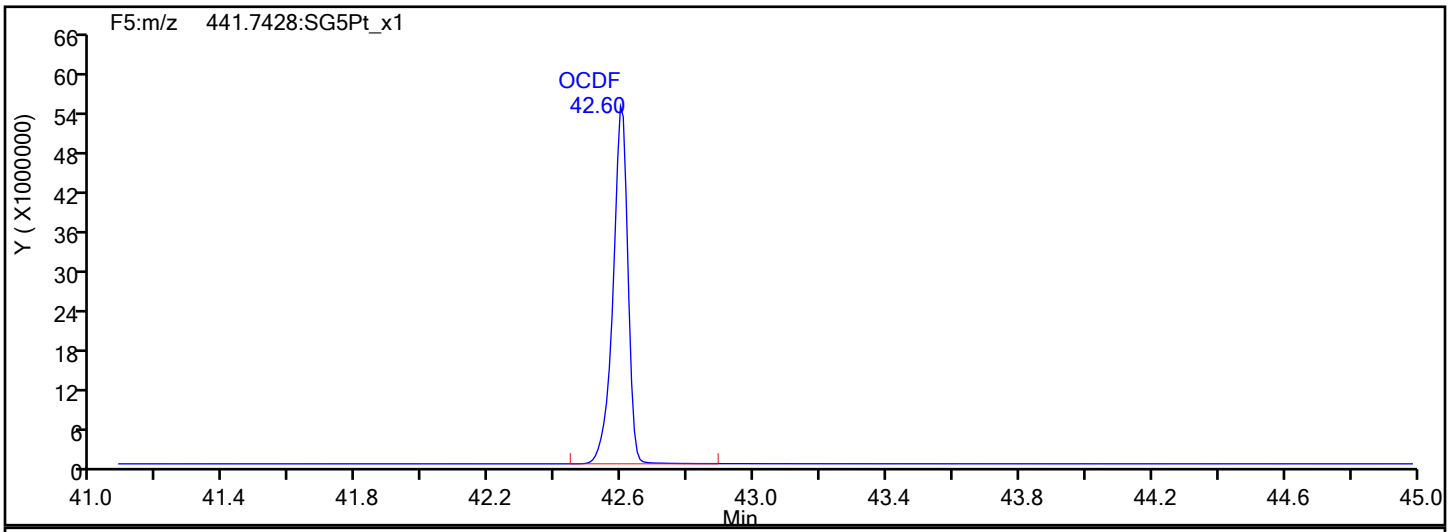
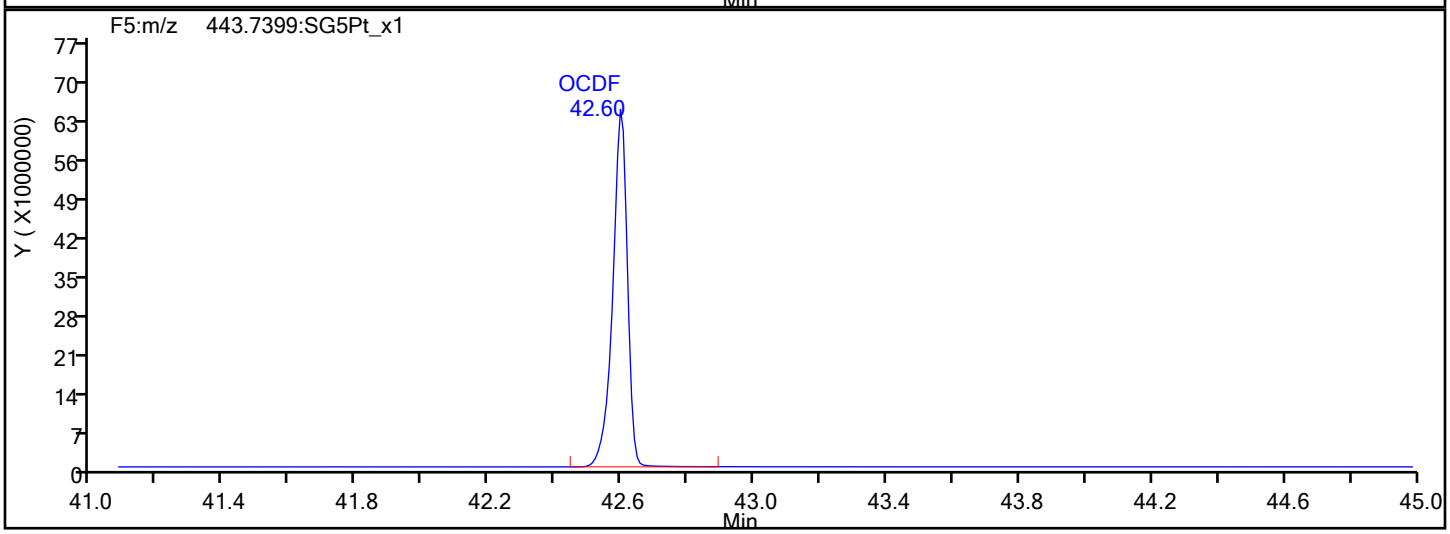
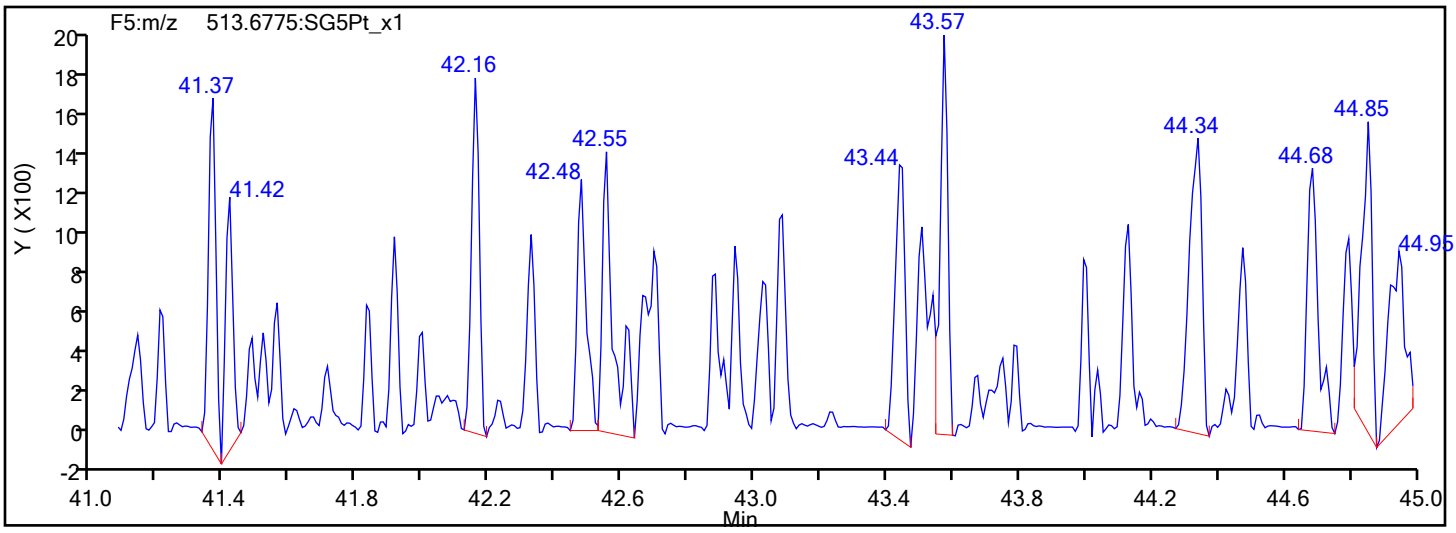
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d		
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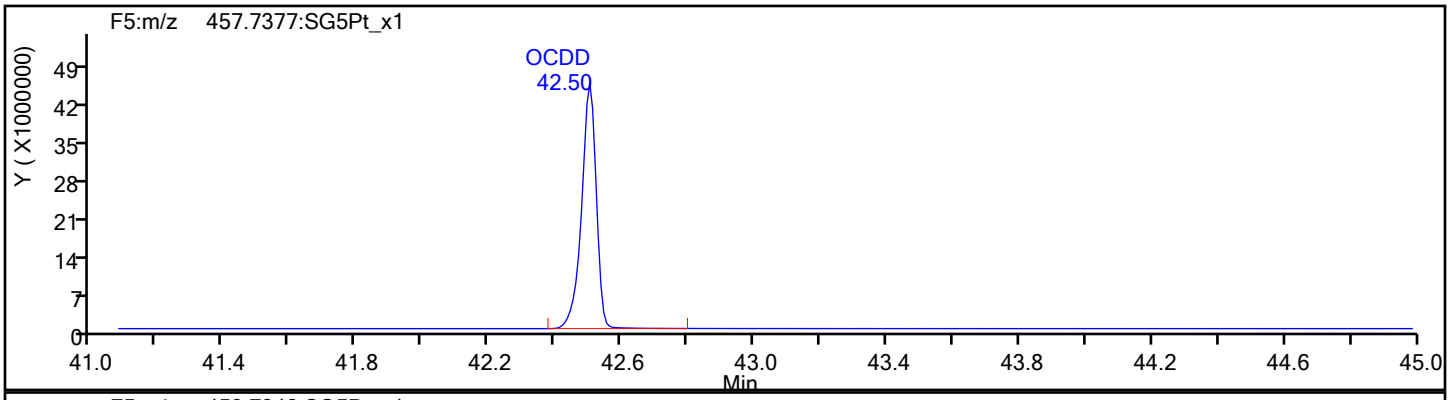
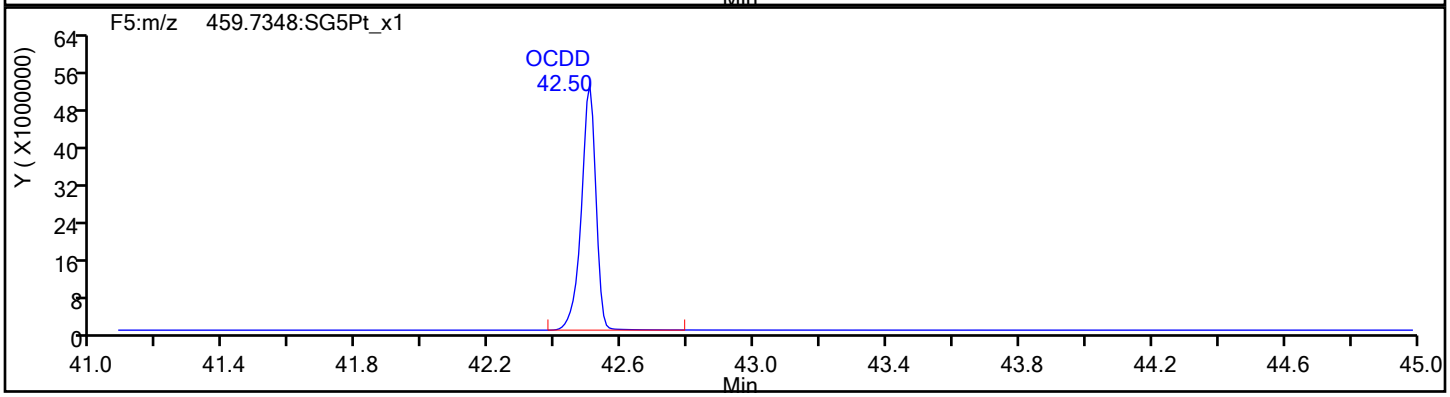
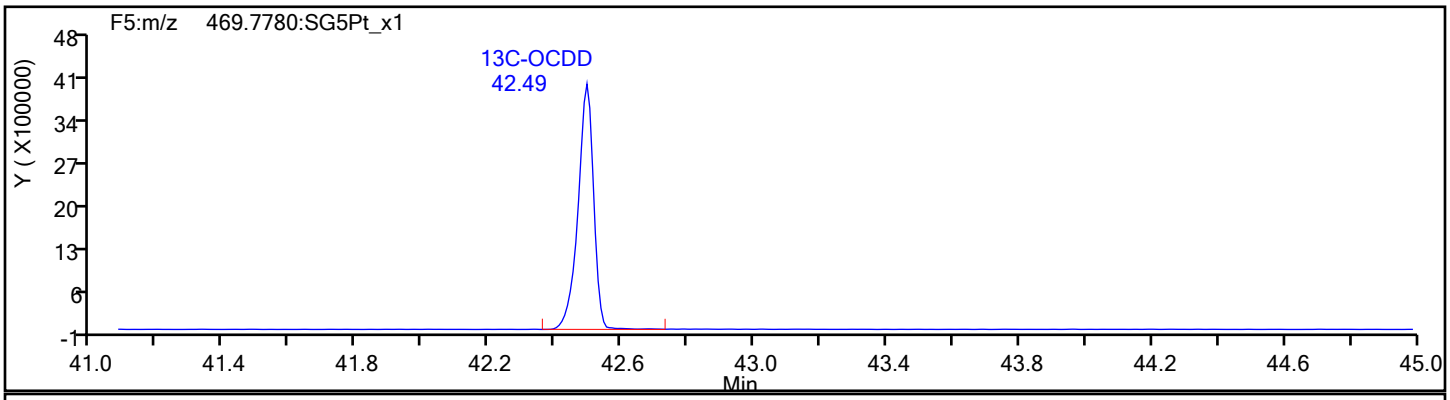
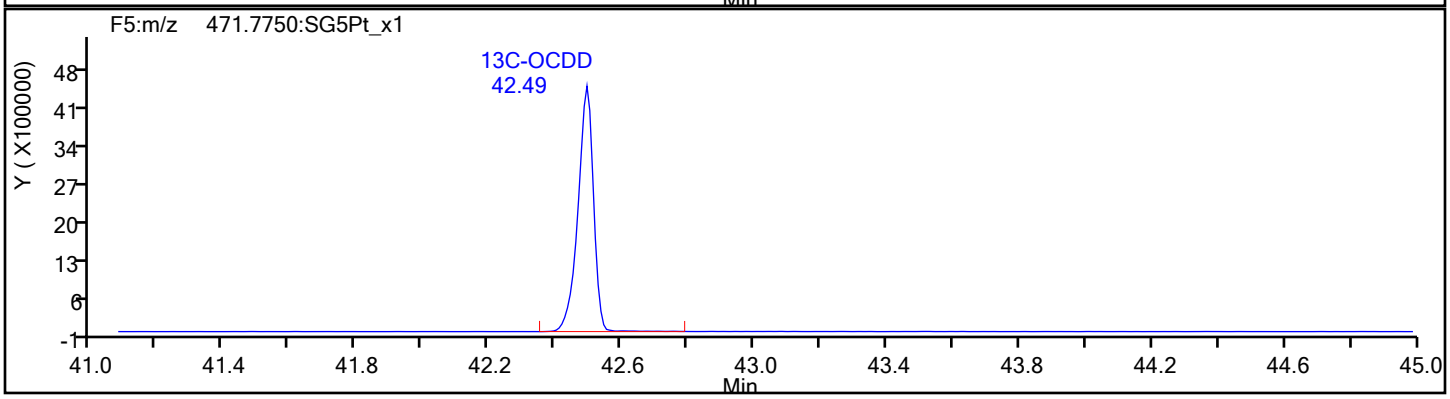
OCDD





OCDD Standards





Report Date: 19-Nov-2021 11:39:27 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d		
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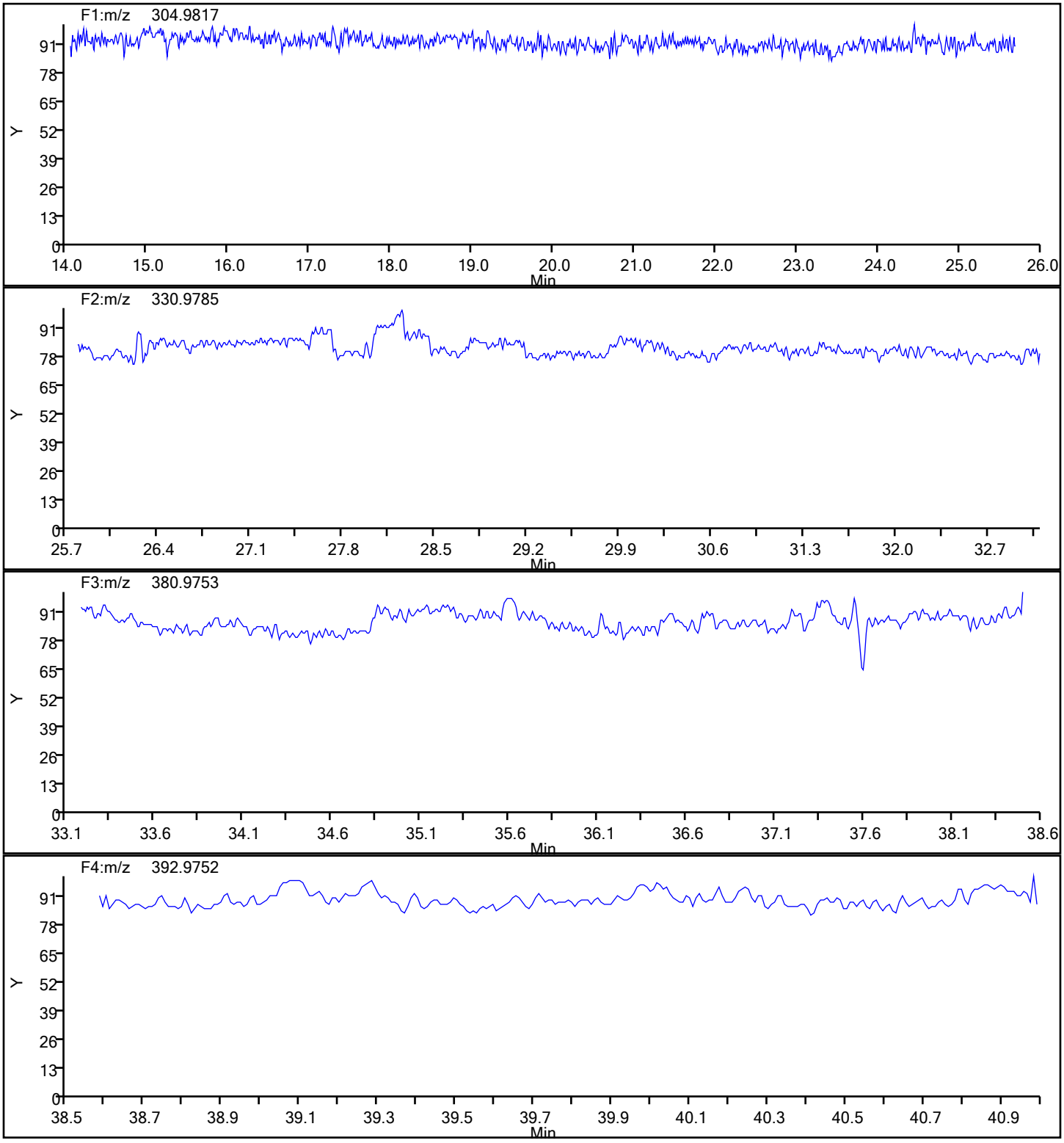

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Eurofins TestAmerica, Sacramento

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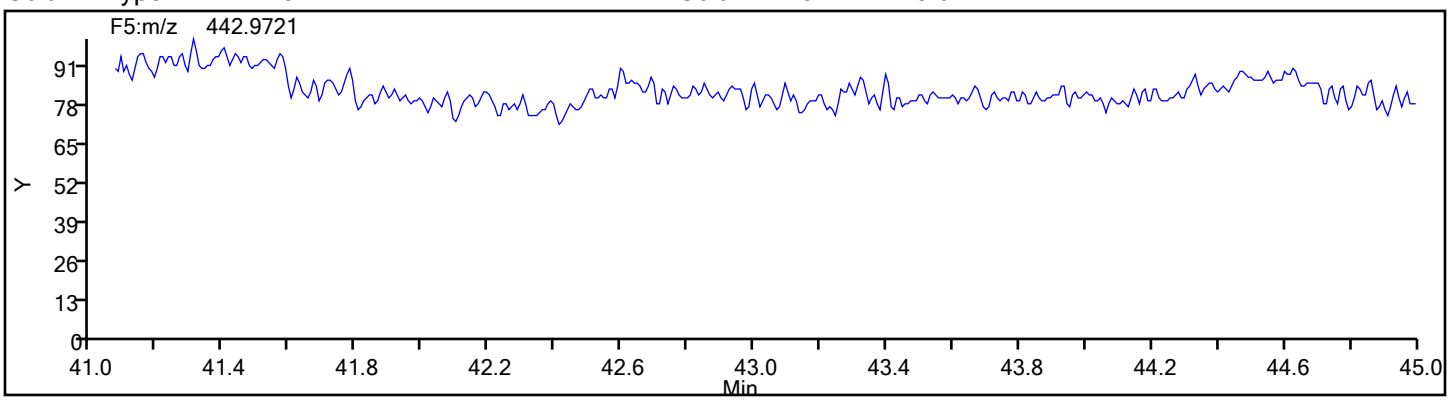
Worklist#:	543974	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

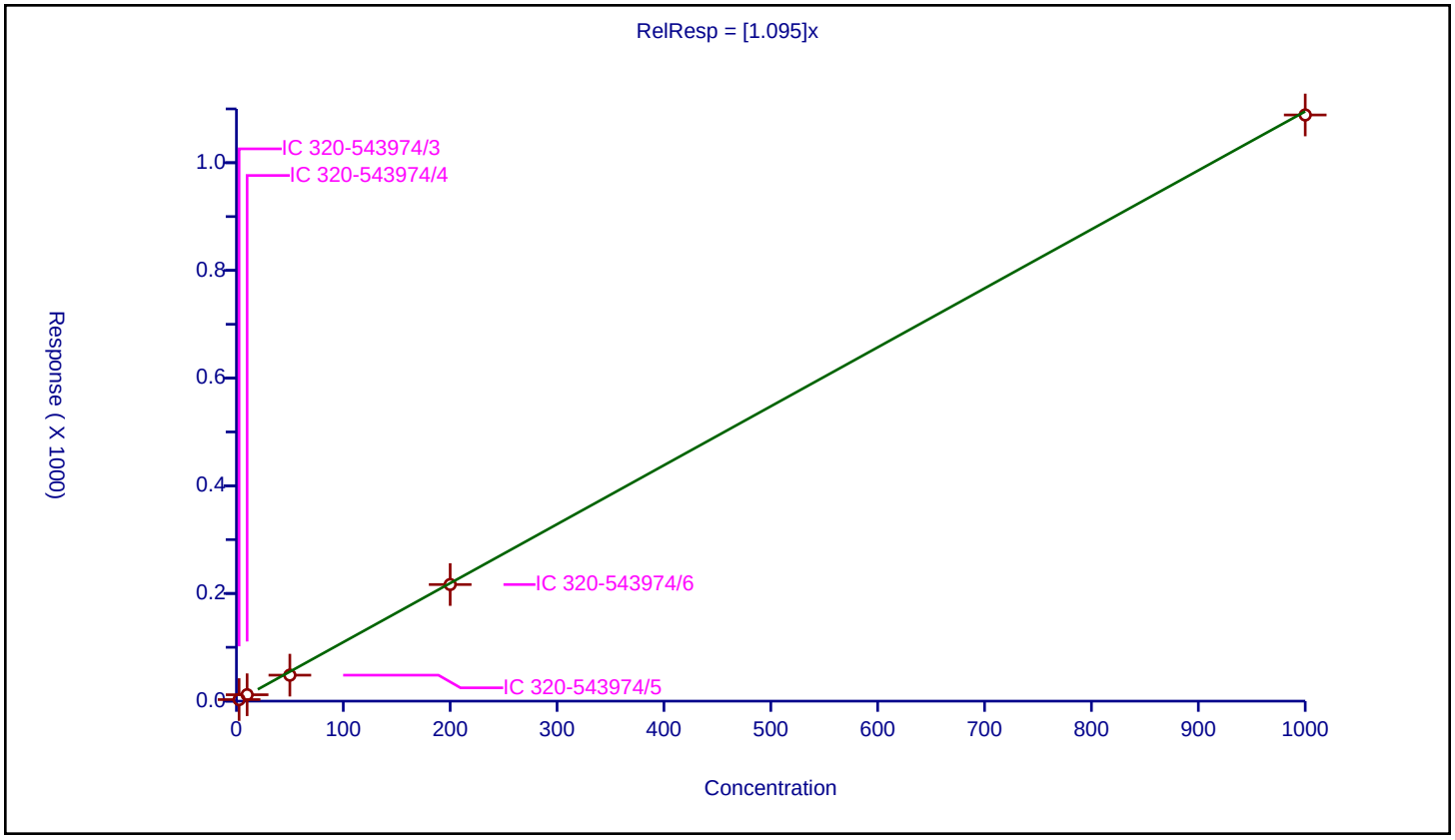
Curve Coefficients

Intercept:	0
Slope:	1.095

Error Coefficients

Standard Error:	102000000
Relative Standard Error:	7.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.880449	100.0	14117592.0	1.152179	Y
2	IC 320-543974/4	10.0	11.876291	100.0	8390734.0	1.187629	Y
3	IC 320-543974/5	50.0	48.245763	100.0	16266902.0	0.964915	Y
4	IC 320-543974/6	200.0	216.574032	100.0	19140309.0	1.08287	Y
5	IC 320-543974/7	1000.0	1088.734072	100.0	18307130.0	1.088734	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

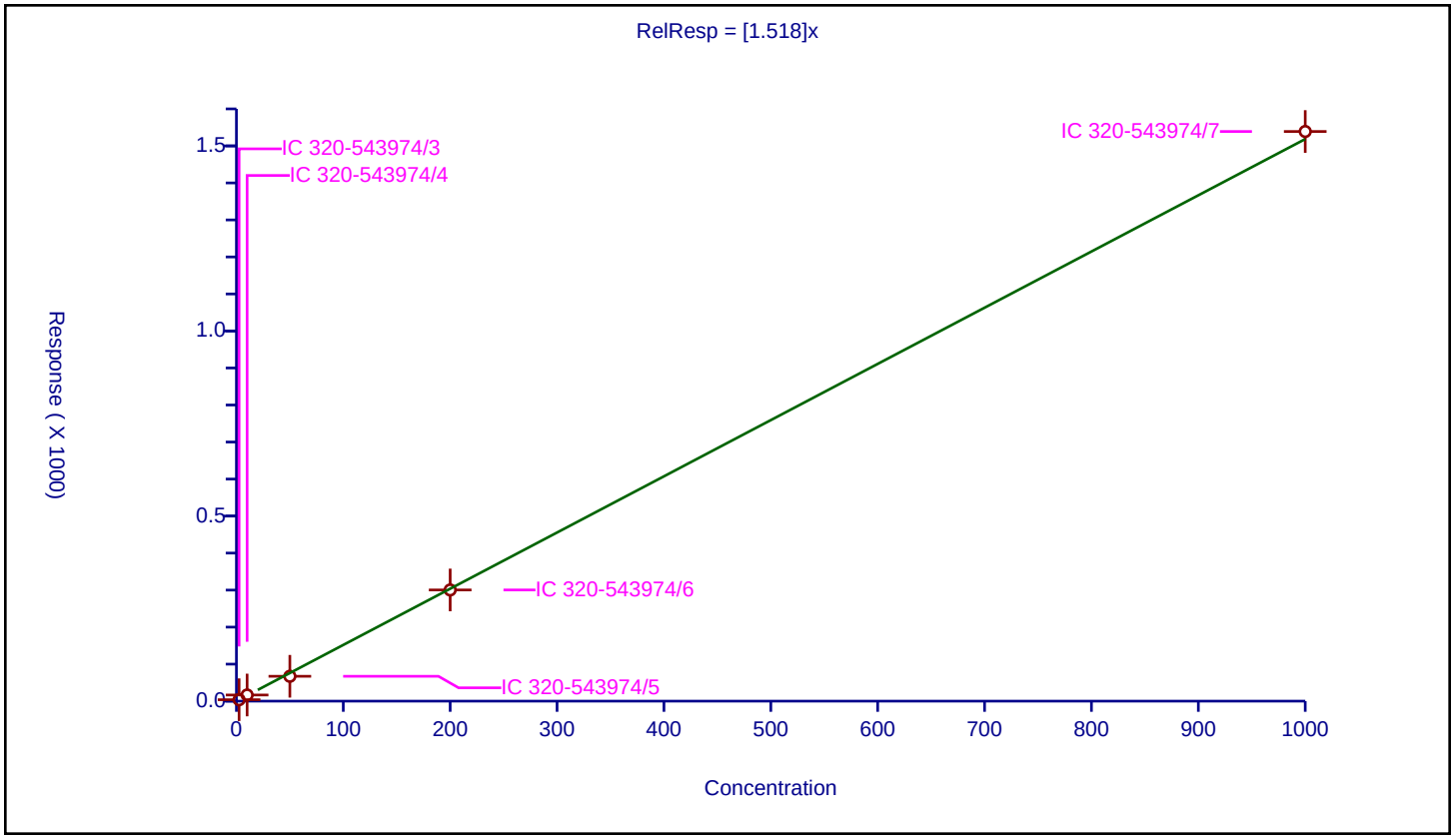
Curve Coefficients

Intercept:	0
Slope:	1.518

Error Coefficients

Standard Error:	157000000
Relative Standard Error:	7.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	3.870399	100.0	16074440.0	1.54816	Y
2	IC 320-543974/4	10.0	16.597127	100.0	9519087.0	1.659713	Y
3	IC 320-543974/5	50.0	67.170958	100.0	18234696.0	1.343419	Y
4	IC 320-543974/6	200.0	300.358667	100.0	22075088.0	1.501793	Y
5	IC 320-543974/7	1000.0	1538.909524	100.0	19917414.0	1.53891	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

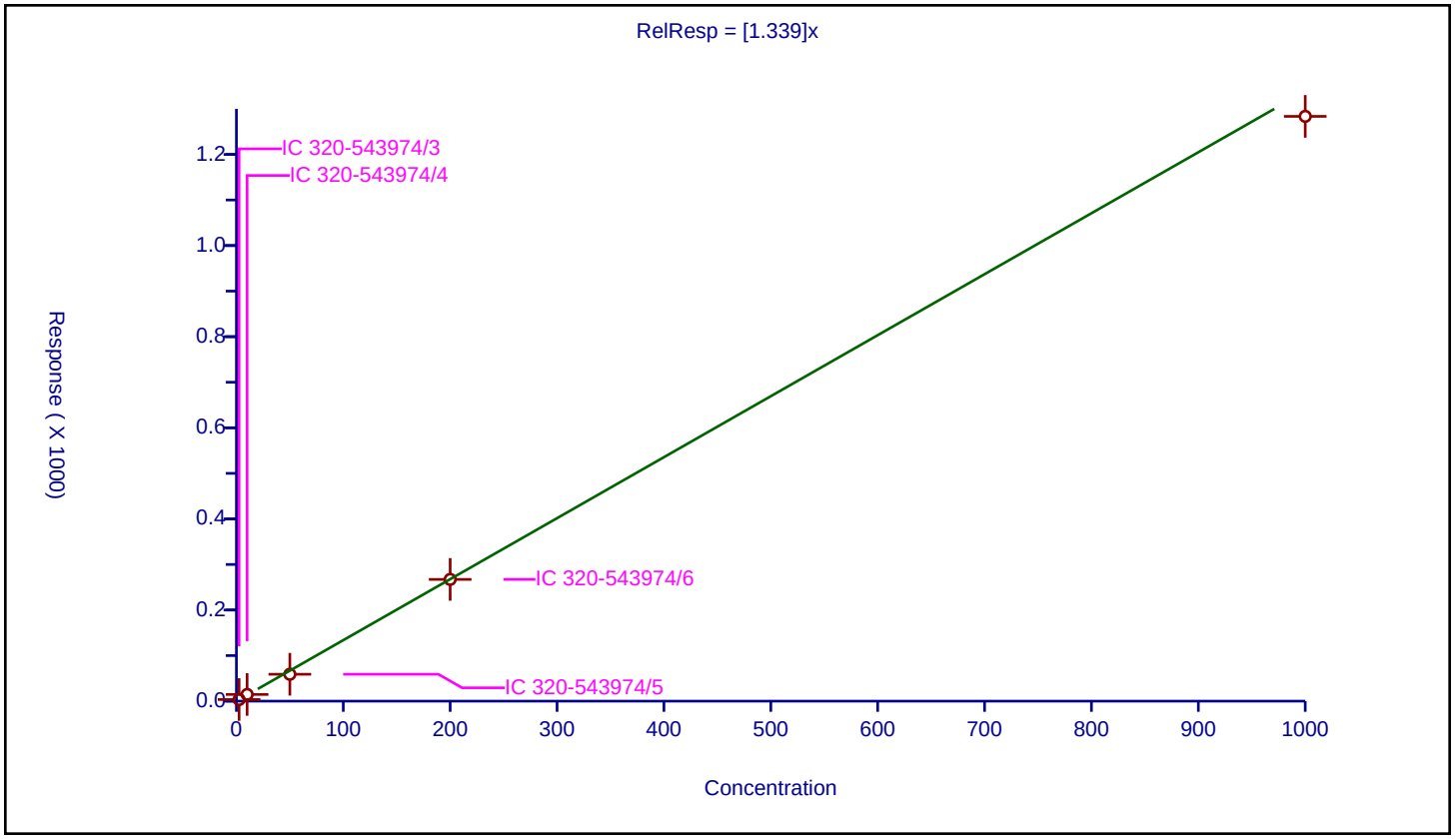
Curve Coefficients

Intercept:	0
Slope:	1.339

Error Coefficients

Standard Error:	131000000
Relative Standard Error:	8.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	3.564242	100.0	16074440.0	1.425697	Y
2	IC 320-543974/4	10.0	14.682984	100.0	9519087.0	1.468298	Y
3	IC 320-543974/5	50.0	58.99941	100.0	18234696.0	1.179988	Y
4	IC 320-543974/6	200.0	267.201096	100.0	22075088.0	1.336005	Y
5	IC 320-543974/7	1000.0	1283.576568	100.0	19917414.0	1.283577	Y



Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

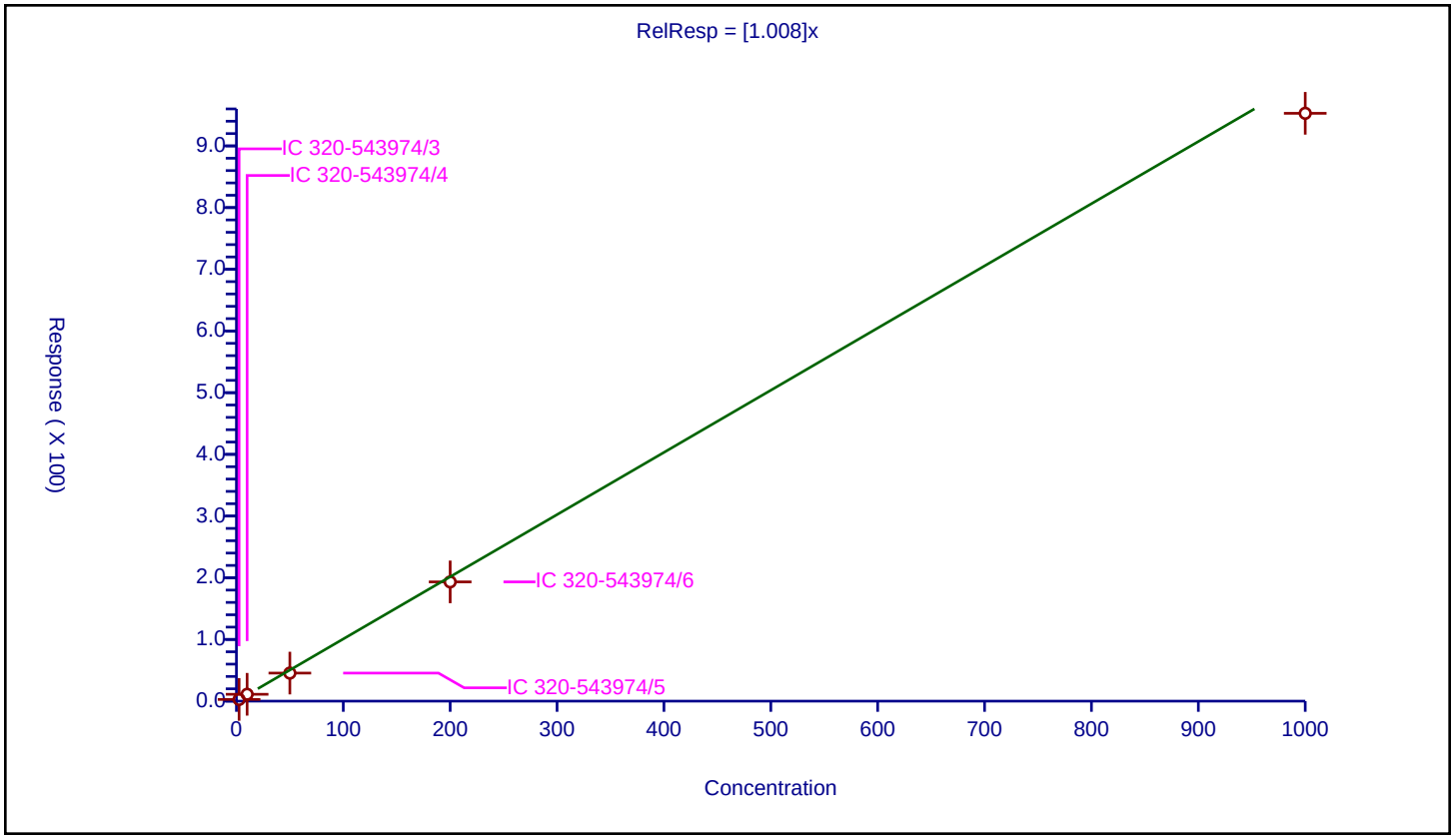
Curve Coefficients

Intercept:	0
Slope:	1.008

Error Coefficients

Standard Error:	112000000
Relative Standard Error:	9.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.746982	100.0	16954170.0	1.098793	Y
2	IC 320-543974/4	10.0	11.116629	100.0	10275282.0	1.111663	Y
3	IC 320-543974/5	50.0	45.48101	100.0	19769638.0	0.90962	Y
4	IC 320-543974/6	200.0	193.294313	100.0	24472124.0	0.966472	Y
5	IC 320-543974/7	1000.0	952.849832	100.0	23055935.0	0.95285	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

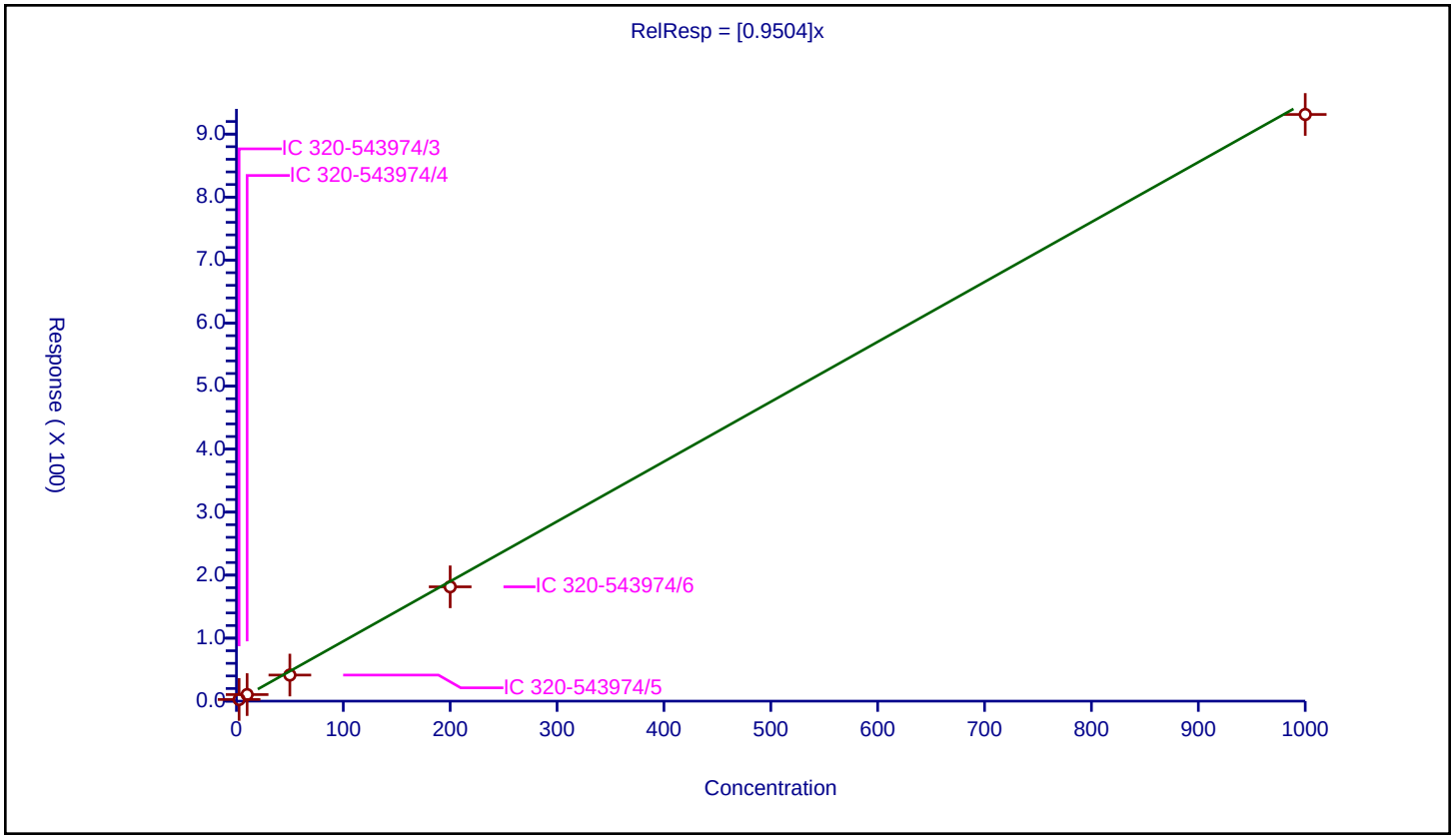
Curve Coefficients

Intercept:	0
Slope:	0.9504

Error Coefficients

Standard Error:	161000000
Relative Standard Error:	9.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.612434	100.0	27657574.0	1.044974	Y
2	IC 320-543974/4	10.0	10.404023	100.0	17051491.0	1.040402	Y
3	IC 320-543974/5	50.0	41.41486	100.0	33164101.0	0.828297	Y
4	IC 320-543974/6	200.0	181.473996	100.0	38901018.0	0.90737	Y
5	IC 320-543974/7	1000.0	931.16881	100.0	33783657.0	0.931169	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

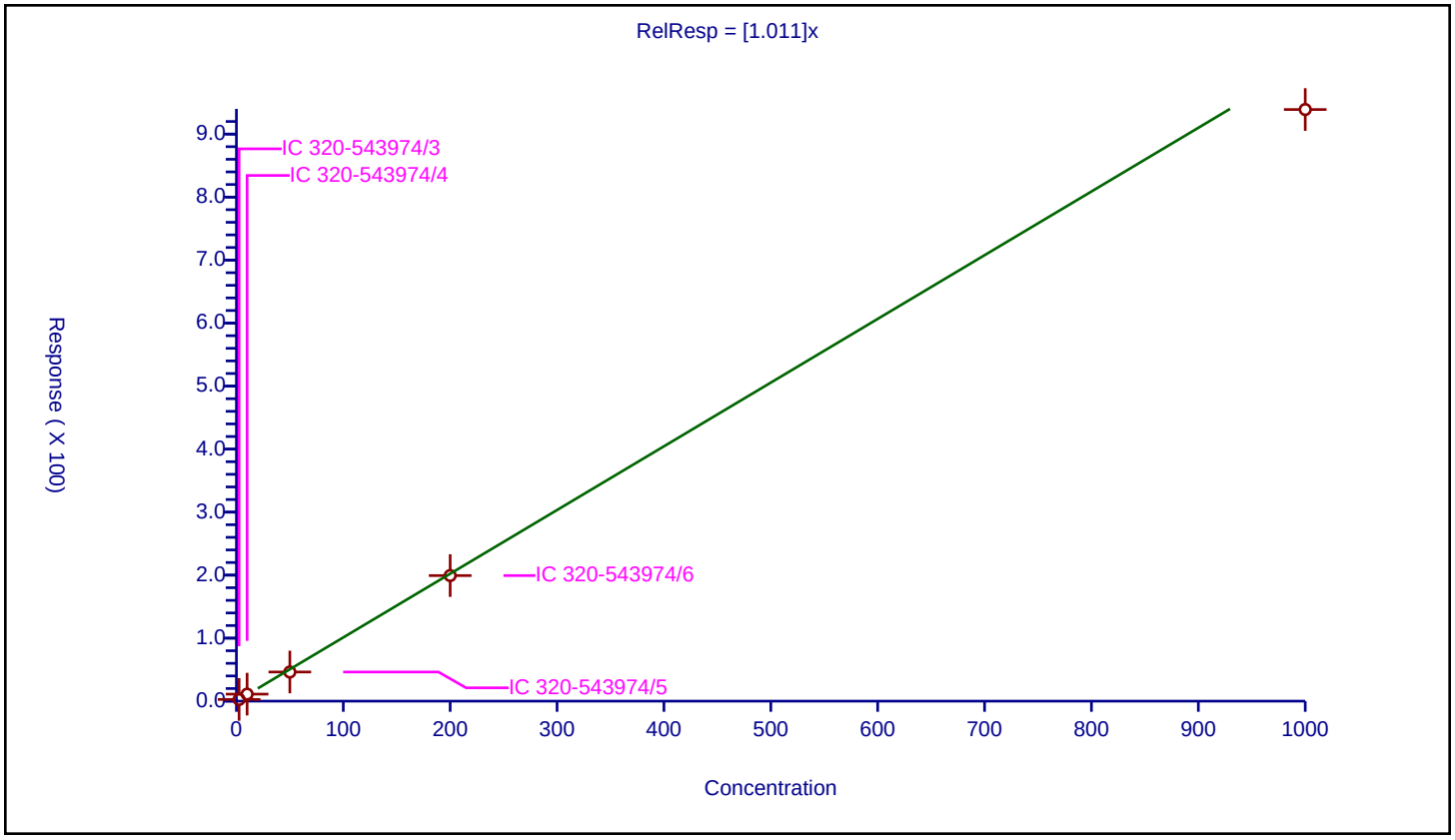
Curve Coefficients

Intercept:	0
Slope:	1.011

Error Coefficients

Standard Error:	111000000
Relative Standard Error:	8.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.697502	100.0	16954170.0	1.079001	Y
2	IC 320-543974/4	10.0	11.156161	100.0	10275282.0	1.115616	Y
3	IC 320-543974/5	50.0	46.278672	100.0	19769638.0	0.925573	Y
4	IC 320-543974/6	200.0	199.277545	100.0	24472124.0	0.996388	Y
5	IC 320-543974/7	1000.0	938.984622	100.0	23055935.0	0.938985	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

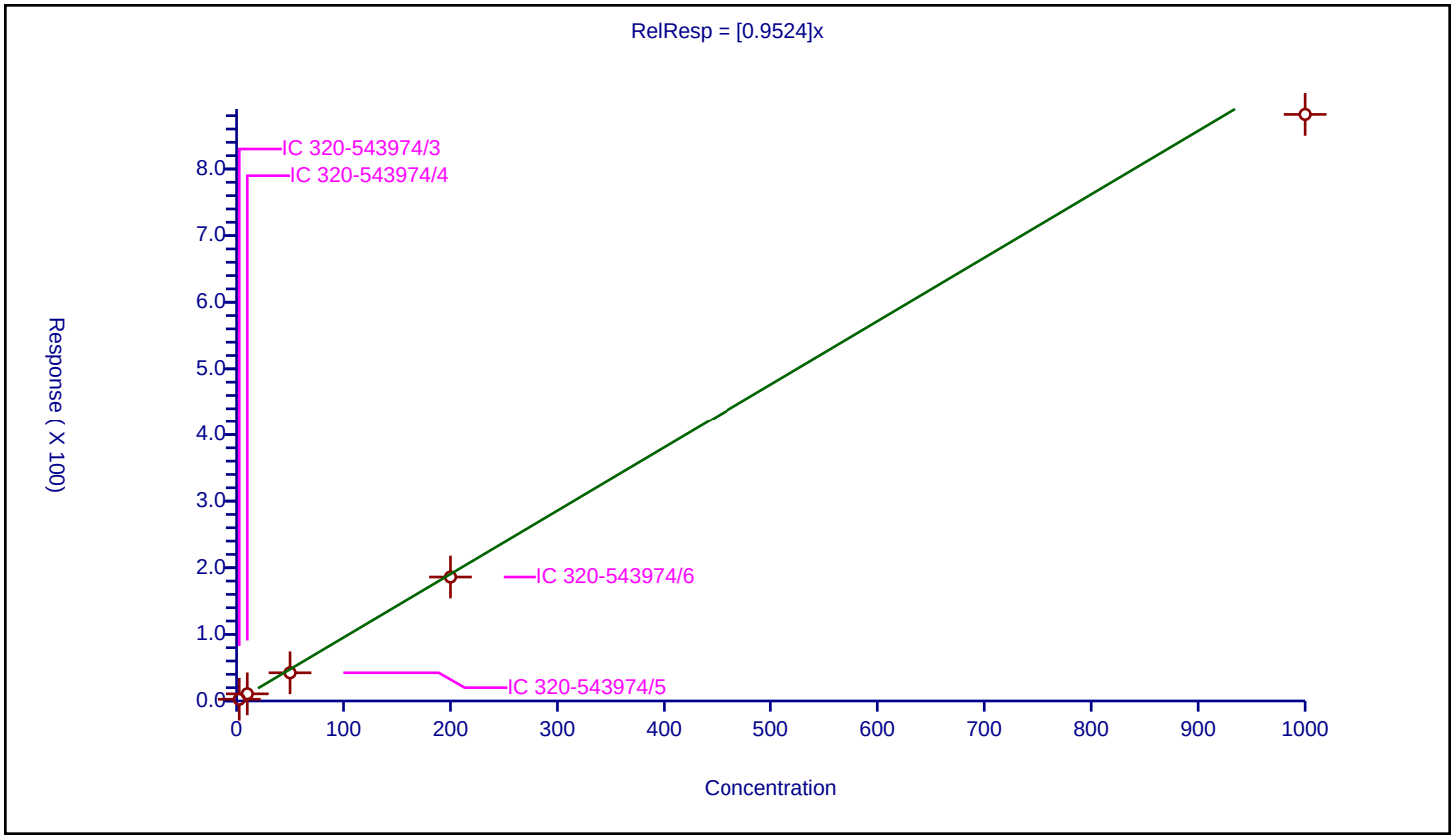
Curve Coefficients

Intercept:	0
Slope:	0.9524

Error Coefficients

Standard Error:	153000000
Relative Standard Error:	10.1
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.572026	100.0	27657574.0	1.02881	Y
2	IC 320-543974/4	10.0	10.742797	100.0	17051491.0	1.07428	Y
3	IC 320-543974/5	50.0	42.336133	100.0	33164101.0	0.846723	Y
4	IC 320-543974/6	200.0	186.066336	100.0	38901018.0	0.930332	Y
5	IC 320-543974/7	1000.0	881.927717	100.0	33783657.0	0.881928	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

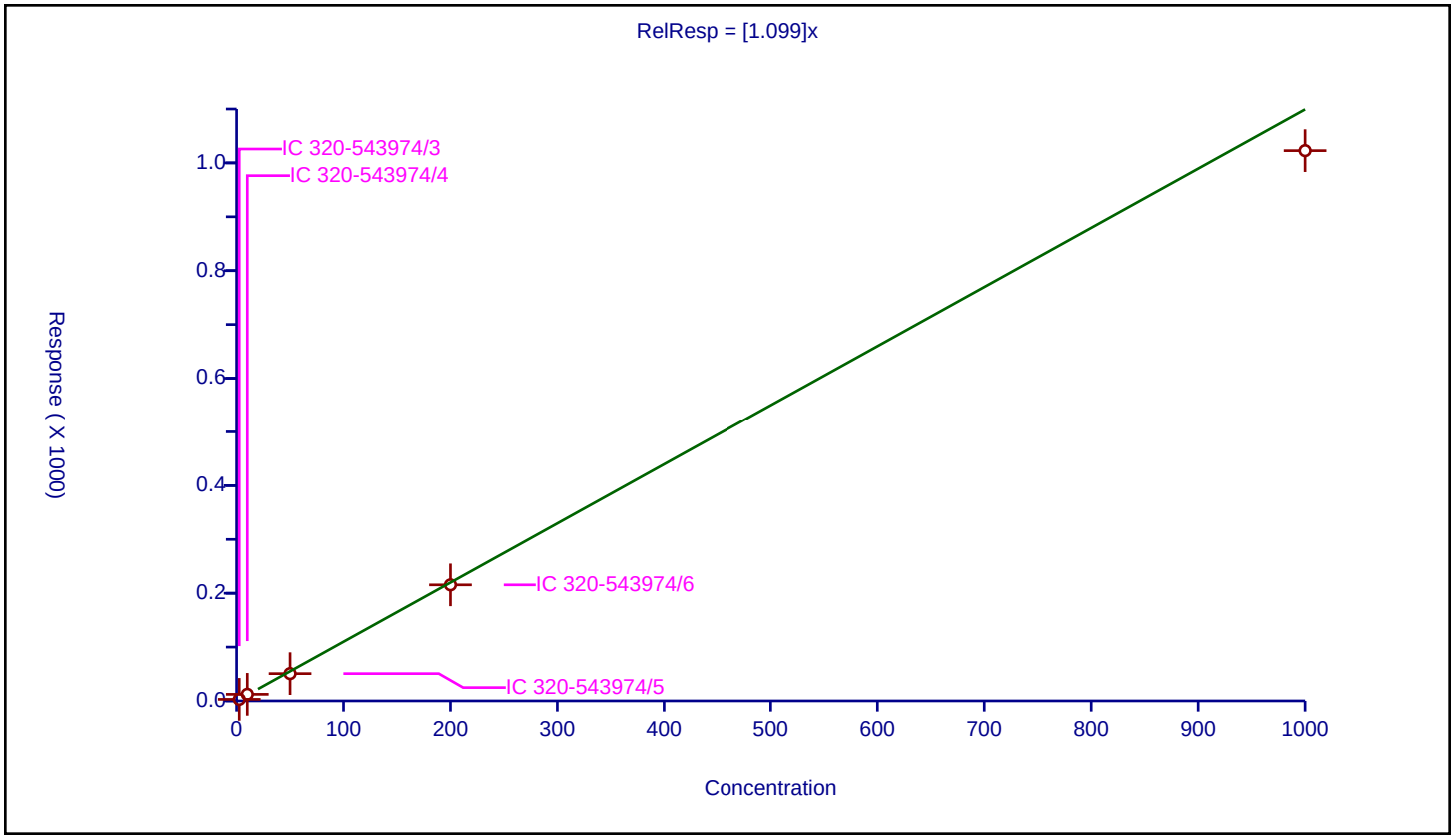
Curve Coefficients

Intercept:	0
Slope:	1.099

Error Coefficients

Standard Error:	121000000
Relative Standard Error:	8.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.891383	100.0	16954170.0	1.156553	Y
2	IC 320-543974/4	10.0	12.257172	100.0	10275282.0	1.225717	Y
3	IC 320-543974/5	50.0	50.676148	100.0	19769638.0	1.013523	Y
4	IC 320-543974/6	200.0	215.579845	100.0	24472124.0	1.077899	Y
5	IC 320-543974/7	1000.0	1022.763288	100.0	23055935.0	1.022763	Y



Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

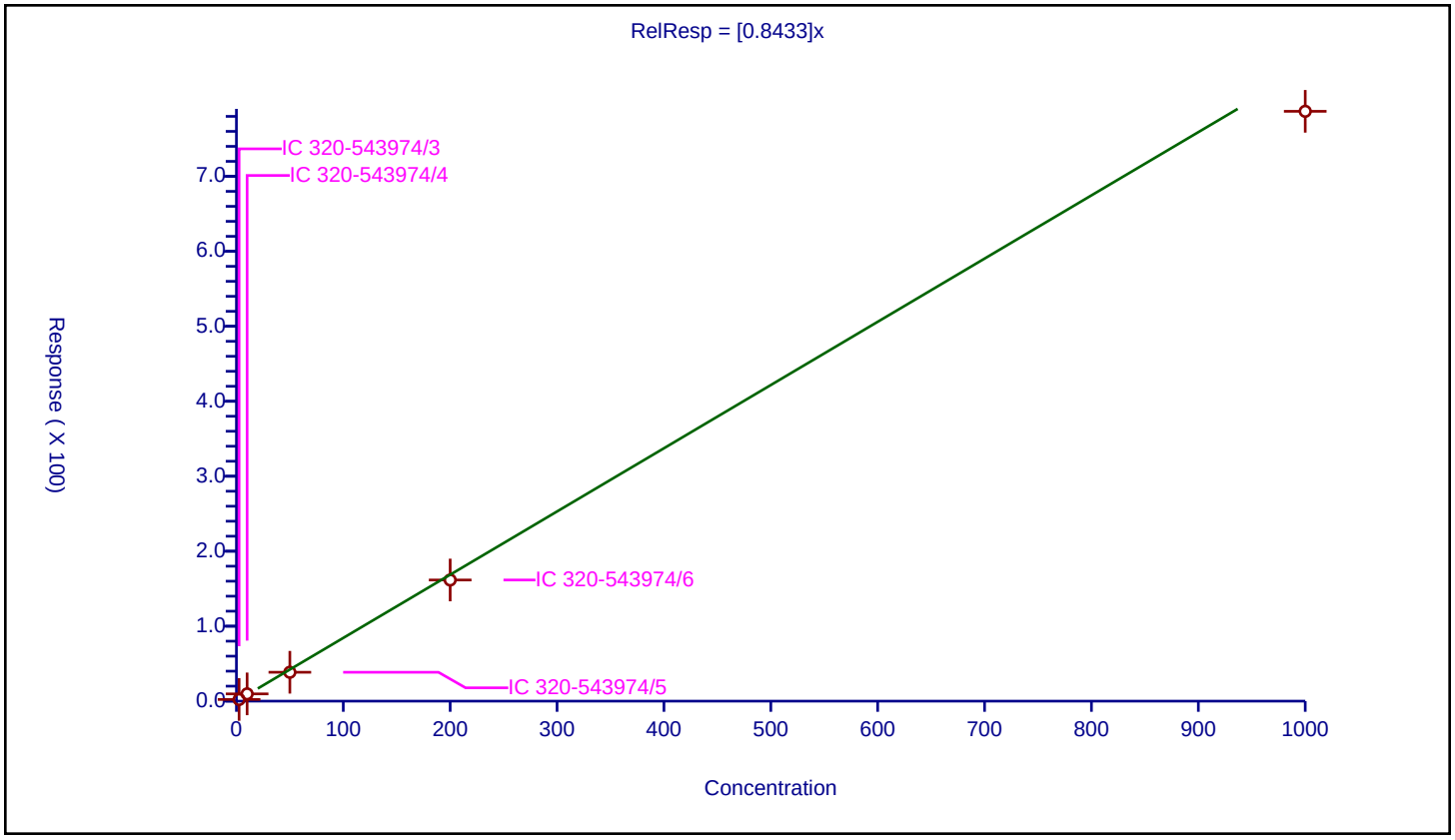
Curve Coefficients

Intercept:	0
Slope:	0.8433

Error Coefficients

Standard Error:	137000000
Relative Standard Error:	9.8
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.206271	100.0	27657574.0	0.882508	Y
2	IC 320-543974/4	10.0	9.688601	100.0	17051491.0	0.96886	Y
3	IC 320-543974/5	50.0	38.51742	100.0	33164101.0	0.770348	Y
4	IC 320-543974/6	200.0	161.59956	100.0	38901018.0	0.807998	Y
5	IC 320-543974/7	1000.0	786.772202	100.0	33783657.0	0.786772	Y



Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

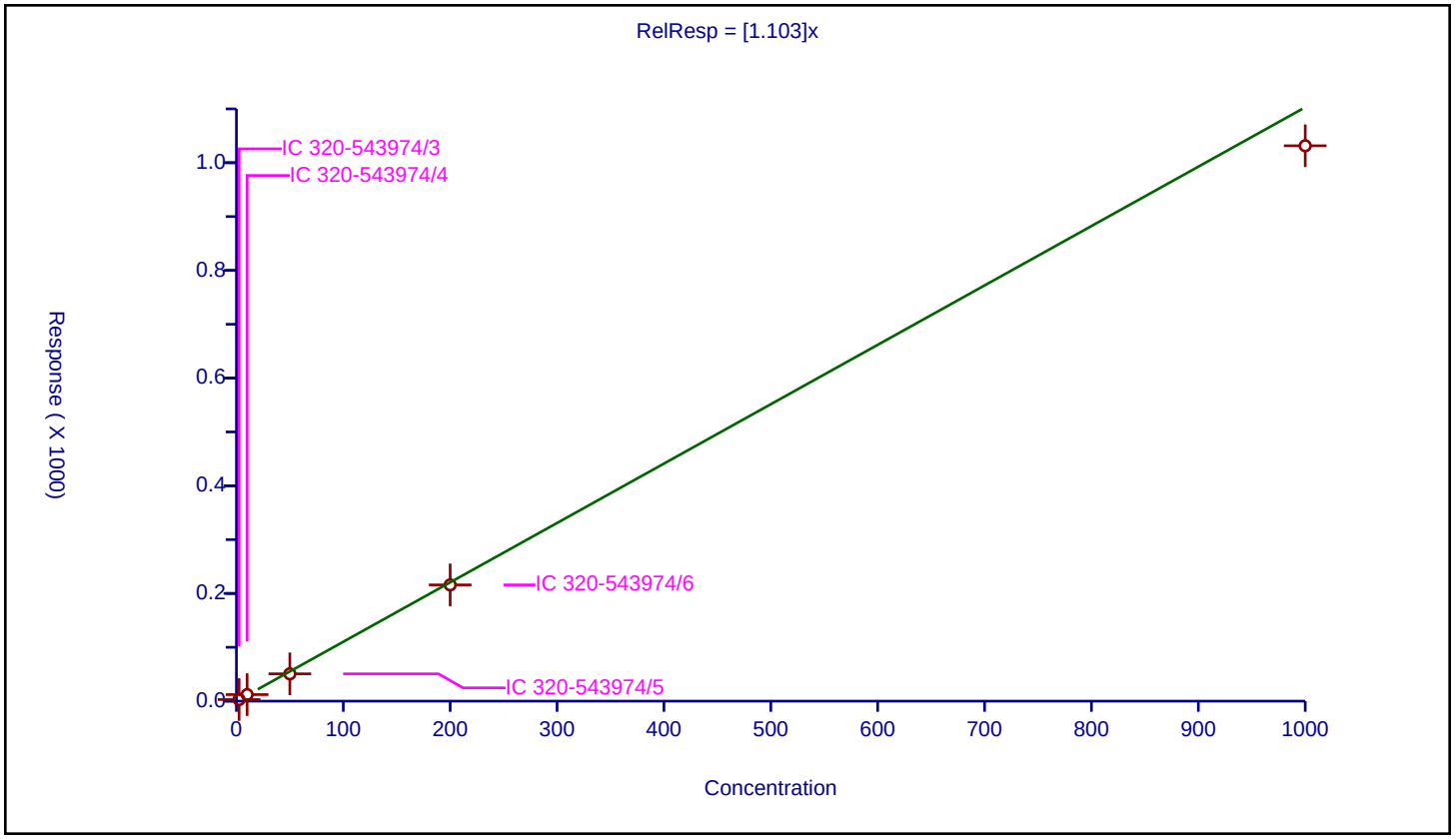
Curve Coefficients

Intercept:	0
Slope:	1.103

Error Coefficients

Standard Error:	111000000
Relative Standard Error:	8.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.939619	100.0	12066497.0	1.175847	Y
2	IC 320-543974/4	10.0	12.131771	100.0	8389682.0	1.213177	Y
3	IC 320-543974/5	50.0	50.740219	100.0	16066202.0	1.014804	Y
4	IC 320-543974/6	200.0	215.896981	100.0	20551065.0	1.079485	Y
5	IC 320-543974/7	1000.0	1031.507686	100.0	21149998.0	1.031508	Y



Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

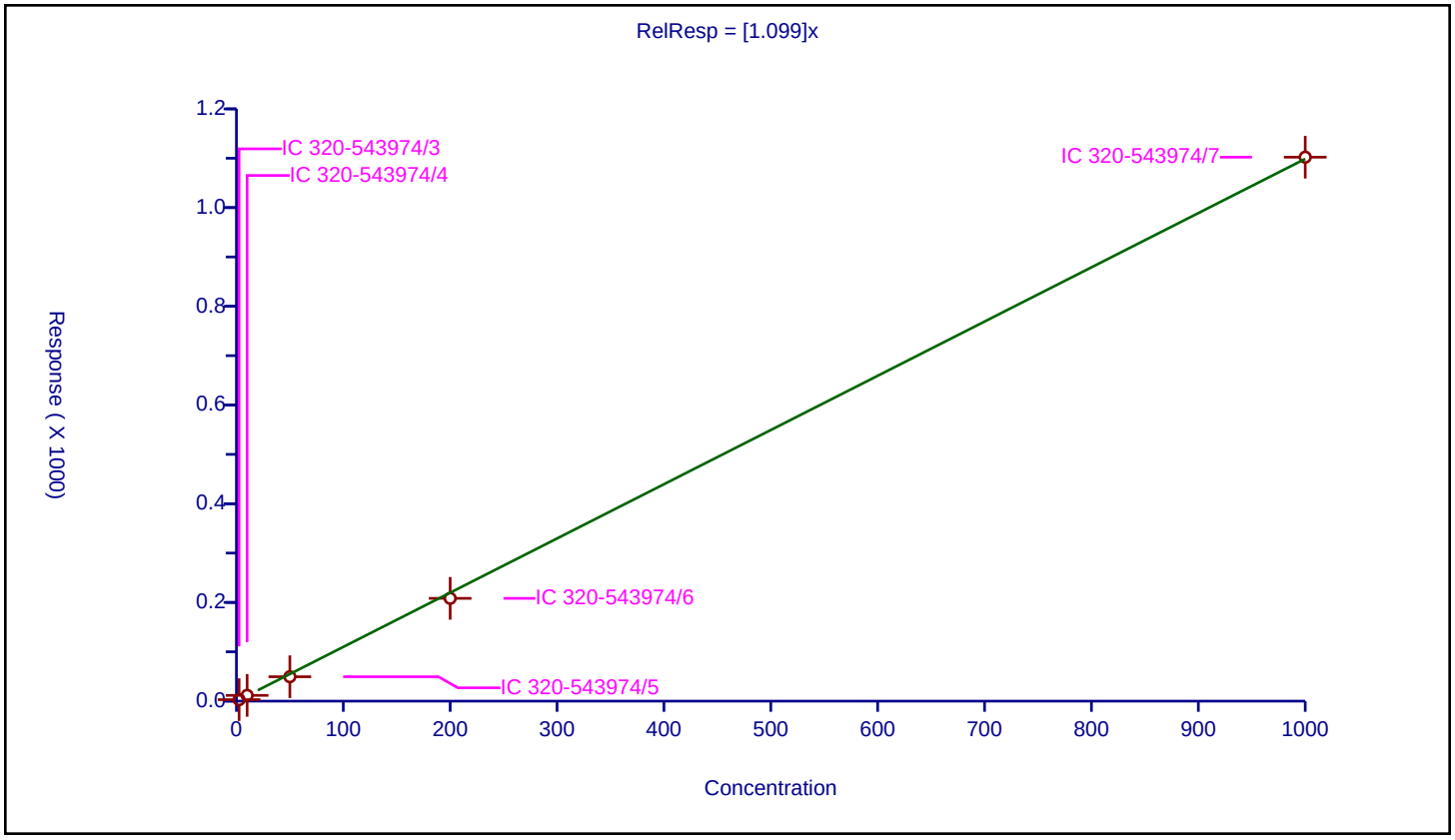
Curve Coefficients

Intercept:	0
Slope:	1.099

Error Coefficients

Standard Error:	179000000
Relative Standard Error:	7.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.976857	100.0	22953172.0	1.190743	Y
2	IC 320-543974/4	10.0	11.697706	100.0	15329023.0	1.169771	Y
3	IC 320-543974/5	50.0	49.483183	100.0	27274270.0	0.989664	Y
4	IC 320-543974/6	200.0	208.264201	100.0	34302010.0	1.041321	Y
5	IC 320-543974/7	1000.0	1102.143036	100.0	31886919.0	1.102143	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

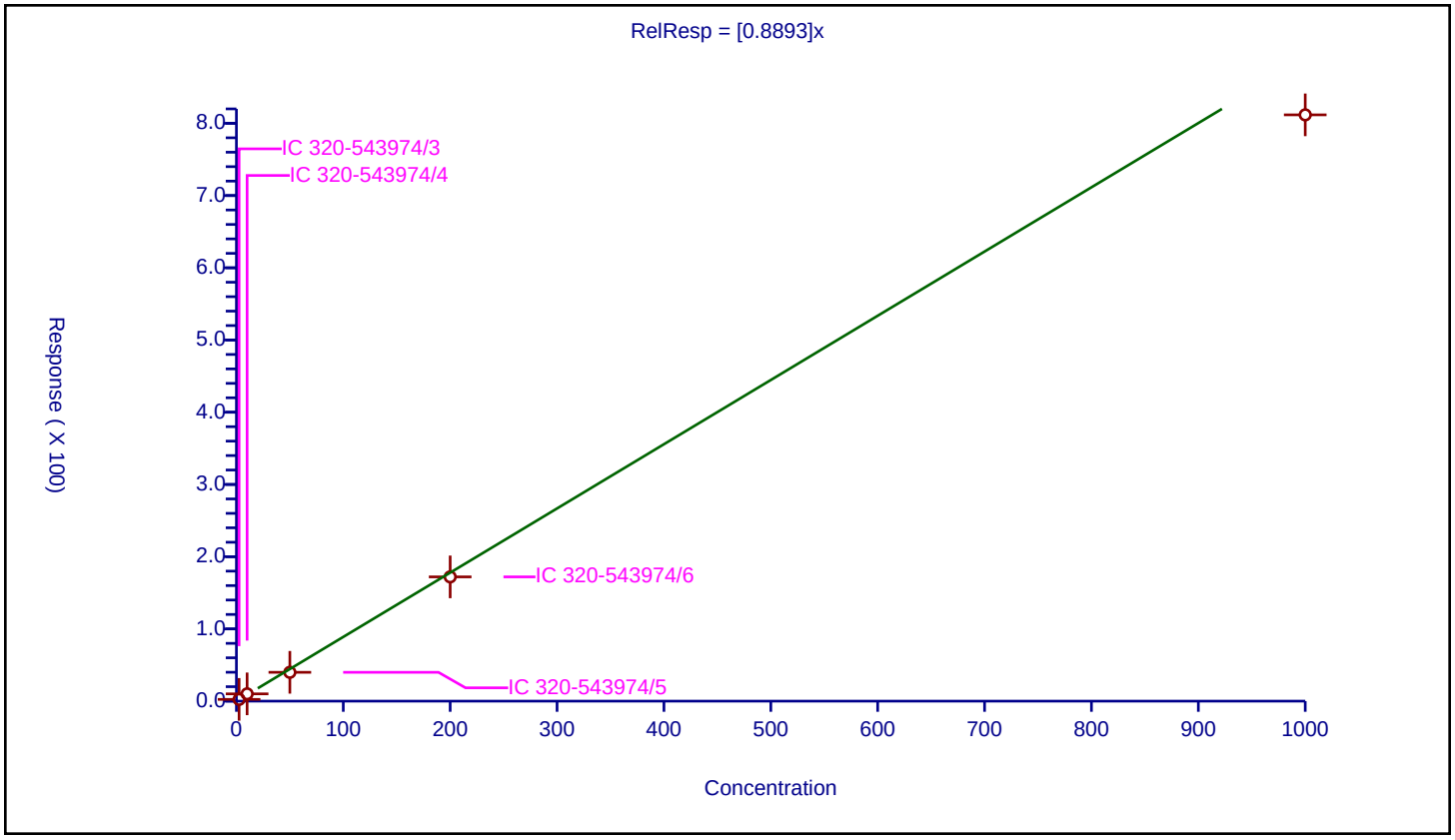
Curve Coefficients

Intercept:	0
Slope:	0.8893

Error Coefficients

Standard Error:	141000000
Relative Standard Error:	10.6
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.41715	100.0	27657574.0	0.96686	Y
2	IC 320-543974/4	10.0	10.092895	100.0	17051491.0	1.009289	Y
3	IC 320-543974/5	50.0	39.911141	100.0	33164101.0	0.798223	Y
4	IC 320-543974/6	200.0	172.055443	100.0	38901018.0	0.860277	Y
5	IC 320-543974/7	1000.0	811.736838	100.0	33783657.0	0.811737	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

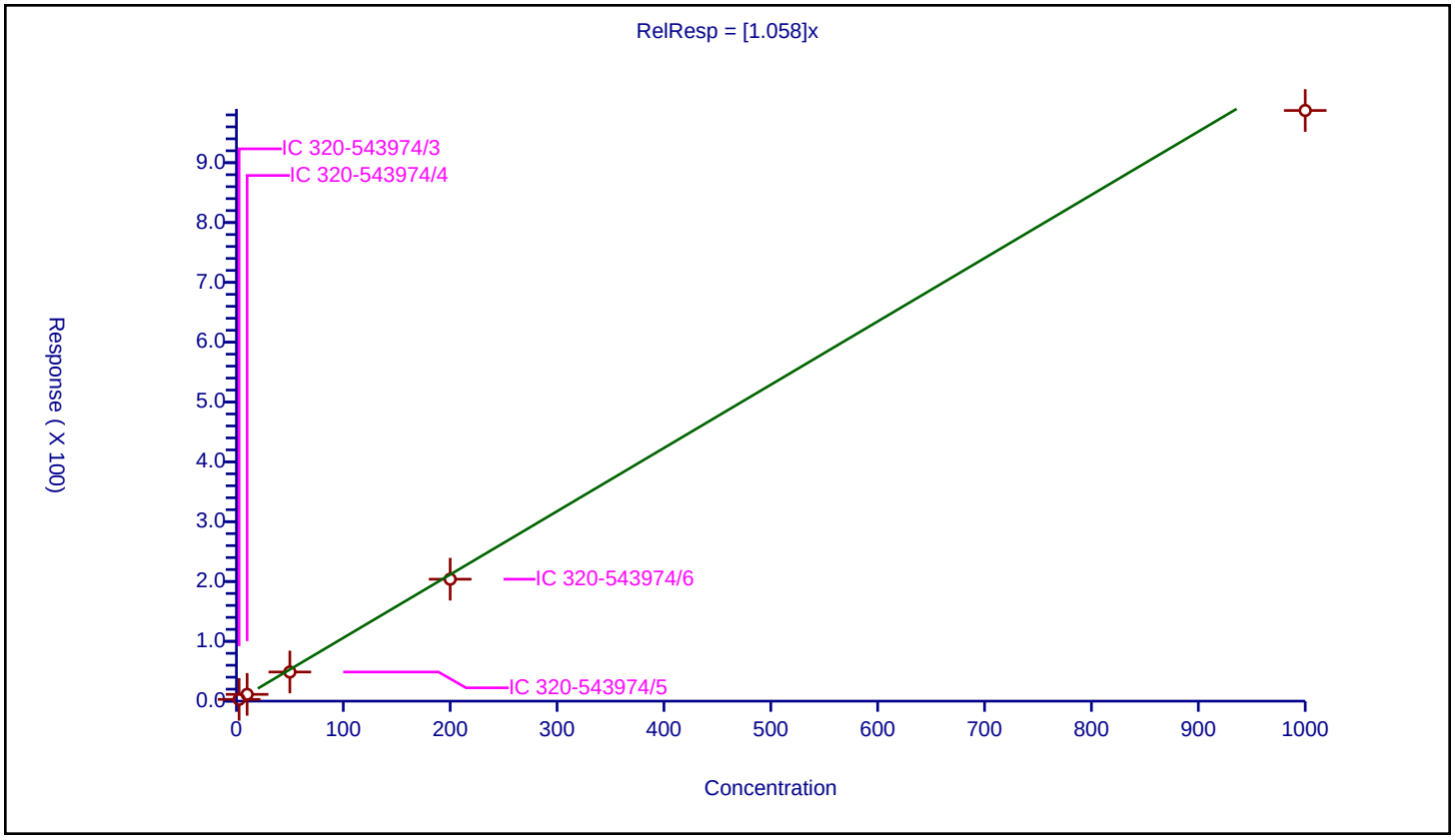
Curve Coefficients

Intercept:	0
Slope:	1.058

Error Coefficients

Standard Error:	161000000
Relative Standard Error:	8.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	2.5	2.937132	100.0	22953172.0	1.174853	Y
2	IC 320-543974/4	10.0	11.336835	100.0	15329023.0	1.133683	Y
3	IC 320-543974/5	50.0	48.718232	100.0	27274270.0	0.974365	Y
4	IC 320-543974/6	200.0	203.825105	100.0	34302010.0	1.019126	Y
5	IC 320-543974/7	1000.0	987.316244	100.0	31886919.0	0.987316	Y



Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

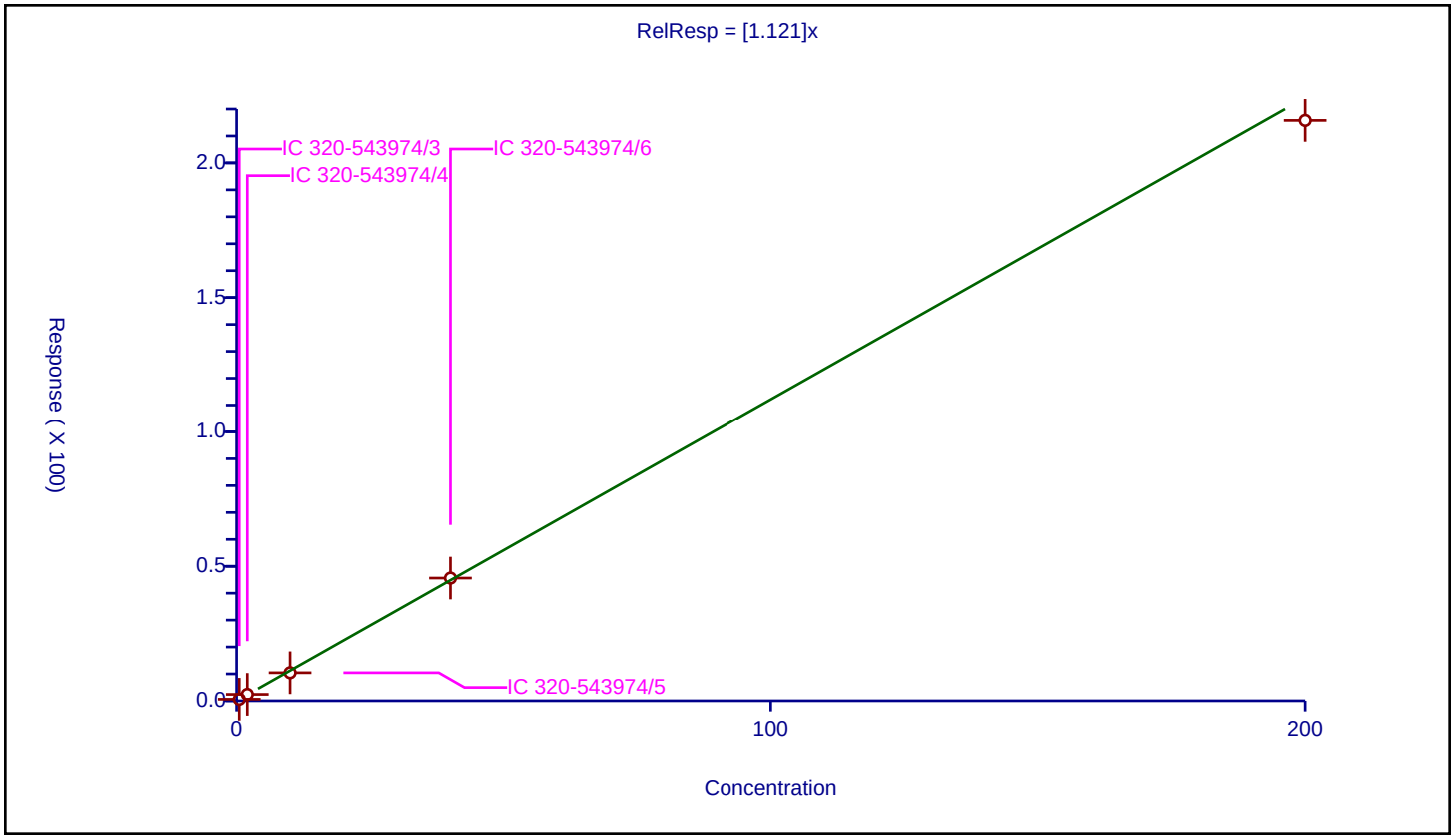
Curve Coefficients

Intercept:	0
Slope:	1.121

Error Coefficients

Standard Error:	24800000
Relative Standard Error:	5.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	0.5	0.576486	100.0	16089210.0	1.152971	Y
2	IC 320-543974/4	2.0	2.380447	100.0	11367108.0	1.190224	Y
3	IC 320-543974/5	10.0	10.425946	100.0	19069570.0	1.042595	Y
4	IC 320-543974/6	40.0	45.621706	100.0	24135099.0	1.140543	Y
5	IC 320-543974/7	200.0	215.787324	100.0	22400301.0	1.078937	Y



Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

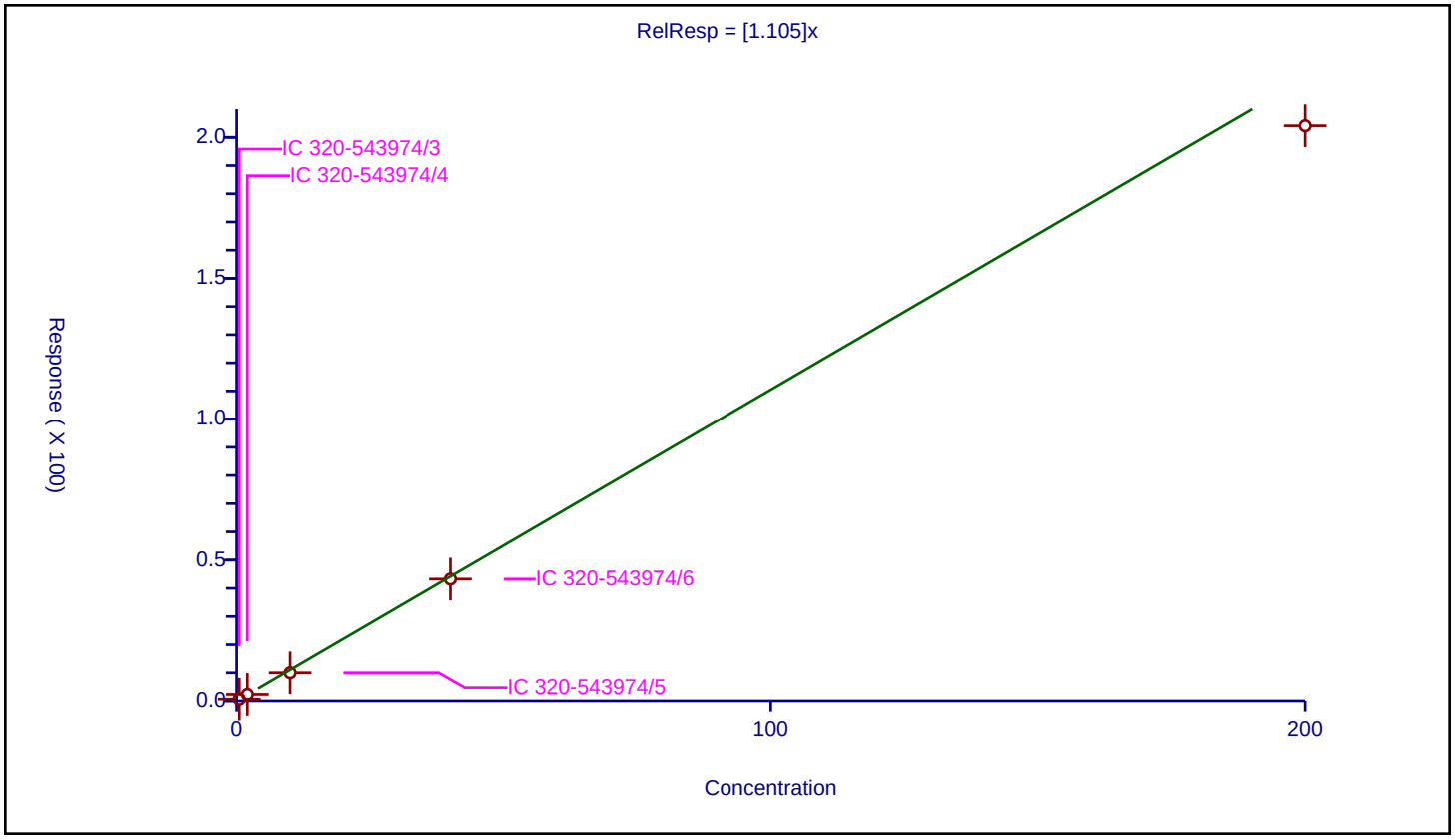
Curve Coefficients

Intercept:	0
Slope:	1.105

Error Coefficients

Standard Error:	36100000
Relative Standard Error:	9.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	0.5	0.631499	100.0	25086647.0	1.262999	Y
2	IC 320-543974/4	2.0	2.311783	100.0	17404920.0	1.155892	Y
3	IC 320-543974/5	10.0	10.012231	100.0	31220284.0	1.001223	Y
4	IC 320-543974/6	40.0	43.277574	100.0	37215258.0	1.081939	Y
5	IC 320-543974/7	200.0	204.112254	100.0	34471994.0	1.020561	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

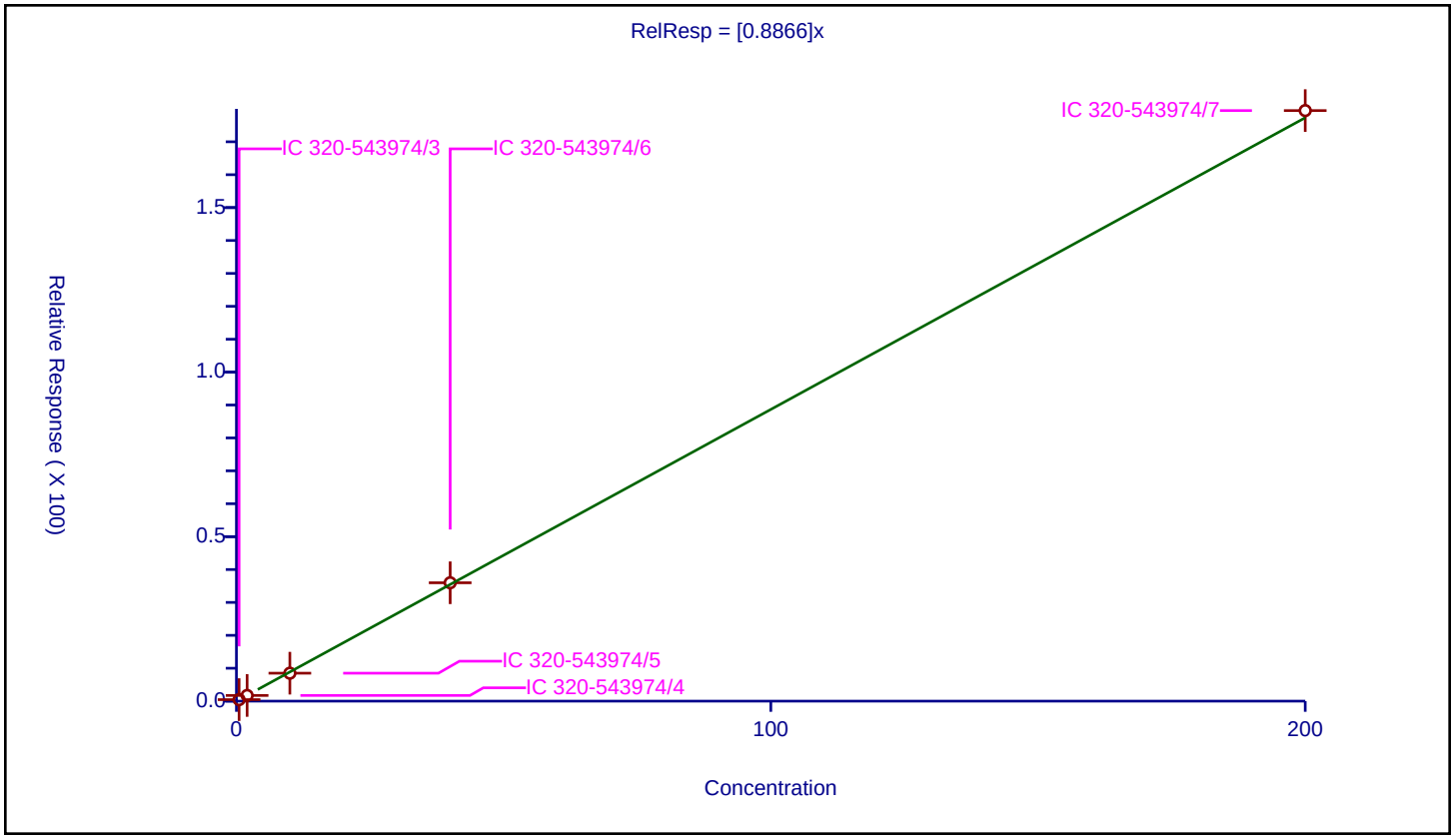
Curve Coefficients

Intercept:	0
Slope:	0.8866

Error Coefficients

Standard Error:	24300000
Relative Standard Error:	3.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	0.5	0.46137	100.0	19765482.0	0.92274	Y
2	IC 320-543974/4	2.0	1.728036	100.0	13975169.0	0.864018	Y
3	IC 320-543974/5	10.0	8.492928	100.0	23062754.0	0.849293	Y
4	IC 320-543974/6	40.0	35.973609	100.0	28891210.0	0.89934	Y
5	IC 320-543974/7	200.0	179.482541	100.0	26476592.0	0.897413	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

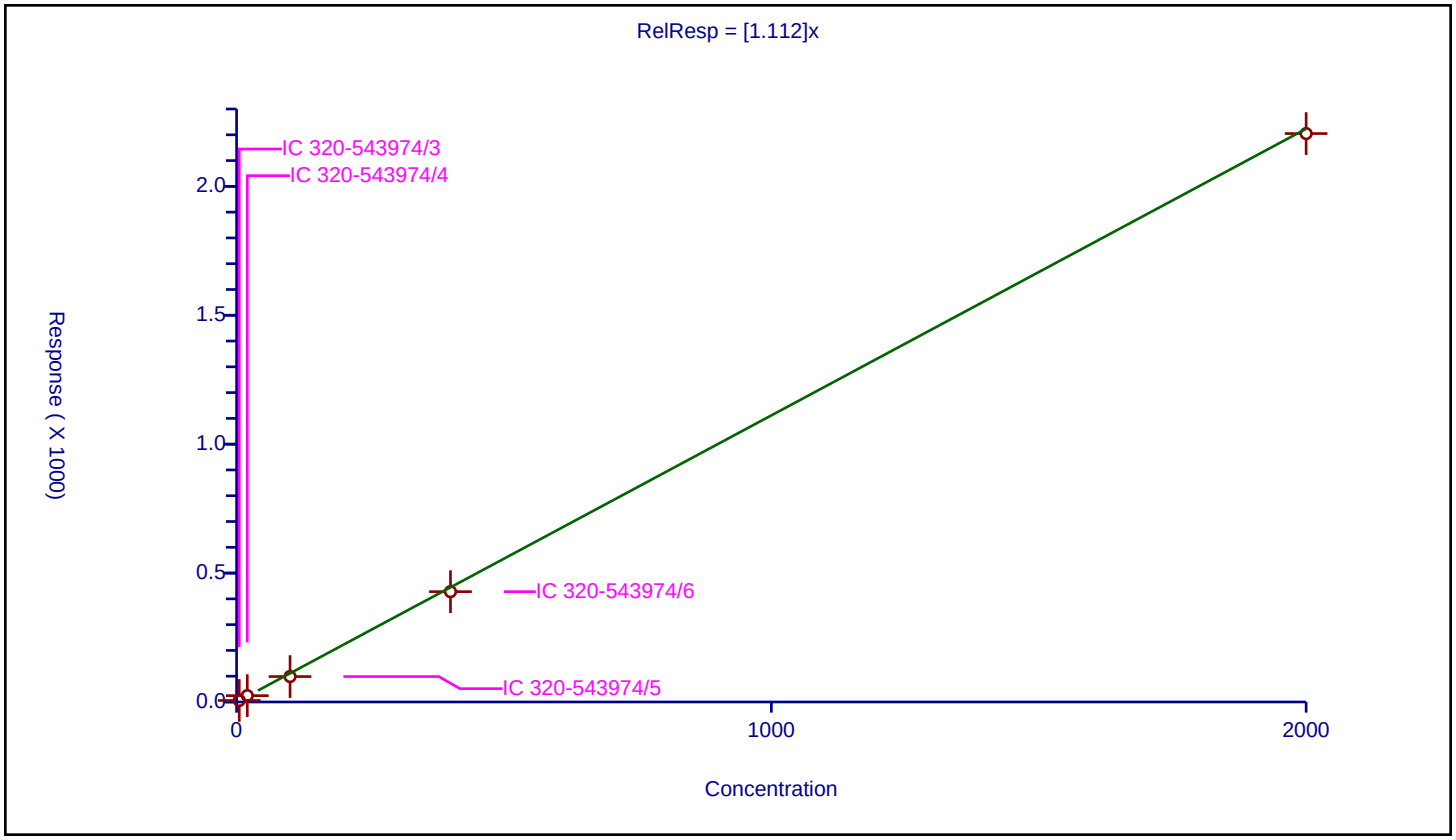
Curve Coefficients

Intercept:	0
Slope:	1.112

Error Coefficients

Standard Error:	155000000
Relative Standard Error:	8.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	5.0	5.84292	200.0	23665496.0	1.168584	Y
2	IC 320-543974/4	20.0	24.611484	200.0	13675624.0	1.230574	Y
3	IC 320-543974/5	100.0	98.67095	200.0	26348519.0	0.986709	Y
4	IC 320-543974/6	400.0	427.917489	200.0	32835195.0	1.069794	Y
5	IC 320-543974/7	2000.0	2204.720364	200.0	27427204.0	1.10236	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

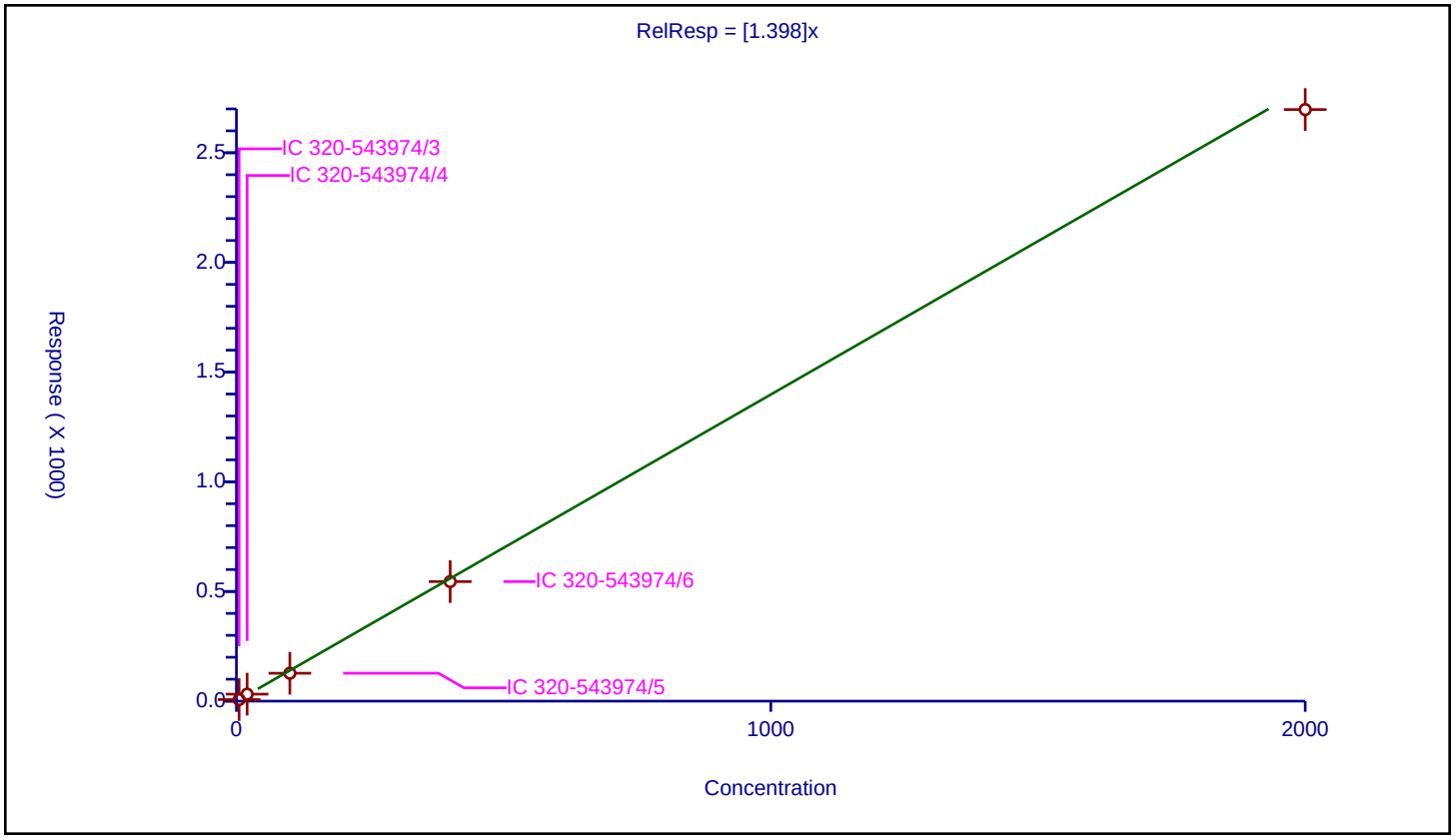
Curve Coefficients

Intercept:	0
Slope:	1.398

Error Coefficients

Standard Error:	190000000
Relative Standard Error:	8.6
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-543974/3	5.0	7.068375	200.0	23665496.0	1.413675	Y
2	IC 320-543974/4	20.0	31.869098	200.0	13675624.0	1.593455	Y
3	IC 320-543974/5	100.0	127.163921	200.0	26348519.0	1.271639	Y
4	IC 320-543974/6	400.0	544.94206	200.0	32835195.0	1.362355	Y
5	IC 320-543974/7	2000.0	2696.935138	200.0	27427204.0	1.348468	Y



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Lab Sample ID (1): WDM 320-543974/1 Instrument ID (1): DFS 1

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 11/18/2021 13:51

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	22.91	14

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d
Injection Date: 18-Nov-2021 13:51:00 Instrument ID: DFS 1
Lims ID: WDM
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL

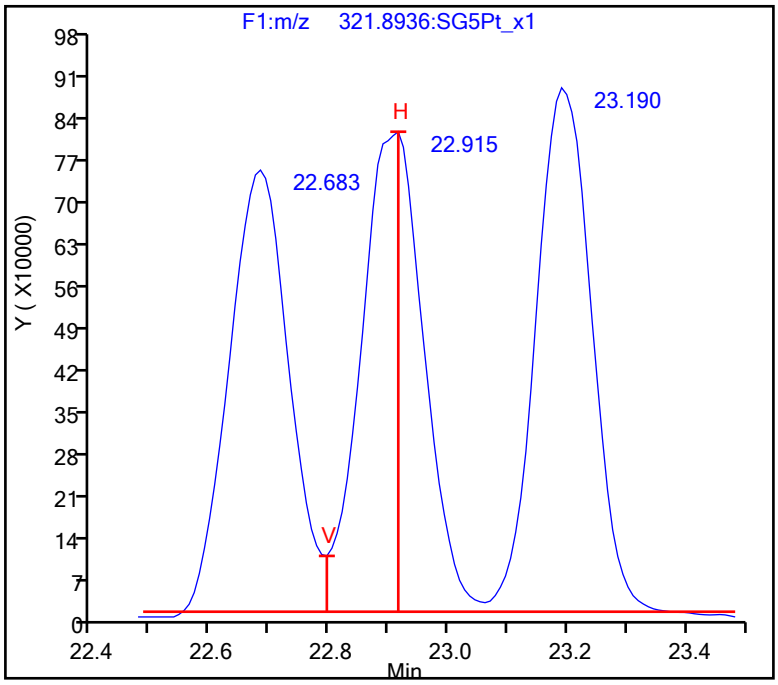
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 109657
H (Peak Height) = 811865

%R = 14 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Lab Sample ID (1): WDM 320-554312/1 Instrument ID (1): DFS 1

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 12/27/2021 19:23

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	21.47	18

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d
Injection Date: 27-Dec-2021 19:23:00 Instrument ID: DFS 1
Lims ID: WDM
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL

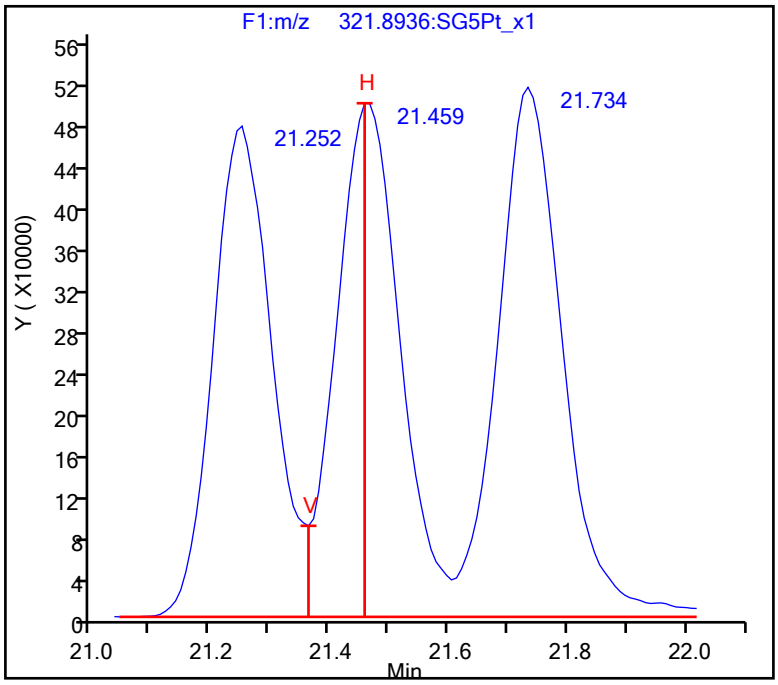
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 88346
H (Peak Height) = 497851

%R = 18 <= 25
Passed



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Lab Sample ID: ICV 320-543974/9 Calibration Date: 11/18/2021 20:32

Instrument ID: DFS 1 Calib Start Date: 11/18/2021 15:26

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 11/18/2021 18:38

Lab File ID: 18no21adfs1_11.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.105	1.142		41.4	40.0	3.4	30.0
2,3,7,8-TCDD	AveID	1.121	1.252		44.7	40.0	11.6	30.0
1,2,3,7,8-PeCDF	AveID	1.099	1.019		186	200	-7.2	30.0
2,3,4,7,8-PeCDF	AveID	1.058	1.087		205	200	2.7	30.0
1,2,3,7,8-PeCDD	AveID	1.103	1.028		186	200	-6.8	30.0
1,2,3,4,7,8-HxCDF	AveID	0.9504	0.8994		189	200	-5.4	30.0
1,2,3,6,7,8-HxCDF	AveID	0.9524	0.9363		197	200	-1.7	30.0
2,3,4,6,7,8-HxCDF	AveID	0.8893	0.9300		209	200	4.6	30.0
1,2,3,4,7,8-HxCDD	AveID	1.008	1.019		202	200	1.1	30.0
1,2,3,6,7,8-HxCDD	AveID	1.011	1.067		211	200	5.6	30.0
1,2,3,7,8,9-HxCDD	AveID	1.099	1.072		195	200	-2.5	30.0
1,2,3,7,8,9-HxCDF	AveID	0.8433	0.7815		185	200	-7.3	30.0
1,2,3,4,6,7,8-HpCDF	AveID	1.518	1.415		186	200	-6.8	30.0
1,2,3,4,6,7,8-HpCDD	AveID	1.095	1.054		192	200	-3.8	30.0
1,2,3,4,7,8,9-HpCDF	AveID	1.339	1.253		187	200	-6.4	30.0
OCDD	AveID	1.112	1.112		400	400	0.0	30.0
OCDF	AveID	1.398	1.275		365	400	-8.8	30.0
13C-2,3,7,8-TCDF	Ave	1.292	1.258		97.4	100	-2.6	
13C-2,3,7,8-TCDD	Ave	0.8271	0.7996		96.7	100	-3.3	
13C-1,2,3,7,8-PeCDF	Ave	1.166	1.194		102	100	2.3	
13C-1,2,3,7,8-PeCDD	Ave	0.6835	0.7437		109	100	8.8	
13C-1,2,3,4,7,8-HxCDF	Ave	1.178	1.210		103	100	2.8	
13C-1,2,3,6,7,8-HxCDD	Ave	0.7339	0.7387		101	100	0.6	
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6698	0.6922		103	100	3.3	
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.5943	0.6658		112	100	12.0	
13C-OCDD	Ave	0.4838	0.4923		204	200	1.8	
37Cl4-2,3,7,8-TCDD	Ave	0.8866	0.8946		40.4	40.0	0.9	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-Nov-2021 20:32:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00048
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist:

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 09:14:08 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 09:01:19

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	22.477	4727982	0.76	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	21.413	5946863	0.83	1.2917	97.4	97.4	1.017	1.017	97.38	
2,3,7,8-TCDF	21.438	2715876	0.78	1.1045	41.3	41.3	0.1495	0.1495	103	
A Non-2,3,7,8-sub-TCDF	20.608						0.1495	0.1495		
S Total TCDF					41.3	41.3	0.1495	0.1495		
D 13C-2,3,7,8-TCDD	22.881	3780702	0.83	0.8271	96.7	96.7	0.6683	0.6683	96.68	
$ 37Cl4-2,3,7,8-TCDD	22.915	1691893		0.8866	40.4	40.4	0.1591	0.1591	101	
2,3,7,8-TCDD	22.907	1892775	0.82	1.1211	44.7	44.7	0.2466	0.2466	112	M
A Non-2,3,7,8-sub-TCDD	21.510						0.2466	0.2466		
S Total TCDD					44.7	44.7	0.2466	0.2466		
D 13C-1,2,3,7,8-PeCDF	28.255	5644206	1.59	1.1665	102.3	102.3	0.4224	0.4224	102	
1,2,3,7,8-PeCDF	28.280	11508088	1.55	1.0987	185.6	185.6	0.6190	0.6190	92.79	
D 13C-2,3,4,7,8-PeCDF	29.872	7110325	1.58							
2,3,4,7,8-PeCDF	29.898	12265061	1.53	1.0579	205.4	205.4	0.6429	0.6429	103	
A F1 PeCDFs	25.243						0.0564	0.0564		
A Non-2,3,7,8-sub-PeCDF	28.946						0.6307	0.6307		n
S Total PeCDF					391.0	391.0	0.6309	0.6309		
D 13C-1,2,3,7,8-PeCDD	30.748	3516189	1.60	0.6835	108.8	108.8	0.3139	0.3139	109	
1,2,3,7,8-PeCDD	30.774	7227124	1.60	1.1030	186.4	186.4	0.3173	0.3173	93.18	
A Non-2,3,7,8-sub-PeCDD	29.595						0.3173	0.3173		
S Total PeCDD					186.4	186.4	0.3173	0.3173		
D 13C-1,2,3,4,7,8-HxCDF	35.605	6388695	0.53	1.1776	102.8	102.8	0.2993	0.2993	103	
1,2,3,4,7,8-HxCDF	35.622	11491501	1.20	0.9504	189.3	189.3	0.6784	0.6784	94.63	
D 13C-1,2,3,6,7,8-HxCDF	35.749	5259722	0.54							
1,2,3,6,7,8-HxCDF	35.765	11963043	1.22	0.9524	196.6	196.6	0.6770	0.6770	98.30	
D 13C-2,3,4,6,7,8-HxCDF	36.499	4859036	0.54							
2,3,4,6,7,8-HxCDF	36.515	11882654	1.21	0.8893	209.2	209.2	0.7250	0.7250	105	
D 13C-1,2,3,7,8,9-HxCDF	37.332	4359957	0.52							
1,2,3,7,8,9-HxCDF	37.349	9985582	1.24	0.8433	185.3	185.3	0.7646	0.7646	92.67	
A Non-2,3,7,8-sub-HxCDF	35.749						0.7094	0.7094		
S Total HxCDF					780.4	780.4	0.7112	0.7112		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	37.147	5279048	1.24	2.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	36.692	4586966	1.31							
1,2,3,4,7,8-HxCDD	36.709	7950108	1.25	1.0079	202.3	202.3	0.4743	0.4743	101	
D 13C-1,2,3,6,7,8-HxCDD	36.802	3899381	1.23	0.7339	100.6	100.6	0.4952	0.4952	101	
1,2,3,6,7,8-HxCDD	36.818	8323988	1.24	1.0111	211.1	211.1	0.4728	0.4728	106	
1,2,3,7,8,9-HxCDD	37.155	8362103	1.24	1.0993	195.1	195.1	0.4348	0.4348	97.54	
A Non-2,3,7,8-sub-HxCDD	36.048						0.4599	0.4599		
S Total HxCDD					608.5	608.5	0.4606	0.4606		
D 13C-1,2,3,4,6,7,8-HpCDF	39.046	3654185	0.44	0.6698	103.3	103.3	0.7160	0.7160	103	
1,2,3,4,6,7,8-HpCDF	39.054	10344428	1.03	1.5184	186.4	186.4	0.6970	0.6970	93.22	
D 13C-1,2,3,4,7,8,9-HpCDF	40.251	4491801	0.46							
1,2,3,4,7,8,9-HpCDF	40.259	9154074	1.03	1.3387	187.1	187.1	0.7905	0.7905	93.56	
A Non-2,3,7,8-sub-HpCDF	39.666						0.7408	0.7408		
S Total HpCDF					373.6	373.6	0.7438	0.7438		
D 13C-1,2,3,4,6,7,8-HpCDD	39.948	3514658	1.08	0.5943	112.0	112.0	0.4076	0.4076	112	
1,2,3,4,6,7,8-HpCDD	39.956	7406095	1.05	1.0953	192.4	192.4	0.4388	0.4388	96.20	
A Non-2,3,7,8-sub-HpCDD	39.657						0.4388	0.4388		n
S Total HpCDD					192.4	192.4	0.4388	0.4388		
D 13C-OCDD	42.479	5197569	0.92	0.4838	203.5	203.5	0.6576	0.6576	102	
OCDF	42.580	13251365	0.89	1.3979	364.8	364.8	0.2815	0.2815	91.19	
OCDD	42.487	11555049	0.89	1.1116	400.0	400.0	0.3522	0.3522	100	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

HRDXNIC_00048 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-Nov-2021 20:32:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00048
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist:

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 09:14:08 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 19-Nov-2021 09:01:19

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	22.477	22.456	1		2044222	294033	1231	3077	239		
333.9338	22.469	22.456	1		2683760	359423	214	535	1680	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	21.413	21.419	0	0.953	2702960	404576	2496	6240	162		
317.9389	21.421	21.419	0	0.953	3243903	475002	939	2347	506	0.83(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	21.438	21.462	-1	1.001	1191980	176574	176	440	1003		
305.8987	21.438	21.462	-1	1.001	1523896	214926	405	1012	531	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	20.608						176	440			
305.8987	20.608						405	1012			
13C-2,3,7,8-TCDD											
331.9368	22.881	22.864	1	1.018	1712649	222719	1231	3077	181		
333.9338	22.898	22.864	2	1.019	2068053	277127	214	535	1295	0.83(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	22.915	22.891	1	1.019	1691893	228270	369	922	619		
2,3,7,8-TCDD											M
319.8965	22.907	22.907	0	1.001	852344	113794	418	1045	272		M
321.8936	22.907	22.907	0	1.001	1040431	137723	135	337	1020	0.82(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDD											
319.8965	21.510						418	1045			
321.8936	21.510						135	337			
13C-1,2,3,7,8-PeCDF											
351.9000	28.255	28.227	2	1.257	3466905	561664	779	1947	721		
353.8970	28.255	28.227	2	1.257	2177301	362751	509	1272	713	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	28.280	28.252	2	1.001	7002313	1147467	1429	3572	803		
341.8567	28.280	28.252	2	1.001	4505775	729295	1086	2715	672	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	29.872	29.841	2	1.329	4356474	684614	779	1947	879		
353.8970	29.881	29.841	2	1.329	2753851	410078	509	1272	806	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	29.898	29.871	2	1.001	7408109	1136255	1429	3572	795		
341.8567	29.898	29.871	2	1.001	4856952	739335	1086	2715	681	1.53(1.32-1.78)	
A F1 PeCDFs											
339.8597	25.243						21	52			
341.8567	25.243						204	510			
A Non-2,3,7,8-sub-PeCDF											
339.8597	32.088	28.946	188	1.136	49445	7923	1429	3572	6		
341.8567	32.122	28.946	190	1.137	30677	5233	1086	2715	5	1.61(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	30.748	30.710	2	1.368	2162435	296065	262	655	1130		
369.8919	30.748	30.710	2	1.368	1353754	195997	299	747	656	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	30.774	30.739	2	1.001	4442119	635273	468	1170	1357		
357.8516	30.774	30.739	2	1.001	2785005	404643	221	552	1831	1.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	29.595						468	1170			
357.8516	29.595						221	552			
13C-1,2,3,4,7,8-HxCDF											
383.8639	35.605	35.596	1	0.958	2203663	579983	782	1955	742		
385.8610	35.605	35.596	1	0.958	4185032	1091222	1488	3720	733	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	35.622	35.611	1	1.000	6262384	1622514	2347	5867	691		
375.8178	35.622	35.611	1	1.000	5229117	1350467	1963	4907	688	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	35.749	35.743	0	0.962	1848648	466774	782	1955	597		
385.8610	35.749	35.743	0	0.962	3411074	883599	1488	3720	594	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	35.765	35.758	0	1.000	6580887	1629203	2347	5867	694		
375.8178	35.765	35.758	0	1.000	5382156	1356511	1963	4907	691	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	36.499	36.495	0	0.983	1705108	514331	782	1955	658		
385.8610	36.507	36.495	1	0.983	3153928	903625	1488	3720	607	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	36.515	36.510	0	1.000	6510365	1899391	2347	5867	809		
375.8178	36.515	36.510	0	1.000	5372289	1576670	1963	4907	803	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	37.332	37.329	0	1.005	1490180	471489	782	1955	603		
385.8610	37.332	37.329	0	1.005	2869777	889016	1488	3720	597	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	37.349	37.344	0	1.000	5520225	1655382	2347	5867	705		
375.8178	37.349	37.344	0	1.000	4465357	1328517	1963	4907	677	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	35.749						2347	5867			
375.8178	35.749						1963	4907			
13C-1,2,3,7,8,9-HxCDD											
401.8559	37.147	37.140	0		2920469	882245	1273	3182	693		
403.8529	37.139	37.140	0		2358579	727942	1068	2670	682	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	36.692	36.687	0	0.988	2598437	808370	1273	3182	635		
403.8529	36.692	36.687	0	0.988	1988529	609445	1068	2670	571	1.31(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	36.709	36.704	0	1.000	4419700	1325266	1227	3067	1080		
391.8127	36.709	36.704	0	1.000	3530408	1047339	918	2295	1141	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.802	36.796	0	0.991	2154655	624268	1273	3182	490		
403.8529	36.802	36.796	0	0.991	1744726	497476	1068	2670	466	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	36.818	36.813	0	1.000	4601353	1309299	1227	3067	1067		
391.8127	36.818	36.813	0	1.000	3722635	1065904	918	2295	1161	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	37.155	37.150	0	1.013	4635335	1422977	1227	3067	1160		
391.8127	37.155	37.150	0	1.013	3726768	1156387	918	2295	1260	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	36.048						1227	3067			
391.8127	36.048						918	2295			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	39.046	39.042	0	1.051	1113268	409633	2024	5060	202		
419.8220	39.046	39.042	0	1.051	2540917	936568	1065	2662	879	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	39.054	39.063	-1	1.000	5237252	1909633	3314	8285	576		
409.7788	39.054	39.063	-1	1.000	5107176	1859184	2385	5962	780	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	40.251	40.256	0	1.084	1424118	540896	2024	5060	267		
419.8220	40.251	40.256	0	1.084	3067683	1194043	1065	2662	1121	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	40.259	40.268	-1	1.000	4640580	1732440	3314	8285	523		
409.7788	40.259	40.268	-1	1.000	4513494	1700799	2385	5962	713	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	39.666						3314	8285			
409.7788	39.666						2385	5962			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.948	39.949	0	1.075	1825550	689577	936	2340	737		
437.8140	39.948	39.949	0	1.075	1689108	642136	624	1560	1029	1.08(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7767	39.956	39.965	-1	1.000	3786720	1449889	1352	3380	1072		
425.7737	39.956	39.965	-1	1.000	3619375	1377733	1208	3020	1141	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	39.341	39.657	-19	0.985	34363	11290	1352	3380	8		
425.7737	39.341	39.657	-19	0.985	28626	11310	1208	3020	9	1.20(0.88-1.20)	
13C-OCDD											
469.7780	42.479	42.485	0	1.144	2484879	855980	1364	3410	628		
471.7750	42.479	42.485	0	1.144	2712690	943008	685	1712	1377	0.92(0.76-1.02)	
OCDF											
441.7428	42.580	42.589	-1	1.002	6244658	2071688	546	1365	3794		
443.7399	42.580	42.589	-1	1.002	7006707	2340032	870	2175	2690	0.89(0.76-1.02)	
OCDD											
457.7377	42.487	42.495	0	1.000	5443685	1852737	680	1700	2725		
459.7348	42.487	42.495	0	1.000	6111364	2077215	729	1822	2849	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

HRDXNIC_00048 Amount Added: 1.00 Units: uL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

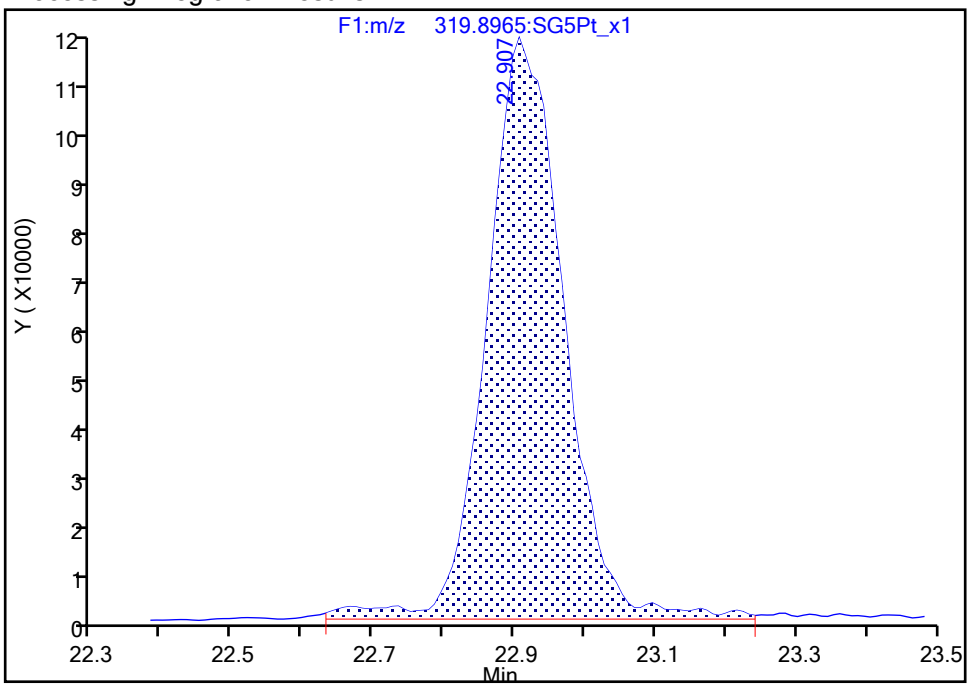
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d				
Injection Date:	18-Nov-2021 20:32:00	Instrument ID:	DFS 1		
Lims ID:	ICV				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1(14.80 :26.00)		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

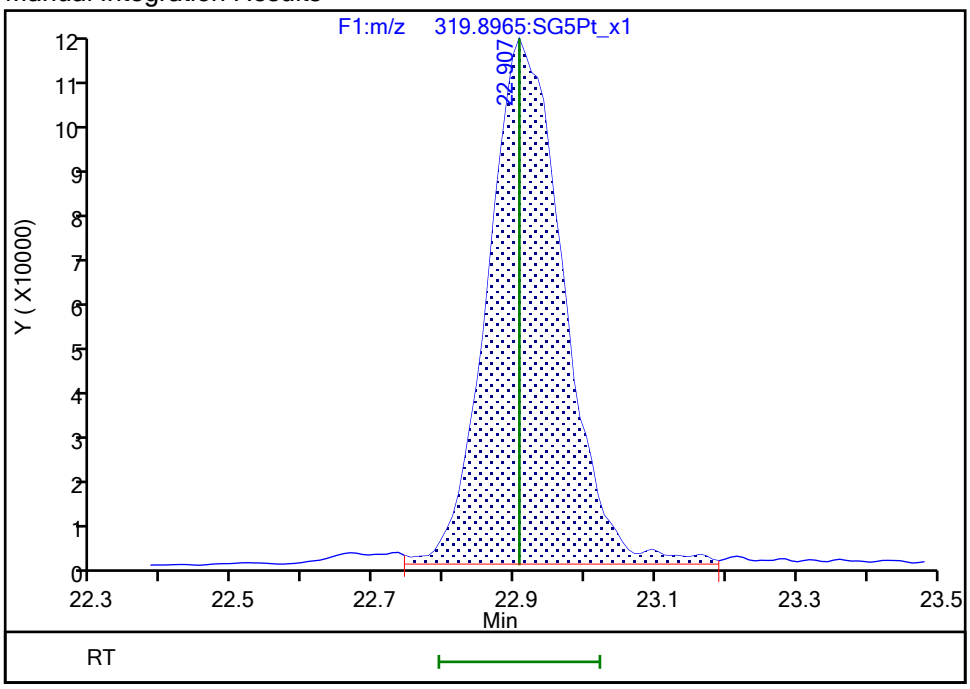
Processing Integration Results

RT: 22.91
Area: 870334
Amount: 44.159403
Amount Units: pg/ul



Manual Integration Results

RT: 22.91
Area: 852344
Amount: 44.658085
Amount Units: pg/ul



Reviewer: stephensk, 19-Nov-2021 09:06:44

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

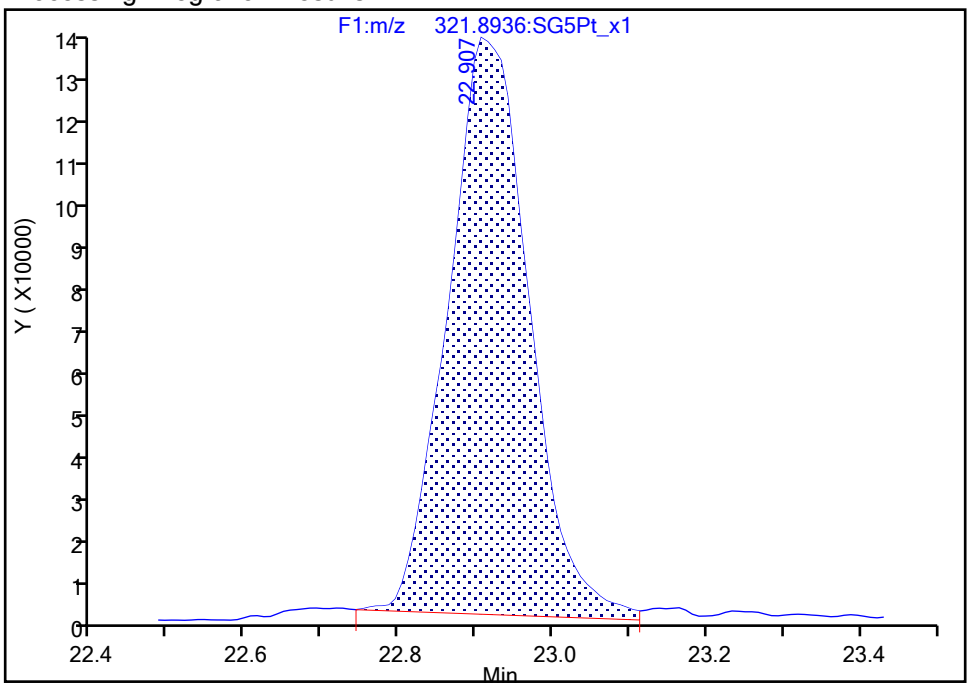
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d				
Injection Date:	18-Nov-2021 20:32:00	Instrument ID:	DFS 1		
Lims ID:	ICV				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1(14.80 :26.00)		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

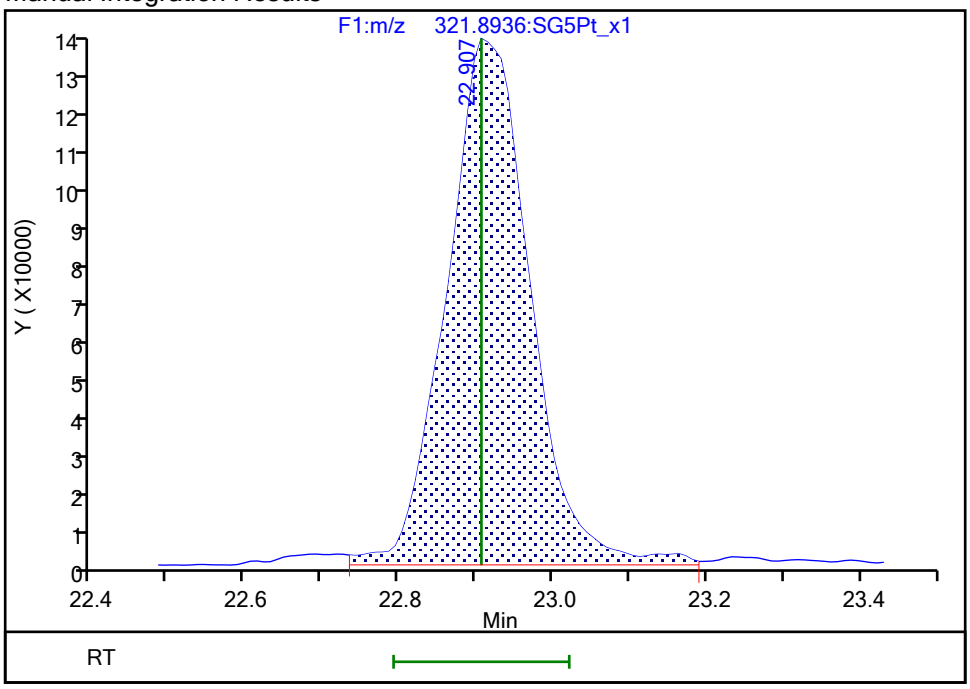
Processing Integration Results

RT: 22.91
Area: 1001305
Amount: 44.159403
Amount Units: pg/ul



Manual Integration Results

RT: 22.91
Area: 1040431
Amount: 44.658085
Amount Units: pg/ul



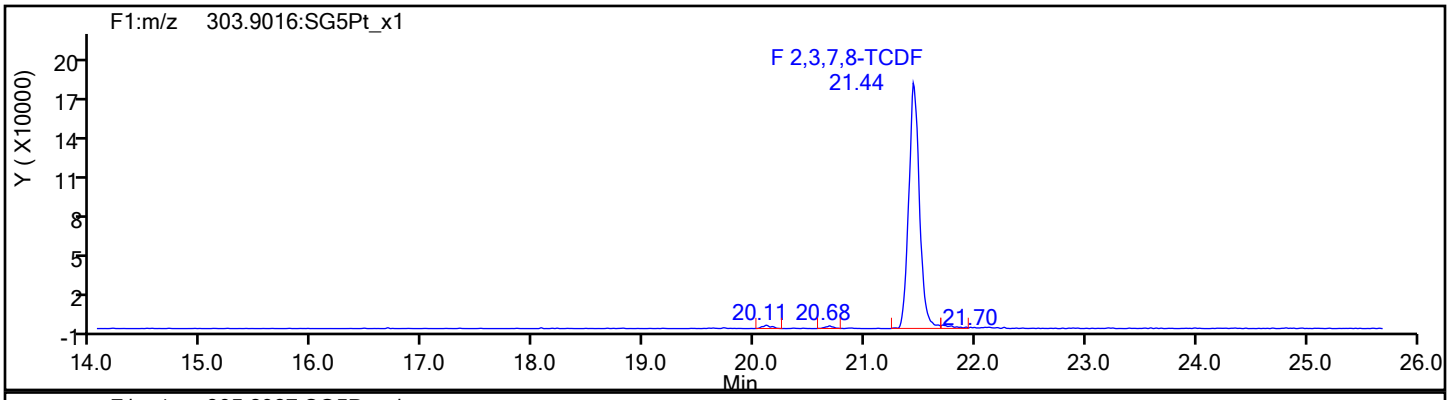
Reviewer: stephensk, 19-Nov-2021 09:07:00

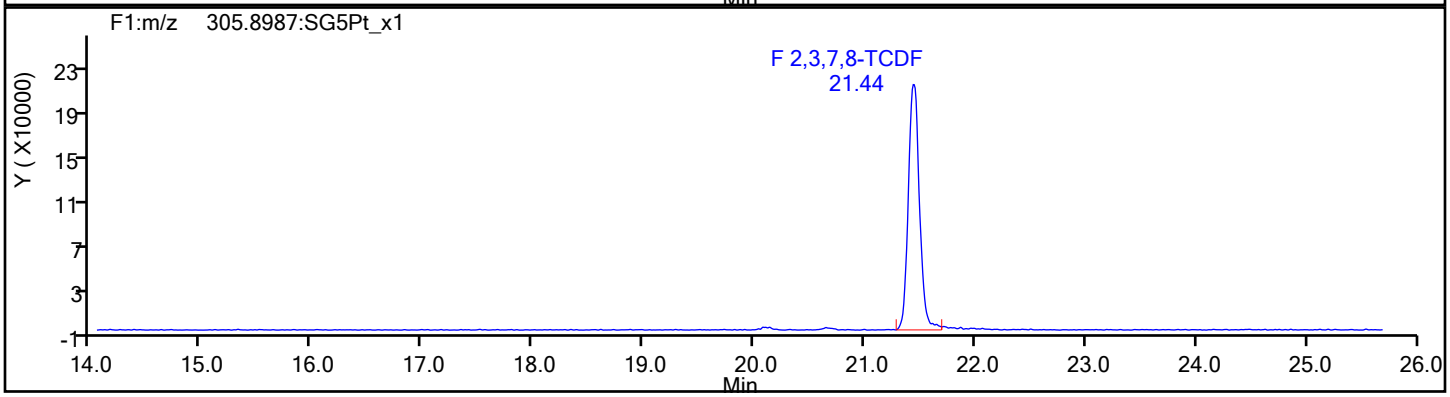
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins TestAmerica, Sacramento

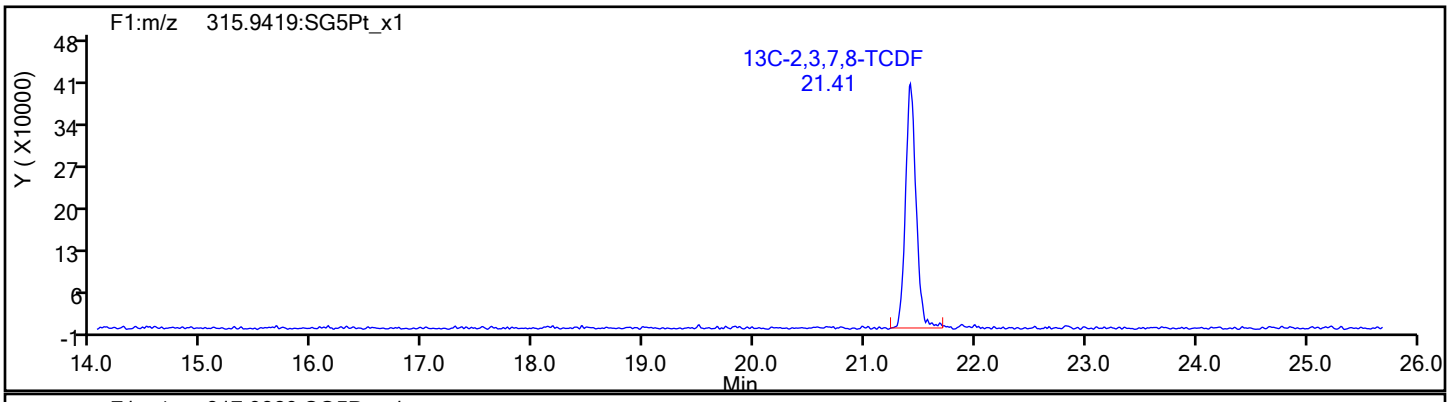
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d		
Injection Date:	18-Nov-2021 20:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

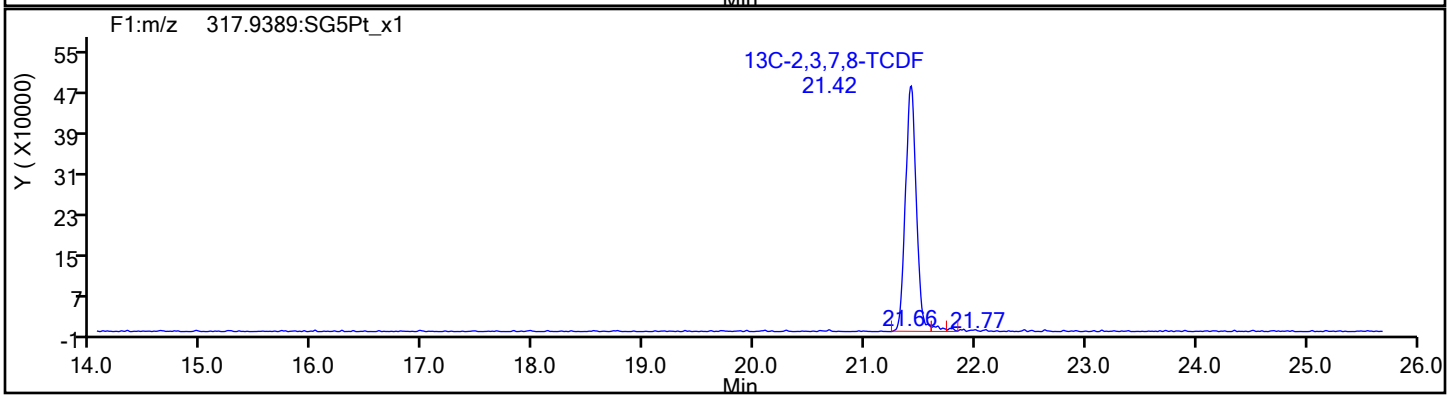
TCDF





TCDF Standards

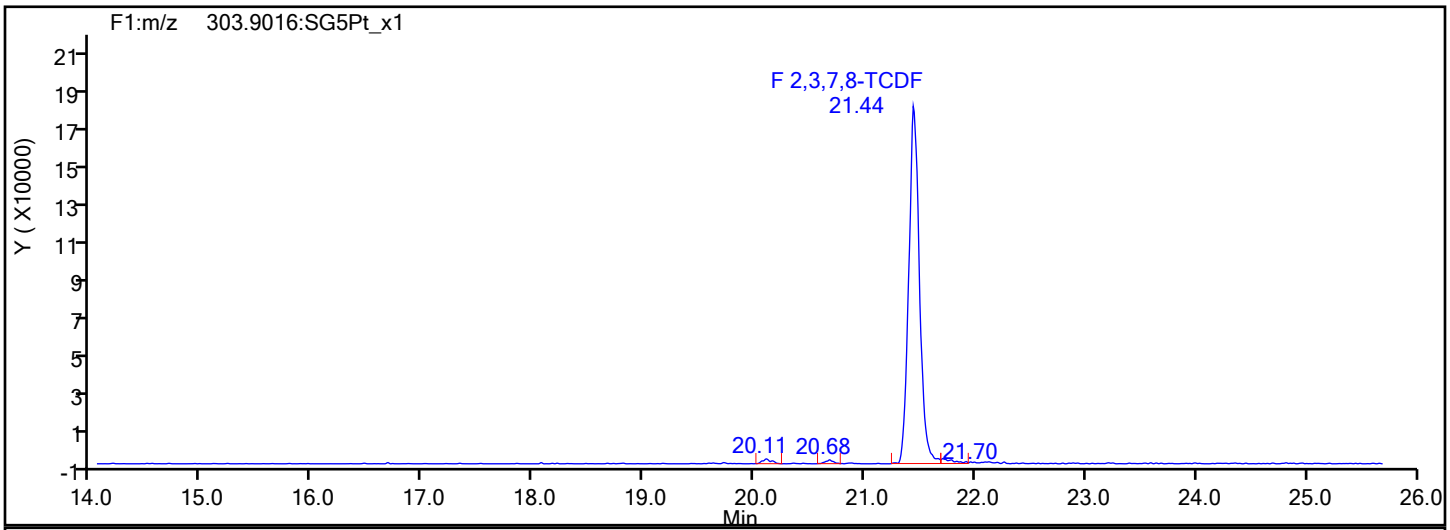


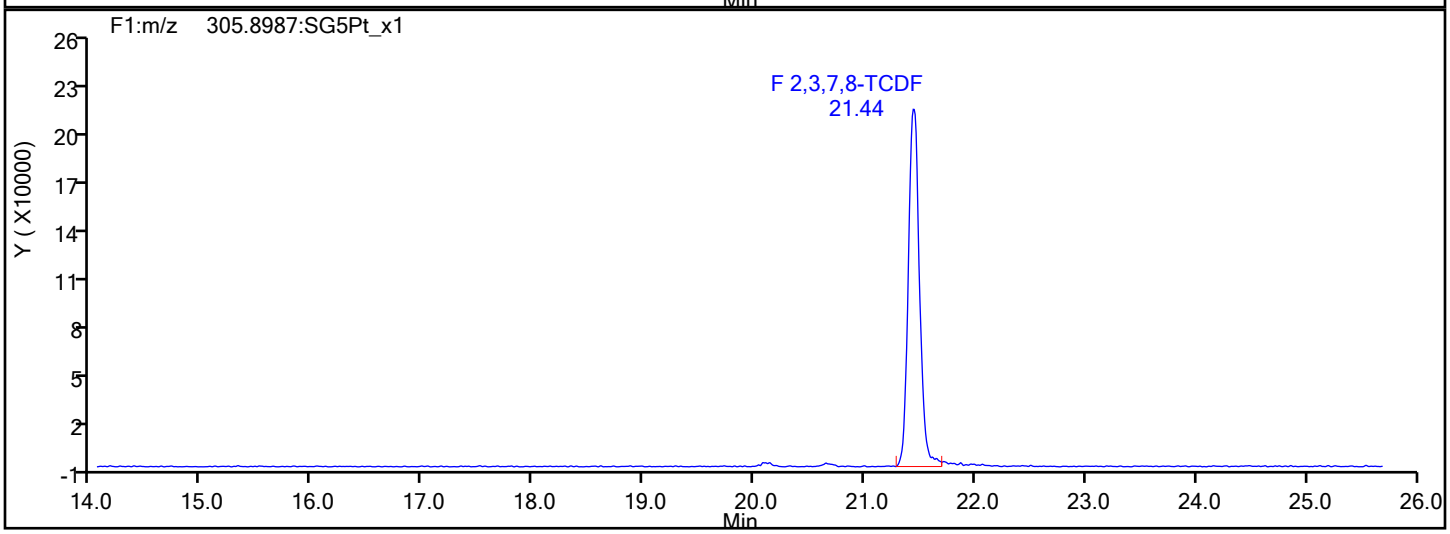


Eurofins TestAmerica, Sacramento

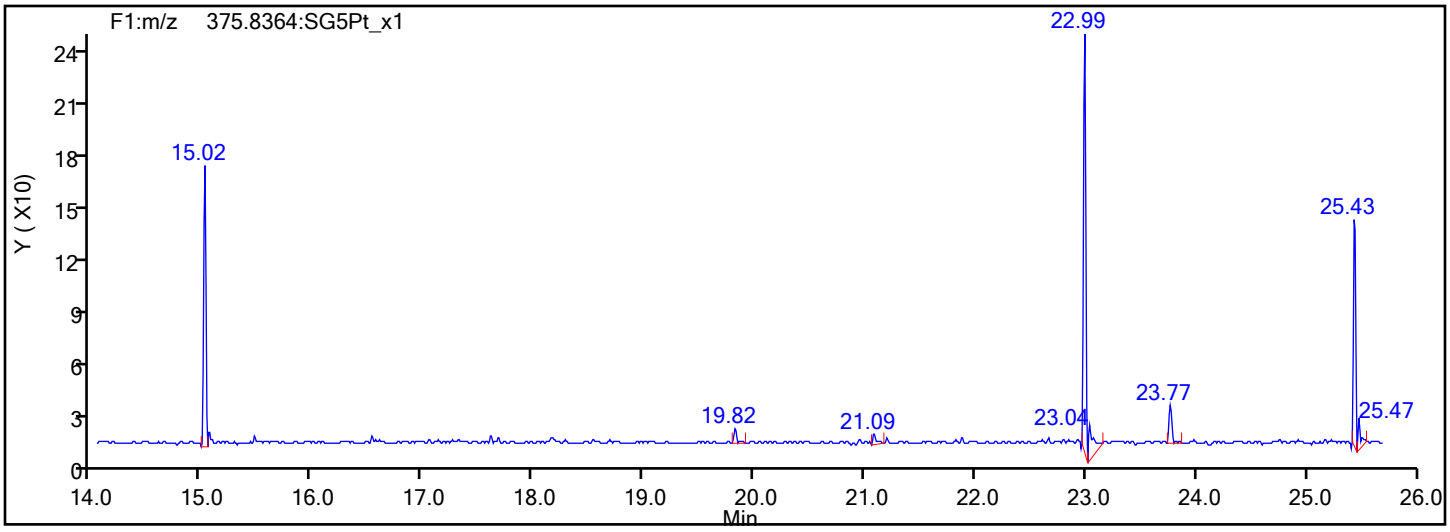
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d		
Injection Date:	18-Nov-2021 20:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





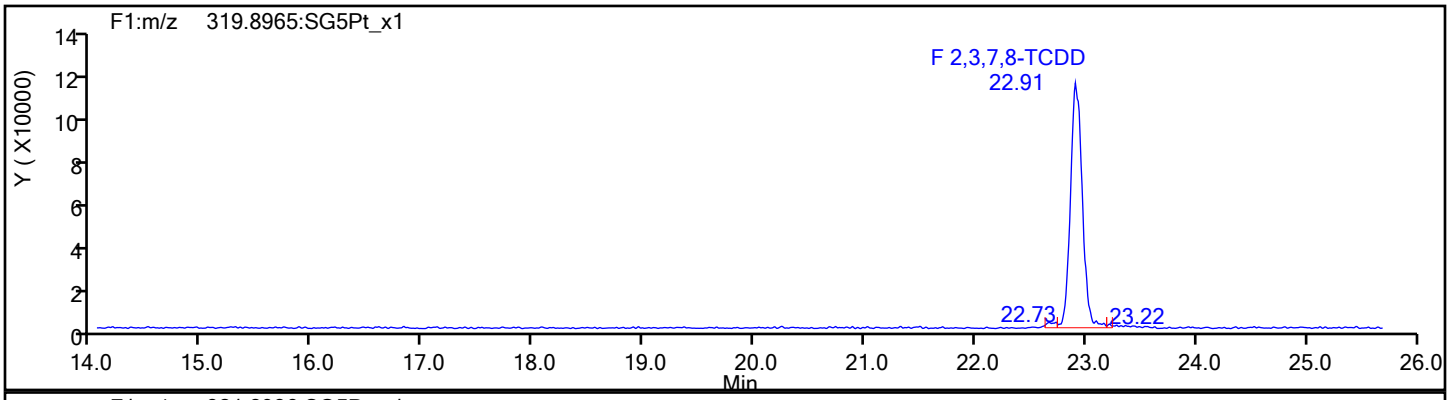
TCDF Interference Mass

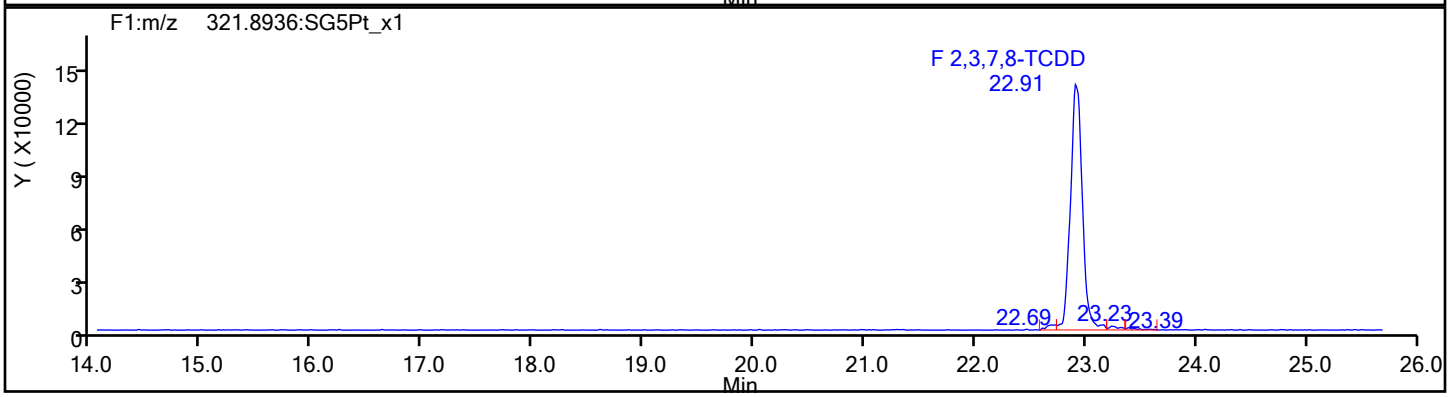


Eurofins TestAmerica, Sacramento

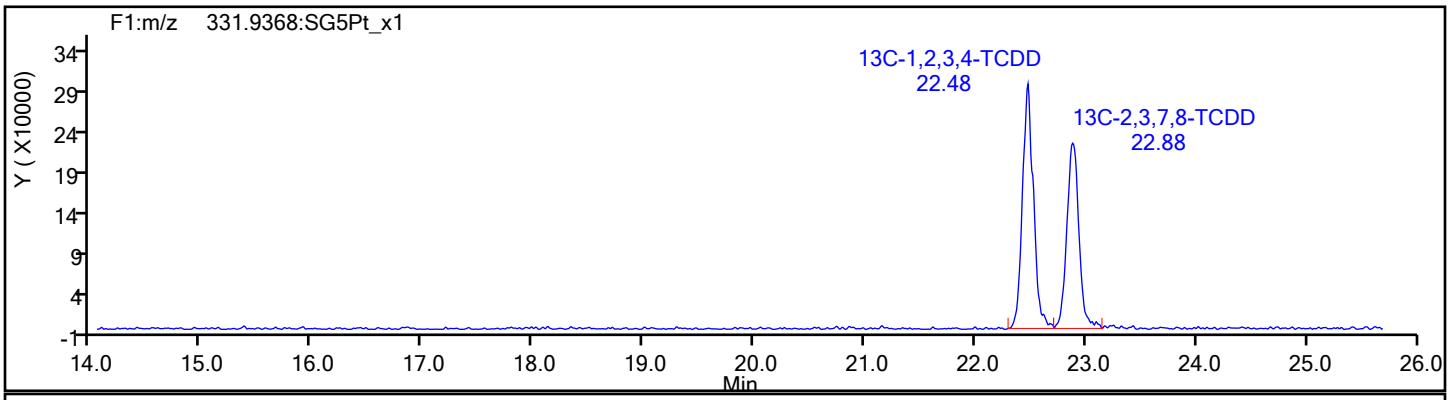
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d		
Injection Date:	18-Nov-2021 20:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

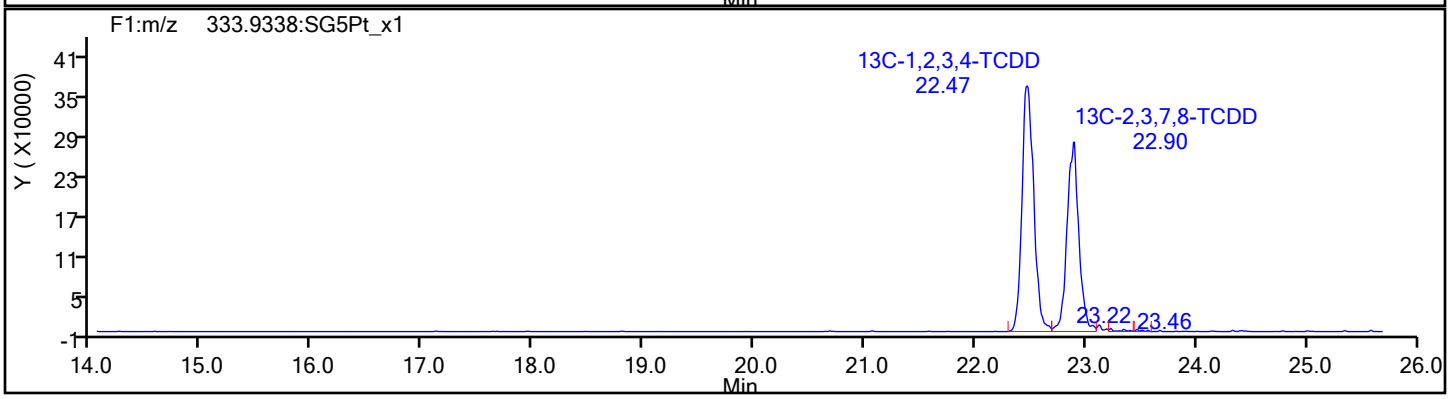
TCDD





TCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d		
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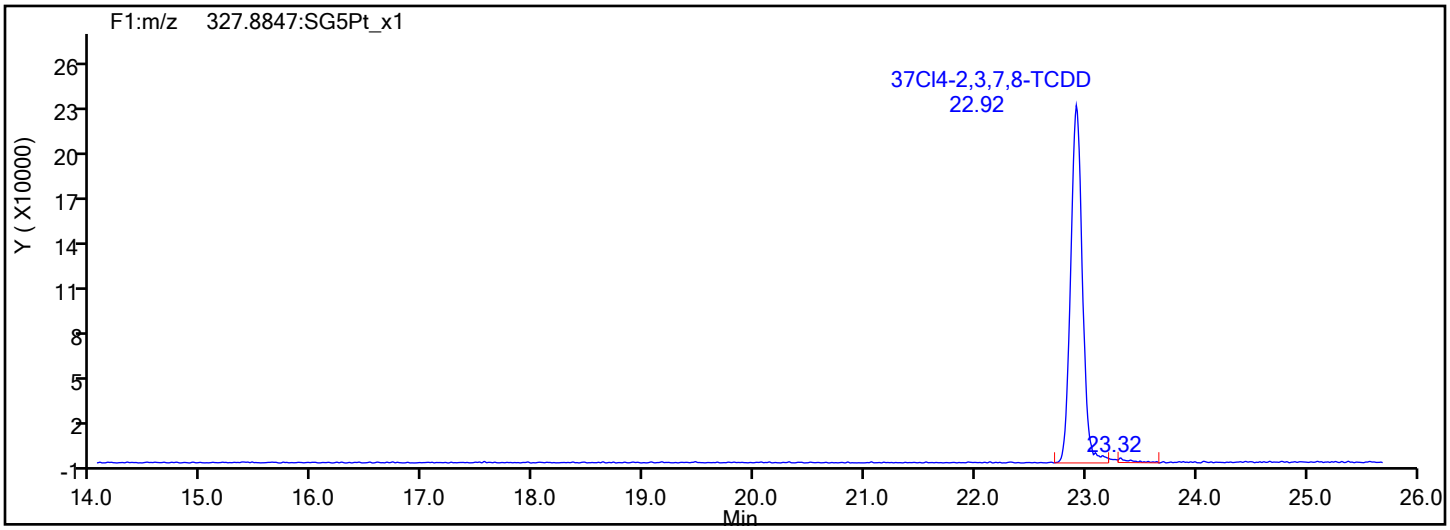
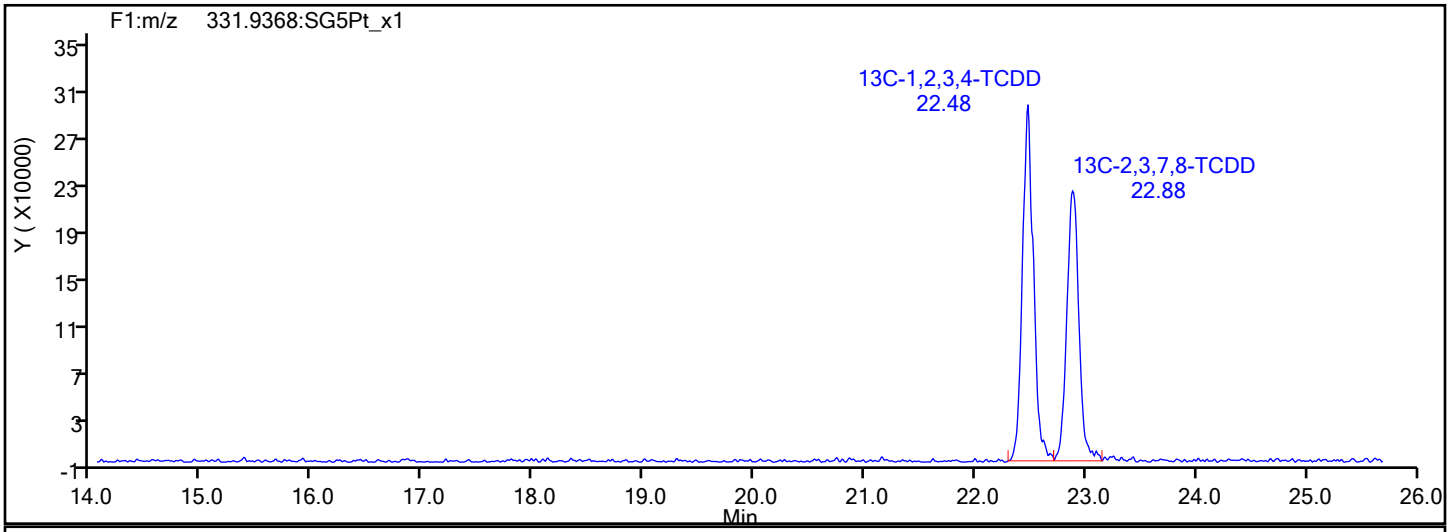
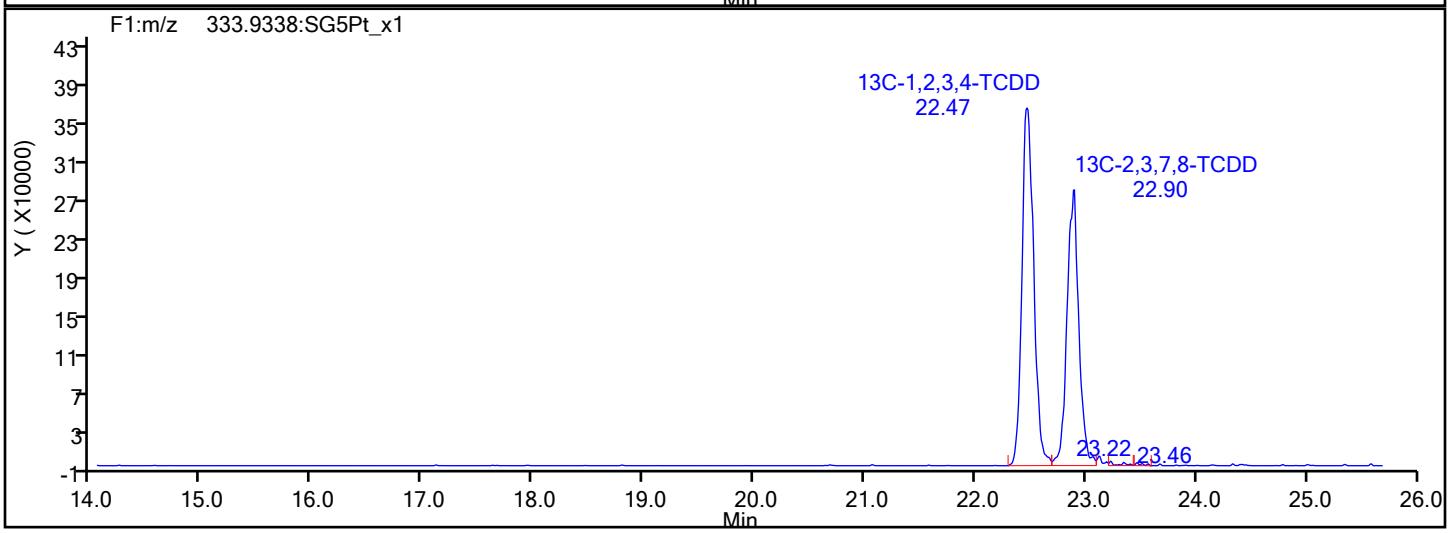
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d		
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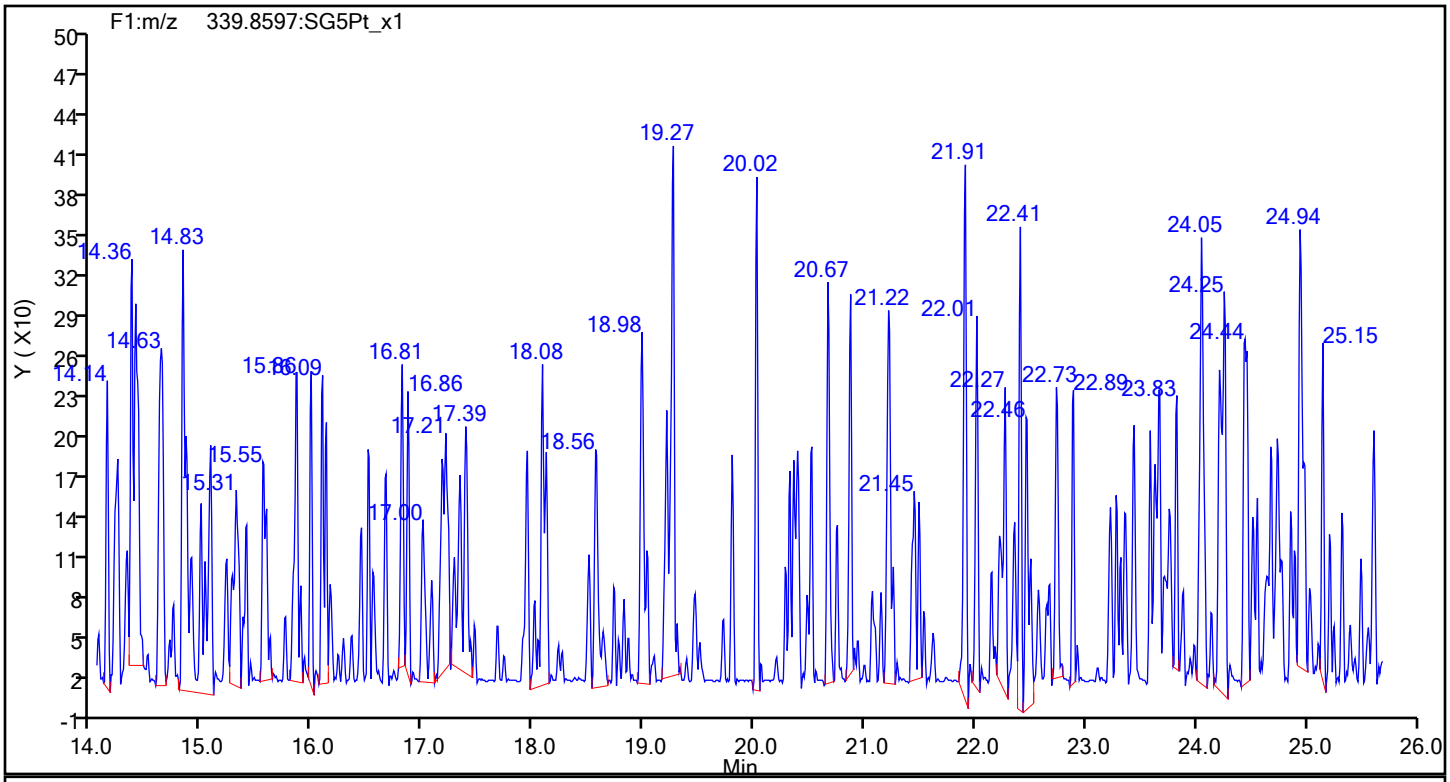
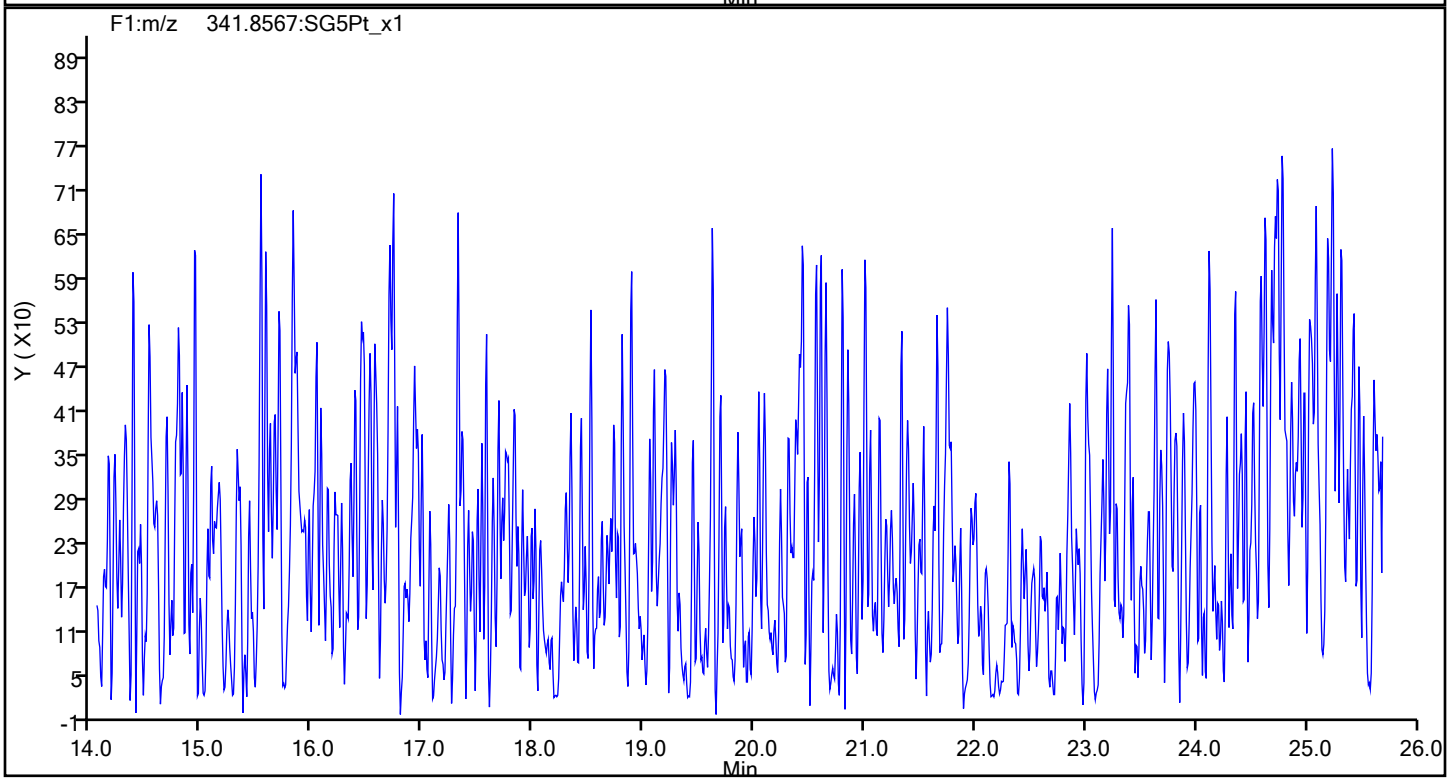
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

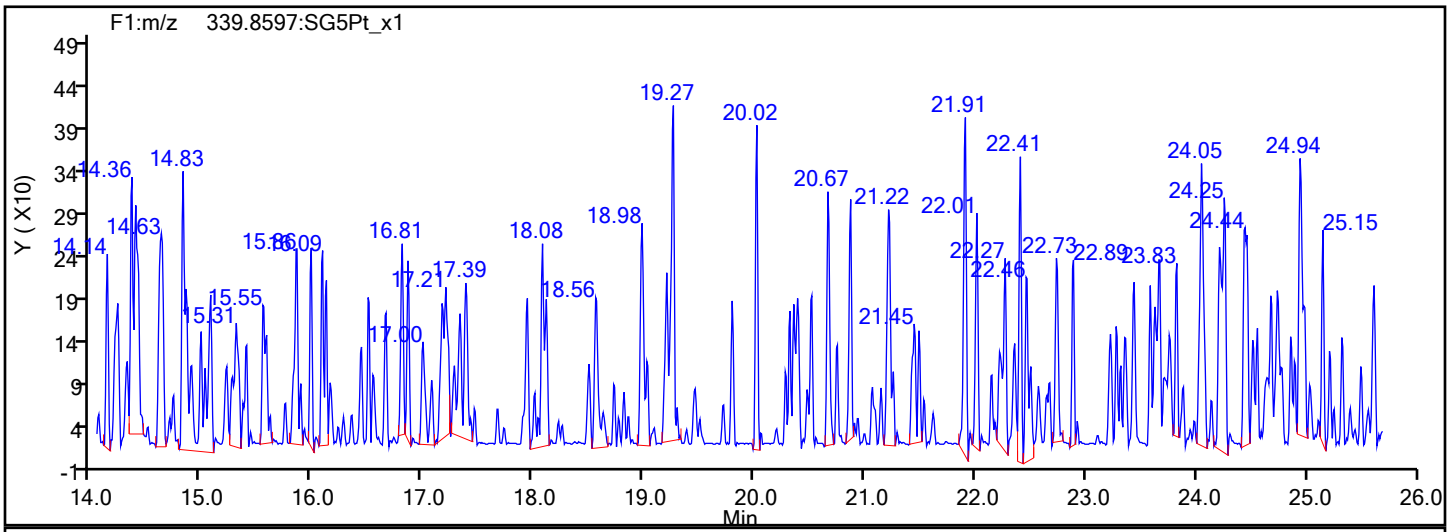


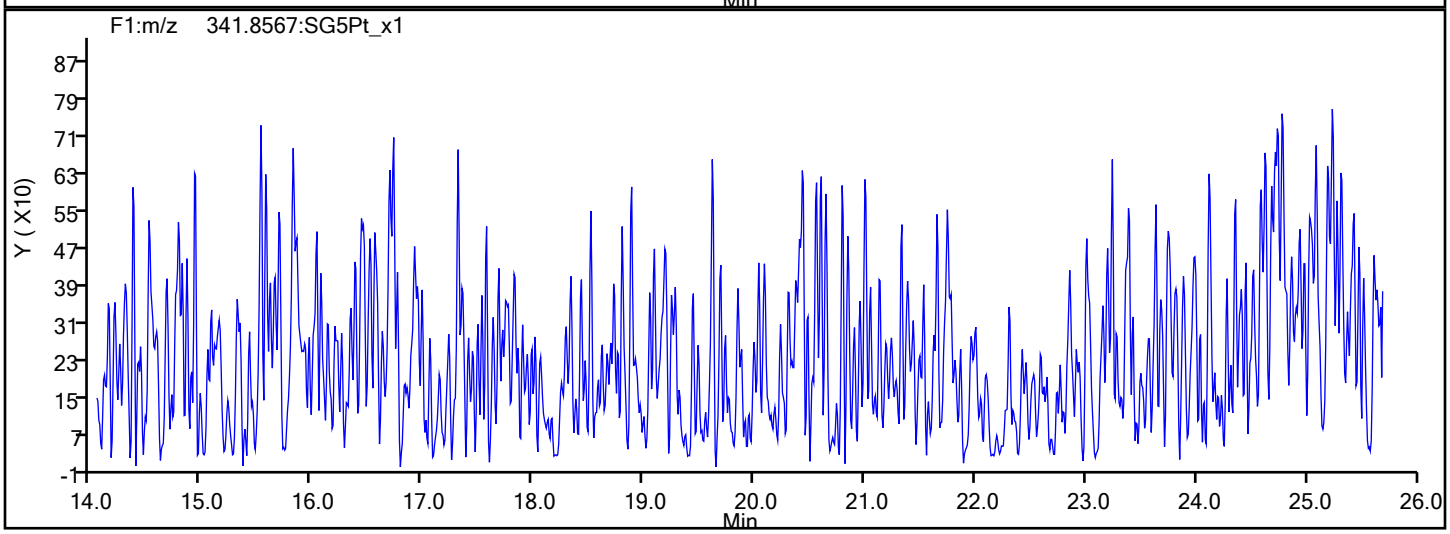


Eurofins TestAmerica, Sacramento

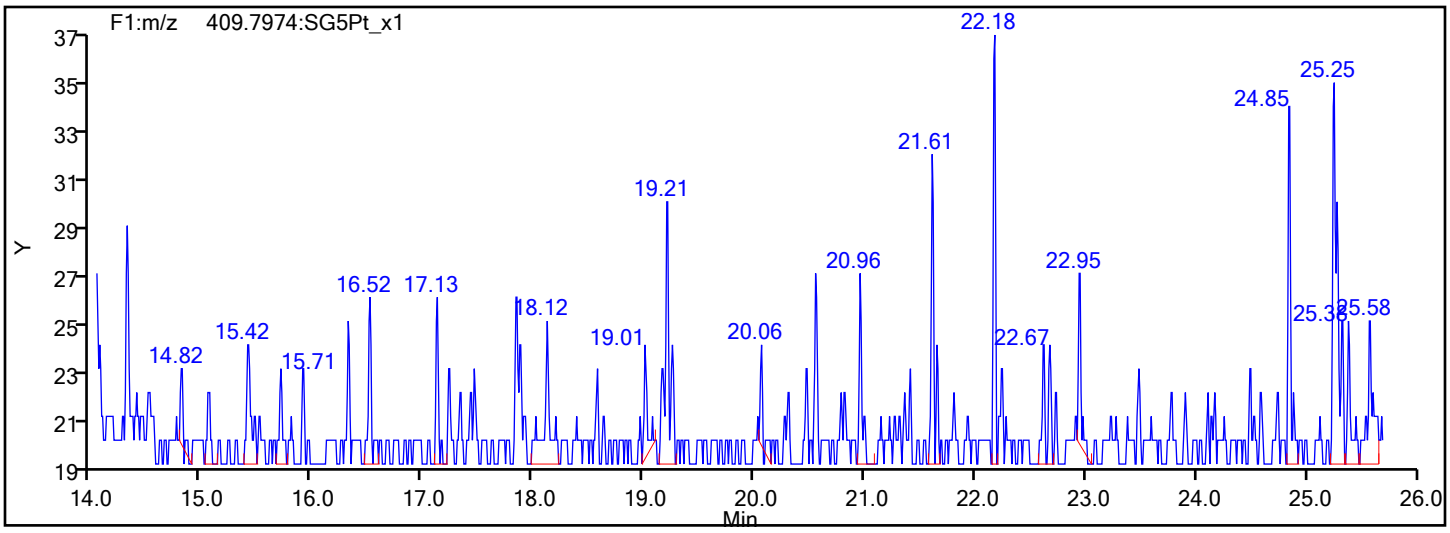
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d		
Injection Date:	18-Nov-2021 20:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

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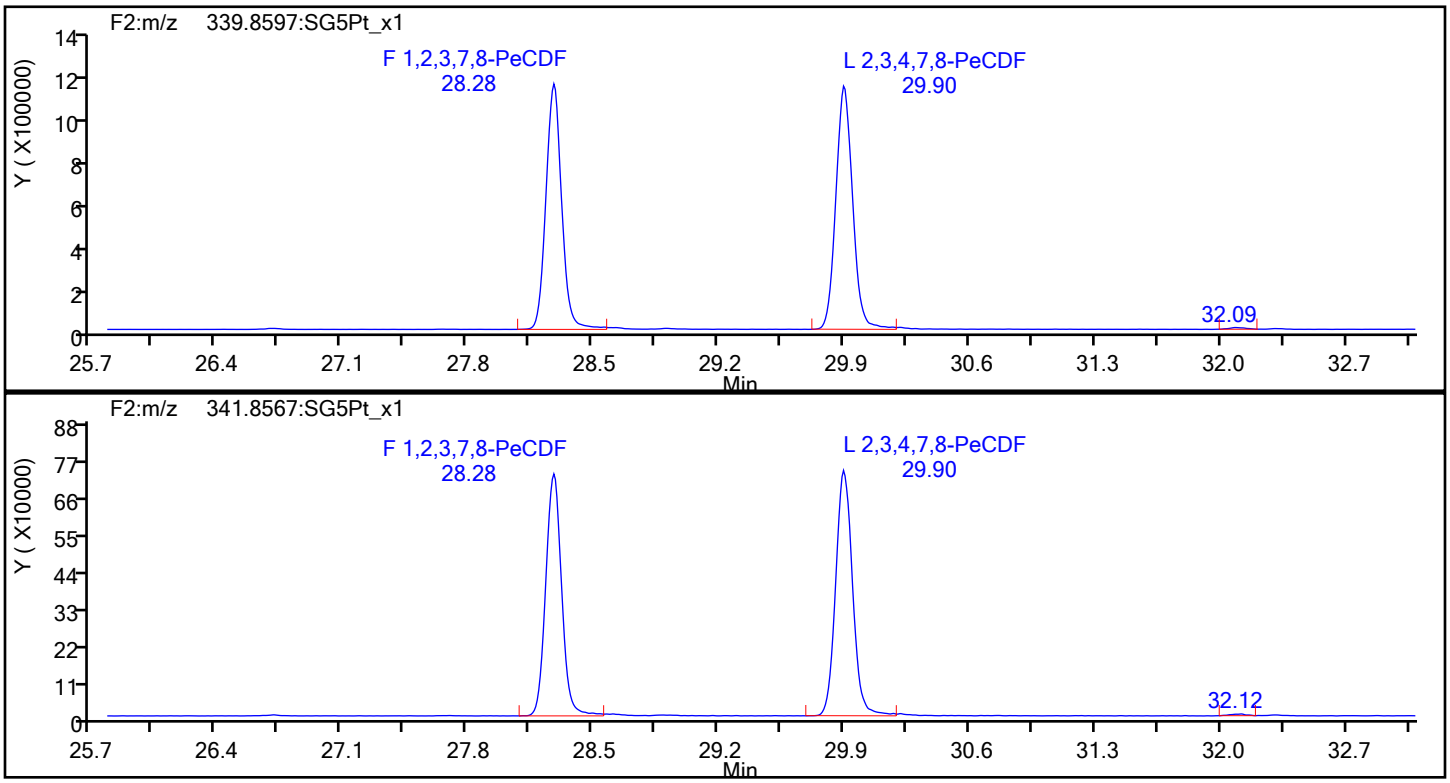
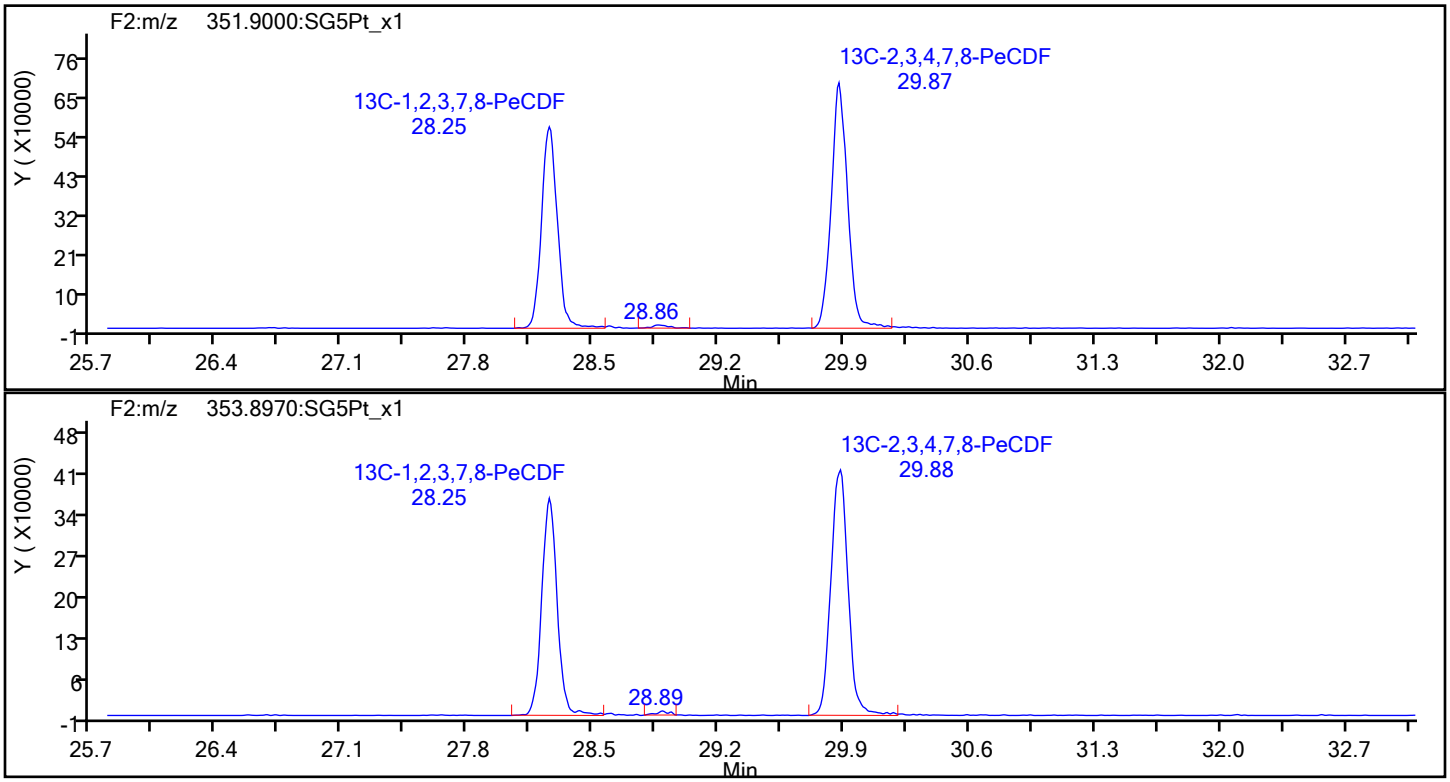


PeCDF Standards



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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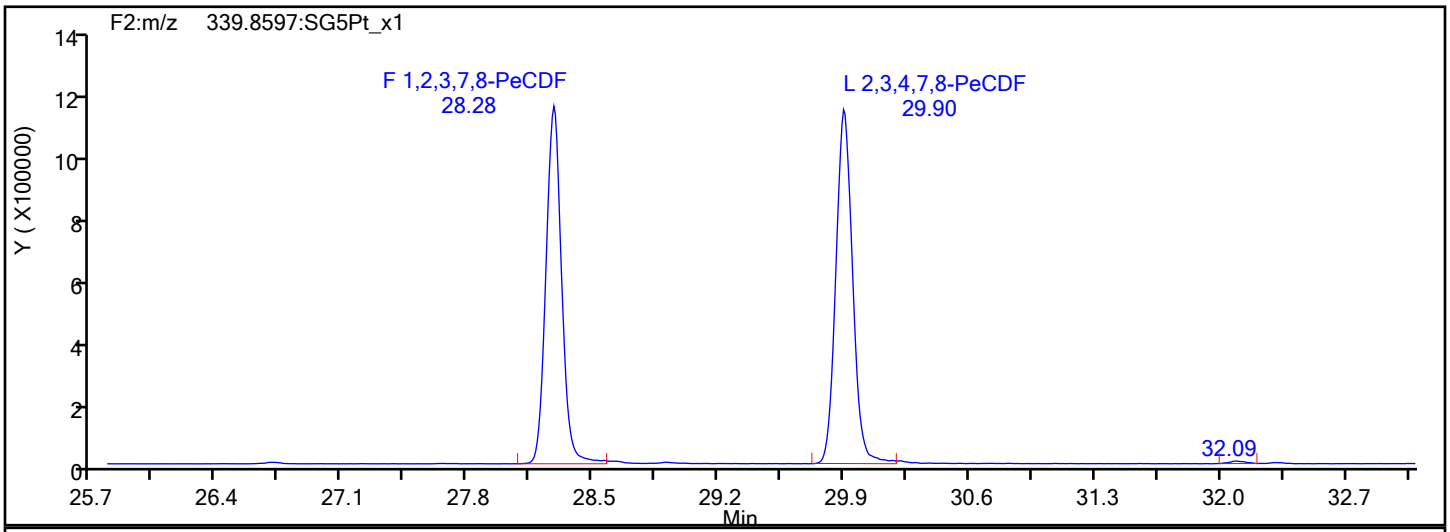
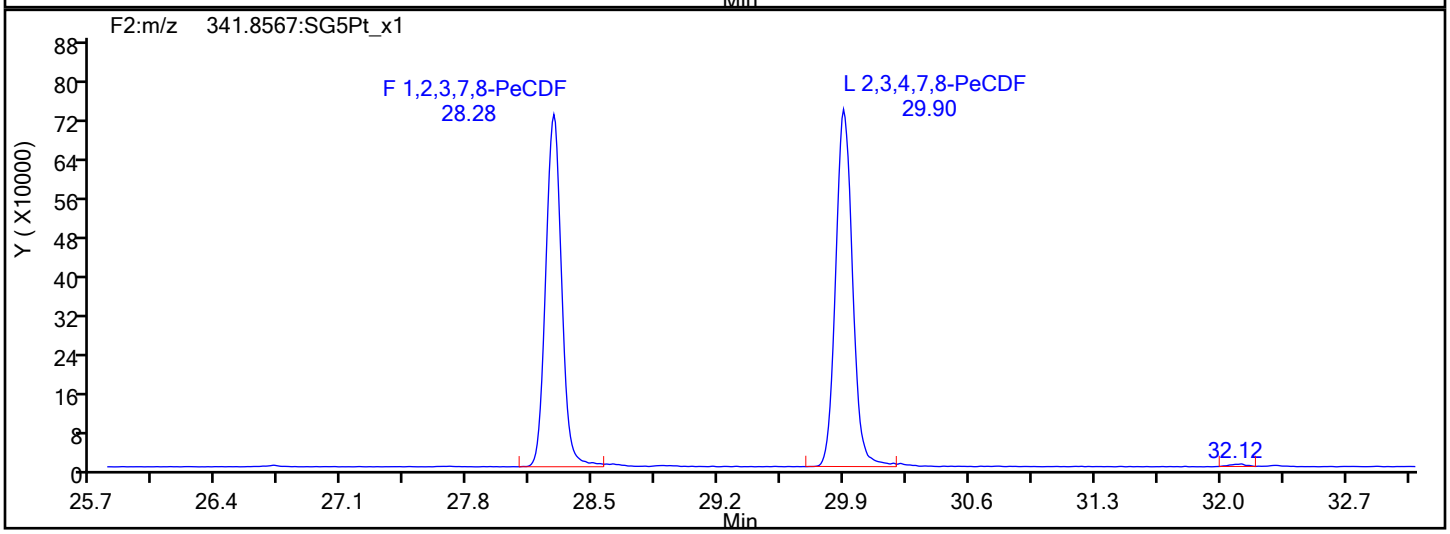
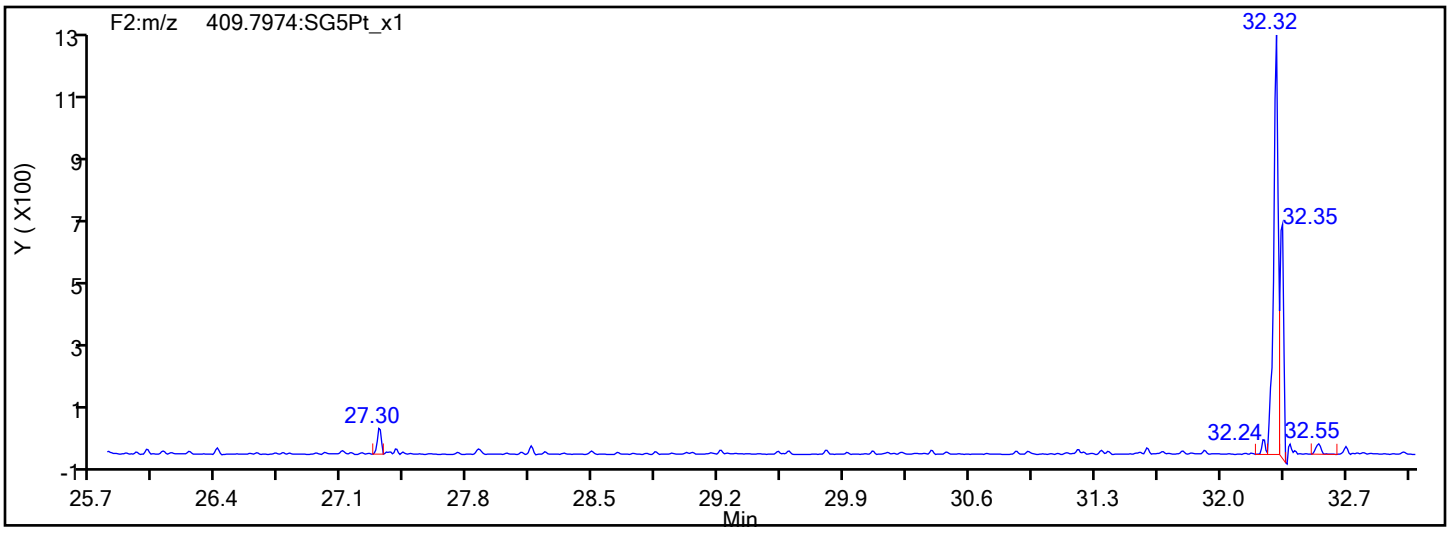




PeCDF Interference Mass



Eurofins TestAmerica, Sacramento

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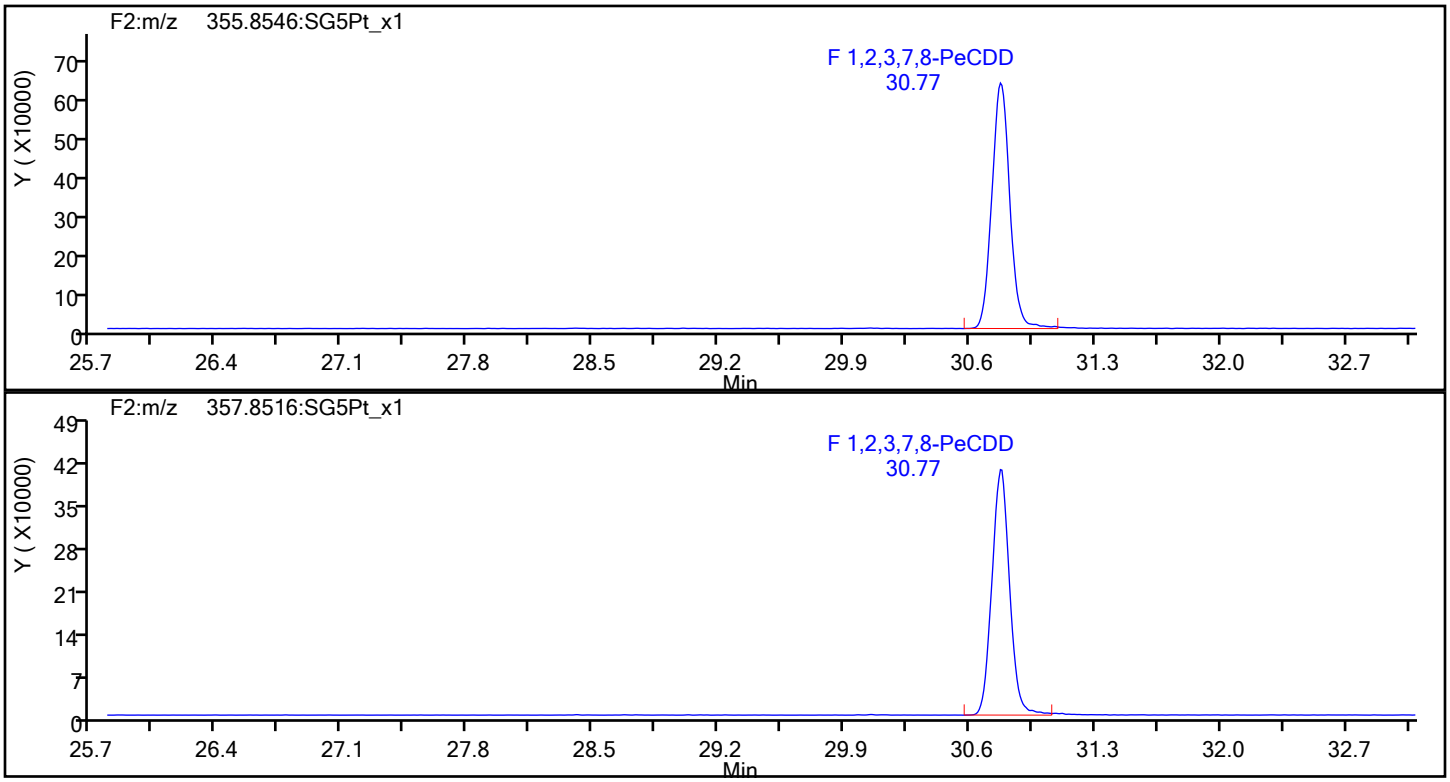

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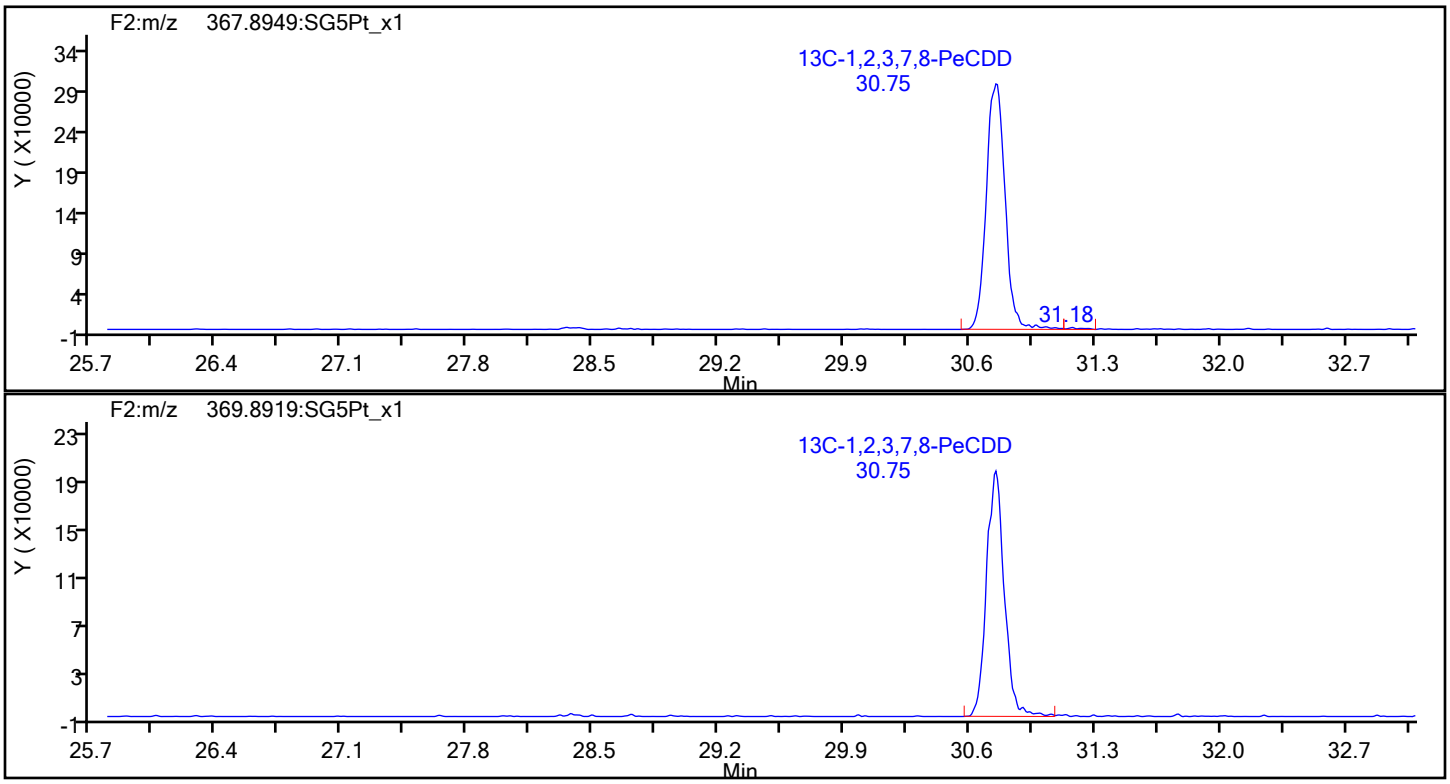

Eurofins TestAmerica, Sacramento

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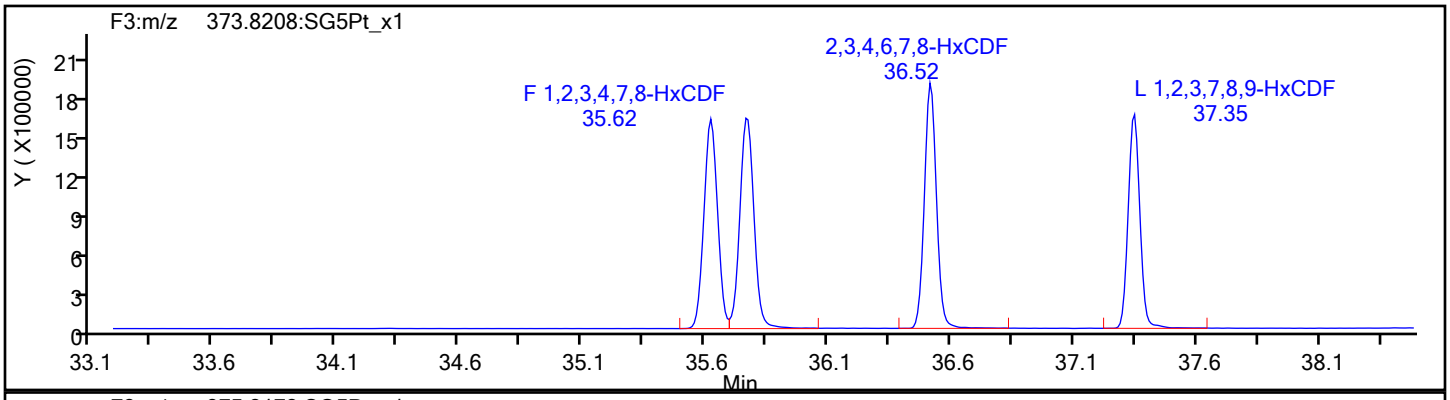
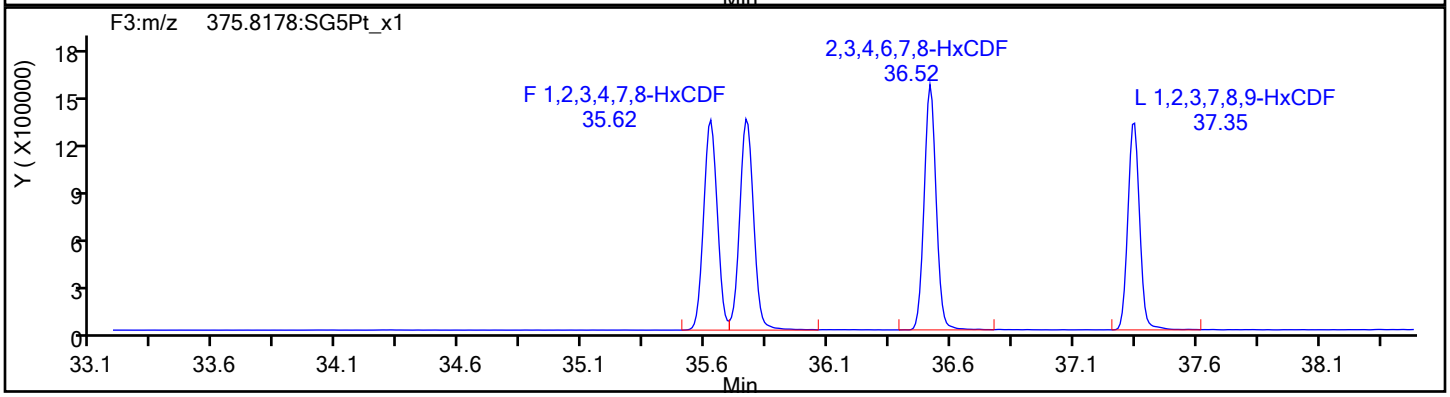
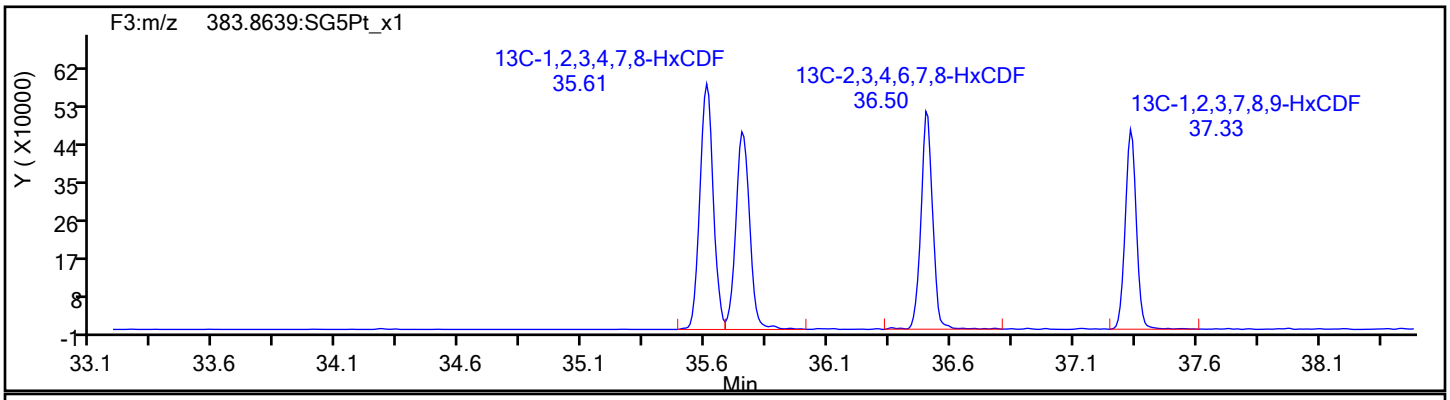
Column Type:	DB-5	Column Dia:	0.32 mm

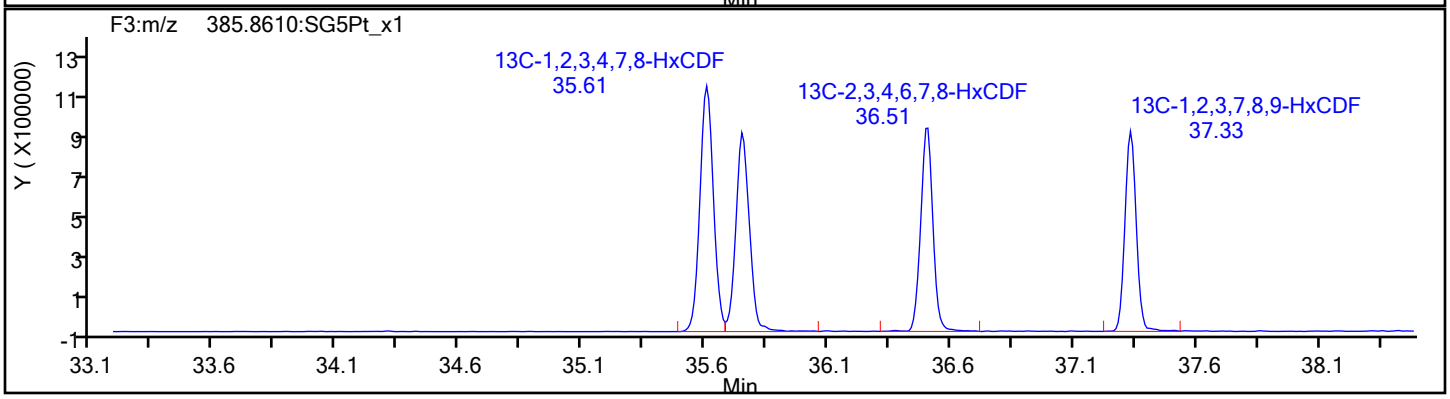
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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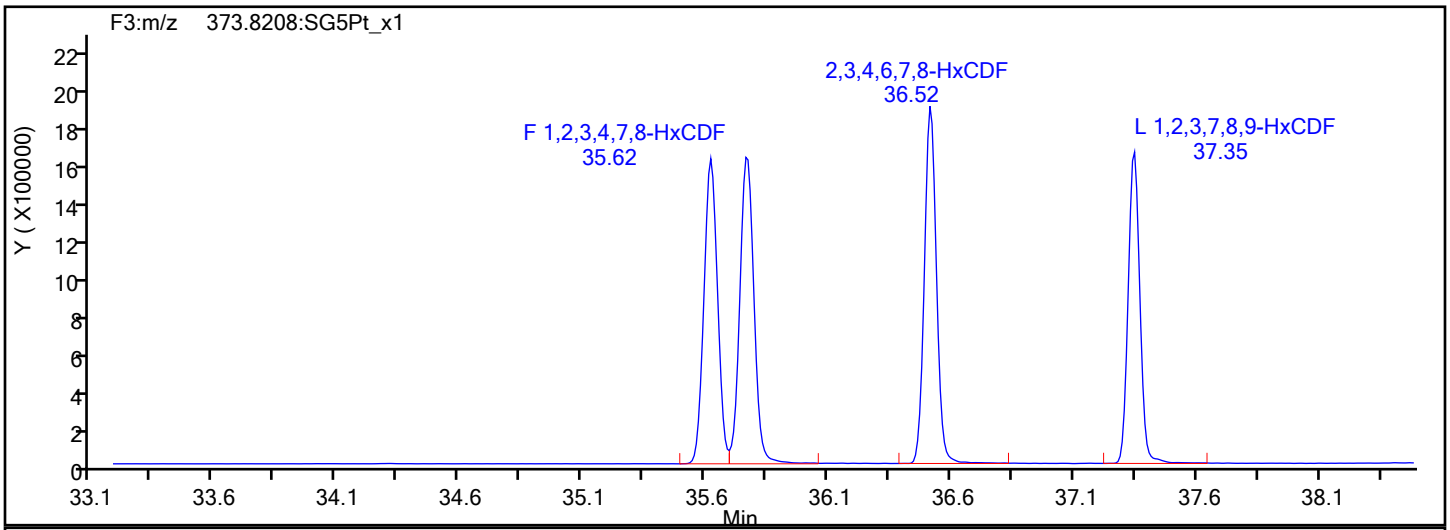
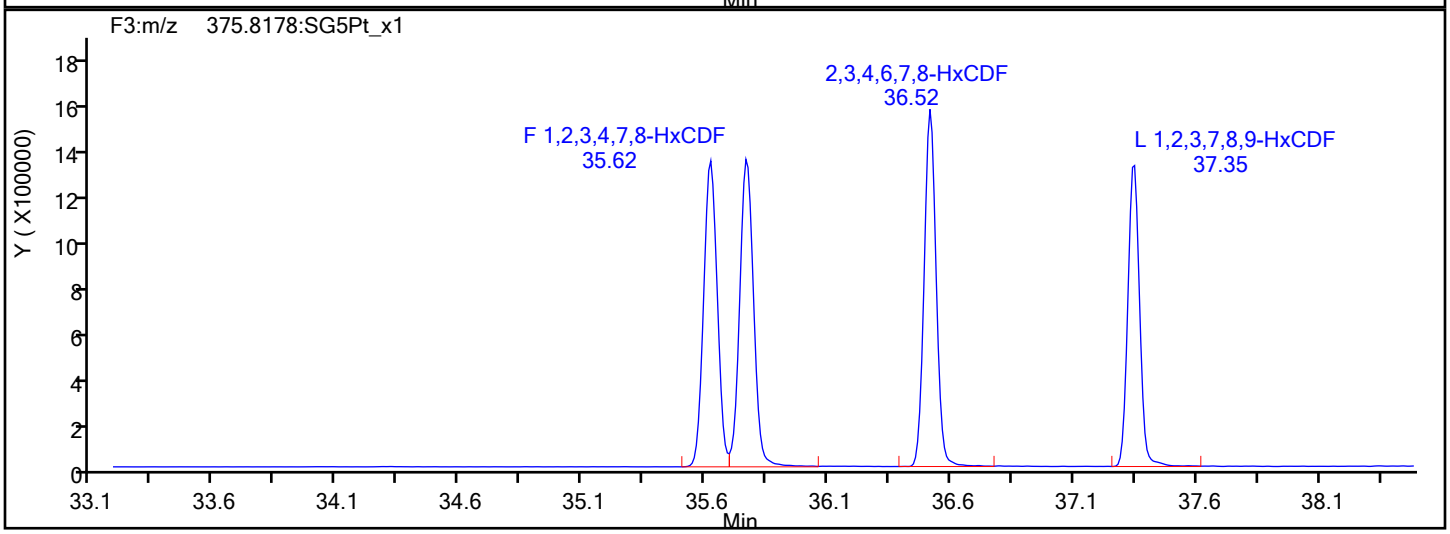
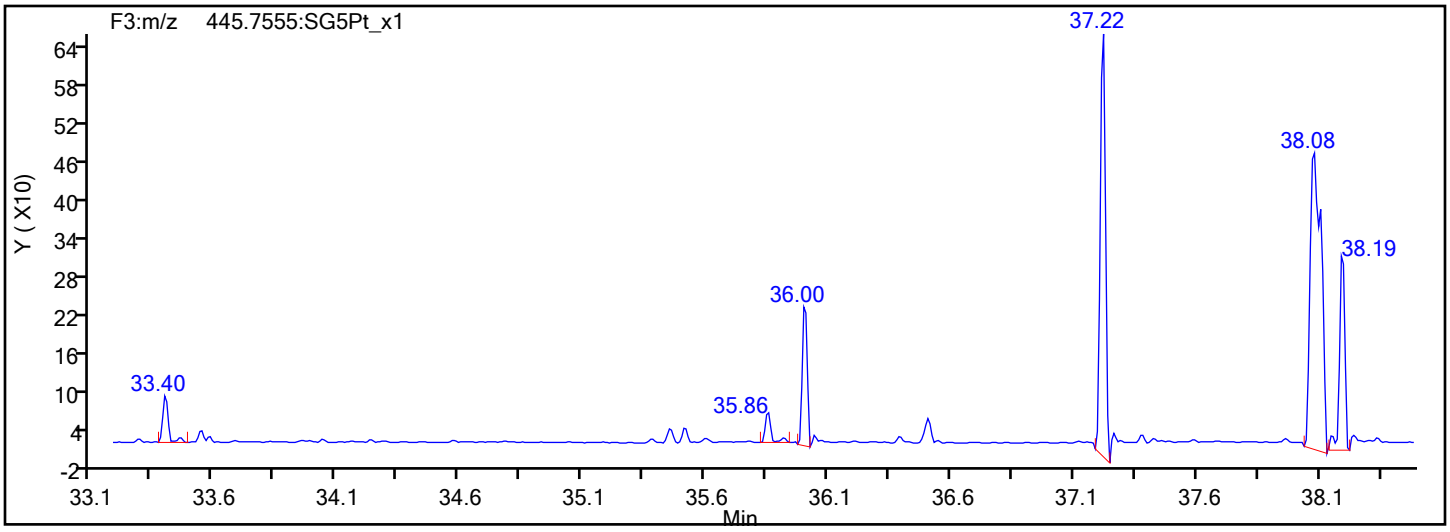
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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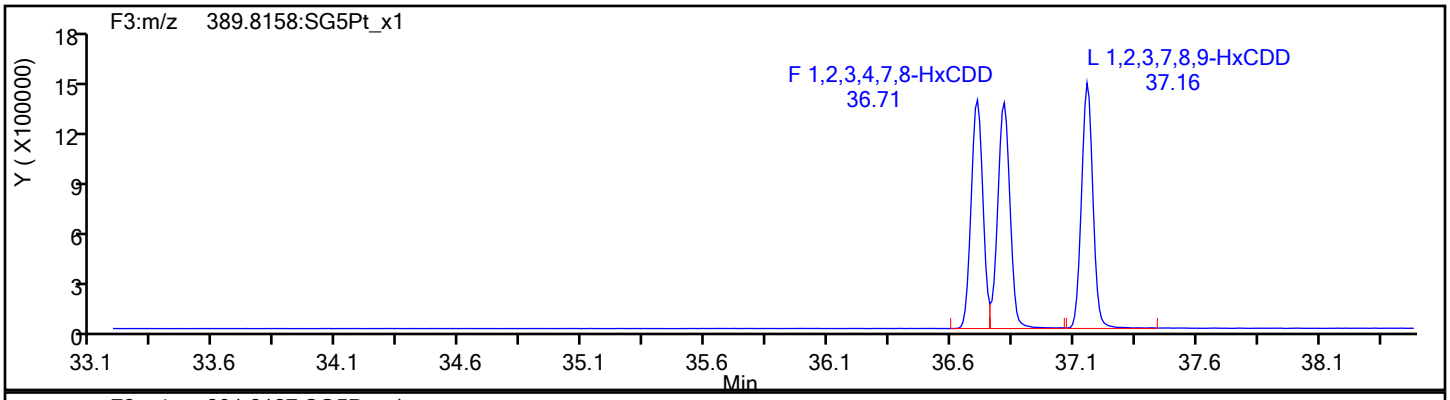
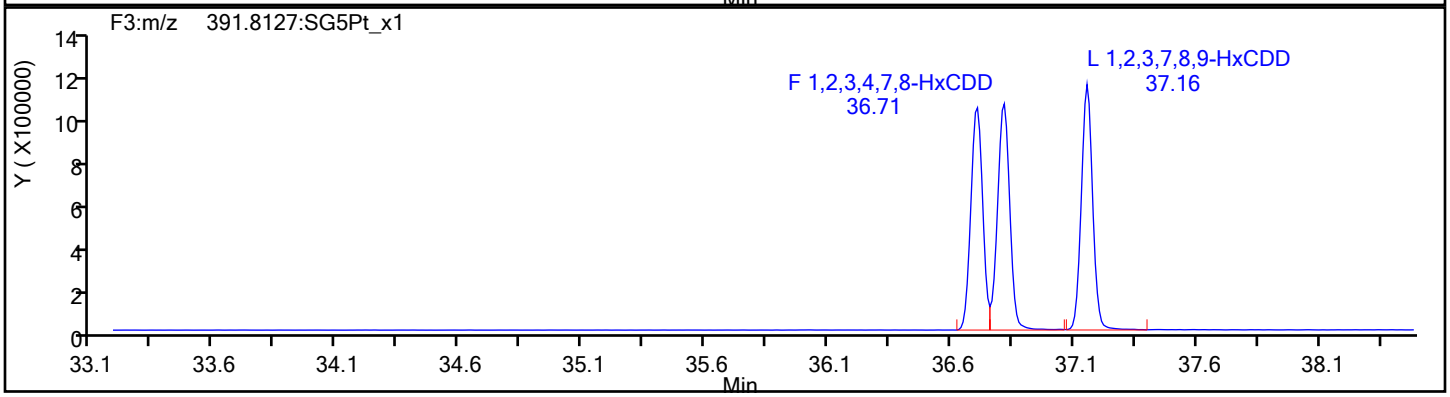
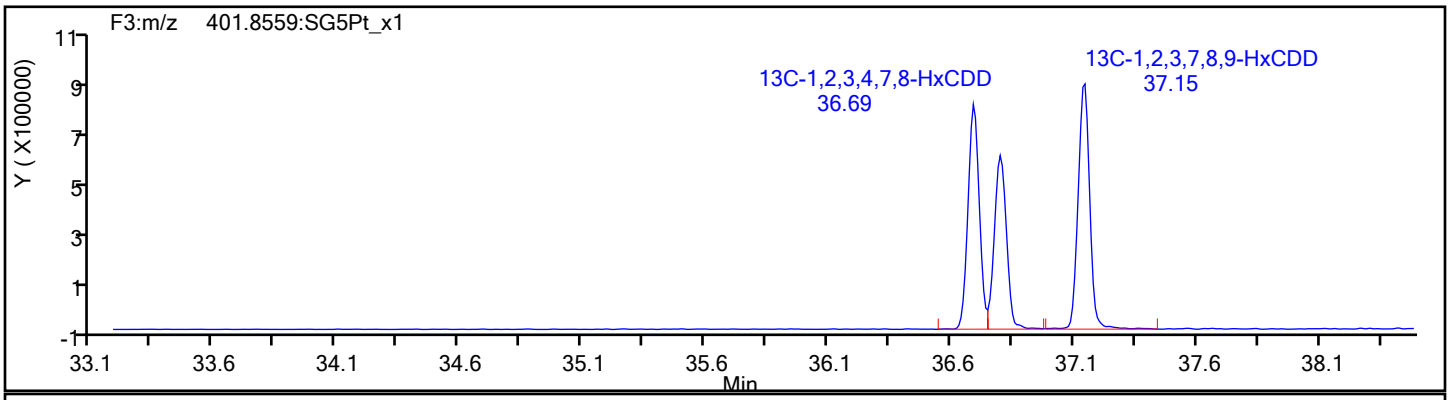
Column Type:	DB-5	Column Dia:	0.32 mm

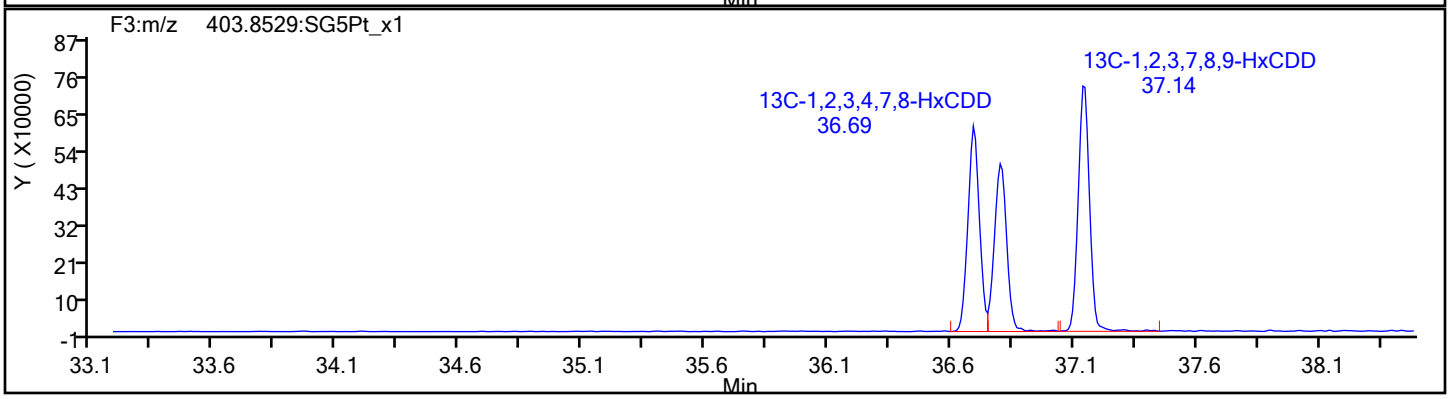
HxCDD





HxCDD Standards





Report Date: 19-Nov-2021 09:14:10 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

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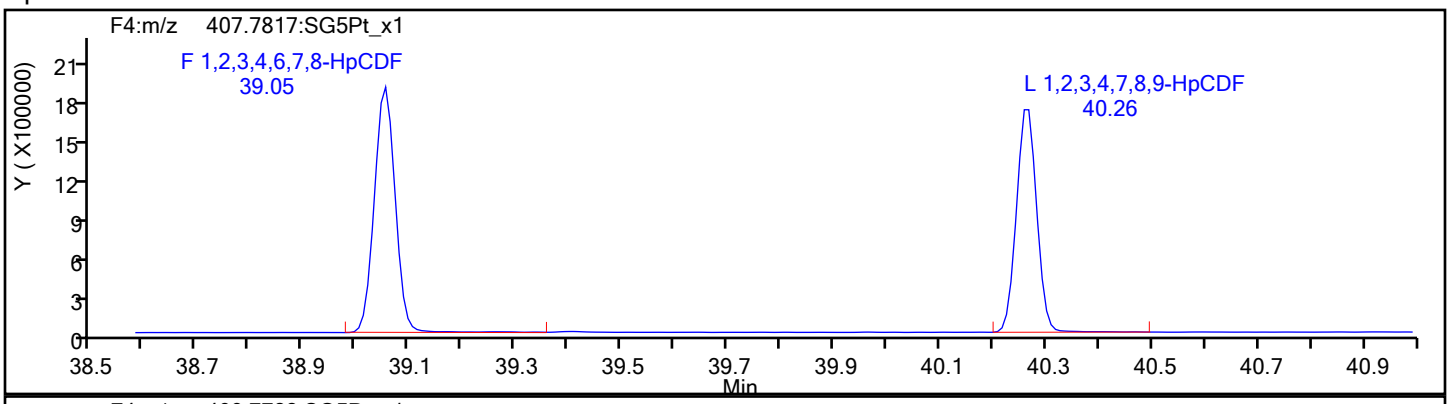
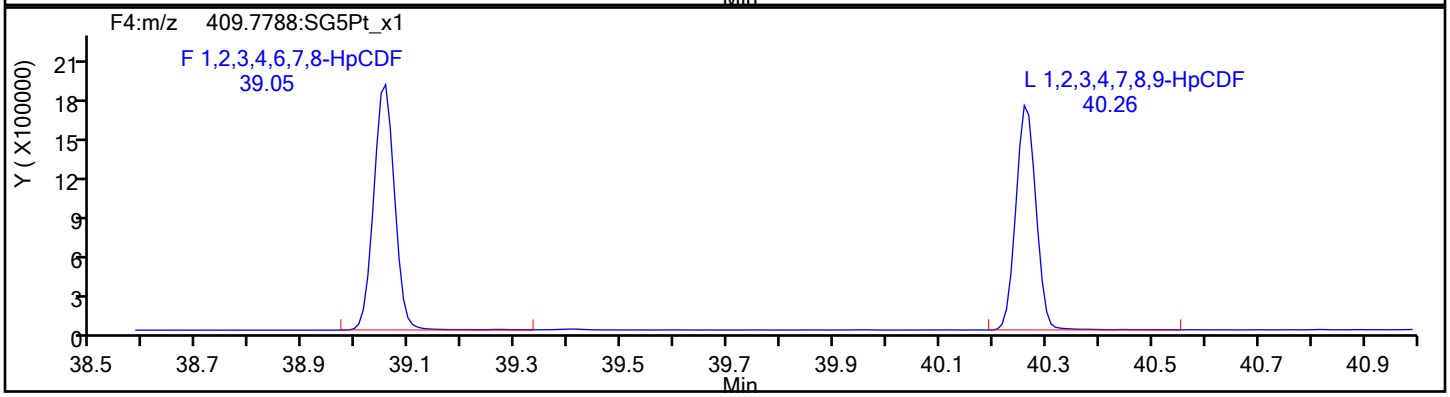
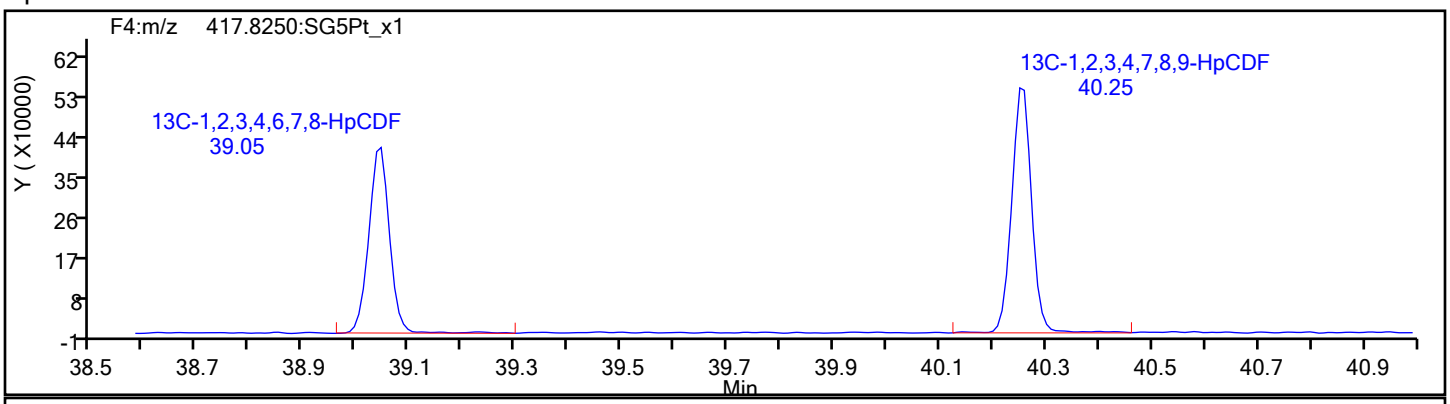
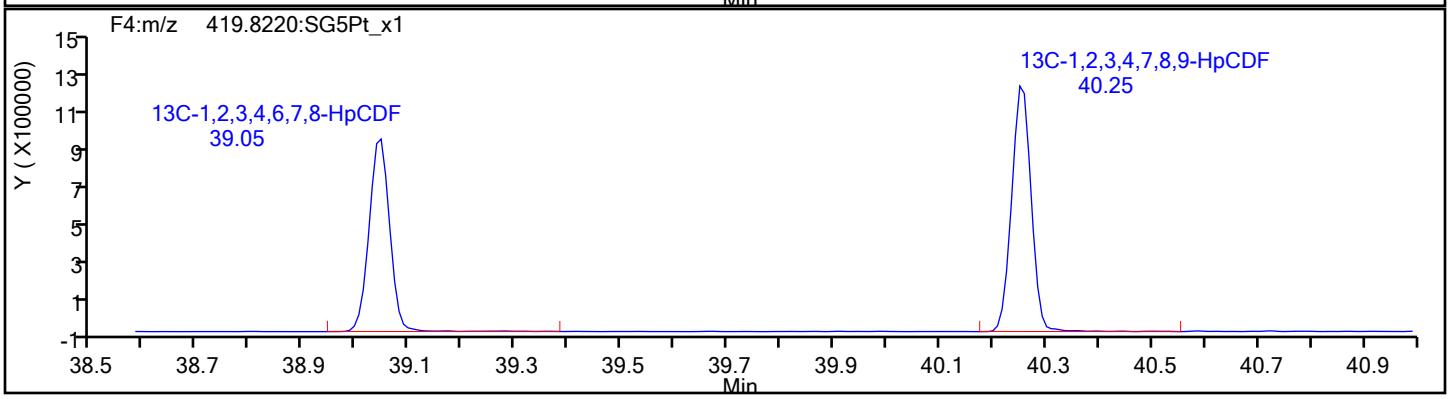
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

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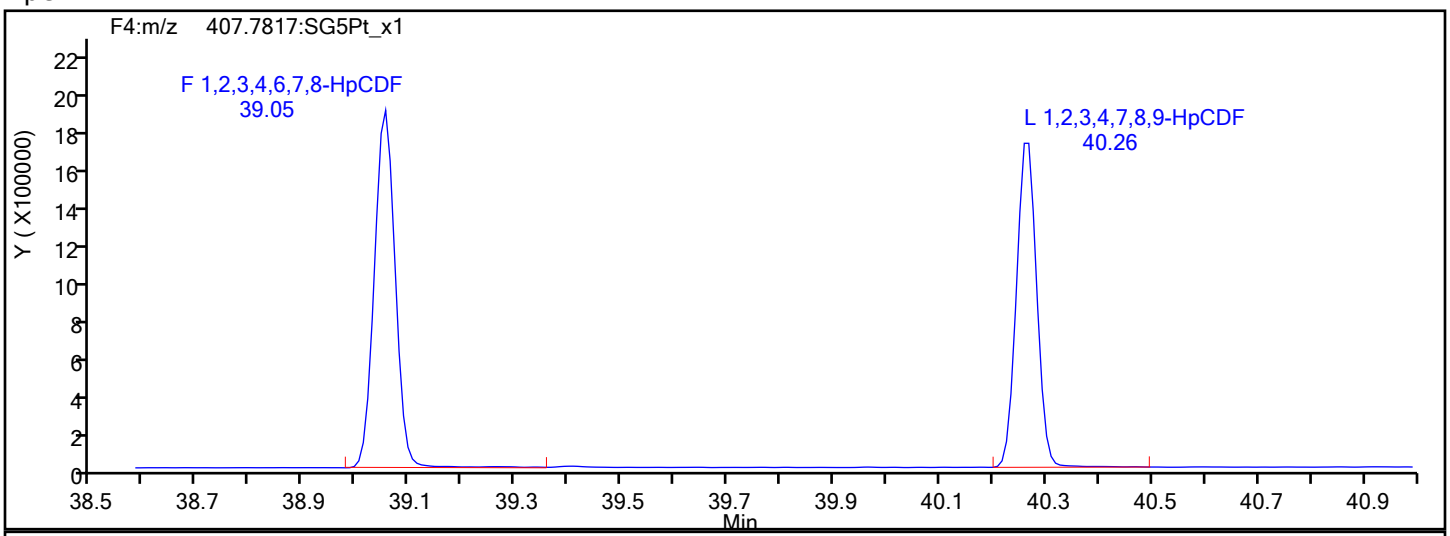
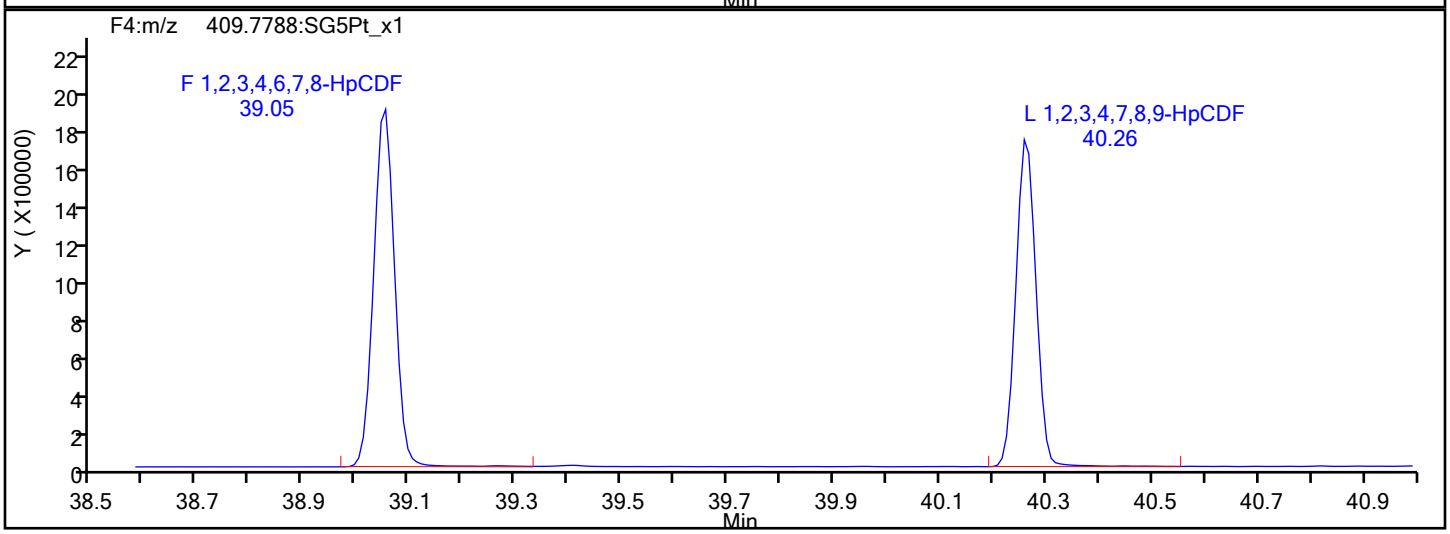
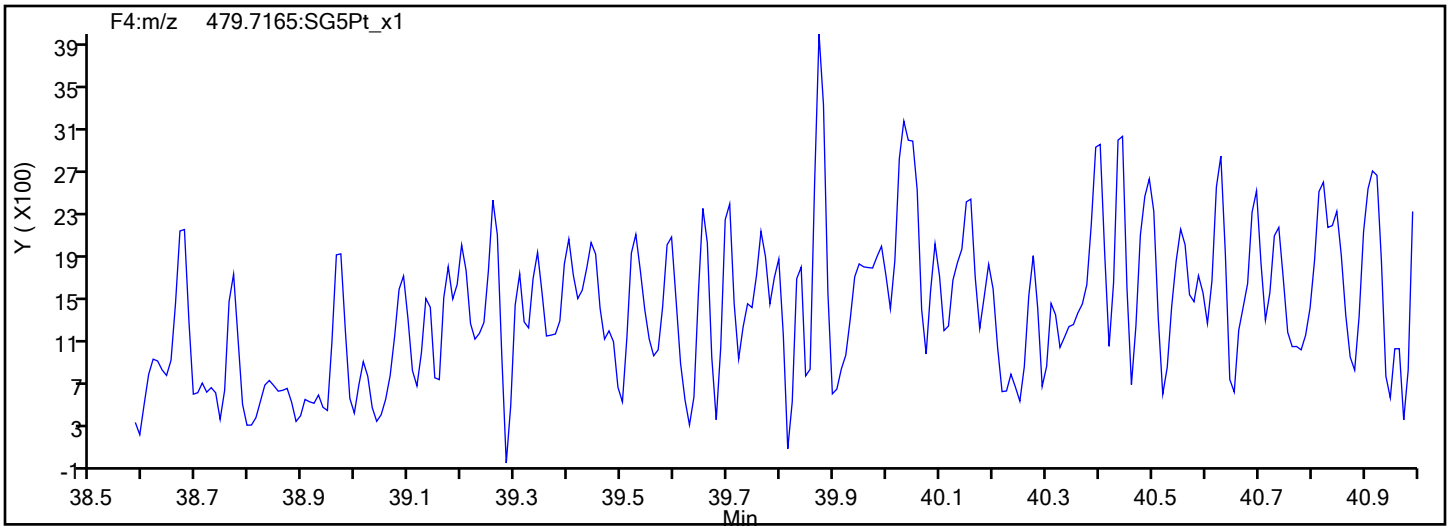
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins TestAmerica, Sacramento

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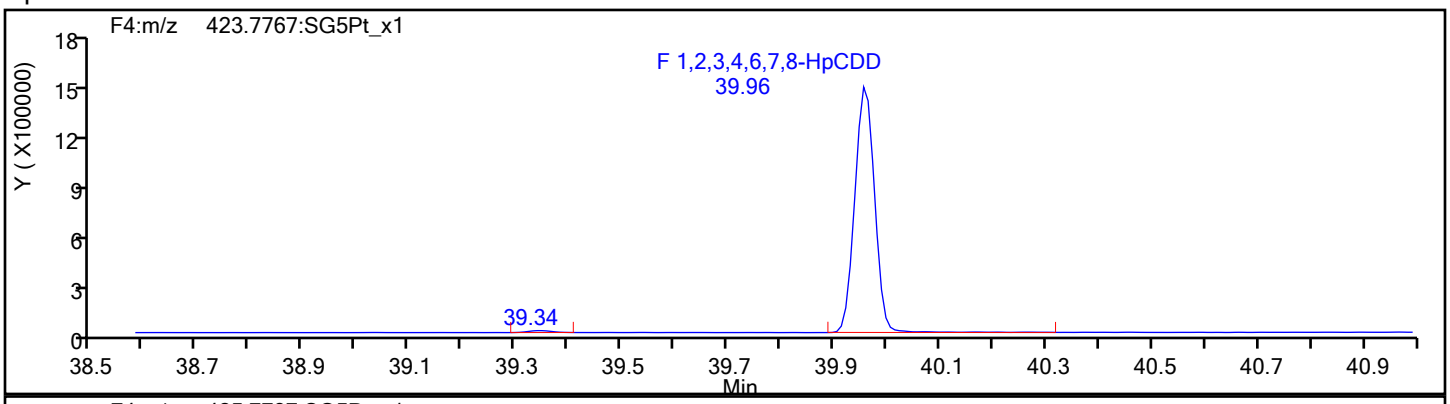
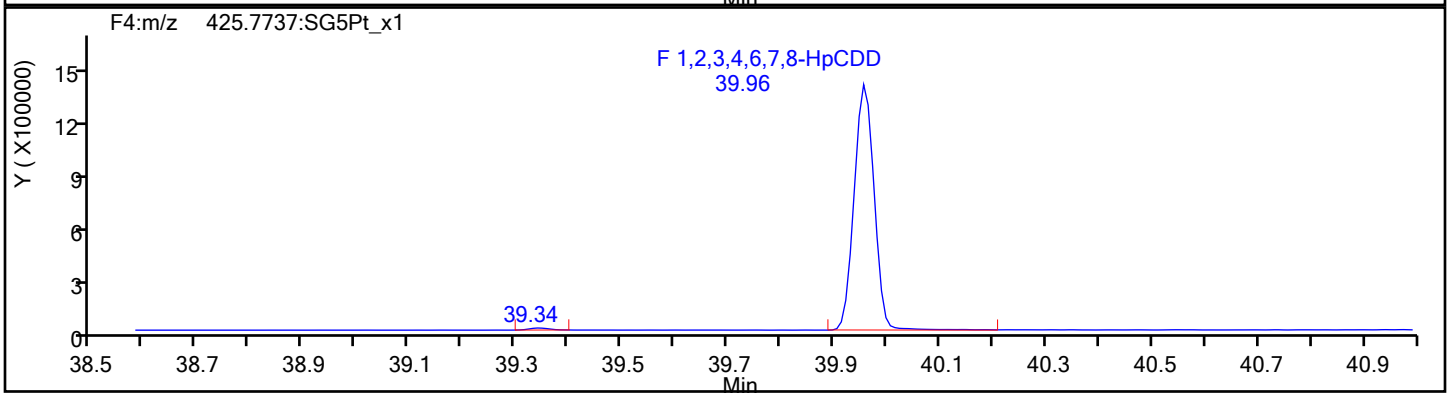
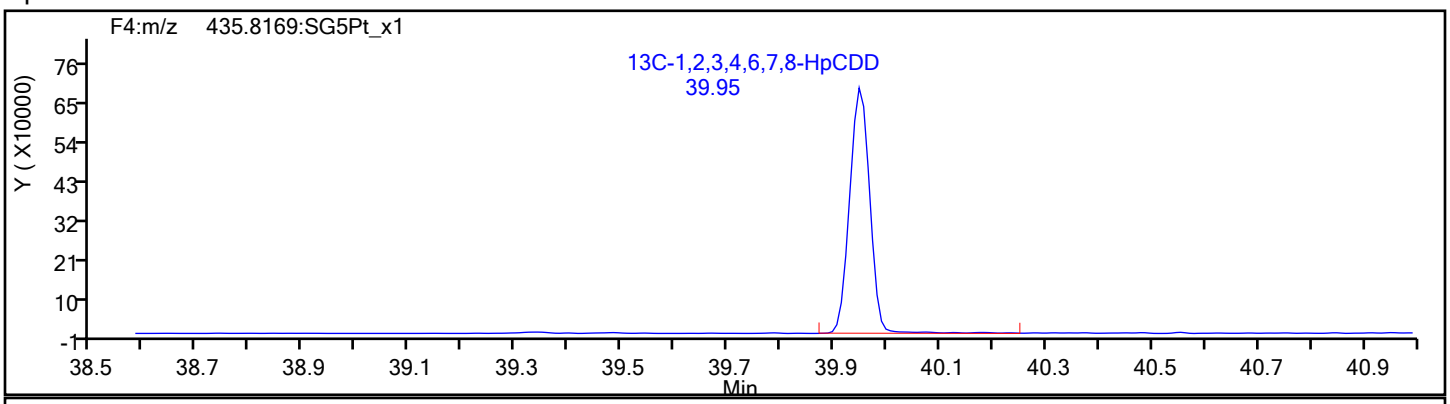
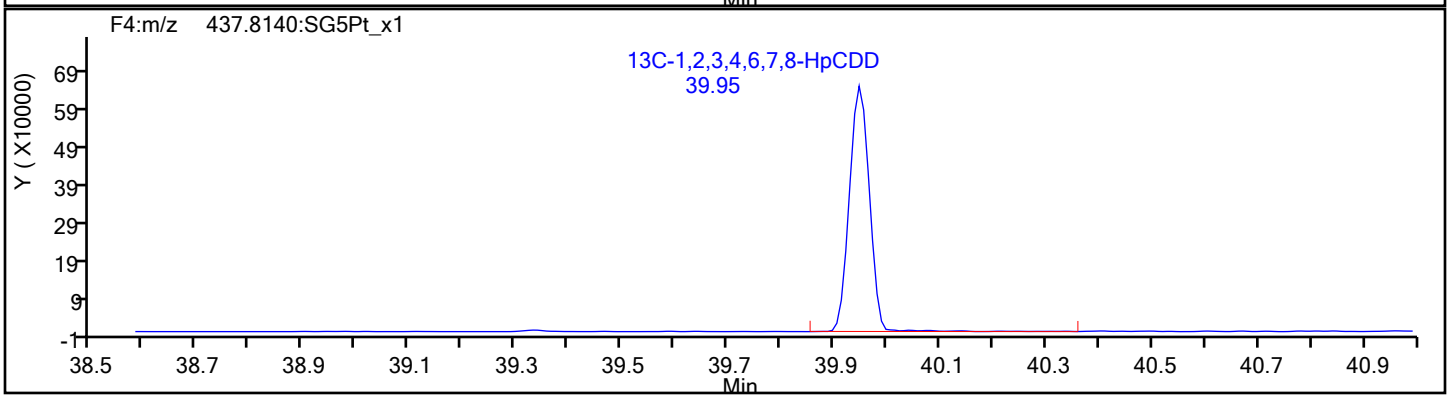
HpCDD





HpCDD Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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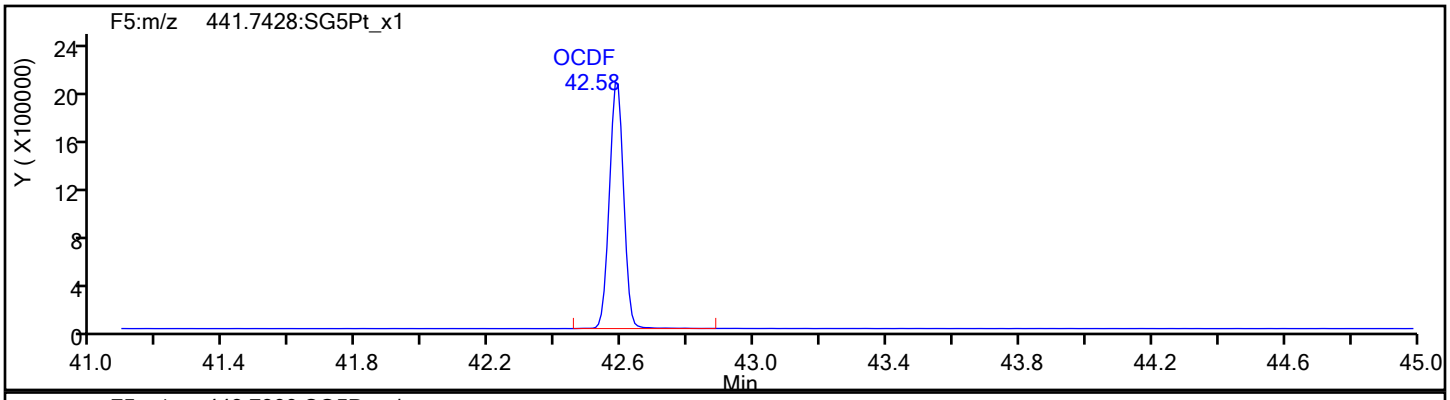
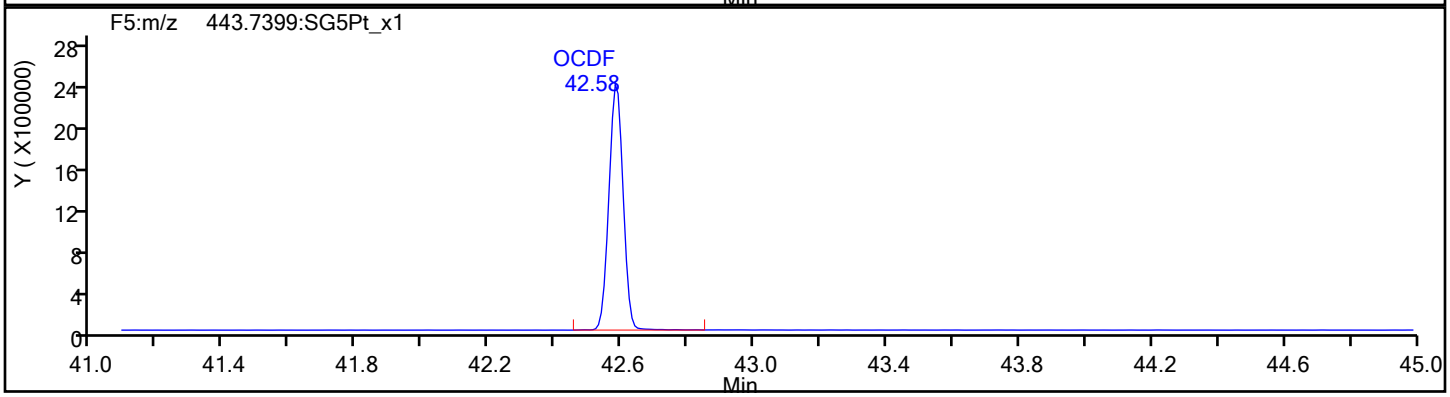
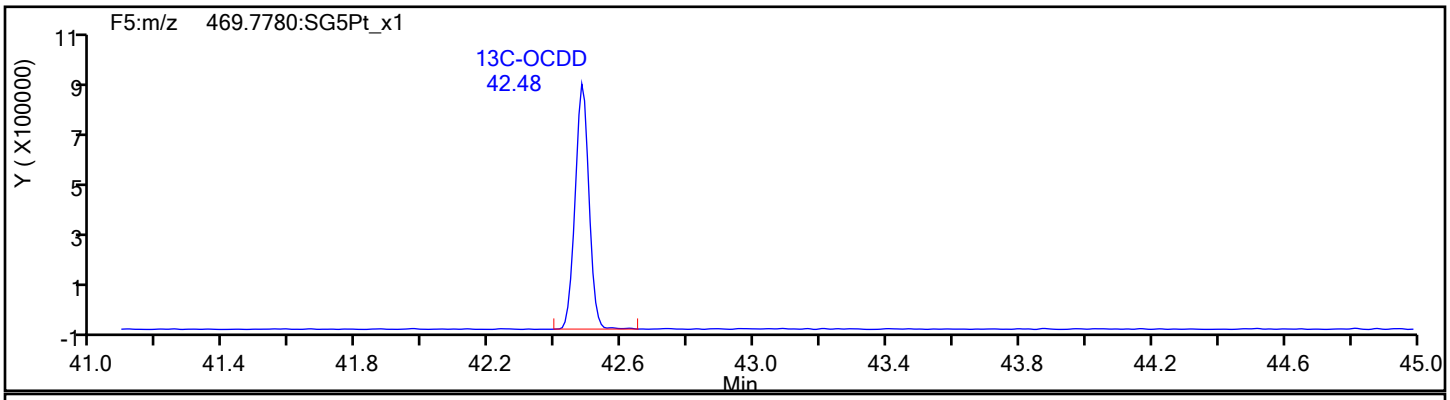
Column Type:	DB-5	Column Dia:	0.32 mm

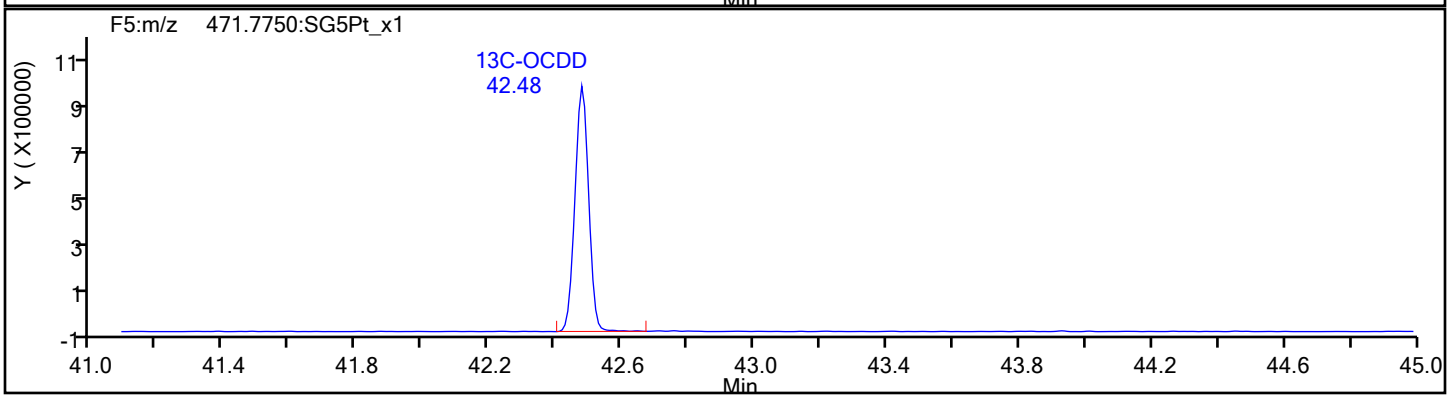
OCDF





OCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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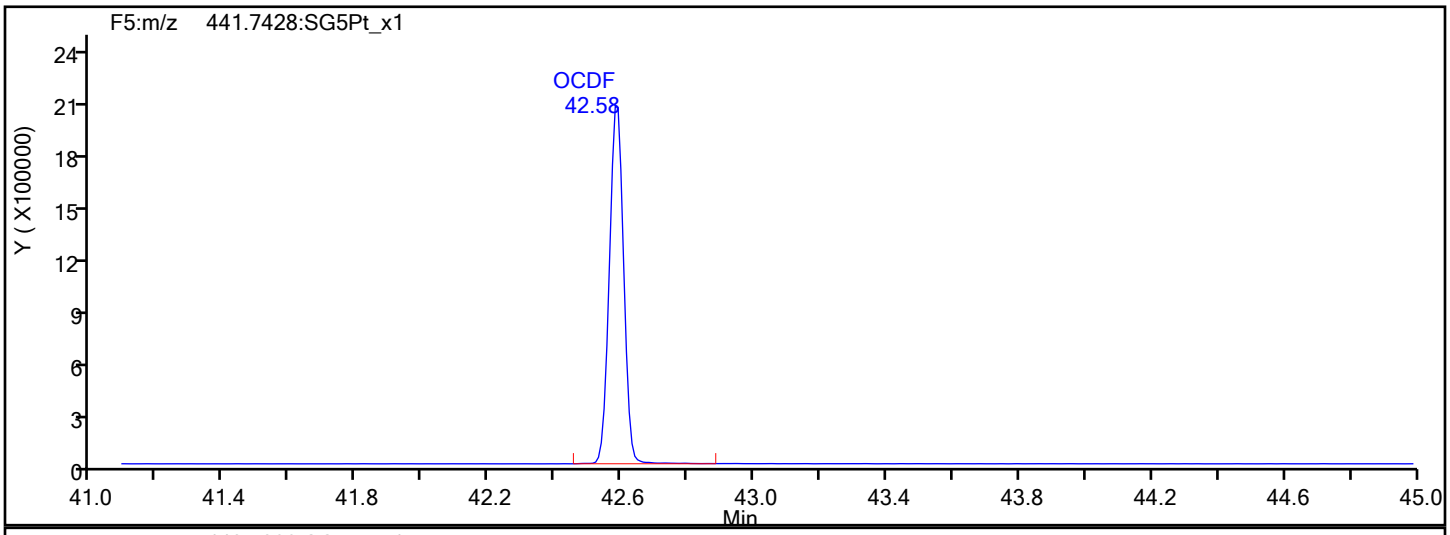
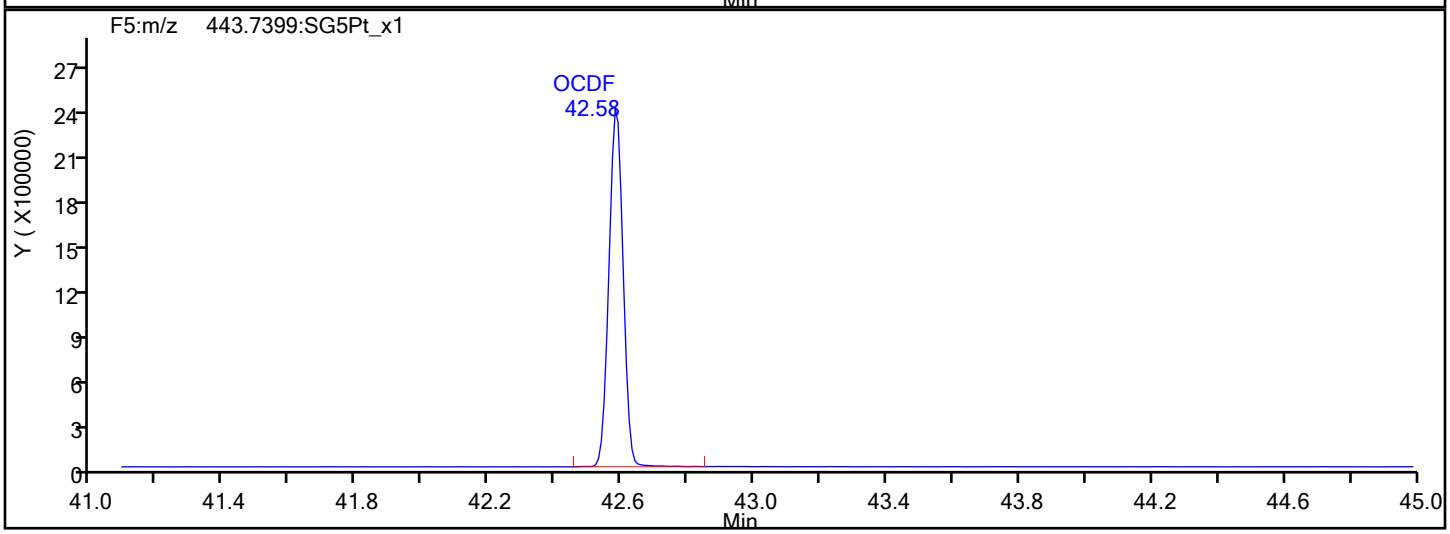
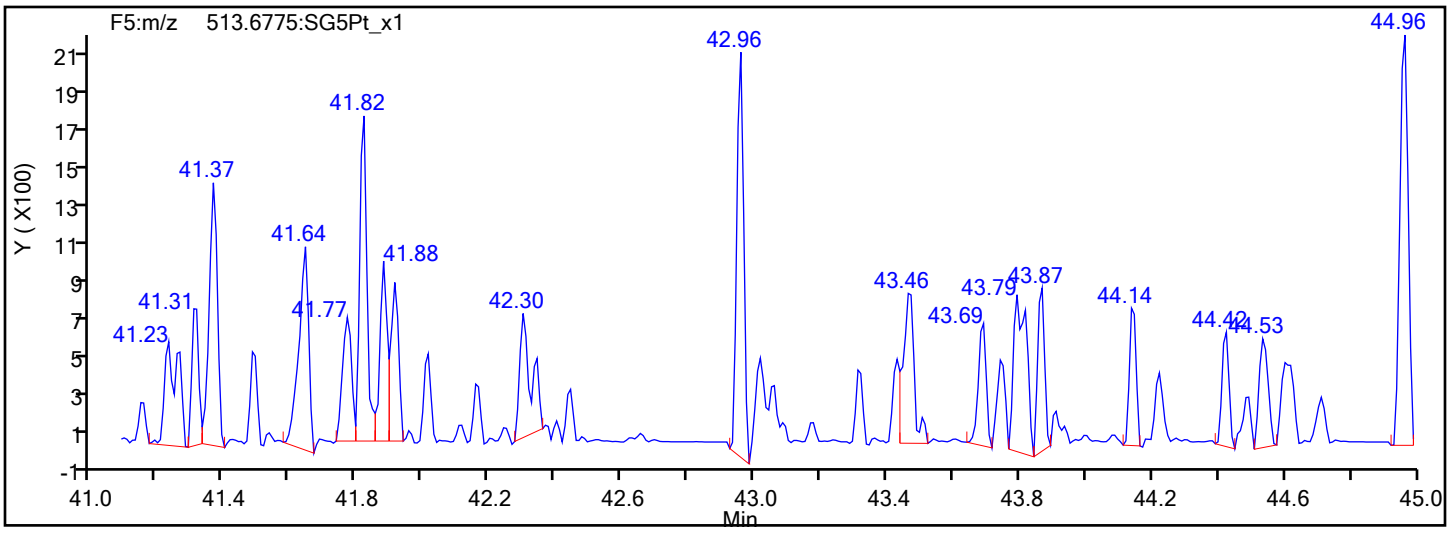
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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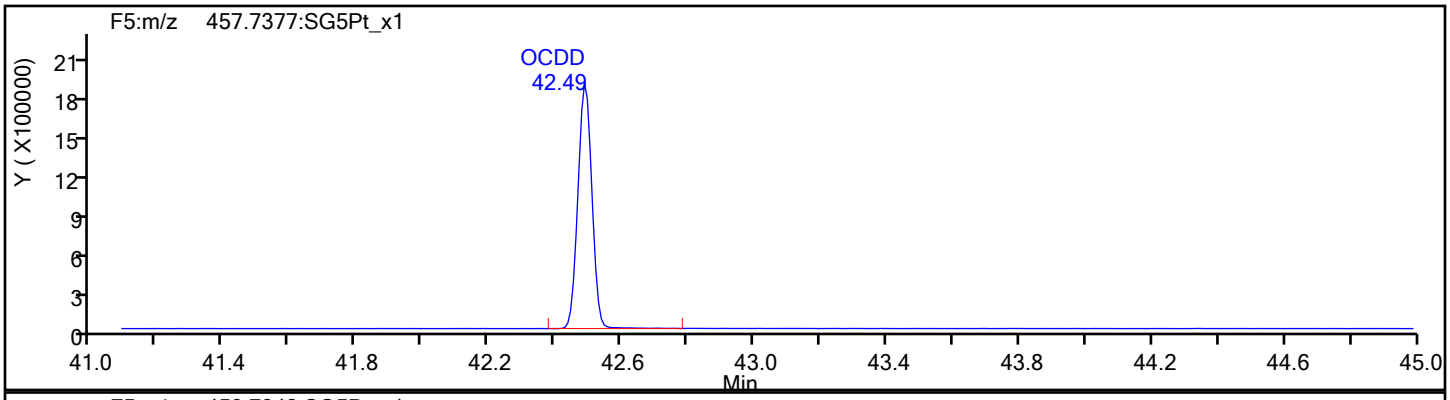
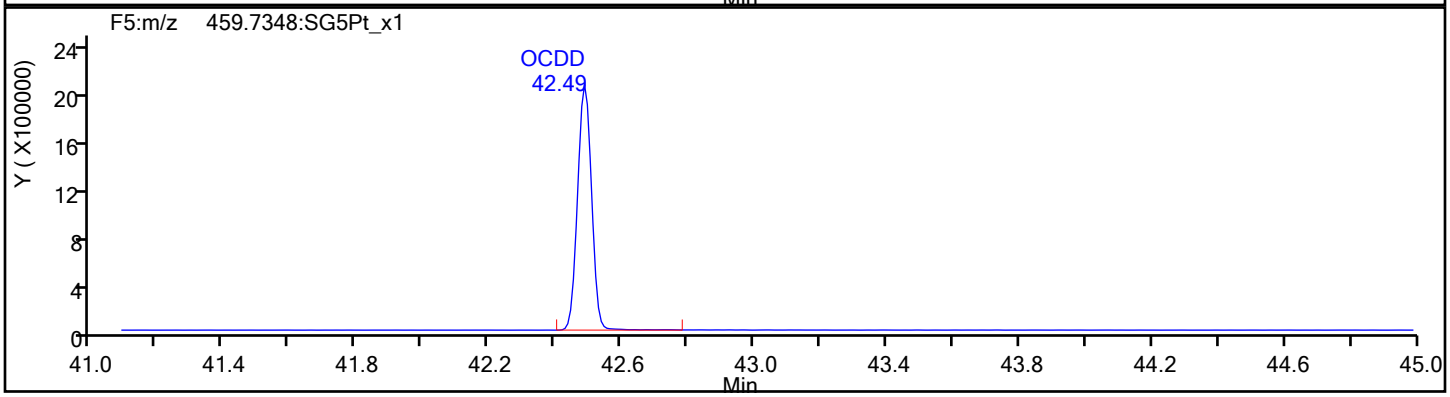
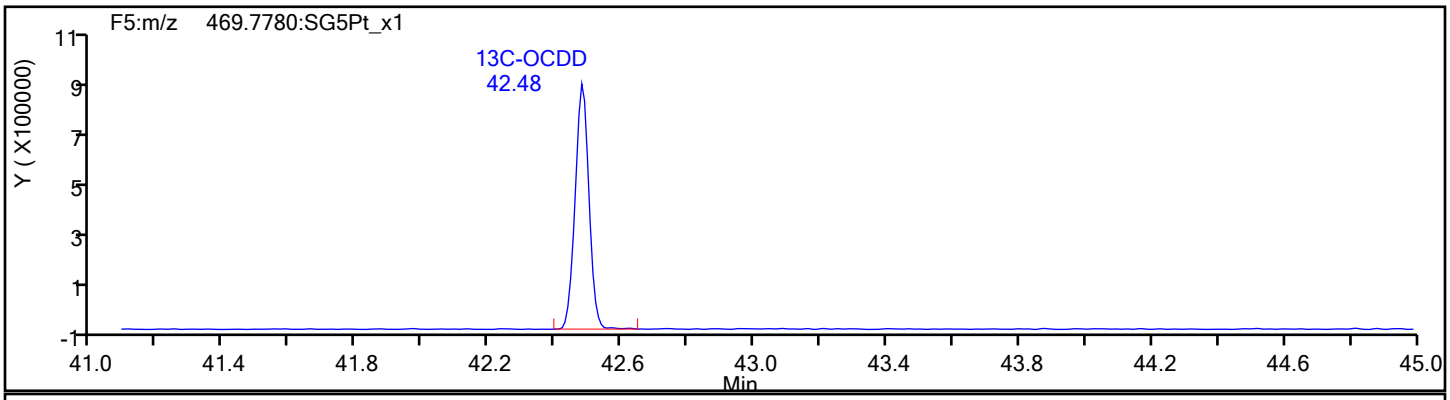
Column Type:	DB-5	Column Dia:	0.32 mm

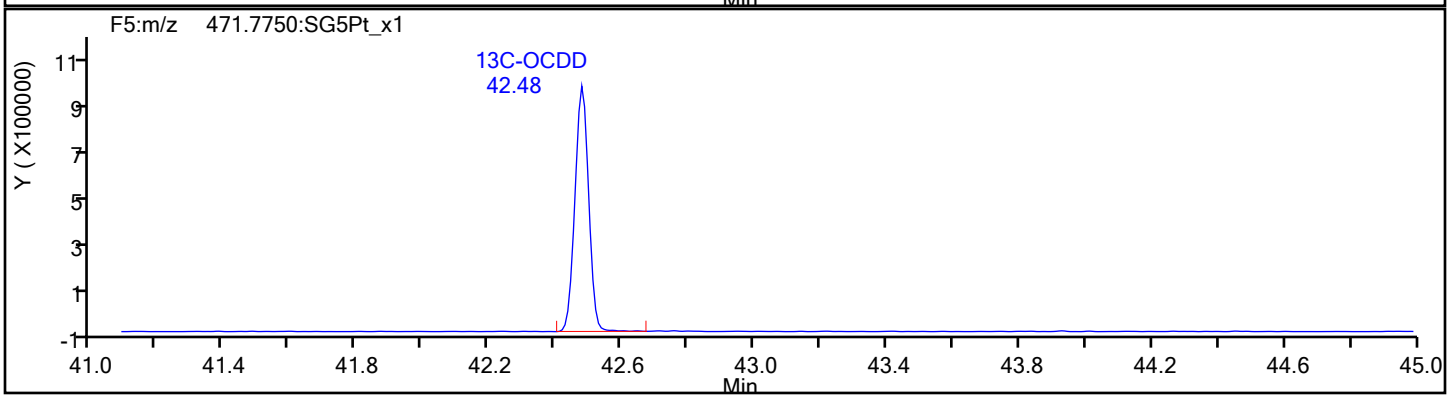
OCDD





OCDD Standards

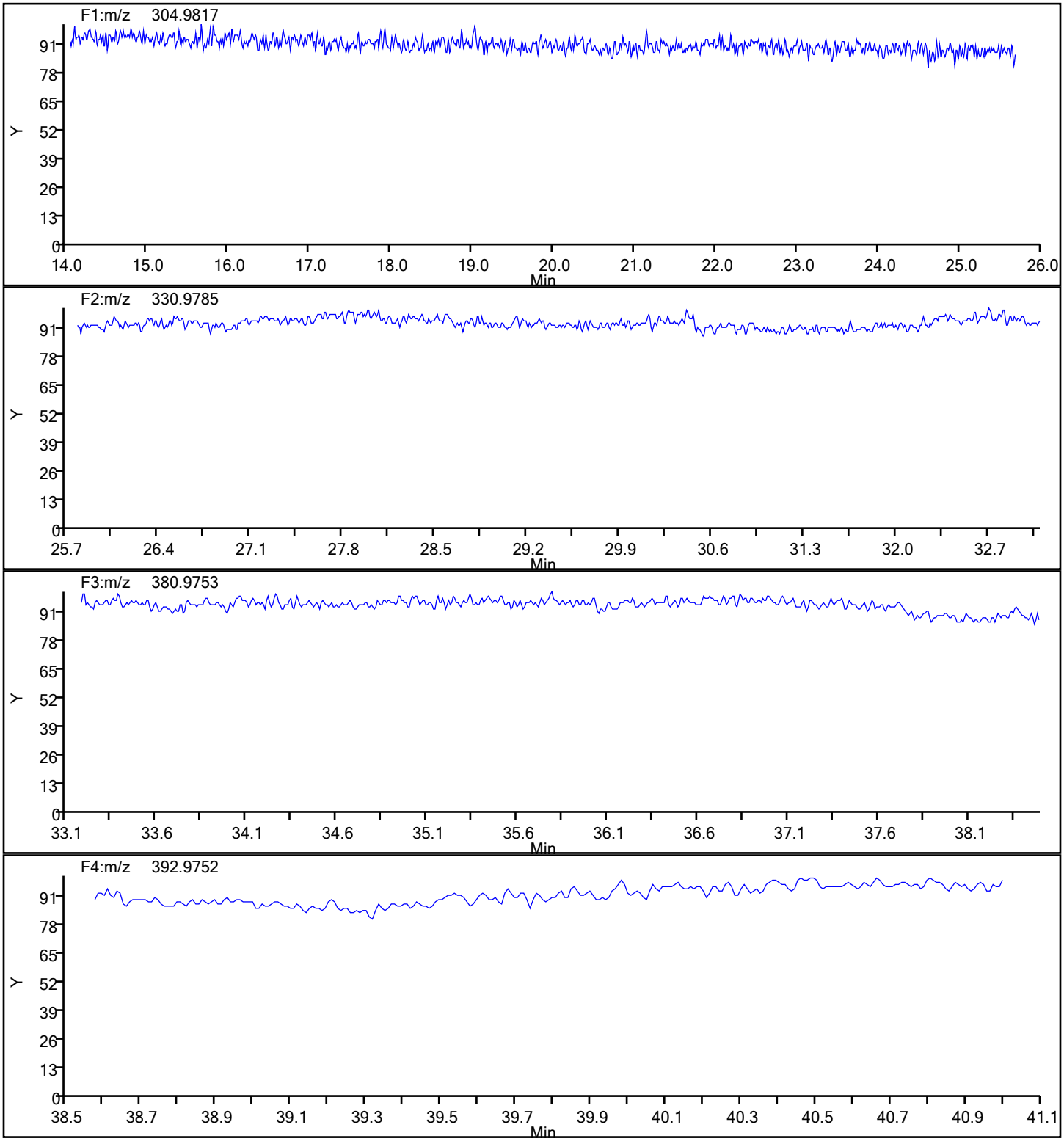




Report Date: 19-Nov-2021 09:14:10 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

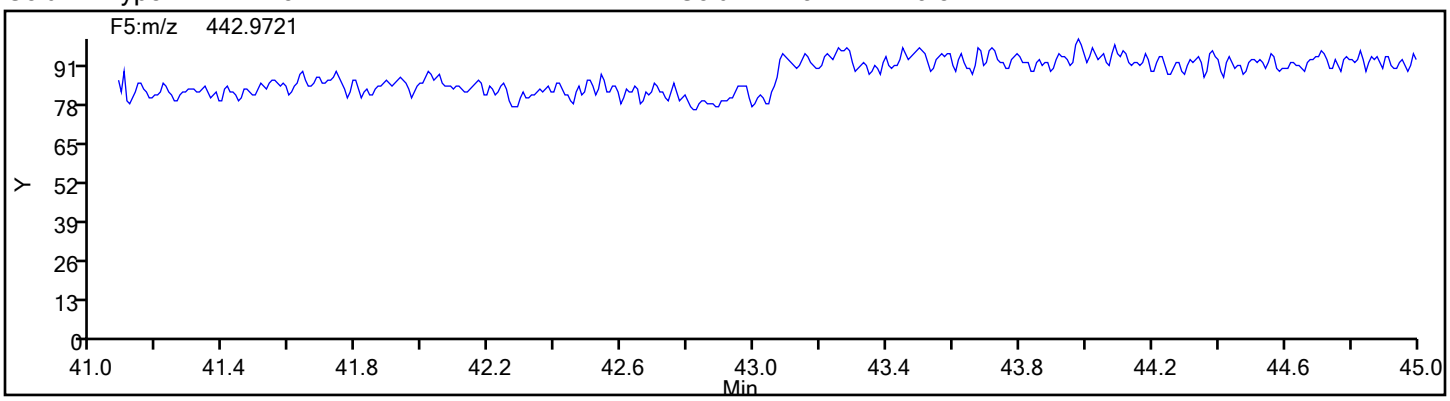
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d		
Injection Date:	18-Nov-2021 20:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 19-Nov-2021 09:14:10 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_11.d		
Injection Date:	18-Nov-2021 20:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Lab Sample ID: CCV 320-554312/2 Calibration Date: 12/27/2021 20:10

Instrument ID: DFS 1 Calib Start Date: 11/18/2021 15:26

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 11/18/2021 18:38

Lab File ID: 27de21adfs1_13.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.105	1.010		9.14	10.0	-8.6	20.0
2,3,7,8-TCDD	AveID	1.121	1.065		9.50	10.0	-5.0	20.0
1,2,3,7,8-PeCDF	AveID	1.099	1.011		46.0	50.0	-8.0	20.0
2,3,4,7,8-PeCDF	AveID	1.058	0.9717		45.9	50.0	-8.1	20.0
1,2,3,7,8-PeCDD	AveID	1.103	1.069		48.5	50.0	-3.1	20.0
1,2,3,4,7,8-HxCDF	AveID	0.9504	0.8231		43.3	50.0	-13.4	20.0
1,2,3,6,7,8-HxCDF	AveID	0.9524	1.001		52.6	50.0	5.2	20.0
2,3,4,6,7,8-HxCDF	AveID	0.8893	0.9669		54.4	50.0	8.7	20.0
1,2,3,4,7,8-HxCDD	AveID	1.008	0.8902		44.2	50.0	-11.7	20.0
1,2,3,6,7,8-HxCDD	AveID	1.011	0.9342		46.2	50.0	-7.6	20.0
1,2,3,7,8,9-HxCDD	AveID	1.099	0.9597		43.7	50.0	-12.7	20.0
1,2,3,7,8,9-HxCDF	AveID	0.8433	0.8812		52.3	50.0	4.5	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.518	1.368		45.0	50.0	-9.9	20.0
1,2,3,4,6,7,8-HpCDD	AveID	1.095	1.029		47.0	50.0	-6.1	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.339	1.244		46.5	50.0	-7.1	20.0
OCDD	AveID	1.112	0.9791		88.1	100	-11.9	20.0
OCDF	AveID	1.398	1.211		86.6	100	-13.4	20.0
13C-2,3,7,8-TCDF	Ave	1.292	1.370		106	100	6.1	30.0
13C-2,3,7,8-TCDD	Ave	0.8271	0.8198		99.1	100	-0.9	30.0
13C-1,2,3,7,8-PeCDF	Ave	1.166	1.173		101	100	0.6	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.6835	0.6282		91.9	100	-8.1	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.178	1.145		97.2	100	-2.8	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.7339	0.7951		108	100	8.3	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6698	0.6851		102	100	2.3	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.5943	0.5952		100	100	0.2	30.0
13C-OCDD	Ave	0.4838	0.5698		236	200	17.8	30.0
37Cl4-2,3,7,8-TCDD	Ave	0.8866	0.8590		9.69	10.0	-3.1	

	File Name	SampleName	Sample ID	Position	Method/Matrix	Box	User	Sample Vol	Units
1	27DE21ADFS1_1	Resolution Check	RC 122721	46			KSS	1.000	
2	27DE21ADFS1_2	CCV CS-4 HRDXNL4_00104	CCV 122721	2	Dioxin		KSS	1.000	
3	27DE21ADFS1_3	WDM HRDXNCP_00044	WDM 122721	1	Dioxin		KSS	1.000	
4	27DE21ADFS1_4	mb 320-552913/1-a RI	mb 320-552913/1-a	4	1613B_T/DW	D300	KSS	1.000	L
5	27DE21ADFS1_5	280-156669-f-4-a 10X	280-156669-f-4-a	5	8290A/Solid	D299	KSS	10.000	g
6	27DE21ADFS1_6	280-156669-f-2-a 10X	280-15666-f-2-a	6	8290A/Solid		KSS	10.000	g
7	27DE21ADFS1_7	280-156669-f-3-a 20X	280-156669-f-3-a	7	8290A/Solid		KSS	10.000	g
8	27DE21ADFS1_8	280-156669-f-1-a 20X	280-156669-f-1-a	8	8290A/Solid		KSS	10.000	g
9	27DE21ADFS1_9	lcs 320-551132/2-a RI	lcs 320-551132/2-a	9	8290/Water	5	KSS	1.000	L
10	27DE21ADFS1_10	CCV CS-4 HRDXNL4_00104	CCV 122721A	2	Dioxin		KSS	1.000	
11	27DE21ADFS1_11	Resolution Check	RC 122721A	46			KSS	1.000	
12	27DE21ADFS1_12	WDM HRDXNCP_00044	WDM 122721A	1	Dioxin		KSS	1.000	
13	27DE21ADFS1_13	CCV CS-4 HRDXNL4_00104	CCV 122721B	2	Dioxin		KSS	1.000	
14	27DE21ADFS1_14	mb 320-552716/1-a	mb 320-552716/1-a	10	8290/A/Water	D300	KSS	1.000	L
15	27DE21ADFS1_15	lcs 320-552716/2-a	lcs 320-552716/2-a	11	8290/A/Water		KSS	1.000	L
16	27DE21ADFS1_16	lcsd 320-552716/3-a	lcsd 320-552716/3-a	12	8290/A/Water		KSS	1.000	L
17	27DE21ADFS1_17	570-79060-i-1-a	570-79060-i-1-a	13	8290/A/Water		KSS	1.000	L
18	27DE21ADFS1_18	570-78855-f-1-a	570-78855-f-1-a	14	8290/A/Water		KSS	1.000	L
19	27DE21ADFS1_19	570-78855-f-2-a	570-78855-f-2-a	15	8290/A/Water		KSS	1.000	L
20	27DE21ADFS1_20	570-78855-e-3-a	570-78855-e-3-a	16	8290/A/Water		KSS	1.000	L
21	27DE21ADFS1_21	570-78855-f-4-a	570-78855-f-4-a	17	8290/A/Water		KSS	1.000	L
22	27DE21ADFS1_22	570-78855-f-5-a	570-78855-f-5-a	18	8290/A/Water		KSS	1.000	L
23	27DE21ADFS1_23	280-156669-a-5-a	280-156669-a-5-a	19	8290/A/Water		KSS	1.000	L
24	27DE21ADFS1_24	180-131390-g-9-a	180-131390-g-9-a	20	8290/A/Water		KSS	1.000	L
25	27DE21ADFS1_25	SB Solvent Blank C14	SB 122721	3	Dioxin		KSS	1.000	
26	27DE21ADFS1_26	CCV CS-4 HRDXNL4_00104	CCV 122721C	2	Dioxin		KSS	1.000	
27	27DE21ADFS1_27	Resolution Check	RC 122721B	46			KSS	1.000	
28	27DE21ADFS1_28	WDM HRDXNCP_00044	WDM 122721B	1	Dioxin		KSS	1.000	
29	27DE21ADFS1_29	CCV CS-4 HRDXNL4_00104	CCV 122721D	2	Dioxin		KSS	1.000	
30	27DE21ADFS1_30	SB Solvent Blank C14	SB 122721A	3	Dioxin		KSS	1.000	
31	27DE21ADFS1_31	mb 320-553644/1-a	mb 320-553644/1-a	21	8290/Waste	5	KSS	0.100	g
32	27DE21ADFS1_32	lcs 320-553644/2-a	lcs 320-553644/2-a	22	8290/Waste		KSS	0.100	g
33	27DE21ADFS1_33	lcsd 320-553644/3-a	lcsd 320-553644/3-a	23	8290/Waste		KSS	0.100	g
34	27DE21ADFS1_34	320-83271-a-1-a	320-83271-a-1-a	24	8290/Waste		KSS	0.100	g
35	27DE21ADFS1_35	lcs 320-553037/2-a	lcs 320-553037/2-a	25	1613B_T/DW	D300	KSS	1.000	L
36	27DE21ADFS1_36	lcsd 320-553037/3-a	lcsd 320-553037/3-a	26	1613B_T/DW		KSS	1.000	L
37	27DE21ADFS1_37	llcs 320-553037/4-a	llcs 320-553037/4-a	27	1613B_T/DW		KSS	1.000	L
38	27DE21ADFS1_38	mb 320-553037/1-a	mb 320-553037/1-a	28	1613B_T/DW		KSS	1.000	L
39	27DE21ADFS1_39	550-175810-b-3-a	550-175810-b-3-a	29	1613B_T/DW		KSS	1.000	L
40	27DE21ADFS1_40	550-175361-ae-1-a	550-175361-ae-1-a	30	1613B_T/DW		KSS	1.000	L
41	27DE21ADFS1_41	SB Solvent Blank C14	SB 122721B	3	Dioxin		KSS	1.000	
42	27DE21ADFS1_42	CCV CS-4 HRDXNL4_00104	CCV 122721E	2	Dioxin		KSS	1.000	
43	27DE21ADFS1_43	Resolution Check	RC 122721C	46			KSS	1.000	

LOGFILE CHECKED
DB 12/28/21

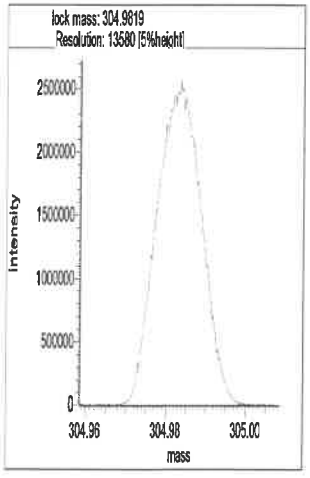
Resolution Check Report (DFS SN: 3487)

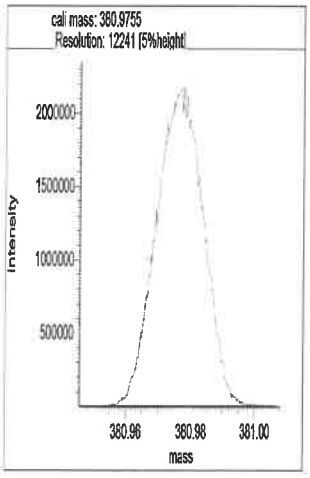
eurofins | Environment Testing TestAmerica

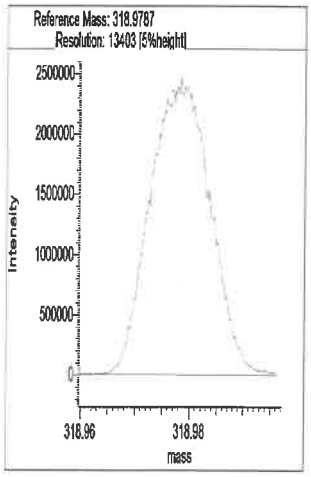
Date:	27 Dec 2021 19:05
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

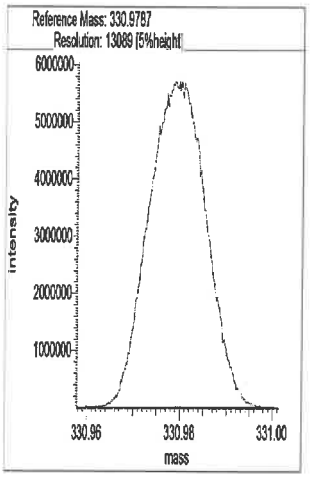
Segment 1

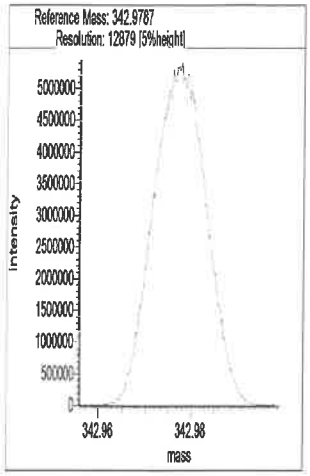
Lock mass 304.9819 [m/z] Resolution: 13580 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 12241 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 13403 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 13089 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 12879 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12747 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 12412 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 12267 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 12119 [5%height]

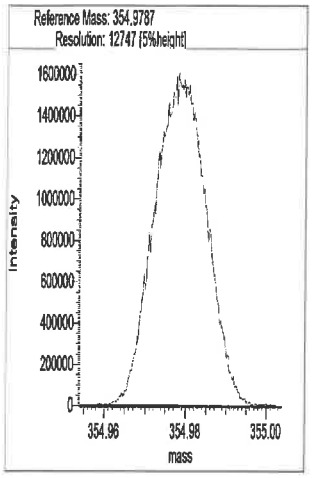


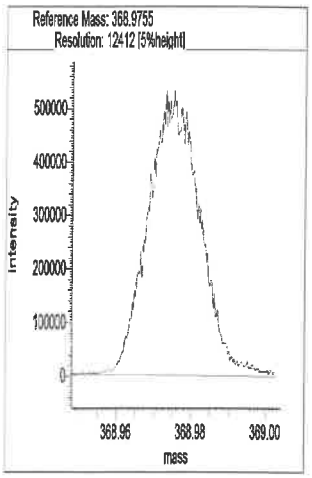


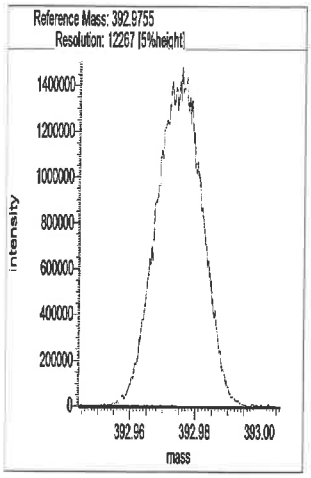


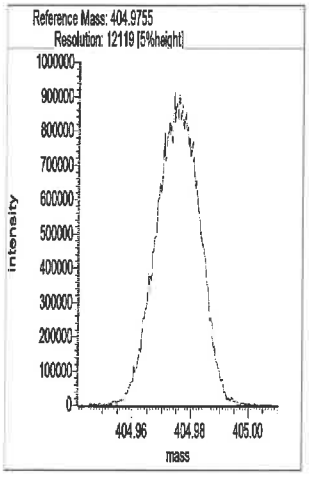












Segment 2

Lock mass 330.9787 [m/z] Resolution: 13474 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12661 [5%height]

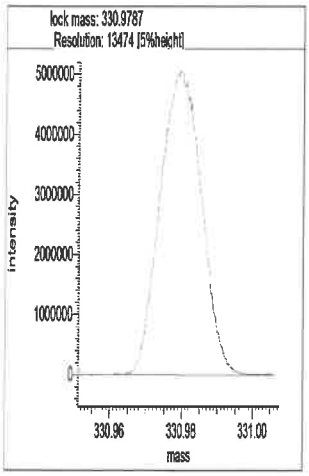
Ref. mass 342.9787 [m/z] Resolution: 13422 [5%height]

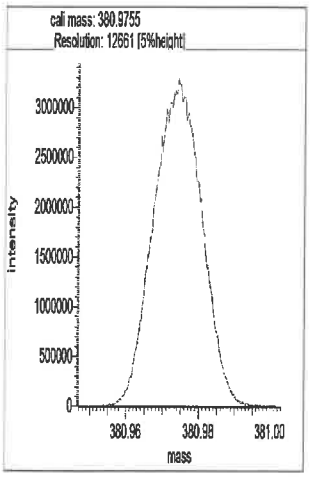
Ref. mass 354.9787 [m/z] Resolution: 13189 [5%height]

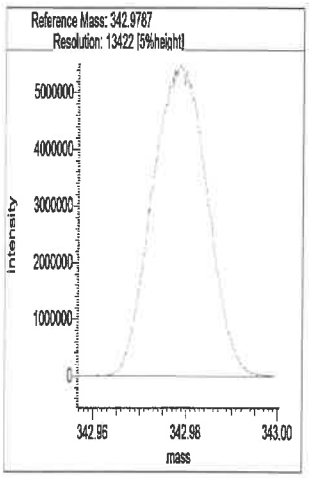
Ref. mass 368.9755 [m/z] Resolution: 12340 [5%height]

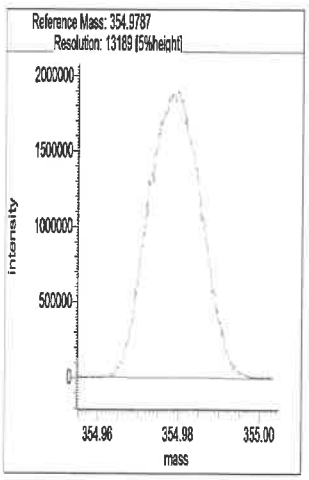
Ref. mass 392.9755 [m/z] Resolution: 12367 [5%height]

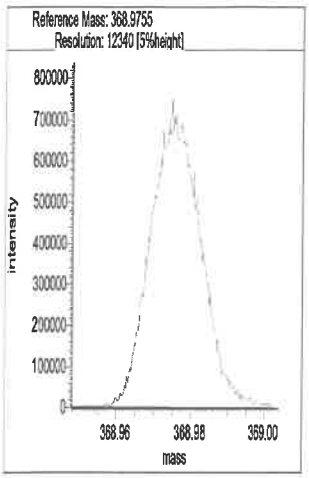
Ref. mass 404.9755 [m/z] Resolution: 12301 [5%height]

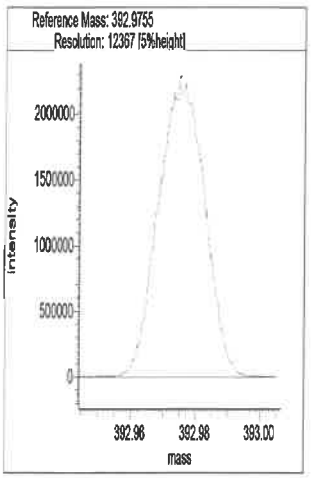


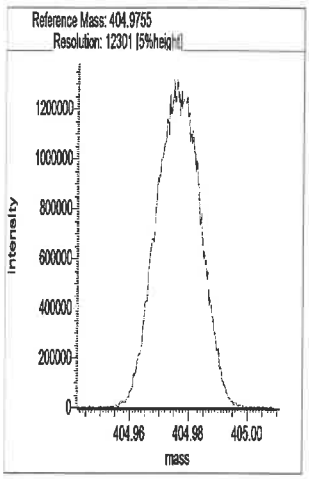












Segment 3

Lock mass 380.9755 [m/z] Resolution: 13404 [5%height]

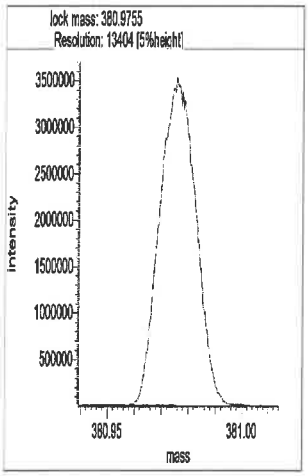
Cali. mass 430.9723 [m/z] Resolution: 12468 [5%height]

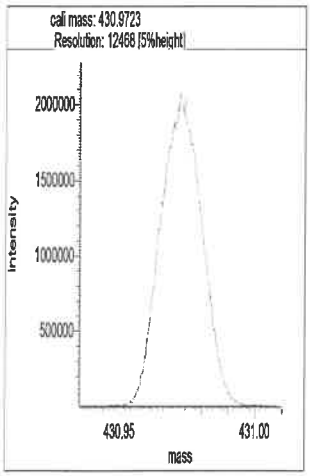
Ref. mass 392.9755 [m/z] Resolution: 13284 [5%height]

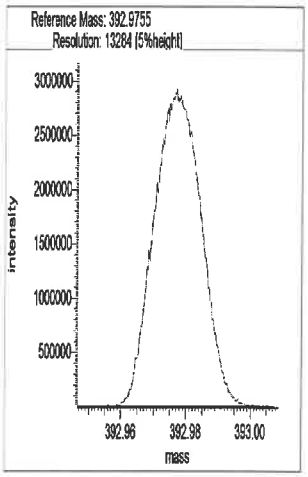
Ref. mass 404.9755 [m/z] Resolution: 12976 [5%height]

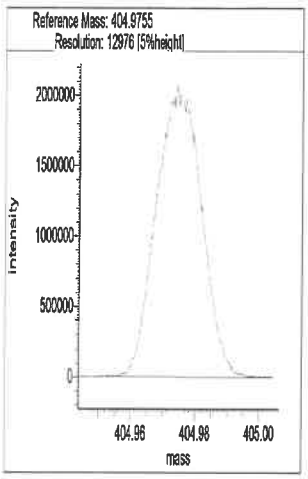
Ref. mass 416.9755 [m/z] Resolution: 13249 [5%height]

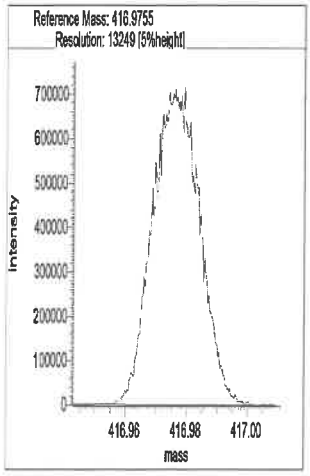
Ref. mass 442.9723 [m/z] Resolution: 12640 [5%height]

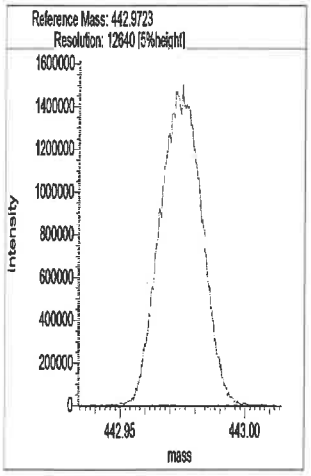












Segment 4

Lock mass 392.9754 [m/z] Resolution: 13428 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 12785 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 13065 [5%height]

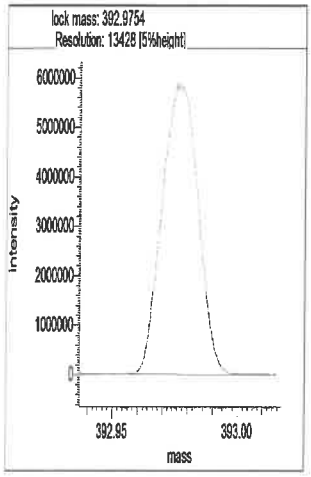
Ref. mass 416.9755 [m/z] Resolution: 12587 [5%height]

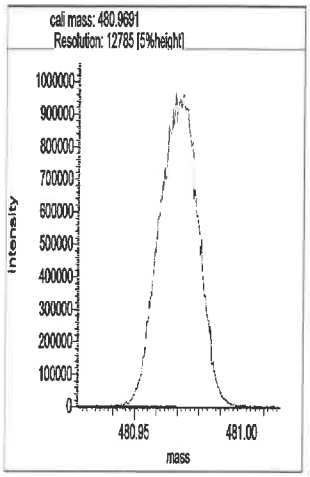
Ref. mass 430.9723 [m/z] Resolution: 12701 [5%height]

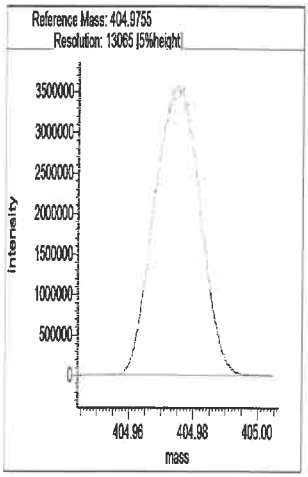
Ref. mass 442.9723 [m/z] Resolution: 12638 [5%height]

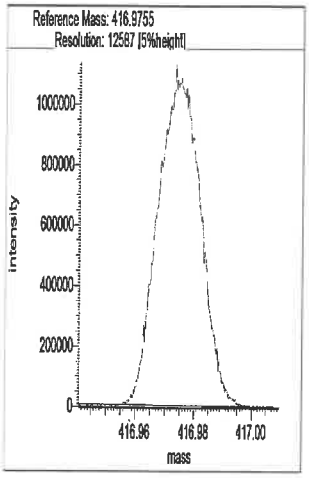
Ref. mass 454.9723 [m/z] Resolution: 12860 [5%height]

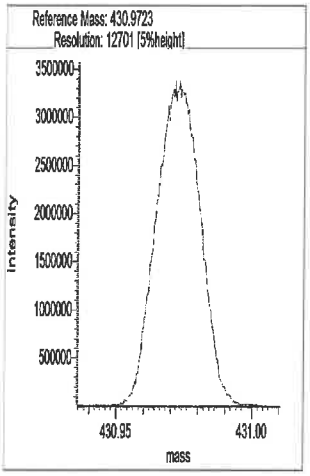
Ref. mass 466.9723 [m/z] Resolution: 12844 [5%height]

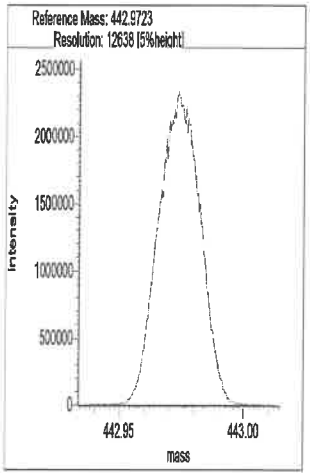


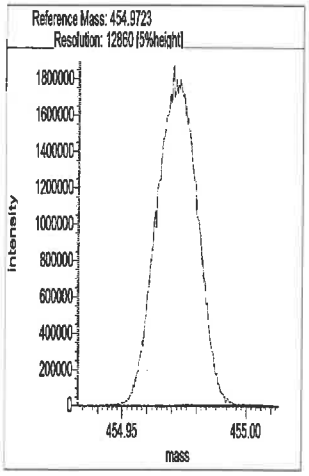


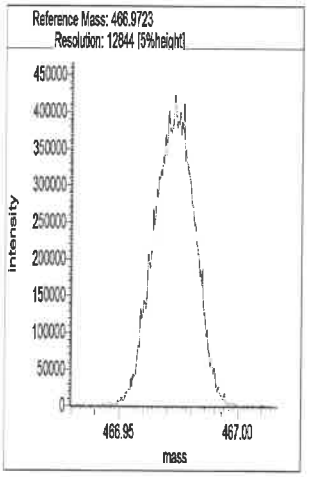












Segment 5

Lock mass 442.9723 [m/z] Resolution: 13354 [5%height]

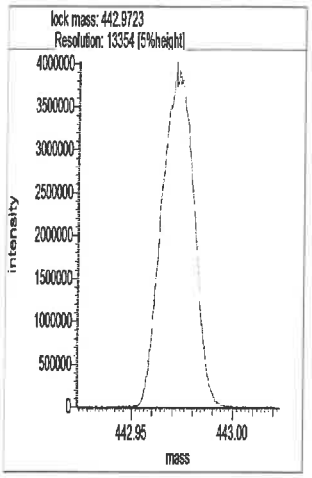
Cali. mass 504.9691 [m/z] Resolution: 12969 [5%height]

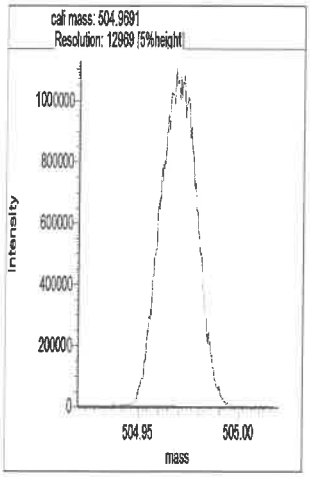
Ref. mass 454.9723 [m/z] Resolution: 13106 [5%height]

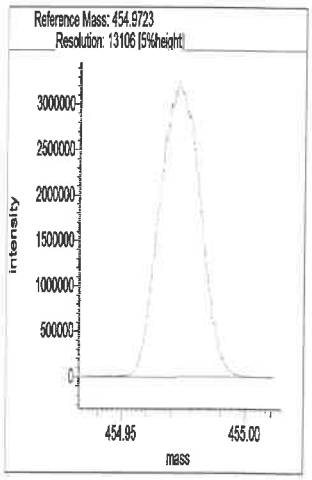
Ref. mass 466.9723 [m/z] Resolution: 12679 [5%height]

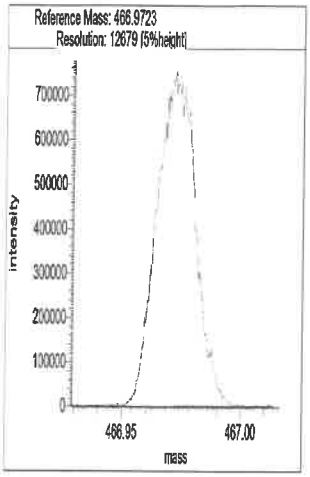
Ref. mass 480.9691 [m/z] Resolution: 12842 [5%height]

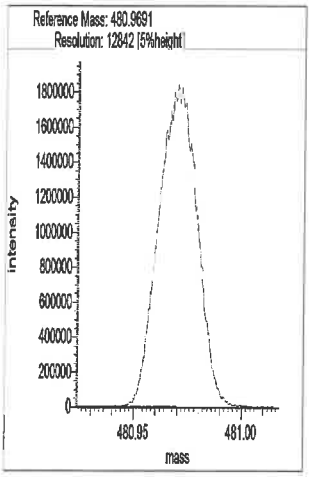
Ref. mass 492.9691 [m/z] Resolution: 12881 [5%height]

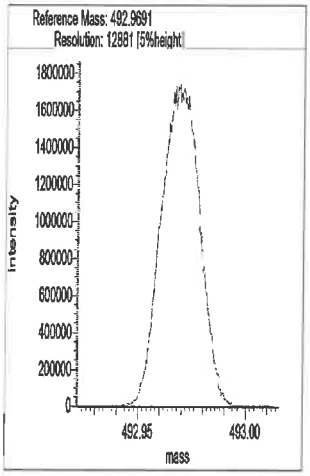

lock mass: 442.9723
Resolution: 13354 [5%height]
intensity
mass


cal mass: 504.9691
Resolution: 12969 [5%height]
intensity
mass


Reference Mass: 454.9723
Resolution: 13106 [5%height]
intensity
mass


Reference Mass: 466.9723
Resolution: 12679 [5%height]
intensity
mass


Reference Mass: 480.9691
Resolution: 12842 [5%height]
intensity
mass


Reference Mass: 492.9691
Resolution: 12881 [5%height]
intensity
mass

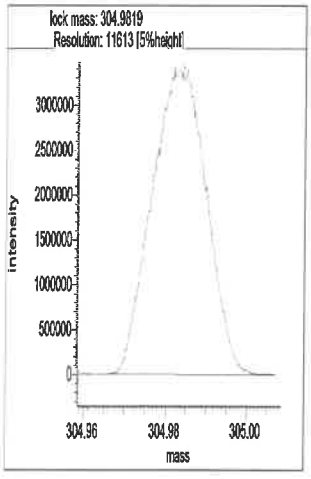
Resolution Check Report (DFS SN: 3487)

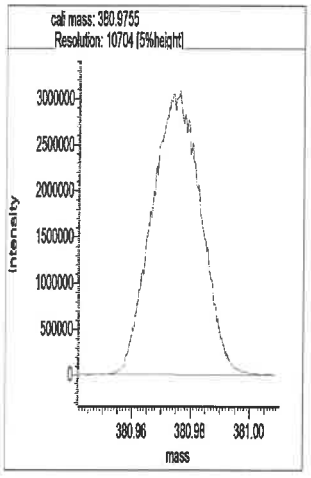
eurofins | Environment Testing TestAmerica

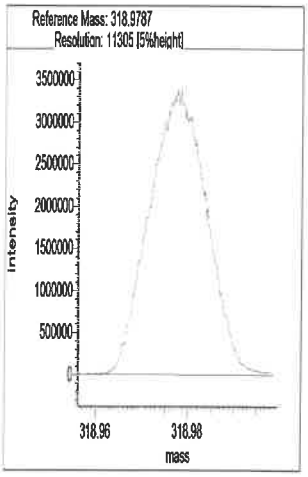
Date:	28 Dec 2021 07:20
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

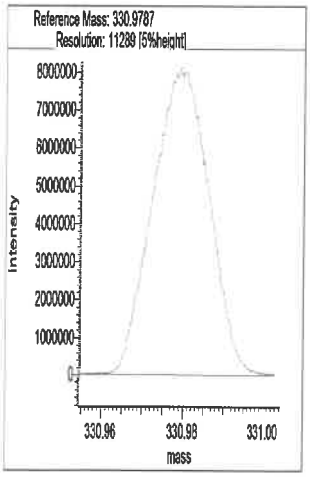
Segment 1

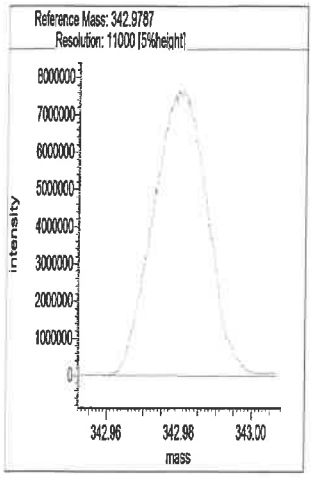
Lock mass 304.9819 [m/z] Resolution: 11613 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 10704 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 11305 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 11289 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 11000 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 10964 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 10179 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 10785 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 10653 [5%height]

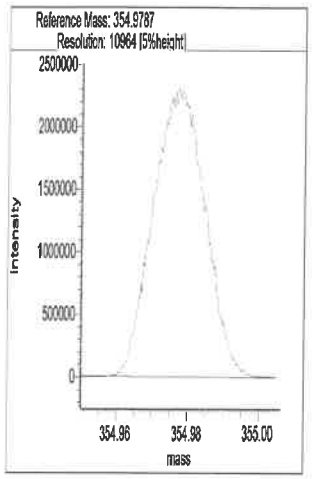


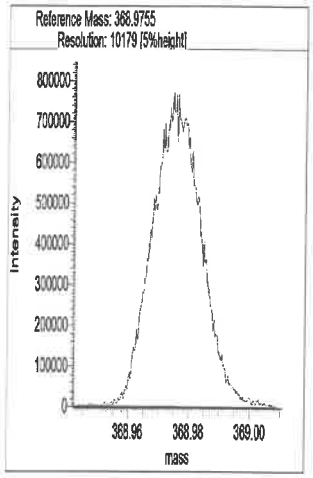


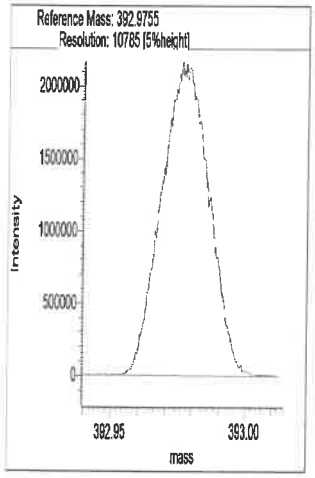


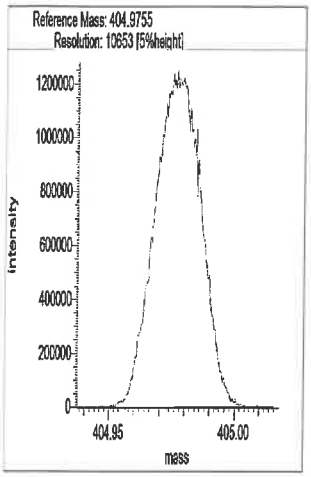












Segment 2

Lock mass 330.9787 [m/z] Resolution: 11577 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 10713 [5%height]

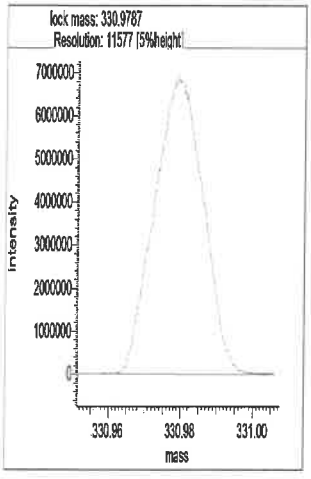
Ref. mass 342.9787 [m/z] Resolution: 11573 [5%height]

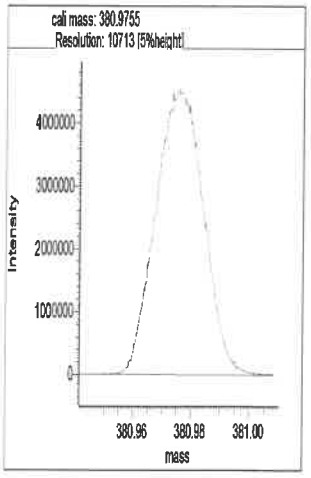
Ref. mass 354.9787 [m/z] Resolution: 11513 [5%height]

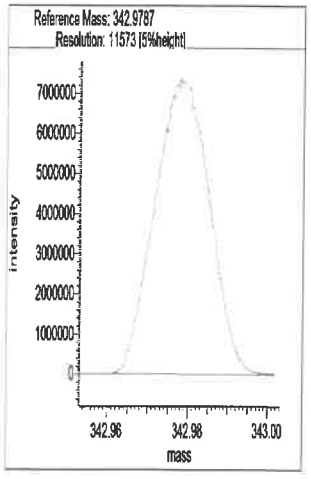
Ref. mass 368.9755 [m/z] Resolution: 10586 [5%height]

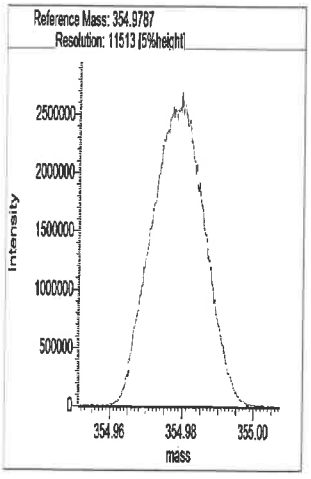
Ref. mass 392.9755 [m/z] Resolution: 10775 [5%height]

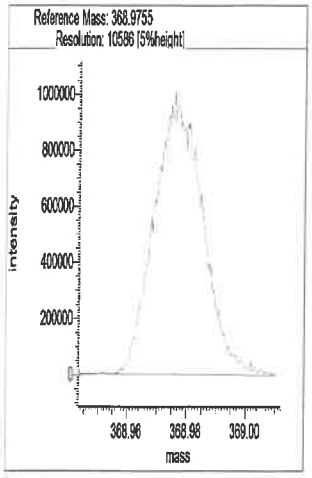
Ref. mass 404.9755 [m/z] Resolution: 10637 [5%height]

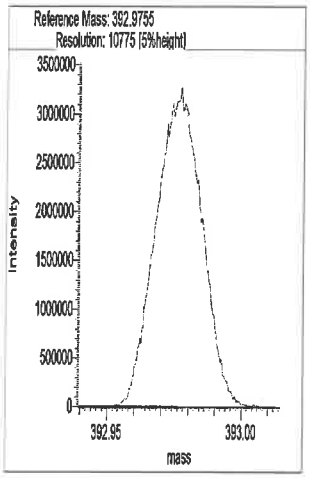


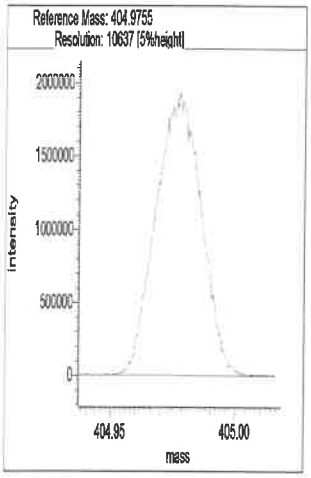












Segment 3

Lock mass 380.9755 [m/z] Resolution: 11552 [5%height]

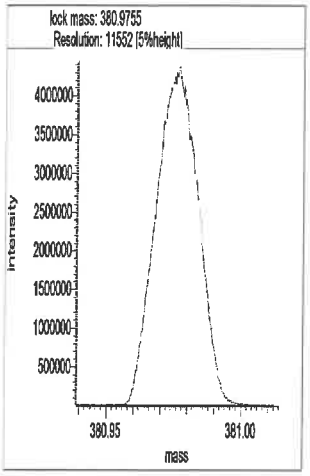
Cali. mass 430.9723 [m/z] Resolution: 10588 [5%height]

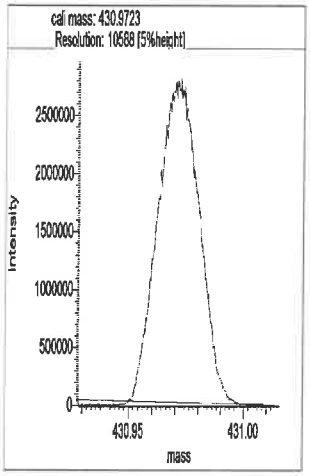
Ref. mass 392.9755 [m/z] Resolution: 11547 [5%height]

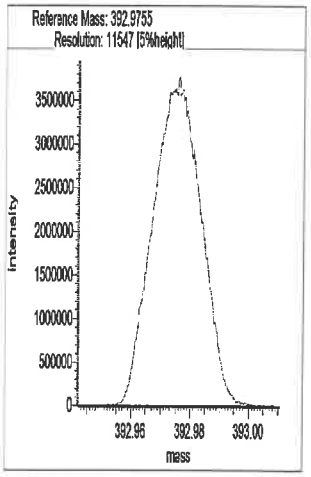
Ref. mass 404.9755 [m/z] Resolution: 11137 [5%height]

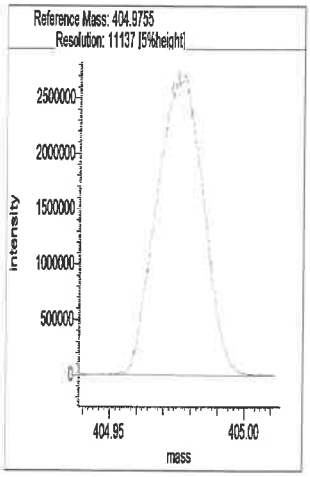
Ref. mass 416.9755 [m/z] Resolution: 11204 [5%height]

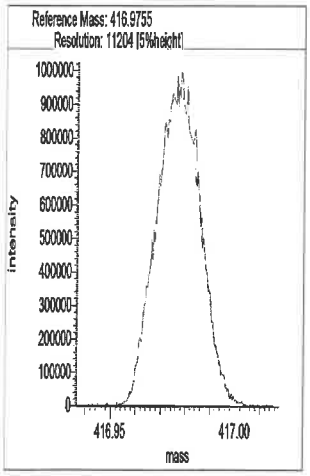
Ref. mass 442.9723 [m/z] Resolution: 10673 [5%height]

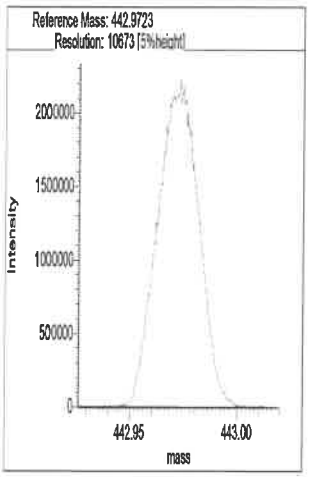












Segment 4

Lock mass 392.9754 [m/z] Resolution: 11835 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 10753 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 11069 [5%height]

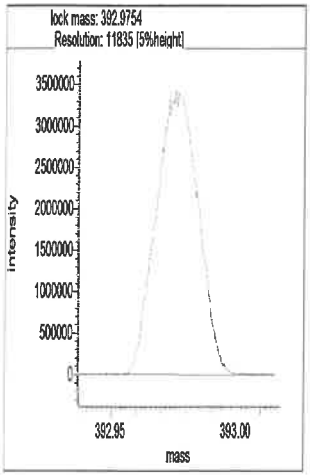
Ref. mass 416.9755 [m/z] Resolution: 11266 [5%height]

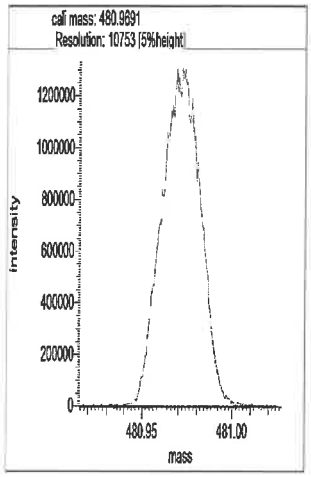
Ref. mass 430.9723 [m/z] Resolution: 11170 [5%height]

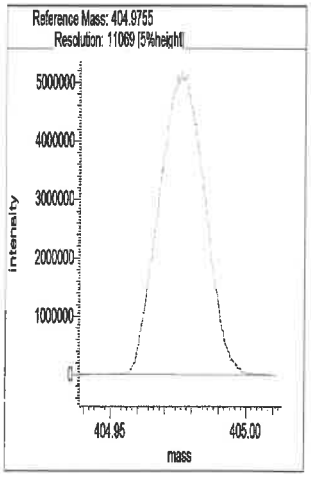
Ref. mass 442.9723 [m/z] Resolution: 10669 [5%height]

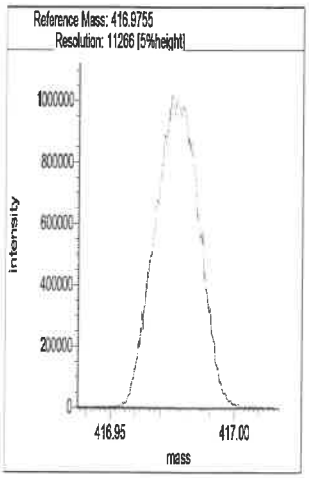
Ref. mass 454.9723 [m/z] Resolution: 10786 [5%height]

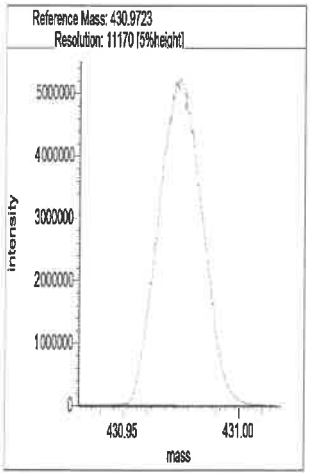
Ref. mass 466.9723 [m/z] Resolution: 11102 [5%height]

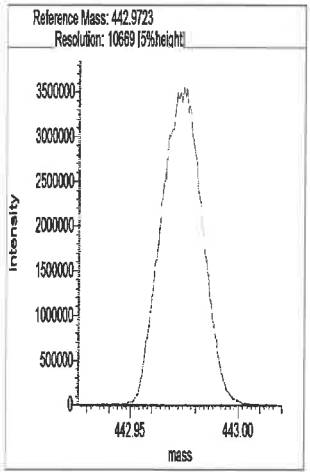


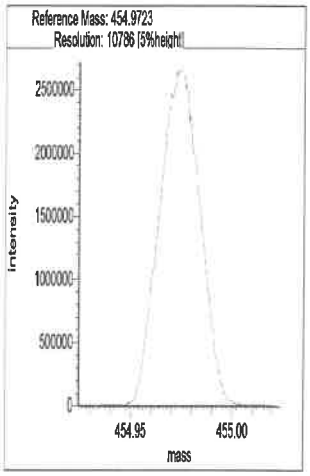


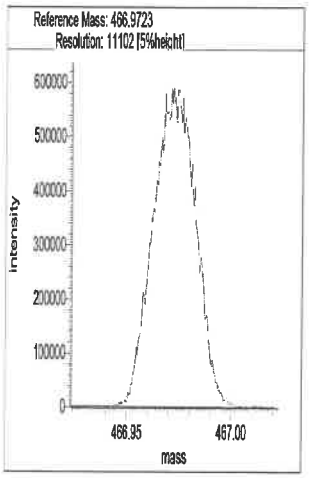












Segment 5

Lock mass 442.9723 [m/z] Resolution: 11512 [5%height]

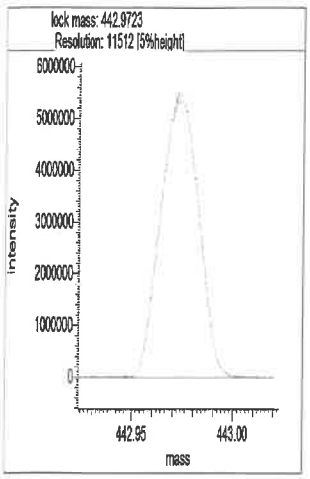
Cali. mass 504.9691 [m/z] Resolution: 11000 [5%height]

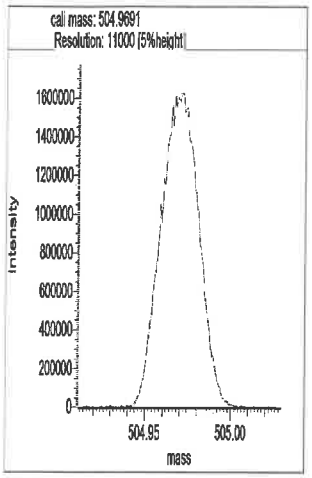
Ref. mass 454.9723 [m/z] Resolution: 11217 [5%height]

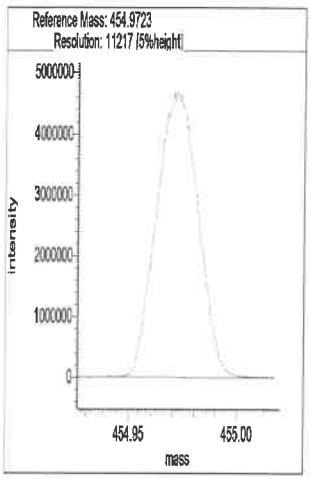
Ref. mass 466.9723 [m/z] Resolution: 10880 [5%height]

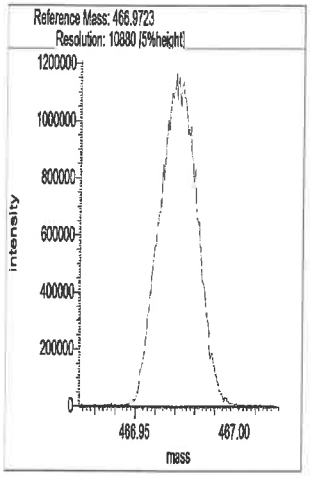
Ref. mass 480.9691 [m/z] Resolution: 10512 [5%height]

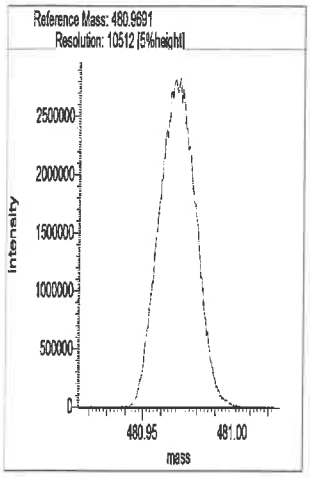
Ref. mass 492.9691 [m/z] Resolution: 10880 [5%height]

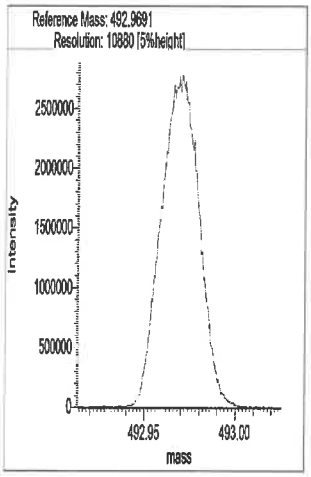

lock mass: 442.9723
Resolution: 11512 [5%height]
intensity
mass
442.95
443.00


cal mass: 504.9691
Resolution: 11000 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 11217 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 10880 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 10512 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 10880 [5%height]
intensity
mass
492.95
493.00

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 27-Dec-2021 20:10:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00104
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:29:23

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.980	17371118	0.83	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	20.017	23807094	0.80	1.2917	106.1	106.1	0.3089	0.3089	106	
2,3,7,8-TCDF	20.025	2403703	0.79	1.1045	9.141	9.141	0.0313	0.0313	91.41	a
A Non-2,3,7,8-sub-TCDF	19.632	2403703	0.79	1.1045	9.141	9.141	0.0313	9.141	0.00	
S Total TCDF					18.3	18.3	0.0313	0.0313		
D 13C-2,3,7,8-TCDD	21.350	14240469	0.82	0.8271	99.1	99.1	0.2303	0.2303	99.11	
2,3,7,8-TCDD	21.384	1516172	0.82	1.1211	9.497	9.497	0.0674	0.0674	94.97	
$ 37Cl4-2,3,7,8-TCDD	21.384	1492248		0.8866	9.690	9.690	0.0184	0.0184	96.90	
A Non-2,3,7,8-sub-TCDD	20.470						0.0674	0.0674		
S Total TCDD					9.497	9.497	0.0674	0.0674		
D 13C-1,2,3,7,8-PeCDF	26.962	20379494	1.58	1.1665	100.6	100.6	0.4453	0.4453	101	
1,2,3,7,8-PeCDF	26.979	10304945	1.56	1.0987	46.0	46.0	0.1711	0.1711	92.04	
$ 13C-2,3,4,7,8-PeCDF	28.460	25256593	1.60							
2,3,4,7,8-PeCDF	28.486	9901162	1.56	1.0579	45.9	45.9	0.1777	0.1777	91.85	
A F1 PeCDFs	24.442	6515	1.55	1.0783	0.0641	0.0296	0.005543	0.0175	0.00	RQ
A Non-2,3,7,8-sub-PeCDF	27.884						0.1744	0.1744		Rn
S Total PeCDF					92.0	92.0	0.1744	0.1744		RQ
D 13C-1,2,3,7,8-PeCDD	29.269	10912674	1.58	0.6835	91.9	91.9	0.1736	0.1736	91.91	
1,2,3,7,8-PeCDD	29.303	5832971	1.62	1.1030	48.5	48.5	0.0867	0.0867	96.92	
A Non-2,3,7,8-sub-PeCDD	28.134						0.0867	0.0867		
S Total PeCDD					48.5	48.5	0.0867	0.0867		
D 13C-1,2,3,4,7,8-HxCDF	34.727	22778333	0.54	1.1776	97.2	97.2	0.4118	0.4118	97.20	
1,2,3,4,7,8-HxCDF	34.752	9374974	1.24	0.9504	43.3	43.3	0.2675	0.2675	86.61	
D 13C-1,2,3,6,7,8-HxCDF	34.904	20967200	0.54							
1,2,3,6,7,8-HxCDF	34.920	11406167	1.25	0.9524	52.6	52.6	0.2670	0.2670	105	
D 13C-2,3,4,6,7,8-HxCDF	35.745	19526259	0.55							
2,3,4,6,7,8-HxCDF	35.762	11012154	1.25	0.8893	54.4	54.4	0.2859	0.2859	109	
D 13C-1,2,3,7,8,9-HxCDF	36.655	18623208	0.53							
1,2,3,7,8,9-HxCDF	36.671	10036342	1.26	0.8433	52.2	52.2	0.3015	0.3015	104	
A Non-2,3,7,8-sub-HxCDF	34.874						0.2798	0.2798		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					202.5	202.5	0.2805	0.2805		
* 13C-1,2,3,7,8,9-HxCDD	36.469	19899543	1.26	2.6E+05	100.0	100.0				
$ 13C-1,2,3,4,7,8-HxCDD	35.973	16751299	1.27							
1,2,3,4,7,8-HxCDD	35.981	7042331	1.24	1.0079	44.2	44.2	0.1241	0.1241	88.32	
D 13C-1,2,3,6,7,8-HxCDD	36.090	15822004	1.28	0.7339	108.3	108.3	0.2964	0.2964	108	
1,2,3,6,7,8-HxCDD	36.107	7390693	1.26	1.0111	46.2	46.2	0.1237	0.1237	92.40	
1,2,3,7,8,9-HxCDD	36.478	7591831	1.26	1.0993	43.6	43.6	0.1137	0.1137	87.30	
A Non-2,3,7,8-sub-HxCDD	35.257						0.1203	0.1203		
S Total HxCDD					134.0	134.0	0.1205	0.1205		
D 13C-1,2,3,4,6,7,8-HpCDF	38.526	13633912	0.47	0.6698	102.3	102.3	0.5603	0.5603	102	
1,2,3,4,6,7,8-HpCDF	38.543	9323004	1.05	1.5184	45.0	45.0	0.2114	0.2114	90.07	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.798	17362770	0.46							
1,2,3,4,7,8,9-HpCDF	39.806	8477812	1.04	1.3387	46.4	46.4	0.2398	0.2398	92.90	
A Non-2,3,7,8-sub-HpCDF	39.191						0.2247	0.2247		
S Total HpCDF					91.5	91.5	0.2256	0.2256		
D 13C-1,2,3,4,6,7,8-HpCDD	39.495	11844265	1.06	0.5943	100.2	100.2	0.3029	0.3029	100	
1,2,3,4,6,7,8-HpCDD	39.503	6092089	1.05	1.0953	47.0	47.0	0.1293	0.1293	93.92	
A Non-2,3,7,8-sub-HpCDD	39.200						0.1293	0.1293		Rn
S Total HpCDD					47.0	47.0	0.1293	0.1293		
D 13C-OCDD	42.008	22679218	0.92	0.4838	235.6	235.6	0.4997	0.4997	118	
OCDF	42.101	13733455	0.91	1.3979	86.6	86.6	0.1443	0.1443	86.64	
OCDD	42.016	11103100	0.89	1.1116	88.1	88.1	0.1422	0.1422	88.08	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- a - User Assigned ID

Reagents:

HRDXNL4_00104 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 27-Dec-2021 20:10:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00104
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:29:23

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.980	20.980	0		7864284	1156129	1324	3310	873		
333.9338	20.971	20.980	-1		9506834	1370296	601	1502	2280	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	20.017	20.017	0	0.954	10548694	1561037	2773	6932	563		
317.9389	20.008	20.017	-1	0.954	13258400	1934050	1259	3147	1536	0.80(0.65-0.89)	
2,3,7,8-TCDF											a
303.9016	20.025	20.025	0	1.000	1064284	154068	151	377	1020		a
305.8987	20.034	20.025	1	1.001	1339419	197108	333	832	592	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	20.025	19.632	24	1.000	1064284	154068	151	377	1020		
305.8987	20.034	19.632	24	1.001	1339419	197108	333	832	592	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	21.350	21.350	0	1.018	6411014	885229	1324	3310	669		
333.9338	21.341	21.350	-1	1.017	7829455	1070410	601	1502	1781	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.384	21.384	0	1.002	682962	96783	445	1112	217		
321.8936	21.384	21.384	0	1.002	833210	112770	146	365	772	0.82(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	21.384	21.384	0	1.019	1492248	200532	165	412	1215		
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						445	1112			
321.8936	20.470						146	365			
13C-1,2,3,7,8-PeCDF											
351.9000	26.962	26.962	0	1.285	12488743	2059040	2966	7415	694		
353.8970	26.962	26.962	0	1.285	7890751	1287352	2283	5707	564	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.979	26.979	0	1.001	6281158	998927	1493	3732	669		
341.8567	26.979	26.979	0	1.001	4023787	637058	1024	2560	622	1.56(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.460	28.460	0	1.056	15532521	2357297	2966	7415	795		
353.8970	28.460	28.460	0	1.056	9724072	1509670	2283	5707	661	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	28.486	28.486	0	1.057	6029860	907871	1493	3732	608		
341.8567	28.477	28.486	-1	1.056	3871302	583082	1024	2560	569	1.56(1.32-1.78)	
A F1 PeCDFs											RQ
339.8597	23.757	24.442	-41	0.881	2340	879	2	5	440		
341.8567	23.766	24.442	-40	0.881	2018	789	78	195	10	1.16(1.32-1.78)	
	Empc Correction				1509	567	78	195	7		
339.8597	24.299	24.442	-9	0.901	945	434	2	5	217		
341.8567	24.299	24.442	-9	0.901	6467	1840	78	195	24	0.15(1.32-1.78)	
	Empc Correction				609	280	78	195	4		
339.8597	24.402	24.442	-2	0.905	676	364	2	5	182		
341.8567	24.376	24.442	-4	0.904	1632	750	78	195	10	0.41(1.32-1.78)	
	Empc Correction				436	234	78	195	3		
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.577	27.884	-18	1.023	69837	9060	1493	3732	6		
341.8567	27.560	27.884	-19	1.022	34052	5386	1024	2560	5	2.05(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	29.269	29.269	0	1.395	6675980	942685	650	1625	1450		
369.8919	29.278	29.269	1	1.396	4236694	601076	549	1372	1095	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.303	29.303	0	1.001	3602730	510512	421	1052	1213		
357.8516	29.303	29.303	0	1.001	2230241	319824	170	425	1881	1.62(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	28.134						421	1052			
357.8516	28.134						170	425			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.727	34.727	0	0.952	7963225	1590048	3360	8400	473		
385.8610	34.727	34.727	0	0.952	14815108	3017139	5728	14320	527	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.752	34.752	0	1.001	5186266	1032700	2577	6442	401		
375.8178	34.752	34.752	0	1.001	4188708	835895	2109	5272	396	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.904	34.904	0	0.957	7335123	1424833	3360	8400	424		
385.8610	34.904	34.904	0	0.957	13632077	2635675	5728	14320	460	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.920	34.920	0	1.006	6326270	1221699	2577	6442	474		
375.8178	34.920	34.920	0	1.006	5079897	993004	2109	5272	471	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.745	35.745	0	0.980	6893157	1548472	3360	8400	461		
385.8610	35.745	35.745	0	0.980	12633102	2797997	5728	14320	488	0.55(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,6,7,8-HxCDF											
373.8208	35.762	35.762	0	1.030	6110813	1356747	2577	6442	526		
375.8178	35.762	35.762	0	1.030	4901341	1094342	2109	5272	519	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.655	36.655	0	1.005	6489810	1508122	3360	8400	449		
385.8610	36.655	36.655	0	1.005	12133398	2799926	5728	14320	489	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.671	36.671	0	1.056	5596360	1268717	2577	6442	492		
375.8178	36.671	36.671	0	1.056	4439982	1012944	2109	5272	480	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.874						2577	6442			
375.8178	34.874						2109	5272			
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.469	36.469	0		11110121	2618674	2210	5525	1185		
403.8529	36.469	36.469	0		8789422	2066121	1866	4665	1107	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.973	35.973	0	0.997	9373149	2271229	2210	5525	1028		
403.8529	35.973	35.973	0	0.997	7378150	1795696	1866	4665	962	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.981	35.981	0	0.997	3894345	892453	916	2290	974		
391.8127	35.981	35.981	0	0.997	3147986	740521	806	2015	919	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.090	36.090	0	0.990	8889706	1934283	2210	5525	875		
403.8529	36.090	36.090	0	0.990	6932298	1508606	1866	4665	808	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	36.107	36.107	0	1.000	4125115	907070	916	2290	990		
391.8127	36.107	36.107	0	1.000	3265578	724947	806	2015	899	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.478	36.478	0	1.011	4238572	1002461	916	2290	1094		
391.8127	36.478	36.478	0	1.011	3353259	792867	806	2015	984	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	35.257						916	2290			
391.8127	35.257						806	2015			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.526	38.526	0	1.056	4343018	1201914	2358	5895	510		
419.8220	38.526	38.526	0	1.056	9290894	2613389	4674	11685	559	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.543	38.543	0	1.000	4770695	1331559	2590	6475	514		
409.7788	38.534	38.543	-1	1.000	4552309	1290483	2309	5772	559	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.798	39.798	0	1.033	5502327	1645549	2358	5895	698		
419.8220	39.798	39.798	0	1.033	11860443	3626416	4674	11685	776	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.806	39.806	0	1.033	4319705	1287307	2590	6475	497		
409.7788	39.806	39.806	0	1.033	4158107	1237278	2309	5772	536	1.04(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											
407.7817	39.191						2590	6475			
409.7788	39.191						2309	5772			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.495	39.495	0	1.083	6107944	1809376	1928	4820	938		
437.8140	39.495	39.495	0	1.083	5736321	1675744	1445	3612	1160	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.503	39.503	0	1.000	3126955	915270	1059	2647	864		
425.7737	39.503	39.503	0	1.000	2965134	870606	915	2287	951	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.863	39.200	-20	0.984	17519	5565	1059	2647	5		
425.7737	38.863	39.200	-20	0.984	11575	4087	915	2287	4	1.51(0.88-1.20)	
13C-OCDD											
469.7780	42.008	42.008	0	1.152	10874369	2824760	2532	6330	1116		
471.7750	42.008	42.008	0	1.152	11804849	3052088	1998	4995	1528	0.92(0.76-1.02)	
OCDF											
441.7428	42.101	42.101	0	1.002	6543688	1672829	1033	2582	1619		
443.7399	42.101	42.101	0	1.002	7189767	1849876	1338	3345	1383	0.91(0.76-1.02)	
OCDD											
457.7377	42.016	42.016	0	1.000	5238162	1345910	889	2222	1514		
459.7348	42.016	42.016	0	1.000	5864938	1502926	969	2422	1551	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

n - Failed Sig-To-Noise Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

a - User Assigned ID

Reagents:

HRDXNL4_00104 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d
Lims ID: CCV
Client ID:
Inject. Date: 27-Dec-2021 20:10:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 2
Sublist: chrom-Dioxin_DFS1*sub1

Non-2,3,7,8-sub-TCDF, RT: 19.632

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.105	D 13C-2,3,7,8-TCDF	100.000	23807094	3495087

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.105		100.000	23807094	3495087

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
20.025	1064284	154068	1339419	197108	9.14	0.79	
Signal Totals:							
	1064284	154068	1339419	197108			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2403703	351176				0.79	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 9.141 = (2403703 * 100.000) / (23807094 * 1.105)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d
Lims ID: CCV
Client ID:
Inject. Date: 27-Dec-2021 20:10:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 2
Sublist: chrom-Dioxin_DFS1*sub1

F1 PeCDFs, RT: 24.442

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.099	D 13C-1,2,3,7,8-PeCDF	100.000	20379494	3346392
2,3,4,7,8-PeCDF	1.058				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.078		100.000	20379494	3346392

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.757	2340	879	2018	789	0.0198	1.16	RQ
23.757	2340	879	1509	567	0.0175		Empc Correction
24.299	945	434	6467	1840	0.0337	0.15	RQ
24.299	945	434	609	280	0.007072		Empc Correction
24.402	676	364	1632	750	0.0105	0.41	RnQ
24.402	676	364	436	234	0.005060		Empc Correction
Signal Totals:							
	3961	1677	2554	1081			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	14078	5056				0.39	RQ
	6515	2758					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0641 = (14078 * 100.000) / (20379494 * 1.078)
Empc Amount: 0.0296 = (6515 * 100.000) / (20379494 * 1.078)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
n - Failed Sig-To-Noise Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

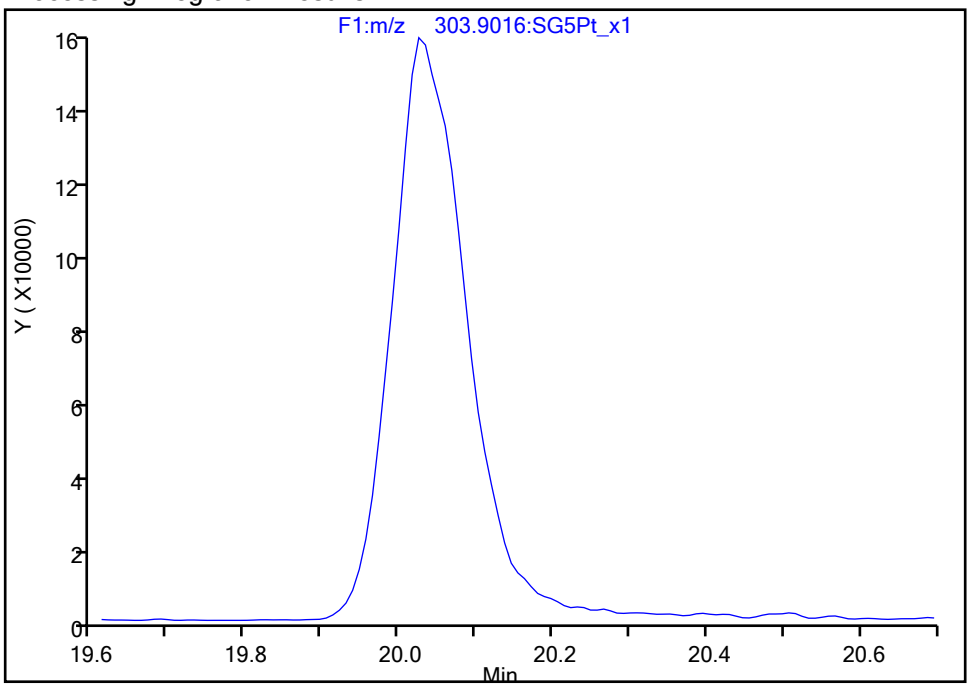
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d				
Injection Date:	27-Dec-2021 20:10:00	Instrument ID:	DFS 1		
Lims ID:	CCV				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1(14.80 :26.00)		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

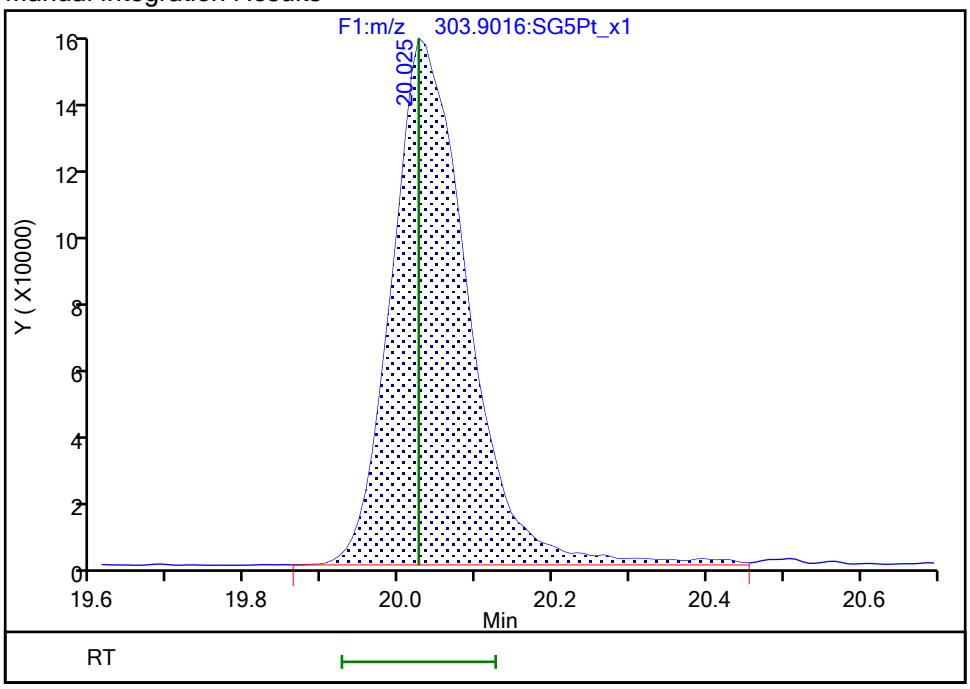
Not Detected
Expected RT: 20.03

Processing Integration Results



Manual Integration Results

RT: 20.03
Area: 1064284
Amount: 9.141127
Amount Units: pg/ul



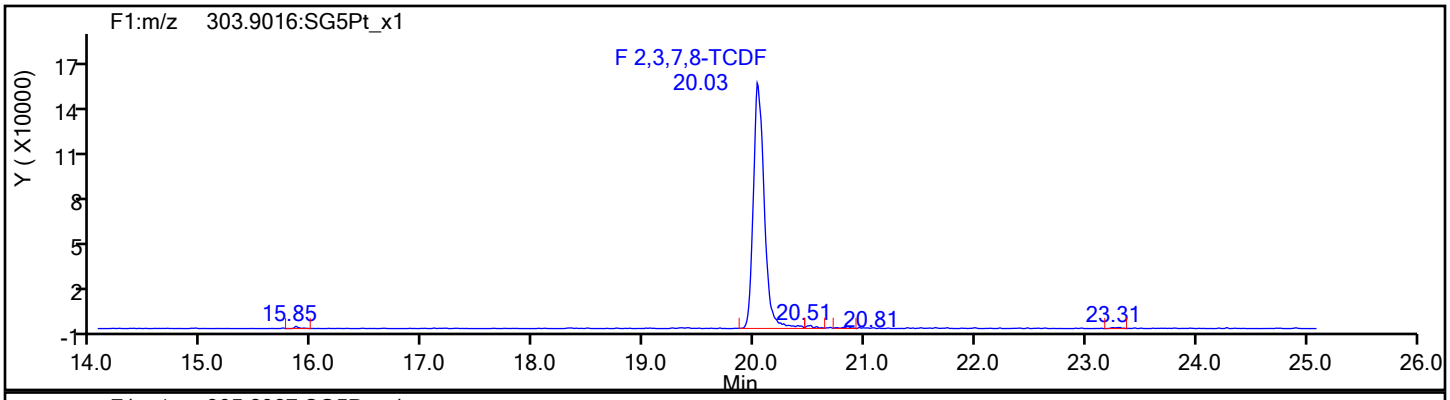
Reviewer: stephensk, 28-Dec-2021 08:27:21
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

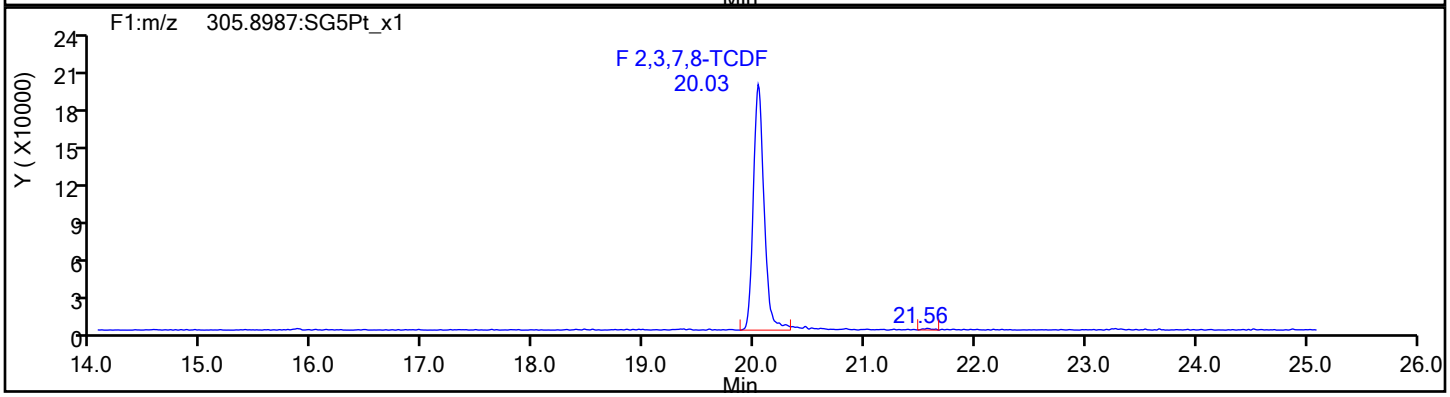
Report Date: 28-Dec-2021 14:24:25 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

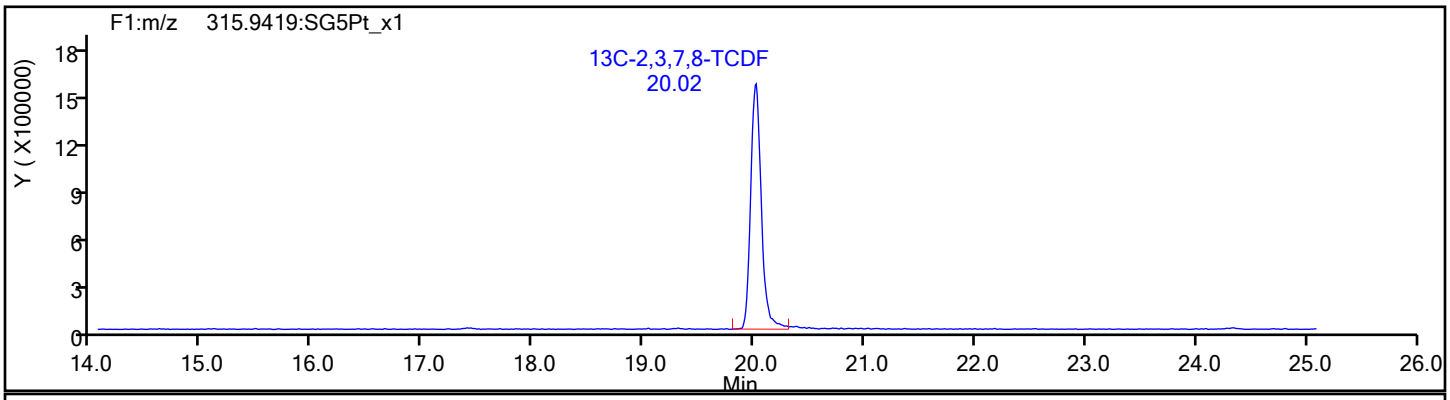
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

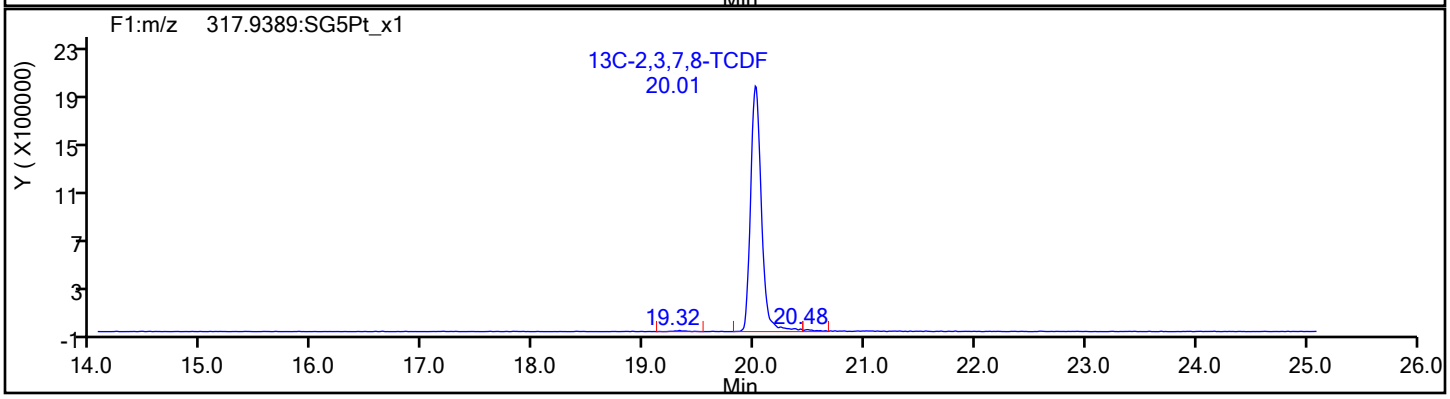
TCDF





TCDF Standards

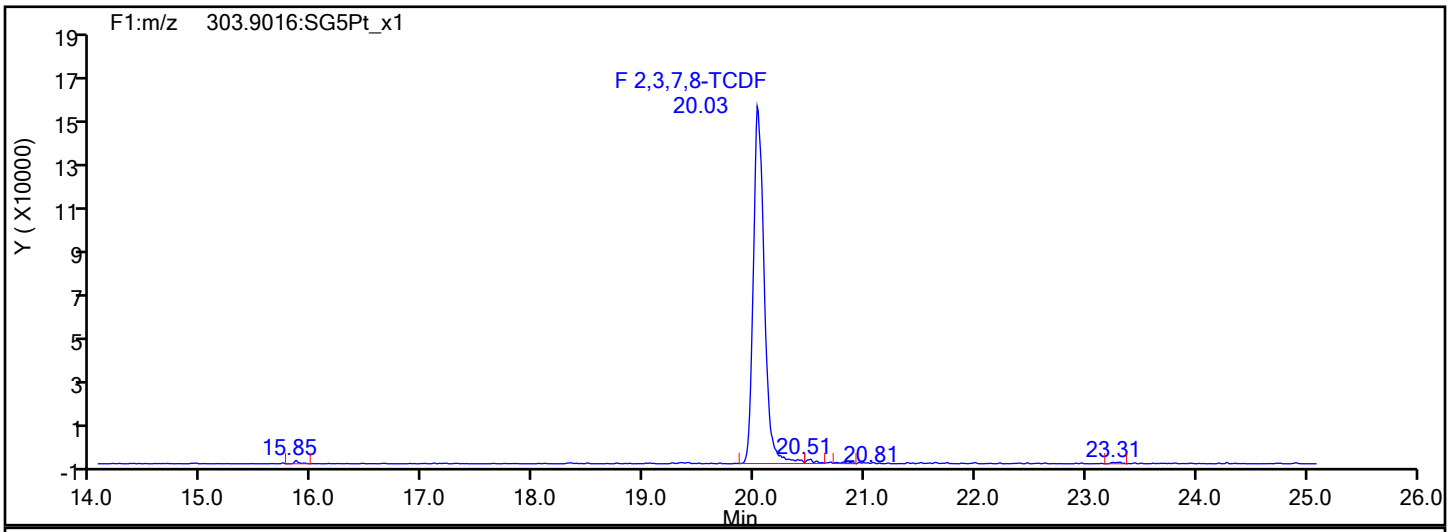


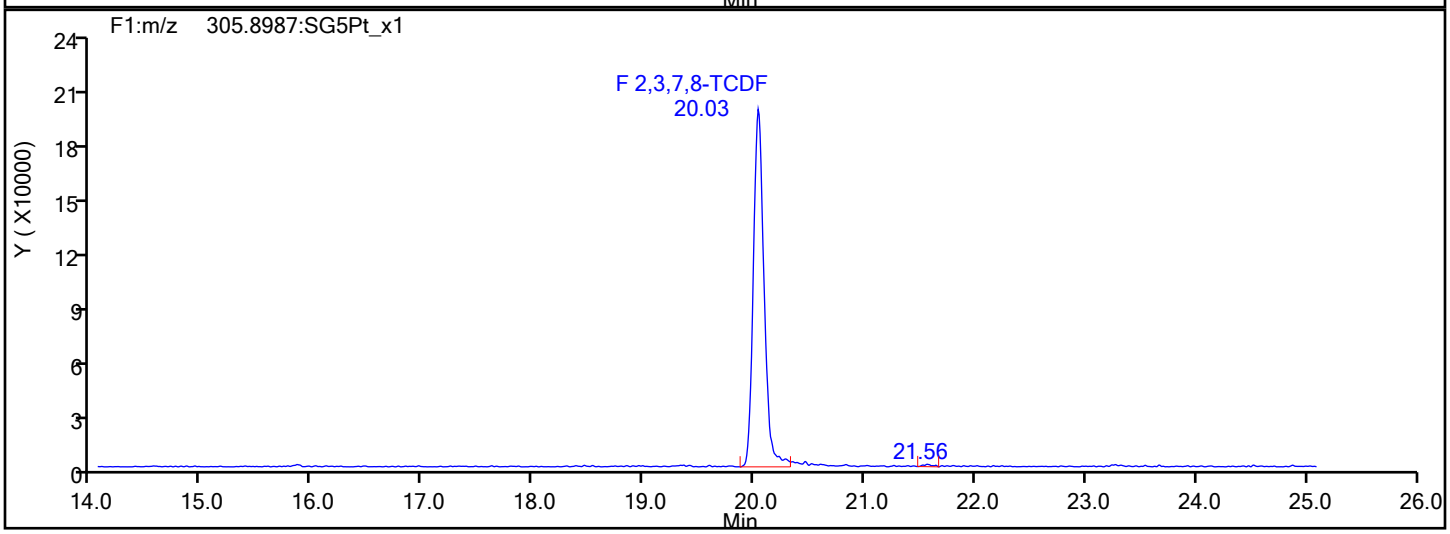


Eurofins TestAmerica, Sacramento

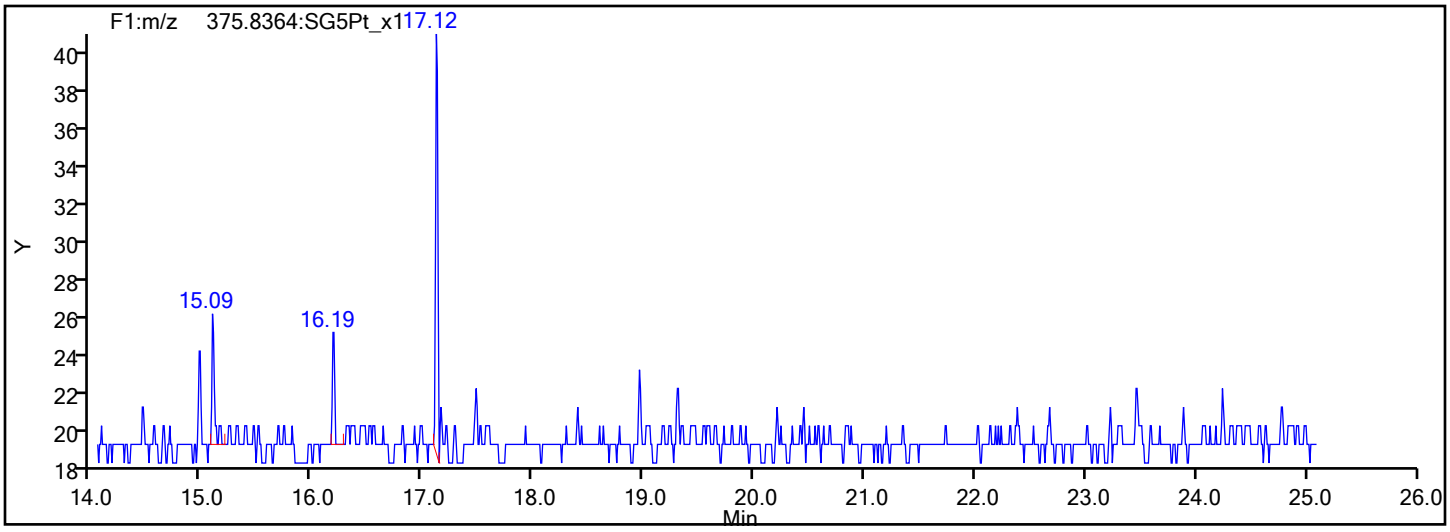
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





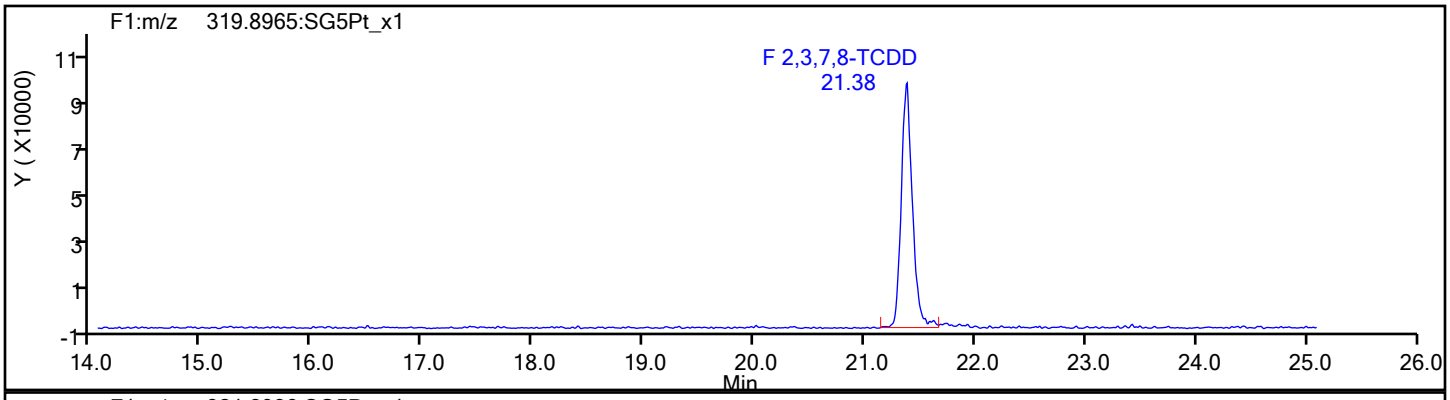
TCDF Interference Mass

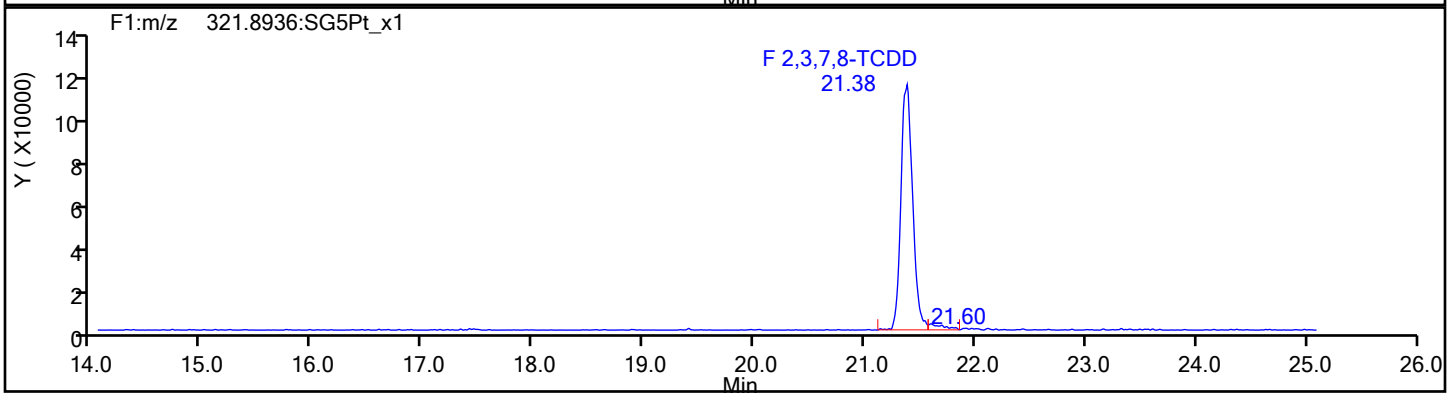


Eurofins TestAmerica, Sacramento

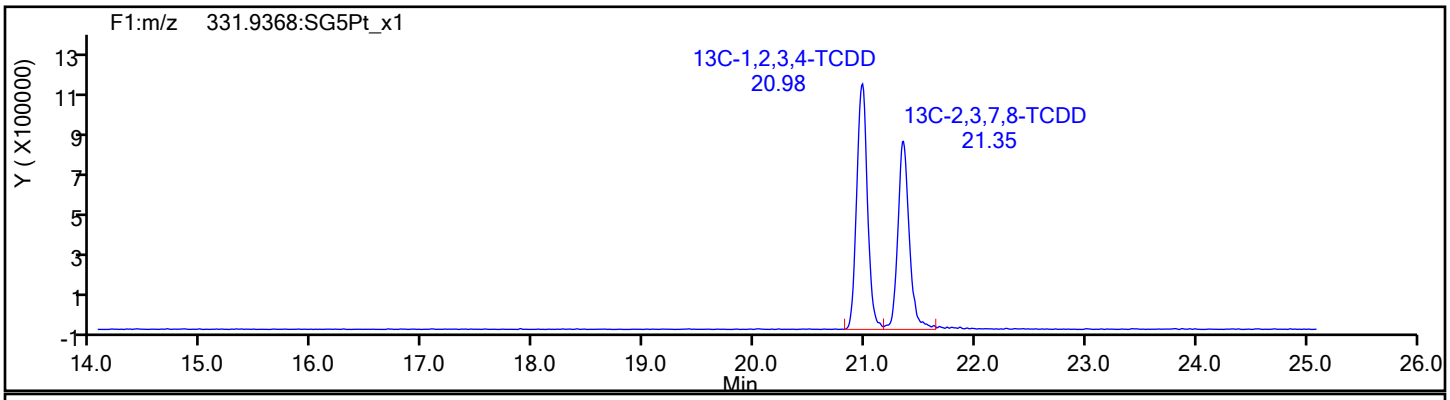
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

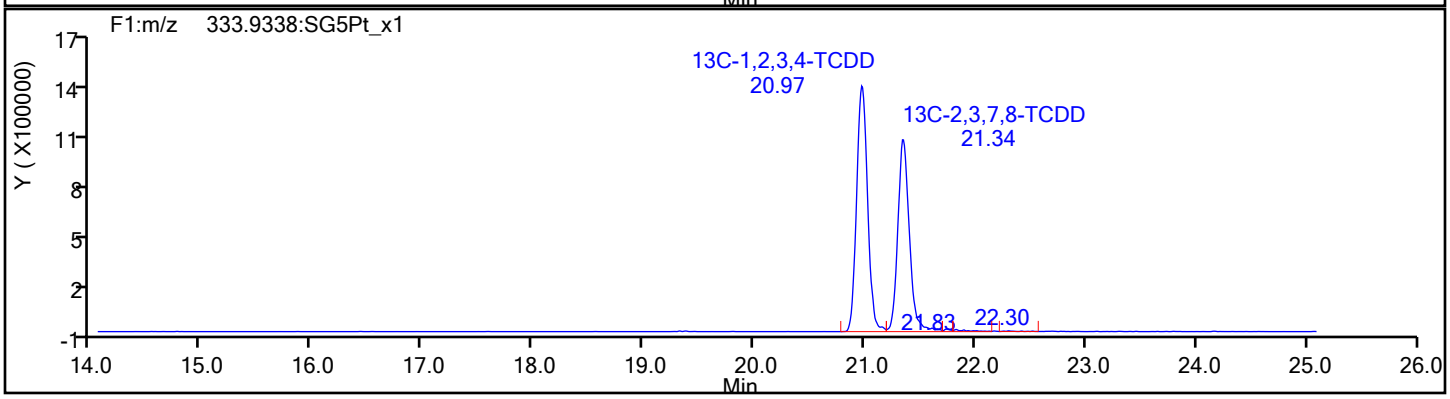
TCDD





TCDD Standards

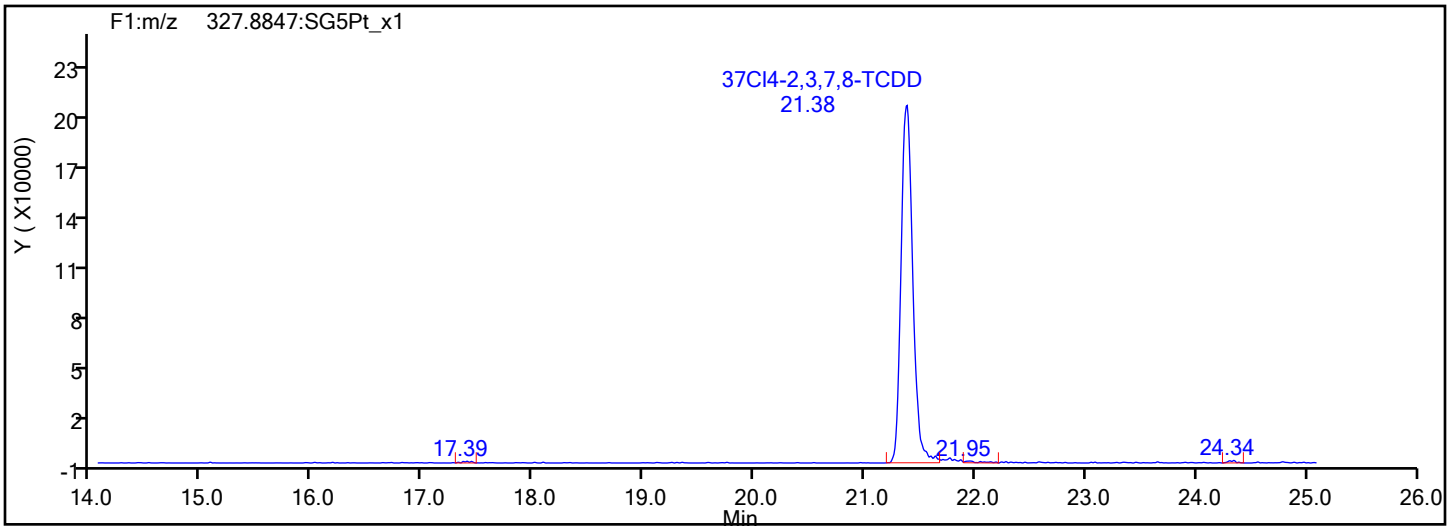




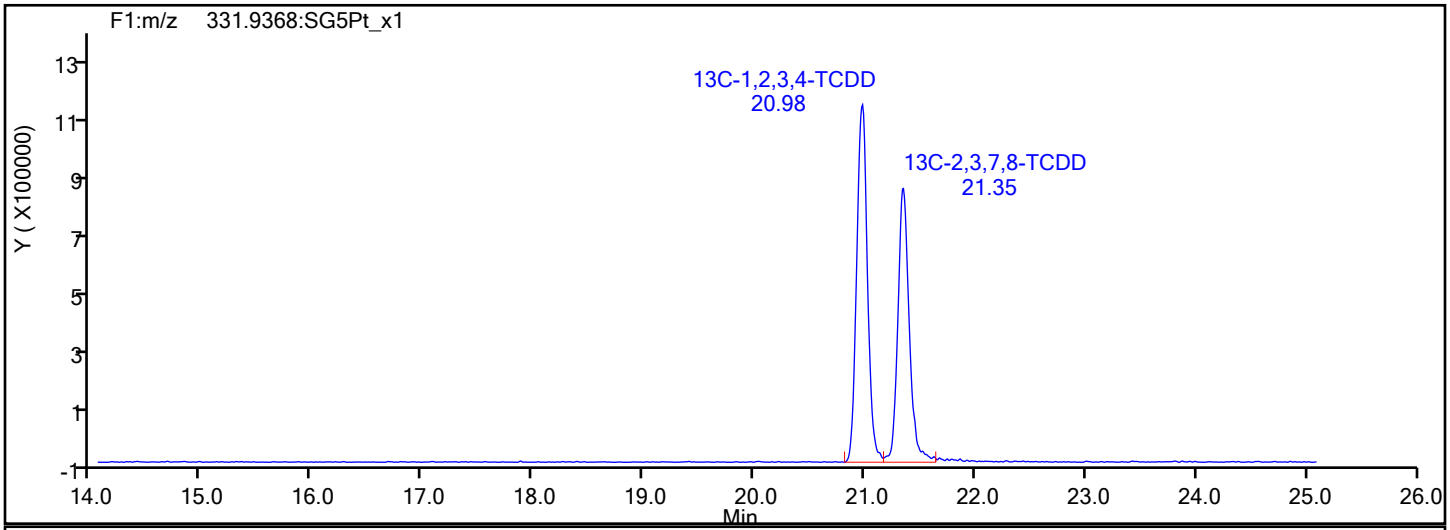
Eurofins TestAmerica, Sacramento

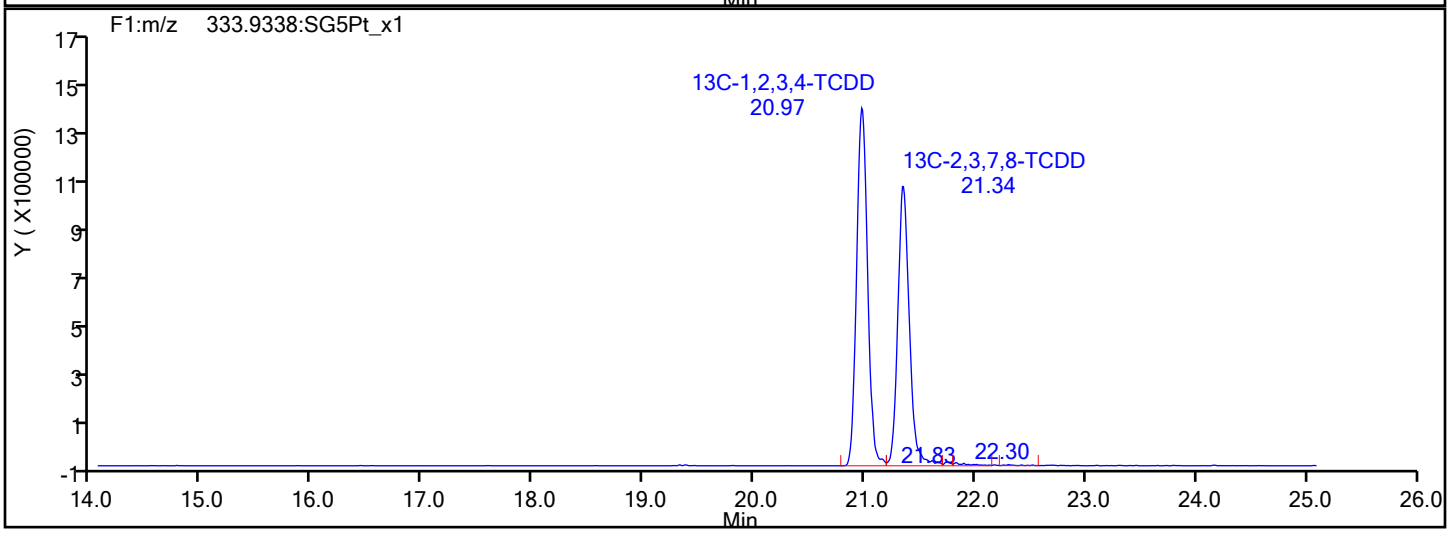
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



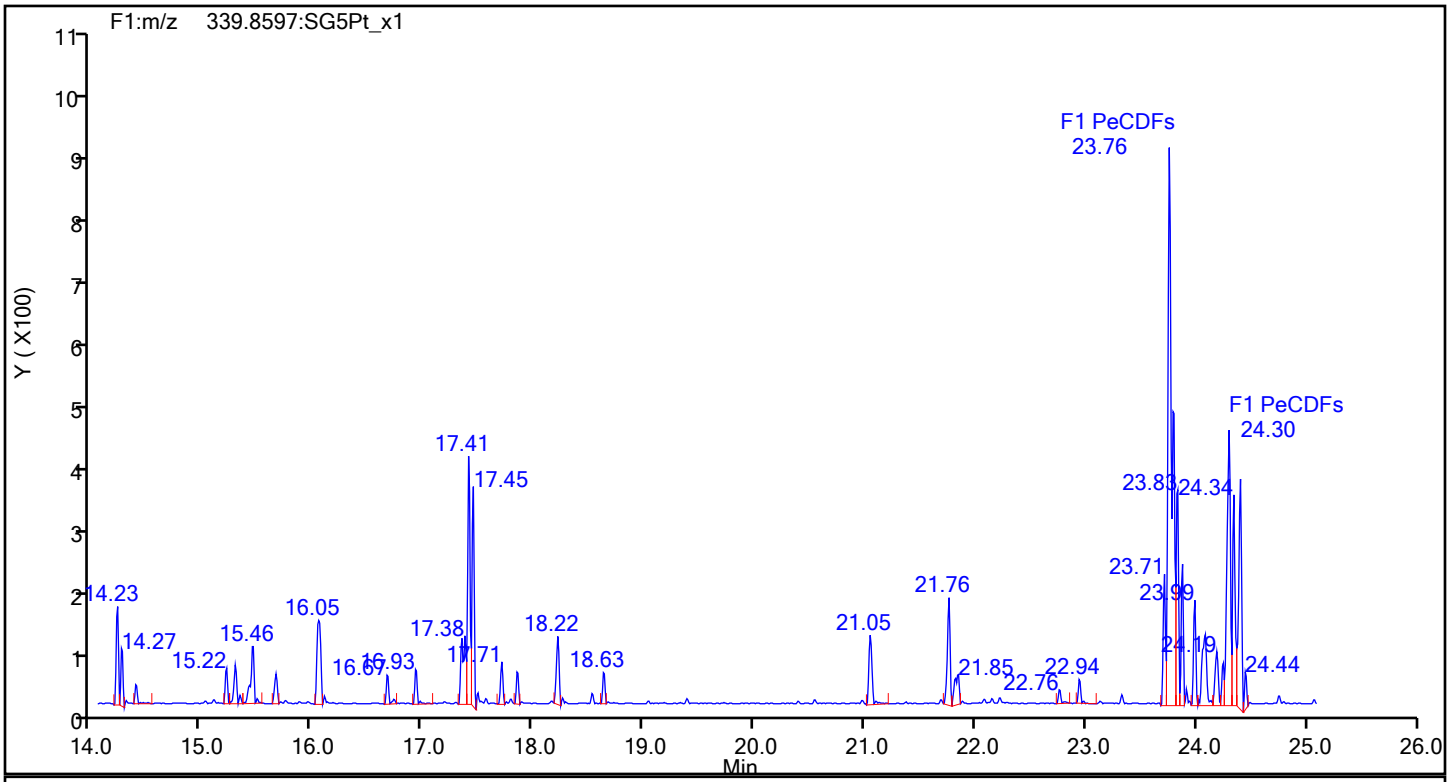


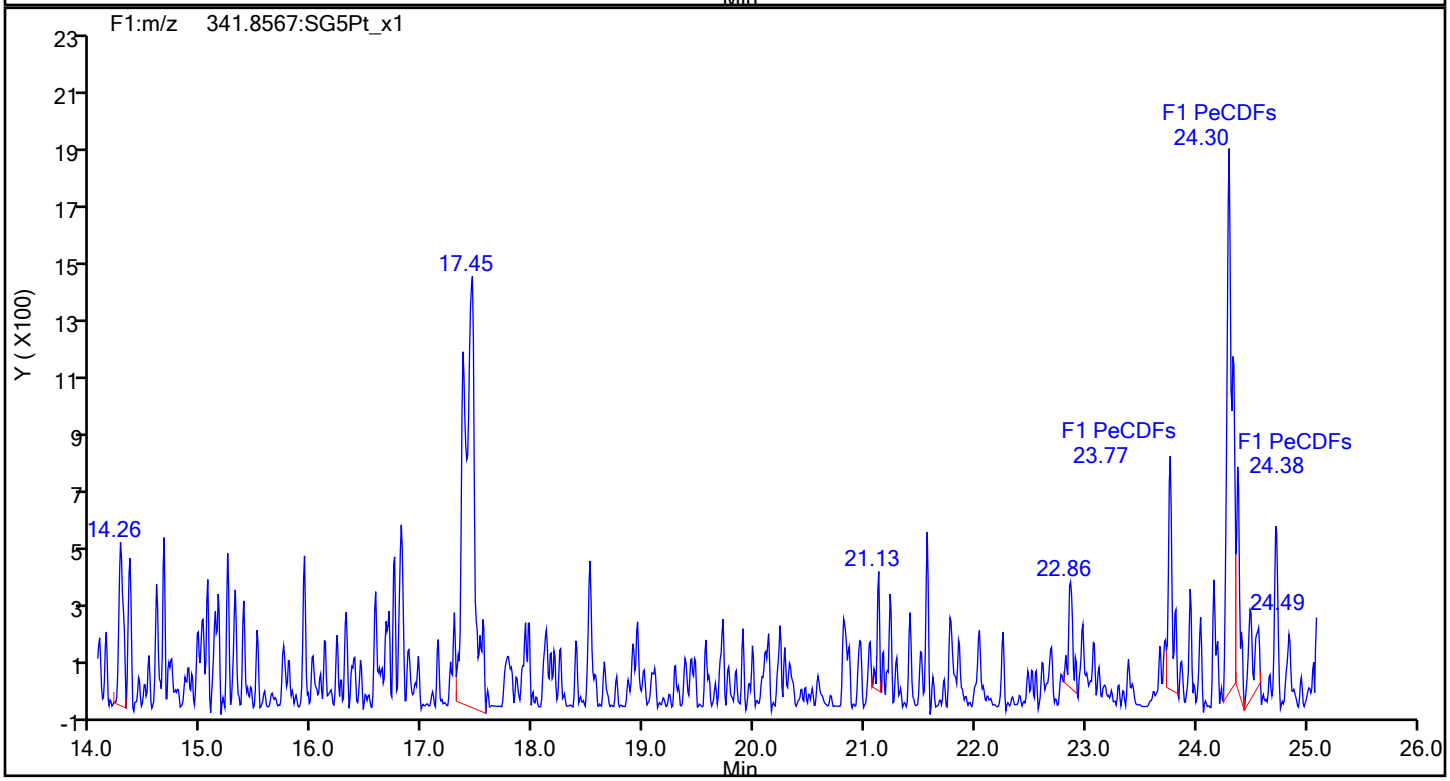
Report Date: 28-Dec-2021 14:24:25 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



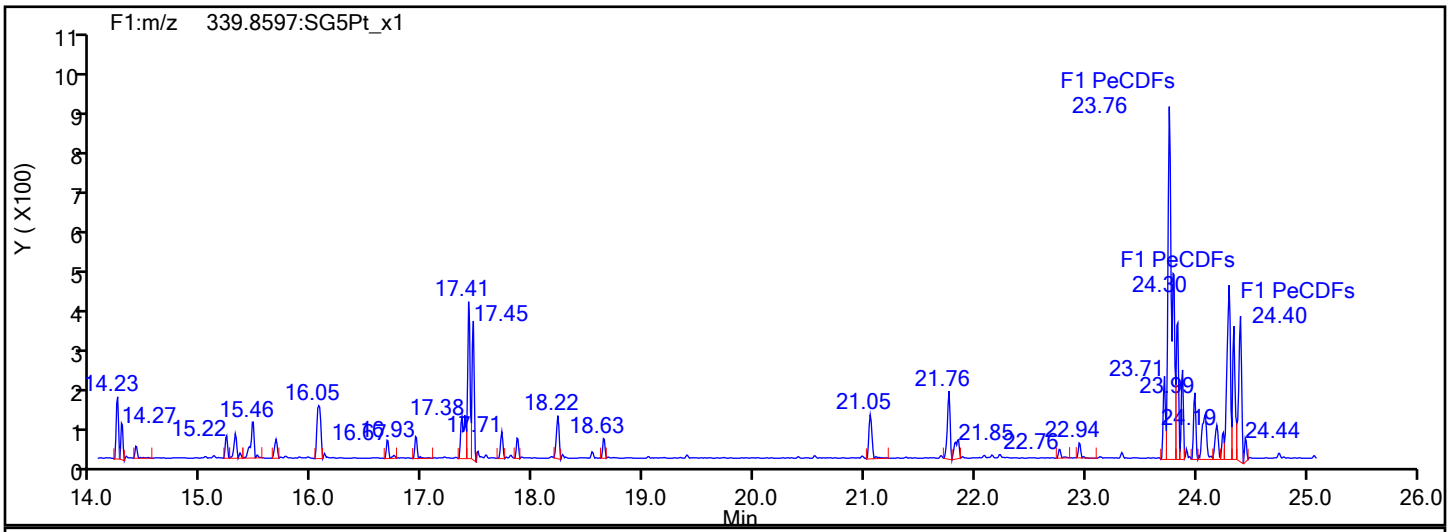


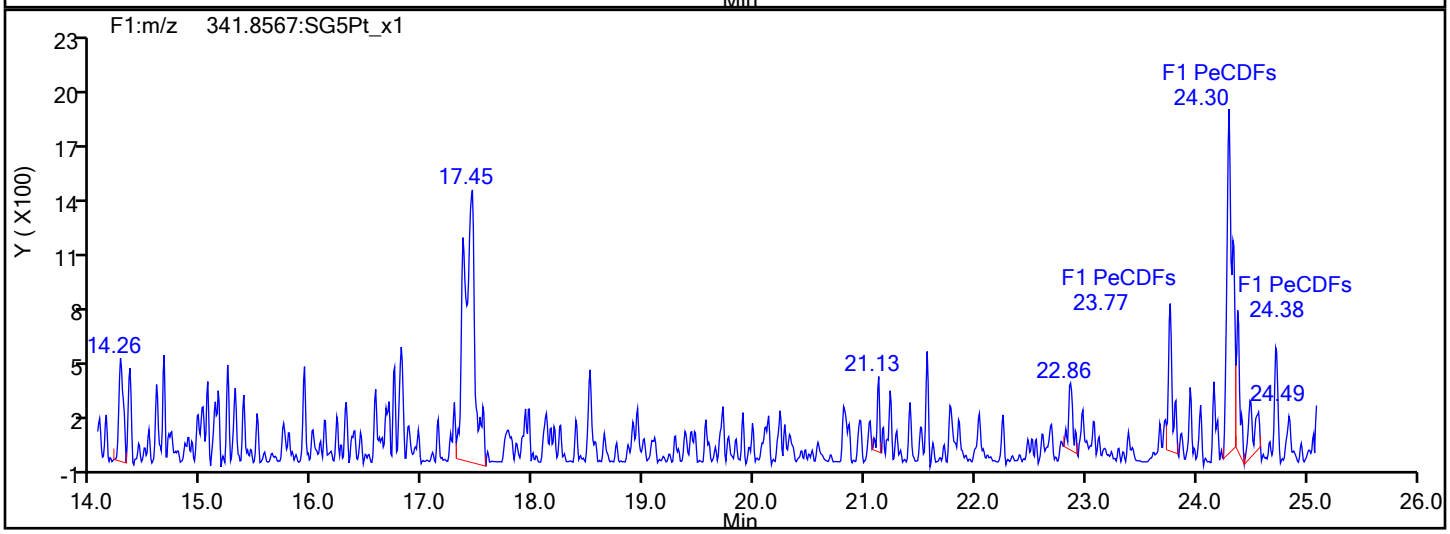
Report Date: 28-Dec-2021 14:24:25 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

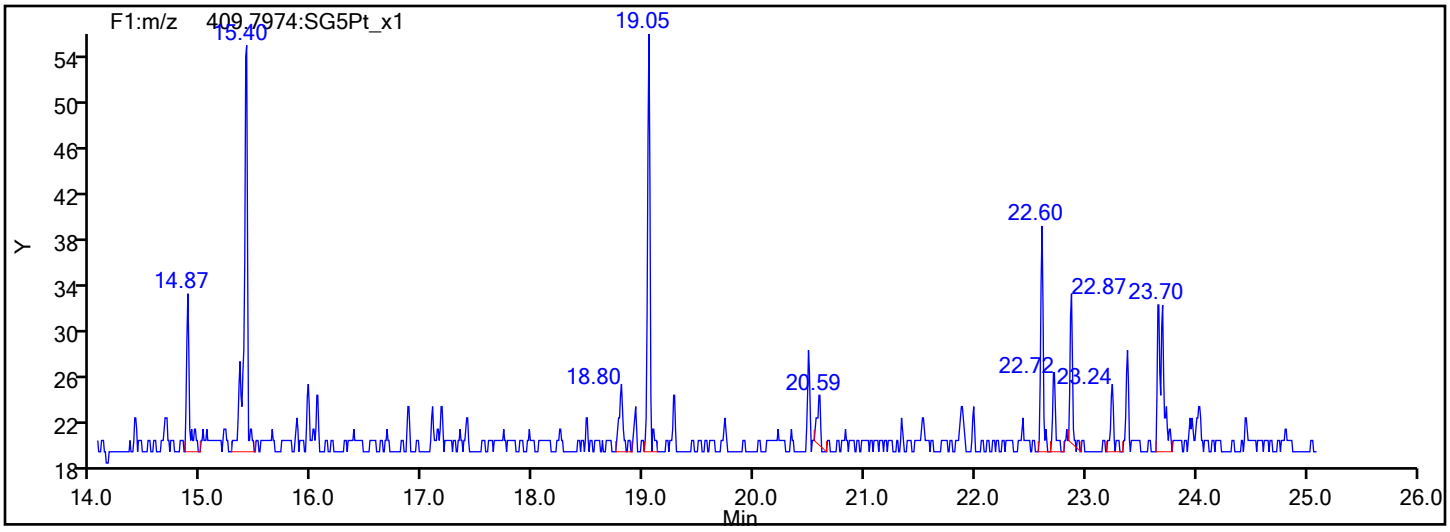
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





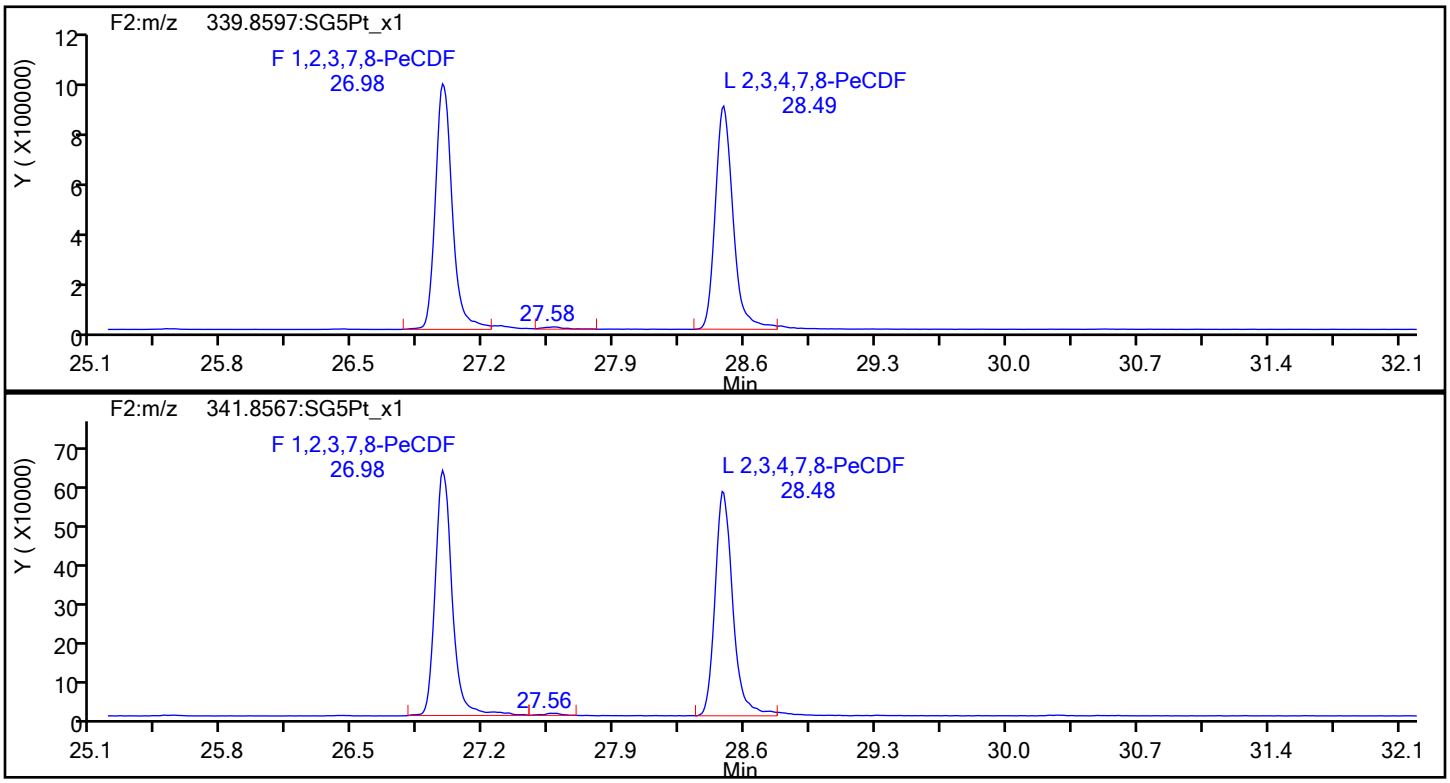
F1 PeCDFs Interference Mass



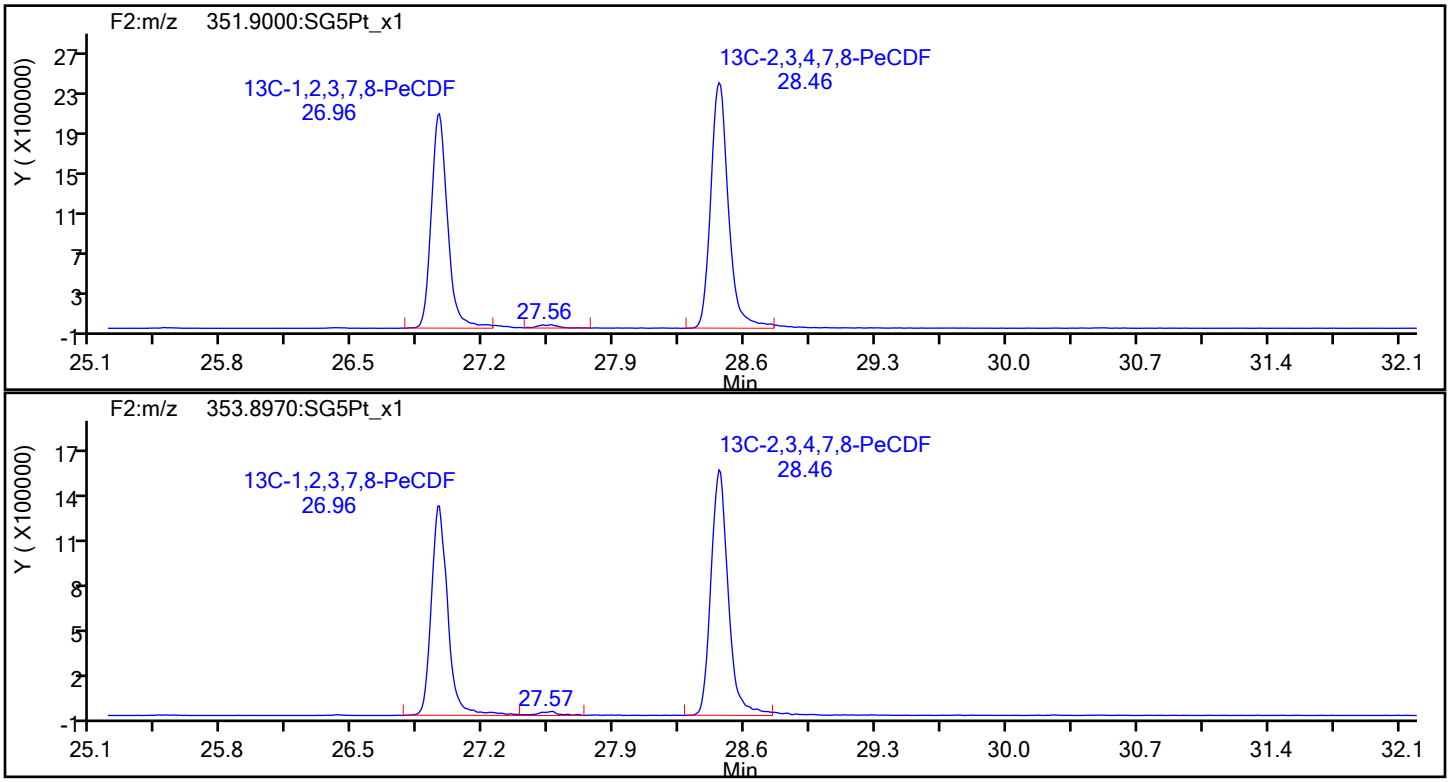
Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



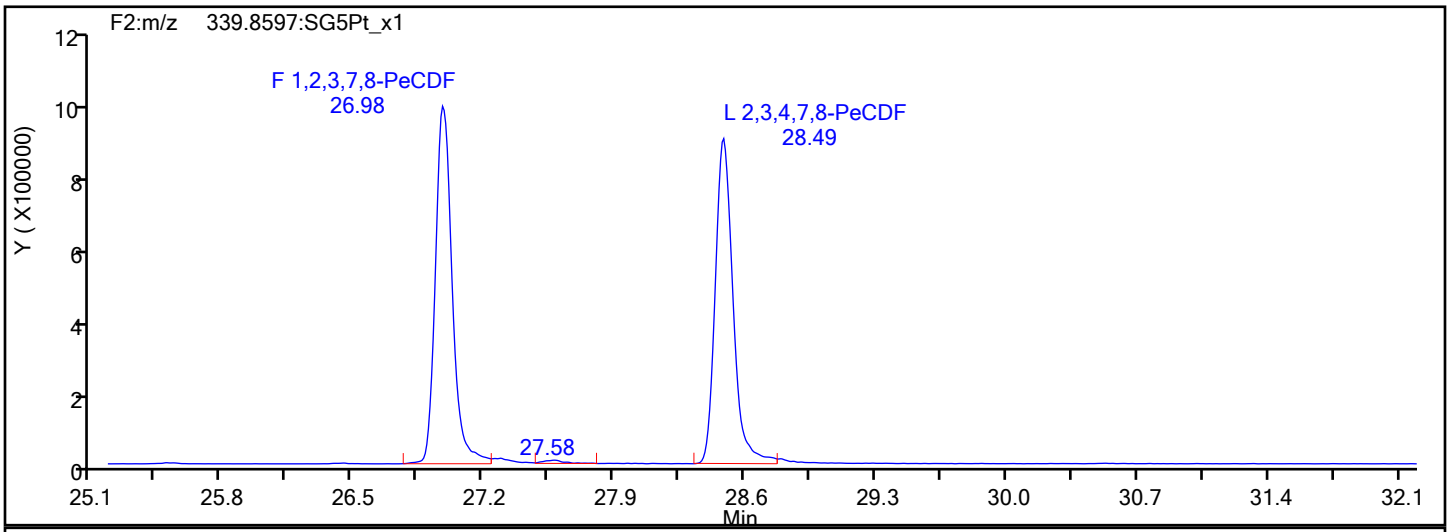
PeCDF Standards

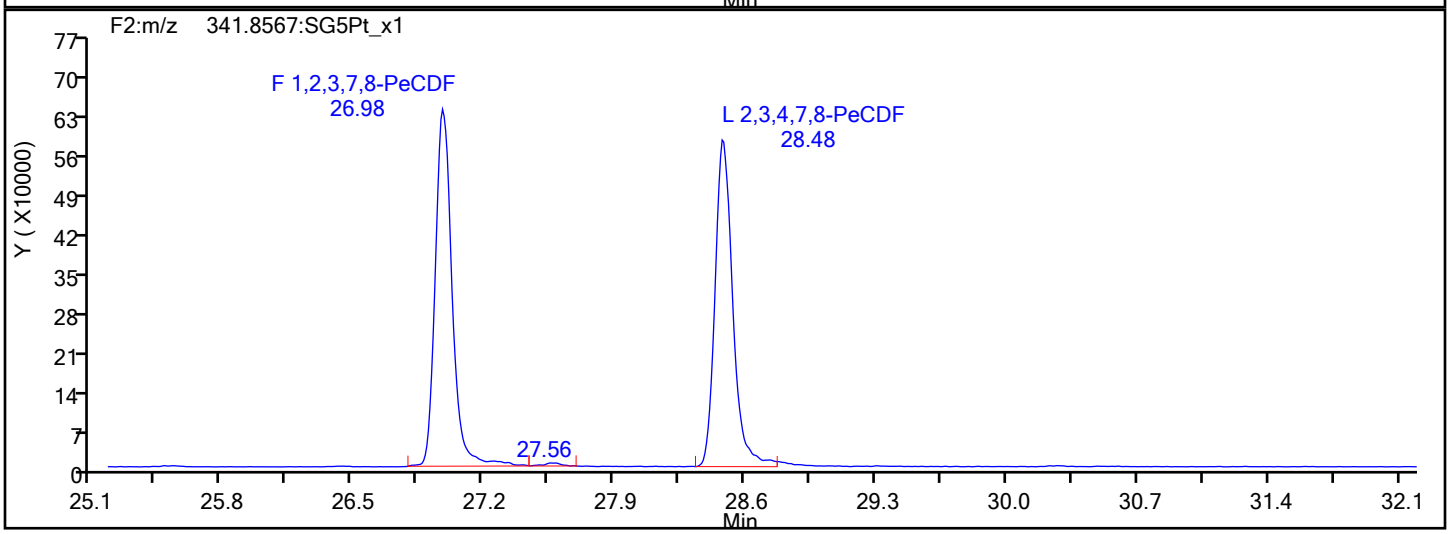


Eurofins TestAmerica, Sacramento

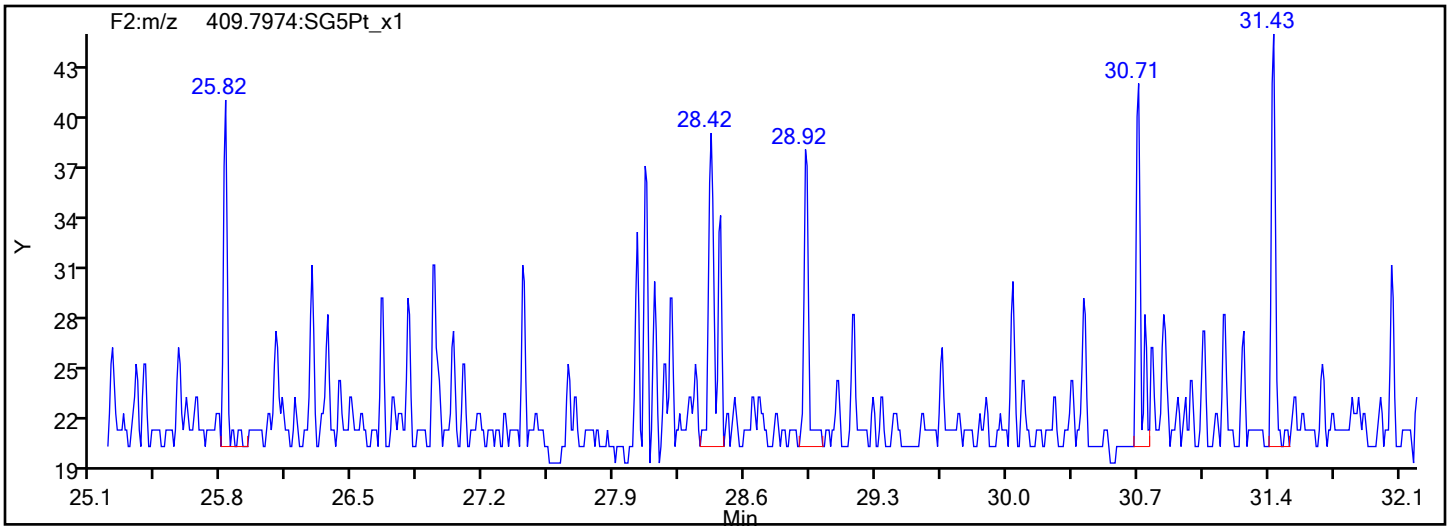
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



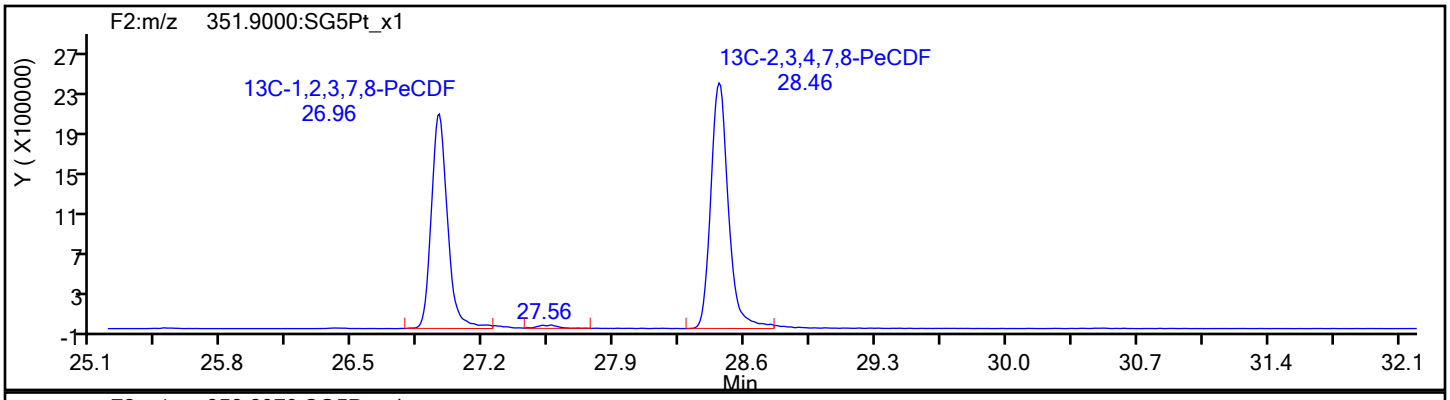
Report Date: 28-Dec-2021 14:24:26 Chrom Revision: 2.3 15-Nov-2021 20:34:30

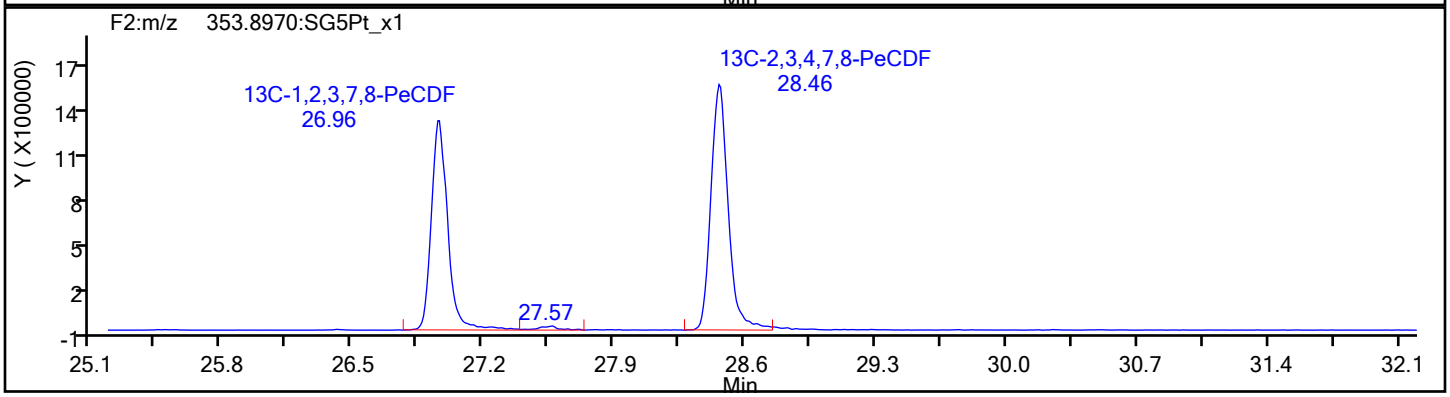
Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d

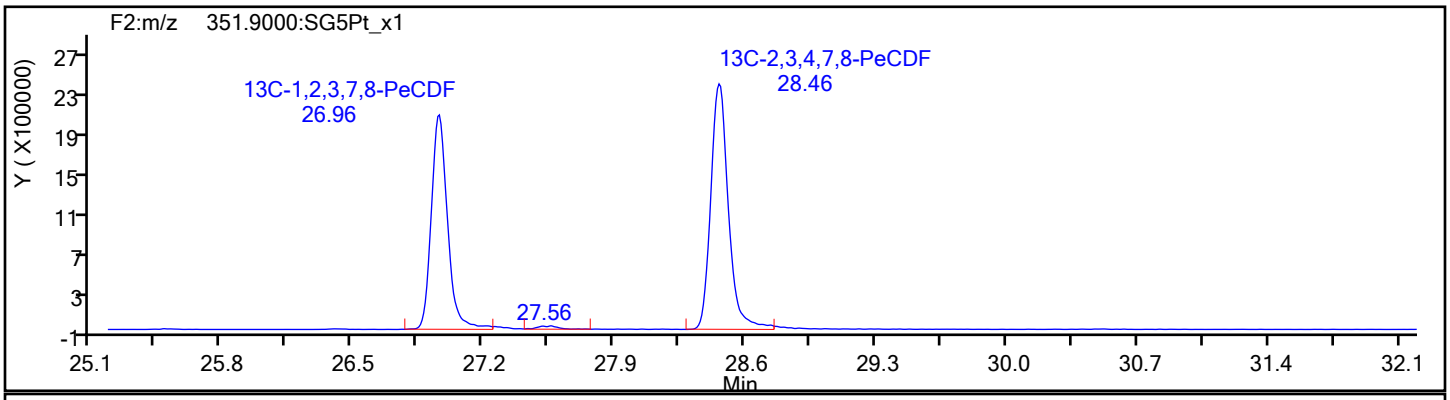
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

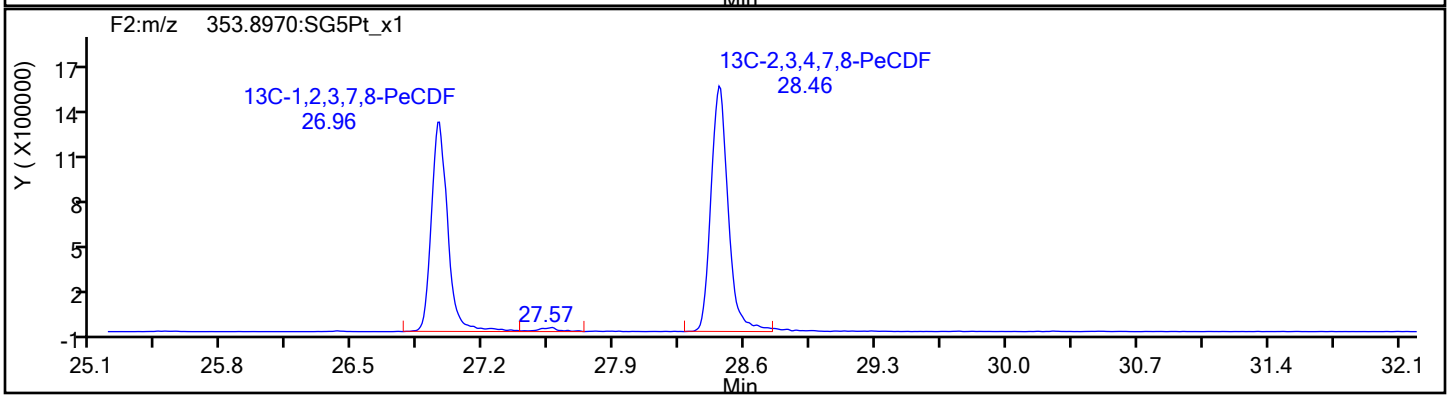
13C-PeCDF





13C-PeCDF Standards





Report Date: 28-Dec-2021 14:24:26 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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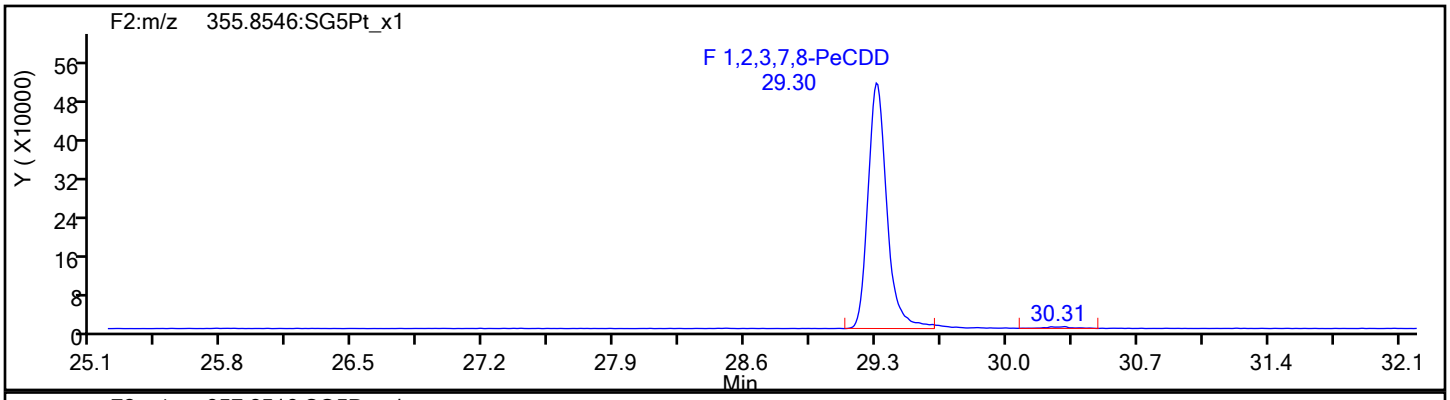
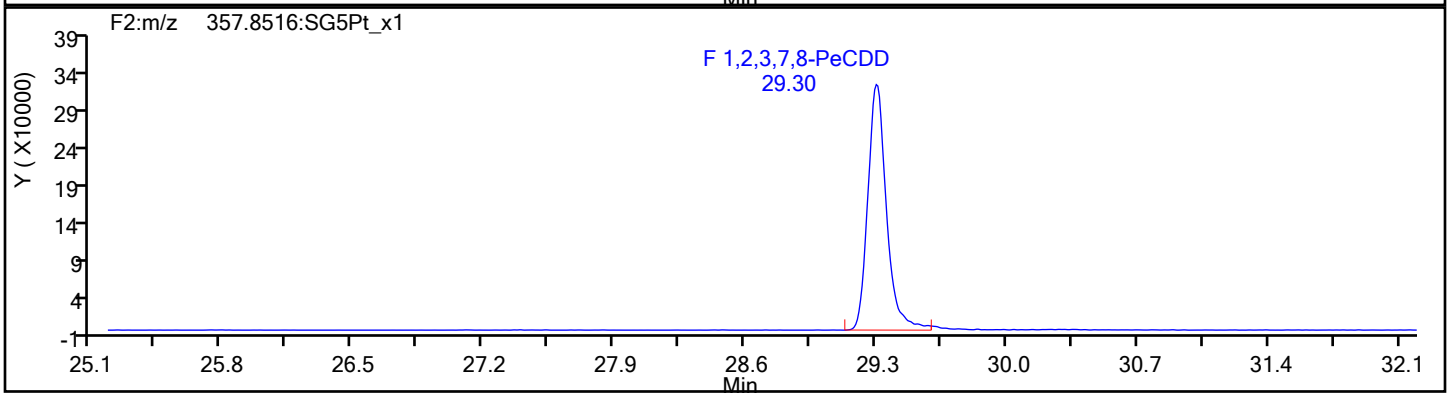
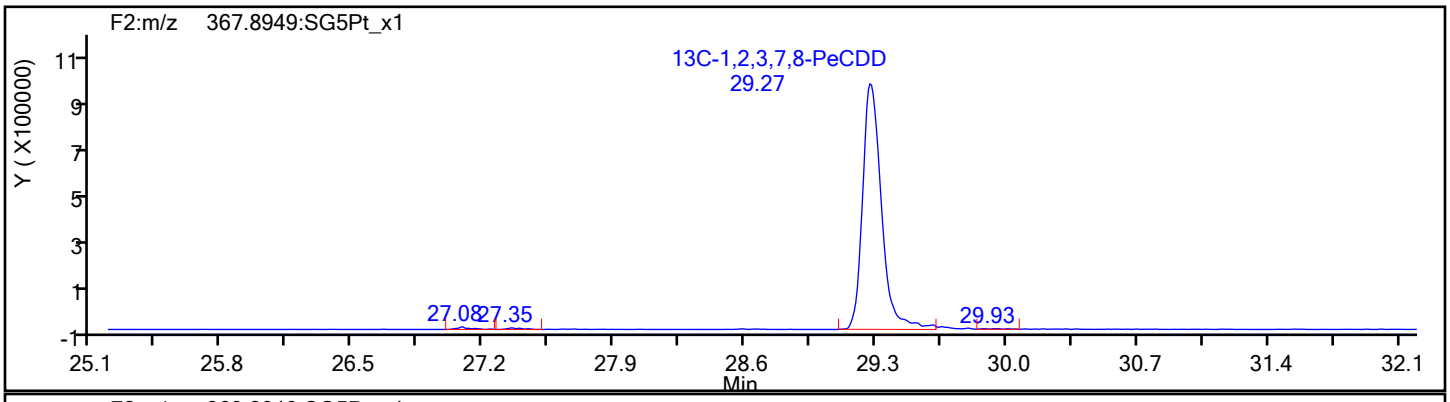
Column Type:	DB-5	Column Dia:	0.32 mm

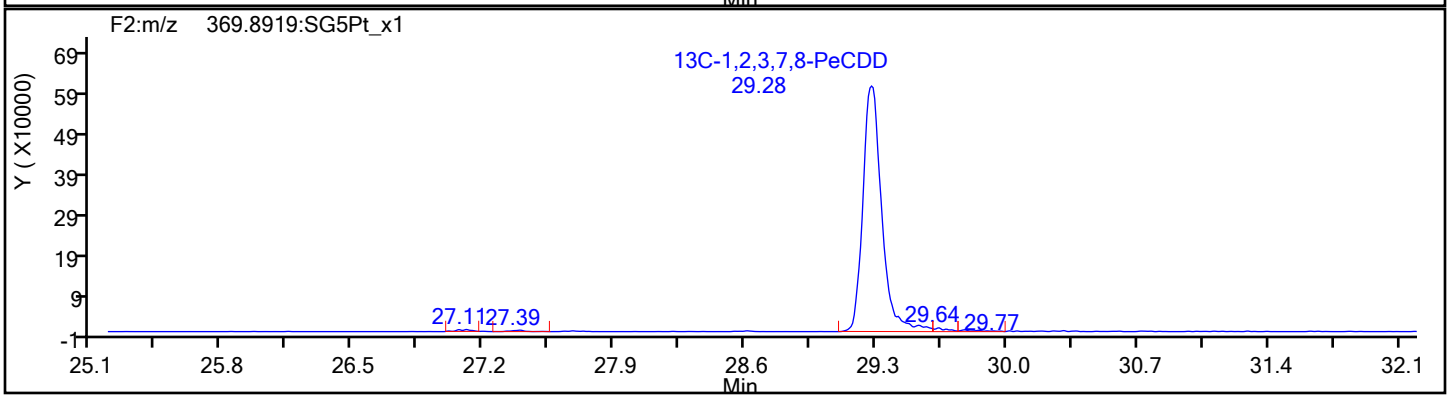
PeCDD





PeCDD Standards





Report Date: 28-Dec-2021 14:24:26 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
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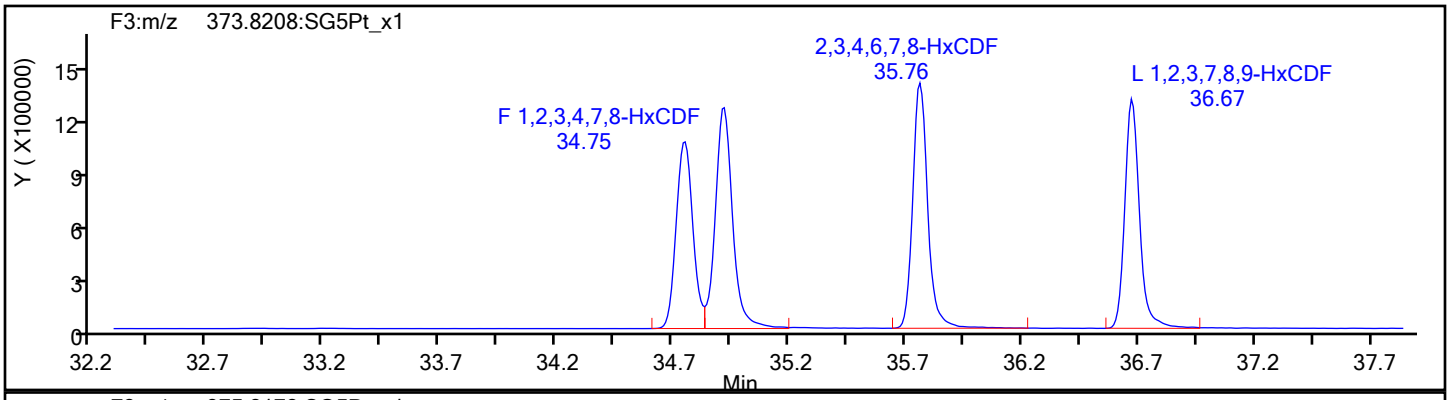
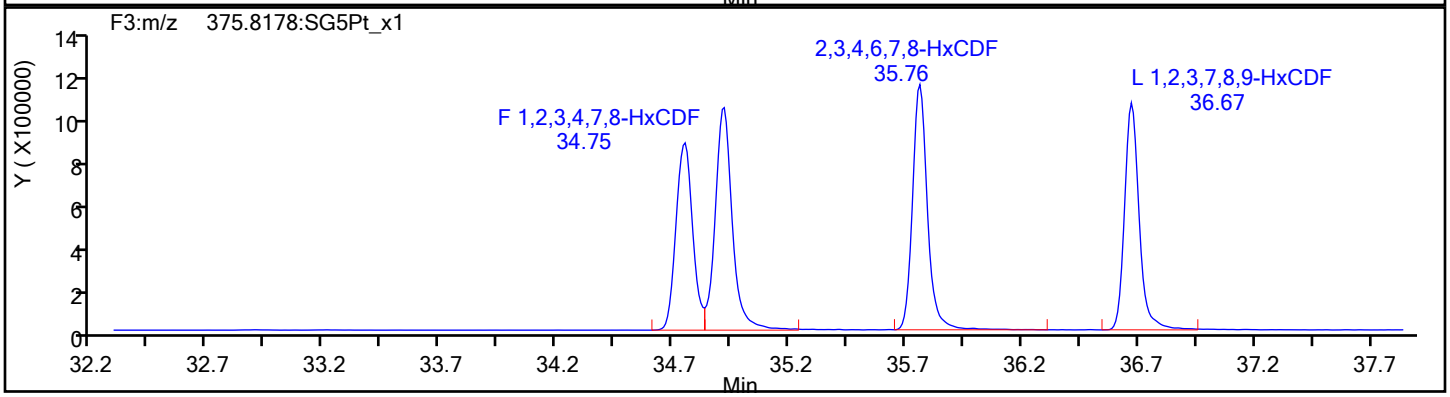
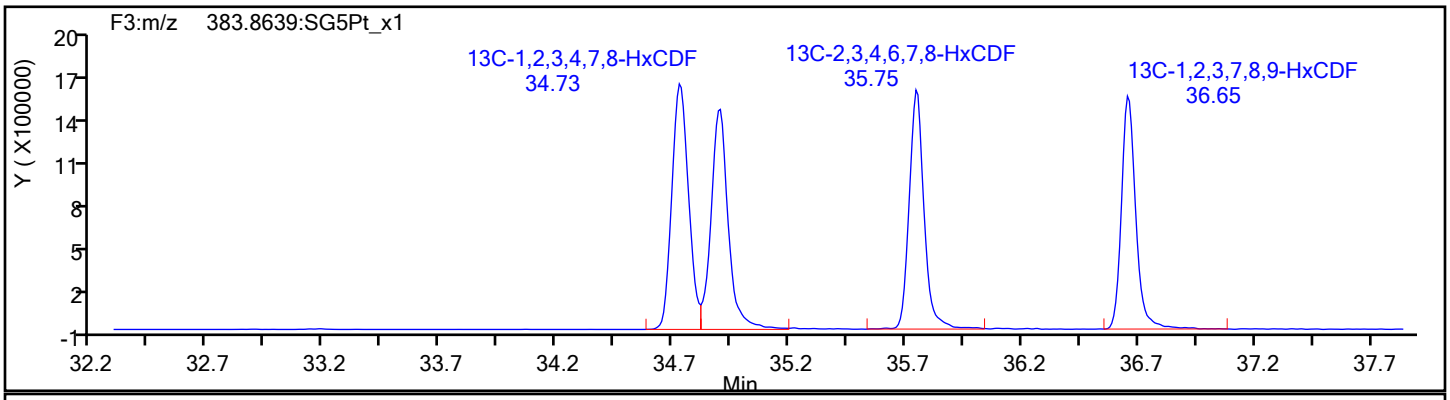
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

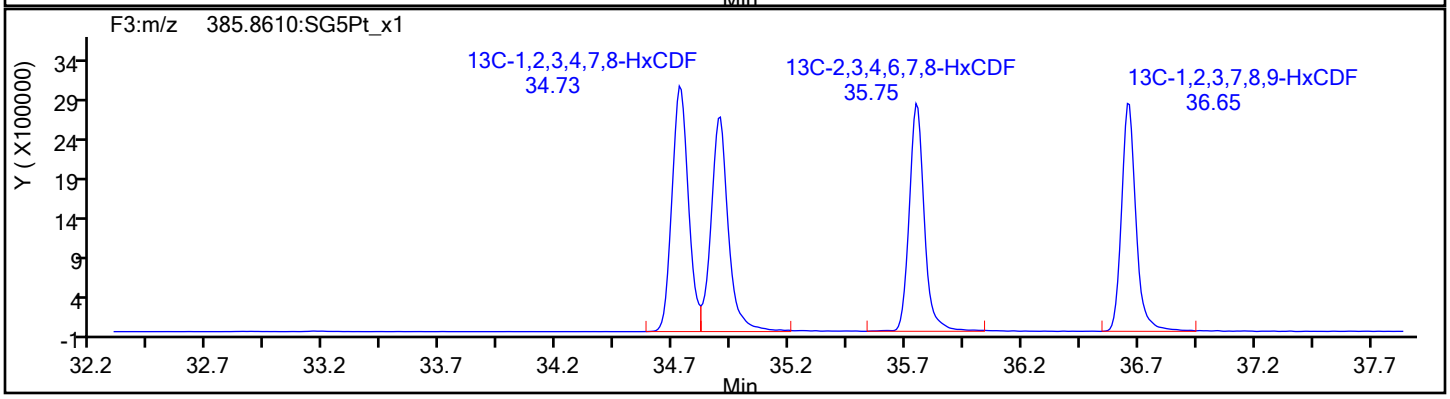
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
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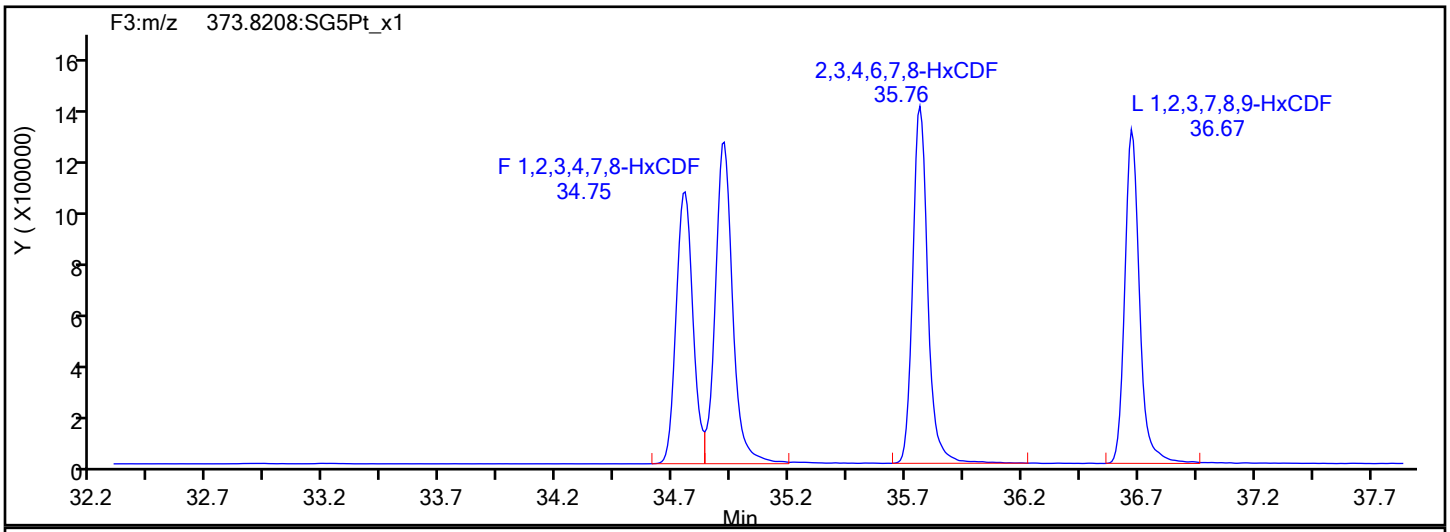
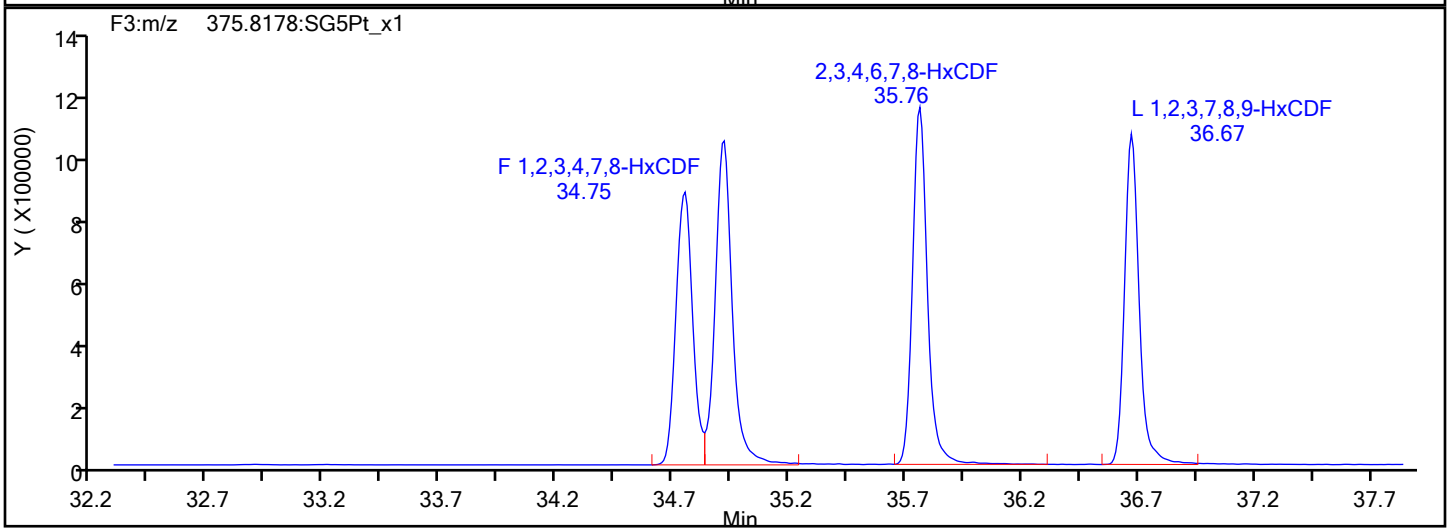
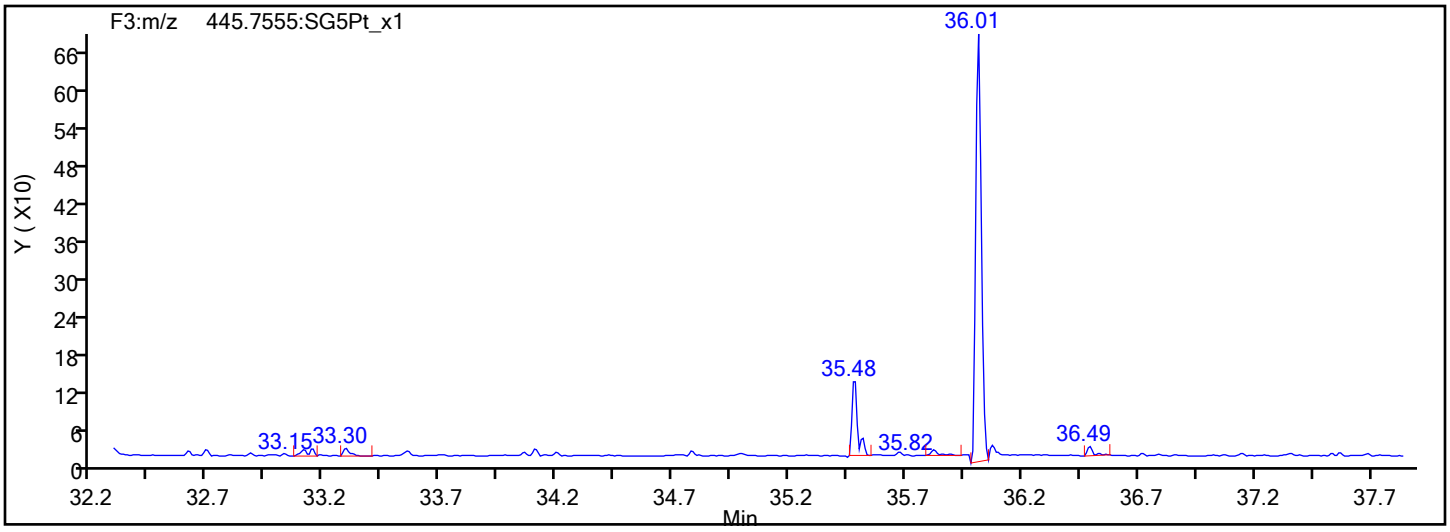
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
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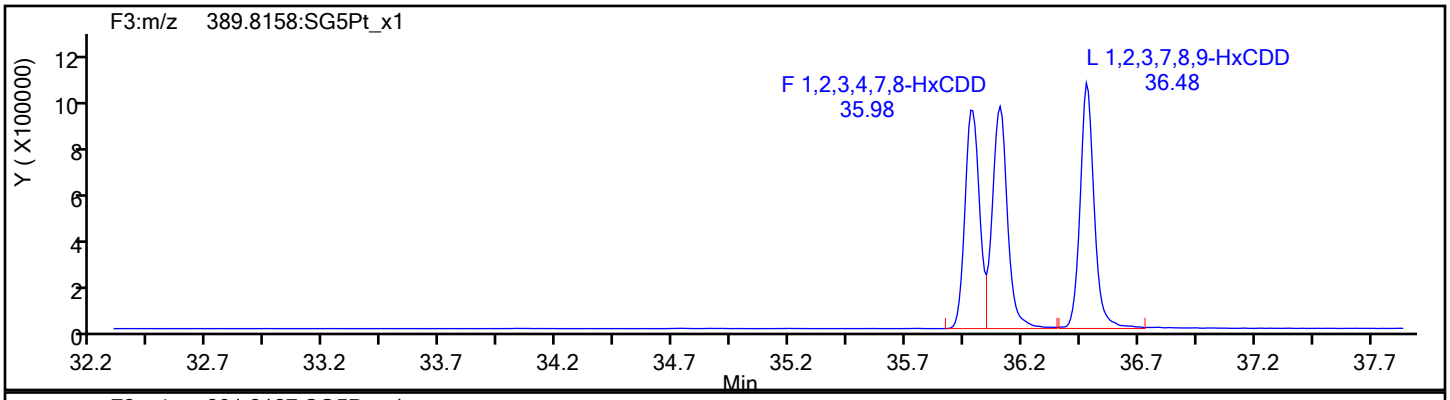
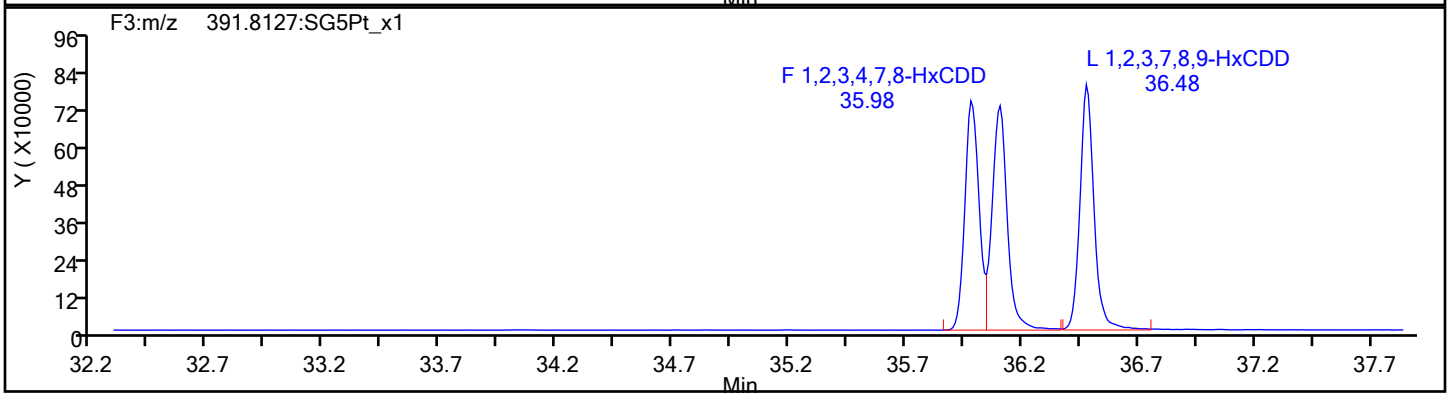
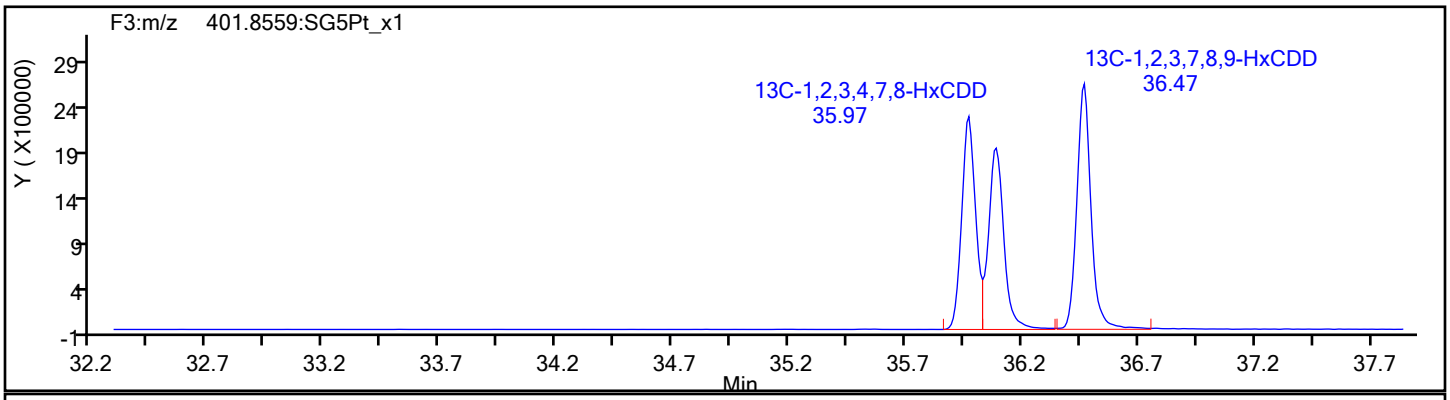
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

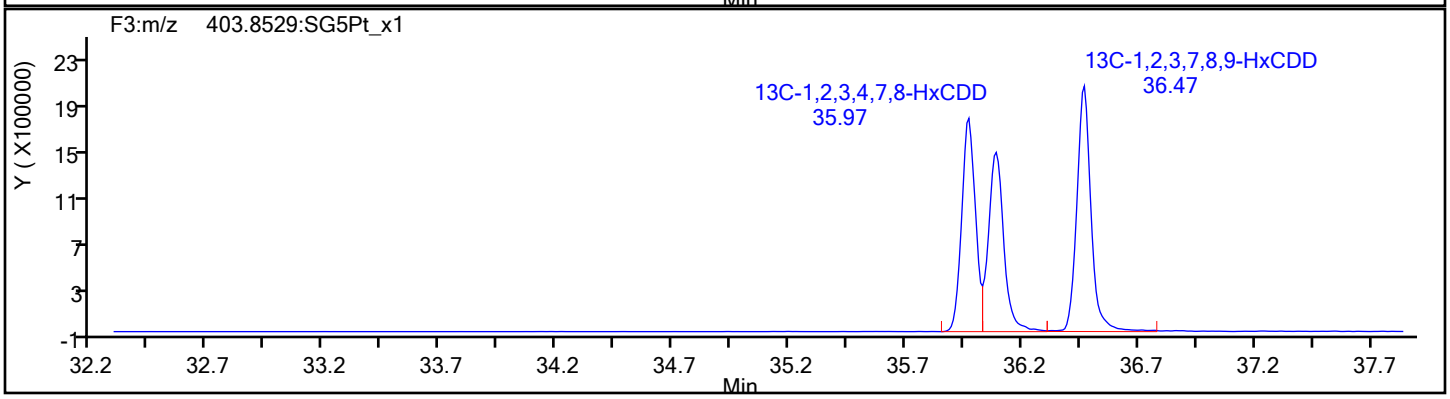
HxCDD





HxCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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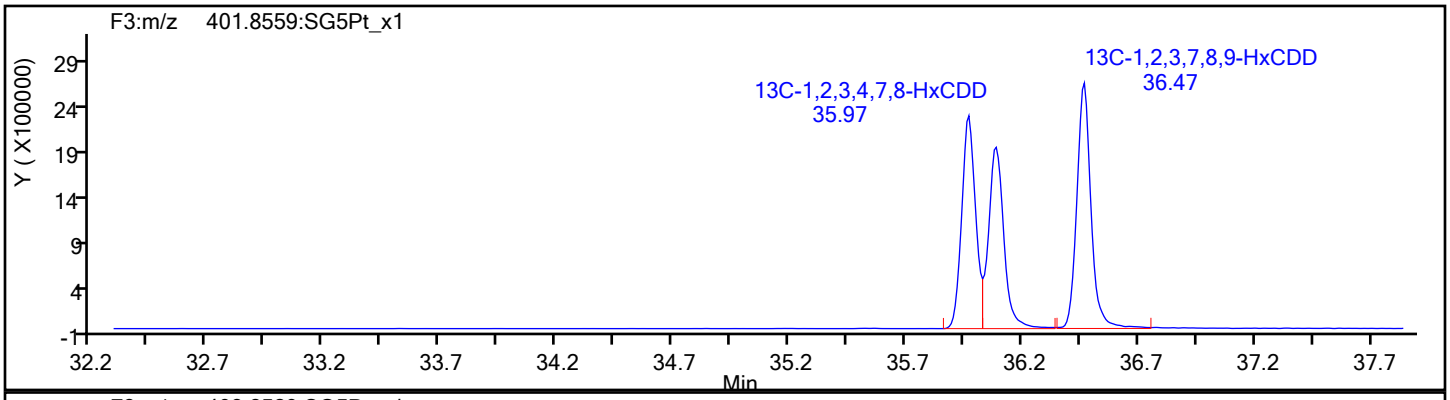
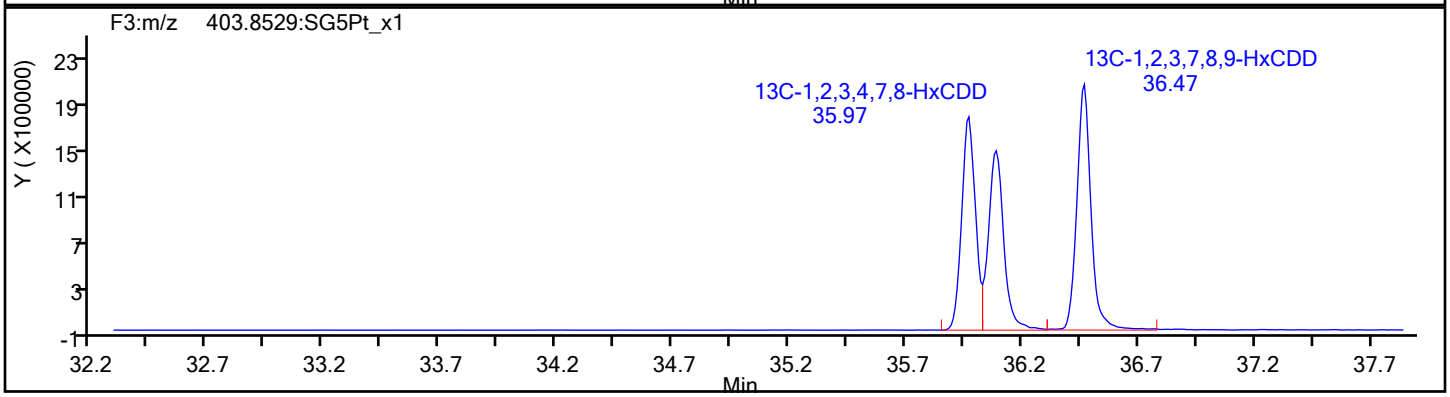
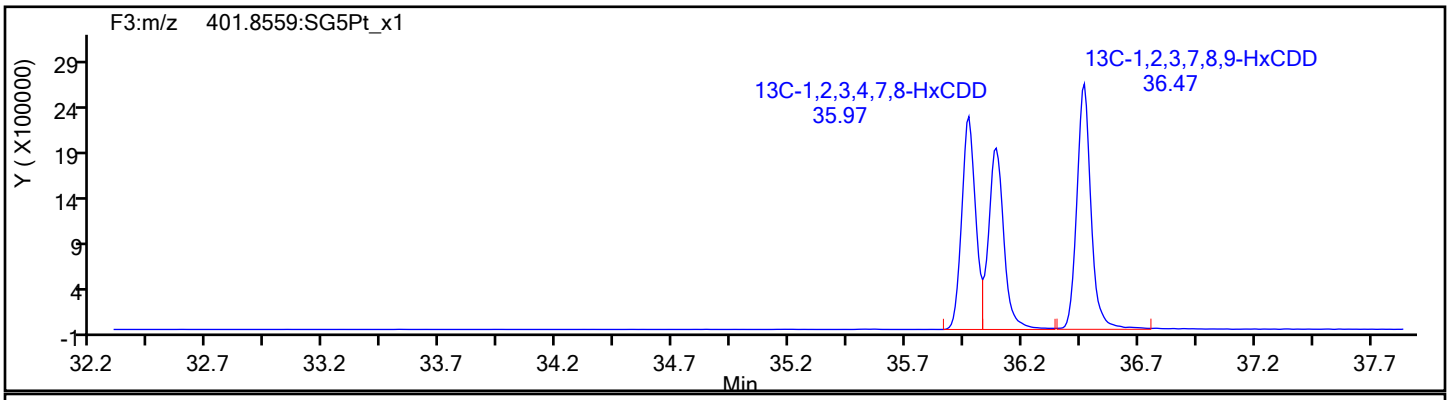
Column Type:	DB-5	Column Dia:	0.32 mm

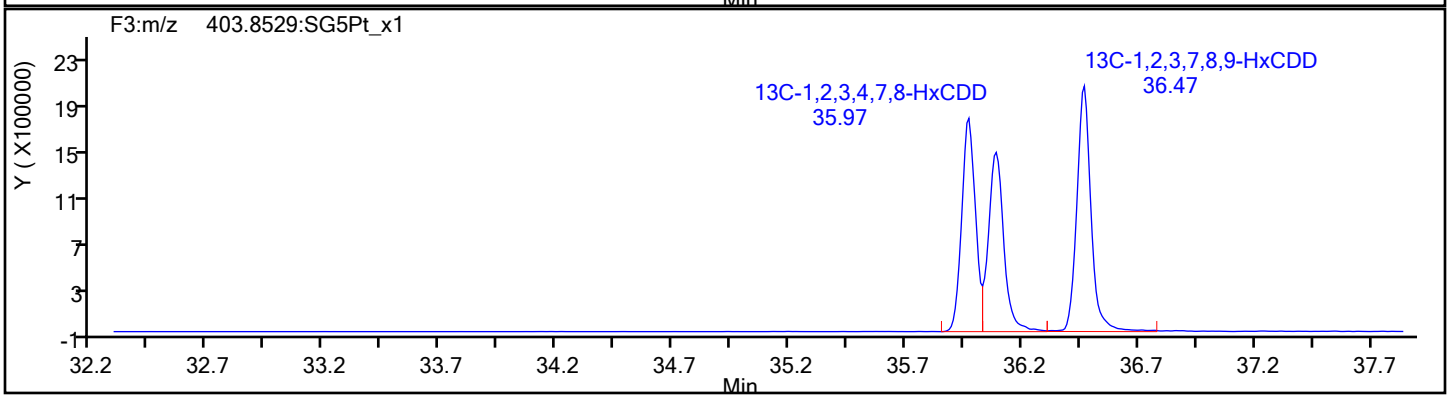
13C-HxCDD





13C-HxCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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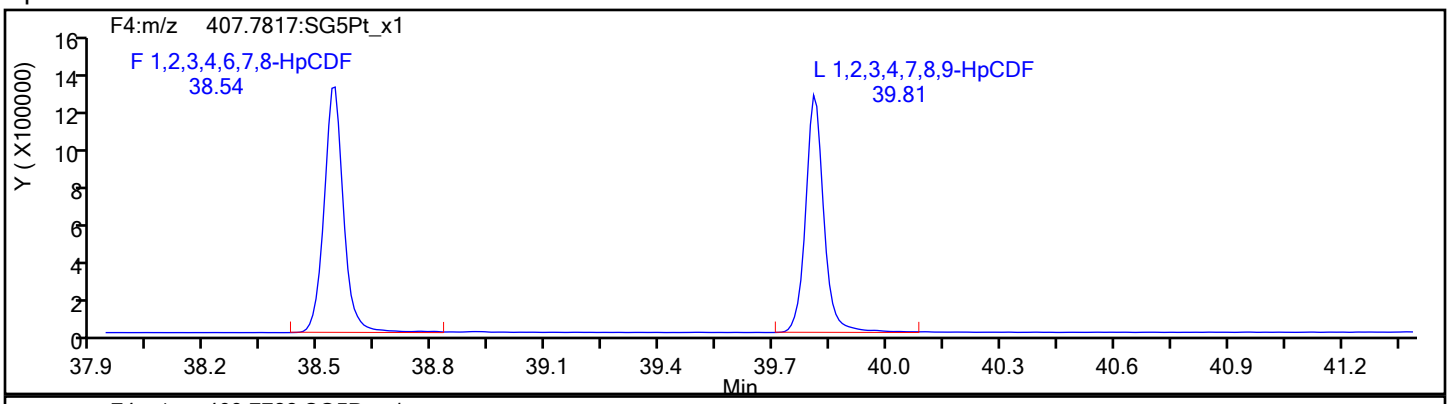
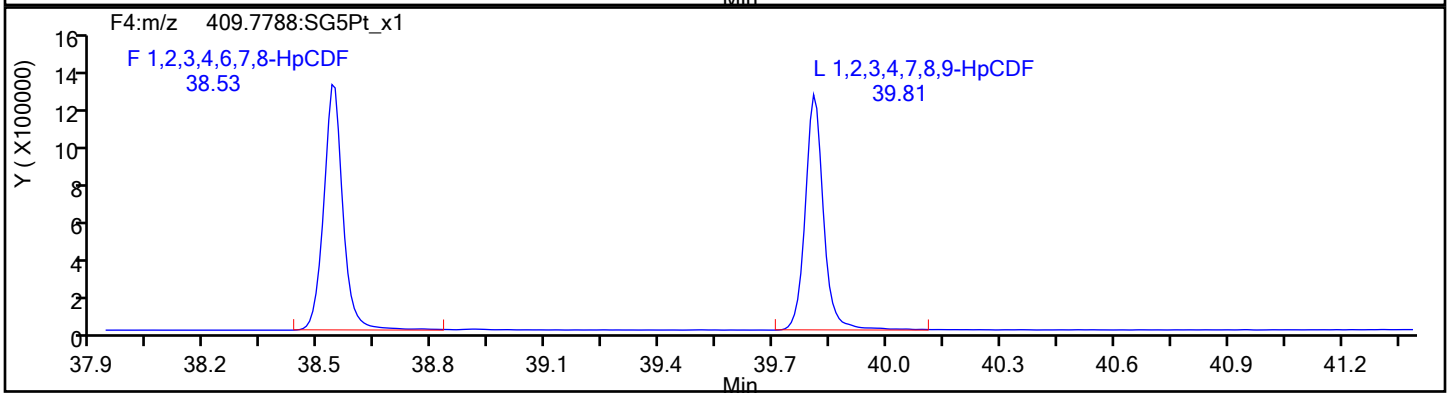
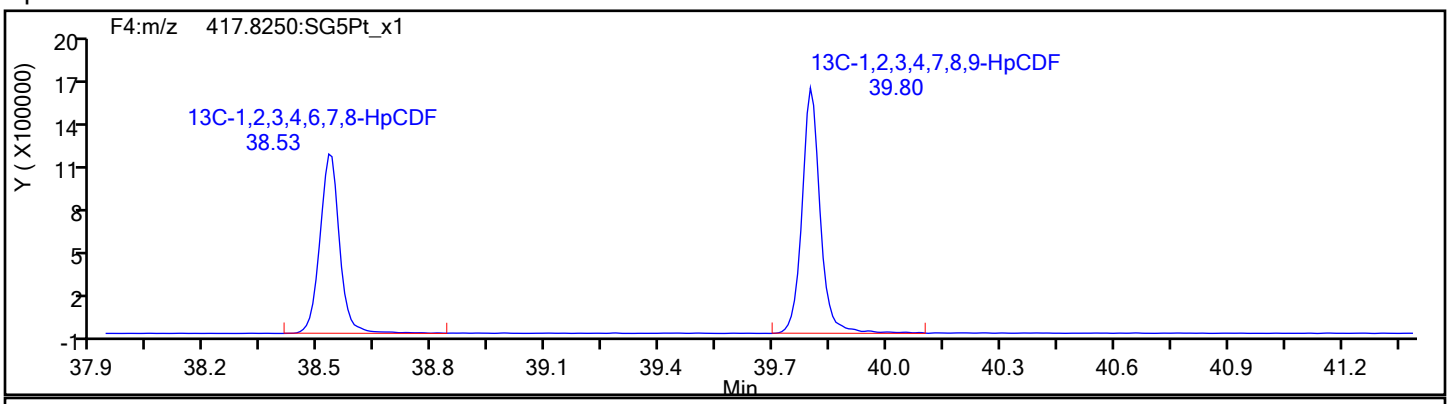
Column Type:	DB-5	Column Dia:	0.32 mm

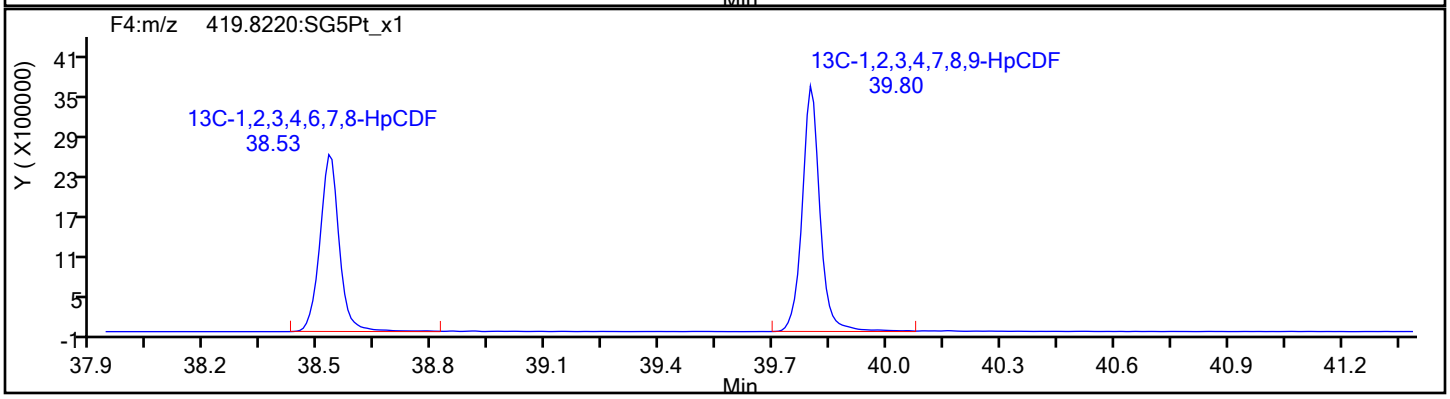
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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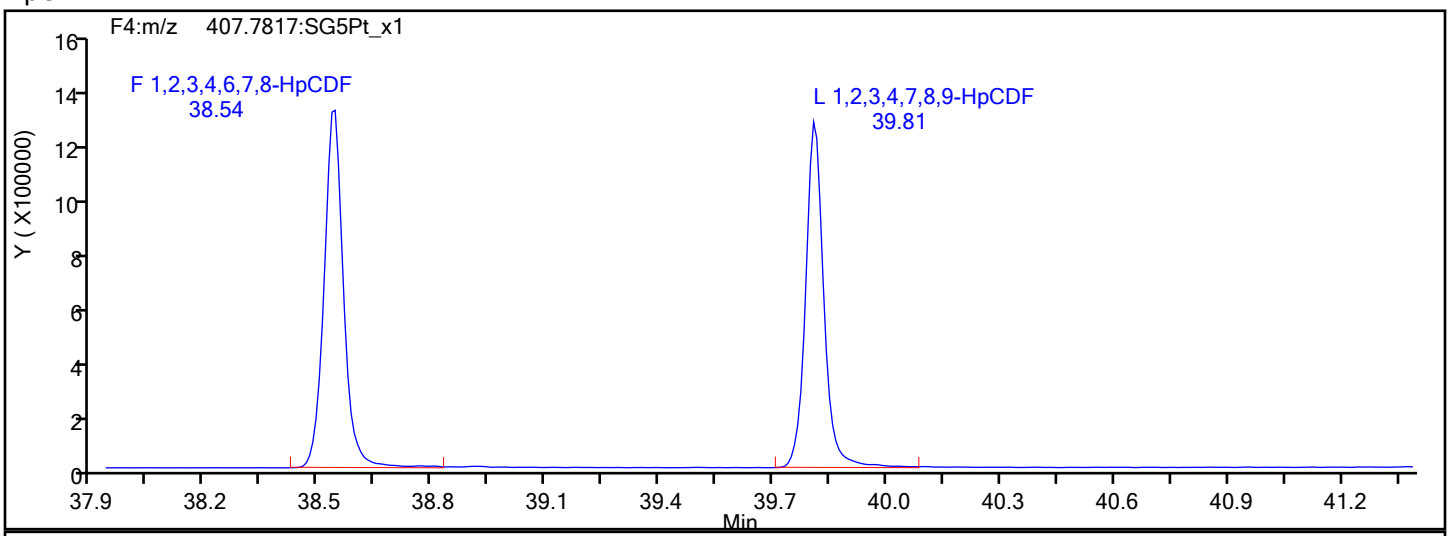
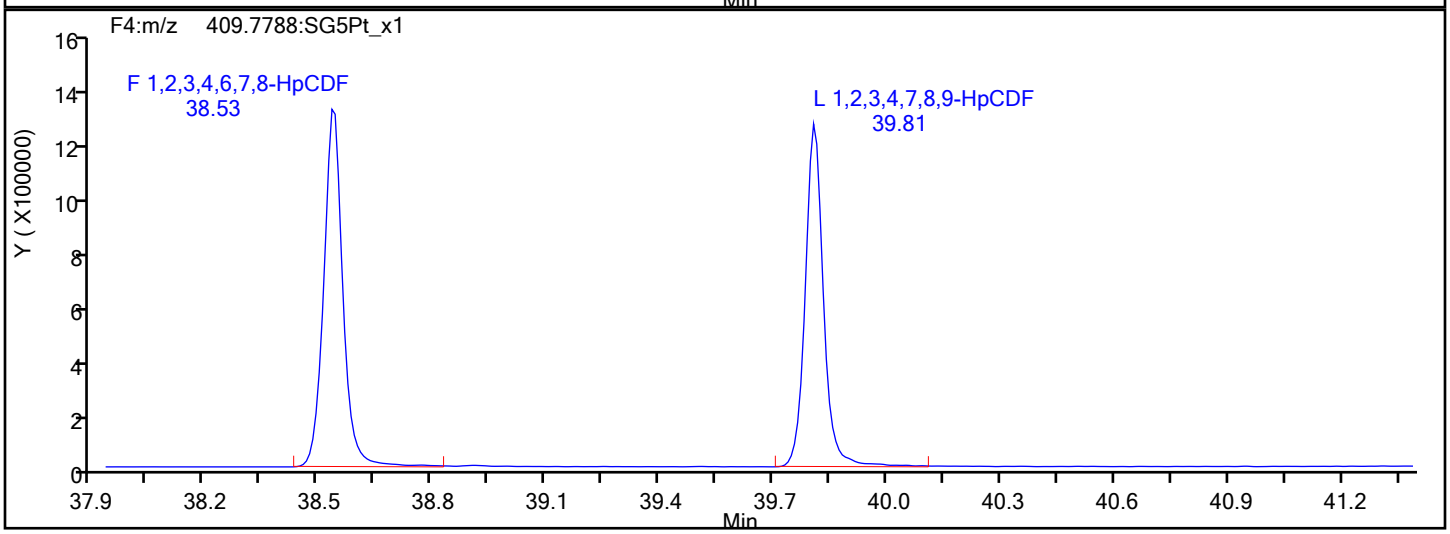
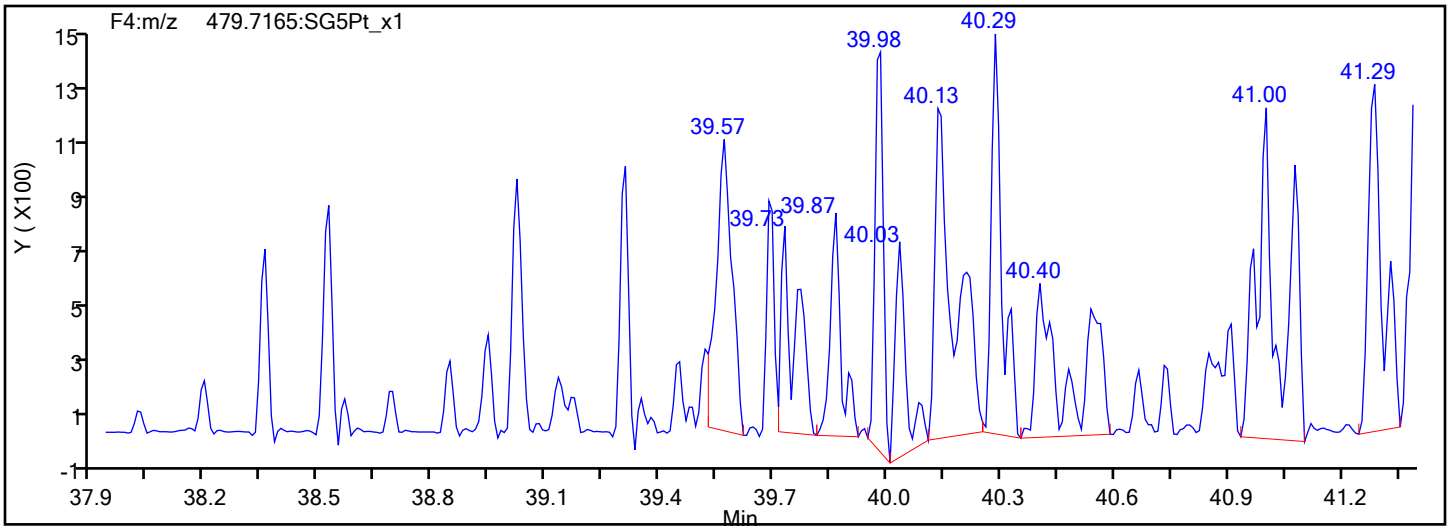
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Report Date: 28-Dec-2021 14:24:26 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d

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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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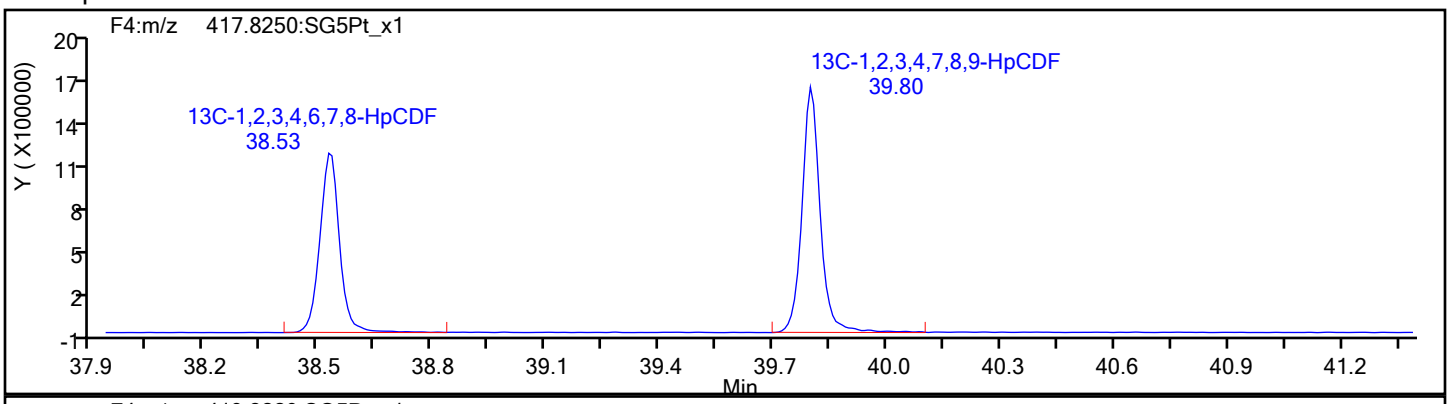
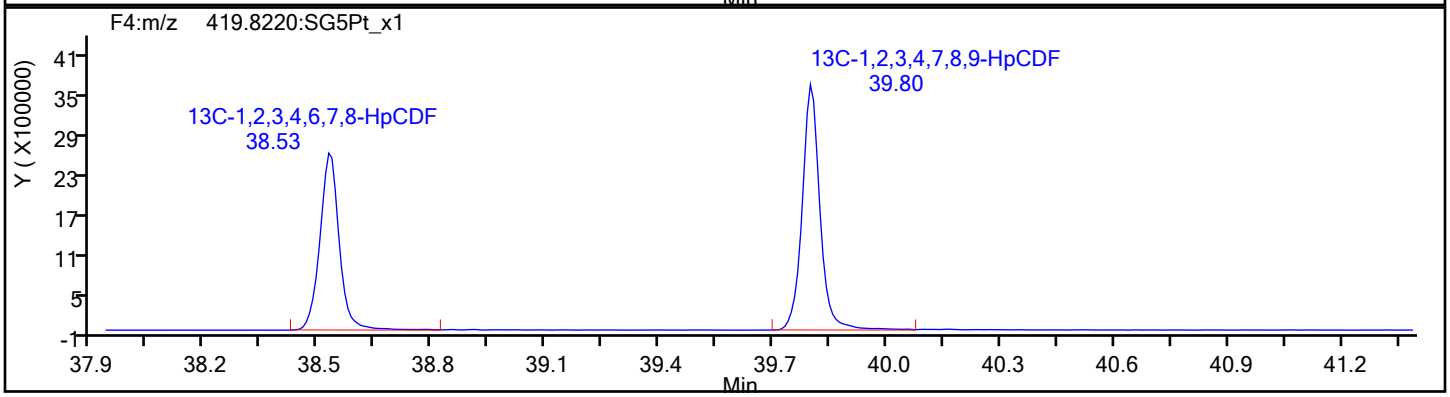
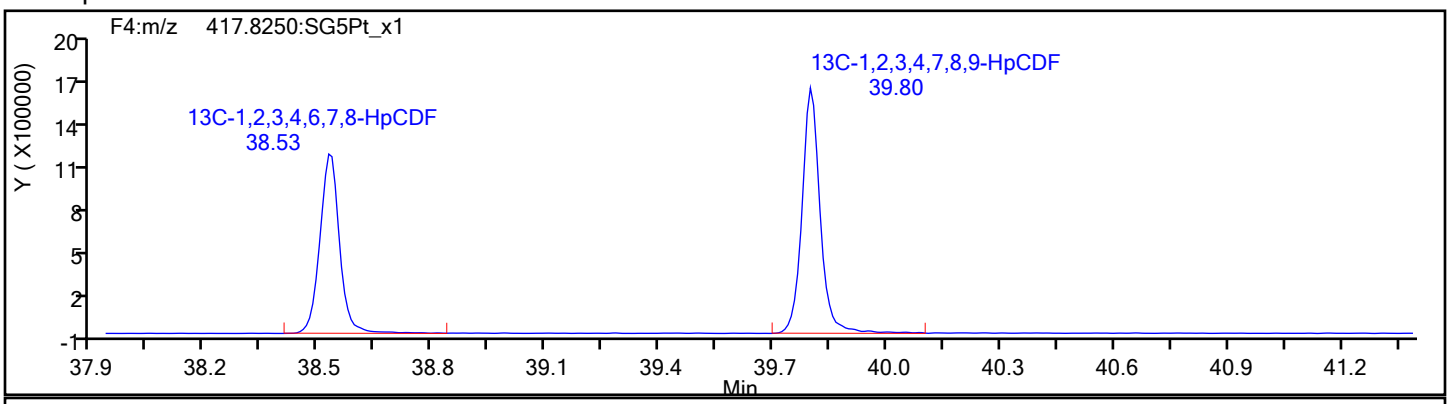
Column Type:	DB-5	Column Dia:	0.32 mm

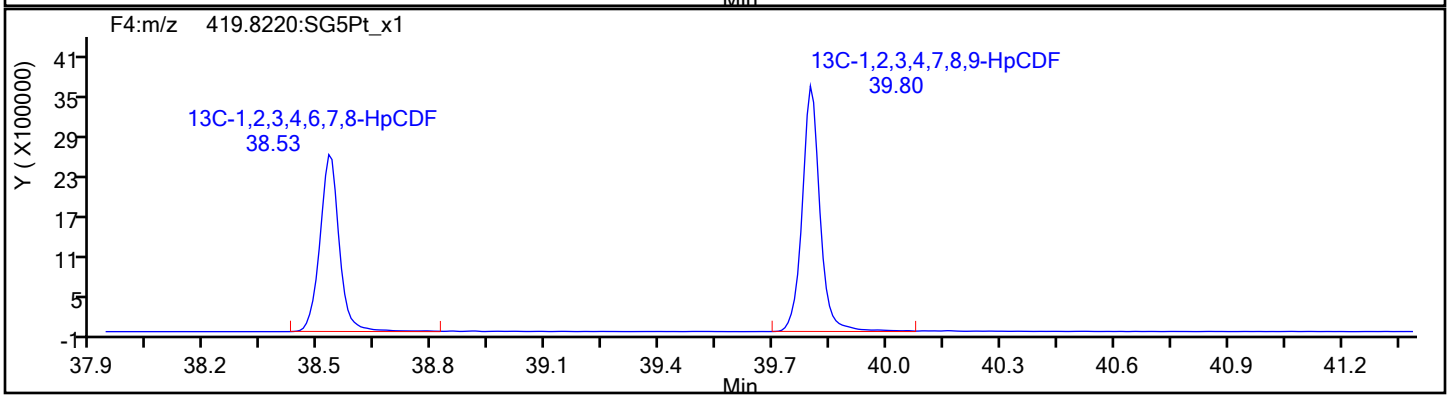
13C-HpCDF





13C-HpCDF Standards





Report Date: 28-Dec-2021 14:24:26 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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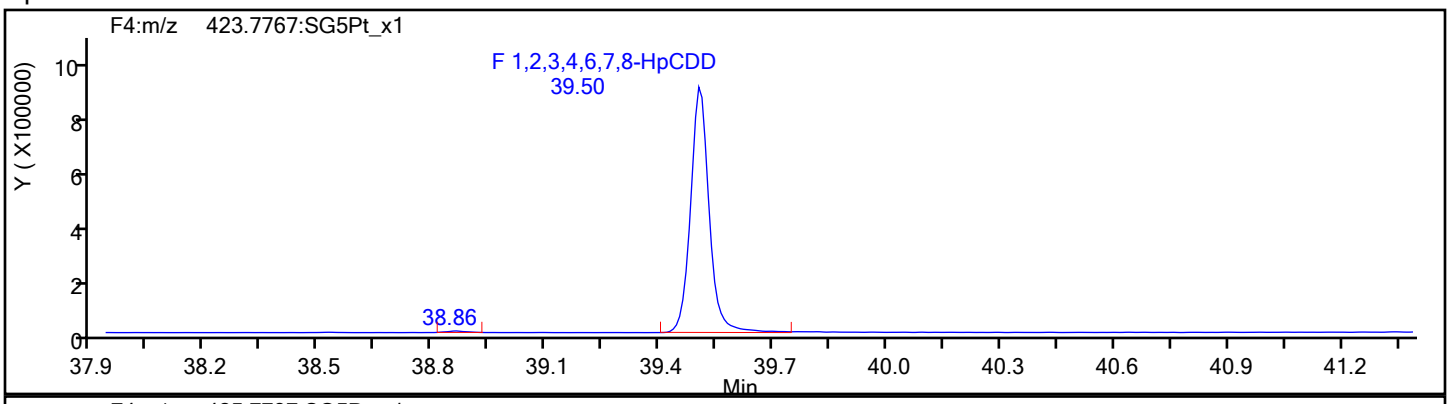
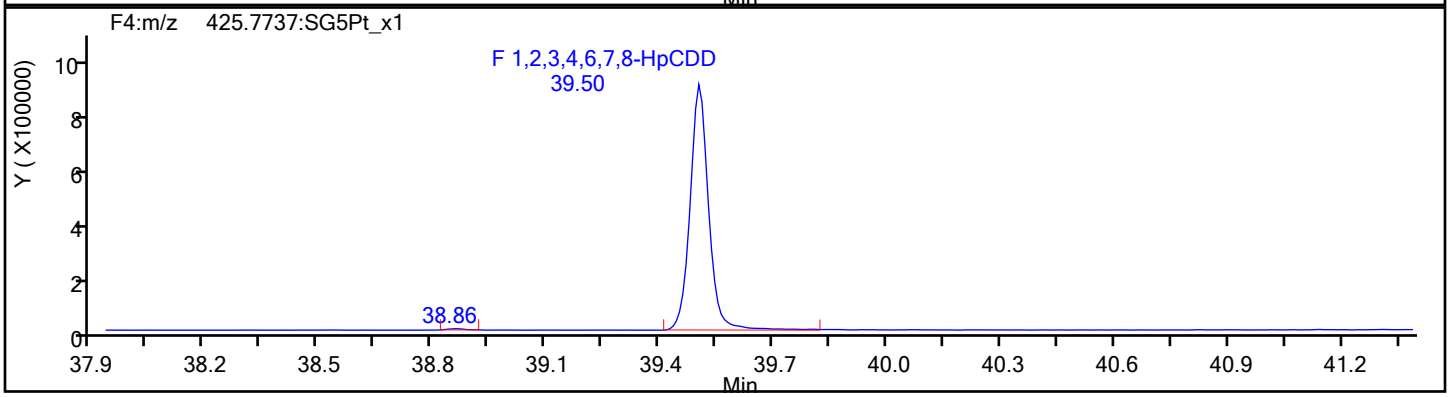
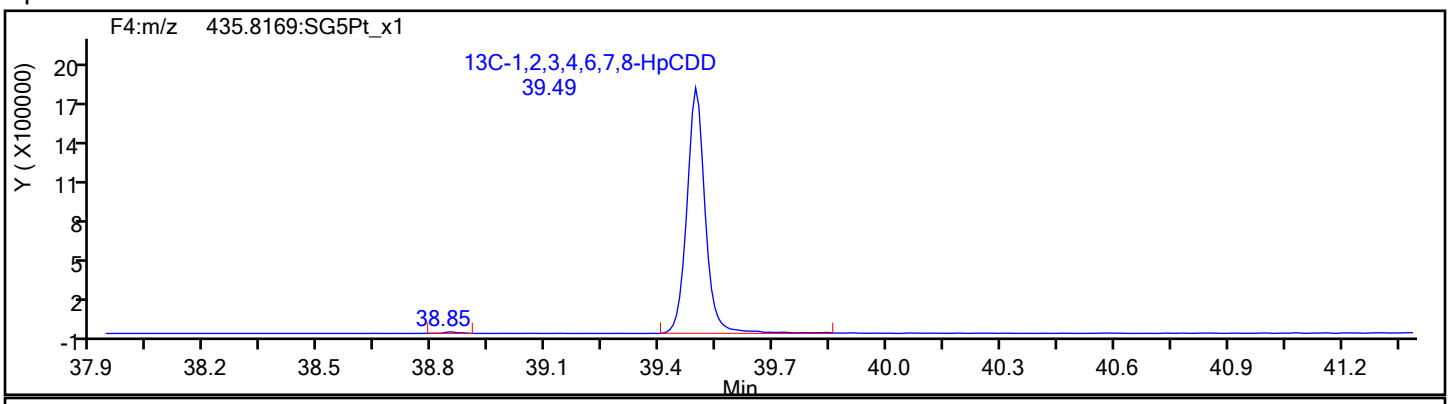
Column Type:	DB-5	Column Dia:	0.32 mm

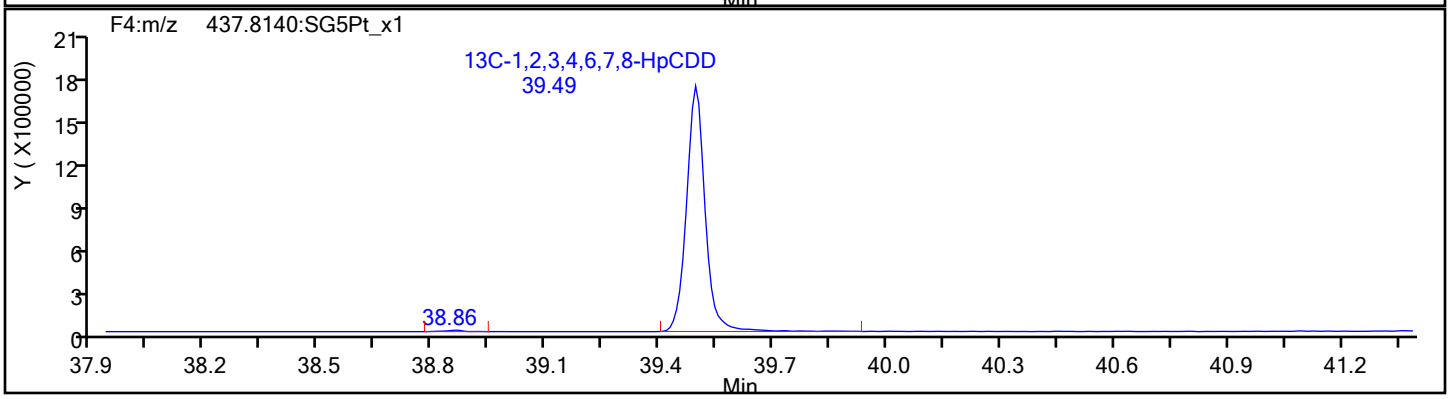
HpCDD





HpCDD Standards





Eurofins TestAmerica, Sacramento

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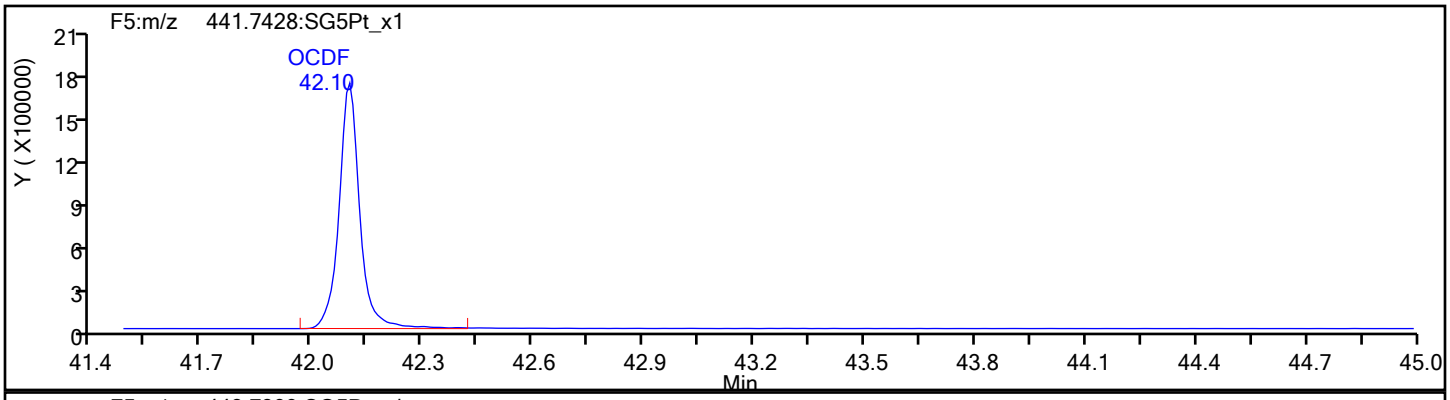
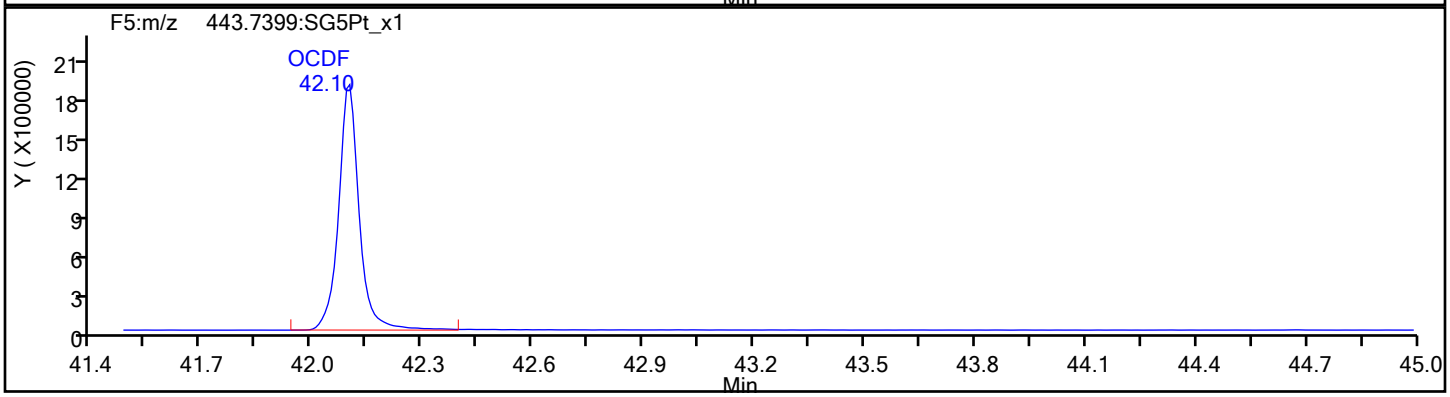
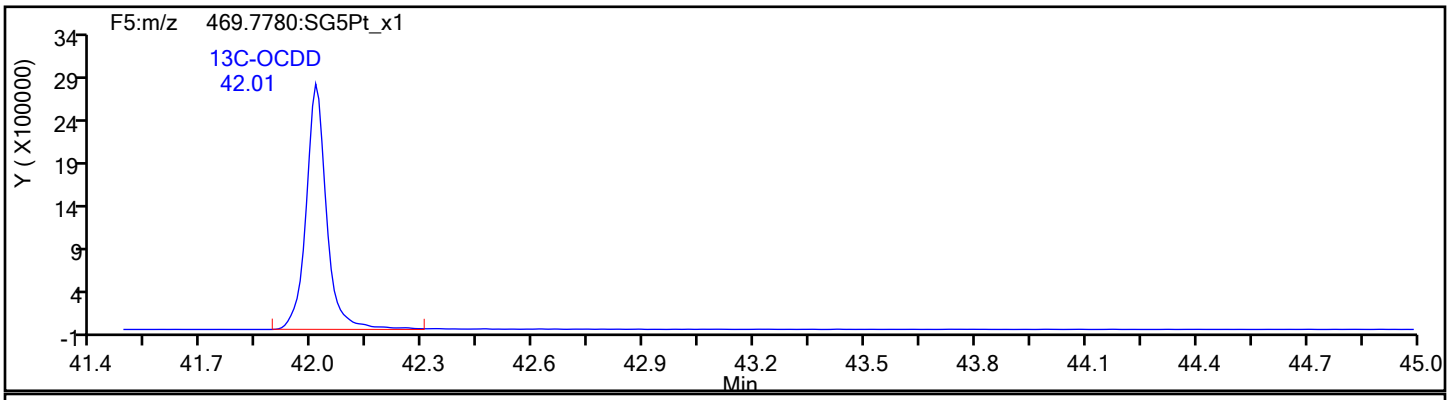
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

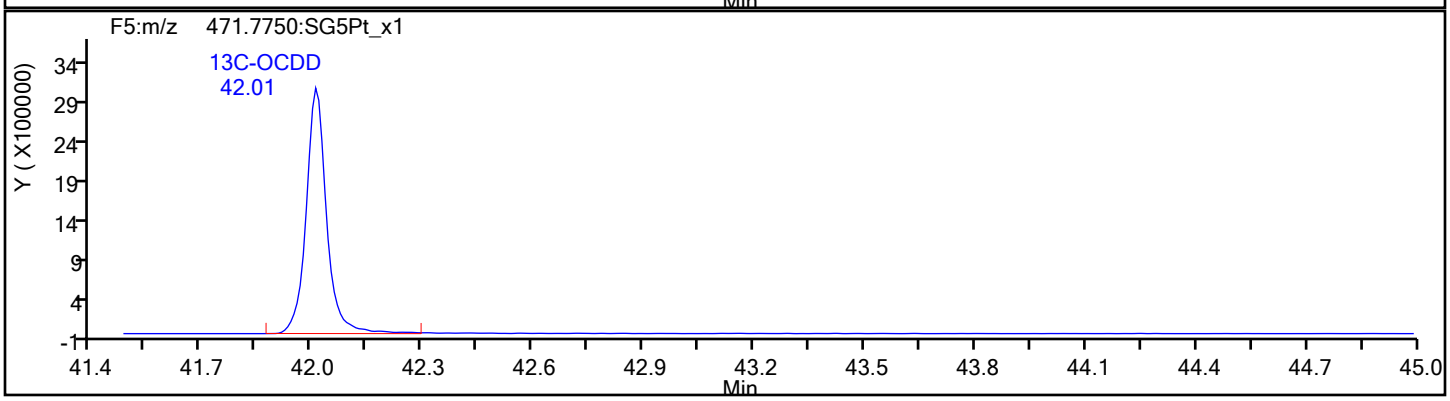
OCDF





OCDF Standards



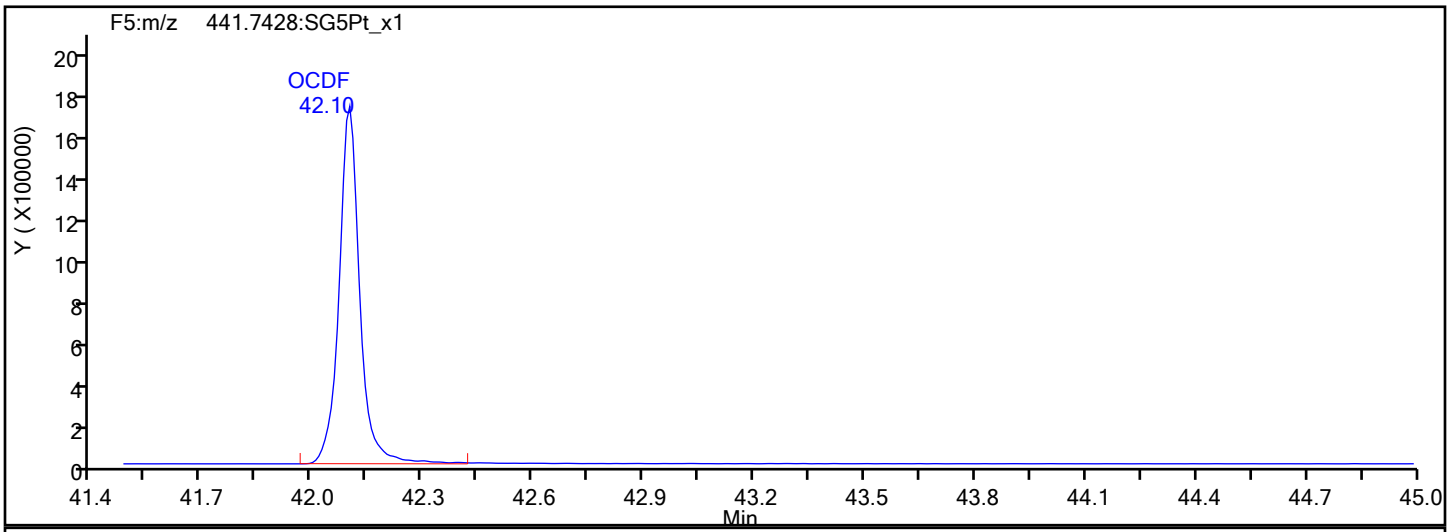


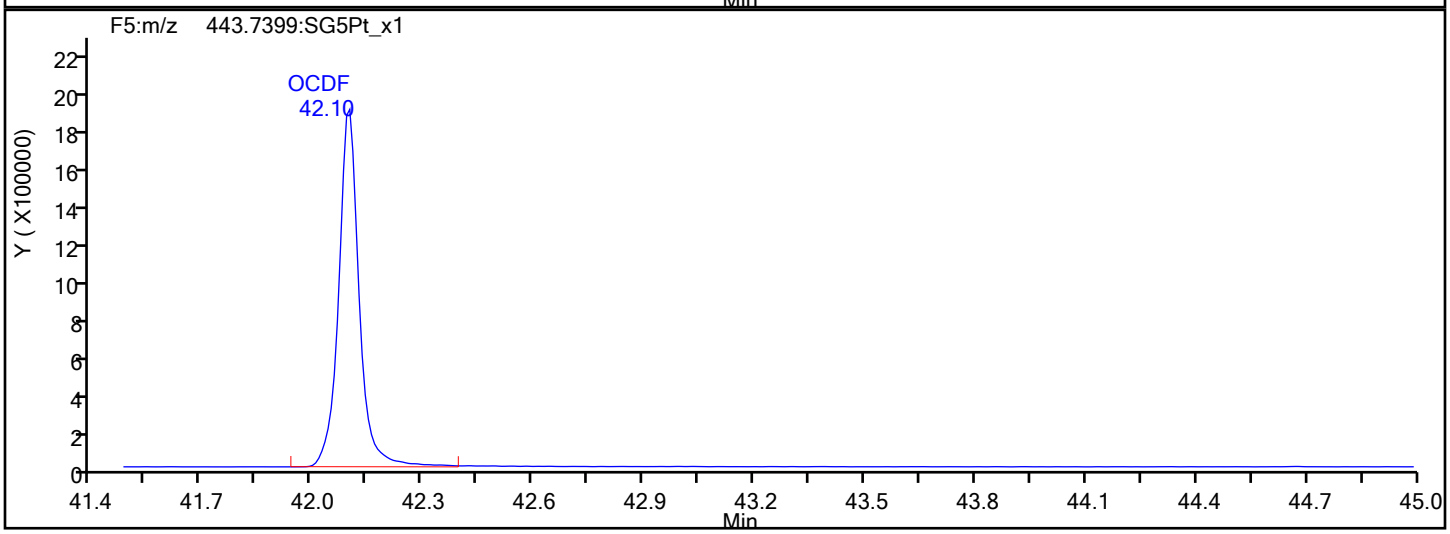
Report Date: 28-Dec-2021 14:24:26 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

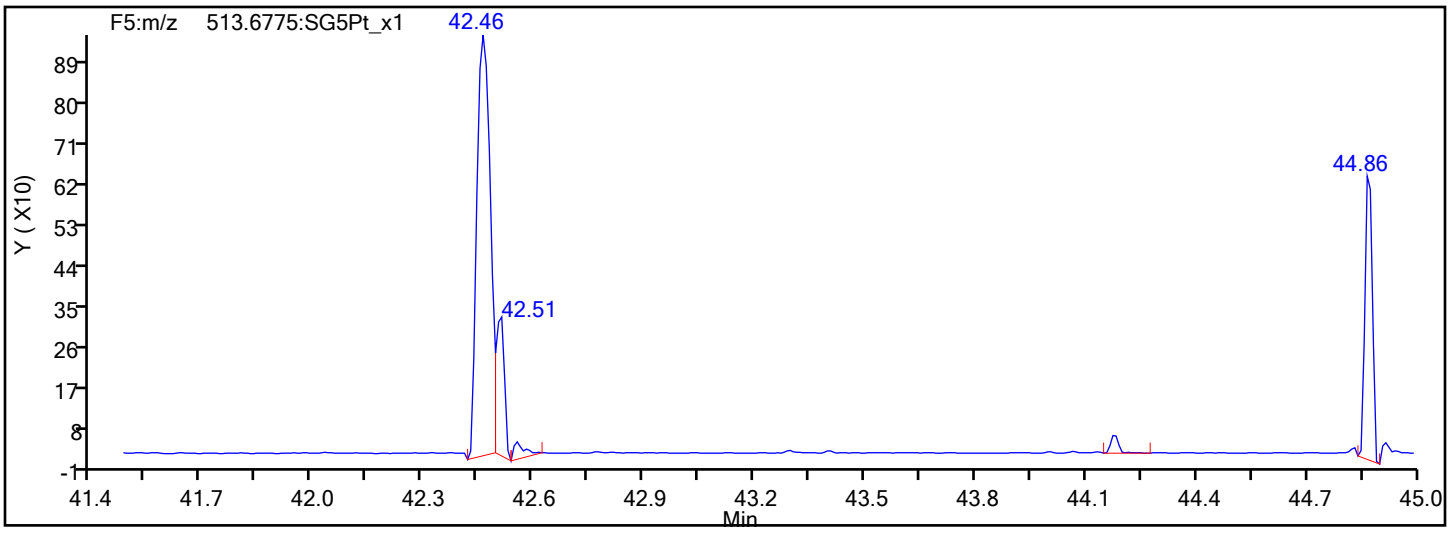
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



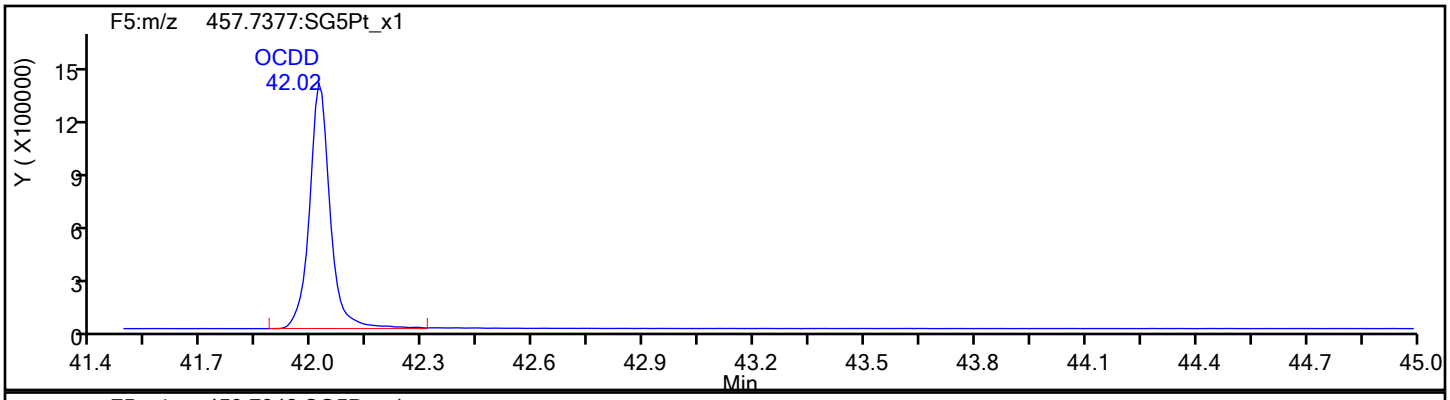
Report Date: 28-Dec-2021 14:24:26 Chrom Revision: 2.3 15-Nov-2021 20:34:30

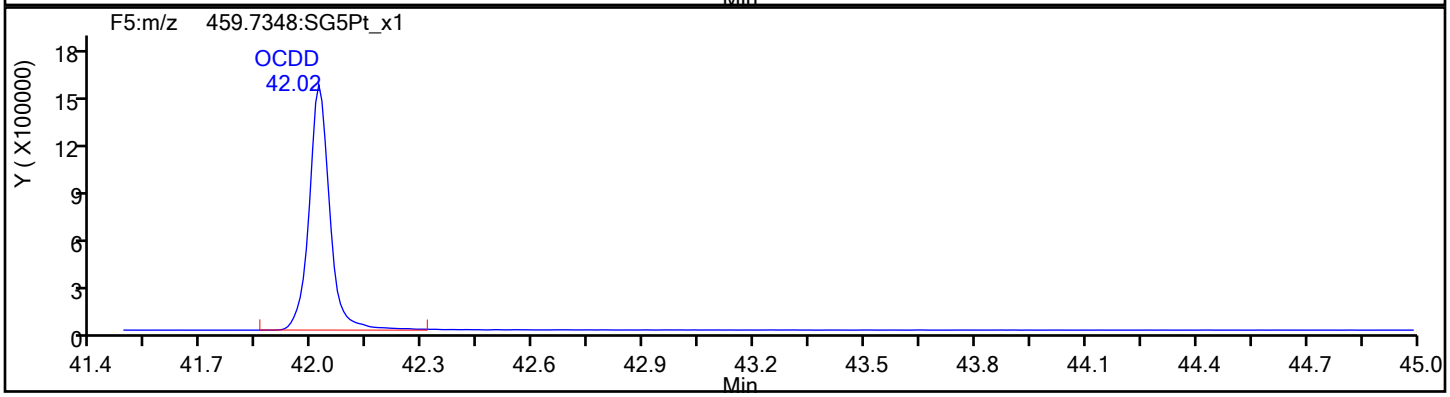
Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d

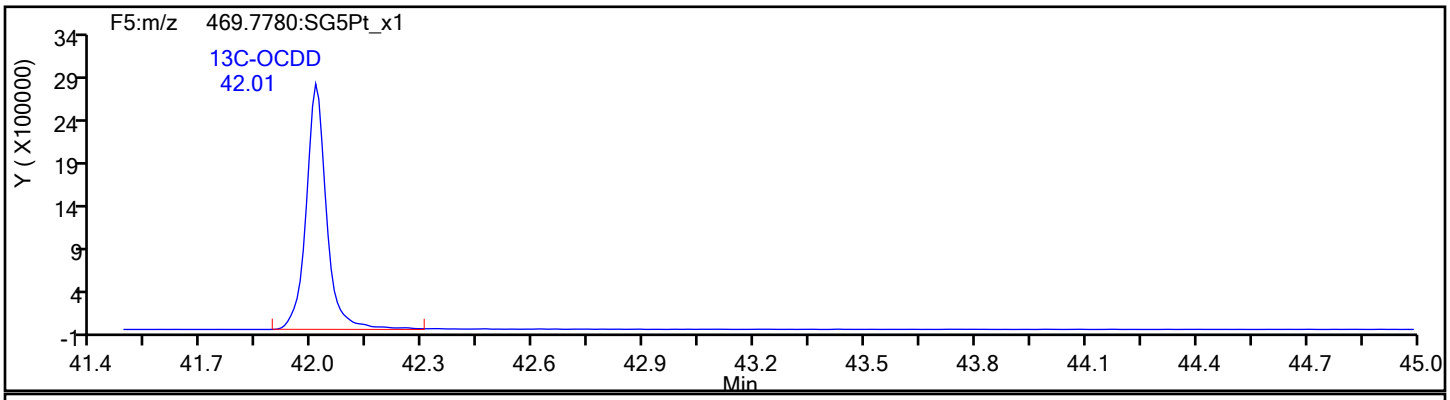
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

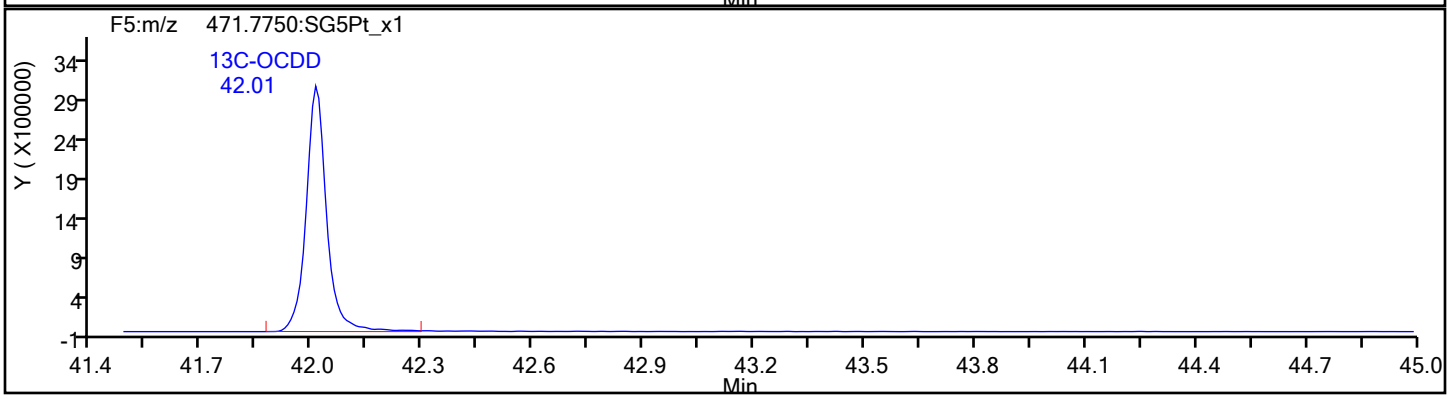
OCDD





OCDD Standards

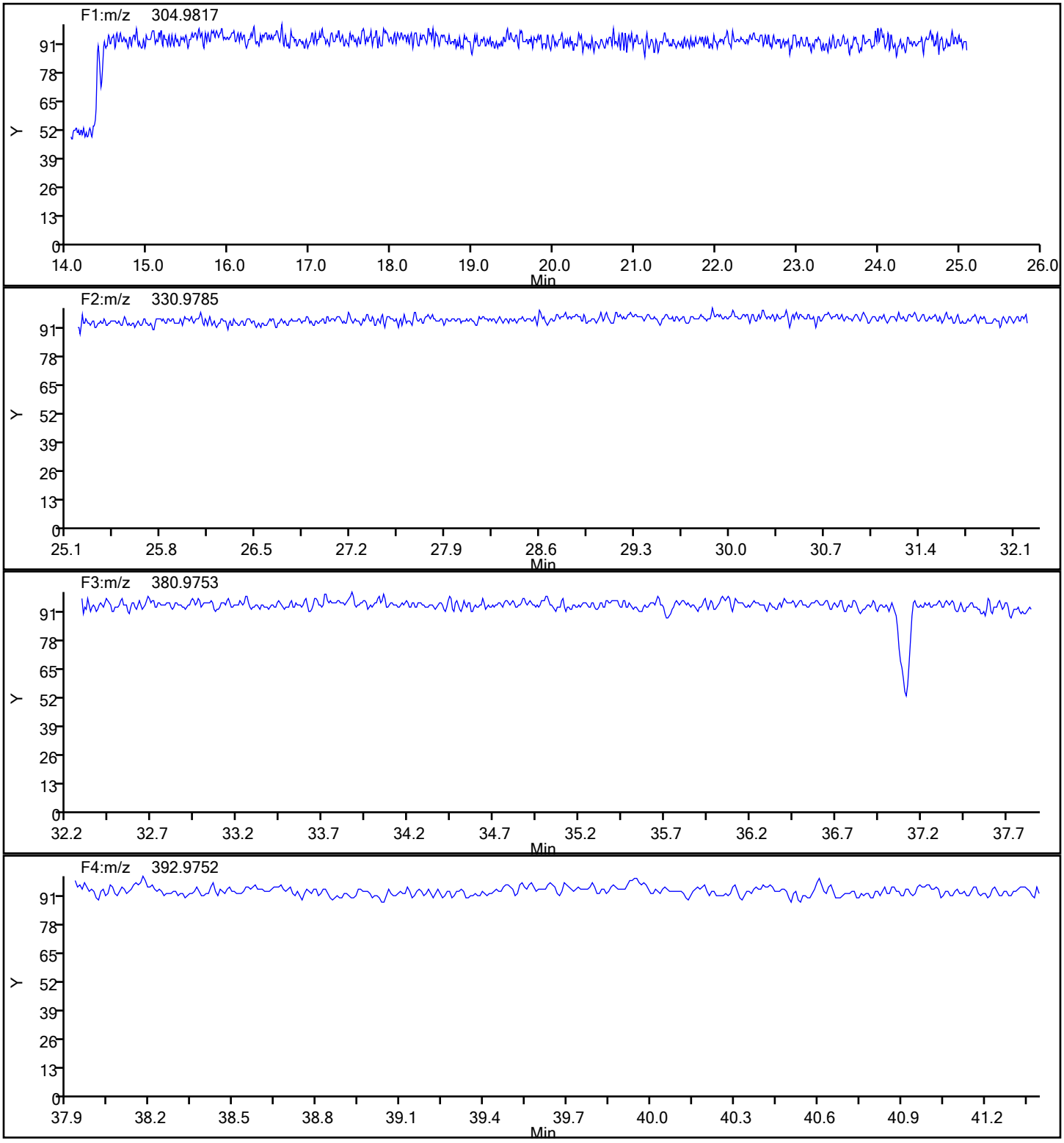




Report Date: 28-Dec-2021 14:24:26 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

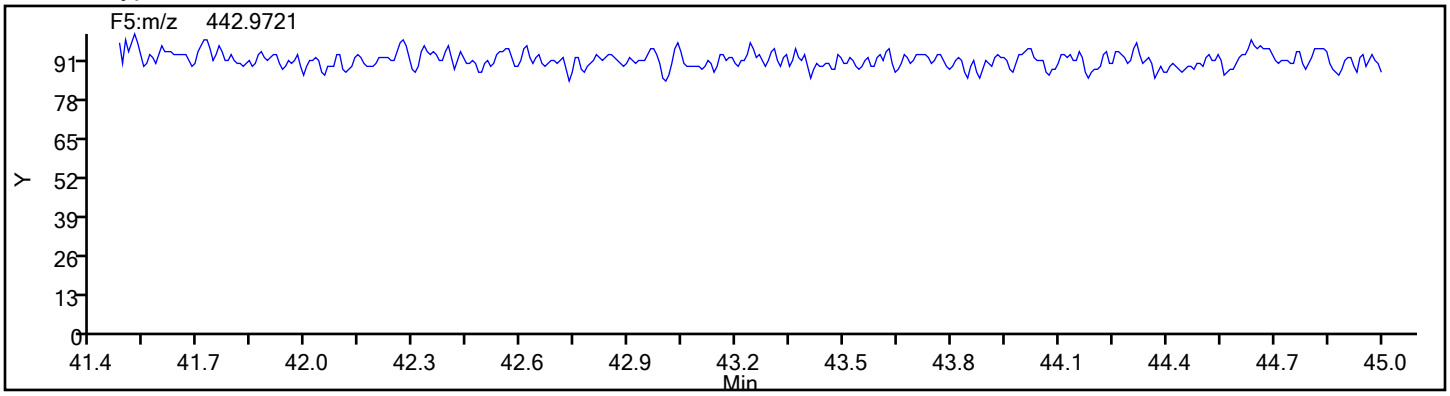
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 28-Dec-2021 14:24:26 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_13.d		
Injection Date:	27-Dec-2021 20:10:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Lab Sample ID: CCV 320-554312/15 Calibration Date: 12/28/2021 06:32

Instrument ID: DFS 1 Calib Start Date: 11/18/2021 15:26

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 11/18/2021 18:38

Lab File ID: 27de21adfs1_26.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.105	0.9873		8.94	10.0	-10.6	20.0
2,3,7,8-TCDD	AveID	1.121	1.091		9.73	10.0	-2.7	20.0
1,2,3,7,8-PeCDF	AveID	1.099	1.010		46.0	50.0	-8.1	20.0
2,3,4,7,8-PeCDF	AveID	1.058	0.9709		45.9	50.0	-8.2	20.0
1,2,3,7,8-PeCDD	AveID	1.103	1.048		47.5	50.0	-5.0	20.0
1,2,3,4,7,8-HxCDF	AveID	0.9504	0.8089		42.6	50.0	-14.9	20.0
1,2,3,6,7,8-HxCDF	AveID	0.9524	0.998		52.4	50.0	4.8	20.0
2,3,4,6,7,8-HxCDF	AveID	0.8893	0.9652		54.3	50.0	8.5	20.0
1,2,3,4,7,8-HxCDD	AveID	1.008	0.8823		43.8	50.0	-12.5	20.0
1,2,3,6,7,8-HxCDD	AveID	1.011	0.9580		47.4	50.0	-5.3	20.0
1,2,3,7,8,9-HxCDD	AveID	1.099	0.9708		44.2	50.0	-11.7	20.0
1,2,3,7,8,9-HxCDF	AveID	0.8433	0.8811		52.2	50.0	4.5	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.518	1.319		43.4	50.0	-13.1	20.0
1,2,3,4,6,7,8-HpCDD	AveID	1.095	1.004		45.8	50.0	-8.4	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.339	1.196		44.7	50.0	-10.7	20.0
OCDD	AveID	1.112	0.9474		85.2	100	-14.8	20.0
OCDF	AveID	1.398	1.175		84.0	100	-16.0	20.0
13C-2,3,7,8-TCDF	Ave	1.292	1.370		106	100	6.1	30.0
13C-2,3,7,8-TCDD	Ave	0.8271	0.8128		98.3	100	-1.7	30.0
13C-1,2,3,7,8-PeCDF	Ave	1.166	1.160		99.4	100	-0.6	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.6835	0.6550		95.8	100	-4.2	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.178	1.149		97.6	100	-2.4	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.7339	0.7782		106	100	6.0	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6698	0.7035		105	100	5.0	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.5943	0.6257		105	100	5.3	30.0
13C-OCDD	Ave	0.4838	0.5838		241	200	20.7	30.0
37Cl4-2,3,7,8-TCDD	Ave	0.8866	0.8664		9.77	10.0	-2.3	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 28-Dec-2021 06:32:00 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00104
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:26:05 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.971	26244995	0.83	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.999	35961519	0.81	1.2917	106.1	106.1	0.3522	0.3522	106	
2,3,7,8-TCDF	20.034	3550582	0.77	1.1045	8.939	8.939	0.0285	0.0285	89.39	
A Non-2,3,7,8-sub-TCDF	19.632						0.0285	0.0285		
S Total TCDF					8.939	8.939	0.0285	0.0285		
D 13C-2,3,7,8-TCDD	21.333	21331641	0.81	0.8271	98.3	98.3	0.2867	0.2867	98.27	
2,3,7,8-TCDD	21.376	2326546	0.80	1.1211	9.729	9.729	0.0604	0.0604	97.29	
$ 37Cl4-2,3,7,8-TCDD	21.376	2273960		0.8866	9.773	9.773	0.0202	0.0202	97.73	
A Non-2,3,7,8-sub-TCDD	20.470						0.0604	0.0604		
S Total TCDD					9.729	9.729	0.0604	0.0604		
D 13C-1,2,3,7,8-PeCDF	26.947	30442396	1.65	1.1665	99.4	99.4	0.4712	0.4712	99.44	
1,2,3,7,8-PeCDF	26.973	15369274	1.57	1.0987	45.9	45.9	0.1910	0.1910	91.90	
$ 13C-2,3,4,7,8-PeCDF	28.446	38237576	1.61							
2,3,4,7,8-PeCDF	28.471	14778036	1.55	1.0579	45.9	45.9	0.1984	0.1984	91.78	
A F1 PeCDFs	24.442	2406	1.55	1.0783	0.0380	0.007330	0.007060	0.007330	0.00	RQ
A Non-2,3,7,8-sub-PeCDF	27.884						0.1946	0.1946		Rn
S Total PeCDF					91.9	91.8	0.1947	0.1947		RQ
D 13C-1,2,3,7,8-PeCDD	29.263	17190378	1.65	0.6835	95.8	95.8	0.1985	0.1985	95.83	
1,2,3,7,8-PeCDD	29.288	9009983	1.60	1.1030	47.5	47.5	0.0733	0.0733	95.04	
A Non-2,3,7,8-sub-PeCDD	28.134						0.0733	0.0733		Rn
S Total PeCDD					47.5	47.5	0.0733	0.0733		
D 13C-1,2,3,4,7,8-HxCDF	34.719	34502044	0.54	1.1776	97.6	97.6	0.3991	0.3991	97.60	
1,2,3,4,7,8-HxCDF	34.736	13954524	1.25	0.9504	42.6	42.6	0.2612	0.2612	85.11	
D 13C-1,2,3,6,7,8-HxCDF	34.888	31115100	0.54							
1,2,3,6,7,8-HxCDF	34.904	17219241	1.24	0.9524	52.4	52.4	0.2607	0.2607	105	
D 13C-2,3,4,6,7,8-HxCDF	35.739	29475421	0.55							
2,3,4,6,7,8-HxCDF	35.747	16650129	1.25	0.8893	54.3	54.3	0.2792	0.2792	109	
D 13C-1,2,3,7,8,9-HxCDF	36.648	28084928	0.54							
1,2,3,7,8,9-HxCDF	36.665	15200646	1.25	0.8433	52.2	52.2	0.2944	0.2944	104	
A Non-2,3,7,8-sub-HxCDF	34.874						0.2732	0.2732		
S Total HxCDF					201.5	201.5	0.2739	0.2739		
* 13C-1,2,3,7,8,9-HxCDD	36.454	30019160	1.29	2.6E+05	100.0	100.0				

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
$ 13C-1,2,3,4,7,8-HxCDD	35.957	25408405	1.30							
1,2,3,4,7,8-HxCDD	35.974	10304984	1.25	1.0079	43.8	43.8	0.1160	0.1160	87.54	
D 13C-1,2,3,6,7,8-HxCDD	36.084	23360635	1.27	0.7339	106.0	106.0	0.2832	0.2832	106	
1,2,3,6,7,8-HxCDD	36.092	11189918	1.25	1.0111	47.4	47.4	0.1156	0.1156	94.75	
1,2,3,7,8,9-HxCDD	36.471	11339451	1.26	1.0993	44.2	44.2	0.1063	0.1063	88.31	
A Non-2,3,7,8-sub-HxCDD	35.257						0.1125	0.1125		
S Total HxCDD					135.3	135.3	0.1126	0.1126		
D 13C-1,2,3,4,6,7,8-HpCDF	38.519	21117510	0.46	0.6698	105.0	105.0	0.5500	0.5500	105	
1,2,3,4,6,7,8-HpCDF	38.528	13930325	1.04	1.5184	43.4	43.4	0.1956	0.1956	86.89	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.790	26884149	0.46							
1,2,3,4,7,8,9-HpCDF	39.807	12627028	1.04	1.3387	44.7	44.7	0.2219	0.2219	89.33	
A Non-2,3,7,8-sub-HpCDF	39.191						0.2079	0.2079		
S Total HpCDF					88.1	88.1	0.2087	0.2087		
D 13C-1,2,3,4,6,7,8-HpCDD	39.487	18784083	1.06	0.5943	105.3	105.3	0.3327	0.3327	105	
1,2,3,4,6,7,8-HpCDD	39.496	9426433	1.05	1.0953	45.8	45.8	0.1179	0.1179	91.64	
A Non-2,3,7,8-sub-HpCDD	39.200						0.1179	0.1179		
S Total HpCDD					45.8	45.8	0.1179	0.1179		
D 13C-OCDD	42.000	35051867	0.90	0.4838	241.4	241.4	0.4103	0.4103	121	
OCDF	42.084	20587158	0.90	1.3979	84.0	84.0	0.1643	0.1643	84.03	
OCDD	42.008	16603793	0.89	1.1116	85.2	85.2	0.1355	0.1355	85.23	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNL4_00104 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 28-Dec-2021 06:32:00 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00104
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:26:05 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.971	20.971	0		11905277	1703828	2301	5752	740		
333.9338	20.971	20.971	0		14339718	2047809	1258	3145	1628	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.999	19.999	0	0.954	16104326	2288432	4234	10585	540		
317.9389	20.008	19.999	1	0.954	19857193	2961621	2593	6482	1142	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	20.034	20.034	0	1.002	1549433	220647	241	602	916		
305.8987	20.025	20.034	-1	1.001	2001149	286523	421	1052	681	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	19.632						241	602			
305.8987	19.632						421	1052			
13C-2,3,7,8-TCDD											
331.9368	21.333	21.333	0	1.017	9535497	1300264	2301	5752	565		
333.9338	21.350	21.333	1	1.018	11796144	1565808	1258	3145	1245	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.376	21.376	0	1.002	1034467	140675	571	1427	246		
321.8936	21.376	21.376	0	1.002	1292079	173734	206	515	843	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	21.376	21.376	0	1.019	2273960	301159	269	672	1120		
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						571	1427			
321.8936	20.470						206	515			
13C-1,2,3,7,8-PeCDF											
351.9000	26.947	26.947	0	1.285	18963121	3055906	4934	12335	619		
353.8970	26.956	26.947	1	1.285	11479275	1869745	3314	8285	564	1.65(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.973	26.973	0	1.001	9379198	1504818	2344	5860	642		
341.8567	26.973	26.973	0	1.001	5990076	955898	1791	4477	534	1.57(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.446	28.446	0	1.056	23579240	3575377	4934	12335	725		
353.8970	28.446	28.446	0	1.056	14658336	2176230	3314	8285	657	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	28.471	28.471	0	1.057	8990731	1330057	2344	5860	567		
341.8567	28.471	28.471	0	1.057	5787305	865144	1791	4477	483	1.55(1.32-1.78)	
A F1 PeCDFs											RQ
339.8597	24.317	24.442	-7	0.902	1463	416	2	5	208		
341.8567	24.334	24.442	-6	0.903	11025	2154	148	370	15	0.13(1.32-1.78)	
	Empc Correction				943	268	148	370	2		
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.562	27.884	-19	1.023	98023	13570	2344	5860	6		
341.8567	27.537	27.884	-21	1.022	40842	7425	1791	4477	4	2.40(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	29.263	29.263	0	1.395	10696307	1494559	1404	3510	1065		
369.8919	29.271	29.263	1	1.396	6494071	930512	632	1580	1472	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.288	29.288	0	1.001	5544324	781202	555	1387	1408		
357.8516	29.288	29.288	0	1.001	3465659	492929	229	572	2153	1.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	30.205	28.134	124	1.032	36072	3899	555	1387	7		
357.8516	30.323	28.134	131	1.036	18168	1384	229	572	6	1.99(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.719	34.719	0	0.952	12045551	2413407	4612	11530	523		
385.8610	34.719	34.719	0	0.952	22456493	4578971	8481	21202	540	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.736	34.736	0	1.000	7750601	1580629	3882	9705	407		
375.8178	34.736	34.736	0	1.000	6203923	1274818	3062	7655	416	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.888	34.888	0	0.957	10916937	2103846	4612	11530	456		
385.8610	34.888	34.888	0	0.957	20198163	3965413	8481	21202	468	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.904	34.904	0	1.005	9526685	1826590	3882	9705	471		
375.8178	34.904	34.904	0	1.005	7692556	1478478	3062	7655	483	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.739	35.739	0	0.980	10402367	2331725	4612	11530	506		
385.8610	35.739	35.739	0	0.980	19073054	4231186	8481	21202	499	0.55(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.747	35.747	0	1.030	9250924	2082105	3882	9705	536		
375.8178	35.747	35.747	0	1.030	7399205	1667790	3062	7655	545	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.648	36.648	0	1.005	9802078	2236231	4612	11530	485		
385.8610	36.648	36.648	0	1.005	18282850	4264898	8481	21202	503	0.54(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	36.665	36.665	0	1.056	8431080	1904380	3882	9705	491		
375.8178	36.665	36.665	0	1.056	6769566	1528637	3062	7655	499	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.874						3882	9705			
375.8178	34.874						3062	7655			
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.454	36.454	0		16938298	3958990	3272	8180	1210		
403.8529	36.454	36.454	0		13080862	3005770	2518	6295	1194	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.957	35.957	0	0.997	14368818	3400838	3272	8180	1039		
403.8529	35.957	35.957	0	0.997	11039587	2624330	2518	6295	1042	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.974	35.974	0	0.997	5727330	1411298	1378	3445	1024		
391.8127	35.974	35.974	0	0.997	4577654	1133035	1102	2755	1028	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.084	36.084	0	0.990	13071618	2980351	3272	8180	911		
403.8529	36.084	36.084	0	0.990	10289017	2323321	2518	6295	923	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	36.092	36.092	0	1.000	6217781	1369246	1378	3445	994		
391.8127	36.092	36.092	0	1.000	4972137	1106165	1102	2755	1004	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.471	36.471	0	1.011	6325977	1477365	1378	3445	1072		
391.8127	36.471	36.471	0	1.011	5013474	1177880	1102	2755	1069	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	35.257						1378	3445			
391.8127	35.257						1102	2755			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.519	38.519	0	1.057	6678441	1897989	3859	9647	492		
419.8220	38.519	38.519	0	1.057	14439069	4103414	6403	16007	641	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.528	38.528	0	1.000	7091975	1984153	3787	9467	524		
409.7788	38.528	38.528	0	1.000	6838350	1914205	3343	8357	573	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.790	39.790	0	1.033	8440680	2543345	3859	9647	659		
419.8220	39.790	39.790	0	1.033	18443469	5561231	6403	16007	869	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.807	39.807	0	1.033	6436422	1902793	3787	9467	502		
409.7788	39.799	39.807	-1	1.033	6190606	1848632	3343	8357	553	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	39.191						3787	9467			
409.7788	39.191						3343	8357			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.487	39.487	0	1.083	9664561	2879441	2867	7167	1004		
437.8140	39.487	39.487	0	1.083	9119522	2666973	2641	6602	1010	1.06(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7767	39.496	39.496	0	1.000	4830399	1399683	1540	3850	909		
425.7737	39.496	39.496	0	1.000	4596034	1349083	1325	3312	1018	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	39.200						1540	3850			
425.7737	39.200						1325	3312			
13C-OCDD											
469.7780	42.000	42.000	0	1.152	16569923	4268124	2740	6850	1558		
471.7750	42.000	42.000	0	1.152	18481944	4751238	2790	6975	1703	0.90(0.76-1.02)	
OCDF											
441.7428	42.084	42.084	0	1.002	9744812	2502268	2109	5272	1186		
443.7399	42.084	42.084	0	1.002	10842346	2802617	2033	5082	1379	0.90(0.76-1.02)	
OCDD											
457.7377	42.008	42.008	0	1.000	7833393	2006633	1287	3217	1559		
459.7348	42.008	42.008	0	1.000	8770400	2242792	1431	3577	1567	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNL4_00104 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d
Lims ID: CCV
Client ID:
Inject. Date: 28-Dec-2021 06:32:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 15
Sublist: chrom-Dioxin_DFS1*sub1

F1 PeCDFs, RT: 24.442

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.099	D 13C-1,2,3,7,8-PeCDF	100.000	30442396	4925651
2,3,4,7,8-PeCDF	1.058				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.078		100.000	30442396	4925651

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
24.317	1463	416	11025	2154	0.0380	0.13	RQ
24.317	1463	416	943	268	0.007330		Empc Correction
Signal Totals:							
	1463	416	943	268			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12488	2570				0.13	RQ
	2406	684					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0380 = (12488 * 100.000) / (30442396 * 1.078)
Empc Amount: 0.007330 = (2406 * 100.000) / (30442396 * 1.078)

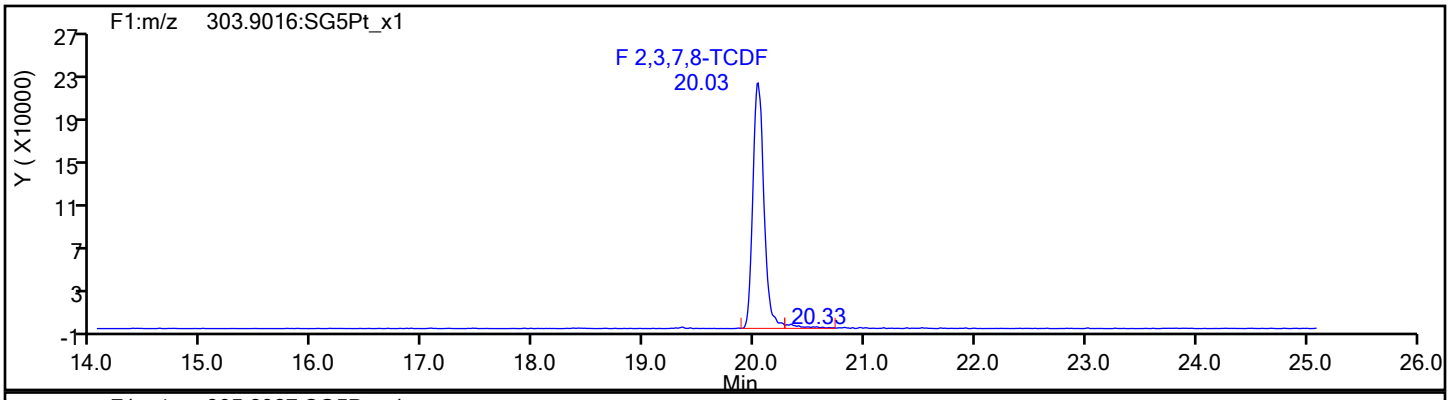
QC Flag Legend

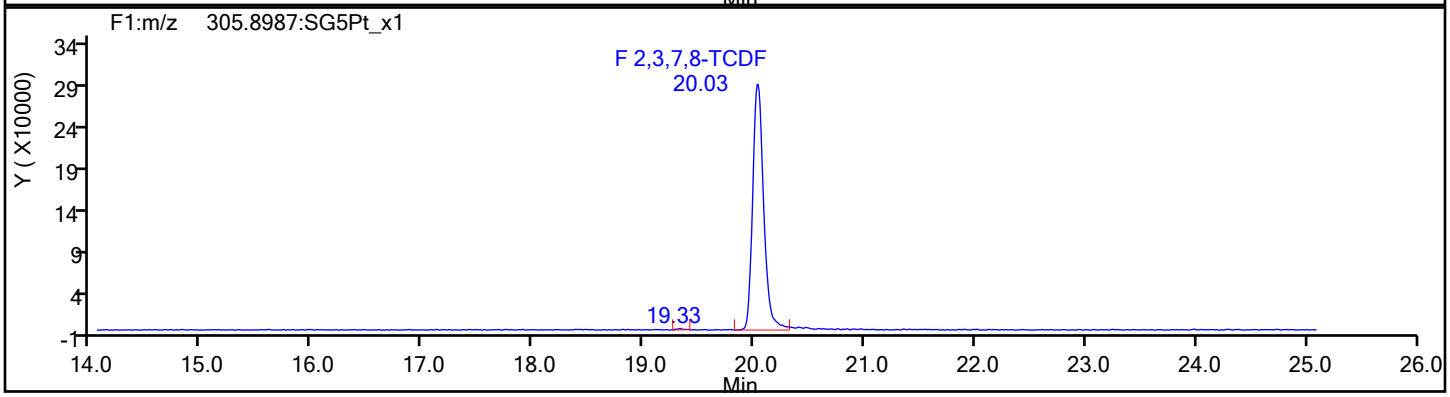
Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

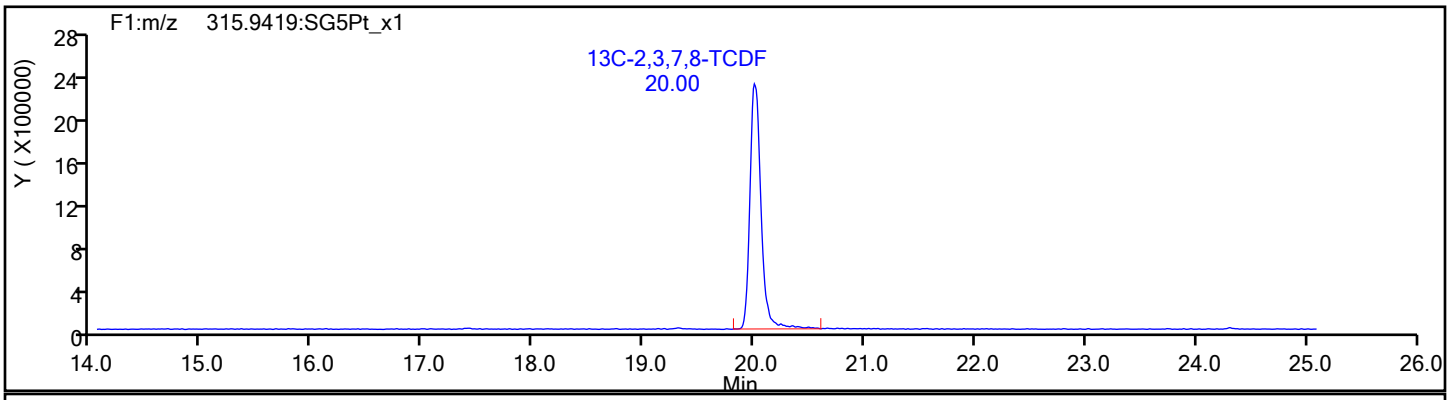
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d		
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

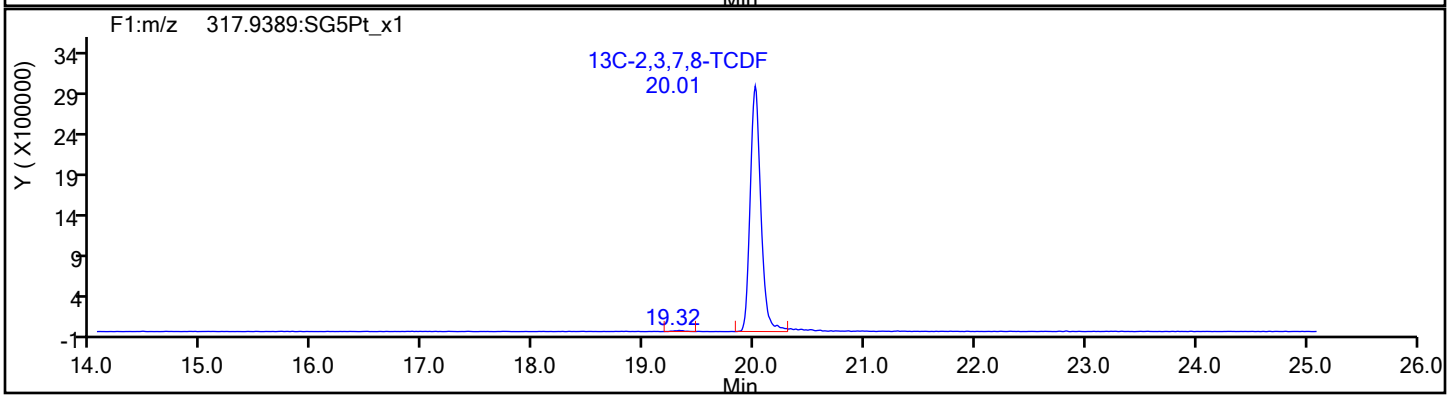
TCDF





TCDF Standards

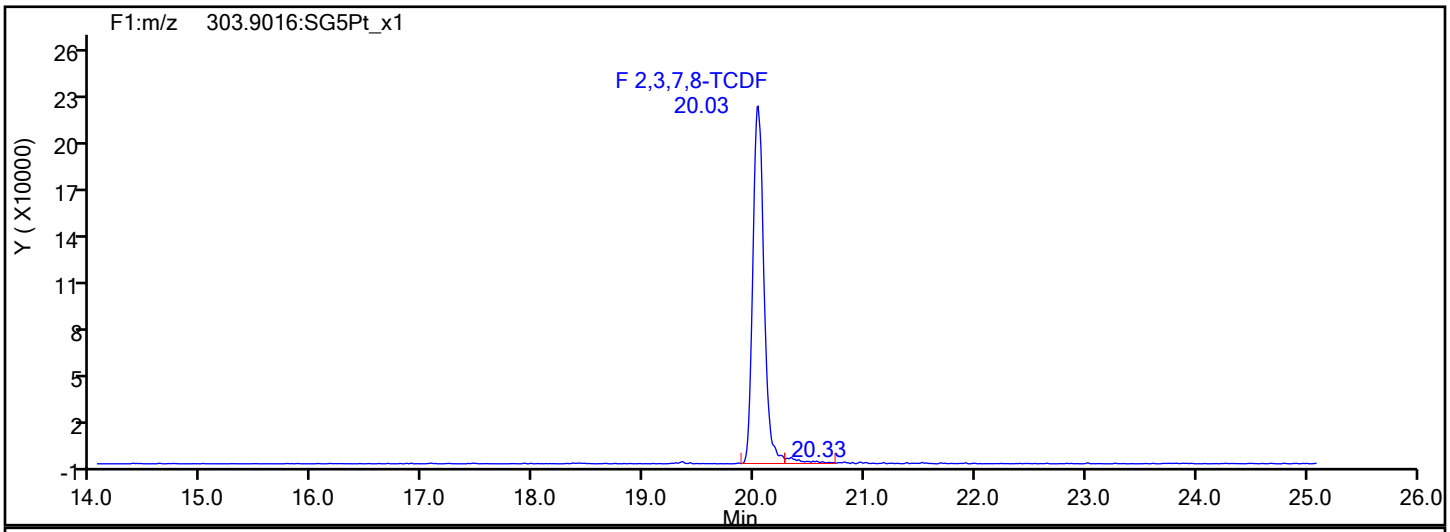


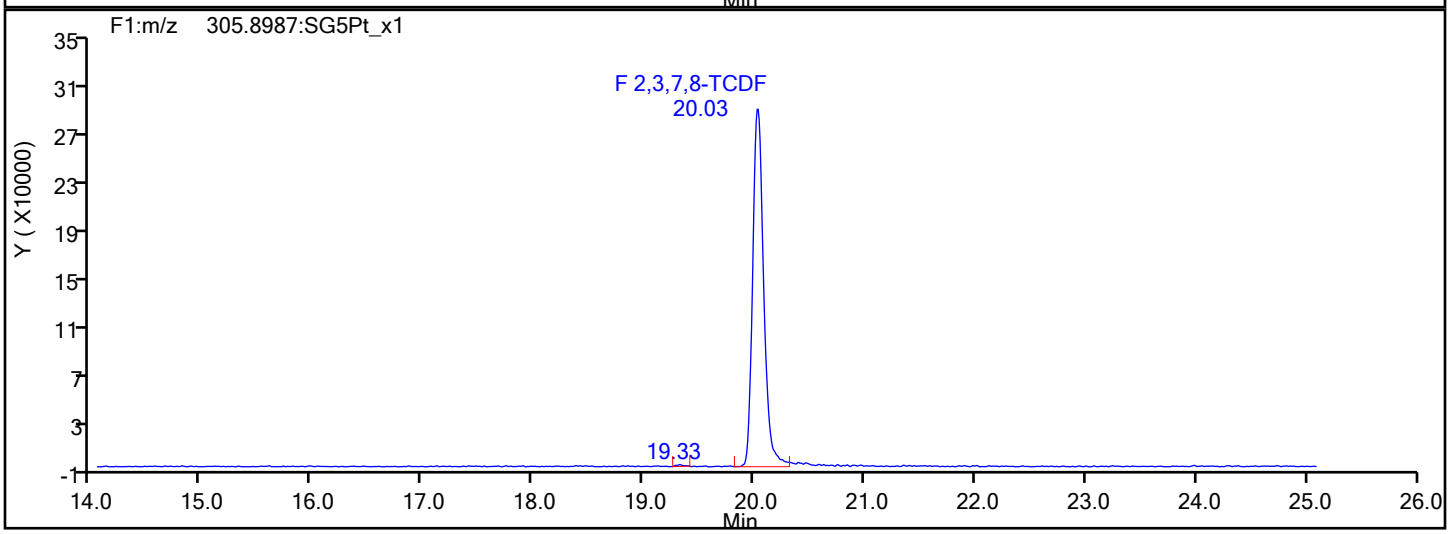


Eurofins TestAmerica, Sacramento

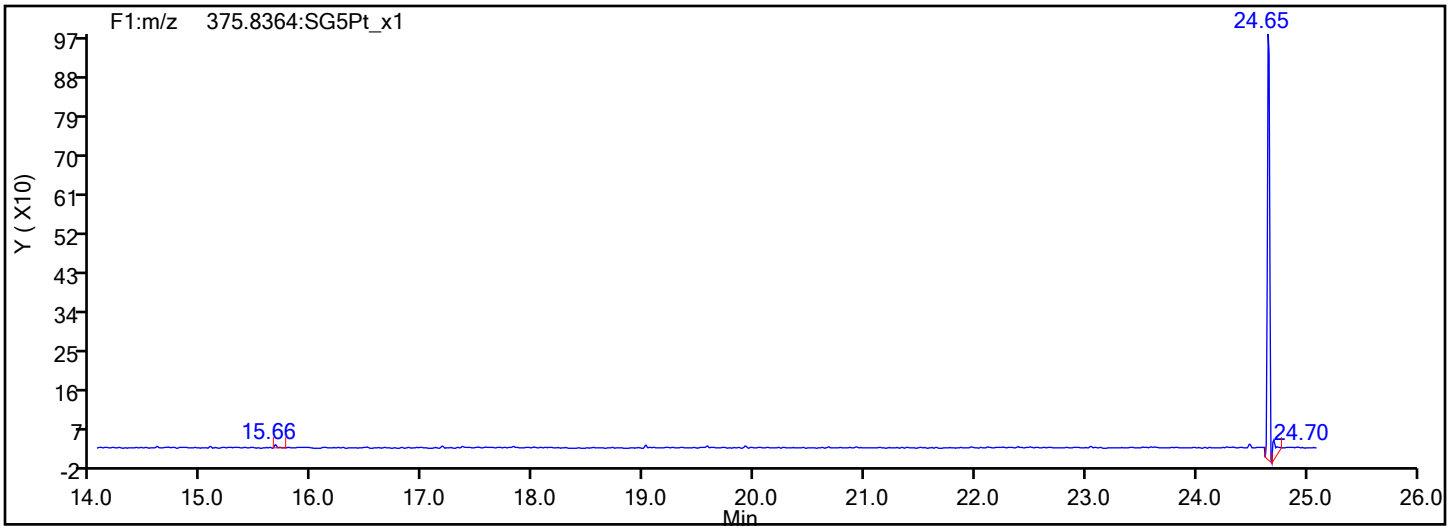
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d		
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





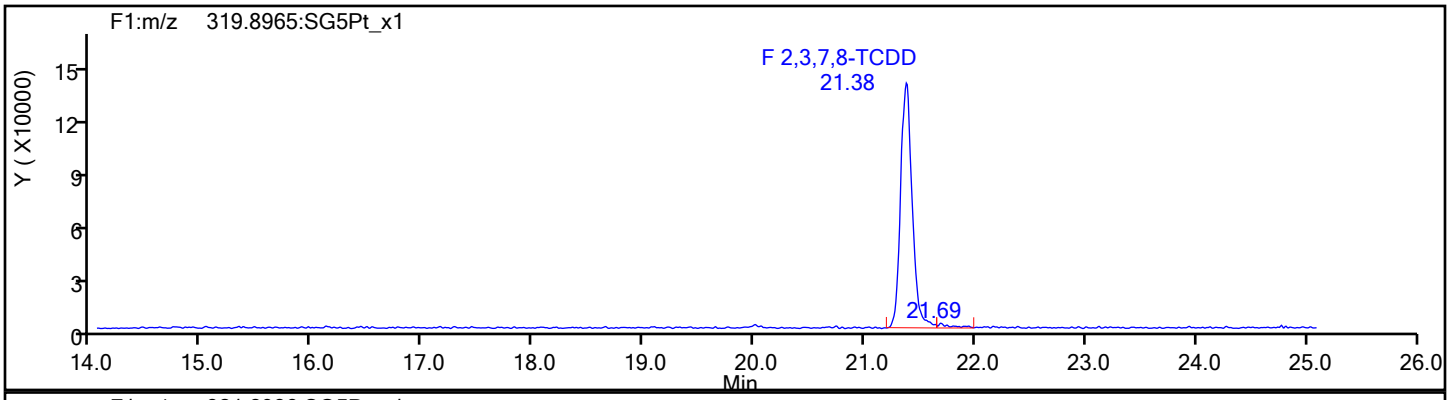
TCDF Interference Mass

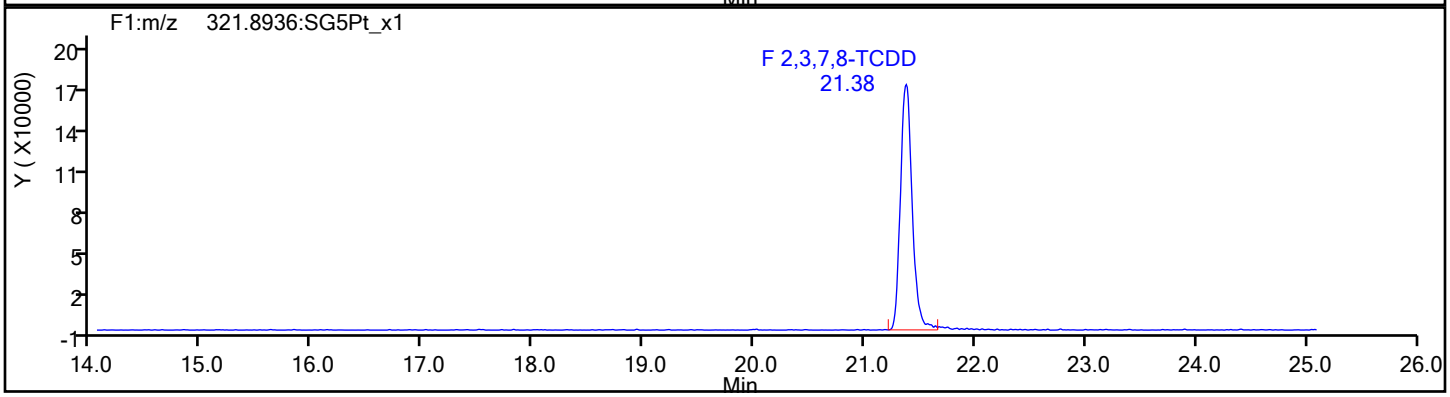


Eurofins TestAmerica, Sacramento

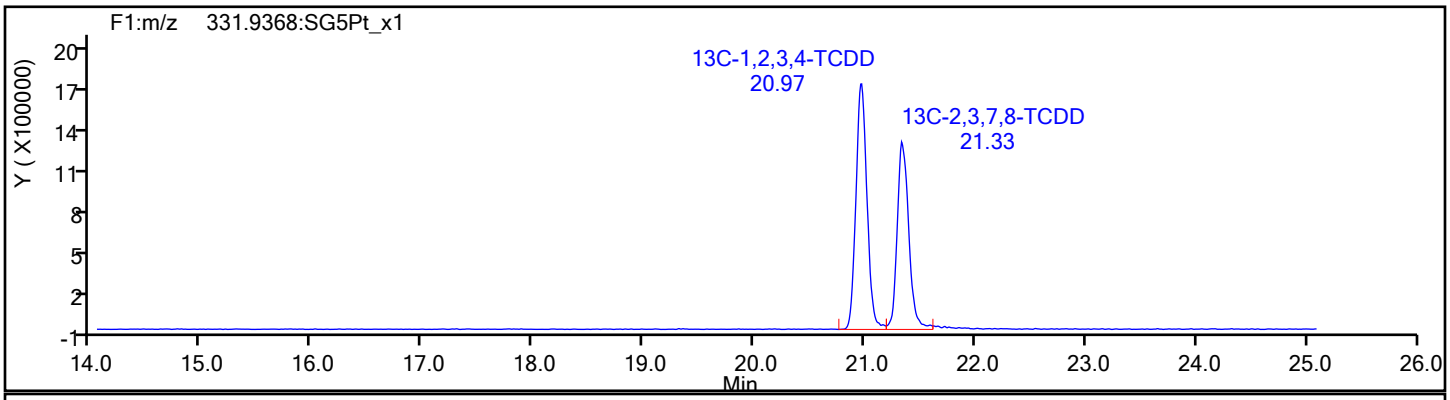
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d		
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

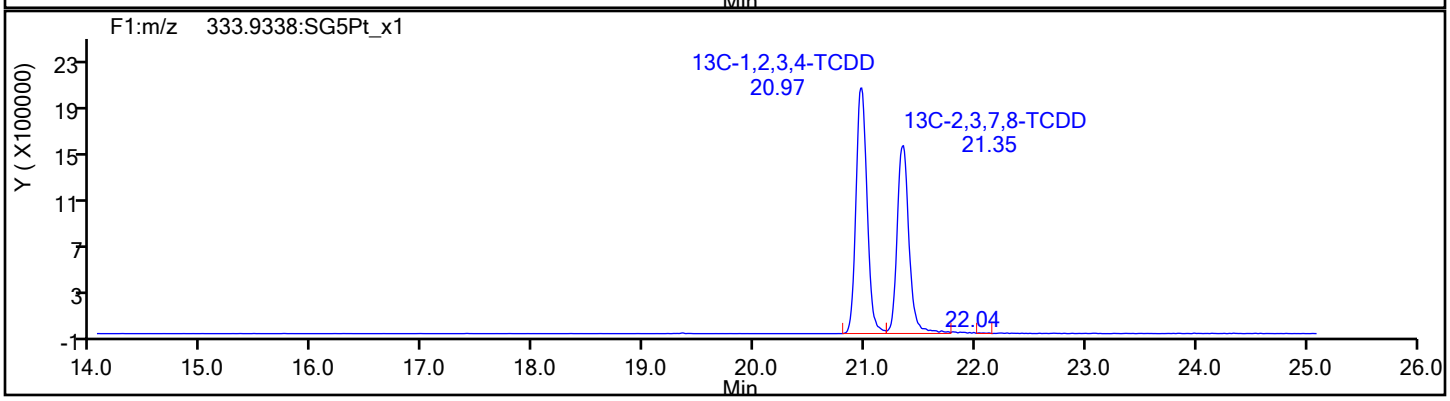
TCDD





TCDD Standards



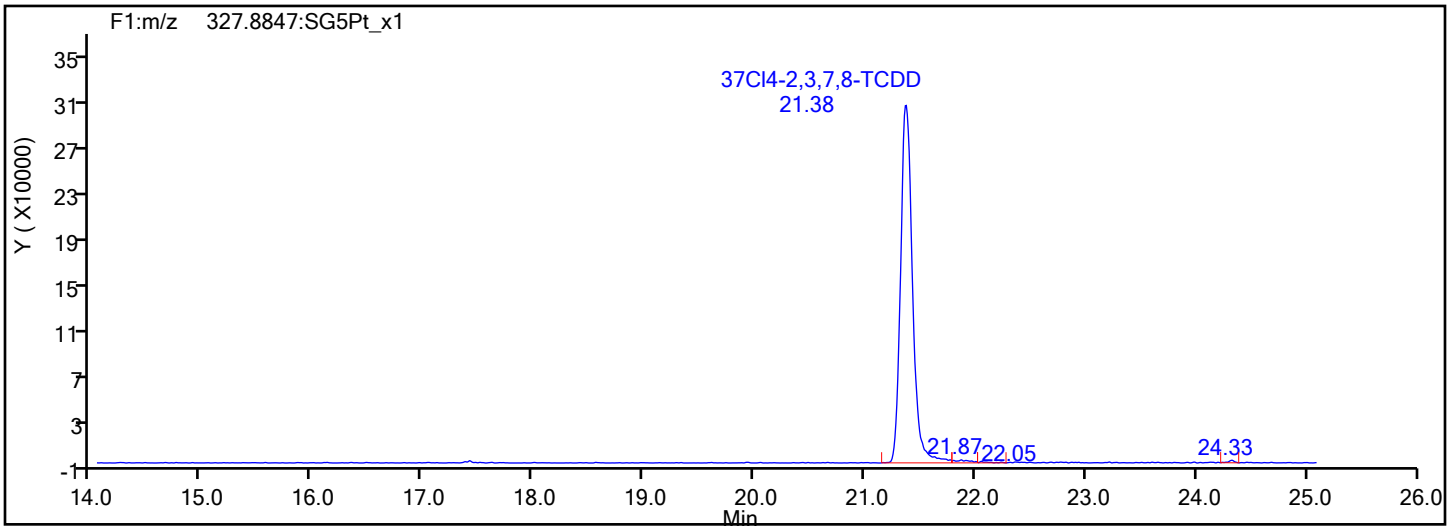


Report Date: 28-Dec-2021 14:26:08 Chrom Revision: 2.3 15-Nov-2021 20:34:30

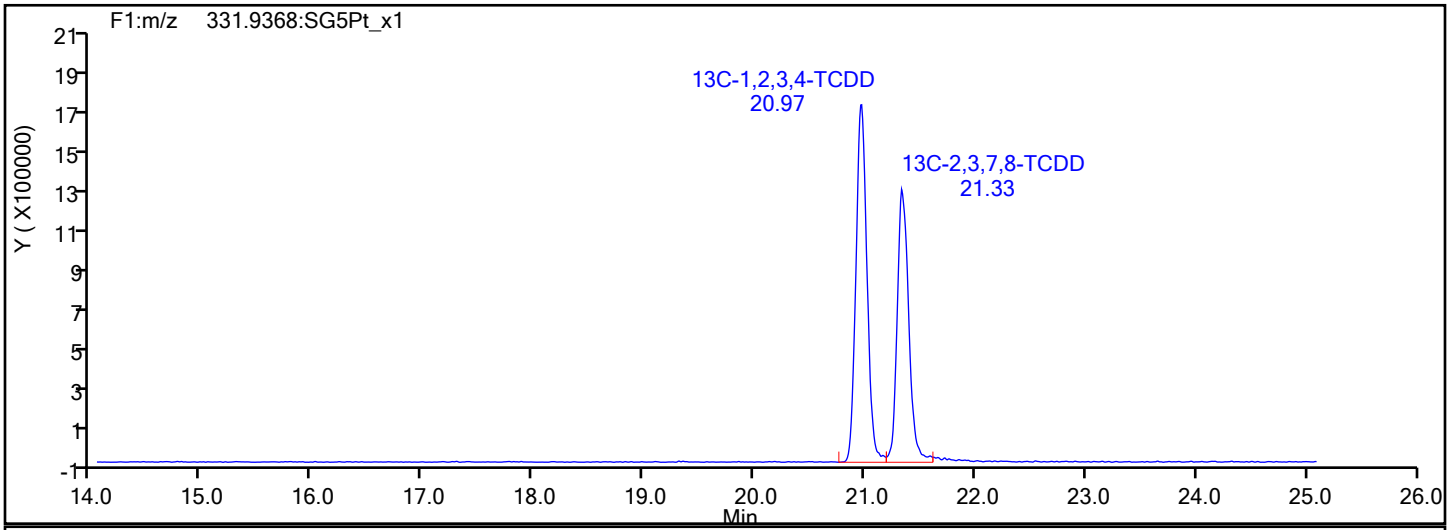
Eurofins TestAmerica, Sacramento

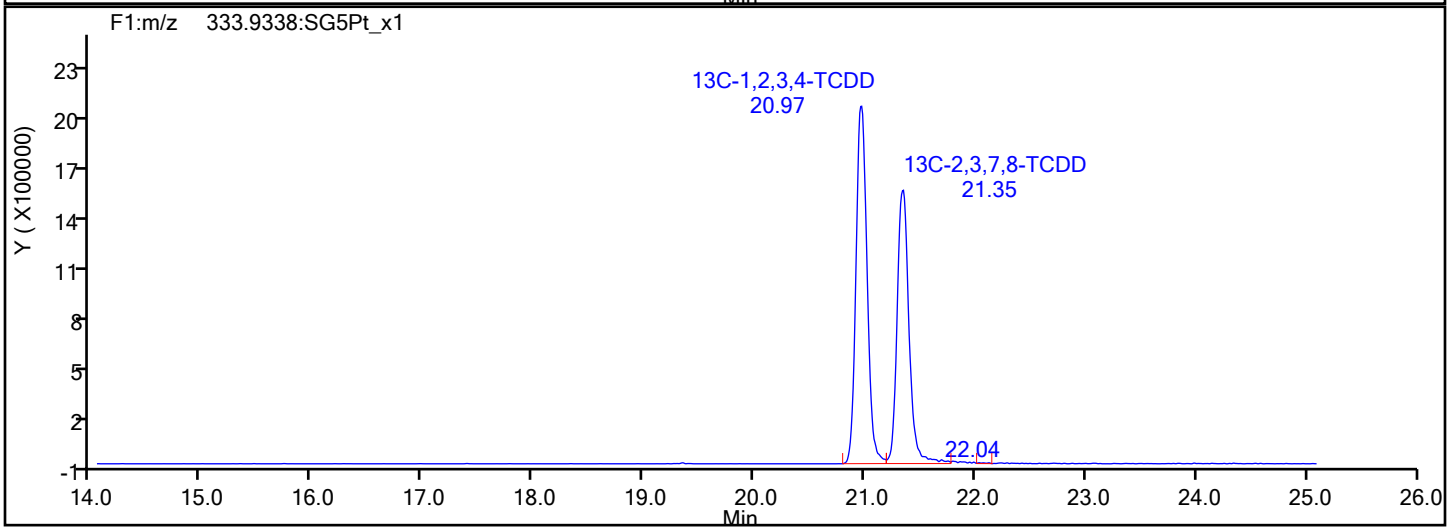
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d		
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



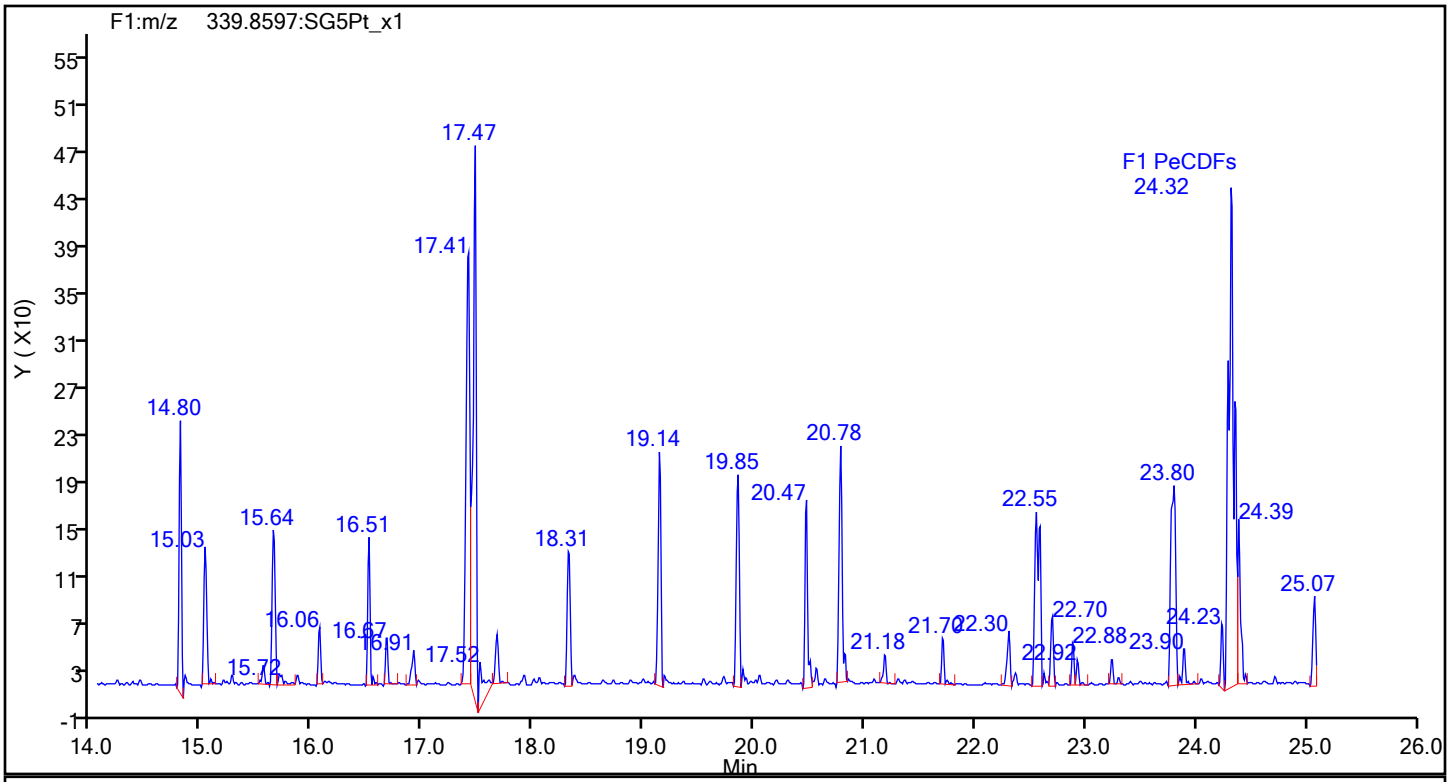


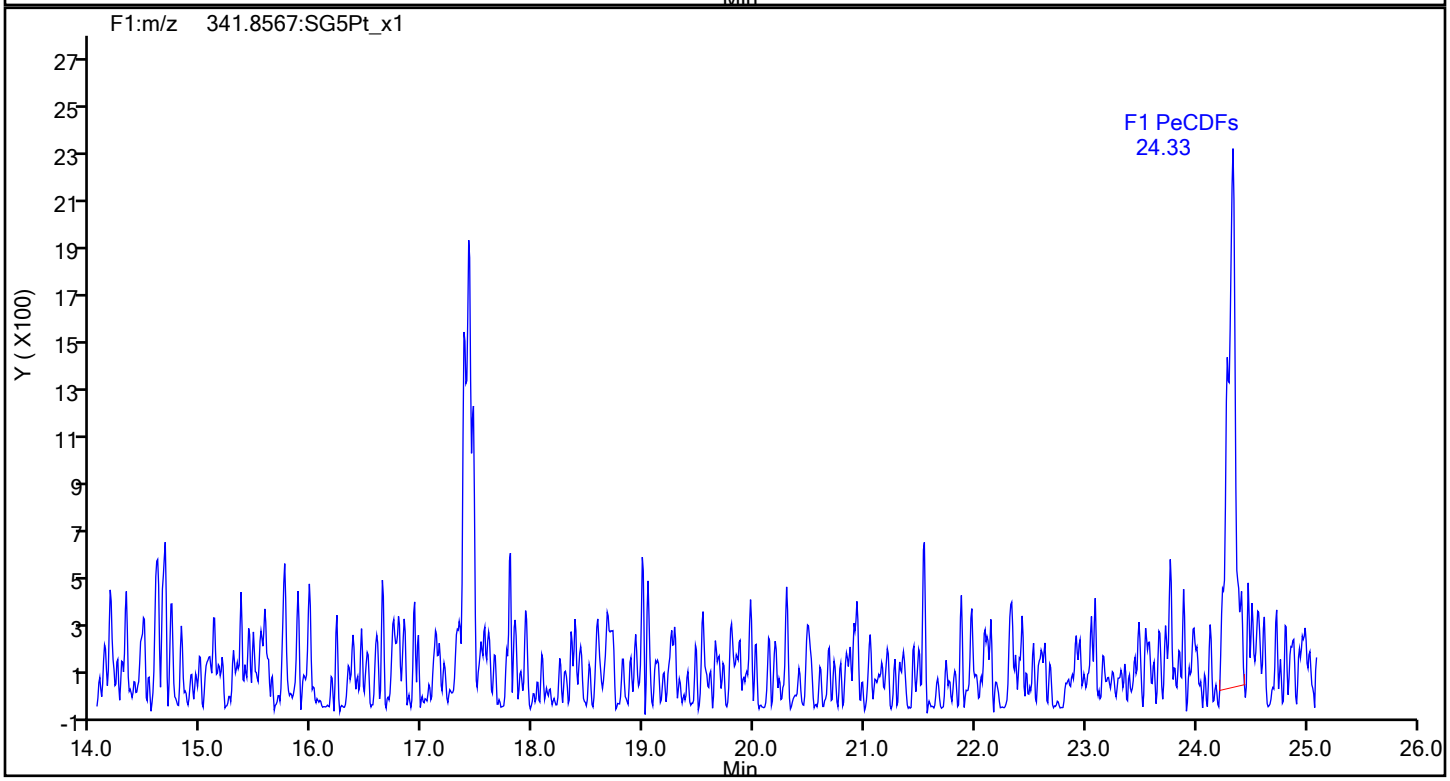
Report Date: 28-Dec-2021 14:26:08 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d		
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

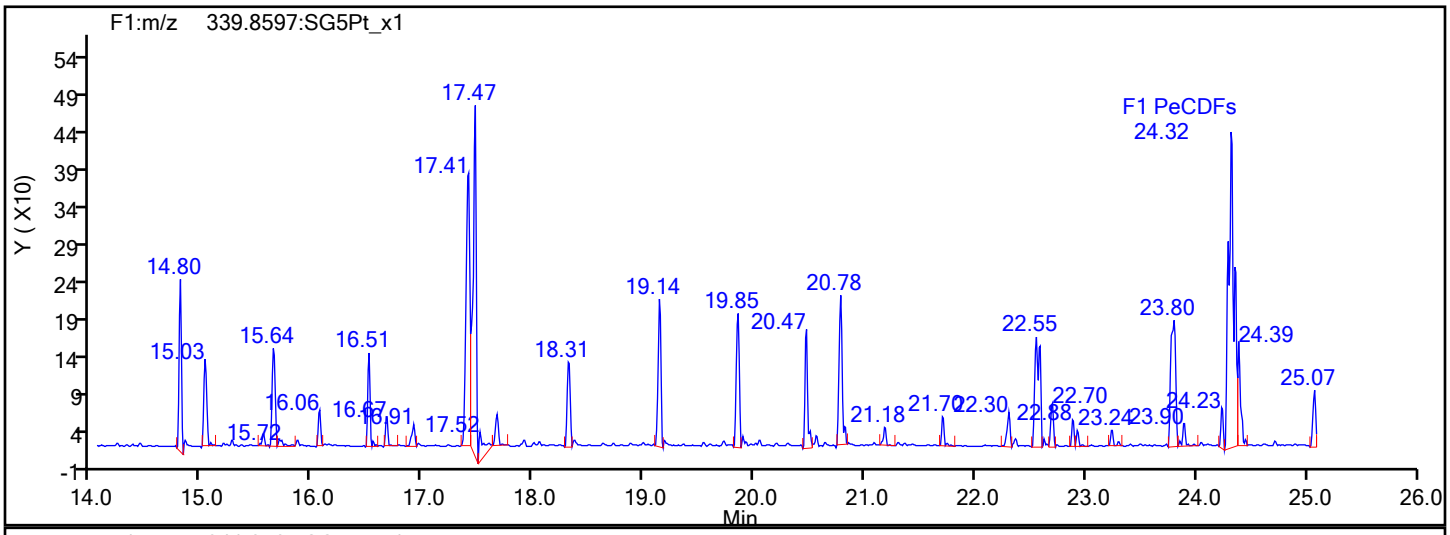


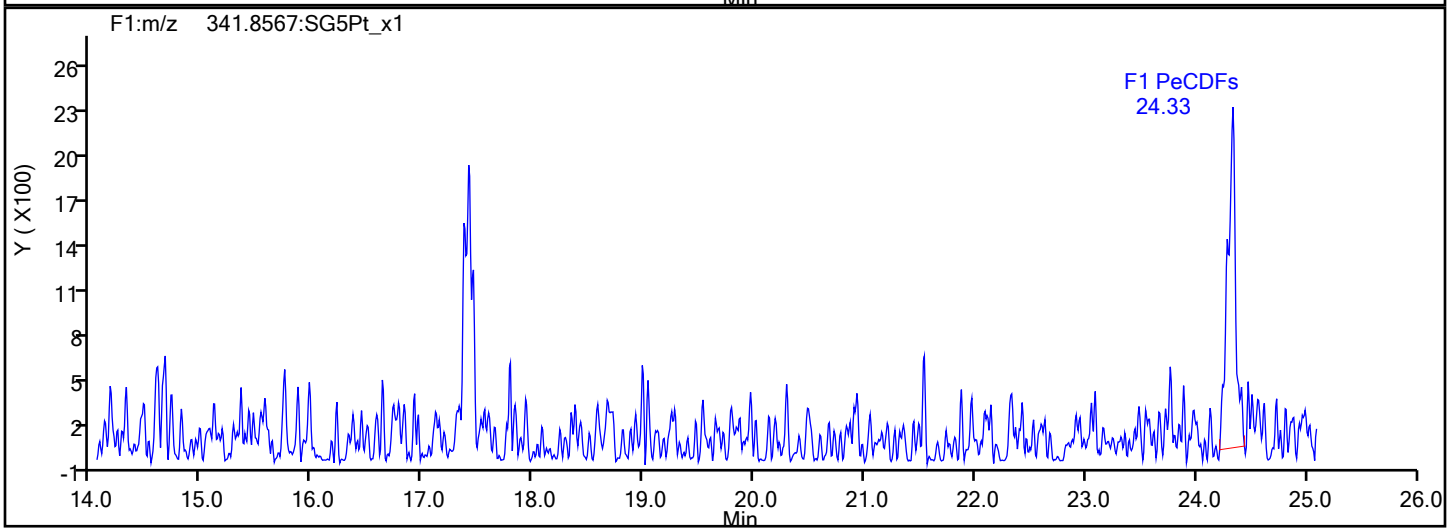


Eurofins TestAmerica, Sacramento

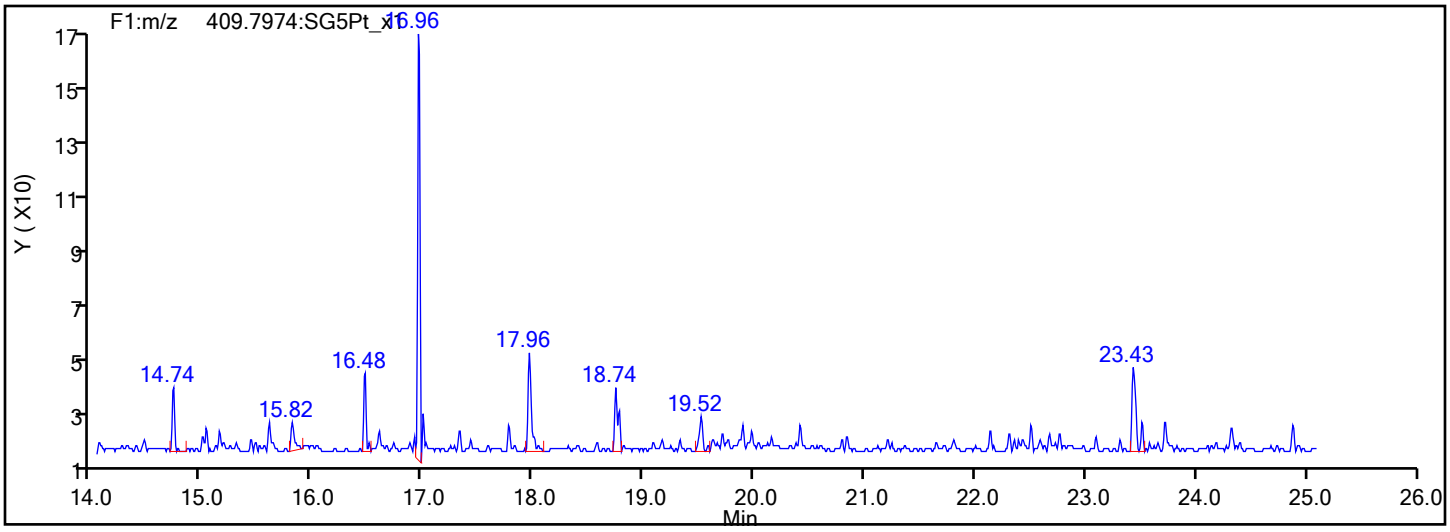
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d		
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

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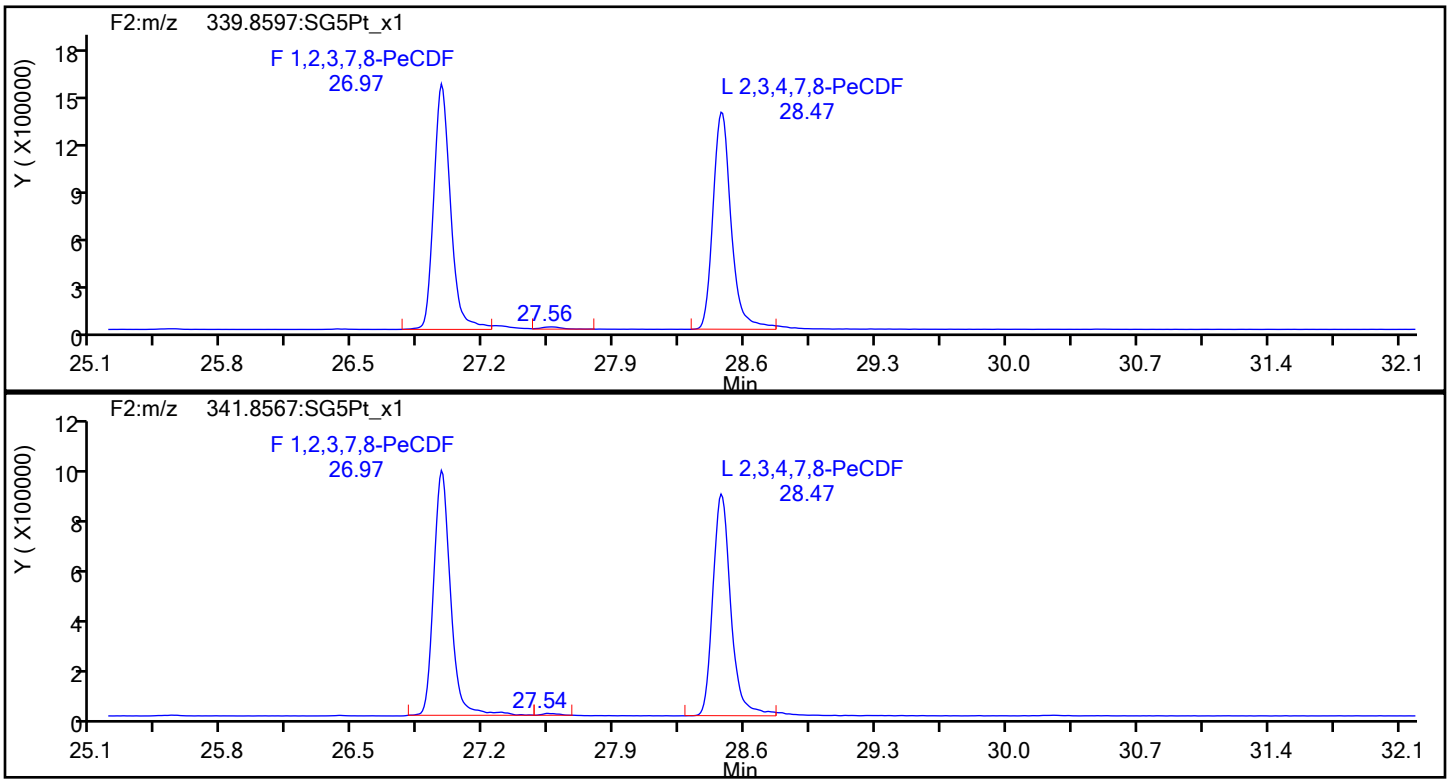
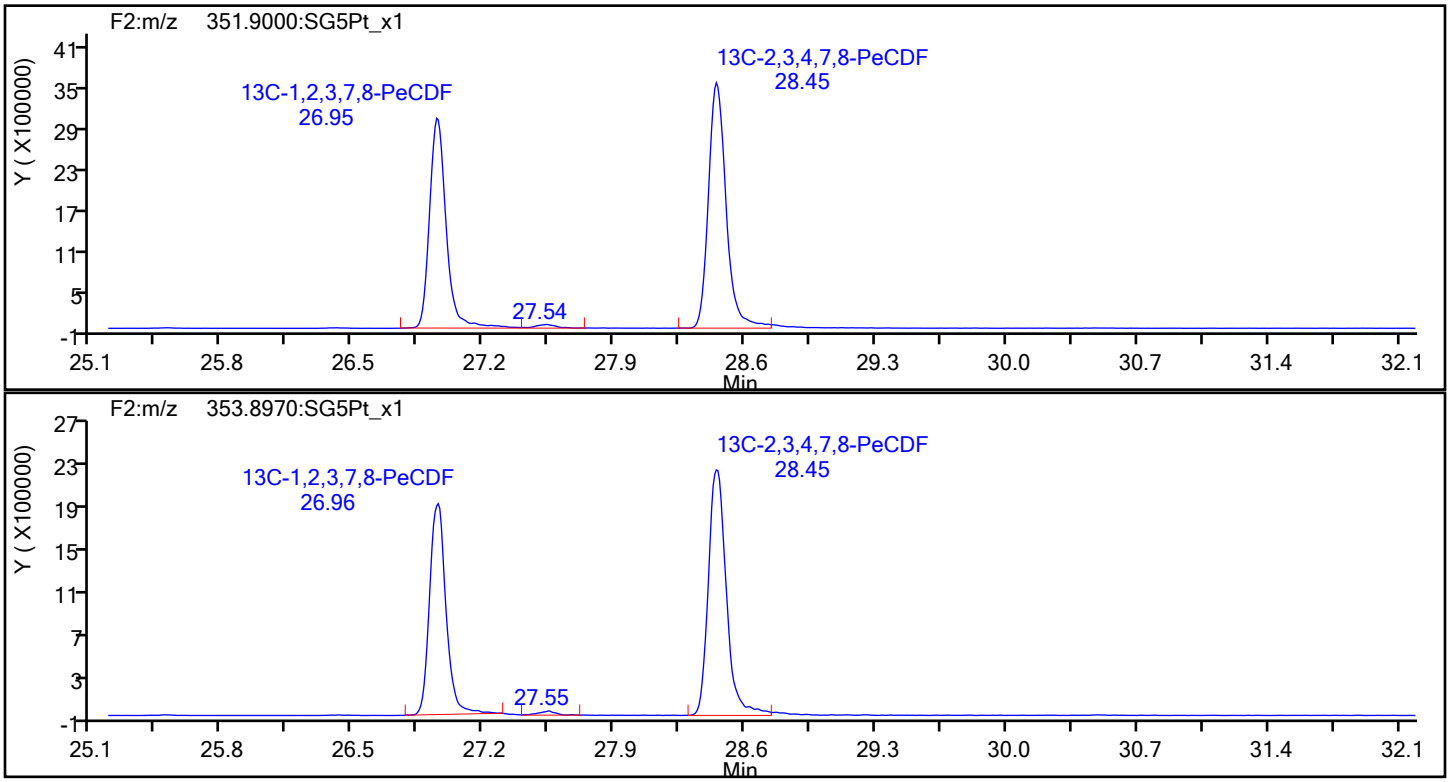
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins TestAmerica, Sacramento

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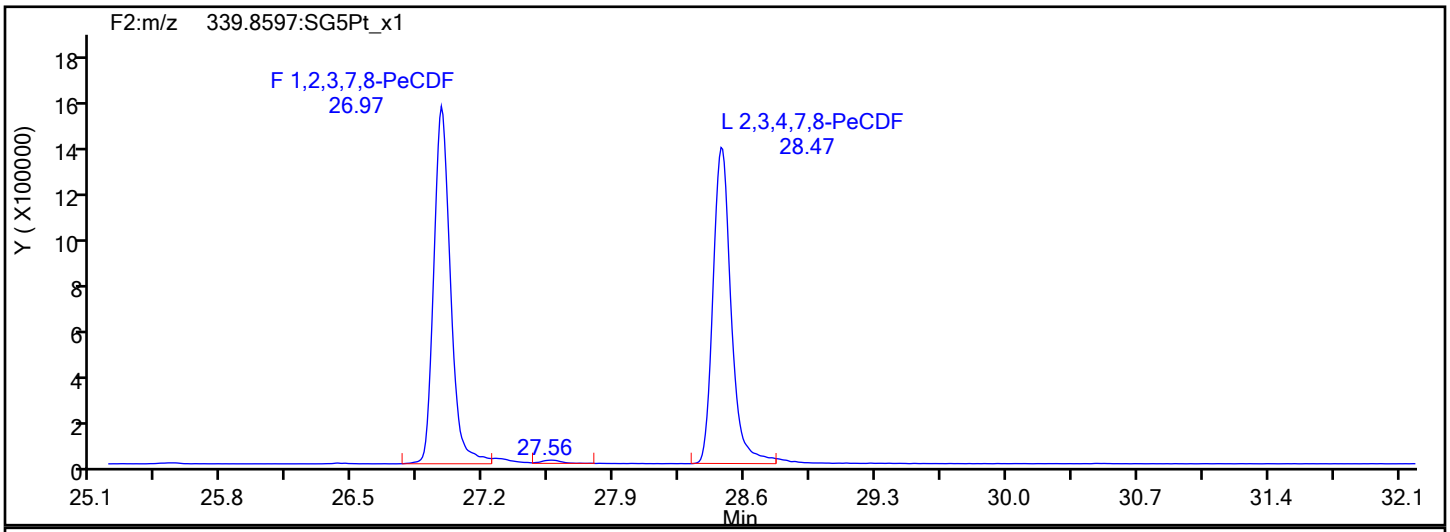
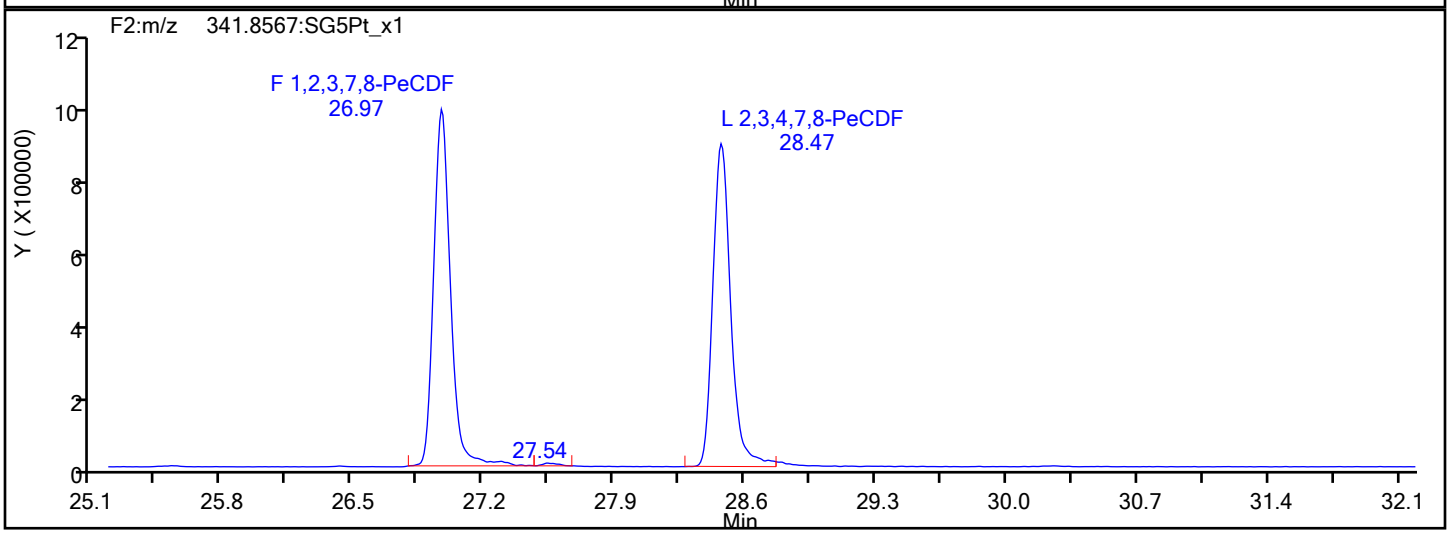
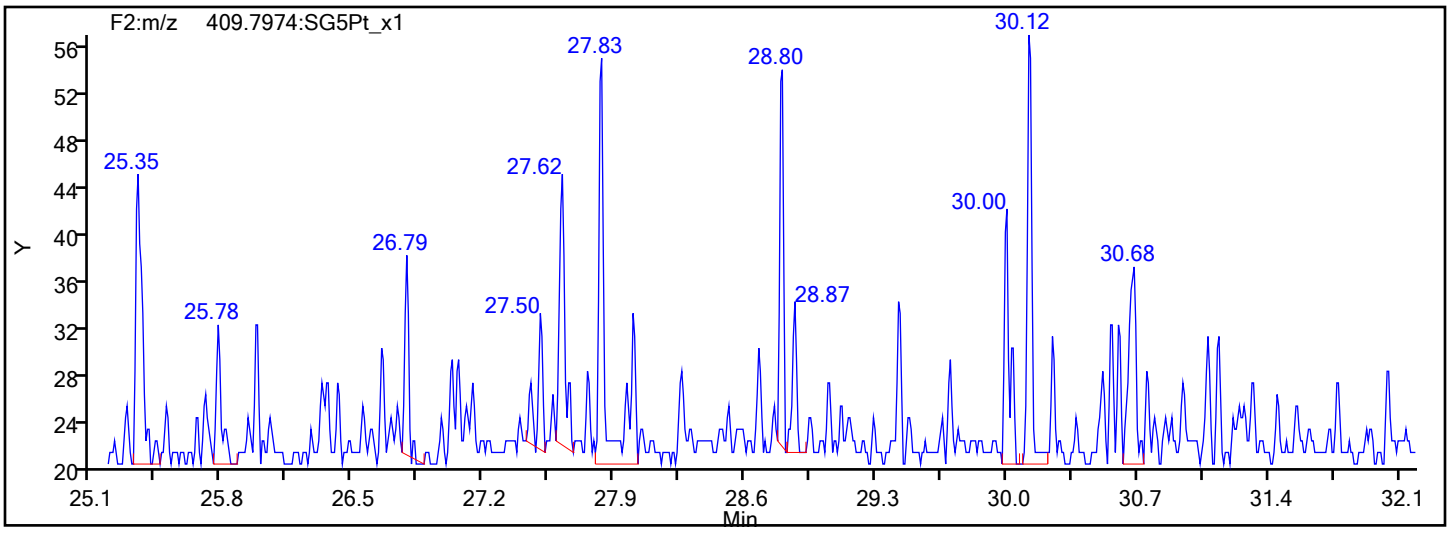




PeCDF Interference Mass



Eurofins TestAmerica, Sacramento

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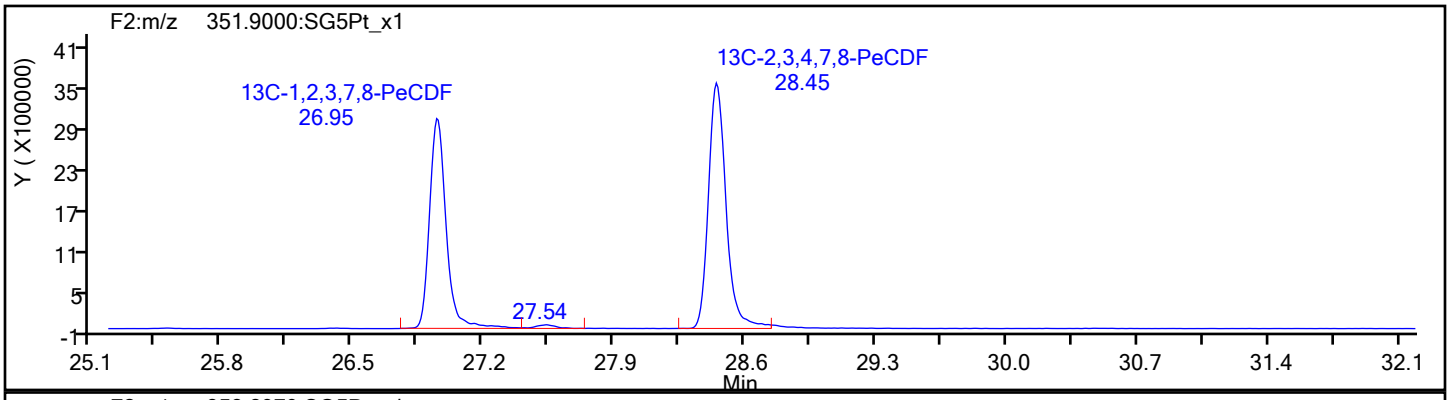
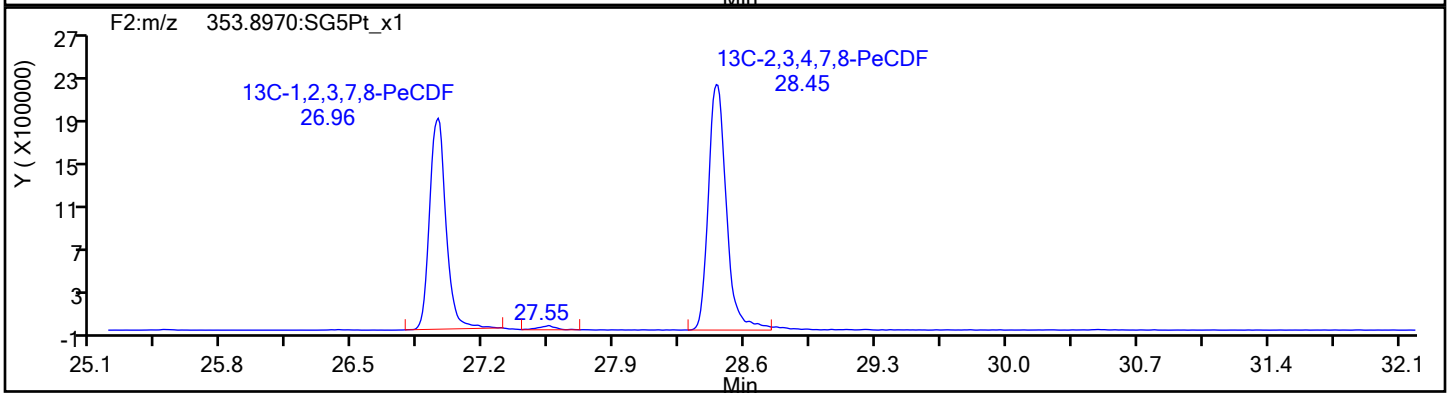
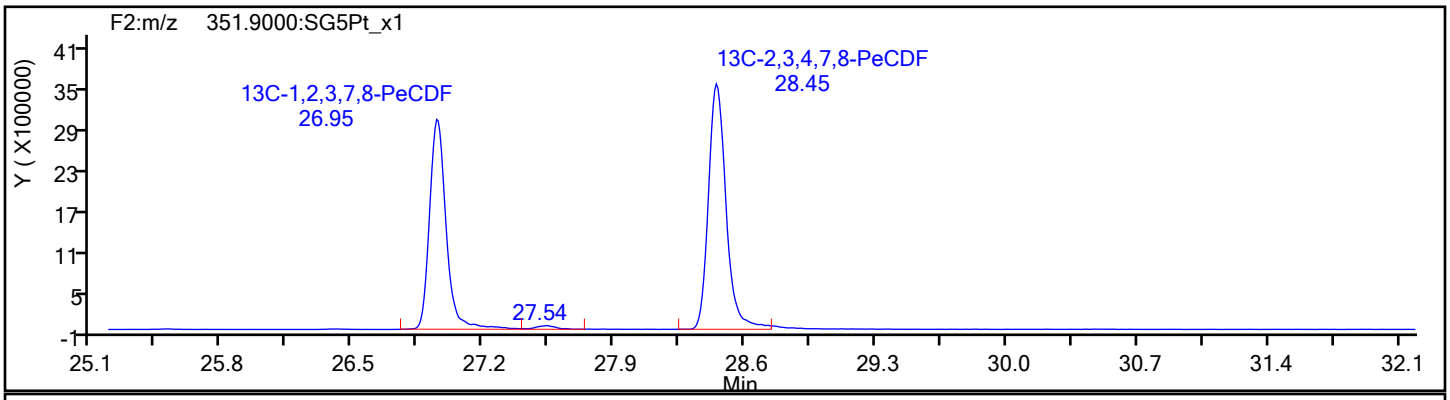
Column Type:	DB-5	Column Dia:	0.32 mm

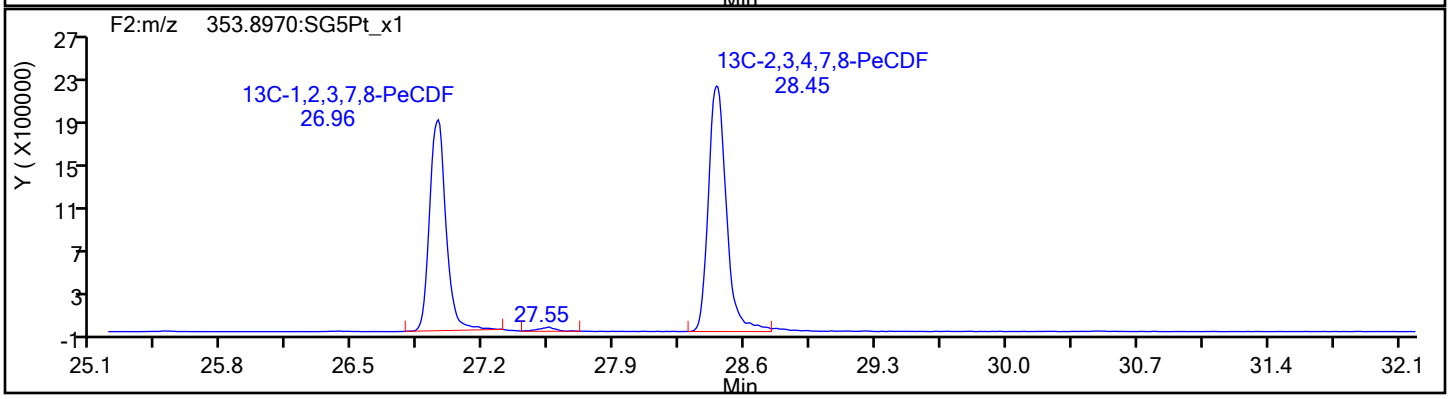
13C-PeCDF





13C-PeCDF Standards





Eurofins TestAmerica, Sacramento

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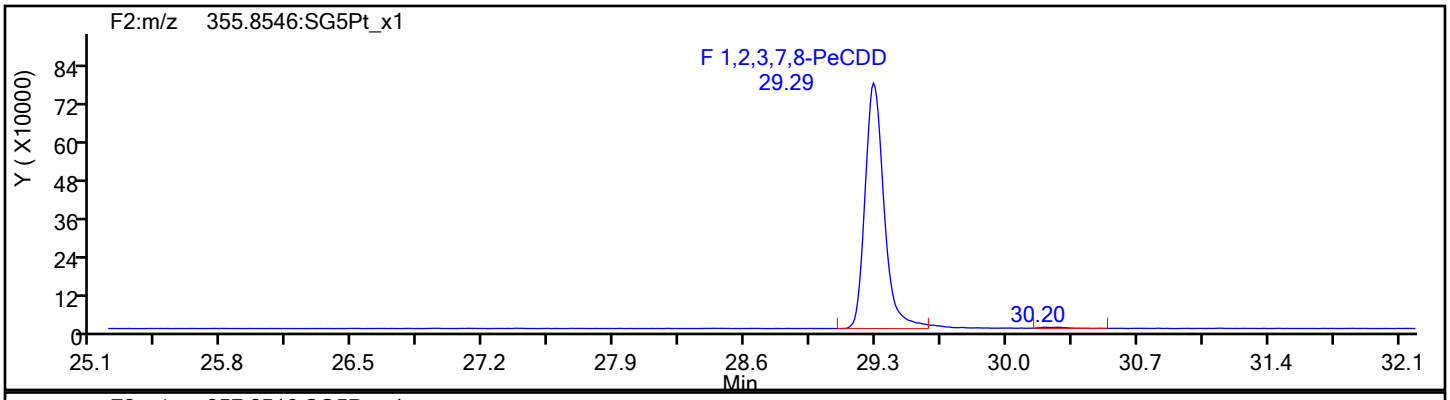
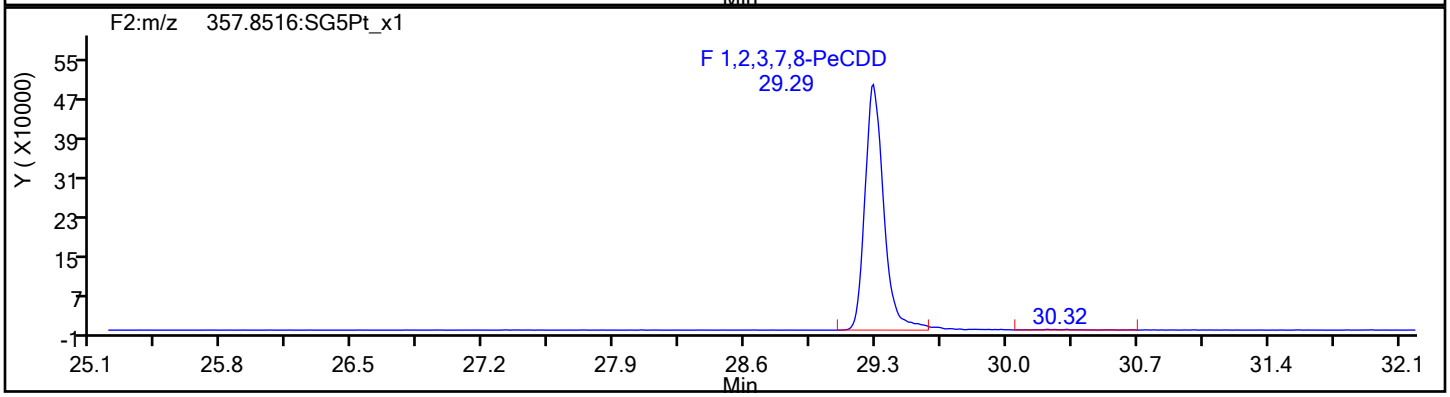
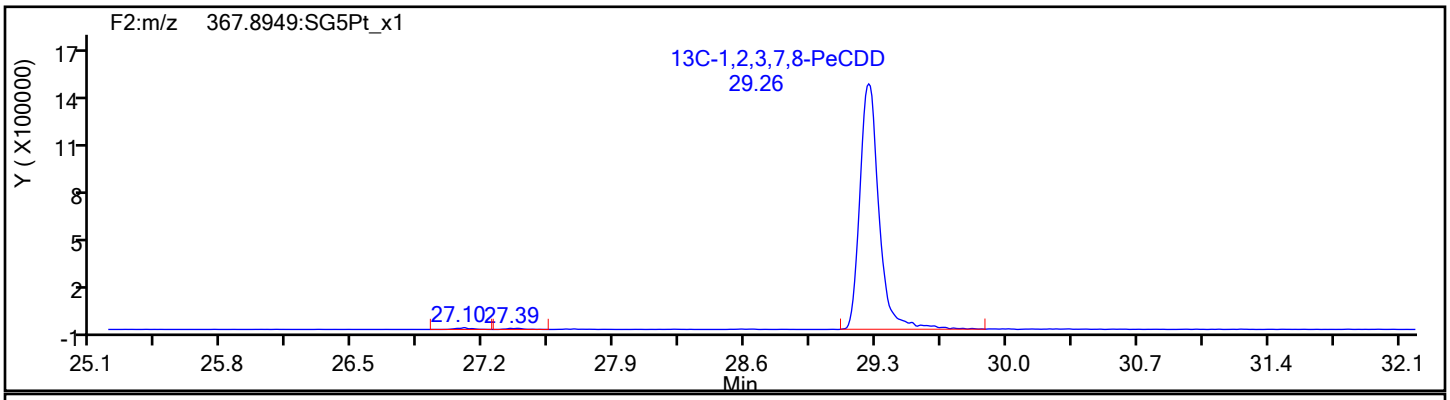
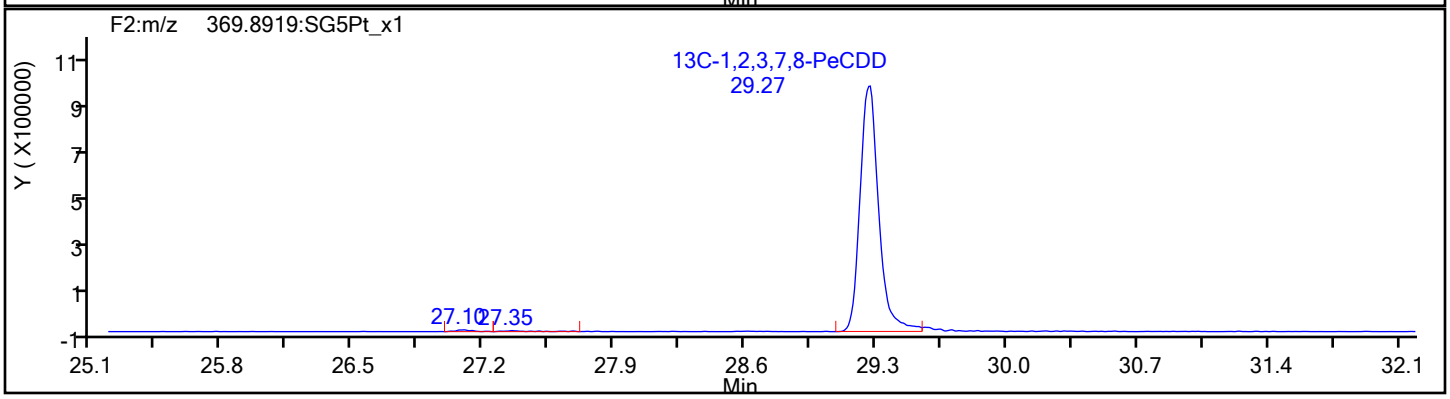
PeCDD





PeCDD Standards





Eurofins TestAmerica, Sacramento

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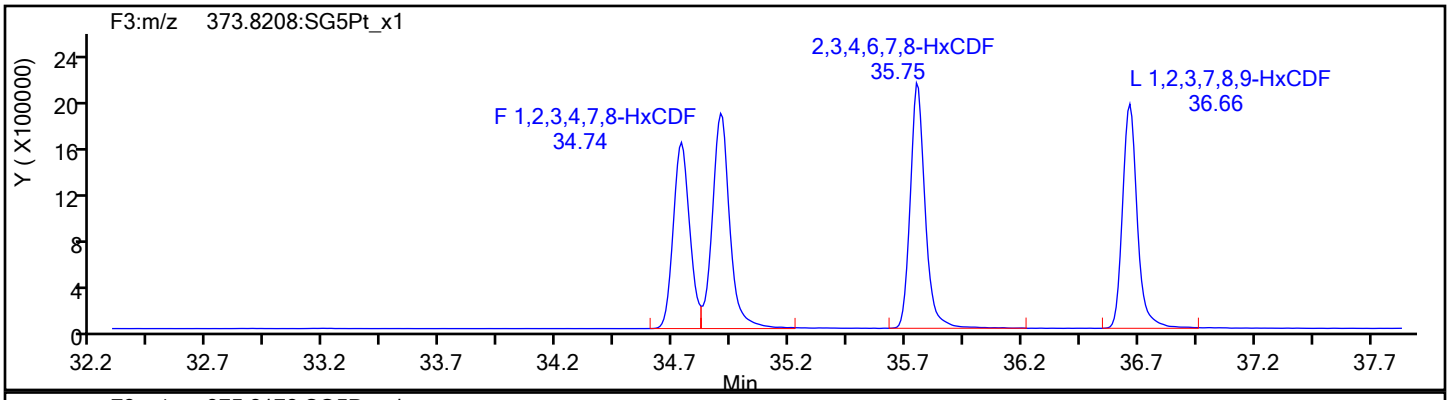
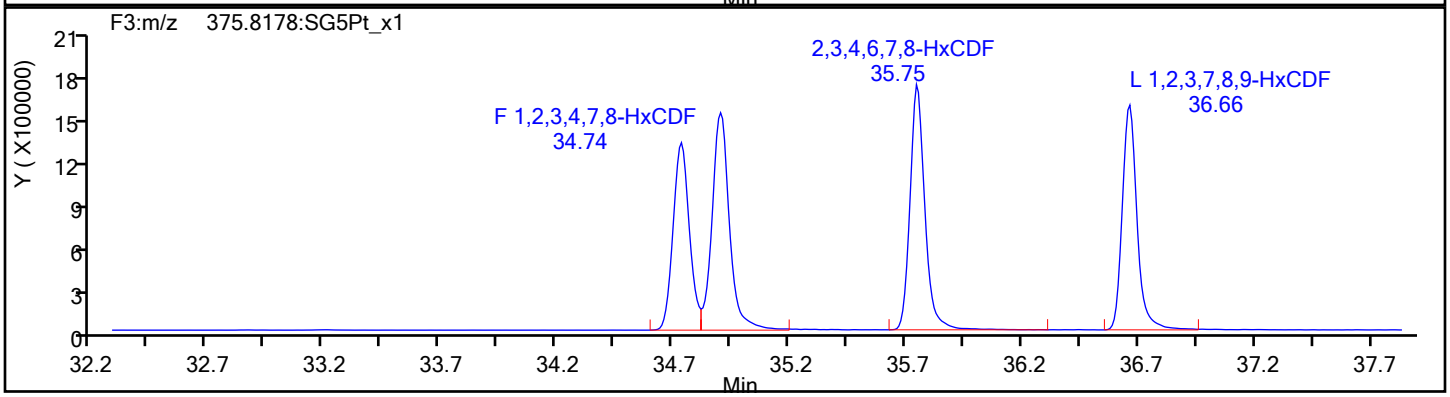
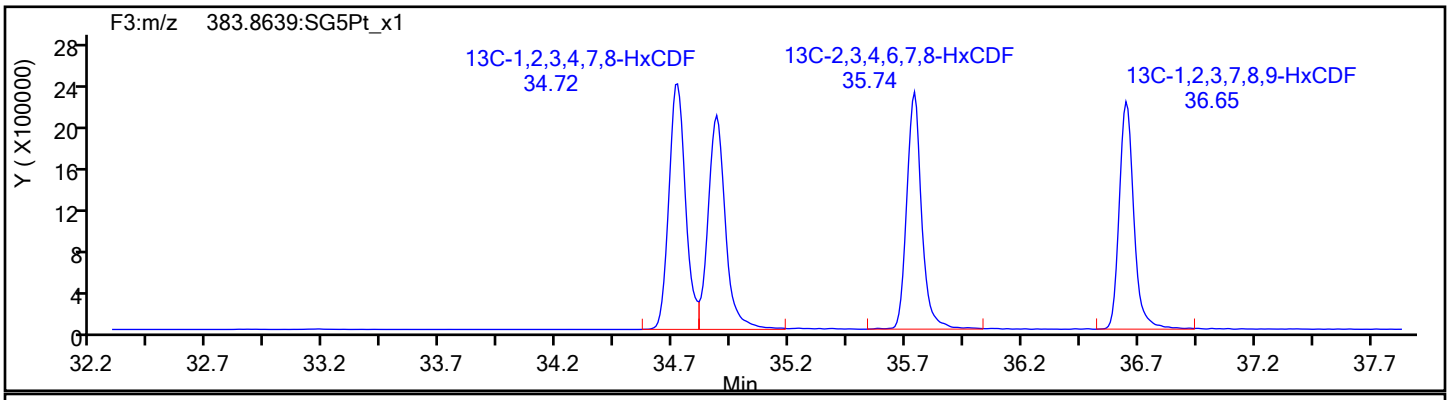
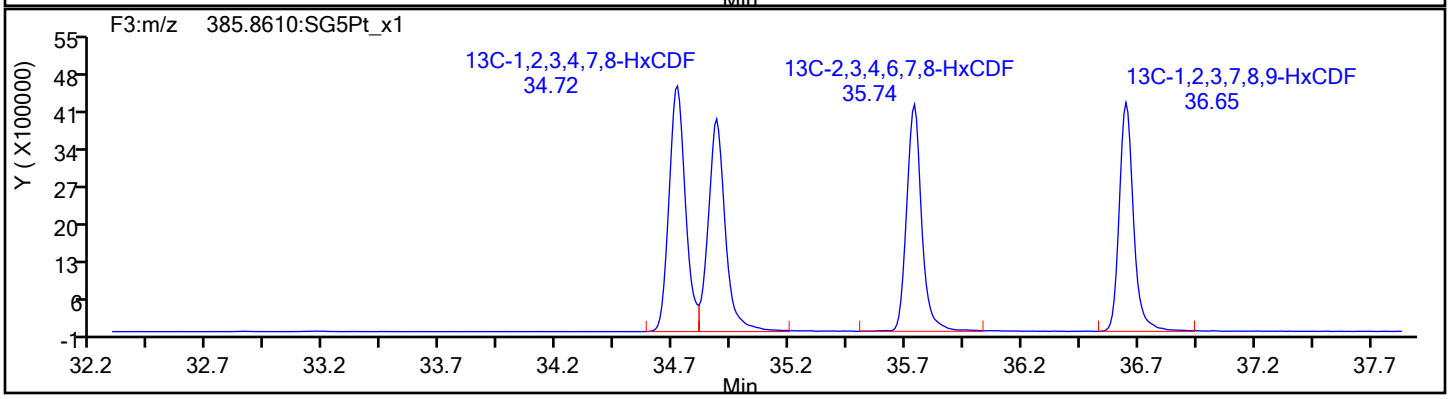
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

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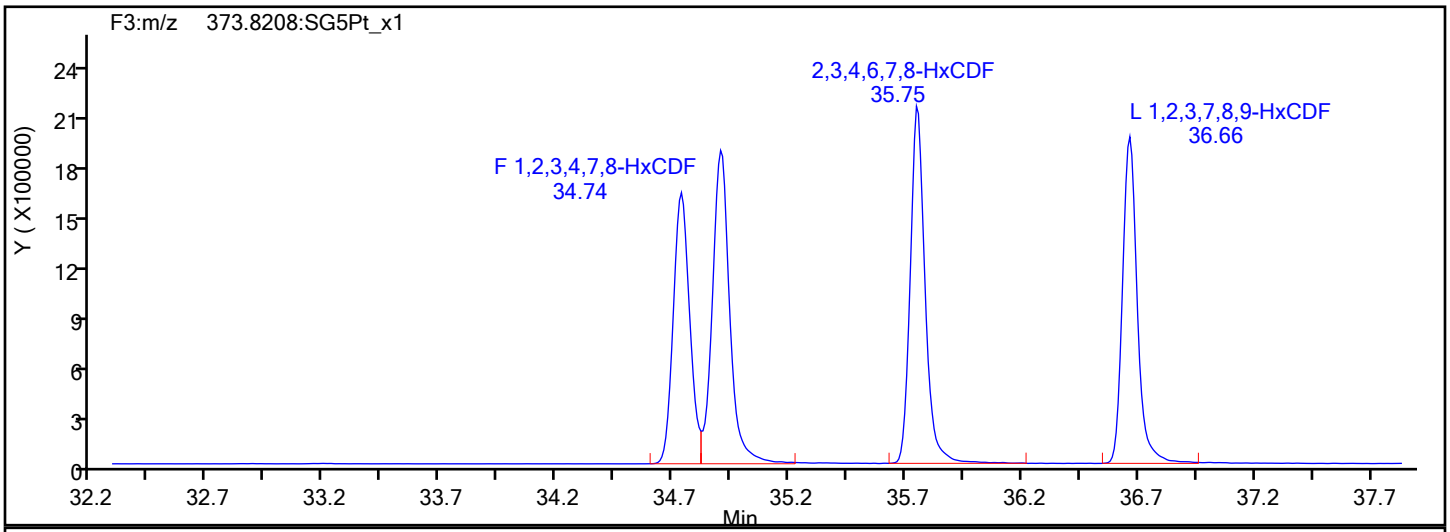
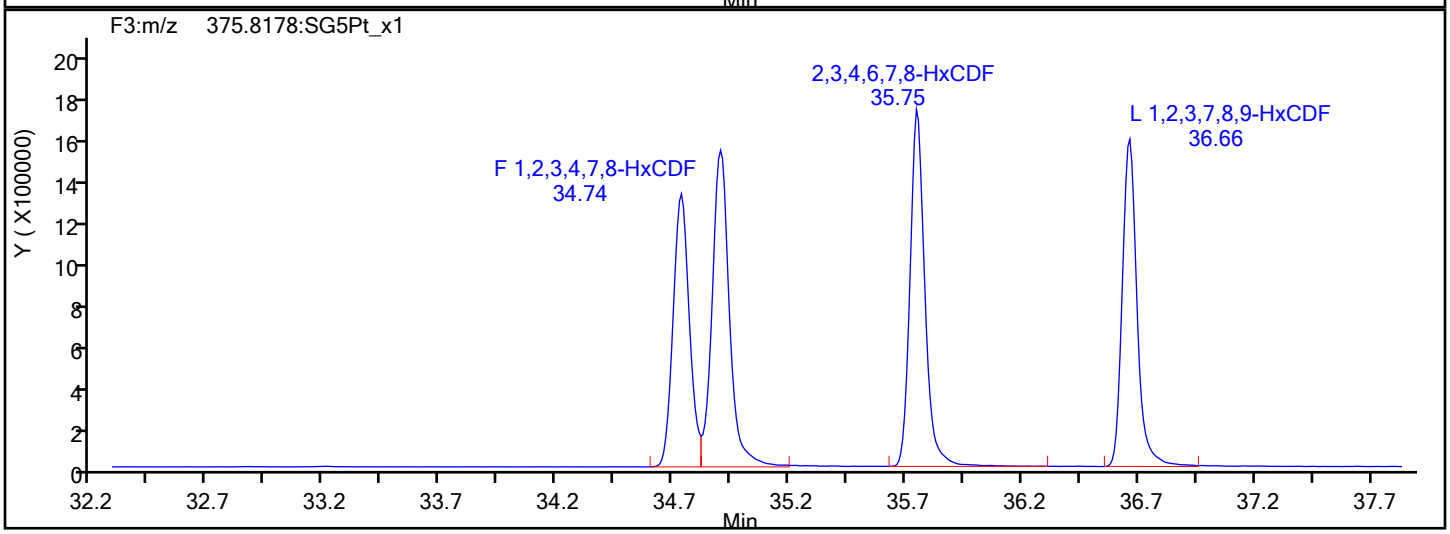
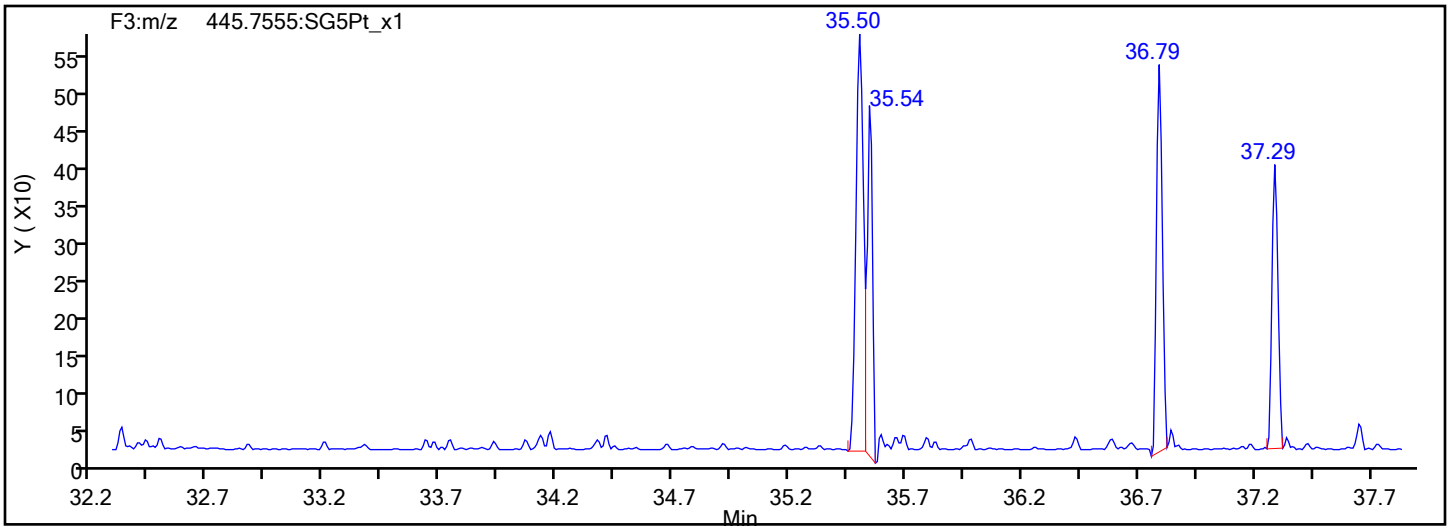
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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Client ID:			
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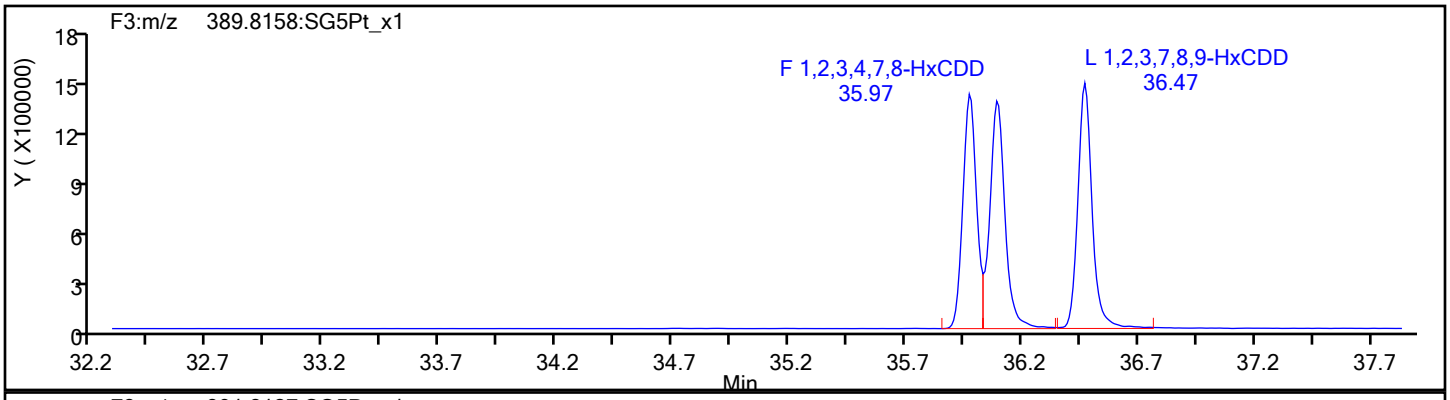
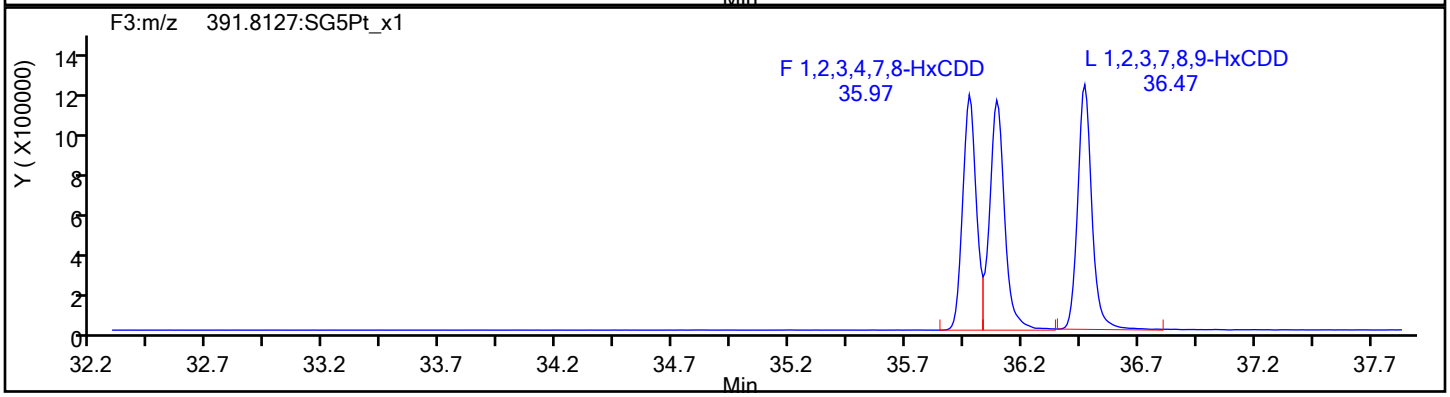
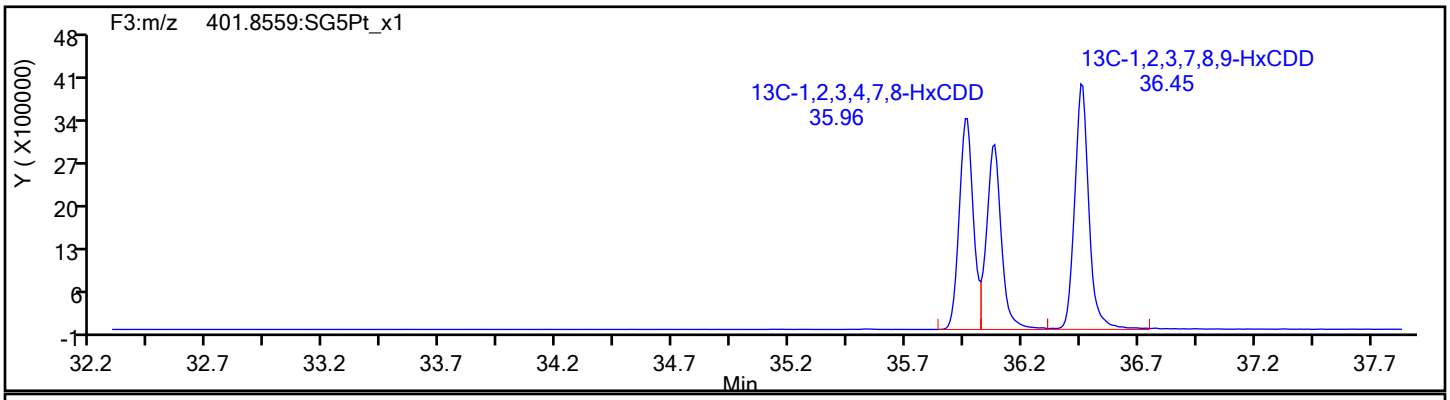
Column Type:	DB-5	Column Dia:	0.32 mm

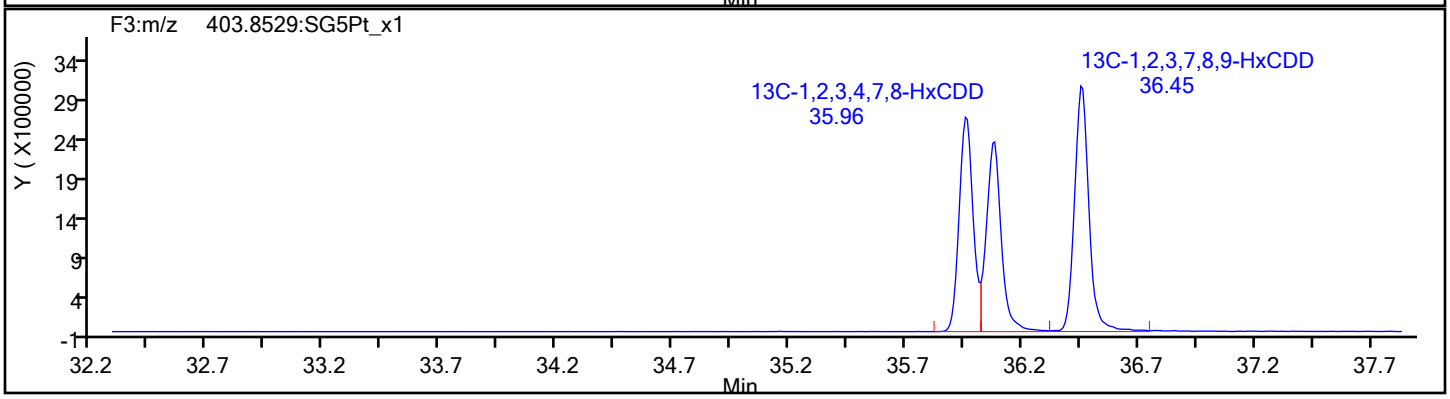
HxCDD





HxCDD Standards





Report Date: 28-Dec-2021 14:26:09 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d

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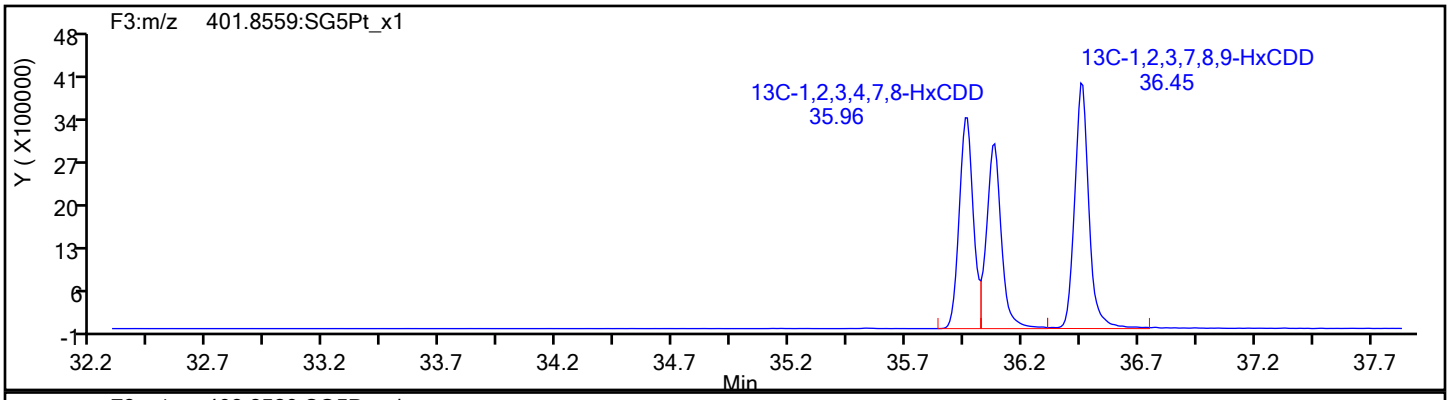
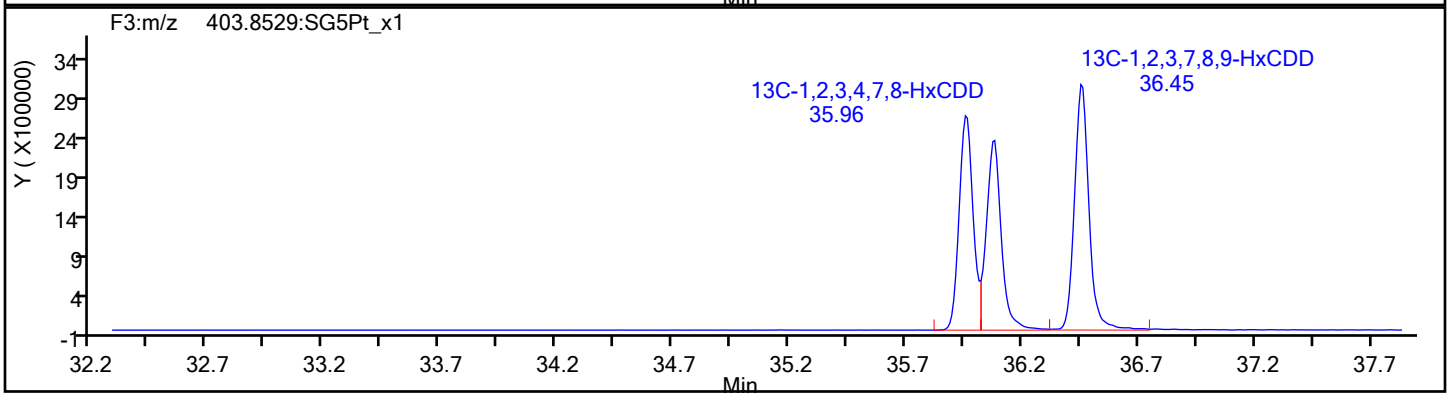
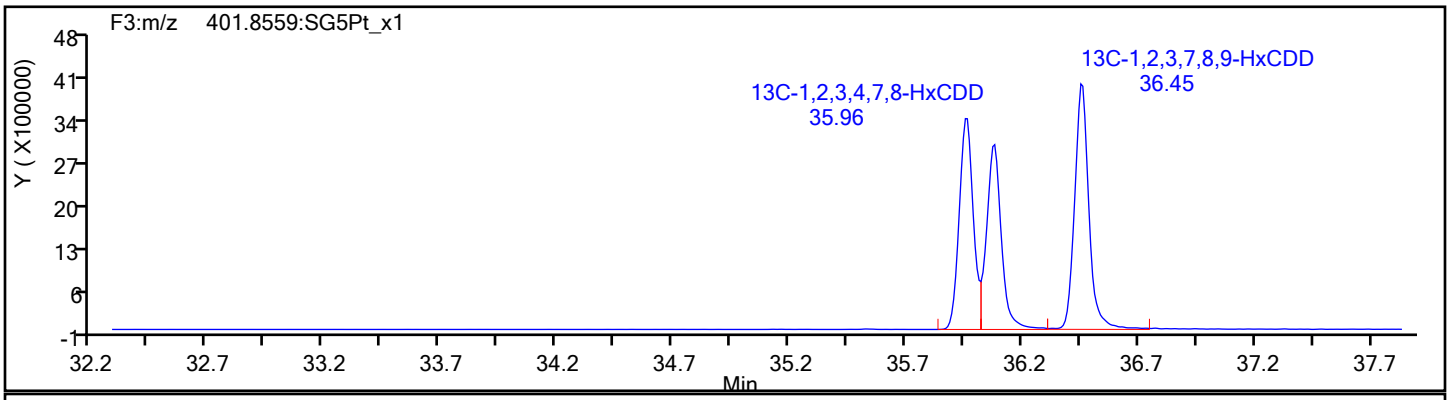
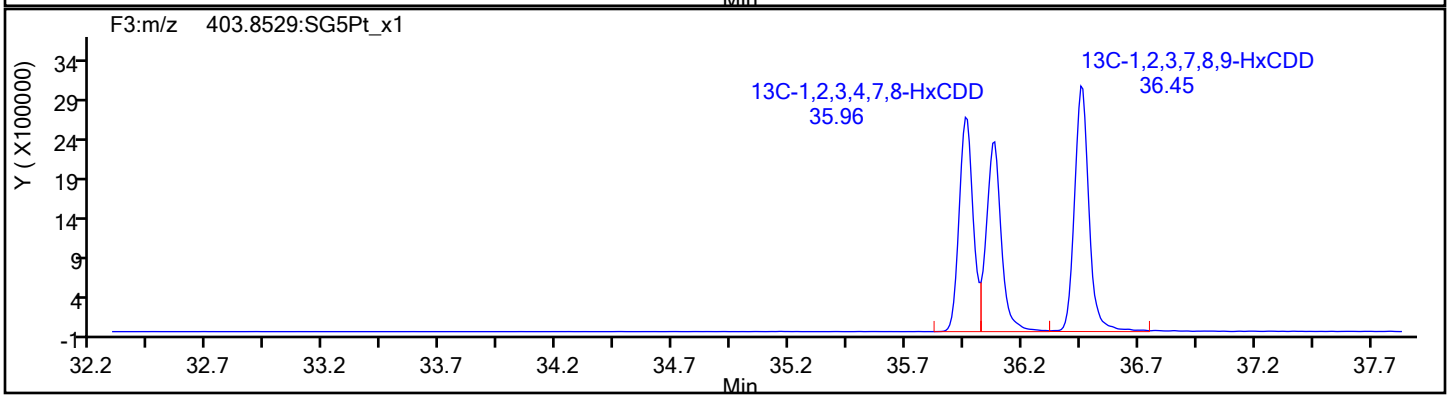
13C-HxCDD





13C-HxCDD Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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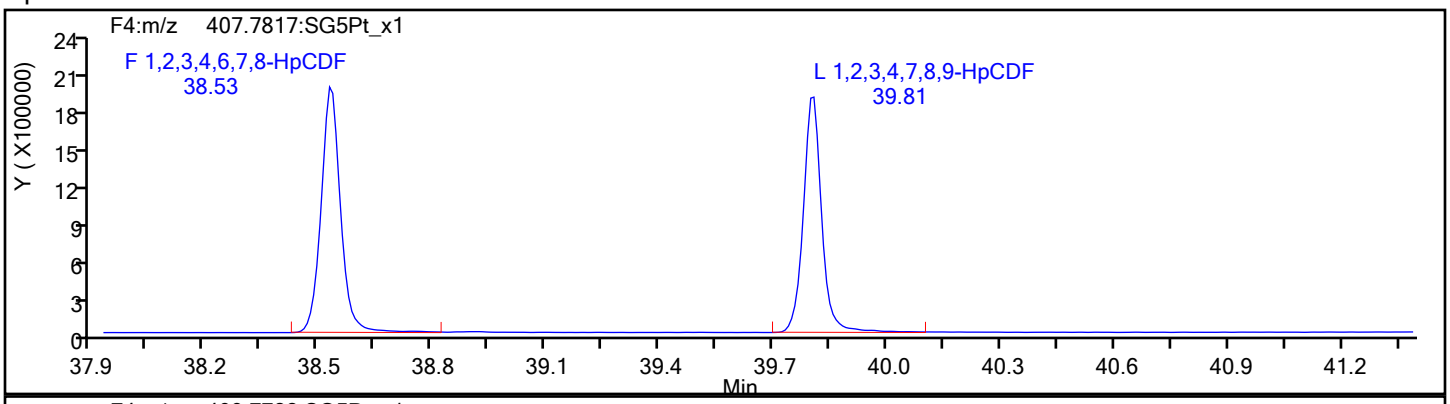
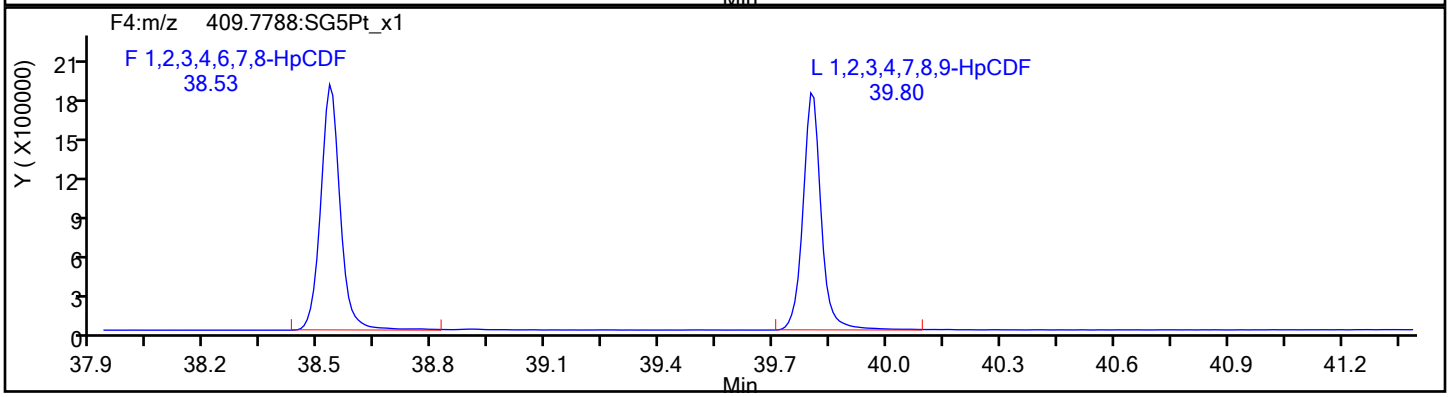
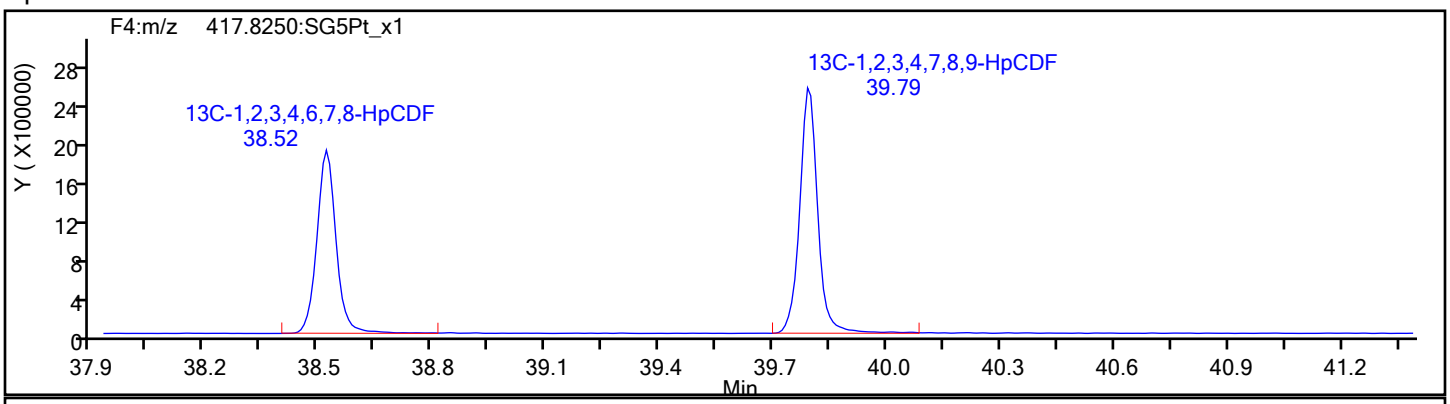
Column Type:	DB-5	Column Dia:	0.32 mm

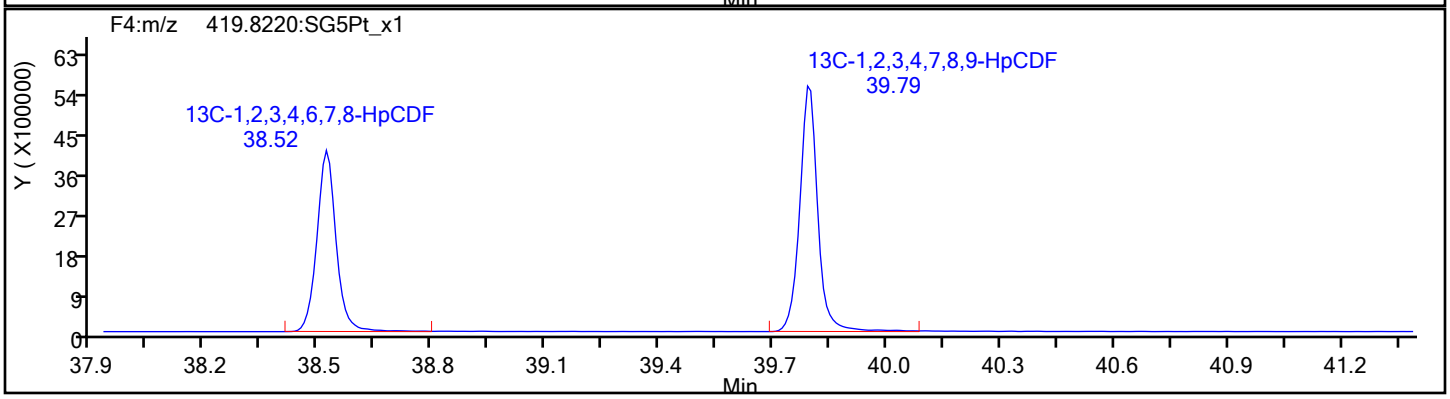
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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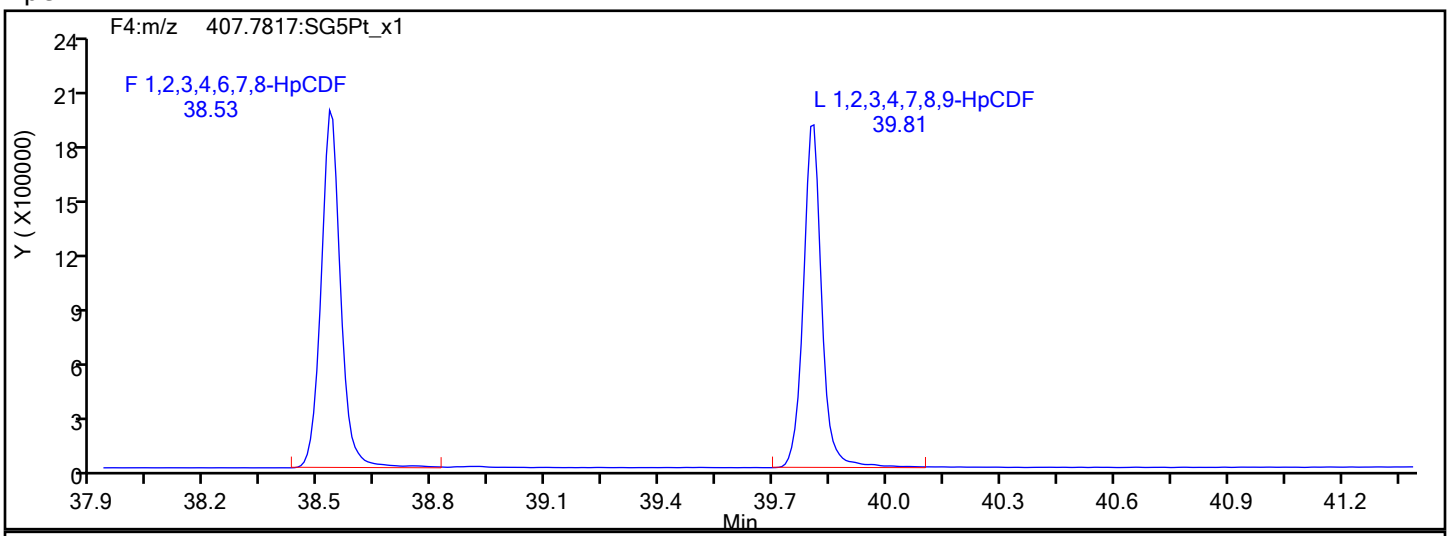
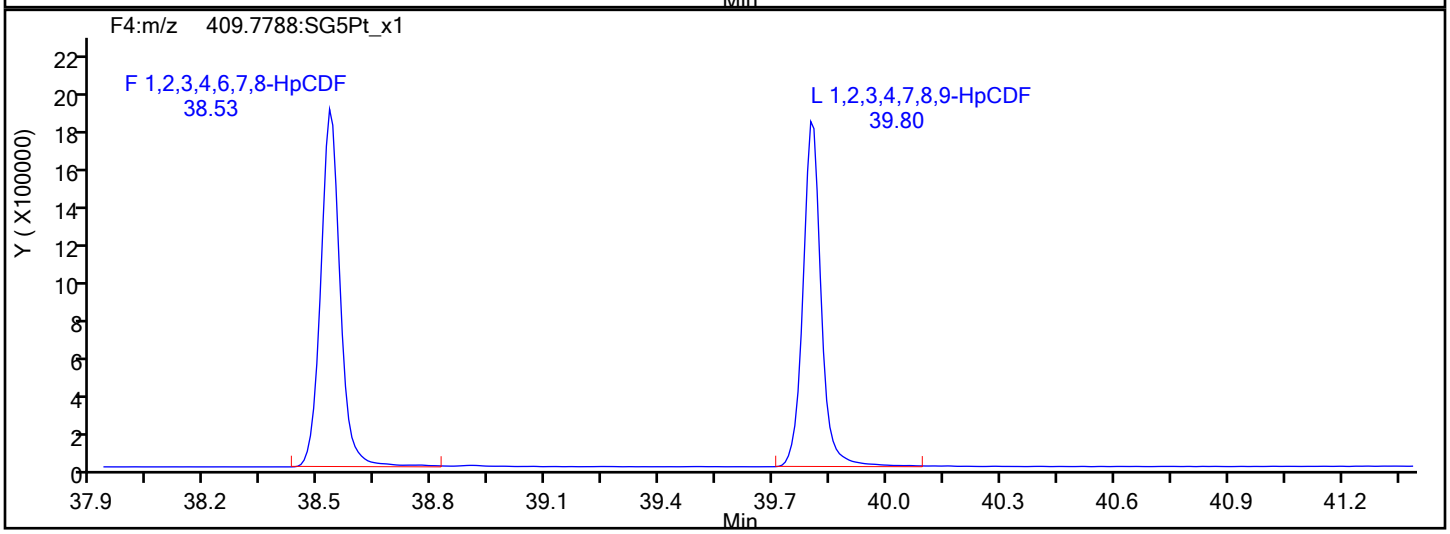
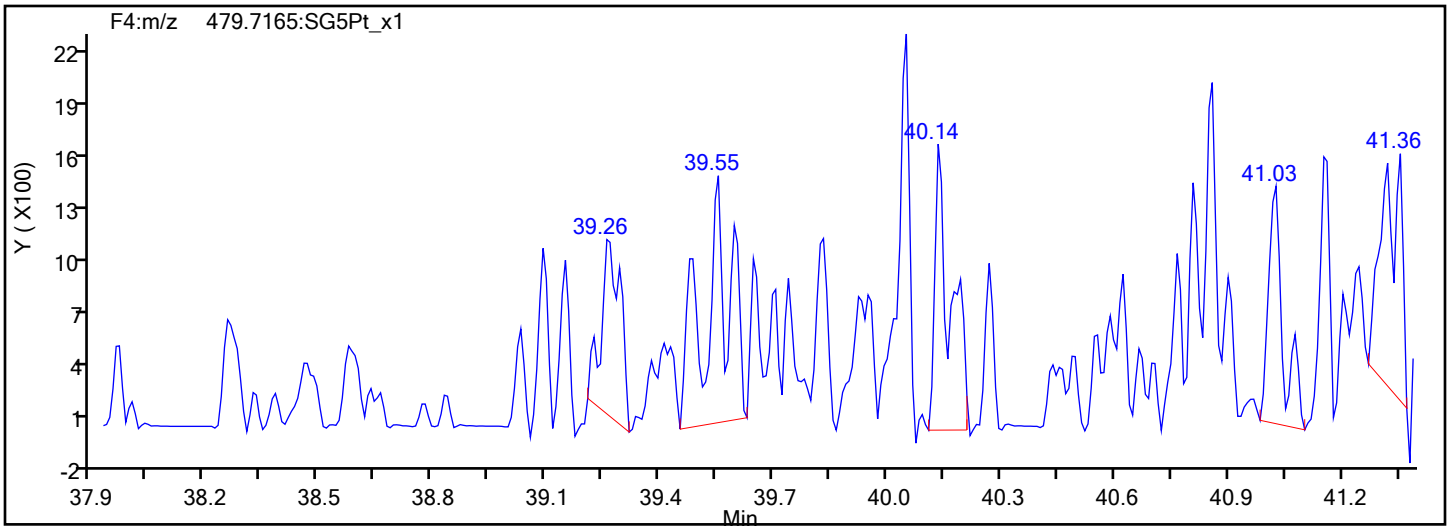
HpCDF





HpCDF Interference Mass



Report Date: 28-Dec-2021 14:26:09 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d

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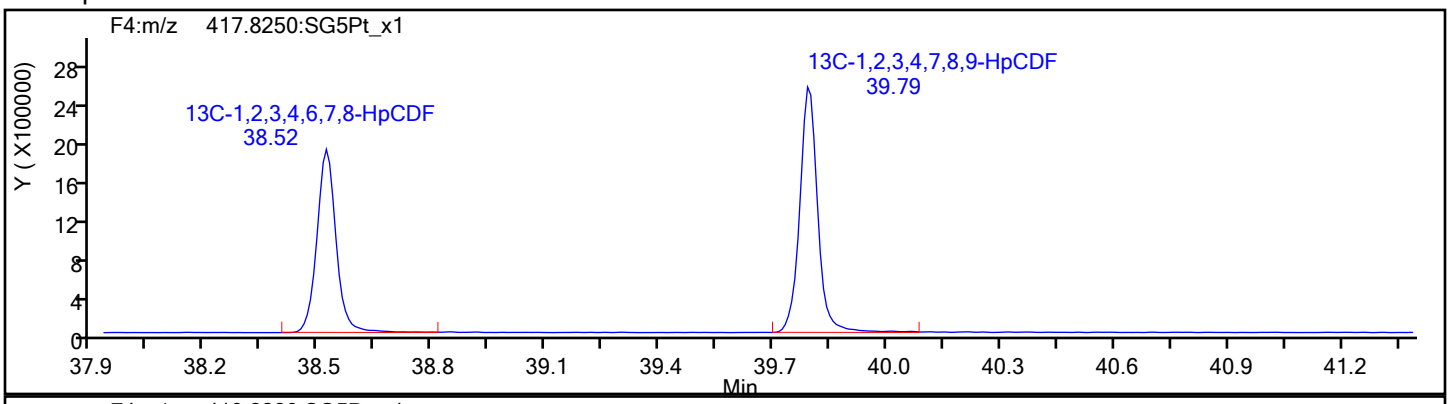
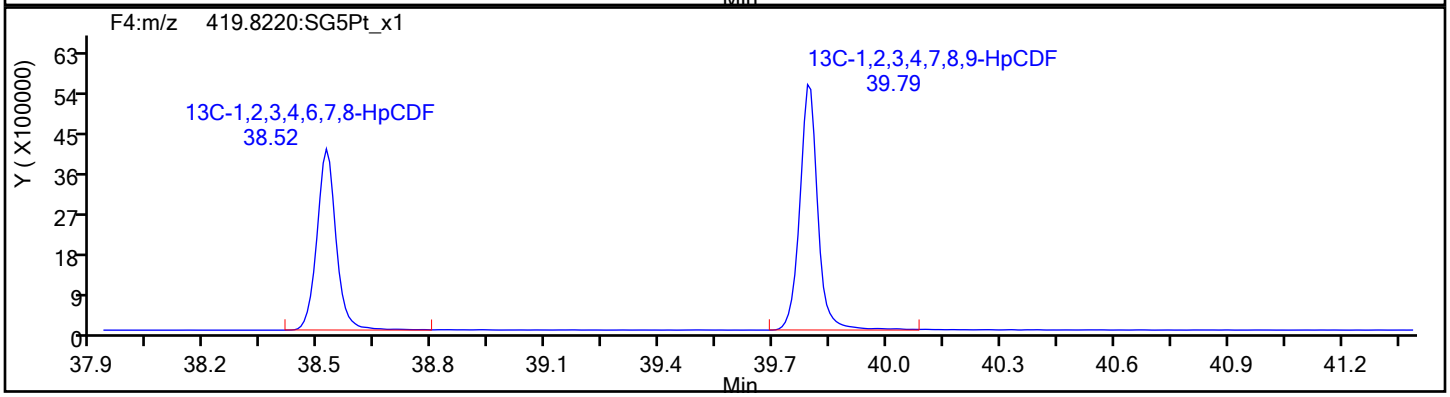
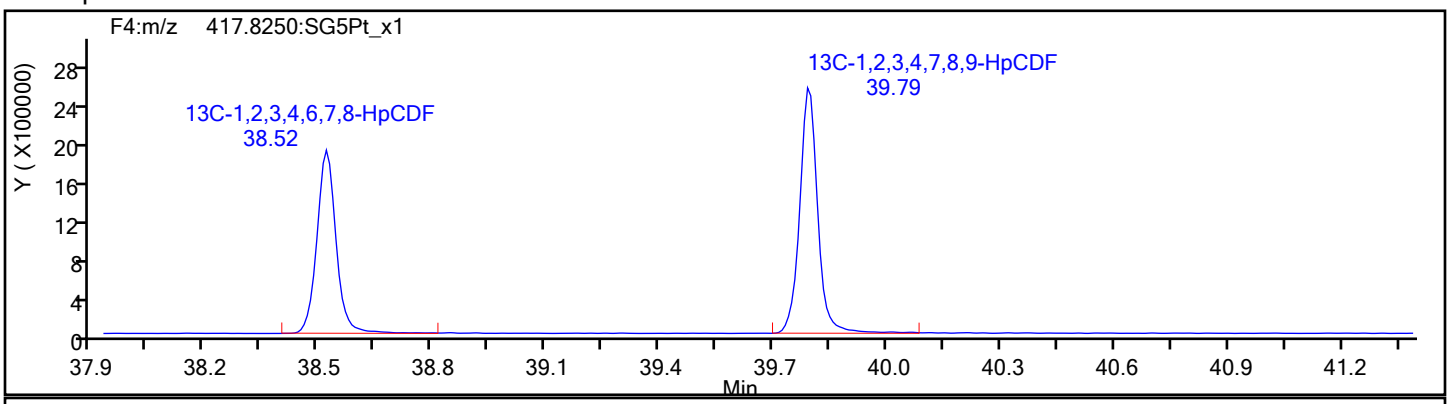
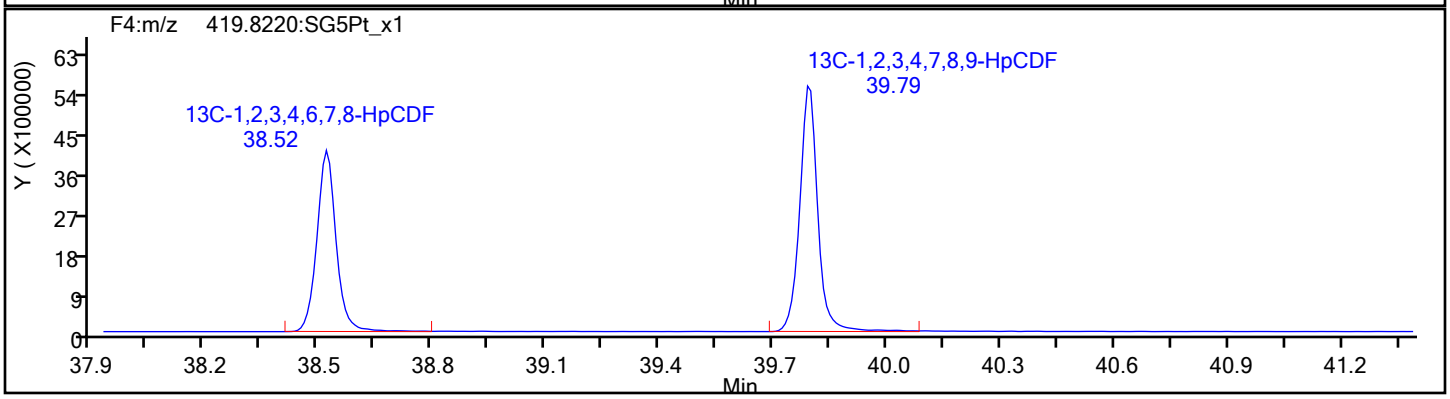
13C-HpCDF





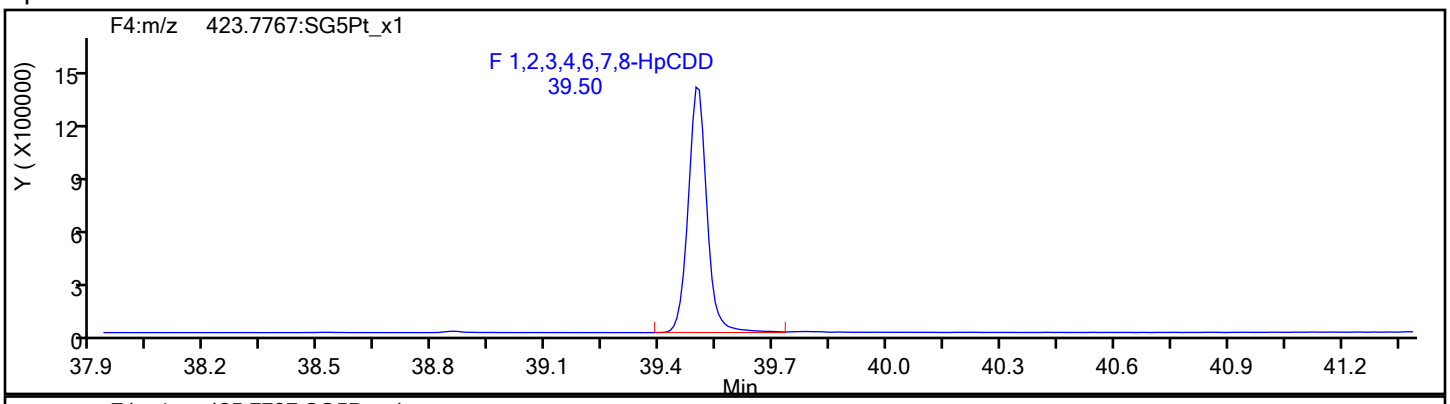
13C-HpCDF Standards

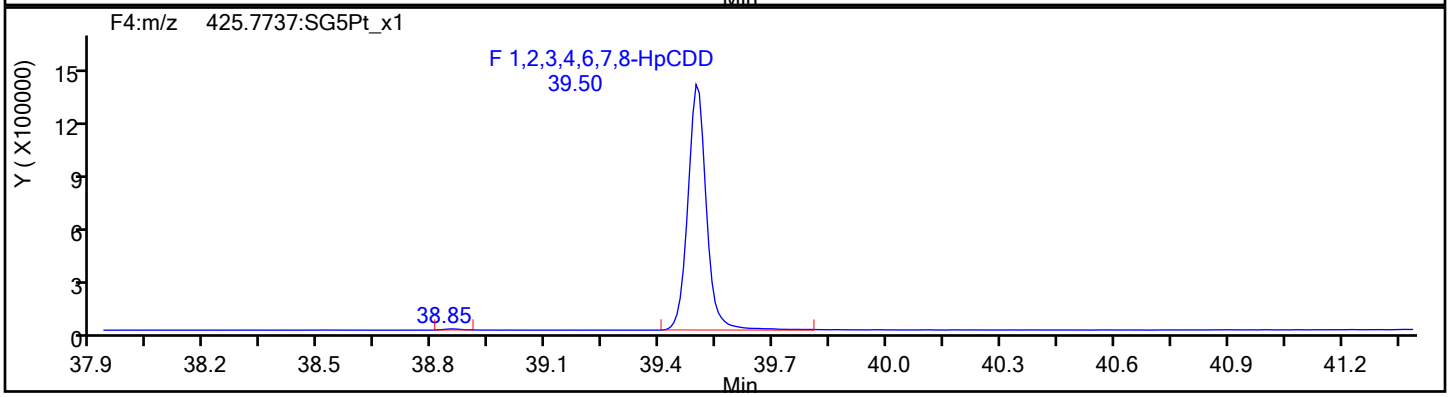




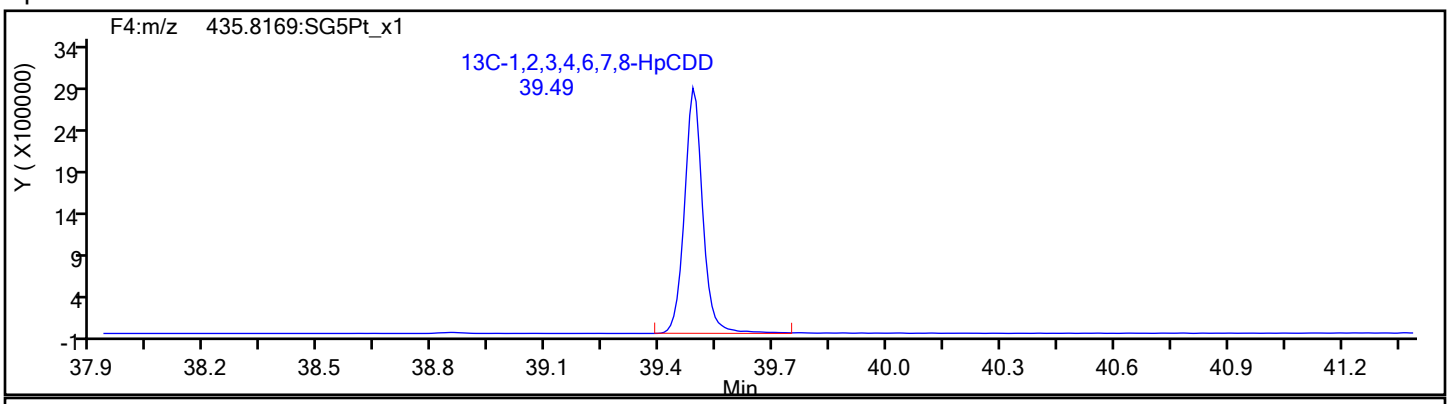
Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d
Injection Date: 28-Dec-2021 06:32:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 554312 Sample Line#: 15
Column Type: DB-5 Column Dia: 0.32 mm

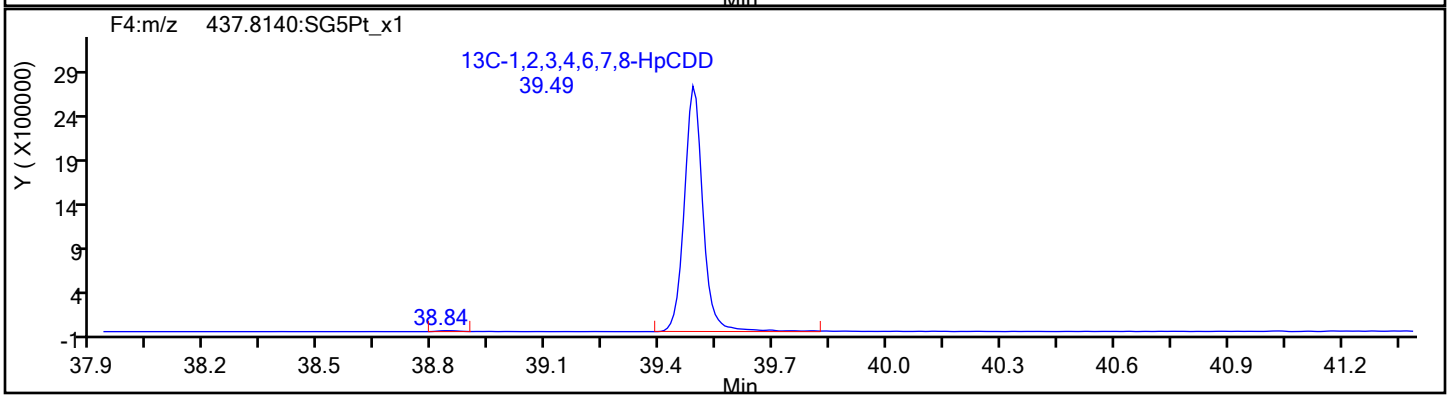
HpCDD





HpCDD Standards





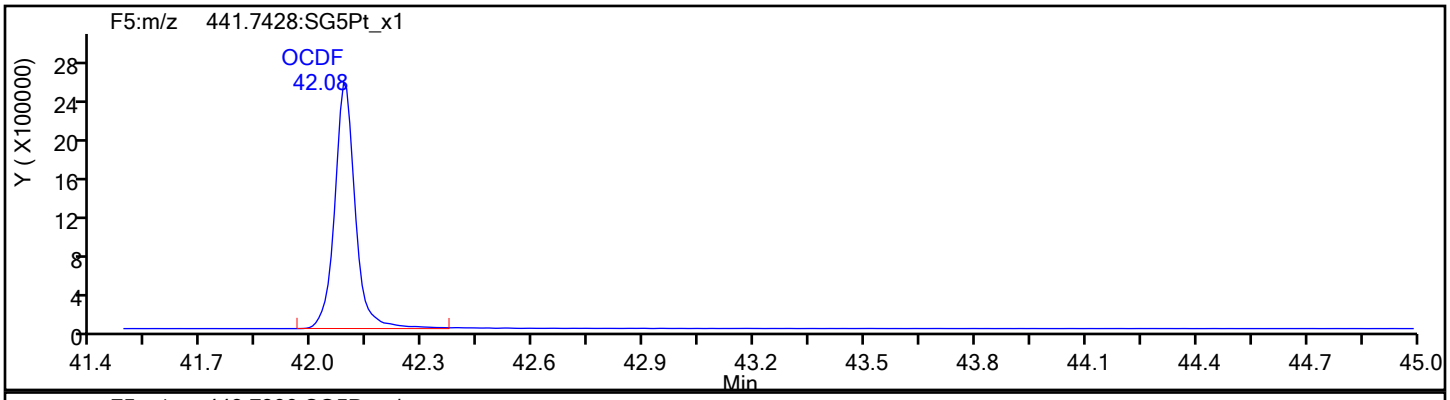
Report Date: 28-Dec-2021 14:26:09 Chrom Revision: 2.3 15-Nov-2021 20:34:30

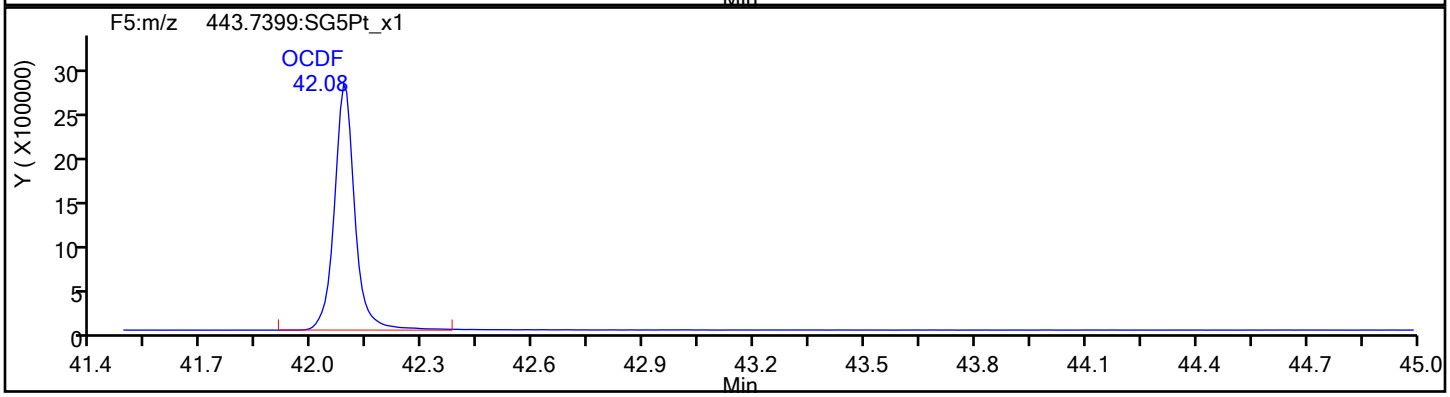
Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d

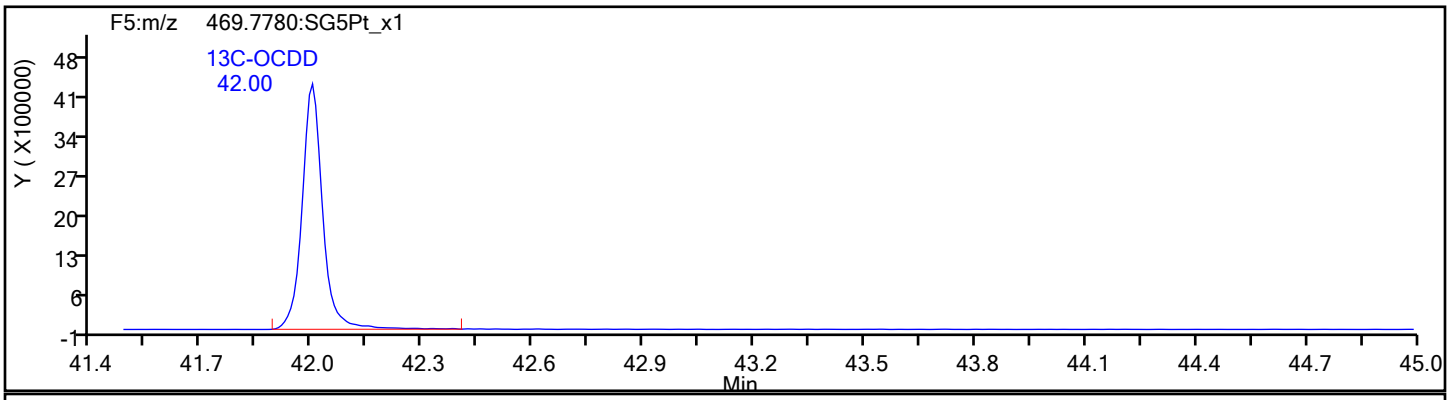
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

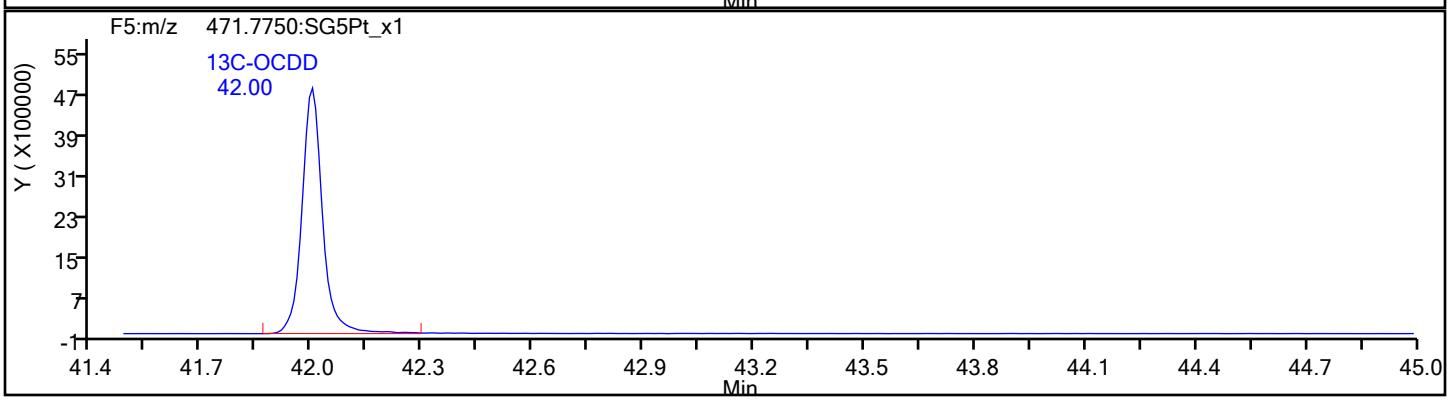
OCDF





OCDF Standards



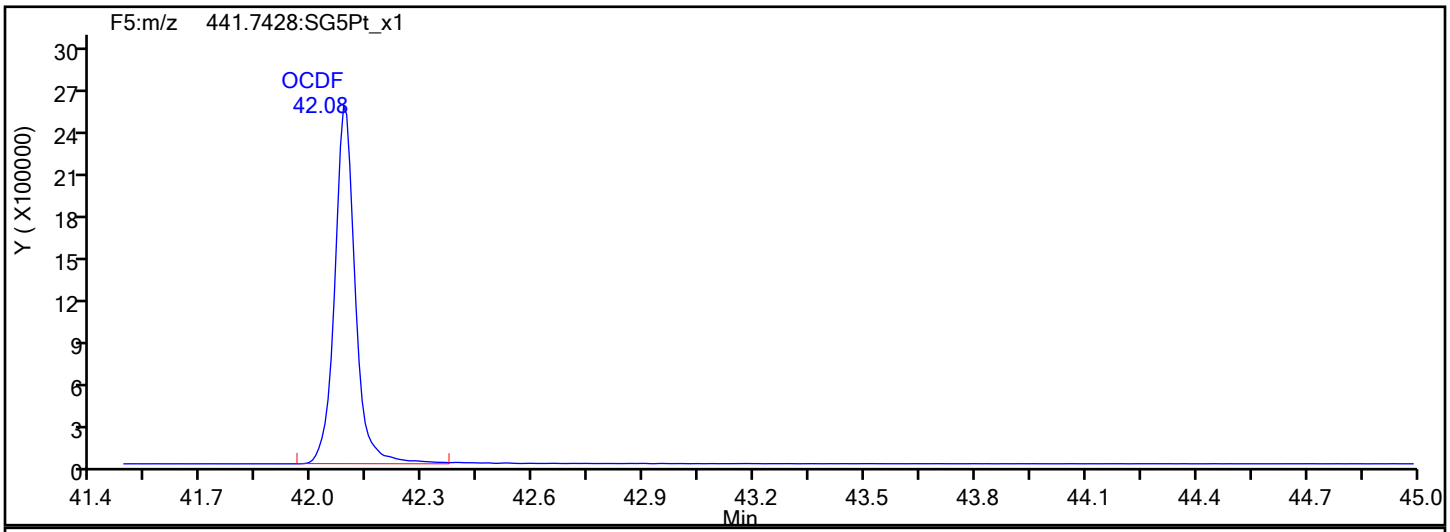


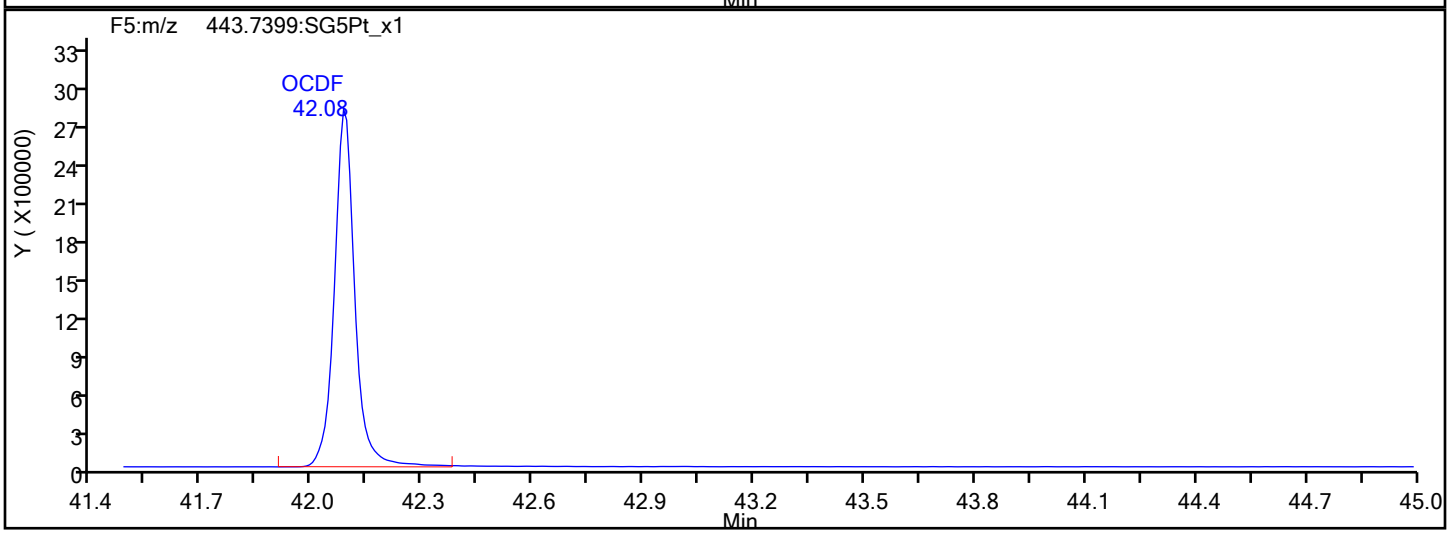
Report Date: 28-Dec-2021 14:26:09 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

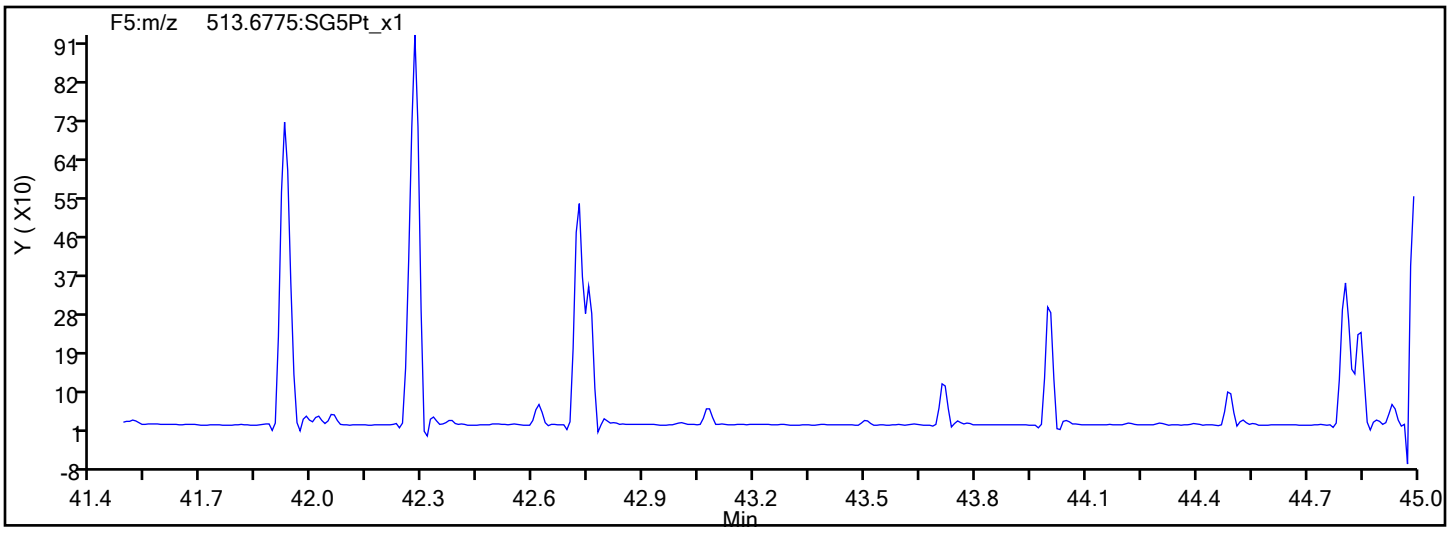
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d		
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

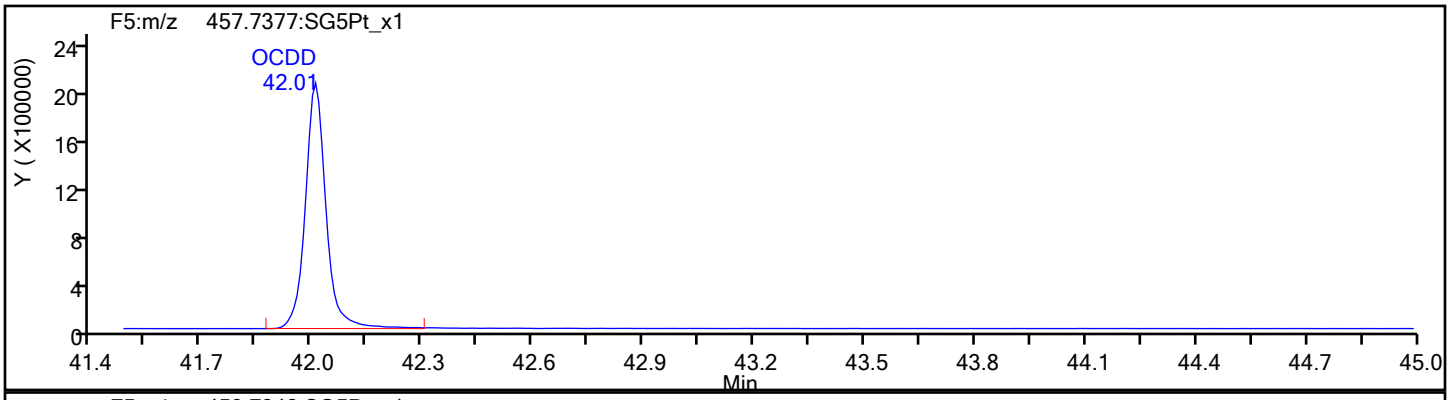


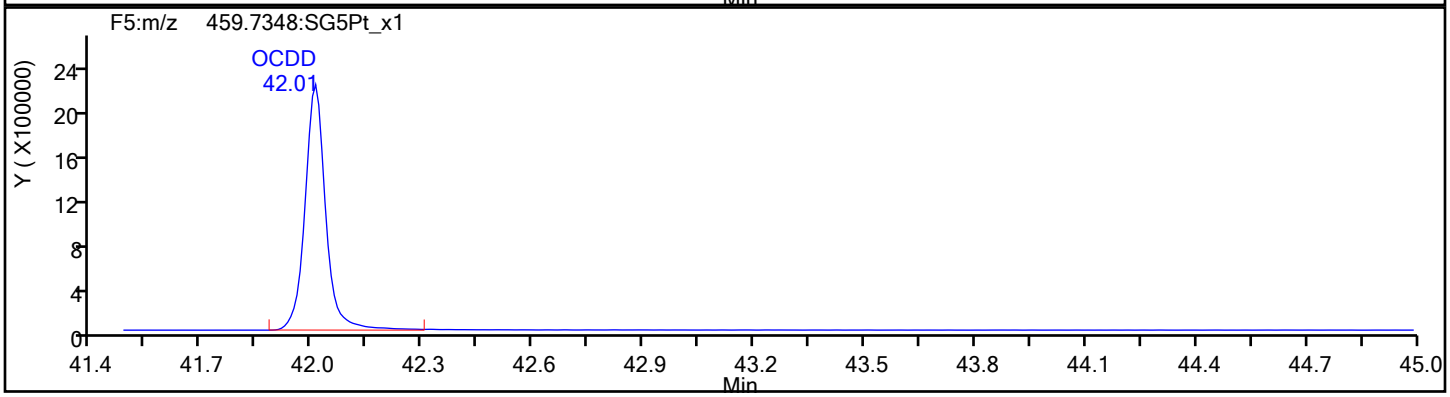
Report Date: 28-Dec-2021 14:26:09 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

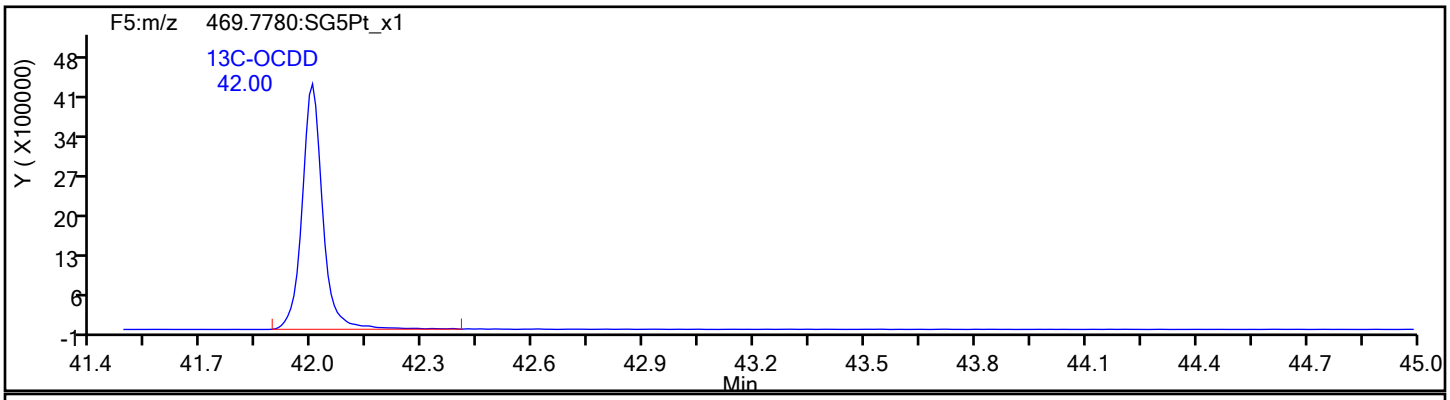
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d		
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

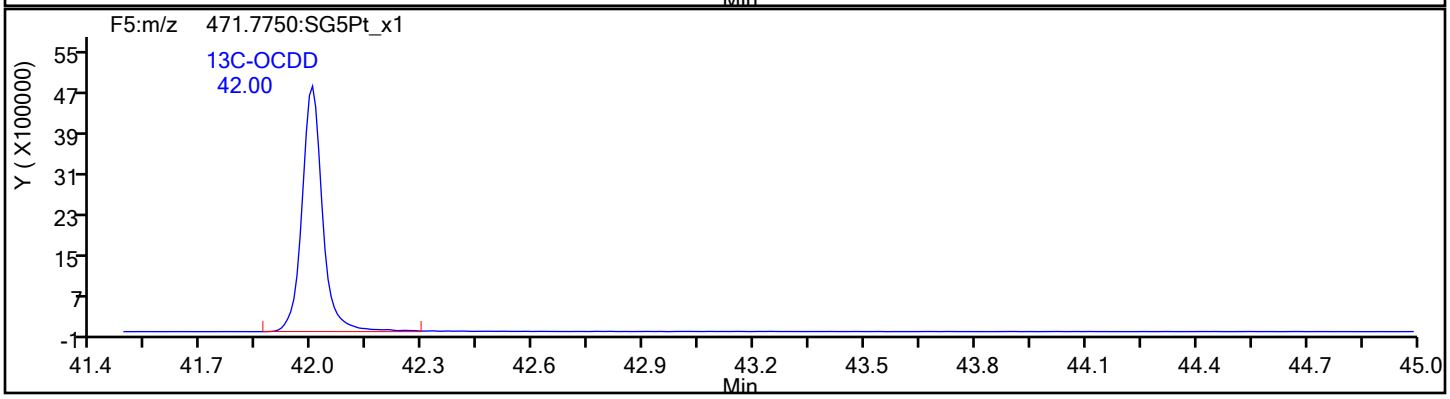
OCDD





OCDD Standards

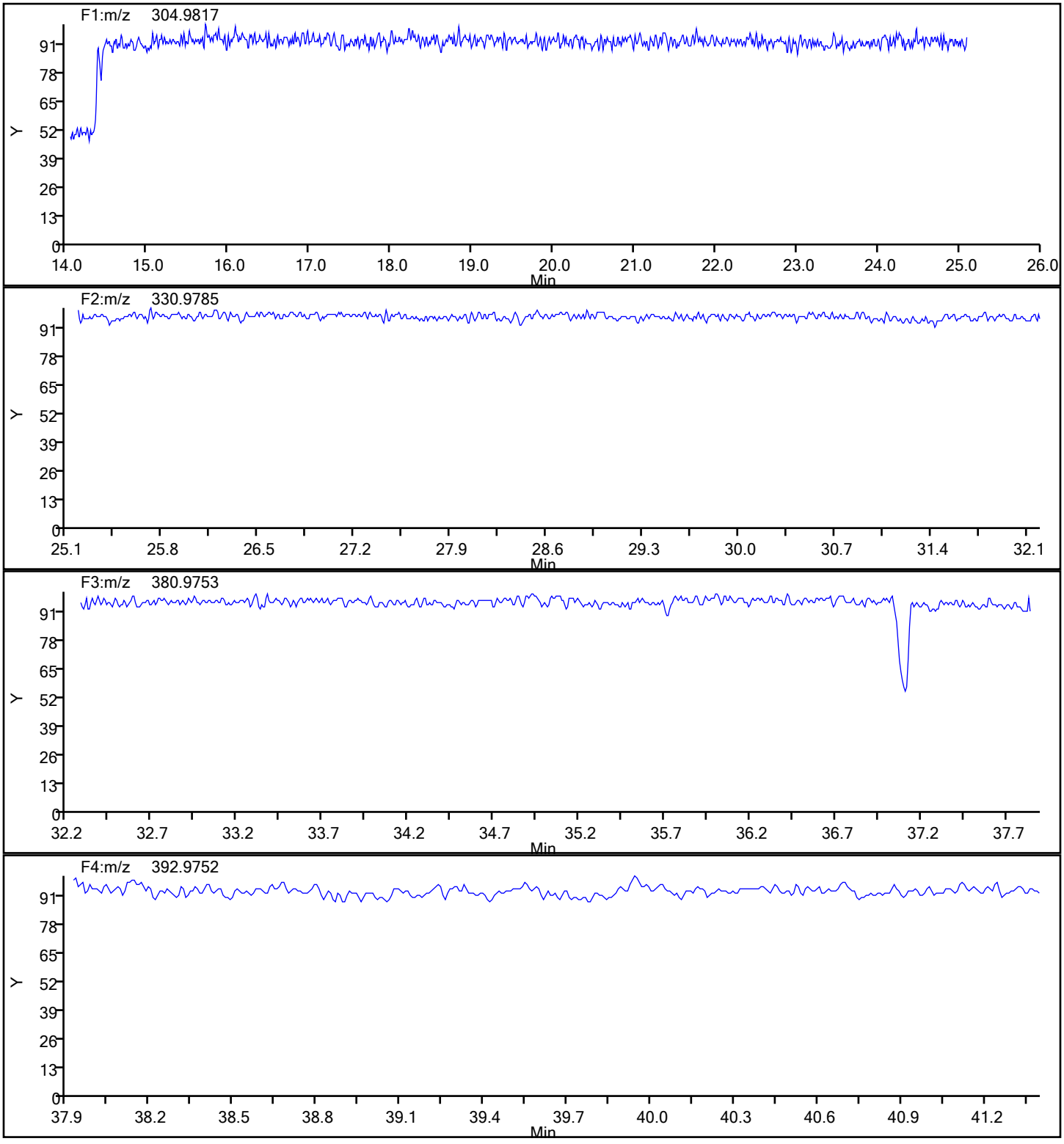




Report Date: 28-Dec-2021 14:26:09 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

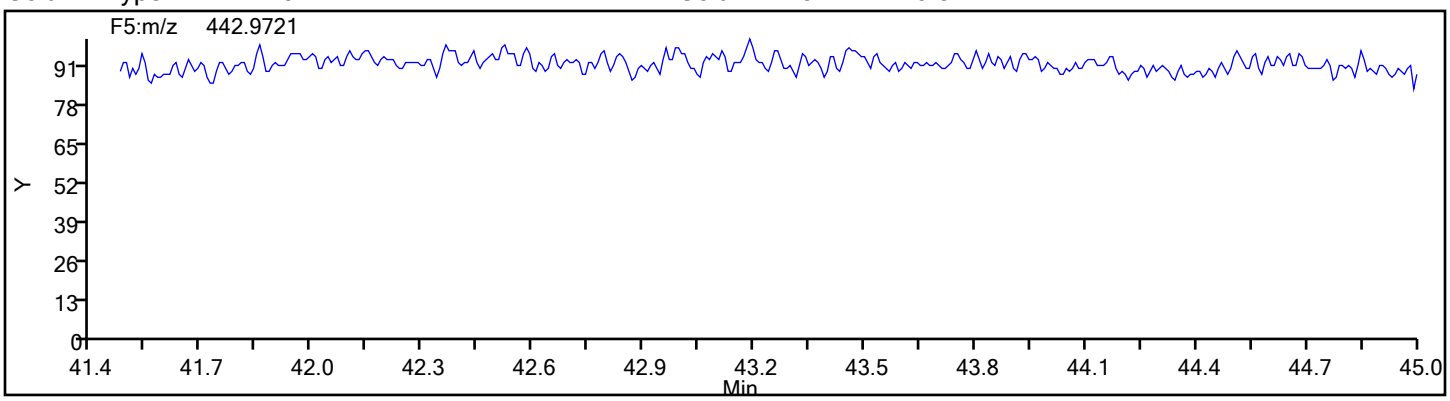
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d		
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 28-Dec-2021 14:26:09 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_26.d		
Injection Date:	28-Dec-2021 06:32:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 18-Nov-2021 13:51:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 09:13:53 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 18-Nov-2021 16:02:23

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	21.419	15062434	0.80	1.2917					0.00	
2,3,7,8-TCDF	21.462	31821479	0.77	1.1045	76.5	76.5	0.1671	0.1671		
A Non-2,3,7,8-sub-TCDF	20.608	197408	0.77	1.1045	0.5192	0.4746	0.1671	0.2812		RQ
S Total TCDF					77.0	77.0	0.1671	0.1671		RQ
D 13C-2,3,7,8-TCDD	22.864	9009941	0.81	0.8271					0.00	
2,3,7,8-TCDD	22.907	10979586	0.80	1.1211	43.5	43.5	0.1325	0.1325		
A Non-2,3,7,8-sub-TCDD	21.510						0.1325	0.1325		
S Total TCDD					43.5	43.5	0.1325	0.1325		
A F1 PeCDFs	25.243						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	28.946	312074	1.50	0.0000						
S Total PeCDF										
A Non-2,3,7,8-sub-PeCDD	29.595						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	35.749						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	36.048	120259	1.29	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	39.063	13021187	1.05	1.5184						
1,2,3,4,7,8,9-HpCDF	40.268	11139734	1.03	1.3387						
A Non-2,3,7,8-sub-HpCDF	39.666						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	39.965	8716276	1.05	1.0953						
A Non-2,3,7,8-sub-HpCDD	39.657						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	16.822	17638862	0.75							
1,3,6,8-TCDD	18.566	11190119	0.80							
2,3,4,7-TCDF	21.462	31821479	0.77							
1,2,3,7-TCDD	22.675	9693243	0.79							
1,2,3,9-TCDF	23.096	13778324	0.76							
1,2,3,9-TCDD	23.190	11031287	0.81							
1,2,8,9-TCDF	24.394	14875104	0.76							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	24.454	4743488								
1,3,4,6,8-PeCDF	24.815	12942066	1.57							
1,2,3,8,9-PeCDD	26.994	9287912	1.58							
1,2,4,7,9-PeCDD	31.905	8951312	1.59							
1,2,3,8,9-PeCDF	32.082	12446049	1.55							
1,2,3,4,6,8-HxCDF	34.048	14283915	1.22							
1,2,4,6,7,9-HxCDD	34.983	10658466	1.23							
1,2,3,4,6,7-HxCDD	37.114	10178466	1.26							
1,2,3,4,8,9-HxCDF	37.451	13015359	1.22							
1,2,3,4,6,7,9-HpCDD	39.350	9067213	1.05							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 18-Nov-2021 13:51:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 19-Nov-2021 09:13:53 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1638

First Level Reviewer: stephensk Date: 18-Nov-2021 16:02:23

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	21.419	21.419	0	1.000	6703176	984458	2449	6122	402		
317.9389	21.419	21.419	0	1.000	8359258	1193445	1066	2665	1120	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	21.462	21.426	2	1.002	13793094	1768719	1665	4162	1062		
305.8987	21.462	21.426	2	1.002	18028385	2343696	2356	5890	995	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	19.615	20.608	-59	0.916	47703	8687	1665	4162	5		
305.8987	19.606	20.608	-60	0.915	69237	12897	2356	5890	5	0.69(0.65-0.89)	
303.9016	20.663	20.608	3	0.965	35006	7065	1665	4162	4		
305.8987	20.637	20.608	2	0.963	63979	9362	2356	5890	4	0.55(0.65-0.89)	
	Empc Correction				45462	9175	2356	5890	4		
13C-2,3,7,8-TCDD											
331.9368	22.864	22.864	0	1.000	4040414	550942	1308	3270	421		
333.9338	22.872	22.864	1	1.000	4969527	681474	277	692	2460	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	22.907	22.887	1	1.002	4862916	649627	980	2450	663		
321.8936	22.915	22.887	2	1.002	6116670	811865	851	2127	954	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	21.510						980	2450			
321.8936	21.510						851	2127			
A F1 PeCDFs											
339.8597	25.243						160	400			
341.8567	25.243						227	567			
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.623	28.946	-139	1.000	22227	4194	648	1620	6		
341.8567	26.632	28.946	-139	1.000	14717	2544	696	1740	4	1.51(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	27.676	28.946	-76	1.000	34091	6087	648	1620	9		
341.8567	27.676	28.946	-76	1.000	25904	4543	696	1740	7	1.32(1.32-1.78)	
339.8597	28.131	28.946	-49	1.000	18093	3738	648	1620	6		
341.8567	28.123	28.946	-49	1.000	13017	2427	696	1740	3	1.39(1.32-1.78)	
339.8597	28.275	28.946	-40	1.000	56559	10258	648	1620	16		
341.8567	28.292	28.946	-39	1.000	38602	6577	696	1740	9	1.47(1.32-1.78)	
339.8597	28.915	28.946	-2	1.000	56070	8126	648	1620	13		
341.8567	28.915	28.946	-2	1.000	32794	4930	696	1740	7	1.71(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	29.595						844	2110			
357.8516	29.595						460	1150			
A Non-2,3,7,8-sub-HxCDF											
373.8208	35.749						2195	5487			
375.8178	35.749						1777	4442			
A Non-2,3,7,8-sub-HxCDD											
389.8158	35.994	36.048	-3	1.000	67814	16714	1742	4355	10		
391.8127	35.986	36.048	-4	1.000	52445	13024	1274	3185	10	1.29(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7817	39.063	39.053	1	1.000	6672680	2360932	2350	5875	1005		
409.7788	39.055	39.053	0	1.000	6348507	2249537	1522	3805	1478	1.05(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	40.268	40.264	0	1.000	5649220	2129757	2350	5875	906		
409.7788	40.268	40.264	0	1.000	5490514	2099177	1522	3805	1379	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	39.666						2350	5875			
409.7788	39.666						1522	3805			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.965	39.959	0	1.000	4457327	1729836	1223	3057	1414		
425.7737	39.965	39.959	0	1.000	4258949	1649741	1034	2585	1595	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	39.657						1223	3057			
425.7737	39.657						1034	2585			
1,3,6,8-TCDF											
303.9016	16.822	16.822	0		7555655	1464309	1665	4162	879		
305.8987	16.822	16.822	0		10083207	1965494	2356	5890	834	0.75(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	18.566	18.566	0		4958135	853351	980	2450	871		
321.8936	18.575	18.566	1		6231984	1073059	851	2127	1261	0.80(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	21.462	21.462	0		13793094	1768719	1665	4162	1062		
305.8987	21.462	21.462	0		18028385	2343696	2356	5890	995	0.77(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	22.675	22.675	0		4291522	598779	980	2450	611		
321.8936	22.683	22.675	1		5401721	748367	851	2127	879	0.79(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	23.096	23.096	0		5938675	868143	1665	4162	521		
305.8987	23.096	23.096	0		7839649	1130594	2356	5890	480	0.76(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,9-TCDD											
319.8965	23.190	23.190	0		4950411	733758	980	2450	749		
321.8936	23.190	23.190	0		6080876	884640	851	2127	1040	0.81(0.65-0.89)	
1,2,8,9-TCDF											
303.9016	24.394	24.394	0		6407779	1231305	1665	4162	740		
305.8987	24.394	24.394	0		8467325	1647059	2356	5890	699	0.76(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	24.454	24.454	0		4743488	946931	980	2450	966		
1,3,4,6,8-PeCDF											
339.8597	24.815	24.815	0		7908061	1535378	160	400	9596		
341.8567	24.815	24.815	0		5034005	989730	227	567	4360	1.57(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	26.994	26.994	0		5691265	883038	844	2110	1046		
357.8516	26.994	26.994	0		3596647	557729	460	1150	1212	1.58(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	31.905	31.905	0		5492221	753741	844	2110	893		
357.8516	31.905	31.905	0		3459091	479531	460	1150	1042	1.59(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	32.082	32.082	0		7572898	1068107	648	1620	1648		
341.8567	32.082	32.082	0		4873151	684093	696	1740	983	1.55(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	34.048	34.048	0		7848980	1667373	2195	5487	760		
375.8178	34.048	34.048	0		6434935	1326807	1777	4442	747	1.22(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8158	34.983	34.983	0		5886269	1358891	1742	4355	780		
391.8127	34.983	34.983	0		4772197	1104898	1274	3185	867	1.23(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8158	37.114	37.114	0		5673155	1745725	1742	4355	1002		
391.8127	37.114	37.114	0		4505311	1387223	1274	3185	1089	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	37.451	37.451	0		7144488	2192831	2195	5487	999		
375.8178	37.451	37.451	0		5870871	1772208	1777	4442	997	1.22(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7767	39.350	39.350	0		4646547	1704295	1223	3057	1394		
425.7737	39.350	39.350	0		4420666	1605400	1034	2585	1553	1.05(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 18-Nov-2021 13:51:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 543974 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 20.608

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.105	D 13C-2,3,7,8-TCDF	40.000	15062434	2177903

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.105		40.000	15062434	2177903

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
19.615	47703	8687	69237	12897	0.2812	0.69	
20.663	35006	7065	63979	9362	0.2380	0.55	RQ
20.663	35006	7065	45462	9175	0.1935		Empc Correction
Signal Totals:							
	82709	15752	114699	22072			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	215925	38011				0.62	RQ
	197408	37824					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5192 = (215925 * 40.000) / (15062434 * 1.105)
Empc Amount: 0.4746 = (197408 * 40.000) / (15062434 * 1.105)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 18-Nov-2021 13:51:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 543974 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 28.946

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.099				
2,3,4,7,8-PeCDF	1.058				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
26.623	22227	4194	14717	2544		1.51	
27.676	34091	6087	25904	4543		1.32	
28.131	18093	3738	13017	2427		1.39	
28.275	56559	10258	38602	6577		1.47	
28.915	56070	8126	32794	4930		1.71	
Signal Totals:							
	187040	32403	125034	21021			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	312074	53424				1.50	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (312074 * 0.0) / (0 * 0.000)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 18-Nov-2021 13:51:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 543974 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 36.048

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.008				
1,2,3,6,7,8-HxCDD	1.011				
1,2,3,7,8,9-HxCDD	1.099				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
35.994	67814	16714	52445	13024		1.29	
Signal Totals:							
	67814	16714	52445	13024			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	120259	29738				1.29	

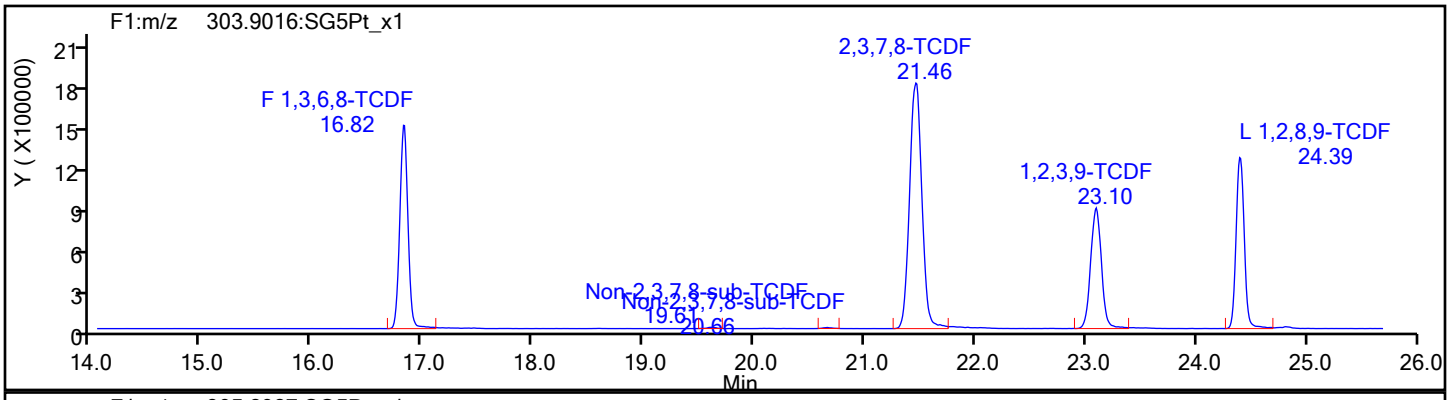
On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

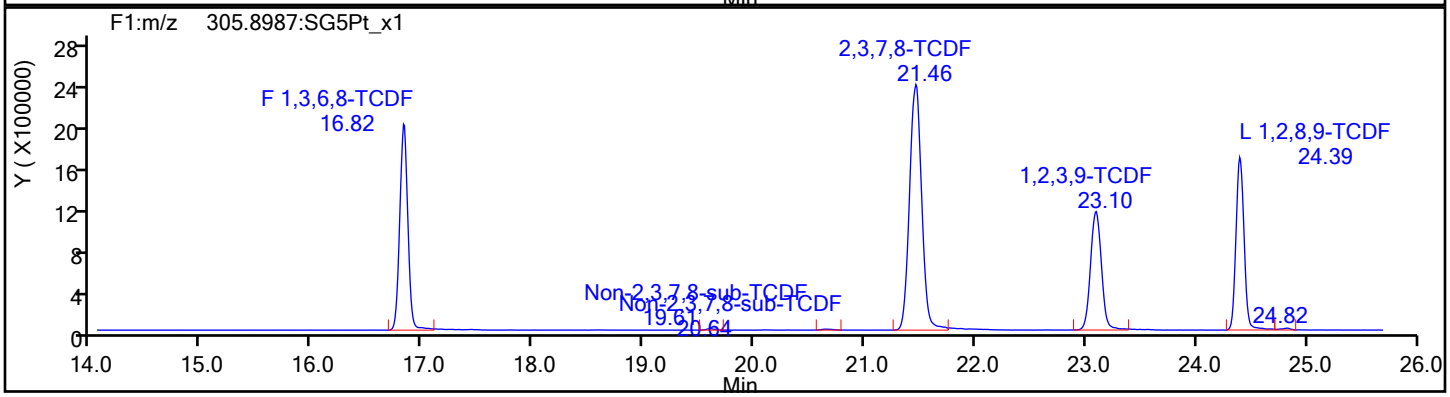
Amount: 0.0 = (120259 * 0.0) / (0 * 0.000)

Eurofins TestAmerica, Sacramento

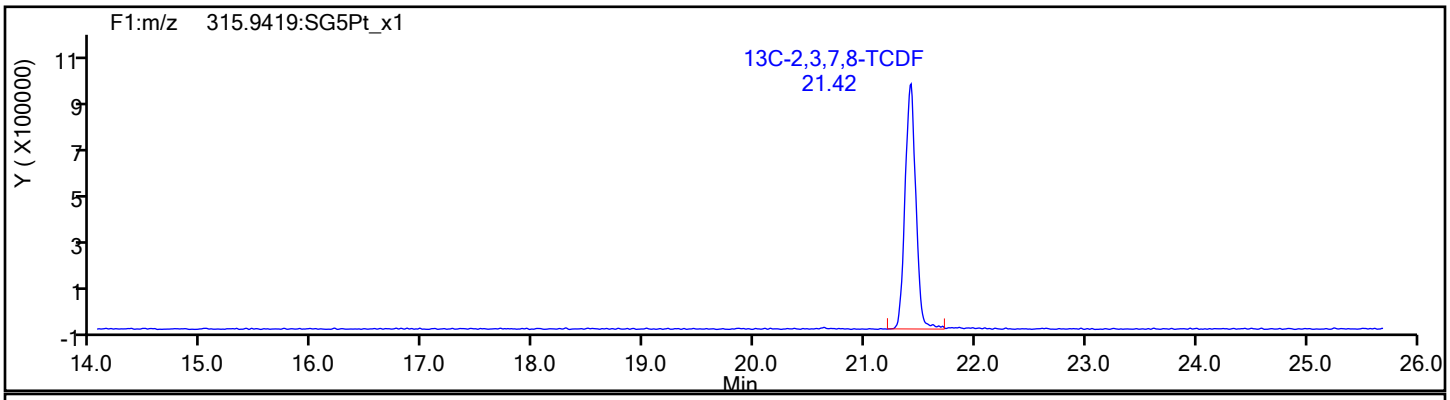
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

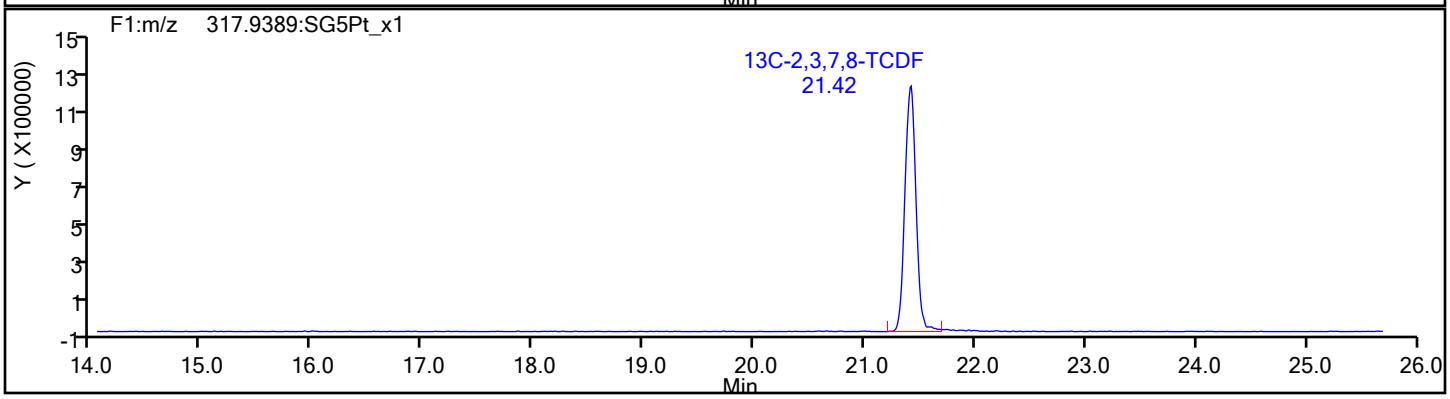
TCDF





TCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
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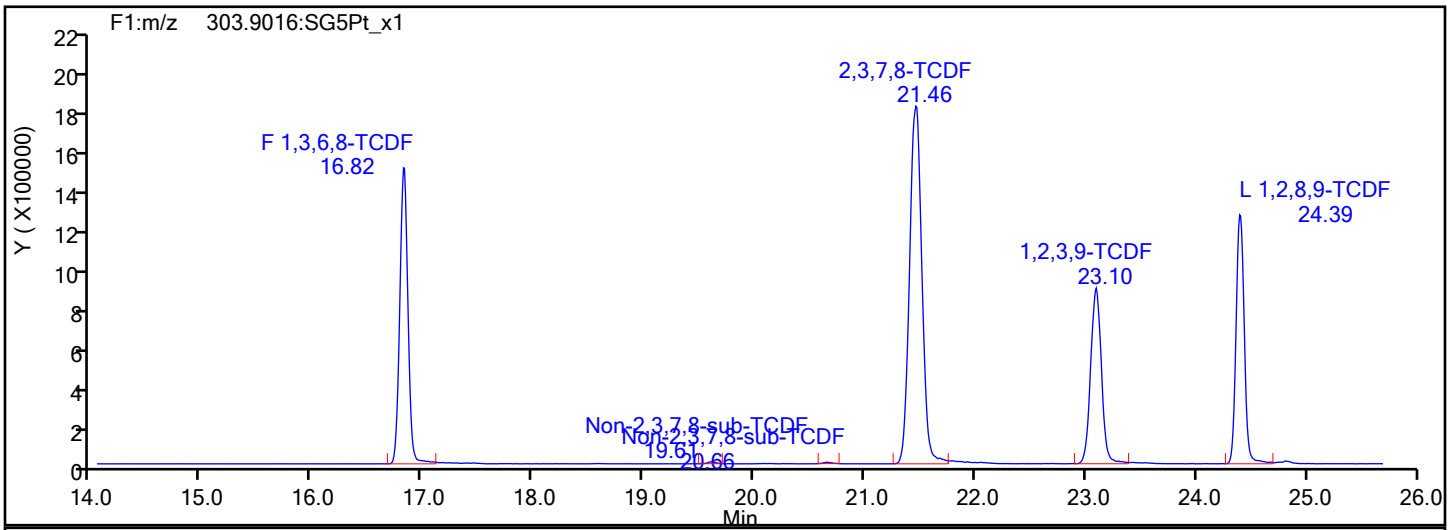
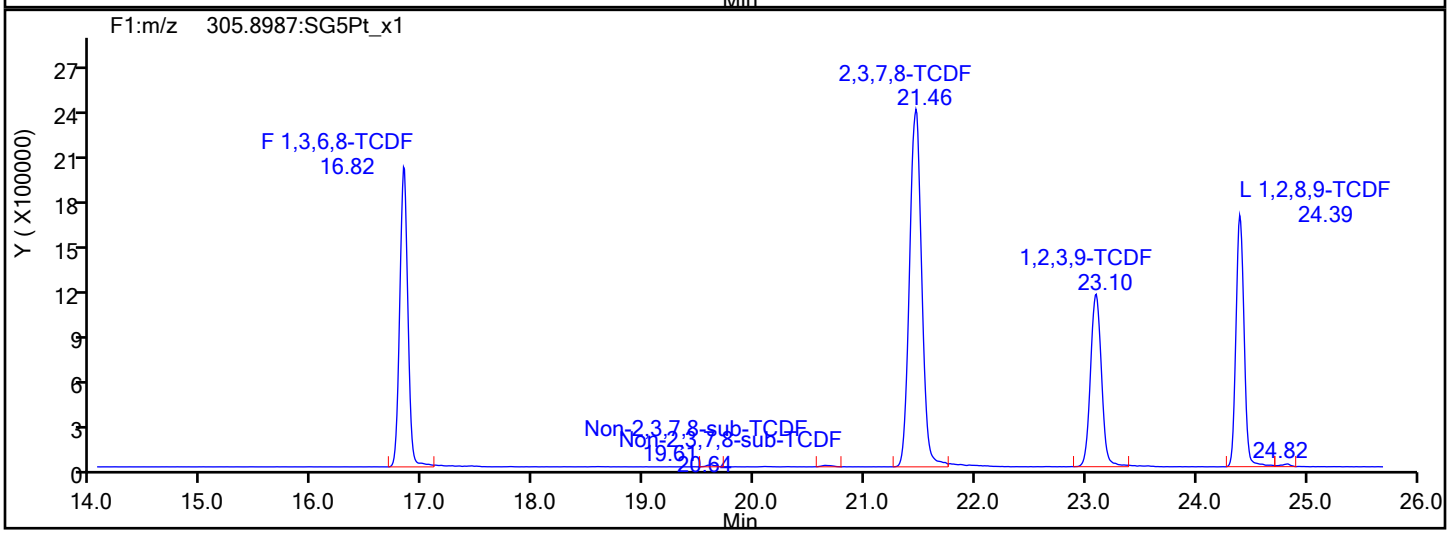
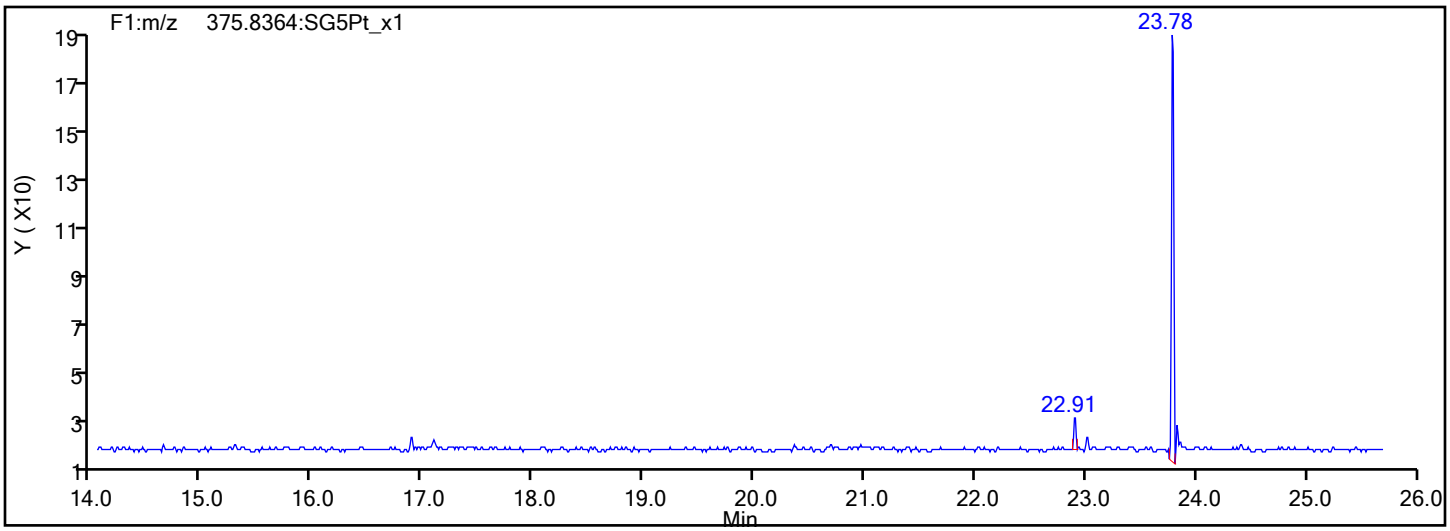
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
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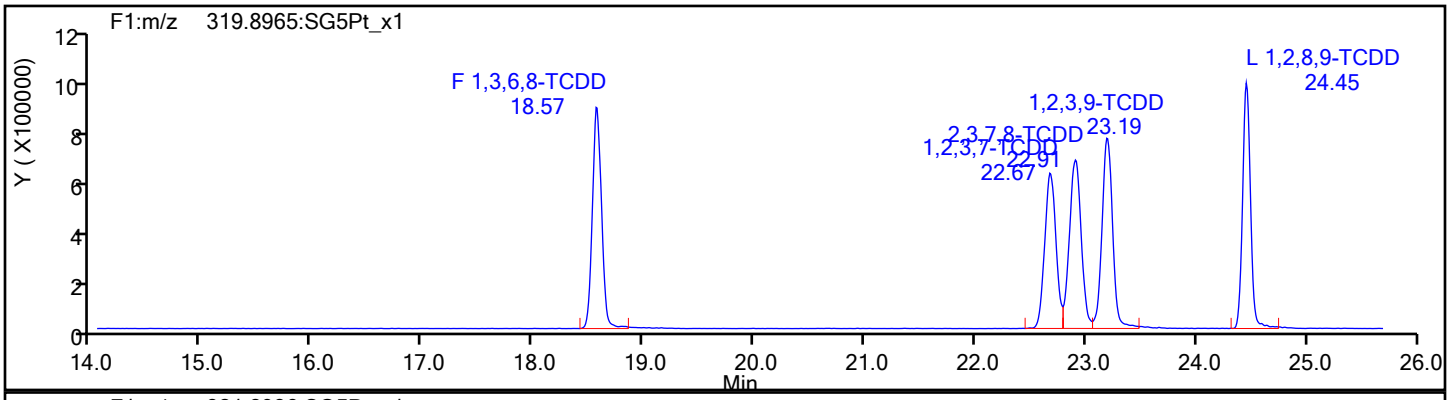
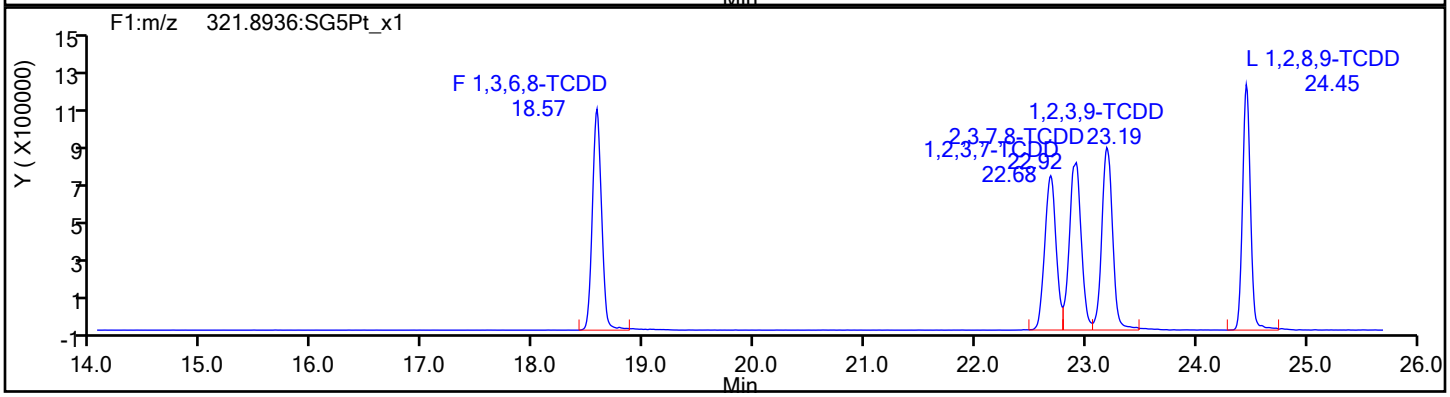
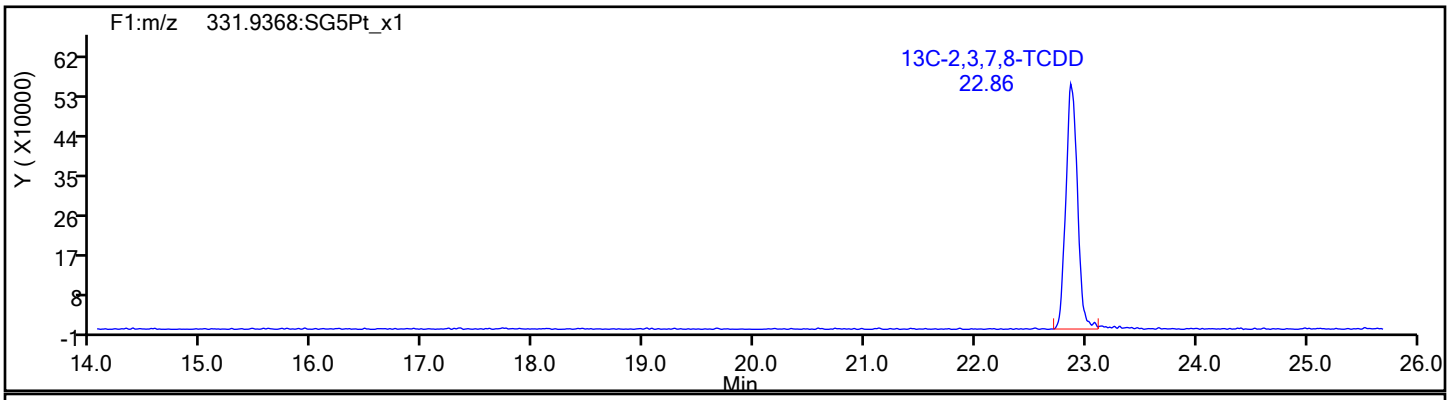
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

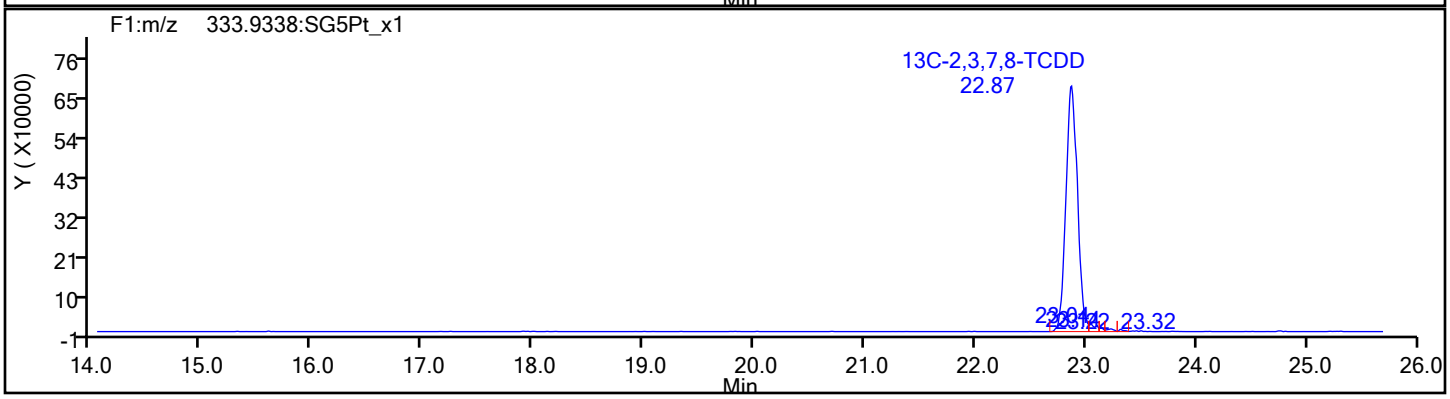
TCDD





TCDD Standards





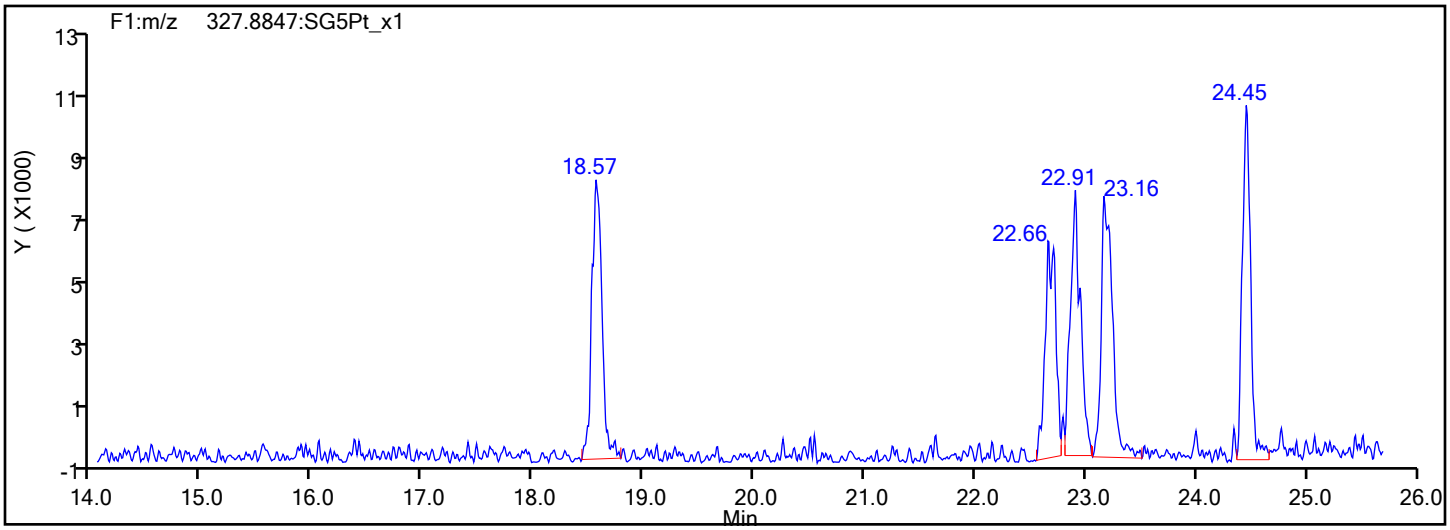
Report Date: 19-Nov-2021 09:13:54 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

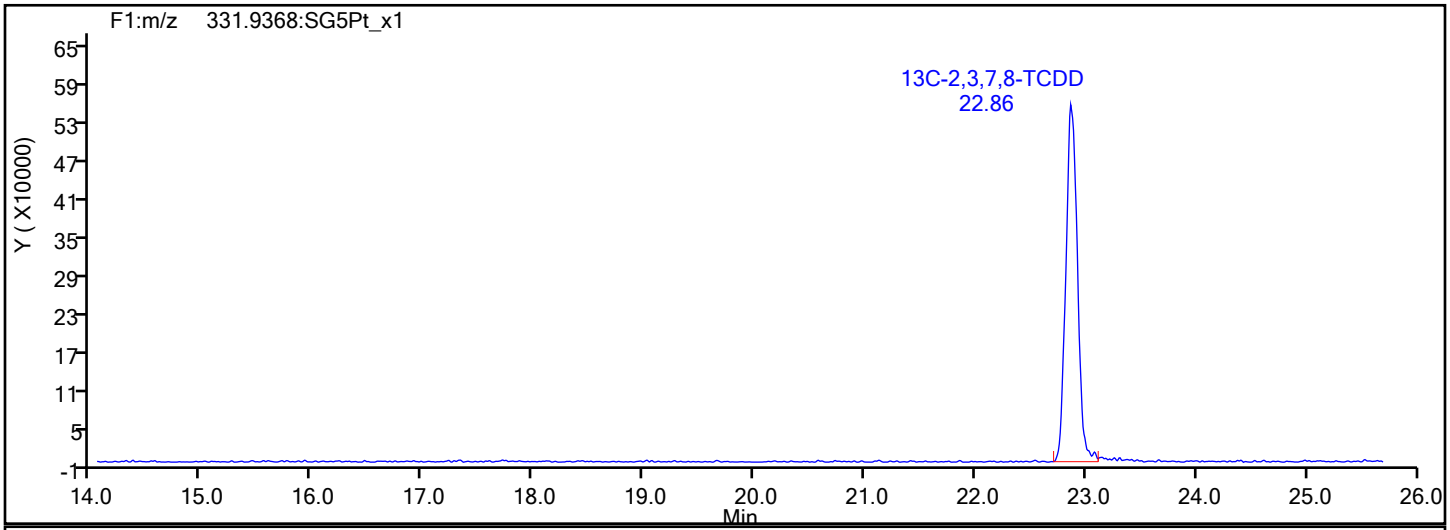
Data File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d

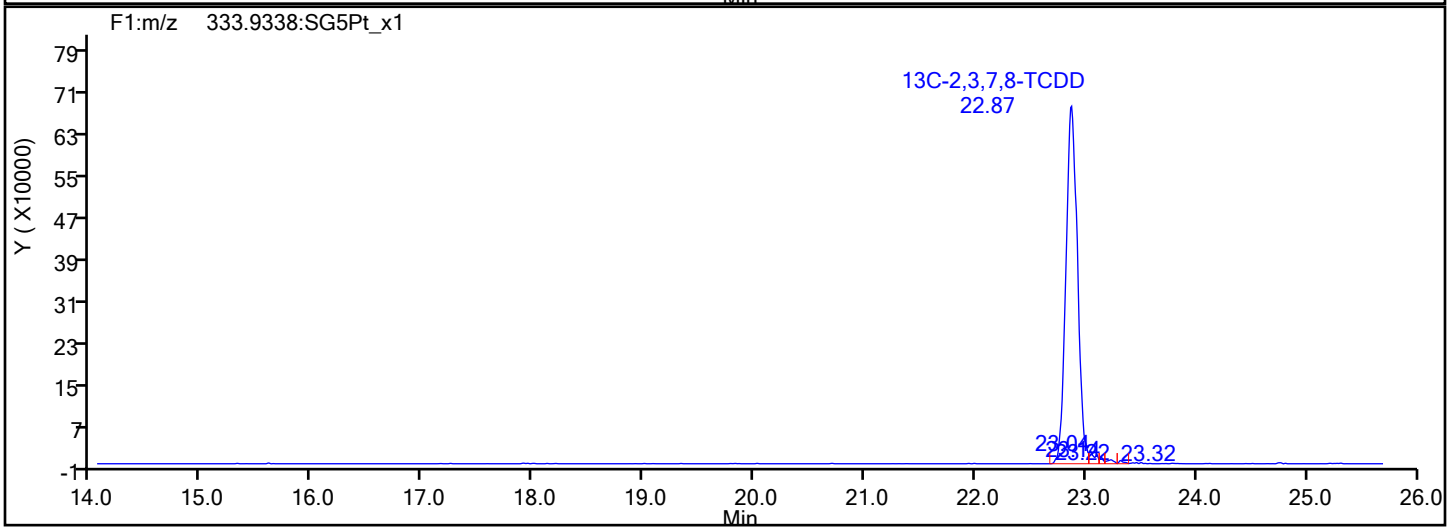
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



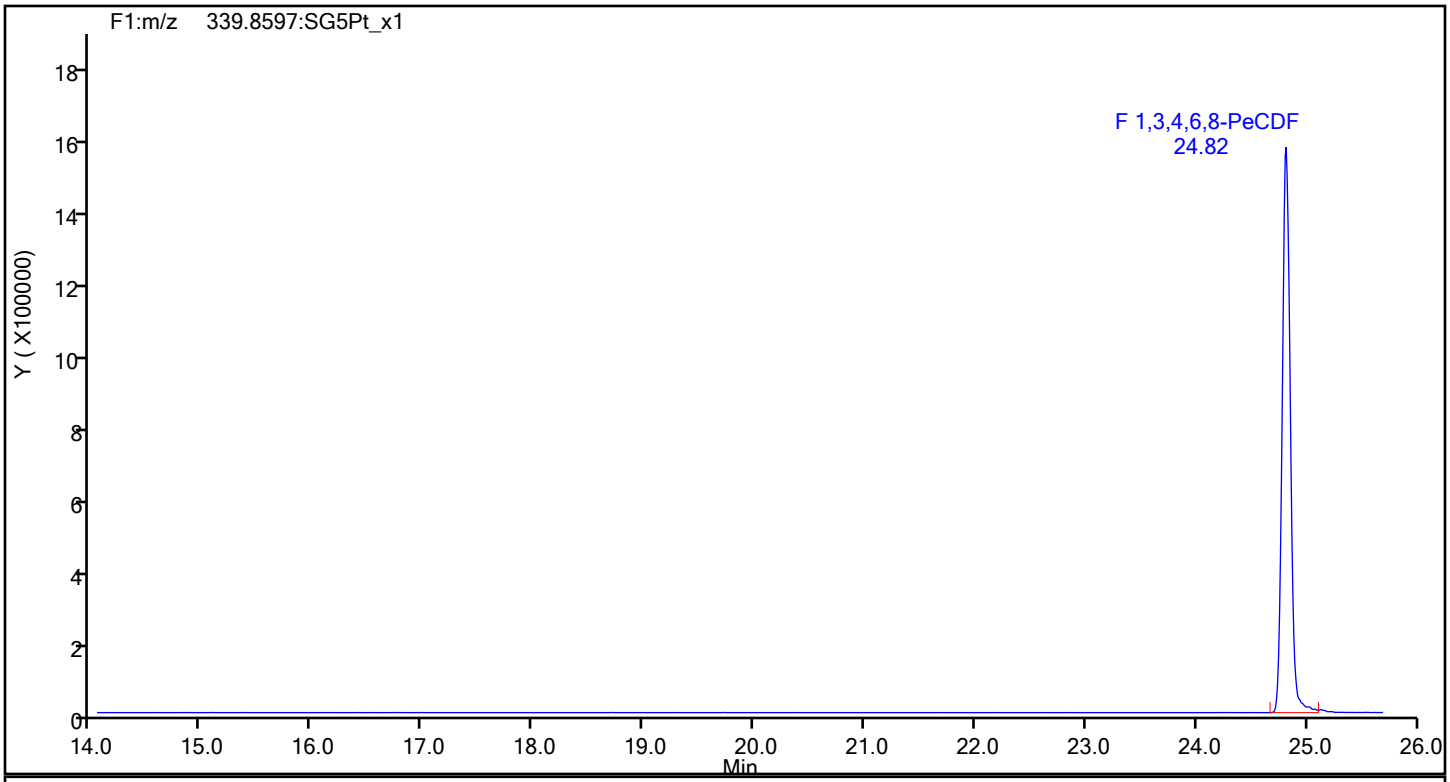


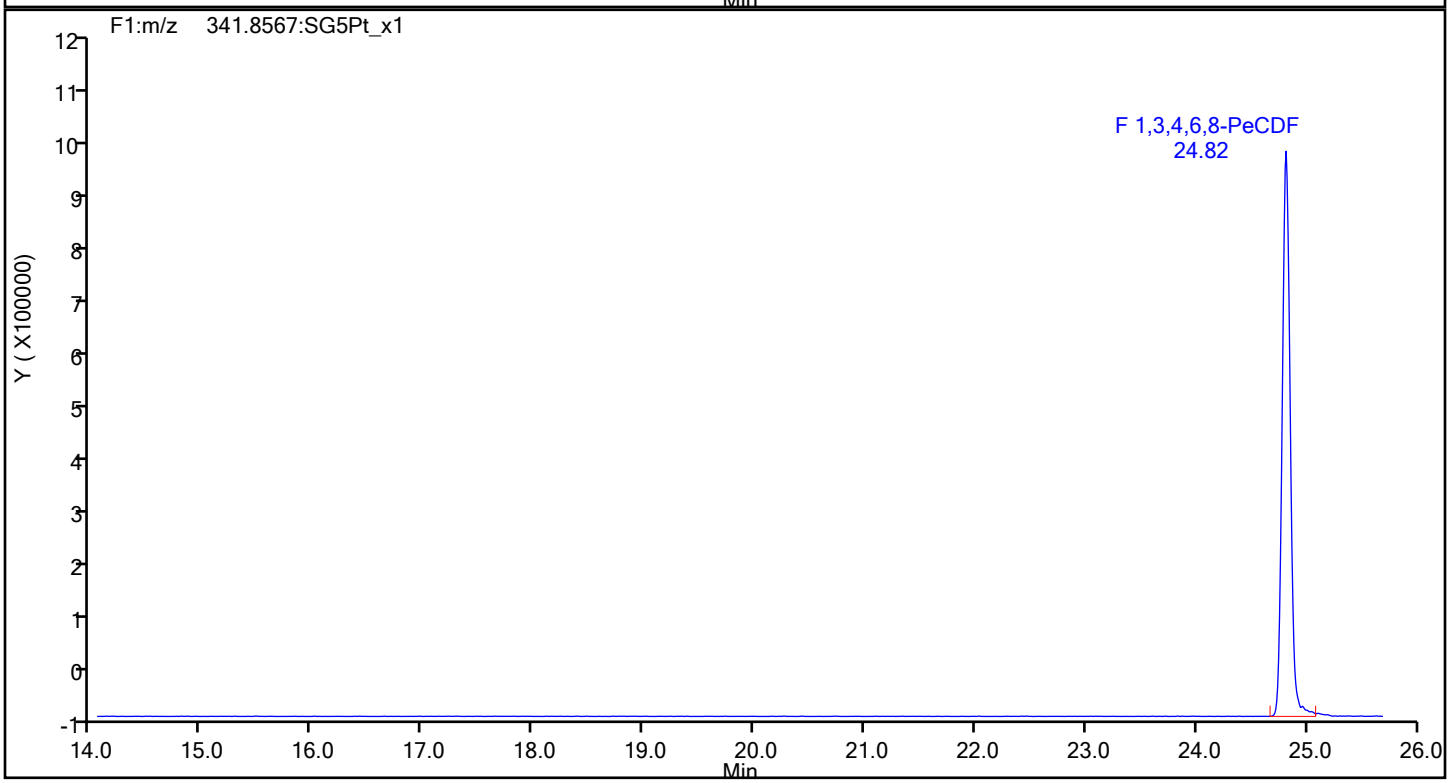
Report Date: 19-Nov-2021 09:13:54 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

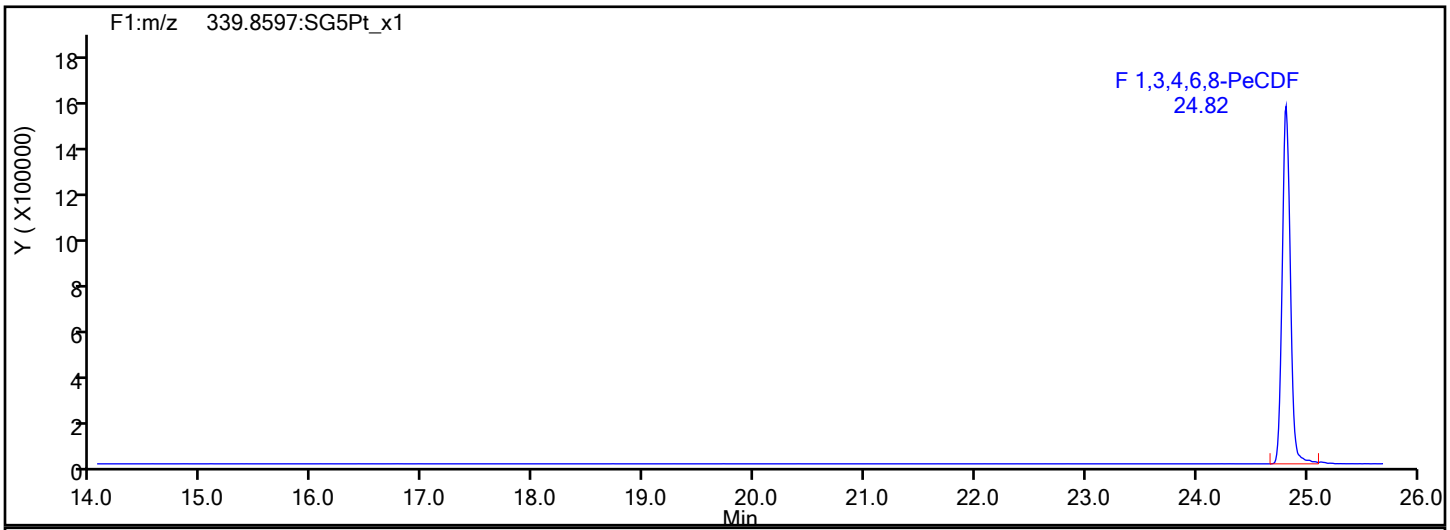


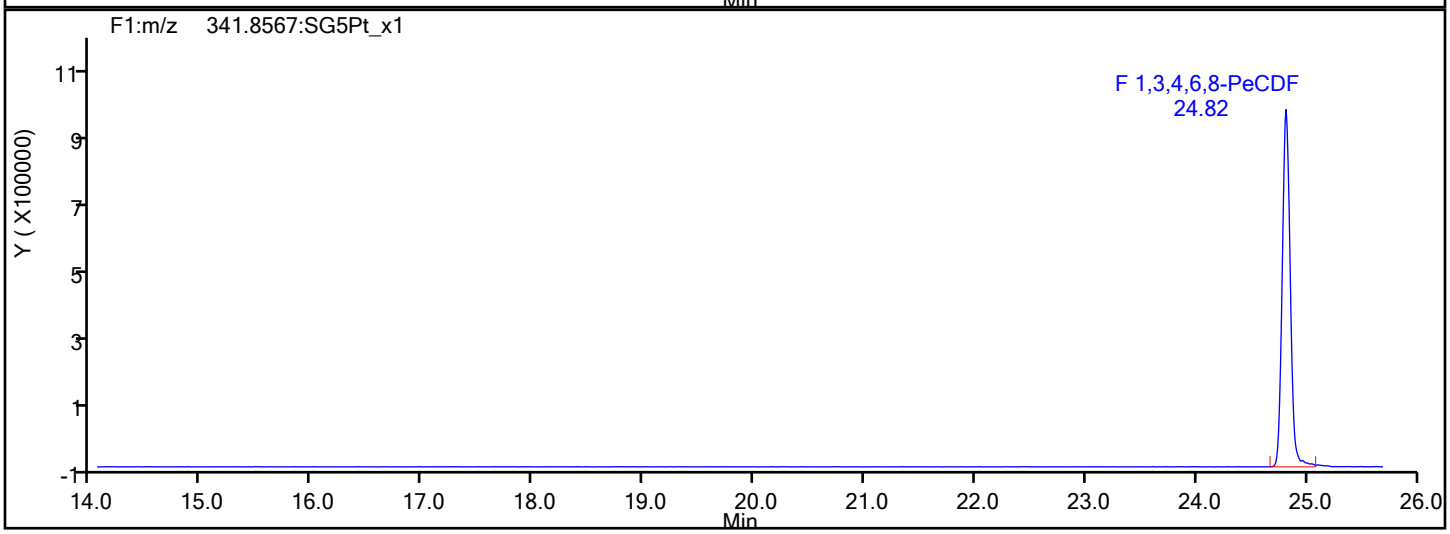


Eurofins TestAmerica, Sacramento

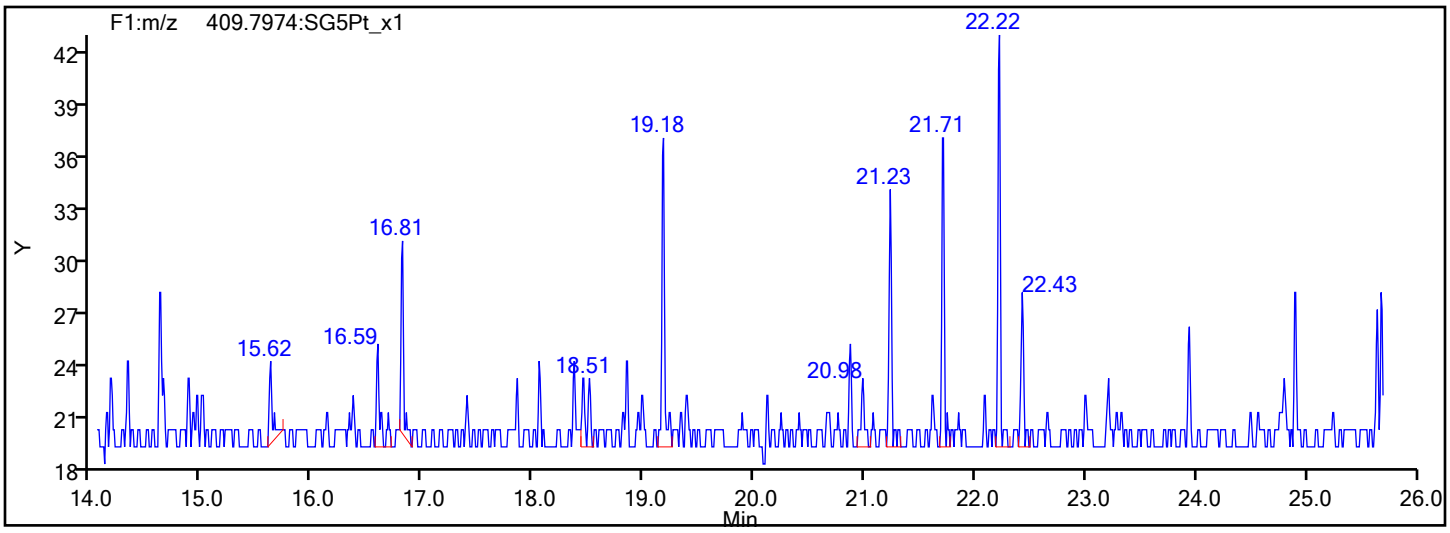
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





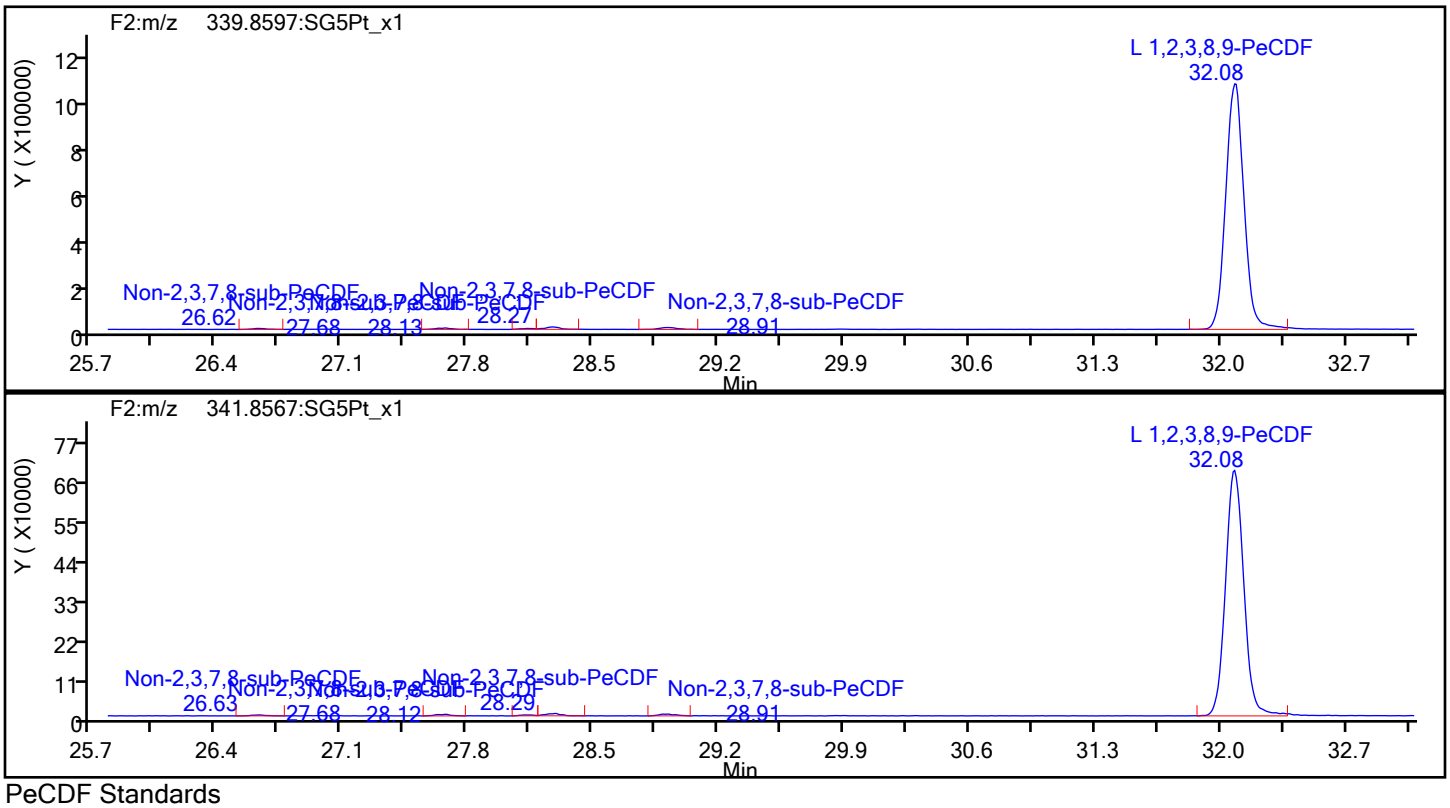
F1 PeCDFs Interference Mass



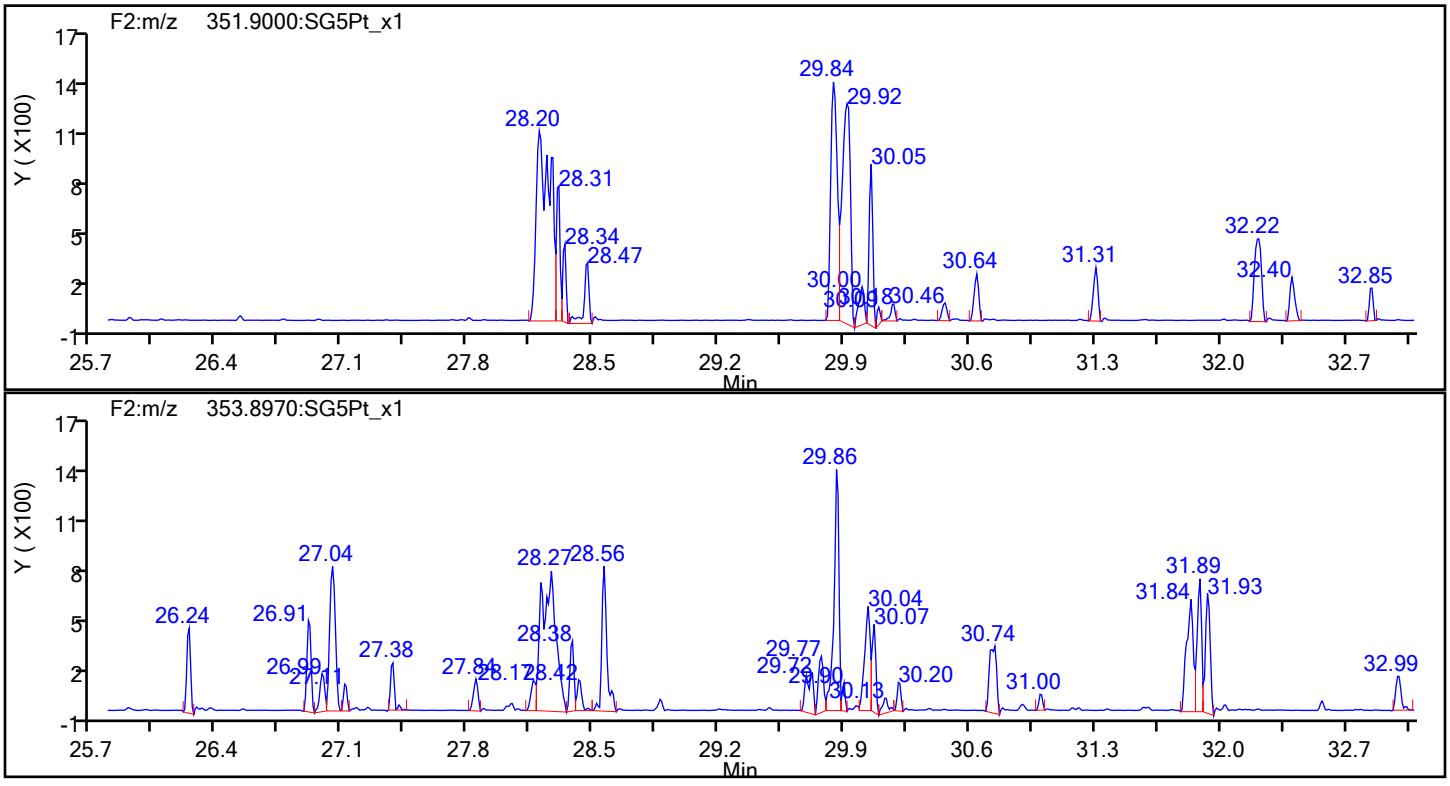
Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



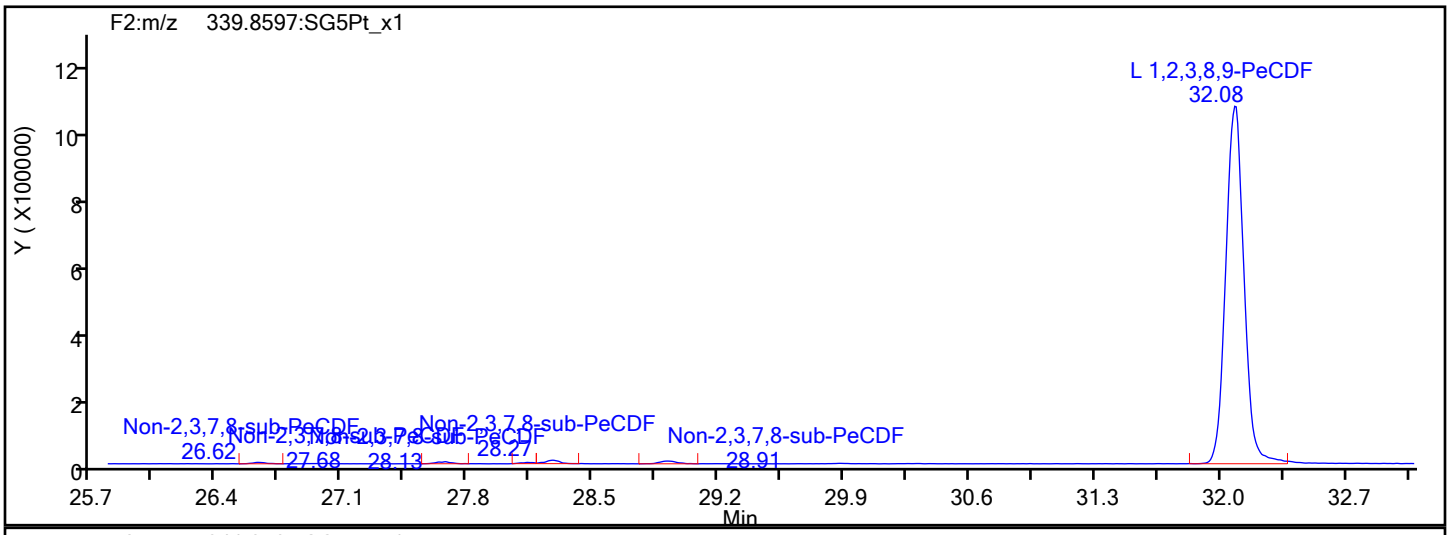
PeCDF Standards

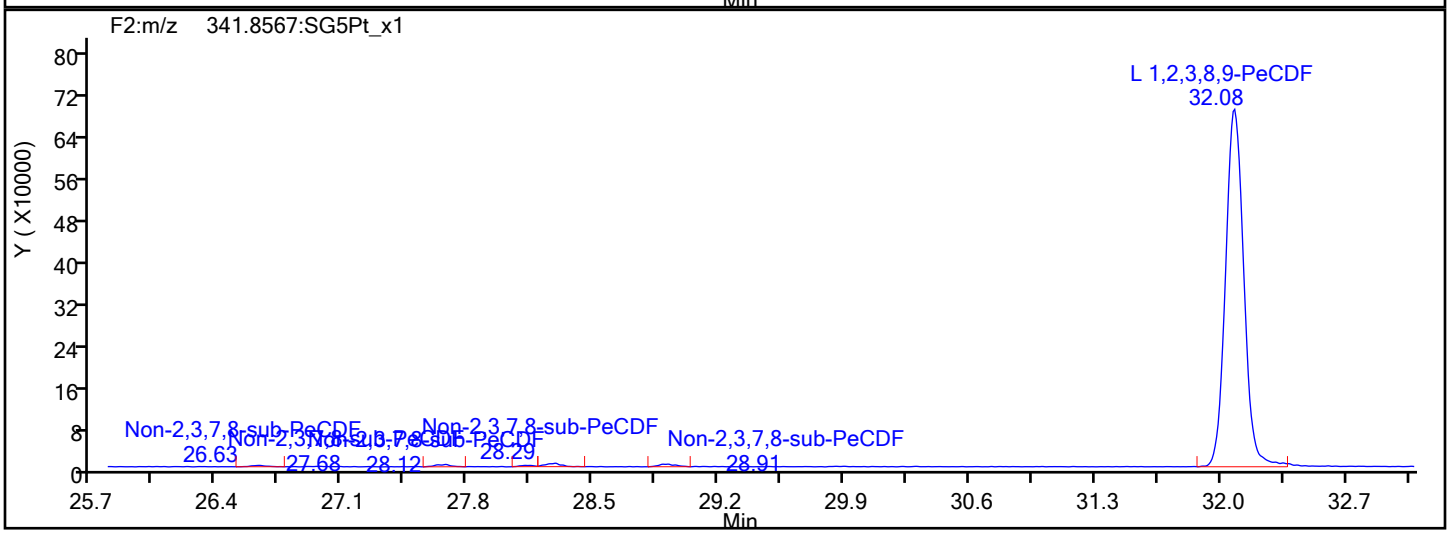


Eurofins TestAmerica, Sacramento

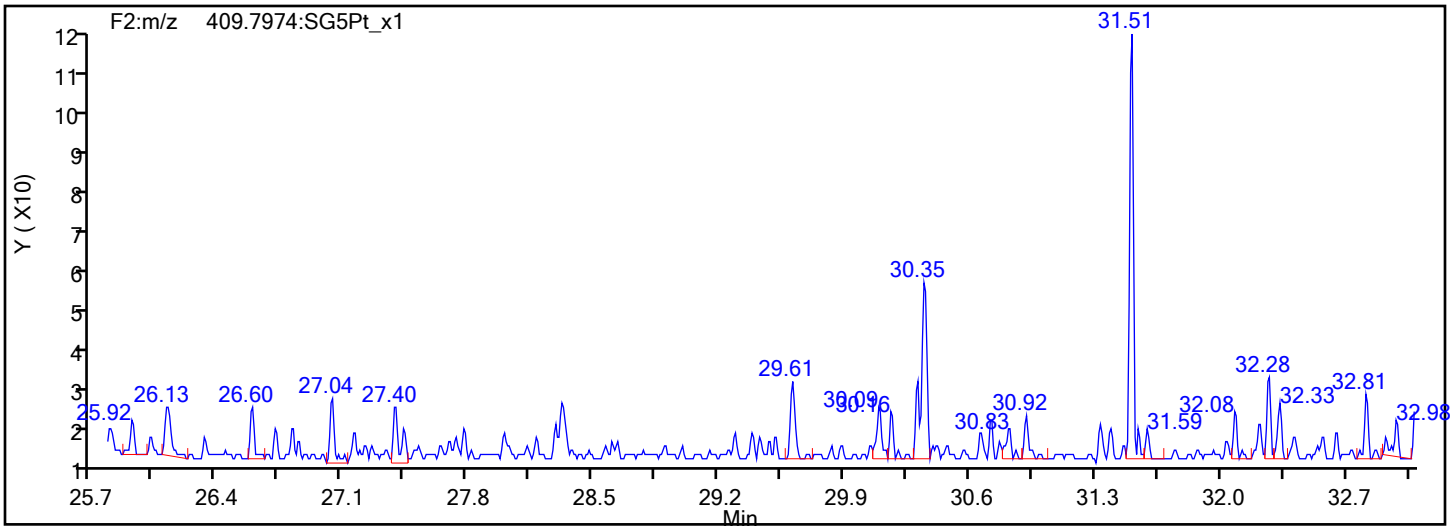
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass

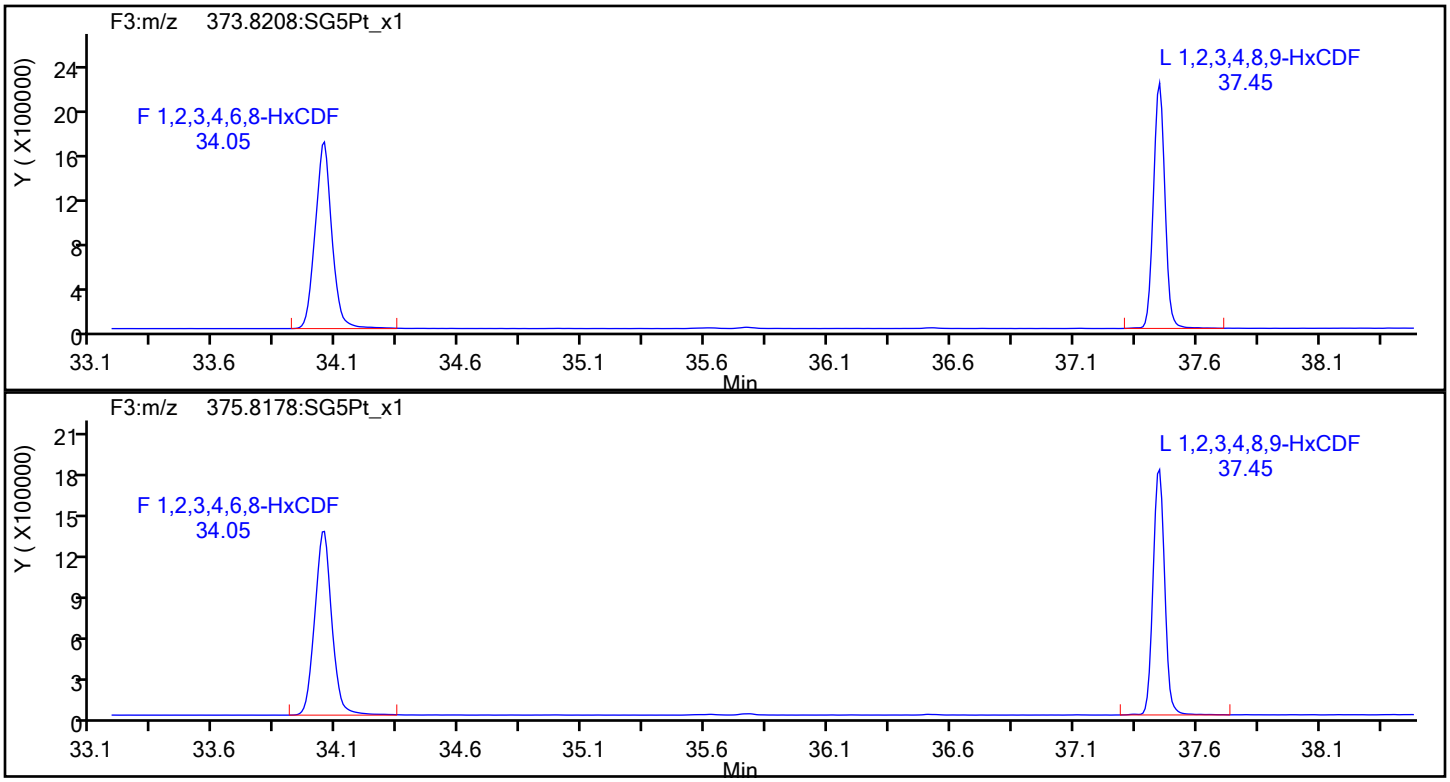


Report Date: 19-Nov-2021 09:13:54 Chrom Revision: 2.3 22-Sep-2021 15:38:46

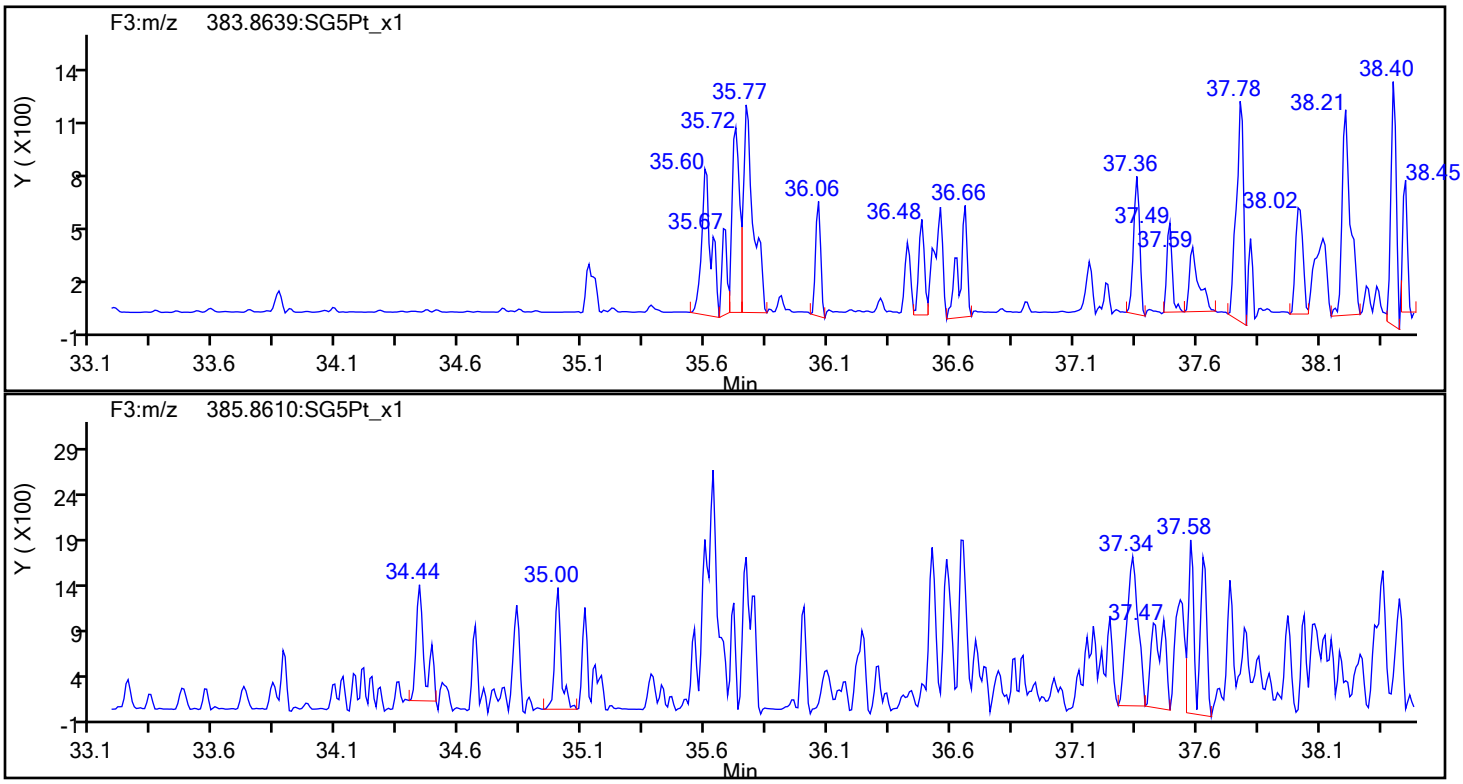
Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



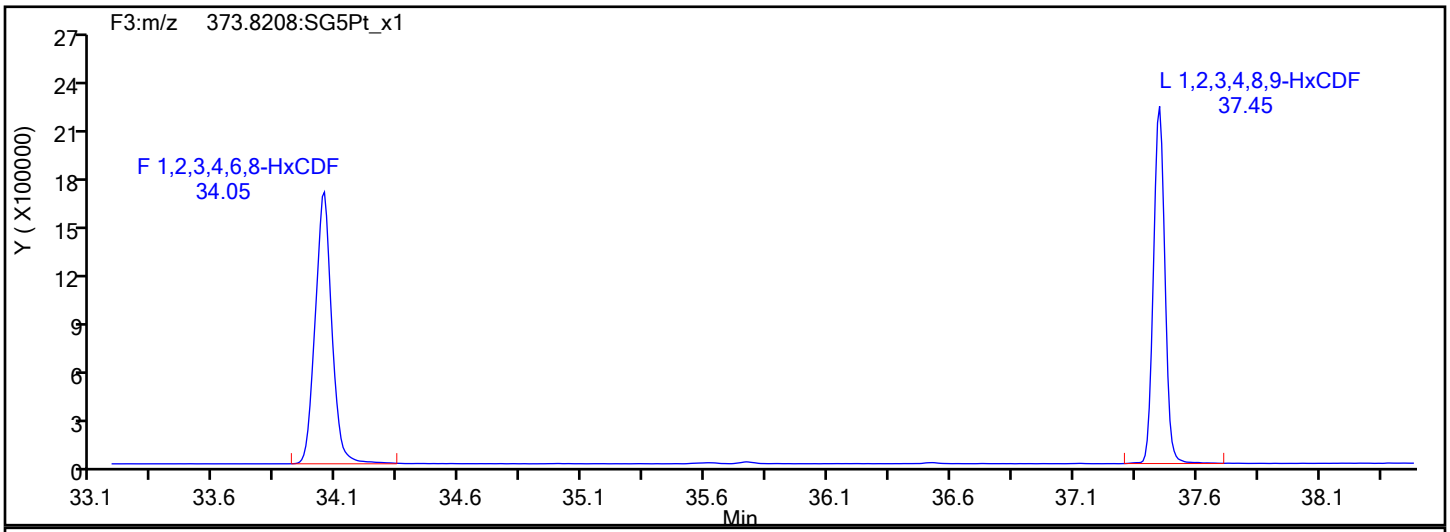
HxCDF Standards

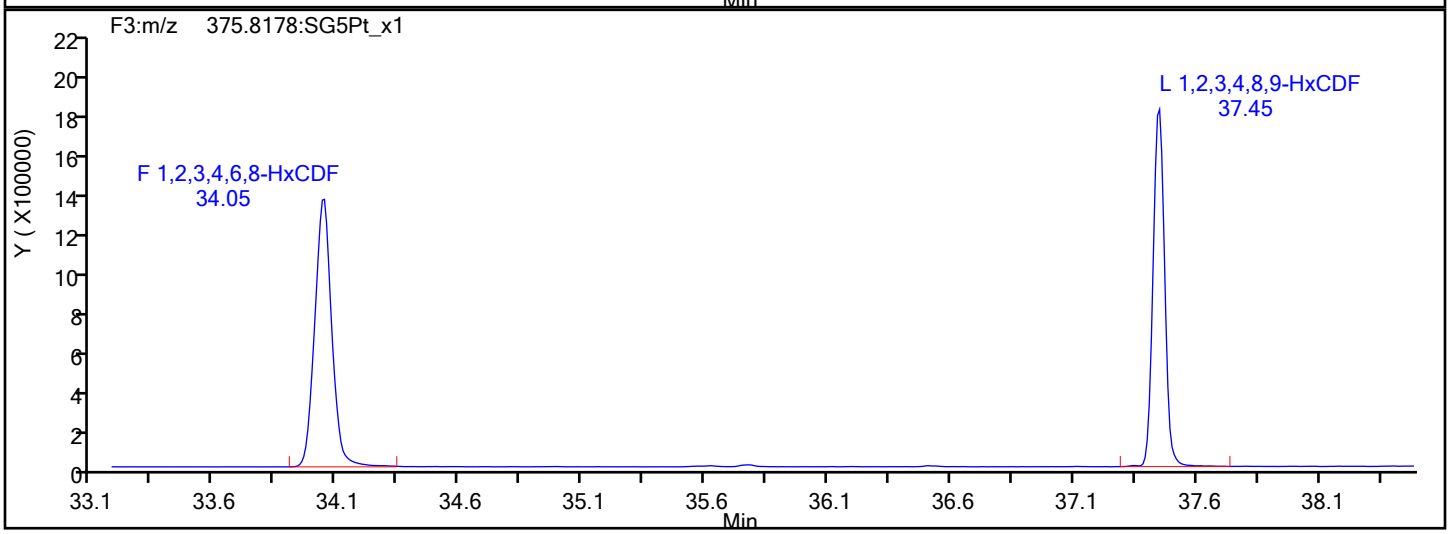


Eurofins TestAmerica, Sacramento

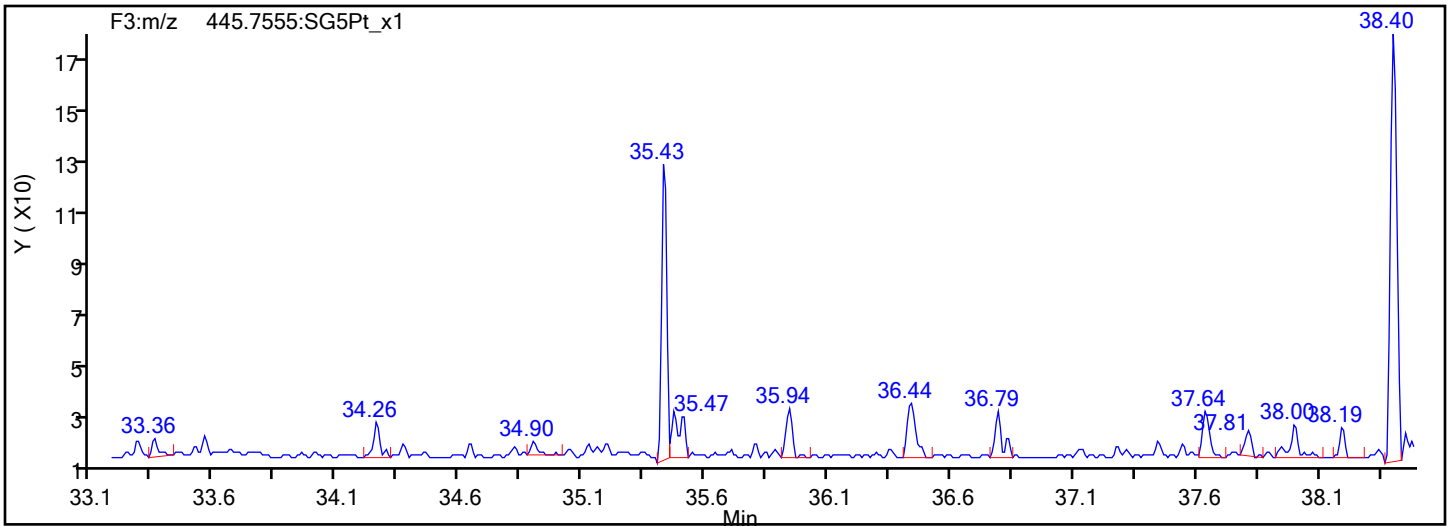
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





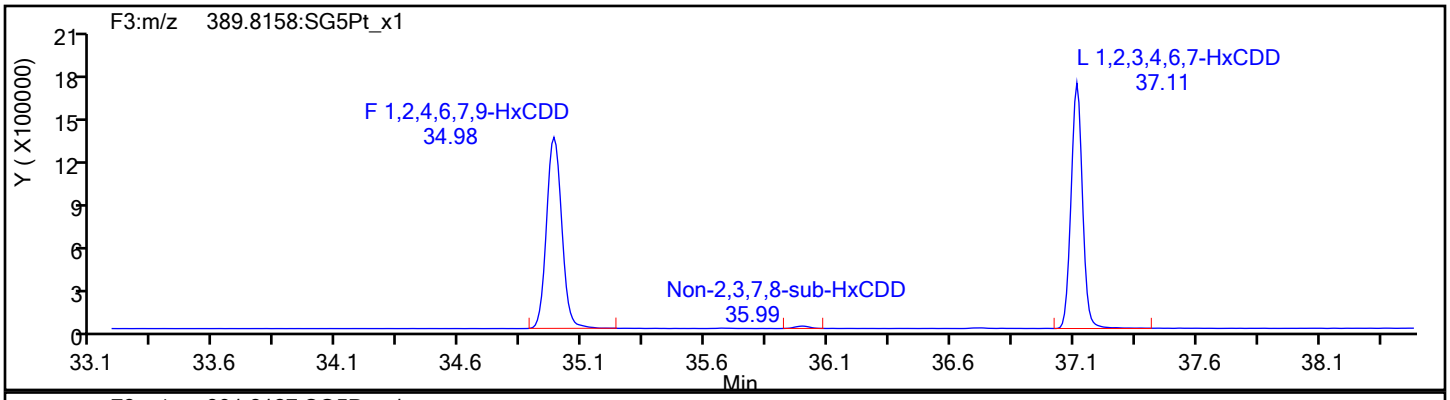
HxCDF Interference Mass

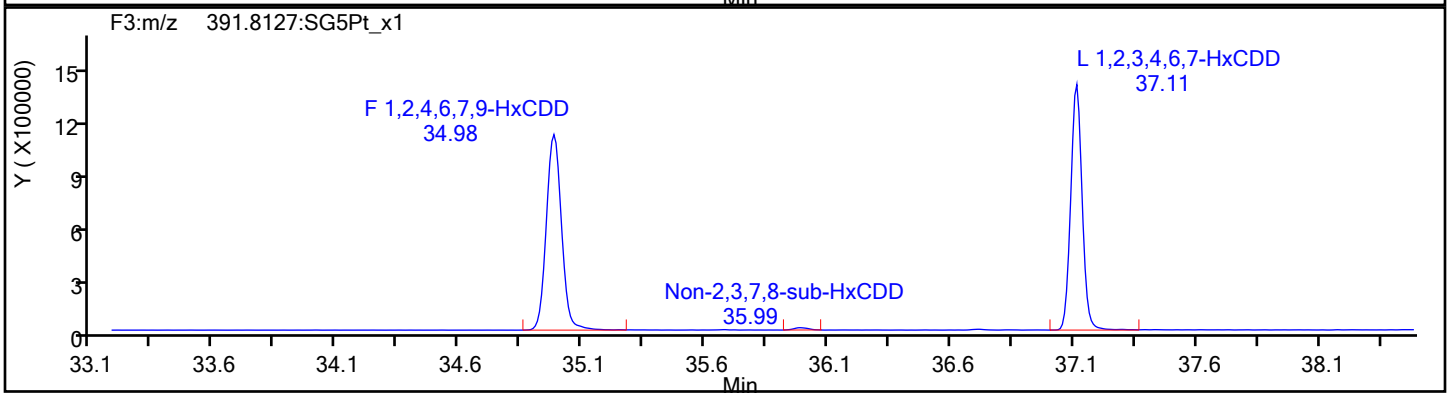


Eurofins TestAmerica, Sacramento

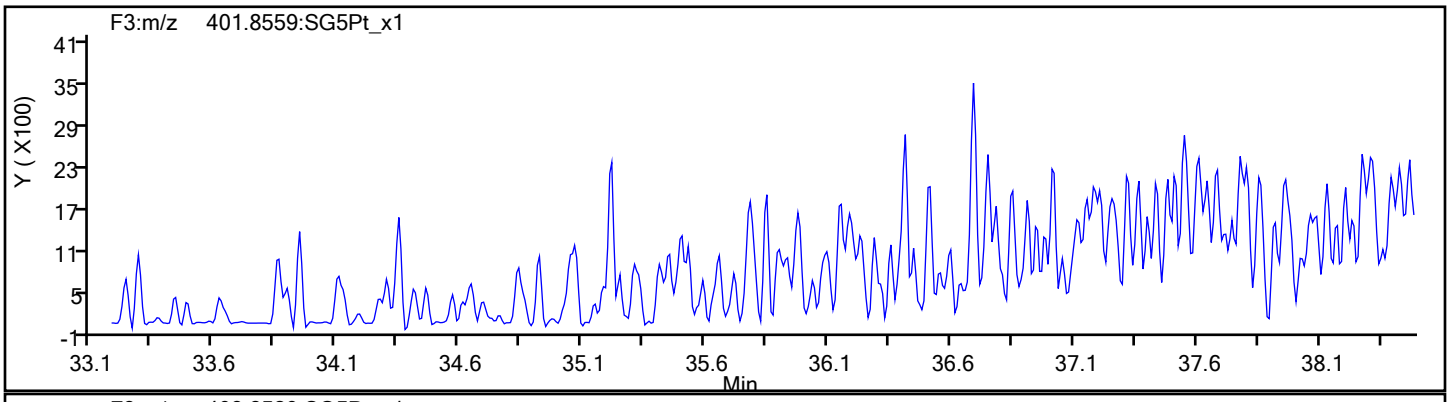
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

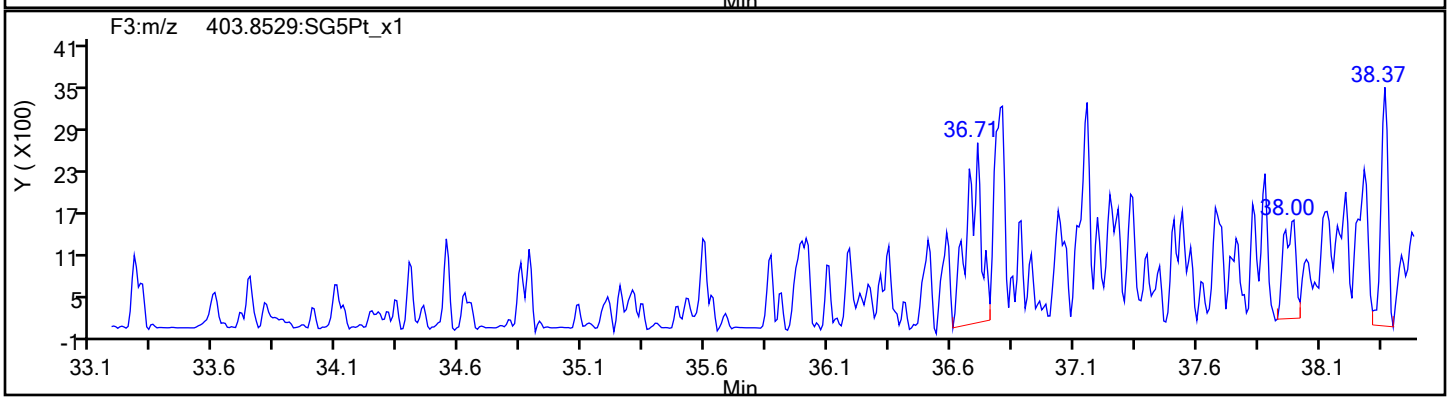
HxCDD





HxCDD Standards



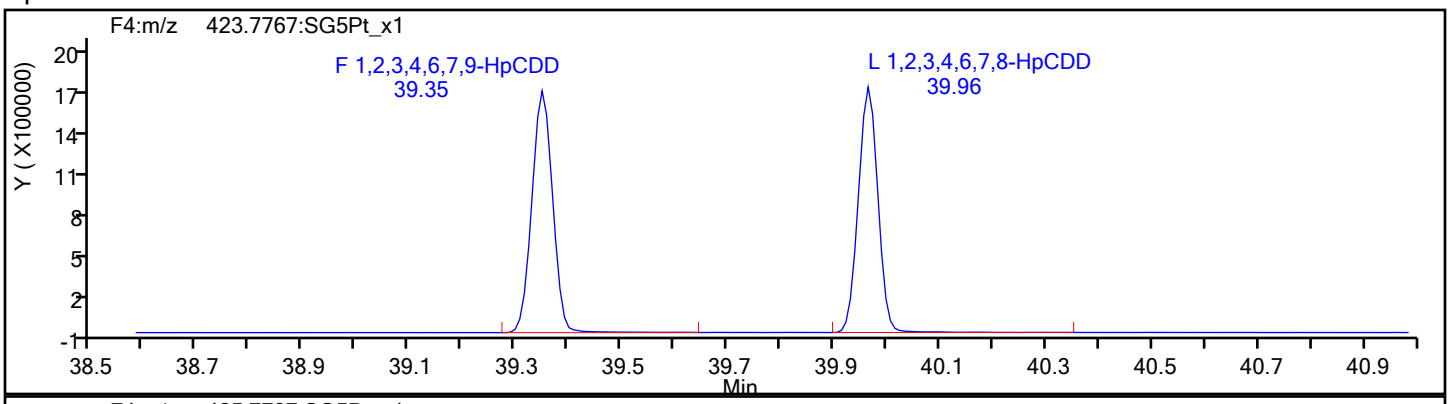


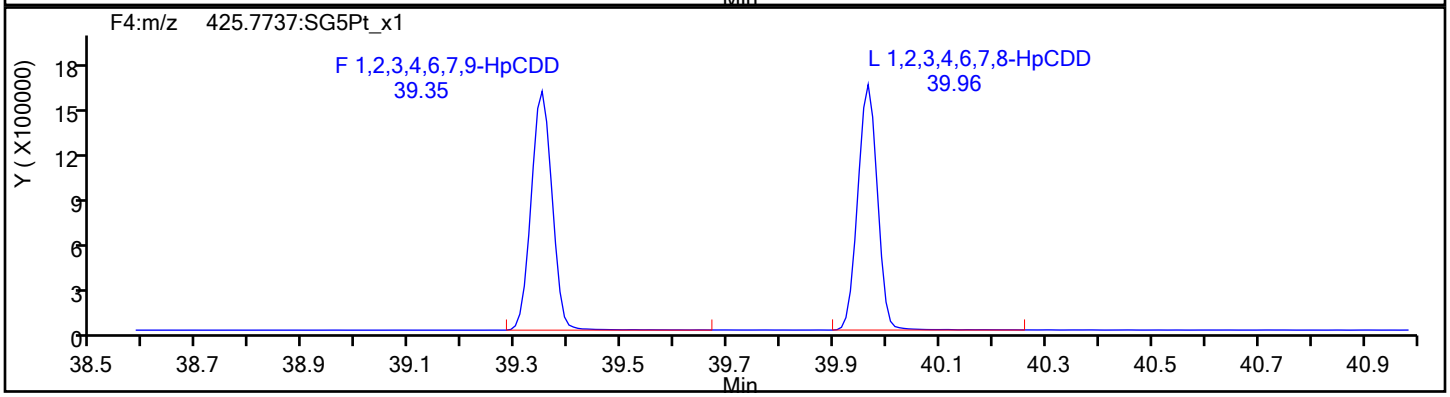
Report Date: 19-Nov-2021 09:13:55 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

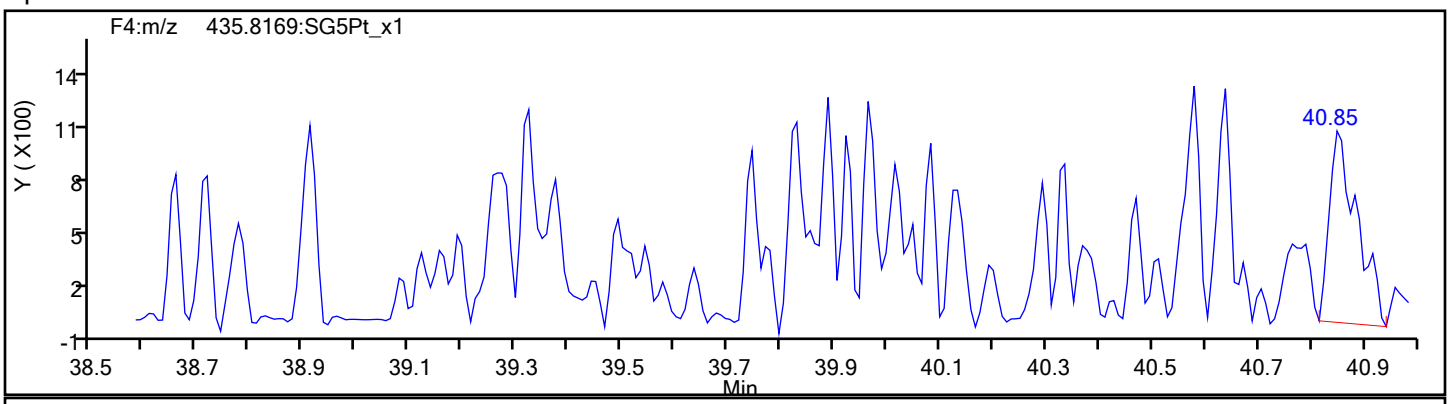
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

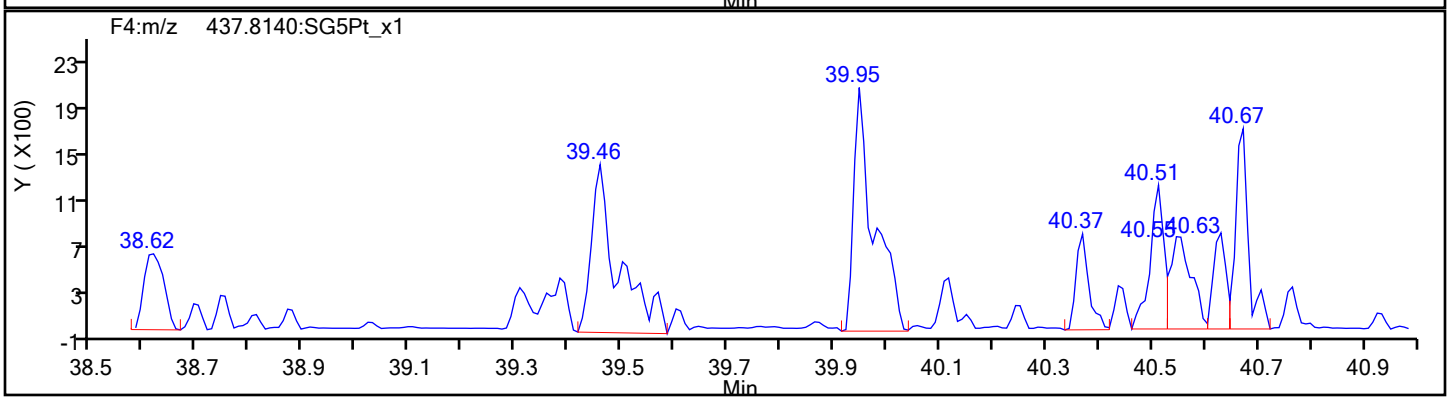
HpCDD





HpCDD Standards

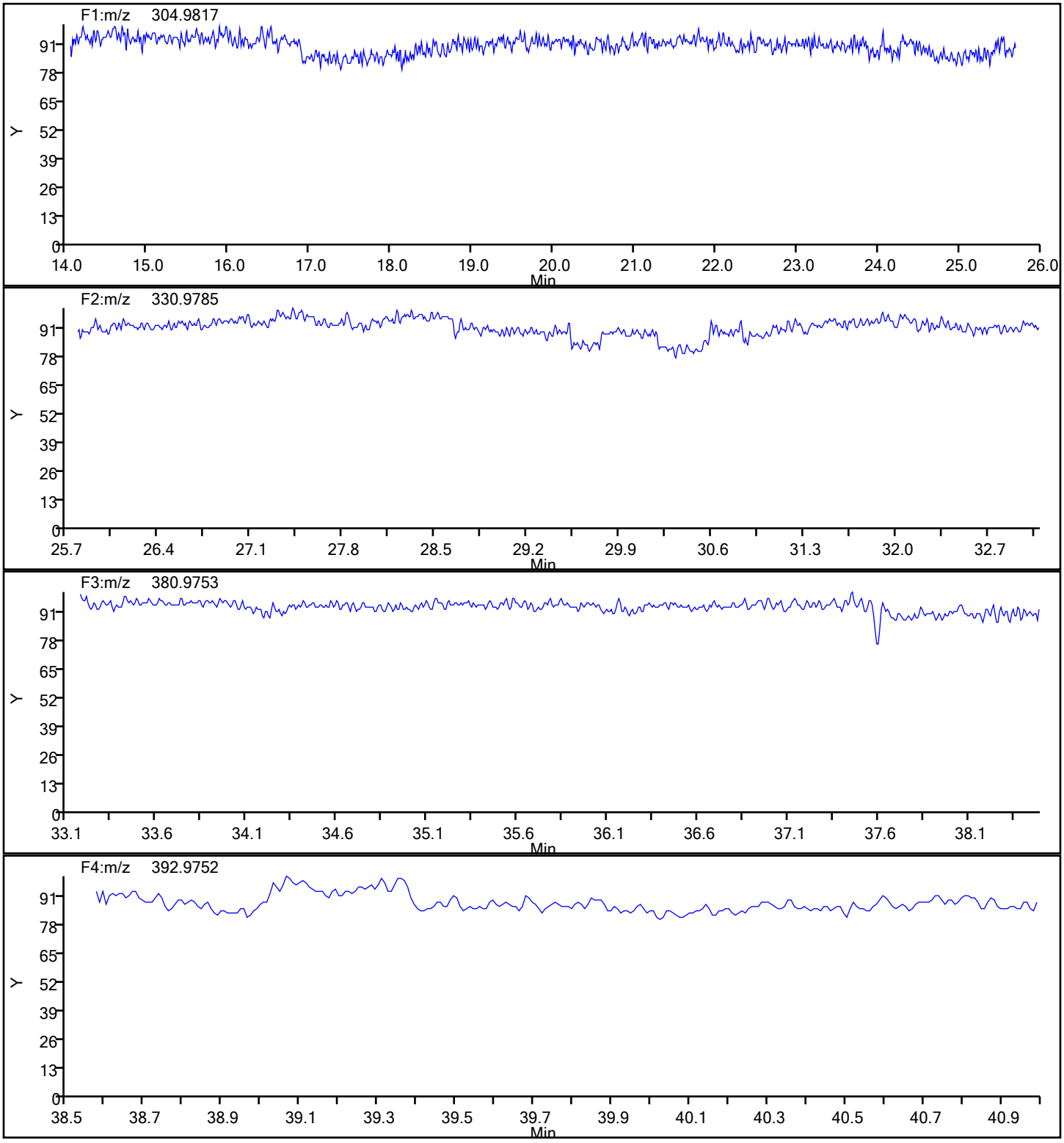




Report Date: 19-Nov-2021 09:13:55 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

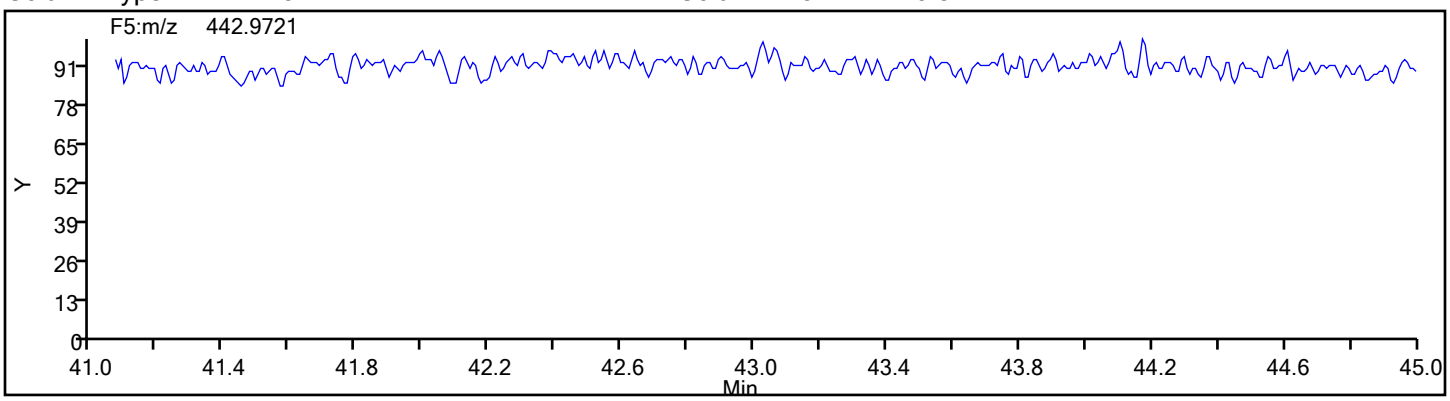
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 19-Nov-2021 09:13:55 Chrom Revision: 2.3 22-Sep-2021 15:38:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_2.d		
Injection Date:	18-Nov-2021 13:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	543974	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 27-Dec-2021 19:23:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:17 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: bilottag Date: 28-Dec-2021 10:58:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	20.100	9408497	0.84	1.2917					0.00	
2,3,7,8-TCDF	20.134	21173010	0.79	1.1045	81.5	81.5	0.2933	0.2933		
A Non-2,3,7,8-sub-TCDF	19.632	184566	0.70	1.1045	0.7104	0.7104	0.2933	0.7104		
S Total TCDF					82.2	82.2	0.2933	0.2933		
D 13C-2,3,7,8-TCDD	21.433	5012628	0.83	0.8271					0.00	
2,3,7,8-TCDD	21.467	6737597	0.82	1.1211	48.0	48.0	0.2500	0.2500		
A Non-2,3,7,8-sub-TCDD	20.470						0.2500	0.2500		
S Total TCDD					48.0	48.0	0.2500	0.2500		
A F1 PeCDFs	24.442	7077	1.55	0.0000						RQ
A Non-2,3,7,8-sub-PeCDF	27.884	161592	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	28.134						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	34.874	44089	1.24	0.0000						RQ
S Total HxCDF										RQ
A Non-2,3,7,8-sub-HxCDD	35.257	83507	1.18	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	38.556	8315632	1.03	1.5184						
1,2,3,4,7,8,9-HpCDF	39.827	7402917	1.05	1.3387						
A Non-2,3,7,8-sub-HpCDF	39.191						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	39.524	5402660	1.06	1.0953						
A Non-2,3,7,8-sub-HpCDD	39.200						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.929	12704991	0.79							
1,3,6,8-TCDD	17.520	6925930	0.81							
2,3,4,7-TCDF	20.134	21173010	0.79							
1,2,3,7-TCDD	21.252	5846029	0.78							
1,2,3,9-TCDF	21.631	9318130	0.79							
1,2,3,9-TCDD	21.734	7046325	0.80							
1,2,8,9-TCDF	23.334	9835460	0.80							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	23.420	2865969								
1,3,4,6,8-PeCDF	23.816	6364486	1.60							
1,2,3,8,9-PeCDD	25.858	5604909	1.58							
1,2,4,7,9-PeCDD	30.410	5223860	1.62							
1,2,3,8,9-PeCDF	30.561	7682995	1.57							
1,2,3,4,6,8-HxCDF	32.938	9598033	1.25							
1,2,4,6,7,9-HxCDD	34.058	6722436	1.27							
1,2,3,4,6,7-HxCDD	36.457	6756419	1.25							
1,2,3,4,8,9-HxCDF	36.810	8523995	1.26							
1,2,3,4,6,7,9-HpCDD	38.875	5789275	1.06							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 27-Dec-2021 19:23:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:17 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: bilottag Date: 28-Dec-2021 10:58:34

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	20.100	20.100	0	1.000	4291185	631469	2421	6052	261		
317.9389	20.091	20.100	-1	1.000	5117312	779257	1250	3125	623	0.84(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	20.134	20.134	0	1.002	9375030	1279375	1959	4897	653		
305.8987	20.134	20.134	0	1.002	11797980	1604294	2612	6530	614	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	23.816	19.632	251	1.185	75892	14201	1959	4897	7		
305.8987	23.833	19.632	252	1.186	108674	19338	2612	6530	7	0.70(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	21.433	21.433	0	1.000	2270482	312515	1121	2802	279		
333.9338	21.424	21.433	-1	1.000	2742146	372533	380	950	980	0.83(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.467	21.467	0	1.002	3044490	407372	1025	2562	397		
321.8936	21.459	21.467	-1	1.001	3693107	497862	895	2237	556	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						1025	2562			
321.8936	20.470						895	2237			
A F1 PeCDFs											RQ
339.8597	24.409	24.442	-2	1.000	4302	1111	61	152	18		
341.8567	24.418	24.442	-1	1.000	5453	1073	139	347	8	0.79(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	26.480	27.884	-84	1.000	25584	4471	715	1787	6		
341.8567	26.489	27.884	-84	1.000	12843	2448	678	1695	4	1.99(1.32-1.78)	
339.8597	27.052	27.884	-50	1.000	50758	5517	715	1787	8		
341.8567	27.044	27.884	-50	1.000	30490	3528	678	1695	5	1.66(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	27.633	27.884	-15	1.000	34835	4783	715	1787	7		
341.8567	27.650	27.884	-14	1.000	18665	2435	678	1695	4	1.87(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	28.134						840	2100			
357.8516	28.134						464	1160			
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	34.958	34.874	5	1.000	28695	6386	1536	3840	4		
375.8178	34.967	34.874	6	1.000	19683	4866	1138	2845	4	1.46(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	35.219	35.257	-2	1.000	45211	9537	1009	2522	9		
391.8127	35.211	35.257	-3	1.000	38296	7018	865	2162	8	1.18(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.556	38.556	0	1.000	4228575	1038886	2885	7212	360		
409.7788	38.556	38.556	0	1.000	4087057	1013528	2486	6215	408	1.03(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.827	39.827	0	1.000	3785589	999420	2885	7212	346		
409.7788	39.827	39.827	0	1.000	3617328	966298	2486	6215	389	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	39.191						2885	7212			
409.7788	39.191						2486	6215			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.524	39.524	0	1.000	2784719	711753	1786	4465	399		
425.7737	39.524	39.524	0	1.000	2617941	681383	1524	3810	447	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	39.200						1786	4465			
425.7737	39.200						1524	3810			
1,3,6,8-TCDF											
303.9016	15.929	15.929	0		5625986	1117384	1959	4897	570		
305.8987	15.929	15.929	0		7079005	1420714	2612	6530	544	0.79(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	17.520	17.520	0		3105664	561444	1025	2562	548		
321.8936	17.520	17.520	0		3820266	685248	895	2237	766	0.81(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	20.134	20.134	0		9375030	1279375	1959	4897	653		
305.8987	20.134	20.134	0		11797980	1604294	2612	6530	614	0.79(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	21.252	21.252	0		2568805	373013	1025	2562	364		
321.8936	21.252	21.252	0		3277224	475647	895	2237	531	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	21.631	21.631	0		4107658	555876	1959	4897	284		
305.8987	21.631	21.631	0		5210472	700171	2612	6530	268	0.79(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	21.734	21.734	0		3141638	410635	1025	2562	401		
321.8936	21.734	21.734	0		3904687	513257	895	2237	573	0.80(0.65-0.89)	
1,2,8,9-TCDF											
303.9016	23.334	23.334	0		4373285	689732	1959	4897	352		
305.8987	23.334	23.334	0		5462175	862228	2612	6530	330	0.80(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDD											
319.8965	23.420	23.420	0		2865969	455883	1025	2562	445		
1,3,4,6,8-PeCDF											
339.8597	23.816	23.816	0		3912882	734806	61	152	12046		
341.8567	23.825	23.816	1		2451604	454888	139	347	3273	1.60(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.858	25.858	0		3432782	525835	840	2100	626		
357.8516	25.849	25.858	-1		2172127	329717	464	1160	711	1.58(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	30.410	30.410	0		3229994	427181	840	2100	509		
357.8516	30.402	30.410	-1		1993866	259864	464	1160	560	1.62(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	30.561	30.561	0		4690698	595285	715	1787	833		
341.8567	30.561	30.561	0		2992297	380002	678	1695	560	1.57(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	32.938	32.938	0		5338170	758044	1536	3840	494		
375.8178	32.930	32.938	-1		4259863	608957	1138	2845	535	1.25(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8158	34.058	34.058	0		3762771	626150	1009	2522	621		
391.8127	34.058	34.058	0		2959665	503327	865	2162	582	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8158	36.457	36.457	0		3754733	796596	1009	2522	789		
391.8127	36.457	36.457	0		3001686	632779	865	2162	732	1.25(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	36.810	36.810	0		4744152	1049660	1536	3840	683		
375.8178	36.810	36.810	0		3779843	850360	1138	2845	747	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7767	38.875	38.875	0		2982335	783152	1786	4465	438		
425.7737	38.875	38.875	0		2806940	737380	1524	3810	484	1.06(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d
Lims ID: WDM
Client ID:
Inject. Date: 27-Dec-2021 19:23:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 19.632

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.105	D 13C-2,3,7,8-TCDF	40.000	9408497	1410726

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.105		40.000	9408497	1410726

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
23.816	75892	14201	108674	19338	0.7104	0.70	
Signal Totals:							
	75892	14201	108674	19338			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	184566	33539				0.70	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7104 = (184566 * 40.000) / (9408497 * 1.105)

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d
Lims ID: WDM
Client ID:
Inject. Date: 27-Dec-2021 19:23:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 1

F1 PeCDFs, RT: 24.442

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.099				
2,3,4,7,8-PeCDF	1.058				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
24.409	4302	1111	5453	1073		0.79	R
Signal Totals:							
	4302	1111	5453	1073			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	9755	2184				0.79	RQ
	7077	1827					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (9755 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (7077 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d
Lims ID: WDM
Client ID:
Inject. Date: 27-Dec-2021 19:23:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 27.884

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.099				
2,3,4,7,8-PeCDF	1.058				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
26.480	25584	4471	12843	2448		1.99	R
27.052	50758	5517	30490	3528		1.66	
27.633	34835	4783	18665	2435		1.87	R
Signal Totals:							
	111177	14771	61998	8411			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	173175	23182				1.79	RQ
	161592	21496					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (173175 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (161592 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d
Lims ID: WDM
Client ID:
Inject. Date: 27-Dec-2021 19:23:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDF, RT: 34.874

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.950				
1,2,3,6,7,8-HxCDF	0.952				
2,3,4,6,7,8-HxCDF	0.889				
1,2,3,7,8,9-HxCDF	0.843				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
34.958	28695	6386	19683	4866		1.46	R
Signal Totals:							
	28695	6386	19683	4866			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	48378	11252				1.46	RQ
	44089	10899					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (48378 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (44089 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d
Lims ID: WDM
Client ID:
Inject. Date: 27-Dec-2021 19:23:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 35.257

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.008				
1,2,3,6,7,8-HxCDD	1.011				
1,2,3,7,8,9-HxCDD	1.099				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
35.219	45211	9537	38296	7018		1.18	
Signal Totals:							
	45211	9537	38296	7018			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	83507	16555				1.18	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

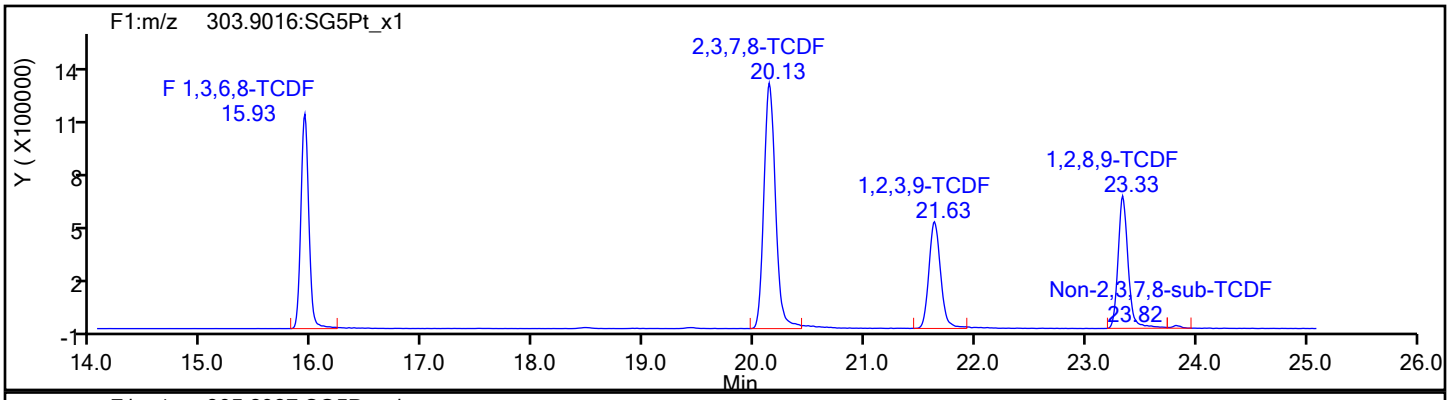
Amount: 0.0 = (83507 * 0.0) / (0 * 0.000)

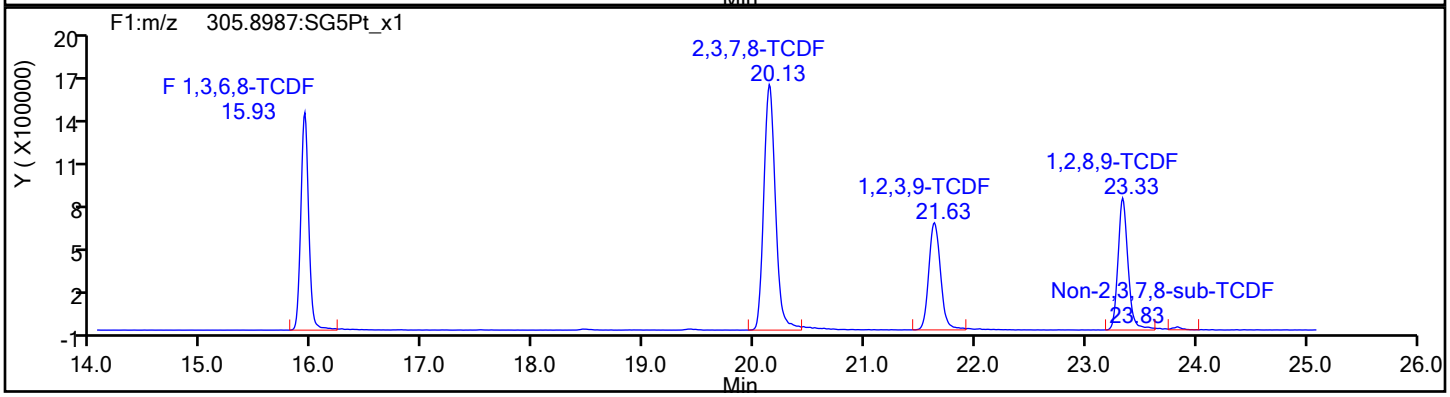
Report Date: 28-Dec-2021 14:24:19 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

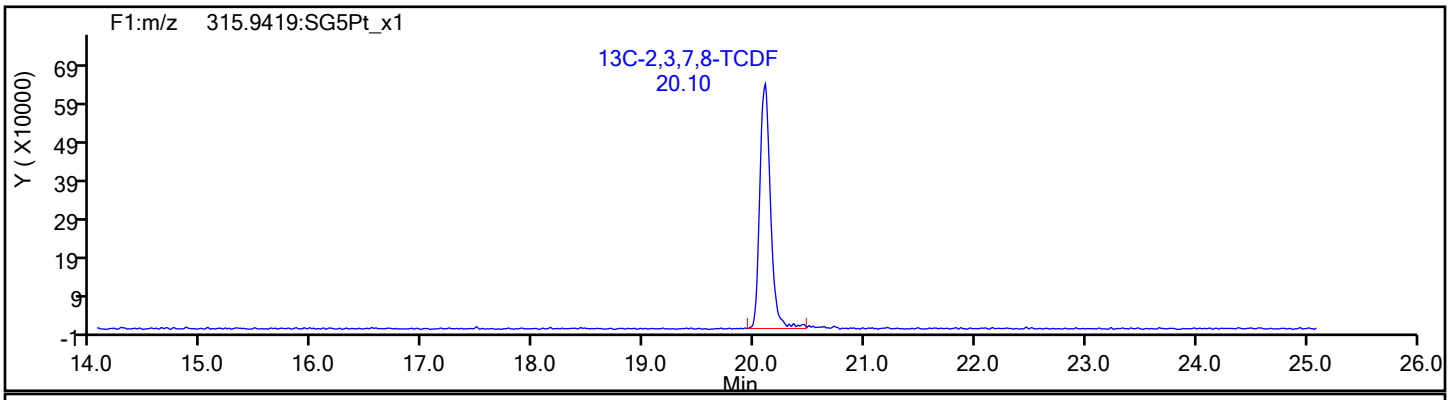
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

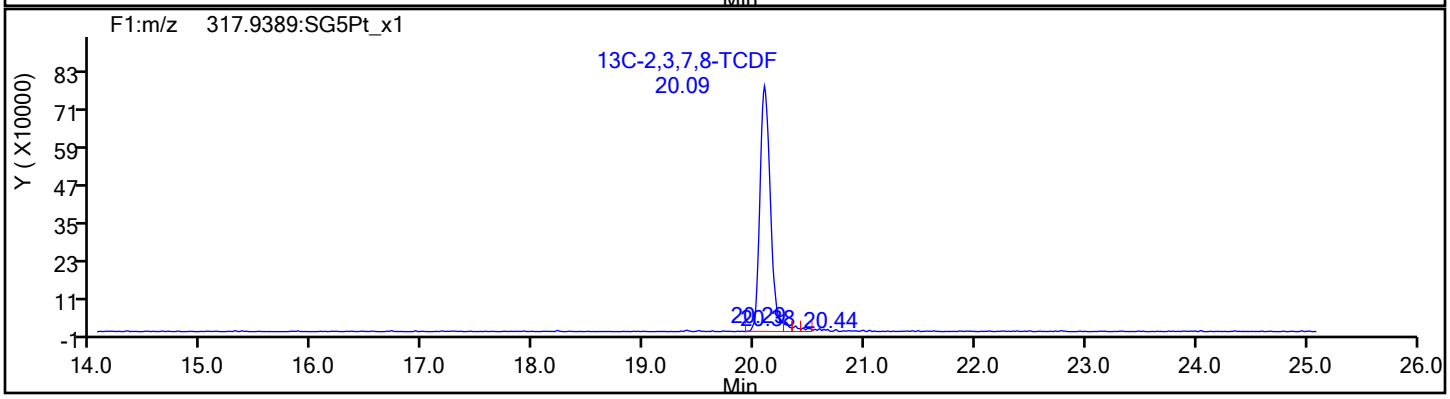
TCDF





TCDF Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
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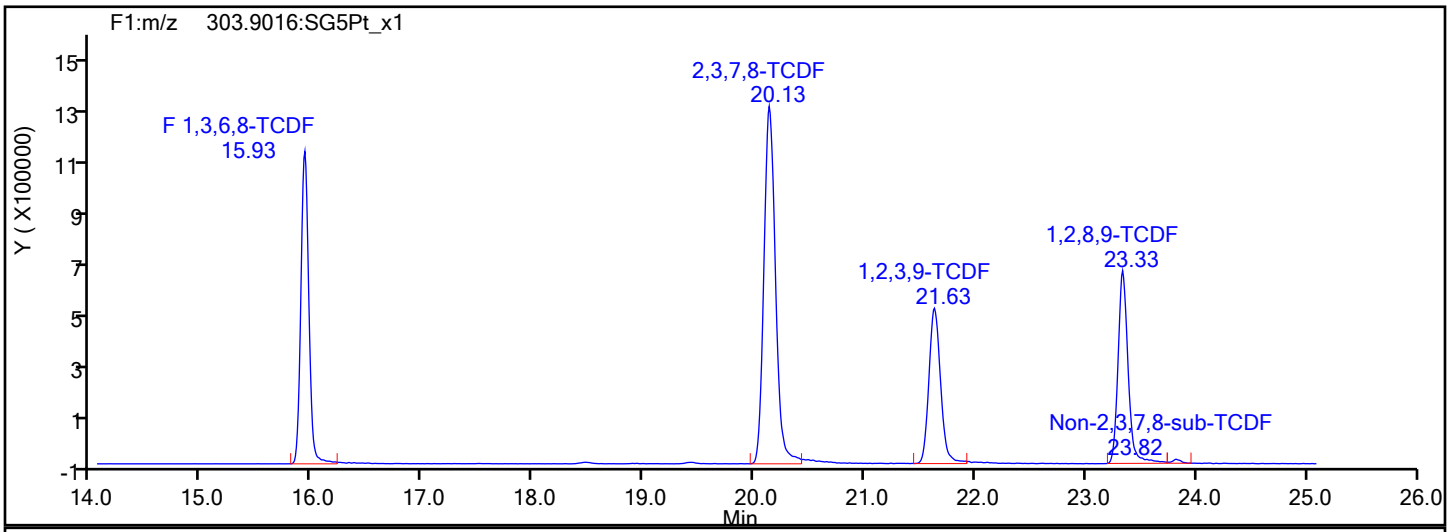
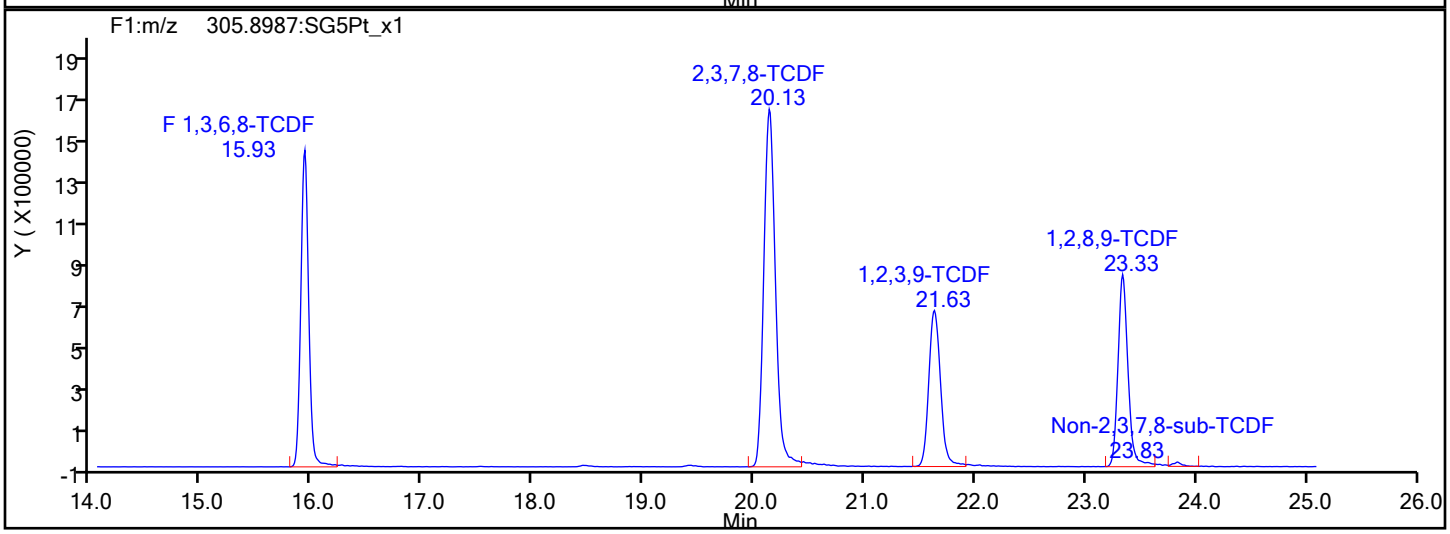
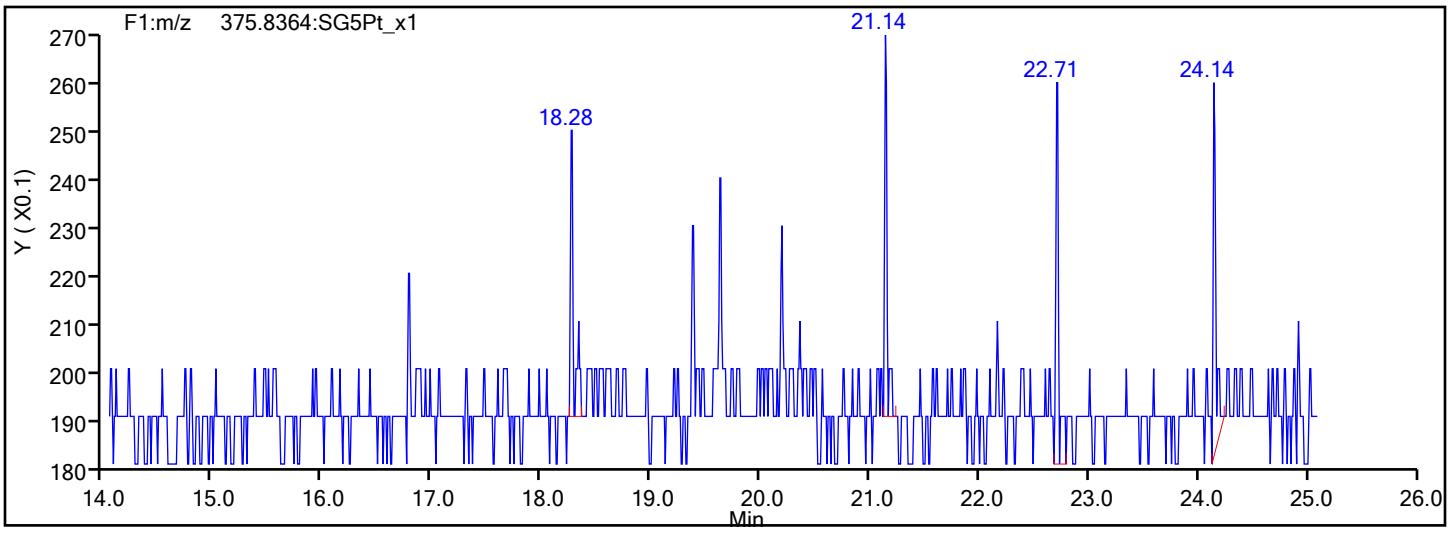
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

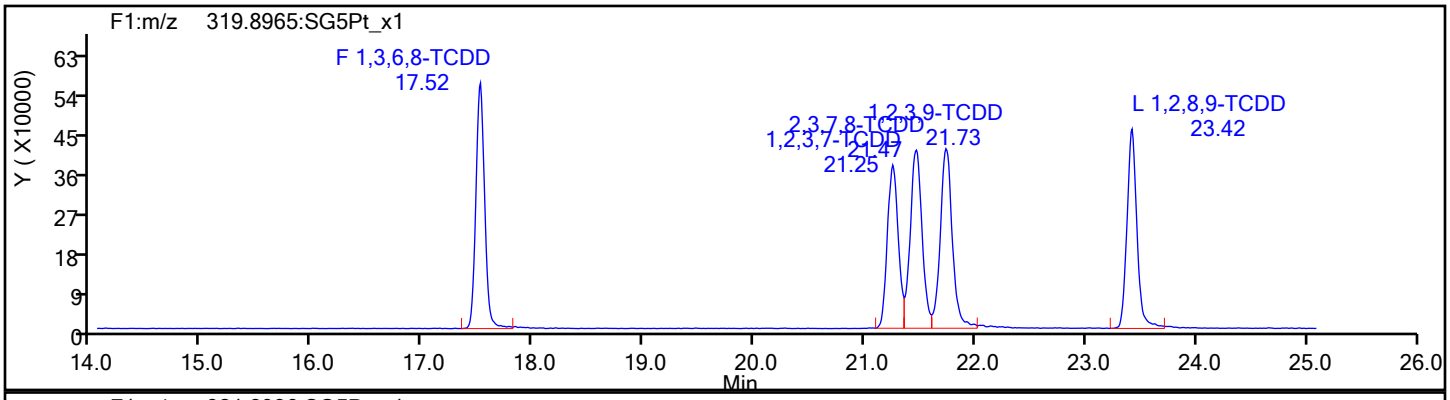


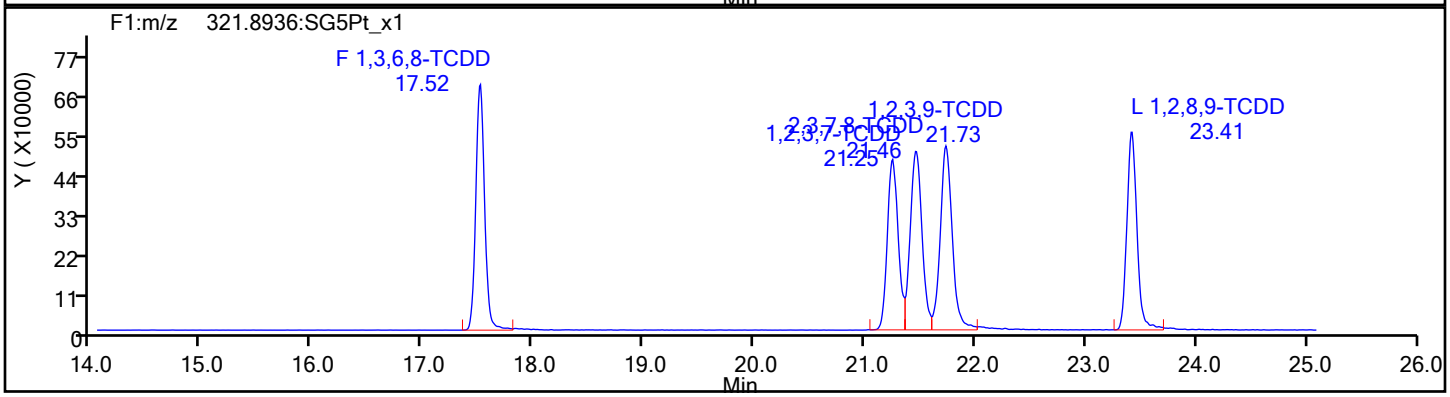
Report Date: 28-Dec-2021 14:24:20 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

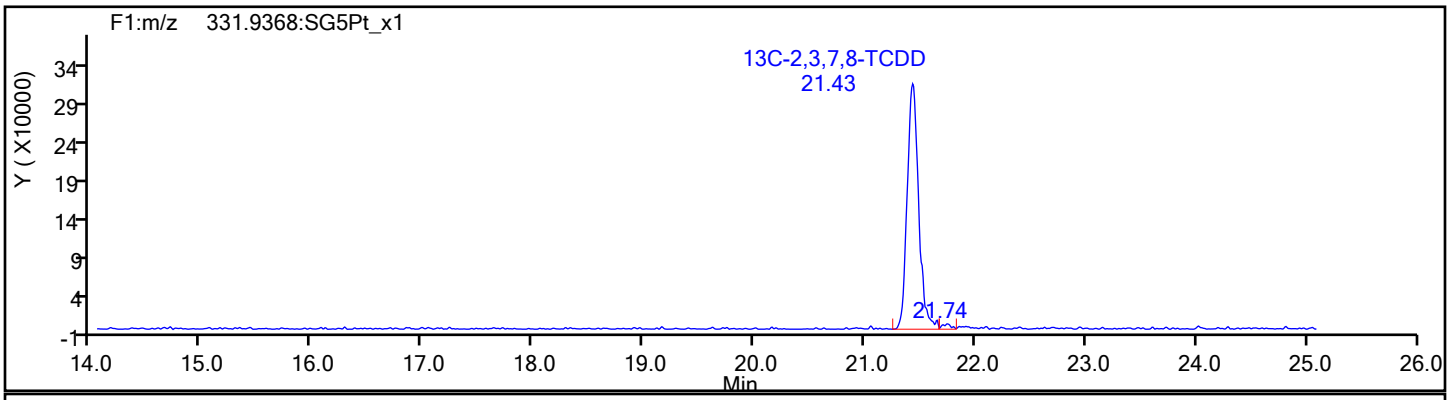
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

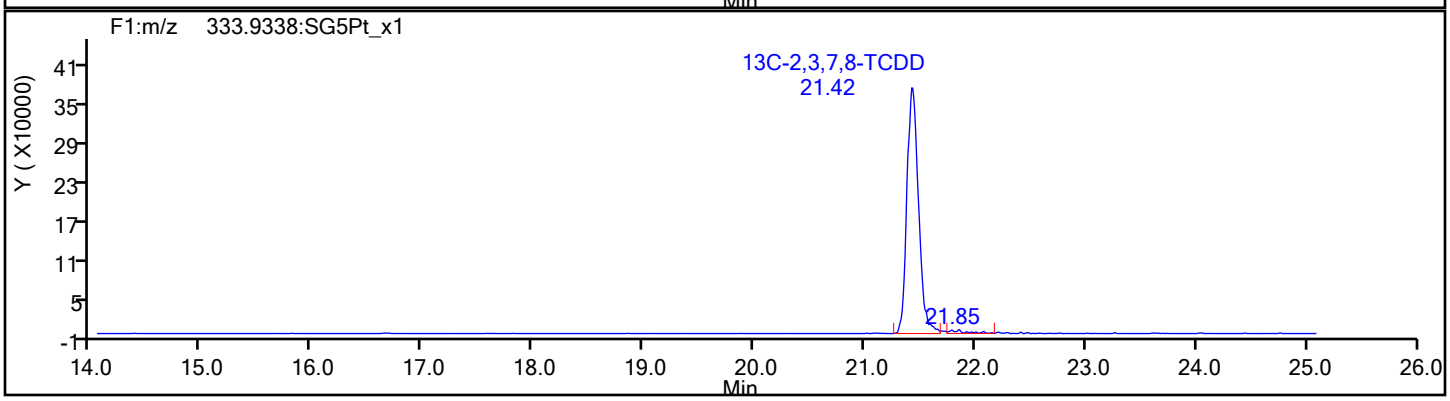
TCDD





TCDD Standards

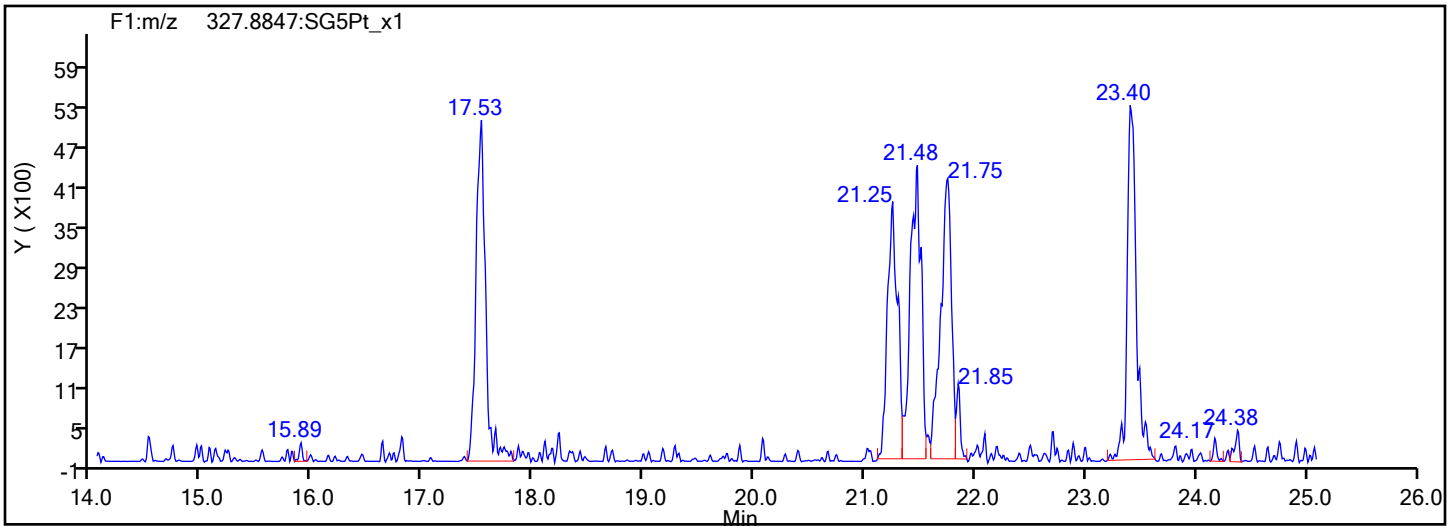




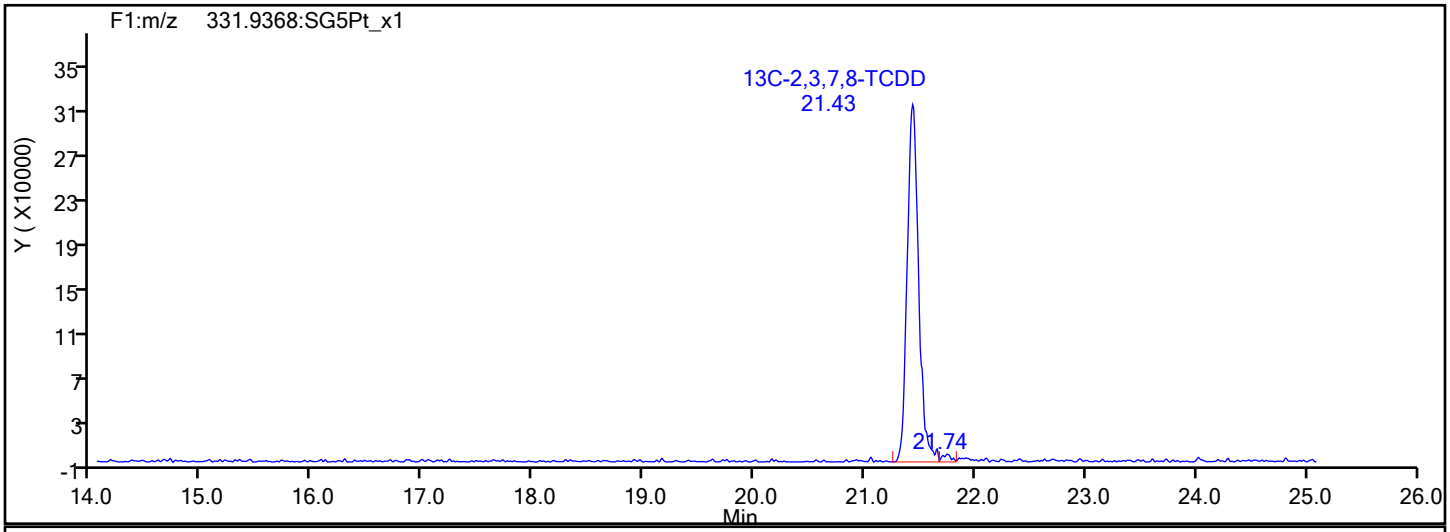
Eurofins TestAmerica, Sacramento

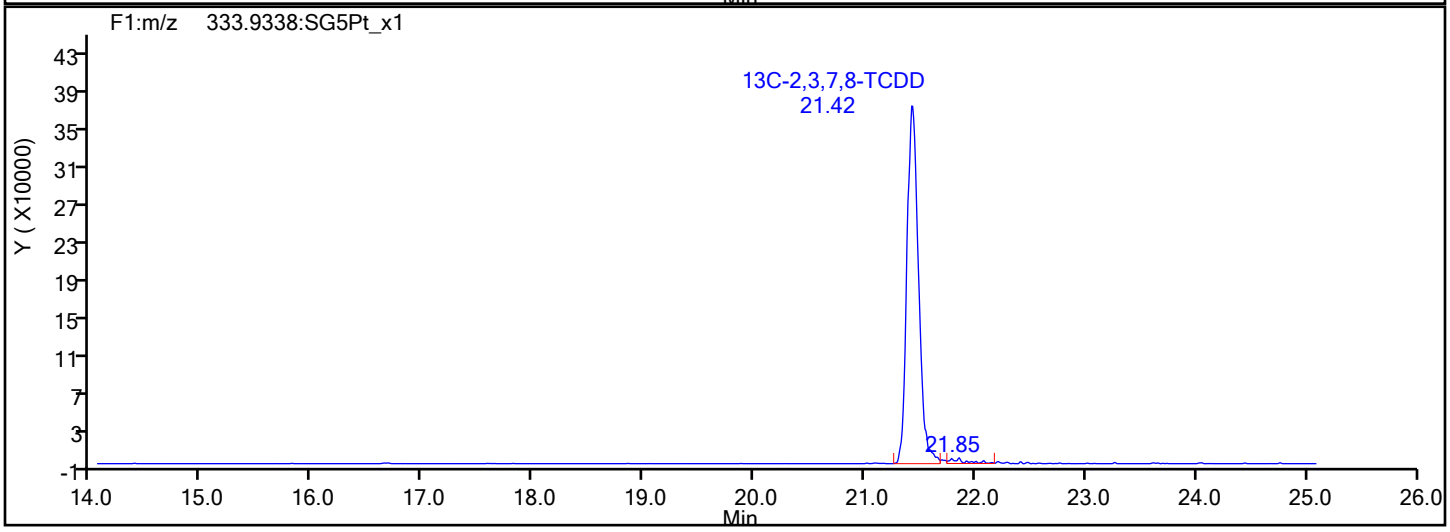
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



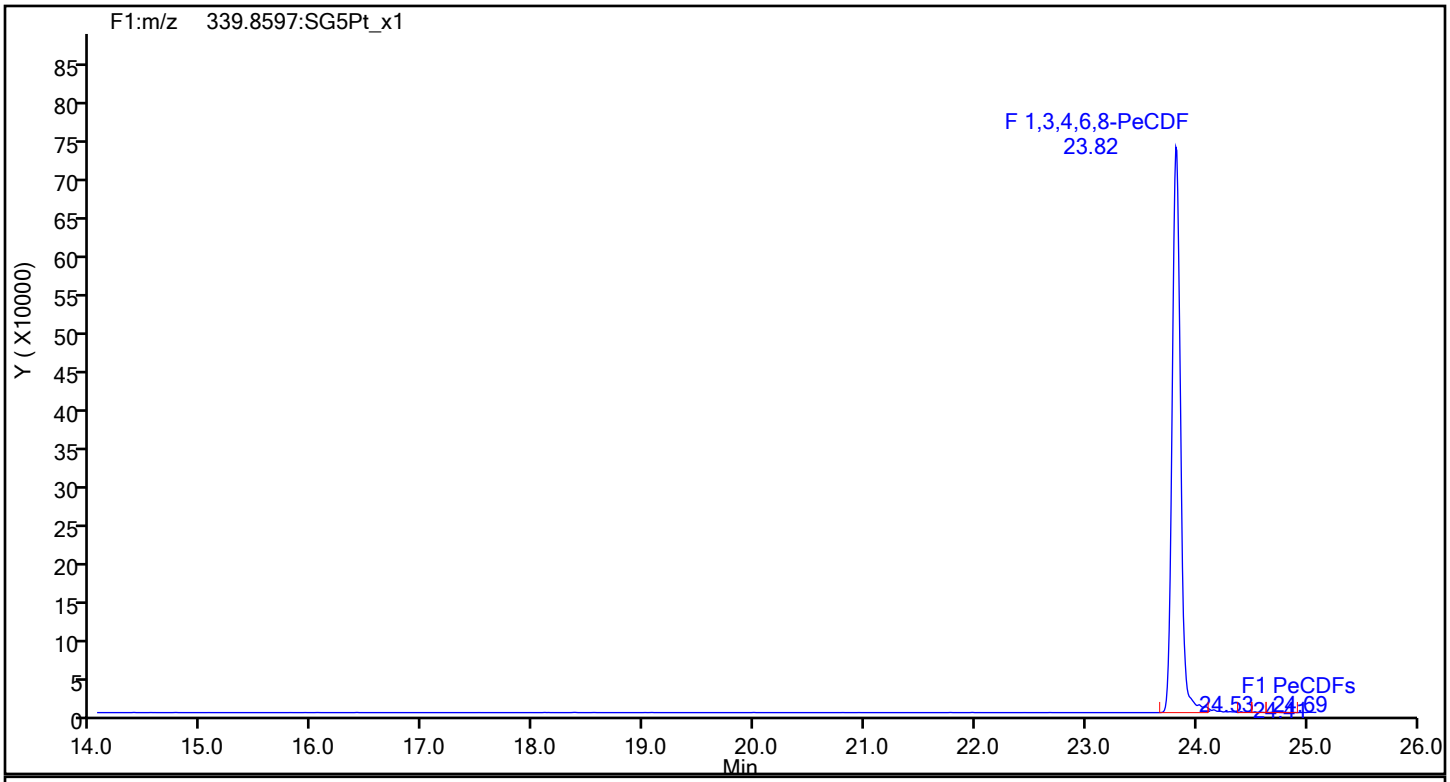


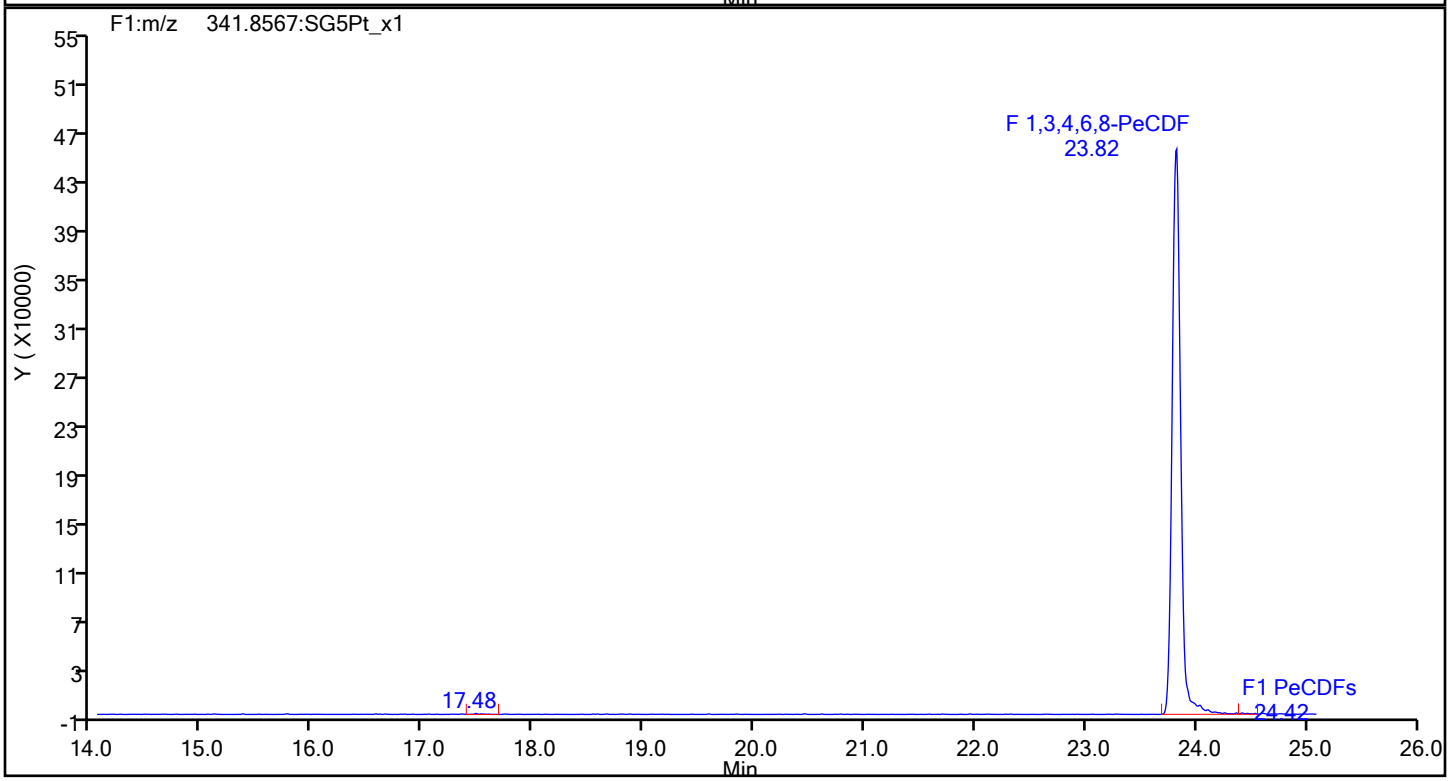
Report Date: 28-Dec-2021 14:24:20 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

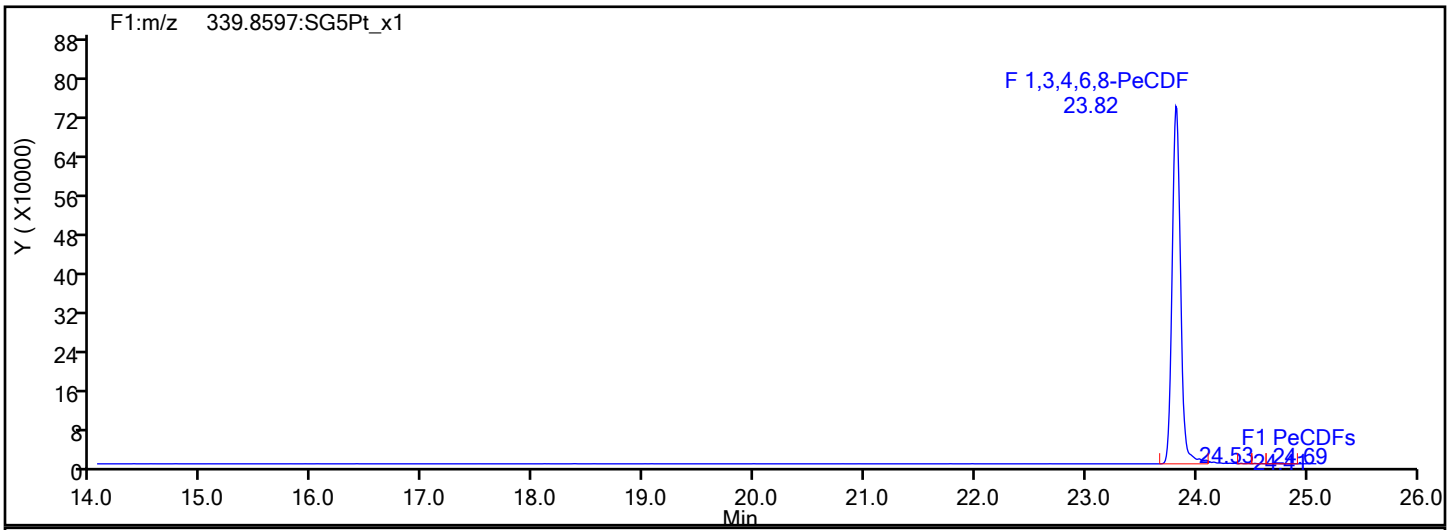


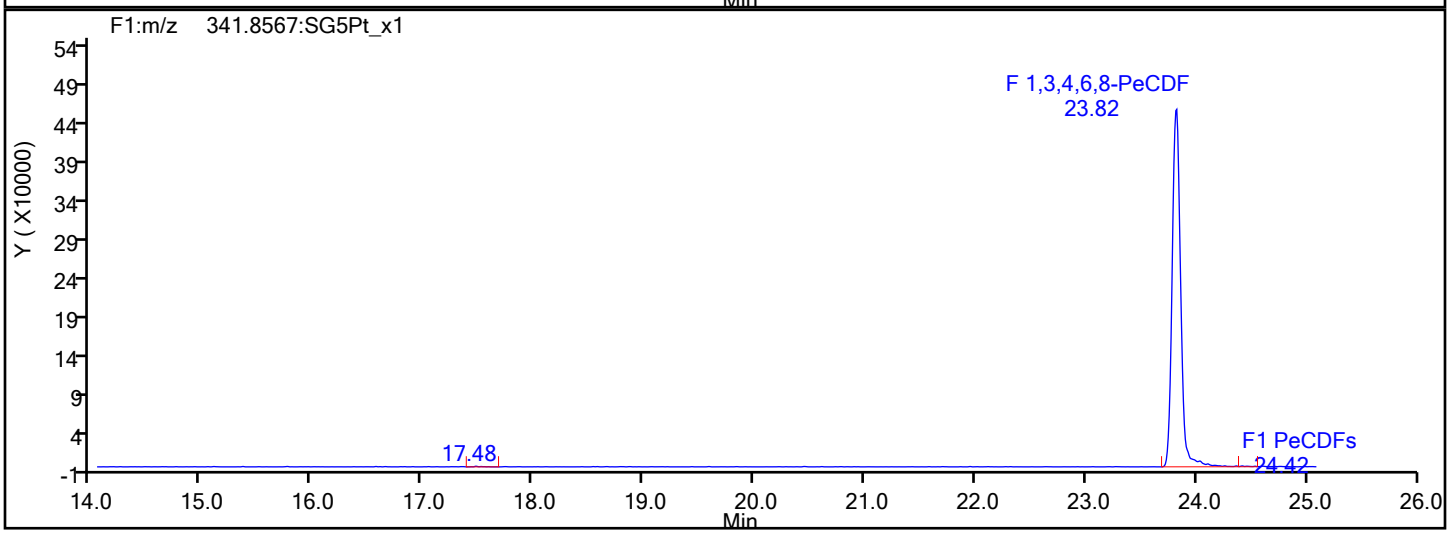


Eurofins TestAmerica, Sacramento

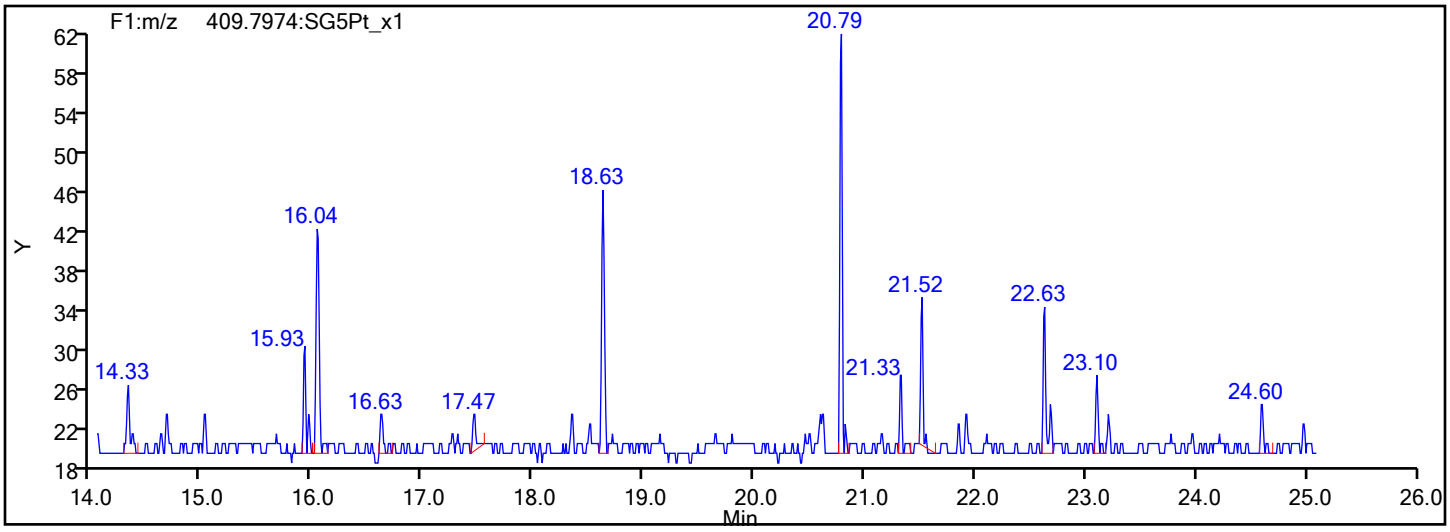
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





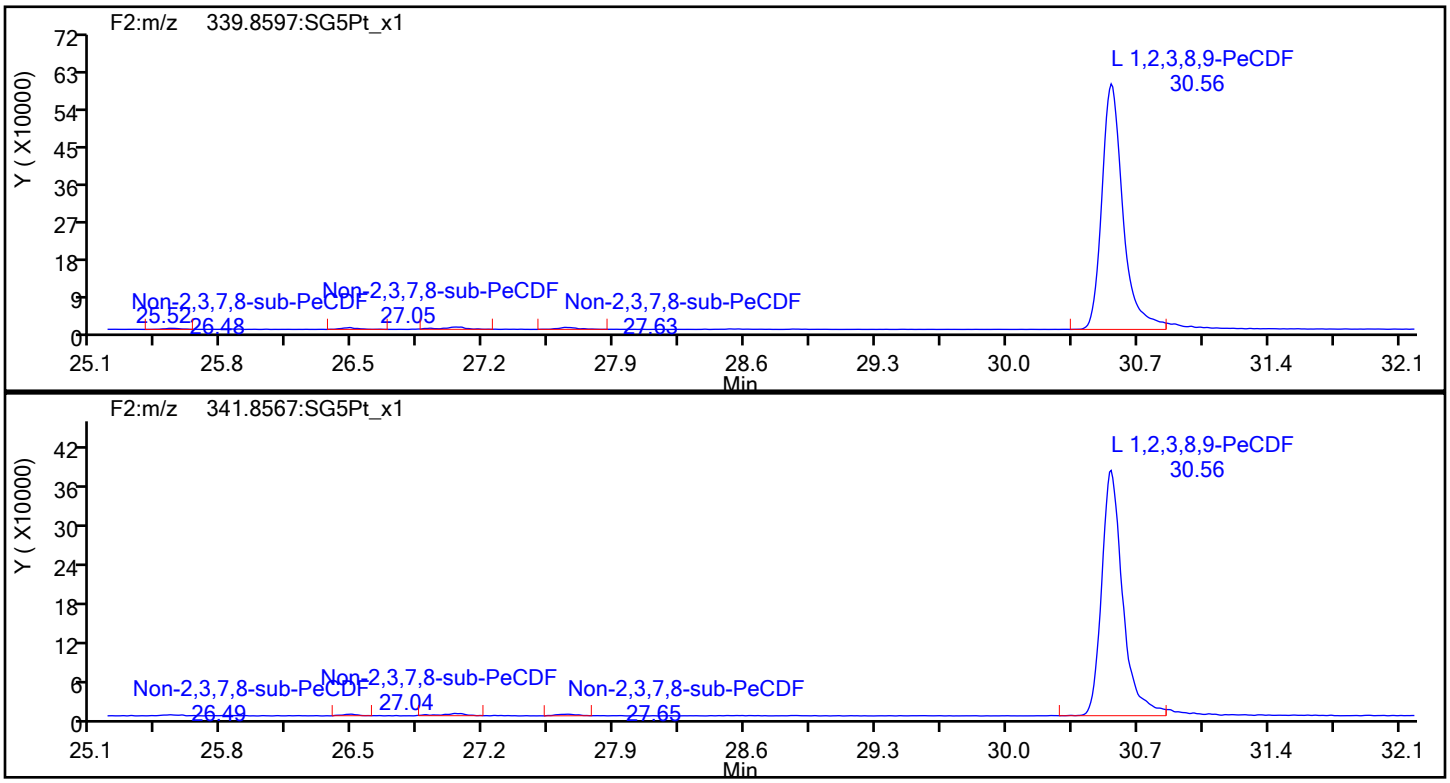
F1 PeCDFs Interference Mass



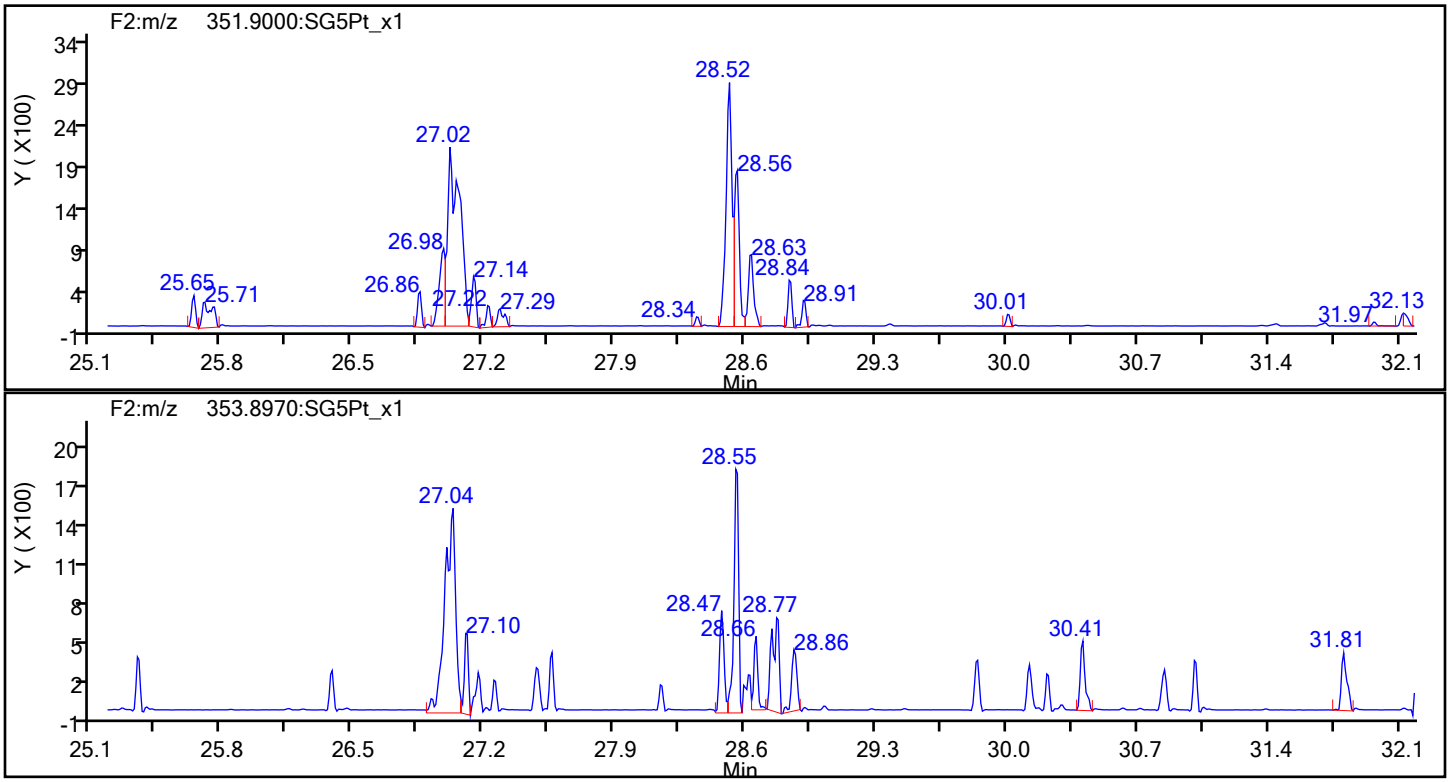
Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



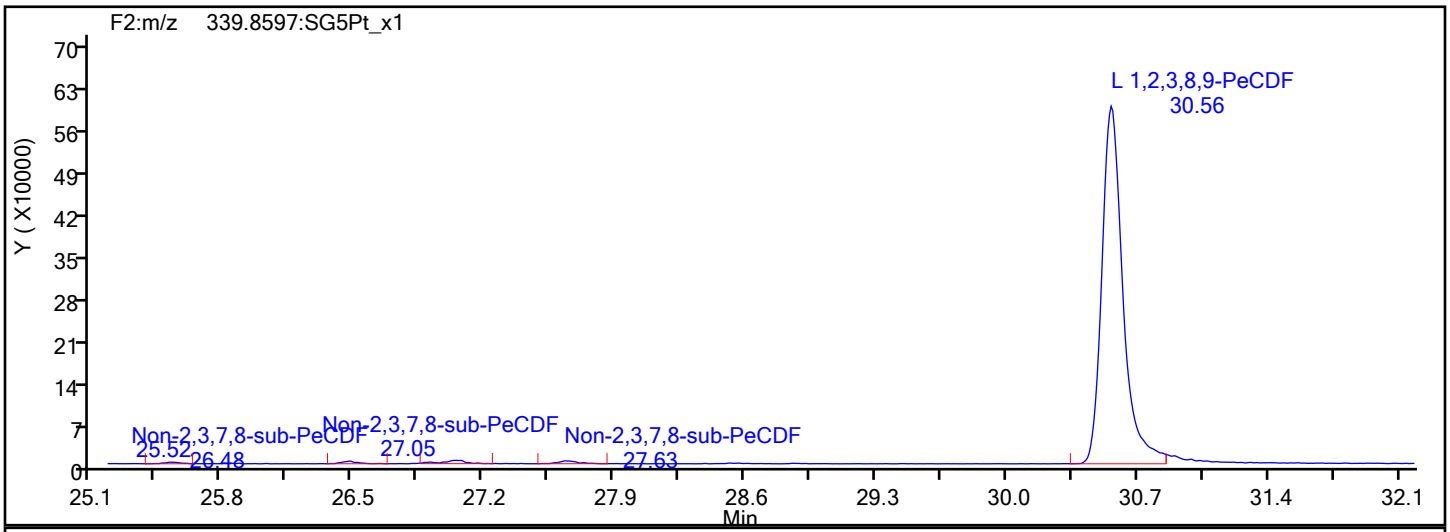
PeCDF Standards

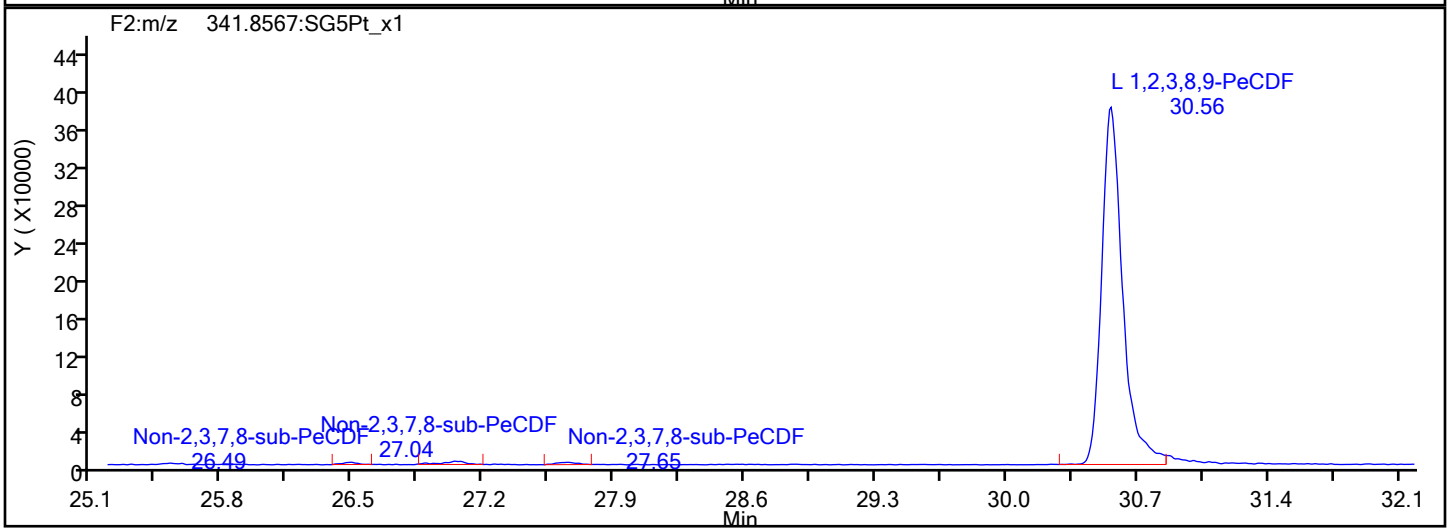


Eurofins TestAmerica, Sacramento

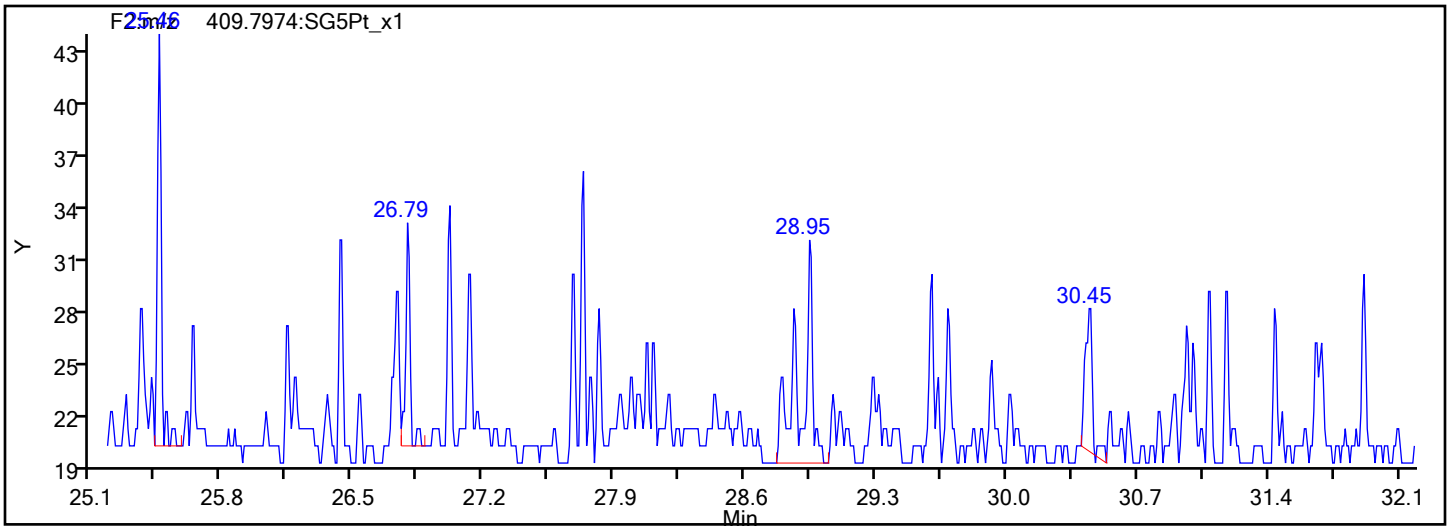
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass

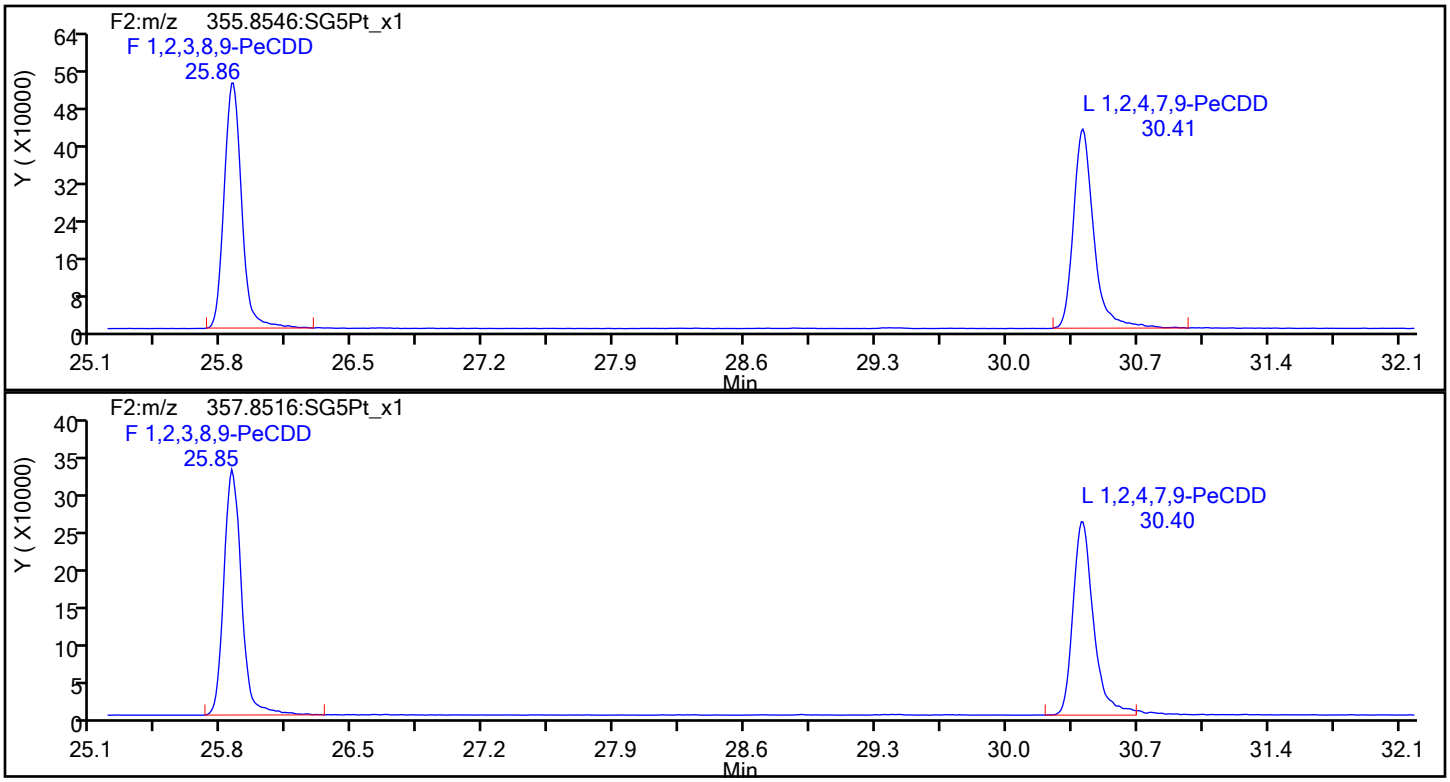


Report Date: 28-Dec-2021 14:24:20 Chrom Revision: 2.3 15-Nov-2021 20:34:30

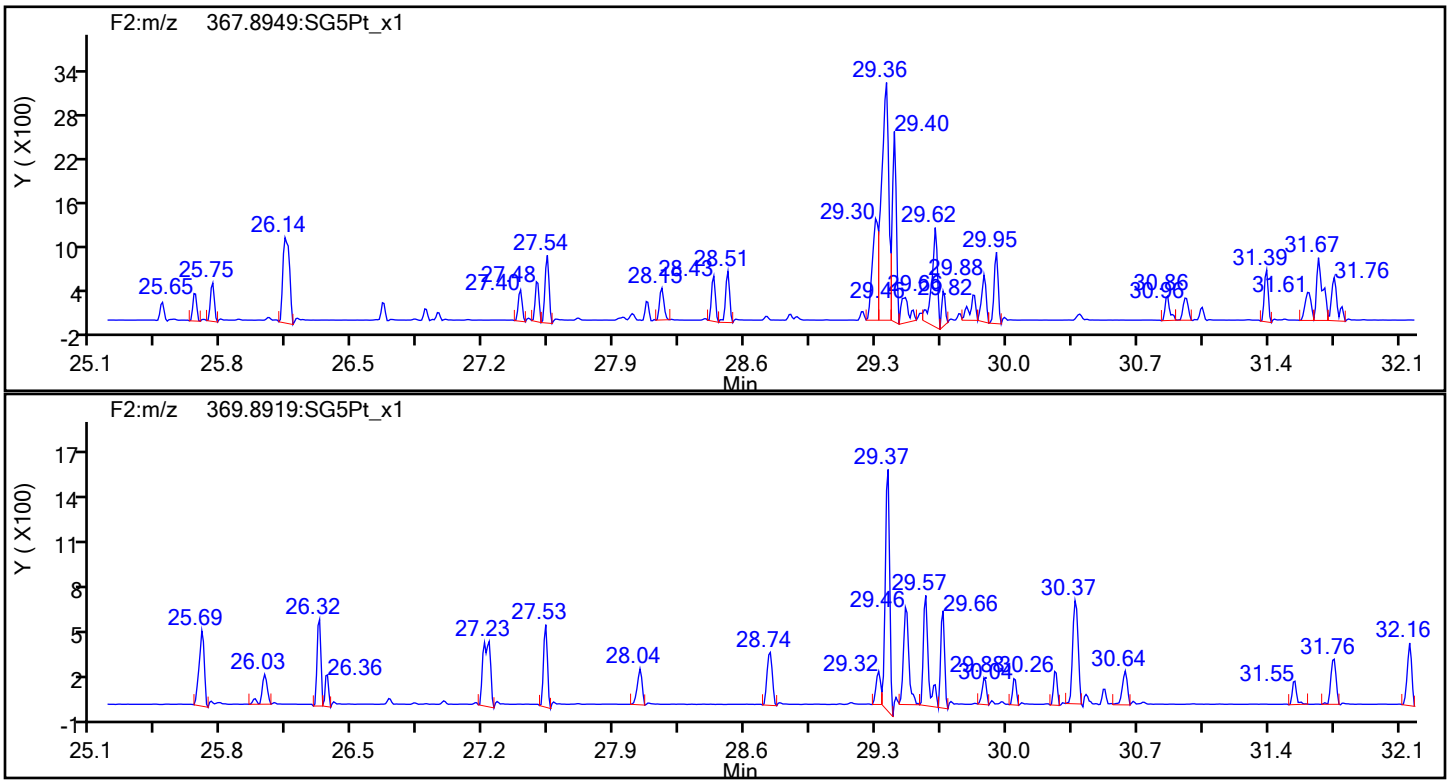
Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD



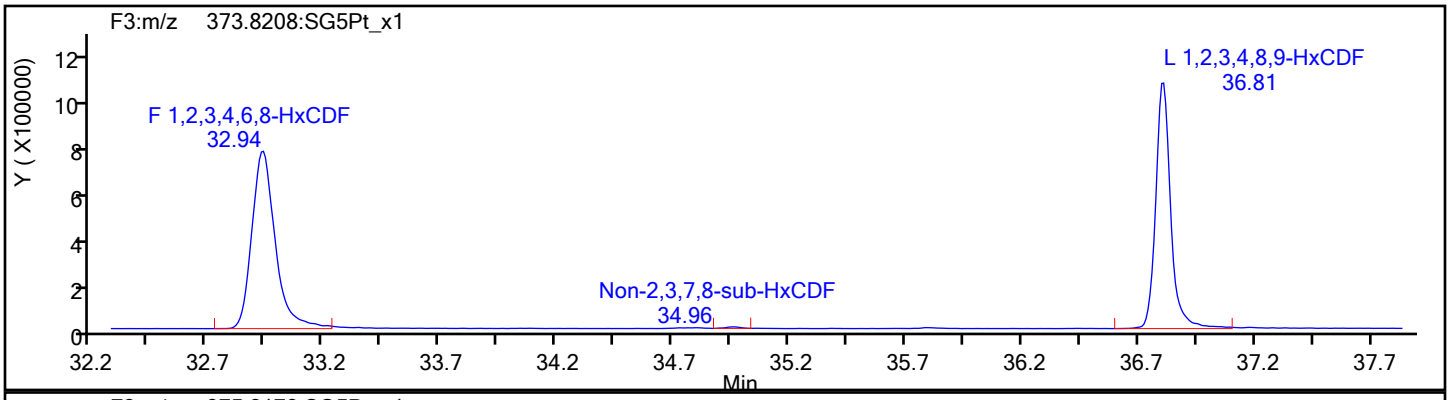
PeCDD Standards

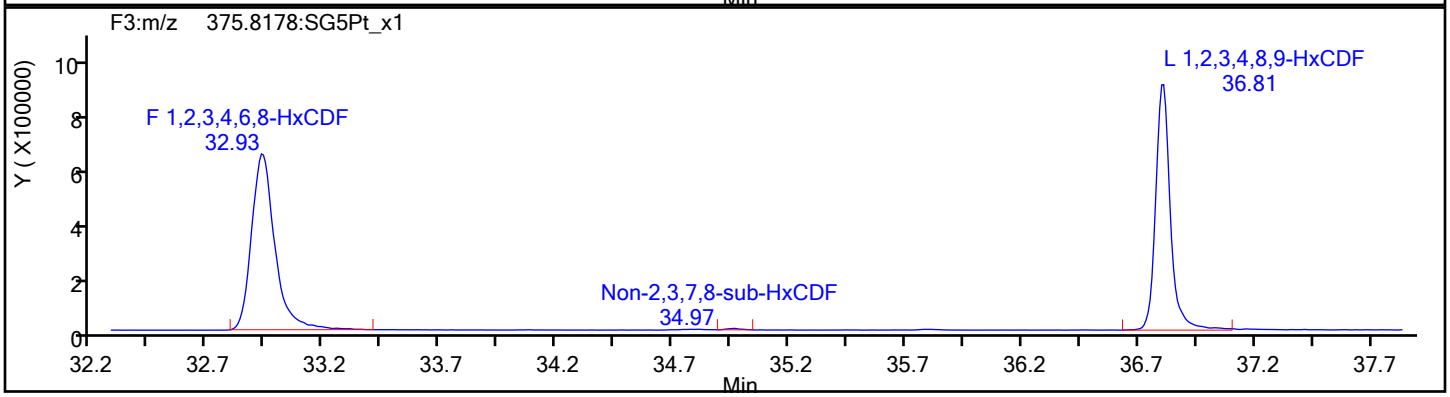


Eurofins TestAmerica, Sacramento

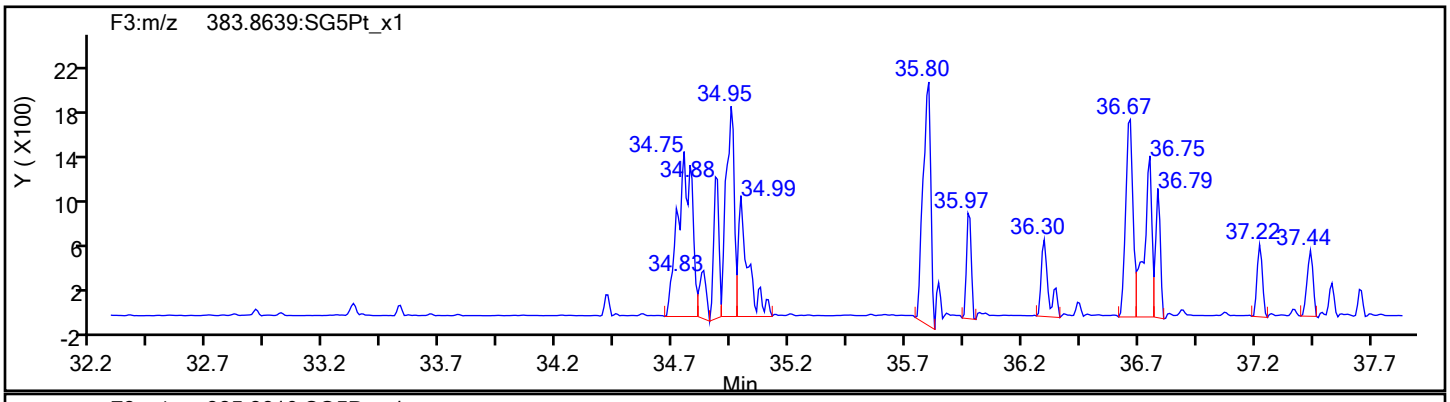
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

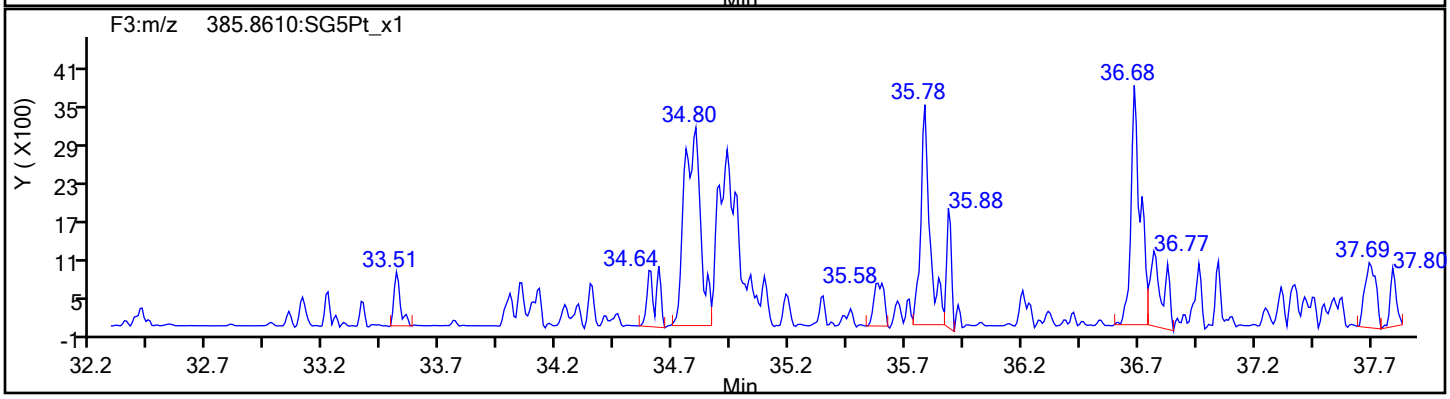
HxCDF





HxCDF Standards

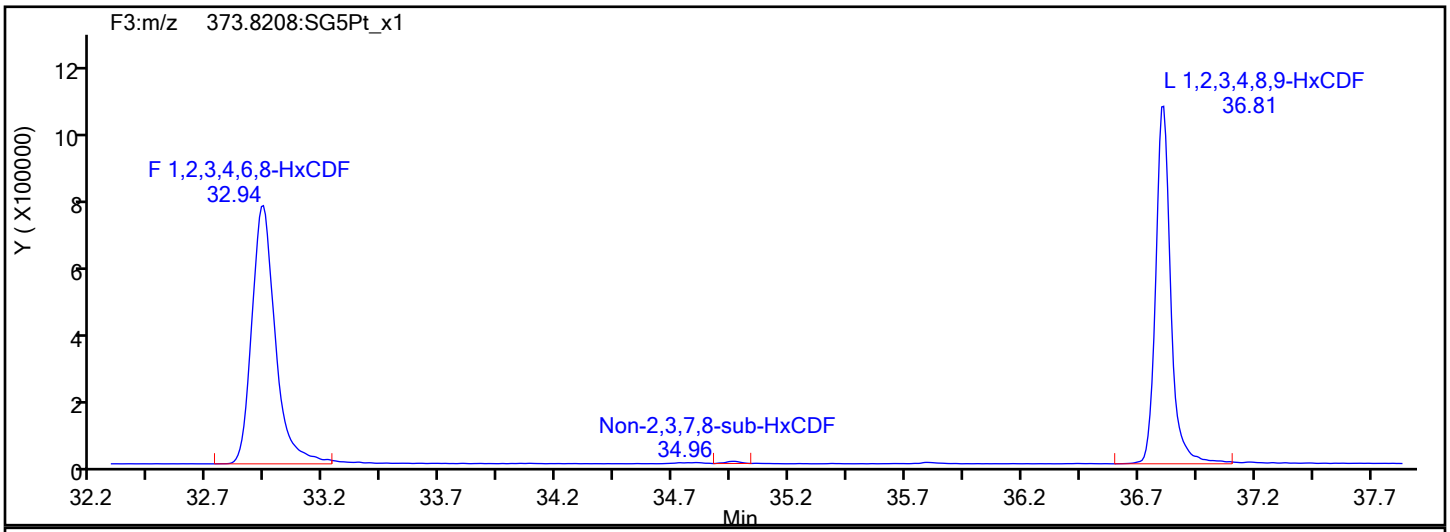


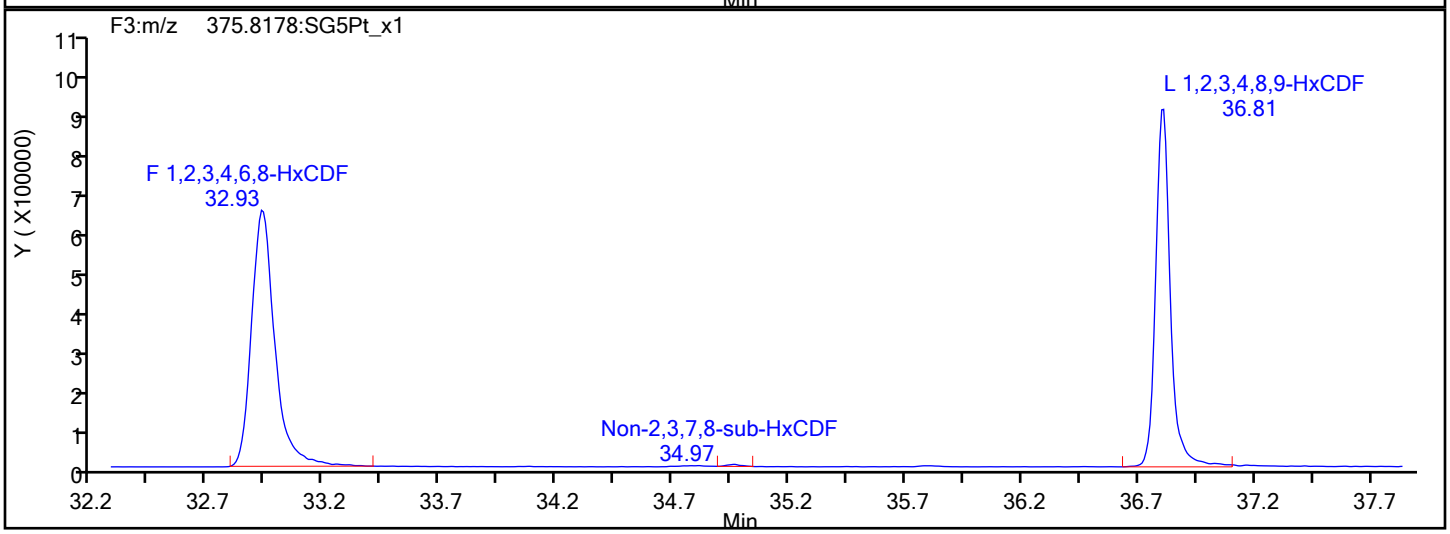


Eurofins TestAmerica, Sacramento

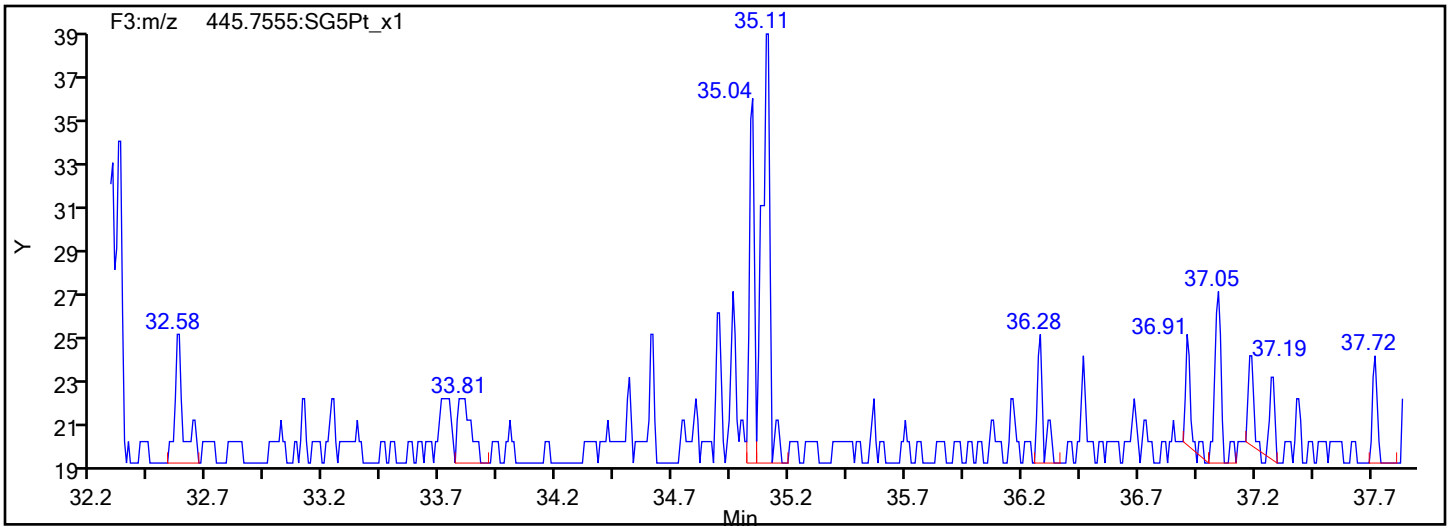
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





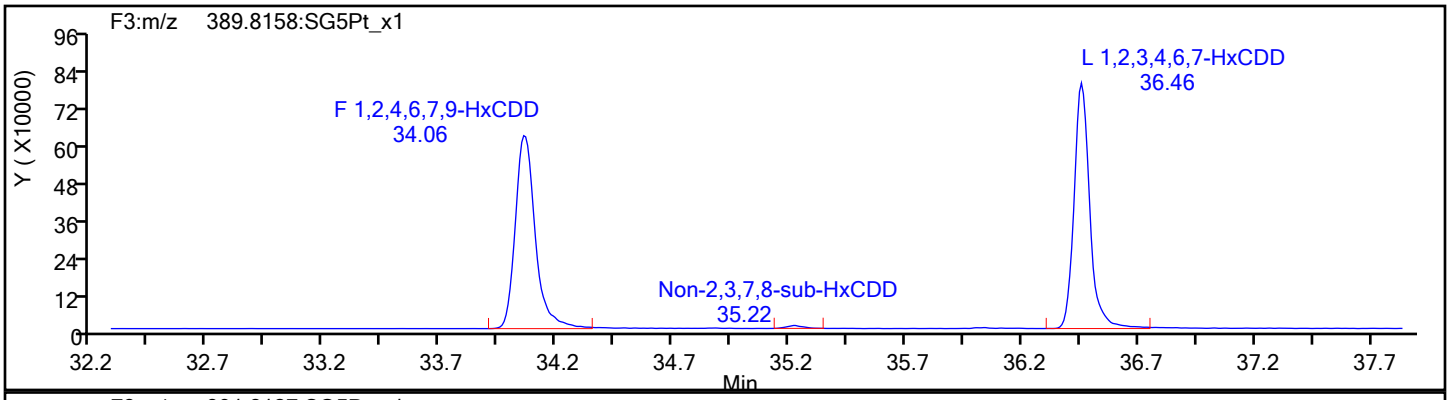
HxCDF Interference Mass

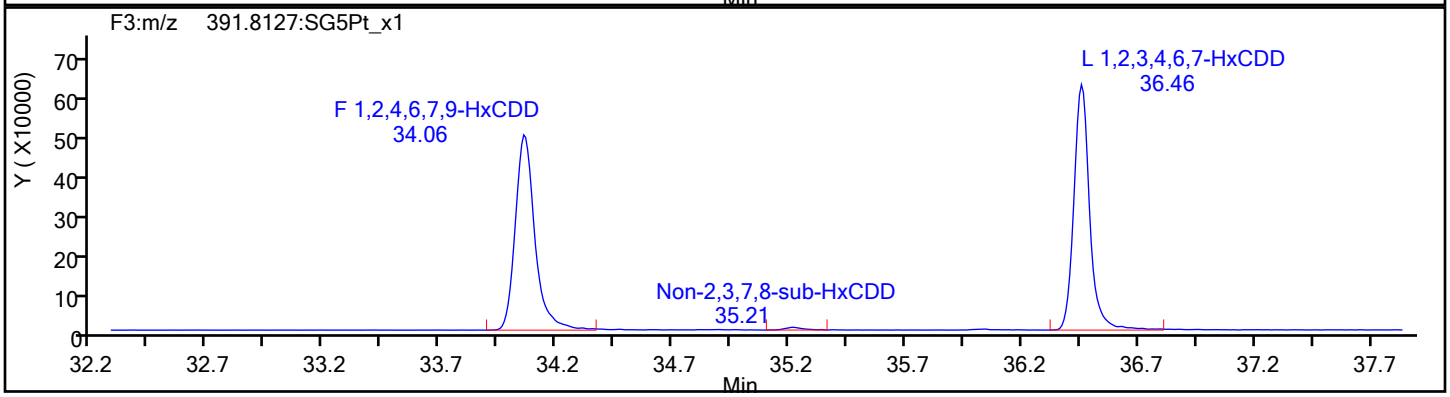


Eurofins TestAmerica, Sacramento

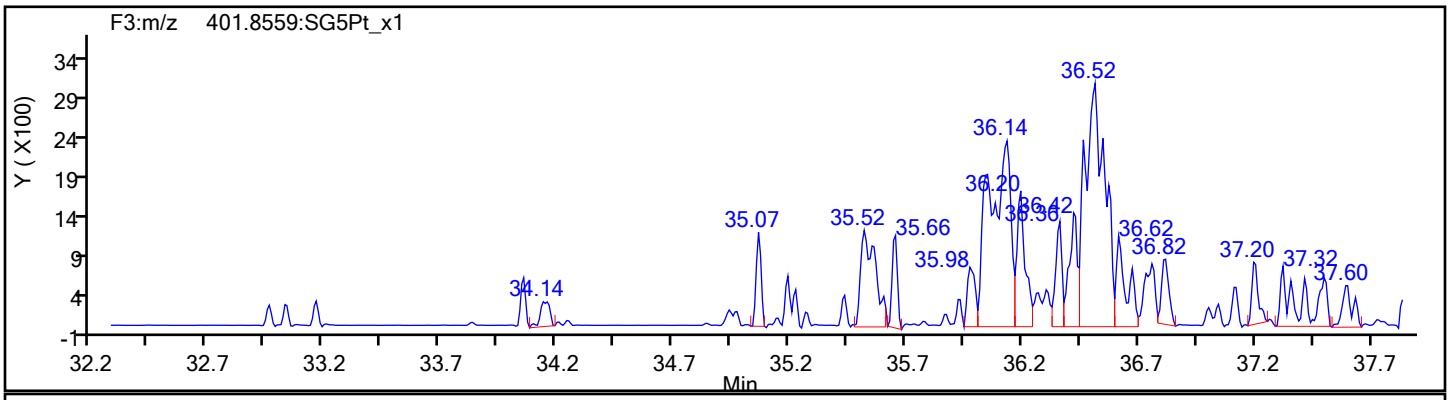
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

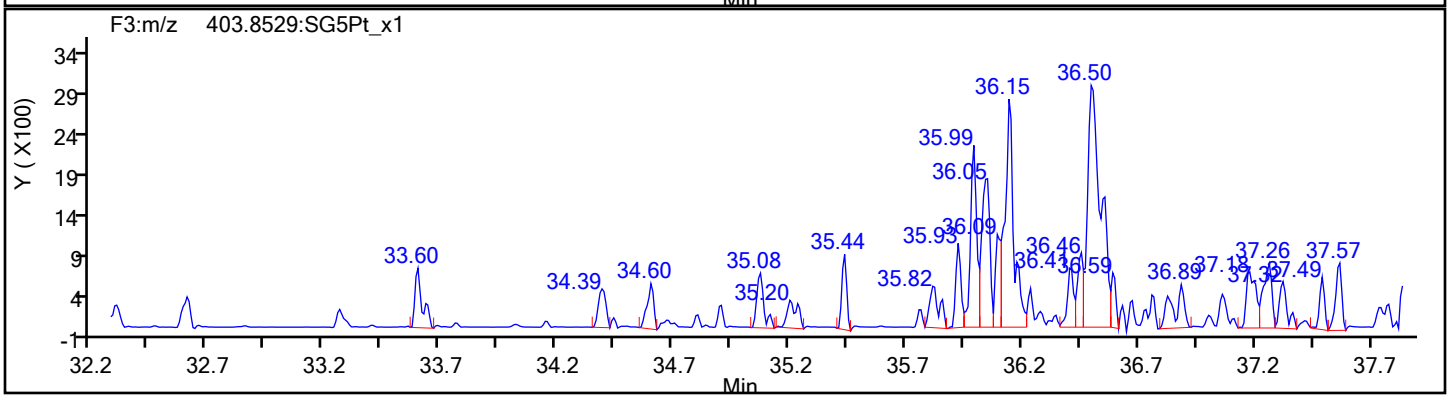
HxCDD





HxCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
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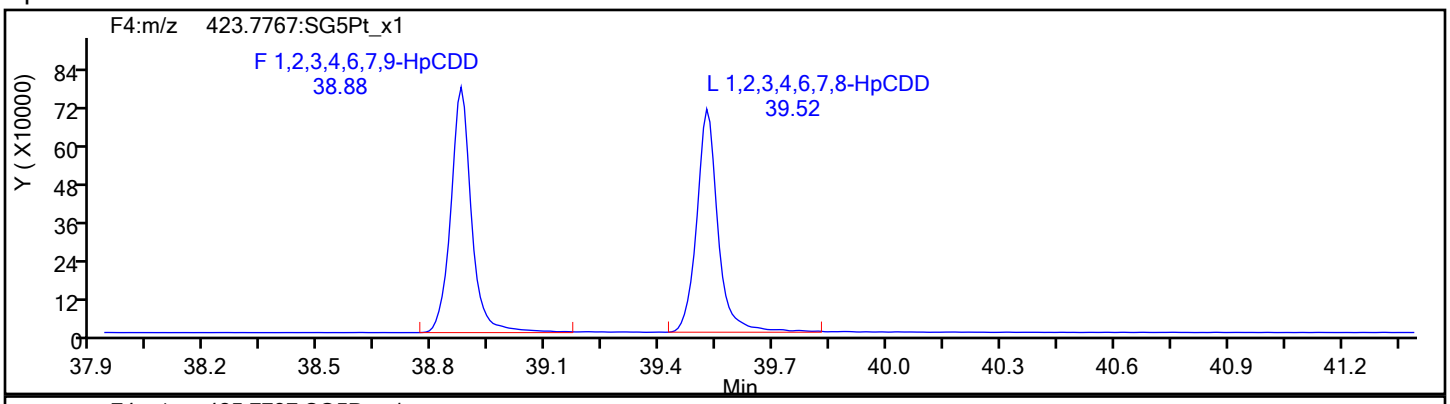
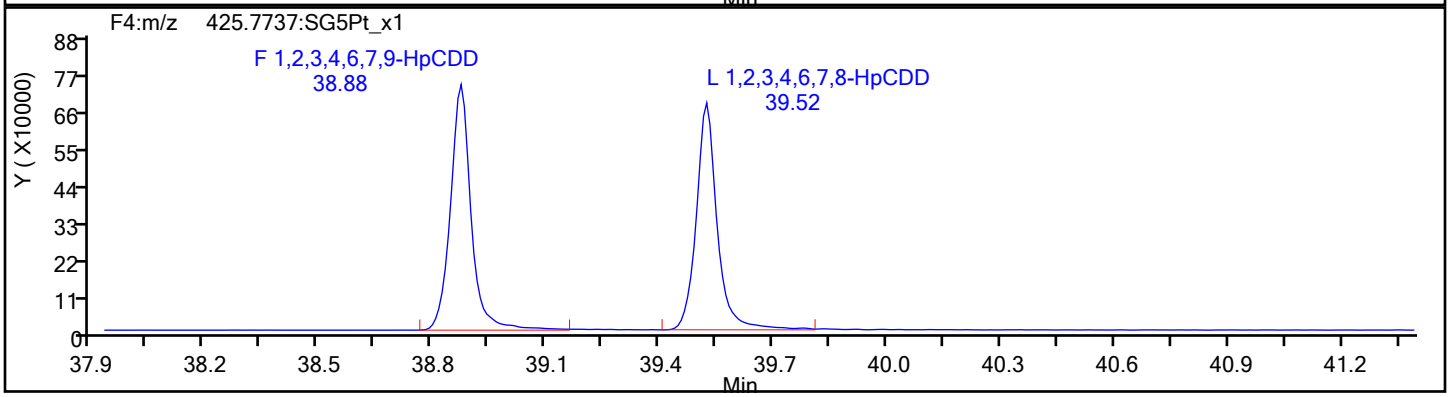
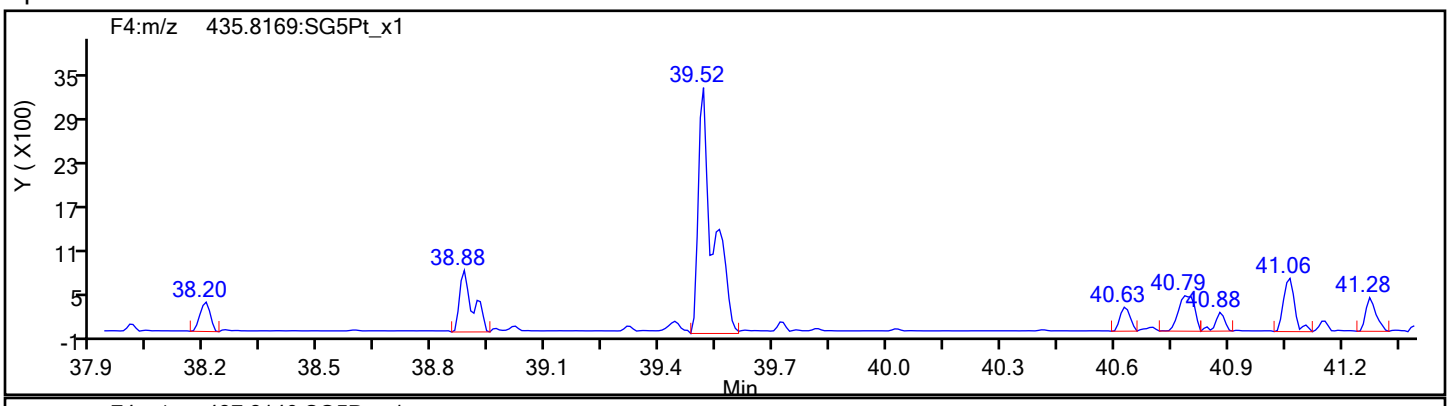
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

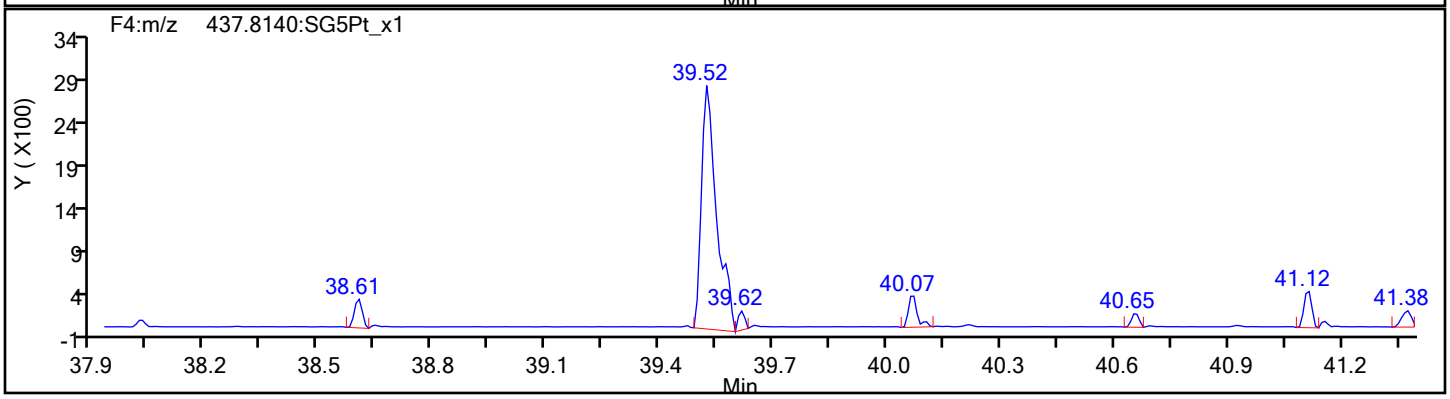
HpCDD





HpCDD Standards





Report Date: 28-Dec-2021 14:24:21 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
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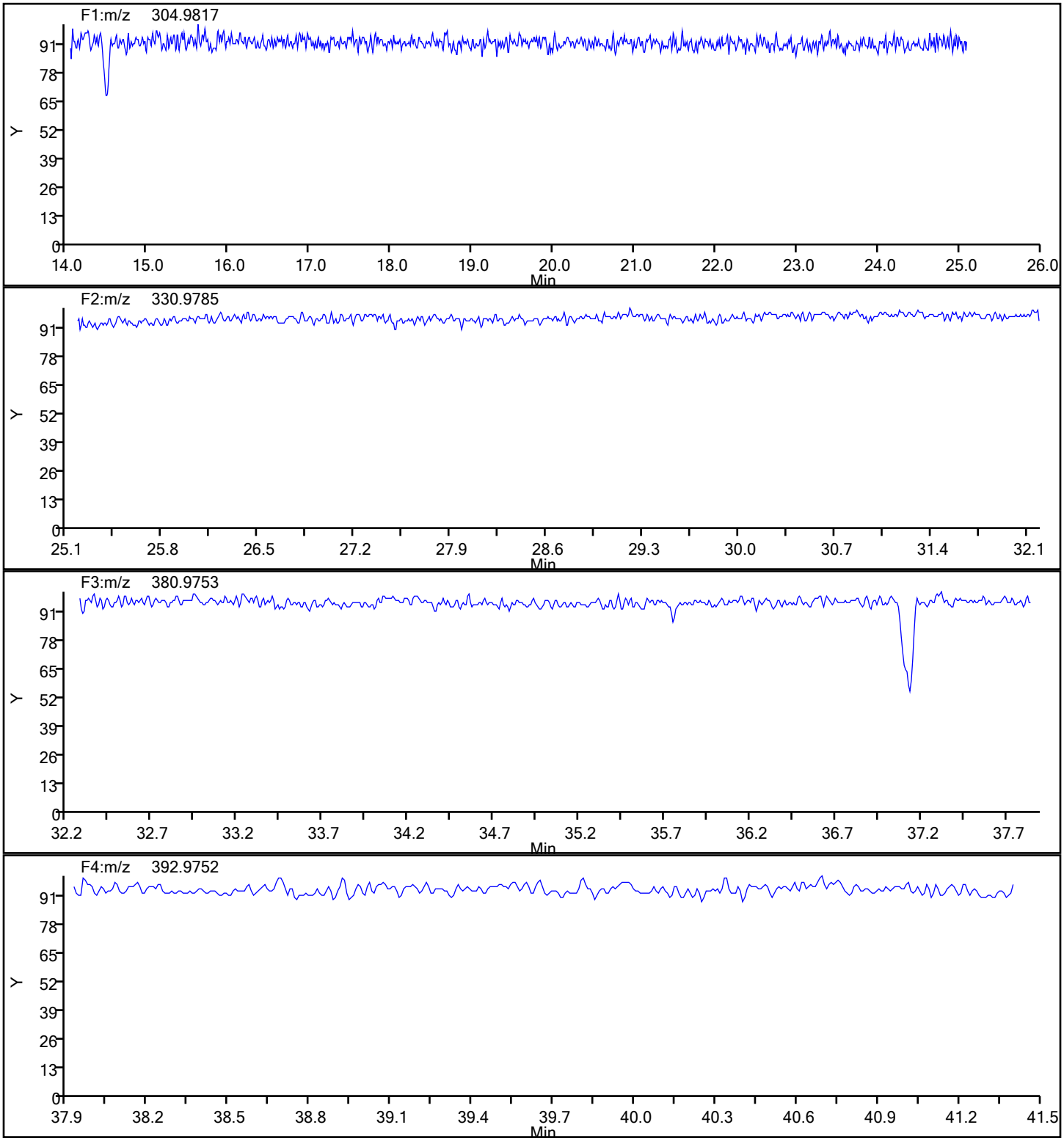
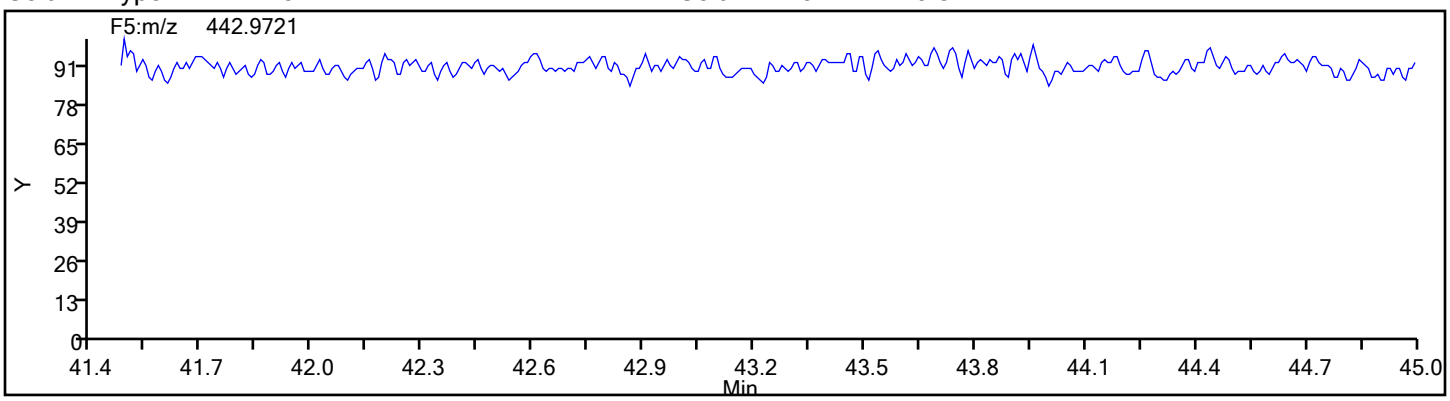
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 28-Dec-2021 14:24:21 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_12.d		
Injection Date:	27-Dec-2021 19:23:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-552716/1-A

Matrix: Water Lab File ID: 27de21adfs1_14.d

Analysis Method: 8290 Date Collected:

Extract. Method: 8290 Date Extracted: 12/21/2021 08:52

Sample wt/vol: 1000(mL) Date Analyzed: 12/27/2021 20:58

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 554312 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	1.1
51207-31-9	2,3,7,8-TCDF	ND		10	0.35
40321-76-4	1,2,3,7,8-PeCDD	ND		50	0.68
57117-41-6	1,2,3,7,8-PeCDF	1.266	J	50	0.35
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.37
39227-28-6	1,2,3,4,7,8-HxCDD	2.883	J	50	0.40
57653-85-7	1,2,3,6,7,8-HxCDD	1.314	J	50	0.40
19408-74-3	1,2,3,7,8,9-HxCDD	1.770	J	50	0.37
70648-26-9	1,2,3,4,7,8-HxCDF	1.029	J	50	0.28
57117-44-9	1,2,3,6,7,8-HxCDF	1.431	J	50	0.28
60851-34-5	2,3,4,6,7,8-HxCDF	1.271	J	50	0.30
72918-21-9	1,2,3,7,8,9-HxCDF	2.617	J	50	0.32
35822-46-9	1,2,3,4,6,7,8-HpCDD	3.004	J	50	0.25
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.800	J	50	0.38
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.307	J	50	0.43
3268-87-9	OCDD	6.779	J	100	0.37
39001-02-0	OCDF	4.313	J	100	0.62

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	86		40-135
89059-46-1	13C-2,3,7,8-TCDF	91		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	80		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	87		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	90		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	85		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	82		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	87		40-135
114423-97-1	13C-OCDD	98		40-135

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Lims ID: MB 320-552716/1-A
Client ID:
Sample Type: MB
Inject. Date: 27-Dec-2021 20:58:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-552716/1-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:36:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.994	18077132	0.83	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	20.031	21332426	0.82	1.2917	91.4	91.4	0.3221	0.3221	91.36	
2,3,7,8-TCDF	20.025						0.0175	0.0175		U
A Non-2,3,7,8-sub-TCDF	19.632						0.0175	0.0175		
S Total TCDF							0.0175	0.0175		
D 13C-2,3,7,8-TCDD	21.355	12786057	0.83	0.8271	85.5	85.5	0.2665	0.2665	85.51	
2,3,7,8-TCDD	21.384						0.0526	0.0526		
$ 37Cl4-2,3,7,8-TCDD	21.398	5733603		0.8866	35.8	35.8	0.0305	0.0305	89.44	
A Non-2,3,7,8-sub-TCDD	20.470						0.0526	0.0526		
S Total TCDD							0.0526	0.0526		
D 13C-1,2,3,7,8-PeCDF	26.967	18240615	1.62	1.1665	86.5	86.5	0.4626	0.4626	86.50	
1,2,3,7,8-PeCDF	26.992	12686	1.45	1.0987	0.0633	0.0633	0.0177	0.0177		M
$ 13C-2,3,4,7,8-PeCDF	28.466	23974095	1.61							
2,3,4,7,8-PeCDF	28.486						0.0184	0.0184		
A F1 PeCDFs	24.442						0.007234	0.007234		
A Non-2,3,7,8-sub-PeCDF	27.884						0.0181	0.0181		
S Total PeCDF					0.0633	0.0633	0.0181	0.0181		
D 13C-1,2,3,7,8-PeCDD	29.283	9830034	1.61	0.6835	79.6	79.6	0.1495	0.1495	79.56	
1,2,3,7,8-PeCDD	29.303						0.0341	0.0341		
A Non-2,3,7,8-sub-PeCDD	28.134						0.0341	0.0341		RQU
S Total PeCDD							0.0341	0.0341		
D 13C-1,2,3,4,7,8-HxCDF	34.728	21842375	0.54	1.1776	85.4	85.4	0.3989	0.3989	85.41	a
1,2,3,4,7,8-HxCDF	34.744	10682	1.24	0.9504	0.0582	0.0515	0.0141	0.0141		RQM
D 13C-1,2,3,6,7,8-HxCDF	34.905	18878759	0.55							
1,2,3,6,7,8-HxCDF	34.930	14883	1.24	0.9524	0.0788	0.0715	0.0141	0.0141		RQMa
D 13C-2,3,4,6,7,8-HxCDF	35.747	17463991	0.53							
2,3,4,6,7,8-HxCDF	35.756	12344	1.24	0.8893	0.0697	0.0636	0.0151	0.0151		RQM
D 13C-1,2,3,7,8,9-HxCDF	36.657	16469095	0.53							
1,2,3,7,8,9-HxCDF	36.691	24103	1.29	0.8433	0.1309	0.1309	0.0159	0.0159		M
A Non-2,3,7,8-sub-HxCDF	34.874						0.0148	0.0148		
S Total HxCDF					0.3375	0.3174	0.0148	0.0148		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	36.472	21717261	1.28	2.6E+05	100.0	100.0				
$ 13C-1,2,3,4,7,8-HxCDD	35.975	15780755	1.30							
1,2,3,4,7,8-HxCDD	35.992	20952	1.39	1.0079	0.1441	0.1441	0.0201	0.0201		M
D 13C-1,2,3,6,7,8-HxCDD	36.093	14422452	1.28	0.7339	90.5	90.5	0.3202	0.3202	90.49	
1,2,3,6,7,8-HxCDD	36.093	9580	1.24	1.0111	0.0735	0.0657	0.0200	0.0200		RQMa
1,2,3,7,8,9-HxCDD	36.489	14031	1.06	1.0993	0.0885	0.0885	0.0184	0.0184		
A Non-2,3,7,8-sub-HxCDD	35.257						0.0195	0.0195		
S Total HxCDD					0.3062	0.2983	0.0195	0.0195		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.531	12646587	0.47	0.6698	86.9	86.9	0.5166	0.5166	86.94	
1,2,3,4,6,7,8-HpCDF	38.548	17278	1.04	1.5184	0.0981	0.0900	0.0188	0.0188		RQM
$ 13C-1,2,3,4,7,8,9-HpCDF	39.796	16404647	0.47							
1,2,3,4,7,8,9-HpCDF	39.804	11062	1.04	1.3387	0.0836	0.0653	0.0214	0.0214		RQMa
A Non-2,3,7,8-sub-HpCDF	39.191						0.0200	0.0200		
S Total HpCDF					0.1817	0.1553	0.0201	0.0201		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	39.492	10646326	1.08	0.5943	82.5	82.5	0.2717	0.2717	82.49	
1,2,3,4,6,7,8-HpCDD	39.526	17514	1.16	1.0953	0.1502	0.1502	0.0123	0.0123		
A Non-2,3,7,8-sub-HpCDD	39.200	10434	1.18	1.0953	0.0895	0.0895	0.0123	0.0895		M
S Total HpCDD					0.2397	0.2397	0.0123	0.0123		
D 13C-OCDD	42.005	20616962	0.92	0.4838	196.2	196.2	0.3689	0.3689	98.12	
OCDF	42.098	31078	0.81	1.3979	0.2157	0.2157	0.0312	0.0312		M
OCDD	42.014	38842	0.77	1.1116	0.3390	0.3390	0.0183	0.0183		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Lims ID: MB 320-552716/1-A
Client ID:
Sample Type: MB
Inject. Date: 27-Dec-2021 20:58:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-552716/1-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: stephensk Date: 28-Dec-2021 08:36:08

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.994	20.980	1		8198991	1199390	1566	3915	766		
333.9338	20.985	20.980	0		9878141	1427807	751	1877	1901	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	20.031	20.017	1	0.954	9634564	1491256	2686	6715	555		
317.9389	20.031	20.017	1	0.954	11697862	1699641	1686	4215	1008	0.82(0.65-0.89)	
2,3,7,8-TCDF											U
303.9016	20.025						16	40			
305.8987	20.025						231	577			
A Non-2,3,7,8-sub-TCDF											
303.9016	19.632						16	40			
305.8987	19.632						231	577			
13C-2,3,7,8-TCDD											
331.9368	21.355	21.350	0	1.017	5799664	804457	1566	3915	514		
333.9338	21.364	21.350	1	1.018	6986393	977946	751	1877	1302	0.83(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.384						371	927			
321.8936	21.384						50	125			
37Cl4-2,3,7,8-TCDD											
327.8847	21.398	21.384	1	1.019	5733603	763281	284	710	2688		
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						371	927			
321.8936	20.470						50	125			
13C-1,2,3,7,8-PeCDF											
351.9000	26.967	26.962	0	1.285	11271454	1827207	3533	8832	517		
353.8970	26.967	26.962	0	1.285	6969161	1121549	2138	5345	525	1.62(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											M
339.8597	26.992	26.979	1	1.001	7513	1487	37	92	40		M
341.8567	26.942	26.979	-2	0.999	5173	1131	193	482	6	1.45(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	28.466	28.460	0	1.056	14796632	2216908	3533	8832	627		
353.8970	28.466	28.460	0	1.056	9177463	1380136	2138	5345	646	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	28.486						37	92			
341.8567	28.486						193	482			
A F1 PeCDFs											
339.8597	24.442						3	7			
341.8567	24.442						89	222			
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.884						37	92			
341.8567	27.884						193	482			
13C-1,2,3,7,8-PeCDD											
367.8949	29.283	29.269	1	1.395	6068875	869938	526	1315	1654		
369.8919	29.283	29.269	1	1.395	3761159	530469	548	1370	968	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.303						196	490			
357.8516	29.303						15	37			
A Non-2,3,7,8-sub-PeCDD											U
355.8546	28.134						196	490			
357.8516	28.134						15	37			
13C-1,2,3,4,7,8-HxCDF											a
383.8639	34.728	34.727	0	0.952	7644930	1567097	3216	8040	487		a
385.8610	34.728	34.727	0	0.952	14197445	2900418	5787	14467	501	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											RQM
373.8208	34.744	34.752	0	1.000	7319	1239	162	405	8		M
	Empc Correction				5913	1210	162	405	7		
375.8178	34.761	34.752	1	1.001	4769	976	78	195	13	1.53(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.905	34.904	0	0.957	6688317	1303375	3216	8040	405		
385.8610	34.905	34.904	0	0.957	12190442	2310210	5787	14467	399	0.55(0.43-0.59)	
1,2,3,6,7,8-HxCDF											RQMa
373.8208	34.930	34.920	1	1.006	8239	1703	162	405	11		M
375.8178	34.964	34.920	3	1.007	8146	1250	78	195	16	1.01(1.05-1.43)	
	Empc Correction				6644	1373	78	195	18		
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.747	35.745	0	0.980	6086391	1322832	3216	8040	411		
385.8610	35.747	35.745	0	0.980	11377600	2430193	5787	14467	420	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											RQM
373.8208	35.756	35.762	0	1.030	8027	1072	162	405	7		M
	Empc Correction				6833	1246	162	405	8		
375.8178	35.747	35.762	-1	1.029	5511	1005	78	195	13	1.46(1.05-1.43)	M

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.657	36.655	0	1.005	5724734	1303976	3216	8040	405		
385.8610	36.657	36.655	0	1.005	10744361	2419900	5787	14467	418	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.691	36.671	1	1.057	13600	2265	162	405	14		
375.8178	36.699	36.671	2	1.057	10503	1882	78	195	24	1.29(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.874						162	405			
375.8178	34.874						78	195			
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.472	36.469	0		12210737	2687847	2512	6280	1070		
403.8529	36.472	36.469	0		9506524	2104067	1992	4980	1056	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.975	35.973	0	0.997	8913562	2139380	2512	6280	852		
403.8529	35.975	35.973	0	0.997	6867193	1628016	1992	4980	817	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8158	35.992	35.981	1	0.997	12189	3195	109	272	29		M
391.8127	35.992	35.981	1	0.997	8763	2028	143	357	14	1.39(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.093	36.090	0	0.990	8106291	1760292	2512	6280	701		
403.8529	36.093	36.090	0	0.990	6316161	1353636	1992	4980	680	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQMa
389.8158	36.093	36.107	-1	1.000	6448	1110	109	272	10		M
	Empc Correction				5303	845	109	272	8		
391.8127	36.143	36.107	2	1.001	4277	682	143	357	5	1.51(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.489	36.478	1	1.011	7222	1154	109	272	11		
391.8127	36.497	36.478	1	1.011	6809	1460	143	357	10	1.06(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	35.257						109	272			
391.8127	35.257						143	357			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.531	38.526	0	1.056	4063219	1089871	2350	5875	464		
419.8220	38.531	38.526	0	1.056	8583368	2274752	4283	10707	531	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7817	38.548	38.543	0	1.000	10370	2167	314	785	7		M
	Empc Correction				8808	2343	314	785	7		
409.7788	38.556	38.543	1	1.001	8470	2253	71	177	32	1.22(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.796	39.798	0	1.033	5226708	1498943	2350	5875	638		
419.8220	39.796	39.798	0	1.033	11177939	3181011	4283	10707	743	0.47(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											RQMa
407.7817	39.804	39.806	0	1.033	8724	2319	314	785	7		M
	Empc Correction				5639	1567	314	785	5		
409.7788	39.796	39.806	-1	1.033	5423	1507	71	177	21	1.61(0.88-1.20)	a

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											
407.7817	39.191						314	785			
409.7788	39.191						71	177			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.492	39.495	0	1.083	5533982	1611300	1540	3850	1046		
437.8140	39.492	39.495	0	1.083	5112344	1459158	1555	3887	938	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.526	39.503	1	1.001	9395	2272	140	350	16		
425.7737	39.501	39.503	0	1.000	8119	2217	25	62	89	1.16(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7767	38.868	39.200	-20	0.984	5640	1676	140	350	12		
425.7737	38.860	39.200	-20	0.984	4794	1622	25	62	65	1.18(0.88-1.20)	M
13C-OCDD											
469.7780	42.005	42.008	0	1.152	9856684	2482049	1640	4100	1513		
471.7750	42.005	42.008	0	1.152	10760278	2749688	1781	4452	1544	0.92(0.76-1.02)	
OCDF											M
441.7428	42.098	42.101	0	1.002	13910	2945	105	262	28		M
443.7399	42.098	42.101	0	1.002	17168	4238	351	877	12	0.81(0.76-1.02)	M
OCDD											
457.7377	42.014	42.016	0	1.000	16840	4222	102	255	41		
459.7348	42.031	42.016	1	1.001	22002	5689	111	277	51	0.77(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Lims ID: MB 320-552716/1-A
Client ID:
Inject. Date: 27-Dec-2021 20:58:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 3

Non-2,3,7,8-sub-TCDF, RT: 19.632

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.105	D 13C-2,3,7,8-TCDF	100.000	21332426	3190897

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
Signal Totals:							
	0	0	0	0			

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Lims ID: MB 320-552716/1-A
Client ID:
Inject. Date: 27-Dec-2021 20:58:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 3

Non-2,3,7,8-sub-PeCDD, RT: 28.134

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.103	D 13C-1,2,3,7,8-PeCDD	100.000	9830034	1400407

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.103		100.000	9830034	1400407

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Lims ID: MB 320-552716/1-A
Client ID:
Inject. Date: 27-Dec-2021 20:58:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 3

Non-2,3,7,8-sub-HpCDF, RT: 39.191

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.518	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	12646587	3364623
1,2,3,4,7,8,9-HpCDF	1.339				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
Signal Totals:							
	0	0	0	0			

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Lims ID: MB 320-552716/1-A
Client ID:
Inject. Date: 27-Dec-2021 20:58:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 3

Non-2,3,7,8-sub-HpCDD, RT: 39.200

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.095	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	10646326	3070458

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.095		100.000	10646326	3070458

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.868	5640	1676	4794	1622	0.0895	1.18	M
Signal Totals:							
	5640	1676	4794	1622			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10434	3298				1.18	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0895 = (10434 * 100.000) / (10646326 * 1.095)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

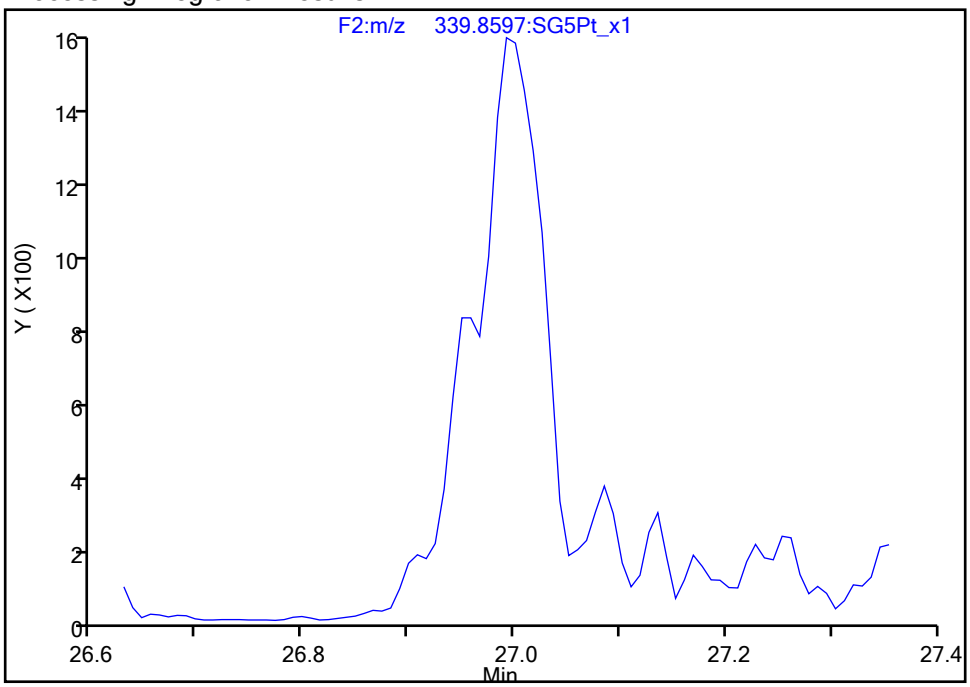
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

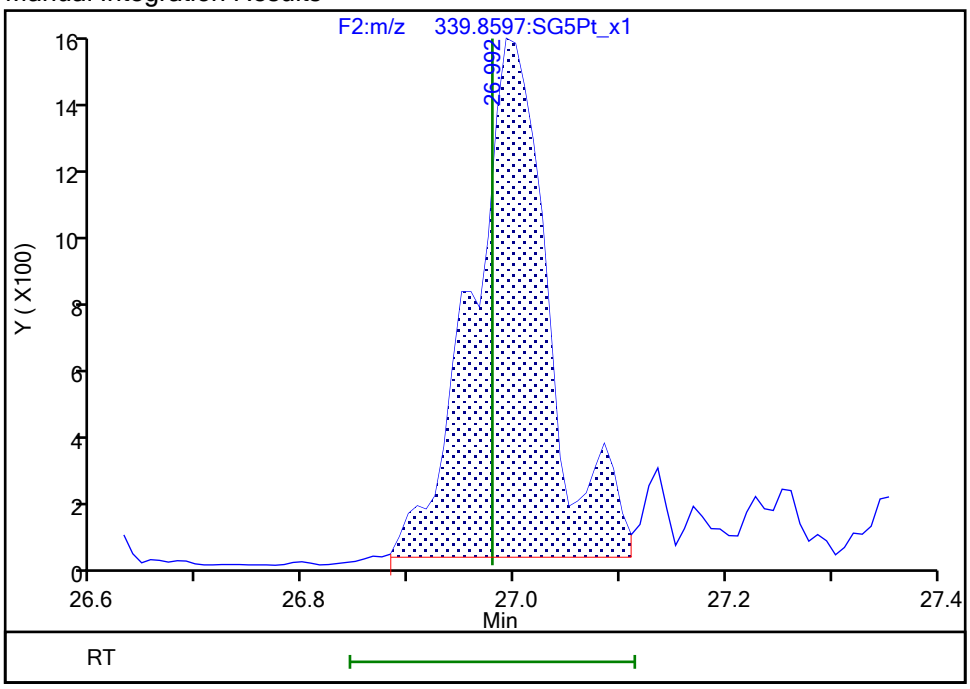
Not Detected
Expected RT: 26.98

Processing Integration Results



Manual Integration Results

RT: 26.99
Area: 7513
Amount: 0.063299
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:42:16
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

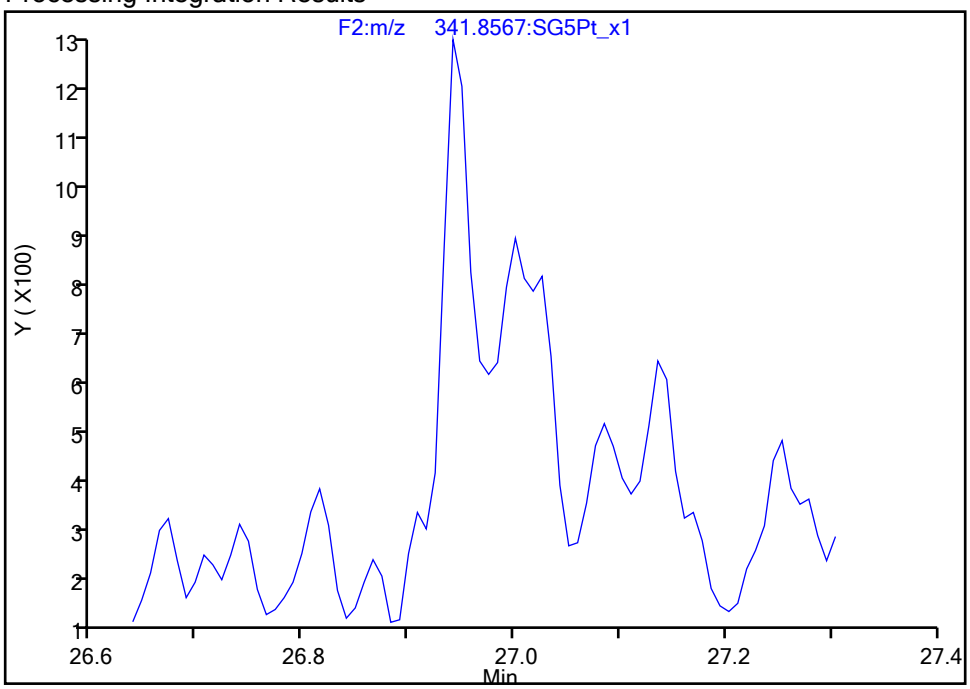
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2(26.07 :33.00)		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

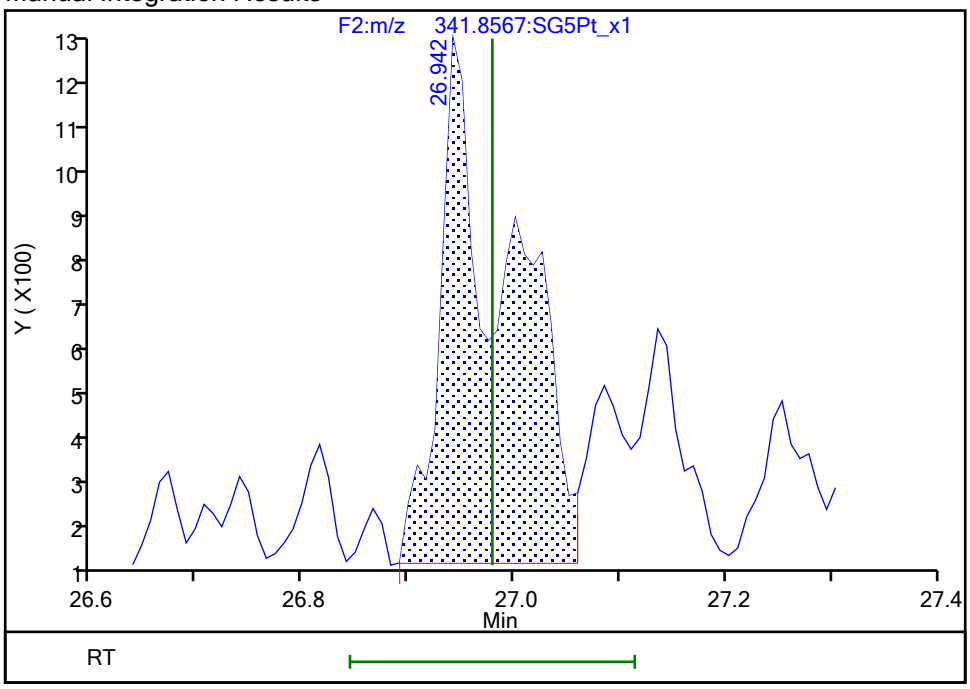
Not Detected
Expected RT: 26.98

Processing Integration Results



Manual Integration Results

RT: 26.94
Area: 5173
Amount: 0.063299
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:42:21
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

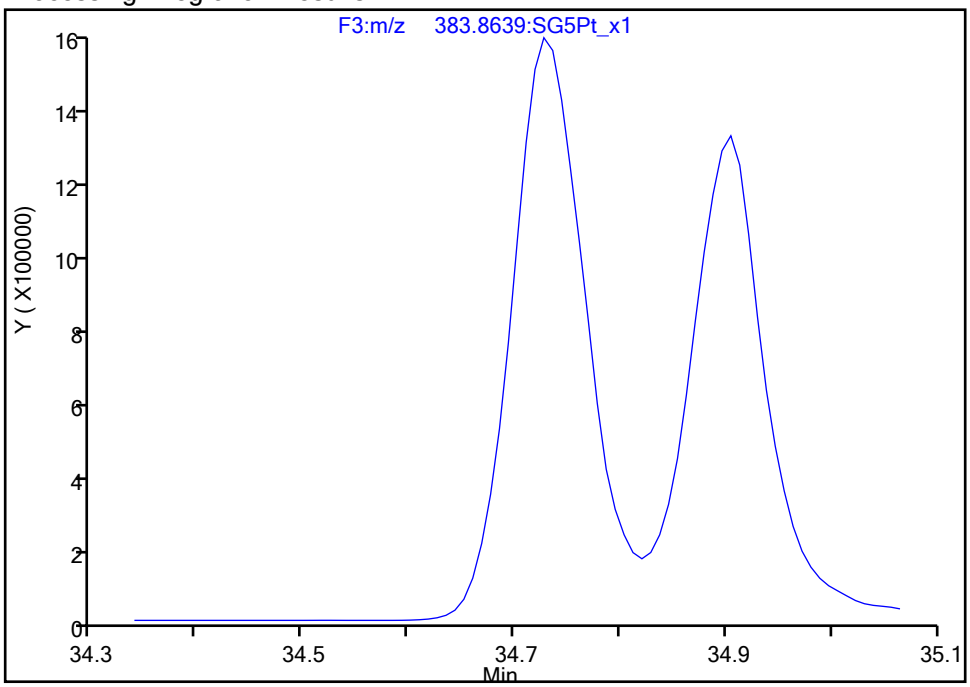
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

13C-1,2,3,4,7,8-HxCDF, CAS: 114423-98-2

Signal: 1

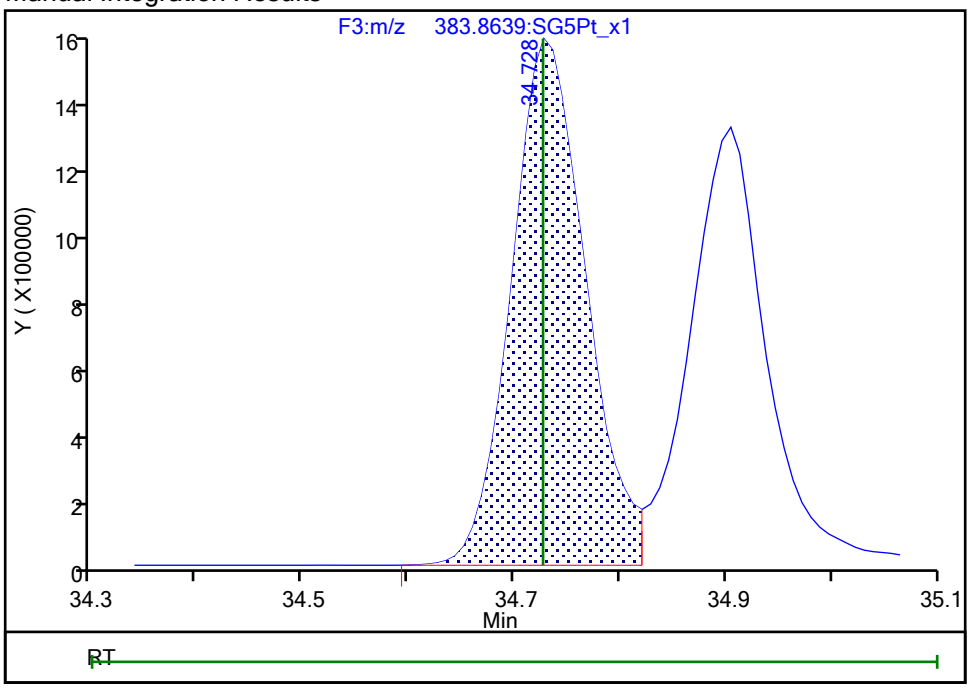
Not Detected
Expected RT: 34.73

Processing Integration Results



Manual Integration Results

RT: 34.73
Area: 7644930
Amount: 85.408953
Amount Units: pg/ul



Reviewer: stephensk, 28-Dec-2021 08:35:49
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

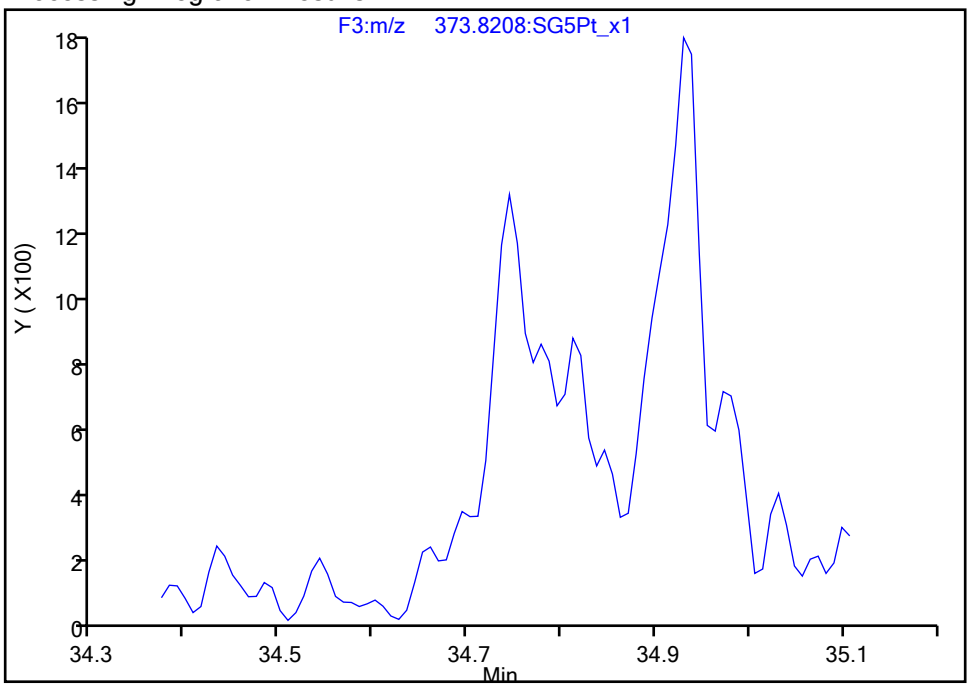
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

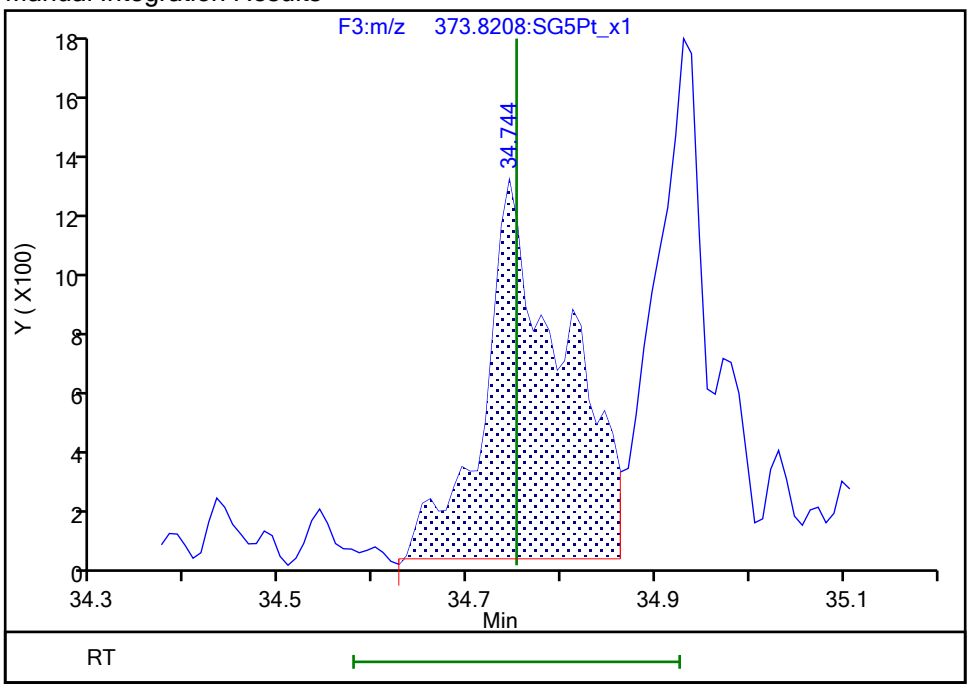
Not Detected
Expected RT: 34.75

Processing Integration Results



Manual Integration Results

RT: 34.74
Area: 7319
Amount: 0.058228
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:42:50
Audit Action: Split an Integrated Peak Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

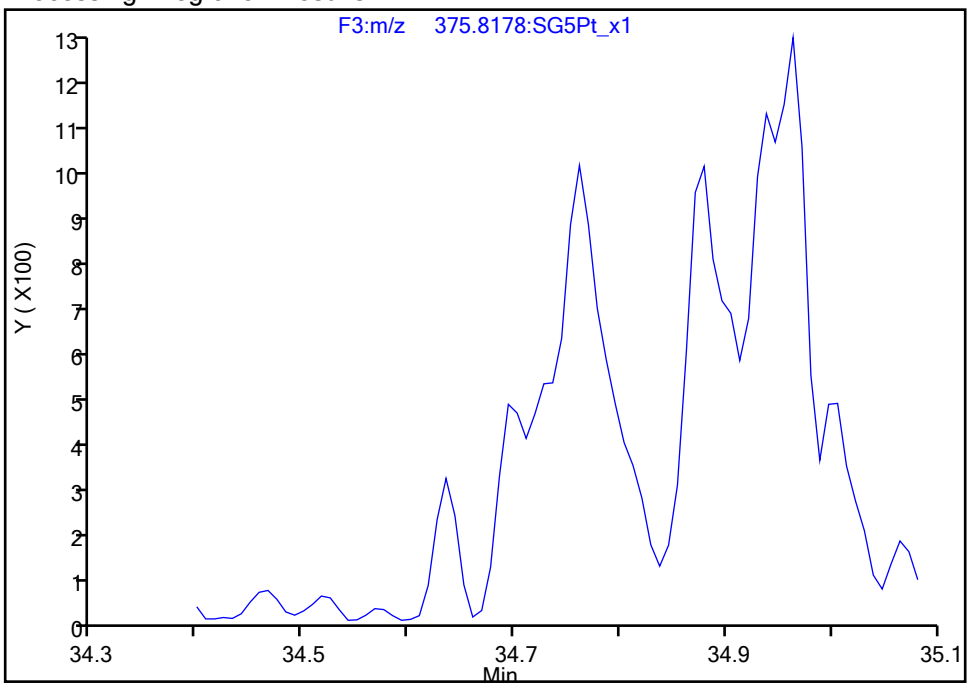
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

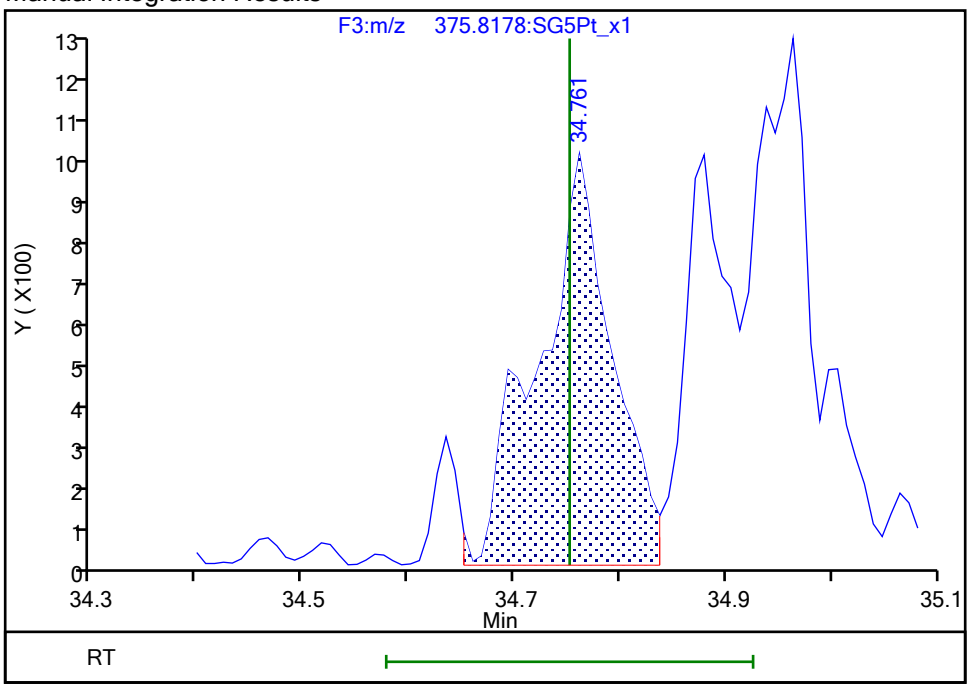
Not Detected
Expected RT: 34.75

Processing Integration Results



Manual Integration Results

RT: 34.76
Area: 4769
Amount: 0.058228
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:42:53
Audit Action: Split an Integrated Peak Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

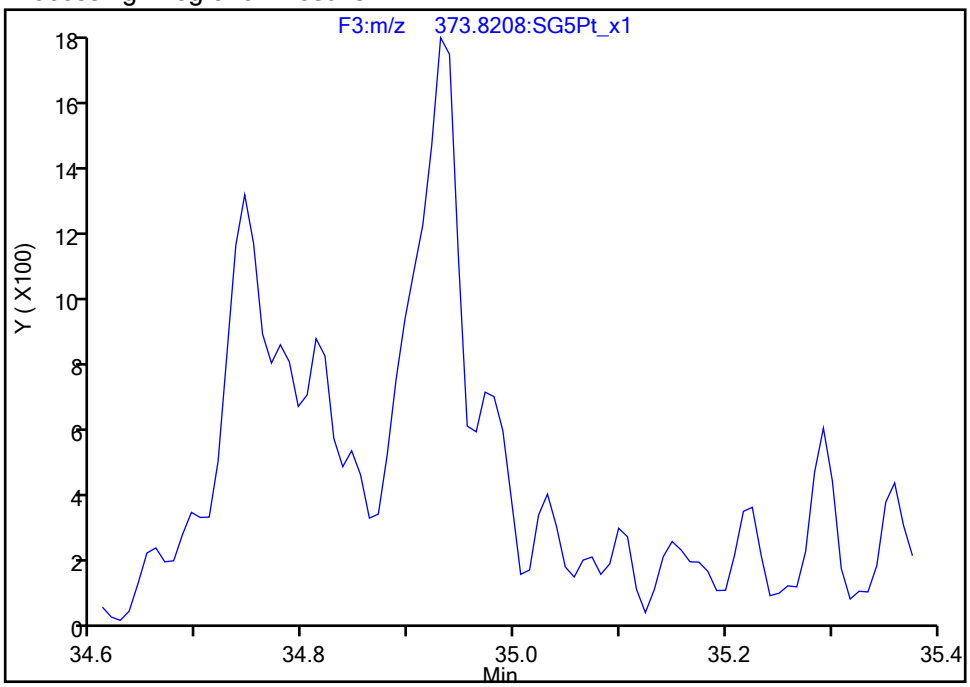
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

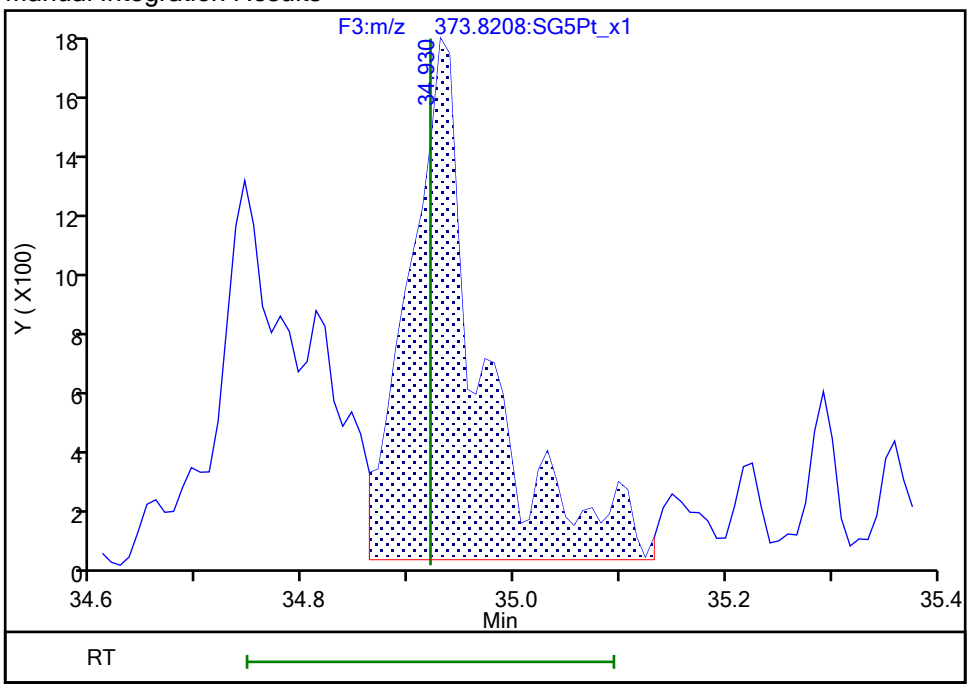
Not Detected
Expected RT: 34.92

Processing Integration Results



Manual Integration Results

RT: 34.93
Area: 8239
Amount: 0.078763
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:42:56
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

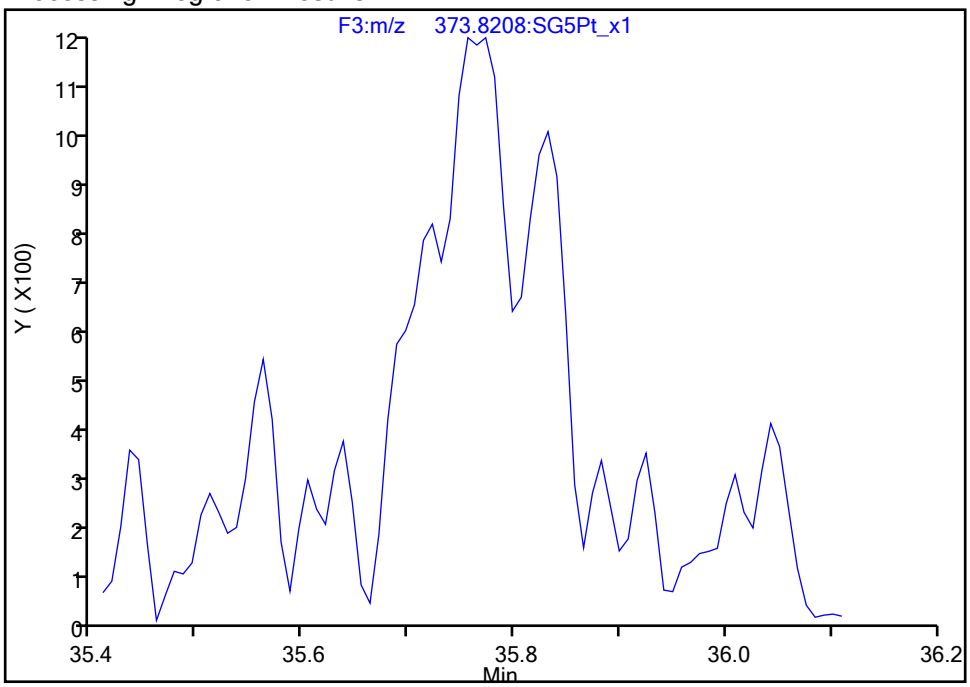
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

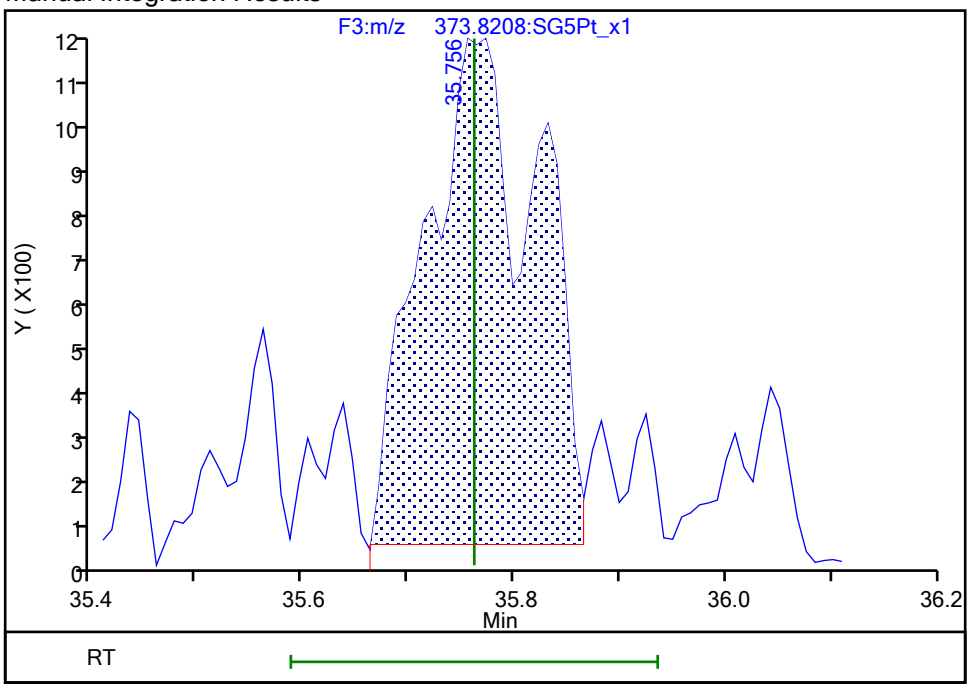
Not Detected
Expected RT: 35.76

Processing Integration Results



Manual Integration Results

RT: 35.76
Area: 8027
Amount: 0.069698
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:43:04
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

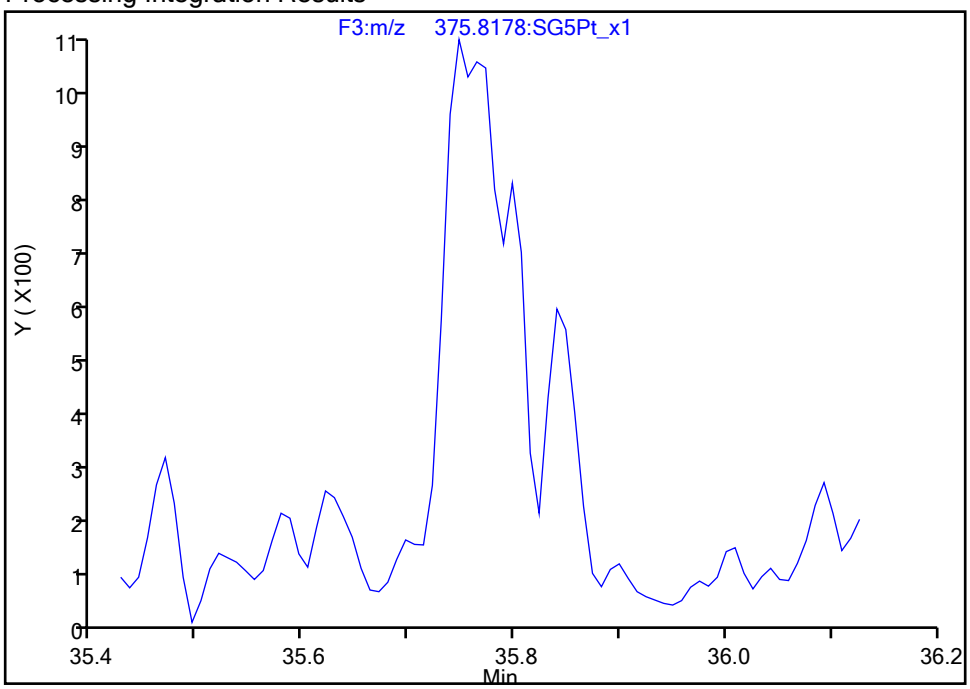
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

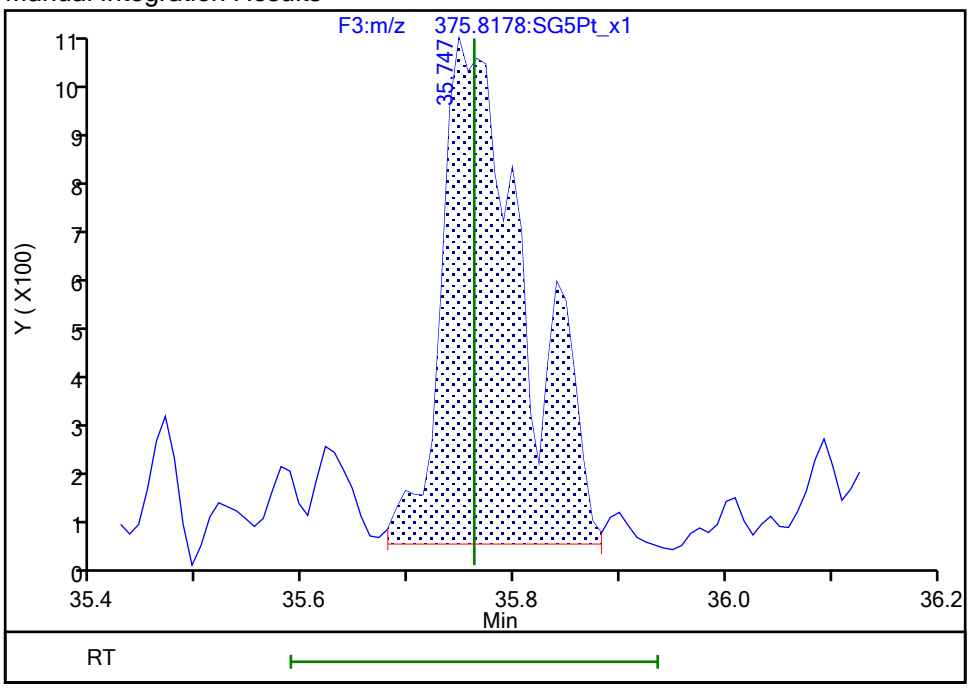
Not Detected
Expected RT: 35.76

Processing Integration Results



Manual Integration Results

RT: 35.75
Area: 5511
Amount: 0.069698
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:43:09
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

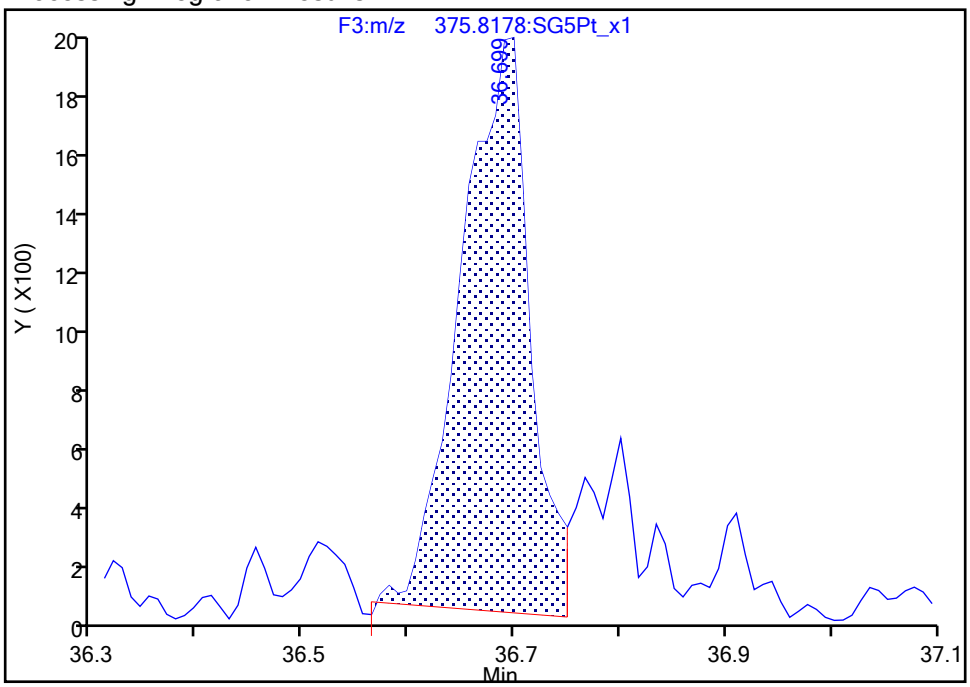
Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Injection Date: 27-Dec-2021 20:58:00 Instrument ID: DFS 1
Lims ID: MB 320-552716/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

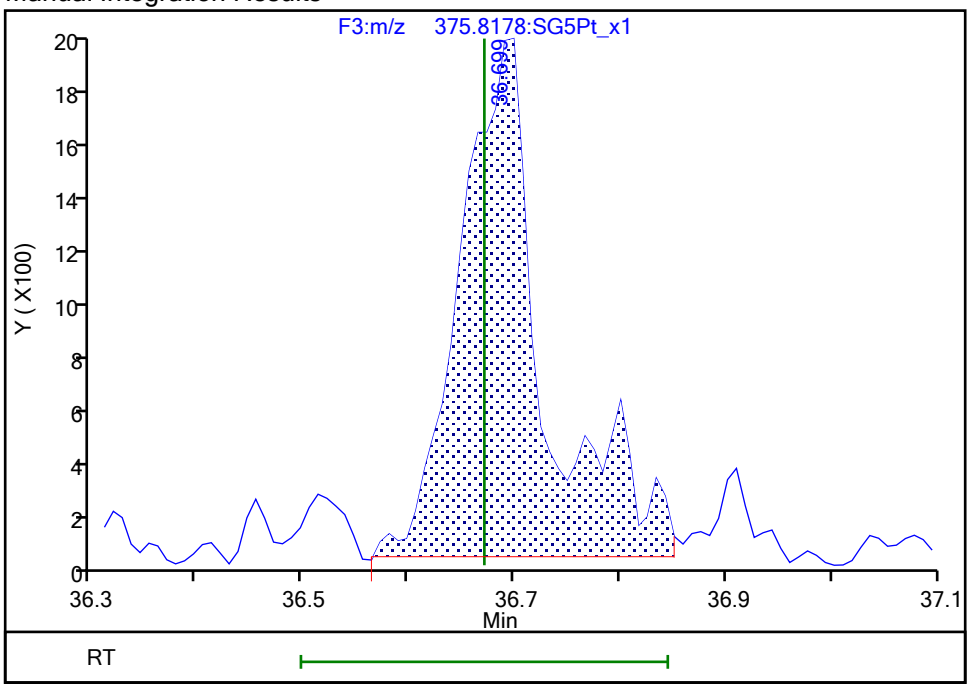
Processing Integration Results

RT: 36.70
Area: 8537
Amount: 0.120182
Amount Units: pg/ul



Manual Integration Results

RT: 36.70
Area: 10503
Amount: 0.130855
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:43:26
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

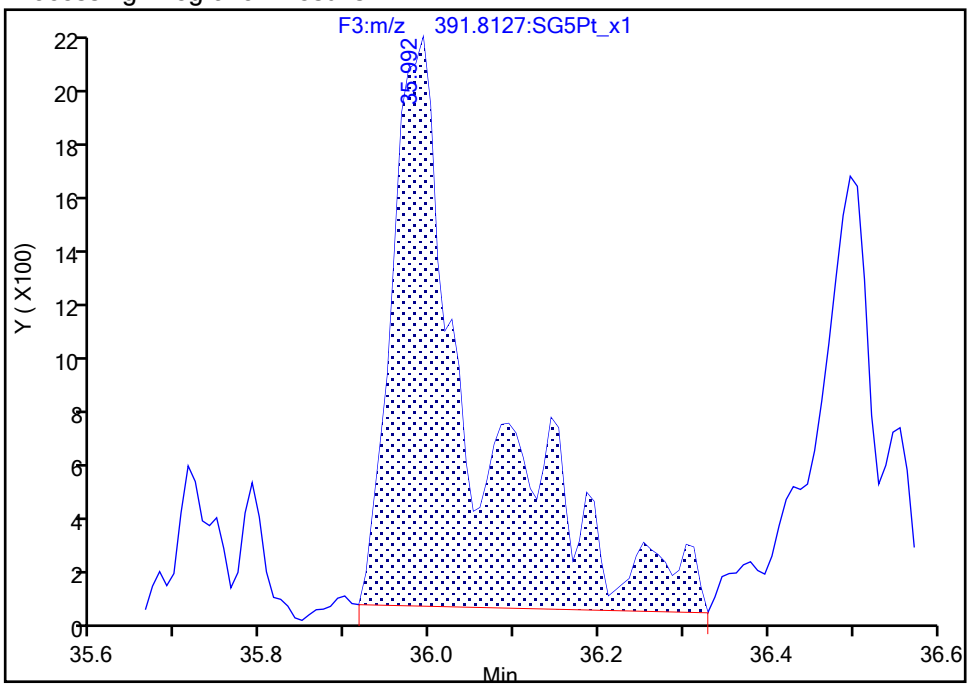
Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Injection Date: 27-Dec-2021 20:58:00 Instrument ID: DFS 1
Lims ID: MB 320-552716/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

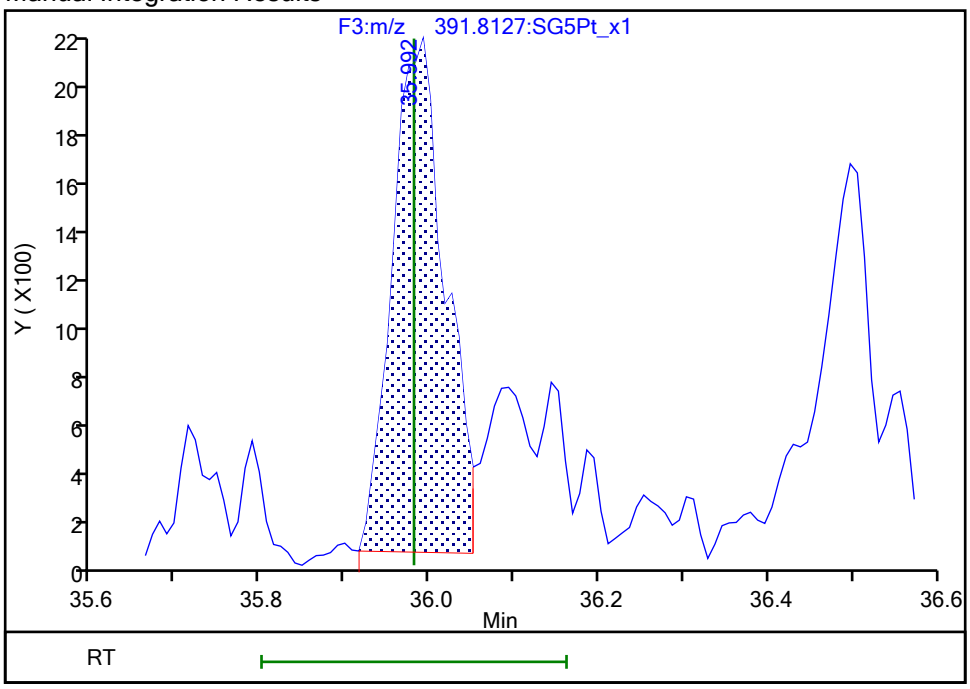
Processing Integration Results

RT: 35.99
Area: 14154
Amount: 0.156012
Amount Units: pg/ul



Manual Integration Results

RT: 35.99
Area: 8763
Amount: 0.144138
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:43:58
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

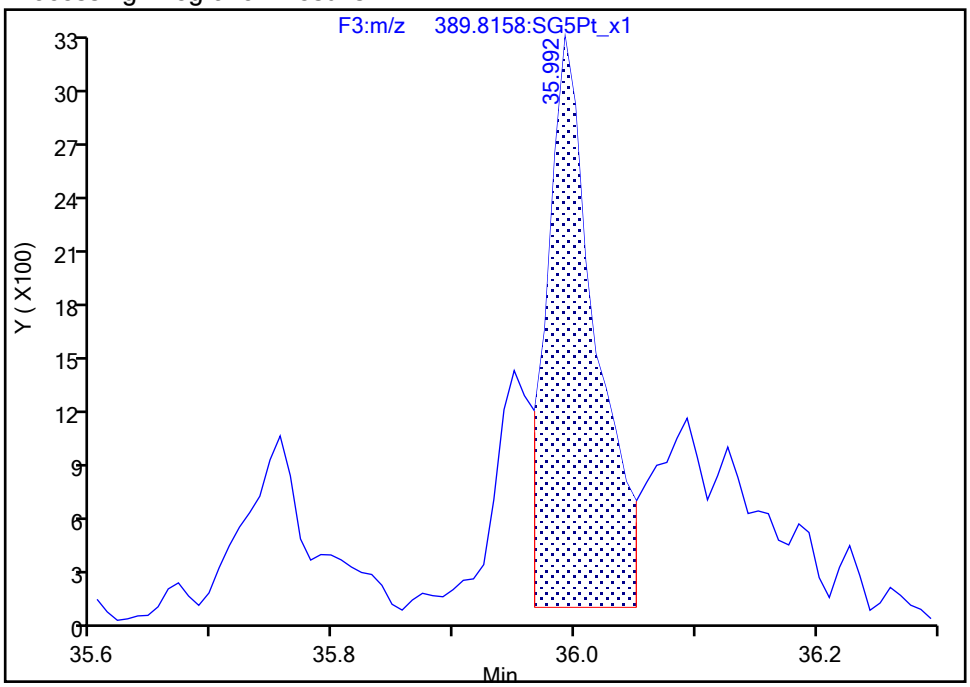
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

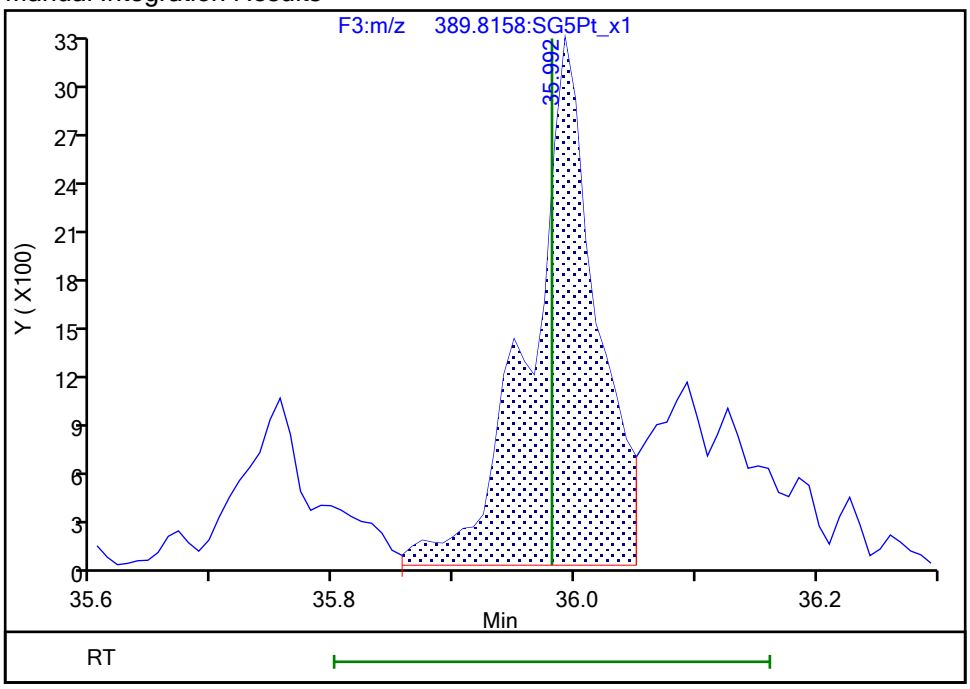
Processing Integration Results

RT: 35.99
Area: 8524
Amount: 0.156012
Amount Units: pg/ul



Manual Integration Results

RT: 35.99
Area: 12189
Amount: 0.144138
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:44:00
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

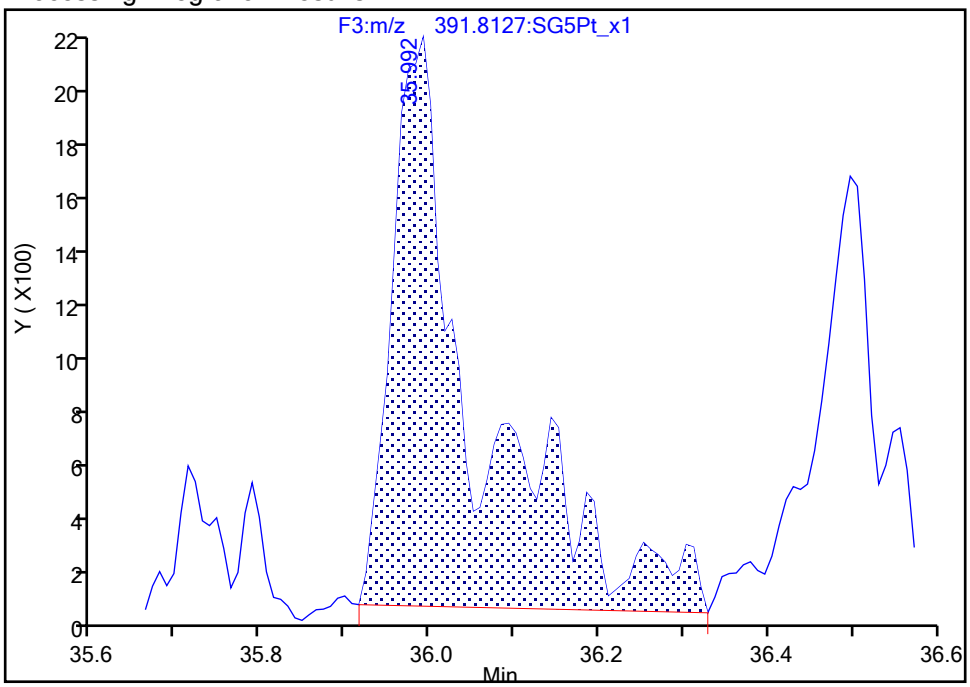
Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Injection Date: 27-Dec-2021 20:58:00 Instrument ID: DFS 1
Lims ID: MB 320-552716/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

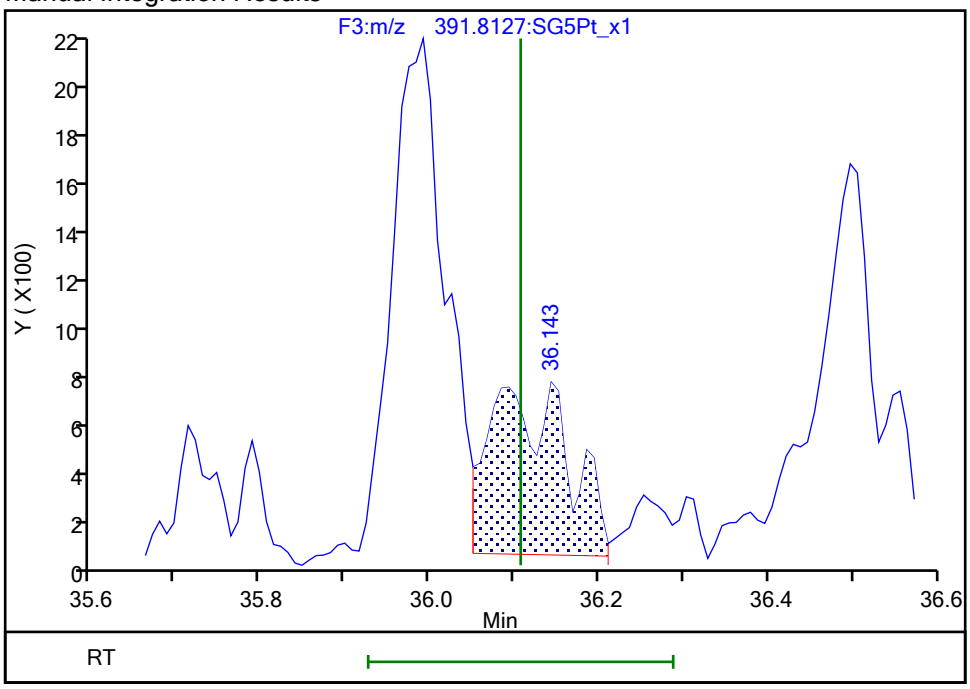
Processing Integration Results

RT: 35.99
Area: 14154
Amount: 0.155513
Amount Units: pg/ul



Manual Integration Results

RT: 36.14
Area: 4277
Amount: 0.073546
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:43:58
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

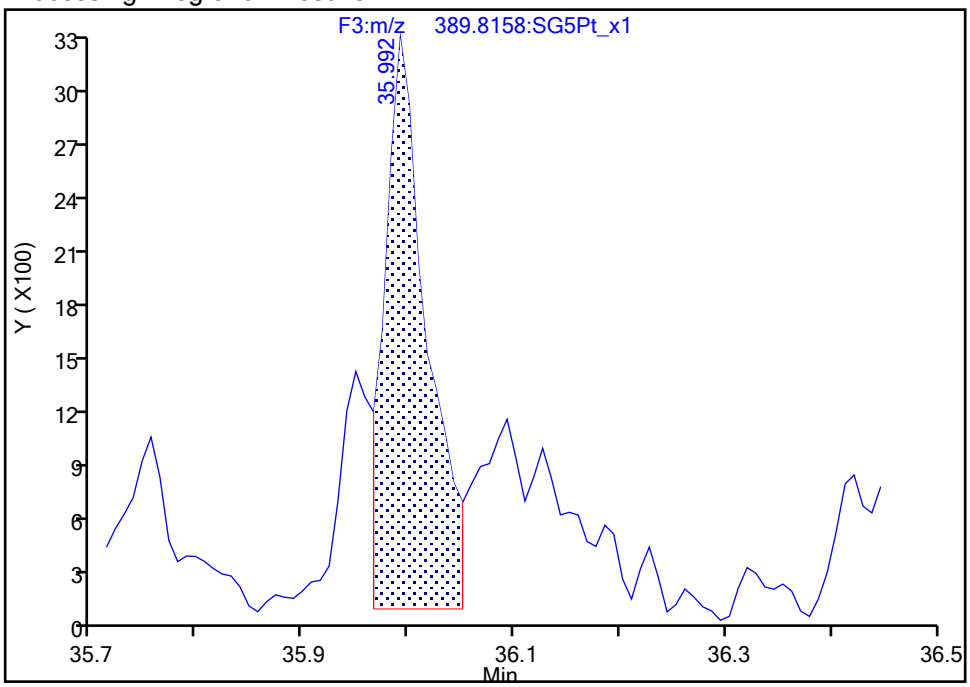
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

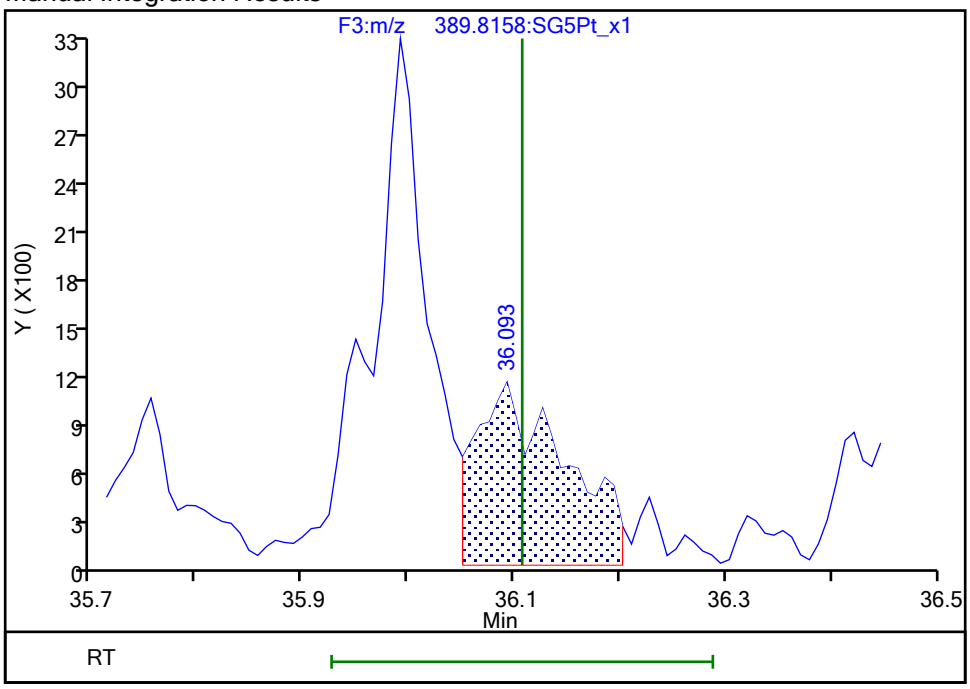
Processing Integration Results

RT: 35.99
Area: 8524
Amount: 0.155513
Amount Units: pg/ul



Manual Integration Results

RT: 36.09
Area: 6448
Amount: 0.073546
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:44:04
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

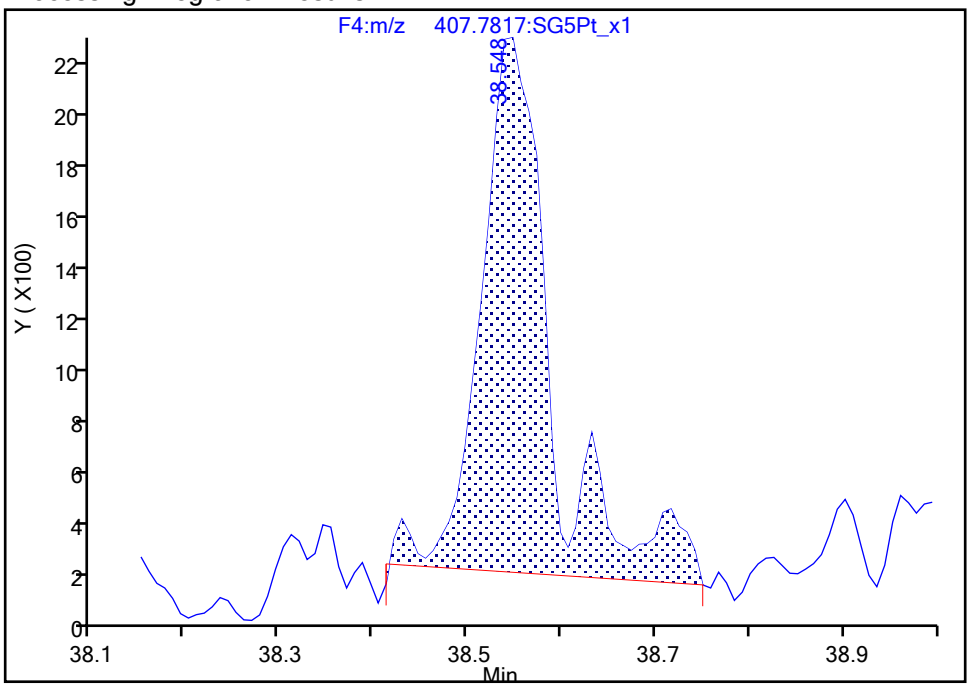
Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Injection Date: 27-Dec-2021 20:58:00 Instrument ID: DFS 1
Lims ID: MB 320-552716/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

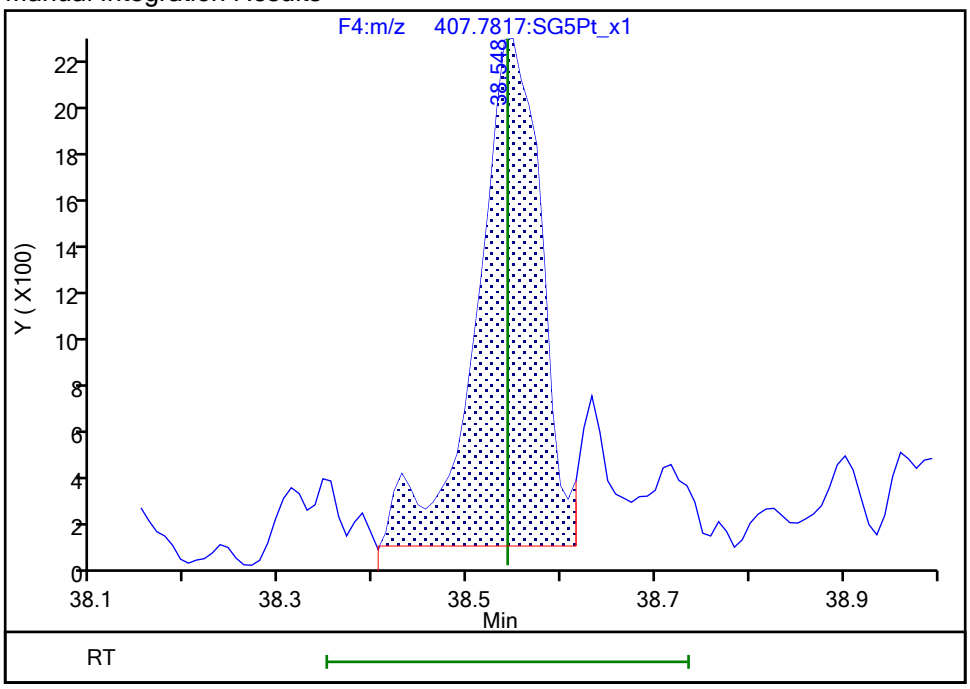
Processing Integration Results

RT: 38.55
Area: 10838
Amount: 0.106376
Amount Units: pg/ul



Manual Integration Results

RT: 38.55
Area: 10370
Amount: 0.098112
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:45:11
Audit Action: Manually Integrated Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

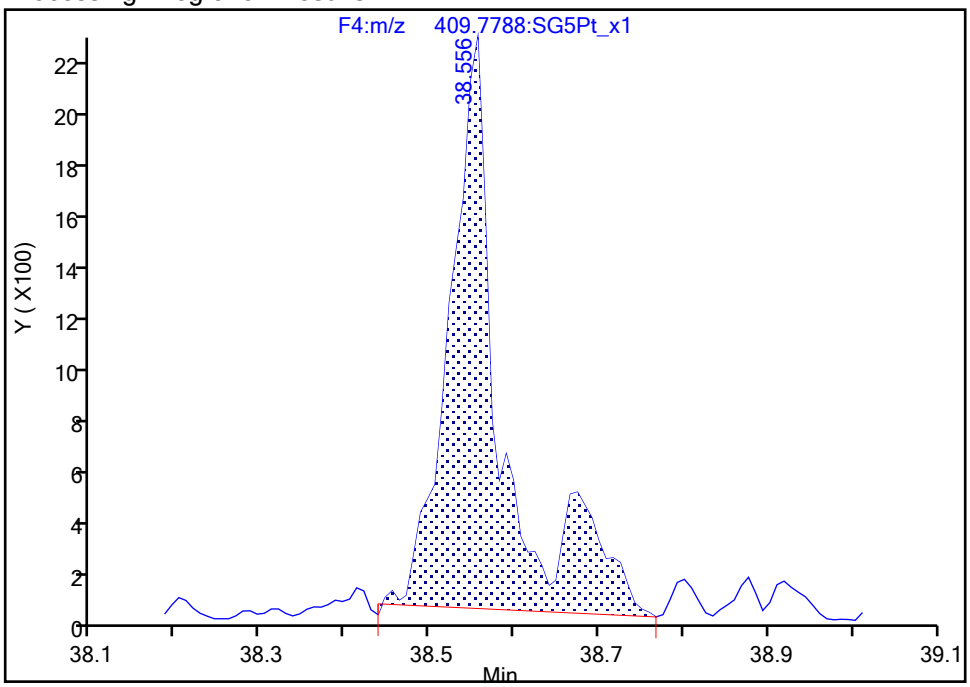
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

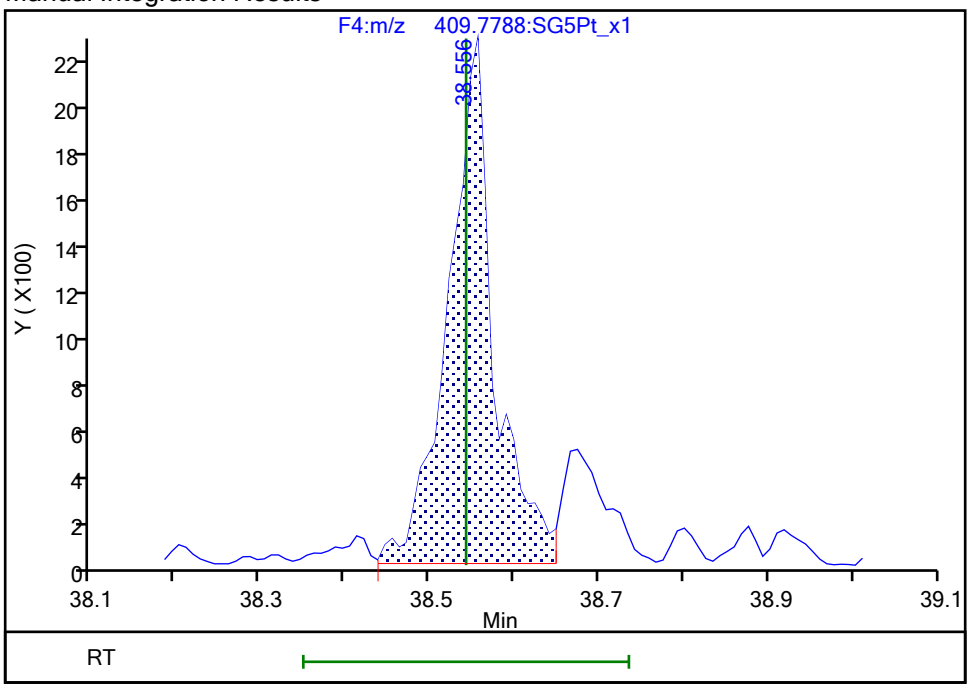
Processing Integration Results

RT: 38.56
Area: 9589
Amount: 0.106376
Amount Units: pg/ul



Manual Integration Results

RT: 38.56
Area: 8470
Amount: 0.098112
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:45:14
Audit Action: Manually Integrated Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

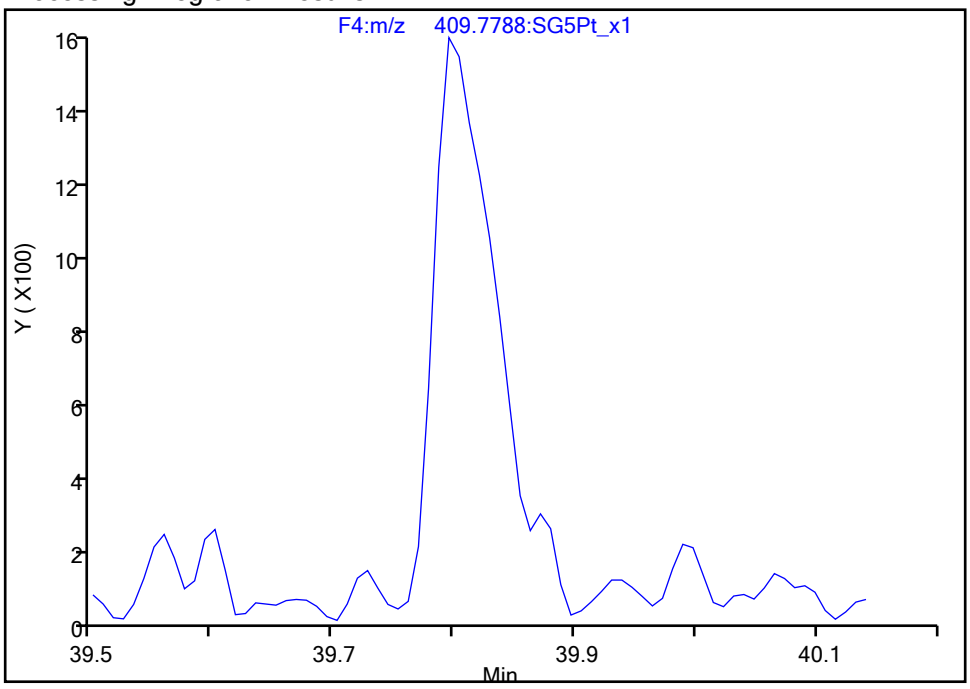
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

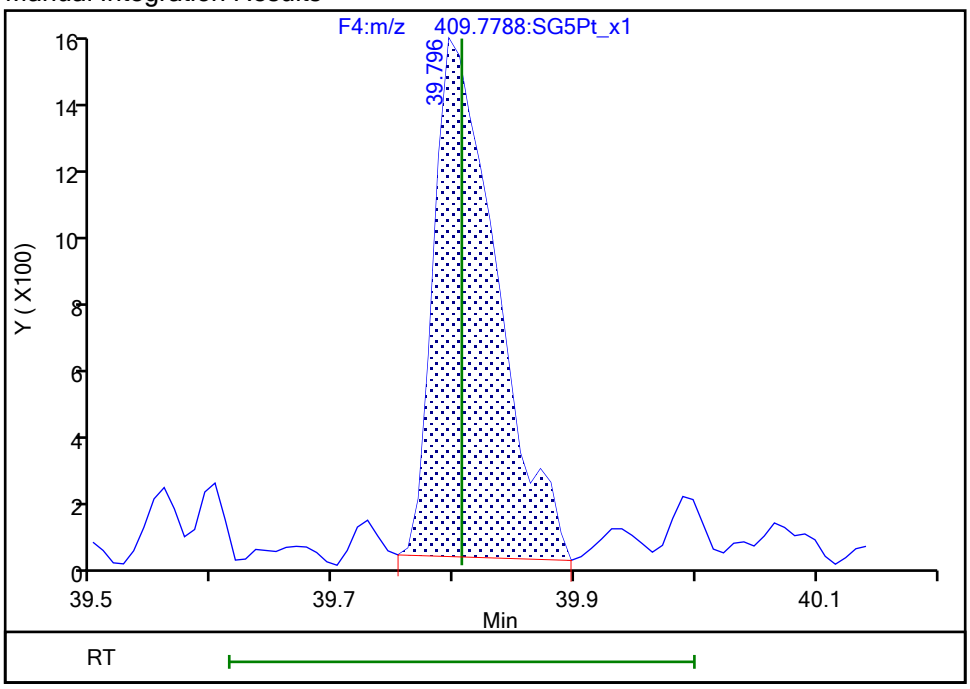
Not Detected
Expected RT: 39.81

Processing Integration Results



Manual Integration Results

RT: 39.80
Area: 5423
Amount: 0.083561
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:44:29
Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

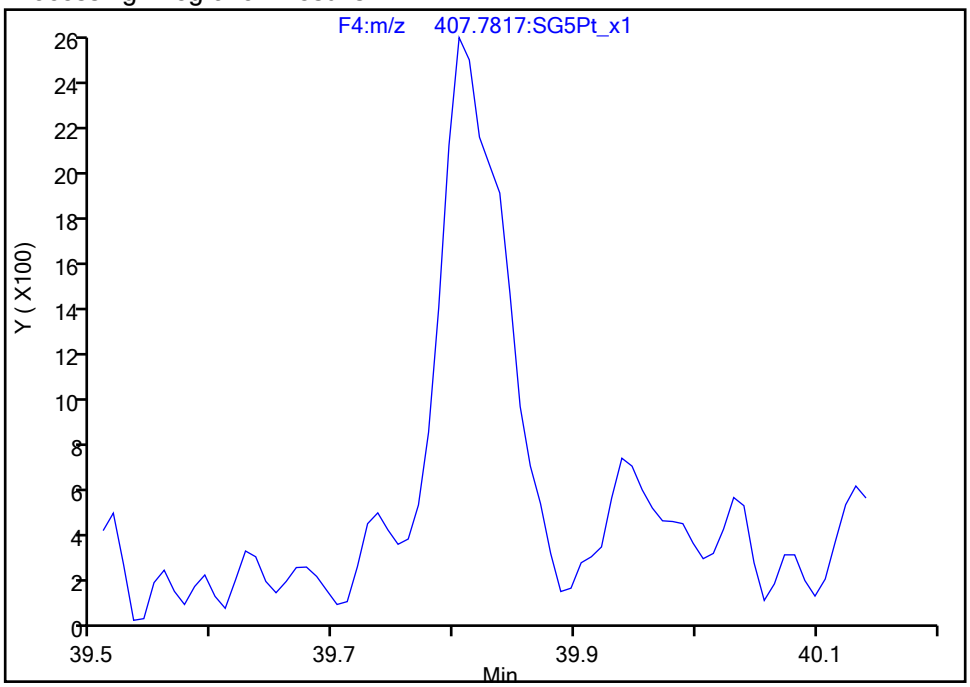
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d				
Injection Date:	27-Dec-2021 20:58:00	Instrument ID:	DFS 1		
Lims ID:	MB 320-552716/1-A				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

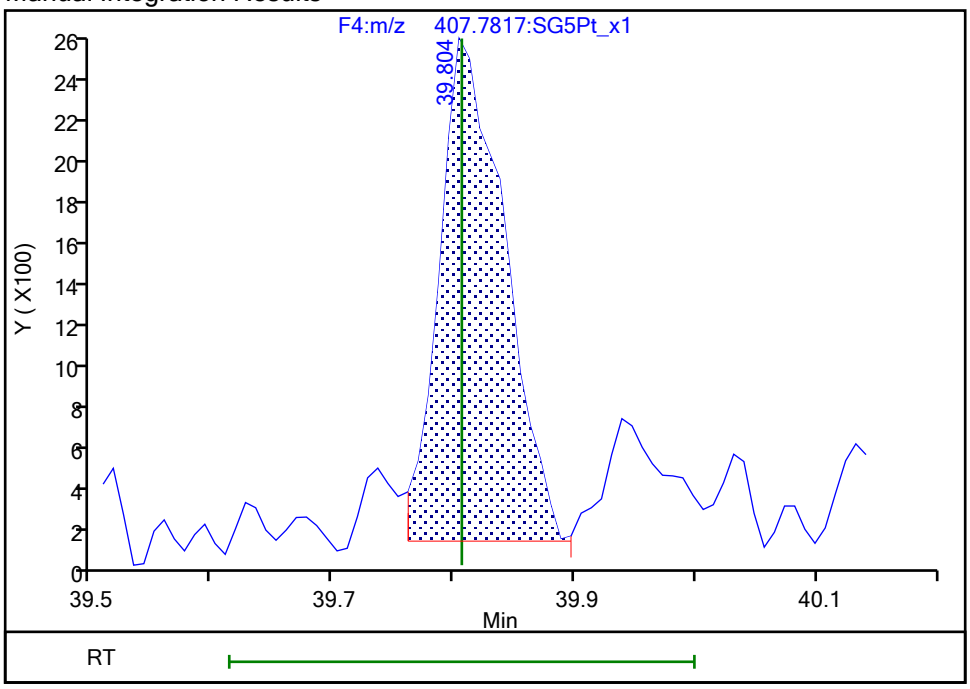
Not Detected
Expected RT: 39.81

Processing Integration Results



Manual Integration Results

RT: 39.80
Area: 8724
Amount: 0.083561
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:44:29
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

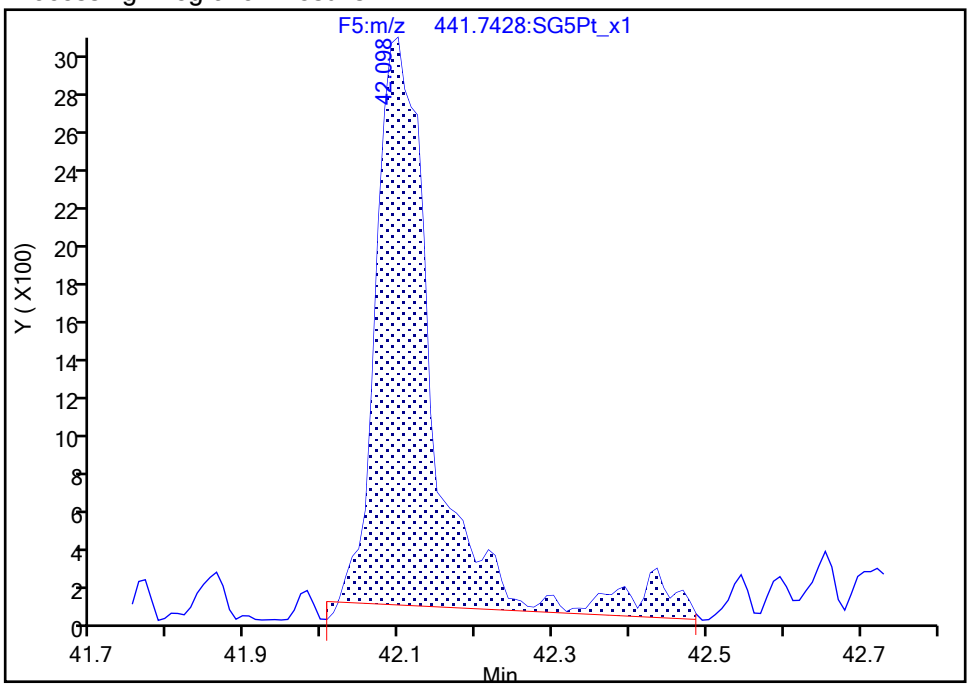
Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Injection Date: 27-Dec-2021 20:58:00 Instrument ID: DFS 1
Lims ID: MB 320-552716/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F5(41.08 :46.00)

OCDF, CAS: 39001-02-0

Signal: 1

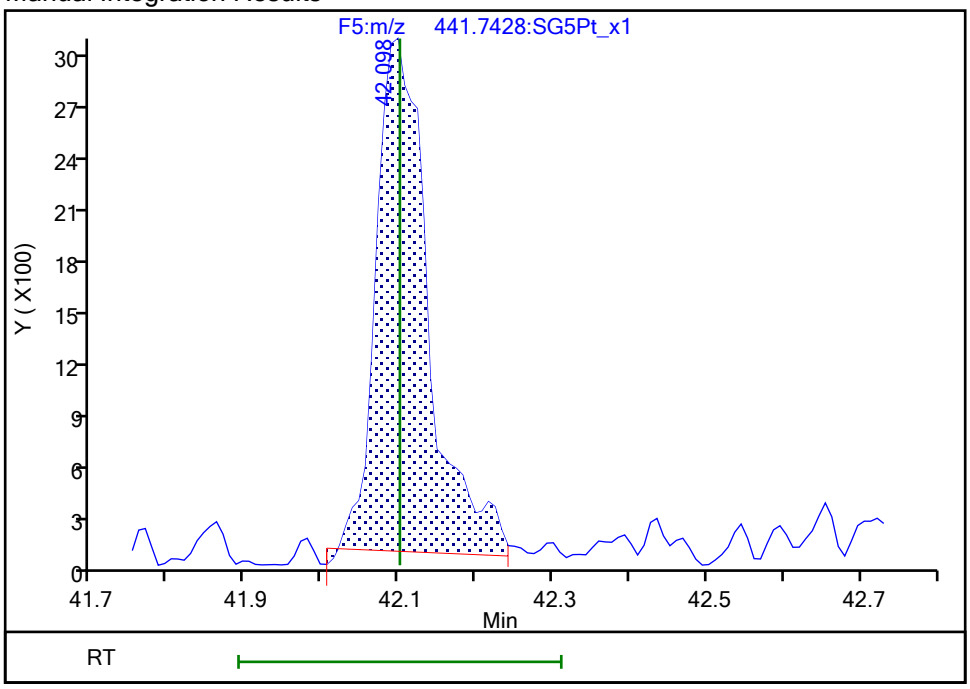
Processing Integration Results

RT: 42.10
Area: 15212
Amount: 0.236260
Amount Units: pg/ul



Manual Integration Results

RT: 42.10
Area: 13910
Amount: 0.215663
Amount Units: pg/ul



Reviewer: bilottag, 28-Dec-2021 13:46:14
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

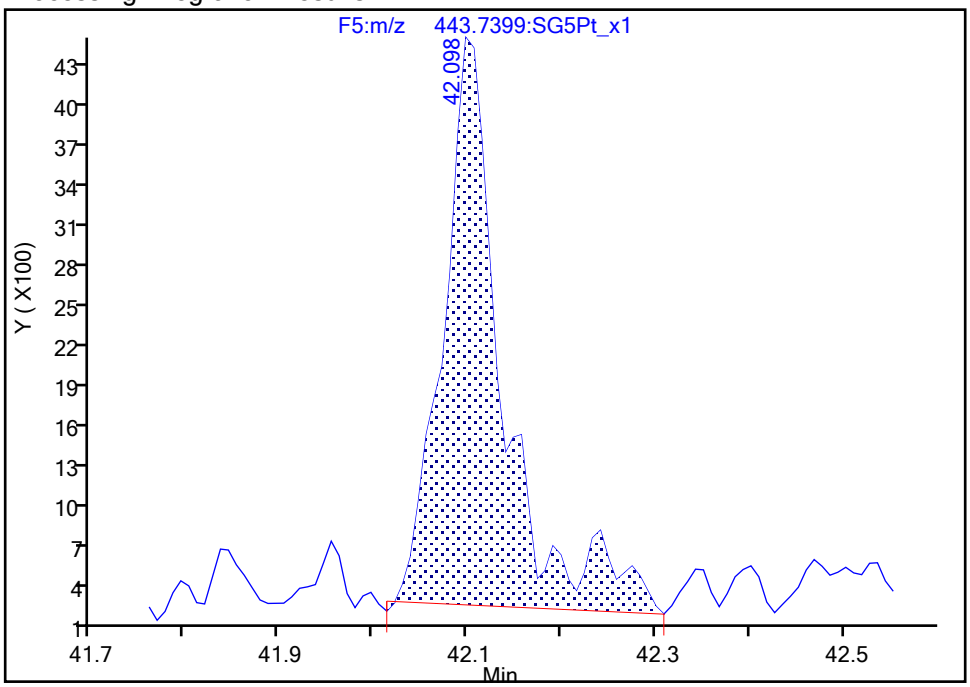
Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d
Injection Date: 27-Dec-2021 20:58:00 Instrument ID: DFS 1
Lims ID: MB 320-552716/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F5(41.08 :46.00)

OCDF, CAS: 39001-02-0

Signal: 2

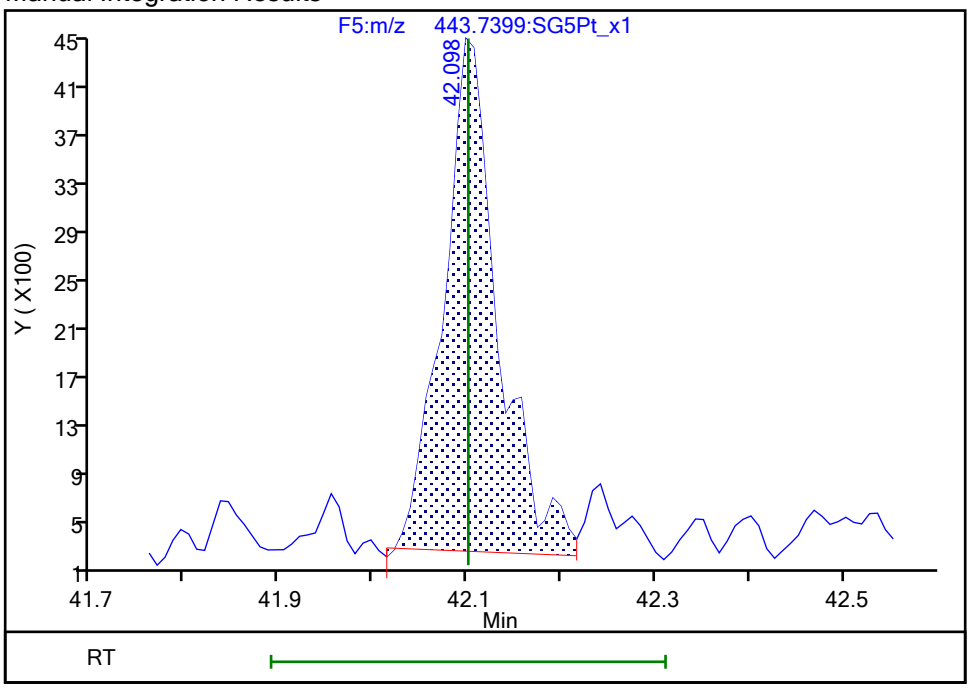
Processing Integration Results

RT: 42.10
Area: 18834
Amount: 0.236260
Amount Units: pg/ul



Manual Integration Results

RT: 42.10
Area: 17168
Amount: 0.215663
Amount Units: pg/ul

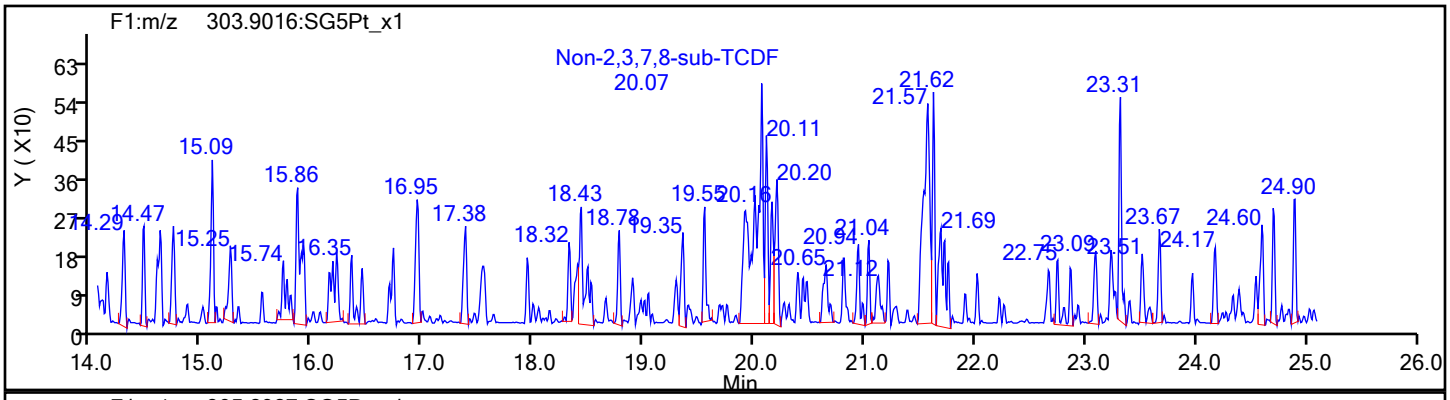


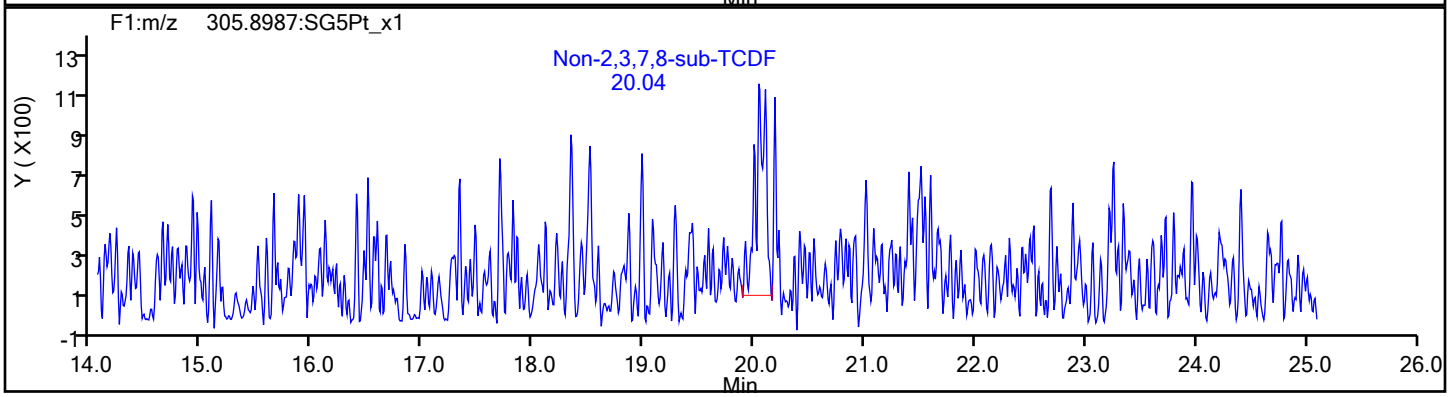
Reviewer: bilottag, 28-Dec-2021 13:46:20
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Eurofins TestAmerica, Sacramento

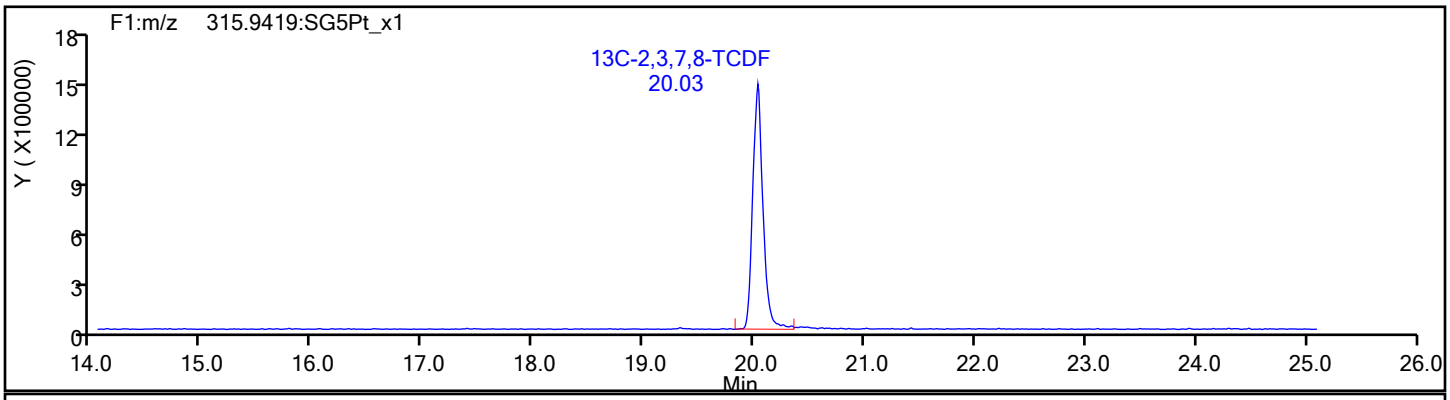
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

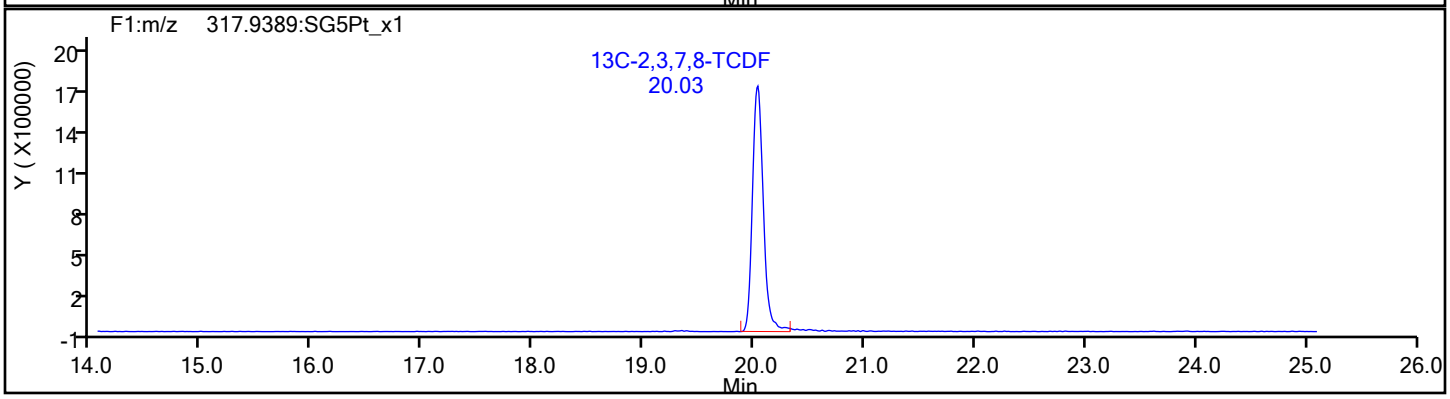
TCDF





TCDF Standards

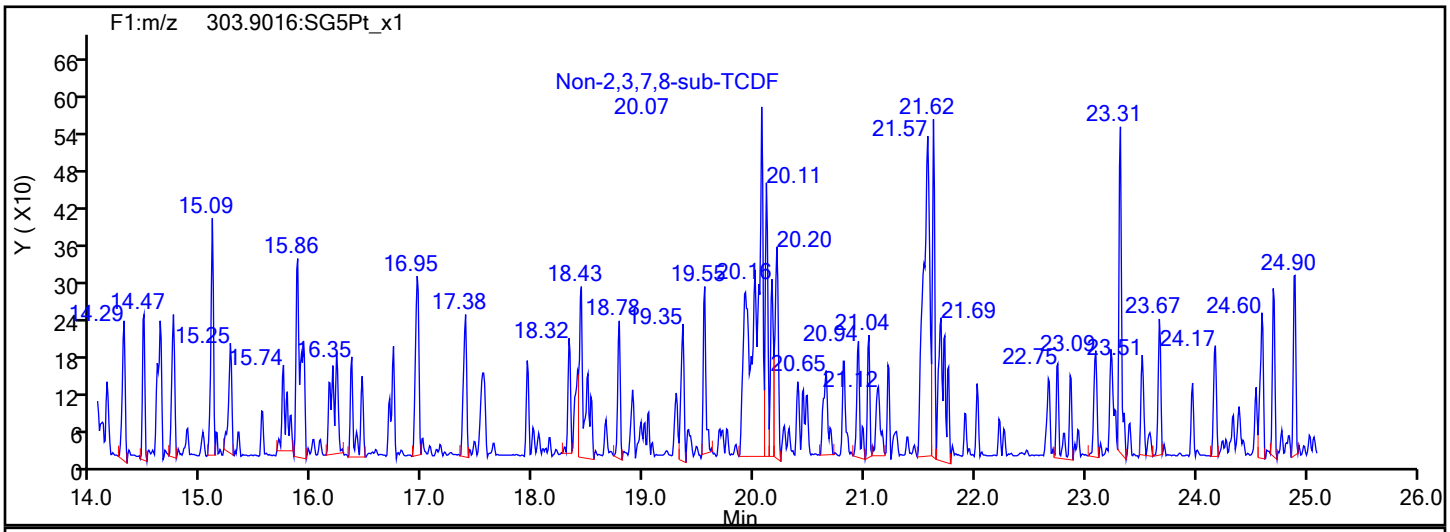


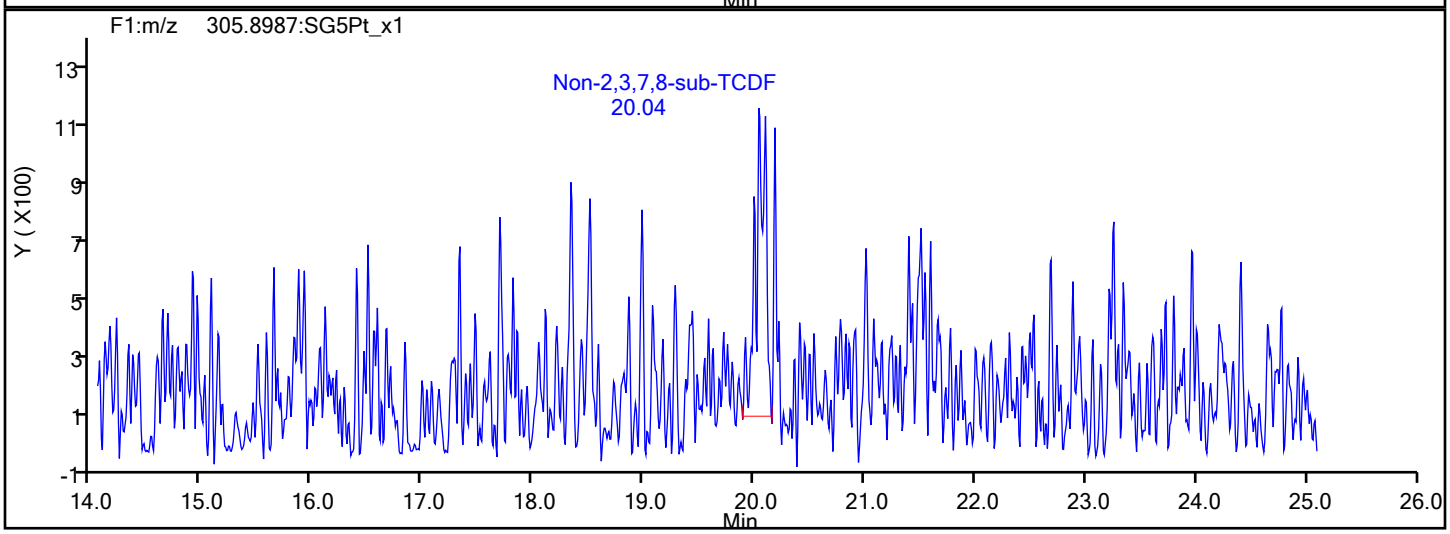


Eurofins TestAmerica, Sacramento

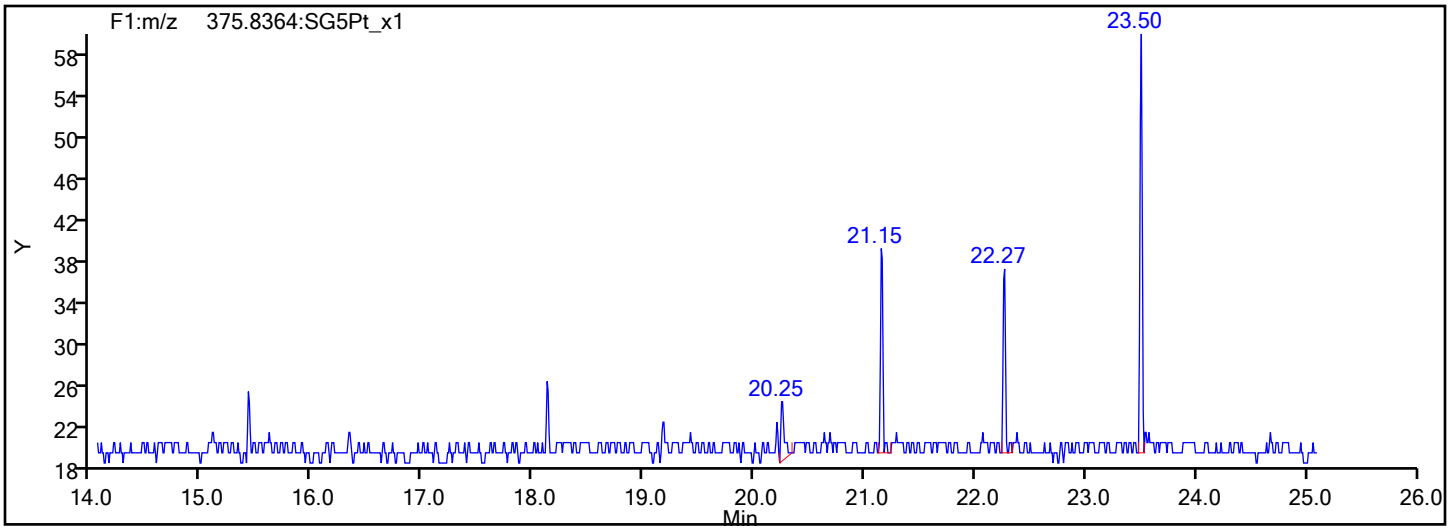
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





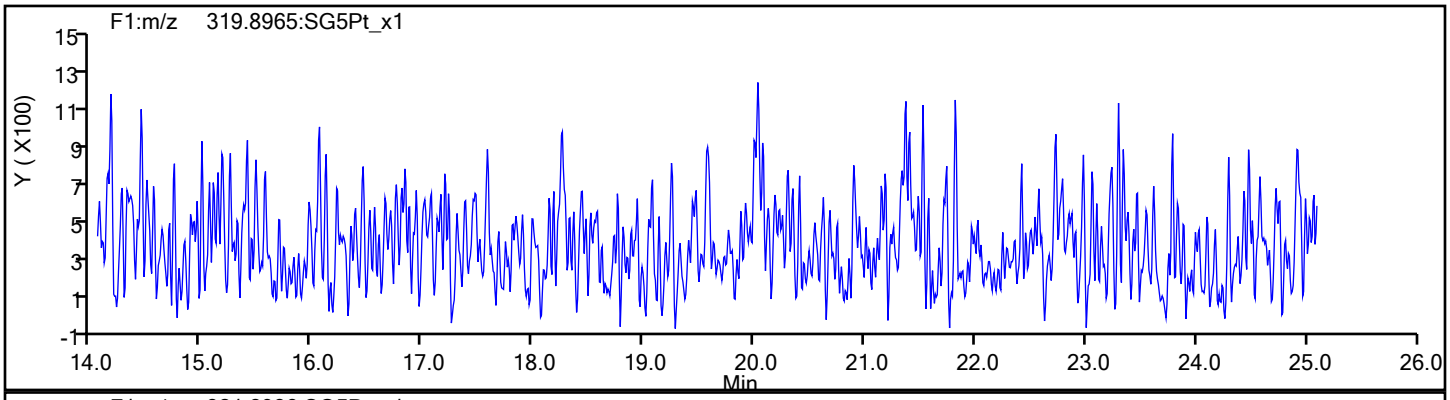
TCDF Interference Mass

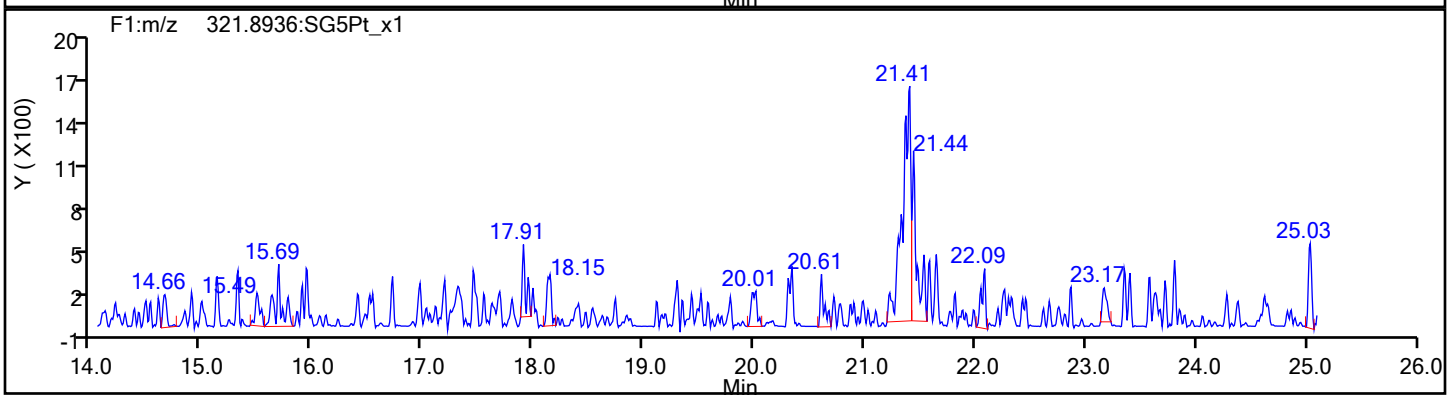


Eurofins TestAmerica, Sacramento

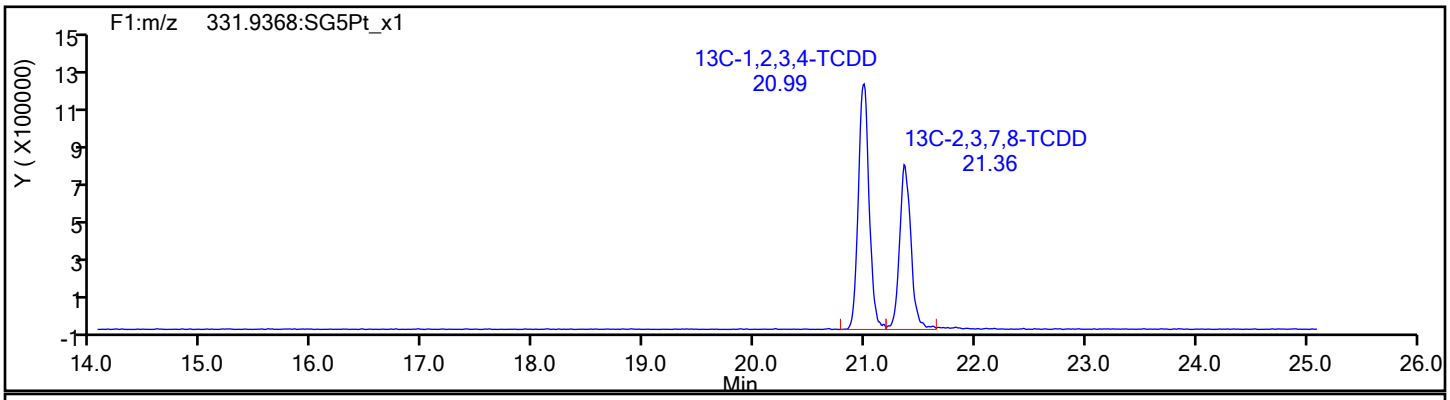
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

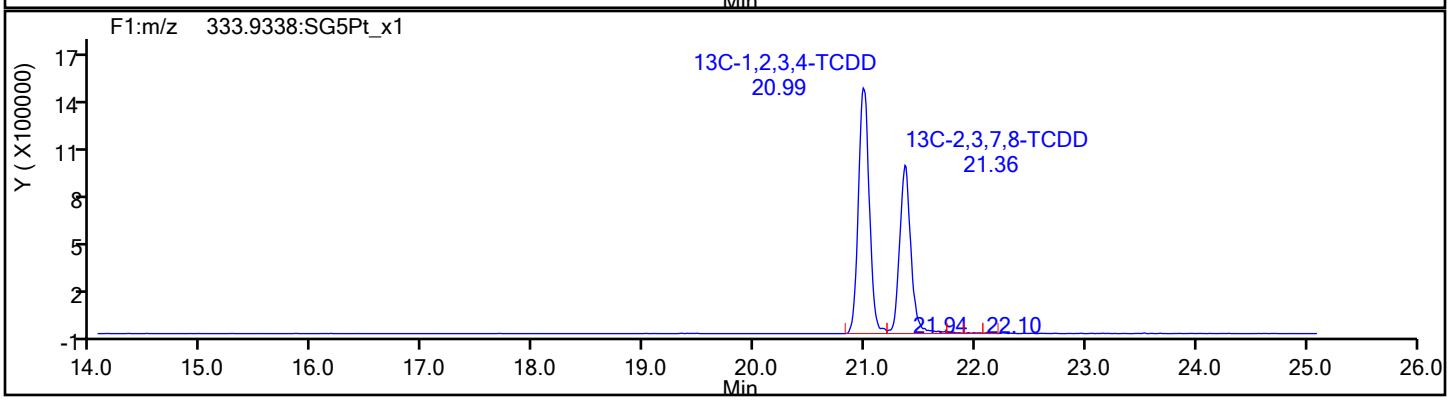
TCDD





TCDD Standards



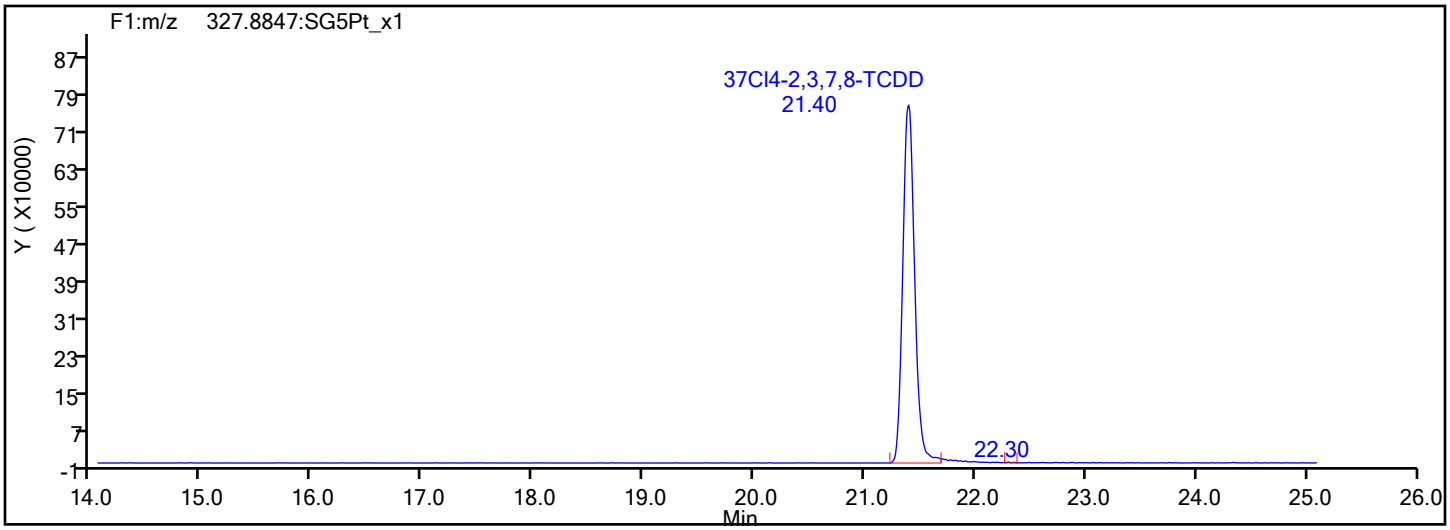


Report Date: 28-Dec-2021 14:24:31 Chrom Revision: 2.3 15-Nov-2021 20:34:30

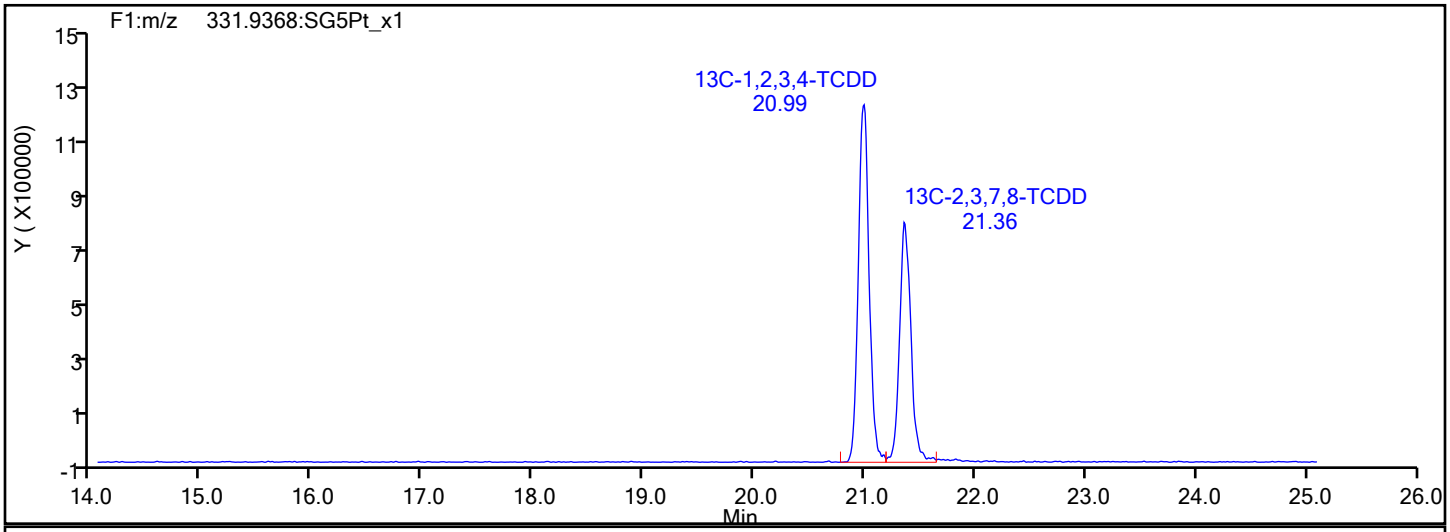
Eurofins TestAmerica, Sacramento

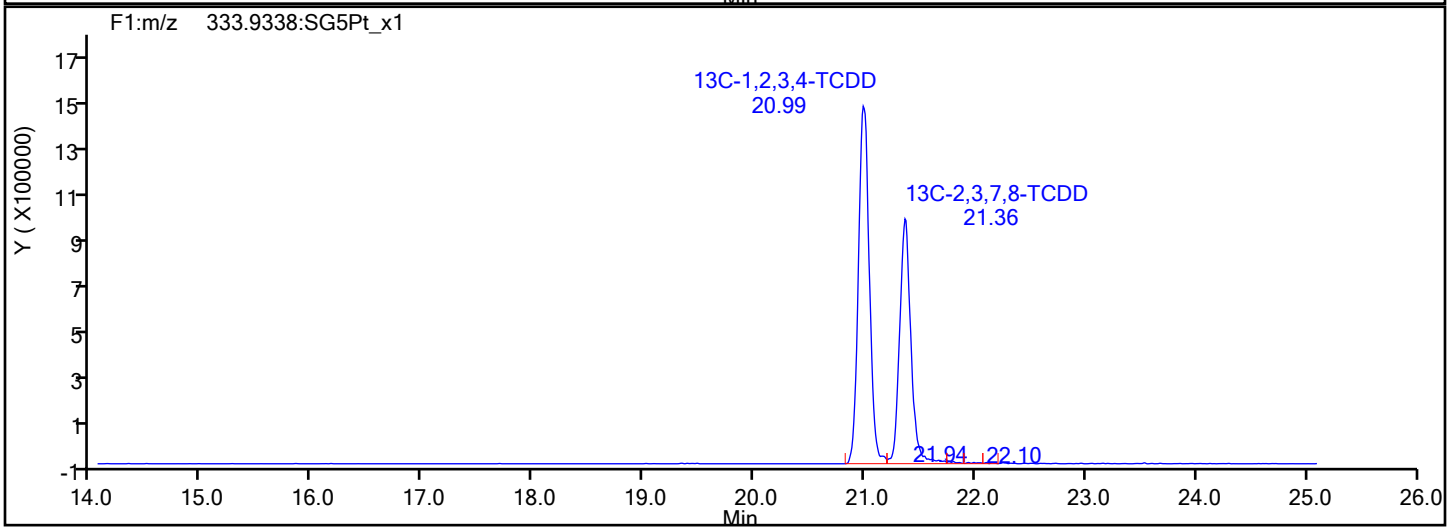
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



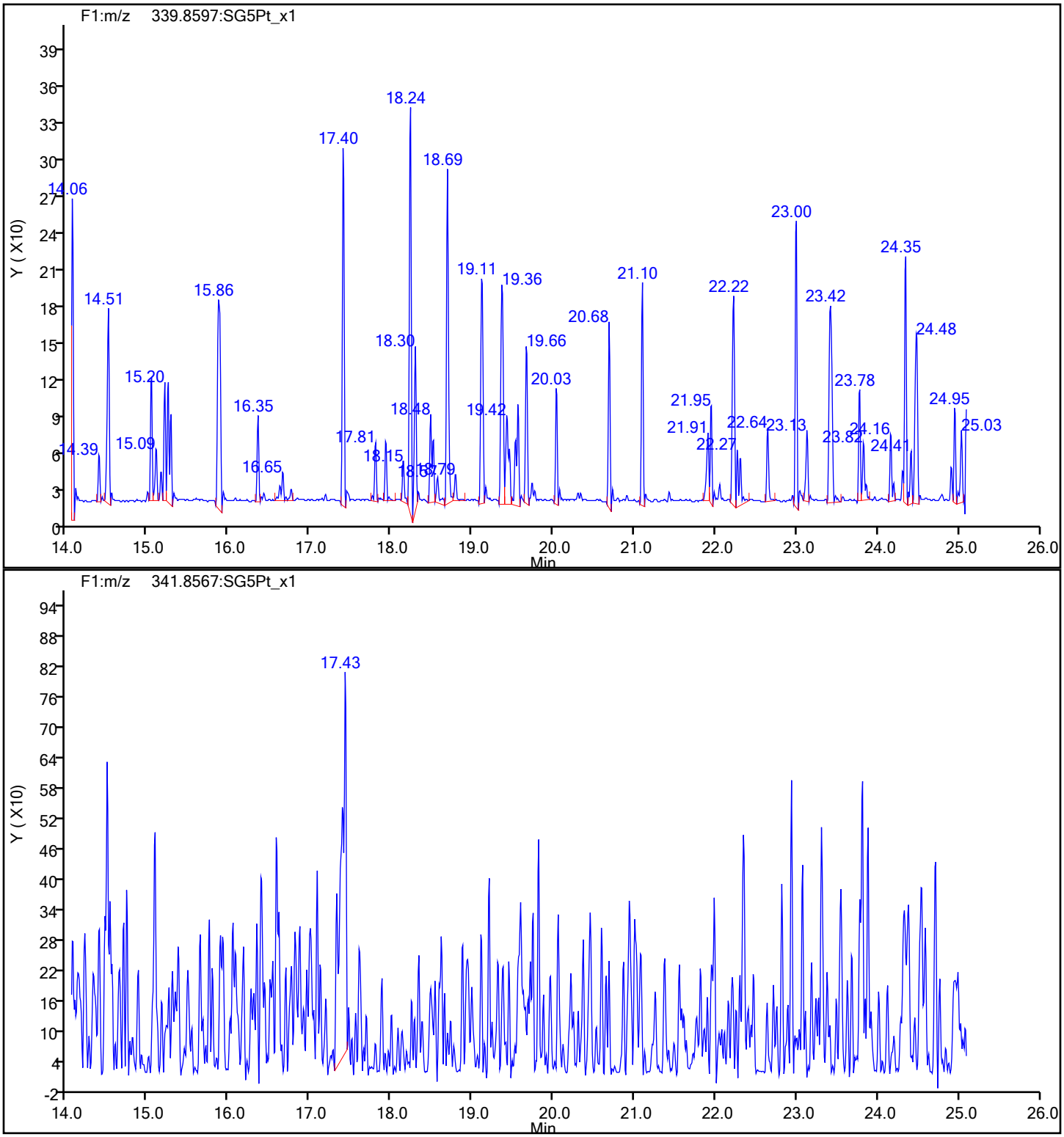


Report Date: 28-Dec-2021 14:24:31 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

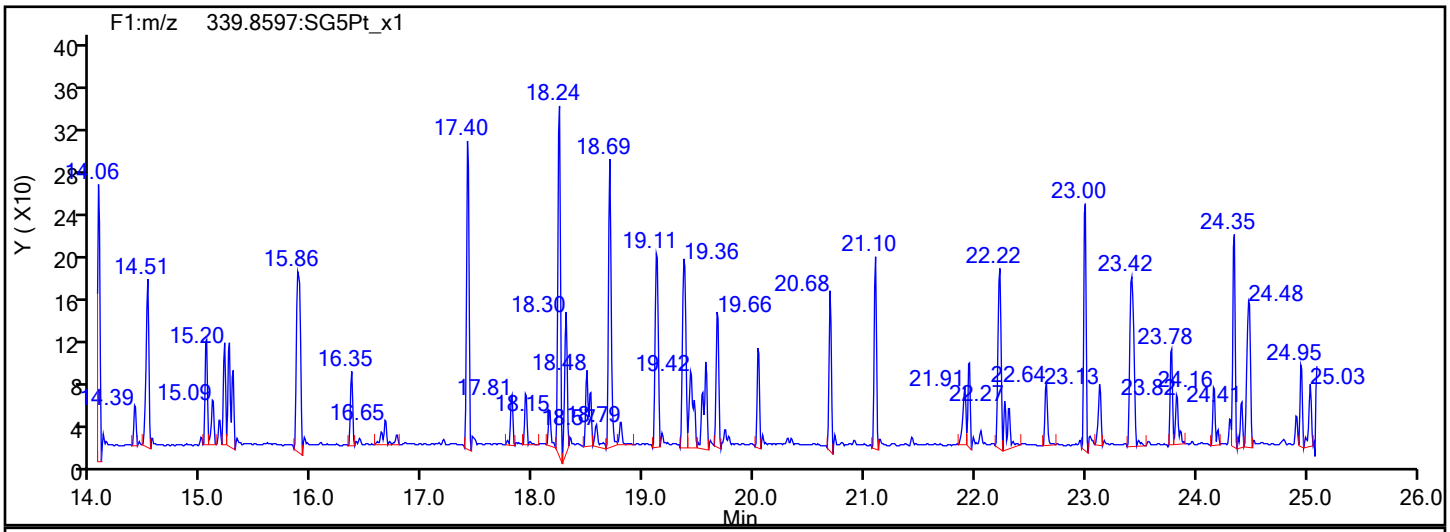
F1 PeCDFs

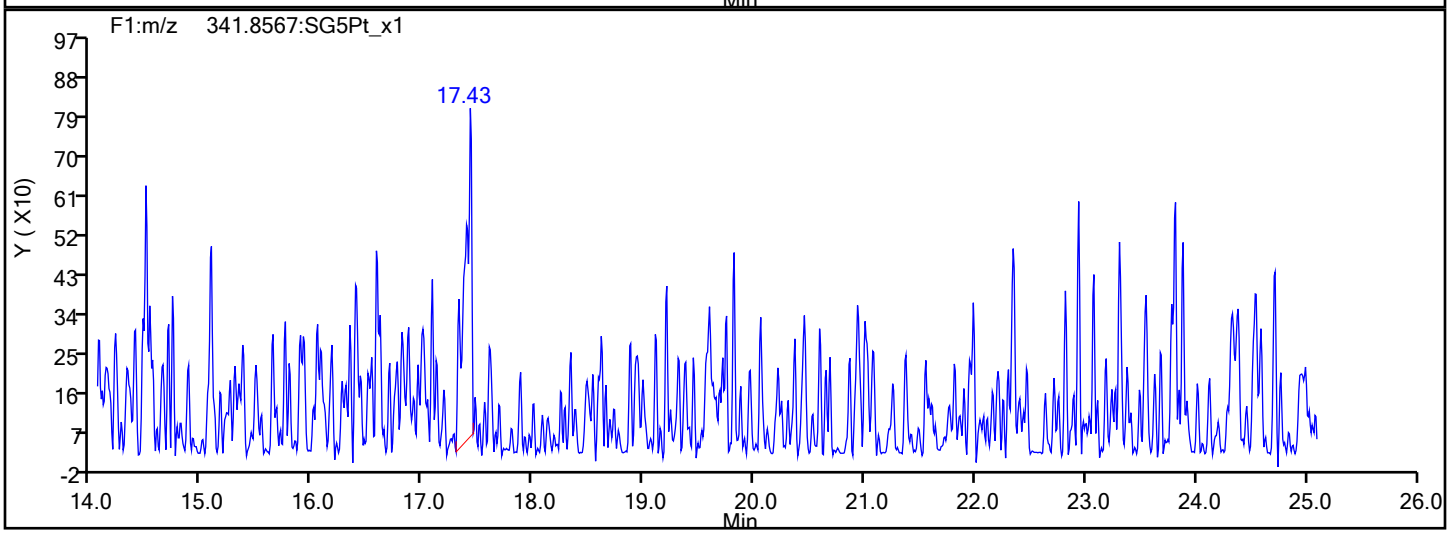


Eurofins TestAmerica, Sacramento

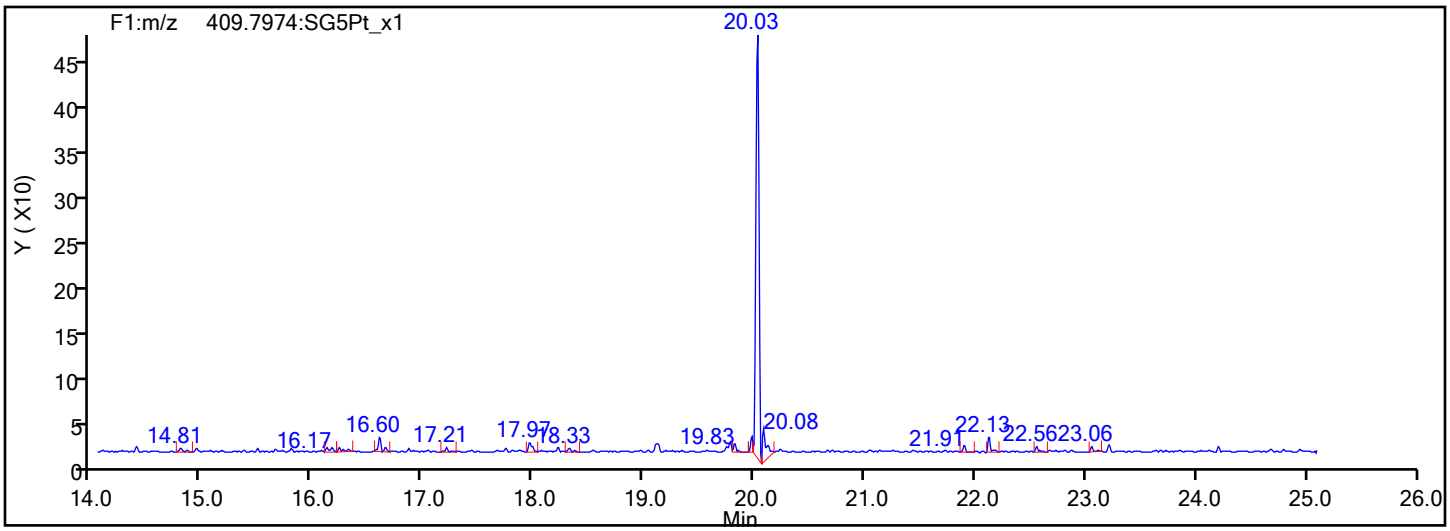
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





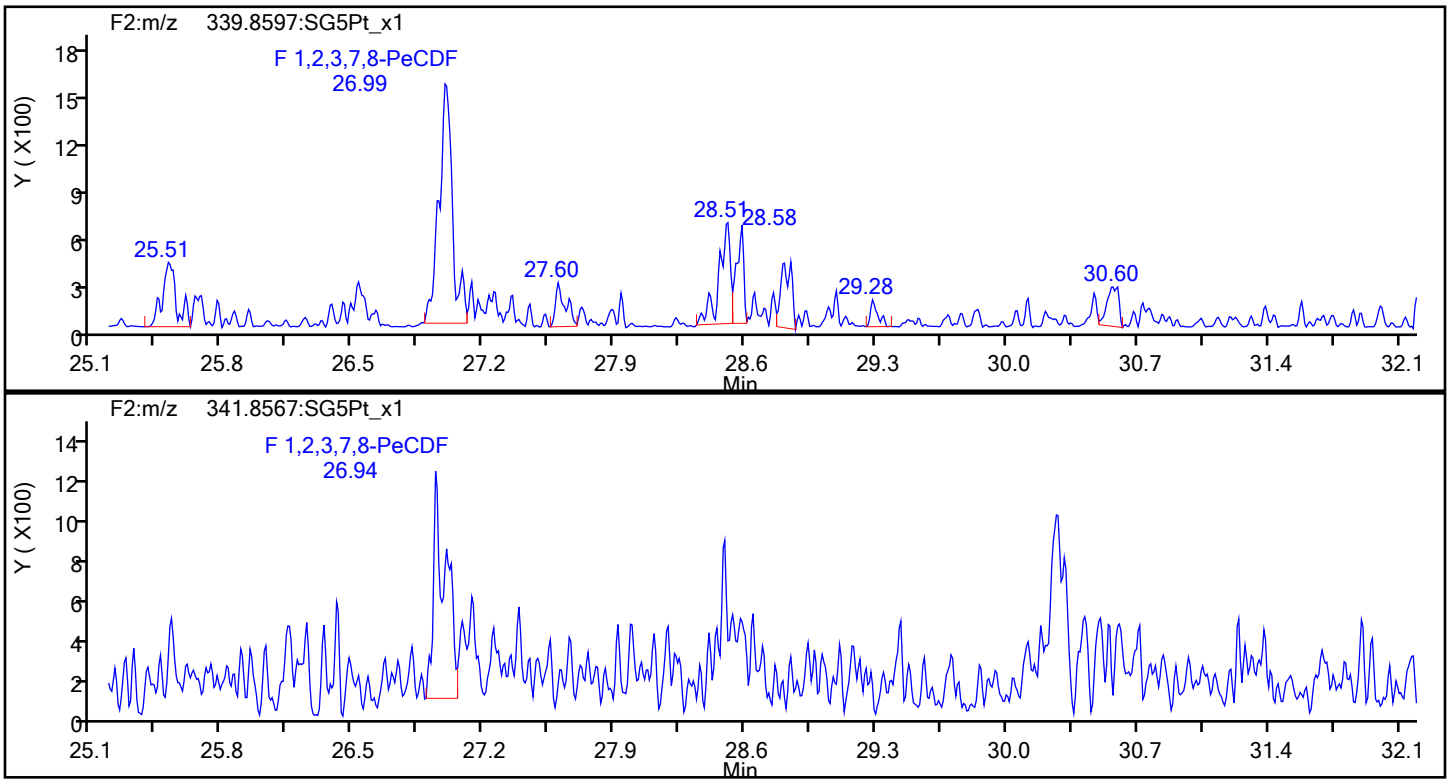
F1 PeCDFs Interference Mass



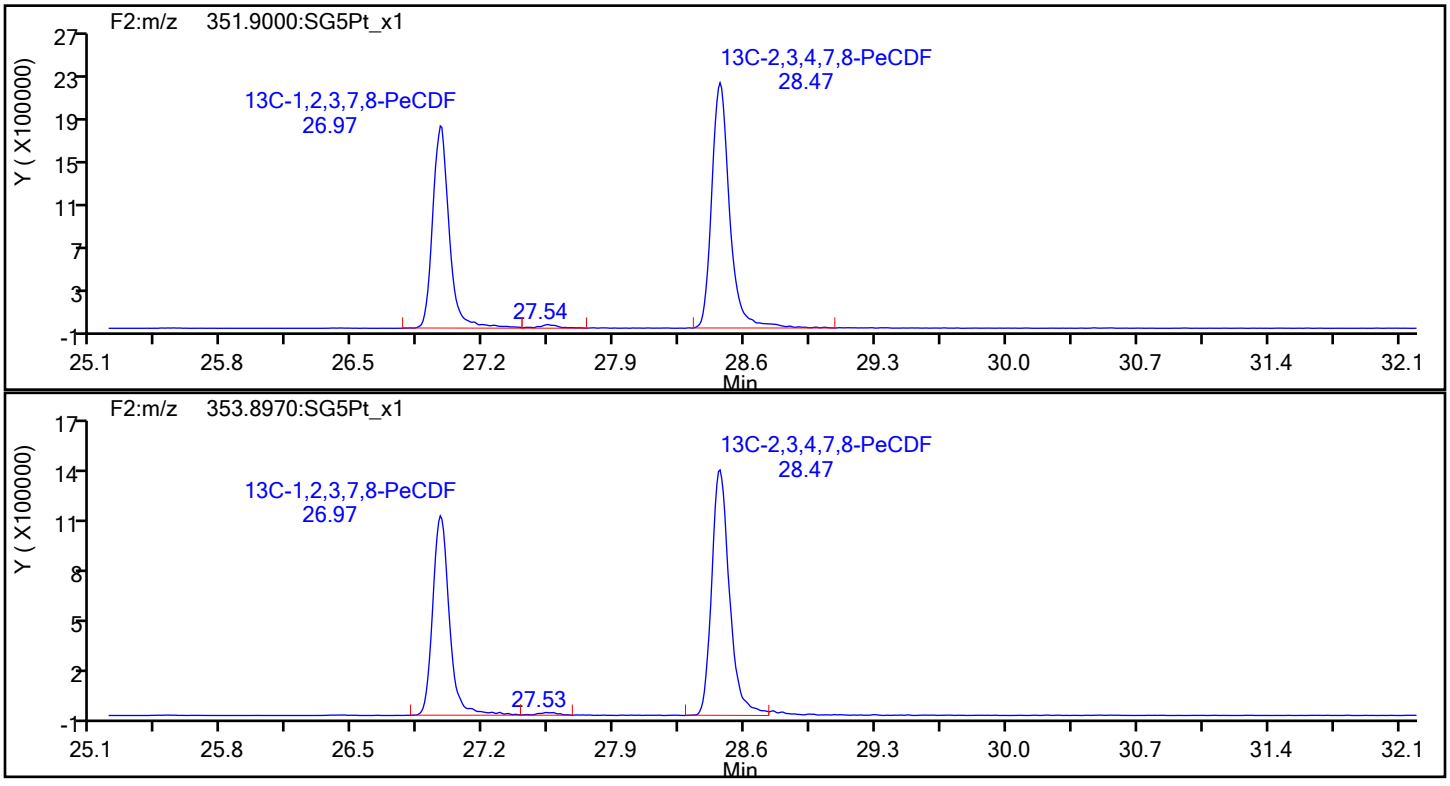
Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



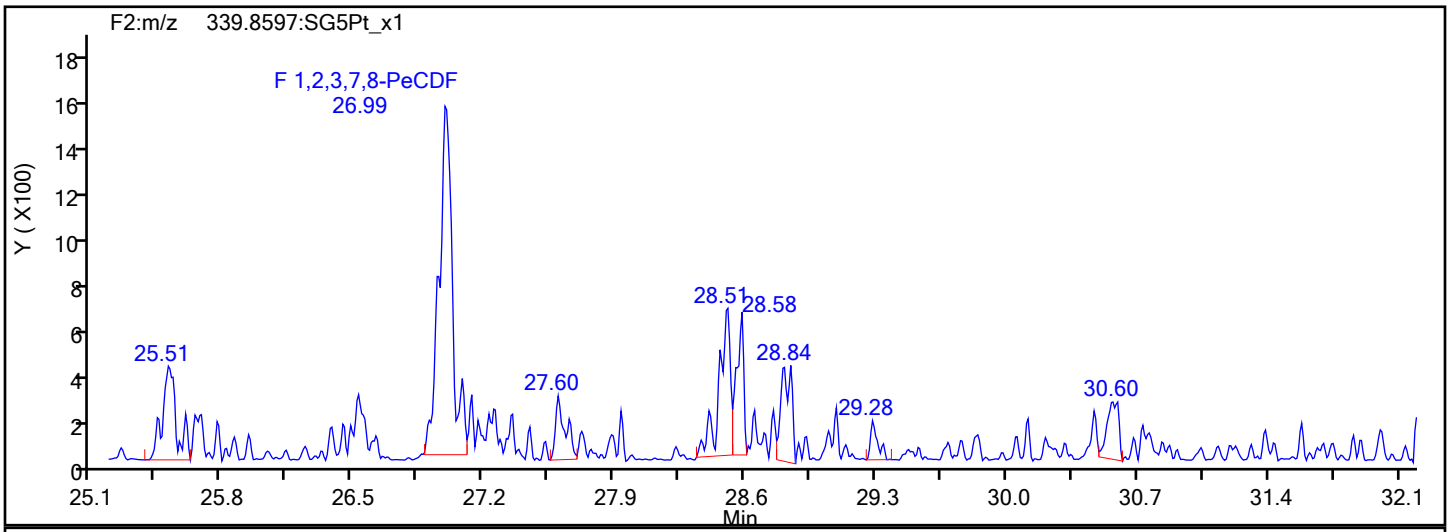
PeCDF Standards

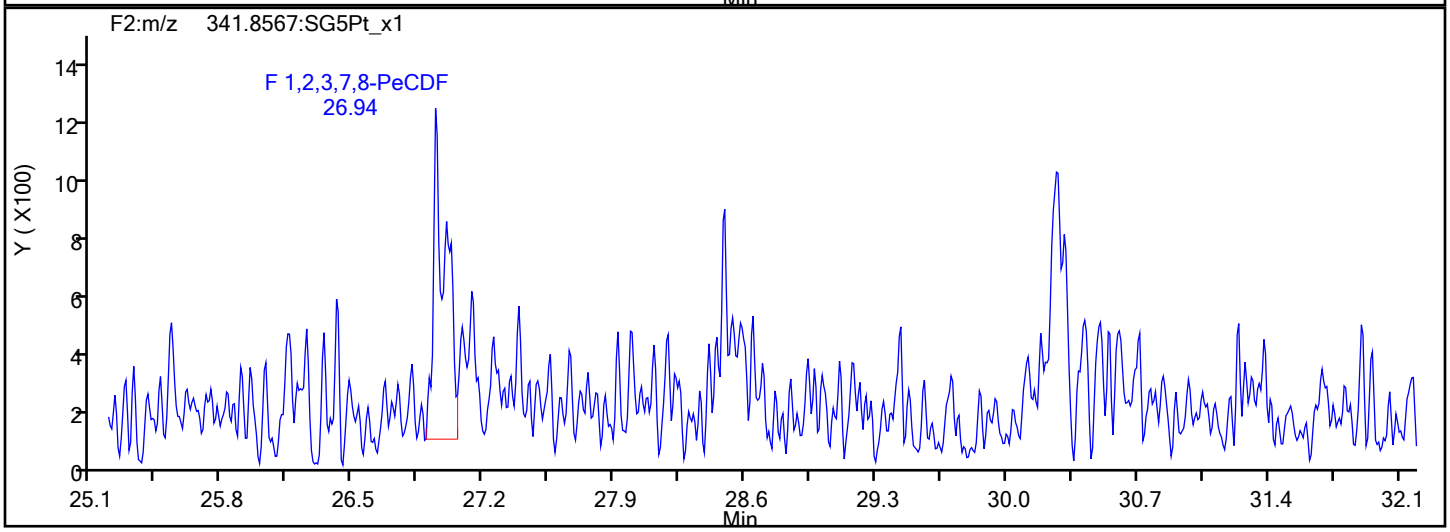


Eurofins TestAmerica, Sacramento

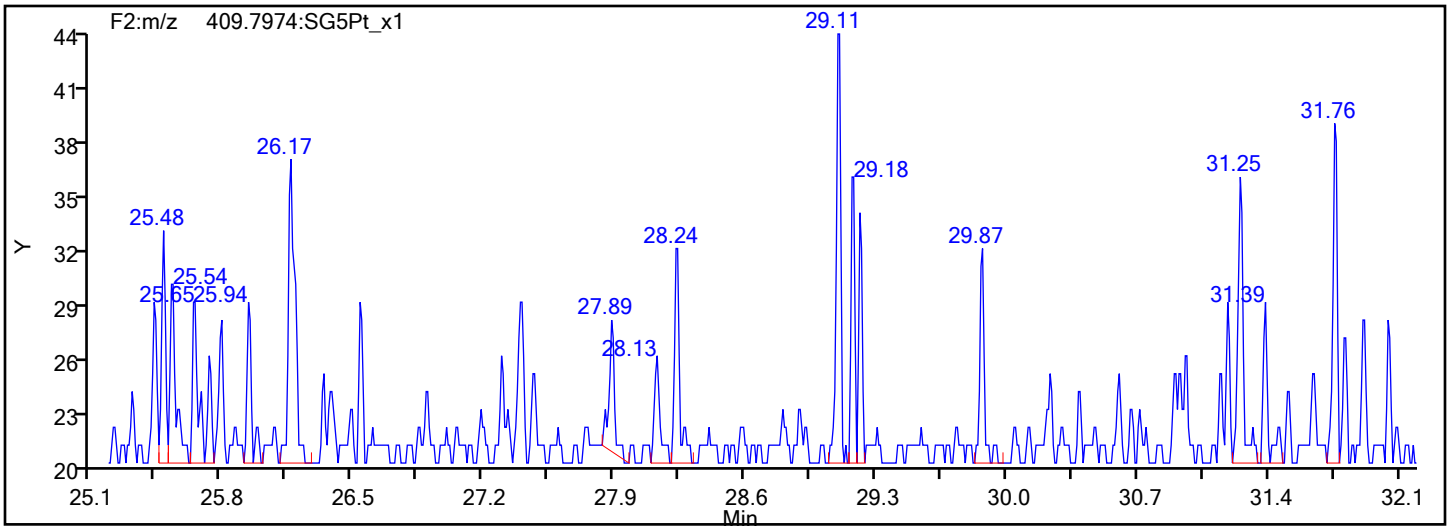
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



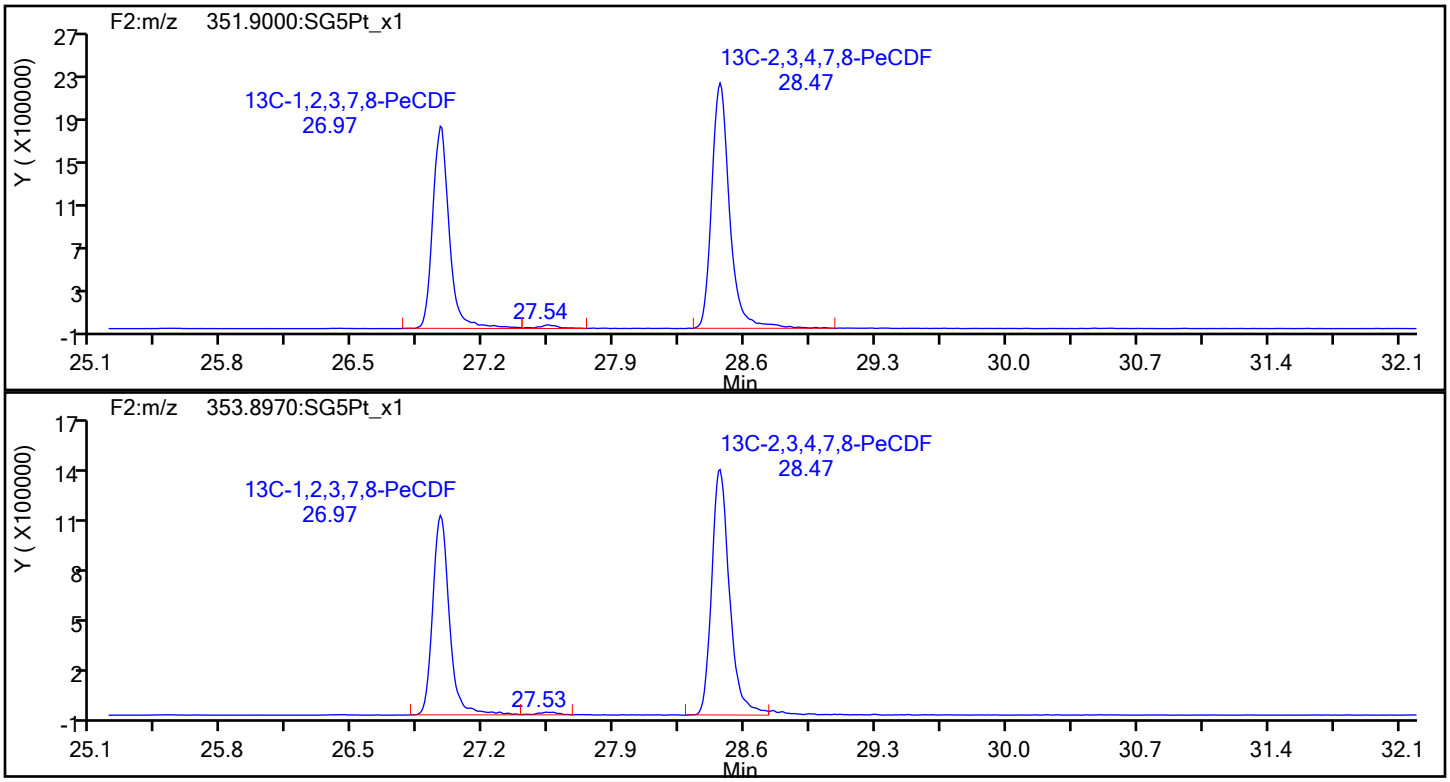
Report Date: 28-Dec-2021 14:24:32 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

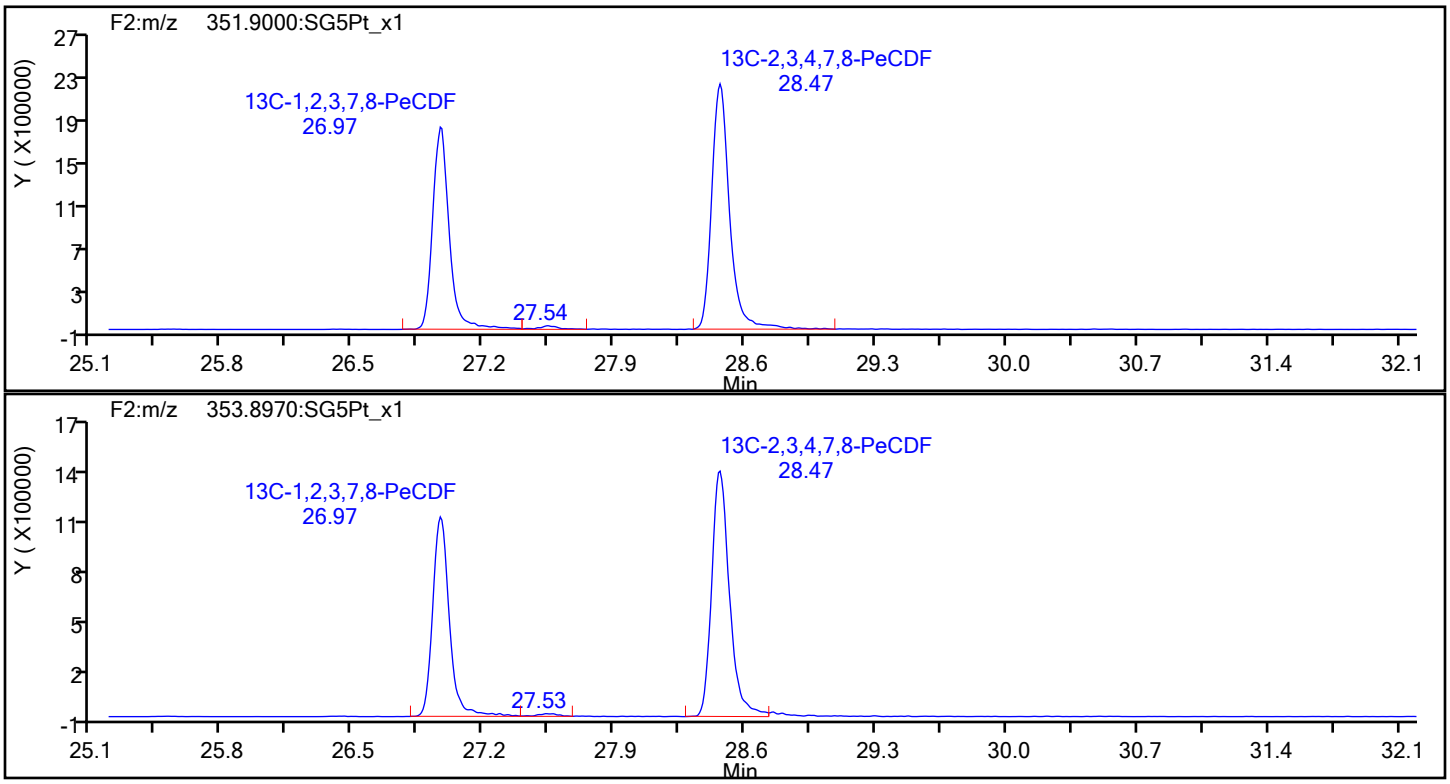
Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d

Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

13C-PeCDF



13C-PeCDF Standards



Report Date: 28-Dec-2021 14:24:32 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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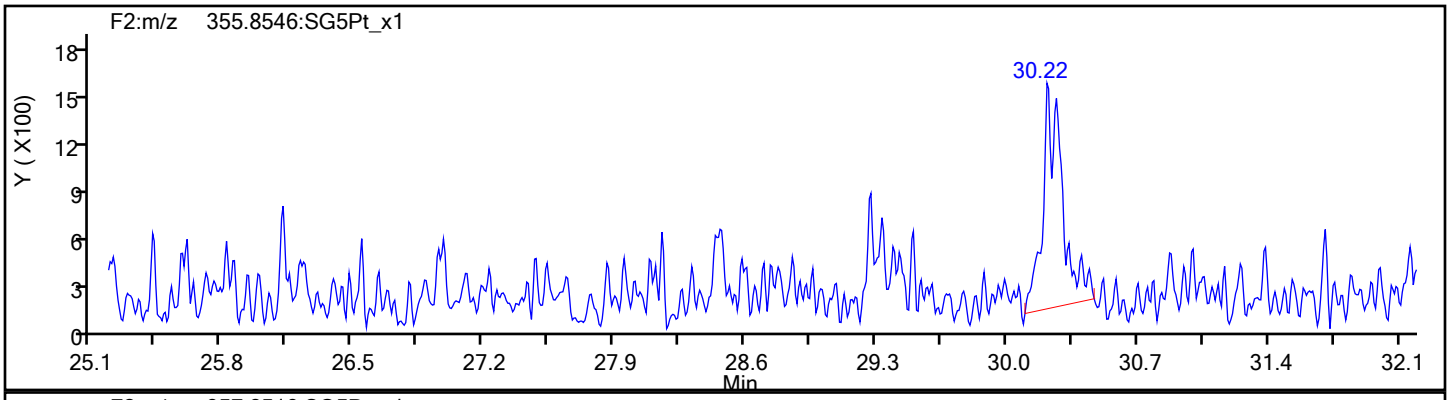

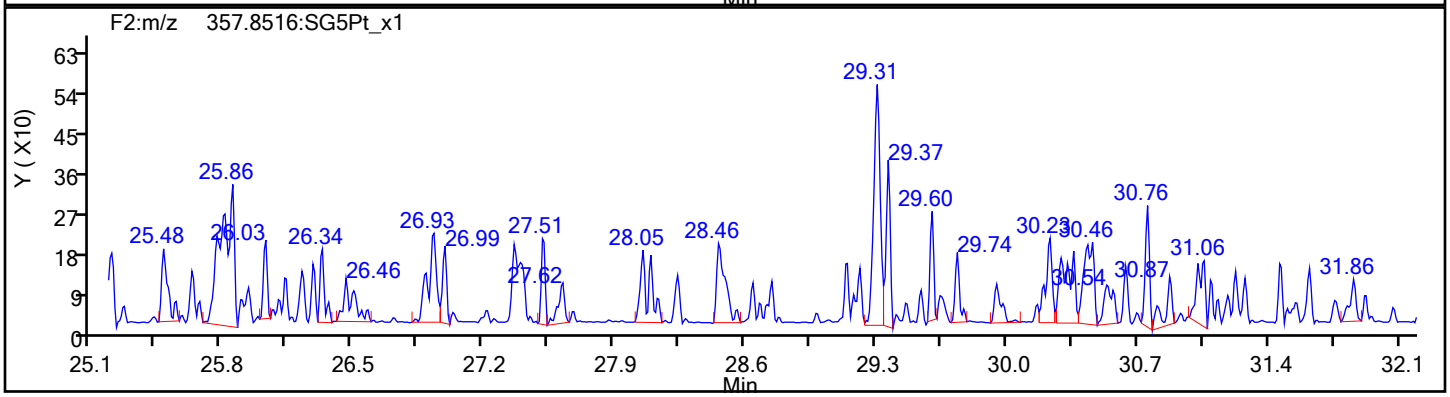

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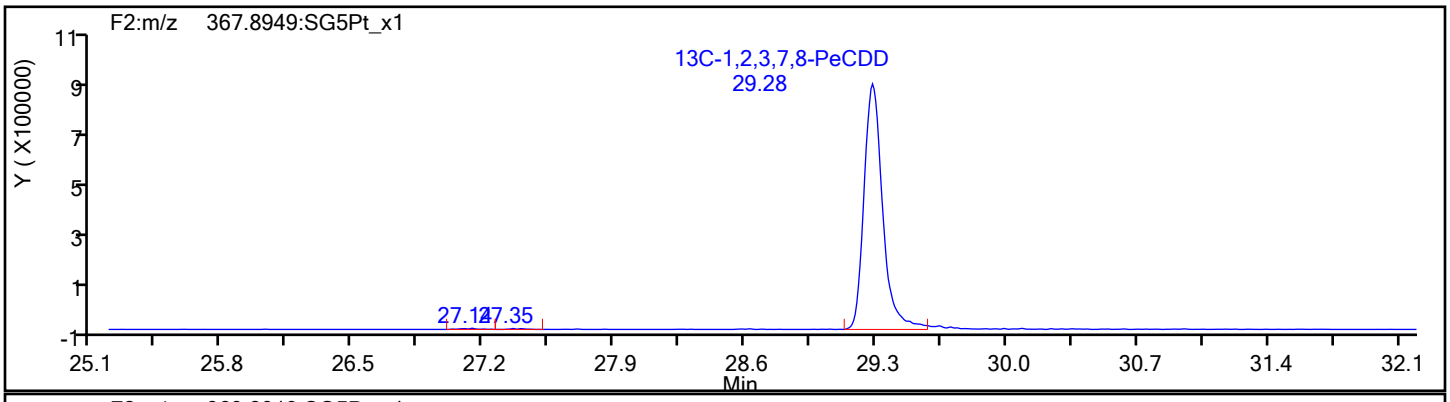

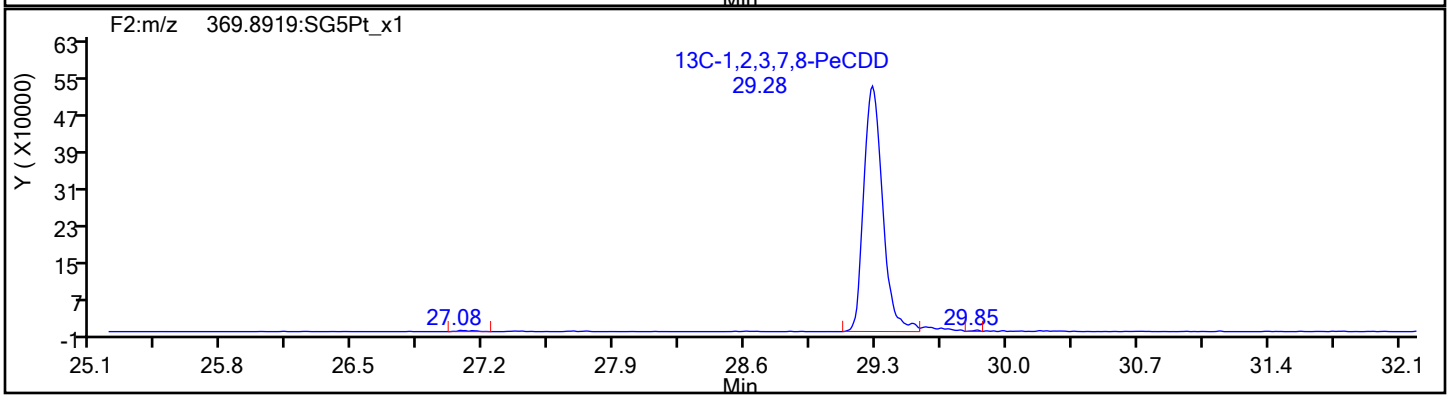

Eurofins TestAmerica, Sacramento

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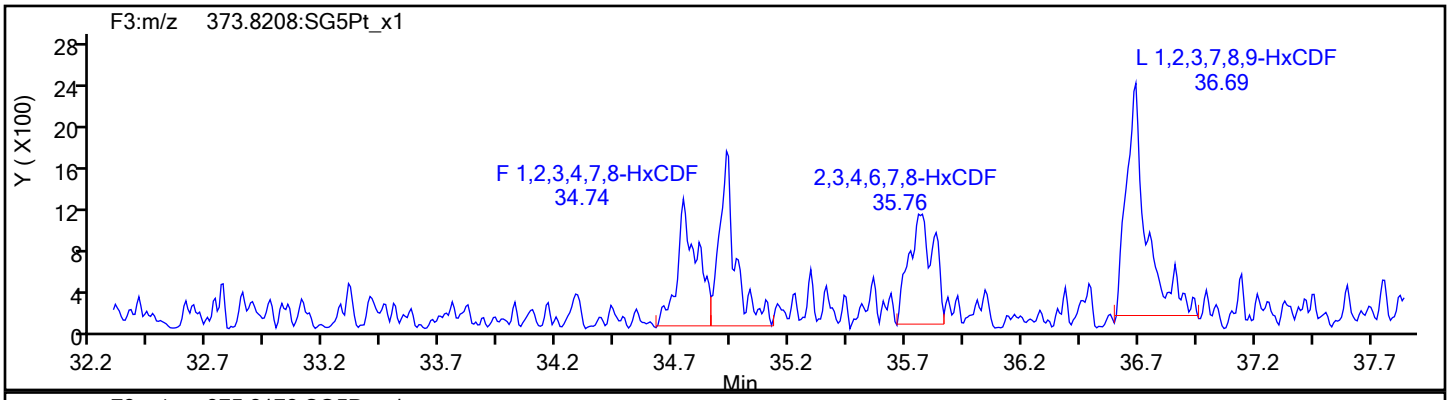
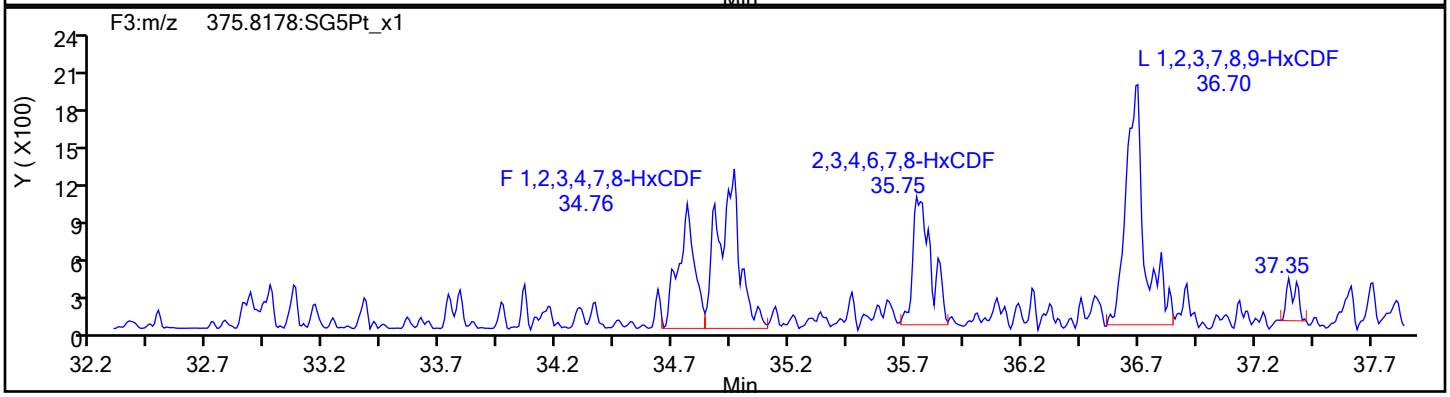
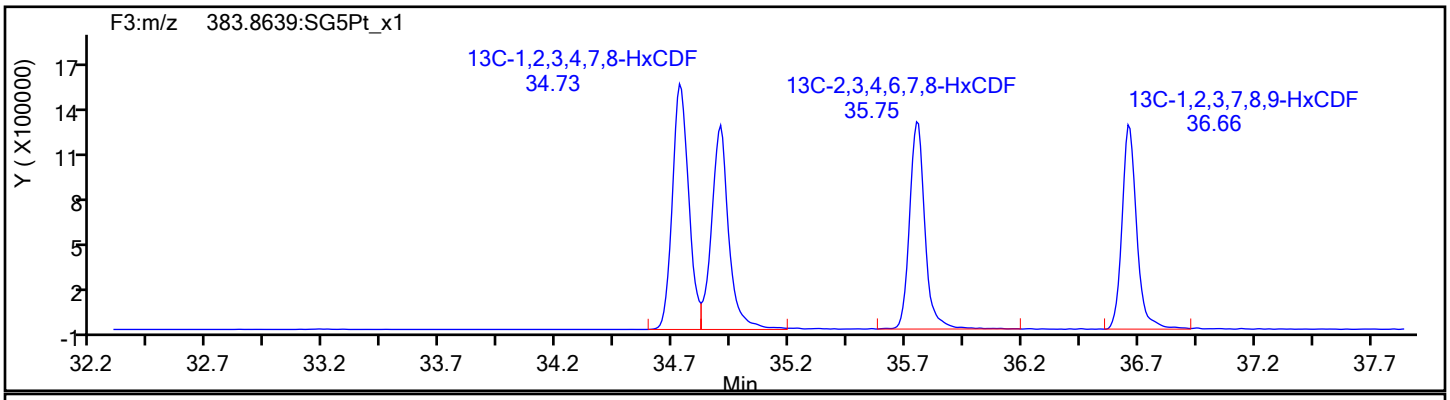
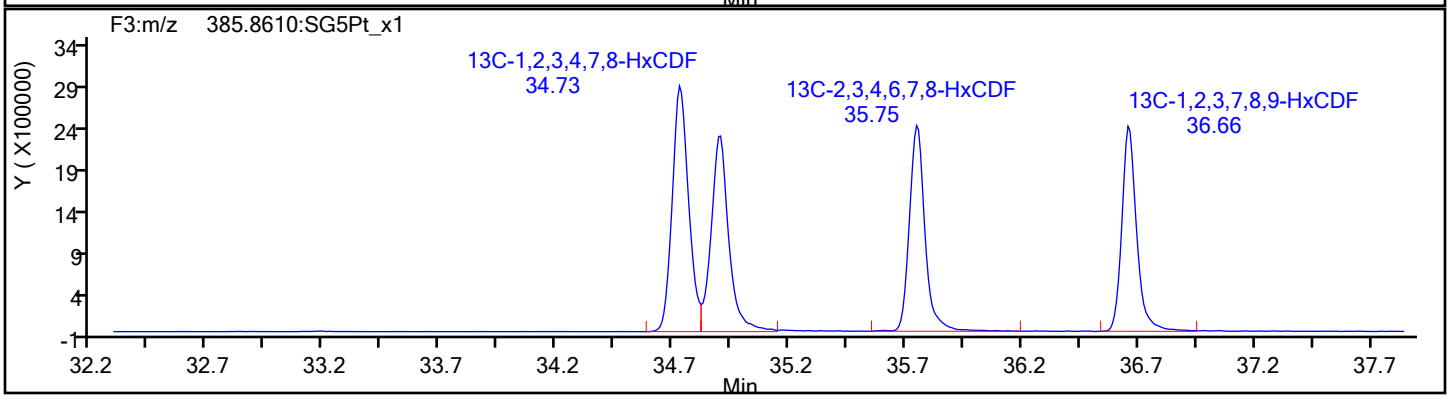
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

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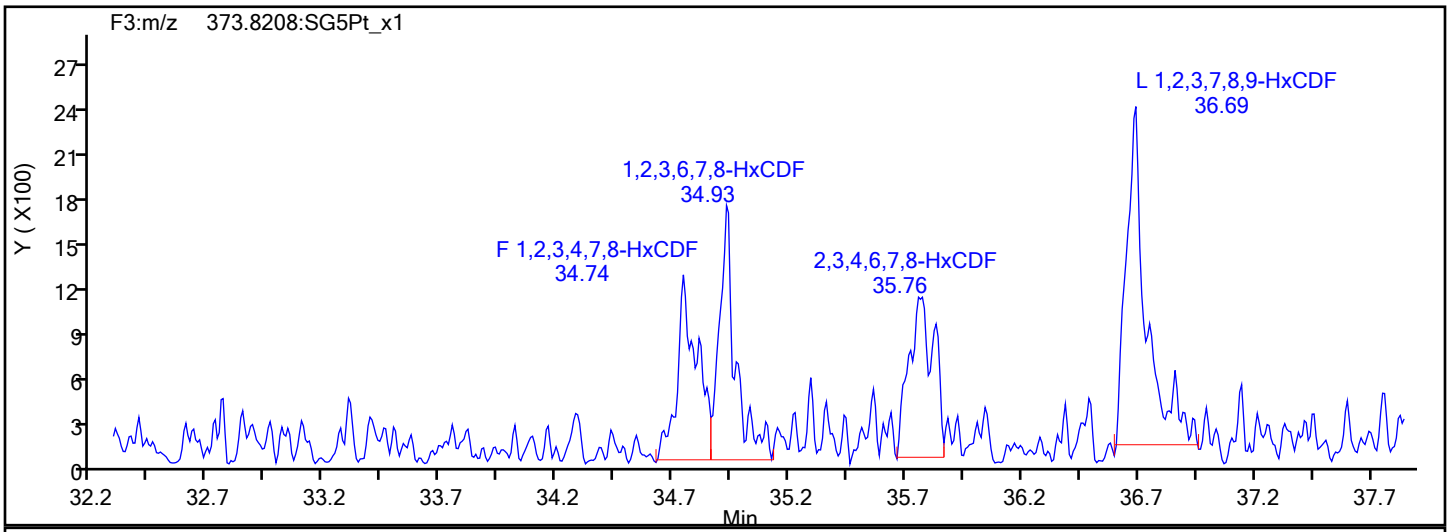
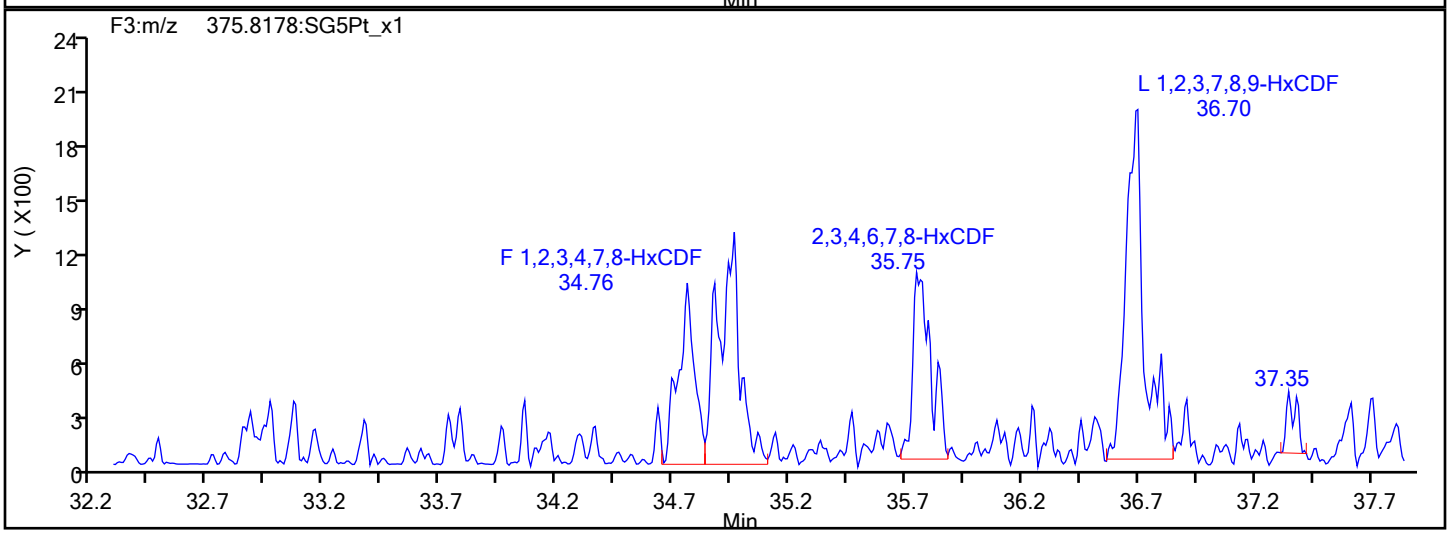
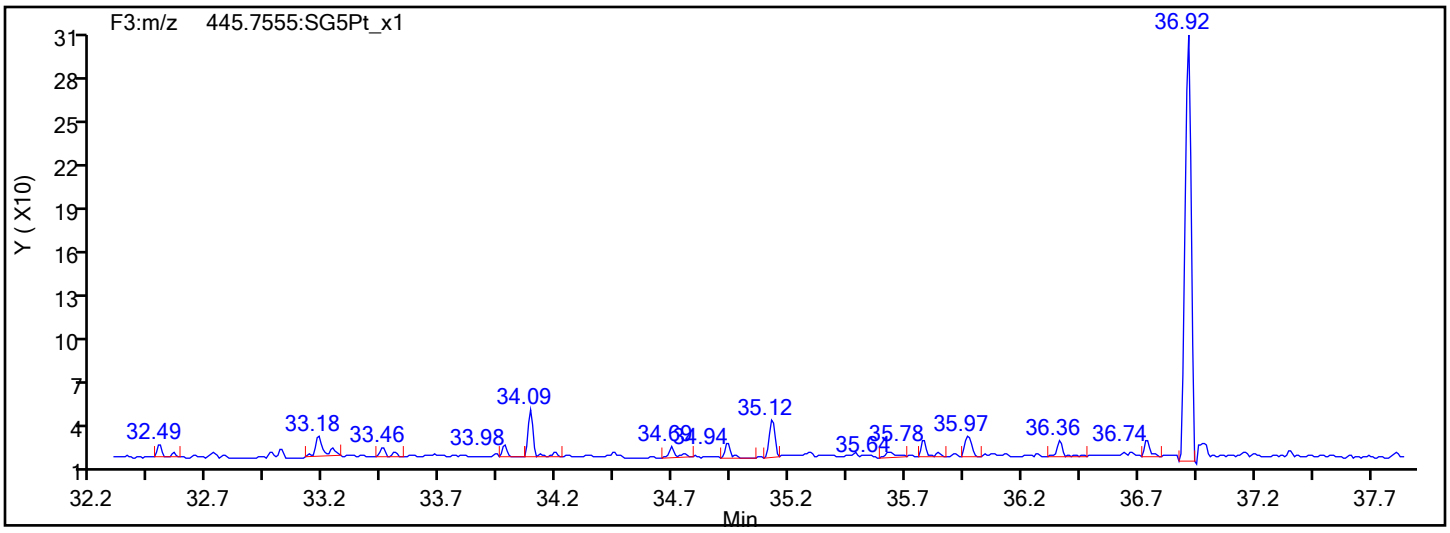
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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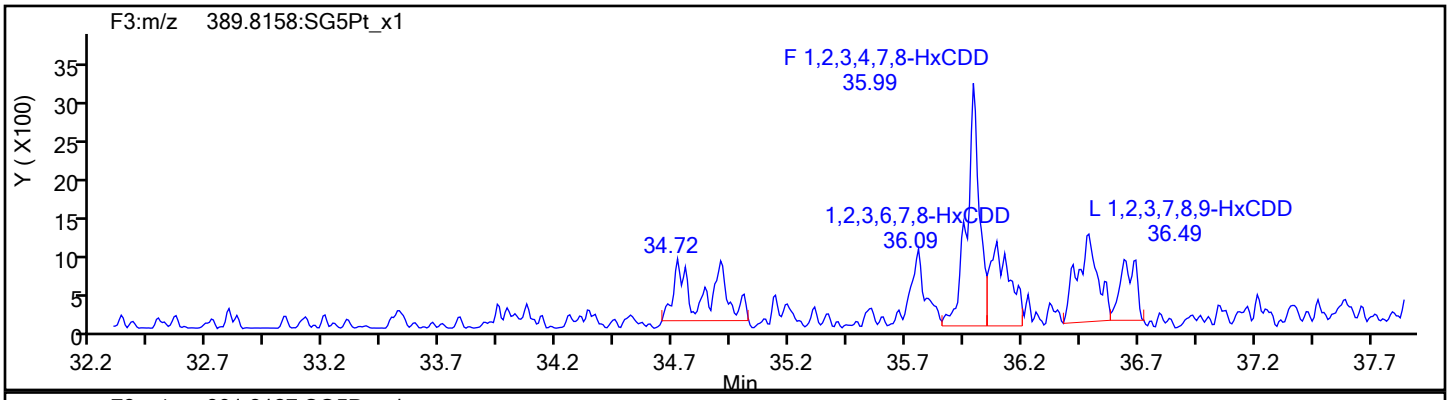
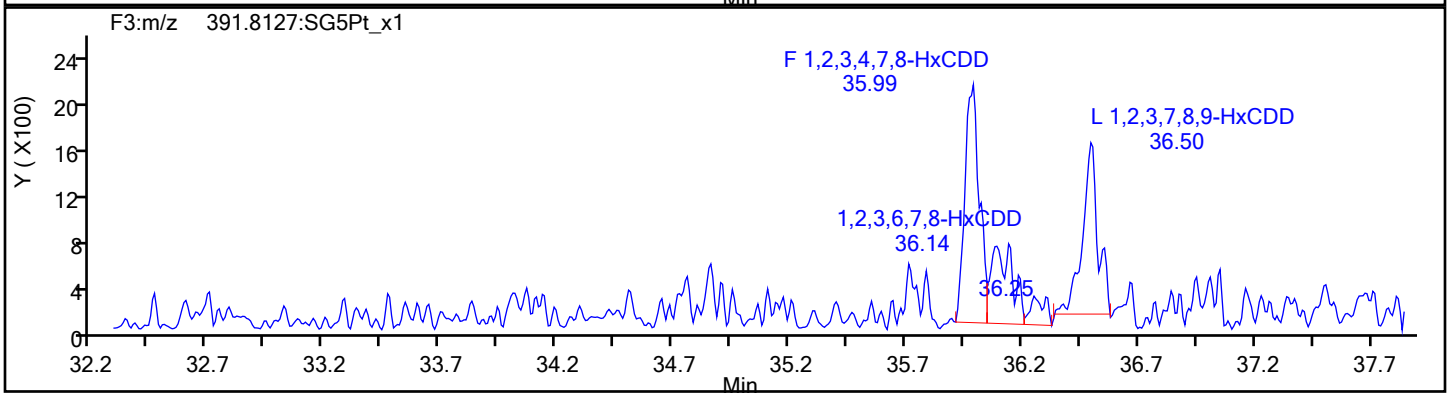
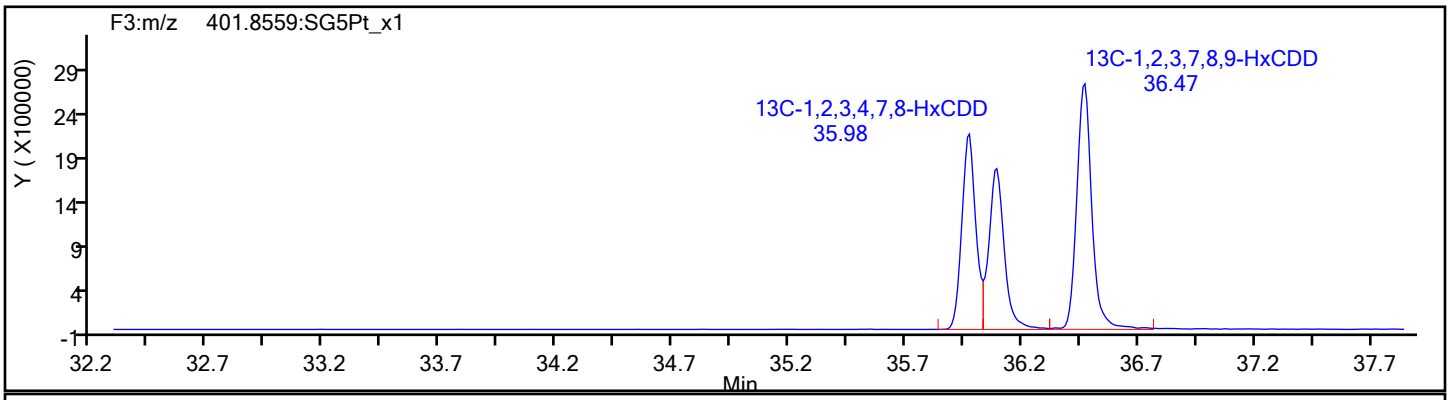
Column Type:	DB-5	Column Dia:	0.32 mm

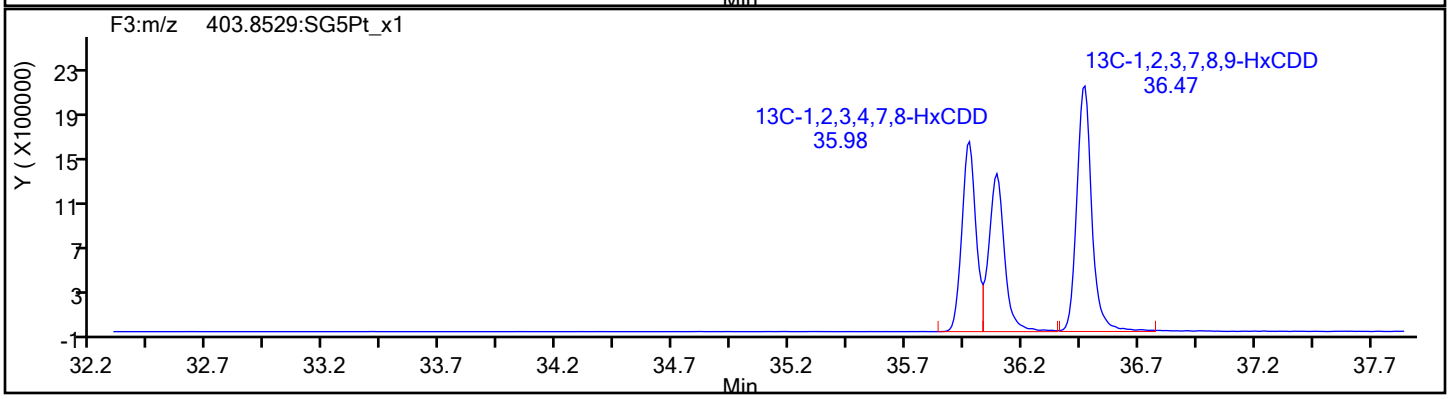
HxCDD





HxCDD Standards





Eurofins TestAmerica, Sacramento

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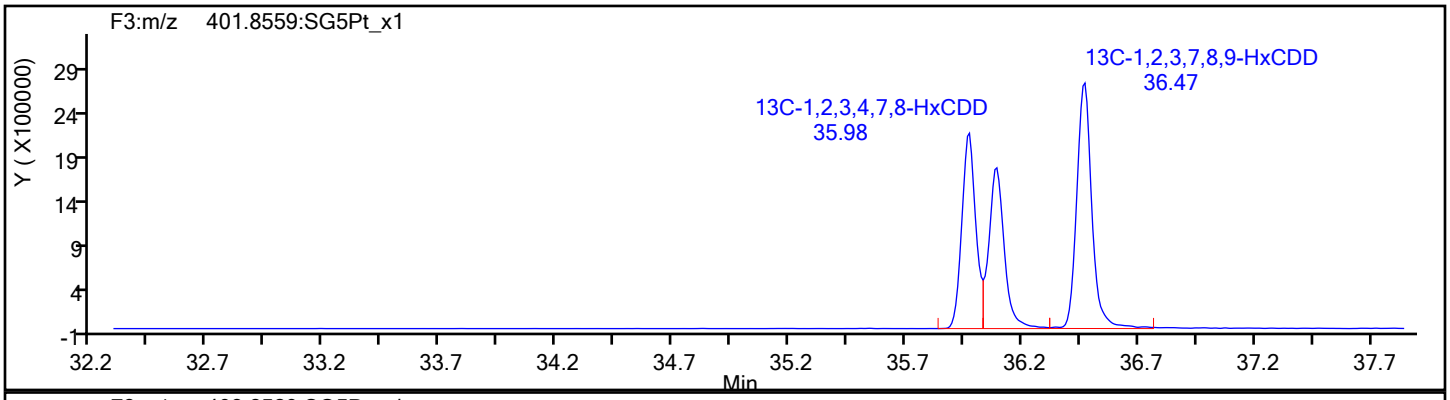
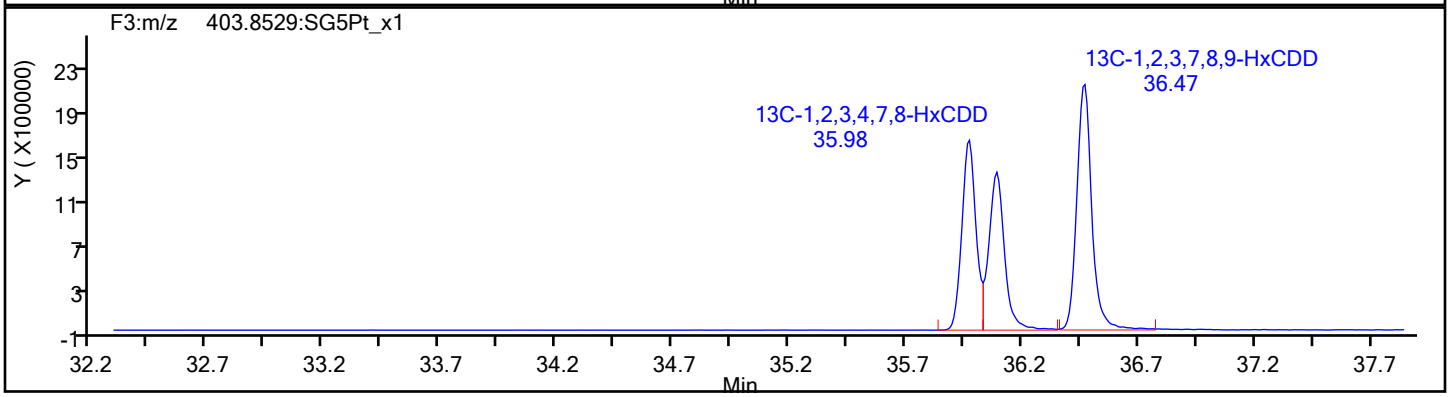
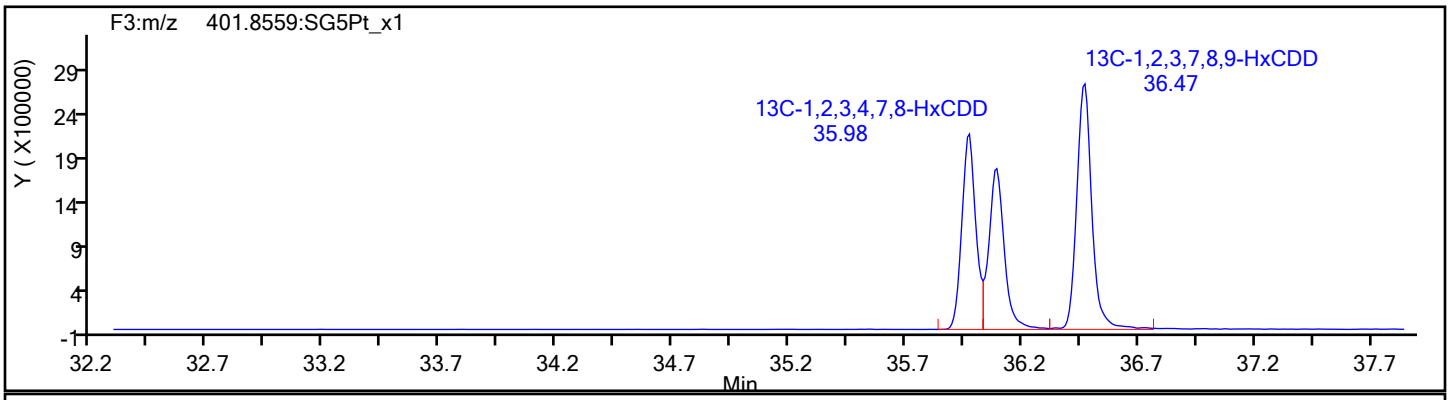
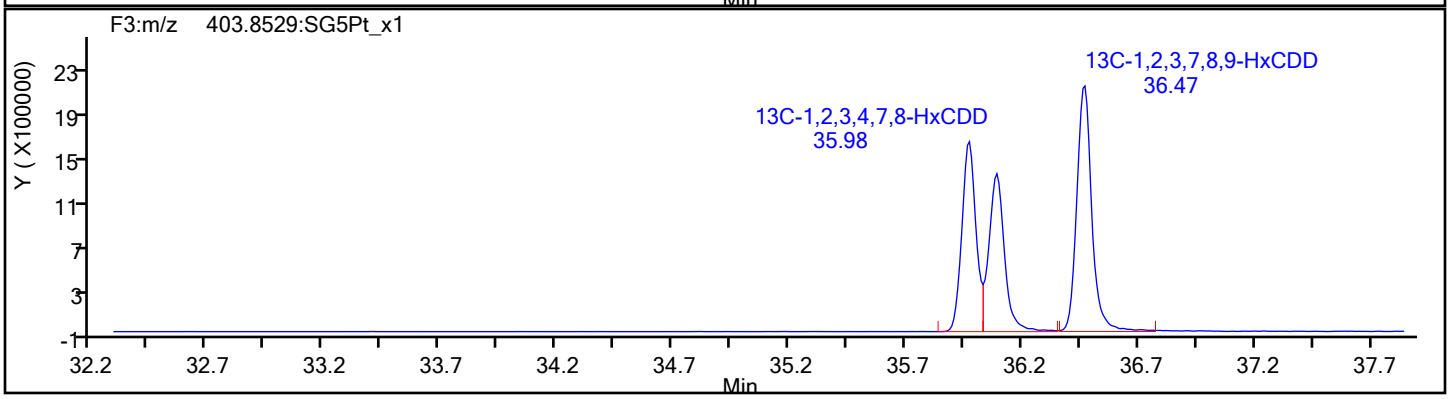
13C-HxCDD





13C-HxCDD Standards





Report Date: 28-Dec-2021 14:24:32 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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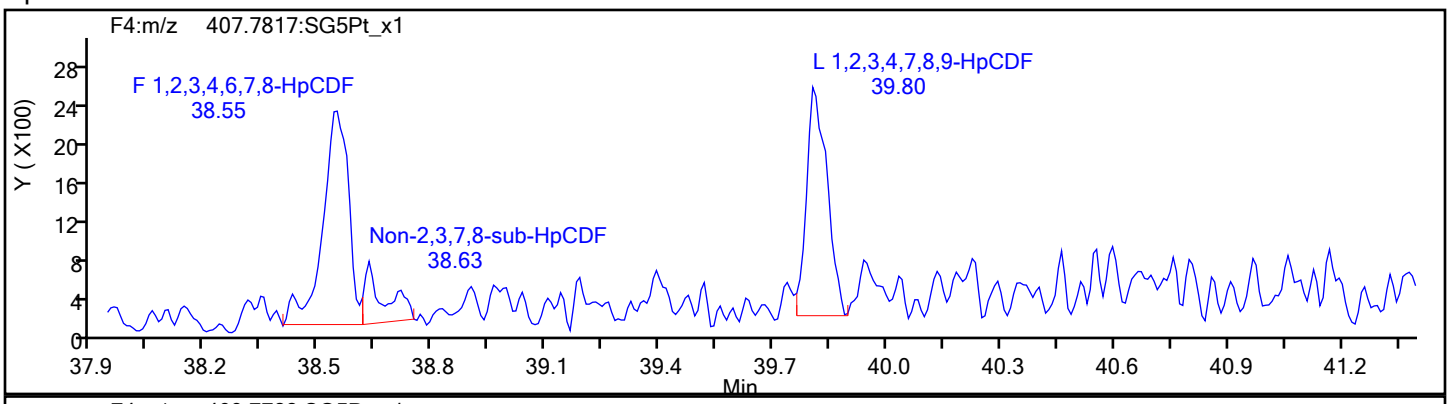
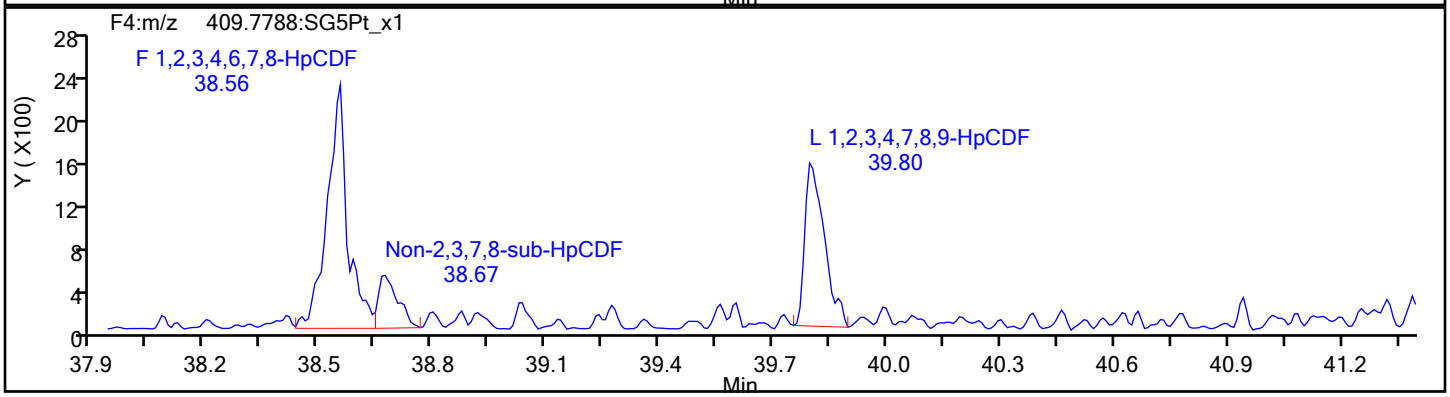
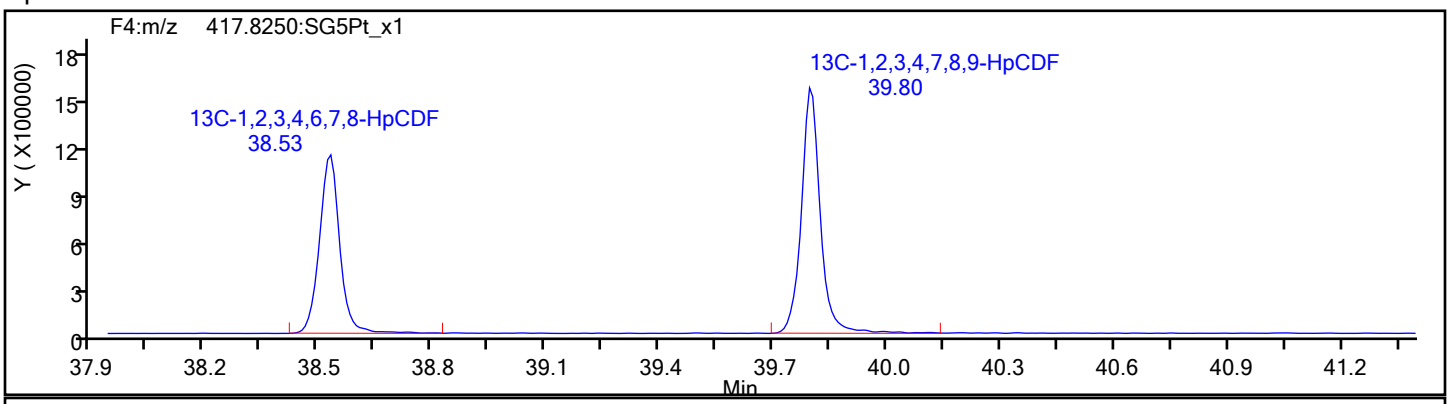
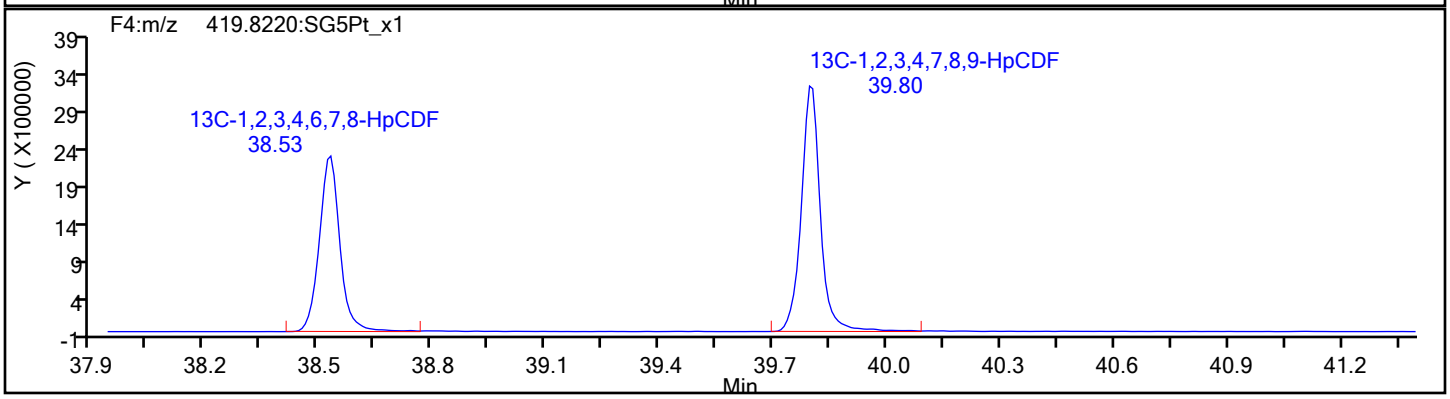
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

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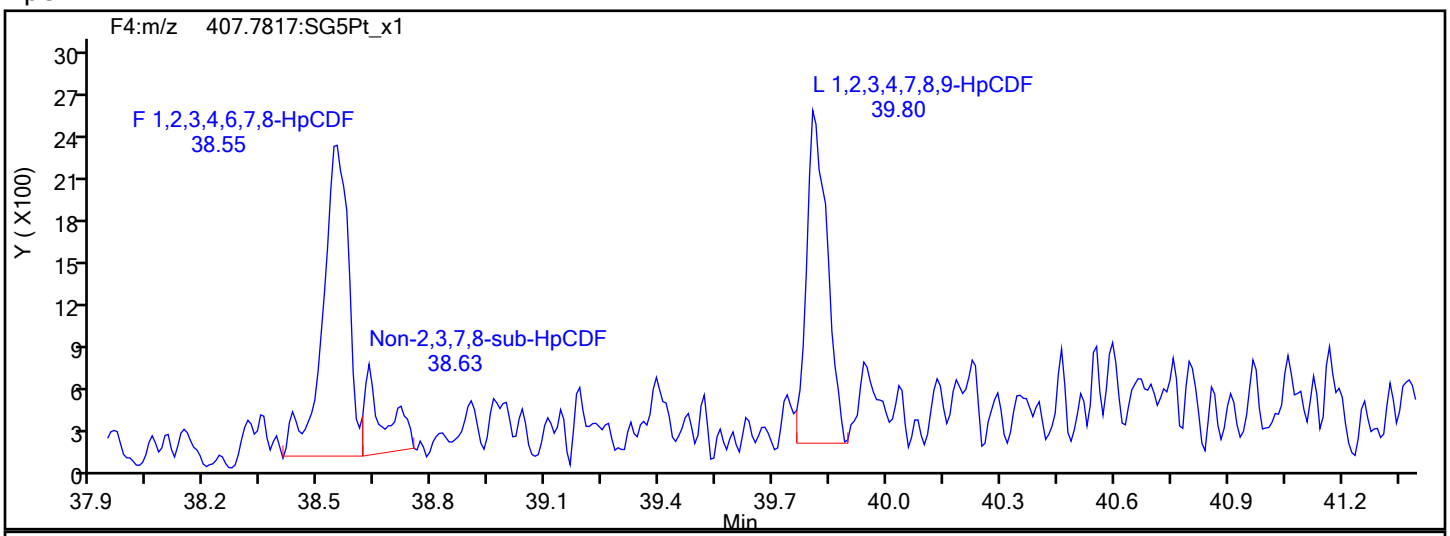
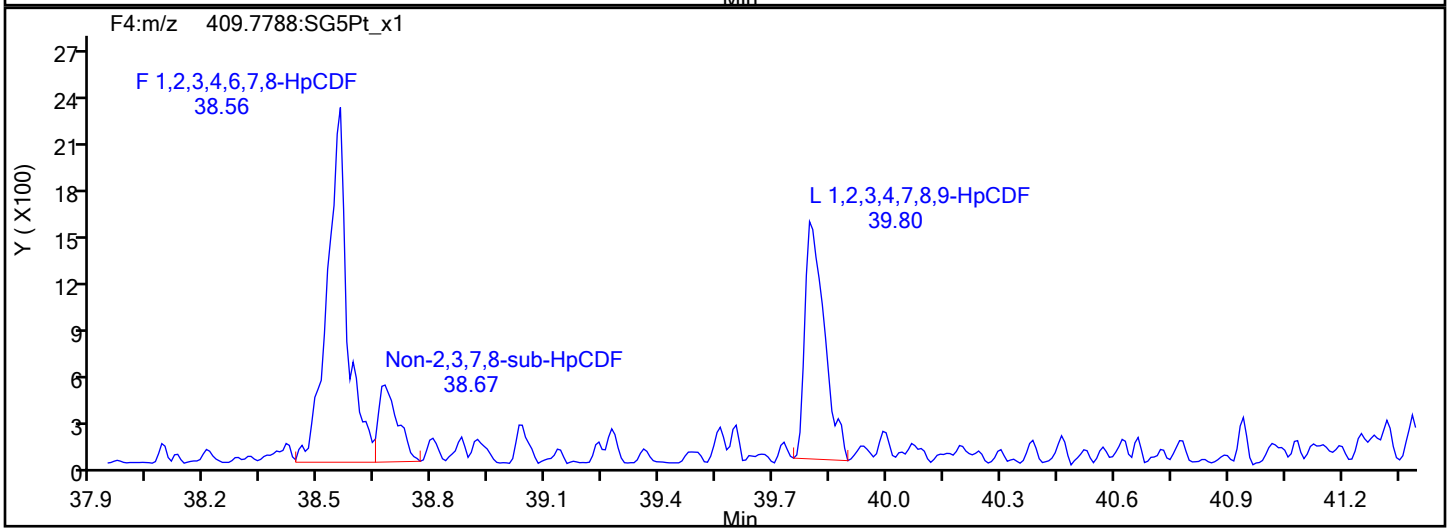
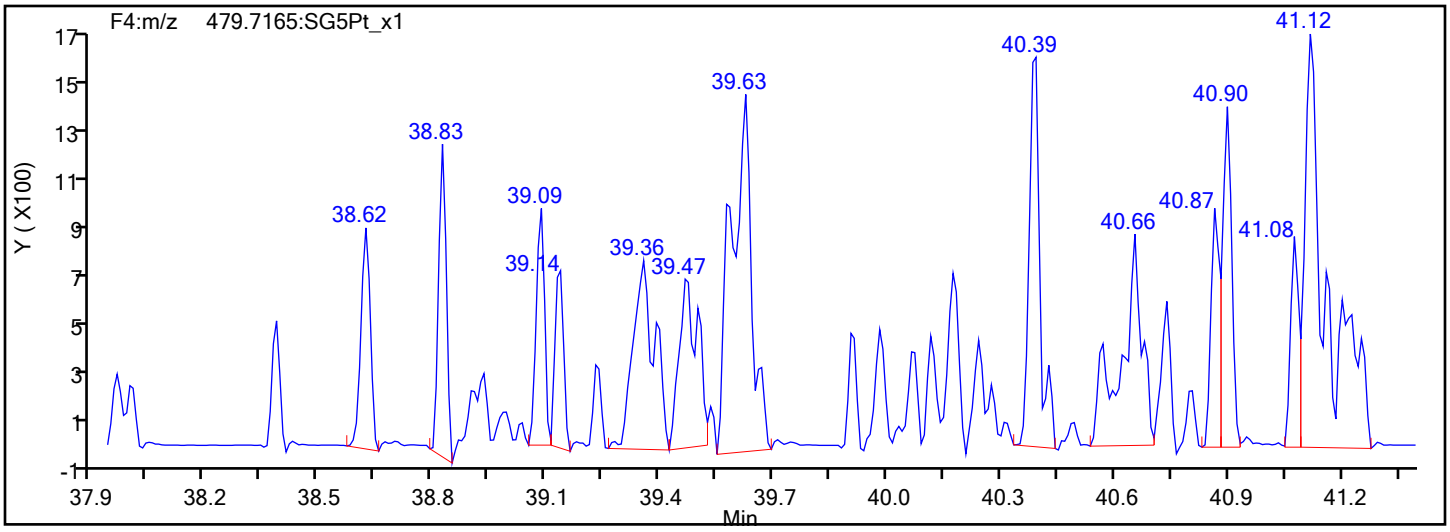




HpCDF Interference Mass



Report Date: 28-Dec-2021 14:24:32 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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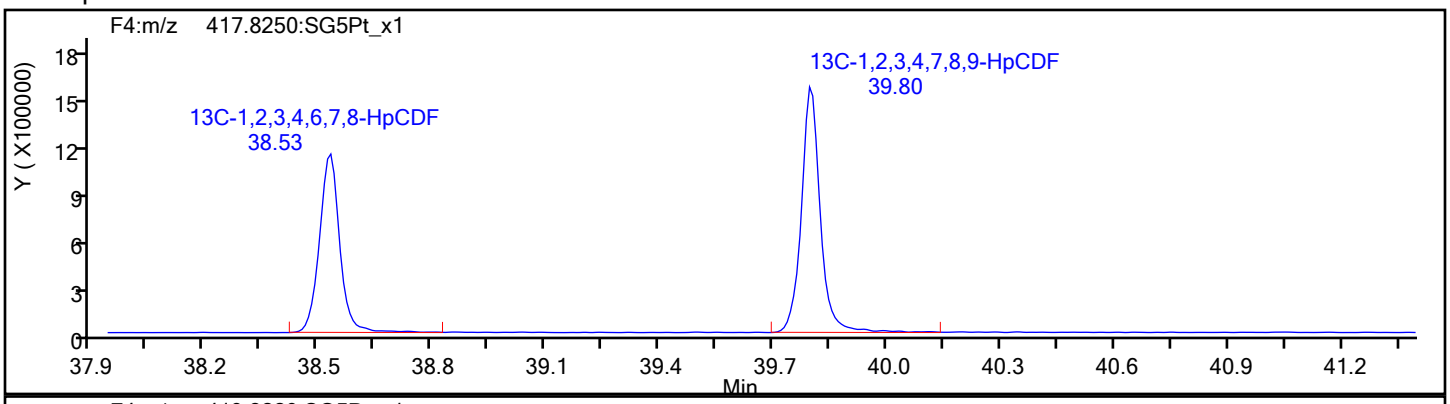
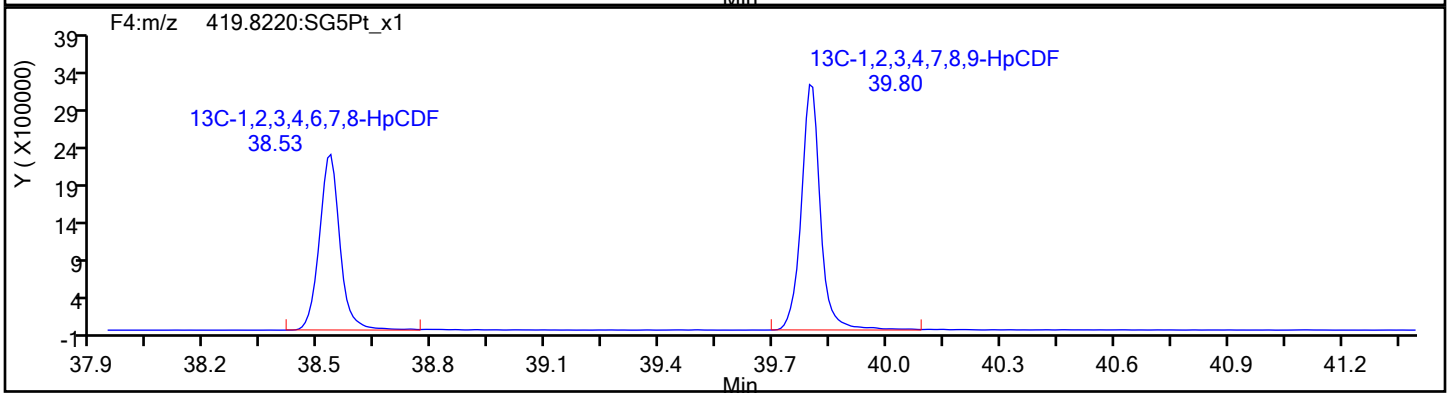
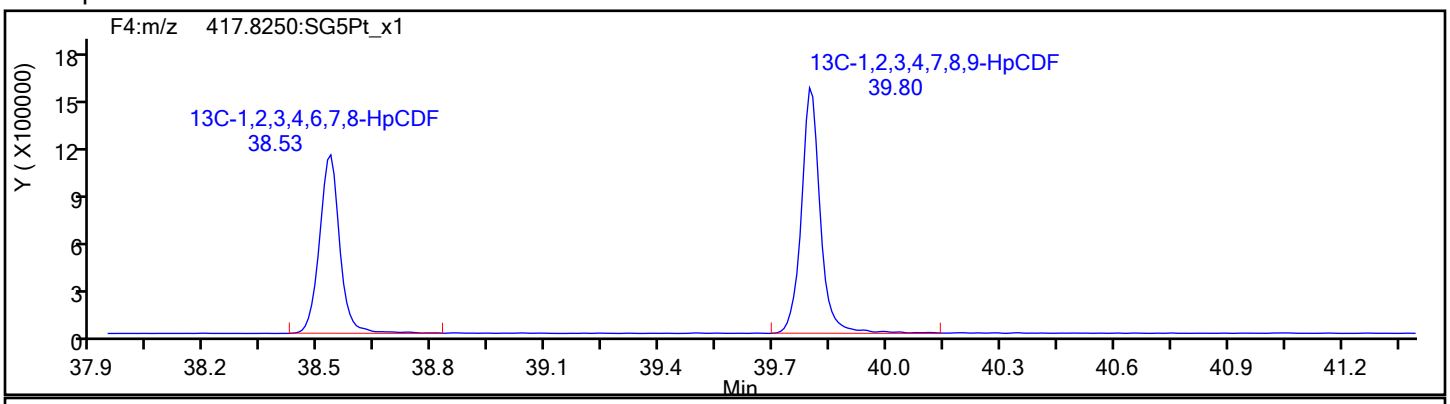
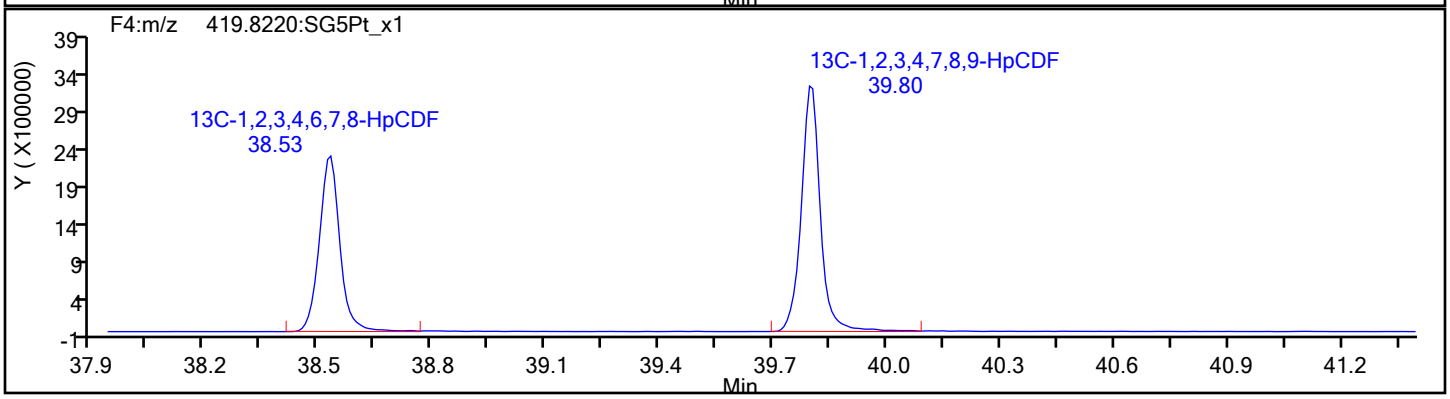
13C-HpCDF





13C-HpCDF Standards





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Eurofins TestAmerica, Sacramento

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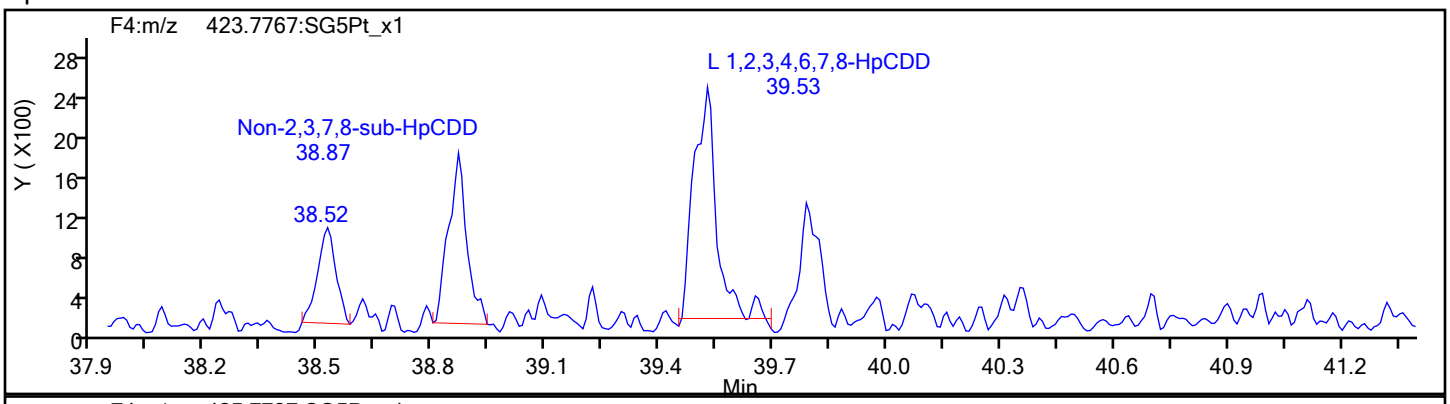
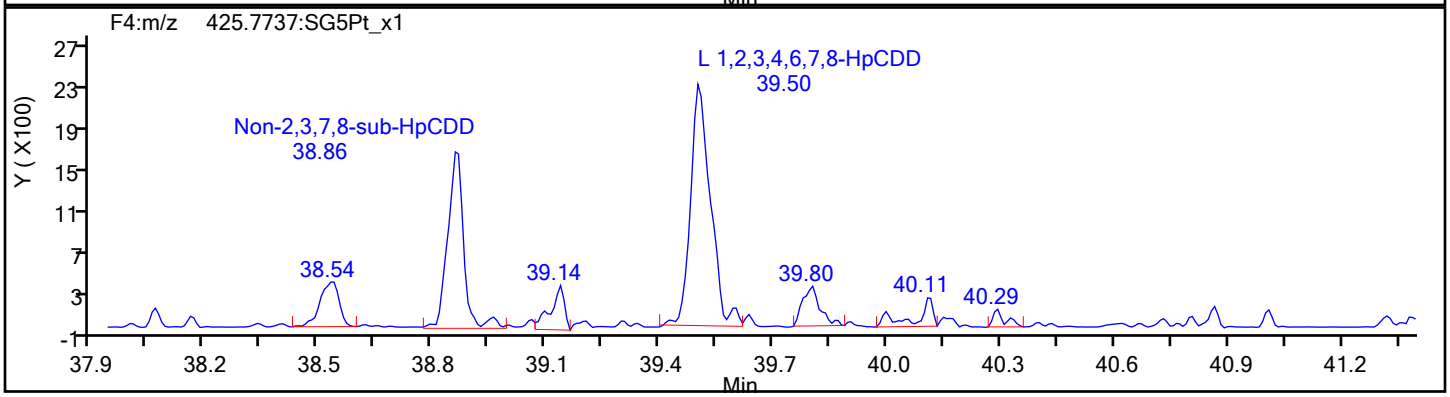
HpCDD





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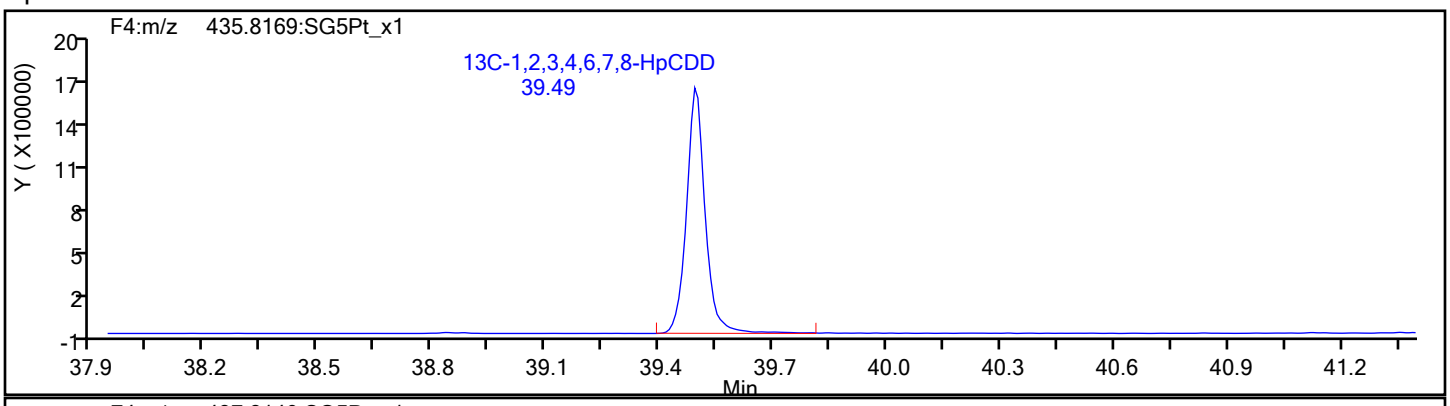

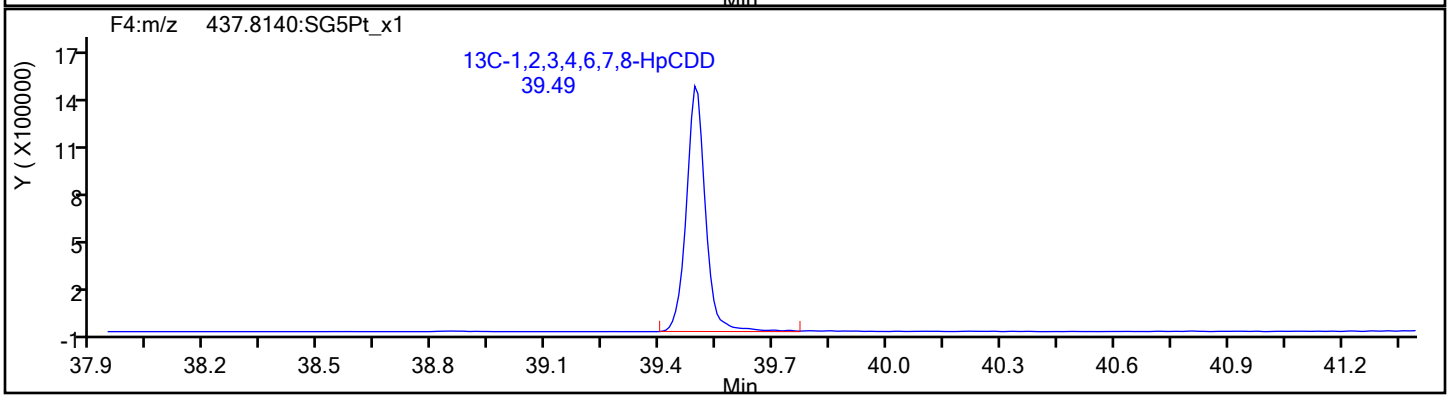

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Eurofins TestAmerica, Sacramento

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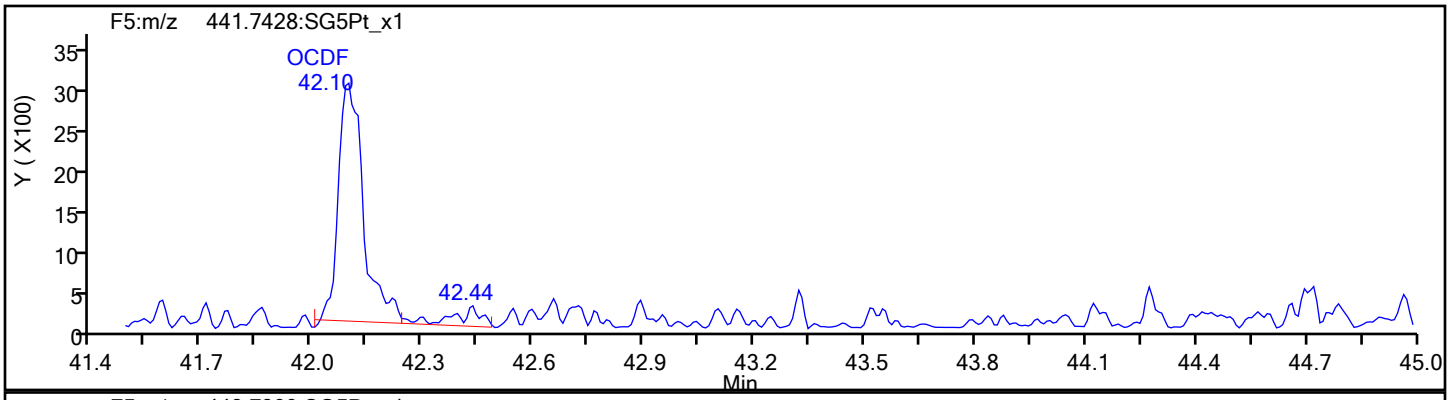
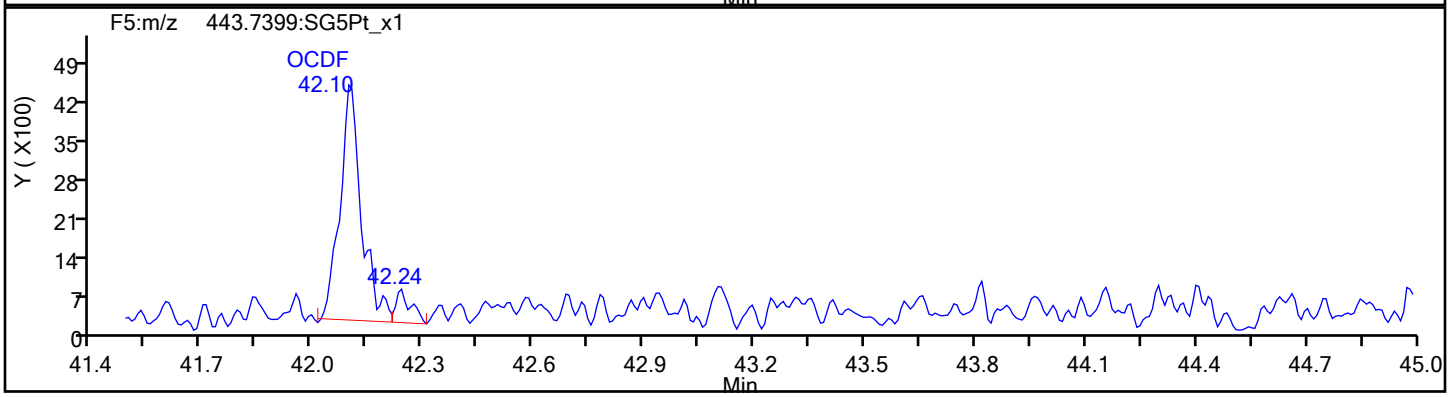
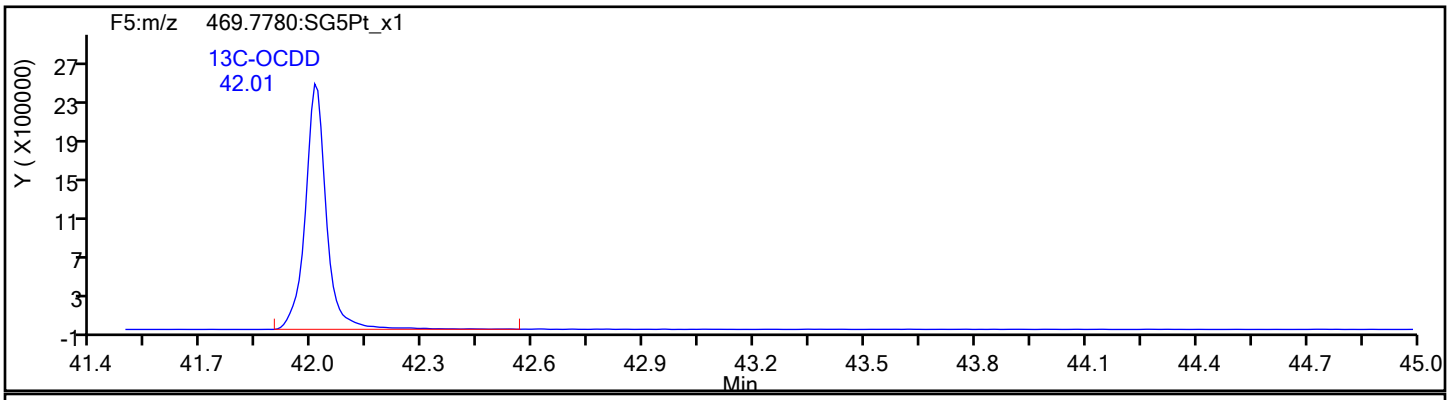
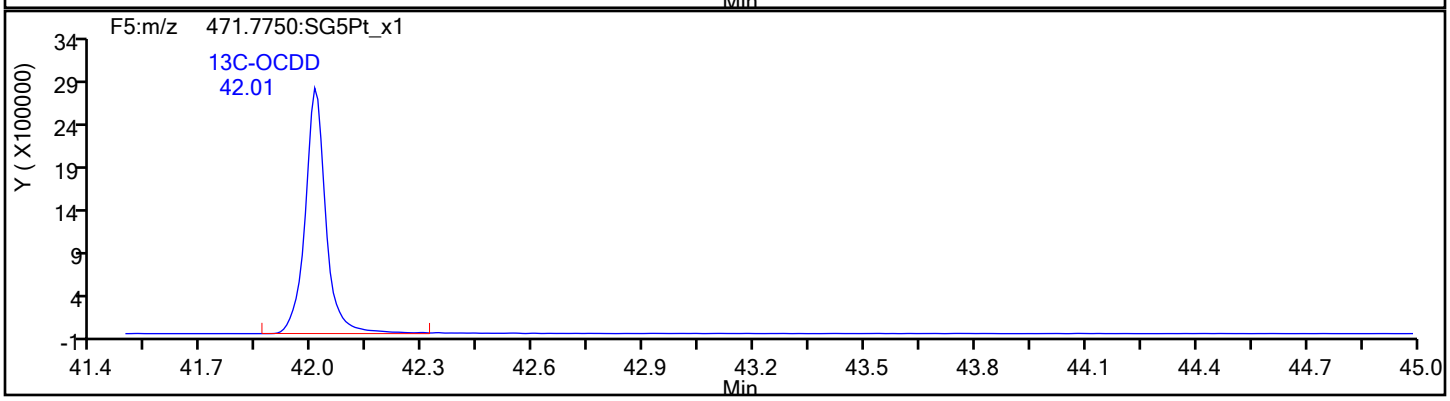
OCDF





OCDF Standards





Eurofins TestAmerica, Sacramento

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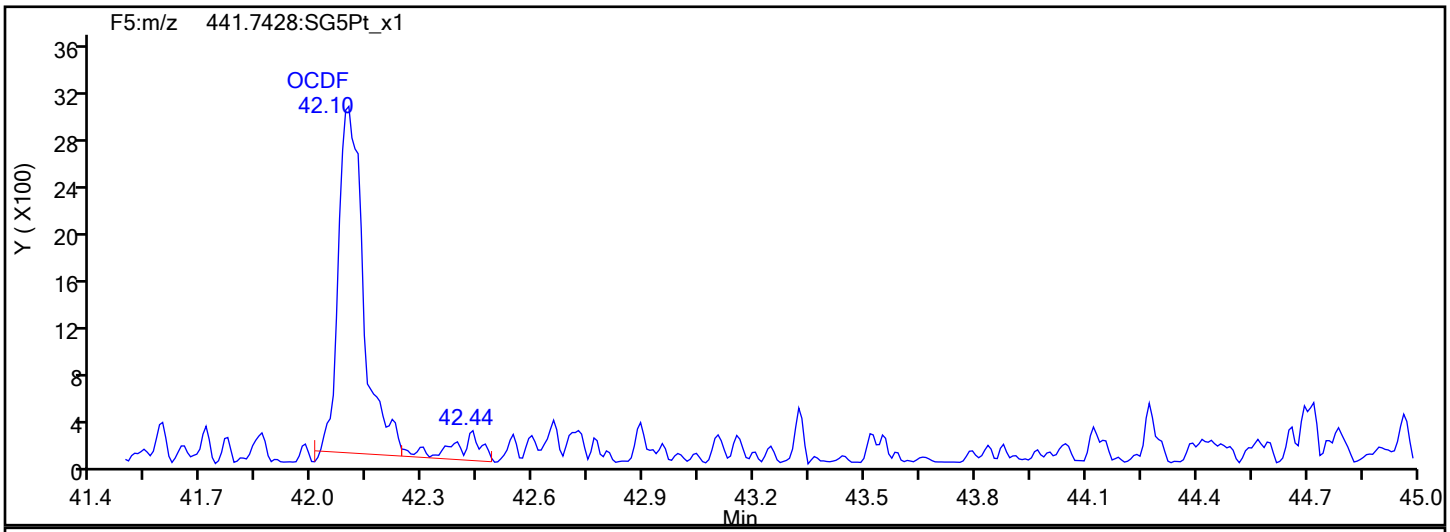
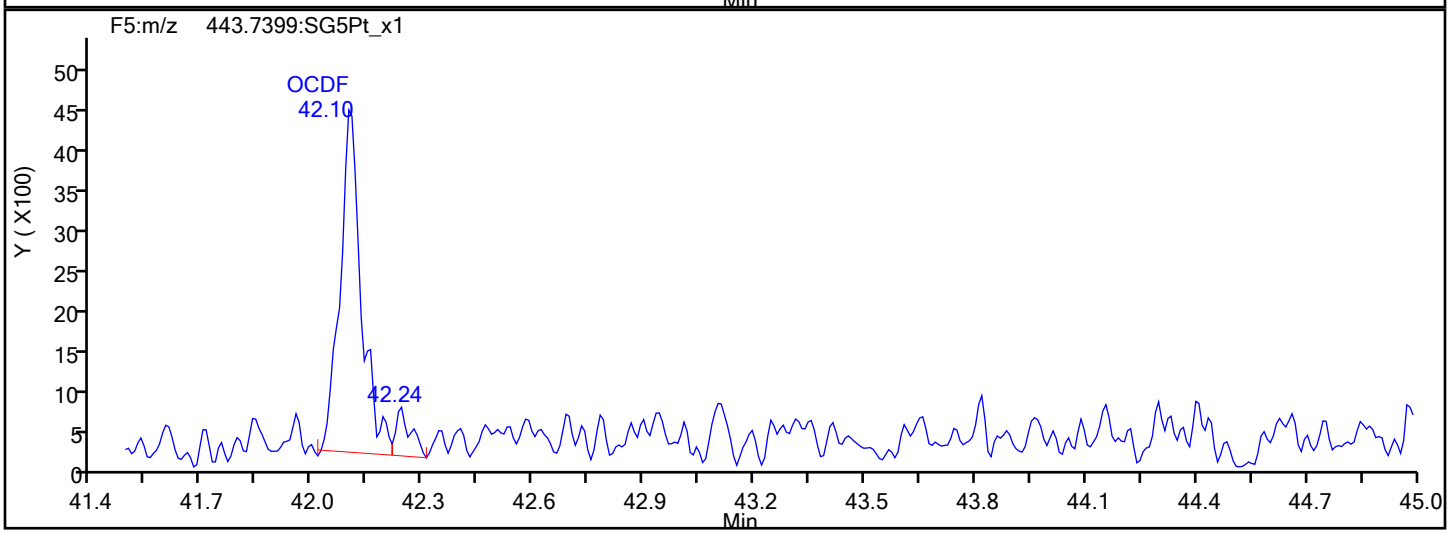
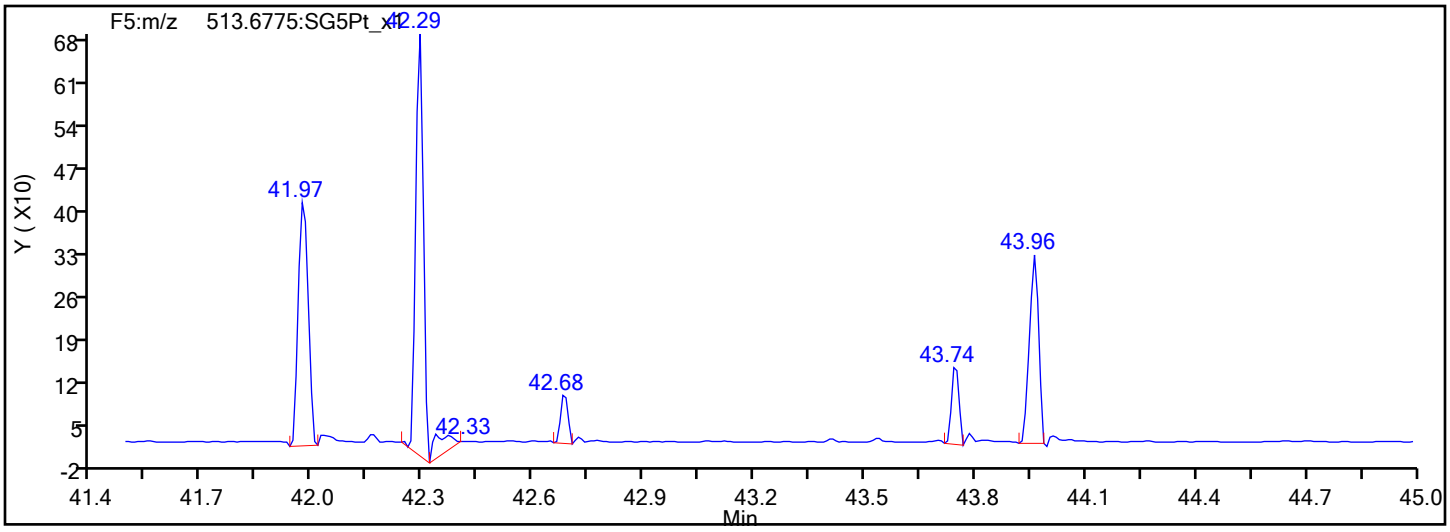
OCDF





OCDF Interference Mass

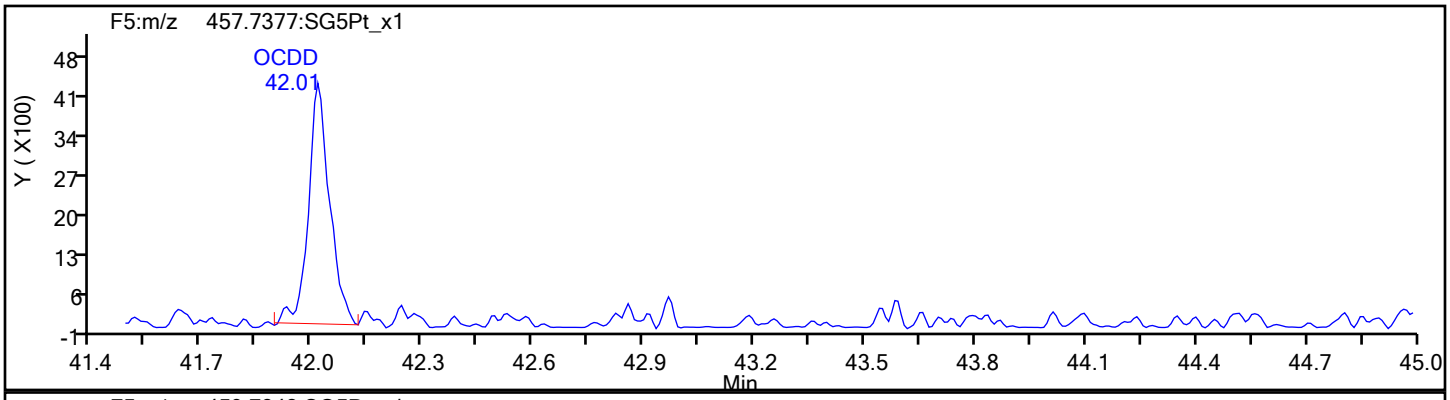


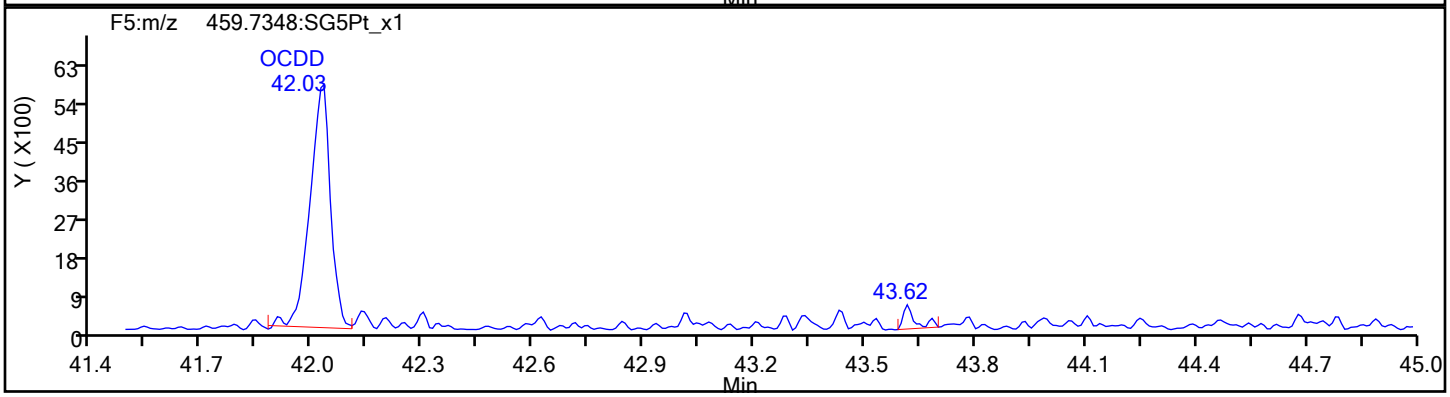
Report Date: 28-Dec-2021 14:24:32 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

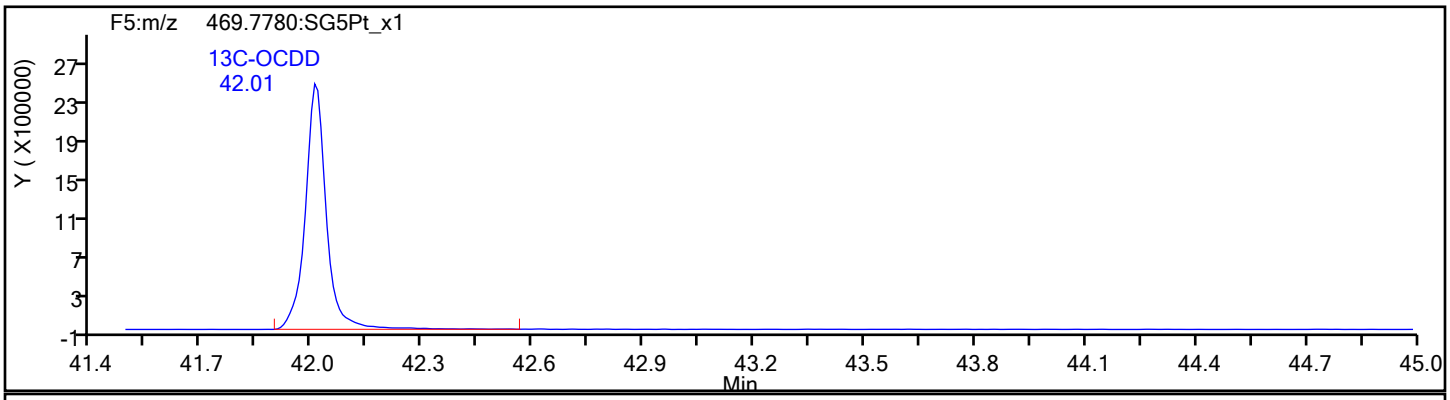
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

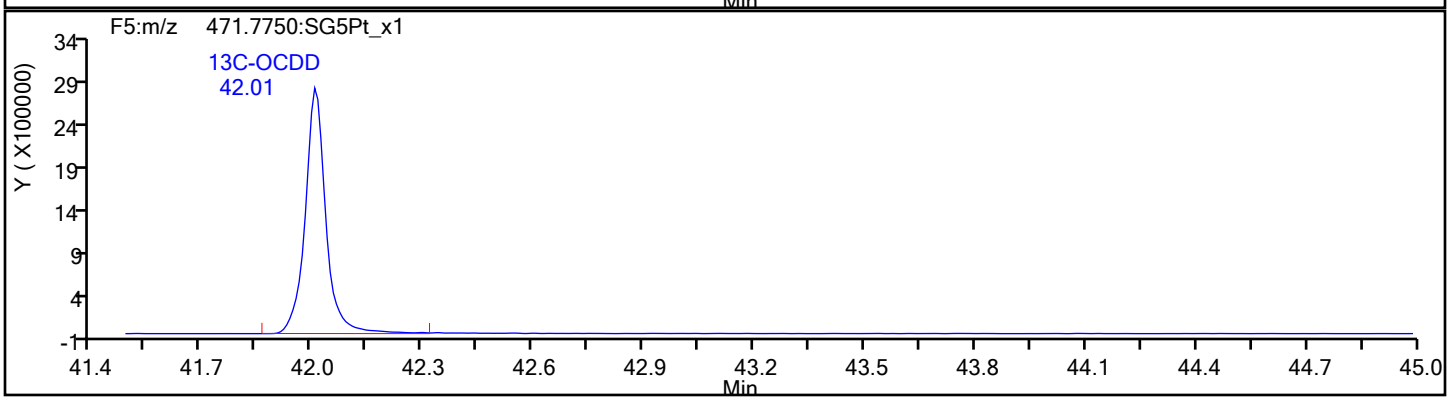
OCDD





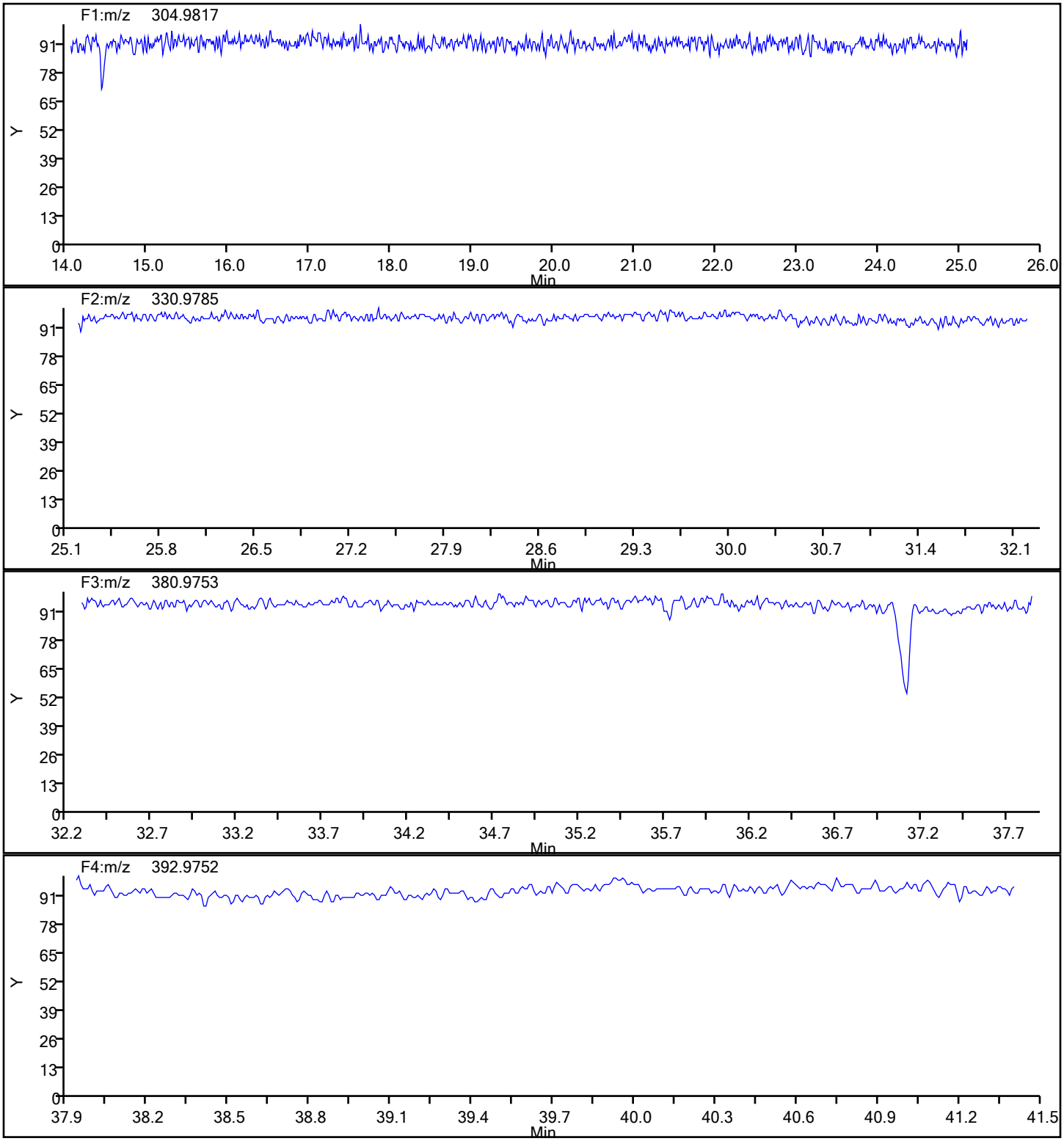
OCDD Standards





Eurofins TestAmerica, Sacramento

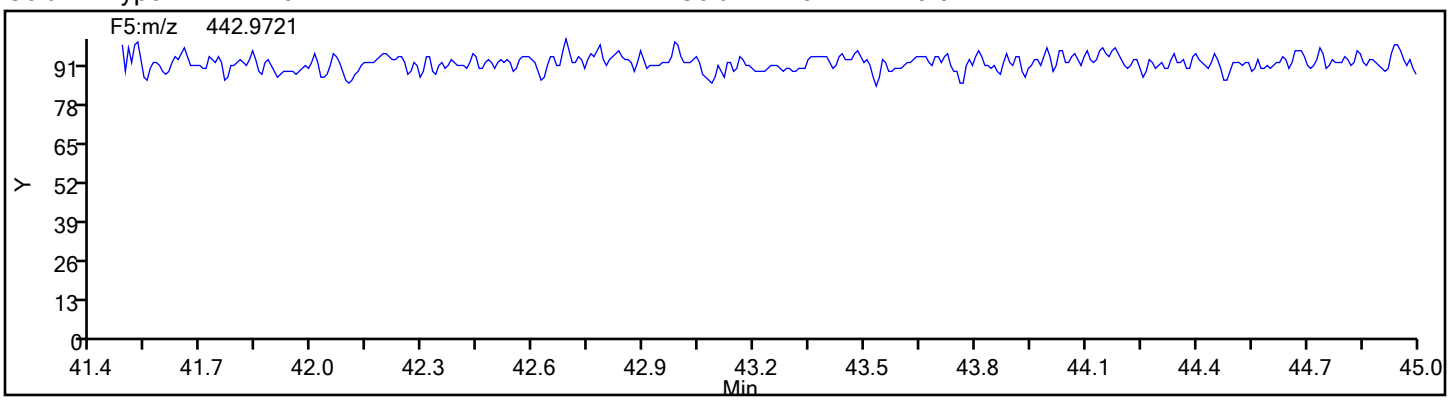
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 28-Dec-2021 14:24:32 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_14.d		
Injection Date:	27-Dec-2021 20:58:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-552716/2-A

Matrix: Water Lab File ID: 27de21adfs1_15.d

Analysis Method: 8290 Date Collected:

Extract. Method: 8290 Date Extracted: 12/21/2021 08:52

Sample wt/vol: 1000(mL) Date Analyzed: 12/27/2021 21:46

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 554312 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	191.6		10	1.3
51207-31-9	2,3,7,8-TCDF	180.1		10	0.65
40321-76-4	1,2,3,7,8-PeCDD	995.2		50	1.5
57117-41-6	1,2,3,7,8-PeCDF	939.0		50	3.5
57117-31-4	2,3,4,7,8-PeCDF	925.8		50	3.6
39227-28-6	1,2,3,4,7,8-HxCDD	875.3		50	2.4
57653-85-7	1,2,3,6,7,8-HxCDD	938.6		50	2.4
19408-74-3	1,2,3,7,8,9-HxCDD	921.7		50	2.2
70648-26-9	1,2,3,4,7,8-HxCDF	814.5		50	5.0
57117-44-9	1,2,3,6,7,8-HxCDF	1005		50	5.0
60851-34-5	2,3,4,6,7,8-HxCDF	1052		50	5.3
72918-21-9	1,2,3,7,8,9-HxCDF	990.6		50	5.6
35822-46-9	1,2,3,4,6,7,8-HpCDD	941.4		50	2.4
67562-39-4	1,2,3,4,6,7,8-HpCDF	885.0		50	3.9
55673-89-7	1,2,3,4,7,8,9-HpCDF	928.9		50	4.4
3268-87-9	OCDD	1675		100	2.8
39001-02-0	OCDF	1654		100	2.6

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	85		40-135
89059-46-1	13C-2,3,7,8-TCDF	92		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	79		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	86		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	90		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	88		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	88		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	90		40-135
114423-97-1	13C-OCDD	106		40-135

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d
Lims ID: LCS 320-552716/2-A
Client ID:
Sample Type: LCS
Inject. Date: 27-Dec-2021 21:46:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-552716/2-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: bilottag Date: 28-Dec-2021 13:47:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.995	20024531	0.85	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	20.033	23717428	0.81	1.2917	91.7	91.7	0.3111	0.3111	91.70	
2,3,7,8-TCDF	20.050	2358835	0.78	1.1045	9.004	9.004	0.0325	0.0325	90.04	
A Non-2,3,7,8-sub-TCDF	19.632	56985	0.77	1.1045	0.2358	0.2175	0.0325	0.2175	0.00	RQ
S Total TCDF					9.240	9.222	0.0325	0.0325		RQ
D 13C-2,3,7,8-TCDD	21.356	14145185	0.82	0.8271	85.4	85.4	0.2223	0.2223	85.40	
2,3,7,8-TCDD	21.382	1519137	0.80	1.1211	9.580	9.580	0.0672	0.0672	95.80	
$ 37Cl4-2,3,7,8-TCDD	21.390	6108304		0.8866	34.4	34.4	0.0295	0.0295	86.02	
A Non-2,3,7,8-sub-TCDD	20.470						0.0672	0.0672		
S Total TCDD					9.580	9.580	0.0672	0.0672		
D 13C-1,2,3,7,8-PeCDF	26.957	20135299	1.59	1.1665	86.2	86.2	0.3970	0.3970	86.20	
1,2,3,7,8-PeCDF	26.982	10386620	1.57	1.0987	46.9	46.9	0.1752	0.1752	93.90	
$ 13C-2,3,4,7,8-PeCDF	28.448	25867616	1.58							
2,3,4,7,8-PeCDF	28.473	9859664	1.57	1.0579	46.3	46.3	0.1819	0.1819	92.58	
A F1 PeCDFs	24.442	697	1.55	1.0783	0.0164	0.003210	0.006799	0.006799	0.00	RQ
A Non-2,3,7,8-sub-PeCDF	27.884						0.1785	0.1785		
S Total PeCDF					93.3	93.2	0.1785	0.1785		RQ
D 13C-1,2,3,7,8-PeCDD	29.273	10868149	1.56	0.6835	79.4	79.4	0.1506	0.1506	79.40	
1,2,3,7,8-PeCDD	29.298	5964912	1.60	1.1030	49.8	49.8	0.0771	0.0771	99.52	
A Non-2,3,7,8-sub-PeCDD	28.134						0.0771	0.0771		
S Total PeCDD					49.8	49.8	0.0771	0.0771		
D 13C-1,2,3,4,7,8-HxCDF	34.719	23997567	0.53	1.1776	88.4	88.4	0.3601	0.3601	88.38	
1,2,3,4,7,8-HxCDF	34.736	9288622	1.23	0.9504	40.7	40.7	0.2496	0.2496	81.45	
D 13C-1,2,3,6,7,8-HxCDF	34.888	20447377	0.54							
1,2,3,6,7,8-HxCDF	34.904	11488309	1.24	0.9524	50.3	50.3	0.2490	0.2490	101	
D 13C-2,3,4,6,7,8-HxCDF	35.738	19585396	0.54							
2,3,4,6,7,8-HxCDF	35.755	11221397	1.26	0.8893	52.6	52.6	0.2667	0.2667	105	
D 13C-1,2,3,7,8,9-HxCDF	36.648	18472255	0.53							
1,2,3,7,8,9-HxCDF	36.665	10023823	1.25	0.8433	49.5	49.5	0.2813	0.2813	99.06	
A Non-2,3,7,8-sub-HxCDF	34.874						0.2610	0.2610		
S Total HxCDF					193.1	193.1	0.2616	0.2616		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	36.454	23058227	1.27	2.6E+05	100.0	100.0				
$ 13C-1,2,3,4,7,8-HxCDD	35.957	16582182	1.31							
1,2,3,4,7,8-HxCDD	35.974	6706891	1.31	1.0079	43.8	43.8	0.1198	0.1198	87.53	
D 13C-1,2,3,6,7,8-HxCDD	36.083	15204174	1.28	0.7339	89.8	89.8	0.2549	0.2549	89.84	
1,2,3,6,7,8-HxCDD	36.092	7214594	1.24	1.0111	46.9	46.9	0.1194	0.1194	93.86	
1,2,3,7,8,9-HxCDD	36.471	7702935	1.25	1.0993	46.1	46.1	0.1098	0.1098	92.17	
A Non-2,3,7,8-sub-HxCDD	35.257						0.1161	0.1161		
S Total HxCDD					136.8	136.8	0.1163	0.1163		
D 13C-1,2,3,4,6,7,8-HpCDF	38.521	13884223	0.47	0.6698	89.9	89.9	0.4861	0.4861	89.90	
1,2,3,4,6,7,8-HpCDF	38.530	9328988	1.05	1.5184	44.3	44.3	0.1944	0.1944	88.50	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.794	18933411	0.46							
1,2,3,4,7,8,9-HpCDF	39.802	8632900	1.04	1.3387	46.4	46.4	0.2205	0.2205	92.89	
A Non-2,3,7,8-sub-HpCDF	39.191						0.2066	0.2066		
S Total HpCDF					90.7	90.7	0.2075	0.2075		
D 13C-1,2,3,4,6,7,8-HpCDD	39.490	12032017	1.07	0.5943	87.8	87.8	0.2485	0.2485	87.81	
1,2,3,4,6,7,8-HpCDD	39.498	6202745	1.06	1.0953	47.1	47.1	0.1176	0.1176	94.14	
A Non-2,3,7,8-sub-HpCDD	39.200						0.1176	0.1176		
S Total HpCDD					47.1	47.1	0.1176	0.1176		
D 13C-OCDD	41.996	23614488	0.90	0.4838	211.7	211.7	0.4237	0.4237	106	
OCDF	42.089	13649083	0.90	1.3979	82.7	82.7	0.1281	0.1281	82.69	
OCDD	42.005	10994496	0.89	1.1116	83.8	83.8	0.1419	0.1419	83.77	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d
Lims ID: LCS 320-552716/2-A
Client ID:
Sample Type: LCS
Inject. Date: 27-Dec-2021 21:46:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-552716/2-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: bilottag Date: 28-Dec-2021 13:47:11

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.995	20.980	1		9172103	1347745	1378	3445	978		
333.9338	20.995	20.980	1		10852428	1576399	773	1932	2039	0.85(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	20.033	20.017	1	0.954	10639033	1596766	2759	6897	579		
317.9389	20.024	20.017	0	0.954	13078395	1972417	1942	4855	1016	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	20.050	20.025	1	1.001	1030942	152150	157	392	969		
305.8987	20.059	20.025	2	1.001	1327893	195031	355	887	549	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	20.308	19.632	40	1.014	29569	2786	157	392	18		
	Empc Correction				24790	2244	157	392	14		
305.8987	20.454	19.632	49	1.021	32195	2915	355	887	8	0.92(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	21.356	21.350	0	1.017	6381477	897020	1378	3445	651		
333.9338	21.356	21.350	0	1.017	7763708	1096703	773	1932	1419	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.382	21.384	0	1.001	674566	89705	460	1150	195		
321.8936	21.390	21.384	0	1.002	844571	116180	141	352	824	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	21.390	21.384	0	1.019	6108304	817704	306	765	2672		
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						460	1150			
321.8936	20.470						141	352			
13C-1,2,3,7,8-PeCDF											
351.9000	26.957	26.962	0	1.284	12374765	2032889	3272	8180	621		
353.8970	26.957	26.962	0	1.284	7760534	1267774	2144	5360	591	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.982	26.979	0	1.001	6350478	1014198	1366	3415	742		
341.8567	26.982	26.979	0	1.001	4036142	656681	1175	2937	559	1.57(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.448	28.460	-1	1.055	15847996	2428286	3272	8180	742		
353.8970	28.456	28.460	0	1.056	10019620	1507704	2144	5360	703	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	28.473	28.486	-1	1.056	6018223	903365	1366	3415	661		
341.8567	28.481	28.486	0	1.057	3841441	576551	1175	2937	491	1.57(1.32-1.78)	
A F1 PeCDFs											RQ
339.8597	24.294	24.442	-9	0.901	424	255	3	7	85		
341.8567	24.337	24.442	-6	0.903	3140	1091	94	235	12	0.14(1.32-1.78)	
	Empc Correction				273	164	94	235	2		
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.884						1366	3415			
341.8567	27.884						1175	2937			
13C-1,2,3,7,8-PeCDD											
367.8949	29.273	29.269	0	1.394	6622394	939918	644	1610	1460		
369.8919	29.281	29.269	1	1.395	4245755	603239	560	1400	1077	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.298	29.303	0	1.001	3666425	517034	396	990	1306		
357.8516	29.298	29.303	0	1.001	2298487	322109	129	322	2497	1.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	28.134						396	990			
357.8516	28.134						129	322			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.719	34.727	0	0.952	8325931	1702270	2956	7390	576		
385.8610	34.719	34.727	0	0.952	15671636	3146972	5781	14452	544	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.736	34.752	-1	1.000	5128960	1024566	2675	6687	383		
375.8178	34.736	34.752	-1	1.000	4159662	820650	1926	4815	426	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.888	34.904	-1	0.957	7173980	1412405	2956	7390	478		
385.8610	34.888	34.904	-1	0.957	13273397	2578347	5781	14452	446	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.904	34.920	-1	1.005	6358810	1226651	2675	6687	459		
375.8178	34.904	34.920	-1	1.005	5129499	985984	1926	4815	512	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.738	35.745	0	0.980	6859700	1498592	2956	7390	507		
385.8610	35.738	35.745	0	0.980	12725696	2777949	5781	14452	481	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.755	35.762	0	1.030	6250690	1378744	2675	6687	515		
375.8178	35.746	35.762	-1	1.030	4970707	1091200	1926	4815	567	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.648	36.655	0	1.005	6428270	1461101	2956	7390	494		
385.8610	36.648	36.655	0	1.005	12043985	2755933	5781	14452	477	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	36.665	36.671	0	1.056	5564844	1283902	2675	6687	480		
375.8178	36.665	36.671	0	1.056	4458979	1009933	1926	4815	524	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.874						2675	6687			
375.8178	34.874						1926	4815			
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.454	36.469	-1		12883506	2872202	2073	5182	1386		
403.8529	36.454	36.469	-1		10174721	2278194	1782	4455	1278	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.957	35.973	-1	0.996	9412653	2240721	2073	5182	1081		
403.8529	35.957	35.973	-1	0.996	7169529	1661862	1782	4455	933	1.31(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.974	35.981	0	0.997	3798043	882000	898	2245	982		
391.8127	35.974	35.981	0	0.997	2908848	693115	710	1775	976	1.31(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.083	36.090	0	0.990	8527004	1866993	2073	5182	901		
403.8529	36.083	36.090	0	0.990	6677170	1463439	1782	4455	821	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	36.092	36.107	-1	1.000	3988815	899577	898	2245	1002		
391.8127	36.092	36.107	-1	1.000	3225779	714783	710	1775	1007	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.471	36.478	0	1.011	4285931	963878	898	2245	1073		
391.8127	36.471	36.478	0	1.011	3417004	776473	710	1775	1094	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	35.257						898	2245			
391.8127	35.257						710	1775			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.521	38.526	0	1.057	4441734	1205887	2385	5962	506		
419.8220	38.521	38.526	0	1.057	9442489	2561063	4323	10807	592	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.530	38.543	-1	1.000	4777760	1290087	2419	6047	533		
409.7788	38.530	38.543	-1	1.000	4551228	1234433	2029	5072	608	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.794	39.798	0	1.033	6004135	1745716	2385	5962	732		
419.8220	39.794	39.798	0	1.033	12929276	3785896	4323	10807	876	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.802	39.806	0	1.033	4394732	1268070	2419	6047	524		
409.7788	39.802	39.806	0	1.033	4238168	1221940	2029	5072	602	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	39.191						2419	6047			
409.7788	39.191						2029	5072			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.490	39.495	0	1.083	6228397	1794995	1610	4025	1115		
437.8140	39.490	39.495	0	1.083	5803620	1701147	1433	3582	1187	1.07(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7767	39.498	39.503	0	1.000	3195077	931006	1014	2535	918		
425.7737	39.498	39.503	0	1.000	3007668	877166	788	1970	1113	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	39.200						1014	2535			
425.7737	39.200						788	1970			
13C-OCDD											
469.7780	41.996	42.008	-1	1.152	11199543	2914757	2421	6052	1204		
471.7750	41.996	42.008	-1	1.152	12414945	3232091	1802	4505	1794	0.90(0.76-1.02)	
OCDF											
441.7428	42.089	42.101	-1	1.002	6477019	1706236	987	2467	1729		
443.7399	42.089	42.101	-1	1.002	7172064	1880342	1214	3035	1549	0.90(0.76-1.02)	
OCDD											
457.7377	42.005	42.016	-1	1.000	5185778	1332969	819	2047	1628		
459.7348	42.005	42.016	-1	1.000	5808718	1509674	1120	2800	1348	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d
Lims ID: LCS 320-552716/2-A
Client ID:
Inject. Date: 27-Dec-2021 21:46:00 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 4

Non-2,3,7,8-sub-TCDF, RT: 19.632

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.105	D 13C-2,3,7,8-TCDF	100.000	23717428	3569183

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.105		100.000	23717428	3569183

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
20.308	29569	2786	32195	2915	0.2358	0.92	RQ
20.308	24790	2244	32195	2915	0.2175		Empc Correction
Signal Totals:							
	24790	2244	32195	2915			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	61764	5701				0.92	RQ
	56985	5159					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2358 = (61764 * 100.000) / (23717428 * 1.105)
Empc Amount: 0.2175 = (56985 * 100.000) / (23717428 * 1.105)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d
Lims ID: LCS 320-552716/2-A
Client ID:
Inject. Date: 27-Dec-2021 21:46:00 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 4

F1 PeCDFs, RT: 24.442

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.099	D 13C-1,2,3,7,8-PeCDF	100.000	20135299	3300663
2,3,4,7,8-PeCDF	1.058				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.078		100.000	20135299	3300663

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
24.294	424	255	3140	1091	0.0164	0.14	RQ
24.294	424	255	273	164	0.003210		Empc Correction
Signal Totals:	424	255	273	164			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3564	1346				0.14	RQ
	697	419					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0164 = (3564 * 100.000) / (20135299 * 1.078)
Empc Amount: 0.003210 = (697 * 100.000) / (20135299 * 1.078)

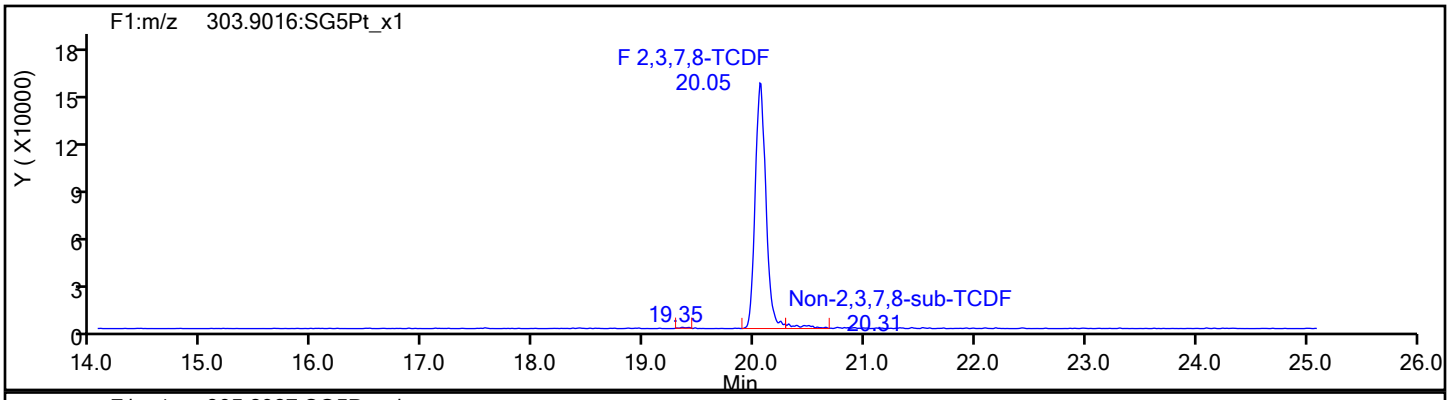
QC Flag Legend

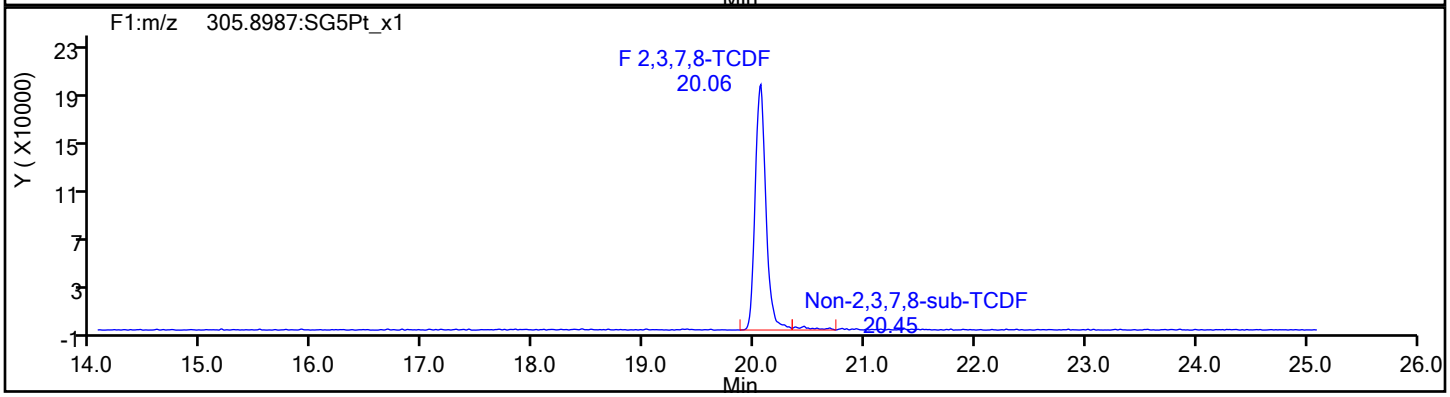
Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

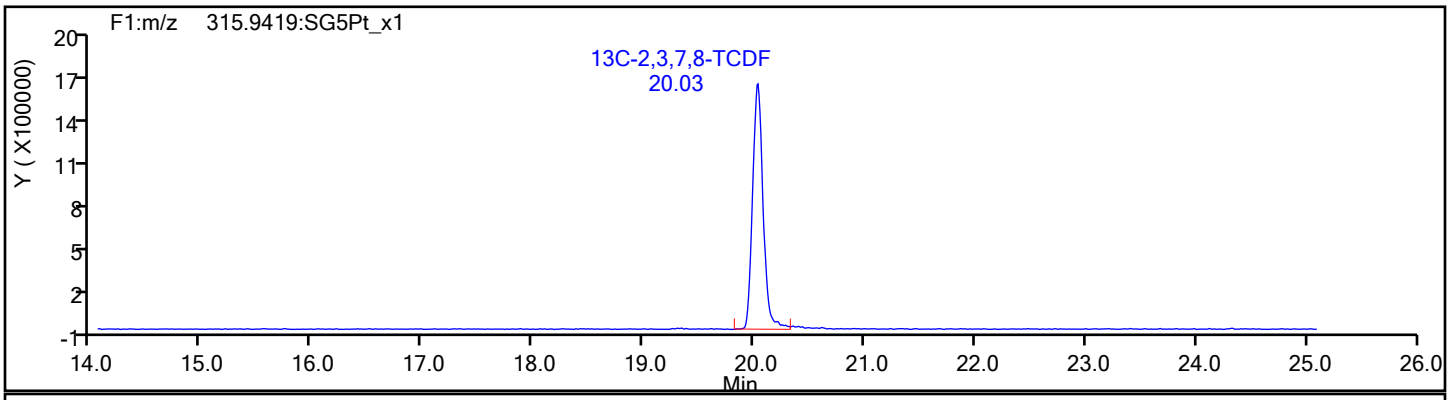
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

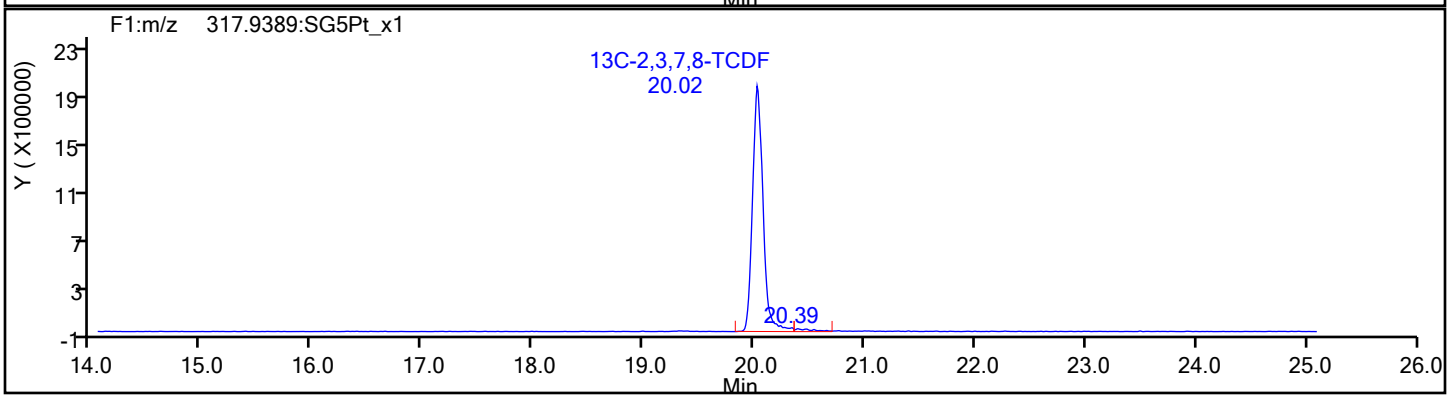
TCDF





TCDF Standards

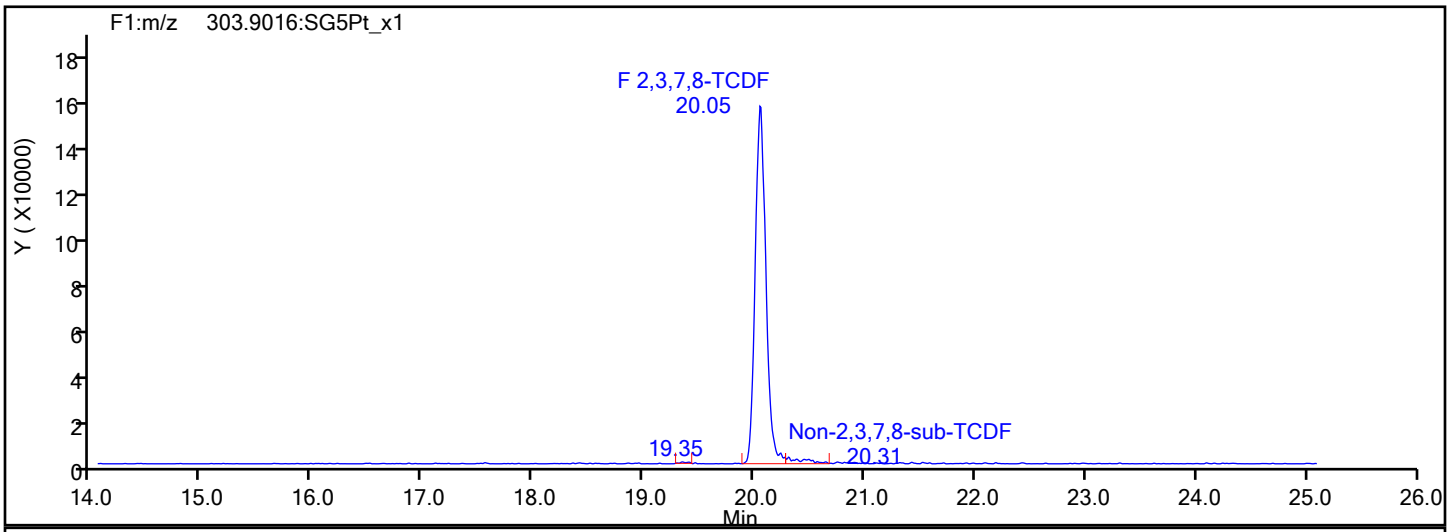


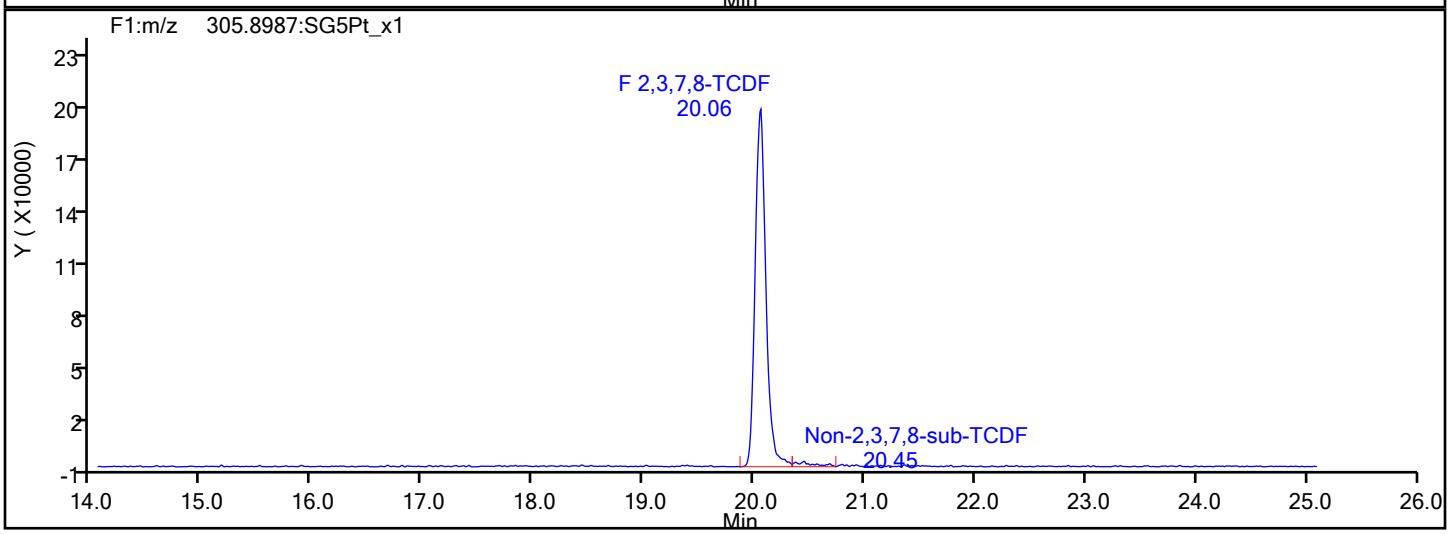


Eurofins TestAmerica, Sacramento

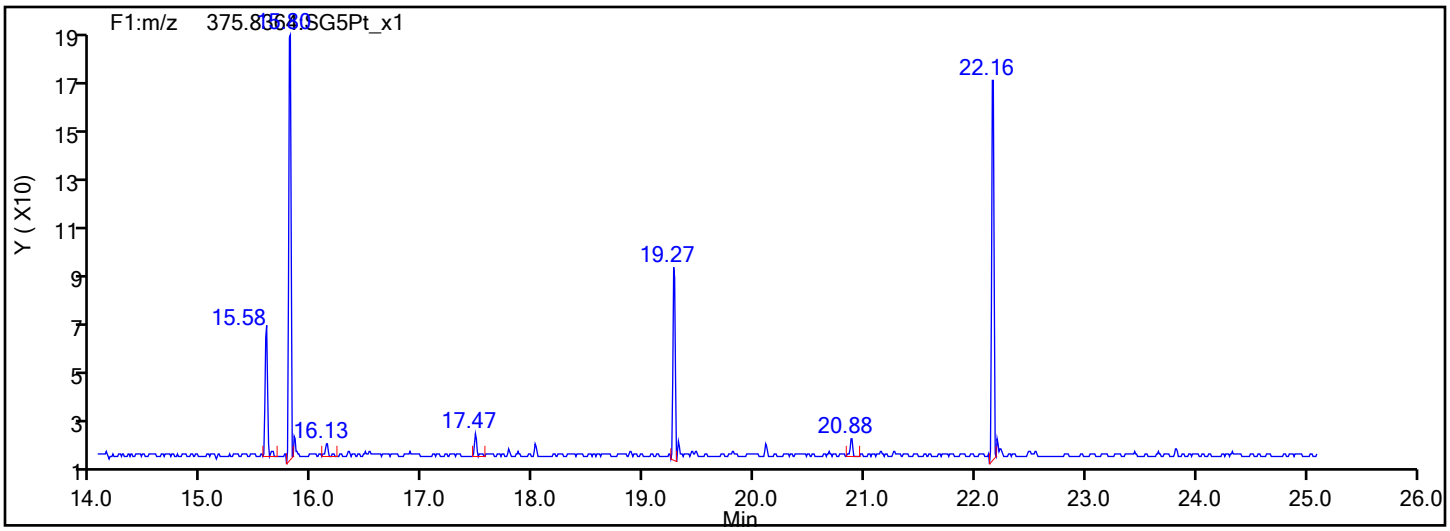
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





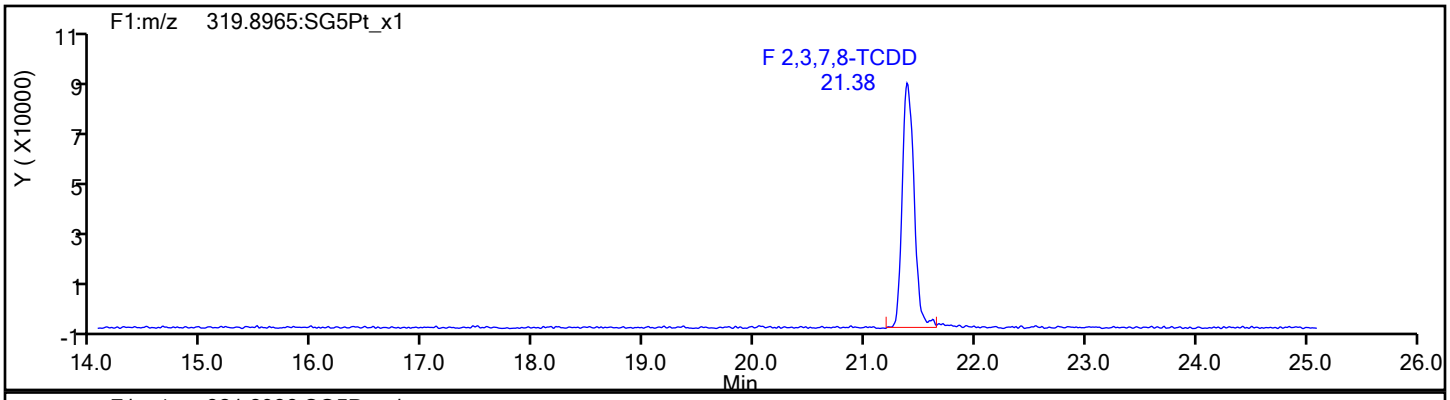
TCDF Interference Mass

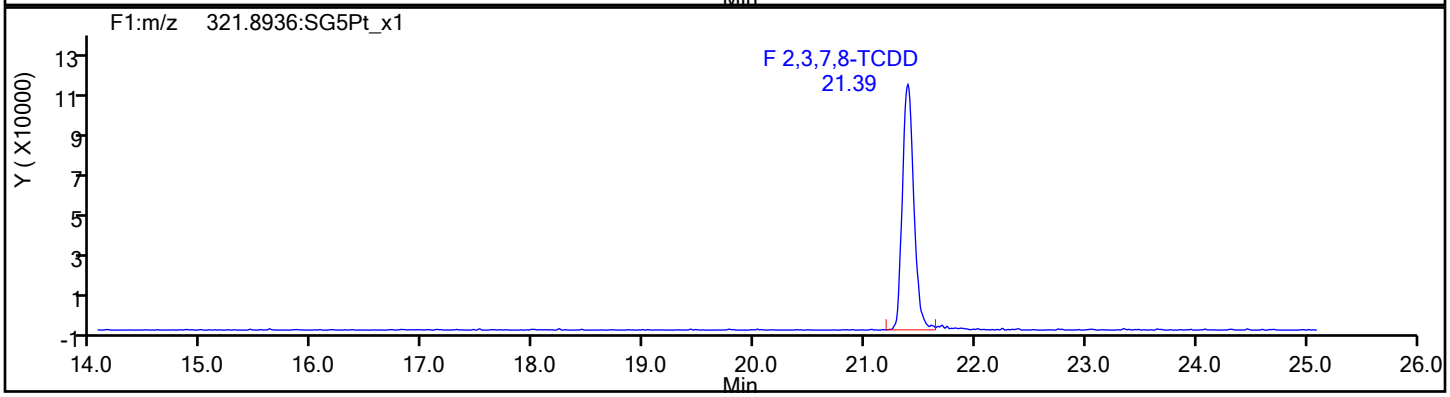


Eurofins TestAmerica, Sacramento

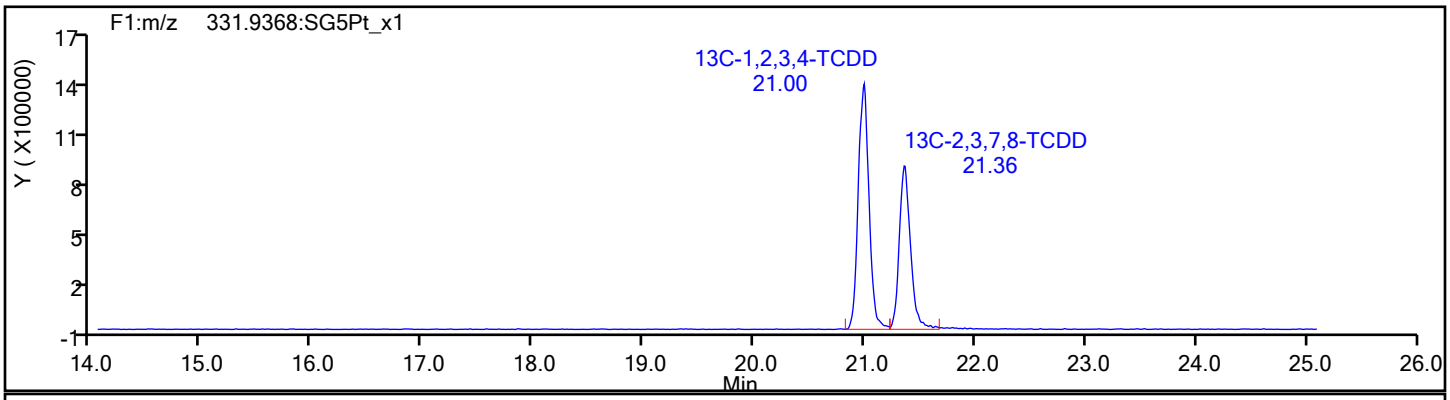
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

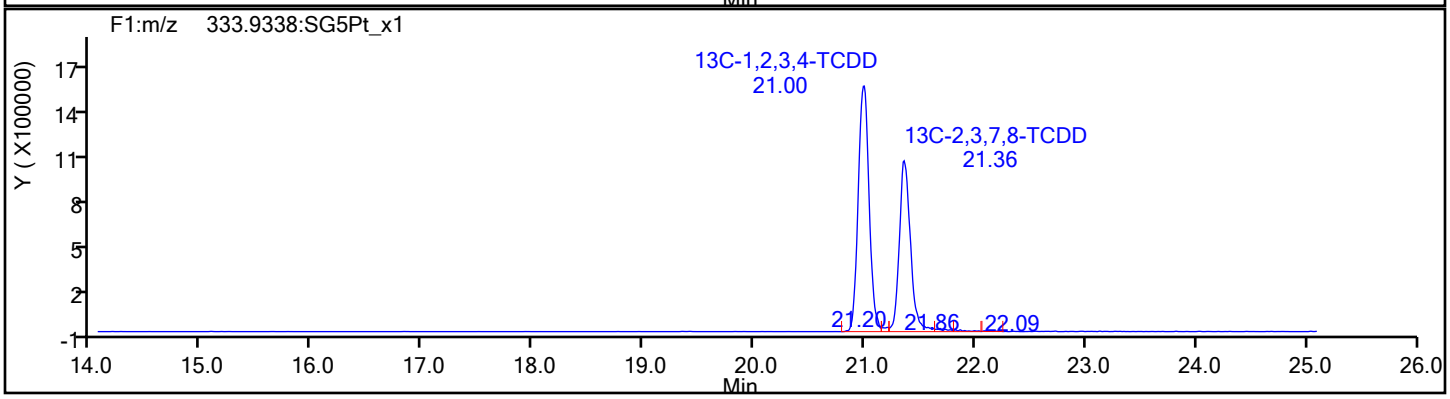
TCDD





TCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
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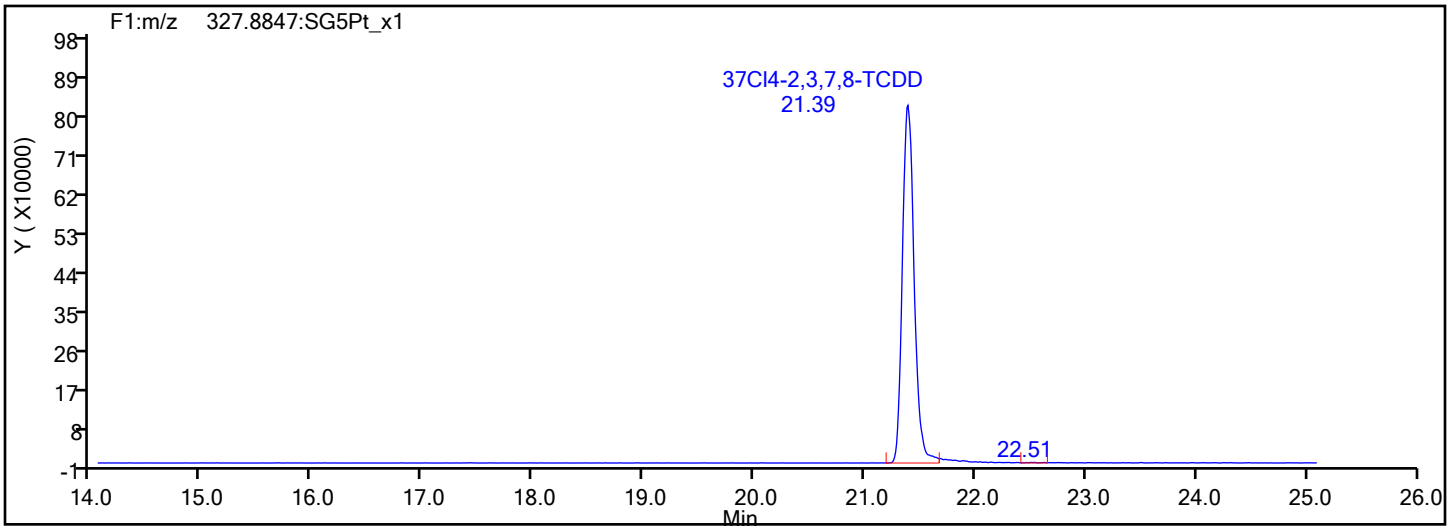
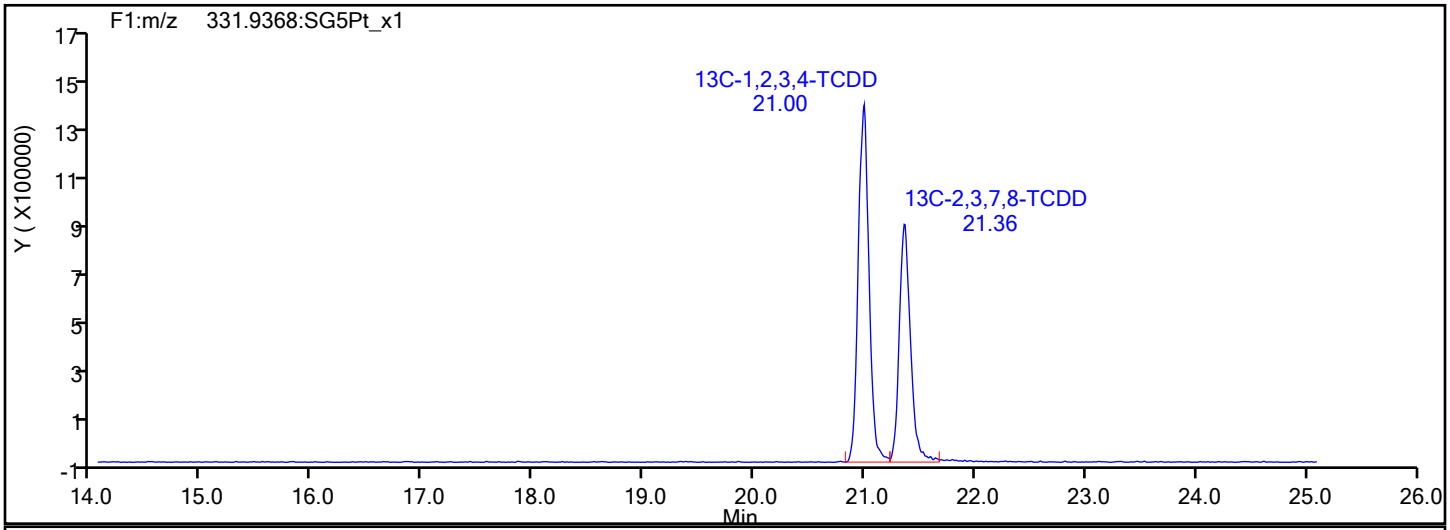
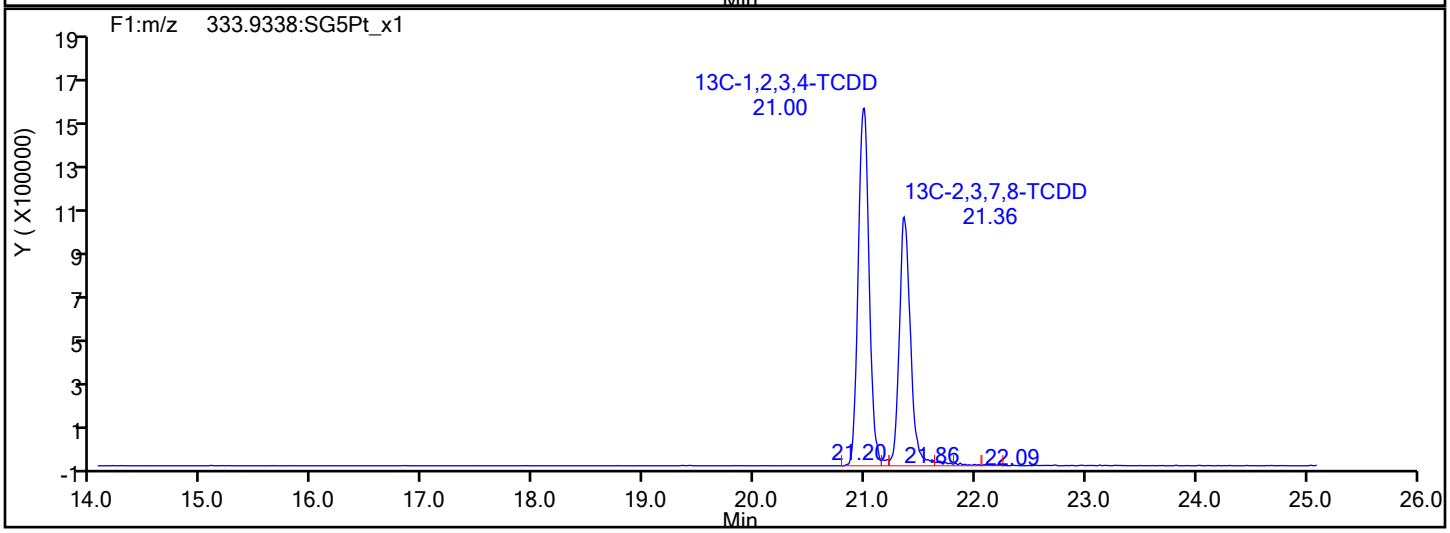
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
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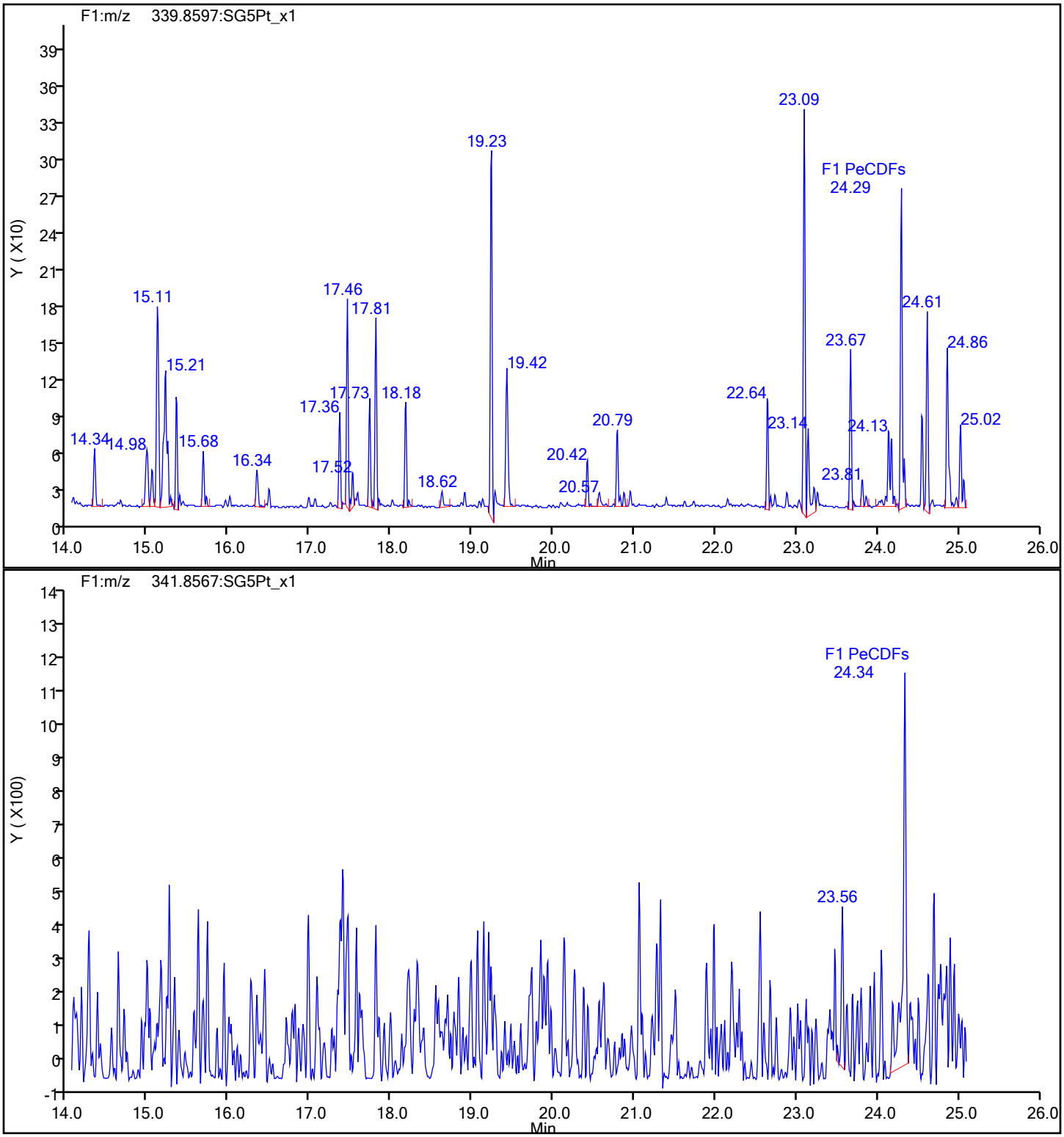
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
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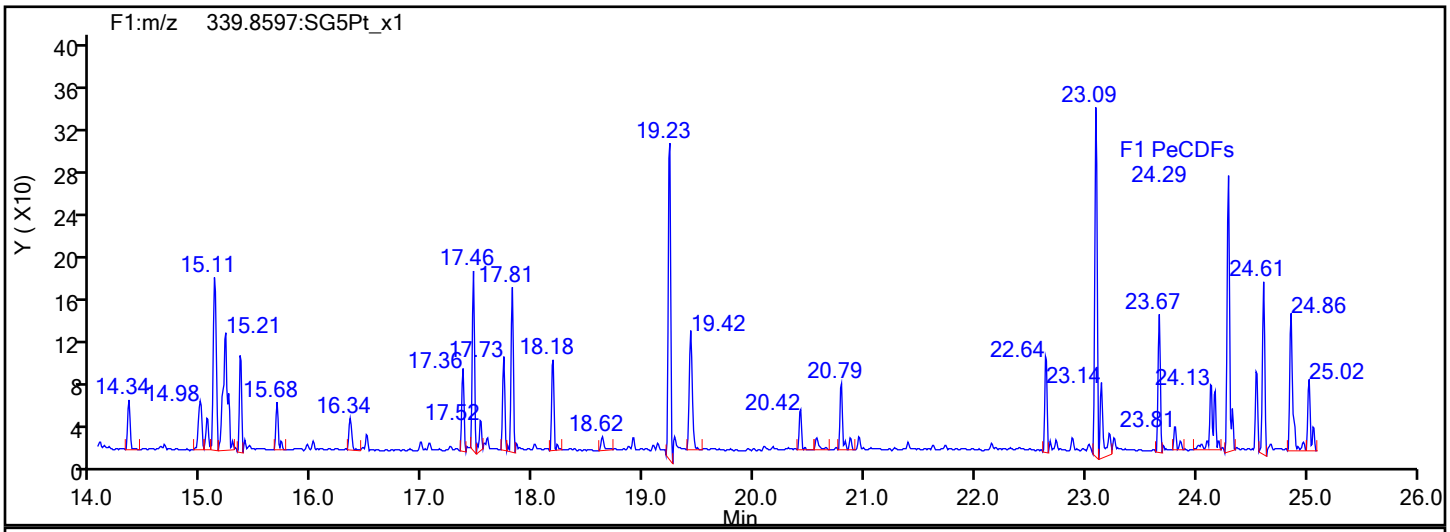
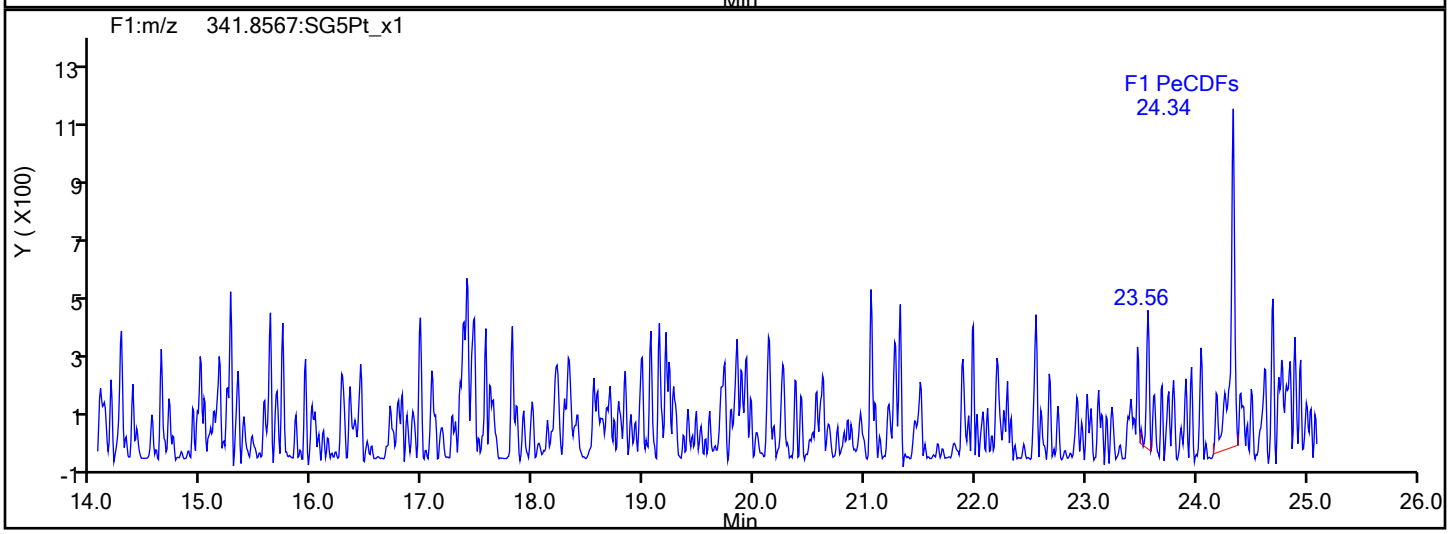
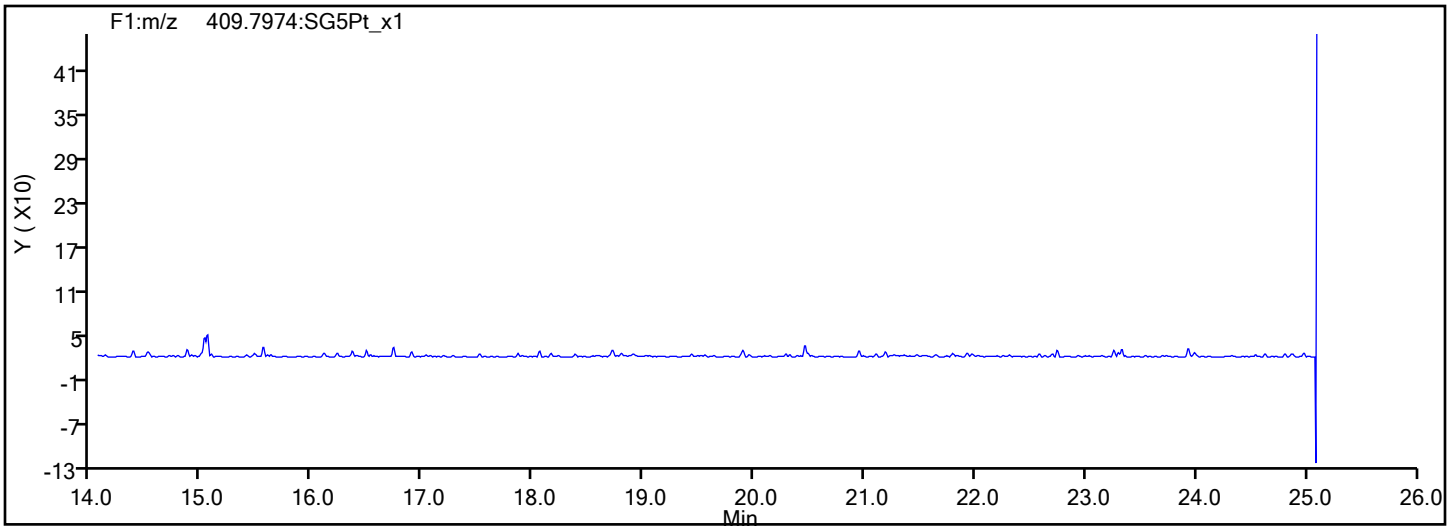
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





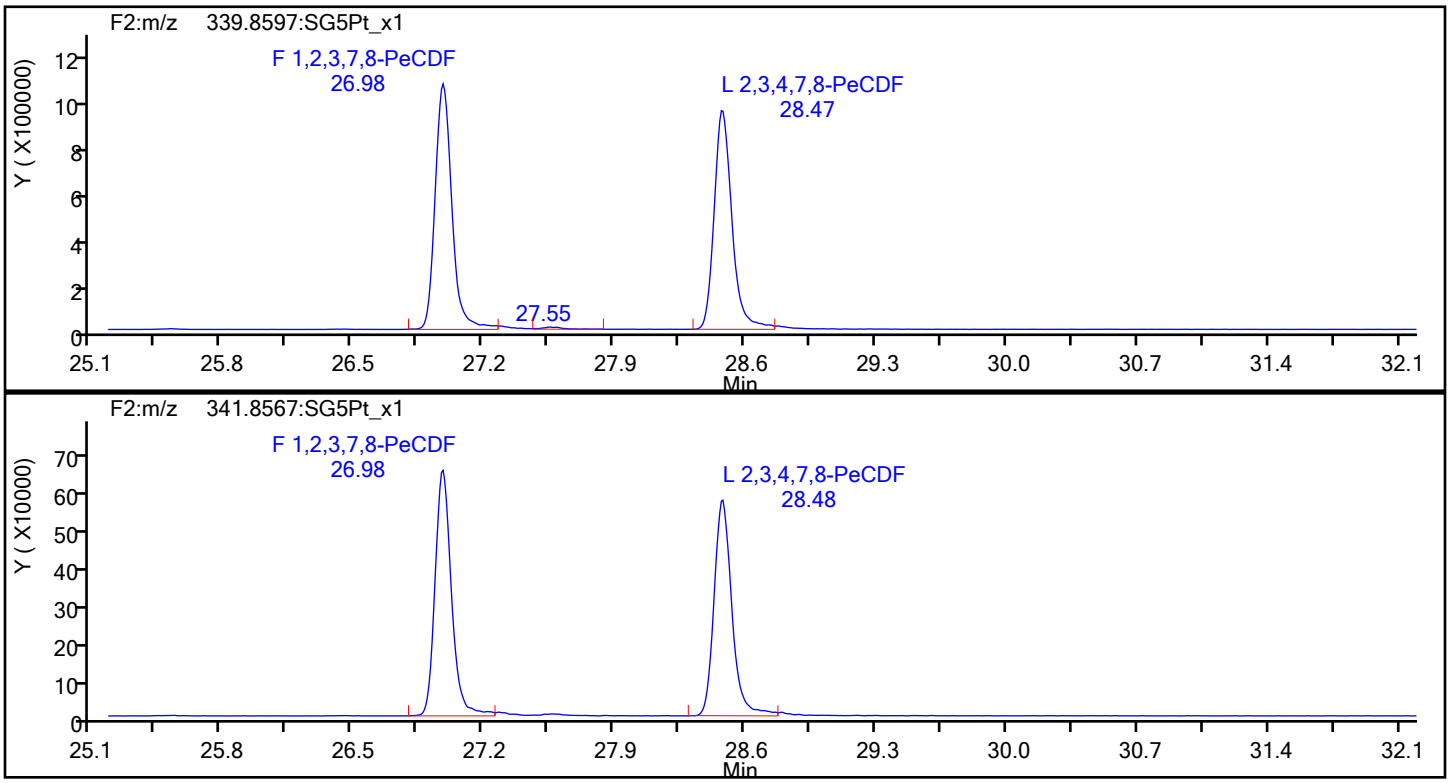
F1 PeCDFs Interference Mass



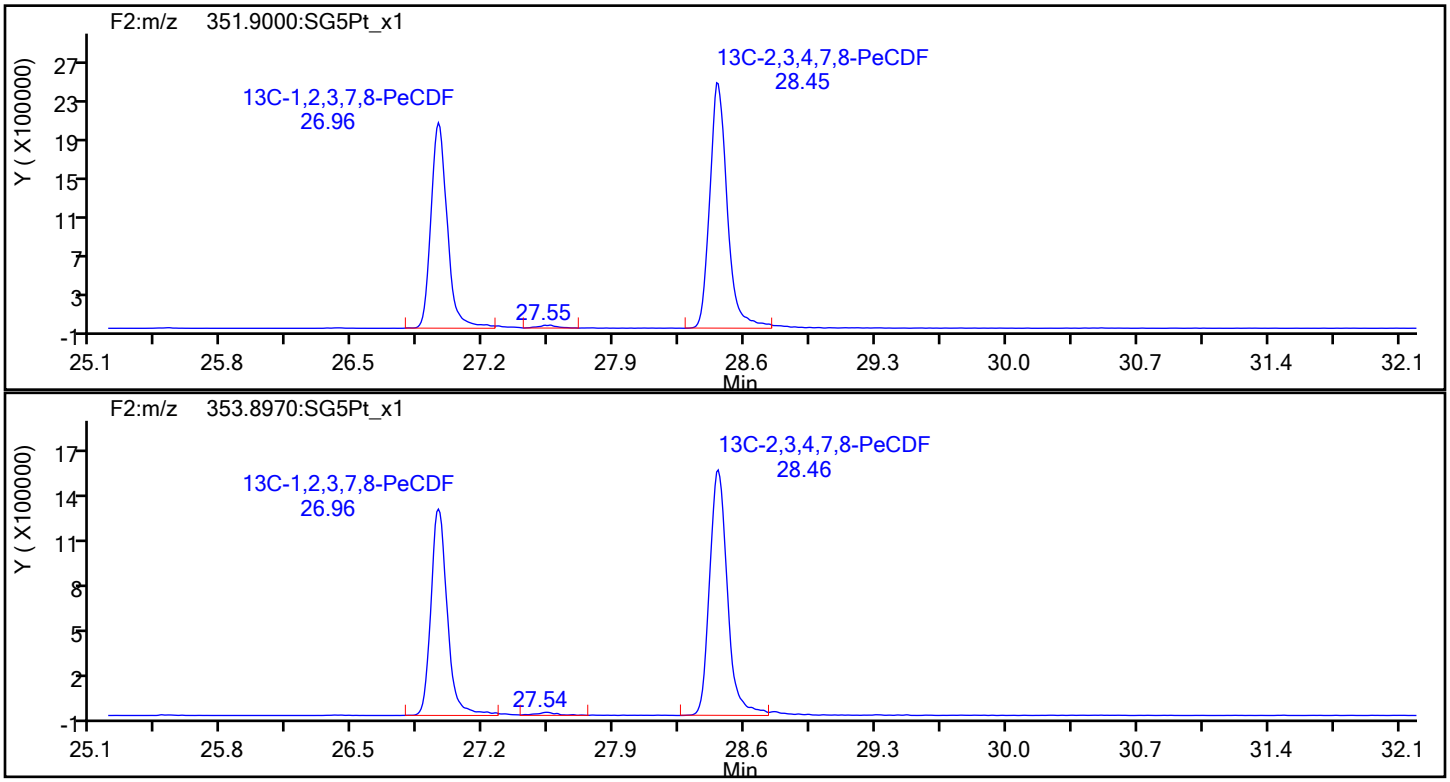
Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



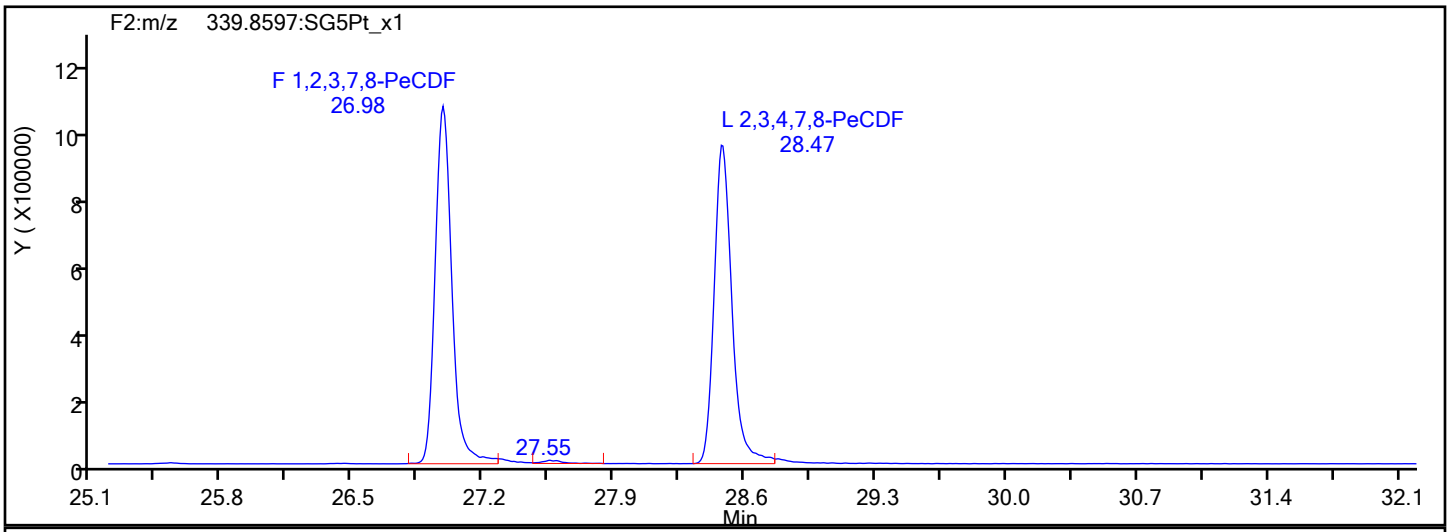
PeCDF Standards

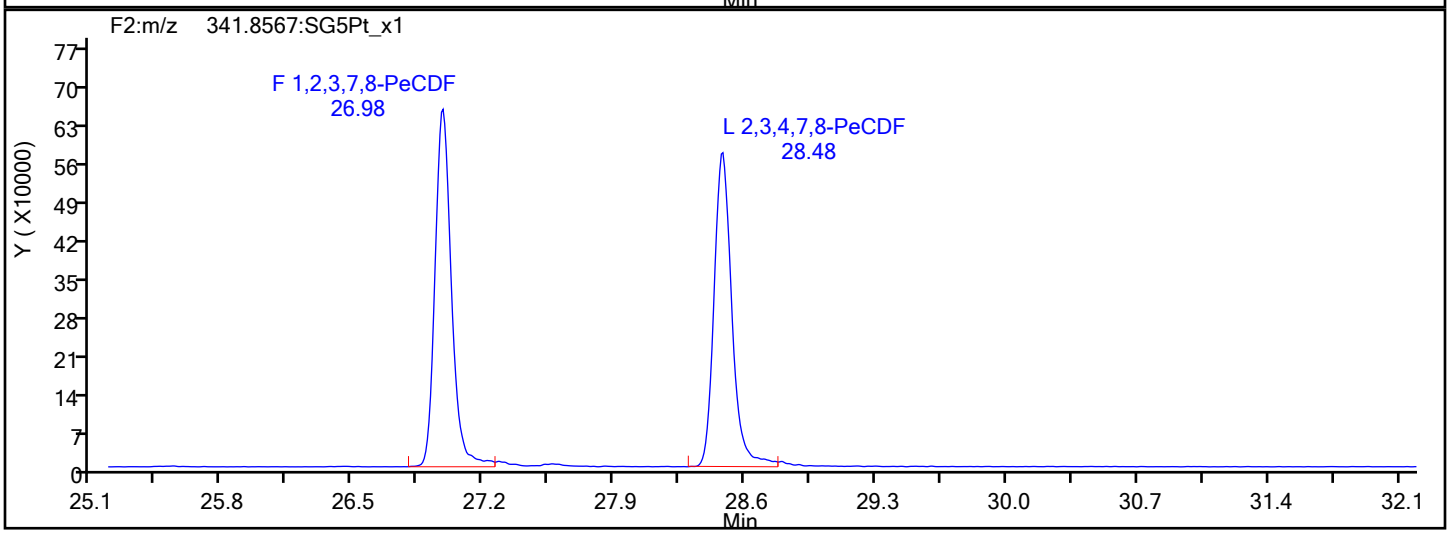


Eurofins TestAmerica, Sacramento

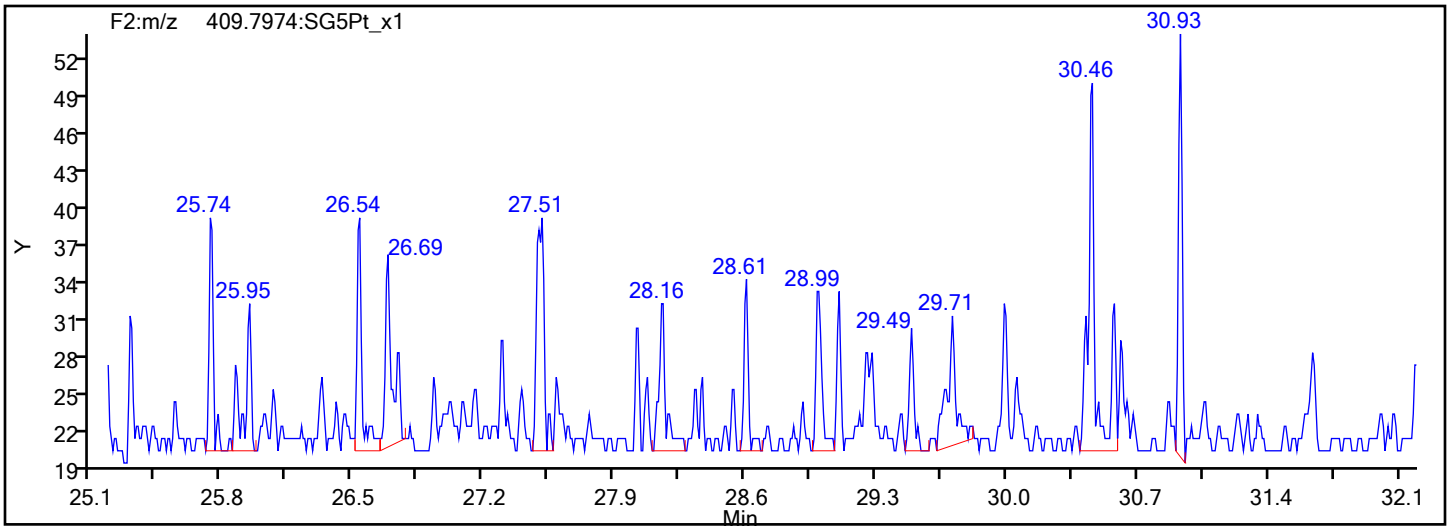
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



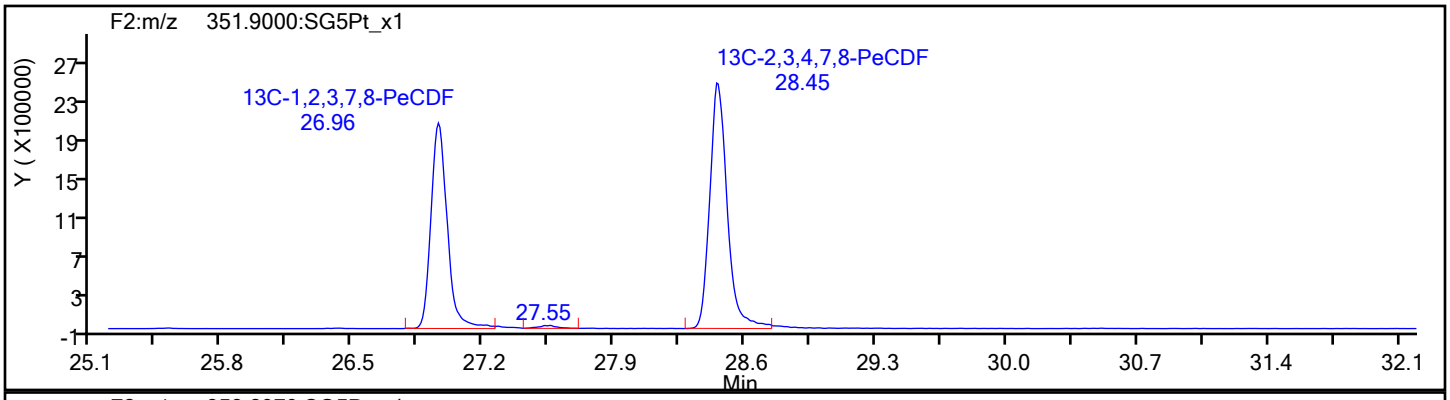
Report Date: 28-Dec-2021 14:24:37 Chrom Revision: 2.3 15-Nov-2021 20:34:30

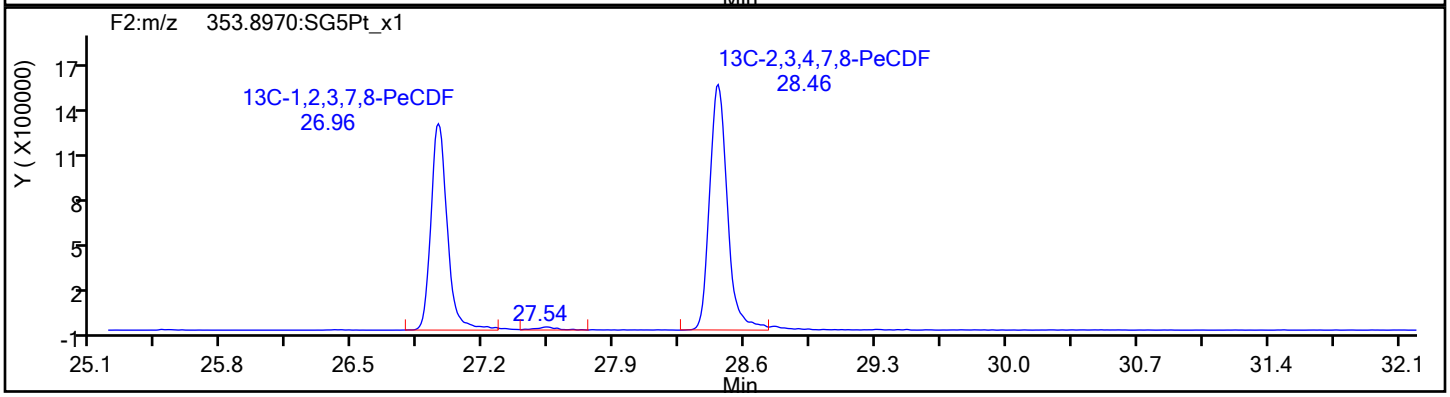
Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d

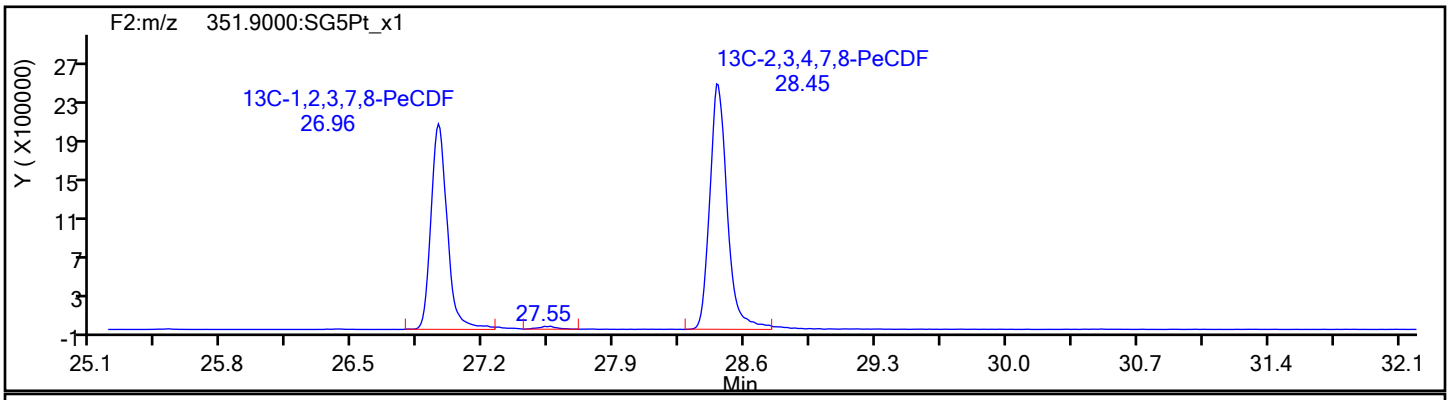
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

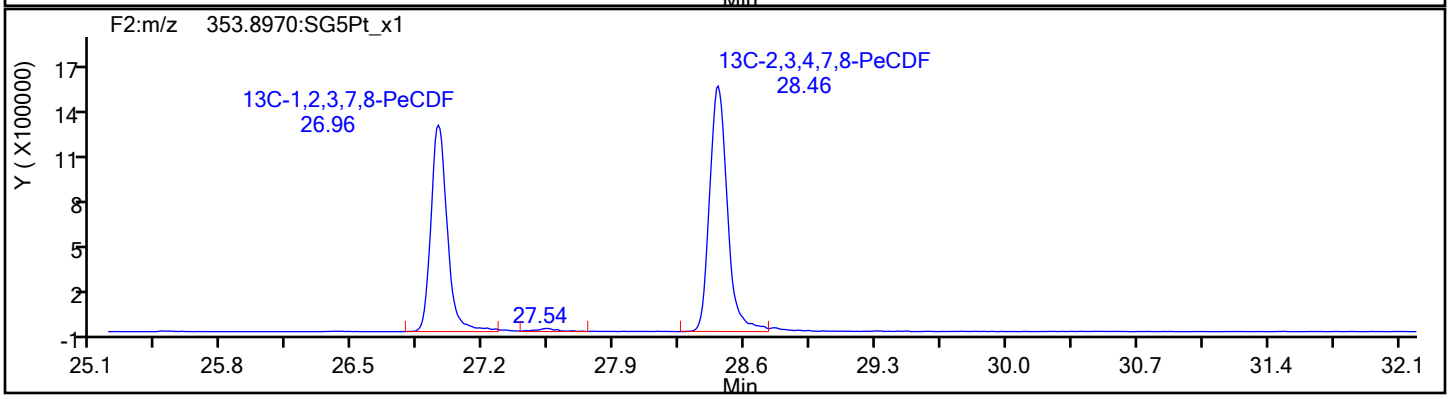
13C-PeCDF





13C-PeCDF Standards





Report Date: 28-Dec-2021 14:24:37 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d

Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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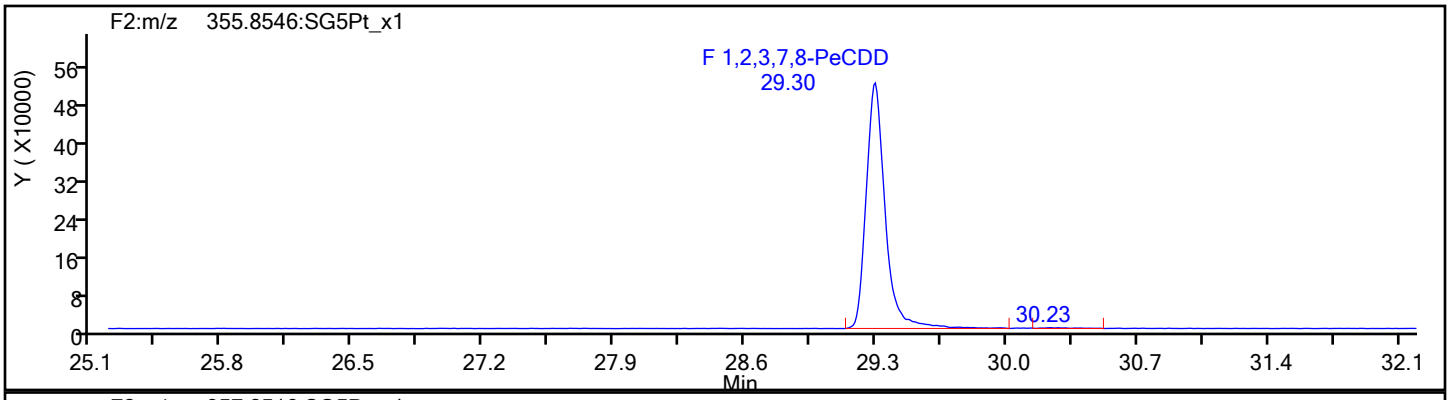
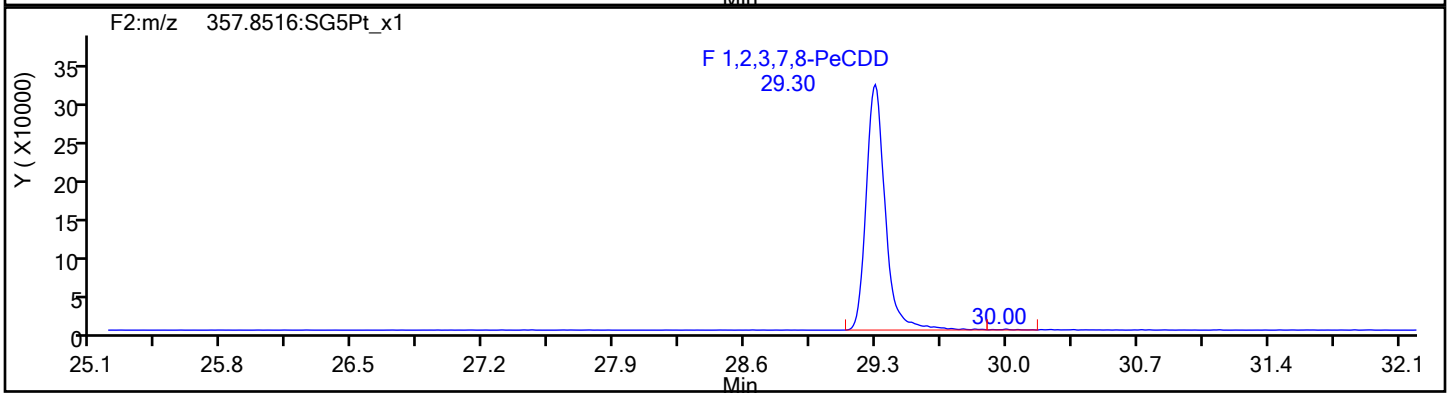
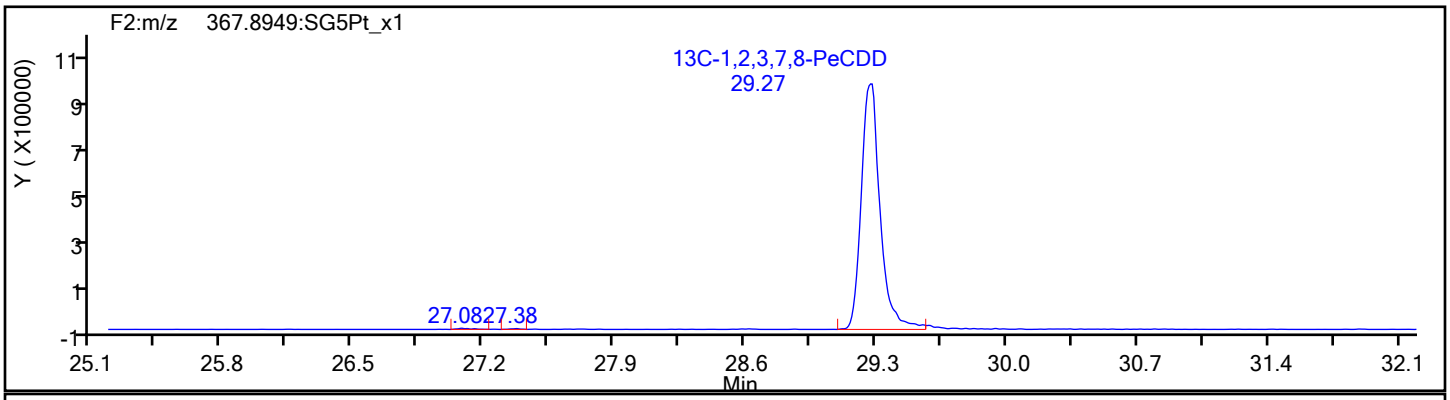
Column Type:	DB-5	Column Dia:	0.32 mm

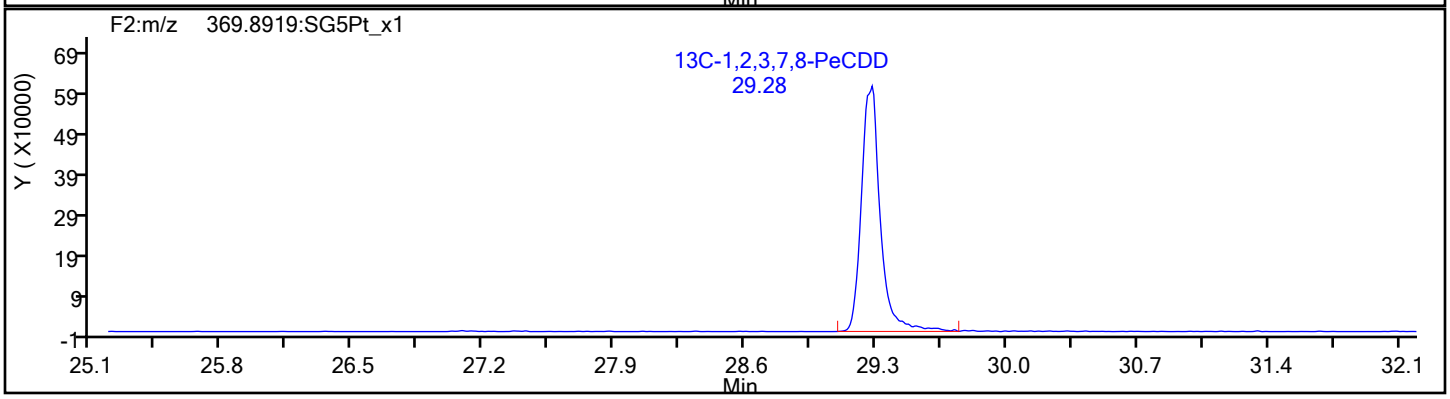
PeCDD





PeCDD Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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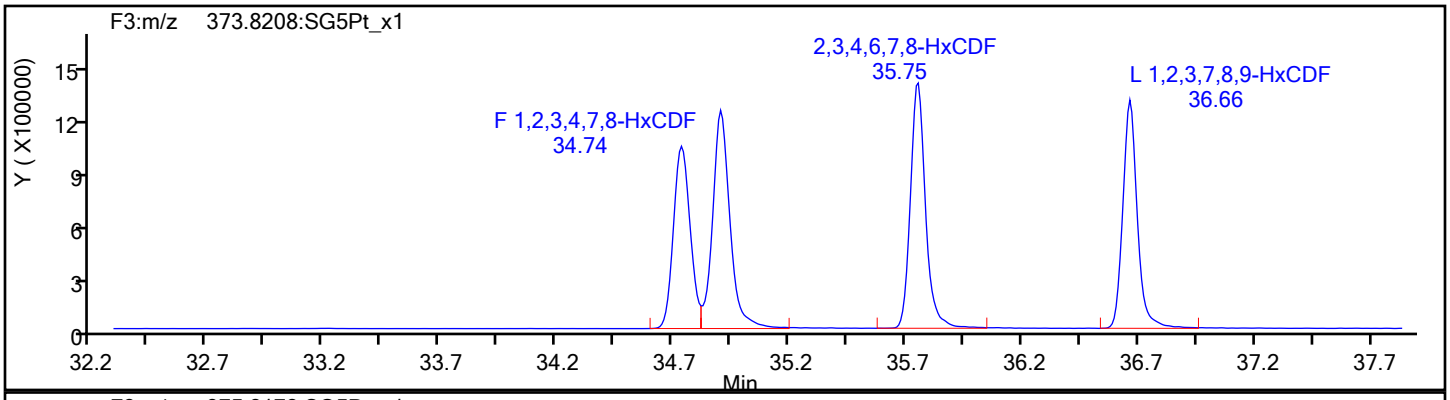
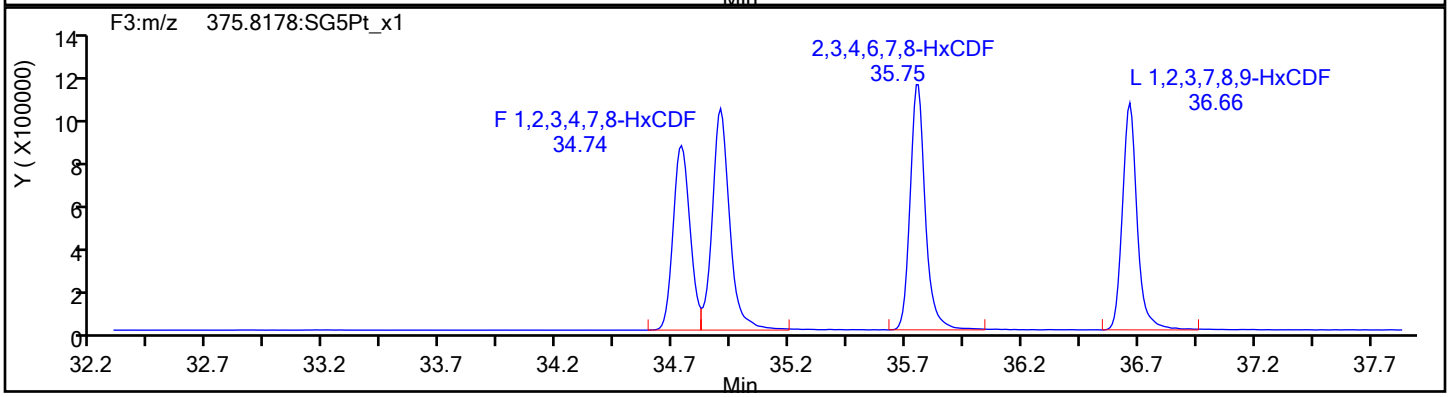
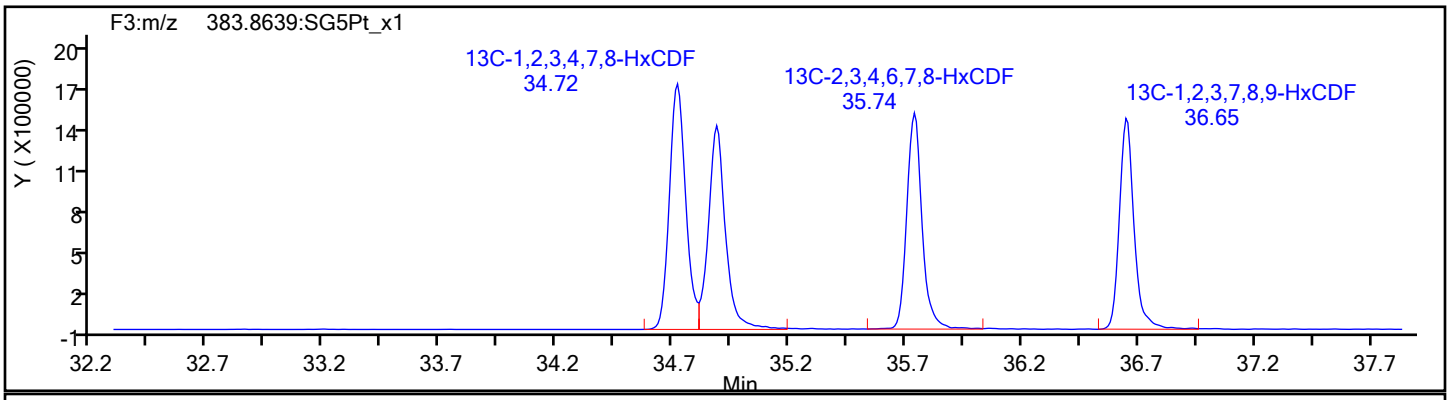
Column Type:	DB-5	Column Dia:	0.32 mm

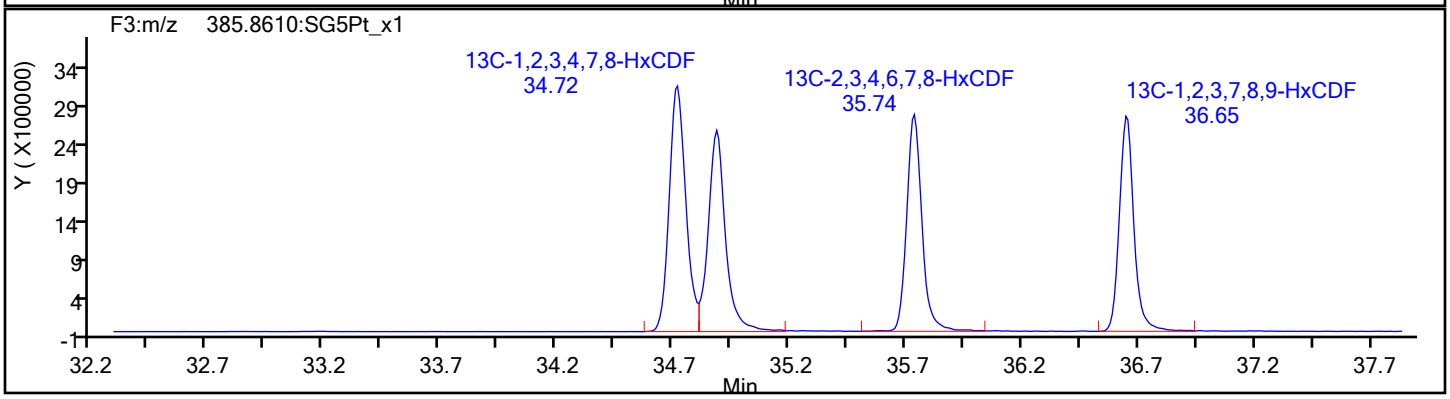
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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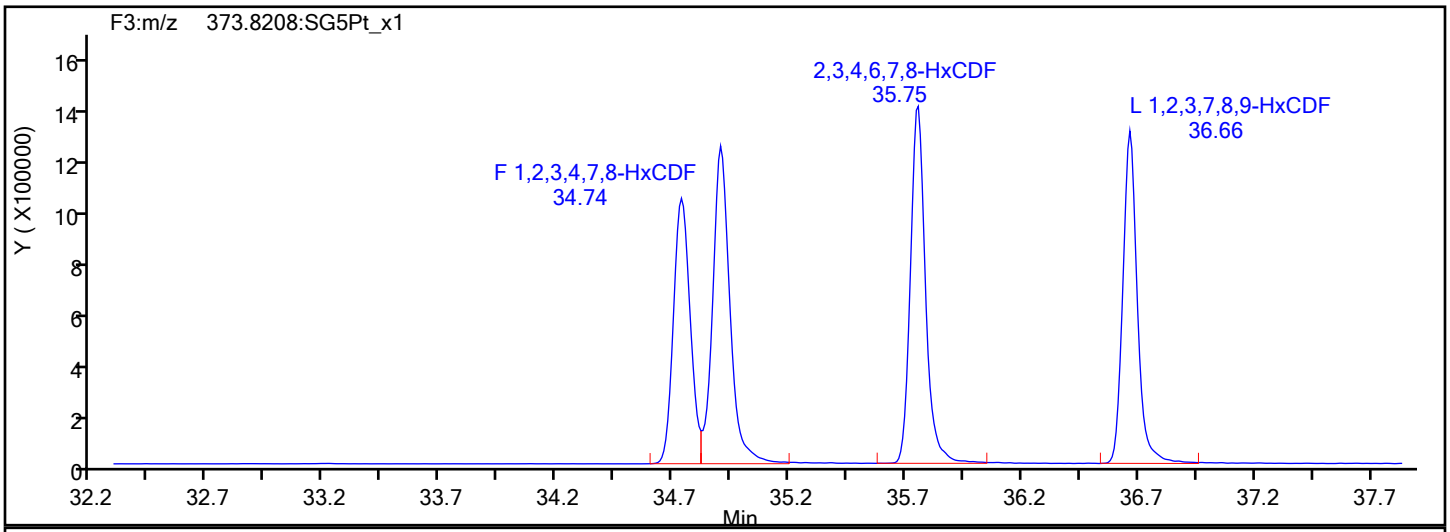
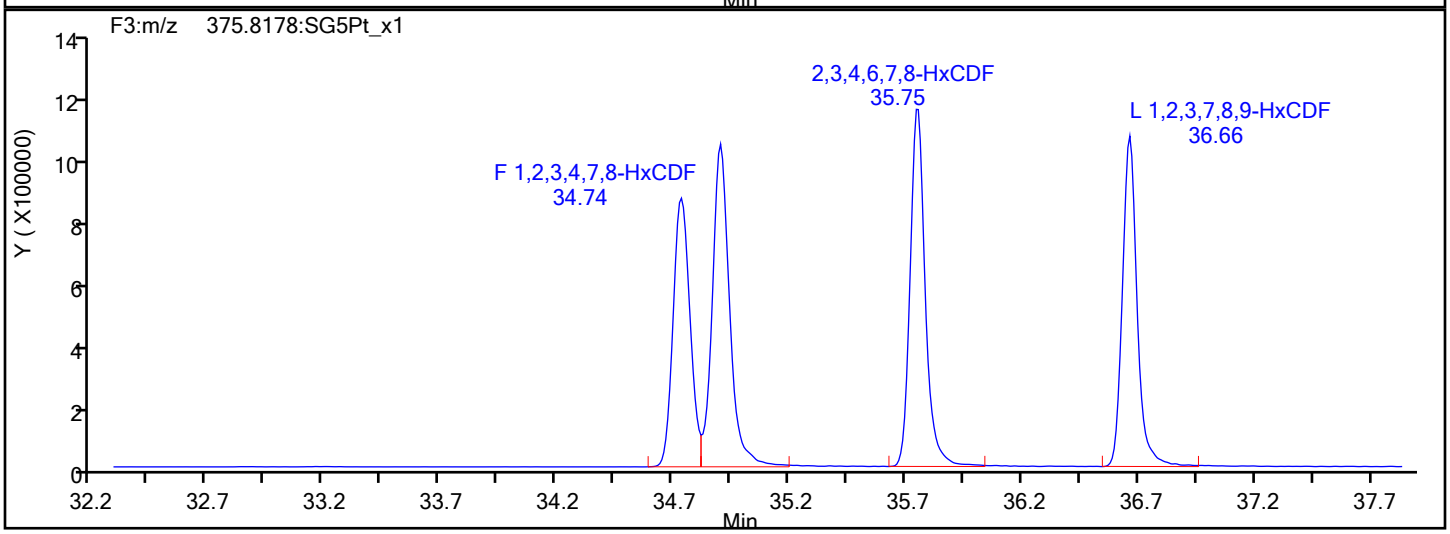
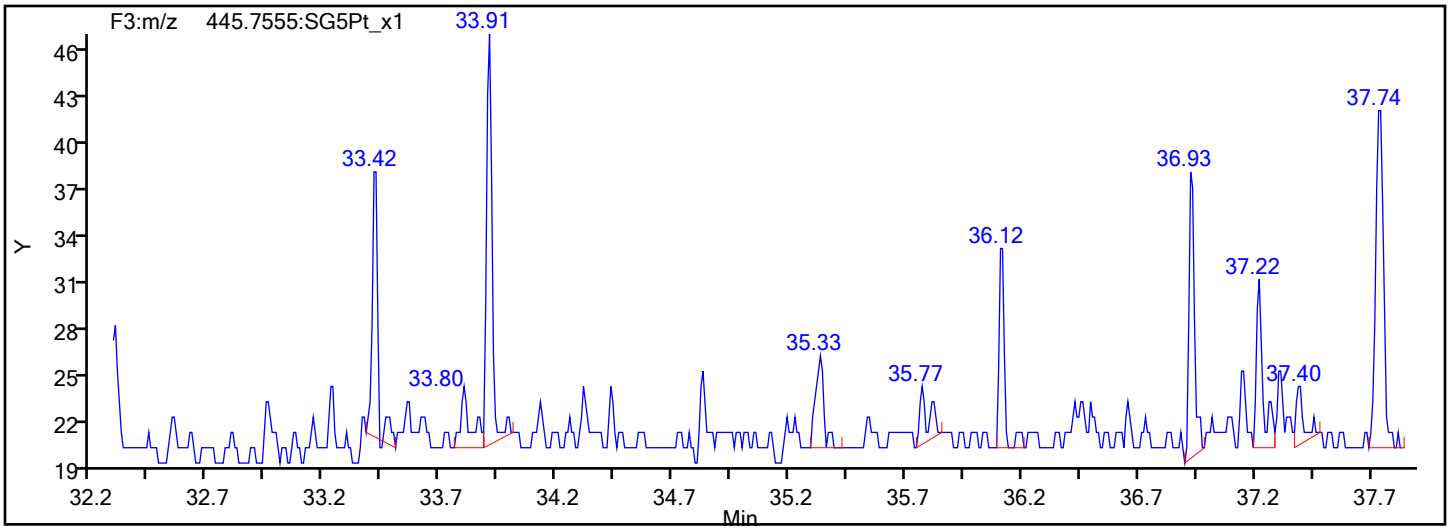
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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Instrument ID: DFS 1 Operator ID: Xcalibur_System
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Client ID:
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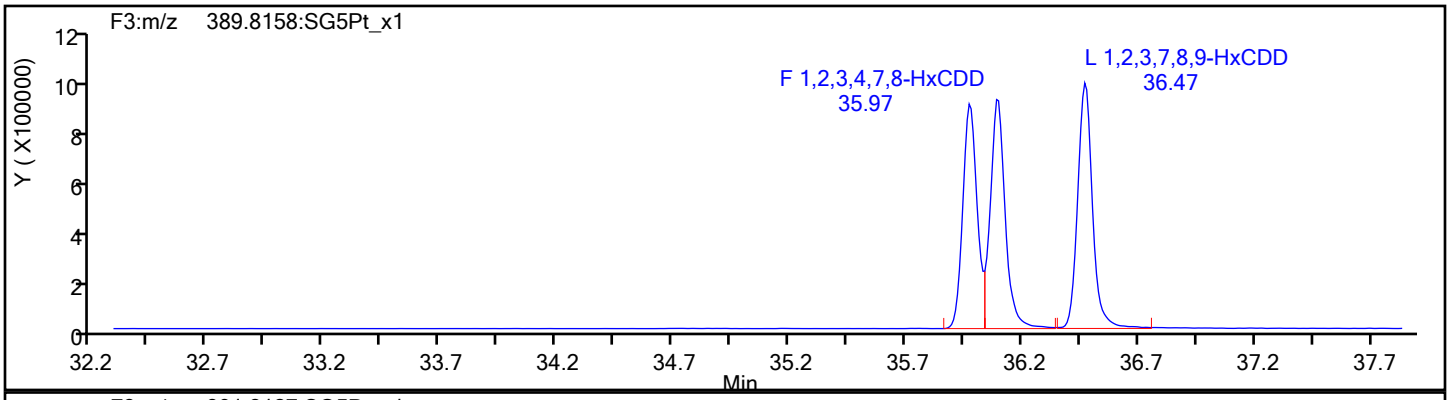
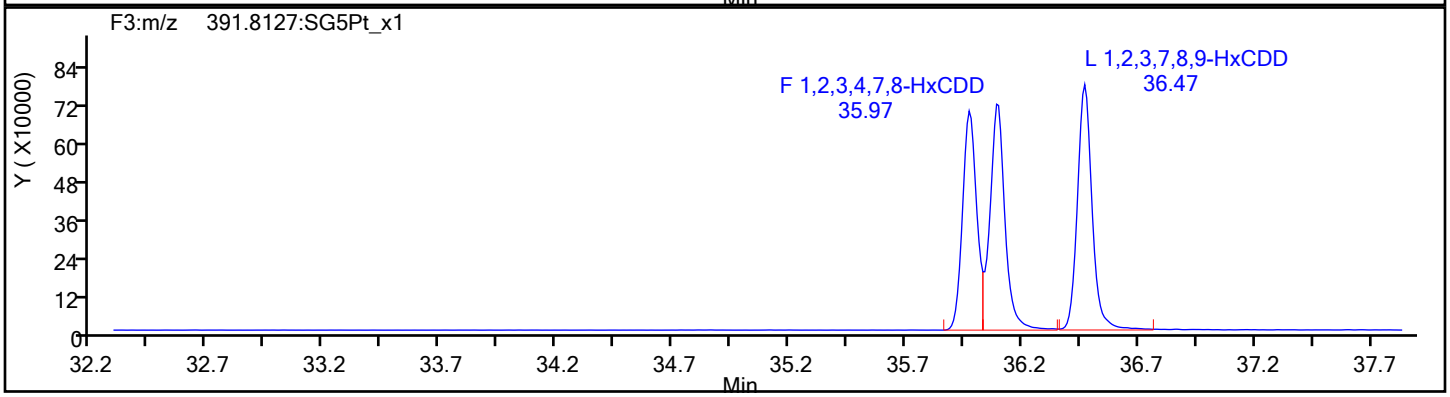
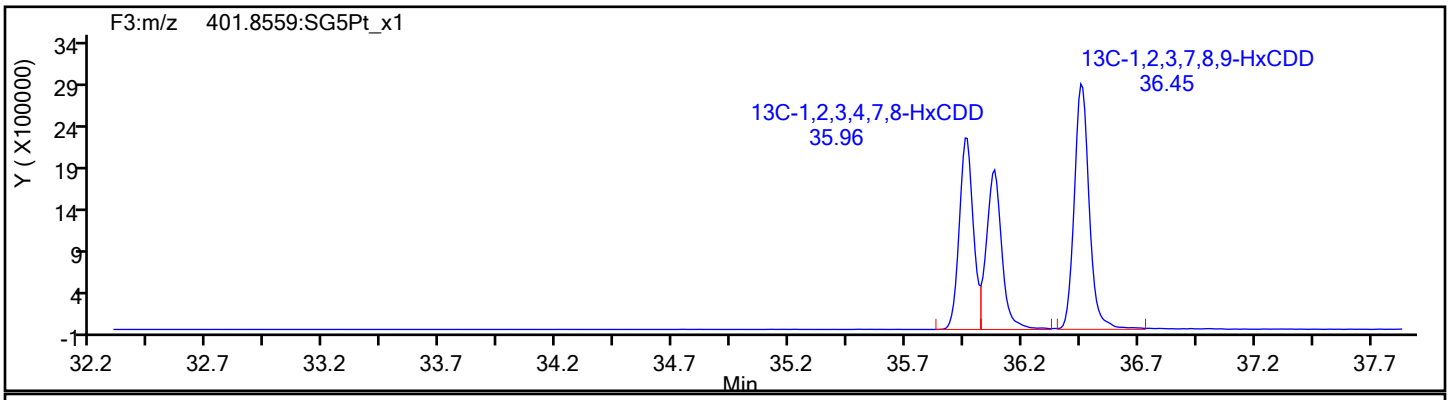
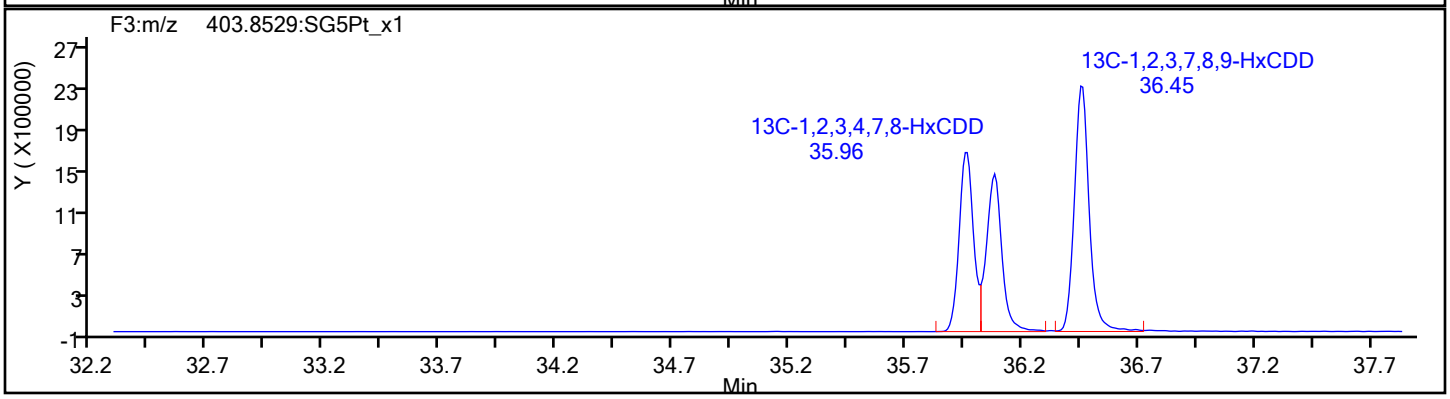
HxCDD





HxCDD Standards





Report Date: 28-Dec-2021 14:24:37 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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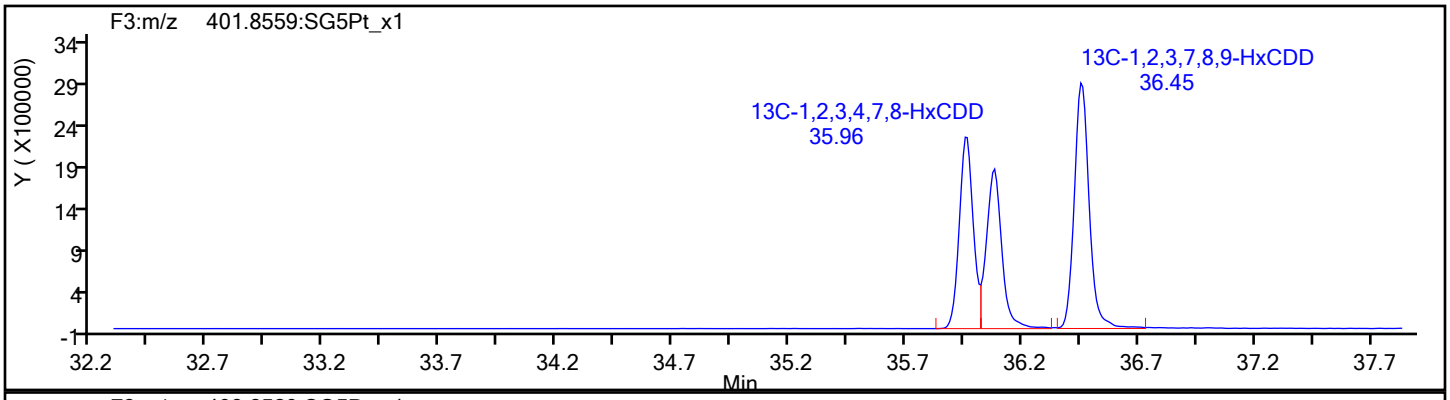
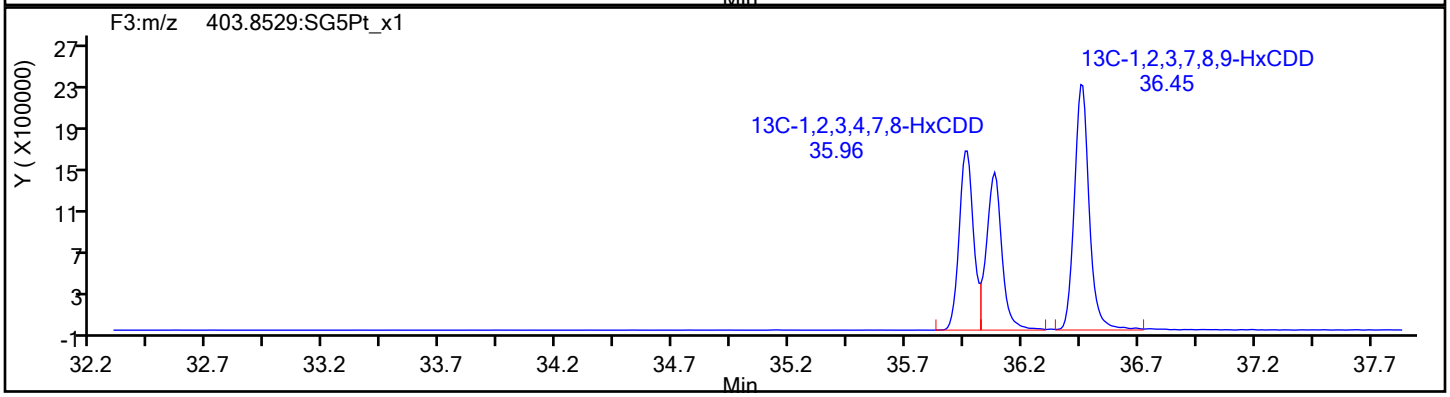
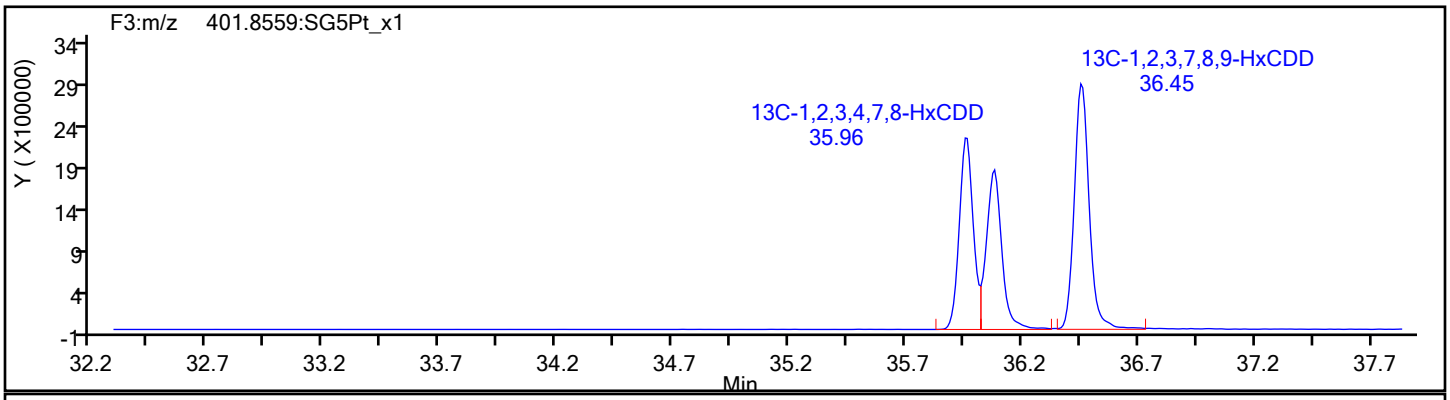
Column Type:	DB-5	Column Dia:	0.32 mm

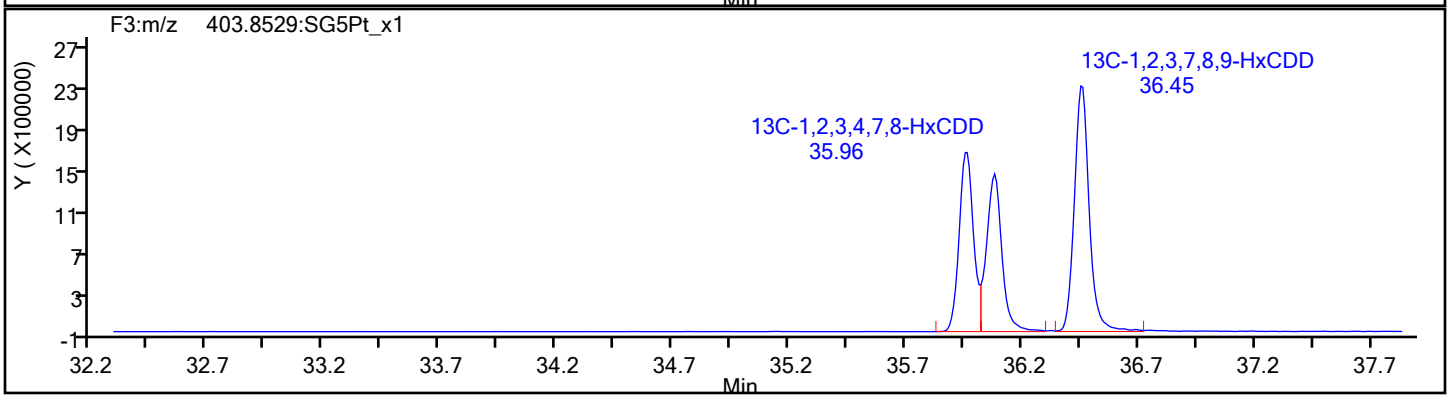
13C-HxCDD





13C-HxCDD Standards





Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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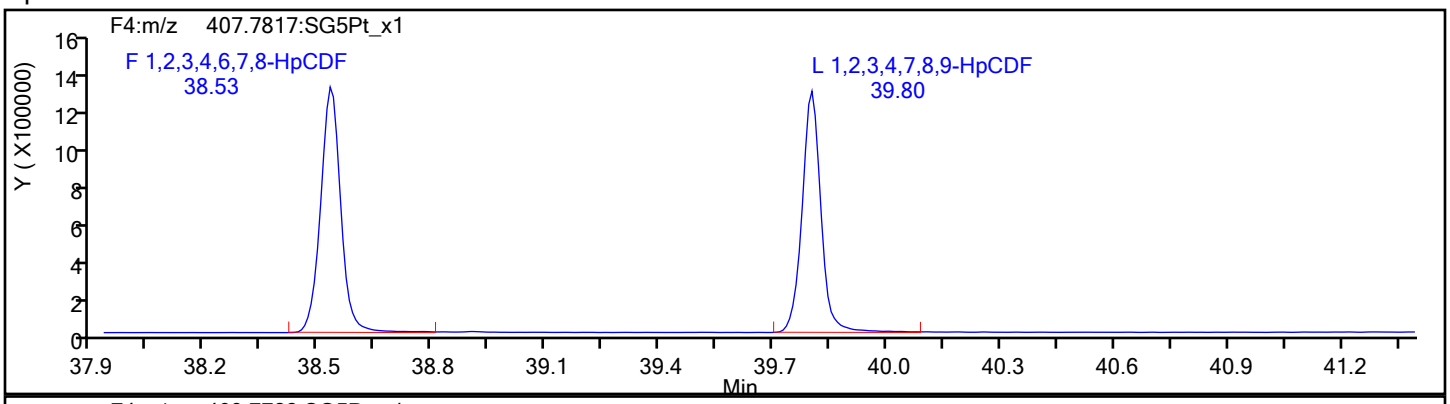
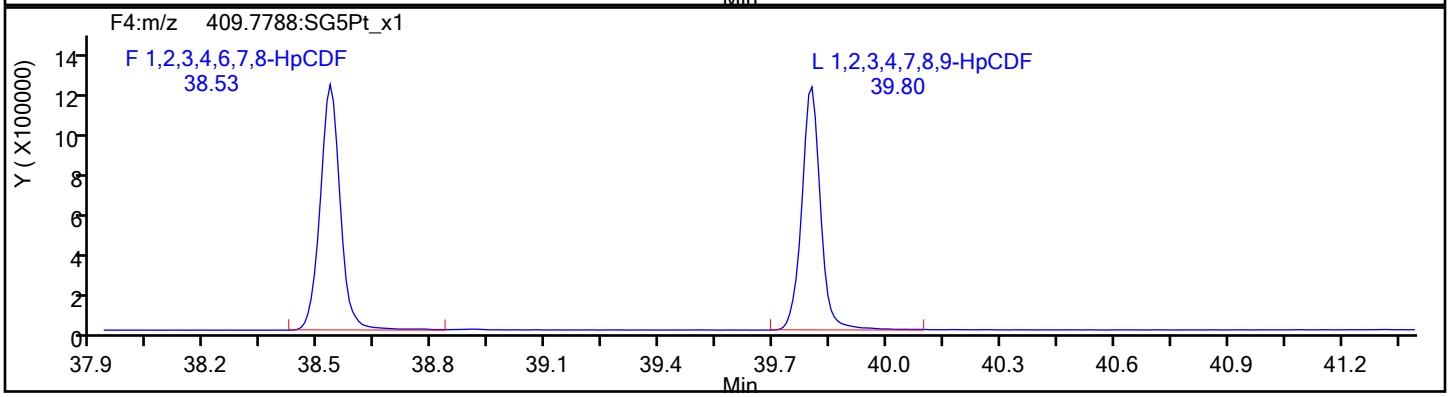
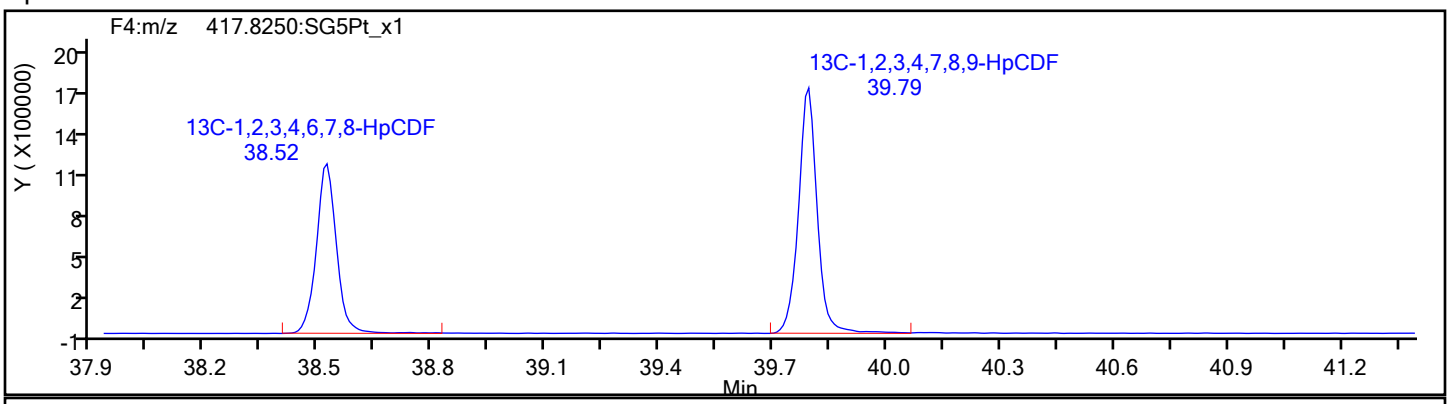
Column Type:	DB-5	Column Dia:	0.32 mm

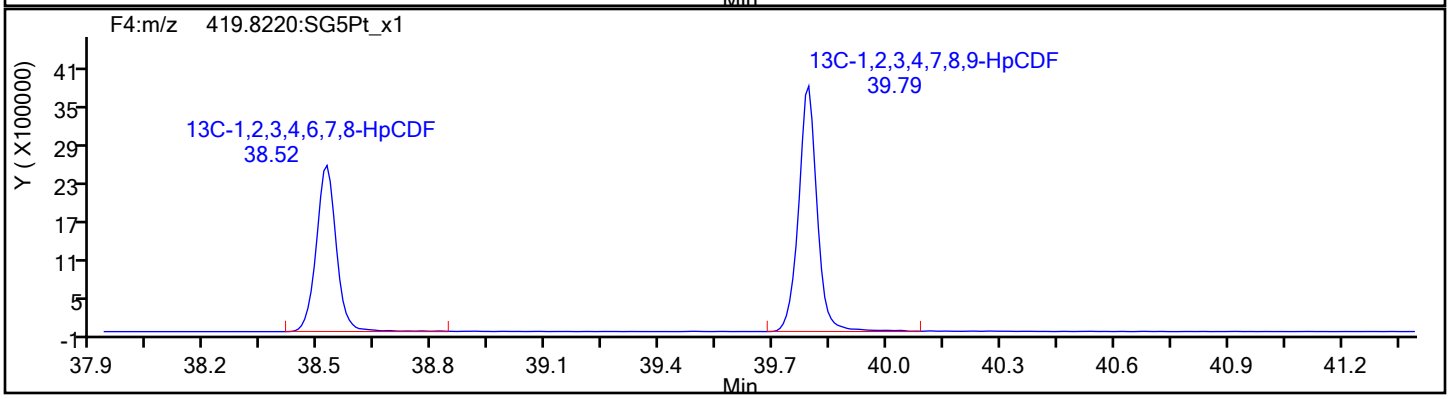
HpCDF





HpCDF Standards





Eurofins TestAmerica, Sacramento

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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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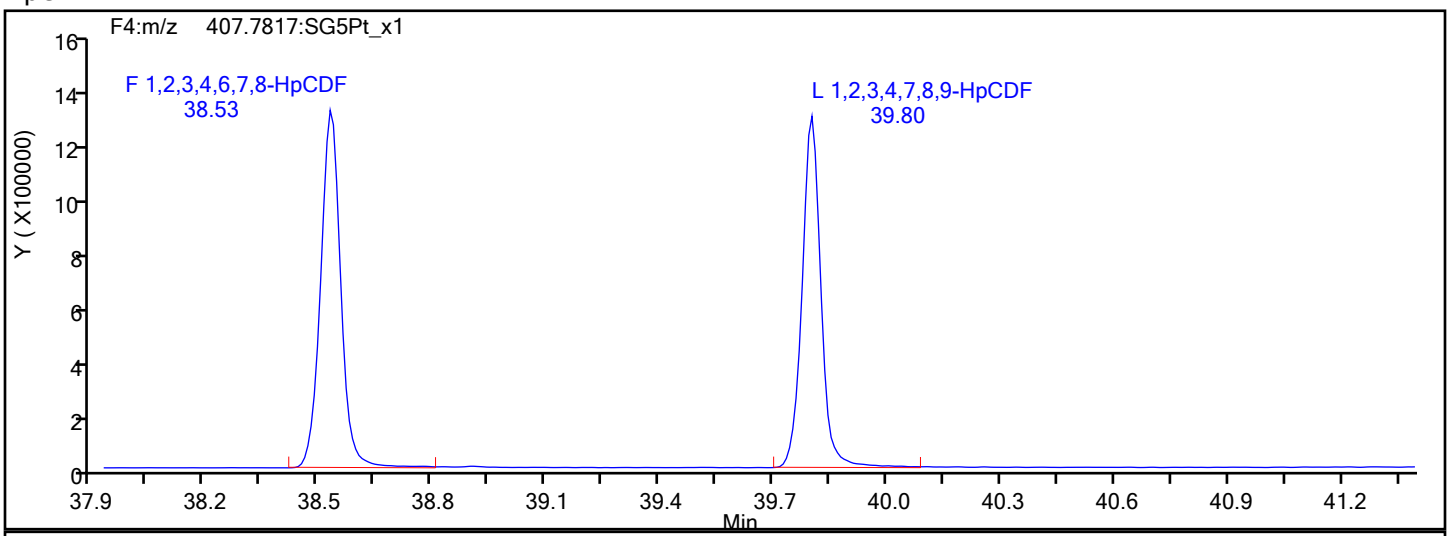
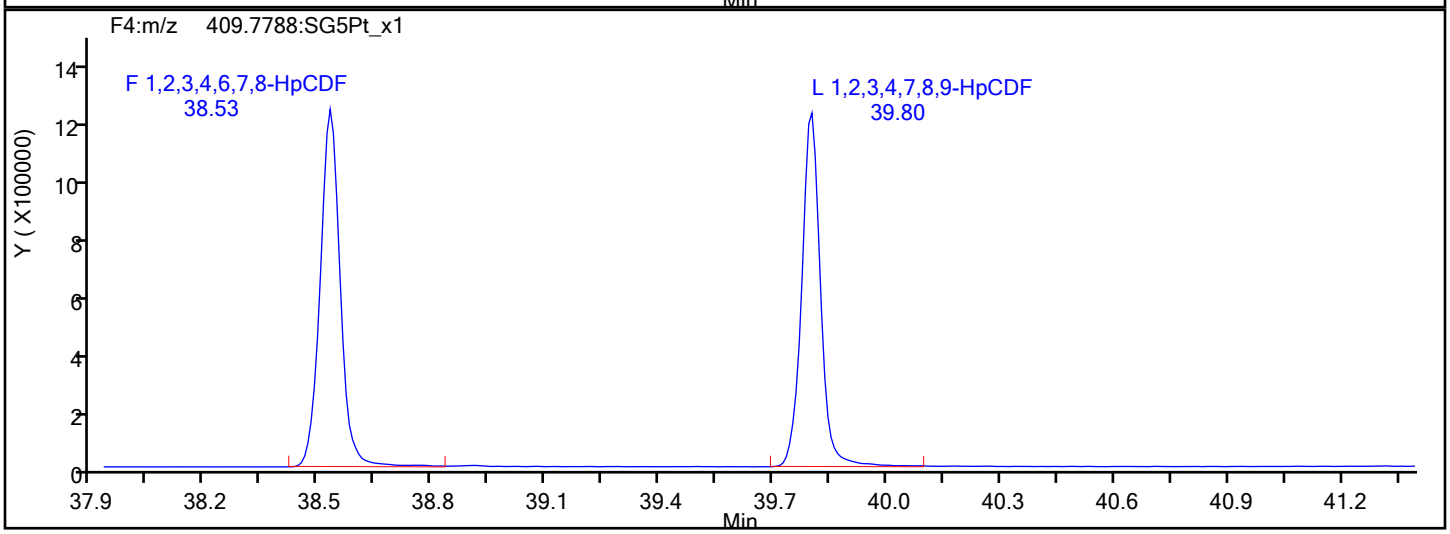
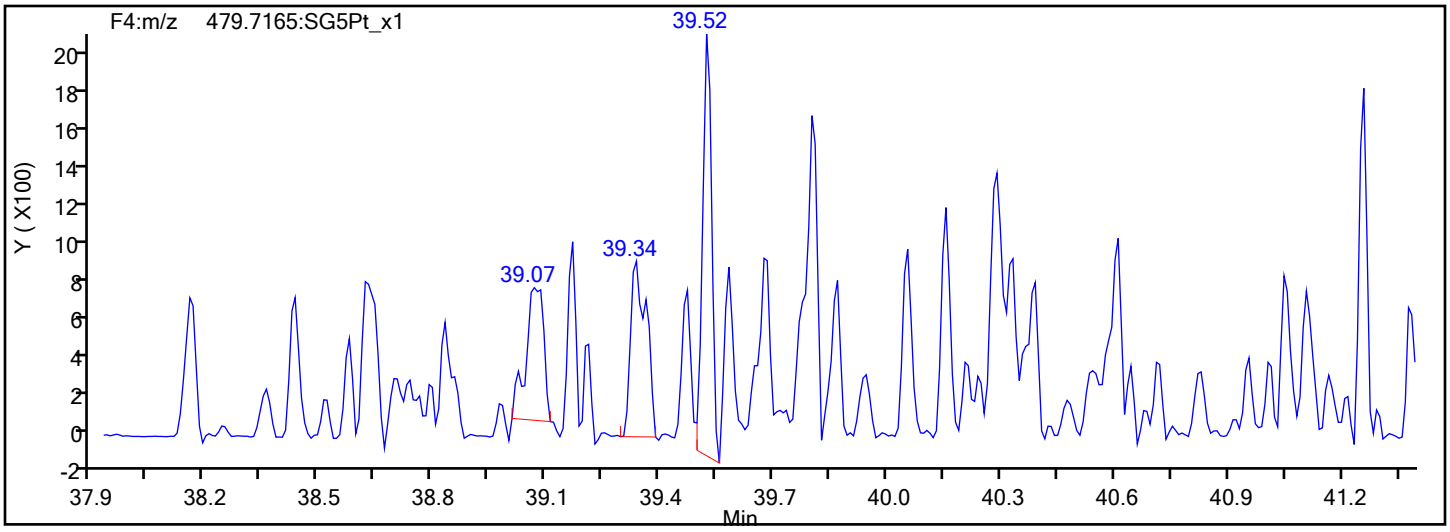
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins TestAmerica, Sacramento

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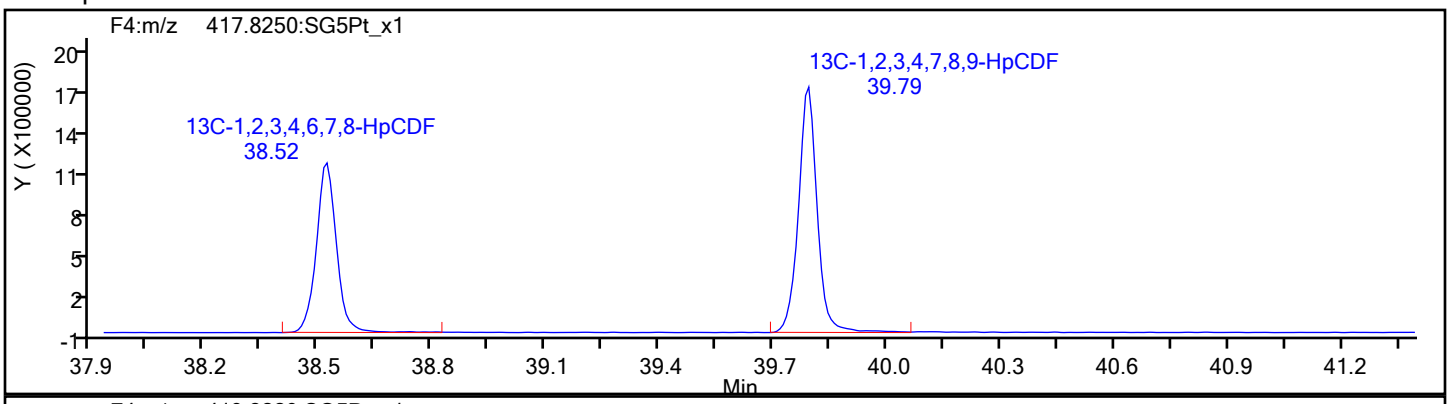
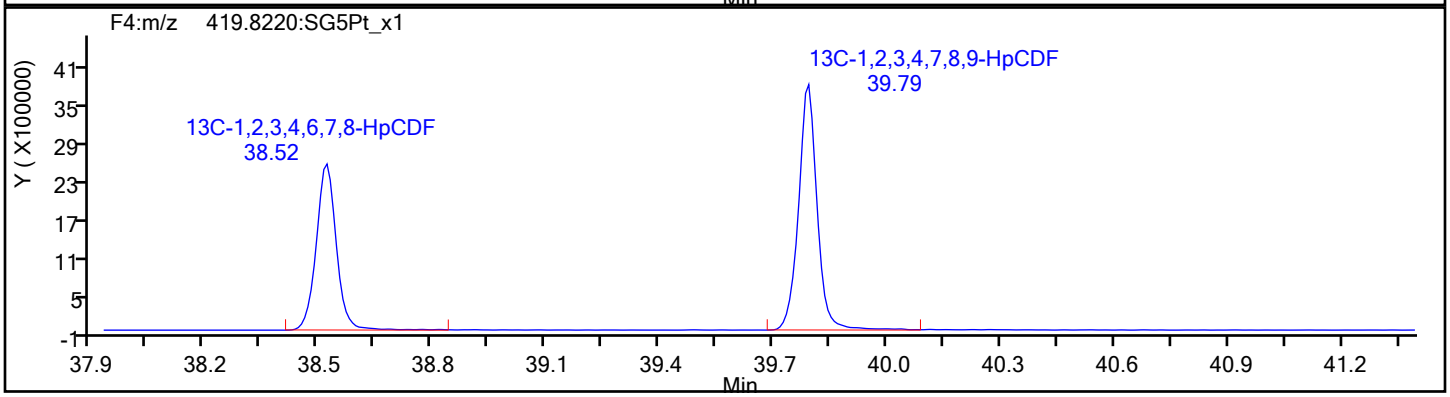
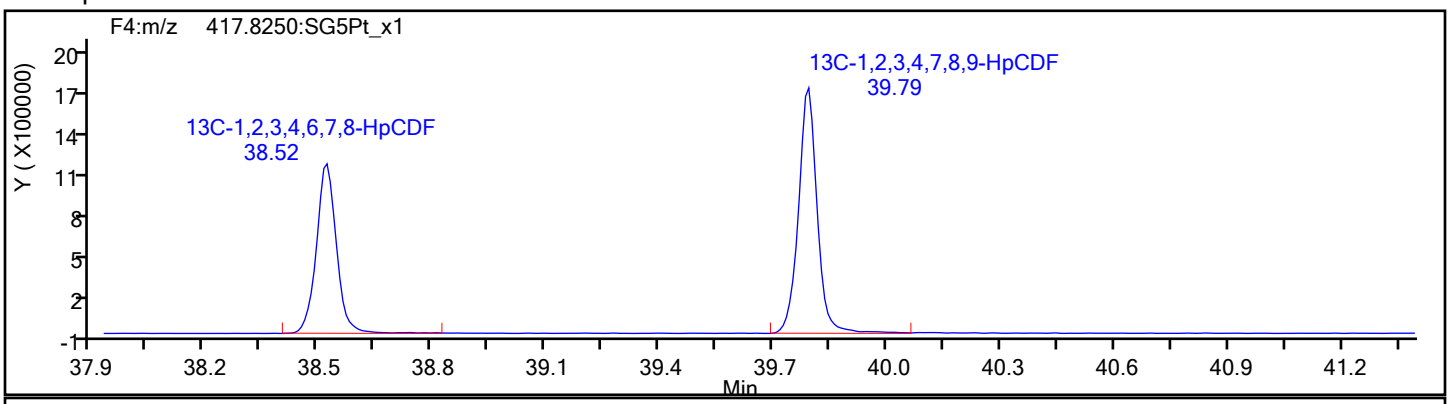
Column Type:	DB-5	Column Dia:	0.32 mm

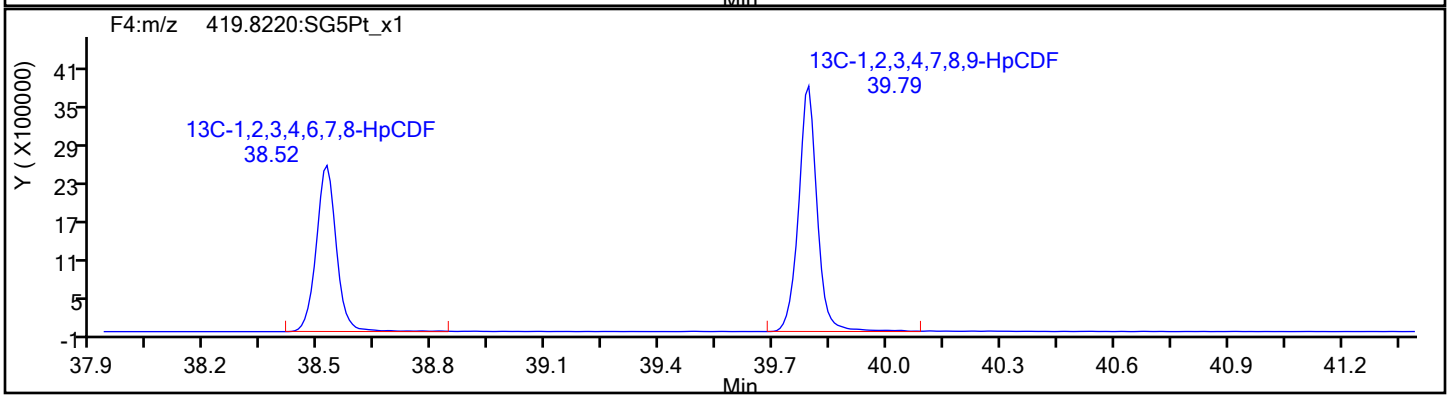
13C-HpCDF





13C-HpCDF Standards





Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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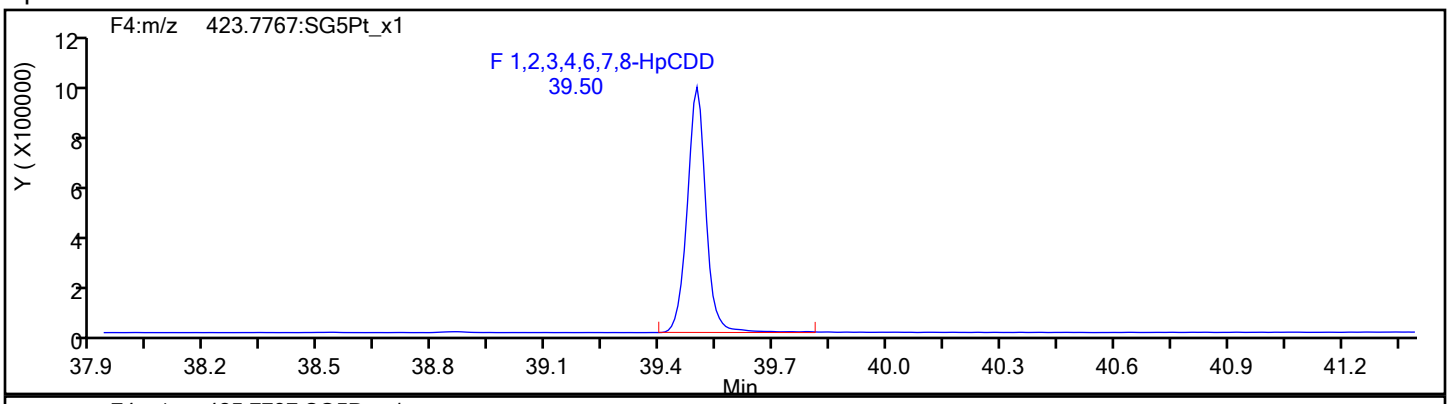
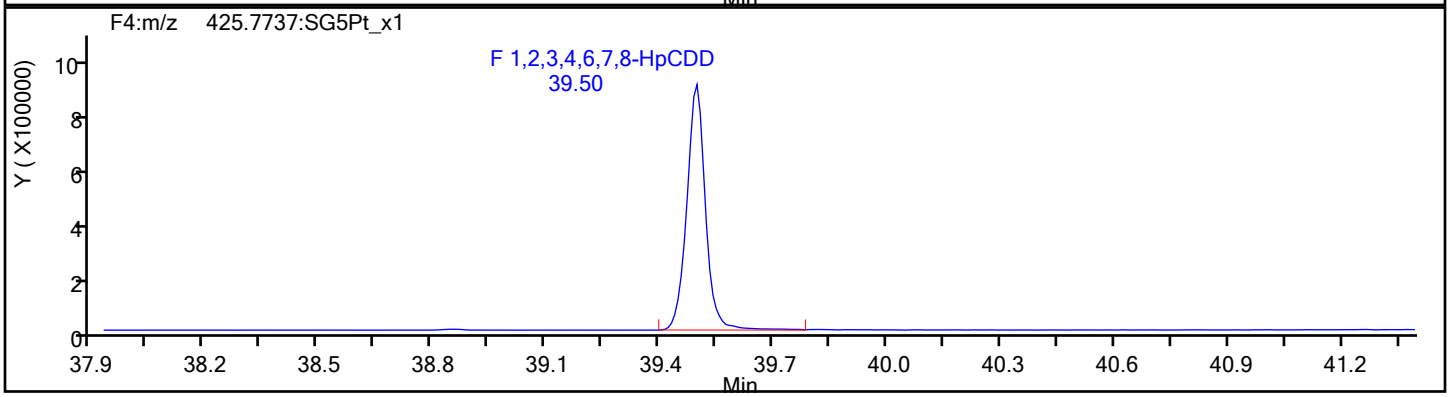
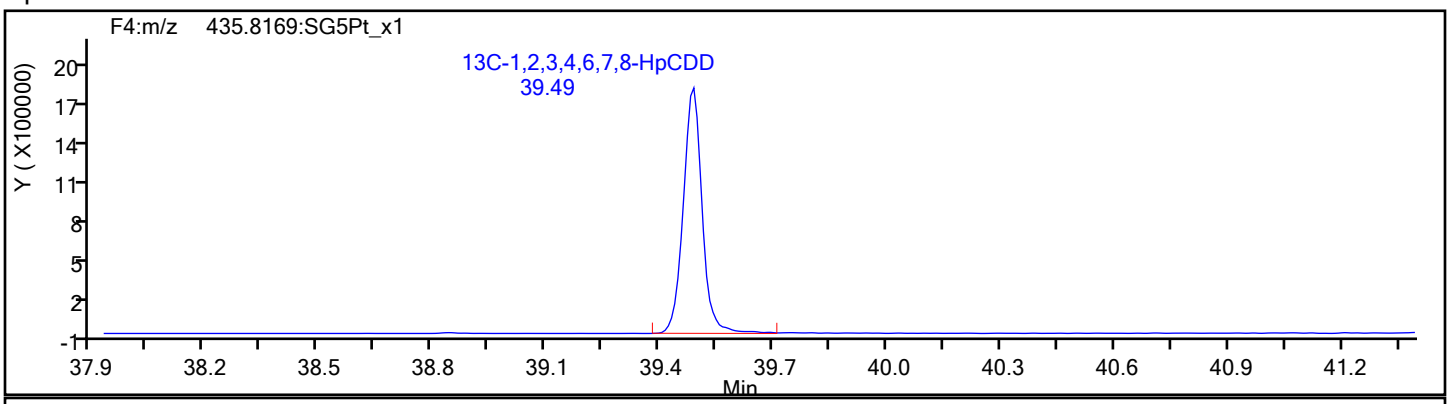
Column Type:	DB-5	Column Dia:	0.32 mm

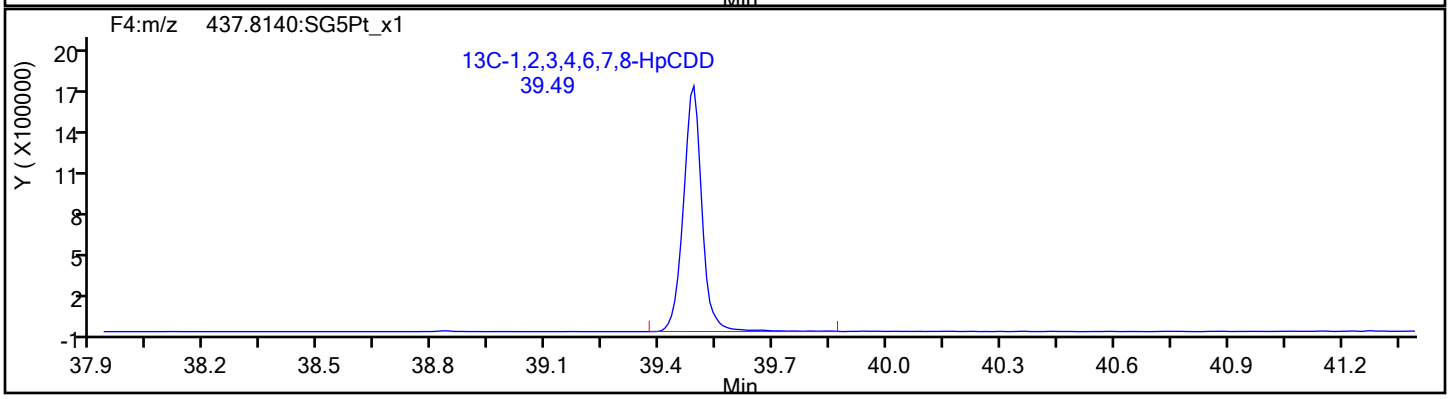
HpCDD





HpCDD Standards





Report Date: 28-Dec-2021 14:24:37 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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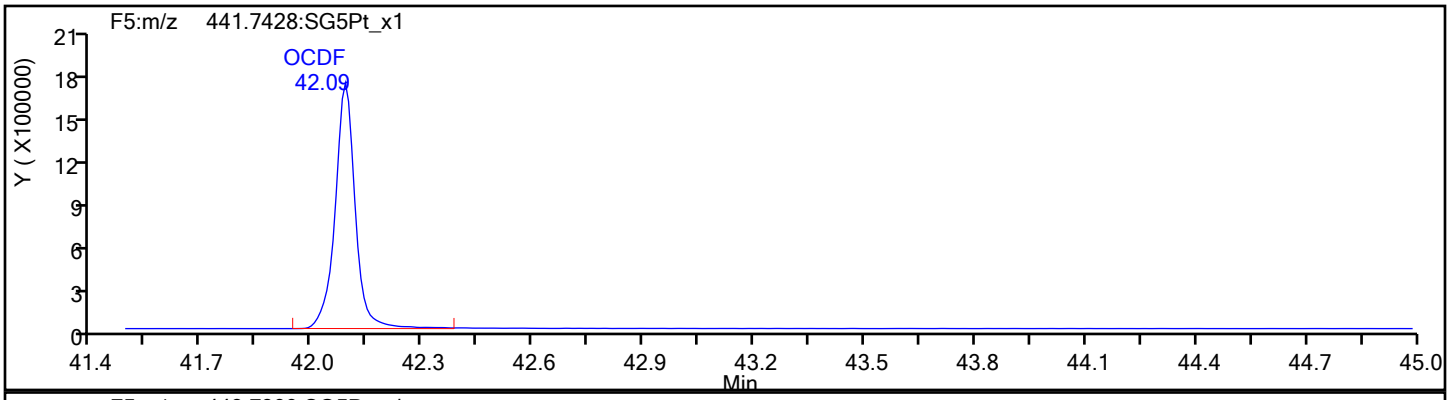
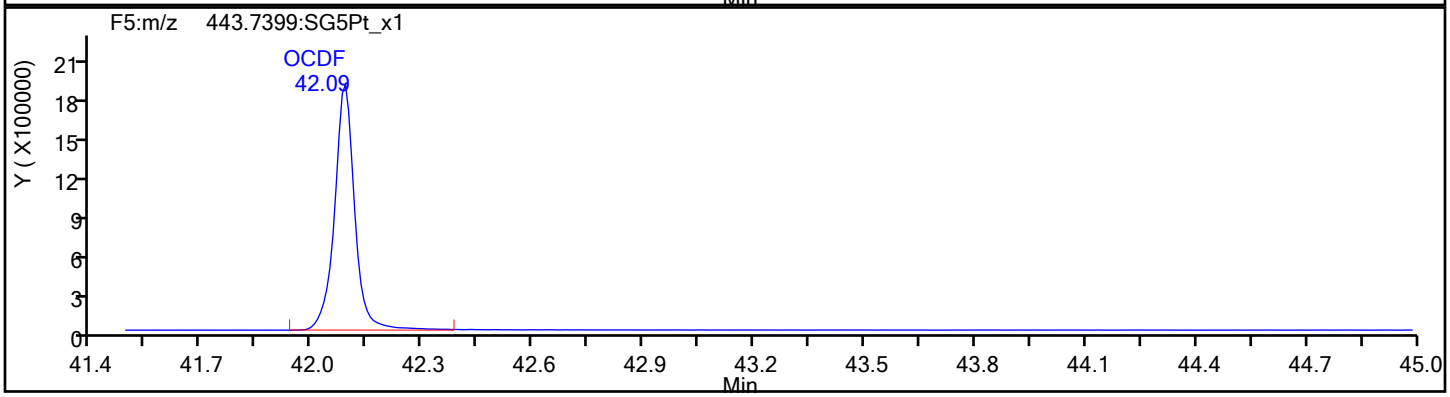
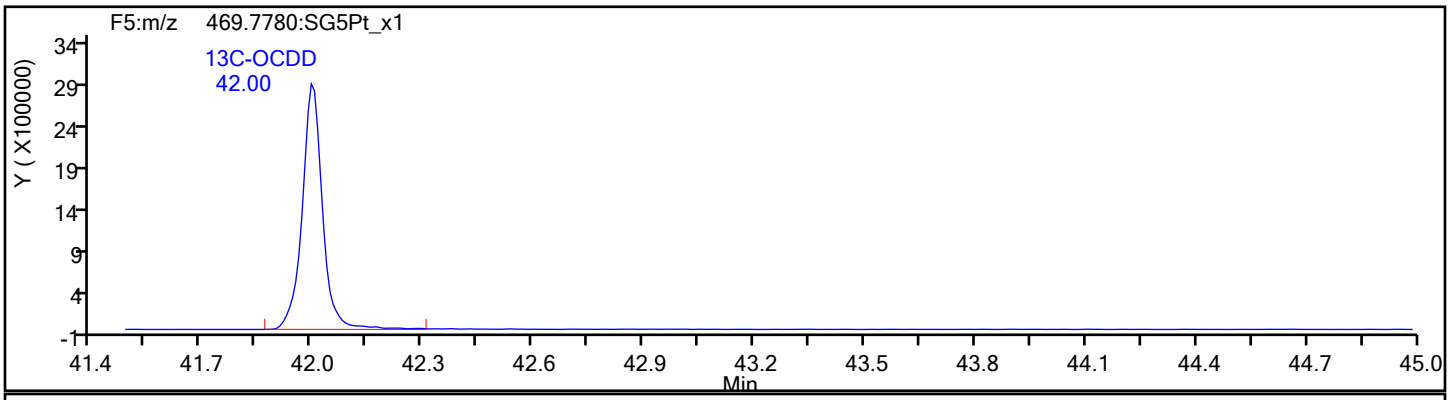
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

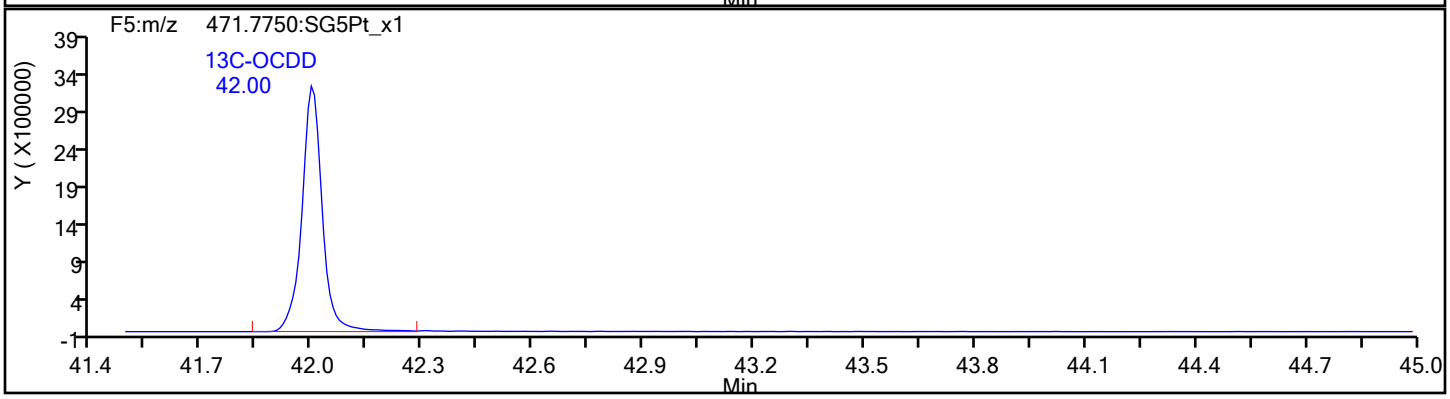
OCDF





OCDF Standards

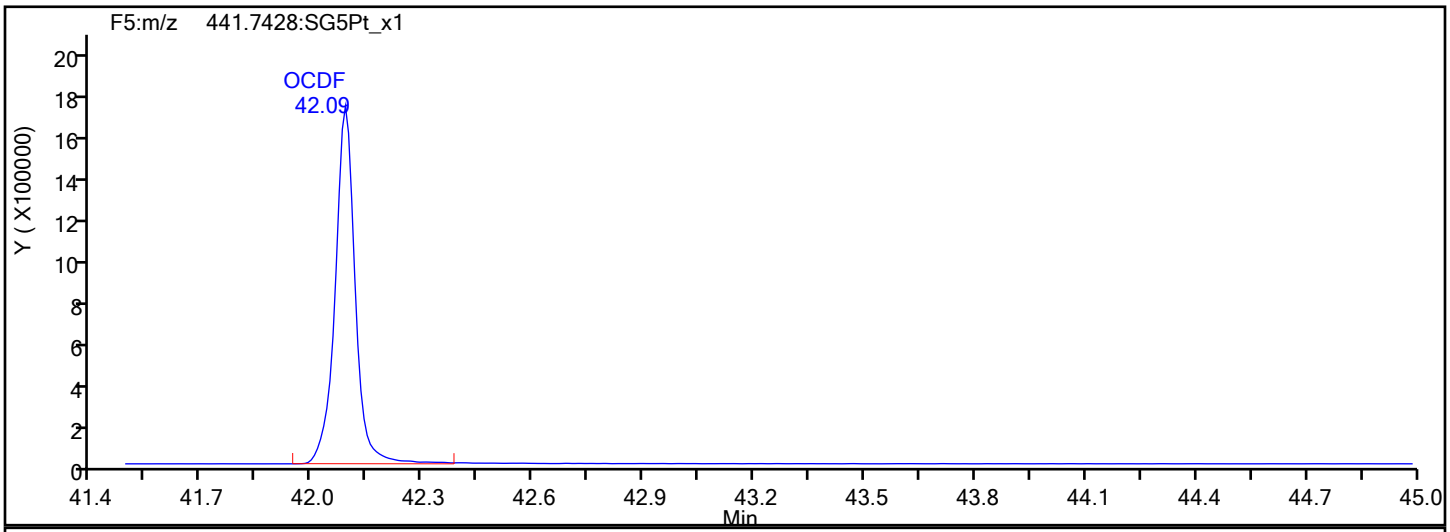


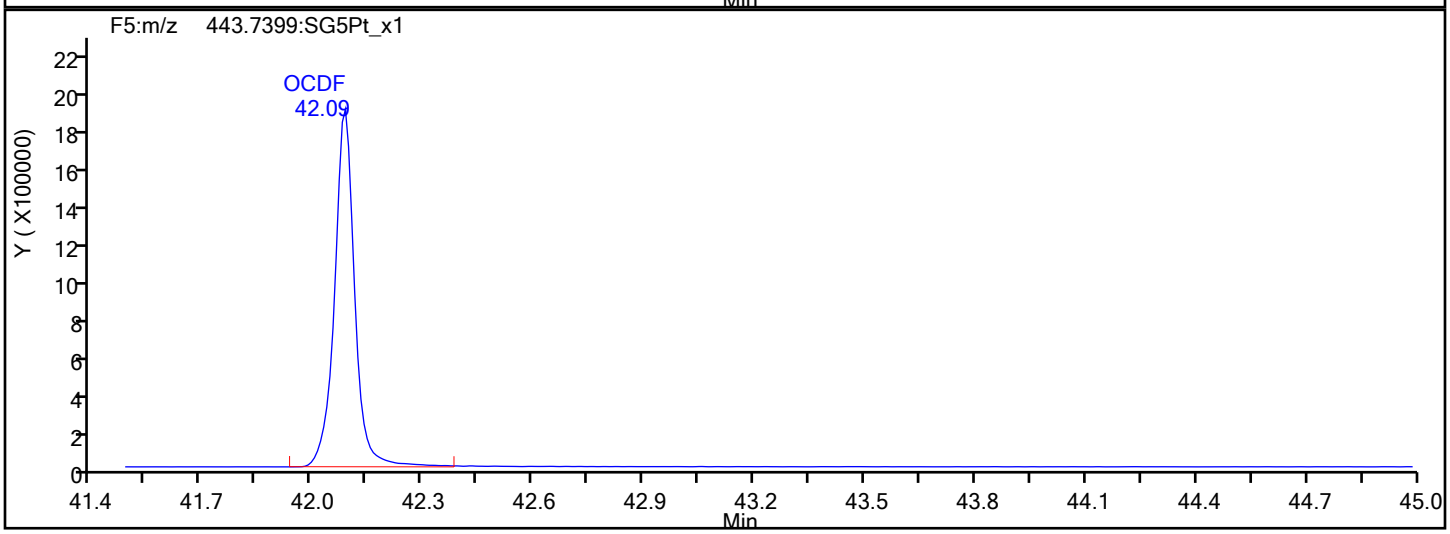


Eurofins TestAmerica, Sacramento

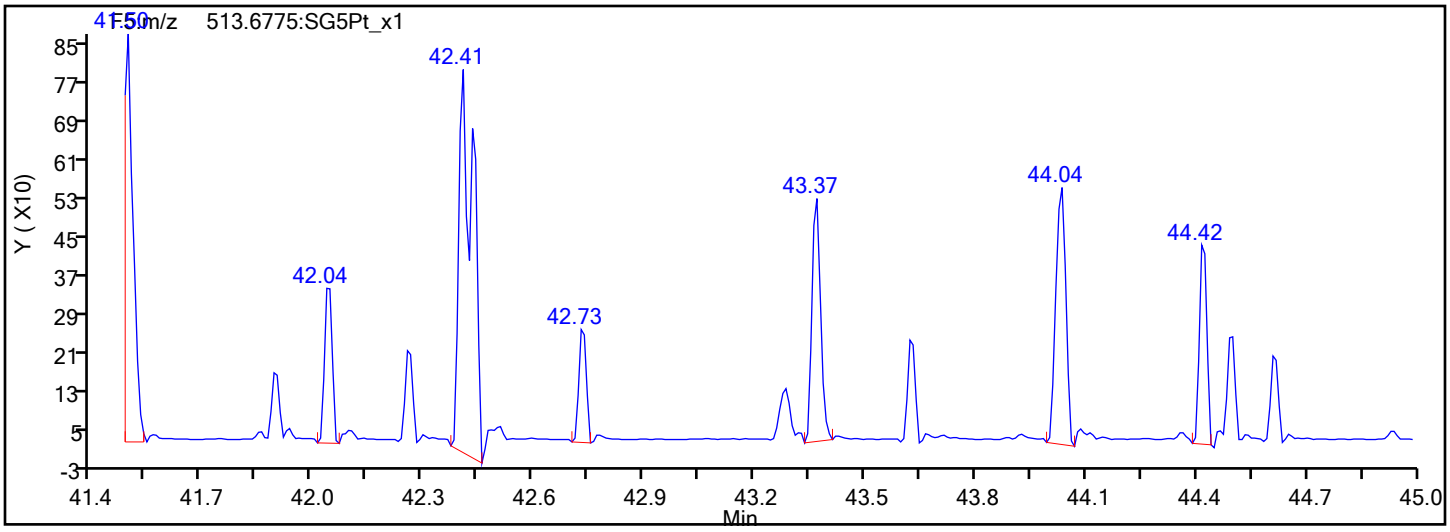
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

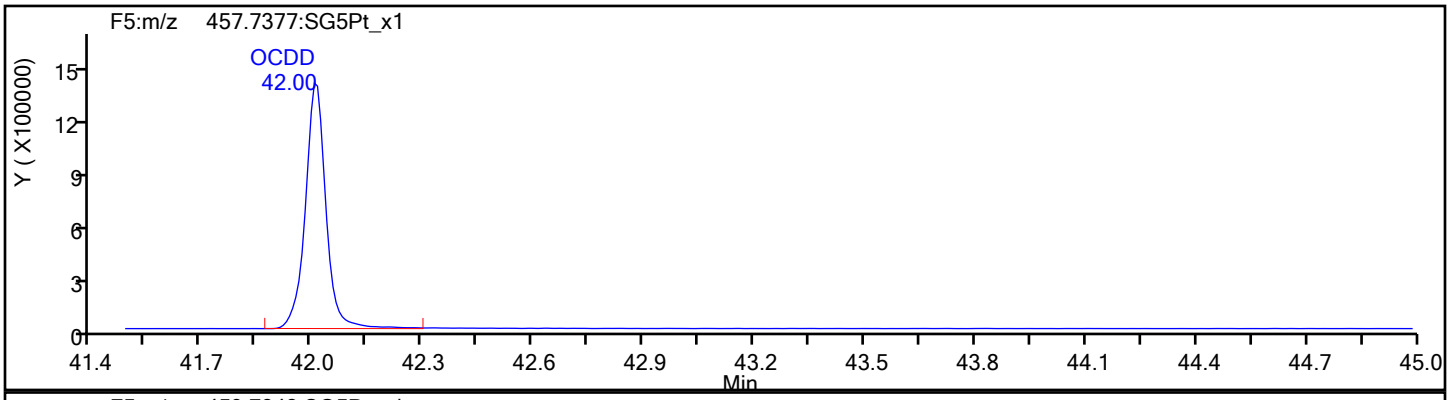


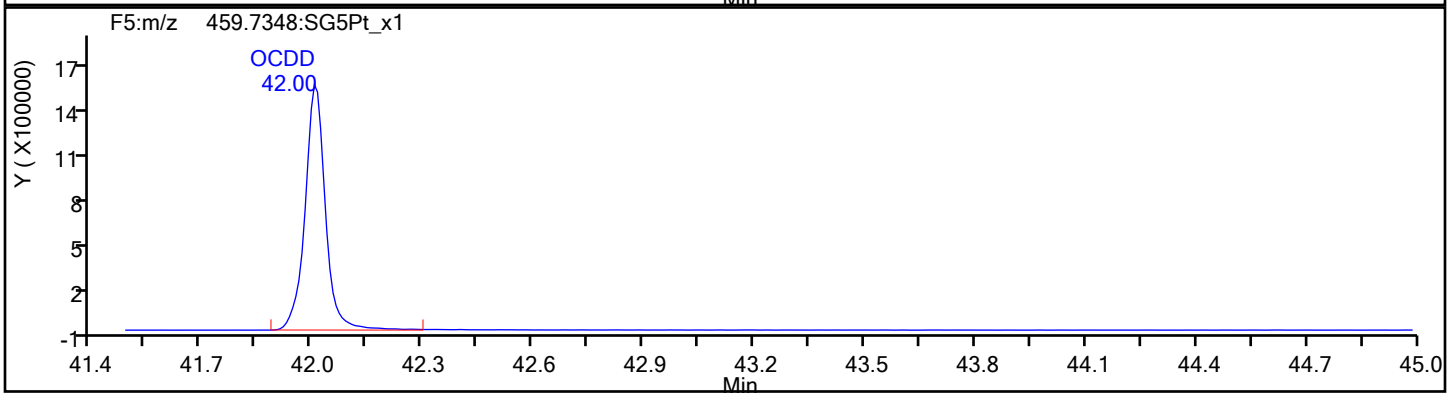
Report Date: 28-Dec-2021 14:24:37 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

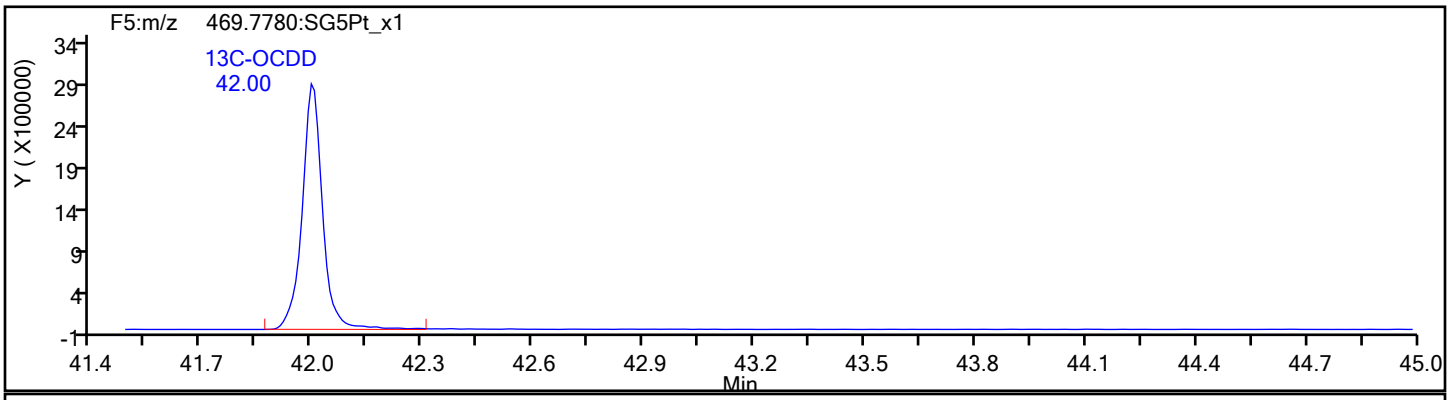
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

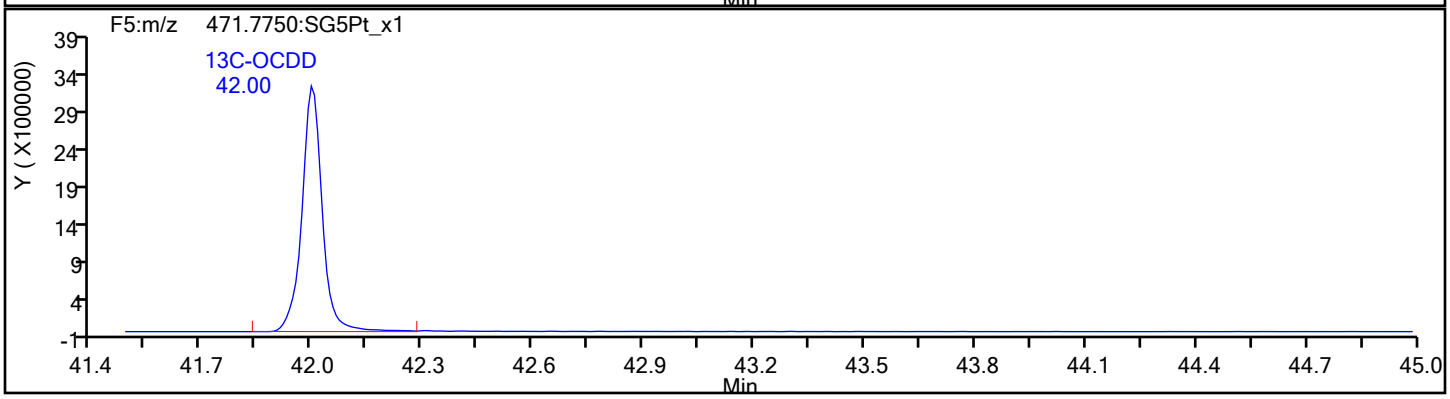
OCDD





OCDD Standards

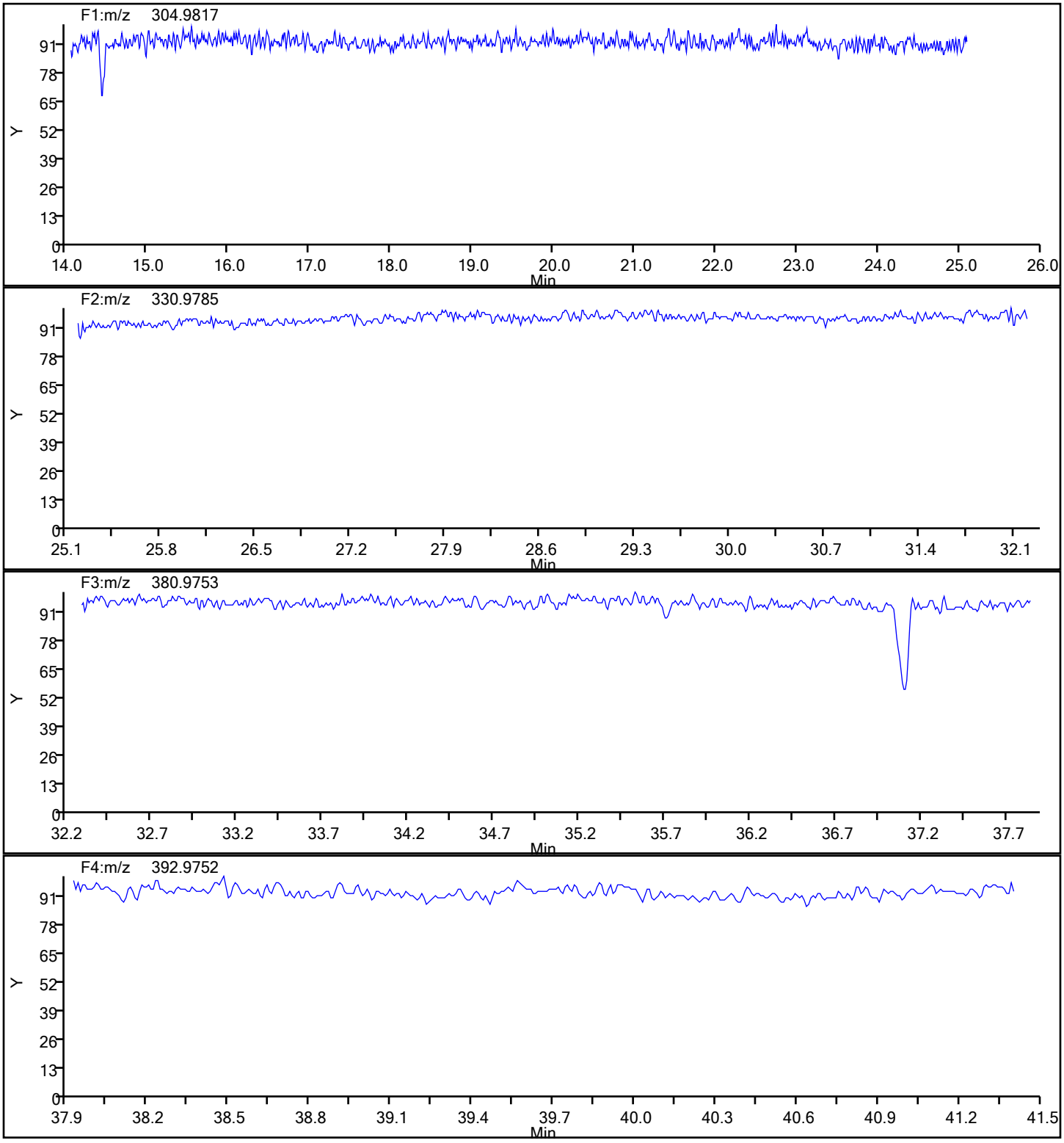




Report Date: 28-Dec-2021 14:24:37 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

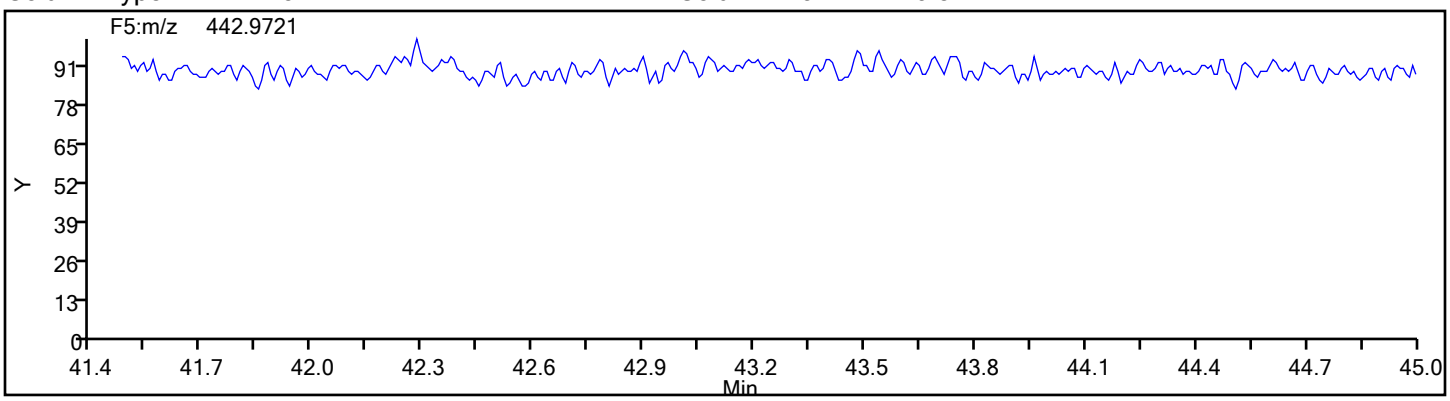
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 28-Dec-2021 14:24:37 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_15.d		
Injection Date:	27-Dec-2021 21:46:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-552716/3-A

Matrix: Water Lab File ID: 27de21adfs1_16.d

Analysis Method: 8290 Date Collected:

Extract. Method: 8290 Date Extracted: 12/21/2021 08:52

Sample wt/vol: 1000(mL) Date Analyzed: 12/27/2021 22:34

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 554312 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	187.9		10	1.2
51207-31-9	2,3,7,8-TCDF	180.3		10	0.52
40321-76-4	1,2,3,7,8-PeCDD	991.3		50	1.4
57117-41-6	1,2,3,7,8-PeCDF	922.3		50	3.4
57117-31-4	2,3,4,7,8-PeCDF	861.8		50	3.5
39227-28-6	1,2,3,4,7,8-HxCDD	783.3		50	2.3
57653-85-7	1,2,3,6,7,8-HxCDD	890.3		50	2.3
19408-74-3	1,2,3,7,8,9-HxCDD	912.7		50	2.1
70648-26-9	1,2,3,4,7,8-HxCDF	821.8		50	5.0
57117-44-9	1,2,3,6,7,8-HxCDF	1031		50	5.0
60851-34-5	2,3,4,6,7,8-HxCDF	1142		50	5.3
72918-21-9	1,2,3,7,8,9-HxCDF	1064		50	5.6
35822-46-9	1,2,3,4,6,7,8-HpCDD	928.6		50	2.3
67562-39-4	1,2,3,4,6,7,8-HpCDF	868.6		50	3.9
55673-89-7	1,2,3,4,7,8,9-HpCDF	946.9		50	4.5
3268-87-9	OCDD	1678		100	2.3
39001-02-0	OCDF	1631		100	2.4

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	90		40-135
89059-46-1	13C-2,3,7,8-TCDF	96		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	88		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	91		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	93		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	80		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	92		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	89		40-135
114423-97-1	13C-OCDD	108		40-135

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d
Lims ID: LCSD 320-552716/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 27-Dec-2021 22:34:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcsd 320-552716/3-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: bilottag Date: 28-Dec-2021 13:47:47

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.959	22368459	0.83	2.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	20.006	27599650	0.80	1.2917	95.5	95.5	0.3029	0.3029	95.52	
2,3,7,8-TCDF	20.023	2748795	0.80	1.1045	9.017	9.017	0.0258	0.0258	90.17	
A Non-2,3,7,8-sub-TCDF	19.632	4470	0.77	1.1045	0.0293	0.0147	0.0258	0.0258	0.00	RQ
S Total TCDF					9.046	9.032	0.0258	0.0258		RQ
D 13C-2,3,7,8-TCDD	21.329	16611918	0.82	0.8271	89.8	89.8	0.2476	0.2476	89.79	
2,3,7,8-TCDD	21.363	1749553	0.82	1.1211	9.395	9.395	0.0580	0.0580	93.95	
$ 37Cl4-2,3,7,8-TCDD	21.363	7106856		0.8866	35.8	35.8	0.0285	0.0285	89.59	
A Non-2,3,7,8-sub-TCDD	20.470						0.0580	0.0580		
S Total TCDD					9.395	9.395	0.0580	0.0580		
D 13C-1,2,3,7,8-PeCDF	26.940	23825922	1.56	1.1665	91.3	91.3	0.4469	0.4469	91.31	
1,2,3,7,8-PeCDF	26.957	12071705	1.57	1.0987	46.1	46.1	0.1698	0.1698	92.23	
$ 13C-2,3,4,7,8-PeCDF	28.431	29105426	1.60							
2,3,4,7,8-PeCDF	28.456	10860358	1.57	1.0579	43.1	43.1	0.1763	0.1763	86.18	
A F1 PeCDFs	24.442	360	1.55	1.0783	0.005002	0.001401	0.005853	0.005853	0.00	RQ
A Non-2,3,7,8-sub-PeCDF	27.884						0.1730	0.1730		
S Total PeCDF					89.2	89.2	0.1730	0.1730		RQ
D 13C-1,2,3,7,8-PeCDD	29.248	13389171	1.61	0.6835	87.6	87.6	0.1180	0.1180	87.57	
1,2,3,7,8-PeCDD	29.282	7319929	1.61	1.1030	49.6	49.6	0.0686	0.0686	99.13	
A Non-2,3,7,8-sub-PeCDD	28.134						0.0686	0.0686		
S Total PeCDD					49.6	49.6	0.0686	0.0686		
D 13C-1,2,3,4,7,8-HxCDF	34.702	25480990	0.54	1.1776	80.4	80.4	0.3331	0.3331	80.36	
1,2,3,4,7,8-HxCDF	34.727	9951836	1.24	0.9504	41.1	41.1	0.2488	0.2488	82.18	
D 13C-1,2,3,6,7,8-HxCDF	34.870	22663854	0.54							
1,2,3,6,7,8-HxCDF	34.895	12510695	1.24	0.9524	51.6	51.6	0.2483	0.2483	103	
D 13C-2,3,4,6,7,8-HxCDF	35.729	22856116	0.54							
2,3,4,6,7,8-HxCDF	35.737	12935506	1.26	0.8893	57.1	57.1	0.2659	0.2659	114	
D 13C-1,2,3,7,8,9-HxCDF	36.639	21161354	0.53							
1,2,3,7,8,9-HxCDF	36.656	11427132	1.25	0.8433	53.2	53.2	0.2804	0.2804	106	
A Non-2,3,7,8-sub-HxCDF	34.874						0.2602	0.2602		
S Total HxCDF					202.9	202.9	0.2609	0.2609		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	36.445	26927905	1.27	2.6E+05	100.0	100.0				
$ 13C-1,2,3,4,7,8-HxCDD	35.948	18745473	1.29							
1,2,3,4,7,8-HxCDD	35.965	7251899	1.25	1.0079	39.2	39.2	0.1150	0.1150	78.33	
D 13C-1,2,3,6,7,8-HxCDD	36.066	18372298	1.28	0.7339	93.0	93.0	0.2322	0.2322	92.96	
1,2,3,6,7,8-HxCDD	36.083	8269162	1.26	1.0111	44.5	44.5	0.1146	0.1146	89.03	
1,2,3,7,8,9-HxCDD	36.462	9216517	1.25	1.0993	45.6	45.6	0.1054	0.1054	91.27	
A Non-2,3,7,8-sub-HxCDD	35.257						0.1115	0.1115		
S Total HxCDD					129.3	129.3	0.1117	0.1117		
D 13C-1,2,3,4,6,7,8-HpCDF	38.512	16000159	0.46	0.6698	88.7	88.7	0.4460	0.4460	88.71	
1,2,3,4,6,7,8-HpCDF	38.521	10551509	1.04	1.5184	43.4	43.4	0.1967	0.1967	86.86	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.785	22626357	0.46							
1,2,3,4,7,8,9-HpCDF	39.793	10141360	1.04	1.3387	47.3	47.3	0.2231	0.2231	94.69	
A Non-2,3,7,8-sub-HpCDF	39.191						0.2091	0.2091		
S Total HpCDF					90.8	90.8	0.2099	0.2099		
D 13C-1,2,3,4,6,7,8-HpCDD	39.481	14755550	1.07	0.5943	92.2	92.2	0.2806	0.2806	92.21	
1,2,3,4,6,7,8-HpCDD	39.490	7503358	1.05	1.0953	46.4	46.4	0.1127	0.1127	92.86	
A Non-2,3,7,8-sub-HpCDD	39.200						0.1127	0.1127		
S Total HpCDD					46.4	46.4	0.1127	0.1127		
D 13C-OCDD	41.986	28186508	0.92	0.4838	216.4	216.4	0.3895	0.3895	108	
OCDF	42.070	16069029	0.91	1.3979	81.6	81.6	0.1176	0.1176	81.56	
OCDD	41.995	13143592	0.89	1.1116	83.9	83.9	0.1159	0.1159	83.90	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d
Lims ID: LCSD 320-552716/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 27-Dec-2021 22:34:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcsd 320-552716/3-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 28-Dec-2021 14:24:22 Calib Date: 18-Nov-2021 18:38:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20211118-131215.b\18no21adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1646

First Level Reviewer: bilottag Date: 28-Dec-2021 13:47:47

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.959	20.980	-1		10153030	1489360	1714	4285	869		
333.9338	20.959	20.980	-1		12215429	1743487	934	2335	1867	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	20.006	20.017	-1	0.955	12293103	1819840	3439	8597	529		
317.9389	19.997	20.017	-1	0.954	15306547	2271027	1620	4050	1402	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	20.023	20.025	0	1.001	1221021	173061	145	362	1194		
305.8987	20.023	20.025	0	1.001	1527774	222182	322	805	690	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	19.319	19.632	-19	0.966	1945	616	145	362	4		
305.8987	19.353	19.632	-17	0.967	6992	1419	322	805	4	0.28(0.65-0.89)	
	Empc Correction				2525	800	322	805	2		
13C-2,3,7,8-TCDD											
331.9368	21.329	21.350	-1	1.018	7466421	1066059	1714	4285	622		
333.9338	21.329	21.350	-1	1.018	9145497	1282948	934	2335	1374	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.363	21.384	-1	1.002	786005	109661	429	1072	256		
321.8936	21.363	21.384	-1	1.002	963548	138549	182	455	761	0.82(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	21.363	21.384	-1	1.019	7106856	965181	327	817	2952		
A Non-2,3,7,8-sub-TCDD											
319.8965	20.470						429	1072			
321.8936	20.470						182	455			
13C-1,2,3,7,8-PeCDF											
351.9000	26.940	26.962	-1	1.285	14508475	2375921	4153	10382	572		
353.8970	26.940	26.962	-1	1.285	9317447	1505753	2588	6470	582	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.957	26.979	-1	1.001	7379668	1182815	1649	4122	717		
341.8567	26.957	26.979	-1	1.001	4692037	760118	1247	3117	610	1.57(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.431	28.460	-2	1.055	17900264	2705319	4153	10382	651		
353.8970	28.431	28.460	-2	1.055	11205162	1699146	2588	6470	657	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	28.456	28.486	-2	1.056	6632173	989597	1649	4122	600		
341.8567	28.456	28.486	-2	1.056	4228185	629617	1247	3117	505	1.57(1.32-1.78)	
A F1 PeCDFs											RQ
339.8597	24.938	24.442	30	0.926	219	145	2	5	73		
341.8567	24.904	24.442	28	0.924	1066	374	96	240	4	0.21(1.32-1.78)	
	Empc Correction				141	93	96	240	1		
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.884						1649	4122			
341.8567	27.884						1247	3117			
13C-1,2,3,7,8-PeCDD											
367.8949	29.248	29.269	-1	1.395	8252427	1151740	566	1415	2035		
369.8919	29.248	29.269	-1	1.395	5136744	737775	477	1192	1547	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.282	29.303	-1	1.001	4519101	648404	425	1062	1526		
357.8516	29.273	29.303	-2	1.001	2800828	400262	147	367	2723	1.61(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	28.134						425	1062			
357.8516	28.134						147	367			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.702	34.727	-2	0.952	8902318	1820576	3392	8480	537		
385.8610	34.702	34.727	-2	0.952	16578672	3348523	6563	16407	510	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.727	34.752	-2	1.001	5518724	1090582	2628	6570	415		
375.8178	34.718	34.752	-2	1.000	4433112	878160	2262	5655	388	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.870	34.904	-2	0.957	7987446	1535534	3392	8480	453		
385.8610	34.870	34.904	-2	0.957	14676408	2797179	6563	16407	426	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.895	34.920	-2	1.006	6936324	1322985	2628	6570	503		
375.8178	34.895	34.920	-2	1.006	5574371	1060045	2262	5655	469	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.729	35.745	-1	0.980	7983646	1784089	3392	8480	526		
385.8610	35.729	35.745	-1	0.980	14872470	3235938	6563	16407	493	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.737	35.762	-1	1.030	7206728	1615500	2628	6570	615		
375.8178	35.746	35.762	-1	1.030	5728778	1254431	2262	5655	555	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.639	36.655	-1	1.005	7347028	1742843	3392	8480	514		
385.8610	36.639	36.655	-1	1.005	13814326	3235182	6563	16407	493	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	36.656	36.671	-1	1.056	6338827	1481820	2628	6570	564		
375.8178	36.656	36.671	-1	1.056	5088305	1158465	2262	5655	512	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.874						2628	6570			
375.8178	34.874						2262	5655			
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.445	36.469	-1		15078373	3586349	2441	6102	1469		
403.8529	36.445	36.469	-1		11849532	2759008	1884	4710	1464	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.948	35.973	-1	0.997	10574129	2545064	2441	6102	1043		
403.8529	35.948	35.973	-1	0.997	8171344	2006036	1884	4710	1065	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.965	35.981	-1	0.997	4024602	976388	1003	2507	973		
391.8127	35.965	35.981	-1	0.997	3227297	782842	810	2025	966	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	36.066	36.090	-1	0.990	10316104	2204527	2441	6102	903		
403.8529	36.074	36.090	-1	0.990	8056194	1705199	1884	4710	905	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	36.083	36.107	-1	1.000	4616346	997837	1003	2507	995		
391.8127	36.083	36.107	-1	1.000	3652816	804169	810	2025	993	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.462	36.478	-1	1.011	5118977	1176940	1003	2507	1173		
391.8127	36.453	36.478	-1	1.011	4097540	930816	810	2025	1149	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	35.257						1003	2507			
391.8127	35.257						810	2025			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.512	38.526	-1	1.057	5060038	1393012	2684	6710	519		
419.8220	38.512	38.526	-1	1.057	10940121	2978381	4898	12245	608	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.521	38.543	-1	1.000	5379010	1475001	2723	6807	542		
409.7788	38.521	38.543	-1	1.000	5172499	1427134	2500	6250	571	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.785	39.798	-1	1.033	7153248	2102048	2684	6710	783		
419.8220	39.785	39.798	-1	1.033	15473109	4601403	4898	12245	939	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.793	39.806	-1	1.033	5161232	1532882	2723	6807	563		
409.7788	39.793	39.806	-1	1.033	4980128	1463500	2500	6250	585	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	39.191						2723	6807			
409.7788	39.191						2500	6250			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.481	39.495	-1	1.083	7624933	2221334	2212	5530	1004		
437.8140	39.481	39.495	-1	1.083	7130617	2110221	2020	5050	1045	1.07(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7767	39.490	39.503	-1	1.000	3851555	1144352	1142	2855	1002		
425.7737	39.490	39.503	-1	1.000	3651803	1072205	996	2490	1077	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	39.200						1142	2855			
425.7737	39.200						996	2490			
13C-OCDD											
469.7780	41.986	42.008	-1	1.152	13499278	3593586	2808	7020	1280		
471.7750	41.986	42.008	-1	1.152	14687230	3866802	1974	4935	1959	0.92(0.76-1.02)	
OCDF											
441.7428	42.070	42.101	-2	1.002	7667042	2003483	1049	2622	1910		
443.7399	42.070	42.101	-2	1.002	8401987	2229432	1403	3507	1589	0.91(0.76-1.02)	
OCDD											
457.7377	41.995	42.016	-1	1.000	6199485	1650867	896	2240	1842		
459.7348	41.995	42.016	-1	1.000	6944107	1831207	1026	2565	1785	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d
Lims ID: LCSD 320-552716/3-A
Client ID:
Inject. Date: 27-Dec-2021 22:34:00 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 5

Non-2,3,7,8-sub-TCDF, RT: 19.632

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.105	D 13C-2,3,7,8-TCDF	100.000	27599650	4090867

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.105		100.000	27599650	4090867

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
19.319	1945	616	6992	1419	0.0293	0.28	RQ
19.319	1945	616	2525	800	0.0147		Empc Correction
Signal Totals:							
	1945	616	2525	800			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8937	2035				0.28	RQ
	4470	1416					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0293 = (8937 * 100.000) / (27599650 * 1.105)
Empc Amount: 0.0147 = (4470 * 100.000) / (27599650 * 1.105)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d
Lims ID: LCSD 320-552716/3-A
Client ID:
Inject. Date: 27-Dec-2021 22:34:00 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 554312 Lims Sample ID: 5

F1 PeCDFs, RT: 24.442

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.099	D 13C-1,2,3,7,8-PeCDF	100.000	23825922	3881674
2,3,4,7,8-PeCDF	1.058				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.078		100.000	23825922	3881674

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
24.938	219	145	1066	374	0.005002	0.21	RQ
24.938	219	145	141	93	0.001401		Empc Correction
Signal Totals:							
	219	145	141	93			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1285	519				0.21	RQ
	360	238					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

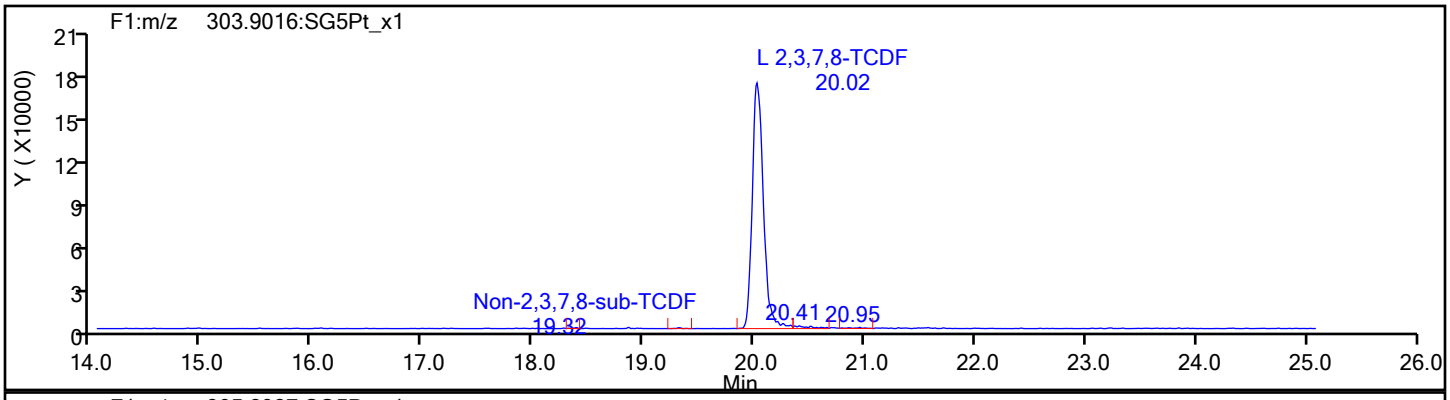
Amount: 0.005002 = (1285 * 100.000) / (23825922 * 1.078)
Empc Amount: 0.001401 = (360 * 100.000) / (23825922 * 1.078)

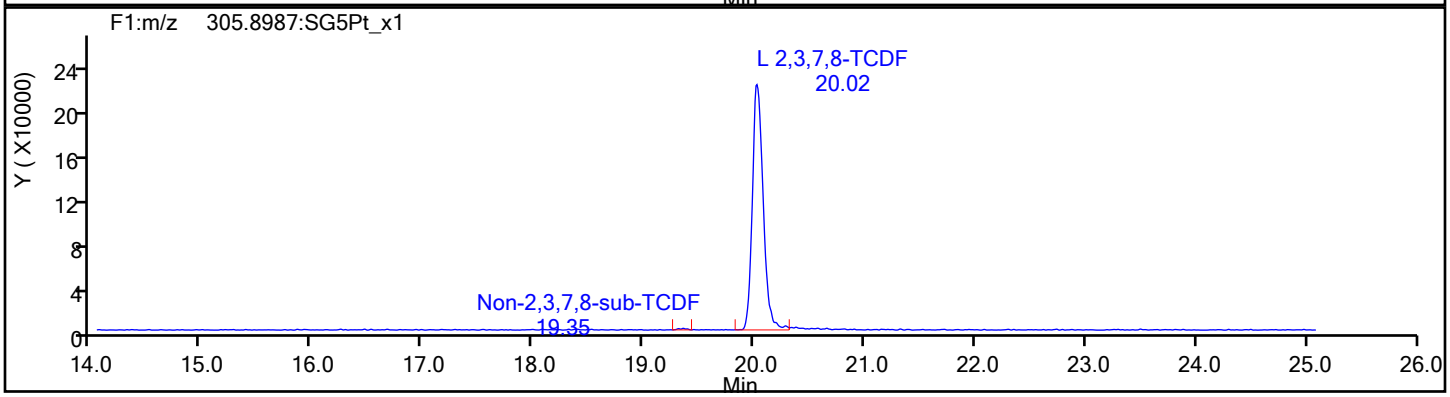
QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

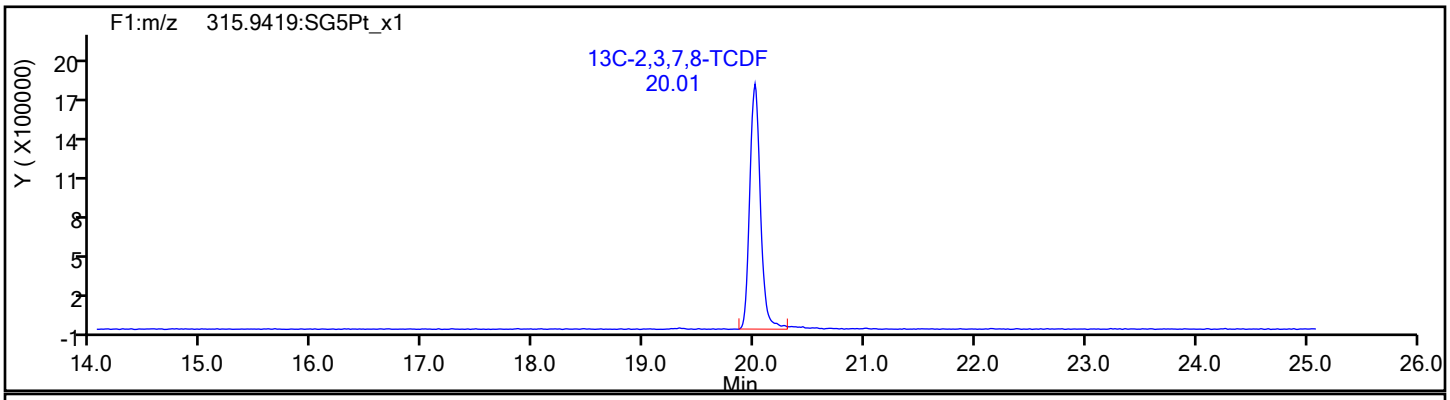
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

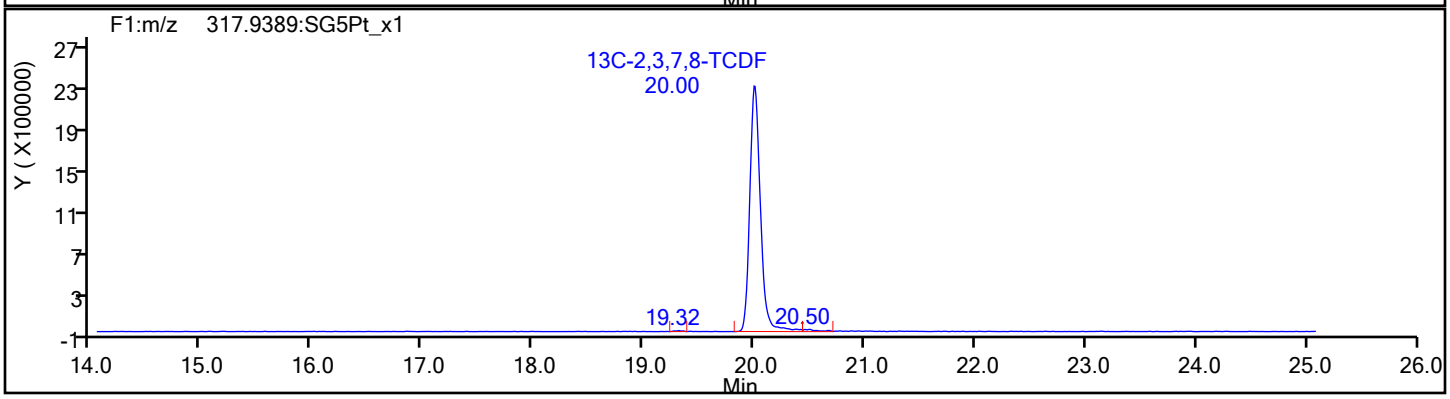
TCDF





TCDF Standards

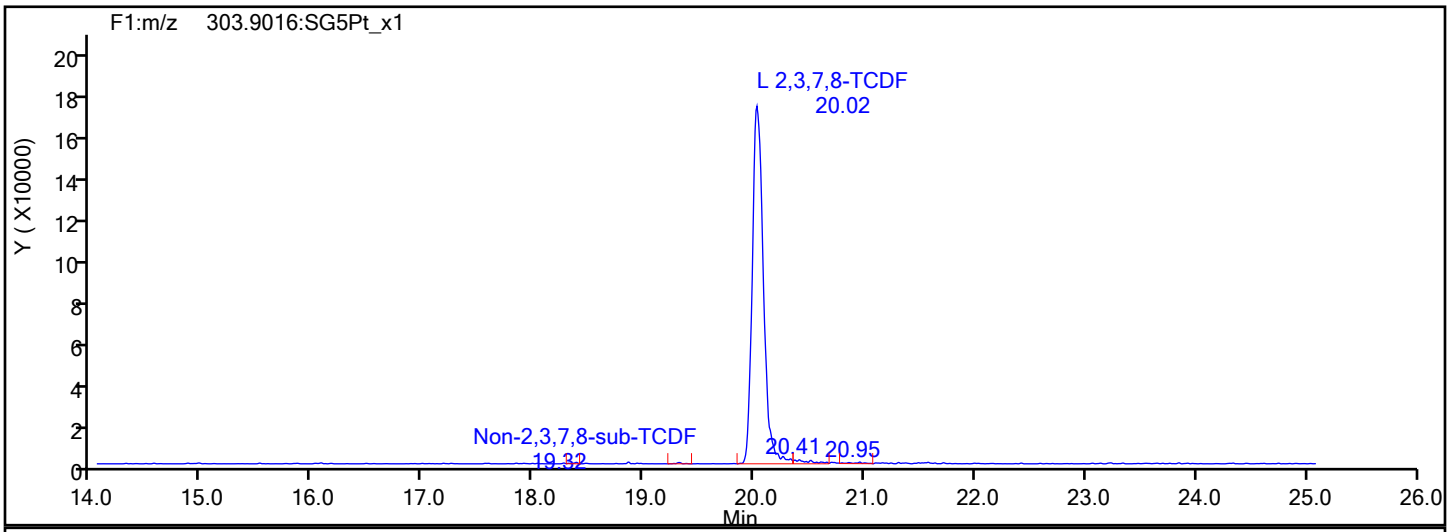


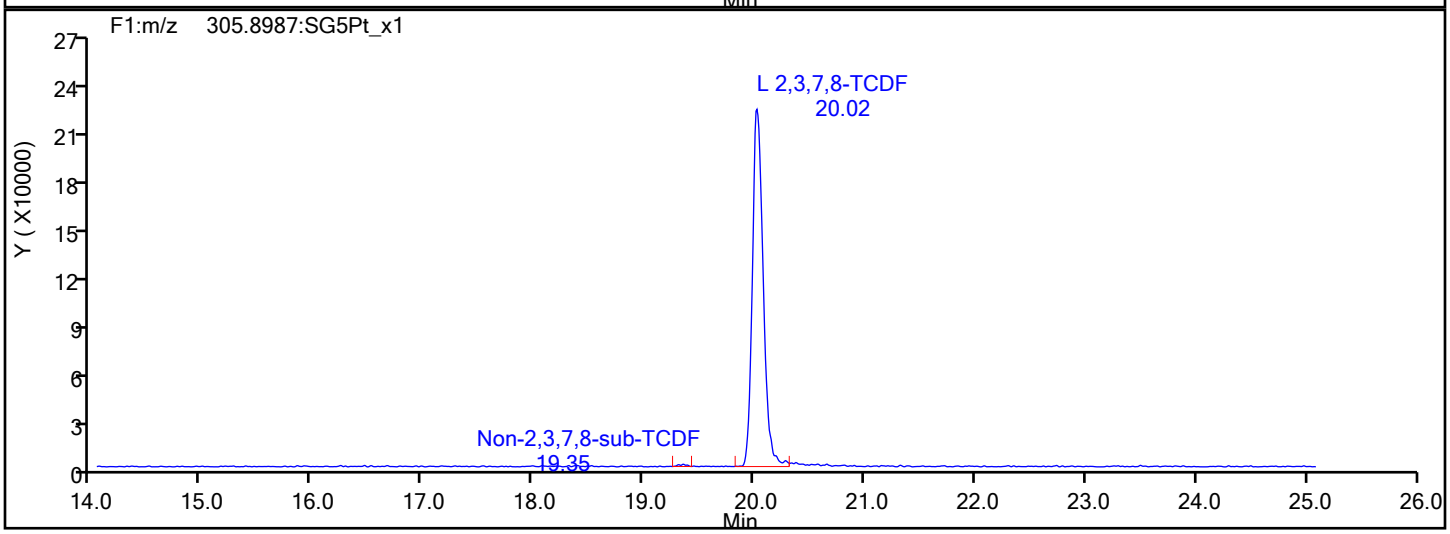


Eurofins TestAmerica, Sacramento

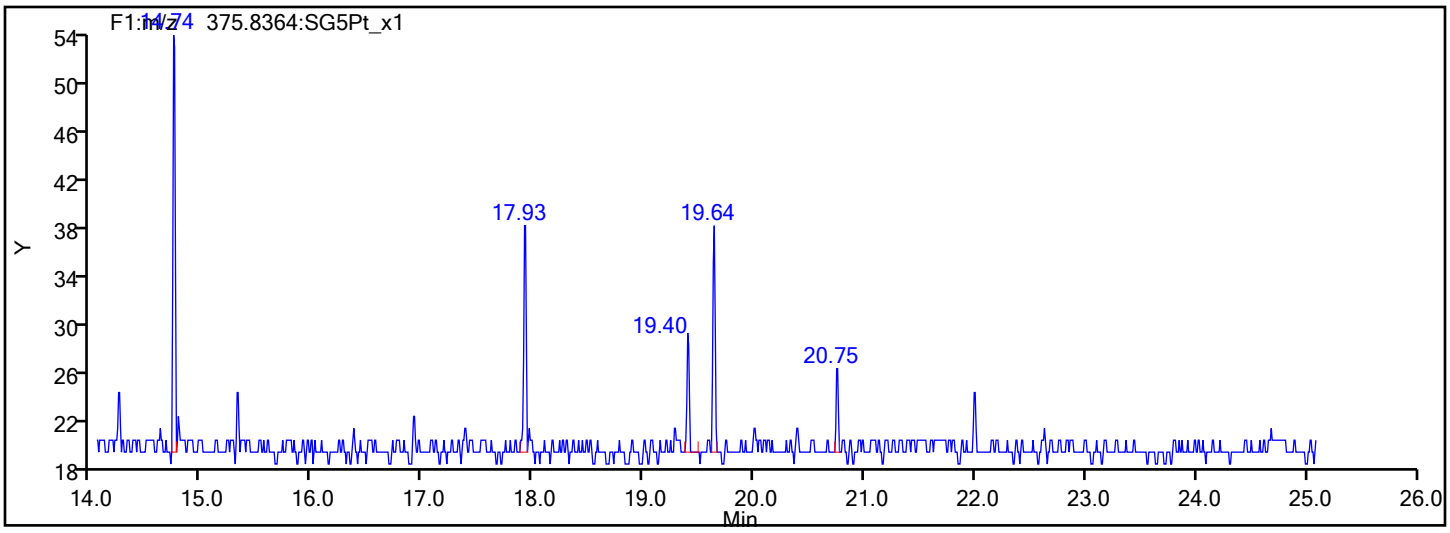
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





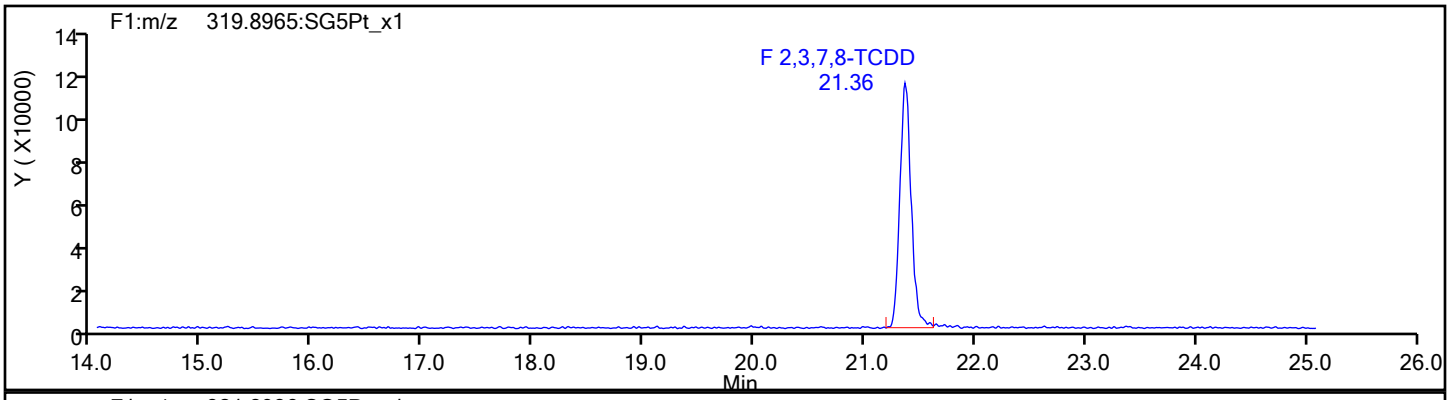
TCDF Interference Mass

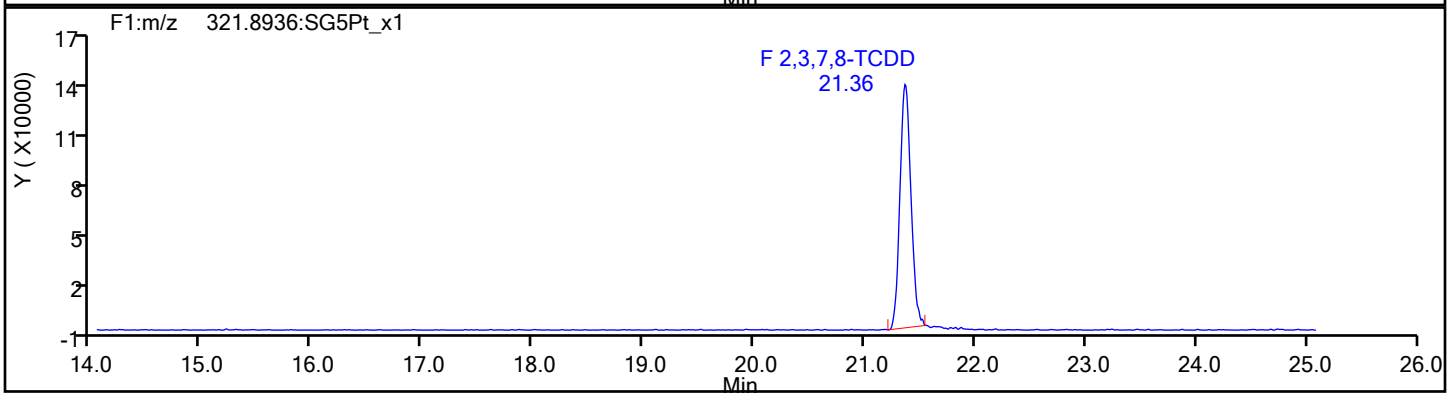


Eurofins TestAmerica, Sacramento

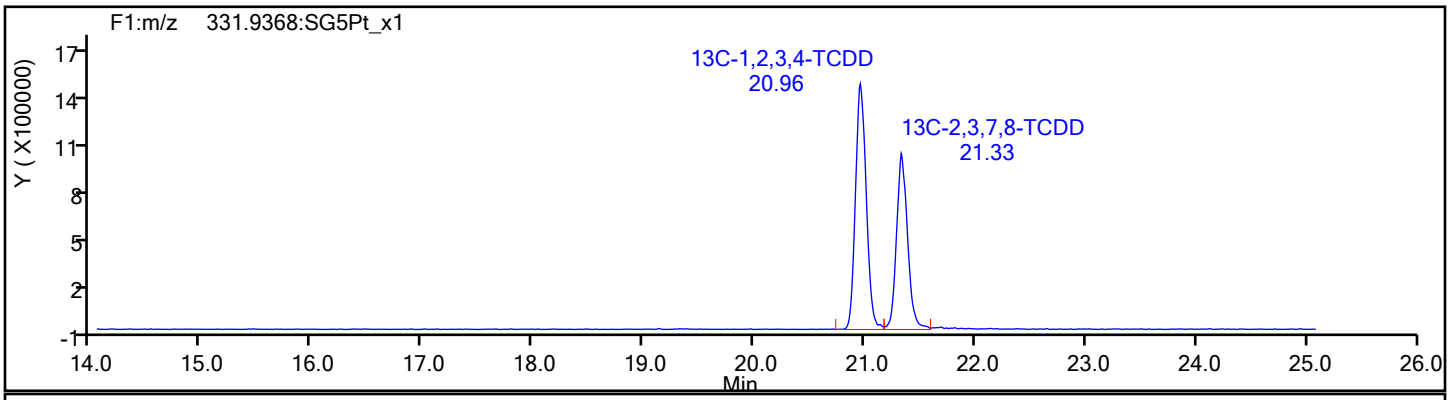
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

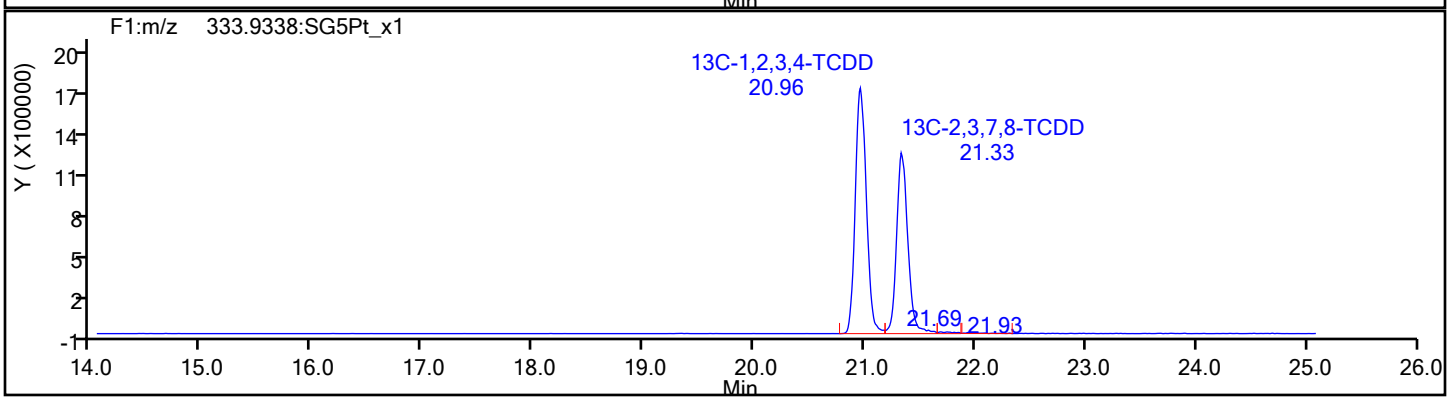
TCDD





TCDD Standards



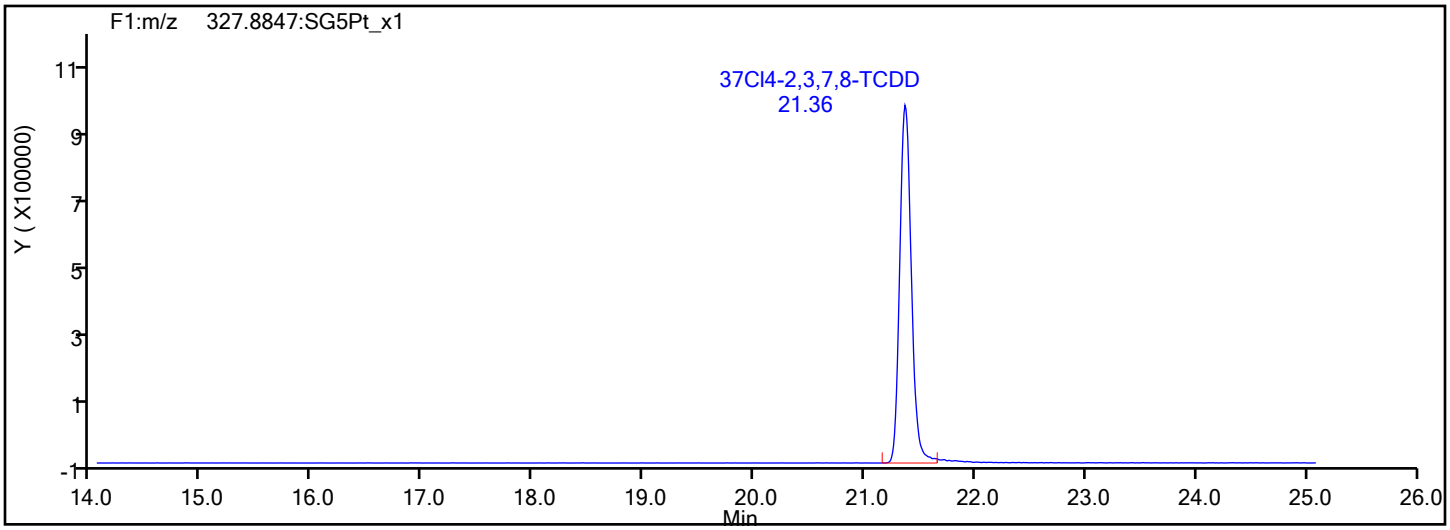


Report Date: 28-Dec-2021 14:24:39 Chrom Revision: 2.3 15-Nov-2021 20:34:30

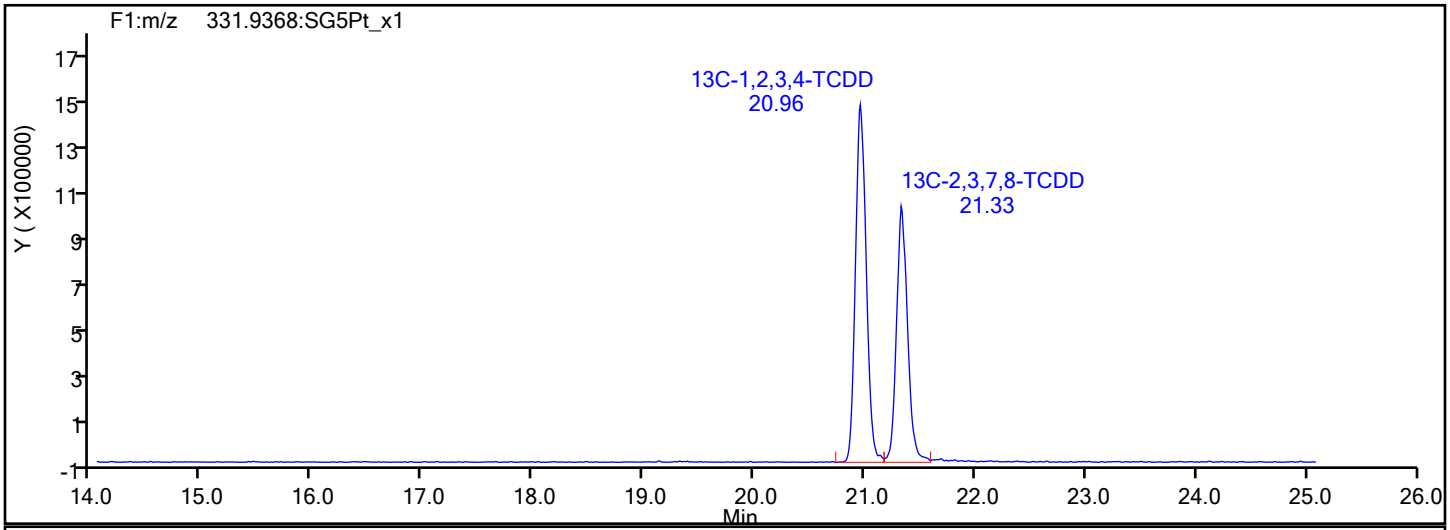
Eurofins TestAmerica, Sacramento

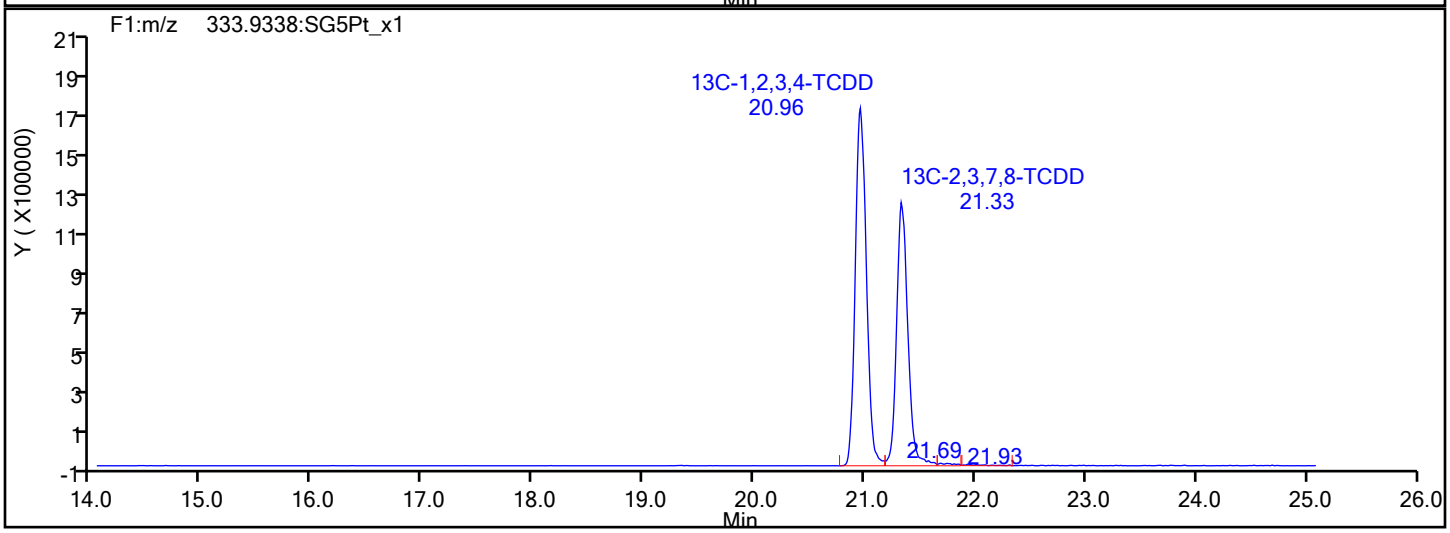
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



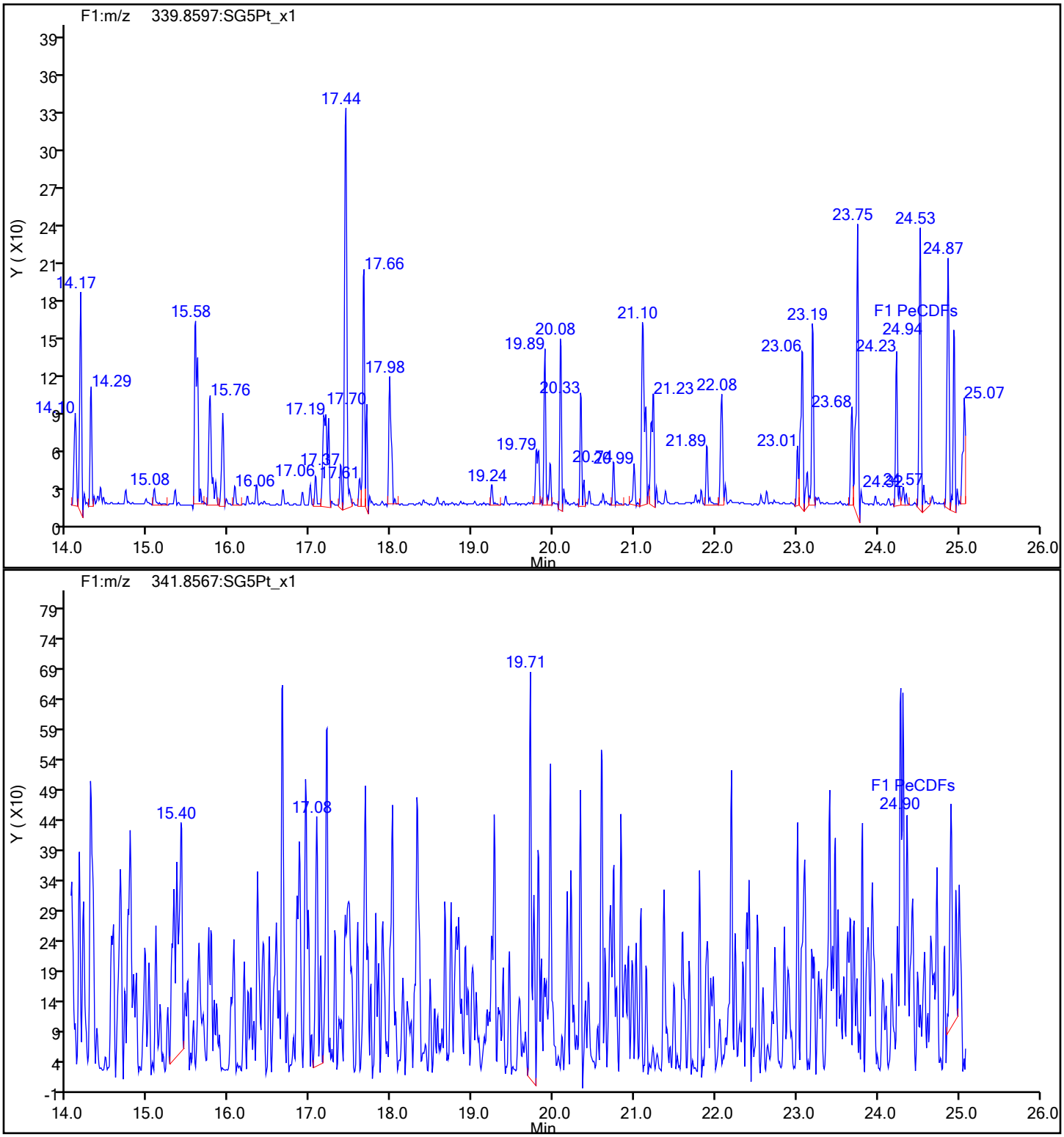


Report Date: 28-Dec-2021 14:24:39 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

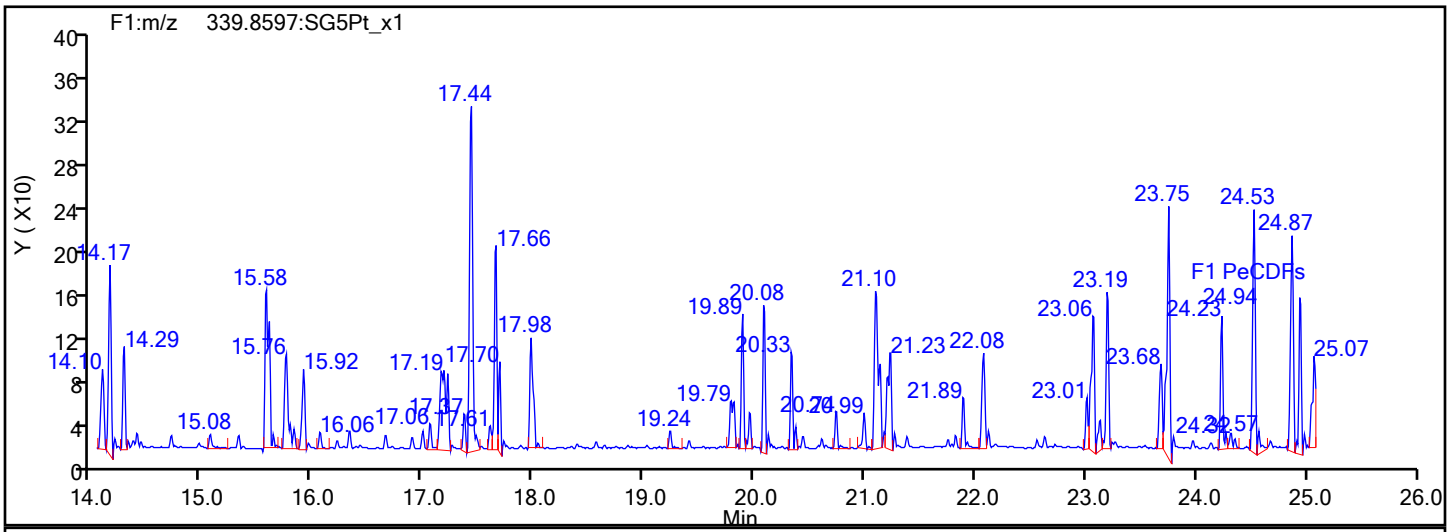
F1 PeCDFs

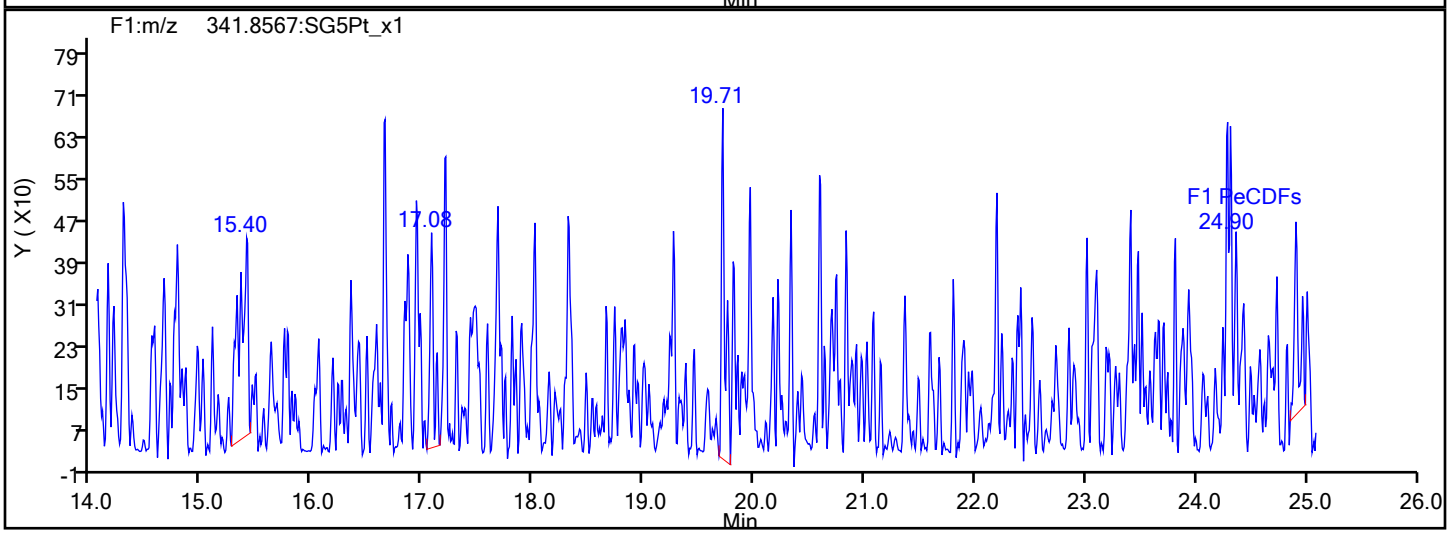


Eurofins TestAmerica, Sacramento

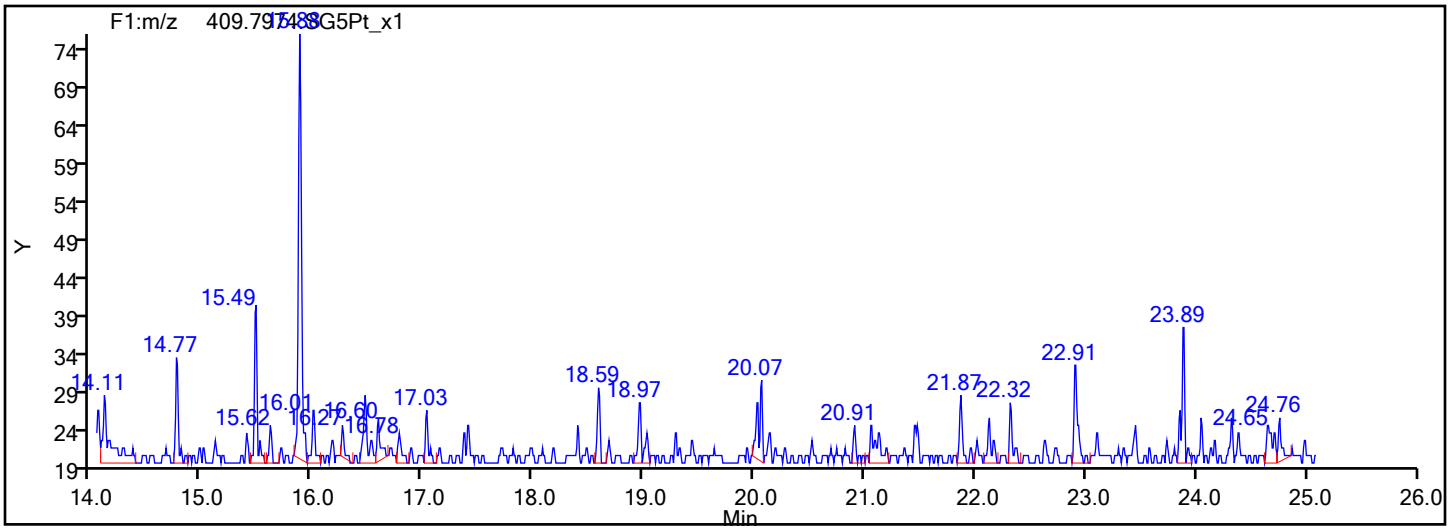
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins TestAmerica, Sacramento

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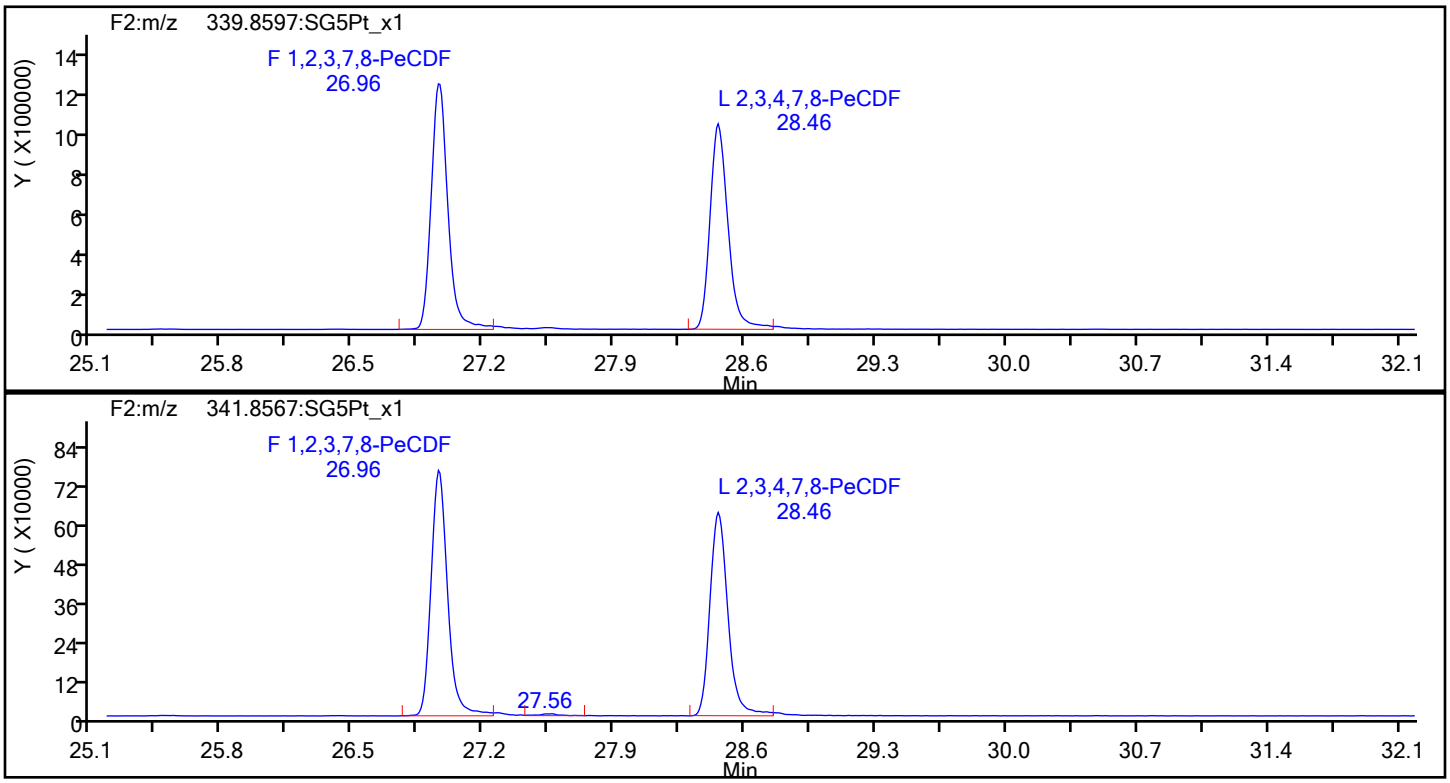
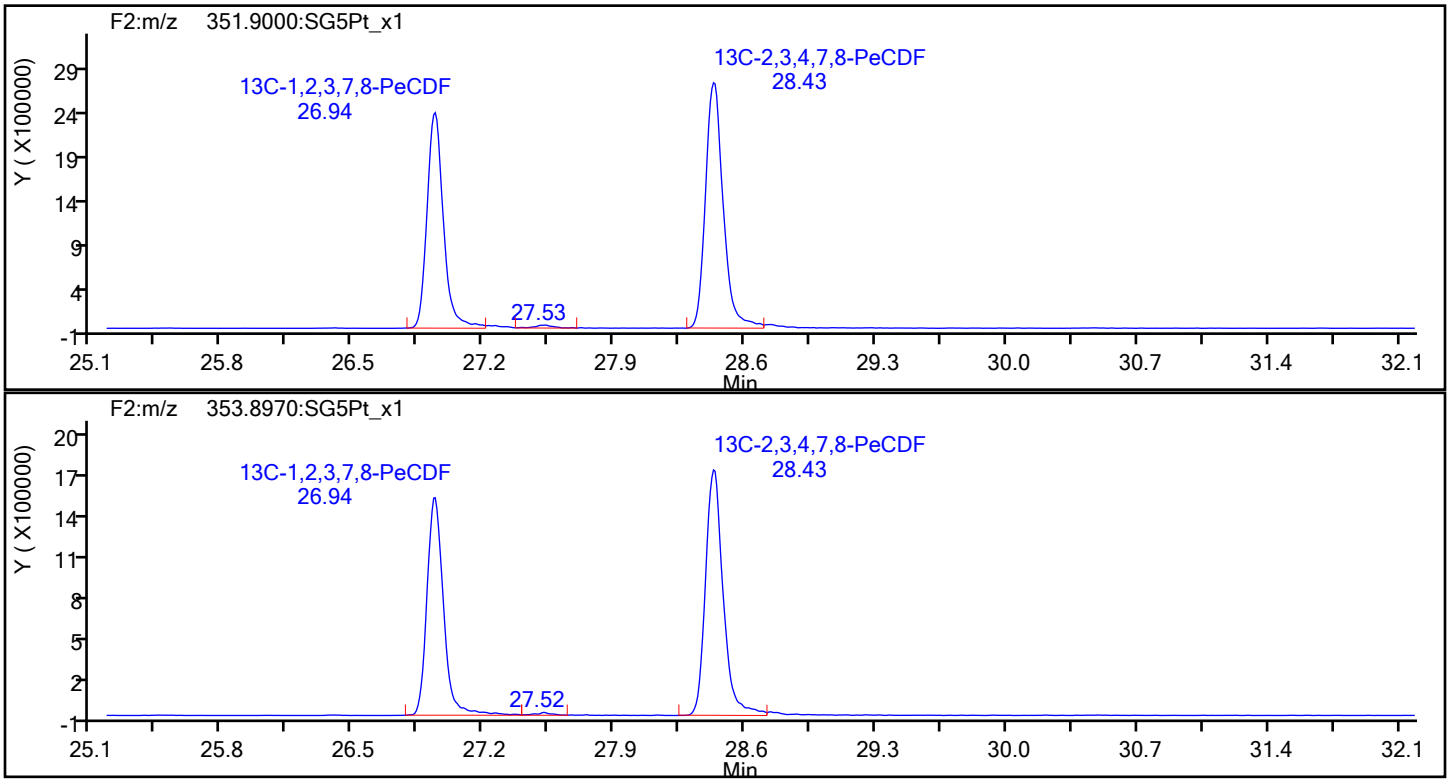
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins TestAmerica, Sacramento

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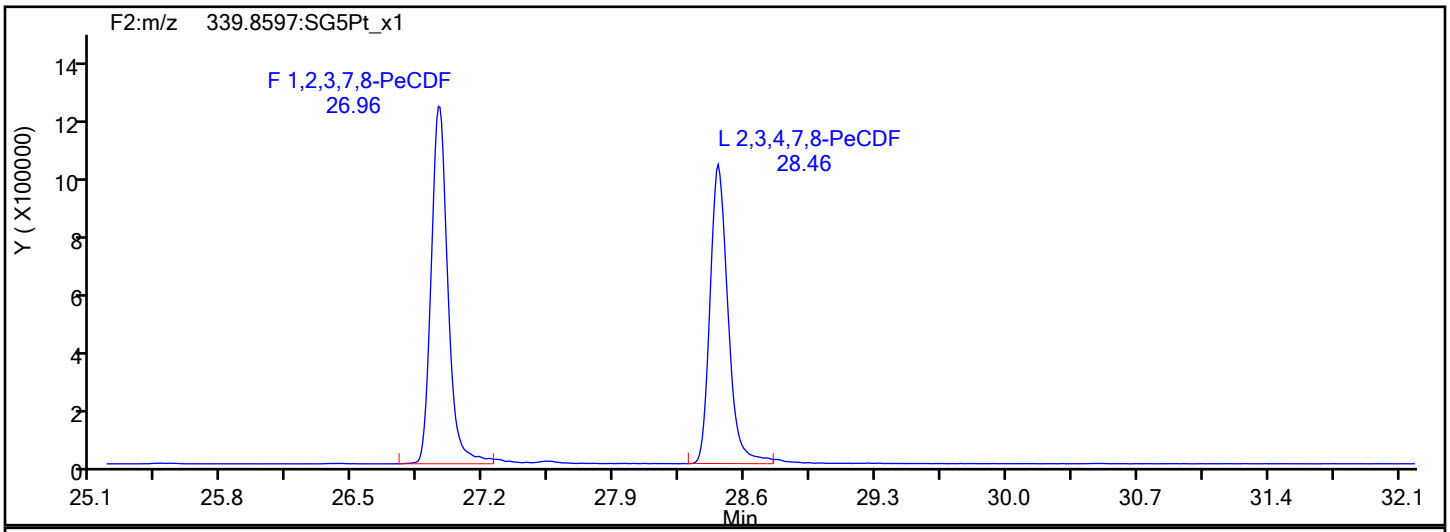
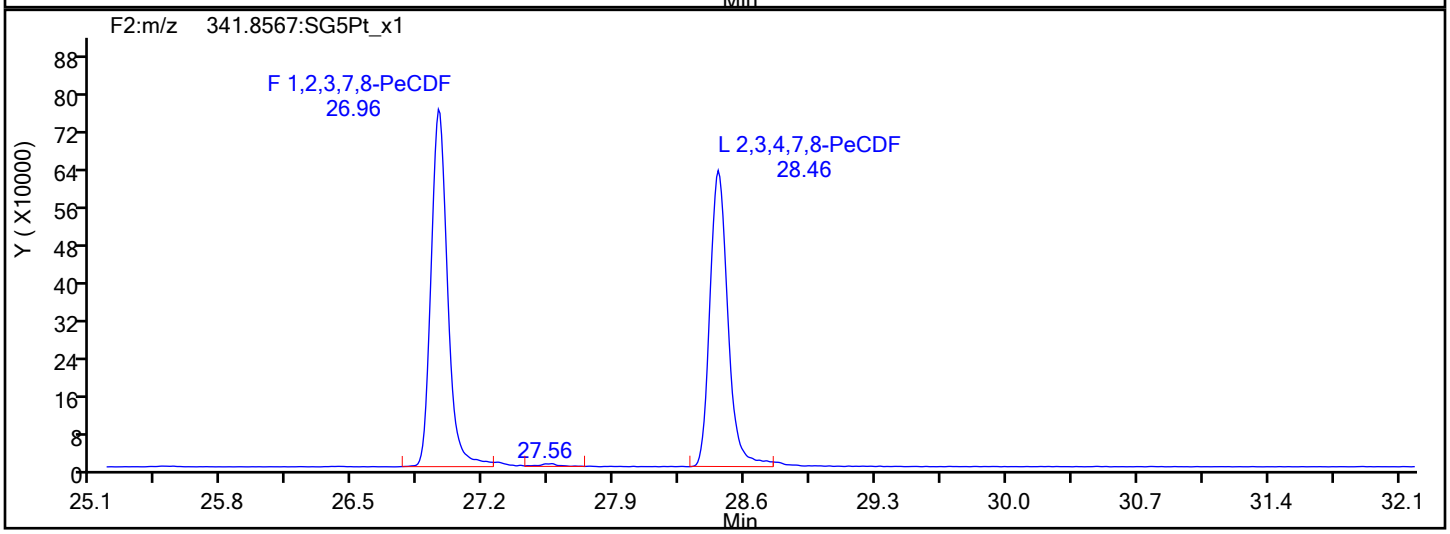
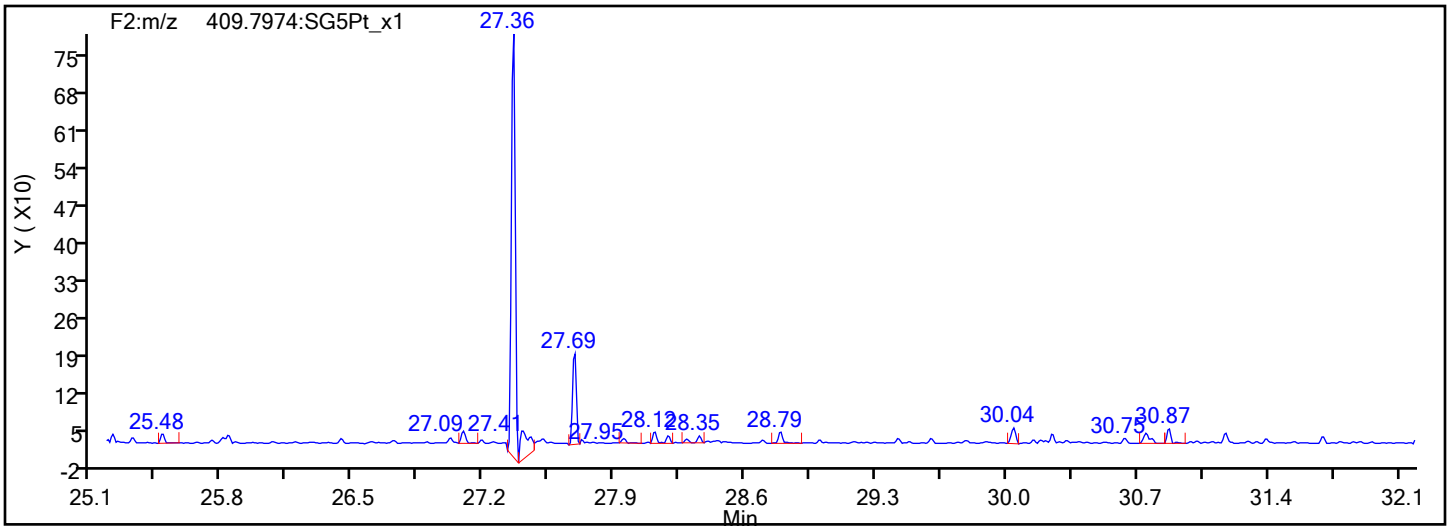
PeCDF





PeCDF Interference Mass



Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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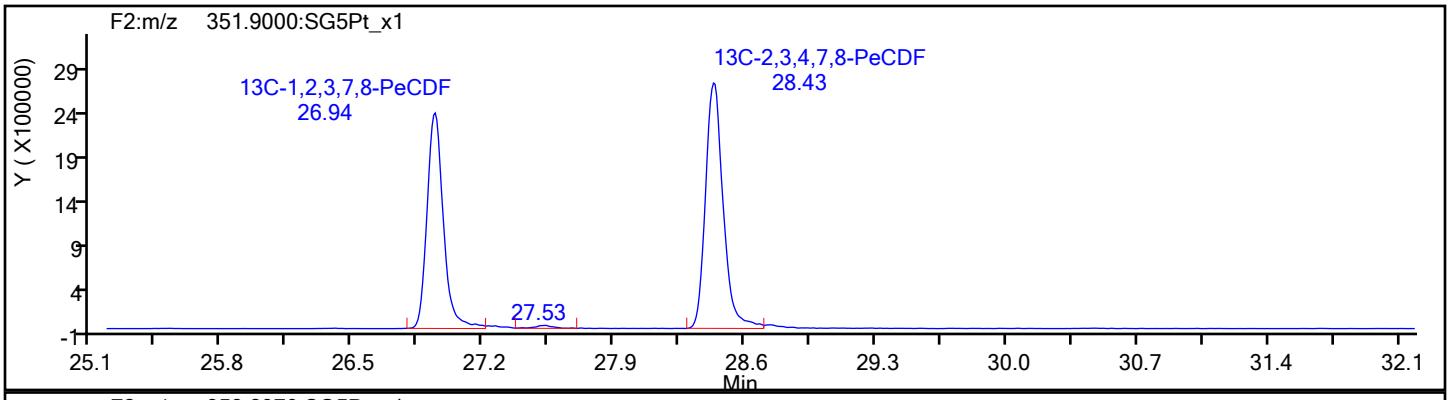
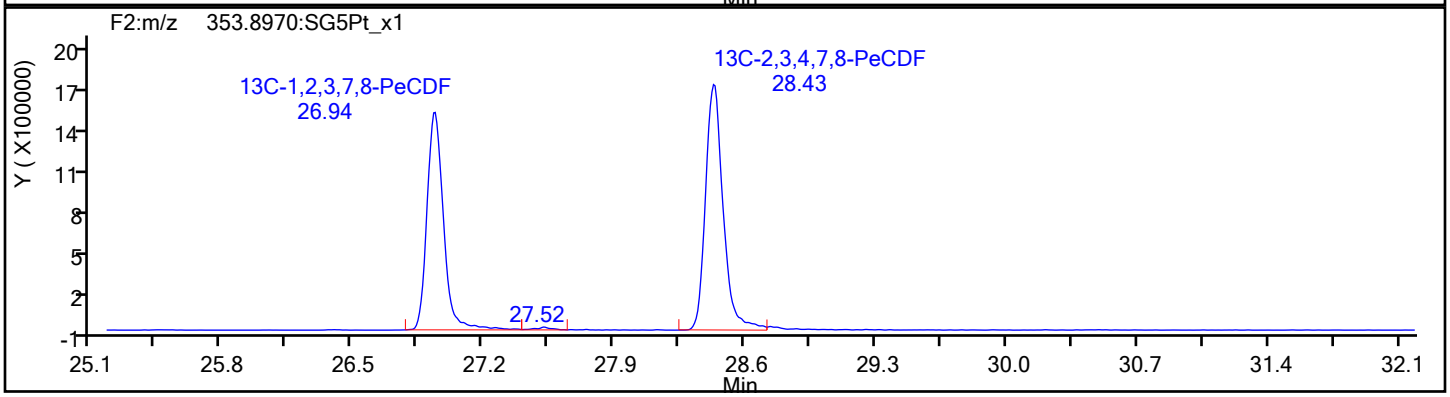
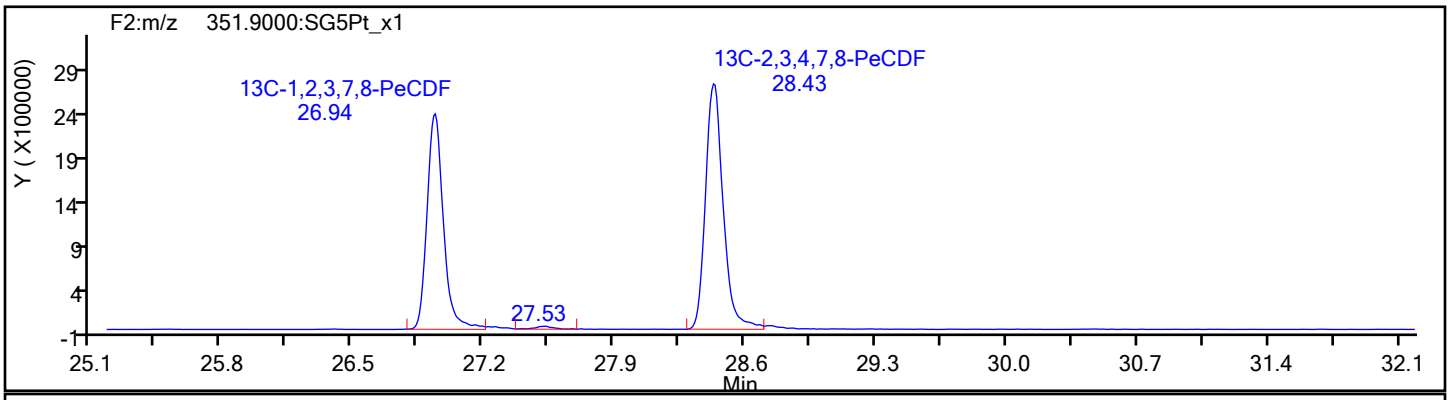
Column Type:	DB-5	Column Dia:	0.32 mm

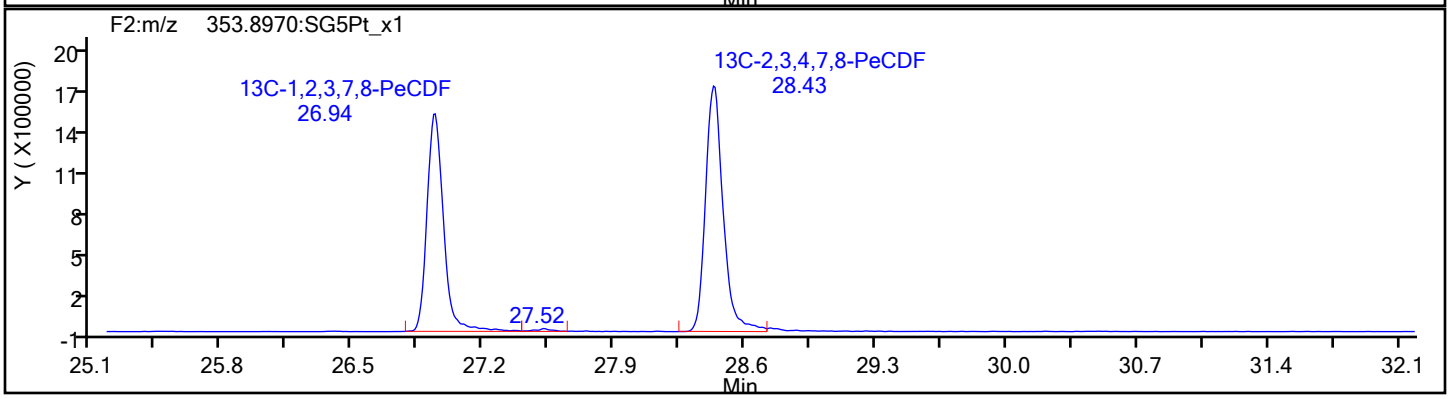
13C-PeCDF





13C-PeCDF Standards





Report Date: 28-Dec-2021 14:24:40 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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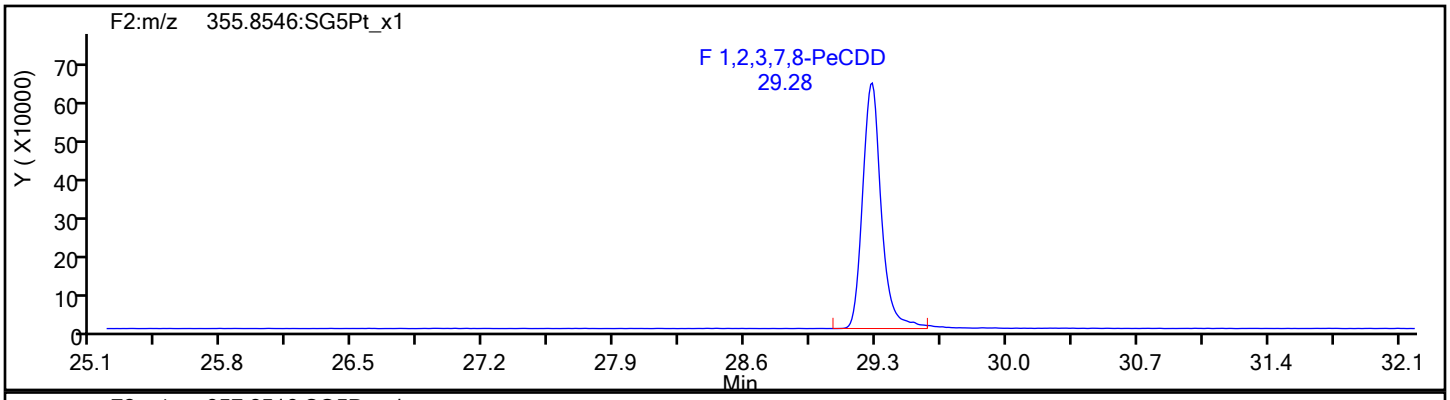
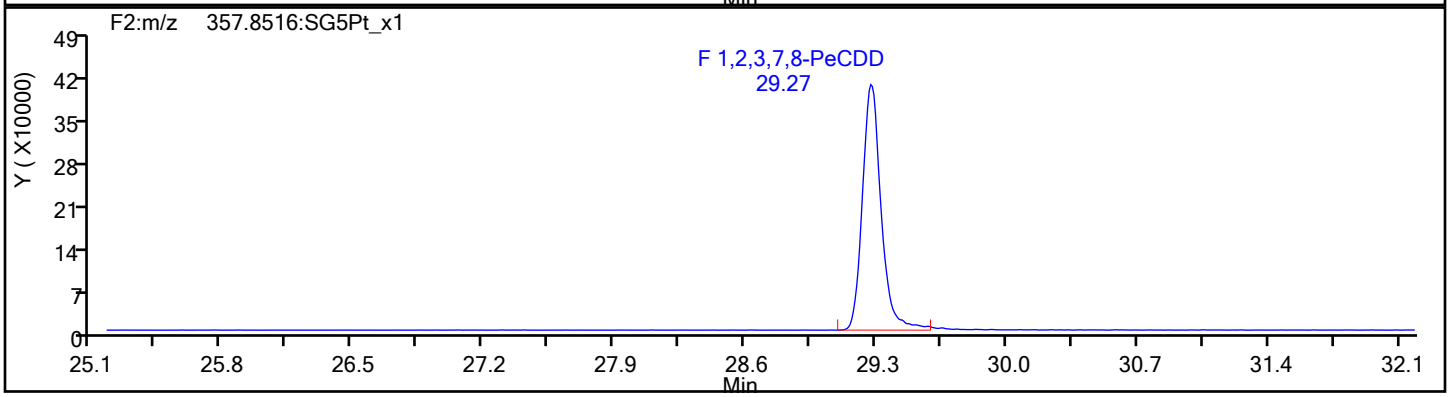
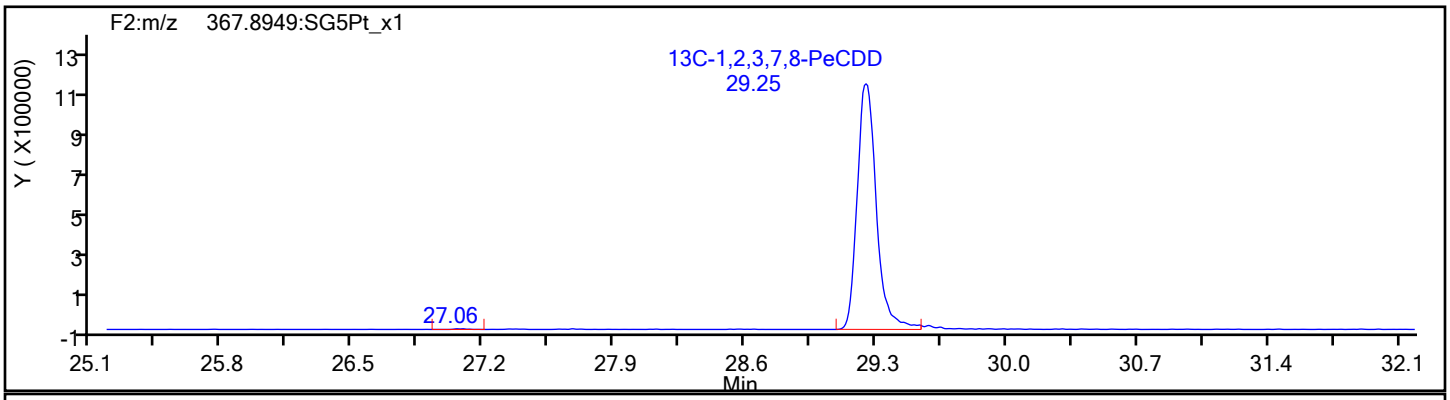
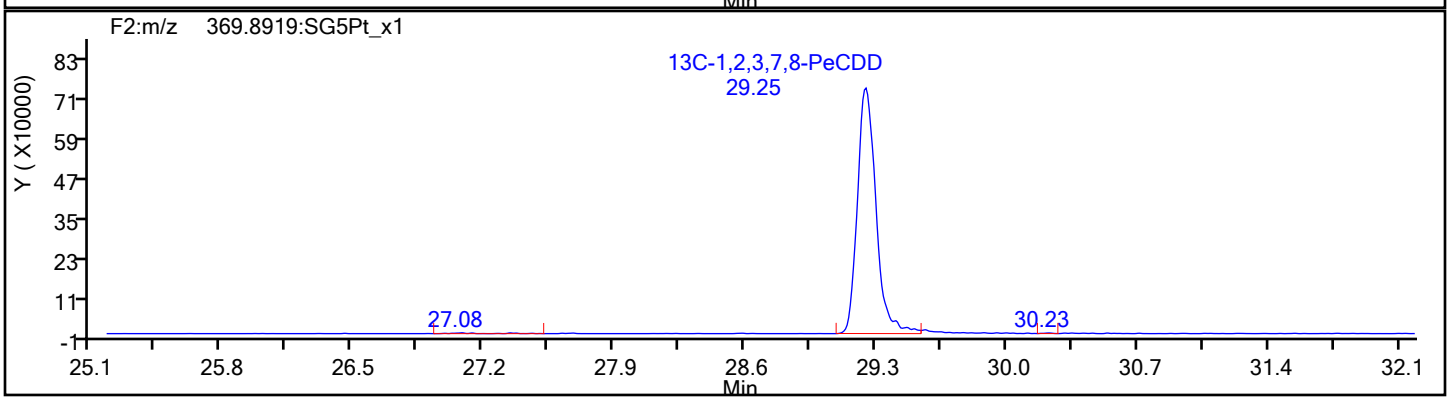
PeCDD





PeCDD Standards





Report Date: 28-Dec-2021 14:24:40 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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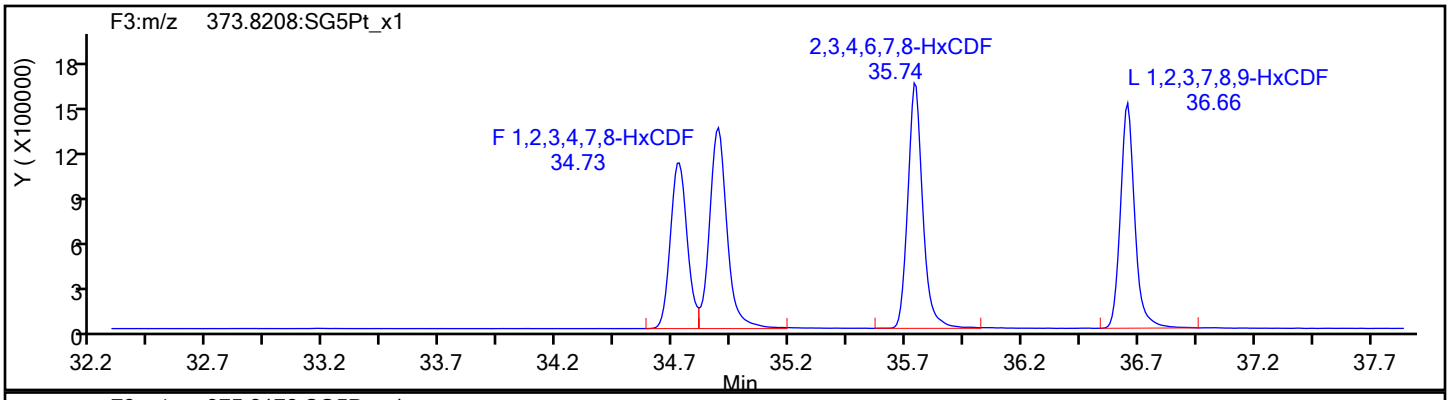
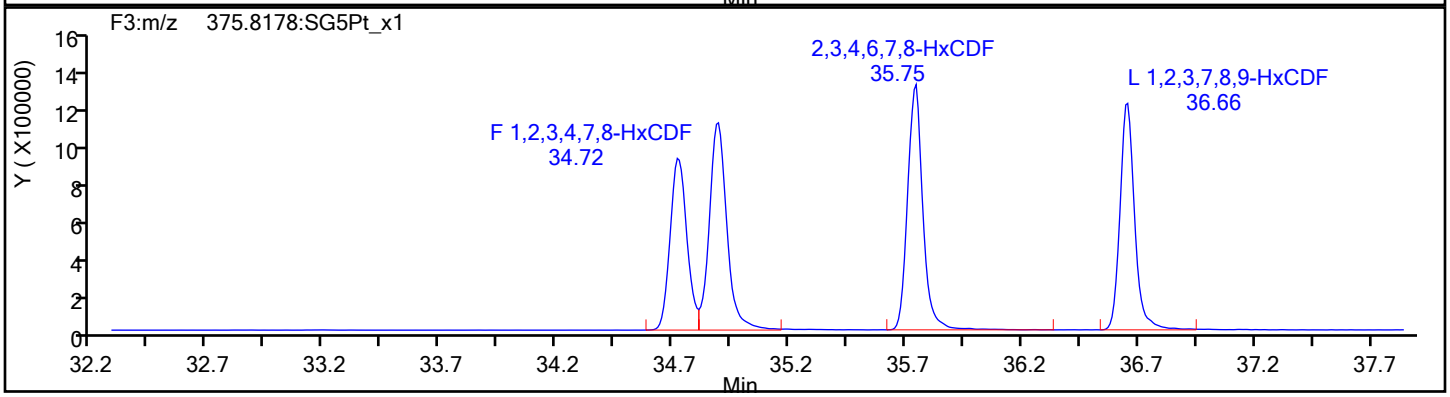
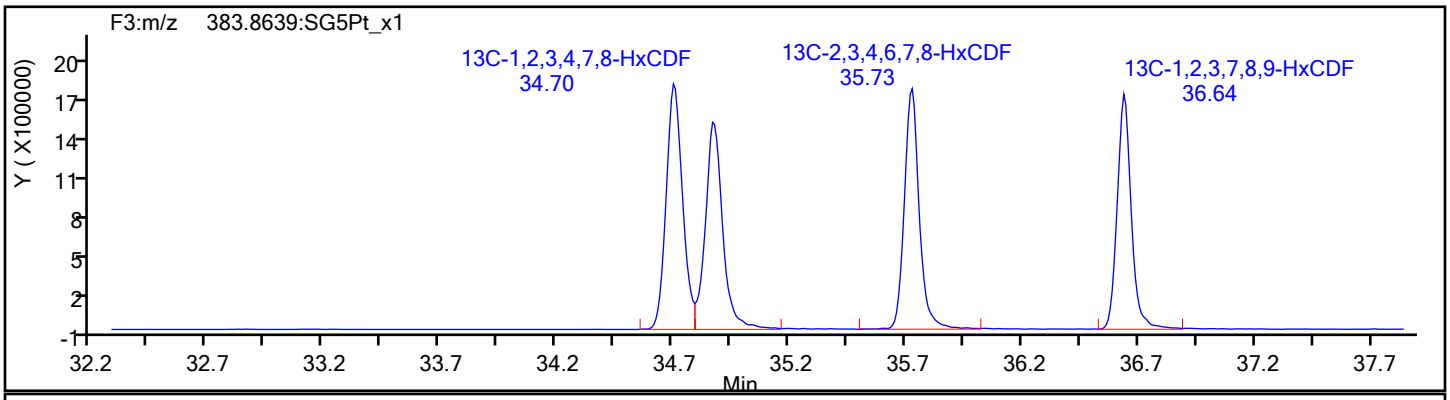
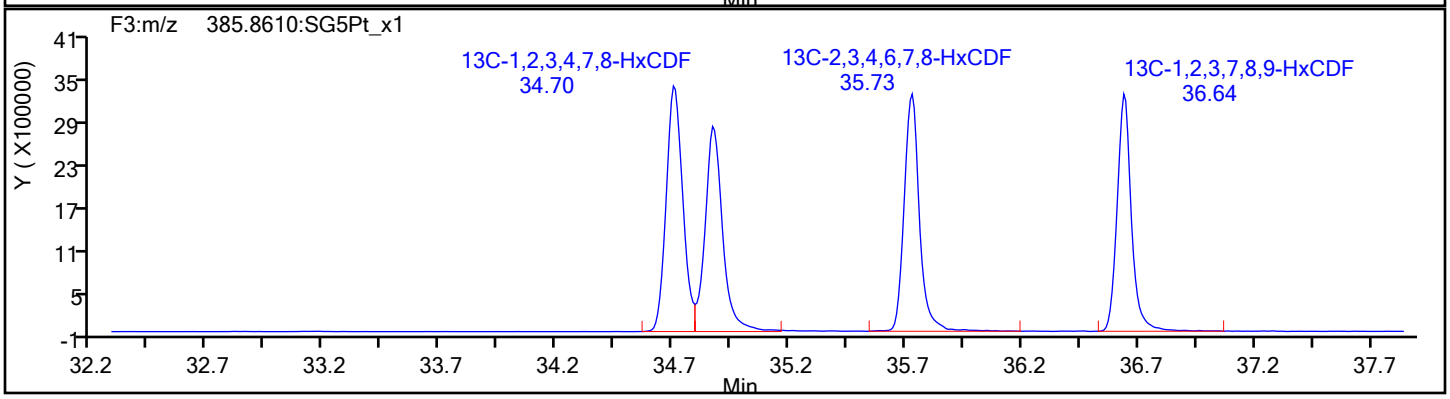
HxCDF





HxCDF Standards





Eurofins TestAmerica, Sacramento

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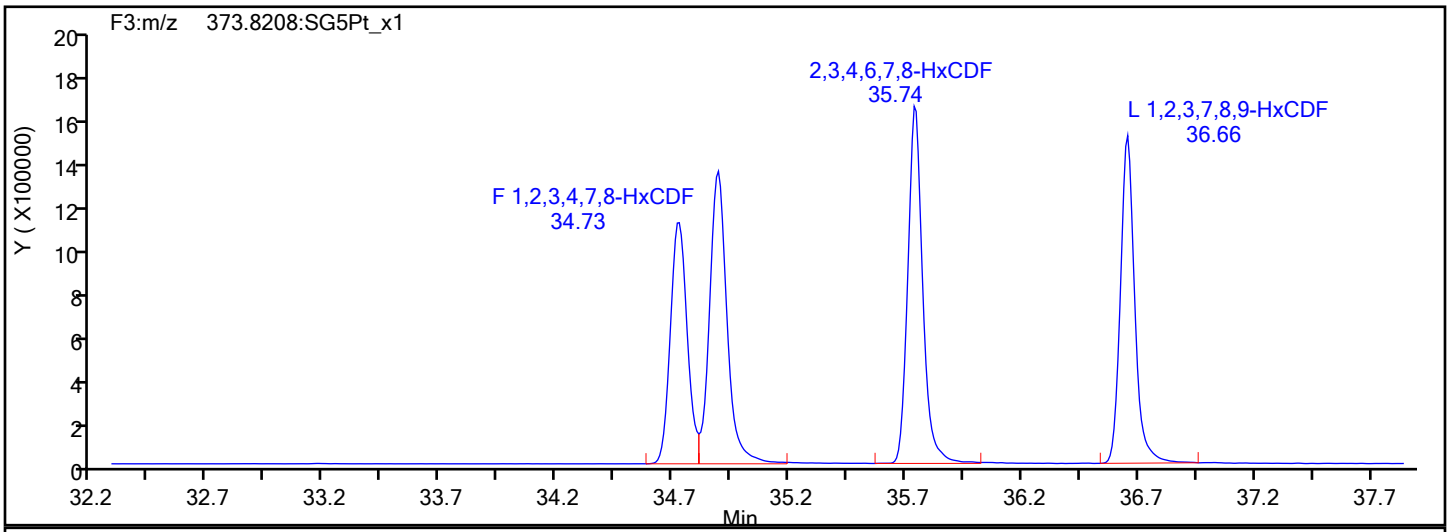
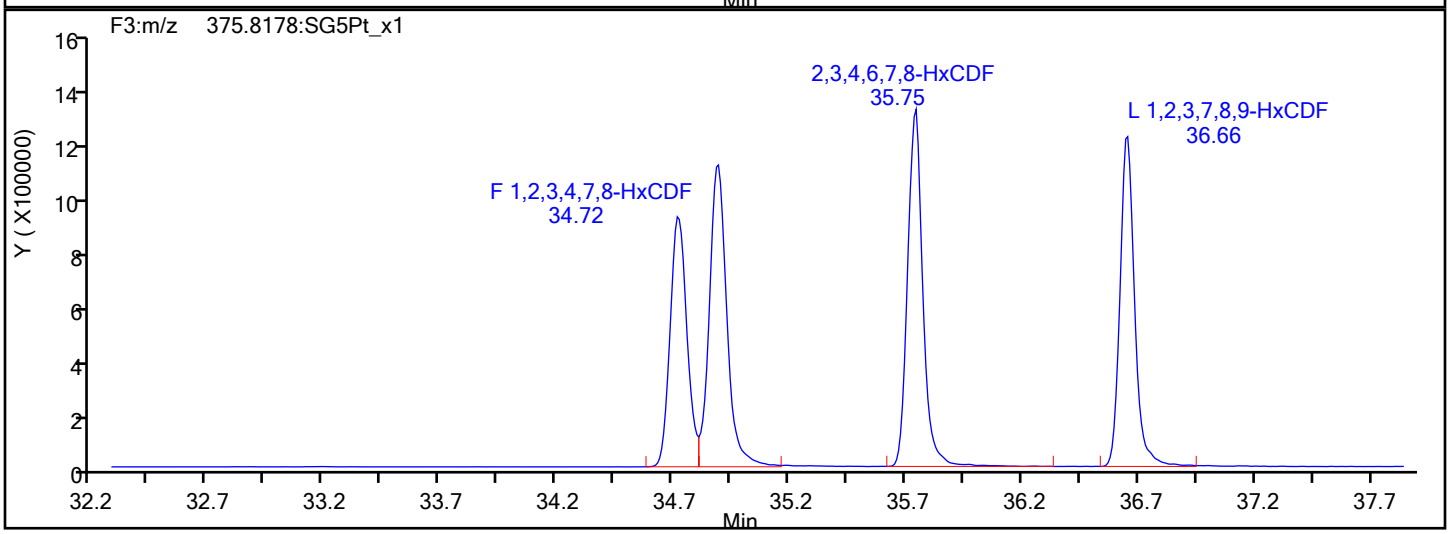
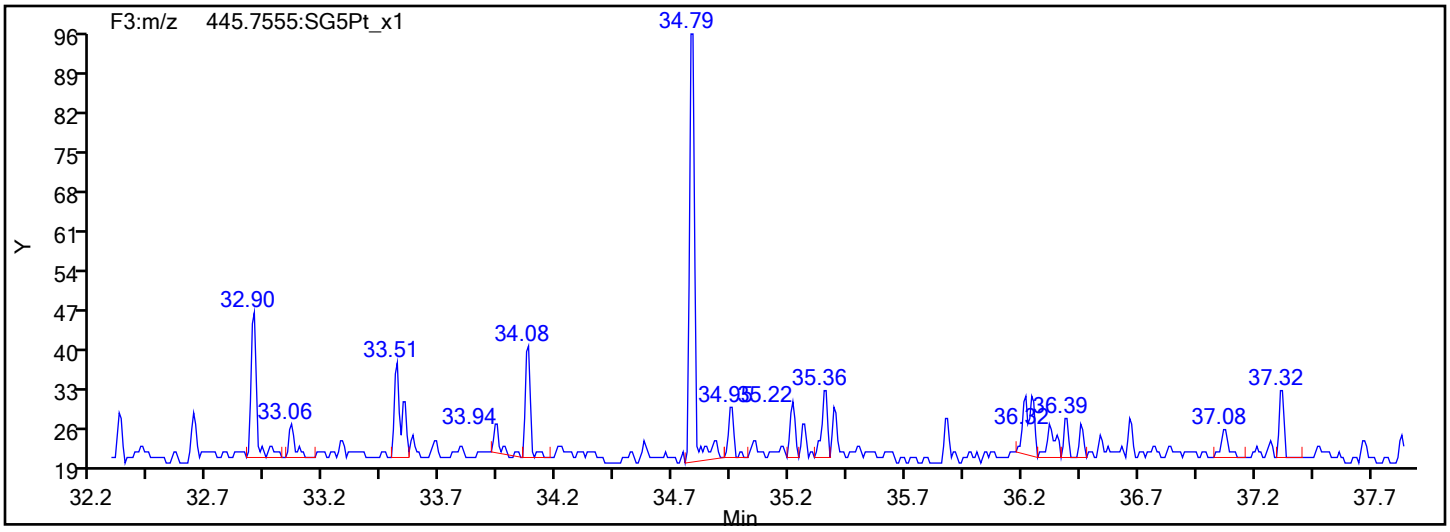
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins TestAmerica, Sacramento

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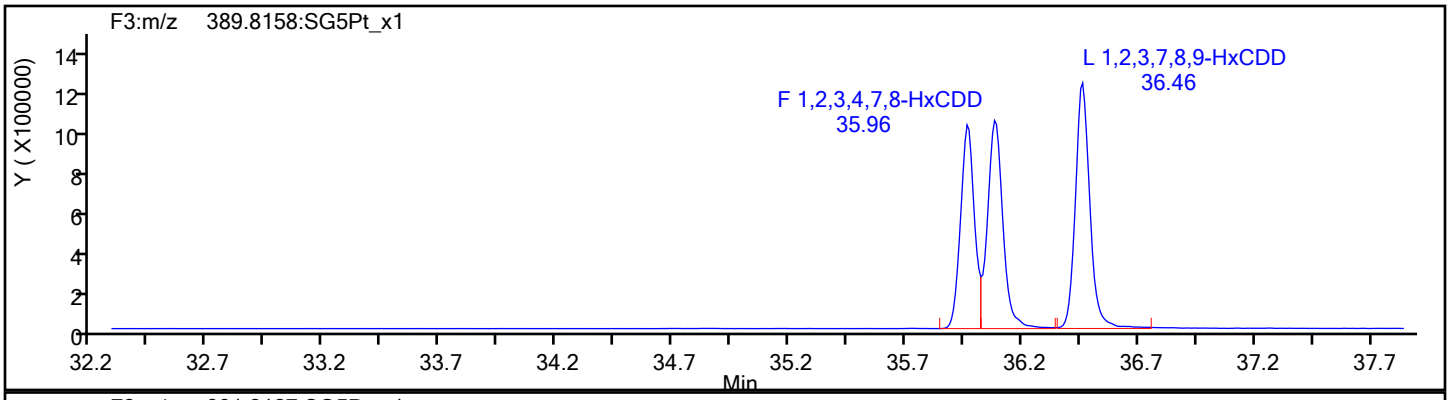
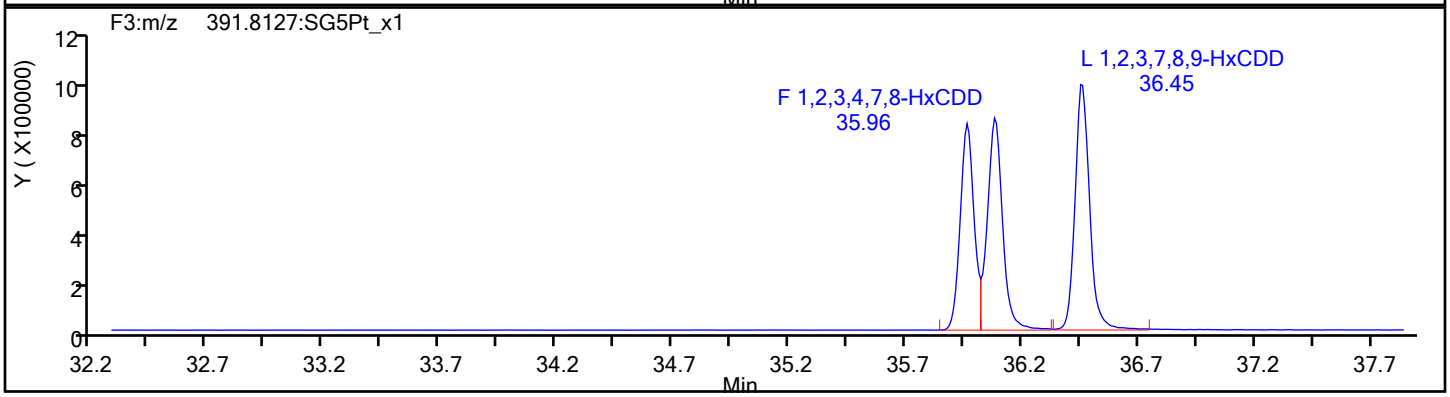
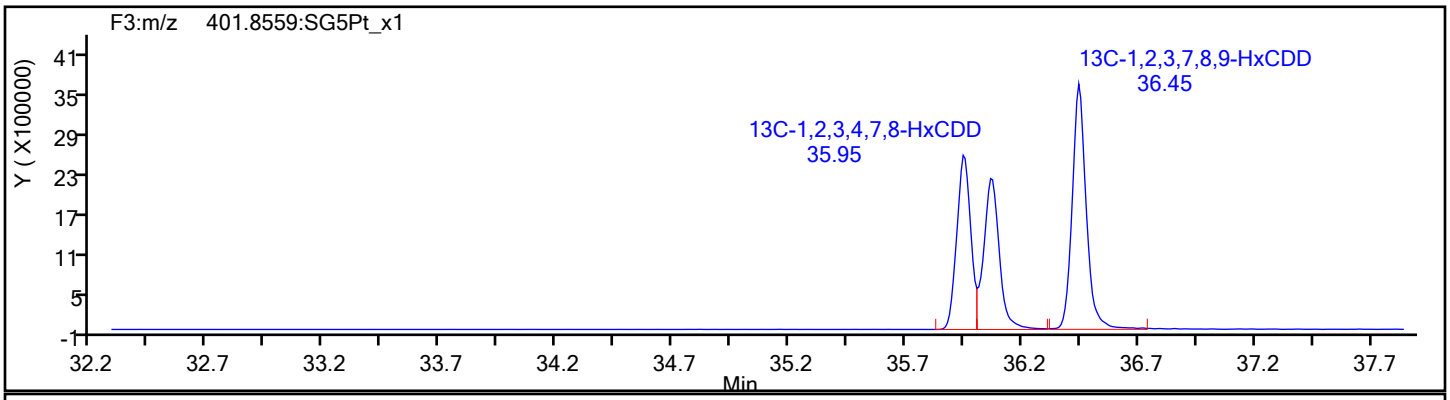
Column Type:	DB-5	Column Dia:	0.32 mm

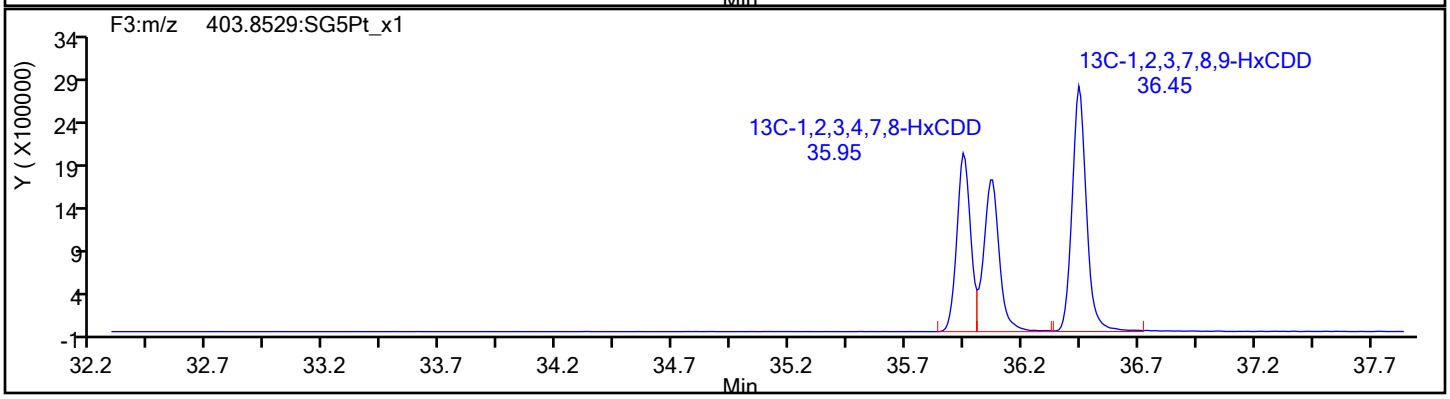
HxCDD





HxCDD Standards





Report Date: 28-Dec-2021 14:24:40 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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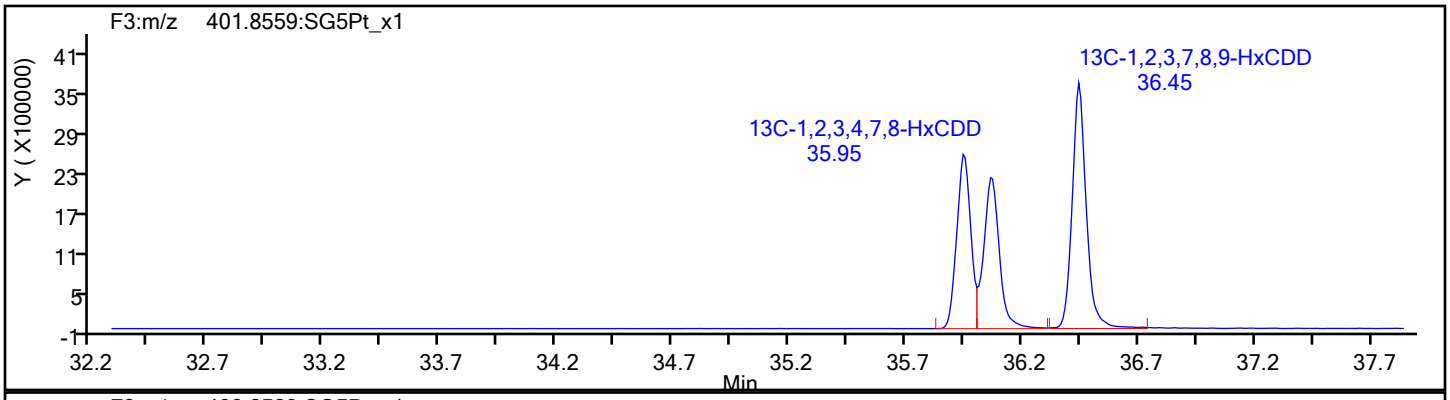
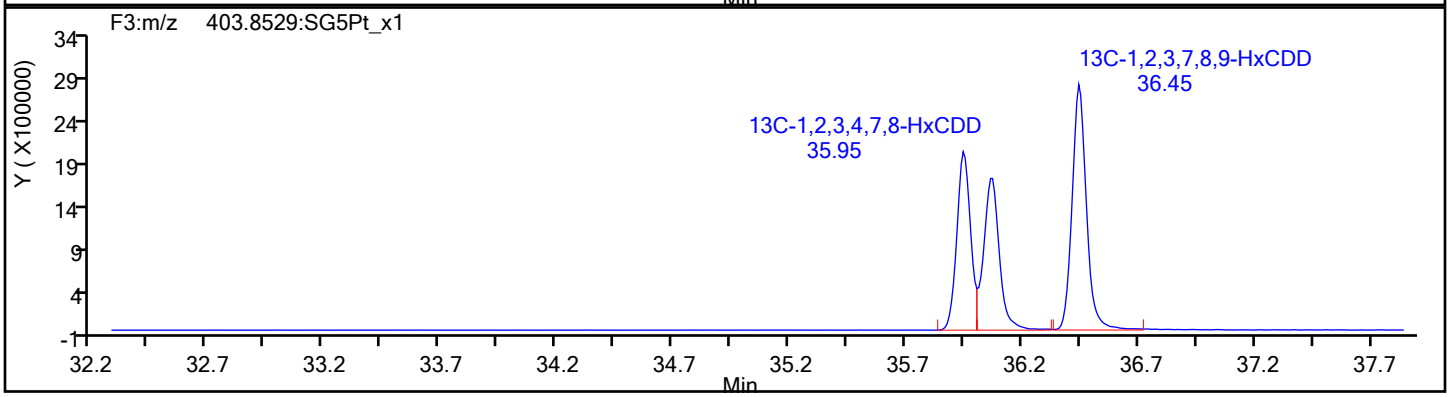
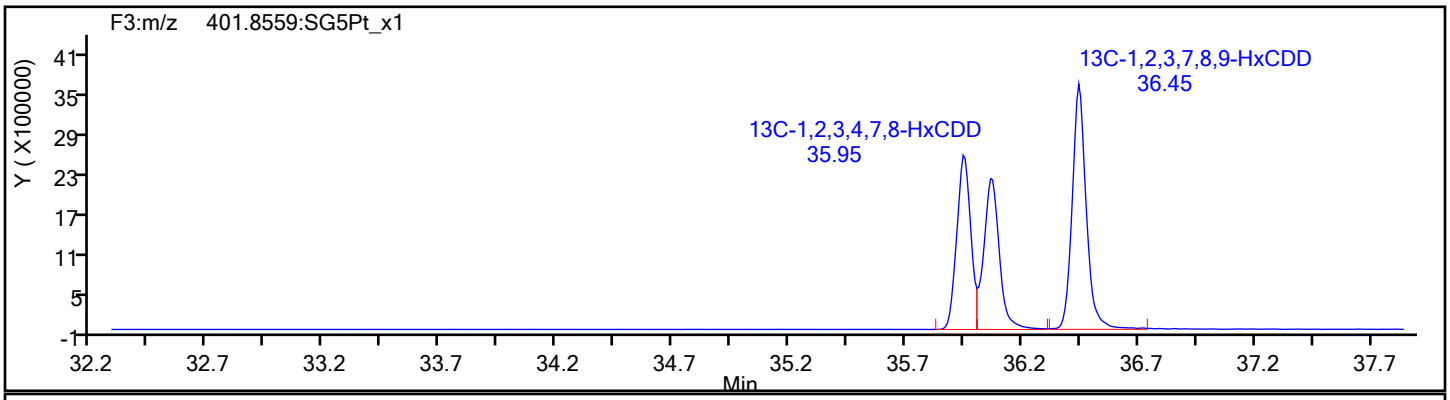
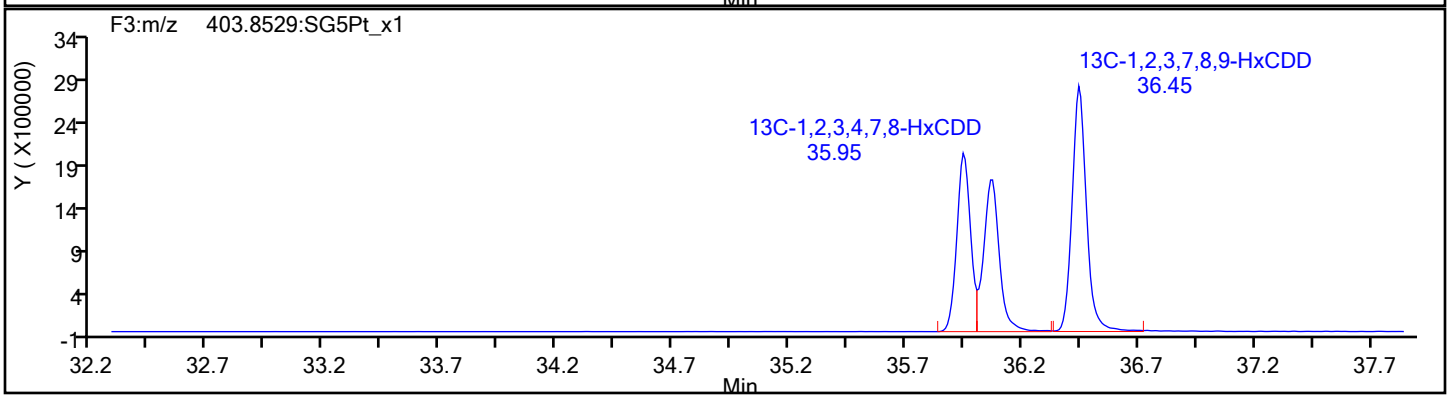
13C-HxCDD





13C-HxCDD Standards





Eurofins TestAmerica, Sacramento

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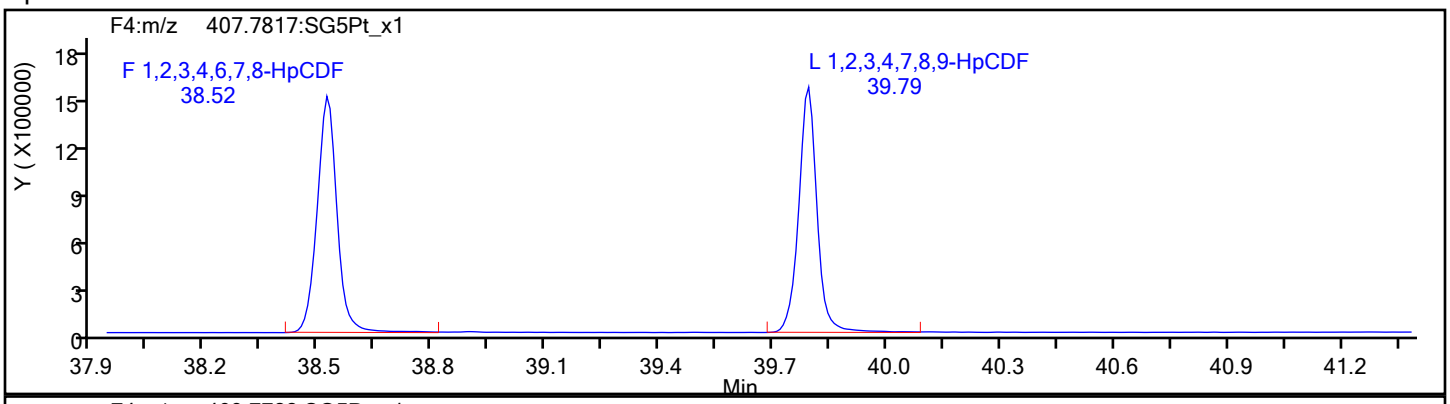
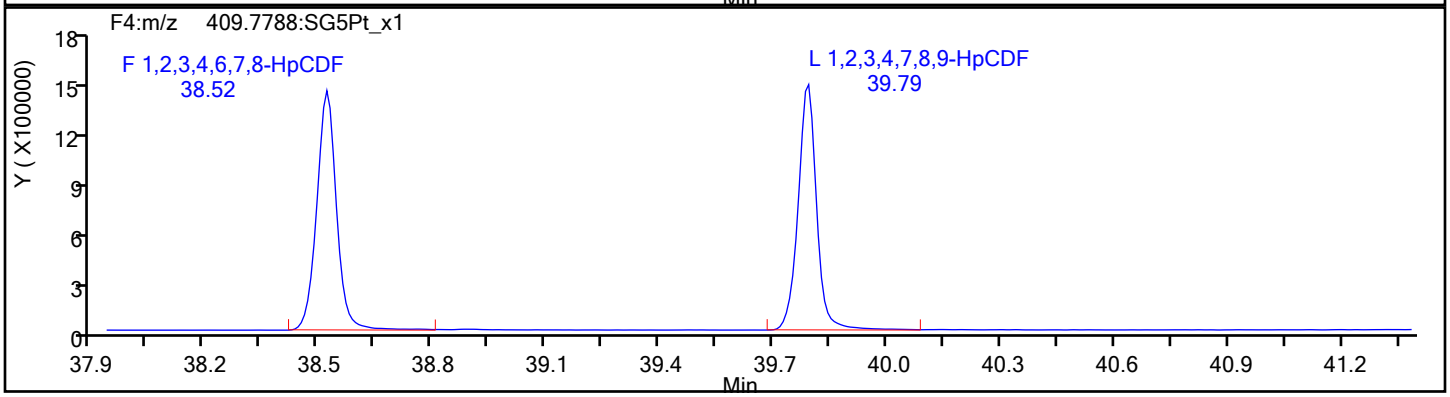
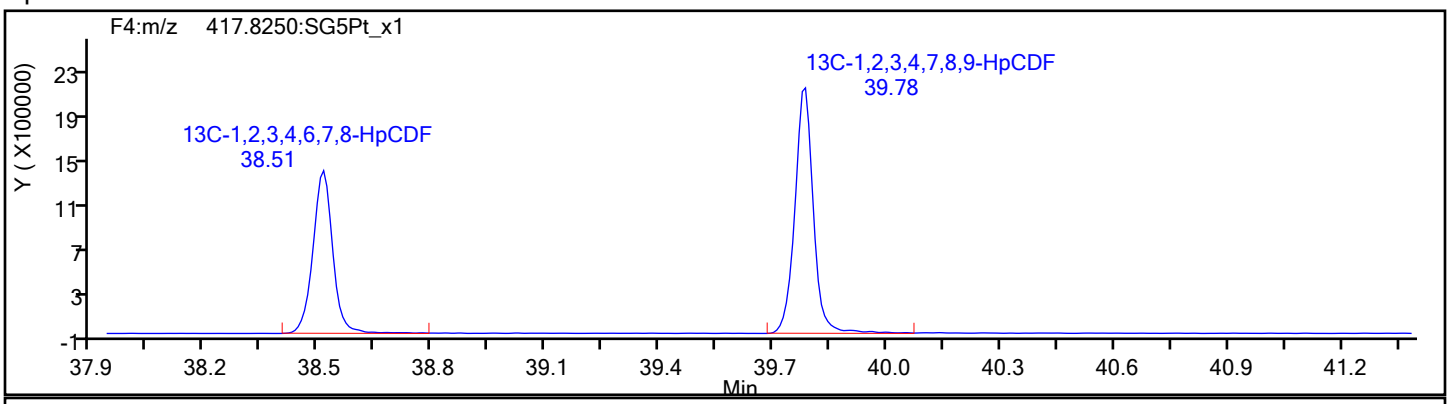
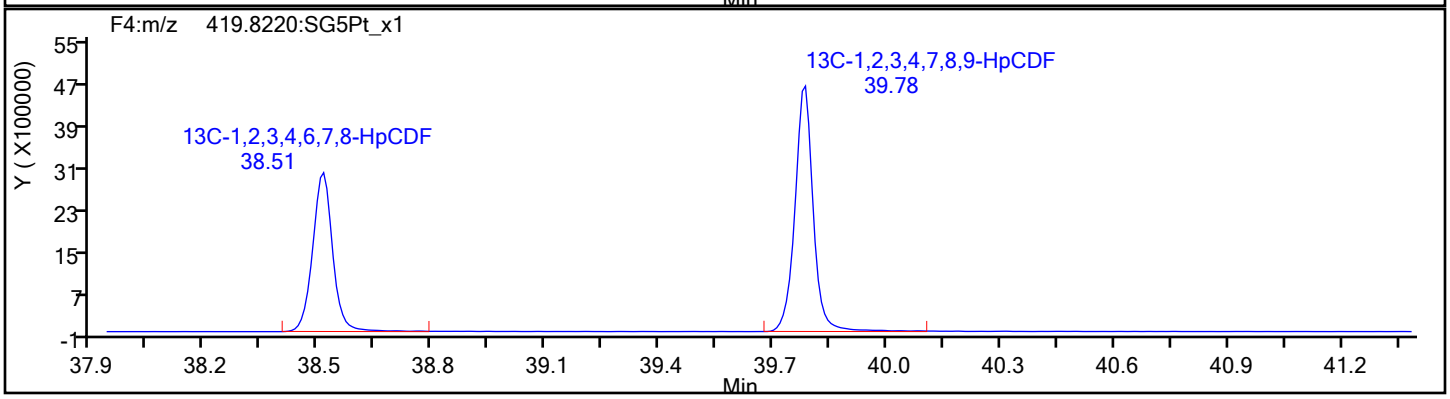
HpCDF





HpCDF Standards





Report Date: 28-Dec-2021 14:24:40 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

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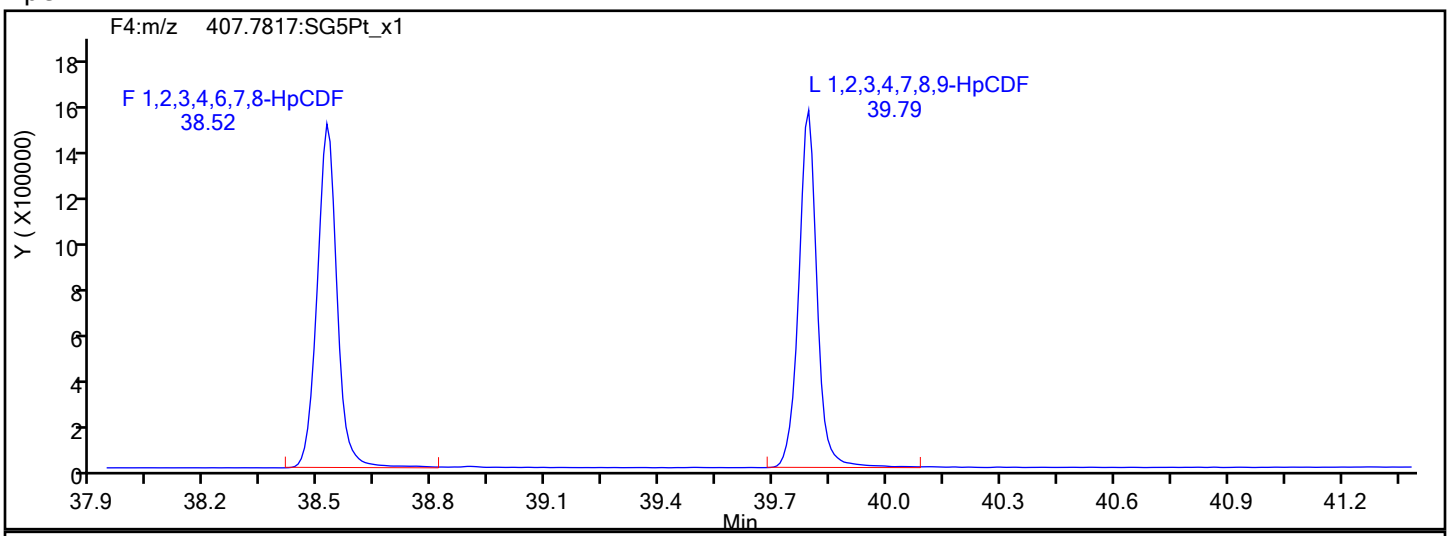
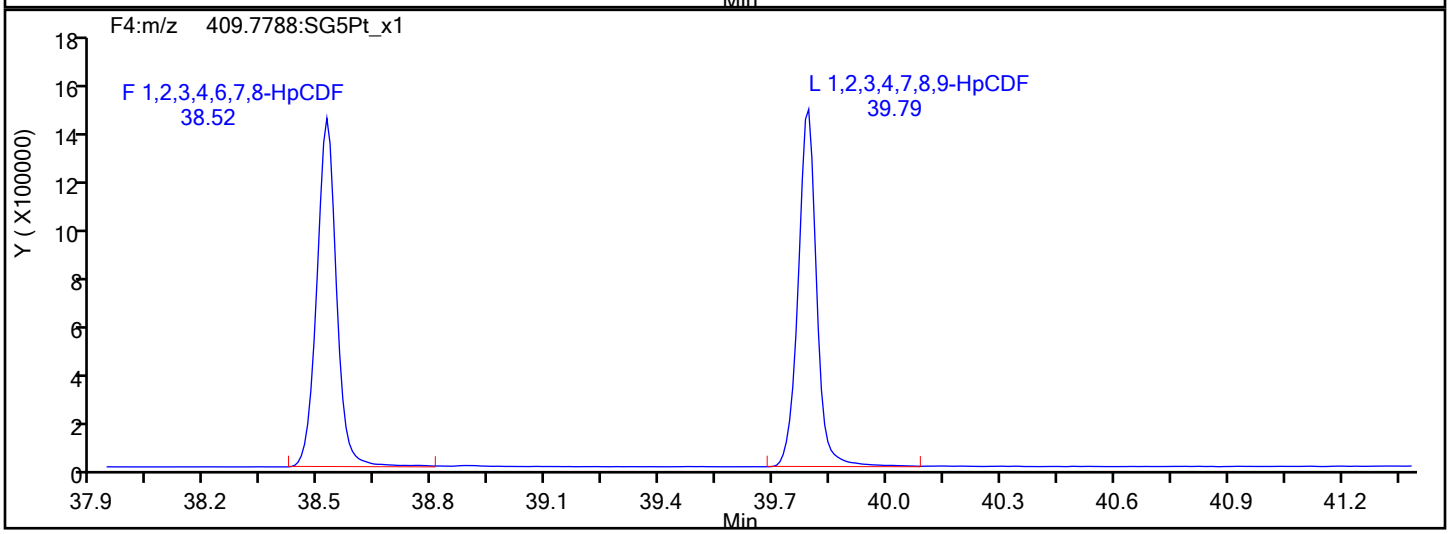
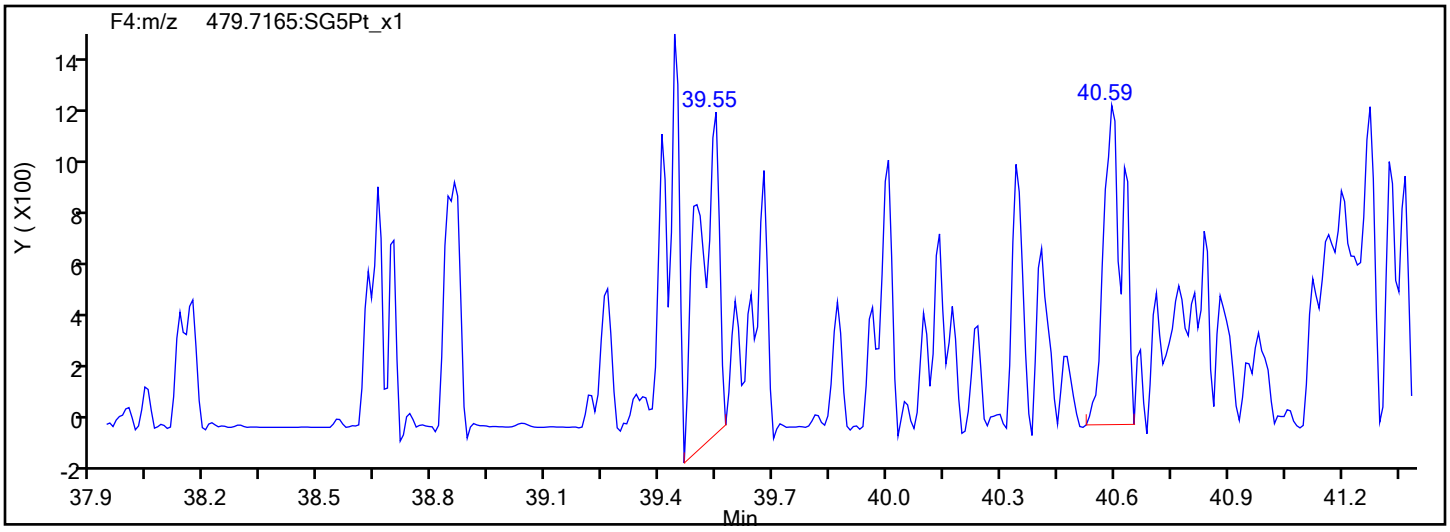
HpCDF





HpCDF Interference Mass



Eurofins TestAmerica, Sacramento

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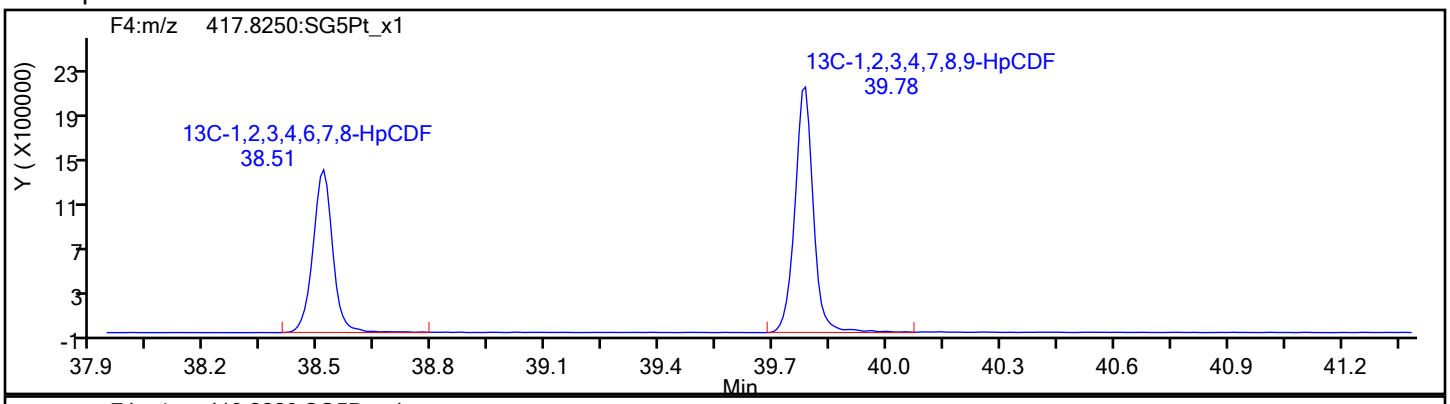
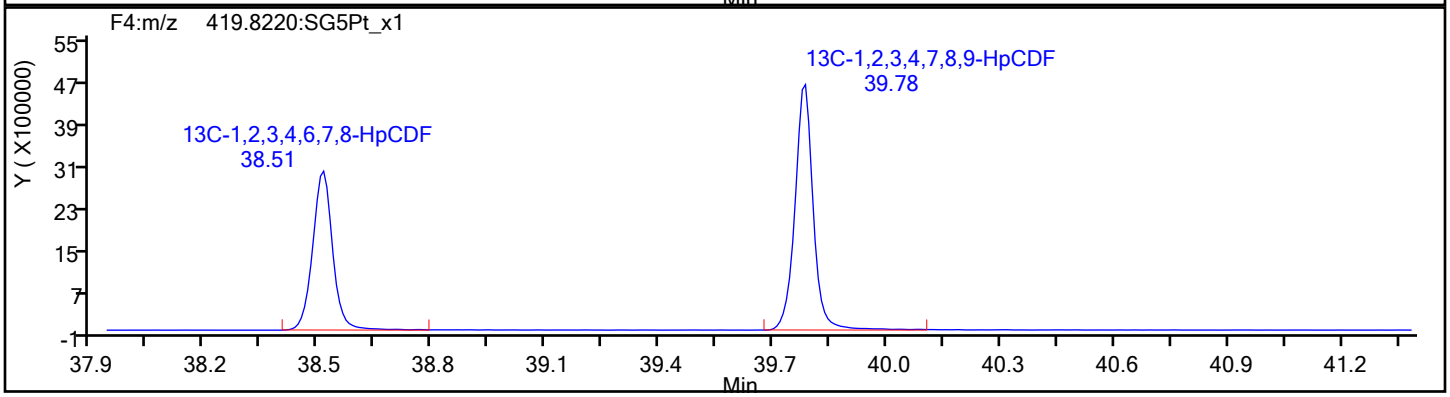
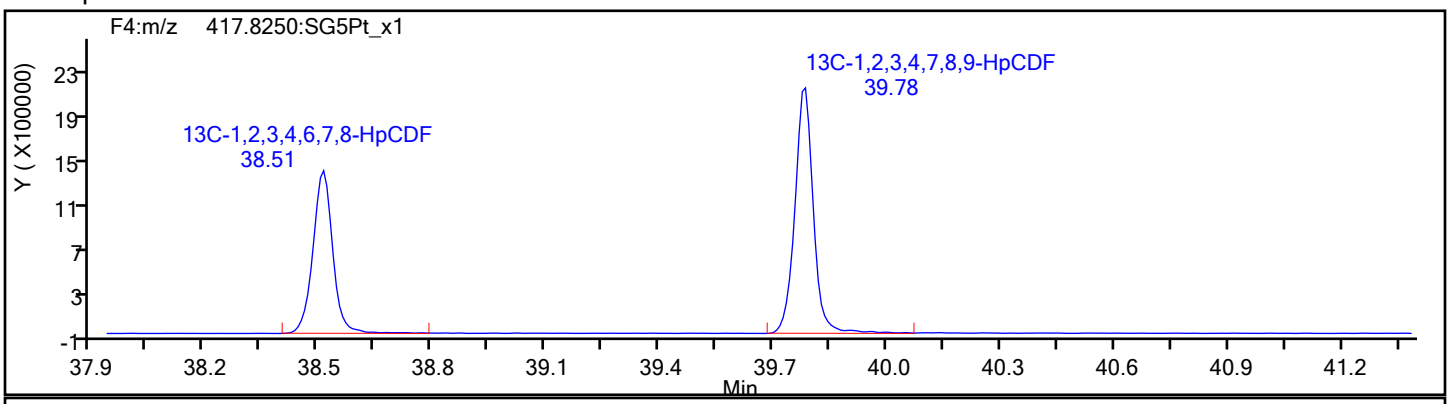
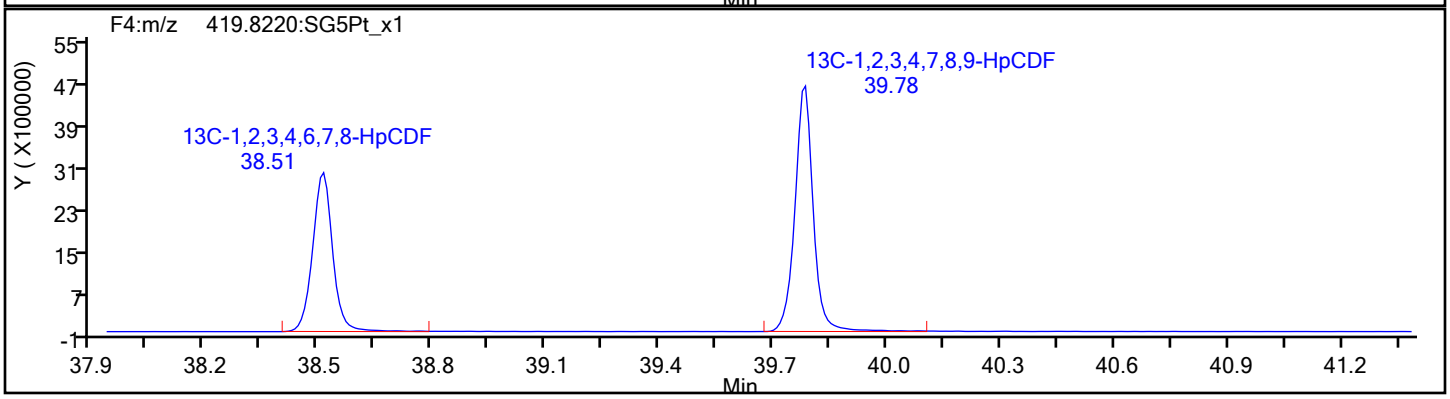
13C-HpCDF





13C-HpCDF Standards

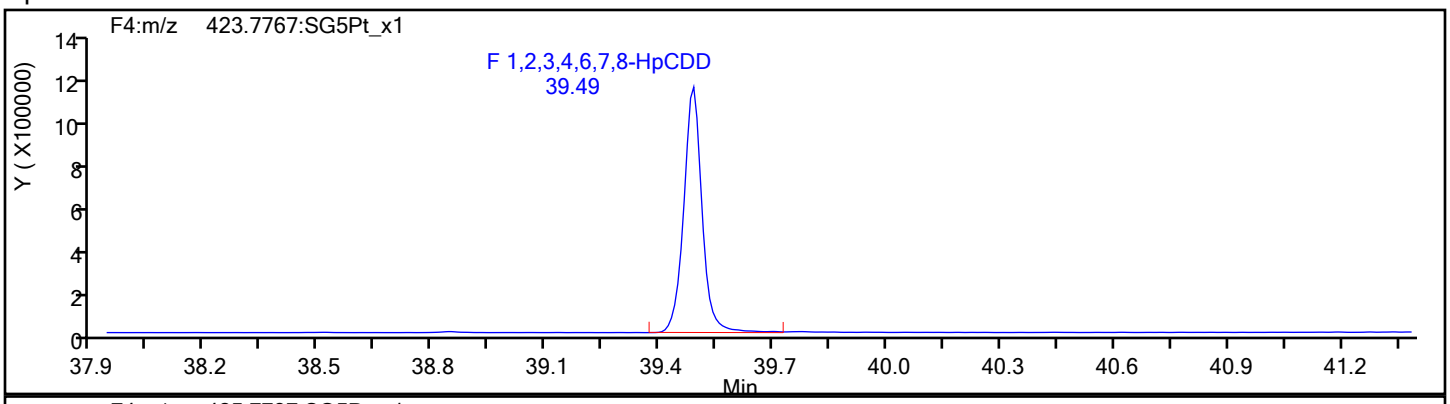


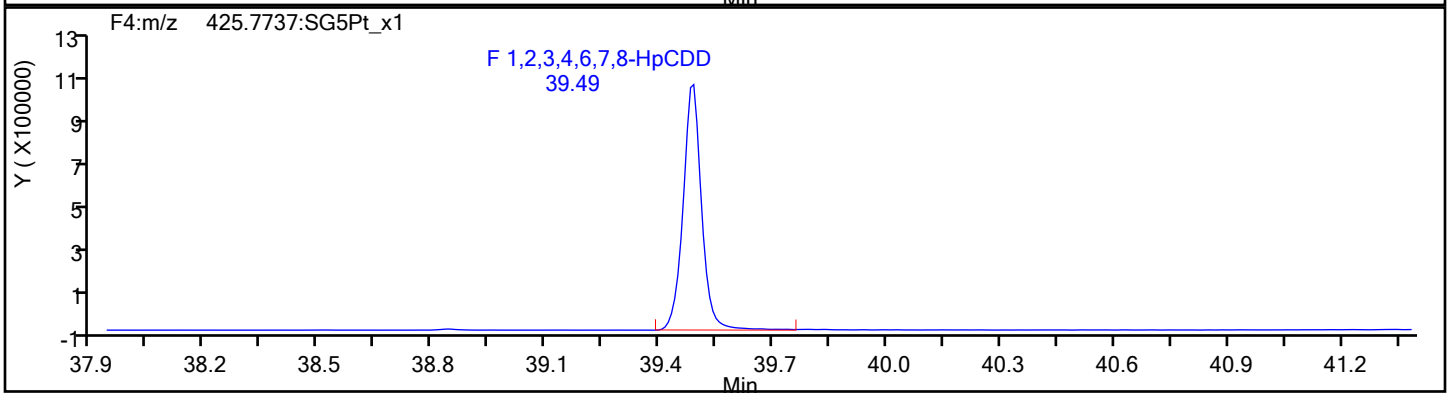


Eurofins TestAmerica, Sacramento

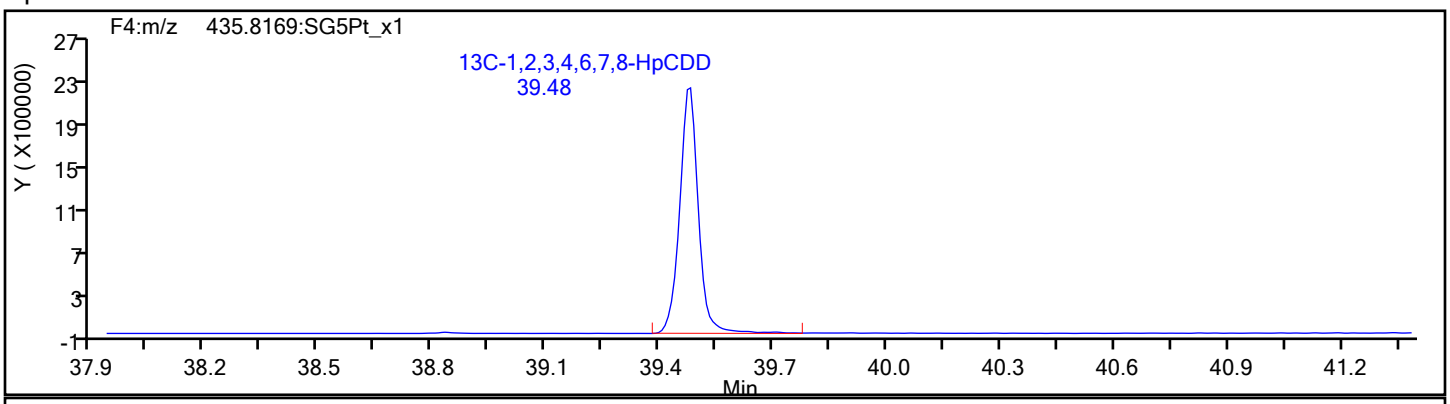
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

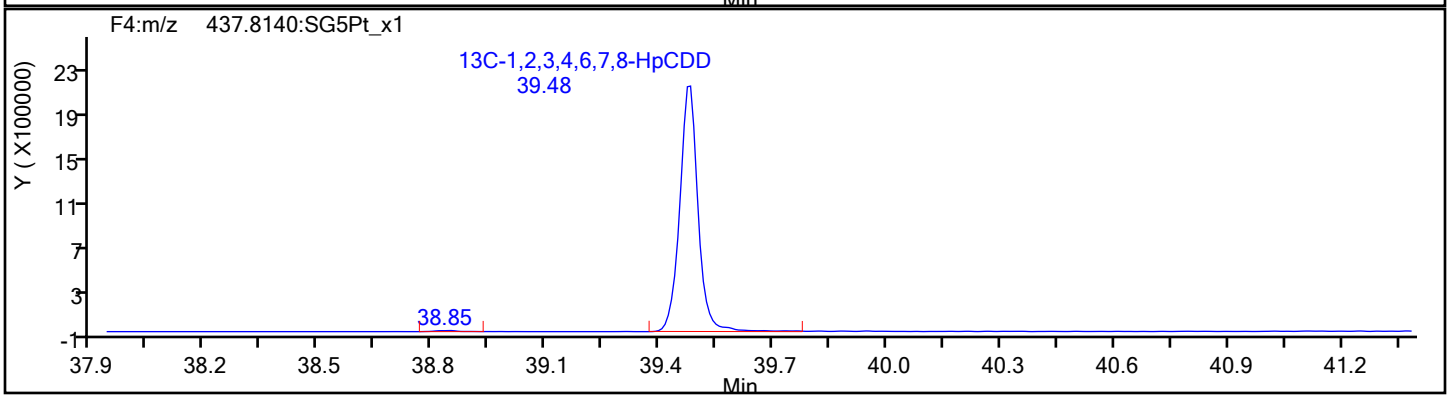
HpCDD





HpCDD Standards



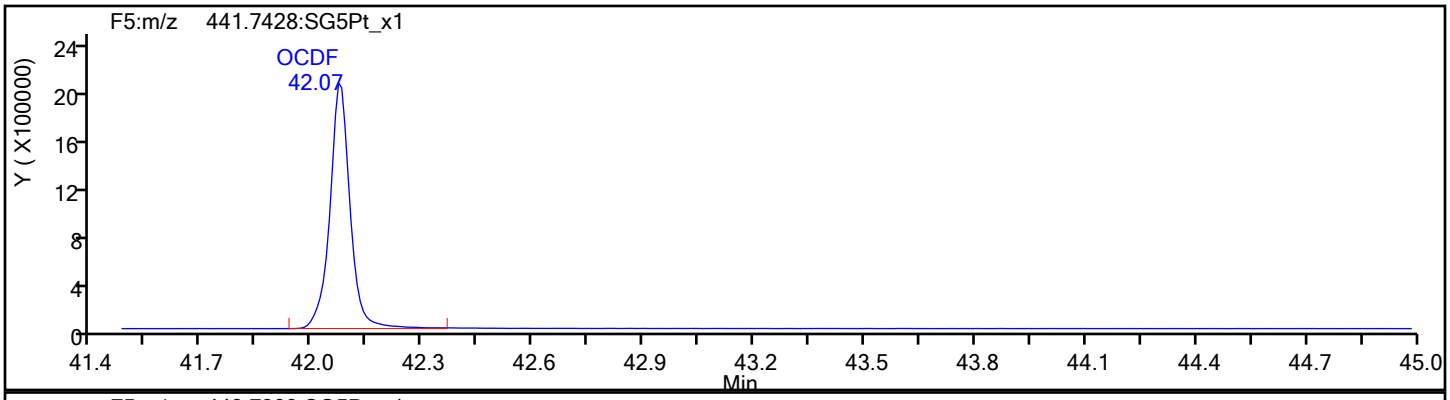


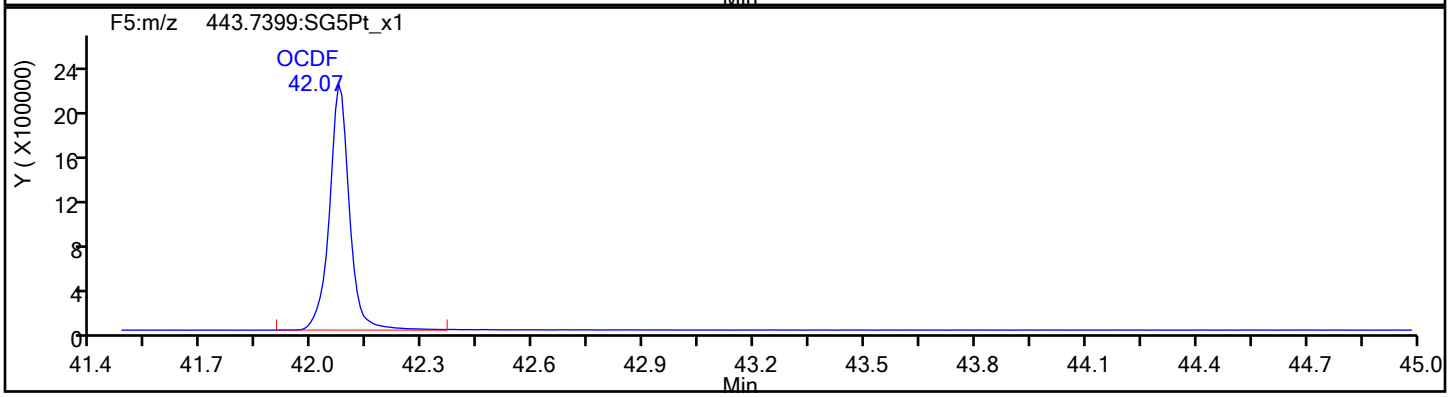
Report Date: 28-Dec-2021 14:24:40 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

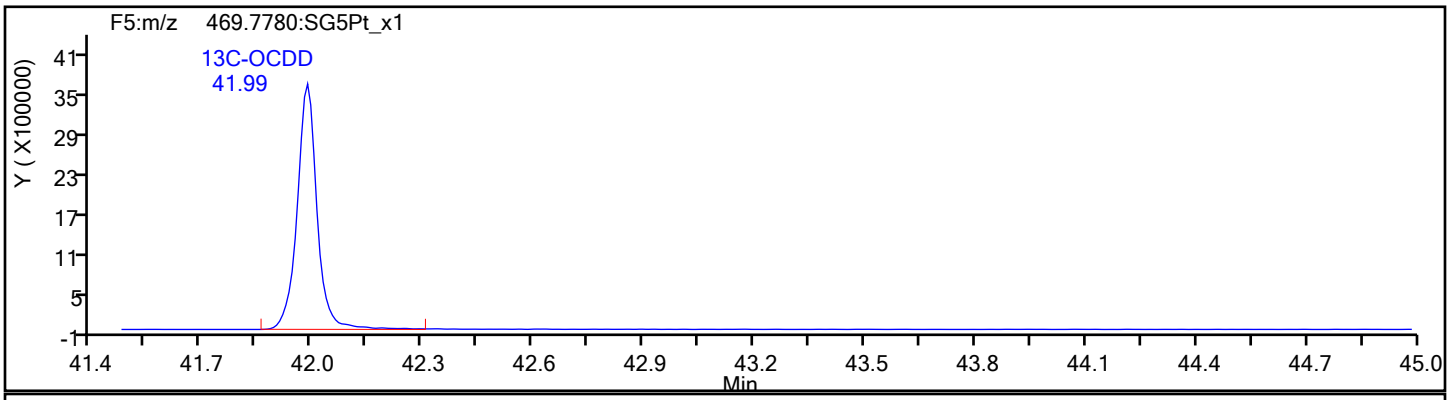
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

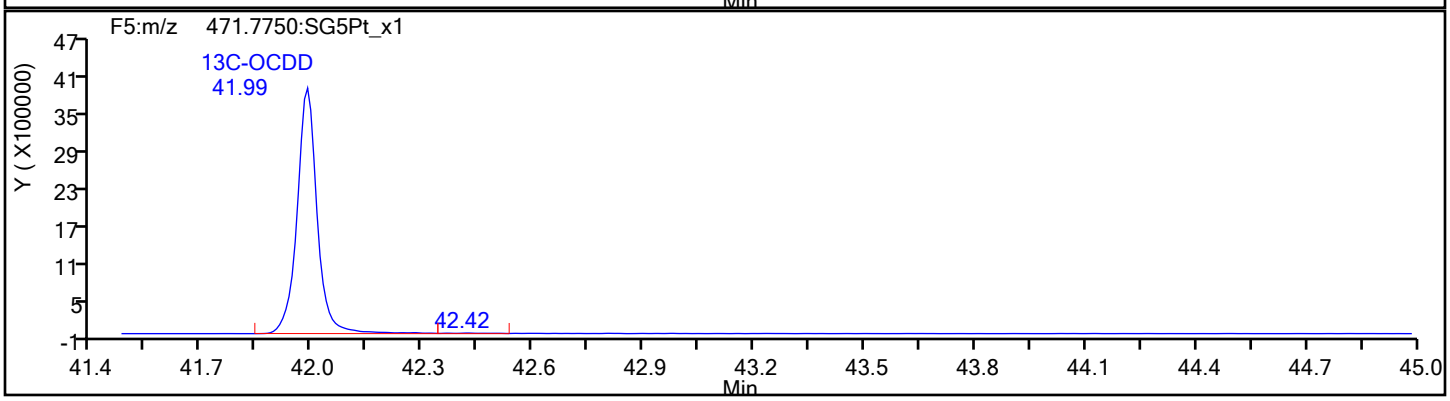
OCDF





OCDF Standards

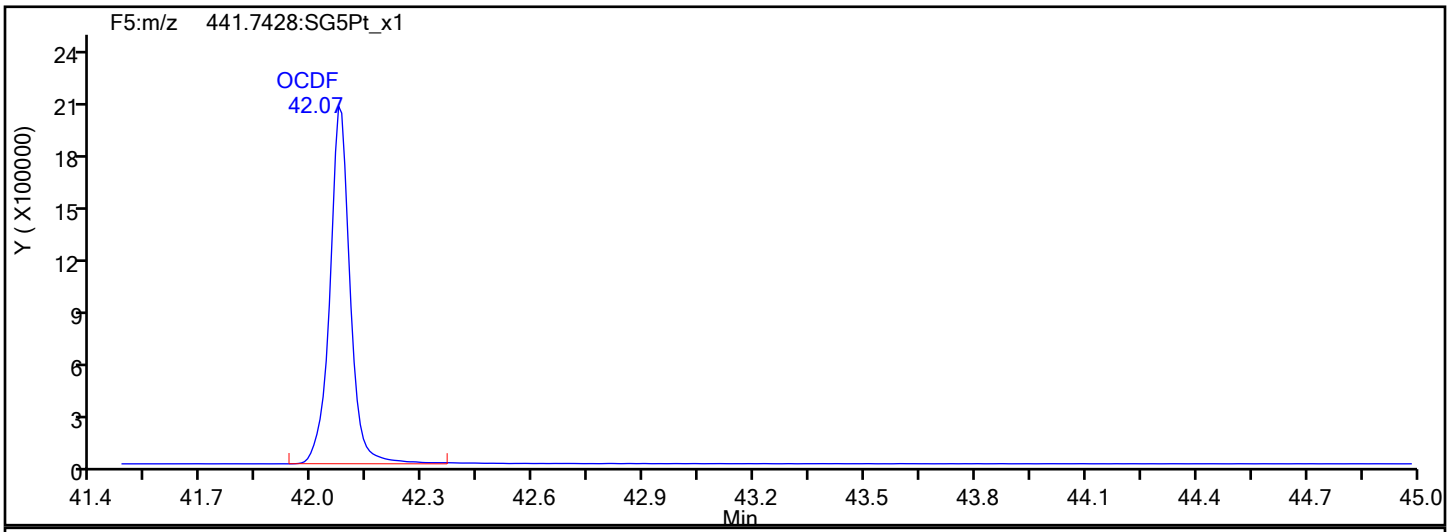


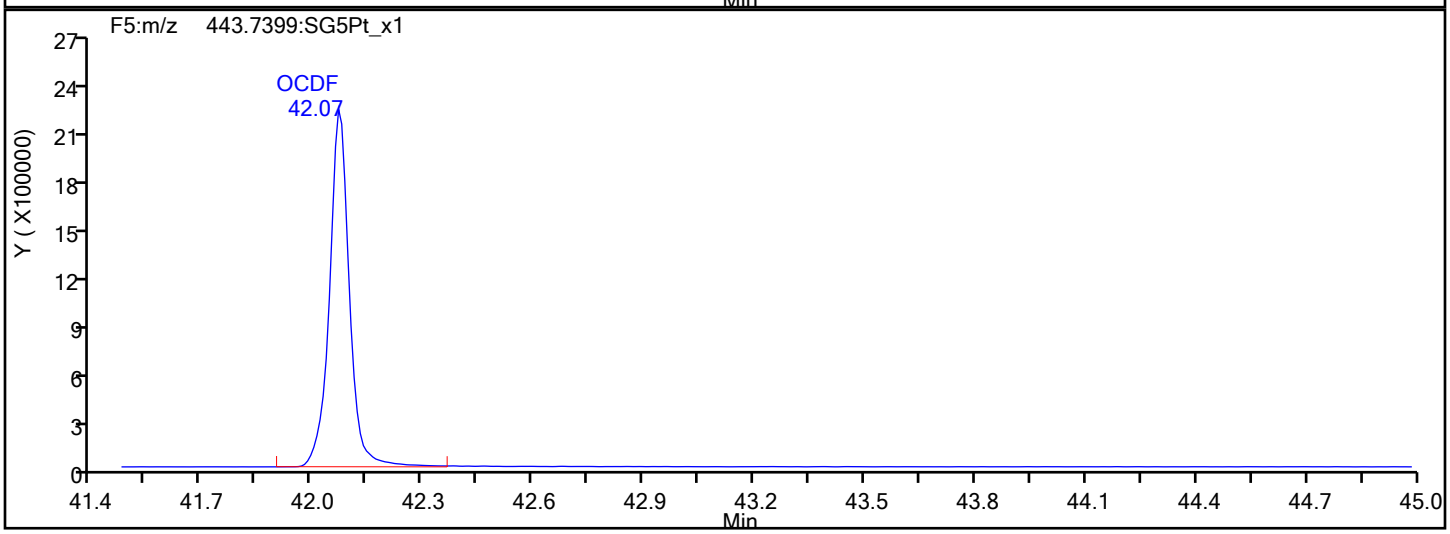


Eurofins TestAmerica, Sacramento

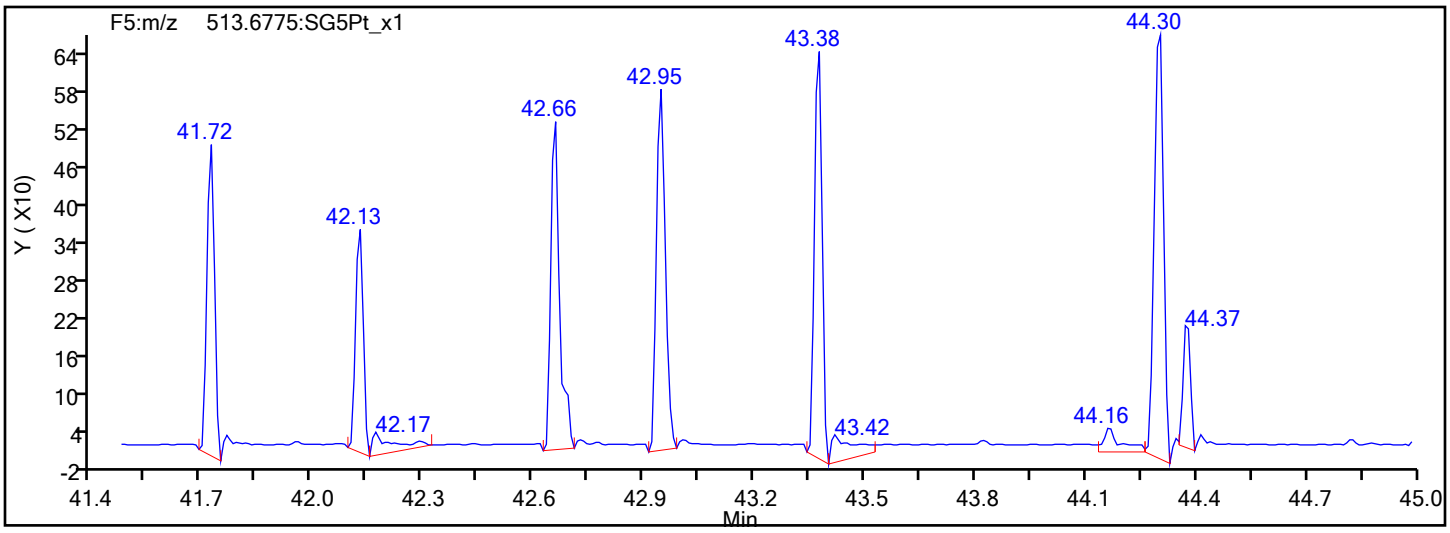
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

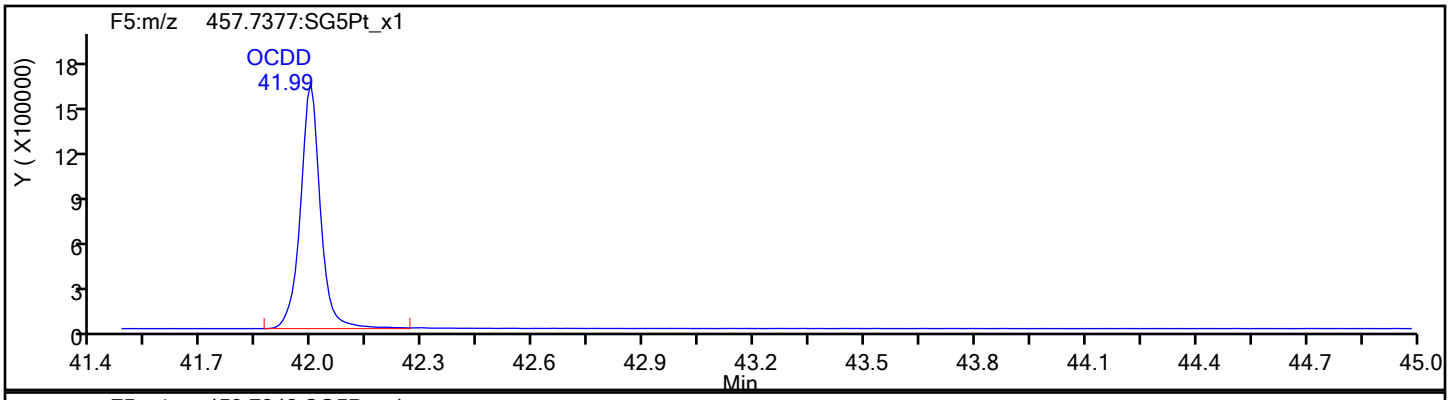


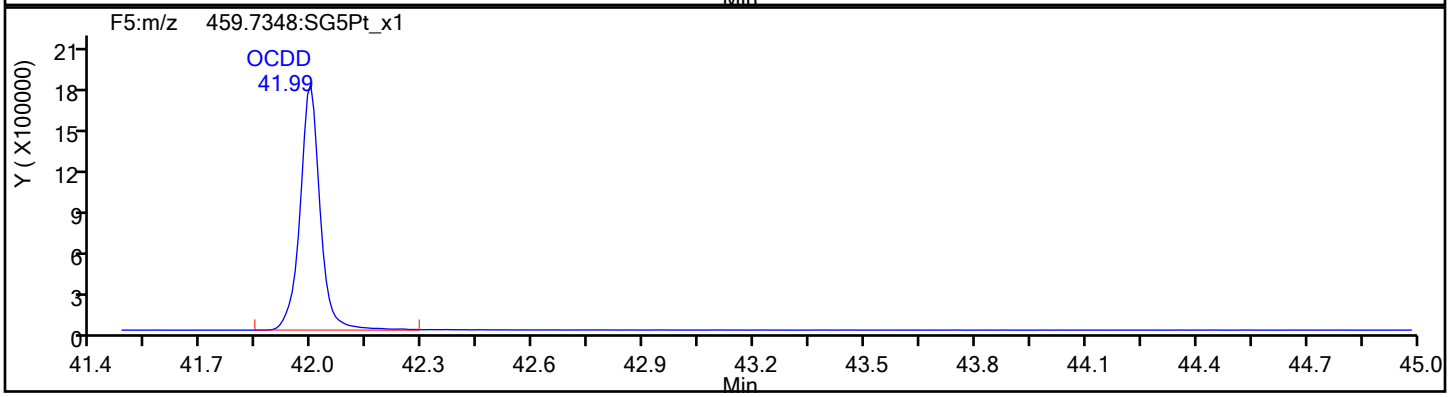
Report Date: 28-Dec-2021 14:24:40 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

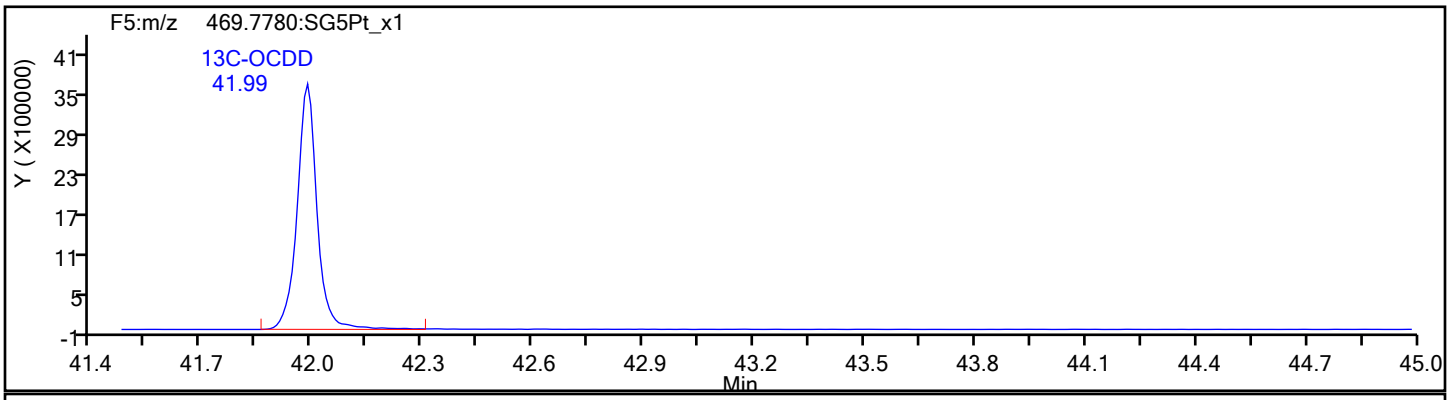
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

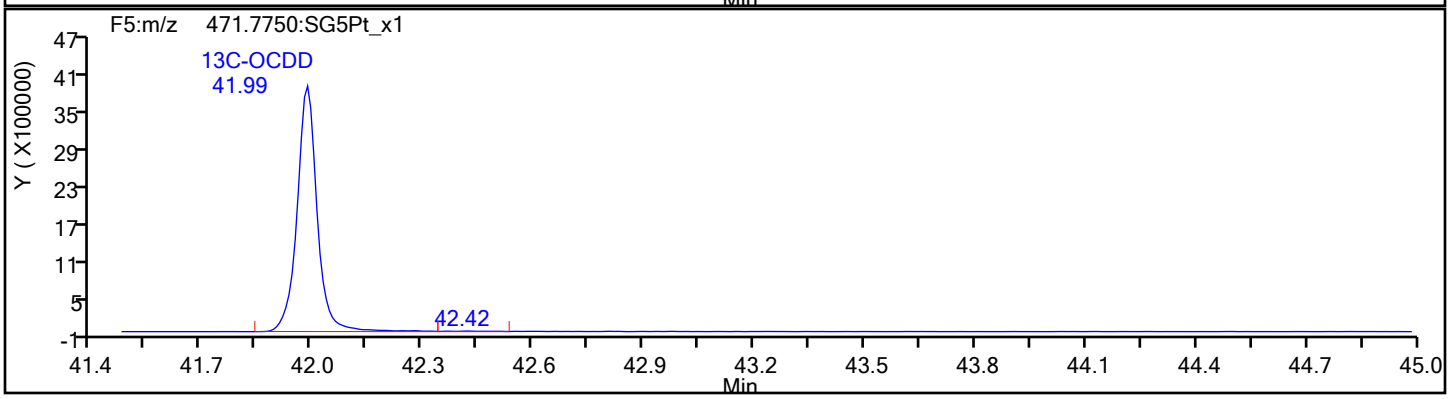
OCDD





OCDD Standards

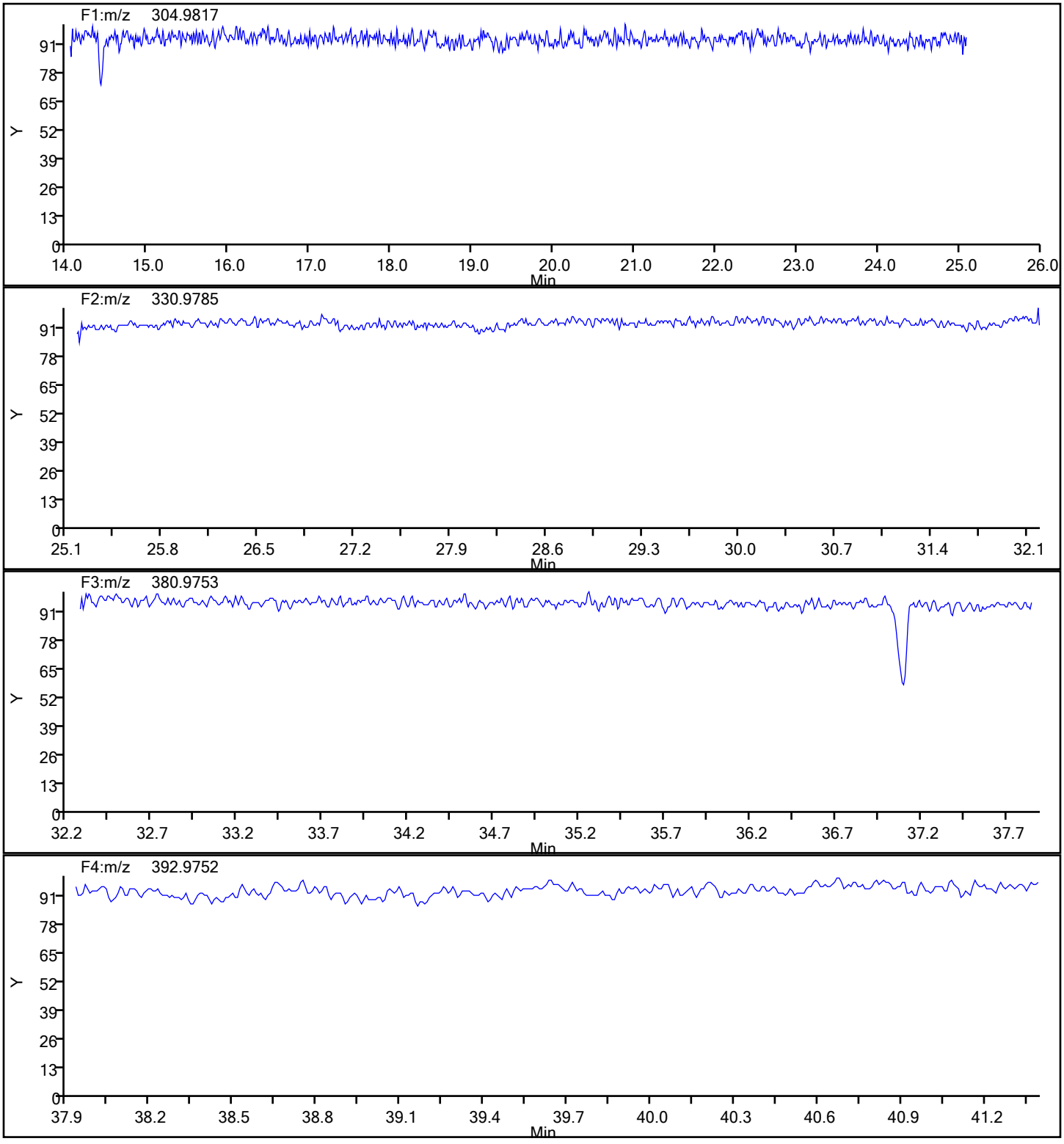




Report Date: 28-Dec-2021 14:24:40 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

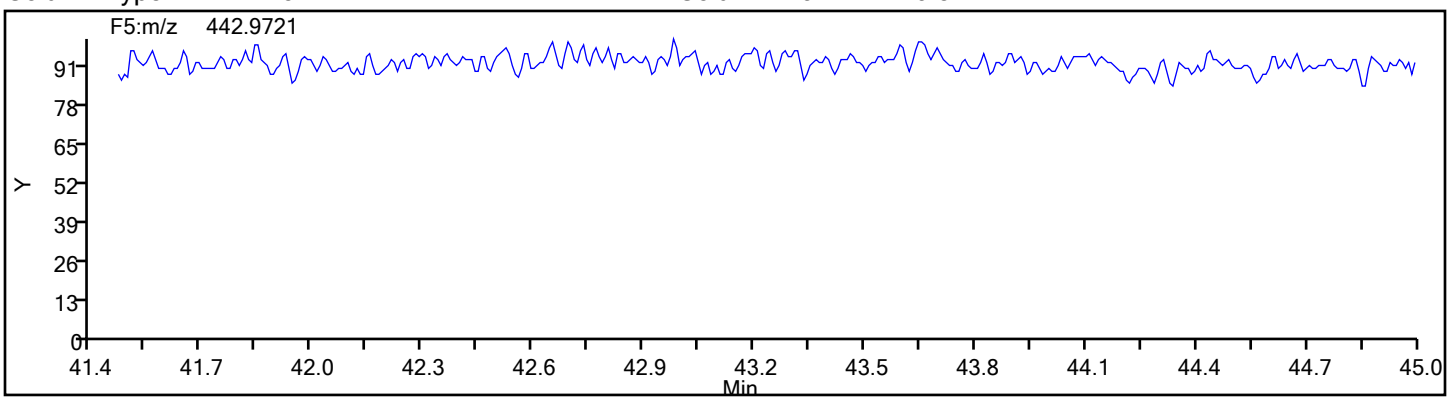
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 28-Dec-2021 14:24:40 Chrom Revision: 2.3 15-Nov-2021 20:34:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20211228-133617.b\27de21adfs1_16.d		
Injection Date:	27-Dec-2021 22:34:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	554312	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Instrument ID: DFS 1 Start Date: 11/18/2021 13:51

Analysis Batch Number: 543974 End Date: 11/18/2021 20:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-543974/1		11/18/2021 13:51	1	18no21adfs1_2.d	DB-5 0.32(mm)
IC 320-543974/3		11/18/2021 15:26	1	18no21adfs1_4.d	DB-5 0.32(mm)
IC 320-543974/4		11/18/2021 16:14	1	18no21adfs1_5.d	DB-5 0.32(mm)
IC 320-543974/5		11/18/2021 17:02	1	18no21adfs1_6.d	DB-5 0.32(mm)
IC 320-543974/6		11/18/2021 17:50	1	18no21adfs1_7.d	DB-5 0.32(mm)
IC 320-543974/7		11/18/2021 18:38	1	18no21adfs1_8.d	DB-5 0.32(mm)
ICV 320-543974/9		11/18/2021 20:32	1	18no21adfs1_11.d	DB-5 0.32(mm)

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 570-78855-1

SDG No.:

Instrument ID: DFS 1 Start Date: 12/27/2021 19:23

Analysis Batch Number: 554312 End Date: 12/28/2021 06:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-554312/1		12/27/2021 19:23	1	27de21adfs1_12.d	DB-5 0.32(mm)
CCV 320-554312/2		12/27/2021 20:10	1	27de21adfs1_13.d	DB-5 0.32(mm)
MB 320-552716/1-A		12/27/2021 20:58	1	27de21adfs1_14.d	DB-5 0.32(mm)
LCS 320-552716/2-A		12/27/2021 21:46	1	27de21adfs1_15.d	DB-5 0.32(mm)
LCSD 320-552716/3-A		12/27/2021 22:34	1	27de21adfs1_16.d	DB-5 0.32(mm)
570-78855-1	A2BMP0006S012	12/28/2021 00:09	1	27de21adfs1_18.d	DB-5 0.32(mm)
570-78855-2	A2BMP0007S020	12/28/2021 00:57	1	27de21adfs1_19.d	DB-5 0.32(mm)
570-78855-3	A2BMP0012S009	12/28/2021 01:45	1	27de21adfs1_20.d	DB-5 0.32(mm)
570-78855-4	EVBMP0001S018	12/28/2021 02:33	1	27de21adfs1_21.d	DB-5 0.32(mm)
570-78855-5	EVBMP0003S031	12/28/2021 03:21	1	27de21adfs1_22.d	DB-5 0.32(mm)
ZZZZZ		12/28/2021 04:56	1		DB-5 0.32(mm)
CCV 320-554312/15		12/28/2021 06:32	1	27de21adfs1_26.d	DB-5 0.32(mm)

8290

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 570-78855-1

SDG No.:

Batch Number: 552716 Batch Start Date: 12/21/21 08:52 Batch Analyst: Bojorquez, Courtney

Batch Method: 8290 Batch End Date: 12/22/21 17:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ExtractionID	RotoVapID
MB 320-552716/1		8290, 8290				1000 mL	20.0 uL	1	4
LCS 320-552716/2		8290, 8290				1000 mL	20.0 uL	10	6
LCSD 320-552716/3		8290, 8290				1000 mL	20.0 uL	13	8
570-78855-F-1	A2BMP0006S012	8290, 8290	T	1372.2 g	522.49 g	849.7 mL	20.0 uL	5	6
570-78855-F-2	A2BMP0007S020	8290, 8290	T	1538.5 g	521.87 g	1016.6 mL	20.0 uL	7	8
570-78855-E-3	A2BMP0012S009	8290, 8290	T	1565.7 g	522.67 g	1043 mL	20.0 uL	14	4
570-78855-F-4	EVBMP0001S018	8290, 8290	T	1543.7 g	512.65 g	1031.1 mL	20.0 uL	8	6
570-78855-F-5	EVBMP0003S031	8290, 8290	T	1557.1 g	516.74 g	1040.4 mL	20.0 uL	11	8

Lab Sample ID	Client Sample ID	Method Chain	Basis	RoundBottomID	HRDXNIDA 00492	HRDXNIS 00137	HRDXNSU 00262	HRDXNTA 00147	
MB 320-552716/1		8290, 8290		17	1 mL	20 uL	1 mL		
LCS 320-552716/2		8290, 8290		16	1 mL	20 uL	1 mL	50 uL	
LCSD 320-552716/3		8290, 8290		11	1 mL	20 uL	1 mL	50 uL	
570-78855-F-1	A2BMP0006S012	8290, 8290	T	10	1 mL	20 uL	1 mL		
570-78855-F-2	A2BMP0007S020	8290, 8290	T	12	1 mL	20 uL	1 mL		
570-78855-E-3	A2BMP0012S009	8290, 8290	T	29	1 mL	20 uL	1 mL		
570-78855-F-4	EVBMP0001S018	8290, 8290	T	13	1 mL	20 uL	1 mL		
570-78855-F-5	EVBMP0003S031	8290, 8290	T	32	1 mL	20 uL	1 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 570-78855-1

SDG No.:

Batch Number: 552716 Batch Start Date: 12/21/21 08:52 Batch Analyst: Bojorquez, Courtney

Batch Method: 8290 Batch End Date: 12/22/21 17:30

Batch Notes	
Balance ID	QA - 070
Hexane ID	Hexane_00302
MeCL2 ID	DCM_00425
Na2SO4 ID	Na2SO4_00140
Tetradecane ID	Tetradecane_00018
Sep Funnel Extractions (date and time)	CB 12/21/21
Analyst ID - IDA Reagent Drop	CB 12/21/21 HD05018 HRDXNIDA_00492 B-1/4 1.0 mL
Analyst ID - IDA Reagent Drop Witness	SN 12/21/21
Analyst ID - TA Reagent Drop	CB 12/21/21 DB15270 HRDXNTA_00147 B-5/10 50.0 uL
Analyst ID - TA Reagent Drop Witness	SN 12/21/21
Analyst ID - SU Reagent Drop	TGL 12/22/21 HD05018 HRDXNSU_00262 B 1/4 1.0 mL
Analyst ID - SU Reagent Drop Witness	IP 12/22/21
Analyst ID - IS Reagent Drop	SR 12/22/21 DB15270 HRDXNIS_00137 B-3/4 20.0 uL
Analyst ID - IS Reagent Drop Witness	CGB 12/22/21
DCM:Hexane ID	20% DH28_00203
65% DCM:Hexane ID	DH6535_00572
Alumina ID	Acid_Alumina_00023
Silica Gel ID	SilicaGel_00385
Acid Silica Gel ID	SA5644_00764
Dual Column C/U Analyst	TGL
Dual Column C/U Date	12/22/2021
Storage Box ID	DXN - 300

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0006S012	570-78855-1
A2BMP0007S020	570-78855-2
A2BMP0012S009	570-78855-3
EVBMP0001S018	570-78855-4
EVBMP0003S031	570-78855-5

Comments:

COVER PAGE
METALS

Lab Name: Eurofins Calscience Tustin Job Number: 570-78855-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0006S012	570-78855-1
A2BMP0007S020	570-78855-2
A2BMP0012S009	570-78855-3
EVBMP0001S018	570-78855-4
EVBMP0003S031	570-78855-5

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: A2BMP0006S012 Lab Sample ID: 570-78855-1

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 07:49

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L			1	200.8
7440-50-8	Copper	3.83	1.00	0.610	ug/L			1	200.8
7439-92-1	Lead	2.08	1.00	0.190	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: A2BMP0006S012 Lab Sample ID: 570-78855-1

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 07:49

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	1.34	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	0.247	1.00	0.190	ug/L	J	H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: A2BMP0007S020 Lab Sample ID: 570-78855-2

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:30

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L			1	200.8
7440-50-8	Copper	4.35	1.00	0.610	ug/L			1	200.8
7439-92-1	Lead	2.03	1.00	0.190	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: A2BMP0007S020 Lab Sample ID: 570-78855-2

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:30

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	1.40	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	0.308	1.00	0.190	ug/L	J	H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: A2BMP0012S009 Lab Sample ID: 570-78855-3

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:15

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L			1	200.8
7440-50-8	Copper	2.49	1.00	0.610	ug/L			1	200.8
7439-92-1	Lead	5.14	1.00	0.190	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: A2BMP0012S009 Lab Sample ID: 570-78855-3

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:15

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	1.47	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	0.228	1.00	0.190	ug/L	J	H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: EVBMP0001S018 Lab Sample ID: 570-78855-4

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 07:30

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L			1	200.8
7440-50-8	Copper	1.94	1.00	0.610	ug/L			1	200.8
7439-92-1	Lead	2.85	1.00	0.190	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: EVBMP0001S018 Lab Sample ID: 570-78855-4

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 07:30

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	1.16	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	ND	1.00	0.190	ug/L		H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: EVBMP0003S031 Lab Sample ID: 570-78855-5

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:01

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L			1	200.8
7440-50-8	Copper	3.09	1.00	0.610	ug/L			1	200.8
7439-92-1	Lead	5.62	1.00	0.190	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: EVBMP0003S031 Lab Sample ID: 570-78855-5

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:01

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	1.29	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	0.251	1.00	0.190	ug/L	J	H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: A2BMP0006S012 Lab Sample ID: 570-78855-1

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 07:49

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000200	0.000100	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: A2BMP0007S020 Lab Sample ID: 570-78855-2

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:30

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000200	0.000100	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: A2BMP0012S009 Lab Sample ID: 570-78855-3

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:15

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000200	0.000100	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EVBMP0001S018 Lab Sample ID: 570-78855-4

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 07:30

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000200	0.000100	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EVBMP0003S031 Lab Sample ID: 570-78855-5

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:01

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000200	0.000100	mg/L			1	245.1

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

ICV Source: MT_MS_ICV1_00007 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00010

Analyte	ICV 570-202353/3 12/19/2021 12:25				CCV 570-202353/139 12/19/2021 20:26				CCV 570-202353/143 12/19/2021 20:39			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	95.07		100	95	99.04		100	99	99.01		100	99
Copper	96.11		100	96	103.7		100	104	104.7		100	105
Lead	92.21		100	92	95.39		100	95	95.87		100	96

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

ICV Source: MT_MS_ICV1_00007 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00010

Analyte	CCV 570-202353/156 12/19/2021 21:20											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	98.45		100	98								
Copper	98.98		100	99								
Lead	98.62		100	99								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

ICV Source: MT_MS_LL_00010 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00010

Analyte	ICVL 570-202353/11 12/19/2021 12:53				CCV 570-202353/139 12/19/2021 20:26				CCV 570-202353/143 12/19/2021 20:39			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	ND		1.00	90	99.04		100	99	99.01		100	99
Copper	0.9739	J	1.00	97	103.7		100	104	104.7		100	105
Lead	0.9130	J	1.00	91	95.39		100	95	95.87		100	96

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

ICV Source: MT_MS_LL_00010 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00010

Analyte	CCV 570-202353/156 12/19/2021 21:20											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	98.45		100	98								
Copper	98.98		100	99								
Lead	98.62		100	99								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

ICV Source: MT_MS_ICV1_00007 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00011

Analyte	ICV 570-205320/3 01/04/2022 08:34				CCV 570-205320/192 01/04/2022 19:27				CCV 570-205320/205 01/04/2022 20:08			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	103.5		100	103	100.7		100	101	102.5		100	103
Copper	99.88		100	100	104.1		100	104	104.6		100	105
Lead	102.6		100	103	103.6		100	104	101.9		100	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

ICV Source: MT_MS_ICV1_00007 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00011

Analyte	CCV 570-205320/218 01/04/2022 20:49											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	102.6		100	103								
Copper	107.5		100	107								
Lead	100.4		100	100								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

ICV Source: MT_MS_LL_00011 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00011

Analyte	ICVL 570-205320/11 01/04/2022 09:02				CCV 570-205320/192 01/04/2022 19:27				CCV 570-205320/205 01/04/2022 20:08			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	ND		1.00	97	100.7		100	101	102.5		100	103
Copper	0.9677	J	1.00	97	104.1		100	104	104.6		100	105
Lead	0.9725	J	1.00	97	103.6		100	104	101.9		100	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

ICV Source: MT_MS_LL_00011 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00011

Analyte	CCV 570-205320/218 01/04/2022 20:49											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	102.6		100	103								
Copper	107.5		100	107								
Lead	100.4		100	100								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

ICV Source: HG_1ppm ICV_00035 Concentration Units: ug/L

CCV Source: HG_1ppm STD_00040

Analyte	ICV 570-201855/7-A 12/17/2021 12:03				CCV 570-201855/9-A 12/17/2021 17:49				CCV 570-201855/9-A 12/17/2021 18:13			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	10.03		10.0	100	3.940		4.00	98	4.036		4.00	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

ICV Source: ME .5 PPM HG1_00166 Concentration Units: ug/L

CCV Source: ME .5 PPM HG1_00167

Analyte	ICV 440-664138/1-A 01/10/2022 16:39				CCV 440-664138/3-A 01/10/2022 17:38				CCV 440-664138/3-A 01/10/2022 18:06			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.706		6.00	95	6.043		6.00	101	6.006		6.00	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

ICV Source: ME .5 PPM HG1_00166 Concentration Units: ug/L

CCV Source: ME .5 PPM HG1_00167

Analyte	CCV 440-664138/3-A 01/10/2022 18:58				CCV 440-664138/3-A 01/10/2022 19:24				CCV 440-664138/3-A 01/10/2022 19:51			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.869		6.00	98	5.942		6.00	99	5.926		6.00	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

ICV Source: ME .5 PPM HG1_00166 Concentration Units: ug/L

CCV Source: ME .5 PPM HG1_00167

Analyte	CCV 440-664138/3-A 01/10/2022 20:08											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.827		6.00	97								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Method: 245.1 Instrument ID: HG7

Lab Sample ID: CRA 570-201855/11-A Concentration Units: ug/L

CRQL Check Standard Source: HG_1ppm STD_00040

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.1986	J	99	65-135

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Method: 245.1 Instrument ID: CV-HG4

Lab Sample ID: CRA 440-664138/5-A Concentration Units: ug/L

CRQL Check Standard Source: ME .5 PPM HG1_00167

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.1572	J	79	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 570-202353/5 12/19/2021 12:31		CCB 570-202353/141 12/19/2021 20:33		CCB 570-202353/144 12/19/2021 20:42		CCB 570-202353/145 12/19/2021 20:45	
		Found	C	Found	C	Found	C	Found	C
Cadmium	1.00	ND		ND		ND		ND	
Copper	1.00	ND		ND		ND		ND	
Lead	1.00	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 570-202353/157 12/19/2021 21:23							
		Found	C	Found	C	Found	C	Found	C
Cadmium	1.00	ND							
Copper	1.00	ND							
Lead	1.00	ND							

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 570-205320/5 01/04/2022 08:40		CCB 570-205320/194 01/04/2022 19:34		CCB 570-205320/206 01/04/2022 20:11		CCB 570-205320/207 01/04/2022 20:15	
		Found	C	Found	C	Found	C	Found	C
Cadmium	1.00	ND		ND		ND		ND	
Copper	1.00	ND		ND		ND		ND	
Lead	1.00	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 570-205320/219 01/04/2022 20:52							
		Found	C	Found	C	Found	C	Found	C
Cadmium	1.00	ND							
Copper	1.00	ND							
Lead	1.00	ND							

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 570-201855/8-A 12/17/2021 12:04		CCB 570-201855/10-A 12/17/2021 17:51		CCB 570-201855/10-A 12/17/2021 18:14			
		Found	C	Found	C	Found	C	Found	C
Mercury	0.248	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 440-664138/2-A 01/10/2022 16:41		CCB 440-664138/4-A 01/10/2022 17:41		CCB 440-664138/4-A 01/10/2022 18:08		CCB 440-664138/4-A 01/10/2022 19:00	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.200	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 440-664138/4-A 01/10/2022 19:26		CCB 440-664138/4-A 01/10/2022 19:53		CCB 440-664138/4-A 01/10/2022 20:11			
		Found	C	Found	C	Found	C	Found	C
Mercury	0.200	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 570-201722/1-A

Instrument Code: ICPMS05 Batch No.: 202353

CAS No.	Analyte	Concentration	C	Q	Method
7440-43-9	Cadmium	ND			200.8
7440-50-8	Copper	ND			200.8
7439-92-1	Lead	ND			200.8

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 570-205346/1-A

Instrument Code: ICPMS05 Batch No.: 205320

CAS No.	Analyte	Concentration	C	Q	Method
7440-43-9	Cadmium	ND			200.8
7440-50-8	Copper	ND			200.8
7439-92-1	Lead	ND			200.8

3-IN
METHOD BLANK
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 570-201724/1-B

Instrument Code: HG7 Batch No.: 201952

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			245.1

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 440-664074/1-A

Instrument Code: CV-HG4 Batch No.: 664187

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			245.1

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Lab Sample ID: ICSA 570-202353/8 Instrument ID: ICPMS05

Lab File ID: 211219e1_ical.rep ICS Source: MT_MS_ICS_A_00006

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Cadmium		**-0.427**	
Copper		**0.400**	
Lead		**0.0509**	
Aluminum	*10000*	*10239*	*102*
Antimony		*0.0596*	
Arsenic		*-0.0658*	
Barium		*0.156*	
Beryllium		*-0.0309*	
Boron		*-1.19*	
Calcium	*30000*	*28839*	*96*
Chromium		*0.160*	
Cobalt		*-0.0177*	
Iron	*25000*	*24136*	*97*
Magnesium	*10000*	*9427*	*94*
Manganese		*0.278*	
Molybdenum	*200*	*192*	*96*
Nickel		*0.150*	
Potassium	*10000*	*9509*	*95*
Selenium		*0.266*	
Silver		*-0.0058*	
Sodium	*25000*	*23662*	*95*
Strontium		*0.361*	
Thallium		*-0.0063*	
Tin		*0.0960*	
Titanium	*200*	*201*	*100*
Vanadium		*-0.0049*	
Zinc		*0.699*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Lab Sample ID: ICSAB 570-202353/9 Instrument ID: ICPMS05

Lab File ID: 211219e1_ical.rep ICS Source: MT_MS_ICS_AB_00008

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Cadmium	**10.0**	**8.91**	**89**
Copper	**20.0**	**18.2**	**91**
Lead		**0.0352**	
Aluminum	*10000*	*10374*	*104*
Antimony		*0.0409*	
Arsenic	*10.0*	*9.66*	*97*
Barium		*0.155*	
Beryllium		*-0.0299*	
Boron		*-1.29*	
Calcium	*30000*	*28487*	*95*
Chromium	*20.0*	*18.2*	*91*
Cobalt	*20.0*	*18.5*	*92*
Iron	*25000*	*24383*	*98*
Magnesium	*10000*	*9519*	*95*
Manganese	*20.0*	*18.6*	*93*
Molybdenum	*200*	*191*	*96*
Nickel	*20.0*	*19.0*	*95*
Potassium	*10000*	*9771*	*98*
Selenium	*10.0*	*9.38*	*94*
Silver	*5.00*	*4.57*	*91*
Sodium	*25000*	*24904*	*100*
Strontium		*0.370*	
Thallium		*-0.0180*	
Tin		*-0.0495*	
Titanium	*200*	*201*	*101*
Vanadium	*20.0*	*19.1*	*96*
Zinc	*10.0*	*9.85*	*98*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Lab Sample ID: ICSA 570-205320/8 Instrument ID: ICPMS05

Lab File ID: 220104e1_ical.rep ICS Source: MT_MS_ICS_A_00006

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Cadmium		**-0.0271**	
Copper		**0.378**	
Lead		**0.0451**	
Aluminum	*10000*	*10152*	*102*
Antimony		*0.0889*	
Arsenic		*0.0606*	
Barium		*0.180*	
Beryllium		*0.0050*	
Boron		*2.32*	
Calcium	*30000*	*28004*	*93*
Chromium		*0.213*	
Cobalt		*0.0430*	
Iron	*25000*	*23257*	*93*
Magnesium	*10000*	*9717*	*97*
Manganese		*0.338*	
Molybdenum	*200*	*183*	*91*
Nickel		*0.187*	
Potassium	*10000*	*9763*	*98*
Selenium		*0.0727*	
Silver		*0.0614*	
Sodium	*25000*	*24726*	*99*
Strontium		*0.359*	
Thallium		*0.0172*	
Tin		*0.194*	
Titanium	*200*	*200*	*100*
Vanadium		*0.0128*	
Zinc		*0.322*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Lab Sample ID: ICSAB 570-205320/9 Instrument ID: ICPMS05

Lab File ID: 220104e1_ical.rep ICS Source: MT_MS_ICS_AB_00008

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Cadmium	**10.0**	**9.95**	**100**
Copper	**20.0**	**18.3**	**92**
Lead		**0.0251**	
Aluminum	*10000*	*10380*	*104*
Antimony		*0.0812*	
Arsenic	*10.0*	*10.4*	*104*
Barium		*0.186*	
Beryllium		*0.0053*	
Boron		*2.31*	
Calcium	*30000*	*29833*	*99*
Chromium	*20.0*	*19.6*	*98*
Cobalt	*20.0*	*21.1*	*105*
Iron	*25000*	*24041*	*96*
Magnesium	*10000*	*10293*	*103*
Manganese	*20.0*	*19.5*	*97*
Molybdenum	*200*	*184*	*92*
Nickel	*20.0*	*20.2*	*101*
Potassium	*10000*	*10282*	*103*
Selenium	*10.0*	*10.1*	*101*
Silver	*5.00*	*4.70*	*94*
Sodium	*25000*	*26174*	*105*
Strontium		*0.387*	
Thallium		*0.0036*	
Tin		*0.0822*	
Titanium	*200*	*211*	*105*
Vanadium	*20.0*	*20.8*	*104*
Zinc	*10.0*	*9.56*	*96*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Lab Sample ID: ICSA 570-205320/267 Instrument ID: ICPMS05

Lab File ID: 220104e1_ical.rep ICS Source: MT_MS_ICS_A_00006

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Cadmium		**-0.0666**	
Copper		**0.388**	
Lead		**0.0379**	
Aluminum	*10000*	*10401*	*104*
Antimony		*0.0677*	
Arsenic		*-0.0895*	
Barium		*0.190*	
Beryllium		*0.0043*	
Boron		*2.40*	
Calcium	*30000*	*28870*	*96*
Chromium		*0.250*	
Cobalt		*0.0658*	
Iron	*25000*	*24067*	*96*
Magnesium	*10000*	*9803*	*98*
Manganese		*0.319*	
Molybdenum	*200*	*205*	*102*
Nickel		*0.0832*	
Potassium	*10000*	*9996*	*100*
Selenium		*-0.0308*	
Silver		*0.0443*	
Sodium	*25000*	*24246*	*97*
Strontium		*0.435*	
Thallium		*0.0063*	
Tin		*0.0911*	
Titanium	*200*	*211*	*105*
Vanadium		*0.0210*	
Zinc		*0.408*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Lab Sample ID: ICSAB 570-205320/268 Instrument ID: ICPMS05

Lab File ID: 220104e1_ical.rep ICS Source: MT_MS_ICS_AB_00008

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Cadmium	**10.0**	**10.2**	**102**
Copper	**20.0**	**20.3**	**102**
Lead		**0.0168**	
Aluminum	*10000*	*10531*	*105*
Antimony		*0.0663*	
Arsenic	*10.0*	*10.7*	*107*
Barium		*0.187*	
Beryllium		*0.0005*	
Boron		*2.35*	
Calcium	*30000*	*29988*	*100*
Chromium	*20.0*	*20.5*	*103*
Cobalt	*20.0*	*21.0*	*105*
Iron	*25000*	*25436*	*102*
Magnesium	*10000*	*10204*	*102*
Manganese	*20.0*	*20.6*	*103*
Molybdenum	*200*	*216*	*108*
Nickel	*20.0*	*20.6*	*103*
Potassium	*10000*	*10275*	*103*
Selenium	*10.0*	*10.4*	*104*
Silver	*5.00*	*4.83*	*97*
Sodium	*25000*	*25441*	*102*
Strontium		*0.463*	
Thallium		*0.0001*	
Tin		*-0.0063*	
Titanium	*200*	*216*	*108*
Vanadium	*20.0*	*22.1*	*110*
Zinc	*10.0*	*10.0*	*100*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: A2BMP0006S012 MS
Lab ID: 570-78855-1 MS
Lab Name: Eurofins Calscience
Job No.: 570-78855-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Cadmium	91.73		ND		100	92	80-120		200.8
Copper	95.64		1.34		100	94	80-120		200.8
Lead	87.56		0.247	J	100	87	80-120		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: A2BMP0007S020 MS
Lab ID: 570-78855-2 MS
Lab Name: Eurofins Calscience
Job No.: 570-78855-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	0.01100		ND		0.0100	110	70-130		245.1

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 570-80514-A-1-B MS ^5

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Cadmium	99.95		ND		100	100	80-120		200.8
Copper	97.40		4.24	J	100	93	80-120		200.8
Lead	95.08		4.36	J	100	91	80-120		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: A2BMP0006S012 MSD | Lab ID: 570-78855-1 MSD

Lab Name: Eurofins Calscience | Job No.: 570-78855-1

SDG No.:

Matrix: Water | Concentration Units: ug/L

% Solids:

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Cadmium	98.23		100	98	80-120	7	20		200.8
Copper	102.1		100	101	80-120	7	20		200.8
Lead	94.58		100	94	80-120	8	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: A2BMP0007S020 MSD
Lab ID: 570-78855-2 MSD
Lab Name: Eurofins Calscience
Job No.: 570-78855-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.01098		0.0100	110	70-130	0	10		245.1

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 570-80514-A-1-C MSD ^5

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Cadmium	89.71		100	90	80-120	11	20		200.8
Copper	85.57		100	81	80-120	13	20		200.8
Lead	85.46		100	81	80-120	11	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: _____ Lab ID: 570-79044-B-1-F MS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.: _____

Matrix: Water Concentration Units: mg/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	0.008825		ND		0.00600	147	75-125	F1	245.1

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: _____ Lab ID: 570-79044-B-1-G MSD

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.: _____

Matrix: Water Concentration Units: mg/L

% Solids: _____

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.008713		0.00600	145	75-125	1	20	F1	245.1

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS - DISSOLVED

Lab ID: LCS 570-201722/2-A

Lab Name: Eurofins Calscience Job No.: 570-78855-1

Sample Matrix: Water LCS Source: MT_ICP_Spike1_00012

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Cadmium	100	92.53		93	80	120		200.8
Copper	100	96.83		97	80	120		200.8
Lead	100	89.35		89	80	120		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS - DISSOLVED

Lab ID: LCSD 570-201722/3-A

Lab Name: Eurofins Calscience Job No.: 570-78855-1

Sample Matrix: Water LCS Source: MT_ICP_Spike1_00012

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Cadmium	92.73		100	93	80-120	0	20		200.8
Copper	97.16		100	97	80-120	0	20		200.8
Lead	90.09		100	90	80-120	1	20		200.8

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 570-205346/2-A

Lab Name: Eurofins Calscience Job No.: 570-78855-1

Sample Matrix: Water LCS Source: MT_ICP_Spike1_00012

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Cadmium	100	99.75		100	80	120		200.8
Copper	100	98.71		99	80	120		200.8
Lead	100	92.76		93	80	120		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS - TOTAL RECOVERABLE

Lab ID: LCSD 570-205346/3-A

Lab Name: Eurofins Calscience Job No.: 570-78855-1

Sample Matrix: Water LCS Source: MT_ICP_Spike1_00012

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Cadmium	101.2		100	101	80-120	1	20		200.8
Copper	100.0		100	100	80-120	1	20		200.8
Lead	94.04		100	94	80-120	1	20		200.8

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS - DISSOLVED

Lab ID: LCS 570-201724/2-B

Lab Name: Eurofins Calscience Job No.: 570-78855-1

Sample Matrix: Water LCS Source: HG_1ppm STD_00040

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.0100	0.01063		106	85	115		245.1

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS - DISSOLVED

Lab ID: LCSD 570-201724/3-B

Lab Name: Eurofins Calscience Job No.: 570-78855-1

Sample Matrix: Water LCS Source: HG_1ppm STD_00040

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.01065		0.0100	107	85-115	0	10		245.1

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 440-664074/2-A

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

Sample Matrix: Water LCS Source: ME 1 PPM HG1_00529

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.00600	0.006098		102	85	115		245.1

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: ICPMS05

Method: 200.8 MDL Date: 02/19/2021 00:00

Prep Method: 200.8

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Cadmium	111	0.001	0.00098
Copper	65	0.001	0.00061
Lead	207	0.001	0.00019

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: ICPMS05

Method: 200.8 XMDL Date: 02/19/2021 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Cadmium	111	1	0.9785
Copper	65	1	0.6066
Lead	207	1	0.1929

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: ICPMS05

Method: 200.8 MDL Date: 02/19/2021 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Cadmium	111	0.001	0.00098
Copper	65	0.001	0.00061
Lead	207	0.001	0.00019

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: ICPMS05

Method: 200.8 XMDL Date: 02/19/2021 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Cadmium	111	1	0.9785
Copper	65	1	0.6066
Lead	207	1	0.1929

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: HG7

Method: 245.1 MDL Date: 05/26/2020 11:11

Prep Method: 245.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Mercury		0.000248	0.000124

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: HG7

Method: 245.1 XMDL Date: 05/26/2020 11:12

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.124	0.062

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Calscience Tustin Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: CV-HG4

Method: 245.1 MDL Date: 01/31/2021 00:00

Prep Method: 245.1

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Mercury		0.2	0.1

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Calscience Tustin Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: CV-HG4

Method: 245.1 XMDL Date: 01/31/2021 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.2	0.1

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Calscience Job No: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Date: 09/01/2021 00:00

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Cadmium		900	200.8
Copper		900	200.8
Lead		1500	200.8

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Calscience Job No: 570-78855-1

SDG No.:

Instrument ID: HG7 Date: 04/17/2017 05:54

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Mercury		10	245.1

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Calscience Tustin Job No: 570-78855-1

SDG No.:

Instrument ID: CV-HG4 Date: 01/01/2019 13:06

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Mercury		10	245.1

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Prep Method: 200.8

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 570-205346/1-A	01/04/2022 08:28	205346		50	50
LCS 570-205346/2-A	01/04/2022 08:28	205346		50	50
LCSD 570-205346/3-A	01/04/2022 08:28	205346		50	50
570-78855-1	01/04/2022 08:28	205346		50	50
570-78855-2	01/04/2022 08:28	205346		50	50
570-78855-3	01/04/2022 08:28	205346		50	50
570-78855-4	01/04/2022 08:28	205346		50	50
570-78855-5	01/04/2022 08:28	205346		50	50
570-80514-A-1-B MS ^5	01/04/2022 08:28	205346		50	50
570-80514-A-1-C MSD ^5	01/04/2022 08:28	205346		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Prep Method: 245.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 570-201724/1-B	12/16/2021 12:02	201728		50	100
LCS 570-201724/2-B	12/16/2021 12:02	201728		50	100
LCSD 570-201724/3-B	12/16/2021 12:02	201728		50	100
570-78855-1	12/16/2021 12:02	201728		50	100
570-78855-2	12/16/2021 12:02	201728		50	100
570-78855-2 MS	12/16/2021 12:02	201728		50	100
570-78855-2 MSD	12/16/2021 12:02	201728		50	100
570-78855-3	12/16/2021 12:02	201728		50	100
570-78855-4	12/16/2021 12:02	201728		50	100
570-78855-5	12/16/2021 12:02	201728		50	100

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PREPARATION LOG
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Prep Method: 245.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 440-664074/1-A	01/10/2022 10:10	664074		20	30
LCS 440-664074/2-A	01/10/2022 10:10	664074		20	30
570-79044-B-1-F MS	01/10/2022 10:10	664074		20	30
570-79044-B-1-G MSD	01/10/2022 10:10	664074		20	30
570-78855-1	01/10/2022 10:10	664074		20	30
570-78855-2	01/10/2022 10:10	664074		20	30
570-78855-3	01/10/2022 10:10	664074		20	30
570-78855-4	01/10/2022 10:10	664074		20	30
570-78855-5	01/10/2022 10:10	664074		20	30

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 12/19/2021 12:18 End Date: 12/20/2021 00:02

Lab Sample Id	D/F	Type	Time	Analytes																									
				Cd	Cu	Pb																							
ICIS 570-202353/1			12:18	X	X	X																							
IC 570-202353/2			12:21	X	X	X																							
ICV 570-202353/3	1		12:25	X	X	X																							
ICV 570-202353/4	1		12:28	X	X	X																							
ICB 570-202353/5	1		12:31	X	X	X																							
CCV 570-202353/6			12:34																										
CCB 570-202353/7			12:37																										
ICSA 570-202353/8	1		12:41	X	X	X																							
ICSAB 570-202353/9	1		12:44	X	X	X																							
CCB 570-202353/10			12:50																										
ICVL 570-202353/11	1		12:53	X	X	X																							
ICIS 570-202353/12			13:05	X	X	X																							
IC 570-202353/13			13:08	X	X	X																							
CCV 570-202353/14			13:11																										
CCB 570-202353/15			13:14																										
CCB 570-202353/16			13:17																										
ZZZZZZ			13:20																										
ZZZZZZ			13:24																										
ZZZZZZ			13:27																										
ZZZZZZ			13:30																										
ZZZZZZ			13:33																										
ZZZZZZ			13:36																										
ZZZZZZ			13:39																										
ZZZZZZ			13:43																										
ZZZZZZ			13:46																										
CCV 570-202353/26			13:49																										
CCB 570-202353/27			13:52																										
CCB 570-202353/28			13:55																										
ICIS 570-202353/29			13:59	X	X	X																							
IC 570-202353/30	1		14:02	X	X	X																							
CCV 570-202353/31			14:05																										
CCB 570-202353/32			14:08																										
CCB 570-202353/33			14:11																										
ZZZZZZ			14:14																										
ZZZZZZ			14:18																										
ZZZZZZ			14:21																										
ZZZZZZ			14:24																										
ZZZZZZ			14:27																										
ZZZZZZ			14:30																										
ZZZZZZ			14:33																										
ZZZZZZ			14:37																										
ZZZZZZ			14:40																										

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 12/19/2021 12:18 End Date: 12/20/2021 00:02

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
ZZZZZZ			14:43																											
CCV 570-202353/44			14:46																											
CCB 570-202353/45			14:49																											
CCB 570-202353/46			14:52																											
ZZZZZZ			14:56																											
ZZZZZZ			14:59																											
ZZZZZZ			15:02																											
ZZZZZZ			15:05																											
ZZZZZZ			15:08																											
ZZZZZZ			15:12																											
ZZZZZZ			15:15																											
ZZZZZZ			15:18																											
ZZZZZZ			15:21																											
CCV 570-202353/56			15:31																											
CCB 570-202353/57			15:34																											
CCB 570-202353/58			15:37																											
ZZZZZZ			15:40																											
CCV 570-202353/60			15:43																											
CCB 570-202353/61			15:47																											
CCB 570-202353/62			15:50																											
ZZZZZZ			15:53																											
ZZZZZZ			15:56																											
ZZZZZZ			15:59																											
ZZZZZZ			16:02																											
ZZZZZZ			16:06																											
ZZZZZZ			16:09																											
ZZZZZZ			16:12																											
ZZZZZZ			16:15																											
ZZZZZZ			16:18																											
ZZZZZZ			16:21																											
CCV 570-202353/73			16:25																											
CCB 570-202353/74			16:28																											
CCB 570-202353/75			16:31																											
ZZZZZZ			16:34																											
ZZZZZZ			16:37																											
ZZZZZZ			16:41																											
ZZZZZZ			16:44																											
ZZZZZZ			16:47																											
ZZZZZZ			16:50																											
ZZZZZZ			16:53																											
ZZZZZZ			16:56																											
ZZZZZZ			17:00																											

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 12/19/2021 12:18 End Date: 12/20/2021 00:02

Lab Sample Id	D/F	Type	Time	Analytes																									
				Cd	Cu	Pb																							
CCV 570-202353/85			17:09																										
CCB 570-202353/86			17:12																										
CCB 570-202353/87			17:15																										
ZZZZZZ			17:19																										
CCV 570-202353/89			17:22																										
CCB 570-202353/90			17:25																										
CCB 570-202353/91			17:28																										
ZZZZZZ			17:31																										
ZZZZZZ			17:35																										
ZZZZZZ			17:38																										
ZZZZZZ			17:41																										
ZZZZZZ			17:44																										
ZZZZZZ			17:47																										
ZZZZZZ			17:50																										
ZZZZZZ			17:54																										
ZZZZZZ			17:57																										
ZZZZZZ			18:00																										
CCV 570-202353/102			18:03																										
CCB 570-202353/103			18:06																										
CCB 570-202353/104			18:10																										
ZZZZZZ			18:13																										
ZZZZZZ			18:16																										
ZZZZZZ			18:19																										
ZZZZZZ			18:22																										
ZZZZZZ			18:25																										
CCV 570-202353/110			18:48																										
CCB 570-202353/111			18:51																										
CCB 570-202353/112			18:54																										
ZZZZZZ			18:57																										
CCV 570-202353/114			19:00																										
CCB 570-202353/115			19:04																										
CCB 570-202353/116			19:07																										
ZZZZZZ			19:10																										
ZZZZZZ			19:13																										
ZZZZZZ			19:16																										
ZZZZZZ			19:19																										
ZZZZZZ			19:23																										
ZZZZZZ			19:26																										
ZZZZZZ			19:29																										
ZZZZZZ			19:32																										
ZZZZZZ			19:35																										
ZZZZZZ			19:39																										

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 12/19/2021 12:18 End Date: 12/20/2021 00:02

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
CCV 570-202353/127			19:42																											
CCB 570-202353/128			19:45																											
CCB 570-202353/129			19:48																											
ZZZZZZ			19:51																											
ZZZZZZ			19:54																											
ZZZZZZ			19:58																											
ZZZZZZ			20:01																											
ZZZZZZ			20:04																											
ZZZZZZ			20:07																											
ZZZZZZ			20:10																											
ZZZZZZ			20:13																											
ZZZZZZ			20:17																											
CCV 570-202353/139	1		20:26	X	X	X																								
CCB 570-202353/140			20:29																											
CCB 570-202353/141	1		20:33	X	X	X																								
MB 570-201722/1-A	1	D	20:36	X	X	X																								
CCV 570-202353/143	1		20:39	X	X	X																								
CCB 570-202353/144	1		20:42	X	X	X																								
CCB 570-202353/145	1		20:45	X	X	X																								
LCS 570-201722/2-A	1	D	20:49	X	X	X																								
LCSD 570-201722/3-A	1	D	20:52	X	X	X																								
570-78855-1	1	D	20:55	X	X	X																								
570-78855-1 MS	1	D	20:58	X	X	X																								
570-78855-1 MSD	1	D	21:01	X	X	X																								
570-78855-2	1	D	21:04	X	X	X																								
570-78855-3	1	D	21:08	X	X	X																								
570-78855-4	1	D	21:11	X	X	X																								
570-78855-5	1	D	21:14	X	X	X																								
ZZZZZZ			21:17																											
CCV 570-202353/156	1		21:20	X	X	X																								
CCB 570-202353/157	1		21:23	X	X	X																								
CCB 570-202353/158			21:27																											
ZZZZZZ			21:30																											
ZZZZZZ			21:33																											
ZZZZZZ			21:36																											
ZZZZZZ			21:39																											
ZZZZZZ			21:42																											
ZZZZZZ			21:46																											
ZZZZZZ			21:49																											
ZZZZZZ			21:52																											
ZZZZZZ			21:55																											
CCV 570-202353/168			22:05																											

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 12/19/2021 12:18 End Date: 12/20/2021 00:02

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
CCB 570-202353/169			22:08																											
CCB 570-202353/170			22:11																											
ZZZZZZ			22:14																											
CCV 570-202353/172			22:17																											
CCB 570-202353/173			22:21																											
CCB 570-202353/174			22:24																											
ZZZZZZ			22:27																											
ZZZZZZ			22:30																											
ZZZZZZ			22:33																											
ZZZZZZ			22:36																											
ZZZZZZ			22:40																											
ZZZZZZ			22:43																											
ZZZZZZ			22:46																											
ZZZZZZ			22:49																											
ZZZZZZ			22:52																											
ZZZZZZ			22:55																											
CCV 570-202353/185			22:59																											
CCB 570-202353/186			23:02																											
CCB 570-202353/187			23:05																											
ZZZZZZ			23:08																											
ZZZZZZ			23:11																											
ZZZZZZ			23:15																											
ZZZZZZ			23:18																											
ZZZZZZ			23:21																											
ZZZZZZ			23:24																											
ZZZZZZ			23:27																											
ZZZZZZ			23:30																											
ZZZZZZ			23:34																											
CCV 570-202353/197			23:43																											
CCB 570-202353/198			23:46																											
CCB 570-202353/199			23:50																											
ZZZZZZ			23:53																											
CCV 570-202353/201			23:56																											
CCB 570-202353/202			23:59																											
CCB 570-202353/203			00:02																											

Prep Types:
D = Dissolved

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/04/2022 08:27 End Date: 01/04/2022 23:32

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
ICIS 570-205320/1	1		08:27	X	X	X																								
IC 570-205320/2			08:30	X	X	X																								
ICV 570-205320/3	1		08:34	X	X	X																								
ICV 570-205320/4	1		08:37	X	X	X																								
ICB 570-205320/5	1		08:40	X	X	X																								
CCV 570-205320/6			08:43																											
CCB 570-205320/7			08:46																											
ICSA 570-205320/8	1		08:49	X	X	X																								
ICSAB 570-205320/9	1		08:53	X	X	X																								
CCB 570-205320/10			08:59																											
ICVL 570-205320/11	1		09:02	X	X	X																								
ZZZZZZ			09:05																											
ZZZZZZ			09:09																											
ZZZZZZ			09:12																											
ZZZZZZ			09:15																											
CCV 570-205320/16			09:18																											
CCB 570-205320/17			09:21																											
CCB 570-205320/18			09:24																											
ZZZZZZ			09:30																											
ZZZZZZ			09:33																											
ZZZZZZ			09:37																											
ZZZZZZ			09:40																											
CCV 570-205320/23			09:43																											
CCB 570-205320/24			09:46																											
ICIS 570-205320/25			09:58	X	X	X																								
IC 570-205320/26			10:02	X	X	X																								
CCV 570-205320/27			10:05																											
CCB 570-205320/28			10:08																											
ZZZZZZ			10:11																											
ZZZZZZ			10:14																											
ZZZZZZ			10:18																											
ZZZZZZ			10:21																											
ZZZZZZ			10:24																											
ZZZZZZ			10:27																											
ZZZZZZ			10:30																											
ZZZZZZ			10:33																											
ZZZZZZ			10:37																											
CCV 570-205320/38			10:40																											
CCB 570-205320/39			10:43																											
ZZZZZZ			10:46																											
ZZZZZZ			10:49																											
ZZZZZZ			10:52																											

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/04/2022 08:27 End Date: 01/04/2022 23:32

Lab Sample Id	D/F	Type	Time	Analytes																									
				Cd	Cu	Pb																							
ZZZZZZ			10:56																										
CCV 570-205320/44			10:59																										
CCB 570-205320/45			11:02																										
ICIS 570-205320/46			11:32	X	X	X																							
IC 570-205320/47			11:35	X	X	X																							
CCV 570-205320/48			11:38																										
CCB 570-205320/49			11:42																										
CCB 570-205320/50			11:45																										
ZZZZZZ			11:48																										
ZZZZZZ			11:51																										
ZZZZZZ			11:54																										
ZZZZZZ			11:58																										
ZZZZZZ			12:01																										
ZZZZZZ			12:04																										
ZZZZZZ			12:07																										
ZZZZZZ			12:10																										
ZZZZZZ			12:13																										
CCV 570-205320/60			12:17																										
CCB 570-205320/61			12:20																										
CCB 570-205320/62			12:23																										
ZZZZZZ			12:26																										
ZZZZZZ			12:29																										
ZZZZZZ			12:32																										
ZZZZZZ			12:36																										
ZZZZZZ			12:39																										
ZZZZZZ			12:42																										
ZZZZZZ			12:45																										
ZZZZZZ			12:48																										
ZZZZZZ			12:51																										
ZZZZZZ			12:55																										
CCV 570-205320/73			12:58																										
CCB 570-205320/74			13:01																										
CCB 570-205320/75			13:04																										
ZZZZZZ			13:07																										
ZZZZZZ			13:11																										
ZZZZZZ			13:14																										
CCV 570-205320/79			13:17																										
CCB 570-205320/80			13:20																										
CCB 570-205320/81			13:23																										
ICIS 570-205320/82			14:02	X	X	X																							
IC 570-205320/83			14:04	X	X	X																							
CCV 570-205320/84			14:05																										

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/04/2022 08:27 End Date: 01/04/2022 23:32

Lab Sample Id	D/F	Type	Time	Analytes																									
				Cd	Cu	Pb																							
CCB 570-205320/85			14:07																										
ZZZZZZ			14:09																										
ZZZZZZ			14:10																										
ZZZZZZ			14:12																										
ZZZZZZ			14:13																										
ZZZZZZ			14:15																										
ZZZZZZ			14:16																										
ZZZZZZ			14:18																										
ZZZZZZ			14:19																										
ZZZZZZ			14:21																										
CCV 570-205320/95			14:22																										
CCB 570-205320/96			14:24																										
ZZZZZZ			14:26																										
ZZZZZZ			14:27																										
ZZZZZZ			14:29																										
ZZZZZZ			14:30																										
ZZZZZZ			14:32																										
ZZZZZZ			14:33																										
ZZZZZZ			14:35																										
ZZZZZZ			14:36																										
ZZZZZZ			14:38																										
ZZZZZZ			14:39																										
CCV 570-205320/107			14:41																										
CCB 570-205320/108			14:43																										
ZZZZZZ			14:44																										
ZZZZZZ			14:46																										
ZZZZZZ			14:47																										
ZZZZZZ			14:49																										
ZZZZZZ			14:50																										
ZZZZZZ			14:52																										
ZZZZZZ			14:53																										
ZZZZZZ			14:55																										
ZZZZZZ			14:56																										
CCV 570-205320/118			14:58																										
CCB 570-205320/119			15:00																										
ZZZZZZ			15:06																										
ZZZZZZ			15:08																										
ZZZZZZ			15:09																										
ZZZZZZ			15:11																										
CCV 570-205320/124			15:13																										
CCB 570-205320/125			15:14																										
ZZZZZZ			15:42																										

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/04/2022 08:27 End Date: 01/04/2022 23:32

Lab Sample Id	D/F	Type	Time	Analytes																									
				Cd	Cu	Pb																							
CCV 570-205320/127			15:44																										
CCB 570-205320/128			15:46																										
ICIS 570-205320/129			16:10	X	X	X																							
IC 570-205320/130			16:13	X	X	X																							
CCV 570-205320/131			16:16																										
CCB 570-205320/132			16:19																										
CCB 570-205320/133			16:22																										
ZZZZZZ			16:26																										
ZZZZZZ			16:29																										
ZZZZZZ			16:32																										
ZZZZZZ			16:35																										
ZZZZZZ			16:38																										
ZZZZZZ			16:41																										
ZZZZZZ			16:44																										
ZZZZZZ			16:47																										
ZZZZZZ			16:50																										
CCV 570-205320/143			16:54																										
ZZZZZZ			16:57																										
CCB 570-205320/145			17:00																										
ZZZZZZ			17:03																										
ZZZZZZ			17:06																										
ZZZZZZ			17:09																										
ZZZZZZ			17:12																										
ZZZZZZ			17:16																										
ZZZZZZ			17:19																										
ZZZZZZ			17:22																										
ZZZZZZ			17:25																										
ZZZZZZ			17:28																										
ZZZZZZ			17:31																										
CCV 570-205320/156			17:34																										
CCB 570-205320/157			17:38																										
CCB 570-205320/158			17:41																										
ICIS 570-205320/159			17:44	X	X	X																							
IC 570-205320/160			17:47	X	X	X																							
CCV 570-205320/161			17:50																										
CCB 570-205320/162			17:53																										
CCB 570-205320/163			17:56																										
ZZZZZZ			18:00																										
ZZZZZZ			18:03																										
ZZZZZZ			18:06																										
ZZZZZZ			18:09																										
ZZZZZZ			18:12																										

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/04/2022 08:27 End Date: 01/04/2022 23:32

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
ZZZZZZ			18:15																											
ZZZZZZ			18:18																											
ZZZZZZ			18:22																											
ZZZZZZ			18:25																											
ZZZZZZ			18:28																											
CCV 570-205320/174			18:31																											
CCB 570-205320/175			18:34																											
CCB 570-205320/176			18:37																											
ZZZZZZ			18:40																											
ZZZZZZ			18:44																											
ZZZZZZ			18:47																											
ZZZZZZ			18:50																											
ZZZZZZ			18:53																											
ZZZZZZ			18:56																											
ZZZZZZ			18:59																											
ZZZZZZ			19:02																											
ZZZZZZ			19:05																											
ZZZZZZ			19:09																											
CCV 570-205320/187			19:12																											
ZZZZZZ			19:15																											
CCB 570-205320/189			19:18																											
ICIS 570-205320/190			19:21	X	X	X																								
IC 570-205320/191	1		19:24	X	X	X																								
CCV 570-205320/192	1		19:27	X	X	X																								
CCB 570-205320/193			19:31																											
CCB 570-205320/194	1		19:34	X	X	X																								
ZZZZZZ			19:37																											
MB 570-205346/1-A	1	R	19:40	X	X	X																								
LCS 570-205346/2-A	1	R	19:43	X	X	X																								
LCSD 570-205346/3-A	1	R	19:46	X	X	X																								
ZZZZZZ			19:49																											
570-78855-1	1	R	19:53	X	X	X																								
570-78855-2	1	R	19:56	X	X	X																								
570-78855-3	1	R	19:59	X	X	X																								
570-78855-4	1	R	20:02	X	X	X																								
570-78855-5	1	R	20:05	X	X	X																								
CCV 570-205320/205	1		20:08	X	X	X																								
CCB 570-205320/206	1		20:11	X	X	X																								
CCB 570-205320/207	1		20:15	X	X	X																								
ZZZZZZ			20:18																											
ZZZZZZ			20:21																											
ZZZZZZ			20:24																											

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/04/2022 08:27 End Date: 01/04/2022 23:32

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
ZZZZZZ			20:27																											
570-80514-A-1-B MS ^5	5	R	20:30	X	X	X																								
570-80514-A-1-C MSD ^5	5	R	20:33	X	X	X																								
ZZZZZZ			20:36																											
ZZZZZZ			20:40																											
ZZZZZZ			20:43																											
ZZZZZZ			20:46																											
CCV 570-205320/218	1		20:49	X	X	X																								
CCB 570-205320/219	1		20:52	X	X	X																								
CCB 570-205320/220			20:55																											
ICIS 570-205320/221			20:59	X	X	X																								
IC 570-205320/222			21:02	X	X	X																								
CCV 570-205320/223			21:05																											
CCB 570-205320/224			21:08																											
CCB 570-205320/225			21:11																											
ZZZZZZ			21:14																											
ZZZZZZ			21:17																											
ZZZZZZ			21:20																											
ZZZZZZ			21:24																											
ZZZZZZ			21:27																											
ZZZZZZ			21:30																											
ZZZZZZ			21:33																											
ZZZZZZ			21:36																											
ZZZZZZ			21:39																											
ZZZZZZ			21:42																											
CCV 570-205320/236			21:46																											
CCB 570-205320/237			21:49																											
CCB 570-205320/238			21:52																											
ZZZZZZ			21:55																											
ZZZZZZ			21:58																											
ZZZZZZ			22:01																											
ZZZZZZ			22:04																											
ZZZZZZ			22:08																											
ZZZZZZ			22:11																											
ZZZZZZ			22:14																											
ZZZZZZ			22:17																											
ZZZZZZ			22:20																											
ZZZZZZ			22:23																											
CCV 570-205320/249			22:26																											
CCB 570-205320/250			22:29																											
CCB 570-205320/251			22:33																											
ICIS 570-205320/252			22:36	X	X	X																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/04/2022 08:27 End Date: 01/04/2022 23:32

Lab Sample Id	D/F	Type	Time	Analytes																									
				Cd	Cu	Pb																							
IC 570-205320/253			22:39	X	X	X																							
CCV 570-205320/254			22:42																										
CCB 570-205320/255			22:45																										
CCB 570-205320/256			22:48																										
ZZZZZZ			22:52																										
ZZZZZZ			22:55																										
ZZZZZZ			22:58																										
ZZZZZZ			23:01																										
ZZZZZZ			23:04																										
ZZZZZZ			23:07																										
ZZZZZZ			23:10																										
ZZZZZZ			23:14																										
CCV 570-205320/265			23:17																										
CCB 570-205320/266			23:20																										
ICSA 570-205320/267	1		23:23	X	X	X																							
ICSAB 570-205320/268	1		23:26	X	X	X																							
ZZZZZZ			23:29																										
CCB 570-205320/270			23:32																										

Prep Types:
R = Total Recoverable

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: HG7 Analysis Method: 245.1

Start Date: 12/17/2021 11:50 End Date: 12/17/2021 19:13

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ICIS 570-201855/1-A			11:50	X																								
IC 570-201855/2-A			11:52	X																								
IC 570-201855/3-A			11:54	X																								
IC 570-201855/4-A			11:56	X																								
IC 570-201855/5-A			11:58	X																								
IC 570-201855/6-A			12:00	X																								
ICV 570-201855/7-A	1		12:03	X																								
ICB 570-201855/8-A	1		12:04	X																								
CRA 570-201855/11-A	1		12:06	X																								
CCV 570-201855/9-A			12:08																									
CCB 570-201855/10-A			12:10																									
ZZZZZZ			12:20																									
ZZZZZZ			12:22																									
ZZZZZZ			12:24																									
ZZZZZZ			12:25																									
ZZZZZZ			12:27																									
ZZZZZZ			12:29																									
ZZZZZZ			12:31																									
ZZZZZZ			12:33																									
ZZZZZZ			12:35																									
ZZZZZZ			12:36																									
CCV 570-201855/9-A			12:38																									
CCB 570-201855/10-A			12:40																									
ZZZZZZ			12:42																									
ZZZZZZ			12:44																									
ZZZZZZ			12:46																									
ZZZZZZ			12:48																									
ZZZZZZ			12:49																									
ZZZZZZ			12:51																									
ZZZZZZ			12:53																									
ZZZZZZ			12:55																									
ZZZZZZ			12:57																									
ZZZZZZ			12:59																									
CCV 570-201855/9-A			13:00																									
CCB 570-201855/10-A			13:02																									
ZZZZZZ			13:04																									
ZZZZZZ			13:06																									
ZZZZZZ			13:08																									
CCV 570-201855/9-A			13:10																									
CCB 570-201855/10-A			13:11																									
ZZZZZZ			13:45																									
ZZZZZZ			13:47																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: HG7 Analysis Method: 245.1

Start Date: 12/17/2021 11:50 End Date: 12/17/2021 19:13

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ZZZZZZ			13:49																									
ZZZZZZ			13:51																									
ZZZZZZ			13:53																									
ZZZZZZ			13:55																									
ZZZZZZ			13:57																									
ZZZZZZ			13:58																									
ZZZZZZ			14:00																									
ZZZZZZ			14:02																									
CCV 570-201855/9-A			14:04																									
CCB 570-201855/10-A			14:06																									
ZZZZZZ			14:08																									
ZZZZZZ			14:09																									
ZZZZZZ			14:11																									
ZZZZZZ			14:13																									
CCV 570-201855/9-A			14:15																									
CCB 570-201855/10-A			14:17																									
ZZZZZZ			15:52																									
ZZZZZZ			15:54																									
ZZZZZZ			15:56																									
ZZZZZZ			15:58																									
ZZZZZZ			16:00																									
ZZZZZZ			16:01																									
ZZZZZZ			16:03																									
ZZZZZZ			16:05																									
ZZZZZZ			16:07																									
ZZZZZZ			16:09																									
CCV 570-201855/9-A			16:11																									
CCB 570-201855/10-A			16:13																									
ZZZZZZ			16:14																									
ZZZZZZ			16:16																									
ZZZZZZ			16:18																									
ZZZZZZ			16:20																									
ZZZZZZ			16:22																									
ZZZZZZ			16:24																									
ZZZZZZ			16:25																									
ZZZZZZ			16:27																									
CCV 570-201855/9-A			16:29																									
CCB 570-201855/10-A			16:31																									
ZZZZZZ			16:35																									
ZZZZZZ			16:36																									
ZZZZZZ			16:38																									
ZZZZZZ			16:40																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: HG7 Analysis Method: 245.1

Start Date: 12/17/2021 11:50 End Date: 12/17/2021 19:13

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ZZZZZZ			16:42																									
ZZZZZZ			16:44																									
ZZZZZZ			16:46																									
ZZZZZZ			16:48																									
ZZZZZZ			16:49																									
ZZZZZZ			16:51																									
CCV 570-201855/9-A			16:53																									
CCB 570-201855/10-A			16:55																									
ZZZZZZ			16:57																									
ZZZZZZ			16:59																									
ZZZZZZ			17:01																									
ZZZZZZ			17:02																									
CCV 570-201855/9-A			17:04																									
CCB 570-201855/10-A			17:06																									
ZZZZZZ			17:12																									
ZZZZZZ			17:14																									
ZZZZZZ			17:16																									
ZZZZZZ			17:18																									
ZZZZZZ			17:19																									
ZZZZZZ			17:21																									
ZZZZZZ			17:23																									
ZZZZZZ			17:25																									
ZZZZZZ			17:27																									
ZZZZZZ			17:29																									
CCV 570-201855/9-A			17:31																									
CCB 570-201855/10-A			17:32																									
ZZZZZZ			17:34																									
ZZZZZZ			17:36																									
ZZZZZZ			17:38																									
ZZZZZZ			17:40																									
ZZZZZZ			17:42																									
ZZZZZZ			17:44																									
ZZZZZZ			17:45																									
ZZZZZZ			17:47																									
CCV 570-201855/9-A	1		17:49	X																								
CCB 570-201855/10-A	1		17:51	X																								
MB 570-201724/1-B	1	D	17:54	X																								
LCS 570-201724/2-B	1	D	17:56	X																								
LCSD 570-201724/3-B	1	D	17:58	X																								
570-78855-1	1	D	17:59	X																								
570-78855-2	1	D	18:01	X																								
570-78855-2 MS	1	D	18:03	X																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: HG7 Analysis Method: 245.1

Start Date: 12/17/2021 11:50 End Date: 12/17/2021 19:13

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
570-78855-2 MSD	1	D	18:05	X																								
570-78855-3	1	D	18:07	X																								
570-78855-4	1	D	18:09	X																								
570-78855-5	1	D	18:11	X																								
CCV 570-201855/9-A	1		18:13	X																								
CCB 570-201855/10-A	1		18:14	X																								
ZZZZZZ			18:16																									
ZZZZZZ			18:18																									
ZZZZZZ			18:20																									
ZZZZZZ			18:22																									
ZZZZZZ			18:24																									
CCV 570-201855/9-A			18:26																									
CCB 570-201855/10-A			18:27																									
ZZZZZZ			19:09																									
CCV 570-201855/9-A			19:11																									
CCB 570-201855/10-A			19:13																									

Prep Types:
D = Dissolved

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Instrument ID: CV-HG4 Analysis Method: 245.1

Start Date: 01/10/2022 16:26 End Date: 01/10/2022 20:11

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
IC 440-664138/6-A			16:26	X
IC 440-664138/7-A			16:28	X
IC 440-664138/8-A			16:30	X
IC 440-664138/9-A			16:32	X
IC 440-664138/10-A			16:34	X
IC 440-664138/11-A			16:37	X
ICV 440-664138/1-A	1		16:39	X
ICB 440-664138/2-A	1		16:41	X
CRA 440-664138/5-A	1		16:44	X
CCV 440-664138/3-A			16:46	
CCB 440-664138/4-A			16:48	
ZZZZZZ			16:50	
ZZZZZZ			16:52	
ZZZZZZ			16:54	
ZZZZZZ			16:57	
ZZZZZZ			16:59	
ZZZZZZ			17:01	
ZZZZZZ			17:03	
ZZZZZZ			17:06	
ZZZZZZ			17:08	
ZZZZZZ			17:10	
CCV 440-664138/3-A			17:13	
CCB 440-664138/4-A			17:15	
ZZZZZZ			17:17	
ZZZZZZ			17:19	
ZZZZZZ			17:21	
ZZZZZZ			17:23	
ZZZZZZ			17:26	
ZZZZZZ			17:28	
ZZZZZZ			17:30	
CCV 440-664138/3-A	1		17:38	X
CCB 440-664138/4-A	1		17:41	X
ZZZZZZ			17:44	
ZZZZZZ			17:47	
570-78855-1	1	T	17:49	X
570-78855-2	1	T	17:51	X
570-78855-3	1	T	17:53	X
570-78855-4	1	T	17:55	X
570-78855-5	1	T	17:57	X
ZZZZZZ			17:59	
ZZZZZZ			18:02	
ZZZZZZ			18:04	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Instrument ID: CV-HG4 Analysis Method: 245.1

Start Date: 01/10/2022 16:26 End Date: 01/10/2022 20:11

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
CCV 440-664138/3-A	1		18:06	X
CCB 440-664138/4-A	1		18:08	X
ZZZZZZ			18:10	
ZZZZZZ			18:12	
ZZZZZZ			18:15	
ZZZZZZ			18:17	
ZZZZZZ			18:19	
ZZZZZZ			18:21	
ZZZZZZ			18:23	
ZZZZZZ			18:25	
ZZZZZZ			18:28	
ZZZZZZ			18:30	
CCV 440-664138/3-A			18:32	
CCB 440-664138/4-A			18:34	
ZZZZZZ			18:37	
ZZZZZZ			18:39	
ZZZZZZ			18:41	
ZZZZZZ			18:43	
ZZZZZZ			18:45	
ZZZZZZ			18:47	
ZZZZZZ			18:50	
ZZZZZZ			18:52	
ZZZZZZ			18:54	
ZZZZZZ			18:56	
CCV 440-664138/3-A	1		18:58	X
CCB 440-664138/4-A	1		19:00	X
ZZZZZZ			19:03	
ZZZZZZ			19:05	
ZZZZZZ			19:07	
ZZZZZZ			19:09	
ZZZZZZ			19:11	
ZZZZZZ			19:13	
ZZZZZZ			19:16	
ZZZZZZ			19:18	
ZZZZZZ			19:20	
MB 440-664074/1-A	1	T	19:22	X
CCV 440-664138/3-A	1		19:24	X
CCB 440-664138/4-A	1		19:26	X
LCS 440-664074/2-A	1	T	19:29	X
ZZZZZZ			19:31	
ZZZZZZ			19:33	
ZZZZZZ			19:35	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Instrument ID: CV-HG4 Analysis Method: 245.1

Start Date: 01/10/2022 16:26 End Date: 01/10/2022 20:11

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ZZZZZZ			19:37																									
ZZZZZZ			19:40																									
ZZZZZZ			19:42																									
ZZZZZZ			19:44																									
ZZZZZZ			19:47																									
ZZZZZZ			19:49																									
CCV 440-664138/3-A	1		19:51	X																								
CCB 440-664138/4-A	1		19:53	X																								
570-79044-B-1-F MS	1	T	19:55	X																								
570-79044-B-1-G MSD	1	T	19:57	X																								
ZZZZZZ			20:00																									
ZZZZZZ			20:02																									
ZZZZZZ			20:04																									
ZZZZZZ			20:06																									
CCV 440-664138/3-A	1		20:08	X																								
CCB 440-664138/4-A	1		20:11	X																								

Prep Types:
T = Total/NA

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.: Analysis Batch No.: 202353

ICP-MS Instrument ID: ICPMS05 Start Date: 12/19/2021 End Date: 12/19/2021

Lab Sample ID	Time	Internal Standards %RI For:									
		Element	Q	Element Sc	Q	Element Ga	Q	Element Ga	Q	Element In	Q
ICV 570-202353/3	12:25			100						103	
ICV 570-202353/4	12:28			100						100	
ICB 570-202353/5	12:31			100						102	
ICSA 570-202353/8	12:41			102						99	
ICSAB 570-202353/9	12:44			104						98	
ICVL 570-202353/11	12:53			103						105	
IC 570-202353/30	14:02										
CCV 570-202353/139	20:26			96						106	
CCB 570-202353/141	20:33			96						106	
MB 570-201722/1-A	20:36			94						106	
CCV 570-202353/143	20:39			97						106	
CCB 570-202353/144	20:42			94						107	
CCB 570-202353/145	20:45			95						106	
LCS 570-201722/2-A	20:49			95						105	
LCSD 570-201722/3-A	20:52			95						105	
570-78855-1	20:55			92						105	
570-78855-1 MS	20:58			94						104	
570-78855-1 MSD	21:01			92						102	
570-78855-2	21:04			93						105	
570-78855-3	21:08			92						105	
570-78855-4	21:11			94						106	
570-78855-5	21:14			95						106	
CCV 570-202353/156	21:20			99						105	
CCB 570-202353/157	21:23			97						105	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.: Analysis Batch No.: 202353

ICP-MS Instrument ID: ICPMS05 Start Date: 12/19/2021 End Date: 12/19/2021

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Tb	Q	Element Ho	Q	Element Bi	Q	Element	Q	Element	Q
ICV 570-202353/3	12:25	101									
ICV 570-202353/4	12:28	100									
ICB 570-202353/5	12:31	101									
ICSA 570-202353/8	12:41	103									
ICSAB 570-202353/9	12:44	102									
ICVL 570-202353/11	12:53	106									
IC 570-202353/30	14:02										
CCV 570-202353/139	20:26	105									
CCB 570-202353/141	20:33	104									
MB 570-201722/1-A	20:36	103									
CCV 570-202353/143	20:39	103									
CCB 570-202353/144	20:42	102									
CCB 570-202353/145	20:45	103									
LCS 570-201722/2-A	20:49	104									
LCSD 570-201722/3-A	20:52	102									
570-78855-1	20:55	103									
570-78855-1 MS	20:58	101									
570-78855-1 MSD	21:01	98									
570-78855-2	21:04	102									
570-78855-3	21:08	101									
570-78855-4	21:11	101									
570-78855-5	21:14	101									
CCV 570-202353/156	21:20	104									
CCB 570-202353/157	21:23	101									

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.: Analysis Batch No.: 205320

ICP-MS Instrument ID: ICPMS05 Start Date: 01/04/2022 End Date: 01/04/2022

Lab Sample ID	Time	Internal Standards %RI For:									
		Element	Q	Element Sc	Q	Element Ga	Q	Element Ga	Q	Element In	Q
ICIS 570-205320/1	08:27										
ICV 570-205320/3	08:34			104						103	
ICV 570-205320/4	08:37			102						104	
ICB 570-205320/5	08:40			98						101	
ICSA 570-205320/8	08:49			116						101	
ICSAB 570-205320/9	08:53			119						103	
ICVL 570-205320/11	09:02			113						105	
IC 570-205320/191	19:24										
CCV 570-205320/192	19:27			102						101	
CCB 570-205320/194	19:34			104						103	
MB 570-205346/1-A	19:40			102						99	
LCS 570-205346/2-A	19:43			102						100	
LCSD 570-205346/3-A	19:46			101						99	
570-78855-1	19:53			105						99	
570-78855-2	19:56			102						99	
570-78855-3	19:59			104						102	
570-78855-4	20:02			103						98	
570-78855-5	20:05			102						100	
CCV 570-205320/205	20:08			102						101	
CCB 570-205320/206	20:11			101						101	
CCB 570-205320/207	20:15			103						103	
570-80514-A-1-B MS ^5	20:30			101						95	
570-80514-A-1-C MSD ^5	20:33			101						96	
CCV 570-205320/218	20:49			98						98	
CCB 570-205320/219	20:52			97						99	
ICSA 570-205320/267	23:23			106						101	
ICSAB 570-205320/268	23:26			103						101	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.: Analysis Batch No.: 205320

ICP-MS Instrument ID: ICPMS05 Start Date: 01/04/2022 End Date: 01/04/2022

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Tb	Q	Element Ho	Q	Element Bi	Q	Element	Q	Element	Q
ICIS 570-205320/1	08:27										
ICV 570-205320/3	08:34	105									
ICV 570-205320/4	08:37	106									
ICB 570-205320/5	08:40	102									
ICSA 570-205320/8	08:49	107									
ICSAB 570-205320/9	08:53	108									
ICVL 570-205320/11	09:02	108									
IC 570-205320/191	19:24										
CCV 570-205320/192	19:27	99									
CCB 570-205320/194	19:34	101									
MB 570-205346/1-A	19:40	96									
LCS 570-205346/2-A	19:43	99									
LCSD 570-205346/3-A	19:46	96									
570-78855-1	19:53	99									
570-78855-2	19:56	101									
570-78855-3	19:59	99									
570-78855-4	20:02	99									
570-78855-5	20:05	99									
CCV 570-205320/205	20:08	98									
CCB 570-205320/206	20:11	99									
CCB 570-205320/207	20:15	101									
570-80514-A-1-B MS ^5	20:30	96									
570-80514-A-1-C MSD ^5	20:33	95									
CCV 570-205320/218	20:49	98									
CCB 570-205320/219	20:52	97									
ICSA 570-205320/267	23:23	98									
ICSAB 570-205320/268	23:26	98									

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 201722 Batch Start Date: 12/15/21 14:39 Batch Analyst: Semenova, Irina

Batch Method: Filtration Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	Final pH	MT_1:1HNO3 00008	MT_ICP_Spike1 00012
MB 570-201722/1		Filtration, 200.8		50 mL	50 mL		<2 SU	1 mL	
LCS 570-201722/2		Filtration, 200.8		50 mL	50 mL		<2 SU	1 mL	50 uL
LCSD 570-201722/3		Filtration, 200.8		50 mL	50 mL		<2 SU	1 mL	50 uL
570-78855-B-1	A2BMP0006S012	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-78855-B-1 MS	A2BMP0006S012	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	50 uL
570-78855-B-1 MSD	A2BMP0006S012	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	50 uL
570-78855-B-2	A2BMP0007S020	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-78855-B-3	A2BMP0012S009	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-78855-B-4	EVBMP0001S018	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-78855-B-5	EVBMP0003S031	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_ICP_Spike2 00015	MT_MS_SPIKE_3 00002				
MB 570-201722/1		Filtration, 200.8							
LCS 570-201722/2		Filtration, 200.8		50 uL	0.25 mL				
LCSD 570-201722/3		Filtration, 200.8		50 uL	0.25 mL				
570-78855-B-1	A2BMP0006S012	Filtration, 200.8	D						
570-78855-B-1 MS	A2BMP0006S012	Filtration, 200.8	D	50 uL	0.25 mL				
570-78855-B-1 MSD	A2BMP0006S012	Filtration, 200.8	D	50 uL	0.25 mL				
570-78855-B-2	A2BMP0007S020	Filtration, 200.8	D						
570-78855-B-3	A2BMP0012S009	Filtration, 200.8	D						
570-78855-B-4	EVBMP0001S018	Filtration, 200.8	D						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 201722 Batch Start Date: 12/15/21 14:39 Batch Analyst: Semenova, Irina

Batch Method: Filtration Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_ICP_Spike2 00015	MT_MS_SPIKE_3 00002				
570-78855-B-5	EVBMP0003S031	Filtration, 200.8	D						

Batch Notes	
Pipette/Syringe/Dispenser ID	p-116,p-069,d-030
Filter ID	r8na47060
Nitric Acid ID	See Reagent Additions Worksheet

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 202353 Batch Start Date: 12/19/21 12:18 Batch Analyst: Lee, Francis

Batch Method: 200.8 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_MS_BLK_1 00005	MT_MS_CCV 00010	MT_MS_IC 00014	MT_MS_ICS_A 00006	MT_MS_ICS_AB 00008	MT_MS_ICV1 00007
ICV 570-202353/3		200.8							# mL
ICV 570-202353/4		200.8							
ICB 570-202353/5		200.8		# mL					
ICSA 570-202353/8		200.8					# mL		
ICSAB 570-202353/9		200.8						# mL	
ICVL 570-202353/11		200.8							
IC 570-202353/30		200.8				# mL			
CCV 570-202353/139		200.8			# mL				
CCB 570-202353/141		200.8		# mL					
CCV 570-202353/143		200.8			# mL				
CCB 570-202353/144		200.8		# mL					
CCB 570-202353/145		200.8		# mL					
CCV 570-202353/156		200.8			# mL				
CCB 570-202353/157		200.8		# mL					

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_MS_ICV2 00008	MT_MS_LL 00010				
ICV 570-202353/3		200.8							
ICV 570-202353/4		200.8		# mL					
ICB 570-202353/5		200.8							
ICSA 570-202353/8		200.8							
ICSAB 570-202353/9		200.8							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 202353 Batch Start Date: 12/19/21 12:18 Batch Analyst: Lee, Francis

Batch Method: 200.8 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_MS_ICV2 00008	MT_MS_LL 00010				
ICVL 570-202353/11		200.8			# mL				
IC 570-202353/30		200.8							
CCV 570-202353/139		200.8							
CCB 570-202353/141		200.8							
CCV 570-202353/143		200.8							
CCB 570-202353/144		200.8							
CCB 570-202353/145		200.8							
CCV 570-202353/156		200.8							
CCB 570-202353/157		200.8							

Batch Notes	
Pipette/Syringe/Dispenser ID	MP-062/P-007/MP-58
Analyst ID - Aliquot Step	UFLE
Internal Standard ID#	2099615
Carrier Lot Number	23530

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 205346 Batch Start Date: 01/04/22 08:28 Batch Analyst: Lee, Francis

Batch Method: 200.8 Batch End Date: 01/04/22 10:58

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MT: 1:1 HCl 00005	MT_1:1HNO3 00009	MT_ICP_Spike1 00012
MB 570-205346/1		200.8, 200.8			50 mL	50 mL	0.5 mL	1 mL	
LCS 570-205346/2		200.8, 200.8			50 mL	50 mL	0.5 mL	1 mL	50 uL
LCSD 570-205346/3		200.8, 200.8			50 mL	50 mL	0.5 mL	1 mL	50 uL
570-78855-A-1	A2BMP0006S012	200.8, 200.8	R	<2	50 mL	50 mL	0.5 mL	1 mL	
570-78855-A-2	A2BMP0007S020	200.8, 200.8	R	<2	50 mL	50 mL	0.5 mL	1 mL	
570-78855-A-3	A2BMP0012S009	200.8, 200.8	R	<2	50 mL	50 mL	0.5 mL	1 mL	
570-78855-A-4	EVBMP0001S018	200.8, 200.8	R	<2	50 mL	50 mL	0.5 mL	1 mL	
570-78855-A-5	EVBMP0003S031	200.8, 200.8	R	<2	50 mL	50 mL	0.5 mL	1 mL	
570-80514-A-1 MS		200.8, 200.8	R	<2	50 mL	50 mL	0.5 mL	1 mL	50 uL
570-80514-A-1 MSD		200.8, 200.8	R	<2	50 mL	50 mL	0.5 mL	1 mL	50 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_ICP_Spike2 00015	MT_MS_SPIKE_3 00002	AnalysisComment			
MB 570-205346/1		200.8, 200.8							
LCS 570-205346/2		200.8, 200.8		50 uL	0.25 mL				
LCSD 570-205346/3		200.8, 200.8		50 uL	0.25 mL				
570-78855-A-1	A2BMP0006S012	200.8, 200.8	R						
570-78855-A-2	A2BMP0007S020	200.8, 200.8	R						
570-78855-A-3	A2BMP0012S009	200.8, 200.8	R						
570-78855-A-4	EVBMP0001S018	200.8, 200.8	R						
570-78855-A-5	EVBMP0003S031	200.8, 200.8	R						
570-80514-A-1 MS		200.8, 200.8	R	50 uL	0.25 mL	Cloudy			
570-80514-A-1 MSD		200.8, 200.8	R	50 uL	0.25 mL	Cloudy			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 205346 Batch Start Date: 01/04/22 08:28 Batch Analyst: Lee, Francis

Batch Method: 200.8 Batch End Date: 01/04/22 10:58

Batch Notes	
Thermometer ID	1285371
Hot Block ID	12
Thermometer Location ID	21-7
Uncorrected Temperature	95 Degrees C
Oven, Bath or Block Temperature 1	98 Degrees C
Uncorrected Temperature 2	95 Degrees C
Oven, Bath or Block Temperature 2	98 Degrees C
Lot # of hydrochloric acid	See Reagent Additions Worksheet
Lot # of Nitric Acid	See Reagent Additions Worksheet
Pipette ID	P-116, D-30, MD-32
pH Paper ID	202221

Basis	Basis Description
R	Total Recoverable

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 201724 Batch Start Date: 12/15/21 14:39 Batch Analyst: Semenova, Irina

Batch Method: Filtration Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	Final pH	MT_1:1HNO3 00008	
MB 570-201724/1		Filtration, 245.1, 245.1		50 mL	50 mL		<2 SU	1 mL	
LCS 570-201724/2		Filtration, 245.1, 245.1		50 mL	50 mL		<2 SU	1 mL	
LCSD 570-201724/3		Filtration, 245.1, 245.1		50 mL	50 mL		<2 SU	1 mL	
570-78855-B-1	A2BMP0006S012	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-78855-B-2	A2BMP0007S020	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-78855-B-2 MS	A2BMP0007S020	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-78855-B-2 MSD	A2BMP0007S020	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-78855-B-3	A2BMP0012S009	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-78855-B-4	EVBMP0001S018	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-78855-B-5	EVBMP0003S031	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	

Batch Notes	
Pipette/Syringe/Dispenser ID	p-116,p-069,d-030
Filter ID	r8na47060
Nitric Acid ID	See Reagent Additions Worksheet

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 201728 Batch Start Date: 12/16/21 12:02 Batch Analyst: Rolin, Randy

Batch Method: 245.1 Batch End Date: 12/16/21 14:12

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	HG_1ppm STD 00040	Hg_H2SO4 00010	Hg_K2S2O3 00006
MB 570-201724/1-A		245.1, 245.1		<2	50 mL	100 mL		2.5 mL	4 mL
LCS 570-201724/2-A		245.1, 245.1		<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
LCSD 570-201724/3-A		245.1, 245.1		<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-78855-B-1-D	A2BMP0006S012	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL
570-78855-B-2-B	A2BMP0007S020	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL
570-78855-B-2-C MS	A2BMP0007S020	245.1, 245.1	D	<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-78855-B-2-D MSD	A2BMP0007S020	245.1, 245.1	D	<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-78855-B-3-B	A2BMP0012S009	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL
570-78855-B-4-B	EVBMP0001S018	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL
570-78855-B-5-B	EVBMP0003S031	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00022			
MB 570-201724/1-A		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
LCS 570-201724/2-A		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
LCSD 570-201724/3-A		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
570-78855-B-1-D	A2BMP0006S012	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-78855-B-2-B	A2BMP0007S020	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-78855-B-2-C MS	A2BMP0007S020	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-78855-B-2-D MSD	A2BMP0007S020	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-78855-B-3-B	A2BMP0012S009	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-78855-B-4-B	EVBMP0001S018	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-78855-B-5-B	EVBMP0003S031	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 201728 Batch Start Date: 12/16/21 12:02 Batch Analyst: Rolin, Randy

Batch Method: 245.1 Batch End Date: 12/16/21 14:12

Batch Notes	
Digestion Tube/Cup ID	mld300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	1220
Sufficient Volume for Batch QC	yes
Nitric Acid ID	reagent addition worksheet
Sulfuric Acid Lot Number	reagent addition worksheet
Potassium Permanganate ID	reagent addition worksheet
Potassium Persulfate ID	reagent addition worksheet
Digestion Unit ID	Block 17
Thermometer ID	Y22-12
Temperature - Uncorrected - Start	96 Degrees C
Temperature - Corrected - Start	97 Degrees C
Digestion Start Time	12/16/2021 12:02
Digestion End Time	12/16/2021 14:12
Temperature - Uncorrected - End	96 Degrees C
Temperature - Corrected - End	97 Degrees C
Hydroxylamine ID	reagent addition worksheet

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 201855 Batch Start Date: 12/17/21 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 12/17/21 10:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	HG_1ppm ICV 00035	HG_1ppm STD 00040	Hg_H2SO4 00010	Hg_K2S2O3 00006
ICV 570-201855/7		7470A, 245.1		50 mL	100 mL	500 uL		2.5 mL	4 mL
ICB 570-201855/8		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CCV 570-201855/9		7470A, 245.1		50 mL	100 mL		200 uL	2.5 mL	4 mL
CCB 570-201855/10		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CRA 570-201855/11		7470A, 245.1		50 mL	100 mL		10 uL	2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00022			
ICV 570-201855/7		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
ICB 570-201855/8		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCV 570-201855/9		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCB 570-201855/10		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CRA 570-201855/11		7470A, 245.1		7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 201855 Batch Start Date: 12/17/21 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 12/17/21 10:45

Batch Notes	
Digestion Tube/Cup ID	mld0300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	6214
Sufficient Volume for Batch QC	yes
Nitric Acid ID	891458
Sulfuric Acid ID	1127963
Potassium Permanganate ID	548814
Potassium Persulfate ID	1381067
Digestion Unit ID	16
Thermometer ID	Y22-11
Temperature - Uncorrected - Start	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion Start Time	08:45
Digestion End Time	10:45
Temperature - Uncorrected - End	99 Degrees C
Temperature - Corrected - End	99 Degrees C
Hydroxylamine ID	1611140

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Batch Number: 664074 Batch Start Date: 01/10/22 10:10 Batch Analyst: Em, Kimsann

Batch Method: 245.1 Batch End Date: 01/10/22 16:20

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ME 1 PPM HG1 00529	ME H2SO4 00102	ME HNO3 00724
MB 440-664074/1		245.1, 245.1			20 mL	30 mL		1 mL	0.5 mL
LCS 440-664074/2		245.1, 245.1			20 mL	30 mL	120 uL	1 mL	0.5 mL
570-79044-B-1 MS		245.1, 245.1	T	<2	20 mL	30 mL	120 uL	1 mL	0.5 mL
570-79044-B-1 MSD		245.1, 245.1	T	<2	20 mL	30 mL	120 uL	1 mL	0.5 mL
570-78855-A-1	A2BMP0006S012	245.1, 245.1	T	<2	20 mL	30 mL		1 mL	0.5 mL
570-78855-A-2	A2BMP0007S020	245.1, 245.1	T	<2	20 mL	30 mL		1 mL	0.5 mL
570-78855-A-3	A2BMP0012S009	245.1, 245.1	T	<2	20 mL	30 mL		1 mL	0.5 mL
570-78855-A-4	EVBMP0001S018	245.1, 245.1	T	<2	20 mL	30 mL		1 mL	0.5 mL
570-78855-A-5	EVBMP0003S031	245.1, 245.1	T	<2	20 mL	30 mL		1 mL	0.5 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	ME HYDROX SOL 00161	ME K2S2O8 00109	ME KMN04 00236			
MB 440-664074/1		245.1, 245.1		2 mL	1.6 mL	3 mL			
LCS 440-664074/2		245.1, 245.1		2 mL	1.6 mL	3 mL			
570-79044-B-1 MS		245.1, 245.1	T	2 mL	1.6 mL	3 mL			
570-79044-B-1 MSD		245.1, 245.1	T	2 mL	1.6 mL	3 mL			
570-78855-A-1	A2BMP0006S012	245.1, 245.1	T	2 mL	1.6 mL	3 mL			
570-78855-A-2	A2BMP0007S020	245.1, 245.1	T	2 mL	1.6 mL	3 mL			
570-78855-A-3	A2BMP0012S009	245.1, 245.1	T	2 mL	1.6 mL	3 mL			
570-78855-A-4	EVBMP0001S018	245.1, 245.1	T	2 mL	1.6 mL	3 mL			
570-78855-A-5	EVBMP0003S031	245.1, 245.1	T	2 mL	1.6 mL	3 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Batch Number: 664074 Batch Start Date: 01/10/22 10:10 Batch Analyst: Em, Kimsann

Batch Method: 245.1 Batch End Date: 01/10/22 16:20

Batch Notes	
Digestion Tube/Cup ID	2106023
Pipette/Syringe/Dispenser ID	100
Analyst ID - Spike Analyst	es
Nitric Acid ID	6803464
Sulfuric Acid Lot Number	6735384
Potassium Permanganate ID	6804074
Potassium Persulfate ID	6803789
Digestion Unit ID	8
Thermometer ID	P-120 Cf=+1 Loc A1
Temperature - Uncorrected - Start	96 Degrees C
Temperature - Corrected - Start	97 Degrees C
Digestion Start Time	01/10/2022 11:30
Digestion End Time	01/10/2022 13:30
Temperature - Uncorrected - End	96 Degrees C
Temperature - Corrected - End	97 Degrees C
Hydroxylamine ID	6807832@16:00
Batch Comment	MB Loc B5

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Batch Number: 664138 Batch Start Date: 01/10/22 10:10 Batch Analyst: Suico, Ethel M

Batch Method: 7470A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ME .5 PPM HG1 00166	ME .5 PPM HG1 00167	ME H2SO4 00102	ME HNO3 00724
ICV 440-664138/1		7470A, 245.1		20 mL	30 mL	240 uL		1 mL	0.5 mL
ICB 440-664138/2		7470A, 245.1		20 mL	30 mL			1 mL	0.5 mL
CCV 440-664138/3		7470A, 245.1		20 mL	30 mL		240 uL	1 mL	0.5 mL
CCB 440-664138/4		7470A, 245.1		20 mL	30 mL			1 mL	0.5 mL
CRA 440-664138/5		7470A, 245.1		20 mL	30 mL		8 uL	1 mL	0.5 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	ME HYDROX SOL 00161	ME K2S2O8 00109	ME KMN04 00236			
ICV 440-664138/1		7470A, 245.1		2 mL	1.6 mL	3 mL			
ICB 440-664138/2		7470A, 245.1		2 mL	1.6 mL	3 mL			
CCV 440-664138/3		7470A, 245.1		2 mL	1.6 mL	3 mL			
CCB 440-664138/4		7470A, 245.1		2 mL	1.6 mL	3 mL			
CRA 440-664138/5		7470A, 245.1		2 mL	1.6 mL	3 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Tustin Job No.: 570-78855-1

SDG No.:

Batch Number: 664138 Batch Start Date: 01/10/22 10:10 Batch Analyst: Suico, Ethel M

Batch Method: 7470A Batch End Date:

Batch Notes	
Digestion Tube/Cup ID	2106023
Analyst ID - Spike Analyst	es
Nitric Acid ID	6803464
Sulfuric Acid ID	6735384
Potassium Permanganate ID	6804074
Potassium Persulfate ID	6803789
Digestion Unit ID	13
Thermometer ID	P-155 CF=-2 Loc A1
Temperature - Uncorrected - Start	97 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion Start Time	01/10/22 @ 12:00
Digestion End Time	01/10/221 @ 14:00
Temperature - Uncorrected - End	97 Degrees C
Temperature - Corrected - End	95 Degrees C
Hydroxylamine ID	6807832@15:45
Batch Comment	MB loc A1

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Sunday, December 19, 2021 11:52:08
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\STD Performance Check.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\STD Performance Check.007
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	4483.5	4483.487	53.310	1.2	Standard
	In	114.9	45920.9	45920.889	250.352	0.5	Standard
	U	238.1	67387.0	67387.035	488.741	0.7	Standard
⌈	CeO	155.9	1060.9	0.020	0.000	1.2	Standard
| >	Ce	139.9	52671.1	52671.057	372.623	0.7	Standard
⌊	Ce++	70.0	488.4	0.009	0.000	2.2	Standard
	Bkgd	220.0	0.5	0.533	0.192	36.0	Standard

Current Conditions File Data

Current Value	Description
1.04	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-11.00	Deflector Voltage
1600.00	ICP RF Power
-1675.00	Analog Stage Voltage
1250.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-9.00	Cell Rod Offset STD [CRO]
12.00	Discriminator Threshold
-6.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
1.04	DRC Mode NEB
-9.00	DRC Mode QRO
-2.00	DRC Mode CRO
-7.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
200.00	Axial Field Voltage
-10.00	KED Mode CRO
-12.00	KED Mode QRO
-8.00	KED Mode Cell Entrance Voltage
-29.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
4.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Sunday, December 19, 2021 12:18:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\ICIS-1479530.014
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42813.002		ppb	3.624		
9	**Be**		76.667		ppb	37.904		
10	**B**		11437.912		ppb	2.013		
27	**Al**		10306.181		ppb	23.019		
43	**Ca-2**		185.001		ppb	13.514		
49	**Ti**		300.003		ppb	8.389		
52	**Cr**		17029.034		ppb	1.609		
55	**Mn**		1971.247		ppb	5.058		
57	**Fe**		15134.682		ppb	2.361		
45	**Sc-IS**	>	1850374.634		ppb	1.997		
66	**Zn**		391.117		ppb	10.519		
86	**Sr**		111.959		ppb	10.437		
65	**Cu**		220.002		ppb	18.985		
69	**Ga-IS**		567133.353		ppb	2.000		
95	**Mo**		396.672		ppb	3.361		
115	**In-IS**	>	190616.733		ppb	2.488		
111	**Cd**		84.723		ppb	45.972		
118	**Sn**		1713.436		ppb	2.544		
121	**Sb**		402.228		ppb	9.605		
135	**Ba**		76.667		ppb	7.531		
165	**Ho-IS**		353029.437		ppb	1.504		
159	**Tb-IS**	>	354882.056		ppb	1.207		
207	**Pb**		1275.578		ppb	3.288		
203	**Tl**		486.675		ppb	15.798		
209	**Bi-IS**		211197.602		ppb	1.105		
51	**V**		10.000		ppb	57.735		
59	**Co**		56.667		ppb	17.647		
60	**Ni**		124.445		ppb	18.814		
75	**As**		261.846		ppb	7.999		
71	**Ga-ISK**		56822.833		ppb	2.527		
82	**Se-2**		0.565		ppb	1145.773		
107	**Ag-1**		298.892		ppb	24.032		
115	**In-ISK**	>	77415.508		ppb	1.146		
45	**Sc-ISK**	>	140857.700		ppb	0.433		
23	**Na**		9418.104		ppb	1.472		
39	**K**		34051.652		ppb	1.544		
24	**Mg**		896.695		ppb	1.793		
159	**Tb-ISK**		153279.942		ppb	0.503		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-1479552
Autosampler Position: 204
Sample Date/Time: Sunday, December 19, 2021 12:21:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\IC-1479552.015
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42981.237		ppb	1.419		42813.002
9	**Be**		415015.581	**200.000000**	ppb	0.775	1.657	76.667
10	**B**		299359.650	**500.000000**	ppb	0.500	1.616	11437.912
27	**Al**		1887396.680	**200.000000**	ppb	1.157	1.394	10306.181
43	**Ca-2**		313697.902	**10200.000000**	ppb	2.209	0.950	185.001
49	**Ti**		199102.383	**200.000000**	ppb	0.933	0.714	300.003
52	**Cr**		2825778.734	**200.000000**	ppb	0.629	0.644	17029.034
55	**Mn**		4385327.922	**200.000000**	ppb	0.646	1.612	1971.247
57	**Fe**		4534995.235	**10200.000000**	ppb	1.126	1.293	15134.682
45	**Sc-IS**	>	1862880.885		ppb	1.270		1850374.634
66	**Zn**		457741.250	**200.000000**	ppb	0.478	1.109	391.117
86	**Sr**		588916.476	**200.000000**	ppb	1.826	1.158	111.959
65	**Cu**		668357.029	**200.000000**	ppb	1.813	0.600	220.002
69	**Ga-IS**		612082.063		ppb	0.311		567133.353
95	**Mo**		629928.788	**200.000000**	ppb	1.145	1.119	396.672
115	**In-IS**	>	189353.305		ppb	2.826		190616.733
111	**Cd**		376940.304	**200.000000**	ppb	2.370	0.582	84.723
118	**Sn**		1086175.777	**200.000000**	ppb	2.537	0.950	1713.436
121	**Sb**		1239118.317	**200.000000**	ppb	2.741	1.463	402.228
135	**Ba**		356122.377	**200.000000**	ppb	2.329	0.870	76.667
165	**Ho-IS**		358163.142		ppb	1.972		353029.437
159	**Tb-IS**	>	356062.421		ppb	1.711		354882.056
207	**Pb**		6307601.804	**200.000000**	ppb	1.461	0.979	1275.578
203	**Tl**		2036862.428	**200.000000**	ppb	5.539	3.927	486.675
209	**Bi-IS**		204911.458		ppb	1.001		211197.602
51	**V**		39085.620	**200.000000**	ppb	0.637	1.114	10.000
59	**Co**		127165.759	**200.000000**	ppb	1.215	1.294	56.667
60	**Ni**		247741.286	**200.000000**	ppb	1.874	2.374	124.445
75	**As**		87278.626	**200.000000**	ppb	0.889	1.357	261.846
71	**Ga-ISK**		54906.449		ppb	1.914		56822.833
82	**Se-2**		8630.554	**200.000000**	ppb	1.580	1.882	0.565
107	**Ag-1**		926240.117	**200.000000**	ppb	0.335	0.482	298.892
115	**In-ISK**	>	74992.598		ppb	0.509		77415.508
45	**Sc-ISK**	>	141413.171		ppb	0.841		140857.700
23	**Na**		2741066.116	**10200.000000**	ppb	1.607	0.800	9418.104
39	**K**		5008072.779	**10200.000000**	ppb	2.722	1.992	34051.652
24	**Mg**		2445640.049	**10200.000000**	ppb	2.745	1.935	896.695
159	**Tb-ISK**		154463.341		ppb	1.367		153279.942

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICV-1800319
Autosampler Position: 206
Sample Date/Time: Sunday, December 19, 2021 12:25:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\ICV-1800319.016
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43683.393		ppb	3.007		42813.002
9	**Be**		202177.368	**97.974359**	ppb	1.060	1.283	76.667
10	**B**		11320.050	**-0.232466**	ppb	6.229	423.091	11437.912
27	**Al**		6577.182	**-0.400460**	ppb	4.422	8.969	10306.181
43	**Ca-2**		149948.187	**4901.233723**	ppb	2.564	2.227	185.001
49	**Ti**		93271.285	**94.080636**	ppb	0.832	1.256	300.003
52	**Cr**		1300599.220	**91.931955**	ppb	1.006	0.858	17029.034
55	**Mn**		1964100.391	**90.037282**	ppb	1.417	0.803	1971.247
57	**Fe**		2301461.233	**5188.830399**	ppb	2.493	1.251	15134.682
45	**Sc-IS**	>	1852092.530		ppb	1.258		1850374.634
66	**Zn**		228610.653	**100.372570**	ppb	1.874	1.262	391.117
86	**Sr**		276356.302	**94.384579**	ppb	0.794	0.688	111.959
65	**Cu**		319387.587	**96.107026**	ppb	0.641	0.954	220.002
69	**Ga-IS**		577273.289		ppb	2.656		567133.353
95	**Mo**		302465.752	**96.519236**	ppb	1.750	1.046	396.672
115	**In-IS**	>	196158.417		ppb	2.645		190616.733
111	**Cd**		185646.067	**95.074843**	ppb	1.341	1.379	84.723
118	**Sn**		521522.182	**92.527983**	ppb	2.722	1.578	1713.436
121	**Sb**		588446.102	**91.657574**	ppb	1.768	1.372	402.228
135	**Ba**		183.335	**0.056866**	ppb	11.355	24.228	76.667
165	**Ho-IS**		354799.812		ppb	2.131		353029.437
159	**Tb-IS**	>	357608.097		ppb	1.705		354882.056
207	**Pb**		2920667.321	**92.205253**	ppb	0.850	2.437	1275.578
203	**Tl**		920349.697	**90.007937**	ppb	1.671	2.555	486.675
209	**Bi-IS**		208678.872		ppb	1.513		211197.602
51	**V**		18552.040	**91.861935**	ppb	1.340	2.123	10.000
59	**Co**		60390.711	**91.886432**	ppb	0.237	1.029	56.667
60	**Ni**		121289.400	**94.719600**	ppb	0.778	1.438	124.445
75	**As**		41946.998	**92.720722**	ppb	0.860	0.712	261.846
71	**Ga-ISK**		56073.171		ppb	0.896		56822.833
82	**Se-2**		4183.204	**93.819011**	ppb	2.084	2.179	0.565
107	**Ag-1**		672.238	**0.078092**	ppb	10.511	20.512	298.892
115	**In-ISK**	>	77481.313		ppb	0.931		77415.508
45	**Sc-ISK**	>	140295.681		ppb	1.796		140857.700
23	**Na**		10093.566	**2.680659**	ppb	2.797	20.320	9418.104
39	**K**		38559.748	**9.616157**	ppb	0.105	13.892	34051.652
24	**Mg**		1152817.097	**4845.479930**	ppb	0.751	1.064	896.695
159	**Tb-ISK**		155580.001		ppb	1.167		153279.942

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICV-1896925
Autosampler Position: 213
Sample Date/Time: Sunday, December 19, 2021 12:28:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\ICV-1896925.017
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42873.129		ppb	0.770		42813.002
9	**Be**		97.778	**0.010344**	ppb	16.817	72.694	76.667
10	**B**		64786.592	**93.635344**	ppb	1.372	0.938	11437.912
27	**Al**		944025.977	**100.481942**	ppb	1.899	2.488	10306.181
43	**Ca-2**		231.669	**1.553769**	ppb	4.984	26.639	185.001
49	**Ti**		310.003	**0.011169**	ppb	3.725	122.566	300.003
52	**Cr**		16711.994	**-0.019026**	ppb	1.681	63.944	17029.034
55	**Mn**		2404.647	**0.020260**	ppb	2.711	16.355	1971.247
57	**Fe**		15262.595	**0.402801**	ppb	1.751	204.862	15134.682
45	**Sc-IS**	>	1844618.206		ppb	0.935		1850374.634
66	**Zn**		1318.950	**0.410153**	ppb	4.587	5.368	391.117
86	**Sr**		110.311	**-0.000396**	ppb	23.559	2318.714	111.959
65	**Cu**		378.894	**0.048309**	ppb	12.514	31.252	220.002
69	**Ga-IS**		594069.465		ppb	2.084		567133.353
95	**Mo**		1325.617	**0.298422**	ppb	6.907	9.766	396.672
115	**In-IS**	>	190735.523		ppb	1.391		190616.733
111	**Cd**		87.217	**0.001186**	ppb	27.781	1020.580	84.723
118	**Sn**		5818.963	**0.751627**	ppb	1.852	3.981	1713.436
121	**Sb**		2139.049	**0.278368**	ppb	0.952	2.060	402.228
135	**Ba**		179652.610	**100.142100**	ppb	0.750	1.503	76.667
165	**Ho-IS**		356196.567		ppb	1.434		353029.437
159	**Tb-IS**	>	354541.448		ppb	1.079		354882.056
207	**Pb**		1646.705	**0.011824**	ppb	11.819	48.023	1275.578
203	**Tl**		741.130	**0.025182**	ppb	9.460	29.178	486.675
209	**Bi-IS**		210006.794		ppb	0.358		211197.602
51	**V**		11.111	**0.005531**	ppb	45.826	442.141	10.000
59	**Co**		63.333	**0.010398**	ppb	21.053	183.051	56.667
60	**Ni**		184.446	**0.047432**	ppb	10.589	27.872	124.445
75	**As**		256.740	**-0.008852**	ppb	4.698	323.552	261.846
71	**Ga-ISK**		55892.502		ppb	2.431		56822.833
82	**Se-2**		9.924	**0.210568**	ppb	30.111	30.626	0.565
107	**Ag-1**		236351.180	**49.593280**	ppb	2.725	1.240	298.892
115	**In-ISK**	>	77088.538		ppb	1.480		77415.508
45	**Sc-ISK**	>	142080.944		ppb	1.591		140857.700
23	**Na**		261461.255	**936.551465**	ppb	1.348	1.543	9418.104
39	**K**		498526.914	**947.746482**	ppb	1.912	3.032	34051.652
24	**Mg**		1050.039	**0.607696**	ppb	5.303	49.694	896.695
159	**Tb-ISK**		156613.410		ppb	2.252		153279.942

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 12:31:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\ICB-1479530.018
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42901.018		ppb	2.685		42813.002
9	**Be**		26.667	**-0.024239**	ppb	25.000	13.271	76.667
10	**B**		11107.654	**-0.544937**	ppb	3.610	134.046	11437.912
27	**Al**		5313.340	**-0.535020**	ppb	16.772	17.173	10306.181
43	**Ca-2**		148.334	**-1.195501**	ppb	12.762	49.518	185.001
49	**Ti**		251.113	**-0.049119**	ppb	2.028	7.044	300.003
52	**Cr**		16798.761	**-0.014408**	ppb	1.272	185.252	17029.034
55	**Mn**		1695.656	**-0.012536**	ppb	3.638	20.706	1971.247
57	**Fe**		13986.844	**-2.554324**	ppb	0.625	16.548	15134.682
45	**Sc-IS**	>	1847423.280		ppb	1.055		1850374.634
66	**Zn**		563.344	**0.076245**	ppb	3.295	11.864	391.117
86	**Sr**		23.569	**-0.030256**	ppb	77.974	20.650	111.959
65	**Cu**		155.556	**-0.019304**	ppb	13.942	36.265	220.002
69	**Ga-IS**		568959.099		ppb	0.658		567133.353
95	**Mo**		443.340	**0.015012**	ppb	14.981	132.560	396.672
115	**In-IS**	>	195283.726		ppb	1.812		190616.733
111	**Cd**		42.402	**-0.022830**	ppb	23.865	23.339	84.723
118	**Sn**		2409.092	**0.117144**	ppb	5.557	24.930	1713.436
121	**Sb**		690.017	**0.043675**	ppb	13.283	36.609	402.228
135	**Ba**		73.334	**-0.002855**	ppb	19.813	273.162	76.667
165	**Ho-IS**		361359.244		ppb	1.242		353029.437
159	**Tb-IS**	>	359868.600		ppb	0.487		354882.056
207	**Pb**		546.671	**-0.023429**	ppb	7.927	6.129	1275.578
203	**Tl**		298.892	**-0.018912**	ppb	7.912	12.887	486.675
209	**Bi-IS**		211646.480		ppb	1.435		211197.602
51	**V**		6.667	**-0.016783**	ppb	100.000	194.570	10.000
59	**Co**		30.000	**-0.041121**	ppb	40.062	45.789	56.667
60	**Ni**		135.556	**0.007191**	ppb	17.446	262.320	124.445
75	**As**		224.417	**-0.091254**	ppb	12.178	57.548	261.846
71	**Ga-ISK**		55985.109		ppb	3.027		56822.833
82	**Se-2**		9.279	**0.191875**	ppb	34.711	35.216	0.565
107	**Ag-1**		277.780	**-0.005325**	ppb	9.007	78.430	298.892
115	**In-ISK**	>	78578.449		ppb	1.715		77415.508
45	**Sc-ISK**	>	141746.573		ppb	1.828		140857.700
23	**Na**		8747.678	**-2.709626**	ppb	0.594	28.600	9418.104
39	**K**		34424.762	**0.343555**	ppb	0.630	481.067	34051.652
24	**Mg**		351.671	**-2.290994**	ppb	6.567	5.257	896.695
159	**Tb-ISK**		155860.409		ppb	1.463		153279.942

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 12:34:38
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.019
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42909.907		ppb	0.999		42813.002
9	**Be**		200027.391	**98.093508**	ppb	0.917	1.773	76.667
10	**B**		149281.888	**243.905814**	ppb	2.825	2.996	11437.912
27	**Al**		894081.551	**95.861098**	ppb	0.530	1.446	10306.181
43	**Ca-2**		147177.840	**4867.913458**	ppb	2.222	1.683	185.001
49	**Ti**		94451.280	**96.402152**	ppb	1.872	0.868	300.003
52	**Cr**		1322187.810	**94.596493**	ppb	2.012	0.737	17029.034
55	**Mn**		2119976.288	**98.363745**	ppb	1.026	2.011	1971.247
57	**Fe**		2217854.056	**5060.326397**	ppb	0.886	1.906	15134.682
45	**Sc-IS**	>	1830287.178		ppb	1.300		1850374.634
66	**Zn**		224546.566	**99.777951**	ppb	0.520	1.763	391.117
86	**Sr**		282651.701	**97.691410**	ppb	0.349	1.216	111.959
65	**Cu**		325681.002	**99.171072**	ppb	1.384	1.578	220.002
69	**Ga-IS**		587275.824		ppb	1.166		567133.353
95	**Mo**		302629.743	**97.741045**	ppb	0.678	1.927	396.672
115	**In-IS**	>	193512.918		ppb	2.201		190616.733
111	**Cd**		184110.450	**95.574543**	ppb	1.486	1.862	84.723
118	**Sn**		522197.488	**93.922657**	ppb	2.002	1.542	1713.436
121	**Sb**		593189.730	**93.649534**	ppb	1.766	0.567	402.228
135	**Ba**		173148.587	**95.141609**	ppb	0.730	1.793	76.667
165	**Ho-IS**		358035.394		ppb	1.826		353029.437
159	**Tb-IS**	>	363167.087		ppb	1.915		354882.056
207	**Pb**		2957792.758	**91.924607**	ppb	1.827	0.437	1275.578
203	**Tl**		958480.202	**92.285129**	ppb	3.289	2.826	486.675
209	**Bi-IS**		206910.073		ppb	1.473		211197.602
51	**V**		18969.256	**95.326655**	ppb	2.045	2.404	10.000
59	**Co**		62939.521	**97.213324**	ppb	2.692	3.613	56.667
60	**Ni**		121282.673	**96.130959**	ppb	0.702	1.671	124.445
75	**As**		42824.482	**96.105681**	ppb	1.438	2.409	261.846
71	**Ga-ISK**		55702.832		ppb	0.253		56822.833
82	**Se-2**		4231.887	**96.321081**	ppb	1.850	1.474	0.565
107	**Ag-1**		446223.958	**94.609595**	ppb	2.161	1.617	298.892
115	**In-ISK**	>	76343.185		ppb	0.998		77415.508
45	**Sc-ISK**	>	140926.240		ppb	1.482		140857.700
23	**Na**		1275133.510	**4742.754171**	ppb	1.521	0.184	9418.104
39	**K**		2440946.794	**4954.176987**	ppb	1.438	2.275	34051.652
24	**Mg**		1135602.712	**4752.003507**	ppb	0.498	1.944	896.695
159	**Tb-ISK**		155642.612		ppb	0.441		153279.942

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 12:37:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.020
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43505.082		ppb	3.372		42813.002
9	**Be**		31.111	**-0.022186**	ppb	34.442	21.669	76.667
10	**B**		11218.849	**-0.401253**	ppb	2.227	7.855	11437.912
27	**Al**		4972.871	**-0.571522**	ppb	10.284	11.686	10306.181
43	**Ca-2**		138.334	**-1.528123**	ppb	5.521	22.178	185.001
49	**Ti**		250.002	**-0.050914**	ppb	10.667	51.386	300.003
52	**Cr**		16082.383	**-0.068809**	ppb	2.103	27.614	17029.034
55	**Mn**		1744.551	**-0.010481**	ppb	2.975	18.669	1971.247
57	**Fe**		14299.379	**-1.930901**	ppb	2.919	15.031	15134.682
45	**Sc-IS**	>	1852141.161		ppb	2.389		1850374.634
66	**Zn**		536.677	**0.064100**	ppb	12.469	49.449	391.117
86	**Sr**		68.101	**-0.015165**	ppb	41.982	60.479	111.959
65	**Cu**		167.779	**-0.015781**	ppb	2.294	5.519	220.002
69	**Ga-IS**		571207.095		ppb	1.300		567133.353
95	**Mo**		994.479	**0.190952**	ppb	1.396	2.319	396.672
115	**In-IS**	>	191544.666		ppb	1.027		190616.733
111	**Cd**		35.689	**-0.025975**	ppb	29.948	20.775	84.723
118	**Sn**		4082.806	**0.430650**	ppb	4.714	9.573	1713.436
121	**Sb**		862.248	**0.073099**	ppb	1.907	2.201	402.228
135	**Ba**		74.445	**-0.001455**	ppb	13.679	375.654	76.667
165	**Ho-IS**		353336.572		ppb	1.058		353029.437
159	**Tb-IS**	>	352205.954		ppb	2.358		354882.056
207	**Pb**		795.564	**-0.015107**	ppb	9.447	12.236	1275.578
203	**Tl**		376.672	**-0.010518**	ppb	5.310	27.248	486.675
209	**Bi-IS**		212035.424		ppb	1.066		211197.602
51	**V**		7.778	**-0.010971**	ppb	24.744	94.193	10.000
59	**Co**		40.000	**-0.025765**	ppb	25.000	52.907	56.667
60	**Ni**		160.001	**0.027597**	ppb	0.000	11.929	124.445
75	**As**		278.658	**0.035994**	ppb	3.174	9.646	261.846
71	**Ga-ISK**		55862.359		ppb	1.542		56822.833
82	**Se-2**		5.601	**0.113443**	ppb	27.347	32.868	0.565
107	**Ag-1**		323.337	**0.004866**	ppb	11.709	126.462	298.892
115	**In-ISK**	>	77587.894		ppb	2.667		77415.508
45	**Sc-ISK**	>	141700.511		ppb	1.488		140857.700
23	**Na**		9019.514	**-1.693890**	ppb	1.526	24.132	9418.104
39	**K**		35609.889	**2.772677**	ppb	1.461	7.221	34051.652
24	**Mg**		518.343	**-1.598158**	ppb	8.204	10.650	896.695
159	**Tb-ISK**		155461.474		ppb	1.711		153279.942

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICSA-1517520
Autosampler Position: 202
Sample Date/Time: Sunday, December 19, 2021 12:41:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\ICSA-1517520.021
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43550.741		ppb	1.817		42813.002
9	**Be**		13.333	**-0.030876**	ppb	43.301	8.889	76.667
10	**B**		11008.686	**-1.193200**	ppb	2.260	47.904	11437.912
27	**Al**		97734940.093	**10239.267180**	ppb	1.886	1.331	10306.181
43	**Ca-2**		901388.576	**28839.383248**	ppb	1.539	1.964	185.001
49	**Ti**		203064.384	**200.586465**	ppb	1.555	0.408	300.003
52	**Cr**		19709.145	**0.159526**	ppb	1.759	18.888	17029.034
55	**Mn**		8215.696	**0.278001**	ppb	2.848	1.723	1971.247
57	**Fe**		10890488.656	**24136.428805**	ppb	0.514	1.416	15134.682
45	**Sc-IS**	>	1894347.476		ppb	1.608		1850374.634
66	**Zn**		2025.699	**0.698756**	ppb	5.308	5.708	391.117
86	**Sr**		1196.348	**0.361399**	ppb	3.379	4.078	111.959
65	**Cu**		1582.310	**0.399577**	ppb	1.039	2.206	220.002
69	**Ga-IS**		556210.190		ppb	1.856		567133.353
95	**Mo**		614768.366	**191.943408**	ppb	1.259	1.086	396.672
115	**In-IS**	>	189385.277		ppb	1.132		190616.733
111	**Cd**		-721.002	**-0.427257**	ppb	4.948	4.694	84.723
118	**Sn**		2222.395	**0.095984**	ppb	2.335	14.664	1713.436
121	**Sb**		768.910	**0.059608**	ppb	6.152	12.649	402.228
135	**Ba**		353.338	**0.155808**	ppb	21.326	27.762	76.667
165	**Ho-IS**		367491.469		ppb	0.993		353029.437
159	**Tb-IS**	>	365664.733		ppb	1.486		354882.056
207	**Pb**		2963.454	**0.050937**	ppb	0.849	2.912	1275.578
203	**Tl**		435.562	**-0.006324**	ppb	11.889	73.880	486.675
209	**Bi-IS**		203476.777		ppb	1.252		211197.602
51	**V**		8.889	**-0.004922**	ppb	21.651	180.773	10.000
59	**Co**		44.445	**-0.017726**	ppb	21.651	77.150	56.667
60	**Ni**		310.003	**0.149563**	ppb	15.169	28.186	124.445
75	**As**		228.074	**-0.065835**	ppb	15.325	136.706	261.846
71	**Ga-ISK**		54423.473		ppb	0.689		56822.833
82	**Se-2**		12.281	**0.266429**	ppb	33.000	33.213	0.565
107	**Ag-1**		266.669	**-0.005837**	ppb	2.165	23.490	298.892
115	**In-ISK**	>	76193.940		ppb	2.058		77415.508
45	**Sc-ISK**	>	144191.844		ppb	0.723		140857.700
23	**Na**		6470453.870	**23662.244230**	ppb	1.358	1.650	9418.104
39	**K**		4762513.064	**9508.788578**	ppb	1.592	1.037	34051.652
24	**Mg**		2304685.820	**9426.987114**	ppb	2.054	1.336	896.695
159	**Tb-ISK**		157293.934		ppb	1.027		153279.942

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICSAB-2059235
Autosampler Position: 203
Sample Date/Time: Sunday, December 19, 2021 12:44:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\ICSAB-2059235.022
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43554.094		ppb	2.331		42813.002
9	**Be**		15.556	**-0.029905**	ppb	44.607	10.961	76.667
10	**B**		11083.188	**-1.289467**	ppb	1.988	32.868	11437.912
27	**Al**		100188939.250	**10373.970212**	ppb	0.632	0.343	10306.181
43	**Ca-2**		900969.456	**28486.642467**	ppb	1.042	0.934	185.001
49	**Ti**		206032.977	**201.154100**	ppb	1.022	1.225	300.003
52	**Cr**		280024.881	**18.159688**	ppb	1.432	1.757	17029.034
55	**Mn**		420955.408	**18.575533**	ppb	0.117	0.265	1971.247
57	**Fe**		11132738.637	**24382.860138**	ppb	1.015	0.707	15134.682
45	**Sc-IS**	>	1916638.317		ppb	0.314		1850374.634
66	**Zn**		23570.542	**9.845567**	ppb	1.240	1.477	391.117
86	**Sr**		1237.463	**0.370248**	ppb	5.065	5.474	111.959
65	**Cu**		62830.088	**18.214788**	ppb	0.485	0.714	220.002
69	**Ga-IS**		551817.588		ppb	1.106		567133.353
95	**Mo**		619026.317	**191.011878**	ppb	0.287	0.439	396.672
115	**In-IS**	>	186058.848		ppb	1.256		190616.733
111	**Cd**		16586.798	**8.912010**	ppb	3.381	2.512	84.723
118	**Sn**		1407.847	**-0.049494**	ppb	6.320	40.348	1713.436
121	**Sb**		641.126	**0.040887**	ppb	6.093	18.366	402.228
135	**Ba**		346.671	**0.155406**	ppb	8.383	10.852	76.667
165	**Ho-IS**		363446.875		ppb	1.372		353029.437
159	**Tb-IS**	>	361451.860		ppb	1.619		354882.056
207	**Pb**		2424.524	**0.035171**	ppb	3.017	7.762	1275.578
203	**Tl**		310.003	**-0.017997**	ppb	11.380	16.975	486.675
209	**Bi-IS**		205636.128		ppb	0.448		211197.602
51	**V**		3754.938	**19.138637**	ppb	2.959	5.136	10.000
59	**Co**		11821.558	**18.482252**	ppb	2.615	4.515	56.667
60	**Ni**		23753.064	**19.049682**	ppb	0.452	2.695	124.445
75	**As**		4464.568	**9.660408**	ppb	2.452	4.863	261.846
71	**Ga-ISK**		55547.812		ppb	1.932		56822.833
82	**Se-2**		406.600	**9.384957**	ppb	6.130	4.801	0.565
107	**Ag-1**		21486.148	**4.568408**	ppb	1.383	1.472	298.892
115	**In-ISK**	>	75166.602		ppb	2.333		77415.508
45	**Sc-ISK**	>	145938.784		ppb	3.102		140857.700
23	**Na**		6890913.074	**24903.730545**	ppb	2.270	1.164	9418.104
39	**K**		4950033.622	**9770.623388**	ppb	1.516	1.855	34051.652
24	**Mg**		2354495.840	**9519.083269**	ppb	1.829	1.765	896.695
159	**Tb-ISK**		156179.794		ppb	0.893		153279.942

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 12:50:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.024
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44032.201		ppb	0.629		42813.002
9	**Be**		12.222	**-0.031425**	ppb	15.746	3.203	76.667
10	**B**		11112.102	**-1.127383**	ppb	3.599	26.884	11437.912
27	**Al**		10804.085	**0.020639**	ppb	1.522	120.431	10306.181
43	**Ca-2**		185.001	**-0.159243**	ppb	14.301	603.450	185.001
49	**Ti**		262.225	**-0.045997**	ppb	15.166	80.839	300.003
52	**Cr**		17141.391	**-0.026714**	ppb	1.608	96.090	17029.034
55	**Mn**		2612.461	**0.026042**	ppb	1.815	5.756	1971.247
57	**Fe**		14993.420	**-1.277347**	ppb	0.701	78.783	15134.682
45	**Sc-IS**	>	1904729.334		ppb	2.330		1850374.634
66	**Zn**		555.566	**0.065605**	ppb	3.412	20.053	391.117
86	**Sr**		19.187	**-0.031825**	ppb	93.366	19.384	111.959
65	**Cu**		162.223	**-0.018902**	ppb	20.685	48.518	220.002
69	**Ga-IS**		586709.503		ppb	0.901		567133.353
95	**Mo**		418.895	**0.003294**	ppb	6.481	245.228	396.672
115	**In-IS**	>	197536.970		ppb	0.726		190616.733
111	**Cd**		9.120	**-0.040021**	ppb	0.625	0.127	84.723
118	**Sn**		1082.263	**-0.122509**	ppb	5.426	9.641	1713.436
121	**Sb**		148.890	**-0.041472**	ppb	9.048	4.747	402.228
135	**Ba**		40.000	**-0.021216**	ppb	22.048	23.202	76.667
165	**Ho-IS**		365460.761		ppb	2.457		353029.437
159	**Tb-IS**	>	369430.098		ppb	1.796		354882.056
207	**Pb**		323.335	**-0.030701**	ppb	2.062	0.915	1275.578
203	**Tl**		127.778	**-0.035882**	ppb	6.565	1.725	486.675
209	**Bi-IS**		215500.302		ppb	1.918		211197.602
51	**V**		3.333	**-0.033597**	ppb	100.000	47.958	10.000
59	**Co**		18.889	**-0.058195**	ppb	10.189	3.577	56.667
60	**Ni**		92.223	**-0.026923**	ppb	29.438	70.150	124.445
75	**As**		208.894	**-0.126340**	ppb	17.392	66.142	261.846
71	**Ga-ISK**		56716.812		ppb	0.643		56822.833
82	**Se-2**		5.609	**0.110282**	ppb	67.784	75.035	0.565
107	**Ag-1**		50.000	**-0.052261**	ppb	20.000	4.133	298.892
115	**In-ISK**	>	78996.782		ppb	3.306		77415.508
45	**Sc-ISK**	>	143218.309		ppb	3.724		140857.700
23	**Na**		9626.577	**0.212932**	ppb	2.576	650.765	9418.104
39	**K**		33423.498	**-2.364903**	ppb	0.248	107.004	34051.652
24	**Mg**		233.335	**-2.793670**	ppb	5.393	2.631	896.695
159	**Tb-ISK**		155755.340		ppb	1.831		153279.942

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICVL-1479597
Autosampler Position: 205
Sample Date/Time: Sunday, December 19, 2021 12:53:46
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\ICVL-1479597.025
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43853.907		ppb	2.705		42813.002
9	**Be**		2099.043	**0.956895**	ppb	5.196	6.053	76.667
10	**B**		39449.964	**47.324128**	ppb	1.908	3.802	11437.912
27	**Al**		468282.483	**47.910248**	ppb	1.538	1.002	10306.181
43	**Ca-2**		1713.436	**48.689954**	ppb	5.766	5.098	185.001
49	**Ti**		1254.500	**0.936063**	ppb	6.160	8.191	300.003
52	**Cr**		31396.692	**0.975493**	ppb	1.713	1.767	17029.034
55	**Mn**		22701.365	**0.926803**	ppb	2.705	1.643	1971.247
57	**Fe**		36839.663	**47.291144**	ppb	0.673	1.077	15134.682
45	**Sc-IS**	>	1896220.475		ppb	1.239		1850374.634
66	**Zn**		11850.469	**4.918815**	ppb	0.808	0.946	391.117
86	**Sr**		3097.853	**0.995746**	ppb	2.384	3.566	111.959
65	**Cu**		3535.994	**0.973913**	ppb	3.870	5.100	220.002
69	**Ga-IS**		590506.508		ppb	0.648		567133.353
95	**Mo**		3318.164	**0.908920**	ppb	4.545	5.672	396.672
115	**In-IS**	>	200084.640		ppb	1.151		190616.733
111	**Cd**		1888.713	**0.903719**	ppb	3.595	2.867	84.723
118	**Sn**		6432.805	**0.809245**	ppb	4.651	8.069	1713.436
121	**Sb**		6303.614	**0.898350**	ppb	4.449	3.585	402.228
135	**Ba**		1891.236	**0.962504**	ppb	4.224	4.293	76.667
165	**Ho-IS**		374759.737		ppb	0.309		353029.437
159	**Tb-IS**	>	374821.817		ppb	1.275		354882.056
207	**Pb**		31649.267	**0.913028**	ppb	1.062	2.328	1275.578
203	**Tl**		10518.321	**0.933759**	ppb	4.778	4.854	486.675
209	**Bi-IS**		217211.157		ppb	0.805		211197.602
51	**V**		216.668	**0.987886**	ppb	6.706	10.428	10.000
59	**Co**		693.350	**0.932329**	ppb	7.737	7.931	56.667
60	**Ni**		1382.289	**0.945073**	ppb	2.579	0.764	124.445
75	**As**		677.976	**0.870400**	ppb	8.266	9.435	261.846
71	**Ga-ISK**		59237.130		ppb	3.899		56822.833
82	**Se-2**		50.276	**1.075871**	ppb	3.020	4.478	0.565
107	**Ag-1**		4849.712	**0.916107**	ppb	0.760	3.462	298.892
115	**In-ISK**	>	80322.275		ppb	3.182		77415.508
45	**Sc-ISK**	>	149048.254		ppb	2.451		140857.700
23	**Na**		23242.225	**47.077248**	ppb	0.469	5.154	9418.104
39	**K**		58298.727	**43.351632**	ppb	1.299	3.572	34051.652
24	**Mg**		12230.238	**44.650484**	ppb	3.919	1.621	896.695
159	**Tb-ISK**		161593.100		ppb	2.269		153279.942

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Sunday, December 19, 2021 13:05:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\ICIS-1479530.027
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45046.549		ppb	4.219		
9	**Be**		12.222		ppb	31.492		
10	**B**		10755.159		ppb	1.855		
27	**Al**		4264.975		ppb	10.731		
43	**Ca-2**		116.667		ppb	24.370		
49	**Ti**		283.336		ppb	10.189		
52	**Cr**		19689.115		ppb	0.487		
55	**Mn**		1278.946		ppb	6.947		
57	**Fe**		15463.922		ppb	1.384		
45	**Sc-IS**	>	1927462.363		ppb	2.010		
66	**Zn**		486.675		ppb	7.779		
86	**Sr**		27.489		ppb	70.784		
65	**Cu**		106.667		ppb	9.375		
69	**Ga-IS**		593311.100		ppb	0.032		
95	**Mo**		100.000		ppb	27.285		
115	**In-IS**	>	200789.741		ppb	3.187		
111	**Cd**		6.457		ppb	90.078		
118	**Sn**		2342.416		ppb	12.411		
121	**Sb**		164.445		ppb	11.526		
135	**Ba**		40.000		ppb	36.324		
165	**Ho-IS**		372966.019		ppb	0.635		
159	**Tb-IS**	>	372400.789		ppb	1.228		
207	**Pb**		215.556		ppb	13.152		
203	**Tl**		103.334		ppb	20.145		
209	**Bi-IS**		217918.675		ppb	1.572		
51	**V**		1.111		ppb	173.205		
59	**Co**		17.778		ppb	70.986		
60	**Ni**		51.111		ppb	3.765		
75	**As**		238.431		ppb	6.649		
71	**Ga-ISK**		60269.089		ppb	0.496		
82	**Se-2**		0.890		ppb	226.835		
107	**Ag-1**		47.778		ppb	17.558		
115	**In-ISK**	>	80525.742		ppb	1.882		
45	**Sc-ISK**	>	150707.476		ppb	0.815		
23	**Na**		8457.504		ppb	2.321		
39	**K**		32342.125		ppb	0.114		
24	**Mg**		90.000		ppb	24.216		
159	**Tb-ISK**		160601.822		ppb	1.392		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-1479552
Autosampler Position: 204
Sample Date/Time: Sunday, December 19, 2021 13:08:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\IC-1479552.028
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44261.860		ppb	3.749		45046.549
9	**Be**		412299.967	**200.000000**	ppb	4.333	3.105	12.222
10	**B**		297933.815	**500.000000**	ppb	2.583	1.625	10755.159
27	**Al**		1886904.140	**200.000000**	ppb	1.485	0.296	4264.975
43	**Ca-2**		315243.968	**10200.000000**	ppb	1.225	0.141	116.667
49	**Ti**		196961.179	**200.000000**	ppb	2.310	2.081	283.336
52	**Cr**		2801993.804	**200.000000**	ppb	1.105	0.933	19689.115
55	**Mn**		4325929.329	**200.000000**	ppb	2.533	2.173	1278.946
57	**Fe**		4536976.830	**10200.000000**	ppb	1.049	0.208	15463.922
45	**Sc-IS**	>	1917610.843		ppb	1.209		1927462.363
66	**Zn**		461357.555	**200.000000**	ppb	2.444	1.308	486.675
86	**Sr**		605172.074	**200.000000**	ppb	2.145	0.974	27.489
65	**Cu**		668284.514	**200.000000**	ppb	0.800	1.123	106.667
69	**Ga-IS**		623477.070		ppb	2.304		593311.100
95	**Mo**		639139.815	**200.000000**	ppb	1.815	0.725	100.000
115	**In-IS**	>	193522.481		ppb	2.237		200789.741
111	**Cd**		376638.802	**200.000000**	ppb	2.094	1.759	6.457
118	**Sn**		1085229.269	**200.000000**	ppb	2.292	1.212	2342.416
121	**Sb**		1247573.053	**200.000000**	ppb	2.713	1.578	164.445
135	**Ba**		360468.580	**200.000000**	ppb	1.613	0.698	40.000
165	**Ho-IS**		359166.330		ppb	1.554		372966.019
159	**Tb-IS**	>	363866.927		ppb	0.632		372400.789
207	**Pb**		6333785.236	**200.000000**	ppb	1.273	0.778	215.556
203	**Tl**		2022704.683	**200.000000**	ppb	4.981	5.039	103.334
209	**Bi-IS**		209751.071		ppb	1.507		217918.675
51	**V**		38664.477	**200.000000**	ppb	0.799	1.658	1.111
59	**Co**		128810.451	**200.000000**	ppb	1.704	0.884	17.778
60	**Ni**		255687.303	**200.000000**	ppb	1.923	1.404	51.111
75	**As**		88544.698	**200.000000**	ppb	0.620	1.981	238.431
71	**Ga-ISK**		56512.718		ppb	2.549		60269.089
82	**Se-2**		8460.070	**200.000000**	ppb	1.627	3.855	0.890
107	**Ag-1**		929693.068	**200.000000**	ppb	1.633	1.686	47.778
115	**In-ISK**	>	77768.464		ppb	2.253		80525.742
45	**Sc-ISK**	>	147776.040		ppb	1.380		150707.476
23	**Na**		2776123.738	**10200.000000**	ppb	1.888	1.564	8457.504
39	**K**		5069812.865	**10200.000000**	ppb	3.543	2.489	32342.125
24	**Mg**		2422433.108	**10200.000000**	ppb	3.583	2.201	90.000
159	**Tb-ISK**		158205.552		ppb	2.506		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 13:11:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.029
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44187.172		ppb	3.346		45046.549
9	**Be**		203759.823	**101.534901**	ppb	1.819	2.139	12.222
10	**B**		149184.209	**248.063767**	ppb	2.826	2.200	10755.159
27	**Al**		936614.746	**101.748030**	ppb	2.396	3.061	4264.975
43	**Ca-2**		152692.047	**5071.999501**	ppb	2.610	2.687	116.667
49	**Ti**		97925.623	**101.974362**	ppb	1.132	0.172	283.336
52	**Cr**		1352326.779	**98.409018**	ppb	1.788	0.802	19689.115
55	**Mn**		2172037.072	**103.098871**	ppb	1.136	0.564	1278.946
57	**Fe**		2284318.133	**5257.215137**	ppb	1.519	1.221	15463.922
45	**Sc-IS**	>	1867276.710		ppb	0.993		1927462.363
66	**Zn**		227551.337	**101.215476**	ppb	0.555	1.123	486.675
86	**Sr**		296013.862	**100.479049**	ppb	1.382	2.068	27.489
65	**Cu**		334785.241	**102.880061**	ppb	0.473	1.402	106.667
69	**Ga-IS**		604158.460		ppb	1.161		593311.100
95	**Mo**		319635.267	**102.710091**	ppb	0.674	0.836	100.000
115	**In-IS**	>	196106.015		ppb	2.408		200789.741
111	**Cd**		187613.990	**98.317799**	ppb	2.018	2.001	6.457
118	**Sn**		540018.697	**98.001935**	ppb	1.946	0.548	2342.416
121	**Sb**		612750.876	**96.936285**	ppb	1.646	0.968	164.445
135	**Ba**		176946.303	**96.863083**	ppb	2.721	1.416	40.000
165	**Ho-IS**		372430.225		ppb	0.921		372966.019
159	**Tb-IS**	>	366950.641		ppb	1.714		372400.789
207	**Pb**		3053476.425	**95.626466**	ppb	0.751	1.932	215.556
203	**Tl**		992336.036	**97.327640**	ppb	2.017	3.678	103.334
209	**Bi-IS**		213829.543		ppb	0.341		217918.675
51	**V**		20326.674	**102.640046**	ppb	0.944	1.574	1.111
59	**Co**		66811.434	**101.261935**	ppb	1.049	0.656	17.778
60	**Ni**		125152.584	**95.562510**	ppb	1.644	2.366	51.111
75	**As**		43778.135	**96.251926**	ppb	1.205	1.189	238.431
71	**Ga-ISK**		57266.794		ppb	1.589		60269.089
82	**Se-2**		4355.579	**100.469639**	ppb	1.225	1.297	0.890
107	**Ag-1**		468619.915	**98.401717**	ppb	2.137	1.450	47.778
115	**In-ISK**	>	79654.391		ppb	1.473		80525.742
45	**Sc-ISK**	>	147479.638		ppb	1.155		150707.476
23	**Na**		1356605.025	**4979.282196**	ppb	2.405	2.799	8457.504
39	**K**		2569508.075	**5149.524170**	ppb	0.716	1.125	32342.125
24	**Mg**		1181676.685	**4986.779095**	ppb	0.787	1.155	90.000
159	**Tb-ISK**		159972.225		ppb	1.797		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 13:14:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.030
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44377.725		ppb	1.776		45046.549
9	**Be**		83.334	**0.034365**	ppb	10.583	11.969	12.222
10	**B**		10889.705	**0.255616**	ppb	1.703	125.490	10755.159
27	**Al**		4680.767	**0.044539**	ppb	1.383	15.645	4264.975
43	**Ca-2**		173.334	**1.828800**	ppb	34.415	104.587	116.667
49	**Ti**		272.225	**-0.010974**	ppb	9.898	240.447	283.336
52	**Cr**		16932.252	**-0.195700**	ppb	1.194	6.982	19689.115
55	**Mn**		2326.856	**0.048329**	ppb	4.504	9.009	1278.946
57	**Fe**		15412.767	**-0.074771**	ppb	4.757	2143.504	15463.922
45	**Sc-IS**	>	1925170.139		ppb	0.448		1927462.363
66	**Zn**		607.791	**0.052582**	ppb	7.304	35.409	486.675
86	**Sr**		138.077	**0.036438**	ppb	13.705	17.690	27.489
65	**Cu**		272.225	**0.049413**	ppb	8.335	14.314	106.667
69	**Ga-IS**		588557.175		ppb	1.273		593311.100
95	**Mo**		1398.957	**0.404986**	ppb	1.532	1.407	100.000
115	**In-IS**	>	197056.699		ppb	2.835		200789.741
111	**Cd**		75.951	**0.036136**	ppb	33.203	34.453	6.457
118	**Sn**		5249.854	**0.535774**	ppb	2.573	7.352	2342.416
121	**Sb**		966.699	**0.126701**	ppb	6.923	5.424	164.445
135	**Ba**		128.889	**0.048645**	ppb	24.030	32.163	40.000
165	**Ho-IS**		369317.124		ppb	3.183		372966.019
159	**Tb-IS**	>	366291.182		ppb	0.920		372400.789
207	**Pb**		1611.147	**0.043876**	ppb	5.798	5.710	215.556
203	**Tl**		677.794	**0.056568**	ppb	7.030	7.183	103.334
209	**Bi-IS**		220082.427		ppb	1.026		217918.675
51	**V**		15.556	**0.073570**	ppb	53.927	58.038	1.111
59	**Co**		61.111	**0.066666**	ppb	20.651	28.779	17.778
60	**Ni**		211.113	**0.123821**	ppb	11.422	14.827	51.111
75	**As**		258.525	**0.054413**	ppb	7.220	76.221	238.431
71	**Ga-ISK**		58317.682		ppb	0.537		60269.089
82	**Se-2**		9.250	**0.194656**	ppb	6.442	6.813	0.890
107	**Ag-1**		530.010	**0.102224**	ppb	3.928	4.533	47.778
115	**In-ISK**	>	79059.375		ppb	0.266		80525.742
45	**Sc-ISK**	>	144609.962		ppb	3.577		150707.476
23	**Na**		9706.630	**6.026776**	ppb	0.465	23.869	8457.504
39	**K**		36965.546	**12.333829**	ppb	1.196	21.444	32342.125
24	**Mg**		1088.375	**4.306097**	ppb	9.900	7.153	90.000
159	**Tb-ISK**		161083.143		ppb	1.021		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 13:17:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.031
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44034.430		ppb	0.665		45046.549
9	**Be**		20.000	**0.004126**	ppb	33.333	81.274	12.222
10	**B**		10059.100	**-0.527346**	ppb	4.040	168.478	10755.159
27	**Al**		5854.276	**0.192324**	ppb	31.074	105.212	4264.975
43	**Ca-2**		118.334	**0.200982**	ppb	10.634	210.615	116.667
49	**Ti**		274.447	**0.001668**	ppb	9.892	1651.570	283.336
52	**Cr**		16813.222	**-0.159200**	ppb	0.786	3.620	19689.115
55	**Mn**		2669.139	**0.068685**	ppb	4.559	7.158	1278.946
57	**Fe**		14157.019	**-1.702328**	ppb	4.164	86.538	15463.922
45	**Sc-IS**	>	1855783.496		ppb	0.896		1927462.363
66	**Zn**		492.231	**0.010582**	ppb	5.083	97.050	486.675
86	**Sr**		52.520	**0.008936**	ppb	46.425	94.595	27.489
65	**Cu**		167.779	**0.020108**	ppb	14.373	36.089	106.667
69	**Ga-IS**		586082.876		ppb	2.118		593311.100
95	**Mo**		457.785	**0.117006**	ppb	9.778	13.412	100.000
115	**In-IS**	>	197489.235		ppb	1.429		200789.741
111	**Cd**		20.150	**0.007143**	ppb	38.665	54.230	6.457
118	**Sn**		2726.927	**0.076795**	ppb	4.651	37.568	2342.416
121	**Sb**		405.561	**0.038246**	ppb	12.338	18.297	164.445
135	**Ba**		54.445	**0.008221**	ppb	3.535	16.367	40.000
165	**Ho-IS**		365121.438		ppb	1.830		372966.019
159	**Tb-IS**	>	365283.144		ppb	1.708		372400.789
207	**Pb**		608.894	**0.012478**	ppb	20.610	29.953	215.556
203	**Tl**		255.558	**0.015217**	ppb	8.284	16.692	103.334
209	**Bi-IS**		215526.018		ppb	1.255		217918.675
51	**V**		7.778	**0.034638**	ppb	65.465	77.612	1.111
59	**Co**		18.889	**0.002635**	ppb	61.974	691.489	17.778
60	**Ni**		110.000	**0.046993**	ppb	10.926	21.015	51.111
75	**As**		233.809	**0.004962**	ppb	10.111	1054.255	238.431
71	**Ga-ISK**		57756.586		ppb	2.956		60269.089
82	**Se-2**		4.919	**0.094674**	ppb	81.794	97.892	0.890
107	**Ag-1**		133.334	**0.018526**	ppb	22.221	31.889	47.778
115	**In-ISK**	>	78219.189		ppb	1.742		80525.742
45	**Sc-ISK**	>	146205.875		ppb	2.880		150707.476
23	**Na**		8754.348	**2.062726**	ppb	0.344	40.910	8457.504
39	**K**		33563.830	**4.501372**	ppb	1.094	28.113	32342.125
24	**Mg**		221.668	**0.574201**	ppb	12.423	24.079	90.000
159	**Tb-ISK**		159631.653		ppb	1.037		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-292885-A-1-A
Autosampler Position: 401
Sample Date/Time: Sunday, December 19, 2021 13:20:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\440-292885-A-1-A .032
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44582.825		ppb	2.667		45046.549
9	**Be**		164.445	**0.074549**	ppb	16.384	18.049	12.222
10	**B**		32697.400	**38.750730**	ppb	3.057	4.600	10755.159
27	**Al**		6184744.190	**661.831667**	ppb	1.031	0.814	4264.975
43	**Ca-2**		299206.429	**9757.748804**	ppb	1.640	0.884	116.667
49	**Ti**		11978.357	**11.987928**	ppb	3.577	2.204	283.336
52	**Cr**		37884.635	**1.336354**	ppb	2.636	2.335	19689.115
55	**Mn**		2192509.901	**102.138029**	ppb	2.213	1.302	1278.946
57	**Fe**		359566.192	**782.832141**	ppb	1.541	0.063	15463.922
45	**Sc-IS**	>	1902534.698		ppb	1.494		1927462.363
66	**Zn**		350089.438	**152.971150**	ppb	1.427	2.721	486.675
86	**Sr**		147929.613	**49.278309**	ppb	0.919	1.452	27.489
65	**Cu**		158032.041	**47.657024**	ppb	3.048	4.055	106.667
69	**Ga-IS**		580178.896		ppb	1.687		593311.100
95	**Mo**		3576.003	**1.096860**	ppb	2.996	2.093	100.000
115	**In-IS**	>	195257.970		ppb	1.507		200789.741
111	**Cd**		1086.977	**0.568890**	ppb	4.182	5.040	6.457
118	**Sn**		1750.107	**-0.096524**	ppb	1.989	9.733	2342.416
121	**Sb**		2798.052	**0.419146**	ppb	3.515	2.453	164.445
135	**Ba**		50257.136	**27.619757**	ppb	0.080	1.563	40.000
165	**Ho-IS**		370308.373		ppb	0.974		372966.019
159	**Tb-IS**	>	373569.672		ppb	2.291		372400.789
207	**Pb**		377803.106	**11.620011**	ppb	1.344	3.518	215.556
203	**Tl**		637.792	**0.051361**	ppb	11.238	10.732	103.334
209	**Bi-IS**		211830.234		ppb	1.248		217918.675
51	**V**		1416.737	**7.289464**	ppb	8.455	7.837	1.111
59	**Co**		928.919	**1.409960**	ppb	1.450	1.903	17.778
60	**Ni**		4547.390	**3.504517**	ppb	0.626	1.350	51.111
75	**As**		1163.450	**2.102336**	ppb	3.864	5.225	238.431
71	**Ga-ISK**		56649.883		ppb	0.797		60269.089
82	**Se-2**		34.596	**0.794653**	ppb	15.961	17.255	0.890
107	**Ag-1**		76.667	**0.006511**	ppb	24.208	62.364	47.778
115	**In-ISK**	>	78084.756		ppb	0.888		80525.742
45	**Sc-ISK**	>	145349.079		ppb	1.162		150707.476
23	**Na**		3338917.435	**12481.179420**	ppb	1.188	2.219	8457.504
39	**K**		5204733.202	**10651.955926**	ppb	1.596	2.192	32342.125
24	**Mg**		482072.275	**2064.029283**	ppb	0.488	1.236	90.000
159	**Tb-ISK**		160019.904		ppb	0.323		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-292885-A-2-A
Autosampler Position: 402
Sample Date/Time: Sunday, December 19, 2021 13:24:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\440-292885-A-2-A.033
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46010.660		ppb	1.931		45046.549
9	**Be**		34.444	**0.010881**	ppb	20.145	30.589	12.222
10	**B**		19681.331	**15.794672**	ppb	2.452	3.548	10755.159
27	**Al**		1527314.854	**162.580058**	ppb	0.878	1.207	4264.975
43	**Ca-2**		258653.214	**8407.045938**	ppb	2.570	1.619	116.667
49	**Ti**		6768.270	**6.629026**	ppb	0.793	1.644	283.336
52	**Cr**		31238.562	**0.848266**	ppb	0.509	4.428	19689.115
55	**Mn**		222579.510	**10.284565**	ppb	0.772	1.683	1278.946
57	**Fe**		130191.678	**260.420232**	ppb	0.572	2.329	15463.922
45	**Sc-IS**	>	1908773.055		ppb	2.005		1927462.363
66	**Zn**		309680.714	**134.856709**	ppb	0.777	2.501	486.675
86	**Sr**		72262.412	**23.988590**	ppb	1.460	1.197	27.489
65	**Cu**		152242.559	**45.756375**	ppb	1.231	2.162	106.667
69	**Ga-IS**		589469.536		ppb	1.426		593311.100
95	**Mo**		21694.243	**6.792096**	ppb	2.193	3.036	100.000
115	**In-IS**	>	197909.097		ppb	0.995		200789.741
111	**Cd**		4528.508	**2.347789**	ppb	2.936	2.622	6.457
118	**Sn**		2102.377	**-0.037267**	ppb	2.112	20.949	2342.416
121	**Sb**		11653.642	**1.801705**	ppb	2.393	2.506	164.445
135	**Ba**		33312.132	**18.051641**	ppb	1.309	0.628	40.000
165	**Ho-IS**		371787.040		ppb	0.757		372966.019
159	**Tb-IS**	>	373283.659		ppb	1.540		372400.789
207	**Pb**		54533.043	**1.672485**	ppb	1.735	3.124	215.556
203	**Tl**		202.224	**0.009510**	ppb	0.952	2.280	103.334
209	**Bi-IS**		214023.596		ppb	0.878		217918.675
51	**V**		776.688	**3.863792**	ppb	2.271	3.695	1.111
59	**Co**		153.334	**0.202496**	ppb	7.838	7.650	17.778
60	**Ni**		5114.250	**3.816403**	ppb	5.020	6.618	51.111
75	**As**		1427.916	**2.592448**	ppb	7.017	8.787	238.431
71	**Ga-ISK**		58987.125		ppb	2.181		60269.089
82	**Se-2**		12.896	**0.274466**	ppb	38.804	43.360	0.890
107	**Ag-1**		97.778	**0.010337**	ppb	12.907	26.218	47.778
115	**In-ISK**	>	80761.911		ppb	1.722		80525.742
45	**Sc-ISK**	>	151158.256		ppb	3.190		150707.476
23	**Na**		1373635.452	**4921.311392**	ppb	0.491	3.046	8457.504
39	**K**		1156948.953	**2226.617742**	ppb	2.122	1.406	32342.125
24	**Mg**		154578.667	**636.293569**	ppb	1.865	1.667	90.000
159	**Tb-ISK**		161920.548		ppb	1.151		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-292885-A-3-A
Autosampler Position: 403
Sample Date/Time: Sunday, December 19, 2021 13:27:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\440-292885-A-3-A.034
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43962.073		ppb	4.461		45046.549
9	**Be**		27.778	**0.007959**	ppb	36.661	64.640	12.222
10	**B**		14583.002	**7.467682**	ppb	3.810	7.858	10755.159
27	**Al**		1212003.052	**131.947942**	ppb	0.931	1.666	4264.975
43	**Ca-2**		102130.571	**3394.691854**	ppb	2.336	0.584	116.667
49	**Ti**		4480.704	**4.395664**	ppb	5.635	4.211	283.336
52	**Cr**		27812.618	**0.647028**	ppb	2.823	1.976	19689.115
55	**Mn**		223914.080	**10.584245**	ppb	3.971	1.789	1278.946
57	**Fe**		85004.488	**162.415443**	ppb	2.612	0.216	15463.922
45	**Sc-IS**	>	1865349.576		ppb	2.432		1927462.363
66	**Zn**		276731.370	**123.290140**	ppb	0.780	1.755	486.675
86	**Sr**		47953.112	**16.290798**	ppb	1.593	2.842	27.489
65	**Cu**		53831.252	**16.534256**	ppb	1.698	1.510	106.667
69	**Ga-IS**		583648.379		ppb	1.731		593311.100
95	**Mo**		2049.036	**0.628369**	ppb	6.640	7.404	100.000
115	**In-IS**	>	199144.900		ppb	1.109		200789.741
111	**Cd**		655.712	**0.334860**	ppb	7.630	6.558	6.457
118	**Sn**		1387.845	**-0.167787**	ppb	3.331	6.372	2342.416
121	**Sb**		2865.844	**0.421009**	ppb	6.210	5.910	164.445
135	**Ba**		13633.172	**7.330922**	ppb	2.692	3.587	40.000
165	**Ho-IS**		373240.610		ppb	1.804		372966.019
159	**Tb-IS**	>	371691.114		ppb	0.328		372400.789
207	**Pb**		149770.905	**4.623363**	ppb	0.134	0.458	215.556
203	**Tl**		237.780	**0.013028**	ppb	15.757	27.518	103.334
209	**Bi-IS**		214643.872		ppb	0.640		217918.675
51	**V**		698.906	**3.413242**	ppb	7.332	7.596	1.111
59	**Co**		164.445	**0.214864**	ppb	14.942	16.930	17.778
60	**Ni**		2452.433	**1.775698**	ppb	3.493	3.440	51.111
75	**As**		572.604	**0.704673**	ppb	2.275	3.684	238.431
71	**Ga-ISK**		59428.937		ppb	1.761		60269.089
82	**Se-2**		11.255	**0.230973**	ppb	67.276	72.836	0.890
107	**Ag-1**		61.111	**0.002510**	ppb	11.355	57.694	47.778
115	**In-ISK**	>	82232.392		ppb	0.788		80525.742
45	**Sc-ISK**	>	147420.125		ppb	1.015		150707.476
23	**Na**		1208997.789	**4435.336355**	ppb	1.599	0.755	8457.504
39	**K**		540582.904	**1033.073358**	ppb	0.726	0.703	32342.125
24	**Mg**		105036.406	**443.123173**	ppb	0.671	1.687	90.000
159	**Tb-ISK**		160239.141		ppb	1.538		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-292885-A-4-A
Autosampler Position: 404
Sample Date/Time: Sunday, December 19, 2021 13:30:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\440-292885-A-4-A.035
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44907.190		ppb	3.315		45046.549
9	**Be**		34.444	**0.010919**	ppb	29.565	45.853	12.222
10	**B**		14714.243	**7.133006**	ppb	2.309	8.066	10755.159
27	**Al**		1678431.857	**178.865189**	ppb	0.781	0.409	4264.975
43	**Ca-2**		92668.008	**3012.977477**	ppb	2.120	2.684	116.667
49	**Ti**		6821.628	**6.689416**	ppb	1.234	1.343	283.336
52	**Cr**		30820.994	**0.820100**	ppb	1.461	5.796	19689.115
55	**Mn**		245355.883	**11.352679**	ppb	1.125	1.408	1278.946
57	**Fe**		116805.649	**230.283639**	ppb	1.479	1.869	15463.922
45	**Sc-IS**	>	1906832.747		ppb	0.669		1927462.363
66	**Zn**		219051.480	**95.399567**	ppb	1.886	2.107	486.675
86	**Sr**		43814.272	**14.554120**	ppb	1.786	1.435	27.489
65	**Cu**		52245.377	**15.695282**	ppb	1.594	2.270	106.667
69	**Ga-IS**		595696.615		ppb	0.687		593311.100
95	**Mo**		1901.238	**0.567243**	ppb	2.387	1.959	100.000
115	**In-IS**	>	200046.385		ppb	2.391		200789.741
111	**Cd**		870.479	**0.444364**	ppb	5.954	8.155	6.457
118	**Sn**		1327.840	**-0.179305**	ppb	8.913	14.665	2342.416
121	**Sb**		2775.825	**0.405332**	ppb	1.295	3.419	164.445
135	**Ba**		16379.386	**8.771384**	ppb	1.694	1.160	40.000
165	**Ho-IS**		367787.914		ppb	1.106		372966.019
159	**Tb-IS**	>	369626.674		ppb	1.076		372400.789
207	**Pb**		170999.397	**5.309189**	ppb	0.944	0.530	215.556
203	**Tl**		253.336	**0.014692**	ppb	8.004	15.332	103.334
209	**Bi-IS**		217366.782		ppb	0.447		217918.675
51	**V**		695.573	**3.517096**	ppb	6.328	6.599	1.111
59	**Co**		165.557	**0.225314**	ppb	9.079	11.867	17.778
60	**Ni**		2434.652	**1.825813**	ppb	3.361	2.014	51.111
75	**As**		540.521	**0.676691**	ppb	4.992	7.812	238.431
71	**Ga-ISK**		58764.013		ppb	2.855		60269.089
82	**Se-2**		9.578	**0.200215**	ppb	53.870	58.194	0.890
107	**Ag-1**		74.445	**0.005729**	ppb	22.537	58.440	47.778
115	**In-ISK**	>	79429.846		ppb	1.657		80525.742
45	**Sc-ISK**	>	147443.661		ppb	0.528		150707.476
23	**Na**		1132668.031	**4152.769695**	ppb	2.163	1.966	8457.504
39	**K**		583918.034	**1120.805763**	ppb	2.462	2.519	32342.125
24	**Mg**		109595.522	**462.233028**	ppb	1.600	1.181	90.000
159	**Tb-ISK**		159612.066		ppb	0.667		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-292885-A-5-A
Autosampler Position: 405
Sample Date/Time: Sunday, December 19, 2021 13:33:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\440-292885-A-5-A.036
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44616.235		ppb	1.081		45046.549
9	**Be**		177.779	**0.080791**	ppb	10.327	12.553	12.222
10	**B**		42735.031	**56.048859**	ppb	4.741	5.669	10755.159
27	**Al**		8495473.892	**905.576686**	ppb	0.945	0.806	4264.975
43	**Ca-2**		401661.529	**13045.991879**	ppb	2.973	2.128	116.667
49	**Ti**		14700.896	**14.718377**	ppb	2.248	0.855	283.336
52	**Cr**		43782.547	**1.751312**	ppb	0.668	1.543	19689.115
55	**Mn**		2971013.763	**137.873971**	ppb	1.172	0.848	1278.946
57	**Fe**		512972.321	**1127.027870**	ppb	0.823	1.466	15463.922
45	**Sc-IS**	>	1910305.508		ppb	1.497		1927462.363
66	**Zn**		400641.967	**174.339111**	ppb	1.243	0.615	486.675
86	**Sr**		205315.723	**68.118745**	ppb	0.846	1.186	27.489
65	**Cu**		230470.891	**69.224513**	ppb	0.312	1.797	106.667
69	**Ga-IS**		583642.620		ppb	0.245		593311.100
95	**Mo**		4826.371	**1.485593**	ppb	2.468	3.439	100.000
115	**In-IS**	>	194966.473		ppb	0.761		200789.741
111	**Cd**		1357.708	**0.711941**	ppb	10.724	10.174	6.457
118	**Sn**		1322.283	**-0.174533**	ppb	1.434	2.119	2342.416
121	**Sb**		3882.750	**0.592425**	ppb	3.444	2.857	164.445
135	**Ba**		63978.507	**35.215913**	ppb	0.905	1.512	40.000
165	**Ho-IS**		371207.041		ppb	1.306		372966.019
159	**Tb-IS**	>	368522.837		ppb	0.399		372400.789
207	**Pb**		460066.551	**14.337558**	ppb	1.668	1.334	215.556
203	**Tl**		418.895	**0.030926**	ppb	13.132	17.837	103.334
209	**Bi-IS**		207977.422		ppb	0.262		217918.675
51	**V**		1657.874	**8.513766**	ppb	4.370	3.786	1.111
59	**Co**		1113.377	**1.691167**	ppb	2.558	1.755	17.778
60	**Ni**		5788.951	**4.462128**	ppb	1.609	2.234	51.111
75	**As**		1657.180	**3.208488**	ppb	7.474	9.414	238.431
71	**Ga-ISK**		57177.563		ppb	2.115		60269.089
82	**Se-2**		45.221	**1.041341**	ppb	4.638	3.910	0.890
107	**Ag-1**		58.889	**0.002660**	ppb	6.536	27.542	47.778
115	**In-ISK**	>	78256.388		ppb	0.842		80525.742
45	**Sc-ISK**	>	145209.843		ppb	0.506		150707.476
23	**Na**		5515495.722	**20653.280774**	ppb	1.882	1.586	8457.504
39	**K**		8226051.116	**16887.181952**	ppb	1.429	1.547	32342.125
24	**Mg**		664583.496	**2848.063066**	ppb	1.207	0.984	90.000
159	**Tb-ISK**		158762.776		ppb	1.445		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-292885-A-6-A
Autosampler Position: 406
Sample Date/Time: Sunday, December 19, 2021 13:36:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\440-292885-A-6-A.037
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44615.140		ppb	2.338		45046.549
9	**Be**		83.334	**0.035358**	ppb	28.844	34.325	12.222
10	**B**		23651.816	**23.308381**	ppb	4.871	7.567	10755.159
27	**Al**		3249897.771	**351.249682**	ppb	0.852	0.568	4264.975
43	**Ca-2**		197852.622	**6519.478643**	ppb	1.767	0.887	116.667
49	**Ti**		11242.203	**11.357143**	ppb	3.219	2.510	283.336
52	**Cr**		26299.748	**0.517808**	ppb	1.918	8.371	19689.115
55	**Mn**		1306140.691	**61.487432**	ppb	2.173	3.302	1278.946
57	**Fe**		124953.232	**252.484018**	ppb	2.673	4.027	15463.922
45	**Sc-IS**	>	1882545.273		ppb	1.358		1927462.363
66	**Zn**		182380.222	**80.428803**	ppb	1.048	1.904	486.675
86	**Sr**		113862.856	**38.326619**	ppb	1.757	1.210	27.489
65	**Cu**		102049.898	**31.087838**	ppb	1.152	2.516	106.667
69	**Ga-IS**		576964.521		ppb	0.997		593311.100
95	**Mo**		1817.894	**0.548661**	ppb	5.665	6.819	100.000
115	**In-IS**	>	196092.493		ppb	1.586		200789.741
111	**Cd**		790.649	**0.411005**	ppb	5.973	5.903	6.457
118	**Sn**		717.796	**-0.286103**	ppb	2.195	0.569	2342.416
121	**Sb**		3091.446	**0.463691**	ppb	3.669	2.866	164.445
135	**Ba**		31422.316	**17.187874**	ppb	2.822	3.406	40.000
165	**Ho-IS**		374455.735		ppb	1.276		372966.019
159	**Tb-IS**	>	367784.331		ppb	0.836		372400.789
207	**Pb**		117753.620	**3.672352**	ppb	0.323	0.736	215.556
203	**Tl**		320.004	**0.021323**	ppb	16.272	23.911	103.334
209	**Bi-IS**		210015.859		ppb	0.755		217918.675
51	**V**		735.575	**3.714963**	ppb	6.922	7.239	1.111
59	**Co**		466.674	**0.682964**	ppb	7.559	10.557	17.778
60	**Ni**		2765.824	**2.078206**	ppb	4.603	6.130	51.111
75	**As**		1067.647	**1.842800**	ppb	1.831	4.013	238.431
71	**Ga-ISK**		58462.745		ppb	1.941		60269.089
82	**Se-2**		23.570	**0.524863**	ppb	49.235	50.749	0.890
107	**Ag-1**		51.111	**0.000840**	ppb	13.576	193.193	47.778
115	**In-ISK**	>	79546.061		ppb	2.497		80525.742
45	**Sc-ISK**	>	144941.628		ppb	1.084		150707.476
23	**Na**		2694900.994	**10095.561295**	ppb	0.587	1.384	8457.504
39	**K**		3918793.231	**8026.935969**	ppb	1.178	1.922	32342.125
24	**Mg**		310985.356	**1335.018915**	ppb	1.002	0.459	90.000
159	**Tb-ISK**		160559.986		ppb	1.155		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-292885-A-7-A
Autosampler Position: 407
Sample Date/Time: Sunday, December 19, 2021 13:39:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\440-292885-A-7-A.038
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44539.343		ppb	2.049		45046.549
9	**Be**		34.444	**0.010856**	ppb	43.638	64.484	12.222
10	**B**		11628.068	**1.747886**	ppb	3.615	13.902	10755.159
27	**Al**		1240571.942	**132.255583**	ppb	1.960	1.966	4264.975
43	**Ca-2**		146888.127	**4783.329051**	ppb	1.791	0.999	116.667
49	**Ti**		5609.991	**5.456974**	ppb	3.185	2.818	283.336
52	**Cr**		26347.610	**0.499446**	ppb	1.112	11.219	19689.115
55	**Mn**		119266.952	**5.497374**	ppb	1.223	3.712	1278.946
57	**Fe**		100479.992	**193.629219**	ppb	1.905	4.757	15463.922
45	**Sc-IS**	>	1904786.742		ppb	2.477		1927462.363
66	**Zn**		197842.490	**86.234153**	ppb	3.068	2.106	486.675
86	**Sr**		37866.172	**12.596020**	ppb	1.003	2.658	27.489
65	**Cu**		57868.128	**17.415118**	ppb	2.507	4.202	106.667
69	**Ga-IS**		593367.533		ppb	1.584		593311.100
95	**Mo**		498.898	**0.126076**	ppb	5.190	6.124	100.000
115	**In-IS**	>	200140.171		ppb	2.520		200789.741
111	**Cd**		978.986	**0.499426**	ppb	3.284	3.437	6.457
118	**Sn**		2838.060	**0.089844**	ppb	4.904	23.601	2342.416
121	**Sb**		1964.580	**0.279266**	ppb	1.274	2.676	164.445
135	**Ba**		10173.624	**5.436447**	ppb	3.162	1.487	40.000
165	**Ho-IS**		367960.158		ppb	1.265		372966.019
159	**Tb-IS**	>	371358.125		ppb	1.880		372400.789
207	**Pb**		37163.331	**1.143229**	ppb	1.918	0.120	215.556
203	**Tl**		111.112	**0.000765**	ppb	17.059	219.281	103.334
209	**Bi-IS**		217230.268		ppb	3.219		217918.675
51	**V**		177.779	**0.886975**	ppb	18.875	18.951	1.111
59	**Co**		174.446	**0.236299**	ppb	5.838	5.992	17.778
60	**Ni**		1002.257	**0.722444**	ppb	4.719	3.792	51.111
75	**As**		571.654	**0.736561**	ppb	11.124	21.159	238.431
71	**Ga-ISK**		58056.633		ppb	1.325		60269.089
82	**Se-2**		12.234	**0.260236**	ppb	23.504	25.069	0.890
107	**Ag-1**		58.889	**0.002370**	ppb	27.922	144.587	47.778
115	**In-ISK**	>	80098.154		ppb	1.503		80525.742
45	**Sc-ISK**	>	146742.288		ppb	2.253		150707.476
23	**Na**		478159.417	**1744.139381**	ppb	2.079	1.738	8457.504
39	**K**		405411.313	**762.424554**	ppb	2.653	0.441	32342.125
24	**Mg**		76363.704	**323.459127**	ppb	3.321	1.071	90.000
159	**Tb-ISK**		160675.550		ppb	2.445		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-292885-A-8-A
Autosampler Position: 408
Sample Date/Time: Sunday, December 19, 2021 13:43:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\440-292885-A-8-A.039
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46239.185		ppb	2.449		45046.549
9	**Be**		14.444	**0.001214**	ppb	58.076	340.377	12.222
10	**B**		13259.485	**4.759068**	ppb	1.572	3.851	10755.159
27	**Al**		711785.690	**76.155478**	ppb	2.137	0.942	4264.975
43	**Ca-2**		199772.825	**6546.702992**	ppb	2.776	1.493	116.667
49	**Ti**		3320.388	**3.134991**	ppb	8.295	9.421	283.336
52	**Cr**		27210.337	**0.573749**	ppb	1.380	5.891	19689.115
55	**Mn**		103580.834	**4.794772**	ppb	0.612	0.763	1278.946
57	**Fe**		89597.877	**170.085944**	ppb	0.518	1.187	15463.922
45	**Sc-IS**	>	1892718.078		ppb	1.345		1927462.363
66	**Zn**		235989.060	**103.554644**	ppb	1.520	0.385	486.675
86	**Sr**		56555.640	**18.929962**	ppb	1.239	0.170	27.489
65	**Cu**		62269.866	**18.853856**	ppb	0.615	1.873	106.667
69	**Ga-IS**		586105.692		ppb	1.059		593311.100
95	**Mo**		1425.627	**0.420863**	ppb	3.510	2.668	100.000
115	**In-IS**	>	202129.841		ppb	2.653		200789.741
111	**Cd**		444.791	**0.222738**	ppb	7.102	5.906	6.457
118	**Sn**		1177.826	**-0.208541**	ppb	5.417	6.461	2342.416
121	**Sb**		5702.249	**0.850061**	ppb	1.752	1.219	164.445
135	**Ba**		9490.930	**5.021525**	ppb	1.297	1.373	40.000
165	**Ho-IS**		369326.703		ppb	2.821		372966.019
159	**Tb-IS**	>	368812.546		ppb	2.073		372400.789
207	**Pb**		20270.005	**0.624695**	ppb	3.987	2.003	215.556
203	**Tl**		142.223	**0.003898**	ppb	17.276	62.093	103.334
209	**Bi-IS**		215411.945		ppb	0.406		217918.675
51	**V**		263.336	**1.289352**	ppb	13.336	14.179	1.111
59	**Co**		108.889	**0.133837**	ppb	26.035	30.811	17.778
60	**Ni**		1233.387	**0.877925**	ppb	2.662	1.691	51.111
75	**As**		653.062	**0.882617**	ppb	8.606	12.018	238.431
71	**Ga-ISK**		59075.256		ppb	1.892		60269.089
82	**Se-2**		4.930	**0.091231**	ppb	122.193	149.112	0.890
107	**Ag-1**		54.445	**0.001193**	ppb	18.704	168.324	47.778
115	**In-ISK**	>	81857.714		ppb	1.041		80525.742
45	**Sc-ISK**	>	150183.217		ppb	1.656		150707.476
23	**Na**		792014.108	**2841.577692**	ppb	0.972	0.991	8457.504
39	**K**		627807.614	**1186.930346**	ppb	0.632	2.275	32342.125
24	**Mg**		111782.404	**463.043897**	ppb	1.916	3.500	90.000
159	**Tb-ISK**		160136.573		ppb	0.879		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Sunday, December 19, 2021 13:46:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\blk.040
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45667.369		ppb	3.172		45046.549
9	**Be**		5.556	**-0.003193**	ppb	91.652	77.850	12.222
10	**B**		9573.210	**-1.932679**	ppb	3.885	35.456	10755.159
27	**Al**		10293.707	**0.644656**	ppb	0.946	2.042	4264.975
43	**Ca-2**		170.001	**1.757407**	ppb	16.376	52.751	116.667
49	**Ti**		453.341	**0.175178**	ppb	12.149	32.286	283.336
52	**Cr**		19839.322	**0.020470**	ppb	0.535	56.627	19689.115
55	**Mn**		1523.415	**0.011734**	ppb	3.616	23.909	1278.946
57	**Fe**		14951.154	**-0.920212**	ppb	1.009	49.567	15463.922
45	**Sc-IS**	>	1914373.580		ppb	0.478		1927462.363
66	**Zn**		894.473	**0.178652**	ppb	6.284	12.734	486.675
86	**Sr**		38.051	**0.003581**	ppb	63.267	224.625	27.489
65	**Cu**		220.002	**0.034189**	ppb	6.604	12.200	106.667
69	**Ga-IS**		600899.058		ppb	0.775		593311.100
95	**Mo**		194.446	**0.029843**	ppb	10.045	21.545	100.000
115	**In-IS**	>	205627.542		ppb	1.323		200789.741
111	**Cd**		7.369	**0.000401**	ppb	69.570	653.192	6.457
118	**Sn**		1184.494	**-0.211003**	ppb	1.809	2.923	2342.416
121	**Sb**		161.112	**-0.001135**	ppb	24.510	502.689	164.445
135	**Ba**		56.667	**0.008184**	ppb	30.566	109.248	40.000
165	**Ho-IS**		374595.937		ppb	1.186		372966.019
159	**Tb-IS**	>	372296.756		ppb	0.817		372400.789
207	**Pb**		414.447	**0.006137**	ppb	9.663	19.259	215.556
203	**Tl**		74.445	**-0.002799**	ppb	27.359	68.095	103.334
209	**Bi-IS**		218950.925		ppb	1.504		217918.675
51	**V**		2.222	**0.005342**	ppb	86.603	176.567	1.111
59	**Co**		21.111	**0.004187**	ppb	39.736	286.721	17.778
60	**Ni**		90.000	**0.027785**	ppb	14.815	36.700	51.111
75	**As**		255.984	**0.024806**	ppb	8.304	169.880	238.431
71	**Ga-ISK**		59427.799		ppb	0.551		60269.089
82	**Se-2**		9.271	**0.186673**	ppb	40.994	46.041	0.890
107	**Ag-1**		32.222	**-0.003388**	ppb	26.034	51.124	47.778
115	**In-ISK**	>	82501.927		ppb	1.028		80525.742
45	**Sc-ISK**	>	150531.478		ppb	2.486		150707.476
23	**Na**		8872.756	**1.564078**	ppb	2.401	101.256	8457.504
39	**K**		33319.925	**2.048787**	ppb	0.819	92.107	32342.125
24	**Mg**		160.001	**0.291089**	ppb	9.375	26.817	90.000
159	**Tb-ISK**		162495.684		ppb	1.106		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 13:49:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.041
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44193.813		ppb	1.008		45046.549
9	**Be**		201477.495	**99.092423**	ppb	0.416	3.079	12.222
10	**B**		148586.605	**243.608471**	ppb	1.372	3.950	10755.159
27	**Al**		914577.171	**98.039763**	ppb	0.897	3.259	4264.975
43	**Ca-2**		152238.809	**4989.680922**	ppb	2.204	2.104	116.667
49	**Ti**		98364.307	**101.052214**	ppb	2.664	0.728	283.336
52	**Cr**		1350831.998	**97.001779**	ppb	0.974	2.529	19689.115
55	**Mn**		2177103.926	**102.018639**	ppb	0.598	3.774	1278.946
57	**Fe**		2266875.489	**5149.174677**	ppb	1.695	3.757	15463.922
45	**Sc-IS**	>	1892968.554		ppb	3.225		1927462.363
66	**Zn**		230180.799	**101.074792**	ppb	0.895	4.010	486.675
86	**Sr**		303004.908	**101.523564**	ppb	1.473	3.903	27.489
65	**Cu**		334000.528	**101.295630**	ppb	0.491	2.736	106.667
69	**Ga-IS**		613308.995		ppb	0.763		593311.100
95	**Mo**		318250.922	**100.912544**	ppb	1.622	2.038	100.000
115	**In-IS**	>	200693.884		ppb	2.625		200789.741
111	**Cd**		192765.044	**98.698445**	ppb	2.106	0.522	6.457
118	**Sn**		543867.266	**96.451036**	ppb	1.401	1.249	2342.416
121	**Sb**		623153.813	**96.330592**	ppb	1.780	0.981	164.445
135	**Ba**		179775.516	**96.189087**	ppb	2.028	2.433	40.000
165	**Ho-IS**		371245.919		ppb	2.377		372966.019
159	**Tb-IS**	>	375039.839		ppb	3.043		372400.789
207	**Pb**		3039531.197	**93.170486**	ppb	0.905	2.932	215.556
203	**Tl**		1001765.598	**96.144558**	ppb	0.519	2.649	103.334
209	**Bi-IS**		213681.008		ppb	1.810		217918.675
51	**V**		20382.311	**102.042909**	ppb	1.846	3.244	1.111
59	**Co**		67125.207	**100.898279**	ppb	3.037	4.731	17.778
60	**Ni**		127357.469	**96.412373**	ppb	1.352	2.969	51.111
75	**As**		45088.836	**98.297643**	ppb	0.764	2.385	238.431
71	**Ga-ISK**		57711.917		ppb	1.726		60269.089
82	**Se-2**		4463.961	**102.074858**	ppb	1.444	1.714	0.890
107	**Ag-1**		475798.096	**99.055981**	ppb	0.093	1.691	47.778
115	**In-ISK**	>	80356.974		ppb	1.742		80525.742
45	**Sc-ISK**	>	148949.156		ppb	0.481		150707.476
23	**Na**		1339002.309	**4864.933516**	ppb	1.060	0.929	8457.504
39	**K**		2579281.800	**5117.614829**	ppb	1.706	2.060	32342.125
24	**Mg**		1219520.586	**5095.515537**	ppb	0.744	1.092	90.000
159	**Tb-ISK**		161950.880		ppb	1.088		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 13:52:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.042
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43972.080		ppb	3.818		45046.549
9	**Be**		53.333	**0.020350**	ppb	22.535	26.496	12.222
10	**B**		9543.187	**-1.726534**	ppb	1.956	21.956	10755.159
27	**Al**		5283.646	**0.120140**	ppb	5.630	24.327	4264.975
43	**Ca-2**		208.335	**3.111538**	ppb	14.063	33.922	116.667
49	**Ti**		340.004	**0.065087**	ppb	12.858	69.066	283.336
52	**Cr**		17353.872	**-0.139232**	ppb	2.652	16.114	19689.115
55	**Mn**		1829.006	**0.027138**	ppb	5.839	11.105	1278.946
57	**Fe**		15059.044	**-0.141971**	ppb	0.130	569.559	15463.922
45	**Sc-IS**	>	1885405.454		ppb	2.378		1927462.363
66	**Zn**		652.237	**0.077265**	ppb	14.656	46.676	486.675
86	**Sr**		81.372	**0.018332**	ppb	15.403	23.269	27.489
65	**Cu**		241.113	**0.041558**	ppb	10.739	15.524	106.667
69	**Ga-IS**		585565.873		ppb	0.608		593311.100
95	**Mo**		1310.060	**0.385937**	ppb	2.427	1.986	100.000
115	**In-IS**	>	199072.109		ppb	1.564		200789.741
111	**Cd**		36.138	**0.015332**	ppb	10.466	10.855	6.457
118	**Sn**		4012.786	**0.303607**	ppb	0.534	4.619	2342.416
121	**Sb**		780.021	**0.096101**	ppb	7.290	7.532	164.445
135	**Ba**		90.000	**0.027137**	ppb	7.407	11.551	40.000
165	**Ho-IS**		367190.665		ppb	2.246		372966.019
159	**Tb-IS**	>	370093.752		ppb	1.914		372400.789
207	**Pb**		967.791	**0.023329**	ppb	19.252	22.511	215.556
203	**Tl**		374.449	**0.026393**	ppb	12.282	15.268	103.334
209	**Bi-IS**		215502.483		ppb	1.729		217918.675
51	**V**		6.667	**0.027762**	ppb	86.603	103.677	1.111
59	**Co**		30.000	**0.018571**	ppb	29.397	76.601	17.778
60	**Ni**		151.112	**0.075728**	ppb	8.351	12.856	51.111
75	**As**		250.423	**0.027355**	ppb	10.135	218.062	238.431
71	**Ga-ISK**		59547.255		ppb	3.010		60269.089
82	**Se-2**		7.586	**0.153714**	ppb	59.818	67.807	0.890
107	**Ag-1**		293.336	**0.050989**	ppb	16.111	17.008	47.778
115	**In-ISK**	>	80417.919		ppb	1.985		80525.742
45	**Sc-ISK**	>	145138.021		ppb	0.738		150707.476
23	**Na**		8916.115	**2.895805**	ppb	0.686	16.460	8457.504
39	**K**		35533.029	**9.041039**	ppb	1.252	4.577	32342.125
24	**Mg**		496.676	**1.758165**	ppb	21.879	26.391	90.000
159	**Tb-ISK**		158756.630		ppb	0.859		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 13:55:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.043
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45482.321		ppb	2.650		45046.549
9	**Be**		31.111	**0.009566**	ppb	37.627	59.715	12.222
10	**B**		9604.343	**-1.492159**	ppb	4.794	36.773	10755.159
27	**Al**		5815.519	**0.182322**	ppb	5.577	13.392	4264.975
43	**Ca-2**		163.334	**1.661239**	ppb	4.676	9.908	116.667
49	**Ti**		332.226	**0.059552**	ppb	10.822	57.930	283.336
52	**Cr**		17972.412	**-0.083646**	ppb	1.953	1.862	19689.115
55	**Mn**		2703.590	**0.069340**	ppb	4.771	8.230	1278.946
57	**Fe**		14541.844	**-1.069029**	ppb	1.900	77.391	15463.922
45	**Sc-IS**	>	1870530.746		ppb	1.946		1927462.363
66	**Zn**		604.457	**0.058590**	ppb	7.922	27.744	486.675
86	**Sr**		73.133	**0.015871**	ppb	44.876	72.856	27.489
65	**Cu**		193.335	**0.027693**	ppb	19.884	46.168	106.667
69	**Ga-IS**		586089.024		ppb	1.863		593311.100
95	**Mo**		362.227	**0.085265**	ppb	9.840	16.246	100.000
115	**In-IS**	>	197641.011		ppb	2.838		200789.741
111	**Cd**		30.350	**0.012448**	ppb	12.928	13.466	6.457
118	**Sn**		1824.561	**-0.086806**	ppb	1.727	13.252	2342.416
121	**Sb**		296.670	**0.021218**	ppb	7.368	20.074	164.445
135	**Ba**		85.556	**0.025171**	ppb	8.110	19.608	40.000
165	**Ho-IS**		370957.079		ppb	0.930		372966.019
159	**Tb-IS**	>	374074.585		ppb	0.921		372400.789
207	**Pb**		658.895	**0.013590**	ppb	1.053	2.302	215.556
203	**Tl**		217.779	**0.010965**	ppb	11.488	22.292	103.334
209	**Bi-IS**		216591.795		ppb	0.229		217918.675
51	**V**		3.333	**0.011154**	ppb	100.000	150.669	1.111
59	**Co**		26.667	**0.013352**	ppb	33.072	102.252	17.778
60	**Ni**		110.000	**0.044354**	ppb	8.017	14.783	51.111
75	**As**		252.165	**0.029639**	ppb	14.331	284.359	238.431
71	**Ga-ISK**		59036.206		ppb	1.864		60269.089
82	**Se-2**		2.247	**0.029542**	ppb	450.317	779.429	0.890
107	**Ag-1**		120.001	**0.014984**	ppb	19.245	32.928	47.778
115	**In-ISK**	>	80656.790		ppb	0.963		80525.742
45	**Sc-ISK**	>	148749.465		ppb	1.790		150707.476
23	**Na**		8789.374	**1.632240**	ppb	5.025	119.311	8457.504
39	**K**		34651.984	**5.520076**	ppb	1.761	43.808	32342.125
24	**Mg**		248.336	**0.665868**	ppb	17.359	24.656	90.000
159	**Tb-ISK**		158826.233		ppb	1.915		160601.822

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Sunday, December 19, 2021 13:59:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\ICIS-1479530.044
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44909.430		ppb	3.626		
9	**Be**		17.778		ppb	28.641		
10	**B**		9341.944		ppb	2.787		
27	**Al**		4118.935		ppb	13.942		
43	**Ca-2**		133.334		ppb	20.653		
49	**Ti**		346.671		ppb	5.354		
52	**Cr**		18068.087		ppb	1.320		
55	**Mn**		1340.063		ppb	8.556		
57	**Fe**		14006.866		ppb	2.585		
45	**Sc-IS**	>	1865382.380		ppb	2.466		
66	**Zn**		516.676		ppb	5.281		
86	**Sr**		39.724		ppb	52.825		
65	**Cu**		128.889		ppb	13.271		
69	**Ga-IS**		573819.625		ppb	1.173		
95	**Mo**		212.224		ppb	8.931		
115	**In-IS**	>	197719.745		ppb	1.569		
111	**Cd**		15.110		ppb	55.420		
118	**Sn**		1235.609		ppb	2.808		
121	**Sb**		197.779		ppb	24.385		
135	**Ba**		33.333		ppb	20.000		
165	**Ho-IS**		368847.286		ppb	1.543		
159	**Tb-IS**	>	363541.658		ppb	2.506		
207	**Pb**		434.447		ppb	3.194		
203	**Tl**		128.889		ppb	5.384		
209	**Bi-IS**		214395.071		ppb	2.166		
51	**V**		1.111		ppb	173.205		
59	**Co**		30.000		ppb	29.397		
60	**Ni**		67.778		ppb	40.951		
75	**As**		260.869		ppb	8.767		
71	**Ga-ISK**		58887.805		ppb	1.414		
82	**Se-2**		0.226		ppb	2970.238		
107	**Ag-1**		83.334		ppb	17.436		
115	**In-ISK**	>	81053.470		ppb	1.478		
45	**Sc-ISK**	>	145776.751		ppb	1.278		
23	**Na**		8625.938		ppb	2.970		
39	**K**		34421.426		ppb	1.563		
24	**Mg**		211.668		ppb	24.587		
159	**Tb-ISK**		159659.940		ppb	0.781		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-1479552
Autosampler Position: 204
Sample Date/Time: Sunday, December 19, 2021 14:02:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\IC-1479552.045
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42927.772		ppb	2.970		44909.430
9	**Be**		398687.451	**200.000000**	ppb	1.407	0.060	17.778
10	**B**		285588.782	**500.000000**	ppb	0.982	0.520	9341.944
27	**Al**		1825452.728	**200.000000**	ppb	1.689	1.797	4118.935
43	**Ca-2**		301110.851	**10200.000000**	ppb	1.674	0.953	133.334
49	**Ti**		195629.296	**200.000000**	ppb	0.655	1.180	346.671
52	**Cr**		2731662.500	**200.000000**	ppb	0.932	2.365	18068.087
55	**Mn**		4226817.556	**200.000000**	ppb	1.380	1.373	1340.063
57	**Fe**		4428737.966	**10200.000000**	ppb	1.386	1.992	14006.866
45	**Sc-IS**	>	1841690.224		ppb	1.408		1865382.380
66	**Zn**		450037.767	**200.000000**	ppb	0.502	1.807	516.676
86	**Sr**		600466.507	**200.000000**	ppb	1.039	2.446	39.724
65	**Cu**		660490.946	**200.000000**	ppb	0.784	2.200	128.889
69	**Ga-IS**		620390.755		ppb	0.788		573819.625
95	**Mo**		642439.099	**200.000000**	ppb	1.974	3.136	212.224
115	**In-IS**	>	194970.938		ppb	1.211		197719.745
111	**Cd**		379149.968	**200.000000**	ppb	1.385	1.566	15.110
118	**Sn**		1094787.454	**200.000000**	ppb	2.040	0.881	1235.609
121	**Sb**		1244928.097	**200.000000**	ppb	1.391	1.185	197.779
135	**Ba**		355240.651	**200.000000**	ppb	0.954	0.427	33.333
165	**Ho-IS**		365711.462		ppb	1.485		368847.286
159	**Tb-IS**	>	365528.575		ppb	0.697		363541.658
207	**Pb**		6238927.859	**200.000000**	ppb	1.896	2.063	434.447
203	**Tl**		2086120.436	**200.000000**	ppb	4.952	5.419	128.889
209	**Bi-IS**		205975.705		ppb	1.795		214395.071
51	**V**		41079.035	**200.000000**	ppb	3.828	4.907	1.111
59	**Co**		132127.436	**200.000000**	ppb	2.918	3.990	30.000
60	**Ni**		255160.812	**200.000000**	ppb	0.302	1.866	67.778
75	**As**		89949.137	**200.000000**	ppb	0.506	2.075	260.869
71	**Ga-ISK**		57619.318		ppb	1.573		58887.805
82	**Se-2**		8749.269	**200.000000**	ppb	1.894	3.152	0.226
107	**Ag-1**		930107.545	**200.000000**	ppb	1.176	1.072	83.334
115	**In-ISK**	>	77792.220		ppb	1.841		81053.470
45	**Sc-ISK**	>	148295.834		ppb	1.413		145776.751
23	**Na**		2778596.626	**10200.000000**	ppb	0.287	1.153	8625.938
39	**K**		5124897.413	**10200.000000**	ppb	1.924	2.695	34421.426
24	**Mg**		2441619.835	**10200.000000**	ppb	0.698	2.017	211.668
159	**Tb-ISK**		158466.766		ppb	0.799		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 14:05:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.046
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43405.870		ppb	2.502		44909.430
9	**Be**		199262.886	**98.365202**	ppb	2.549	1.867	17.778
10	**B**		147674.284	**246.143815**	ppb	5.662	4.733	9341.944
27	**Al**		899137.383	**96.724007**	ppb	0.983	1.812	4118.935
43	**Ca-2**		150515.626	**5015.559358**	ppb	1.919	1.516	133.334
49	**Ti**		95759.932	**96.155527**	ppb	1.617	0.942	346.671
52	**Cr**		1321975.161	**94.550354**	ppb	1.137	1.202	18068.087
55	**Mn**		2096318.258	**97.569351**	ppb	4.640	4.116	1340.063
57	**Fe**		2228787.391	**5034.718956**	ppb	2.311	1.440	14006.866
45	**Sc-IS**	>	1871410.549		ppb	1.545		1865382.380
66	**Zn**		228849.170	**99.971305**	ppb	2.452	2.831	516.676
86	**Sr**		297163.052	**97.385935**	ppb	1.884	2.028	39.724
65	**Cu**		330640.142	**98.501024**	ppb	1.960	2.235	128.889
69	**Ga-IS**		600496.500		ppb	1.120		573819.625
95	**Mo**		318135.920	**97.418525**	ppb	1.222	1.561	212.224
115	**In-IS**	>	198462.681		ppb	1.938		197719.745
111	**Cd**		187720.542	**97.279497**	ppb	1.406	1.182	15.110
118	**Sn**		547158.735	**98.104574**	ppb	0.930	1.075	1235.609
121	**Sb**		616303.581	**97.268486**	ppb	0.530	1.574	197.779
135	**Ba**		178083.146	**98.505394**	ppb	0.789	1.773	33.333
165	**Ho-IS**		368645.346		ppb	1.364		368847.286
159	**Tb-IS**	>	367034.509		ppb	1.178		363541.658
207	**Pb**		3021075.176	**96.446608**	ppb	0.349	1.241	434.447
203	**Tl**		986913.252	**94.204079**	ppb	1.860	1.315	128.889
209	**Bi-IS**		211268.580		ppb	0.797		214395.071
51	**V**		20304.420	**97.212803**	ppb	0.707	0.688	1.111
59	**Co**		66571.465	**99.079504**	ppb	2.156	2.033	30.000
60	**Ni**		125662.522	**96.856522**	ppb	0.941	1.184	67.778
75	**As**		44368.620	**96.747685**	ppb	1.673	1.899	260.869
71	**Ga-ISK**		57160.873		ppb	3.185		58887.805
82	**Se-2**		4401.262	**98.949134**	ppb	1.652	1.875	0.226
107	**Ag-1**		466792.740	**98.730187**	ppb	0.464	0.216	83.334
115	**In-ISK**	>	79071.816		ppb	0.253		81053.470
45	**Sc-ISK**	>	147302.270		ppb	1.187		145776.751
23	**Na**		1306124.891	**4809.418641**	ppb	3.004	2.726	8625.938
39	**K**		2554530.558	**5082.922880**	ppb	3.695	3.806	34421.426
24	**Mg**		1179612.060	**4960.580859**	ppb	1.457	2.404	211.668
159	**Tb-ISK**		160243.838		ppb	1.411		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 14:08:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.047
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43782.545		ppb	0.052		44909.430
9	**Be**		95.556	**0.039186**	ppb	15.730	19.228	17.778
10	**B**		9727.758	**0.932926**	ppb	3.724	69.787	9341.944
27	**Al**		5150.600	**0.119669**	ppb	8.871	41.909	4118.935
43	**Ca-2**		160.001	**0.967035**	ppb	24.407	136.748	133.334
49	**Ti**		307.781	**-0.034950**	ppb	5.558	50.172	346.671
52	**Cr**		16552.920	**-0.093315**	ppb	1.782	23.323	18068.087
55	**Mn**		2181.278	**0.040737**	ppb	7.734	19.518	1340.063
57	**Fe**		14608.580	**1.839885**	ppb	2.478	44.864	14006.866
45	**Sc-IS**	>	1839556.801		ppb	0.043		1865382.380
66	**Zn**		684.461	**0.077905**	ppb	5.208	20.207	516.676
86	**Sr**		136.429	**0.032429**	ppb	33.638	47.237	39.724
65	**Cu**		248.891	**0.036920**	ppb	5.413	11.112	128.889
69	**Ga-IS**		578484.778		ppb	0.533		573819.625
95	**Mo**		1482.299	**0.396788**	ppb	1.804	2.051	212.224
115	**In-IS**	>	198747.332		ppb	1.136		197719.745
111	**Cd**		66.887	**0.026688**	ppb	26.303	32.474	15.110
118	**Sn**		5310.987	**0.730087**	ppb	0.879	0.383	1235.609
121	**Sb**		1068.929	**0.137195**	ppb	2.725	4.672	197.779
135	**Ba**		141.112	**0.059397**	ppb	17.089	21.912	33.333
165	**Ho-IS**		371415.205		ppb	1.938		368847.286
159	**Tb-IS**	>	371045.420		ppb	2.488		363541.658
207	**Pb**		1444.473	**0.031590**	ppb	6.824	7.103	434.447
203	**Tl**		615.569	**0.045636**	ppb	15.358	17.581	128.889
209	**Bi-IS**		211169.391		ppb	1.007		214395.071
51	**V**		27.778	**0.127089**	ppb	36.661	36.437	1.111
59	**Co**		40.000	**0.016370**	ppb	52.042	197.944	30.000
60	**Ni**		177.779	**0.086118**	ppb	29.785	47.956	67.778
75	**As**		305.176	**0.110943**	ppb	5.869	39.130	260.869
71	**Ga-ISK**		57274.698		ppb	3.870		58887.805
82	**Se-2**		4.937	**0.106187**	ppb	73.334	76.459	0.226
107	**Ag-1**		496.675	**0.087918**	ppb	10.156	13.709	83.334
115	**In-ISK**	>	79129.807		ppb	2.034		81053.470
45	**Sc-ISK**	>	142840.608		ppb	0.923		145776.751
23	**Na**		9948.465	**5.717928**	ppb	3.014	17.272	8625.938
39	**K**		38822.682	**10.604155**	ppb	0.568	10.801	34421.426
24	**Mg**		1028.370	**3.561502**	ppb	3.682	5.725	211.668
159	**Tb-ISK**		158311.755		ppb	1.056		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 14:11:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.048
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43103.820		ppb	0.586		44909.430
9	**Be**		30.000	**0.006256**	ppb	40.062	90.434	17.778
10	**B**		9598.782	**0.793889**	ppb	3.350	42.289	9341.944
27	**Al**		5425.382	**0.152764**	ppb	16.427	61.605	4118.935
43	**Ca-2**		100.000	**-1.051217**	ppb	57.663	188.474	133.334
49	**Ti**		272.225	**-0.070161**	ppb	13.544	48.156	346.671
52	**Cr**		16183.606	**-0.113521**	ppb	0.363	26.429	18068.087
55	**Mn**		2474.659	**0.055316**	ppb	1.478	4.469	1340.063
57	**Fe**		13587.573	**-0.349567**	ppb	2.642	41.021	14006.866
45	**Sc-IS**	>	1829494.893		ppb	2.382		1865382.380
66	**Zn**		511.120	**0.002202**	ppb	13.932	1544.476	516.676
86	**Sr**		46.977	**0.002668**	ppb	13.337	69.249	39.724
65	**Cu**		134.445	**0.002397**	ppb	30.801	516.643	128.889
69	**Ga-IS**		577515.278		ppb	1.167		573819.625
95	**Mo**		475.563	**0.083994**	ppb	6.043	14.553	212.224
115	**In-IS**	>	198385.263		ppb	2.219		197719.745
111	**Cd**		14.557	**-0.000309**	ppb	26.053	642.485	15.110
118	**Sn**		2475.770	**0.222386**	ppb	1.046	6.483	1235.609
121	**Sb**		352.227	**0.024496**	ppb	23.685	58.713	197.779
135	**Ba**		57.778	**0.013678**	ppb	43.301	106.408	33.333
165	**Ho-IS**		365634.358		ppb	1.871		368847.286
159	**Tb-IS**	>	365823.145		ppb	1.472		363541.658
207	**Pb**		551.115	**0.003638**	ppb	8.688	35.729	434.447
203	**Tl**		248.891	**0.011451**	ppb	17.221	37.960	128.889
209	**Bi-IS**		213009.738		ppb	0.966		214395.071
51	**V**		0.000	**-0.005190**	ppb		0.000	1.111
59	**Co**		33.333	**0.005615**	ppb	30.000	282.134	30.000
60	**Ni**		120.001	**0.040226**	ppb	12.108	23.142	67.778
75	**As**		248.078	**-0.020138**	ppb	9.395	323.039	260.869
71	**Ga-ISK**		56696.753		ppb	1.768		58887.805
82	**Se-2**		-0.766	**-0.024815**	ppb	1131.152	786.727	0.226
107	**Ag-1**		146.667	**0.013489**	ppb	15.746	39.650	83.334
115	**In-ISK**	>	80129.230		ppb	2.590		81053.470
45	**Sc-ISK**	>	144932.645		ppb	1.048		145776.751
23	**Na**		8627.605	**0.199584**	ppb	1.616	408.156	8625.938
39	**K**		36229.219	**4.113816**	ppb	1.236	3.838	34421.426
24	**Mg**		313.337	**0.439321**	ppb	7.872	21.835	211.668
159	**Tb-ISK**		157303.318		ppb	0.391		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-201924_1-A @20
Autosampler Position: 128
Sample Date/Time: Sunday, December 19, 2021 14:14:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\MB 570-201924_1-A @20.049
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42544.380		ppb	1.721		44909.430
9	**Be**		53.333	**0.018420**	ppb	33.072	52.009	17.778
10	**B**		9637.695	**0.988776**	ppb	2.220	72.204	9341.944
27	**Al**		2506.222	**-0.167223**	ppb	10.835	21.618	4118.935
43	**Ca-2**		115.000	**-0.507783**	ppb	15.676	130.462	133.334
49	**Ti**		278.892	**-0.061745**	ppb	22.970	101.803	346.671
52	**Cr**		16884.418	**-0.053806**	ppb	1.530	17.994	18068.087
55	**Mn**		1391.179	**0.004137**	ppb	2.839	79.600	1340.063
57	**Fe**		13557.542	**-0.207999**	ppb	1.555	309.689	14006.866
45	**Sc-IS**	>	1817765.354		ppb	2.172		1865382.380
66	**Zn**		363.338	**-0.063135**	ppb	3.999	10.495	516.676
86	**Sr**		68.625	**0.010196**	ppb	33.625	81.548	39.724
65	**Cu**		128.889	**0.001015**	ppb	10.767	416.567	128.889
69	**Ga-IS**		579834.534		ppb	1.810		573819.625
95	**Mo**		337.782	**0.041199**	ppb	11.691	25.510	212.224
115	**In-IS**	>	196701.356		ppb	1.407		197719.745
111	**Cd**		42.624	**0.014396**	ppb	59.203	91.694	15.110
118	**Sn**		1635.649	**0.073777**	ppb	3.270	17.315	1235.609
121	**Sb**		333.337	**0.021800**	ppb	14.422	37.524	197.779
135	**Ba**		70.000	**0.020663**	ppb	29.738	58.848	33.333
165	**Ho-IS**		362075.204		ppb	1.693		368847.286
159	**Tb-IS**	>	364135.934		ppb	0.773		363541.658
207	**Pb**		766.675	**0.010674**	ppb	5.702	14.430	434.447
203	**Tl**		255.558	**0.012174**	ppb	13.195	27.055	128.889
209	**Bi-IS**		212369.928		ppb	2.819		214395.071
51	**V**		2.222	**0.005480**	ppb	86.603	168.655	1.111
59	**Co**		23.333	**-0.009255**	ppb	14.286	47.679	30.000
60	**Ni**		92.223	**0.019631**	ppb	21.787	87.534	67.778
75	**As**		260.051	**0.005283**	ppb	12.827	1197.199	260.869
71	**Ga-ISK**		58948.058		ppb	1.606		58887.805
82	**Se-2**		1.914	**0.037967**	ppb	319.244	357.875	0.226
107	**Ag-1**		98.889	**0.003573**	ppb	22.444	142.701	83.334
115	**In-ISK**	>	79966.056		ppb	2.643		81053.470
45	**Sc-ISK**	>	147443.702		ppb	1.044		145776.751
23	**Na**		8432.488	**-1.079000**	ppb	0.206	36.311	8625.938
39	**K**		35563.103	**1.509568**	ppb	1.098	46.822	34421.426
24	**Mg**		131.667	**-0.346246**	ppb	5.801	9.290	211.668
159	**Tb-ISK**		158253.078		ppb	0.739		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-201924_2-A @20
Autosampler Position: 129
Sample Date/Time: Sunday, December 19, 2021 14:18:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\LCS 570-201924_2-A @20.050
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43675.580		ppb	2.530		44909.430
9	**Be**		50164.596	**24.856472**	ppb	1.091	2.547	17.778
10	**B**		22357.486	**23.281455**	ppb	2.043	5.944	9341.944
27	**Al**		222446.199	**23.688819**	ppb	2.486	3.973	4118.935
43	**Ca-2**		1348.397	**40.686095**	ppb	8.476	9.597	133.334
49	**Ti**		23740.825	**23.669552**	ppb	1.500	2.574	346.671
52	**Cr**		334864.591	**23.064721**	ppb	1.900	3.337	18068.087
55	**Mn**		491714.718	**22.928766**	ppb	1.386	1.918	1340.063
57	**Fe**		24122.572	**23.111754**	ppb	0.849	5.558	14006.866
45	**Sc-IS**	>	1864434.242		ppb	1.510		1865382.380
66	**Zn**		58824.271	**25.631258**	ppb	3.080	4.369	516.676
86	**Sr**		71703.008	**23.583425**	ppb	2.652	4.048	39.724
65	**Cu**		82380.234	**24.607093**	ppb	1.881	2.723	128.889
69	**Ga-IS**		590562.409		ppb	2.281		573819.625
95	**Mo**		76652.914	**23.515285**	ppb	1.667	3.087	212.224
115	**In-IS**	>	198183.967		ppb	3.314		197719.745
111	**Cd**		46238.723	**24.011726**	ppb	1.983	4.880	15.110
118	**Sn**		130900.369	**23.352795**	ppb	1.115	4.328	1235.609
121	**Sb**		155113.118	**24.505873**	ppb	0.359	3.505	197.779
135	**Ba**		44300.807	**24.539784**	ppb	0.620	3.662	33.333
165	**Ho-IS**		366779.277		ppb	1.297		368847.286
159	**Tb-IS**	>	367872.557		ppb	3.077		363541.658
207	**Pb**		749917.491	**23.901445**	ppb	2.701	5.706	434.447
203	**Tl**		238722.028	**22.749404**	ppb	2.212	5.151	128.889
209	**Bi-IS**		216725.033		ppb	1.121		214395.071
51	**V**		5125.364	**24.054140**	ppb	1.952	1.262	1.111
59	**Co**		16882.195	**24.602911**	ppb	2.210	2.182	30.000
60	**Ni**		31754.142	**23.959089**	ppb	0.550	1.147	67.778
75	**As**		10895.696	**22.867422**	ppb	2.697	1.963	260.869
71	**Ga-ISK**		57879.238		ppb	0.599		58887.805
82	**Se-2**		1160.613	**25.580343**	ppb	1.820	2.223	0.226
107	**Ag-1**		62243.100	**12.894124**	ppb	1.502	2.254	83.334
115	**In-ISK**	>	80648.419		ppb	0.810		81053.470
45	**Sc-ISK**	>	149163.919		ppb	2.536		145776.751
23	**Na**		71036.181	**227.836539**	ppb	0.594	2.762	8625.938
39	**K**		153141.014	**234.944507**	ppb	1.492	1.383	34421.426
24	**Mg**		6489.809	**26.042866**	ppb	4.449	2.013	211.668
159	**Tb-ISK**		159219.135		ppb	1.372		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-201924_3-A @20
Autosampler Position: 130
Sample Date/Time: Sunday, December 19, 2021 14:21:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\LCSD 570-201924_3-A @20.051
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42040.744		ppb	4.588		44909.430
9	**Be**		49536.852	**24.750562**	ppb	0.718	2.294	17.778
10	**B**		22051.452	**23.056200**	ppb	1.266	3.028	9341.944
27	**Al**		238560.973	**25.646488**	ppb	3.090	3.194	4118.935
43	**Ca-2**		1276.724	**38.621066**	ppb	8.934	9.041	133.334
49	**Ti**		24320.695	**24.454453**	ppb	2.678	1.346	346.671
52	**Cr**		342853.263	**23.846608**	ppb	2.119	0.663	18068.087
55	**Mn**		499693.926	**23.497257**	ppb	0.858	1.432	1340.063
57	**Fe**		24827.111	**25.188933**	ppb	0.499	3.242	14006.866
45	**Sc-IS**	>	1848956.382		ppb	1.579		1865382.380
66	**Zn**		59166.723	**25.991052**	ppb	0.957	0.713	516.676
86	**Sr**		72924.098	**24.178443**	ppb	1.381	1.259	39.724
65	**Cu**		84996.555	**25.603260**	ppb	0.602	2.187	128.889
69	**Ga-IS**		578333.985		ppb	1.104		573819.625
95	**Mo**		77928.643	**24.105502**	ppb	0.545	1.796	212.224
115	**In-IS**	>	196769.634		ppb	1.863		197719.745
111	**Cd**		47015.252	**24.565848**	ppb	1.691	0.519	15.110
118	**Sn**		135452.498	**24.327988**	ppb	0.927	1.129	1235.609
121	**Sb**		157027.326	**24.971353**	ppb	1.564	1.759	197.779
135	**Ba**		45606.020	**25.427309**	ppb	1.078	0.915	33.333
165	**Ho-IS**		365588.165		ppb	1.240		368847.286
159	**Tb-IS**	>	362208.305		ppb	1.468		363541.658
207	**Pb**		753950.183	**24.380331**	ppb	1.200	1.666	434.447
203	**Tl**		244475.707	**23.638420**	ppb	1.821	1.343	128.889
209	**Bi-IS**		211963.217		ppb	0.888		214395.071
51	**V**		5162.045	**24.483017**	ppb	4.416	5.782	1.111
59	**Co**		17160.302	**25.265901**	ppb	1.449	2.809	30.000
60	**Ni**		31591.561	**24.076920**	ppb	0.953	1.584	67.778
75	**As**		10794.323	**22.888805**	ppb	1.018	2.298	260.869
71	**Ga-ISK**		59241.472		ppb	0.639		58887.805
82	**Se-2**		1146.971	**25.535684**	ppb	2.085	2.816	0.226
107	**Ag-1**		62538.819	**13.084498**	ppb	0.867	0.479	83.334
115	**In-ISK**	>	79848.262		ppb	1.341		81053.470
45	**Sc-ISK**	>	147539.104		ppb	0.831		145776.751
23	**Na**		69915.688	**226.477487**	ppb	1.291	2.345	8625.938
39	**K**		152179.636	**236.320660**	ppb	0.920	1.225	34421.426
24	**Mg**		6107.972	**24.748020**	ppb	1.515	2.277	211.668
159	**Tb-ISK**		158865.186		ppb	1.089		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-1-D sd @100
Autosampler Position: 131
Sample Date/Time: Sunday, December 19, 2021 14:24:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-1-D sd @100.052
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43856.122		ppb	2.063		44909.430
9	**Be**		23.333	**0.003004**	ppb	37.796	149.293	17.778
10	**B**		8995.056	**-0.268981**	ppb	3.628	97.900	9341.944
27	**Al**		6137.986	**0.234023**	ppb	3.270	15.315	4118.935
43	**Ca-2**		190.001	**2.028464**	ppb	12.059	33.065	133.334
49	**Ti**		274.447	**-0.066830**	ppb	11.285	49.086	346.671
52	**Cr**		17598.611	**-0.005542**	ppb	0.717	550.497	18068.087
55	**Mn**		2244.621	**0.044559**	ppb	3.401	3.236	1340.063
57	**Fe**		14407.261	**1.644507**	ppb	0.508	32.601	14006.866
45	**Sc-IS**	>	1825162.099		ppb	2.045		1865382.380
66	**Zn**		1125.600	**0.278404**	ppb	1.335	2.745	516.676
86	**Sr**		39.648	**0.000101**	ppb	197.646	25981.691	39.724
65	**Cu**		371.116	**0.074871**	ppb	12.902	19.631	128.889
69	**Ga-IS**		577296.728		ppb	1.181		573819.625
95	**Mo**		587.790	**0.119646**	ppb	11.190	19.518	212.224
115	**In-IS**	>	198440.277		ppb	2.134		197719.745
111	**Cd**		28.766	**0.007184**	ppb	64.091	137.632	15.110
118	**Sn**		3610.456	**0.426038**	ppb	1.242	1.405	1235.609
121	**Sb**		403.339	**0.032237**	ppb	13.301	21.949	197.779
135	**Ba**		83.334	**0.027747**	ppb	22.271	40.523	33.333
165	**Ho-IS**		364918.718		ppb	0.320		368847.286
159	**Tb-IS**	>	365609.381		ppb	0.337		363541.658
207	**Pb**		642.228	**0.006578**	ppb	5.121	15.037	434.447
203	**Tl**		330.004	**0.019215**	ppb	16.993	28.395	128.889
209	**Bi-IS**		213990.858		ppb	0.688		214395.071
51	**V**		3.333	**0.010754**	ppb		2.562	1.111
59	**Co**		22.222	**-0.010321**	ppb	75.498	247.928	30.000
60	**Ni**		100.000	**0.026114**	ppb	12.019	38.340	67.778
75	**As**		257.444	**0.005705**	ppb	3.899	253.404	260.869
71	**Ga-ISK**		58083.438		ppb	2.340		58887.805
82	**Se-2**		8.614	**0.188006**	ppb	47.110	47.905	0.226
107	**Ag-1**		151.112	**0.014826**	ppb	24.597	57.011	83.334
115	**In-ISK**	>	79165.215		ppb	1.722		81053.470
45	**Sc-ISK**	>	145216.791		ppb	2.149		145776.751
23	**Na**		10935.852	**8.821790**	ppb	2.267	13.935	8625.938
39	**K**		34026.030	**-0.513671**	ppb	0.417	338.096	34421.426
24	**Mg**		310.003	**0.426555**	ppb	21.700	72.673	211.668
159	**Tb-ISK**		158217.556		ppb	2.013		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-1-D @20
Autosampler Position: 132
Sample Date/Time: Sunday, December 19, 2021 14:27:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-1-D @20.053
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42227.924		ppb	3.440		44909.430
9	**Be**		51.111	**0.017343**	ppb	9.962	15.272	17.778
10	**B**		8479.182	**-1.045020**	ppb	0.967	14.229	9341.944
27	**Al**		12484.457	**0.951048**	ppb	3.414	4.373	4118.935
43	**Ca-2**		630.014	**17.332774**	ppb	13.257	18.211	133.334
49	**Ti**		313.337	**-0.023755**	ppb	17.578	226.315	346.671
52	**Cr**		18336.207	**0.063364**	ppb	1.858	58.398	18068.087
55	**Mn**		6205.793	**0.236811**	ppb	3.548	3.514	1340.063
57	**Fe**		14889.980	**3.129641**	ppb	1.682	26.581	14006.866
45	**Sc-IS**	>	1806313.323		ppb	1.193		1865382.380
66	**Zn**		4320.654	**1.732549**	ppb	4.625	4.729	516.676
86	**Sr**		232.074	**0.065641**	ppb	16.714	18.747	39.724
65	**Cu**		1206.718	**0.334169**	ppb	6.059	7.629	128.889
69	**Ga-IS**		569275.302		ppb	2.109		573819.625
95	**Mo**		266.669	**0.019471**	ppb	7.806	38.559	212.224
115	**In-IS**	>	194182.453		ppb	1.841		197719.745
111	**Cd**		38.329	**0.012481**	ppb	18.047	31.854	15.110
118	**Sn**		1267.834	**0.010120**	ppb	3.267	115.730	1235.609
121	**Sb**		167.779	**-0.004280**	ppb	13.229	80.821	197.779
135	**Ba**		220.002	**0.105784**	ppb	8.436	8.082	33.333
165	**Ho-IS**		358379.050		ppb	2.437		368847.286
159	**Tb-IS**	>	354248.681		ppb	0.937		363541.658
207	**Pb**		1192.242	**0.025439**	ppb	10.251	16.142	434.447
203	**Tl**		275.558	**0.014841**	ppb	21.310	39.466	128.889
209	**Bi-IS**		210554.848		ppb	0.932		214395.071
51	**V**		7.778	**0.031943**	ppb	49.487	57.458	1.111
59	**Co**		16.667	**-0.018768**	ppb	40.000	53.490	30.000
60	**Ni**		131.112	**0.049735**	ppb	19.251	36.519	67.778
75	**As**		243.401	**-0.025204**	ppb	8.845	211.578	260.869
71	**Ga-ISK**		57414.039		ppb	1.051		58887.805
82	**Se-2**		1.909	**0.038470**	ppb	184.106	204.782	0.226
107	**Ag-1**		101.111	**0.004126**	ppb	16.593	82.261	83.334
115	**In-ISK**	>	79268.234		ppb	1.297		81053.470
45	**Sc-ISK**	>	142874.311		ppb	1.263		145776.751
23	**Na**		20659.934	**46.673110**	ppb	2.372	6.192	8625.938
39	**K**		34777.842	**2.181583**	ppb	1.428	86.181	34421.426
24	**Mg**		1118.377	**3.948242**	ppb	6.727	7.356	211.668
159	**Tb-ISK**		156171.773		ppb	1.400		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-1-E MS @20
Autosampler Position: 133
Sample Date/Time: Sunday, December 19, 2021 14:30:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-1-E MS @20.054
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42391.723		ppb	2.705		44909.430
9	**Be**		32195.195	**16.364830**	ppb	5.319	3.582	17.778
10	**B**		14253.774	**9.473742**	ppb	0.816	6.699	9341.944
27	**Al**		125001.595	**13.474052**	ppb	1.569	1.260	4118.935
43	**Ca-2**		1160.047	**35.434040**	ppb	3.733	6.047	133.334
49	**Ti**		5165.379	**5.013565**	ppb	2.550	0.886	346.671
52	**Cr**		182366.674	**12.315149**	ppb	0.728	1.557	18068.087
55	**Mn**		300503.456	**14.362861**	ppb	1.026	0.858	1340.063
57	**Fe**		20407.901	**15.871626**	ppb	1.253	4.073	14006.866
45	**Sc-IS**	>	1815935.120		ppb	1.773		1865382.380
66	**Zn**		41250.584	**18.386104**	ppb	0.749	1.495	516.676
86	**Sr**		39787.484	**13.427136**	ppb	0.424	1.431	39.724
65	**Cu**		50834.737	**15.574837**	ppb	1.062	1.528	128.889
69	**Ga-IS**		564613.800		ppb	0.521		573819.625
95	**Mo**		30111.712	**9.442434**	ppb	2.270	1.364	212.224
115	**In-IS**	>	192836.554		ppb	1.810		197719.745
111	**Cd**		28312.702	**15.092401**	ppb	1.648	0.730	15.110
118	**Sn**		13064.867	**2.192481**	ppb	4.190	2.657	1235.609
121	**Sb**		36293.841	**5.864486**	ppb	2.445	1.453	197.779
135	**Ba**		22782.600	**12.951299**	ppb	1.592	0.403	33.333
165	**Ho-IS**		357798.638		ppb	0.309		368847.286
159	**Tb-IS**	>	358501.977		ppb	1.320		363541.658
207	**Pb**		375608.536	**12.265499**	ppb	1.770	2.674	434.447
203	**Tl**		100802.183	**9.841350**	ppb	0.881	1.865	128.889
209	**Bi-IS**		208942.888		ppb	2.067		214395.071
51	**V**		2933.635	**14.017419**	ppb	1.972	4.389	1.111
59	**Co**		9718.864	**14.402847**	ppb	4.090	5.642	30.000
60	**Ni**		18865.786	**14.463870**	ppb	2.064	0.947	67.778
75	**As**		4998.842	**10.375070**	ppb	4.678	2.834	260.869
71	**Ga-ISK**		57754.347		ppb	2.791		58887.805
82	**Se-2**		588.622	**13.200993**	ppb	4.143	4.517	0.226
107	**Ag-1**		4651.869	**0.965224**	ppb	2.286	4.656	83.334
115	**In-ISK**	>	79261.978		ppb	2.452		81053.470
45	**Sc-ISK**	>	143309.738		ppb	1.149		145776.751
23	**Na**		48876.809	**153.940758**	ppb	1.027	1.972	8625.938
39	**K**		88210.416	**112.739331**	ppb	1.238	2.206	34421.426
24	**Mg**		4825.815	**19.963344**	ppb	0.950	2.180	211.668
159	**Tb-ISK**		157034.473		ppb	1.308		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-1-F MSD @20
Autosampler Position: 134
Sample Date/Time: Sunday, December 19, 2021 14:33:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-1-F MSD @20.055
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42564.429		ppb	0.665		44909.430
9	**Be**		31545.906	**16.053875**	ppb	1.143	2.426	17.778
10	**B**		13490.813	**8.084180**	ppb	1.595	6.723	9341.944
27	**Al**		122387.126	**13.189127**	ppb	1.795	0.286	4118.935
43	**Ca-2**		1056.706	**31.884940**	ppb	2.691	3.759	133.334
49	**Ti**		4983.092	**4.829667**	ppb	2.453	4.248	346.671
52	**Cr**		176435.092	**11.879957**	ppb	0.642	2.339	18068.087
55	**Mn**		294529.738	**14.084224**	ppb	0.717	1.252	1340.063
57	**Fe**		20607.087	**16.371404**	ppb	3.587	12.438	14006.866
45	**Sc-IS**	>	1814977.918		ppb	1.793		1865382.380
66	**Zn**		40274.475	**17.954266**	ppb	1.304	1.303	516.676
86	**Sr**		39023.710	**13.176088**	ppb	1.545	2.051	39.724
65	**Cu**		49388.595	**15.138607**	ppb	2.518	2.726	128.889
69	**Ga-IS**		564165.457		ppb	0.477		573819.625
95	**Mo**		30932.376	**9.704310**	ppb	3.941	2.200	212.224
115	**In-IS**	>	194476.088		ppb	1.187		197719.745
111	**Cd**		27431.485	**14.499113**	ppb	1.984	1.918	15.110
118	**Sn**		13634.281	**2.277355**	ppb	0.650	1.075	1235.609
121	**Sb**		35887.256	**5.750042**	ppb	2.200	2.612	197.779
135	**Ba**		22188.335	**12.505082**	ppb	2.355	1.264	33.333
165	**Ho-IS**		360621.488		ppb	1.842		368847.286
159	**Tb-IS**	>	359092.706		ppb	0.112		363541.658
207	**Pb**		373213.662	**12.164669**	ppb	1.880	1.769	434.447
203	**Tl**		100964.483	**9.839482**	ppb	1.679	1.633	128.889
209	**Bi-IS**		210174.986		ppb	3.609		214395.071
51	**V**		2834.726	**13.393985**	ppb	0.801	0.567	1.111
59	**Co**		9831.160	**14.407282**	ppb	1.776	1.329	30.000
60	**Ni**		18627.694	**14.132644**	ppb	1.529	2.668	67.778
75	**As**		4786.911	**9.803954**	ppb	3.024	2.088	260.869
71	**Ga-ISK**		56577.396		ppb	1.896		58887.805
82	**Se-2**		609.297	**13.520989**	ppb	2.140	3.157	0.226
107	**Ag-1**		4612.969	**0.946516**	ppb	5.729	6.692	83.334
115	**In-ISK**	>	80099.610		ppb	1.311		81053.470
45	**Sc-ISK**	>	143479.213		ppb	1.224		145776.751
23	**Na**		48664.418	**152.920039**	ppb	0.874	2.242	8625.938
39	**K**		88676.616	**113.512567**	ppb	1.076	3.676	34421.426
24	**Mg**		4455.695	**18.342367**	ppb	2.042	3.363	211.668
159	**Tb-ISK**		156343.549		ppb	0.635		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-1-D pds @20
Autosampler Position: 135
Sample Date/Time: Sunday, December 19, 2021 14:37:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-1-D pds @20.056
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42406.236		ppb	3.647		44909.430
9	**Be**		52632.352	**26.862447**	ppb	1.738	2.128	17.778
10	**B**		21735.415	**23.326133**	ppb	1.831	1.256	9341.944
27	**Al**		245093.545	**26.935887**	ppb	2.121	0.981	4118.935
43	**Ca-2**		1593.422	**50.484420**	ppb	3.266	2.841	133.334
49	**Ti**		23674.050	**24.318873**	ppb	2.156	1.724	346.671
52	**Cr**		310675.939	**21.985544**	ppb	1.867	3.393	18068.087
55	**Mn**		489568.852	**23.524916**	ppb	0.801	3.282	1340.063
57	**Fe**		25153.237	**27.199456**	ppb	0.798	6.122	14006.866
45	**Sc-IS**	>	1810148.187		ppb	2.573		1865382.380
66	**Zn**		67420.961	**30.302520**	ppb	1.296	3.222	516.676
86	**Sr**		69986.680	**23.705917**	ppb	1.810	2.052	39.724
65	**Cu**		83192.673	**25.601763**	ppb	1.355	2.754	128.889
69	**Ga-IS**		567751.861		ppb	2.724		573819.625
95	**Mo**		68174.554	**21.532361**	ppb	2.090	1.307	212.224
115	**In-IS**	>	195731.904		ppb	3.001		197719.745
111	**Cd**		48040.254	**25.232692**	ppb	3.799	2.037	15.110
118	**Sn**		114955.395	**20.720374**	ppb	3.075	0.281	1235.609
121	**Sb**		157071.119	**25.115157**	ppb	1.464	1.543	197.779
135	**Ba**		44285.232	**24.820798**	ppb	2.596	0.453	33.333
165	**Ho-IS**		354962.659		ppb	0.754		368847.286
159	**Tb-IS**	>	357744.950		ppb	1.857		363541.658
207	**Pb**		754102.399	**24.691420**	ppb	0.353	1.504	434.447
203	**Tl**		95882.086	**9.379483**	ppb	3.652	3.488	128.889
209	**Bi-IS**		212408.611		ppb	0.644		214395.071
51	**V**		4791.915	**22.756471**	ppb	2.940	3.790	1.111
59	**Co**		15824.315	**23.328120**	ppb	0.497	1.100	30.000
60	**Ni**		31168.416	**23.792384**	ppb	1.774	2.602	67.778
75	**As**		10619.367	**22.544503**	ppb	1.853	2.750	260.869
71	**Ga-ISK**		57772.149		ppb	1.271		58887.805
82	**Se-2**		1256.660	**28.023346**	ppb	5.011	5.495	0.226
107	**Ag-1**		61199.704	**12.824796**	ppb	0.876	1.514	83.334
115	**In-ISK**	>	79721.216		ppb	0.840		81053.470
45	**Sc-ISK**	>	142539.852		ppb	0.965		145776.751
23	**Na**		79482.186	**272.182468**	ppb	1.259	1.416	8625.938
39	**K**		146824.004	**235.930410**	ppb	0.685	2.143	34421.426
24	**Mg**		7186.808	**30.340586**	ppb	2.725	3.815	211.668
159	**Tb-ISK**		157014.164		ppb	0.404		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-2-B @20
Autosampler Position: 136
Sample Date/Time: Sunday, December 19, 2021 14:40:16
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-2-B @20.057
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40968.692		ppb	2.827		44909.430
9	**Be**		16.667	**-0.000341**	ppb	34.641	830.197	17.778
10	**B**		9015.068	**-0.138728**	ppb	3.347	266.414	9341.944
27	**Al**		7180.144	**0.353127**	ppb	7.351	14.093	4118.935
43	**Ca-2**		758.353	**21.625825**	ppb	5.036	6.906	133.334
49	**Ti**		406.673	**0.072432**	ppb	12.725	78.855	346.671
52	**Cr**		18091.449	**0.038348**	ppb	0.694	18.621	18068.087
55	**Mn**		5692.247	**0.210784**	ppb	4.738	6.302	1340.063
57	**Fe**		15271.495	**3.849795**	ppb	2.365	12.152	14006.866
45	**Sc-IS**	>	1814905.696		ppb	1.104		1865382.380
66	**Zn**		3930.541	**1.547268**	ppb	2.210	1.819	516.676
86	**Sr**		218.091	**0.060645**	ppb	16.595	20.310	39.724
65	**Cu**		1890.125	**0.542215**	ppb	2.034	1.227	128.889
69	**Ga-IS**		567101.288		ppb	1.121		573819.625
95	**Mo**		1134.489	**0.293217**	ppb	1.722	2.623	212.224
115	**In-IS**	>	194664.451		ppb	0.454		197719.745
111	**Cd**		10.951	**-0.002060**	ppb	80.824	228.737	15.110
118	**Sn**		3899.421	**0.491414**	ppb	3.238	4.066	1235.609
121	**Sb**		216.668	**0.003519**	ppb	15.152	146.496	197.779
135	**Ba**		216.668	**0.103666**	ppb	5.547	6.224	33.333
165	**Ho-IS**		352586.092		ppb	0.967		368847.286
159	**Tb-IS**	>	354968.229		ppb	0.375		363541.658
207	**Pb**		938.901	**0.016990**	ppb	2.364	3.758	434.447
203	**Tl**		330.004	**0.020152**	ppb	1.010	1.088	128.889
209	**Bi-IS**		208382.318		ppb	1.339		214395.071
51	**V**		1.111	**0.000132**	ppb	173.205	6978.691	1.111
59	**Co**		20.000	**-0.013694**	ppb	28.868	65.355	30.000
60	**Ni**		102.223	**0.027826**	ppb	21.217	57.851	67.778
75	**As**		244.505	**-0.020894**	ppb	11.529	334.377	260.869
71	**Ga-ISK**		58284.270		ppb	2.758		58887.805
82	**Se-2**		-1.102	**-0.029389**	ppb	157.199	132.516	0.226
107	**Ag-1**		106.667	**0.005413**	ppb	17.399	77.773	83.334
115	**In-ISK**	>	79020.181		ppb	1.609		81053.470
45	**Sc-ISK**	>	145086.585		ppb	2.132		145776.751
23	**Na**		25604.593	**64.078679**	ppb	0.716	2.797	8625.938
39	**K**		37477.986	**6.618002**	ppb	0.259	26.331	34421.426
24	**Mg**		1581.755	**5.858653**	ppb	8.584	10.951	211.668
159	**Tb-ISK**		156843.019		ppb	1.052		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-3-B @20
Autosampler Position: 137
Sample Date/Time: Sunday, December 19, 2021 14:43:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-3-B @20.058
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42274.700		ppb	2.207		44909.430
9	**Be**		11.111	**-0.003123**	ppb	17.321	33.449	17.778
10	**B**		9291.910	**0.431783**	ppb	1.007	74.002	9341.944
27	**Al**		4187.280	**0.021604**	ppb	1.567	23.198	4118.935
43	**Ca-2**		375.005	**8.478407**	ppb	1.333	1.048	133.334
49	**Ti**		324.448	**-0.012428**	ppb	16.125	420.842	346.671
52	**Cr**		18395.170	**0.065805**	ppb	0.862	36.662	18068.087
55	**Mn**		3550.441	**0.108476**	ppb	2.123	3.022	1340.063
57	**Fe**		14667.526	**2.553967**	ppb	1.076	12.059	14006.866
45	**Sc-IS**	>	1808797.194		ppb	0.980		1865382.380
66	**Zn**		1705.657	**0.545673**	ppb	0.686	1.762	516.676
86	**Sr**		85.330	**0.015951**	ppb	44.156	82.024	39.724
65	**Cu**		1044.483	**0.283479**	ppb	3.229	3.293	128.889
69	**Ga-IS**		565067.449		ppb	1.109		573819.625
95	**Mo**		320.004	**0.036279**	ppb	11.458	34.553	212.224
115	**In-IS**	>	192374.119		ppb	1.032		197719.745
111	**Cd**		10.439	**-0.002289**	ppb	79.626	192.107	15.110
118	**Sn**		1550.084	**0.064534**	ppb	4.658	22.545	1235.609
121	**Sb**		95.556	**-0.015767**	ppb	17.208	17.388	197.779
135	**Ba**		148.890	**0.066589**	ppb	22.088	29.645	33.333
165	**Ho-IS**		357815.912		ppb	2.142		368847.286
159	**Tb-IS**	>	363185.351		ppb	1.942		363541.658
207	**Pb**		492.225	**0.001876**	ppb	6.917	54.818	434.447
203	**Tl**		210.002	**0.007804**	ppb	16.723	38.758	128.889
209	**Bi-IS**		209883.911		ppb	0.520		214395.071
51	**V**		3.333	**0.011056**	ppb	100.000	148.339	1.111
59	**Co**		13.333	**-0.023344**	ppb	50.000	41.910	30.000
60	**Ni**		123.334	**0.046041**	ppb	28.217	56.174	67.778
75	**As**		247.506	**-0.002682**	ppb	6.802	1190.289	260.869
71	**Ga-ISK**		57428.567		ppb	2.106		58887.805
82	**Se-2**		2.594	**0.056135**	ppb	197.704	209.431	0.226
107	**Ag-1**		50.000	**-0.006379**	ppb	29.059	48.530	83.334
115	**In-ISK**	>	77249.688		ppb	2.312		81053.470
45	**Sc-ISK**	>	140631.098		ppb	1.220		145776.751
23	**Na**		17111.910	**34.141807**	ppb	0.888	3.778	8625.938
39	**K**		34580.699	**2.913676**	ppb	1.617	57.730	34421.426
24	**Mg**		801.689	**2.632015**	ppb	2.948	3.983	211.668
159	**Tb-ISK**		155193.759		ppb	0.169		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 14:46:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.059
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43327.845		ppb	1.961		44909.430
9	**Be**		200026.749	**99.857301**	ppb	2.464	0.936	17.778
10	**B**		146339.407	**246.808415**	ppb	2.705	2.143	9341.944
27	**Al**		903029.442	**98.243595**	ppb	1.169	0.772	4118.935
43	**Ca-2**		149993.572	**5054.710799**	ppb	2.206	1.321	133.334
49	**Ti**		94508.264	**95.984869**	ppb	0.839	1.257	346.671
52	**Cr**		1321401.252	**95.598238**	ppb	0.845	1.007	18068.087
55	**Mn**		2017250.706	**95.022189**	ppb	3.858	5.639	1340.063
57	**Fe**		2205630.380	**5040.326304**	ppb	0.481	2.122	14006.866
45	**Sc-IS**	>	1850422.743		ppb	1.736		1865382.380
66	**Zn**		227937.725	**100.690455**	ppb	1.688	0.129	516.676
86	**Sr**		299070.668	**99.136684**	ppb	1.782	2.668	39.724
65	**Cu**		330780.458	**99.670370**	ppb	1.088	2.107	128.889
69	**Ga-IS**		603608.427		ppb	0.555		573819.625
95	**Mo**		315920.594	**97.844046**	ppb	0.409	1.549	212.224
115	**In-IS**	>	193226.477		ppb	2.393		197719.745
111	**Cd**		185524.551	**98.749051**	ppb	1.979	1.455	15.110
118	**Sn**		532013.725	**97.958308**	ppb	2.536	0.217	1235.609
121	**Sb**		605791.867	**98.188723**	ppb	1.934	0.591	197.779
135	**Ba**		175058.336	**99.468289**	ppb	0.890	2.228	33.333
165	**Ho-IS**		363963.905		ppb	0.876		368847.286
159	**Tb-IS**	>	364136.107		ppb	1.079		363541.658
207	**Pb**		3004677.736	**96.686846**	ppb	0.240	1.326	434.447
203	**Tl**		979237.024	**94.218455**	ppb	1.435	1.219	128.889
209	**Bi-IS**		209676.657		ppb	1.507		214395.071
51	**V**		20395.666	**98.235987**	ppb	2.435	2.657	1.111
59	**Co**		65950.775	**98.750589**	ppb	0.655	1.705	30.000
60	**Ni**		124072.019	**96.209175**	ppb	0.476	1.870	67.778
75	**As**		44171.438	**96.898346**	ppb	1.046	1.899	260.869
71	**Ga-ISK**		57465.382		ppb	2.113		58887.805
82	**Se-2**		4380.586	**99.056324**	ppb	2.021	0.536	0.226
107	**Ag-1**		463466.760	**98.602293**	ppb	2.072	1.187	83.334
115	**In-ISK**	>	78616.891		ppb	2.293		81053.470
45	**Sc-ISK**	>	147086.682		ppb	0.635		145776.751
23	**Na**		1305404.863	**4814.055167**	ppb	1.154	1.383	8625.938
39	**K**		2515793.485	**5011.740115**	ppb	1.612	1.039	34421.426
24	**Mg**		1173106.575	**4939.434428**	ppb	1.525	0.905	211.668
159	**Tb-ISK**		156658.500		ppb	1.969		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 14:49:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.060
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43635.454		ppb	2.352		44909.430
9	**Be**		30.000	**0.006621**	ppb	69.389	161.693	17.778
10	**B**		9346.393	**0.654557**	ppb	3.881	94.119	9341.944
27	**Al**		4371.002	**0.045745**	ppb	2.517	30.221	4118.935
43	**Ca-2**		135.001	**0.230237**	ppb	11.111	221.824	133.334
49	**Ti**		300.003	**-0.035485**	ppb	14.445	126.302	346.671
52	**Cr**		16336.003	**-0.079922**	ppb	1.527	15.484	18068.087
55	**Mn**		1565.642	**0.013368**	ppb	6.039	31.976	1340.063
57	**Fe**		13826.693	**0.809924**	ppb	3.192	108.144	14006.866
45	**Sc-IS**	>	1795690.251		ppb	0.530		1865382.380
66	**Zn**		546.677	**0.022362**	ppb	16.259	176.014	516.676
86	**Sr**		81.397	**0.014773**	ppb	34.469	65.934	39.724
65	**Cu**		154.445	**0.009416**	ppb	17.311	86.939	128.889
69	**Ga-IS**		580693.674		ppb	1.180		573819.625
95	**Mo**		1401.180	**0.382273**	ppb	6.118	7.729	212.224
115	**In-IS**	>	194229.107		ppb	1.331		197719.745
111	**Cd**		37.058	**0.011730**	ppb	23.545	37.350	15.110
118	**Sn**		4834.152	**0.664554**	ppb	3.079	2.405	1235.609
121	**Sb**		752.242	**0.090026**	ppb	5.698	8.495	197.779
135	**Ba**		75.556	**0.024149**	ppb	25.086	42.775	33.333
165	**Ho-IS**		363080.767		ppb	2.146		368847.286
159	**Tb-IS**	>	361643.242		ppb	2.504		363541.658
207	**Pb**		835.566	**0.013060**	ppb	10.781	20.282	434.447
203	**Tl**		564.456	**0.042239**	ppb	6.845	6.601	128.889
209	**Bi-IS**		212719.916		ppb	0.987		214395.071
51	**V**		4.444	**0.015884**	ppb	43.301	57.248	1.111
59	**Co**		26.667	**-0.004196**	ppb	43.301	410.423	30.000
60	**Ni**		130.001	**0.048375**	ppb	17.949	37.692	67.778
75	**As**		250.468	**-0.013978**	ppb	5.072	185.330	260.869
71	**Ga-ISK**		58003.117		ppb	2.452		58887.805
82	**Se-2**		3.594	**0.075091**	ppb	16.192	17.396	0.226
107	**Ag-1**		293.336	**0.044261**	ppb	12.026	16.198	83.334
115	**In-ISK**	>	79813.087		ppb	0.387		81053.470
45	**Sc-ISK**	>	142805.852		ppb	1.249		145776.751
23	**Na**		8640.946	**0.729492**	ppb	1.912	64.522	8625.938
39	**K**		35234.514	**3.165843**	ppb	1.253	56.734	34421.426
24	**Mg**		458.341	**1.089595**	ppb	4.542	10.375	211.668
159	**Tb-ISK**		159147.712		ppb	1.567		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 14:52:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.061
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43051.466		ppb	2.510		44909.430
9	**Be**		26.667	**0.004613**	ppb	21.651	61.605	17.778
10	**B**		9002.837	**-0.338162**	ppb	2.062	133.970	9341.944
27	**Al**		5005.227	**0.104562**	ppb	16.959	85.155	4118.935
43	**Ca-2**		105.000	**-0.899161**	ppb	38.978	151.679	133.334
49	**Ti**		246.669	**-0.097133**	ppb	16.440	41.292	346.671
52	**Cr**		16318.205	**-0.107756**	ppb	1.388	3.604	18068.087
55	**Mn**		2290.184	**0.046195**	ppb	3.930	11.494	1340.063
57	**Fe**		13533.074	**-0.569738**	ppb	1.270	86.536	14006.866
45	**Sc-IS**	>	1835137.811		ppb	1.092		1865382.380
66	**Zn**		474.452	**-0.015157**	ppb	9.034	119.380	516.676
86	**Sr**		53.669	**0.004872**	ppb	29.498	107.452	39.724
65	**Cu**		136.667	**0.003027**	ppb	23.267	324.003	128.889
69	**Ga-IS**		564758.346		ppb	2.600		573819.625
95	**Mo**		461.119	**0.078977**	ppb	13.414	26.298	212.224
115	**In-IS**	>	193390.462		ppb	1.863		197719.745
111	**Cd**		6.809	**-0.004268**	ppb	101.606	86.115	15.110
118	**Sn**		2489.106	**0.236625**	ppb	7.140	17.261	1235.609
121	**Sb**		296.670	**0.016688**	ppb	12.360	32.491	197.779
135	**Ba**		52.222	**0.011184**	ppb	19.500	55.236	33.333
165	**Ho-IS**		359113.690		ppb	1.274		368847.286
159	**Tb-IS**	>	359945.270		ppb	1.171		363541.658
207	**Pb**		436.669	**0.000212**	ppb	9.924	656.500	434.447
203	**Tl**		278.892	**0.014753**	ppb	12.032	24.211	128.889
209	**Bi-IS**		211636.236		ppb	1.068		214395.071
51	**V**		0.000	**-0.005190**	ppb		0.000	1.111
59	**Co**		12.222	**-0.025643**	ppb	15.746	11.096	30.000
60	**Ni**		110.000	**0.032658**	ppb	9.091	26.417	67.778
75	**As**		245.608	**-0.026635**	ppb	9.416	225.943	260.869
71	**Ga-ISK**		57028.045		ppb	0.338		58887.805
82	**Se-2**		6.927	**0.149245**	ppb	52.350	55.885	0.226
107	**Ag-1**		103.334	**0.004289**	ppb	20.145	92.199	83.334
115	**In-ISK**	>	80256.389		ppb	2.017		81053.470
45	**Sc-ISK**	>	145067.418		ppb	1.673		145776.751
23	**Na**		8567.569	**-0.052904**	ppb	1.316	1630.265	8625.938
39	**K**		34111.790	**-0.281381**	ppb	0.479	316.908	34421.426
24	**Mg**		180.001	**-0.129371**	ppb	24.056	150.288	211.668
159	**Tb-ISK**		156499.923		ppb	0.746		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-4-B @20
Autosampler Position: 138
Sample Date/Time: Sunday, December 19, 2021 14:56:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-4-B @20.062
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42500.916		ppb	1.600		44909.430
9	**Be**		11.111	**-0.003036**	ppb	45.826	89.562	17.778
10	**B**		8820.501	**-0.194581**	ppb	2.720	433.017	9341.944
27	**Al**		6086.966	**0.244380**	ppb	5.755	21.892	4118.935
43	**Ca-2**		471.675	**12.063455**	ppb	10.020	15.649	133.334
49	**Ti**		281.114	**-0.053125**	ppb	2.468	18.889	346.671
52	**Cr**		16935.590	**-0.024747**	ppb	1.831	246.572	18068.087
55	**Mn**		3088.112	**0.088243**	ppb	4.907	4.036	1340.063
57	**Fe**		13271.722	**-0.280739**	ppb	3.263	377.679	14006.866
45	**Sc-IS**	>	1783726.261		ppb	3.086		1865382.380
66	**Zn**		1989.027	**0.687243**	ppb	3.277	6.202	516.676
86	**Sr**		116.366	**0.026634**	ppb	45.575	63.475	39.724
65	**Cu**		2042.368	**0.600644**	ppb	5.340	7.521	128.889
69	**Ga-IS**		560282.259		ppb	1.171		573819.625
95	**Mo**		231.113	**0.009073**	ppb	5.461	42.841	212.224
115	**In-IS**	>	193034.050		ppb	1.383		197719.745
111	**Cd**		12.848	**-0.001012**	ppb	26.108	176.033	15.110
118	**Sn**		993.368	**-0.039301**	ppb	5.401	26.966	1235.609
121	**Sb**		82.222	**-0.018005**	ppb	19.159	13.579	197.779
135	**Ba**		207.779	**0.099756**	ppb	21.364	25.856	33.333
165	**Ho-IS**		359440.475		ppb	1.018		368847.286
159	**Tb-IS**	>	355704.188		ppb	0.939		363541.658
207	**Pb**		445.558	**0.000670**	ppb	6.274	117.635	434.447
203	**Tl**		136.667	**0.001041**	ppb	19.512	251.439	128.889
209	**Bi-IS**		208625.754		ppb	0.998		214395.071
51	**V**		1.111	**0.000017**	ppb	173.205	54186.075	1.111
59	**Co**		8.889	**-0.030419**	ppb	94.373	40.338	30.000
60	**Ni**		82.222	**0.012313**	ppb	10.203	62.834	67.778
75	**As**		268.158	**0.027622**	ppb	11.285	215.831	260.869
71	**Ga-ISK**		56276.328		ppb	4.436		58887.805
82	**Se-2**		1.919	**0.037960**	ppb	187.995	211.098	0.226
107	**Ag-1**		67.778	**-0.002881**	ppb	24.754	126.151	83.334
115	**In-ISK**	>	79333.176		ppb	2.104		81053.470
45	**Sc-ISK**	>	142594.986		ppb	2.000		145776.751
23	**Na**		17839.468	**36.009123**	ppb	2.052	3.249	8625.938
39	**K**		34547.294	**1.834761**	ppb	2.376	84.121	34421.426
24	**Mg**		976.700	**3.346493**	ppb	3.485	6.909	211.668
159	**Tb-ISK**		156382.639		ppb	0.622		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-5-B @20
Autosampler Position: 139
Sample Date/Time: Sunday, December 19, 2021 14:59:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-5-B @20.063
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41637.262		ppb	1.121		44909.430
9	**Be**		21.111	**0.002085**	ppb	9.116	44.354	17.778
10	**B**		8618.155	**-0.647684**	ppb	1.457	36.848	9341.944
27	**Al**		14486.343	**1.189523**	ppb	1.848	1.239	4118.935
43	**Ca-2**		475.008	**12.102345**	ppb	4.588	7.346	133.334
49	**Ti**		298.892	**-0.035722**	ppb	6.142	48.227	346.671
52	**Cr**		16934.476	**-0.030764**	ppb	1.092	72.320	18068.087
55	**Mn**		2066.817	**0.037972**	ppb	8.411	20.598	1340.063
57	**Fe**		13411.849	**-0.075763**	ppb	0.984	296.125	14006.866
45	**Sc-IS**	>	1790426.783		ppb	1.069		1865382.380
66	**Zn**		1185.605	**0.315383**	ppb	6.264	8.993	516.676
86	**Sr**		110.898	**0.024871**	ppb	22.123	32.343	39.724
65	**Cu**		941.142	**0.254793**	ppb	8.080	10.539	128.889
69	**Ga-IS**		563758.312		ppb	1.673		573819.625
95	**Mo**		133.334	**-0.022466**	ppb	23.849	47.198	212.224
115	**In-IS**	>	192352.014		ppb	1.247		197719.745
111	**Cd**		9.720	**-0.002648**	ppb	34.011	69.253	15.110
118	**Sn**		721.129	**-0.089083**	ppb	7.061	12.227	1235.609
121	**Sb**		94.445	**-0.015952**	ppb	4.075	4.350	197.779
135	**Ba**		128.889	**0.055055**	ppb	3.951	5.322	33.333
165	**Ho-IS**		353341.519		ppb	1.575		368847.286
159	**Tb-IS**	>	353885.932		ppb	1.653		363541.658
207	**Pb**		483.336	**0.002008**	ppb	3.006	34.544	434.447
203	**Tl**		107.778	**-0.001741**	ppb	7.783	57.089	128.889
209	**Bi-IS**		210809.644		ppb	0.742		214395.071
51	**V**		1.111	**0.000023**	ppb	173.20538	739.012	1.111
59	**Co**		7.778	**-0.032178**	ppb	24.744	8.676	30.000
60	**Ni**		73.334	**0.004767**	ppb	36.364	431.845	67.778
75	**As**		253.454	**-0.010617**	ppb	6.648	375.856	260.869
71	**Ga-ISK**		57901.594		ppb	2.426		58887.805
82	**Se-2**		4.260	**0.089193**	ppb	75.609	79.339	0.226
107	**Ag-1**		45.556	**-0.007710**	ppb	4.225	4.415	83.334
115	**In-ISK**	>	80301.161		ppb	0.662		81053.470
45	**Sc-ISK**	>	144021.428		ppb	2.072		145776.751
23	**Na**		15773.704	**27.509842**	ppb	0.696	4.388	8625.938
39	**K**		34562.872	**1.167886**	ppb	0.339	131.913	34421.426
24	**Mg**		853.359	**2.775330**	ppb	10.289	15.661	211.668
159	**Tb-ISK**		155362.311		ppb	1.121		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-6-B @20
Autosampler Position: 140
Sample Date/Time: Sunday, December 19, 2021 15:02:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-6-B @20.064
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41515.811		ppb	2.154		44909.430
9	**Be**		7.778	**-0.004754**	ppb	24.744	22.243	17.778
10	**B**		8668.186	**-0.442005**	ppb	2.828	52.031	9341.944
27	**Al**		4588.403	**0.075516**	ppb	0.618	13.407	4118.935
43	**Ca-2**		501.676	**13.166833**	ppb	8.118	12.558	133.334
49	**Ti**		300.003	**-0.032483**	ppb	12.620	113.909	346.671
52	**Cr**		17240.407	**0.001394**	ppb	3.748	2354.766	18068.087
55	**Mn**		2386.866	**0.054441**	ppb	2.029	6.280	1340.063
57	**Fe**		13751.060	**0.966110**	ppb	0.730	35.307	14006.866
45	**Sc-IS**	>	1777707.454		ppb	1.413		1865382.380
66	**Zn**		1716.770	**0.564138**	ppb	6.611	8.522	516.676
86	**Sr**		137.003	**0.034166**	ppb	14.605	19.015	39.724
65	**Cu**		1282.280	**0.363846**	ppb	1.951	3.718	128.889
69	**Ga-IS**		564226.087		ppb	0.990		573819.625
95	**Mo**		114.445	**-0.028279**	ppb	14.946	20.986	212.224
115	**In-IS**	>	193497.620		ppb	1.873		197719.745
111	**Cd**		13.093	**-0.000965**	ppb	76.457	537.639	15.110
118	**Sn**		632.236	**-0.106437**	ppb	9.755	8.739	1235.609
121	**Sb**		81.111	**-0.018202**	ppb	11.863	8.604	197.779
135	**Ba**		158.890	**0.071660**	ppb	6.056	8.093	33.333
165	**Ho-IS**		355592.880		ppb	1.393		368847.286
159	**Tb-IS**	>	356448.992		ppb	0.759		363541.658
207	**Pb**		394.447	**-0.001038**	ppb	4.169	43.947	434.447
203	**Tl**		87.778	**-0.003789**	ppb	15.347	36.015	128.889
209	**Bi-IS**		208453.357		ppb	1.389		214395.071
51	**V**		2.222	**0.005315**	ppb	86.603	171.215	1.111
59	**Co**		11.111	**-0.027198**	ppb	45.826	26.511	30.000
60	**Ni**		96.667	**0.023272**	ppb	12.433	44.503	67.778
75	**As**		226.540	**-0.063567**	ppb	4.754	51.346	260.869
71	**Ga-ISK**		56984.549		ppb	1.221		58887.805
82	**Se-2**		7.937	**0.173107**	ppb	25.200	27.629	0.226
107	**Ag-1**		52.222	**-0.006179**	ppb	32.127	58.985	83.334
115	**In-ISK**	>	79500.687		ppb	1.903		81053.470
45	**Sc-ISK**	>	142556.826		ppb	1.980		145776.751
23	**Na**		17856.153	**36.100414**	ppb	0.663	3.414	8625.938
39	**K**		34404.715	**1.564325**	ppb	0.938	79.694	34421.426
24	**Mg**		923.363	**3.112629**	ppb	5.990	7.180	211.668
159	**Tb-ISK**		153975.390		ppb	0.892		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-7-B @20
Autosampler Position: 141
Sample Date/Time: Sunday, December 19, 2021 15:05:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-7-B @20.065
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41933.705		ppb	2.609		44909.430
9	**Be**		14.444	**-0.001363**	ppb	26.647	143.964	17.778
10	**B**		8800.488	**-0.323700**	ppb	1.716	93.356	9341.944
27	**Al**		4480.370	**0.059009**	ppb	3.937	30.822	4118.935
43	**Ca-2**		413.339	**9.934610**	ppb	7.292	10.562	133.334
49	**Ti**		314.448	**-0.019481**	ppb	12.195	212.953	346.671
52	**Cr**		17604.174	**0.018677**	ppb	1.154	99.105	18068.087
55	**Mn**		2077.929	**0.038442**	ppb	4.126	9.968	1340.063
57	**Fe**		14171.472	**1.696518**	ppb	1.858	29.870	14006.866
45	**Sc-IS**	>	1792065.922		ppb	0.355		1865382.380
66	**Zn**		2758.045	**1.033888**	ppb	5.412	6.443	516.676
86	**Sr**		74.680	**0.012480**	ppb	39.710	80.746	39.724
65	**Cu**		1771.221	**0.512648**	ppb	0.928	0.950	128.889
69	**Ga-IS**		574316.432		ppb	0.945		573819.625
95	**Mo**		125.556	**-0.025052**	ppb	15.556	25.264	212.224
115	**In-IS**	>	193453.629		ppb	1.976		197719.745
111	**Cd**		8.625	**-0.003260**	ppb	22.481	33.914	15.110
118	**Sn**		800.023	**-0.075069**	ppb	14.112	31.357	1235.609
121	**Sb**		105.556	**-0.014214**	ppb	11.090	15.621	197.779
135	**Ba**		111.112	**0.044615**	ppb	17.578	25.977	33.333
165	**Ho-IS**		358550.879		ppb	1.209		368847.286
159	**Tb-IS**	>	362463.026		ppb	0.656		363541.658
207	**Pb**		407.780	**-0.000819**	ppb	7.855	128.860	434.447
203	**Tl**		81.111	**-0.004581**	ppb	12.555	21.715	128.889
209	**Bi-IS**		210314.697		ppb	1.007		214395.071
51	**V**		2.222	**0.005581**	ppb	86.603	167.180	1.111
59	**Co**		10.000	**-0.028866**	ppb	88.192	44.809	30.000
60	**Ni**		86.667	**0.015725**	ppb	20.352	77.876	67.778
75	**As**		229.883	**-0.053787**	ppb	10.149	85.194	260.869
71	**Ga-ISK**		57383.920		ppb	1.173		58887.805
82	**Se-2**		0.247	**0.003021**	ppb	4069.300	7399.207	0.226
107	**Ag-1**		33.333	**-0.010129**	ppb	26.458	19.041	83.334
115	**In-ISK**	>	78998.817		ppb	2.319		81053.470
45	**Sc-ISK**	>	143768.779		ppb	1.306		145776.751
23	**Na**		16925.022	**31.969054**	ppb	1.912	1.550	8625.938
39	**K**		34117.359	**0.358005**	ppb	0.647	239.847	34421.426
24	**Mg**		736.686	**2.274016**	ppb	3.738	3.424	211.668
159	**Tb-ISK**		157620.119		ppb	0.472		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-8-B @20
Autosampler Position: 142
Sample Date/Time: Sunday, December 19, 2021 15:08:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-8-B @20.066
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42465.265		ppb	2.230		44909.430
9	**Be**		12.222	**-0.002584**	ppb	15.746	38.152	17.778
10	**B**		8982.829	**-0.200822**	ppb	5.726	455.313	9341.944
27	**Al**		3381.734	**-0.069824**	ppb	5.115	27.468	4118.935
43	**Ca-2**		353.338	**7.687219**	ppb	10.992	17.467	133.334
49	**Ti**		312.226	**-0.026180**	ppb	16.168	198.593	346.671
52	**Cr**		18050.287	**0.034885**	ppb	1.693	72.379	18068.087
55	**Mn**		2179.055	**0.042010**	ppb	2.372	6.254	1340.063
57	**Fe**		14148.115	**1.211036**	ppb	1.511	45.206	14006.866
45	**Sc-IS**	>	1815402.371		ppb	0.189		1865382.380
66	**Zn**		1077.819	**0.259504**	ppb	7.069	13.437	516.676
86	**Sr**		66.453	**0.009389**	ppb	16.425	39.122	39.724
65	**Cu**		565.567	**0.135204**	ppb	6.780	8.742	128.889
69	**Ga-IS**		569784.818		ppb	1.611		573819.625
95	**Mo**		70.000	**-0.043127**	ppb	20.757	10.591	212.224
115	**In-IS**	>	192535.469		ppb	0.879		197719.745
111	**Cd**		2.075	**-0.006754**	ppb	91.868	15.050	15.110
118	**Sn**		563.344	**-0.118506**	ppb	0.592	0.930	1235.609
121	**Sb**		62.222	**-0.021204**	ppb	13.482	6.799	197.779
135	**Ba**		64.445	**0.018241**	ppb	43.991	89.132	33.333
165	**Ho-IS**		355921.664		ppb	2.909		368847.286
159	**Tb-IS**	>	352608.898		ppb	1.023		363541.658
207	**Pb**		260.001	**-0.005356**	ppb	16.368	27.530	434.447
203	**Tl**		70.000	**-0.005462**	ppb	9.524	13.278	128.889
209	**Bi-IS**		210546.917		ppb	0.703		214395.071
51	**V**		1.111	**0.000066**	ppb	173.205	13829.099	1.111
59	**Co**		6.667	**-0.033542**	ppb	86.603	25.931	30.000
60	**Ni**		105.556	**0.031077**	ppb	17.957	54.011	67.778
75	**As**		216.721	**-0.080148**	ppb	15.120	91.643	260.869
71	**Ga-ISK**		57204.354		ppb	2.581		58887.805
82	**Se-2**		4.245	**0.090555**	ppb	153.492	159.862	0.226
107	**Ag-1**		68.889	**-0.002320**	ppb	93.618	615.234	83.334
115	**In-ISK**	>	78676.330		ppb	2.449		81053.470
45	**Sc-ISK**	>	143337.814		ppb	1.309		145776.751
23	**Na**		15166.384	**25.480992**	ppb	2.921	8.760	8625.938
39	**K**		33940.270	**0.205381**	ppb	0.311	509.886	34421.426
24	**Mg**		630.014	**1.824804**	ppb	11.196	17.803	211.668
159	**Tb-ISK**		156220.908		ppb	0.901		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-9-B @20
Autosampler Position: 143
Sample Date/Time: Sunday, December 19, 2021 15:12:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-9-B @20.067
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42330.453		ppb	3.544		44909.430
9	**Be**		11.111	**-0.003108**	ppb	17.321	34.405	17.778
10	**B**		8782.701	**-0.473522**	ppb	2.989	66.000	9341.944
27	**Al**		2542.560	**-0.161668**	ppb	3.630	4.491	4118.935
43	**Ca-2**		338.337	**7.247249**	ppb	7.290	13.500	133.334
49	**Ti**		303.337	**-0.033510**	ppb	3.962	34.544	346.671
52	**Cr**		18128.162	**0.049025**	ppb	1.164	72.751	18068.087
55	**Mn**		1536.750	**0.011652**	ppb	5.945	46.250	1340.063
57	**Fe**		13894.535	**0.815467**	ppb	2.679	135.987	14006.866
45	**Sc-IS**	>	1804740.545		ppb	1.445		1865382.380
66	**Zn**		711.129	**0.095764**	ppb	9.611	29.976	516.676
86	**Sr**		84.768	**0.015772**	ppb	39.345	72.477	39.724
65	**Cu**		305.559	**0.055852**	ppb	12.262	19.888	128.889
69	**Ga-IS**		560098.509		ppb	2.114		573819.625
95	**Mo**		55.556	**-0.047576**	ppb	28.355	10.535	212.224
115	**In-IS**	>	195204.376		ppb	2.360		197719.745
111	**Cd**		9.883	**-0.002650**	ppb	0.335	5.261	15.110
118	**Sn**		373.338	**-0.154660**	ppb	4.971	1.636	1235.609
121	**Sb**		43.333	**-0.024405**	ppb	26.647	6.901	197.779
135	**Ba**		54.445	**0.012107**	ppb	3.535	4.262	33.333
165	**Ho-IS**		354772.394		ppb	0.568		368847.286
159	**Tb-IS**	>	353951.283		ppb	2.062		363541.658
207	**Pb**		230.001	**-0.006392**	ppb	7.669	7.803	434.447
203	**Tl**		63.333	**-0.006162**	ppb	31.579	31.704	128.889
209	**Bi-IS**		209195.161		ppb	1.258		214395.071
51	**V**		2.222	**0.005573**	ppb	86.603	167.356	1.111
59	**Co**		5.556	**-0.035280**	ppb	69.282	15.837	30.000
60	**Ni**		90.000	**0.019052**	ppb	16.973	55.341	67.778
75	**As**		229.876	**-0.048683**	ppb	11.206	106.194	260.869
71	**Ga-ISK**		57399.629		ppb	3.629		58887.805
82	**Se-2**		4.245	**0.090920**	ppb	144.576	153.892	0.226
107	**Ag-1**		40.000	**-0.008604**	ppb	30.046	32.068	83.334
115	**In-ISK**	>	78194.118		ppb	2.077		81053.470
45	**Sc-ISK**	>	143009.304		ppb	2.894		145776.751
23	**Na**		16084.054	**29.172423**	ppb	2.921	12.453	8625.938
39	**K**		33318.822	**-0.897982**	ppb	2.162	260.388	34421.426
24	**Mg**		628.347	**1.821196**	ppb	6.626	7.190	211.668
159	**Tb-ISK**		156516.854		ppb	1.412		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78975-A-10-B @20
Autosampler Position: 144
Sample Date/Time: Sunday, December 19, 2021 15:15:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78975-A-10-B @20.068
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42420.668		ppb	0.454		44909.430
9	**Be**		4.444	**-0.006585**	ppb	114.564	38.012	17.778
10	**B**		9039.526	**-0.201276**	ppb	1.562	329.553	9341.944
27	**Al**		4471.702	**0.048062**	ppb	6.610	62.076	4118.935
43	**Ca-2**		508.342	**12.908350**	ppb	10.238	15.183	133.334
49	**Ti**		294.448	**-0.047014**	ppb	10.519	58.251	346.671
52	**Cr**		18671.085	**0.071756**	ppb	1.755	35.676	18068.087
55	**Mn**		2404.647	**0.052026**	ppb	5.685	11.092	1340.063
57	**Fe**		14308.276	**1.351387**	ppb	2.480	24.486	14006.866
45	**Sc-IS**	>	1828244.535		ppb	2.488		1865382.380
66	**Zn**		1673.431	**0.523303**	ppb	1.244	4.272	516.676
86	**Sr**		139.775	**0.033845**	ppb	10.396	14.609	39.724
65	**Cu**		823.357	**0.212652**	ppb	1.765	1.392	128.889
69	**Ga-IS**		559191.615		ppb	1.009		573819.625
95	**Mo**		55.556	**-0.047759**	ppb	15.100	6.398	212.224
115	**In-IS**	>	189830.428		ppb	1.329		197719.745
111	**Cd**		3.217	**-0.006106**	ppb	103.301	29.557	15.110
118	**Sn**		431.118	**-0.141874**	ppb	5.148	2.636	1235.609
121	**Sb**		36.667	**-0.025289**	ppb	27.273	6.472	197.779
135	**Ba**		103.334	**0.041312**	ppb	11.175	17.864	33.333
165	**Ho-IS**		358310.213		ppb	2.072		368847.286
159	**Tb-IS**	>	360883.967		ppb	1.010		363541.658
207	**Pb**		451.114	**0.000642**	ppb	6.153	129.917	434.447
203	**Tl**		67.778	**-0.005834**	ppb	17.272	20.563	128.889
209	**Bi-IS**		212192.069		ppb	0.411		214395.071
51	**V**		1.111	**0.000007**	ppb	173.201	24008.337	1.111
59	**Co**		10.000	**-0.028885**	ppb	0.000	1.123	30.000
60	**Ni**		112.223	**0.034208**	ppb	20.863	48.373	67.778
75	**As**		242.675	**-0.033098**	ppb	12.457	193.824	260.869
71	**Ga-ISK**		57605.950		ppb	2.225		58887.805
82	**Se-2**		2.594	**0.051700**	ppb	146.401	160.440	0.226
107	**Ag-1**		34.444	**-0.009996**	ppb	48.709	35.001	83.334
115	**In-ISK**	>	80160.475		ppb	2.181		81053.470
45	**Sc-ISK**	>	142284.118		ppb	1.932		145776.751
23	**Na**		18149.856	**37.356339**	ppb	0.525	2.745	8625.938
39	**K**		34472.658	**1.839934**	ppb	1.205	58.594	34421.426
24	**Mg**		935.031	**3.173348**	ppb	2.139	5.065	211.668
159	**Tb-ISK**		156814.779		ppb	1.517		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79071-A-1-B @20
Autosampler Position: 145
Sample Date/Time: Sunday, December 19, 2021 15:18:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79071-A-1-B @20.069
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42526.570		ppb	2.802		44909.430
9	**Be**		6.667	**-0.005461**	ppb	50.000	29.386	17.778
10	**B**		8787.150	**-0.691719**	ppb	4.480	50.667	9341.944
27	**Al**		5064.900	**0.112899**	ppb	5.745	16.694	4118.935
43	**Ca-2**		373.338	**8.280817**	ppb	10.229	16.941	133.334
49	**Ti**		321.115	**-0.019455**	ppb	5.225	94.001	346.671
52	**Cr**		18631.039	**0.067233**	ppb	3.299	48.534	18068.087
55	**Mn**		2321.300	**0.047969**	ppb	3.674	8.112	1340.063
57	**Fe**		14619.704	**2.046103**	ppb	3.278	44.315	14006.866
45	**Sc-IS**	>	1829914.196		ppb	2.393		1865382.380
66	**Zn**		1440.073	**0.417924**	ppb	1.203	1.811	516.676
86	**Sr**		106.978	**0.023002**	ppb	39.810	64.877	39.724
65	**Cu**		2279.071	**0.655884**	ppb	3.753	1.738	128.889
69	**Ga-IS**		569251.414		ppb	1.846		573819.625
95	**Mo**		97.778	**-0.034566**	ppb	17.494	16.265	212.224
115	**In-IS**	>	193340.368		ppb	0.934		197719.745
111	**Cd**		3.128	**-0.006206**	ppb	106.234	28.248	15.110
118	**Sn**		746.686	**-0.085139**	ppb	4.911	7.438	1235.609
121	**Sb**		43.333	**-0.024304**	ppb	23.077	6.940	197.779
135	**Ba**		124.445	**0.052119**	ppb	14.752	19.404	33.333
165	**Ho-IS**		356909.045		ppb	2.017		368847.286
159	**Tb-IS**	>	354733.906		ppb	2.248		363541.658
207	**Pb**		304.446	**-0.003949**	ppb	4.425	6.697	434.447
203	**Tl**		68.889	**-0.005648**	ppb	32.218	35.952	128.889
209	**Bi-IS**		207874.331		ppb	2.511		214395.071
51	**V**		1.111	**0.000131**	ppb	173.205	7009.999	1.111
59	**Co**		13.333	**-0.023161**	ppb	66.144	60.494	30.000
60	**Ni**		157.779	**0.073176**	ppb	17.968	34.854	67.778
75	**As**		242.242	**-0.017322**	ppb	6.436	237.987	260.869
71	**Ga-ISK**		57340.418		ppb	1.436		58887.805
82	**Se-2**		9.273	**0.205542**	ppb	51.102	51.107	0.226
107	**Ag-1**		27.778	**-0.011203**	ppb	18.330	11.070	83.334
115	**In-ISK**	>	77737.415		ppb	2.382		81053.470
45	**Sc-ISK**	>	142202.143		ppb	1.602		145776.751
23	**Na**		15077.957	**25.579844**	ppb	2.855	2.898	8625.938
39	**K**		33606.149	**0.073686**	ppb	0.497	1775.514	34421.426
24	**Mg**		646.681	**1.914548**	ppb	11.632	14.898	211.668
159	**Tb-ISK**		158437.791		ppb	0.906		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79071-A-2-B @20
Autosampler Position: 146
Sample Date/Time: Sunday, December 19, 2021 15:21:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79071-A-2-B @20.070
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43172.943		ppb	2.504		44909.430
9	**Be**		14.444	**-0.001509**	ppb	66.617	321.073	17.778
10	**B**		8545.891	**-1.077323**	ppb	3.865	42.282	9341.944
27	**Al**		5866.893	**0.204385**	ppb	16.336	54.047	4118.935
43	**Ca-2**		331.671	**6.907278**	ppb	23.078	39.418	133.334
49	**Ti**		364.449	**0.026275**	ppb	7.616	101.813	346.671
52	**Cr**		18995.955	**0.099121**	ppb	1.002	28.009	18068.087
55	**Mn**		1776.777	**0.022326**	ppb	6.338	26.816	1340.063
57	**Fe**		15115.771	**3.316843**	ppb	0.431	15.246	14006.866
45	**Sc-IS**	>	1823888.039		ppb	1.030		1865382.380
66	**Zn**		1204.495	**0.314230**	ppb	3.416	7.056	516.676
86	**Sr**		90.873	**0.017557**	ppb	34.647	61.823	39.724
65	**Cu**		1355.620	**0.376057**	ppb	2.871	4.162	128.889
69	**Ga-IS**		566716.535		ppb	1.713		573819.625
95	**Mo**		77.778	**-0.040741**	ppb	23.604	14.702	212.224
115	**In-IS**	>	193372.788		ppb	0.391		197719.745
111	**Cd**		2.059	**-0.006766**	ppb	186.168	30.087	15.110
118	**Sn**		598.901	**-0.112391**	ppb	5.290	5.564	1235.609
121	**Sb**		61.111	**-0.021430**	ppb	30.041	13.994	197.779
135	**Ba**		287.781	**0.144868**	ppb	0.669	1.192	33.333
165	**Ho-IS**		360660.497		ppb	0.705		368847.286
159	**Tb-IS**	>	360112.673		ppb	1.062		363541.658
207	**Pb**		426.669	**-0.000109**	ppb	9.472	1342.133	434.447
203	**Tl**		64.445	**-0.006145**	ppb	18.165	19.526	128.889
209	**Bi-IS**		213737.362		ppb	1.714		214395.071
51	**V**		4.444	**0.015726**	ppb	43.301	56.098	1.111
59	**Co**		13.333	**-0.024051**	ppb	43.301	34.471	30.000
60	**Ni**		127.778	**0.046432**	ppb	27.402	61.040	67.778
75	**As**		265.345	**0.014591**	ppb	13.501	466.142	260.869
71	**Ga-ISK**		57497.741		ppb	2.333		58887.805
82	**Se-2**		1.906	**0.036067**	ppb	293.187	342.125	0.226
107	**Ag-1**		25.556	**-0.011874**	ppb	15.061	6.296	83.334
115	**In-ISK**	>	80231.815		ppb	1.761		81053.470
45	**Sc-ISK**	>	144941.728		ppb	1.795		145776.751
23	**Na**		15778.710	**27.140159**	ppb	1.418	3.344	8625.938
39	**K**		32819.886	**-2.873470**	ppb	1.650	32.674	34421.426
24	**Mg**		655.015	**1.898461**	ppb	8.603	11.028	211.668
159	**Tb-ISK**		159844.093		ppb	1.581		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 15:31:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.073
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42314.801		ppb	0.829		44909.430
9	**Be**		194053.732	**98.204948**	ppb	1.482	1.840	17.778
10	**B**		141228.014	**241.080557**	ppb	0.765	1.550	9341.944
27	**Al**		882381.120	**97.313802**	ppb	1.088	2.815	4118.935
43	**Ca-2**		147480.935	**5037.257532**	ppb	2.186	1.525	133.334
49	**Ti**		95595.448	**98.416731**	ppb	0.174	1.782	346.671
52	**Cr**		1309826.249	**96.058209**	ppb	0.487	2.018	18068.087
55	**Mn**		2062174.917	**98.400044**	ppb	3.762	3.829	1340.063
57	**Fe**		2206033.611	**5109.619373**	ppb	1.528	2.391	14006.866
45	**Sc-IS**	>	1825766.930		ppb	1.770		1865382.380
66	**Zn**		227050.117	**101.673559**	ppb	0.516	1.675	516.676
86	**Sr**		292947.266	**98.404252**	ppb	1.040	0.863	39.724
65	**Cu**		326737.071	**99.799087**	ppb	1.573	3.291	128.889
69	**Ga-IS**		591461.736		ppb	1.475		573819.625
95	**Mo**		318064.081	**99.849386**	ppb	0.574	2.327	212.224
115	**In-IS**	>	195339.900		ppb	2.603		197719.745
111	**Cd**		184573.397	**97.179498**	ppb	1.923	0.835	15.110
118	**Sn**		538803.986	**98.150758**	ppb	1.905	0.906	1235.609
121	**Sb**		611716.069	**98.067657**	ppb	2.934	1.208	197.779
135	**Ba**		178984.592	**100.584614**	ppb	2.121	1.809	33.333
165	**Ho-IS**		361285.347		ppb	3.109		368847.286
159	**Tb-IS**	>	360453.242		ppb	2.908		363541.658
207	**Pb**		3003423.473	**97.678018**	ppb	0.659	2.892	434.447
203	**Tl**		975002.354	**94.813697**	ppb	0.491	2.529	128.889
209	**Bi-IS**		208042.940		ppb	1.177		214395.071
51	**V**		19729.171	**94.559873**	ppb	1.065	1.555	1.111
59	**Co**		65740.974	**97.964269**	ppb	2.350	3.334	30.000
60	**Ni**		124242.552	**95.886771**	ppb	2.244	3.754	67.778
75	**As**		43562.238	**95.134614**	ppb	4.505	6.336	260.869
71	**Ga-ISK**		57411.844		ppb	2.424		58887.805
82	**Se-2**		4419.614	**99.518747**	ppb	2.498	4.884	0.226
107	**Ag-1**		463246.956	**98.102815**	ppb	0.813	2.672	83.334
115	**In-ISK**	>	79006.468		ppb	2.470		81053.470
45	**Sc-ISK**	>	144712.746		ppb	1.732		145776.751
23	**Na**		1307312.939	**4901.153803**	ppb	1.136	1.293	8625.938
39	**K**		2519105.919	**5103.563847**	ppb	0.693	2.475	34421.426
24	**Mg**		1142776.063	**4891.529470**	ppb	1.017	1.514	211.668
159	**Tb-ISK**		157507.614		ppb	1.120		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 15:34:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.074
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41396.559		ppb	0.362		44909.430
9	**Be**		52.222	**0.017814**	ppb	9.750	15.420	17.778
10	**B**		9638.810	**1.021135**	ppb	4.233	61.714	9341.944
27	**Al**		4661.096	**0.073401**	ppb	6.453	49.816	4118.935
43	**Ca-2**		161.668	**1.098420**	ppb	26.304	130.194	133.334
49	**Ti**		311.115	**-0.026838**	ppb	6.458	84.445	346.671
52	**Cr**		15787.611	**-0.133067**	ppb	2.481	14.749	18068.087
55	**Mn**		1824.561	**0.025067**	ppb	5.905	18.485	1340.063
57	**Fe**		14049.129	**1.019519**	ppb	1.880	84.671	14006.866
45	**Sc-IS**	>	1813386.315		ppb	0.832		1865382.380
66	**Zn**		595.568	**0.042138**	ppb	10.033	63.490	516.676
86	**Sr**		102.009	**0.021384**	ppb	41.078	64.973	39.724
65	**Cu**		223.335	**0.030141**	ppb	9.321	20.653	128.889
69	**Ga-IS**		569535.643		ppb	0.380		573819.625
95	**Mo**		1514.525	**0.413617**	ppb	4.707	5.112	212.224
115	**In-IS**	>	195736.174		ppb	2.888		197719.745
111	**Cd**		43.486	**0.014878**	ppb	33.076	47.684	15.110
118	**Sn**		5114.249	**0.709152**	ppb	1.808	2.487	1235.609
121	**Sb**		894.473	**0.111733**	ppb	6.173	4.435	197.779
135	**Ba**		84.445	**0.028934**	ppb	16.434	28.773	33.333
165	**Ho-IS**		356406.747		ppb	0.478		368847.286
159	**Tb-IS**	>	366638.107		ppb	1.491		363541.658
207	**Pb**		1007.791	**0.018190**	ppb	8.627	13.367	434.447
203	**Tl**		522.232	**0.037487**	ppb	3.630	4.421	128.889
209	**Bi-IS**		212643.135		ppb	0.233		214395.071
51	**V**		13.333	**0.057241**	ppb	25.000	26.260	1.111
59	**Co**		70.000	**0.058749**	ppb	12.599	25.747	30.000
60	**Ni**		220.002	**0.115469**	ppb	8.436	15.131	67.778
75	**As**		281.645	**0.046294**	ppb	16.076	190.421	260.869
71	**Ga-ISK**		58608.896		ppb	1.888		58887.805
82	**Se-2**		1.919	**0.036632**	ppb	138.722	160.082	0.226
107	**Ag-1**		453.341	**0.076890**	ppb	7.747	12.056	83.334
115	**In-ISK**	>	80709.269		ppb	2.140		81053.470
45	**Sc-ISK**	>	144153.703		ppb	0.960		145776.751
23	**Na**		9534.849	**3.803894**	ppb	2.651	18.413	8625.938
39	**K**		38221.062	**8.624044**	ppb	0.494	4.434	34421.426
24	**Mg**		818.357	**2.617514**	ppb	4.292	6.103	211.668
159	**Tb-ISK**		158267.310		ppb	1.368		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 15:37:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.075
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42171.082		ppb	3.142		44909.430
9	**Be**		20.000	**0.001547**	ppb	44.096	310.187	17.778
10	**B**		9244.103	**0.465225**	ppb	3.220	62.232	9341.944
27	**Al**		4457.364	**0.055246**	ppb	7.015	50.140	4118.935
43	**Ca-2**		115.000	**-0.458892**	ppb	7.531	81.821	133.334
49	**Ti**		240.002	**-0.098614**	ppb	11.024	24.311	346.671
52	**Cr**		15648.568	**-0.131670**	ppb	1.867	9.949	18068.087
55	**Mn**		2330.190	**0.050543**	ppb	2.482	8.189	1340.063
57	**Fe**		13093.777	**-0.905793**	ppb	1.825	128.697	14006.866
45	**Sc-IS**	>	1795633.748		ppb	2.290		1865382.380
66	**Zn**		444.451	**-0.024060**	ppb	9.644	83.375	516.676
86	**Sr**		53.133	**0.005065**	ppb	10.908	32.074	39.724
65	**Cu**		116.667	**-0.002192**	ppb	17.143	321.804	128.889
69	**Ga-IS**		565363.247		ppb	1.101		573819.625
95	**Mo**		466.674	**0.083873**	ppb	9.286	17.703	212.224
115	**In-IS**	>	195839.799		ppb	1.907		197719.745
111	**Cd**		12.353	**-0.001371**	ppb	0.737	6.378	15.110
118	**Sn**		2436.875	**0.221256**	ppb	4.965	13.783	1235.609
121	**Sb**		342.226	**0.023452**	ppb	5.365	16.647	197.779
135	**Ba**		58.889	**0.014614**	ppb	27.922	66.444	33.333
165	**Ho-IS**		362836.832		ppb	0.775		368847.286
159	**Tb-IS**	>	361905.275		ppb	1.539		363541.658
207	**Pb**		427.780	**-0.000156**	ppb	7.959	643.684	434.447
203	**Tl**		212.224	**0.008146**	ppb	12.696	34.969	128.889
209	**Bi-IS**		212348.914		ppb	1.049		214395.071
51	**V**		6.667	**0.026737**	ppb	100.000	118.038	1.111
59	**Co**		21.111	**-0.012083**	ppb	32.868	89.144	30.000
60	**Ni**		150.001	**0.064621**	ppb	7.698	15.744	67.778
75	**As**		257.364	**0.005871**	ppb	7.098	756.693	260.869
71	**Ga-ISK**		57611.553		ppb	2.866		58887.805
82	**Se-2**		0.226	**0.000386**	ppb	1358.418	17676.787	0.226
107	**Ag-1**		104.445	**0.004913**	ppb	14.391	73.639	83.334
115	**In-ISK**	>	79176.500		ppb	2.119		81053.470
45	**Sc-ISK**	>	142775.508		ppb	0.800		145776.751
23	**Na**		8330.763	**-0.452466**	ppb	2.500	121.880	8625.938
39	**K**		35436.124	**3.584729**	ppb	1.388	15.671	34421.426
24	**Mg**		205.001	**-0.009261**	ppb	15.232	1534.355	211.668
159	**Tb-ISK**		156082.722		ppb	0.665		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79071-A-3-B @20
Autosampler Position: 147
Sample Date/Time: Sunday, December 19, 2021 15:40:38
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79071-A-3-B @20.076
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40452.756		ppb	1.287		44909.430
9	**Be**		23.333	**0.003270**	ppb	42.857	156.867	17.778
10	**B**		8883.873	**-0.095429**	ppb	1.901	452.917	9341.944
27	**Al**		43199.227	**4.449724**	ppb	1.484	2.542	4118.935
43	**Ca-2**		1625.093	**52.350367**	ppb	13.026	13.372	133.334
49	**Ti**		437.785	**0.112073**	ppb	6.825	25.041	346.671
52	**Cr**		16776.512	**-0.038477**	ppb	0.468	29.577	18068.087
55	**Mn**		10519.427	**0.451258**	ppb	0.620	0.248	1340.063
57	**Fe**		16056.805	**6.339111**	ppb	3.705	22.171	14006.866
45	**Sc-IS**	>	1784346.942		ppb	0.837		1865382.380
66	**Zn**		4292.867	**1.744018**	ppb	2.644	2.596	516.676
86	**Sr**		378.070	**0.117006**	ppb	15.051	17.707	39.724
65	**Cu**		1970.136	**0.577243**	ppb	1.759	2.282	128.889
69	**Ga-IS**		559338.859		ppb	0.424		573819.625
95	**Mo**		268.891	**0.021223**	ppb	17.721	74.232	212.224
115	**In-IS**	>	192535.803		ppb	1.078		197719.745
111	**Cd**		32.769	**0.009628**	ppb	17.848	31.150	15.110
118	**Sn**		1905.683	**0.130058**	ppb	3.092	5.584	1235.609
121	**Sb**		235.558	**0.006992**	ppb	6.981	38.435	197.779
135	**Ba**		718.907	**0.391169**	ppb	10.330	9.984	33.333
165	**Ho-IS**		353911.015		ppb	1.682		368847.286
159	**Tb-IS**	>	355960.497		ppb	1.013		363541.658
207	**Pb**		1918.940	**0.049152**	ppb	6.505	7.545	434.447
203	**Tl**		125.556	**-0.000064**	ppb	3.066	551.434	128.889
209	**Bi-IS**		210578.672		ppb	1.512		214395.071
51	**V**		10.000	**0.042384**	ppb	33.333	37.705	1.111
59	**Co**		15.556	**-0.020542**	ppb	86.603	97.129	30.000
60	**Ni**		221.113	**0.118366**	ppb	17.986	26.279	67.778
75	**As**		207.041	**-0.107370**	ppb	8.127	33.427	260.869
71	**Ga-ISK**		57427.421		ppb	0.679		58887.805
82	**Se-2**		3.612	**0.075790**	ppb	152.861	162.795	0.226
107	**Ag-1**		78.889	**-0.000635**	ppb	21.683	558.095	83.334
115	**In-ISK**	>	79645.801		ppb	0.526		81053.470
45	**Sc-ISK**	>	139402.427		ppb	0.622		145776.751
23	**Na**		18910.845	**41.771950**	ppb	2.119	4.808	8625.938
39	**K**		35668.919	**5.868893**	ppb	0.233	8.232	34421.426
24	**Mg**		1870.123	**7.413333**	ppb	9.937	11.680	211.668
159	**Tb-ISK**		155295.541		ppb	0.595		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 15:43:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.077
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42175.541		ppb	3.190		44909.430
9	**Be**		190170.987	**97.077930**	ppb	1.730	3.273	17.778
10	**B**		138419.748	**238.170149**	ppb	1.897	3.918	9341.944
27	**Al**		883238.575	**98.236821**	ppb	1.038	2.636	4118.935
43	**Ca-2**		146184.231	**5036.920406**	ppb	1.386	2.959	133.334
49	**Ti**		93184.068	**96.728959**	ppb	1.222	0.543	346.671
52	**Cr**		1275286.498	**94.298572**	ppb	0.731	2.323	18068.087
55	**Mn**		2054741.519	**98.854263**	ppb	2.956	1.396	1340.063
57	**Fe**		2199916.013	**5138.455919**	ppb	0.858	1.183	14006.866
45	**Sc-IS**	>	1810388.983		ppb	1.749		1865382.380
66	**Zn**		226556.961	**102.331691**	ppb	1.197	2.949	516.676
86	**Sr**		296925.513	**100.615600**	ppb	1.552	3.215	39.724
65	**Cu**		326664.155	**100.601248**	ppb	1.338	1.806	128.889
69	**Ga-IS**		605456.131		ppb	1.645		573819.625
95	**Mo**		317595.251	**100.554744**	ppb	1.313	2.899	212.224
115	**In-IS**	>	195144.579		ppb	2.705		197719.745
111	**Cd**		186066.935	**98.068022**	ppb	1.824	1.017	15.110
118	**Sn**		535460.933	**97.647633**	ppb	2.035	1.931	1235.609
121	**Sb**		607270.591	**97.473217**	ppb	1.575	1.162	197.779
135	**Ba**		176960.514	**99.552948**	ppb	1.314	1.385	33.333
165	**Ho-IS**		370666.302		ppb	0.857		368847.286
159	**Tb-IS**	>	367601.900		ppb	0.738		363541.658
207	**Pb**		3014227.217	**96.075798**	ppb	0.551	1.198	434.447
203	**Tl**		975802.839	**93.008475**	ppb	1.075	1.754	128.889
209	**Bi-IS**		208955.038		ppb	1.338		214395.071
51	**V**		20019.577	**95.687939**	ppb	2.009	1.809	1.111
59	**Co**		66798.072	**99.250870**	ppb	2.085	1.846	30.000
60	**Ni**		125083.070	**96.246796**	ppb	1.462	1.281	67.778
75	**As**		44380.522	**96.620444**	ppb	1.555	2.373	260.869
71	**Ga-ISK**		57578.090		ppb	2.975		58887.805
82	**Se-2**		4358.618	**97.842805**	ppb	4.057	4.641	0.226
107	**Ag-1**		468878.821	**99.009208**	ppb	1.129	1.295	83.334
115	**In-ISK**	>	79204.423		ppb	0.806		81053.470
45	**Sc-ISK**	>	145622.941		ppb	1.002		145776.751
23	**Na**		1302841.425	**4853.361256**	ppb	0.177	1.128	8625.938
39	**K**		2527223.426	**5086.674014**	ppb	0.320	1.030	34421.426
24	**Mg**		1164860.843	**4954.138252**	ppb	1.506	0.930	211.668
159	**Tb-ISK**		159167.121		ppb	0.259		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 15:47:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.078
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42204.555		ppb	4.460		44909.430
9	**Be**		46.667	**0.014705**	ppb	31.135	45.980	17.778
10	**B**		8824.947	**-0.583194**	ppb	0.479	50.499	9341.944
27	**Al**		4499.377	**0.051317**	ppb	6.794	44.807	4118.935
43	**Ca-2**		125.001	**-0.187792**	ppb	20.000	465.472	133.334
49	**Ti**		263.336	**-0.078053**	ppb	13.336	52.757	346.671
52	**Cr**		15844.338	**-0.136910**	ppb	1.172	17.067	18068.087
55	**Mn**		1744.551	**0.020688**	ppb	3.113	19.243	1340.063
57	**Fe**		13623.162	**-0.214493**	ppb	2.569	64.387	14006.866
45	**Sc-IS**	>	1826446.583		ppb	2.180		1865382.380
66	**Zn**		558.900	**0.023994**	ppb	10.145	117.359	516.676
86	**Sr**		61.435	**0.007502**	ppb	36.478	96.446	39.724
65	**Cu**		150.001	**0.007217**	ppb	11.111	58.439	128.889
69	**Ga-IS**		570717.620		ppb	1.603		573819.625
95	**Mo**		1175.604	**0.303974**	ppb	0.866	3.447	212.224
115	**In-IS**	>	196462.763		ppb	2.245		197719.745
111	**Cd**		30.865	**0.008191**	ppb	47.122	87.478	15.110
118	**Sn**		4127.263	**0.526773**	ppb	2.649	6.537	1235.609
121	**Sb**		713.351	**0.082448**	ppb	5.140	7.825	197.779
135	**Ba**		74.445	**0.023207**	ppb	18.096	35.865	33.333
165	**Ho-IS**		366105.530		ppb	1.128		368847.286
159	**Tb-IS**	>	368788.474		ppb	0.484		363541.658
207	**Pb**		822.232	**0.012123**	ppb	7.706	16.674	434.447
203	**Tl**		317.781	**0.017763**	ppb	12.947	21.490	128.889
209	**Bi-IS**		216777.994		ppb	0.858		214395.071
51	**V**		8.889	**0.037222**	ppb	21.651	25.498	1.111
59	**Co**		28.889	**-0.000661**	ppb	37.091	2443.501	30.000
60	**Ni**		160.001	**0.071617**	ppb	15.729	24.381	67.778
75	**As**		273.233	**0.038024**	ppb	8.805	124.249	260.869
71	**Ga-ISK**		57866.983		ppb	1.573		58887.805
82	**Se-2**		9.258	**0.200615**	ppb	59.751	60.358	0.226
107	**Ag-1**		291.114	**0.043982**	ppb	15.377	18.938	83.334
115	**In-ISK**	>	79454.322		ppb	1.928		81053.470
45	**Sc-ISK**	>	146630.921		ppb	0.616		145776.751
23	**Na**		9044.531	**1.375633**	ppb	3.276	94.377	8625.938
39	**K**		36617.985	**4.046715**	ppb	1.089	29.530	34421.426
24	**Mg**		441.674	**0.965141**	ppb	18.301	34.264	211.668
159	**Tb-ISK**		160066.501		ppb	1.205		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 15:50:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.079
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43101.640		ppb	3.412		44909.430
9	**Be**		23.333	**0.003200**	ppb	51.508	194.263	17.778
10	**B**		8687.085	**-0.575642**	ppb	1.749	44.059	9341.944
27	**Al**		4431.355	**0.052330**	ppb	4.726	48.687	4118.935
43	**Ca-2**		91.667	**-1.274947**	ppb	31.961	80.684	133.334
49	**Ti**		238.891	**-0.099561**	ppb	15.433	40.273	346.671
52	**Cr**		16020.093	**-0.104312**	ppb	2.815	34.232	18068.087
55	**Mn**		2353.528	**0.051584**	ppb	5.525	13.018	1340.063
57	**Fe**		13109.347	**-0.903852**	ppb	2.176	56.101	14006.866
45	**Sc-IS**	>	1796589.858		ppb	0.637		1865382.380
66	**Zn**		511.120	**0.006197**	ppb	3.592	158.462	516.676
86	**Sr**		26.952	**-0.003826**	ppb	87.623	211.497	39.724
65	**Cu**		132.223	**0.002517**	ppb	5.248	92.712	128.889
69	**Ga-IS**		568297.887		ppb	3.353		573819.625
95	**Mo**		384.450	**0.057508**	ppb	16.275	35.452	212.224
115	**In-IS**	>	196214.769		ppb	3.596		197719.745
111	**Cd**		18.082	**0.001616**	ppb	11.370	62.860	15.110
118	**Sn**		2023.477	**0.145105**	ppb	2.615	8.492	1235.609
121	**Sb**		314.448	**0.019165**	ppb	25.559	73.915	197.779
135	**Ba**		45.556	**0.006939**	ppb	16.898	56.086	33.333
165	**Ho-IS**		356064.064		ppb	0.869		368847.286
159	**Tb-IS**	>	359929.008		ppb	0.570		363541.658
207	**Pb**		410.002	**-0.000651**	ppb	13.433	283.203	434.447
203	**Tl**		166.668	**0.003809**	ppb	10.000	44.860	128.889
209	**Bi-IS**		211296.711		ppb	0.244		214395.071
51	**V**		1.111	**0.000260**	ppb	173.205	3635.131	1.111
59	**Co**		10.000	**-0.028490**	ppb	88.192	47.167	30.000
60	**Ni**		123.334	**0.044237**	ppb	9.362	13.284	67.778
75	**As**		243.249	**-0.022965**	ppb	5.935	158.971	260.869
71	**Ga-ISK**		57261.252		ppb	2.701		58887.805
82	**Se-2**		3.601	**0.074521**	ppb	104.598	108.785	0.226
107	**Ag-1**		88.889	**0.001677**	ppb	7.806	107.202	83.334
115	**In-ISK**	>	78875.060		ppb	3.121		81053.470
45	**Sc-ISK**	>	143650.922		ppb	1.188		145776.751
23	**Na**		8562.566	**0.240358**	ppb	2.085	323.808	8625.938
39	**K**		35162.116	**2.568189**	ppb	1.551	10.355	34421.426
24	**Mg**		168.334	**-0.173123**	ppb	15.242	65.722	211.668
159	**Tb-ISK**		156841.281		ppb	2.466		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79071-A-4-B @20
Autosampler Position: 148
Sample Date/Time: Sunday, December 19, 2021 15:53:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79071-A-4-B @20.080
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40940.851		ppb	3.470		44909.430
9	**Be**		14.444	**-0.001321**	ppb	35.251	189.624	17.778
10	**B**		8183.459	**-1.349497**	ppb	5.634	44.327	9341.944
27	**Al**		8189.100	**0.482610**	ppb	23.542	41.141	4118.935
43	**Ca-2**		540.010	**14.478757**	ppb	17.666	21.201	133.334
49	**Ti**		287.781	**-0.044832**	ppb	4.068	42.013	346.671
52	**Cr**		15884.382	**-0.101078**	ppb	0.390	29.133	18068.087
55	**Mn**		2826.947	**0.076064**	ppb	3.287	6.484	1340.063
57	**Fe**		13096.001	**-0.586589**	ppb	1.464	125.143	14006.866
45	**Sc-IS**	>	1777162.061		ppb	2.126		1865382.380
66	**Zn**		1436.739	**0.435678**	ppb	5.183	9.042	516.676
86	**Sr**		110.299	**0.025157**	ppb	26.456	42.967	39.724
65	**Cu**		1999.029	**0.588863**	ppb	3.468	3.813	128.889
69	**Ga-IS**		564651.033		ppb	0.790		573819.625
95	**Mo**		205.557	**0.001092**	ppb	9.221	555.263	212.224
115	**In-IS**	>	193112.164		ppb	1.798		197719.745
111	**Cd**		17.346	**0.001437**	ppb	58.580	383.356	15.110
118	**Sn**		892.250	**-0.057940**	ppb	5.744	21.240	1235.609
121	**Sb**		126.667	**-0.010772**	ppb	5.263	13.234	197.779
135	**Ba**		364.449	**0.188417**	ppb	13.328	12.917	33.333
165	**Ho-IS**		353264.776		ppb	0.965		368847.286
159	**Tb-IS**	>	356946.694		ppb	0.627		363541.658
207	**Pb**		621.117	**0.006384**	ppb	6.403	19.188	434.447
203	**Tl**		97.778	**-0.002821**	ppb	7.873	28.941	128.889
209	**Bi-IS**		207256.084		ppb	1.238		214395.071
51	**V**		3.333	**0.011004**	ppb	100.000	148.804	1.111
59	**Co**		15.556	**-0.020109**	ppb	24.744	30.503	30.000
60	**Ni**		94.445	**0.022722**	ppb	14.694	51.319	67.778
75	**As**		264.148	**0.027583**	ppb	5.794	124.280	260.869
71	**Ga-ISK**		57250.054		ppb	1.284		58887.805
82	**Se-2**		3.945	**0.083041**	ppb	167.274	178.050	0.226
107	**Ag-1**		65.556	**-0.003208**	ppb	24.030	97.712	83.334
115	**In-ISK**	>	78215.469		ppb	1.696		81053.470
45	**Sc-ISK**	>	142059.630		ppb	1.640		145776.751
23	**Na**		15598.513	**27.666873**	ppb	1.502	6.739	8625.938
39	**K**		34969.416	**3.000535**	ppb	0.760	57.111	34421.426
24	**Mg**		900.029	**3.027723**	ppb	9.346	13.342	211.668
159	**Tb-ISK**		155658.864		ppb	1.253		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79071-A-5-B @20
Autosampler Position: 149
Sample Date/Time: Sunday, December 19, 2021 15:56:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79071-A-5-B @20.081
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41636.165		ppb	2.366		44909.430
9	**Be**		10.000	**-0.003706**	ppb	33.333	45.596	17.778
10	**B**		8292.408	**-1.430632**	ppb	3.115	33.486	9341.944
27	**Al**		11286.792	**0.813716**	ppb	2.093	3.469	4118.935
43	**Ca-2**		541.677	**14.206132**	ppb	4.362	5.796	133.334
49	**Ti**		286.670	**-0.051983**	ppb	9.229	52.825	346.671
52	**Cr**		16418.319	**-0.084197**	ppb	1.016	17.879	18068.087
55	**Mn**		3175.909	**0.090226**	ppb	3.076	4.876	1340.063
57	**Fe**		13799.997	**0.471110**	ppb	2.022	132.952	14006.866
45	**Sc-IS**	>	1811104.793		ppb	0.207		1865382.380
66	**Zn**		1733.439	**0.557237**	ppb	3.499	5.178	516.676
86	**Sr**		128.626	**0.030500**	ppb	3.766	5.633	39.724
65	**Cu**		1641.205	**0.466805**	ppb	3.503	3.646	128.889
69	**Ga-IS**		563493.076		ppb	2.254		573819.625
95	**Mo**		165.557	**-0.012821**	ppb	4.191	16.506	212.224
115	**In-IS**	>	195998.749		ppb	1.774		197719.745
111	**Cd**		10.763	**-0.002198**	ppb	77.829	199.487	15.110
118	**Sn**		1221.163	**-0.000596**	ppb	2.536	1372.628	1235.609
121	**Sb**		118.889	**-0.012369**	ppb	22.662	32.461	197.779
135	**Ba**		200.001	**0.093483**	ppb	4.410	3.516	33.333
165	**Ho-IS**		357885.289		ppb	0.597		368847.286
159	**Tb-IS**	>	360710.574		ppb	2.029		363541.658
207	**Pb**		712.229	**0.009149**	ppb	7.164	20.665	434.447
203	**Tl**		85.556	**-0.004098**	ppb	19.219	41.208	128.889
209	**Bi-IS**		208568.370		ppb	1.455		214395.071
51	**V**		0.000	**-0.005190**	ppb		0.000	1.111
59	**Co**		11.111	**-0.026961**	ppb	121.244	74.501	30.000
60	**Ni**		124.445	**0.045798**	ppb	13.482	28.526	67.778
75	**As**		257.961	**0.012532**	ppb	5.734	286.171	260.869
71	**Ga-ISK**		56675.550		ppb	1.430		58887.805
82	**Se-2**		2.255	**0.046147**	ppb	111.740	123.119	0.226
107	**Ag-1**		34.444	**-0.009851**	ppb	14.783	10.822	83.334
115	**In-ISK**	>	78409.657		ppb	0.916		81053.470
45	**Sc-ISK**	>	141918.152		ppb	0.965		145776.751
23	**Na**		18692.224	**39.613611**	ppb	1.996	3.902	8625.938
39	**K**		35345.896	**3.845533**	ppb	0.508	11.072	34421.426
24	**Mg**		1031.704	**3.603510**	ppb	2.487	2.281	211.668
159	**Tb-ISK**		156680.533		ppb	0.459		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79071-A-6-B @20
Autosampler Position: 150
Sample Date/Time: Sunday, December 19, 2021 15:59:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79071-A-6-B @20.082
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41399.918		ppb	2.049		44909.430
9	**Be**		15.556	**-0.000747**	ppb	68.883	744.895	17.778
10	**B**		8020.030	**-1.658522**	ppb	3.326	47.291	9341.944
27	**Al**		4125.596	**0.022511**	ppb	2.904	82.589	4118.935
43	**Ca-2**		536.677	**14.359898**	ppb	6.740	7.942	133.334
49	**Ti**		291.114	**-0.041646**	ppb	6.306	59.450	346.671
52	**Cr**		16352.689	**-0.066928**	ppb	1.732	52.314	18068.087
55	**Mn**		2211.282	**0.045761**	ppb	2.994	10.786	1340.063
57	**Fe**		13342.898	**-0.034291**	ppb	2.602	3185.936	14006.866
45	**Sc-IS**	>	1779377.622		ppb	1.955		1865382.380
66	**Zn**		1809.004	**0.605775**	ppb	5.004	5.141	516.676
86	**Sr**		134.781	**0.033349**	ppb	10.156	11.440	39.724
65	**Cu**		607.791	**0.151812**	ppb	8.251	8.092	128.889
69	**Ga-IS**		559101.792		ppb	1.735		573819.625
95	**Mo**		84.445	**-0.038056**	ppb	18.655	12.552	212.224
115	**In-IS**	>	194410.583		ppb	2.908		197719.745
111	**Cd**		5.378	**-0.005043**	ppb	72.168	38.974	15.110
118	**Sn**		613.347	**-0.110544**	ppb	11.994	9.317	1235.609
121	**Sb**		56.667	**-0.022213**	ppb	11.765	4.196	197.779
135	**Ba**		168.890	**0.076832**	ppb	7.977	8.533	33.333
165	**Ho-IS**		355935.220		ppb	2.842		368847.286
159	**Tb-IS**	>	359967.852		ppb	0.830		363541.658
207	**Pb**		426.669	**-0.000103**	ppb	14.214	2006.346	434.447
203	**Tl**		70.000	**-0.005609**	ppb	17.169	20.856	128.889
209	**Bi-IS**		210463.466		ppb	0.608		214395.071
51	**V**		3.333	**0.010697**	ppb	173.205	257.238	1.111
59	**Co**		5.556	**-0.035318**	ppb	69.282	16.093	30.000
60	**Ni**		138.890	**0.056095**	ppb	11.342	19.938	67.778
75	**As**		266.012	**0.026077**	ppb	15.477	369.014	260.869
71	**Ga-ISK**		56536.129		ppb	2.128		58887.805
82	**Se-2**		1.591	**0.031521**	ppb	182.586	211.023	0.226
107	**Ag-1**		42.222	**-0.008272**	ppb	12.059	11.694	83.334
115	**In-ISK**	>	79048.775		ppb	1.647		81053.470
45	**Sc-ISK**	>	140537.999		ppb	1.489		145776.751
23	**Na**		17108.574	**34.162612**	ppb	1.881	2.093	8625.938
39	**K**		35308.028	**4.492081**	ppb	1.301	10.652	34421.426
24	**Mg**		761.687	**2.457957**	ppb	10.673	14.373	211.668
159	**Tb-ISK**		156368.509		ppb	0.894		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79071-A-7-B @20
Autosampler Position: 151
Sample Date/Time: Sunday, December 19, 2021 16:02:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79071-A-7-B @20.083
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40717.974		ppb	2.729		44909.430
9	**Be**		10.000	**-0.003654**	ppb	0.000	1.270	17.778
10	**B**		8522.542	**-0.855010**	ppb	2.012	20.495	9341.944
27	**Al**		7546.995	**0.404285**	ppb	4.187	7.718	4118.935
43	**Ca-2**		691.684	**19.597078**	ppb	10.948	12.610	133.334
49	**Ti**		277.781	**-0.058226**	ppb	17.973	93.009	346.671
52	**Cr**		17575.250	**0.015524**	ppb	1.434	195.392	18068.087
55	**Mn**		9388.640	**0.393729**	ppb	1.685	2.988	1340.063
57	**Fe**		13633.169	**0.393095**	ppb	1.213	76.362	14006.866
45	**Sc-IS**	>	1793556.636		ppb	0.904		1865382.380
66	**Zn**		5230.958	**2.162847**	ppb	2.231	3.329	516.676
86	**Sr**		139.188	**0.034589**	ppb	18.000	25.944	39.724
65	**Cu**		1906.794	**0.554284**	ppb	5.043	5.010	128.889
69	**Ga-IS**		561424.732		ppb	2.792		573819.625
95	**Mo**		187.779	**-0.005267**	ppb	19.473	211.018	212.224
115	**In-IS**	>	194925.631		ppb	2.384		197719.745
111	**Cd**		9.606	**-0.002737**	ppb	70.097	133.273	15.110
118	**Sn**		733.352	**-0.088786**	ppb	9.327	11.604	1235.609
121	**Sb**		70.000	**-0.020109**	ppb	17.169	8.319	197.779
135	**Ba**		172.223	**0.078564**	ppb	2.957	6.500	33.333
165	**Ho-IS**		360283.244		ppb	1.962		368847.286
159	**Tb-IS**	>	359661.630		ppb	1.226		363541.658
207	**Pb**		562.227	**0.004313**	ppb	11.317	47.457	434.447
203	**Tl**		65.556	**-0.006040**	ppb	7.767	6.961	128.889
209	**Bi-IS**		210678.931		ppb	1.173		214395.071
51	**V**		0.000	**-0.005190**	ppb		0.000	1.111
59	**Co**		14.444	**-0.021898**	ppb	13.323	13.533	30.000
60	**Ni**		143.334	**0.060382**	ppb	12.306	22.434	67.778
75	**As**		244.157	**-0.018387**	ppb	13.237	397.782	260.869
71	**Ga-ISK**		57553.482		ppb	0.690		58887.805
82	**Se-2**		3.596	**0.076751**	ppb	131.989	140.678	0.226
107	**Ag-1**		40.000	**-0.008668**	ppb	22.048	21.833	83.334
115	**In-ISK**	>	78467.707		ppb	0.334		81053.470
45	**Sc-ISK**	>	142546.642		ppb	1.463		145776.751
23	**Na**		16849.933	**32.247406**	ppb	1.673	5.002	8625.938
39	**K**		35932.919	**4.762095**	ppb	1.558	46.968	34421.426
24	**Mg**		918.363	**3.093541**	ppb	10.074	13.909	211.668
159	**Tb-ISK**		154619.657		ppb	1.159		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79071-A-8-B @20
Autosampler Position: 152
Sample Date/Time: Sunday, December 19, 2021 16:06:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79071-A-8-B @20.084
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41501.312		ppb	1.236		44909.430
9	**Be**		7.778	**-0.004814**	ppb	49.487	40.229	17.778
10	**B**		8534.776	**-0.810563**	ppb	5.417	70.529	9341.944
27	**Al**		2988.980	**-0.109128**	ppb	6.673	15.038	4118.935
43	**Ca-2**		513.343	**13.435793**	ppb	2.028	2.754	133.334
49	**Ti**		257.780	**-0.078692**	ppb	6.509	28.613	346.671
52	**Cr**		17120.253	**-0.016465**	ppb	0.866	185.431	18068.087
55	**Mn**		2993.647	**0.083084**	ppb	4.048	3.904	1340.063
57	**Fe**		13595.358	**0.356961**	ppb	2.476	60.813	14006.866
45	**Sc-IS**	>	1790433.762		ppb	1.839		1865382.380
66	**Zn**		2311.298	**0.831615**	ppb	5.421	9.292	516.676
86	**Sr**		86.928	**0.016701**	ppb	11.748	19.544	39.724
65	**Cu**		1357.842	**0.384534**	ppb	2.824	4.153	128.889
69	**Ga-IS**		567021.992		ppb	1.364		573819.625
95	**Mo**		72.222	**-0.042119**	ppb	14.100	7.310	212.224
115	**In-IS**	>	193228.867		ppb	3.331		197719.745
111	**Cd**		9.848	**-0.002557**	ppb	117.043	244.858	15.110
118	**Sn**		328.893	**-0.162326**	ppb	18.026	5.559	1235.609
121	**Sb**		38.889	**-0.025048**	ppb	27.553	6.547	197.779
135	**Ba**		104.445	**0.040781**	ppb	8.032	7.725	33.333
165	**Ho-IS**		362775.172		ppb	1.985		368847.286
159	**Tb-IS**	>	358658.065		ppb	1.346		363541.658
207	**Pb**		426.669	**-0.000043**	ppb	15.606	5434.882	434.447
203	**Tl**		60.000	**-0.006552**	ppb	20.031	18.953	128.889
209	**Bi-IS**		210805.226		ppb	1.205		214395.071
51	**V**		0.000	**-0.005190**	ppb		0.000	1.111
59	**Co**		7.778	**-0.031912**	ppb	65.465	24.036	30.000
60	**Ni**		105.556	**0.030827**	ppb	6.574	15.913	67.778
75	**As**		245.511	**-0.016922**	ppb	5.844	169.193	260.869
71	**Ga-ISK**		56557.301		ppb	1.229		58887.805
82	**Se-2**		5.919	**0.129209**	ppb	77.883	81.003	0.226
107	**Ag-1**		40.000	**-0.008695**	ppb	28.868	28.017	83.334
115	**In-ISK**	>	78651.778		ppb	0.582		81053.470
45	**Sc-ISK**	>	141384.344		ppb	2.867		145776.751
23	**Na**		15867.143	**28.981655**	ppb	2.004	2.346	8625.938
39	**K**		33845.608	**0.994658**	ppb	1.547	154.632	34421.426
24	**Mg**		850.025	**2.822479**	ppb	6.198	4.513	211.668
159	**Tb-ISK**		156432.509		ppb	0.544		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79071-A-9-B @20
Autosampler Position: 153
Sample Date/Time: Sunday, December 19, 2021 16:09:16
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79071-A-9-B @20.085
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41669.591		ppb	2.149		44909.430
9	**Be**		11.111	**-0.003086**	ppb	17.321	33.243	17.778
10	**B**		8237.930	**-1.404214**	ppb	0.608	18.673	9341.944
27	**Al**		3781.503	**-0.020909**	ppb	9.086	178.127	4118.935
43	**Ca-2**		505.009	**13.053864**	ppb	13.321	14.696	133.334
49	**Ti**		272.225	**-0.064523**	ppb	3.082	22.057	346.671
52	**Cr**		17510.732	**0.008508**	ppb	3.117	498.311	18068.087
55	**Mn**		2641.355	**0.065564**	ppb	3.535	7.405	1340.063
57	**Fe**		13778.865	**0.689989**	ppb	1.407	71.430	14006.866
45	**Sc-IS**	>	1796552.729		ppb	2.295		1865382.380
66	**Zn**		3172.575	**1.219752**	ppb	4.114	3.859	516.676
86	**Sr**		113.570	**0.025733**	ppb	21.409	32.848	39.724
65	**Cu**		1021.148	**0.278516**	ppb	4.456	5.327	128.889
69	**Ga-IS**		562669.135		ppb	1.285		573819.625
95	**Mo**		64.445	**-0.044524**	ppb	43.069	20.772	212.224
115	**In-IS**	>	193813.753		ppb	1.919		197719.745
111	**Cd**		3.198	**-0.006180**	ppb	104.685	28.564	15.110
118	**Sn**		416.673	**-0.146278**	ppb	11.621	5.149	1235.609
121	**Sb**		62.222	**-0.021229**	ppb	37.627	18.819	197.779
135	**Ba**		166.668	**0.075802**	ppb	10.000	10.245	33.333
165	**Ho-IS**		358144.524		ppb	1.601		368847.286
159	**Tb-IS**	>	363499.383		ppb	1.475		363541.658
207	**Pb**		430.003	**-0.000149**	ppb	7.635	582.111	434.447
203	**Tl**		65.556	**-0.006101**	ppb	15.534	16.362	128.889
209	**Bi-IS**		216328.010		ppb	1.273		214395.071
51	**V**		6.667	**0.027294**	ppb	100.000	119.294	1.111
59	**Co**		10.000	**-0.028449**	ppb	66.667	35.284	30.000
60	**Ni**		107.778	**0.033589**	ppb	7.783	19.754	67.778
75	**As**		257.551	**0.016824**	ppb	15.824	550.517	260.869
71	**Ga-ISK**		57816.823		ppb	2.825		58887.805
82	**Se-2**		-1.745	**-0.045025**	ppb	144.580	128.306	0.226
107	**Ag-1**		62.222	**-0.003809**	ppb	16.366	56.142	83.334
115	**In-ISK**	>	77705.180		ppb	0.399		81053.470
45	**Sc-ISK**	>	142056.303		ppb	1.880		145776.751
23	**Na**		16149.123	**29.775584**	ppb	0.450	2.990	8625.938
39	**K**		34016.007	**1.010929**	ppb	0.614	170.391	34421.426
24	**Mg**		941.698	**3.209183**	ppb	3.730	6.576	211.668
159	**Tb-ISK**		156660.321		ppb	0.590		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79071-A-10-B @20
Autosampler Position: 154
Sample Date/Time: Sunday, December 19, 2021 16:12:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79071-A-10-B @20.086
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41713.058		ppb	2.495		44909.430
9	**Be**		6.667	**-0.005400**	ppb	50.000	31.901	17.778
10	**B**		8133.427	**-1.716128**	ppb	3.050	18.672	9341.944
27	**Al**		4069.580	**0.008201**	ppb	3.557	219.872	4118.935
43	**Ca-2**		656.682	**18.185869**	ppb	1.163	2.677	133.334
49	**Ti**		272.225	**-0.066467**	ppb	15.792	72.544	346.671
52	**Cr**		18251.652	**0.054081**	ppb	0.413	33.437	18068.087
55	**Mn**		2632.465	**0.064231**	ppb	5.125	12.962	1340.063
57	**Fe**		13743.274	**0.363566**	ppb	0.819	203.412	14006.866
45	**Sc-IS**	>	1810095.417		ppb	1.499		1865382.380
66	**Zn**		2796.941	**1.039154**	ppb	3.318	4.394	516.676
86	**Sr**		155.930	**0.039886**	ppb	20.972	29.527	39.724
65	**Cu**		1170.048	**0.321923**	ppb	3.704	3.525	128.889
69	**Ga-IS**		559897.966		ppb	0.509		573819.625
95	**Mo**		78.889	**-0.040187**	ppb	35.183	22.436	212.224
115	**In-IS**	>	197195.785		ppb	2.577		197719.745
111	**Cd**		3.168	**-0.006213**	ppb	103.912	27.908	15.110
118	**Sn**		468.897	**-0.137936**	ppb	7.668	6.010	1235.609
121	**Sb**		78.889	**-0.018793**	ppb	19.968	13.732	197.779
135	**Ba**		165.557	**0.073524**	ppb	11.089	10.546	33.333
165	**Ho-IS**		363888.469		ppb	0.196		368847.286
159	**Tb-IS**	>	364951.945		ppb	2.096		363541.658
207	**Pb**		421.114	**-0.000473**	ppb	10.921	333.991	434.447
203	**Tl**		54.445	**-0.007193**	ppb	3.535	3.482	128.889
209	**Bi-IS**		209281.964		ppb	1.218		214395.071
51	**V**		3.333	**0.010824**	ppb	100.000	148.017	1.111
59	**Co**		11.111	**-0.026975**	ppb	45.826	28.210	30.000
60	**Ni**		116.667	**0.039314**	ppb	17.379	40.129	67.778
75	**As**		228.774	**-0.054633**	ppb	16.787	154.127	260.869
71	**Ga-ISK**		56161.297		ppb	1.105		58887.805
82	**Se-2**		8.932	**0.196672**	ppb	67.349	69.116	0.226
107	**Ag-1**		43.333	**-0.007998**	ppb	13.323	15.307	83.334
115	**In-ISK**	>	78787.687		ppb	0.106		81053.470
45	**Sc-ISK**	>	142177.521		ppb	1.999		145776.751
23	**Na**		17856.154	**36.299947**	ppb	1.605	6.784	8625.938
39	**K**		33902.408	**0.700573**	ppb	1.386	134.331	34421.426
24	**Mg**		976.700	**3.355970**	ppb	1.938	0.120	211.668
159	**Tb-ISK**		156008.576		ppb	0.521		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Sunday, December 19, 2021 16:15:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\blk.087
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42415.128		ppb	2.781		44909.430
9	**Be**		6.667	**-0.005439**	ppb	0.000	0.755	17.778
10	**B**		8364.672	**-1.457228**	ppb	3.151	22.689	9341.944
27	**Al**		9581.879	**0.612454**	ppb	0.926	2.156	4118.935
43	**Ca-2**		146.667	**0.549321**	ppb	30.555	283.669	133.334
49	**Ti**		316.670	**-0.024362**	ppb	10.990	132.578	346.671
52	**Cr**		18121.487	**0.029518**	ppb	1.152	30.593	18068.087
55	**Mn**		1230.053	**-0.004045**	ppb	5.691	65.305	1340.063
57	**Fe**		14647.506	**2.115971**	ppb	0.948	34.931	14006.866
45	**Sc-IS**	>	1829838.959		ppb	1.212		1865382.380
66	**Zn**		780.021	**0.122288**	ppb	2.379	4.110	516.676
86	**Sr**		7.501	**-0.010516**	ppb	206.653	49.462	39.724
65	**Cu**		115.556	**-0.003271**	ppb	14.519	169.733	128.889
69	**Ga-IS**		573855.927		ppb	1.409		573819.625
95	**Mo**		84.445	**-0.038766**	ppb	17.800	12.182	212.224
115	**In-IS**	>	196732.035		ppb	1.278		197719.745
111	**Cd**		7.600	**-0.003884**	ppb	50.617	51.894	15.110
118	**Sn**		1213.385	**-0.002768**	ppb	6.295	603.519	1235.609
121	**Sb**		133.334	**-0.010110**	ppb	6.614	12.115	197.779
135	**Ba**		61.111	**0.015646**	ppb	17.534	41.131	33.333
165	**Ho-IS**		362816.001		ppb	2.657		368847.286
159	**Tb-IS**	>	365094.177		ppb	2.712		363541.658
207	**Pb**		240.001	**-0.006295**	ppb	1.389	4.796	434.447
203	**Tl**		62.222	**-0.006425**	ppb	30.462	30.110	128.889
209	**Bi-IS**		212816.828		ppb	0.533		214395.071
51	**V**		0.000	**-0.005190**	ppb		0.000	1.111
59	**Co**		13.333	**-0.024031**	ppb	25.000	20.933	30.000
60	**Ni**		123.334	**0.042532**	ppb	16.440	36.271	67.778
75	**As**		237.013	**-0.047112**	ppb	4.138	38.519	260.869
71	**Ga-ISK**		59019.500		ppb	2.674		58887.805
82	**Se-2**		3.245	**0.067208**	ppb	146.097	155.893	0.226
107	**Ag-1**		44.445	**-0.007957**	ppb	11.456	12.600	83.334
115	**In-ISK**	>	80419.693		ppb	0.786		81053.470
45	**Sc-ISK**	>	146039.364		ppb	0.795		145776.751
23	**Na**		8235.709	**-1.521544**	ppb	3.547	55.959	8625.938
39	**K**		33207.447	**-2.598127**	ppb	1.656	28.553	34421.426
24	**Mg**		101.667	**-0.467880**	ppb	15.025	14.459	211.668
159	**Tb-ISK**		158573.918		ppb	0.424		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Sunday, December 19, 2021 16:18:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\blk.088
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41835.622		ppb	1.556		44909.430
9	**Be**		5.556	**-0.005994**	ppb	34.641	16.246	17.778
10	**B**		8684.862	**-0.836494**	ppb	2.011	15.858	9341.944
27	**Al**		9514.837	**0.607980**	ppb	3.656	9.208	4118.935
43	**Ca-2**		118.334	**-0.425281**	ppb	21.683	190.421	133.334
49	**Ti**		317.781	**-0.021989**	ppb	15.464	238.444	346.671
52	**Cr**		18370.695	**0.051501**	ppb	1.472	76.986	18068.087
55	**Mn**		1184.494	**-0.006058**	ppb	3.673	35.615	1340.063
57	**Fe**		14460.650	**1.753799**	ppb	1.924	28.413	14006.866
45	**Sc-IS**	>	1825704.879		ppb	1.849		1865382.380
66	**Zn**		754.464	**0.111941**	ppb	5.524	22.276	516.676
86	**Sr**		28.139	**-0.003642**	ppb	41.500	105.304	39.724
65	**Cu**		105.556	**-0.006289**	ppb	1.823	5.464	128.889
69	**Ga-IS**		570595.741		ppb	0.583		573819.625
95	**Mo**		83.334	**-0.039012**	ppb	17.436	12.789	212.224
115	**In-IS**	>	195608.227		ppb	0.624		197719.745
111	**Cd**		3.158	**-0.006192**	ppb	104.655	28.219	15.110
118	**Sn**		938.920	**-0.051627**	ppb	7.918	28.148	1235.609
121	**Sb**		95.556	**-0.016021**	ppb	17.558	17.354	197.779
135	**Ba**		33.333	**0.000217**	ppb	36.056	3154.801	33.333
165	**Ho-IS**		364868.235		ppb	2.537		368847.286
159	**Tb-IS**	>	364622.122		ppb	1.702		363541.658
207	**Pb**		223.334	**-0.006837**	ppb	14.925	13.884	434.447
203	**Tl**		67.778	**-0.005907**	ppb	10.238	11.866	128.889
209	**Bi-IS**		210779.404		ppb	1.595		214395.071
51	**V**		1.111	**0.000069**	ppb	173.205	13205.846	1.111
59	**Co**		18.889	**-0.015979**	ppb	44.411	78.280	30.000
60	**Ni**		130.001	**0.046998**	ppb	6.784	12.054	67.778
75	**As**		236.642	**-0.050905**	ppb	7.203	60.014	260.869
71	**Ga-ISK**		58343.356		ppb	1.417		58887.805
82	**Se-2**		2.247	**0.043766**	ppb	298.000	337.889	0.226
107	**Ag-1**		52.222	**-0.006377**	ppb	24.166	42.853	83.334
115	**In-ISK**	>	80867.176		ppb	1.170		81053.470
45	**Sc-ISK**	>	146171.883		ppb	1.386		145776.751
23	**Na**		8210.695	**-1.639193**	ppb	4.450	77.178	8625.938
39	**K**		33094.961	**-2.870888**	ppb	1.293	59.908	34421.426
24	**Mg**		95.000	**-0.496027**	ppb	21.053	18.228	211.668
159	**Tb-ISK**		157905.970		ppb	1.074		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-202215_1-A @20
Autosampler Position: 329
Sample Date/Time: Sunday, December 19, 2021 16:21:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\MB 570-202215_1-A @20.089
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42638.000		ppb	2.213		44909.430
9	**Be**		5.556	**-0.005996**	ppb	69.282	32.790	17.778
10	**B**		8593.697	**-1.065727**	ppb	3.345	35.069	9341.944
27	**Al**		2271.850	**-0.196110**	ppb	14.211	16.526	4118.935
43	**Ca-2**		71.667	**-2.016602**	ppb	24.502	30.750	133.334
49	**Ti**		273.336	**-0.069169**	ppb	13.580	56.343	346.671
52	**Cr**		18495.301	**0.054935**	ppb	1.832	19.857	18068.087
55	**Mn**		915.585	**-0.019080**	ppb	9.039	20.117	1340.063
57	**Fe**		14828.806	**2.476624**	ppb	2.034	26.010	14006.866
45	**Sc-IS**	>	1832807.032		ppb	1.221		1865382.380
66	**Zn**		323.337	**-0.082405**	ppb	2.728	2.730	516.676
86	**Sr**		8.088	**-0.010383**	ppb	251.488	65.540	39.724
65	**Cu**		68.889	**-0.017565**	ppb	10.073	12.504	128.889
69	**Ga-IS**		569453.923		ppb	1.472		573819.625
95	**Mo**		60.000	**-0.046451**	ppb	30.932	12.691	212.224
115	**In-IS**	>	195814.177		ppb	3.158		197719.745
111	**Cd**		2.096	**-0.006751**	ppb	93.546	15.367	15.110
118	**Sn**		611.124	**-0.111332**	ppb	6.369	9.633	1235.609
121	**Sb**		71.111	**-0.019962**	ppb	7.160	3.313	197.779
135	**Ba**		18.889	**-0.007941**	ppb	20.377	24.152	33.333
165	**Ho-IS**		369434.843		ppb	1.953		368847.286
159	**Tb-IS**	>	368722.180		ppb	1.821		363541.658
207	**Pb**		141.111	**-0.009525**	ppb	15.187	6.472	434.447
203	**Tl**		67.778	**-0.005994**	ppb	20.475	20.215	128.889
209	**Bi-IS**		211553.838		ppb	0.593		214395.071
51	**V**		1.111	**0.000087**	ppb	173.205	10526.979	1.111
59	**Co**		8.889	**-0.030527**	ppb	43.301	19.154	30.000
60	**Ni**		85.556	**0.013544**	ppb	37.030	168.004	67.778
75	**As**		264.828	**0.012636**	ppb	6.674	363.359	260.869
71	**Ga-ISK**		58061.091		ppb	1.073		58887.805
82	**Se-2**		3.591	**0.075151**	ppb	240.416	257.504	0.226
107	**Ag-1**		36.667	**-0.009608**	ppb	32.778	24.665	83.334
115	**In-ISK**	>	80526.850		ppb	2.217		81053.470
45	**Sc-ISK**	>	145741.115		ppb	2.717		145776.751
23	**Na**		8148.993	**-1.740499**	ppb	4.514	124.309	8625.938
39	**K**		33377.838	**-2.086548**	ppb	0.772	63.224	34421.426
24	**Mg**		50.000	**-0.686605**	ppb	10.000	3.598	211.668
159	**Tb-ISK**		157911.997		ppb	0.686		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 16:25:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.090
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42349.358		ppb	1.788		44909.430
9	**Be**		195878.593	**99.768187**	ppb	2.130	1.218	17.778
10	**B**		142975.656	**245.910376**	ppb	2.969	1.132	9341.944
27	**Al**		873034.638	**96.893761**	ppb	1.353	1.269	4118.935
43	**Ca-2**		147034.609	**5055.137797**	ppb	1.710	0.600	133.334
49	**Ti**		92808.396	**96.141077**	ppb	2.507	0.715	346.671
52	**Cr**		1299939.925	**95.944459**	ppb	1.426	0.920	18068.087
55	**Mn**		2039472.369	**97.920317**	ppb	3.693	1.505	1340.063
57	**Fe**		2193141.723	**5111.485321**	ppb	2.747	0.550	14006.866
45	**Sc-IS**	>	1813938.982		ppb	2.315		1865382.380
66	**Zn**		225676.576	**101.738466**	ppb	1.379	2.911	516.676
86	**Sr**		296183.776	**100.178586**	ppb	1.427	3.311	39.724
65	**Cu**		324241.855	**99.667631**	ppb	0.831	1.543	128.889
69	**Ga-IS**		588480.065		ppb	1.905		573819.625
95	**Mo**		315941.243	**99.852249**	ppb	2.446	3.979	212.224
115	**In-IS**	>	195836.080		ppb	1.717		197719.745
111	**Cd**		187832.348	**98.627871**	ppb	2.226	0.791	15.110
118	**Sn**		532013.362	**96.648958**	ppb	2.023	0.452	1235.609
121	**Sb**		610554.549	**97.646477**	ppb	0.642	1.101	197.779
135	**Ba**		176677.123	**99.025934**	ppb	1.704	1.563	33.333
165	**Ho-IS**		365887.066		ppb	1.573		368847.286
159	**Tb-IS**	>	367524.038		ppb	1.756		363541.658
207	**Pb**		3005134.609	**95.797843**	ppb	2.028	0.288	434.447
203	**Tl**		979379.733	**93.367310**	ppb	1.447	0.923	128.889
209	**Bi-IS**		208485.993		ppb	1.160		214395.071
51	**V**		20409.017	**98.485906**	ppb	2.035	3.052	1.111
59	**Co**		66599.454	**99.900037**	ppb	3.540	3.994	30.000
60	**Ni**		123193.434	**95.700559**	ppb	1.593	2.720	67.778
75	**As**		44210.879	**97.149717**	ppb	0.678	0.905	260.869
71	**Ga-ISK**		58265.310		ppb	2.882		58887.805
82	**Se-2**		4402.282	**99.735295**	ppb	0.702	0.870	0.226
107	**Ag-1**		460910.351	**98.234988**	ppb	1.324	0.498	83.334
115	**In-ISK**	>	78471.029		ppb	1.493		81053.470
45	**Sc-ISK**	>	145135.035		ppb	2.887		145776.751
23	**Na**		1303930.963	**4875.268952**	ppb	1.696	2.328	8625.938
39	**K**		2503259.399	**5057.442995**	ppb	1.921	3.513	34421.426
24	**Mg**		1155169.997	**4932.058394**	ppb	2.081	3.423	211.668
159	**Tb-ISK**		156924.734		ppb	1.977		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 16:28:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.091
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42290.291		ppb	1.468		44909.430
9	**Be**		34.444	**0.008840**	ppb	47.738	95.083	17.778
10	**B**		8909.446	**-0.225561**	ppb	2.848	283.288	9341.944
27	**Al**		4303.316	**0.035684**	ppb	5.166	48.151	4118.935
43	**Ca-2**		121.667	**-0.239263**	ppb	29.730	543.479	133.334
49	**Ti**		320.004	**-0.016007**	ppb	11.024	223.422	346.671
52	**Cr**		16018.977	**-0.109108**	ppb	0.804	25.794	18068.087
55	**Mn**		1554.529	**0.012503**	ppb	0.619	7.634	1340.063
57	**Fe**		13902.317	**0.844198**	ppb	0.804	44.749	14006.866
45	**Sc-IS**	>	1804027.964		ppb	1.803		1865382.380
66	**Zn**		513.343	**0.006272**	ppb	0.649	91.296	516.676
86	**Sr**		74.793	**0.012305**	ppb	29.244	57.103	39.724
65	**Cu**		128.889	**0.001270**	ppb	10.452	272.193	128.889
69	**Ga-IS**		566187.551		ppb	0.417		573819.625
95	**Mo**		1071.151	**0.275060**	ppb	7.214	7.266	212.224
115	**In-IS**	>	192706.576		ppb	3.799		197719.745
111	**Cd**		43.306	**0.015157**	ppb	27.036	36.815	15.110
118	**Sn**		3780.500	**0.477791**	ppb	2.867	9.128	1235.609
121	**Sb**		750.020	**0.090915**	ppb	9.748	17.082	197.779
135	**Ba**		63.333	**0.017764**	ppb	36.842	80.035	33.333
165	**Ho-IS**		362631.550		ppb	0.180		368847.286
159	**Tb-IS**	>	362198.995		ppb	1.230		363541.658
207	**Pb**		756.675	**0.010490**	ppb	7.528	19.665	434.447
203	**Tl**		334.448	**0.019959**	ppb	10.657	18.961	128.889
209	**Bi-IS**		213036.779		ppb	0.832		214395.071
51	**V**		2.222	**0.005359**	ppb	86.603	170.570	1.111
59	**Co**		30.000	**0.000828**	ppb	11.111	645.801	30.000
60	**Ni**		167.779	**0.077581**	ppb	20.294	34.073	67.778
75	**As**		262.814	**0.014325**	ppb	10.323	399.677	260.869
71	**Ga-ISK**		57247.820		ppb	1.170		58887.805
82	**Se-2**		7.922	**0.171901**	ppb	12.327	12.296	0.226
107	**Ag-1**		306.670	**0.047311**	ppb	6.052	10.860	83.334
115	**In-ISK**	>	79602.289		ppb	2.017		81053.470
45	**Sc-ISK**	>	144146.120		ppb	2.569		145776.751
23	**Na**		8984.495	**1.760996**	ppb	4.549	131.469	8625.938
39	**K**		36145.677	**4.362006**	ppb	1.477	19.324	34421.426
24	**Mg**		510.009	**1.294672**	ppb	11.887	21.678	211.668
159	**Tb-ISK**		156822.802		ppb	1.073		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 16:31:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.092
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42259.111		ppb	2.792		44909.430
9	**Be**		13.333	**-0.001910**	ppb	50.000	174.956	17.778
10	**B**		8595.922	**-0.575872**	ppb	4.197	68.657	9341.944
27	**Al**		4401.012	**0.054421**	ppb	4.520	49.619	4118.935
43	**Ca-2**		91.667	**-1.235843**	ppb	19.156	53.280	133.334
49	**Ti**		232.224	**-0.104321**	ppb	17.364	38.717	346.671
52	**Cr**		16527.337	**-0.052380**	ppb	2.725	63.418	18068.087
55	**Mn**		2195.724	**0.045085**	ppb	1.140	3.985	1340.063
57	**Fe**		13341.785	**-0.010081**	ppb	2.369	3164.386	14006.866
45	**Sc-IS**	>	1777287.024		ppb	1.789		1865382.380
66	**Zn**		500.009	**0.003347**	ppb	9.821	547.912	516.676
86	**Sr**		17.002	**-0.007239**	ppb	173.097	140.448	39.724
65	**Cu**		111.112	**-0.003696**	ppb	14.177	124.593	128.889
69	**Ga-IS**		566452.112		ppb	0.280		573819.625
95	**Mo**		298.892	**0.031243**	ppb	2.576	13.323	212.224
115	**In-IS**	>	195128.866		ppb	0.855		197719.745
111	**Cd**		10.483	**-0.002352**	ppb	66.296	154.300	15.110
118	**Sn**		1710.102	**0.089678**	ppb	0.585	1.149	1235.609
121	**Sb**		246.669	**0.008293**	ppb	19.063	93.367	197.779
135	**Ba**		67.778	**0.019571**	ppb	25.237	47.355	33.333
165	**Ho-IS**		359940.182		ppb	1.846		368847.286
159	**Tb-IS**	>	362705.023		ppb	1.354		363541.658
207	**Pb**		315.557	**-0.003818**	ppb	14.067	34.415	434.447
203	**Tl**		132.223	**0.000336**	ppb	14.772	516.020	128.889
209	**Bi-IS**		210163.636		ppb	1.130		214395.071
51	**V**		2.222	**0.005526**	ppb	86.603	167.944	1.111
59	**Co**		11.111	**-0.026986**	ppb	69.282	43.405	30.000
60	**Ni**		134.445	**0.052587**	ppb	19.886	41.519	67.778
75	**As**		225.191	**-0.066129**	ppb	10.523	68.543	260.869
71	**Ga-ISK**		57102.789		ppb	0.501		58887.805
82	**Se-2**		2.596	**0.052428**	ppb	174.592	191.347	0.226
107	**Ag-1**		84.445	**0.000626**	ppb	15.953	471.784	83.334
115	**In-ISK**	>	79309.668		ppb	1.787		81053.470
45	**Sc-ISK**	>	145113.409		ppb	1.487		145776.751
23	**Na**		8614.266	**0.110871**	ppb	4.031	1337.156	8625.938
39	**K**		34703.216	**0.907069**	ppb	1.279	145.016	34421.426
24	**Mg**		153.334	**-0.244015**	ppb	13.179	39.079	211.668
159	**Tb-ISK**		158059.695		ppb	1.353		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-202215_2-A @20
Autosampler Position: 330
Sample Date/Time: Sunday, December 19, 2021 16:34:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\LCS 570-202215_2-A @20.093
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42503.147		ppb	1.770		44909.430
9	**Be**		50481.274	**25.915817**	ppb	1.665	3.973	17.778
10	**B**		21410.482	**22.945042**	ppb	2.273	2.919	9341.944
27	**Al**		220537.396	**24.336832**	ppb	1.160	3.016	4118.935
43	**Ca-2**		7758.775	**264.518239**	ppb	3.336	1.895	133.334
49	**Ti**		23450.359	**24.212606**	ppb	3.631	1.591	346.671
52	**Cr**		333495.653	**23.821388**	ppb	3.051	0.759	18068.087
55	**Mn**		490614.526	**23.691428**	ppb	2.864	1.055	1340.063
57	**Fe**		120472.847	**252.801584**	ppb	3.159	3.270	14006.866
45	**Sc-IS**	>	1800718.629		ppb	3.784		1865382.380
66	**Zn**		58804.114	**26.554819**	ppb	0.492	4.222	516.676
86	**Sr**		73065.370	**24.890906**	ppb	0.923	2.910	39.724
65	**Cu**		81416.919	**25.200918**	ppb	1.079	4.142	128.889
69	**Ga-IS**		577761.740		ppb	0.122		573819.625
95	**Mo**		76624.970	**24.358708**	ppb	1.246	4.283	212.224
115	**In-IS**	>	198038.602		ppb	2.238		197719.745
111	**Cd**		46369.202	**24.078145**	ppb	1.795	2.375	15.110
118	**Sn**		134234.570	**23.953766**	ppb	2.140	2.552	1235.609
121	**Sb**		157645.139	**24.913642**	ppb	1.274	2.548	197.779
135	**Ba**		44501.443	**24.656107**	ppb	1.809	2.550	33.333
165	**Ho-IS**		367619.787		ppb	1.755		368847.286
159	**Tb-IS**	>	368255.892		ppb	1.783		363541.658
207	**Pb**		747763.667	**23.783910**	ppb	0.963	1.592	434.447
203	**Tl**		237465.194	**22.586292**	ppb	0.588	1.494	128.889
209	**Bi-IS**		212237.221		ppb	0.772		214395.071
51	**V**		5187.609	**24.327226**	ppb	3.262	4.919	1.111
59	**Co**		16688.638	**24.301405**	ppb	3.250	5.126	30.000
60	**Ni**		31379.990	**23.647609**	ppb	1.828	2.788	67.778
75	**As**		10716.323	**22.450826**	ppb	2.255	0.841	260.869
71	**Ga-ISK**		59079.717		ppb	1.833		58887.805
82	**Se-2**		1134.962	**24.987045**	ppb	4.002	4.893	0.226
107	**Ag-1**		61014.488	**12.620287**	ppb	1.671	0.284	83.334
115	**In-ISK**	>	80763.124		ppb	1.958		81053.470
45	**Sc-ISK**	>	147393.177		ppb	0.966		145776.751
23	**Na**		69351.299	**224.644235**	ppb	1.832	2.778	8625.938
39	**K**		150416.648	**233.072253**	ppb	0.697	0.935	34421.426
24	**Mg**		60420.934	**253.055766**	ppb	3.378	3.658	211.668
159	**Tb-ISK**		160404.880		ppb	0.755		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-202215_3-A @20
Autosampler Position: 331
Sample Date/Time: Sunday, December 19, 2021 16:37:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\LCSD 570-202215_3-A @20.094
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42041.776		ppb	0.926		44909.430
9	**Be**		49136.585	**24.720702**	ppb	0.819	0.243	17.778
10	**B**		21137.873	**21.682122**	ppb	4.799	8.969	9341.944
27	**Al**		218692.482	**23.642201**	ppb	1.583	1.180	4118.935
43	**Ca-2**		7967.221	**266.401657**	ppb	1.636	1.067	133.334
49	**Ti**		23301.216	**23.586254**	ppb	2.119	1.566	346.671
52	**Cr**		330214.295	**23.093848**	ppb	2.427	2.326	18068.087
55	**Mn**		484430.339	**22.939244**	ppb	0.875	1.060	1340.063
57	**Fe**		120007.563	**246.188318**	ppb	1.252	2.002	14006.866
45	**Sc-IS**	>	1835772.135		ppb	0.592		1865382.380
66	**Zn**		57078.251	**25.246830**	ppb	0.948	1.474	516.676
86	**Sr**		70337.271	**23.486695**	ppb	1.810	1.898	39.724
65	**Cu**		79896.284	**24.234792**	ppb	3.235	3.676	128.889
69	**Ga-IS**		573700.721		ppb	0.289		573819.625
95	**Mo**		76261.930	**23.754175**	ppb	1.413	1.319	212.224
115	**In-IS**	>	194987.867		ppb	0.622		197719.745
111	**Cd**		45847.167	**24.172476**	ppb	1.983	1.477	15.110
118	**Sn**		132352.703	**23.981672**	ppb	2.251	2.005	1235.609
121	**Sb**		154052.891	**24.718500**	ppb	0.947	0.719	197.779
135	**Ba**		44042.232	**24.777355**	ppb	0.718	0.936	33.333
165	**Ho-IS**		361421.858		ppb	2.270		368847.286
159	**Tb-IS**	>	361476.449		ppb	2.195		363541.658
207	**Pb**		737283.684	**23.895744**	ppb	0.614	2.644	434.447
203	**Tl**		235043.754	**22.774667**	ppb	1.741	1.554	128.889
209	**Bi-IS**		211773.736		ppb	0.667		214395.071
51	**V**		4984.205	**23.653832**	ppb	6.095	9.519	1.111
59	**Co**		16714.218	**24.587176**	ppb	1.238	2.317	30.000
60	**Ni**		30829.899	**23.488503**	ppb	0.705	4.117	67.778
75	**As**		10660.819	**22.576542**	ppb	2.024	1.669	260.869
71	**Ga-ISK**		58964.787		ppb	1.359		58887.805
82	**Se-2**		1077.289	**23.954172**	ppb	4.186	2.695	0.226
107	**Ag-1**		60604.953	**12.674967**	ppb	0.789	3.613	83.334
115	**In-ISK**	>	79939.845		ppb	3.583		81053.470
45	**Sc-ISK**	>	146864.452		ppb	1.083		145776.751
23	**Na**		68348.123	**221.820756**	ppb	1.035	1.246	8625.938
39	**K**		147514.494	**228.305355**	ppb	1.557	2.459	34421.426
24	**Mg**		58656.869	**246.499329**	ppb	1.843	1.153	211.668
159	**Tb-ISK**		160780.409		ppb	0.857		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-5-B sd @100
Autosampler Position: 332
Sample Date/Time: Sunday, December 19, 2021 16:41:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-5-B sd @100.095
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43468.258		ppb	1.015		44909.430
9	**Be**		105.556	**0.043917**	ppb	17.392	19.666	17.778
10	**B**		9864.517	**1.104661**	ppb	2.071	50.716	9341.944
27	**Al**		10994405.577	**1202.547996**	ppb	2.512	1.198	4118.935
43	**Ca-2**		20291.072	**680.827540**	ppb	2.383	1.164	133.334
49	**Ti**		21541.787	**21.635902**	ppb	1.440	1.201	346.671
52	**Cr**		90561.704	**5.336534**	ppb	0.544	1.427	18068.087
55	**Mn**		332126.993	**15.603962**	ppb	1.508	0.875	1340.063
57	**Fe**		854443.128	**1935.298877**	ppb	1.277	0.883	14006.866
45	**Sc-IS**	>	1847876.097		ppb	1.307		1865382.380
66	**Zn**		58433.740	**25.678018**	ppb	2.011	0.707	516.676
86	**Sr**		16139.550	**5.343818**	ppb	1.141	0.173	39.724
65	**Cu**		52186.275	**15.710970**	ppb	1.726	1.400	128.889
69	**Ga-IS**		580491.921		ppb	0.876		573819.625
95	**Mo**		644.459	**0.134771**	ppb	4.399	7.145	212.224
115	**In-IS**	>	198133.668		ppb	1.555		197719.745
111	**Cd**		74.202	**0.030536**	ppb	37.389	45.386	15.110
118	**Sn**		6096.856	**0.874528**	ppb	1.547	1.702	1235.609
121	**Sb**		396.672	**0.031377**	ppb	3.851	6.419	197.779
135	**Ba**		15022.343	**8.307619**	ppb	2.700	3.962	33.333
165	**Ho-IS**		368362.745		ppb	1.486		368847.286
159	**Tb-IS**	>	371652.721		ppb	1.133		363541.658
207	**Pb**		312905.801	**9.851841**	ppb	1.033	0.101	434.447
203	**Tl**		743.353	**0.057651**	ppb	4.746	5.050	128.889
209	**Bi-IS**		216074.378		ppb	1.776		214395.071
51	**V**		857.804	**4.041554**	ppb	3.526	4.793	1.111
59	**Co**		485.564	**0.668055**	ppb	6.379	4.869	30.000
60	**Ni**		2210.171	**1.628102**	ppb	3.013	4.053	67.778
75	**As**		574.115	**0.682777**	ppb	3.848	10.458	260.869
71	**Ga-ISK**		58266.360		ppb	0.140		58887.805
82	**Se-2**		10.258	**0.220793**	ppb	44.653	44.343	0.226
107	**Ag-1**		611.124	**0.110027**	ppb	6.864	5.375	83.334
115	**In-ISK**	>	80293.473		ppb	2.243		81053.470
45	**Sc-ISK**	>	147018.243		ppb	1.079		145776.751
23	**Na**		306330.774	**1105.480849**	ppb	2.442	2.450	8625.938
39	**K**		302942.890	**542.090927**	ppb	2.358	2.327	34421.426
24	**Mg**		164569.909	**692.474858**	ppb	3.491	3.115	211.668
159	**Tb-ISK**		159640.427		ppb	1.114		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-5-B @20
Autosampler Position: 333
Sample Date/Time: Sunday, December 19, 2021 16:44:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-5-B @20.096
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46192.395		ppb	3.380		44909.430
9	**Be**		371.116	**0.175155**	ppb	4.947	5.286	17.778
10	**B**		13783.316	**7.950967**	ppb	2.741	7.776	9341.944
27	**Al**		50896572.418	**5521.355046**	ppb	1.174	1.550	4118.935
43	**Ca-2**		94528.410	**3160.912483**	ppb	1.169	1.578	133.334
49	**Ti**		99741.477	**100.564771**	ppb	1.493	1.036	346.671
52	**Cr**		361049.154	**24.969739**	ppb	0.975	0.575	18068.087
55	**Mn**		1568569.174	**73.286043**	ppb	1.772	1.349	1340.063
57	**Fe**		4126971.011	**9387.305396**	ppb	2.221	1.916	14006.866
45	**Sc-IS**	>	1863955.784		ppb	0.464		1865382.380
66	**Zn**		293525.201	**128.783381**	ppb	1.376	1.200	516.676
86	**Sr**		74751.318	**24.584614**	ppb	1.862	2.211	39.724
65	**Cu**		249373.760	**74.568360**	ppb	1.848	1.585	128.889
69	**Ga-IS**		593310.209		ppb	1.331		573819.625
95	**Mo**		622.236	**0.126141**	ppb	6.741	9.589	212.224
115	**In-IS**	>	196021.647		ppb	1.236		197719.745
111	**Cd**		278.696	**0.138364**	ppb	2.424	2.404	15.110
118	**Sn**		12658.944	**2.079876**	ppb	3.357	3.005	1235.609
121	**Sb**		98.889	**-0.015515**	ppb	16.628	17.758	197.779
135	**Ba**		71221.545	**39.871559**	ppb	0.619	1.540	33.333
165	**Ho-IS**		372734.988		ppb	1.346		368847.286
159	**Tb-IS**	>	374305.163		ppb	1.231		363541.658
207	**Pb**		1453019.676	**45.478152**	ppb	0.475	1.101	434.447
203	**Tl**		1547.862	**0.132464**	ppb	2.605	1.774	128.889
209	**Bi-IS**		208375.513		ppb	1.178		214395.071
51	**V**		4302.870	**21.002294**	ppb	2.463	1.951	1.111
59	**Co**		2280.182	**3.418503**	ppb	1.161	0.173	30.000
60	**Ni**		9606.563	**7.503208**	ppb	1.444	0.992	67.778
75	**As**		1848.315	**3.576444**	ppb	2.982	4.666	260.869
71	**Ga-ISK**		59662.120		ppb	1.437		58887.805
82	**Se-2**		19.862	**0.449987**	ppb	13.425	12.451	0.226
107	**Ag-1**		2102.377	**0.436177**	ppb	6.766	6.180	83.334
115	**In-ISK**	>	77543.502		ppb	1.086		81053.470
45	**Sc-ISK**	>	149098.537		ppb	1.163		145776.751
23	**Na**		1383289.888	**5034.091446**	ppb	0.737	1.115	8625.938
39	**K**		1288306.888	**2497.252615**	ppb	1.034	0.563	34421.426
24	**Mg**		770645.935	**3201.307719**	ppb	0.650	1.782	211.668
159	**Tb-ISK**		160226.206		ppb	0.500		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-5-C MS @20
Autosampler Position: 334
Sample Date/Time: Sunday, December 19, 2021 16:47:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-5-C MS @20.097
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46833.318		ppb	1.379		44909.430
9	**Be**		51305.296	**25.381789**	ppb	0.059	0.088	17.778
10	**B**		24336.281	**26.746139**	ppb	3.245	5.200	9341.944
27	**Al**		49663648.548	**5378.860994**	ppb	0.743	0.750	4118.935
43	**Ca-2**		104186.914	**3478.657627**	ppb	1.251	1.210	133.334
49	**Ti**		126227.457	**127.164951**	ppb	0.729	0.772	346.671
52	**Cr**		694605.357	**49.173264**	ppb	1.635	1.690	18068.087
55	**Mn**		2238225.706	**104.438759**	ppb	0.884	0.893	1340.063
57	**Fe**		4182616.962	**9499.559873**	ppb	0.324	0.282	14006.866
45	**Sc-IS**	>	1866906.010		ppb	0.043		1865382.380
66	**Zn**		338827.308	**148.459999**	ppb	1.653	1.628	516.676
86	**Sr**		144243.614	**47.373937**	ppb	1.863	1.827	39.724
65	**Cu**		313683.010	**93.661675**	ppb	2.076	2.046	128.889
69	**Ga-IS**		610474.421		ppb	2.078		573819.625
95	**Mo**		38421.599	**11.735096**	ppb	0.441	0.459	212.224
115	**In-IS**	>	199607.552		ppb	2.047		197719.745
111	**Cd**		48749.304	**25.111014**	ppb	1.516	0.548	15.110
118	**Sn**		135239.558	**23.937553**	ppb	2.237	0.715	1235.609
121	**Sb**		5611.103	**0.848957**	ppb	4.731	2.816	197.779
135	**Ba**		109701.863	**60.319375**	ppb	1.267	0.789	33.333
165	**Ho-IS**		381642.741		ppb	2.563		368847.286
159	**Tb-IS**	>	386419.415		ppb	1.481		363541.658
207	**Pb**		1869987.765	**56.697364**	ppb	0.660	0.835	434.447
203	**Tl**		179223.923	**16.240820**	ppb	0.549	1.028	128.889
209	**Bi-IS**		217190.782		ppb	0.089		214395.071
51	**V**		9085.111	**43.019713**	ppb	2.025	3.081	1.111
59	**Co**		18309.507	**26.921383**	ppb	2.043	3.049	30.000
60	**Ni**		40065.001	**30.503485**	ppb	1.527	1.778	67.778
75	**As**		11971.548	**25.408923**	ppb	1.825	2.872	260.869
71	**Ga-ISK**		59530.471		ppb	1.811		58887.805
82	**Se-2**		1113.271	**24.754846**	ppb	5.490	6.351	0.226
107	**Ag-1**		6370.311	**1.315314**	ppb	4.222	3.877	83.334
115	**In-ISK**	>	79962.019		ppb	1.082		81053.470
45	**Sc-ISK**	>	150860.179		ppb	0.727		145776.751
23	**Na**		1436829.890	**5167.833236**	ppb	3.211	2.577	8625.938
39	**K**		1395466.514	**2678.095154**	ppb	2.521	1.995	34421.426
24	**Mg**		821938.878	**3373.920981**	ppb	2.350	1.847	211.668
159	**Tb-ISK**		161549.303		ppb	2.367		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-5-D MSD @20
Autosampler Position: 335
Sample Date/Time: Sunday, December 19, 2021 16:50:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-5-D MSD @20.098
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46614.844		ppb	2.257		44909.430
9	**Be**		51326.505	**24.814969**	ppb	1.865	0.990	17.778
10	**B**		24052.457	**25.265385**	ppb	1.633	1.535	9341.944
27	**Al**		50197000.355	**5313.459862**	ppb	1.316	1.219	4118.935
43	**Ca-2**		106446.808	**3473.958566**	ppb	1.082	2.004	133.334
49	**Ti**		127999.779	**126.026678**	ppb	0.513	0.470	346.671
52	**Cr**		702878.107	**48.623209**	ppb	1.351	2.349	18068.087
55	**Mn**		2269083.303	**103.489236**	ppb	1.540	2.238	1340.063
57	**Fe**		4249806.856	**9433.868592**	ppb	0.440	1.343	14006.866
45	**Sc-IS**	>	1910218.703		ppb	0.933		1865382.380
66	**Zn**		341117.431	**146.090609**	ppb	1.539	2.349	516.676
86	**Sr**		144748.527	**46.461412**	ppb	1.515	1.078	39.724
65	**Cu**		312559.024	**91.217394**	ppb	0.665	1.492	128.889
69	**Ga-IS**		612738.290		ppb	0.449		573819.625
95	**Mo**		39667.218	**11.841827**	ppb	0.380	0.559	212.224
115	**In-IS**	>	199352.197		ppb	1.393		197719.745
111	**Cd**		49766.878	**25.665682**	ppb	1.928	1.014	15.110
118	**Sn**		136638.179	**24.219363**	ppb	1.194	0.202	1235.609
121	**Sb**		5419.917	**0.820601**	ppb	2.216	3.559	197.779
135	**Ba**		108460.174	**59.714301**	ppb	0.413	1.473	33.333
165	**Ho-IS**		381138.120		ppb	1.498		368847.286
159	**Tb-IS**	>	380607.065		ppb	0.830		363541.658
207	**Pb**		1888545.097	**58.131429**	ppb	1.137	1.145	434.447
203	**Tl**		178432.436	**16.414415**	ppb	2.804	2.632	128.889
209	**Bi-IS**		215630.913		ppb	1.240		214395.071
51	**V**		9037.305	**43.500578**	ppb	3.767	5.993	1.111
59	**Co**		18199.364	**27.183373**	ppb	1.239	1.487	30.000
60	**Ni**		40420.446	**31.263971**	ppb	1.647	0.695	67.778
75	**As**		12154.632	**26.223051**	ppb	1.151	1.088	260.869
71	**Ga-ISK**		60875.005		ppb	1.642		58887.805
82	**Se-2**		1083.206	**24.464771**	ppb	0.668	1.670	0.226
107	**Ag-1**		6504.815	**1.365273**	ppb	2.928	2.680	83.334
115	**In-ISK**	>	78714.162		ppb	2.212		81053.470
45	**Sc-ISK**	>	149330.941		ppb	1.119		145776.751
23	**Na**		1435917.861	**5218.960841**	ppb	1.859	2.464	8625.938
39	**K**		1426033.460	**2767.500314**	ppb	1.454	1.941	34421.426
24	**Mg**		842618.381	**3494.258633**	ppb	1.825	0.719	211.668
159	**Tb-ISK**		166403.633		ppb	1.184		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-5-B pds @20
Autosampler Position: 336
Sample Date/Time: Sunday, December 19, 2021 16:53:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-5-B pds @20.099
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47671.637		ppb	1.170		44909.430
9	**Be**		51750.239	**24.755223**	ppb	1.207	1.566	17.778
10	**B**		26195.112	**28.515869**	ppb	1.984	2.883	9341.944
27	**Al**		51480809.636	**5391.231533**	ppb	1.966	2.086	4118.935
43	**Ca-2**		103736.984	**3348.786951**	ppb	1.139	0.836	133.334
49	**Ti**		128671.350	**125.333915**	ppb	0.918	1.165	346.671
52	**Cr**		700119.098	**47.889683**	ppb	0.497	0.393	18068.087
55	**Mn**		2217273.580	**100.032362**	ppb	1.824	1.650	1340.063
57	**Fe**		4260590.419	**9356.113513**	ppb	0.879	1.163	14006.866
45	**Sc-IS**	>	1930815.521		ppb	0.408		1865382.380
66	**Zn**		359214.068	**152.192788**	ppb	1.431	1.613	516.676
86	**Sr**		143756.432	**45.651452**	ppb	1.750	1.805	39.724
65	**Cu**		327639.535	**94.592237**	ppb	1.464	1.477	128.889
69	**Ga-IS**		614074.199		ppb	2.157		573819.625
95	**Mo**		74554.139	**22.075888**	ppb	2.847	3.155	212.224
115	**In-IS**	>	200155.294		ppb	2.981		197719.745
111	**Cd**		48905.334	**25.126970**	ppb	1.728	1.300	15.110
118	**Sn**		139519.369	**24.637084**	ppb	2.457	0.819	1235.609
121	**Sb**		161259.920	**25.210697**	ppb	2.645	1.416	197.779
135	**Ba**		115720.248	**63.478301**	ppb	1.922	2.958	33.333
165	**Ho-IS**		382498.616		ppb	0.280		368847.286
159	**Tb-IS**	>	382612.757		ppb	0.428		363541.658
207	**Pb**		2197397.019	**67.283228**	ppb	1.026	0.644	434.447
203	**Tl**		162418.120	**14.861997**	ppb	0.922	0.997	128.889
209	**Bi-IS**		213631.056		ppb	0.407		214395.071
51	**V**		9249.661	**43.965485**	ppb	1.565	3.140	1.111
59	**Co**		18457.482	**27.250296**	ppb	3.565	5.348	30.000
60	**Ni**		39721.824	**30.356787**	ppb	1.630	2.290	67.778
75	**As**		12197.972	**25.990261**	ppb	2.587	1.299	260.869
71	**Ga-ISK**		59873.009		ppb	1.767		58887.805
82	**Se-2**		1198.921	**26.764552**	ppb	3.901	5.622	0.226
107	**Ag-1**		61311.319	**12.855319**	ppb	1.946	0.225	83.334
115	**In-ISK**	>	79669.467		ppb	1.747		81053.470
45	**Sc-ISK**	>	150834.383		ppb	1.041		145776.751
23	**Na**		1426826.183	**5132.806139**	ppb	2.681	2.162	8625.938
39	**K**		1392200.833	**2672.288088**	ppb	1.804	1.391	34421.426
24	**Mg**		832642.528	**3418.822791**	ppb	0.839	1.135	211.668
159	**Tb-ISK**		161568.522		ppb	0.311		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-16-B @20
Autosampler Position: 337
Sample Date/Time: Sunday, December 19, 2021 16:56:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-16-B @20.100
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46566.942		ppb	3.389		44909.430
9	**Be**		266.669	**0.122096**	ppb	17.185	20.438	17.778
10	**B**		12676.733	**5.703856**	ppb	0.949	13.907	9341.944
27	**Al**		37830359.007	**4054.253479**	ppb	0.326	2.854	4118.935
43	**Ca-2**		57892.149	**1909.540943**	ppb	3.284	0.764	133.334
49	**Ti**		80843.693	**80.446068**	ppb	1.479	2.001	346.671
52	**Cr**		275722.228	**18.512824**	ppb	1.070	1.909	18068.087
55	**Mn**		1157773.403	**53.414547**	ppb	1.199	1.540	1340.063
57	**Fe**		3084974.657	**6924.322668**	ppb	1.245	2.878	14006.866
45	**Sc-IS**	>	1887596.213		ppb	2.636		1865382.380
66	**Zn**		210534.838	**91.161785**	ppb	1.912	0.934	516.676
86	**Sr**		48515.002	**15.754363**	ppb	1.421	1.580	39.724
65	**Cu**		181798.375	**53.691449**	ppb	0.603	2.155	128.889
69	**Ga-IS**		607943.856		ppb	1.558		573819.625
95	**Mo**		1012.258	**0.242447**	ppb	2.427	5.355	212.224
115	**In-IS**	>	199524.790		ppb	1.475		197719.745
111	**Cd**		172.320	**0.081137**	ppb	19.067	22.301	15.110
118	**Sn**		13338.448	**2.161267**	ppb	2.140	2.484	1235.609
121	**Sb**		313.337	**0.017932**	ppb	15.343	45.795	197.779
135	**Ba**		46399.708	**25.509224**	ppb	2.573	1.883	33.333
165	**Ho-IS**		380489.534		ppb	2.014		368847.286
159	**Tb-IS**	>	380482.666		ppb	1.998		363541.658
207	**Pb**		787595.592	**24.244634**	ppb	1.259	0.756	434.447
203	**Tl**		1434.517	**0.119607**	ppb	7.799	6.987	128.889
209	**Bi-IS**		215918.415		ppb	0.600		214395.071
51	**V**		3245.925	**15.245860**	ppb	4.944	3.136	1.111
59	**Co**		1601.201	**2.297685**	ppb	2.717	3.733	30.000
60	**Ni**		7250.729	**5.438827**	ppb	0.792	1.227	67.778
75	**As**		1375.224	**2.404680**	ppb	3.642	6.843	260.869
71	**Ga-ISK**		60376.242		ppb	2.091		58887.805
82	**Se-2**		17.560	**0.383548**	ppb	31.500	32.616	0.226
107	**Ag-1**		1715.659	**0.339278**	ppb	3.099	4.863	83.334
115	**In-ISK**	>	80548.265		ppb	1.952		81053.470
45	**Sc-ISK**	>	149465.685		ppb	1.222		145776.751
23	**Na**		977194.745	**3538.369370**	ppb	2.017	2.881	8625.938
39	**K**		1002536.215	**1923.086709**	ppb	0.672	1.843	34421.426
24	**Mg**		573812.870	**2377.192401**	ppb	1.776	1.045	211.668
159	**Tb-ISK**		162947.413		ppb	0.758		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-22-B @20
Autosampler Position: 338
Sample Date/Time: Sunday, December 19, 2021 17:00:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-22-B @20.101
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47546.785		ppb	1.632		44909.430
9	**Be**		353.338	**0.161092**	ppb	12.692	11.922	17.778
10	**B**		13481.917	**6.719465**	ppb	2.739	10.008	9341.944
27	**Al**		57642609.044	**6072.930421**	ppb	0.763	0.971	4118.935
43	**Ca-2**		102593.817	**3331.858449**	ppb	1.774	1.692	133.334
49	**Ti**		107982.193	**105.751040**	ppb	1.592	0.561	346.671
52	**Cr**		415235.277	**28.043760**	ppb	0.948	0.725	18068.087
55	**Mn**		1833544.546	**83.216112**	ppb	1.001	1.765	1340.063
57	**Fe**		4631436.696	**10234.827632**	ppb	1.443	1.685	14006.866
45	**Sc-IS**	>	1919378.187		ppb	1.484		1865382.380
66	**Zn**		326599.401	**139.205033**	ppb	1.391	2.423	516.676
86	**Sr**		75280.742	**24.045818**	ppb	0.263	1.535	39.724
65	**Cu**		259754.897	**75.450739**	ppb	1.105	2.547	128.889
69	**Ga-IS**		614401.439		ppb	1.515		573819.625
95	**Mo**		855.581	**0.190437**	ppb	1.757	4.341	212.224
115	**In-IS**	>	200522.002		ppb	2.826		197719.745
111	**Cd**		317.096	**0.155143**	ppb	9.934	13.064	15.110
118	**Sn**		16423.885	**2.698024**	ppb	2.666	0.638	1235.609
121	**Sb**		126.667	**-0.011488**	ppb	13.925	28.250	197.779
135	**Ba**		90955.396	**49.780596**	ppb	2.258	0.713	33.333
165	**Ho-IS**		375979.307		ppb	1.119		368847.286
159	**Tb-IS**	>	373853.262		ppb	0.759		363541.658
207	**Pb**		1358003.023	**42.555289**	ppb	1.193	1.943	434.447
203	**Tl**		1951.245	**0.170421**	ppb	6.843	6.812	128.889
209	**Bi-IS**		214557.019		ppb	0.579		214395.071
51	**V**		4619.637	**21.795832**	ppb	4.899	5.326	1.111
59	**Co**		2462.435	**3.569707**	ppb	2.983	2.949	30.000
60	**Ni**		11554.671	**8.731926**	ppb	1.207	2.744	67.778
75	**As**		1960.589	**3.679630**	ppb	0.573	2.145	260.869
71	**Ga-ISK**		61063.567		ppb	0.804		58887.805
82	**Se-2**		20.213	**0.443358**	ppb	47.670	48.921	0.226
107	**Ag-1**		2374.642	**0.477909**	ppb	1.091	2.166	83.334
115	**In-ISK**	>	80245.312		ppb	1.855		81053.470
45	**Sc-ISK**	>	152500.937		ppb	1.775		145776.751
23	**Na**		1472184.609	**5238.787619**	ppb	2.156	0.449	8625.938
39	**K**		1436771.169	**2729.455036**	ppb	1.331	1.250	34421.426
24	**Mg**		859924.885	**3492.253749**	ppb	1.366	0.420	211.668
159	**Tb-ISK**		165674.078		ppb	2.083		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 17:09:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.104
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41132.466		ppb	0.623		44909.430
9	**Be**		190230.558	**96.295969**	ppb	1.323	1.006	17.778
10	**B**		136678.653	**232.852362**	ppb	1.874	2.159	9341.944
27	**Al**		874740.491	**96.514674**	ppb	1.373	3.642	4118.935
43	**Ca-2**		146524.563	**5005.942861**	ppb	2.463	1.314	133.334
49	**Ti**		93487.307	**96.241578**	ppb	3.037	1.768	346.671
52	**Cr**		1296880.008	**95.120060**	ppb	0.918	1.472	18068.087
55	**Mn**		2074778.086	**98.975228**	ppb	5.226	3.159	1340.063
57	**Fe**		2228775.870	**5163.901546**	ppb	1.130	1.374	14006.866
45	**Sc-IS**	>	1825281.338		ppb	2.276		1865382.380
66	**Zn**		227323.546	**101.819754**	ppb	1.524	1.309	516.676
86	**Sr**		297323.114	**99.916099**	ppb	0.890	1.725	39.724
65	**Cu**		330978.057	**101.111104**	ppb	0.490	1.853	128.889
69	**Ga-IS**		600717.510		ppb	1.543		573819.625
95	**Mo**		322987.272	**101.416365**	ppb	0.903	1.382	212.224
115	**In-IS**	>	201291.073		ppb	1.367		197719.745
111	**Cd**		190698.829	**97.420460**	ppb	2.234	1.426	15.110
118	**Sn**		560400.782	**99.060523**	ppb	0.859	0.562	1235.609
121	**Sb**		631042.165	**98.181393**	ppb	1.269	1.187	197.779
135	**Ba**		182078.795	**99.296597**	ppb	1.789	2.550	33.333
165	**Ho-IS**		370333.414		ppb	0.904		368847.286
159	**Tb-IS**	>	370495.497		ppb	1.188		363541.658
207	**Pb**		3028539.964	**95.780824**	ppb	0.285	1.105	434.447
203	**Tl**		991218.047	**93.745848**	ppb	0.649	1.835	128.889
209	**Bi-IS**		210021.463		ppb	0.491		214395.071
51	**V**		20569.253	**97.212552**	ppb	3.358	4.102	1.111
59	**Co**		66609.388	**97.854606**	ppb	1.278	2.293	30.000
60	**Ni**		124274.930	**94.534985**	ppb	1.245	1.423	67.778
75	**As**		44901.339	**96.611913**	ppb	3.113	2.213	260.869
71	**Ga-ISK**		57506.666		ppb	2.322		58887.805
82	**Se-2**		4389.619	**97.396895**	ppb	2.239	2.283	0.226
107	**Ag-1**		467681.387	**97.618750**	ppb	1.754	0.736	83.334
115	**In-ISK**	>	80120.455		ppb	1.019		81053.470
45	**Sc-ISK**	>	147165.598		ppb	2.656		145776.751
23	**Na**		1298770.911	**4786.400449**	ppb	3.019	0.548	8625.938
39	**K**		2531026.591	**5041.799882**	ppb	0.969	2.200	34421.426
24	**Mg**		1152540.502	**4851.902997**	ppb	0.983	1.798	211.668
159	**Tb-ISK**		161118.178		ppb	0.803		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 17:12:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.105
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41113.523		ppb	0.679		44909.430
9	**Be**		52.222	**0.017765**	ppb	9.750	11.800	17.778
10	**B**		8883.873	**-0.366176**	ppb	1.638	105.341	9341.944
27	**Al**		6163.018	**0.239137**	ppb	15.709	38.780	4118.935
43	**Ca-2**		155.001	**0.862817**	ppb	19.622	114.021	133.334
49	**Ti**		258.891	**-0.081501**	ppb	11.249	34.466	346.671
52	**Cr**		15997.843	**-0.117412**	ppb	1.341	23.968	18068.087
55	**Mn**		1973.470	**0.032239**	ppb	2.639	11.092	1340.063
57	**Fe**		15891.235	**5.245961**	ppb	17.431	108.386	14006.866
45	**Sc-IS**	>	1814160.256		ppb	2.121		1865382.380
66	**Zn**		598.902	**0.043421**	ppb	10.507	60.809	516.676
86	**Sr**		71.946	**0.011393**	ppb	38.839	86.154	39.724
65	**Cu**		205.557	**0.024714**	ppb	7.664	23.401	128.889
69	**Ga-IS**		578685.929		ppb	1.294		573819.625
95	**Mo**		1227.831	**0.322599**	ppb	10.336	10.977	212.224
115	**In-IS**	>	202107.401		ppb	3.651		197719.745
111	**Cd**		46.311	**0.015515**	ppb	44.204	62.685	15.110
118	**Sn**		5467.714	**0.743530**	ppb	3.512	9.126	1235.609
121	**Sb**		944.476	**0.114950**	ppb	7.009	4.596	197.779
135	**Ba**		83.334	**0.026688**	ppb	10.583	12.048	33.333
165	**Ho-IS**		365952.921		ppb	1.288		368847.286
159	**Tb-IS**	>	371374.415		ppb	0.986		363541.658
207	**Pb**		1112.239	**0.021079**	ppb	6.664	9.607	434.447
203	**Tl**		510.009	**0.035668**	ppb	10.147	12.388	128.889
209	**Bi-IS**		215565.353		ppb	0.500		214395.071
51	**V**		8.889	**0.036738**	ppb	21.651	24.258	1.111
59	**Co**		47.778	**0.026539**	ppb	14.523	37.985	30.000
60	**Ni**		170.001	**0.078296**	ppb	15.563	26.375	67.778
75	**As**		285.096	**0.057671**	ppb	14.185	139.737	260.869
71	**Ga-ISK**		57983.010		ppb	1.674		58887.805
82	**Se-2**		5.916	**0.126846**	ppb	77.123	80.393	0.226
107	**Ag-1**		382.227	**0.062474**	ppb	8.736	9.951	83.334
115	**In-ISK**	>	80212.325		ppb	1.055		81053.470
45	**Sc-ISK**	>	145353.856		ppb	2.686		145776.751
23	**Na**		9986.824	**5.231362**	ppb	1.970	29.210	8625.938
39	**K**		38344.726	**8.267800**	ppb	0.488	29.612	34421.426
24	**Mg**		760.020	**2.342097**	ppb	13.595	19.899	211.668
159	**Tb-ISK**		158867.933		ppb	1.433		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 17:15:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.106
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41760.977		ppb	2.573		44909.430
9	**Be**		20.000	**0.001322**	ppb	16.667	143.347	17.778
10	**B**		8623.717	**-0.981673**	ppb	4.476	23.245	9341.944
27	**Al**		5320.992	**0.142531**	ppb	4.182	28.820	4118.935
43	**Ca-2**		111.667	**-0.661929**	ppb	22.088	111.740	133.334
49	**Ti**		243.335	**-0.099456**	ppb	9.491	24.735	346.671
52	**Cr**		16099.068	**-0.119480**	ppb	1.549	24.442	18068.087
55	**Mn**		2556.896	**0.059211**	ppb	3.861	1.821	1340.063
57	**Fe**		13625.387	**-0.244310**	ppb	2.845	351.801	14006.866
45	**Sc-IS**	>	1829083.628		ppb	3.047		1865382.380
66	**Zn**		473.341	**-0.014734**	ppb	6.139	105.479	516.676
86	**Sr**		65.942	**0.009083**	ppb	12.981	35.142	39.724
65	**Cu**		133.334	**0.002211**	ppb	21.360	411.376	128.889
69	**Ga-IS**		575279.141		ppb	3.074		573819.625
95	**Mo**		410.006	**0.063605**	ppb	16.321	36.132	212.224
115	**In-IS**	>	197971.084		ppb	1.524		197719.745
111	**Cd**		21.361	**0.003268**	ppb	47.409	163.277	15.110
118	**Sn**		2831.392	**0.287450**	ppb	4.134	9.939	1235.609
121	**Sb**		354.449	**0.024825**	ppb	15.997	38.439	197.779
135	**Ba**		57.778	**0.013439**	ppb	46.274	107.470	33.333
165	**Ho-IS**		364734.159		ppb	0.567		368847.286
159	**Tb-IS**	>	369686.295		ppb	1.494		363541.658
207	**Pb**		571.116	**0.004089**	ppb	7.967	29.056	434.447
203	**Tl**		195.557	**0.006117**	ppb	5.208	17.289	128.889
209	**Bi-IS**		215273.242		ppb	0.673		214395.071
51	**V**		4.444	**0.015999**	ppb	86.603	114.698	1.111
59	**Co**		17.778	**-0.017287**	ppb	10.825	15.837	30.000
60	**Ni**		116.667	**0.038413**	ppb	15.908	37.464	67.778
75	**As**		268.802	**0.027646**	ppb	13.846	298.324	260.869
71	**Ga-ISK**		57801.190		ppb	2.485		58887.805
82	**Se-2**		5.596	**0.120892**	ppb	230.530	238.457	0.226
107	**Ag-1**		118.889	**0.007800**	ppb	29.182	94.364	83.334
115	**In-ISK**	>	79594.198		ppb	0.542		81053.470
45	**Sc-ISK**	>	145215.592		ppb	1.749		145776.751
23	**Na**		9276.348	**2.592185**	ppb	4.272	78.723	8625.938
39	**K**		36434.179	**4.405184**	ppb	0.203	30.879	34421.426
24	**Mg**		231.669	**0.088011**	ppb	16.342	172.491	211.668
159	**Tb-ISK**		158976.181		ppb	2.954		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-23-B @20
Autosampler Position: 339
Sample Date/Time: Sunday, December 19, 2021 17:19:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-23-B @20.107
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46775.360		ppb	1.919		44909.430
9	**Be**		302.225	**0.137425**	ppb	4.458	5.164	17.778
10	**B**		13534.186	**6.925602**	ppb	0.816	1.515	9341.944
27	**Al**		43794605.772	**4636.684501**	ppb	0.895	0.961	4118.935
43	**Ca-2**		69806.812	**2276.866177**	ppb	0.748	0.361	133.334
49	**Ti**		98366.388	**96.792012**	ppb	0.342	1.082	346.671
52	**Cr**		323782.937	**21.690939**	ppb	1.249	0.914	18068.087
55	**Mn**		1392597.807	**63.499425**	ppb	0.300	1.057	1340.063
57	**Fe**		3626583.725	**8047.310667**	ppb	0.556	1.318	14006.866
45	**Sc-IS**	>	1909815.469		ppb	0.760		1865382.380
66	**Zn**		254703.934	**109.033781**	ppb	0.690	0.104	516.676
86	**Sr**		54634.865	**17.532042**	ppb	2.073	1.746	39.724
65	**Cu**		221815.475	**64.733770**	ppb	0.099	0.686	128.889
69	**Ga-IS**		604561.092		ppb	1.856		573819.625
95	**Mo**		910.029	**0.208115**	ppb	8.883	12.637	212.224
115	**In-IS**	>	204200.733		ppb	1.347		197719.745
111	**Cd**		230.313	**0.108213**	ppb	6.675	8.553	15.110
118	**Sn**		13862.282	**2.197668**	ppb	2.912	1.990	1235.609
121	**Sb**		155.556	**-0.007440**	ppb	13.777	48.641	197.779
135	**Ba**		59368.681	**31.897100**	ppb	1.519	0.500	33.333
165	**Ho-IS**		384551.810		ppb	0.951		368847.286
159	**Tb-IS**	>	384000.379		ppb	1.894		363541.658
207	**Pb**		1090754.683	**33.270710**	ppb	2.003	0.251	434.447
203	**Tl**		1428.960	**0.118014**	ppb	1.078	3.124	128.889
209	**Bi-IS**		215245.569		ppb	2.312		214395.071
51	**V**		3706.036	**17.759026**	ppb	1.939	3.988	1.111
59	**Co**		1954.579	**2.870683**	ppb	6.742	8.246	30.000
60	**Ni**		7911.079	**6.055664**	ppb	1.151	3.149	67.778
75	**As**		1795.265	**3.385330**	ppb	4.428	7.890	260.869
71	**Ga-ISK**		61018.936		ppb	1.021		58887.805
82	**Se-2**		12.198	**0.269313**	ppb	4.474	1.933	0.226
107	**Ag-1**		1896.793	**0.384453**	ppb	4.580	5.735	83.334
115	**In-ISK**	>	79034.721		ppb	2.620		81053.470
45	**Sc-ISK**	>	151670.921		ppb	0.758		145776.751
23	**Na**		1174906.835	**4197.562277**	ppb	0.951	0.221	8625.938
39	**K**		1151022.109	**2184.657128**	ppb	1.303	0.602	34421.426
24	**Mg**		657998.117	**2686.493967**	ppb	0.794	0.314	211.668
159	**Tb-ISK**		163126.135		ppb	1.050		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 17:22:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.108
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42557.758		ppb	2.003		44909.430
9	**Be**		191868.953	**95.500287**	ppb	1.463	1.246	17.778
10	**B**		139494.438	**233.722364**	ppb	0.755	0.298	9341.944
27	**Al**		886237.668	**96.114497**	ppb	1.627	2.124	4118.935
43	**Ca-2**		150308.310	**5050.045519**	ppb	0.889	0.936	133.334
49	**Ti**		95560.802	**96.748706**	ppb	1.187	0.846	346.671
52	**Cr**		1313990.185	**94.758023**	ppb	1.429	1.924	18068.087
55	**Mn**		2116484.267	**99.337161**	ppb	0.831	1.307	1340.063
57	**Fe**		2232070.847	**5084.412983**	ppb	1.513	1.549	14006.866
45	**Sc-IS**	>	1856042.562		ppb	0.482		1865382.380
66	**Zn**		226378.929	**99.693835**	ppb	2.028	1.780	516.676
86	**Sr**		304385.773	**100.568552**	ppb	1.201	0.937	39.724
65	**Cu**		333710.612	**100.231700**	ppb	0.736	1.193	128.889
69	**Ga-IS**		600420.714		ppb	1.861		573819.625
95	**Mo**		327209.190	**101.015300**	ppb	2.016	1.754	212.224
115	**In-IS**	>	204159.243		ppb	2.866		197719.745
111	**Cd**		194554.391	**98.004858**	ppb	3.138	1.954	15.110
118	**Sn**		553560.525	**96.495601**	ppb	1.524	1.801	1235.609
121	**Sb**		629344.280	**96.572449**	ppb	1.344	2.243	197.779
135	**Ba**		184194.745	**99.065283**	ppb	2.372	3.243	33.333
165	**Ho-IS**		379356.321		ppb	2.549		368847.286
159	**Tb-IS**	>	376325.800		ppb	0.724		363541.658
207	**Pb**		3021144.566	**94.061615**	ppb	1.207	1.399	434.447
203	**Tl**		986331.050	**91.825850**	ppb	0.661	0.488	128.889
209	**Bi-IS**		211052.217		ppb	1.395		214395.071
51	**V**		20972.051	**98.313642**	ppb	1.148	1.088	1.111
59	**Co**		68525.076	**99.864148**	ppb	0.892	1.323	30.000
60	**Ni**		127977.457	**96.575729**	ppb	1.697	1.172	67.778
75	**As**		45871.158	**97.938549**	ppb	1.497	1.217	260.869
71	**Ga-ISK**		58042.176		ppb	2.760		58887.805
82	**Se-2**		4437.947	**97.693014**	ppb	1.290	1.687	0.226
107	**Ag-1**		477153.143	**98.814468**	ppb	2.025	1.907	83.334
115	**In-ISK**	>	80757.692		ppb	0.553		81053.470
45	**Sc-ISK**	>	149538.629		ppb	0.891		145776.751
23	**Na**		1319939.207	**4787.230513**	ppb	1.950	1.144	8625.938
39	**K**		2568945.779	**5034.182636**	ppb	1.976	1.728	34421.426
24	**Mg**		1185388.149	**4909.437243**	ppb	2.051	1.767	211.668
159	**Tb-ISK**		160365.371		ppb	2.249		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 17:25:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.109
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42094.191		ppb	3.239		44909.430
9	**Be**		36.667	**0.009721**	ppb	9.091	16.280	17.778
10	**B**		8930.571	**-0.410737**	ppb	3.957	132.519	9341.944
27	**Al**		7134.783	**0.342703**	ppb	3.817	8.210	4118.935
43	**Ca-2**		101.667	**-0.988347**	ppb	10.238	38.094	133.334
49	**Ti**		304.448	**-0.036341**	ppb	5.401	50.467	346.671
52	**Cr**		16643.025	**-0.078988**	ppb	2.050	21.112	18068.087
55	**Mn**		1857.899	**0.025963**	ppb	3.368	9.495	1340.063
57	**Fe**		14674.200	**2.206230**	ppb	1.243	15.638	14006.866
45	**Sc-IS**	>	1828006.587		ppb	0.706		1865382.380
66	**Zn**		543.344	**0.016633**	ppb	5.453	85.851	516.676
86	**Sr**		83.095	**0.014801**	ppb	16.432	29.669	39.724
65	**Cu**		197.779	**0.021804**	ppb	5.919	16.384	128.889
69	**Ga-IS**		582428.048		ppb	2.506		573819.625
95	**Mo**		966.699	**0.238098**	ppb	7.468	10.362	212.224
115	**In-IS**	>	202553.315		ppb	4.145		197719.745
111	**Cd**		33.526	**0.009206**	ppb	5.327	17.076	15.110
118	**Sn**		4153.938	**0.509326**	ppb	3.988	8.524	1235.609
121	**Sb**		764.465	**0.087207**	ppb	5.758	13.120	197.779
135	**Ba**		93.334	**0.032150**	ppb	12.877	22.152	33.333
165	**Ho-IS**		368505.720		ppb	0.320		368847.286
159	**Tb-IS**	>	372419.341		ppb	1.573		363541.658
207	**Pb**		924.456	**0.015109**	ppb	7.393	17.132	434.447
203	**Tl**		392.228	**0.024465**	ppb	11.059	15.710	128.889
209	**Bi-IS**		216895.409		ppb	1.282		214395.071
51	**V**		7.778	**0.031212**	ppb	89.214	103.912	1.111
59	**Co**		26.667	**-0.004622**	ppb	21.651	176.543	30.000
60	**Ni**		146.667	**0.060118**	ppb	6.818	14.050	67.778
75	**As**		288.875	**0.063704**	ppb	15.079	142.089	260.869
71	**Ga-ISK**		58495.102		ppb	2.030		58887.805
82	**Se-2**		5.937	**0.125858**	ppb	67.372	69.966	0.226
107	**Ag-1**		300.003	**0.045107**	ppb	5.774	7.043	83.334
115	**In-ISK**	>	80524.644		ppb	0.785		81053.470
45	**Sc-ISK**	>	147432.457		ppb	0.839		145776.751
23	**Na**		9514.836	**2.935712**	ppb	3.245	46.660	8625.938
39	**K**		38163.133	**6.753427**	ppb	1.048	8.849	34421.426
24	**Mg**		541.677	**1.377084**	ppb	4.554	8.798	211.668
159	**Tb-ISK**		159986.205		ppb	0.498		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 17:28:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.110
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41534.766		ppb	2.695		44909.430
9	**Be**		24.444	**0.003459**	ppb	47.889	167.901	17.778
10	**B**		8828.285	**-0.695901**	ppb	3.727	68.269	9341.944
27	**Al**		6131.320	**0.227527**	ppb	6.998	19.946	4118.935
43	**Ca-2**		118.334	**-0.448113**	ppb	12.909	108.762	133.334
49	**Ti**		277.781	**-0.065423**	ppb	15.195	69.701	346.671
52	**Cr**		16793.198	**-0.075322**	ppb	0.325	18.299	18068.087
55	**Mn**		2525.779	**0.057067**	ppb	5.816	11.437	1340.063
57	**Fe**		14397.253	**1.357078**	ppb	1.901	45.187	14006.866
45	**Sc-IS**	>	1839264.310		ppb	0.787		1865382.380
66	**Zn**		524.454	**0.006650**	ppb	7.662	257.288	516.676
86	**Sr**		48.663	**0.003237**	ppb	102.503	519.427	39.724
65	**Cu**		144.445	**0.005297**	ppb	17.925	153.957	128.889
69	**Ga-IS**		577048.607		ppb	0.745		573819.625
95	**Mo**		317.781	**0.033815**	ppb	11.929	34.262	212.224
115	**In-IS**	>	202182.673		ppb	0.749		197719.745
111	**Cd**		20.444	**0.002551**	ppb	37.932	156.678	15.110
118	**Sn**		2106.822	**0.148779**	ppb	2.215	6.781	1235.609
121	**Sb**		285.558	**0.012920**	ppb	7.505	27.290	197.779
135	**Ba**		50.000	**0.008643**	ppb	20.000	63.257	33.333
165	**Ho-IS**		370432.097		ppb	1.681		368847.286
159	**Tb-IS**	>	376361.299		ppb	0.977		363541.658
207	**Pb**		541.115	**0.002835**	ppb	9.668	51.527	434.447
203	**Tl**		191.112	**0.005369**	ppb	13.990	46.407	128.889
209	**Bi-IS**		212852.910		ppb	0.490		214395.071
51	**V**		3.333	**0.010399**	ppb	173.205	259.652	1.111
59	**Co**		12.222	**-0.025874**	ppb	15.746	12.080	30.000
60	**Ni**		165.557	**0.073119**	ppb	16.149	29.686	67.778
75	**As**		253.436	**-0.018572**	ppb	9.661	297.095	260.869
71	**Ga-ISK**		57948.458		ppb	2.640		58887.805
82	**Se-2**		6.591	**0.141336**	ppb	129.489	132.121	0.226
107	**Ag-1**		101.111	**0.003593**	ppb	14.866	93.952	83.334
115	**In-ISK**	>	81492.376		ppb	2.233		81053.470
45	**Sc-ISK**	>	145750.007		ppb	2.367		145776.751
23	**Na**		9002.836	**1.435102**	ppb	0.830	75.826	8625.938
39	**K**		36165.725	**3.582251**	ppb	1.227	23.790	34421.426
24	**Mg**		180.001	**-0.134667**	ppb	9.623	49.521	211.668
159	**Tb-ISK**		160877.533		ppb	1.185		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-28-C @20
Autosampler Position: 340
Sample Date/Time: Sunday, December 19, 2021 17:31:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-28-C @20.111
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47971.597		ppb	3.777		44909.430
9	**Be**		418.895	**0.196359**	ppb	11.431	11.614	17.778
10	**B**		14661.967	**9.216253**	ppb	2.203	5.806	9341.944
27	**Al**		57739883.602	**6191.338968**	ppb	1.958	2.802	4118.935
43	**Ca-2**		101254.281	**3346.263747**	ppb	1.401	0.550	133.334
49	**Ti**		124699.676	**124.356352**	ppb	0.592	1.416	346.671
52	**Cr**		418663.182	**28.813084**	ppb	0.946	2.315	18068.087
55	**Mn**		1872556.579	**86.495172**	ppb	2.499	3.209	1340.063
57	**Fe**		4989540.856	**11225.750948**	ppb	1.327	2.737	14006.866
45	**Sc-IS**	>	1886071.238		ppb	1.405		1865382.380
66	**Zn**		313066.967	**135.784888**	ppb	1.397	2.329	516.676
86	**Sr**		75956.535	**24.687676**	ppb	1.207	0.763	39.724
65	**Cu**		277818.915	**82.123415**	ppb	1.011	2.339	128.889
69	**Ga-IS**		617465.293		ppb	1.168		573819.625
95	**Mo**		844.469	**0.191485**	ppb	3.191	3.642	212.224
115	**In-IS**	>	206587.816		ppb	2.470		197719.745
111	**Cd**		406.010	**0.194163**	ppb	5.601	3.358	15.110
118	**Sn**		21618.575	**3.510677**	ppb	2.530	4.163	1235.609
121	**Sb**		123.334	**-0.012512**	ppb	37.838	59.433	197.779
135	**Ba**		75526.903	**40.130809**	ppb	0.233	2.453	33.333
165	**Ho-IS**		387255.746		ppb	1.125		368847.286
159	**Tb-IS**	>	385310.874		ppb	1.134		363541.658
207	**Pb**		1249236.361	**37.984678**	ppb	1.343	2.463	434.447
203	**Tl**		1735.661	**0.145425**	ppb	4.876	5.358	128.889
209	**Bi-IS**		218884.307		ppb	1.331		214395.071
51	**V**		5021.994	**23.399197**	ppb	3.224	3.492	1.111
59	**Co**		2495.775	**3.572878**	ppb	10.338	10.266	30.000
60	**Ni**		12078.440	**9.015048**	ppb	2.896	3.185	67.778
75	**As**		2300.205	**4.352177**	ppb	5.099	6.134	260.869
71	**Ga-ISK**		60552.537		ppb	1.948		58887.805
82	**Se-2**		26.547	**0.575577**	ppb	37.784	37.880	0.226
107	**Ag-1**		2520.222	**0.501703**	ppb	0.350	0.588	83.334
115	**In-ISK**	>	81242.608		ppb	0.353		81053.470
45	**Sc-ISK**	>	151708.171		ppb	2.044		145776.751
23	**Na**		1549560.407	**5547.428183**	ppb	1.087	3.139	8625.938
39	**K**		1493785.882	**2856.309341**	ppb	1.282	2.491	34421.426
24	**Mg**		901820.925	**3682.213080**	ppb	0.475	1.624	211.668
159	**Tb-ISK**		164102.590		ppb	1.283		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-29-C @20
Autosampler Position: 341
Sample Date/Time: Sunday, December 19, 2021 17:35:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-29-C @20.112
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46035.225		ppb	3.476		44909.430
9	**Be**		276.669	**0.124796**	ppb	6.375	6.556	17.778
10	**B**		13289.512	**6.459274**	ppb	1.187	5.535	9341.944
27	**Al**		40778895.852	**4309.742255**	ppb	0.647	0.257	4118.935
43	**Ca-2**		69890.601	**2275.433057**	ppb	2.187	1.452	133.334
49	**Ti**		100747.399	**98.968340**	ppb	1.638	1.862	346.671
52	**Cr**		309372.158	**20.631063**	ppb	1.316	2.226	18068.087
55	**Mn**		1359211.742	**61.869516**	ppb	1.146	1.895	1340.063
57	**Fe**		3393585.027	**7515.053017**	ppb	0.537	1.389	14006.866
45	**Sc-IS**	>	1913177.477		ppb	0.877		1865382.380
66	**Zn**		228631.771	**97.686563**	ppb	0.873	1.731	516.676
86	**Sr**		51759.722	**16.578743**	ppb	2.063	1.199	39.724
65	**Cu**		184847.338	**53.848059**	ppb	1.742	2.377	128.889
69	**Ga-IS**		598710.481		ppb	1.113		573819.625
95	**Mo**		663.349	**0.133582**	ppb	6.533	9.751	212.224
115	**In-IS**	>	201753.144		ppb	0.721		197719.745
111	**Cd**		175.275	**0.081494**	ppb	14.327	15.840	15.110
118	**Sn**		16809.887	**2.748422**	ppb	1.950	2.278	1235.609
121	**Sb**		92.223	**-0.016985**	ppb	47.173	40.275	197.779
135	**Ba**		52394.807	**28.491951**	ppb	1.346	1.825	33.333
165	**Ho-IS**		383314.619		ppb	0.662		368847.286
159	**Tb-IS**	>	381880.312		ppb	0.699		363541.658
207	**Pb**		854329.688	**26.201673**	ppb	0.480	0.553	434.447
203	**Tl**		1283.391	**0.105339**	ppb	5.304	5.980	128.889
209	**Bi-IS**		214996.906		ppb	0.686		214395.071
51	**V**		3600.455	**17.072840**	ppb	5.935	5.950	1.111
59	**Co**		1962.357	**2.850842**	ppb	2.217	1.693	30.000
60	**Ni**		8874.978	**6.729288**	ppb	0.689	1.253	67.778
75	**As**		1551.882	**2.814762**	ppb	7.159	9.475	260.869
71	**Ga-ISK**		60871.640		ppb	0.867		58887.805
82	**Se-2**		16.534	**0.363644**	ppb	33.505	34.219	0.226
107	**Ag-1**		1761.220	**0.351746**	ppb	7.575	7.045	83.334
115	**In-ISK**	>	79819.853		ppb	0.863		81053.470
45	**Sc-ISK**	>	151202.979		ppb	2.554		145776.751
23	**Na**		1152787.518	**4131.841210**	ppb	1.462	1.762	8625.938
39	**K**		1099322.184	**2090.389186**	ppb	1.804	0.911	34421.426
24	**Mg**		650653.324	**2665.407996**	ppb	1.041	1.539	211.668
159	**Tb-ISK**		162517.265		ppb	1.137		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-67527-C-8-C @20
Autosampler Position: 342
Sample Date/Time: Sunday, December 19, 2021 17:38:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-67527-C-8-C @20.113
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46426.452		ppb	2.164		44909.430
9	**Be**		315.559	**0.147271**	ppb	2.658	3.286	17.778
10	**B**		12455.431	**5.523772**	ppb	3.315	9.318	9341.944
27	**Al**		43231820.601	**4679.154606**	ppb	1.117	1.415	4118.935
43	**Ca-2**		93548.735	**3120.527326**	ppb	2.259	1.220	133.334
49	**Ti**		78490.601	**78.887700**	ppb	0.785	0.880	346.671
52	**Cr**		339946.432	**23.377416**	ppb	1.204	0.873	18068.087
55	**Mn**		1409687.366	**65.707662**	ppb	1.119	0.196	1340.063
57	**Fe**		3617920.008	**8207.005917**	ppb	0.882	0.520	14006.866
45	**Sc-IS**	>	1868240.324		ppb	1.079		1865382.380
66	**Zn**		259537.569	**113.588395**	ppb	0.766	0.681	516.676
86	**Sr**		65128.202	**21.369319**	ppb	1.160	1.560	39.724
65	**Cu**		233532.373	**69.670235**	ppb	1.106	0.062	128.889
69	**Ga-IS**		609034.518		ppb	1.592		573819.625
95	**Mo**		726.685	**0.157839**	ppb	4.767	7.437	212.224
115	**In-IS**	>	202157.121		ppb	0.917		197719.745
111	**Cd**		254.032	**0.121418**	ppb	8.023	9.158	15.110
118	**Sn**		10993.118	**1.716279**	ppb	2.031	1.889	1235.609
121	**Sb**		80.000	**-0.018935**	ppb	29.167	19.136	197.779
135	**Ba**		58637.884	**31.822967**	ppb	1.060	0.307	33.333
165	**Ho-IS**		379264.186		ppb	3.280		368847.286
159	**Tb-IS**	>	384210.505		ppb	0.813		363541.658
207	**Pb**		995583.001	**30.351336**	ppb	0.458	0.775	434.447
203	**Tl**		1351.175	**0.110814**	ppb	2.943	3.638	128.889
209	**Bi-IS**		213600.609		ppb	0.442		214395.071
51	**V**		3839.405	**18.273113**	ppb	2.733	3.377	1.111
59	**Co**		2129.048	**3.107979**	ppb	3.931	3.889	30.000
60	**Ni**		10230.336	**7.789550**	ppb	5.543	4.543	67.778
75	**As**		1668.485	**3.078901**	ppb	4.995	5.152	260.869
71	**Ga-ISK**		60529.080		ppb	0.996		58887.805
82	**Se-2**		21.198	**0.468874**	ppb	26.208	26.697	0.226
107	**Ag-1**		1837.896	**0.369467**	ppb	4.430	5.707	83.334
115	**In-ISK**	>	79538.801		ppb	1.091		81053.470
45	**Sc-ISK**	>	150038.427		ppb	1.940		145776.751
23	**Na**		1263329.587	**4566.198810**	ppb	1.222	1.656	8625.938
39	**K**		1201475.353	**2309.710075**	ppb	0.670	1.938	34421.426
24	**Mg**		700447.772	**2891.737041**	ppb	0.248	2.014	211.668
159	**Tb-ISK**		163435.646		ppb	1.080		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-67527-B-9-C @20
Autosampler Position: 343
Sample Date/Time: Sunday, December 19, 2021 17:41:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-67527-B-9-C @20.114
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48586.933		ppb	0.934		44909.430
9	**Be**		494.453	**0.227581**	ppb	6.820	9.507	17.778
10	**B**		14438.406	**8.172184**	ppb	2.358	2.279	9341.944
27	**Al**		67410937.468	**7045.836441**	ppb	0.918	2.511	4118.935
43	**Ca-2**		119773.895	**3857.162747**	ppb	4.100	1.461	133.334
49	**Ti**		125259.132	**121.722230**	ppb	2.119	0.522	346.671
52	**Cr**		490907.425	**33.120264**	ppb	1.225	2.867	18068.087
55	**Mn**		2267839.413	**102.145369**	ppb	1.791	4.080	1340.063
57	**Fe**		5636646.814	**12363.382765**	ppb	0.605	2.151	14006.866
45	**Sc-IS**	>	1935353.158		ppb	2.632		1865382.380
66	**Zn**		376918.920	**159.392267**	ppb	0.742	2.465	516.676
86	**Sr**		97646.711	**30.945514**	ppb	0.646	2.669	39.724
65	**Cu**		309373.342	**89.132804**	ppb	1.397	1.982	128.889
69	**Ga-IS**		625463.501		ppb	0.499		573819.625
95	**Mo**		757.798	**0.159521**	ppb	3.663	8.771	212.224
115	**In-IS**	>	205558.227		ppb	2.327		197719.745
111	**Cd**		417.304	**0.200765**	ppb	12.397	11.545	15.110
118	**Sn**		16746.480	**2.683349**	ppb	2.240	3.510	1235.609
121	**Sb**		75.556	**-0.019808**	ppb	15.494	9.634	197.779
135	**Ba**		91534.537	**48.882577**	ppb	0.204	2.406	33.333
165	**Ho-IS**		389934.878		ppb	1.031		368847.286
159	**Tb-IS**	>	386679.144		ppb	0.848		363541.658
207	**Pb**		1650666.677	**50.010009**	ppb	0.774	0.965	434.447
203	**Tl**		2137.938	**0.181294**	ppb	3.591	3.324	128.889
209	**Bi-IS**		213729.167		ppb	0.316		214395.071
51	**V**		5578.867	**26.377922**	ppb	1.906	1.796	1.111
59	**Co**		2868.066	**4.173965**	ppb	2.188	1.025	30.000
60	**Ni**		13460.787	**10.200712**	ppb	2.863	2.235	67.778
75	**As**		2528.235	**4.918741**	ppb	2.909	3.644	260.869
71	**Ga-ISK**		61615.995		ppb	2.807		58887.805
82	**Se-2**		31.200	**0.687598**	ppb	4.929	3.496	0.226
107	**Ag-1**		2720.259	**0.551429**	ppb	4.387	5.784	83.334
115	**In-ISK**	>	80061.005		ppb	1.445		81053.470
45	**Sc-ISK**	>	153327.697		ppb	2.623		145776.751
23	**Na**		1873625.978	**6642.121605**	ppb	1.524	1.969	8625.938
39	**K**		1705936.217	**3237.537711**	ppb	0.599	3.267	34421.426
24	**Mg**		1044957.325	**4223.566959**	ppb	1.147	3.760	211.668
159	**Tb-ISK**		165402.691		ppb	0.240		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-67527-A-1-C @20
Autosampler Position: 344
Sample Date/Time: Sunday, December 19, 2021 17:44:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-67527-A-1-C @20.115
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46284.880		ppb	2.057		44909.430
9	**Be**		242.224	**0.108550**	ppb	3.463	4.169	17.778
10	**B**		12130.705	**4.505286**	ppb	1.659	5.582	9341.944
27	**Al**		36209742.363	**3838.784952**	ppb	1.342	1.372	4118.935
43	**Ca-2**		87352.925	**2854.230416**	ppb	0.473	0.659	133.334
49	**Ti**		69896.162	**68.769592**	ppb	1.695	1.944	346.671
52	**Cr**		282827.903	**18.809558**	ppb	0.677	1.269	18068.087
55	**Mn**		1278085.767	**58.354223**	ppb	2.942	3.273	1340.063
57	**Fe**		3108269.918	**6902.275108**	ppb	2.105	2.625	14006.866
45	**Sc-IS**	>	1907199.216		ppb	0.513		1865382.380
66	**Zn**		204073.131	**87.440557**	ppb	1.800	2.257	516.676
86	**Sr**		59352.540	**19.074643**	ppb	1.583	1.963	39.724
65	**Cu**		196645.697	**57.465891**	ppb	2.136	2.641	128.889
69	**Ga-IS**		604788.292		ppb	1.478		573819.625
95	**Mo**		450.007	**0.070070**	ppb	6.329	12.677	212.224
115	**In-IS**	>	202770.321		ppb	1.848		197719.745
111	**Cd**		179.056	**0.082882**	ppb	12.925	12.814	15.110
118	**Sn**		8591.473	**1.287877**	ppb	2.940	1.306	1235.609
121	**Sb**		60.000	**-0.022068**	ppb	9.623	3.835	197.779
135	**Ba**		48192.263	**26.077615**	ppb	0.489	1.863	33.333
165	**Ho-IS**		380207.662		ppb	0.648		368847.286
159	**Tb-IS**	>	380496.516		ppb	1.022		363541.658
207	**Pb**		817791.671	**25.171598**	ppb	1.116	0.773	434.447
203	**Tl**		1118.933	**0.090571**	ppb	8.616	8.783	128.889
209	**Bi-IS**		215749.541		ppb	1.826		214395.071
51	**V**		2975.866	**14.047468**	ppb	5.498	5.182	1.111
59	**Co**		1658.985	**2.392634**	ppb	4.178	3.702	30.000
60	**Ni**		7750.992	**5.844501**	ppb	2.565	2.278	67.778
75	**As**		1607.958	**2.920066**	ppb	4.349	5.066	260.869
71	**Ga-ISK**		60034.775		ppb	0.757		58887.805
82	**Se-2**		13.252	**0.288438**	ppb	48.666	49.106	0.226
107	**Ag-1**		1608.979	**0.318541**	ppb	1.063	1.344	83.334
115	**In-ISK**	>	80166.329		ppb	0.896		81053.470
45	**Sc-ISK**	>	152896.188		ppb	1.479		145776.751
23	**Na**		1087626.556	**3852.974004**	ppb	1.712	2.915	8625.938
39	**K**		957793.213	**1790.982837**	ppb	2.406	1.047	34421.426
24	**Mg**		580622.006	**2351.538133**	ppb	1.207	0.407	211.668
159	**Tb-ISK**		164345.337		ppb	1.145		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-67527-A-2-C @20
Autosampler Position: 345
Sample Date/Time: Sunday, December 19, 2021 17:47:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-67527-A-2-C @20.116
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		50706.534		ppb	2.463		44909.430
9	**Be**		526.676	**0.242819**	ppb	8.928	8.565	17.778
10	**B**		15502.856	**10.032817**	ppb	2.792	6.546	9341.944
27	**Al**		74801026.045	**7824.409515**	ppb	0.460	1.010	4118.935
43	**Ca-2**		119052.414	**3839.171613**	ppb	1.440	0.730	133.334
49	**Ti**		138782.115	**135.037828**	ppb	1.815	1.119	346.671
52	**Cr**		583010.735	**39.609923**	ppb	1.140	0.743	18068.087
55	**Mn**		2566236.033	**115.649775**	ppb	1.993	1.913	1340.063
57	**Fe**		6303787.618	**13841.210672**	ppb	0.836	0.194	14006.866
45	**Sc-IS**	>	1933127.150		ppb	0.720		1865382.380
66	**Zn**		411545.812	**174.178384**	ppb	1.564	0.905	516.676
86	**Sr**		96233.319	**30.518714**	ppb	1.226	0.989	39.724
65	**Cu**		353265.166	**101.870219**	ppb	1.512	1.250	128.889
69	**Ga-IS**		635235.482		ppb	0.696		573819.625
95	**Mo**		870.027	**0.192847**	ppb	7.178	9.793	212.224
115	**In-IS**	>	204393.475		ppb	1.524		197719.745
111	**Cd**		453.736	**0.220589**	ppb	13.356	14.579	15.110
118	**Sn**		22857.163	**3.765174**	ppb	1.578	1.363	1235.609
121	**Sb**		146.667	**-0.008794**	ppb	27.273	73.267	197.779
135	**Ba**		101559.729	**54.537866**	ppb	0.412	1.914	33.333
165	**Ho-IS**		396159.413		ppb	1.124		368847.286
159	**Tb-IS**	>	395554.800		ppb	0.241		363541.658
207	**Pb**		2514665.676	**74.481964**	ppb	0.963	1.084	434.447
203	**Tl**		2275.737	**0.189158**	ppb	4.211	4.236	128.889
209	**Bi-IS**		216558.043		ppb	0.935		214395.071
51	**V**		6535.941	**31.124932**	ppb	4.486	5.387	1.111
59	**Co**		3532.659	**5.187258**	ppb	2.854	2.738	30.000
60	**Ni**		16244.789	**12.408583**	ppb	1.999	2.853	67.778
75	**As**		2886.051	**5.735814**	ppb	3.961	4.157	260.869
71	**Ga-ISK**		62220.781		ppb	1.476		58887.805
82	**Se-2**		24.497	**0.543915**	ppb	38.161	39.121	0.226
107	**Ag-1**		3164.795	**0.648564**	ppb	1.248	0.632	83.334
115	**In-ISK**	>	79514.514		ppb	0.916		81053.470
45	**Sc-ISK**	>	152277.303		ppb	0.484		145776.751
23	**Na**		2201225.189	**7860.335909**	ppb	3.117	2.646	8625.938
39	**K**		1940700.430	**3716.489489**	ppb	1.197	0.752	34421.426
24	**Mg**		1186573.236	**4825.909729**	ppb	1.023	0.539	211.668
159	**Tb-ISK**		166432.555		ppb	0.405		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-67527-A-3-C @20
Autosampler Position: 346
Sample Date/Time: Sunday, December 19, 2021 17:50:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-67527-A-3-C @20.117
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47506.670		ppb	2.486		44909.430
9	**Be**		468.897	**0.218549**	ppb	3.206	3.427	17.778
10	**B**		14783.206	**9.168271**	ppb	3.138	11.522	9341.944
27	**Al**		58683186.787	**6227.288291**	ppb	0.702	1.465	4118.935
43	**Ca-2**		135238.934	**4425.747176**	ppb	1.873	2.785	133.334
49	**Ti**		102817.609	**101.404938**	ppb	1.373	0.562	346.671
52	**Cr**		487761.345	**33.418610**	ppb	1.299	0.764	18068.087
55	**Mn**		2191996.369	**100.221729**	ppb	1.974	2.975	1340.063
57	**Fe**		5220212.332	**11623.857526**	ppb	0.868	1.796	14006.866
45	**Sc-IS**	>	1905600.512		ppb	0.992		1865382.380
66	**Zn**		396473.857	**170.257777**	ppb	2.322	3.217	516.676
86	**Sr**		96333.410	**30.994993**	ppb	0.974	1.701	39.724
65	**Cu**		339734.939	**99.398949**	ppb	1.377	2.375	128.889
69	**Ga-IS**		613901.574		ppb	1.858		573819.625
95	**Mo**		848.914	**0.190091**	ppb	7.413	8.695	212.224
115	**In-IS**	>	203653.371		ppb	2.100		197719.745
111	**Cd**		588.230	**0.288958**	ppb	10.806	9.564	15.110
118	**Sn**		20757.298	**3.411640**	ppb	2.455	0.679	1235.609
121	**Sb**		128.889	**-0.011467**	ppb	18.165	34.498	197.779
135	**Ba**		87701.735	**47.263120**	ppb	1.041	1.197	33.333
165	**Ho-IS**		388693.633		ppb	0.355		368847.286
159	**Tb-IS**	>	390692.658		ppb	0.476		363541.658
207	**Pb**		2984682.103	**89.507154**	ppb	0.203	0.614	434.447
203	**Tl**		1957.912	**0.163152**	ppb	4.522	4.344	128.889
209	**Bi-IS**		216040.357		ppb	1.215		214395.071
51	**V**		5795.620	**27.373792**	ppb	0.559	1.197	1.111
59	**Co**		2970.309	**4.320922**	ppb	3.076	4.016	30.000
60	**Ni**		14544.068	**11.013252**	ppb	1.948	0.386	67.778
75	**As**		2558.916	**4.976293**	ppb	4.951	3.882	260.869
71	**Ga-ISK**		61848.110		ppb	2.879		58887.805
82	**Se-2**		24.521	**0.541054**	ppb	63.360	64.569	0.226
107	**Ag-1**		3298.159	**0.671587**	ppb	5.691	7.310	83.334
115	**In-ISK**	>	80151.681		ppb	1.586		81053.470
45	**Sc-ISK**	>	153659.779		ppb	0.690		145776.751
23	**Na**		1928359.588	**6820.272036**	ppb	1.085	0.659	8625.938
39	**K**		1728441.553	**3272.122876**	ppb	2.049	2.095	34421.426
24	**Mg**		1036305.842	**4176.990498**	ppb	2.766	2.932	211.668
159	**Tb-ISK**		167587.940		ppb	0.296		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-67527-A-4-C @20
Autosampler Position: 347
Sample Date/Time: Sunday, December 19, 2021 17:54:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-67527-A-4-C @20.118
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45438.823		ppb	1.178		44909.430
9	**Be**		283.336	**0.129575**	ppb	17.410	18.374	17.778
10	**B**		12687.854	**5.667056**	ppb	0.582	5.250	9341.944
27	**Al**		34538782.028	**3692.181853**	ppb	2.188	1.717	4118.935
43	**Ca-2**		75247.688	**2478.920085**	ppb	1.528	2.047	133.334
49	**Ti**		70541.551	**69.989043**	ppb	1.813	1.359	346.671
52	**Cr**		304744.235	**20.550770**	ppb	1.279	1.447	18068.087
55	**Mn**		1231196.406	**56.684840**	ppb	1.369	2.057	1340.063
57	**Fe**		3194757.321	**7154.986847**	ppb	0.796	1.534	14006.866
45	**Sc-IS**	>	1891313.989		ppb	0.767		1865382.380
66	**Zn**		235970.903	**101.985094**	ppb	1.287	0.552	516.676
86	**Sr**		58115.781	**18.833236**	ppb	1.089	1.095	39.724
65	**Cu**		223464.315	**65.853310**	ppb	0.975	1.134	128.889
69	**Ga-IS**		606144.793		ppb	0.624		573819.625
95	**Mo**		567.789	**0.106838**	ppb	8.014	11.660	212.224
115	**In-IS**	>	208760.657		ppb	2.042		197719.745
111	**Cd**		259.921	**0.120336**	ppb	9.124	11.308	15.110
118	**Sn**		13301.749	**2.049164**	ppb	3.086	2.000	1235.609
121	**Sb**		97.778	**-0.016605**	ppb	43.435	39.731	197.779
135	**Ba**		47661.617	**25.045343**	ppb	1.940	1.043	33.333
165	**Ho-IS**		390308.193		ppb	1.020		368847.286
159	**Tb-IS**	>	394387.457		ppb	1.662		363541.658
207	**Pb**		1123471.594	**33.373453**	ppb	0.311	1.881	434.447
203	**Tl**		1134.490	**0.088408**	ppb	3.114	4.762	128.889
209	**Bi-IS**		222876.570		ppb	1.701		214395.071
51	**V**		3397.071	**15.964257**	ppb	2.388	4.304	1.111
59	**Co**		1682.321	**2.414720**	ppb	5.683	5.639	30.000
60	**Ni**		8058.941	**6.050490**	ppb	3.851	5.160	67.778
75	**As**		1665.357	**3.026348**	ppb	2.360	3.127	260.869
71	**Ga-ISK**		60847.230		ppb	4.094		58887.805
82	**Se-2**		15.200	**0.331660**	ppb	26.614	29.005	0.226
107	**Ag-1**		1881.235	**0.373424**	ppb	0.271	2.250	83.334
115	**In-ISK**	>	80584.988		ppb	2.297		81053.470
45	**Sc-ISK**	>	151393.891		ppb	2.613		145776.751
23	**Na**		1271045.005	**4552.994333**	ppb	2.049	1.850	8625.938
39	**K**		1031528.401	**1954.250091**	ppb	3.067	1.285	34421.426
24	**Mg**		610388.703	**2496.671217**	ppb	2.791	1.352	211.668
159	**Tb-ISK**		164112.082		ppb	1.565		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-67527-A-5-C @20
Autosampler Position: 348
Sample Date/Time: Sunday, December 19, 2021 17:57:16
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-67527-A-5-C @20.119
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47241.322		ppb	1.088		44909.430
9	**Be**		317.781	**0.145339**	ppb	3.684	4.329	17.778
10	**B**		12324.203	**4.869571**	ppb	1.244	4.962	9341.944
27	**Al**		42873741.765	**4550.713679**	ppb	0.916	0.870	4118.935
43	**Ca-2**		76413.847	**2499.224309**	ppb	1.349	1.512	133.334
49	**Ti**		84177.304	**82.993235**	ppb	1.335	1.894	346.671
52	**Cr**		342270.046	**23.067930**	ppb	1.506	1.916	18068.087
55	**Mn**		1456061.226	**66.563383**	ppb	1.762	1.798	1340.063
57	**Fe**		3765687.082	**8378.193464**	ppb	1.000	1.033	14006.866
45	**Sc-IS**	>	1904945.251		ppb	0.548		1865382.380
66	**Zn**		272008.609	**116.757402**	ppb	0.744	0.950	516.676
86	**Sr**		59542.202	**19.157101**	ppb	1.178	0.912	39.724
65	**Cu**		233609.133	**68.351764**	ppb	0.966	1.243	128.889
69	**Ga-IS**		614675.718		ppb	1.747		573819.625
95	**Mo**		577.789	**0.108712**	ppb	4.974	8.796	212.224
115	**In-IS**	>	208220.713		ppb	1.309		197719.745
111	**Cd**		426.571	**0.202686**	ppb	10.654	9.863	15.110
118	**Sn**		12956.986	**1.996512**	ppb	1.997	2.918	1235.609
121	**Sb**		66.667	**-0.021276**	ppb	37.749	18.319	197.779
135	**Ba**		61403.911	**32.358043**	ppb	0.851	1.610	33.333
165	**Ho-IS**		384193.202		ppb	0.339		368847.286
159	**Tb-IS**	>	387916.370		ppb	0.669		363541.658
207	**Pb**		1011720.566	**30.549153**	ppb	0.481	1.113	434.447
203	**Tl**		1338.952	**0.108558**	ppb	6.110	7.581	128.889
209	**Bi-IS**		216115.861		ppb	0.905		214395.071
51	**V**		4010.563	**18.651816**	ppb	0.506	0.593	1.111
59	**Co**		2222.396	**3.172702**	ppb	6.603	7.518	30.000
60	**Ni**		9418.660	**7.006829**	ppb	1.776	2.712	67.778
75	**As**		1831.908	**3.345980**	ppb	4.689	6.179	260.869
71	**Ga-ISK**		60781.303		ppb	2.470		58887.805
82	**Se-2**		20.539	**0.442595**	ppb	59.690	60.019	0.226
107	**Ag-1**		2786.939	**0.555612**	ppb	1.555	1.612	83.334
115	**In-ISK**	>	81387.564		ppb	1.051		81053.470
45	**Sc-ISK**	>	153330.692		ppb	0.186		145776.751
23	**Na**		1295817.716	**4582.484885**	ppb	2.561	2.672	8625.938
39	**K**		1218175.869	**2290.454089**	ppb	0.323	0.522	34421.426
24	**Mg**		731455.337	**2954.159237**	ppb	0.376	0.208	211.668
159	**Tb-ISK**		165073.704		ppb	1.402		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-67527-A-6-G @20
Autosampler Position: 349
Sample Date/Time: Sunday, December 19, 2021 18:00:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-67527-A-6-G @20.120
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47760.875		ppb	3.331		44909.430
9	**Be**		341.115	**0.155165**	ppb	8.867	9.923	17.778
10	**B**		12576.646	**5.106815**	ppb	2.168	6.379	9341.944
27	**Al**		44422935.854	**4671.757569**	ppb	0.918	1.040	4118.935
43	**Ca-2**		89273.086	**2893.511231**	ppb	0.935	0.657	133.334
49	**Ti**		80987.861	**79.086702**	ppb	1.903	1.325	346.671
52	**Cr**		360240.285	**24.110840**	ppb	1.077	1.211	18068.087
55	**Mn**		1540763.837	**69.786738**	ppb	1.106	0.429	1340.063
57	**Fe**		3929963.607	**8664.864327**	ppb	1.346	2.051	14006.866
45	**Sc-IS**	>	1922676.400		ppb	0.705		1865382.380
66	**Zn**		274901.154	**116.915423**	ppb	1.270	1.693	516.676
86	**Sr**		65441.297	**20.863418**	ppb	0.564	1.232	39.724
65	**Cu**		239090.107	**69.316799**	ppb	1.780	2.487	128.889
69	**Ga-IS**		610225.768		ppb	0.940		573819.625
95	**Mo**		523.343	**0.090881**	ppb	6.890	12.821	212.224
115	**In-IS**	>	202999.144		ppb	1.126		197719.745
111	**Cd**		216.680	**0.101893**	ppb	7.139	7.146	15.110
118	**Sn**		12346.447	**1.945691**	ppb	3.035	2.121	1235.609
121	**Sb**		54.445	**-0.022942**	ppb	14.139	4.736	197.779
135	**Ba**		62662.689	**33.869180**	ppb	0.545	0.668	33.333
165	**Ho-IS**		390267.687		ppb	1.654		368847.286
159	**Tb-IS**	>	389541.010		ppb	2.078		363541.658
207	**Pb**		1301209.533	**39.140451**	ppb	0.113	2.201	434.447
203	**Tl**		1404.514	**0.113995**	ppb	2.668	5.189	128.889
209	**Bi-IS**		218504.037		ppb	1.066		214395.071
51	**V**		4201.730	**19.688515**	ppb	3.965	3.365	1.111
59	**Co**		2150.162	**3.090503**	ppb	7.766	7.622	30.000
60	**Ni**		9259.671	**6.939298**	ppb	4.429	4.059	67.778
75	**As**		1947.522	**3.623941**	ppb	2.835	3.914	260.869
71	**Ga-ISK**		61514.383		ppb	0.708		58887.805
82	**Se-2**		25.924	**0.566171**	ppb	23.114	23.833	0.226
107	**Ag-1**		2106.822	**0.419232**	ppb	5.919	6.621	83.334
115	**In-ISK**	>	80764.540		ppb	0.602		81053.470
45	**Sc-ISK**	>	152824.578		ppb	2.657		145776.751
23	**Na**		1317917.594	**4676.863635**	ppb	2.457	0.543	8625.938
39	**K**		1248044.776	**2356.854282**	ppb	1.436	1.263	34421.426
24	**Mg**		752055.046	**3048.525219**	ppb	0.662	1.992	211.668
159	**Tb-ISK**		167329.740		ppb	1.471		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 18:03:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.121
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43326.727		ppb	1.740		44909.430
9	**Be**		196228.157	**96.105453**	ppb	2.955	2.197	17.778
10	**B**		142805.243	**235.490480**	ppb	6.009	5.221	9341.944
27	**Al**		902486.100	**96.317845**	ppb	0.680	1.266	4118.935
43	**Ca-2**		155203.905	**5130.886858**	ppb	2.591	1.572	133.334
49	**Ti**		96805.835	**96.451351**	ppb	1.602	1.669	346.671
52	**Cr**		1326931.417	**94.158855**	ppb	1.281	1.679	18068.087
55	**Mn**		2117374.390	**97.785831**	ppb	1.504	0.058	1340.063
57	**Fe**		2245204.674	**5032.392419**	ppb	1.262	0.596	14006.866
45	**Sc-IS**	>	1886178.871		ppb	1.475		1865382.380
66	**Zn**		229768.834	**99.596202**	ppb	1.410	2.650	516.676
86	**Sr**		306564.864	**99.686514**	ppb	1.910	2.478	39.724
65	**Cu**		335308.419	**99.117594**	ppb	0.508	1.975	128.889
69	**Ga-IS**		602501.131		ppb	0.774		573819.625
95	**Mo**		328839.926	**99.900324**	ppb	1.378	0.506	212.224
115	**In-IS**	>	203819.398		ppb	0.759		197719.745
111	**Cd**		194952.408	**98.362599**	ppb	1.492	1.397	15.110
118	**Sn**		563898.769	**98.437130**	ppb	0.721	0.466	1235.609
121	**Sb**		642620.842	**98.736505**	ppb	1.410	1.071	197.779
135	**Ba**		186839.438	**100.614424**	ppb	0.287	0.474	33.333
165	**Ho-IS**		380334.214		ppb	0.404		368847.286
159	**Tb-IS**	>	384108.797		ppb	0.493		363541.658
207	**Pb**		3089292.226	**94.231838**	ppb	0.717	0.680	434.447
203	**Tl**		1010573.183	**92.175904**	ppb	0.789	0.727	128.889
209	**Bi-IS**		213604.012		ppb	0.617		214395.071
51	**V**		20949.803	**97.441112**	ppb	2.845	2.901	1.111
59	**Co**		68259.424	**98.693259**	ppb	2.522	2.498	30.000
60	**Ni**		127483.044	**95.453338**	ppb	1.519	1.574	67.778
75	**As**		45299.708	**95.954690**	ppb	1.572	1.862	260.869
71	**Ga-ISK**		58712.661		ppb	2.091		58887.805
82	**Se-2**		4533.995	**99.019264**	ppb	1.185	0.890	0.226
107	**Ag-1**		482006.906	**99.039068**	ppb	0.681	0.715	83.334
115	**In-ISK**	>	81395.049		ppb	0.296		81053.470
45	**Sc-ISK**	>	148559.628		ppb	1.120		145776.751
23	**Na**		1344493.632	**4909.587035**	ppb	1.024	0.417	8625.938
39	**K**		2609676.447	**5149.775477**	ppb	0.446	1.274	34421.426
24	**Mg**		1190599.275	**4963.678239**	ppb	1.156	0.853	211.668
159	**Tb-ISK**		162355.367		ppb	0.303		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 18:06:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.122
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43216.390		ppb	1.503		44909.430
9	**Be**		34.444	**0.008496**	ppb	14.783	29.481	17.778
10	**B**		8331.318	**-1.591525**	ppb	1.392	15.361	9341.944
27	**Al**		6850.309	**0.306962**	ppb	2.633	9.914	4118.935
43	**Ca-2**		140.001	**0.290485**	ppb	3.571	62.200	133.334
49	**Ti**		272.225	**-0.071351**	ppb	1.870	2.840	346.671
52	**Cr**		16743.140	**-0.078706**	ppb	1.302	42.072	18068.087
55	**Mn**		1717.881	**0.018799**	ppb	3.495	13.744	1340.063
57	**Fe**		14918.897	**2.570638**	ppb	0.550	22.922	14006.866
45	**Sc-IS**	>	1839146.679		ppb	1.379		1865382.380
66	**Zn**		545.566	**0.016082**	ppb	3.075	32.160	516.676
86	**Sr**		90.336	**0.016996**	ppb	38.742	66.988	39.724
65	**Cu**		213.335	**0.026163**	ppb	4.688	11.993	128.889
69	**Ga-IS**		588715.920		ppb	0.626		573819.625
95	**Mo**		925.586	**0.223362**	ppb	5.406	7.094	212.224
115	**In-IS**	>	206195.696		ppb	2.000		197719.745
111	**Cd**		34.723	**0.009482**	ppb	43.786	81.560	15.110
118	**Sn**		3766.052	**0.428497**	ppb	4.155	5.948	1235.609
121	**Sb**		653.348	**0.067898**	ppb	4.050	3.070	197.779
135	**Ba**		82.222	**0.025130**	ppb	26.993	43.331	33.333
165	**Ho-IS**		377929.553		ppb	2.741		368847.286
159	**Tb-IS**	>	378024.777		ppb	1.493		363541.658
207	**Pb**		825.565	**0.011617**	ppb	10.609	26.439	434.447
203	**Tl**		277.780	**0.013346**	ppb	7.621	17.208	128.889
209	**Bi-IS**		219396.657		ppb	1.734		214395.071
51	**V**		10.000	**0.041996**	ppb	33.333	36.736	1.111
59	**Co**		35.556	**0.008817**	ppb	48.109	290.376	30.000
60	**Ni**		735.575	**0.509498**	ppb	6.086	8.205	67.778
75	**As**		288.410	**0.066466**	ppb	1.179	7.659	260.869
71	**Ga-ISK**		58544.180		ppb	1.627		58887.805
82	**Se-2**		5.570	**0.116643**	ppb	171.267	180.390	0.226
107	**Ag-1**		283.336	**0.041984**	ppb	5.882	7.754	83.334
115	**In-ISK**	>	80078.459		ppb	1.471		81053.470
45	**Sc-ISK**	>	146602.853		ppb	0.544		145776.751
23	**Na**		10255.350	**5.883061**	ppb	4.096	23.703	8625.938
39	**K**		37130.414	**5.095430**	ppb	0.451	3.210	34421.426
24	**Mg**		606.680	**1.664556**	ppb	7.920	12.744	211.668
159	**Tb-ISK**		163117.311		ppb	0.414		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 18:10:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.123
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42743.854		ppb	0.817		44909.430
9	**Be**		30.000	**0.006553**	ppb	33.333	79.735	17.778
10	**B**		8219.032	**-1.538416**	ppb	3.025	22.672	9341.944
27	**Al**		7031.064	**0.339961**	ppb	2.856	5.127	4118.935
43	**Ca-2**		111.667	**-0.603865**	ppb	9.321	63.704	133.334
49	**Ti**		262.225	**-0.076766**	ppb	10.353	39.545	346.671
52	**Cr**		17101.342	**-0.030560**	ppb	0.940	41.399	18068.087
55	**Mn**		2536.892	**0.059702**	ppb	2.658	4.273	1340.063
57	**Fe**		14427.283	**2.008950**	ppb	1.661	19.838	14006.866
45	**Sc-IS**	>	1807639.662		ppb	0.729		1865382.380
66	**Zn**		552.233	**0.023353**	ppb	10.214	108.220	516.676
86	**Sr**		45.816	**0.002459**	ppb	56.567	353.345	39.724
65	**Cu**		166.668	**0.012892**	ppb	19.079	76.343	128.889
69	**Ga-IS**		583624.825		ppb	0.989		573819.625
95	**Mo**		284.447	**0.025030**	ppb	8.873	34.435	212.224
115	**In-IS**	>	205861.757		ppb	1.728		197719.745
111	**Cd**		14.958	**-0.000346**	ppb	78.278	1697.249	15.110
118	**Sn**		1852.343	**0.098196**	ppb	5.340	21.376	1235.609
121	**Sb**		282.225	**0.011587**	ppb	10.183	33.572	197.779
135	**Ba**		63.333	**0.015252**	ppb	5.263	7.834	33.333
165	**Ho-IS**		378189.332		ppb	1.765		368847.286
159	**Tb-IS**	>	380244.112		ppb	1.917		363541.658
207	**Pb**		645.561	**0.005900**	ppb	5.521	21.860	434.447
203	**Tl**		158.890	**0.002238**	ppb	25.637	170.893	128.889
209	**Bi-IS**		217166.128		ppb	1.228		214395.071
51	**V**		5.556	**0.020916**	ppb	69.282	86.122	1.111
59	**Co**		22.222	**-0.011092**	ppb	45.826	133.398	30.000
60	**Ni**		687.794	**0.470185**	ppb	2.018	2.428	67.778
75	**As**		217.141	**-0.090188**	ppb	18.261	94.946	260.869
71	**Ga-ISK**		57768.808		ppb	1.533		58887.805
82	**Se-2**		0.573	**0.007882**	ppb	1111.357	1786.191	0.226
107	**Ag-1**		83.334	**0.000127**	ppb	10.583	1473.814	83.334
115	**In-ISK**	>	80473.250		ppb	0.275		81053.470
45	**Sc-ISK**	>	144475.850		ppb	1.224		145776.751
23	**Na**		9006.173	**1.739306**	ppb	2.855	79.626	8625.938
39	**K**		35344.784	**2.532099**	ppb	1.021	10.363	34421.426
24	**Mg**		153.334	**-0.242471**	ppb	10.482	25.507	211.668
159	**Tb-ISK**		159585.861		ppb	1.379		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-67527-A-7-C @20
Autosampler Position: 350
Sample Date/Time: Sunday, December 19, 2021 18:13:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-67527-A-7-C @20.124
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		50638.518		ppb	2.548		44909.430
9	**Be**		638.903	**0.294323**	ppb	8.353	6.630	17.778
10	**B**		16319.322	**11.255968**	ppb	3.206	4.780	9341.944
27	**Al**		80701208.597	**8388.688215**	ppb	1.332	2.421	4118.935
43	**Ca-2**		185643.807	**5950.266760**	ppb	2.157	0.266	133.334
49	**Ti**		143687.986	**138.952203**	ppb	1.410	2.171	346.671
52	**Cr**		650643.657	**44.068608**	ppb	1.142	1.506	18068.087
55	**Mn**		2953348.245	**132.248065**	ppb	1.911	1.299	1340.063
57	**Fe**		7193385.496	**15700.569891**	ppb	0.134	2.040	14006.866
45	**Sc-IS**	>	1945737.859		ppb	1.916		1865382.380
66	**Zn**		501366.511	**210.912135**	ppb	0.780	1.556	516.676
86	**Sr**		135912.435	**42.832085**	ppb	1.977	1.724	39.724
65	**Cu**		422081.702	**120.964447**	ppb	1.070	2.242	128.889
69	**Ga-IS**		628515.462		ppb	0.576		573819.625
95	**Mo**		1146.713	**0.272957**	ppb	4.615	7.967	212.224
115	**In-IS**	>	203171.197		ppb	1.591		197719.745
111	**Cd**		458.710	**0.224509**	ppb	6.534	8.128	15.110
118	**Sn**		27153.565	**4.542996**	ppb	1.744	0.300	1235.609
121	**Sb**		161.112	**-0.006477**	ppb	8.614	36.960	197.779
135	**Ba**		121411.705	**65.576696**	ppb	2.314	0.719	33.333
165	**Ho-IS**		389797.954		ppb	1.128		368847.286
159	**Tb-IS**	>	391257.953		ppb	1.965		363541.658
207	**Pb**		1970499.626	**59.016274**	ppb	0.231	1.890	434.447
203	**Tl**		2683.585	**0.228013**	ppb	1.972	3.791	128.889
209	**Bi-IS**		214773.567		ppb	0.558		214395.071
51	**V**		7644.267	**36.021380**	ppb	1.946	0.156	1.111
59	**Co**		3974.997	**5.782866**	ppb	1.193	0.735	30.000
60	**Ni**		18723.373	**14.163947**	ppb	0.674	1.624	67.778
75	**As**		3150.520	**6.242199**	ppb	2.900	1.625	260.869
71	**Ga-ISK**		61834.694		ppb	2.345		58887.805
82	**Se-2**		24.474	**0.536419**	ppb	46.015	45.838	0.226
107	**Ag-1**		3798.283	**0.773686**	ppb	4.322	3.832	83.334
115	**In-ISK**	>	80332.049		ppb	1.915		81053.470
45	**Sc-ISK**	>	154907.621		ppb	0.998		145776.751
23	**Na**		2592282.989	**9105.447511**	ppb	1.757	1.441	8625.938
39	**K**		2322997.568	**4385.935542**	ppb	0.899	1.575	34421.426
24	**Mg**		1361748.093	**5444.933199**	ppb	0.633	1.275	211.668
159	**Tb-ISK**		167122.551		ppb	0.570		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-13-B @20
Autosampler Position: 351
Sample Date/Time: Sunday, December 19, 2021 18:16:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-13-B @20.125
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49279.322		ppb	2.239		44909.430
9	**Be**		397.783	**0.182160**	ppb	5.388	3.656	17.778
10	**B**		12909.165	**5.673127**	ppb	1.989	2.184	9341.944
27	**Al**		54018218.371	**5678.842954**	ppb	1.063	1.527	4118.935
43	**Ca-2**		108465.249	**3515.179502**	ppb	1.240	1.303	133.334
49	**Ti**		98586.803	**96.323996**	ppb	0.881	1.820	346.671
52	**Cr**		422009.488	**28.468557**	ppb	0.908	3.498	18068.087
55	**Mn**		1886911.398	**85.473863**	ppb	0.643	3.090	1340.063
57	**Fe**		4647358.581	**10251.496121**	ppb	1.405	3.720	14006.866
45	**Sc-IS**	>	1923832.344		ppb	2.547		1865382.380
66	**Zn**		325393.092	**138.387626**	ppb	0.678	2.087	516.676
86	**Sr**		81494.764	**25.972052**	ppb	2.081	1.762	39.724
65	**Cu**		411523.153	**119.305933**	ppb	0.219	2.731	128.889
69	**Ga-IS**		628071.994		ppb	0.406		573819.625
95	**Mo**		684.461	**0.139074**	ppb	6.576	13.305	212.224
115	**In-IS**	>	209515.552		ppb	2.075		197719.745
111	**Cd**		445.236	**0.210924**	ppb	10.399	12.052	15.110
118	**Sn**		16792.100	**2.634283**	ppb	4.694	3.112	1235.609
121	**Sb**		102.223	**-0.016056**	ppb	21.712	20.167	197.779
135	**Ba**		78329.716	**41.036973**	ppb	0.461	2.568	33.333
165	**Ho-IS**		392115.489		ppb	0.882		368847.286
159	**Tb-IS**	>	396005.136		ppb	1.008		363541.658
207	**Pb**		1302348.723	**38.529178**	ppb	1.267	2.277	434.447
203	**Tl**		1830.117	**0.149476**	ppb	4.932	4.413	128.889
209	**Bi-IS**		219688.662		ppb	1.044		214395.071
51	**V**		5007.545	**23.051769**	ppb	4.516	5.141	1.111
59	**Co**		2646.912	**3.745520**	ppb	2.452	1.954	30.000
60	**Ni**		12734.567	**9.388853**	ppb	3.632	2.511	67.778
75	**As**		2273.158	**4.234144**	ppb	3.312	2.692	260.869
71	**Ga-ISK**		61711.903		ppb	1.013		58887.805
82	**Se-2**		23.526	**0.502859**	ppb	23.299	22.566	0.226
107	**Ag-1**		2610.239	**0.513563**	ppb	4.297	3.267	83.334
115	**In-ISK**	>	82244.003		ppb	1.146		81053.470
45	**Sc-ISK**	>	153269.044		ppb	1.498		145776.751
23	**Na**		1677045.712	**5942.556466**	ppb	1.326	0.174	8625.938
39	**K**		1471297.117	**2782.643749**	ppb	0.768	2.096	34421.426
24	**Mg**		899757.700	**3635.566217**	ppb	2.751	2.303	211.668
159	**Tb-ISK**		168441.948		ppb	0.939		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-14-B @20
Autosampler Position: 352
Sample Date/Time: Sunday, December 19, 2021 18:19:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-14-B @20.126
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48788.729		ppb	0.756		44909.430
9	**Be**		362.227	**0.164097**	ppb	10.178	9.943	17.778
10	**B**		12126.257	**4.197763**	ppb	2.303	11.255	9341.944
27	**Al**		48990060.908	**5120.231635**	ppb	0.228	0.760	4118.935
43	**Ca-2**		104982.702	**3382.368304**	ppb	1.143	0.968	133.334
49	**Ti**		86503.445	**83.976414**	ppb	2.560	2.580	346.671
52	**Cr**		373151.650	**24.861004**	ppb	2.601	3.224	18068.087
55	**Mn**		1581245.613	**71.184683**	ppb	3.746	4.003	1340.063
57	**Fe**		4160289.456	**9117.627763**	ppb	2.237	2.797	14006.866
45	**Sc-IS**	>	1934669.241		ppb	0.771		1865382.380
66	**Zn**		328894.215	**139.055056**	ppb	0.884	1.446	516.676
86	**Sr**		72055.259	**22.830211**	ppb	0.278	0.583	39.724
65	**Cu**		305449.276	**88.013514**	ppb	1.638	2.101	128.889
69	**Ga-IS**		621874.022		ppb	0.523		573819.625
95	**Mo**		600.013	**0.112631**	ppb	6.187	10.530	212.224
115	**In-IS**	>	210498.862		ppb	3.152		197719.745
111	**Cd**		463.192	**0.218203**	ppb	8.400	5.487	15.110
118	**Sn**		11604.713	**1.743831**	ppb	2.250	2.958	1235.609
121	**Sb**		61.111	**-0.022216**	ppb	11.355	5.755	197.779
135	**Ba**		69221.764	**36.095765**	ppb	1.222	2.004	33.333
165	**Ho-IS**		388604.055		ppb	1.366		368847.286
159	**Tb-IS**	>	392943.364		ppb	0.932		363541.658
207	**Pb**		1208769.123	**36.034519**	ppb	0.500	0.846	434.447
203	**Tl**		1606.757	**0.130834**	ppb	3.490	2.892	128.889
209	**Bi-IS**		218881.870		ppb	0.380		214395.071
51	**V**		4461.808	**20.724524**	ppb	2.797	2.178	1.111
59	**Co**		2369.086	**3.379449**	ppb	6.070	5.921	30.000
60	**Ni**		9942.350	**7.388678**	ppb	3.069	2.426	67.778
75	**As**		1951.681	**3.596325**	ppb	3.215	4.585	260.869
71	**Ga-ISK**		59917.621		ppb	0.968		58887.805
82	**Se-2**		14.841	**0.318626**	ppb	11.749	11.134	0.226
107	**Ag-1**		2292.406	**0.453371**	ppb	3.506	3.139	83.334
115	**In-ISK**	>	81482.310		ppb	0.987		81053.470
45	**Sc-ISK**	>	151841.689		ppb	1.437		145776.751
23	**Na**		1392658.632	**4976.401540**	ppb	0.857	1.262	8625.938
39	**K**		1333491.611	**2539.473270**	ppb	0.509	0.963	34421.426
24	**Mg**		799968.989	**3263.320101**	ppb	0.749	2.151	211.668
159	**Tb-ISK**		168546.479		ppb	0.709		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-4-E @20
Autosampler Position: 353
Sample Date/Time: Sunday, December 19, 2021 18:22:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-4-E @20.127
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46077.542		ppb	1.936		44909.430
9	**Be**		252.224	**0.114918**	ppb	10.764	10.878	17.778
10	**B**		11474.608	**3.621426**	ppb	2.012	12.889	9341.944
27	**Al**		34927302.426	**3750.885163**	ppb	0.682	0.200	4118.935
43	**Ca-2**		74535.730	**2466.513134**	ppb	3.111	3.208	133.334
49	**Ti**		72941.299	**72.719401**	ppb	0.412	1.194	346.671
52	**Cr**		291556.399	**19.701005**	ppb	0.918	1.799	18068.087
55	**Mn**		1253465.067	**57.969954**	ppb	0.448	0.624	1340.063
57	**Fe**		3250299.583	**7312.756383**	ppb	0.890	0.815	14006.866
45	**Sc-IS**	>	1882750.558		ppb	0.802		1865382.380
66	**Zn**		228813.469	**99.344095**	ppb	0.464	1.175	516.676
86	**Sr**		57769.942	**18.807689**	ppb	1.392	2.023	39.724
65	**Cu**		188661.157	**55.849653**	ppb	1.716	2.496	128.889
69	**Ga-IS**		604535.611		ppb	0.824		573819.625
95	**Mo**		581.123	**0.111760**	ppb	0.876	2.651	212.224
115	**In-IS**	>	206686.932		ppb	1.390		197719.745
111	**Cd**		203.226	**0.093454**	ppb	19.564	22.505	15.110
118	**Sn**		15251.475	**2.408175**	ppb	2.859	1.680	1235.609
121	**Sb**		73.334	**-0.020234**	ppb	20.830	10.914	197.779
135	**Ba**		53771.008	**28.542845**	ppb	0.482	0.928	33.333
165	**Ho-IS**		382546.936		ppb	1.119		368847.286
159	**Tb-IS**	>	388166.218		ppb	0.210		363541.658
207	**Pb**		870659.557	**26.269517**	ppb	0.560	0.380	434.447
203	**Tl**		1152.269	**0.091593**	ppb	4.494	5.143	128.889
209	**Bi-IS**		222535.621		ppb	1.289		214395.071
51	**V**		3419.298	**15.745256**	ppb	3.610	3.207	1.111
59	**Co**		1766.776	**2.487355**	ppb	2.792	2.366	30.000
60	**Ni**		7455.279	**5.480999**	ppb	2.551	3.003	67.778
75	**As**		1749.887	**3.134085**	ppb	2.492	2.680	260.869
71	**Ga-ISK**		61304.593		ppb	0.516		58887.805
82	**Se-2**		13.213	**0.281099**	ppb	38.949	39.920	0.226
107	**Ag-1**		2081.263	**0.406386**	ppb	2.729	2.402	83.334
115	**In-ISK**	>	82183.570		ppb	0.467		81053.470
45	**Sc-ISK**	>	150890.535		ppb	1.120		145776.751
23	**Na**		1127406.342	**4048.162134**	ppb	1.403	2.248	8625.938
39	**K**		1024790.013	**1948.163035**	ppb	1.297	2.482	34421.426
24	**Mg**		620911.626	**2548.555043**	ppb	1.999	2.767	211.668
159	**Tb-ISK**		165943.080		ppb	1.688		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65067-B-17-C @20
Autosampler Position: 354
Sample Date/Time: Sunday, December 19, 2021 18:25:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-65067-B-17-C @20.128
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47609.242		ppb	2.820		44909.430
9	**Be**		434.451	**0.201125**	ppb	11.021	11.099	17.778
10	**B**		12702.315	**5.452315**	ppb	3.104	9.297	9341.944
27	**Al**		55663028.758	**5888.089964**	ppb	1.032	0.570	4118.935
43	**Ca-2**		181934.512	**5936.322035**	ppb	0.220	0.787	133.334
49	**Ti**		94487.027	**92.873260**	ppb	1.169	0.407	346.671
52	**Cr**		434403.658	**29.525403**	ppb	0.399	0.862	18068.087
55	**Mn**		1829113.663	**83.350581**	ppb	0.049	0.929	1340.063
57	**Fe**		4726656.941	**10489.778674**	ppb	2.018	2.809	14006.866
45	**Sc-IS**	>	1911491.611		ppb	0.973		1865382.380
66	**Zn**		340574.500	**145.759748**	ppb	1.260	2.116	516.676
86	**Sr**		118718.836	**38.080367**	ppb	0.415	0.567	39.724
65	**Cu**		303174.339	**88.428111**	ppb	2.303	3.194	128.889
69	**Ga-IS**		623372.382		ppb	1.545		573819.625
95	**Mo**		684.461	**0.140031**	ppb	6.338	8.274	212.224
115	**In-IS**	>	205211.110		ppb	0.738		197719.745
111	**Cd**		411.902	**0.198539**	ppb	3.700	3.075	15.110
118	**Sn**		15665.255	**2.499585**	ppb	2.680	3.325	1235.609
121	**Sb**		90.000	**-0.017596**	ppb	22.529	17.651	197.779
135	**Ba**		79427.991	**42.473540**	ppb	1.084	1.612	33.333
165	**Ho-IS**		390911.807		ppb	0.237		368847.286
159	**Tb-IS**	>	392040.130		ppb	0.883		363541.658
207	**Pb**		1400876.528	**41.859737**	ppb	0.240	0.709	434.447
203	**Tl**		1755.664	**0.144522**	ppb	4.938	5.869	128.889
209	**Bi-IS**		219092.902		ppb	0.810		214395.071
51	**V**		5025.330	**23.445549**	ppb	5.149	5.953	1.111
59	**Co**		2497.997	**3.582035**	ppb	7.734	8.690	30.000
60	**Ni**		12876.915	**9.622778**	ppb	2.841	1.931	67.778
75	**As**		2256.956	**4.263762**	ppb	2.889	2.279	260.869
71	**Ga-ISK**		61159.608		ppb	3.055		58887.805
82	**Se-2**		17.179	**0.371414**	ppb	26.860	27.298	0.226
107	**Ag-1**		2594.680	**0.517516**	ppb	3.351	2.607	83.334
115	**In-ISK**	>	81157.799		ppb	0.929		81053.470
45	**Sc-ISK**	>	150512.177		ppb	1.465		145776.751
23	**Na**		1579804.944	**5698.160474**	ppb	3.786	2.727	8625.938
39	**K**		1525727.632	**2941.437667**	ppb	3.012	1.929	34421.426
24	**Mg**		907163.398	**3731.874579**	ppb	3.783	2.435	211.668
159	**Tb-ISK**		167624.642		ppb	2.089		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 18:48:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.135
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42138.779		ppb	3.659		44909.430
9	**Be**		188419.537	**94.938787**	ppb	2.863	0.419	17.778
10	**B**		139085.382	**236.059561**	ppb	3.300	1.709	9341.944
27	**Al**		872642.954	**95.846262**	ppb	0.962	2.894	4118.935
43	**Ca-2**		148692.224	**5056.294765**	ppb	3.805	1.007	133.334
49	**Ti**		94649.417	**96.996866**	ppb	3.388	0.322	346.671
52	**Cr**		1324368.666	**96.734000**	ppb	1.656	2.079	18068.087
55	**Mn**		2093318.245	**99.512632**	ppb	0.271	3.062	1340.063
57	**Fe**		2198003.544	**5073.188450**	ppb	1.865	4.938	14006.866
45	**Sc-IS**	>	1833642.938		ppb	3.280		1865382.380
66	**Zn**		230192.191	**102.684525**	ppb	1.273	3.102	516.676
86	**Sr**		306605.946	**102.638771**	ppb	1.157	4.392	39.724
65	**Cu**		338721.095	**103.053193**	ppb	1.080	3.580	128.889
69	**Ga-IS**		598747.737		ppb	0.250		573819.625
95	**Mo**		337284.321	**105.490792**	ppb	1.011	3.917	212.224
115	**In-IS**	>	204167.211		ppb	2.261		197719.745
111	**Cd**		199277.463	**100.388913**	ppb	1.215	1.110	15.110
118	**Sn**		567831.807	**98.973814**	ppb	1.193	1.407	1235.609
121	**Sb**		648144.374	**99.433854**	ppb	1.391	1.424	197.779
135	**Ba**		188830.925	**101.541097**	ppb	0.325	1.944	33.333
165	**Ho-IS**		375828.808		ppb	1.189		368847.286
159	**Tb-IS**	>	380102.898		ppb	1.006		363541.658
207	**Pb**		3064007.230	**94.451999**	ppb	0.966	1.460	434.447
203	**Tl**		1000803.889	**92.252309**	ppb	2.129	2.324	128.889
209	**Bi-IS**		210318.674		ppb	2.610		214395.071
51	**V**		20165.334	**92.693300**	ppb	0.896	1.639	1.111
59	**Co**		66464.256	**94.974418**	ppb	0.528	1.750	30.000
60	**Ni**		126879.889	**93.886140**	ppb	1.089	1.530	67.778
75	**As**		45638.759	**95.524600**	ppb	1.436	0.659	260.869
71	**Ga-ISK**		58352.299		ppb	2.072		58887.805
82	**Se-2**		4454.637	**96.148508**	ppb	0.989	1.621	0.226
107	**Ag-1**		484946.637	**98.465804**	ppb	1.180	0.117	83.334
115	**In-ISK**	>	82368.028		ppb	1.211		81053.470
45	**Sc-ISK**	>	145835.087		ppb	0.980		145776.751
23	**Na**		1268411.350	**4717.097358**	ppb	0.619	0.435	8625.938
39	**K**		2542466.756	**5110.605570**	ppb	1.233	2.187	34421.426
24	**Mg**		1172763.855	**4981.333063**	ppb	1.576	2.491	211.668
159	**Tb-ISK**		163160.475		ppb	0.550		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 18:51:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.136
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41997.252		ppb	3.655		44909.430
9	**Be**		35.556	**0.008980**	ppb	51.634	98.490	17.778
10	**B**		7700.970	**-2.720921**	ppb	6.392	19.337	9341.944
27	**Al**		4960.535	**0.099565**	ppb	11.002	54.593	4118.935
43	**Ca-2**		161.668	**1.045181**	ppb	14.616	85.971	133.334
49	**Ti**		242.224	**-0.101654**	ppb	2.102	3.081	346.671
52	**Cr**		15917.753	**-0.137149**	ppb	1.066	32.594	18068.087
55	**Mn**		1826.784	**0.024220**	ppb	6.532	31.018	1340.063
57	**Fe**		13156.056	**-1.438964**	ppb	1.638	89.707	14006.866
45	**Sc-IS**	>	1836084.505		ppb	2.681		1865382.380
66	**Zn**		571.123	**0.028153**	ppb	8.282	84.606	516.676
86	**Sr**		122.035	**0.027729**	ppb	16.495	24.390	39.724
65	**Cu**		192.224	**0.019835**	ppb	4.364	5.598	128.889
69	**Ga-IS**		573918.015		ppb	1.235		573819.625
95	**Mo**		1400.069	**0.371800**	ppb	5.774	4.380	212.224
115	**In-IS**	>	208409.009		ppb	1.688		197719.745
111	**Cd**		39.282	**0.011512**	ppb	34.901	58.681	15.110
118	**Sn**		4771.909	**0.593873**	ppb	4.819	7.386	1235.609
121	**Sb**		910.029	**0.105531**	ppb	6.345	9.611	197.779
135	**Ba**		82.222	**0.024805**	ppb	2.341	3.832	33.333
165	**Ho-IS**		375807.897		ppb	0.493		368847.286
159	**Tb-IS**	>	376472.803		ppb	0.345		363541.658
207	**Pb**		962.235	**0.015940**	ppb	10.651	19.365	434.447
203	**Tl**		448.896	**0.029360**	ppb	5.474	8.027	128.889
209	**Bi-IS**		217346.769		ppb	1.694		214395.071
51	**V**		12.222	**0.051418**	ppb	31.492	35.555	1.111
59	**Co**		40.000	**0.013950**	ppb	8.333	34.996	30.000
60	**Ni**		176.668	**0.080657**	ppb	22.876	38.145	67.778
75	**As**		271.061	**0.016738**	ppb	12.014	458.944	260.869
71	**Ga-ISK**		57473.185		ppb	1.919		58887.805
82	**Se-2**		7.940	**0.166521**	ppb	54.978	54.905	0.226
107	**Ag-1**		393.339	**0.063226**	ppb	8.084	11.814	83.334
115	**In-ISK**	>	81875.646		ppb	1.516		81053.470
45	**Sc-ISK**	>	143875.343		ppb	0.713		145776.751
23	**Na**		10146.936	**6.199098**	ppb	1.118	3.605	8625.938
39	**K**		37156.036	**6.578252**	ppb	0.428	12.235	34421.426
24	**Mg**		743.353	**2.300293**	ppb	6.358	8.012	211.668
159	**Tb-ISK**		164236.837		ppb	1.569		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 18:54:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.137
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42054.105		ppb	4.275		44909.430
9	**Be**		26.667	**0.004760**	ppb	12.500	30.137	17.778
10	**B**		7414.146	**-3.064711**	ppb	2.286	11.448	9341.944
27	**Al**		5012.567	**0.113394**	ppb	18.828	100.311	4118.935
43	**Ca-2**		106.667	**-0.803104**	ppb	27.063	113.157	133.334
49	**Ti**		221.113	**-0.120245**	ppb	9.692	22.022	346.671
52	**Cr**		16126.876	**-0.107505**	ppb	0.738	27.499	18068.087
55	**Mn**		2504.664	**0.057763**	ppb	0.906	2.647	1340.063
57	**Fe**		12561.076	**-2.479444**	ppb	1.444	18.079	14006.866
45	**Sc-IS**	>	1813866.764		ppb	2.057		1865382.380
66	**Zn**		546.677	**0.020006**	ppb	9.147	112.155	516.676
86	**Sr**		7.501	**-0.010412**	ppb	391.772	94.964	39.724
65	**Cu**		130.001	**0.001376**	ppb	13.324	324.671	128.889
69	**Ga-IS**		581548.044		ppb	2.292		573819.625
95	**Mo**		420.006	**0.067436**	ppb	7.571	10.781	212.224
115	**In-IS**	>	207517.121		ppb	1.603		197719.745
111	**Cd**		13.562	**-0.001164**	ppb	37.614	207.279	15.110
118	**Sn**		2291.295	**0.170966**	ppb	0.303	4.235	1235.609
121	**Sb**		308.892	**0.015297**	ppb	3.297	9.927	197.779
135	**Ba**		66.667	**0.016723**	ppb	25.000	51.724	33.333
165	**Ho-IS**		381192.403		ppb	0.896		368847.286
159	**Tb-IS**	>	381139.221		ppb	1.458		363541.658
207	**Pb**		462.225	**0.000202**	ppb	6.930	406.673	434.447
203	**Tl**		195.557	**0.005561**	ppb	7.686	26.360	128.889
209	**Bi-IS**		218623.593		ppb	0.924		214395.071
51	**V**		3.333	**0.010612**	ppb	100.000	149.706	1.111
59	**Co**		8.889	**-0.030532**	ppb	57.282	24.244	30.000
60	**Ni**		123.334	**0.043005**	ppb	13.514	29.199	67.778
75	**As**		251.869	**-0.012197**	ppb	2.987	99.670	260.869
71	**Ga-ISK**		58539.715		ppb	1.535		58887.805
82	**Se-2**		2.234	**0.044918**	ppb	187.308	207.198	0.226
107	**Ag-1**		123.334	**0.008595**	ppb	2.703	9.916	83.334
115	**In-ISK**	>	79996.618		ppb	0.821		81053.470
45	**Sc-ISK**	>	144884.387		ppb	1.105		145776.751
23	**Na**		9303.031	**2.751906**	ppb	3.848	48.181	8625.938
39	**K**		35339.217	**2.316559**	ppb	1.315	37.271	34421.426
24	**Mg**		210.002	**-0.001644**	ppb	14.869	8022.221	211.668
159	**Tb-ISK**		163664.855		ppb	0.440		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-201863_1-A
Autosampler Position: 109
Sample Date/Time: Sunday, December 19, 2021 18:57:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\MB 570-201863_1-A.138
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41713.065		ppb	2.843		44909.430
9	**Be**		5.556	**-0.005976**	ppb	91.652	43.758	17.778
10	**B**		7520.871	**-2.823960**	ppb	4.385	23.512	9341.944
27	**Al**		2060.482	**-0.216025**	ppb	4.903	5.475	4118.935
43	**Ca-2**		93.334	**-1.237712**	ppb	34.856	92.207	133.334
49	**Ti**		200.001	**-0.141912**	ppb	3.333	2.588	346.671
52	**Cr**		15915.529	**-0.119491**	ppb	1.739	31.547	18068.087
55	**Mn**		968.922	**-0.015913**	ppb	4.747	11.812	1340.063
57	**Fe**		12598.887	**-2.294233**	ppb	1.025	26.512	14006.866
45	**Sc-IS**	>	1808109.857		ppb	1.934		1865382.380
66	**Zn**		287.781	**-0.096362**	ppb	9.291	14.725	516.676
86	**Sr**		10.273	**-0.009606**	ppb	231.617	84.385	39.724
65	**Cu**		83.334	**-0.012819**	ppb	12.000	25.048	128.889
69	**Ga-IS**		569468.228		ppb	1.094		573819.625
95	**Mo**		287.781	**0.026032**	ppb	2.411	6.945	212.224
115	**In-IS**	>	209093.253		ppb	1.685		197719.745
111	**Cd**		2.729	**-0.006510**	ppb	212.080	43.892	15.110
118	**Sn**		1405.625	**0.016838**	ppb	7.053	93.670	1235.609
121	**Sb**		213.335	**0.000579**	ppb	15.858	791.231	197.779
135	**Ba**		35.556	**0.000141**	ppb	30.136	3909.853	33.333
165	**Ho-IS**		372651.271		ppb	0.570		368847.286
159	**Tb-IS**	>	379342.805		ppb	0.363		363541.658
207	**Pb**		277.779	**-0.005424**	ppb	8.514	12.948	434.447
203	**Tl**		107.778	**-0.002466**	ppb	11.709	47.867	128.889
209	**Bi-IS**		218306.519		ppb	3.247		214395.071
51	**V**		2.222	**0.005529**	ppb	173.205	335.777	1.111
59	**Co**		5.556	**-0.035542**	ppb	34.641	7.399	30.000
60	**Ni**		86.667	**0.014147**	ppb	17.625	70.028	67.778
75	**As**		253.526	**-0.014365**	ppb	4.723	259.954	260.869
71	**Ga-ISK**		58728.300		ppb	2.597		58887.805
82	**Se-2**		6.271	**0.131780**	ppb	51.867	51.553	0.226
107	**Ag-1**		61.111	**-0.004585**	ppb	11.355	25.352	83.334
115	**In-ISK**	>	80937.737		ppb	2.716		81053.470
45	**Sc-ISK**	>	142782.557		ppb	2.703		145776.751
23	**Na**		9039.528	**2.288618**	ppb	3.134	79.295	8625.938
39	**K**		34597.399	**1.872988**	ppb	0.148	105.368	34421.426
24	**Mg**		70.000	**-0.595781**	ppb	12.372	6.150	211.668
159	**Tb-ISK**		162305.609		ppb	1.528		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 19:00:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.139
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41045.634		ppb	4.688		44909.430
9	**Be**		186232.278	**93.586339**	ppb	2.965	2.209	17.778
10	**B**		133272.162	**224.894180**	ppb	1.247	1.736	9341.944
27	**Al**		856744.574	**93.802827**	ppb	1.159	0.967	4118.935
43	**Ca-2**		149124.341	**5058.992689**	ppb	0.988	0.851	133.334
49	**Ti**		95180.473	**97.314446**	ppb	0.487	1.682	346.671
52	**Cr**		1338797.034	**97.510704**	ppb	1.712	0.456	18068.087
55	**Mn**		2091195.644	**99.105997**	ppb	0.234	1.085	1340.063
57	**Fe**		2185537.929	**5026.708252**	ppb	0.159	1.114	14006.866
45	**Sc-IS**	>	1838230.540		ppb	1.262		1865382.380
66	**Zn**		228271.632	**101.515168**	ppb	0.857	1.126	516.676
86	**Sr**		303305.300	**101.182821**	ppb	1.490	0.578	39.724
65	**Cu**		336777.517	**102.126029**	ppb	1.726	0.477	128.889
69	**Ga-IS**		610969.880		ppb	0.916		573819.625
95	**Mo**		335378.168	**104.548963**	ppb	1.299	1.067	212.224
115	**In-IS**	>	206310.726		ppb	0.915		197719.745
111	**Cd**		197593.653	**98.495756**	ppb	0.742	1.174	15.110
118	**Sn**		566220.702	**97.636460**	ppb	2.750	1.925	1235.609
121	**Sb**		643064.693	**97.615871**	ppb	1.443	1.565	197.779
135	**Ba**		186222.810	**99.064496**	ppb	1.741	0.947	33.333
165	**Ho-IS**		375173.796		ppb	0.557		368847.286
159	**Tb-IS**	>	379888.375		ppb	2.080		363541.658
207	**Pb**		3052372.158	**94.167370**	ppb	0.193	2.148	434.447
203	**Tl**		1003739.075	**92.593893**	ppb	0.806	2.073	128.889
209	**Bi-IS**		210381.141		ppb	0.479		214395.071
51	**V**		21296.975	**100.198042**	ppb	0.802	0.989	1.111
59	**Co**		68196.892	**99.736497**	ppb	2.286	2.012	30.000
60	**Ni**		126113.252	**95.545606**	ppb	2.021	3.644	67.778
75	**As**		45498.011	**97.496112**	ppb	1.432	1.870	260.869
71	**Ga-ISK**		57610.382		ppb	1.025		58887.805
82	**Se-2**		4473.630	**98.817042**	ppb	2.035	0.636	0.226
107	**Ag-1**		470799.677	**97.849102**	ppb	2.041	1.883	83.334
115	**In-ISK**	>	80474.745		ppb	1.693		81053.470
45	**Sc-ISK**	>	145462.478		ppb	1.410		145776.751
23	**Na**		1274549.968	**4752.887283**	ppb	0.940	1.833	8625.938
39	**K**		2511090.647	**5059.742314**	ppb	1.338	1.954	34421.426
24	**Mg**		1166237.540	**4966.501201**	ppb	2.477	3.167	211.668
159	**Tb-ISK**		162743.758		ppb	0.498		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 19:04:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.140
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41324.267		ppb	5.941		44909.430
9	**Be**		31.111	**0.007117**	ppb	22.304	48.420	17.778
10	**B**		7226.273	**-3.339651**	ppb	2.679	4.679	9341.944
27	**Al**		5287.981	**0.146013**	ppb	6.199	18.549	4118.935
43	**Ca-2**		138.334	**0.326574**	ppb	4.174	69.736	133.334
49	**Ti**		256.669	**-0.082383**	ppb	13.497	40.481	346.671
52	**Cr**		15671.925	**-0.135232**	ppb	0.487	10.746	18068.087
55	**Mn**		1853.454	**0.026991**	ppb	6.301	24.161	1340.063
57	**Fe**		13387.385	**-0.375542**	ppb	3.123	126.383	14006.866
45	**Sc-IS**	>	1803801.445		ppb	1.631		1865382.380
66	**Zn**		581.123	**0.036868**	ppb	8.630	53.472	516.676
86	**Sr**		93.645	**0.018728**	ppb	16.878	25.765	39.724
65	**Cu**		200.001	**0.023300**	ppb	1.667	0.898	128.889
69	**Ga-IS**		569803.424		ppb	2.074		573819.625
95	**Mo**		1087.820	**0.281092**	ppb	14.024	19.124	212.224
115	**In-IS**	>	207830.406		ppb	2.263		197719.745
111	**Cd**		41.049	**0.012357**	ppb	50.723	80.986	15.110
118	**Sn**		4003.896	**0.464585**	ppb	5.665	10.083	1235.609
121	**Sb**		756.687	**0.082649**	ppb	10.007	12.151	197.779
135	**Ba**		98.889	**0.033874**	ppb	17.298	29.747	33.333
165	**Ho-IS**		373178.718		ppb	1.508		368847.286
159	**Tb-IS**	>	379370.499		ppb	2.127		363541.658
207	**Pb**		948.901	**0.015301**	ppb	12.550	23.532	434.447
203	**Tl**		405.561	**0.025010**	ppb	8.789	10.802	128.889
209	**Bi-IS**		218939.500		ppb	0.984		214395.071
51	**V**		12.222	**0.052113**	ppb	83.320	91.032	1.111
59	**Co**		42.222	**0.017864**	ppb	35.599	119.933	30.000
60	**Ni**		187.779	**0.090777**	ppb	8.935	12.478	67.778
75	**As**		279.141	**0.041803**	ppb	9.147	141.302	260.869
71	**Ga-ISK**		57188.690		ppb	0.858		58887.805
82	**Se-2**		7.935	**0.168894**	ppb	65.544	67.064	0.226
107	**Ag-1**		356.671	**0.056625**	ppb	15.385	18.682	83.334
115	**In-ISK**	>	80726.301		ppb	1.175		81053.470
45	**Sc-ISK**	>	140541.400		ppb	1.724		145776.751
23	**Na**		9673.275	**5.280562**	ppb	2.311	20.619	8625.938
39	**K**		36797.338	**7.653494**	ppb	1.562	24.950	34421.426
24	**Mg**		691.684	**2.152339**	ppb	10.852	17.198	211.668
159	**Tb-ISK**		160991.044		ppb	2.341		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 19:07:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.141
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41241.689		ppb	2.329		44909.430
9	**Be**		32.222	**0.007605**	ppb	33.254	70.589	17.778
10	**B**		6921.677	**-3.952374**	ppb	3.069	11.728	9341.944
27	**Al**		5607.769	**0.179386**	ppb	5.719	17.680	4118.935
43	**Ca-2**		130.001	**0.020222**	ppb	13.868	3177.191	133.334
49	**Ti**		220.002	**-0.121329**	ppb	9.936	20.015	346.671
52	**Cr**		15677.490	**-0.139922**	ppb	2.491	18.456	18068.087
55	**Mn**		2411.315	**0.053401**	ppb	3.638	6.406	1340.063
57	**Fe**		12712.322	**-2.086634**	ppb	2.358	35.499	14006.866
45	**Sc-IS**	>	1811360.730		ppb	0.717		1865382.380
66	**Zn**		542.233	**0.018377**	ppb	4.614	69.435	516.676
86	**Sr**		48.588	**0.003410**	ppb	31.245	153.714	39.724
65	**Cu**		134.445	**0.002883**	ppb	14.098	210.615	128.889
69	**Ga-IS**		568371.592		ppb	1.749		573819.625
95	**Mo**		303.337	**0.030751**	ppb	18.157	55.616	212.224
115	**In-IS**	>	204624.480		ppb	1.594		197719.745
111	**Cd**		24.919	**0.004599**	ppb	63.320	167.403	15.110
118	**Sn**		1906.794	**0.109583**	ppb	2.587	12.291	1235.609
121	**Sb**		273.336	**0.010503**	ppb	6.790	24.727	197.779
135	**Ba**		63.333	**0.015498**	ppb	10.526	25.105	33.333
165	**Ho-IS**		370781.408		ppb	0.765		368847.286
159	**Tb-IS**	>	376002.905		ppb	0.409		363541.658
207	**Pb**		553.338	**0.003238**	ppb	8.347	42.541	434.447
203	**Tl**		180.001	**0.004346**	ppb	12.143	45.331	128.889
209	**Bi-IS**		215215.713		ppb	0.639		214395.071
51	**V**		0.000	**-0.005190**	ppb		0.000	1.111
59	**Co**		24.444	**-0.008039**	ppb	28.386	121.233	30.000
60	**Ni**		138.890	**0.053871**	ppb	1.386	4.810	67.778
75	**As**		288.657	**0.062279**	ppb	7.265	92.339	260.869
71	**Ga-ISK**		58402.498		ppb	1.883		58887.805
82	**Se-2**		1.255	**0.022641**	ppb	93.091	113.611	0.226
107	**Ag-1**		126.667	**0.009080**	ppb	12.059	40.915	83.334
115	**In-ISK**	>	80788.245		ppb	2.124		81053.470
45	**Sc-ISK**	>	143599.449		ppb	2.148		145776.751
23	**Na**		9146.262	**2.464413**	ppb	3.102	17.066	8625.938
39	**K**		34690.962	**1.632641**	ppb	1.072	47.834	34421.426
24	**Mg**		283.336	**0.324918**	ppb	10.783	48.107	211.668
159	**Tb-ISK**		161510.669		ppb	1.505		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-201863_2-A
Autosampler Position: 110
Sample Date/Time: Sunday, December 19, 2021 19:10:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\LCS 570-201863_2-A.142
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41524.712		ppb	1.013		44909.430
9	**Be**		206403.768	**104.347735**	ppb	0.647	1.955	17.778
10	**B**		59295.045	**91.404602**	ppb	1.619	0.623	9341.944
27	**Al**		912412.535	**100.504897**	ppb	1.021	0.660	4118.935
43	**Ca-2**		167970.369	**5733.042708**	ppb	2.207	3.344	133.334
49	**Ti**		103727.538	**106.693831**	ppb	1.991	2.291	346.671
52	**Cr**		1435376.652	**105.270424**	ppb	2.525	3.051	18068.087
55	**Mn**		2237655.114	**106.667704**	ppb	1.976	2.494	1340.063
57	**Fe**		2487811.804	**5760.495740**	ppb	3.068	3.943	14006.866
45	**Sc-IS**	>	1827761.151		ppb	1.645		1865382.380
66	**Zn**		256080.994	**114.566654**	ppb	2.032	2.057	516.676
86	**Sr**		328767.878	**110.312653**	ppb	2.095	1.730	39.724
65	**Cu**		360479.294	**109.963351**	ppb	2.034	2.421	128.889
69	**Ga-IS**		608632.270		ppb	1.950		573819.625
95	**Mo**		361071.854	**113.215566**	ppb	0.813	0.888	212.224
115	**In-IS**	>	210984.490		ppb	2.060		197719.745
111	**Cd**		214776.712	**104.707263**	ppb	0.922	1.798	15.110
118	**Sn**		635740.305	**107.240865**	ppb	1.213	0.874	1235.609
121	**Sb**		727990.093	**108.073067**	ppb	1.332	1.251	197.779
135	**Ba**		208534.467	**108.506906**	ppb	1.145	1.954	33.333
165	**Ho-IS**		384204.143		ppb	1.445		368847.286
159	**Tb-IS**	>	381647.999		ppb	1.355		363541.658
207	**Pb**		3338387.394	**102.483114**	ppb	1.960	0.905	434.447
203	**Tl**		1089281.580	**99.998665**	ppb	1.200	0.592	128.889
209	**Bi-IS**		215915.095		ppb	0.974		214395.071
51	**V**		23540.493	**108.105444**	ppb	1.397	3.341	1.111
59	**Co**		75371.780	**107.621363**	ppb	3.238	5.015	30.000
60	**Ni**		134538.429	**99.449306**	ppb	1.551	2.681	67.778
75	**As**		45858.527	**95.891412**	ppb	0.358	2.156	260.869
71	**Ga-ISK**		58842.063		ppb	1.484		58887.805
82	**Se-2**		4864.781	**104.867902**	ppb	2.468	2.337	0.226
107	**Ag-1**		271552.185	**55.060633**	ppb	2.587	1.896	83.334
115	**In-ISK**	>	82473.176		ppb	1.957		81053.470
45	**Sc-ISK**	>	146204.491		ppb	1.739		145776.751
23	**Na**		270460.169	**978.058963**	ppb	1.963	2.981	8625.938
39	**K**		531136.879	**1009.828682**	ppb	2.993	5.031	34421.426
24	**Mg**		1315173.400	**5574.168311**	ppb	2.929	4.537	211.668
159	**Tb-ISK**		165997.681		ppb	1.551		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-201863_3-A
Autosampler Position: 111
Sample Date/Time: Sunday, December 19, 2021 19:13:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\LCSD 570-201863_3-A.143
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40871.768		ppb	3.628		44909.430
9	**Be**		202743.158	**103.026626**	ppb	1.397	0.875	17.778
10	**B**		59126.659	**91.644873**	ppb	3.660	2.311	9341.944
27	**Al**		922604.782	**102.186485**	ppb	0.464	1.670	4118.935
43	**Ca-2**		166143.051	**5697.575575**	ppb	3.657	1.670	133.334
49	**Ti**		102610.546	**106.106605**	ppb	0.876	1.641	346.671
52	**Cr**		1407872.601	**103.787572**	ppb	0.188	1.973	18068.087
55	**Mn**		2220035.243	**106.405110**	ppb	1.084	2.771	1340.063
57	**Fe**		2448283.593	**5698.905319**	ppb	1.337	2.933	14006.866
45	**Sc-IS**	>	1818190.315		ppb	2.093		1865382.380
66	**Zn**		250879.324	**112.842647**	ppb	0.441	1.691	516.676
86	**Sr**		325810.344	**109.927851**	ppb	1.013	2.601	39.724
65	**Cu**		355410.090	**109.005024**	ppb	0.121	2.240	128.889
69	**Ga-IS**		605179.411		ppb	1.720		573819.625
95	**Mo**		366688.729	**115.609193**	ppb	0.248	2.289	212.224
115	**In-IS**	>	206049.289		ppb	1.286		197719.745
111	**Cd**		212608.579	**106.119741**	ppb	1.415	1.788	15.110
118	**Sn**		628957.609	**108.635002**	ppb	0.553	0.767	1235.609
121	**Sb**		725173.530	**110.224122**	ppb	1.739	1.633	197.779
135	**Ba**		206530.188	**110.024843**	ppb	1.465	1.884	33.333
165	**Ho-IS**		379602.601		ppb	2.464		368847.286
159	**Tb-IS**	>	375504.041		ppb	1.512		363541.658
207	**Pb**		3338693.314	**104.173308**	ppb	1.572	0.259	434.447
203	**Tl**		1080934.299	**100.847529**	ppb	2.172	0.770	128.889
209	**Bi-IS**		213426.944		ppb	0.567		214395.071
51	**V**		23073.071	**107.075462**	ppb	2.627	2.010	1.111
59	**Co**		73972.149	**106.724108**	ppb	1.163	0.667	30.000
60	**Ni**		132840.511	**99.248622**	ppb	2.124	1.826	67.778
75	**As**		45783.397	**96.762640**	ppb	2.801	2.193	260.869
71	**Ga-ISK**		57896.029		ppb	2.755		58887.805
82	**Se-2**		4774.069	**104.035227**	ppb	2.028	1.582	0.226
107	**Ag-1**		269760.133	**55.301658**	ppb	1.394	1.426	83.334
115	**In-ISK**	>	81571.036		ppb	0.618		81053.470
45	**Sc-ISK**	>	143645.604		ppb	2.747		145776.751
23	**Na**		260809.399	**959.532568**	ppb	1.082	2.584	8625.938
39	**K**		524104.108	**1014.140554**	ppb	1.902	1.442	34421.426
24	**Mg**		1303555.929	**5621.507178**	ppb	1.983	1.291	211.668
159	**Tb-ISK**		164104.609		ppb	1.256		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79167-B-1-A
Autosampler Position: 112
Sample Date/Time: Sunday, December 19, 2021 19:16:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79167-B-1-A.144
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58173.783		ppb	1.662		44909.430
9	**Be**		93.334	**0.033688**	ppb	10.714	17.290	17.778
10	**B**		50114.488	**65.396658**	ppb	3.574	2.756	9341.944
27	**Al**		3643095.004	**362.138509**	ppb	0.567	5.321	4118.935
43	**Ca-2**		1144111.532	**35104.716197**	ppb	3.182	2.634	133.334
49	**Ti**		5471.048	**4.724782**	ppb	2.465	4.249	346.671
52	**Cr**		59783.728	**2.677671**	ppb	0.922	7.144	18068.087
55	**Mn**		3195473.114	**137.024284**	ppb	0.431	5.256	1340.063
57	**Fe**		301341.939	**598.965451**	ppb	0.987	5.268	14006.866
45	**Sc-IS**	>	2035935.707		ppb	5.811		1865382.380
66	**Zn**		3640102.644	**1468.135478**	ppb	0.743	6.329	516.676
86	**Sr**		1216905.125	**367.396052**	ppb	0.528	5.799	39.724
65	**Cu**		776683.836	**213.163093**	ppb	1.415	5.715	128.889
69	**Ga-IS**		587067.285		ppb	1.591		573819.625
95	**Mo**		9916.776	**2.731608**	ppb	2.893	4.363	212.224
115	**In-IS**	>	202308.188		ppb	1.670		197719.745
111	**Cd**		5026.734	**2.548832**	ppb	3.895	5.362	15.110
118	**Sn**		5944.570	**0.825094**	ppb	1.010	1.624	1235.609
121	**Sb**		26564.682	**4.081976**	ppb	1.866	0.204	197.779
135	**Ba**		132732.814	**72.002661**	ppb	1.904	0.238	33.333
165	**Ho-IS**		380540.100		ppb	2.271		368847.286
159	**Tb-IS**	>	381412.802		ppb	1.173		363541.658
207	**Pb**		385288.444	**11.823893**	ppb	0.487	0.938	434.447
203	**Tl**		732.241	**0.054839**	ppb	4.422	4.692	128.889
209	**Bi-IS**		200618.869		ppb	0.384		214395.071
51	**V**		654.459	**3.177179**	ppb	3.823	2.372	1.111
59	**Co**		1594.533	**2.369208**	ppb	2.846	4.345	30.000
60	**Ni**		21747.667	**16.986138**	ppb	3.654	3.675	67.778
75	**As**		1585.700	**2.975837**	ppb	2.749	4.965	260.869
71	**Ga-ISK**		56307.436		ppb	1.628		58887.805
82	**Se-2**		74.237	**1.689157**	ppb	15.153	14.326	0.226
107	**Ag-1**		332.226	**0.054304**	ppb	14.792	21.145	83.334
115	**In-ISK**	>	77842.063		ppb	1.552		81053.470
45	**Sc-ISK**	>	147278.656		ppb	0.789		145776.751
23	**Na**		31533579.604	**116886.304435**	ppb	0.564	1.031	8625.938
39	**K**		3313394.833	**6614.161654**	ppb	1.551	0.779	34421.426
24	**Mg**		3439503.789	**14466.480518**	ppb	0.868	1.381	211.668
159	**Tb-ISK**		161665.621		ppb	0.507		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79167-B-1-B MS @5
Autosampler Position: 113
Sample Date/Time: Sunday, December 19, 2021 19:19:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79167-B-1-B MS @5.145
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45648.426		ppb	3.356		44909.430
9	**Be**		41370.952	**20.538185**	ppb	2.388	2.791	17.778
10	**B**		24906.141	**27.919084**	ppb	1.650	2.791	9341.944
27	**Al**		875549.160	**94.722085**	ppb	1.123	1.488	4118.935
43	**Ca-2**		233193.026	**7819.149545**	ppb	1.170	1.726	133.334
49	**Ti**		19686.890	**19.607145**	ppb	1.113	1.462	346.671
52	**Cr**		275787.053	**18.802261**	ppb	1.625	2.200	18068.087
55	**Mn**		966488.705	**45.220724**	ppb	0.900	1.277	1340.063
57	**Fe**		451129.906	**999.720812**	ppb	1.349	1.676	14006.866
45	**Sc-IS**	>	1860436.670		ppb	0.552		1865382.380
66	**Zn**		779993.427	**343.254189**	ppb	0.268	0.607	516.676
86	**Sr**		290361.773	**95.702789**	ppb	2.347	1.822	39.724
65	**Cu**		221281.738	**66.292087**	ppb	0.119	0.604	128.889
69	**Ga-IS**		586380.827		ppb	1.498		573819.625
95	**Mo**		53464.307	**16.412565**	ppb	0.792	0.982	212.224
115	**In-IS**	>	207084.824		ppb	1.049		197719.745
111	**Cd**		42116.745	**20.906131**	ppb	2.723	1.745	15.110
118	**Sn**		54999.140	**9.246616**	ppb	4.447	3.852	1235.609
121	**Sb**		140641.155	**21.244489**	ppb	0.763	0.581	197.779
135	**Ba**		62383.699	**33.053256**	ppb	0.927	1.303	33.333
165	**Ho-IS**		375773.704		ppb	0.560		368847.286
159	**Tb-IS**	>	379933.812		ppb	0.544		363541.658
207	**Pb**		679985.867	**20.958068**	ppb	1.207	0.887	434.447
203	**Tl**		194523.221	**17.927906**	ppb	0.533	0.664	128.889
209	**Bi-IS**		212224.895		ppb	1.161		214395.071
51	**V**		3693.812	**17.165952**	ppb	5.160	4.397	1.111
59	**Co**		14193.715	**20.482830**	ppb	1.208	2.122	30.000
60	**Ni**		30131.744	**22.517182**	ppb	0.525	1.920	67.778
75	**As**		9593.306	**19.875788**	ppb	0.456	2.014	260.869
71	**Ga-ISK**		59203.544		ppb	1.106		58887.805
82	**Se-2**		1059.264	**23.140012**	ppb	6.094	7.682	0.226
107	**Ag-1**		49318.343	**10.113621**	ppb	2.132	1.153	83.334
115	**In-ISK**	>	81429.568		ppb	1.667		81053.470
45	**Sc-ISK**	>	150536.028		ppb	2.702		145776.751
23	**Na**		6205226.428	**22488.134808**	ppb	0.909	3.080	8625.938
39	**K**		724624.850	**1360.780662**	ppb	1.178	3.064	34421.426
24	**Mg**		882945.088	**3632.745270**	ppb	2.325	0.938	211.668
159	**Tb-ISK**		163596.199		ppb	1.487		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79167-B-1-C MSD @5
Autosampler Position: 114
Sample Date/Time: Sunday, December 19, 2021 19:23:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79167-B-1-C MSD @5.146
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44432.347		ppb	2.229		44909.430
9	**Be**		39884.494	**19.893224**	ppb	1.290	1.933	17.778
10	**B**		23971.208	**26.444749**	ppb	1.266	1.113	9341.944
27	**Al**		775944.227	**84.285890**	ppb	1.323	0.546	4118.935
43	**Ca-2**		227107.891	**7650.066686**	ppb	1.402	0.622	133.334
49	**Ti**		19005.970	**19.006111**	ppb	1.661	1.157	346.671
52	**Cr**		270413.418	**18.502391**	ppb	1.381	1.611	18068.087
55	**Mn**		928276.210	**43.634994**	ppb	1.176	1.439	1340.063
57	**Fe**		442672.784	**985.130988**	ppb	1.570	1.718	14006.866
45	**Sc-IS**	>	1851735.045		ppb	0.785		1865382.380
66	**Zn**		748015.840	**330.723888**	ppb	1.868	1.947	516.676
86	**Sr**		277301.953	**91.836371**	ppb	2.303	2.394	39.724
65	**Cu**		211572.415	**63.679450**	ppb	2.349	2.329	128.889
69	**Ga-IS**		571823.025		ppb	2.455		573819.625
95	**Mo**		51868.492	**15.994164**	ppb	2.995	2.417	212.224
115	**In-IS**	>	205742.582		ppb	1.039		197719.745
111	**Cd**		40314.872	**20.143428**	ppb	2.134	1.548	15.110
118	**Sn**		56258.529	**9.526329**	ppb	5.127	4.535	1235.609
121	**Sb**		135252.809	**20.563595**	ppb	0.309	0.989	197.779
135	**Ba**		61121.591	**32.595639**	ppb	0.720	1.197	33.333
165	**Ho-IS**		369998.290		ppb	2.152		368847.286
159	**Tb-IS**	>	374200.118		ppb	1.059		363541.658
207	**Pb**		652019.077	**20.405030**	ppb	0.452	0.866	434.447
203	**Tl**		187271.725	**17.524426**	ppb	0.513	0.853	128.889
209	**Bi-IS**		209867.025		ppb	0.727		214395.071
51	**V**		3475.979	**16.342917**	ppb	5.289	4.037	1.111
59	**Co**		13537.528	**19.759982**	ppb	3.561	2.540	30.000
60	**Ni**		28515.100	**21.560494**	ppb	1.180	2.421	67.778
75	**As**		9396.001	**19.693229**	ppb	1.461	2.543	260.869
71	**Ga-ISK**		57590.297		ppb	0.728		58887.805
82	**Se-2**		1009.950	**22.301304**	ppb	4.017	2.803	0.226
107	**Ag-1**		47892.380	**9.938961**	ppb	1.606	2.006	83.334
115	**In-ISK**	>	80471.615		ppb	1.255		81053.470
45	**Sc-ISK**	>	148359.987		ppb	2.262		145776.751
23	**Na**		5872506.915	**21581.415421**	ppb	2.416	0.445	8625.938
39	**K**		695140.117	**1322.283757**	ppb	1.847	2.045	34421.426
24	**Mg**		845856.397	**3531.581738**	ppb	1.005	1.481	211.668
159	**Tb-ISK**		161710.109		ppb	0.263		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79167-B-2-A
Autosampler Position: 115
Sample Date/Time: Sunday, December 19, 2021 19:26:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79167-B-2-A.147
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		52714.911		ppb	2.840		44909.430
9	**Be**		56.667	**0.018538**	ppb	11.765	17.908	17.778
10	**B**		39896.749	**52.720030**	ppb	1.045	3.010	9341.944
27	**Al**		2356748.676	**248.365286**	ppb	0.653	1.614	4118.935
43	**Ca-2**		849618.072	**27678.862906**	ppb	0.889	0.861	133.334
49	**Ti**		9327.489	**8.832787**	ppb	1.167	0.674	346.671
52	**Cr**		46798.752	**2.001077**	ppb	0.450	2.137	18068.087
55	**Mn**		1968329.634	**89.505616**	ppb	0.800	0.788	1340.063
57	**Fe**		256642.613	**538.090032**	ppb	0.675	1.460	14006.866
45	**Sc-IS**	>	1915645.186		ppb	1.466		1865382.380
66	**Zn**		2540279.544	**1086.344679**	ppb	1.720	2.435	516.676
86	**Sr**		923846.130	**295.801261**	ppb	0.405	1.142	39.724
65	**Cu**		545216.246	**158.721787**	ppb	1.951	3.106	128.889
69	**Ga-IS**		579673.178		ppb	1.009		573819.625
95	**Mo**		11769.291	**3.457690**	ppb	0.841	0.660	212.224
115	**In-IS**	>	207293.846		ppb	2.740		197719.745
111	**Cd**		2588.857	**1.277877**	ppb	3.005	5.807	15.110
118	**Sn**		22567.815	**3.660836**	ppb	1.647	2.639	1235.609
121	**Sb**		27168.035	**4.076836**	ppb	1.395	3.599	197.779
135	**Ba**		133626.521	**70.771657**	ppb	0.765	2.022	33.333
165	**Ho-IS**		372310.884		ppb	1.435		368847.286
159	**Tb-IS**	>	378622.932		ppb	1.863		363541.658
207	**Pb**		230880.602	**7.132767**	ppb	1.075	1.696	434.447
203	**Tl**		395.561	**0.024225**	ppb	7.167	13.605	128.889
209	**Bi-IS**		203837.409		ppb	1.207		214395.071
51	**V**		596.679	**2.845770**	ppb	0.559	1.068	1.111
59	**Co**		1280.057	**1.858790**	ppb	2.756	3.808	30.000
60	**Ni**		15571.819	**11.930402**	ppb	2.530	1.566	67.778
75	**As**		1230.918	**2.135210**	ppb	4.193	4.442	260.869
71	**Ga-ISK**		57003.515		ppb	1.300		58887.805
82	**Se-2**		48.247	**1.078075**	ppb	8.653	9.663	0.226
107	**Ag-1**		284.447	**0.042867**	ppb	5.538	8.858	83.334
115	**In-ISK**	>	79241.541		ppb	0.983		81053.470
45	**Sc-ISK**	>	150154.048		ppb	1.789		145776.751
23	**Na**		23477198.701	**85348.452508**	ppb	1.407	0.426	8625.938
39	**K**		2591744.321	**5058.362840**	ppb	2.410	1.536	34421.426
24	**Mg**		2607638.721	**10758.699827**	ppb	0.747	1.638	211.668
159	**Tb-ISK**		164104.513		ppb	0.174		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79168-B-1-A
Autosampler Position: 116
Sample Date/Time: Sunday, December 19, 2021 19:29:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79168-B-1-A.148
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49277.065		ppb	0.364		44909.430
9	**Be**		192.224	**0.083612**	ppb	12.180	14.379	17.778
10	**B**		44012.146	**59.573210**	ppb	1.355	3.259	9341.944
27	**Al**		21499004.472	**2260.311669**	ppb	0.509	2.067	4118.935
43	**Ca-2**		1978042.634	**64196.066476**	ppb	1.057	2.243	133.334
49	**Ti**		40334.657	**39.196129**	ppb	2.208	0.452	346.671
52	**Cr**		71843.541	**3.754943**	ppb	0.858	2.083	18068.087
55	**Mn**		3339981.160	**151.340596**	ppb	1.381	2.748	1340.063
57	**Fe**		1100742.809	**2403.660711**	ppb	1.308	3.169	14006.866
45	**Sc-IS**	>	1923447.370		ppb	1.826		1865382.380
66	**Zn**		1586503.876	**675.790444**	ppb	1.571	3.391	516.676
86	**Sr**		886703.827	**282.769119**	ppb	0.572	1.268	39.724
65	**Cu**		143441.072	**41.564983**	ppb	1.361	3.135	128.889
69	**Ga-IS**		598997.286		ppb	1.461		573819.625
95	**Mo**		13818.905	**4.055209**	ppb	2.084	2.961	212.224
115	**In-IS**	>	199898.453		ppb	0.771		197719.745
111	**Cd**		968.793	**0.490815**	ppb	9.561	10.418	15.110
118	**Sn**		5812.294	**0.814119**	ppb	2.976	4.317	1235.609
121	**Sb**		6540.387	**0.993521**	ppb	2.863	2.254	197.779
135	**Ba**		190670.876	**104.685600**	ppb	1.576	0.803	33.333
165	**Ho-IS**		379795.275		ppb	2.383		368847.286
159	**Tb-IS**	>	378084.337		ppb	1.722		363541.658
207	**Pb**		683375.625	**21.172209**	ppb	1.002	2.612	434.447
203	**Tl**		841.136	**0.065523**	ppb	3.552	3.137	128.889
209	**Bi-IS**		209741.951		ppb	1.133		214395.071
51	**V**		2220.173	**10.365631**	ppb	0.260	0.307	1.111
59	**Co**		1846.786	**2.639265**	ppb	2.527	2.774	30.000
60	**Ni**		10201.420	**7.624318**	ppb	1.765	2.156	67.778
75	**As**		2670.033	**5.154153**	ppb	2.108	1.722	260.869
71	**Ga-ISK**		58680.297		ppb	1.806		58887.805
82	**Se-2**		60.208	**1.314494**	ppb	24.911	24.485	0.226
107	**Ag-1**		186.668	**0.021337**	ppb	6.439	12.594	83.334
115	**In-ISK**	>	81050.490		ppb	0.552		81053.470
45	**Sc-ISK**	>	152361.591		ppb	1.191		145776.751
23	**Na**		9299874.484	**33296.631858**	ppb	1.679	0.827	8625.938
39	**K**		2450751.189	**4709.086848**	ppb	1.416	0.460	34421.426
24	**Mg**		1629314.573	**6624.045154**	ppb	0.651	1.441	211.668
159	**Tb-ISK**		166561.478		ppb	1.317		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79169-B-1-A
Autosampler Position: 117
Sample Date/Time: Sunday, December 19, 2021 19:32:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79169-B-1-A.149
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44541.553		ppb	0.396		44909.430
9	**Be**		38.889	**0.010618**	ppb	27.553	50.012	17.778
10	**B**		10868.578	**2.898433**	ppb	1.459	9.028	9341.944
27	**Al**		2053165.855	**224.084002**	ppb	2.761	2.520	4118.935
43	**Ca-2**		85570.539	**2883.955458**	ppb	1.165	1.048	133.334
49	**Ti**		5871.208	**5.638114**	ppb	4.455	4.790	346.671
52	**Cr**		35054.078	**1.258184**	ppb	2.018	3.937	18068.087
55	**Mn**		617876.632	**29.064627**	ppb	1.515	1.449	1340.063
57	**Fe**		154006.894	**322.401868**	ppb	1.349	1.256	14006.866
45	**Sc-IS**	>	1849016.351		ppb	0.274		1865382.380
66	**Zn**		702739.755	**311.132650**	ppb	1.493	1.221	516.676
86	**Sr**		60001.351	**19.889172**	ppb	1.919	1.796	39.724
65	**Cu**		71136.690	**21.416319**	ppb	1.126	1.054	128.889
69	**Ga-IS**		590016.321		ppb	1.618		573819.625
95	**Mo**		9046.199	**2.739908**	ppb	3.726	3.687	212.224
115	**In-IS**	>	203979.238		ppb	2.110		197719.745
111	**Cd**		1089.935	**0.541592**	ppb	8.595	8.252	15.110
118	**Sn**		82006.935	**14.116755**	ppb	0.670	1.544	1235.609
121	**Sb**		7076.197	**1.055816**	ppb	1.229	3.003	197.779
135	**Ba**		50911.681	**27.385413**	ppb	1.340	1.593	33.333
165	**Ho-IS**		375244.305		ppb	2.592		368847.286
159	**Tb-IS**	>	378778.012		ppb	1.810		363541.658
207	**Pb**		112699.588	**3.473389**	ppb	0.243	2.079	434.447
203	**Tl**		287.781	**0.014192**	ppb	7.884	13.321	128.889
209	**Bi-IS**		221559.564		ppb	1.459		214395.071
51	**V**		756.687	**3.493153**	ppb	6.490	7.165	1.111
59	**Co**		411.117	**0.548295**	ppb	12.036	14.856	30.000
60	**Ni**		6030.162	**4.440031**	ppb	3.014	4.826	67.778
75	**As**		510.727	**0.523237**	ppb	7.509	16.213	260.869
71	**Ga-ISK**		59438.992		ppb	2.153		58887.805
82	**Se-2**		17.594	**0.377308**	ppb	88.610	90.863	0.226
107	**Ag-1**		116.667	**0.006576**	ppb	17.843	57.226	83.334
115	**In-ISK**	>	81923.014		ppb	1.960		81053.470
45	**Sc-ISK**	>	149368.004		ppb	1.220		145776.751
23	**Na**		1342344.337	**4875.024481**	ppb	1.646	1.377	8625.938
39	**K**		369367.901	**664.699208**	ppb	1.098	2.186	34421.426
24	**Mg**		146024.234	**604.785390**	ppb	1.055	2.128	211.668
159	**Tb-ISK**		165483.066		ppb	1.398		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79169-B-2-A
Autosampler Position: 118
Sample Date/Time: Sunday, December 19, 2021 19:35:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79169-B-2-A.150
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45522.435		ppb	2.032		44909.430
9	**Be**		198.890	**0.088021**	ppb	15.841	15.826	17.778
10	**B**		21942.397	**21.899397**	ppb	1.522	2.588	9341.944
27	**Al**		14980808.564	**1598.642045**	ppb	0.691	2.311	4118.935
43	**Ca-2**		329922.936	**10864.270352**	ppb	0.401	1.491	133.334
49	**Ti**		27055.597	**26.583384**	ppb	0.701	2.084	346.671
52	**Cr**		71793.307	**3.827564**	ppb	1.468	2.390	18068.087
55	**Mn**		2543572.132	**116.965679**	ppb	0.849	2.024	1340.063
57	**Fe**		938561.053	**2075.434239**	ppb	1.764	1.494	14006.866
45	**Sc-IS**	>	1894909.112		ppb	1.776		1865382.380
66	**Zn**		2296913.108	**992.930193**	ppb	0.991	0.912	516.676
86	**Sr**		211021.809	**68.291149**	ppb	1.500	0.757	39.724
65	**Cu**		297905.180	**87.632684**	ppb	2.309	1.317	128.889
69	**Ga-IS**		625305.021		ppb	1.444		573819.625
95	**Mo**		8609.261	**2.540525**	ppb	2.026	3.068	212.224
115	**In-IS**	>	205127.922		ppb	1.932		197719.745
111	**Cd**		1970.948	**0.980597**	ppb	1.067	2.542	15.110
118	**Sn**		52847.570	**8.966556**	ppb	0.276	1.958	1235.609
121	**Sb**		13255.036	**1.993413**	ppb	1.060	2.200	197.779
135	**Ba**		290214.902	**155.331109**	ppb	0.259	1.957	33.333
165	**Ho-IS**		385993.338		ppb	1.080		368847.286
159	**Tb-IS**	>	386912.987		ppb	0.551		363541.658
207	**Pb**		789453.993	**23.895052**	ppb	0.954	0.451	434.447
203	**Tl**		514.454	**0.034179**	ppb	6.393	9.435	128.889
209	**Bi-IS**		215641.027		ppb	1.093		214395.071
51	**V**		2632.465	**12.194486**	ppb	4.228	3.577	1.111
59	**Co**		1565.642	**2.213959**	ppb	6.043	6.955	30.000
60	**Ni**		21396.012	**15.922507**	ppb	1.049	1.629	67.778
75	**As**		1781.330	**3.223871**	ppb	2.957	3.781	260.869
71	**Ga-ISK**		59895.332		ppb	2.028		58887.805
82	**Se-2**		23.226	**0.500318**	ppb	9.904	9.260	0.226
107	**Ag-1**		191.112	**0.021956**	ppb	12.374	23.043	83.334
115	**In-ISK**	>	81682.490		ppb	0.796		81053.470
45	**Sc-ISK**	>	149875.564		ppb	1.641		145776.751
23	**Na**		2472450.408	**8975.770285**	ppb	1.559	0.301	8625.938
39	**K**		1015612.964	**1943.293093**	ppb	1.850	0.987	34421.426
24	**Mg**		409435.750	**1691.552000**	ppb	1.881	2.105	211.668
159	**Tb-ISK**		167061.498		ppb	2.313		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79094-E-1-A @5
Autosampler Position: 119
Sample Date/Time: Sunday, December 19, 2021 19:39:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79094-E-1-A @5.151
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43852.775		ppb	1.837		44909.430
9	**Be**		42.222	**0.012739**	ppb	19.868	34.104	17.778
10	**B**		76263.112	**123.594499**	ppb	2.613	2.760	9341.944
27	**Al**		759085.292	**84.291691**	ppb	2.045	1.354	4118.935
43	**Ca-2**		456820.963	**15735.901258**	ppb	2.032	1.595	133.334
49	**Ti**		3918.315	**3.729507**	ppb	0.547	1.338	346.671
52	**Cr**		19267.445	**0.129281**	ppb	4.250	51.820	18068.087
55	**Mn**		179037.457	**8.554143**	ppb	2.077	2.759	1340.063
57	**Fe**		133116.217	**280.727763**	ppb	0.394	1.049	14006.866
45	**Sc-IS**	>	1811318.157		ppb	0.731		1865382.380
66	**Zn**		10628.398	**4.579934**	ppb	2.286	1.681	516.676
86	**Sr**		350544.128	**118.691066**	ppb	0.848	1.519	39.724
65	**Cu**		11907.182	**3.627569**	ppb	0.132	0.789	128.889
69	**Ga-IS**		562405.593		ppb	1.211		573819.625
95	**Mo**		21996.929	**6.898705**	ppb	2.535	3.037	212.224
115	**In-IS**	>	196250.734		ppb	3.054		197719.745
111	**Cd**		647.157	**0.331315**	ppb	5.326	4.788	15.110
118	**Sn**		2568.009	**0.244097**	ppb	2.944	8.481	1235.609
121	**Sb**		5401.022	**0.830841**	ppb	3.589	2.276	197.779
135	**Ba**		15180.285	**8.475837**	ppb	1.516	1.911	33.333
165	**Ho-IS**		372336.780		ppb	1.013		368847.286
159	**Tb-IS**	>	369436.982		ppb	1.835		363541.658
207	**Pb**		14759.679	**0.454087**	ppb	3.065	1.335	434.447
203	**Tl**		345.560	**0.020385**	ppb	17.532	29.643	128.889
209	**Bi-IS**		204800.964		ppb	0.778		214395.071
51	**V**		492.231	**2.335349**	ppb	10.188	9.525	1.111
59	**Co**		614.458	**0.865402**	ppb	7.224	7.490	30.000
60	**Ni**		1773.444	**1.307313**	ppb	7.844	7.410	67.778
75	**As**		1240.496	**2.145346**	ppb	5.785	7.933	260.869
71	**Ga-ISK**		57032.508		ppb	0.403		58887.805
82	**Se-2**		44.578	**0.990224**	ppb	17.129	16.646	0.226
107	**Ag-1**		45.556	**-0.007633**	ppb	40.299	49.925	83.334
115	**In-ISK**	>	79586.678		ppb	0.705		81053.470
45	**Sc-ISK**	>	143779.957		ppb	0.876		145776.751
23	**Na**		7725505.809	**29311.424186**	ppb	1.685	2.439	8625.938
39	**K**		914795.319	**1820.544502**	ppb	1.547	2.438	34421.426
24	**Mg**		1142774.736	**4923.128396**	ppb	1.094	1.969	211.668
159	**Tb-ISK**		160944.873		ppb	0.270		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 19:42:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.152
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42917.705		ppb	0.382		44909.430
9	**Be**		190573.855	**96.487586**	ppb	0.518	2.365	17.778
10	**B**		138999.630	**237.120328**	ppb	0.359	2.346	9341.944
27	**Al**		879975.801	**97.056221**	ppb	1.030	1.003	4118.935
43	**Ca-2**		148363.378	**5068.902231**	ppb	2.361	1.547	133.334
49	**Ti**		94051.991	**96.845213**	ppb	1.861	2.087	346.671
52	**Cr**		1308089.917	**95.978473**	ppb	1.781	3.589	18068.087
55	**Mn**		2103189.481	**100.406177**	ppb	0.594	2.354	1340.063
57	**Fe**		2189305.263	**5071.822050**	ppb	0.920	1.287	14006.866
45	**Sc-IS**	>	1825225.333		ppb	1.927		1865382.380
66	**Zn**		228285.198	**102.256012**	ppb	0.944	1.484	516.676
86	**Sr**		303026.732	**101.837362**	ppb	0.912	2.199	39.724
65	**Cu**		332228.934	**101.489026**	ppb	0.842	1.783	128.889
69	**Ga-IS**		599498.650		ppb	0.742		573819.625
95	**Mo**		328004.080	**102.992779**	ppb	0.845	1.556	212.224
115	**In-IS**	>	206077.944		ppb	1.289		197719.745
111	**Cd**		196037.880	**97.820924**	ppb	1.818	0.599	15.110
118	**Sn**		571078.164	**98.600917**	ppb	1.990	1.845	1235.609
121	**Sb**		640137.154	**97.285402**	ppb	1.716	1.935	197.779
135	**Ba**		185125.629	**98.593784**	ppb	2.564	2.051	33.333
165	**Ho-IS**		369891.118		ppb	0.999		368847.286
159	**Tb-IS**	>	375063.476		ppb	1.120		363541.658
207	**Pb**		3103684.671	**96.965882**	ppb	0.894	1.811	434.447
203	**Tl**		1014341.181	**94.753542**	ppb	2.510	2.423	128.889
209	**Bi-IS**		214423.936		ppb	0.613		214395.071
51	**V**		21332.587	**99.495350**	ppb	2.122	2.216	1.111
59	**Co**		69804.584	**101.204795**	ppb	1.022	0.657	30.000
60	**Ni**		126867.683	**95.270235**	ppb	2.128	3.117	67.778
75	**As**		45311.022	**96.251339**	ppb	2.028	2.670	260.869
71	**Ga-ISK**		58887.867		ppb	3.105		58887.805
82	**Se-2**		4494.655	**98.418474**	ppb	2.240	0.892	0.226
107	**Ag-1**		480251.238	**98.957671**	ppb	0.182	1.544	83.334
115	**In-ISK**	>	81177.568		ppb	1.527		81053.470
45	**Sc-ISK**	>	147601.994		ppb	1.069		145776.751
23	**Na**		1349576.540	**4961.458171**	ppb	1.970	3.044	8625.938
39	**K**		2612477.703	**5189.778955**	ppb	1.694	2.722	34421.426
24	**Mg**		1194467.591	**5013.299552**	ppb	2.720	3.719	211.668
159	**Tb-ISK**		162826.043		ppb	0.773		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 19:45:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.153
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43198.577		ppb	2.571		44909.430
9	**Be**		51.111	**0.016738**	ppb	20.964	34.469	17.778
10	**B**		7361.898	**-3.451549**	ppb	2.987	5.189	9341.944
27	**Al**		5577.090	**0.161892**	ppb	4.273	9.687	4118.935
43	**Ca-2**		230.002	**3.299456**	ppb	13.223	35.077	133.334
49	**Ti**		312.226	**-0.032720**	ppb	6.435	62.147	346.671
52	**Cr**		15908.854	**-0.149070**	ppb	1.251	21.707	18068.087
55	**Mn**		2019.032	**0.032347**	ppb	4.360	11.576	1340.063
57	**Fe**		13876.737	**-0.080377**	ppb	0.605	818.281	14006.866
45	**Sc-IS**	>	1853175.863		ppb	1.889		1865382.380
66	**Zn**		755.576	**0.106978**	ppb	7.543	20.396	516.676
86	**Sr**		141.935	**0.033864**	ppb	12.659	15.633	39.724
65	**Cu**		304.448	**0.053082**	ppb	2.279	1.990	128.889
69	**Ga-IS**		576838.755		ppb	2.099		573819.625
95	**Mo**		1210.051	**0.309215**	ppb	4.303	5.361	212.224
115	**In-IS**	>	208963.860		ppb	1.975		197719.745
111	**Cd**		50.792	**0.017170**	ppb	12.933	20.826	15.110
118	**Sn**		5008.656	**0.632138**	ppb	0.433	3.076	1235.609
121	**Sb**		808.912	**0.089949**	ppb	0.858	1.641	197.779
135	**Ba**		126.667	**0.048155**	ppb	17.256	26.041	33.333
165	**Ho-IS**		373108.866		ppb	1.168		368847.286
159	**Tb-IS**	>	374984.182		ppb	3.156		363541.658
207	**Pb**		1031.125	**0.018195**	ppb	6.966	7.528	434.447
203	**Tl**		341.115	**0.019393**	ppb	11.942	14.708	128.889
209	**Bi-IS**		222805.143		ppb	0.100		214395.071
51	**V**		11.111	**0.046303**	ppb	62.450	68.592	1.111
59	**Co**		43.333	**0.019280**	ppb	27.735	93.359	30.000
60	**Ni**		206.668	**0.103981**	ppb	6.452	7.509	67.778
75	**As**		287.168	**0.054585**	ppb	3.840	42.903	260.869
71	**Ga-ISK**		58946.948		ppb	1.814		58887.805
82	**Se-2**		2.234	**0.043992**	ppb	26.363	30.580	0.226
107	**Ag-1**		350.004	**0.054833**	ppb	9.085	11.909	83.334
115	**In-ISK**	>	81280.856		ppb	1.497		81053.470
45	**Sc-ISK**	>	146811.727		ppb	1.374		145776.751
23	**Na**		12463.770	**14.047355**	ppb	2.596	7.712	8625.938
39	**K**		35951.850	**2.612207**	ppb	0.581	42.699	34421.426
24	**Mg**		856.692	**2.716991**	ppb	5.517	8.721	211.668
159	**Tb-ISK**		163335.829		ppb	0.925		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 19:48:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.154
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42721.572		ppb	1.568		44909.430
9	**Be**		16.667	**-0.000367**	ppb	20.000	435.975	17.778
10	**B**		7090.652	**-3.726399**	ppb	5.552	15.790	9341.944
27	**Al**		4948.524	**0.102483**	ppb	3.743	14.520	4118.935
43	**Ca-2**		190.001	**2.050127**	ppb	7.895	28.457	133.334
49	**Ti**		305.559	**-0.034068**	ppb	8.885	92.148	346.671
52	**Cr**		16501.755	**-0.085260**	ppb	3.409	63.385	18068.087
55	**Mn**		2454.655	**0.054817**	ppb	3.116	8.561	1340.063
57	**Fe**		13457.449	**-0.530912**	ppb	2.085	71.473	14006.866
45	**Sc-IS**	>	1822397.299		ppb	1.068		1865382.380
66	**Zn**		621.125	**0.052099**	ppb	11.540	56.129	516.676
86	**Sr**		78.701	**0.013362**	ppb	61.881	120.775	39.724
65	**Cu**		222.224	**0.029423**	ppb	14.178	31.139	128.889
69	**Ga-IS**		578649.020		ppb	2.197		573819.625
95	**Mo**		428.895	**0.069822**	ppb	11.164	23.633	212.224
115	**In-IS**	>	207082.013		ppb	1.530		197719.745
111	**Cd**		13.544	**-0.001143**	ppb	27.947	160.244	15.110
118	**Sn**		3010.318	**0.295733**	ppb	4.708	9.823	1235.609
121	**Sb**		315.559	**0.016397**	ppb	12.735	36.893	197.779
135	**Ba**		80.000	**0.023962**	ppb	28.868	52.484	33.333
165	**Ho-IS**		377375.732		ppb	1.499		368847.286
159	**Tb-IS**	>	373969.318		ppb	1.817		363541.658
207	**Pb**		507.781	**0.001908**	ppb	2.110	11.702	434.447
203	**Tl**		168.890	**0.003402**	ppb	11.565	53.271	128.889
209	**Bi-IS**		220601.406		ppb	0.797		214395.071
51	**V**		3.333	**0.010224**	ppb	173.205	261.128	1.111
59	**Co**		15.556	**-0.021088**	ppb	86.603	92.361	30.000
60	**Ni**		113.334	**0.033289**	ppb	30.707	77.981	67.778
75	**As**		254.304	**-0.020023**	ppb	7.654	234.270	260.869
71	**Ga-ISK**		59723.483		ppb	1.249		58887.805
82	**Se-2**		6.591	**0.137572**	ppb	35.280	35.787	0.226
107	**Ag-1**		105.556	**0.004344**	ppb	14.240	73.590	83.334
115	**In-ISK**	>	82009.245		ppb	1.316		81053.470
45	**Sc-ISK**	>	148521.661		ppb	2.291		145776.751
23	**Na**		10800.749	**7.423218**	ppb	1.919	21.926	8625.938
39	**K**		33632.881	**-2.861355**	ppb	1.127	31.285	34421.426
24	**Mg**		325.004	**0.458786**	ppb	17.338	56.159	211.668
159	**Tb-ISK**		165244.212		ppb	0.394		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79170-A-1-A
Autosampler Position: 120
Sample Date/Time: Sunday, December 19, 2021 19:51:46
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79170-A-1-A.155
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43003.526		ppb	1.396		44909.430
9	**Be**		42.222	**0.012546**	ppb	19.868	33.207	17.778
10	**B**		17797.751	**15.780773**	ppb	2.635	4.191	9341.944
27	**Al**		3506888.954	**387.848962**	ppb	0.587	0.565	4118.935
43	**Ca-2**		179747.208	**6138.225412**	ppb	1.309	0.889	133.334
49	**Ti**		12165.178	**12.212011**	ppb	0.823	0.685	346.671
52	**Cr**		46666.105	**2.152885**	ppb	1.300	1.165	18068.087
55	**Mn**		494627.987	**23.543333**	ppb	2.329	1.861	1340.063
57	**Fe**		236357.295	**518.617055**	ppb	3.322	3.181	14006.866
45	**Sc-IS**	>	1826312.942		ppb	0.636		1865382.380
66	**Zn**		1418524.056	**636.015301**	ppb	3.741	3.102	516.676
86	**Sr**		97736.845	**32.808340**	ppb	1.643	1.188	39.724
65	**Cu**		72954.722	**22.237537**	ppb	1.402	0.787	128.889
69	**Ga-IS**		565106.412		ppb	1.987		573819.625
95	**Mo**		3542.662	**1.047167**	ppb	3.466	4.276	212.224
115	**In-IS**	>	204286.529		ppb	2.212		197719.745
111	**Cd**		650.353	**0.319652**	ppb	3.755	4.498	15.110
118	**Sn**		3677.141	**0.419021**	ppb	4.869	6.677	1235.609
121	**Sb**		6210.239	**0.921413**	ppb	1.647	3.541	197.779
135	**Ba**		40628.826	**21.813380**	ppb	2.423	0.568	33.333
165	**Ho-IS**		376131.024		ppb	1.151		368847.286
159	**Tb-IS**	>	374380.075		ppb	2.735		363541.658
207	**Pb**		181369.652	**5.665708**	ppb	0.189	2.785	434.447
203	**Tl**		298.892	**0.015546**	ppb	3.917	2.267	128.889
209	**Bi-IS**		214519.773		ppb	0.291		214395.071
51	**V**		532.232	**2.515895**	ppb	2.200	1.964	1.111
59	**Co**		457.785	**0.630410**	ppb	15.349	15.905	30.000
60	**Ni**		12656.716	**9.605008**	ppb	0.987	0.285	67.778
75	**As**		899.178	**1.392844**	ppb	6.016	8.490	260.869
71	**Ga-ISK**		58215.051		ppb	1.184		58887.805
82	**Se-2**		20.245	**0.445610**	ppb	50.079	50.795	0.226
107	**Ag-1**		116.667	**0.007213**	ppb	4.949	13.600	83.334
115	**In-ISK**	>	79926.429		ppb	1.003		81053.470
45	**Sc-ISK**	>	144983.170		ppb	1.195		145776.751
23	**Na**		2882662.841	**10823.626320**	ppb	2.340	1.171	8625.938
39	**K**		722842.175	**1411.163649**	ppb	2.283	1.674	34421.426
24	**Mg**		204243.128	**871.752325**	ppb	1.138	0.242	211.668
159	**Tb-ISK**		162163.966		ppb	1.242		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78223-B-2-A
Autosampler Position: 121
Sample Date/Time: Sunday, December 19, 2021 19:54:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78223-B-2-A.156
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63038.790		ppb	1.062		44909.430
9	**Be**		4.444	**-0.006901**	ppb	43.301	12.296	17.778
10	**B**		244070.981	**359.136348**	ppb	1.572	2.559	9341.944
27	**Al**		62367.528	**5.381217**	ppb	1.414	1.466	4118.935
43	**Ca-2**		3710781.343	**107019.122554**	ppb	0.649	0.758	133.334
49	**Ti**		3434.859	**2.641372**	ppb	8.283	8.299	346.671
52	**Cr**		51711.216	**1.928118**	ppb	1.582	2.271	18068.087
55	**Mn**		209290.194	**8.367069**	ppb	2.193	2.034	1340.063
57	**Fe**		137240.262	**237.808799**	ppb	4.453	4.240	14006.866
45	**Sc-IS**	>	2164188.984		ppb	1.392		1865382.380
66	**Zn**		29823.328	**11.062152**	ppb	1.973	0.718	516.676
86	**Sr**		2386577.914	**676.376830**	ppb	0.660	0.742	39.724
65	**Cu**		4335.102	**1.078721**	ppb	1.155	2.201	128.889
69	**Ga-IS**		559074.561		ppb	1.442		573819.625
95	**Mo**		116581.549	**30.824070**	ppb	0.585	0.812	212.224
115	**In-IS**	>	193489.906		ppb	1.849		197719.745
111	**Cd**		-115.932	**-0.069546**	ppb	11.018	10.975	15.110
118	**Sn**		1582.310	**0.068880**	ppb	1.403	13.393	1235.609
121	**Sb**		642.237	**0.072521**	ppb	14.170	18.039	197.779
135	**Ba**		148201.522	**84.074377**	ppb	1.358	1.563	33.333
165	**Ho-IS**		370786.225		ppb	1.182		368847.286
159	**Tb-IS**	>	371935.509		ppb	1.151		363541.658
207	**Pb**		3211.251	**0.087160**	ppb	4.448	4.622	434.447
203	**Tl**		141.112	**0.000870**	ppb	5.945	85.427	128.889
209	**Bi-IS**		185470.782		ppb	1.251		214395.071
51	**V**		154.445	**0.757865**	ppb	11.075	10.505	1.111
59	**Co**		37.778	**0.014526**	ppb	45.279	181.108	30.000
60	**Ni**		738.908	**0.537207**	ppb	2.271	2.165	67.778
75	**As**		2154.332	**4.319571**	ppb	8.388	9.674	260.869
71	**Ga-ISK**		54955.511		ppb	1.215		58887.805
82	**Se-2**		173.592	**4.022854**	ppb	10.620	10.291	0.226
107	**Ag-1**		224.446	**0.031765**	ppb	16.890	24.527	83.334
115	**In-ISK**	>	76600.233		ppb	1.025		81053.470
45	**Sc-ISK**	>	149580.188		ppb	1.058		145776.751
23	**Na**		49746355.818	**181592.550379**	ppb	2.073	2.669	8625.938
39	**K**		2364208.744	**4626.177285**	ppb	1.864	1.703	34421.426
24	**Mg**		13313803.244	**55139.274640**	ppb	1.330	1.684	211.668
159	**Tb-ISK**		160574.787		ppb	0.904		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78223-B-2-B MS @5
Autosampler Position: 122
Sample Date/Time: Sunday, December 19, 2021 19:58:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78223-B-2-B MS @5.157
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47002.796		ppb	2.902		44909.430
9	**Be**		41029.966	**20.187093**	ppb	2.144	0.459	17.778
10	**B**		63316.814	**95.674171**	ppb	3.910	1.995	9341.944
27	**Al**		191950.693	**20.242537**	ppb	0.806	3.384	4118.935
43	**Ca-2**		721337.220	**23977.079473**	ppb	3.108	0.727	133.334
49	**Ti**		19702.475	**19.444929**	ppb	3.076	2.001	346.671
52	**Cr**		277132.996	**18.724890**	ppb	2.041	2.692	18068.087
55	**Mn**		425553.998	**19.702348**	ppb	2.216	2.337	1340.063
57	**Fe**		449708.479	**987.503825**	ppb	1.456	1.635	14006.866
45	**Sc-IS**	>	1877139.738		ppb	2.475		1865382.380
66	**Zn**		55967.204	**24.207269**	ppb	1.088	2.235	516.676
86	**Sr**		495529.519	**161.960158**	ppb	1.215	2.836	39.724
65	**Cu**		64461.814	**19.119503**	ppb	2.005	3.121	128.889
69	**Ga-IS**		568490.917		ppb	0.560		573819.625
95	**Mo**		79172.128	**24.131164**	ppb	0.930	3.325	212.224
115	**In-IS**	>	201653.426		ppb	1.515		197719.745
111	**Cd**		39510.996	**20.147560**	ppb	1.812	2.857	15.110
118	**Sn**		87504.002	**15.249130**	ppb	3.008	1.663	1235.609
121	**Sb**		132899.823	**20.617357**	ppb	1.192	1.892	197.779
135	**Ba**		66186.303	**36.017761**	ppb	0.467	1.679	33.333
165	**Ho-IS**		372048.371		ppb	1.122		368847.286
159	**Tb-IS**	>	374944.916		ppb	1.186		363541.658
207	**Pb**		600964.276	**18.769116**	ppb	0.428	0.985	434.447
203	**Tl**		140782.803	**13.144611**	ppb	2.518	2.445	128.889
209	**Bi-IS**		206977.615		ppb	1.104		214395.071
51	**V**		4082.806	**19.034482**	ppb	0.802	1.759	1.111
59	**Co**		13719.919	**19.853551**	ppb	1.012	1.867	30.000
60	**Ni**		24881.650	**18.637279**	ppb	0.817	1.798	67.778
75	**As**		9700.668	**20.161574**	ppb	1.665	2.113	260.869
71	**Ga-ISK**		58003.234		ppb	4.577		58887.805
82	**Se-2**		1045.294	**22.887684**	ppb	3.600	4.503	0.226
107	**Ag-1**		48854.599	**10.045548**	ppb	4.104	3.153	83.334
115	**In-ISK**	>	81194.272		ppb	0.970		81053.470
45	**Sc-ISK**	>	150965.717		ppb	0.527		145776.751
23	**Na**		10061810.776	**36361.002813**	ppb	1.834	1.631	8625.938
39	**K**		575384.804	**1062.287861**	ppb	0.927	0.626	34421.426
24	**Mg**		3008745.808	**12344.636217**	ppb	0.898	0.382	211.668
159	**Tb-ISK**		166512.810		ppb	0.278		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78223-B-2-C MSD @5
Autosampler Position: 123
Sample Date/Time: Sunday, December 19, 2021 20:01:16
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78223-B-2-C MSD @5.158
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46327.228		ppb	1.407		44909.430
9	**Be**		40298.988	**19.955900**	ppb	1.215	0.251	17.778
10	**B**		61922.853	**93.954224**	ppb	2.357	3.159	9341.944
27	**Al**		179605.661	**19.027291**	ppb	3.028	2.667	4118.935
43	**Ca-2**		716987.957	**23992.541643**	ppb	0.903	1.229	133.334
49	**Ti**		19099.427	**18.967389**	ppb	1.166	2.270	346.671
52	**Cr**		269436.034	**18.292733**	ppb	0.424	1.669	18068.087
55	**Mn**		412799.422	**19.232602**	ppb	0.805	1.281	1340.063
57	**Fe**		436157.643	**962.995328**	ppb	2.063	1.312	14006.866
45	**Sc-IS**	>	1864982.999		ppb	1.467		1865382.380
66	**Zn**		54354.358	**23.649461**	ppb	2.397	1.755	516.676
86	**Sr**		485112.344	**159.544114**	ppb	0.880	1.705	39.724
65	**Cu**		62186.233	**18.554550**	ppb	2.730	1.555	128.889
69	**Ga-IS**		563362.622		ppb	1.906		573819.625
95	**Mo**		77770.005	**23.848512**	ppb	0.553	1.721	212.224
115	**In-IS**	>	200204.328		ppb	2.731		197719.745
111	**Cd**		38417.612	**19.729750**	ppb	2.004	0.846	15.110
118	**Sn**		90823.575	**15.952709**	ppb	3.416	0.980	1235.609
121	**Sb**		130481.128	**20.389013**	ppb	2.099	1.522	197.779
135	**Ba**		64773.197	**35.512828**	ppb	1.345	2.641	33.333
165	**Ho-IS**		372199.947		ppb	2.143		368847.286
159	**Tb-IS**	>	369741.817		ppb	1.072		363541.658
207	**Pb**		587187.803	**18.597044**	ppb	0.388	1.266	434.447
203	**Tl**		136790.744	**12.950815**	ppb	1.233	0.163	128.889
209	**Bi-IS**		205760.140		ppb	0.670		214395.071
51	**V**		4176.166	**20.007205**	ppb	1.735	0.886	1.111
59	**Co**		13273.945	**19.748573**	ppb	2.795	4.646	30.000
60	**Ni**		24302.887	**18.713902**	ppb	2.709	4.195	67.778
75	**As**		9288.987	**19.834306**	ppb	1.423	2.434	260.869
71	**Ga-ISK**		57836.847		ppb	0.832		58887.805
82	**Se-2**		1014.625	**22.831146**	ppb	1.958	2.995	0.226
107	**Ag-1**		46005.072	**9.725893**	ppb	0.871	2.634	83.334
115	**In-ISK**	>	79009.139		ppb	1.930		81053.470
45	**Sc-ISK**	>	149363.688		ppb	2.205		145776.751
23	**Na**		9697380.920	**35424.381340**	ppb	1.395	1.046	8625.938
39	**K**		557946.860	**1039.836397**	ppb	2.169	1.505	34421.426
24	**Mg**		2900649.937	**12031.800994**	ppb	2.046	2.551	211.668
159	**Tb-ISK**		163594.716		ppb	0.189		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79176-A-1-A @5
Autosampler Position: 124
Sample Date/Time: Sunday, December 19, 2021 20:04:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79176-A-1-A @5.159
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56661.070		ppb	2.215		44909.430
9	**Be**		23.333	**0.002558**	ppb	28.571	124.576	17.778
10	**B**		133287.835	**217.581633**	ppb	0.930	0.039	9341.944
27	**Al**		544883.957	**57.682669**	ppb	1.220	1.885	4118.935
43	**Ca-2**		902191.489	**29703.948573**	ppb	1.446	2.371	133.334
49	**Ti**		1961.246	**1.600877**	ppb	2.442	3.413	346.671
52	**Cr**		23098.659	**0.339146**	ppb	0.558	2.285	18068.087
55	**Mn**		980318.879	**45.012637**	ppb	1.266	0.466	1340.063
57	**Fe**		64798.957	**113.508795**	ppb	3.295	5.072	14006.866
45	**Sc-IS**	>	1895665.490		ppb	0.923		1865382.380
66	**Zn**		14785.426	**6.163718**	ppb	1.576	2.390	516.676
86	**Sr**		1267403.853	**410.086451**	ppb	0.910	1.833	39.724
65	**Cu**		1776.777	**0.484125**	ppb	4.600	4.607	128.889
69	**Ga-IS**		568218.345		ppb	0.753		573819.625
95	**Mo**		14003.527	**4.170434**	ppb	1.065	0.809	212.224
115	**In-IS**	>	198646.881		ppb	1.042		197719.745
111	**Cd**		3.926	**-0.005838**	ppb	79.389	27.312	15.110
118	**Sn**		7168.465	**1.064022**	ppb	1.378	1.462	1235.609
121	**Sb**		3847.185	**0.575252**	ppb	4.773	4.235	197.779
135	**Ba**		83658.716	**46.212280**	ppb	1.348	0.638	33.333
165	**Ho-IS**		373992.398		ppb	0.776		368847.286
159	**Tb-IS**	>	374585.358		ppb	0.658		363541.658
207	**Pb**		1655.594	**0.037770**	ppb	8.529	10.825	434.447
203	**Tl**		1198.939	**0.099720**	ppb	3.050	2.836	128.889
209	**Bi-IS**		197075.661		ppb	0.816		214395.071
51	**V**		100.000	**0.474839**	ppb	12.019	10.053	1.111
59	**Co**		833.358	**1.201236**	ppb	7.408	5.552	30.000
60	**Ni**		5951.240	**4.557853**	ppb	3.404	4.281	67.778
75	**As**		1003.499	**1.650978**	ppb	4.651	5.179	260.869
71	**Ga-ISK**		56797.194		ppb	2.972		58887.805
82	**Se-2**		87.596	**1.970381**	ppb	9.318	7.446	0.226
107	**Ag-1**		97.778	**0.003521**	ppb	19.682	103.552	83.334
115	**In-ISK**	>	78764.685		ppb	2.014		81053.470
45	**Sc-ISK**	>	148866.596		ppb	3.219		145776.751
23	**Na**		30630893.654	**112345.698491**	ppb	2.616	1.658	8625.938
39	**K**		3528835.937	**6974.961017**	ppb	2.173	1.520	34421.426
24	**Mg**		3036103.584	**12637.741480**	ppb	1.851	2.253	211.668
159	**Tb-ISK**		161688.534		ppb	0.273		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79177-A-1-A @5
Autosampler Position: 125
Sample Date/Time: Sunday, December 19, 2021 20:07:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79177-A-1-A @5.160
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48191.167		ppb	1.959		44909.430
9	**Be**		5.556	**-0.006055**	ppb	69.282	31.526	17.778
10	**B**		59330.776	**89.168316**	ppb	2.452	2.278	9341.944
27	**Al**		59609.445	**6.008756**	ppb	0.807	1.264	4118.935
43	**Ca-2**		201182.118	**6719.122348**	ppb	2.143	1.180	133.334
49	**Ti**		951.143	**0.610216**	ppb	1.930	3.982	346.671
52	**Cr**		31836.555	**0.998868**	ppb	1.957	0.300	18068.087
55	**Mn**		417181.655	**19.410230**	ppb	1.781	1.481	1340.063
57	**Fe**		155044.629	**321.306327**	ppb	0.770	1.350	14006.866
45	**Sc-IS**	>	1867562.122		ppb	1.918		1865382.380
66	**Zn**		224237.934	**98.136715**	ppb	2.353	0.779	516.676
86	**Sr**		208445.761	**68.462077**	ppb	0.962	2.477	39.724
65	**Cu**		5796.732	**1.692568**	ppb	2.225	2.066	128.889
69	**Ga-IS**		563438.340		ppb	1.142		573819.625
95	**Mo**		1220.052	**0.309779**	ppb	7.547	11.382	212.224
115	**In-IS**	>	204579.423		ppb	1.417		197719.745
111	**Cd**		25.216	**0.004843**	ppb	42.828	114.688	15.110
118	**Sn**		2543.560	**0.220820**	ppb	6.219	15.097	1235.609
121	**Sb**		1367.843	**0.178103**	ppb	2.073	0.769	197.779
135	**Ba**		6818.293	**3.640573**	ppb	0.759	1.466	33.333
165	**Ho-IS**		373532.033		ppb	1.295		368847.286
159	**Tb-IS**	>	373251.290		ppb	0.999		363541.658
207	**Pb**		1633.369	**0.037269**	ppb	2.964	2.752	434.447
203	**Tl**		256.669	**0.011670**	ppb	3.436	5.997	128.889
209	**Bi-IS**		209355.137		ppb	0.621		214395.071
51	**V**		36.667	**0.163486**	ppb	36.364	37.101	1.111
59	**Co**		403.339	**0.534033**	ppb	9.744	10.757	30.000
60	**Ni**		2785.828	**2.014656**	ppb	5.485	5.200	67.778
75	**As**		1245.859	**2.068374**	ppb	13.905	17.128	260.869
71	**Ga-ISK**		58985.989		ppb	1.524		58887.805
82	**Se-2**		4963.471	**107.310244**	ppb	0.936	1.256	0.226
107	**Ag-1**		73.334	**-0.002281**	ppb	28.386	185.620	83.334
115	**In-ISK**	>	82224.963		ppb	0.479		81053.470
45	**Sc-ISK**	>	153068.127		ppb	2.066		145776.751
23	**Na**		14846083.196	**52928.826636**	ppb	2.069	0.059	8625.938
39	**K**		1110543.606	**2085.455029**	ppb	2.427	0.441	34421.426
24	**Mg**		786606.532	**3182.672491**	ppb	2.040	1.478	211.668
159	**Tb-ISK**		165786.554		ppb	1.396		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-77963-E-1-A @20
Autosampler Position: 126
Sample Date/Time: Sunday, December 19, 2021 20:10:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-77963-E-1-A @20.161
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46609.258		ppb	1.675		44909.430
9	**Be**		14.444	**-0.001664**	ppb	35.251	149.166	17.778
10	**B**		40348.037	**55.275406**	ppb	2.713	1.826	9341.944
27	**Al**		401264.077	**42.997848**	ppb	0.163	1.210	4118.935
43	**Ca-2**		199160.900	**6649.592759**	ppb	2.500	1.223	133.334
49	**Ti**		1208.940	**0.870606**	ppb	4.747	7.980	346.671
52	**Cr**		40517.380	**1.629441**	ppb	0.941	2.920	18068.087
55	**Mn**		779109.439	**36.292548**	ppb	1.889	0.671	1340.063
57	**Fe**		423369.917	**932.439714**	ppb	0.819	1.519	14006.866
45	**Sc-IS**	>	1867898.258		ppb	1.336		1865382.380
66	**Zn**		599123.853	**262.560381**	ppb	1.057	0.948	516.676
86	**Sr**		354006.548	**116.216305**	ppb	2.253	1.134	39.724
65	**Cu**		1734.550	**0.479550**	ppb	4.230	5.870	128.889
69	**Ga-IS**		552525.756		ppb	0.500		573819.625
95	**Mo**		1260.056	**0.321622**	ppb	1.908	3.116	212.224
115	**In-IS**	>	204114.868		ppb	1.178		197719.745
111	**Cd**		902.938	**0.447069**	ppb	10.948	10.999	15.110
118	**Sn**		1188.938	**-0.015138**	ppb	2.809	34.070	1235.609
121	**Sb**		543.344	**0.052022**	ppb	6.914	9.581	197.779
135	**Ba**		11722.587	**6.285672**	ppb	1.970	0.802	33.333
165	**Ho-IS**		373122.159		ppb	0.382		368847.286
159	**Tb-IS**	>	373305.775		ppb	0.465		363541.658
207	**Pb**		387995.110	**12.165713**	ppb	1.095	1.560	434.447
203	**Tl**		165.557	**0.003128**	ppb	25.013	126.717	128.889
209	**Bi-IS**		194011.962		ppb	1.033		214395.071
51	**V**		83.334	**0.391257**	ppb	16.000	14.618	1.111
59	**Co**		57.778	**0.041959**	ppb	8.813	14.448	30.000
60	**Ni**		14353.875	**10.965093**	ppb	1.122	1.863	67.778
75	**As**		286.751	**0.068753**	ppb	14.503	146.183	260.869
71	**Ga-ISK**		57150.781		ppb	1.832		58887.805
82	**Se-2**		97.576	**2.180988**	ppb	13.502	14.871	0.226
107	**Ag-1**		57.778	**-0.005024**	ppb	8.813	24.662	83.334
115	**In-ISK**	>	79466.610		ppb	1.797		81053.470
45	**Sc-ISK**	>	152781.612		ppb	1.303		145776.751
23	**Na**		39417131.622	**140849.318308**	ppb	1.040	0.290	8625.938
39	**K**		2931923.095	**5632.164944**	ppb	0.537	0.793	34421.426
24	**Mg**		4352295.626	**17646.040021**	ppb	1.416	1.130	211.668
159	**Tb-ISK**		164028.438		ppb	1.434		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-77963-D-2-A @20
Autosampler Position: 127
Sample Date/Time: Sunday, December 19, 2021 20:13:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-77963-D-2-A @20.162
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46162.342		ppb	4.525		44909.430
9	**Be**		5.556	**-0.006104**	ppb	91.652	40.481	17.778
10	**B**		35302.463	**45.123412**	ppb	1.728	2.942	9341.944
27	**Al**		136328.459	**14.039239**	ppb	1.155	1.248	4118.935
43	**Ca-2**		176795.822	**5793.818816**	ppb	1.790	1.895	133.334
49	**Ti**		2007.919	**1.639235**	ppb	3.191	3.532	346.671
52	**Cr**		29127.443	**0.762561**	ppb	0.697	2.553	18068.087
55	**Mn**		192597.369	**8.758823**	ppb	0.186	0.701	1340.063
57	**Fe**		88692.296	**166.318072**	ppb	1.636	1.305	14006.866
45	**Sc-IS**	>	1903102.173		ppb	0.552		1865382.380
66	**Zn**		3456037.405	**1487.610171**	ppb	1.287	1.671	516.676
86	**Sr**		318193.198	**102.533745**	ppb	1.417	1.460	39.724
65	**Cu**		141713.982	**41.486743**	ppb	1.523	1.095	128.889
69	**Ga-IS**		555457.505		ppb	1.460		573819.625
95	**Mo**		2653.580	**0.734128**	ppb	5.881	5.942	212.224
115	**In-IS**	>	207272.717		ppb	1.370		197719.745
111	**Cd**		472.213	**0.226487**	ppb	3.463	4.149	15.110
118	**Sn**		1226.719	**-0.011728**	ppb	6.227	124.405	1235.609
121	**Sb**		588.901	**0.057742**	ppb	10.519	17.883	197.779
135	**Ba**		1751.219	**0.908948**	ppb	4.194	3.954	33.333
165	**Ho-IS**		373285.492		ppb	0.987		368847.286
159	**Tb-IS**	>	371772.684		ppb	2.371		363541.658
207	**Pb**		26258.330	**0.814265**	ppb	2.516	4.874	434.447
203	**Tl**		141.112	**0.000841**	ppb	20.638	287.773	128.889
209	**Bi-IS**		195747.812		ppb	1.788		214395.071
51	**V**		131.112	**0.617480**	ppb	18.392	18.916	1.111
59	**Co**		47.778	**0.027106**	ppb	46.454	123.249	30.000
60	**Ni**		166586.937	**127.296289**	ppb	1.606	0.988	67.778
75	**As**		437.231	**0.391982**	ppb	11.793	27.087	260.869
71	**Ga-ISK**		57706.326		ppb	1.168		58887.805
82	**Se-2**		69.867	**1.553226**	ppb	12.507	13.327	0.226
107	**Ag-1**		44.445	**-0.007850**	ppb	60.622	73.023	83.334
115	**In-ISK**	>	79762.877		ppb	0.734		81053.470
45	**Sc-ISK**	>	150611.055		ppb	1.850		145776.751
23	**Na**		33392412.327	**121020.763632**	ppb	3.333	2.117	8625.938
39	**K**		2488425.012	**4839.003665**	ppb	2.596	1.795	34421.426
24	**Mg**		3722718.454	**15307.776079**	ppb	5.128	4.175	211.668
159	**Tb-ISK**		164874.881		ppb	1.972		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Sunday, December 19, 2021 20:17:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\blk.163
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46303.850		ppb	2.858		44909.430
9	**Be**		5.556	**-0.006073**	ppb	69.282	31.305	17.778
10	**B**		7160.683	**-4.000536**	ppb	0.142	2.355	9341.944
27	**Al**		9775.677	**0.604567**	ppb	0.469	1.918	4118.935
43	**Ca-2**		213.335	**2.622305**	ppb	16.955	47.199	133.334
49	**Ti**		451.118	**0.101758**	ppb	8.532	36.138	346.671
52	**Cr**		22596.752	**0.315891**	ppb	2.252	9.629	18068.087
55	**Mn**		1913.462	**0.026085**	ppb	5.316	20.382	1340.063
57	**Fe**		23391.361	**20.964121**	ppb	1.695	3.156	14006.866
45	**Sc-IS**	>	1880814.545		ppb	0.725		1865382.380
66	**Zn**		1592.311	**0.466510**	ppb	7.122	9.771	516.676
86	**Sr**		174.832	**0.043976**	ppb	21.298	28.111	39.724
65	**Cu**		340.004	**0.062255**	ppb	8.986	13.801	128.889
69	**Ga-IS**		588144.891		ppb	1.132		573819.625
95	**Mo**		580.012	**0.111538**	ppb	6.477	9.087	212.224
115	**In-IS**	>	216049.008		ppb	2.317		197719.745
111	**Cd**		5.449	**-0.005226**	ppb	162.400	82.314	15.110
118	**Sn**		3752.716	**0.397158**	ppb	5.170	10.990	1235.609
121	**Sb**		276.669	**0.008775**	ppb	4.819	16.736	197.779
135	**Ba**		48.889	**0.006228**	ppb	31.492	115.335	33.333
165	**Ho-IS**		376030.443		ppb	0.820		368847.286
159	**Tb-IS**	>	385551.262		ppb	1.838		363541.658
207	**Pb**		707.785	**0.007536**	ppb	9.209	31.503	434.447
203	**Tl**		222.224	**0.007762**	ppb	9.988	23.143	128.889
209	**Bi-IS**		222139.599		ppb	1.515		214395.071
51	**V**		4.444	**0.014669**	ppb	173.205	234.486	1.111
59	**Co**		21.111	**-0.014596**	ppb	50.756	98.549	30.000
60	**Ni**		200.001	**0.091639**	ppb	7.638	10.221	67.778
75	**As**		310.748	**0.072504**	ppb	7.521	68.223	260.869
71	**Ga-ISK**		62166.101		ppb	1.546		58887.805
82	**Se-2**		7.922	**0.160175**	ppb	33.810	35.549	0.226
107	**Ag-1**		45.556	**-0.008279**	ppb	53.935	58.373	83.334
115	**In-ISK**	>	85465.612		ppb	1.054		81053.470
45	**Sc-ISK**	>	155142.342		ppb	0.698		145776.751
23	**Na**		37936.985	**101.218762**	ppb	1.917	2.716	8625.938
39	**K**		37065.802	**0.829942**	ppb	0.643	43.961	34421.426
24	**Mg**		2746.931	**10.070715**	ppb	4.401	5.430	211.668
159	**Tb-ISK**		168862.227		ppb	1.142		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 20:26:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.166
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41064.505		ppb	1.894		44909.430
9	**Be**		181857.257	**94.227487**	ppb	2.269	1.681	17.778
10	**B**		129963.048	**226.191636**	ppb	1.734	1.784	9341.944
27	**Al**		828510.500	**93.523542**	ppb	0.755	0.371	4118.935
43	**Ca-2**		143508.917	**5019.374647**	ppb	0.857	0.171	133.334
49	**Ti**		92190.998	**97.171876**	ppb	1.411	1.357	346.671
52	**Cr**		1287639.319	**96.688890**	ppb	0.843	0.100	18068.087
55	**Mn**		1966197.050	**96.064647**	ppb	0.889	0.454	1340.063
57	**Fe**		2142311.509	**5080.232715**	ppb	0.746	0.727	14006.866
45	**Sc-IS**	>	1782892.121		ppb	0.940		1865382.380
66	**Zn**		226174.923	**103.702757**	ppb	2.584	2.453	516.676
86	**Sr**		306553.435	**105.445206**	ppb	0.499	0.482	39.724
65	**Cu**		331729.180	**103.722440**	ppb	1.710	1.474	128.889
69	**Ga-IS**		604513.086		ppb	1.206		573819.625
95	**Mo**		341588.106	**109.789255**	ppb	0.970	0.076	212.224
115	**In-IS**	>	209945.054		ppb	1.721		197719.745
111	**Cd**		202204.259	**99.035780**	ppb	2.439	0.732	15.110
118	**Sn**		584240.631	**99.003313**	ppb	2.697	1.226	1235.609
121	**Sb**		661940.488	**98.735429**	ppb	2.093	0.769	197.779
135	**Ba**		190983.859	**99.848007**	ppb	1.389	0.720	33.333
165	**Ho-IS**		374073.555		ppb	2.174		368847.286
159	**Tb-IS**	>	381770.432		ppb	1.693		363541.658
207	**Pb**		3107788.142	**95.394908**	ppb	0.474	1.803	434.447
203	**Tl**		1005835.363	**92.311503**	ppb	1.424	1.105	128.889
209	**Bi-IS**		214300.991		ppb	0.530		214395.071
51	**V**		21244.677	**99.087612**	ppb	1.816	3.450	1.111
59	**Co**		68860.034	**99.834105**	ppb	1.615	3.018	30.000
60	**Ni**		128311.445	**96.322863**	ppb	0.508	1.679	67.778
75	**As**		46766.839	**99.325839**	ppb	1.170	0.964	260.869
71	**Ga-ISK**		58485.040		ppb	1.207		58887.805
82	**Se-2**		4447.301	**97.359847**	ppb	2.003	0.626	0.226
107	**Ag-1**		485077.621	**99.908886**	ppb	1.867	0.358	83.334
115	**In-ISK**	>	81198.259		ppb	1.628		81053.470
45	**Sc-ISK**	>	147116.117		ppb	2.306		145776.751
23	**Na**		1300669.900	**4795.119300**	ppb	2.619	0.319	8625.938
39	**K**		2588339.875	**5157.738128**	ppb	1.984	0.568	34421.426
24	**Mg**		1155032.855	**4863.148051**	ppb	1.586	0.993	211.668
159	**Tb-ISK**		164820.650		ppb	3.185		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 20:29:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.167
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40696.798		ppb	2.471		44909.430
9	**Be**		55.556	**0.019995**	ppb	42.568	61.774	17.778
10	**B**		6722.693	**-4.136813**	ppb	1.155	4.238	9341.944
27	**Al**		4798.806	**0.097127**	ppb	1.704	7.165	4118.935
43	**Ca-2**		150.001	**0.780422**	ppb	17.638	114.272	133.334
49	**Ti**		241.113	**-0.095792**	ppb	7.614	19.047	346.671
52	**Cr**		15200.307	**-0.158738**	ppb	2.012	16.130	18068.087
55	**Mn**		2054.593	**0.037742**	ppb	6.124	17.811	1340.063
57	**Fe**		13140.488	**-0.625002**	ppb	2.622	131.558	14006.866
45	**Sc-IS**	>	1784945.660		ppb	0.636		1865382.380
66	**Zn**		630.014	**0.062348**	ppb	7.830	39.109	516.676
86	**Sr**		103.108	**0.022353**	ppb	12.796	19.493	39.724
65	**Cu**		293.336	**0.053117**	ppb	7.097	12.358	128.889
69	**Ga-IS**		559858.861		ppb	1.450		573819.625
95	**Mo**		1320.061	**0.358725**	ppb	7.085	7.799	212.224
115	**In-IS**	>	211070.634		ppb	0.401		197719.745
111	**Cd**		80.561	**0.031373**	ppb	22.069	27.125	15.110
118	**Sn**		5100.912	**0.638875**	ppb	4.561	5.798	1235.609
121	**Sb**		890.028	**0.100738**	ppb	8.467	10.733	197.779
135	**Ba**		103.334	**0.035252**	ppb	14.783	23.039	33.333
165	**Ho-IS**		372533.256		ppb	1.456		368847.286
159	**Tb-IS**	>	370364.258		ppb	1.006		363541.658
207	**Pb**		1258.911	**0.025830**	ppb	3.672	5.909	434.447
203	**Tl**		597.790	**0.044163**	ppb	6.928	10.089	128.889
209	**Bi-IS**		221316.638		ppb	3.042		214395.071
51	**V**		7.778	**0.030142**	ppb	65.465	75.735	1.111
59	**Co**		31.111	**0.000398**	ppb	24.744	2625.690	30.000
60	**Ni**		204.446	**0.098915**	ppb	1.883	4.538	67.778
75	**As**		328.043	**0.126005**	ppb	3.527	25.332	260.869
71	**Ga-ISK**		58318.821		ppb	1.782		58887.805
82	**Se-2**		9.263	**0.192486**	ppb	37.938	38.086	0.226
107	**Ag-1**		453.341	**0.074020**	ppb	5.147	8.122	83.334
115	**In-ISK**	>	83183.410		ppb	1.438		81053.470
45	**Sc-ISK**	>	143350.285		ppb	2.085		145776.751
23	**Na**		13548.089	**19.303212**	ppb	1.927	4.981	8625.938
39	**K**		35431.662	**3.301702**	ppb	0.106	44.014	34421.426
24	**Mg**		803.356	**2.578837**	ppb	12.234	19.031	211.668
159	**Tb-ISK**		164799.851		ppb	1.067		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 20:33:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.168
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40639.957		ppb	1.655		44909.430
9	**Be**		25.556	**0.004392**	ppb	15.061	43.518	17.778
10	**B**		6232.470	**-5.073007**	ppb	0.678	2.778	9341.944
27	**Al**		4599.412	**0.073448**	ppb	10.354	69.815	4118.935
43	**Ca-2**		103.334	**-0.853402**	ppb	7.391	33.752	133.334
49	**Ti**		231.113	**-0.106798**	ppb	6.662	14.094	346.671
52	**Cr**		15180.284	**-0.162445**	ppb	1.231	4.414	18068.087
55	**Mn**		2542.449	**0.061323**	ppb	3.279	7.326	1340.063
57	**Fe**		12889.149	**-1.282278**	ppb	3.225	68.843	14006.866
45	**Sc-IS**	>	1788210.694		ppb	0.612		1865382.380
66	**Zn**		526.676	**0.014363**	ppb	5.181	83.897	516.676
86	**Sr**		84.793	**0.016053**	ppb	56.349	102.334	39.724
65	**Cu**		225.557	**0.031805**	ppb	3.719	7.578	128.889
69	**Ga-IS**		561665.134		ppb	1.246		573819.625
95	**Mo**		424.451	**0.070923**	ppb	15.811	30.993	212.224
115	**In-IS**	>	210126.325		ppb	1.064		197719.745
111	**Cd**		26.886	**0.005307**	ppb	14.385	36.799	15.110
118	**Sn**		2978.088	**0.282586**	ppb	0.978	2.322	1235.609
121	**Sb**		371.116	**0.024036**	ppb	13.333	32.637	197.779
135	**Ba**		70.000	**0.018123**	ppb	37.192	76.159	33.333
165	**Ho-IS**		368747.941		ppb	2.343		368847.286
159	**Tb-IS**	>	378432.732		ppb	2.097		363541.658
207	**Pb**		620.005	**0.005220**	ppb	10.590	44.587	434.447
203	**Tl**		273.336	**0.012856**	ppb	11.634	19.117	128.889
209	**Bi-IS**		216617.764		ppb	0.530		214395.071
51	**V**		6.667	**0.025673**	ppb	0.000	0.942	1.111
59	**Co**		26.667	**-0.005143**	ppb	33.072	250.560	30.000
60	**Ni**		196.668	**0.095663**	ppb	4.484	7.350	67.778
75	**As**		290.642	**0.058237**	ppb	2.148	30.143	260.869
71	**Ga-ISK**		58133.623		ppb	1.776		58887.805
82	**Se-2**		3.242	**0.065983**	ppb	224.073	239.389	0.226
107	**Ag-1**		200.001	**0.023686**	ppb	12.019	19.546	83.334
115	**In-ISK**	>	81782.439		ppb	0.780		81053.470
45	**Sc-ISK**	>	145824.976		ppb	0.894		145776.751
23	**Na**		11978.354	**12.546999**	ppb	1.367	7.202	8625.938
39	**K**		34382.440	**-0.103142**	ppb	1.022	117.138	34421.426
24	**Mg**		405.006	**0.821743**	ppb	6.874	16.168	211.668
159	**Tb-ISK**		163679.017		ppb	0.455		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-201722_1-A
Autosampler Position: 414
Sample Date/Time: Sunday, December 19, 2021 20:36:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\MB 570-201722_1-A.169
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40649.980		ppb	1.178		44909.430
9	**Be**		20.000	**0.001743**	ppb	60.093	368.560	17.778
10	**B**		6215.797	**-4.898925**	ppb	2.694	6.335	9341.944
27	**Al**		2105.489	**-0.204272**	ppb	8.210	8.917	4118.935
43	**Ca-2**		90.000	**-1.266653**	ppb	16.667	40.304	133.334
49	**Ti**		285.558	**-0.044119**	ppb	9.928	63.994	346.671
52	**Cr**		15404.973	**-0.124384**	ppb	2.945	35.857	18068.087
55	**Mn**		1238.943	**-0.001135**	ppb	6.734	399.741	1340.063
57	**Fe**		12594.443	**-1.448978**	ppb	3.593	76.139	14006.866
45	**Sc-IS**	>	1757027.513		ppb	0.792		1865382.380
66	**Zn**		433.340	**-0.024828**	ppb	2.774	28.746	516.676
86	**Sr**		38.613	**0.000417**	ppb	2.436	65.834	39.724
65	**Cu**		191.112	**0.022071**	ppb	19.604	52.120	128.889
69	**Ga-IS**		559685.731		ppb	2.669		573819.625
95	**Mo**		258.891	**0.019247**	ppb	10.327	44.597	212.224
115	**In-IS**	>	209162.493		ppb	3.859		197719.745
111	**Cd**		17.234	**0.000654**	ppb	29.462	404.248	15.110
118	**Sn**		1941.243	**0.108632**	ppb	2.412	18.783	1235.609
121	**Sb**		278.892	**0.010540**	ppb	6.133	39.129	197.779
135	**Ba**		44.445	**0.004759**	ppb	30.311	144.322	33.333
165	**Ho-IS**		371652.349		ppb	1.923		368847.286
159	**Tb-IS**	>	375676.862		ppb	0.793		363541.658
207	**Pb**		492.225	**0.001356**	ppb	8.941	108.446	434.447
203	**Tl**		156.668	**0.002198**	ppb	15.343	105.566	128.889
209	**Bi-IS**		215408.708		ppb	1.237		214395.071
51	**V**		5.556	**0.020483**	ppb	34.641	42.837	1.111
59	**Co**		17.778	**-0.017985**	ppb	43.301	61.759	30.000
60	**Ni**		63.333	**-0.003721**	ppb	24.119	315.499	67.778
75	**As**		288.306	**0.052938**	ppb	7.674	86.110	260.869
71	**Ga-ISK**		58603.309		ppb	1.569		58887.805
82	**Se-2**		9.930	**0.210655**	ppb	36.455	36.958	0.226
107	**Ag-1**		102.223	**0.003686**	ppb	16.734	90.740	83.334
115	**In-ISK**	>	81809.401		ppb	0.805		81053.470
45	**Sc-ISK**	>	141519.925		ppb	1.985		145776.751
23	**Na**		10930.849	**9.862793**	ppb	2.884	6.903	8625.938
39	**K**		33332.176	**-0.165686**	ppb	0.910	523.978	34421.426
24	**Mg**		180.001	**-0.108883**	ppb	26.498	206.319	211.668
159	**Tb-ISK**		163733.665		ppb	0.808		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 20:39:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.170
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40209.853		ppb	1.641		44909.430
9	**Be**		179685.285	**92.150275**	ppb	1.085	1.856	17.778
10	**B**		127929.579	**219.850672**	ppb	3.395	1.979	9341.944
27	**Al**		821967.051	**91.807180**	ppb	1.910	0.922	4118.935
43	**Ca-2**		143325.802	**4959.809971**	ppb	2.950	1.077	133.334
49	**Ti**		93875.252	**97.920907**	ppb	1.476	1.092	346.671
52	**Cr**		1282792.672	**95.313616**	ppb	1.095	1.577	18068.087
55	**Mn**		1954057.947	**94.474461**	ppb	1.600	0.289	1340.063
57	**Fe**		2163613.655	**5077.841962**	ppb	0.435	1.435	14006.866
45	**Sc-IS**	>	1801732.967		ppb	1.874		1865382.380
66	**Zn**		227938.630	**103.433282**	ppb	0.997	1.453	516.676
86	**Sr**		305423.328	**103.986752**	ppb	0.643	2.475	39.724
65	**Cu**		338454.874	**104.730755**	ppb	1.041	1.015	128.889
69	**Ga-IS**		598610.064		ppb	1.287		573819.625
95	**Mo**		338868.012	**107.815710**	ppb	1.337	3.093	212.224
115	**In-IS**	>	209622.993		ppb	2.575		197719.745
111	**Cd**		201756.441	**99.010582**	ppb	0.806	2.112	15.110
118	**Sn**		581411.231	**98.716911**	ppb	0.602	1.949	1235.609
121	**Sb**		659080.115	**98.493770**	ppb	0.727	1.858	197.779
135	**Ba**		192010.670	**100.572192**	ppb	0.379	2.218	33.333
165	**Ho-IS**		370609.224		ppb	0.714		368847.286
159	**Tb-IS**	>	375575.216		ppb	0.447		363541.658
207	**Pb**		3073244.642	**95.870917**	ppb	0.889	0.525	434.447
203	**Tl**		994594.438	**92.777167**	ppb	1.233	0.789	128.889
209	**Bi-IS**		211597.991		ppb	1.433		214395.071
51	**V**		21570.725	**99.296602**	ppb	2.586	1.733	1.111
59	**Co**		70360.640	**100.701347**	ppb	1.170	1.413	30.000
60	**Ni**		124300.657	**92.131210**	ppb	0.361	1.697	67.778
75	**As**		45891.970	**96.229579**	ppb	0.412	1.765	260.869
71	**Ga-ISK**		57591.421		ppb	1.235		58887.805
82	**Se-2**		4482.302	**96.896031**	ppb	1.347	1.115	0.226
107	**Ag-1**		488169.978	**99.279438**	ppb	1.668	0.817	83.334
115	**In-ISK**	>	82235.139		ppb	1.353		81053.470
45	**Sc-ISK**	>	144430.957		ppb	1.244		145776.751
23	**Na**		1272439.281	**4778.973422**	ppb	0.249	1.507	8625.938
39	**K**		2519095.695	**5112.538975**	ppb	1.003	1.259	34421.426
24	**Mg**		1158462.514	**4968.070332**	ppb	0.751	1.232	211.668
159	**Tb-ISK**		164867.254		ppb	0.765		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message
B	10	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 20:42:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.171
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40361.388		ppb	1.397		44909.430
9	**Be**		41.111	**0.012616**	ppb	66.037	111.446	17.778
10	**B**		6214.685	**-4.917281**	ppb	1.676	3.702	9341.944
27	**Al**		4549.393	**0.076714**	ppb	7.174	57.024	4118.935
43	**Ca-2**		138.334	**0.448176**	ppb	22.955	254.313	133.334
49	**Ti**		284.447	**-0.045037**	ppb	11.855	95.270	346.671
52	**Cr**		15280.391	**-0.135611**	ppb	1.359	24.067	18068.087
55	**Mn**		1738.995	**0.023496**	ppb	4.122	6.462	1340.063
57	**Fe**		12677.846	**-1.285820**	ppb	1.169	53.323	14006.866
45	**Sc-IS**	>	1759741.544		ppb	2.389		1865382.380
66	**Zn**		563.344	**0.035531**	ppb	3.550	38.488	516.676
86	**Sr**		76.953	**0.013737**	ppb	7.569	10.086	39.724
65	**Cu**		194.446	**0.023030**	ppb	19.721	51.030	128.889
69	**Ga-IS**		561224.605		ppb	2.052		573819.625
95	**Mo**		1114.488	**0.298386**	ppb	6.348	10.555	212.224
115	**In-IS**	>	210560.545		ppb	2.282		197719.745
111	**Cd**		36.549	**0.009958**	ppb	28.229	47.953	15.110
118	**Sn**		4123.929	**0.475812**	ppb	0.994	3.653	1235.609
121	**Sb**		726.685	**0.076848**	ppb	2.102	6.092	197.779
135	**Ba**		92.223	**0.029743**	ppb	22.085	39.133	33.333
165	**Ho-IS**		367827.898		ppb	1.227		368847.286
159	**Tb-IS**	>	372250.836		ppb	1.808		363541.658
207	**Pb**		972.236	**0.016578**	ppb	8.260	12.156	434.447
203	**Tl**		351.116	**0.020571**	ppb	16.149	23.287	128.889
209	**Bi-IS**		218146.304		ppb	0.404		214395.071
51	**V**		12.222	**0.050939**	ppb	31.492	35.280	1.111
59	**Co**		52.222	**0.030869**	ppb	25.797	60.931	30.000
60	**Ni**		191.112	**0.090083**	ppb	24.502	37.391	67.778
75	**As**		288.323	**0.047861**	ppb	4.302	61.939	260.869
71	**Ga-ISK**		57988.571		ppb	0.782		58887.805
82	**Se-2**		4.573	**0.093562**	ppb	149.023	157.258	0.226
107	**Ag-1**		328.893	**0.049432**	ppb	15.712	20.521	83.334
115	**In-ISK**	>	82524.461		ppb	0.624		81053.470
45	**Sc-ISK**	>	142268.745		ppb	3.304		145776.751
23	**Na**		11132.670	**10.450541**	ppb	0.630	14.453	8625.938
39	**K**		34525.008	**2.014589**	ppb	1.471	157.929	34421.426
24	**Mg**		560.011	**1.544346**	ppb	14.753	26.539	211.668
159	**Tb-ISK**		164033.196		ppb	1.633		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 20:45:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.172
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40267.807		ppb	2.470		44909.430
9	**Be**		20.000	**0.001606**	ppb	16.667	108.763	17.778
10	**B**		5907.890	**-5.597091**	ppb	4.711	9.500	9341.944
27	**Al**		4059.577	**0.015911**	ppb	2.817	75.139	4118.935
43	**Ca-2**		101.667	**-0.886236**	ppb	25.237	101.957	133.334
49	**Ti**		245.558	**-0.089563**	ppb	8.727	26.344	346.671
52	**Cr**		15191.406	**-0.153089**	ppb	0.287	4.415	18068.087
55	**Mn**		2357.973	**0.053156**	ppb	3.666	7.365	1340.063
57	**Fe**		12799.066	**-1.272029**	ppb	2.295	50.280	14006.866
45	**Sc-IS**	>	1775169.593		ppb	0.317		1865382.380
66	**Zn**		524.454	**0.015082**	ppb	8.996	140.117	516.676
86	**Sr**		26.403	**-0.003955**	ppb	93.173	214.573	39.724
65	**Cu**		191.112	**0.021510**	ppb	5.329	15.387	128.889
69	**Ga-IS**		563962.867		ppb	1.692		573819.625
95	**Mo**		396.672	**0.062894**	ppb	17.486	35.640	212.224
115	**In-IS**	>	209672.914		ppb	1.631		197719.745
111	**Cd**		16.945	**0.000492**	ppb	59.301	1012.625	15.110
118	**Sn**		2437.986	**0.191769**	ppb	2.777	4.153	1235.609
121	**Sb**		276.669	**0.009994**	ppb	7.229	28.060	197.779
135	**Ba**		53.333	**0.009466**	ppb	16.536	53.405	33.333
165	**Ho-IS**		370492.122		ppb	3.518		368847.286
159	**Tb-IS**	>	375641.598		ppb	2.103		363541.658
207	**Pb**		454.448	**0.000168**	ppb	5.554	332.804	434.447
203	**Tl**		185.557	**0.004878**	ppb	9.042	28.552	128.889
209	**Bi-IS**		217025.210		ppb	1.526		214395.071
51	**V**		5.556	**0.020443**	ppb	124.900	157.997	1.111
59	**Co**		7.778	**-0.032568**	ppb	49.487	16.482	30.000
60	**Ni**		122.223	**0.039014**	ppb	1.575	5.075	67.778
75	**As**		249.033	**-0.036415**	ppb	3.995	77.093	260.869
71	**Ga-ISK**		58118.060		ppb	3.197		58887.805
82	**Se-2**		3.247	**0.063814**	ppb	128.331	137.718	0.226
107	**Ag-1**		121.112	**0.007238**	ppb	11.459	33.225	83.334
115	**In-ISK**	>	82818.929		ppb	1.614		81053.470
45	**Sc-ISK**	>	143253.586		ppb	0.725		145776.751
23	**Na**		10290.372	**6.914816**	ppb	0.744	5.737	8625.938
39	**K**		33207.440	**-1.278858**	ppb	0.314	55.027	34421.426
24	**Mg**		203.335	**-0.020541**	ppb	19.723	833.437	211.668
159	**Tb-ISK**		164642.025		ppb	0.891		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-201722_2-A
Autosampler Position: 415
Sample Date/Time: Sunday, December 19, 2021 20:49:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\LCS 570-201722_2-A.173
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40430.498		ppb	2.967		44909.430
9	**Be**		173488.478	**90.630879**	ppb	2.036	2.249	17.778
10	**B**		55413.984	**87.701670**	ppb	2.660	2.129	9341.944
27	**Al**		845903.986	**96.287135**	ppb	2.439	3.032	4118.935
43	**Ca-2**		143593.357	**5062.319712**	ppb	2.512	0.687	133.334
49	**Ti**		88390.473	**93.897698**	ppb	2.207	0.554	346.671
52	**Cr**		1201061.337	**90.843859**	ppb	1.068	1.000	18068.087
55	**Mn**		1749312.694	**86.160109**	ppb	1.029	1.361	1340.063
57	**Fe**		2100444.555	**5021.952032**	ppb	0.575	2.372	14006.866
45	**Sc-IS**	>	1768675.220		ppb	1.878		1865382.380
66	**Zn**		216849.070	**100.238186**	ppb	0.911	1.846	516.676
86	**Sr**		280808.679	**97.368466**	ppb	1.479	0.750	39.724
65	**Cu**		307136.602	**96.830950**	ppb	0.555	2.391	128.889
69	**Ga-IS**		591970.158		ppb	1.008		573819.625
95	**Mo**		311443.163	**100.906157**	ppb	1.410	0.570	212.224
115	**In-IS**	>	207971.572		ppb	1.009		197719.745
111	**Cd**		187141.463	**92.529217**	ppb	1.976	0.992	15.110
118	**Sn**		556699.888	**95.223530**	ppb	2.603	1.748	1235.609
121	**Sb**		641168.899	**96.541958**	ppb	2.128	1.430	197.779
135	**Ba**		205609.123	**108.512164**	ppb	0.829	0.430	33.333
165	**Ho-IS**		373374.918		ppb	1.571		368847.286
159	**Tb-IS**	>	378651.021		ppb	1.472		363541.658
207	**Pb**		2887053.630	**89.348930**	ppb	1.302	2.364	434.447
203	**Tl**		931479.335	**86.198402**	ppb	0.363	1.622	128.889
209	**Bi-IS**		213217.249		ppb	0.989		214395.071
51	**V**		19814.848	**92.098863**	ppb	2.156	2.537	1.111
59	**Co**		63277.631	**91.421756**	ppb	1.490	1.625	30.000
60	**Ni**		116031.574	**86.808979**	ppb	1.151	0.941	67.778
75	**As**		39459.995	**83.449157**	ppb	0.241	0.483	260.869
71	**Ga-ISK**		57195.401		ppb	1.743		58887.805
82	**Se-2**		4245.561	**92.654195**	ppb	1.047	1.120	0.226
107	**Ag-1**		268178.501	**55.053669**	ppb	1.297	0.936	83.334
115	**In-ISK**	>	81454.895		ppb	0.387		81053.470
45	**Sc-ISK**	>	142126.873		ppb	0.904		145776.751
23	**Na**		252897.506	**939.313623**	ppb	1.466	1.186	8625.938
39	**K**		504832.334	**985.135828**	ppb	2.987	2.488	34421.426
24	**Mg**		1118943.864	**4875.373439**	ppb	2.937	2.043	211.668
159	**Tb-ISK**		165311.727		ppb	1.155		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-201722_3-A
Autosampler Position: 416
Sample Date/Time: Sunday, December 19, 2021 20:52:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\LCSD 570-201722_3-A.174
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40180.889		ppb	2.093		44909.430
9	**Be**		172514.306	**89.635974**	ppb	0.638	0.693	17.778
10	**B**		56275.098	**88.757538**	ppb	2.045	1.201	9341.944
27	**Al**		853516.459	**96.616928**	ppb	1.510	0.277	4118.935
43	**Ca-2**		141832.531	**4973.588632**	ppb	2.399	1.233	133.334
49	**Ti**		88261.829	**93.272549**	ppb	0.872	1.306	346.671
52	**Cr**		1199015.464	**90.200884**	ppb	0.282	1.588	18068.087
55	**Mn**		1754914.604	**85.976055**	ppb	1.953	2.437	1340.063
57	**Fe**		2076369.697	**4937.985109**	ppb	3.779	4.952	14006.866
45	**Sc-IS**	>	1778114.500		ppb	1.325		1865382.380
66	**Zn**		214934.971	**98.817239**	ppb	1.183	2.011	516.676
86	**Sr**		275939.076	**95.181542**	ppb	0.541	1.874	39.724
65	**Cu**		309836.739	**97.160670**	ppb	1.669	3.015	128.889
69	**Ga-IS**		585890.896		ppb	2.150		573819.625
95	**Mo**		311999.364	**100.545853**	ppb	1.071	0.376	212.224
115	**In-IS**	>	207669.180		ppb	3.171		197719.745
111	**Cd**		187198.728	**92.730702**	ppb	1.612	1.724	15.110
118	**Sn**		554925.541	**95.091335**	ppb	2.433	1.887	1235.609
121	**Sb**		629268.742	**94.931528**	ppb	1.303	1.991	197.779
135	**Ba**		202986.453	**107.338988**	ppb	0.794	2.539	33.333
165	**Ho-IS**		369136.228		ppb	0.642		368847.286
159	**Tb-IS**	>	371610.167		ppb	1.928		363541.658
207	**Pb**		2857169.545	**90.088412**	ppb	1.818	1.359	434.447
203	**Tl**		912104.934	**85.996539**	ppb	1.973	1.390	128.889
209	**Bi-IS**		211138.858		ppb	0.414		214395.071
51	**V**		19329.736	**89.533689**	ppb	0.684	1.079	1.111
59	**Co**		62077.960	**89.401237**	ppb	2.124	3.413	30.000
60	**Ni**		114859.907	**85.645681**	ppb	0.518	1.572	67.778
75	**As**		40325.654	**85.011604**	ppb	1.716	2.786	260.869
71	**Ga-ISK**		57804.515		ppb	1.823		58887.805
82	**Se-2**		4223.223	**91.870539**	ppb	1.801	3.083	0.226
107	**Ag-1**		265061.894	**54.226092**	ppb	2.541	2.187	83.334
115	**In-ISK**	>	81738.448		ppb	1.313		81053.470
45	**Sc-ISK**	>	139498.957		ppb	1.120		145776.751
23	**Na**		251145.870	**950.563446**	ppb	4.182	3.277	8625.938
39	**K**		504208.724	**1003.698559**	ppb	2.261	1.300	34421.426
24	**Mg**		1092000.452	**4848.833636**	ppb	1.898	2.514	211.668
159	**Tb-ISK**		162775.596		ppb	1.622		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-B-1-A
Autosampler Position: 417
Sample Date/Time: Sunday, December 19, 2021 20:55:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78855-B-1-A.175
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		38584.272		ppb	2.027		44909.430
9	**Be**		81.111	**0.034673**	ppb	17.110	20.231	17.778
10	**B**		11949.442	**6.438694**	ppb	2.644	12.680	9341.944
27	**Al**		383220.901	**44.554659**	ppb	0.827	0.684	4118.935
43	**Ca-2**		46729.688	**1688.919810**	ppb	3.185	2.052	133.334
49	**Ti**		2405.759	**2.282953**	ppb	7.078	6.734	346.671
52	**Cr**		19952.817	**0.257971**	ppb	1.960	12.144	18068.087
55	**Mn**		15772.040	**0.735749**	ppb	2.901	3.218	1340.063
57	**Fe**		31727.427	**46.439139**	ppb	2.247	3.574	14006.866
45	**Sc-IS**	>	1722111.581		ppb	1.416		1865382.380
66	**Zn**		7663.168	**3.417968**	ppb	3.930	3.019	516.676
86	**Sr**		15348.071	**5.453805**	ppb	1.331	1.953	39.724
65	**Cu**		4246.187	**1.336393**	ppb	2.743	1.839	128.889
69	**Ga-IS**		557718.667		ppb	1.940		573819.625
95	**Mo**		1736.772	**0.513236**	ppb	2.510	4.406	212.224
115	**In-IS**	>	207013.254		ppb	1.779		197719.745
111	**Cd**		75.242	**0.029489**	ppb	10.352	11.349	15.110
118	**Sn**		4943.078	**0.628866**	ppb	2.244	4.258	1235.609
121	**Sb**		1374.511	**0.176641**	ppb	2.672	1.067	197.779
135	**Ba**		5552.190	**2.925712**	ppb	2.759	2.096	33.333
165	**Ho-IS**		366814.245		ppb	0.708		368847.286
159	**Tb-IS**	>	373875.138		ppb	1.106		363541.658
207	**Pb**		8313.156	**0.246526**	ppb	2.300	1.288	434.447
203	**Tl**		935.586	**0.075272**	ppb	3.368	4.372	128.889
209	**Bi-IS**		207471.378		ppb	1.153		214395.071
51	**V**		166.668	**0.771068**	ppb	11.136	11.231	1.111
59	**Co**		64.445	**0.049726**	ppb	7.901	13.461	30.000
60	**Ni**		687.794	**0.464701**	ppb	8.244	8.249	67.778
75	**As**		479.375	**0.463867**	ppb	10.847	22.090	260.869
71	**Ga-ISK**		56257.259		ppb	2.300		58887.805
82	**Se-2**		11.255	**0.241237**	ppb	57.809	58.756	0.226
107	**Ag-1**		314.448	**0.047531**	ppb	10.618	15.194	83.334
115	**In-ISK**	>	81293.707		ppb	0.897		81053.470
45	**Sc-ISK**	>	140019.556		ppb	0.987		145776.751
23	**Na**		398675.076	**1522.442463**	ppb	0.969	0.131	8625.938
39	**K**		712821.540	**1442.479480**	ppb	2.102	1.974	34421.426
24	**Mg**		70364.552	**310.396059**	ppb	1.334	0.878	211.668
159	**Tb-ISK**		161649.454		ppb	0.714		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-B-1-B MS
Autosampler Position: 418
Sample Date/Time: Sunday, December 19, 2021 20:58:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78855-B-1-B MS.176
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		39595.949		ppb	3.308		44909.430
9	**Be**		167607.602	**88.618297**	ppb	1.277	1.130	17.778
10	**B**		56224.932	**90.505090**	ppb	2.896	1.448	9341.944
27	**Al**		1114964.076	**128.609800**	ppb	0.670	2.193	4118.935
43	**Ca-2**		177562.493	**6336.490021**	ppb	3.356	1.672	133.334
49	**Ti**		85078.214	**91.472047**	ppb	2.052	1.057	346.671
52	**Cr**		1132873.312	**86.656338**	ppb	3.072	2.382	18068.087
55	**Mn**		1693646.869	**84.415903**	ppb	2.540	1.463	1340.063
57	**Fe**		1906982.832	**4611.228611**	ppb	1.164	0.671	14006.866
45	**Sc-IS**	>	1747413.958		ppb	1.685		1865382.380
66	**Zn**		217752.010	**101.861044**	ppb	2.276	1.287	516.676
86	**Sr**		280068.289	**98.287169**	ppb	1.799	0.609	39.724
65	**Cu**		299785.707	**95.636503**	ppb	1.781	1.004	128.889
69	**Ga-IS**		584631.399		ppb	1.977		573819.625
95	**Mo**		296876.596	**97.382869**	ppb	2.599	3.789	212.224
115	**In-IS**	>	204955.861		ppb	1.286		197719.745
111	**Cd**		182812.417	**91.734496**	ppb	1.192	1.738	15.110
118	**Sn**		514037.731	**89.216564**	ppb	1.124	0.701	1235.609
121	**Sb**		614850.744	**93.957146**	ppb	0.555	1.578	197.779
135	**Ba**		194111.143	**103.963391**	ppb	1.369	2.111	33.333
165	**Ho-IS**		367273.907		ppb	1.217		368847.286
159	**Tb-IS**	>	368415.885		ppb	0.899		363541.658
207	**Pb**		2753260.151	**87.555736**	ppb	1.497	0.871	434.447
203	**Tl**		884656.218	**84.122621**	ppb	1.925	1.254	128.889
209	**Bi-IS**		208027.135		ppb	1.076		214395.071
51	**V**		19141.705	**90.273454**	ppb	0.821	1.100	1.111
59	**Co**		61535.608	**90.213677**	ppb	1.779	2.148	30.000
60	**Ni**		111185.468	**84.405721**	ppb	0.913	0.981	67.778
75	**As**		39416.251	**84.586942**	ppb	0.889	0.513	260.869
71	**Ga-ISK**		55656.060		ppb	3.272		58887.805
82	**Se-2**		4235.893	**93.799368**	ppb	1.199	0.956	0.226
107	**Ag-1**		212945.596	**44.357072**	ppb	1.502	1.876	83.334
115	**In-ISK**	>	80275.435		ppb	0.379		81053.470
45	**Sc-ISK**	>	139665.016		ppb	1.158		145776.751
23	**Na**		618423.358	**2385.477067**	ppb	1.879	1.241	8625.938
39	**K**		1136731.533	**2347.963778**	ppb	2.559	1.769	34421.426
24	**Mg**		1127260.875	**4998.436463**	ppb	2.295	1.289	211.668
159	**Tb-ISK**		161784.286		ppb	0.513		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-B-1-C MSD
Autosampler Position: 419
Sample Date/Time: Sunday, December 19, 2021 21:01:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78855-B-1-C MSD.177
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		38417.212		ppb	4.509		44909.430
9	**Be**		174373.927	**93.939882**	ppb	2.954	6.418	17.778
10	**B**		59727.967	**99.330236**	ppb	2.038	6.174	9341.944
27	**Al**		1153096.354	**135.513634**	ppb	2.688	6.090	4118.935
43	**Ca-2**		185515.893	**6746.910492**	ppb	3.118	6.252	133.334
49	**Ti**		90182.859	**98.838933**	ppb	3.362	6.831	346.671
52	**Cr**		1205291.205	**94.061694**	ppb	3.308	6.700	18068.087
55	**Mn**		1782540.478	**90.521205**	ppb	2.142	5.437	1340.063
57	**Fe**		2013139.685	**4963.269133**	ppb	3.883	7.296	14006.866
45	**Sc-IS**	>	1717302.006		ppb	3.350		1865382.380
66	**Zn**		229488.920	**109.377278**	ppb	1.650	5.101	516.676
86	**Sr**		291583.451	**104.271623**	ppb	2.988	6.408	39.724
65	**Cu**		314052.426	**102.098477**	ppb	3.275	6.740	128.889
69	**Ga-IS**		568353.010		ppb	5.432		573819.625
95	**Mo**		316801.842	**105.836093**	ppb	2.078	5.424	212.224
115	**In-IS**	>	200896.741		ppb	4.689		197719.745
111	**Cd**		191502.401	**98.230511**	ppb	2.416	6.839	15.110
118	**Sn**		534169.103	**94.790981**	ppb	2.984	7.089	1235.609
121	**Sb**		643173.421	**100.474354**	ppb	3.194	7.296	197.779
135	**Ba**		201826.338	**110.466659**	ppb	2.648	6.374	33.333
165	**Ho-IS**		355217.552		ppb	3.399		368847.286
159	**Tb-IS**	>	356339.233		ppb	3.292		363541.658
207	**Pb**		2873331.765	**94.583989**	ppb	1.978	5.321	434.447
203	**Tl**		912693.727	**89.850082**	ppb	2.483	5.858	128.889
209	**Bi-IS**		202093.823		ppb	3.375		214395.071
51	**V**		18984.829	**90.091004**	ppb	0.308	1.542	1.111
59	**Co**		62632.576	**92.400442**	ppb	1.545	2.725	30.000
60	**Ni**		112473.259	**85.923882**	ppb	0.703	2.275	67.778
75	**As**		39131.323	**84.509123**	ppb	1.885	2.968	260.869
71	**Ga-ISK**		54970.048		ppb	2.581		58887.805
82	**Se-2**		4187.874	**93.320709**	ppb	1.575	2.452	0.226
107	**Ag-1**		214002.196	**44.855455**	ppb	1.020	2.102	83.334
115	**In-ISK**	>	79790.698		ppb	1.695		81053.470
45	**Sc-ISK**	>	139187.309		ppb	2.660		145776.751
23	**Na**		622735.235	**2412.301922**	ppb	1.451	3.800	8625.938
39	**K**		1141330.877	**2367.697083**	ppb	0.888	3.458	34421.426
24	**Mg**		1152073.448	**5130.179092**	ppb	1.682	4.207	211.668
159	**Tb-ISK**		161027.126		ppb	0.284		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-B-2-A
Autosampler Position: 420
Sample Date/Time: Sunday, December 19, 2021 21:04:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78855-B-2-A.178
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		38667.844		ppb	2.778		44909.430
9	**Be**		122.223	**0.056416**	ppb	10.325	10.771	17.778
10	**B**		27528.721	**36.323815**	ppb	0.578	2.096	9341.944
27	**Al**		448609.142	**51.976310**	ppb	2.081	1.721	4118.935
43	**Ca-2**		40069.629	**1440.338018**	ppb	6.934	6.096	133.334
49	**Ti**		2224.618	**2.074181**	ppb	3.610	4.244	346.671
52	**Cr**		20779.550	**0.315049**	ppb	1.912	5.269	18068.087
55	**Mn**		22834.909	**1.087464**	ppb	2.428	0.985	1340.063
57	**Fe**		33146.198	**49.537645**	ppb	2.106	0.285	14006.866
45	**Sc-IS**	>	1730591.497		ppb	1.969		1865382.380
66	**Zn**		10457.161	**4.724885**	ppb	2.416	3.395	516.676
86	**Sr**		13343.866	**4.717580**	ppb	1.512	2.927	39.724
65	**Cu**		4467.365	**1.401549**	ppb	1.811	3.268	128.889
69	**Ga-IS**		542478.530		ppb	0.916		573819.625
95	**Mo**		2802.497	**0.863210**	ppb	3.658	2.803	212.224
115	**In-IS**	>	207026.824		ppb	2.674		197719.745
111	**Cd**		118.560	**0.051074**	ppb	8.012	10.084	15.110
118	**Sn**		6413.662	**0.882661**	ppb	1.222	4.889	1235.609
121	**Sb**		1751.219	**0.233834**	ppb	7.423	9.296	197.779
135	**Ba**		3540.439	**1.861172**	ppb	4.541	7.270	33.333
165	**Ho-IS**		362789.808		ppb	1.831		368847.286
159	**Tb-IS**	>	370939.177		ppb	1.393		363541.658
207	**Pb**		10198.076	**0.308210**	ppb	1.926	2.750	434.447
203	**Tl**		590.012	**0.043305**	ppb	8.437	10.549	128.889
209	**Bi-IS**		211279.258		ppb	2.399		214395.071
51	**V**		218.891	**1.045271**	ppb	9.179	7.856	1.111
59	**Co**		70.000	**0.060969**	ppb	9.524	15.999	30.000
60	**Ni**		808.912	**0.575738**	ppb	9.970	13.306	67.778
75	**As**		745.831	**1.084283**	ppb	7.067	13.712	260.869
71	**Ga-ISK**		55677.194		ppb	1.583		58887.805
82	**Se-2**		12.596	**0.278151**	ppb	25.568	24.338	0.226
107	**Ag-1**		321.115	**0.050920**	ppb	9.070	11.215	83.334
115	**In-ISK**	>	78839.921		ppb	2.144		81053.470
45	**Sc-ISK**	>	137359.443		ppb	0.572		145776.751
23	**Na**		707857.637	**2781.602537**	ppb	1.005	0.453	8625.938
39	**K**		488907.672	**987.450992**	ppb	0.485	1.076	34421.426
24	**Mg**		56842.882	**255.466396**	ppb	1.540	2.113	211.668
159	**Tb-ISK**		160932.808		ppb	1.115		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-B-3-A
Autosampler Position: 421
Sample Date/Time: Sunday, December 19, 2021 21:08:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78855-B-3-A.179
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		38515.186		ppb	0.890		44909.430
9	**Be**		77.778	**0.033048**	ppb	17.843	23.774	17.778
10	**B**		7535.321	**-2.076087**	ppb	2.602	27.294	9341.944
27	**Al**		291660.485	**33.868843**	ppb	1.177	2.372	4118.935
43	**Ca-2**		42317.602	**1532.039691**	ppb	2.057	1.930	133.334
49	**Ti**		1692.323	**1.505871**	ppb	6.785	7.819	346.671
52	**Cr**		19429.874	**0.219397**	ppb	1.965	10.395	18068.087
55	**Mn**		26484.542	**1.280104**	ppb	3.030	1.830	1340.063
57	**Fe**		28422.715	**38.384190**	ppb	3.584	4.317	14006.866
45	**Sc-IS**	>	1719032.382		ppb	1.320		1865382.380
66	**Zn**		17491.817	**8.108693**	ppb	2.200	0.972	516.676
86	**Sr**		19673.913	**7.005018**	ppb	3.942	2.933	39.724
65	**Cu**		4659.649	**1.473170**	ppb	0.734	0.659	128.889
69	**Ga-IS**		555746.131		ppb	0.641		573819.625
95	**Mo**		1327.840	**0.377941**	ppb	8.113	10.654	212.224
115	**In-IS**	>	206608.544		ppb	3.469		197719.745
111	**Cd**		84.990	**0.034239**	ppb	26.323	27.944	15.110
118	**Sn**		3481.537	**0.377580**	ppb	8.523	9.513	1235.609
121	**Sb**		1121.155	**0.138754**	ppb	7.187	9.356	197.779
135	**Ba**		6683.786	**3.535885**	ppb	1.355	4.046	33.333
165	**Ho-IS**		362778.669		ppb	0.665		368847.286
159	**Tb-IS**	>	365271.135		ppb	0.962		363541.658
207	**Pb**		7537.452	**0.227833**	ppb	1.374	2.355	434.447
203	**Tl**		393.339	**0.025272**	ppb	17.013	23.890	128.889
209	**Bi-IS**		208619.342		ppb	2.118		214395.071
51	**V**		274.447	**1.283096**	ppb	11.671	11.900	1.111
59	**Co**		58.889	**0.042358**	ppb	29.047	58.629	30.000
60	**Ni**		667.794	**0.453593**	ppb	21.227	23.323	67.778
75	**As**		348.638	**0.191463**	ppb	5.953	24.320	260.869
71	**Ga-ISK**		56050.870		ppb	1.434		58887.805
82	**Se-2**		14.239	**0.308486**	ppb	43.181	43.470	0.226
107	**Ag-1**		115.556	**0.006757**	ppb	11.658	39.845	83.334
115	**In-ISK**	>	80664.312		ppb	0.419		81053.470
45	**Sc-ISK**	>	138475.834		ppb	1.835		145776.751
23	**Na**		158895.697	**594.257063**	ppb	2.050	0.929	8625.938
39	**K**		445668.614	**886.221991**	ppb	0.867	1.051	34421.426
24	**Mg**		75626.363	**337.403556**	ppb	1.896	0.353	211.668
159	**Tb-ISK**		160782.388		ppb	0.046		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-B-4-A
Autosampler Position: 422
Sample Date/Time: Sunday, December 19, 2021 21:11:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78855-B-4-A.180
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40346.918		ppb	2.479		44909.430
9	**Be**		31.111	**0.007625**	ppb	34.442	73.691	17.778
10	**B**		12902.491	**7.897548**	ppb	1.388	6.328	9341.944
27	**Al**		181911.424	**20.587578**	ppb	1.653	1.632	4118.935
43	**Ca-2**		111130.581	**3961.673584**	ppb	0.436	0.339	133.334
49	**Ti**		1071.152	**0.804014**	ppb	11.942	16.200	346.671
52	**Cr**		20432.379	**0.271131**	ppb	0.476	7.281	18068.087
55	**Mn**		13142.710	**0.592440**	ppb	1.380	1.481	1340.063
57	**Fe**		31704.032	**45.184302**	ppb	0.837	2.267	14006.866
45	**Sc-IS**	>	1748850.303		ppb	0.768		1865382.380
66	**Zn**		8450.276	**3.731765**	ppb	0.987	1.240	516.676
86	**Sr**		48283.675	**16.922248**	ppb	1.866	2.641	39.724
65	**Cu**		3768.275	**1.163042**	ppb	2.762	2.552	128.889
69	**Ga-IS**		561911.729		ppb	0.828		573819.625
95	**Mo**		1357.843	**0.380186**	ppb	11.780	14.533	212.224
115	**In-IS**	>	208737.301		ppb	1.514		197719.745
111	**Cd**		32.704	**0.008278**	ppb	24.633	49.202	15.110
118	**Sn**		2182.389	**0.150009**	ppb	4.573	11.306	1235.609
121	**Sb**		915.585	**0.106082**	ppb	11.772	15.230	197.779
135	**Ba**		11277.785	**5.913749**	ppb	2.601	3.254	33.333
165	**Ho-IS**		362017.564		ppb	0.812		368847.286
159	**Tb-IS**	>	366724.606		ppb	1.346		363541.658
207	**Pb**		6000.501	**0.177767**	ppb	1.002	2.322	434.447
203	**Tl**		226.668	**0.009255**	ppb	12.037	30.600	128.889
209	**Bi-IS**		206211.315		ppb	1.864		214395.071
51	**V**		218.891	**1.036438**	ppb	16.283	16.963	1.111
59	**Co**		50.000	**0.030400**	ppb	6.667	18.275	30.000
60	**Ni**		691.128	**0.478461**	ppb	2.826	3.920	67.778
75	**As**		716.051	**1.001320**	ppb	3.731	4.392	260.869
71	**Ga-ISK**		56524.950		ppb	1.184		58887.805
82	**Se-2**		9.258	**0.202051**	ppb	43.780	45.384	0.226
107	**Ag-1**		87.778	**0.001256**	ppb	9.557	152.008	83.334
115	**In-ISK**	>	79611.799		ppb	0.970		81053.470
45	**Sc-ISK**	>	136986.079		ppb	2.203		145776.751
23	**Na**		373669.129	**1457.402367**	ppb	2.452	2.355	8625.938
39	**K**		1379940.724	**2923.671479**	ppb	2.066	2.577	34421.426
24	**Mg**		123507.103	**557.977617**	ppb	3.814	5.448	211.668
159	**Tb-ISK**		162006.779		ppb	0.378		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-B-5-A
Autosampler Position: 423
Sample Date/Time: Sunday, December 19, 2021 21:14:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78855-B-5-A.181
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40888.466		ppb	2.978		44909.430
9	**Be**		20.000	**0.001681**	ppb	28.868	181.552	17.778
10	**B**		8310.195	**-0.979466**	ppb	2.028	38.130	9341.944
27	**Al**		250292.368	**28.260290**	ppb	2.808	2.339	4118.935
43	**Ca-2**		29264.952	**1031.564235**	ppb	1.968	1.579	133.334
49	**Ti**		1606.762	**1.368924**	ppb	29.064	36.757	346.671
52	**Cr**		21274.719	**0.323217**	ppb	0.750	4.685	18068.087
55	**Mn**		62872.494	**3.046032**	ppb	0.194	0.732	1340.063
57	**Fe**		28019.691	**35.669139**	ppb	3.075	5.334	14006.866
45	**Sc-IS**	>	1762950.649		ppb	0.529		1865382.380
66	**Zn**		19516.658	**8.843239**	ppb	1.725	2.257	516.676
86	**Sr**		12207.853	**4.234457**	ppb	2.750	3.271	39.724
65	**Cu**		4210.621	**1.293366**	ppb	1.922	1.732	128.889
69	**Ga-IS**		553063.625		ppb	0.228		573819.625
95	**Mo**		695.573	**0.161043**	ppb	6.800	10.185	212.224
115	**In-IS**	>	210094.181		ppb	1.813		197719.745
111	**Cd**		39.650	**0.011559**	ppb	12.650	22.168	15.110
118	**Sn**		1910.128	**0.101486**	ppb	2.873	12.934	1235.609
121	**Sb**		1046.705	**0.124779**	ppb	2.297	4.061	197.779
135	**Ba**		5237.627	**2.718047**	ppb	2.272	0.502	33.333
165	**Ho-IS**		367099.348		ppb	2.153		368847.286
159	**Tb-IS**	>	366738.763		ppb	1.833		363541.658
207	**Pb**		8282.053	**0.250661**	ppb	1.950	2.292	434.447
203	**Tl**		166.668	**0.003488**	ppb	9.165	34.054	128.889
209	**Bi-IS**		212012.881		ppb	1.112		214395.071
51	**V**		257.780	**1.210777**	ppb	10.452	11.150	1.111
59	**Co**		24.444	**-0.007688**	ppb	28.386	135.326	30.000
60	**Ni**		713.351	**0.490469**	ppb	9.121	9.276	67.778
75	**As**		347.294	**0.192018**	ppb	6.047	25.515	260.869
71	**Ga-ISK**		57093.892		ppb	1.979		58887.805
82	**Se-2**		9.943	**0.214827**	ppb	36.253	36.371	0.226
107	**Ag-1**		46.667	**-0.007478**	ppb	7.143	9.097	83.334
115	**In-ISK**	>	80302.761		ppb	0.727		81053.470
45	**Sc-ISK**	>	139914.131		ppb	1.404		145776.751
23	**Na**		155574.330	**574.851416**	ppb	1.546	0.554	8625.938
39	**K**		548118.643	**1093.857154**	ppb	1.443	0.694	34421.426
24	**Mg**		54294.653	**239.495995**	ppb	0.856	0.555	211.668
159	**Tb-ISK**		163553.637		ppb	0.960		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79056-F-1-A
Autosampler Position: 424
Sample Date/Time: Sunday, December 19, 2021 21:17:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79056-F-1-A.182
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62610.263		ppb	1.757		44909.430
9	**Be**		23.333	**0.001361**	ppb	65.465	473.992	17.778
10	**B**		155655.686	**231.174952**	ppb	0.992	3.325	9341.944
27	**Al**		276225.657	**26.257457**	ppb	0.483	4.417	4118.935
43	**Ca-2**		4144539.571	**123588.614234**	ppb	2.004	2.066	133.334
49	**Ti**		6249.146	**5.281548**	ppb	4.074	4.937	346.671
52	**Cr**		23607.268	**0.216746**	ppb	0.835	23.891	18068.087
55	**Mn**		2022210.460	**84.147828**	ppb	3.539	3.121	1340.063
57	**Fe**		148826.879	**270.745506**	ppb	1.475	4.913	14006.866
45	**Sc-IS**	>	2094120.205		ppb	4.020		1865382.380
66	**Zn**		25622.964	**9.802950**	ppb	1.991	2.246	516.676
86	**Sr**		2764217.831	**810.469091**	ppb	1.209	4.335	39.724
65	**Cu**		12858.007	**3.388254**	ppb	1.277	3.009	128.889
69	**Ga-IS**		558790.283		ppb	0.512		573819.625
95	**Mo**		4170.609	**1.077303**	ppb	2.439	2.485	212.224
115	**In-IS**	>	185257.210		ppb	1.777		197719.745
111	**Cd**		26.797	**0.007014**	ppb	26.459	55.347	15.110
118	**Sn**		1672.321	**0.099450**	ppb	9.681	36.861	1235.609
121	**Sb**		2745.820	**0.433273**	ppb	4.449	6.477	197.779
135	**Ba**		219532.888	**130.090769**	ppb	0.654	1.610	33.333
165	**Ho-IS**		363521.544		ppb	0.319		368847.286
159	**Tb-IS**	>	362190.596		ppb	0.334		363541.658
207	**Pb**		1738.930	**0.042255**	ppb	1.156	1.108	434.447
203	**Tl**		302.225	**0.016813**	ppb	11.157	19.213	128.889
209	**Bi-IS**		186733.666		ppb	0.778		214395.071
51	**V**		7746.549	**39.058177**	ppb	5.600	5.780	1.111
59	**Co**		211.113	**0.287372**	ppb	7.462	7.949	30.000
60	**Ni**		2972.532	**2.362981**	ppb	3.062	2.989	67.778
75	**As**		1715.024	**3.402765**	ppb	0.890	0.847	260.869
71	**Ga-ISK**		53513.393		ppb	1.633		58887.805
82	**Se-2**		116.589	**2.756878**	ppb	12.283	12.891	0.226
107	**Ag-1**		93.334	**0.003608**	ppb	18.898	111.335	83.334
115	**In-ISK**	>	75084.898		ppb	0.619		81053.470
45	**Sc-ISK**	>	145050.661		ppb	2.100		145776.751
23	**Na**		48770125.371	**183561.983503**	ppb	2.283	0.670	8625.938
39	**K**		3962509.179	**8047.784783**	ppb	1.246	0.968	34421.426
24	**Mg**		15555050.954	**66427.479820**	ppb	2.220	0.280	211.668
159	**Tb-ISK**		156997.359		ppb	0.981		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 21:20:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.183
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42018.413		ppb	3.236		44909.430
9	**Be**		186564.221	**93.532110**	ppb	2.684	2.086	17.778
10	**B**		133277.941	**224.284151**	ppb	2.391	1.340	9341.944
27	**Al**		877201.484	**95.830968**	ppb	0.552	1.650	4118.935
43	**Ca-2**		151293.933	**5119.492614**	ppb	2.550	1.103	133.334
49	**Ti**		92673.124	**94.485759**	ppb	2.941	1.554	346.671
52	**Cr**		1297809.238	**94.258305**	ppb	1.690	1.032	18068.087
55	**Mn**		2047232.850	**96.741509**	ppb	6.219	4.977	1340.063
57	**Fe**		2193890.582	**5033.134041**	ppb	2.023	0.955	14006.866
45	**Sc-IS**	>	1842678.157		ppb	1.448		1865382.380
66	**Zn**		226987.444	**100.692392**	ppb	2.192	1.722	516.676
86	**Sr**		304616.854	**101.376876**	ppb	1.641	0.905	39.724
65	**Cu**		327159.585	**98.978487**	ppb	1.059	0.902	128.889
69	**Ga-IS**		596294.151		ppb	0.716		573819.625
95	**Mo**		322240.798	**100.213195**	ppb	2.449	2.531	212.224
115	**In-IS**	>	206657.951		ppb	1.812		197719.745
111	**Cd**		197857.212	**98.448729**	ppb	2.481	0.824	15.110
118	**Sn**		564159.839	**97.132880**	ppb	1.426	0.897	1235.609
121	**Sb**		654209.815	**99.149720**	ppb	1.512	1.637	197.779
135	**Ba**		189174.678	**100.495540**	ppb	2.124	2.953	33.333
165	**Ho-IS**		375563.930		ppb	0.752		368847.286
159	**Tb-IS**	>	377699.156		ppb	0.801		363541.658
207	**Pb**		3179032.913	**98.622278**	ppb	0.629	1.426	434.447
203	**Tl**		1026566.462	**95.229336**	ppb	1.064	1.509	128.889
209	**Bi-IS**		217590.217		ppb	0.929		214395.071
51	**V**		21248.029	**98.265558**	ppb	4.029	3.547	1.111
59	**Co**		68555.320	**98.560493**	ppb	3.162	2.661	30.000
60	**Ni**		127726.265	**95.102941**	ppb	1.007	1.057	67.778
75	**As**		45886.158	**96.658925**	ppb	2.774	2.896	260.869
71	**Ga-ISK**		58774.096		ppb	3.658		58887.805
82	**Se-2**		4508.631	**97.921329**	ppb	1.204	1.425	0.226
107	**Ag-1**		485390.651	**99.180044**	ppb	0.266	0.545	83.334
115	**In-ISK**	>	81851.064		ppb	0.560		81053.470
45	**Sc-ISK**	>	150941.254		ppb	2.196		145776.751
23	**Na**		1381258.735	**4966.726569**	ppb	1.029	3.078	8625.938
39	**K**		2647421.835	**5142.184881**	ppb	1.237	1.435	34421.426
24	**Mg**		1204674.081	**4945.515213**	ppb	2.408	4.057	211.668
159	**Tb-ISK**		165203.110		ppb	0.855		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 21:23:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.184
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41630.614		ppb	3.292		44909.430
9	**Be**		43.333	**0.013408**	ppb	20.352	36.311	17.778
10	**B**		7876.617	**-2.161976**	ppb	3.491	11.497	9341.944
27	**Al**		4640.088	**0.072881**	ppb	4.038	25.780	4118.935
43	**Ca-2**		370.005	**8.263154**	ppb	30.608	43.730	133.334
49	**Ti**		297.781	**-0.038995**	ppb	22.648	190.026	346.671
52	**Cr**		15941.113	**-0.116890**	ppb	1.633	11.158	18068.087
55	**Mn**		1904.571	**0.029274**	ppb	2.389	4.109	1340.063
57	**Fe**		15442.787	**4.429806**	ppb	0.845	16.382	14006.866
45	**Sc-IS**	>	1806794.985		ppb	2.699		1865382.380
66	**Zn**		632.236	**0.059985**	ppb	2.706	23.514	516.676
86	**Sr**		283.136	**0.083073**	ppb	23.548	26.870	39.724
65	**Cu**		278.892	**0.047509**	ppb	9.735	15.336	128.889
69	**Ga-IS**		561709.532		ppb	0.802		573819.625
95	**Mo**		1846.786	**0.521122**	ppb	3.842	5.226	212.224
115	**In-IS**	>	206657.907		ppb	1.317		197719.745
111	**Cd**		29.455	**0.006779**	ppb	40.588	87.253	15.110
118	**Sn**		4469.588	**0.548429**	ppb	1.434	1.621	1235.609
121	**Sb**		774.466	**0.086019**	ppb	6.905	8.010	197.779
135	**Ba**		131.112	**0.051199**	ppb	19.748	27.868	33.333
165	**Ho-IS**		369380.454		ppb	2.208		368847.286
159	**Tb-IS**	>	367547.831		ppb	1.618		363541.658
207	**Pb**		921.124	**0.015342**	ppb	15.742	28.558	434.447
203	**Tl**		398.895	**0.025542**	ppb	17.255	23.579	128.889
209	**Bi-IS**		220965.228		ppb	2.236		214395.071
51	**V**		6.667	**0.025854**	ppb	50.000	61.124	1.111
59	**Co**		33.333	**0.004735**	ppb	36.056	378.586	30.000
60	**Ni**		165.557	**0.072790**	ppb	11.625	17.993	67.778
75	**As**		264.613	**0.004996**	ppb	7.328	830.615	260.869
71	**Ga-ISK**		58023.158		ppb	0.943		58887.805
82	**Se-2**		4.549	**0.094184**	ppb	82.950	87.394	0.226
107	**Ag-1**		363.338	**0.057444**	ppb	8.848	13.172	83.334
115	**In-ISK**	>	81493.767		ppb	1.329		81053.470
45	**Sc-ISK**	>	143122.273		ppb	0.626		145776.751
23	**Na**		17610.853	**34.885570**	ppb	2.563	5.817	8625.938
39	**K**		36583.452	**5.792971**	ppb	1.003	18.183	34421.426
24	**Mg**		2531.891	**10.059085**	ppb	0.570	0.665	211.668
159	**Tb-ISK**		161182.236		ppb	0.883		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 21:27:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.185
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41052.239		ppb	1.193		44909.430
9	**Be**		21.111	**0.002087**	ppb	9.116	55.864	17.778
10	**B**		7314.094	**-3.088700**	ppb	1.410	10.506	9341.944
27	**Al**		5341.690	**0.157139**	ppb	19.271	79.553	4118.935
43	**Ca-2**		166.668	**1.341730**	ppb	1.732	2.566	133.334
49	**Ti**		282.225	**-0.053593**	ppb	13.689	75.540	346.671
52	**Cr**		16427.218	**-0.070786**	ppb	1.318	12.521	18068.087
55	**Mn**		2475.771	**0.057692**	ppb	6.399	9.297	1340.063
57	**Fe**		15427.215	**4.671623**	ppb	1.112	9.825	14006.866
45	**Sc-IS**	>	1792679.440		ppb	2.006		1865382.380
66	**Zn**		578.901	**0.037481**	ppb	9.845	61.850	516.676
86	**Sr**		81.460	**0.014883**	ppb	18.245	37.612	39.724
65	**Cu**		227.780	**0.032336**	ppb	8.942	19.800	128.889
69	**Ga-IS**		559940.685		ppb	1.357		573819.625
95	**Mo**		572.234	**0.117947**	ppb	9.217	16.153	212.224
115	**In-IS**	>	208772.305		ppb	1.865		197719.745
111	**Cd**		13.243	**-0.001318**	ppb	28.909	148.728	15.110
118	**Sn**		2427.985	**0.192277**	ppb	6.400	17.798	1235.609
121	**Sb**		307.781	**0.014833**	ppb	5.451	13.170	197.779
135	**Ba**		61.111	**0.013745**	ppb	43.750	105.857	33.333
165	**Ho-IS**		373868.088		ppb	0.760		368847.286
159	**Tb-IS**	>	370327.185		ppb	1.660		363541.658
207	**Pb**		412.225	**-0.000962**	ppb	3.989	36.217	434.447
203	**Tl**		161.112	**0.002834**	ppb	8.614	53.214	128.889
209	**Bi-IS**		217146.927		ppb	1.135		214395.071
51	**V**		3.333	**0.010685**	ppb	100.000	147.498	1.111
59	**Co**		17.778	**-0.017507**	ppb	28.641	44.392	30.000
60	**Ni**		131.112	**0.048434**	ppb	13.047	29.702	67.778
75	**As**		246.665	**-0.027336**	ppb	5.335	50.461	260.869
71	**Ga-ISK**		57093.895		ppb	2.089		58887.805
82	**Se-2**		6.930	**0.146515**	ppb	76.811	79.567	0.226
107	**Ag-1**		125.556	**0.008949**	ppb	11.053	40.683	83.334
115	**In-ISK**	>	80553.379		ppb	3.069		81053.470
45	**Sc-ISK**	>	142557.051		ppb	2.947		145776.751
23	**Na**		11799.873	**12.918737**	ppb	1.975	14.183	8625.938
39	**K**		34413.628	**1.610519**	ppb	1.440	147.572	34421.426
24	**Mg**		696.684	**2.126715**	ppb	4.885	2.733	211.668
159	**Tb-ISK**		163308.244		ppb	1.362		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79056-G-2-B
Autosampler Position: 425
Sample Date/Time: Sunday, December 19, 2021 21:30:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79056-G-2-B.186
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47688.417		ppb	3.477		44909.430
9	**Be**		46.667	**0.014145**	ppb	32.733	51.712	17.778
10	**B**		72181.920	**111.581487**	ppb	1.343	2.156	9341.944
27	**Al**		409201.738	**43.682363**	ppb	1.205	1.069	4118.935
43	**Ca-2**		938079.820	**31216.211092**	ppb	3.840	3.273	133.334
49	**Ti**		4421.799	**4.096253**	ppb	8.371	8.738	346.671
52	**Cr**		28589.695	**0.754638**	ppb	1.592	4.421	18068.087
55	**Mn**		188308.567	**8.691331**	ppb	0.647	1.176	1340.063
57	**Fe**		81004.586	**151.846572**	ppb	1.123	1.391	14006.866
45	**Sc-IS**	>	1875137.249		ppb	0.949		1865382.380
66	**Zn**		72262.328	**31.346748**	ppb	1.413	1.755	516.676
86	**Sr**		612042.840	**200.170974**	ppb	1.328	0.649	39.724
65	**Cu**		14495.133	**4.271759**	ppb	3.093	2.204	128.889
69	**Ga-IS**		552568.464		ppb	0.487		573819.625
95	**Mo**		12436.526	**3.737295**	ppb	3.122	2.599	212.224
115	**In-IS**	>	198797.613		ppb	3.239		197719.745
111	**Cd**		110.551	**0.049653**	ppb	23.863	30.596	15.110
118	**Sn**		3153.682	**0.342660**	ppb	5.132	3.837	1235.609
121	**Sb**		9189.622	**1.417450**	ppb	0.988	2.267	197.779
135	**Ba**		41781.051	**23.053854**	ppb	3.245	1.146	33.333
165	**Ho-IS**		370791.861		ppb	2.190		368847.286
159	**Tb-IS**	>	374507.599		ppb	1.820		363541.658
207	**Pb**		9252.288	**0.275549**	ppb	0.654	1.808	434.447
203	**Tl**		408.895	**0.025819**	ppb	7.575	9.537	128.889
209	**Bi-IS**		201347.952		ppb	0.792		214395.071
51	**V**		613.347	**2.939590**	ppb	3.026	2.534	1.111
59	**Co**		111.112	**0.122287**	ppb	9.165	11.756	30.000
60	**Ni**		1915.684	**1.430149**	ppb	6.451	6.074	67.778
75	**As**		940.175	**1.510329**	ppb	8.260	12.118	260.869
71	**Ga-ISK**		56373.233		ppb	0.437		58887.805
82	**Se-2**		30.930	**0.692650**	ppb	25.385	25.829	0.226
107	**Ag-1**		95.556	**0.003078**	ppb	24.502	162.745	83.334
115	**In-ISK**	>	78848.943		ppb	0.623		81053.470
45	**Sc-ISK**	>	147333.800		ppb	1.826		145776.751
23	**Na**		12922463.550	**47863.906481**	ppb	2.043	1.647	8625.938
39	**K**		3149889.419	**6282.901150**	ppb	0.971	0.993	34421.426
24	**Mg**		3085420.148	**12976.387929**	ppb	1.289	3.117	211.668
159	**Tb-ISK**		164894.311		ppb	1.371		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79056-G-3-B
Autosampler Position: 426
Sample Date/Time: Sunday, December 19, 2021 21:33:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79056-G-3-B.187
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49364.044		ppb	1.552		44909.430
9	**Be**		43.333	**0.012440**	ppb	20.352	38.407	17.778
10	**B**		69036.453	**104.961145**	ppb	2.001	2.836	9341.944
27	**Al**		340689.520	**35.981727**	ppb	1.919	0.881	4118.935
43	**Ca-2**		1005300.681	**33171.751328**	ppb	2.268	0.973	133.334
49	**Ti**		4332.882	**3.972185**	ppb	7.953	9.234	346.671
52	**Cr**		29223.199	**0.782648**	ppb	1.759	4.217	18068.087
55	**Mn**		558475.295	**25.677392**	ppb	1.987	0.831	1340.063
57	**Fe**		79689.430	**147.361821**	ppb	0.634	2.365	14006.866
45	**Sc-IS**	>	1891372.774		ppb	2.483		1865382.380
66	**Zn**		136388.137	**58.856560**	ppb	1.992	1.072	516.676
86	**Sr**		643651.832	**208.738442**	ppb	1.622	1.113	39.724
65	**Cu**		15435.007	**4.511773**	ppb	3.442	1.198	128.889
69	**Ga-IS**		561932.745		ppb	1.610		573819.625
95	**Mo**		11400.103	**3.392087**	ppb	1.222	2.659	212.224
115	**In-IS**	>	198865.158		ppb	1.969		197719.745
111	**Cd**		71.616	**0.029103**	ppb	32.057	39.507	15.110
118	**Sn**		1830.118	**0.105686**	ppb	6.847	27.003	1235.609
121	**Sb**		9468.694	**1.460200**	ppb	2.250	0.827	197.779
135	**Ba**		45922.596	**25.332828**	ppb	1.729	0.980	33.333
165	**Ho-IS**		368670.212		ppb	1.085		368847.286
159	**Tb-IS**	>	373034.378		ppb	1.943		363541.658
207	**Pb**		6964.008	**0.204820**	ppb	4.778	5.654	434.447
203	**Tl**		281.114	**0.013958**	ppb	11.995	19.807	128.889
209	**Bi-IS**		204553.126		ppb	1.365		214395.071
51	**V**		510.009	**2.399749**	ppb	3.459	4.855	1.111
59	**Co**		127.778	**0.143381**	ppb	19.229	23.381	30.000
60	**Ni**		2426.873	**1.790970**	ppb	5.878	5.265	67.778
75	**As**		732.464	**1.023259**	ppb	3.440	5.184	260.869
71	**Ga-ISK**		57154.160		ppb	2.760		58887.805
82	**Se-2**		27.927	**0.612579**	ppb	18.990	18.240	0.226
107	**Ag-1**		46.667	**-0.007478**	ppb	0.000	2.133	83.334
115	**In-ISK**	>	80326.127		ppb	1.628		81053.470
45	**Sc-ISK**	>	152344.678		ppb	0.392		145776.751
23	**Na**		14933153.432	**53492.416559**	ppb	1.095	1.018	8625.938
39	**K**		2970895.310	**5724.038978**	ppb	1.769	1.579	34421.426
24	**Mg**		3278535.569	**13330.085191**	ppb	1.070	1.039	211.668
159	**Tb-ISK**		163263.223		ppb	2.098		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79056-G-4-B
Autosampler Position: 427
Sample Date/Time: Sunday, December 19, 2021 21:36:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79056-G-4-B.188
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48784.296		ppb	2.345		44909.430
9	**Be**		70.000	**0.025810**	ppb	38.095	52.910	17.778
10	**B**		62593.510	**94.601498**	ppb	1.296	2.471	9341.944
27	**Al**		359860.238	**38.387093**	ppb	0.685	2.325	4118.935
43	**Ca-2**		848590.312	**28255.325858**	ppb	1.528	1.466	133.334
49	**Ti**		4277.307	**3.955039**	ppb	1.911	3.895	346.671
52	**Cr**		28067.551	**0.718064**	ppb	1.672	6.884	18068.087
55	**Mn**		844388.984	**39.219690**	ppb	1.600	3.309	1340.063
57	**Fe**		79921.860	**149.493650**	ppb	1.471	2.601	14006.866
45	**Sc-IS**	>	1874334.608		ppb	1.686		1865382.380
66	**Zn**		113483.431	**49.384265**	ppb	0.877	1.795	516.676
86	**Sr**		575023.112	**188.205169**	ppb	1.273	2.865	39.724
65	**Cu**		20817.379	**6.156186**	ppb	0.500	1.478	128.889
69	**Ga-IS**		563656.513		ppb	1.019		573819.625
95	**Mo**		12263.040	**3.687302**	ppb	1.494	2.971	212.224
115	**In-IS**	>	198769.144		ppb	1.485		197719.745
111	**Cd**		75.359	**0.031092**	ppb	12.259	13.739	15.110
118	**Sn**		2479.104	**0.222032**	ppb	1.836	6.080	1235.609
121	**Sb**		12259.703	**1.901126**	ppb	0.481	1.723	197.779
135	**Ba**		61120.480	**33.739482**	ppb	1.000	1.003	33.333
165	**Ho-IS**		372867.849		ppb	0.285		368847.286
159	**Tb-IS**	>	376875.039		ppb	1.548		363541.658
207	**Pb**		19670.888	**0.597620**	ppb	1.566	0.498	434.447
203	**Tl**		412.228	**0.025915**	ppb	2.599	5.448	128.889
209	**Bi-IS**		206542.449		ppb	0.865		214395.071
51	**V**		540.010	**2.544541**	ppb	5.487	5.744	1.111
59	**Co**		156.668	**0.186414**	ppb	11.259	13.701	30.000
60	**Ni**		3359.284	**2.503423**	ppb	1.019	1.221	67.778
75	**As**		1171.531	**1.975430**	ppb	3.475	4.801	260.869
71	**Ga-ISK**		56833.949		ppb	1.089		58887.805
82	**Se-2**		19.591	**0.429352**	ppb	51.204	51.851	0.226
107	**Ag-1**		80.000	**-0.000517**	ppb	46.398	1495.695	83.334
115	**In-ISK**	>	80191.359		ppb	0.294		81053.470
45	**Sc-ISK**	>	148861.574		ppb	0.223		145776.751
23	**Na**		12322726.826	**45168.428399**	ppb	1.649	1.432	8625.938
39	**K**		2352564.107	**4625.546698**	ppb	0.490	0.505	34421.426
24	**Mg**		2434159.943	**10128.396715**	ppb	0.811	0.958	211.668
159	**Tb-ISK**		164596.815		ppb	0.595		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79056-G-5-B
Autosampler Position: 428
Sample Date/Time: Sunday, December 19, 2021 21:39:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79056-G-5-B.189
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		52314.580		ppb	3.486		44909.430
9	**Be**		31.111	**0.006224**	ppb	37.627	89.157	17.778
10	**B**		99682.188	**157.129203**	ppb	1.655	0.084	9341.944
27	**Al**		237374.764	**24.681973**	ppb	1.278	2.930	4118.935
43	**Ca-2**		1398062.428	**45668.542434**	ppb	0.195	1.397	133.334
49	**Ti**		3904.979	**3.505609**	ppb	4.678	6.424	346.671
52	**Cr**		28534.029	**0.712414**	ppb	1.731	7.046	18068.087
55	**Mn**		452548.101	**20.584380**	ppb	1.293	1.850	1340.063
57	**Fe**		83703.449	**154.429408**	ppb	1.879	1.804	14006.866
45	**Sc-IS**	>	1910776.761		ppb	1.580		1865382.380
66	**Zn**		82462.899	**35.134396**	ppb	1.227	1.808	516.676
86	**Sr**		984327.052	**315.990568**	ppb	1.142	1.999	39.724
65	**Cu**		13762.183	**3.978839**	ppb	2.109	2.877	128.889
69	**Ga-IS**		562570.326		ppb	0.901		573819.625
95	**Mo**		16726.454	**4.955084**	ppb	1.117	2.362	212.224
115	**In-IS**	>	198943.965		ppb	0.958		197719.745
111	**Cd**		37.097	**0.011276**	ppb	35.077	57.740	15.110
118	**Sn**		1333.396	**0.016152**	ppb	2.646	34.843	1235.609
121	**Sb**		8673.747	**1.334151**	ppb	4.665	3.812	197.779
135	**Ba**		69421.649	**38.285772**	ppb	2.040	1.265	33.333
165	**Ho-IS**		379024.995		ppb	2.239		368847.286
159	**Tb-IS**	>	375967.690		ppb	2.759		363541.658
207	**Pb**		8166.462	**0.240647**	ppb	1.204	3.007	434.447
203	**Tl**		220.002	**0.008061**	ppb	15.819	37.712	128.889
209	**Bi-IS**		201465.165		ppb	0.927		214395.071
51	**V**		461.119	**2.216228**	ppb	1.104	0.995	1.111
59	**Co**		131.112	**0.152841**	ppb	3.884	4.754	30.000
60	**Ni**		2375.753	**1.792221**	ppb	3.808	3.555	67.778
75	**As**		884.625	**1.393998**	ppb	2.321	3.806	260.869
71	**Ga-ISK**		56491.480		ppb	0.849		58887.805
82	**Se-2**		51.258	**1.157436**	ppb	27.322	28.894	0.226
107	**Ag-1**		53.333	**-0.005827**	ppb	22.535	46.002	83.334
115	**In-ISK**	>	78592.771		ppb	1.346		81053.470
45	**Sc-ISK**	>	146756.689		ppb	1.114		145776.751
23	**Na**		20906433.933	**77757.888836**	ppb	0.972	0.755	8625.938
39	**K**		3370452.528	**6753.659716**	ppb	1.246	0.185	34421.426
24	**Mg**		5381688.191	**22716.335799**	ppb	0.546	0.945	211.668
159	**Tb-ISK**		163027.765		ppb	1.540		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78836-A-1-A @5
Autosampler Position: 429
Sample Date/Time: Sunday, December 19, 2021 21:42:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78836-A-1-A @5.190
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43950.912		ppb	4.053		44909.430
9	**Be**		37.778	**0.010020**	ppb	25.471	47.475	17.778
10	**B**		24811.554	**27.916688**	ppb	4.271	6.397	9341.944
27	**Al**		2446105.117	**266.422073**	ppb	2.202	1.289	4118.935
43	**Ca-2**		116701.474	**3925.453777**	ppb	1.524	0.417	133.334
49	**Ti**		4412.904	**4.140476**	ppb	3.484	4.060	346.671
52	**Cr**		40195.376	**1.629204**	ppb	2.180	5.592	18068.087
55	**Mn**		341848.442	**16.015992**	ppb	0.281	1.085	1340.063
57	**Fe**		124313.061	**253.413349**	ppb	1.494	1.017	14006.866
45	**Sc-IS**	>	1853357.417		ppb	1.113		1865382.380
66	**Zn**		156254.377	**68.844695**	ppb	0.850	0.267	516.676
86	**Sr**		40908.448	**13.525996**	ppb	1.377	1.985	39.724
65	**Cu**		46017.358	**13.807158**	ppb	2.390	1.741	128.889
69	**Ga-IS**		590418.280		ppb	1.245		573819.625
95	**Mo**		4360.666	**1.283974**	ppb	3.779	4.237	212.224
115	**In-IS**	>	208347.707		ppb	1.965		197719.745
111	**Cd**		743.085	**0.358960**	ppb	1.769	1.071	15.110
118	**Sn**		954.476	**-0.059511**	ppb	6.290	15.160	1235.609
121	**Sb**		10933.071	**1.612796**	ppb	0.682	1.317	197.779
135	**Ba**		28570.766	**15.039238**	ppb	0.996	2.344	33.333
165	**Ho-IS**		377961.087		ppb	1.676		368847.286
159	**Tb-IS**	>	377776.662		ppb	0.677		363541.658
207	**Pb**		310614.666	**9.620717**	ppb	0.851	0.312	434.447
203	**Tl**		116.667	**-0.001603**	ppb	18.736	125.136	128.889
209	**Bi-IS**		222384.374		ppb	1.180		214395.071
51	**V**		216.668	**0.980152**	ppb	5.547	5.318	1.111
59	**Co**		177.779	**0.207761**	ppb	8.861	9.846	30.000
60	**Ni**		3149.236	**2.255920**	ppb	1.437	1.677	67.778
75	**As**		458.868	**0.397860**	ppb	4.138	10.585	260.869
71	**Ga-ISK**		59999.102		ppb	2.079		58887.805
82	**Se-2**		5.567	**0.114123**	ppb	75.209	78.376	0.226
107	**Ag-1**		220.002	**0.026985**	ppb	11.834	18.227	83.334
115	**In-ISK**	>	83244.830		ppb	0.758		81053.470
45	**Sc-ISK**	>	147901.927		ppb	2.210		145776.751
23	**Na**		435441.373	**1575.428374**	ppb	1.780	0.581	8625.938
39	**K**		352792.116	**638.727447**	ppb	0.803	1.567	34421.426
24	**Mg**		81508.682	**340.440856**	ppb	3.109	1.105	211.668
159	**Tb-ISK**		165937.554		ppb	0.903		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78799-A-1-A @5
Autosampler Position: 430
Sample Date/Time: Sunday, December 19, 2021 21:46:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78799-A-1-A @5.191
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44675.307		ppb	0.983		44909.430
9	**Be**		12.222	**-0.002594**	ppb	41.660	100.723	17.778
10	**B**		14367.225	**9.582286**	ppb	2.862	5.401	9341.944
27	**Al**		299132.653	**32.747446**	ppb	2.174	1.099	4118.935
43	**Ca-2**		31558.155	**1076.528249**	ppb	1.071	0.851	133.334
49	**Ti**		1021.148	**0.706559**	ppb	1.856	3.752	346.671
52	**Cr**		20602.627	**0.219868**	ppb	1.850	5.729	18068.087
55	**Mn**		180076.927	**8.552344**	ppb	1.544	1.924	1340.063
57	**Fe**		31358.828	**41.285247**	ppb	1.102	4.113	14006.866
45	**Sc-IS**	>	1822152.146		ppb	1.221		1865382.380
66	**Zn**		51812.730	**23.071812**	ppb	2.878	3.377	516.676
86	**Sr**		19504.841	**6.552990**	ppb	0.814	1.821	39.724
65	**Cu**		6112.421	**1.832428**	ppb	5.417	5.802	128.889
69	**Ga-IS**		572927.820		ppb	0.913		573819.625
95	**Mo**		444.451	**0.074666**	ppb	3.544	8.402	212.224
115	**In-IS**	>	207494.413		ppb	1.821		197719.745
111	**Cd**		16.844	**0.000496**	ppb	30.056	507.416	15.110
118	**Sn**		3191.468	**0.325589**	ppb	5.152	7.569	1235.609
121	**Sb**		1147.824	**0.142046**	ppb	9.167	11.856	197.779
135	**Ba**		6411.443	**3.372550**	ppb	6.813	5.858	33.333
165	**Ho-IS**		373304.083		ppb	2.367		368847.286
159	**Tb-IS**	>	378534.417		ppb	1.192		363541.658
207	**Pb**		13973.790	**0.418529**	ppb	3.127	2.378	434.447
203	**Tl**		92.223	**-0.003881**	ppb	13.684	31.505	128.889
209	**Bi-IS**		350211.942		ppb	2.912		214395.071
51	**V**		145.556	**0.672243**	ppb	19.069	18.827	1.111
59	**Co**		45.556	**0.022148**	ppb	36.829	105.912	30.000
60	**Ni**		677.794	**0.457218**	ppb	6.149	6.800	67.778
75	**As**		318.963	**0.122858**	ppb	9.094	61.285	260.869
71	**Ga-ISK**		59489.168		ppb	0.895		58887.805
82	**Se-2**		5.591	**0.117442**	ppb	45.412	47.251	0.226
107	**Ag-1**		50.000	**-0.006943**	ppb	24.037	33.261	83.334
115	**In-ISK**	>	81336.394		ppb	1.991		81053.470
45	**Sc-ISK**	>	145402.959		ppb	1.189		145776.751
23	**Na**		199022.851	**714.969982**	ppb	3.467	2.394	8625.938
39	**K**		211017.939	**361.006111**	ppb	2.917	2.401	34421.426
24	**Mg**		43235.410	**183.248067**	ppb	4.370	3.176	211.668
159	**Tb-ISK**		163238.666		ppb	3.280		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78799-A-2-A @5
Autosampler Position: 431
Sample Date/Time: Sunday, December 19, 2021 21:49:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78799-A-2-A @5.192
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43508.377		ppb	0.446		44909.430
9	**Be**		5.556	**-0.006030**	ppb	34.641	16.251	17.778
10	**B**		13965.715	**8.425814**	ppb	2.560	10.335	9341.944
27	**Al**		2736433.046	**298.164664**	ppb	1.920	2.801	4118.935
43	**Ca-2**		32107.720	**1076.712440**	ppb	2.235	1.387	133.334
49	**Ti**		2343.526	**2.033366**	ppb	8.367	8.907	346.671
52	**Cr**		26052.629	**0.593251**	ppb	1.995	7.339	18068.087
55	**Mn**		142397.311	**6.634960**	ppb	0.733	1.504	1340.063
57	**Fe**		59319.572	**104.232264**	ppb	0.530	1.712	14006.866
45	**Sc-IS**	>	1853368.698		ppb	0.947		1865382.380
66	**Zn**		190817.115	**84.130435**	ppb	0.898	1.822	516.676
86	**Sr**		16016.522	**5.287268**	ppb	0.672	0.456	39.724
65	**Cu**		25065.306	**7.503720**	ppb	1.304	1.394	128.889
69	**Ga-IS**		582484.564		ppb	1.258		573819.625
95	**Mo**		634.459	**0.130922**	ppb	14.827	21.236	212.224
115	**In-IS**	>	207757.155		ppb	0.444		197719.745
111	**Cd**		86.446	**0.034946**	ppb	17.949	22.255	15.110
118	**Sn**		674.460	**-0.107110**	ppb	11.209	11.768	1235.609
121	**Sb**		1111.154	**0.136173**	ppb	7.831	9.138	197.779
135	**Ba**		8501.419	**4.473702**	ppb	2.300	2.523	33.333
165	**Ho-IS**		377301.955		ppb	1.834		368847.286
159	**Tb-IS**	>	376957.107		ppb	1.490		363541.658
207	**Pb**		19130.534	**0.580728**	ppb	1.179	1.188	434.447
203	**Tl**		112.223	**-0.001982**	ppb	16.359	89.855	128.889
209	**Bi-IS**		1203731.321		ppb	2.787		214395.071
51	**V**		532.232	**2.404974**	ppb	7.340	6.061	1.111
59	**Co**		211.113	**0.253711**	ppb	4.824	2.727	30.000
60	**Ni**		1075.596	**0.734860**	ppb	5.317	8.608	67.778
75	**As**		319.863	**0.105907**	ppb	11.402	72.897	260.869
71	**Ga-ISK**		58295.385		ppb	1.506		58887.805
82	**Se-2**		5.914	**0.118561**	ppb	118.831	124.781	0.226
107	**Ag-1**		73.334	**-0.002490**	ppb	19.813	123.849	83.334
115	**In-ISK**	>	83579.253		ppb	2.734		81053.470
45	**Sc-ISK**	>	148590.144		ppb	2.284		145776.751
23	**Na**		305301.433	**1089.823923**	ppb	1.147	1.182	8625.938
39	**K**		386317.867	**702.444844**	ppb	1.513	1.225	34421.426
24	**Mg**		31947.353	**132.305896**	ppb	1.367	1.174	211.668
159	**Tb-ISK**		163236.984		ppb	2.318		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78799-A-3-A @5
Autosampler Position: 432
Sample Date/Time: Sunday, December 19, 2021 21:52:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78799-A-3-A @5.193
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44248.436		ppb	1.816		44909.430
9	**Be**		12.222	**-0.002481**	ppb	15.746	40.268	17.778
10	**B**		15062.383	**11.419367**	ppb	1.845	2.826	9341.944
27	**Al**		1069487.734	**120.681364**	ppb	1.500	1.844	4118.935
43	**Ca-2**		33599.469	**1170.126261**	ppb	1.037	1.818	133.334
49	**Ti**		2234.625	**2.003283**	ppb	21.525	23.122	346.671
52	**Cr**		32279.769	**1.138848**	ppb	1.786	3.508	18068.087
55	**Mn**		111135.055	**5.363633**	ppb	0.115	2.165	1340.063
57	**Fe**		50074.301	**87.365239**	ppb	2.165	2.647	14006.866
45	**Sc-IS**	>	1785773.884		ppb	2.181		1865382.380
66	**Zn**		233116.756	**106.761889**	ppb	1.023	2.866	516.676
86	**Sr**		18136.335	**6.218412**	ppb	0.976	2.960	39.724
65	**Cu**		16304.859	**5.056736**	ppb	2.638	4.830	128.889
69	**Ga-IS**		571661.440		ppb	1.318		573819.625
95	**Mo**		1282.280	**0.346402**	ppb	5.492	5.192	212.224
115	**In-IS**	>	209843.867		ppb	0.748		197719.745
111	**Cd**		192.864	**0.086667**	ppb	17.657	19.321	15.110
118	**Sn**		846.692	**-0.078988**	ppb	4.541	7.154	1235.609
121	**Sb**		2578.011	**0.353591**	ppb	5.877	6.823	197.779
135	**Ba**		7285.191	**3.792433**	ppb	2.101	1.607	33.333
165	**Ho-IS**		372446.108		ppb	0.771		368847.286
159	**Tb-IS**	>	372314.792		ppb	0.124		363541.658
207	**Pb**		16451.452	**0.503780**	ppb	1.294	1.308	434.447
203	**Tl**		61.111	**-0.006673**	ppb	26.907	23.071	128.889
209	**Bi-IS**		42319363.329		ppb	2.291		214395.071
51	**V**		674.460	**3.087649**	ppb	6.355	6.883	1.111
59	**Co**		271.114	**0.343674**	ppb	22.682	26.699	30.000
60	**Ni**		1087.819	**0.752395**	ppb	6.688	7.571	67.778
75	**As**		337.497	**0.151019**	ppb	9.346	48.111	260.869
71	**Ga-ISK**		58827.586		ppb	2.360		58887.805
82	**Se-2**		6.239	**0.129672**	ppb	109.640	114.545	0.226
107	**Ag-1**		62.222	**-0.004604**	ppb	11.152	27.138	83.334
115	**In-ISK**	>	82583.290		ppb	1.232		81053.470
45	**Sc-ISK**	>	147177.721		ppb	1.607		145776.751
23	**Na**		565664.289	**2066.489853**	ppb	1.117	0.588	8625.938
39	**K**		979378.441	**1907.177061**	ppb	0.974	0.726	34421.426
24	**Mg**		32927.911	**137.691029**	ppb	1.569	0.303	211.668
159	**Tb-ISK**		164778.345		ppb	1.524		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78799-A-4-A @5
Autosampler Position: 433
Sample Date/Time: Sunday, December 19, 2021 21:55:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78799-A-4-A @5.194
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43114.973		ppb	1.494		44909.430
9	**Be**		10.000	**-0.003621**	ppb	33.333	49.640	17.778
10	**B**		27575.503	**34.670674**	ppb	3.771	3.338	9341.944
27	**Al**		1101970.648	**124.146528**	ppb	1.831	1.721	4118.935
43	**Ca-2**		46335.070	**1612.145230**	ppb	3.127	1.572	133.334
49	**Ti**		2004.586	**1.765514**	ppb	10.009	13.707	346.671
52	**Cr**		32874.451	**1.180120**	ppb	0.881	3.668	18068.087
55	**Mn**		83240.739	**3.995141**	ppb	1.562	2.990	1340.063
57	**Fe**		43687.819	**71.991760**	ppb	1.355	3.431	14006.866
45	**Sc-IS**	>	1788616.364		ppb	1.607		1865382.380
66	**Zn**		297212.464	**135.948761**	ppb	1.301	2.865	516.676
86	**Sr**		40665.027	**13.927590**	ppb	3.940	2.323	39.724
65	**Cu**		13141.598	**4.059873**	ppb	0.829	2.409	128.889
69	**Ga-IS**		569900.664		ppb	1.178		573819.625
95	**Mo**		1595.645	**0.446300**	ppb	5.369	6.010	212.224
115	**In-IS**	>	206725.377		ppb	2.692		197719.745
111	**Cd**		82.205	**0.032898**	ppb	26.398	29.978	15.110
118	**Sn**		906.695	**-0.066372**	ppb	1.471	7.112	1235.609
121	**Sb**		1181.160	**0.147511**	ppb	8.064	7.009	197.779
135	**Ba**		6760.489	**3.572562**	ppb	2.080	2.545	33.333
165	**Ho-IS**		370066.830		ppb	1.203		368847.286
159	**Tb-IS**	>	374202.244		ppb	0.800		363541.658
207	**Pb**		12365.436	**0.373238**	ppb	0.541	1.193	434.447
203	**Tl**		85.556	**-0.004408**	ppb	19.993	36.802	128.889
209	**Bi-IS**		19641102.951		ppb	2.154		214395.071
51	**V**		2525.779	**11.608081**	ppb	1.743	2.808	1.111
59	**Co**		180.001	**0.213758**	ppb	5.556	6.724	30.000
60	**Ni**		856.693	**0.582940**	ppb	9.339	9.016	67.778
75	**As**		334.188	**0.145157**	ppb	9.579	41.680	260.869
71	**Ga-ISK**		58839.866		ppb	2.534		58887.805
82	**Se-2**		5.250	**0.109062**	ppb	127.297	133.757	0.226
107	**Ag-1**		37.778	**-0.009518**	ppb	13.478	11.579	83.334
115	**In-ISK**	>	82359.663		ppb	1.335		81053.470
45	**Sc-ISK**	>	145739.853		ppb	2.135		145776.751
23	**Na**		745822.203	**2763.323649**	ppb	1.757	3.463	8625.938
39	**K**		955966.171	**1879.698465**	ppb	1.627	3.532	34421.426
24	**Mg**		75877.671	**321.771982**	ppb	1.447	3.552	211.668
159	**Tb-ISK**		164647.439		ppb	1.047		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 22:05:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.197
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41298.507		ppb	1.533		44909.430
9	**Be**		183471.936	**94.432388**	ppb	1.503	1.132	17.778
10	**B**		129871.123	**224.470016**	ppb	1.852	3.797	9341.944
27	**Al**		836053.886	**93.743417**	ppb	1.126	0.639	4118.935
43	**Ca-2**		144971.906	**5036.843904**	ppb	0.782	1.061	133.334
49	**Ti**		94975.811	**99.443561**	ppb	1.228	0.847	346.671
52	**Cr**		1298245.848	**96.848674**	ppb	0.667	1.994	18068.087
55	**Mn**		1961527.089	**95.203766**	ppb	0.282	1.524	1340.063
57	**Fe**		2170238.173	**5112.122411**	ppb	1.332	1.056	14006.866
45	**Sc-IS**	>	1795028.099		ppb	1.738		1865382.380
66	**Zn**		227974.727	**103.841698**	ppb	0.871	1.918	516.676
86	**Sr**		306099.660	**104.585306**	ppb	0.908	0.995	39.724
65	**Cu**		327929.403	**101.847823**	ppb	1.457	1.164	128.889
69	**Ga-IS**		588238.131		ppb	1.451		573819.625
95	**Mo**		341240.327	**108.958879**	ppb	1.553	2.408	212.224
115	**In-IS**	>	208217.436		ppb	2.588		197719.745
111	**Cd**		200564.048	**99.066522**	ppb	1.982	0.744	15.110
118	**Sn**		588885.921	**100.640346**	ppb	2.145	0.661	1235.609
121	**Sb**		660502.036	**99.372149**	ppb	1.891	2.476	197.779
135	**Ba**		191317.046	**100.880386**	ppb	0.738	1.926	33.333
165	**Ho-IS**		377280.478		ppb	0.692		368847.286
159	**Tb-IS**	>	382969.866		ppb	0.184		363541.658
207	**Pb**		3123229.653	**95.549287**	ppb	1.477	1.396	434.447
203	**Tl**		1016512.961	**92.994044**	ppb	0.715	0.888	128.889
209	**Bi-IS**		219697.626		ppb	0.734		214395.071
51	**V**		21181.255	**97.792156**	ppb	2.839	4.098	1.111
59	**Co**		68809.842	**98.757279**	ppb	2.665	3.952	30.000
60	**Ni**		126526.758	**94.011539**	ppb	0.796	0.559	67.778
75	**As**		46378.499	**97.481997**	ppb	2.383	1.277	260.869
71	**Ga-ISK**		58125.792		ppb	0.662		58887.805
82	**Se-2**		4530.302	**98.203518**	ppb	1.838	3.013	0.226
107	**Ag-1**		488129.864	**99.532427**	ppb	0.943	1.124	83.334
115	**In-ISK**	>	82025.645		ppb	1.275		81053.470
45	**Sc-ISK**	>	144693.624		ppb	1.467		145776.751
23	**Na**		1287900.302	**4828.222451**	ppb	1.592	1.345	8625.938
39	**K**		2589679.161	**5247.874116**	ppb	1.160	0.332	34421.426
24	**Mg**		1156511.950	**4950.411198**	ppb	1.335	0.626	211.668
159	**Tb-ISK**		165176.099		ppb	0.415		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 22:08:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.198
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40189.823		ppb	3.091		44909.430
9	**Be**		61.111	**0.023063**	ppb	17.534	24.081	17.778
10	**B**		6728.251	**-4.031581**	ppb	0.774	3.032	9341.944
27	**Al**		4960.194	**0.119701**	ppb	1.624	8.978	4118.935
43	**Ca-2**		183.335	**1.997550**	ppb	10.325	33.051	133.334
49	**Ti**		271.114	**-0.061868**	ppb	1.878	8.708	346.671
52	**Cr**		15442.790	**-0.131513**	ppb	2.518	20.043	18068.087
55	**Mn**		1841.230	**0.027960**	ppb	9.092	28.510	1340.063
57	**Fe**		13572.004	**0.646074**	ppb	3.423	158.036	14006.866
45	**Sc-IS**	>	1771531.186		ppb	0.313		1865382.380
66	**Zn**		602.235	**0.051629**	ppb	7.515	42.087	516.676
86	**Sr**		107.490	**0.024143**	ppb	22.300	34.089	39.724
65	**Cu**		243.335	**0.038069**	ppb	4.110	8.329	128.889
69	**Ga-IS**		568011.485		ppb	0.768		573819.625
95	**Mo**		1903.460	**0.550920**	ppb	5.505	6.517	212.224
115	**In-IS**	>	207854.567		ppb	1.842		197719.745
111	**Cd**		64.892	**0.024234**	ppb	6.143	5.973	15.110
118	**Sn**		5000.876	**0.635336**	ppb	2.609	4.505	1235.609
121	**Sb**		932.253	**0.109094**	ppb	8.935	9.945	197.779
135	**Ba**		93.334	**0.030774**	ppb	12.877	19.871	33.333
165	**Ho-IS**		374010.541		ppb	0.531		368847.286
159	**Tb-IS**	>	375876.424		ppb	0.731		363541.658
207	**Pb**		1155.575	**0.022019**	ppb	8.684	13.962	434.447
203	**Tl**		470.008	**0.031396**	ppb	6.500	9.326	128.889
209	**Bi-IS**		222435.011		ppb	0.366		214395.071
51	**V**		13.333	**0.055074**	ppb	25.000	26.931	1.111
59	**Co**		33.333	**0.003676**	ppb	52.915	695.740	30.000
60	**Ni**		203.335	**0.096991**	ppb	23.126	34.341	67.778
75	**As**		316.500	**0.099457**	ppb	19.363	140.547	260.869
71	**Ga-ISK**		58410.311		ppb	2.002		58887.805
82	**Se-2**		6.919	**0.140458**	ppb	100.296	104.289	0.226
107	**Ag-1**		461.119	**0.075031**	ppb	2.922	5.695	83.334
115	**In-ISK**	>	83680.967		ppb	2.104		81053.470
45	**Sc-ISK**	>	142792.522		ppb	2.110		145776.751
23	**Na**		9551.526	**4.234197**	ppb	1.822	33.137	8625.938
39	**K**		34774.497	**2.217133**	ppb	0.885	56.771	34421.426
24	**Mg**		795.022	**2.548747**	ppb	13.908	18.346	211.668
159	**Tb-ISK**		164333.121		ppb	0.279		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 22:11:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.199
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40004.883		ppb	3.990		44909.430
9	**Be**		27.778	**0.005585**	ppb	36.661	92.848	17.778
10	**B**		6567.067	**-4.396326**	ppb	5.291	12.931	9341.944
27	**Al**		4476.704	**0.061994**	ppb	7.778	61.352	4118.935
43	**Ca-2**		95.000	**-1.124163**	ppb	37.953	114.431	133.334
49	**Ti**		240.002	**-0.096264**	ppb	18.056	46.981	346.671
52	**Cr**		15505.077	**-0.132253**	ppb	1.014	16.143	18068.087
55	**Mn**		2332.413	**0.051630**	ppb	7.301	17.425	1340.063
57	**Fe**		12523.270	**-2.006840**	ppb	3.883	69.886	14006.866
45	**Sc-IS**	>	1780035.025		ppb	0.795		1865382.380
66	**Zn**		544.455	**0.023519**	ppb	14.350	145.700	516.676
86	**Sr**		45.229	**0.002540**	ppb	23.864	150.127	39.724
65	**Cu**		167.779	**0.014080**	ppb	19.901	76.680	128.889
69	**Ga-IS**		573022.389		ppb	2.585		573819.625
95	**Mo**		655.571	**0.145891**	ppb	5.937	7.714	212.224
115	**In-IS**	>	209010.642		ppb	2.145		197719.745
111	**Cd**		29.734	**0.006727**	ppb	23.499	46.909	15.110
118	**Sn**		2564.675	**0.214908**	ppb	3.995	9.958	1235.609
121	**Sb**		348.893	**0.021006**	ppb	8.347	23.893	197.779
135	**Ba**		66.667	**0.016494**	ppb	5.000	6.171	33.333
165	**Ho-IS**		371827.362		ppb	1.368		368847.286
159	**Tb-IS**	>	373026.458		ppb	1.992		363541.658
207	**Pb**		532.226	**0.002755**	ppb	16.021	110.236	434.447
203	**Tl**		202.224	**0.006575**	ppb	9.373	26.787	128.889
209	**Bi-IS**		221621.408		ppb	0.443		214395.071
51	**V**		4.444	**0.015197**	ppb	86.603	116.228	1.111
59	**Co**		13.333	**-0.024401**	ppb	66.144	53.070	30.000
60	**Ni**		133.334	**0.047908**	ppb	24.109	52.992	67.778
75	**As**		304.125	**0.081801**	ppb	2.314	17.600	260.869
71	**Ga-ISK**		58486.215		ppb	2.985		58887.805
82	**Se-2**		8.591	**0.179656**	ppb	71.133	72.223	0.226
107	**Ag-1**		144.445	**0.012154**	ppb	10.906	29.608	83.334
115	**In-ISK**	>	82421.410		ppb	1.725		81053.470
45	**Sc-ISK**	>	142915.880		ppb	1.604		145776.751
23	**Na**		8665.963	**0.813813**	ppb	3.170	182.449	8625.938
39	**K**		32688.468	**-2.186571**	ppb	0.481	52.936	34421.426
24	**Mg**		288.336	**0.349864**	ppb	5.006	12.058	211.668
159	**Tb-ISK**		164836.471		ppb	2.091		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-201991_1-A
Autosampler Position: 301
Sample Date/Time: Sunday, December 19, 2021 22:14:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\MB 570-201991_1-A.200
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40160.876		ppb	3.973		44909.430
9	**Be**		16.667	**-0.000097**	ppb	72.111	6321.144	17.778
10	**B**		6430.338	**-4.431129**	ppb	4.834	14.713	9341.944
27	**Al**		2311.522	**-0.179605**	ppb	10.463	11.827	4118.935
43	**Ca-2**		106.667	**-0.651822**	ppb	28.641	166.674	133.334
49	**Ti**		253.336	**-0.076526**	ppb	13.354	57.846	346.671
52	**Cr**		15416.094	**-0.118180**	ppb	2.193	6.294	18068.087
55	**Mn**		1043.371	**-0.010563**	ppb	3.767	31.035	1340.063
57	**Fe**		12040.630	**-2.656814**	ppb	2.757	7.933	14006.866
45	**Sc-IS**	>	1748999.204		ppb	2.699		1865382.380
66	**Zn**		404.450	**-0.037571**	ppb	7.433	28.752	516.676
86	**Sr**		67.577	**0.010663**	ppb	34.011	75.852	39.724
65	**Cu**		175.557	**0.017447**	ppb	2.900	5.167	128.889
69	**Ga-IS**		565380.226		ppb	0.854		573819.625
95	**Mo**		420.006	**0.072565**	ppb	17.676	33.913	212.224
115	**In-IS**	>	210945.920		ppb	2.795		197719.745
111	**Cd**		16.896	**0.000249**	ppb	101.760	3285.363	15.110
118	**Sn**		1671.209	**0.059836**	ppb	1.267	16.400	1235.609
121	**Sb**		213.335	**0.000500**	ppb	23.123	1667.047	197.779
135	**Ba**		57.778	**0.011638**	ppb	17.625	50.744	33.333
165	**Ho-IS**		371795.644		ppb	1.590		368847.286
159	**Tb-IS**	>	378006.783		ppb	1.736		363541.658
207	**Pb**		401.113	**-0.001553**	ppb	9.192	87.813	434.447
203	**Tl**		100.000	**-0.003168**	ppb	15.275	39.850	128.889
209	**Bi-IS**		220405.042		ppb	0.571		214395.071
51	**V**		3.333	**0.009917**	ppb	100.000	151.822	1.111
59	**Co**		4.444	**-0.037278**	ppb	43.301	7.341	30.000
60	**Ni**		88.889	**0.014360**	ppb	38.304	176.388	67.778
75	**As**		286.901	**0.040558**	ppb	7.696	110.174	260.869
71	**Ga-ISK**		58221.867		ppb	4.109		58887.805
82	**Se-2**		2.922	**0.057890**	ppb	275.157	298.736	0.226
107	**Ag-1**		98.889	**0.002710**	ppb	1.946	14.704	83.334
115	**In-ISK**	>	83093.292		ppb	0.814		81053.470
45	**Sc-ISK**	>	143973.036		ppb	1.250		145776.751
23	**Na**		8570.904	**0.200795**	ppb	1.300	343.768	8625.938
39	**K**		32520.309	**-3.038638**	ppb	1.007	31.729	34421.426
24	**Mg**		133.334	**-0.325565**	ppb	9.437	17.343	211.668
159	**Tb-ISK**		164487.719		ppb	1.667		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 22:17:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.201
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40530.830		ppb	4.626		44909.430
9	**Be**		179988.149	**92.706176**	ppb	1.961	1.529	17.778
10	**B**		129757.805	**224.376368**	ppb	1.239	1.772	9341.944
27	**Al**		823735.084	**92.435844**	ppb	2.757	3.253	4118.935
43	**Ca-2**		142998.905	**4971.511027**	ppb	1.444	0.249	133.334
49	**Ti**		93472.658	**97.929665**	ppb	1.955	0.862	346.671
52	**Cr**		1288890.490	**96.186097**	ppb	3.034	2.071	18068.087
55	**Mn**		1968476.030	**95.554640**	ppb	6.198	4.726	1340.063
57	**Fe**		2157265.638	**5083.437466**	ppb	4.386	2.889	14006.866
45	**Sc-IS**	>	1793664.134		ppb	1.592		1865382.380
66	**Zn**		222537.403	**101.406175**	ppb	2.714	1.312	516.676
86	**Sr**		309020.730	**105.664568**	ppb	1.366	1.673	39.724
65	**Cu**		333827.577	**103.731368**	ppb	3.628	2.191	128.889
69	**Ga-IS**		587984.856		ppb	2.594		573819.625
95	**Mo**		340088.870	**108.665285**	ppb	1.512	1.972	212.224
115	**In-IS**	>	211769.487		ppb	3.181		197719.745
111	**Cd**		200504.552	**97.399880**	ppb	2.142	2.323	15.110
118	**Sn**		583966.382	**98.128749**	ppb	2.398	0.963	1235.609
121	**Sb**		664603.222	**98.298726**	ppb	2.334	0.862	197.779
135	**Ba**		191353.207	**99.213006**	ppb	1.429	1.951	33.333
165	**Ho-IS**		375155.149		ppb	1.611		368847.286
159	**Tb-IS**	>	377993.592		ppb	1.029		363541.658
207	**Pb**		3056050.270	**94.732623**	ppb	0.749	1.335	434.447
203	**Tl**		1006801.288	**93.322685**	ppb	0.192	0.857	128.889
209	**Bi-IS**		213596.426		ppb	1.817		214395.071
51	**V**		21062.184	**97.014128**	ppb	1.527	3.350	1.111
59	**Co**		69926.302	**100.123146**	ppb	1.501	3.251	30.000
60	**Ni**		125248.992	**92.861597**	ppb	1.746	3.034	67.778
75	**As**		46438.401	**97.416383**	ppb	1.611	3.253	260.869
71	**Ga-ISK**		57907.164		ppb	2.197		58887.805
82	**Se-2**		4567.337	**98.773867**	ppb	0.753	2.558	0.226
107	**Ag-1**		481913.621	**98.013349**	ppb	2.552	0.999	83.334
115	**In-ISK**	>	82224.571		ppb	1.850		81053.470
45	**Sc-ISK**	>	141243.737		ppb	0.936		145776.751
23	**Na**		1262629.866	**4848.759725**	ppb	2.847	2.393	8625.938
39	**K**		2526569.118	**5244.577983**	ppb	1.847	1.034	34421.426
24	**Mg**		1152912.087	**5055.584541**	ppb	0.981	1.004	211.668
159	**Tb-ISK**		165424.959		ppb	0.514		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 22:21:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.202
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		39795.378		ppb	2.679		44909.430
9	**Be**		27.778	**0.005901**	ppb	66.091	165.531	17.778
10	**B**		6361.418	**-4.612960**	ppb	4.427	11.594	9341.944
27	**Al**		5596.776	**0.198618**	ppb	13.538	46.983	4118.935
43	**Ca-2**		131.667	**0.234260**	ppb	32.297	667.017	133.334
49	**Ti**		260.002	**-0.070576**	ppb	14.448	64.781	346.671
52	**Cr**		14933.360	**-0.160173**	ppb	2.670	15.685	18068.087
55	**Mn**		1497.857	**0.011776**	ppb	9.194	61.374	1340.063
57	**Fe**		12793.506	**-0.927737**	ppb	2.317	145.684	14006.866
45	**Sc-IS**	>	1755867.819		ppb	2.278		1865382.380
66	**Zn**		578.901	**0.043308**	ppb	1.199	19.661	516.676
86	**Sr**		83.720	**0.016250**	ppb	18.577	36.820	39.724
65	**Cu**		188.890	**0.021370**	ppb	12.766	29.422	128.889
69	**Ga-IS**		560115.352		ppb	0.759		573819.625
95	**Mo**		1458.963	**0.411132**	ppb	3.102	0.971	212.224
115	**In-IS**	>	209645.663		ppb	2.939		197719.745
111	**Cd**		31.381	**0.007361**	ppb	65.033	128.641	15.110
118	**Sn**		4181.724	**0.488257**	ppb	5.149	4.596	1235.609
121	**Sb**		703.351	**0.073739**	ppb	8.209	10.443	197.779
135	**Ba**		83.334	**0.025066**	ppb	12.000	16.604	33.333
165	**Ho-IS**		372501.875		ppb	0.512		368847.286
159	**Tb-IS**	>	377220.566		ppb	1.460		363541.658
207	**Pb**		803.343	**0.010946**	ppb	11.142	24.334	434.447
203	**Tl**		333.337	**0.018537**	ppb	2.646	2.340	128.889
209	**Bi-IS**		220748.485		ppb	2.035		214395.071
51	**V**		11.111	**0.045518**	ppb	17.321	18.975	1.111
59	**Co**		40.000	**0.013359**	ppb	30.046	134.378	30.000
60	**Ni**		171.112	**0.074878**	ppb	14.093	24.528	67.778
75	**As**		283.049	**0.034055**	ppb	4.800	110.934	260.869
71	**Ga-ISK**		57677.364		ppb	2.640		58887.805
82	**Se-2**		9.937	**0.208651**	ppb	26.758	29.086	0.226
107	**Ag-1**		343.337	**0.052040**	ppb	2.569	1.923	83.334
115	**In-ISK**	>	82941.732		ppb	1.551		81053.470
45	**Sc-ISK**	>	140486.403		ppb	1.621		145776.751
23	**Na**		8846.072	**2.078178**	ppb	2.363	47.091	8625.938
39	**K**		33413.479	**0.518873**	ppb	1.311	228.360	34421.426
24	**Mg**		593.346	**1.714526**	ppb	14.408	20.513	211.668
159	**Tb-ISK**		165338.189		ppb	1.964		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 22:24:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.203
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		39842.181		ppb	2.961		44909.430
9	**Be**		20.000	**0.001639**	ppb	16.667	107.884	17.778
10	**B**		6019.047	**-5.352094**	ppb	4.350	11.451	9341.944
27	**Al**		4798.145	**0.101383**	ppb	10.628	53.878	4118.935
43	**Ca-2**		101.667	**-0.865550**	ppb	41.828	177.935	133.334
49	**Ti**		274.447	**-0.057957**	ppb	18.273	93.795	346.671
52	**Cr**		15416.096	**-0.132675**	ppb	3.040	19.479	18068.087
55	**Mn**		2164.609	**0.043975**	ppb	6.232	14.882	1340.063
57	**Fe**		12628.916	**-1.594747**	ppb	3.020	43.901	14006.866
45	**Sc-IS**	>	1770092.327		ppb	1.071		1865382.380
66	**Zn**		514.454	**0.011088**	ppb	6.989	128.217	516.676
86	**Sr**		36.390	**-0.000495**	ppb	76.354	1916.578	39.724
65	**Cu**		150.001	**0.008795**	ppb	20.000	113.275	128.889
69	**Ga-IS**		561063.396		ppb	1.824		573819.625
95	**Mo**		571.123	**0.119765**	ppb	8.282	12.589	212.224
115	**In-IS**	>	210009.427		ppb	2.285		197719.745
111	**Cd**		26.578	**0.005160**	ppb	6.956	18.184	15.110
118	**Sn**		2259.068	**0.161119**	ppb	4.379	15.588	1235.609
121	**Sb**		328.893	**0.017719**	ppb	13.228	35.628	197.779
135	**Ba**		68.889	**0.017544**	ppb	44.959	93.291	33.333
165	**Ho-IS**		371342.584		ppb	1.127		368847.286
159	**Tb-IS**	>	377022.180		ppb	1.548		363541.658
207	**Pb**		494.448	**0.001361**	ppb	8.429	88.561	434.447
203	**Tl**		141.112	**0.000705**	ppb	13.010	263.333	128.889
209	**Bi-IS**		218785.995		ppb	0.588		214395.071
51	**V**		3.333	**0.010155**	ppb	100.000	152.039	1.111
59	**Co**		20.000	**-0.014920**	ppb	28.868	53.950	30.000
60	**Ni**		124.445	**0.041398**	ppb	17.835	36.609	67.778
75	**As**		270.756	**0.015137**	ppb	14.434	595.120	260.869
71	**Ga-ISK**		57209.900		ppb	1.599		58887.805
82	**Se-2**		12.265	**0.260684**	ppb	31.108	31.294	0.226
107	**Ag-1**		104.445	**0.004087**	ppb	12.083	57.487	83.334
115	**In-ISK**	>	82014.966		ppb	1.381		81053.470
45	**Sc-ISK**	>	143123.396		ppb	0.624		145776.751
23	**Na**		8712.657	**0.933031**	ppb	1.838	86.052	8625.938
39	**K**		32335.443	**-3.028301**	ppb	0.386	15.014	34421.426
24	**Mg**		165.001	**-0.184996**	ppb	12.121	48.660	211.668
159	**Tb-ISK**		163502.338		ppb	0.333		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-201991_2-A
Autosampler Position: 302
Sample Date/Time: Sunday, December 19, 2021 22:27:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\LCS 570-201991_2-A.204
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		39595.910		ppb	0.372		44909.430
9	**Be**		173184.874	**89.696004**	ppb	2.201	1.912	17.778
10	**B**		55604.748	**87.183684**	ppb	3.247	3.899	9341.944
27	**Al**		860200.206	**97.072386**	ppb	1.051	0.596	4118.935
43	**Ca-2**		142162.472	**4970.008080**	ppb	2.475	2.368	133.334
49	**Ti**		87631.299	**92.309572**	ppb	0.871	1.289	346.671
52	**Cr**		1192239.983	**89.385417**	ppb	1.774	1.440	18068.087
55	**Mn**		1804763.825	**88.127150**	ppb	3.178	2.795	1340.063
57	**Fe**		2132368.972	**5054.018541**	ppb	2.490	2.274	14006.866
45	**Sc-IS**	>	1783672.253		ppb	0.593		1865382.380
66	**Zn**		219400.922	**100.544506**	ppb	0.881	0.382	516.676
86	**Sr**		284666.513	**97.873247**	ppb	0.582	0.965	39.724
65	**Cu**		310477.043	**97.031109**	ppb	1.608	1.372	128.889
69	**Ga-IS**		603293.800		ppb	0.952		573819.625
95	**Mo**		311831.348	**100.173620**	ppb	1.148	0.560	212.224
115	**In-IS**	>	210983.186		ppb	1.783		197719.745
111	**Cd**		189401.474	**92.311968**	ppb	2.273	0.904	15.110
118	**Sn**		556982.051	**93.920592**	ppb	1.558	0.552	1235.609
121	**Sb**		638657.310	**94.790856**	ppb	2.283	0.789	197.779
135	**Ba**		205524.588	**106.934570**	ppb	0.837	1.558	33.333
165	**Ho-IS**		374844.782		ppb	1.452		368847.286
159	**Tb-IS**	>	373285.339		ppb	0.706		363541.658
207	**Pb**		2905770.407	**91.209711**	ppb	1.402	1.931	434.447
203	**Tl**		934911.307	**87.751648**	ppb	1.848	2.184	128.889
209	**Bi-IS**		216539.009		ppb	1.477		214395.071
51	**V**		19909.420	**90.947895**	ppb	0.868	1.932	1.111
59	**Co**		63812.227	**90.598523**	ppb	1.610	0.858	30.000
60	**Ni**		116215.520	**85.464677**	ppb	2.991	3.813	67.778
75	**As**		39687.163	**82.488321**	ppb	1.514	2.572	260.869
71	**Ga-ISK**		57505.544		ppb	2.135		58887.805
82	**Se-2**		4264.215	**91.470304**	ppb	2.082	2.932	0.226
107	**Ag-1**		267172.489	**53.898563**	ppb	1.969	1.080	83.334
115	**In-ISK**	>	82887.176		ppb	1.325		81053.470
45	**Sc-ISK**	>	141916.105		ppb	2.266		145776.751
23	**Na**		250617.614	**931.910257**	ppb	3.492	2.211	8625.938
39	**K**		510025.237	**997.521461**	ppb	3.245	1.204	34421.426
24	**Mg**		1126764.043	**4918.359012**	ppb	0.953	1.402	211.668
159	**Tb-ISK**		165009.171		ppb	2.294		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-201991_3-A
Autosampler Position: 303
Sample Date/Time: Sunday, December 19, 2021 22:30:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\LCSD 570-201991_3-A.205
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		39773.091		ppb	2.522		44909.430
9	**Be**		168632.836	**88.684574**	ppb	0.847	0.243	17.778
10	**B**		54464.777	**86.608948**	ppb	2.392	1.925	9341.944
27	**Al**		864360.307	**99.050265**	ppb	1.294	0.436	4118.935
43	**Ca-2**		141302.690	**5014.974042**	ppb	3.725	2.642	133.334
49	**Ti**		85545.369	**91.498188**	ppb	0.446	1.275	346.671
52	**Cr**		1171774.415	**89.212907**	ppb	1.490	2.292	18068.087
55	**Mn**		1757695.151	**87.161587**	ppb	0.349	1.424	1340.063
57	**Fe**		2083278.413	**5013.901614**	ppb	0.397	1.380	14006.866
45	**Sc-IS**	>	1756675.739		ppb	1.089		1865382.380
66	**Zn**		213474.423	**99.329605**	ppb	1.177	0.147	516.676
86	**Sr**		275751.081	**96.263374**	ppb	0.864	0.266	39.724
65	**Cu**		304646.813	**96.671801**	ppb	1.578	0.950	128.889
69	**Ga-IS**		587668.118		ppb	1.153		573819.625
95	**Mo**		309525.057	**100.972580**	ppb	0.265	1.254	212.224
115	**In-IS**	>	208892.466		ppb	0.499		197719.745
111	**Cd**		188088.868	**92.589462**	ppb	1.825	1.331	15.110
118	**Sn**		558590.052	**95.130140**	ppb	2.479	2.164	1235.609
121	**Sb**		637295.928	**95.540911**	ppb	1.046	1.044	197.779
135	**Ba**		203980.938	**107.173337**	ppb	2.359	2.119	33.333
165	**Ho-IS**		370377.912		ppb	0.962		368847.286
159	**Tb-IS**	>	372887.694		ppb	1.231		363541.658
207	**Pb**		2877499.316	**90.419797**	ppb	0.211	1.101	434.447
203	**Tl**		930642.212	**87.436839**	ppb	1.478	0.249	128.889
209	**Bi-IS**		213920.945		ppb	0.764		214395.071
51	**V**		19604.564	**91.007976**	ppb	3.429	5.237	1.111
59	**Co**		64225.177	**92.658922**	ppb	1.405	3.251	30.000
60	**Ni**		114214.791	**85.310617**	ppb	1.056	1.718	67.778
75	**As**		39668.640	**83.751713**	ppb	1.075	1.367	260.869
71	**Ga-ISK**		57098.330		ppb	0.857		58887.805
82	**Se-2**		4206.882	**91.655066**	ppb	1.861	1.942	0.226
107	**Ag-1**		266782.655	**54.664144**	ppb	2.850	1.335	83.334
115	**In-ISK**	>	81603.277		ppb	1.962		81053.470
45	**Sc-ISK**	>	140412.549		ppb	2.654		145776.751
23	**Na**		249942.583	**940.053754**	ppb	0.589	2.228	8625.938
39	**K**		500959.261	**989.951938**	ppb	2.572	0.725	34421.426
24	**Mg**		1103018.015	**4866.562506**	ppb	1.377	1.705	211.668
159	**Tb-ISK**		163823.359		ppb	0.884		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78738-B-1-A
Autosampler Position: 304
Sample Date/Time: Sunday, December 19, 2021 22:33:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78738-B-1-A.206
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		50154.624		ppb	3.460		44909.430
9	**Be**		75.556	**0.029318**	ppb	20.849	27.407	17.778
10	**B**		107768.344	**179.352766**	ppb	1.326	2.121	9341.944
27	**Al**		6055113.999	**668.037508**	ppb	0.935	1.516	4118.935
43	**Ca-2**		1069124.344	**36425.674245**	ppb	0.767	1.291	133.334
49	**Ti**		56809.402	**58.141809**	ppb	0.673	1.079	346.671
52	**Cr**		77271.765	**4.410036**	ppb	0.965	1.341	18068.087
55	**Mn**		1450821.846	**68.981157**	ppb	1.532	2.134	1340.063
57	**Fe**		743142.237	**1694.155772**	ppb	2.118	2.478	14006.866
45	**Sc-IS**	>	1831755.821		ppb	0.618		1865382.380
66	**Zn**		1571262.957	**702.545217**	ppb	1.283	1.519	516.676
86	**Sr**		958261.742	**320.859684**	ppb	1.735	2.152	39.724
65	**Cu**		235274.056	**71.595196**	ppb	1.466	2.081	128.889
69	**Ga-IS**		568977.681		ppb	1.917		573819.625
95	**Mo**		57561.341	**17.954160**	ppb	2.621	2.999	212.224
115	**In-IS**	>	220960.308		ppb	2.461		197719.745
111	**Cd**		389.130	**0.173305**	ppb	2.392	2.928	15.110
118	**Sn**		8396.912	**1.133241**	ppb	2.039	5.180	1235.609
121	**Sb**		33578.313	**4.730017**	ppb	1.773	1.559	197.779
135	**Ba**		123182.219	**61.190653**	ppb	1.520	1.247	33.333
165	**Ho-IS**		368991.445		ppb	2.010		368847.286
159	**Tb-IS**	>	376110.451		ppb	1.093		363541.658
207	**Pb**		167054.951	**5.190935**	ppb	0.682	0.665	434.447
203	**Tl**		975.589	**0.078477**	ppb	0.711	2.011	128.889
209	**Bi-IS**		204454.988		ppb	1.005		214395.071
51	**V**		2173.499	**9.499021**	ppb	3.232	2.429	1.111
59	**Co**		7959.996	**10.780616**	ppb	2.925	1.791	30.000
60	**Ni**		60960.957	**42.883752**	ppb	2.520	1.612	67.778
75	**As**		1068.504	**1.582630**	ppb	4.122	6.287	260.869
71	**Ga-ISK**		55560.083		ppb	1.976		58887.805
82	**Se-2**		58.927	**1.204833**	ppb	23.767	23.607	0.226
107	**Ag-1**		594.457	**0.097631**	ppb	6.177	6.299	83.334
115	**In-ISK**	>	86571.113		ppb	1.151		81053.470
45	**Sc-ISK**	>	141493.065		ppb	2.342		145776.751
23	**Na**		12604226.142	**48615.096489**	ppb	2.288	1.784	8625.938
39	**K**		3203358.644	**6656.116267**	ppb	3.036	1.130	34421.426
24	**Mg**		2190784.586	**9590.029718**	ppb	2.793	1.252	211.668
159	**Tb-ISK**		162883.341		ppb	0.584		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78738-B-1-B MS
Autosampler Position: 305
Sample Date/Time: Sunday, December 19, 2021 22:36:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78738-B-1-B MS.207
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49797.780		ppb	2.145		44909.430
9	**Be**		190165.114	**94.634845**	ppb	0.305	2.190	17.778
10	**B**		150583.023	**253.516662**	ppb	2.040	1.528	9341.944
27	**Al**		6996996.678	**761.692809**	ppb	1.941	2.727	4118.935
43	**Ca-2**		1217028.118	**40899.194102**	ppb	2.702	1.382	133.334
49	**Ti**		150101.331	**152.097163**	ppb	2.068	0.730	346.671
52	**Cr**		1317380.212	**94.969432**	ppb	0.748	1.243	18068.087
55	**Mn**		3462635.545	**162.487708**	ppb	1.347	0.707	1340.063
57	**Fe**		2937207.583	**6698.577211**	ppb	0.714	1.337	14006.866
45	**Sc-IS**	>	1856933.155		ppb	1.963		1865382.380
66	**Zn**		1752958.036	**773.413258**	ppb	1.949	3.173	516.676
86	**Sr**		1235478.821	**408.253035**	ppb	1.919	3.861	39.724
65	**Cu**		532304.770	**159.880843**	ppb	1.376	3.065	128.889
69	**Ga-IS**		597908.990		ppb	1.079		573819.625
95	**Mo**		366022.069	**112.975321**	ppb	0.661	1.506	212.224
115	**In-IS**	>	223652.134		ppb	2.104		197719.745
111	**Cd**		189497.958	**87.139293**	ppb	1.395	0.798	15.110
118	**Sn**		549478.617	**87.384608**	ppb	2.424	0.431	1235.609
121	**Sb**		688413.803	**96.405945**	ppb	1.217	1.062	197.779
135	**Ba**		299318.986	**146.927779**	ppb	1.055	1.732	33.333
165	**Ho-IS**		377496.200		ppb	0.948		368847.286
159	**Tb-IS**	>	376073.074		ppb	2.344		363541.658
207	**Pb**		3125646.555	**97.406987**	ppb	0.481	1.925	434.447
203	**Tl**		936355.192	**87.259633**	ppb	0.227	2.160	128.889
209	**Bi-IS**		207194.055		ppb	1.115		214395.071
51	**V**		22631.246	**99.679135**	ppb	0.589	1.145	1.111
59	**Co**		72510.325	**99.296499**	ppb	2.915	3.769	30.000
60	**Ni**		176932.538	**125.466799**	ppb	1.936	2.021	67.778
75	**As**		43495.611	**87.199415**	ppb	0.841	1.869	260.869
71	**Ga-ISK**		55485.330		ppb	1.134		58887.805
82	**Se-2**		4636.652	**95.891209**	ppb	1.802	1.859	0.226
107	**Ag-1**		143429.035	**27.893512**	ppb	2.883	2.645	83.334
115	**In-ISK**	>	85958.587		ppb	1.064		81053.470
45	**Sc-ISK**	>	146170.853		ppb	1.945		145776.751
23	**Na**		13186925.900	**49239.026161**	ppb	0.563	1.459	8625.938
39	**K**		3657673.255	**7366.200221**	ppb	0.663	1.362	34421.426
24	**Mg**		3376863.915	**14310.462175**	ppb	1.683	0.635	211.668
159	**Tb-ISK**		165180.817		ppb	0.366		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78738-B-1-C MSD
Autosampler Position: 306
Sample Date/Time: Sunday, December 19, 2021 22:40:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78738-B-1-C MSD.208
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		51201.599		ppb	1.107		44909.430
9	**Be**		205175.047	**100.261020**	ppb	3.309	2.718	17.778
10	**B**		156239.827	**258.720894**	ppb	1.287	2.128	9341.944
27	**Al**		7198922.192	**769.666751**	ppb	0.595	1.056	4118.935
43	**Ca-2**		1250980.763	**41301.751874**	ppb	1.908	2.243	133.334
49	**Ti**		158256.216	**157.549986**	ppb	0.650	1.500	346.671
52	**Cr**		1389274.276	**98.430637**	ppb	1.241	2.546	18068.087
55	**Mn**		3562135.320	**164.211796**	ppb	0.739	2.048	1340.063
57	**Fe**		3042082.343	**6814.382531**	ppb	1.264	0.725	14006.866
45	**Sc-IS**	>	1890458.310		ppb	1.513		1865382.380
66	**Zn**		1739254.847	**753.436874**	ppb	2.388	0.929	516.676
86	**Sr**		1238651.324	**401.786840**	ppb	2.919	1.479	39.724
65	**Cu**		545525.156	**160.894010**	ppb	1.267	0.923	128.889
69	**Ga-IS**		590546.200		ppb	3.091		573819.625
95	**Mo**		380760.132	**115.427726**	ppb	1.113	1.022	212.224
115	**In-IS**	>	219181.718		ppb	1.561		197719.745
111	**Cd**		197774.780	**92.786370**	ppb	2.257	1.044	15.110
118	**Sn**		580951.411	**94.289366**	ppb	2.368	1.080	1235.609
121	**Sb**		718423.839	**102.647096**	ppb	1.742	0.327	197.779
135	**Ba**		311613.377	**156.056886**	ppb	1.228	0.433	33.333
165	**Ho-IS**		379604.334		ppb	0.989		368847.286
159	**Tb-IS**	>	375967.782		ppb	2.095		363541.658
207	**Pb**		3288665.618	**102.496032**	ppb	1.596	1.039	434.447
203	**Tl**		999801.966	**93.186824**	ppb	0.665	1.478	128.889
209	**Bi-IS**		207248.066		ppb	0.504		214395.071
51	**V**		23724.152	**102.062197**	ppb	4.348	4.400	1.111
59	**Co**		76098.991	**101.771616**	ppb	3.624	3.683	30.000
60	**Ni**		184220.260	**127.596783**	ppb	0.958	0.907	67.778
75	**As**		46666.519	**91.399638**	ppb	1.422	1.387	260.869
71	**Ga-ISK**		56044.177		ppb	1.393		58887.805
82	**Se-2**		5108.844	**103.199218**	ppb	2.234	2.176	0.226
107	**Ag-1**		194215.135	**36.899631**	ppb	2.484	2.543	83.334
115	**In-ISK**	>	88001.026		ppb	0.060		81053.470
45	**Sc-ISK**	>	147173.387		ppb	2.383		145776.751
23	**Na**		13650776.768	**50637.690882**	ppb	0.472	2.796	8625.938
39	**K**		3782819.868	**7569.815788**	ppb	1.302	2.758	34421.426
24	**Mg**		3535684.151	**14880.686121**	ppb	2.614	0.937	211.668
159	**Tb-ISK**		167271.657		ppb	0.994		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78950-B-2-A
Autosampler Position: 307
Sample Date/Time: Sunday, December 19, 2021 22:43:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78950-B-2-A.209
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43555.193		ppb	1.377		44909.430
9	**Be**		114.445	**0.048739**	ppb	16.042	17.859	17.778
10	**B**		19197.341	**18.159459**	ppb	2.771	4.351	9341.944
27	**Al**		2346440.980	**258.106596**	ppb	1.330	2.581	4118.935
43	**Ca-2**		316453.469	**10758.116786**	ppb	0.941	2.355	133.334
49	**Ti**		6205.792	**6.026445**	ppb	2.160	2.684	346.671
52	**Cr**		33630.671	**1.173069**	ppb	2.806	9.628	18068.087
55	**Mn**		552265.259	**26.174612**	ppb	3.525	4.945	1340.063
57	**Fe**		209734.485	**454.329347**	ppb	2.339	3.940	14006.866
45	**Sc-IS**	>	1835644.836		ppb	1.842		1865382.380
66	**Zn**		303622.801	**135.320881**	ppb	0.956	2.539	516.676
86	**Sr**		131270.732	**43.854064**	ppb	0.539	1.395	39.724
65	**Cu**		42350.468	**12.831889**	ppb	1.462	3.024	128.889
69	**Ga-IS**		571179.854		ppb	1.978		573819.625
95	**Mo**		7287.414	**2.211571**	ppb	0.252	1.944	212.224
115	**In-IS**	>	203888.075		ppb	1.007		197719.745
111	**Cd**		253.588	**0.119990**	ppb	10.044	9.778	15.110
118	**Sn**		8028.924	**1.181688**	ppb	3.373	4.790	1235.609
121	**Sb**		6681.565	**0.994981**	ppb	5.004	4.114	197.779
135	**Ba**		34175.274	**18.382530**	ppb	0.488	0.543	33.333
165	**Ho-IS**		378288.511		ppb	1.708		368847.286
159	**Tb-IS**	>	376808.107		ppb	1.874		363541.658
207	**Pb**		62913.189	**1.942785**	ppb	0.912	1.418	434.447
203	**Tl**		626.681	**0.045796**	ppb	11.069	12.212	128.889
209	**Bi-IS**		218909.255		ppb	1.710		214395.071
51	**V**		1025.592	**4.688679**	ppb	2.913	3.656	1.111
59	**Co**		358.893	**0.467438**	ppb	10.885	12.747	30.000
60	**Ni**		5332.106	**3.878649**	ppb	1.385	0.703	67.778
75	**As**		648.246	**0.800444**	ppb	6.801	11.126	260.869
71	**Ga-ISK**		58698.154		ppb	2.000		58887.805
82	**Se-2**		26.594	**0.566422**	ppb	17.377	17.474	0.226
107	**Ag-1**		365.560	**0.056706**	ppb	2.295	2.460	83.334
115	**In-ISK**	>	82736.840		ppb	0.775		81053.470
45	**Sc-ISK**	>	146407.568		ppb	1.017		145776.751
23	**Na**		2363834.627	**8783.342076**	ppb	3.269	2.754	8625.938
39	**K**		1289425.053	**2546.443268**	ppb	2.951	2.322	34421.426
24	**Mg**		482708.155	**2041.334661**	ppb	1.829	0.813	211.668
159	**Tb-ISK**		168123.655		ppb	1.509		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78950-B-3-A
Autosampler Position: 308
Sample Date/Time: Sunday, December 19, 2021 22:46:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78950-B-3-A.210
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43111.628		ppb	1.349		44909.430
9	**Be**		43.333	**0.012896**	ppb	7.692	15.844	17.778
10	**B**		18567.619	**16.817174**	ppb	2.505	5.880	9341.944
27	**Al**		977136.389	**106.541538**	ppb	2.110	1.292	4118.935
43	**Ca-2**		119119.696	**4021.425137**	ppb	1.958	1.730	133.334
49	**Ti**		2715.814	**2.424198**	ppb	4.488	6.519	346.671
52	**Cr**		29010.555	**0.816867**	ppb	2.994	3.338	18068.087
55	**Mn**		349527.790	**16.435904**	ppb	0.843	1.252	1340.063
57	**Fe**		108571.032	**218.186146**	ppb	0.973	1.389	14006.866
45	**Sc-IS**	>	1846857.031		ppb	1.741		1865382.380
66	**Zn**		116469.576	**51.443185**	ppb	1.343	1.290	516.676
86	**Sr**		47412.970	**15.734740**	ppb	1.306	1.844	39.724
65	**Cu**		26780.639	**8.050144**	ppb	1.705	2.805	128.889
69	**Ga-IS**		575467.038		ppb	1.601		573819.625
95	**Mo**		2636.910	**0.754063**	ppb	4.923	7.288	212.224
115	**In-IS**	>	205954.696		ppb	1.926		197719.745
111	**Cd**		114.463	**0.049291**	ppb	3.094	1.842	15.110
118	**Sn**		3427.078	**0.370798**	ppb	4.838	9.165	1235.609
121	**Sb**		2292.406	**0.317300**	ppb	3.349	2.071	197.779
135	**Ba**		12089.560	**6.424753**	ppb	2.643	0.754	33.333
165	**Ho-IS**		380669.663		ppb	0.482		368847.286
159	**Tb-IS**	>	385545.942		ppb	1.084		363541.658
207	**Pb**		35019.080	**1.050288**	ppb	1.816	0.766	434.447
203	**Tl**		332.226	**0.017770**	ppb	5.879	9.668	128.889
209	**Bi-IS**		220382.790		ppb	1.767		214395.071
51	**V**		470.008	**2.152569**	ppb	3.546	4.966	1.111
59	**Co**		182.223	**0.216142**	ppb	13.971	14.970	30.000
60	**Ni**		4868.608	**3.549038**	ppb	3.802	5.310	67.778
75	**As**		576.832	**0.654977**	ppb	5.225	12.132	260.869
71	**Ga-ISK**		58559.781		ppb	0.557		58887.805
82	**Se-2**		13.255	**0.280540**	ppb	61.119	62.581	0.226
107	**Ag-1**		236.669	**0.030718**	ppb	20.843	31.034	83.334
115	**In-ISK**	>	82506.074		ppb	1.477		81053.470
45	**Sc-ISK**	>	146369.364		ppb	0.505		145776.751
23	**Na**		2084248.041	**7743.271673**	ppb	0.406	0.381	8625.938
39	**K**		1228466.616	**2423.514402**	ppb	1.896	1.562	34421.426
24	**Mg**		245864.462	**1039.631637**	ppb	0.934	0.837	211.668
159	**Tb-ISK**		165120.795		ppb	0.349		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78950-B-6-A
Autosampler Position: 309
Sample Date/Time: Sunday, December 19, 2021 22:49:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78950-B-6-A.211
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42130.948		ppb	2.450		44909.430
9	**Be**		15.556	**-0.000757**	ppb	24.744	295.719	17.778
10	**B**		38234.456	**54.287471**	ppb	2.760	0.712	9341.944
27	**Al**		462874.373	**51.717880**	ppb	1.504	2.219	4118.935
43	**Ca-2**		89727.898	**3114.665180**	ppb	4.181	1.004	133.334
49	**Ti**		1211.163	**0.923908**	ppb	7.041	12.874	346.671
52	**Cr**		24955.115	**0.572783**	ppb	1.613	6.120	18068.087
55	**Mn**		104427.011	**5.010431**	ppb	1.533	2.468	1340.063
57	**Fe**		66057.956	**124.767143**	ppb	1.564	5.826	14006.866
45	**Sc-IS**	>	1795108.384		ppb	3.263		1865382.380
66	**Zn**		72425.350	**32.851123**	ppb	0.410	3.458	516.676
86	**Sr**		43717.322	**14.936606**	ppb	2.276	4.532	39.724
65	**Cu**		18382.934	**5.676917**	ppb	2.045	4.294	128.889
69	**Ga-IS**		562322.881		ppb	0.719		573819.625
95	**Mo**		1033.371	**0.265145**	ppb	1.936	5.666	212.224
115	**In-IS**	>	206346.300		ppb	0.375		197719.745
111	**Cd**		84.497	**0.034240**	ppb	24.672	30.078	15.110
118	**Sn**		2164.609	**0.151240**	ppb	3.610	9.166	1235.609
121	**Sb**		1204.495	**0.151531**	ppb	5.821	7.148	197.779
135	**Ba**		11850.469	**6.285779**	ppb	1.263	0.889	33.333
165	**Ho-IS**		381445.463		ppb	0.319		368847.286
159	**Tb-IS**	>	375256.084		ppb	0.919		363541.658
207	**Pb**		25236.462	**0.774162**	ppb	1.451	2.403	434.447
203	**Tl**		236.669	**0.009678**	ppb	8.451	19.504	128.889
209	**Bi-IS**		218911.362		ppb	1.256		214395.071
51	**V**		780.022	**3.590219**	ppb	13.568	12.156	1.111
59	**Co**		75.556	**0.064961**	ppb	10.189	19.194	30.000
60	**Ni**		2023.477	**1.452961**	ppb	0.594	0.857	67.778
75	**As**		540.828	**0.586555**	ppb	13.813	29.429	260.869
71	**Ga-ISK**		58135.869		ppb	2.237		58887.805
82	**Se-2**		7.234	**0.150875**	ppb	92.404	94.907	0.226
107	**Ag-1**		143.334	**0.012032**	ppb	8.385	21.329	83.334
115	**In-ISK**	>	82047.016		ppb	1.406		81053.470
45	**Sc-ISK**	>	143016.803		ppb	0.930		145776.751
23	**Na**		987992.370	**3740.220387**	ppb	0.836	1.532	8625.938
39	**K**		2956081.370	**6071.986330**	ppb	1.212	2.024	34421.426
24	**Mg**		231832.972	**1003.358691**	ppb	1.611	2.254	211.668
159	**Tb-ISK**		166509.793		ppb	2.367		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78738-B-2-A
Autosampler Position: 310
Sample Date/Time: Sunday, December 19, 2021 22:52:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78738-B-2-A.212
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44027.783		ppb	3.037		44909.430
9	**Be**		12.222	**-0.002614**	ppb	68.635	164.123	17.778
10	**B**		96930.034	**159.256450**	ppb	1.961	1.411	9341.944
27	**Al**		869782.772	**95.374384**	ppb	1.224	0.168	4118.935
43	**Ca-2**		538802.341	**18314.013095**	ppb	2.689	1.294	133.334
49	**Ti**		12091.782	**12.074441**	ppb	0.736	1.225	346.671
52	**Cr**		28647.597	**0.803502**	ppb	2.616	6.187	18068.087
55	**Mn**		909755.335	**43.136166**	ppb	2.539	1.665	1340.063
57	**Fe**		126423.747	**261.063687**	ppb	1.961	0.980	14006.866
45	**Sc-IS**	>	1835554.803		ppb	1.391		1865382.380
66	**Zn**		99008.580	**43.967232**	ppb	0.395	1.040	516.676
86	**Sr**		247495.088	**82.683501**	ppb	1.724	1.073	39.724
65	**Cu**		41744.244	**12.643998**	ppb	1.539	0.805	128.889
69	**Ga-IS**		558896.524		ppb	0.485		573819.625
95	**Mo**		1824.561	**0.504654**	ppb	3.381	2.909	212.224
115	**In-IS**	>	204012.136		ppb	1.986		197719.745
111	**Cd**		145.058	**0.065261**	ppb	9.328	10.174	15.110
118	**Sn**		2262.401	**0.172760**	ppb	1.116	6.913	1235.609
121	**Sb**		6789.393	**1.011034**	ppb	4.864	4.032	197.779
135	**Ba**		35403.819	**19.033919**	ppb	1.131	0.879	33.333
165	**Ho-IS**		371271.870		ppb	1.095		368847.286
159	**Tb-IS**	>	373167.770		ppb	0.372		363541.658
207	**Pb**		28079.751	**0.867757**	ppb	1.372	1.518	434.447
203	**Tl**		221.113	**0.008345**	ppb	25.060	62.916	128.889
209	**Bi-IS**		208146.709		ppb	1.381		214395.071
51	**V**		265.558	**1.226673**	ppb	16.334	15.584	1.111
59	**Co**		796.689	**1.106175**	ppb	7.566	7.273	30.000
60	**Ni**		9664.386	**7.175047**	ppb	5.554	5.924	67.778
75	**As**		439.710	**0.377423**	ppb	6.319	19.650	260.869
71	**Ga-ISK**		57430.795		ppb	2.000		58887.805
82	**Se-2**		26.565	**0.576298**	ppb	26.507	29.133	0.226
107	**Ag-1**		256.669	**0.035382**	ppb	7.900	8.255	83.334
115	**In-ISK**	>	81583.859		ppb	2.675		81053.470
45	**Sc-ISK**	>	145211.543		ppb	3.472		145776.751
23	**Na**		7568101.732	**28425.092694**	ppb	3.694	0.452	8625.938
39	**K**		2902182.756	**5871.401839**	ppb	1.284	2.451	34421.426
24	**Mg**		1634524.860	**6978.499118**	ppb	1.571	4.431	211.668
159	**Tb-ISK**		165282.003		ppb	0.742		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78738-B-3-A
Autosampler Position: 311
Sample Date/Time: Sunday, December 19, 2021 22:55:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78738-B-3-A.213
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42801.828		ppb	2.466		44909.430
9	**Be**		51.111	**0.016786**	ppb	20.964	30.938	17.778
10	**B**		63962.911	**98.910305**	ppb	1.965	2.391	9341.944
27	**Al**		5752687.694	**630.508024**	ppb	1.139	0.791	4118.935
43	**Ca-2**		567435.748	**19204.803448**	ppb	1.861	1.617	133.334
49	**Ti**		181369.617	**185.188550**	ppb	0.133	0.974	346.671
52	**Cr**		213468.802	**14.396833**	ppb	1.246	0.371	18068.087
55	**Mn**		936878.863	**44.229754**	ppb	2.782	2.488	1340.063
57	**Fe**		369070.879	**819.737965**	ppb	1.694	1.864	14006.866
45	**Sc-IS**	>	1843678.533		ppb	0.912		1865382.380
66	**Zn**		542905.051	**241.022449**	ppb	0.558	0.358	516.676
86	**Sr**		124170.455	**41.293198**	ppb	1.238	0.639	39.724
65	**Cu**		101545.192	**30.678632**	ppb	0.786	1.439	128.889
69	**Ga-IS**		566631.211		ppb	0.224		573819.625
95	**Mo**		8155.663	**2.470769**	ppb	3.518	2.733	212.224
115	**In-IS**	>	205415.226		ppb	1.133		197719.745
111	**Cd**		2639.787	**1.313518**	ppb	4.977	4.191	15.110
118	**Sn**		6349.189	**0.879203**	ppb	3.396	3.024	1235.609
121	**Sb**		23552.736	**3.560438**	ppb	1.561	0.709	197.779
135	**Ba**		53539.030	**28.594286**	ppb	0.717	0.566	33.333
165	**Ho-IS**		373959.302		ppb	0.725		368847.286
159	**Tb-IS**	>	375347.412		ppb	1.056		363541.658
207	**Pb**		204591.848	**6.373172**	ppb	1.149	0.390	434.447
203	**Tl**		266.669	**0.012483**	ppb	5.449	13.040	128.889
209	**Bi-IS**		215825.056		ppb	1.669		214395.071
51	**V**		4032.791	**18.882234**	ppb	1.673	1.354	1.111
59	**Co**		2074.595	**2.978506**	ppb	4.387	4.859	30.000
60	**Ni**		26948.732	**20.276344**	ppb	1.579	0.834	67.778
75	**As**		666.240	**0.870846**	ppb	6.403	9.707	260.869
71	**Ga-ISK**		57826.802		ppb	0.140		58887.805
82	**Se-2**		19.922	**0.432600**	ppb	35.143	34.846	0.226
107	**Ag-1**		522.232	**0.090894**	ppb	3.900	5.602	83.334
115	**In-ISK**	>	80837.795		ppb	1.107		81053.470
45	**Sc-ISK**	>	145244.771		ppb	1.724		145776.751
23	**Na**		1705296.654	**6379.178591**	ppb	1.189	0.687	8625.938
39	**K**		851189.317	**1671.089087**	ppb	1.923	0.585	34421.426
24	**Mg**		303566.494	**1293.954434**	ppb	0.540	1.188	211.668
159	**Tb-ISK**		165914.660		ppb	1.174		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 22:59:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.214
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40369.213		ppb	2.945		44909.430
9	**Be**		181718.056	**94.379278**	ppb	3.087	1.482	17.778
10	**B**		127362.004	**221.920208**	ppb	1.788	0.965	9341.944
27	**Al**		832599.686	**94.220435**	ppb	1.695	0.214	4118.935
43	**Ca-2**		146091.871	**5122.665456**	ppb	2.627	2.274	133.334
49	**Ti**		91676.575	**96.875058**	ppb	1.055	1.004	346.671
52	**Cr**		1266223.361	**95.301487**	ppb	1.501	0.801	18068.087
55	**Mn**		1938563.270	**94.953718**	ppb	1.220	0.667	1340.063
57	**Fe**		2154039.786	**5121.233797**	ppb	1.016	0.707	14006.866
45	**Sc-IS**	>	1778468.409		ppb	1.646		1865382.380
66	**Zn**		226304.866	**104.014185**	ppb	2.793	1.778	516.676
86	**Sr**		298925.642	**103.076915**	ppb	1.536	0.720	39.724
65	**Cu**		330738.755	**103.657997**	ppb	2.672	1.052	128.889
69	**Ga-IS**		592268.623		ppb	2.256		573819.625
95	**Mo**		328277.905	**105.786096**	ppb	0.395	1.259	212.224
115	**In-IS**	>	204223.224		ppb	1.831		197719.745
111	**Cd**		197983.764	**99.704765**	ppb	1.006	1.021	15.110
118	**Sn**		568809.536	**99.112523**	ppb	1.169	1.503	1235.609
121	**Sb**		656720.611	**100.714818**	ppb	1.293	1.151	197.779
135	**Ba**		187633.236	**100.849245**	ppb	1.445	1.267	33.333
165	**Ho-IS**		368917.501		ppb	0.949		368847.286
159	**Tb-IS**	>	372695.544		ppb	1.808		363541.658
207	**Pb**		3102665.765	**97.551148**	ppb	0.992	1.349	434.447
203	**Tl**		1009842.911	**94.945604**	ppb	1.264	1.821	128.889
209	**Bi-IS**		213347.002		ppb	1.247		214395.071
51	**V**		21078.877	**98.750283**	ppb	1.965	4.132	1.111
59	**Co**		67931.131	**98.899191**	ppb	0.342	1.988	30.000
60	**Ni**		125488.750	**94.614321**	ppb	0.131	2.301	67.778
75	**As**		45495.932	**97.046337**	ppb	0.237	2.378	260.869
71	**Ga-ISK**		56659.921		ppb	0.692		58887.805
82	**Se-2**		4474.277	**98.407558**	ppb	1.982	3.485	0.226
107	**Ag-1**		475820.820	**98.419677**	ppb	1.990	0.372	83.334
115	**In-ISK**	>	80858.358		ppb	2.194		81053.470
45	**Sc-ISK**	>	144323.229		ppb	1.398		145776.751
23	**Na**		1273588.749	**4786.692825**	ppb	2.576	2.663	8625.938
39	**K**		2549347.213	**5178.509680**	ppb	1.614	1.314	34421.426
24	**Mg**		1138098.703	**4884.765569**	ppb	0.594	1.836	211.668
159	**Tb-ISK**		163298.052		ppb	0.779		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message
B	10	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 23:02:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.215
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		39524.606		ppb	1.117		44909.430
9	**Be**		31.111	**0.007743**	ppb	34.442	74.570	17.778
10	**B**		6464.796	**-4.299547**	ppb	0.806	4.942	9341.944
27	**Al**		5139.592	**0.150959**	ppb	3.745	10.499	4118.935
43	**Ca-2**		158.334	**1.228533**	ppb	13.147	66.962	133.334
49	**Ti**		401.117	**0.084426**	ppb	2.671	7.904	346.671
52	**Cr**		15379.389	**-0.114531**	ppb	2.712	17.306	18068.087
55	**Mn**		1655.652	**0.020353**	ppb	2.857	7.950	1340.063
57	**Fe**		13127.140	**0.169533**	ppb	0.621	277.251	14006.866
45	**Sc-IS**	>	1739212.690		ppb	1.413		1865382.380
66	**Zn**		612.235	**0.061762**	ppb	9.213	49.379	516.676
86	**Sr**		78.626	**0.014649**	ppb	39.483	74.758	39.724
65	**Cu**		245.558	**0.040268**	ppb	11.056	23.660	128.889
69	**Ga-IS**		548893.599		ppb	1.062		573819.625
95	**Mo**		2021.254	**0.601384**	ppb	4.741	6.240	212.224
115	**In-IS**	>	203618.981		ppb	3.740		197719.745
111	**Cd**		37.978	**0.011419**	ppb	17.747	36.054	15.110
118	**Sn**		4887.505	**0.635171**	ppb	6.164	13.142	1235.609
121	**Sb**		883.361	**0.104589**	ppb	10.506	13.209	197.779
135	**Ba**		86.667	**0.028123**	ppb	26.923	43.219	33.333
165	**Ho-IS**		368063.201		ppb	1.744		368847.286
159	**Tb-IS**	>	370647.838		ppb	0.191		363541.658
207	**Pb**		841.121	**0.012591**	ppb	7.585	16.313	434.447
203	**Tl**		268.891	**0.012999**	ppb	11.912	23.491	128.889
209	**Bi-IS**		215867.694		ppb	0.841		214395.071
51	**V**		10.000	**0.042081**	ppb	33.333	37.420	1.111
59	**Co**		42.222	**0.018495**	ppb	12.059	39.985	30.000
60	**Ni**		170.001	**0.078386**	ppb	34.188	55.954	67.778
75	**As**		298.149	**0.087533**	ppb	6.258	46.000	260.869
71	**Ga-ISK**		56982.341		ppb	2.105		58887.805
82	**Se-2**		12.943	**0.282476**	ppb	31.208	31.894	0.226
107	**Ag-1**		396.672	**0.065659**	ppb	10.084	12.652	83.334
115	**In-ISK**	>	80076.809		ppb	0.265		81053.470
45	**Sc-ISK**	>	142092.137		ppb	1.384		145776.751
23	**Na**		10348.748	**7.456274**	ppb	2.233	6.290	8625.938
39	**K**		36769.482	**6.737816**	ppb	0.371	14.191	34421.426
24	**Mg**		608.346	**1.751543**	ppb	13.981	20.378	211.668
159	**Tb-ISK**		162701.777		ppb	2.892		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 23:05:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.216
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		39813.203		ppb	2.559		44909.430
9	**Be**		24.444	**0.004149**	ppb	62.984	196.303	17.778
10	**B**		6304.725	**-4.617563**	ppb	2.511	7.857	9341.944
27	**Al**		4511.379	**0.077548**	ppb	0.966	4.294	4118.935
43	**Ca-2**		105.000	**-0.695511**	ppb	25.198	137.864	133.334
49	**Ti**		348.893	**0.027486**	ppb	6.362	86.489	346.671
52	**Cr**		16119.093	**-0.057843**	ppb	2.506	52.619	18068.087
55	**Mn**		2267.958	**0.050907**	ppb	6.026	11.457	1340.063
57	**Fe**		12726.781	**-0.847969**	ppb	2.965	54.847	14006.866
45	**Sc-IS**	>	1740873.595		ppb	1.484		1865382.380
66	**Zn**		551.122	**0.032582**	ppb	6.119	57.527	516.676
86	**Sr**		73.208	**0.012722**	ppb	6.778	11.756	39.724
65	**Cu**		201.113	**0.025984**	ppb	15.666	42.067	128.889
69	**Ga-IS**		553182.821		ppb	1.448		573819.625
95	**Mo**		743.353	**0.179452**	ppb	8.109	9.209	212.224
115	**In-IS**	>	204707.848		ppb	2.572		197719.745
111	**Cd**		18.439	**0.001470**	ppb	63.183	405.043	15.110
118	**Sn**		2660.248	**0.240851**	ppb	0.995	6.959	1235.609
121	**Sb**		397.783	**0.029601**	ppb	12.718	27.760	197.779
135	**Ba**		47.778	**0.007049**	ppb	28.196	96.045	33.333
165	**Ho-IS**		365063.815		ppb	1.125		368847.286
159	**Tb-IS**	>	367190.570		ppb	1.035		363541.658
207	**Pb**		391.113	**-0.001527**	ppb	10.310	79.041	434.447
203	**Tl**		117.778	**-0.001187**	ppb	9.098	80.489	128.889
209	**Bi-IS**		217299.199		ppb	1.062		214395.071
51	**V**		5.556	**0.021127**	ppb	34.641	43.124	1.111
59	**Co**		12.222	**-0.025567**	ppb	31.492	22.254	30.000
60	**Ni**		112.223	**0.034518**	ppb	28.849	70.213	67.778
75	**As**		258.725	**0.003369**	ppb	6.061	1053.814	260.869
71	**Ga-ISK**		56847.363		ppb	2.194		58887.805
82	**Se-2**		12.289	**0.268881**	ppb	20.576	22.180	0.226
107	**Ag-1**		106.667	**0.005170**	ppb	27.776	123.262	83.334
115	**In-ISK**	>	79918.043		ppb	1.235		81053.470
45	**Sc-ISK**	>	140215.988		ppb	1.623		145776.751
23	**Na**		9459.800	**4.540705**	ppb	3.044	32.864	8625.938
39	**K**		34746.658	**3.471535**	ppb	1.701	10.478	34421.426
24	**Mg**		185.001	**-0.081062**	ppb	29.234	298.560	211.668
159	**Tb-ISK**		161895.545		ppb	0.641		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-292854-A-5-A @20
Autosampler Position: 312
Sample Date/Time: Sunday, December 19, 2021 23:08:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\440-292854-A-5-A @20.217
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47940.354		ppb	3.017		44909.430
9	**Be**		14.444	**-0.001483**	ppb	66.617	332.306	17.778
10	**B**		514113.927	**913.872886**	ppb	3.605	2.194	9341.944
27	**Al**		175377.616	**18.821873**	ppb	2.210	0.812	4118.935
43	**Ca-2**		817831.090	**27722.048989**	ppb	3.845	1.702	133.334
49	**Ti**		1533.416	**1.220011**	ppb	5.850	4.959	346.671
52	**Cr**		44162.607	**1.942108**	ppb	1.136	1.918	18068.087
55	**Mn**		2394818.883	**113.360414**	ppb	1.930	1.167	1340.063
57	**Fe**		528395.076	**1189.661423**	ppb	0.873	1.347	14006.866
45	**Sc-IS**	>	1840543.947		ppb	2.187		1865382.380
66	**Zn**		2794.718	**1.017297**	ppb	3.375	4.375	516.676
86	**Sr**		538623.633	**179.541883**	ppb	1.501	3.045	39.724
65	**Cu**		2489.106	**0.716332**	ppb	4.181	6.626	128.889
69	**Ga-IS**		525718.309		ppb	2.263		573819.625
95	**Mo**		4813.033	**1.434516**	ppb	0.511	1.735	212.224
115	**In-IS**	>	208782.465		ppb	1.802		197719.745
111	**Cd**		13.226	**-0.001344**	ppb	25.126	123.188	15.110
118	**Sn**		738.908	**-0.096685**	ppb	9.637	11.766	1235.609
121	**Sb**		377.783	**0.025360**	ppb	6.623	15.464	197.779
135	**Ba**		11226.634	**5.884457**	ppb	2.639	2.093	33.333
165	**Ho-IS**		358217.287		ppb	1.443		368847.286
159	**Tb-IS**	>	367029.516		ppb	1.915		363541.658
207	**Pb**		2080.061	**0.052447**	ppb	2.938	6.181	434.447
203	**Tl**		285.558	**0.014837**	ppb	7.505	13.049	128.889
209	**Bi-IS**		154751.565		ppb	1.481		214395.071
51	**V**		545.566	**2.707232**	ppb	4.586	3.226	1.111
59	**Co**		54.445	**0.040549**	ppb	12.745	23.994	30.000
60	**Ni**		2594.680	**2.028089**	ppb	3.923	5.154	67.778
75	**As**		307.909	**0.143872**	ppb	8.877	50.026	260.869
71	**Ga-ISK**		53591.534		ppb	3.661		58887.805
82	**Se-2**		193.264	**4.505671**	ppb	5.486	3.444	0.226
107	**Ag-1**		2162.387	**0.458877**	ppb	11.699	14.275	83.334
115	**In-ISK**	>	76139.531		ppb	2.592		81053.470
45	**Sc-ISK**	>	149296.263		ppb	1.925		145776.751
23	**Na**		76873154.076	**281152.569365**	ppb	1.276	0.645	8625.938
39	**K**		5645021.087	**11165.363800**	ppb	1.481	0.987	34421.426
24	**Mg**		8243500.245	**34208.018864**	ppb	2.025	2.279	211.668
159	**Tb-ISK**		161872.049		ppb	1.445		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 314
Sample Date/Time: Sunday, December 19, 2021 23:11:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\blk.218
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40918.531		ppb	1.830		44909.430
9	**Be**		15.556	**-0.000456**	ppb	12.372	186.018	17.778
10	**B**		7398.582	**-2.339959**	ppb	1.680	11.485	9341.944
27	**Al**		1618.760	**-0.256416**	ppb	15.047	9.278	4118.935
43	**Ca-2**		230.002	**3.901259**	ppb	3.765	14.309	133.334
49	**Ti**		418.895	**0.109772**	ppb	9.154	46.016	346.671
52	**Cr**		21343.715	**0.371090**	ppb	2.119	8.483	18068.087
55	**Mn**		1891.236	**0.033334**	ppb	2.301	9.360	1340.063
57	**Fe**		18300.605	**13.365776**	ppb	1.468	5.943	14006.866
45	**Sc-IS**	>	1718931.021		ppb	3.218		1865382.380
66	**Zn**		368.894	**-0.050627**	ppb	11.226	49.194	516.676
86	**Sr**		96.416	**0.021452**	ppb	12.547	25.162	39.724
65	**Cu**		495.564	**0.122441**	ppb	3.452	8.091	128.889
69	**Ga-IS**		546236.687		ppb	1.612		573819.625
95	**Mo**		246.669	**0.017208**	ppb	16.933	88.956	212.224
115	**In-IS**	>	213715.517		ppb	2.777		197719.745
111	**Cd**		8.371	**-0.003889**	ppb	82.578	81.625	15.110
118	**Sn**		306.670	**-0.171695**	ppb	14.624	4.253	1235.609
121	**Sb**		63.333	**-0.022080**	ppb	27.850	11.005	197.779
135	**Ba**		14.444	**-0.011154**	ppb	58.076	36.598	33.333
165	**Ho-IS**		362969.169		ppb	1.050		368847.286
159	**Tb-IS**	>	368302.275		ppb	1.428		363541.658
207	**Pb**		262.223	**-0.005666**	ppb	9.019	11.474	434.447
203	**Tl**		177.779	**0.004470**	ppb	20.049	72.578	128.889
209	**Bi-IS**		209876.003		ppb	0.339		214395.071
51	**V**		4.444	**0.015400**	ppb	114.564	152.369	1.111
59	**Co**		7.778	**-0.032290**	ppb	49.487	17.449	30.000
60	**Ni**		66.667	**-0.001008**	ppb	21.795	1082.101	67.778
75	**As**		314.350	**0.112545**	ppb	12.333	77.513	260.869
71	**Ga-ISK**		58691.448		ppb	1.575		58887.805
82	**Se-2**		5.250	**0.110558**	ppb	124.231	129.745	0.226
107	**Ag-1**		160.001	**0.015732**	ppb	13.010	28.839	83.334
115	**In-ISK**	>	81332.614		ppb	0.826		81053.470
45	**Sc-ISK**	>	138805.540		ppb	0.514		145776.751
23	**Na**		42329.290	**134.207876**	ppb	1.003	0.996	8625.938
39	**K**		45160.164	**26.516648**	ppb	1.270	6.480	34421.426
24	**Mg**		3005.316	**12.512805**	ppb	0.499	0.882	211.668
159	**Tb-ISK**		160925.335		ppb	0.553		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-292947-D-1-A
Autosampler Position: 313
Sample Date/Time: Sunday, December 19, 2021 23:15:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\440-292947-D-1-A.219
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49025.138		ppb	2.972		44909.430
9	**Be**		25.556	**0.003656**	ppb	32.825	104.043	17.778
10	**B**		115576.972	**187.471262**	ppb	2.632	0.931	9341.944
27	**Al**		26878.265	**2.436735**	ppb	1.488	4.430	4118.935
43	**Ca-2**		1564078.213	**51745.642204**	ppb	3.105	0.941	133.334
49	**Ti**		1728.994	**1.378167**	ppb	11.442	14.183	346.671
52	**Cr**		23862.145	**0.402383**	ppb	2.813	7.202	18068.087
55	**Mn**		33869.026	**1.502200**	ppb	3.657	0.980	1340.063
57	**Fe**		92132.104	**175.811578**	ppb	4.582	3.295	14006.866
45	**Sc-IS**	>	1886519.262		ppb	3.346		1865382.380
66	**Zn**		4885.280	**1.896053**	ppb	0.219	3.440	516.676
86	**Sr**		1648754.979	**536.295286**	ppb	1.750	2.839	39.724
65	**Cu**		37986.005	**11.194095**	ppb	2.046	1.775	128.889
69	**Ga-IS**		561382.861		ppb	2.050		573819.625
95	**Mo**		1275.613	**0.322850**	ppb	4.407	7.384	212.224
115	**In-IS**	>	207358.911		ppb	2.441		197719.745
111	**Cd**		12.877	**-0.001415**	ppb	64.483	296.890	15.110
118	**Sn**		1298.948	**0.000689**	ppb	2.058	1416.584	1235.609
121	**Sb**		544.455	**0.050975**	ppb	2.761	7.685	197.779
135	**Ba**		327419.718	**173.323140**	ppb	2.239	0.201	33.333
165	**Ho-IS**		359030.230		ppb	0.789		368847.286
159	**Tb-IS**	>	359635.485		ppb	1.303		363541.658
207	**Pb**		14874.154	**0.470780**	ppb	1.951	3.361	434.447
203	**Tl**		166.668	**0.003822**	ppb	3.464	20.104	128.889
209	**Bi-IS**		182950.709		ppb	0.403		214395.071
51	**V**		18.889	**0.089079**	ppb	26.956	28.511	1.111
59	**Co**		4.444	**-0.036647**	ppb	86.603	16.379	30.000
60	**Ni**		337.782	**0.220476**	ppb	8.954	10.115	67.778
75	**As**		811.643	**1.297198**	ppb	9.187	12.552	260.869
71	**Ga-ISK**		52699.284		ppb	2.420		58887.805
82	**Se-2**		100.245	**2.342426**	ppb	20.010	19.221	0.226
107	**Ag-1**		80.000	**0.000457**	ppb	11.024	453.592	83.334
115	**In-ISK**	>	75843.301		ppb	0.786		81053.470
45	**Sc-ISK**	>	142225.612		ppb	0.707		145776.751
23	**Na**		54126522.882	**207767.790465**	ppb	2.216	1.805	8625.938
39	**K**		14889512.696	**31035.432629**	ppb	1.705	1.436	34421.426
24	**Mg**		6232652.905	**27145.539207**	ppb	2.248	2.290	211.668
159	**Tb-ISK**		156442.692		ppb	1.262		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78784-A-1-A @5
Autosampler Position: 315
Sample Date/Time: Sunday, December 19, 2021 23:18:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78784-A-1-A @5.220
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		54065.499		ppb	2.745		44909.430
9	**Be**		700.017	**0.340827**	ppb	6.917	7.307	17.778
10	**B**		69295.442	**108.118858**	ppb	0.713	1.289	9341.944
27	**Al**		2867715.477	**313.017261**	ppb	0.537	0.944	4118.935
43	**Ca-2**		423155.982	**14272.255540**	ppb	0.884	1.376	133.334
49	**Ti**		1573.420	**1.253551**	ppb	4.733	6.149	346.671
52	**Cr**		55199.781	**2.734692**	ppb	1.072	2.162	18068.087
55	**Mn**		273777.815	**12.837280**	ppb	1.581	1.890	1340.063
57	**Fe**		94862.983	**186.223772**	ppb	2.875	3.738	14006.866
45	**Sc-IS**	>	1850002.041		ppb	0.577		1865382.380
66	**Zn**		86484.341	**38.073437**	ppb	0.903	1.357	516.676
86	**Sr**		73290.438	**24.285335**	ppb	1.501	1.735	39.724
65	**Cu**		76482.009	**23.017348**	ppb	1.826	2.109	128.889
69	**Ga-IS**		547811.561		ppb	1.403		573819.625
95	**Mo**		29441.453	**9.060164**	ppb	4.187	4.386	212.224
115	**In-IS**	>	209116.429		ppb	2.550		197719.745
111	**Cd**		657.080	**0.315598**	ppb	13.904	15.232	15.110
118	**Sn**		1226.719	**-0.013712**	ppb	5.997	71.664	1235.609
121	**Sb**		25946.876	**3.856829**	ppb	0.665	1.884	197.779
135	**Ba**		57855.812	**30.362834**	ppb	0.761	1.968	33.333
165	**Ho-IS**		380470.262		ppb	1.003		368847.286
159	**Tb-IS**	>	373056.614		ppb	1.413		363541.658
207	**Pb**		76254.136	**2.381450**	ppb	1.109	1.534	434.447
203	**Tl**		208.890	**0.007198**	ppb	8.032	21.833	128.889
209	**Bi-IS**		202865.843		ppb	0.601		214395.071
51	**V**		167.779	**0.793481**	ppb	4.588	4.435	1.111
59	**Co**		203.335	**0.257631**	ppb	17.732	21.305	30.000
60	**Ni**		7069.528	**5.369303**	ppb	3.802	3.742	67.778
75	**As**		942.878	**1.497580**	ppb	3.163	3.611	260.869
71	**Ga-ISK**		56248.369		ppb	3.145		58887.805
82	**Se-2**		20.164	**0.446410**	ppb	38.564	39.627	0.226
107	**Ag-1**		97.778	**0.003361**	ppb	28.590	173.595	83.334
115	**In-ISK**	>	79529.640		ppb	0.608		81053.470
45	**Sc-ISK**	>	144982.009		ppb	0.799		145776.751
23	**Na**		19748780.975	**74337.981399**	ppb	3.367	2.606	8625.938
39	**K**		5232387.935	**10653.021739**	ppb	1.003	0.373	34421.426
24	**Mg**		138923.923	**592.668772**	ppb	0.825	0.029	211.668
159	**Tb-ISK**		163820.888		ppb	2.100		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78784-A-2-A @5
Autosampler Position: 316
Sample Date/Time: Sunday, December 19, 2021 23:21:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78784-A-2-A @5.221
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43663.309		ppb	1.959		44909.430
9	**Be**		38.889	**0.010645**	ppb	21.571	40.465	17.778
10	**B**		148026.350	**250.151317**	ppb	1.060	2.397	9341.944
27	**Al**		2886049.634	**315.259841**	ppb	2.074	2.116	4118.935
43	**Ca-2**		258973.287	**8740.235933**	ppb	1.526	2.303	133.334
49	**Ti**		1215.607	**0.890373**	ppb	6.256	10.339	346.671
52	**Cr**		57788.880	**2.927915**	ppb	1.069	2.242	18068.087
55	**Mn**		650386.253	**30.607704**	ppb	1.776	2.421	1340.063
57	**Fe**		121432.823	**247.539976**	ppb	0.560	1.469	14006.866
45	**Sc-IS**	>	1848644.773		ppb	1.192		1865382.380
66	**Zn**		368383.872	**163.035875**	ppb	0.714	0.782	516.676
86	**Sr**		180102.838	**59.743156**	ppb	1.198	1.419	39.724
65	**Cu**		232724.809	**70.169578**	ppb	0.644	0.817	128.889
69	**Ga-IS**		572323.350		ppb	1.613		573819.625
95	**Mo**		32588.341	**10.045882**	ppb	6.433	7.096	212.224
115	**In-IS**	>	213578.482		ppb	1.513		197719.745
111	**Cd**		1267.183	**0.601934**	ppb	7.815	6.397	15.110
118	**Sn**		868.916	**-0.077790**	ppb	19.237	35.651	1235.609
121	**Sb**		25832.235	**3.757171**	ppb	2.712	1.399	197.779
135	**Ba**		39522.389	**20.295300**	ppb	2.092	1.435	33.333
165	**Ho-IS**		382293.758		ppb	2.247		368847.286
159	**Tb-IS**	>	379387.919		ppb	2.335		363541.658
207	**Pb**		789882.256	**24.387656**	ppb	1.469	1.640	434.447
203	**Tl**		145.556	**0.001068**	ppb	21.155	291.420	128.889
209	**Bi-IS**		222488.630		ppb	2.279		214395.071
51	**V**		212.224	**0.939032**	ppb	8.651	8.061	1.111
59	**Co**		384.450	**0.488694**	ppb	4.098	5.358	30.000
60	**Ni**		15303.757	**10.918139**	ppb	4.035	3.533	67.778
75	**As**		871.794	**1.218775**	ppb	6.083	8.099	260.869
71	**Ga-ISK**		60094.017		ppb	3.611		58887.805
82	**Se-2**		18.909	**0.390966**	ppb	53.894	55.220	0.226
107	**Ag-1**		256.669	**0.033309**	ppb	14.977	23.790	83.334
115	**In-ISK**	>	85065.226		ppb	1.161		81053.470
45	**Sc-ISK**	>	149138.562		ppb	3.933		145776.751
23	**Na**		2541021.805	**9273.608049**	ppb	2.965	0.974	8625.938
39	**K**		1018880.552	**1961.054009**	ppb	1.559	2.604	34421.426
24	**Mg**		227154.393	**942.905526**	ppb	2.919	1.681	211.668
159	**Tb-ISK**		169210.276		ppb	0.887		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78785-B-1-A
Autosampler Position: 317
Sample Date/Time: Sunday, December 19, 2021 23:24:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78785-B-1-A.222
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41367.589		ppb	0.940		44909.430
9	**Be**		171.112	**0.078151**	ppb	15.625	19.176	17.778
10	**B**		15626.329	**11.901260**	ppb	4.135	11.518	9341.944
27	**Al**		7115735.321	**789.395972**	ppb	1.708	0.244	4118.935
43	**Ca-2**		220708.878	**7557.016961**	ppb	1.767	0.261	133.334
49	**Ti**		5090.908	**4.921294**	ppb	3.282	4.351	346.671
52	**Cr**		32157.269	**1.081014**	ppb	1.466	1.150	18068.087
55	**Mn**		2871616.694	**137.361044**	ppb	0.259	1.737	1340.063
57	**Fe**		452765.776	**1025.588395**	ppb	1.137	1.947	14006.866
45	**Sc-IS**	>	1821806.517		ppb	1.939		1865382.380
66	**Zn**		184986.761	**82.972274**	ppb	1.104	1.352	516.676
86	**Sr**		132792.545	**44.702309**	ppb	1.306	2.189	39.724
65	**Cu**		42558.856	**12.992190**	ppb	0.440	1.961	128.889
69	**Ga-IS**		576935.164		ppb	0.640		573819.625
95	**Mo**		2604.682	**0.754663**	ppb	2.911	3.335	212.224
115	**In-IS**	>	211346.740		ppb	0.909		197719.745
111	**Cd**		224.532	**0.101449**	ppb	9.791	11.184	15.110
118	**Sn**		940.031	**-0.064163**	ppb	8.606	23.191	1235.609
121	**Sb**		2994.759	**0.412609**	ppb	3.246	3.933	197.779
135	**Ba**		85279.346	**44.279177**	ppb	0.674	1.198	33.333
165	**Ho-IS**		375811.259		ppb	0.242		368847.286
159	**Tb-IS**	>	380460.006		ppb	1.021		363541.658
207	**Pb**		264811.425	**8.142864**	ppb	0.448	1.414	434.447
203	**Tl**		185.557	**0.004665**	ppb	9.219	32.772	128.889
209	**Bi-IS**		216894.330		ppb	1.446		214395.071
51	**V**		1026.704	**4.769982**	ppb	9.315	7.563	1.111
59	**Co**		1364.510	**1.932408**	ppb	5.033	5.598	30.000
60	**Ni**		2729.150	**1.996304**	ppb	4.878	6.106	67.778
75	**As**		749.898	**1.041762**	ppb	5.322	9.780	260.869
71	**Ga-ISK**		57182.001		ppb	1.107		58887.805
82	**Se-2**		9.232	**0.195124**	ppb	113.033	114.378	0.226
107	**Ag-1**		221.113	**0.028316**	ppb	5.707	11.525	83.334
115	**In-ISK**	>	81327.820		ppb	2.069		81053.470
45	**Sc-ISK**	>	144724.989		ppb	0.933		145776.751
23	**Na**		782028.637	**2918.364106**	ppb	0.709	0.678	8625.938
39	**K**		1400103.042	**2804.339784**	ppb	1.088	0.803	34421.426
24	**Mg**		369743.230	**1581.585353**	ppb	1.956	1.100	211.668
159	**Tb-ISK**		166155.418		ppb	1.062		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78787-B-1-A
Autosampler Position: 318
Sample Date/Time: Sunday, December 19, 2021 23:27:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78787-B-1-A.223
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40546.389		ppb	3.280		44909.430
9	**Be**		102.223	**0.043856**	ppb	12.345	12.978	17.778
10	**B**		14569.650	**10.408772**	ppb	1.972	1.850	9341.944
27	**Al**		4561674.766	**514.417404**	ppb	1.863	0.683	4118.935
43	**Ca-2**		165009.499	**5744.168670**	ppb	2.264	1.852	133.334
49	**Ti**		4320.654	**4.198056**	ppb	3.849	4.102	346.671
52	**Cr**		27513.151	**0.769865**	ppb	3.010	9.110	18068.087
55	**Mn**		1460966.501	**71.023894**	ppb	1.920	2.011	1340.063
57	**Fe**		248553.814	**558.339173**	ppb	1.185	1.345	14006.866
45	**Sc-IS**	>	1791560.502		ppb	1.518		1865382.380
66	**Zn**		146375.003	**66.723765**	ppb	0.886	2.345	516.676
86	**Sr**		109771.521	**37.571383**	ppb	1.107	1.818	39.724
65	**Cu**		40214.300	**12.480611**	ppb	0.363	1.187	128.889
69	**Ga-IS**		567777.454		ppb	1.174		573819.625
95	**Mo**		1103.376	**0.287985**	ppb	7.625	9.833	212.224
115	**In-IS**	>	213564.725		ppb	2.504		197719.745
111	**Cd**		209.907	**0.093029**	ppb	14.839	13.404	15.110
118	**Sn**		834.469	**-0.083345**	ppb	5.424	12.810	1235.609
121	**Sb**		3817.177	**0.528850**	ppb	1.575	3.472	197.779
135	**Ba**		67255.740	**34.569433**	ppb	1.268	3.224	33.333
165	**Ho-IS**		372999.272		ppb	0.990		368847.286
159	**Tb-IS**	>	375579.433		ppb	2.482		363541.658
207	**Pb**		193417.881	**6.022947**	ppb	0.124	2.345	434.447
203	**Tl**		201.113	**0.006341**	ppb	5.064	13.815	128.889
209	**Bi-IS**		218383.432		ppb	1.457		214395.071
51	**V**		603.346	**2.797556**	ppb	2.924	3.600	1.111
59	**Co**		640.014	**0.881296**	ppb	5.512	7.016	30.000
60	**Ni**		2050.147	**1.482124**	ppb	4.799	3.654	67.778
75	**As**		699.538	**0.929669**	ppb	4.326	5.189	260.869
71	**Ga-ISK**		57685.144		ppb	1.776		58887.805
82	**Se-2**		7.245	**0.152601**	ppb	42.056	42.825	0.226
107	**Ag-1**		143.334	**0.012226**	ppb	4.028	12.204	83.334
115	**In-ISK**	>	81516.598		ppb	1.286		81053.470
45	**Sc-ISK**	>	144329.895		ppb	0.735		145776.751
23	**Na**		884155.934	**3312.668562**	ppb	1.400	0.880	8625.938
39	**K**		959235.564	**1904.485909**	ppb	1.742	1.045	34421.426
24	**Mg**		237975.181	**1020.372616**	ppb	2.913	2.245	211.668
159	**Tb-ISK**		163749.821		ppb	0.439		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78787-B-1-B MS
Autosampler Position: 319
Sample Date/Time: Sunday, December 19, 2021 23:30:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78787-B-1-B MS.224
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40569.763		ppb	2.024		44909.430
9	**Be**		187582.552	**96.262697**	ppb	1.335	0.930	17.778
10	**B**		59239.245	**92.959108**	ppb	0.977	1.532	9341.944
27	**Al**		5213145.249	**585.182149**	ppb	0.631	1.506	4118.935
43	**Ca-2**		309517.585	**10726.129420**	ppb	1.489	0.638	133.334
49	**Ti**		97408.772	**101.699747**	ppb	1.097	1.098	346.671
52	**Cr**		1273686.499	**94.694491**	ppb	1.151	0.987	18068.087
55	**Mn**		3434299.963	**166.247568**	ppb	0.188	1.960	1340.063
57	**Fe**		2423697.991	**5698.348215**	ppb	2.084	4.111	14006.866
45	**Sc-IS**	>	1800442.593		ppb	2.109		1865382.380
66	**Zn**		387032.650	**175.891654**	ppb	2.527	1.776	516.676
86	**Sr**		401391.530	**136.741930**	ppb	1.079	1.154	39.724
65	**Cu**		358189.568	**110.951997**	ppb	0.893	2.954	128.889
69	**Ga-IS**		600882.608		ppb	1.768		573819.625
95	**Mo**		303683.670	**96.665819**	ppb	2.074	2.339	212.224
115	**In-IS**	>	216327.901		ppb	2.836		197719.745
111	**Cd**		211307.992	**100.456562**	ppb	2.473	0.546	15.110
118	**Sn**		548056.975	**90.124436**	ppb	2.841	1.245	1235.609
121	**Sb**		703255.905	**101.825282**	ppb	1.942	1.105	197.779
135	**Ba**		257497.921	**130.693072**	ppb	1.124	1.840	33.333
165	**Ho-IS**		373053.257		ppb	1.482		368847.286
159	**Tb-IS**	>	377193.644		ppb	1.876		363541.658
207	**Pb**		3229157.812	**100.338987**	ppb	0.951	2.784	434.447
203	**Tl**		963270.324	**89.478945**	ppb	1.315	0.885	128.889
209	**Bi-IS**		219975.223		ppb	0.952		214395.071
51	**V**		21797.736	**99.910253**	ppb	2.634	2.955	1.111
59	**Co**		68423.536	**97.487042**	ppb	2.457	2.481	30.000
60	**Ni**		124559.563	**91.907906**	ppb	0.284	1.525	67.778
75	**As**		44778.304	**93.462629**	ppb	2.086	3.003	260.869
71	**Ga-ISK**		57291.322		ppb	0.778		58887.805
82	**Se-2**		5028.460	**108.237754**	ppb	2.921	3.763	0.226
107	**Ag-1**		235558.957	**47.680046**	ppb	2.058	0.888	83.334
115	**In-ISK**	>	82608.855		ppb	1.782		81053.470
45	**Sc-ISK**	>	143743.018		ppb	1.672		145776.751
23	**Na**		1064350.204	**4010.734451**	ppb	2.350	1.173	8625.938
39	**K**		1347118.144	**2714.396786**	ppb	1.761	0.133	34421.426
24	**Mg**		1375660.340	**5927.816038**	ppb	1.682	1.385	211.668
159	**Tb-ISK**		166173.558		ppb	0.168		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78787-B-1-C MSD
Autosampler Position: 320
Sample Date/Time: Sunday, December 19, 2021 23:34:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-78787-B-1-C MSD.225
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40310.161		ppb	3.076		44909.430
9	**Be**		186403.251	**98.570890**	ppb	2.686	3.121	17.778
10	**B**		58080.168	**94.054450**	ppb	3.903	3.762	9341.944
27	**Al**		5134427.555	**593.850973**	ppb	1.736	2.358	4118.935
43	**Ca-2**		300969.666	**10748.781666**	ppb	1.785	2.860	133.334
49	**Ti**		95396.403	**102.625902**	ppb	1.658	1.856	346.671
52	**Cr**		1257357.216	**96.350111**	ppb	0.987	2.013	18068.087
55	**Mn**		3395362.787	**169.355615**	ppb	2.014	2.943	1340.063
57	**Fe**		2415402.942	**5850.313738**	ppb	1.422	2.379	14006.866
45	**Sc-IS**	>	1747247.973		ppb	1.188		1865382.380
66	**Zn**		385693.051	**180.638463**	ppb	0.907	1.692	516.676
86	**Sr**		401695.911	**141.006627**	ppb	1.093	1.805	39.724
65	**Cu**		370231.181	**118.126255**	ppb	1.417	0.561	128.889
69	**Ga-IS**		588620.768		ppb	0.282		573819.625
95	**Mo**		314369.533	**103.113547**	ppb	1.360	2.208	212.224
115	**In-IS**	>	214217.820		ppb	1.907		197719.745
111	**Cd**		212640.093	**102.069286**	ppb	2.753	1.134	15.110
118	**Sn**		554110.998	**92.023998**	ppb	1.389	0.557	1235.609
121	**Sb**		700109.172	**102.363217**	ppb	0.871	1.032	197.779
135	**Ba**		252720.256	**129.514695**	ppb	0.568	1.709	33.333
165	**Ho-IS**		373978.547		ppb	0.296		368847.286
159	**Tb-IS**	>	374982.627		ppb	1.281		363541.658
207	**Pb**		3233978.260	**101.065590**	ppb	1.129	2.322	434.447
203	**Tl**		983435.754	**91.898197**	ppb	1.237	2.191	128.889
209	**Bi-IS**		216074.052		ppb	0.370		214395.071
51	**V**		22060.359	**101.840404**	ppb	2.332	4.019	1.111
59	**Co**		69111.220	**99.150685**	ppb	0.737	1.482	30.000
60	**Ni**		126423.645	**93.940697**	ppb	1.039	2.808	67.778
75	**As**		45614.049	**95.860970**	ppb	1.170	0.947	260.869
71	**Ga-ISK**		57412.939		ppb	1.771		58887.805
82	**Se-2**		5075.452	**109.956117**	ppb	3.040	1.523	0.226
107	**Ag-1**		237899.208	**48.488811**	ppb	1.420	0.746	83.334
115	**In-ISK**	>	82043.892		ppb	1.761		81053.470
45	**Sc-ISK**	>	142030.398		ppb	1.230		145776.751
23	**Na**		1045898.170	**3988.560816**	ppb	1.740	0.516	8625.938
39	**K**		1343986.895	**2741.085695**	ppb	2.908	1.812	34421.426
24	**Mg**		1390424.833	**6063.395436**	ppb	2.266	2.008	211.668
159	**Tb-ISK**		164683.155		ppb	0.830		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 23:43:38
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.228
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		39104.586		ppb	2.741		44909.430
9	**Be**		175112.890	**93.287775**	ppb	2.955	2.795	17.778
10	**B**		123269.952	**220.137317**	ppb	3.360	3.077	9341.944
27	**Al**		804208.685	**93.321404**	ppb	2.463	1.583	4118.935
43	**Ca-2**		141625.435	**5092.308753**	ppb	2.129	0.969	133.334
49	**Ti**		91752.600	**99.445629**	ppb	0.520	1.709	346.671
52	**Cr**		1251448.533	**96.606474**	ppb	1.548	0.325	18068.087
55	**Mn**		1908098.633	**95.845951**	ppb	1.259	0.923	1340.063
57	**Fe**		2110317.967	**5145.456882**	ppb	0.609	0.672	14006.866
45	**Sc-IS**	>	1734185.951		ppb	1.242		1865382.380
66	**Zn**		222485.868	**104.895433**	ppb	0.890	2.035	516.676
86	**Sr**		306112.775	**108.253296**	ppb	0.688	0.601	39.724
65	**Cu**		330011.595	**106.092780**	ppb	0.275	1.013	128.889
69	**Ga-IS**		579681.607		ppb	1.204		573819.625
95	**Mo**		345010.354	**114.005232**	ppb	1.501	0.641	212.224
115	**In-IS**	>	210838.875		ppb	2.218		197719.745
111	**Cd**		203367.616	**99.212310**	ppb	1.288	1.771	15.110
118	**Sn**		600950.869	**101.416331**	ppb	2.415	0.591	1235.609
121	**Sb**		671635.820	**99.770083**	ppb	1.546	0.712	197.779
135	**Ba**		192940.992	**100.461845**	ppb	1.312	1.945	33.333
165	**Ho-IS**		369416.087		ppb	1.475		368847.286
159	**Tb-IS**	>	375342.840		ppb	2.144		363541.658
207	**Pb**		3096949.159	**96.687030**	ppb	2.255	2.286	434.447
203	**Tl**		1006125.107	**93.934949**	ppb	3.481	3.763	128.889
209	**Bi-IS**		214828.941		ppb	1.148		214395.071
51	**V**		21492.824	**97.409983**	ppb	1.130	2.607	1.111
59	**Co**		69695.218	**98.212262**	ppb	2.434	4.138	30.000
60	**Ni**		127450.661	**92.967273**	ppb	2.385	2.182	67.778
75	**As**		46103.849	**95.141840**	ppb	1.079	1.736	260.869
71	**Ga-ISK**		58226.209		ppb	1.273		58887.805
82	**Se-2**		4563.315	**97.093172**	ppb	1.665	1.416	0.226
107	**Ag-1**		492624.138	**98.611650**	ppb	1.378	1.024	83.334
115	**In-ISK**	>	83554.119		ppb	1.743		81053.470
45	**Sc-ISK**	>	144624.147		ppb	2.107		145776.751
23	**Na**		1252731.229	**4697.380896**	ppb	2.591	1.134	8625.938
39	**K**		2512552.616	**5091.904021**	ppb	1.983	0.156	34421.426
24	**Mg**		1122375.942	**4806.845811**	ppb	2.142	1.595	211.668
159	**Tb-ISK**		165413.687		ppb	1.816		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message
B	10	
Mo	95	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 23:46:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.229
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		39771.956		ppb	0.894		44909.430
9	**Be**		63.333	**0.024516**	ppb	5.263	6.274	17.778
10	**B**		6583.743	**-4.198566**	ppb	5.940	12.795	9341.944
27	**Al**		5132.589	**0.144603**	ppb	1.563	2.129	4118.935
43	**Ca-2**		156.668	**1.097031**	ppb	18.426	83.871	133.334
49	**Ti**		298.892	**-0.029042**	ppb	7.912	109.385	346.671
52	**Cr**		15364.925	**-0.126571**	ppb	0.455	23.268	18068.087
55	**Mn**		2002.363	**0.036748**	ppb	4.444	6.568	1340.063
57	**Fe**		12843.551	**-0.813957**	ppb	2.443	145.508	14006.866
45	**Sc-IS**	>	1755929.466		ppb	2.030		1865382.380
66	**Zn**		615.569	**0.060639**	ppb	8.636	49.555	516.676
86	**Sr**		113.682	**0.026627**	ppb	22.799	33.222	39.724
65	**Cu**		294.448	**0.055109**	ppb	13.648	25.613	128.889
69	**Ga-IS**		560966.779		ppb	0.837		573819.625
95	**Mo**		2287.961	**0.682548**	ppb	5.470	7.904	212.224
115	**In-IS**	>	215600.652		ppb	2.135		197719.745
111	**Cd**		71.862	**0.026338**	ppb	18.867	21.777	15.110
118	**Sn**		7240.727	**0.976025**	ppb	5.481	9.320	1235.609
121	**Sb**		1087.819	**0.126988**	ppb	9.702	14.698	197.779
135	**Ba**		87.778	**0.026236**	ppb	5.801	13.499	33.333
165	**Ho-IS**		376235.659		ppb	0.643		368847.286
159	**Tb-IS**	>	380108.719		ppb	1.167		363541.658
207	**Pb**		1348.914	**0.027568**	ppb	6.925	9.181	434.447
203	**Tl**		542.233	**0.037524**	ppb	11.408	13.673	128.889
209	**Bi-IS**		219116.686		ppb	1.218		214395.071
51	**V**		18.889	**0.080342**	ppb	26.956	30.040	1.111
59	**Co**		51.111	**0.028012**	ppb	27.152	64.559	30.000
60	**Ni**		177.779	**0.078386**	ppb	2.864	4.264	67.778
75	**As**		305.154	**0.072970**	ppb	11.944	95.160	260.869
71	**Ga-ISK**		58155.928		ppb	1.454		58887.805
82	**Se-2**		7.922	**0.163340**	ppb	12.673	14.708	0.226
107	**Ag-1**		1032.260	**0.189126**	ppb	7.224	10.233	83.334
115	**In-ISK**	>	83798.281		ppb	2.104		81053.470
45	**Sc-ISK**	>	141781.228		ppb	0.719		145776.751
23	**Na**		12133.484	**14.418784**	ppb	1.060	1.729	8625.938
39	**K**		36443.092	**6.217504**	ppb	0.616	13.969	34421.426
24	**Mg**		766.687	**2.449242**	ppb	7.214	8.893	211.668
159	**Tb-ISK**		165286.025		ppb	0.392		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Sunday, December 19, 2021 23:50:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.230
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40400.388		ppb	1.516		44909.430
9	**Be**		15.556	**-0.000589**	ppb	44.607	611.682	17.778
10	**B**		6224.691	**-4.813097**	ppb	4.177	7.782	9341.944
27	**Al**		4805.144	**0.110172**	ppb	6.493	38.429	4118.935
43	**Ca-2**		111.667	**-0.467919**	ppb	13.679	122.449	133.334
49	**Ti**		278.892	**-0.049502**	ppb	10.305	56.679	346.671
52	**Cr**		15531.775	**-0.107612**	ppb	2.468	20.102	18068.087
55	**Mn**		2579.122	**0.066118**	ppb	2.029	4.542	1340.063
57	**Fe**		12359.790	**-1.834353**	ppb	1.656	30.966	14006.866
45	**Sc-IS**	>	1746423.175		ppb	1.086		1865382.380
66	**Zn**		565.567	**0.038411**	ppb	6.703	46.678	516.676
86	**Sr**		28.038	**-0.003261**	ppb	83.374	248.341	39.724
65	**Cu**		206.668	**0.027476**	ppb	8.381	20.938	128.889
69	**Ga-IS**		559883.409		ppb	1.584		573819.625
95	**Mo**		1043.371	**0.277446**	ppb	4.178	6.461	212.224
115	**In-IS**	>	214336.461		ppb	1.452		197719.745
111	**Cd**		22.253	**0.002789**	ppb	37.997	140.217	15.110
118	**Sn**		4878.611	**0.589014**	ppb	3.592	5.812	1235.609
121	**Sb**		557.789	**0.050241**	ppb	5.986	11.772	197.779
135	**Ba**		80.000	**0.022461**	ppb	4.167	6.017	33.333
165	**Ho-IS**		369878.635		ppb	1.088		368847.286
159	**Tb-IS**	>	374272.452		ppb	1.624		363541.658
207	**Pb**		598.894	**0.004764**	ppb	7.956	36.912	434.447
203	**Tl**		221.113	**0.008328**	ppb	20.579	55.679	128.889
209	**Bi-IS**		219537.408		ppb	0.699		214395.071
51	**V**		2.222	**0.004804**	ppb	86.603	180.211	1.111
59	**Co**		16.667	**-0.020240**	ppb	34.641	37.826	30.000
60	**Ni**		124.445	**0.039629**	ppb	8.610	21.329	67.778
75	**As**		308.071	**0.079827**	ppb	2.580	33.258	260.869
71	**Ga-ISK**		58792.965		ppb	1.125		58887.805
82	**Se-2**		10.930	**0.225168**	ppb	78.174	78.497	0.226
107	**Ag-1**		477.786	**0.078340**	ppb	23.363	29.676	83.334
115	**In-ISK**	>	83779.719		ppb	1.650		81053.470
45	**Sc-ISK**	>	143057.254		ppb	1.381		145776.751
23	**Na**		10705.678	**8.553514**	ppb	2.577	11.129	8625.938
39	**K**		34619.679	**1.755815**	ppb	1.082	77.817	34421.426
24	**Mg**		245.002	**0.163186**	ppb	22.075	149.227	211.668
159	**Tb-ISK**		167105.058		ppb	1.001		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79062-A-1-A
Autosampler Position: 321
Sample Date/Time: Sunday, December 19, 2021 23:53:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\570-79062-A-1-A.231
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43284.376		ppb	1.674		44909.430
9	**Be**		25.556	**0.003282**	ppb	32.825	114.050	17.778
10	**B**		113745.629	**178.186979**	ppb	2.227	1.174	9341.944
27	**Al**		70380.433	**6.871460**	ppb	3.696	3.260	4118.935
43	**Ca-2**		1628.426	**47.775548**	ppb	5.462	3.756	133.334
49	**Ti**		1136.712	**0.752819**	ppb	11.144	17.879	346.671
52	**Cr**		28040.844	**0.642094**	ppb	3.074	6.005	18068.087
55	**Mn**		326263.467	**14.561419**	ppb	2.007	1.410	1340.063
57	**Fe**		3272938.154	**7128.022859**	ppb	2.742	1.990	14006.866
45	**Sc-IS**	>	1944813.233		ppb	2.127		1865382.380
66	**Zn**		734401.572	**309.197318**	ppb	0.861	1.331	516.676
86	**Sr**		571.436	**0.167327**	ppb	11.231	13.109	39.724
65	**Cu**		18775.675	**5.344476**	ppb	3.646	2.018	128.889
69	**Ga-IS**		563330.472		ppb	1.977		573819.625
95	**Mo**		7189.587	**2.054747**	ppb	1.809	1.848	212.224
115	**In-IS**	>	211818.532		ppb	2.850		197719.745
111	**Cd**		107.125	**0.044033**	ppb	17.624	17.734	15.110
118	**Sn**		4015.009	**0.453872**	ppb	3.610	9.400	1235.609
121	**Sb**		20966.489	**3.070098**	ppb	1.790	1.190	197.779
135	**Ba**		410.006	**0.194326**	ppb	9.234	12.407	33.333
165	**Ho-IS**		374057.774		ppb	2.303		368847.286
159	**Tb-IS**	>	378509.153		ppb	0.955		363541.658
207	**Pb**		60662.582	**1.864142**	ppb	1.152	1.581	434.447
203	**Tl**		455.563	**0.029721**	ppb	15.459	20.854	128.889
209	**Bi-IS**		211990.478		ppb	1.637		214395.071
51	**V**		248.891	**1.131567**	ppb	9.502	9.292	1.111
59	**Co**		227.780	**0.280048**	ppb	14.062	16.451	30.000
60	**Ni**		30499.196	**22.390418**	ppb	1.766	2.393	67.778
75	**As**		1464.607	**2.506740**	ppb	4.011	5.488	260.869
71	**Ga-ISK**		58582.156		ppb	2.834		58887.805
82	**Se-2**		16.919	**0.357712**	ppb	47.261	47.902	0.226
107	**Ag-1**		225.557	**0.028302**	ppb	19.231	30.154	83.334
115	**In-ISK**	>	82879.386		ppb	0.637		81053.470
45	**Sc-ISK**	>	146652.264		ppb	0.824		145776.751
23	**Na**		6391389.778	**23765.987454**	ppb	0.940	0.909	8625.938
39	**K**		43832.698	**18.653503**	ppb	0.215	4.526	34421.426
24	**Mg**		2508.554	**9.700663**	ppb	7.737	9.224	211.668
159	**Tb-ISK**		165390.698		ppb	1.537		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Sunday, December 19, 2021 23:56:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCV-1479565.232
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41434.520		ppb	4.317		44909.430
9	**Be**		186088.301	**94.107391**	ppb	3.180	1.042	17.778
10	**B**		132947.218	**225.811659**	ppb	2.928	1.451	9341.944
27	**Al**		841304.148	**92.683654**	ppb	3.003	1.089	4118.935
43	**Ca-2**		148027.251	**5051.662505**	ppb	4.341	1.294	133.334
49	**Ti**		96146.998	**98.936009**	ppb	2.049	1.740	346.671
52	**Cr**		1334745.095	**97.869055**	ppb	1.420	2.057	18068.087
55	**Mn**		2073574.340	**98.870241**	ppb	3.809	1.897	1340.063
57	**Fe**		2201206.354	**5097.061374**	ppb	0.841	2.709	14006.866
45	**Sc-IS**	>	1826963.104		ppb	3.452		1865382.380
66	**Zn**		229643.541	**102.796337**	ppb	1.500	1.934	516.676
86	**Sr**		312690.140	**105.020925**	ppb	1.270	2.754	39.724
65	**Cu**		339932.549	**103.787692**	ppb	0.763	2.721	128.889
69	**Ga-IS**		600014.366		ppb	1.930		573819.625
95	**Mo**		346773.987	**108.839397**	ppb	0.525	2.890	212.224
115	**In-IS**	>	216071.545		ppb	2.708		197719.745
111	**Cd**		209473.771	**99.731084**	ppb	1.236	2.227	15.110
118	**Sn**		600964.477	**98.961623**	ppb	2.624	0.522	1235.609
121	**Sb**		683432.869	**99.059730**	ppb	2.400	0.464	197.779
135	**Ba**		196485.584	**99.833355**	ppb	1.681	1.873	33.333
165	**Ho-IS**		377878.358		ppb	0.994		368847.286
159	**Tb-IS**	>	381566.472		ppb	0.544		363541.658
207	**Pb**		3077045.840	**94.484322**	ppb	0.186	0.358	434.447
203	**Tl**		1013992.268	**93.106345**	ppb	0.451	0.879	128.889
209	**Bi-IS**		215490.913		ppb	0.529		214395.071
51	**V**		21970.216	**98.459749**	ppb	1.327	1.289	1.111
59	**Co**		72447.714	**100.927666**	ppb	1.592	1.264	30.000
60	**Ni**		133778.067	**96.529174**	ppb	1.981	2.928	67.778
75	**As**		47587.899	**97.129911**	ppb	0.527	0.607	260.869
71	**Ga-ISK**		59705.660		ppb	2.269		58887.805
82	**Se-2**		4723.353	**99.377909**	ppb	3.118	2.131	0.226
107	**Ag-1**		503561.954	**99.693070**	ppb	0.992	0.604	83.334
115	**In-ISK**	>	84478.665		ppb	1.120		81053.470
45	**Sc-ISK**	>	149070.558		ppb	1.755		145776.751
23	**Na**		1314492.444	**4783.603614**	ppb	0.594	1.732	8625.938
39	**K**		2667051.072	**5247.448233**	ppb	1.320	2.863	34421.426
24	**Mg**		1213440.490	**5042.863582**	ppb	0.677	2.371	211.668
159	**Tb-ISK**		171873.086		ppb	0.579		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Sunday, December 19, 2021 23:59:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.233
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40331.345		ppb	3.605		44909.430
9	**Be**		36.667	**0.010393**	ppb	39.626	70.284	17.778
10	**B**		6306.951	**-4.741202**	ppb	6.571	8.844	9341.944
27	**Al**		5133.256	**0.144134**	ppb	2.090	7.299	4118.935
43	**Ca-2**		141.667	**0.539718**	ppb	30.836	257.617	133.334
49	**Ti**		362.227	**0.039022**	ppb	11.833	139.416	346.671
52	**Cr**		18930.315	**0.147429**	ppb	1.854	21.690	18068.087
55	**Mn**		1745.663	**0.023825**	ppb	8.571	18.702	1340.063
57	**Fe**		16892.214	**8.927657**	ppb	4.003	3.950	14006.866
45	**Sc-IS**	>	1758199.217		ppb	3.746		1865382.380
66	**Zn**		662.238	**0.081804**	ppb	4.677	17.325	516.676
86	**Sr**		116.517	**0.027683**	ppb	6.619	15.080	39.724
65	**Cu**		225.557	**0.033047**	ppb	3.076	6.997	128.889
69	**Ga-IS**		570907.903		ppb	0.644		573819.625
95	**Mo**		1501.190	**0.425286**	ppb	3.975	9.045	212.224
115	**In-IS**	>	217961.122		ppb	1.313		197719.745
111	**Cd**		45.736	**0.013652**	ppb	44.154	67.664	15.110
118	**Sn**		5488.835	**0.675722**	ppb	6.802	10.513	1235.609
121	**Sb**		864.471	**0.092903**	ppb	1.979	0.982	197.779
135	**Ba**		87.778	**0.025646**	ppb	17.124	27.316	33.333
165	**Ho-IS**		370640.154		ppb	0.986		368847.286
159	**Tb-IS**	>	380711.656		ppb	1.728		363541.658
207	**Pb**		892.233	**0.013476**	ppb	10.971	23.631	434.447
203	**Tl**		318.892	**0.016928**	ppb	1.597	1.192	128.889
209	**Bi-IS**		214685.740		ppb	1.300		214395.071
51	**V**		11.111	**0.045668**	ppb	34.641	39.117	1.111
59	**Co**		26.667	**-0.005662**	ppb	25.000	168.239	30.000
60	**Ni**		187.779	**0.087384**	ppb	18.132	30.267	67.778
75	**As**		290.440	**0.050270**	ppb	11.034	144.905	260.869
71	**Ga-ISK**		58612.299		ppb	3.236		58887.805
82	**Se-2**		3.581	**0.072387**	ppb	138.193	147.028	0.226
107	**Ag-1**		753.353	**0.134893**	ppb	8.002	8.656	83.334
115	**In-ISK**	>	82845.304		ppb	0.924		81053.470
45	**Sc-ISK**	>	143877.830		ppb	2.358		145776.751
23	**Na**		11314.480	**10.654464**	ppb	1.727	15.435	8625.938
39	**K**		35687.861	**3.552470**	ppb	1.446	21.232	34421.426
24	**Mg**		591.679	**1.645663**	ppb	10.634	14.054	211.668
159	**Tb-ISK**		165186.700		ppb	2.800		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, December 20, 2021 00:02:46
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211219E1\CCB-1479530.234
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40834.954		ppb	1.427		44909.430
9	**Be**		15.556	**-0.000748**	ppb	65.465	689.986	17.778
10	**B**		6404.769	**-4.645214**	ppb	0.290	4.602	9341.944
27	**Al**		4664.433	**0.085146**	ppb	10.147	53.559	4118.935
43	**Ca-2**		91.667	**-1.243668**	ppb	35.490	88.153	133.334
49	**Ti**		297.781	**-0.033809**	ppb	8.550	71.054	346.671
52	**Cr**		18801.254	**0.124997**	ppb	1.344	11.234	18068.087
55	**Mn**		2453.544	**0.058039**	ppb	4.472	9.263	1340.063
57	**Fe**		16274.822	**7.126804**	ppb	1.374	15.672	14006.866
45	**Sc-IS**	>	1772591.413		ppb	1.510		1865382.380
66	**Zn**		571.123	**0.037208**	ppb	7.204	58.552	516.676
86	**Sr**		52.520	**0.005177**	ppb	44.030	158.762	39.724
65	**Cu**		167.779	**0.014312**	ppb	12.139	49.322	128.889
69	**Ga-IS**		564236.654		ppb	1.100		573819.625
95	**Mo**		558.900	**0.115688**	ppb	6.092	11.727	212.224
115	**In-IS**	>	215008.953		ppb	1.707		197719.745
111	**Cd**		9.937	**-0.003133**	ppb	51.945	75.787	15.110
118	**Sn**		3258.149	**0.317780**	ppb	2.516	7.080	1235.609
121	**Sb**		368.894	**0.022476**	ppb	17.623	44.657	197.779
135	**Ba**		57.778	**0.011091**	ppb	29.038	81.154	33.333
165	**Ho-IS**		368526.886		ppb	3.076		368847.286
159	**Tb-IS**	>	375974.679		ppb	2.134		363541.658
207	**Pb**		433.336	**-0.000499**	ppb	7.807	197.107	434.447
203	**Tl**		132.223	**-0.000098**	ppb	3.851	480.437	128.889
209	**Bi-IS**		216393.455		ppb	1.344		214395.071
51	**V**		3.333	**0.009703**	ppb	173.205	265.851	1.111
59	**Co**		10.000	**-0.029523**	ppb	88.192	41.863	30.000
60	**Ni**		127.778	**0.042727**	ppb	22.187	53.162	67.778
75	**As**		294.105	**0.053745**	ppb	17.297	198.755	260.869
71	**Ga-ISK**		58377.978		ppb	2.591		58887.805
82	**Se-2**		9.609	**0.199579**	ppb	57.394	57.900	0.226
107	**Ag-1**		327.782	**0.048581**	ppb	2.936	6.111	83.334
115	**In-ISK**	>	83396.078		ppb	1.917		81053.470
45	**Sc-ISK**	>	146043.863		ppb	0.906		145776.751
23	**Na**		10146.936	**5.629194**	ppb	1.603	11.332	8625.938
39	**K**		34048.318	**-0.892825**	ppb	2.216	103.427	34421.426
24	**Mg**		180.001	**-0.135992**	ppb	4.811	25.769	211.668
159	**Tb-ISK**		166558.694		ppb	0.629		159659.940

QC Out of Limits

Analyte	Mass	Out of Limits Message

Instrument Tuning Report

Instrument Name: ICP-MS-05 US26INS00175
Analyst Name: ECSINSTICPMS05
Sample Date/Time: Sunday, December 19, 2021 11:25:22
File Name: Default.tun
File Path: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Li	7.016	7.025	1245	2060	0.701	
Mg	23.985	23.975	4637	2059	0.693	
In	114.904	114.875	22865	2029	0.678	
U	238.050	238.025	47570	1976	0.671	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, January 04, 2022 08:27:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICIS-1479530.039
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64961.850		ppb	2.005		
9	**Be**		21.111		ppb	18.232		
10	**B**		1514.525		ppb	4.161		
27	**Al**		20141.527		ppb	2.219		
43	**Ca-2**		178.334		ppb	19.693		
49	**Ti**		177.779		ppb	29.068		
52	**Cr**		25664.146		ppb	1.412		
55	**Mn**		1053.372		ppb	2.532		
57	**Fe**		21635.266		ppb	2.514		
45	**Sc-IS**	>	2199761.639		ppb	2.595		
66	**Zn**		3028.099		ppb	3.821		
86	**Sr**		12.843		ppb	125.924		
65	**Cu**		185.557		ppb	14.631		
69	**Ga-IS**		805833.454		ppb	2.209		
95	**Mo**		454.452		ppb	8.873		
115	**In-IS**	>	534646.903		ppb	1.704		
111	**Cd**		36.823		ppb	21.060		
118	**Sn**		2072.373		ppb	0.810		
121	**Sb**		215.557		ppb	10.971		
135	**Ba**		33.333		ppb	36.056		
165	**Ho-IS**		617776.735		ppb	0.882		
159	**Tb-IS**	>	629091.416		ppb	0.827		
207	**Pb**		411.113		ppb	3.277		
203	**Tl**		212.224		ppb	17.301		
209	**Bi-IS**		298179.941		ppb	0.967		
51	**V**		5.556		ppb	91.652		
59	**Co**		17.778		ppb	39.031		
60	**Ni**		55.556		ppb	21.071		
75	**As**		353.285		ppb	7.097		
71	**Ga-ISK**		84778.640		ppb	1.683		
82	**Se-2**		10.161		ppb	127.184		
107	**Ag-1**		246.669		ppb	2.703		
115	**In-ISK**	>	127536.866		ppb	1.087		
45	**Sc-ISK**		206938.230		ppb	1.387		
23	**Na**		8590.916		ppb	2.059		
39	**K**		37223.992		ppb	0.984		
24	**Mg**		156.668		ppb	20.519		
159	**Tb-ISK**	>	260652.410		ppb	0.345		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Tuesday, January 04, 2022 08:30:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\IC-2235387.040
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65178.418		ppb	2.641		64961.850
9	**Be**		592719.173	**200.000000**	ppb	1.570	1.293	21.111
10	**B**		415875.556	**500.000000**	ppb	3.014	1.330	1514.525
27	**Al**		3602520.484	**200.000000**	ppb	1.678	2.375	20141.527
43	**Ca-2**		369980.785	**10200.000000**	ppb	2.962	1.378	178.334
49	**Ti**		261712.380	**200.000000**	ppb	1.147	0.531	177.779
52	**Cr**		3895571.789	**200.000000**	ppb	0.376	1.547	25664.146
55	**Mn**		5633634.255	**200.000000**	ppb	0.960	1.331	1053.372
57	**Fe**		6415094.513	**10200.000000**	ppb	0.611	1.066	21635.266
45	**Sc-IS**	>	2252368.371		ppb	1.678		2199761.639
66	**Zn**		640582.671	**200.000000**	ppb	1.085	2.018	3028.099
86	**Sr**		644776.195	**200.000000**	ppb	0.238	1.896	12.843
65	**Cu**		1083351.161	**200.000000**	ppb	1.455	0.661	185.557
69	**Ga-IS**		977928.431		ppb	1.613		805833.454
95	**Mo**		753161.143	**200.000000**	ppb	1.514	3.120	454.452
115	**In-IS**	>	537134.591		ppb	1.051		534646.903
111	**Cd**		975627.256	**200.000000**	ppb	0.840	1.037	36.823
118	**Sn**		2935829.566	**200.000000**	ppb	1.510	1.201	2072.373
121	**Sb**		3161516.690	**200.000000**	ppb	1.729	2.268	215.557
135	**Ba**		826646.485	**200.000000**	ppb	1.156	1.359	33.333
165	**Ho-IS**		645637.818		ppb	0.766		617776.735
159	**Tb-IS**	>	669631.335		ppb	1.460		629091.416
207	**Pb**		8769124.713	**200.000000**	ppb	1.339	1.993	411.113
203	**Tl**		3016506.889	**200.000000**	ppb	1.236	2.532	212.224
209	**Bi-IS**		290878.526		ppb	1.339		298179.941
51	**V**		68258.241	**200.000000**	ppb	0.528	1.618	5.556
59	**Co**		232360.096	**200.000000**	ppb	0.865	1.296	17.778
60	**Ni**		413093.625	**200.000000**	ppb	3.627	3.959	55.556
75	**As**		143078.369	**200.000000**	ppb	2.719	1.442	353.285
71	**Ga-ISK**		87253.539		ppb	2.509		84778.640
82	**Se-2**		13575.982	**200.000000**	ppb	1.480	0.941	10.161
107	**Ag-1**		1647979.588	**200.000000**	ppb	1.026	1.935	246.669
115	**In-ISK**	>	129773.330		ppb	2.143		127536.866
45	**Sc-ISK**		221456.111		ppb	2.302		206938.230
23	**Na**		3465455.717	**10200.000000**	ppb	3.496	2.328	8590.916
39	**K**		7515073.388	**10200.000000**	ppb	3.132	2.190	37223.992
24	**Mg**		3249086.026	**10200.000000**	ppb	2.162	0.662	156.668
159	**Tb-ISK**	>	269704.540		ppb	1.612		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICV-1800319
Autosampler Position: 206
Sample Date/Time: Tuesday, January 04, 2022 08:34:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICV-1800319.041
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66736.803		ppb	4.089		64961.850
9	**Be**		309593.630	**102.582951**	ppb	1.456	2.176	21.111
10	**B**		4617.414	**3.599786**	ppb	4.822	6.282	1514.525
27	**Al**		27201.881	**0.339814**	ppb	2.046	6.456	20141.527
43	**Ca-2**		194648.927	**5265.134924**	ppb	4.575	2.208	178.334
49	**Ti**		132561.471	**99.374665**	ppb	3.079	0.914	177.779
52	**Cr**		1989014.091	**99.522475**	ppb	5.157	2.859	25664.146
55	**Mn**		2812864.913	**98.023379**	ppb	1.734	0.976	1053.372
57	**Fe**		3305418.578	**5142.895437**	ppb	1.264	1.253	21635.266
45	**Sc-IS**	>	2294099.286		ppb	2.377		2199761.639
66	**Zn**		338610.691	**103.310621**	ppb	2.293	0.254	3028.099
86	**Sr**		318634.850	**97.057325**	ppb	0.898	2.853	12.843
65	**Cu**		551212.620	**99.878613**	ppb	3.075	0.923	185.557
69	**Ga-IS**		818562.844		ppb	1.964		805833.454
95	**Mo**		393099.323	**102.403765**	ppb	1.652	0.728	454.452
115	**In-IS**	>	549316.817		ppb	0.615		534646.903
111	**Cd**		516279.916	**103.477949**	ppb	1.044	0.487	36.823
118	**Sn**		1465748.194	**97.563056**	ppb	0.965	0.369	2072.373
121	**Sb**		1540259.850	**95.256455**	ppb	1.441	0.859	215.557
135	**Ba**		204.446	**0.040265**	ppb	1.883	2.319	33.333
165	**Ho-IS**		643830.133		ppb	1.779		617776.735
159	**Tb-IS**	>	657127.675		ppb	0.760		629091.416
207	**Pb**		4416497.196	**102.622833**	ppb	1.261	0.540	411.113
203	**Tl**		1428115.152	**96.447414**	ppb	3.091	2.382	212.224
209	**Bi-IS**		303605.624		ppb	0.431		298179.941
51	**V**		33840.068	**99.370432**	ppb	3.619	6.673	5.556
59	**Co**		115320.342	**99.442342**	ppb	1.701	4.731	17.778
60	**Ni**		217539.639	**105.503910**	ppb	1.602	4.661	55.556
75	**As**		74270.170	**103.783592**	ppb	1.330	4.176	353.285
71	**Ga-ISK**		89416.848		ppb	2.391		84778.640
82	**Se-2**		6908.490	**101.864149**	ppb	2.963	4.076	10.161
107	**Ag-1**		1620.092	**0.166560**	ppb	4.715	7.641	246.669
115	**In-ISK**	>	129626.299		ppb	3.081		127536.866
45	**Sc-ISK**		223518.336		ppb	3.068		206938.230
23	**Na**		9556.529	**1.685392**	ppb	1.054	5.785	8590.916
39	**K**		42778.426	**5.238251**	ppb	2.560	37.399	37223.992
24	**Mg**		1589881.409	**4941.111274**	ppb	0.959	0.941	156.668
159	**Tb-ISK**	>	272451.761		ppb	1.225		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICV-1896925
Autosampler Position: 213
Sample Date/Time: Tuesday, January 04, 2022 08:37:16
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICV-1896925.042
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66638.452		ppb	2.342		64961.850
9	**Be**		25.556	**0.001357**	ppb	27.152	186.867	21.111
10	**B**		89965.977	**106.660000**	ppb	3.638	0.745	1514.525
27	**Al**		1972440.973	**108.985807**	ppb	1.181	3.210	20141.527
43	**Ca-2**		276.669	**2.603050**	ppb	15.370	49.148	178.334
49	**Ti**		311.115	**0.099446**	ppb	12.418	37.233	177.779
52	**Cr**		27671.219	**0.072534**	ppb	0.693	72.982	25664.146
55	**Mn**		2934.746	**0.065958**	ppb	2.877	8.161	1053.372
57	**Fe**		24164.876	**3.205827**	ppb	2.889	32.696	21635.266
45	**Sc-IS**	>	2253639.454		ppb	3.853		2199761.639
66	**Zn**		4451.805	**0.423016**	ppb	4.065	1.791	3028.099
86	**Sr**		85.578	**0.022476**	ppb	21.653	26.635	12.843
65	**Cu**		647.792	**0.084524**	ppb	3.308	5.043	185.557
69	**Ga-IS**		935152.924		ppb	1.987		805833.454
95	**Mo**		2440.209	**0.525917**	ppb	7.045	13.058	454.452
115	**In-IS**	>	554089.046		ppb	2.058		534646.903
111	**Cd**		59.320	**0.004222**	ppb	47.208	133.874	36.823
118	**Sn**		13769.979	**0.768510**	ppb	5.349	7.356	2072.373
121	**Sb**		1498.968	**0.078263**	ppb	2.018	4.302	215.557
135	**Ba**		454070.691	**106.522293**	ppb	1.152	2.619	33.333
165	**Ho-IS**		646731.147		ppb	0.726		617776.735
159	**Tb-IS**	>	666613.724		ppb	0.908		629091.416
207	**Pb**		1081.127	**0.014796**	ppb	5.414	10.525	411.113
203	**Tl**		801.134	**0.038352**	ppb	7.699	9.532	212.224
209	**Bi-IS**		306144.803		ppb	1.245		298179.941
51	**V**		2.222	**-0.010184**	ppb	86.603	54.269	5.556
59	**Co**		22.222	**0.003012**	ppb	22.913	153.275	17.778
60	**Ni**		131.112	**0.034024**	ppb	15.534	25.369	55.556
75	**As**		383.493	**0.017009**	ppb	6.274	215.016	353.285
71	**Ga-ISK**		89924.398		ppb	1.458		84778.640
82	**Se-2**		19.153	**0.119516**	ppb	63.302	141.888	10.161
107	**Ag-1**		460297.500	**54.058813**	ppb	3.927	2.224	246.669
115	**In-ISK**	>	134002.874		ppb	2.816		127536.866
45	**Sc-ISK**		222778.491		ppb	1.943		206938.230
23	**Na**		357179.419	**1004.337390**	ppb	3.059	1.999	8590.916
39	**K**		786047.985	**996.016225**	ppb	1.909	0.933	37223.992
24	**Mg**		543.344	**1.159992**	ppb	9.032	14.266	156.668
159	**Tb-ISK**	>	275836.415		ppb	1.106		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 08:40:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICB-1479530.043
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65074.558		ppb	1.183		64961.850
9	**Be**		23.333	**0.000922**	ppb	37.796	341.864	21.111
10	**B**		1638.983	**0.190089**	ppb	2.240	37.143	1514.525
27	**Al**		21212.738	**0.082804**	ppb	0.540	27.829	20141.527
43	**Ca-2**		161.668	**-0.387821**	ppb	9.449	121.050	178.334
49	**Ti**		213.335	**0.030691**	ppb	8.268	39.672	177.779
52	**Cr**		26457.818	**0.066718**	ppb	1.985	37.998	25664.146
55	**Mn**		1106.710	**0.002653**	ppb	4.558	73.367	1053.372
57	**Fe**		21163.447	**-0.162852**	ppb	2.160	287.442	21635.266
45	**Sc-IS**	>	2161673.900		ppb	1.361		2199761.639
66	**Zn**		3219.252	**0.079968**	ppb	5.982	86.757	3028.099
86	**Sr**		3.942	**-0.002812**	ppb	1199.699	541.273	12.843
65	**Cu**		157.779	**-0.004713**	ppb	3.227	29.685	185.557
69	**Ga-IS**		802796.701		ppb	1.715		805833.454
95	**Mo**		583.345	**0.037853**	ppb	3.024	11.851	454.452
115	**In-IS**	>	541054.913		ppb	2.244		534646.903
111	**Cd**		44.331	**0.001441**	ppb	4.287	30.959	36.823
118	**Sn**		3734.933	**0.110859**	ppb	4.578	9.835	2072.373
121	**Sb**		335.560	**0.007383**	ppb	10.049	29.970	215.557
135	**Ba**		53.333	**0.004692**	ppb	39.031	105.687	33.333
165	**Ho-IS**		624407.441		ppb	1.611		617776.735
159	**Tb-IS**	>	641373.024		ppb	1.721		629091.416
207	**Pb**		462.225	**0.001023**	ppb	5.316	43.899	411.113
203	**Tl**		260.002	**0.003033**	ppb	13.012	80.490	212.224
209	**Bi-IS**		295743.240		ppb	0.369		298179.941
51	**V**		7.778	**0.006284**	ppb	65.465	238.598	5.556
59	**Co**		17.778	**-0.000265**	ppb	39.031	2281.259	17.778
60	**Ni**		55.556	**-0.000495**	ppb	19.287	1027.457	55.556
75	**As**		337.222	**-0.031040**	ppb	6.706	125.346	353.285
71	**Ga-ISK**		88156.791		ppb	1.914		84778.640
82	**Se-2**		23.492	**0.193416**	ppb	13.216	21.465	10.161
107	**Ag-1**		1007.813	**0.091746**	ppb	7.516	9.155	246.669
115	**In-ISK**	>	129840.040		ppb	1.598		127536.866
45	**Sc-ISK**		212123.311		ppb	0.677		206938.230
23	**Na**		9151.264	**1.599565**	ppb	1.342	64.462	8590.916
39	**K**		39180.332	**2.536479**	ppb	1.699	76.085	37223.992
24	**Mg**		165.001	**0.024816**	ppb	6.061	137.852	156.668
159	**Tb-ISK**	>	261847.450		ppb	2.314		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 08:43:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.044
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66305.749		ppb	0.860		64961.850
9	**Be**		302577.469	**101.141993**	ppb	0.328	2.810	21.111
10	**B**		218274.100	**259.145893**	ppb	1.738	3.499	1514.525
27	**Al**		1846984.960	**101.007033**	ppb	0.869	3.158	20141.527
43	**Ca-2**		192030.713	**5241.630555**	ppb	2.019	1.511	178.334
49	**Ti**		134703.286	**101.889916**	ppb	1.390	1.792	177.779
52	**Cr**		1955424.786	**98.742414**	ppb	1.583	2.082	25664.146
55	**Mn**		2915993.174	**102.483183**	ppb	2.769	1.211	1053.372
57	**Fe**		3311973.587	**5198.818997**	ppb	0.861	2.337	21635.266
45	**Sc-IS**	>	2274755.548		ppb	3.114		2199761.639
66	**Zn**		332156.405	**102.243357**	ppb	1.293	2.704	3028.099
86	**Sr**		329406.417	**101.192220**	ppb	2.795	3.358	12.843
65	**Cu**		558155.131	**102.043430**	ppb	1.414	1.711	185.557
69	**Ga-IS**		901170.173		ppb	1.121		805833.454
95	**Mo**		382745.358	**100.643043**	ppb	2.065	5.042	454.452
115	**In-IS**	>	547432.221		ppb	0.879		534646.903
111	**Cd**		507371.492	**102.051273**	ppb	0.711	1.365	36.823
118	**Sn**		1475278.952	**98.542236**	ppb	0.533	0.843	2072.373
121	**Sb**		1567021.268	**97.255930**	ppb	0.448	1.309	215.557
135	**Ba**		417514.075	**99.116577**	ppb	1.449	2.252	33.333
165	**Ho-IS**		655994.532		ppb	2.424		617776.735
159	**Tb-IS**	>	662302.672		ppb	1.908		629091.416
207	**Pb**		4525689.319	**104.361524**	ppb	1.094	1.867	411.113
203	**Tl**		1489981.012	**99.862146**	ppb	2.532	2.516	212.224
209	**Bi-IS**		299437.864		ppb	2.324		298179.941
51	**V**		33410.161	**96.130010**	ppb	3.228	4.105	5.556
59	**Co**		118264.371	**99.962760**	ppb	2.465	3.380	17.778
60	**Ni**		211213.523	**100.384797**	ppb	1.589	0.929	55.556
75	**As**		73464.577	**100.602060**	ppb	2.007	1.744	353.285
71	**Ga-ISK**		87309.415		ppb	2.288		84778.640
82	**Se-2**		7028.616	**101.595618**	ppb	1.741	0.585	10.161
107	**Ag-1**		862988.215	**102.817744**	ppb	0.660	0.649	246.669
115	**In-ISK**	>	132145.339		ppb	1.154		127536.866
45	**Sc-ISK**		217701.992		ppb	1.306		206938.230
23	**Na**		1711342.966	**4985.636022**	ppb	2.575	1.507	8590.916
39	**K**		3808747.125	**5105.524439**	ppb	0.621	2.190	37223.992
24	**Mg**		1615932.774	**5034.499001**	ppb	1.140	0.435	156.668
159	**Tb-ISK**	>	271778.610		ppb	1.564		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 08:46:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.045
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62894.950		ppb	3.840		64961.850
9	**Be**		33.333	**0.004772**	ppb	26.458	58.753	21.111
10	**B**		1802.336	**0.473437**	ppb	6.105	34.659	1514.525
27	**Al**		20980.403	**0.111730**	ppb	2.805	59.594	20141.527
43	**Ca-2**		183.335	**0.418362**	ppb	1.575	74.305	178.334
49	**Ti**		211.113	**0.035367**	ppb	15.007	90.879	177.779
52	**Cr**		25700.901	**0.072518**	ppb	4.023	6.631	25664.146
55	**Mn**		1337.840	**0.012891**	ppb	2.420	8.890	1053.372
57	**Fe**		21564.043	**1.742665**	ppb	1.405	70.397	21635.266
45	**Sc-IS**	>	2091440.971		ppb	4.349		2199761.639
66	**Zn**		3174.798	**0.101275**	ppb	3.893	62.184	3028.099
86	**Sr**		16.663	**0.000814**	ppb	427.706	2896.699	12.843
65	**Cu**		193.335	**0.003362**	ppb	4.562	11.557	185.557
69	**Ga-IS**		798099.246		ppb	1.004		805833.454
95	**Mo**		1356.731	**0.265406**	ppb	4.368	12.374	454.452
115	**In-IS**	>	535106.842		ppb	1.752		534646.903
111	**Cd**		51.595	**0.002996**	ppb	44.176	151.948	36.823
118	**Sn**		6198.012	**0.282483**	ppb	4.201	8.936	2072.373
121	**Sb**		525.565	**0.019641**	ppb	9.955	14.118	215.557
135	**Ba**		72.222	**0.009469**	ppb	14.100	29.490	33.333
165	**Ho-IS**		626297.886		ppb	1.722		617776.735
159	**Tb-IS**	>	642144.266		ppb	2.033		629091.416
207	**Pb**		654.450	**0.005569**	ppb	9.187	20.011	411.113
203	**Tl**		284.447	**0.004726**	ppb	12.855	61.242	212.224
209	**Bi-IS**		293327.508		ppb	0.201		298179.941
51	**V**		3.333	**-0.006748**	ppb	100.000	145.429	5.556
59	**Co**		21.111	**0.002600**	ppb	63.812	453.598	17.778
60	**Ni**		94.445	**0.017856**	ppb	7.347	18.183	55.556
75	**As**		358.176	**-0.007126**	ppb	2.493	250.846	353.285
71	**Ga-ISK**		85371.052		ppb	1.854		84778.640
82	**Se-2**		18.836	**0.120980**	ppb	42.250	92.406	10.161
107	**Ag-1**		1124.489	**0.104384**	ppb	7.732	6.692	246.669
115	**In-ISK**	>	131218.892		ppb	2.720		127536.866
45	**Sc-ISK**		212413.448		ppb	1.882		206938.230
23	**Na**		9254.664	**1.739269**	ppb	1.497	64.637	8590.916
39	**K**		40320.155	**3.781926**	ppb	0.740	45.409	37223.992
24	**Mg**		338.337	**0.582659**	ppb	20.970	44.338	156.668
159	**Tb-ISK**	>	263513.214		ppb	2.583		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICSA-1517520
Autosampler Position: 202
Sample Date/Time: Tuesday, January 04, 2022 08:49:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICSA-1517520.046
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68624.434		ppb	0.538		64961.850
9	**Be**		41.111	**0.004992**	ppb	9.362	20.278	21.111
10	**B**		3914.981	**2.317521**	ppb	3.238	8.035	1514.525
27	**Al**		205140184.257	**10151.558482**	ppb	0.854	2.951	20141.527
43	**Ca-2**		1145351.095	**28003.767126**	ppb	1.113	2.652	178.334
49	**Ti**		295383.563	**200.040359**	ppb	2.263	1.808	177.779
52	**Cr**		34287.794	**0.213341**	ppb	3.249	38.212	25664.146
55	**Mn**		11967.233	**0.338419**	ppb	1.145	3.939	1053.372
57	**Fe**		16473725.034	**23256.715674**	ppb	1.615	1.373	21635.266
45	**Sc-IS**	>	2541906.801		ppb	2.628		2199761.639
66	**Zn**		4656.315	**0.321613**	ppb	3.438	8.322	3028.099
86	**Sr**		1320.059	**0.358910**	ppb	1.595	3.909	12.843
65	**Cu**		2522.445	**0.378007**	ppb	6.236	8.528	185.557
69	**Ga-IS**		847916.821		ppb	0.626		805833.454
95	**Mo**		776218.012	**182.703869**	ppb	1.600	4.169	454.452
115	**In-IS**	>	541292.111		ppb	0.976		534646.903
111	**Cd**		-95.531	**-0.027063**	ppb	36.511	26.826	36.823
118	**Sn**		4968.642	**0.194236**	ppb	3.551	6.952	2072.373
121	**Sb**		1634.538	**0.088897**	ppb	2.915	2.669	215.557
135	**Ba**		783.355	**0.179972**	ppb	9.953	10.421	33.333
165	**Ho-IS**		666137.334		ppb	2.220		617776.735
159	**Tb-IS**	>	674962.103		ppb	1.982		629091.416
207	**Pb**		2436.749	**0.045128**	ppb	5.815	5.108	411.113
203	**Tl**		488.897	**0.017178**	ppb	2.192	1.031	212.224
209	**Bi-IS**		291008.777		ppb	1.031		298179.941
51	**V**		10.000	**0.012845**	ppb	33.333	74.652	5.556
59	**Co**		67.778	**0.042969**	ppb	20.475	26.445	17.778
60	**Ni**		441.118	**0.187186**	ppb	4.555	5.251	55.556
75	**As**		400.125	**0.060631**	ppb	18.774	186.679	353.285
71	**Ga-ISK**		87049.984		ppb	0.925		84778.640
82	**Se-2**		15.169	**0.072703**	ppb	46.495	144.202	10.161
107	**Ag-1**		754.465	**0.061367**	ppb	15.282	20.400	246.669
115	**In-ISK**	>	129180.979		ppb	1.801		127536.866
45	**Sc-ISK**		225174.223		ppb	1.125		206938.230
23	**Na**		8497622.867	**24726.322479**	ppb	2.879	2.989	8590.916
39	**K**		7287721.191	**9762.684648**	ppb	2.230	3.260	37223.992
24	**Mg**		3135588.686	**9716.609874**	ppb	2.426	2.923	156.668
159	**Tb-ISK**	>	273294.468		ppb	1.582		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICSAB-2059235
Autosampler Position: 203
Sample Date/Time: Tuesday, January 04, 2022 08:53:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICSAB-2059235.047
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69083.317		ppb	1.188		64961.850
9	**Be**		43.333	**0.005343**	ppb	20.352	55.051	21.111
10	**B**		4025.012	**2.309839**	ppb	3.840	8.184	1514.525
27	**Al**		216034142.464	**10379.506174**	ppb	1.190	2.480	20141.527
43	**Ca-2**		1256870.639	**29833.194405**	ppb	2.034	1.894	178.334
49	**Ti**		320548.185	**210.827899**	ppb	1.717	2.424	177.779
52	**Cr**		470626.335	**19.577142**	ppb	1.388	2.892	25664.146
55	**Mn**		639116.201	**19.496092**	ppb	0.623	3.286	1053.372
57	**Fe**		17529585.659	**24040.867530**	ppb	1.828	3.888	21635.266
45	**Sc-IS**	>	2618417.149		ppb	3.705		2199761.639
66	**Zn**		38995.375	**9.559449**	ppb	0.941	4.394	3028.099
86	**Sr**		1467.218	**0.387419**	ppb	2.957	1.367	12.843
65	**Cu**		115468.117	**18.322797**	ppb	0.591	4.121	185.557
69	**Ga-IS**		892159.690		ppb	1.000		805833.454
95	**Mo**		806884.312	**184.423100**	ppb	0.741	4.085	454.452
115	**In-IS**	>	549984.143		ppb	0.842		534646.903
111	**Cd**		49748.003	**9.953030**	ppb	0.973	1.659	36.823
118	**Sn**		3367.064	**0.082242**	ppb	2.329	6.001	2072.373
121	**Sb**		1535.638	**0.081190**	ppb	2.421	3.791	215.557
135	**Ba**		820.024	**0.185547**	ppb	11.066	10.634	33.333
165	**Ho-IS**		656441.058		ppb	1.536		617776.735
159	**Tb-IS**	>	681188.286		ppb	0.549		629091.416
207	**Pb**		1564.479	**0.025094**	ppb	4.552	6.410	411.113
203	**Tl**		285.558	**0.003633**	ppb	2.938	14.122	212.224
209	**Bi-IS**		297969.674		ppb	2.125		298179.941
51	**V**		7315.208	**20.847119**	ppb	4.660	4.401	5.556
59	**Co**		25151.018	**21.059188**	ppb	2.449	2.434	17.778
60	**Ni**		42963.429	**20.222992**	ppb	2.752	2.903	55.556
75	**As**		8007.891	**10.420253**	ppb	5.124	4.752	353.285
71	**Ga-ISK**		90073.184		ppb	2.477		84778.640
82	**Se-2**		711.503	**10.058322**	ppb	3.820	3.407	10.161
107	**Ag-1**		40002.604	**4.695505**	ppb	1.501	0.858	246.669
115	**In-ISK**	>	133294.663		ppb	0.923		127536.866
45	**Sc-ISK**		234132.267		ppb	1.663		206938.230
23	**Na**		9156518.741	**26174.249245**	ppb	2.433	0.931	8590.916
39	**K**		7812869.706	**10282.168615**	ppb	2.544	0.955	37223.992
24	**Mg**		3381794.922	**10293.099503**	ppb	2.932	1.334	156.668
159	**Tb-ISK**	>	278157.679		ppb	1.594		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 08:59:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.049
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69857.058		ppb	0.812		64961.850
9	**Be**		22.222	**-0.000461**	ppb	8.660	129.791	21.111
10	**B**		1392.290	**-0.340621**	ppb	5.171	21.049	1514.525
27	**Al**		41169.740	**0.941053**	ppb	11.294	21.971	20141.527
43	**Ca-2**		245.002	**1.110155**	ppb	24.828	132.438	178.334
49	**Ti**		263.336	**0.044242**	ppb	9.557	37.261	177.779
52	**Cr**		30110.595	**0.059867**	ppb	1.852	26.275	25664.146
55	**Mn**		2213.505	**0.033293**	ppb	4.698	7.043	1053.372
57	**Fe**		26022.584	**2.485754**	ppb	3.132	39.842	21635.266
45	**Sc-IS**	>	2471907.712		ppb	1.458		2199761.639
66	**Zn**		2790.273	**-0.175170**	ppb	3.161	8.199	3028.099
86	**Sr**		34.504	**0.005766**	ppb	134.897	228.026	12.843
65	**Cu**		286.670	**0.013145**	ppb	3.076	7.799	185.557
69	**Ga-IS**		887971.292		ppb	1.476		805833.454
95	**Mo**		1373.399	**0.208913**	ppb	2.315	5.764	454.452
115	**In-IS**	>	570763.499		ppb	3.282		534646.903
111	**Cd**		13.783	**-0.004887**	ppb	63.508	36.971	36.823
118	**Sn**		3672.695	**0.094073**	ppb	5.715	21.119	2072.373
121	**Sb**		337.782	**0.006425**	ppb	3.015	14.665	215.557
135	**Ba**		124.445	**0.020154**	ppb	17.428	20.547	33.333
165	**Ho-IS**		663003.178		ppb	1.644		617776.735
159	**Tb-IS**	>	681645.038		ppb	0.681		629091.416
207	**Pb**		625.561	**0.004029**	ppb	9.670	31.233	411.113
203	**Tl**		180.001	**-0.003254**	ppb	3.208	9.638	212.224
209	**Bi-IS**		311474.703		ppb	0.927		298179.941
51	**V**		4.444	**-0.004629**	ppb	43.301	107.529	5.556
59	**Co**		22.222	**0.002090**	ppb	31.225	278.251	17.778
60	**Ni**		311.115	**0.111314**	ppb	8.322	12.102	55.556
75	**As**		387.623	**-0.004081**	ppb	7.939	922.145	353.285
71	**Ga-ISK**		95157.127		ppb	2.649		84778.640
82	**Se-2**		17.836	**0.088360**	ppb	70.390	191.664	10.161
107	**Ag-1**		330.004	**0.006441**	ppb	18.870	115.521	246.669
115	**In-ISK**	>	141062.271		ppb	1.679		127536.866
45	**Sc-ISK**		243550.154		ppb	1.939		206938.230
23	**Na**		10055.204	**2.206024**	ppb	0.976	22.641	8590.916
39	**K**		39882.271	**-0.404493**	ppb	1.714	236.189	37223.992
24	**Mg**		296.670	**0.384010**	ppb	7.017	18.108	156.668
159	**Tb-ISK**	>	281466.339		ppb	1.787		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICVL-2237328
Autosampler Position: 205
Sample Date/Time: Tuesday, January 04, 2022 09:02:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICVL-2237328.050
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70405.418		ppb	3.360		64961.850
9	**Be**		3164.795	**0.964008**	ppb	3.579	1.793	21.111
10	**B**		43791.470	**46.218862**	ppb	1.396	1.403	1514.525
27	**Al**		989956.007	**49.131059**	ppb	2.151	1.932	20141.527
43	**Ca-2**		2270.180	**51.942051**	ppb	1.340	0.955	178.334
49	**Ti**		1725.660	**1.061519**	ppb	4.054	4.810	177.779
52	**Cr**		50589.427	**1.020681**	ppb	1.301	1.571	25664.146
55	**Mn**		32271.967	**1.004371**	ppb	0.481	2.312	1053.372
57	**Fe**		58297.600	**49.293810**	ppb	0.543	3.902	21635.266
45	**Sc-IS**	>	2475810.475		ppb	1.973		2199761.639
66	**Zn**		18918.075	**4.426894**	ppb	1.503	2.195	3028.099
86	**Sr**		3340.540	**0.938350**	ppb	3.721	2.873	12.843
65	**Cu**		5971.250	**0.967689**	ppb	4.845	3.564	185.557
69	**Ga-IS**		883545.652		ppb	0.877		805833.454
95	**Mo**		4544.056	**0.975134**	ppb	3.385	5.773	454.452
115	**In-IS**	>	560774.333		ppb	3.702		534646.903
111	**Cd**		4993.556	**0.973595**	ppb	1.893	3.307	36.823
118	**Sn**		17009.009	**0.969668**	ppb	0.805	4.088	2072.373
121	**Sb**		15463.923	**0.923690**	ppb	2.126	1.968	215.557
135	**Ba**		4211.732	**0.968633**	ppb	3.345	4.379	33.333
165	**Ho-IS**		658834.360		ppb	3.275		617776.735
159	**Tb-IS**	>	677423.396		ppb	1.644		629091.416
207	**Pb**		43581.793	**0.972462**	ppb	2.004	0.908	411.113
203	**Tl**		15059.049	**0.971698**	ppb	3.127	1.800	212.224
209	**Bi-IS**		304824.678		ppb	0.996		298179.941
51	**V**		354.449	**0.956009**	ppb	6.606	5.501	5.556
59	**Co**		1146.713	**0.909634**	ppb	4.759	6.084	17.778
60	**Ni**		2266.847	**1.000775**	ppb	5.204	4.821	55.556
75	**As**		1137.475	**0.989181**	ppb	7.243	9.229	353.285
71	**Ga-ISK**		94867.499		ppb	3.205		84778.640
82	**Se-2**		85.529	**1.028276**	ppb	19.909	22.461	10.161
107	**Ag-1**		8092.293	**0.889747**	ppb	3.121	3.320	246.669
115	**In-ISK**	>	138497.450		ppb	1.249		127536.866
45	**Sc-ISK**		237840.411		ppb	1.269		206938.230
23	**Na**		28004.088	**53.395434**	ppb	0.063	3.009	8590.916
39	**K**		76297.695	**47.735470**	ppb	1.856	4.523	37223.992
24	**Mg**		17188.680	**51.463314**	ppb	4.135	2.803	156.668
159	**Tb-ISK**	>	280007.632		ppb	2.097		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205048_2-A
Autosampler Position: 401
Sample Date/Time: Tuesday, January 04, 2022 09:05:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCS 570-205048_2-A.051
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70222.190		ppb	1.413		64961.850
9	**Be**		291066.446	**89.890701**	ppb	0.507	3.461	21.111
10	**B**		89576.752	**97.034707**	ppb	2.576	0.880	1514.525
27	**Al**		2100036.301	**106.171669**	ppb	0.750	3.918	20141.527
43	**Ca-2**		223724.485	**5640.029920**	ppb	3.315	0.240	178.334
49	**Ti**		131281.732	**91.717202**	ppb	1.998	2.018	177.779
52	**Cr**		1925292.380	**89.724406**	ppb	0.956	3.812	25664.146
55	**Mn**		2804770.136	**91.105225**	ppb	0.161	3.070	1053.372
57	**Fe**		3645714.289	**5286.637479**	ppb	1.763	2.144	21635.266
45	**Sc-IS**	>	2462392.491		ppb	3.096		2199761.639
66	**Zn**		314403.621	**89.268798**	ppb	1.387	1.772	3028.099
86	**Sr**		303247.912	**86.046762**	ppb	1.742	1.702	12.843
65	**Cu**		522622.456	**88.252983**	ppb	2.362	1.906	185.557
69	**Ga-IS**		977131.248		ppb	3.317		805833.454
95	**Mo**		365677.915	**88.776874**	ppb	0.774	3.013	454.452
115	**In-IS**	>	560925.184		ppb	0.960		534646.903
111	**Cd**		477371.432	**93.699800**	ppb	1.057	0.252	36.823
118	**Sn**		1374485.773	**89.584598**	ppb	1.373	0.960	2072.373
121	**Sb**		1427557.540	**86.465172**	ppb	0.546	0.934	215.557
135	**Ba**		443908.079	**102.832175**	ppb	1.609	0.905	33.333
165	**Ho-IS**		669767.072		ppb	1.688		617776.735
159	**Tb-IS**	>	686794.743		ppb	2.530		629091.416
207	**Pb**		4192206.032	**93.225031**	ppb	1.458	1.527	411.113
203	**Tl**		1370205.163	**88.584324**	ppb	0.761	2.580	212.224
209	**Bi-IS**		305874.997		ppb	2.890		298179.941
51	**V**		32324.323	**91.194467**	ppb	2.632	5.557	5.556
59	**Co**		108288.007	**89.760858**	ppb	3.028	6.077	17.778
60	**Ni**		207231.342	**96.545380**	ppb	1.455	2.951	55.556
75	**As**		68525.293	**91.979339**	ppb	2.152	4.977	353.285
71	**Ga-ISK**		92706.873		ppb	4.313		84778.640
82	**Se-2**		6088.130	**86.280997**	ppb	2.033	4.944	10.161
107	**Ag-1**		469149.357	**54.759625**	ppb	1.679	1.309	246.669
115	**In-ISK**	>	134879.387		ppb	2.958		127536.866
45	**Sc-ISK**		232188.615		ppb	1.440		206938.230
23	**Na**		366630.584	**1024.126950**	ppb	1.361	1.982	8590.916
39	**K**		800591.418	**1007.818745**	ppb	1.744	2.624	37223.992
24	**Mg**		1854350.108	**5650.805749**	ppb	0.739	1.021	156.668
159	**Tb-ISK**	>	277863.015		ppb	0.759		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205048_3-A
Autosampler Position: 402
Sample Date/Time: Tuesday, January 04, 2022 09:09:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCSD 570-205048_3-A.052
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD		Blank Intensity
6	**Li-IS**		69956.465		ppb	1.904			64961.850
9	**Be**		290256.859	**90.892216**	ppb	0.318	1.155		21.111
10	**B**		87663.760	**96.330702**	ppb	1.747	2.064		1514.525
27	**Al**		2079752.692	**106.606201**	ppb	0.935	1.168		20141.527
43	**Ca-2**		220869.417	**5649.686718**	ppb	0.944	0.407		178.334
49	**Ti**		128851.860	**91.304707**	ppb	0.995	0.462		177.779
52	**Cr**		1916162.576	**90.544818**	ppb	1.292	0.451		25664.146
55	**Mn**		2744039.271	**90.376968**	ppb	2.015	1.779		1053.372
57	**Fe**		3622630.573	**5328.219858**	ppb	1.074	0.603		21635.266
45	**Sc-IS**	>	2426927.479		ppb	0.847			2199761.639
66	**Zn**		313376.897	**90.254373**	ppb	1.245	0.624		3028.099
86	**Sr**		306960.041	**88.355431**	ppb	1.650	2.345		12.843
65	**Cu**		519186.998	**88.934504**	ppb	1.260	1.371		185.557
69	**Ga-IS**		981360.992		ppb	1.900			805833.454
95	**Mo**		368393.763	**90.702650**	ppb	1.725	2.466		454.452
115	**In-IS**	>	562133.458		ppb	0.518			534646.903
111	**Cd**		473071.404	**92.660362**	ppb	0.736	1.233		36.823
118	**Sn**		1376216.887	**89.506193**	ppb	0.697	0.857		2072.373
121	**Sb**		1419950.847	**85.815624**	ppb	0.654	0.551		215.557
135	**Ba**		441079.159	**101.961383**	ppb	0.398	0.546		33.333
165	**Ho-IS**		651940.719		ppb	1.543			617776.735
159	**Tb-IS**	>	668168.520		ppb	1.816			629091.416
207	**Pb**		4152209.543	**94.915224**	ppb	0.835	2.379		411.113
203	**Tl**		1325593.175	**88.057337**	ppb	2.387	2.029		212.224
209	**Bi-IS**		310212.287		ppb	1.278			298179.941
51	**V**		31610.505	**87.416895**	ppb	2.527	1.960		5.556
59	**Co**		107872.553	**87.634958**	ppb	2.292	1.317		17.778
60	**Ni**		202932.493	**92.739270**	ppb	1.425	2.067		55.556
75	**As**		68302.534	**89.883741**	ppb	1.428	2.189		353.285
71	**Ga-ISK**		92688.908		ppb	3.878			84778.640
82	**Se-2**		6175.164	**85.809638**	ppb	1.021	2.029		10.161
107	**Ag-1**		462473.316	**52.969240**	ppb	0.269	2.308		246.669
115	**In-ISK**	>	137468.870		ppb	2.496			127536.866
45	**Sc-ISK**		230964.641		ppb	1.641			206938.230
23	**Na**		358357.977	**992.413432**	ppb	3.693	4.174		8590.916
39	**K**		792173.203	**988.505109**	ppb	1.970	3.108		37223.992
24	**Mg**		1836108.897	**5550.224105**	ppb	3.161	2.025		156.668
159	**Tb-ISK**	>	280073.901		ppb	1.568			260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205141_2-A
Autosampler Position: 403
Sample Date/Time: Tuesday, January 04, 2022 09:12:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCS 570-205141_2-A.053
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69007.467		ppb	2.798		64961.850
9	**Be**		283322.652	**88.946150**	ppb	3.181	2.394	21.111
10	**B**		85527.788	**94.157131**	ppb	4.247	2.478	1514.525
27	**Al**		1998149.773	**102.658823**	ppb	2.253	2.283	20141.527
43	**Ca-2**		212893.128	**5460.397366**	ppb	1.409	1.268	178.334
49	**Ti**		128387.809	**91.216006**	ppb	1.894	0.529	177.779
52	**Cr**		1888657.243	**89.469272**	ppb	1.613	0.206	25664.146
55	**Mn**		2714735.777	**89.655189**	ppb	1.307	0.872	1053.372
57	**Fe**		3581757.573	**5281.458835**	ppb	2.226	0.421	21635.266
45	**Sc-IS**	>	2420536.258		ppb	1.814		2199761.639
66	**Zn**		308709.374	**89.137593**	ppb	1.652	0.746	3028.099
86	**Sr**		287283.654	**82.903609**	ppb	1.688	0.900	12.843
65	**Cu**		510846.388	**87.746681**	ppb	1.223	1.650	185.557
69	**Ga-IS**		953795.537		ppb	0.446		805833.454
95	**Mo**		353495.849	**87.255688**	ppb	2.916	2.785	454.452
115	**In-IS**	>	548275.365		ppb	1.632		534646.903
111	**Cd**		463171.566	**93.015584**	ppb	1.881	1.578	36.823
118	**Sn**		1356045.366	**90.419761**	ppb	1.994	0.367	2072.373
121	**Sb**		1417913.126	**87.854579**	ppb	2.096	0.691	215.557
135	**Ba**		440694.429	**104.437126**	ppb	2.888	1.774	33.333
165	**Ho-IS**		648803.055		ppb	1.296		617776.735
159	**Tb-IS**	>	670639.570		ppb	1.569		629091.416
207	**Pb**		4179645.495	**95.173173**	ppb	0.756	0.982	411.113
203	**Tl**		1335387.234	**88.376450**	ppb	2.285	1.684	212.224
209	**Bi-IS**		301102.740		ppb	1.413		298179.941
51	**V**		31554.836	**89.963415**	ppb	3.247	5.577	5.556
59	**Co**		106152.972	**88.878289**	ppb	1.173	3.430	17.778
60	**Ni**		201125.062	**94.670674**	ppb	1.722	1.055	55.556
75	**As**		68086.249	**92.298249**	ppb	1.673	0.923	353.285
71	**Ga-ISK**		92023.250		ppb	1.311		84778.640
82	**Se-2**		6190.835	**88.646309**	ppb	1.517	3.557	10.161
107	**Ag-1**		460479.400	**54.320074**	ppb	1.611	1.349	246.669
115	**In-ISK**	>	133445.362		ppb	2.415		127536.866
45	**Sc-ISK**		230964.682		ppb	1.739		206938.230
23	**Na**		362953.168	**1010.874795**	ppb	0.972	2.009	8590.916
39	**K**		795983.245	**998.652286**	ppb	2.357	1.004	37223.992
24	**Mg**		1832058.637	**5566.449855**	ppb	3.484	1.905	156.668
159	**Tb-ISK**	>	278629.625		ppb	1.939		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205141_3-A
Autosampler Position: 404
Sample Date/Time: Tuesday, January 04, 2022 09:15:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCSD 570-205141_3-A.054
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67226.801		ppb	3.140		64961.850
9	**Be**		283082.322	**89.745776**	ppb	3.112	1.846	21.111
10	**B**		85319.708	**94.892977**	ppb	2.785	1.342	1514.525
27	**Al**		2014320.525	**104.519884**	ppb	2.213	0.358	20141.527
43	**Ca-2**		216874.175	**5617.782101**	ppb	1.863	1.735	178.334
49	**Ti**		126866.546	**91.028269**	ppb	2.021	0.811	177.779
52	**Cr**		1905293.068	**91.175004**	ppb	1.872	0.148	25664.146
55	**Mn**		2705348.641	**90.225256**	ppb	1.780	0.436	1053.372
57	**Fe**		3615258.710	**5385.089463**	ppb	1.497	1.150	21635.266
45	**Sc-IS**	>	2396833.242		ppb	2.020		2199761.639
66	**Zn**		307321.387	**89.603848**	ppb	3.100	1.202	3028.099
86	**Sr**		293485.884	**85.529651**	ppb	1.973	0.772	12.843
65	**Cu**		513366.248	**89.032750**	ppb	2.579	0.769	185.557
69	**Ga-IS**		957943.038		ppb	1.381		805833.454
95	**Mo**		364418.291	**90.841875**	ppb	1.855	0.582	454.452
115	**In-IS**	>	552058.436		ppb	3.011		534646.903
111	**Cd**		472797.845	**94.316596**	ppb	1.968	1.515	36.823
118	**Sn**		1371020.340	**90.827850**	ppb	1.325	1.793	2072.373
121	**Sb**		1410602.266	**86.842911**	ppb	1.604	2.503	215.557
135	**Ba**		439316.695	**103.456645**	ppb	1.260	2.700	33.333
165	**Ho-IS**		641148.929		ppb	2.602		617776.735
159	**Tb-IS**	>	666677.718		ppb	2.562		629091.416
207	**Pb**		4115712.464	**94.275430**	ppb	2.845	2.217	411.113
203	**Tl**		1323810.248	**88.129659**	ppb	2.664	0.368	212.224
209	**Bi-IS**		298770.895		ppb	0.692		298179.941
51	**V**		31192.907	**87.873254**	ppb	0.580	2.249	5.556
59	**Co**		105368.367	**87.215346**	ppb	1.939	3.617	17.778
60	**Ni**		200374.618	**93.258749**	ppb	1.704	2.314	55.556
75	**As**		66805.871	**89.555809**	ppb	3.909	5.138	353.285
71	**Ga-ISK**		89469.393		ppb	2.335		84778.640
82	**Se-2**		6054.483	**85.686178**	ppb	2.392	3.163	10.161
107	**Ag-1**		453862.339	**52.921671**	ppb	2.629	1.022	246.669
115	**In-ISK**	>	134968.583		ppb	1.884		127536.866
45	**Sc-ISK**		227445.528		ppb	1.691		206938.230
23	**Na**		347780.270	**986.948521**	ppb	3.259	2.532	8590.916
39	**K**		766248.097	**979.293202**	ppb	3.573	2.243	37223.992
24	**Mg**		1779307.246	**5514.133285**	ppb	1.971	0.675	156.668
159	**Tb-ISK**	>	273206.106		ppb	1.528		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 09:18:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.055
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65679.656		ppb	3.606		64961.850
9	**Be**		307874.799	**100.508749**	ppb	2.659	2.575	21.111
10	**B**		212755.517	**246.489407**	ppb	4.225	2.225	1514.525
27	**Al**		1874953.515	**100.164785**	ppb	1.862	3.771	20141.527
43	**Ca-2**		196375.587	**5234.063239**	ppb	4.454	2.140	178.334
49	**Ti**		134782.257	**99.553717**	ppb	3.577	1.527	177.779
52	**Cr**		1997658.287	**98.454187**	ppb	5.036	0.089	25664.146
55	**Mn**		2968489.006	**101.952303**	ppb	2.167	2.893	1053.372
57	**Fe**		3341713.157	**5125.508698**	ppb	1.453	4.040	21635.266
45	**Sc-IS**	>	2329734.372		ppb	5.066		2199761.639
66	**Zn**		336815.468	**101.328983**	ppb	0.468	4.667	3028.099
86	**Sr**		318729.944	**95.687715**	ppb	1.622	4.159	12.843
65	**Cu**		555777.005	**99.304551**	ppb	2.209	4.332	185.557
69	**Ga-IS**		908016.136		ppb	1.943		805833.454
95	**Mo**		377044.427	**96.867160**	ppb	0.817	5.132	454.452
115	**In-IS**	>	538452.099		ppb	0.800		534646.903
111	**Cd**		501192.049	**102.480061**	ppb	1.336	0.685	36.823
118	**Sn**		1438777.658	**97.699753**	ppb	1.219	0.482	2072.373
121	**Sb**		1538328.149	**97.064545**	ppb	0.770	1.163	215.557
135	**Ba**		409386.830	**98.794490**	ppb	1.089	0.395	33.333
165	**Ho-IS**		625928.430		ppb	1.072		617776.735
159	**Tb-IS**	>	654039.608		ppb	0.781		629091.416
207	**Pb**		4388693.171	**102.458599**	ppb	1.176	0.397	411.113
203	**Tl**		1440594.003	**97.762471**	ppb	0.767	0.791	212.224
209	**Bi-IS**		295368.253		ppb	1.522		298179.941
51	**V**		34359.078	**101.457508**	ppb	3.359	3.269	5.556
59	**Co**		119271.420	**103.465901**	ppb	1.049	0.768	17.778
60	**Ni**		215098.323	**104.951159**	ppb	3.180	3.349	55.556
75	**As**		73479.085	**103.305798**	ppb	0.915	0.989	353.285
71	**Ga-ISK**		88420.759		ppb	3.216		84778.640
82	**Se-2**		7055.242	**104.700383**	ppb	1.659	1.944	10.161
107	**Ag-1**		837991.832	**102.485014**	ppb	0.713	0.666	246.669
115	**In-ISK**	>	128728.661		ppb	0.282		127536.866
45	**Sc-ISK**		222131.298		ppb	2.941		206938.230
23	**Na**		1760451.070	**5225.843046**	ppb	1.493	0.827	8590.916
39	**K**		3880207.093	**5298.733051**	ppb	2.151	1.278	37223.992
24	**Mg**		1636212.885	**5192.564825**	ppb	0.961	0.279	156.668
159	**Tb-ISK**	>	266801.148		ppb	0.899		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 09:21:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.056
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63075.630		ppb	1.516		64961.850
9	**Be**		55.556	**0.011942**	ppb	15.100	22.013	21.111
10	**B**		1895.681	**0.478738**	ppb	4.523	16.366	1514.525
27	**Al**		22244.677	**0.124185**	ppb	5.778	44.758	20141.527
43	**Ca-2**		186.668	**0.253137**	ppb	4.092	65.842	178.334
49	**Ti**		208.890	**0.025104**	ppb	8.789	67.246	177.779
52	**Cr**		26054.855	**0.025502**	ppb	1.831	46.247	25664.146
55	**Mn**		1367.844	**0.011576**	ppb	7.639	26.338	1053.372
57	**Fe**		23124.263	**2.564106**	ppb	2.451	25.825	21635.266
45	**Sc-IS**	>	2192063.530		ppb	1.515		2199761.639
66	**Zn**		3222.587	**0.065518**	ppb	7.078	87.969	3028.099
86	**Sr**		44.529	**0.010144**	ppb	58.370	83.087	12.843
65	**Cu**		211.113	**0.004912**	ppb	17.392	129.269	185.557
69	**Ga-IS**		796667.193		ppb	3.546		805833.454
95	**Mo**		1311.172	**0.234595**	ppb	9.425	16.234	454.452
115	**In-IS**	>	526039.024		ppb	2.677		534646.903
111	**Cd**		68.358	**0.006716**	ppb	7.822	12.582	36.823
118	**Sn**		7374.125	**0.371567**	ppb	1.543	3.477	2072.373
121	**Sb**		1436.739	**0.079123**	ppb	2.615	2.806	215.557
135	**Ba**		82.222	**0.012167**	ppb	29.328	46.382	33.333
165	**Ho-IS**		615831.672		ppb	2.380		617776.735
159	**Tb-IS**	>	638099.723		ppb	2.967		629091.416
207	**Pb**		797.787	**0.009150**	ppb	6.870	20.736	411.113
203	**Tl**		348.893	**0.009310**	ppb	9.030	24.588	212.224
209	**Bi-IS**		288396.469		ppb	0.636		298179.941
51	**V**		6.667	**0.003435**	ppb	50.000	284.987	5.556
59	**Co**		28.889	**0.009951**	ppb	24.019	58.852	17.778
60	**Ni**		111.112	**0.027915**	ppb	3.464	5.153	55.556
75	**As**		398.371	**0.070200**	ppb	1.867	25.135	353.285
71	**Ga-ISK**		85845.018		ppb	2.235		84778.640
82	**Se-2**		12.487	**0.036422**	ppb	41.177	211.668	10.161
107	**Ag-1**		1187.827	**0.117781**	ppb	5.671	8.629	246.669
115	**In-ISK**	>	126255.216		ppb	1.214		127536.866
45	**Sc-ISK**		210871.943		ppb	1.815		206938.230
23	**Na**		9381.413	**2.803916**	ppb	0.777	6.118	8590.916
39	**K**		41261.726	**6.493513**	ppb	0.623	5.565	37223.992
24	**Mg**		556.678	**1.324069**	ppb	11.374	15.686	156.668
159	**Tb-ISK**	>	257151.131		ppb	0.222		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 09:24:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.057
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65598.049		ppb	0.899		64961.850
9	**Be**		37.778	**0.005232**	ppb	18.368	43.418	21.111
10	**B**		1745.662	**0.199358**	ppb	5.075	45.684	1514.525
27	**Al**		34119.368	**0.721343**	ppb	1.402	2.582	20141.527
43	**Ca-2**		245.002	**1.614573**	ppb	14.139	62.746	178.334
49	**Ti**		218.891	**0.025160**	ppb	11.017	58.734	177.779
52	**Cr**		27866.047	**0.057691**	ppb	1.961	13.445	25664.146
55	**Mn**		2259.068	**0.040533**	ppb	4.101	4.342	1053.372
57	**Fe**		23846.556	**2.072942**	ppb	1.511	58.617	21635.266
45	**Sc-IS**	>	2291181.165		ppb	1.943		2199761.639
66	**Zn**		2589.124	**-0.174305**	ppb	3.311	6.450	3028.099
86	**Sr**		81.871	**0.020794**	ppb	30.063	33.477	12.843
65	**Cu**		211.113	**0.003291**	ppb	13.429	171.919	185.557
69	**Ga-IS**		841062.827		ppb	0.186		805833.454
95	**Mo**		788.911	**0.082654**	ppb	8.663	25.757	454.452
115	**In-IS**	>	536192.790		ppb	1.610		534646.903
111	**Cd**		46.121	**0.001885**	ppb	25.512	128.135	36.823
118	**Sn**		7021.728	**0.337911**	ppb	4.703	8.900	2072.373
121	**Sb**		1623.426	**0.089158**	ppb	6.758	7.096	215.557
135	**Ba**		133.334	**0.024221**	ppb	6.614	9.289	33.333
165	**Ho-IS**		639806.163		ppb	1.723		617776.735
159	**Tb-IS**	>	639562.102		ppb	0.556		629091.416
207	**Pb**		734.452	**0.007563**	ppb	9.906	24.037	411.113
203	**Tl**		223.335	**0.000525**	ppb	10.763	316.495	212.224
209	**Bi-IS**		299439.166		ppb	0.853		298179.941
51	**V**		7.778	**0.005605**	ppb	49.487	197.294	5.556
59	**Co**		16.667	**-0.001625**	ppb	20.000	181.966	17.778
60	**Ni**		298.892	**0.113126**	ppb	8.371	11.311	55.556
75	**As**		356.096	**-0.019359**	ppb	8.540	220.261	353.285
71	**Ga-ISK**		89803.619		ppb	0.955		84778.640
82	**Se-2**		18.494	**0.112684**	ppb	21.932	54.735	10.161
107	**Ag-1**		450.007	**0.022545**	ppb	5.185	12.566	246.669
115	**In-ISK**	>	133721.863		ppb	1.330		127536.866
45	**Sc-ISK**		223260.175		ppb	1.435		206938.230
23	**Na**		9416.438	**1.712146**	ppb	3.008	46.374	8590.916
39	**K**		40707.918	**3.305878**	ppb	0.356	19.304	37223.992
24	**Mg**		251.669	**0.285321**	ppb	18.778	51.126	156.668
159	**Tb-ISK**	>	268193.495		ppb	0.790		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 09:30:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.058
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68462.606		ppb	2.340		64961.850
9	**Be**		21.111	**-0.000292**	ppb	24.119	626.003	21.111
10	**B**		1384.512	**-0.235727**	ppb	4.948	20.890	1514.525
27	**Al**		33060.215	**0.656390**	ppb	1.361	2.336	20141.527
43	**Ca-2**		218.335	**0.851375**	ppb	13.804	80.113	178.334
49	**Ti**		225.557	**0.029282**	ppb	22.380	116.385	177.779
52	**Cr**		27792.576	**0.048550**	ppb	2.606	27.530	25664.146
55	**Mn**		2074.596	**0.033937**	ppb	8.115	21.456	1053.372
57	**Fe**		22960.664	**0.533954**	ppb	2.029	62.397	21635.266
45	**Sc-IS**	>	2299899.722		ppb	2.209		2199761.639
66	**Zn**		2962.530	**-0.062529**	ppb	2.537	6.585	3028.099
86	**Sr**		55.141	**0.012488**	ppb	76.675	98.982	12.843
65	**Cu**		272.225	**0.014170**	ppb	4.636	19.749	185.557
69	**Ga-IS**		838492.630		ppb	2.861		805833.454
95	**Mo**		827.802	**0.091629**	ppb	8.981	18.555	454.452
115	**In-IS**	>	538899.676		ppb	1.914		534646.903
111	**Cd**		30.484	**-0.001369**	ppb	27.094	116.750	36.823
118	**Sn**		6413.662	**0.293918**	ppb	2.365	3.573	2072.373
121	**Sb**		1351.175	**0.071503**	ppb	1.113	1.094	215.557
135	**Ba**		128.889	**0.022967**	ppb	5.384	4.937	33.333
165	**Ho-IS**		624431.134		ppb	0.733		617776.735
159	**Tb-IS**	>	641396.965		ppb	1.928		629091.416
207	**Pb**		562.227	**0.003410**	ppb	4.206	18.515	411.113
203	**Tl**		180.001	**-0.002515**	ppb	5.556	27.966	212.224
209	**Bi-IS**		296603.067		ppb	0.630		298179.941
51	**V**		5.556	**-0.000686**	ppb	34.641	786.730	5.556
59	**Co**		14.444	**-0.003372**	ppb	53.294	196.779	17.778
60	**Ni**		185.557	**0.060577**	ppb	12.618	20.711	55.556
75	**As**		377.279	**0.012636**	ppb	7.090	207.845	353.285
71	**Ga-ISK**		91114.162		ppb	2.021		84778.640
82	**Se-2**		15.117	**0.066349**	ppb	40.397	137.563	10.161
107	**Ag-1**		386.672	**0.015400**	ppb	8.491	24.607	246.669
115	**In-ISK**	>	132779.779		ppb	2.054		127536.866
45	**Sc-ISK**		227237.001		ppb	2.341		206938.230
23	**Na**		9162.938	**1.115832**	ppb	1.055	31.971	8590.916
39	**K**		39017.658	**1.288484**	ppb	0.868	28.665	37223.992
24	**Mg**		200.001	**0.126112**	ppb	6.614	33.314	156.668
159	**Tb-ISK**	>	266674.063		ppb	0.573		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80240-B-1-A @20
Autosampler Position: 409
Sample Date/Time: Tuesday, January 04, 2022 09:33:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80240-B-1-A @20.059
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		74651.265		ppb	2.133		64961.850
9	**Be**		25.556	**0.001111**	ppb	39.849	318.653	21.111
10	**B**		127616.774	**147.371253**	ppb	3.299	3.490	1514.525
27	**Al**		29588.686	**0.450756**	ppb	6.108	29.555	20141.527
43	**Ca-2**		572707.902	**15300.366864**	ppb	3.121	2.411	178.334
49	**Ti**		2231.285	**1.514972**	ppb	3.085	5.814	177.779
52	**Cr**		43756.913	**0.833086**	ppb	0.747	3.838	25664.146
55	**Mn**		52340.159	**1.762236**	ppb	1.069	1.589	1053.372
57	**Fe**		67907.703	**69.653041**	ppb	1.314	4.819	21635.266
45	**Sc-IS**	>	2325061.798		ppb	2.192		2199761.639
66	**Zn**		27755.827	**7.463379**	ppb	0.842	1.743	3028.099
86	**Sr**		818941.623	**246.162207**	ppb	2.684	4.321	12.843
65	**Cu**		9697.735	**1.700031**	ppb	0.173	2.117	185.557
69	**Ga-IS**		724165.250		ppb	0.981		805833.454
95	**Mo**		1254.500	**0.199220**	ppb	4.238	6.114	454.452
115	**In-IS**	>	507440.612		ppb	1.980		534646.903
111	**Cd**		61.810	**0.005811**	ppb	13.434	26.900	36.823
118	**Sn**		1478.966	**-0.035130**	ppb	3.841	17.486	2072.373
121	**Sb**		675.572	**0.031577**	ppb	5.719	10.642	215.557
135	**Ba**		7325.211	**1.868387**	ppb	0.228	2.174	33.333
165	**Ho-IS**		593021.029		ppb	2.228		617776.735
159	**Tb-IS**	>	613289.928		ppb	2.007		629091.416
207	**Pb**		1335.580	**0.023289**	ppb	4.245	7.237	411.113
203	**Tl**		184.446	**-0.001587**	ppb	26.335	234.974	212.224
209	**Bi-IS**		233427.266		ppb	0.779		298179.941
51	**V**		56.667	**0.167845**	ppb	15.563	16.080	5.556
59	**Co**		8.889	**-0.007070**	ppb	57.282	67.795	17.778
60	**Ni**		654.459	**0.325244**	ppb	3.823	7.276	55.556
75	**As**		524.224	**0.312816**	ppb	2.901	1.005	353.285
71	**Ga-ISK**		78682.770		ppb	0.990		84778.640
82	**Se-2**		302.131	**4.799625**	ppb	2.887	2.959	10.161
107	**Ag-1**		375.561	**0.020158**	ppb	7.174	10.914	246.669
115	**In-ISK**	>	116750.569		ppb	2.876		127536.866
45	**Sc-ISK**		213666.741		ppb	2.647		206938.230
23	**Na**		111407020.208	**358803.732602**	ppb	1.628	1.283	8590.916
39	**K**		8731133.453	**12945.729292**	ppb	2.655	0.866	37223.992
24	**Mg**		12761458.280	**43720.908561**	ppb	2.116	0.257	156.668
159	**Tb-ISK**	>	247165.882		ppb	2.249		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80445-A-1-A @5
Autosampler Position: 410
Sample Date/Time: Tuesday, January 04, 2022 09:37:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80445-A-1-A @5.060
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		80651.506		ppb	1.603		64961.850
9	**Be**		32.222	**0.002910**	ppb	5.973	13.154	21.111
10	**B**		146608.733	**164.300265**	ppb	2.379	1.391	1514.525
27	**Al**		831883.174	**42.473149**	ppb	0.217	2.316	20141.527
43	**Ca-2**		758684.137	**19652.919047**	ppb	0.835	1.560	178.334
49	**Ti**		1790.112	**1.146650**	ppb	1.962	3.268	177.779
52	**Cr**		38299.079	**0.501425**	ppb	3.019	15.409	25664.146
55	**Mn**		1684143.742	**56.121701**	ppb	1.783	2.081	1053.372
57	**Fe**		83298.883	**89.490288**	ppb	2.060	4.299	21635.266
45	**Sc-IS**	>	2398614.549		ppb	2.344		2199761.639
66	**Zn**		40079.513	**10.832074**	ppb	3.085	1.567	3028.099
86	**Sr**		844460.691	**246.026827**	ppb	0.718	2.896	12.843
65	**Cu**		3357.061	**0.547121**	ppb	1.503	2.278	185.557
69	**Ga-IS**		839517.319		ppb	2.177		805833.454
95	**Mo**		10156.946	**2.410556**	ppb	3.536	4.175	454.452
115	**In-IS**	>	538895.489		ppb	0.242		534646.903
111	**Cd**		58.671	**0.004401**	ppb	16.272	43.641	36.823
118	**Sn**		1611.202	**-0.032460**	ppb	3.300	10.312	2072.373
121	**Sb**		4528.496	**0.271826**	ppb	1.680	1.629	215.557
135	**Ba**		177354.349	**42.760968**	ppb	1.791	1.877	33.333
165	**Ho-IS**		636427.366		ppb	1.054		617776.735
159	**Tb-IS**	>	660871.106		ppb	1.268		629091.416
207	**Pb**		15765.606	**0.354359**	ppb	0.851	1.481	411.113
203	**Tl**		173.334	**-0.003337**	ppb	6.934	20.092	212.224
209	**Bi-IS**		276244.221		ppb	0.402		298179.941
51	**V**		197.779	**0.568410**	ppb	15.293	15.789	5.556
59	**Co**		762.243	**0.646689**	ppb	4.488	4.567	17.778
60	**Ni**		6111.308	**2.959319**	ppb	3.369	3.447	55.556
75	**As**		1955.543	**2.262599**	ppb	4.737	5.507	353.285
71	**Ga-ISK**		86970.661		ppb	1.878		84778.640
82	**Se-2**		98.524	**1.314286**	ppb	19.627	22.212	10.161
107	**Ag-1**		133.334	**-0.014125**	ppb	4.330	4.834	246.669
115	**In-ISK**	>	128549.919		ppb	0.256		127536.866
45	**Sc-ISK**		228945.880		ppb	1.690		206938.230
23	**Na**		19132582.031	**56344.690061**	ppb	2.336	2.609	8590.916
39	**K**		2666745.082	**3579.570849**	ppb	0.857	0.827	37223.992
24	**Mg**		2385726.056	**7477.565386**	ppb	1.177	2.018	156.668
159	**Tb-ISK**	>	270185.287		ppb	1.149		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80444-A-1-A @5
Autosampler Position: 411
Sample Date/Time: Tuesday, January 04, 2022 09:40:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80444-A-1-A @5.061
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		72869.873		ppb	2.025		64961.850
9	**Be**		13.333	**-0.003153**	ppb	75.000	94.952	21.111
10	**B**		76383.739	**84.278945**	ppb	2.383	2.350	1514.525
27	**Al**		119987.019	**5.108426**	ppb	2.660	3.522	20141.527
43	**Ca-2**		197182.246	**5076.922307**	ppb	2.894	1.184	178.334
49	**Ti**		998.924	**0.574093**	ppb	7.321	7.064	177.779
52	**Cr**		58658.111	**1.473066**	ppb	4.380	1.393	25664.146
55	**Mn**		725671.401	**24.037070**	ppb	2.039	1.872	1053.372
57	**Fe**		1043722.565	**1520.658114**	ppb	2.305	2.461	21635.266
45	**Sc-IS**	>	2411343.283		ppb	3.647		2199761.639
66	**Zn**		700339.839	**204.282055**	ppb	4.023	3.481	3028.099
86	**Sr**		162636.614	**47.125299**	ppb	2.225	1.587	12.843
65	**Cu**		14923.374	**2.539450**	ppb	7.256	7.203	185.557
69	**Ga-IS**		845417.196		ppb	1.597		805833.454
95	**Mo**		1327.840	**0.205628**	ppb	6.548	4.734	454.452
115	**In-IS**	>	548655.736		ppb	0.543		534646.903
111	**Cd**		34.989	**-0.000570**	ppb	39.186	475.193	36.823
118	**Sn**		2761.378	**0.042369**	ppb	3.103	14.273	2072.373
121	**Sb**		2374.642	**0.133344**	ppb	5.514	5.681	215.557
135	**Ba**		14994.533	**3.543448**	ppb	1.569	1.420	33.333
165	**Ho-IS**		642830.522		ppb	2.509		617776.735
159	**Tb-IS**	>	655873.170		ppb	2.061		629091.416
207	**Pb**		2782.328	**0.054891**	ppb	8.891	12.587	411.113
203	**Tl**		116.667	**-0.007086**	ppb	9.897	8.916	212.224
209	**Bi-IS**		291242.196		ppb	0.507		298179.941
51	**V**		64.445	**0.166523**	ppb	35.208	38.434	5.556
59	**Co**		484.453	**0.388901**	ppb	2.781	3.999	17.778
60	**Ni**		3826.068	**1.768938**	ppb	1.224	0.329	55.556
75	**As**		1952.490	**2.146650**	ppb	17.334	19.959	353.285
71	**Ga-ISK**		90399.607		ppb	1.479		84778.640
82	**Se-2**		8454.313	**120.714640**	ppb	1.700	1.096	10.161
107	**Ag-1**		104.445	**-0.018173**	ppb	13.287	8.553	246.669
115	**In-ISK**	>	133814.473		ppb	1.420		127536.866
45	**Sc-ISK**		231608.519		ppb	2.166		206938.230
23	**Na**		15755769.166	**45575.489140**	ppb	3.690	2.541	8590.916
39	**K**		1195117.834	**1546.864115**	ppb	2.800	2.718	37223.992
24	**Mg**		736432.492	**2267.713932**	ppb	3.709	4.054	156.668
159	**Tb-ISK**	>	274968.654		ppb	1.263		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 09:43:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.062
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66714.387		ppb	2.831		64961.850
9	**Be**		304275.299	**99.051031**	ppb	0.804	0.417	21.111
10	**B**		218693.934	**252.805473**	ppb	2.101	2.072	1514.525
27	**Al**		1847813.449	**98.385203**	ppb	0.861	1.594	20141.527
43	**Ca-2**		194365.109	**5168.152501**	ppb	1.334	0.823	178.334
49	**Ti**		135846.205	**100.087339**	ppb	0.861	0.224	177.779
52	**Cr**		2005414.006	**98.641800**	ppb	3.092	3.230	25664.146
55	**Mn**		2949444.240	**100.995706**	ppb	0.811	0.386	1053.372
57	**Fe**		3319022.742	**5073.769687**	ppb	1.131	1.739	21635.266
45	**Sc-IS**	>	2334496.458		ppb	1.078		2199761.639
66	**Zn**		329153.725	**98.659746**	ppb	1.420	2.481	3028.099
86	**Sr**		331267.805	**99.132233**	ppb	1.262	2.281	12.843
65	**Cu**		554742.471	**98.803293**	ppb	1.323	2.282	185.557
69	**Ga-IS**		907692.556		ppb	0.497		805833.454
95	**Mo**		390050.450	**99.850781**	ppb	1.350	2.203	454.452
115	**In-IS**	>	560275.179		ppb	2.260		534646.903
111	**Cd**		503651.932	**98.993218**	ppb	1.046	1.366	36.823
118	**Sn**		1446885.497	**94.431449**	ppb	1.535	0.822	2072.373
121	**Sb**		1538143.934	**93.297014**	ppb	0.233	2.085	215.557
135	**Ba**		412411.549	**95.681668**	ppb	0.110	2.277	33.333
165	**Ho-IS**		643184.188		ppb	1.773		617776.735
159	**Tb-IS**	>	654373.041		ppb	0.615		629091.416
207	**Pb**		4457554.172	**104.019056**	ppb	0.405	0.899	411.113
203	**Tl**		1459418.762	**98.982170**	ppb	2.001	1.417	212.224
209	**Bi-IS**		294107.126		ppb	1.610		298179.941
51	**V**		35192.189	**99.150513**	ppb	1.461	3.162	5.556
59	**Co**		122465.083	**101.372704**	ppb	2.291	3.996	17.778
60	**Ni**		220653.334	**102.692050**	ppb	0.923	1.263	55.556
75	**As**		74929.641	**100.473517**	ppb	0.889	1.334	353.285
71	**Ga-ISK**		92510.962		ppb	2.907		84778.640
82	**Se-2**		7046.569	**99.747220**	ppb	2.555	3.147	10.161
107	**Ag-1**		867483.563	**101.201692**	ppb	1.463	1.932	246.669
115	**In-ISK**	>	134969.232		ppb	1.764		127536.866
45	**Sc-ISK**		234115.512		ppb	2.058		206938.230
23	**Na**		1830114.564	**5160.804998**	ppb	3.727	4.393	8590.916
39	**K**		4055445.384	**5260.263388**	ppb	2.734	2.762	37223.992
24	**Mg**		1723066.417	**5194.379370**	ppb	0.742	1.758	156.668
159	**Tb-ISK**	>	280919.739		ppb	1.794		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 09:46:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.063
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64972.994		ppb	1.477		64961.850
9	**Be**		27.778	**0.002180**	ppb	13.856	66.252	21.111
10	**B**		1927.908	**0.476386**	ppb	2.811	10.457	1514.525
27	**Al**		22160.850	**0.097377**	ppb	2.676	41.824	20141.527
43	**Ca-2**		158.334	**-0.629211**	ppb	4.824	33.777	178.334
49	**Ti**		220.002	**0.030485**	ppb	13.122	69.594	177.779
52	**Cr**		25870.082	**-0.008890**	ppb	2.870	353.905	25664.146
55	**Mn**		1407.847	**0.012129**	ppb	5.064	14.522	1053.372
57	**Fe**		23060.821	**1.787686**	ppb	0.832	17.307	21635.266
45	**Sc-IS**	>	2231986.284		ppb	1.544		2199761.639
66	**Zn**		3339.279	**0.084399**	ppb	3.539	36.639	3028.099
86	**Sr**		108.513	**0.029801**	ppb	25.662	27.334	12.843
65	**Cu**		375.561	**0.034932**	ppb	5.047	12.461	185.557
69	**Ga-IS**		789969.162		ppb	2.496		805833.454
95	**Mo**		993.368	**0.142830**	ppb	5.605	12.764	454.452
115	**In-IS**	>	539192.853		ppb	1.058		534646.903
111	**Cd**		51.247	**0.002883**	ppb	19.658	72.044	36.823
118	**Sn**		4717.446	**0.178511**	ppb	2.759	6.640	2072.373
121	**Sb**		622.236	**0.025533**	ppb	10.027	16.539	215.557
135	**Ba**		72.222	**0.009279**	ppb	23.230	41.573	33.333
165	**Ho-IS**		601924.323		ppb	0.846		617776.735
159	**Tb-IS**	>	625334.184		ppb	1.503		629091.416
207	**Pb**		681.118	**0.006673**	ppb	11.164	31.319	411.113
203	**Tl**		350.004	**0.009907**	ppb	19.887	52.791	212.224
209	**Bi-IS**		293412.014		ppb	1.729		298179.941
51	**V**		10.000	**0.012174**	ppb	33.333	78.779	5.556
59	**Co**		27.778	**0.007784**	ppb	38.575	111.211	17.778
60	**Ni**		115.556	**0.027529**	ppb	19.635	41.013	55.556
75	**As**		394.384	**0.037548**	ppb	7.490	98.226	353.285
71	**Ga-ISK**		89128.295		ppb	0.862		84778.640
82	**Se-2**		15.812	**0.075669**	ppb	38.531	114.013	10.161
107	**Ag-1**		1678.988	**0.168976**	ppb	10.272	10.507	246.669
115	**In-ISK**	>	132480.687		ppb	2.274		127536.866
45	**Sc-ISK**		216373.117		ppb	1.224		206938.230
23	**Na**		15743.851	**20.595776**	ppb	17.678	41.162	8590.916
39	**K**		40840.528	**3.585444**	ppb	1.665	32.221	37223.992
24	**Mg**		730.023	**1.803682**	ppb	60.264	77.820	156.668
159	**Tb-ISK**	>	267725.428		ppb	0.393		260652.410

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, January 04, 2022 09:58:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICIS-1479530.066
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	65283.312		ppb	2.019		
9	**Be**		21.111		ppb	45.580		
10	**B**		1211.162		ppb	1.933		
27	**Al**		20678.041		ppb	9.338		
43	**Ca-2**		128.334		ppb	23.485		
49	**Ti**		212.224		ppb	14.252		
52	**Cr**		26534.628		ppb	2.250		
55	**Mn**		925.586		ppb	3.498		
57	**Fe**		21358.177		ppb	1.033		
45	**Sc-IS**		2043547.830		ppb	5.325		
66	**Zn**		3188.134		ppb	2.144		
86	**Sr**		14.541		ppb	80.622		
65	**Cu**		191.112		ppb	7.865		
69	**Ga-IS**		777747.512		ppb	2.189		
95	**Mo**		115.556		ppb	4.406		
115	**In-IS**	>	523729.710		ppb	1.196		
111	**Cd**		23.091		ppb	25.012		
118	**Sn**		2686.920		ppb	3.910		
121	**Sb**		252.224		ppb	8.996		
135	**Ba**		85.556		ppb	9.805		
165	**Ho-IS**		594013.314		ppb	0.869		
159	**Tb-IS**	>	618777.180		ppb	0.571		
207	**Pb**		362.224		ppb	2.811		
203	**Tl**		126.667		ppb	25.104		
209	**Bi-IS**		276906.971		ppb	0.868		
51	**V**		2.222		ppb	86.603		
59	**Co**		6.667		ppb	50.000		
60	**Ni**		55.556		ppb	17.321		
75	**As**		368.769		ppb	7.461		
71	**Ga-ISK**		87959.969		ppb	0.626		
82	**Se-2**		18.520		ppb	45.263		
107	**Ag-1**		196.668		ppb	28.513		
115	**In-ISK**	>	129463.944		ppb	0.523		
45	**Sc-ISK**		219788.876		ppb	3.062		
23	**Na**		10223.657		ppb	0.975		
39	**K**		37434.541		ppb	0.853		
24	**Mg**		131.667		ppb	18.733		
159	**Tb-ISK**	>	263471.562		ppb	1.001		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Tuesday, January 04, 2022 10:02:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\IC-2235387.067
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	62486.380		ppb	1.463		65283.312
9	**Be**		600879.814	**200.000000**	ppb	1.596	1.493	21.111
10	**B**		423059.732	**500.000000**	ppb	0.678	2.121	1211.162
27	**Al**		3415370.550	**200.000000**	ppb	2.158	1.193	20678.041
43	**Ca-2**		366170.507	**10200.000000**	ppb	1.142	1.290	128.334
49	**Ti**		255257.165	**200.000000**	ppb	1.229	0.396	212.224
52	**Cr**		3711685.073	**200.000000**	ppb	1.529	1.243	26534.628
55	**Mn**		5418553.466	**200.000000**	ppb	1.558	0.709	925.586
57	**Fe**		6082764.137	**10200.000000**	ppb	0.970	0.930	21358.177
45	**Sc-IS**		2121167.165		ppb	1.342		2043547.830
66	**Zn**		635100.329	**200.000000**	ppb	1.939	0.720	3188.134
86	**Sr**		634405.916	**200.000000**	ppb	3.169	2.701	14.541
65	**Cu**		1060011.577	**200.000000**	ppb	1.269	1.987	191.112
69	**Ga-IS**		968546.155		ppb	2.226		777747.512
95	**Mo**		745040.488	**200.000000**	ppb	1.557	1.122	115.556
115	**In-IS**	>	536254.686		ppb	1.474		523729.710
111	**Cd**		977612.324	**200.000000**	ppb	0.303	1.266	23.091
118	**Sn**		2795153.377	**200.000000**	ppb	1.047	2.183	2686.920
121	**Sb**		2973464.753	**200.000000**	ppb	1.270	1.949	252.224
135	**Ba**		789668.294	**200.000000**	ppb	0.959	0.668	85.556
165	**Ho-IS**		616789.366		ppb	2.620		594013.314
159	**Tb-IS**	>	633772.225		ppb	1.612		618777.180
207	**Pb**		8209243.251	**200.000000**	ppb	0.701	1.516	362.224
203	**Tl**		2779801.073	**200.000000**	ppb	1.962	0.443	126.667
209	**Bi-IS**		279672.587		ppb	1.552		276906.971
51	**V**		69422.781	**200.000000**	ppb	2.362	1.514	2.222
59	**Co**		233845.456	**200.000000**	ppb	1.788	2.246	6.667
60	**Ni**		413581.802	**200.000000**	ppb	2.658	1.843	55.556
75	**As**		145279.933	**200.000000**	ppb	0.574	0.930	368.769
71	**Ga-ISK**		87773.463		ppb	3.337		87959.969
82	**Se-2**		13869.554	**200.000000**	ppb	0.921	1.273	18.520
107	**Ag-1**		1654199.886	**200.000000**	ppb	0.278	1.025	196.668
115	**In-ISK**	>	128608.307		ppb	1.080		129463.944
45	**Sc-ISK**		228301.304		ppb	1.839		219788.876
23	**Na**		3481643.025	**10200.000000**	ppb	1.078	1.517	10223.657
39	**K**		7368554.518	**10200.000000**	ppb	1.792	2.368	37434.541
24	**Mg**		3171888.619	**10200.000000**	ppb	2.565	2.407	131.667
159	**Tb-ISK**	>	266306.912		ppb	1.416		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 10:05:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.068
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	64475.388		ppb	4.752		65283.312
9	**Be**		295155.869	**95.266257**	ppb	2.552	2.160	21.111
10	**B**		211124.347	**241.332654**	ppb	1.266	3.551	1211.162
27	**Al**		1762928.497	**99.585829**	ppb	1.295	3.713	20678.041
43	**Ca-2**		181669.355	**4903.479059**	ppb	4.488	2.350	128.334
49	**Ti**		126011.695	**95.635539**	ppb	4.031	2.175	212.224
52	**Cr**		1840808.429	**95.498980**	ppb	3.087	3.933	26534.628
55	**Mn**		2657849.778	**95.138858**	ppb	2.469	3.084	925.586
57	**Fe**		3015373.587	**4886.841789**	ppb	1.859	3.100	21358.177
45	**Sc-IS**		2116402.272		ppb	3.971		2043547.830
66	**Zn**		315935.931	**96.073955**	ppb	1.627	5.159	3188.134
86	**Sr**		321800.978	**98.433068**	ppb	2.444	4.286	14.541
65	**Cu**		535737.955	**98.061984**	ppb	1.015	4.321	191.112
69	**Ga-IS**		892759.056		ppb	1.944		777747.512
95	**Mo**		374278.924	**97.474515**	ppb	2.925	4.867	115.556
115	**In-IS**	>	538482.651		ppb	2.268		523729.710
111	**Cd**		484961.954	**98.801472**	ppb	1.409	0.902	23.091
118	**Sn**		1421289.221	**101.140383**	ppb	3.570	1.413	2686.920
121	**Sb**		1498009.039	**100.322355**	ppb	2.091	0.638	252.224
135	**Ba**		400032.798	**100.868368**	ppb	3.197	1.146	85.556
165	**Ho-IS**		622313.127		ppb	1.511		594013.314
159	**Tb-IS**	>	641808.350		ppb	1.636		618777.180
207	**Pb**		4137779.724	**99.527691**	ppb	1.587	0.456	362.224
203	**Tl**		1415083.274	**100.522867**	ppb	2.925	1.391	126.667
209	**Bi-IS**		287275.252		ppb	0.100		276906.971
51	**V**		33993.731	**94.904324**	ppb	0.624	0.059	2.222
59	**Co**		115531.033	**95.735031**	ppb	2.542	2.259	6.667
60	**Ni**		210721.805	**98.741343**	ppb	1.279	1.174	55.556
75	**As**		72882.527	**96.963745**	ppb	1.168	1.155	368.769
71	**Ga-ISK**		88042.731		ppb	1.477		87959.969
82	**Se-2**		6870.172	**95.854487**	ppb	1.832	1.461	18.520
107	**Ag-1**		829598.849	**97.175423**	ppb	1.318	0.742	196.668
115	**In-ISK**	>	132716.549		ppb	0.577		129463.944
45	**Sc-ISK**		221378.897		ppb	1.025		219788.876
23	**Na**		1682287.141	**4809.513831**	ppb	0.590	0.600	10223.657
39	**K**		3682938.496	**4964.121121**	ppb	1.625	0.581	37434.541
24	**Mg**		1605974.440	**5056.056318**	ppb	2.960	2.372	131.667
159	**Tb-ISK**	>	271974.766		ppb	1.143		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 10:08:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.069
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	63141.495		ppb	2.089		65283.312
9	**Be**		38.889	**0.006059**	ppb	32.451	66.423	21.111
10	**B**		1965.691	**0.931191**	ppb	5.100	10.858	1211.162
27	**Al**		20428.939	**0.024915**	ppb	3.144	79.855	20678.041
43	**Ca-2**		155.001	**0.849052**	ppb	6.452	23.021	128.334
49	**Ti**		187.779	**-0.013720**	ppb	15.509	152.093	212.224
52	**Cr**		24709.138	**-0.051273**	ppb	2.676	42.659	26534.628
55	**Mn**		1435.628	**0.019735**	ppb	3.547	5.208	925.586
57	**Fe**		21321.459	**1.120556**	ppb	1.953	110.100	21358.177
45	**Sc-IS**		2001280.649		ppb	3.316		2043547.830
66	**Zn**		3023.653	**-0.018584**	ppb	3.074	162.950	3188.134
86	**Sr**		35.665	**0.006777**	ppb	112.664	183.492	14.541
65	**Cu**		258.891	**0.013760**	ppb	13.647	41.667	191.112
69	**Ga-IS**		768964.610		ppb	2.498		777747.512
95	**Mo**		1570.087	**0.387211**	ppb	9.751	9.112	115.556
115	**In-IS**	>	528665.348		ppb	1.078		523729.710
111	**Cd**		66.703	**0.009011**	ppb	8.439	14.125	23.091
118	**Sn**		6957.249	**0.308355**	ppb	0.817	0.591	2686.920
121	**Sb**		674.460	**0.028647**	ppb	0.755	1.710	252.224
135	**Ba**		77.778	**-0.002238**	ppb	29.172	252.332	85.556
165	**Ho-IS**		600083.209		ppb	1.233		594013.314
159	**Tb-IS**	>	620101.765		ppb	1.318		618777.180
207	**Pb**		735.563	**0.009273**	ppb	5.154	8.765	362.224
203	**Tl**		337.782	**0.015505**	ppb	16.988	27.178	126.667
209	**Bi-IS**		280089.138		ppb	0.511		276906.971
51	**V**		12.222	**0.028790**	ppb	68.635	85.402	2.222
59	**Co**		14.444	**0.006507**	ppb	96.077	179.248	6.667
60	**Ni**		91.111	**0.017023**	ppb	2.112	6.082	55.556
75	**As**		374.096	**0.006222**	ppb	6.189	351.863	368.769
71	**Ga-ISK**		84469.039		ppb	1.736		87959.969
82	**Se-2**		26.843	**0.119329**	ppb	55.912	180.086	18.520
107	**Ag-1**		1346.731	**0.137818**	ppb	10.245	11.039	196.668
115	**In-ISK**	>	129666.113		ppb	1.972		129463.944
45	**Sc-ISK**		207730.885		ppb	3.853		219788.876
23	**Na**		11084.299	**3.221076**	ppb	1.741	28.107	10223.657
39	**K**		41407.707	**6.760100**	ppb	1.096	16.872	37434.541
24	**Mg**		478.342	**1.160342**	ppb	18.854	27.160	131.667
159	**Tb-ISK**	>	258306.667		ppb	1.428		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205211_1-A
Autosampler Position: 104
Sample Date/Time: Tuesday, January 04, 2022 10:11:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\MB 570-205211_1-A.070
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	65665.088		ppb	2.706		65283.312
9	**Be**		86.667	**0.020698**	ppb	11.538	13.238	21.111
10	**B**		1839.008	**0.700680**	ppb	5.739	17.714	1211.162
27	**Al**		38175.607	**0.974885**	ppb	0.375	5.168	20678.041
43	**Ca-2**		318.337	**4.993347**	ppb	20.012	30.119	128.334
49	**Ti**		243.335	**0.022053**	ppb	15.559	113.361	212.224
52	**Cr**		26280.837	**-0.021230**	ppb	3.368	74.466	26534.628
55	**Mn**		3271.486	**0.082264**	ppb	1.784	3.870	925.586
57	**Fe**		22978.472	**2.399840**	ppb	2.302	24.937	21358.177
45	**Sc-IS**		2148897.279		ppb	3.108		2043547.830
66	**Zn**		2764.712	**-0.132599**	ppb	1.355	22.904	3188.134
86	**Sr**		181.223	**0.050061**	ppb	16.083	18.733	14.541
65	**Cu**		402.228	**0.037675**	ppb	7.048	10.584	191.112
69	**Ga-IS**		801053.304		ppb	2.855		777747.512
95	**Mo**		1132.267	**0.259588**	ppb	2.783	1.549	115.556
115	**In-IS**	>	536805.170		ppb	0.572		523729.710
111	**Cd**		114.289	**0.018522**	ppb	2.862	4.325	23.091
118	**Sn**		8475.848	**0.409359**	ppb	2.494	4.210	2686.920
121	**Sb**		1113.377	**0.057429**	ppb	3.643	4.130	252.224
135	**Ba**		157.779	**0.017752**	ppb	12.379	29.062	85.556
165	**Ho-IS**		628180.078		ppb	1.276		594013.314
159	**Tb-IS**	>	638793.600		ppb	0.816		618777.180
207	**Pb**		1355.580	**0.023735**	ppb	4.975	7.986	362.224
203	**Tl**		483.342	**0.025158**	ppb	7.680	9.476	126.667
209	**Bi-IS**		289728.565		ppb	0.591		276906.971
51	**V**		2.222	**-0.000333**	ppb	173.205	3134.469	2.222
59	**Co**		24.444	**0.014400**	ppb	15.746	24.060	6.667
60	**Ni**		665.571	**0.281799**	ppb	9.321	10.543	55.556
75	**As**		378.411	**-0.005067**	ppb	3.147	455.829	368.769
71	**Ga-ISK**		90531.699		ppb	3.168		87959.969
82	**Se-2**		15.174	**-0.054481**	ppb	32.704	138.129	18.520
107	**Ag-1**		573.345	**0.042844**	ppb	10.137	17.366	196.668
115	**In-ISK**	>	134276.047		ppb	2.622		129463.944
45	**Sc-ISK**		223986.191		ppb	2.238		219788.876
23	**Na**		10687.331	**0.447759**	ppb	2.461	207.973	10223.657
39	**K**		40368.070	**2.467141**	ppb	1.002	56.617	37434.541
24	**Mg**		240.002	**0.331871**	ppb	20.091	52.133	131.667
159	**Tb-ISK**	>	271502.713		ppb	2.468		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205211_2-A
Autosampler Position: 105
Sample Date/Time: Tuesday, January 04, 2022 10:14:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCS 570-205211_2-A.071
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	66170.685		ppb	1.083		65283.312
9	**Be**		281979.140	**88.625803**	ppb	0.646	1.009	21.111
10	**B**		84815.487	**93.538338**	ppb	0.764	1.825	1211.162
27	**Al**		1889026.611	**103.912858**	ppb	1.661	1.838	20678.041
43	**Ca-2**		198520.098	**5219.731857**	ppb	1.693	0.668	128.334
49	**Ti**		118650.760	**87.695456**	ppb	1.449	0.367	212.224
52	**Cr**		1772624.941	**89.436274**	ppb	1.227	0.149	26534.628
55	**Mn**		2461239.268	**85.771457**	ppb	0.498	0.694	925.586
57	**Fe**		3239505.215	**5112.429019**	ppb	1.020	0.723	21358.177
45	**Sc-IS**		2145503.704		ppb	1.746		2043547.830
66	**Zn**		290294.347	**85.786468**	ppb	0.688	1.075	3188.134
86	**Sr**		292243.592	**87.003337**	ppb	1.198	0.975	14.541
65	**Cu**		486903.221	**86.723653**	ppb	0.611	0.658	191.112
69	**Ga-IS**		889736.193		ppb	0.444		777747.512
95	**Mo**		362224.758	**91.809179**	ppb	0.198	0.888	115.556
115	**In-IS**	>	545875.541		ppb	1.817		523729.710
111	**Cd**		462112.040	**92.866519**	ppb	1.621	1.341	23.091
118	**Sn**		1326325.085	**93.131838**	ppb	0.542	2.324	2686.920
121	**Sb**		1388853.415	**91.764427**	ppb	0.916	1.757	252.224
135	**Ba**		431892.601	**107.444164**	ppb	2.371	1.715	85.556
165	**Ho-IS**		628902.280		ppb	0.852		594013.314
159	**Tb-IS**	>	651178.889		ppb	0.829		618777.180
207	**Pb**		3895770.438	**92.358861**	ppb	1.088	1.153	362.224
203	**Tl**		1273543.202	**89.172704**	ppb	1.713	0.894	126.667
209	**Bi-IS**		287396.830		ppb	1.229		276906.971
51	**V**		32022.518	**88.863709**	ppb	0.713	2.944	2.222
59	**Co**		108235.167	**89.134805**	ppb	1.009	1.755	6.667
60	**Ni**		197568.027	**92.002777**	ppb	1.247	2.093	55.556
75	**As**		67582.600	**89.320795**	ppb	1.867	2.847	368.769
71	**Ga-ISK**		89387.825		ppb	2.871		87959.969
82	**Se-2**		6110.788	**84.705129**	ppb	1.163	2.178	18.520
107	**Ag-1**		454122.864	**52.861858**	ppb	0.333	2.552	196.668
115	**In-ISK**	>	133581.107		ppb	2.411		129463.944
45	**Sc-ISK**		225570.757		ppb	2.071		219788.876
23	**Na**		341337.300	**953.616657**	ppb	1.837	2.506	10223.657
39	**K**		761902.420	**987.221436**	ppb	1.497	1.074	37434.541
24	**Mg**		1799555.520	**5675.888614**	ppb	3.021	1.831	131.667
159	**Tb-ISK**	>	271464.028		ppb	1.531		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205211_3-A
Autosampler Position: 106
Sample Date/Time: Tuesday, January 04, 2022 10:18:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCSD 570-205211_3-A.072
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	66601.563		ppb	0.706		65283.312
9	**Be**		280821.487	**87.686628**	ppb	1.585	1.521	21.111
10	**B**		83192.701	**91.104726**	ppb	1.890	1.413	1211.162
27	**Al**		1880746.425	**102.767619**	ppb	1.546	1.167	20678.041
43	**Ca-2**		199005.081	**5198.771155**	ppb	1.592	1.298	128.334
49	**Ti**		120032.223	**88.143227**	ppb	1.366	0.727	212.224
52	**Cr**		1781460.949	**89.297493**	ppb	2.107	1.834	26534.628
55	**Mn**		2492507.632	**86.289613**	ppb	2.141	1.451	925.586
57	**Fe**		3332384.284	**5225.080192**	ppb	2.966	2.293	21358.177
45	**Sc-IS**		2135027.883		ppb	1.903		2043547.830
66	**Zn**		293311.920	**86.113865**	ppb	1.223	0.566	3188.134
86	**Sr**		292971.647	**86.660020**	ppb	1.359	1.876	14.541
65	**Cu**		498081.839	**88.136153**	ppb	1.318	0.838	191.112
69	**Ga-IS**		900446.351		ppb	1.326		777747.512
95	**Mo**		356308.688	**89.730228**	ppb	1.940	2.654	115.556
115	**In-IS**	>	546674.466		ppb	0.945		523729.710
111	**Cd**		462539.055	**92.808689**	ppb	1.019	0.373	23.091
118	**Sn**		1332432.583	**93.403051**	ppb	0.495	0.901	2686.920
121	**Sb**		1375866.817	**90.765947**	ppb	0.743	1.666	252.224
135	**Ba**		428511.848	**106.450244**	ppb	0.263	0.873	85.556
165	**Ho-IS**		633758.636		ppb	0.664		594013.314
159	**Tb-IS**	>	644903.500		ppb	1.737		618777.180
207	**Pb**		3859539.570	**92.414924**	ppb	0.994	2.597	362.224
203	**Tl**		1285282.688	**90.893882**	ppb	2.436	3.040	126.667
209	**Bi-IS**		286926.180		ppb	0.584		276906.971
51	**V**		31827.683	**89.783907**	ppb	4.388	6.231	2.222
59	**Co**		110275.243	**92.312494**	ppb	2.283	4.093	6.667
60	**Ni**		197856.423	**93.623045**	ppb	1.250	1.685	55.556
75	**As**		67543.916	**90.714267**	ppb	1.557	2.139	368.769
71	**Ga-ISK**		89947.874		ppb	1.383		87959.969
82	**Se-2**		6251.515	**88.055801**	ppb	3.524	3.392	18.520
107	**Ag-1**		453459.866	**53.628536**	ppb	1.445	1.665	196.668
115	**In-ISK**	>	131443.650		ppb	1.783		129463.944
45	**Sc-ISK**		222576.282		ppb	1.403		219788.876
23	**Na**		346705.186	**972.917572**	ppb	0.709	1.810	10223.657
39	**K**		768224.539	**999.898598**	ppb	0.680	0.560	37434.541
24	**Mg**		1763980.093	**5585.482992**	ppb	1.862	0.676	131.667
159	**Tb-ISK**	>	270421.036		ppb	1.193		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80494-B-1-A
Autosampler Position: 107
Sample Date/Time: Tuesday, January 04, 2022 10:21:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80494-B-1-A.073
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	67281.425		ppb	1.574		65283.312
9	**Be**		110.000	**0.027244**	ppb	10.926	11.611	21.111
10	**B**		70742.532	**76.497791**	ppb	1.592	3.123	1211.162
27	**Al**		999645.992	**53.531429**	ppb	1.338	2.496	20678.041
43	**Ca-2**		492872.227	**12755.210648**	ppb	2.127	3.559	128.334
49	**Ti**		4945.301	**3.441358**	ppb	3.607	2.179	212.224
52	**Cr**		43559.649	**0.817498**	ppb	1.169	7.106	26534.628
55	**Mn**		44388.876	**1.489649**	ppb	2.085	3.450	925.586
57	**Fe**		81422.619	**92.856635**	ppb	2.903	4.845	21358.177
45	**Sc-IS**		2217445.776		ppb	1.691		2043547.830
66	**Zn**		81708.630	**23.054838**	ppb	2.135	3.463	3188.134
86	**Sr**		317891.477	**93.102190**	ppb	1.684	3.044	14.541
65	**Cu**		16531.792	**2.863712**	ppb	3.874	5.166	191.112
69	**Ga-IS**		809703.044		ppb	4.062		777747.512
95	**Mo**		4591.851	**1.115642**	ppb	5.592	6.499	115.556
115	**In-IS**	>	538310.095		ppb	2.892		523729.710
111	**Cd**		239.248	**0.043781**	ppb	21.061	20.920	23.091
118	**Sn**		8127.868	**0.383174**	ppb	1.927	5.858	2686.920
121	**Sb**		8236.820	**0.534495**	ppb	3.185	1.138	252.224
135	**Ba**		43535.141	**10.964637**	ppb	1.954	1.175	85.556
165	**Ho-IS**		627435.387		ppb	1.416		594013.314
159	**Tb-IS**	>	641807.419		ppb	1.709		618777.180
207	**Pb**		7110.688	**0.162025**	ppb	1.259	1.040	362.224
203	**Tl**		834.469	**0.049927**	ppb	6.700	6.301	126.667
209	**Bi-IS**		278788.636		ppb	0.983		276906.971
51	**V**		353.338	**1.008037**	ppb	4.323	7.595	2.222
59	**Co**		154.445	**0.125487**	ppb	11.887	9.055	6.667
60	**Ni**		1861.232	**0.869949**	ppb	2.896	5.998	55.556
75	**As**		887.700	**0.714422**	ppb	6.906	14.428	368.769
71	**Ga-ISK**		85675.041		ppb	0.850		87959.969
82	**Se-2**		32.468	**0.201383**	ppb	6.400	20.181	18.520
107	**Ag-1**		1155.603	**0.115205**	ppb	10.799	10.269	196.668
115	**In-ISK**	>	129286.096		ppb	3.335		129463.944
45	**Sc-ISK**		220176.001		ppb	0.622		219788.876
23	**Na**		6309850.388	**18548.096961**	ppb	1.547	0.987	10223.657
39	**K**		1406614.361	**1908.485901**	ppb	1.240	0.964	37434.541
24	**Mg**		1202771.299	**3875.726747**	ppb	1.528	1.183	131.667
159	**Tb-ISK**	>	265741.162		ppb	1.358		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80494-B-2-A
Autosampler Position: 108
Sample Date/Time: Tuesday, January 04, 2022 10:24:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80494-B-2-A.074
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	73739.903		ppb	2.481		65283.312
9	**Be**		57.778	**0.009574**	ppb	33.309	56.667	21.111
10	**B**		128022.200	**127.222381**	ppb	0.477	2.703	1211.162
27	**Al**		270692.260	**12.349564**	ppb	0.612	2.106	20678.041
43	**Ca-2**		1117128.514	**26370.466781**	ppb	3.279	1.444	128.334
49	**Ti**		2503.553	**1.503197**	ppb	6.371	4.460	212.224
52	**Cr**		56781.510	**1.233696**	ppb	0.236	5.741	26534.628
55	**Mn**		76688.645	**2.366804**	ppb	1.276	1.424	925.586
57	**Fe**		92435.869	**97.437501**	ppb	0.283	3.085	21358.177
45	**Sc-IS**		2436301.040		ppb	1.745		2043547.830
66	**Zn**		30224.162	**7.143140**	ppb	0.693	3.550	3188.134
86	**Sr**		935612.645	**250.018700**	ppb	1.602	2.144	14.541
65	**Cu**		28663.178	**4.549954**	ppb	1.998	2.920	191.112
69	**Ga-IS**		847737.544		ppb	0.509		777747.512
95	**Mo**		5880.100	**1.309144**	ppb	3.084	5.468	115.556
115	**In-IS**	>	541132.952		ppb	0.889		523729.710
111	**Cd**		183.209	**0.032302**	ppb	5.337	5.919	23.091
118	**Sn**		4300.649	**0.108261**	ppb	7.137	21.511	2686.920
121	**Sb**		4415.127	**0.276901**	ppb	3.461	3.472	252.224
135	**Ba**		84127.026	**21.094302**	ppb	1.664	1.629	85.556
165	**Ho-IS**		645023.474		ppb	1.827		594013.314
159	**Tb-IS**	>	657690.016		ppb	1.131		618777.180
207	**Pb**		3707.966	**0.078022**	ppb	1.612	3.061	362.224
203	**Tl**		426.673	**0.020253**	ppb	4.134	6.508	126.667
209	**Bi-IS**		283685.420		ppb	2.156		276906.971
51	**V**		621.125	**1.744762**	ppb	5.403	8.606	2.222
59	**Co**		236.669	**0.191793**	ppb	17.982	16.834	6.667
60	**Ni**		1823.450	**0.834412**	ppb	8.162	6.680	55.556
75	**As**		1227.487	**1.149111**	ppb	3.290	1.850	368.769
71	**Ga-ISK**		89584.001		ppb	5.967		87959.969
82	**Se-2**		32.471	**0.191258**	ppb	15.238	30.446	18.520
107	**Ag-1**		488.897	**0.034061**	ppb	12.127	17.262	196.668
115	**In-ISK**	>	131667.135		ppb	3.113		129463.944
45	**Sc-ISK**		230067.716		ppb	5.198		219788.876
23	**Na**		14738038.706	**43098.534155**	ppb	4.644	3.114	10223.657
39	**K**		3379917.193	**4631.204348**	ppb	3.971	2.574	37434.541
24	**Mg**		3237886.918	**10371.344188**	ppb	3.711	2.162	131.667
159	**Tb-ISK**	>	267285.003		ppb	1.571		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80494-A-2-A DU
Autosampler Position: 109
Sample Date/Time: Tuesday, January 04, 2022 10:27:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80494-A-2-A DU.075
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	73621.511		ppb	2.398		65283.312
9	**Be**		41.111	**0.004921**	ppb	18.725	49.430	21.111
10	**B**		128614.607	**127.946519**	ppb	3.489	1.100	1211.162
27	**Al**		279158.901	**12.791093**	ppb	2.066	0.512	20678.041
43	**Ca-2**		1169240.271	**27655.063336**	ppb	1.589	2.225	128.334
49	**Ti**		2751.377	**1.671238**	ppb	5.519	4.145	212.224
52	**Cr**		61675.121	**1.462817**	ppb	2.431	5.583	26534.628
55	**Mn**		80595.619	**2.493194**	ppb	1.201	1.838	925.586
57	**Fe**		97461.329	**104.824689**	ppb	0.432	2.949	21358.177
45	**Sc-IS**		2572087.470		ppb	2.477		2043547.830
66	**Zn**		30936.814	**7.344369**	ppb	2.916	2.817	3188.134
86	**Sr**		939535.985	**251.575698**	ppb	2.284	4.458	14.541
65	**Cu**		29393.556	**4.672613**	ppb	2.709	1.031	191.112
69	**Ga-IS**		885485.432		ppb	1.565		777747.512
95	**Mo**		5816.740	**1.296113**	ppb	2.077	2.664	115.556
115	**In-IS**	>	544623.776		ppb	0.052		523729.710
111	**Cd**		134.452	**0.022244**	ppb	18.065	21.963	23.091
118	**Sn**		3387.069	**0.041811**	ppb	3.933	22.723	2686.920
121	**Sb**		3871.636	**0.239026**	ppb	1.207	1.262	252.224
135	**Ba**		83544.706	**20.813245**	ppb	1.026	1.027	85.556
165	**Ho-IS**		657536.981		ppb	0.754		594013.314
159	**Tb-IS**	>	671132.514		ppb	0.888		618777.180
207	**Pb**		3457.945	**0.070502**	ppb	5.495	5.827	362.224
203	**Tl**		366.671	**0.015587**	ppb	7.273	12.396	126.667
209	**Bi-IS**		292261.342		ppb	2.179		276906.971
51	**V**		648.904	**1.785891**	ppb	8.320	7.607	2.222
59	**Co**		192.224	**0.151867**	ppb	12.180	11.525	6.667
60	**Ni**		1931.242	**0.869087**	ppb	4.536	4.486	55.556
75	**As**		1266.925	**1.170357**	ppb	6.766	7.877	368.769
71	**Ga-ISK**		92178.764		ppb	2.326		87959.969
82	**Se-2**		40.494	**0.296166**	ppb	28.506	55.562	18.520
107	**Ag-1**		328.893	**0.014517**	ppb	5.201	14.261	196.668
115	**In-ISK**	>	134111.632		ppb	1.349		129463.944
45	**Sc-ISK**		238958.625		ppb	2.913		219788.876
23	**Na**		15454649.295	**43746.861862**	ppb	2.325	1.574	10223.657
39	**K**		3490617.289	**4629.895870**	ppb	1.482	1.894	37434.541
24	**Mg**		3370192.727	**10447.855950**	ppb	2.225	0.873	131.667
159	**Tb-ISK**	>	276210.317		ppb	1.372		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80494-A-2-B MS
Autosampler Position: 110
Sample Date/Time: Tuesday, January 04, 2022 10:30:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80494-A-2-B MS.076
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	73264.059		ppb	0.687		65283.312
9	**Be**		319290.308	**90.628470**	ppb	1.489	0.886	21.111
10	**B**		203690.793	**204.472164**	ppb	0.610	0.545	1211.162
27	**Al**		2189696.350	**108.842439**	ppb	1.060	1.312	20678.041
43	**Ca-2**		1322026.811	**31412.796215**	ppb	1.061	0.389	128.334
49	**Ti**		146751.090	**97.991018**	ppb	1.231	1.756	212.224
52	**Cr**		2068108.015	**94.320285**	ppb	0.714	1.035	26534.628
55	**Mn**		2904815.545	**91.427119**	ppb	0.940	0.784	925.586
57	**Fe**		3068961.794	**4369.347430**	ppb	0.519	0.323	21358.177
45	**Sc-IS**		2564432.396		ppb	0.113		2043547.830
66	**Zn**		366692.138	**98.013280**	ppb	1.925	2.638	3188.134
86	**Sr**		1162588.833	**312.619580**	ppb	0.957	1.314	14.541
65	**Cu**		587950.325	**94.594648**	ppb	2.346	3.034	191.112
69	**Ga-IS**		964922.464		ppb	0.917		777747.512
95	**Mo**		339412.915	**77.686561**	ppb	1.293	0.628	115.556
115	**In-IS**	>	538733.330		ppb	2.141		523729.710
111	**Cd**		488430.324	**99.462805**	ppb	1.387	1.240	23.091
118	**Sn**		1255955.924	**89.346917**	ppb	0.766	1.641	2686.920
121	**Sb**		1476556.753	**98.852208**	ppb	1.000	1.198	252.224
135	**Ba**		467887.675	**117.952292**	ppb	1.564	0.782	85.556
165	**Ho-IS**		636980.681		ppb	1.322		594013.314
159	**Tb-IS**	>	657306.765		ppb	1.719		618777.180
207	**Pb**		4020646.014	**94.438793**	ppb	0.835	1.026	362.224
203	**Tl**		1346720.984	**93.422119**	ppb	1.762	0.259	126.667
209	**Bi-IS**		286943.317		ppb	1.021		276906.971
51	**V**		33605.050	**95.361780**	ppb	2.385	3.134	2.222
59	**Co**		109582.151	**92.312284**	ppb	2.207	3.532	6.667
60	**Ni**		207891.723	**99.012690**	ppb	3.334	3.769	55.556
75	**As**		76129.413	**102.963397**	ppb	2.657	2.605	368.769
71	**Ga-ISK**		90899.711		ppb	4.094		87959.969
82	**Se-2**		7552.153	**107.114624**	ppb	3.039	2.701	18.520
107	**Ag-1**		224653.077	**26.724194**	ppb	1.962	0.301	196.668
115	**In-ISK**	>	130601.472		ppb	1.802		129463.944
45	**Sc-ISK**		241468.294		ppb	1.257		219788.876
23	**Na**		15230482.464	**43219.178581**	ppb	2.771	1.466	10223.657
39	**K**		4121070.597	**5489.080696**	ppb	2.121	1.295	37434.541
24	**Mg**		4741290.064	**14734.959006**	ppb	2.864	1.057	131.667
159	**Tb-ISK**	>	275563.142		ppb	2.922		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80494-A-2-C MSD
Autosampler Position: 111
Sample Date/Time: Tuesday, January 04, 2022 10:33:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80494-A-2-C MSD.077
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	71688.436		ppb	3.234		65283.312
9	**Be**		330364.387	**95.879944**	ppb	1.195	2.134	21.111
10	**B**		208500.560	**214.122408**	ppb	0.683	3.560	1211.162
27	**Al**		2335614.310	**118.824626**	ppb	0.476	3.011	20678.041
43	**Ca-2**		1336959.002	**32490.272704**	ppb	1.114	3.574	128.334
49	**Ti**		154211.509	**105.369386**	ppb	2.353	5.680	212.224
52	**Cr**		2170566.338	**101.386782**	ppb	2.353	5.623	26534.628
55	**Mn**		3030839.468	**97.598035**	ppb	1.747	5.054	925.586
57	**Fe**		3239046.529	**4721.636210**	ppb	2.639	6.016	21358.177
45	**Sc-IS**		2583335.742		ppb	2.102		2043547.830
66	**Zn**		385648.005	**105.511041**	ppb	1.611	4.741	3188.134
86	**Sr**		1193484.589	**328.257862**	ppb	1.457	4.287	14.541
65	**Cu**		616124.761	**101.389441**	ppb	1.154	4.358	191.112
69	**Ga-IS**		970316.184		ppb	1.833		777747.512
95	**Mo**		363018.651	**84.974931**	ppb	1.640	3.356	115.556
115	**In-IS**	>	548500.053		ppb	0.733		523729.710
111	**Cd**		508161.385	**101.630275**	ppb	1.009	1.536	23.091
118	**Sn**		1362149.853	**95.175522**	ppb	1.865	2.346	2686.920
121	**Sb**		1571047.956	**103.292928**	ppb	0.304	0.874	252.224
135	**Ba**		490710.146	**121.495550**	ppb	0.492	0.688	85.556
165	**Ho-IS**		650208.528		ppb	0.923		594013.314
159	**Tb-IS**	>	658866.788		ppb	1.091		618777.180
207	**Pb**		4310403.217	**100.997123**	ppb	0.732	0.363	362.224
203	**Tl**		1430369.389	**98.998461**	ppb	0.341	1.127	126.667
209	**Bi-IS**		289561.969		ppb	0.829		276906.971
51	**V**		35564.252	**99.182273**	ppb	3.625	1.710	2.222
59	**Co**		116841.850	**96.718048**	ppb	3.655	1.527	6.667
60	**Ni**		215952.330	**101.140843**	ppb	1.031	2.775	55.556
75	**As**		80438.808	**106.977362**	ppb	1.905	0.658	368.769
71	**Ga-ISK**		90615.400		ppb	1.253		87959.969
82	**Se-2**		7933.035	**110.663737**	ppb	0.467	2.210	18.520
107	**Ag-1**		227046.700	**26.562977**	ppb	0.062	2.056	196.668
115	**In-ISK**	>	132834.207		ppb	2.122		129463.944
45	**Sc-ISK**		241109.170		ppb	1.757		219788.876
23	**Na**		15412060.640	**43368.147463**	ppb	3.838	1.837	10223.657
39	**K**		4284634.467	**5661.402610**	ppb	2.288	0.214	37434.541
24	**Mg**		4963551.951	**15304.300117**	ppb	1.137	1.963	131.667
159	**Tb-ISK**	>	277807.444		ppb	2.303		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80494-B-3-A
Autosampler Position: 112
Sample Date/Time: Tuesday, January 04, 2022 10:37:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80494-B-3-A.078
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	74769.693		ppb	2.657		65283.312
9	**Be**		110.000	**0.023924**	ppb	16.035	22.305	21.111
10	**B**		56583.096	**54.641314**	ppb	4.482	2.405	1211.162
27	**Al**		972063.134	**46.691068**	ppb	1.945	0.868	20678.041
43	**Ca-2**		786495.428	**18308.376995**	ppb	3.391	0.993	128.334
49	**Ti**		7221.828	**4.571600**	ppb	4.641	2.152	212.224
52	**Cr**		54482.690	**1.091936**	ppb	3.928	4.099	26534.628
55	**Mn**		81699.697	**2.488214**	ppb	2.235	1.548	925.586
57	**Fe**		103171.212	**110.728313**	ppb	0.299	3.127	21358.177
45	**Sc-IS**		2616169.239		ppb	2.919		2043547.830
66	**Zn**		26487.873	**6.041013**	ppb	1.904	2.316	3188.134
86	**Sr**		467500.158	**123.238687**	ppb	1.090	3.239	14.541
65	**Cu**		24442.007	**3.822399**	ppb	1.692	4.209	191.112
69	**Ga-IS**		902609.681		ppb	2.032		777747.512
95	**Mo**		6371.425	**1.402027**	ppb	7.023	9.541	115.556
115	**In-IS**	>	550653.924		ppb	1.870		523729.710
111	**Cd**		259.956	**0.046943**	ppb	3.754	2.856	23.091
118	**Sn**		19356.442	**1.153453**	ppb	2.109	4.491	2686.920
121	**Sb**		4579.623	**0.282778**	ppb	3.159	5.345	252.224
135	**Ba**		100467.612	**24.763739**	ppb	0.769	1.561	85.556
165	**Ho-IS**		655397.352		ppb	1.669		594013.314
159	**Tb-IS**	>	666222.176		ppb	0.487		618777.180
207	**Pb**		5485.965	**0.118100**	ppb	1.460	2.065	362.224
203	**Tl**		884.472	**0.051224**	ppb	11.734	14.288	126.667
209	**Bi-IS**		303364.041		ppb	0.915		276906.971
51	**V**		665.571	**1.765908**	ppb	5.017	4.383	2.222
59	**Co**		138.890	**0.104025**	ppb	19.250	19.599	6.667
60	**Ni**		2221.284	**0.966945**	ppb	4.128	5.774	55.556
75	**As**		1073.571	**0.863809**	ppb	7.640	11.603	368.769
71	**Ga-ISK**		93912.233		ppb	2.397		87959.969
82	**Se-2**		37.474	**0.234344**	ppb	4.004	5.407	18.520
107	**Ag-1**		1227.831	**0.113710**	ppb	7.216	10.451	196.668
115	**In-ISK**	>	139138.746		ppb	1.491		129463.944
45	**Sc-ISK**		245837.521		ppb	1.486		219788.876
23	**Na**		5910670.986	**16408.529769**	ppb	1.683	1.348	10223.657
39	**K**		2800128.261	**3634.938474**	ppb	1.887	1.594	37434.541
24	**Mg**		1400474.420	**4262.624695**	ppb	3.061	2.764	131.667
159	**Tb-ISK**	>	281316.206		ppb	0.338		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 10:40:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.079
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	70221.060		ppb	0.888		65283.312
9	**Be**		314607.674	**93.174297**	ppb	0.531	0.372	21.111
10	**B**		225165.490	**236.030214**	ppb	1.948	1.685	1211.162
27	**Al**		2039017.136	**105.709983**	ppb	0.893	0.778	20678.041
43	**Ca-2**		212309.455	**5260.802998**	ppb	1.094	1.349	128.334
49	**Ti**		144591.452	**100.739968**	ppb	1.197	1.866	212.224
52	**Cr**		2150273.162	**102.438931**	ppb	1.450	1.945	26534.628
55	**Mn**		3103191.205	**101.913286**	ppb	0.740	1.332	925.586
57	**Fe**		3403841.733	**5062.053503**	ppb	1.002	1.910	21358.177
45	**Sc-IS**		2489157.503		ppb	1.371		2043547.830
66	**Zn**		345544.762	**96.343981**	ppb	0.619	1.515	3188.134
86	**Sr**		319613.639	**89.669740**	ppb	1.859	2.338	14.541
65	**Cu**		564673.941	**94.785783**	ppb	1.875	2.561	191.112
69	**Ga-IS**		969485.434		ppb	0.594		777747.512
95	**Mo**		374660.512	**89.475390**	ppb	1.898	1.476	115.556
115	**In-IS**	>	551460.914		ppb	1.714		523729.710
111	**Cd**		502671.239	**99.999194**	ppb	0.585	1.147	23.091
118	**Sn**		1440700.860	**100.123670**	ppb	1.955	0.612	2686.920
121	**Sb**		1536218.444	**100.472194**	ppb	0.413	1.428	252.224
135	**Ba**		407731.497	**100.431555**	ppb	0.963	2.584	85.556
165	**Ho-IS**		651692.809		ppb	2.109		594013.314
159	**Tb-IS**	>	666316.479		ppb	0.541		618777.180
207	**Pb**		4449120.778	**103.081039**	ppb	0.841	0.953	362.224
203	**Tl**		1487909.673	**101.817835**	ppb	1.773	1.291	126.667
209	**Bi-IS**		300776.149		ppb	1.701		276906.971
51	**V**		37736.492	**100.925923**	ppb	3.866	6.475	2.222
59	**Co**		127956.950	**101.592730**	ppb	4.874	7.415	6.667
60	**Ni**		222100.595	**99.601223**	ppb	2.569	2.025	55.556
75	**As**		75698.449	**96.359718**	ppb	4.106	2.980	368.769
71	**Ga-ISK**		95860.611		ppb	1.716		87959.969
82	**Se-2**		7215.299	**96.345418**	ppb	3.114	2.498	18.520
107	**Ag-1**		859442.534	**96.365412**	ppb	1.037	1.992	196.668
115	**In-ISK**	>	138699.014		ppb	2.777		129463.944
45	**Sc-ISK**		243583.221		ppb	2.427		219788.876
23	**Na**		1953000.561	**5441.170013**	ppb	3.244	2.278	10223.657
39	**K**		4176846.616	**5488.315425**	ppb	3.263	2.330	37434.541
24	**Mg**		1781688.398	**5464.004984**	ppb	0.315	0.783	131.667
159	**Tb-ISK**	>	279238.213		ppb	1.077		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message
Mo	95	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 10:43:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.080
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	66871.717		ppb	1.102		65283.312
9	**Be**		78.889	**0.017827**	ppb	10.634	15.790	21.111
10	**B**		1979.026	**0.817284**	ppb	2.617	4.048	1211.162
27	**Al**		23613.511	**0.134041**	ppb	2.924	32.394	20678.041
43	**Ca-2**		231.669	**2.604771**	ppb	19.584	44.249	128.334
49	**Ti**		274.447	**0.041999**	ppb	11.983	62.258	212.224
52	**Cr**		29404.677	**0.112860**	ppb	0.716	14.197	26534.628
55	**Mn**		1541.194	**0.020455**	ppb	2.880	5.751	925.586
57	**Fe**		24494.316	**4.118736**	ppb	1.071	19.094	21358.177
45	**Sc-IS**		2325545.487		ppb	3.817		2043547.830
66	**Zn**		3543.773	**0.082217**	ppb	1.357	8.933	3188.134
86	**Sr**		72.207	**0.016847**	ppb	31.381	38.331	14.541
65	**Cu**		431.118	**0.041470**	ppb	5.803	8.629	191.112
69	**Ga-IS**		828124.596		ppb	1.564		777747.512
95	**Mo**		2006.808	**0.473993**	ppb	5.814	7.287	115.556
115	**In-IS**	>	530652.821		ppb	0.794		523729.710
111	**Cd**		121.342	**0.020244**	ppb	6.347	7.448	23.091
118	**Sn**		7491.970	**0.345217**	ppb	6.806	11.104	2686.920
121	**Sb**		1002.257	**0.050757**	ppb	2.452	3.735	252.224
135	**Ba**		112.223	**0.006536**	ppb	4.537	19.541	85.556
165	**Ho-IS**		623254.376		ppb	0.374		594013.314
159	**Tb-IS**	>	632827.433		ppb	1.678		618777.180
207	**Pb**		1262.244	**0.021768**	ppb	8.277	12.499	362.224
203	**Tl**		553.344	**0.030537**	ppb	2.626	2.043	126.667
209	**Bi-IS**		301212.348		ppb	3.265		276906.971
51	**V**		15.556	**0.037102**	ppb	44.607	50.632	2.222
59	**Co**		28.889	**0.018498**	ppb	17.625	26.597	6.667
60	**Ni**		168.890	**0.053179**	ppb	14.278	26.470	55.556
75	**As**		431.104	**0.073517**	ppb	10.034	63.612	368.769
71	**Ga-ISK**		91394.771		ppb	0.879		87959.969
82	**Se-2**		18.494	**-0.004838**	ppb	17.520	1026.360	18.520
107	**Ag-1**		1454.519	**0.147586**	ppb	6.976	5.035	196.668
115	**In-ISK**	>	132014.567		ppb	3.118		129463.944
45	**Sc-ISK**		231210.666		ppb	1.277		219788.876
23	**Na**		12708.987	**6.601244**	ppb	2.785	21.749	10223.657
39	**K**		44023.283	**7.978610**	ppb	0.234	14.049	37434.541
24	**Mg**		1063.373	**2.956565**	ppb	5.028	6.102	131.667
159	**Tb-ISK**	>	269115.583		ppb	1.606		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80491-B-1-A
Autosampler Position: 113
Sample Date/Time: Tuesday, January 04, 2022 10:46:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80491-B-1-A.081
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	68908.053		ppb	1.888		65283.312
9	**Be**		55.556	**0.010064**	ppb	19.287	33.397	21.111
10	**B**		71434.918	**75.384970**	ppb	2.815	2.563	1211.162
27	**Al**		4638294.895	**246.683349**	ppb	1.475	3.373	20678.041
43	**Ca-2**		624108.477	**15770.138559**	ppb	0.632	2.381	128.334
49	**Ti**		24227.207	**17.075107**	ppb	3.196	4.497	212.224
52	**Cr**		53001.472	**1.230239**	ppb	0.091	4.112	26534.628
55	**Mn**		140302.404	**4.665753**	ppb	1.744	3.281	925.586
57	**Fe**		204380.342	**277.558102**	ppb	3.158	5.076	21358.177
45	**Sc-IS**		2401193.587		ppb	1.856		2043547.830
66	**Zn**		8465.843	**1.465295**	ppb	3.413	8.881	3188.134
86	**Sr**		402024.421	**114.989565**	ppb	2.173	4.102	14.541
65	**Cu**		17910.122	**3.032015**	ppb	4.145	5.981	191.112
69	**Ga-IS**		870127.103		ppb	1.152		777747.512
95	**Mo**		4705.220	**1.115994**	ppb	2.616	2.904	115.556
115	**In-IS**	>	526423.193		ppb	0.895		523729.710
111	**Cd**		114.564	**0.019047**	ppb	8.787	11.826	23.091
118	**Sn**		6482.583	**0.275797**	ppb	3.778	5.034	2686.920
121	**Sb**		3808.285	**0.243545**	ppb	2.189	1.945	252.224
135	**Ba**		104072.334	**26.827214**	ppb	2.675	1.780	85.556
165	**Ho-IS**		641537.708		ppb	1.639		594013.314
159	**Tb-IS**	>	651672.629		ppb	1.271		618777.180
207	**Pb**		11246.172	**0.257475**	ppb	2.713	3.956	362.224
203	**Tl**		560.011	**0.029865**	ppb	7.242	10.134	126.667
209	**Bi-IS**		289776.786		ppb	3.050		276906.971
51	**V**		722.241	**2.032822**	ppb	5.935	6.356	2.222
59	**Co**		204.446	**0.165552**	ppb	11.452	11.168	6.667
60	**Ni**		1388.957	**0.631232**	ppb	5.712	4.468	55.556
75	**As**		1577.967	**1.628555**	ppb	2.668	4.795	368.769
71	**Ga-ISK**		92093.739		ppb	1.900		87959.969
82	**Se-2**		27.151	**0.118829**	ppb	9.334	34.956	18.520
107	**Ag-1**		485.564	**0.033904**	ppb	8.529	14.622	196.668
115	**In-ISK**	>	131270.097		ppb	1.476		129463.944
45	**Sc-ISK**		235021.115		ppb	1.625		219788.876
23	**Na**		5313025.409	**15261.608524**	ppb	2.233	2.390	10223.657
39	**K**		2340723.729	**3137.354191**	ppb	0.812	0.818	37434.541
24	**Mg**		989625.328	**3117.065604**	ppb	0.387	0.602	131.667
159	**Tb-ISK**	>	271852.257		ppb	0.223		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80491-B-2-A
Autosampler Position: 114
Sample Date/Time: Tuesday, January 04, 2022 10:49:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80491-B-2-A.082
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	76372.574		ppb	2.466		65283.312
9	**Be**		43.333	**0.005053**	ppb	33.530	75.975	21.111
10	**B**		76465.241	**72.778047**	ppb	1.583	2.469	1211.162
27	**Al**		529480.297	**24.357690**	ppb	1.767	2.239	20678.041
43	**Ca-2**		728795.990	**16618.412975**	ppb	1.710	3.256	128.334
49	**Ti**		4377.339	**2.649033**	ppb	7.131	7.043	212.224
52	**Cr**		50407.669	**0.860246**	ppb	0.864	4.565	26534.628
55	**Mn**		23465.924	**0.676395**	ppb	0.657	3.095	925.586
57	**Fe**		97499.427	**99.878556**	ppb	1.731	4.482	21358.177
45	**Sc-IS**		2650799.335		ppb	1.939		2043547.830
66	**Zn**		27112.380	**6.058653**	ppb	2.379	5.182	3188.134
86	**Sr**		597876.890	**154.201528**	ppb	3.045	0.600	14.541
65	**Cu**		15714.197	**2.393056**	ppb	2.390	4.619	191.112
69	**Ga-IS**		902841.498		ppb	0.559		777747.512
95	**Mo**		3694.922	**0.782060**	ppb	2.271	2.037	115.556
115	**In-IS**	>	547468.509		ppb	1.188		523729.710
111	**Cd**		100.019	**0.015208**	ppb	1.764	3.594	23.091
118	**Sn**		4925.295	**0.148614**	ppb	4.539	13.156	2686.920
121	**Sb**		3824.957	**0.234604**	ppb	2.530	1.915	252.224
135	**Ba**		46489.977	**11.514143**	ppb	1.368	2.546	85.556
165	**Ho-IS**		653318.569		ppb	1.238		594013.314
159	**Tb-IS**	>	669730.425		ppb	1.514		618777.180
207	**Pb**		3776.861	**0.077978**	ppb	7.239	6.350	362.224
203	**Tl**		478.897	**0.023271**	ppb	7.636	10.301	126.667
209	**Bi-IS**		302448.602		ppb	2.798		276906.971
51	**V**		193.335	**0.519057**	ppb	13.466	13.417	2.222
59	**Co**		78.889	**0.057911**	ppb	27.165	29.040	6.667
60	**Ni**		1454.519	**0.637057**	ppb	4.809	5.131	55.556
75	**As**		732.693	**0.448356**	ppb	3.576	7.258	368.769
71	**Ga-ISK**		94207.399		ppb	0.885		87959.969
82	**Se-2**		31.492	**0.164166**	ppb	59.278	156.469	18.520
107	**Ag-1**		298.892	**0.010484**	ppb	9.014	31.008	196.668
115	**In-ISK**	>	136322.039		ppb	0.657		129463.944
45	**Sc-ISK**		244669.402		ppb	2.530		219788.876
23	**Na**		5568159.424	**15430.073836**	ppb	2.102	1.795	10223.657
39	**K**		1717497.858	**2205.435398**	ppb	1.005	0.176	37434.541
24	**Mg**		2275593.135	**6915.420110**	ppb	0.429	0.604	131.667
159	**Tb-ISK**	>	281790.183		ppb	0.837		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80495-B-1-A
Autosampler Position: 115
Sample Date/Time: Tuesday, January 04, 2022 10:52:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80495-B-1-A.083
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	77989.023		ppb	1.984		65283.312
9	**Be**		130.001	**0.027921**	ppb	9.245	9.873	21.111
10	**B**		83388.240	**77.805033**	ppb	1.014	1.654	1211.162
27	**Al**		2183556.295	**101.913313**	ppb	0.224	2.164	20678.041
43	**Ca-2**		995096.758	**22218.539710**	ppb	0.530	2.437	128.334
49	**Ti**		20205.408	**12.531981**	ppb	4.358	2.881	212.224
52	**Cr**		57265.663	**1.111853**	ppb	0.681	3.626	26534.628
55	**Mn**		93169.616	**2.722893**	ppb	2.411	0.439	925.586
57	**Fe**		171769.371	**197.132164**	ppb	3.113	2.251	21358.177
45	**Sc-IS**		2627617.133		ppb	0.861		2043547.830
66	**Zn**		23477.062	**4.986221**	ppb	2.640	0.793	3188.134
86	**Sr**		532428.965	**134.484549**	ppb	2.701	1.615	14.541
65	**Cu**		17633.099	**2.631875**	ppb	1.422	2.446	191.112
69	**Ga-IS**		895808.371		ppb	0.252		777747.512
95	**Mo**		6534.829	**1.375807**	ppb	3.108	1.413	115.556
115	**In-IS**	>	543359.600		ppb	2.171		523729.710
111	**Cd**		379.616	**0.071744**	ppb	11.879	11.538	23.091
118	**Sn**		3995.004	**0.085326**	ppb	5.891	18.022	2686.920
121	**Sb**		5034.221	**0.316988**	ppb	2.647	4.655	252.224
135	**Ba**		84652.293	**21.144396**	ppb	0.267	1.899	85.556
165	**Ho-IS**		645939.864		ppb	2.048		594013.314
159	**Tb-IS**	>	661545.439		ppb	1.149		618777.180
207	**Pb**		9305.649	**0.208175**	ppb	1.355	2.614	362.224
203	**Tl**		611.124	**0.032790**	ppb	4.575	5.478	126.667
209	**Bi-IS**		299478.948		ppb	1.042		276906.971
51	**V**		612.235	**1.698027**	ppb	11.242	13.384	2.222
59	**Co**		265.558	**0.213219**	ppb	5.226	2.954	6.667
60	**Ni**		4092.809	**1.882409**	ppb	3.497	3.308	55.556
75	**As**		1265.701	**1.180175**	ppb	1.466	6.835	368.769
71	**Ga-ISK**		95409.853		ppb	2.009		87959.969
82	**Se-2**		69.833	**0.710992**	ppb	20.350	32.460	18.520
107	**Ag-1**		230.002	**0.003255**	ppb	10.145	106.031	196.668
115	**In-ISK**	>	133400.811		ppb	3.256		129463.944
45	**Sc-ISK**		249042.565		ppb	1.968		219788.876
23	**Na**		7246180.518	**20357.583013**	ppb	1.694	2.808	10223.657
39	**K**		3033759.885	**3989.334948**	ppb	2.388	3.511	37434.541
24	**Mg**		2130077.771	**6560.330656**	ppb	3.198	4.515	131.667
159	**Tb-ISK**	>	278150.082		ppb	1.367		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80495-B-2-A
Autosampler Position: 116
Sample Date/Time: Tuesday, January 04, 2022 10:56:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80495-B-2-A.084
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	85452.701		ppb	2.542		65283.312
9	**Be**		106.667	**0.019256**	ppb	8.268	12.558	21.111
10	**B**		94841.698	**80.823433**	ppb	2.581	3.026	1211.162
27	**Al**		714028.220	**29.601492**	ppb	0.142	2.577	20678.041
43	**Ca-2**		1161507.658	**23668.711692**	ppb	1.591	2.240	128.334
49	**Ti**		10324.857	**5.757599**	ppb	7.950	6.645	212.224
52	**Cr**		61697.392	**1.071067**	ppb	0.695	7.334	26534.628
55	**Mn**		79404.522	**2.111402**	ppb	0.873	1.779	925.586
57	**Fe**		122169.052	**115.964444**	ppb	0.286	3.087	21358.177
45	**Sc-IS**		2727983.657		ppb	1.560		2043547.830
66	**Zn**		31548.139	**6.336021**	ppb	1.992	2.282	3188.134
86	**Sr**		722684.415	**166.572257**	ppb	3.682	1.379	14.541
65	**Cu**		19459.915	**2.650752**	ppb	1.826	0.906	191.112
69	**Ga-IS**		894253.447		ppb	0.504		777747.512
95	**Mo**		6041.278	**1.156723**	ppb	2.327	3.089	115.556
115	**In-IS**	>	540896.252		ppb	1.467		523729.710
111	**Cd**		278.427	**0.051654**	ppb	3.904	5.562	23.091
118	**Sn**		3312.607	**0.038111**	ppb	3.976	15.605	2686.920
121	**Sb**		2542.448	**0.152197**	ppb	1.691	2.905	252.224
135	**Ba**		59534.914	**14.929277**	ppb	0.919	1.364	85.556
165	**Ho-IS**		657482.096		ppb	0.578		594013.314
159	**Tb-IS**	>	667256.461		ppb	1.883		618777.180
207	**Pb**		6672.847	**0.145388**	ppb	1.077	1.967	362.224
203	**Tl**		594.457	**0.031316**	ppb	10.615	14.591	126.667
209	**Bi-IS**		304684.290		ppb	1.614		276906.971
51	**V**		282.225	**0.772681**	ppb	19.094	20.292	2.222
59	**Co**		335.560	**0.269163**	ppb	18.380	19.643	6.667
60	**Ni**		2969.198	**1.346808**	ppb	5.250	4.232	55.556
75	**As**		949.771	**0.749110**	ppb	6.555	12.874	368.769
71	**Ga-ISK**		93010.837		ppb	2.695		87959.969
82	**Se-2**		65.474	**0.638906**	ppb	4.712	7.413	18.520
107	**Ag-1**		212.224	**0.000946**	ppb	11.996	334.809	196.668
115	**In-ISK**	>	134436.744		ppb	1.294		129463.944
45	**Sc-ISK**		250266.922		ppb	1.779		219788.876
23	**Na**		12618518.733	**35095.848158**	ppb	2.036	1.606	10223.657
39	**K**		2432568.123	**3153.751115**	ppb	1.682	1.135	37434.541
24	**Mg**		3547693.024	**10808.793756**	ppb	2.071	1.754	131.667
159	**Tb-ISK**	>	281073.074		ppb	1.231		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message
Li-IS	6	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 10:59:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.085
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	70844.125		ppb	0.908		65283.312
9	**Be**		316213.198	**92.820389**	ppb	1.783	1.081	21.111
10	**B**		223812.285	**232.522404**	ppb	2.033	1.571	1211.162
27	**Al**		2042408.597	**104.944183**	ppb	2.253	2.083	20678.041
43	**Ca-2**		211670.611	**5198.380904**	ppb	2.530	2.147	128.334
49	**Ti**		146614.172	**101.241772**	ppb	1.477	1.130	212.224
52	**Cr**		2132342.956	**100.661317**	ppb	0.643	0.270	26534.628
55	**Mn**		3077451.056	**100.165653**	ppb	1.952	1.081	925.586
57	**Fe**		3445064.933	**5078.130115**	ppb	0.152	0.968	21358.177
45	**Sc-IS**		2472745.094		ppb	1.340		2043547.830
66	**Zn**		352466.156	**97.411647**	ppb	1.900	1.696	3188.134
86	**Sr**		322932.503	**89.793524**	ppb	2.353	1.995	14.541
65	**Cu**		578081.623	**96.171274**	ppb	0.954	0.332	191.112
69	**Ga-IS**		997063.695		ppb	0.061		777747.512
95	**Mo**		364616.687	**86.311319**	ppb	1.938	1.671	115.556
115	**In-IS**	>	548494.604		ppb	0.652		523729.710
111	**Cd**		503702.880	**100.738209**	ppb	0.902	1.360	23.091
118	**Sn**		1434575.321	**100.237405**	ppb	1.029	0.390	2686.920
121	**Sb**		1537472.154	**101.085695**	ppb	0.653	1.054	252.224
135	**Ba**		402072.148	**99.545041**	ppb	0.873	0.811	85.556
165	**Ho-IS**		655007.320		ppb	1.023		594013.314
159	**Tb-IS**	>	658798.961		ppb	2.082		618777.180
207	**Pb**		4472151.109	**104.809429**	ppb	1.164	1.025	362.224
203	**Tl**		1507825.579	**104.396574**	ppb	1.823	2.988	126.667
209	**Bi-IS**		306676.893		ppb	0.597		276906.971
51	**V**		37040.186	**99.504569**	ppb	1.443	0.955	2.222
59	**Co**		125650.341	**100.192049**	ppb	2.226	1.950	6.667
60	**Ni**		224327.626	**101.127956**	ppb	4.447	3.602	55.556
75	**As**		76104.766	**97.418613**	ppb	3.624	3.031	368.769
71	**Ga-ISK**		95297.130		ppb	3.981		87959.969
82	**Se-2**		7233.288	**97.115837**	ppb	1.414	0.904	18.520
107	**Ag-1**		858412.686	**96.760929**	ppb	0.829	1.049	196.668
115	**In-ISK**	>	137923.496		ppb	0.862		129463.944
45	**Sc-ISK**		248095.794		ppb	4.906		219788.876
23	**Na**		1990360.951	**5448.342542**	ppb	3.448	2.430	10223.657
39	**K**		4180150.058	**5395.792440**	ppb	2.789	1.449	37434.541
24	**Mg**		1840836.529	**5545.986361**	ppb	2.144	0.821	131.667
159	**Tb-ISK**	>	284211.724		ppb	1.478		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message
Mo	95	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 11:02:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.086
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	69027.517		ppb	1.896		65283.312
9	**Be**		70.000	**0.014258**	ppb	45.426	64.701	21.111
10	**B**		1904.571	**0.668955**	ppb	3.258	5.147	1211.162
27	**Al**		24710.040	**0.151638**	ppb	3.839	25.034	20678.041
43	**Ca-2**		276.669	**3.551540**	ppb	8.915	14.812	128.334
49	**Ti**		286.670	**0.044192**	ppb	6.474	27.547	212.224
52	**Cr**		29193.141	**0.055816**	ppb	2.188	26.150	26534.628
55	**Mn**		1343.397	**0.012161**	ppb	8.301	25.231	925.586
57	**Fe**		25716.472	**4.768894**	ppb	2.823	11.727	21358.177
45	**Sc-IS**		2377829.121		ppb	2.899		2043547.830
66	**Zn**		3561.555	**0.054774**	ppb	2.528	53.059	3188.134
86	**Sr**		131.784	**0.033189**	ppb	11.461	11.479	14.541
65	**Cu**		417.784	**0.036834**	ppb	3.936	5.392	191.112
69	**Ga-IS**		863902.589		ppb	1.668		777747.512
95	**Mo**		1822.338	**0.413379**	ppb	1.490	3.613	115.556
115	**In-IS**	>	539564.259		ppb	2.095		523729.710
111	**Cd**		73.951	**0.010251**	ppb	36.789	55.778	23.091
118	**Sn**		6352.524	**0.255182**	ppb	3.262	6.018	2686.920
121	**Sb**		795.578	**0.035719**	ppb	14.733	19.122	252.224
135	**Ba**		141.112	**0.013302**	ppb	30.830	80.115	85.556
165	**Ho-IS**		627414.517		ppb	0.857		594013.314
159	**Tb-IS**	>	649647.643		ppb	2.931		618777.180
207	**Pb**		1141.130	**0.018035**	ppb	11.992	13.977	362.224
203	**Tl**		468.897	**0.023563**	ppb	7.991	8.704	126.667
209	**Bi-IS**		305043.763		ppb	1.082		276906.971
51	**V**		10.000	**0.020808**	ppb	33.333	42.981	2.222
59	**Co**		34.444	**0.022091**	ppb	27.936	34.333	6.667
60	**Ni**		130.001	**0.032627**	ppb	28.896	52.330	55.556
75	**As**		439.568	**0.066514**	ppb	14.231	116.900	368.769
71	**Ga-ISK**		91997.540		ppb	1.511		87959.969
82	**Se-2**		14.794	**-0.063128**	ppb	86.529	279.617	18.520
107	**Ag-1**		1302.282	**0.124971**	ppb	4.106	5.525	196.668
115	**In-ISK**	>	136305.556		ppb	0.829		129463.944
45	**Sc-ISK**		238772.465		ppb	3.227		219788.876
23	**Na**		12000.038	**3.969323**	ppb	1.297	9.145	10223.657
39	**K**		43372.412	**6.117865**	ppb	1.023	14.053	37434.541
24	**Mg**		988.368	**2.666455**	ppb	6.078	6.613	131.667
159	**Tb-ISK**	>	273491.124		ppb	0.464		263471.562

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, January 04, 2022 11:32:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICIS-1479530.088
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65583.535		ppb	0.693		
9	**Be**		16.667		ppb	34.641		
10	**B**		1071.151		ppb	8.100		
27	**Al**		21286.189		ppb	2.860		
43	**Ca-2**		155.001		ppb	5.587		
49	**Ti**		294.447		ppb	7.538		
52	**Cr**		28235.656		ppb	0.910		
55	**Mn**		795.578		ppb	12.642		
57	**Fe**		23649.562		ppb	1.419		
45	**Sc-IS**	>	2230846.495		ppb	1.409		
66	**Zn**		3348.170		ppb	1.550		
86	**Sr**		39.586		ppb	22.423		
65	**Cu**		191.112		ppb	6.125		
69	**Ga-IS**		817669.616		ppb	2.948		
95	**Mo**		214.446		ppb	7.009		
115	**In-IS**	>	511679.033		ppb	0.599		
111	**Cd**		27.327		ppb	49.393		
118	**Sn**		2390.200		ppb	1.953		
121	**Sb**		255.558		ppb	6.164		
135	**Ba**		122.223		ppb	16.439		
165	**Ho-IS**		609307.625		ppb	1.846		
159	**Tb-IS**	>	623740.956		ppb	2.145		
207	**Pb**		367.780		ppb	2.281		
203	**Tl**		107.778		ppb	10.862		
209	**Bi-IS**		292712.993		ppb	0.815		
51	**V**		2.222		ppb	86.603		
59	**Co**		10.000		ppb	33.333		
60	**Ni**		55.556		ppb	3.464		
75	**As**		337.227		ppb	10.912		
71	**Ga-ISK**		90530.482		ppb	2.194		
82	**Se-2**		7.143		ppb	94.680		
107	**Ag-1**		183.335		ppb	27.991		
115	**In-ISK**	>	130045.752		ppb	1.208		
45	**Sc-ISK**		222811.296		ppb	2.110		
23	**Na**		9226.313		ppb	2.104		
39	**K**		39353.021		ppb	1.003		
24	**Mg**		106.667		ppb	36.410		
159	**Tb-ISK**	>	259136.904		ppb	1.575		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Tuesday, January 04, 2022 11:35:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\IC-2235387.089
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65989.891		ppb	2.260		65583.535
9	**Be**		614633.597	**200.000000**	ppb	1.126	2.708	16.667
10	**B**		434424.537	**500.000000**	ppb	0.879	1.041	1071.151
27	**Al**		3690147.034	**200.000000**	ppb	0.276	1.552	21286.189
43	**Ca-2**		395622.558	**10200.000000**	ppb	1.639	2.170	155.001
49	**Ti**		271606.632	**200.000000**	ppb	0.776	0.803	294.447
52	**Cr**		3904588.386	**200.000000**	ppb	0.883	1.559	28235.656
55	**Mn**		5649390.421	**200.000000**	ppb	1.274	0.715	795.578
57	**Fe**		6186163.710	**10200.000000**	ppb	1.867	1.340	23649.562
45	**Sc-IS**	>	2264070.557		ppb	1.570		2230846.495
66	**Zn**		641298.052	**200.000000**	ppb	1.025	2.424	3348.170
86	**Sr**		618239.660	**200.000000**	ppb	0.213	1.673	39.586
65	**Cu**		1058846.019	**200.000000**	ppb	0.715	1.343	191.112
69	**Ga-IS**		962989.405		ppb	0.502		817669.616
95	**Mo**		721110.163	**200.000000**	ppb	0.617	1.734	214.446
115	**In-IS**	>	524025.935		ppb	1.078		511679.033
111	**Cd**		964425.397	**200.000000**	ppb	1.706	1.199	27.327
118	**Sn**		2748941.198	**200.000000**	ppb	0.714	0.849	2390.200
121	**Sb**		2949516.863	**200.000000**	ppb	0.836	1.864	255.558
135	**Ba**		785978.364	**200.000000**	ppb	1.296	2.354	122.223
165	**Ho-IS**		625693.894		ppb	0.990		609307.625
159	**Tb-IS**	>	639133.944		ppb	2.115		623740.956
207	**Pb**		8380714.737	**200.000000**	ppb	1.268	3.229	367.780
203	**Tl**		2824143.005	**200.000000**	ppb	1.377	2.754	107.778
209	**Bi-IS**		283200.959		ppb	1.288		292712.993
51	**V**		69603.689	**200.000000**	ppb	2.873	2.684	2.222
59	**Co**		234423.897	**200.000000**	ppb	2.161	1.722	10.000
60	**Ni**		419855.556	**200.000000**	ppb	1.342	1.873	55.556
75	**As**		145429.054	**200.000000**	ppb	0.951	1.378	337.227
71	**Ga-ISK**		88312.161		ppb	1.415		90530.482
82	**Se-2**		13838.567	**200.000000**	ppb	2.449	2.973	7.143
107	**Ag-1**		1605730.448	**200.000000**	ppb	1.268	1.018	183.335
115	**In-ISK**	>	128450.973		ppb	0.541		130045.752
45	**Sc-ISK**		227500.543		ppb	0.600		222811.296
23	**Na**		3662062.565	**10200.000000**	ppb	1.467	1.920	9226.313
39	**K**		7556511.703	**10200.000000**	ppb	0.526	1.897	39353.021
24	**Mg**		3355585.533	**10200.000000**	ppb	1.969	1.185	106.667
159	**Tb-ISK**	>	263666.704		ppb	1.623		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 11:38:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.090
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66648.492		ppb	2.193		65583.535
9	**Be**		307901.330	**100.137155**	ppb	3.000	1.127	16.667
10	**B**		214270.512	**245.906471**	ppb	3.260	1.911	1071.151
27	**Al**		1851827.616	**99.771489**	ppb	0.874	1.474	21286.189
43	**Ca-2**		192106.682	**4949.679611**	ppb	1.889	0.052	155.001
49	**Ti**		134869.443	**99.179563**	ppb	2.377	0.693	294.447
52	**Cr**		1966201.173	**99.946809**	ppb	2.630	0.760	28235.656
55	**Mn**		2854198.425	**101.022937**	ppb	1.488	0.574	795.578
57	**Fe**		3181281.349	**5226.030191**	ppb	1.467	1.172	23649.562
45	**Sc-IS**	>	2264261.500		ppb	1.900		2230846.495
66	**Zn**		328407.642	**101.861671**	ppb	2.301	0.482	3348.170
86	**Sr**		310721.920	**100.472872**	ppb	2.935	1.032	39.586
65	**Cu**		543191.936	**102.571028**	ppb	1.195	0.816	191.112
69	**Ga-IS**		915382.906		ppb	0.916		817669.616
95	**Mo**		364611.277	**101.081984**	ppb	0.988	1.052	214.446
115	**In-IS**	>	531630.208		ppb	1.458		511679.033
111	**Cd**		482654.355	**98.674345**	ppb	0.517	1.759	27.327
118	**Sn**		1399446.538	**100.266999**	ppb	1.856	1.101	2390.200
121	**Sb**		1490205.268	**99.592425**	ppb	1.412	1.884	255.558
135	**Ba**		400347.543	**100.390662**	ppb	1.567	1.648	122.223
165	**Ho-IS**		625199.702		ppb	1.919		609307.625
159	**Tb-IS**	>	651668.133		ppb	0.759		623740.956
207	**Pb**		4280538.752	**100.142781**	ppb	1.932	2.126	367.780
203	**Tl**		1444694.381	**100.306692**	ppb	1.730	1.740	107.778
209	**Bi-IS**		290278.369		ppb	2.400		292712.993
51	**V**		34116.268	**96.745765**	ppb	2.963	0.987	2.222
59	**Co**		117037.671	**98.550185**	ppb	2.537	0.641	10.000
60	**Ni**		211692.926	**99.519782**	ppb	2.026	1.431	55.556
75	**As**		72764.004	**98.560268**	ppb	0.537	2.099	337.227
71	**Ga-ISK**		89633.771		ppb	2.535		90530.482
82	**Se-2**		6838.158	**97.513774**	ppb	0.746	2.444	7.143
107	**Ag-1**		820432.436	**100.863908**	ppb	1.544	1.327	183.335
115	**In-ISK**	>	130138.323		ppb	1.976		130045.752
45	**Sc-ISK**		229571.098		ppb	0.863		222811.296
23	**Na**		1824338.066	**5003.843089**	ppb	0.779	1.389	9226.313
39	**K**		3840860.434	**5092.277044**	ppb	1.285	2.626	39353.021
24	**Mg**		1674138.486	**5024.962295**	ppb	1.687	1.808	106.667
159	**Tb-ISK**	>	267050.242		ppb	1.982		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 11:42:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.091
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63836.948		ppb	4.497		65583.535
9	**Be**		110.000	**0.031859**	ppb	39.394	45.481	16.667
10	**B**		2087.932	**1.263514**	ppb	11.382	18.940	1071.151
27	**Al**		22500.380	**0.105738**	ppb	2.616	19.193	21286.189
43	**Ca-2**		223.335	**1.960840**	ppb	12.330	30.877	155.001
49	**Ti**		287.781	**0.002074**	ppb	10.763	1358.082	294.447
52	**Cr**		26244.090	**-0.061438**	ppb	1.895	50.771	28235.656
55	**Mn**		1511.191	**0.027368**	ppb	5.754	7.340	795.578
57	**Fe**		23140.953	**0.370197**	ppb	1.544	388.158	23649.562
45	**Sc-IS**	>	2163834.221		ppb	2.214		2230846.495
66	**Zn**		3268.152	**0.006646**	ppb	2.902	141.097	3348.170
86	**Sr**		111.285	**0.024725**	ppb	14.319	23.993	39.586
65	**Cu**		334.448	**0.029459**	ppb	11.552	25.549	191.112
69	**Ga-IS**		790539.403		ppb	0.631		817669.616
95	**Mo**		1931.242	**0.500389**	ppb	0.869	3.319	214.446
115	**In-IS**	>	515615.240		ppb	1.852		511679.033
111	**Cd**		113.723	**0.018143**	ppb	10.325	11.514	27.327
118	**Sn**		8302.412	**0.436186**	ppb	1.909	1.379	2390.200
121	**Sb**		1015.592	**0.052247**	ppb	9.854	13.066	255.558
135	**Ba**		153.334	**0.007848**	ppb	16.979	90.185	122.223
165	**Ho-IS**		596682.152		ppb	1.858		609307.625
159	**Tb-IS**	>	618621.635		ppb	1.223		623740.956
207	**Pb**		1346.691	**0.024216**	ppb	5.198	8.695	367.780
203	**Tl**		530.010	**0.030962**	ppb	6.536	8.962	107.778
209	**Bi-IS**		286602.287		ppb	2.806		292712.993
51	**V**		18.889	**0.047273**	ppb	36.735	42.848	2.222
59	**Co**		64.445	**0.045634**	ppb	23.890	27.360	10.000
60	**Ni**		176.668	**0.056792**	ppb	10.505	16.852	55.556
75	**As**		430.079	**0.124598**	ppb	5.651	26.504	337.227
71	**Ga-ISK**		87418.909		ppb	1.313		90530.482
82	**Se-2**		30.205	**0.328141**	ppb	6.788	9.647	7.143
107	**Ag-1**		1574.531	**0.170550**	ppb	3.241	2.942	183.335
115	**In-ISK**	>	130455.355		ppb	1.010		130045.752
45	**Sc-ISK**		216622.331		ppb	0.884		222811.296
23	**Na**		10583.920	**3.880943**	ppb	1.296	21.882	9226.313
39	**K**		43852.763	**6.249968**	ppb	0.912	14.024	39353.021
24	**Mg**		975.033	**2.691274**	ppb	8.011	11.173	106.667
159	**Tb-ISK**	>	259023.181		ppb	2.128		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 11:45:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.092
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66652.956		ppb	2.182		65583.535
9	**Be**		26.667	**0.003189**	ppb	21.651	55.099	16.667
10	**B**		1620.092	**0.622347**	ppb	3.811	6.652	1071.151
27	**Al**		35102.083	**0.744185**	ppb	1.908	6.531	21286.189
43	**Ca-2**		216.668	**1.566378**	ppb	27.820	104.906	155.001
49	**Ti**		258.891	**-0.028729**	ppb	12.238	77.925	294.447
52	**Cr**		27097.901	**-0.074385**	ppb	1.273	26.336	28235.656
55	**Mn**		2173.499	**0.048644**	ppb	5.978	6.134	795.578
57	**Fe**		24404.162	**0.839905**	ppb	1.064	61.139	23649.562
45	**Sc-IS**	>	2254792.468		ppb	2.282		2230846.495
66	**Zn**		2678.029	**-0.221980**	ppb	1.547	9.533	3348.170
86	**Sr**		50.622	**0.003457**	ppb	86.033	412.425	39.586
65	**Cu**		310.003	**0.022371**	ppb	21.506	62.330	191.112
69	**Ga-IS**		834766.771		ppb	2.574		817669.616
95	**Mo**		1528.971	**0.365778**	ppb	4.663	7.006	214.446
115	**In-IS**	>	536800.218		ppb	0.881		511679.033
111	**Cd**		46.789	**0.003662**	ppb	43.301	111.695	27.327
118	**Sn**		9013.962	**0.462522**	ppb	6.484	9.041	2390.200
121	**Sb**		966.699	**0.046262**	ppb	6.784	10.243	255.558
135	**Ba**		201.113	**0.018121**	ppb	15.401	43.284	122.223
165	**Ho-IS**		633766.921		ppb	1.371		609307.625
159	**Tb-IS**	>	646606.046		ppb	0.969		623740.956
207	**Pb**		865.567	**0.011430**	ppb	6.936	14.040	367.780
203	**Tl**		315.559	**0.014267**	ppb	3.999	6.803	107.778
209	**Bi-IS**		295973.187		ppb	2.059		292712.993
51	**V**		3.333	**0.002970**	ppb	100.000	311.743	2.222
59	**Co**		20.000	**0.008019**	ppb	66.667	136.951	10.000
60	**Ni**		363.338	**0.140903**	ppb	0.917	1.901	55.556
75	**As**		375.866	**0.040667**	ppb	6.764	72.970	337.227
71	**Ga-ISK**		90173.778		ppb	2.026		90530.482
82	**Se-2**		14.484	**0.099848**	ppb	27.894	54.927	7.143
107	**Ag-1**		674.460	**0.058520**	ppb	10.843	15.044	183.335
115	**In-ISK**	>	133109.968		ppb	0.859		130045.752
45	**Sc-ISK**		227442.957		ppb	0.492		222811.296
23	**Na**		9659.932	**0.322937**	ppb	0.453	103.065	9226.313
39	**K**		41894.679	**1.591618**	ppb	1.088	45.917	39353.021
24	**Mg**		458.341	**1.042054**	ppb	19.063	26.189	106.667
159	**Tb-ISK**	>	268031.843		ppb	0.814		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205323_1-A
Autosampler Position: 125
Sample Date/Time: Tuesday, January 04, 2022 11:48:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\MB 570-205323_1-A.093
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67792.856		ppb	3.863		65583.535
9	**Be**		28.889	**0.003928**	ppb	40.522	100.601	16.667
10	**B**		1578.976	**0.564283**	ppb	3.832	18.948	1071.151
27	**Al**		39966.499	**0.996005**	ppb	1.083	5.430	21286.189
43	**Ca-2**		208.335	**1.298112**	ppb	7.332	21.378	155.001
49	**Ti**		244.447	**-0.040669**	ppb	11.355	46.180	294.447
52	**Cr**		27099.024	**-0.084038**	ppb	2.718	18.586	28235.656
55	**Mn**		2472.436	**0.058717**	ppb	2.619	0.381	795.578
57	**Fe**		23830.988	**-0.391481**	ppb	3.492	166.991	23649.562
45	**Sc-IS**	>	2270180.729		ppb	2.753		2230846.495
66	**Zn**		2692.476	**-0.223395**	ppb	4.569	14.476	3348.170
86	**Sr**		55.691	**0.004792**	ppb	87.421	325.313	39.586
65	**Cu**		243.335	**0.009095**	ppb	15.798	64.980	191.112
69	**Ga-IS**		833642.005		ppb	1.551		817669.616
95	**Mo**		781.133	**0.156159**	ppb	11.736	18.922	214.446
115	**In-IS**	>	534829.911		ppb	1.140		511679.033
111	**Cd**		33.915	**0.001113**	ppb	46.986	299.633	27.327
118	**Sn**		6457.015	**0.282382**	ppb	2.981	3.320	2390.200
121	**Sb**		616.680	**0.023227**	ppb	9.745	17.213	255.558
135	**Ba**		52.222	**-0.018853**	ppb	25.797	17.097	122.223
165	**Ho-IS**		625684.628		ppb	0.999		609307.625
159	**Tb-IS**	>	635219.890		ppb	2.740		623740.956
207	**Pb**		576.671	**0.004856**	ppb	6.666	19.708	367.780
203	**Tl**		180.001	**0.005016**	ppb	9.799	27.875	107.778
209	**Bi-IS**		292970.755		ppb	1.546		292712.993
51	**V**		8.889	**0.018409**	ppb	21.651	28.429	2.222
59	**Co**		25.556	**0.012736**	ppb	32.825	55.848	10.000
60	**Ni**		715.573	**0.303955**	ppb	2.391	1.862	55.556
75	**As**		381.585	**0.050212**	ppb	1.351	6.548	337.227
71	**Ga-ISK**		90808.989		ppb	3.014		90530.482
82	**Se-2**		18.513	**0.157723**	ppb	26.571	45.208	7.143
107	**Ag-1**		370.005	**0.022073**	ppb	7.151	14.054	183.335
115	**In-ISK**	>	132643.852		ppb	1.124		130045.752
45	**Sc-ISK**		227348.637		ppb	2.114		222811.296
23	**Na**		9414.769	**-0.385575**	ppb	2.031	191.292	9226.313
39	**K**		41027.730	**0.356408**	ppb	1.708	307.098	39353.021
24	**Mg**		258.336	**0.441655**	ppb	1.117	4.853	106.667
159	**Tb-ISK**	>	268439.084		ppb	1.705		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205323_2-A
Autosampler Position: 126
Sample Date/Time: Tuesday, January 04, 2022 11:51:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCS 570-205323_2-A.094
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68882.336		ppb	0.319		65583.535
9	**Be**		290478.564	**94.253493**	ppb	1.801	1.277	16.667
10	**B**		85781.267	**97.481428**	ppb	1.692	2.539	1071.151
27	**Al**		1965519.674	**105.698991**	ppb	0.532	0.974	21286.189
43	**Ca-2**		212160.720	**5454.185700**	ppb	1.528	2.139	155.001
49	**Ti**		126546.942	**92.826267**	ppb	0.904	0.132	294.447
52	**Cr**		1880574.495	**95.310807**	ppb	0.412	1.070	28235.656
55	**Mn**		2632041.739	**92.931002**	ppb	0.624	0.718	795.578
57	**Fe**		3433363.556	**5629.702543**	ppb	0.953	1.849	23649.562
45	**Sc-IS**	>	2269720.730		ppb	0.887		2230846.495
66	**Zn**		302277.055	**93.460592**	ppb	1.231	2.151	3348.170
86	**Sr**		290278.948	**93.652771**	ppb	0.322	0.915	39.586
65	**Cu**		501535.428	**94.478706**	ppb	1.502	2.392	191.112
69	**Ga-IS**		917757.112		ppb	1.646		817669.616
95	**Mo**		344727.036	**95.323169**	ppb	1.582	1.161	214.446
115	**In-IS**	>	536319.961		ppb	1.235		511679.033
111	**Cd**		459270.255	**93.061940**	ppb	0.579	0.653	27.327
118	**Sn**		1311993.890	**93.162031**	ppb	1.884	0.647	2390.200
121	**Sb**		1373392.308	**90.973436**	ppb	0.871	0.548	255.558
135	**Ba**		420717.723	**104.577877**	ppb	0.845	1.320	122.223
165	**Ho-IS**		621552.115		ppb	0.960		609307.625
159	**Tb-IS**	>	633262.481		ppb	2.244		623740.956
207	**Pb**		3925203.049	**94.527430**	ppb	0.851	2.499	367.780
203	**Tl**		1292324.136	**92.357012**	ppb	2.142	2.707	107.778
209	**Bi-IS**		292012.965		ppb	2.131		292712.993
51	**V**		33066.002	**93.512603**	ppb	0.612	1.803	2.222
59	**Co**		109672.921	**92.100495**	ppb	2.764	3.667	10.000
60	**Ni**		200480.627	**93.975084**	ppb	1.976	2.703	55.556
75	**As**		66526.974	**89.776711**	ppb	1.504	0.559	337.227
71	**Ga-ISK**		89941.136		ppb	0.558		90530.482
82	**Se-2**		6138.774	**87.259219**	ppb	1.890	2.909	7.143
107	**Ag-1**		451458.140	**55.330946**	ppb	1.594	2.632	183.335
115	**In-ISK**	>	130528.300		ppb	1.187		130045.752
45	**Sc-ISK**		226549.033		ppb	1.103		222811.296
23	**Na**		358692.313	**961.575325**	ppb	0.366	1.303	9226.313
39	**K**		781258.965	**991.063103**	ppb	2.115	2.098	39353.021
24	**Mg**		1824957.995	**5471.212405**	ppb	1.344	1.823	106.667
159	**Tb-ISK**	>	267350.665		ppb	1.065		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205323_3-A
Autosampler Position: 127
Sample Date/Time: Tuesday, January 04, 2022 11:54:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCSD 570-205323_3-A.095
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67673.243		ppb	0.197		65583.535
9	**Be**		283702.803	**93.083884**	ppb	0.785	1.534	16.667
10	**B**		87549.680	**100.632362**	ppb	0.469	1.948	1071.151
27	**Al**		1970925.054	**107.157568**	ppb	2.767	1.547	21286.189
43	**Ca-2**		210856.499	**5480.461528**	ppb	1.071	1.518	155.001
49	**Ti**		124521.597	**92.340613**	ppb	2.007	0.298	294.447
52	**Cr**		1832014.327	**93.857656**	ppb	0.345	1.408	28235.656
55	**Mn**		2580260.784	**92.099732**	ppb	1.913	0.502	795.578
57	**Fe**		3426014.818	**5679.667182**	ppb	0.922	0.817	23649.562
45	**Sc-IS**	>	2245045.702		ppb	1.737		2230846.495
66	**Zn**		300824.409	**94.040960**	ppb	0.599	1.170	3348.170
86	**Sr**		288951.919	**94.256723**	ppb	1.626	1.883	39.586
65	**Cu**		504919.376	**96.161957**	ppb	0.582	1.205	191.112
69	**Ga-IS**		931200.860		ppb	0.315		817669.616
95	**Mo**		349198.710	**97.650586**	ppb	0.687	2.397	214.446
115	**In-IS**	>	542315.800		ppb	0.425		511679.033
111	**Cd**		462485.833	**92.672701**	ppb	0.347	0.184	27.327
118	**Sn**		1329154.195	**93.345973**	ppb	2.154	2.374	2390.200
121	**Sb**		1369173.064	**89.691689**	ppb	1.100	1.527	255.558
135	**Ba**		419182.159	**103.039718**	ppb	1.677	2.000	122.223
165	**Ho-IS**		620640.046		ppb	2.116		609307.625
159	**Tb-IS**	>	634960.728		ppb	1.483		623740.956
207	**Pb**		3932978.929	**94.427558**	ppb	1.712	0.786	367.780
203	**Tl**		1299922.983	**92.615263**	ppb	3.374	2.312	107.778
209	**Bi-IS**		291277.282		ppb	2.390		292712.993
51	**V**		32524.783	**90.977191**	ppb	2.986	2.255	2.222
59	**Co**		107533.433	**89.308333**	ppb	2.939	2.150	10.000
60	**Ni**		200419.683	**92.948012**	ppb	1.685	2.968	55.556
75	**As**		67400.617	**89.991957**	ppb	0.593	1.169	337.227
71	**Ga-ISK**		90095.441		ppb	0.724		90530.482
82	**Se-2**		6238.172	**87.719801**	ppb	1.685	2.518	7.143
107	**Ag-1**		458540.001	**55.590014**	ppb	1.045	1.231	183.335
115	**In-ISK**	>	131944.253		ppb	1.488		130045.752
45	**Sc-ISK**		227065.098		ppb	1.682		222811.296
23	**Na**		359115.360	**962.256034**	ppb	3.026	3.612	9226.313
39	**K**		798336.236	**1013.514336**	ppb	1.823	2.990	39353.021
24	**Mg**		1836137.396	**5502.070178**	ppb	2.433	3.067	106.667
159	**Tb-ISK**	>	267502.227		ppb	1.316		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-J-1-A sd @5
Autosampler Position: 128
Sample Date/Time: Tuesday, January 04, 2022 11:58:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-J-1-A sd @5.096
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		71237.235		ppb	2.272		65583.535
9	**Be**		73.334	**0.016370**	ppb	7.873	9.070	16.667
10	**B**		56180.437	**58.185808**	ppb	5.035	3.939	1071.151
27	**Al**		109926.041	**4.318966**	ppb	1.526	1.087	21286.189
43	**Ca-2**		1689378.374	**39961.105085**	ppb	1.089	0.239	155.001
49	**Ti**		2844.729	**1.702226**	ppb	8.263	8.131	294.447
52	**Cr**		125427.107	**4.458123**	ppb	0.403	1.075	28235.656
55	**Mn**		11812.660	**0.355094**	ppb	1.048	1.379	795.578
57	**Fe**		132677.140	**161.706997**	ppb	3.657	3.788	23649.562
45	**Sc-IS**	>	2468119.068		ppb	1.196		2230846.495
66	**Zn**		6864.984	**0.908418**	ppb	3.769	5.615	3348.170
86	**Sr**		627187.057	**186.108531**	ppb	0.738	1.603	39.586
65	**Cu**		15150.255	**2.588345**	ppb	2.579	1.617	191.112
69	**Ga-IS**		856027.010		ppb	0.303		817669.616
95	**Mo**		1465.631	**0.312592**	ppb	6.276	7.516	214.446
115	**In-IS**	>	524430.188		ppb	0.931		511679.033
111	**Cd**		168.034	**0.029015**	ppb	16.467	19.622	27.327
118	**Sn**		3899.422	**0.105449**	ppb	5.307	13.159	2390.200
121	**Sb**		2772.491	**0.170085**	ppb	3.432	3.311	255.558
135	**Ba**		28173.318	**7.132772**	ppb	2.182	3.032	122.223
165	**Ho-IS**		635279.685		ppb	0.758		609307.625
159	**Tb-IS**	>	643915.734		ppb	0.563		623740.956
207	**Pb**		6051.612	**0.134291**	ppb	2.479	2.211	367.780
203	**Tl**		686.683	**0.040437**	ppb	5.965	7.185	107.778
209	**Bi-IS**		285365.589		ppb	1.205		292712.993
51	**V**		282.225	**0.803224**	ppb	16.123	16.310	2.222
59	**Co**		64.445	**0.046454**	ppb	7.901	9.276	10.000
60	**Ni**		1256.722	**0.571416**	ppb	2.313	2.344	55.556
75	**As**		610.500	**0.380793**	ppb	9.043	19.956	337.227
71	**Ga-ISK**		87876.158		ppb	1.540		90530.482
82	**Se-2**		229.142	**3.204714**	ppb	10.581	10.881	7.143
107	**Ag-1**		860.026	**0.084370**	ppb	10.078	12.692	183.335
115	**In-ISK**	>	128691.658		ppb	0.072		130045.752
45	**Sc-ISK**		228147.779		ppb	1.864		222811.296
23	**Na**		7436044.697	**20904.190504**	ppb	1.810	2.064	9226.313
39	**K**		774016.166	**1004.325267**	ppb	1.184	1.543	39353.021
24	**Mg**		3374261.963	**10339.704330**	ppb	0.466	0.836	106.667
159	**Tb-ISK**	>	261556.724		ppb	0.424		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-J-1-A
Autosampler Position: 129
Sample Date/Time: Tuesday, January 04, 2022 12:01:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-J-1-A.097
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		73271.874		ppb	0.523		65583.535
9	**Be**		45.556	**0.006697**	ppb	16.898	31.220	16.667
10	**B**		269392.234	**254.501515**	ppb	3.007	2.720	1071.151
27	**Al**		552163.623	**23.591277**	ppb	4.043	4.322	21286.189
43	**Ca-2**		9093781.655	**192975.914097**	ppb	1.223	0.405	155.001
49	**Ti**		14293.895	**8.444001**	ppb	13.033	12.592	294.447
52	**Cr**		532652.190	**21.139423**	ppb	0.849	2.260	28235.656
55	**Mn**		50321.836	**1.437788**	ppb	2.212	3.020	795.578
57	**Fe**		524713.971	**675.129449**	ppb	1.509	2.978	23649.562
45	**Sc-IS**	>	2751400.199		ppb	1.294		2230846.495
66	**Zn**		20001.775	**4.095596**	ppb	2.291	4.516	3348.170
86	**Sr**		3265155.776	**869.420619**	ppb	3.862	5.029	39.586
65	**Cu**		71394.632	**11.062440**	ppb	0.822	1.841	191.112
69	**Ga-IS**		833129.763		ppb	1.927		817669.616
95	**Mo**		5786.732	**1.261495**	ppb	7.957	9.685	214.446
115	**In-IS**	>	492283.606		ppb	0.758		511679.033
111	**Cd**		196.738	**0.037607**	ppb	18.235	20.516	27.327
118	**Sn**		6923.913	**0.358369**	ppb	11.069	16.231	2390.200
121	**Sb**		2292.406	**0.147728**	ppb	3.793	4.585	255.558
135	**Ba**		141400.213	**38.263533**	ppb	3.411	2.668	122.223
165	**Ho-IS**		614563.964		ppb	2.813		609307.625
159	**Tb-IS**	>	619571.802		ppb	0.717		623740.956
207	**Pb**		22718.173	**0.550030**	ppb	3.394	3.136	367.780
203	**Tl**		364.449	**0.018786**	ppb	10.075	13.310	107.778
209	**Bi-IS**		253500.332		ppb	2.520		292712.993
51	**V**		1332.284	**3.948655**	ppb	5.136	4.440	2.222
59	**Co**		197.779	**0.165859**	ppb	12.650	12.733	10.000
60	**Ni**		5336.554	**2.600093**	ppb	4.575	3.720	55.556
75	**As**		1421.381	**1.563827**	ppb	12.359	14.874	337.227
71	**Ga-ISK**		88442.989		ppb	1.786		90530.482
82	**Se-2**		1140.534	**16.937956**	ppb	1.420	1.911	7.143
107	**Ag-1**		463.341	**0.037047**	ppb	10.450	15.440	183.335
115	**In-ISK**	>	124315.778		ppb	0.905		130045.752
45	**Sc-ISK**		248623.341		ppb	2.313		222811.296
23	**Na**		42721921.533	**118181.144390**	ppb	2.289	0.836	9226.313
39	**K**		4178089.753	**5563.427719**	ppb	1.824	0.419	39353.021
24	**Mg**		18442244.953	**55559.597577**	ppb	1.450	0.479	106.667
159	**Tb-ISK**	>	266046.850		ppb	1.523		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message
Sc-IS	45	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-J-1-B MS
Autosampler Position: 130
Sample Date/Time: Tuesday, January 04, 2022 12:04:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-J-1-B MS.098
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69705.225		ppb	1.471		65583.535
9	**Be**		256285.377	**74.605104**	ppb	1.349	2.666	16.667
10	**B**		331317.863	**340.777362**	ppb	2.023	2.370	1071.151
27	**Al**		2354620.593	**113.690332**	ppb	3.393	4.504	21286.189
43	**Ca-2**		8420239.980	**194262.161707**	ppb	2.570	1.771	155.001
49	**Ti**		130262.378	**85.709368**	ppb	1.358	2.910	294.447
52	**Cr**		2151029.312	**97.827413**	ppb	1.713	2.384	28235.656
55	**Mn**		2359597.686	**74.705944**	ppb	2.739	1.284	795.578
57	**Fe**		3547625.208	**5214.503825**	ppb	1.831	2.178	23649.562
45	**Sc-IS**	>	2531737.766		ppb	3.971		2230846.495
66	**Zn**		266889.163	**73.811227**	ppb	1.369	3.480	3348.170
86	**Sr**		3390445.433	**981.606391**	ppb	1.939	3.878	39.586
65	**Cu**		459890.263	**77.707942**	ppb	1.144	2.819	191.112
69	**Ga-IS**		862222.104		ppb	2.503		817669.616
95	**Mo**		272130.861	**67.515343**	ppb	0.544	4.007	214.446
115	**In-IS**	>	501601.033		ppb	2.045		511679.033
111	**Cd**		380596.406	**82.458343**	ppb	1.593	0.487	27.327
118	**Sn**		1024114.610	**77.726027**	ppb	2.443	0.959	2390.200
121	**Sb**		1213593.086	**85.957491**	ppb	1.301	0.798	255.558
135	**Ba**		503188.545	**133.745542**	ppb	1.384	0.785	122.223
165	**Ho-IS**		605302.171		ppb	0.340		609307.625
159	**Tb-IS**	>	624219.692		ppb	0.464		623740.956
207	**Pb**		3242205.038	**79.180818**	ppb	0.690	0.443	367.780
203	**Tl**		1079651.196	**78.254887**	ppb	0.280	0.273	107.778
209	**Bi-IS**		251336.153		ppb	0.545		292712.993
51	**V**		32307.625	**97.001870**	ppb	3.034	0.547	2.222
59	**Co**		97219.723	**86.697154**	ppb	1.283	1.635	10.000
60	**Ni**		168457.706	**83.891789**	ppb	2.139	4.283	55.556
75	**As**		68868.560	**98.749982**	ppb	2.444	1.848	337.227
71	**Ga-ISK**		85703.028		ppb	1.799		90530.482
82	**Se-2**		7532.477	**113.730985**	ppb	1.628	1.730	7.143
107	**Ag-1**		278391.086	**36.180667**	ppb	9.488	7.455	183.335
115	**In-ISK**	>	122922.768		ppb	2.691		130045.752
45	**Sc-ISK**		244535.385		ppb	1.304		222811.296
23	**Na**		39539651.356	**110669.743458**	ppb	1.369	2.624	9226.313
39	**K**		4639676.296	**6256.961695**	ppb	0.260	1.534	39353.021
24	**Mg**		18621081.047	**56752.019575**	ppb	1.556	2.225	106.667
159	**Tb-ISK**	>	263015.371		ppb	1.283		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-J-1-C MSD
Autosampler Position: 131
Sample Date/Time: Tuesday, January 04, 2022 12:07:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-J-1-C MSD.099
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70062.510		ppb	1.073		65583.535
9	**Be**		258508.984	**75.956286**	ppb	2.586	2.458	16.667
10	**B**		332688.234	**345.424575**	ppb	2.187	1.462	1071.151
27	**Al**		2280353.818	**111.088281**	ppb	1.800	0.298	21286.189
43	**Ca-2**		8264299.221	**192465.510054**	ppb	2.958	1.507	155.001
49	**Ti**		131078.166	**87.031985**	ppb	4.122	3.083	294.447
52	**Cr**		2136501.781	**98.077132**	ppb	2.341	1.286	28235.656
55	**Mn**		2319464.779	**74.150892**	ppb	1.793	1.796	795.578
57	**Fe**		3456424.735	**5128.069565**	ppb	1.488	1.455	23649.562
45	**Sc-IS**	>	2506680.852		ppb	1.522		2230846.495
66	**Zn**		260108.961	**72.584222**	ppb	0.877	1.394	3348.170
86	**Sr**		3459111.732	**1010.591915**	ppb	1.979	1.259	39.586
65	**Cu**		453372.340	**77.321692**	ppb	1.133	1.278	191.112
69	**Ga-IS**		837202.796		ppb	2.643		817669.616
95	**Mo**		289046.397	**72.363985**	ppb	1.452	1.595	214.446
115	**In-IS**	>	500885.579		ppb	1.334		511679.033
111	**Cd**		383311.434	**83.163136**	ppb	0.930	0.473	27.327
118	**Sn**		1064963.031	**80.958936**	ppb	0.648	1.178	2390.200
121	**Sb**		1225591.244	**86.927123**	ppb	0.834	0.741	255.558
135	**Ba**		501108.221	**133.371173**	ppb	1.257	0.305	122.223
165	**Ho-IS**		598054.533		ppb	1.455		609307.625
159	**Tb-IS**	>	618248.590		ppb	0.784		623740.956
207	**Pb**		3190750.159	**78.685610**	ppb	1.360	2.138	367.780
203	**Tl**		1070958.950	**78.380131**	ppb	2.753	3.038	107.778
209	**Bi-IS**		247631.534		ppb	1.682		292712.993
51	**V**		32728.614	**96.302524**	ppb	4.705	5.063	2.222
59	**Co**		98145.106	**85.740019**	ppb	3.248	3.494	10.000
60	**Ni**		171177.598	**83.490550**	ppb	2.335	3.520	55.556
75	**As**		71536.281	**100.514949**	ppb	1.167	2.349	337.227
71	**Ga-ISK**		86969.501		ppb	1.049		90530.482
82	**Se-2**		7550.485	**111.685566**	ppb	2.790	3.203	7.143
107	**Ag-1**		302351.374	**38.527241**	ppb	7.955	7.253	183.335
115	**In-ISK**	>	125456.062		ppb	1.224		130045.752
45	**Sc-ISK**		239662.850		ppb	1.623		222811.296
23	**Na**		38402128.161	**107605.205157**	ppb	2.081	2.237	9226.313
39	**K**		4671154.626	**6307.359007**	ppb	1.231	1.326	39353.021
24	**Mg**		18569120.992	**56661.289552**	ppb	2.095	2.232	106.667
159	**Tb-ISK**	>	262670.187		ppb	0.176		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-J-1-A PDS
Autosampler Position: 132
Sample Date/Time: Tuesday, January 04, 2022 12:10:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-J-1-A PDS.100
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68931.559		ppb	2.994		65583.535
9	**Be**		276286.010	**82.782664**	ppb	2.428	2.155	16.667
10	**B**		332837.960	**352.349898**	ppb	4.081	2.623	1071.151
27	**Al**		2378039.557	**118.298038**	ppb	0.068	4.324	21286.189
43	**Ca-2**		8181164.818	**194299.346616**	ppb	2.877	1.520	155.001
49	**Ti**		135009.876	**91.440621**	ppb	3.326	2.953	294.447
52	**Cr**		2260066.140	**105.977614**	ppb	1.002	3.814	28235.656
55	**Mn**		2497473.328	**81.439255**	ppb	1.574	2.950	795.578
57	**Fe**		3703422.356	**5609.291546**	ppb	1.122	3.814	23649.562
45	**Sc-IS**	>	2459448.526		ppb	4.364		2230846.495
66	**Zn**		280789.220	**80.016262**	ppb	2.400	3.019	3348.170
86	**Sr**		3586632.828	**1069.208917**	ppb	1.602	4.306	39.586
65	**Cu**		488513.537	**84.980201**	ppb	1.601	2.863	191.112
69	**Ga-IS**		839023.756		ppb	1.540		817669.616
95	**Mo**		315783.246	**80.686432**	ppb	0.733	4.775	214.446
115	**In-IS**	>	504067.363		ppb	0.947		511679.033
111	**Cd**		420173.413	**90.585259**	ppb	0.590	0.644	27.327
118	**Sn**		1185828.485	**89.588417**	ppb	1.731	1.399	2390.200
121	**Sb**		1364250.255	**96.151098**	ppb	0.747	0.865	255.558
135	**Ba**		545505.306	**144.271804**	ppb	1.123	0.510	122.223
165	**Ho-IS**		608529.191		ppb	2.292		609307.625
159	**Tb-IS**	>	625930.358		ppb	1.818		623740.956
207	**Pb**		3479377.244	**84.758025**	ppb	1.188	1.978	367.780
203	**Tl**		1188717.549	**85.947134**	ppb	1.917	2.854	107.778
209	**Bi-IS**		247184.089		ppb	2.077		292712.993
51	**V**		35350.364	**104.343653**	ppb	2.196	3.963	2.222
59	**Co**		106772.100	**93.595210**	ppb	2.233	4.689	10.000
60	**Ni**		185642.251	**90.790124**	ppb	2.513	2.703	55.556
75	**As**		77701.947	**109.528738**	ppb	1.068	1.979	337.227
71	**Ga-ISK**		86429.555		ppb	0.383		90530.482
82	**Se-2**		8426.319	**124.969959**	ppb	2.880	0.830	7.143
107	**Ag-1**		305727.834	**39.170856**	ppb	17.159	18.901	183.335
115	**In-ISK**	>	125121.223		ppb	2.772		130045.752
45	**Sc-ISK**		241709.008		ppb	1.336		222811.296
23	**Na**		37854432.674	**104024.090411**	ppb	1.209	1.580	9226.313
39	**K**		4717846.178	**6247.432424**	ppb	1.769	2.392	39353.021
24	**Mg**		18863961.217	**56451.418369**	ppb	0.740	1.339	106.667
159	**Tb-ISK**	>	267841.608		ppb	0.596		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-H-2-A
Autosampler Position: 133
Sample Date/Time: Tuesday, January 04, 2022 12:13:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-H-2-A.101
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68771.824		ppb	1.341		65583.535
9	**Be**		75.556	**0.017398**	ppb	17.830	22.100	16.667
10	**B**		270678.672	**289.988514**	ppb	4.876	3.321	1071.151
27	**Al**		182098.502	**8.080359**	ppb	3.489	1.753	21286.189
43	**Ca-2**		8438817.714	**202993.034173**	ppb	2.745	0.789	155.001
49	**Ti**		12760.144	**8.554066**	ppb	3.155	2.603	294.447
52	**Cr**		179225.330	**7.147738**	ppb	2.022	0.687	28235.656
55	**Mn**		21728177.008	**717.687989**	ppb	1.630	1.076	795.578
57	**Fe**		707296.813	**1052.633303**	ppb	2.924	3.398	23649.562
45	**Sc-IS**	>	2427022.952		ppb	2.121		2230846.495
66	**Zn**		7489.742	**1.124992**	ppb	2.662	3.650	3348.170
86	**Sr**		3516578.388	**1061.417173**	ppb	2.248	3.090	39.586
65	**Cu**		9246.339	**1.594093**	ppb	8.433	9.827	191.112
69	**Ga-IS**		779532.468		ppb	0.908		817669.616
95	**Mo**		8174.566	**2.057288**	ppb	5.972	8.229	214.446
115	**In-IS**	>	498338.680		ppb	0.758		511679.033
111	**Cd**		158.390	**0.028740**	ppb	10.700	13.045	27.327
118	**Sn**		23034.119	**1.585769**	ppb	2.586	3.682	2390.200
121	**Sb**		5077.569	**0.344339**	ppb	2.469	3.333	255.558
135	**Ba**		235541.511	**62.995728**	ppb	0.563	1.037	122.223
165	**Ho-IS**		601112.462		ppb	0.961		609307.625
159	**Tb-IS**	>	619909.200		ppb	0.619		623740.956
207	**Pb**		4649.190	**0.105359**	ppb	0.597	1.093	367.780
203	**Tl**		536.677	**0.031355**	ppb	1.242	1.666	107.778
209	**Bi-IS**		193062.479		ppb	0.327		292712.993
51	**V**		485.564	**1.435676**	ppb	5.549	7.501	2.222
59	**Co**		271.114	**0.230584**	ppb	3.756	5.984	10.000
60	**Ni**		2524.668	**1.215130**	ppb	4.575	2.519	55.556
75	**As**		839.712	**0.736882**	ppb	4.408	10.443	337.227
71	**Ga-ISK**		87613.633		ppb	3.625		90530.482
82	**Se-2**		444.817	**6.543021**	ppb	4.511	6.390	7.143
107	**Ag-1**		166.668	**-0.001121**	ppb	9.165	176.038	183.335
115	**In-ISK**	>	124419.301		ppb	2.141		130045.752
45	**Sc-ISK**		235918.524		ppb	2.676		222811.296
23	**Na**		38371359.935	**107587.585698**	ppb	0.581	1.176	9226.313
39	**K**		3949969.662	**5328.452654**	ppb	1.496	1.436	39353.021
24	**Mg**		17564304.317	**53618.397329**	ppb	3.522	2.719	106.667
159	**Tb-ISK**	>	262530.077		ppb	1.668		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 12:17:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.102
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62214.093		ppb	1.758		65583.535
9	**Be**		303840.721	**101.043368**	ppb	1.018	1.950	16.667
10	**B**		218476.237	**256.402266**	ppb	2.189	2.070	1071.151
27	**Al**		1811020.168	**99.732552**	ppb	1.546	1.622	21286.189
43	**Ca-2**		190085.082	**5006.107017**	ppb	2.396	1.150	155.001
49	**Ti**		131300.663	**98.719188**	ppb	0.844	1.652	294.447
52	**Cr**		1902814.343	**98.866512**	ppb	1.839	0.927	28235.656
55	**Mn**		2752023.419	**99.578605**	ppb	1.019	1.682	795.578
57	**Fe**		3076935.126	**5165.644262**	ppb	2.128	0.304	23649.562
45	**Sc-IS**	>	2215302.008		ppb	2.430		2230846.495
66	**Zn**		318576.380	**101.032044**	ppb	0.393	2.485	3348.170
86	**Sr**		347334.099	**114.843398**	ppb	1.886	2.509	39.586
65	**Cu**		530517.620	**102.403593**	ppb	1.221	1.390	191.112
69	**Ga-IS**		880520.823		ppb	0.527		817669.616
95	**Mo**		399327.982	**113.193058**	ppb	1.032	2.731	214.446
115	**In-IS**	>	554294.069		ppb	1.748		511679.033
111	**Cd**		499297.913	**97.892079**	ppb	1.489	0.825	27.327
118	**Sn**		1470968.757	**101.093612**	ppb	1.519	1.437	2390.200
121	**Sb**		1551968.221	**99.484929**	ppb	1.613	2.224	255.558
135	**Ba**		421080.039	**101.271448**	ppb	1.623	1.287	122.223
165	**Ho-IS**		635384.836		ppb	1.595		609307.625
159	**Tb-IS**	>	665217.880		ppb	1.091		623740.956
207	**Pb**		4331456.926	**99.272739**	ppb	0.717	1.245	367.780
203	**Tl**		1465915.081	**99.704561**	ppb	1.295	0.608	107.778
209	**Bi-IS**		296780.529		ppb	1.704		292712.993
51	**V**		37206.167	**100.009307**	ppb	0.701	0.169	2.222
59	**Co**		129082.821	**103.020739**	ppb	1.009	0.446	10.000
60	**Ni**		223005.210	**99.351906**	ppb	1.671	1.226	55.556
75	**As**		77991.892	**100.105837**	ppb	0.251	0.609	337.227
71	**Ga-ISK**		94498.356		ppb	2.887		90530.482
82	**Se-2**		7321.679	**98.920528**	ppb	2.459	2.033	7.143
107	**Ag-1**		788065.617	**91.806976**	ppb	2.074	1.562	183.335
115	**In-ISK**	>	137311.064		ppb	0.568		130045.752
45	**Sc-ISK**		241422.509		ppb	2.369		222811.296
23	**Na**		1868162.311	**4956.103432**	ppb	0.970	1.161	9226.313
39	**K**		4093851.969	**5251.151016**	ppb	0.997	1.336	39353.021
24	**Mg**		1737524.293	**5044.573173**	ppb	0.957	0.809	106.667
159	**Tb-ISK**	>	276042.140		ppb	0.338		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message
Sr	86	
Mo	95	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 12:20:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.103
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60960.956		ppb	2.497		65583.535
9	**Be**		55.556	**0.014191**	ppb	24.980	34.974	16.667
10	**B**		2674.695	**2.101884**	ppb	6.290	5.126	1071.151
27	**Al**		21781.260	**0.115517**	ppb	1.203	42.105	21286.189
43	**Ca-2**		670.016	**14.776382**	ppb	12.331	17.386	155.001
49	**Ti**		300.003	**0.019891**	ppb	13.100	119.793	294.447
52	**Cr**		31927.863	**0.315463**	ppb	0.846	18.844	28235.656
55	**Mn**		2204.617	**0.056256**	ppb	13.514	17.195	795.578
57	**Fe**		26665.991	**8.313554**	ppb	3.094	10.518	23649.562
45	**Sc-IS**	>	2080677.204		ppb	3.786		2230846.495
66	**Zn**		3294.825	**0.058714**	ppb	6.419	98.354	3348.170
86	**Sr**		329.467	**0.103598**	ppb	26.260	32.805	39.586
65	**Cu**		523.343	**0.070879**	ppb	6.143	4.570	191.112
69	**Ga-IS**		773000.721		ppb	3.254		817669.616
95	**Mo**		2017.921	**0.549671**	ppb	5.591	8.781	214.446
115	**In-IS**	>	546030.361		ppb	0.298		511679.033
111	**Cd**		129.096	**0.019891**	ppb	9.493	12.353	27.327
118	**Sn**		11862.702	**0.650783**	ppb	1.919	2.822	2390.200
121	**Sb**		1331.173	**0.068878**	ppb	2.935	3.785	255.558
135	**Ba**		144.445	**0.003419**	ppb	17.625	180.717	122.223
165	**Ho-IS**		610518.425		ppb	1.244		609307.625
159	**Tb-IS**	>	628886.521		ppb	1.598		623740.956
207	**Pb**		1245.577	**0.021233**	ppb	9.021	14.399	367.780
203	**Tl**		522.232	**0.029828**	ppb	16.452	22.654	107.778
209	**Bi-IS**		289498.463		ppb	0.778		292712.993
51	**V**		11.111	**0.023902**	ppb	62.450	79.677	2.222
59	**Co**		46.667	**0.029173**	ppb	12.372	14.256	10.000
60	**Ni**		150.001	**0.041428**	ppb	3.849	7.446	55.556
75	**As**		428.236	**0.098590**	ppb	9.188	47.018	337.227
71	**Ga-ISK**		92236.190		ppb	5.022		90530.482
82	**Se-2**		22.114	**0.199340**	ppb	26.323	36.758	7.143
107	**Ag-1**		3434.858	**0.382035**	ppb	3.570	4.625	183.335
115	**In-ISK**	>	135887.900		ppb	1.955		130045.752
45	**Sc-ISK**		226198.510		ppb	2.385		222811.296
23	**Na**		15626.884	**16.275731**	ppb	3.794	11.712	9226.313
39	**K**		42744.982	**2.136316**	ppb	2.002	54.591	39353.021
24	**Mg**		2970.310	**8.462105**	ppb	7.169	7.836	106.667
159	**Tb-ISK**	>	270829.862		ppb	0.748		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 12:23:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.104
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63054.417		ppb	1.163		65583.535
9	**Be**		26.667	**0.003944**	ppb	43.301	105.672	16.667
10	**B**		2039.034	**1.302138**	ppb	0.958	3.363	1071.151
27	**Al**		33309.793	**0.795497**	ppb	1.232	5.039	21286.189
43	**Ca-2**		533.343	**10.861039**	ppb	12.763	14.124	155.001
49	**Ti**		307.781	**0.026290**	ppb	9.462	92.430	294.447
52	**Cr**		30199.667	**0.214653**	ppb	1.019	13.474	28235.656
55	**Mn**		2499.108	**0.067597**	ppb	2.602	6.305	795.578
57	**Fe**		27325.001	**9.413803**	ppb	1.623	4.442	23649.562
45	**Sc-IS**	>	2084046.132		ppb	2.390		2230846.495
66	**Zn**		2828.058	**-0.101412**	ppb	2.405	43.319	3348.170
86	**Sr**		221.174	**0.064770**	ppb	12.641	15.792	39.586
65	**Cu**		510.009	**0.068042**	ppb	10.519	16.353	191.112
69	**Ga-IS**		785970.120		ppb	0.906		817669.616
95	**Mo**		1889.014	**0.509472**	ppb	6.476	9.231	214.446
115	**In-IS**	>	562855.180		ppb	1.045		511679.033
111	**Cd**		47.144	**0.003327**	ppb	45.134	125.589	27.327
118	**Sn**		15687.511	**0.885674**	ppb	4.914	7.039	2390.200
121	**Sb**		1715.659	**0.090557**	ppb	1.365	0.743	255.558
135	**Ba**		224.446	**0.021355**	ppb	15.024	38.943	122.223
165	**Ho-IS**		630502.277		ppb	0.402		609307.625
159	**Tb-IS**	>	653516.303		ppb	1.280		623740.956
207	**Pb**		926.678	**0.012627**	ppb	4.945	7.483	367.780
203	**Tl**		317.781	**0.014190**	ppb	5.777	9.694	107.778
209	**Bi-IS**		297434.828		ppb	1.355		292712.993
51	**V**		14.444	**0.032027**	ppb	58.076	69.630	2.222
59	**Co**		33.333	**0.017825**	ppb	52.915	78.069	10.000
60	**Ni**		376.672	**0.139425**	ppb	6.912	8.824	55.556
75	**As**		445.952	**0.107796**	ppb	7.217	35.809	337.227
71	**Ga-ISK**		93699.641		ppb	1.108		90530.482
82	**Se-2**		24.870	**0.229824**	ppb	38.859	56.271	7.143
107	**Ag-1**		2540.226	**0.269278**	ppb	5.929	5.820	183.335
115	**In-ISK**	>	139249.703		ppb	0.631		130045.752
45	**Sc-ISK**		225833.288		ppb	0.590		222811.296
23	**Na**		12395.378	**6.632586**	ppb	2.697	20.143	9226.313
39	**K**		40392.606	**-2.332550**	ppb	2.661	64.713	39353.021
24	**Mg**		1313.394	**3.458810**	ppb	5.416	6.748	106.667
159	**Tb-ISK**	>	277969.066		ppb	2.116		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80229-E-1-A
Autosampler Position: 134
Sample Date/Time: Tuesday, January 04, 2022 12:26:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80229-E-1-A.105
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		72179.689		ppb	1.411		65583.535
9	**Be**		57.778	**0.011803**	ppb	46.632	68.471	16.667
10	**B**		292985.233	**310.012065**	ppb	1.028	0.818	1071.151
27	**Al**		6819034.201	**341.082802**	ppb	3.412	3.204	21286.189
43	**Ca-2**		8446315.111	**200566.702769**	ppb	1.770	1.454	155.001
49	**Ti**		30981.682	**20.801196**	ppb	12.444	12.104	294.447
52	**Cr**		551323.042	**24.715867**	ppb	1.495	1.979	28235.656
55	**Mn**		422580.472	**13.750415**	ppb	3.470	3.931	795.578
57	**Fe**		671852.306	**984.400739**	ppb	2.627	3.194	23649.562
45	**Sc-IS**	>	2458693.433		ppb	0.470		2230846.495
66	**Zn**		26871.921	**6.691011**	ppb	1.682	1.564	3348.170
86	**Sr**		3959575.297	**1179.345490**	ppb	1.807	1.435	39.586
65	**Cu**		31557.052	**5.452934**	ppb	2.459	2.875	191.112
69	**Ga-IS**		755677.378		ppb	1.005		817669.616
95	**Mo**		5682.241	**1.391087**	ppb	0.622	1.080	214.446
115	**In-IS**	>	503511.486		ppb	1.943		511679.033
111	**Cd**		151.402	**0.026874**	ppb	13.701	16.445	27.327
118	**Sn**		5349.891	**0.227456**	ppb	3.169	9.151	2390.200
121	**Sb**		3573.780	**0.234536**	ppb	2.194	3.659	255.558
135	**Ba**		148788.611	**39.378499**	ppb	0.550	1.465	122.223
165	**Ho-IS**		595823.247		ppb	1.554		609307.625
159	**Tb-IS**	>	613410.886		ppb	0.657		623740.956
207	**Pb**		19735.338	**0.481521**	ppb	1.445	0.953	367.780
203	**Tl**		246.669	**0.010383**	ppb	12.891	23.256	107.778
209	**Bi-IS**		246396.140		ppb	1.964		292712.993
51	**V**		1793.446	**5.197567**	ppb	3.361	5.796	2.222
59	**Co**		633.347	**0.536671**	ppb	3.158	1.010	10.000
60	**Ni**		4057.244	**1.924095**	ppb	4.698	4.732	55.556
75	**As**		1403.025	**1.496062**	ppb	11.232	18.012	337.227
71	**Ga-ISK**		85566.650		ppb	1.660		90530.482
82	**Se-2**		1154.843	**16.742830**	ppb	3.306	2.493	7.143
107	**Ag-1**		2728.039	**0.320143**	ppb	6.479	5.426	183.335
115	**In-ISK**	>	127330.336		ppb	2.493		130045.752
45	**Sc-ISK**		234660.626		ppb	1.060		222811.296
23	**Na**		40045003.959	**111462.819932**	ppb	1.398	1.969	9226.313
39	**K**		4036067.805	**5406.000077**	ppb	2.549	3.005	39353.021
24	**Mg**		17634693.432	**53447.934869**	ppb	3.281	3.225	106.667
159	**Tb-ISK**	>	264443.846		ppb	0.592		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80229-G-2-A
Autosampler Position: 135
Sample Date/Time: Tuesday, January 04, 2022 12:29:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80229-G-2-A.106
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66810.429		ppb	3.433		65583.535
9	**Be**		28.889	**0.003344**	ppb	52.030	132.650	16.667
10	**B**		283149.270	**308.508214**	ppb	3.187	0.943	1071.151
27	**Al**		436183.959	**21.370768**	ppb	2.232	0.699	21286.189
43	**Ca-2**		8847005.084	**216327.893545**	ppb	3.532	1.566	155.001
49	**Ti**		14534.059	**9.940158**	ppb	2.466	1.648	294.447
52	**Cr**		163302.812	**6.511979**	ppb	2.211	1.000	28235.656
55	**Mn**		13479564.993	**452.568710**	ppb	2.339	0.179	795.578
57	**Fe**		534023.295	**798.688176**	ppb	1.675	1.770	23649.562
45	**Sc-IS**	>	2387402.303		ppb	2.351		2230846.495
66	**Zn**		68321.894	**19.247537**	ppb	1.324	1.096	3348.170
86	**Sr**		3688696.789	**1131.630530**	ppb	1.729	0.843	39.586
65	**Cu**		12137.377	**2.137820**	ppb	1.952	1.048	191.112
69	**Ga-IS**		769051.611		ppb	2.864		817669.616
95	**Mo**		4873.053	**1.222147**	ppb	1.232	3.404	214.446
115	**In-IS**	>	500899.631		ppb	1.045		511679.033
111	**Cd**		406.439	**0.082399**	ppb	3.250	4.392	27.327
118	**Sn**		4267.305	**0.146815**	ppb	3.944	7.933	2390.200
121	**Sb**		3535.993	**0.233143**	ppb	2.541	3.869	255.558
135	**Ba**		238352.042	**63.426838**	ppb	0.802	1.825	122.223
165	**Ho-IS**		597439.255		ppb	0.543		609307.625
159	**Tb-IS**	>	625253.427		ppb	1.216		623740.956
207	**Pb**		3269.034	**0.070745**	ppb	6.237	7.632	367.780
203	**Tl**		222.224	**0.008260**	ppb	7.550	13.442	107.778
209	**Bi-IS**		243727.544		ppb	1.854		292712.993
51	**V**		317.781	**0.940853**	ppb	4.730	4.457	2.222
59	**Co**		888.917	**0.778232**	ppb	1.850	0.334	10.000
60	**Ni**		3673.806	**1.788613**	ppb	4.253	2.698	55.556
75	**As**		2277.126	**2.796867**	ppb	3.417	4.319	337.227
71	**Ga-ISK**		86222.871		ppb	2.608		90530.482
82	**Se-2**		306.751	**4.498415**	ppb	9.688	9.807	7.143
107	**Ag-1**		426.673	**0.032602**	ppb	3.405	8.733	183.335
115	**In-ISK**	>	123844.716		ppb	1.800		130045.752
45	**Sc-ISK**		231487.053		ppb	2.936		222811.296
23	**Na**		38571569.916	**109016.685486**	ppb	2.335	1.533	9226.313
39	**K**		3957837.071	**5382.118892**	ppb	2.522	0.581	39353.021
24	**Mg**		18102309.188	**55699.219121**	ppb	3.981	2.028	106.667
159	**Tb-ISK**	>	260416.081		ppb	1.986		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80229-E-4-A
Autosampler Position: 136
Sample Date/Time: Tuesday, January 04, 2022 12:32:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80229-E-4-A.107
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69437.255		ppb	1.376		65583.535
9	**Be**		34.444	**0.005012**	ppb	33.986	63.999	16.667
10	**B**		293386.870	**318.715998**	ppb	2.778	0.868	1071.151
27	**Al**		421309.041	**20.534427**	ppb	2.115	1.548	21286.189
43	**Ca-2**		8884160.552	**216568.035669**	ppb	2.814	0.746	155.001
49	**Ti**		14322.744	**9.754418**	ppb	4.944	1.398	294.447
52	**Cr**		175009.114	**7.058180**	ppb	2.138	1.819	28235.656
55	**Mn**		13398465.097	**448.551649**	ppb	1.692	2.504	795.578
57	**Fe**		540625.071	**806.941114**	ppb	1.217	4.910	23649.562
45	**Sc-IS**	>	2395560.772		ppb	3.565		2230846.495
66	**Zn**		68004.834	**19.091464**	ppb	1.430	2.294	3348.170
86	**Sr**		3750373.781	**1147.344283**	ppb	0.842	3.125	39.586
65	**Cu**		10214.762	**1.788237**	ppb	1.255	3.152	191.112
69	**Ga-IS**		761512.458		ppb	1.174		817669.616
95	**Mo**		4611.857	**1.148678**	ppb	5.987	5.175	214.446
115	**In-IS**	>	494715.522		ppb	1.873		511679.033
111	**Cd**		405.877	**0.083470**	ppb	8.363	10.985	27.327
118	**Sn**		3435.970	**0.086730**	ppb	6.349	17.341	2390.200
121	**Sb**		3487.093	**0.232860**	ppb	4.225	6.227	255.558
135	**Ba**		240225.876	**64.718438**	ppb	2.305	1.536	122.223
165	**Ho-IS**		594359.381		ppb	2.217		609307.625
159	**Tb-IS**	>	618724.836		ppb	1.674		623740.956
207	**Pb**		3463.501	**0.076355**	ppb	1.923	0.583	367.780
203	**Tl**		194.446	**0.006396**	ppb	6.928	12.716	107.778
209	**Bi-IS**		240812.099		ppb	1.962		292712.993
51	**V**		323.337	**0.940565**	ppb	5.740	8.160	2.222
59	**Co**		820.024	**0.703567**	ppb	5.285	4.249	10.000
60	**Ni**		3724.931	**1.778992**	ppb	5.921	3.906	55.556
75	**As**		2225.436	**2.662665**	ppb	2.770	0.766	337.227
71	**Ga-ISK**		85923.200		ppb	1.121		90530.482
82	**Se-2**		297.404	**4.271815**	ppb	6.629	4.757	7.143
107	**Ag-1**		433.340	**0.032335**	ppb	11.174	16.611	183.335
115	**In-ISK**	>	126208.326		ppb	2.451		130045.752
45	**Sc-ISK**		235965.049		ppb	2.970		222811.296
23	**Na**		40479703.165	**113919.696430**	ppb	0.991	2.158	9226.313
39	**K**		4100841.358	**5554.521714**	ppb	1.438	1.914	39353.021
24	**Mg**		18189024.719	**55727.843331**	ppb	2.199	0.960	106.667
159	**Tb-ISK**	>	261616.041		ppb	2.460		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80229-E-5-A
Autosampler Position: 137
Sample Date/Time: Tuesday, January 04, 2022 12:36:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80229-E-5-A.108
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69523.225		ppb	1.321		65583.535
9	**Be**		31.111	**0.004152**	ppb	43.301	99.935	16.667
10	**B**		282140.842	**309.516585**	ppb	4.130	4.244	1071.151
27	**Al**		154979.491	**6.885766**	ppb	3.581	3.131	21286.189
43	**Ca-2**		8259912.989	**203343.617382**	ppb	2.493	2.184	155.001
49	**Ti**		12040.629	**8.252296**	ppb	2.108	1.741	294.447
52	**Cr**		159694.569	**6.386579**	ppb	2.192	1.746	28235.656
55	**Mn**		5600305.684	**189.274968**	ppb	2.622	2.857	795.578
57	**Fe**		500156.921	**750.693794**	ppb	1.309	2.236	23649.562
45	**Sc-IS**	>	2371632.156		ppb	1.007		2230846.495
66	**Zn**		8428.041	**1.456793**	ppb	1.603	1.549	3348.170
86	**Sr**		3896797.564	**1203.352046**	ppb	0.942	1.152	39.586
65	**Cu**		17713.198	**3.158065**	ppb	1.443	2.447	191.112
69	**Ga-IS**		757232.230		ppb	1.051		817669.616
95	**Mo**		7199.592	**1.846128**	ppb	1.217	0.712	214.446
115	**In-IS**	>	512806.152		ppb	1.642		511679.033
111	**Cd**		25.992	**-0.000277**	ppb	32.508	682.747	27.327
118	**Sn**		3065.885	**0.049968**	ppb	1.903	15.706	2390.200
121	**Sb**		10562.796	**0.714036**	ppb	3.560	2.511	255.558
135	**Ba**		205769.390	**53.473384**	ppb	1.679	0.366	122.223
165	**Ho-IS**		598219.155		ppb	0.953		609307.625
159	**Tb-IS**	>	616923.020		ppb	0.730		623740.956
207	**Pb**		3095.686	**0.067518**	ppb	1.754	2.137	367.780
203	**Tl**		165.557	**0.004327**	ppb	16.398	46.586	107.778
209	**Bi-IS**		239174.717		ppb	1.494		292712.993
51	**V**		426.673	**1.234717**	ppb	7.929	11.386	2.222
59	**Co**		183.335	**0.150342**	ppb	28.226	31.965	10.000
60	**Ni**		2153.496	**1.009821**	ppb	2.825	2.509	55.556
75	**As**		888.740	**0.778013**	ppb	5.078	8.302	337.227
71	**Ga-ISK**		86032.867		ppb	2.884		90530.482
82	**Se-2**		153.167	**2.138657**	ppb	7.312	10.831	7.143
107	**Ag-1**		158.890	**-0.002526**	ppb	20.159	175.079	183.335
115	**In-ISK**	>	127247.826		ppb	3.599		130045.752
45	**Sc-ISK**		234750.432		ppb	2.381		222811.296
23	**Na**		37995423.475	**107443.763483**	ppb	4.803	3.226	9226.313
39	**K**		3989958.703	**5431.552929**	ppb	2.703	2.293	39353.021
24	**Mg**		17792552.556	**54816.195617**	ppb	0.593	1.271	106.667
159	**Tb-ISK**	>	260191.971		ppb	1.850		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80229-E-6-A
Autosampler Position: 138
Sample Date/Time: Tuesday, January 04, 2022 12:39:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80229-E-6-A.109
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67426.569		ppb	2.030		65583.535
9	**Be**		24.444	**0.001915**	ppb	39.365	152.319	16.667
10	**B**		282594.450	**302.850574**	ppb	4.338	3.215	1071.151
27	**Al**		210358.843	**9.519998**	ppb	1.947	1.747	21286.189
43	**Ca-2**		8452422.685	**203355.296785**	ppb	1.621	1.072	155.001
49	**Ti**		13593.131	**9.128447**	ppb	1.261	1.848	294.447
52	**Cr**		159102.327	**6.179771**	ppb	1.598	1.361	28235.656
55	**Mn**		21442649.511	**708.183958**	ppb	2.526	1.403	795.578
57	**Fe**		701253.521	**1043.087527**	ppb	2.265	1.226	23649.562
45	**Sc-IS**	>	2426805.971		ppb	1.255		2230846.495
66	**Zn**		6951.691	**0.967893**	ppb	0.762	1.636	3348.170
86	**Sr**		3744455.103	**1129.940557**	ppb	1.758	0.945	39.586
65	**Cu**		7465.286	**1.278687**	ppb	4.308	3.339	191.112
69	**Ga-IS**		761593.098		ppb	1.979		817669.616
95	**Mo**		4875.277	**1.201102**	ppb	3.028	1.893	214.446
115	**In-IS**	>	507257.524		ppb	0.514		511679.033
111	**Cd**		50.873	**0.005093**	ppb	8.159	16.804	27.327
118	**Sn**		2643.578	**0.020614**	ppb	2.522	24.092	2390.200
121	**Sb**		2964.753	**0.189919**	ppb	4.837	5.193	255.558
135	**Ba**		242957.557	**63.837206**	ppb	0.841	1.352	122.223
165	**Ho-IS**		594331.002		ppb	1.145		609307.625
159	**Tb-IS**	>	622725.239		ppb	1.139		623740.956
207	**Pb**		4538.055	**0.102125**	ppb	0.489	1.176	367.780
203	**Tl**		130.001	**0.001623**	ppb	13.568	75.485	107.778
209	**Bi-IS**		193820.691		ppb	1.805		292712.993
51	**V**		483.342	**1.375990**	ppb	3.006	2.830	2.222
59	**Co**		327.782	**0.269989**	ppb	12.877	13.576	10.000
60	**Ni**		2555.785	**1.185753**	ppb	4.783	5.203	55.556
75	**As**		770.336	**0.597676**	ppb	14.278	25.256	337.227
71	**Ga-ISK**		89268.220		ppb	3.125		90530.482
82	**Se-2**		388.784	**5.492754**	ppb	2.106	2.435	7.143
107	**Ag-1**		64.445	**-0.014569**	ppb	30.308	16.555	183.335
115	**In-ISK**	>	129062.080		ppb	0.300		130045.752
45	**Sc-ISK**		240052.733		ppb	1.808		222811.296
23	**Na**		37589830.613	**104515.100621**	ppb	2.027	1.570	9226.313
39	**K**		3964000.599	**5302.448856**	ppb	2.647	2.050	39353.021
24	**Mg**		17637513.450	**53411.540150**	ppb	0.928	1.960	106.667
159	**Tb-ISK**	>	264715.147		ppb	1.588		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80229-E-7-A
Autosampler Position: 139
Sample Date/Time: Tuesday, January 04, 2022 12:42:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80229-E-7-A.110
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68189.027		ppb	0.820		65583.535
9	**Be**		150.001	**0.041911**	ppb	19.752	19.852	16.667
10	**B**		93009.576	**103.293417**	ppb	0.425	2.277	1071.151
27	**Al**		12424080.445	**658.491490**	ppb	1.550	1.116	21286.189
43	**Ca-2**		3359917.709	**84402.896818**	ppb	1.084	1.395	155.001
49	**Ti**		4242.854	**2.824329**	ppb	5.874	4.233	294.447
52	**Cr**		443436.638	**20.801924**	ppb	3.023	1.134	28235.656
55	**Mn**		28153253.696	**970.503465**	ppb	4.467	2.412	795.578
57	**Fe**		4798833.239	**7695.792507**	ppb	3.674	2.402	23649.562
45	**Sc-IS**	>	2324573.414		ppb	2.132		2230846.495
66	**Zn**		4127882.996	**1259.143516**	ppb	2.261	0.527	3348.170
86	**Sr**		1800366.585	**567.220014**	ppb	1.675	0.466	39.586
65	**Cu**		6729958.461	**1238.017304**	ppb	2.902	0.983	191.112
69	**Ga-IS**		808037.604		ppb	2.728		817669.616
95	**Mo**		1016.703	**0.214384**	ppb	4.763	6.638	214.446
115	**In-IS**	>	532877.935		ppb	1.434		511679.033
111	**Cd**		7657.696	**1.555884**	ppb	1.640	0.335	27.327
118	**Sn**		4759.682	**0.162608**	ppb	1.982	4.339	2390.200
121	**Sb**		697.795	**0.028819**	ppb	8.992	16.486	255.558
135	**Ba**		346971.227	**86.798493**	ppb	1.199	1.405	122.223
165	**Ho-IS**		618719.406		ppb	1.378		609307.625
159	**Tb-IS**	>	643051.793		ppb	0.850		623740.956
207	**Pb**		772940.123	**18.316961**	ppb	1.861	1.638	367.780
203	**Tl**		302.225	**0.013445**	ppb	13.966	21.745	107.778
209	**Bi-IS**		273732.304		ppb	1.135		292712.993
51	**V**		117.778	**0.312002**	ppb	22.700	24.123	2.222
59	**Co**		9178.504	**7.345442**	ppb	1.896	1.064	10.000
60	**Ni**		272259.798	**121.766591**	ppb	2.451	1.930	55.556
75	**As**		522.938	**0.217443**	ppb	9.710	27.910	337.227
71	**Ga-ISK**		92686.449		ppb	1.970		90530.482
82	**Se-2**		413.751	**5.516265**	ppb	1.347	2.128	7.143
107	**Ag-1**		242.224	**0.005785**	ppb	4.424	24.928	183.335
115	**In-ISK**	>	136785.362		ppb	1.005		130045.752
45	**Sc-ISK**		240996.934		ppb	4.140		222811.296
23	**Na**		15493656.711	**41250.967177**	ppb	1.942	1.665	9226.313
39	**K**		3358496.976	**4294.319535**	ppb	0.664	2.298	39353.021
24	**Mg**		5759477.084	**16704.868466**	ppb	1.728	1.359	106.667
159	**Tb-ISK**	>	276391.422		ppb	2.751		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80229-F-8-A
Autosampler Position: 140
Sample Date/Time: Tuesday, January 04, 2022 12:45:38
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80229-F-8-A.111
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59783.770		ppb	2.439		65583.535
9	**Be**		22.222	**0.002645**	ppb	52.678	162.388	16.667
10	**B**		2954.750	**2.607673**	ppb	3.054	3.827	1071.151
27	**Al**		64564.574	**2.811641**	ppb	0.518	5.448	21286.189
43	**Ca-2**		3540.439	**99.418817**	ppb	4.183	5.425	155.001
49	**Ti**		475.564	**0.175801**	ppb	11.778	16.758	294.447
52	**Cr**		49568.123	**1.419123**	ppb	3.110	6.961	28235.656
55	**Mn**		22513.301	**0.873994**	ppb	4.088	0.308	795.578
57	**Fe**		31872.190	**20.048779**	ppb	1.871	7.932	23649.562
45	**Sc-IS**	>	1999572.759		ppb	4.274		2230846.495
66	**Zn**		7530.876	**1.607603**	ppb	4.496	1.384	3348.170
86	**Sr**		1373.996	**0.490097**	ppb	5.241	1.012	39.586
65	**Cu**		7244.061	**1.512745**	ppb	4.765	2.136	191.112
69	**Ga-IS**		734678.658		ppb	1.636		817669.616
95	**Mo**		314.448	**0.038446**	ppb	3.060	7.290	214.446
115	**In-IS**	>	539272.784		ppb	0.835		511679.033
111	**Cd**		26.006	**-0.000560**	ppb	12.818	126.962	27.327
118	**Sn**		2372.419	**-0.010388**	ppb	4.704	72.213	2390.200
121	**Sb**		716.685	**0.029490**	ppb	5.364	9.823	255.558
135	**Ba**		1147.824	**0.251996**	ppb	8.719	10.042	122.223
165	**Ho-IS**		613856.384		ppb	1.866		609307.625
159	**Tb-IS**	>	638097.821		ppb	1.326		623740.956
207	**Pb**		1437.807	**0.025353**	ppb	6.443	7.429	367.780
203	**Tl**		256.669	**0.010394**	ppb	8.516	16.715	107.778
209	**Bi-IS**		293715.477		ppb	0.805		292712.993
51	**V**		10.000	**0.020303**	ppb	88.192	116.761	2.222
59	**Co**		31.111	**0.015971**	ppb	40.564	61.100	10.000
60	**Ni**		2367.974	**1.013175**	ppb	0.494	0.739	55.556
75	**As**		444.102	**0.104879**	ppb	3.099	18.031	337.227
71	**Ga-ISK**		93786.895		ppb	1.450		90530.482
82	**Se-2**		20.117	**0.164821**	ppb	69.675	112.009	7.143
107	**Ag-1**		221.113	**0.002804**	ppb	10.695	89.088	183.335
115	**In-ISK**	>	139425.180		ppb	0.948		130045.752
45	**Sc-ISK**		229134.175		ppb	0.902		222811.296
23	**Na**		76764.087	**182.164415**	ppb	2.112	2.918	9226.313
39	**K**		48425.273	**9.544693**	ppb	0.820	4.231	39353.021
24	**Mg**		8058.942	**23.488833**	ppb	4.287	4.886	106.667
159	**Tb-ISK**	>	271233.534		ppb	1.132		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80323-G-1-A
Autosampler Position: 141
Sample Date/Time: Tuesday, January 04, 2022 12:48:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80323-G-1-A.112
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70758.190		ppb	2.167		65583.535
9	**Be**		15.556	**-0.000766**	ppb	32.733	202.676	16.667
10	**B**		271786.965	**292.531337**	ppb	1.518	0.990	1071.151
27	**Al**		148474.081	**6.405557**	ppb	1.868	2.495	21286.189
43	**Ca-2**		8331431.527	**201283.440640**	ppb	2.281	1.405	155.001
49	**Ti**		9605.451	**6.415255**	ppb	0.948	2.986	294.447
52	**Cr**		207829.762	**8.570097**	ppb	0.529	2.888	28235.656
55	**Mn**		25541462.684	**847.366916**	ppb	0.440	1.941	795.578
57	**Fe**		578613.020	**857.733338**	ppb	0.324	2.053	23649.562
45	**Sc-IS**	>	2416833.545		ppb	2.278		2230846.495
66	**Zn**		16115.752	**3.668493**	ppb	0.428	2.504	3348.170
86	**Sr**		4192544.980	**1270.952993**	ppb	0.749	2.875	39.586
65	**Cu**		55699.497	**9.821292**	ppb	1.292	1.137	191.112
69	**Ga-IS**		734903.053		ppb	1.297		817669.616
95	**Mo**		6572.623	**1.647901**	ppb	1.648	2.012	214.446
115	**In-IS**	>	501804.342		ppb	0.524		511679.033
111	**Cd**		545.097	**0.112276**	ppb	16.193	17.212	27.327
118	**Sn**		3463.753	**0.085161**	ppb	1.494	6.244	2390.200
121	**Sb**		8561.454	**0.588462**	ppb	1.207	0.961	255.558
135	**Ba**		126578.301	**33.604185**	ppb	0.237	0.759	122.223
165	**Ho-IS**		593305.523		ppb	0.514		609307.625
159	**Tb-IS**	>	616409.172		ppb	1.742		623740.956
207	**Pb**		7507.459	**0.176713**	ppb	1.227	0.656	367.780
203	**Tl**		158.890	**0.003865**	ppb	13.969	46.702	107.778
209	**Bi-IS**		241400.327		ppb	0.570		292712.993
51	**V**		898.917	**2.603916**	ppb	3.446	4.464	2.222
59	**Co**		1741.217	**1.492872**	ppb	1.769	3.484	10.000
60	**Ni**		5961.244	**2.843171**	ppb	2.042	2.923	55.556
75	**As**		1042.396	**0.992408**	ppb	4.886	7.227	337.227
71	**Ga-ISK**		86901.409		ppb	2.602		90530.482
82	**Se-2**		637.142	**9.206847**	ppb	1.718	3.452	7.143
107	**Ag-1**		202.224	**0.002929**	ppb	15.580	147.110	183.335
115	**In-ISK**	>	127162.116		ppb	1.681		130045.752
45	**Sc-ISK**		234920.455		ppb	1.250		222811.296
23	**Na**		43095891.822	**118138.980527**	ppb	0.524	1.509	9226.313
39	**K**		4237021.429	**5590.891855**	ppb	2.669	2.983	39353.021
24	**Mg**		18323965.018	**54697.977483**	ppb	1.120	1.500	106.667
159	**Tb-ISK**	>	268518.926		ppb	1.023		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80323-E-3-A
Autosampler Position: 142
Sample Date/Time: Tuesday, January 04, 2022 12:51:58
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80323-E-3-A.113
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		71577.851		ppb	2.779		65583.535
9	**Be**		23.333	**0.001583**	ppb	24.744	104.630	16.667
10	**B**		276217.261	**296.825907**	ppb	1.198	1.406	1071.151
27	**Al**		1253077.461	**62.717830**	ppb	1.580	2.525	21286.189
43	**Ca-2**		7501592.074	**180937.031511**	ppb	1.069	0.416	155.001
49	**Ti**		13282.872	**8.943990**	ppb	8.984	10.377	294.447
52	**Cr**		455382.982	**20.494370**	ppb	2.136	0.889	28235.656
55	**Mn**		125622.711	**4.130366**	ppb	3.957	2.655	795.578
57	**Fe**		466541.536	**682.455147**	ppb	2.719	1.681	23649.562
45	**Sc-IS**	>	2420721.836		ppb	1.348		2230846.495
66	**Zn**		7603.134	**1.164454**	ppb	1.963	6.013	3348.170
86	**Sr**		3758742.320	**1137.073794**	ppb	1.863	0.526	39.586
65	**Cu**		8311.306	**1.431869**	ppb	1.633	1.939	191.112
69	**Ga-IS**		750836.195		ppb	0.128		817669.616
95	**Mo**		6133.542	**1.530473**	ppb	5.743	5.058	214.446
115	**In-IS**	>	515278.818		ppb	1.874		511679.033
111	**Cd**		38.231	**0.002270**	ppb	36.855	133.894	27.327
118	**Sn**		1836.785	**-0.042152**	ppb	2.573	14.227	2390.200
121	**Sb**		1365.621	**0.076426**	ppb	1.662	1.068	255.558
135	**Ba**		135818.200	**35.118578**	ppb	1.271	1.155	122.223
165	**Ho-IS**		611412.595		ppb	1.859		609307.625
159	**Tb-IS**	>	640505.608		ppb	2.114		623740.956
207	**Pb**		7589.681	**0.171791**	ppb	2.556	4.904	367.780
203	**Tl**		152.223	**0.002919**	ppb	14.078	44.305	107.778
209	**Bi-IS**		255098.690		ppb	0.815		292712.993
51	**V**		1436.739	**4.021665**	ppb	5.316	5.470	2.222
59	**Co**		183.335	**0.143496**	ppb	23.845	22.503	10.000
60	**Ni**		2354.639	**1.066881**	ppb	7.081	4.176	55.556
75	**As**		1152.313	**1.085032**	ppb	18.798	23.015	337.227
71	**Ga-ISK**		88908.137		ppb	2.450		90530.482
82	**Se-2**		1200.193	**16.831770**	ppb	1.791	3.600	7.143
107	**Ag-1**		456.674	**0.032915**	ppb	5.794	7.539	183.335
115	**In-ISK**	>	131714.360		ppb	3.149		130045.752
45	**Sc-ISK**		243180.615		ppb	3.479		222811.296
23	**Na**		37622026.653	**103072.376467**	ppb	4.004	2.966	9226.313
39	**K**		4126712.529	**5441.685748**	ppb	2.858	2.288	39353.021
24	**Mg**		17363464.667	**51810.272489**	ppb	2.384	1.524	106.667
159	**Tb-ISK**	>	268590.321		ppb	1.218		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80323-E-4-A
Autosampler Position: 143
Sample Date/Time: Tuesday, January 04, 2022 12:55:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80323-E-4-A.114
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70187.576		ppb	1.406		65583.535
9	**Be**		31.111	**0.003736**	ppb	34.442	77.745	16.667
10	**B**		277347.995	**292.566564**	ppb	1.693	1.754	1071.151
27	**Al**		1752926.585	**86.545382**	ppb	2.792	1.779	21286.189
43	**Ca-2**		7638368.568	**180853.941860**	ppb	2.103	1.260	155.001
49	**Ti**		14179.288	**9.364833**	ppb	8.348	5.709	294.447
52	**Cr**		437250.021	**19.237506**	ppb	1.003	1.875	28235.656
55	**Mn**		167265.225	**5.409163**	ppb	3.046	2.996	795.578
57	**Fe**		482384.020	**693.643854**	ppb	1.763	3.615	23649.562
45	**Sc-IS**	>	2466313.790		ppb	2.772		2230846.495
66	**Zn**		8505.866	**1.383344**	ppb	2.149	5.091	3348.170
86	**Sr**		3822626.629	**1135.308285**	ppb	1.928	1.518	39.586
65	**Cu**		9428.667	**1.599463**	ppb	2.666	4.566	191.112
69	**Ga-IS**		739368.473		ppb	2.571		817669.616
95	**Mo**		6802.732	**1.671694**	ppb	3.481	1.129	214.446
115	**In-IS**	>	503066.596		ppb	0.825		511679.033
111	**Cd**		31.270	**0.000938**	ppb	46.552	331.968	27.327
118	**Sn**		2079.041	**-0.020480**	ppb	7.970	67.499	2390.200
121	**Sb**		1331.173	**0.076279**	ppb	1.424	2.040	255.558
135	**Ba**		135694.860	**35.939062**	ppb	1.645	2.264	122.223
165	**Ho-IS**		599842.249		ppb	0.254		609307.625
159	**Tb-IS**	>	632169.886		ppb	1.881		623740.956
207	**Pb**		9504.589	**0.220219**	ppb	2.544	0.723	367.780
203	**Tl**		177.779	**0.004903**	ppb	8.455	20.197	107.778
209	**Bi-IS**		252923.888		ppb	0.917		292712.993
51	**V**		1446.740	**4.073632**	ppb	4.855	5.866	2.222
59	**Co**		252.224	**0.202853**	ppb	10.600	12.086	10.000
60	**Ni**		2512.443	**1.148232**	ppb	1.806	2.868	55.556
75	**As**		1203.159	**1.168318**	ppb	6.811	10.360	337.227
71	**Ga-ISK**		89306.143		ppb	2.208		90530.482
82	**Se-2**		1155.533	**16.288552**	ppb	0.266	0.907	7.143
107	**Ag-1**		591.123	**0.049643**	ppb	9.168	11.973	183.335
115	**In-ISK**	>	130937.931		ppb	0.994		130045.752
45	**Sc-ISK**		244754.545		ppb	3.018		222811.296
23	**Na**		37365312.680	**100624.751548**	ppb	1.257	1.461	9226.313
39	**K**		4175603.478	**5410.831397**	ppb	1.494	0.503	39353.021
24	**Mg**		17443464.104	**51151.648846**	ppb	1.424	0.411	106.667
159	**Tb-ISK**	>	273315.351		ppb	1.206		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 12:58:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.115
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61512.227		ppb	3.013		65583.535
9	**Be**		308312.610	**106.579462**	ppb	3.241	1.202	16.667
10	**B**		220039.278	**268.428750**	ppb	5.368	2.992	1071.151
27	**Al**		1755154.991	**100.494826**	ppb	3.012	1.176	21286.189
43	**Ca-2**		181606.467	**4972.059043**	ppb	3.805	0.847	155.001
49	**Ti**		127749.966	**99.863019**	ppb	2.284	0.972	294.447
52	**Cr**		1843072.214	**99.616296**	ppb	1.387	2.518	28235.656
55	**Mn**		2636415.818	**99.202576**	ppb	1.483	2.106	795.578
57	**Fe**		2965991.629	**5178.713191**	ppb	1.795	1.470	23649.562
45	**Sc-IS**	>	2130636.196		ppb	3.221		2230846.495
66	**Zn**		305520.022	**100.735802**	ppb	2.104	2.249	3348.170
86	**Sr**		363970.891	**125.167437**	ppb	2.346	3.662	39.586
65	**Cu**		513654.498	**103.087058**	ppb	2.323	0.908	191.112
69	**Ga-IS**		851774.639		ppb	1.165		817669.616
95	**Mo**		433568.915	**127.805096**	ppb	2.362	3.321	214.446
115	**In-IS**	>	557146.096		ppb	2.245		511679.033
111	**Cd**		498600.845	**97.287769**	ppb	1.132	2.822	27.327
118	**Sn**		1457859.511	**99.696955**	ppb	0.539	1.999	2390.200
121	**Sb**		1535431.422	**97.913721**	ppb	1.523	0.748	255.558
135	**Ba**		431564.251	**103.275482**	ppb	0.927	1.328	122.223
165	**Ho-IS**		631547.311		ppb	0.756		609307.625
159	**Tb-IS**	>	664243.404		ppb	1.287		623740.956
207	**Pb**		4305502.740	**98.834232**	ppb	1.407	2.464	367.780
203	**Tl**		1461493.911	**99.564621**	ppb	0.996	1.928	107.778
209	**Bi-IS**		294781.798		ppb	1.381		292712.993
51	**V**		40012.659	**102.133886**	ppb	3.066	3.502	2.222
59	**Co**		138383.228	**104.864338**	ppb	3.860	3.633	10.000
60	**Ni**		218293.280	**92.355985**	ppb	1.743	2.605	55.556
75	**As**		78604.424	**95.787030**	ppb	3.271	3.739	337.227
71	**Ga-ISK**		96246.620		ppb	2.695		90530.482
82	**Se-2**		7514.096	**96.405390**	ppb	2.613	3.034	7.143
107	**Ag-1**		874931.975	**96.782187**	ppb	1.385	0.461	183.335
115	**In-ISK**	>	144616.537		ppb	1.083		130045.752
45	**Sc-ISK**		239960.435		ppb	2.430		222811.296
23	**Na**		1774311.911	**4556.859315**	ppb	2.599	2.111	9226.313
39	**K**		4018133.590	**4989.441963**	ppb	1.722	1.729	39353.021
24	**Mg**		1685253.981	**4738.853177**	ppb	2.422	1.806	106.667
159	**Tb-ISK**	>	284995.564		ppb	1.008		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message
Sr	86	
Mo	95	
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 13:01:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.116
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58381.286		ppb	1.332		65583.535
9	**Be**		46.667	**0.012236**	ppb	32.733	44.800	16.667
10	**B**		2472.436	**2.092530**	ppb	0.433	4.389	1071.151
27	**Al**		20513.388	**0.134525**	ppb	1.930	38.316	21286.189
43	**Ca-2**		593.346	**13.892511**	ppb	1.946	3.046	155.001
49	**Ti**		367.783	**0.097722**	ppb	9.520	31.548	294.447
52	**Cr**		29763.207	**0.322468**	ppb	2.418	6.731	28235.656
55	**Mn**		1471.187	**0.032477**	ppb	6.541	9.850	795.578
57	**Fe**		27513.139	**13.690291**	ppb	1.456	6.375	23649.562
45	**Sc-IS**	>	1930812.696		ppb	3.102		2230846.495
66	**Zn**		3301.493	**0.149243**	ppb	2.575	35.711	3348.170
86	**Sr**		310.577	**0.105435**	ppb	24.267	29.930	39.586
65	**Cu**		598.901	**0.096189**	ppb	4.103	9.352	191.112
69	**Ga-IS**		725517.794		ppb	0.873		817669.616
95	**Mo**		1707.880	**0.495743**	ppb	2.254	5.886	214.446
115	**In-IS**	>	532786.221		ppb	0.777		511679.033
111	**Cd**		94.192	**0.013383**	ppb	26.143	36.549	27.327
118	**Sn**		6133.539	**0.261050**	ppb	2.308	4.017	2390.200
121	**Sb**		772.243	**0.033747**	ppb	5.186	7.136	255.558
135	**Ba**		112.223	**-0.003764**	ppb	4.537	34.141	122.223
165	**Ho-IS**		610172.874		ppb	1.176		609307.625
159	**Tb-IS**	>	635872.038		ppb	1.817		623740.956
207	**Pb**		1064.460	**0.016519**	ppb	6.428	7.084	367.780
203	**Tl**		477.786	**0.026160**	ppb	13.784	17.082	107.778
209	**Bi-IS**		290631.039		ppb	0.457		292712.993
51	**V**		16.667	**0.037507**	ppb	52.915	60.572	2.222
59	**Co**		42.222	**0.024721**	ppb	29.889	42.238	10.000
60	**Ni**		118.889	**0.025788**	ppb	10.615	19.599	55.556
75	**As**		472.948	**0.139234**	ppb	5.968	30.797	337.227
71	**Ga-ISK**		90623.283		ppb	2.112		90530.482
82	**Se-2**		20.809	**0.173835**	ppb	9.630	13.751	7.143
107	**Ag-1**		3419.298	**0.368137**	ppb	3.494	3.000	183.335
115	**In-ISK**	>	140028.786		ppb	1.478		130045.752
45	**Sc-ISK**		222901.314		ppb	1.471		222811.296
23	**Na**		15101.317	**14.442006**	ppb	3.358	12.539	9226.313
39	**K**		42496.456	**1.245945**	ppb	1.372	11.923	39353.021
24	**Mg**		2836.951	**7.989685**	ppb	12.060	13.658	106.667
159	**Tb-ISK**	>	273558.603		ppb	1.195		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 13:04:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.117
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59859.707		ppb	3.687		65583.535
9	**Be**		27.778	**0.004782**	ppb	48.497	99.334	16.667
10	**B**		2176.833	**1.629495**	ppb	5.623	6.312	1071.151
27	**Al**		32164.840	**0.836867**	ppb	1.338	4.107	21286.189
43	**Ca-2**		413.339	**8.199983**	ppb	4.248	9.628	155.001
49	**Ti**		355.560	**0.080216**	ppb	12.091	33.925	294.447
52	**Cr**		28666.512	**0.221223**	ppb	0.909	22.653	28235.656
55	**Mn**		2263.513	**0.063576**	ppb	3.482	9.312	795.578
57	**Fe**		28338.083	**14.169460**	ppb	1.548	9.460	23649.562
45	**Sc-IS**	>	1971223.670		ppb	3.047		2230846.495
66	**Zn**		2722.482	**-0.084096**	ppb	1.875	53.962	3348.170
86	**Sr**		161.185	**0.047306**	ppb	45.100	58.866	39.586
65	**Cu**		565.567	**0.085971**	ppb	7.827	7.466	191.112
69	**Ga-IS**		742795.641		ppb	0.676		817669.616
95	**Mo**		1185.605	**0.317998**	ppb	6.855	11.046	214.446
115	**In-IS**	>	555129.996		ppb	1.695		511679.033
111	**Cd**		29.732	**0.000004**	ppb	22.873	29622.961	27.327
118	**Sn**		7162.910	**0.313923**	ppb	5.251	5.718	2390.200
121	**Sb**		872.249	**0.038045**	ppb	9.030	11.342	255.558
135	**Ba**		174.446	**0.010075**	ppb	13.823	59.673	122.223
165	**Ho-IS**		621649.233		ppb	1.785		609307.625
159	**Tb-IS**	>	653582.623		ppb	3.692		623740.956
207	**Pb**		753.342	**0.008620**	ppb	5.786	18.202	367.780
203	**Tl**		262.225	**0.010398**	ppb	10.275	24.262	107.778
209	**Bi-IS**		293958.201		ppb	0.895		292712.993
51	**V**		2.222	**-0.000476**	ppb	173.205	2120.729	2.222
59	**Co**		23.333	**0.009827**	ppb	24.744	46.516	10.000
60	**Ni**		311.115	**0.109723**	ppb	9.722	12.430	55.556
75	**As**		451.015	**0.110680**	ppb	3.847	21.464	337.227
71	**Ga-ISK**		93217.601		ppb	0.799		90530.482
82	**Se-2**		16.820	**0.120860**	ppb	21.494	39.603	7.143
107	**Ag-1**		2209.060	**0.229636**	ppb	6.049	6.540	183.335
115	**In-ISK**	>	140154.397		ppb	0.341		130045.752
45	**Sc-ISK**		227184.988		ppb	2.183		222811.296
23	**Na**		10900.824	**2.577171**	ppb	0.478	12.620	9226.313
39	**K**		41073.409	**-1.612312**	ppb	0.907	67.137	39353.021
24	**Mg**		936.698	**2.360421**	ppb	12.737	13.023	106.667
159	**Tb-ISK**	>	278786.990		ppb	1.376		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80323-E-5-A
Autosampler Position: 144
Sample Date/Time: Tuesday, January 04, 2022 13:07:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80323-E-5-A.118
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64789.924		ppb	0.503		65583.535
9	**Be**		36.667	**0.005534**	ppb	39.626	82.048	16.667
10	**B**		296629.824	**314.107946**	ppb	3.045	1.640	1071.151
27	**Al**		491234.319	**23.509317**	ppb	2.310	3.940	21286.189
43	**Ca-2**		8723259.780	**207322.368059**	ppb	1.892	1.028	155.001
49	**Ti**		13239.467	**8.773481**	ppb	1.798	0.158	294.447
52	**Cr**		168037.085	**6.511683**	ppb	1.485	0.454	28235.656
55	**Mn**		89050779.441	**2905.751084**	ppb	1.586	0.585	795.578
57	**Fe**		1236187.281	**1846.217621**	ppb	2.051	2.171	23649.562
45	**Sc-IS**	>	2456653.816		ppb	1.655		2230846.495
66	**Zn**		9867.852	**1.785639**	ppb	1.400	1.231	3348.170
86	**Sr**		3848582.895	**1147.302066**	ppb	2.268	1.757	39.586
65	**Cu**		21989.510	**3.803913**	ppb	48.060	49.816	191.112
69	**Ga-IS**		731558.442		ppb	2.048		817669.616
95	**Mo**		3604.900	**0.860988**	ppb	5.268	4.543	214.446
115	**In-IS**	>	512852.920		ppb	1.182		511679.033
111	**Cd**		51.319	**0.005085**	ppb	15.593	35.804	27.327
118	**Sn**		2139.049	**-0.019105**	ppb	3.514	24.798	2390.200
121	**Sb**		7564.225	**0.506403**	ppb	1.510	2.489	255.558
135	**Ba**		142740.999	**37.079349**	ppb	2.565	1.948	122.223
165	**Ho-IS**		604867.401		ppb	3.696		609307.625
159	**Tb-IS**	>	633467.247		ppb	3.958		623740.956
207	**Pb**		7741.940	**0.177489**	ppb	1.457	3.311	367.780
203	**Tl**		181.112	**0.005154**	ppb	18.800	52.180	107.778
209	**Bi-IS**		231795.492		ppb	0.926		292712.993
51	**V**		710.018	**2.033090**	ppb	2.614	3.078	2.222
59	**Co**		4398.456	**3.744485**	ppb	5.003	6.332	10.000
60	**Ni**		3907.202	**1.832951**	ppb	5.576	3.421	55.556
75	**As**		12009.234	**16.084405**	ppb	1.875	1.619	337.227
71	**Ga-ISK**		86551.568		ppb	3.122		90530.482
82	**Se-2**		148.128	**2.037604**	ppb	3.719	1.042	7.143
107	**Ag-1**		152.223	**-0.003513**	ppb	24.121	146.605	183.335
115	**In-ISK**	>	128555.206		ppb	2.909		130045.752
45	**Sc-ISK**		233100.896		ppb	3.103		222811.296
23	**Na**		38781926.740	**108848.758149**	ppb	3.137	2.071	9226.313
39	**K**		3313535.385	**4465.106861**	ppb	3.944	2.211	39353.021
24	**Mg**		17293854.768	**52852.688811**	ppb	2.954	0.783	106.667
159	**Tb-ISK**	>	262231.789		ppb	2.381		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80323-E-6-A
Autosampler Position: 145
Sample Date/Time: Tuesday, January 04, 2022 13:11:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80323-E-6-A.119
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		72897.848		ppb	2.932		65583.535
9	**Be**		28.889	**0.003190**	ppb	17.625	44.003	16.667
10	**B**		272644.514	**290.169097**	ppb	2.058	0.824	1071.151
27	**Al**		653026.935	**31.803675**	ppb	1.431	1.293	21286.189
43	**Ca-2**		8668674.139	**207118.003426**	ppb	1.563	0.673	155.001
49	**Ti**		9724.421	**6.423115**	ppb	2.123	3.673	294.447
52	**Cr**		772305.745	**35.442732**	ppb	0.507	1.222	28235.656
55	**Mn**		1358021.190	**44.517149**	ppb	1.965	0.758	795.578
57	**Fe**		509148.916	**741.159897**	ppb	0.566	1.142	23649.562
45	**Sc-IS**	>	2443713.096		ppb	1.587		2230846.495
66	**Zn**		11718.143	**2.337128**	ppb	4.278	4.219	3348.170
86	**Sr**		4222294.038	**1265.432613**	ppb	1.005	0.722	39.586
65	**Cu**		9001.726	**1.538569**	ppb	2.983	1.728	191.112
69	**Ga-IS**		736514.232		ppb	1.355		817669.616
95	**Mo**		5537.740	**1.363049**	ppb	1.520	2.334	214.446
115	**In-IS**	>	510387.851		ppb	0.700		511679.033
111	**Cd**		97.260	**0.014919**	ppb	16.062	23.139	27.327
118	**Sn**		2361.307	**-0.001692**	ppb	5.952	643.444	2390.200
121	**Sb**		1518.970	**0.088000**	ppb	1.867	2.169	255.558
135	**Ba**		141159.772	**36.848622**	ppb	2.253	2.416	122.223
165	**Ho-IS**		606879.256		ppb	1.702		609307.625
159	**Tb-IS**	>	632296.501		ppb	1.043		623740.956
207	**Pb**		5802.690	**0.130947**	ppb	2.920	3.613	367.780
203	**Tl**		126.667	**0.001258**	ppb	18.421	139.466	107.778
209	**Bi-IS**		243768.901		ppb	0.323		292712.993
51	**V**		1368.955	**3.817584**	ppb	10.959	11.367	2.222
59	**Co**		452.229	**0.366608**	ppb	5.230	5.853	10.000
60	**Ni**		2989.202	**1.357767**	ppb	1.030	1.680	55.556
75	**As**		1074.500	**0.979615**	ppb	13.842	19.788	337.227
71	**Ga-ISK**		89913.231		ppb	1.702		90530.482
82	**Se-2**		988.484	**13.784465**	ppb	6.844	6.573	7.143
107	**Ag-1**		403.339	**0.026278**	ppb	3.787	8.458	183.335
115	**In-ISK**	>	132182.926		ppb	0.754		130045.752
45	**Sc-ISK**		246543.114		ppb	2.009		222811.296
23	**Na**		46632575.914	**127615.789914**	ppb	1.900	4.055	9226.313
39	**K**		4521856.411	**5958.231601**	ppb	1.505	2.502	39353.021
24	**Mg**		18969241.862	**56498.005038**	ppb	2.278	1.479	106.667
159	**Tb-ISK**	>	269122.886		ppb	2.373		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80323-F-7-A
Autosampler Position: 146
Sample Date/Time: Tuesday, January 04, 2022 13:14:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80323-F-7-A.120
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64769.840		ppb	0.962		65583.535
9	**Be**		26.667	**0.003991**	ppb	57.282	139.694	16.667
10	**B**		3341.502	**2.942069**	ppb	3.280	5.778	1071.151
27	**Al**		74725.665	**3.256092**	ppb	2.341	4.630	21286.189
43	**Ca-2**		5045.893	**137.482721**	ppb	5.868	4.419	155.001
49	**Ti**		488.897	**0.172261**	ppb	6.864	19.747	294.447
52	**Cr**		54752.518	**1.596064**	ppb	1.553	4.474	28235.656
55	**Mn**		10041.309	**0.358176**	ppb	3.890	2.269	795.578
57	**Fe**		32011.386	**17.934208**	ppb	1.443	4.232	23649.562
45	**Sc-IS**	>	2080817.461		ppb	2.371		2230846.495
66	**Zn**		2588.012	**-0.181938**	ppb	1.341	18.204	3348.170
86	**Sr**		1978.017	**0.683930**	ppb	4.785	7.273	39.586
65	**Cu**		1212.274	**0.212574**	ppb	1.111	1.555	191.112
69	**Ga-IS**		729427.010		ppb	4.965		817669.616
95	**Mo**		437.784	**0.071854**	ppb	2.674	8.872	214.446
115	**In-IS**	>	527118.158		ppb	1.020		511679.033
111	**Cd**		17.970	**-0.002093**	ppb	56.637	101.678	27.327
118	**Sn**		1565.642	**-0.064952**	ppb	8.109	12.841	2390.200
121	**Sb**		691.128	**0.028866**	ppb	7.028	12.934	255.558
135	**Ba**		1054.483	**0.234989**	ppb	6.527	8.216	122.223
165	**Ho-IS**		607207.184		ppb	2.371		609307.625
159	**Tb-IS**	>	639906.877		ppb	1.617		623740.956
207	**Pb**		836.676	**0.010955**	ppb	3.261	8.730	367.780
203	**Tl**		253.336	**0.010098**	ppb	5.263	9.937	107.778
209	**Bi-IS**		292914.996		ppb	1.193		292712.993
51	**V**		16.667	**0.036888**	ppb	20.000	23.438	2.222
59	**Co**		15.556	**0.003541**	ppb	12.372	40.064	10.000
60	**Ni**		74.445	**0.005841**	ppb	9.321	47.574	55.556
75	**As**		427.675	**0.072864**	ppb	6.777	54.030	337.227
71	**Ga-ISK**		96412.056		ppb	1.323		90530.482
82	**Se-2**		18.466	**0.138456**	ppb	62.508	109.535	7.143
107	**Ag-1**		470.008	**0.030368**	ppb	11.079	23.094	183.335
115	**In-ISK**	>	142399.276		ppb	2.431		130045.752
45	**Sc-ISK**		235819.604		ppb	1.454		222811.296
23	**Na**		88421.150	**203.315354**	ppb	1.065	1.404	9226.313
39	**K**		49609.338	**8.246479**	ppb	1.658	7.889	39353.021
24	**Mg**		12727.342	**35.646349**	ppb	4.831	5.524	106.667
159	**Tb-ISK**	>	283609.621		ppb	0.687		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 13:17:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.121
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60973.206		ppb	1.844		65583.535
9	**Be**		305860.198	**111.907302**	ppb	1.702	1.187	16.667
10	**B**		218967.698	**282.923861**	ppb	0.951	1.763	1071.151
27	**Al**		1720529.037	**104.308932**	ppb	1.860	1.747	21286.189
43	**Ca-2**		176653.950	**5120.148159**	ppb	1.164	1.195	155.001
49	**Ti**		121727.620	**100.708128**	ppb	1.651	1.995	294.447
52	**Cr**		1779647.813	**101.778689**	ppb	2.428	0.262	28235.656
55	**Mn**		2560756.851	**101.935448**	ppb	2.274	0.685	795.578
57	**Fe**		2881271.318	**5324.063753**	ppb	1.800	0.493	23649.562
45	**Sc-IS**	>	2013202.519		ppb	2.256		2230846.495
66	**Zn**		291527.409	**101.720441**	ppb	1.828	1.942	3348.170
86	**Sr**		364175.049	**132.475431**	ppb	1.646	0.609	39.586
65	**Cu**		499121.063	**106.009724**	ppb	1.650	1.482	191.112
69	**Ga-IS**		809118.356		ppb	1.336		817669.616
95	**Mo**		437525.511	**136.416705**	ppb	2.752	0.491	214.446
115	**In-IS**	>	553659.924		ppb	1.662		511679.033
111	**Cd**		492591.086	**96.696724**	ppb	0.754	1.471	27.327
118	**Sn**		1421493.521	**97.792613**	ppb	2.248	1.763	2390.200
121	**Sb**		1527176.753	**97.990503**	ppb	1.708	0.625	255.558
135	**Ba**		437999.659	**105.457391**	ppb	1.493	0.307	122.223
165	**Ho-IS**		631796.658		ppb	0.573		609307.625
159	**Tb-IS**	>	660915.491		ppb	0.793		623740.956
207	**Pb**		4304825.401	**99.305732**	ppb	0.826	1.609	367.780
203	**Tl**		1464288.711	**100.246146**	ppb	0.152	0.655	107.778
209	**Bi-IS**		291866.964		ppb	0.436		292712.993
51	**V**		38490.677	**100.521115**	ppb	1.135	2.635	2.222
59	**Co**		135035.214	**104.733916**	ppb	0.436	3.578	10.000
60	**Ni**		215601.521	**93.324403**	ppb	0.966	2.584	55.556
75	**As**		77454.318	**96.543233**	ppb	2.276	1.502	337.227
71	**Ga-ISK**		92773.666		ppb	1.799		90530.482
82	**Se-2**		7454.084	**97.810926**	ppb	2.601	0.594	7.143
107	**Ag-1**		857021.636	**96.987782**	ppb	2.654	2.574	183.335
115	**In-ISK**	>	141403.803		ppb	3.203		130045.752
45	**Sc-ISK**		232641.381		ppb	1.236		222811.296
23	**Na**		1715907.963	**4411.221569**	ppb	2.442	2.371	9226.313
39	**K**		4079534.154	**5071.043229**	ppb	3.457	2.243	39353.021
24	**Mg**		1677349.384	**4721.090120**	ppb	3.937	2.778	106.667
159	**Tb-ISK**	>	284683.533		ppb	1.249		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message
Be	9	
B	10	
Sr	86	
Mo	95	
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 13:20:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.122
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58316.638		ppb	3.061		65583.535
9	**Be**		56.667	**0.016248**	ppb	38.573	51.432	16.667
10	**B**		2301.297	**1.886122**	ppb	3.728	1.017	1071.151
27	**Al**		20869.239	**0.168852**	ppb	2.642	30.591	21286.189
43	**Ca-2**		493.342	**11.036410**	ppb	14.056	22.409	155.001
49	**Ti**		347.782	**0.083620**	ppb	5.279	32.441	294.447
52	**Cr**		28023.024	**0.232462**	ppb	2.391	20.544	28235.656
55	**Mn**		2195.724	**0.063496**	ppb	2.254	8.597	795.578
57	**Fe**		26974.337	**13.109416**	ppb	1.796	9.999	23649.562
45	**Sc-IS**	>	1914339.957		ppb	3.953		2230846.495
66	**Zn**		3250.370	**0.140945**	ppb	1.421	31.990	3348.170
86	**Sr**		196.042	**0.062342**	ppb	19.188	26.875	39.586
65	**Cu**		598.901	**0.097273**	ppb	2.249	5.373	191.112
69	**Ga-IS**		721667.706		ppb	1.319		817669.616
95	**Mo**		1801.225	**0.531397**	ppb	2.513	6.507	214.446
115	**In-IS**	>	533478.131		ppb	0.350		511679.033
111	**Cd**		91.773	**0.012878**	ppb	31.217	44.768	27.327
118	**Sn**		5937.903	**0.246486**	ppb	5.149	9.038	2390.200
121	**Sb**		773.354	**0.033768**	ppb	5.926	9.464	255.558
135	**Ba**		155.556	**0.007028**	ppb	6.888	37.421	122.223
165	**Ho-IS**		605329.981		ppb	1.698		609307.625
159	**Tb-IS**	>	641652.039		ppb	0.861		623740.956
207	**Pb**		1046.682	**0.015882**	ppb	8.669	13.746	367.780
203	**Tl**		454.452	**0.024231**	ppb	1.527	2.449	107.778
209	**Bi-IS**		293529.420		ppb	0.544		292712.993
51	**V**		15.556	**0.035496**	ppb	24.744	28.117	2.222
59	**Co**		46.667	**0.028862**	ppb	7.143	9.500	10.000
60	**Ni**		140.001	**0.036420**	ppb	18.596	34.491	55.556
75	**As**		435.824	**0.102837**	ppb	11.597	56.627	337.227
71	**Ga-ISK**		91694.792		ppb	4.210		90530.482
82	**Se-2**		21.164	**0.183361**	ppb	49.669	75.904	7.143
107	**Ag-1**		3320.386	**0.364784**	ppb	1.978	2.741	183.335
115	**In-ISK**	>	137185.982		ppb	1.364		130045.752
45	**Sc-ISK**		222914.763		ppb	1.163		222811.296
23	**Na**		12336.992	**6.902343**	ppb	0.945	9.100	9226.313
39	**K**		41803.309	**0.188967**	ppb	1.799	361.628	39353.021
24	**Mg**		1496.745	**4.043044**	ppb	7.413	7.762	106.667
159	**Tb-ISK**	>	274310.732		ppb	0.948		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 13:23:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.123
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60342.910		ppb	4.606		65583.535
9	**Be**		28.889	**0.005224**	ppb	6.662	12.794	16.667
10	**B**		2100.155	**1.513047**	ppb	6.101	13.018	1071.151
27	**Al**		31954.374	**0.810657**	ppb	1.982	2.397	21286.189
43	**Ca-2**		380.005	**7.112574**	ppb	12.060	15.553	155.001
49	**Ti**		377.783	**0.097770**	ppb	11.750	40.515	294.447
52	**Cr**		27401.825	**0.135044**	ppb	2.871	8.340	28235.656
55	**Mn**		2593.569	**0.076165**	ppb	5.387	3.642	795.578
57	**Fe**		27808.161	**12.807665**	ppb	2.442	1.963	23649.562
45	**Sc-IS**	>	1983785.144		ppb	2.835		2230846.495
66	**Zn**		2664.693	**-0.111488**	ppb	2.427	26.610	3348.170
86	**Sr**		176.242	**0.051824**	ppb	24.305	26.787	39.586
65	**Cu**		517.787	**0.075024**	ppb	2.974	4.829	191.112
69	**Ga-IS**		740893.284		ppb	2.358		817669.616
95	**Mo**		1148.935	**0.303546**	ppb	1.749	3.902	214.446
115	**In-IS**	>	552380.232		ppb	1.291		511679.033
111	**Cd**		33.143	**0.000727**	ppb	40.771	373.551	27.327
118	**Sn**		6818.295	**0.292864**	ppb	3.316	6.528	2390.200
121	**Sb**		752.242	**0.030672**	ppb	6.457	12.113	255.558
135	**Ba**		183.335	**0.012377**	ppb	12.727	42.254	122.223
165	**Ho-IS**		626227.875		ppb	1.111		609307.625
159	**Tb-IS**	>	645125.384		ppb	3.017		623740.956
207	**Pb**		783.342	**0.009506**	ppb	8.690	11.875	367.780
203	**Tl**		274.447	**0.011464**	ppb	7.321	16.251	107.778
209	**Bi-IS**		291817.321		ppb	1.207		292712.993
51	**V**		13.333	**0.027861**	ppb	25.000	31.731	2.222
59	**Co**		24.444	**0.010180**	ppb	28.386	53.466	10.000
60	**Ni**		371.116	**0.131184**	ppb	15.146	17.696	55.556
75	**As**		481.308	**0.131606**	ppb	4.984	24.437	337.227
71	**Ga-ISK**		94179.559		ppb	2.583		90530.482
82	**Se-2**		16.466	**0.109793**	ppb	43.028	83.096	7.143
107	**Ag-1**		2123.492	**0.213009**	ppb	9.581	11.104	183.335
115	**In-ISK**	>	144284.056		ppb	1.096		130045.752
45	**Sc-ISK**		229621.082		ppb	1.803		222811.296
23	**Na**		10790.743	**2.012373**	ppb	3.118	41.324	9226.313
39	**K**		40678.956	**-2.621144**	ppb	1.606	36.996	39353.021
24	**Mg**		883.361	**2.184729**	ppb	8.497	9.016	106.667
159	**Tb-ISK**	>	281463.866		ppb	0.907		259136.904

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, January 04, 2022 14:02:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICIS-1479530.125
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95251.063		ppb	2.464		
9	**Be**		20.000		ppb	44.096		
10	**B**		2182.389		ppb	6.023		
27	**Al**		28842.087		ppb	0.744		
43	**Ca-2**		220.002		ppb	20.201		
49	**Ti**		343.337		ppb	2.569		
52	**Cr**		34121.813		ppb	0.122		
55	**Mn**		1261.167		ppb	6.346		
57	**Fe**		34683.166		ppb	1.206		
45	**Sc-IS**	>	5315997.500		ppb	1.101		
66	**Zn**		4323.988		ppb	2.745		
86	**Sr**		21.196		ppb	34.174		
65	**Cu**		303.337		ppb	10.989		
69	**Ga-IS**		1698126.403		ppb	0.648		
95	**Mo**		157.779		ppb	23.367		
115	**In-IS**	>	851740.388		ppb	0.323		
111	**Cd**		24.113		ppb	57.510		
118	**Sn**		1873.459		ppb	17.173		
121	**Sb**		233.335		ppb	23.517		
135	**Ba**		150.001		ppb	9.686		
165	**Ho-IS**		944584.061		ppb	1.640		
159	**Tb-IS**	>	998625.793		ppb	0.923		
207	**Pb**		432.225		ppb	16.202		
203	**Tl**		120.001		ppb	22.737		
209	**Bi-IS**		450867.759		ppb	0.460		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Tuesday, January 04, 2022 14:04:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\IC-2235387.126
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		96367.313		ppb	1.358		95251.063
9	**Be**		623578.981	**200.000000**	ppb	1.579	2.559	20.000
10	**B**		462127.135	**500.000000**	ppb	0.853	2.072	2182.389
27	**Al**		4864247.874	**200.000000**	ppb	1.102	2.326	28842.087
43	**Ca-2**		567409.010	**10200.000000**	ppb	0.336	1.517	220.002
49	**Ti**		371740.791	**200.000000**	ppb	1.464	0.240	343.337
52	**Cr**		5080666.264	**200.000000**	ppb	1.015	0.807	34121.813
55	**Mn**		7579533.026	**200.000000**	ppb	1.007	2.215	1261.167
57	**Fe**		8240775.202	**10200.000000**	ppb	0.933	1.900	34683.166
45	**Sc-IS**	>	5503659.640		ppb	1.227		5315997.500
66	**Zn**		820037.883	**200.000000**	ppb	1.652	1.202	4323.988
86	**Sr**		660232.702	**200.000000**	ppb	2.904	3.410	21.196
65	**Cu**		1299846.483	**200.000000**	ppb	0.666	1.503	303.337
69	**Ga-IS**		1854346.281		ppb	2.899		1698126.403
95	**Mo**		705895.835	**200.000000**	ppb	2.399	2.867	157.779
115	**In-IS**	>	861041.959		ppb	1.896		851740.388
111	**Cd**		974932.315	**200.000000**	ppb	1.658	0.270	24.113
118	**Sn**		2816748.927	**200.000000**	ppb	2.510	0.822	1873.459
121	**Sb**		2933044.104	**200.000000**	ppb	1.554	0.877	233.335
135	**Ba**		812882.835	**200.000000**	ppb	1.200	1.272	150.001
165	**Ho-IS**		966612.889		ppb	0.754		944584.061
159	**Tb-IS**	>	981050.704		ppb	0.929		998625.793
207	**Pb**		7899838.427	**200.000000**	ppb	1.266	1.269	432.225
203	**Tl**		2743414.949	**200.000000**	ppb	0.406	1.245	120.001
209	**Bi-IS**		432344.691		ppb	2.280		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 14:05:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.127
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97688.435		ppb	0.725		95251.063
9	**Be**		315646.009	**101.607256**	ppb	1.178	1.669	20.000
10	**B**		237105.692	**256.251530**	ppb	2.629	1.750	2182.389
27	**Al**		2480775.737	**101.759974**	ppb	1.656	0.349	28842.087
43	**Ca-2**		284409.971	**5129.674639**	ppb	0.712	0.960	220.002
49	**Ti**		183159.006	**98.829835**	ppb	1.200	1.803	343.337
52	**Cr**		2565768.127	**100.696472**	ppb	0.638	1.073	34121.813
55	**Mn**		3801162.396	**100.650828**	ppb	1.449	1.570	1261.167
57	**Fe**		4101444.838	**5072.907455**	ppb	1.174	1.076	34683.166
45	**Sc-IS**	>	5483159.318		ppb	1.670		5315997.500
66	**Zn**		417748.065	**101.741662**	ppb	0.927	1.361	4323.988
86	**Sr**		335284.991	**101.956273**	ppb	1.051	2.657	21.196
65	**Cu**		654268.998	**101.026528**	ppb	0.991	1.774	303.337
69	**Ga-IS**		1819626.713		ppb	0.579		1698126.403
95	**Mo**		358004.929	**101.787780**	ppb	0.682	1.079	157.779
115	**In-IS**	>	872707.859		ppb	1.924		851740.388
111	**Cd**		494787.754	**100.162780**	ppb	0.852	1.994	24.113
118	**Sn**		1438085.665	**100.707888**	ppb	0.531	1.856	1873.459
121	**Sb**		1485448.759	**99.960496**	ppb	1.269	3.058	233.335
135	**Ba**		411521.475	**99.885027**	ppb	1.269	1.973	150.001
165	**Ho-IS**		953864.143		ppb	0.820		944584.061
159	**Tb-IS**	>	992720.749		ppb	1.789		998625.793
207	**Pb**		4041237.894	**101.125015**	ppb	1.317	2.376	432.225
203	**Tl**		1350723.379	**97.335183**	ppb	1.228	2.978	120.001
209	**Bi-IS**		456942.752		ppb	1.478		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 14:07:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.128
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		91706.940		ppb	3.148		95251.063
9	**Be**		126.667	**0.035919**	ppb	9.116	9.856	20.000
10	**B**		3232.588	**1.226613**	ppb	3.810	8.995	2182.389
27	**Al**		30190.204	**0.073795**	ppb	1.270	14.664	28842.087
43	**Ca-2**		333.337	**2.188433**	ppb	4.583	14.971	220.002
49	**Ti**		402.228	**0.035622**	ppb	3.450	21.227	343.337
52	**Cr**		33970.343	**0.011131**	ppb	0.742	43.011	34121.813
55	**Mn**		2629.131	**0.038276**	ppb	5.284	10.867	1261.167
57	**Fe**		32137.219	**-2.759949**	ppb	0.454	15.305	34683.166
45	**Sc-IS**	>	5250721.070		ppb	0.881		5315997.500
66	**Zn**		4335.103	**0.016801**	ppb	3.654	300.725	4323.988
86	**Sr**		108.937	**0.028002**	ppb	31.816	40.440	21.196
65	**Cu**		542.233	**0.039107**	ppb	6.309	12.156	303.337
69	**Ga-IS**		1685505.658		ppb	0.886		1698126.403
95	**Mo**		1023.370	**0.257856**	ppb	10.590	13.428	157.779
115	**In-IS**	>	856588.816		ppb	1.306		851740.388
111	**Cd**		205.630	**0.037399**	ppb	6.738	7.284	24.113
118	**Sn**		5008.660	**0.223036**	ppb	8.528	12.362	1873.459
121	**Sb**		836.691	**0.041234**	ppb	7.684	8.976	233.335
135	**Ba**		211.113	**0.014863**	ppb	10.513	32.725	150.001
165	**Ho-IS**		944485.449		ppb	1.191		944584.061
159	**Tb-IS**	>	981973.659		ppb	1.039		998625.793
207	**Pb**		1730.041	**0.033006**	ppb	6.650	8.542	432.225
203	**Tl**		676.683	**0.040693**	ppb	10.531	12.858	120.001
209	**Bi-IS**		447111.524		ppb	0.823		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205330_1-A @20
Autosampler Position: 301
Sample Date/Time: Tuesday, January 04, 2022 14:09:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\MB 570-205330_1-A @20.129
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99516.571		ppb	1.298		95251.063
9	**Be**		73.334	**0.016970**	ppb	23.619	33.967	20.000
10	**B**		3068.107	**0.887212**	ppb	3.154	12.177	2182.389
27	**Al**		64664.782	**1.445689**	ppb	3.089	4.270	28842.087
43	**Ca-2**		428.340	**3.621067**	ppb	10.528	20.674	220.002
49	**Ti**		338.893	**-0.008469**	ppb	14.928	325.233	343.337
52	**Cr**		35695.657	**0.018079**	ppb	1.380	119.277	34121.813
55	**Mn**		3493.761	**0.057986**	ppb	5.061	9.335	1261.167
57	**Fe**		33620.634	**-2.736100**	ppb	1.611	38.859	34683.166
45	**Sc-IS**	>	5490554.015		ppb	0.976		5315997.500
66	**Zn**		4206.176	**-0.063437**	ppb	5.712	107.828	4323.988
86	**Sr**		112.895	**0.027777**	ppb	66.050	82.328	21.196
65	**Cu**		440.007	**0.019533**	ppb	7.909	26.115	303.337
69	**Ga-IS**		1749716.956		ppb	1.599		1698126.403
95	**Mo**		746.686	**0.165701**	ppb	9.225	10.742	157.779
115	**In-IS**	>	903679.002		ppb	2.179		851740.388
111	**Cd**		107.321	**0.015986**	ppb	17.580	23.147	24.113
118	**Sn**		5363.235	**0.228398**	ppb	9.916	14.433	1873.459
121	**Sb**		647.793	**0.025941**	ppb	13.263	18.225	233.335
135	**Ba**		131.112	**-0.006673**	ppb	24.430	103.212	150.001
165	**Ho-IS**		972118.972		ppb	3.218		944584.061
159	**Tb-IS**	>	1018152.050		ppb	2.900		998625.793
207	**Pb**		1131.129	**0.016872**	ppb	4.294	10.502	432.225
203	**Tl**		423.340	**0.021159**	ppb	11.024	15.979	120.001
209	**Bi-IS**		466493.651		ppb	1.854		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205330_2-A @20
Autosampler Position: 302
Sample Date/Time: Tuesday, January 04, 2022 14:10:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCS 570-205330_2-A @20.130
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97070.906		ppb	0.426		95251.063
9	**Be**		72110.448	**22.802614**	ppb	1.288	0.831	20.000
10	**B**		24375.224	**23.681744**	ppb	1.085	1.343	2182.389
27	**Al**		688014.161	**26.834454**	ppb	1.615	1.059	28842.087
43	**Ca-2**		2751.932	**44.723195**	ppb	4.020	4.988	220.002
49	**Ti**		41767.665	**21.994277**	ppb	2.642	2.143	343.337
52	**Cr**		628238.429	**23.162819**	ppb	1.410	0.855	34121.813
55	**Mn**		887672.939	**23.069475**	ppb	0.688	0.255	1261.167
57	**Fe**		53002.651	**20.346121**	ppb	3.116	8.040	34683.166
45	**Sc-IS**	>	5579585.475		ppb	0.603		5315997.500
66	**Zn**		100640.001	**23.246689**	ppb	1.896	2.072	4323.988
86	**Sr**		76977.736	**22.993523**	ppb	3.101	3.431	21.196
65	**Cu**		159806.710	**24.208433**	ppb	1.074	0.576	303.337
69	**Ga-IS**		1783395.601		ppb	0.982		1698126.403
95	**Mo**		84057.738	**23.449944**	ppb	1.798	2.340	157.779
115	**In-IS**	>	898796.963		ppb	1.621		851740.388
111	**Cd**		118281.507	**23.243413**	ppb	1.060	1.636	24.113
118	**Sn**		332382.574	**22.496703**	ppb	1.104	2.429	1873.459
121	**Sb**		349307.285	**22.803587**	ppb	1.405	0.879	233.335
135	**Ba**		109628.063	**25.802871**	ppb	2.257	1.110	150.001
165	**Ho-IS**		995102.403		ppb	0.972		944584.061
159	**Tb-IS**	>	1036685.490		ppb	1.153		998625.793
207	**Pb**		964424.101	**23.097054**	ppb	0.771	0.954	432.225
203	**Tl**		316840.101	**21.852911**	ppb	1.661	2.505	120.001
209	**Bi-IS**		473410.187		ppb	1.102		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205330_3-A @20
Autosampler Position: 303
Sample Date/Time: Tuesday, January 04, 2022 14:12:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCSD 570-205330_3-A @20.131
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		98398.930		ppb	2.113		95251.063
9	**Be**		71575.542	**23.236583**	ppb	1.163	4.269	20.000
10	**B**		24997.436	**25.070912**	ppb	4.494	7.559	2182.389
27	**Al**		683794.723	**27.402216**	ppb	0.652	3.782	28842.087
43	**Ca-2**		2648.579	**44.112967**	ppb	1.628	2.936	220.002
49	**Ti**		41429.990	**22.395583**	ppb	0.502	2.846	343.337
52	**Cr**		608476.584	**23.015964**	ppb	0.780	2.817	34121.813
55	**Mn**		845987.428	**22.561224**	ppb	1.089	2.291	1261.167
57	**Fe**		50838.077	**19.343303**	ppb	0.564	10.503	34683.166
45	**Sc-IS**	>	5439884.716		ppb	3.285		5315997.500
66	**Zn**		96598.908	**22.887512**	ppb	1.899	4.200	4323.988
86	**Sr**		77001.714	**23.598710**	ppb	1.543	1.768	21.196
65	**Cu**		152121.514	**23.642715**	ppb	2.431	2.114	303.337
69	**Ga-IS**		1792021.712		ppb	2.000		1698126.403
95	**Mo**		81947.707	**23.463574**	ppb	0.644	3.419	157.779
115	**In-IS**	>	898404.038		ppb	1.945		851740.388
111	**Cd**		115466.286	**22.702160**	ppb	0.643	1.923	24.113
118	**Sn**		325228.342	**22.021474**	ppb	0.815	2.667	1873.459
121	**Sb**		340721.527	**22.261110**	ppb	1.594	3.441	233.335
135	**Ba**		109744.409	**25.853353**	ppb	1.250	3.198	150.001
165	**Ho-IS**		993129.510		ppb	1.563		944584.061
159	**Tb-IS**	>	1031886.068		ppb	1.366		998625.793
207	**Pb**		939894.343	**22.616563**	ppb	1.089	2.069	432.225
203	**Tl**		313159.691	**21.698026**	ppb	0.451	1.116	120.001
209	**Bi-IS**		472559.626		ppb	1.990		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-1-B sd @100
Autosampler Position: 304
Sample Date/Time: Tuesday, January 04, 2022 14:13:40
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-1-B sd @100.132
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		93846.159		ppb	1.230		95251.063
9	**Be**		71.111	**0.017260**	ppb	26.654	35.096	20.000
10	**B**		2616.906	**0.533739**	ppb	1.714	15.634	2182.389
27	**Al**		3518124.804	**151.656934**	ppb	2.448	0.995	28842.087
43	**Ca-2**		2743.597	**47.732824**	ppb	3.719	2.584	220.002
49	**Ti**		6760.490	**3.635565**	ppb	3.555	4.882	343.337
52	**Cr**		53933.849	**0.846698**	ppb	1.138	6.866	34121.813
55	**Mn**		90757.389	**2.482207**	ppb	0.718	1.349	1261.167
57	**Fe**		142929.446	**142.137118**	ppb	5.320	8.412	34683.166
45	**Sc-IS**	>	5237754.313		ppb	1.530		5315997.500
66	**Zn**		22436.498	**4.683558**	ppb	1.846	1.168	4323.988
86	**Sr**		1515.135	**0.475830**	ppb	4.492	5.923	21.196
65	**Cu**		13204.991	**2.086723**	ppb	2.236	0.735	303.337
69	**Ga-IS**		1721100.011		ppb	1.783		1698126.403
95	**Mo**		288.892	**0.039617**	ppb	14.701	28.940	157.779
115	**In-IS**	>	873497.509		ppb	2.429		851740.388
111	**Cd**		107.172	**0.016639**	ppb	28.062	34.979	24.113
118	**Sn**		2801.386	**0.061588**	ppb	4.412	7.447	1873.459
121	**Sb**		703.351	**0.031213**	ppb	6.584	10.717	233.335
135	**Ba**		4958.638	**1.165905**	ppb	0.280	2.791	150.001
165	**Ho-IS**		948914.952		ppb	0.887		944584.061
159	**Tb-IS**	>	988286.721		ppb	2.240		998625.793
207	**Pb**		54067.886	**1.348283**	ppb	2.628	2.511	432.225
203	**Tl**		372.227	**0.018332**	ppb	9.147	12.047	120.001
209	**Bi-IS**		453221.988		ppb	0.992		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-1-B @100
Autosampler Position: 305
Sample Date/Time: Tuesday, January 04, 2022 14:15:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-1-B @100.133
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95029.852		ppb	4.280		95251.063
9	**Be**		127.778	**0.034676**	ppb	9.876	10.634	20.000
10	**B**		3570.446	**1.459163**	ppb	2.476	2.556	2182.389
27	**Al**		17255082.169	**718.813717**	ppb	1.324	0.522	28842.087
43	**Ca-2**		11949.998	**212.670206**	ppb	2.638	1.670	220.002
49	**Ti**		34749.997	**18.688594**	ppb	1.431	0.482	343.337
52	**Cr**		134881.613	**3.993768**	ppb	1.299	0.757	34121.813
55	**Mn**		435075.865	**11.548240**	ppb	1.660	1.684	1261.167
57	**Fe**		1003664.848	**1214.287957**	ppb	2.035	3.251	34683.166
45	**Sc-IS**	>	5455568.070		ppb	1.841		5315997.500
66	**Zn**		97648.263	**23.058320**	ppb	2.265	0.630	4323.988
86	**Sr**		7378.073	**2.248763**	ppb	2.391	3.937	21.196
65	**Cu**		63239.680	**9.770644**	ppb	1.278	1.775	303.337
69	**Ga-IS**		1740627.830		ppb	3.602		1698126.403
95	**Mo**		296.670	**0.038458**	ppb	12.762	26.021	157.779
115	**In-IS**	>	867283.297		ppb	1.846		851740.388
111	**Cd**		267.157	**0.049445**	ppb	13.728	15.700	24.113
118	**Sn**		5932.343	**0.284042**	ppb	1.844	4.281	1873.459
121	**Sb**		368.894	**0.008862**	ppb	10.781	25.043	233.335
135	**Ba**		22804.856	**5.534090**	ppb	1.257	1.156	150.001
165	**Ho-IS**		947406.778		ppb	1.674		944584.061
159	**Tb-IS**	>	979470.827		ppb	2.279		998625.793
207	**Pb**		275404.843	**6.974790**	ppb	0.720	1.641	432.225
203	**Tl**		597.790	**0.035089**	ppb	4.185	7.447	120.001
209	**Bi-IS**		454191.779		ppb	1.663		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-1-C MS @100
Autosampler Position: 306
Sample Date/Time: Tuesday, January 04, 2022 14:16:46
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-1-C MS @100.134
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97769.028		ppb	1.593		95251.063
9	**Be**		16917.792	**5.443008**	ppb	2.018	2.885	20.000
10	**B**		7541.992	**5.777344**	ppb	3.431	4.040	2182.389
27	**Al**		20539727.392	**852.059873**	ppb	0.431	0.774	28842.087
43	**Ca-2**		14183.723	**251.962944**	ppb	6.259	5.299	220.002
49	**Ti**		48336.080	**25.954390**	ppb	0.239	1.333	343.337
52	**Cr**		270571.643	**9.371941**	ppb	0.437	0.983	34121.813
55	**Mn**		652129.428	**17.248313**	ppb	0.627	0.775	1261.167
57	**Fe**		1101039.363	**1330.020079**	ppb	0.393	1.549	34683.166
45	**Sc-IS**	>	5479982.722		ppb	1.183		5315997.500
66	**Zn**		129808.469	**30.872270**	ppb	2.621	2.391	4323.988
86	**Sr**		24816.817	**7.542840**	ppb	1.022	0.971	21.196
65	**Cu**		102521.178	**15.797303**	ppb	2.708	2.820	303.337
69	**Ga-IS**		1734169.689		ppb	0.886		1698126.403
95	**Mo**		9251.885	**2.587397**	ppb	2.588	3.831	157.779
115	**In-IS**	>	889481.174		ppb	0.900		851740.388
111	**Cd**		27435.828	**5.442747**	ppb	2.504	1.617	24.113
118	**Sn**		60408.915	**4.019641**	ppb	6.432	5.945	1873.459
121	**Sb**		4941.967	**0.310099**	ppb	3.890	3.520	233.335
135	**Ba**		43107.165	**10.230300**	ppb	0.827	0.383	150.001
165	**Ho-IS**		969754.161		ppb	0.697		944584.061
159	**Tb-IS**	>	1012535.264		ppb	0.441		998625.793
207	**Pb**		486712.723	**11.928266**	ppb	1.247	0.910	432.225
203	**Tl**		39541.368	**2.784043**	ppb	3.835	3.398	120.001
209	**Bi-IS**		456621.818		ppb	0.467		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-1-D MSD @100
Autosampler Position: 307
Sample Date/Time: Tuesday, January 04, 2022 14:18:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-1-D MSD @100.135
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95353.947		ppb	2.241		95251.063
9	**Be**		16863.289	**5.462950**	ppb	3.565	4.309	20.000
10	**B**		7539.771	**5.829784**	ppb	5.419	6.398	2182.389
27	**Al**		20758636.608	**867.098234**	ppb	1.447	1.985	28842.087
43	**Ca-2**		14198.722	**254.135572**	ppb	2.552	3.526	220.002
49	**Ti**		48007.205	**25.951303**	ppb	1.339	0.394	343.337
52	**Cr**		269979.181	**9.421298**	ppb	2.259	2.265	34121.813
55	**Mn**		665788.769	**17.730359**	ppb	2.563	2.353	1261.167
57	**Fe**		1138762.664	**1386.785471**	ppb	0.455	1.027	34683.166
45	**Sc-IS**	>	5442644.709		ppb	0.953		5315997.500
66	**Zn**		133022.199	**31.892897**	ppb	2.172	2.859	4323.988
86	**Sr**		24948.809	**7.634591**	ppb	1.920	1.498	21.196
65	**Cu**		102769.468	**15.945212**	ppb	1.047	1.809	303.337
69	**Ga-IS**		1730880.588		ppb	3.008		1698126.403
95	**Mo**		9580.991	**2.698850**	ppb	2.931	2.538	157.779
115	**In-IS**	>	876857.531		ppb	3.127		851740.388
111	**Cd**		27920.513	**5.621639**	ppb	1.159	1.962	24.113
118	**Sn**		61815.694	**4.182061**	ppb	1.470	4.201	1873.459
121	**Sb**		4836.374	**0.307786**	ppb	2.716	0.557	233.335
135	**Ba**		43819.365	**10.551683**	ppb	3.044	1.988	150.001
165	**Ho-IS**		961000.221		ppb	2.913		944584.061
159	**Tb-IS**	>	1009986.868		ppb	1.005		998625.793
207	**Pb**		500753.843	**12.304952**	ppb	0.459	1.324	432.225
203	**Tl**		39328.532	**2.776991**	ppb	2.721	3.751	120.001
209	**Bi-IS**		463069.877		ppb	1.494		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-1-B pds @100
Autosampler Position: 308
Sample Date/Time: Tuesday, January 04, 2022 14:19:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-1-B pds @100.136
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97308.070		ppb	0.572		95251.063
9	**Be**		75490.111	**23.835323**	ppb	2.281	2.989	20.000
10	**B**		26891.958	**26.337706**	ppb	1.590	3.191	2182.389
27	**Al**		17574491.531	**714.635811**	ppb	0.330	1.194	28842.087
43	**Ca-2**		14287.146	**248.840638**	ppb	3.372	2.363	220.002
49	**Ti**		76970.191	**40.626577**	ppb	2.104	1.932	343.337
52	**Cr**		714166.092	**26.478975**	ppb	0.478	1.639	34121.813
55	**Mn**		1285485.446	**33.373837**	ppb	1.016	2.501	1261.167
57	**Fe**		1049030.614	**1239.743395**	ppb	1.780	3.380	34683.166
45	**Sc-IS**	>	5589306.204		ppb	1.521		5315997.500
66	**Zn**		204140.617	**48.210412**	ppb	1.350	2.911	4323.988
86	**Sr**		79939.382	**23.837867**	ppb	0.944	1.522	21.196
65	**Cu**		211219.427	**31.968931**	ppb	2.259	3.725	303.337
69	**Ga-IS**		1759911.006		ppb	0.784		1698126.403
95	**Mo**		70937.927	**19.751565**	ppb	1.122	2.593	157.779
115	**In-IS**	>	876426.976		ppb	0.234		851740.388
111	**Cd**		121612.235	**24.505339**	ppb	1.324	1.557	24.113
118	**Sn**		288486.673	**20.004097**	ppb	1.939	1.795	1873.459
121	**Sb**		344154.369	**23.039385**	ppb	1.303	1.105	233.335
135	**Ba**		134347.934	**32.438015**	ppb	2.570	2.360	150.001
165	**Ho-IS**		955728.570		ppb	1.395		944584.061
159	**Tb-IS**	>	1000777.563		ppb	0.883		998625.793
207	**Pb**		1154254.602	**28.637782**	ppb	0.223	0.983	432.225
203	**Tl**		298950.392	**21.359272**	ppb	2.680	3.479	120.001
209	**Bi-IS**		456841.527		ppb	1.253		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-2-B @100
Autosampler Position: 309
Sample Date/Time: Tuesday, January 04, 2022 14:21:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-2-B @100.137
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		96147.070		ppb	2.747		95251.063
9	**Be**		768.910	**0.241379**	ppb	9.261	8.736	20.000
10	**B**		3347.060	**1.206217**	ppb	6.817	22.540	2182.389
27	**Al**		14972006.897	**621.861904**	ppb	2.547	1.686	28842.087
43	**Ca-2**		11956.673	**212.311109**	ppb	3.870	4.862	220.002
49	**Ti**		16015.640	**8.488403**	ppb	1.481	2.139	343.337
52	**Cr**		133513.316	**3.925108**	ppb	1.505	1.427	34121.813
55	**Mn**		375996.652	**9.948767**	ppb	2.342	2.036	1261.167
57	**Fe**		845824.725	**1013.308009**	ppb	1.044	0.748	34683.166
45	**Sc-IS**	>	5469420.109		ppb	0.908		5315997.500
66	**Zn**		108248.599	**25.614505**	ppb	0.969	0.850	4323.988
86	**Sr**		7527.120	**2.286940**	ppb	5.009	4.128	21.196
65	**Cu**		60575.977	**9.331652**	ppb	2.164	1.905	303.337
69	**Ga-IS**		1740607.729		ppb	2.173		1698126.403
95	**Mo**		1013.369	**0.242749**	ppb	4.522	6.444	157.779
115	**In-IS**	>	881414.277		ppb	1.121		851740.388
111	**Cd**		1253.483	**0.246196**	ppb	1.736	1.301	24.113
118	**Sn**		7547.549	**0.389411**	ppb	1.833	3.479	1873.459
121	**Sb**		2195.724	**0.130211**	ppb	1.693	3.144	233.335
135	**Ba**		18648.832	**4.445898**	ppb	0.905	2.023	150.001
165	**Ho-IS**		951550.817		ppb	2.068		944584.061
159	**Tb-IS**	>	994917.706		ppb	1.165		998625.793
207	**Pb**		259938.929	**6.478194**	ppb	1.886	0.731	432.225
203	**Tl**		2530.224	**0.173241**	ppb	5.315	4.609	120.001
209	**Bi-IS**		450645.477		ppb	1.716		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 14:22:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.138
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99044.717		ppb	3.852		95251.063
9	**Be**		326561.459	**101.898471**	ppb	3.747	3.431	20.000
10	**B**		247100.991	**258.965795**	ppb	0.473	1.089	2182.389
27	**Al**		2509410.390	**99.762979**	ppb	2.278	1.194	28842.087
43	**Ca-2**		295915.748	**5173.942353**	ppb	1.858	1.477	220.002
49	**Ti**		189233.059	**98.977378**	ppb	1.592	0.850	343.337
52	**Cr**		2650617.607	**100.845635**	ppb	1.062	0.303	34121.813
55	**Mn**		3922113.939	**100.674838**	ppb	1.672	1.043	1261.167
57	**Fe**		4354746.955	**5223.368899**	ppb	1.169	1.773	34683.166
45	**Sc-IS**	>	5655598.102		ppb	1.099		5315997.500
66	**Zn**		426637.678	**100.713445**	ppb	1.329	0.235	4323.988
86	**Sr**		340655.739	**100.403609**	ppb	1.583	1.385	21.196
65	**Cu**		688917.443	**103.122475**	ppb	0.779	0.953	303.337
69	**Ga-IS**		1848578.801		ppb	0.718		1698126.403
95	**Mo**		369631.267	**101.873314**	ppb	2.916	2.486	157.779
115	**In-IS**	>	890055.585		ppb	2.877		851740.388
111	**Cd**		503012.035	**99.847940**	ppb	1.526	1.601	24.113
118	**Sn**		1446006.996	**99.294560**	ppb	1.754	2.008	1873.459
121	**Sb**		1513298.698	**99.849888**	ppb	1.488	2.370	233.335
135	**Ba**		420665.496	**100.136347**	ppb	1.302	2.457	150.001
165	**Ho-IS**		976326.147		ppb	0.900		944584.061
159	**Tb-IS**	>	1014927.363		ppb	1.293		998625.793
207	**Pb**		4164384.107	**101.909380**	ppb	0.723	0.979	432.225
203	**Tl**		1385481.821	**97.631698**	ppb	0.055	1.258	120.001
209	**Bi-IS**		464449.619		ppb	1.784		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 14:24:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.139
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		96876.475		ppb	3.178		95251.063
9	**Be**		62.222	**0.013731**	ppb	30.462	44.114	20.000
10	**B**		2492.440	**0.313358**	ppb	4.638	49.902	2182.389
27	**Al**		33701.715	**0.189206**	ppb	1.858	10.328	28842.087
43	**Ca-2**		325.004	**1.881742**	ppb	10.659	37.834	220.002
49	**Ti**		357.782	**0.005926**	ppb	16.413	619.003	343.337
52	**Cr**		33466.938	**-0.044320**	ppb	1.320	106.947	34121.813
55	**Mn**		2156.830	**0.023762**	ppb	6.371	21.116	1261.167
57	**Fe**		32216.292	**-3.714992**	ppb	1.697	19.183	34683.166
45	**Sc-IS**	>	5387106.367		ppb	2.179		5315997.500
66	**Zn**		4345.106	**-0.009038**	ppb	3.685	433.528	4323.988
86	**Sr**		27.774	**0.002036**	ppb	68.383	301.522	21.196
65	**Cu**		455.563	**0.023368**	ppb	6.916	26.382	303.337
69	**Ga-IS**		1694554.541		ppb	2.868		1698126.403
95	**Mo**		584.456	**0.122723**	ppb	9.567	10.317	157.779
115	**In-IS**	>	880826.443		ppb	0.919		851740.388
111	**Cd**		112.106	**0.017473**	ppb	10.752	13.255	24.113
118	**Sn**		4036.128	**0.145912**	ppb	7.107	15.385	1873.459
121	**Sb**		681.127	**0.029333**	ppb	6.158	10.543	233.335
135	**Ba**		137.778	**-0.004184**	ppb	21.953	171.619	150.001
165	**Ho-IS**		954677.017		ppb	0.361		944584.061
159	**Tb-IS**	>	1002159.544		ppb	0.872		998625.793
207	**Pb**		1253.354	**0.020324**	ppb	5.130	9.163	432.225
203	**Tl**		411.117	**0.020760**	ppb	8.745	13.429	120.001
209	**Bi-IS**		459614.607		ppb	4.143		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-3-C @100
Autosampler Position: 310
Sample Date/Time: Tuesday, January 04, 2022 14:26:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-3-C @100.140
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95688.430		ppb	2.586		95251.063
9	**Be**		238.891	**0.072204**	ppb	10.285	10.502	20.000
10	**B**		4476.257	**2.553550**	ppb	2.051	1.483	2182.389
27	**Al**		30684830.238	**1305.623777**	ppb	1.973	2.127	28842.087
43	**Ca-2**		20840.197	**381.758919**	ppb	2.667	2.777	220.002
49	**Ti**		68740.546	**37.927933**	ppb	0.534	1.537	343.337
52	**Cr**		477341.840	**18.084176**	ppb	0.590	2.030	34121.813
55	**Mn**		723186.469	**19.618914**	ppb	1.997	3.443	1261.167
57	**Fe**		1934406.126	**2431.482594**	ppb	1.675	2.760	34683.166
45	**Sc-IS**	>	5345637.043		ppb	1.604		5315997.500
66	**Zn**		114007.605	**27.693677**	ppb	1.265	2.645	4323.988
86	**Sr**		14025.391	**4.367848**	ppb	1.588	2.339	21.196
65	**Cu**		69354.626	**10.941467**	ppb	1.146	1.837	303.337
69	**Ga-IS**		1758091.926		ppb	1.899		1698126.403
95	**Mo**		681.127	**0.152280**	ppb	10.557	12.141	157.779
115	**In-IS**	>	872365.299		ppb	1.139		851740.388
111	**Cd**		2062.052	**0.412600**	ppb	5.434	5.871	24.113
118	**Sn**		11771.516	**0.691231**	ppb	2.407	4.242	1873.459
121	**Sb**		401.117	**0.010901**	ppb	6.768	14.036	233.335
135	**Ba**		51644.301	**12.505772**	ppb	1.206	1.433	150.001
165	**Ho-IS**		971922.718		ppb	0.472		944584.061
159	**Tb-IS**	>	1010261.014		ppb	1.270		998625.793
207	**Pb**		346284.638	**8.502924**	ppb	1.177	0.149	432.225
203	**Tl**		1156.714	**0.073319**	ppb	4.156	5.673	120.001
209	**Bi-IS**		449845.413		ppb	0.873		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-6-C @100
Autosampler Position: 311
Sample Date/Time: Tuesday, January 04, 2022 14:27:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-6-C @100.141
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	>	96489.250		ppb	1.466		95251.063
9	**Be**		198.890	**0.056469**	ppb	3.489	3.272	20.000
10	**B**		4640.755	**2.534567**	ppb	5.011	7.754	2182.389
27	**Al**		29769456.016	**1217.437796**	ppb	1.978	2.756	28842.087
43	**Ca-2**		22679.656	**399.474930**	ppb	0.835	0.853	220.002
49	**Ti**		64674.962	**34.277490**	ppb	0.637	1.345	343.337
52	**Cr**		510104.290	**18.610647**	ppb	0.501	1.570	34121.813
55	**Mn**		702763.733	**18.318094**	ppb	0.856	1.965	1261.167
57	**Fe**		1919835.126	**2316.931877**	ppb	0.419	0.976	34683.166
45	**Sc-IS**	>	5561819.107		ppb	1.266		5315997.500
66	**Zn**		119842.836	**27.986471**	ppb	0.992	1.528	4323.988
86	**Sr**		15525.270	**4.647972**	ppb	2.841	3.956	21.196
65	**Cu**		71630.263	**10.860134**	ppb	1.286	1.629	303.337
69	**Ga-IS**		1754198.834		ppb	0.840		1698126.403
95	**Mo**		545.566	**0.106631**	ppb	8.251	10.751	157.779
115	**In-IS**	>	885523.282		ppb	0.320		851740.388
111	**Cd**		1814.525	**0.356943**	ppb	4.254	4.299	24.113
118	**Sn**		11225.521	**0.641056**	ppb	1.922	2.711	1873.459
121	**Sb**		341.115	**0.006532**	ppb	1.128	2.832	233.335
135	**Ba**		51387.841	**12.257431**	ppb	2.087	2.168	150.001
165	**Ho-IS**		954465.987		ppb	3.825		944584.061
159	**Tb-IS**	>	1010819.010		ppb	3.637		998625.793
207	**Pb**		385030.330	**9.453092**	ppb	2.423	1.287	432.225
203	**Tl**		1013.369	**0.063134**	ppb	7.139	7.911	120.001
209	**Bi-IS**		451722.070		ppb	3.221		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-8-C @100
Autosampler Position: 312
Sample Date/Time: Tuesday, January 04, 2022 14:29:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-8-C @100.142
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95935.646		ppb	2.677		95251.063
9	**Be**		108.889	**0.028066**	ppb	12.372	13.703	20.000
10	**B**		3771.609	**1.623027**	ppb	1.989	4.654	2182.389
27	**Al**		19274938.100	**791.974056**	ppb	1.105	0.940	28842.087
43	**Ca-2**		16736.466	**295.406568**	ppb	1.449	3.250	220.002
49	**Ti**		39081.163	**20.749471**	ppb	0.622	1.356	343.337
52	**Cr**		147817.558	**4.431035**	ppb	1.235	4.218	34121.813
55	**Mn**		519604.461	**13.609856**	ppb	1.539	3.075	1261.167
57	**Fe**		1145756.961	**1372.874038**	ppb	2.185	4.230	34683.166
45	**Sc-IS**	>	5532387.865		ppb	1.940		5315997.500
66	**Zn**		112916.763	**26.457992**	ppb	1.172	2.870	4323.988
86	**Sr**		8996.342	**2.703203**	ppb	4.492	2.655	21.196
65	**Cu**		69006.371	**10.522188**	ppb	3.106	5.018	303.337
69	**Ga-IS**		1766297.863		ppb	2.332		1698126.403
95	**Mo**		337.782	**0.048978**	ppb	5.611	12.649	157.779
115	**In-IS**	>	889310.568		ppb	2.141		851740.388
111	**Cd**		267.071	**0.048058**	ppb	3.132	3.934	24.113
118	**Sn**		6473.691	**0.310666**	ppb	4.389	3.314	1873.459
121	**Sb**		198.890	**-0.002945**	ppb	12.579	59.502	233.335
135	**Ba**		24132.594	**5.712078**	ppb	2.068	1.018	150.001
165	**Ho-IS**		968993.113		ppb	0.799		944584.061
159	**Tb-IS**	>	1004078.814		ppb	1.859		998625.793
207	**Pb**		302905.482	**7.483664**	ppb	0.810	1.740	432.225
203	**Tl**		541.121	**0.029928**	ppb	6.322	5.933	120.001
209	**Bi-IS**		460287.771		ppb	0.382		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-9-C @100
Autosampler Position: 313
Sample Date/Time: Tuesday, January 04, 2022 14:30:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-9-C @100.143
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95139.103		ppb	0.992		95251.063
9	**Be**		135.556	**0.036451**	ppb	6.188	7.999	20.000
10	**B**		3837.182	**1.678076**	ppb	2.054	6.583	2182.389
27	**Al**		24247964.091	**992.726828**	ppb	0.651	1.010	28842.087
43	**Ca-2**		15530.110	**272.692034**	ppb	3.443	4.113	220.002
49	**Ti**		63312.222	**33.596806**	ppb	1.258	0.712	343.337
52	**Cr**		371518.952	**13.194303**	ppb	0.364	0.916	34121.813
55	**Mn**		565797.076	**14.760957**	ppb	0.567	0.705	1261.167
57	**Fe**		1505469.390	**1809.807100**	ppb	0.725	0.304	34683.166
45	**Sc-IS**	>	5553634.601		ppb	0.629		5315997.500
66	**Zn**		87296.016	**20.118025**	ppb	2.469	2.820	4323.988
86	**Sr**		10837.532	**3.246281**	ppb	1.487	1.047	21.196
65	**Cu**		52049.109	**7.889346**	ppb	1.710	1.828	303.337
69	**Ga-IS**		1734370.585		ppb	1.365		1698126.403
95	**Mo**		520.010	**0.099813**	ppb	12.869	19.644	157.779
115	**In-IS**	>	890094.085		ppb	2.341		851740.388
111	**Cd**		1410.089	**0.274939**	ppb	4.753	5.571	24.113
118	**Sn**		8759.357	**0.467216**	ppb	5.729	4.468	1873.459
121	**Sb**		228.891	**-0.001014**	ppb	14.294	176.311	233.335
135	**Ba**		40753.609	**9.664472**	ppb	1.321	1.025	150.001
165	**Ho-IS**		934656.026		ppb	0.873		944584.061
159	**Tb-IS**	>	979205.140		ppb	1.468		998625.793
207	**Pb**		255396.147	**6.467819**	ppb	1.733	1.608	432.225
203	**Tl**		696.684	**0.042359**	ppb	12.919	17.200	120.001
209	**Bi-IS**		451022.454		ppb	0.215		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-10-C @100
Autosampler Position: 314
Sample Date/Time: Tuesday, January 04, 2022 14:32:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-10-C @100.144
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99955.154		ppb	0.930		95251.063
9	**Be**		252.224	**0.073093**	ppb	6.782	7.453	20.000
10	**B**		5177.606	**3.094897**	ppb	3.473	9.363	2182.389
27	**Al**		44583520.465	**1817.410489**	ppb	2.162	4.367	28842.087
43	**Ca-2**		29067.881	**511.109608**	ppb	1.527	1.004	220.002
49	**Ti**		94108.067	**49.751634**	ppb	3.309	1.538	343.337
52	**Cr**		687999.431	**25.483638**	ppb	1.732	2.196	34121.813
55	**Mn**		1040876.869	**27.040065**	ppb	1.549	1.868	1261.167
57	**Fe**		2805139.174	**3392.692956**	ppb	2.156	2.709	34683.166
45	**Sc-IS**	>	5584176.784		ppb	2.179		5315997.500
66	**Zn**		162226.142	**38.114536**	ppb	1.978	1.372	4323.988
86	**Sr**		20243.416	**6.036760**	ppb	1.869	0.685	21.196
65	**Cu**		96136.910	**14.535206**	ppb	1.801	2.097	303.337
69	**Ga-IS**		1768905.108		ppb	2.038		1698126.403
95	**Mo**		691.128	**0.146942**	ppb	5.485	10.138	157.779
115	**In-IS**	>	870950.650		ppb	2.461		851740.388
111	**Cd**		2695.470	**0.541538**	ppb	5.109	3.622	24.113
118	**Sn**		13521.955	**0.815405**	ppb	2.776	2.480	1873.459
121	**Sb**		182.223	**-0.003766**	ppb	19.730	71.372	233.335
135	**Ba**		67890.967	**16.488404**	ppb	1.611	4.067	150.001
165	**Ho-IS**		955462.322		ppb	1.700		944584.061
159	**Tb-IS**	>	1012406.141		ppb	1.241		998625.793
207	**Pb**		493713.231	**12.103012**	ppb	1.767	2.164	432.225
203	**Tl**		1147.824	**0.072451**	ppb	9.066	9.035	120.001
209	**Bi-IS**		454119.430		ppb	1.595		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-13-C @100
Autosampler Position: 315
Sample Date/Time: Tuesday, January 04, 2022 14:33:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-13-C @100.145
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97857.381		ppb	1.156		95251.063
9	**Be**		174.446	**0.049395**	ppb	7.723	10.120	20.000
10	**B**		4261.747	**2.181780**	ppb	0.090	3.168	2182.389
27	**Al**		27308190.058	**1129.270667**	ppb	2.468	1.067	28842.087
43	**Ca-2**		18086.445	**321.420380**	ppb	2.020	0.755	220.002
49	**Ti**		58837.609	**31.529241**	ppb	1.801	2.315	343.337
52	**Cr**		433529.598	**15.805829**	ppb	1.428	3.191	34121.813
55	**Mn**		636322.342	**16.776849**	ppb	1.343	2.892	1261.167
57	**Fe**		1697988.069	**2068.277495**	ppb	0.206	1.582	34683.166
45	**Sc-IS**	>	5498469.465		ppb	1.562		5315997.500
66	**Zn**		105285.512	**24.750658**	ppb	1.672	2.627	4323.988
86	**Sr**		13105.600	**3.967384**	ppb	0.486	1.907	21.196
65	**Cu**		62845.730	**9.632113**	ppb	1.488	0.909	303.337
69	**Ga-IS**		1719648.521		ppb	1.111		1698126.403
95	**Mo**		517.787	**0.100714**	ppb	13.009	20.324	157.779
115	**In-IS**	>	877371.198		ppb	1.996		851740.388
111	**Cd**		1244.523	**0.245759**	ppb	4.801	6.709	24.113
118	**Sn**		9287.463	**0.513324**	ppb	1.584	4.000	1873.459
121	**Sb**		183.335	**-0.003834**	ppb	14.201	39.090	233.335
135	**Ba**		46118.786	**11.099860**	ppb	1.946	1.311	150.001
165	**Ho-IS**		941126.352		ppb	1.593		944584.061
159	**Tb-IS**	>	986749.726		ppb	1.450		998625.793
207	**Pb**		370158.422	**9.308035**	ppb	0.779	1.730	432.225
203	**Tl**		774.465	**0.047541**	ppb	2.448	2.785	120.001
209	**Bi-IS**		449941.171		ppb	3.077		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-14-C @100
Autosampler Position: 316
Sample Date/Time: Tuesday, January 04, 2022 14:35:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-14-C @100.146
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		98209.856		ppb	2.095		95251.063
9	**Be**		212.224	**0.059802**	ppb	2.399	4.265	20.000
10	**B**		4202.840	**2.002954**	ppb	0.979	2.251	2182.389
27	**Al**		28807835.151	**1161.663100**	ppb	1.700	1.242	28842.087
43	**Ca-2**		20160.890	**349.651611**	ppb	2.832	1.482	220.002
49	**Ti**		78567.694	**41.110099**	ppb	0.978	2.338	343.337
52	**Cr**		460084.376	**16.398956**	ppb	1.342	1.356	34121.813
55	**Mn**		673761.593	**17.317795**	ppb	1.608	2.022	1261.167
57	**Fe**		1798039.001	**2136.672855**	ppb	1.719	1.870	34683.166
45	**Sc-IS**	>	5639472.108		ppb	1.470		5315997.500
66	**Zn**		104807.586	**23.986087**	ppb	1.825	1.621	4323.988
86	**Sr**		13905.814	**4.104565**	ppb	0.657	1.958	21.196
65	**Cu**		62381.460	**9.321453**	ppb	0.275	1.582	303.337
69	**Ga-IS**		1778284.174		ppb	0.439		1698126.403
95	**Mo**		674.460	**0.140222**	ppb	10.604	13.948	157.779
115	**In-IS**	>	891271.872		ppb	1.630		851740.388
111	**Cd**		1177.521	**0.228338**	ppb	4.054	3.264	24.113
118	**Sn**		10176.959	**0.564361**	ppb	2.937	5.514	1873.459
121	**Sb**		425.562	**0.011963**	ppb	5.557	15.198	233.335
135	**Ba**		49428.701	**11.713641**	ppb	0.794	1.233	150.001
165	**Ho-IS**		960255.946		ppb	0.728		944584.061
159	**Tb-IS**	>	1004733.357		ppb	1.962		998625.793
207	**Pb**		333035.565	**8.223495**	ppb	1.546	1.831	432.225
203	**Tl**		1028.926	**0.064678**	ppb	2.453	4.384	120.001
209	**Bi-IS**		458931.832		ppb	1.578		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-15-C @100
Autosampler Position: 317
Sample Date/Time: Tuesday, January 04, 2022 14:36:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-15-C @100.147
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100581.833		ppb	2.090		95251.063
9	**Be**		112.223	**0.028293**	ppb	6.183	7.290	20.000
10	**B**		3332.612	**1.060450**	ppb	5.096	15.705	2182.389
27	**Al**		21700308.751	**870.210975**	ppb	1.526	2.202	28842.087
43	**Ca-2**		14393.917	**247.154342**	ppb	2.497	2.075	220.002
49	**Ti**		43628.764	**22.620134**	ppb	2.250	2.763	343.337
52	**Cr**		350518.156	**12.088770**	ppb	0.497	1.286	34121.813
55	**Mn**		516468.215	**13.196550**	ppb	2.489	2.906	1261.167
57	**Fe**		1368450.453	**1606.942002**	ppb	3.286	4.061	34683.166
45	**Sc-IS**	>	5669250.519		ppb	0.678		5315997.500
66	**Zn**		85072.594	**19.156816**	ppb	1.516	2.232	4323.988
86	**Sr**		9867.495	**2.895359**	ppb	3.689	4.385	21.196
65	**Cu**		51095.717	**7.586121**	ppb	3.114	3.800	303.337
69	**Ga-IS**		1770856.612		ppb	3.392		1698126.403
95	**Mo**		435.562	**0.073594**	ppb	12.443	21.267	157.779
115	**In-IS**	>	885101.041		ppb	0.709		851740.388
111	**Cd**		1409.155	**0.276272**	ppb	5.085	5.663	24.113
118	**Sn**		7365.232	**0.374574**	ppb	1.164	2.132	1873.459
121	**Sb**		176.668	**-0.004370**	ppb	11.477	29.326	233.335
135	**Ba**		35843.825	**8.542182**	ppb	2.880	2.641	150.001
165	**Ho-IS**		952486.971		ppb	0.915		944584.061
159	**Tb-IS**	>	1008913.130		ppb	0.856		998625.793
207	**Pb**		243334.212	**5.980018**	ppb	1.274	1.501	432.225
203	**Tl**		600.013	**0.033941**	ppb	2.546	3.476	120.001
209	**Bi-IS**		458189.341		ppb	2.042		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-18-C @100
Autosampler Position: 318
Sample Date/Time: Tuesday, January 04, 2022 14:38:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-18-C @100.148
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100510.256		ppb	2.418		95251.063
9	**Be**		246.669	**0.069604**	ppb	12.011	13.804	20.000
10	**B**		5078.682	**2.862001**	ppb	5.083	8.718	2182.389
27	**Al**		43846824.932	**1745.974659**	ppb	1.940	1.838	28842.087
43	**Ca-2**		27412.946	**470.834398**	ppb	1.408	2.223	220.002
49	**Ti**		102581.563	**53.024888**	ppb	2.329	1.512	343.337
52	**Cr**		664867.685	**23.989600**	ppb	1.091	0.988	34121.813
55	**Mn**		1025311.540	**26.029144**	ppb	0.943	0.161	1261.167
57	**Fe**		2707536.613	**3197.493499**	ppb	1.202	0.389	34683.166
45	**Sc-IS**	>	5712872.289		ppb	0.835		5315997.500
66	**Zn**		152741.435	**34.989212**	ppb	2.518	2.826	4323.988
86	**Sr**		18358.685	**5.350052**	ppb	3.444	3.126	21.196
65	**Cu**		90836.812	**13.418248**	ppb	1.486	1.334	303.337
69	**Ga-IS**		1802627.488		ppb	1.278		1698126.403
95	**Mo**		774.465	**0.165124**	ppb	5.260	6.625	157.779
115	**In-IS**	>	910946.165		ppb	0.870		851740.388
111	**Cd**		2534.154	**0.486486**	ppb	2.987	3.854	24.113
118	**Sn**		13604.254	**0.779076**	ppb	2.060	1.389	1873.459
121	**Sb**		191.112	**-0.003759**	ppb	9.606	34.162	233.335
135	**Ba**		67460.035	**15.652573**	ppb	1.330	1.397	150.001
165	**Ho-IS**		964243.528		ppb	0.982		944584.061
159	**Tb-IS**	>	989217.389		ppb	0.656		998625.793
207	**Pb**		467856.688	**11.737130**	ppb	0.946	1.476	432.225
203	**Tl**		1035.593	**0.066274**	ppb	4.778	5.204	120.001
209	**Bi-IS**		457672.383		ppb	1.585		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-19-C @100
Autosampler Position: 319
Sample Date/Time: Tuesday, January 04, 2022 14:39:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-19-C @100.149
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		102223.729		ppb	4.097		95251.063
9	**Be**		444.451	**0.132204**	ppb	4.994	2.784	20.000
10	**B**		5534.406	**3.406462**	ppb	3.502	3.387	2182.389
27	**Al**		41771654.286	**1683.357041**	ppb	0.983	3.093	28842.087
43	**Ca-2**		46423.663	**809.563558**	ppb	2.083	1.992	220.002
49	**Ti**		87088.001	**45.526049**	ppb	1.144	1.773	343.337
52	**Cr**		466465.027	**16.621112**	ppb	1.890	1.060	34121.813
55	**Mn**		1024428.095	**26.318009**	ppb	0.947	2.412	1261.167
57	**Fe**		2665435.078	**3185.103788**	ppb	0.905	2.058	34683.166
45	**Sc-IS**	>	5647882.274		ppb	2.858		5315997.500
66	**Zn**		198274.466	**46.305479**	ppb	1.579	2.998	4323.988
86	**Sr**		22821.811	**6.726628**	ppb	4.926	2.074	21.196
65	**Cu**		111603.143	**16.693866**	ppb	0.752	2.128	303.337
69	**Ga-IS**		1777821.184		ppb	1.577		1698126.403
95	**Mo**		705.573	**0.148478**	ppb	7.825	8.574	157.779
115	**In-IS**	>	894351.220		ppb	1.184		851740.388
111	**Cd**		2326.486	**0.454358**	ppb	4.718	3.599	24.113
118	**Sn**		11956.118	**0.683172**	ppb	4.166	3.694	1873.459
121	**Sb**		404.450	**0.010446**	ppb	11.430	26.201	233.335
135	**Ba**		55397.202	**13.086817**	ppb	0.254	1.137	150.001
165	**Ho-IS**		954973.016		ppb	0.982		944584.061
159	**Tb-IS**	>	998988.762		ppb	0.557		998625.793
207	**Pb**		892104.280	**22.170082**	ppb	0.233	0.606	432.225
203	**Tl**		1621.203	**0.107479**	ppb	2.070	2.787	120.001
209	**Bi-IS**		448440.864		ppb	0.320		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 14:41:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.150
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100937.629		ppb	1.703		95251.063
9	**Be**		327774.718	**101.229857**	ppb	1.334	1.554	20.000
10	**B**		246126.778	**255.241898**	ppb	1.200	1.433	2182.389
27	**Al**		2579419.407	**101.525584**	ppb	1.265	1.717	28842.087
43	**Ca-2**		297482.305	**5147.703610**	ppb	1.012	0.715	220.002
49	**Ti**		192807.000	**99.815468**	ppb	1.406	1.700	343.337
52	**Cr**		2709767.440	**102.052495**	ppb	1.924	2.065	34121.813
55	**Mn**		4010012.570	**101.872453**	ppb	1.247	1.058	1261.167
57	**Fe**		4405202.433	**5229.111216**	ppb	0.318	0.702	34683.166
45	**Sc-IS**	>	5714443.228		ppb	0.440		5315997.500
66	**Zn**		433631.562	**101.318077**	ppb	1.468	1.366	4323.988
86	**Sr**		355020.429	**103.559394**	ppb	1.880	1.946	21.196
65	**Cu**		701486.449	**103.917980**	ppb	0.812	0.729	303.337
69	**Ga-IS**		1876653.539		ppb	1.005		1698126.403
95	**Mo**		377312.647	**102.927655**	ppb	1.088	1.430	157.779
115	**In-IS**	>	900191.579		ppb	0.090		851740.388
111	**Cd**		508578.842	**99.789065**	ppb	1.572	1.656	24.113
118	**Sn**		1466876.199	**99.563252**	ppb	2.098	2.079	1873.459
121	**Sb**		1539388.001	**100.389535**	ppb	1.485	1.535	233.335
135	**Ba**		426247.908	**100.282253**	ppb	2.396	2.476	150.001
165	**Ho-IS**		984157.123		ppb	0.914		944584.061
159	**Tb-IS**	>	1027071.798		ppb	1.742		998625.793
207	**Pb**		4149914.892	**100.354331**	ppb	1.185	0.699	432.225
203	**Tl**		1413523.256	**98.426570**	ppb	1.102	0.635	120.001
209	**Bi-IS**		460185.872		ppb	0.748		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 14:43:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.151
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95088.837		ppb	2.048		95251.063
9	**Be**		81.111	**0.019783**	ppb	11.863	18.181	20.000
10	**B**		2335.747	**0.121495**	ppb	3.936	140.107	2182.389
27	**Al**		37329.378	**0.331631**	ppb	0.974	18.076	28842.087
43	**Ca-2**		290.003	**1.205697**	ppb	15.802	78.886	220.002
49	**Ti**		411.117	**0.033440**	ppb	8.122	69.751	343.337
52	**Cr**		35066.328	**0.009775**	ppb	1.804	440.853	34121.813
55	**Mn**		2312.409	**0.027460**	ppb	0.960	8.579	1261.167
57	**Fe**		33837.819	**-1.977856**	ppb	2.288	32.864	34683.166
45	**Sc-IS**	>	5427829.277		ppb	2.804		5315997.500
66	**Zn**		4287.310	**-0.031515**	ppb	2.140	57.482	4323.988
86	**Sr**		118.350	**0.029819**	ppb	14.270	21.155	21.196
65	**Cu**		463.341	**0.024107**	ppb	7.580	31.158	303.337
69	**Ga-IS**		1741894.851		ppb	2.134		1698126.403
95	**Mo**		535.566	**0.107230**	ppb	15.174	18.035	157.779
115	**In-IS**	>	897345.266		ppb	1.722		851740.388
111	**Cd**		115.542	**0.017709**	ppb	17.609	21.000	24.113
118	**Sn**		2875.845	**0.061538**	ppb	3.006	10.655	1873.459
121	**Sb**		607.791	**0.023719**	ppb	6.041	13.008	233.335
135	**Ba**		200.002	**0.010144**	ppb	43.812	213.052	150.001
165	**Ho-IS**		963821.811		ppb	1.770		944584.061
159	**Tb-IS**	>	990872.312		ppb	0.269		998625.793
207	**Pb**		1288.911	**0.021564**	ppb	9.588	14.769	432.225
203	**Tl**		447.785	**0.023730**	ppb	7.890	11.083	120.001
209	**Bi-IS**		461857.734		ppb	1.087		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-20-C @100
Autosampler Position: 320
Sample Date/Time: Tuesday, January 04, 2022 14:44:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-20-C @100.152
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		96098.895		ppb	2.021		95251.063
9	**Be**		196.668	**0.056855**	ppb	1.695	2.346	20.000
10	**B**		3983.889	**1.903030**	ppb	2.694	3.482	2182.389
27	**Al**		23725770.258	**986.870666**	ppb	0.283	2.166	28842.087
43	**Ca-2**		18213.281	**325.578348**	ppb	3.884	3.555	220.002
49	**Ti**		58363.422	**31.453175**	ppb	0.335	1.590	343.337
52	**Cr**		294744.293	**10.361282**	ppb	1.233	0.852	34121.813
55	**Mn**		583925.327	**15.480364**	ppb	1.436	2.929	1261.167
57	**Fe**		1537077.185	**1878.741717**	ppb	1.349	1.085	34683.166
45	**Sc-IS**	>	5467536.718		ppb	1.875		5315997.500
66	**Zn**		123980.129	**29.510911**	ppb	0.781	1.219	4323.988
86	**Sr**		11820.555	**3.597727**	ppb	1.644	1.658	21.196
65	**Cu**		65119.200	**10.039969**	ppb	0.949	1.060	303.337
69	**Ga-IS**		1753835.788		ppb	0.378		1698126.403
95	**Mo**		442.229	**0.079949**	ppb	4.846	10.468	157.779
115	**In-IS**	>	882166.573		ppb	0.888		851740.388
111	**Cd**		1515.819	**0.298546**	ppb	1.525	2.293	24.113
118	**Sn**		8655.956	**0.465827**	ppb	2.084	3.422	1873.459
121	**Sb**		335.560	**0.006253**	ppb	5.988	22.876	233.335
135	**Ba**		35675.608	**8.531636**	ppb	1.462	2.265	150.001
165	**Ho-IS**		963893.648		ppb	1.511		944584.061
159	**Tb-IS**	>	1014962.559		ppb	0.640		998625.793
207	**Pb**		529811.351	**12.954633**	ppb	1.394	1.244	432.225
203	**Tl**		807.801	**0.048329**	ppb	7.658	9.056	120.001
209	**Bi-IS**		454278.524		ppb	1.382		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-21-C @100
Autosampler Position: 321
Sample Date/Time: Tuesday, January 04, 2022 14:46:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-21-C @100.153
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		96064.210		ppb	1.924		95251.063
9	**Be**		140.001	**0.038363**	ppb	19.048	21.966	20.000
10	**B**		3806.063	**1.692326**	ppb	3.236	6.744	2182.389
27	**Al**		21792236.576	**902.608838**	ppb	0.922	0.458	28842.087
43	**Ca-2**		14782.646	**262.450770**	ppb	1.526	1.571	220.002
49	**Ti**		47745.218	**25.590963**	ppb	1.309	0.814	343.337
52	**Cr**		268921.756	**9.289648**	ppb	2.292	3.127	34121.813
55	**Mn**		519370.490	**13.708106**	ppb	0.531	1.040	1261.167
57	**Fe**		1355562.253	**1645.027448**	ppb	0.956	1.502	34683.166
45	**Sc-IS**	>	5488583.831		ppb	0.507		5315997.500
66	**Zn**		94310.282	**22.093696**	ppb	0.239	0.599	4323.988
86	**Sr**		10510.710	**3.185550**	ppb	1.645	1.220	21.196
65	**Cu**		56730.199	**8.705881**	ppb	0.720	1.192	303.337
69	**Ga-IS**		1748361.374		ppb	1.176		1698126.403
95	**Mo**		432.229	**0.076518**	ppb	9.916	15.734	157.779
115	**In-IS**	>	872796.920		ppb	1.359		851740.388
111	**Cd**		1025.796	**0.202618**	ppb	1.985	2.269	24.113
118	**Sn**		7235.166	**0.372592**	ppb	2.352	2.287	1873.459
121	**Sb**		253.336	**0.000977**	ppb	17.800	327.919	233.335
135	**Ba**		30936.797	**7.473503**	ppb	0.983	2.031	150.001
165	**Ho-IS**		970235.737		ppb	1.132		944584.061
159	**Tb-IS**	>	1006576.967		ppb	1.185		998625.793
207	**Pb**		499757.756	**12.322591**	ppb	0.643	1.662	432.225
203	**Tl**		695.573	**0.040838**	ppb	5.534	7.246	120.001
209	**Bi-IS**		452434.086		ppb	1.744		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-22-C @100
Autosampler Position: 322
Sample Date/Time: Tuesday, January 04, 2022 14:47:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-22-C @100.154
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99256.990		ppb	1.189		95251.063
9	**Be**		234.446	**0.066941**	ppb	13.211	14.910	20.000
10	**B**		5356.560	**3.240678**	ppb	0.778	0.719	2182.389
27	**Al**		34296953.651	**1386.572194**	ppb	1.700	1.068	28842.087
43	**Ca-2**		30143.445	**526.149254**	ppb	2.172	1.540	220.002
49	**Ti**		61541.188	**32.232226**	ppb	1.770	1.548	343.337
52	**Cr**		470143.925	**16.831156**	ppb	3.239	3.179	34121.813
55	**Mn**		888278.320	**22.897018**	ppb	2.183	2.274	1261.167
57	**Fe**		2407272.840	**2882.793428**	ppb	1.729	1.756	34683.166
45	**Sc-IS**	>	5625550.635		ppb	0.682		5315997.500
66	**Zn**		196528.537	**46.049968**	ppb	2.115	1.612	4323.988
86	**Sr**		20195.566	**5.977580**	ppb	2.652	2.362	21.196
65	**Cu**		113959.633	**17.109337**	ppb	2.798	3.035	303.337
69	**Ga-IS**		1773129.048		ppb	0.310		1698126.403
95	**Mo**		617.791	**0.124990**	ppb	5.770	8.101	157.779
115	**In-IS**	>	884121.750		ppb	0.247		851740.388
111	**Cd**		2825.650	**0.559573**	ppb	6.092	6.344	24.113
118	**Sn**		7832.146	**0.407425**	ppb	0.796	1.146	1873.459
121	**Sb**		228.891	**-0.000882**	ppb	9.249	163.727	233.335
135	**Ba**		44668.646	**10.666545**	ppb	2.579	2.530	150.001
165	**Ho-IS**		958549.616		ppb	2.191		944584.061
159	**Tb-IS**	>	989470.841		ppb	1.248		998625.793
207	**Pb**		1012945.510	**25.417824**	ppb	0.920	1.008	432.225
203	**Tl**		878.916	**0.054914**	ppb	5.706	5.461	120.001
209	**Bi-IS**		453908.526		ppb	0.559		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-25-C @100
Autosampler Position: 323
Sample Date/Time: Tuesday, January 04, 2022 14:49:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-25-C @100.155
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99365.676		ppb	2.880		95251.063
9	**Be**		148.890	**0.040618**	ppb	10.580	14.961	20.000
10	**B**		4572.954	**2.457554**	ppb	2.526	7.914	2182.389
27	**Al**		9273189.263	**377.827796**	ppb	1.030	2.193	28842.087
43	**Ca-2**		20179.247	**354.448913**	ppb	2.318	2.212	220.002
49	**Ti**		3760.496	**1.810327**	ppb	4.377	5.825	343.337
52	**Cr**		270151.892	**9.185880**	ppb	1.423	4.465	34121.813
55	**Mn**		284049.795	**7.374536**	ppb	1.304	3.593	1261.167
57	**Fe**		818500.086	**961.271274**	ppb	4.787	6.555	34683.166
45	**Sc-IS**	>	5571114.554		ppb	2.789		5315997.500
66	**Zn**		129767.845	**30.358358**	ppb	0.497	3.321	4323.988
86	**Sr**		13003.284	**3.887306**	ppb	1.535	4.320	21.196
65	**Cu**		81821.507	**12.392864**	ppb	2.293	1.946	303.337
69	**Ga-IS**		1724481.531		ppb	1.674		1698126.403
95	**Mo**		268.891	**0.028967**	ppb	9.943	24.155	157.779
115	**In-IS**	>	885859.711		ppb	0.778		851740.388
111	**Cd**		1758.433	**0.345552**	ppb	5.229	4.619	24.113
118	**Sn**		953.365	**-0.068714**	ppb	4.254	4.816	1873.459
121	**Sb**		138.890	**-0.006879**	ppb	7.715	10.376	233.335
135	**Ba**		8856.080	**2.081075**	ppb	3.459	4.136	150.001
165	**Ho-IS**		959782.769		ppb	1.568		944584.061
159	**Tb-IS**	>	1012719.440		ppb	1.756		998625.793
207	**Pb**		703395.379	**17.242820**	ppb	0.987	1.287	432.225
203	**Tl**		408.895	**0.020271**	ppb	5.726	6.137	120.001
209	**Bi-IS**		457135.638		ppb	0.456		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-26-C @100
Autosampler Position: 324
Sample Date/Time: Tuesday, January 04, 2022 14:50:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-26-C @100.156
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		98893.446		ppb	2.186		95251.063
9	**Be**		176.668	**0.049428**	ppb	14.245	16.837	20.000
10	**B**		3881.638	**1.717930**	ppb	1.744	4.946	2182.389
27	**Al**		26153681.621	**1069.007927**	ppb	1.205	2.547	28842.087
43	**Ca-2**		16314.314	**286.062006**	ppb	2.532	2.116	220.002
49	**Ti**		55975.031	**29.625700**	ppb	1.941	1.697	343.337
52	**Cr**		296865.229	**10.240964**	ppb	1.032	2.339	34121.813
55	**Mn**		616904.169	**16.069870**	ppb	1.235	2.529	1261.167
57	**Fe**		1623091.008	**1951.121121**	ppb	0.531	1.465	34683.166
45	**Sc-IS**	>	5564257.969		ppb	1.362		5315997.500
66	**Zn**		113895.584	**26.530575**	ppb	0.940	1.203	4323.988
86	**Sr**		11300.720	**3.379435**	ppb	2.931	3.365	21.196
65	**Cu**		67038.049	**10.157174**	ppb	1.095	2.110	303.337
69	**Ga-IS**		1762760.707		ppb	0.843		1698126.403
95	**Mo**		438.896	**0.076780**	ppb	4.183	8.711	157.779
115	**In-IS**	>	882286.532		ppb	0.584		851740.388
111	**Cd**		1383.590	**0.271964**	ppb	3.826	3.365	24.113
118	**Sn**		8465.848	**0.452511**	ppb	6.545	8.529	1873.459
121	**Sb**		290.003	**0.003221**	ppb	10.216	64.379	233.335
135	**Ba**		35967.466	**8.599261**	ppb	2.767	2.567	150.001
165	**Ho-IS**		967258.001		ppb	1.713		944584.061
159	**Tb-IS**	>	1000372.499		ppb	1.652		998625.793
207	**Pb**		544935.378	**13.519980**	ppb	1.155	0.531	432.225
203	**Tl**		737.797	**0.044168**	ppb	1.137	3.270	120.001
209	**Bi-IS**		452068.959		ppb	2.094		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-64961-C-27-C @100
Autosampler Position: 325
Sample Date/Time: Tuesday, January 04, 2022 14:52:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-64961-C-27-C @100.157
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99480.755		ppb	1.078		95251.063
9	**Be**		201.113	**0.056905**	ppb	9.425	10.802	20.000
10	**B**		4340.660	**2.191507**	ppb	4.328	7.379	2182.389
27	**Al**		31721056.125	**1291.513763**	ppb	0.757	1.889	28842.087
43	**Ca-2**		21070.550	**369.068468**	ppb	4.655	3.684	220.002
49	**Ti**		68032.757	**35.900404**	ppb	1.807	0.708	343.337
52	**Cr**		374057.281	**13.207546**	ppb	0.481	0.950	34121.813
55	**Mn**		770952.866	**20.011354**	ppb	4.051	4.823	1261.167
57	**Fe**		2076784.577	**2499.198247**	ppb	2.979	4.155	34683.166
45	**Sc-IS**	>	5586685.079		ppb	1.176		5315997.500
66	**Zn**		145114.434	**33.964047**	ppb	0.472	1.696	4323.988
86	**Sr**		15143.706	**4.512738**	ppb	1.186	2.192	21.196
65	**Cu**		86723.749	**13.101227**	ppb	3.382	3.991	303.337
69	**Ga-IS**		1789386.384		ppb	1.414		1698126.403
95	**Mo**		478.897	**0.087388**	ppb	4.253	5.873	157.779
115	**In-IS**	>	891198.217		ppb	1.106		851740.388
111	**Cd**		1689.094	**0.329764**	ppb	1.709	0.676	24.113
118	**Sn**		9685.505	**0.530364**	ppb	0.924	0.227	1873.459
121	**Sb**		195.557	**-0.003204**	ppb	9.988	38.348	233.335
135	**Ba**		44242.850	**10.480875**	ppb	0.606	0.701	150.001
165	**Ho-IS**		970239.286		ppb	0.394		944584.061
159	**Tb-IS**	>	1007940.437		ppb	1.557		998625.793
207	**Pb**		766411.954	**18.876514**	ppb	1.033	0.755	432.225
203	**Tl**		906.695	**0.055753**	ppb	4.143	5.225	120.001
209	**Bi-IS**		447555.304		ppb	2.473		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80495-B-2-A @5
Autosampler Position: 101
Sample Date/Time: Tuesday, January 04, 2022 14:53:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80495-B-2-A @5.158
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		96761.136		ppb	2.172		95251.063
9	**Be**		41.111	**0.006748**	ppb	9.362	17.990	20.000
10	**B**		19462.140	**19.034250**	ppb	1.887	2.460	2182.389
27	**Al**		182300.147	**6.423853**	ppb	0.522	0.765	28842.087
43	**Ca-2**		296243.434	**5406.526058**	ppb	0.280	0.230	220.002
49	**Ti**		2688.031	**1.278869**	ppb	2.972	3.174	343.337
52	**Cr**		40374.779	**0.225334**	ppb	2.679	20.794	34121.813
55	**Mn**		20564.794	**0.516734**	ppb	1.632	2.077	1261.167
57	**Fe**		55682.878	**25.674848**	ppb	4.151	12.238	34683.166
45	**Sc-IS**	>	5418499.113		ppb	0.320		5315997.500
66	**Zn**		10607.271	**1.544404**	ppb	1.793	3.599	4323.988
86	**Sr**		155616.917	**47.869493**	ppb	0.718	1.038	21.196
65	**Cu**		4943.077	**0.724301**	ppb	0.574	0.832	303.337
69	**Ga-IS**		1720890.038		ppb	1.418		1698126.403
95	**Mo**		1065.596	**0.260470**	ppb	10.216	12.407	157.779
115	**In-IS**	>	872524.881		ppb	0.392		851740.388
111	**Cd**		69.985	**0.009168**	ppb	3.050	5.214	24.113
118	**Sn**		1020.037	**-0.063076**	ppb	15.412	17.032	1873.459
121	**Sb**		597.790	**0.024138**	ppb	5.586	8.833	233.335
135	**Ba**		12771.266	**3.063546**	ppb	3.283	3.003	150.001
165	**Ho-IS**		971025.145		ppb	1.013		944584.061
159	**Tb-IS**	>	1016450.500		ppb	1.690		998625.793
207	**Pb**		2180.066	**0.042523**	ppb	1.596	0.859	432.225
203	**Tl**		291.114	**0.011889**	ppb	14.317	24.512	120.001
209	**Bi-IS**		444148.865		ppb	0.611		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-J-1-A sd @25
Autosampler Position: 102
Sample Date/Time: Tuesday, January 04, 2022 14:55:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-J-1-A sd @25.159
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		96305.837		ppb	2.013		95251.063
9	**Be**		21.111	**0.000182**	ppb	32.868	1187.520	20.000
10	**B**		13041.512	**11.876425**	ppb	3.888	3.462	2182.389
27	**Al**		50619.747	**0.881980**	ppb	6.130	14.273	28842.087
43	**Ca-2**		458753.252	**8336.125669**	ppb	2.106	0.632	220.002
49	**Ti**		857.804	**0.275551**	ppb	4.281	5.049	343.337
52	**Cr**		57676.243	**0.911506**	ppb	2.498	6.256	34121.813
55	**Mn**		3798.283	**0.066913**	ppb	0.967	4.017	1261.167
57	**Fe**		55193.099	**24.757796**	ppb	1.604	9.142	34683.166
45	**Sc-IS**	>	5443260.934		ppb	1.661		5315997.500
66	**Zn**		3917.204	**-0.126131**	ppb	3.253	34.512	4323.988
86	**Sr**		134706.215	**41.261017**	ppb	1.444	3.123	21.196
65	**Cu**		3503.764	**0.497100**	ppb	5.362	6.983	303.337
69	**Ga-IS**		1702433.896		ppb	1.220		1698126.403
95	**Mo**		231.113	**0.019993**	ppb	7.115	29.337	157.779
115	**In-IS**	>	868979.281		ppb	1.612		851740.388
111	**Cd**		31.737	**0.001457**	ppb	33.713	151.503	24.113
118	**Sn**		567.789	**-0.094631**	ppb	11.658	4.463	1873.459
121	**Sb**		202.224	**-0.002413**	ppb	4.758	35.617	233.335
135	**Ba**		5823.410	**1.383210**	ppb	3.268	5.005	150.001
165	**Ho-IS**		955636.089		ppb	0.508		944584.061
159	**Tb-IS**	>	1005097.046		ppb	1.412		998625.793
207	**Pb**		1296.691	**0.021288**	ppb	4.691	5.770	432.225
203	**Tl**		230.002	**0.007768**	ppb	10.451	20.888	120.001
209	**Bi-IS**		455153.862		ppb	0.500		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-J-1-A @5
Autosampler Position: 103
Sample Date/Time: Tuesday, January 04, 2022 14:56:58
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-J-1-A @5.160
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		101179.458		ppb	2.873		95251.063
9	**Be**		15.556	**-0.001568**	ppb	24.744	73.016	20.000
10	**B**		59716.791	**63.756821**	ppb	1.384	0.711	2182.389
27	**Al**		138946.459	**4.628894**	ppb	2.800	5.278	28842.087
43	**Ca-2**		2295580.586	**42093.162408**	ppb	2.424	1.108	220.002
49	**Ti**		3183.688	**1.556993**	ppb	3.224	2.063	343.337
52	**Cr**		139844.829	**4.252915**	ppb	2.788	2.024	34121.813
55	**Mn**		13510.833	**0.329139**	ppb	2.655	1.974	1261.167
57	**Fe**		146633.227	**141.327715**	ppb	1.265	4.083	34683.166
45	**Sc-IS**	>	5396436.530		ppb	2.037		5315997.500
66	**Zn**		7687.625	**0.824495**	ppb	3.606	3.855	4323.988
86	**Sr**		690708.259	**213.393766**	ppb	0.942	1.418	21.196
65	**Cu**		17984.649	**2.775557**	ppb	1.695	3.652	303.337
69	**Ga-IS**		1697376.926		ppb	1.480		1698126.403
95	**Mo**		1077.819	**0.265485**	ppb	11.289	14.436	157.779
115	**In-IS**	>	841711.622		ppb	2.147		851740.388
111	**Cd**		66.626	**0.008970**	ppb	7.637	8.682	24.113
118	**Sn**		1195.606	**-0.047678**	ppb	9.341	16.352	1873.459
121	**Sb**		363.338	**0.009249**	ppb	5.581	9.996	233.335
135	**Ba**		29259.939	**7.328281**	ppb	1.487	0.847	150.001
165	**Ho-IS**		944538.360		ppb	2.769		944584.061
159	**Tb-IS**	>	989167.623		ppb	2.316		998625.793
207	**Pb**		5044.790	**0.115943**	ppb	1.499	1.281	432.225
203	**Tl**		178.890	**0.004353**	ppb	10.263	33.647	120.001
209	**Bi-IS**		431090.595		ppb	2.648		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 14:58:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.161
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99712.504		ppb	2.707		95251.063
9	**Be**		326647.260	**103.592709**	ppb	1.555	2.526	20.000
10	**B**		248326.873	**264.546413**	ppb	1.860	3.004	2182.389
27	**Al**		2521277.376	**101.906903**	ppb	1.150	2.363	28842.087
43	**Ca-2**		299485.281	**5321.484474**	ppb	1.238	1.666	220.002
49	**Ti**		188340.543	**100.098389**	ppb	2.435	1.598	343.337
52	**Cr**		2610664.532	**100.934520**	ppb	0.990	1.010	34121.813
55	**Mn**		3912599.589	**102.073800**	ppb	1.535	2.587	1261.167
57	**Fe**		4338683.180	**5288.873207**	ppb	0.914	1.892	34683.166
45	**Sc-IS**	>	5565750.795		ppb	1.207		5315997.500
66	**Zn**		430449.823	**103.306310**	ppb	1.577	2.792	4323.988
86	**Sr**		359798.144	**107.767597**	ppb	2.019	2.451	21.196
65	**Cu**		686076.426	**104.376494**	ppb	1.920	3.110	303.337
69	**Ga-IS**		1854516.525		ppb	1.030		1698126.403
95	**Mo**		379319.657	**106.262108**	ppb	3.076	3.888	157.779
115	**In-IS**	>	888059.608		ppb	0.925		851740.388
111	**Cd**		506933.732	**100.823569**	ppb	1.145	0.510	24.113
118	**Sn**		1474893.590	**101.480293**	ppb	0.945	0.873	1873.459
121	**Sb**		1556182.253	**102.874485**	ppb	0.390	0.556	233.335
135	**Ba**		435568.807	**103.888056**	ppb	1.121	2.032	150.001
165	**Ho-IS**		990597.317		ppb	1.024		944584.061
159	**Tb-IS**	>	1033298.680		ppb	1.211		998625.793
207	**Pb**		4185272.287	**100.610445**	ppb	1.583	2.523	432.225
203	**Tl**		1428978.828	**98.916989**	ppb	1.969	2.954	120.001
209	**Bi-IS**		464860.480		ppb	0.972		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 15:00:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.162
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100152.064		ppb	0.344		95251.063
9	**Be**		66.667	**0.014765**	ppb	15.000	22.602	20.000
10	**B**		2626.909	**0.401918**	ppb	6.485	50.170	2182.389
27	**Al**		52081.120	**0.920474**	ppb	1.963	5.072	28842.087
43	**Ca-2**		623.347	**7.118232**	ppb	7.234	10.938	220.002
49	**Ti**		380.005	**0.013398**	ppb	6.623	110.091	343.337
52	**Cr**		36753.893	**0.057572**	ppb	1.505	53.188	34121.813
55	**Mn**		2758.044	**0.038378**	ppb	3.693	8.090	1261.167
57	**Fe**		35910.636	**0.029901**	ppb	0.894	575.744	34683.166
45	**Sc-IS**	>	5500396.253		ppb	0.597		5315997.500
66	**Zn**		4227.292	**-0.060415**	ppb	2.213	48.125	4323.988
86	**Sr**		161.173	**0.042172**	ppb	21.932	24.857	21.196
65	**Cu**		504.453	**0.029337**	ppb	3.983	8.976	303.337
69	**Ga-IS**		1775751.973		ppb	2.002		1698126.403
95	**Mo**		654.459	**0.139249**	ppb	3.391	3.736	157.779
115	**In-IS**	>	893331.761		ppb	2.244		851740.388
111	**Cd**		108.626	**0.016504**	ppb	6.179	10.911	24.113
118	**Sn**		3893.864	**0.132130**	ppb	2.869	4.785	1873.459
121	**Sb**		630.014	**0.025283**	ppb	10.205	13.503	233.335
135	**Ba**		146.667	**-0.002465**	ppb	10.415	177.488	150.001
165	**Ho-IS**		982666.697		ppb	2.209		944584.061
159	**Tb-IS**	>	1030446.424		ppb	0.617		998625.793
207	**Pb**		1283.357	**0.020196**	ppb	9.764	15.786	432.225
203	**Tl**		393.339	**0.018708**	ppb	6.937	10.358	120.001
209	**Bi-IS**		472462.472		ppb	0.583		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 15:06:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.163
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100816.714		ppb	0.298		95251.063
9	**Be**		16.667	**-0.001344**	ppb	20.000	79.828	20.000
10	**B**		1799.002	**-0.518601**	ppb	2.411	16.432	2182.389
27	**Al**		63533.714	**1.366915**	ppb	2.963	3.562	28842.087
43	**Ca-2**		383.339	**2.729834**	ppb	17.023	41.884	220.002
49	**Ti**		467.786	**0.058796**	ppb	21.143	99.163	343.337
52	**Cr**		37923.608	**0.088716**	ppb	1.102	46.570	34121.813
55	**Mn**		2873.622	**0.040625**	ppb	2.423	1.448	1261.167
57	**Fe**		53716.555	**21.541586**	ppb	5.436	22.395	34683.166
45	**Sc-IS**	>	5558225.909		ppb	1.998		5315997.500
66	**Zn**		4258.412	**-0.063305**	ppb	1.334	54.798	4323.988
86	**Sr**		73.494	**0.015487**	ppb	63.687	91.022	21.196
65	**Cu**		424.451	**0.016439**	ppb	14.594	61.851	303.337
69	**Ga-IS**		1799366.582		ppb	0.459		1698126.403
95	**Mo**		272.225	**0.030435**	ppb	31.418	84.559	157.779
115	**In-IS**	>	900723.812		ppb	0.805		851740.388
111	**Cd**		26.095	**0.000107**	ppb	44.410	2082.448	24.113
118	**Sn**		5439.945	**0.234737**	ppb	17.059	26.166	1873.459
121	**Sb**		487.786	**0.015711**	ppb	6.350	12.616	233.335
135	**Ba**		110.000	**-0.011431**	ppb	9.091	21.302	150.001
165	**Ho-IS**		982105.276		ppb	1.420		944584.061
159	**Tb-IS**	>	1017573.351		ppb	1.406		998625.793
207	**Pb**		542.226	**0.002484**	ppb	2.839	9.753	432.225
203	**Tl**		82.222	**-0.002819**	ppb	14.237	27.672	120.001
209	**Bi-IS**		466462.273		ppb	0.598		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-J-1-B MS @5
Autosampler Position: 104
Sample Date/Time: Tuesday, January 04, 2022 15:08:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-J-1-B MS @5.164
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100279.667		ppb	1.454		95251.063
9	**Be**		55970.547	**18.120789**	ppb	0.896	2.329	20.000
10	**B**		73647.136	**78.388428**	ppb	0.862	0.606	2182.389
27	**Al**		569117.467	**22.535561**	ppb	1.308	1.263	28842.087
43	**Ca-2**		2277079.356	**41344.256537**	ppb	0.440	1.195	220.002
49	**Ti**		32422.315	**17.440124**	ppb	1.920	1.865	343.337
52	**Cr**		537825.382	**20.128359**	ppb	1.040	1.560	34121.813
55	**Mn**		588030.955	**15.634449**	ppb	1.445	1.821	1261.167
57	**Fe**		888705.598	**1071.070801**	ppb	1.387	2.919	34683.166
45	**Sc-IS**	>	5450603.555		ppb	1.453		5315997.500
66	**Zn**		81532.025	**19.095330**	ppb	1.285	2.639	4323.988
86	**Sr**		717714.078	**219.559306**	ppb	2.426	3.519	21.196
65	**Cu**		122441.967	**18.987129**	ppb	4.155	5.578	303.337
69	**Ga-IS**		1725102.011		ppb	1.334		1698126.403
95	**Mo**		52562.077	**14.995124**	ppb	0.574	1.868	157.779
115	**In-IS**	>	863525.422		ppb	1.333		851740.388
111	**Cd**		84844.915	**17.350382**	ppb	2.477	2.169	24.113
118	**Sn**		194105.399	**13.620109**	ppb	0.759	1.725	1873.459
121	**Sb**		248351.832	**16.873463**	ppb	2.019	2.843	233.335
135	**Ba**		103698.519	**25.411913**	ppb	2.682	3.763	150.001
165	**Ho-IS**		970584.971		ppb	0.403		944584.061
159	**Tb-IS**	>	1021133.045		ppb	2.097		998625.793
207	**Pb**		629485.242	**15.303930**	ppb	1.093	1.743	432.225
203	**Tl**		213104.881	**14.917002**	ppb	2.203	0.884	120.001
209	**Bi-IS**		432318.709		ppb	1.832		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-J-1-C MSD @5
Autosampler Position: 105
Sample Date/Time: Tuesday, January 04, 2022 15:09:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-J-1-C MSD @5.165
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		102667.746		ppb	2.431		95251.063
9	**Be**		56552.849	**17.934296**	ppb	1.693	2.289	20.000
10	**B**		77290.744	**80.658508**	ppb	0.235	0.508	2182.389
27	**Al**		577248.437	**22.383556**	ppb	0.494	0.671	28842.087
43	**Ca-2**		2367787.661	**42113.879691**	ppb	0.695	1.257	220.002
49	**Ti**		32832.131	**17.299567**	ppb	0.729	1.338	343.337
52	**Cr**		543512.924	**19.911818**	ppb	0.270	0.903	34121.813
55	**Mn**		609276.855	**15.869575**	ppb	1.136	1.730	1261.167
57	**Fe**		894185.144	**1054.852294**	ppb	0.621	1.100	34683.166
45	**Sc-IS**	>	5563815.329		ppb	0.601		5315997.500
66	**Zn**		80367.654	**18.397730**	ppb	0.373	0.255	4323.988
86	**Sr**		713454.643	**213.771958**	ppb	2.508	2.927	21.196
65	**Cu**		119280.349	**18.108866**	ppb	0.263	0.369	303.337
69	**Ga-IS**		1702881.972		ppb	0.396		1698126.403
95	**Mo**		54239.493	**15.158102**	ppb	2.811	3.226	157.779
115	**In-IS**	>	845619.404		ppb	1.943		851740.388
111	**Cd**		83972.854	**17.537963**	ppb	0.886	1.116	24.113
118	**Sn**		194178.033	**13.913700**	ppb	2.628	1.029	1873.459
121	**Sb**		250792.364	**17.403277**	ppb	0.956	2.750	233.335
135	**Ba**		103729.751	**25.963509**	ppb	1.721	3.685	150.001
165	**Ho-IS**		969915.926		ppb	1.072		944584.061
159	**Tb-IS**	>	1015510.504		ppb	1.173		998625.793
207	**Pb**		646454.057	**15.801085**	ppb	1.798	1.704	432.225
203	**Tl**		215842.390	**15.191579**	ppb	2.574	1.981	120.001
209	**Bi-IS**		435635.530		ppb	2.682		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80228-J-1-A PDS @5
Autosampler Position: 106
Sample Date/Time: Tuesday, January 04, 2022 15:11:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80228-J-1-A PDS @5.166
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		103082.951		ppb	2.492		95251.063
9	**Be**		62612.488	**20.412141**	ppb	1.523	1.026	20.000
10	**B**		77097.506	**82.789135**	ppb	1.338	2.373	2182.389
27	**Al**		605459.698	**24.231728**	ppb	1.549	0.469	28842.087
43	**Ca-2**		2287547.661	**41827.171563**	ppb	1.274	0.995	220.002
49	**Ti**		35518.567	**19.258170**	ppb	2.757	1.610	343.337
52	**Cr**		580896.584	**22.021022**	ppb	0.717	2.509	34121.813
55	**Mn**		668594.642	**17.907901**	ppb	1.100	1.554	1261.167
57	**Fe**		968632.952	**1179.842712**	ppb	1.034	1.330	34683.166
45	**Sc-IS**	>	5412241.394		ppb	1.687		5315997.500
66	**Zn**		86346.835	**20.438260**	ppb	0.348	1.644	4323.988
86	**Sr**		707256.737	**217.903822**	ppb	1.855	3.257	21.196
65	**Cu**		129996.571	**20.298555**	ppb	0.313	1.986	303.337
69	**Ga-IS**		1689087.278		ppb	2.953		1698126.403
95	**Mo**		59630.866	**17.139647**	ppb	0.730	2.053	157.779
115	**In-IS**	>	847381.777		ppb	0.954		851740.388
111	**Cd**		91693.420	**19.107295**	ppb	1.924	1.091	24.113
118	**Sn**		222472.946	**15.930506**	ppb	2.490	3.064	1873.459
121	**Sb**		270556.930	**18.731280**	ppb	0.476	0.752	233.335
135	**Ba**		109526.069	**27.346271**	ppb	1.145	0.591	150.001
165	**Ho-IS**		960990.705		ppb	1.489		944584.061
159	**Tb-IS**	>	1000315.760		ppb	1.704		998625.793
207	**Pb**		695929.268	**17.270082**	ppb	1.247	0.494	432.225
203	**Tl**		232521.921	**16.617190**	ppb	1.861	1.827	120.001
209	**Bi-IS**		437905.591		ppb	2.123		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 15:13:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.167
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		102799.795		ppb	2.370		95251.063
9	**Be**		328235.647	**104.539423**	ppb	1.985	1.374	20.000
10	**B**		245705.268	**262.914826**	ppb	1.469	3.011	2182.389
27	**Al**		2558577.304	**103.894835**	ppb	0.494	1.816	28842.087
43	**Ca-2**		298407.948	**5325.702183**	ppb	0.929	0.786	220.002
49	**Ti**		188345.811	**100.557268**	ppb	1.240	0.948	343.337
52	**Cr**		2610116.324	**101.391833**	ppb	1.544	3.068	34121.813
55	**Mn**		3925673.334	**102.875400**	ppb	1.016	2.568	1261.167
57	**Fe**		4335579.729	**5308.355358**	ppb	1.371	1.444	34683.166
45	**Sc-IS**	>	5541240.672		ppb	1.542		5315997.500
66	**Zn**		429638.998	**103.549558**	ppb	1.339	0.219	4323.988
86	**Sr**		350154.234	**105.338224**	ppb	0.932	0.710	21.196
65	**Cu**		678851.244	**103.689428**	ppb	3.261	1.741	303.337
69	**Ga-IS**		1876001.116		ppb	1.675		1698126.403
95	**Mo**		367310.003	**103.338891**	ppb	0.509	1.086	157.779
115	**In-IS**	>	890215.494		ppb	0.202		851740.388
111	**Cd**		501755.150	**99.552114**	ppb	1.762	1.715	24.113
118	**Sn**		1439357.715	**98.791049**	ppb	1.127	1.308	1873.459
121	**Sb**		1509476.014	**99.543278**	ppb	1.895	2.036	233.335
135	**Ba**		420496.036	**100.036099**	ppb	1.165	1.125	150.001
165	**Ho-IS**		992013.100		ppb	1.296		944584.061
159	**Tb-IS**	>	1016686.787		ppb	2.850		998625.793
207	**Pb**		4200931.775	**102.671885**	ppb	0.387	2.742	432.225
203	**Tl**		1440187.873	**101.351702**	ppb	1.024	2.831	120.001
209	**Bi-IS**		469257.702		ppb	1.922		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 15:14:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.168
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100445.439		ppb	3.057		95251.063
9	**Be**		76.667	**0.018014**	ppb	15.676	25.413	20.000
10	**B**		2783.605	**0.566117**	ppb	3.960	13.532	2182.389
27	**Al**		52483.579	**0.934471**	ppb	1.496	7.976	28842.087
43	**Ca-2**		770.021	**9.750527**	ppb	9.206	15.166	220.002
49	**Ti**		405.561	**0.026195**	ppb	14.916	97.730	343.337
52	**Cr**		36580.110	**0.048948**	ppb	0.996	105.425	34121.813
55	**Mn**		2875.845	**0.041431**	ppb	2.479	10.464	1261.167
57	**Fe**		36899.829	**1.216160**	ppb	1.938	167.021	34683.166
45	**Sc-IS**	>	5510715.848		ppb	3.352		5315997.500
66	**Zn**		4283.976	**-0.047430**	ppb	4.153	139.085	4323.988
86	**Sr**		173.794	**0.045794**	ppb	18.415	18.238	21.196
65	**Cu**		543.344	**0.035245**	ppb	7.075	19.042	303.337
69	**Ga-IS**		1775871.421		ppb	2.016		1698126.403
95	**Mo**		807.801	**0.183074**	ppb	19.606	27.291	157.779
115	**In-IS**	>	902098.493		ppb	0.949		851740.388
111	**Cd**		130.526	**0.020556**	ppb	20.545	25.395	24.113
118	**Sn**		6594.874	**0.312581**	ppb	13.762	19.214	1873.459
121	**Sb**		706.684	**0.029915**	ppb	16.883	25.956	233.335
135	**Ba**		181.112	**0.005227**	ppb	12.528	101.925	150.001
165	**Ho-IS**		986380.325		ppb	2.113		944584.061
159	**Tb-IS**	>	1028595.597		ppb	2.538		998625.793
207	**Pb**		1344.469	**0.021720**	ppb	5.816	8.515	432.225
203	**Tl**		427.784	**0.021150**	ppb	7.071	9.363	120.001
209	**Bi-IS**		479163.054		ppb	1.259		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80229-E-7-A @5
Autosampler Position: 160
Sample Date/Time: Tuesday, January 04, 2022 15:42:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80229-E-7-A @5.169
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97980.465		ppb	1.526		95251.063
9	**Be**		53.333	**0.010993**	ppb	16.536	26.281	20.000
10	**B**		20162.008	**20.153667**	ppb	3.602	5.374	2182.389
27	**Al**		3245850.303	**137.222294**	ppb	1.026	1.675	28842.087
43	**Ca-2**		998865.107	**18519.830418**	ppb	1.076	2.058	220.002
49	**Ti**		1190.050	**0.469655**	ppb	6.902	10.573	343.337
52	**Cr**		136918.657	**4.196729**	ppb	1.489	2.397	34121.813
55	**Mn**		7656045.472	**208.296845**	ppb	0.422	0.888	1261.167
57	**Fe**		1260181.604	**1571.048869**	ppb	2.910	4.034	34683.166
45	**Sc-IS**	>	5337218.198		ppb	1.198		5315997.500
66	**Zn**		1194440.797	**300.967530**	ppb	0.725	1.047	4323.988
86	**Sr**		323475.945	**101.012465**	ppb	3.424	2.522	21.196
65	**Cu**		1734414.317	**275.194759**	ppb	2.673	2.821	303.337
69	**Ga-IS**		1716787.366		ppb	1.925		1698126.403
95	**Mo**		183.335	**0.007277**	ppb	5.455	36.719	157.779
115	**In-IS**	>	848578.708		ppb	1.072		851740.388
111	**Cd**		1531.920	**0.313780**	ppb	7.671	7.146	24.113
118	**Sn**		2619.134	**0.054117**	ppb	17.410	58.608	1873.459
121	**Sb**		158.890	**-0.005087**	ppb	10.559	23.687	233.335
135	**Ba**		64927.295	**16.172245**	ppb	2.960	2.533	150.001
165	**Ho-IS**		934144.559		ppb	1.670		944584.061
159	**Tb-IS**	>	976599.518		ppb	1.392		998625.793
207	**Pb**		147602.948	**3.744112**	ppb	1.173	2.554	432.225
203	**Tl**		203.335	**0.006304**	ppb	5.911	16.503	120.001
209	**Bi-IS**		442149.145		ppb	2.234		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 15:44:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.170
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100654.604		ppb	2.450		95251.063
9	**Be**		330438.074	**106.191423**	ppb	0.756	0.937	20.000
10	**B**		248612.339	**268.407318**	ppb	2.734	2.958	2182.389
27	**Al**		2529532.109	**103.620610**	ppb	1.208	1.102	28842.087
43	**Ca-2**		295889.944	**5328.921036**	ppb	1.433	2.596	220.002
49	**Ti**		187260.886	**100.862539**	ppb	2.326	1.202	343.337
52	**Cr**		2646468.234	**103.742612**	ppb	0.799	1.866	34121.813
55	**Mn**		3861827.291	**102.092213**	ppb	0.802	1.227	1261.167
57	**Fe**		4237596.556	**5233.684539**	ppb	2.013	1.110	34683.166
45	**Sc-IS**	>	5492159.671		ppb	1.700		5315997.500
66	**Zn**		428405.418	**104.196449**	ppb	0.361	1.469	4323.988
86	**Sr**		343455.168	**104.259860**	ppb	1.163	2.108	21.196
65	**Cu**		681226.623	**105.012140**	ppb	2.148	2.212	303.337
69	**Ga-IS**		1840636.121		ppb	1.120		1698126.403
95	**Mo**		370935.083	**105.305369**	ppb	2.648	3.362	157.779
115	**In-IS**	>	876433.327		ppb	1.300		851740.388
111	**Cd**		497133.070	**100.198958**	ppb	0.674	1.571	24.113
118	**Sn**		1444632.523	**100.717604**	ppb	0.873	0.592	1873.459
121	**Sb**		1520295.298	**101.848772**	ppb	1.004	2.087	233.335
135	**Ba**		418295.734	**101.103489**	ppb	1.761	2.991	150.001
165	**Ho-IS**		952569.963		ppb	0.480		944584.061
159	**Tb-IS**	>	994425.734		ppb	1.278		998625.793
207	**Pb**		4056905.412	**101.314480**	ppb	1.803	0.558	432.225
203	**Tl**		1374512.828	**98.842449**	ppb	1.586	0.306	120.001
209	**Bi-IS**		457023.013		ppb	1.460		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 15:46:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020_STD.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.171
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		98937.003		ppb	1.170		95251.063
9	**Be**		66.667	**0.014712**	ppb	26.458	38.922	20.000
10	**B**		2182.389	**-0.087919**	ppb	3.603	103.707	2182.389
27	**Al**		51671.623	**0.898248**	ppb	1.243	2.469	28842.087
43	**Ca-2**		456.674	**4.104279**	ppb	15.497	31.626	220.002
49	**Ti**		413.339	**0.030760**	ppb	5.036	35.840	343.337
52	**Cr**		36144.559	**0.029852**	ppb	0.971	59.072	34121.813
55	**Mn**		3282.600	**0.052013**	ppb	2.682	5.136	1261.167
57	**Fe**		33721.977	**-2.793275**	ppb	0.613	5.117	34683.166
45	**Sc-IS**	>	5513727.538		ppb	0.415		5315997.500
66	**Zn**		4179.501	**-0.074827**	ppb	3.691	44.839	4323.988
86	**Sr**		83.855	**0.018690**	ppb	49.828	67.199	21.196
65	**Cu**		706.684	**0.060231**	ppb	7.722	14.178	303.337
69	**Ga-IS**		1777683.873		ppb	1.764		1698126.403
95	**Mo**		761.132	**0.168925**	ppb	11.852	14.571	157.779
115	**In-IS**	>	887457.488		ppb	1.445		851740.388
111	**Cd**		99.513	**0.014769**	ppb	24.207	31.063	24.113
118	**Sn**		4866.388	**0.200832**	ppb	7.832	11.870	1873.459
121	**Sb**		635.570	**0.025950**	ppb	11.802	18.137	233.335
135	**Ba**		141.112	**-0.003623**	ppb	15.187	140.507	150.001
165	**Ho-IS**		969325.557		ppb	1.066		944584.061
159	**Tb-IS**	>	1008032.033		ppb	1.157		998625.793
207	**Pb**		1140.018	**0.017349**	ppb	3.256	7.120	432.225
203	**Tl**		365.560	**0.017320**	ppb	15.322	21.462	120.001
209	**Bi-IS**		462806.019		ppb	2.159		450867.759

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, January 04, 2022 16:10:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICIS-1479530.173
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		92930.304		ppb	2.588		
9	**Be**		16.667		ppb	20.000		
10	**B**		1410.070		ppb	12.219		
27	**Al**		50214.449		ppb	1.786		
43	**Ca-2**		295.003		ppb	9.437		
49	**Ti**		404.450		ppb	9.764		
52	**Cr**		36023.154		ppb	2.226		
55	**Mn**		2097.932		ppb	4.873		
57	**Fe**		32378.924		ppb	4.528		
45	**Sc-IS**	>	5357440.785		ppb	2.423		
66	**Zn**		4011.674		ppb	1.608		
86	**Sr**		-1.165		ppb	7237.303		
65	**Cu**		285.558		ppb	5.517		
69	**Ga-IS**		1733718.193		ppb	1.566		
95	**Mo**		108.889		ppb	29.095		
115	**In-IS**	>	877431.511		ppb	1.245		
111	**Cd**		14.216		ppb	13.142		
118	**Sn**		4100.589		ppb	1.972		
121	**Sb**		345.560		ppb	8.963		
135	**Ba**		125.556		ppb	18.835		
165	**Ho-IS**		956942.213		ppb	1.085		
159	**Tb-IS**	>	1000644.454		ppb	1.872		
207	**Pb**		320.001		ppb	16.764		
203	**Tl**		63.333		ppb	9.116		
209	**Bi-IS**		465801.252		ppb	0.650		
51	**V**		2.222		ppb	173.205		
59	**Co**		5.556		ppb	124.900		
60	**Ni**		231.113		ppb	8.451		
75	**As**		407.125		ppb	3.397		
71	**Ga-ISK**		141987.821		ppb	1.710		
82	**Se-2**		35.474		ppb	34.938		
107	**Ag-1**		520.009		ppb	7.224		
115	**In-ISK**	>	211194.011		ppb	2.374		
45	**Sc-ISK**		326236.843		ppb	1.439		
23	**Na**		8312.418		ppb	1.798		
39	**K**		37925.846		ppb	2.045		
24	**Mg**		156.668		ppb	23.954		
159	**Tb-ISK**	>	442227.419		ppb	1.491		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Tuesday, January 04, 2022 16:13:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\IC-2235387.174
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		93074.479		ppb	1.432		92930.304
9	**Be**		620597.126	**200.000000**	ppb	0.720	2.760	16.667
10	**B**		468224.237	**500.000000**	ppb	2.286	2.107	1410.070
27	**Al**		4611700.041	**200.000000**	ppb	2.544	0.623	50214.449
43	**Ca-2**		548292.297	**10200.000000**	ppb	1.689	2.244	295.003
49	**Ti**		355284.286	**200.000000**	ppb	1.461	2.231	404.450
52	**Cr**		4894747.886	**200.000000**	ppb	0.973	2.317	36023.154
55	**Mn**		7344797.224	**200.000000**	ppb	0.776	1.994	2097.932
57	**Fe**		7958009.819	**10200.000000**	ppb	0.592	2.837	32378.924
45	**Sc-IS**	>	5268470.080		ppb	2.738		5357440.785
66	**Zn**		809800.989	**200.000000**	ppb	0.435	3.144	4011.674
86	**Sr**		637661.639	**200.000000**	ppb	1.234	1.944	-1.165
65	**Cu**		1280989.704	**200.000000**	ppb	1.660	1.415	285.558
69	**Ga-IS**		1851277.428		ppb	2.669		1733718.193
95	**Mo**		679981.940	**200.000000**	ppb	1.286	2.840	108.889
115	**In-IS**	>	877142.909		ppb	1.099		877431.511
111	**Cd**		978880.951	**200.000000**	ppb	2.288	1.341	14.216
118	**Sn**		2812016.285	**200.000000**	ppb	1.146	0.443	4100.589
121	**Sb**		2974529.358	**200.000000**	ppb	1.503	0.434	345.560
135	**Ba**		832576.495	**200.000000**	ppb	1.170	0.642	125.556
165	**Ho-IS**		935983.102		ppb	1.751		956942.213
159	**Tb-IS**	>	977461.600		ppb	1.647		1000644.454
207	**Pb**		7822360.473	**200.000000**	ppb	1.480	1.474	320.001
203	**Tl**		2704402.888	**200.000000**	ppb	0.869	1.618	63.333
209	**Bi-IS**		440894.983		ppb	0.883		465801.252
51	**V**		71336.597	**200.000000**	ppb	1.841	1.984	2.222
59	**Co**		246225.473	**200.000000**	ppb	3.469	2.534	5.556
60	**Ni**		372901.292	**200.000000**	ppb	1.118	2.953	231.113
75	**As**		140509.134	**200.000000**	ppb	1.627	2.234	407.125
71	**Ga-ISK**		134563.122		ppb	1.676		141987.821
82	**Se-2**		13533.573	**200.000000**	ppb	2.086	2.301	35.474
107	**Ag-1**		1511487.563	**200.000000**	ppb	3.153	1.708	520.009
115	**In-ISK**	>	207694.490		ppb	3.758		211194.011
45	**Sc-ISK**		326487.924		ppb	1.262		326236.843
23	**Na**		2752123.591	**10200.000000**	ppb	1.273	1.386	8312.418
39	**K**		6537112.815	**10200.000000**	ppb	0.882	1.753	37925.846
24	**Mg**		2717568.997	**10200.000000**	ppb	1.593	2.413	156.668
159	**Tb-ISK**	>	437155.412		ppb	2.596		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 16:16:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.175
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		94484.822		ppb	1.708		92930.304
9	**Be**		316790.064	**101.249430**	ppb	1.583	0.787	16.667
10	**B**		236844.193	**250.144058**	ppb	3.368	2.728	1410.070
27	**Al**		2412426.962	**102.780436**	ppb	0.629	1.676	50214.449
43	**Ca-2**		279005.361	**5145.736066**	ppb	1.689	0.540	295.003
49	**Ti**		179365.835	**100.049549**	ppb	1.518	1.673	404.450
52	**Cr**		2500030.338	**100.605553**	ppb	1.823	1.681	36023.154
55	**Mn**		3743213.117	**101.079983**	ppb	0.880	0.741	2097.932
57	**Fe**		4089792.258	**5178.999131**	ppb	1.111	1.049	32378.924
45	**Sc-IS**	>	5309505.442		ppb	1.197		5357440.785
66	**Zn**		414503.563	**101.036764**	ppb	2.681	2.160	4011.674
86	**Sr**		332454.999	**103.426966**	ppb	2.355	1.482	-1.165
65	**Cu**		660769.876	**102.315694**	ppb	2.498	1.584	285.558
69	**Ga-IS**		1773824.117		ppb	1.812		1733718.193
95	**Mo**		350788.337	**102.316417**	ppb	1.208	0.584	108.889
115	**In-IS**	>	893434.541		ppb	1.473		877431.511
111	**Cd**		498183.402	**99.942553**	ppb	1.108	0.967	14.216
118	**Sn**		1447580.321	**100.952566**	ppb	0.951	2.022	4100.589
121	**Sb**		1539401.468	**101.624294**	ppb	0.550	1.569	345.560
135	**Ba**		425796.846	**100.428250**	ppb	1.640	2.834	125.556
165	**Ho-IS**		952988.071		ppb	1.273		956942.213
159	**Tb-IS**	>	991441.877		ppb	2.532		1000644.454
207	**Pb**		4092811.128	**103.207322**	ppb	1.026	3.147	320.001
203	**Tl**		1384094.535	**100.944320**	ppb	1.438	3.104	63.333
209	**Bi-IS**		459975.734		ppb	0.376		465801.252
51	**V**		35756.940	**98.811214**	ppb	2.852	0.742	2.222
59	**Co**		123877.180	**99.214762**	ppb	2.268	1.551	5.556
60	**Ni**		191343.144	**101.104252**	ppb	1.698	2.203	231.113
75	**As**		70973.358	**99.318612**	ppb	1.590	2.264	407.125
71	**Ga-ISK**		136538.668		ppb	2.993		141987.821
82	**Se-2**		6886.506	**100.118872**	ppb	2.317	4.138	35.474
107	**Ag-1**		806971.165	**105.275331**	ppb	1.136	1.525	520.009
115	**In-ISK**	>	210596.856		ppb	2.541		211194.011
45	**Sc-ISK**		320534.933		ppb	3.059		326236.843
23	**Na**		1391575.594	**5080.324260**	ppb	3.851	2.303	8312.418
39	**K**		3331956.423	**5107.700614**	ppb	2.542	0.927	37925.846
24	**Mg**		1333226.504	**4944.500711**	ppb	1.472	0.394	156.668
159	**Tb-ISK**	>	442260.736		ppb	1.712		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 16:19:46
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.176
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95592.234		ppb	2.585		92930.304
9	**Be**		112.223	**0.030712**	ppb	15.242	15.045	16.667
10	**B**		2550.228	**1.240436**	ppb	4.208	7.134	1410.070
27	**Al**		50315.127	**0.038170**	ppb	1.280	237.611	50214.449
43	**Ca-2**		386.672	**1.769633**	ppb	10.845	29.568	295.003
49	**Ti**		407.784	**0.004985**	ppb	6.135	70.548	404.450
52	**Cr**		34092.862	**-0.056973**	ppb	1.590	74.925	36023.154
55	**Mn**		2996.981	**0.025380**	ppb	2.368	20.850	2097.932
57	**Fe**		33284.290	**1.825134**	ppb	1.385	134.890	32378.924
45	**Sc-IS**	>	5281567.026		ppb	4.610		5357440.785
66	**Zn**		4206.175	**0.064165**	ppb	1.741	101.744	4011.674
86	**Sr**		127.901	**0.040400**	ppb	28.283	28.058	-1.165
65	**Cu**		543.344	**0.041207**	ppb	16.947	41.146	285.558
69	**Ga-IS**		1706664.705		ppb	2.191		1733718.193
95	**Mo**		2770.269	**0.783563**	ppb	5.710	10.680	108.889
115	**In-IS**	>	882748.453		ppb	0.202		877431.511
111	**Cd**		160.850	**0.029762**	ppb	18.020	20.008	14.216
118	**Sn**		13207.222	**0.642761**	ppb	4.478	6.505	4100.589
121	**Sb**		1458.964	**0.074251**	ppb	7.249	9.324	345.560
135	**Ba**		163.334	**0.008835**	ppb	5.400	23.292	125.556
165	**Ho-IS**		963592.508		ppb	3.942		956942.213
159	**Tb-IS**	>	1010126.705		ppb	2.316		1000644.454
207	**Pb**		1637.814	**0.032546**	ppb	1.632	4.240	320.001
203	**Tl**		648.904	**0.041806**	ppb	12.040	11.666	63.333
209	**Bi-IS**		461451.684		ppb	1.176		465801.252
51	**V**		15.556	**0.037021**	ppb	53.927	62.735	2.222
59	**Co**		60.000	**0.043816**	ppb	25.459	29.074	5.556
60	**Ni**		332.226	**0.054279**	ppb	6.681	20.695	231.113
75	**As**		453.352	**0.068121**	ppb	11.487	102.106	407.125
71	**Ga-ISK**		136604.603		ppb	1.790		141987.821
82	**Se-2**		36.854	**0.023484**	ppb	16.453	392.350	35.474
107	**Ag-1**		2119.046	**0.209696**	ppb	3.264	5.571	520.009
115	**In-ISK**	>	210032.597		ppb	0.952		211194.011
45	**Sc-ISK**		318114.908		ppb	2.968		326236.843
23	**Na**		9294.690	**3.368131**	ppb	1.459	35.536	8312.418
39	**K**		40748.032	**3.920893**	ppb	0.551	38.102	37925.846
24	**Mg**		810.023	**2.404523**	ppb	8.025	12.130	156.668
159	**Tb-ISK**	>	445597.759		ppb	2.283		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 16:22:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.177
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		93464.852		ppb	2.230		92930.304
9	**Be**		31.111	**0.004608**	ppb	24.744	53.162	16.667
10	**B**		1946.799	**0.571525**	ppb	4.092	13.163	1410.070
27	**Al**		60423.194	**0.448551**	ppb	1.241	10.276	50214.449
43	**Ca-2**		361.671	**1.239636**	ppb	13.285	69.635	295.003
49	**Ti**		367.783	**-0.019607**	ppb	7.547	83.717	404.450
52	**Cr**		34051.649	**-0.075258**	ppb	1.150	33.444	36023.154
55	**Mn**		2992.536	**0.024211**	ppb	1.496	5.202	2097.932
57	**Fe**		32039.246	**-0.302610**	ppb	3.228	387.023	32378.924
45	**Sc-IS**	>	5340412.152		ppb	0.673		5357440.785
66	**Zn**		3659.358	**-0.083073**	ppb	2.018	22.204	4011.674
86	**Sr**		72.395	**0.022738**	ppb	15.295	14.386	-1.165
65	**Cu**		422.229	**0.021212**	ppb	10.182	32.764	285.558
69	**Ga-IS**		1736564.690		ppb	2.209		1733718.193
95	**Mo**		1220.052	**0.322406**	ppb	1.521	0.939	108.889
115	**In-IS**	>	886476.325		ppb	0.850		877431.511
111	**Cd**		60.771	**0.009385**	ppb	5.462	7.460	14.216
118	**Sn**		8451.393	**0.303499**	ppb	5.387	8.937	4100.589
121	**Sb**		724.463	**0.024963**	ppb	9.137	16.786	345.560
135	**Ba**		133.334	**0.001549**	ppb	15.000	310.136	125.556
165	**Ho-IS**		976714.892		ppb	1.408		956942.213
159	**Tb-IS**	>	1013433.357		ppb	0.804		1000644.454
207	**Pb**		852.233	**0.013026**	ppb	2.390	4.818	320.001
203	**Tl**		355.560	**0.020811**	ppb	18.968	24.198	63.333
209	**Bi-IS**		474896.785		ppb	0.590		465801.252
51	**V**		6.667	**0.011753**	ppb	50.000	76.226	2.222
59	**Co**		32.222	**0.020587**	ppb	26.034	31.608	5.556
60	**Ni**		416.673	**0.091825**	ppb	8.352	19.388	231.113
75	**As**		446.094	**0.037505**	ppb	2.681	45.899	407.125
71	**Ga-ISK**		140086.193		ppb	3.252		141987.821
82	**Se-2**		34.489	**-0.027882**	ppb	49.566	870.316	35.474
107	**Ag-1**		920.030	**0.048771**	ppb	2.376	5.734	520.009
115	**In-ISK**	>	217157.297		ppb	0.156		211194.011
45	**Sc-ISK**		326858.482		ppb	3.291		326236.843
23	**Na**		8966.148	**2.110120**	ppb	3.008	57.305	8312.418
39	**K**		39954.696	**2.582752**	ppb	1.795	19.883	37925.846
24	**Mg**		433.340	**1.013295**	ppb	7.854	14.932	156.668
159	**Tb-ISK**	>	446304.648		ppb	1.918		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205291_1-A
Autosampler Position: 326
Sample Date/Time: Tuesday, January 04, 2022 16:26:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\MB 570-205291_1-A.178
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		93014.058		ppb	0.765		92930.304
9	**Be**		28.889	**0.003893**	ppb	17.625	39.577	16.667
10	**B**		1821.227	**0.439043**	ppb	2.844	9.688	1410.070
27	**Al**		64395.503	**0.620738**	ppb	1.629	11.034	50214.449
43	**Ca-2**		341.671	**0.871957**	ppb	10.587	72.209	295.003
49	**Ti**		356.671	**-0.025679**	ppb	10.281	86.800	404.450
52	**Cr**		34238.763	**-0.067715**	ppb	1.283	6.700	36023.154
55	**Mn**		2516.889	**0.011432**	ppb	4.016	21.260	2097.932
57	**Fe**		31024.802	**-1.594414**	ppb	4.149	74.275	32378.924
45	**Sc-IS**	>	5340134.417		ppb	1.139		5357440.785
66	**Zn**		3663.803	**-0.082083**	ppb	3.188	23.402	4011.674
86	**Sr**		41.733	**0.013213**	ppb	83.418	80.768	-1.165
65	**Cu**		365.560	**0.012462**	ppb	6.207	27.180	285.558
69	**Ga-IS**		1761131.570		ppb	2.678		1733718.193
95	**Mo**		604.457	**0.143959**	ppb	12.261	15.726	108.889
115	**In-IS**	>	901513.807		ppb	0.733		877431.511
111	**Cd**		35.397	**0.004153**	ppb	62.106	106.332	14.216
118	**Sn**		6252.497	**0.141505**	ppb	13.868	43.873	4100.589
121	**Sb**		507.787	**0.009993**	ppb	8.312	27.535	345.560
135	**Ba**		82.222	**-0.010945**	ppb	19.998	34.503	125.556
165	**Ho-IS**		972108.758		ppb	1.055		956942.213
159	**Tb-IS**	>	1008322.676		ppb	0.571		1000644.454
207	**Pb**		598.894	**0.006853**	ppb	3.355	8.082	320.001
203	**Tl**		185.557	**0.008730**	ppb	14.958	23.328	63.333
209	**Bi-IS**		475723.768		ppb	1.684		465801.252
51	**V**		5.556	**0.009023**	ppb	173.205	290.765	2.222
59	**Co**		26.667	**0.016418**	ppb	69.597	89.001	5.556
60	**Ni**		394.450	**0.082072**	ppb	14.048	35.956	231.113
75	**As**		429.947	**0.020831**	ppb	12.988	407.485	407.125
71	**Ga-ISK**		138723.716		ppb	1.406		141987.821
82	**Se-2**		28.479	**-0.108435**	ppb	39.346	152.029	35.474
107	**Ag-1**		521.121	**-0.001229**	ppb	4.801	173.618	520.009
115	**In-ISK**	>	215487.992		ppb	1.563		211194.011
45	**Sc-ISK**		323116.022		ppb	1.492		326236.843
23	**Na**		8884.429	**1.619376**	ppb	1.807	55.228	8312.418
39	**K**		39143.565	**0.979485**	ppb	1.750	71.468	37925.846
24	**Mg**		256.669	**0.357756**	ppb	15.746	43.688	156.668
159	**Tb-ISK**	>	448940.164		ppb	1.023		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205291_2-A
Autosampler Position: 327
Sample Date/Time: Tuesday, January 04, 2022 16:29:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCS 570-205291_2-A.179
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		92491.955		ppb	2.939		92930.304
9	**Be**		293399.840	**93.447554**	ppb	3.195	2.067	16.667
10	**B**		92918.186	**96.891819**	ppb	3.980	2.888	1410.070
27	**Al**		2566563.506	**109.093278**	ppb	2.196	1.376	50214.449
43	**Ca-2**		298675.950	**5490.089490**	ppb	2.221	0.443	295.003
49	**Ti**		168726.599	**93.764586**	ppb	2.739	0.959	404.450
52	**Cr**		2414311.285	**96.758585**	ppb	2.557	0.582	36023.154
55	**Mn**		3457549.839	**93.037789**	ppb	2.041	0.210	2097.932
57	**Fe**		4422544.674	**5585.025566**	ppb	1.002	1.319	32378.924
45	**Sc-IS**	>	5327827.280		ppb	2.107		5357440.785
66	**Zn**		381379.385	**92.596995**	ppb	1.950	3.089	4011.674
86	**Sr**		303846.199	**94.235091**	ppb	2.119	2.935	-1.165
65	**Cu**		603699.983	**93.196088**	ppb	0.586	2.715	285.558
69	**Ga-IS**		1807747.916		ppb	2.184		1733718.193
95	**Mo**		330132.009	**95.992095**	ppb	2.048	3.236	108.889
115	**In-IS**	>	891530.404		ppb	0.951		877431.511
111	**Cd**		475606.736	**95.615973**	ppb	0.310	0.851	14.216
118	**Sn**		1377239.907	**96.223280**	ppb	0.882	0.652	4100.589
121	**Sb**		1427807.511	**94.448499**	ppb	0.217	0.865	345.560
135	**Ba**		469029.177	**110.841422**	ppb	1.114	1.276	125.556
165	**Ho-IS**		977950.938		ppb	0.957		956942.213
159	**Tb-IS**	>	1009240.398		ppb	1.794		1000644.454
207	**Pb**		3829522.965	**94.837623**	ppb	0.979	2.103	320.001
203	**Tl**		1288653.711	**92.315605**	ppb	2.362	3.624	63.333
209	**Bi-IS**		460972.200		ppb	1.241		465801.252
51	**V**		32599.380	**88.653141**	ppb	1.459	2.412	2.222
59	**Co**		110334.471	**86.953045**	ppb	1.054	2.468	5.556
60	**Ni**		180905.059	**94.035426**	ppb	1.492	2.682	231.113
75	**As**		65750.266	**90.438196**	ppb	2.651	1.248	407.125
71	**Ga-ISK**		135442.400		ppb	0.887		141987.821
82	**Se-2**		5934.376	**84.751192**	ppb	2.179	1.079	35.474
107	**Ag-1**		433046.472	**55.530811**	ppb	2.751	1.361	520.009
115	**In-ISK**	>	214047.886		ppb	1.451		211194.011
45	**Sc-ISK**		323398.528		ppb	2.244		326236.843
23	**Na**		275171.735	**987.455779**	ppb	0.986	1.022	8312.418
39	**K**		677214.359	**998.738033**	ppb	2.774	2.704	37925.846
24	**Mg**		1406890.153	**5254.353978**	ppb	0.833	0.610	156.668
159	**Tb-ISK**	>	439160.679		ppb	0.228		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205291_3-A
Autosampler Position: 328
Sample Date/Time: Tuesday, January 04, 2022 16:32:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCSD 570-205291_3-A.180
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		92641.829		ppb	3.096		92930.304
9	**Be**		292900.753	**94.412245**	ppb	1.985	2.271	16.667
10	**B**		93335.083	**98.537496**	ppb	1.793	2.659	1410.070
27	**Al**		2559553.309	**110.156841**	ppb	0.663	3.678	50214.449
43	**Ca-2**		293829.505	**5464.256561**	ppb	3.074	1.437	295.003
49	**Ti**		167931.921	**94.377151**	ppb	5.218	2.392	404.450
52	**Cr**		2406163.769	**97.563960**	ppb	3.856	1.826	36023.154
55	**Mn**		3416621.644	**93.002690**	ppb	3.301	0.864	2097.932
57	**Fe**		4326435.283	**5524.400775**	ppb	4.206	0.879	32378.924
45	**Sc-IS**	>	5267897.251		ppb	4.123		5357440.785
66	**Zn**		384159.966	**94.383396**	ppb	1.748	2.493	4011.674
86	**Sr**		301260.865	**94.552821**	ppb	1.771	3.544	-1.165
65	**Cu**		608559.828	**95.027793**	ppb	2.687	2.304	285.558
69	**Ga-IS**		1830493.009		ppb	1.780		1733718.193
95	**Mo**		331354.427	**97.506472**	ppb	0.555	3.652	108.889
115	**In-IS**	>	887654.084		ppb	0.464		877431.511
111	**Cd**		471487.016	**95.192539**	ppb	1.909	1.449	14.216
118	**Sn**		1373265.087	**96.361294**	ppb	1.128	0.677	4100.589
121	**Sb**		1436127.530	**95.408354**	ppb	0.631	0.168	345.560
135	**Ba**		468971.788	**111.305613**	ppb	1.118	0.780	125.556
165	**Ho-IS**		973683.148		ppb	1.326		956942.213
159	**Tb-IS**	>	1008368.702		ppb	1.304		1000644.454
207	**Pb**		3814128.897	**94.533989**	ppb	1.065	2.216	320.001
203	**Tl**		1287508.823	**92.285005**	ppb	1.777	1.683	63.333
209	**Bi-IS**		462516.155		ppb	2.352		465801.252
51	**V**		33907.972	**92.296314**	ppb	0.591	2.345	2.222
59	**Co**		114329.015	**90.184052**	ppb	0.729	2.661	5.556
60	**Ni**		178674.303	**92.927903**	ppb	2.758	1.989	231.113
75	**As**		65769.738	**90.557150**	ppb	2.301	2.037	407.125
71	**Ga-ISK**		137810.581		ppb	1.981		141987.821
82	**Se-2**		5995.750	**85.710419**	ppb	2.615	2.071	35.474
107	**Ag-1**		434853.603	**55.819296**	ppb	1.595	1.055	520.009
115	**In-ISK**	>	213874.671		ppb	1.957		211194.011
45	**Sc-ISK**		320904.235		ppb	3.081		326236.843
23	**Na**		279847.513	**1000.816549**	ppb	4.171	2.492	8312.418
39	**K**		679220.681	**998.134322**	ppb	2.944	2.251	37925.846
24	**Mg**		1409011.218	**5243.858133**	ppb	2.375	1.727	156.668
159	**Tb-ISK**	>	440720.530		ppb	1.917		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-1-A sd @5
Autosampler Position: 329
Sample Date/Time: Tuesday, January 04, 2022 16:35:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-1-A sd @5.181
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97437.845		ppb	0.773		92930.304
9	**Be**		256.669	**0.075826**	ppb	12.389	16.908	16.667
10	**B**		85042.416	**87.560392**	ppb	1.547	2.366	1410.070
27	**Al**		12118825.742	**517.506579**	ppb	0.487	3.922	50214.449
43	**Ca-2**		2195424.031	**39931.375953**	ppb	2.410	1.588	295.003
49	**Ti**		4557.395	**2.284993**	ppb	5.413	4.211	404.450
52	**Cr**		106421.677	**2.824114**	ppb	1.821	4.228	36023.154
55	**Mn**		12252165.302	**326.090771**	ppb	3.052	2.544	2097.932
57	**Fe**		475612.742	**556.958212**	ppb	3.522	1.224	32378.924
45	**Sc-IS**	>	5390595.414		ppb	3.515		5357440.785
66	**Zn**		15404.976	**2.756260**	ppb	3.696	2.666	4011.674
86	**Sr**		1341196.588	**411.482420**	ppb	1.885	5.194	-1.165
65	**Cu**		16021.205	**2.401328**	ppb	2.691	0.894	285.558
69	**Ga-IS**		1666015.242		ppb	1.306		1733718.193
95	**Mo**		2662.470	**0.734257**	ppb	0.261	3.602	108.889
115	**In-IS**	>	842778.502		ppb	0.829		877431.511
111	**Cd**		1353.362	**0.284993**	ppb	5.319	6.070	14.216
118	**Sn**		4858.604	**0.068213**	ppb	0.952	6.365	4100.589
121	**Sb**		3520.434	**0.223215**	ppb	3.504	4.673	345.560
135	**Ba**		88147.796	**22.013166**	ppb	0.913	1.727	125.556
165	**Ho-IS**		946049.579		ppb	0.488		956942.213
159	**Tb-IS**	>	967275.461		ppb	1.039		1000644.454
207	**Pb**		21765.315	**0.554380**	ppb	1.525	2.004	320.001
203	**Tl**		670.016	**0.045531**	ppb	10.448	12.702	63.333
209	**Bi-IS**		422165.013		ppb	0.787		465801.252
51	**V**		461.119	**1.353853**	ppb	15.460	16.458	2.222
59	**Co**		1103.376	**0.936968**	ppb	5.660	4.082	5.556
60	**Ni**		2249.066	**1.146331**	ppb	2.373	4.044	231.113
75	**As**		1684.011	**1.955009**	ppb	5.606	8.082	407.125
71	**Ga-ISK**		128182.769		ppb	2.616		141987.821
82	**Se-2**		279.833	**3.838590**	ppb	5.383	5.246	35.474
107	**Ag-1**		803.356	**0.044059**	ppb	8.163	19.598	520.009
115	**In-ISK**	>	197592.796		ppb	1.699		211194.011
45	**Sc-ISK**		317246.322		ppb	4.521		326236.843
23	**Na**		12033442.603	**45022.642733**	ppb	3.176	1.974	8312.418
39	**K**		839108.177	**1267.506838**	ppb	3.532	3.221	37925.846
24	**Mg**		2976268.475	**11251.617216**	ppb	2.888	2.510	156.668
159	**Tb-ISK**	>	433938.657		ppb	2.517		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-1-A
Autosampler Position: 330
Sample Date/Time: Tuesday, January 04, 2022 16:38:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-1-A.182
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106831.424		ppb	2.186		92930.304
9	**Be**		942.253	**0.277208**	ppb	8.530	8.230	16.667
10	**B**		413400.370	**410.592276**	ppb	1.495	0.822	1410.070
27	**Al**		61787646.377	**2519.231714**	ppb	0.898	0.418	50214.449
43	**Ca-2**		11284169.169	**195456.555900**	ppb	0.973	0.578	295.003
49	**Ti**		20131.954	**10.334506**	ppb	1.165	1.321	404.450
52	**Cr**		388303.382	**13.415617**	ppb	0.753	1.625	36023.154
55	**Mn**		59884232.883	**1518.006385**	ppb	1.667	2.321	2097.932
57	**Fe**		3139911.761	**3718.981242**	ppb	0.670	1.394	32378.924
45	**Sc-IS**	>	5659347.526		ppb	0.708		5357440.785
66	**Zn**		53326.043	**11.336592**	ppb	2.256	3.176	4011.674
86	**Sr**		6685060.452	**1951.411461**	ppb	1.444	1.888	-1.165
65	**Cu**		69839.222	**10.107999**	ppb	1.783	2.437	285.558
69	**Ga-IS**		1589390.413		ppb	1.534		1733718.193
95	**Mo**		9573.207	**2.588992**	ppb	0.971	0.933	108.889
115	**In-IS**	>	780735.863		ppb	1.872		877431.511
111	**Cd**		5472.063	**1.253302**	ppb	1.791	0.084	14.216
118	**Sn**		4504.045	**0.068273**	ppb	5.868	21.120	4100.589
121	**Sb**		4612.968	**0.325227**	ppb	3.568	2.167	345.560
135	**Ba**		429474.624	**115.913951**	ppb	0.457	1.435	125.556
165	**Ho-IS**		925029.984		ppb	1.809		956942.213
159	**Tb-IS**	>	959394.208		ppb	1.058		1000644.454
207	**Pb**		98184.262	**2.549579**	ppb	0.788	0.624	320.001
203	**Tl**		444.451	**0.028920**	ppb	3.849	5.665	63.333
209	**Bi-IS**		373994.875		ppb	1.101		465801.252
51	**V**		2665.804	**7.895253**	ppb	3.219	4.448	2.222
59	**Co**		5791.174	**4.968120**	ppb	1.950	2.165	5.556
60	**Ni**		10885.261	**6.048877**	ppb	3.924	2.908	231.113
75	**As**		6562.549	**9.326046**	ppb	3.122	1.764	407.125
71	**Ga-ISK**		132733.004		ppb	2.873		141987.821
82	**Se-2**		1300.367	**19.838391**	ppb	6.463	5.805	35.474
107	**Ag-1**		1767.887	**0.179618**	ppb	4.890	5.253	520.009
115	**In-ISK**	>	196443.887		ppb	1.542		211194.011
45	**Sc-ISK**		351697.117		ppb	4.249		326236.843
23	**Na**		68798759.526	**257257.562349**	ppb	1.139	1.356	8312.418
39	**K**		4603912.184	**7209.084262**	ppb	0.803	0.731	37925.846
24	**Mg**		17022193.106	**64269.807757**	ppb	1.850	1.734	156.668
159	**Tb-ISK**	>	434453.614		ppb	0.865		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-1-B MS
Autosampler Position: 331
Sample Date/Time: Tuesday, January 04, 2022 16:41:38
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-1-B MS.183
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106977.986		ppb	1.241		92930.304
9	**Be**		287213.165	**87.202098**	ppb	1.171	1.690	16.667
10	**B**		478448.935	**481.510279**	ppb	0.261	2.586	1410.070
27	**Al**		61964478.918	**2559.752718**	ppb	2.727	5.242	50214.449
43	**Ca-2**		11173659.066	**195992.922441**	ppb	1.399	2.637	295.003
49	**Ti**		176013.621	**93.256600**	ppb	2.303	3.303	404.450
52	**Cr**		2553934.380	**97.594882**	ppb	0.628	2.277	36023.154
55	**Mn**		60285367.981	**1547.021732**	ppb	1.604	1.055	2097.932
57	**Fe**		6733961.864	**8122.550325**	ppb	1.558	1.096	32378.924
45	**Sc-IS**	>	5590859.785		ppb	2.644		5357440.785
66	**Zn**		346295.233	**79.985469**	ppb	1.367	1.701	4011.674
86	**Sr**		6831291.648	**2019.738197**	ppb	1.734	4.028	-1.165
65	**Cu**		519340.608	**76.392808**	ppb	0.625	2.147	285.558
69	**Ga-IS**		1600740.966		ppb	0.547		1733718.193
95	**Mo**		293876.568	**81.432725**	ppb	0.954	2.757	108.889
115	**In-IS**	>	773961.460		ppb	1.433		877431.511
111	**Cd**		386496.964	**89.497191**	ppb	2.071	1.178	14.216
118	**Sn**		1070507.319	**86.134010**	ppb	0.577	1.552	4100.589
121	**Sb**		1239565.087	**94.457016**	ppb	0.488	1.167	345.560
135	**Ba**		741673.776	**201.948082**	ppb	1.101	2.043	125.556
165	**Ho-IS**		928396.707		ppb	2.063		956942.213
159	**Tb-IS**	>	950876.391		ppb	1.499		1000644.454
207	**Pb**		3261775.419	**85.725156**	ppb	0.741	1.288	320.001
203	**Tl**		1086922.035	**82.622372**	ppb	1.848	2.064	63.333
209	**Bi-IS**		374312.708		ppb	0.397		465801.252
51	**V**		38608.782	**112.038374**	ppb	1.952	3.651	2.222
59	**Co**		116846.004	**98.251625**	ppb	1.747	3.339	5.556
60	**Ni**		177399.713	**98.347216**	ppb	2.867	1.467	231.113
75	**As**		77571.920	**113.987300**	ppb	1.948	0.609	407.125
71	**Ga-ISK**		138661.221		ppb	3.071		141987.821
82	**Se-2**		8065.894	**123.123567**	ppb	2.120	0.663	35.474
107	**Ag-1**		260314.822	**35.596411**	ppb	0.616	1.241	520.009
115	**In-ISK**	>	200644.054		ppb	1.861		211194.011
45	**Sc-ISK**		377818.574		ppb	1.742		326236.843
23	**Na**		73918292.703	**274381.622073**	ppb	0.983	2.697	8312.418
39	**K**		5559641.566	**8653.139000**	ppb	1.153	2.304	37925.846
24	**Mg**		19370389.316	**72577.360675**	ppb	2.167	0.440	156.668
159	**Tb-ISK**	>	437780.129		ppb	1.909		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-1-C MSD
Autosampler Position: 332
Sample Date/Time: Tuesday, January 04, 2022 16:44:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-1-C MSD.184
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		109117.422		ppb	1.401		92930.304
9	**Be**		280061.446	**84.477481**	ppb	1.937	0.847	16.667
10	**B**		476784.578	**476.750764**	ppb	2.078	3.114	1410.070
27	**Al**		62591237.005	**2567.795496**	ppb	1.287	2.257	50214.449
43	**Ca-2**		11483334.718	**200131.879122**	ppb	0.631	1.872	295.003
49	**Ti**		173033.240	**91.052969**	ppb	2.750	0.990	404.450
52	**Cr**		2483253.260	**94.199779**	ppb	3.042	0.884	36023.154
55	**Mn**		60674360.402	**1547.255012**	ppb	0.792	1.397	2097.932
57	**Fe**		6680324.861	**8006.037542**	ppb	1.419	0.809	32378.924
45	**Sc-IS**	>	5626184.219		ppb	2.176		5357440.785
66	**Zn**		336528.216	**77.226903**	ppb	1.490	3.626	4011.674
86	**Sr**		7049105.762	**2070.314734**	ppb	1.763	2.788	-1.165
65	**Cu**		511541.892	**74.769510**	ppb	1.328	2.659	285.558
69	**Ga-IS**		1602676.671		ppb	1.436		1733718.193
95	**Mo**		292328.422	**80.464304**	ppb	2.374	1.759	108.889
115	**In-IS**	>	788892.589		ppb	0.127		877431.511
111	**Cd**		381771.956	**86.731870**	ppb	0.815	0.688	14.216
118	**Sn**		1065706.229	**84.106185**	ppb	0.852	0.789	4100.589
121	**Sb**		1235291.331	**92.338326**	ppb	1.975	1.875	345.560
135	**Ba**		752832.596	**201.071874**	ppb	0.865	0.771	125.556
165	**Ho-IS**		946279.744		ppb	1.951		956942.213
159	**Tb-IS**	>	967865.298		ppb	3.142		1000644.454
207	**Pb**		3261939.041	**84.274530**	ppb	0.324	3.372	320.001
203	**Tl**		1083534.807	**80.964753**	ppb	0.205	3.201	63.333
209	**Bi-IS**		378950.303		ppb	1.838		465801.252
51	**V**		37052.469	**106.761990**	ppb	3.365	4.880	2.222
59	**Co**		111000.736	**92.649067**	ppb	1.366	2.046	5.556
60	**Ni**		176028.053	**96.897545**	ppb	1.626	0.621	231.113
75	**As**		77378.786	**112.880403**	ppb	2.058	0.495	407.125
71	**Ga-ISK**		141844.371		ppb	2.639		141987.821
82	**Se-2**		7996.876	**121.168930**	ppb	3.325	1.675	35.474
107	**Ag-1**		254459.813	**34.541980**	ppb	1.283	0.900	520.009
115	**In-ISK**	>	202094.322		ppb	1.899		211194.011
45	**Sc-ISK**		384909.524		ppb	3.971		326236.843
23	**Na**		76217307.647	**281004.021864**	ppb	2.389	0.195	8312.418
39	**K**		5643010.022	**8724.029699**	ppb	2.858	0.439	37925.846
24	**Mg**		19557994.675	**72802.242768**	ppb	3.202	1.002	156.668
159	**Tb-ISK**	>	440627.668		ppb	2.571		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-1-A PDS
Autosampler Position: 333
Sample Date/Time: Tuesday, January 04, 2022 16:47:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-1-A PDS.185
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		107255.662		ppb	1.851		92930.304
9	**Be**		278451.199	**84.556197**	ppb	2.865	3.756	16.667
10	**B**		472251.958	**475.211783**	ppb	3.906	4.323	1410.070
27	**Al**		62463135.015	**2578.765862**	ppb	1.218	1.502	50214.449
43	**Ca-2**		11399856.047	**199904.623794**	ppb	2.055	0.320	295.003
49	**Ti**		172424.405	**91.337443**	ppb	1.153	1.342	404.450
52	**Cr**		2508262.921	**95.827432**	ppb	1.016	2.493	36023.154
55	**Mn**		60422632.610	**1550.816925**	ppb	1.037	2.028	2097.932
57	**Fe**		6766909.194	**8163.144852**	ppb	1.160	1.325	32378.924
45	**Sc-IS**	>	5590017.900		ppb	1.808		5357440.785
66	**Zn**		338925.931	**78.276986**	ppb	1.188	2.682	4011.674
86	**Sr**		7163135.159	**2117.109566**	ppb	0.758	1.520	-1.165
65	**Cu**		520338.895	**76.537947**	ppb	1.253	2.082	285.558
69	**Ga-IS**		1561903.455		ppb	0.618		1733718.193
95	**Mo**		306680.380	**84.967418**	ppb	0.856	1.195	108.889
115	**In-IS**	>	785793.330		ppb	0.529		877431.511
111	**Cd**		387123.963	**88.295006**	ppb	0.700	0.382	14.216
118	**Sn**		1109483.827	**87.923432**	ppb	0.592	1.122	4100.589
121	**Sb**		1264446.916	**94.891390**	ppb	1.248	0.995	345.560
135	**Ba**		810947.447	**217.448216**	ppb	1.516	1.265	125.556
165	**Ho-IS**		939699.878		ppb	2.036		956942.213
159	**Tb-IS**	>	958612.848		ppb	0.977		1000644.454
207	**Pb**		3357634.772	**87.517368**	ppb	1.924	0.959	320.001
203	**Tl**		1116497.058	**84.167720**	ppb	2.641	1.656	63.333
209	**Bi-IS**		388030.450		ppb	0.496		465801.252
51	**V**		38639.973	**110.916860**	ppb	1.614	2.273	2.222
59	**Co**		115825.439	**96.338360**	ppb	0.654	0.873	5.556
60	**Ni**		183226.583	**100.521400**	ppb	1.452	0.790	231.113
75	**As**		80465.399	**116.999252**	ppb	3.502	2.799	407.125
71	**Ga-ISK**		143704.338		ppb	3.917		141987.821
82	**Se-2**		8196.001	**123.795013**	ppb	2.273	1.585	35.474
107	**Ag-1**		274793.348	**37.180074**	ppb	0.641	0.268	520.009
115	**In-ISK**	>	202768.759		ppb	0.737		211194.011
45	**Sc-ISK**		384618.203		ppb	1.223		326236.843
23	**Na**		77119124.464	**283808.176539**	ppb	0.878	0.938	8312.418
39	**K**		5884891.560	**9082.619853**	ppb	2.775	1.408	37925.846
24	**Mg**		20331260.722	**75543.141516**	ppb	1.791	0.373	156.668
159	**Tb-ISK**	>	441470.963		ppb	1.782		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-2-A
Autosampler Position: 334
Sample Date/Time: Tuesday, January 04, 2022 16:50:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-2-A.186
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104387.812		ppb	1.158		92930.304
9	**Be**		1008.925	**0.298724**	ppb	1.009	2.430	16.667
10	**B**		406296.383	**405.404084**	ppb	2.869	2.824	1410.070
27	**Al**		67948248.795	**2783.905446**	ppb	0.889	2.205	50214.449
43	**Ca-2**		11087018.227	**192940.297925**	ppb	1.328	1.607	295.003
49	**Ti**		15808.744	**8.105120**	ppb	1.643	1.285	404.450
52	**Cr**		40436831.204	**1554.501955**	ppb	0.697	1.022	36023.154
55	**Mn**		128435757.691	**3270.936376**	ppb	0.250	1.825	2097.932
57	**Fe**		5709383.837	**6827.603232**	ppb	0.367	1.436	32378.924
45	**Sc-IS**	>	5633630.991		ppb	1.579		5357440.785
66	**Zn**		41735.325	**8.703974**	ppb	1.078	1.955	4011.674
86	**Sr**		5935958.885	**1740.850001**	ppb	1.668	2.364	-1.165
65	**Cu**		57221.048	**8.311721**	ppb	1.228	1.414	285.558
69	**Ga-IS**		1509024.390		ppb	0.859		1733718.193
95	**Mo**		27568.799	**7.550774**	ppb	0.594	1.949	108.889
115	**In-IS**	>	772916.018		ppb	1.079		877431.511
111	**Cd**		2318.970	**0.535074**	ppb	5.034	6.177	14.216
118	**Sn**		21402.705	**1.438203**	ppb	4.081	5.116	4100.589
121	**Sb**		4993.095	**0.357861**	ppb	2.010	2.628	345.560
135	**Ba**		661231.208	**180.248887**	ppb	1.519	0.451	125.556
165	**Ho-IS**		953053.239		ppb	1.256		956942.213
159	**Tb-IS**	>	981128.675		ppb	2.240		1000644.454
207	**Pb**		99853.214	**2.536265**	ppb	0.496	2.439	320.001
203	**Tl**		562.233	**0.036856**	ppb	1.492	2.758	63.333
209	**Bi-IS**		386963.130		ppb	0.268		465801.252
51	**V**		1825.672	**5.115551**	ppb	2.283	4.581	2.222
59	**Co**		2013.475	**1.632794**	ppb	3.732	6.093	5.556
60	**Ni**		8884.985	**4.645380**	ppb	1.675	1.362	231.113
75	**As**		17035.778	**23.747208**	ppb	2.499	2.693	407.125
71	**Ga-ISK**		148154.336		ppb	1.088		141987.821
82	**Se-2**		224.861	**2.813118**	ppb	6.022	4.997	35.474
107	**Ag-1**		3540.439	**0.401443**	ppb	3.892	7.069	520.009
115	**In-ISK**	>	207619.969		ppb	2.446		211194.011
45	**Sc-ISK**		404515.278		ppb	1.972		326236.843
23	**Na**		75573948.609	**265894.077716**	ppb	1.544	3.113	8312.418
39	**K**		6895188.595	**10182.135940**	ppb	0.579	2.146	37925.846
24	**Mg**		18226884.687	**64743.682387**	ppb	0.620	1.718	156.668
159	**Tb-ISK**	>	461868.679		ppb	1.564		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 16:54:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.187
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		105259.709		ppb	0.702		92930.304
9	**Be**		331174.049	**98.508858**	ppb	3.304	2.848	16.667
10	**B**		243977.798	**239.761264**	ppb	3.898	3.366	1410.070
27	**Al**		2598993.736	**103.055362**	ppb	1.125	1.362	50214.449
43	**Ca-2**		305674.189	**5247.379284**	ppb	0.943	0.574	295.003
49	**Ti**		187934.883	**97.555196**	ppb	1.175	0.732	404.450
52	**Cr**		2627186.409	**98.363378**	ppb	1.839	1.602	36023.154
55	**Mn**		4030311.791	**101.289025**	ppb	1.083	0.594	2097.932
57	**Fe**		4295244.624	**5061.197830**	ppb	1.301	0.881	32378.924
45	**Sc-IS**	>	5704618.349		ppb	0.547		5357440.785
66	**Zn**		419396.764	**95.093272**	ppb	1.294	0.774	4011.674
86	**Sr**		334519.990	**96.861139**	ppb	2.415	1.876	-1.165
65	**Cu**		649378.677	**93.585211**	ppb	2.380	1.879	285.558
69	**Ga-IS**		1805085.747		ppb	1.308		1733718.193
95	**Mo**		357463.322	**97.035641**	ppb	1.592	1.058	108.889
115	**In-IS**	>	878406.248		ppb	1.813		877431.511
111	**Cd**		502844.263	**102.625650**	ppb	0.567	2.311	14.216
118	**Sn**		1475129.386	**104.652738**	ppb	1.276	2.469	4100.589
121	**Sb**		1568798.182	**105.340856**	ppb	0.486	1.484	345.560
135	**Ba**		426152.159	**102.216489**	ppb	1.093	0.905	125.556
165	**Ho-IS**		1043967.239		ppb	2.404		956942.213
159	**Tb-IS**	>	1055906.026		ppb	2.244		1000644.454
207	**Pb**		4471868.951	**105.838001**	ppb	1.649	0.709	320.001
203	**Tl**		1535990.670	**105.136172**	ppb	2.233	0.586	63.333
209	**Bi-IS**		498684.293		ppb	1.132		465801.252
51	**V**		41236.096	**102.642532**	ppb	0.507	1.027	2.222
59	**Co**		140353.026	**101.261107**	ppb	2.420	3.683	5.556
60	**Ni**		231180.896	**109.988312**	ppb	2.725	1.847	231.113
75	**As**		82707.330	**104.248787**	ppb	1.198	1.854	407.125
71	**Ga-ISK**		166615.216		ppb	2.304		141987.821
82	**Se-2**		7934.976	**103.852320**	ppb	1.782	0.667	35.474
107	**Ag-1**		891256.423	**104.686536**	ppb	2.152	1.198	520.009
115	**In-ISK**	>	233830.592		ppb	1.299		211194.011
45	**Sc-ISK**		411668.431		ppb	3.005		326236.843
23	**Na**		1986309.837	**6594.286307**	ppb	0.596	0.869	8312.418
39	**K**		4320033.461	**6023.635371**	ppb	1.369	1.774	37925.846
24	**Mg**		1795635.969	**6045.771016**	ppb	1.538	1.091	156.668
159	**Tb-ISK**	>	487133.792		ppb	0.638		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	
K	39	
Mg	24	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 16:57:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.188
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		105350.607		ppb	3.090		92930.304
9	**Be**		77.778	**0.018237**	ppb	23.604	29.098	16.667
10	**B**		3577.116	**2.114442**	ppb	6.346	9.066	1410.070
27	**Al**		57350.921	**0.198799**	ppb	2.057	29.637	50214.449
43	**Ca-2**		1105.043	**13.936472**	ppb	3.416	6.280	295.003
49	**Ti**		407.784	**-0.008110**	ppb	6.135	165.367	404.450
52	**Cr**		42528.770	**0.187445**	ppb	1.016	14.488	36023.154
55	**Mn**		11235.530	**0.231364**	ppb	2.706	2.201	2097.932
57	**Fe**		40301.238	**7.782729**	ppb	2.691	22.575	32378.924
45	**Sc-IS**	>	5604772.578		ppb	1.175		5357440.785
66	**Zn**		4305.093	**0.025270**	ppb	3.006	118.624	4011.674
86	**Sr**		479.597	**0.141744**	ppb	3.622	4.333	-1.165
65	**Cu**		1118.933	**0.120363**	ppb	1.984	1.386	285.558
69	**Ga-IS**		1764761.594		ppb	1.160		1733718.193
95	**Mo**		2429.095	**0.639890**	ppb	2.056	1.676	108.889
115	**In-IS**	>	895056.820		ppb	2.082		877431.511
111	**Cd**		83.788	**0.013865**	ppb	8.391	8.436	14.216
118	**Sn**		21507.294	**1.209549**	ppb	2.246	3.117	4100.589
121	**Sb**		2862.509	**0.165536**	ppb	4.270	6.604	345.560
135	**Ba**		158.890	**0.007407**	ppb	30.426	164.043	125.556
165	**Ho-IS**		1030676.952		ppb	0.149		956942.213
159	**Tb-IS**	>	1042319.975		ppb	1.198		1000644.454
207	**Pb**		1553.366	**0.029264**	ppb	3.572	5.920	320.001
203	**Tl**		583.345	**0.035914**	ppb	11.599	14.320	63.333
209	**Bi-IS**		498852.688		ppb	0.267		465801.252
51	**V**		25.556	**0.058726**	ppb	27.152	30.731	2.222
59	**Co**		46.667	**0.029878**	ppb	14.286	18.674	5.556
60	**Ni**		377.783	**0.061578**	ppb	14.561	49.395	231.113
75	**As**		513.513	**0.090899**	ppb	4.371	27.844	407.125
71	**Ga-ISK**		165410.094		ppb	1.831		141987.821
82	**Se-2**		40.484	**0.026458**	ppb	8.707	242.228	35.474
107	**Ag-1**		18831.331	**2.182404**	ppb	6.811	3.865	520.009
115	**In-ISK**	>	229850.727		ppb	3.146		211194.011
45	**Sc-ISK**		402498.060		ppb	1.749		326236.843
23	**Na**		51974.464	**149.826700**	ppb	3.767	5.771	8312.418
39	**K**		51655.454	**16.829053**	ppb	1.284	2.854	37925.846
24	**Mg**		3483.759	**11.623358**	ppb	4.184	4.922	156.668
159	**Tb-ISK**	>	468322.602		ppb	1.158		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message
Sn	118	
Ag-1	107	
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 17:00:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.189
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		102812.265		ppb	3.480		92930.304
9	**Be**		25.556	**0.002357**	ppb	7.531	26.826	16.667
10	**B**		2891.404	**1.386078**	ppb	4.478	8.844	1410.070
27	**Al**		66698.374	**0.546701**	ppb	1.783	9.845	50214.449
43	**Ca-2**		658.349	**5.957763**	ppb	6.807	11.420	295.003
49	**Ti**		371.116	**-0.030276**	ppb	13.925	85.738	404.450
52	**Cr**		40161.946	**0.074792**	ppb	2.039	41.385	36023.154
55	**Mn**		6045.725	**0.096440**	ppb	4.809	6.366	2097.932
57	**Fe**		38977.569	**5.542777**	ppb	2.567	28.347	32378.924
45	**Sc-IS**	>	5681540.297		ppb	0.865		5357440.785
66	**Zn**		4013.897	**-0.055191**	ppb	2.626	52.994	4011.674
86	**Sr**		186.205	**0.054471**	ppb	10.868	10.102	-1.165
65	**Cu**		834.469	**0.077021**	ppb	6.877	12.083	285.558
69	**Ga-IS**		1767674.564		ppb	2.365		1733718.193
95	**Mo**		1237.831	**0.305974**	ppb	3.145	2.514	108.889
115	**In-IS**	>	917130.360		ppb	1.611		877431.511
111	**Cd**		40.734	**0.005056**	ppb	21.476	33.533	14.216
118	**Sn**		15963.373	**0.796230**	ppb	4.872	8.874	4100.589
121	**Sb**		2092.376	**0.111434**	ppb	4.818	7.781	345.560
135	**Ba**		140.001	**0.001955**	ppb	27.459	430.166	125.556
165	**Ho-IS**		1037604.217		ppb	2.494		956942.213
159	**Tb-IS**	>	1076127.000		ppb	0.915		1000644.454
207	**Pb**		898.900	**0.012879**	ppb	13.081	20.891	320.001
203	**Tl**		297.781	**0.015428**	ppb	10.095	13.345	63.333
209	**Bi-IS**		493101.862		ppb	1.707		465801.252
51	**V**		8.889	**0.015750**	ppb	78.062	106.498	2.222
59	**Co**		24.444	**0.013185**	ppb	47.889	65.744	5.556
60	**Ni**		462.230	**0.096941**	ppb	9.791	19.465	231.113
75	**As**		535.527	**0.103741**	ppb	8.031	51.762	407.125
71	**Ga-ISK**		163359.260		ppb	3.002		141987.821
82	**Se-2**		30.802	**-0.113520**	ppb	28.058	100.176	35.474
107	**Ag-1**		5897.906	**0.620977**	ppb	15.691	15.864	520.009
115	**In-ISK**	>	235109.332		ppb	1.522		211194.011
45	**Sc-ISK**		402172.218		ppb	4.902		326236.843
23	**Na**		38025.038	**99.501741**	ppb	18.619	23.637	8312.418
39	**K**		47463.213	**9.742124**	ppb	3.185	16.532	37925.846
24	**Mg**		2982.049	**9.698527**	ppb	58.611	61.816	156.668
159	**Tb-ISK**	>	474733.525		ppb	0.928		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-3-A
Autosampler Position: 335
Sample Date/Time: Tuesday, January 04, 2022 17:03:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-3-A.190
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		105896.724		ppb	2.190		92930.304
9	**Be**		51.111	**0.010371**	ppb	13.576	23.141	16.667
10	**B**		888955.423	**901.870612**	ppb	2.974	3.869	1410.070
27	**Al**		1039681.685	**41.080812**	ppb	0.988	1.796	50214.449
43	**Ca-2**		12807543.355	**226090.104435**	ppb	1.687	0.400	295.003
49	**Ti**		7857.717	**3.975030**	ppb	3.106	1.248	404.450
52	**Cr**		163435.235	**4.923564**	ppb	1.335	3.386	36023.154
55	**Mn**		33755964.638	**872.157839**	ppb	1.049	2.435	2097.932
57	**Fe**		874451.684	**1026.453092**	ppb	2.457	3.630	32378.924
45	**Sc-IS**	>	5553278.753		ppb	1.931		5357440.785
66	**Zn**		12007.266	**1.847541**	ppb	0.478	2.203	4011.674
86	**Sr**		7387349.264	**2198.498401**	ppb	1.974	3.782	-1.165
65	**Cu**		21565.163	**3.151524**	ppb	2.896	3.950	285.558
69	**Ga-IS**		1621821.721		ppb	1.172		1733718.193
95	**Mo**		17438.415	**4.834116**	ppb	0.212	1.721	108.889
115	**In-IS**	>	778505.952		ppb	0.796		877431.511
111	**Cd**		67.824	**0.012705**	ppb	41.729	50.889	14.216
118	**Sn**		5700.028	**0.165377**	ppb	5.324	13.107	4100.589
121	**Sb**		6484.805	**0.468091**	ppb	1.475	0.764	345.560
135	**Ba**		1153612.725	**312.256843**	ppb	0.772	1.093	125.556
165	**Ho-IS**		928779.049		ppb	0.692		956942.213
159	**Tb-IS**	>	968474.822		ppb	0.657		1000644.454
207	**Pb**		22509.152	**0.572820**	ppb	1.973	1.776	320.001
203	**Tl**		140.001	**0.005875**	ppb	4.762	9.239	63.333
209	**Bi-IS**		382300.403		ppb	1.030		465801.252
51	**V**		100.000	**0.280377**	ppb	25.166	25.794	2.222
59	**Co**		90.000	**0.070285**	ppb	16.144	17.299	5.556
60	**Ni**		2007.919	**0.978918**	ppb	2.574	3.039	231.113
75	**As**		1708.696	**1.920853**	ppb	2.566	3.371	407.125
71	**Ga-ISK**		141683.030		ppb	3.517		141987.821
82	**Se-2**		445.432	**6.226545**	ppb	0.897	0.838	35.474
107	**Ag-1**		10046.870	**1.291408**	ppb	4.591	4.668	520.009
115	**In-ISK**	>	203168.959		ppb	0.157		211194.011
45	**Sc-ISK**		394662.433		ppb	1.438		326236.843
23	**Na**		80902317.169	**301692.948239**	ppb	1.638	0.897	8312.418
39	**K**		7417428.081	**11618.805082**	ppb	3.173	2.906	37925.846
24	**Mg**		18319537.097	**68969.227680**	ppb	3.938	2.920	156.668
159	**Tb-ISK**	>	435629.835		ppb	1.419		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-4-A
Autosampler Position: 336
Sample Date/Time: Tuesday, January 04, 2022 17:06:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-4-A.191
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108393.176		ppb	2.569		92930.304
9	**Be**		227.780	**0.064143**	ppb	20.765	22.761	16.667
10	**B**		358773.030	**361.804050**	ppb	4.106	3.774	1410.070
27	**Al**		11427803.644	**471.587562**	ppb	1.667	1.663	50214.449
43	**Ca-2**		5800001.699	**102054.594938**	ppb	1.714	1.388	295.003
49	**Ti**		12848.002	**6.622014**	ppb	3.610	4.206	404.450
52	**Cr**		581512.075	**21.168206**	ppb	0.791	0.600	36023.154
55	**Mn**		7759364.916	**199.750340**	ppb	1.379	1.467	2097.932
57	**Fe**		761539.949	**885.427071**	ppb	0.954	1.458	32378.924
45	**Sc-IS**	>	5570854.178		ppb	0.464		5357440.785
66	**Zn**		28762.268	**5.768992**	ppb	2.209	3.107	4011.674
86	**Sr**		3551052.514	**1053.007955**	ppb	0.970	1.324	-1.165
65	**Cu**		17531.864	**2.544890**	ppb	1.414	1.724	285.558
69	**Ga-IS**		1476227.794		ppb	1.534		1733718.193
95	**Mo**		9607.676	**2.640420**	ppb	2.634	3.125	108.889
115	**In-IS**	>	770309.329		ppb	1.338		877431.511
111	**Cd**		584.281	**0.133041**	ppb	3.404	3.136	14.216
118	**Sn**		6036.832	**0.197788**	ppb	3.308	10.474	4100.589
121	**Sb**		3472.645	**0.242673**	ppb	3.430	3.225	345.560
135	**Ba**		194885.999	**53.286181**	ppb	1.222	0.420	125.556
165	**Ho-IS**		961905.180		ppb	1.720		956942.213
159	**Tb-IS**	>	974505.740		ppb	0.908		1000644.454
207	**Pb**		49906.331	**1.271875**	ppb	0.118	0.914	320.001
203	**Tl**		418.895	**0.026473**	ppb	12.182	13.177	63.333
209	**Bi-IS**		416534.802		ppb	1.273		465801.252
51	**V**		1992.361	**5.451102**	ppb	6.057	6.012	2.222
59	**Co**		1471.187	**1.162979**	ppb	4.809	3.935	5.556
60	**Ni**		7248.506	**3.677059**	ppb	2.556	1.568	231.113
75	**As**		3379.261	**4.140441**	ppb	4.188	4.107	407.125
71	**Ga-ISK**		150317.182		ppb	3.064		141987.821
82	**Se-2**		375.430	**4.916902**	ppb	4.079	3.952	35.474
107	**Ag-1**		4536.276	**0.519275**	ppb	3.715	5.535	520.009
115	**In-ISK**	>	212497.762		ppb	1.165		211194.011
45	**Sc-ISK**		410038.462		ppb	2.666		326236.843
23	**Na**		65740674.075	**236661.255684**	ppb	3.100	2.409	8312.418
39	**K**		4608902.121	**6946.180500**	ppb	2.675	2.006	37925.846
24	**Mg**		12085431.319	**43932.465668**	ppb	2.711	2.024	156.668
159	**Tb-ISK**	>	451199.534		ppb	0.821		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-5-A @5
Autosampler Position: 337
Sample Date/Time: Tuesday, January 04, 2022 17:09:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-5-A @5.192
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		107728.019		ppb	0.959		92930.304
9	**Be**		32.222	**0.004649**	ppb	31.604	67.881	16.667
10	**B**		179018.123	**181.776659**	ppb	1.231	1.097	1410.070
27	**Al**		224308.315	**7.235560**	ppb	1.792	2.144	50214.449
43	**Ca-2**		1973098.555	**35093.715038**	ppb	0.437	0.066	295.003
49	**Ti**		2520.223	**1.133056**	ppb	5.957	6.535	404.450
52	**Cr**		12999059.448	**509.826898**	ppb	0.575	0.192	36023.154
55	**Mn**		3957096.877	**102.947449**	ppb	1.285	0.899	2097.932
57	**Fe**		133468.728	**123.182496**	ppb	2.974	4.493	32378.924
45	**Sc-IS**	>	5510793.961		ppb	0.503		5357440.785
66	**Zn**		3924.985	**-0.047624**	ppb	6.543	135.461	4011.674
86	**Sr**		1051335.943	**315.141288**	ppb	1.368	1.169	-1.165
65	**Cu**		2063.483	**0.264153**	ppb	7.037	8.158	285.558
69	**Ga-IS**		1618306.332		ppb	1.795		1733718.193
95	**Mo**		20005.109	**5.592048**	ppb	0.679	0.388	108.889
115	**In-IS**	>	828901.961		ppb	1.722		877431.511
111	**Cd**		51.323	**0.008244**	ppb	40.035	55.646	14.216
118	**Sn**		2509.110	**-0.102831**	ppb	6.932	12.971	4100.589
121	**Sb**		1014.481	**0.048929**	ppb	9.296	12.488	345.560
135	**Ba**		121132.513	**30.771307**	ppb	0.592	1.628	125.556
165	**Ho-IS**		982561.721		ppb	1.199		956942.213
159	**Tb-IS**	>	996950.415		ppb	1.223		1000644.454
207	**Pb**		1397.804	**0.027051**	ppb	0.964	2.453	320.001
203	**Tl**		233.335	**0.012330**	ppb	9.898	11.819	63.333
209	**Bi-IS**		458896.615		ppb	0.911		465801.252
51	**V**		43.333	**0.107922**	ppb	13.323	15.445	2.222
59	**Co**		52.222	**0.035206**	ppb	35.155	37.788	5.556
60	**Ni**		430.006	**0.094459**	ppb	3.101	9.587	231.113
75	**As**		836.025	**0.546552**	ppb	9.114	15.563	407.125
71	**Ga-ISK**		155381.570		ppb	0.411		141987.821
82	**Se-2**		74.786	**0.522303**	ppb	11.893	24.213	35.474
107	**Ag-1**		2919.187	**0.294675**	ppb	2.660	3.750	520.009
115	**In-ISK**	>	221457.399		ppb	1.516		211194.011
45	**Sc-ISK**		401392.155		ppb	2.549		326236.843
23	**Na**		19612479.382	**70364.289561**	ppb	0.641	1.043	8312.418
39	**K**		1490283.527	**2199.126902**	ppb	0.806	0.464	37925.846
24	**Mg**		3139643.948	**11375.157087**	ppb	2.916	1.916	156.668
159	**Tb-ISK**	>	452668.408		ppb	1.002		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-6-A
Autosampler Position: 338
Sample Date/Time: Tuesday, January 04, 2022 17:12:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-6-A.193
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		109723.142		ppb	1.343		92930.304
9	**Be**		87.778	**0.021772**	ppb	17.124	21.222	16.667
10	**B**		512335.921	**523.393985**	ppb	1.079	1.103	1410.070
27	**Al**		4092911.898	**169.488358**	ppb	0.715	0.568	50214.449
43	**Ca-2**		10268743.637	**182804.166941**	ppb	1.359	1.527	295.003
49	**Ti**		12695.643	**6.618733**	ppb	3.328	3.347	404.450
52	**Cr**		208012.423	**6.730461**	ppb	0.772	1.127	36023.154
55	**Mn**		38738681.328	**1009.100337**	ppb	0.740	0.787	2097.932
57	**Fe**		614189.473	**714.850619**	ppb	2.564	2.600	32378.924
45	**Sc-IS**	>	5506636.613		ppb	0.176		5357440.785
66	**Zn**		18375.144	**3.382101**	ppb	0.803	0.809	4011.674
86	**Sr**		5856415.557	**1756.819540**	ppb	0.725	0.721	-1.165
65	**Cu**		21493.946	**3.166781**	ppb	3.157	3.130	285.558
69	**Ga-IS**		1512549.471		ppb	0.477		1733718.193
95	**Mo**		15706.409	**4.387034**	ppb	1.973	2.028	108.889
115	**In-IS**	>	753041.752		ppb	0.298		877431.511
111	**Cd**		473.692	**0.109843**	ppb	2.481	2.756	14.216
118	**Sn**		7551.996	**0.334605**	ppb	2.281	4.778	4100.589
121	**Sb**		1767.887	**0.115252**	ppb	5.473	6.651	345.560
135	**Ba**		886272.073	**247.985078**	ppb	1.571	1.361	125.556
165	**Ho-IS**		945345.425		ppb	1.242		956942.213
159	**Tb-IS**	>	954776.902		ppb	1.765		1000644.454
207	**Pb**		6780.646	**0.169456**	ppb	3.492	2.207	320.001
203	**Tl**		132.223	**0.005436**	ppb	8.104	14.937	63.333
209	**Bi-IS**		402265.028		ppb	0.406		465801.252
51	**V**		287.781	**0.810500**	ppb	12.385	10.493	2.222
59	**Co**		344.449	**0.279888**	ppb	10.877	13.698	5.556
60	**Ni**		3472.644	**1.767401**	ppb	0.147	2.826	231.113
75	**As**		1554.946	**1.680713**	ppb	3.827	8.368	407.125
71	**Ga-ISK**		146414.510		ppb	2.278		141987.821
82	**Se-2**		196.173	**2.431769**	ppb	3.820	6.968	35.474
107	**Ag-1**		4948.639	**0.595818**	ppb	8.464	7.121	520.009
115	**In-ISK**	>	204825.111		ppb	2.740		211194.011
45	**Sc-ISK**		403515.267		ppb	1.908		326236.843
23	**Na**		79171736.127	**287816.905394**	ppb	1.305	1.615	8312.418
39	**K**		7041731.043	**10748.338856**	ppb	1.291	1.307	37925.846
24	**Mg**		17879738.090	**65627.427382**	ppb	1.307	0.459	156.668
159	**Tb-ISK**	>	446887.212		ppb	0.951		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-7-A @50
Autosampler Position: 339
Sample Date/Time: Tuesday, January 04, 2022 17:16:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-7-A @50.194
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108869.985		ppb	1.350		92930.304
9	**Be**		35.556	**0.005415**	ppb	53.309	101.093	16.667
10	**B**		13674.326	**12.287580**	ppb	3.910	1.780	1410.070
27	**Al**		116058.590	**2.622792**	ppb	1.409	3.170	50214.449
43	**Ca-2**		219383.524	**3835.736310**	ppb	1.257	1.116	295.003
49	**Ti**		688.906	**0.140931**	ppb	7.051	14.663	404.450
52	**Cr**		47757185.366	**1847.668184**	ppb	0.606	2.161	36023.154
55	**Mn**		193501.707	**4.902394**	ppb	0.491	2.332	2097.932
57	**Fe**		46458.767	**15.291583**	ppb	1.544	12.213	32378.924
45	**Sc-IS**	>	5599886.176		ppb	2.335		5357440.785
66	**Zn**		3710.482	**-0.112729**	ppb	3.664	17.321	4011.674
86	**Sr**		98700.911	**29.129021**	ppb	1.472	3.197	-1.165
65	**Cu**		594.457	**0.043529**	ppb	5.088	12.401	285.558
69	**Ga-IS**		1710565.056		ppb	0.623		1733718.193
95	**Mo**		723.352	**0.168584**	ppb	6.694	7.011	108.889
115	**In-IS**	>	862415.985		ppb	0.813		877431.511
111	**Cd**		44.037	**0.006253**	ppb	11.476	17.828	14.216
118	**Sn**		888.917	**-0.227556**	ppb	7.596	2.342	4100.589
121	**Sb**		328.893	**-0.000739**	ppb	7.471	215.323	345.560
135	**Ba**		2891.404	**0.676263**	ppb	3.712	3.045	125.556
165	**Ho-IS**		997693.486		ppb	0.346		956942.213
159	**Tb-IS**	>	1008966.467		ppb	1.642		1000644.454
207	**Pb**		807.787	**0.012016**	ppb	4.335	6.668	320.001
203	**Tl**		353.338	**0.020803**	ppb	24.673	32.120	63.333
209	**Bi-IS**		506716.795		ppb	1.438		465801.252
51	**V**		10.000	**0.018647**	ppb	88.192	117.737	2.222
59	**Co**		31.111	**0.017823**	ppb	16.366	21.190	5.556
60	**Ni**		217.779	**-0.019053**	ppb	3.852	21.492	231.113
75	**As**		515.938	**0.076766**	ppb	5.923	45.958	407.125
71	**Ga-ISK**		166179.853		ppb	0.184		141987.821
82	**Se-2**		21.773	**-0.233045**	ppb	21.071	24.554	35.474
107	**Ag-1**		7016.167	**0.749763**	ppb	1.687	1.004	520.009
115	**In-ISK**	>	235896.269		ppb	0.920		211194.011
45	**Sc-ISK**		409042.444		ppb	1.843		326236.843
23	**Na**		1795537.213	**6122.170633**	ppb	0.342	1.313	8312.418
39	**K**		209765.581	**244.601097**	ppb	0.910	1.409	37925.846
24	**Mg**		497282.306	**1719.677136**	ppb	2.550	2.143	156.668
159	**Tb-ISK**	>	474165.891		ppb	1.023		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-I-8-A @5
Autosampler Position: 340
Sample Date/Time: Tuesday, January 04, 2022 17:19:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-I-8-A @5.195
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		110289.763		ppb	1.982		92930.304
9	**Be**		27.778	**0.003155**	ppb	48.497	125.552	16.667
10	**B**		91114.110	**90.880969**	ppb	1.188	0.524	1410.070
27	**Al**		49278.526	**-0.119113**	ppb	1.516	48.036	50214.449
43	**Ca-2**		2077505.786	**36587.927004**	ppb	2.149	0.944	295.003
49	**Ti**		2281.293	**0.992743**	ppb	2.865	3.756	404.450
52	**Cr**		11553669.301	**448.594824**	ppb	0.079	1.324	36023.154
55	**Mn**		3293914.651	**84.858381**	ppb	0.243	1.160	2097.932
57	**Fe**		135202.351	**123.687823**	ppb	0.696	1.197	32378.924
45	**Sc-IS**	>	5565134.570		ppb	1.398		5357440.785
66	**Zn**		3464.865	**-0.164967**	ppb	2.040	3.518	4011.674
86	**Sr**		1223807.712	**363.309677**	ppb	0.327	1.467	-1.165
65	**Cu**		1423.405	**0.166419**	ppb	7.827	8.093	285.558
69	**Ga-IS**		1659821.382		ppb	1.132		1733718.193
95	**Mo**		4622.970	**1.255665**	ppb	1.773	2.930	108.889
115	**In-IS**	>	832623.770		ppb	0.865		877431.511
111	**Cd**		21.403	**0.001702**	ppb	23.907	63.710	14.216
118	**Sn**		2682.474	**-0.090698**	ppb	1.655	2.825	4100.589
121	**Sb**		345.560	**0.001252**	ppb	1.474	37.331	345.560
135	**Ba**		114083.839	**28.848991**	ppb	2.013	2.879	125.556
165	**Ho-IS**		985544.560		ppb	0.466		956942.213
159	**Tb-IS**	>	1005861.035		ppb	1.130		1000644.454
207	**Pb**		877.788	**0.013813**	ppb	5.534	7.805	320.001
203	**Tl**		163.334	**0.007161**	ppb	5.400	8.125	63.333
209	**Bi-IS**		464312.155		ppb	1.161		465801.252
51	**V**		41.111	**0.100993**	ppb	55.191	59.300	2.222
59	**Co**		15.556	**0.007299**	ppb	86.603	138.989	5.556
60	**Ni**		407.784	**0.080970**	ppb	2.871	5.287	231.113
75	**As**		834.757	**0.533645**	ppb	3.589	7.315	407.125
71	**Ga-ISK**		156815.280		ppb	2.672		141987.821
82	**Se-2**		74.156	**0.501505**	ppb	13.507	25.898	35.474
107	**Ag-1**		1842.341	**0.158437**	ppb	6.786	8.594	520.009
115	**In-ISK**	>	223875.837		ppb	0.769		211194.011
45	**Sc-ISK**		399036.256		ppb	2.481		326236.843
23	**Na**		16219103.363	**56848.849418**	ppb	1.170	2.107	8312.418
39	**K**		1328665.551	**1908.361965**	ppb	1.964	3.309	37925.846
24	**Mg**		3671650.098	**12998.995552**	ppb	0.607	1.147	156.668
159	**Tb-ISK**	>	463344.270		ppb	1.271		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 17:22:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.196
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		119166.066		ppb	0.091		92930.304
9	**Be**		16.667	**-0.000383**	ppb	20.000	244.252	16.667
10	**B**		3341.502	**1.780712**	ppb	3.998	5.976	1410.070
27	**Al**		70022.540	**0.637451**	ppb	1.169	8.102	50214.449
43	**Ca-2**		1043.372	**12.313450**	ppb	7.210	8.388	295.003
49	**Ti**		528.899	**0.048048**	ppb	3.234	28.139	404.450
52	**Cr**		63500.831	**0.927571**	ppb	1.110	5.227	36023.154
55	**Mn**		5323.215	**0.076095**	ppb	3.566	3.816	2097.932
57	**Fe**		40534.092	**6.643667**	ppb	0.560	16.314	32378.924
45	**Sc-IS**	>	5772238.168		ppb	1.794		5357440.785
66	**Zn**		5286.535	**0.217999**	ppb	4.352	15.901	4011.674
86	**Sr**		462.318	**0.132680**	ppb	8.471	8.448	-1.165
65	**Cu**		423.340	**0.016439**	ppb	9.547	29.497	285.558
69	**Ga-IS**		1799593.533		ppb	2.339		1733718.193
95	**Mo**		1134.490	**0.273373**	ppb	9.266	12.242	108.889
115	**In-IS**	>	875114.726		ppb	0.665		877431.511
111	**Cd**		10.951	**-0.000658**	ppb	31.786	110.613	14.216
118	**Sn**		6472.577	**0.170120**	ppb	0.802	2.046	4100.589
121	**Sb**		683.350	**0.022810**	ppb	10.497	19.844	345.560
135	**Ba**		152.223	**0.006494**	ppb	9.874	53.673	125.556
165	**Ho-IS**		1011263.261		ppb	0.534		956942.213
159	**Tb-IS**	>	1032155.586		ppb	0.589		1000644.454
207	**Pb**		615.561	**0.006913**	ppb	3.523	8.082	320.001
203	**Tl**		244.447	**0.012540**	ppb	6.727	8.647	63.333
209	**Bi-IS**		524802.686		ppb	1.502		465801.252
51	**V**		3.333	**0.002040**	ppb		7.474	2.222
59	**Co**		15.556	**0.006618**	ppb	12.372	23.174	5.556
60	**Ni**		408.895	**0.069610**	ppb	8.485	20.128	231.113
75	**As**		465.273	**0.008087**	ppb	12.687	796.265	407.125
71	**Ga-ISK**		167389.463		ppb	0.943		141987.821
82	**Se-2**		35.838	**-0.052737**	ppb	26.721	235.544	35.474
107	**Ag-1**		10650.660	**1.163705**	ppb	9.555	9.666	520.009
115	**In-ISK**	>	237697.624		ppb	1.866		211194.011
45	**Sc-ISK**		407821.557		ppb	0.545		326236.843
23	**Na**		22005.269	**44.768173**	ppb	0.421	2.327	8312.418
39	**K**		46773.132	**8.752111**	ppb	1.988	17.852	37925.846
24	**Mg**		2291.851	**7.332874**	ppb	6.849	6.003	156.668
159	**Tb-ISK**	>	474812.325		ppb	1.637		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 17:25:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.197
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		116174.263		ppb	3.874		92930.304
9	**Be**		16.667	**-0.000419**	ppb	72.111	831.952	16.667
10	**B**		2830.280	**1.278429**	ppb	2.040	7.522	1410.070
27	**Al**		68165.597	**0.558968**	ppb	1.414	3.600	50214.449
43	**Ca-2**		625.014	**5.210108**	ppb	7.632	18.176	295.003
49	**Ti**		530.010	**0.048224**	ppb	3.928	30.344	404.450
52	**Cr**		46379.615	**0.282069**	ppb	1.037	12.726	36023.154
55	**Mn**		4027.236	**0.043820**	ppb	6.908	17.615	2097.932
57	**Fe**		36343.991	**1.667570**	ppb	3.658	118.274	32378.924
45	**Sc-IS**	>	5780188.336		ppb	1.418		5357440.785
66	**Zn**		4209.510	**-0.027008**	ppb	4.160	111.820	4011.674
86	**Sr**		168.489	**0.048452**	ppb	45.348	44.433	-1.165
65	**Cu**		401.117	**0.013289**	ppb	8.071	40.930	285.558
69	**Ga-IS**		1753695.911		ppb	0.065		1733718.193
95	**Mo**		413.339	**0.079360**	ppb	5.288	9.360	108.889
115	**In-IS**	>	880517.723		ppb	2.911		877431.511
111	**Cd**		13.576	**-0.000119**	ppb	92.954	2179.746	14.216
118	**Sn**		5198.725	**0.076800**	ppb	4.741	11.920	4100.589
121	**Sb**		513.343	**0.011175**	ppb	3.615	13.498	345.560
135	**Ba**		124.445	**-0.000253**	ppb	21.816	2827.908	125.556
165	**Ho-IS**		1034049.880		ppb	2.784		956942.213
159	**Tb-IS**	>	1043596.477		ppb	1.751		1000644.454
207	**Pb**		532.226	**0.004761**	ppb	4.263	15.637	320.001
203	**Tl**		177.779	**0.007706**	ppb	31.949	48.620	63.333
209	**Bi-IS**		513380.752		ppb	1.439		465801.252
51	**V**		3.333	**0.002102**	ppb	100.000	396.061	2.222
59	**Co**		20.000	**0.009788**	ppb	60.093	85.576	5.556
60	**Ni**		366.671	**0.051592**	ppb	9.833	36.443	231.113
75	**As**		451.302	**-0.003752**	ppb	6.291	802.099	407.125
71	**Ga-ISK**		162114.014		ppb	2.825		141987.821
82	**Se-2**		31.140	**-0.108957**	ppb	38.169	146.783	35.474
107	**Ag-1**		9665.508	**1.059701**	ppb	8.910	8.996	520.009
115	**In-ISK**	>	235603.838		ppb	2.174		211194.011
45	**Sc-ISK**		394042.399		ppb	2.337		326236.843
23	**Na**		15441.676	**24.037912**	ppb	1.937	10.374	8312.418
39	**K**		46243.622	**10.205512**	ppb	1.244	38.091	37925.846
24	**Mg**		943.365	**2.784797**	ppb	6.897	9.276	156.668
159	**Tb-ISK**	>	460246.271		ppb	4.420		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 17:28:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.198
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		111719.682		ppb	1.808		92930.304
9	**Be**		18.889	**0.000377**	ppb	61.974	925.506	16.667
10	**B**		2503.553	**1.017547**	ppb	2.240	6.463	1410.070
27	**Al**		65337.412	**0.508668**	ppb	0.753	3.225	50214.449
43	**Ca-2**		510.009	**3.466392**	ppb	9.455	27.004	295.003
49	**Ti**		558.900	**0.069822**	ppb	2.755	11.661	404.450
52	**Cr**		42099.723	**0.159200**	ppb	0.904	4.542	36023.154
55	**Mn**		3720.485	**0.038371**	ppb	1.710	1.318	2097.932
57	**Fe**		35452.826	**1.611011**	ppb	0.209	40.658	32378.924
45	**Sc-IS**	>	5644809.829		ppb	1.339		5357440.785
66	**Zn**		4098.366	**-0.029888**	ppb	3.029	54.677	4011.674
86	**Sr**		126.141	**0.037224**	ppb	23.798	22.845	-1.165
65	**Cu**		367.783	**0.009719**	ppb	9.258	44.897	285.558
69	**Ga-IS**		1747192.351		ppb	1.502		1733718.193
95	**Mo**		271.114	**0.042961**	ppb	6.772	13.603	108.889
115	**In-IS**	>	872789.789		ppb	1.412		877431.511
111	**Cd**		12.764	**-0.000289**	ppb	26.089	224.302	14.216
118	**Sn**		4482.926	**0.028841**	ppb	4.169	31.120	4100.589
121	**Sb**		484.453	**0.009503**	ppb	9.884	32.441	345.560
135	**Ba**		124.445	**-0.000106**	ppb	3.093	879.269	125.556
165	**Ho-IS**		1009672.017		ppb	1.984		956942.213
159	**Tb-IS**	>	1029416.796		ppb	2.056		1000644.454
207	**Pb**		594.449	**0.006448**	ppb	6.499	16.742	320.001
203	**Tl**		125.556	**0.004289**	ppb	39.941	86.270	63.333
209	**Bi-IS**		510527.011		ppb	2.126		465801.252
51	**V**		2.222	**-0.000689**	ppb	173.205	1366.941	2.222
59	**Co**		15.556	**0.006917**	ppb	81.127	136.891	5.556
60	**Ni**		400.006	**0.068423**	ppb	11.667	27.706	231.113
75	**As**		449.735	**-0.002171**	ppb	12.751	2878.555	407.125
71	**Ga-ISK**		165506.882		ppb	2.300		141987.821
82	**Se-2**		35.817	**-0.047281**	ppb	32.140	300.799	35.474
107	**Ag-1**		8409.170	**0.918894**	ppb	13.364	12.065	520.009
115	**In-ISK**	>	233872.332		ppb	2.274		211194.011
45	**Sc-ISK**		397474.030		ppb	1.067		326236.843
23	**Na**		12982.567	**14.316887**	ppb	2.961	9.400	8312.418
39	**K**		46313.874	**8.733505**	ppb	2.542	21.562	37925.846
24	**Mg**		476.675	**1.081396**	ppb	11.018	16.580	156.668
159	**Tb-ISK**	>	470235.983		ppb	0.244		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 17:31:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.199
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		112901.124		ppb	1.647		92930.304
9	**Be**		8.889	**-0.002639**	ppb	94.373	93.924	16.667
10	**B**		2492.440	**0.982444**	ppb	4.147	9.655	1410.070
27	**Al**		66221.134	**0.519327**	ppb	0.754	8.370	50214.449
43	**Ca-2**		463.341	**2.571941**	ppb	11.838	36.350	295.003
49	**Ti**		536.677	**0.055490**	ppb	3.458	19.664	404.450
52	**Cr**		40937.465	**0.099632**	ppb	1.095	3.940	36023.154
55	**Mn**		3431.524	**0.030191**	ppb	4.354	10.219	2097.932
57	**Fe**		35155.430	**0.854540**	ppb	1.218	103.247	32378.924
45	**Sc-IS**	>	5698681.761		ppb	0.921		5357440.785
66	**Zn**		4165.053	**-0.023543**	ppb	6.386	243.092	4011.674
86	**Sr**		72.819	**0.021481**	ppb	18.233	18.336	-1.165
65	**Cu**		383.339	**0.011524**	ppb	9.683	50.897	285.558
69	**Ga-IS**		1767076.512		ppb	2.539		1733718.193
95	**Mo**		236.669	**0.032833**	ppb	9.859	18.333	108.889
115	**In-IS**	>	880266.227		ppb	0.293		877431.511
111	**Cd**		17.281	**0.000613**	ppb	29.186	165.746	14.216
118	**Sn**		4235.072	**0.008602**	ppb	2.405	81.517	4100.589
121	**Sb**		392.228	**0.003049**	ppb	10.795	91.629	345.560
135	**Ba**		107.778	**-0.004359**	ppb	14.616	85.243	125.556
165	**Ho-IS**		1002913.941		ppb	0.282		956942.213
159	**Tb-IS**	>	1030446.036		ppb	0.468		1000644.454
207	**Pb**		495.559	**0.004026**	ppb	9.615	28.589	320.001
203	**Tl**		142.223	**0.005401**	ppb	19.516	35.975	63.333
209	**Bi-IS**		510445.281		ppb	1.612		465801.252
51	**V**		3.333	**0.002288**	ppb	100.000	368.527	2.222
59	**Co**		13.333	**0.005272**	ppb	25.000	45.563	5.556
60	**Ni**		314.448	**0.029424**	ppb	3.060	18.076	231.113
75	**As**		441.933	**-0.005571**	ppb	3.503	322.455	407.125
71	**Ga-ISK**		159210.628		ppb	3.174		141987.821
82	**Se-2**		23.807	**-0.200065**	ppb	21.874	35.505	35.474
107	**Ag-1**		7511.993	**0.824055**	ppb	11.777	12.460	520.009
115	**In-ISK**	>	231494.787		ppb	0.560		211194.011
45	**Sc-ISK**		391329.569		ppb	1.723		326236.843
23	**Na**		12108.470	**11.689087**	ppb	4.638	15.766	8312.418
39	**K**		45203.629	**7.745526**	ppb	0.694	19.569	37925.846
24	**Mg**		396.672	**0.813907**	ppb	12.243	18.051	156.668
159	**Tb-ISK**	>	465881.040		ppb	1.863		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 17:34:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.200
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104687.976		ppb	3.051		92930.304
9	**Be**		339237.698	**104.048102**	ppb	1.268	3.747	16.667
10	**B**		249860.051	**253.181431**	ppb	2.071	2.367	1410.070
27	**Al**		2483830.272	**101.497029**	ppb	0.993	3.123	50214.449
43	**Ca-2**		290018.089	**5130.823153**	ppb	1.572	1.383	295.003
49	**Ti**		183871.516	**98.366614**	ppb	1.692	1.260	404.450
52	**Cr**		2557327.603	**98.662119**	ppb	2.836	1.082	36023.154
55	**Mn**		3871215.559	**100.272371**	ppb	1.686	1.923	2097.932
57	**Fe**		4206337.581	**5108.849290**	ppb	1.370	1.806	32378.924
45	**Sc-IS**	>	5536796.910		ppb	2.931		5357440.785
66	**Zn**		416840.084	**97.443768**	ppb	1.168	2.194	4011.674
86	**Sr**		321843.122	**96.094415**	ppb	2.142	4.297	-1.165
65	**Cu**		652623.180	**96.967624**	ppb	0.322	3.013	285.558
69	**Ga-IS**		1783294.643		ppb	1.689		1733718.193
95	**Mo**		336773.403	**94.237184**	ppb	0.545	2.417	108.889
115	**In-IS**	>	877181.489		ppb	0.148		877431.511
111	**Cd**		491472.607	**100.416090**	ppb	0.996	0.848	14.216
118	**Sn**		1428592.038	**101.458601**	ppb	0.661	0.810	4100.589
121	**Sb**		1548806.754	**104.125134**	ppb	0.254	0.106	345.560
135	**Ba**		423204.148	**101.641707**	ppb	1.019	1.089	125.556
165	**Ho-IS**		1002510.882		ppb	1.371		956942.213
159	**Tb-IS**	>	1027916.132		ppb	1.749		1000644.454
207	**Pb**		4439928.765	**107.962894**	ppb	1.127	2.527	320.001
203	**Tl**		1522229.037	**107.051039**	ppb	0.101	1.690	63.333
209	**Bi-IS**		491949.483		ppb	0.508		465801.252
51	**V**		39613.745	**99.037678**	ppb	1.477	0.881	2.222
59	**Co**		134980.422	**97.791765**	ppb	2.044	1.805	5.556
60	**Ni**		221802.604	**106.007605**	ppb	2.427	2.384	231.113
75	**As**		80306.667	**101.644928**	ppb	3.485	3.048	407.125
71	**Ga-ISK**		159913.928		ppb	3.034		141987.821
82	**Se-2**		7900.004	**103.866718**	ppb	0.999	1.038	35.474
107	**Ag-1**		852575.331	**100.600245**	ppb	0.993	1.177	520.009
115	**In-ISK**	>	232784.105		ppb	0.979		211194.011
45	**Sc-ISK**		394792.578		ppb	1.392		326236.843
23	**Na**		1833622.996	**6388.394488**	ppb	2.033	0.906	8312.418
39	**K**		4082046.509	**5974.384194**	ppb	0.142	1.090	37925.846
24	**Mg**		1695329.198	**5991.217122**	ppb	3.453	2.665	156.668
159	**Tb-ISK**	>	464071.248		ppb	1.222		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	
K	39	
Mg	24	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 17:38:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.201
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104163.982		ppb	1.425		92930.304
9	**Be**		73.334	**0.017321**	ppb	22.727	29.729	16.667
10	**B**		2813.612	**1.395643**	ppb	8.757	14.082	1410.070
27	**Al**		51746.221	**0.006221**	ppb	0.912	427.309	50214.449
43	**Ca-2**		408.339	**1.864149**	ppb	11.111	35.678	295.003
49	**Ti**		414.451	**-0.000823**	ppb	12.726	3148.726	404.450
52	**Cr**		34993.933	**-0.079786**	ppb	2.264	23.289	36023.154
55	**Mn**		3094.780	**0.024486**	ppb	1.755	10.396	2097.932
57	**Fe**		34445.931	**1.449277**	ppb	1.712	70.426	32378.924
45	**Sc-IS**	>	5505812.087		ppb	1.878		5357440.785
66	**Zn**		4141.712	**0.004759**	ppb	1.892	592.644	4011.674
86	**Sr**		82.819	**0.025172**	ppb	14.474	12.508	-1.165
65	**Cu**		610.013	**0.047298**	ppb	1.639	2.268	285.558
69	**Ga-IS**		1719679.639		ppb	1.266		1733718.193
95	**Mo**		1824.561	**0.482261**	ppb	5.300	7.275	108.889
115	**In-IS**	>	880392.208		ppb	0.251		877431.511
111	**Cd**		78.391	**0.013051**	ppb	17.192	20.808	14.216
118	**Sn**		10985.334	**0.487573**	ppb	1.911	2.785	4100.589
121	**Sb**		1201.162	**0.057253**	ppb	5.090	7.479	345.560
135	**Ba**		180.001	**0.012922**	ppb	17.859	59.058	125.556
165	**Ho-IS**		984764.897		ppb	2.412		956942.213
159	**Tb-IS**	>	1014078.714		ppb	2.145		1000644.454
207	**Pb**		1247.800	**0.022775**	ppb	1.779	5.300	320.001
203	**Tl**		454.452	**0.027857**	ppb	6.656	10.287	63.333
209	**Bi-IS**		501030.771		ppb	0.967		465801.252
51	**V**		13.333	**0.027731**	ppb	25.000	30.012	2.222
59	**Co**		42.222	**0.026661**	ppb	12.059	14.562	5.556
60	**Ni**		365.560	**0.055890**	ppb	7.593	25.263	231.113
75	**As**		499.076	**0.074357**	ppb	4.042	35.170	407.125
71	**Ga-ISK**		155387.583		ppb	2.694		141987.821
82	**Se-2**		30.138	**-0.112139**	ppb	16.660	58.678	35.474
107	**Ag-1**		7446.410	**0.825755**	ppb	14.131	15.320	520.009
115	**In-ISK**	>	229075.059		ppb	0.475		211194.011
45	**Sc-ISK**		379431.956		ppb	2.020		326236.843
23	**Na**		13594.799	**17.557705**	ppb	0.707	6.417	8312.418
39	**K**		46699.543	**10.923441**	ppb	0.914	14.031	37925.846
24	**Mg**		760.020	**2.136960**	ppb	10.340	15.646	156.668
159	**Tb-ISK**	>	459444.164		ppb	3.029		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 17:41:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.202
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		103758.931		ppb	2.489		92930.304
9	**Be**		30.000	**0.003759**	ppb	29.397	69.480	16.667
10	**B**		2335.747	**0.855636**	ppb	4.288	7.619	1410.070
27	**Al**		64091.789	**0.465474**	ppb	0.778	7.454	50214.449
43	**Ca-2**		423.340	**1.969829**	ppb	18.042	64.571	295.003
49	**Ti**		405.561	**-0.010367**	ppb	9.054	157.669	404.450
52	**Cr**		36251.505	**-0.061415**	ppb	1.956	22.346	36023.154
55	**Mn**		3383.735	**0.030035**	ppb	5.444	11.532	2097.932
57	**Fe**		33422.387	**-0.705179**	ppb	0.890	145.623	32378.924
45	**Sc-IS**	>	5628866.098		ppb	2.094		5357440.785
66	**Zn**		3878.304	**-0.077875**	ppb	2.120	35.397	4011.674
86	**Sr**		42.232	**0.012908**	ppb	91.160	89.865	-1.165
65	**Cu**		451.118	**0.022000**	ppb	10.717	25.833	285.558
69	**Ga-IS**		1763046.165		ppb	1.340		1733718.193
95	**Mo**		651.126	**0.147923**	ppb	7.407	11.323	108.889
115	**In-IS**	>	876650.682		ppb	2.216		877431.511
111	**Cd**		39.744	**0.005227**	ppb	4.989	9.643	14.216
118	**Sn**		6913.897	**0.200715**	ppb	4.234	8.021	4100.589
121	**Sb**		671.127	**0.021952**	ppb	3.307	9.850	345.560
135	**Ba**		115.556	**-0.002358**	ppb	11.658	146.823	125.556
165	**Ho-IS**		1008861.906		ppb	0.853		956942.213
159	**Tb-IS**	>	1046147.618		ppb	0.754		1000644.454
207	**Pb**		781.119	**0.010662**	ppb	6.248	9.610	320.001
203	**Tl**		253.336	**0.012931**	ppb	7.326	10.395	63.333
209	**Bi-IS**		509931.720		ppb	0.648		465801.252
51	**V**		4.444	**0.005157**	ppb	86.603	189.488	2.222
59	**Co**		31.111	**0.018020**	ppb	44.607	52.660	5.556
60	**Ni**		427.784	**0.083155**	ppb	9.426	17.507	231.113
75	**As**		452.642	**0.006180**	ppb	7.250	487.740	407.125
71	**Ga-ISK**		156499.387		ppb	1.729		141987.821
82	**Se-2**		29.476	**-0.124569**	ppb	28.209	95.593	35.474
107	**Ag-1**		6226.941	**0.667775**	ppb	17.677	16.804	520.009
115	**In-ISK**	>	232135.157		ppb	2.445		211194.011
45	**Sc-ISK**		376264.220		ppb	0.747		326236.843
23	**Na**		12592.216	**13.323600**	ppb	2.207	2.840	8312.418
39	**K**		44816.863	**7.103353**	ppb	1.263	24.988	37925.846
24	**Mg**		438.340	**0.961820**	ppb	6.586	12.899	156.668
159	**Tb-ISK**	>	466394.206		ppb	1.552		442227.419

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, January 04, 2022 17:44:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICIS-1479530.203
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		103007.929		ppb	2.146		
9	**Be**		7.778		ppb	65.465		
10	**B**		2072.373		ppb	2.989		
27	**Al**		52271.122		ppb	0.389		
43	**Ca-2**		340.004		ppb	11.486		
49	**Ti**		362.227		ppb	9.079		
52	**Cr**		34799.000		ppb	0.708		
55	**Mn**		2530.224		ppb	4.923		
57	**Fe**		33006.981		ppb	1.426		
45	**Sc-IS**	>	5598835.990		ppb	1.384		
66	**Zn**		4036.127		ppb	6.167		
86	**Sr**		32.869		ppb	131.299		
65	**Cu**		351.115		ppb	7.126		
69	**Ga-IS**		1727885.813		ppb	1.593		
95	**Mo**		274.447		ppb	15.089		
115	**In-IS**	>	872436.593		ppb	1.016		
111	**Cd**		22.757		ppb	0.382		
118	**Sn**		4222.847		ppb	3.524		
121	**Sb**		382.227		ppb	11.614		
135	**Ba**		125.556		ppb	29.840		
165	**Ho-IS**		984358.905		ppb	0.823		
159	**Tb-IS**	>	1036445.791		ppb	0.944		
207	**Pb**		526.671		ppb	2.759		
203	**Tl**		151.112		ppb	14.352		
209	**Bi-IS**		498618.396		ppb	1.648		
51	**V**		2.222		ppb	86.603		
59	**Co**		12.222		ppb	68.635		
60	**Ni**		281.114		ppb	7.715		
75	**As**		437.321		ppb	4.213		
71	**Ga-ISK**		155106.502		ppb	1.528		
82	**Se-2**		25.148		ppb	67.885		
107	**Ag-1**		4843.053		ppb	13.570		
115	**In-ISK**	>	229723.963		ppb	0.733		
45	**Sc-ISK**		376926.794		ppb	0.464		
23	**Na**		11721.474		ppb	0.875		
39	**K**		44447.940		ppb	1.610		
24	**Mg**		258.336		ppb	14.267		
159	**Tb-ISK**	>	463056.470		ppb	0.411		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Tuesday, January 04, 2022 17:47:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\IC-2235387.204
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100284.247		ppb	2.561		103007.929
9	**Be**		643709.466	**200.000000**	ppb	3.794	3.012	7.778
10	**B**		472301.271	**500.000000**	ppb	1.299	1.327	2072.373
27	**Al**		4809142.303	**200.000000**	ppb	0.222	1.022	52271.122
43	**Ca-2**		573002.465	**10200.000000**	ppb	1.573	1.817	340.004
49	**Ti**		361926.957	**200.000000**	ppb	2.501	1.361	362.227
52	**Cr**		5023898.304	**200.000000**	ppb	1.404	0.887	34799.000
55	**Mn**		7562744.707	**200.000000**	ppb	0.472	1.688	2530.224
57	**Fe**		8229835.049	**10200.000000**	ppb	2.685	2.134	33006.981
45	**Sc-IS**	>	5553374.224		ppb	1.219		5598835.990
66	**Zn**		814011.639	**200.000000**	ppb	2.837	2.237	4036.127
86	**Sr**		632994.852	**200.000000**	ppb	1.244	2.271	32.869
65	**Cu**		1249425.150	**200.000000**	ppb	1.989	1.321	351.115
69	**Ga-IS**		1838193.822		ppb	1.317		1727885.813
95	**Mo**		675857.766	**200.000000**	ppb	0.947	0.615	274.447
115	**In-IS**	>	853205.941		ppb	1.900		872436.593
111	**Cd**		955750.598	**200.000000**	ppb	0.721	1.373	22.757
118	**Sn**		2836678.863	**200.000000**	ppb	2.840	1.187	4222.847
121	**Sb**		3024142.242	**200.000000**	ppb	2.402	0.848	382.227
135	**Ba**		827548.577	**200.000000**	ppb	1.652	0.631	125.556
165	**Ho-IS**		973569.630		ppb	1.207		984358.905
159	**Tb-IS**	>	1005425.773		ppb	2.386		1036445.791
207	**Pb**		8518383.340	**200.000000**	ppb	1.339	3.668	526.671
203	**Tl**		2943012.143	**200.000000**	ppb	1.266	3.570	151.112
209	**Bi-IS**		469596.370		ppb	1.218		498618.396
51	**V**		75762.598	**200.000000**	ppb	0.773	2.117	2.222
59	**Co**		254790.286	**200.000000**	ppb	1.762	2.189	12.222
60	**Ni**		410612.193	**200.000000**	ppb	1.915	1.243	281.114
75	**As**		152870.669	**200.000000**	ppb	1.105	1.845	437.321
71	**Ga-ISK**		147079.438		ppb	5.914		155106.502
82	**Se-2**		14729.048	**200.000000**	ppb	0.906	2.304	25.148
107	**Ag-1**		1649965.906	**200.000000**	ppb	2.841	4.448	4843.053
115	**In-ISK**	>	219997.249		ppb	2.622		229723.963
45	**Sc-ISK**		355532.426		ppb	4.155		376926.794
23	**Na**		3387021.075	**10200.000000**	ppb	3.075	0.391	11721.474
39	**K**		7793107.732	**10200.000000**	ppb	3.166	0.273	44447.940
24	**Mg**		3180831.042	**10200.000000**	ppb	3.906	2.353	258.336
159	**Tb-ISK**	>	454504.817		ppb	2.919		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 17:50:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.205
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99606.101		ppb	1.606		103007.929
9	**Be**		319995.725	**100.788121**	ppb	1.323	1.681	7.778
10	**B**		239662.781	**256.081258**	ppb	1.455	1.005	2072.373
27	**Al**		2446212.755	**102.049965**	ppb	0.722	0.787	52271.122
43	**Ca-2**		293702.168	**5296.054563**	ppb	1.467	1.696	340.004
49	**Ti**		182928.278	**102.370656**	ppb	1.070	0.837	362.227
52	**Cr**		2560966.575	**102.671297**	ppb	1.233	1.688	34799.000
55	**Mn**		3906664.031	**104.675594**	ppb	1.569	1.926	2530.224
57	**Fe**		4226295.309	**5290.075458**	ppb	2.164	2.424	33006.981
45	**Sc-IS**	>	5478967.253		ppb	0.465		5598835.990
66	**Zn**		421848.404	**104.589497**	ppb	1.192	0.966	4036.127
86	**Sr**		318302.958	**101.923669**	ppb	3.368	3.743	32.869
65	**Cu**		646676.043	**104.902638**	ppb	2.470	2.720	351.115
69	**Ga-IS**		1827921.032		ppb	1.753		1727885.813
95	**Mo**		343679.598	**103.043089**	ppb	0.953	1.202	274.447
115	**In-IS**	>	875201.706		ppb	1.056		872436.593
111	**Cd**		494134.516	**100.791145**	ppb	0.541	1.060	22.757
118	**Sn**		1451047.814	**99.601450**	ppb	0.748	0.374	4222.847
121	**Sb**		1530027.121	**98.636205**	ppb	1.589	1.119	382.227
135	**Ba**		425640.904	**100.262056**	ppb	1.409	0.680	125.556
165	**Ho-IS**		981737.508		ppb	0.423		984358.905
159	**Tb-IS**	>	1014424.794		ppb	1.329		1036445.791
207	**Pb**		4374745.712	**101.742389**	ppb	1.396	1.300	526.671
203	**Tl**		1479495.961	**99.603839**	ppb	0.779	1.698	151.112
209	**Bi-IS**		481677.284		ppb	1.684		498618.396
51	**V**		39746.340	**101.296192**	ppb	1.931	3.311	2.222
59	**Co**		136568.818	**103.509058**	ppb	2.403	3.906	12.222
60	**Ni**		215081.350	**101.062397**	ppb	3.099	2.567	281.114
75	**As**		78786.944	**99.189692**	ppb	3.687	2.057	437.321
71	**Ga-ISK**		154447.669		ppb	3.305		155106.502
82	**Se-2**		7657.855	**100.204618**	ppb	0.684	1.195	25.148
107	**Ag-1**		855657.418	**99.807439**	ppb	0.632	1.108	4843.053
115	**In-ISK**	>	227865.932		ppb	1.735		229723.963
45	**Sc-ISK**		380591.259		ppb	4.276		376926.794
23	**Na**		1728063.482	**5055.372177**	ppb	1.800	0.924	11721.474
39	**K**		4007284.389	**5083.551424**	ppb	2.999	1.788	44447.940
24	**Mg**		1644493.733	**5140.030526**	ppb	1.899	0.982	258.336
159	**Tb-ISK**	>	466261.626		ppb	1.293		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 17:53:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.206
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100806.645		ppb	0.399		103007.929
9	**Be**		127.778	**0.036999**	ppb	15.725	16.903	7.778
10	**B**		3072.553	**1.055491**	ppb	2.824	9.169	2072.373
27	**Al**		51779.004	**-0.020071**	ppb	0.671	106.153	52271.122
43	**Ca-2**		483.342	**2.533232**	ppb	5.698	18.702	340.004
49	**Ti**		432.229	**0.038443**	ppb	3.958	23.169	362.227
52	**Cr**		34509.415	**-0.011277**	ppb	1.428	149.731	34799.000
55	**Mn**		3504.874	**0.025589**	ppb	0.962	3.831	2530.224
57	**Fe**		33079.377	**0.096095**	ppb	2.134	829.815	33006.981
45	**Sc-IS**	>	5597794.483		ppb	0.355		5598835.990
66	**Zn**		4092.809	**0.014103**	ppb	3.753	275.498	4036.127
86	**Sr**		118.912	**0.026976**	ppb	16.233	22.626	32.869
65	**Cu**		672.238	**0.051018**	ppb	2.004	3.615	351.115
69	**Ga-IS**		1757064.755		ppb	1.497		1727885.813
95	**Mo**		2322.411	**0.601424**	ppb	3.097	3.162	274.447
115	**In-IS**	>	886637.026		ppb	0.430		872436.593
111	**Cd**		146.235	**0.024786**	ppb	1.255	1.370	22.757
118	**Sn**		13510.833	**0.626492**	ppb	2.622	3.960	4222.847
121	**Sb**		1691.211	**0.082913**	ppb	3.988	4.649	382.227
135	**Ba**		156.668	**0.006754**	ppb	7.671	39.419	125.556
165	**Ho-IS**		987253.587		ppb	2.392		984358.905
159	**Tb-IS**	>	1024447.225		ppb	1.986		1036445.791
207	**Pb**		1824.490	**0.030053**	ppb	2.891	6.269	526.671
203	**Tl**		696.684	**0.036461**	ppb	7.474	7.767	151.112
209	**Bi-IS**		499855.797		ppb	0.413		498618.396
51	**V**		18.889	**0.042531**	ppb	36.735	40.073	2.222
59	**Co**		62.222	**0.038260**	ppb	46.188	58.674	12.222
60	**Ni**		385.561	**0.050970**	ppb	7.251	29.857	281.114
75	**As**		472.311	**0.050790**	ppb	7.875	88.369	437.321
71	**Ga-ISK**		155095.170		ppb	0.734		155106.502
82	**Se-2**		33.455	**0.113896**	ppb	24.149	96.011	25.148
107	**Ag-1**		5114.255	**0.039127**	ppb	9.927	173.828	4843.053
115	**In-ISK**	>	227068.212		ppb	1.361		229723.963
45	**Sc-ISK**		366614.365		ppb	1.688		376926.794
23	**Na**		14147.014	**7.429712**	ppb	5.135	23.811	11721.474
39	**K**		46561.335	**3.087313**	ppb	2.187	46.709	44447.940
24	**Mg**		1160.047	**2.861105**	ppb	5.401	7.977	258.336
159	**Tb-ISK**	>	460359.925		ppb	1.146		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 17:56:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.207
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104085.613		ppb	1.059		103007.929
9	**Be**		45.556	**0.011528**	ppb	16.898	18.936	7.778
10	**B**		2495.774	**0.428506**	ppb	2.010	9.415	2072.373
27	**Al**		64917.844	**0.509240**	ppb	1.002	10.983	52271.122
43	**Ca-2**		358.338	**0.277381**	ppb	6.883	126.569	340.004
49	**Ti**		402.228	**0.020233**	ppb	12.954	128.116	362.227
52	**Cr**		35724.620	**0.027452**	ppb	1.543	151.208	34799.000
55	**Mn**		3523.768	**0.025462**	ppb	3.738	16.815	2530.224
57	**Fe**		32862.200	**-0.450473**	ppb	0.854	164.672	33006.981
45	**Sc-IS**	>	5637458.528		ppb	1.377		5598835.990
66	**Zn**		3798.283	**-0.064444**	ppb	2.397	44.699	4036.127
86	**Sr**		36.638	**0.001154**	ppb	47.595	487.198	32.869
65	**Cu**		478.897	**0.019828**	ppb	7.667	33.962	351.115
69	**Ga-IS**		1789820.320		ppb	0.606		1727885.813
95	**Mo**		948.920	**0.196257**	ppb	4.336	7.756	274.447
115	**In-IS**	>	892847.590		ppb	1.062		872436.593
111	**Cd**		73.563	**0.010076**	ppb	23.358	35.386	22.757
118	**Sn**		8840.518	**0.305062**	ppb	5.576	11.846	4222.847
121	**Sb**		896.695	**0.031963**	ppb	7.682	14.113	382.227
135	**Ba**		161.112	**0.007562**	ppb	10.414	55.892	125.556
165	**Ho-IS**		1015994.977		ppb	1.082		984358.905
159	**Tb-IS**	>	1055381.517		ppb	0.861		1036445.791
207	**Pb**		996.681	**0.010304**	ppb	8.849	21.035	526.671
203	**Tl**		305.559	**0.009828**	ppb	12.017	25.756	151.112
209	**Bi-IS**		501932.420		ppb	0.630		498618.396
51	**V**		11.111	**0.022305**	ppb	45.826	57.711	2.222
59	**Co**		18.889	**0.004896**	ppb	20.377	50.370	12.222
60	**Ni**		478.897	**0.091179**	ppb	7.007	15.674	281.114
75	**As**		497.341	**0.073197**	ppb	7.734	84.382	437.321
71	**Ga-ISK**		152943.417		ppb	1.823		155106.502
82	**Se-2**		37.833	**0.164078**	ppb	14.147	49.017	25.148
107	**Ag-1**		3750.504	**-0.130554**	ppb	18.635	52.411	4843.053
115	**In-ISK**	>	230876.060		ppb	2.812		229723.963
45	**Sc-ISK**		375704.337		ppb	2.110		376926.794
23	**Na**		12358.677	**1.390293**	ppb	0.337	15.557	11721.474
39	**K**		44157.029	**-1.153982**	ppb	0.483	23.271	44447.940
24	**Mg**		596.679	**1.039528**	ppb	10.068	18.173	258.336
159	**Tb-ISK**	>	469472.521		ppb	0.910		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205293_1-A
Autosampler Position: 341
Sample Date/Time: Tuesday, January 04, 2022 18:00:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\MB 570-205293_1-A.208
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		102178.643		ppb	1.868		103007.929
9	**Be**		20.000	**0.003826**	ppb	33.333	55.597	7.778
10	**B**		2242.399	**0.198142**	ppb	5.236	50.239	2072.373
27	**Al**		64725.974	**0.541756**	ppb	0.892	4.570	52271.122
43	**Ca-2**		385.005	**0.856109**	ppb	9.365	83.909	340.004
49	**Ti**		341.115	**-0.009973**	ppb	4.820	106.759	362.227
52	**Cr**		35596.543	**0.043172**	ppb	3.029	54.097	34799.000
55	**Mn**		2916.965	**0.010751**	ppb	4.415	18.811	2530.224
57	**Fe**		32240.801	**-0.622524**	ppb	2.617	65.935	33006.981
45	**Sc-IS**	>	5553261.394		ppb	1.786		5598835.990
66	**Zn**		3682.698	**-0.079108**	ppb	6.037	68.489	4036.127
86	**Sr**		76.764	**0.013852**	ppb	49.178	83.098	32.869
65	**Cu**		385.561	**0.006042**	ppb	7.987	98.339	351.115
69	**Ga-IS**		1750574.116		ppb	1.411		1727885.813
95	**Mo**		551.122	**0.082787**	ppb	9.722	22.474	274.447
115	**In-IS**	>	893363.179		ppb	2.235		872436.593
111	**Cd**		43.287	**0.003975**	ppb	31.299	65.270	22.757
118	**Sn**		6195.791	**0.126712**	ppb	5.645	25.767	4222.847
121	**Sb**		563.344	**0.010898**	ppb	4.467	21.766	382.227
135	**Ba**		112.223	**-0.003718**	ppb	15.242	117.550	125.556
165	**Ho-IS**		1023872.941		ppb	0.752		984358.905
159	**Tb-IS**	>	1057169.202		ppb	1.152		1036445.791
207	**Pb**		622.228	**0.001901**	ppb	5.472	43.989	526.671
203	**Tl**		210.002	**0.003613**	ppb	5.723	24.043	151.112
209	**Bi-IS**		498072.946		ppb	0.509		498618.396
51	**V**		10.000	**0.019296**	ppb	33.333	43.155	2.222
59	**Co**		21.111	**0.006429**	ppb	55.451	133.592	12.222
60	**Ni**		485.564	**0.092175**	ppb	12.776	30.932	281.114
75	**As**		472.111	**0.035280**	ppb	5.143	88.374	437.321
71	**Ga-ISK**		159133.202		ppb	3.426		155106.502
82	**Se-2**		27.815	**0.029236**	ppb	30.843	370.522	25.148
107	**Ag-1**		2752.494	**-0.247959**	ppb	20.030	24.906	4843.053
115	**In-ISK**	>	233048.122		ppb	0.486		229723.963
45	**Sc-ISK**		378761.769		ppb	1.566		376926.794
23	**Na**		11781.525	**0.426316**	ppb	2.495	388.334	11721.474
39	**K**		43995.421	**-0.198178**	ppb	0.664	797.549	44447.940
24	**Mg**		356.671	**0.314696**	ppb	13.616	39.967	258.336
159	**Tb-ISK**	>	460130.198		ppb	2.432		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205293_2-A
Autosampler Position: 342
Sample Date/Time: Tuesday, January 04, 2022 18:03:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCS 570-205293_2-A.209
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		102878.047		ppb	1.439		103007.929
9	**Be**		309235.987	**96.478531**	ppb	2.678	0.764	7.778
10	**B**		97651.820	**102.063070**	ppb	3.765	3.027	2072.373
27	**Al**		2668589.629	**110.484386**	ppb	0.629	1.379	52271.122
43	**Ca-2**		315450.350	**5635.283818**	ppb	3.156	2.348	340.004
49	**Ti**		172892.293	**95.846894**	ppb	1.490	0.517	362.227
52	**Cr**		2453111.231	**97.363025**	ppb	1.428	0.726	34799.000
55	**Mn**		3566669.060	**94.677841**	ppb	2.127	2.234	2530.224
57	**Fe**		4526441.971	**5616.589741**	ppb	1.563	2.427	33006.981
45	**Sc-IS**	>	5530513.153		ppb	1.982		5598835.990
66	**Zn**		383580.136	**94.136905**	ppb	1.650	2.195	4036.127
86	**Sr**		300900.882	**95.467260**	ppb	2.884	3.429	32.869
65	**Cu**		607324.662	**97.615077**	ppb	0.796	1.926	351.115
69	**Ga-IS**		1870660.334		ppb	0.885		1727885.813
95	**Mo**		321546.789	**95.547045**	ppb	2.670	4.197	274.447
115	**In-IS**	>	891114.573		ppb	1.588		872436.593
111	**Cd**		463031.335	**92.777637**	ppb	1.403	2.669	22.757
118	**Sn**		1365023.821	**92.001038**	ppb	1.634	0.859	4222.847
121	**Sb**		1437274.582	**91.005341**	ppb	1.195	0.635	382.227
135	**Ba**		471183.058	**109.007603**	ppb	2.007	0.579	125.556
165	**Ho-IS**		1010280.931		ppb	0.659		984358.905
159	**Tb-IS**	>	1039681.032		ppb	0.976		1036445.791
207	**Pb**		4078887.471	**92.563269**	ppb	1.121	2.021	526.671
203	**Tl**		1367852.673	**89.837824**	ppb	0.928	0.078	151.112
209	**Bi-IS**		487378.918		ppb	0.382		498618.396
51	**V**		35938.515	**90.107225**	ppb	3.326	3.184	2.222
59	**Co**		121584.337	**90.640634**	ppb	2.681	1.687	12.222
60	**Ni**		197943.511	**91.512959**	ppb	2.310	1.171	281.114
75	**As**		71062.412	**88.001432**	ppb	2.032	1.652	437.321
71	**Ga-ISK**		152879.551		ppb	2.457		155106.502
82	**Se-2**		6515.942	**83.846921**	ppb	3.328	3.268	25.148
107	**Ag-1**		468688.058	**53.539155**	ppb	0.919	1.319	4843.053
115	**In-ISK**	>	231561.643		ppb	1.973		229723.963
45	**Sc-ISK**		365871.904		ppb	3.527		376926.794
23	**Na**		337697.408	**962.194719**	ppb	4.099	2.568	11721.474
39	**K**		800178.959	**971.787717**	ppb	3.179	2.563	44447.940
24	**Mg**		1696286.141	**5315.528463**	ppb	1.532	0.701	258.336
159	**Tb-ISK**	>	465100.596		ppb	1.697		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205293_3-A
Autosampler Position: 343
Sample Date/Time: Tuesday, January 04, 2022 18:06:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCSD 570-205293_3-A.210
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		102411.337		ppb	0.635		103007.929
9	**Be**		304402.820	**94.435060**	ppb	1.602	0.727	7.778
10	**B**		96217.411	**99.951658**	ppb	1.208	0.368	2072.373
27	**Al**		2645493.419	**108.864845**	ppb	0.608	1.571	52271.122
43	**Ca-2**		310011.791	**5506.162631**	ppb	1.930	0.651	340.004
49	**Ti**		170705.075	**94.086703**	ppb	1.304	0.994	362.227
52	**Cr**		2476003.672	**97.703932**	ppb	1.930	1.084	34799.000
55	**Mn**		3592137.647	**94.784228**	ppb	3.267	2.377	2530.224
57	**Fe**		4529535.662	**5586.986400**	ppb	1.342	1.237	33006.981
45	**Sc-IS**	>	5562400.615		ppb	1.486		5598835.990
66	**Zn**		386322.439	**94.242830**	ppb	2.373	1.263	4036.127
86	**Sr**		298759.906	**94.219804**	ppb	1.709	0.521	32.869
65	**Cu**		608020.214	**97.148960**	ppb	0.949	0.580	351.115
69	**Ga-IS**		1864655.201		ppb	2.606		1727885.813
95	**Mo**		325863.785	**96.238078**	ppb	2.388	2.551	274.447
115	**In-IS**	>	886254.899		ppb	1.194		872436.593
111	**Cd**		467108.036	**94.091341**	ppb	0.223	1.025	22.757
118	**Sn**		1380414.111	**93.556256**	ppb	0.847	0.904	4222.847
121	**Sb**		1452629.752	**92.475145**	ppb	1.659	0.695	382.227
135	**Ba**		469356.976	**109.195073**	ppb	0.496	1.268	125.556
165	**Ho-IS**		1026489.902		ppb	2.926		984358.905
159	**Tb-IS**	>	1057057.118		ppb	1.192		1036445.791
207	**Pb**		4089196.517	**91.271757**	ppb	0.605	1.672	526.671
203	**Tl**		1364438.123	**88.156318**	ppb	2.230	3.027	151.112
209	**Bi-IS**		494045.665		ppb	1.590		498618.396
51	**V**		35769.182	**92.050721**	ppb	2.108	4.828	2.222
59	**Co**		119533.757	**91.483930**	ppb	2.425	5.256	12.222
60	**Ni**		197485.663	**93.691079**	ppb	0.376	2.800	281.114
75	**As**		71815.070	**91.273582**	ppb	0.353	2.974	437.321
71	**Ga-ISK**		153319.697		ppb	2.085		155106.502
82	**Se-2**		6586.666	**86.992908**	ppb	2.828	4.742	25.148
107	**Ag-1**		465353.179	**54.527143**	ppb	3.310	2.533	4843.053
115	**In-ISK**	>	225780.770		ppb	2.804		229723.963
45	**Sc-ISK**		371002.834		ppb	1.156		376926.794
23	**Na**		330695.163	**937.650449**	ppb	2.368	2.576	11721.474
39	**K**		791803.171	**956.752628**	ppb	2.298	2.496	44447.940
24	**Mg**		1678903.604	**5238.537155**	ppb	0.317	0.243	258.336
159	**Tb-ISK**	>	467083.015		ppb	0.130		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-1-A sd @5
Autosampler Position: 344
Sample Date/Time: Tuesday, January 04, 2022 18:09:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-1-A sd @5.211
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		107304.828		ppb	0.224		103007.929
9	**Be**		102.223	**0.029138**	ppb	16.086	16.603	7.778
10	**B**		94478.164	**97.615196**	ppb	2.334	1.438	2072.373
27	**Al**		43303.200	**-0.370589**	ppb	0.631	7.793	52271.122
43	**Ca-2**		2184866.472	**38657.988773**	ppb	1.244	0.783	340.004
49	**Ti**		2256.845	**1.041536**	ppb	4.253	4.130	362.227
52	**Cr**		78803.429	**1.755094**	ppb	0.878	0.926	34799.000
55	**Mn**		769558.293	**20.158036**	ppb	1.566	0.597	2530.224
57	**Fe**		128583.934	**118.242832**	ppb	1.302	0.448	33006.981
45	**Sc-IS**	>	5589089.223		ppb	0.978		5598835.990
66	**Zn**		4012.786	**-0.003818**	ppb	4.370	1263.276	4036.127
86	**Sr**		1296157.473	**406.853159**	ppb	1.650	1.222	32.869
65	**Cu**		2875.845	**0.401840**	ppb	1.629	2.720	351.115
69	**Ga-IS**		1695447.045		ppb	1.216		1727885.813
95	**Mo**		2669.138	**0.704430**	ppb	3.009	2.510	274.447
115	**In-IS**	>	827070.218		ppb	1.095		872436.593
111	**Cd**		307.732	**0.061775**	ppb	4.339	5.127	22.757
118	**Sn**		3487.093	**-0.037690**	ppb	6.606	38.164	4222.847
121	**Sb**		3145.902	**0.189968**	ppb	1.399	2.483	382.227
135	**Ba**		60992.156	**15.179911**	ppb	1.034	1.820	125.556
165	**Ho-IS**		967458.236		ppb	0.680		984358.905
159	**Tb-IS**	>	1001298.354		ppb	1.622		1036445.791
207	**Pb**		1915.607	**0.033159**	ppb	4.192	6.345	526.671
203	**Tl**		555.567	**0.027890**	ppb	14.516	17.764	151.112
209	**Bi-IS**		447773.254		ppb	1.227		498618.396
51	**V**		110.000	**0.287285**	ppb	18.924	17.645	2.222
59	**Co**		65.556	**0.042939**	ppb	15.534	21.104	12.222
60	**Ni**		631.125	**0.179709**	ppb	9.512	15.459	281.114
75	**As**		603.364	**0.251809**	ppb	8.805	33.581	437.321
71	**Ga-ISK**		142211.410		ppb	2.957		155106.502
82	**Se-2**		265.495	**3.321794**	ppb	2.566	0.963	25.148
107	**Ag-1**		1585.644	**-0.368710**	ppb	3.259	0.777	4843.053
115	**In-ISK**	>	217589.120		ppb	1.804		229723.963
45	**Sc-ISK**		356501.790		ppb	1.398		376926.794
23	**Na**		14916585.703	**46228.982961**	ppb	3.515	3.313	11721.474
39	**K**		977381.211	**1262.954964**	ppb	2.262	1.743	44447.940
24	**Mg**		3550735.674	**11686.737795**	ppb	1.792	1.286	258.336
159	**Tb-ISK**	>	442830.617		ppb	1.146		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-1-A
Autosampler Position: 345
Sample Date/Time: Tuesday, January 04, 2022 18:12:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-1-A.212
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		113735.494		ppb	1.769		103007.929
9	**Be**		42.222	**0.010700**	ppb	9.116	8.749	7.778
10	**B**		430476.399	**455.187437**	ppb	1.749	2.144	2072.373
27	**Al**		125048.586	**3.074031**	ppb	5.279	9.635	52271.122
43	**Ca-2**		10818399.750	**192566.577575**	ppb	1.472	2.874	340.004
49	**Ti**		8082.286	**4.269545**	ppb	0.867	2.151	362.227
52	**Cr**		261426.542	**9.084141**	ppb	3.359	1.093	34799.000
55	**Mn**		3658815.689	**96.641580**	ppb	1.669	1.867	2530.224
57	**Fe**		427180.910	**490.349275**	ppb	2.486	1.023	33006.981
45	**Sc-IS**	>	5559050.436		ppb	2.868		5598835.990
66	**Zn**		7448.609	**0.850228**	ppb	2.722	10.030	4036.127
86	**Sr**		6802380.128	**2149.744813**	ppb	4.369	7.211	32.869
65	**Cu**		10598.377	**1.640129**	ppb	2.889	3.349	351.115
69	**Ga-IS**		1515310.352		ppb	0.687		1727885.813
95	**Mo**		15327.112	**4.452850**	ppb	3.132	2.632	274.447
115	**In-IS**	>	767390.020		ppb	0.969		872436.593
111	**Cd**		776.725	**0.175960**	ppb	8.171	7.595	22.757
118	**Sn**		3990.557	**0.021672**	ppb	1.504	7.730	4222.847
121	**Sb**		3863.857	**0.259483**	ppb	4.665	5.559	382.227
135	**Ba**		290041.193	**77.910214**	ppb	2.162	1.552	125.556
165	**Ho-IS**		930654.367		ppb	1.530		984358.905
159	**Tb-IS**	>	961836.148		ppb	1.518		1036445.791
207	**Pb**		1963.387	**0.036173**	ppb	1.509	0.061	526.671
203	**Tl**		305.559	**0.011763**	ppb	9.838	20.960	151.112
209	**Bi-IS**		396541.752		ppb	1.907		498618.396
51	**V**		637.792	**1.804603**	ppb	2.112	1.294	2.222
59	**Co**		108.889	**0.082674**	ppb	15.408	16.339	12.222
60	**Ni**		2093.487	**0.966155**	ppb	1.433	1.598	281.114
75	**As**		1268.348	**1.240251**	ppb	6.429	9.825	437.321
71	**Ga-ISK**		143127.072		ppb	2.626		155106.502
82	**Se-2**		1101.479	**15.780925**	ppb	3.072	3.278	25.148
107	**Ag-1**		2416.871	**-0.247729**	ppb	4.786	4.613	4843.053
115	**In-ISK**	>	204539.865		ppb	1.197		229723.963
45	**Sc-ISK**		383687.766		ppb	3.243		376926.794
23	**Na**		81036098.679	**250571.948463**	ppb	1.474	1.022	11721.474
39	**K**		5028543.638	**6716.541673**	ppb	1.661	1.532	44447.940
24	**Mg**		18481069.664	**60650.139784**	ppb	2.762	1.951	258.336
159	**Tb-ISK**	>	444114.103		ppb	1.022		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-1-B MS
Autosampler Position: 346
Sample Date/Time: Tuesday, January 04, 2022 18:15:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-1-B MS.213
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108828.566		ppb	1.418		103007.929
9	**Be**		278832.768	**87.871797**	ppb	0.823	0.718	7.778
10	**B**		491969.875	**528.258229**	ppb	2.435	1.709	2072.373
27	**Al**		2415912.695	**100.823317**	ppb	0.612	1.143	52271.122
43	**Ca-2**		10827745.995	**195570.590858**	ppb	1.021	0.691	340.004
49	**Ti**		161284.232	**90.294817**	ppb	0.461	1.330	362.227
52	**Cr**		2271956.599	**90.987665**	ppb	1.230	2.051	34799.000
55	**Mn**		6482288.872	**173.836938**	ppb	1.047	1.648	2530.224
57	**Fe**		4194841.149	**5254.156848**	ppb	2.118	3.021	33006.981
45	**Sc-IS**	>	5475894.809		ppb	1.156		5598835.990
66	**Zn**		286676.787	**70.804047**	ppb	0.504	0.676	4036.127
86	**Sr**		6957978.085	**2229.749730**	ppb	3.024	3.765	32.869
65	**Cu**		441811.488	**71.699225**	ppb	0.805	1.901	351.115
69	**Ga-IS**		1531780.108		ppb	2.620		1727885.813
95	**Mo**		295505.329	**88.647917**	ppb	1.227	2.077	274.447
115	**In-IS**	>	781411.305		ppb	1.391		872436.593
111	**Cd**		371012.640	**84.748952**	ppb	2.108	0.770	22.757
118	**Sn**		1045098.147	**80.301224**	ppb	0.282	1.681	4222.847
121	**Sb**		1236532.213	**89.291238**	ppb	1.206	1.645	382.227
135	**Ba**		679167.819	**179.250424**	ppb	1.643	2.754	125.556
165	**Ho-IS**		942106.921		ppb	0.474		984358.905
159	**Tb-IS**	>	978444.754		ppb	0.296		1036445.791
207	**Pb**		3263393.218	**78.680506**	ppb	0.479	0.518	526.671
203	**Tl**		1116806.033	**77.936940**	ppb	1.579	1.328	151.112
209	**Bi-IS**		395943.299		ppb	0.754		498618.396
51	**V**		36173.523	**100.687577**	ppb	1.209	1.492	2.222
59	**Co**		108125.511	**89.487616**	ppb	1.794	1.040	12.222
60	**Ni**		174265.811	**89.429226**	ppb	2.588	1.146	281.114
75	**As**		73655.376	**101.339852**	ppb	1.502	1.286	437.321
71	**Ga-ISK**		146996.146		ppb	2.869		155106.502
82	**Se-2**		7964.994	**113.848396**	ppb	3.697	1.156	25.148
107	**Ag-1**		264057.649	**33.272281**	ppb	2.077	2.040	4843.053
115	**In-ISK**	>	208618.235		ppb	2.645		229723.963
45	**Sc-ISK**		403535.212		ppb	4.151		376926.794
23	**Na**		84260711.739	**259519.809021**	ppb	2.116	1.941	11721.474
39	**K**		5934417.117	**7904.455375**	ppb	1.972	0.474	44447.940
24	**Mg**		20985554.199	**68599.453636**	ppb	1.877	0.708	258.336
159	**Tb-ISK**	>	445898.495		ppb	1.649		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-1-C MSD
Autosampler Position: 347
Sample Date/Time: Tuesday, January 04, 2022 18:18:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-1-C MSD.214
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		109837.310		ppb	0.674		103007.929
9	**Be**		271016.957	**85.015954**	ppb	1.462	1.663	7.778
10	**B**		484977.685	**518.301120**	ppb	1.887	0.759	2072.373
27	**Al**		2381718.942	**98.905902**	ppb	1.918	2.788	52271.122
43	**Ca-2**		10994614.083	**197665.716528**	ppb	1.307	1.026	340.004
49	**Ti**		156119.555	**87.002862**	ppb	0.500	2.373	362.227
52	**Cr**		2235236.065	**89.102128**	ppb	2.314	4.206	34799.000
55	**Mn**		6553331.295	**174.969700**	ppb	1.333	3.209	2530.224
57	**Fe**		4105055.772	**5118.098758**	ppb	2.572	4.329	33006.981
45	**Sc-IS**	>	5501724.174		ppb	1.855		5598835.990
66	**Zn**		273697.663	**67.255729**	ppb	1.995	3.613	4036.127
86	**Sr**		6811276.238	**2172.992102**	ppb	1.775	3.645	32.869
65	**Cu**		427296.138	**69.035690**	ppb	2.298	3.860	351.115
69	**Ga-IS**		1499599.334		ppb	2.212		1727885.813
95	**Mo**		292386.931	**87.323958**	ppb	1.822	3.534	274.447
115	**In-IS**	>	775446.515		ppb	1.013		872436.593
111	**Cd**		362189.687	**83.379450**	ppb	0.557	0.889	22.757
118	**Sn**		1038340.216	**80.391382**	ppb	0.449	1.456	4222.847
121	**Sb**		1204583.999	**87.655278**	ppb	1.135	2.075	382.227
135	**Ba**		660507.471	**175.650003**	ppb	1.423	2.267	125.556
165	**Ho-IS**		953776.956		ppb	1.245		984358.905
159	**Tb-IS**	>	972334.090		ppb	1.219		1036445.791
207	**Pb**		3192215.636	**77.456947**	ppb	1.130	1.841	526.671
203	**Tl**		1106394.555	**77.711919**	ppb	1.348	2.449	151.112
209	**Bi-IS**		393584.061		ppb	1.051		498618.396
51	**V**		34801.272	**96.623032**	ppb	4.021	5.116	2.222
59	**Co**		103357.228	**85.329492**	ppb	3.092	4.293	12.222
60	**Ni**		173513.785	**88.782338**	ppb	3.499	2.121	281.114
75	**As**		72755.497	**99.796745**	ppb	2.365	1.080	437.321
71	**Ga-ISK**		147899.069		ppb	3.863		155106.502
82	**Se-2**		8007.024	**114.132845**	ppb	4.518	3.186	25.148
107	**Ag-1**		255641.534	**32.102382**	ppb	0.476	1.133	4843.053
115	**In-ISK**	>	209176.981		ppb	1.423		229723.963
45	**Sc-ISK**		409654.178		ppb	2.587		376926.794
23	**Na**		85829142.241	**265134.006340**	ppb	1.537	1.105	11721.474
39	**K**		6000416.421	**8017.573921**	ppb	1.257	0.475	44447.940
24	**Mg**		21295100.567	**69816.140842**	ppb	2.585	1.630	258.336
159	**Tb-ISK**	>	444565.593		ppb	1.424		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-1-A pds
Autosampler Position: 348
Sample Date/Time: Tuesday, January 04, 2022 18:22:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-1-A pds.215
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		111408.438		ppb	2.326		103007.929
9	**Be**		292837.898	**91.270607**	ppb	1.223	1.127	7.778
10	**B**		484076.948	**514.050020**	ppb	1.324	1.075	2072.373
27	**Al**		2586731.701	**106.907484**	ppb	1.907	2.960	52271.122
43	**Ca-2**		10862045.311	**194026.347726**	ppb	1.398	0.618	340.004
49	**Ti**		169938.157	**94.095879**	ppb	0.738	0.408	362.227
52	**Cr**		2396626.827	**94.988260**	ppb	1.206	2.278	34799.000
55	**Mn**		6656990.191	**176.558642**	ppb	1.271	1.727	2530.224
57	**Fe**		4396663.063	**5447.706679**	ppb	1.044	2.151	33006.981
45	**Sc-IS**	>	5536744.835		ppb	1.083		5598835.990
66	**Zn**		300075.929	**73.343075**	ppb	1.443	2.536	4036.127
86	**Sr**		6883936.436	**2181.362456**	ppb	1.308	1.157	32.869
65	**Cu**		460435.713	**73.898324**	ppb	0.217	1.277	351.115
69	**Ga-IS**		1487282.663		ppb	1.478		1727885.813
95	**Mo**		325174.156	**96.467101**	ppb	1.475	0.409	274.447
115	**In-IS**	>	787686.960		ppb	0.316		872436.593
111	**Cd**		402924.361	**91.311266**	ppb	1.428	1.376	22.757
118	**Sn**		1167914.357	**89.039216**	ppb	1.337	1.082	4222.847
121	**Sb**		1322723.006	**94.745067**	ppb	0.551	0.235	382.227
135	**Ba**		694329.187	**181.752125**	ppb	0.814	0.863	125.556
165	**Ho-IS**		956919.646		ppb	0.147		984358.905
159	**Tb-IS**	>	971831.124		ppb	1.874		1036445.791
207	**Pb**		3585771.293	**87.072664**	ppb	0.916	2.798	526.671
203	**Tl**		1221757.062	**85.877662**	ppb	1.448	3.226	151.112
209	**Bi-IS**		405141.252		ppb	1.762		498618.396
51	**V**		39405.403	**108.039961**	ppb	2.315	1.712	2.222
59	**Co**		118428.347	**96.514648**	ppb	4.307	1.885	12.222
60	**Ni**		193624.527	**97.925032**	ppb	0.982	2.050	281.114
75	**As**		80328.220	**108.923920**	ppb	1.779	2.133	437.321
71	**Ga-ISK**		149341.070		ppb	1.311		155106.502
82	**Se-2**		8738.780	**123.105317**	ppb	2.390	0.692	25.148
107	**Ag-1**		286626.281	**35.610457**	ppb	2.979	1.669	4843.053
115	**In-ISK**	>	211784.445		ppb	2.987		229723.963
45	**Sc-ISK**		423254.040		ppb	1.646		376926.794
23	**Na**		87438639.957	**264998.613519**	ppb	1.793	1.709	11721.474
39	**K**		6302038.108	**8263.238412**	ppb	0.589	0.493	44447.940
24	**Mg**		22172125.934	**71323.112597**	ppb	1.502	1.265	258.336
159	**Tb-ISK**	>	453119.376		ppb	0.529		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-2-A
Autosampler Position: 349
Sample Date/Time: Tuesday, January 04, 2022 18:25:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-2-A.216
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106708.198		ppb	1.195		103007.929
9	**Be**		277.781	**0.084676**	ppb	15.430	16.068	7.778
10	**B**		401968.508	**428.904973**	ppb	3.300	3.724	2072.373
27	**Al**		15230932.331	**643.621721**	ppb	2.051	2.469	52271.122
43	**Ca-2**		10076437.951	**180999.972891**	ppb	1.526	1.696	340.004
49	**Ti**		15647.525	**8.535756**	ppb	11.185	12.084	362.227
52	**Cr**		9378216.344	**377.757404**	ppb	1.252	0.912	34799.000
55	**Mn**		35578675.583	**949.039068**	ppb	1.819	1.321	2530.224
57	**Fe**		1906045.519	**2351.758099**	ppb	1.604	2.478	33006.981
45	**Sc-IS**	>	5506237.369		ppb	0.848		5598835.990
66	**Zn**		14774.303	**2.691027**	ppb	0.760	1.633	4036.127
86	**Sr**		5682096.258	**1810.609646**	ppb	4.363	4.596	32.869
65	**Cu**		18262.781	**2.894037**	ppb	2.190	3.066	351.115
69	**Ga-IS**		1446877.619		ppb	0.814		1727885.813
95	**Mo**		31368.864	**9.286768**	ppb	2.728	3.533	274.447
115	**In-IS**	>	777121.692		ppb	0.304		872436.593
111	**Cd**		530.805	**0.117276**	ppb	9.885	10.256	22.757
118	**Sn**		25830.027	**1.710978**	ppb	4.371	5.167	4222.847
121	**Sb**		2599.125	**0.164026**	ppb	2.125	2.309	382.227
135	**Ba**		415851.381	**110.324788**	ppb	0.247	0.548	125.556
165	**Ho-IS**		971815.323		ppb	0.746		984358.905
159	**Tb-IS**	>	982091.623		ppb	1.841		1036445.791
207	**Pb**		31852.914	**0.753406**	ppb	1.499	2.298	526.671
203	**Tl**		435.562	**0.020366**	ppb	9.066	15.750	151.112
209	**Bi-IS**		408137.726		ppb	1.441		498618.396
51	**V**		681.127	**1.840169**	ppb	4.703	5.871	2.222
59	**Co**		697.795	**0.552781**	ppb	11.318	11.241	12.222
60	**Ni**		4006.118	**1.871966**	ppb	5.549	4.748	281.114
75	**As**		6367.904	**8.023176**	ppb	0.604	0.803	437.321
71	**Ga-ISK**		154881.096		ppb	2.959		155106.502
82	**Se-2**		181.725	**2.208859**	ppb	4.721	5.814	25.148
107	**Ag-1**		2741.375	**-0.221738**	ppb	5.321	6.112	4843.053
115	**In-ISK**	>	214340.932		ppb	1.360		229723.963
45	**Sc-ISK**		427331.886		ppb	2.432		376926.794
23	**Na**		83929610.987	**248439.227116**	ppb	2.526	1.958	11721.474
39	**K**		7334459.514	**9401.193102**	ppb	2.011	1.643	44447.940
24	**Mg**		20033130.477	**62945.264295**	ppb	1.634	1.163	258.336
159	**Tb-ISK**	>	463886.844		ppb	0.572		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-3-A
Autosampler Position: 350
Sample Date/Time: Tuesday, January 04, 2022 18:28:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-3-A.217
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106653.414		ppb	1.999		103007.929
9	**Be**		36.667	**0.009122**	ppb	9.091	11.050	7.778
10	**B**		811343.662	**870.108451**	ppb	1.795	1.320	2072.373
27	**Al**		59468.867	**0.348972**	ppb	1.194	18.644	52271.122
43	**Ca-2**		12177277.473	**219327.382579**	ppb	0.454	1.551	340.004
49	**Ti**		6478.135	**3.425436**	ppb	1.197	1.824	362.227
52	**Cr**		173695.261	**5.658212**	ppb	1.394	3.078	34799.000
55	**Mn**		14694715.321	**393.056711**	ppb	1.311	2.621	2530.224
57	**Fe**		457976.574	**535.680307**	ppb	2.786	3.929	33006.981
45	**Sc-IS**	>	5492038.162		ppb	1.520		5598835.990
66	**Zn**		7817.694	**0.963967**	ppb	1.712	6.151	4036.127
86	**Sr**		7161333.560	**2287.850388**	ppb	2.560	2.571	32.869
65	**Cu**		8170.117	**1.267395**	ppb	4.870	5.613	351.115
69	**Ga-IS**		1481401.395		ppb	1.065		1727885.813
95	**Mo**		37372.154	**11.108286**	ppb	0.539	1.873	274.447
115	**In-IS**	>	755396.707		ppb	1.406		872436.593
111	**Cd**		62.630	**0.010145**	ppb	66.988	98.218	22.757
118	**Sn**		11743.717	**0.645039**	ppb	3.295	4.383	4222.847
121	**Sb**		9058.428	**0.652024**	ppb	2.467	2.005	382.227
135	**Ba**		1046525.632	**285.729732**	ppb	0.927	2.255	125.556
165	**Ho-IS**		961945.397		ppb	1.523		984358.905
159	**Tb-IS**	>	969419.807		ppb	0.878		1036445.791
207	**Pb**		2552.312	**0.050139**	ppb	2.308	3.822	526.671
203	**Tl**		210.002	**0.004846**	ppb	9.524	31.760	151.112
209	**Bi-IS**		401962.653		ppb	2.088		498618.396
51	**V**		64.445	**0.168904**	ppb	10.767	9.959	2.222
59	**Co**		32.222	**0.016731**	ppb	23.890	35.271	12.222
60	**Ni**		1987.916	**0.863409**	ppb	4.756	4.085	281.114
75	**As**		1157.901	**1.010038**	ppb	4.470	5.688	437.321
71	**Ga-ISK**		159288.168		ppb	3.216		155106.502
82	**Se-2**		413.467	**5.446268**	ppb	0.280	1.426	25.148
107	**Ag-1**		1574.532	**-0.367079**	ppb	7.505	3.455	4843.053
115	**In-ISK**	>	214219.848		ppb	1.391		229723.963
45	**Sc-ISK**		435526.161		ppb	3.338		376926.794
23	**Na**		92887389.639	**275100.765652**	ppb	1.295	3.006	11721.474
39	**K**		8423474.107	**10807.604453**	ppb	1.652	1.176	44447.940
24	**Mg**		21087816.930	**66248.255818**	ppb	3.708	1.351	258.336
159	**Tb-ISK**	>	463902.480		ppb	2.625		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 18:31:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.218
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104991.134		ppb	1.664		103007.929
9	**Be**		332349.370	**100.989310**	ppb	0.573	2.592	7.778
10	**B**		249324.400	**256.972242**	ppb	2.469	2.147	2072.373
27	**Al**		2600870.868	**104.740497**	ppb	0.905	2.914	52271.122
43	**Ca-2**		310980.580	**5409.268937**	ppb	1.581	2.020	340.004
49	**Ti**		192036.571	**103.680599**	ppb	0.382	2.134	362.227
52	**Cr**		2606354.477	**100.772563**	ppb	0.816	2.114	34799.000
55	**Mn**		4036606.198	**104.326826**	ppb	0.762	1.439	2530.224
57	**Fe**		4327586.878	**5224.050150**	ppb	1.598	1.070	33006.981
45	**Sc-IS**	>	5680906.714		ppb	2.037		5598835.990
66	**Zn**		405366.922	**96.896065**	ppb	1.213	2.953	4036.127
86	**Sr**		337756.776	**104.322010**	ppb	0.848	1.797	32.869
65	**Cu**		614853.131	**96.196920**	ppb	1.753	1.580	351.115
69	**Ga-IS**		1702701.295		ppb	2.071		1727885.813
95	**Mo**		353518.359	**102.224198**	ppb	1.905	0.310	274.447
115	**In-IS**	>	859532.995		ppb	2.721		872436.593
111	**Cd**		493576.597	**102.535621**	ppb	1.378	1.788	22.757
118	**Sn**		1464238.987	**102.364440**	ppb	1.941	1.475	4222.847
121	**Sb**		1566918.023	**102.904576**	ppb	1.678	3.047	382.227
135	**Ba**		432993.501	**103.901232**	ppb	2.054	3.184	125.556
165	**Ho-IS**		1036873.222		ppb	2.435		984358.905
159	**Tb-IS**	>	1061703.102		ppb	1.493		1036445.791
207	**Pb**		4807358.492	**106.833509**	ppb	1.011	1.605	526.671
203	**Tl**		1625051.785	**104.534898**	ppb	0.525	1.739	151.112
209	**Bi-IS**		518283.307		ppb	2.064		498618.396
51	**V**		41588.248	**99.244670**	ppb	2.398	1.843	2.222
59	**Co**		141675.761	**100.543330**	ppb	0.933	0.489	12.222
60	**Ni**		243237.717	**107.086633**	ppb	2.863	3.495	281.114
75	**As**		86641.441	**102.232018**	ppb	1.687	2.662	437.321
71	**Ga-ISK**		176825.760		ppb	2.231		155106.502
82	**Se-2**		8448.293	**103.541580**	ppb	2.201	1.250	25.148
107	**Ag-1**		911643.783	**99.609854**	ppb	1.468	2.375	4843.053
115	**In-ISK**	>	243260.934		ppb	1.105		229723.963
45	**Sc-ISK**		440628.177		ppb	1.038		376926.794
23	**Na**		2168346.538	**5922.337864**	ppb	2.305	1.616	11721.474
39	**K**		4720315.066	**5591.553813**	ppb	1.520	0.809	44447.940
24	**Mg**		1975162.194	**5758.181252**	ppb	3.091	2.625	258.336
159	**Tb-ISK**	>	499886.603		ppb	0.729		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	
Mg	24	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 18:34:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.219
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106577.248		ppb	1.509		103007.929
9	**Be**		82.222	**0.022471**	ppb	6.193	6.463	7.778
10	**B**		4346.218	**2.312781**	ppb	5.835	11.252	2072.373
27	**Al**		53526.794	**0.010932**	ppb	2.327	478.684	52271.122
43	**Ca-2**		1321.728	**16.906909**	ppb	10.763	14.393	340.004
49	**Ti**		413.339	**0.023833**	ppb	14.130	131.632	362.227
52	**Cr**		39165.838	**0.144711**	ppb	0.313	5.327	34799.000
55	**Mn**		5080.906	**0.064441**	ppb	6.535	13.141	2530.224
57	**Fe**		35290.206	**2.008155**	ppb	1.201	17.641	33006.981
45	**Sc-IS**	>	5704809.292		ppb	0.399		5598835.990
66	**Zn**		4253.967	**0.034095**	ppb	4.414	141.017	4036.127
86	**Sr**		657.421	**0.191901**	ppb	6.980	7.556	32.869
65	**Cu**		702.240	**0.053694**	ppb	8.144	16.537	351.115
69	**Ga-IS**		1737097.719		ppb	1.691		1727885.813
95	**Mo**		2451.322	**0.625774**	ppb	3.324	3.400	274.447
115	**In-IS**	>	889159.681		ppb	0.784		872436.593
111	**Cd**		79.297	**0.011257**	ppb	12.875	17.421	22.757
118	**Sn**		17557.458	**0.898074**	ppb	3.562	4.661	4222.847
121	**Sb**		1861.232	**0.093414**	ppb	1.702	2.334	382.227
135	**Ba**		230.002	**0.023634**	ppb	16.714	36.493	125.556
165	**Ho-IS**		1036157.274		ppb	0.024		984358.905
159	**Tb-IS**	>	1075283.211		ppb	0.836		1036445.791
207	**Pb**		1617.813	**0.023521**	ppb	5.311	9.273	526.671
203	**Tl**		565.567	**0.025970**	ppb	8.528	12.200	151.112
209	**Bi-IS**		522719.104		ppb	2.686		498618.396
51	**V**		7.778	**0.012839**	ppb	65.465	93.122	2.222
59	**Co**		34.444	**0.015166**	ppb	31.109	49.775	12.222
60	**Ni**		400.006	**0.044469**	ppb	10.833	42.640	281.114
75	**As**		517.110	**0.062062**	ppb	4.848	55.065	437.321
71	**Ga-ISK**		174695.766		ppb	3.325		155106.502
82	**Se-2**		35.466	**0.106770**	ppb	32.732	132.225	25.148
107	**Ag-1**		11741.509	**0.721706**	ppb	7.757	13.114	4843.053
115	**In-ISK**	>	244130.367		ppb	0.833		229723.963
45	**Sc-ISK**		426386.842		ppb	1.153		376926.794
23	**Na**		34545.051	**60.862631**	ppb	0.543	2.870	11721.474
39	**K**		50528.095	**3.496658**	ppb	0.966	20.029	44447.940
24	**Mg**		3980.555	**10.885325**	ppb	4.649	6.370	258.336
159	**Tb-ISK**	>	496219.966		ppb	1.278		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 18:37:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.220
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		109441.066		ppb	2.125		103007.929
9	**Be**		38.889	**0.009207**	ppb	43.142	54.688	7.778
10	**B**		3365.952	**1.245388**	ppb	1.896	8.796	2072.373
27	**Al**		69068.963	**0.604319**	ppb	2.412	18.254	52271.122
43	**Ca-2**		953.365	**10.264417**	ppb	3.073	2.605	340.004
49	**Ti**		354.449	**-0.010758**	ppb	9.420	173.999	362.227
52	**Cr**		38294.593	**0.087734**	ppb	0.680	17.023	34799.000
55	**Mn**		4399.566	**0.045142**	ppb	2.064	1.693	2530.224
57	**Fe**		34587.377	**0.515487**	ppb	0.796	126.507	33006.981
45	**Sc-IS**	>	5794474.335		ppb	1.628		5598835.990
66	**Zn**		3770.498	**-0.096198**	ppb	3.272	28.440	4036.127
86	**Sr**		402.328	**0.111562**	ppb	9.310	10.606	32.869
65	**Cu**		610.013	**0.037775**	ppb	8.794	17.830	351.115
69	**Ga-IS**		1725287.011		ppb	2.409		1727885.813
95	**Mo**		1283.391	**0.284003**	ppb	10.801	15.938	274.447
115	**In-IS**	>	889442.955		ppb	1.431		872436.593
111	**Cd**		59.527	**0.007292**	ppb	25.724	41.860	22.757
118	**Sn**		13298.415	**0.609415**	ppb	3.765	6.529	4222.847
121	**Sb**		1204.495	**0.051724**	ppb	2.511	5.413	382.227
135	**Ba**		188.890	**0.014123**	ppb	6.197	19.616	125.556
165	**Ho-IS**		1050706.385		ppb	2.837		984358.905
159	**Tb-IS**	>	1069191.906		ppb	1.488		1036445.791
207	**Pb**		1101.128	**0.012315**	ppb	6.812	14.181	526.671
203	**Tl**		372.227	**0.013832**	ppb	4.932	10.840	151.112
209	**Bi-IS**		530450.799		ppb	1.827		498618.396
51	**V**		3.333	**0.002290**	ppb		4.323	2.222
59	**Co**		28.889	**0.011211**	ppb	35.251	65.339	12.222
60	**Ni**		478.897	**0.078311**	ppb	14.440	35.231	281.114
75	**As**		516.964	**0.059884**	ppb	4.629	35.542	437.321
71	**Ga-ISK**		176537.772		ppb	2.189		155106.502
82	**Se-2**		27.145	**0.003795**	ppb	21.125	1761.402	25.148
107	**Ag-1**		10799.655	**0.614923**	ppb	8.384	13.730	4843.053
115	**In-ISK**	>	244803.303		ppb	1.260		229723.963
45	**Sc-ISK**		426537.255		ppb	1.574		376926.794
23	**Na**		24779.843	**34.793264**	ppb	5.058	9.568	11721.474
39	**K**		47972.642	**1.236727**	ppb	1.149	40.814	44447.940
24	**Mg**		2136.828	**5.552243**	ppb	9.957	11.112	258.336
159	**Tb-ISK**	>	489232.200		ppb	0.288		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-4-A
Autosampler Position: 351
Sample Date/Time: Tuesday, January 04, 2022 18:40:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-4-A.221
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		109893.315		ppb	1.100		103007.929
9	**Be**		32.222	**0.007583**	ppb	52.068	67.807	7.778
10	**B**		352106.500	**371.474702**	ppb	4.019	3.466	2072.373
27	**Al**		470458.142	**17.561000**	ppb	2.491	2.087	52271.122
43	**Ca-2**		5791790.264	**102965.198810**	ppb	0.827	0.511	340.004
49	**Ti**		6101.304	**3.170807**	ppb	3.413	3.884	362.227
52	**Cr**		571033.645	**21.466505**	ppb	1.780	1.974	34799.000
55	**Mn**		583986.062	**15.353278**	ppb	1.144	0.947	2530.224
57	**Fe**		249274.946	**268.919838**	ppb	0.514	0.956	33006.981
45	**Sc-IS**	>	5563147.028		ppb	0.693		5598835.990
66	**Zn**		22824.891	**4.638281**	ppb	2.035	3.295	4036.127
86	**Sr**		3567608.675	**1125.153546**	ppb	0.674	1.256	32.869
65	**Cu**		8717.107	**1.337922**	ppb	4.888	5.783	351.115
69	**Ga-IS**		1443505.113		ppb	1.409		1727885.813
95	**Mo**		13295.073	**3.848501**	ppb	1.034	1.633	274.447
115	**In-IS**	>	768750.248		ppb	1.611		872436.593
111	**Cd**		157.637	**0.031967**	ppb	6.610	8.521	22.757
118	**Sn**		7743.210	**0.315320**	ppb	3.107	6.468	4222.847
121	**Sb**		3053.661	**0.199573**	ppb	8.420	10.278	382.227
135	**Ba**		154471.877	**41.421061**	ppb	1.367	2.888	125.556
165	**Ho-IS**		975005.350		ppb	1.041		984358.905
159	**Tb-IS**	>	987951.973		ppb	2.184		1036445.791
207	**Pb**		3524.617	**0.072204**	ppb	1.359	2.384	526.671
203	**Tl**		180.001	**0.002490**	ppb	0.000	10.785	151.112
209	**Bi-IS**		425685.743		ppb	1.574		498618.396
51	**V**		1416.737	**3.841476**	ppb	1.777	3.141	2.222
59	**Co**		580.012	**0.458675**	ppb	10.920	9.872	12.222
60	**Ni**		6201.346	**2.978058**	ppb	1.937	2.693	281.114
75	**As**		2092.976	**2.276562**	ppb	6.234	9.515	437.321
71	**Ga-ISK**		152130.529		ppb	2.549		155106.502
82	**Se-2**		358.109	**4.679428**	ppb	5.601	4.759	25.148
107	**Ag-1**		5584.430	**0.134393**	ppb	8.708	44.437	4843.053
115	**In-ISK**	>	213866.276		ppb	1.633		229723.963
45	**Sc-ISK**		408350.035		ppb	1.130		376926.794
23	**Na**		67821713.285	**202667.047448**	ppb	0.784	0.519	11721.474
39	**K**		4694478.669	**6054.307602**	ppb	0.570	0.875	44447.940
24	**Mg**		12421273.111	**39398.056582**	ppb	1.901	1.669	258.336
159	**Tb-ISK**	>	459534.057		ppb	0.311		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-5-A @5
Autosampler Position: 352
Sample Date/Time: Tuesday, January 04, 2022 18:44:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-5-A @5.222
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		107588.346		ppb	3.283		103007.929
9	**Be**		23.333	**0.004801**	ppb	49.487	71.639	7.778
10	**B**		131079.006	**136.818866**	ppb	3.151	1.854	2072.373
27	**Al**		47458.077	**-0.189663**	ppb	2.918	14.421	52271.122
43	**Ca-2**		1841674.507	**32712.341713**	ppb	2.004	0.532	340.004
49	**Ti**		2553.562	**1.210134**	ppb	3.387	2.098	362.227
52	**Cr**		28032956.312	**1119.665218**	ppb	0.944	1.263	34799.000
55	**Mn**		2992403.821	**78.892883**	ppb	1.422	0.854	2530.224
57	**Fe**		110636.778	**96.610883**	ppb	0.695	1.478	33006.981
45	**Sc-IS**	>	5567061.358		ppb	1.574		5598835.990
66	**Zn**		5604.433	**0.391837**	ppb	2.319	2.748	4036.127
86	**Sr**		1004745.380	**316.682486**	ppb	0.027	1.588	32.869
65	**Cu**		4706.331	**0.696087**	ppb	2.252	2.935	351.115
69	**Ga-IS**		1603114.003		ppb	1.176		1727885.813
95	**Mo**		19364.229	**5.637558**	ppb	1.852	0.381	274.447
115	**In-IS**	>	825118.256		ppb	0.764		872436.593
111	**Cd**		34.891	**0.002913**	ppb	56.135	147.338	22.757
118	**Sn**		2447.988	**-0.112881**	ppb	3.046	4.342	4222.847
121	**Sb**		1034.482	**0.046034**	ppb	1.832	3.151	382.227
135	**Ba**		94754.341	**23.652263**	ppb	1.104	0.723	125.556
165	**Ho-IS**		1015643.487		ppb	0.389		984358.905
159	**Tb-IS**	>	1025465.566		ppb	1.218		1036445.791
207	**Pb**		1107.794	**0.013503**	ppb	3.014	6.550	526.671
203	**Tl**		162.223	**0.000861**	ppb	14.865	203.106	151.112
209	**Bi-IS**		474328.208		ppb	0.229		498618.396
51	**V**		35.556	**0.084180**	ppb	43.301	46.157	2.222
59	**Co**		38.889	**0.020038**	ppb	13.093	20.063	12.222
60	**Ni**		426.673	**0.067898**	ppb	5.634	19.987	281.114
75	**As**		893.732	**0.572350**	ppb	5.651	10.173	437.321
71	**Ga-ISK**		162838.474		ppb	4.471		155106.502
82	**Se-2**		73.820	**0.633806**	ppb	20.887	32.600	25.148
107	**Ag-1**		1735.661	**-0.361674**	ppb	4.174	1.932	4843.053
115	**In-ISK**	>	229886.380		ppb	1.482		229723.963
45	**Sc-ISK**		417605.332		ppb	3.167		376926.794
23	**Na**		19395217.554	**55921.038987**	ppb	2.515	1.561	11721.474
39	**K**		1547260.552	**1886.918182**	ppb	3.448	2.693	44447.940
24	**Mg**		3599999.397	**11022.402851**	ppb	1.741	0.664	258.336
159	**Tb-ISK**	>	476013.915		ppb	1.080		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-6-A
Autosampler Position: 353
Sample Date/Time: Tuesday, January 04, 2022 18:47:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-6-A.223
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		111293.000		ppb	1.400		103007.929
9	**Be**		16.667	**0.002786**	ppb	34.641	62.512	7.778
10	**B**		505293.219	**536.527281**	ppb	3.148	1.735	2072.373
27	**Al**		161602.761	**4.636540**	ppb	2.967	6.543	52271.122
43	**Ca-2**		10114116.197	**180647.061890**	ppb	1.700	0.237	340.004
49	**Ti**		8277.954	**4.395360**	ppb	2.086	3.553	362.227
52	**Cr**		177045.997	**5.734067**	ppb	1.256	0.422	34799.000
55	**Mn**		17660156.966	**468.453636**	ppb	0.812	1.022	2530.224
57	**Fe**		375570.375	**428.070796**	ppb	1.689	2.839	33006.981
45	**Sc-IS**	>	5537300.305		ppb	1.528		5598835.990
66	**Zn**		6816.071	**0.699950**	ppb	2.053	8.158	4036.127
86	**Sr**		5918314.978	**1875.941356**	ppb	2.703	4.236	32.869
65	**Cu**		9265.227	**1.432387**	ppb	2.214	2.956	351.115
69	**Ga-IS**		1480225.000		ppb	0.795		1727885.813
95	**Mo**		48188.942	**14.231515**	ppb	2.147	3.699	274.447
115	**In-IS**	>	758262.337		ppb	0.317		872436.593
111	**Cd**		94.360	**0.017568**	ppb	23.987	30.663	22.757
118	**Sn**		3842.740	**0.013735**	ppb	3.944	94.620	4222.847
121	**Sb**		1672.320	**0.099745**	ppb	1.414	2.037	382.227
135	**Ba**		792218.716	**215.431844**	ppb	1.109	1.298	125.556
165	**Ho-IS**		966247.093		ppb	0.744		984358.905
159	**Tb-IS**	>	971113.975		ppb	1.771		1036445.791
207	**Pb**		1995.610	**0.036542**	ppb	6.586	11.035	526.671
203	**Tl**		116.667	**-0.001754**	ppb	8.571	37.857	151.112
209	**Bi-IS**		413161.118		ppb	1.251		498618.396
51	**V**		191.112	**0.526024**	ppb	23.227	23.658	2.222
59	**Co**		72.222	**0.050607**	ppb	23.230	28.393	12.222
60	**Ni**		2485.772	**1.145056**	ppb	3.426	2.856	281.114
75	**As**		1410.338	**1.399125**	ppb	6.477	7.857	437.321
71	**Ga-ISK**		155056.480		ppb	3.418		155106.502
82	**Se-2**		186.498	**2.341417**	ppb	19.652	21.521	25.148
107	**Ag-1**		1111.154	**-0.421182**	ppb	6.129	2.140	4843.053
115	**In-ISK**	>	208782.152		ppb	0.875		229723.963
45	**Sc-ISK**		416901.856		ppb	1.176		376926.794
23	**Na**		84372947.299	**255144.615799**	ppb	2.892	1.628	11721.474
39	**K**		7306501.959	**9568.268206**	ppb	3.152	2.139	44447.940
24	**Mg**		18522269.127	**59460.060160**	ppb	2.013	1.585	258.336
159	**Tb-ISK**	>	454056.390		ppb	1.280		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-7-A @50
Autosampler Position: 354
Sample Date/Time: Tuesday, January 04, 2022 18:50:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-7-A @50.224
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		110365.799		ppb	0.514		103007.929
9	**Be**		22.222	**0.004275**	ppb	17.321	26.637	7.778
10	**B**		13332.886	**11.514391**	ppb	1.401	1.290	2072.373
27	**Al**		25932.546	**-1.126019**	ppb	4.405	3.833	52271.122
43	**Ca-2**		217950.952	**3745.383089**	ppb	2.958	2.790	340.004
49	**Ti**		708.907	**0.180333**	ppb	7.817	17.255	362.227
52	**Cr**		47760795.982	**1848.942972**	ppb	0.968	1.447	34799.000
55	**Mn**		175708.510	**4.425272**	ppb	1.181	1.101	2530.224
57	**Fe**		45295.067	**13.733776**	ppb	2.893	11.391	33006.981
45	**Sc-IS**	>	5746174.464		ppb	0.476		5598835.990
66	**Zn**		3284.822	**-0.204580**	ppb	1.828	8.841	4036.127
86	**Sr**		98901.268	**30.190104**	ppb	4.014	4.435	32.869
65	**Cu**		481.119	**0.018690**	ppb	2.800	11.550	351.115
69	**Ga-IS**		1697966.085		ppb	1.572		1727885.813
95	**Mo**		1068.929	**0.225196**	ppb	6.662	8.644	274.447
115	**In-IS**	>	870543.787		ppb	1.248		872436.593
111	**Cd**		36.644	**0.002847**	ppb	19.265	47.325	22.757
118	**Sn**		854.470	**-0.232500**	ppb	5.869	1.318	4222.847
121	**Sb**		308.892	**-0.004692**	ppb	5.432	27.199	382.227
135	**Ba**		2621.352	**0.591159**	ppb	5.387	4.840	125.556
165	**Ho-IS**		1021535.870		ppb	2.530		984358.905
159	**Tb-IS**	>	1025892.179		ppb	3.071		1036445.791
207	**Pb**		520.004	**-0.000030**	ppb	9.088	3477.819	526.671
203	**Tl**		291.114	**0.009402**	ppb	9.326	14.468	151.112
209	**Bi-IS**		513954.124		ppb	0.321		498618.396
51	**V**		7.778	**0.013218**	ppb	65.465	95.092	2.222
59	**Co**		10.000	**-0.002033**	ppb	33.333	110.250	12.222
60	**Ni**		110.000	**-0.082142**	ppb	10.926	6.510	281.114
75	**As**		506.801	**0.058798**	ppb	4.758	37.344	437.321
71	**Ga-ISK**		168980.272		ppb	1.106		155106.502
82	**Se-2**		29.474	**0.040655**	ppb	57.865	536.236	25.148
107	**Ag-1**		3105.894	**-0.218314**	ppb	7.576	10.439	4843.053
115	**In-ISK**	>	240444.696		ppb	2.341		229723.963
45	**Sc-ISK**		424064.501		ppb	0.799		376926.794
23	**Na**		1844148.059	**5248.554017**	ppb	2.109	4.032	11721.474
39	**K**		216224.065	**212.326950**	ppb	0.247	2.095	44447.940
24	**Mg**		515908.965	**1567.060543**	ppb	1.775	0.356	258.336
159	**Tb-ISK**	>	479640.111		ppb	1.880		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80324-H-8-A @5
Autosampler Position: 355
Sample Date/Time: Tuesday, January 04, 2022 18:53:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80324-H-8-A @5.225
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		111616.935		ppb	3.577		103007.929
9	**Be**		18.889	**0.003364**	ppb	71.320	120.851	7.778
10	**B**		102434.877	**105.139804**	ppb	1.412	0.601	2072.373
27	**Al**		46901.557	**-0.236663**	ppb	2.203	11.378	52271.122
43	**Ca-2**		2218273.241	**38930.387778**	ppb	1.580	1.964	340.004
49	**Ti**		2203.503	**1.002558**	ppb	1.594	2.055	362.227
52	**Cr**		3532666.564	**138.168064**	ppb	0.504	0.364	34799.000
55	**Mn**		3385760.622	**88.187668**	ppb	1.260	0.871	2530.224
57	**Fe**		122484.168	**109.470000**	ppb	2.495	3.569	33006.981
45	**Sc-IS**	>	5635236.647		ppb	0.851		5598835.990
66	**Zn**		3722.707	**-0.082535**	ppb	1.557	25.815	4036.127
86	**Sr**		1291215.791	**401.996307**	ppb	0.571	0.587	32.869
65	**Cu**		2081.263	**0.272711**	ppb	5.754	7.448	351.115
69	**Ga-IS**		1608542.858		ppb	0.181		1727885.813
95	**Mo**		3986.112	**1.082361**	ppb	2.451	2.913	274.447
115	**In-IS**	>	828340.521		ppb	0.351		872436.593
111	**Cd**		29.407	**0.001686**	ppb	42.546	160.804	22.757
118	**Sn**		1541.194	**-0.179522**	ppb	4.049	2.584	4222.847
121	**Sb**		286.670	**-0.005199**	ppb	10.070	36.601	382.227
135	**Ba**		121571.780	**30.236889**	ppb	0.679	0.752	125.556
165	**Ho-IS**		1004203.816		ppb	1.165		984358.905
159	**Tb-IS**	>	1025584.741		ppb	1.864		1036445.791
207	**Pb**		2608.983	**0.048009**	ppb	5.431	4.788	526.671
203	**Tl**		143.334	**-0.000418**	ppb	6.977	121.963	151.112
209	**Bi-IS**		476645.841		ppb	1.600		498618.396
51	**V**		41.111	**0.097149**	ppb	9.362	9.634	2.222
59	**Co**		21.111	**0.006517**	ppb	9.116	23.681	12.222
60	**Ni**		433.340	**0.068944**	ppb	11.384	34.376	281.114
75	**As**		688.011	**0.305651**	ppb	0.848	4.683	437.321
71	**Ga-ISK**		160158.562		ppb	1.996		155106.502
82	**Se-2**		74.153	**0.627361**	ppb	6.045	7.721	25.148
107	**Ag-1**		1146.713	**-0.431430**	ppb	3.802	1.406	4843.053
115	**In-ISK**	>	232221.995		ppb	1.007		229723.963
45	**Sc-ISK**		414369.208		ppb	1.700		376926.794
23	**Na**		18219155.078	**52724.541739**	ppb	1.407	2.876	11721.474
39	**K**		1431735.174	**1748.549965**	ppb	1.389	2.977	44447.940
24	**Mg**		3934765.129	**12089.436729**	ppb	1.232	1.241	258.336
159	**Tb-ISK**	>	474427.901		ppb	1.660		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80322-G-1-A
Autosampler Position: 356
Sample Date/Time: Tuesday, January 04, 2022 18:56:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80322-G-1-A.226
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106450.718		ppb	0.941		103007.929
9	**Be**		16.667	**0.002894**	ppb	52.915	97.020	7.778
10	**B**		176230.397	**189.350229**	ppb	0.921	2.427	2072.373
27	**Al**		93025.312	**1.818233**	ppb	2.017	7.399	52271.122
43	**Ca-2**		9864151.958	**179503.998613**	ppb	3.093	1.348	340.004
49	**Ti**		9646.591	**5.255904**	ppb	2.758	3.333	362.227
52	**Cr**		195112.262	**6.610787**	ppb	0.184	2.176	34799.000
55	**Mn**		21613.004	**0.517995**	ppb	0.562	2.544	2530.224
57	**Fe**		374557.165	**435.635550**	ppb	1.189	1.307	33006.981
45	**Sc-IS**	>	5434104.354		ppb	1.773		5598835.990
66	**Zn**		7100.655	**0.803820**	ppb	3.592	9.742	4036.127
86	**Sr**		3703872.745	**1196.260104**	ppb	2.347	3.690	32.869
65	**Cu**		6730.475	**1.045594**	ppb	3.229	2.877	351.115
69	**Ga-IS**		1437079.030		ppb	1.699		1727885.813
95	**Mo**		4622.971	**1.318244**	ppb	3.258	3.811	274.447
115	**In-IS**	>	775231.632		ppb	0.889		872436.593
111	**Cd**		42.514	**0.005131**	ppb	15.579	29.013	22.757
118	**Sn**		1032.260	**-0.211417**	ppb	4.672	1.449	4222.847
121	**Sb**		1257.833	**0.066875**	ppb	4.975	8.063	382.227
135	**Ba**		132113.690	**35.118663**	ppb	1.176	2.062	125.556
165	**Ho-IS**		974978.294		ppb	1.523		984358.905
159	**Tb-IS**	>	975214.915		ppb	2.503		1036445.791
207	**Pb**		5385.950	**0.118418**	ppb	2.308	5.244	526.671
203	**Tl**		107.778	**-0.002433**	ppb	26.665	77.715	151.112
209	**Bi-IS**		432613.996		ppb	1.751		498618.396
51	**V**		1143.380	**3.042039**	ppb	12.918	14.716	2.222
59	**Co**		134.445	**0.096976**	ppb	11.452	9.121	12.222
60	**Ni**		1673.431	**0.690929**	ppb	3.261	1.874	281.114
75	**As**		1355.753	**1.240783**	ppb	16.581	21.286	437.321
71	**Ga-ISK**		154543.756		ppb	1.342		155106.502
82	**Se-2**		1637.588	**22.130960**	ppb	1.021	3.313	25.148
107	**Ag-1**		3851.634	**-0.092442**	ppb	9.710	33.151	4843.053
115	**In-ISK**	>	218248.703		ppb	3.377		229723.963
45	**Sc-ISK**		410627.853		ppb	3.408		376926.794
23	**Na**		29766661.011	**88741.780105**	ppb	3.003	2.409	11721.474
39	**K**		4278488.325	**5501.368434**	ppb	2.738	2.733	44447.940
24	**Mg**		15453311.137	**48905.920999**	ppb	3.179	1.748	258.336
159	**Tb-ISK**	>	460619.586		ppb	3.181		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80399-F-1-A
Autosampler Position: 357
Sample Date/Time: Tuesday, January 04, 2022 18:59:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80399-F-1-A.227
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		111971.610		ppb	1.454		103007.929
9	**Be**		26.667	**0.006156**	ppb	54.486	74.840	7.778
10	**B**		306075.368	**335.018859**	ppb	0.799	1.888	2072.373
27	**Al**		822620.416	**33.644478**	ppb	2.187	0.837	52271.122
43	**Ca-2**		12117986.833	**223590.126051**	ppb	1.494	0.090	340.004
49	**Ti**		12096.233	**6.735120**	ppb	2.900	3.505	362.227
52	**Cr**		320194.314	**11.915019**	ppb	0.864	1.442	34799.000
55	**Mn**		139316.103	**3.751939**	ppb	1.382	2.131	2530.224
57	**Fe**		449343.900	**538.718856**	ppb	1.428	3.034	33006.981
45	**Sc-IS**	>	5360287.570		ppb	1.473		5598835.990
66	**Zn**		9466.469	**1.433254**	ppb	1.136	0.575	4036.127
86	**Sr**		3991184.977	**1306.529448**	ppb	0.304	1.721	32.869
65	**Cu**		6239.141	**0.979657**	ppb	2.897	4.493	351.115
69	**Ga-IS**		1371873.644		ppb	0.973		1727885.813
95	**Mo**		5083.127	**1.478204**	ppb	2.822	1.661	274.447
115	**In-IS**	>	754172.405		ppb	1.224		872436.593
111	**Cd**		32.659	**0.003080**	ppb	19.990	51.888	22.757
118	**Sn**		2182.389	**-0.117276**	ppb	5.719	8.339	4222.847
121	**Sb**		1275.613	**0.070753**	ppb	6.741	9.667	382.227
135	**Ba**		137977.580	**37.702883**	ppb	0.571	1.331	125.556
165	**Ho-IS**		970040.822		ppb	1.338		984358.905
159	**Tb-IS**	>	991064.852		ppb	1.795		1036445.791
207	**Pb**		2882.335	**0.056669**	ppb	5.160	7.682	526.671
203	**Tl**		121.112	**-0.001615**	ppb	11.123	54.436	151.112
209	**Bi-IS**		425154.309		ppb	2.645		498618.396
51	**V**		1237.831	**3.296757**	ppb	3.156	1.793	2.222
59	**Co**		158.890	**0.116719**	ppb	12.293	11.323	12.222
60	**Ni**		2535.781	**1.119299**	ppb	4.726	7.495	281.114
75	**As**		895.459	**0.635649**	ppb	19.567	33.102	437.321
71	**Ga-ISK**		156789.208		ppb	1.740		155106.502
82	**Se-2**		1177.498	**15.861751**	ppb	2.374	2.817	25.148
107	**Ag-1**		5124.259	**0.065347**	ppb	10.719	88.390	4843.053
115	**In-ISK**	>	217590.689		ppb	1.950		229723.963
45	**Sc-ISK**		424801.398		ppb	1.792		376926.794
23	**Na**		46483697.024	**139564.236227**	ppb	0.922	1.293	11721.474
39	**K**		4635199.262	**6006.313950**	ppb	1.589	2.084	44447.940
24	**Mg**		19771598.613	**63017.788986**	ppb	2.483	2.759	258.336
159	**Tb-ISK**	>	457359.062		ppb	1.075		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80399-D-2-A
Autosampler Position: 358
Sample Date/Time: Tuesday, January 04, 2022 19:02:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80399-D-2-A.228
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108741.240		ppb	1.450		103007.929
9	**Be**		34.445	**0.008712**	ppb	81.160	104.014	7.778
10	**B**		312260.392	**341.798783**	ppb	0.717	0.526	2072.373
27	**Al**		1462446.034	**61.515917**	ppb	0.984	0.669	52271.122
43	**Ca-2**		11950621.468	**220490.933061**	ppb	2.316	1.209	340.004
49	**Ti**		12037.292	**6.700502**	ppb	1.006	0.526	362.227
52	**Cr**		629176.995	**24.749393**	ppb	0.590	1.747	34799.000
55	**Mn**		460179.691	**12.543708**	ppb	2.089	1.052	2530.224
57	**Fe**		469774.729	**564.904925**	ppb	1.525	0.463	33006.981
45	**Sc-IS**	>	5360096.627		ppb	1.121		5598835.990
66	**Zn**		8030.034	**1.065705**	ppb	1.641	1.113	4036.127
86	**Sr**		3702230.505	**1211.890204**	ppb	0.280	1.267	32.869
65	**Cu**		7383.021	**1.169017**	ppb	4.519	4.529	351.115
69	**Ga-IS**		1390578.174		ppb	1.139		1727885.813
95	**Mo**		4891.949	**1.419907**	ppb	2.732	3.080	274.447
115	**In-IS**	>	749936.997		ppb	1.375		872436.593
111	**Cd**		65.283	**0.010878**	ppb	23.763	33.636	22.757
118	**Sn**		1953.467	**-0.134724**	ppb	5.364	5.057	4222.847
121	**Sb**		1226.719	**0.067619**	ppb	6.143	9.203	382.227
135	**Ba**		133747.724	**36.753701**	ppb	1.562	2.078	125.556
165	**Ho-IS**		959462.300		ppb	2.308		984358.905
159	**Tb-IS**	>	972693.916		ppb	1.404		1036445.791
207	**Pb**		7309.620	**0.165358**	ppb	3.173	4.199	526.671
203	**Tl**		105.556	**-0.002528**	ppb	25.720	79.800	151.112
209	**Bi-IS**		437727.405		ppb	0.667		498618.396
51	**V**		1601.201	**4.273755**	ppb	3.254	3.682	2.222
59	**Co**		268.891	**0.204479**	ppb	3.787	3.436	12.222
60	**Ni**		2507.998	**1.106510**	ppb	2.640	3.148	281.114
75	**As**		1445.513	**1.369700**	ppb	9.764	12.698	437.321
71	**Ga-ISK**		158541.691		ppb	1.543		155106.502
82	**Se-2**		1128.781	**15.211977**	ppb	3.361	3.016	25.148
107	**Ag-1**		4398.460	**-0.022599**	ppb	10.909	244.963	4843.053
115	**In-ISK**	>	217251.802		ppb	0.705		229723.963
45	**Sc-ISK**		433694.501		ppb	2.170		376926.794
23	**Na**		46918723.926	**139458.264177**	ppb	0.778	1.527	11721.474
39	**K**		4570260.537	**5860.838248**	ppb	1.183	1.044	44447.940
24	**Mg**		19462039.877	**61399.222848**	ppb	1.756	0.742	258.336
159	**Tb-ISK**	>	462054.143		ppb	2.105		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80393-E-1-A
Autosampler Position: 359
Sample Date/Time: Tuesday, January 04, 2022 19:05:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80393-E-1-A.229
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		110892.084		ppb	0.792		103007.929
9	**Be**		15.556	**0.002654**	ppb	53.927	105.340	7.778
10	**B**		310729.433	**341.012122**	ppb	2.017	1.907	2072.373
27	**Al**		145886.481	**4.191753**	ppb	0.808	2.509	52271.122
43	**Ca-2**		12463326.124	**230598.195036**	ppb	0.935	1.553	340.004
49	**Ti**		13614.361	**7.640602**	ppb	15.139	17.559	362.227
52	**Cr**		423737.133	**16.262981**	ppb	0.648	1.930	34799.000
55	**Mn**		19547.819	**0.470943**	ppb	3.304	5.355	2530.224
57	**Fe**		450629.256	**541.838004**	ppb	0.347	1.661	33006.981
45	**Sc-IS**	>	5346400.815		ppb	1.848		5598835.990
66	**Zn**		12922.512	**2.327387**	ppb	2.946	6.210	4036.127
86	**Sr**		4099912.053	**1345.667844**	ppb	1.865	2.520	32.869
65	**Cu**		6829.410	**1.080584**	ppb	1.563	3.601	351.115
69	**Ga-IS**		1367003.026		ppb	0.859		1727885.813
95	**Mo**		5792.286	**1.701169**	ppb	3.616	4.811	274.447
115	**In-IS**	>	760403.933		ppb	1.523		872436.593
111	**Cd**		61.170	**0.009685**	ppb	18.574	25.662	22.757
118	**Sn**		1804.558	**-0.148627**	ppb	1.666	1.881	4222.847
121	**Sb**		1383.400	**0.077993**	ppb	4.598	7.473	382.227
135	**Ba**		124169.523	**33.650041**	ppb	0.311	1.429	125.556
165	**Ho-IS**		959235.339		ppb	1.100		984358.905
159	**Tb-IS**	>	975806.342		ppb	1.494		1036445.791
207	**Pb**		3299.040	**0.067778**	ppb	1.823	1.351	526.671
203	**Tl**		102.223	**-0.002803**	ppb	1.883	1.389	151.112
209	**Bi-IS**		421775.799		ppb	1.715		498618.396
51	**V**		1536.750	**4.121012**	ppb	9.142	8.827	2.222
59	**Co**		145.556	**0.107065**	ppb	13.804	15.007	12.222
60	**Ni**		2908.074	**1.311187**	ppb	3.723	3.969	281.114
75	**As**		1311.065	**1.201642**	ppb	3.853	7.821	437.321
71	**Ga-ISK**		159382.079		ppb	1.556		155106.502
82	**Se-2**		1434.863	**19.534039**	ppb	1.085	3.171	25.148
107	**Ag-1**		3495.988	**-0.130862**	ppb	13.071	46.309	4843.053
115	**In-ISK**	>	216181.299		ppb	2.290		229723.963
45	**Sc-ISK**		432165.943		ppb	1.495		376926.794
23	**Na**		48712936.327	**144055.174263**	ppb	2.715	1.917	11721.474
39	**K**		4845611.163	**6185.589669**	ppb	2.294	0.312	44447.940
24	**Mg**		20740187.961	**65096.475151**	ppb	3.155	0.997	258.336
159	**Tb-ISK**	>	464337.907		ppb	2.166		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80393-E-3-A
Autosampler Position: 360
Sample Date/Time: Tuesday, January 04, 2022 19:09:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80393-E-3-A.230
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108578.852		ppb	0.561		103007.929
9	**Be**		13.333	**0.001676**	ppb	43.301	102.369	7.778
10	**B**		5338.775	**3.425832**	ppb	2.079	5.177	2072.373
27	**Al**		1180062.797	**46.858338**	ppb	0.403	2.357	52271.122
43	**Ca-2**		33793.257	**588.912778**	ppb	0.627	1.807	340.004
49	**Ti**		3113.673	**1.503051**	ppb	3.787	1.961	362.227
52	**Cr**		57534.520	**0.896498**	ppb	0.902	7.730	34799.000
55	**Mn**		10989.787	**0.220833**	ppb	4.405	4.022	2530.224
57	**Fe**		49687.372	**20.380361**	ppb	0.464	6.355	33006.981
45	**Sc-IS**	>	5619778.953		ppb	2.406		5598835.990
66	**Zn**		2582.456	**-0.358488**	ppb	3.809	3.591	4036.127
86	**Sr**		4783.722	**1.483681**	ppb	1.541	2.832	32.869
65	**Cu**		3658.248	**0.523022**	ppb	8.013	8.224	351.115
69	**Ga-IS**		1684955.111		ppb	2.281		1727885.813
95	**Mo**		402.228	**0.037027**	ppb	5.641	11.490	274.447
115	**In-IS**	>	841783.835		ppb	0.905		872436.593
111	**Cd**		28.044	**0.001291**	ppb	6.697	31.496	22.757
118	**Sn**		106429.843	**7.329795**	ppb	7.638	8.866	4222.847
121	**Sb**		1245.610	**0.058799**	ppb	5.500	8.314	382.227
135	**Ba**		7496.411	**1.807062**	ppb	2.135	2.829	125.556
165	**Ho-IS**		1017905.406		ppb	1.518		984358.905
159	**Tb-IS**	>	1034610.566		ppb	2.183		1036445.791
207	**Pb**		85847.510	**1.945997**	ppb	1.312	1.070	526.671
203	**Tl**		200.001	**0.003249**	ppb	0.000	8.872	151.112
209	**Bi-IS**		535488.622		ppb	0.807		498618.396
51	**V**		22.222	**0.047025**	ppb	22.913	26.000	2.222
59	**Co**		24.444	**0.007979**	ppb	41.660	88.138	12.222
60	**Ni**		168.890	**-0.057362**	ppb	13.435	17.279	281.114
75	**As**		563.604	**0.113742**	ppb	1.502	3.496	437.321
71	**Ga-ISK**		177038.091		ppb	1.064		155106.502
82	**Se-2**		23.429	**-0.041085**	ppb	46.811	329.036	25.148
107	**Ag-1**		2535.783	**-0.286905**	ppb	13.638	13.955	4843.053
115	**In-ISK**	>	245260.699		ppb	0.916		229723.963
45	**Sc-ISK**		427979.951		ppb	0.978		376926.794
23	**Na**		477782.785	**1330.180127**	ppb	1.531	2.252	11721.474
39	**K**		78755.389	**40.576040**	ppb	0.939	3.984	44447.940
24	**Mg**		26561.339	**79.724437**	ppb	1.208	2.449	258.336
159	**Tb-ISK**	>	480821.153		ppb	1.241		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 19:12:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.231
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106015.317		ppb	1.575		103007.929
9	**Be**		332874.891	**101.793209**	ppb	0.988	0.886	7.778
10	**B**		242376.648	**251.423165**	ppb	0.551	0.455	2072.373
27	**Al**		2493073.920	**100.959364**	ppb	0.464	0.561	52271.122
43	**Ca-2**		297210.134	**5203.303919**	ppb	1.180	1.146	340.004
49	**Ti**		189051.760	**102.723881**	ppb	1.457	1.362	362.227
52	**Cr**		2620286.541	**101.982561**	ppb	0.565	0.480	34799.000
55	**Mn**		4004183.697	**104.166324**	ppb	0.949	1.047	2530.224
57	**Fe**		4328982.455	**5260.747835**	ppb	0.994	1.102	33006.981
45	**Sc-IS**	>	5642935.117		ppb	0.101		5598835.990
66	**Zn**		414432.577	**99.720742**	ppb	2.021	2.050	4036.127
86	**Sr**		329742.773	**102.510557**	ppb	3.082	3.150	32.869
65	**Cu**		634341.663	**99.903334**	ppb	1.393	1.295	351.115
69	**Ga-IS**		1752803.470		ppb	2.019		1727885.813
95	**Mo**		348454.426	**101.435498**	ppb	3.073	3.091	274.447
115	**In-IS**	>	850512.745		ppb	0.287		872436.593
111	**Cd**		485295.991	**101.856214**	ppb	2.259	2.301	22.757
118	**Sn**		1408847.670	**99.509160**	ppb	0.571	0.417	4222.847
121	**Sb**		1515838.744	**100.560062**	ppb	0.439	0.581	382.227
135	**Ba**		423248.376	**102.594795**	ppb	0.265	0.142	125.556
165	**Ho-IS**		1036710.988		ppb	0.180		984358.905
159	**Tb-IS**	>	1043376.718		ppb	0.766		1036445.791
207	**Pb**		4744784.494	**107.279956**	ppb	1.351	0.879	526.671
203	**Tl**		1601167.980	**104.790958**	ppb	0.657	0.152	151.112
209	**Bi-IS**		524523.706		ppb	2.391		498618.396
51	**V**		41937.027	**99.134713**	ppb	1.261	0.854	2.222
59	**Co**		143030.311	**100.543182**	ppb	1.315	0.920	12.222
60	**Ni**		236244.484	**103.007382**	ppb	1.853	2.072	281.114
75	**As**		86238.500	**100.769620**	ppb	2.738	2.645	437.321
71	**Ga-ISK**		172234.948		ppb	3.155		155106.502
82	**Se-2**		8271.223	**100.421800**	ppb	2.554	3.036	25.148
107	**Ag-1**		909545.696	**98.419334**	ppb	1.122	0.612	4843.053
115	**In-ISK**	>	245596.201		ppb	1.617		229723.963
45	**Sc-ISK**		425697.333		ppb	0.280		376926.794
23	**Na**		2056848.292	**5710.457013**	ppb	1.637	1.889	11721.474
39	**K**		4618021.361	**5560.980809**	ppb	1.396	1.073	44447.940
24	**Mg**		1895215.912	**5617.129041**	ppb	1.387	1.123	258.336
159	**Tb-ISK**	>	491727.939		ppb	0.686		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CC B-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 19:15:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.232
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		105752.213		ppb	0.639		103007.929
9	**Be**		70.000	**0.018935**	ppb	4.762	6.511	7.778
10	**B**		3182.578	**1.130422**	ppb	6.298	15.496	2072.373
27	**Al**		52930.215	**0.001935**	ppb	1.043	1898.162	52271.122
43	**Ca-2**		676.683	**5.797828**	ppb	17.832	34.769	340.004
49	**Ti**		424.451	**0.031382**	ppb	4.325	25.436	362.227
52	**Cr**		37208.399	**0.078570**	ppb	1.350	22.653	34799.000
55	**Mn**		3085.890	**0.013610**	ppb	6.271	31.820	2530.224
57	**Fe**		35782.536	**2.915364**	ppb	0.443	23.601	33006.981
45	**Sc-IS**	>	5664980.341		ppb	1.142		5598835.990
66	**Zn**		4002.783	**-0.019387**	ppb	2.530	174.146	4036.127
86	**Sr**		227.342	**0.060018**	ppb	22.883	25.822	32.869
65	**Cu**		622.236	**0.041909**	ppb	0.818	0.990	351.115
69	**Ga-IS**		1738190.123		ppb	2.486		1727885.813
95	**Mo**		2123.491	**0.535835**	ppb	2.941	4.685	274.447
115	**In-IS**	>	881585.052		ppb	0.622		872436.593
111	**Cd**		77.763	**0.011087**	ppb	22.165	31.191	22.757
118	**Sn**		11927.209	**0.523524**	ppb	5.313	8.311	4222.847
121	**Sb**		1222.275	**0.053503**	ppb	6.052	7.956	382.227
135	**Ba**		153.334	**0.006209**	ppb	20.738	122.369	125.556
165	**Ho-IS**		1046134.984		ppb	0.535		984358.905
159	**Tb-IS**	>	1059483.255		ppb	0.390		1036445.791
207	**Pb**		1358.913	**0.018273**	ppb	2.927	4.898	526.671
203	**Tl**		518.898	**0.023495**	ppb	8.360	12.294	151.112
209	**Bi-IS**		526756.856		ppb	1.348		498618.396
51	**V**		16.667	**0.034487**	ppb	34.641	40.692	2.222
59	**Co**		65.556	**0.037679**	ppb	12.796	16.118	12.222
60	**Ni**		368.894	**0.032519**	ppb	3.652	15.982	281.114
75	**As**		498.813	**0.046602**	ppb	3.714	50.845	437.321
71	**Ga-ISK**		167171.667		ppb	2.321		155106.502
82	**Se-2**		39.140	**0.156928**	ppb	16.619	49.675	25.148
107	**Ag-1**		4267.309	**-0.091487**	ppb	11.152	54.454	4843.053
115	**In-ISK**	>	241554.334		ppb	0.770		229723.963
45	**Sc-ISK**		413430.956		ppb	2.705		376926.794
23	**Na**		13481.360	**3.309464**	ppb	2.297	34.136	11721.474
39	**K**		44902.693	**-2.186356**	ppb	1.632	56.561	44447.940
24	**Mg**		1766.776	**4.482196**	ppb	2.835	3.602	258.336
159	**Tb-ISK**	>	486356.025		ppb	0.737		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 19:18:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.233
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106918.698		ppb	1.775		103007.929
9	**Be**		34.444	**0.007961**	ppb	5.587	8.806	7.778
10	**B**		2728.039	**0.619046**	ppb	5.389	17.847	2072.373
27	**Al**		66424.077	**0.522045**	ppb	0.976	12.375	52271.122
43	**Ca-2**		523.343	**3.012550**	ppb	7.171	23.279	340.004
49	**Ti**		414.451	**0.023306**	ppb	25.451	248.107	362.227
52	**Cr**		37680.741	**0.077672**	ppb	0.467	34.425	34799.000
55	**Mn**		3235.922	**0.016403**	ppb	4.340	19.235	2530.224
57	**Fe**		35015.092	**1.410672**	ppb	1.919	63.177	33006.981
45	**Sc-IS**	>	5741227.308		ppb	1.437		5598835.990
66	**Zn**		3828.291	**-0.073778**	ppb	2.918	53.746	4036.127
86	**Sr**		134.019	**0.030677**	ppb	5.752	9.258	32.869
65	**Cu**		468.897	**0.016895**	ppb	4.042	23.127	351.115
69	**Ga-IS**		1773095.466		ppb	1.794		1727885.813
95	**Mo**		923.363	**0.183861**	ppb	10.109	14.801	274.447
115	**In-IS**	>	882440.838		ppb	2.715		872436.593
111	**Cd**		39.172	**0.003303**	ppb	21.773	59.144	22.757
118	**Sn**		7609.808	**0.227678**	ppb	5.628	6.986	4222.847
121	**Sb**		752.242	**0.023339**	ppb	8.800	13.659	382.227
135	**Ba**		137.778	**0.002493**	ppb	14.176	167.426	125.556
165	**Ho-IS**		1048001.610		ppb	1.823		984358.905
159	**Tb-IS**	>	1071886.729		ppb	2.553		1036445.791
207	**Pb**		851.121	**0.006760**	ppb	4.673	17.287	526.671
203	**Tl**		233.335	**0.004891**	ppb	11.339	27.586	151.112
209	**Bi-IS**		527658.948		ppb	1.769		498618.396
51	**V**		3.333	**0.002299**	ppb	100.000	341.915	2.222
59	**Co**		26.667	**0.009504**	ppb	37.500	72.574	12.222
60	**Ni**		478.897	**0.077895**	ppb	5.669	19.941	281.114
75	**As**		489.072	**0.024962**	ppb	1.152	22.182	437.321
71	**Ga-ISK**		171143.616		ppb	1.342		155106.502
82	**Se-2**		27.807	**0.009666**	ppb	50.963	1724.635	25.148
107	**Ag-1**		2782.499	**-0.261412**	ppb	17.480	18.283	4843.053
115	**In-ISK**	>	245763.656		ppb	1.783		229723.963
45	**Sc-ISK**		415537.520		ppb	1.304		376926.794
23	**Na**		11109.318	**-3.514600**	ppb	1.219	25.275	11721.474
39	**K**		43226.433	**-4.475419**	ppb	2.274	15.711	44447.940
24	**Mg**		941.698	**1.994142**	ppb	12.502	15.374	258.336
159	**Tb-ISK**	>	488380.488		ppb	1.633		463056.470

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, January 04, 2022 19:21:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICIS-1479530.234
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104638.563		ppb	1.686		
9	**Be**		16.667		ppb	34.641		
10	**B**		2535.781		ppb	0.923		
27	**Al**		54951.530		ppb	2.512		
43	**Ca-2**		763.354		ppb	1.648		
49	**Ti**		346.671		ppb	5.849		
52	**Cr**		35756.949		ppb	3.338		
55	**Mn**		2513.555		ppb	3.591		
57	**Fe**		33748.727		ppb	2.794		
45	**Sc-IS**	>	5501984.550		ppb	3.785		
66	**Zn**		4129.486		ppb	4.452		
86	**Sr**		251.799		ppb	2.154		
65	**Cu**		377.783		ppb	10.637		
69	**Ga-IS**		1713094.747		ppb	3.477		
95	**Mo**		366.671		ppb	7.767		
115	**In-IS**	>	866460.651		ppb	2.955		
111	**Cd**		33.674		ppb	25.089		
118	**Sn**		4427.353		ppb	2.674		
121	**Sb**		463.341		ppb	5.710		
135	**Ba**		175.557		ppb	10.962		
165	**Ho-IS**		1018972.043		ppb	1.826		
159	**Tb-IS**	>	1044095.535		ppb	1.613		
207	**Pb**		607.783		ppb	8.215		
203	**Tl**		167.779		ppb	15.935		
209	**Bi-IS**		517883.976		ppb	1.031		
51	**V**		3.333		ppb	100.000		
59	**Co**		21.111		ppb	24.119		
60	**Ni**		325.559		ppb	10.256		
75	**As**		486.505		ppb	12.231		
71	**Ga-ISK**		169708.094		ppb	2.645		
82	**Se-2**		23.471		ppb	9.667		
107	**Ag-1**		1956.803		ppb	14.946		
115	**In-ISK**	>	242032.646		ppb	1.911		
45	**Sc-ISK**		410252.172		ppb	2.627		
23	**Na**		12156.843		ppb	4.118		
39	**K**		42897.652		ppb	1.357		
24	**Mg**		930.031		ppb	15.868		
159	**Tb-ISK**	>	482748.349		ppb	1.565		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Tuesday, January 04, 2022 19:24:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\IC-2235387.235
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		103690.529		ppb	0.981		104638.563
9	**Be**		640861.318	**200.000000**	ppb	1.027	1.179	16.667
10	**B**		468814.554	**500.000000**	ppb	3.561	3.178	2535.781
27	**Al**		4828349.985	**200.000000**	ppb	2.011	4.244	54951.530
43	**Ca-2**		592387.306	**10200.000000**	ppb	1.228	0.982	763.354
49	**Ti**		370309.256	**200.000000**	ppb	3.311	3.138	346.671
52	**Cr**		5042499.593	**200.000000**	ppb	2.797	3.480	35756.949
55	**Mn**		7795734.757	**200.000000**	ppb	1.748	2.574	2513.555
57	**Fe**		8343042.699	**10200.000000**	ppb	1.421	2.900	33748.727
45	**Sc-IS**	>	5693031.587		ppb	2.195		5501984.550
66	**Zn**		819994.012	**200.000000**	ppb	0.422	2.597	4129.486
86	**Sr**		652545.934	**200.000000**	ppb	2.179	4.403	251.799
65	**Cu**		1239785.561	**200.000000**	ppb	1.446	3.656	377.783
69	**Ga-IS**		1831237.106		ppb	1.847		1713094.747
95	**Mo**		678020.266	**200.000000**	ppb	1.827	3.946	366.671
115	**In-IS**	>	875806.696		ppb	2.313		866460.651
111	**Cd**		962777.827	**200.000000**	ppb	1.397	1.442	33.674
118	**Sn**		2882810.633	**200.000000**	ppb	2.604	0.931	4427.353
121	**Sb**		3053390.262	**200.000000**	ppb	2.334	0.657	463.341
135	**Ba**		843875.298	**200.000000**	ppb	2.469	2.541	175.557
165	**Ho-IS**		1018904.562		ppb	1.737		1018972.043
159	**Tb-IS**	>	1033667.233		ppb	0.971		1044095.535
207	**Pb**		8931428.909	**200.000000**	ppb	0.850	1.603	607.783
203	**Tl**		3116401.969	**200.000000**	ppb	0.789	1.762	167.779
209	**Bi-IS**		496834.127		ppb	2.028		517883.976
51	**V**		79042.544	**200.000000**	ppb	1.502	3.122	3.333
59	**Co**		267856.904	**200.000000**	ppb	1.057	2.854	21.111
60	**Ni**		450351.908	**200.000000**	ppb	0.556	2.765	325.559
75	**As**		163722.559	**200.000000**	ppb	1.820	0.931	486.505
71	**Ga-ISK**		164659.090		ppb	0.699		169708.094
82	**Se-2**		15860.931	**200.000000**	ppb	2.640	0.897	23.471
107	**Ag-1**		1749314.841	**200.000000**	ppb	1.392	1.064	1956.803
115	**In-ISK**	>	237286.391		ppb	2.219		242032.646
45	**Sc-ISK**		405567.775		ppb	0.835		410252.172
23	**Na**		3811971.353	**10200.000000**	ppb	3.181	3.500	12156.843
39	**K**		8515431.515	**10200.000000**	ppb	2.945	1.362	42897.652
24	**Mg**		3512269.649	**10200.000000**	ppb	2.379	0.186	930.031
159	**Tb-ISK**	>	482432.399		ppb	2.433		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 19:27:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.236
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		102055.559		ppb	2.018		104638.563
9	**Be**		324256.437	**102.423815**	ppb	2.141	1.455	16.667
10	**B**		238954.509	**256.628034**	ppb	1.729	1.419	2535.781
27	**Al**		2478335.723	**102.723808**	ppb	1.241	0.887	54951.530
43	**Ca-2**		295418.566	**5142.203037**	ppb	1.235	0.444	763.354
49	**Ti**		184689.887	**100.879863**	ppb	2.145	2.107	346.671
52	**Cr**		2595437.562	**103.493027**	ppb	2.032	2.640	35756.949
55	**Mn**		3948406.909	**102.506276**	ppb	1.151	2.141	2513.555
57	**Fe**		4210758.535	**5189.836106**	ppb	1.373	2.503	33748.727
45	**Sc-IS**	>	5623363.471		ppb	1.179		5501984.550
66	**Zn**		413354.237	**101.533337**	ppb	1.111	2.208	4129.486
86	**Sr**		334097.816	**103.585598**	ppb	3.408	4.120	251.799
65	**Cu**		637796.074	**104.093778**	ppb	0.843	2.031	377.783
69	**Ga-IS**		1773811.811		ppb	2.264		1713094.747
95	**Mo**		346916.872	**103.499357**	ppb	1.566	2.117	366.671
115	**In-IS**	>	871549.809		ppb	1.331		866460.651
111	**Cd**		482567.616	**100.728139**	ppb	0.796	1.889	33.674
118	**Sn**		1437018.145	**100.033225**	ppb	1.646	1.454	4427.353
121	**Sb**		1534026.095	**100.963110**	ppb	0.405	0.967	463.341
135	**Ba**		421180.432	**100.284062**	ppb	1.388	2.249	175.557
165	**Ho-IS**		1032952.942		ppb	0.255		1018972.043
159	**Tb-IS**	>	1035888.309		ppb	0.534		1044095.535
207	**Pb**		4637990.834	**103.628362**	ppb	2.338	2.818	607.783
203	**Tl**		1579266.523	**101.120815**	ppb	1.369	1.574	167.779
209	**Bi-IS**		506361.316		ppb	2.064		517883.976
51	**V**		42093.096	**105.266875**	ppb	3.878	2.538	3.333
59	**Co**		140854.861	**103.952071**	ppb	3.412	2.266	21.111
60	**Ni**		228182.271	**100.090233**	ppb	2.940	0.856	325.559
75	**As**		82854.546	**99.782080**	ppb	2.821	0.548	486.505
71	**Ga-ISK**		166671.228		ppb	4.444		169708.094
82	**Se-2**		8264.229	**102.904310**	ppb	2.968	0.398	23.471
107	**Ag-1**		886908.486	**100.165698**	ppb	1.915	1.534	1956.803
115	**In-ISK**	>	239992.526		ppb	3.269		242032.646
45	**Sc-ISK**		408091.486		ppb	2.587		410252.172
23	**Na**		1895148.746	**4994.549122**	ppb	1.348	2.909	12156.843
39	**K**		4352050.774	**5125.917891**	ppb	2.049	1.275	42897.652
24	**Mg**		1789098.726	**5132.712449**	ppb	2.311	1.384	930.031
159	**Tb-ISK**	>	488248.683		ppb	2.245		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 19:31:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.237
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		103070.546		ppb	1.545		104638.563
9	**Be**		87.778	**0.022038**	ppb	15.810	18.470	16.667
10	**B**		3200.359	**0.624011**	ppb	5.556	26.159	2535.781
27	**Al**		52428.702	**-0.181384**	ppb	0.857	9.139	54951.530
43	**Ca-2**		488.342	**-5.176628**	ppb	13.363	22.905	763.354
49	**Ti**		456.674	**0.053348**	ppb	4.558	15.076	346.671
52	**Cr**		34600.743	**-0.092911**	ppb	0.980	34.204	35756.949
55	**Mn**		3451.529	**0.021962**	ppb	6.425	21.718	2513.555
57	**Fe**		36025.367	**1.444193**	ppb	0.474	46.106	33748.727
45	**Sc-IS**	>	5682486.332		ppb	1.491		5501984.550
66	**Zn**		4352.886	**0.021730**	ppb	2.232	127.431	4129.486
86	**Sr**		179.550	**-0.024945**	ppb	46.549	99.571	251.799
65	**Cu**		677.794	**0.046494**	ppb	10.890	25.939	377.783
69	**Ga-IS**		1764288.772		ppb	1.411		1713094.747
95	**Mo**		2518.000	**0.632356**	ppb	3.106	4.272	366.671
115	**In-IS**	>	888490.321		ppb	1.399		866460.651
111	**Cd**		159.158	**0.025516**	ppb	10.000	12.775	33.674
118	**Sn**		13404.069	**0.607027**	ppb	3.755	4.421	4427.353
121	**Sb**		1608.980	**0.073246**	ppb	7.770	11.644	463.341
135	**Ba**		193.335	**0.003037**	ppb	19.430	266.633	175.557
165	**Ho-IS**		1041041.391		ppb	2.068		1018972.043
159	**Tb-IS**	>	1041751.301		ppb	1.916		1044095.535
207	**Pb**		1908.940	**0.028928**	ppb	4.067	3.218	607.783
203	**Tl**		761.132	**0.037758**	ppb	11.524	12.958	167.779
209	**Bi-IS**		525467.785		ppb	2.097		517883.976
51	**V**		14.444	**0.027162**	ppb	13.323	17.442	3.333
59	**Co**		54.445	**0.023957**	ppb	7.070	11.628	21.111
60	**Ni**		441.118	**0.048237**	ppb	9.628	38.320	325.559
75	**As**		528.725	**0.043559**	ppb	8.357	112.535	486.505
71	**Ga-ISK**		172629.395		ppb	2.436		169708.094
82	**Se-2**		28.114	**0.053691**	ppb	48.535	311.431	23.471
107	**Ag-1**		3315.942	**0.148537**	ppb	7.774	20.718	1956.803
115	**In-ISK**	>	244715.647		ppb	0.649		242032.646
45	**Sc-ISK**		407802.838		ppb	3.756		410252.172
23	**Na**		12121.807	**0.047550**	ppb	0.578	459.765	12156.843
39	**K**		46167.821	**4.181940**	ppb	1.196	28.735	42897.652
24	**Mg**		1110.043	**0.538253**	ppb	7.416	50.741	930.031
159	**Tb-ISK**	>	480673.337		ppb	0.980		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 19:34:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.238
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		103839.514		ppb	2.492		104638.563
9	**Be**		47.778	**0.009431**	ppb	29.047	45.369	16.667
10	**B**		2708.034	**0.072511**	ppb	2.061	87.604	2535.781
27	**Al**		66295.855	**0.378154**	ppb	2.175	14.724	54951.530
43	**Ca-2**		593.346	**-3.450619**	ppb	6.864	20.196	763.354
49	**Ti**		381.116	**0.010850**	ppb	3.072	59.642	346.671
52	**Cr**		35136.503	**-0.082972**	ppb	2.119	38.214	35756.949
55	**Mn**		3333.723	**0.018279**	ppb	3.635	17.118	2513.555
57	**Fe**		34445.923	**-0.842432**	ppb	0.242	5.668	33748.727
45	**Sc-IS**	>	5728243.191		ppb	0.157		5501984.550
66	**Zn**		3993.892	**-0.074391**	ppb	0.941	12.657	4129.486
86	**Sr**		135.692	**-0.038520**	ppb	18.670	19.854	251.799
65	**Cu**		523.343	**0.020845**	ppb	5.214	21.409	377.783
69	**Ga-IS**		1791793.237		ppb	1.656		1713094.747
95	**Mo**		1050.039	**0.195909**	ppb	3.535	5.389	366.671
115	**In-IS**	>	891136.774		ppb	0.543		866460.651
111	**Cd**		55.573	**0.004269**	ppb	18.193	47.357	33.674
118	**Sn**		9146.262	**0.313672**	ppb	3.285	6.810	4427.353
121	**Sb**		913.363	**0.028141**	ppb	8.005	17.792	463.341
135	**Ba**		160.001	**-0.004801**	ppb	10.825	80.299	175.557
165	**Ho-IS**		1033760.817		ppb	1.468		1018972.043
159	**Tb-IS**	>	1056754.188		ppb	1.081		1044095.535
207	**Pb**		1064.460	**0.009866**	ppb	14.093	35.646	607.783
203	**Tl**		345.560	**0.011046**	ppb	8.317	18.355	167.779
209	**Bi-IS**		513864.968		ppb	2.966		517883.976
51	**V**		11.111	**0.019229**	ppb	45.826	64.728	3.333
59	**Co**		34.444	**0.009721**	ppb	11.175	27.129	21.111
60	**Ni**		451.118	**0.054491**	ppb	4.515	14.934	325.559
75	**As**		500.971	**0.017103**	ppb	8.277	318.475	486.505
71	**Ga-ISK**		167644.734		ppb	1.467		169708.094
82	**Se-2**		34.140	**0.132244**	ppb	28.568	93.685	23.471
107	**Ag-1**		1726.774	**-0.025828**	ppb	19.256	149.399	1956.803
115	**In-ISK**	>	242251.041		ppb	0.800		242032.646
45	**Sc-ISK**		407798.968		ppb	1.999		410252.172
23	**Na**		11716.470	**-1.177638**	ppb	0.848	5.388	12156.843
39	**K**		44527.070	**1.965367**	ppb	1.249	18.263	42897.652
24	**Mg**		851.692	**-0.227522**	ppb	5.580	55.113	930.031
159	**Tb-ISK**	>	482697.095		ppb	0.843		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79989-A-204-A
Autosampler Position: 415
Sample Date/Time: Tuesday, January 04, 2022 19:37:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-79989-A-204-A.239
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108521.915		ppb	2.489		104638.563
9	**Be**		46.667	**0.008813**	ppb	31.135	50.375	16.667
10	**B**		8276.843	**5.835913**	ppb	3.530	5.453	2535.781
27	**Al**		84732.545	**1.076885**	ppb	0.316	1.652	54951.530
43	**Ca-2**		607385.606	**10189.395463**	ppb	0.871	0.782	763.354
49	**Ti**		388.894	**0.010934**	ppb	4.874	88.601	346.671
52	**Cr**		51645.416	**0.532326**	ppb	1.182	4.550	35756.949
55	**Mn**		11304.471	**0.215896**	ppb	1.333	2.025	2513.555
57	**Fe**		54993.441	**22.911072**	ppb	1.561	5.140	33748.727
45	**Sc-IS**	>	5842383.641		ppb	0.245		5501984.550
66	**Zn**		4300.647	**-0.020119**	ppb	0.914	59.104	4129.486
86	**Sr**		477535.209	**142.504572**	ppb	0.202	0.055	251.799
65	**Cu**		3744.936	**0.525477**	ppb	4.128	4.394	377.783
69	**Ga-IS**		1751472.023		ppb	2.992		1713094.747
95	**Mo**		813.357	**0.121866**	ppb	6.441	12.233	366.671
115	**In-IS**	>	858579.934		ppb	1.283		866460.651
111	**Cd**		61.625	**0.005966**	ppb	23.529	49.500	33.674
118	**Sn**		2980.311	**-0.099614**	ppb	4.554	12.243	4427.353
121	**Sb**		675.572	**0.014479**	ppb	4.311	16.121	463.341
135	**Ba**		91560.269	**22.094471**	ppb	0.850	0.480	175.557
165	**Ho-IS**		1013801.960		ppb	0.923		1018972.043
159	**Tb-IS**	>	1036881.621		ppb	1.730		1044095.535
207	**Pb**		1232.244	**0.014019**	ppb	8.366	14.232	607.783
203	**Tl**		236.669	**0.004497**	ppb	17.648	62.674	167.779
209	**Bi-IS**		495672.614		ppb	0.322		517883.976
51	**V**		1562.308	**3.998944**	ppb	5.001	6.015	3.333
59	**Co**		40.000	**0.014836**	ppb	8.333	19.207	21.111
60	**Ni**		642.237	**0.147290**	ppb	8.455	15.046	325.559
75	**As**		913.143	**0.549454**	ppb	6.400	12.251	486.505
71	**Ga-ISK**		163358.153		ppb	3.046		169708.094
82	**Se-2**		27.106	**0.057128**	ppb	43.208	268.406	23.471
107	**Ag-1**		884.472	**-0.116918**	ppb	2.565	3.180	1956.803
115	**In-ISK**	>	234090.009		ppb	1.081		242032.646
45	**Sc-ISK**		396741.361		ppb	3.937		410252.172
23	**Na**		1750310.190	**4731.358150**	ppb	2.966	2.381	12156.843
39	**K**		1764608.339	**2103.255450**	ppb	0.856	0.407	42897.652
24	**Mg**		1420390.366	**4182.348160**	ppb	1.115	0.638	930.031
159	**Tb-ISK**	>	475634.302		ppb	1.132		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205346_1-A
Autosampler Position: 401
Sample Date/Time: Tuesday, January 04, 2022 19:40:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\MB 570-205346_1-A.240
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		107749.273		ppb	0.572		104638.563
9	**Be**		12.222	**-0.001509**	ppb	31.492	81.515	16.667
10	**B**		1870.122	**-0.778470**	ppb	2.978	7.162	2535.781
27	**Al**		23100.330	**-1.399725**	ppb	0.997	0.798	54951.530
43	**Ca-2**		361.671	**-7.288571**	ppb	8.101	7.008	763.354
49	**Ti**		231.113	**-0.067127**	ppb	10.434	19.300	346.671
52	**Cr**		34038.283	**-0.097966**	ppb	0.874	10.338	35756.949
55	**Mn**		1515.636	**-0.027260**	ppb	3.786	5.803	2513.555
57	**Fe**		33502.574	**-1.126019**	ppb	0.924	43.231	33748.727
45	**Sc-IS**	>	5609337.848		ppb	0.243		5501984.550
66	**Zn**		2232.397	**-0.491944**	ppb	3.548	3.916	4129.486
86	**Sr**		156.292	**-0.031251**	ppb	40.612	62.962	251.799
65	**Cu**		270.003	**-0.018847**	ppb	2.138	5.575	377.783
69	**Ga-IS**		1722804.614		ppb	1.653		1713094.747
95	**Mo**		272.225	**-0.030402**	ppb	12.265	33.513	366.671
115	**In-IS**	>	861070.505		ppb	1.665		866460.651
111	**Cd**		33.873	**0.000113**	ppb	31.427	2120.433	33.674
118	**Sn**		2322.411	**-0.146795**	ppb	4.161	4.864	4427.353
121	**Sb**		231.113	**-0.015301**	ppb	14.803	13.568	463.341
135	**Ba**		58.889	**-0.027858**	ppb	8.646	4.452	175.557
165	**Ho-IS**		983901.012		ppb	0.266		1018972.043
159	**Tb-IS**	>	1002130.630		ppb	0.288		1044095.535
207	**Pb**		380.002	**-0.004696**	ppb	1.754	3.806	607.783
203	**Tl**		142.223	**-0.001245**	ppb	5.898	45.429	167.779
209	**Bi-IS**		500135.974		ppb	1.137		517883.976
51	**V**		6.667	**0.008294**	ppb	132.288	264.785	3.333
59	**Co**		11.111	**-0.007251**	ppb	62.450	71.272	21.111
60	**Ni**		53.333	**-0.118407**	ppb	18.750	3.782	325.559
75	**As**		476.549	**-0.008347**	ppb	10.269	748.536	486.505
71	**Ga-ISK**		165445.076		ppb	2.351		169708.094
82	**Se-2**		29.119	**0.072531**	ppb	17.485	93.809	23.471
107	**Ag-1**		792.244	**-0.130157**	ppb	14.554	9.806	1956.803
115	**In-ISK**	>	240644.737		ppb	1.418		242032.646
45	**Sc-ISK**		398053.952		ppb	1.820		410252.172
23	**Na**		11087.635	**-1.843683**	ppb	0.948	3.330	12156.843
39	**K**		39282.825	**-2.719511**	ppb	0.279	14.995	42897.652
24	**Mg**		1085.041	**0.556878**	ppb	9.809	52.542	930.031
159	**Tb-ISK**	>	466677.729		ppb	0.809		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205346_2-A
Autosampler Position: 402
Sample Date/Time: Tuesday, January 04, 2022 19:43:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCS 570-205346_2-A.241
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104241.181		ppb	0.964		104638.563
9	**Be**		319667.377	**101.568077**	ppb	1.311	0.744	16.667
10	**B**		95030.656	**100.959104**	ppb	1.823	0.227	2535.781
27	**Al**		2513941.844	**104.868398**	ppb	0.449	1.699	54951.530
43	**Ca-2**		305689.721	**5352.803403**	ppb	1.364	1.270	763.354
49	**Ti**		174466.981	**95.829370**	ppb	2.121	0.372	346.671
52	**Cr**		2492185.282	**99.885085**	ppb	1.841	0.136	35756.949
55	**Mn**		3580256.832	**93.464457**	ppb	1.867	0.078	2513.555
57	**Fe**		4395784.728	**5450.146520**	ppb	2.033	0.232	33748.727
45	**Sc-IS**	>	5591137.520		ppb	1.913		5501984.550
66	**Zn**		418143.988	**103.294586**	ppb	2.631	0.925	4129.486
86	**Sr**		294997.655	**91.966503**	ppb	2.448	2.153	251.799
65	**Cu**		601487.177	**98.712331**	ppb	2.409	1.205	377.783
69	**Ga-IS**		1846317.981		ppb	2.815		1713094.747
95	**Mo**		309697.717	**92.925508**	ppb	0.691	1.792	366.671
115	**In-IS**	>	865574.417		ppb	0.430		866460.651
111	**Cd**		474658.716	**99.745014**	ppb	0.638	0.210	33.674
118	**Sn**		1311235.583	**91.879965**	ppb	0.649	0.836	4427.353
121	**Sb**		1418084.448	**93.967650**	ppb	0.020	0.416	463.341
135	**Ba**		435209.014	**104.322811**	ppb	0.907	0.503	175.557
165	**Ho-IS**		984276.773		ppb	0.304		1018972.043
159	**Tb-IS**	>	1031745.080		ppb	0.524		1044095.535
207	**Pb**		4135115.593	**92.757135**	ppb	1.206	1.521	607.783
203	**Tl**		1357101.776	**87.244376**	ppb	0.752	1.279	167.779
209	**Bi-IS**		496197.670		ppb	2.713		517883.976
51	**V**		37646.205	**95.891072**	ppb	0.231	1.770	3.333
59	**Co**		124052.279	**93.277678**	ppb	3.514	5.241	21.111
60	**Ni**		211982.103	**94.671102**	ppb	2.982	1.740	325.559
75	**As**		79618.022	**97.603386**	ppb	3.761	1.980	486.505
71	**Ga-ISK**		163136.653		ppb	2.764		169708.094
82	**Se-2**		7832.286	**99.300021**	ppb	2.149	0.363	23.471
107	**Ag-1**		470055.413	**53.946754**	ppb	1.862	0.710	1956.803
115	**In-ISK**	>	235654.932		ppb	1.819		242032.646
45	**Sc-ISK**		397616.193		ppb	2.976		410252.172
23	**Na**		355304.322	**953.024367**	ppb	2.532	1.087	12156.843
39	**K**		845483.184	**1000.652958**	ppb	2.180	1.144	42897.652
24	**Mg**		1836500.090	**5512.506453**	ppb	1.367	0.370	930.031
159	**Tb-ISK**	>	466662.935		ppb	1.656		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205346_3-A
Autosampler Position: 403
Sample Date/Time: Tuesday, January 04, 2022 19:46:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCSD 570-205346_3-A.242
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		101932.453		ppb	1.915		104638.563
9	**Be**		313891.463	**100.358476**	ppb	1.441	1.308	16.667
10	**B**		94206.306	**100.709511**	ppb	1.424	1.079	2535.781
27	**Al**		2519560.329	**105.767975**	ppb	0.998	0.616	54951.530
43	**Ca-2**		305602.727	**5385.006672**	ppb	1.045	1.435	763.354
49	**Ti**		172377.313	**95.282026**	ppb	1.833	1.489	346.671
52	**Cr**		2454793.665	**98.995084**	ppb	1.879	1.539	35756.949
55	**Mn**		3605027.119	**94.710772**	ppb	0.389	0.401	2513.555
57	**Fe**		4477762.681	**5588.199462**	ppb	0.890	0.516	33748.727
45	**Sc-IS**	>	5555795.727		ppb	0.458		5501984.550
66	**Zn**		420561.833	**104.579210**	ppb	1.673	2.047	4129.486
86	**Sr**		306131.154	**96.045758**	ppb	3.087	3.283	251.799
65	**Cu**		605553.775	**100.020450**	ppb	1.302	1.760	377.783
69	**Ga-IS**		1825884.208		ppb	2.735		1713094.747
95	**Mo**		322712.115	**97.431570**	ppb	0.405	0.253	366.671
115	**In-IS**	>	856515.005		ppb	0.654		866460.651
111	**Cd**		476569.322	**101.214419**	ppb	1.149	1.801	33.674
118	**Sn**		1322681.860	**93.667582**	ppb	0.598	0.373	4427.353
121	**Sb**		1435941.606	**96.159796**	ppb	0.460	0.827	463.341
135	**Ba**		442654.123	**107.240755**	ppb	2.070	2.501	175.557
165	**Ho-IS**		980567.532		ppb	1.305		1018972.043
159	**Tb-IS**	>	998390.796		ppb	0.287		1044095.535
207	**Pb**		4057062.377	**94.042706**	ppb	0.811	0.635	607.783
203	**Tl**		1356344.043	**90.103927**	ppb	1.001	0.745	167.779
209	**Bi-IS**		494971.128		ppb	0.312		517883.976
51	**V**		37319.799	**95.969186**	ppb	1.179	2.279	3.333
59	**Co**		124977.789	**94.821261**	ppb	2.085	1.879	21.111
60	**Ni**		210787.661	**95.058957**	ppb	2.466	2.727	325.559
75	**As**		79708.701	**98.678077**	ppb	1.922	0.851	486.505
71	**Ga-ISK**		163584.936		ppb	2.330		169708.094
82	**Se-2**		7915.357	**101.312631**	ppb	2.466	0.534	23.471
107	**Ag-1**		466743.289	**54.079147**	ppb	2.627	2.111	1956.803
115	**In-ISK**	>	233456.634		ppb	2.678		242032.646
45	**Sc-ISK**		391684.245		ppb	2.873		410252.172
23	**Na**		355080.579	**943.942343**	ppb	2.569	0.749	12156.843
39	**K**		839707.156	**984.511787**	ppb	3.174	2.669	42897.652
24	**Mg**		1851301.512	**5508.416078**	ppb	3.009	1.542	930.031
159	**Tb-ISK**	>	470711.818		ppb	1.968		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293282-G-1-D
Autosampler Position: 407
Sample Date/Time: Tuesday, January 04, 2022 19:49:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\440-293282-G-1-D.243
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		190840.733		ppb	0.693		104638.563
9	**Be**		85.556	**0.022554**	ppb	11.903	14.186	16.667
10	**B**		441858.029	**493.158520**	ppb	4.191	3.830	2535.781
27	**Al**		97433.203	**1.890263**	ppb	1.780	2.979	54951.530
43	**Ca-2**		2705884.568	**48813.230133**	ppb	0.955	0.559	763.354
49	**Ti**		8346.883	**4.528763**	ppb	1.982	1.800	346.671
52	**Cr**		51327.610	**0.668304**	ppb	1.384	5.591	35756.949
55	**Mn**		545545.230	**14.584919**	ppb	0.762	1.225	2513.555
57	**Fe**		208339.566	**224.785486**	ppb	1.634	1.948	33748.727
45	**Sc-IS**	>	5438765.096		ppb	0.465		5501984.550
66	**Zn**		105141.164	**25.925178**	ppb	2.107	1.760	4129.486
86	**Sr**		3771145.182	**1209.369091**	ppb	4.346	3.985	251.799
65	**Cu**		5668.902	**0.893980**	ppb	1.069	0.660	377.783
69	**Ga-IS**		1443058.149		ppb	2.467		1713094.747
95	**Mo**		28536.267	**8.698908**	ppb	2.956	2.861	366.671
115	**In-IS**	>	758893.644		ppb	2.624		866460.651
111	**Cd**		125.631	**0.023195**	ppb	35.410	47.909	33.674
118	**Sn**		13137.161	**0.742073**	ppb	5.508	4.760	4427.353
121	**Sb**		7459.725	**0.533555**	ppb	0.478	2.854	463.341
135	**Ba**		83392.781	**22.776933**	ppb	2.326	3.313	175.557
165	**Ho-IS**		945868.527		ppb	2.264		1018972.043
159	**Tb-IS**	>	970645.765		ppb	1.901		1044095.535
207	**Pb**		7741.937	**0.171116**	ppb	3.407	2.143	607.783
203	**Tl**		594.457	**0.029986**	ppb	7.100	10.578	167.779
209	**Bi-IS**		408813.969		ppb	0.909		517883.976
51	**V**		404.450	**1.151018**	ppb	7.833	8.833	3.333
59	**Co**		128.889	**0.093266**	ppb	21.535	23.084	21.111
60	**Ni**		831.135	**0.276526**	ppb	5.733	9.849	325.559
75	**As**		2305.053	**2.613685**	ppb	4.382	5.039	486.505
71	**Ga-ISK**		147546.124		ppb	2.513		169708.094
82	**Se-2**		1252.505	**17.619941**	ppb	3.072	1.647	23.471
107	**Ag-1**		1616.759	**-0.010108**	ppb	11.273	219.636	1956.803
115	**In-ISK**	>	209526.600		ppb	1.701		242032.646
45	**Sc-ISK**		390175.742		ppb	2.740		410252.172
23	**Na**		111636123.348	**325200.497196**	ppb	3.692	2.352	12156.843
39	**K**		3213623.636	**4148.711968**	ppb	3.008	1.515	42897.652
24	**Mg**		2657185.996	**8377.011072**	ppb	3.433	2.169	930.031
159	**Tb-ISK**	>	444310.103		ppb	1.631		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-A-1-A
Autosampler Position: 408
Sample Date/Time: Tuesday, January 04, 2022 19:53:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-78855-A-1-A.244
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108538.549		ppb	0.609		104638.563
9	**Be**		104.445	**0.026760**	ppb	20.765	23.826	16.667
10	**B**		18625.476	**16.910741**	ppb	3.248	3.714	2535.781
27	**Al**		5370621.642	**219.781156**	ppb	0.520	0.636	54951.530
43	**Ca-2**		104205.491	**1760.305281**	ppb	2.428	2.396	763.354
49	**Ti**		8870.532	**4.541167**	ppb	2.436	2.687	346.671
52	**Cr**		52873.223	**0.607672**	ppb	0.645	1.279	35756.949
55	**Mn**		526755.058	**13.278125**	ppb	1.617	0.891	2513.555
57	**Fe**		244451.592	**253.404975**	ppb	0.748	1.334	33748.727
45	**Sc-IS**	>	5765294.790		ppb	0.965		5501984.550
66	**Zn**		39501.210	**8.512660**	ppb	1.324	0.883	4129.486
86	**Sr**		19351.173	**5.775131**	ppb	1.713	0.901	251.799
65	**Cu**		24465.379	**3.833251**	ppb	1.382	0.475	377.783
69	**Ga-IS**		1709042.484		ppb	0.889		1713094.747
95	**Mo**		1545.639	**0.338177**	ppb	6.237	7.350	366.671
115	**In-IS**	>	856350.307		ppb	0.874		866460.651
111	**Cd**		223.423	**0.040385**	ppb	4.544	4.833	33.674
118	**Sn**		5765.609	**0.098765**	ppb	3.674	14.441	4427.353
121	**Sb**		2882.513	**0.162476**	ppb	2.791	4.108	463.341
135	**Ba**		32069.293	**7.731330**	ppb	1.354	1.225	175.557
165	**Ho-IS**		1009397.867		ppb	1.514		1018972.043
159	**Tb-IS**	>	1029956.229		ppb	1.174		1044095.535
207	**Pb**		93105.881	**2.079389**	ppb	2.015	3.144	607.783
203	**Tl**		367.783	**0.013026**	ppb	12.732	23.065	167.779
209	**Bi-IS**		517251.746		ppb	1.749		517883.976
51	**V**		617.791	**1.519472**	ppb	8.260	9.829	3.333
59	**Co**		354.449	**0.242811**	ppb	7.831	6.985	21.111
60	**Ni**		2070.150	**0.756015**	ppb	6.387	5.981	325.559
75	**As**		957.507	**0.561972**	ppb	4.070	11.337	486.505
71	**Ga-ISK**		169181.594		ppb	1.518		169708.094
82	**Se-2**		39.468	**0.196661**	ppb	31.740	80.258	23.471
107	**Ag-1**		626.680	**-0.149503**	ppb	4.222	1.782	1956.803
115	**In-ISK**	>	242953.558		ppb	1.597		242032.646
45	**Sc-ISK**		415148.174		ppb	2.490		410252.172
23	**Na**		918707.825	**2448.978847**	ppb	1.769	2.230	12156.843
39	**K**		1390763.465	**1633.603357**	ppb	1.526	1.401	42897.652
24	**Mg**		146837.572	**426.581222**	ppb	1.552	0.630	930.031
159	**Tb-ISK**	>	479390.385		ppb	2.103		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-A-2-A
Autosampler Position: 409
Sample Date/Time: Tuesday, January 04, 2022 19:56:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-78855-A-2-A.245
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106660.097		ppb	1.654		104638.563
9	**Be**		103.334	**0.027442**	ppb	11.631	16.292	16.667
10	**B**		49384.104	**51.023055**	ppb	0.867	2.846	2535.781
27	**Al**		6079942.549	**256.485834**	ppb	0.613	1.815	54951.530
43	**Ca-2**		91545.719	**1590.449243**	ppb	0.185	1.798	763.354
49	**Ti**		10522.766	**5.585356**	ppb	3.140	1.417	346.671
52	**Cr**		51521.746	**0.612814**	ppb	4.359	8.881	35756.949
55	**Mn**		521699.192	**13.534441**	ppb	2.214	0.551	2513.555
57	**Fe**		261166.267	**282.849649**	ppb	1.997	0.567	33748.727
45	**Sc-IS**	>	5602359.754		ppb	1.936		5501984.550
66	**Zn**		33020.341	**7.178161**	ppb	0.641	1.660	4129.486
86	**Sr**		17635.617	**5.411153**	ppb	2.424	0.597	251.799
65	**Cu**		26913.107	**4.348465**	ppb	1.050	1.289	377.783
69	**Ga-IS**		1705107.882		ppb	1.393		1713094.747
95	**Mo**		1006.702	**0.190005**	ppb	2.628	7.019	366.671
115	**In-IS**	>	857660.401		ppb	0.887		866460.651
111	**Cd**		133.442	**0.021210**	ppb	16.634	21.061	33.674
118	**Sn**		4055.021	**-0.023114**	ppb	6.068	86.039	4427.353
121	**Sb**		2317.966	**0.124406**	ppb	2.056	3.550	463.341
135	**Ba**		27797.019	**6.685992**	ppb	0.884	1.667	175.557
165	**Ho-IS**		1006548.911		ppb	1.467		1018972.043
159	**Tb-IS**	>	1057291.640		ppb	1.423		1044095.535
207	**Pb**		93324.832	**2.029680**	ppb	2.037	1.876	607.783
203	**Tl**		294.448	**0.007832**	ppb	11.396	29.703	167.779
209	**Bi-IS**		497735.623		ppb	1.934		517883.976
51	**V**		676.683	**1.715136**	ppb	1.478	1.762	3.333
59	**Co**		342.226	**0.241321**	ppb	20.065	19.794	21.111
60	**Ni**		1726.771	**0.630350**	ppb	5.505	5.607	325.559
75	**As**		1453.806	**1.208780**	ppb	2.020	1.626	486.505
71	**Ga-ISK**		167109.734		ppb	1.943		169708.094
82	**Se-2**		35.440	**0.161059**	ppb	21.529	64.043	23.471
107	**Ag-1**		497.786	**-0.162136**	ppb	7.848	3.299	1956.803
115	**In-ISK**	>	235681.004		ppb	1.555		242032.646
45	**Sc-ISK**		405826.210		ppb	2.022		410252.172
23	**Na**		1166883.195	**3143.019553**	ppb	1.529	0.632	12156.843
39	**K**		961952.461	**1122.923325**	ppb	1.691	1.782	42897.652
24	**Mg**		136847.599	**400.400225**	ppb	2.498	1.453	930.031
159	**Tb-ISK**	>	475710.124		ppb	1.153		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-A-3-A
Autosampler Position: 410
Sample Date/Time: Tuesday, January 04, 2022 19:59:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-78855-A-3-A.246
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		105755.733		ppb	2.580		104638.563
9	**Be**		110.000	**0.028724**	ppb	12.121	14.443	16.667
10	**B**		7493.077	**5.170516**	ppb	3.107	4.664	2535.781
27	**Al**		9420374.998	**389.720469**	ppb	1.327	1.394	54951.530
43	**Ca-2**		113305.904	**1927.223533**	ppb	0.518	0.844	763.354
49	**Ti**		14114.750	**7.387423**	ppb	2.371	2.750	346.671
52	**Cr**		56209.264	**0.752959**	ppb	1.207	2.282	35756.949
55	**Mn**		1146775.506	**29.167807**	ppb	0.112	0.414	2513.555
57	**Fe**		416671.514	**465.239681**	ppb	0.520	0.257	33748.727
45	**Sc-IS**	>	5729640.546		ppb	0.460		5501984.550
66	**Zn**		93129.238	**21.632176**	ppb	0.087	0.463	4129.486
86	**Sr**		29855.410	**9.009995**	ppb	1.066	1.098	251.799
65	**Cu**		15902.181	**2.485478**	ppb	1.862	2.310	377.783
69	**Ga-IS**		1757949.351		ppb	2.133		1713094.747
95	**Mo**		557.789	**0.051576**	ppb	7.567	24.314	366.671
115	**In-IS**	>	883923.160		ppb	1.526		866460.651
111	**Cd**		272.165	**0.048967**	ppb	3.220	5.390	33.674
118	**Sn**		3168.132	**-0.092736**	ppb	11.562	28.605	4427.353
121	**Sb**		1839.007	**0.088720**	ppb	4.551	7.027	463.341
135	**Ba**		57148.525	**13.380221**	ppb	0.163	1.580	175.557
165	**Ho-IS**		1016022.215		ppb	1.623		1018972.043
159	**Tb-IS**	>	1036522.710		ppb	2.251		1044095.535
207	**Pb**		230548.901	**5.135154**	ppb	1.817	0.443	607.783
203	**Tl**		247.780	**0.005215**	ppb	6.904	26.719	167.779
209	**Bi-IS**		507832.727		ppb	1.134		517883.976
51	**V**		1132.267	**2.927566**	ppb	7.995	5.175	3.333
59	**Co**		703.351	**0.524176**	ppb	7.403	10.022	21.111
60	**Ni**		2560.230	**1.026345**	ppb	3.583	6.525	325.559
75	**As**		701.095	**0.297651**	ppb	3.350	14.513	486.505
71	**Ga-ISK**		161393.288		ppb	1.075		169708.094
82	**Se-2**		36.466	**0.180120**	ppb	23.711	54.617	23.471
107	**Ag-1**		384.450	**-0.174418**	ppb	9.590	2.148	1956.803
115	**In-ISK**	>	231242.908		ppb	2.877		242032.646
45	**Sc-ISK**		386699.940		ppb	2.183		410252.172
23	**Na**		265358.596	**702.495707**	ppb	0.691	4.124	12156.843
39	**K**		872162.751	**1032.290424**	ppb	0.906	4.148	42897.652
24	**Mg**		203507.752	**607.601620**	ppb	1.176	4.447	930.031
159	**Tb-ISK**	>	467745.976		ppb	3.248		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-A-4-A
Autosampler Position: 411
Sample Date/Time: Tuesday, January 04, 2022 20:02:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-78855-A-4-A.247
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		105239.608		ppb	1.515		104638.563
9	**Be**		104.445	**0.027340**	ppb	18.148	22.256	16.667
10	**B**		17148.069	**15.635993**	ppb	2.901	2.798	2535.781
27	**Al**		5228393.395	**217.359900**	ppb	1.039	0.380	54951.530
43	**Ca-2**		208498.101	**3592.140322**	ppb	3.104	2.286	763.354
49	**Ti**		7399.695	**3.819031**	ppb	2.960	2.698	346.671
52	**Cr**		49073.032	**0.488829**	ppb	0.624	1.095	35756.949
55	**Mn**		885364.764	**22.727097**	ppb	1.915	2.678	2513.555
57	**Fe**		247661.891	**262.134237**	ppb	1.289	2.519	33748.727
45	**Sc-IS**	>	5674232.392		ppb	0.895		5501984.550
66	**Zn**		35492.928	**7.680491**	ppb	0.984	0.361	4129.486
86	**Sr**		47695.600	**14.582026**	ppb	3.025	2.385	251.799
65	**Cu**		12385.370	**1.940925**	ppb	2.939	2.289	377.783
69	**Ga-IS**		1743459.732		ppb	2.783		1713094.747
95	**Mo**		665.571	**0.085027**	ppb	7.298	15.953	366.671
115	**In-IS**	>	852562.320		ppb	0.857		866460.651
111	**Cd**		179.715	**0.031266**	ppb	20.382	24.685	33.674
118	**Sn**		2660.248	**-0.121040**	ppb	3.673	6.470	4427.353
121	**Sb**		2124.602	**0.112310**	ppb	1.572	2.696	463.341
135	**Ba**		43984.280	**10.667038**	ppb	1.179	1.300	175.557
165	**Ho-IS**		1011896.220		ppb	0.996		1018972.043
159	**Tb-IS**	>	1036286.266		ppb	0.233		1044095.535
207	**Pb**		128099.385	**2.847720**	ppb	0.508	0.542	607.783
203	**Tl**		192.224	**0.001645**	ppb	6.090	46.149	167.779
209	**Bi-IS**		505411.962		ppb	1.554		517883.976
51	**V**		625.569	**1.597509**	ppb	4.951	3.496	3.333
59	**Co**		411.117	**0.295481**	ppb	10.073	7.031	21.111
60	**Ni**		1857.899	**0.696900**	ppb	2.244	6.868	325.559
75	**As**		1386.152	**1.139833**	ppb	6.396	9.733	486.505
71	**Ga-ISK**		162985.787		ppb	1.799		169708.094
82	**Se-2**		35.442	**0.158202**	ppb	53.162	145.526	23.471
107	**Ag-1**		322.226	**-0.182274**	ppb	20.307	3.517	1956.803
115	**In-ISK**	>	233818.064		ppb	3.543		242032.646
45	**Sc-ISK**		393904.979		ppb	1.091		410252.172
23	**Na**		464673.972	**1248.172383**	ppb	1.429	1.592	12156.843
39	**K**		2260623.941	**2743.683578**	ppb	0.584	0.464	42897.652
24	**Mg**		231476.992	**687.908522**	ppb	0.581	0.481	930.031
159	**Tb-ISK**	>	469714.555		ppb	0.128		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78855-A-5-A
Autosampler Position: 412
Sample Date/Time: Tuesday, January 04, 2022 20:05:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-78855-A-5-A.248
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		105618.011		ppb	2.237		104638.563
9	**Be**		113.334	**0.030405**	ppb	2.941	3.863	16.667
10	**B**		5368.787	**3.012443**	ppb	1.559	4.059	2535.781
27	**Al**		10897977.346	**459.512447**	ppb	1.526	0.253	54951.530
43	**Ca-2**		68833.832	**1186.890339**	ppb	2.409	1.042	763.354
49	**Ti**		20732.814	**11.145507**	ppb	1.483	1.022	346.671
52	**Cr**		55967.210	**0.784069**	ppb	1.422	1.785	35756.949
55	**Mn**		1361777.231	**35.282713**	ppb	1.823	0.785	2513.555
57	**Fe**		447325.678	**512.658489**	ppb	0.536	1.291	33748.727
45	**Sc-IS**	>	5626869.877		ppb	1.724		5501984.550
66	**Zn**		146357.037	**35.251856**	ppb	0.820	1.885	4129.486
86	**Sr**		15978.589	**4.875089**	ppb	1.901	2.908	251.799
65	**Cu**		19345.318	**3.093415**	ppb	2.581	0.916	377.783
69	**Ga-IS**		1741763.921		ppb	1.194		1713094.747
95	**Mo**		340.004	**-0.010310**	ppb	10.917	121.870	366.671
115	**In-IS**	>	864000.668		ppb	0.449		866460.651
111	**Cd**		463.738	**0.090573**	ppb	6.815	7.529	33.674
118	**Sn**		2195.725	**-0.156297**	ppb	6.801	6.777	4427.353
121	**Sb**		2037.923	**0.104636**	ppb	3.645	4.162	463.341
135	**Ba**		58284.284	**13.960943**	ppb	3.045	3.212	175.557
165	**Ho-IS**		991654.678		ppb	1.611		1018972.043
159	**Tb-IS**	>	1031833.735		ppb	2.627		1044095.535
207	**Pb**		250969.831	**5.619571**	ppb	2.033	3.853	607.783
203	**Tl**		246.669	**0.005182**	ppb	9.745	23.196	167.779
209	**Bi-IS**		496622.682		ppb	0.591		517883.976
51	**V**		1126.711	**2.887729**	ppb	6.958	8.491	3.333
59	**Co**		708.907	**0.521163**	ppb	9.686	7.801	21.111
60	**Ni**		2952.529	**1.189977**	ppb	7.798	8.652	325.559
75	**As**		671.528	**0.250407**	ppb	5.931	12.727	486.505
71	**Ga-ISK**		163724.332		ppb	2.447		169708.094
82	**Se-2**		34.419	**0.148705**	ppb	43.688	126.191	23.471
107	**Ag-1**		325.559	**-0.181754**	ppb	7.953	1.213	1956.803
115	**In-ISK**	>	233730.926		ppb	2.181		242032.646
45	**Sc-ISK**		396043.455		ppb	3.015		410252.172
23	**Na**		215090.046	**559.193945**	ppb	3.438	1.790	12156.843
39	**K**		754059.640	**879.057642**	ppb	3.450	0.270	42897.652
24	**Mg**		123631.314	**365.502437**	ppb	3.017	0.544	930.031
159	**Tb-ISK**	>	470603.930		ppb	3.536		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 20:08:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.249
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104215.426		ppb	0.658		104638.563
9	**Be**		327933.805	**103.537016**	ppb	2.474	1.483	16.667
10	**B**		238265.101	**255.803163**	ppb	1.004	1.946	2535.781
27	**Al**		2478586.180	**102.695275**	ppb	0.436	0.889	54951.530
43	**Ca-2**		291968.715	**5080.573625**	ppb	1.238	2.101	763.354
49	**Ti**		182294.693	**99.526006**	ppb	1.031	0.700	346.671
52	**Cr**		2580891.127	**102.851089**	ppb	0.732	0.616	35756.949
55	**Mn**		3934974.315	**102.104655**	ppb	0.718	0.925	2513.555
57	**Fe**		4297245.276	**5293.854075**	ppb	3.128	2.703	33748.727
45	**Sc-IS**	>	5625637.428		ppb	0.996		5501984.550
66	**Zn**		423708.478	**104.052439**	ppb	0.552	1.425	4129.486
86	**Sr**		341536.587	**105.847014**	ppb	3.188	3.855	251.799
65	**Cu**		641027.800	**104.565126**	ppb	1.644	1.570	377.783
69	**Ga-IS**		1809448.162		ppb	0.340		1713094.747
95	**Mo**		342442.290	**102.122202**	ppb	1.955	2.533	366.671
115	**In-IS**	>	874523.480		ppb	0.838		866460.651
111	**Cd**		493034.906	**102.546180**	ppb	1.117	0.497	33.674
118	**Sn**		1433640.183	**99.457377**	ppb	1.928	2.089	4427.353
121	**Sb**		1550922.324	**101.724406**	ppb	1.395	1.630	463.341
135	**Ba**		421747.274	**100.064639**	ppb	0.580	0.857	175.557
165	**Ho-IS**		1011659.630		ppb	0.398		1018972.043
159	**Tb-IS**	>	1019141.031		ppb	0.414		1044095.535
207	**Pb**		4486463.442	**101.886014**	ppb	1.813	2.179	607.783
203	**Tl**		1539517.027	**100.195626**	ppb	0.830	1.210	167.779
209	**Bi-IS**		491688.536		ppb	0.564		517883.976
51	**V**		39578.097	**100.191659**	ppb	1.984	2.109	3.333
59	**Co**		136844.760	**102.206277**	ppb	2.333	0.784	21.111
60	**Ni**		225838.378	**100.265216**	ppb	2.285	1.541	325.559
75	**As**		83358.876	**101.643285**	ppb	1.155	2.433	486.505
71	**Ga-ISK**		161789.559		ppb	3.615		169708.094
82	**Se-2**		8045.122	**101.435631**	ppb	0.502	3.292	23.471
107	**Ag-1**		891945.300	**101.937439**	ppb	2.816	2.136	1956.803
115	**In-ISK**	>	237144.807		ppb	3.089		242032.646
45	**Sc-ISK**		393991.420		ppb	2.571		410252.172
23	**Na**		1893179.943	**5149.001365**	ppb	2.283	0.857	12156.843
39	**K**		4258685.057	**5176.674884**	ppb	3.370	1.470	42897.652
24	**Mg**		1757079.826	**5201.579154**	ppb	4.110	2.243	930.031
159	**Tb-ISK**	>	473009.842		ppb	1.937		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 20:11:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.250
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99117.398		ppb	3.594		104638.563
9	**Be**		78.889	**0.019825**	ppb	19.968	24.560	16.667
10	**B**		2561.341	**0.000974**	ppb	0.601	2376.267	2535.781
27	**Al**		52590.978	**-0.124437**	ppb	1.728	20.208	54951.530
43	**Ca-2**		426.673	**-6.075509**	ppb	9.967	13.191	763.354
49	**Ti**		411.117	**0.033787**	ppb	4.751	27.901	346.671
52	**Cr**		35057.409	**-0.042916**	ppb	0.831	12.627	35756.949
55	**Mn**		3045.881	**0.013352**	ppb	3.706	22.460	2513.555
57	**Fe**		34235.446	**0.200628**	ppb	3.212	735.647	33748.727
45	**Sc-IS**	>	5555665.539		ppb	0.690		5501984.550
66	**Zn**		4167.275	**-0.000744**	ppb	3.729	4448.200	4129.486
86	**Sr**		107.440	**-0.046121**	ppb	61.441	44.852	251.799
65	**Cu**		656.682	**0.045483**	ppb	7.929	18.803	377.783
69	**Ga-IS**		1739704.586		ppb	2.292		1713094.747
95	**Mo**		2105.711	**0.524687**	ppb	4.160	5.723	366.671
115	**In-IS**	>	877587.339		ppb	1.085		866460.651
111	**Cd**		116.690	**0.017083**	ppb	24.047	32.523	33.674
118	**Sn**		10948.643	**0.448188**	ppb	4.141	6.027	4427.353
121	**Sb**		1542.306	**0.070179**	ppb	3.554	6.393	463.341
135	**Ba**		151.112	**-0.006327**	ppb	14.352	79.262	175.557
165	**Ho-IS**		1014763.984		ppb	2.391		1018972.043
159	**Tb-IS**	>	1029829.246		ppb	1.464		1044095.535
207	**Pb**		1381.137	**0.017578**	ppb	2.477	6.432	607.783
203	**Tl**		408.895	**0.015679**	ppb	1.697	1.875	167.779
209	**Bi-IS**		498346.686		ppb	2.070		517883.976
51	**V**		8.889	**0.013914**	ppb	43.301	67.486	3.333
59	**Co**		55.556	**0.025499**	ppb	28.355	44.074	21.111
60	**Ni**		363.338	**0.017938**	ppb	17.504	160.897	325.559
75	**As**		548.496	**0.079995**	ppb	6.251	44.850	486.505
71	**Ga-ISK**		162758.938		ppb	2.423		169708.094
82	**Se-2**		29.768	**0.081143**	ppb	26.967	123.913	23.471
107	**Ag-1**		2064.595	**0.014010**	ppb	10.254	158.958	1956.803
115	**In-ISK**	>	239942.204		ppb	0.863		242032.646
45	**Sc-ISK**		385182.255		ppb	2.375		410252.172
23	**Na**		12954.205	**2.603534**	ppb	1.297	1.720	12156.843
39	**K**		45068.782	**3.338656**	ppb	2.293	32.627	42897.652
24	**Mg**		806.689	**-0.325353**	ppb	5.759	50.480	930.031
159	**Tb-ISK**	>	476375.417		ppb	1.409		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 20:15:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.251
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		105753.463		ppb	2.330		104638.563
9	**Be**		38.889	**0.006826**	ppb	30.102	51.971	16.667
10	**B**		2192.391	**-0.444661**	ppb	5.914	26.880	2535.781
27	**Al**		67740.576	**0.478377**	ppb	1.179	4.079	54951.530
43	**Ca-2**		390.005	**-6.836936**	ppb	9.245	9.792	763.354
49	**Ti**		353.338	**-0.001476**	ppb	16.340	2076.259	346.671
52	**Cr**		35075.234	**-0.065713**	ppb	1.336	7.649	35756.949
55	**Mn**		3141.457	**0.014532**	ppb	4.012	26.665	2513.555
57	**Fe**		34139.635	**-0.624055**	ppb	0.749	41.835	33748.727
45	**Sc-IS**	>	5648272.839		ppb	1.367		5501984.550
66	**Zn**		3893.864	**-0.085363**	ppb	1.962	10.718	4129.486
86	**Sr**		79.586	**-0.055104**	ppb	86.011	38.677	251.799
65	**Cu**		523.343	**0.022029**	ppb	6.741	25.639	377.783
69	**Ga-IS**		1779658.355		ppb	0.133		1713094.747
95	**Mo**		996.702	**0.184661**	ppb	11.173	19.450	366.671
115	**In-IS**	>	888340.879		ppb	1.482		866460.651
111	**Cd**		39.018	**0.000924**	ppb	5.412	57.184	33.674
118	**Sn**		7081.756	**0.174133**	ppb	2.591	3.358	4427.353
121	**Sb**		987.812	**0.033081**	ppb	7.404	11.349	463.341
135	**Ba**		143.334	**-0.008552**	ppb	14.146	56.885	175.557
165	**Ho-IS**		1012770.769		ppb	0.190		1018972.043
159	**Tb-IS**	>	1051509.364		ppb	0.163		1044095.535
207	**Pb**		902.234	**0.006386**	ppb	5.384	16.438	607.783
203	**Tl**		205.557	**0.002308**	ppb	2.477	13.013	167.779
209	**Bi-IS**		515293.666		ppb	0.822		517883.976
51	**V**		5.556	**0.005752**	ppb	69.282	170.094	3.333
59	**Co**		28.889	**0.006036**	ppb	6.662	31.041	21.111
60	**Ni**		494.453	**0.077472**	ppb	20.071	61.859	325.559
75	**As**		451.015	**-0.034135**	ppb	2.403	72.014	486.505
71	**Ga-ISK**		163436.532		ppb	2.139		169708.094
82	**Se-2**		37.138	**0.176805**	ppb	18.424	51.207	23.471
107	**Ag-1**		818.913	**-0.126429**	ppb	13.417	8.419	1956.803
115	**In-ISK**	>	238453.018		ppb	2.246		242032.646
45	**Sc-ISK**		390359.304		ppb	2.607		410252.172
23	**Na**		12173.519	**1.007486**	ppb	1.793	75.718	12156.843
39	**K**		42447.414	**0.963787**	ppb	0.364	71.509	42897.652
24	**Mg**		490.009	**-1.232777**	ppb	17.704	22.650	930.031
159	**Tb-ISK**	>	468986.344		ppb	1.531		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80069-A-1-A
Autosampler Position: 413
Sample Date/Time: Tuesday, January 04, 2022 20:18:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80069-A-1-A.252
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106299.887		ppb	3.442		104638.563
9	**Be**		73.334	**0.017994**	ppb	15.746	19.022	16.667
10	**B**		857763.554	**937.645965**	ppb	2.830	1.329	2535.781
27	**Al**		7488287.249	**318.435490**	ppb	0.898	2.438	54951.530
43	**Ca-2**		377598.676	**6641.612244**	ppb	2.355	0.786	763.354
49	**Ti**		16128.012	**8.724132**	ppb	6.361	7.310	346.671
52	**Cr**		77156.727	**1.673527**	ppb	1.677	2.496	35756.949
55	**Mn**		1103446.981	**28.878467**	ppb	2.217	0.738	2513.555
57	**Fe**		383567.984	**438.536314**	ppb	1.976	2.645	33748.727
45	**Sc-IS**	>	5567885.884		ppb	1.646		5501984.550
66	**Zn**		1605705.409	**401.390702**	ppb	2.148	2.390	4129.486
86	**Sr**		172200.463	**53.878601**	ppb	0.721	1.368	251.799
65	**Cu**		254377.949	**41.893740**	ppb	2.512	3.006	377.783
69	**Ga-IS**		1755645.991		ppb	3.156		1713094.747
95	**Mo**		6561.507	**1.867291**	ppb	2.497	2.778	366.671
115	**In-IS**	>	854395.575		ppb	1.257		866460.651
111	**Cd**		6532.165	**1.383908**	ppb	2.096	2.821	33.674
118	**Sn**		10937.523	**0.467954**	ppb	3.883	4.715	4427.353
121	**Sb**		34541.724	**2.288658**	ppb	2.326	1.124	463.341
135	**Ba**		97321.541	**23.604868**	ppb	1.557	2.199	175.557
165	**Ho-IS**		995967.271		ppb	1.568		1018972.043
159	**Tb-IS**	>	1016587.343		ppb	1.113		1044095.535
207	**Pb**		376815.455	**8.567608**	ppb	1.896	2.791	607.783
203	**Tl**		183.335	**0.001316**	ppb	14.201	137.473	167.779
209	**Bi-IS**		503151.720		ppb	1.380		517883.976
51	**V**		2243.510	**5.863201**	ppb	4.263	2.767	3.333
59	**Co**		875.582	**0.661148**	ppb	1.337	2.713	21.111
60	**Ni**		16863.285	**7.610893**	ppb	2.686	1.587	325.559
75	**As**		1482.102	**1.294858**	ppb	4.737	6.436	486.505
71	**Ga-ISK**		158931.731		ppb	2.363		169708.094
82	**Se-2**		35.760	**0.174911**	ppb	36.810	93.676	23.471
107	**Ag-1**		384.450	**-0.173997**	ppb	25.075	6.551	1956.803
115	**In-ISK**	>	229271.880		ppb	1.808		242032.646
45	**Sc-ISK**		384481.364		ppb	2.273		410252.172
23	**Na**		2256543.323	**6111.938616**	ppb	2.759	1.101	12156.843
39	**K**		1164306.579	**1370.643840**	ppb	2.964	1.130	42897.652
24	**Mg**		250760.262	**736.310336**	ppb	3.663	1.712	930.031
159	**Tb-ISK**	>	475413.135		ppb	1.992		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80069-A-2-A
Autosampler Position: 414
Sample Date/Time: Tuesday, January 04, 2022 20:21:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80069-A-2-A.253
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104552.354		ppb	1.348		104638.563
9	**Be**		62.222	**0.014285**	ppb	24.744	32.962	16.667
10	**B**		128317.366	**136.701181**	ppb	2.917	1.111	2535.781
27	**Al**		5023339.324	**211.022262**	ppb	0.453	1.509	54951.530
43	**Ca-2**		552307.186	**9640.159510**	ppb	2.163	0.342	763.354
49	**Ti**		14509.589	**7.762452**	ppb	2.177	4.065	346.671
52	**Cr**		78977.763	**1.720837**	ppb	1.916	0.289	35756.949
55	**Mn**		673370.875	**17.457164**	ppb	2.938	4.014	2513.555
57	**Fe**		268705.782	**291.639489**	ppb	2.613	4.305	33748.727
45	**Sc-IS**	>	5614658.212		ppb	1.873		5501984.550
66	**Zn**		2084461.228	**517.113392**	ppb	1.754	2.877	4129.486
86	**Sr**		122512.292	**37.989351**	ppb	2.831	2.927	251.799
65	**Cu**		243391.894	**39.750012**	ppb	1.859	2.735	377.783
69	**Ga-IS**		1706016.745		ppb	1.731		1713094.747
95	**Mo**		9056.207	**2.596289**	ppb	4.593	3.726	366.671
115	**In-IS**	>	866209.754		ppb	2.424		866460.651
111	**Cd**		1251.039	**0.255959**	ppb	4.863	7.534	33.674
118	**Sn**		7081.761	**0.186354**	ppb	7.382	15.592	4427.353
121	**Sb**		36394.088	**2.380686**	ppb	1.859	2.700	463.341
135	**Ba**		89959.029	**21.521792**	ppb	0.711	2.044	175.557
165	**Ho-IS**		1013332.225		ppb	2.076		1018972.043
159	**Tb-IS**	>	1040346.987		ppb	1.555		1044095.535
207	**Pb**		172296.180	**3.820073**	ppb	1.090	0.682	607.783
203	**Tl**		173.334	**0.000408**	ppb	13.462	400.099	167.779
209	**Bi-IS**		490190.491		ppb	1.501		517883.976
51	**V**		2487.995	**6.416993**	ppb	3.824	5.902	3.333
59	**Co**		666.682	**0.492375**	ppb		2.229	21.111
60	**Ni**		10088.006	**4.432083**	ppb	1.454	3.445	325.559
75	**As**		2669.478	**2.753771**	ppb	1.766	4.736	486.505
71	**Ga-ISK**		158337.300		ppb	1.941		169708.094
82	**Se-2**		61.804	**0.503992**	ppb	21.414	31.432	23.471
107	**Ag-1**		254.447	**-0.189787**	ppb	14.490	2.500	1956.803
115	**In-ISK**	>	232596.072		ppb	2.185		242032.646
45	**Sc-ISK**		390142.800		ppb	2.825		410252.172
23	**Na**		4238805.878	**11872.766061**	ppb	2.230	0.722	12156.843
39	**K**		1859706.677	**2291.685436**	ppb	2.403	1.224	42897.652
24	**Mg**		291112.229	**882.417060**	ppb	2.310	1.832	930.031
159	**Tb-ISK**	>	460945.017		ppb	2.036		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79882-G-1-A
Autosampler Position: 416
Sample Date/Time: Tuesday, January 04, 2022 20:24:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-79882-G-1-A.254
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		182293.106		ppb	3.110		104638.563
9	**Be**		1154.491	**0.353536**	ppb	5.631	6.801	16.667
10	**B**		60438.790	**61.755410**	ppb	3.418	4.744	2535.781
27	**Al**		5534649.923	**228.530379**	ppb	0.765	1.855	54951.530
43	**Ca-2**		2559608.820	**43933.757020**	ppb	1.260	2.108	763.354
49	**Ti**		8398.039	**4.329109**	ppb	9.870	11.053	346.671
52	**Cr**		47495.492	**0.411446**	ppb	0.765	1.915	35756.949
55	**Mn**		10303139.476	**263.169812**	ppb	1.403	0.391	2513.555
57	**Fe**		169906.874	**164.806526**	ppb	1.873	2.506	33748.727
45	**Sc-IS**	>	5716856.052		ppb	1.183		5501984.550
66	**Zn**		515347.058	**124.740447**	ppb	2.270	2.422	4129.486
86	**Sr**		389565.178	**118.794276**	ppb	1.802	1.560	251.799
65	**Cu**		139111.910	**22.279473**	ppb	1.420	0.292	377.783
69	**Ga-IS**		1546039.865		ppb	1.312		1713094.747
95	**Mo**		1750.107	**0.402315**	ppb	4.293	6.463	366.671
115	**In-IS**	>	792372.854		ppb	0.970		866460.651
111	**Cd**		5112.797	**1.166599**	ppb	2.127	1.203	33.674
118	**Sn**		2701.367	**-0.103549**	ppb	7.476	13.600	4427.353
121	**Sb**		2933.635	**0.181721**	ppb	3.152	3.020	463.341
135	**Ba**		60411.923	**15.784611**	ppb	1.216	1.625	175.557
165	**Ho-IS**		992364.551		ppb	0.915		1018972.043
159	**Tb-IS**	>	983388.047		ppb	0.609		1044095.535
207	**Pb**		7579.672	**0.164913**	ppb	5.049	5.099	607.783
203	**Tl**		2087.930	**0.130167**	ppb	2.858	2.444	167.779
209	**Bi-IS**		451538.431		ppb	0.411		517883.976
51	**V**		465.563	**1.251431**	ppb	8.299	7.397	3.333
59	**Co**		6571.511	**5.238005**	ppb	1.731	4.769	21.111
60	**Ni**		24739.182	**11.623814**	ppb	1.167	3.035	325.559
75	**As**		805788.229	**1056.009290**	ppb	1.715	2.172	486.505
71	**Ga-ISK**		154522.565		ppb	2.122		169708.094
82	**Se-2**		689.729	**9.038952**	ppb	2.774	5.618	23.471
107	**Ag-1**		835.580	**-0.117216**	ppb	2.405	0.766	1956.803
115	**In-ISK**	>	221769.979		ppb	3.089		242032.646
45	**Sc-ISK**		395767.937		ppb	2.278		410252.172
23	**Na**		15427427.198	**43528.199345**	ppb	3.502	1.484	12156.843
39	**K**		21216750.645	**26830.267153**	ppb	1.963	0.554	42897.652
24	**Mg**		7083537.028	**21652.157326**	ppb	1.907	0.313	930.031
159	**Tb-ISK**	>	458424.637		ppb	2.117		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80514-A-1-A @5
Autosampler Position: 417
Sample Date/Time: Tuesday, January 04, 2022 20:27:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80514-A-1-A @5.255
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		115843.401		ppb	1.304		104638.563
9	**Be**		17.778	**0.000270**	ppb	47.186	982.215	16.667
10	**B**		92573.485	**98.460277**	ppb	1.807	1.236	2535.781
27	**Al**		3114097.330	**130.707521**	ppb	1.429	2.133	54951.530
43	**Ca-2**		806258.002	**14165.522634**	ppb	0.654	0.479	763.354
49	**Ti**		2855.841	**1.380716**	ppb	3.911	3.822	346.671
52	**Cr**		51095.663	**0.604381**	ppb	0.889	5.883	35756.949
55	**Mn**		1153009.755	**30.114843**	ppb	1.434	2.288	2513.555
57	**Fe**		95122.319	**76.236178**	ppb	0.813	1.260	33748.727
45	**Sc-IS**	>	5580679.057		ppb	0.852		5501984.550
66	**Zn**		81596.835	**19.354478**	ppb	1.218	1.356	4129.486
86	**Sr**		542468.194	**169.495665**	ppb	1.867	2.027	251.799
65	**Cu**		5534.405	**0.847607**	ppb	1.028	1.804	377.783
69	**Ga-IS**		1669779.050		ppb	1.710		1713094.747
95	**Mo**		5531.071	**1.552663**	ppb	3.119	3.837	366.671
115	**In-IS**	>	825639.606		ppb	0.951		866460.651
111	**Cd**		90.607	**0.012862**	ppb	30.892	46.984	33.674
118	**Sn**		1206.718	**-0.222013**	ppb	4.817	1.877	4427.353
121	**Sb**		4641.865	**0.291855**	ppb	2.634	1.994	463.341
135	**Ba**		106963.393	**26.851053**	ppb	0.205	1.100	175.557
165	**Ho-IS**		973131.187		ppb	0.576		1018972.043
159	**Tb-IS**	>	1011578.171		ppb	0.690		1044095.535
207	**Pb**		38736.073	**0.872862**	ppb	0.526	0.178	607.783
203	**Tl**		88.889	**-0.004831**	ppb	2.165	2.193	167.779
209	**Bi-IS**		473188.803		ppb	1.285		517883.976
51	**V**		325.559	**0.838433**	ppb	9.839	11.877	3.333
59	**Co**		985.590	**0.740892**	ppb	6.776	9.372	21.111
60	**Ni**		5230.958	**2.244543**	ppb	1.470	3.131	325.559
75	**As**		2161.920	**2.136810**	ppb	5.447	9.034	486.505
71	**Ga-ISK**		161766.715		ppb	2.644		169708.094
82	**Se-2**		114.164	**1.190616**	ppb	1.839	5.958	23.471
107	**Ag-1**		220.002	**-0.193728**	ppb	16.872	2.141	1956.803
115	**In-ISK**	>	231192.136		ppb	3.184		242032.646
45	**Sc-ISK**		399534.043		ppb	2.312		410252.172
23	**Na**		14680188.824	**40616.606714**	ppb	1.660	2.666	12156.843
39	**K**		2290746.121	**2793.421862**	ppb	1.873	1.201	42897.652
24	**Mg**		1781149.297	**5334.109048**	ppb	2.585	0.954	930.031
159	**Tb-ISK**	>	467766.034		ppb	3.059		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80514-A-1-B MS @5
Autosampler Position: 418
Sample Date/Time: Tuesday, January 04, 2022 20:30:40
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80514-A-1-B MS @5.256
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		112597.579		ppb	0.967		104638.563
9	**Be**		65262.071	**20.846349**	ppb	0.852	0.905	16.667
10	**B**		99568.059	**106.518111**	ppb	1.607	1.064	2535.781
27	**Al**		3343058.367	**141.007739**	ppb	1.084	0.507	54951.530
43	**Ca-2**		793165.395	**13987.726740**	ppb	0.961	1.457	763.354
49	**Ti**		35563.114	**19.488956**	ppb	2.184	1.890	346.671
52	**Cr**		501376.466	**19.027625**	ppb	1.383	0.663	35756.949
55	**Mn**		1766331.799	**46.337626**	ppb	1.340	1.649	2513.555
57	**Fe**		441767.978	**512.326027**	ppb	0.842	1.774	33748.727
45	**Sc-IS**	>	5560031.188		ppb	0.866		5501984.550
66	**Zn**		160802.172	**39.308683**	ppb	0.360	1.086	4129.486
86	**Sr**		570249.035	**178.857050**	ppb	2.097	2.755	251.799
65	**Cu**		118339.247	**19.480958**	ppb	0.597	1.282	377.783
69	**Ga-IS**		1656707.861		ppb	0.131		1713094.747
95	**Mo**		51957.673	**15.582691**	ppb	2.010	2.610	366.671
115	**In-IS**	>	822875.857		ppb	1.550		866460.651
111	**Cd**		90453.725	**19.990694**	ppb	1.002	1.212	33.674
118	**Sn**		199840.697	**14.467757**	ppb	2.127	0.949	4427.353
121	**Sb**		277520.901	**19.321915**	ppb	0.742	1.524	463.341
135	**Ba**		166576.767	**41.978179**	ppb	1.323	0.403	175.557
165	**Ho-IS**		992903.730		ppb	0.649		1018972.043
159	**Tb-IS**	>	997173.136		ppb	0.719		1044095.535
207	**Pb**		819774.244	**19.016004**	ppb	0.993	1.473	607.783
203	**Tl**		264175.856	**17.563808**	ppb	0.651	1.373	167.779
209	**Bi-IS**		470576.023		ppb	1.524		517883.976
51	**V**		7407.477	**19.844457**	ppb	3.183	2.143	3.333
59	**Co**		25137.660	**19.870326**	ppb	2.193	2.309	21.111
60	**Ni**		45057.638	**21.068848**	ppb	2.357	1.560	325.559
75	**As**		17571.785	**22.223276**	ppb	3.086	1.415	486.505
71	**Ga-ISK**		155080.647		ppb	1.393		169708.094
82	**Se-2**		1711.217	**22.606561**	ppb	2.851	1.236	23.471
107	**Ag-1**		58673.578	**6.897446**	ppb	0.307	1.992	1956.803
115	**In-ISK**	>	223921.031		ppb	1.757		242032.646
45	**Sc-ISK**		398264.766		ppb	2.859		410252.172
23	**Na**		14052301.674	**39731.140647**	ppb	2.736	3.417	12156.843
39	**K**		2294197.349	**2860.245349**	ppb	1.966	1.578	42897.652
24	**Mg**		1854798.578	**5676.507291**	ppb	4.017	3.142	930.031
159	**Tb-ISK**	>	457635.301		ppb	1.778		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80514-A-1-C MSD @5
Autosampler Position: 419
Sample Date/Time: Tuesday, January 04, 2022 20:33:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80514-A-1-C MSD @5.257
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		112549.405		ppb	0.556		104638.563
9	**Be**		58236.258	**18.585406**	ppb	1.630	1.335	16.667
10	**B**		101810.670	**108.887833**	ppb	3.418	3.277	2535.781
27	**Al**		3332043.450	**140.418132**	ppb	1.293	1.123	54951.530
43	**Ca-2**		802643.877	**14143.953048**	ppb	1.110	1.998	763.354
49	**Ti**		32508.064	**17.782507**	ppb	1.740	0.898	346.671
52	**Cr**		448141.780	**16.838408**	ppb	0.540	2.229	35756.949
55	**Mn**		1714015.638	**44.929956**	ppb	1.009	2.204	2513.555
57	**Fe**		610227.611	**723.418584**	ppb	0.571	1.920	33748.727
45	**Sc-IS**	>	5565039.099		ppb	1.631		5501984.550
66	**Zn**		146900.372	**35.793787**	ppb	1.065	2.539	4129.486
86	**Sr**		556160.775	**174.304647**	ppb	0.926	2.548	251.799
65	**Cu**		104095.665	**17.114045**	ppb	0.538	1.119	377.783
69	**Ga-IS**		1652129.817		ppb	0.335		1713094.747
95	**Mo**		50219.243	**15.047611**	ppb	1.756	3.388	366.671
115	**In-IS**	>	830291.655		ppb	1.657		866460.651
111	**Cd**		81930.643	**17.942346**	ppb	2.766	2.002	33.674
118	**Sn**		186388.263	**13.350350**	ppb	1.676	0.028	4427.353
121	**Sb**		246431.003	**16.999176**	ppb	1.608	1.369	463.341
135	**Ba**		170471.082	**42.583117**	ppb	0.087	1.664	175.557
165	**Ho-IS**		964504.157		ppb	0.339		1018972.043
159	**Tb-IS**	>	990595.298		ppb	1.101		1044095.535
207	**Pb**		731889.806	**17.091018**	ppb	1.551	2.616	607.783
203	**Tl**		234661.896	**15.703168**	ppb	1.492	1.158	167.779
209	**Bi-IS**		473869.445		ppb	2.795		517883.976
51	**V**		6171.334	**16.662540**	ppb	3.825	4.257	3.333
59	**Co**		21269.156	**16.943166**	ppb	1.254	3.210	21.111
60	**Ni**		40193.140	**18.924460**	ppb	1.709	1.174	325.559
75	**As**		16048.546	**20.411325**	ppb	1.183	1.564	486.505
71	**Ga-ISK**		156670.219		ppb	2.123		169708.094
82	**Se-2**		1555.235	**20.695203**	ppb	2.155	4.714	23.471
107	**Ag-1**		65305.596	**7.763230**	ppb	0.314	2.670	1956.803
115	**In-ISK**	>	222251.314		ppb	2.627		242032.646
45	**Sc-ISK**		393330.236		ppb	0.463		410252.172
23	**Na**		13339401.061	**37786.804177**	ppb	0.688	2.125	12156.843
39	**K**		2200344.809	**2746.578635**	ppb	1.326	0.820	42897.652
24	**Mg**		1816136.953	**5569.395795**	ppb	2.006	0.351	930.031
159	**Tb-ISK**	>	456758.131		ppb	1.922		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 20:36:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.258
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106959.116		ppb	2.758		104638.563
9	**Be**		23.333	**0.002056**	ppb	24.744	92.638	16.667
10	**B**		2541.338	**-0.033001**	ppb	7.215	710.153	2535.781
27	**Al**		66447.537	**0.457037**	ppb	1.631	18.399	54951.530
43	**Ca-2**		520.009	**-4.469396**	ppb	6.731	16.478	763.354
49	**Ti**		663.349	**0.171808**	ppb	6.093	13.890	346.671
52	**Cr**		39575.868	**0.133874**	ppb	1.971	1.384	35756.949
55	**Mn**		3566.001	**0.026618**	ppb	3.593	19.308	2513.555
57	**Fe**		50227.040	**19.999238**	ppb	1.273	4.110	33748.727
45	**Sc-IS**	>	5583716.785		ppb	1.857		5501984.550
66	**Zn**		4190.616	**-0.000403**	ppb	6.047	12474.331	4129.486
86	**Sr**		185.693	**-0.021879**	ppb	9.895	21.556	251.799
65	**Cu**		597.790	**0.035373**	ppb	9.567	31.050	377.783
69	**Ga-IS**		1704607.566		ppb	0.619		1713094.747
95	**Mo**		3854.965	**1.048114**	ppb	2.942	5.221	366.671
115	**In-IS**	>	843194.975		ppb	1.369		866460.651
111	**Cd**		25.238	**-0.001643**	ppb	45.730	148.872	33.674
118	**Sn**		21383.806	**1.231770**	ppb	5.839	5.655	4427.353
121	**Sb**		2451.321	**0.136110**	ppb	2.567	2.288	463.341
135	**Ba**		167.779	**-0.000652**	ppb	25.853	1723.301	175.557
165	**Ho-IS**		978982.235		ppb	3.506		1018972.043
159	**Tb-IS**	>	1002843.483		ppb	1.443		1044095.535
207	**Pb**		1740.040	**0.026688**	ppb	2.323	2.872	607.783
203	**Tl**		185.557	**0.001604**	ppb	10.526	70.116	167.779
209	**Bi-IS**		511924.654		ppb	2.139		517883.976
51	**V**		22.222	**0.047908**	ppb	22.913	25.169	3.333
59	**Co**		27.778	**0.005361**	ppb	18.330	77.035	21.111
60	**Ni**		356.671	**0.016910**	ppb	3.370	29.850	325.559
75	**As**		535.325	**0.072890**	ppb	4.526	53.387	486.505
71	**Ga-ISK**		161966.666		ppb	2.397		169708.094
82	**Se-2**		29.148	**0.079352**	ppb	28.093	137.282	23.471
107	**Ag-1**		1105.599	**-0.092792**	ppb	11.841	16.619	1956.803
115	**In-ISK**	>	236922.584		ppb	1.825		242032.646
45	**Sc-ISK**		396289.297		ppb	1.881		410252.172
23	**Na**		17742.684	**17.011246**	ppb	2.933	9.728	12156.843
39	**K**		44952.859	**4.779094**	ppb	2.110	28.779	42897.652
24	**Mg**		1290.059	**1.205488**	ppb	13.433	44.337	930.031
159	**Tb-ISK**	>	463033.199		ppb	0.667		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 20:40:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.259
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108499.575		ppb	2.839		104638.563
9	**Be**		20.000	**0.001067**	ppb	50.000	298.977	16.667
10	**B**		2329.079	**-0.231116**	ppb	5.195	78.803	2535.781
27	**Al**		66245.602	**0.485729**	ppb	1.641	13.375	54951.530
43	**Ca-2**		405.006	**-6.395982**	ppb	15.019	17.797	763.354
49	**Ti**		570.011	**0.124267**	ppb	6.077	11.048	346.671
52	**Cr**		38153.112	**0.096661**	ppb	1.729	4.523	35756.949
55	**Mn**		3205.917	**0.018200**	ppb	7.543	28.076	2513.555
57	**Fe**		39187.034	**6.826232**	ppb	2.797	10.379	33748.727
45	**Sc-IS**	>	5510351.320		ppb	1.811		5501984.550
66	**Zn**		4196.172	**0.015567**	ppb	3.345	267.470	4129.486
86	**Sr**		117.415	**-0.042642**	ppb	8.291	7.903	251.799
65	**Cu**		451.118	**0.012239**	ppb	11.550	82.059	377.783
69	**Ga-IS**		1735370.586		ppb	1.553		1713094.747
95	**Mo**		923.363	**0.169454**	ppb	8.256	12.917	366.671
115	**In-IS**	>	859410.403		ppb	2.121		866460.651
111	**Cd**		23.617	**-0.002064**	ppb	42.451	102.846	33.674
118	**Sn**		8743.789	**0.308469**	ppb	4.282	10.262	4427.353
121	**Sb**		844.469	**0.025699**	ppb	4.775	9.763	463.341
135	**Ba**		136.667	**-0.009134**	ppb	23.521	79.449	175.557
165	**Ho-IS**		989752.419		ppb	1.190		1018972.043
159	**Tb-IS**	>	1017309.089		ppb	1.449		1044095.535
207	**Pb**		728.896	**0.003112**	ppb	0.699	4.488	607.783
203	**Tl**		106.667	**-0.003704**	ppb	6.250	11.256	167.779
209	**Bi-IS**		508068.719		ppb	1.165		517883.976
51	**V**		8.889	**0.014317**	ppb	21.651	33.530	3.333
59	**Co**		20.000	**-0.000435**	ppb	33.333	1168.583	21.111
60	**Ni**		367.783	**0.022397**	ppb	2.914	10.360	325.559
75	**As**		450.950	**-0.028944**	ppb	8.191	164.008	486.505
71	**Ga-ISK**		162316.014		ppb	1.852		169708.094
82	**Se-2**		23.114	**0.003321**	ppb	32.933	2999.000	23.471
107	**Ag-1**		758.909	**-0.132233**	ppb	6.155	4.394	1956.803
115	**In-ISK**	>	236091.850		ppb	1.490		242032.646
45	**Sc-ISK**		394459.592		ppb	1.813		410252.172
23	**Na**		12105.127	**0.843795**	ppb	0.744	82.623	12156.843
39	**K**		44412.267	**3.435626**	ppb	1.002	26.534	42897.652
24	**Mg**		558.345	**-1.026371**	ppb	26.328	44.762	930.031
159	**Tb-ISK**	>	468654.789		ppb	1.339		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 20:43:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.260
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		110667.057		ppb	1.451		104638.563
9	**Be**		11.111	**-0.001830**	ppb	62.450	121.457	16.667
10	**B**		2122.380	**-0.481351**	ppb	5.018	19.104	2535.781
27	**Al**		66192.468	**0.460848**	ppb	3.695	25.153	54951.530
43	**Ca-2**		375.005	**-6.990443**	ppb	9.333	8.632	763.354
49	**Ti**		550.011	**0.110918**	ppb	8.154	23.249	346.671
52	**Cr**		36977.797	**0.036366**	ppb	0.537	63.843	35756.949
55	**Mn**		3014.763	**0.012545**	ppb	3.608	16.017	2513.555
57	**Fe**		36964.438	**3.645028**	ppb	1.782	16.067	33748.727
45	**Sc-IS**	>	5553782.148		ppb	1.063		5501984.550
66	**Zn**		4082.806	**-0.021428**	ppb	0.741	56.087	4129.486
86	**Sr**		72.857	**-0.056995**	ppb	53.629	21.388	251.799
65	**Cu**		396.672	**0.002572**	ppb	9.691	267.349	377.783
69	**Ga-IS**		1699763.692		ppb	2.580		1713094.747
95	**Mo**		506.676	**0.041400**	ppb	9.211	37.792	366.671
115	**In-IS**	>	842739.754		ppb	1.480		866460.651
111	**Cd**		16.714	**-0.003460**	ppb	30.443	31.842	33.674
118	**Sn**		5945.686	**0.118322**	ppb	7.218	24.333	4427.353
121	**Sb**		583.345	**0.009012**	ppb	8.000	29.949	463.341
135	**Ba**		121.112	**-0.012201**	ppb	10.420	27.868	175.557
165	**Ho-IS**		985438.876		ppb	1.731		1018972.043
159	**Tb-IS**	>	1009948.785		ppb	0.710		1044095.535
207	**Pb**		571.116	**-0.000388**	ppb	6.403	195.208	607.783
203	**Tl**		93.334	**-0.004528**	ppb	9.449	12.966	167.779
209	**Bi-IS**		503071.835		ppb	1.742		517883.976
51	**V**		7.778	**0.012168**	ppb	98.974	166.908	3.333
59	**Co**		16.667	**-0.002593**	ppb	20.000	91.193	21.111
60	**Ni**		364.449	**0.025931**	ppb	8.299	58.994	325.559
75	**As**		477.383	**0.020785**	ppb	11.307	299.226	486.505
71	**Ga-ISK**		160022.740		ppb	2.496		169708.094
82	**Se-2**		24.158	**0.024785**	ppb	16.710	190.491	23.471
107	**Ag-1**		608.902	**-0.147461**	ppb	11.237	4.814	1956.803
115	**In-ISK**	>	229173.666		ppb	1.677		242032.646
45	**Sc-ISK**		383695.554		ppb	1.788		410252.172
23	**Na**		10917.506	**-2.181418**	ppb	3.197	71.163	12156.843
39	**K**		42986.803	**2.100036**	ppb	0.755	39.450	42897.652
24	**Mg**		351.671	**-1.640178**	ppb	5.383	2.511	930.031
159	**Tb-ISK**	>	464934.046		ppb	2.104		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 20:46:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.261
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106550.362		ppb	1.225		104638.563
9	**Be**		11.111	**-0.001828**	ppb	75.498	146.546	16.667
10	**B**		2065.705	**-0.535330**	ppb	1.222	9.591	2535.781
27	**Al**		66024.604	**0.462301**	ppb	2.197	9.964	54951.530
43	**Ca-2**		320.004	**-7.942323**	ppb	5.413	4.126	763.354
49	**Ti**		505.565	**0.087136**	ppb	13.389	42.891	346.671
52	**Cr**		36917.643	**0.038695**	ppb	0.967	45.982	35756.949
55	**Mn**		3063.662	**0.014125**	ppb	2.573	20.648	2513.555
57	**Fe**		36410.822	**3.105984**	ppb	3.372	59.630	33748.727
45	**Sc-IS**	>	5536015.780		ppb	1.247		5501984.550
66	**Zn**		4162.829	**0.002236**	ppb	2.686	1724.418	4129.486
86	**Sr**		101.871	**-0.047664**	ppb	25.044	17.777	251.799
65	**Cu**		401.117	**0.003444**	ppb	8.886	149.123	377.783
69	**Ga-IS**		1723340.476		ppb	1.869		1713094.747
95	**Mo**		321.115	**-0.014499**	ppb	13.144	88.294	366.671
115	**In-IS**	>	847767.139		ppb	1.776		866460.651
111	**Cd**		12.659	**-0.004382**	ppb	90.995	54.776	33.674
118	**Sn**		4773.022	**0.031622**	ppb	7.558	77.269	4427.353
121	**Sb**		462.230	**0.000621**	ppb	3.557	264.500	463.341
135	**Ba**		105.556	**-0.016230**	ppb	13.147	19.442	175.557
165	**Ho-IS**		984354.105		ppb	0.811		1018972.043
159	**Tb-IS**	>	1004678.599		ppb	0.437		1044095.535
207	**Pb**		550.004	**-0.000800**	ppb	6.989	117.289	607.783
203	**Tl**		76.667	**-0.005596**	ppb	34.783	31.483	167.779
209	**Bi-IS**		498891.439		ppb	1.864		517883.976
51	**V**		5.556	**0.005846**	ppb	91.652	220.302	3.333
59	**Co**		13.333	**-0.005326**	ppb	50.000	97.118	21.111
60	**Ni**		373.338	**0.026270**	ppb	10.062	71.924	325.559
75	**As**		455.225	**-0.019992**	ppb	6.354	143.623	486.505
71	**Ga-ISK**		159767.815		ppb	2.901		169708.094
82	**Se-2**		33.828	**0.140897**	ppb	31.272	91.740	23.471
107	**Ag-1**		483.342	**-0.163556**	ppb	7.954	2.603	1956.803
115	**In-ISK**	>	234394.235		ppb	1.392		242032.646
45	**Sc-ISK**		384128.802		ppb	2.320		410252.172
23	**Na**		10103.572	**-4.422863**	ppb	1.545	9.900	12156.843
39	**K**		42981.234	**2.166835**	ppb	1.215	16.143	42897.652
24	**Mg**		315.004	**-1.747513**	ppb	15.308	9.054	930.031
159	**Tb-ISK**	>	464231.781		ppb	1.763		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 20:49:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.262
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		101709.870		ppb	2.849		104638.563
9	**Be**		322394.199	**106.024765**	ppb	2.446	1.989	16.667
10	**B**		233422.191	**261.038909**	ppb	2.266	1.944	2535.781
27	**Al**		2447622.540	**105.688921**	ppb	1.520	1.172	54951.530
43	**Ca-2**		281294.725	**5097.424147**	ppb	1.864	1.123	763.354
49	**Ti**		179822.764	**102.267196**	ppb	2.004	2.265	346.671
52	**Cr**		2536958.813	**105.344441**	ppb	0.984	1.744	35756.949
55	**Mn**		3830578.324	**103.531580**	ppb	0.744	1.485	2513.555
57	**Fe**		4124857.351	**5293.245168**	ppb	0.176	0.892	33748.727
45	**Sc-IS**	>	5401114.631		ppb	0.747		5501984.550
66	**Zn**		407901.972	**104.334963**	ppb	1.160	1.651	4129.486
86	**Sr**		321071.820	**103.616261**	ppb	1.343	0.604	251.799
65	**Cu**		632452.627	**107.461528**	ppb	0.666	1.409	377.783
69	**Ga-IS**		1732343.729		ppb	1.261		1713094.747
95	**Mo**		337593.050	**104.856666**	ppb	1.668	1.925	366.671
115	**In-IS**	>	849711.700		ppb	1.387		866460.651
111	**Cd**		479460.431	**102.643693**	ppb	1.280	1.419	33.674
118	**Sn**		1409570.137	**100.646292**	ppb	1.013	0.534	4427.353
121	**Sb**		1501221.352	**101.351598**	ppb	0.798	1.920	463.341
135	**Ba**		414808.032	**101.295543**	ppb	1.446	1.457	175.557
165	**Ho-IS**		994128.872		ppb	1.168		1018972.043
159	**Tb-IS**	>	1018385.356		ppb	0.800		1044095.535
207	**Pb**		4419213.199	**100.435533**	ppb	0.775	1.523	607.783
203	**Tl**		1496477.016	**97.467918**	ppb	1.631	1.841	167.779
209	**Bi-IS**		489010.155		ppb	0.751		517883.976
51	**V**		39019.895	**104.103781**	ppb	1.800	3.046	3.333
59	**Co**		130826.567	**102.987877**	ppb	2.526	3.081	21.111
60	**Ni**		213363.074	**99.809987**	ppb	2.059	0.353	325.559
75	**As**		78845.008	**101.262580**	ppb	2.853	1.107	486.505
71	**Ga-ISK**		155693.131		ppb	2.773		169708.094
82	**Se-2**		7722.255	**102.553763**	ppb	1.617	0.236	23.471
107	**Ag-1**		851070.847	**102.480679**	ppb	2.759	1.025	1956.803
115	**In-ISK**	>	225006.898		ppb	1.773		242032.646
45	**Sc-ISK**		373009.814		ppb	2.995		410252.172
23	**Na**		1776446.343	**4976.137968**	ppb	1.282	0.558	12156.843
39	**K**		4125556.324	**5166.658554**	ppb	1.627	0.578	42897.652
24	**Mg**		1652857.258	**5041.843727**	ppb	1.933	1.634	930.031
159	**Tb-ISK**	>	459172.602		ppb	1.137		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 20:52:40
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.263
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100202.523		ppb	2.176		104638.563
9	**Be**		63.333	**0.015634**	ppb	22.942	29.704	16.667
10	**B**		2421.316	**-0.049092**	ppb	1.386	89.661	2535.781
27	**Al**		50206.069	**-0.142205**	ppb	0.462	38.133	54951.530
43	**Ca-2**		398.339	**-6.283206**	ppb	19.860	25.801	763.354
49	**Ti**		415.562	**0.045289**	ppb	0.463	8.978	346.671
52	**Cr**		32344.353	**-0.102035**	ppb	0.762	34.233	35756.949
55	**Mn**		2874.734	**0.011802**	ppb	1.544	11.656	2513.555
57	**Fe**		32446.808	**-0.448297**	ppb	0.937	278.450	33748.727
45	**Sc-IS**	>	5347841.566		ppb	2.134		5501984.550
66	**Zn**		4048.351	**0.009472**	ppb	1.456	361.117	4129.486
86	**Sr**		102.970	**-0.046380**	ppb	33.451	23.132	251.799
65	**Cu**		543.344	**0.030334**	ppb	4.908	21.571	377.783
69	**Ga-IS**		1685257.311		ppb	1.233		1713094.747
95	**Mo**		1894.571	**0.483807**	ppb	8.820	13.087	366.671
115	**In-IS**	>	860785.897		ppb	0.726		866460.651
111	**Cd**		97.133	**0.013476**	ppb	19.039	29.941	33.674
118	**Sn**		10652.862	**0.442228**	ppb	3.383	6.088	4427.353
121	**Sb**		1168.937	**0.047267**	ppb	8.717	15.489	463.341
135	**Ba**		140.001	**-0.008308**	ppb	10.378	40.184	175.557
165	**Ho-IS**		984170.977		ppb	0.804		1018972.043
159	**Tb-IS**	>	1010519.449		ppb	1.915		1044095.535
207	**Pb**		1298.912	**0.016296**	ppb	5.775	12.493	607.783
203	**Tl**		350.004	**0.012315**	ppb	4.151	6.643	167.779
209	**Bi-IS**		496898.792		ppb	0.712		517883.976
51	**V**		11.111	**0.021186**	ppb	45.826	64.593	3.333
59	**Co**		24.444	**0.003661**	ppb	15.746	85.926	21.111
60	**Ni**		381.116	**0.035506**	ppb	12.255	65.369	325.559
75	**As**		550.908	**0.121926**	ppb	5.721	33.316	486.505
71	**Ga-ISK**		156688.081		ppb	1.600		169708.094
82	**Se-2**		36.177	**0.187379**	ppb	4.173	8.427	23.471
107	**Ag-1**		1890.125	**0.006876**	ppb	5.133	196.289	1956.803
115	**In-ISK**	>	226762.964		ppb	0.863		242032.646
45	**Sc-ISK**		368693.165		ppb	2.991		410252.172
23	**Na**		11136.007	**-1.031534**	ppb	2.617	64.696	12156.843
39	**K**		44229.476	**4.647849**	ppb	0.711	12.450	42897.652
24	**Mg**		686.683	**-0.592010**	ppb	2.943	13.343	930.031
159	**Tb-ISK**	>	456648.390		ppb	1.257		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 20:55:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.264
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		101264.341		ppb	1.232		104638.563
9	**Be**		34.444	**0.005800**	ppb	55.873	106.509	16.667
10	**B**		2069.039	**-0.501449**	ppb	5.716	22.927	2535.781
27	**Al**		65805.239	**0.491959**	ppb	1.615	13.556	54951.530
43	**Ca-2**		376.672	**-6.847911**	ppb	1.533	0.475	763.354
49	**Ti**		444.451	**0.056535**	ppb	0.866	0.863	346.671
52	**Cr**		33872.345	**-0.067587**	ppb	2.232	32.254	35756.949
55	**Mn**		3034.767	**0.014449**	ppb	2.891	19.995	2513.555
57	**Fe**		32617.195	**-1.124492**	ppb	0.896	70.798	33748.727
45	**Sc-IS**	>	5461513.338		ppb	1.057		5501984.550
66	**Zn**		3708.259	**-0.099770**	ppb	0.495	12.692	4129.486
86	**Sr**		77.913	**-0.054950**	ppb	9.877	4.395	251.799
65	**Cu**		451.118	**0.012830**	ppb	11.117	68.675	377.783
69	**Ga-IS**		1692345.720		ppb	1.258		1713094.747
95	**Mo**		786.689	**0.130131**	ppb	11.612	22.981	366.671
115	**In-IS**	>	849587.362		ppb	0.642		866460.651
111	**Cd**		37.237	**0.000919**	ppb	58.034	508.717	33.674
118	**Sn**		6801.623	**0.176215**	ppb	6.556	17.698	4427.353
121	**Sb**		667.793	**0.014414**	ppb	2.749	7.570	463.341
135	**Ba**		158.890	**-0.003218**	ppb	19.036	234.716	175.557
165	**Ho-IS**		986185.891		ppb	0.632		1018972.043
159	**Tb-IS**	>	1018026.398		ppb	1.437		1044095.535
207	**Pb**		758.897	**0.003777**	ppb	3.986	11.770	607.783
203	**Tl**		147.779	**-0.001034**	ppb	14.502	131.315	167.779
209	**Bi-IS**		501995.720		ppb	0.660		517883.976
51	**V**		6.667	**0.009078**	ppb	50.000	92.049	3.333
59	**Co**		34.444	**0.011183**	ppb	5.587	9.557	21.111
60	**Ni**		431.118	**0.056714**	ppb	8.482	30.236	325.559
75	**As**		513.166	**0.067815**	ppb	4.969	69.881	486.505
71	**Ga-ISK**		159680.837		ppb	0.769		169708.094
82	**Se-2**		29.762	**0.100455**	ppb	37.104	151.453	23.471
107	**Ag-1**		717.796	**-0.134485**	ppb	8.717	4.450	1956.803
115	**In-ISK**	>	229003.079		ppb	2.331		242032.646
45	**Sc-ISK**		379509.848		ppb	1.262		410252.172
23	**Na**		10483.846	**-3.727117**	ppb	1.538	19.902	12156.843
39	**K**		42995.725	**1.506125**	ppb	1.447	34.259	42897.652
24	**Mg**		423.340	**-1.438956**	ppb	8.706	6.109	930.031
159	**Tb-ISK**	>	470183.076		ppb	2.095		482748.349

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, January 04, 2022 20:59:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICIS-1479530.265
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100902.908		ppb	1.230		
9	**Be**		14.444		ppb	48.038		
10	**B**		1904.572		ppb	4.967		
27	**Al**		52396.591		ppb	1.331		
43	**Ca-2**		296.670		ppb	23.007		
49	**Ti**		381.116		ppb	10.544		
52	**Cr**		33054.880		ppb	2.469		
55	**Mn**		2280.182		ppb	0.637		
57	**Fe**		31648.354		ppb	1.125		
45	**Sc-IS**	>	5450048.085		ppb	1.302		
66	**Zn**		3986.112		ppb	4.883		
86	**Sr**		38.437		ppb	24.006		
65	**Cu**		353.338		ppb	12.045		
69	**Ga-IS**		1687700.429		ppb	0.910		
95	**Mo**		325.559		ppb	6.256		
115	**In-IS**	>	855705.279		ppb	0.275		
111	**Cd**		32.650		ppb	20.376		
118	**Sn**		4025.013		ppb	6.623		
121	**Sb**		407.784		ppb	5.192		
135	**Ba**		130.001		ppb	2.564		
165	**Ho-IS**		967807.469		ppb	1.027		
159	**Tb-IS**	>	1008563.240		ppb	0.569		
207	**Pb**		534.448		ppb	5.041		
203	**Tl**		93.334		ppb	21.724		
209	**Bi-IS**		492373.482		ppb	1.987		
51	**V**		1.111		ppb	173.205		
59	**Co**		12.222		ppb	15.746		
60	**Ni**		285.558		ppb	5.517		
75	**As**		469.196		ppb	4.619		
71	**Ga-ISK**		155322.280		ppb	2.116		
82	**Se-2**		24.138		ppb	35.344		
107	**Ag-1**		410.006		ppb	17.719		
115	**In-ISK**	>	225667.882		ppb	2.697		
45	**Sc-ISK**		370778.674		ppb	2.520		
23	**Na**		9775.012		ppb	2.790		
39	**K**		42155.440		ppb	0.431		
24	**Mg**		241.669		ppb	4.307		
159	**Tb-ISK**	>	455651.172		ppb	2.663		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Tuesday, January 04, 2022 21:02:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\IC-2235387.266
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		98373.113		ppb	0.826		100902.908
9	**Be**		623713.322	**200.000000**	ppb	1.879	0.388	14.444
10	**B**		454024.117	**500.000000**	ppb	2.163	1.379	1904.572
27	**Al**		4661336.883	**200.000000**	ppb	0.698	2.175	52396.591
43	**Ca-2**		558965.966	**10200.000000**	ppb	1.690	0.302	296.670
49	**Ti**		353488.298	**200.000000**	ppb	1.433	1.105	381.116
52	**Cr**		4914398.334	**200.000000**	ppb	1.015	1.324	33054.880
55	**Mn**		7539758.968	**200.000000**	ppb	1.271	1.283	2280.182
57	**Fe**		7985491.952	**10200.000000**	ppb	1.153	1.594	31648.354
45	**Sc-IS**	>	5391732.392		ppb	1.559		5450048.085
66	**Zn**		786315.771	**200.000000**	ppb	0.725	0.881	3986.112
86	**Sr**		624773.305	**200.000000**	ppb	4.116	3.224	38.437
65	**Cu**		1209965.960	**200.000000**	ppb	0.729	0.860	353.338
69	**Ga-IS**		1788347.283		ppb	1.116		1687700.429
95	**Mo**		661187.017	**200.000000**	ppb	1.072	0.509	325.559
115	**In-IS**	>	832812.015		ppb	1.603		855705.279
111	**Cd**		936236.749	**200.000000**	ppb	0.643	1.396	32.650
118	**Sn**		2803205.760	**200.000000**	ppb	2.128	1.360	4025.013
121	**Sb**		2995100.274	**200.000000**	ppb	0.927	0.718	407.784
135	**Ba**		814018.489	**200.000000**	ppb	1.795	2.538	130.001
165	**Ho-IS**		965197.269		ppb	1.487		967807.469
159	**Tb-IS**	>	987645.689		ppb	1.112		1008563.240
207	**Pb**		8512044.742	**200.000000**	ppb	0.787	1.520	534.448
203	**Tl**		2952566.913	**200.000000**	ppb	1.340	0.248	93.334
209	**Bi-IS**		469819.757		ppb	0.753		492373.482
51	**V**		77128.764	**200.000000**	ppb	0.512	1.319	1.111
59	**Co**		257208.304	**200.000000**	ppb	1.049	2.161	12.222
60	**Ni**		413653.099	**200.000000**	ppb	1.505	0.699	285.558
75	**As**		154596.044	**200.000000**	ppb	0.992	0.673	469.196
71	**Ga-ISK**		152623.285		ppb	1.433		155322.280
82	**Se-2**		14638.654	**200.000000**	ppb	1.770	1.047	24.138
107	**Ag-1**		1639150.213	**200.000000**	ppb	2.177	1.491	410.006
115	**In-ISK**	>	221544.168		ppb	1.169		225667.882
45	**Sc-ISK**		372458.947		ppb	2.256		370778.674
23	**Na**		3398069.080	**10200.000000**	ppb	2.765	2.495	9775.012
39	**K**		7783414.737	**10200.000000**	ppb	3.130	1.518	42155.440
24	**Mg**		3209229.111	**10200.000000**	ppb	1.875	0.886	241.669
159	**Tb-ISK**	>	450450.007		ppb	1.641		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 21:05:16
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.267
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97424.423		ppb	0.848		100902.908
9	**Be**		315198.698	**99.193064**	ppb	1.483	1.160	14.444
10	**B**		230488.058	**248.100004**	ppb	1.403	2.311	1904.572
27	**Al**		2402966.423	**100.061989**	ppb	0.762	1.709	52396.591
43	**Ca-2**		285726.026	**5114.521849**	ppb	1.217	1.270	296.670
49	**Ti**		180989.507	**100.406041**	ppb	1.722	2.850	381.116
52	**Cr**		2552885.222	**101.320504**	ppb	1.950	3.274	33054.880
55	**Mn**		3877597.254	**100.924576**	ppb	1.104	2.384	2280.182
57	**Fe**		4151236.686	**5183.589168**	ppb	0.989	0.627	31648.354
45	**Sc-IS**	>	5494043.062		ppb	1.295		5450048.085
66	**Zn**		412508.783	**102.484377**	ppb	0.350	1.653	3986.112
86	**Sr**		316978.949	**99.601832**	ppb	2.436	2.905	38.437
65	**Cu**		634947.564	**102.981506**	ppb	1.332	2.447	353.338
69	**Ga-IS**		1744879.334		ppb	0.893		1687700.429
95	**Mo**		339958.601	**100.877704**	ppb	2.102	2.590	325.559
115	**In-IS**	>	866409.144		ppb	1.861		855705.279
111	**Cd**		486480.790	**99.879854**	ppb	2.428	1.898	32.650
118	**Sn**		1440885.171	**98.688417**	ppb	1.431	1.617	4025.013
121	**Sb**		1522552.557	**97.727180**	ppb	0.916	1.936	407.784
135	**Ba**		422411.565	**99.734881**	ppb	1.399	1.188	130.001
165	**Ho-IS**		987616.517		ppb	1.603		967807.469
159	**Tb-IS**	>	1019503.268		ppb	1.638		1008563.240
207	**Pb**		4343195.243	**98.880646**	ppb	1.773	3.436	534.448
203	**Tl**		1481972.185	**97.274686**	ppb	1.209	2.709	93.334
209	**Bi-IS**		478750.165		ppb	0.779		492373.482
51	**V**		38829.366	**98.352278**	ppb	0.364	0.350	1.111
59	**Co**		130500.093	**99.111569**	ppb	1.398	1.456	12.222
60	**Ni**		211820.063	**99.983978**	ppb	1.159	1.154	285.558
75	**As**		79505.511	**100.181123**	ppb	2.485	2.478	469.196
71	**Ga-ISK**		153639.748		ppb	1.957		155322.280
82	**Se-2**		7782.599	**103.721953**	ppb	1.467	1.502	24.138
107	**Ag-1**		842379.339	**100.389406**	ppb	0.215	0.169	410.006
115	**In-ISK**	>	226778.708		ppb	0.069		225667.882
45	**Sc-ISK**		371316.694		ppb	2.431		370778.674
23	**Na**		1737500.904	**5070.672180**	ppb	1.277	2.227	9775.012
39	**K**		4079282.049	**5186.726837**	ppb	1.684	2.676	42155.440
24	**Mg**		1641353.440	**5086.739446**	ppb	1.555	2.803	241.669
159	**Tb-ISK**	>	462038.284		ppb	1.252		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 21:08:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.268
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97221.086		ppb	3.572		100902.908
9	**Be**		104.445	**0.028972**	ppb	21.724	22.953	14.444
10	**B**		2764.712	**0.986071**	ppb	3.489	8.052	1904.572
27	**Al**		50238.182	**-0.059658**	ppb	0.505	92.093	52396.591
43	**Ca-2**		346.671	**1.003056**	ppb	5.461	46.898	296.670
49	**Ti**		416.673	**0.023680**	ppb	8.119	97.018	381.116
52	**Cr**		33149.567	**0.023643**	ppb	3.939	130.725	33054.880
55	**Mn**		3188.135	**0.025023**	ppb	7.499	18.643	2280.182
57	**Fe**		31882.207	**0.909291**	ppb	1.203	82.442	31648.354
45	**Sc-IS**	>	5369782.639		ppb	2.029		5450048.085
66	**Zn**		3996.115	**0.017977**	ppb	3.869	263.211	3986.112
86	**Sr**		140.811	**0.033257**	ppb	31.343	44.408	38.437
65	**Cu**		633.347	**0.047280**	ppb	11.090	22.097	353.338
69	**Ga-IS**		1683669.000		ppb	3.368		1687700.429
95	**Mo**		2364.640	**0.621472**	ppb	3.025	5.559	325.559
115	**In-IS**	>	862867.682		ppb	0.659		855705.279
111	**Cd**		155.035	**0.025182**	ppb	9.307	12.245	32.650
118	**Sn**		12702.312	**0.596108**	ppb	1.049	2.408	4025.013
121	**Sb**		1486.744	**0.069336**	ppb	2.810	4.728	407.784
135	**Ba**		194.446	**0.015021**	ppb	1.979	4.099	130.001
165	**Ho-IS**		964475.368		ppb	1.496		967807.469
159	**Tb-IS**	>	997651.110		ppb	0.926		1008563.240
207	**Pb**		1828.936	**0.030210**	ppb	14.106	18.479	534.448
203	**Tl**		634.459	**0.036308**	ppb	19.478	21.650	93.334
209	**Bi-IS**		493601.733		ppb	0.561		492373.482
51	**V**		14.444	**0.033098**	ppb	35.251	37.155	1.111
59	**Co**		76.667	**0.048001**	ppb	11.503	14.309	12.222
60	**Ni**		397.783	**0.049305**	ppb	10.102	34.898	285.558
75	**As**		522.068	**0.053300**	ppb	7.332	77.222	469.196
71	**Ga-ISK**		153931.903		ppb	2.552		155322.280
82	**Se-2**		30.778	**0.080406**	ppb	11.708	54.847	24.138
107	**Ag-1**		2161.275	**0.204436**	ppb	3.508	3.390	410.006
115	**In-ISK**	>	230443.293		ppb	0.985		225667.882
45	**Sc-ISK**		362380.052		ppb	2.941		370778.674
23	**Na**		11681.441	**5.257033**	ppb	1.147	11.496	9775.012
39	**K**		45610.482	**3.793190**	ppb	1.411	36.394	42155.440
24	**Mg**		1051.706	**2.507446**	ppb	7.371	10.985	241.669
159	**Tb-ISK**	>	461216.137		ppb	1.063		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 21:11:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.269
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97535.276		ppb	2.293		100902.908
9	**Be**		54.445	**0.012988**	ppb	12.745	18.177	14.444
10	**B**		2183.500	**0.344323**	ppb	4.964	31.464	1904.572
27	**Al**		64783.243	**0.577794**	ppb	1.355	9.363	52396.591
43	**Ca-2**		390.005	**1.810737**	ppb	14.786	63.145	296.670
49	**Ti**		374.449	**-0.000201**	ppb	11.272	12313.975	381.116
52	**Cr**		32163.951	**-0.014559**	ppb	1.559	109.965	33054.880
55	**Mn**		3237.035	**0.026560**	ppb	6.829	24.978	2280.182
57	**Fe**		31166.193	**0.051846**	ppb	2.275	2651.533	31648.354
45	**Sc-IS**	>	5361485.303		ppb	1.143		5450048.085
66	**Zn**		3804.952	**-0.029826**	ppb	3.523	122.335	3986.112
86	**Sr**		69.548	**0.010171**	ppb	50.325	109.982	38.437
65	**Cu**		468.897	**0.020200**	ppb	9.600	38.984	353.338
69	**Ga-IS**		1698860.016		ppb	1.356		1687700.429
95	**Mo**		1045.594	**0.220731**	ppb	3.844	5.200	325.559
115	**In-IS**	>	864313.357		ppb	1.771		855705.279
111	**Cd**		66.693	**0.006908**	ppb	27.652	52.078	32.650
118	**Sn**		8250.163	**0.288479**	ppb	4.549	12.158	4025.013
121	**Sb**		831.135	**0.027033**	ppb	9.778	22.081	407.784
135	**Ba**		180.001	**0.011547**	ppb	4.900	21.877	130.001
165	**Ho-IS**		999417.810		ppb	0.200		967807.469
159	**Tb-IS**	>	1025235.810		ppb	0.353		1008563.240
207	**Pb**		1018.903	**0.010766**	ppb	1.239	3.347	534.448
203	**Tl**		278.892	**0.012007**	ppb	5.390	7.826	93.334
209	**Bi-IS**		493204.177		ppb	1.697		492373.482
51	**V**		6.667	**0.013583**	ppb	132.288	159.922	1.111
59	**Co**		27.778	**0.011195**	ppb	42.143	76.447	12.222
60	**Ni**		486.675	**0.088522**	ppb	9.491	24.965	285.558
75	**As**		529.597	**0.056194**	ppb	8.609	96.061	469.196
71	**Ga-ISK**		155580.693		ppb	2.384		155322.280
82	**Se-2**		29.825	**0.063933**	ppb	27.625	165.988	24.138
107	**Ag-1**		866.693	**0.051528**	ppb	5.744	10.230	410.006
115	**In-ISK**	>	232782.185		ppb	0.569		225667.882
45	**Sc-ISK**		373454.012		ppb	0.441		370778.674
23	**Na**		10932.515	**3.052404**	ppb	0.806	5.485	9775.012
39	**K**		43168.460	**0.646478**	ppb	0.701	137.547	42155.440
24	**Mg**		500.009	**0.791966**	ppb	12.125	22.213	241.669
159	**Tb-ISK**	>	461215.979		ppb	0.898		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80515-A-1-A @5
Autosampler Position: 420
Sample Date/Time: Tuesday, January 04, 2022 21:14:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80515-A-1-A @5.270
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		110698.372		ppb	0.872		100902.908
9	**Be**		30.000	**0.004851**	ppb	40.062	76.362	14.444
10	**B**		118085.102	**126.372262**	ppb	2.361	3.028	1904.572
27	**Al**		1196382.893	**48.794753**	ppb	1.504	0.980	52396.591
43	**Ca-2**		668904.808	**12005.504849**	ppb	2.159	1.205	296.670
49	**Ti**		3267.041	**1.606264**	ppb	3.910	4.055	381.116
52	**Cr**		49129.896	**0.639923**	ppb	0.836	1.587	33054.880
55	**Mn**		1031979.068	**26.870630**	ppb	0.924	0.842	2280.182
57	**Fe**		78511.837	**58.878677**	ppb	1.129	3.475	31648.354
45	**Sc-IS**	>	5482013.660		ppb	1.190		5450048.085
66	**Zn**		49583.702	**11.456872**	ppb	2.072	1.408	3986.112
86	**Sr**		506344.031	**159.433976**	ppb	2.833	2.380	38.437
65	**Cu**		3973.886	**0.588446**	ppb	0.884	1.701	353.338
69	**Ga-IS**		1617365.135		ppb	1.927		1687700.429
95	**Mo**		11134.342	**3.216756**	ppb	3.974	4.186	325.559
115	**In-IS**	>	823738.328		ppb	1.847		855705.279
111	**Cd**		72.174	**0.008819**	ppb	8.688	18.722	32.650
118	**Sn**		3532.660	**-0.024815**	ppb	6.843	56.987	4025.013
121	**Sb**		4697.439	**0.290651**	ppb	1.727	0.194	407.784
135	**Ba**		90533.782	**22.465707**	ppb	1.402	3.248	130.001
165	**Ho-IS**		964456.953		ppb	0.504		967807.469
159	**Tb-IS**	>	986233.818		ppb	0.149		1008563.240
207	**Pb**		13688.115	**0.309770**	ppb	1.026	1.072	534.448
203	**Tl**		245.558	**0.010470**	ppb	16.864	27.090	93.334
209	**Bi-IS**		447839.383		ppb	2.391		492373.482
51	**V**		266.669	**0.713084**	ppb	15.959	16.379	1.111
59	**Co**		862.248	**0.683979**	ppb	6.380	4.859	12.222
60	**Ni**		5513.286	**2.625141**	ppb	0.549	2.444	285.558
75	**As**		2812.980	**3.178067**	ppb	3.116	0.891	469.196
71	**Ga-ISK**		146214.795		ppb	2.661		155322.280
82	**Se-2**		126.474	**1.465011**	ppb	10.649	11.176	24.138
107	**Ag-1**		266.669	**-0.015465**	ppb	17.722	37.138	410.006
115	**In-ISK**	>	214136.672		ppb	2.401		225667.882
45	**Sc-ISK**		360314.002		ppb	1.959		370778.674
23	**Na**		20770401.595	**63589.785193**	ppb	1.723	1.098	9775.012
39	**K**		3443873.578	**4562.731907**	ppb	1.960	1.033	42155.440
24	**Mg**		1583652.445	**5121.499258**	ppb	1.055	0.573	241.669
159	**Tb-ISK**	>	442673.847		ppb	1.125		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80516-A-1-A @5
Autosampler Position: 421
Sample Date/Time: Tuesday, January 04, 2022 21:17:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80516-A-1-A @5.271
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		110211.593		ppb	3.369		100902.908
9	**Be**		28.889	**0.004475**	ppb	6.662	11.992	14.444
10	**B**		91372.518	**96.735414**	ppb	2.556	2.223	1904.572
27	**Al**		1167771.030	**47.297297**	ppb	0.989	1.607	52396.591
43	**Ca-2**		722637.048	**12898.275214**	ppb	0.823	0.506	296.670
49	**Ti**		2895.849	**1.390469**	ppb	0.993	0.086	381.116
52	**Cr**		49290.459	**0.635372**	ppb	1.691	7.149	33054.880
55	**Mn**		817188.399	**21.147513**	ppb	1.208	2.187	2280.182
57	**Fe**		84664.594	**66.031511**	ppb	0.691	2.377	31648.354
45	**Sc-IS**	>	5513050.558		ppb	0.977		5450048.085
66	**Zn**		68211.361	**16.044202**	ppb	1.057	0.969	3986.112
86	**Sr**		511337.721	**160.098729**	ppb	2.056	1.482	38.437
65	**Cu**		4323.988	**0.641399**	ppb	0.134	1.186	353.338
69	**Ga-IS**		1644385.858		ppb	1.332		1687700.429
95	**Mo**		9007.288	**2.569376**	ppb	5.270	6.434	325.559
115	**In-IS**	>	826822.931		ppb	0.669		855705.279
111	**Cd**		66.641	**0.007553**	ppb	22.978	43.972	32.650
118	**Sn**		2332.414	**-0.112082**	ppb	8.744	12.196	4025.013
121	**Sb**		3670.472	**0.220432**	ppb	3.605	4.770	407.784
135	**Ba**		94042.975	**23.242395**	ppb	0.385	1.046	130.001
165	**Ho-IS**		964441.208		ppb	2.016		967807.469
159	**Tb-IS**	>	995096.368		ppb	0.952		1008563.240
207	**Pb**		26673.149	**0.609684**	ppb	1.950	1.420	534.448
203	**Tl**		124.445	**0.002174**	ppb	17.011	64.957	93.334
209	**Bi-IS**		459697.490		ppb	1.098		492373.482
51	**V**		250.002	**0.643314**	ppb	18.903	17.903	1.111
59	**Co**		726.685	**0.554663**	ppb	1.589	0.365	12.222
60	**Ni**		4859.717	**2.210798**	ppb	5.069	4.066	285.558
75	**As**		1998.699	**1.990932**	ppb	3.255	3.212	469.196
71	**Ga-ISK**		151640.750		ppb	1.829		155322.280
82	**Se-2**		123.774	**1.365837**	ppb	6.300	6.187	24.138
107	**Ag-1**		216.668	**-0.022749**	ppb	10.088	10.219	410.006
115	**In-ISK**	>	221931.689		ppb	1.353		225667.882
45	**Sc-ISK**		381304.095		ppb	2.694		370778.674
23	**Na**		13648440.914	**41398.954511**	ppb	0.564	2.829	9775.012
39	**K**		2036256.305	**2649.188668**	ppb	3.600	1.459	42155.440
24	**Mg**		1497181.359	**4796.404688**	ppb	1.731	0.724	241.669
159	**Tb-ISK**	>	446898.868		ppb	2.308		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80519-A-1-A @5
Autosampler Position: 422
Sample Date/Time: Tuesday, January 04, 2022 21:20:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80519-A-1-A @5.272
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106544.751		ppb	0.998		100902.908
9	**Be**		15.556	**0.000229**	ppb	12.372	275.822	14.444
10	**B**		83117.851	**86.513915**	ppb	2.314	2.399	1904.572
27	**Al**		132020.921	**3.271460**	ppb	0.818	1.165	52396.591
43	**Ca-2**		331550.430	**5829.257616**	ppb	1.418	1.198	296.670
49	**Ti**		1406.736	**0.554312**	ppb	8.075	10.868	381.116
52	**Cr**		65449.595	**1.244761**	ppb	1.024	2.760	33054.880
55	**Mn**		799064.048	**20.374982**	ppb	0.893	0.885	2280.182
57	**Fe**		487812.432	**562.686701**	ppb	1.621	0.707	31648.354
45	**Sc-IS**	>	5593975.625		ppb	1.034		5450048.085
66	**Zn**		604093.715	**147.811173**	ppb	2.071	1.065	3986.112
86	**Sr**		174936.606	**53.990278**	ppb	3.457	4.490	38.437
65	**Cu**		14795.436	**2.299925**	ppb	0.898	0.772	353.338
69	**Ga-IS**		1623629.546		ppb	1.974		1687700.429
95	**Mo**		1346.730	**0.295448**	ppb	5.513	8.066	325.559
115	**In-IS**	>	835753.051		ppb	0.653		855705.279
111	**Cd**		78.283	**0.009866**	ppb	20.955	34.698	32.650
118	**Sn**		2410.204	**-0.108334**	ppb	7.779	11.409	4025.013
121	**Sb**		2531.336	**0.141927**	ppb	6.951	7.925	407.784
135	**Ba**		15783.160	**3.832804**	ppb	1.695	1.086	130.001
165	**Ho-IS**		978650.984		ppb	1.767		967807.469
159	**Tb-IS**	>	992329.925		ppb	0.884		1008563.240
207	**Pb**		2870.110	**0.054804**	ppb	5.331	5.569	534.448
203	**Tl**		105.556	**0.000924**	ppb	3.646	21.196	93.334
209	**Bi-IS**		464694.240		ppb	1.122		492373.482
51	**V**		66.667	**0.167169**	ppb	37.749	39.166	1.111
59	**Co**		604.457	**0.451744**	ppb	3.754	4.675	12.222
60	**Ni**		3602.676	**1.574241**	ppb	0.990	2.007	285.558
75	**As**		1631.230	**1.476774**	ppb	13.572	17.789	469.196
71	**Ga-ISK**		153289.221		ppb	1.242		155322.280
82	**Se-2**		6699.387	**89.591553**	ppb	2.237	1.195	24.138
107	**Ag-1**		165.557	**-0.029274**	ppb	23.509	16.550	410.006
115	**In-ISK**	>	225875.070		ppb	1.127		225667.882
45	**Sc-ISK**		377967.147		ppb	3.780		370778.674
23	**Na**		16261317.510	**48638.953043**	ppb	2.541	2.415	9775.012
39	**K**		1421185.650	**1806.761206**	ppb	2.669	0.840	42155.440
24	**Mg**		847107.663	**2676.753436**	ppb	0.334	1.839	241.669
159	**Tb-ISK**	>	453089.254		ppb	1.875		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80520-A-1-A @5
Autosampler Position: 423
Sample Date/Time: Tuesday, January 04, 2022 21:24:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80520-A-1-A @5.273
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106652.239		ppb	1.374		100902.908
9	**Be**		14.444	**-0.000134**	ppb	26.647	835.850	14.444
10	**B**		81411.437	**84.649371**	ppb	2.822	1.260	1904.572
27	**Al**		88800.497	**1.464093**	ppb	1.178	7.393	52396.591
43	**Ca-2**		335945.913	**5902.887366**	ppb	3.655	1.789	296.670
49	**Ti**		1386.734	**0.542994**	ppb	3.816	2.901	381.116
52	**Cr**		61911.649	**1.104691**	ppb	0.679	5.340	33054.880
55	**Mn**		665875.544	**16.962941**	ppb	2.222	1.878	2280.182
57	**Fe**		336949.712	**376.187701**	ppb	0.551	1.775	31648.354
45	**Sc-IS**	>	5596154.110		ppb	1.896		5450048.085
66	**Zn**		519253.317	**126.880758**	ppb	2.127	1.857	3986.112
86	**Sr**		173303.154	**53.451644**	ppb	3.117	2.732	38.437
65	**Cu**		13150.496	**2.037007**	ppb	1.916	1.142	353.338
69	**Ga-IS**		1650599.043		ppb	1.779		1687700.429
95	**Mo**		1016.703	**0.199170**	ppb	4.435	9.051	325.559
115	**In-IS**	>	826984.396		ppb	0.265		855705.279
111	**Cd**		46.754	**0.003269**	ppb	26.810	82.421	32.650
118	**Sn**		1850.120	**-0.146762**	ppb	2.258	2.164	4025.013
121	**Sb**		2482.438	**0.140448**	ppb	3.627	4.485	407.784
135	**Ba**		14606.353	**3.582803**	ppb	1.088	1.153	130.001
165	**Ho-IS**		979529.262		ppb	0.942		967807.469
159	**Tb-IS**	>	1009826.603		ppb	0.449		1008563.240
207	**Pb**		1611.148	**0.024722**	ppb	4.880	6.720	534.448
203	**Tl**		82.222	**-0.000743**	ppb	20.804	152.452	93.334
209	**Bi-IS**		465216.101		ppb	1.731		492373.482
51	**V**		44.445	**0.109201**	ppb	30.311	31.288	1.111
59	**Co**		586.679	**0.434626**	ppb	5.420	7.429	12.222
60	**Ni**		3612.679	**1.563874**	ppb	2.617	0.739	285.558
75	**As**		1466.165	**1.249676**	ppb	12.225	15.005	469.196
71	**Ga-ISK**		155051.620		ppb	2.259		155322.280
82	**Se-2**		6494.626	**86.097980**	ppb	3.019	2.207	24.138
107	**Ag-1**		188.890	**-0.026705**	ppb	2.696	2.635	410.006
115	**In-ISK**	>	227840.264		ppb	2.084		225667.882
45	**Sc-ISK**		385716.513		ppb	3.056		370778.674
23	**Na**		16607363.498	**49393.884462**	ppb	2.859	3.900	9775.012
39	**K**		1413470.795	**1786.307805**	ppb	0.987	2.126	42155.440
24	**Mg**		855901.170	**2688.373243**	ppb	1.151	1.587	241.669
159	**Tb-ISK**	>	455748.145		ppb	1.103		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80521-A-1-A @5
Autosampler Position: 424
Sample Date/Time: Tuesday, January 04, 2022 21:27:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80521-A-1-A @5.274
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104591.523		ppb	1.276		100902.908
9	**Be**		21.111	**0.002017**	ppb	9.116	28.298	14.444
10	**B**		72508.029	**76.105200**	ppb	1.835	2.439	1904.572
27	**Al**		83845.489	**1.297719**	ppb	3.106	8.216	52396.591
43	**Ca-2**		270743.834	**4813.802344**	ppb	2.012	0.138	296.670
49	**Ti**		1184.494	**0.440866**	ppb	3.009	7.046	381.116
52	**Cr**		57646.084	**0.962898**	ppb	1.173	2.298	33054.880
55	**Mn**		666556.369	**17.182240**	ppb	1.669	0.482	2280.182
57	**Fe**		301054.159	**336.197351**	ppb	1.733	0.746	31648.354
45	**Sc-IS**	>	5530565.229		ppb	2.112		5450048.085
66	**Zn**		495569.197	**122.542282**	ppb	2.901	4.247	3986.112
86	**Sr**		138581.387	**43.251951**	ppb	1.671	1.792	38.437
65	**Cu**		11002.015	**1.715672**	ppb	2.848	2.692	353.338
69	**Ga-IS**		1599462.091		ppb	1.421		1687700.429
95	**Mo**		907.807	**0.170230**	ppb	5.451	5.314	325.559
115	**In-IS**	>	816287.579		ppb	1.753		855705.279
111	**Cd**		31.427	**0.000053**	ppb	18.303	2204.692	32.650
118	**Sn**		1873.457	**-0.143349**	ppb	6.369	5.286	4025.013
121	**Sb**		1970.136	**0.107720**	ppb	2.796	2.391	407.784
135	**Ba**		11486.840	**2.849464**	ppb	2.113	3.877	130.001
165	**Ho-IS**		965374.001		ppb	1.455		967807.469
159	**Tb-IS**	>	992285.117		ppb	1.908		1008563.240
207	**Pb**		1964.498	**0.033642**	ppb	2.461	1.457	534.448
203	**Tl**		84.445	**-0.000493**	ppb	6.030	88.132	93.334
209	**Bi-IS**		474705.844		ppb	2.936		492373.482
51	**V**		48.889	**0.125037**	ppb	25.813	27.697	1.111
59	**Co**		528.899	**0.404311**	ppb	8.943	7.593	12.222
60	**Ni**		3032.544	**1.341214**	ppb	2.549	1.259	285.558
75	**As**		1561.011	**1.438897**	ppb	13.260	16.723	469.196
71	**Ga-ISK**		150761.563		ppb	2.063		155322.280
82	**Se-2**		5634.239	**77.303331**	ppb	1.077	1.756	24.138
107	**Ag-1**		154.445	**-0.030169**	ppb	11.075	6.001	410.006
115	**In-ISK**	>	220080.738		ppb	1.503		225667.882
45	**Sc-ISK**		379315.250		ppb	4.502		370778.674
23	**Na**		14572622.919	**43135.093075**	ppb	2.561	1.309	9775.012
39	**K**		1152920.896	**1440.138236**	ppb	2.219	1.393	42155.440
24	**Mg**		700431.243	**2189.899313**	ppb	3.212	1.971	241.669
159	**Tb-ISK**	>	457722.748		ppb	1.350		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79831-H-1-A
Autosampler Position: 425
Sample Date/Time: Tuesday, January 04, 2022 21:30:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-79831-H-1-A.275
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		315486.515		ppb	3.029		100902.908
9	**Be**		218.891	**0.065853**	ppb	11.631	11.742	14.444
10	**B**		66688.651	**71.957286**	ppb	1.448	1.768	1904.572
27	**Al**		929611.642	**38.237220**	ppb	1.627	2.032	52396.591
43	**Ca-2**		1268243.917	**23240.517106**	ppb	0.915	0.314	296.670
49	**Ti**		5698.916	**3.027345**	ppb	4.776	5.612	381.116
52	**Cr**		45063.198	**0.513567**	ppb	1.699	3.816	33054.880
55	**Mn**		3462515.534	**92.166571**	ppb	0.946	0.531	2280.182
57	**Fe**		127362.033	**123.789475**	ppb	1.991	1.911	31648.354
45	**Sc-IS**	>	5370667.920		ppb	0.643		5450048.085
66	**Zn**		323842.729	**82.089428**	ppb	2.108	1.548	3986.112
86	**Sr**		240369.493	**77.254104**	ppb	3.757	3.864	38.437
65	**Cu**		8343.549	**1.326921**	ppb	3.555	3.254	353.338
69	**Ga-IS**		1531840.874		ppb	2.587		1687700.429
95	**Mo**		1024.481	**0.213883**	ppb	9.354	14.310	325.559
115	**In-IS**	>	784132.365		ppb	1.076		855705.279
111	**Cd**		136.738	**0.024227**	ppb	11.218	13.937	32.650
118	**Sn**		2431.319	**-0.095476**	ppb	8.396	14.402	4025.013
121	**Sb**		690.017	**0.022396**	ppb	12.864	25.911	407.784
135	**Ba**		5528.849	**1.411859**	ppb	4.512	5.052	130.001
165	**Ho-IS**		960237.528		ppb	1.912		967807.469
159	**Tb-IS**	>	980287.399		ppb	1.156		1008563.240
207	**Pb**		6110.513	**0.132334**	ppb	4.609	4.436	534.448
203	**Tl**		175.557	**0.005788**	ppb	10.457	20.852	93.334
209	**Bi-IS**		449530.207		ppb	0.927		492373.482
51	**V**		353.338	**0.952599**	ppb	10.377	11.026	1.111
59	**Co**		134.445	**0.099517**	ppb	12.230	11.639	12.222
60	**Ni**		527.788	**0.130407**	ppb	6.957	11.047	285.558
75	**As**		53828.446	**72.198849**	ppb	2.813	1.465	469.196
71	**Ga-ISK**		150040.936		ppb	2.968		155322.280
82	**Se-2**		66.791	**0.630038**	ppb	17.021	27.819	24.138
107	**Ag-1**		266.669	**-0.015193**	ppb	3.307	8.462	410.006
115	**In-ISK**	>	212534.968		ppb	1.618		225667.882
45	**Sc-ISK**		378103.524		ppb	1.531		370778.674
23	**Na**		15679354.482	**47817.919040**	ppb	1.040	1.861	9775.012
39	**K**		15503377.297	**20654.843738**	ppb	0.432	0.903	42155.440
24	**Mg**		5890941.836	**18978.482690**	ppb	1.855	0.610	241.669
159	**Tb-ISK**	>	444388.695		ppb	1.268		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79831-H-3-A
Autosampler Position: 426
Sample Date/Time: Tuesday, January 04, 2022 21:33:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-79831-H-3-A.276
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		182110.768		ppb	3.038		100902.908
9	**Be**		67294.869	**33.774553**	ppb	2.655	2.250	14.444
10	**B**		53282.539	**90.154495**	ppb	1.945	1.956	1904.572
27	**Al**		S	**S**	ppb	S	S	52396.591
43	**Ca-2**		9537772.921	**272440.264682**	ppb	4.171	1.009	296.670
49	**Ti**		27506.643	**24.158795**	ppb	10.293	9.497	381.116
52	**Cr**		49701.924	**1.846551**	ppb	3.189	0.751	33054.880
55	**Mn**		113535305.454	**4713.053609**	ppb	3.858	0.380	2280.182
57	**Fe**		128864258.040	**258411.997043**	ppb	5.165	2.109	31648.354
45	**Sc-IS**	>	3445824.759		ppb	3.619		5450048.085
66	**Zn**		24366620.186	**9741.918467**	ppb	4.758	1.170	3986.112
86	**Sr**		1066585.330	**534.314887**	ppb	3.822	0.550	38.437
65	**Cu**		66940.018	**17.254944**	ppb	4.579	1.094	353.338
69	**Ga-IS**		775070.045		ppb	4.878		1687700.429
95	**Mo**		4408.460	**1.988083**	ppb	7.556	4.250	325.559
115	**In-IS**	>	501557.114		ppb	7.110		855705.279
111	**Cd**		644549.728	**228.698849**	ppb	6.353	1.541	32.650
118	**Sn**		1424.516	**-0.110927**	ppb	7.656	1.673	4025.013
121	**Sb**		40761.896	**4.488345**	ppb	11.282	6.912	407.784
135	**Ba**		49580.709	**20.185452**	ppb	8.110	1.120	130.001
165	**Ho-IS**		2204644.643		ppb	5.748		967807.469
159	**Tb-IS**	>	1557929.998		ppb	6.014		1008563.240
207	**Pb**		220002.558	**3.268258**	ppb	3.338	2.907	534.448
203	**Tl**		114528.377	**4.911978**	ppb	6.097	0.122	93.334
209	**Bi-IS**		325719.356		ppb	3.165		492373.482
51	**V**		28335.860	**84.817321**	ppb	2.028	1.674	1.111
59	**Co**		1987693.918	**1784.587422**	ppb	0.446	2.584	12.222
60	**Ni**		871945.008	**486.948591**	ppb	1.788	2.106	285.558
75	**As**		63366322.701	**94920.491959**	ppb	1.569	1.217	469.196
71	**Ga-ISK**		152491.067		ppb	2.747		155322.280
82	**Se-2**		1971.462	**30.829795**	ppb	0.708	2.487	24.138
107	**Ag-1**		261.114	**-0.012319**	ppb	8.500	27.674	410.006
115	**In-ISK**	>	191928.869		ppb	2.398		225667.882
45	**Sc-ISK**		363229.501		ppb	2.561		370778.674
23	**Na**		36475959.979	**41673.150091**	ppb	2.767	2.171	9775.012
39	**K**		59282657.595	**29616.032752**	ppb	1.964	1.065	42155.440
24	**Mg**		16601453.952	**20040.511902**	ppb	3.008	2.177	241.669
159	**Tb-ISK**	>	1185921.300		ppb	1.180		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message
In-IS	115	
Tb-IS	159	
Tb-ISK	159	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79831-H-4-A
Autosampler Position: 427
Sample Date/Time: Tuesday, January 04, 2022 21:36:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-79831-H-4-A.277
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		163008.514		ppb	6.614		100902.908
9	**Be**		60983.286	**35.380220**	ppb	2.766	8.978	14.444
10	**B**		48856.781	**95.604786**	ppb	2.887	7.884	1904.572
27	**Al**		S	**S**	ppb	S	S	52396.591
43	**Ca-2**		8734097.854	**287415.847822**	ppb	7.268	3.105	296.670
49	**Ti**		21650.920	**21.868604**	ppb	8.647	2.362	381.116
52	**Cr**		46498.033	**2.094719**	ppb	7.214	6.881	33054.880
55	**Mn**		100106347.883	**4796.678561**	ppb	4.563	6.077	2280.182
57	**Fe**		112328611.946	**259912.057191**	ppb	5.402	5.177	31648.354
45	**Sc-IS**	>	2997490.862		ppb	10.066		5450048.085
66	**Zn**		21451271.495	**9894.294491**	ppb	5.809	5.235	3986.112
86	**Sr**		1027817.489	**593.635758**	ppb	6.074	4.331	38.437
65	**Cu**		59374.427	**17.668229**	ppb	4.761	5.956	353.338
69	**Ga-IS**		686655.521		ppb	9.787		1687700.429
95	**Mo**		4515.161	**2.365326**	ppb	8.261	5.040	325.559
115	**In-IS**	>	441604.045		ppb	12.108		855705.279
111	**Cd**		580083.772	**234.509979**	ppb	8.208	4.809	32.650
118	**Sn**		2222.415	**0.012031**	ppb	41.191	782.842	4025.013
121	**Sb**		37273.248	**4.682299**	ppb	8.657	4.086	407.784
135	**Ba**		44731.360	**20.762488**	ppb	8.387	4.096	130.001
165	**Ho-IS**		1977209.719		ppb	9.173		967807.469
159	**Tb-IS**	>	1409235.115		ppb	8.211		1008563.240
207	**Pb**		212080.295	**3.484363**	ppb	5.989	2.340	534.448
203	**Tl**		107211.765	**5.090367**	ppb	6.036	2.564	93.334
209	**Bi-IS**		306227.158		ppb	8.822		492373.482
51	**V**		28367.028	**81.319085**	ppb	1.241	1.304	1.111
59	**Co**		2055507.264	**1766.752779**	ppb	2.996	2.397	12.222
60	**Ni**		928502.306	**496.567975**	ppb	0.305	0.783	285.558
75	**As**		67042598.117	**96180.658646**	ppb	0.593	1.073	469.196
71	**Ga-ISK**		164790.274		ppb	3.642		155322.280
82	**Se-2**		1599.510	**23.875367**	ppb	3.410	3.091	24.138
107	**Ag-1**		256.669	**-0.014489**	ppb	4.683	11.525	410.006
115	**In-ISK**	>	200379.948		ppb	0.673		225667.882
45	**Sc-ISK**		409305.604		ppb	2.639		370778.674
23	**Na**		45252804.142	**50520.294689**	ppb	3.491	4.382	9775.012
39	**K**		69302494.210	**33829.959888**	ppb	1.085	1.987	42155.440
24	**Mg**		19900874.141	**23468.639530**	ppb	1.025	1.423	241.669
159	**Tb-ISK**	>	1214160.007		ppb	0.959		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message
Sc-IS	45	
In-IS	115	
Tb-IS	159	
Tb-ISK	159	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 21:39:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.278
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		90637.882		ppb	2.782		100902.908
9	**Be**		33.333	**0.006628**	ppb	36.056	57.995	14.444
10	**B**		2013.475	**0.259965**	ppb	3.307	39.506	1904.572
27	**Al**		810046.035	**34.743694**	ppb	11.148	12.410	52396.591
43	**Ca-2**		3025.325	**52.715016**	ppb	14.400	15.007	296.670
49	**Ti**		315.559	**-0.025450**	ppb	5.818	45.862	381.116
52	**Cr**		30576.029	**-0.021244**	ppb	2.044	223.522	33054.880
55	**Mn**		42976.510	**1.140183**	ppb	14.090	14.948	2280.182
57	**Fe**		75214.103	**61.341671**	ppb	9.026	15.119	31648.354
45	**Sc-IS**	>	5124976.501		ppb	2.331		5450048.085
66	**Zn**		13398.549	**2.596415**	ppb	10.567	14.942	3986.112
86	**Sr**		423.503	**0.130594**	ppb	35.561	38.886	38.437
65	**Cu**		842.247	**0.088777**	ppb	3.366	7.634	353.338
69	**Ga-IS**		1390238.775		ppb	1.668		1687700.429
95	**Mo**		1042.260	**0.234586**	ppb	6.712	11.058	325.559
115	**In-IS**	>	800726.086		ppb	1.761		855705.279
111	**Cd**		263.369	**0.051677**	ppb	17.286	18.700	32.650
118	**Sn**		2960.307	**-0.059898**	ppb	2.068	4.677	4025.013
121	**Sb**		2350.193	**0.136752**	ppb	1.501	2.042	407.784
135	**Ba**		126.667	**0.001163**	ppb	32.869	872.262	130.001
165	**Ho-IS**		942813.757		ppb	2.375		967807.469
159	**Tb-IS**	>	943963.401		ppb	1.124		1008563.240
207	**Pb**		703.340	**0.004996**	ppb	3.702	14.463	534.448
203	**Tl**		141.112	**0.003817**	ppb	21.434	57.437	93.334
209	**Bi-IS**		499047.716		ppb	1.087		492373.482
51	**V**		22.222	**0.045985**	ppb	48.218	51.095	1.111
59	**Co**		1011.147	**0.657285**	ppb	2.339	2.611	12.222
60	**Ni**		1181.160	**0.348799**	ppb	6.518	8.116	285.558
75	**As**		55299.873	**60.222566**	ppb	9.189	8.709	469.196
71	**Ga-ISK**		202780.145		ppb	3.414		155322.280
82	**Se-2**		30.101	**0.024615**	ppb	25.883	357.056	24.138
107	**Ag-1**		197.779	**-0.028645**	ppb	15.660	11.593	410.006
115	**In-ISK**	>	261286.105		ppb	0.655		225667.882
45	**Sc-ISK**		507020.918		ppb	3.220		370778.674
23	**Na**		61603.187	**139.373250**	ppb	8.593	9.841	9775.012
39	**K**		131448.698	**102.472092**	ppb	5.391	7.995	42155.440
24	**Mg**		14213.826	**40.277018**	ppb	13.989	13.689	241.669
159	**Tb-ISK**	>	495755.003		ppb	1.350		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 21:42:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.279
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95199.544		ppb	1.708		100902.908
9	**Be**		20.000	**0.001870**	ppb	28.868	109.125	14.444
10	**B**		1764.554	**-0.130891**	ppb	3.860	44.827	1904.572
27	**Al**		305153.834	**11.004491**	ppb	1.927	4.131	52396.591
43	**Ca-2**		1193.384	**16.416317**	ppb	10.215	10.255	296.670
49	**Ti**		282.225	**-0.053630**	ppb	4.472	6.445	381.116
52	**Cr**		32829.910	**0.007295**	ppb	1.746	822.596	33054.880
55	**Mn**		17074.646	**0.393560**	ppb	2.352	2.126	2280.182
57	**Fe**		46939.241	**20.127404**	ppb	2.403	13.730	31648.354
45	**Sc-IS**	>	5388564.476		ppb	3.215		5450048.085
66	**Zn**		7638.710	**0.947054**	ppb	3.518	9.864	3986.112
86	**Sr**		172.309	**0.042760**	ppb	36.806	45.531	38.437
65	**Cu**		712.240	**0.060197**	ppb	9.641	21.742	353.338
69	**Ga-IS**		1576422.197		ppb	2.658		1687700.429
95	**Mo**		513.343	**0.057629**	ppb	13.606	27.760	325.559
115	**In-IS**	>	856793.163		ppb	1.042		855705.279
111	**Cd**		106.700	**0.015349**	ppb	12.565	16.758	32.650
118	**Sn**		2805.832	**-0.085016**	ppb	4.966	11.475	4025.013
121	**Sb**		1016.703	**0.039448**	ppb	11.401	17.470	407.784
135	**Ba**		130.001	**-0.000053**	ppb	7.692	3893.216	130.001
165	**Ho-IS**		993919.686		ppb	2.279		967807.469
159	**Tb-IS**	>	1017926.691		ppb	1.656		1008563.240
207	**Pb**		507.781	**-0.000726**	ppb	9.222	133.200	534.448
203	**Tl**		98.889	**0.000323**	ppb	22.444	484.251	93.334
209	**Bi-IS**		483564.676		ppb	0.059		492373.482
51	**V**		4.444	**0.007768**	ppb	43.301	60.830	1.111
59	**Co**		282.225	**0.191804**	ppb	10.974	11.839	12.222
60	**Ni**		507.787	**0.089654**	ppb	10.673	29.307	285.558
75	**As**		16263.116	**18.737922**	ppb	2.937	2.539	469.196
71	**Ga-ISK**		182760.705		ppb	1.599		155322.280
82	**Se-2**		34.125	**0.103705**	ppb	19.642	81.268	24.138
107	**Ag-1**		226.668	**-0.023768**	ppb	9.184	10.309	410.006
115	**In-ISK**	>	241774.405		ppb	1.298		225667.882
45	**Sc-ISK**		446518.252		ppb	1.269		370778.674
23	**Na**		26436.109	**45.492114**	ppb	1.678	3.887	9775.012
39	**K**		69078.850	**30.398469**	ppb	1.136	5.883	42155.440
24	**Mg**		2720.260	**7.346172**	ppb	6.580	8.026	241.669
159	**Tb-ISK**	>	480684.368		ppb	0.982		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 21:46:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.280
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		93332.861		ppb	1.987		100902.908
9	**Be**		294485.680	**93.218706**	ppb	1.174	1.550	14.444
10	**B**		215405.454	**233.053745**	ppb	1.653	1.350	1904.572
27	**Al**		2455185.290	**102.896061**	ppb	0.634	1.930	52396.591
43	**Ca-2**		285185.536	**5134.415994**	ppb	1.518	1.327	296.670
49	**Ti**		179937.452	**100.378313**	ppb	1.728	0.934	381.116
52	**Cr**		2509614.539	**100.163063**	ppb	1.795	3.023	33054.880
55	**Mn**		3849160.888	**100.772072**	ppb	2.056	3.244	2280.182
57	**Fe**		4086200.843	**5132.146456**	ppb	0.862	1.785	31648.354
45	**Sc-IS**	>	5462928.051		ppb	2.263		5450048.085
66	**Zn**		384492.312	**96.032989**	ppb	0.672	2.897	3986.112
86	**Sr**		331705.414	**104.829279**	ppb	0.990	1.317	38.437
65	**Cu**		598786.152	**97.688953**	ppb	1.309	3.033	353.338
69	**Ga-IS**		1613685.765		ppb	1.960		1687700.429
95	**Mo**		348634.224	**104.052737**	ppb	1.035	1.532	325.559
115	**In-IS**	>	855351.031		ppb	0.272		855705.279
111	**Cd**		481865.275	**100.208694**	ppb	0.603	0.871	32.650
118	**Sn**		1405721.161	**97.510256**	ppb	0.958	1.210	4025.013
121	**Sb**		1534869.384	**99.770556**	ppb	0.731	0.656	407.784
135	**Ba**		420433.782	**100.542255**	ppb	0.436	0.525	130.001
165	**Ho-IS**		980579.243		ppb	2.216		967807.469
159	**Tb-IS**	>	1004085.507		ppb	1.945		1008563.240
207	**Pb**		4309361.789	**99.595045**	ppb	0.861	1.262	534.448
203	**Tl**		1496543.754	**99.737422**	ppb	1.649	2.596	93.334
209	**Bi-IS**		467720.347		ppb	0.814		492373.482
51	**V**		41937.040	**101.446469**	ppb	2.179	1.717	1.111
59	**Co**		141280.817	**102.507957**	ppb	1.398	3.189	12.222
60	**Ni**		235119.085	**106.012860**	ppb	0.582	1.608	285.558
75	**As**		90691.616	**109.219689**	ppb	1.193	2.752	469.196
71	**Ga-ISK**		172917.023		ppb	1.434		155322.280
82	**Se-2**		8290.522	**105.513531**	ppb	3.131	2.063	24.138
107	**Ag-1**		886342.679	**100.901591**	ppb	0.572	2.318	410.006
115	**In-ISK**	>	237476.846		ppb	2.044		225667.882
45	**Sc-ISK**		423863.173		ppb	0.905		370778.674
23	**Na**		2100934.981	**5903.498346**	ppb	0.645	1.204	9775.012
39	**K**		4617934.429	**5653.695213**	ppb	1.147	1.634	42155.440
24	**Mg**		1896398.994	**5653.675469**	ppb	1.010	0.871	241.669
159	**Tb-ISK**	>	480245.153		ppb	1.815		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	
K	39	
Mg	24	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 21:49:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.281
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		94011.703		ppb	1.523		100902.908
9	**Be**		74.445	**0.019436**	ppb	6.840	11.661	14.444
10	**B**		2261.290	**0.428315**	ppb	4.644	23.246	1904.572
27	**Al**		115986.196	**2.804195**	ppb	10.239	17.109	52396.591
43	**Ca-2**		598.346	**5.603656**	ppb	17.133	30.976	296.670
49	**Ti**		287.781	**-0.049997**	ppb	10.763	28.237	381.116
52	**Cr**		33157.325	**0.025230**	ppb	0.709	106.494	33054.880
55	**Mn**		7334.128	**0.135411**	ppb	13.800	17.605	2280.182
57	**Fe**		36689.290	**7.113030**	ppb	2.131	5.677	31648.354
45	**Sc-IS**	>	5367699.626		ppb	2.612		5450048.085
66	**Zn**		5005.322	**0.277380**	ppb	2.652	10.976	3986.112
86	**Sr**		91.171	**0.016982**	ppb	44.977	73.085	38.437
65	**Cu**		687.794	**0.056364**	ppb	9.984	17.404	353.338
69	**Ga-IS**		1608253.795		ppb	0.656		1687700.429
95	**Mo**		1970.136	**0.501546**	ppb	6.141	7.373	325.559
115	**In-IS**	>	854691.831		ppb	1.705		855705.279
111	**Cd**		120.308	**0.018178**	ppb	28.647	37.507	32.650
118	**Sn**		9384.193	**0.373628**	ppb	1.889	5.499	4025.013
121	**Sb**		1265.612	**0.055972**	ppb	13.312	21.848	407.784
135	**Ba**		174.446	**0.010659**	ppb	9.426	33.407	130.001
165	**Ho-IS**		981031.622		ppb	2.619		967807.469
159	**Tb-IS**	>	1000305.740		ppb	1.638		1008563.240
207	**Pb**		1266.688	**0.017071**	ppb	7.550	10.533	534.448
203	**Tl**		420.006	**0.021872**	ppb	11.252	12.517	93.334
209	**Bi-IS**		479886.421		ppb	1.771		492373.482
51	**V**		15.556	**0.035100**	ppb	53.927	57.867	1.111
59	**Co**		81.111	**0.050122**	ppb	9.491	10.297	12.222
60	**Ni**		386.672	**0.040928**	ppb	8.491	41.482	285.558
75	**As**		5466.929	**6.093968**	ppb	3.077	4.377	469.196
71	**Ga-ISK**		167139.294		ppb	2.983		155322.280
82	**Se-2**		32.096	**0.089521**	ppb	15.690	67.778	24.138
107	**Ag-1**		1956.801	**0.176112**	ppb	1.286	0.565	410.006
115	**In-ISK**	>	234906.470		ppb	1.090		225667.882
45	**Sc-ISK**		413396.397		ppb	0.924		370778.674
23	**Na**		18393.504	**24.187946**	ppb	2.234	9.245	9775.012
39	**K**		54560.667	**14.240195**	ppb	1.092	7.448	42155.440
24	**Mg**		1278.391	**3.149625**	ppb	9.109	11.735	241.669
159	**Tb-ISK**	>	468426.590		ppb	2.607		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message
As	75	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 21:52:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.282
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97104.525		ppb	1.687		100902.908
9	**Be**		38.889	**0.007609**	ppb	43.142	69.301	14.444
10	**B**		1967.913	**0.047361**	ppb	4.253	278.738	1904.572
27	**Al**		148063.176	**4.041793**	ppb	5.464	11.498	52396.591
43	**Ca-2**		641.681	**6.115324**	ppb	9.867	20.608	296.670
49	**Ti**		296.670	**-0.049311**	ppb	14.693	45.427	381.116
52	**Cr**		33103.876	**-0.012079**	ppb	1.977	432.336	33054.880
55	**Mn**		8148.997	**0.151923**	ppb	6.484	11.646	2280.182
57	**Fe**		37232.905	**6.579172**	ppb	1.030	18.171	31648.354
45	**Sc-IS**	>	5510655.093		ppb	1.988		5450048.085
66	**Zn**		5086.461	**0.264518**	ppb	1.282	13.198	3986.112
86	**Sr**		111.222	**0.022760**	ppb	18.442	30.978	38.437
65	**Cu**		588.901	**0.037481**	ppb	2.357	5.943	353.338
69	**Ga-IS**		1667056.309		ppb	2.295		1687700.429
95	**Mo**		792.244	**0.137189**	ppb	1.285	4.866	325.559
115	**In-IS**	>	864955.962		ppb	1.310		855705.279
111	**Cd**		88.337	**0.011449**	ppb	42.506	69.019	32.650
118	**Sn**		5486.610	**0.097598**	ppb	3.326	13.999	4025.013
121	**Sb**		727.796	**0.020291**	ppb	2.604	4.624	407.784
135	**Ba**		135.556	**0.001046**	ppb	25.830	822.128	130.001
165	**Ho-IS**		997575.986		ppb	0.511		967807.469
159	**Tb-IS**	>	1018181.475		ppb	2.388		1008563.240
207	**Pb**		821.120	**0.006434**	ppb	8.382	27.633	534.448
203	**Tl**		210.002	**0.007559**	ppb	24.947	40.739	93.334
209	**Bi-IS**		485869.543		ppb	1.261		492373.482
51	**V**		10.000	**0.021467**	ppb	33.333	37.822	1.111
59	**Co**		56.667	**0.032011**	ppb	25.641	33.864	12.222
60	**Ni**		450.007	**0.068421**	ppb	7.066	21.671	285.558
75	**As**		3961.286	**4.220193**	ppb	4.506	5.904	469.196
71	**Ga-ISK**		169671.456		ppb	3.737		155322.280
82	**Se-2**		18.109	**-0.091340**	ppb	69.712	178.333	24.138
107	**Ag-1**		742.242	**0.035773**	ppb	1.700	4.854	410.006
115	**In-ISK**	>	236407.659		ppb	0.741		225667.882
45	**Sc-ISK**		407549.625		ppb	3.093		370778.674
23	**Na**		15178.059	**14.130615**	ppb	1.128	7.848	9775.012
39	**K**		49941.595	**7.331917**	ppb	1.103	16.582	42155.440
24	**Mg**		590.012	**1.013937**	ppb	8.084	13.477	241.669
159	**Tb-ISK**	>	476304.546		ppb	1.479		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message
As	75	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205212_1-A
Autosampler Position: 117
Sample Date/Time: Tuesday, January 04, 2022 21:55:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\MB 570-205212_1-A.283
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95246.489		ppb	1.150		100902.908
9	**Be**		23.333	**0.002573**	ppb		3.526	14.444
10	**B**		1716.770	**-0.268215**	ppb	1.028	12.044	1904.572
27	**Al**		65570.856	**0.471645**	ppb	2.232	18.456	52396.591
43	**Ca-2**		348.338	**0.723305**	ppb	2.988	29.541	296.670
49	**Ti**		248.891	**-0.078647**	ppb	13.008	23.661	381.116
52	**Cr**		34013.813	**-0.007540**	ppb	3.597	482.009	33054.880
55	**Mn**		4658.539	**0.058283**	ppb	6.020	9.754	2280.182
57	**Fe**		32534.823	**-0.268244**	ppb	3.996	415.111	31648.354
45	**Sc-IS**	>	5639142.297		ppb	1.268		5450048.085
66	**Zn**		3817.177	**-0.074943**	ppb	2.773	40.593	3986.112
86	**Sr**		57.900	**0.005519**	ppb	23.020	69.739	38.437
65	**Cu**		542.233	**0.027922**	ppb	1.420	2.264	353.338
69	**Ga-IS**		1717744.509		ppb	3.581		1687700.429
95	**Mo**		402.228	**0.019045**	ppb	13.876	92.063	325.559
115	**In-IS**	>	874468.750		ppb	1.621		855705.279
111	**Cd**		45.822	**0.002547**	ppb	12.856	52.127	32.650
118	**Sn**		4165.053	**0.003401**	ppb	5.763	351.335	4025.013
121	**Sb**		513.343	**0.006193**	ppb	12.389	73.720	407.784
135	**Ba**		73.334	**-0.013905**	ppb	12.026	16.387	130.001
165	**Ho-IS**		997112.793		ppb	2.446		967807.469
159	**Tb-IS**	>	1020465.347		ppb	2.519		1008563.240
207	**Pb**		448.892	**-0.002086**	ppb	11.889	59.620	534.448
203	**Tl**		111.112	**0.001101**	ppb	4.583	44.604	93.334
209	**Bi-IS**		482898.271		ppb	0.219		492373.482
51	**V**		4.444	**0.007820**	ppb	114.564	155.367	1.111
59	**Co**		28.889	**0.011697**	ppb	17.625	31.131	12.222
60	**Ni**		783.355	**0.219369**	ppb	2.211	6.533	285.558
75	**As**		2984.158	**3.028807**	ppb	1.661	4.049	469.196
71	**Ga-ISK**		168602.467		ppb	0.713		155322.280
82	**Se-2**		24.111	**-0.016820**	ppb	44.705	799.905	24.138
107	**Ag-1**		403.339	**-0.002998**	ppb	5.960	118.170	410.006
115	**In-ISK**	>	236640.335		ppb	1.855		225667.882
45	**Sc-ISK**		409619.117		ppb	1.324		370778.674
23	**Na**		13776.643	**10.666651**	ppb	2.698	11.837	9775.012
39	**K**		46863.418	**4.275627**	ppb	1.442	7.040	42155.440
24	**Mg**		343.337	**0.286264**	ppb	7.330	23.362	241.669
159	**Tb-ISK**	>	469936.118		ppb	0.969		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205212_2-A
Autosampler Position: 118
Sample Date/Time: Tuesday, January 04, 2022 21:58:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCS 570-205212_2-A.284
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		95369.507		ppb	0.581		100902.908
9	**Be**		278454.347	**87.023480**	ppb	0.693	1.215	14.444
10	**B**		86440.765	**91.075577**	ppb	1.396	0.914	1904.572
27	**Al**		2530877.343	**104.767845**	ppb	0.936	2.541	52396.591
43	**Ca-2**		313235.228	**5569.029799**	ppb	0.539	2.054	296.670
49	**Ti**		169413.112	**93.296565**	ppb	0.963	0.745	381.116
52	**Cr**		2405880.213	**94.716526**	ppb	1.579	1.923	33054.880
55	**Mn**		3513142.353	**90.814591**	ppb	3.019	4.446	2280.182
57	**Fe**		4538133.588	**5631.244899**	ppb	0.794	1.823	31648.354
45	**Sc-IS**	>	5532761.072		ppb	1.570		5450048.085
66	**Zn**		361495.598	**89.048775**	ppb	0.545	1.130	3986.112
86	**Sr**		295096.977	**92.064087**	ppb	2.264	1.707	38.437
65	**Cu**		573061.912	**92.272036**	ppb	1.532	0.774	353.338
69	**Ga-IS**		1742478.327		ppb	1.422		1687700.429
95	**Mo**		322407.063	**94.988974**	ppb	2.739	2.719	325.559
115	**In-IS**	>	872228.832		ppb	2.843		855705.279
111	**Cd**		455502.143	**92.918186**	ppb	1.668	1.854	32.650
118	**Sn**		1355204.081	**92.168073**	ppb	2.953	0.282	4025.013
121	**Sb**		1416092.934	**90.289227**	ppb	1.485	1.353	407.784
135	**Ba**		457572.087	**107.326888**	ppb	1.960	1.093	130.001
165	**Ho-IS**		979767.077		ppb	2.055		967807.469
159	**Tb-IS**	>	1012600.560		ppb	2.977		1008563.240
207	**Pb**		3997332.293	**91.633630**	ppb	0.689	2.313	534.448
203	**Tl**		1340200.435	**88.567819**	ppb	1.568	1.422	93.334
209	**Bi-IS**		473108.423		ppb	1.282		492373.482
51	**V**		37852.319	**92.017043**	ppb	2.168	3.314	1.111
59	**Co**		123471.541	**89.996832**	ppb	2.691	3.681	12.222
60	**Ni**		211134.646	**95.613760**	ppb	1.750	0.648	285.558
75	**As**		76686.780	**92.677755**	ppb	0.595	1.044	469.196
71	**Ga-ISK**		161852.833		ppb	0.491		155322.280
82	**Se-2**		7017.547	**89.693937**	ppb	1.572	1.105	24.138
107	**Ag-1**		484169.674	**55.344177**	ppb	1.800	1.866	410.006
115	**In-ISK**	>	236351.233		ppb	1.126		225667.882
45	**Sc-ISK**		405220.936		ppb	1.506		370778.674
23	**Na**		381621.857	**1063.492560**	ppb	0.660	1.148	9775.012
39	**K**		886175.717	**1055.826814**	ppb	2.595	3.212	42155.440
24	**Mg**		1961314.601	**5928.636849**	ppb	1.350	1.550	241.669
159	**Tb-ISK**	>	473616.358		ppb	0.466		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205212_3-A
Autosampler Position: 119
Sample Date/Time: Tuesday, January 04, 2022 22:01:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\LCSD 570-205212_3-A.285
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		96258.847		ppb	1.913		100902.908
9	**Be**		282008.761	**87.938745**	ppb	1.134	1.295	14.444
10	**B**		86747.049	**91.201904**	ppb	1.203	0.971	1904.572
27	**Al**		2576597.254	**106.440362**	ppb	0.929	0.628	52396.591
43	**Ca-2**		309604.000	**5491.620098**	ppb	0.491	0.717	296.670
49	**Ti**		172482.808	**94.784033**	ppb	0.507	0.818	381.116
52	**Cr**		2431315.208	**95.512809**	ppb	1.342	1.076	33054.880
55	**Mn**		3580043.463	**92.307612**	ppb	0.349	0.129	2280.182
57	**Fe**		4616159.033	**5715.610067**	ppb	1.222	1.345	31648.354
45	**Sc-IS**	>	5544521.418		ppb	0.324		5450048.085
66	**Zn**		375131.539	**92.237233**	ppb	0.358	0.336	3986.112
86	**Sr**		298400.903	**92.895577**	ppb	1.373	1.189	38.437
65	**Cu**		591153.830	**94.985024**	ppb	0.861	1.169	353.338
69	**Ga-IS**		1776063.349		ppb	0.319		1687700.429
95	**Mo**		325569.331	**95.709781**	ppb	0.863	0.591	325.559
115	**In-IS**	>	880312.439		ppb	2.315		855705.279
111	**Cd**		461286.488	**93.232787**	ppb	1.099	2.013	32.650
118	**Sn**		1385771.549	**93.400690**	ppb	1.622	1.268	4025.013
121	**Sb**		1434206.348	**90.611877**	ppb	1.452	2.616	407.784
135	**Ba**		463144.488	**107.649074**	ppb	1.513	2.406	130.001
165	**Ho-IS**		1013283.048		ppb	0.748		967807.469
159	**Tb-IS**	>	1034884.770		ppb	1.103		1008563.240
207	**Pb**		4002988.326	**89.766656**	ppb	2.161	3.233	534.448
203	**Tl**		1355409.186	**87.627419**	ppb	0.864	1.517	93.334
209	**Bi-IS**		475405.597		ppb	0.710		492373.482
51	**V**		37982.656	**92.326383**	ppb	1.396	3.223	1.111
59	**Co**		127088.381	**92.615764**	ppb	0.858	2.483	12.222
60	**Ni**		210346.299	**95.252870**	ppb	1.149	1.558	285.558
75	**As**		78227.695	**94.554247**	ppb	0.201	2.525	469.196
71	**Ga-ISK**		162929.628		ppb	1.937		155322.280
82	**Se-2**		7052.214	**90.124692**	ppb	1.985	1.708	24.138
107	**Ag-1**		483236.516	**55.232943**	ppb	1.735	2.374	410.006
115	**In-ISK**	>	236436.638		ppb	2.698		225667.882
45	**Sc-ISK**		399931.770		ppb	3.462		370778.674
23	**Na**		375607.680	**1053.945113**	ppb	3.515	1.546	9775.012
39	**K**		877385.371	**1052.609156**	ppb	3.533	1.831	42155.440
24	**Mg**		1887055.611	**5744.420186**	ppb	4.484	2.787	241.669
159	**Tb-ISK**	>	470151.990		ppb	2.052		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80518-D-1-A sd @5
Autosampler Position: 120
Sample Date/Time: Tuesday, January 04, 2022 22:04:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80518-D-1-A sd @5.286
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		104776.309		ppb	2.406		100902.908
9	**Be**		98.889	**0.026779**	ppb	21.671	24.993	14.444
10	**B**		67584.017	**71.859334**	ppb	2.811	2.739	1904.572
27	**Al**		120282.090	**2.913762**	ppb	2.281	4.143	52396.591
43	**Ca-2**		1486750.092	**26851.128000**	ppb	0.200	0.274	296.670
49	**Ti**		2554.673	**1.218054**	ppb	1.829	2.682	381.116
52	**Cr**		41980.492	**0.361801**	ppb	1.624	5.851	33054.880
55	**Mn**		86477.660	**2.210217**	ppb	1.517	1.678	2280.182
57	**Fe**		87634.666	**71.030469**	ppb	1.228	2.608	31648.354
45	**Sc-IS**	>	5449648.841		ppb	0.464		5450048.085
66	**Zn**		5545.521	**0.394503**	ppb	2.094	8.370	3986.112
86	**Sr**		552853.006	**175.121703**	ppb	0.987	1.141	38.437
65	**Cu**		3906.090	**0.581132**	ppb	0.913	0.997	353.338
69	**Ga-IS**		1566146.716		ppb	0.332		1687700.429
95	**Mo**		1337.841	**0.303214**	ppb	9.849	13.647	325.559
115	**In-IS**	>	811175.822		ppb	1.329		855705.279
111	**Cd**		147.191	**0.025510**	ppb	12.636	16.648	32.650
118	**Sn**		5355.448	**0.112976**	ppb	2.001	6.737	4025.013
121	**Sb**		3044.769	**0.182307**	ppb	2.365	4.006	407.784
135	**Ba**		38007.160	**9.557015**	ppb	0.666	1.577	130.001
165	**Ho-IS**		944874.144		ppb	1.372		967807.469
159	**Tb-IS**	>	960401.105		ppb	1.882		1008563.240
207	**Pb**		1813.378	**0.031547**	ppb	7.401	11.804	534.448
203	**Tl**		532.232	**0.030877**	ppb	5.101	4.759	93.334
209	**Bi-IS**		451944.557		ppb	0.846		492373.482
51	**V**		85.556	**0.221795**	ppb	5.951	7.729	1.111
59	**Co**		67.778	**0.043934**	ppb	10.238	10.692	12.222
60	**Ni**		827.802	**0.269927**	ppb	7.853	14.138	285.558
75	**As**		1921.476	**1.923992**	ppb	4.547	4.272	469.196
71	**Ga-ISK**		153765.418		ppb	1.305		155322.280
82	**Se-2**		82.823	**0.822699**	ppb	16.766	23.672	24.138
107	**Ag-1**		1397.846	**0.123610**	ppb	5.205	9.854	410.006
115	**In-ISK**	>	219010.932		ppb	2.383		225667.882
45	**Sc-ISK**		390471.228		ppb	1.910		370778.674
23	**Na**		13341893.885	**40610.784584**	ppb	1.860	1.978	9775.012
39	**K**		1263447.912	**1629.547273**	ppb	3.403	2.622	42155.440
24	**Mg**		4523381.889	**14542.517893**	ppb	3.846	1.603	241.669
159	**Tb-ISK**	>	445295.270		ppb	3.143		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80518-D-1-A
Autosampler Position: 121
Sample Date/Time: Tuesday, January 04, 2022 22:08:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80518-D-1-A.287
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		125899.075		ppb	1.407		100902.908
9	**Be**		86.667	**0.023436**	ppb	23.077	28.141	14.444
10	**B**		303027.764	**335.506758**	ppb	2.107	2.692	1904.572
27	**Al**		421954.927	**16.189655**	ppb	0.156	0.844	52396.591
43	**Ca-2**		7005412.294	**128835.089516**	ppb	1.505	1.617	296.670
49	**Ti**		9907.881	**5.438843**	ppb	2.511	2.469	381.116
52	**Cr**		60259.061	**1.146971**	ppb	1.363	2.977	33054.880
55	**Mn**		380623.090	**10.113322**	ppb	3.333	3.648	2280.182
57	**Fe**		264199.715	**301.105115**	ppb	2.830	3.516	31648.354
45	**Sc-IS**	>	5352632.496		ppb	0.588		5450048.085
66	**Zn**		8386.906	**1.151398**	ppb	1.353	1.671	3986.112
86	**Sr**		2881672.039	**929.435962**	ppb	1.050	1.614	38.437
65	**Cu**		13533.074	**2.195912**	ppb	0.867	0.303	353.338
69	**Ga-IS**		1380364.050		ppb	0.848		1687700.429
95	**Mo**		2536.892	**0.675936**	ppb	3.062	4.017	325.559
115	**In-IS**	>	727709.569		ppb	0.760		855705.279
111	**Cd**		62.450	**0.008471**	ppb	15.661	27.406	32.650
118	**Sn**		4565.174	**0.093344**	ppb	3.737	12.176	4025.013
121	**Sb**		2277.959	**0.147587**	ppb	2.947	3.302	407.784
135	**Ba**		179255.699	**50.367415**	ppb	1.992	1.292	130.001
165	**Ho-IS**		909780.342		ppb	1.216		967807.469
159	**Tb-IS**	>	932139.782		ppb	1.488		1008563.240
207	**Pb**		1497.809	**0.024981**	ppb	8.184	11.377	534.448
203	**Tl**		296.670	**0.015125**	ppb	9.600	15.545	93.334
209	**Bi-IS**		403838.720		ppb	0.867		492373.482
51	**V**		330.004	**0.906358**	ppb	9.948	8.720	1.111
59	**Co**		83.334	**0.059517**	ppb	10.583	10.917	12.222
60	**Ni**		3284.822	**1.554670**	ppb	1.520	2.836	285.558
75	**As**		1916.532	**2.047415**	ppb	2.149	4.570	469.196
71	**Ga-ISK**		147897.542		ppb	2.639		155322.280
82	**Se-2**		255.125	**3.388013**	ppb	3.332	3.061	24.138
107	**Ag-1**		808.912	**0.055757**	ppb	14.843	25.921	410.006
115	**In-ISK**	>	208375.007		ppb	2.329		225667.882
45	**Sc-ISK**		392084.373		ppb	1.787		370778.674
23	**Na**		68946468.076	**211073.237465**	ppb	1.739	1.113	9775.012
39	**K**		6433845.463	**8569.377482**	ppb	1.958	1.953	42155.440
24	**Mg**		23432970.491	**75760.318854**	ppb	2.696	2.201	241.669
159	**Tb-ISK**	>	442855.926		ppb	1.598		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80518-D-1-B MS
Autosampler Position: 122
Sample Date/Time: Tuesday, January 04, 2022 22:11:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80518-D-1-B MS.288
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		124839.905		ppb	1.949		100902.908
9	**Be**		294433.346	**94.597977**	ppb	0.748	1.888	14.444
10	**B**		379742.318	**418.731751**	ppb	2.059	3.343	1904.572
27	**Al**		2451260.613	**104.272637**	ppb	1.626	0.331	52396.591
43	**Ca-2**		7279577.315	**133175.362722**	ppb	1.560	2.873	296.670
49	**Ti**		174071.894	**98.561005**	ppb	0.199	1.136	381.116
52	**Cr**		2205396.496	**89.181441**	ppb	0.657	1.933	33054.880
55	**Mn**		3578404.395	**95.069926**	ppb	1.003	2.226	2280.182
57	**Fe**		3457205.477	**4401.311040**	ppb	0.556	1.869	31648.354
45	**Sc-IS**	>	5382081.097		ppb	1.321		5450048.085
66	**Zn**		298405.696	**75.406852**	ppb	0.972	0.492	3986.112
86	**Sr**		3188504.596	**1022.993963**	ppb	2.519	3.579	38.437
65	**Cu**		492903.920	**81.583123**	ppb	0.729	0.638	353.338
69	**Ga-IS**		1403207.738		ppb	0.584		1687700.429
95	**Mo**		310461.938	**94.040364**	ppb	1.018	2.239	325.559
115	**In-IS**	>	726329.452		ppb	1.198		855705.279
111	**Cd**		385725.874	**94.470883**	ppb	0.891	1.390	32.650
118	**Sn**		1202717.212	**98.256766**	ppb	0.734	1.279	4025.013
121	**Sb**		1295401.426	**99.169432**	ppb	0.779	1.176	407.784
135	**Ba**		513217.958	**144.539342**	ppb	1.799	0.826	130.001
165	**Ho-IS**		926858.006		ppb	0.740		967807.469
159	**Tb-IS**	>	938790.798		ppb	1.105		1008563.240
207	**Pb**		3755486.027	**92.830056**	ppb	1.984	2.720	534.448
203	**Tl**		1256649.973	**89.567599**	ppb	1.532	2.614	93.334
209	**Bi-IS**		409569.918		ppb	2.147		492373.482
51	**V**		39230.461	**106.421875**	ppb	0.691	0.688	1.111
59	**Co**		117977.432	**95.959006**	ppb	1.357	1.215	12.222
60	**Ni**		195781.800	**98.962888**	ppb	2.325	1.648	285.558
75	**As**		77460.832	**104.557918**	ppb	1.718	1.611	469.196
71	**Ga-ISK**		150375.349		ppb	2.273		155322.280
82	**Se-2**		7904.662	**112.871947**	ppb	1.133	2.425	24.138
107	**Ag-1**		248805.714	**31.729255**	ppb	2.798	3.830	410.006
115	**In-ISK**	>	211759.948		ppb	1.286		225667.882
45	**Sc-ISK**		402398.868		ppb	0.759		370778.674
23	**Na**		70947175.181	**218756.932896**	ppb	1.145	0.937	9775.012
39	**K**		7503369.745	**10074.940837**	ppb	0.880	1.185	42155.440
24	**Mg**		25301751.399	**82396.165329**	ppb	0.672	1.432	241.669
159	**Tb-ISK**	>	439741.802		ppb	1.970		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80518-D-1-C MSD
Autosampler Position: 123
Sample Date/Time: Tuesday, January 04, 2022 22:14:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80518-D-1-C MSD.289
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		124583.109		ppb	0.577		100902.908
9	**Be**		293679.142	**94.852813**	ppb	0.652	0.470	14.444
10	**B**		377645.566	**418.577630**	ppb	0.843	1.306	1904.572
27	**Al**		2439664.740	**104.352300**	ppb	1.285	1.740	52396.591
43	**Ca-2**		7307233.530	**134379.120794**	ppb	0.726	1.283	296.670
49	**Ti**		174113.757	**99.122832**	ppb	1.894	2.637	381.116
52	**Cr**		2239517.764	**91.071675**	ppb	0.733	1.527	33054.880
55	**Mn**		3612659.936	**96.484945**	ppb	0.566	0.730	2280.182
57	**Fe**		3469365.540	**4440.829666**	ppb	1.415	2.182	31648.354
45	**Sc-IS**	>	5353092.495		ppb	0.774		5450048.085
66	**Zn**		296442.927	**75.314551**	ppb	3.250	3.318	3986.112
86	**Sr**		3252741.748	**1048.993024**	ppb	2.272	2.319	38.437
65	**Cu**		488084.301	**81.220293**	ppb	1.283	1.348	353.338
69	**Ga-IS**		1375348.205		ppb	0.551		1687700.429
95	**Mo**		314460.453	**95.756724**	ppb	2.665	2.900	325.559
115	**In-IS**	>	721209.046		ppb	0.234		855705.279
111	**Cd**		389201.262	**95.992051**	ppb	0.732	0.950	32.650
118	**Sn**		1191305.896	**98.006695**	ppb	0.477	0.473	4025.013
121	**Sb**		1281569.127	**98.800062**	ppb	0.034	0.255	407.784
135	**Ba**		512063.058	**145.241734**	ppb	1.077	0.861	130.001
165	**Ho-IS**		934303.802		ppb	1.104		967807.469
159	**Tb-IS**	>	938215.884		ppb	0.100		1008563.240
207	**Pb**		3821930.638	**94.517570**	ppb	2.406	2.505	534.448
203	**Tl**		1298539.445	**92.592877**	ppb	0.832	0.910	93.334
209	**Bi-IS**		413458.679		ppb	1.487		492373.482
51	**V**		38547.493	**106.076532**	ppb	0.515	0.781	1.111
59	**Co**		118426.625	**97.715770**	ppb	0.301	0.952	12.222
60	**Ni**		197705.411	**101.395687**	ppb	0.978	1.863	285.558
75	**As**		78511.621	**107.522707**	ppb	0.172	0.725	469.196
71	**Ga-ISK**		151069.196		ppb	1.882		155322.280
82	**Se-2**		8055.376	**116.686816**	ppb	1.409	2.309	24.138
107	**Ag-1**		256604.577	**33.201778**	ppb	5.740	6.609	410.006
115	**In-ISK**	>	208747.216		ppb	0.890		225667.882
45	**Sc-ISK**		411591.767		ppb	0.281		370778.674
23	**Na**		72447058.898	**220350.752719**	ppb	1.304	0.121	9775.012
39	**K**		7660387.583	**10146.080850**	ppb	1.518	0.407	42155.440
24	**Mg**		25860510.608	**83067.779150**	ppb	1.710	1.179	241.669
159	**Tb-ISK**	>	445736.337		ppb	1.219		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80518-D-1-A PDS
Autosampler Position: 124
Sample Date/Time: Tuesday, January 04, 2022 22:17:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80518-D-1-A PDS.290
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		124679.542		ppb	1.221		100902.908
9	**Be**		255383.769	**82.884119**	ppb	1.008	1.518	14.444
10	**B**		379377.628	**422.571649**	ppb	1.393	2.322	1904.572
27	**Al**		2735980.473	**117.880230**	ppb	0.880	1.906	52396.591
43	**Ca-2**		7220579.940	**133424.979634**	ppb	1.045	1.578	296.670
49	**Ti**		150998.740	**86.314609**	ppb	2.995	0.505	381.116
52	**Cr**		1902399.687	**77.540036**	ppb	1.881	2.495	33054.880
55	**Mn**		3184339.594	**85.477876**	ppb	2.136	3.908	2280.182
57	**Fe**		4133211.295	**5325.260974**	ppb	0.871	3.337	31648.354
45	**Sc-IS**	>	5328521.617		ppb	2.541		5450048.085
66	**Zn**		258262.663	**65.823232**	ppb	1.151	3.215	3986.112
86	**Sr**		3070468.652	**994.959650**	ppb	2.410	2.412	38.437
65	**Cu**		400087.713	**66.901027**	ppb	1.061	2.769	353.338
69	**Ga-IS**		1365845.688		ppb	0.492		1687700.429
95	**Mo**		272462.804	**83.375242**	ppb	2.790	4.114	325.559
115	**In-IS**	>	716929.195		ppb	1.104		855705.279
111	**Cd**		338696.611	**84.023083**	ppb	2.699	1.681	32.650
118	**Sn**		1047688.863	**86.671955**	ppb	1.384	0.321	4025.013
121	**Sb**		1119539.768	**86.826584**	ppb	1.195	1.525	407.784
135	**Ba**		552264.535	**157.584760**	ppb	1.210	0.593	130.001
165	**Ho-IS**		913133.216		ppb	2.881		967807.469
159	**Tb-IS**	>	924348.790		ppb	2.363		1008563.240
207	**Pb**		3360405.187	**84.372123**	ppb	0.885	1.945	534.448
203	**Tl**		1125424.403	**81.452090**	ppb	2.403	0.594	93.334
209	**Bi-IS**		419533.564		ppb	0.703		492373.482
51	**V**		34080.607	**93.752826**	ppb	1.081	2.015	1.111
59	**Co**		103747.635	**85.560554**	ppb	1.428	0.769	12.222
60	**Ni**		175483.457	**89.944519**	ppb	0.353	1.457	285.558
75	**As**		69562.223	**95.174044**	ppb	1.107	2.590	469.196
71	**Ga-ISK**		151983.078		ppb	0.371		155322.280
82	**Se-2**		6642.311	**96.100244**	ppb	2.640	2.006	24.138
107	**Ag-1**		303192.576	**39.211209**	ppb	6.961	7.187	410.006
115	**In-ISK**	>	208849.812		ppb	1.740		225667.882
45	**Sc-ISK**		409871.167		ppb	1.777		370778.674
23	**Na**		71744211.502	**219224.574282**	ppb	1.089	1.650	9775.012
39	**K**		7431259.073	**9885.217094**	ppb	2.010	0.520	42155.440
24	**Mg**		26008598.619	**83918.832610**	ppb	1.754	0.706	241.669
159	**Tb-ISK**	>	443738.558		ppb	1.497		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 22:20:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.291
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		106496.643		ppb	1.409		100902.908
9	**Be**		82.222	**0.021931**	ppb	30.428	39.403	14.444
10	**B**		3589.340	**1.883644**	ppb	4.467	5.383	1904.572
27	**Al**		66454.211	**0.634499**	ppb	0.637	11.163	52396.591
43	**Ca-2**		2363.529	**37.830523**	ppb	4.404	7.742	296.670
49	**Ti**		600.013	**0.126824**	ppb	6.827	25.948	381.116
52	**Cr**		38065.109	**0.219442**	ppb	2.380	9.692	33054.880
55	**Mn**		4607.410	**0.062482**	ppb	2.660	10.741	2280.182
57	**Fe**		39994.817	**11.166800**	ppb	2.379	23.050	31648.354
45	**Sc-IS**	>	5393702.575		ppb	3.043		5450048.085
66	**Zn**		4140.600	**0.050830**	ppb	2.846	98.487	3986.112
86	**Sr**		875.761	**0.267468**	ppb	15.108	12.559	38.437
65	**Cu**		740.019	**0.064553**	ppb	6.636	12.994	353.338
69	**Ga-IS**		1609421.243		ppb	1.107		1687700.429
95	**Mo**		3195.914	**0.870351**	ppb	5.103	7.784	325.559
115	**In-IS**	>	810941.676		ppb	1.659		855705.279
111	**Cd**		136.623	**0.023191**	ppb	24.702	31.826	32.650
118	**Sn**		5063.120	**0.091777**	ppb	2.537	16.420	4025.013
121	**Sb**		2215.728	**0.125487**	ppb	4.745	6.175	407.784
135	**Ba**		297.781	**0.044143**	ppb	11.758	22.541	130.001
165	**Ho-IS**		979579.081		ppb	0.539		967807.469
159	**Tb-IS**	>	988336.274		ppb	1.793		1008563.240
207	**Pb**		1782.265	**0.029561**	ppb	3.273	5.671	534.448
203	**Tl**		1820.116	**0.117013**	ppb	3.825	3.288	93.334
209	**Bi-IS**		516314.669		ppb	1.345		492373.482
51	**V**		31.111	**0.070697**	ppb	65.465	66.480	1.111
59	**Co**		73.334	**0.042862**	ppb	20.830	23.383	12.222
60	**Ni**		498.898	**0.085696**	ppb	6.315	14.190	285.558
75	**As**		1156.183	**0.777876**	ppb	9.354	15.654	469.196
71	**Ga-ISK**		172605.662		ppb	2.059		155322.280
82	**Se-2**		32.455	**0.083724**	ppb	19.847	102.201	24.138
107	**Ag-1**		3537.107	**0.346556**	ppb	9.032	8.791	410.006
115	**In-ISK**	>	241553.250		ppb	1.603		225667.882
45	**Sc-ISK**		425016.186		ppb	2.258		370778.674
23	**Na**		51073.533	**117.615373**	ppb	10.994	13.892	9775.012
39	**K**		52500.752	**11.100634**	ppb	1.399	13.019	42155.440
24	**Mg**		13357.984	**39.755239**	ppb	13.401	13.739	241.669
159	**Tb-ISK**	>	472108.572		ppb	0.843		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 22:23:40
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.292
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		102880.240		ppb	0.506		100902.908
9	**Be**		36.667	**0.007160**	ppb	32.778	53.436	14.444
10	**B**		2668.027	**0.862786**	ppb	2.850	6.380	1904.572
27	**Al**		66334.796	**0.625103**	ppb	3.731	14.537	52396.591
43	**Ca-2**		965.033	**12.236058**	ppb	3.398	3.457	296.670
49	**Ti**		521.121	**0.081365**	ppb	6.439	26.636	381.116
52	**Cr**		36183.549	**0.141016**	ppb	1.391	23.575	33054.880
55	**Mn**		3824.957	**0.041540**	ppb	3.941	12.091	2280.182
57	**Fe**		34923.749	**4.579367**	ppb	0.754	5.548	31648.354
45	**Sc-IS**	>	5398450.110		ppb	1.030		5450048.085
66	**Zn**		4020.566	**0.018526**	ppb	2.869	173.968	3986.112
86	**Sr**		328.493	**0.092931**	ppb	7.980	10.155	38.437
65	**Cu**		511.120	**0.026608**	ppb	0.996	2.793	353.338
69	**Ga-IS**		1630249.973		ppb	1.950		1687700.429
95	**Mo**		970.033	**0.195772**	ppb	3.054	5.569	325.559
115	**In-IS**	>	805915.978		ppb	1.415		855705.279
111	**Cd**		45.741	**0.003326**	ppb	23.562	74.703	32.650
118	**Sn**		3525.992	**-0.019646**	ppb	6.913	78.584	4025.013
121	**Sb**		1081.152	**0.048125**	ppb	6.842	11.355	407.784
135	**Ba**		163.334	**0.010427**	ppb	14.717	62.275	130.001
165	**Ho-IS**		977204.596		ppb	2.425		967807.469
159	**Tb-IS**	>	1001702.284		ppb	2.215		1008563.240
207	**Pb**		866.677	**0.007782**	ppb	1.677	2.083	534.448
203	**Tl**		597.790	**0.033747**	ppb	2.254	3.525	93.334
209	**Bi-IS**		508028.006		ppb	2.543		492373.482
51	**V**		13.333	**0.029410**	ppb	66.144	71.271	1.111
59	**Co**		34.444	**0.015779**	ppb	24.354	39.623	12.222
60	**Ni**		405.561	**0.048123**	ppb	6.169	23.108	285.558
75	**As**		995.726	**0.612692**	ppb	5.271	11.973	469.196
71	**Ga-ISK**		169866.764		ppb	3.001		155322.280
82	**Se-2**		33.497	**0.103823**	ppb	44.099	178.876	24.138
107	**Ag-1**		1071.151	**0.073329**	ppb	1.714	4.625	410.006
115	**In-ISK**	>	236567.160		ppb	1.126		225667.882
45	**Sc-ISK**		408667.455		ppb	1.817		370778.674
23	**Na**		26155.602	**46.197564**	ppb	2.894	2.364	9775.012
39	**K**		48230.170	**5.876780**	ppb	0.732	20.399	42155.440
24	**Mg**		4904.178	**14.141432**	ppb	7.649	6.867	241.669
159	**Tb-ISK**	>	471019.340		ppb	1.766		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 22:26:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.293
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		100049.188		ppb	1.686		100902.908
9	**Be**		318870.988	**102.798107**	ppb	1.322	1.023	14.444
10	**B**		227837.263	**251.232340**	ppb	1.717	1.830	1904.572
27	**Al**		2377187.489	**101.430085**	ppb	0.350	1.101	52396.591
43	**Ca-2**		285314.416	**5231.795178**	ppb	0.744	0.251	296.670
49	**Ti**		179754.046	**102.134551**	ppb	1.697	1.089	381.116
52	**Cr**		2488669.184	**101.152167**	ppb	1.845	1.391	33054.880
55	**Mn**		3770097.703	**100.505768**	ppb	1.668	1.661	2280.182
57	**Fe**		4059411.619	**5192.560883**	ppb	2.538	2.286	31648.354
45	**Sc-IS**	>	5362986.808		ppb	0.804		5450048.085
66	**Zn**		396477.188	**100.878782**	ppb	1.405	1.184	3986.112
86	**Sr**		314726.474	**101.306357**	ppb	0.970	1.771	38.437
65	**Cu**		593183.922	**98.539237**	ppb	0.464	0.427	353.338
69	**Ga-IS**		1684692.773		ppb	0.954		1687700.429
95	**Mo**		331022.149	**100.626408**	ppb	1.936	2.686	325.559
115	**In-IS**	>	808590.146		ppb	0.965		855705.279
111	**Cd**		468885.601	**103.143180**	ppb	1.540	0.579	32.650
118	**Sn**		1356678.173	**99.554259**	ppb	1.149	0.585	4025.013
121	**Sb**		1480337.246	**101.791117**	ppb	0.982	0.079	407.784
135	**Ba**		404054.773	**102.219334**	ppb	0.973	1.341	130.001
165	**Ho-IS**		964548.783		ppb	1.255		967807.469
159	**Tb-IS**	>	995417.767		ppb	2.167		1008563.240
207	**Pb**		4526290.081	**105.522206**	ppb	0.953	1.207	534.448
203	**Tl**		1530327.126	**102.859394**	ppb	1.817	1.147	93.334
209	**Bi-IS**		495371.114		ppb	1.336		492373.482
51	**V**		38434.976	**97.486818**	ppb	1.612	1.371	1.111
59	**Co**		130668.341	**99.367358**	ppb	1.822	0.562	12.222
60	**Ni**		225343.786	**106.542302**	ppb	1.859	2.880	285.558
75	**As**		81955.255	**103.437756**	ppb	0.853	1.582	469.196
71	**Ga-ISK**		163058.860		ppb	1.901		155322.280
82	**Se-2**		8004.717	**106.861093**	ppb	0.317	2.422	24.138
107	**Ag-1**		849738.388	**101.401353**	ppb	2.200	1.663	410.006
115	**In-ISK**	>	226502.584		ppb	2.303		225667.882
45	**Sc-ISK**		400940.870		ppb	1.861		370778.674
23	**Na**		1963125.806	**5661.360711**	ppb	0.598	1.204	9775.012
39	**K**		4355545.468	**5472.703853**	ppb	0.523	2.212	42155.440
24	**Mg**		1785130.979	**5463.982834**	ppb	0.599	2.286	241.669
159	**Tb-ISK**	>	467832.314		ppb	1.683		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 22:29:58
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.294
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		98025.169		ppb	0.534		100902.908
9	**Be**		65.556	**0.016671**	ppb	28.005	35.305	14.444
10	**B**		2602.460	**0.828194**	ppb	4.697	20.189	1904.572
27	**Al**		50057.558	**-0.052309**	ppb	1.325	69.579	52396.591
43	**Ca-2**		460.007	**3.134453**	ppb	5.752	14.314	296.670
49	**Ti**		456.674	**0.047968**	ppb	9.656	49.841	381.116
52	**Cr**		32197.360	**-0.005427**	ppb	1.618	628.967	33054.880
55	**Mn**		3188.134	**0.025727**	ppb	3.033	14.140	2280.182
57	**Fe**		33314.357	**3.056158**	ppb	0.996	4.997	31648.354
45	**Sc-IS**	>	5331220.855		ppb	1.247		5450048.085
66	**Zn**		3909.424	**0.002800**	ppb	0.943	725.090	3986.112
86	**Sr**		136.304	**0.031906**	ppb	18.868	24.793	38.437
65	**Cu**		580.012	**0.039223**	ppb	6.776	18.212	353.338
69	**Ga-IS**		1625887.116		ppb	1.864		1687700.429
95	**Mo**		1990.139	**0.511980**	ppb	6.363	9.005	325.559
115	**In-IS**	>	820653.033		ppb	0.704		855705.279
111	**Cd**		102.488	**0.015425**	ppb	5.465	7.252	32.650
118	**Sn**		9125.140	**0.381615**	ppb	4.942	7.373	4025.013
121	**Sb**		1330.063	**0.063648**	ppb	11.955	17.192	407.784
135	**Ba**		151.112	**0.006629**	ppb	22.206	129.895	130.001
165	**Ho-IS**		969502.128		ppb	1.620		967807.469
159	**Tb-IS**	>	986226.205		ppb	0.588		1008563.240
207	**Pb**		1346.692	**0.019385**	ppb	10.432	16.598	534.448
203	**Tl**		531.121	**0.029842**	ppb	8.544	10.495	93.334
209	**Bi-IS**		501667.328		ppb	2.355		492373.482
51	**V**		15.556	**0.035931**	ppb	12.372	13.998	1.111
59	**Co**		47.778	**0.026371**	ppb	28.196	38.692	12.222
60	**Ni**		377.783	**0.039870**	ppb	5.875	22.874	285.558
75	**As**		991.752	**0.638565**	ppb	5.820	12.495	469.196
71	**Ga-ISK**		160832.601		ppb	1.282		155322.280
82	**Se-2**		36.843	**0.159820**	ppb	7.202	19.806	24.138
107	**Ag-1**		1944.577	**0.178778**	ppb	6.356	7.602	410.006
115	**In-ISK**	>	230675.885		ppb	0.662		225667.882
45	**Sc-ISK**		389112.376		ppb	2.463		370778.674
23	**Na**		15251.472	**16.400620**	ppb	1.902	1.430	9775.012
39	**K**		47855.583	**7.576541**	ppb	1.076	10.835	42155.440
24	**Mg**		1271.723	**3.243777**	ppb	5.593	4.407	241.669
159	**Tb-ISK**	>	454639.505		ppb	2.294		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 22:33:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.295
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99158.603		ppb	2.124		100902.908
9	**Be**		28.889	**0.004880**	ppb	29.038	58.086	14.444
10	**B**		2264.624	**0.468947**	ppb	2.871	29.531	1904.572
27	**Al**		65194.092	**0.632306**	ppb	0.678	9.770	52396.591
43	**Ca-2**		415.006	**2.348990**	ppb	9.096	21.638	296.670
49	**Ti**		368.894	**-0.000727**	ppb	10.076	2966.059	381.116
52	**Cr**		31902.254	**-0.008009**	ppb	1.497	606.152	33054.880
55	**Mn**		3400.405	**0.032070**	ppb	1.033	9.214	2280.182
57	**Fe**		32063.731	**1.731012**	ppb	2.079	57.331	31648.354
45	**Sc-IS**	>	5294707.368		ppb	2.545		5450048.085
66	**Zn**		3679.364	**-0.050370**	ppb	5.231	79.031	3986.112
86	**Sr**		80.660	**0.014190**	ppb	12.641	27.947	38.437
65	**Cu**		486.675	**0.024053**	ppb	14.154	42.488	353.338
69	**Ga-IS**		1626020.386		ppb	2.716		1687700.429
95	**Mo**		821.135	**0.155730**	ppb	6.809	12.429	325.559
115	**In-IS**	>	833490.484		ppb	2.399		855705.279
111	**Cd**		53.831	**0.004674**	ppb	25.146	58.508	32.650
118	**Sn**		5552.190	**0.116571**	ppb	1.000	4.713	4025.013
121	**Sb**		890.028	**0.032968**	ppb	6.498	15.887	407.784
135	**Ba**		141.112	**0.003660**	ppb	20.366	209.027	130.001
165	**Ho-IS**		967555.551		ppb	1.636		967807.469
159	**Tb-IS**	>	999097.873		ppb	1.669		1008563.240
207	**Pb**		863.344	**0.007767**	ppb	3.723	13.805	534.448
203	**Tl**		340.004	**0.016573**	ppb	23.055	31.735	93.334
209	**Bi-IS**		500894.406		ppb	1.366		492373.482
51	**V**		6.667	**0.013627**	ppb	50.000	61.334	1.111
59	**Co**		28.889	**0.012070**	ppb	17.625	33.685	12.222
60	**Ni**		467.785	**0.079740**	ppb	5.716	19.995	285.558
75	**As**		910.701	**0.526315**	ppb	1.897	7.675	469.196
71	**Ga-ISK**		162142.844		ppb	1.274		155322.280
82	**Se-2**		22.119	**-0.037155**	ppb	22.421	158.713	24.138
107	**Ag-1**		821.135	**0.046136**	ppb	9.980	19.526	410.006
115	**In-ISK**	>	233010.364		ppb	1.792		225667.882
45	**Sc-ISK**		389169.084		ppb	1.315		370778.674
23	**Na**		12870.797	**8.436833**	ppb	1.871	5.627	9775.012
39	**K**		45825.628	**3.570596**	ppb	2.211	23.553	42155.440
24	**Mg**		680.016	**1.333271**	ppb	13.071	19.659	241.669
159	**Tb-ISK**	>	465069.165		ppb	1.409		455651.172

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, January 04, 2022 22:36:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICIS-1479530.296
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99796.329		ppb	1.833		
9	**Be**		21.111		ppb	48.238		
10	**B**		1926.797		ppb	1.416		
27	**Al**		52157.710		ppb	0.564		
43	**Ca-2**		411.673		ppb	9.277		
49	**Ti**		375.561		ppb	6.894		
52	**Cr**		31216.305		ppb	2.516		
55	**Mn**		2588.012		ppb	0.828		
57	**Fe**		30920.096		ppb	1.243		
45	**Sc-IS**	>	5340151.775		ppb	0.183		
66	**Zn**		3887.195		ppb	0.818		
86	**Sr**		51.209		ppb	101.238		
65	**Cu**		442.229		ppb	7.550		
69	**Ga-IS**		1673157.590		ppb	1.035		
95	**Mo**		404.450		ppb	16.938		
115	**In-IS**	>	815630.103		ppb	1.968		
111	**Cd**		34.706		ppb	14.569		
118	**Sn**		3074.776		ppb	4.479		
121	**Sb**		487.786		ppb	10.963		
135	**Ba**		151.112		ppb	8.915		
165	**Ho-IS**		962685.027		ppb	2.270		
159	**Tb-IS**	>	983237.722		ppb	1.690		
207	**Pb**		563.338		ppb	10.667		
203	**Tl**		198.890		ppb	11.159		
209	**Bi-IS**		492045.652		ppb	1.264		
51	**V**		3.333		ppb			
59	**Co**		14.444		ppb	13.323		
60	**Ni**		321.115		ppb	8.829		
75	**As**		825.610		ppb	6.516		
71	**Ga-ISK**		159391.770		ppb	3.786		
82	**Se-2**		28.132		ppb	33.005		
107	**Ag-1**		543.344		ppb	10.644		
115	**In-ISK**	>	226930.283		ppb	1.773		
45	**Sc-ISK**		379925.253		ppb	2.978		
23	**Na**		12166.846		ppb	1.204		
39	**K**		44559.386		ppb	0.263		
24	**Mg**		403.339		ppb	14.368		
159	**Tb-ISK**	>	450296.245		ppb	1.837		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Tuesday, January 04, 2022 22:39:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\IC-2235387.297
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97272.287		ppb	0.996		99796.329
9	**Be**		612573.129	**200.000000**	ppb	1.507	1.747	21.111
10	**B**		444368.887	**500.000000**	ppb	1.705	1.135	1926.797
27	**Al**		4567338.275	**200.000000**	ppb	0.455	1.177	52157.710
43	**Ca-2**		547489.545	**10200.000000**	ppb	2.479	1.723	411.673
49	**Ti**		347535.726	**200.000000**	ppb	1.054	1.811	375.561
52	**Cr**		4761807.267	**200.000000**	ppb	1.541	2.333	31216.305
55	**Mn**		7298049.855	**200.000000**	ppb	1.875	2.629	2588.012
57	**Fe**		7939184.167	**10200.000000**	ppb	0.876	1.604	30920.096
45	**Sc-IS**	>	5309809.214		ppb	0.770		5340151.775
66	**Zn**		775150.734	**200.000000**	ppb	1.152	0.658	3887.195
86	**Sr**		620233.187	**200.000000**	ppb	1.231	0.766	51.209
65	**Cu**		1168672.233	**200.000000**	ppb	0.193	0.699	442.229
69	**Ga-IS**		1739547.494		ppb	1.175		1673157.590
95	**Mo**		645703.313	**200.000000**	ppb	1.019	1.441	404.450
115	**In-IS**	>	823943.319		ppb	1.433		815630.103
111	**Cd**		915539.489	**200.000000**	ppb	1.216	0.400	34.706
118	**Sn**		2742336.176	**200.000000**	ppb	1.437	0.374	3074.776
121	**Sb**		2931166.736	**200.000000**	ppb	1.580	0.165	487.786
135	**Ba**		795915.462	**200.000000**	ppb	0.932	0.507	151.112
165	**Ho-IS**		964135.241		ppb	1.597		962685.027
159	**Tb-IS**	>	988447.881		ppb	1.916		983237.722
207	**Pb**		8695506.587	**200.000000**	ppb	1.947	2.194	563.338
203	**Tl**		2975017.373	**200.000000**	ppb	1.339	0.625	198.890
209	**Bi-IS**		481487.532		ppb	1.577		492045.652
51	**V**		75558.319	**200.000000**	ppb	3.252	2.221	3.333
59	**Co**		253720.809	**200.000000**	ppb	2.447	1.862	14.444
60	**Ni**		423210.247	**200.000000**	ppb	1.399	1.380	321.115
75	**As**		155096.757	**200.000000**	ppb	1.296	2.132	825.610
71	**Ga-ISK**		154830.100		ppb	0.791		159391.770
82	**Se-2**		15321.393	**200.000000**	ppb	2.611	1.561	28.132
107	**Ag-1**		1664610.723	**200.000000**	ppb	1.732	1.044	543.344
115	**In-ISK**	>	227377.346		ppb	1.342		226930.283
45	**Sc-ISK**		384205.221		ppb	1.379		379925.253
23	**Na**		3676820.546	**10200.000000**	ppb	0.490	2.103	12166.846
39	**K**		8177967.477	**10200.000000**	ppb	1.076	1.450	44559.386
24	**Mg**		3380235.947	**10200.000000**	ppb	2.127	1.770	403.339
159	**Tb-ISK**	>	459237.794		ppb	1.932		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 22:42:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.298
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		96760.005		ppb	2.039		99796.329
9	**Be**		309876.124	**101.477928**	ppb	1.094	0.820	21.111
10	**B**		223735.727	**251.453224**	ppb	2.395	1.999	1926.797
27	**Al**		2351506.672	**102.174627**	ppb	0.677	0.522	52157.710
43	**Ca-2**		278558.407	**5202.553936**	ppb	1.649	1.567	411.673
49	**Ti**		176648.805	**101.861718**	ppb	0.454	0.745	375.561
52	**Cr**		2495739.187	**104.519045**	ppb	1.304	1.655	31216.305
55	**Mn**		3770747.511	**103.613922**	ppb	1.428	1.728	2588.012
57	**Fe**		4082667.983	**5242.028957**	ppb	0.451	0.406	30920.096
45	**Sc-IS**	>	5293318.692		ppb	0.442		5340151.775
66	**Zn**		403601.119	**103.974791**	ppb	2.661	2.252	3887.195
86	**Sr**		314936.126	**101.858106**	ppb	3.392	3.114	51.209
65	**Cu**		614717.241	**105.488402**	ppb	0.338	0.321	442.229
69	**Ga-IS**		1732285.578		ppb	1.733		1673157.590
95	**Mo**		328709.126	**102.065017**	ppb	2.491	2.453	404.450
115	**In-IS**	>	828836.621		ppb	2.630		815630.103
111	**Cd**		468277.147	**101.703357**	ppb	2.002	1.540	34.706
118	**Sn**		1388719.336	**100.576004**	ppb	2.276	0.548	3074.776
121	**Sb**		1503214.335	**101.968441**	ppb	1.532	1.290	487.786
135	**Ba**		407198.013	**101.730344**	ppb	1.321	2.332	151.112
165	**Ho-IS**		978305.414		ppb	2.960		962685.027
159	**Tb-IS**	>	995837.083		ppb	0.334		983237.722
207	**Pb**		4472639.124	**102.088618**	ppb	0.372	0.698	563.338
203	**Tl**		1515973.773	**101.139097**	ppb	2.478	2.201	198.890
209	**Bi-IS**		485044.769		ppb	1.495		492045.652
51	**V**		38847.194	**104.002792**	ppb	0.893	2.965	3.333
59	**Co**		132385.346	**105.553442**	ppb	2.840	4.583	14.444
60	**Ni**		214490.921	**102.375146**	ppb	3.886	2.462	321.115
75	**As**		79179.094	**102.695843**	ppb	2.272	2.063	825.610
71	**Ga-ISK**		155942.522		ppb	2.854		159391.770
82	**Se-2**		7900.324	**104.103592**	ppb	1.399	1.477	28.132
107	**Ag-1**		846947.456	**102.834248**	ppb	2.503	0.523	543.344
115	**In-ISK**	>	224919.229		ppb	2.087		226930.283
45	**Sc-ISK**		378117.350		ppb	4.077		379925.253
23	**Na**		1822055.882	**5073.251774**	ppb	1.862	1.754	12166.846
39	**K**		4133562.826	**5164.761308**	ppb	1.721	1.480	44559.386
24	**Mg**		1673920.310	**5087.207121**	ppb	2.556	2.292	403.339
159	**Tb-ISK**	>	455879.958		ppb	0.762		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 22:45:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.299
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99296.346		ppb	3.159		99796.329
9	**Be**		84.445	**0.020563**	ppb	28.005	37.252	21.111
10	**B**		2754.710	**0.931711**	ppb	4.414	11.832	1926.797
27	**Al**		51954.749	**-0.008194**	ppb	4.227	720.736	52157.710
43	**Ca-2**		400.006	**-0.203851**	ppb	6.960	321.944	411.673
49	**Ti**		387.783	**0.007373**	ppb	6.565	255.698	375.561
52	**Cr**		31857.729	**0.028136**	ppb	3.237	190.521	31216.305
55	**Mn**		3384.846	**0.021827**	ppb	4.143	23.711	2588.012
57	**Fe**		31663.957	**0.981256**	ppb	2.583	103.480	30920.096
45	**Sc-IS**	>	5337148.764		ppb	1.964		5340151.775
66	**Zn**		4075.026	**0.049163**	ppb	4.043	87.424	3887.195
86	**Sr**		125.667	**0.023851**	ppb	11.048	15.264	51.209
65	**Cu**		637.792	**0.033293**	ppb	6.012	13.306	442.229
69	**Ga-IS**		1683868.318		ppb	2.135		1673157.590
95	**Mo**		2191.279	**0.551427**	ppb	3.123	6.116	404.450
115	**In-IS**	>	834967.234		ppb	2.289		815630.103
111	**Cd**		133.177	**0.021025**	ppb	10.223	11.690	34.706
118	**Sn**		11640.300	**0.611997**	ppb	3.488	4.594	3074.776
121	**Sb**		1607.868	**0.074643**	ppb	2.860	1.073	487.786
135	**Ba**		180.001	**0.006313**	ppb	6.415	55.314	151.112
165	**Ho-IS**		966740.631		ppb	1.772		962685.027
159	**Tb-IS**	>	1007512.320		ppb	1.283		983237.722
207	**Pb**		1875.603	**0.029302**	ppb	1.011	2.910	563.338
203	**Tl**		707.795	**0.033276**	ppb	7.614	12.432	198.890
209	**Bi-IS**		501238.500		ppb	2.461		492045.652
51	**V**		24.444	**0.055910**	ppb	43.835	47.782	3.333
59	**Co**		62.222	**0.037906**	ppb	13.482	14.248	14.444
60	**Ni**		402.228	**0.039416**	ppb	11.493	53.696	321.115
75	**As**		790.626	**-0.039756**	ppb	2.185	56.991	825.610
71	**Ga-ISK**		153401.584		ppb	1.601		159391.770
82	**Se-2**		31.804	**0.050296**	ppb	6.400	46.556	28.132
107	**Ag-1**		2012.364	**0.178200**	ppb	2.403	0.312	543.344
115	**In-ISK**	>	225733.979		ppb	2.627		226930.283
45	**Sc-ISK**		368994.860		ppb	2.006		379925.253
23	**Na**		13598.139	**3.843646**	ppb	2.739	44.594	12166.846
39	**K**		47577.987	**3.505299**	ppb	0.506	47.670	44559.386
24	**Mg**		965.033	**1.711095**	ppb	11.364	19.791	403.339
159	**Tb-ISK**	>	453152.665		ppb	2.584		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 22:48:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.300
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97583.271		ppb	0.561		99796.329
9	**Be**		36.667	**0.004988**	ppb	9.091	19.128	21.111
10	**B**		2327.967	**0.439736**	ppb	1.292	20.549	1926.797
27	**Al**		66278.395	**0.609094**	ppb	0.400	11.895	52157.710
43	**Ca-2**		385.005	**-0.537164**	ppb	14.048	166.738	411.673
49	**Ti**		311.115	**-0.037464**	ppb	9.112	53.606	375.561
52	**Cr**		32244.129	**0.037241**	ppb	1.112	91.100	31216.305
55	**Mn**		3323.720	**0.019641**	ppb	1.714	8.986	2588.012
57	**Fe**		30246.437	**-1.025187**	ppb	1.757	147.951	30920.096
45	**Sc-IS**	>	5365512.462		ppb	2.181		5340151.775
66	**Zn**		3733.821	**-0.043595**	ppb	2.042	84.960	3887.195
86	**Sr**		68.961	**0.005851**	ppb	79.648	309.486	51.209
65	**Cu**		486.675	**0.007117**	ppb	13.474	142.903	442.229
69	**Ga-IS**		1683551.566		ppb	1.524		1673157.590
95	**Mo**		956.699	**0.169016**	ppb	8.890	17.001	404.450
115	**In-IS**	>	856492.654		ppb	1.500		815630.103
111	**Cd**		55.769	**0.004054**	ppb	9.443	24.202	34.706
118	**Sn**		7305.202	**0.286273**	ppb	2.867	3.284	3074.776
121	**Sb**		820.024	**0.020160**	ppb	10.916	25.568	487.786
135	**Ba**		151.112	**-0.001855**	ppb	8.351	136.451	151.112
165	**Ho-IS**		993909.687		ppb	1.978		962685.027
159	**Tb-IS**	>	1012308.569		ppb	2.041		983237.722
207	**Pb**		1004.458	**0.009519**	ppb	8.541	16.891	563.338
203	**Tl**		390.005	**0.012180**	ppb	4.759	13.928	198.890
209	**Bi-IS**		503219.714		ppb	2.018		492045.652
51	**V**		7.778	**0.012373**	ppb	65.465	116.976	3.333
59	**Co**		31.111	**0.013357**	ppb	32.733	59.970	14.444
60	**Ni**		466.674	**0.071053**	ppb	6.814	8.581	321.115
75	**As**		683.416	**-0.175001**	ppb	3.647	22.515	825.610
71	**Ga-ISK**		157594.635		ppb	1.572		159391.770
82	**Se-2**		31.427	**0.047573**	ppb	22.430	200.563	28.132
107	**Ag-1**		828.913	**0.035335**	ppb	6.841	8.488	543.344
115	**In-ISK**	>	224677.589		ppb	4.545		226930.283
45	**Sc-ISK**		370628.215		ppb	3.700		379925.253
23	**Na**		12021.724	**-0.920395**	ppb	1.867	177.590	12166.846
39	**K**		45112.229	**-0.159348**	ppb	0.589	1470.620	44559.386
24	**Mg**		523.343	**0.342276**	ppb	7.234	18.474	403.339
159	**Tb-ISK**	>	457606.124		ppb	3.550		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80400-O-1-A @20
Autosampler Position: 404
Sample Date/Time: Tuesday, January 04, 2022 22:52:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80400-O-1-A @20.301
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		107477.241		ppb	0.739		99796.329
9	**Be**		22.222	**-0.000111**	ppb	17.321	1236.648	21.111
10	**B**		97341.775	**99.696905**	ppb	2.618	2.499	1926.797
27	**Al**		30035.249	**-1.063702**	ppb	4.465	8.627	52157.710
43	**Ca-2**		486078.966	**8385.212588**	ppb	1.440	1.648	411.673
49	**Ti**		1751.219	**0.719789**	ppb	5.130	9.381	375.561
52	**Cr**		50829.175	**0.677629**	ppb	1.868	6.434	31216.305
55	**Mn**		109649.255	**2.712845**	ppb	1.471	2.310	2588.012
57	**Fe**		65340.260	**38.418863**	ppb	2.515	9.422	30920.096
45	**Sc-IS**	>	5735854.869		ppb	2.935		5340151.775
66	**Zn**		3869.413	**-0.072613**	ppb	2.410	61.049	3887.195
86	**Sr**		397584.986	**118.716756**	ppb	1.487	1.901	51.209
65	**Cu**		1983.471	**0.239127**	ppb	5.219	6.514	442.229
69	**Ga-IS**		1635009.887		ppb	1.851		1673157.590
95	**Mo**		2163.498	**0.495626**	ppb	7.163	5.736	404.450
115	**In-IS**	>	814014.752		ppb	1.252		815630.103
111	**Cd**		44.346	**0.002174**	ppb	34.022	159.911	34.706
118	**Sn**		1261.167	**-0.133588**	ppb	4.038	2.484	3074.776
121	**Sb**		492.231	**0.000401**	ppb	9.489	898.318	487.786
135	**Ba**		10215.876	**2.560088**	ppb	3.342	2.516	151.112
165	**Ho-IS**		957385.615		ppb	1.236		962685.027
159	**Tb-IS**	>	970634.981		ppb	1.890		983237.722
207	**Pb**		872.233	**0.007390**	ppb	7.174	14.539	563.338
203	**Tl**		250.002	**0.003660**	ppb	9.333	35.905	198.890
209	**Bi-IS**		429038.496		ppb	0.511		492045.652
51	**V**		31.111	**0.078323**	ppb	24.744	30.589	3.333
59	**Co**		15.556	**0.001529**	ppb	32.733	278.040	14.444
60	**Ni**		205.557	**-0.049553**	ppb	10.551	26.461	321.115
75	**As**		1170.925	**0.527541**	ppb	1.332	10.100	825.610
71	**Ga-ISK**		148250.107		ppb	2.815		159391.770
82	**Se-2**		190.446	**2.256549**	ppb	6.551	8.084	28.132
107	**Ag-1**		520.009	**0.000474**	ppb	6.662	1133.497	543.344
115	**In-ISK**	>	215827.779		ppb	2.463		226930.283
45	**Sc-ISK**		378528.780		ppb	3.463		379925.253
23	**Na**		56260947.405	**161146.464299**	ppb	2.599	0.915	12166.846
39	**K**		4601078.179	**5882.826710**	ppb	3.732	2.610	44559.386
24	**Mg**		5840651.528	**18145.489518**	ppb	2.987	2.408	403.339
159	**Tb-ISK**	>	446048.918		ppb	1.962		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80400-O-1-B MS @20
Autosampler Position: 405
Sample Date/Time: Tuesday, January 04, 2022 22:55:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80400-O-1-B MS @20.302
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		109480.132		ppb	0.429		99796.329
9	**Be**		18710.028	**5.588617**	ppb	2.689	3.608	21.111
10	**B**		115552.312	**117.454574**	ppb	2.520	3.650	1926.797
27	**Al**		171943.256	**4.678067**	ppb	0.570	2.701	52157.710
43	**Ca-2**		573925.340	**9794.897416**	ppb	1.675	2.927	411.673
49	**Ti**		11251.098	**5.719437**	ppb	2.813	1.601	375.561
52	**Cr**		181874.203	**5.727613**	ppb	2.451	0.901	31216.305
55	**Mn**		312506.751	**7.774890**	ppb	0.528	1.411	2588.012
57	**Fe**		215557.069	**214.941528**	ppb	2.669	3.038	30920.096
45	**Sc-IS**	>	5798484.136		ppb	1.847		5340151.775
66	**Zn**		25532.811	**5.060887**	ppb	2.986	3.080	3887.195
86	**Sr**		462753.356	**136.650809**	ppb	1.301	0.833	51.209
65	**Cu**		33211.896	**5.132804**	ppb	0.795	2.590	442.229
69	**Ga-IS**		1618340.860		ppb	1.723		1673157.590
95	**Mo**		14566.314	**4.009507**	ppb	2.386	2.101	404.450
115	**In-IS**	>	807689.367		ppb	1.493		815630.103
111	**Cd**		24969.044	**5.557629**	ppb	0.395	1.746	34.706
118	**Sn**		36476.580	**2.489330**	ppb	4.783	3.889	3074.776
121	**Sb**		79805.632	**5.522818**	ppb	0.698	1.079	487.786
135	**Ba**		35623.249	**9.095938**	ppb	0.312	1.503	151.112
165	**Ho-IS**		961997.758		ppb	1.114		962685.027
159	**Tb-IS**	>	981324.260		ppb	0.618		983237.722
207	**Pb**		207261.726	**4.788441**	ppb	0.580	1.053	563.338
203	**Tl**		69485.258	**4.691668**	ppb	1.139	0.916	198.890
209	**Bi-IS**		429226.483		ppb	0.922		492045.652
51	**V**		1890.125	**5.260860**	ppb	4.562	6.640	3.333
59	**Co**		6771.608	**5.602742**	ppb	5.773	3.788	14.444
60	**Ni**		11215.513	**5.429334**	ppb	2.089	2.198	321.115
75	**As**		5811.262	**6.848992**	ppb	5.339	3.112	825.610
71	**Ga-ISK**		151456.859		ppb	2.900		159391.770
82	**Se-2**		626.129	**8.243904**	ppb	5.665	3.941	28.132
107	**Ag-1**		21358.180	**2.635938**	ppb	1.944	2.153	543.344
115	**In-ISK**	>	216121.977		ppb	2.646		226930.283
45	**Sc-ISK**		400960.265		ppb	3.092		379925.253
23	**Na**		65237369.566	**185325.231046**	ppb	1.849	0.632	12166.846
39	**K**		5317125.420	**6750.495581**	ppb	3.008	1.922	44559.386
24	**Mg**		6897267.467	**21246.491163**	ppb	3.839	2.569	403.339
159	**Tb-ISK**	>	449760.354		ppb	1.325		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80400-O-1-C MSD @20
Autosampler Position: 406
Sample Date/Time: Tuesday, January 04, 2022 22:58:16
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\570-80400-O-1-C MSD @20.303
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108558.694		ppb	0.335		99796.329
9	**Be**		16311.529	**4.976184**	ppb	0.310	1.223	21.111
10	**B**		99523.308	**103.078790**	ppb	1.659	2.420	1926.797
27	**Al**		153722.389	**4.073029**	ppb	1.204	0.990	52157.710
43	**Ca-2**		487746.001	**8502.554203**	ppb	1.415	2.279	411.673
49	**Ti**		9658.820	**4.991103**	ppb	1.014	1.787	375.561
52	**Cr**		165568.790	**5.237482**	ppb	2.577	4.291	31216.305
55	**Mn**		272763.189	**6.926441**	ppb	3.080	4.045	2588.012
57	**Fe**		195290.594	**196.036677**	ppb	2.051	3.570	30920.096
45	**Sc-IS**	>	5675161.069		ppb	0.908		5340151.775
66	**Zn**		23539.385	**4.708918**	ppb	2.394	2.866	3887.195
86	**Sr**		407132.742	**122.832083**	ppb	0.839	1.046	51.209
65	**Cu**		29372.390	**4.629377**	ppb	1.262	0.964	442.229
69	**Ga-IS**		1635398.417		ppb	1.307		1673157.590
95	**Mo**		12375.359	**3.464227**	ppb	1.553	2.394	404.450
115	**In-IS**	>	809510.664		ppb	0.815		815630.103
111	**Cd**		22032.140	**4.891298**	ppb	0.971	1.096	34.706
118	**Sn**		33621.749	**2.271790**	ppb	1.810	1.716	3074.776
121	**Sb**		69951.958	**4.825495**	ppb	0.278	0.661	487.786
135	**Ba**		31072.656	**7.909457**	ppb	2.241	1.504	151.112
165	**Ho-IS**		969479.284		ppb	1.172		962685.027
159	**Tb-IS**	>	984366.469		ppb	0.935		983237.722
207	**Pb**		180976.334	**4.166682**	ppb	0.211	1.128	563.338
203	**Tl**		63232.979	**4.255424**	ppb	1.074	1.647	198.890
209	**Bi-IS**		425418.900		ppb	1.427		492045.652
51	**V**		1557.863	**4.321157**	ppb	3.359	6.409	3.333
59	**Co**		6007.930	**4.959266**	ppb	1.721	4.652	14.444
60	**Ni**		10130.257	**4.872943**	ppb	1.148	1.895	321.115
75	**As**		5199.956	**5.995121**	ppb	3.505	1.972	825.610
71	**Ga-ISK**		152398.836		ppb	2.207		159391.770
82	**Se-2**		599.466	**7.857434**	ppb	1.260	3.558	28.132
107	**Ag-1**		19465.482	**2.388245**	ppb	2.940	2.675	543.344
115	**In-ISK**	>	216849.587		ppb	2.955		226930.283
45	**Sc-ISK**		396681.024		ppb	1.853		379925.253
23	**Na**		57538946.453	**164922.429171**	ppb	1.437	0.794	12166.846
39	**K**		4749420.133	**6079.116927**	ppb	0.895	0.738	44559.386
24	**Mg**		6217977.258	**19331.575010**	ppb	0.832	1.540	403.339
159	**Tb-ISK**	>	445757.978		ppb	0.832		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 23:01:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.304
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		110439.789		ppb	1.842		99796.329
9	**Be**		23.333	**0.000175**	ppb	51.508	2076.944	21.111
10	**B**		2433.541	**0.371940**	ppb	3.322	21.888	1926.797
27	**Al**		68253.001	**0.491745**	ppb	0.932	2.257	52157.710
43	**Ca-2**		503.342	**1.027427**	ppb	9.230	80.482	411.673
49	**Ti**		795.578	**0.207706**	ppb	5.034	10.680	375.561
52	**Cr**		42838.595	**0.358658**	ppb	1.958	11.831	31216.305
55	**Mn**		4584.069	**0.045384**	ppb	1.887	5.111	2588.012
57	**Fe**		69773.319	**43.365272**	ppb	0.924	2.376	30920.096
45	**Sc-IS**	>	5755738.967		ppb	0.593		5340151.775
66	**Zn**		4831.929	**0.153516**	ppb	4.869	34.062	3887.195
86	**Sr**		205.119	**0.044573**	ppb	16.727	22.203	51.209
65	**Cu**		1277.835	**0.126521**	ppb	3.024	4.281	442.229
69	**Ga-IS**		1758931.646		ppb	1.618		1673157.590
95	**Mo**		1525.637	**0.311687**	ppb	7.195	10.864	404.450
115	**In-IS**	>	852781.778		ppb	2.061		815630.103
111	**Cd**		21.241	**-0.003193**	ppb	38.726	52.355	34.706
118	**Sn**		16065.707	**0.906248**	ppb	4.360	3.269	3074.776
121	**Sb**		646.681	**0.009025**	ppb	7.488	36.519	487.786
135	**Ba**		151.112	**-0.001603**	ppb	16.260	406.686	151.112
165	**Ho-IS**		997131.895		ppb	0.836		962685.027
159	**Tb-IS**	>	1021435.944		ppb	1.386		983237.722
207	**Pb**		1467.807	**0.019646**	ppb	4.678	8.012	563.338
203	**Tl**		280.003	**0.004768**	ppb	6.628	21.787	198.890
209	**Bi-IS**		497052.763		ppb	1.512		492045.652
51	**V**		16.667	**0.033959**	ppb	34.641	43.163	3.333
59	**Co**		26.667	**0.009010**	ppb	21.651	49.789	14.444
60	**Ni**		373.338	**0.019289**	ppb	11.607	106.062	321.115
75	**As**		791.399	**-0.076270**	ppb	6.662	90.875	825.610
71	**Ga-ISK**		162668.909		ppb	1.960		159391.770
82	**Se-2**		33.119	**0.052293**	ppb	19.757	165.608	28.132
107	**Ag-1**		964.477	**0.047081**	ppb	5.512	11.936	543.344
115	**In-ISK**	>	234222.830		ppb	0.842		226930.283
45	**Sc-ISK**		401649.913		ppb	2.291		379925.253
23	**Na**		58531.435	**124.384516**	ppb	3.650	7.514	12166.846
39	**K**		60169.788	**16.586801**	ppb	0.921	9.307	44559.386
24	**Mg**		3233.701	**8.287690**	ppb	9.474	13.574	403.339
159	**Tb-ISK**	>	471104.352		ppb	2.242		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 23:04:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.305
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		109180.206		ppb	2.243		99796.329
9	**Be**		34.444	**0.003725**	ppb	11.175	30.561	21.111
10	**B**		2239.065	**0.216073**	ppb	8.986	101.151	1926.797
27	**Al**		68228.570	**0.546549**	ppb	1.607	9.748	52157.710
43	**Ca-2**		435.007	**-0.004147**	ppb	9.409	15676.845	411.673
49	**Ti**		616.680	**0.119006**	ppb	10.098	26.487	375.561
52	**Cr**		41081.222	**0.321809**	ppb	2.040	5.935	31216.305
55	**Mn**		4128.375	**0.035960**	ppb	3.375	11.904	2588.012
57	**Fe**		48110.886	**18.735943**	ppb	1.330	5.614	30920.096
45	**Sc-IS**	>	5643169.456		ppb	0.892		5340151.775
66	**Zn**		4574.066	**0.113731**	ppb	3.362	30.210	3887.195
86	**Sr**		129.574	**0.022887**	ppb	22.300	38.151	51.209
65	**Cu**		952.254	**0.078140**	ppb	3.176	7.518	442.229
69	**Ga-IS**		1702807.928		ppb	1.285		1673157.590
95	**Mo**		471.119	**0.012801**	ppb	7.566	88.258	404.450
115	**In-IS**	>	851882.624		ppb	0.745		815630.103
111	**Cd**		32.344	**-0.000826**	ppb	35.876	295.754	34.706
118	**Sn**		6819.407	**0.254898**	ppb	4.669	10.051	3074.776
121	**Sb**		441.118	**-0.004503**	ppb	11.217	74.880	487.786
135	**Ba**		126.667	**-0.007562**	ppb	9.488	41.225	151.112
165	**Ho-IS**		992412.720		ppb	0.752		962685.027
159	**Tb-IS**	>	1007580.815		ppb	2.244		983237.722
207	**Pb**		767.786	**0.004284**	ppb	7.586	21.812	563.338
203	**Tl**		212.224	**0.000549**	ppb	8.931	198.428	198.890
209	**Bi-IS**		502291.695		ppb	0.971		492045.652
51	**V**		10.000	**0.017098**	ppb	33.333	54.729	3.333
59	**Co**		17.778	**0.002250**	ppb	10.825	81.564	14.444
60	**Ni**		387.783	**0.026397**	ppb	5.851	55.212	321.115
75	**As**		668.148	**-0.230175**	ppb	3.310	4.319	825.610
71	**Ga-ISK**		163566.843		ppb	1.907		159391.770
82	**Se-2**		18.093	**-0.136911**	ppb	30.521	55.877	28.132
107	**Ag-1**		470.008	**-0.010407**	ppb	8.599	56.836	543.344
115	**In-ISK**	>	233857.396		ppb	3.309		226930.283
45	**Sc-ISK**		402213.011		ppb	2.167		379925.253
23	**Na**		31955.719	**53.444844**	ppb	2.760	0.897	12166.846
39	**K**		50254.908	**5.380332**	ppb	0.538	21.349	44559.386
24	**Mg**		1233.387	**2.442484**	ppb	4.373	7.513	403.339
159	**Tb-ISK**	>	464168.727		ppb	2.255		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 23:07:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.306
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108537.430		ppb	0.623		99796.329
9	**Be**		20.000	**-0.000611**	ppb	44.096	447.503	21.111
10	**B**		1909.016	**-0.101320**	ppb	0.439	12.654	1926.797
27	**Al**		68597.661	**0.609567**	ppb	1.498	9.363	52157.710
43	**Ca-2**		363.338	**-1.152124**	ppb	9.955	55.243	411.673
49	**Ti**		585.568	**0.107472**	ppb	10.028	28.805	375.561
52	**Cr**		39679.483	**0.292412**	ppb	1.552	6.443	31216.305
55	**Mn**		3817.177	**0.029553**	ppb	2.065	6.311	2588.012
57	**Fe**		44246.194	**14.938044**	ppb	0.635	3.945	30920.096
45	**Sc-IS**	>	5550701.024		ppb	0.462		5340151.775
66	**Zn**		4529.607	**0.121373**	ppb	2.292	22.647	3887.195
86	**Sr**		72.832	**0.006027**	ppb	32.064	118.022	51.209
65	**Cu**		848.914	**0.063753**	ppb	8.443	18.571	442.229
69	**Ga-IS**		1746395.831		ppb	1.906		1673157.590
95	**Mo**		341.115	**-0.023518**	ppb	5.890	23.756	404.450
115	**In-IS**	>	855997.477		ppb	1.500		815630.103
111	**Cd**		23.728	**-0.002669**	ppb	44.999	84.453	34.706
118	**Sn**		4961.973	**0.121935**	ppb	3.699	9.731	3074.776
121	**Sb**		385.561	**-0.008286**	ppb	11.770	37.740	487.786
135	**Ba**		105.556	**-0.012858**	ppb	12.763	22.290	151.112
165	**Ho-IS**		1005962.378		ppb	1.155		962685.027
159	**Tb-IS**	>	1033283.102		ppb	1.391		983237.722
207	**Pb**		624.450	**0.000717**	ppb	6.759	135.982	563.338
203	**Tl**		144.445	**-0.004145**	ppb	16.209	37.431	198.890
209	**Bi-IS**		510296.580		ppb	1.504		492045.652
51	**V**		5.556	**0.005558**	ppb	69.282	181.987	3.333
59	**Co**		26.667	**0.009048**	ppb	33.072	73.258	14.444
60	**Ni**		357.782	**0.012747**	ppb	10.389	126.349	321.115
75	**As**		657.220	**-0.241665**	ppb	6.338	21.643	825.610
71	**Ga-ISK**		162560.856		ppb	1.043		159391.770
82	**Se-2**		35.476	**0.083530**	ppb	20.846	110.632	28.132
107	**Ag-1**		353.338	**-0.024016**	ppb	5.739	10.918	543.344
115	**In-ISK**	>	233208.738		ppb	0.888		226930.283
45	**Sc-ISK**		391250.041		ppb	0.922		379925.253
23	**Na**		24891.686	**33.812094**	ppb	3.676	7.434	12166.846
39	**K**		46875.677	**1.009498**	ppb	1.239	76.264	44559.386
24	**Mg**		738.353	**0.956969**	ppb	9.585	21.965	403.339
159	**Tb-ISK**	>	465462.038		ppb	0.089		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 23:10:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.307
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		107818.684		ppb	0.612		99796.329
9	**Be**		63.333	**0.012842**	ppb	9.116	13.835	21.111
10	**B**		2015.698	**0.005315**	ppb	7.068	3106.424	1926.797
27	**Al**		83903.011	**1.242939**	ppb	0.760	3.737	52157.710
43	**Ca-2**		990.035	**9.955124**	ppb	9.258	16.889	411.673
49	**Ti**		578.901	**0.102475**	ppb	6.317	18.032	375.561
52	**Cr**		39141.327	**0.264035**	ppb	0.525	5.828	31216.305
55	**Mn**		5156.487	**0.064110**	ppb	3.749	8.456	2588.012
57	**Fe**		43180.735	**13.400112**	ppb	2.047	9.905	30920.096
45	**Sc-IS**	>	5574334.546		ppb	0.551		5340151.775
66	**Zn**		4745.234	**0.169839**	ppb	5.818	39.988	3887.195
86	**Sr**		276.769	**0.068642**	ppb	13.233	17.107	51.209
65	**Cu**		820.024	**0.058470**	ppb	6.337	15.436	442.229
69	**Ga-IS**		1699902.148		ppb	1.767		1673157.590
95	**Mo**		297.781	**-0.036724**	ppb	12.482	29.841	404.450
115	**In-IS**	>	851463.336		ppb	0.600		815630.103
111	**Cd**		113.820	**0.016394**	ppb	14.381	20.531	34.706
118	**Sn**		4263.972	**0.074398**	ppb	7.817	29.472	3074.776
121	**Sb**		497.786	**-0.000747**	ppb	6.504	310.416	487.786
135	**Ba**		207.779	**0.012167**	ppb	0.926	3.897	151.112
165	**Ho-IS**		992470.017		ppb	0.808		962685.027
159	**Tb-IS**	>	1015435.843		ppb	0.110		983237.722
207	**Pb**		1286.689	**0.015780**	ppb	5.484	9.926	563.338
203	**Tl**		404.450	**0.013027**	ppb	10.239	20.946	198.890
209	**Bi-IS**		502252.030		ppb	1.409		492045.652
51	**V**		5.556	**0.005546**	ppb	124.900	325.303	3.333
59	**Co**		27.778	**0.009962**	ppb	36.661	79.893	14.444
60	**Ni**		364.449	**0.015854**	ppb	12.452	138.869	321.115
75	**As**		650.854	**-0.250022**	ppb	8.419	29.988	825.610
71	**Ga-ISK**		158749.640		ppb	2.042		159391.770
82	**Se-2**		34.476	**0.070615**	ppb	6.191	38.035	28.132
107	**Ag-1**		267.780	**-0.034089**	ppb	9.343	7.988	543.344
115	**In-ISK**	>	233392.700		ppb	0.713		226930.283
45	**Sc-ISK**		391373.451		ppb	2.091		379925.253
23	**Na**		20172.567	**21.344196**	ppb	1.262	5.307	12166.846
39	**K**		45661.753	**0.008860**	ppb	1.083	14816.046	44559.386
24	**Mg**		481.675	**0.205135**	ppb	2.161	6.103	403.339
159	**Tb-ISK**	>	461475.248		ppb	1.766		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, January 04, 2022 23:14:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\blk.308
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		108100.827		ppb	1.095		99796.329
9	**Be**		21.111	**-0.000395**	ppb	65.737	1057.526	21.111
10	**B**		1946.799	**-0.094310**	ppb	4.462	116.930	1926.797
27	**Al**		70081.843	**0.624072**	ppb	1.603	11.510	52157.710
43	**Ca-2**		465.008	**0.524210**	ppb	7.527	109.922	411.673
49	**Ti**		518.898	**0.066005**	ppb	7.981	29.351	375.561
52	**Cr**		37836.711	**0.192870**	ppb	1.146	3.547	31216.305
55	**Mn**		3555.998	**0.021182**	ppb	3.050	13.442	2588.012
57	**Fe**		39681.716	**8.503907**	ppb	1.924	10.140	30920.096
45	**Sc-IS**	>	5643169.456		ppb	1.063		5340151.775
66	**Zn**		4568.508	**0.112389**	ppb	2.364	19.240	3887.195
86	**Sr**		80.635	**0.008067**	ppb	24.580	76.420	51.209
65	**Cu**		694.461	**0.036619**	ppb	3.086	12.466	442.229
69	**Ga-IS**		1704546.946		ppb	0.681		1673157.590
95	**Mo**		216.668	**-0.061474**	ppb	12.211	12.039	404.450
115	**In-IS**	>	852354.430		ppb	0.527		815630.103
111	**Cd**		33.989	**-0.000488**	ppb	29.961	433.717	34.706
118	**Sn**		3564.891	**0.024851**	ppb	8.378	87.056	3074.776
121	**Sb**		354.449	**-0.010240**	ppb	7.887	18.996	487.786
135	**Ba**		133.334	**-0.005975**	ppb	5.000	25.217	151.112
165	**Ho-IS**		970671.835		ppb	1.893		962685.027
159	**Tb-IS**	>	999092.340		ppb	2.369		983237.722
207	**Pb**		672.229	**0.002276**	ppb	4.867	34.884	563.338
203	**Tl**		168.890	**-0.002199**	ppb	9.934	55.165	198.890
209	**Bi-IS**		503530.321		ppb	0.106		492045.652
51	**V**		6.667	**0.008430**	ppb	50.000	104.713	3.333
59	**Co**		22.222	**0.005691**	ppb	22.913	72.642	14.444
60	**Ni**		348.893	**0.008560**	ppb	11.946	226.546	321.115
75	**As**		705.375	**-0.181591**	ppb	3.523	20.275	825.610
71	**Ga-ISK**		159642.044		ppb	3.096		159391.770
82	**Se-2**		25.838	**-0.039249**	ppb	17.901	155.044	28.132
107	**Ag-1**		333.337	**-0.026395**	ppb	8.185	13.066	543.344
115	**In-ISK**	>	233462.339		ppb	1.412		226930.283
45	**Sc-ISK**		385559.250		ppb	3.658		379925.253
23	**Na**		21736.542	**26.332476**	ppb	4.007	14.278	12166.846
39	**K**		44832.473	**-0.454465**	ppb	1.664	326.359	44559.386
24	**Mg**		1398.402	**3.004389**	ppb	4.721	9.183	403.339
159	**Tb-ISK**	>	456837.981		ppb	2.276		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Tuesday, January 04, 2022 23:17:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCV-2237327.309
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99961.868		ppb	0.941		99796.329
9	**Be**		324580.850	**103.231054**	ppb	1.420	1.075	21.111
10	**B**		237145.734	**258.916862**	ppb	1.451	0.919	1926.797
27	**Al**		2434239.906	**102.730814**	ppb	1.470	0.795	52157.710
43	**Ca-2**		290535.284	**5269.796858**	ppb	1.841	1.283	411.673
49	**Ti**		183924.228	**103.003033**	ppb	0.709	0.562	375.561
52	**Cr**		2607280.761	**106.062469**	ppb	0.780	0.986	31216.305
55	**Mn**		3902571.211	**104.143854**	ppb	0.739	0.512	2588.012
57	**Fe**		4182661.568	**5215.630315**	ppb	0.791	1.036	30920.096
45	**Sc-IS**	>	5450421.292		ppb	0.955		5340151.775
66	**Zn**		410837.352	**102.787607**	ppb	0.736	0.902	3887.195
86	**Sr**		321891.039	**101.118260**	ppb	1.290	1.618	51.209
65	**Cu**		631028.163	**105.170498**	ppb	0.503	0.909	442.229
69	**Ga-IS**		1740392.897		ppb	0.795		1673157.590
95	**Mo**		333826.203	**100.659845**	ppb	1.841	1.056	404.450
115	**In-IS**	>	848757.848		ppb	0.588		815630.103
111	**Cd**		480384.417	**101.867751**	ppb	0.606	0.764	34.706
118	**Sn**		1409087.502	**99.649652**	ppb	0.580	0.902	3074.776
121	**Sb**		1511040.389	**100.072632**	ppb	0.669	0.561	487.786
135	**Ba**		416042.717	**101.460200**	ppb	1.946	1.499	151.112
165	**Ho-IS**		973524.840		ppb	1.961		962685.027
159	**Tb-IS**	>	1020164.936		ppb	1.322		983237.722
207	**Pb**		4473267.544	**99.674222**	ppb	0.517	0.958	563.338
203	**Tl**		1492245.693	**97.203056**	ppb	0.820	2.094	198.890
209	**Bi-IS**		482933.733		ppb	2.489		492045.652
51	**V**		39764.166	**104.587399**	ppb	1.811	1.729	3.333
59	**Co**		134484.622	**105.334843**	ppb	1.760	2.306	14.444
60	**Ni**		216992.641	**101.808467**	ppb	1.912	1.990	321.115
75	**As**		81020.255	**103.271595**	ppb	2.322	2.123	825.610
71	**Ga-ISK**		157088.224		ppb	2.565		159391.770
82	**Se-2**		7686.570	**99.505679**	ppb	3.332	2.735	28.132
107	**Ag-1**		857017.552	**102.275962**	ppb	1.781	1.699	543.344
115	**In-ISK**	>	228848.577		ppb	0.656		226930.283
45	**Sc-ISK**		383666.750		ppb	2.399		379925.253
23	**Na**		1869379.581	**5201.966831**	ppb	1.739	1.874	12166.846
39	**K**		4220104.326	**5269.493110**	ppb	1.885	0.598	44559.386
24	**Mg**		1717789.634	**5216.683400**	ppb	0.972	0.924	403.339
159	**Tb-ISK**	>	456270.514		ppb	1.684		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, January 04, 2022 23:20:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.310
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99621.708		ppb	0.339		99796.329
9	**Be**		61.111	**0.012827**	ppb	22.044	31.785	21.111
10	**B**		2223.507	**0.317823**	ppb	5.203	31.387	1926.797
27	**Al**		51171.831	**-0.056153**	ppb	1.419	119.012	52157.710
43	**Ca-2**		358.338	**-1.024712**	ppb	9.498	65.483	411.673
49	**Ti**		385.561	**0.004561**	ppb	9.523	498.994	375.561
52	**Cr**		32386.674	**0.041218**	ppb	1.368	51.225	31216.305
55	**Mn**		3168.129	**0.015327**	ppb	3.315	24.452	2588.012
57	**Fe**		33434.652	**2.973987**	ppb	2.498	38.445	30920.096
45	**Sc-IS**	>	5372152.067		ppb	1.543		5340151.775
66	**Zn**		4132.820	**0.056816**	ppb	3.072	28.751	3887.195
86	**Sr**		91.209	**0.012723**	ppb	49.198	113.804	51.209
65	**Cu**		778.910	**0.056664**	ppb	12.626	31.985	442.229
69	**Ga-IS**		1703693.907		ppb	1.690		1673157.590
95	**Mo**		1807.893	**0.429527**	ppb	7.826	11.471	404.450
115	**In-IS**	>	852150.408		ppb	1.435		815630.103
111	**Cd**		107.315	**0.015022**	ppb	13.920	21.713	34.706
118	**Sn**		9493.155	**0.443371**	ppb	3.111	3.906	3074.776
121	**Sb**		1043.372	**0.035191**	ppb	7.534	12.854	487.786
135	**Ba**		175.557	**0.004284**	ppb	6.668	58.400	151.112
165	**Ho-IS**		977860.338		ppb	1.562		962685.027
159	**Tb-IS**	>	1007024.915		ppb	2.380		983237.722
207	**Pb**		1303.357	**0.016392**	ppb	5.031	6.718	563.338
203	**Tl**		424.451	**0.014616**	ppb	13.428	29.064	198.890
209	**Bi-IS**		495092.905		ppb	1.390		492045.652
51	**V**		13.333	**0.025953**	ppb	50.000	68.380	3.333
59	**Co**		33.333	**0.014349**	ppb	20.000	33.817	14.444
60	**Ni**		362.227	**0.016201**	ppb	16.573	180.896	321.115
75	**As**		692.104	**-0.191572**	ppb	14.274	65.337	825.610
71	**Ga-ISK**		155286.848		ppb	3.689		159391.770
82	**Se-2**		28.768	**-0.000066**	ppb	33.131	78724.316	28.132
107	**Ag-1**		1726.771	**0.138297**	ppb	4.646	6.295	543.344
115	**In-ISK**	>	231614.047		ppb	1.196		226930.283
45	**Sc-ISK**		374806.005		ppb	2.373		379925.253
23	**Na**		18363.462	**15.849308**	ppb	0.757	5.237	12166.846
39	**K**		45248.222	**-1.055289**	ppb	1.439	21.628	44559.386
24	**Mg**		855.026	**1.302568**	ppb	5.198	10.844	403.339
159	**Tb-ISK**	>	465873.007		ppb	1.081		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICSA-1517520
Autosampler Position: 202
Sample Date/Time: Tuesday, January 04, 2022 23:23:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICSA-1517520.311
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		99760.564		ppb	2.249		99796.329
9	**Be**		36.667	**0.004343**	ppb	50.616	127.833	21.111
10	**B**		4308.428	**2.403974**	ppb	3.870	9.010	1926.797
27	**Al**		250373313.778	**10401.493706**	ppb	2.521	2.814	52157.710
43	**Ca-2**		1650619.233	**28869.571326**	ppb	2.010	2.614	411.673
49	**Ti**		390099.567	**210.621295**	ppb	1.377	2.021	375.561
52	**Cr**		39373.090	**0.249611**	ppb	2.195	18.862	31216.305
55	**Mn**		15150.260	**0.319178**	ppb	4.065	6.110	2588.012
57	**Fe**		19922555.477	**24067.277426**	ppb	0.815	1.872	30920.096
45	**Sc-IS**	>	5659981.109		ppb	1.079		5340151.775
66	**Zn**		5796.732	**0.408197**	ppb	3.271	13.802	3887.195
86	**Sr**		1493.362	**0.435241**	ppb	5.345	4.414	51.209
65	**Cu**		2886.959	**0.388411**	ppb	3.558	4.478	442.229
69	**Ga-IS**		1618906.552		ppb	1.452		1673157.590
95	**Mo**		705105.502	**204.881769**	ppb	1.805	1.579	404.450
115	**In-IS**	>	822977.097		ppb	2.311		815630.103
111	**Cd**		-268.448	**-0.066577**	ppb	23.156	22.450	34.706
118	**Sn**		4351.776	**0.091086**	ppb	7.449	18.645	3074.776
121	**Sb**		1484.522	**0.067731**	ppb	9.907	12.895	487.786
135	**Ba**		906.696	**0.190078**	ppb	7.326	11.189	151.112
165	**Ho-IS**		955386.264		ppb	1.297		962685.027
159	**Tb-IS**	>	958750.759		ppb	2.375		983237.722
207	**Pb**		2148.952	**0.037935**	ppb	3.724	4.570	563.338
203	**Tl**		284.447	**0.006277**	ppb	2.949	9.598	198.890
209	**Bi-IS**		465675.287		ppb	2.363		492045.652
51	**V**		11.111	**0.020977**	ppb	45.826	65.438	3.333
59	**Co**		96.667	**0.065771**	ppb	24.866	28.787	14.444
60	**Ni**		491.120	**0.083197**	ppb	3.977	11.723	321.115
75	**As**		748.314	**-0.089499**	ppb	10.543	114.310	825.610
71	**Ga-ISK**		156492.828		ppb	2.486		159391.770
82	**Se-2**		25.471	**-0.030795**	ppb	41.362	456.703	28.132
107	**Ag-1**		901.140	**0.044302**	ppb	5.390	12.533	543.344
115	**In-ISK**	>	224394.622		ppb	0.344		226930.283
45	**Sc-ISK**		383957.367		ppb	1.125		379925.253
23	**Na**		8750183.829	**24245.785693**	ppb	1.173	1.737	12166.846
39	**K**		8039231.585	**9996.228955**	ppb	1.905	2.693	44559.386
24	**Mg**		3258307.306	**9802.850281**	ppb	2.126	2.284	403.339
159	**Tb-ISK**	>	460610.825		ppb	1.423		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICSAB-2059235
Autosampler Position: 203
Sample Date/Time: Tuesday, January 04, 2022 23:26:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\ICSAB-2059235.312
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		98152.722		ppb	0.988		99796.329
9	**Be**		23.333	**0.000507**	ppb	24.744	368.422	21.111
10	**B**		4135.043	**2.345914**	ppb	2.943	8.672	1926.797
27	**Al**		246437703.987	**10530.727405**	ppb	0.274	1.560	52157.710
43	**Ca-2**		1667180.977	**29988.479638**	ppb	2.235	1.960	411.673
49	**Ti**		389058.184	**216.070614**	ppb	1.120	2.082	375.561
52	**Cr**		535216.236	**20.520207**	ppb	0.526	1.125	31216.305
55	**Mn**		781290.646	**20.594917**	ppb	1.051	1.128	2588.012
57	**Fe**		20471046.540	**25436.443448**	ppb	1.374	1.533	30920.096
45	**Sc-IS**	>	5503034.736		ppb	1.536		5340151.775
66	**Zn**		44077.902	**10.028055**	ppb	1.237	2.214	3887.195
86	**Sr**		1537.409	**0.462508**	ppb	9.548	11.540	51.209
65	**Cu**		123420.928	**20.311845**	ppb	1.471	0.367	442.229
69	**Ga-IS**		1608928.083		ppb	1.536		1673157.590
95	**Mo**		723251.057	**216.171591**	ppb	1.521	1.620	404.450
115	**In-IS**	>	821635.451		ppb	0.300		815630.103
111	**Cd**		46399.186	**10.157016**	ppb	1.000	1.158	34.706
118	**Sn**		3011.429	**-0.006289**	ppb	4.540	162.460	3074.776
121	**Sb**		1460.075	**0.066297**	ppb	1.497	2.681	487.786
135	**Ba**		895.584	**0.187372**	ppb	8.975	11.029	151.112
165	**Ho-IS**		956386.500		ppb	1.015		962685.027
159	**Tb-IS**	>	966815.250		ppb	0.479		983237.722
207	**Pb**		1266.689	**0.016758**	ppb	1.842	2.420	563.338
203	**Tl**		197.779	**0.000148**	ppb	9.876	862.088	198.890
209	**Bi-IS**		457377.738		ppb	0.632		492045.652
51	**V**		8261.280	**22.082323**	ppb	4.430	6.349	3.333
59	**Co**		26379.896	**20.977282**	ppb	2.002	1.074	14.444
60	**Ni**		43508.381	**20.616423**	ppb	1.090	1.397	321.115
75	**As**		8961.721	**10.655729**	ppb	1.630	3.459	825.610
71	**Ga-ISK**		158168.575		ppb	0.457		159391.770
82	**Se-2**		817.129	**10.421167**	ppb	3.571	4.628	28.132
107	**Ag-1**		40356.952	**4.829999**	ppb	2.725	2.280	543.344
115	**In-ISK**	>	225315.120		ppb	2.457		226930.283
45	**Sc-ISK**		390562.751		ppb	0.964		379925.253
23	**Na**		9197323.744	**25441.200250**	ppb	1.558	3.518	12166.846
39	**K**		8280165.556	**10274.678690**	ppb	1.411	0.872	44559.386
24	**Mg**		3398838.166	**10204.415698**	ppb	1.225	1.098	403.339
159	**Tb-ISK**	>	461590.028		ppb	2.038		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: b
Autosampler Position: 2
Sample Date/Time: Tuesday, January 04, 2022 23:29:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\b.313
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		96619.003		ppb	1.315		99796.329
9	**Be**		68.889	**0.015471**	ppb	14.783	19.456	21.111
10	**B**		1724.549	**-0.228206**	ppb	0.486	21.932	1926.797
27	**Al**		108812.363	**2.494196**	ppb	2.687	9.397	52157.710
43	**Ca-2**		803.356	**7.260058**	ppb	3.647	11.293	411.673
49	**Ti**		666.682	**0.166351**	ppb	3.279	1.999	375.561
52	**Cr**		33290.967	**0.086546**	ppb	0.241	43.111	31216.305
55	**Mn**		5644.449	**0.083164**	ppb	3.026	3.170	2588.012
57	**Fe**		36540.011	**7.175269**	ppb	1.399	11.180	30920.096
45	**Sc-IS**	>	5344942.706		ppb	2.413		5340151.775
66	**Zn**		4081.694	**0.049808**	ppb	2.099	84.401	3887.195
86	**Sr**		159.038	**0.034672**	ppb	16.443	27.299	51.209
65	**Cu**		1032.260	**0.100493**	ppb	5.417	13.691	442.229
69	**Ga-IS**		1690242.574		ppb	2.589		1673157.590
95	**Mo**		2815.834	**0.743458**	ppb	5.830	9.684	404.450
115	**In-IS**	>	850442.931		ppb	1.182		815630.103
111	**Cd**		87.420	**0.010839**	ppb	31.020	53.036	34.706
118	**Sn**		2874.734	**-0.023392**	ppb	3.690	37.348	3074.776
121	**Sb**		558.900	**0.003313**	ppb	5.346	46.131	487.786
135	**Ba**		471.119	**0.076359**	ppb	2.485	4.186	151.112
165	**Ho-IS**		983702.789		ppb	0.876		962685.027
159	**Tb-IS**	>	1021891.331		ppb	1.392		983237.722
207	**Pb**		1411.138	**0.018350**	ppb	7.579	10.742	563.338
203	**Tl**		366.671	**0.010426**	ppb	10.718	27.403	198.890
209	**Bi-IS**		492144.586		ppb	3.471		492045.652
51	**V**		8.889	**0.014053**	ppb	43.301	67.285	3.333
59	**Co**		28.889	**0.010807**	ppb	24.019	45.836	14.444
60	**Ni**		158.890	**-0.078675**	ppb	15.885	15.036	321.115
75	**As**		602.445	**-0.307887**	ppb	8.946	26.064	825.610
71	**Ga-ISK**		158502.657		ppb	2.706		159391.770
82	**Se-2**		22.125	**-0.088471**	ppb	90.017	279.509	28.132
107	**Ag-1**		848.914	**0.034381**	ppb	3.340	14.590	543.344
115	**In-ISK**	>	232567.112		ppb	1.931		226930.283
45	**Sc-ISK**		378671.462		ppb	2.311		379925.253
23	**Na**		25344.129	**36.272507**	ppb	0.773	2.057	12166.846
39	**K**		48987.190	**4.683851**	ppb	1.272	21.618	44559.386
24	**Mg**		2075.151	**5.045289**	ppb	1.687	2.343	403.339
159	**Tb-ISK**	>	457463.894		ppb	0.444		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, January 04, 2022 23:32:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\CCB-1479530.314
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		97554.200		ppb	1.013		99796.329
9	**Be**		16.667	**-0.001649**	ppb	124.900	392.941	21.111
10	**B**		1696.768	**-0.307432**	ppb	9.845	65.627	1926.797
27	**Al**		85905.344	**1.386173**	ppb	3.077	6.427	52157.710
43	**Ca-2**		525.010	**1.858609**	ppb	12.454	72.247	411.673
49	**Ti**		413.339	**0.015569**	ppb	5.645	107.853	375.561
52	**Cr**		33020.341	**0.039519**	ppb	0.682	79.794	31216.305
55	**Mn**		3444.860	**0.020909**	ppb	1.892	15.526	2588.012
57	**Fe**		31735.212	**-0.023421**	ppb	0.853	2720.595	30920.096
45	**Sc-IS**	>	5484999.313		ppb	1.640		5340151.775
66	**Zn**		3884.973	**-0.027101**	ppb	3.172	79.900	3887.195
86	**Sr**		96.203	**0.013658**	ppb	12.164	30.523	51.209
65	**Cu**		523.343	**0.011456**	ppb	12.723	95.303	442.229
69	**Ga-IS**		1730193.833		ppb	0.900		1673157.590
95	**Mo**		1380.067	**0.289726**	ppb	5.331	9.991	404.450
115	**In-IS**	>	866778.226		ppb	0.670		815630.103
111	**Cd**		15.991	**-0.004339**	ppb	53.425	40.972	34.706
118	**Sn**		3235.924	**-0.002250**	ppb	8.189	770.760	3074.776
121	**Sb**		315.559	**-0.013161**	ppb	13.583	20.819	487.786
135	**Ba**		93.334	**-0.016057**	ppb	18.558	26.313	151.112
165	**Ho-IS**		999150.591		ppb	1.553		962685.027
159	**Tb-IS**	>	1026535.377		ppb	2.573		983237.722
207	**Pb**		505.559	**-0.001798**	ppb	15.098	108.297	563.338
203	**Tl**		122.223	**-0.005495**	ppb	22.709	36.763	198.890
209	**Bi-IS**		492741.573		ppb	1.478		492045.652
51	**V**		7.778	**0.010940**	ppb	89.214	159.960	3.333
59	**Co**		12.222	**-0.002084**	ppb	68.635	313.166	14.444
60	**Ni**		405.561	**0.032185**	ppb	18.495	92.936	321.115
75	**As**		600.938	**-0.321261**	ppb	8.191	21.751	825.610
71	**Ga-ISK**		164898.677		ppb	1.839		159391.770
82	**Se-2**		22.838	**-0.081013**	ppb	45.765	162.244	28.132
107	**Ag-1**		463.341	**-0.011826**	ppb	12.017	49.236	543.344
115	**In-ISK**	>	236014.414		ppb	2.294		226930.283
45	**Sc-ISK**		396356.578		ppb	3.567		379925.253
23	**Na**		16095.734	**9.433929**	ppb	2.857	23.686	12166.846
39	**K**		43483.862	**-3.489599**	ppb	1.041	34.921	44559.386
24	**Mg**		721.685	**0.897056**	ppb	6.210	19.382	403.339
159	**Tb-ISK**	>	468247.061		ppb	2.424		450296.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Tuesday, January 04, 2022 07:23:57
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\STD Performance Check.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220104E1\STD Performance Check.008
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	6506.7	6506.665	76.457	1.2	Standard
	In	114.9	121867.1	121867.098	115.567	0.1	Standard
	U	238.1	85079.3	85079.281	829.306	1.0	Standard
⌈	CeO	155.9	2314.7	0.019	0.000	0.8	Standard
| >	Ce	139.9	119615.5	119615.492	394.242	0.3	Standard
⌊	Ce++	70.0	1772.2	0.015	0.000	1.2	Standard
	Bkgd	220.0	1.6	1.567	0.465	29.7	Standard

Current Conditions File Data

Current Value	Description
1.02	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-10.75	Deflector Voltage
1600.00	ICP RF Power
-1737.00	Analog Stage Voltage
1350.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-16.00	Cell Rod Offset STD [CRO]
12.00	Discriminator Threshold
-6.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
1.02	DRC Mode NEB
-9.00	DRC Mode QRO
-2.00	DRC Mode CRO
-5.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
200.00	Axial Field Voltage
-10.00	KED Mode CRO
-12.00	KED Mode QRO
-8.00	KED Mode Cell Entrance Voltage
-29.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
4.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

Instrument Tuning Report

Instrument Name: ICP-MS-05 US26INS00175
Analyst Name: ECSINSTICPMS05
Sample Date/Time: Tuesday, January 04, 2022 07:10:13
File Name: Default.tun
File Path: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Li	7.016	7.025	1242	2061	0.699	
Mg	23.985	23.975	4633	2058	0.694	
In	114.904	114.925	22865	2026	0.707	
U	238.050	238.025	47568	1972	0.704	

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211217G1.sifx
Batch ID:
Results Data Set: 211217G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: EPA 7470A+7471A-Hg-7 **Method Last Saved: 12/17/2021 11:45:28 AM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-201855/1-A **Date Collected: 12/17/2021 11:45:31 AM**
Analyst: **Data Type: Original**
FIMS-400: Lamp energy too low.

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211217G1.sifx
Batch ID:
Results Data Set: 211217G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-201855/1-A **Date Collected: 12/17/2021 11:50:57 AM**
Analyst: **Data Type: Original**

Replicate Data: ICIS 570-201855/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	-0.0000	-0.0084	-0.0000	11:51:50 AM	Yes
2		[0.00]	0.0001	-0.0033	0.0001	11:52:24 AM	Yes
Mean:		[0.00]	0.0000				
SD:		0.0000	0.0001				
%RSD:		0.00%	349.48				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: IC 570-201855/2-A **Date Collected: 12/17/2021 11:52:45 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-201855/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0008	0.0022	0.0008	11:53:38 AM	Yes
2		[0.100]	0.0008	0.0029	0.0008	11:54:13 AM	Yes
Mean:		[0.100]	0.0008				
SD:		0.00000	0.0000				
%RSD:		0.00%	3.54				

Standard number 1 applied. [0.100]
Correlation Coef.: 1.000000 Slope: 0.00797 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: IC 570-201855/3-A **Date Collected: 12/17/2021 11:54:34 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-201855/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0067	0.0250	0.0067	11:55:28 AM	Yes
2		[1.000]	0.0066	0.0242	0.0067	11:56:03 AM	Yes
Mean:		[1.000]	0.0067				
SD:		0.00000	0.0000				
%RSD:		0.00%	0.59				

Standard number 2 applied. [1.000]
Correlation Coef.: 1.000000 Slope: 0.00652 Intercept: 0.00014

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: IC 570-201855/4-A **Date Collected: 12/17/2021 11:56:24 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-201855/4-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0128	0.0482	0.0128	11:57:18 AM	Yes
2		[2.000]	0.0128	0.0466	0.0128	11:57:53 AM	Yes
Mean:		[2.000]	0.0128				

SD: 0.00000 0.0000
%RSD: 0.00% 0.03
Standard number 3 applied. [2.000]
Correlation Coef.: 0.999862 Slope: 0.00641 Intercept: 0.00016

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: IC 570-201855/5-A **Date Collected: 12/17/2021 11:58:15 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-201855/5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.0296	0.1085	0.0296	11:59:10 AM	Yes
2		[5.000]	0.0294	0.1053	0.0295	11:59:44 AM	Yes
Mean:		[5.000]	0.0295				
SD:		0.00000	0.0001				
%RSD:		0.00%	0.46				

Standard number 4 applied. [5.000]
Correlation Coef.: 0.999011 Slope: 0.00621 Intercept: 0.00018

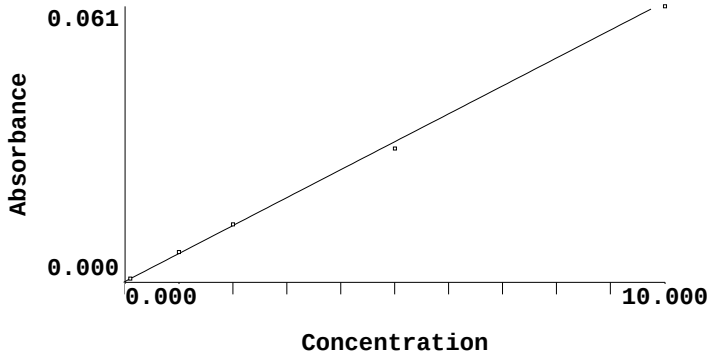
==========

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: IC 570-201855/6-A **Date Collected: 12/17/2021 12:00:06 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-201855/6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.000]	0.0616	0.2261	0.0616	12:01:00 PM	Yes
2		[10.000]	0.0603	0.2062	0.0603	12:01:34 PM	Yes
Mean:		[10.000]	0.0609				
SD:		0.00000	0.0009				
%RSD:		0.00%	1.50				

Standard number 5 applied. [10.000]
Correlation Coef.: 0.999219 Slope: 0.00617 Intercept: 0.00018



Calibration data for Hg 253.7 **Equation: Weighted Linear**

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
ICIS 570-201855/1-A	0.0000	0	-0.0295	0.00	349.48
IC 570-201855/2-A	0.0008	0.100	0.0995	0.00	3.54
IC 570-201855/3-A	0.0067	1.000	1.0501	0.00	0.59
IC 570-201855/4-A	0.0128	2.000	2.0410	0.00	0.03
IC 570-201855/5-A	0.0295	5.000	4.7521	0.00	0.46
IC 570-201855/6-A	0.0609	10.000	9.8390	0.00	1.50

Correlation Coef.: 0.999219 Slope: 0.00617 Intercept: 0.00018

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211217G1.sifx
Batch ID:
Results Data Set: 211217G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: EPA 7470A+7471A-Hg-7 **Method Last Saved: 12/17/2021 11:45:28 AM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 7**
Sample ID: ICV 570-201855/7-A **Date Collected: 12/17/2021 12:03:02 PM**
Analyst: **Data Type: Original**

Replicate Data: ICV 570-201855/7-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	5.04	0.0313	0.1138	0.0313	12:03:55 PM	Yes
2	0.0050	4.99	0.0310	0.1083	0.0310	12:04:30 PM	Yes
Mean:	0.0050	5.02	0.0312				
SD:	0.00003	0.035	0.0002				
%RSD:	0.70%	0.70%	0.69				

QC value within limits for Hg 253.7 Recovery = 100.33%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: ICB 570-201855/8-A **Date Collected: 12/17/2021 12:04:51 PM**
Analyst: **Data Type: Original**

Replicate Data: ICB 570-201855/8-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0022	0.0002	-0.0000	0.0002	12:05:44 PM	Yes
2	-0.0000	-0.0032	0.0002	-0.0006	0.0002	12:06:19 PM	Yes
Mean:	-0.0000	-0.0005	0.0002				
SD:	0.00000	0.00385	0.0000				
%RSD:	747.69%	747.69%	13.26				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 8**
Sample ID: CRA 570-201855/11-A **Date Collected: 12/17/2021 12:06:40 PM**
Analyst: **Data Type: Original**

Replicate Data: CRA 570-201855/11-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.102	0.0008	0.0024	0.0008	12:07:34 PM	Yes
2	0.0001	0.0964	0.0008	0.0016	0.0008	12:08:08 PM	Yes
Mean:	0.0001	0.0993	0.0008				
SD:	0.00000	0.00412	0.0000				
%RSD:	4.15%	4.15%	3.20				

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 12:08:30 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored

#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.0021	2.06	0.0129	0.0463	0.0129	12:09:24 PM	Yes
2	0.0020	2.03	0.0127	0.0436	0.0127	12:09:59 PM	Yes
Mean:	0.0020	2.04	0.0128				
SD:	0.00002	0.017	0.0001				
%RSD:	0.86%	0.86%	0.84				

QC value within limits for Hg 253.7 Recovery = 102.16%
All analyte(s) passed QC.

==========

Sequence No.: 5 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 12:10:21 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0012	0.0002	-0.0007	0.0002	12:11:14 PM	Yes
2	-0.0000	-0.0000	0.0002	-0.0006	0.0002	12:11:49 PM	Yes
Mean:	-0.0000	-0.0006	0.0002				
SD:	0.00000	0.00086	0.0000				
%RSD:	134.10%	134.10%	2.96				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211217G1.sifx
Batch ID:
Results Data Set: 211217G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: EPA 7470A+7471A-Hg-7 **Method Last Saved: 12/17/2021 12:20:19 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 9**
Sample ID: MB 570-201376/1-B **Date Collected: 12/17/2021 12:20:21 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-201376/1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0238	0.0003	0.0013	0.0004	12:21:15 PM	Yes
2	0.0000	0.0232	0.0003	0.0019	0.0004	12:21:50 PM	Yes
Mean:	0.0000	0.0235	0.0003				
SD:	0.00000	0.00037	0.0000				
%RSD:	1.57%	1.57%	0.69				

==========

Sequence No.: 2 **Autosampler Location: 10**
Sample ID: LCS 570-201376/2-B **Date Collected: 12/17/2021 12:22:12 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-201376/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0051	5.14	0.0319	0.1177	0.0319	12:23:06 PM	Yes
2	0.0053	5.29	0.0329	0.1185	0.0329	12:23:41 PM	Yes
Mean:	0.0052	5.22	0.0324				
SD:	0.00011	0.108	0.0007				
%RSD:	2.07%	2.07%	2.05				

==========

Sequence No.: 3 **Autosampler Location: 11**
Sample ID: LCSD 570-201376/3-B **Date Collected: 12/17/2021 12:24:03 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-201376/3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.31	0.0330	0.1209	0.0330	12:24:57 PM	Yes
2	0.0053	5.26	0.0327	0.1157	0.0327	12:25:32 PM	Yes
Mean:	0.0053	5.29	0.0328				
SD:	0.00004	0.039	0.0002				
%RSD:	0.74%	0.74%	0.74				

==========

Sequence No.: 4 **Autosampler Location: 12**
Sample ID: 440-292872-F-1-E **Date Collected: 12/17/2021 12:25:54 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292872-F-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0225	0.0003	0.0008	0.0003	12:26:49 PM	Yes
2	0.0000	0.0185	0.0003	0.0005	0.0003	12:27:24 PM	Yes
Mean:	0.0000	0.0205	0.0003				

SD:	0.00000	0.00282	0.0000
%RSD:	13.80%	13.80%	5.65

Sequence No.: 5 **Autosampler Location: 13**
Sample ID: 440-292872-F-2-E **Date Collected: 12/17/2021 12:27:46 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292872-F-2-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0151	0.0003	0.0003	0.0003	12:28:41 PM	Yes
2	0.0000	0.0188	0.0003	0.0006	0.0003	12:29:16 PM	Yes
Mean:	0.0000	0.0170	0.0003				
SD:	0.00000	0.00262	0.0000				
%RSD:	15.47%	15.47%	5.64				

Sequence No.: 6 **Autosampler Location: 14**
Sample ID: 440-292872-F-2-F MS **Date Collected: 12/17/2021 12:29:38 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292872-F-2-F MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0051	5.09	0.0316	0.1153	0.0316	12:30:31 PM	Yes
2	0.0050	5.04	0.0313	0.1106	0.0314	12:31:06 PM	Yes
Mean:	0.0051	5.07	0.0315				
SD:	0.00003	0.030	0.0002				
%RSD:	0.59%	0.59%	0.58				

Sequence No.: 7 **Autosampler Location: 15**
Sample ID: 440-292872-F-2-G MS **Date Collected: 12/17/2021 12:31:30 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292872-F-2-G MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0051	5.13	0.0318	0.1162	0.0319	12:32:24 PM	Yes
2	0.0051	5.10	0.0317	0.1110	0.0317	12:32:59 PM	Yes
Mean:	0.0051	5.12	0.0318				
SD:	0.00002	0.019	0.0001				
%RSD:	0.36%	0.36%	0.36				

Sequence No.: 8 **Autosampler Location: 16**
Sample ID: 440-292872-F-3-C **Date Collected: 12/17/2021 12:33:20 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292872-F-3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0132	0.0003	-0.0002	0.0003	12:34:13 PM	Yes
2	0.0000	0.0185	0.0003	0.0004	0.0003	12:34:48 PM	Yes
Mean:	0.0000	0.0158	0.0003				
SD:	0.00000	0.00375	0.0000				
%RSD:	23.73%	23.73%	8.27				

Sequence No.: 9 **Autosampler Location: 17**
Sample ID: 440-292872-F-4-C **Date Collected: 12/17/2021 12:35:09 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292872-F-4-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0099	0.0002	0.0002	0.0003	12:36:03 PM	Yes
2	-0.0000	-0.0000	0.0002	-0.0005	0.0002	12:36:37 PM	Yes
Mean:	0.0000	0.0050	0.0002				

SD: 0.00001 0.00704 0.0000
%RSD: 142.09% 142.09% 20.40

==========

Sequence No.: 10 **Autosampler Location: 18**
Sample ID: 440-292872-F-5-C **Date Collected: 12/17/2021 12:36:59 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292872-F-5-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0142	0.0003	-0.0001	0.0003	12:37:52 PM	Yes
2	0.0000	0.0106	0.0002	-0.0004	0.0003	12:38:27 PM	Yes
Mean:	0.0000	0.0124	0.0003				
SD:	0.00000	0.00255	0.0000				
%RSD:	20.56%	20.56%	6.08				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 12:38:48 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.93	0.0121	0.0433	0.0121	12:39:43 PM	Yes
2	0.0019	1.93	0.0121	0.0419	0.0121	12:40:18 PM	Yes
Mean:	0.0019	1.93	0.0121				
SD:	0.00000	0.000	0.0000				
%RSD:	0.02%	0.02%	0.02				

QC value within limits for Hg 253.7 Recovery = 96.62%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 12:40:40 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0011	0.0002	-0.0009	0.0002	12:41:33 PM	Yes
2	-0.0000	-0.0006	0.0002	-0.0006	0.0002	12:42:08 PM	Yes
Mean:	-0.0000	-0.0008	0.0002				
SD:	0.00000	0.00033	0.0000				
%RSD:	40.63%	40.63%	1.15				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 19**
Sample ID: 440-292872-F-6-C **Date Collected: 12/17/2021 12:42:29 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292872-F-6-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0084	0.0002	-0.0004	0.0003	12:43:23 PM	Yes
2	0.0000	0.0212	0.0003	0.0007	0.0003	12:43:58 PM	Yes
Mean:	0.0000	0.0148	0.0003				
SD:	0.00001	0.00904	0.0001				
%RSD:	61.21%	61.21%	20.40				

==========

Sequence No.: 14 **Autosampler Location: 20**
Sample ID: 440-292872-F-10-C **Date Collected: 12/17/2021 12:44:19 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292872-F-10-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored

#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.0000	0.0170	0.0003	0.0010	0.0003	12:45:13 PM	Yes
2	0.0000	0.0199	0.0003	0.0011	0.0003	12:45:48 PM	Yes
Mean:	0.0000	0.0184	0.0003				
SD:	0.00000	0.00201	0.0000				
%RSD:	10.88%	10.88%	4.18				

Sequence No.: 15 **Autosampler Location: 21**
Sample ID: 440-292872-E-15-C **Date Collected: 12/17/2021 12:46:10 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292872-E-15-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0274	0.0004	0.0021	0.0004	12:47:04 PM	Yes
2	0.0000	0.0288	0.0004	0.0019	0.0004	12:47:39 PM	Yes
Mean:	0.0000	0.0281	0.0004				
SD:	0.00000	0.00098	0.0000				
%RSD:	3.47%	3.47%	1.69				

Sequence No.: 16 **Autosampler Location: 22**
Sample ID: 440-292885-D-1-E **Date Collected: 12/17/2021 12:48:01 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292885-D-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0285	0.0004	0.0018	0.0004	12:48:56 PM	Yes
2	0.0000	0.0251	0.0003	0.0014	0.0004	12:49:30 PM	Yes
Mean:	0.0000	0.0268	0.0003				
SD:	0.00000	0.00239	0.0000				
%RSD:	8.91%	8.91%	4.24				

Sequence No.: 17 **Autosampler Location: 23**
Sample ID: 440-292885-B-2-C **Date Collected: 12/17/2021 12:49:52 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292885-B-2-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0284	0.0004	0.0015	0.0004	12:50:47 PM	Yes
2	0.0000	0.0233	0.0003	0.0006	0.0004	12:51:21 PM	Yes
Mean:	0.0000	0.0259	0.0003				
SD:	0.00000	0.00360	0.0000				
%RSD:	13.90%	13.90%	6.49				

Sequence No.: 18 **Autosampler Location: 24**
Sample ID: 440-292885-D-3-E **Date Collected: 12/17/2021 12:51:44 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292885-D-3-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0187	0.0003	-0.0003	0.0003	12:52:38 PM	Yes
2	0.0000	0.0382	0.0004	0.0009	0.0004	12:53:13 PM	Yes
Mean:	0.0000	0.0284	0.0004				
SD:	0.00001	0.01375	0.0001				
%RSD:	48.34%	48.34%	23.71				

Sequence No.: 19 **Autosampler Location: 25**
Sample ID: 440-292885-D-3-F MS **Date Collected: 12/17/2021 12:53:35 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292885-D-3-F MS **Analyte: Hg 253.7**

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak

#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.0052	5.20	0.0323	0.1176	0.0323	12:54:30 PM	Yes
2	0.0051	5.12	0.0318	0.1145	0.0318	12:55:05 PM	Yes
Mean:	0.0052	5.16	0.0320				
SD:	0.00006	0.059	0.0004				
%RSD:	1.15%	1.15%	1.14				

==========

Sequence No.: 20 **Autosampler Location: 26**
Sample ID: 440-292885-D-3-G MSD **Date Collected: 12/17/2021 12:55:28 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292885-D-3-G MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.17	0.0321	0.1172	0.0321	12:56:22 PM	Yes
2	0.0051	5.14	0.0319	0.1122	0.0319	12:56:57 PM	Yes
Mean:	0.0052	5.15	0.0320				
SD:	0.00002	0.018	0.0001				
%RSD:	0.35%	0.35%	0.35				

==========

Sequence No.: 21 **Autosampler Location: 27**
Sample ID: 440-292885-B-4-C **Date Collected: 12/17/2021 12:57:18 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292885-B-4-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0339	0.0004	0.0014	0.0004	12:58:12 PM	Yes
2	0.0000	0.0287	0.0004	0.0010	0.0004	12:58:46 PM	Yes
Mean:	0.0000	0.0313	0.0004				
SD:	0.00000	0.00369	0.0000				
%RSD:	11.80%	11.80%	6.07				

==========

Sequence No.: 22 **Autosampler Location: 28**
Sample ID: 440-292885-D-5-C **Date Collected: 12/17/2021 12:59:08 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292885-D-5-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0254	0.0003	0.0007	0.0004	1:00:02 PM	Yes
2	0.0000	0.0207	0.0003	0.0000	0.0003	1:00:36 PM	Yes
Mean:	0.0000	0.0230	0.0003				
SD:	0.00000	0.00332	0.0000				
%RSD:	14.42%	14.42%	6.32				

==========

Sequence No.: 23 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 1:00:58 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.94	0.0122	0.0437	0.0122	1:01:52 PM	Yes
2	0.0019	1.93	0.0121	0.0421	0.0121	1:02:27 PM	Yes
Mean:	0.0019	1.94	0.0121				
SD:	0.00001	0.009	0.0001				
%RSD:	0.44%	0.44%	0.44				

QC value within limits for Hg 253.7 Recovery = 96.86%
All analyte(s) passed QC.

==========

Sequence No.: 24 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 1:02:49 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0033	0.0002	0.0004	0.0002	1:03:42 PM	Yes
2	-0.0000	-0.0053	0.0001	-0.0008	0.0002	1:04:17 PM	Yes
Mean:	-0.0000	-0.0010	0.0002				
SD:	0.00001	0.00612	0.0000				
%RSD:	614.33%	614.33%	21.42				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 25 **Autosampler Location: 29**
Sample ID: 440-292885-D-6-C **Date Collected: 12/17/2021 1:04:38 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292885-D-6-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0222	0.0003	0.0005	0.0003	1:05:31 PM	Yes
2	0.0000	0.0317	0.0004	0.0015	0.0004	1:06:06 PM	Yes
Mean:	0.0000	0.0269	0.0003				
SD:	0.00001	0.00665	0.0000				
%RSD:	24.68%	24.68%	11.77				

==========

Sequence No.: 26 **Autosampler Location: 30**
Sample ID: 440-292885-C-7-C **Date Collected: 12/17/2021 1:06:27 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292885-C-7-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0289	0.0004	0.0009	0.0004	1:07:21 PM	Yes
2	0.0000	0.0297	0.0004	0.0012	0.0004	1:07:56 PM	Yes
Mean:	0.0000	0.0293	0.0004				
SD:	0.00000	0.00052	0.0000				
%RSD:	1.76%	1.76%	0.88				

==========

Sequence No.: 27 **Autosampler Location: 31**
Sample ID: 440-292885-B-8-C **Date Collected: 12/17/2021 1:08:17 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292885-B-8-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0256	0.0003	0.0006	0.0004	1:09:11 PM	Yes
2	0.0000	0.0240	0.0003	0.0011	0.0004	1:09:46 PM	Yes
Mean:	0.0000	0.0248	0.0003				
SD:	0.00000	0.00119	0.0000				
%RSD:	4.78%	4.78%	2.18				

==========

Sequence No.: 28 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 1:10:07 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.92	0.0120	0.0443	0.0121	1:11:02 PM	Yes
2	0.0019	1.92	0.0120	0.0427	0.0120	1:11:36 PM	Yes
Mean:	0.0019	1.92	0.0120				
SD:	0.00000	0.003	0.0000				
%RSD:	0.17%	0.17%	0.16				

QC value within limits for Hg 253.7 Recovery = 95.90%
All analyte(s) passed QC.

==========

Sequence No.: 29 **Autosampler Location: 1**

Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 1:11:58 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0167	0.0003	0.0023	0.0003	1:12:52 PM	Yes
2	0.0000	0.0045	0.0002	0.0007	0.0002	1:13:27 PM	Yes
Mean:	0.0000	0.0106	0.0002				
SD:	0.00001	0.00861	0.0001				
%RSD:	81.07%	81.07%	21.43				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211217G1.sifx
Batch ID:
Results Data Set: 211217G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

Sequence No.: 1 **Autosampler Location: 32**
Sample ID: LB 570-199913/1-C **Date Collected: 12/17/2021 1:45:54 PM**
Analyst: **Data Type: Original**

Replicate Data: LB 570-199913/1-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0188	0.0001	0.0005	0.0001	1:46:48 PM	Yes
2	-0.0000	-0.0190	0.0001	0.0007	0.0001	1:47:22 PM	Yes
Mean:	-0.0000	-0.0189	0.0001				
SD:	0.00000	0.00019	0.0000				
%RSD:	1.02%	1.02%	1.82				

Sequence No.: 2 **Autosampler Location: 33**
Sample ID: LCS 570-199913/2-C **Date Collected: 12/17/2021 1:47:44 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-199913/2-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.31	0.0329	0.1230	0.0330	1:48:38 PM	Yes
2	0.0054	5.37	0.0333	0.1221	0.0334	1:49:12 PM	Yes
Mean:	0.0053	5.34	0.0331				
SD:	0.00004	0.044	0.0003				
%RSD:	0.83%	0.83%	0.82				

Sequence No.: 3 **Autosampler Location: 34**
Sample ID: LCSD 570-199913/3-C **Date Collected: 12/17/2021 1:49:34 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-199913/3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.35	0.0332	0.1239	0.0332	1:50:28 PM	Yes
2	0.0054	5.35	0.0332	0.1208	0.0333	1:51:03 PM	Yes
Mean:	0.0054	5.35	0.0332				
SD:	0.00000	0.003	0.0000				
%RSD:	0.05%	0.05%	0.05				

Sequence No.: 4 **Autosampler Location: 35**
Sample ID: 320-82319-D-1-F **Date Collected: 12/17/2021 1:51:25 PM**
Analyst: **Data Type: Original**

Replicate Data: 320-82319-D-1-F **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0013	1.28	0.0081	0.0310	0.0081	1:52:19 PM	Yes
2	0.0013	1.28	0.0081	0.0307	0.0081	1:52:54 PM	Yes
Mean:	0.0013	1.28	0.0081				
SD:	0.00000	0.001	0.0000				
%RSD:	0.10%	0.10%	0.10				

Sequence No.: 5 **Autosampler Location: 36**

Sample ID: 320-82319-D-1-G MS **Date Collected: 12/17/2021 1:53:16 PM**
Analyst: **Data Type: Original**

Replicate Data: 320-82319-D-1-G MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0061	6.12	0.0380	0.1409	0.0380	1:54:12 PM	Yes
2	0.0061	6.06	0.0376	0.1373	0.0376	1:54:46 PM	Yes
Mean:	0.0061	6.09	0.0378				
SD:	0.00004	0.044	0.0003				
%RSD:	0.73%	0.73%	0.72				

Sequence No.: 6 **Autosampler Location: 37**
Sample ID: 320-82319-D-1-H MSD **Date Collected: 12/17/2021 1:55:09 PM**
Analyst: **Data Type: Original**

Replicate Data: 320-82319-D-1-H MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0061	6.13	0.0380	0.1407	0.0380	1:56:03 PM	Yes
2	0.0061	6.10	0.0378	0.1373	0.0379	1:56:38 PM	Yes
Mean:	0.0061	6.11	0.0379				
SD:	0.00002	0.019	0.0001				
%RSD:	0.30%	0.30%	0.30				

Sequence No.: 7 **Autosampler Location: 38**
Sample ID: LB 570-201311/1-C **Date Collected: 12/17/2021 1:57:01 PM**
Analyst: **Data Type: Original**

Replicate Data: LB 570-201311/1-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0211	0.0001	0.0007	0.0001	1:57:55 PM	Yes
2	-0.0000	-0.0178	0.0001	-0.0001	0.0001	1:58:30 PM	Yes
Mean:	-0.0000	-0.0195	0.0001				
SD:	0.00000	0.00236	0.0000				
%RSD:	12.11%	12.11%	23.39				

Sequence No.: 8 **Autosampler Location: 39**
Sample ID: LCS 570-201311/2-C **Date Collected: 12/17/2021 1:58:51 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-201311/2-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.25	0.0326	0.1188	0.0326	1:59:45 PM	Yes
2	0.0052	5.24	0.0325	0.1156	0.0325	2:00:20 PM	Yes
Mean:	0.0052	5.24	0.0326				
SD:	0.00001	0.009	0.0001				
%RSD:	0.17%	0.17%	0.17				

Sequence No.: 9 **Autosampler Location: 40**
Sample ID: LCSD 570-201311/3-C **Date Collected: 12/17/2021 2:00:42 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-201311/3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.23	0.0325	0.1177	0.0325	2:01:36 PM	Yes
2	0.0052	5.24	0.0325	0.1138	0.0326	2:02:10 PM	Yes
Mean:	0.0052	5.24	0.0325				
SD:	0.00001	0.007	0.0000				
%RSD:	0.14%	0.14%	0.14				

Sequence No.: 10 **Autosampler Location: 41**

Sample ID: 570-78797-A-1-I **Date Collected: 12/17/2021 2:02:34 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78797-A-1-I **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0196	0.0001	-0.0003	0.0001	2:03:28 PM	Yes
2	-0.0000	-0.0192	0.0001	-0.0001	0.0001	2:04:03 PM	Yes
Mean:	-0.0000	-0.0194	0.0001				
SD:	0.00000	0.00029	0.0000				
%RSD:	1.48%	1.48%	2.83				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 2:04:27 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.95	0.0122	0.0442	0.0122	2:05:22 PM	Yes
2	0.0019	1.93	0.0121	0.0427	0.0121	2:05:57 PM	Yes
Mean:	0.0019	1.94	0.0122				
SD:	0.00001	0.011	0.0001				
%RSD:	0.57%	0.57%	0.56				

QC value within limits for Hg 253.7 Recovery = 96.95%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 2:06:19 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0021	0.0002	0.0009	0.0002	2:07:12 PM	Yes
2	0.0000	0.0051	0.0002	0.0019	0.0002	2:07:47 PM	Yes
Mean:	0.0000	0.0015	0.0002				
SD:	0.00001	0.00511	0.0000				
%RSD:	339.22%	339.22%	16.46				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 42**
Sample ID: 570-78797-A-1-J MS **Date Collected: 12/17/2021 2:08:07 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78797-A-1-J MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	5.01	0.0311	0.1142	0.0312	2:09:01 PM	Yes
2	0.0049	4.90	0.0304	0.1085	0.0305	2:09:36 PM	Yes
Mean:	0.0050	4.96	0.0308				
SD:	0.00008	0.081	0.0005				
%RSD:	1.63%	1.63%	1.62				

==========

Sequence No.: 14 **Autosampler Location: 43**
Sample ID: 570-78797-A-1-K MSD **Date Collected: 12/17/2021 2:09:58 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78797-A-1-K MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.93	0.0306	0.1124	0.0306	2:10:52 PM	Yes
2	0.0049	4.94	0.0307	0.1095	0.0307	2:11:26 PM	Yes
Mean:	0.0049	4.93	0.0306				
SD:	0.00001	0.007	0.0000				

%RSD: 0.14% 0.14% 0.14

==========

Sequence No.: 15 **Autosampler Location: 44**
Sample ID: 570-78812-A-1-D **Date Collected: 12/17/2021 2:11:48 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78812-A-1-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0149	0.0001	0.0008	0.0001	2:12:42 PM	Yes
2	-0.0000	-0.0118	0.0001	0.0011	0.0001	2:13:17 PM	Yes
Mean:	-0.0000	-0.0134	0.0001				
SD:	0.00000	0.00219	0.0000				
%RSD:	16.38%	16.38%	13.59				

==========

Sequence No.: 16 **Autosampler Location: 45**
Sample ID: 570-78812-A-2-D **Date Collected: 12/17/2021 2:13:38 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78812-A-2-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0187	0.0001	0.0002	0.0001	2:14:32 PM	Yes
2	-0.0000	-0.0217	0.0000	-0.0003	0.0001	2:15:07 PM	Yes
Mean:	-0.0000	-0.0202	0.0001				
SD:	0.00000	0.00212	0.0000				
%RSD:	10.51%	10.51%	22.74				

==========

Sequence No.: 17 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 2:15:29 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0020	1.97	0.0124	0.0449	0.0124	2:16:23 PM	Yes
2	0.0019	1.94	0.0122	0.0426	0.0122	2:16:58 PM	Yes
Mean:	0.0020	1.96	0.0123				
SD:	0.00002	0.022	0.0001				
%RSD:	1.14%	1.14%	1.12				

QC value within limits for Hg 253.7 Recovery = 97.94%
All analyte(s) passed QC.

==========

Sequence No.: 18 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 2:17:20 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0004	0.0002	0.0008	0.0002	2:18:13 PM	Yes
2	0.0000	0.0001	0.0002	0.0005	0.0002	2:18:48 PM	Yes
Mean:	0.0000	0.0002	0.0002				
SD:	0.00000	0.00024	0.0000				
%RSD:	99.74%	99.74%	0.81				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211217G1.sifx
Batch ID:
Results Data Set: 211217G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

Sequence No.: 1 **Autosampler Location: 46**
Sample ID: MB 570-201907/1-A **Date Collected: 12/17/2021 3:52:39 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-201907/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0022	0.0002	0.0021	0.0002	3:53:34 PM	Yes
2	-0.0000	-0.0146	0.0001	-0.0000	0.0001	3:54:08 PM	Yes
Mean:	-0.0000	-0.0062	0.0001				
SD:	0.00001	0.01193	0.0001				
%RSD:	192.10%	192.10%	51.11				

Sequence No.: 2 **Autosampler Location: 47**
Sample ID: LCS 570-201907/2-A **Date Collected: 12/17/2021 3:54:30 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-201907/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0054	5.36	0.0333	0.1197	0.0333	3:55:25 PM	Yes
2	0.0054	5.37	0.0333	0.1175	0.0334	3:56:00 PM	Yes
Mean:	0.0054	5.36	0.0333				
SD:	0.00001	0.006	0.0000				
%RSD:	0.10%	0.10%	0.10				

Sequence No.: 3 **Autosampler Location: 48**
Sample ID: LCSD 570-201907/3-A **Date Collected: 12/17/2021 3:56:22 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-201907/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0054	5.36	0.0333	0.1181	0.0333	3:57:17 PM	Yes
2	0.0053	5.32	0.0331	0.1167	0.0331	3:57:51 PM	Yes
Mean:	0.0053	5.34	0.0332				
SD:	0.00003	0.025	0.0002				
%RSD:	0.47%	0.47%	0.47				

Sequence No.: 4 **Autosampler Location: 49**
Sample ID: 570-78654-A-1-A **Date Collected: 12/17/2021 3:58:14 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78654-A-1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0188	0.0001	-0.0005	0.0001	3:59:09 PM	Yes
2	-0.0000	-0.0168	0.0001	-0.0000	0.0001	3:59:43 PM	Yes
Mean:	-0.0000	-0.0178	0.0001				
SD:	0.00000	0.00138	0.0000				
%RSD:	7.78%	7.78%	11.78				

Sequence No.: 5 **Autosampler Location: 50**

Sample ID: 570-78654-A-1-B MS **Date Collected: 12/17/2021 4:00:06 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78654-A-1-B MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.25	0.0326	0.1171	0.0326	4:01:00 PM	Yes
2	0.0052	5.18	0.0322	0.1135	0.0322	4:01:34 PM	Yes
Mean:	0.0052	5.22	0.0324				
SD:	0.00005	0.050	0.0003				
%RSD:	0.96%	0.96%	0.96				

Sequence No.: 6 **Autosampler Location: 51**
Sample ID: 570-78654-A-1-C MSD **Date Collected: 12/17/2021 4:01:56 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78654-A-1-C MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.28	0.0328	0.1172	0.0328	4:02:50 PM	Yes
2	0.0052	5.22	0.0324	0.1148	0.0324	4:03:25 PM	Yes
Mean:	0.0052	5.25	0.0326				
SD:	0.00004	0.042	0.0003				
%RSD:	0.80%	0.80%	0.79				

Sequence No.: 7 **Autosampler Location: 52**
Sample ID: 570-78654-A-2-A **Date Collected: 12/17/2021 4:03:47 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78654-A-2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0065	0.0002	0.0025	0.0002	4:04:41 PM	Yes
2	-0.0000	-0.0015	0.0002	0.0018	0.0002	4:05:16 PM	Yes
Mean:	0.0000	0.0025	0.0002				
SD:	0.00001	0.00566	0.0000				
%RSD:	228.15%	228.15%	17.66				

Sequence No.: 8 **Autosampler Location: 53**
Sample ID: 570-78654-A-3-A **Date Collected: 12/17/2021 4:05:37 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78654-A-3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0154	0.0001	0.0008	0.0001	4:06:32 PM	Yes
2	-0.0000	-0.0175	0.0001	0.0003	0.0001	4:07:06 PM	Yes
Mean:	-0.0000	-0.0164	0.0001				
SD:	0.00000	0.00146	0.0000				
%RSD:	8.91%	8.91%	11.16				

Sequence No.: 9 **Autosampler Location: 54**
Sample ID: 570-78670-A-2-A **Date Collected: 12/17/2021 4:07:28 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78670-A-2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0172	0.0001	-0.0002	0.0001	4:08:22 PM	Yes
2	-0.0000	-0.0235	0.0000	-0.0009	0.0001	4:08:57 PM	Yes
Mean:	-0.0000	-0.0204	0.0001				
SD:	0.00000	0.00444	0.0000				
%RSD:	21.83%	21.83%	48.34				

Sequence No.: 10 **Autosampler Location: 55**

Sample ID: MB 570-201906/1-A **Date Collected: 12/17/2021 4:09:19 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-201906/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0191	0.0001	-0.0004	0.0001	4:10:13 PM	Yes
2	-0.0000	-0.0186	0.0001	-0.0004	0.0001	4:10:48 PM	Yes
Mean:	-0.0000	-0.0189	0.0001				
SD:	0.00000	0.00037	0.0000				
%RSD:	1.97%	1.97%	3.48				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 4:11:10 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0020	2.04	0.0128	0.0451	0.0128	4:12:04 PM	Yes
2	0.0020	2.03	0.0127	0.0444	0.0127	4:12:39 PM	Yes
Mean:	0.0020	2.03	0.0127				
SD:	0.00001	0.008	0.0000				
%RSD:	0.38%	0.38%	0.38				

QC value within limits for Hg 253.7 Recovery = 101.59%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 4:13:01 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0031	0.0002	0.0004	0.0002	4:13:54 PM	Yes
2	-0.0000	-0.0059	0.0001	-0.0009	0.0002	4:14:29 PM	Yes
Mean:	-0.0000	-0.0045	0.0002				
SD:	0.00000	0.00198	0.0000				
%RSD:	44.24%	44.24%	7.89				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 56**
Sample ID: LCS 570-201906/2-A **Date Collected: 12/17/2021 4:14:50 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-201906/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0051	5.15	0.0320	0.1135	0.0320	4:15:44 PM	Yes
2	0.0052	5.16	0.0320	0.1115	0.0320	4:16:19 PM	Yes
Mean:	0.0052	5.15	0.0320				
SD:	0.00001	0.007	0.0000				
%RSD:	0.14%	0.14%	0.14				

==========

Sequence No.: 14 **Autosampler Location: 57**
Sample ID: LCSD 570-201906/3-A **Date Collected: 12/17/2021 4:16:40 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-201906/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0051	5.11	0.0317	0.1128	0.0318	4:17:35 PM	Yes
2	0.0051	5.11	0.0317	0.1085	0.0318	4:18:09 PM	Yes
Mean:	0.0051	5.11	0.0317				
SD:	0.00000	0.003	0.0000				

%RSD: 0.05% 0.05% 0.05

Sequence No.: 15 **Autosampler Location: 58**
Sample ID: 440-292422-A-1-A **Date Collected: 12/17/2021 4:18:32 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292422-A-1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0249	0.0000	-0.0013	0.0001	4:19:26 PM	Yes
2	-0.0000	-0.0279	0.0000	-0.0011	0.0000	4:20:01 PM	Yes
Mean:	-0.0000	-0.0264	0.0000				
SD:	0.00000	0.00217	0.0000				
%RSD:	8.22%	8.22%	68.66				

Sequence No.: 16 **Autosampler Location: 59**
Sample ID: 440-292422-A-1-B MS **Date Collected: 12/17/2021 4:20:23 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292422-A-1-B MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0056	5.57	0.0345	0.1244	0.0346	4:21:17 PM	Yes
2	0.0055	5.52	0.0343	0.1215	0.0343	4:21:52 PM	Yes
Mean:	0.0055	5.54	0.0344				
SD:	0.00003	0.033	0.0002				
%RSD:	0.59%	0.59%	0.59				

Sequence No.: 17 **Autosampler Location: 60**
Sample ID: 440-292422-A-1-C MSD **Date Collected: 12/17/2021 4:22:14 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-292422-A-1-C MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0055	5.53	0.0343	0.1246	0.0344	4:23:09 PM	Yes
2	0.0055	5.52	0.0342	0.1209	0.0343	4:23:44 PM	Yes
Mean:	0.0055	5.53	0.0343				
SD:	0.00001	0.010	0.0001				
%RSD:	0.19%	0.19%	0.19				

Sequence No.: 18 **Autosampler Location: 61**
Sample ID: 570-77712-A-1-A **Date Collected: 12/17/2021 4:24:06 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-77712-A-1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0302	-0.0000	-0.0011	0.0000	4:25:01 PM	Yes
2	-0.0000	-0.0308	-0.0000	-0.0004	0.0000	4:25:36 PM	Yes
Mean:	-0.0000	-0.0305	-0.0000				
SD:	0.00000	0.00042	0.0000				
%RSD:	1.38%	1.38%	42.86				

Sequence No.: 19 **Autosampler Location: 62**
Sample ID: 570-78425-A-1-A **Date Collected: 12/17/2021 4:25:58 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78425-A-1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0234	0.0000	-0.0007	0.0001	4:26:53 PM	Yes
2	-0.0000	-0.0103	0.0001	0.0001	0.0001	4:27:27 PM	Yes
Mean:	-0.0000	-0.0168	0.0001				
SD:	0.00001	0.00927	0.0001				

%RSD: 55.01% 55.01% 72.95

==========

Sequence No.: 20 **Autosampler Location: 63**
Sample ID: 570-78565-A-2-A **Date Collected: 12/17/2021 4:27:55 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78565-A-2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0213	0.0001	-0.0010	0.0001	4:28:50 PM	Yes
2	-0.0000	-0.0146	0.0001	0.0001	0.0001	4:29:25 PM	Yes
Mean:	-0.0000	-0.0179	0.0001				
SD:	0.00000	0.00472	0.0000				
%RSD:	26.31%	26.31%	40.69				

==========

Sequence No.: 21 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 4:29:47 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0020	2.04	0.0128	0.0450	0.0128	4:30:41 PM	Yes
2	0.0020	2.02	0.0126	0.0436	0.0127	4:31:16 PM	Yes
Mean:	0.0020	2.03	0.0127				
SD:	0.00002	0.018	0.0001				
%RSD:	0.90%	0.90%	0.89				

QC value within limits for Hg 253.7 Recovery = 101.52%
All analyte(s) passed QC.

==========

Sequence No.: 22 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 4:31:38 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0037	0.0002	-0.0004	0.0002	4:32:32 PM	Yes
2	-0.0000	-0.0186	0.0001	-0.0011	0.0001	4:33:07 PM	Yes
Mean:	-0.0000	-0.0112	0.0001				
SD:	0.00001	0.01053	0.0001				
%RSD:	94.40%	94.40%	57.24				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211217G1.sifx
Batch ID:
Results Data Set: 211217G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 64**
Sample ID: LB4 570-201911/1-D **Date Collected: 12/17/2021 4:35:04 PM**
Analyst: **Data Type: Original**

Replicate Data: LB4 570-201911/1-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0293	0.0000	-0.0009	0.0000	4:35:58 PM	Yes
2	-0.0000	-0.0324	-0.0000	-0.0012	0.0000	4:36:33 PM	Yes
Mean:	-0.0000	-0.0308	-0.0000				
SD:	0.00000	0.00222	0.0000				
%RSD:	7.20%	7.20%	173.13				

==========

Sequence No.: 2 **Autosampler Location: 65**
Sample ID: LCS 570-201911/2-D **Date Collected: 12/17/2021 4:36:55 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-201911/2-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.24	0.0326	0.1161	0.0326	4:37:49 PM	Yes
2	0.0051	5.13	0.0319	0.1110	0.0319	4:38:24 PM	Yes
Mean:	0.0052	5.19	0.0322				
SD:	0.00008	0.079	0.0005				
%RSD:	1.51%	1.51%	1.51				

==========

Sequence No.: 3 **Autosampler Location: 66**
Sample ID: LCSD 570-201911/3-D **Date Collected: 12/17/2021 4:38:45 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-201911/3-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.25	0.0326	0.1164	0.0326	4:39:40 PM	Yes
2	0.0052	5.20	0.0323	0.1133	0.0323	4:40:14 PM	Yes
Mean:	0.0052	5.23	0.0324				
SD:	0.00003	0.031	0.0002				
%RSD:	0.60%	0.60%	0.60				

==========

Sequence No.: 4 **Autosampler Location: 67**
Sample ID: 570-78942-O-2-H **Date Collected: 12/17/2021 4:40:36 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78942-O-2-H **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0129	0.0001	0.0001	0.0001	4:41:31 PM	Yes
2	-0.0000	-0.0200	0.0001	-0.0005	0.0001	4:42:05 PM	Yes
Mean:	-0.0000	-0.0164	0.0001				
SD:	0.00000	0.00498	0.0000				
%RSD:	30.30%	30.30%	38.05				

==========

Sequence No.: 5 **Autosampler Location: 68**

Sample ID: 570-78942-O-2-I MS **Date Collected: 12/17/2021 4:42:27 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78942-O-2-I MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.31	0.0330	0.1198	0.0330	4:43:22 PM	Yes
2	0.0053	5.28	0.0328	0.1166	0.0328	4:43:56 PM	Yes
Mean:	0.0053	5.30	0.0329				
SD:	0.00002	0.020	0.0001				
%RSD:	0.37%	0.37%	0.37				

Sequence No.: 6 **Autosampler Location: 69**
Sample ID: 570-78942-O-2-J MSD **Date Collected: 12/17/2021 4:44:18 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78942-O-2-J MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.35	0.0332	0.1197	0.0332	4:45:13 PM	Yes
2	0.0053	5.32	0.0331	0.1178	0.0331	4:45:47 PM	Yes
Mean:	0.0053	5.34	0.0331				
SD:	0.00002	0.016	0.0001				
%RSD:	0.30%	0.30%	0.29				

Sequence No.: 7 **Autosampler Location: 70**
Sample ID: 570-78942-O-3-F **Date Collected: 12/17/2021 4:46:09 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78942-O-3-F **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0157	0.0001	-0.0005	0.0001	4:47:04 PM	Yes
2	-0.0000	-0.0157	0.0001	0.0003	0.0001	4:47:38 PM	Yes
Mean:	-0.0000	-0.0157	0.0001				
SD:	0.00000	0.00001	0.0000				
%RSD:	0.08%	0.08%	0.09				

Sequence No.: 8 **Autosampler Location: 71**
Sample ID: LB4 570-201314/1-C **Date Collected: 12/17/2021 4:48:03 PM**
Analyst: **Data Type: Original**

Replicate Data: LB4 570-201314/1-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0209	0.0001	-0.0005	0.0001	4:48:58 PM	Yes
2	-0.0000	-0.0237	0.0000	-0.0005	0.0001	4:49:32 PM	Yes
Mean:	-0.0000	-0.0223	0.0000				
SD:	0.00000	0.00200	0.0000				
%RSD:	8.98%	8.98%	27.78				

Sequence No.: 9 **Autosampler Location: 72**
Sample ID: LCS 570-201314/2-C **Date Collected: 12/17/2021 4:49:54 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-201314/2-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.24	0.0325	0.1167	0.0326	4:50:49 PM	Yes
2	0.0053	5.25	0.0326	0.1155	0.0326	4:51:24 PM	Yes
Mean:	0.0052	5.25	0.0326				
SD:	0.00001	0.009	0.0001				
%RSD:	0.17%	0.17%	0.16				

Sequence No.: 10 **Autosampler Location: 73**

Sample ID: LCSD 570-201314/3-C **Date Collected: 12/17/2021 4:51:47 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-201314/3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.26	0.0326	0.1162	0.0327	4:52:42 PM	Yes
2	0.0052	5.21	0.0323	0.1141	0.0324	4:53:16 PM	Yes
Mean:	0.0052	5.23	0.0325				
SD:	0.00003	0.033	0.0002				
%RSD:	0.63%	0.63%	0.63				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 4:53:39 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.94	0.0121	0.0433	0.0122	4:54:33 PM	Yes
2	0.0020	1.98	0.0124	0.0426	0.0124	4:55:08 PM	Yes
Mean:	0.0020	1.96	0.0123				
SD:	0.00003	0.027	0.0002				
%RSD:	1.40%	1.40%	1.38				

QC value within limits for Hg 253.7 Recovery = 97.86%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 4:55:30 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0262	0.0000	-0.0021	0.0000	4:56:23 PM	Yes
2	-0.0000	-0.0094	0.0001	-0.0004	0.0002	4:56:58 PM	Yes
Mean:	-0.0000	-0.0178	0.0001				
SD:	0.00001	0.01186	0.0001				
%RSD:	66.61%	66.61%	101.00				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 74**
Sample ID: 570-78812-A-1-F **Date Collected: 12/17/2021 4:57:22 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78812-A-1-F **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0320	-0.0000	-0.0012	0.0000	4:58:16 PM	Yes
2	-0.0000	-0.0307	-0.0000	-0.0009	0.0000	4:58:51 PM	Yes
Mean:	-0.0000	-0.0313	-0.0000				
SD:	0.00000	0.00092	0.0000				
%RSD:	2.94%	2.94%	52.11				

==========

Sequence No.: 14 **Autosampler Location: 75**
Sample ID: 570-78812-A-1-G MS **Date Collected: 12/17/2021 4:59:13 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78812-A-1-G MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0039	3.86	0.0240	0.0873	0.0240	5:00:07 PM	Yes
2	0.0040	3.95	0.0246	0.0874	0.0246	5:00:42 PM	Yes
Mean:	0.0039	3.91	0.0243				
SD:	0.00007	0.066	0.0004				

%RSD: 1.70% 1.70% 1.69

==========

Sequence No.: 15 **Autosampler Location: 76**
Sample ID: 570-78812-A-1-H MSD **Date Collected: 12/17/2021 5:01:05 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78812-A-1-H MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0040	4.01	0.0249	0.0908	0.0250	5:01:59 PM	Yes
2	0.0039	3.95	0.0246	0.0875	0.0246	5:02:34 PM	Yes
Mean:	0.0040	3.98	0.0247				
SD:	0.00004	0.042	0.0003				
%RSD:	1.06%	1.06%	1.06				

==========

Sequence No.: 16 **Autosampler Location: 77**
Sample ID: 570-78812-A-2-F **Date Collected: 12/17/2021 5:02:56 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78812-A-2-F **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0022	0.0002	0.0024	0.0002	5:03:51 PM	Yes
2	-0.0000	-0.0132	0.0001	0.0005	0.0001	5:04:25 PM	Yes
Mean:	-0.0000	-0.0077	0.0001				
SD:	0.00001	0.00779	0.0000				
%RSD:	101.66%	101.66%	35.60				

==========

Sequence No.: 17 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 5:04:48 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.94	0.0122	0.0444	0.0122	5:05:42 PM	Yes
2	0.0019	1.94	0.0122	0.0425	0.0122	5:06:17 PM	Yes
Mean:	0.0019	1.94	0.0122				
SD:	0.00000	0.000	0.0000				
%RSD:	0.02%	0.02%	0.02				

QC value within limits for Hg 253.7 Recovery = 97.08%
All analyte(s) passed QC.

==========

Sequence No.: 18 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 5:06:45 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0039	0.0002	0.0005	0.0002	5:07:38 PM	Yes
2	-0.0000	-0.0051	0.0002	-0.0005	0.0002	5:08:12 PM	Yes
Mean:	-0.0000	-0.0045	0.0002				
SD:	0.00000	0.00086	0.0000				
%RSD:	19.16%	19.16%	3.45				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211217G1.sifx
Batch ID:
Results Data Set: 211217G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 78**
Sample ID: LB 570-201602/1-C **Date Collected: 12/17/2021 5:12:32 PM**
Analyst: **Data Type: Original**

Replicate Data: LB 570-201602/1-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0146	0.0001	0.0004	0.0001	5:13:26 PM	Yes
2	-0.0000	-0.0152	0.0001	-0.0000	0.0001	5:14:01 PM	Yes
Mean:	-0.0000	-0.0149	0.0001				
SD:	0.00000	0.00043	0.0000				
%RSD:	2.85%	2.85%	2.91				

==========

Sequence No.: 2 **Autosampler Location: 79**
Sample ID: LCS 570-201602/2-C **Date Collected: 12/17/2021 5:14:23 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-201602/2-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.30	0.0329	0.1195	0.0329	5:15:17 PM	Yes
2	0.0052	5.18	0.0322	0.1143	0.0322	5:15:52 PM	Yes
Mean:	0.0052	5.24	0.0325				
SD:	0.00009	0.087	0.0005				
%RSD:	1.66%	1.66%	1.65				

==========

Sequence No.: 3 **Autosampler Location: 80**
Sample ID: LCSD 570-201602/3-C **Date Collected: 12/17/2021 5:16:14 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-201602/3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.23	0.0325	0.1174	0.0325	5:17:09 PM	Yes
2	0.0051	5.15	0.0320	0.1095	0.0320	5:17:43 PM	Yes
Mean:	0.0052	5.19	0.0322				
SD:	0.00006	0.059	0.0004				
%RSD:	1.14%	1.14%	1.13				

==========

Sequence No.: 4 **Autosampler Location: 81**
Sample ID: 570-78942-O-2-C **Date Collected: 12/17/2021 5:18:05 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78942-O-2-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0165	0.0001	-0.0001	0.0001	5:19:00 PM	Yes
2	-0.0000	-0.0129	0.0001	0.0006	0.0001	5:19:34 PM	Yes
Mean:	-0.0000	-0.0147	0.0001				
SD:	0.00000	0.00252	0.0000				
%RSD:	17.10%	17.10%	16.99				

==========

Sequence No.: 5 **Autosampler Location: 82**

Sample ID: 570-78942-O-2-D MS **Date Collected: 12/17/2021 5:19:56 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78942-O-2-D MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.18	0.0322	0.1176	0.0322	5:20:51 PM	Yes
2	0.0051	5.12	0.0318	0.1123	0.0318	5:21:26 PM	Yes
Mean:	0.0051	5.15	0.0320				
SD:	0.00004	0.043	0.0003				
%RSD:	0.84%	0.84%	0.84				

Sequence No.: 6 **Autosampler Location: 83**
Sample ID: 570-78942-O-2-E MSD **Date Collected: 12/17/2021 5:21:48 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78942-O-2-E MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0051	5.13	0.0319	0.1160	0.0319	5:22:43 PM	Yes
2	0.0051	5.06	0.0314	0.1094	0.0315	5:23:17 PM	Yes
Mean:	0.0051	5.10	0.0317				
SD:	0.00005	0.050	0.0003				
%RSD:	0.98%	0.98%	0.98				

Sequence No.: 7 **Autosampler Location: 84**
Sample ID: 570-78942-O-3-C **Date Collected: 12/17/2021 5:23:39 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78942-O-3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0085	0.0002	0.0021	0.0003	5:24:34 PM	Yes
2	-0.0000	-0.0182	0.0001	-0.0001	0.0001	5:25:09 PM	Yes
Mean:	-0.0000	-0.0048	0.0002				
SD:	0.00002	0.01891	0.0001				
%RSD:	390.53%	390.53%	76.55				

Sequence No.: 8 **Autosampler Location: 85**
Sample ID: MB 570-201717/1-B **Date Collected: 12/17/2021 5:25:31 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-201717/1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0129	0.0001	-0.0002	0.0001	5:26:26 PM	Yes
2	-0.0000	-0.0058	0.0001	0.0010	0.0002	5:27:01 PM	Yes
Mean:	-0.0000	-0.0093	0.0001				
SD:	0.00001	0.00507	0.0000				
%RSD:	54.28%	54.28%	25.12				

Sequence No.: 9 **Autosampler Location: 86**
Sample ID: LCS 570-201717/2-B **Date Collected: 12/17/2021 5:27:23 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-201717/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.26	0.0326	0.1176	0.0327	5:28:18 PM	Yes
2	0.0051	5.14	0.0319	0.1137	0.0320	5:28:53 PM	Yes
Mean:	0.0052	5.20	0.0323				
SD:	0.00008	0.080	0.0005				
%RSD:	1.53%	1.53%	1.52				

Sequence No.: 10 **Autosampler Location: 87**

Sample ID: LCSD 570-201717/3-B **Date Collected: 12/17/2021 5:29:15 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-201717/3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0055	5.53	0.0343	0.1188	0.0343	5:30:10 PM	Yes
2	0.0052	5.24	0.0325	0.1152	0.0326	5:30:45 PM	Yes
Mean:	0.0054	5.39	0.0334				
SD:	0.00020	0.202	0.0012				
%RSD:	3.76%	3.76%	3.74				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 5:31:07 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.93	0.0121	0.0442	0.0121	5:32:02 PM	Yes
2	0.0019	1.92	0.0120	0.0431	0.0121	5:32:36 PM	Yes
Mean:	0.0019	1.93	0.0121				
SD:	0.00001	0.009	0.0001				
%RSD:	0.49%	0.49%	0.48				

QC value within limits for Hg 253.7 Recovery = 96.30%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 5:32:58 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0035	0.0002	0.0004	0.0002	5:33:51 PM	Yes
2	-0.0000	-0.0052	0.0002	-0.0003	0.0002	5:34:26 PM	Yes
Mean:	-0.0000	-0.0044	0.0002				
SD:	0.00000	0.00119	0.0000				
%RSD:	27.12%	27.12%	4.71				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 88**
Sample ID: 570-78861-I-3-C **Date Collected: 12/17/2021 5:34:47 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78861-I-3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0187	0.0001	-0.0008	0.0001	5:35:42 PM	Yes
2	-0.0000	-0.0098	0.0001	0.0002	0.0001	5:36:16 PM	Yes
Mean:	-0.0000	-0.0143	0.0001				
SD:	0.00001	0.00629	0.0000				
%RSD:	44.06%	44.06%	41.16				

==========

Sequence No.: 14 **Autosampler Location: 89**
Sample ID: 570-78861-H-4-E **Date Collected: 12/17/2021 5:36:39 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78861-H-4-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0030	0.0002	0.0009	0.0002	5:37:33 PM	Yes
2	0.0000	0.0074	0.0002	0.0014	0.0003	5:38:08 PM	Yes
Mean:	0.0000	0.0052	0.0002				
SD:	0.00000	0.00311	0.0000				

%RSD: 60.10% 60.10% 8.96

==========

Sequence No.: 15 **Autosampler Location: 90**
Sample ID: 570-78861-H-4-F MS **Date Collected: 12/17/2021 5:38:31 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78861-H-4-F MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.16	0.0320	0.1174	0.0320	5:39:25 PM	Yes
2	0.0050	5.04	0.0313	0.1127	0.0313	5:40:00 PM	Yes
Mean:	0.0051	5.10	0.0317				
SD:	0.00008	0.081	0.0005				
%RSD:	1.60%	1.60%	1.59				

==========

Sequence No.: 16 **Autosampler Location: 91**
Sample ID: 570-78861-H-4-G MSD **Date Collected: 12/17/2021 5:40:22 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78861-H-4-G MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.18	0.0322	0.1178	0.0322	5:41:17 PM	Yes
2	0.0051	5.14	0.0319	0.1154	0.0319	5:41:51 PM	Yes
Mean:	0.0052	5.16	0.0320				
SD:	0.00003	0.032	0.0002				
%RSD:	0.63%	0.63%	0.62				

==========

Sequence No.: 17 **Autosampler Location: 92**
Sample ID: 570-78861-H-5-C **Date Collected: 12/17/2021 5:42:14 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78861-H-5-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0038	0.0002	0.0009	0.0002	5:43:08 PM	Yes
2	-0.0000	-0.0066	0.0001	0.0005	0.0002	5:43:43 PM	Yes
Mean:	-0.0000	-0.0052	0.0002				
SD:	0.00000	0.00199	0.0000				
%RSD:	38.58%	38.58%	8.17				

==========

Sequence No.: 18 **Autosampler Location: 93**
Sample ID: 570-78999-M-3-C **Date Collected: 12/17/2021 5:44:05 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78999-M-3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0003	0.272	0.0019	0.0066	0.0019	5:45:00 PM	Yes
2	0.0003	0.268	0.0018	0.0064	0.0019	5:45:35 PM	Yes
Mean:	0.0003	0.270	0.0018				
SD:	0.00000	0.0031	0.0000				
%RSD:	1.15%	1.15%	1.04				

==========

Sequence No.: 19 **Autosampler Location: 94**
Sample ID: 570-78999-M-4-C **Date Collected: 12/17/2021 5:45:57 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78999-M-4-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0030	3.03	0.0189	0.0688	0.0189	5:46:52 PM	Yes
2	0.0030	3.04	0.0190	0.0672	0.0190	5:47:26 PM	Yes
Mean:	0.0030	3.04	0.0189				
SD:	0.00001	0.005	0.0000				

%RSD: 0.18% 0.18% 0.18

==========

Sequence No.: 20 **Autosampler Location: 95**
Sample ID: 570-78999-M-5-C **Date Collected: 12/17/2021 5:47:52 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78999-M-5-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0003	0.323	0.0022	0.0080	0.0022	5:48:47 PM	Yes
2	0.0003	0.321	0.0022	0.0079	0.0022	5:49:21 PM	Yes
Mean:	0.0003	0.322	0.0022				
SD:	0.00000	0.0011	0.0000				
%RSD:	0.34%	0.34%	0.31				

==========

Sequence No.: 21 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 5:49:44 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0020	1.98	0.0124	0.0448	0.0124	5:50:38 PM	Yes
2	0.0020	1.96	0.0123	0.0434	0.0123	5:51:13 PM	Yes
Mean:	0.0020	1.97	0.0123				
SD:	0.00002	0.017	0.0001				
%RSD:	0.84%	0.84%	0.83				

QC value within limits for Hg 253.7 Recovery = 98.50%
All analyte(s) passed QC.

==========

Sequence No.: 22 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 5:51:35 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0003	0.0002	0.0005	0.0002	5:52:28 PM	Yes
2	-0.0000	-0.0034	0.0002	0.0002	0.0002	5:53:03 PM	Yes
Mean:	-0.0000	-0.0018	0.0002				
SD:	0.00000	0.00226	0.0000				
%RSD:	122.30%	122.30%	8.16				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211217G1.sifx
Batch ID:
Results Data Set: 211217G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

Sequence No.: 1 **Autosampler Location: 96**
Sample ID: MB 570-201724/1-B **Date Collected: 12/17/2021 5:54:18 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-201724/1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0054	0.0002	0.0011	0.0002	5:55:13 PM	Yes
2	-0.0000	-0.0014	0.0002	-0.0004	0.0002	5:55:48 PM	Yes
Mean:	0.0000	0.0020	0.0002				
SD:	0.00000	0.00482	0.0000				
%RSD:	238.02%	238.02%	15.28				

Sequence No.: 2 **Autosampler Location: 97**
Sample ID: LCS 570-201724/2-B **Date Collected: 12/17/2021 5:56:10 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-201724/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.34	0.0331	0.1203	0.0332	5:57:06 PM	Yes
2	0.0053	5.30	0.0329	0.1158	0.0329	5:57:41 PM	Yes
Mean:	0.0053	5.32	0.0330				
SD:	0.00003	0.027	0.0002				
%RSD:	0.51%	0.51%	0.51				

Sequence No.: 3 **Autosampler Location: 98**
Sample ID: LCSD 570-201724/3-B **Date Collected: 12/17/2021 5:58:03 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-201724/3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0054	5.36	0.0333	0.1200	0.0333	5:58:58 PM	Yes
2	0.0053	5.29	0.0329	0.1181	0.0329	5:59:33 PM	Yes
Mean:	0.0053	5.33	0.0331				
SD:	0.00005	0.050	0.0003				
%RSD:	0.93%	0.93%	0.93				

Sequence No.: 4 **Autosampler Location: 99**
Sample ID: 570-78855-B-1-E **Date Collected: 12/17/2021 5:59:56 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78855-B-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0056	0.0001	0.0004	0.0002	6:00:51 PM	Yes
2	-0.0000	-0.0025	0.0002	0.0005	0.0002	6:01:25 PM	Yes
Mean:	-0.0000	-0.0040	0.0002				
SD:	0.00000	0.00218	0.0000				
%RSD:	54.30%	54.30%	8.54				

Sequence No.: 5 **Autosampler Location: 100**

Sample ID: 570-78855-B-2-E **Date Collected: 12/17/2021 6:01:48 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78855-B-2-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0003	0.0002	0.0017	0.0002	6:02:43 PM	Yes
2	-0.0000	-0.0029	0.0002	0.0011	0.0002	6:03:18 PM	Yes
Mean:	-0.0000	-0.0016	0.0002				
SD:	0.00000	0.00182	0.0000				
%RSD:	111.81%	111.81%	6.53				

Sequence No.: 6 **Autosampler Location: 101**
Sample ID: 570-78855-B-2-F MS **Date Collected: 12/17/2021 6:03:40 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78855-B-2-F MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0055	5.47	0.0340	0.1246	0.0340	6:04:35 PM	Yes
2	0.0055	5.53	0.0343	0.1234	0.0344	6:05:10 PM	Yes
Mean:	0.0055	5.50	0.0341				
SD:	0.00004	0.040	0.0002				
%RSD:	0.73%	0.73%	0.73				

Sequence No.: 7 **Autosampler Location: 102**
Sample ID: 570-78855-B-2-G MSD **Date Collected: 12/17/2021 6:05:32 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78855-B-2-G MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0055	5.49	0.0341	0.1234	0.0341	6:06:28 PM	Yes
2	0.0055	5.49	0.0341	0.1223	0.0341	6:07:02 PM	Yes
Mean:	0.0055	5.49	0.0341				
SD:	0.00000	0.004	0.0000				
%RSD:	0.07%	0.07%	0.07				

Sequence No.: 8 **Autosampler Location: 103**
Sample ID: 570-78855-B-3-C **Date Collected: 12/17/2021 6:07:25 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78855-B-3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0109	0.0001	0.0001	0.0001	6:08:20 PM	Yes
2	-0.0000	-0.0045	0.0002	0.0006	0.0002	6:08:54 PM	Yes
Mean:	-0.0000	-0.0077	0.0001				
SD:	0.00000	0.00453	0.0000				
%RSD:	58.57%	58.57%	20.76				

Sequence No.: 9 **Autosampler Location: 104**
Sample ID: 570-78855-B-4-C **Date Collected: 12/17/2021 6:09:17 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78855-B-4-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0042	0.0002	-0.0002	0.0002	6:10:12 PM	Yes
2	-0.0000	-0.0017	0.0002	0.0003	0.0002	6:10:47 PM	Yes
Mean:	-0.0000	-0.0029	0.0002				
SD:	0.00000	0.00173	0.0000				
%RSD:	58.89%	58.89%	6.49				

Sequence No.: 10 **Autosampler Location: 105**

Sample ID: 570-78855-B-5-C **Date Collected: 12/17/2021 6:11:10 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78855-B-5-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0087	0.0002	0.0011	0.0003	6:12:05 PM	Yes
2	0.0000	0.0160	0.0003	0.0015	0.0003	6:12:39 PM	Yes
Mean:	0.0000	0.0124	0.0003				
SD:	0.00001	0.00513	0.0000				
%RSD:	41.45%	41.45%	12.23				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 6:13:02 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0020	2.01	0.0126	0.0450	0.0126	6:13:56 PM	Yes
2	0.0020	2.02	0.0127	0.0467	0.0127	6:14:31 PM	Yes
Mean:	0.0020	2.02	0.0126				
SD:	0.00001	0.010	0.0001				
%RSD:	0.48%	0.48%	0.47				

QC value within limits for Hg 253.7 Recovery = 100.90%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 6:14:53 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0038	0.0002	0.0006	0.0002	6:15:46 PM	Yes
2	-0.0000	-0.0032	0.0002	0.0004	0.0002	6:16:24 PM	Yes
Mean:	-0.0000	-0.0035	0.0002				
SD:	0.00000	0.00041	0.0000				
%RSD:	11.82%	11.82%	1.57				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 106**
Sample ID: 570-79056-F-1-C **Date Collected: 12/17/2021 6:16:45 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79056-F-1-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0037	0.0002	0.0011	0.0002	6:17:40 PM	Yes
2	-0.0000	-0.0009	0.0002	0.0006	0.0002	6:18:14 PM	Yes
Mean:	0.0000	0.0014	0.0002				
SD:	0.00000	0.00329	0.0000				
%RSD:	235.08%	235.08%	10.62				

==========

Sequence No.: 14 **Autosampler Location: 107**
Sample ID: 570-79056-G-2-D **Date Collected: 12/17/2021 6:18:37 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79056-G-2-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0060	0.0002	0.0006	0.0002	6:19:32 PM	Yes
2	0.0000	0.0095	0.0002	0.0007	0.0003	6:20:07 PM	Yes
Mean:	0.0000	0.0077	0.0002				
SD:	0.00000	0.00248	0.0000				

%RSD: 32.14% 32.14% 6.65

==========

Sequence No.: 15 **Autosampler Location: 108**
Sample ID: 570-79056-G-3-D **Date Collected: 12/17/2021 6:20:29 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79056-G-3-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0270	0.0003	0.0013	0.0004	6:21:24 PM	Yes
2	0.0000	0.0221	0.0003	0.0009	0.0003	6:21:59 PM	Yes
Mean:	0.0000	0.0246	0.0003				
SD:	0.00000	0.00348	0.0000				
%RSD:	14.14%	14.14%	6.42				

==========

Sequence No.: 16 **Autosampler Location: 109**
Sample ID: 570-79056-G-4-D **Date Collected: 12/17/2021 6:22:22 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79056-G-4-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0883	0.0007	0.0022	0.0008	6:23:17 PM	Yes
2	0.0001	0.0921	0.0008	0.0030	0.0008	6:23:51 PM	Yes
Mean:	0.0001	0.0902	0.0007				
SD:	0.00000	0.00267	0.0000				
%RSD:	2.96%	2.96%	2.23				

==========

Sequence No.: 17 **Autosampler Location: 110**
Sample ID: 570-79056-G-5-D **Date Collected: 12/17/2021 6:24:14 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79056-G-5-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0475	0.0005	0.0013	0.0005	6:25:09 PM	Yes
2	0.0000	0.0479	0.0005	0.0017	0.0005	6:25:44 PM	Yes
Mean:	0.0000	0.0477	0.0005				
SD:	0.00000	0.00028	0.0000				
%RSD:	0.59%	0.59%	0.37				

==========

Sequence No.: 18 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 6:26:07 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0020	1.99	0.0125	0.0451	0.0125	6:27:02 PM	Yes
2	0.0020	1.99	0.0125	0.0443	0.0125	6:27:36 PM	Yes
Mean:	0.0020	1.99	0.0125				
SD:	0.00000	0.000	0.0000				
%RSD:	0.01%	0.01%	0.01				

QC value within limits for Hg 253.7 Recovery = 99.54%
All analyte(s) passed QC.

==========

Sequence No.: 19 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 6:27:58 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0006	0.0002	0.0008	0.0002	6:28:51 PM	Yes
2	-0.0000	-0.0027	0.0002	0.0005	0.0002	6:29:26 PM	Yes

Mean:	-0.0000	-0.0016	0.0002
SD:	0.00000	0.00147	0.0000
%RSD:	89.48%	89.48%	5.26

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211217G1.sifx
Batch ID:
Results Data Set: 211217G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 111**
Sample ID: 570-78259-A-23-B **Date Collected: 12/17/2021 7:09:37 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78259-A-23-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0010	0.957	0.0061	0.0236	0.0061	7:10:32 PM	Yes
2	0.0010	0.951	0.0061	0.0228	0.0061	7:11:07 PM	Yes
Mean:	0.0010	0.954	0.0061				
SD:	0.00000	0.0040	0.0000				
%RSD:	0.42%	0.42%	0.41				

==========

Sequence No.: 2 **Autosampler Location: 4**
Sample ID: CCV 570-201855/9-A **Date Collected: 12/17/2021 7:11:30 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-201855/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0020	2.01	0.0126	0.0472	0.0126	7:12:24 PM	Yes
2	0.0020	2.00	0.0126	0.0461	0.0126	7:12:59 PM	Yes
Mean:	0.0020	2.01	0.0126				
SD:	0.00001	0.006	0.0000				
%RSD:	0.31%	0.31%	0.30				

QC value within limits for Hg 253.7 Recovery = 100.47%
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 1**
Sample ID: CCB 570-201855/10-A **Date Collected: 12/17/2021 7:13:21 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-201855/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0111	0.0003	0.0015	0.0003	7:14:14 PM	Yes
2	0.0000	0.0129	0.0003	0.0022	0.0003	7:14:49 PM	Yes
Mean:	0.0000	0.0120	0.0003				
SD:	0.00000	0.00131	0.0000				
%RSD:	10.92%	10.92%	3.15				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

01-10-22-water

Method: WATER Operator: Admin Date of Analysis: 10 Jan 2022 16:26:01

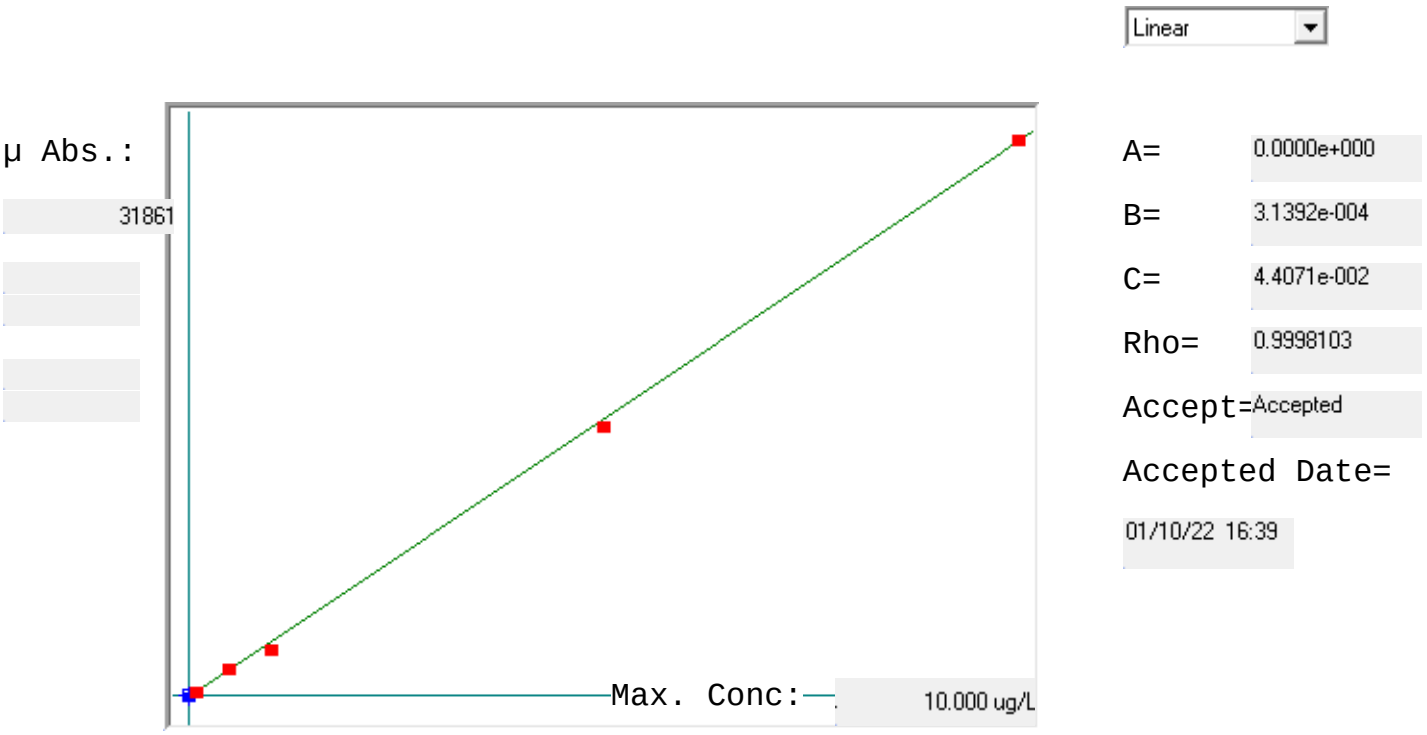
Seq ID	Type	Sample ID	Extended ID	Date	Conc	Units	Stnd Conc	µ Abs	Method	Chapter
4279	S	IC 440-664138/6-A - 1		10 Jan 2022 16:26:08	-	ug/L	0.0000	13	WATER	01-10-22-water
4280	S	IC 440-664138/6-A - 2		10 Jan 2022 16:26:08	-	ug/L	0.0000	17	WATER	01-10-22-water
4281	S	IC 440-664138/7-A - 1		10 Jan 2022 16:28:19	-	ug/L	0.1000	326	WATER	01-10-22-water
4282	S	IC 440-664138/7-A - 2		10 Jan 2022 16:28:19	-	ug/L	0.1000	335	WATER	01-10-22-water
4283	S	IC 440-664138/8-A - 1		10 Jan 2022 16:30:29	-	ug/L	0.5000	1596	WATER	01-10-22-water
4284	S	IC 440-664138/8-A - 2		10 Jan 2022 16:30:29	-	ug/L	0.5000	1670	WATER	01-10-22-water
4285	S	IC 440-664138/9-A - 1		10 Jan 2022 16:32:39	-	ug/L	1.0000	2609	WATER	01-10-22-water
4286	S	IC 440-664138/9-A - 2		10 Jan 2022 16:32:39	-	ug/L	1.0000	2725	WATER	01-10-22-water
4287	S	IC 440-664138/10-A - 1		10 Jan 2022 16:34:49	-	ug/L	5.0000	15220	WATER	01-10-22-water
4288	S	IC 440-664138/10-A - 2		10 Jan 2022 16:34:49	-	ug/L	5.0000	15844	WATER	01-10-22-water
4289	S	IC 440-664138/11-A - 1		10 Jan 2022 16:37:00	-	ug/L	10.0000	31377	WATER	01-10-22-water
4290	S	IC 440-664138/11-A - 2		10 Jan 2022 16:37:00	-	ug/L	10.0000	32344	WATER	01-10-22-water
4291	C	ICV 440-664138/1-A - 1		10 Jan 2022 16:39:17	(L)93.2% 3.7291	ug/L	-	11739	WATER	01-10-22-water
4292	C	ICV 440-664138/1-A - 2		10 Jan 2022 16:39:17	97.0% 3.8795	ug/L	-	12218	WATER	01-10-22-water
4293	C	ICB 440-664138/2-A - 1		10 Jan 2022 16:41:42	-0.0856	ug/L	-	-413	WATER	01-10-22-water
4294	C	ICB 440-664138/2-A - 2		10 Jan 2022 16:41:42	-0.0871	ug/L	-	-418	WATER	01-10-22-water
4295	C	CRA 440-664138/5-A - 1		10 Jan 2022 16:44:02	79.2% 0.1053	ug/L	-	195	WATER	01-10-22-water
4296	C	CRA 440-664138/5-A - 2		10 Jan 2022 16:44:02	78.5% 0.1043	ug/L	-	192	WATER	01-10-22-water
4297	C	CCV 440-664138/3-A - 1		10 Jan 2022 16:46:10	(L)89.0% 3.5584	ug/L	-	11195	WATER	01-10-22-water
4298	C	CCV 440-664138/3-A - 2		10 Jan 2022 16:46:10	92.2% 3.6864	ug/L	-	11603	WATER	01-10-22-water
4299	C	CCB 440-664138/4-A - 1		10 Jan 2022 16:48:18	-0.0853	ug/L	-	-412	WATER	01-10-22-water
4300	C	CCB 440-664138/4-A - 2		10 Jan 2022 16:48:18	-0.0840	ug/L	-	-408	WATER	01-10-22-water
4301	U	440-293178-O-1-D - 1		10 Jan 2022 16:50:33	0.0441	ug/L	-	0	WATER	01-10-22-water
4302	U	440-293178-O-1-D - 2		10 Jan 2022 16:50:33	0.0428	ug/L	-	-4	WATER	01-10-22-water
4303	U	440-293178-O-2-D - 1		10 Jan 2022 16:52:42	0.0472	ug/L	-	10	WATER	01-10-22-water
4304	U	440-293178-O-2-D - 2		10 Jan 2022 16:52:42	0.0494	ug/L	-	17	WATER	01-10-22-water
4305	U	440-293178-O-3-D - 1		10 Jan 2022 16:54:52	0.2249	ug/L	-	576	WATER	01-10-22-water
4306	U	440-293178-O-3-D - 2		10 Jan 2022 16:54:52	0.2287	ug/L	-	588	WATER	01-10-22-water
4307	U	440-293178-O-4-D - 1		10 Jan 2022 16:57:02	0.0751	ug/L	-	99	WATER	01-10-22-water
4308	U	440-293178-O-4-D - 2		10 Jan 2022 16:57:02	0.0770	ug/L	-	105	WATER	01-10-22-water
4309	U	440-293178-O-5-D - 1		10 Jan 2022 16:59:12	0.2491	ug/L	-	653	WATER	01-10-22-water
4310	U	440-293178-O-5-D - 2		10 Jan 2022 16:59:12	0.2585	ug/L	-	683	WATER	01-10-22-water
4311	U	440-293178-O-6-D - 1		10 Jan 2022 17:01:21	22.1001	ug/L	-	70261	WATER	01-10-22-water
4312	U	440-293178-O-6-D - 2		10 Jan 2022 17:01:21	22.9873	ug/L	-	73087	WATER	01-10-22-water
4313	U	440-293178-O-7-E - 1		10 Jan 2022 17:03:29	-0.3637	ug/L	-	-1299	WATER	01-10-22-water
4314	U	440-293178-O-7-E - 2		10 Jan 2022 17:03:29	-0.3678	ug/L	-	-1312	WATER	01-10-22-water
4315	U	440-293178-O-8-D - 1		10 Jan 2022 17:06:36	-0.0639	ug/L	-	-344	WATER	01-10-22-water
4316	U	440-293178-O-8-D - 2		10 Jan 2022 17:06:36	-0.0649	ug/L	-	-347	WATER	01-10-22-water
4317	U	440-293341-E-1-B - 1		10 Jan 2022 17:08:45	0.3288	ug/L	-	907	WATER	01-10-22-water
4318	U	440-293341-E-1-B - 2		10 Jan 2022 17:08:45	0.3373	ug/L	-	934	WATER	01-10-22-water
4319	U	440-293342-E-1-B - 1		10 Jan 2022 17:10:54	0.2541	ug/L	-	669	WATER	01-10-22-water
4320	U	440-293342-E-1-B - 2		10 Jan 2022 17:10:54	0.2622	ug/L	-	695	WATER	01-10-22-water
4321	C	CCV 440-664138/3-A - 1		10 Jan 2022 17:13:02	90.4% 3.6146	ug/L	-	11374	WATER	01-10-22-water
4322	C	CCV 440-664138/3-A - 2		10 Jan 2022 17:13:02	92.8% 3.7138	ug/L	-	11690	WATER	01-10-22-water
4323	C	CCB 440-664138/4-A - 1		10 Jan 2022 17:15:10	-0.0824	ug/L	-	-403	WATER	01-10-22-water
4324	C	CCB 440-664138/4-A - 2		10 Jan 2022 17:15:10	-0.0849	ug/L	-	-411	WATER	01-10-22-water
4325	U	440-293343-E-1-B - 1		10 Jan 2022 17:17:23	0.3517	ug/L	-	980	WATER	01-10-22-water
4326	U	440-293343-E-1-B - 2		10 Jan 2022 17:17:23	0.3627	ug/L	-	1015	WATER	01-10-22-water
4327	U	440-293344-E-1-B - 1		10 Jan 2022 17:19:32	0.0720	ug/L	-	89	WATER	01-10-22-water
4328	U	440-293344-E-1-B - 2		10 Jan 2022 17:19:32	0.0739	ug/L	-	95	WATER	01-10-22-water
4329	U	440-293467-D-1-A@5 - 1		10 Jan 2022 17:21:42	0.0488	ug/L	-	15	WATER	01-10-22-water
4330	U	440-293467-D-1-A@5 - 2		10 Jan 2022 17:21:42	0.0491	ug/L	-	16	WATER	01-10-22-water
4331	U	570-80554-I-3-E - 1		10 Jan 2022 17:23:52	0.0456	ug/L	-	5	WATER	01-10-22-water
4332	U	570-80554-I-3-E - 2		10 Jan 2022 17:23:52	0.0488	ug/L	-	15	WATER	01-10-22-water
4333	U	570-80554-I-4-C - 1		10 Jan 2022 17:26:01	0.0456	ug/L	-	5	WATER	01-10-22-water
4334	U	570-80554-I-4-C - 2		10 Jan 2022 17:26:01	0.0441	ug/L	-	0	WATER	01-10-22-water
4335	U	570-77564-A-1-C - 1		10 Jan 2022 17:28:11	0.9412	ug/L	-	2858	WATER	01-10-22-water
4336	U	570-77564-A-1-C - 2		10 Jan 2022 17:28:11	0.9726	ug/L	-	2958	WATER	01-10-22-water
4337	U	440-293178-O-6-D@10 - 1		10 Jan 2022 17:30:21	3.0222	ug/L	-	9487	WATER	01-10-22-water
4338	U	440-293178-O-6-D@10 - 2		10 Jan 2022 17:30:21	3.1126	ug/L	-	9775	WATER	01-10-22-water
4343	C	CCV 440-664138/3-A - 1		10 Jan 2022 17:38:59	98.8% 3.9501	ug/L	-	12443	WATER	01-10-22-water
4344	C	CCV 440-664138/3-A - 2		10 Jan 2022 17:38:59	102.7% 4.1077	ug/L	-	12945	WATER	01-10-22-water
4345	C	CCB 440-664138/4-A - 1		10 Jan 2022 17:41:07	-0.0821	ug/L	-	-402	WATER	01-10-22-water
4346	C	CCB 440-664138/4-A - 2		10 Jan 2022 17:41:07	-0.0812	ug/L	-	-399	WATER	01-10-22-water
4347	U	570-79044-B-2-D - 1		10 Jan 2022 17:44:56	0.0698	ug/L	-	82	WATER	01-10-22-water
4348	U	570-79044-B-2-D - 2		10 Jan 2022 17:44:56	0.0726	ug/L	-	91	WATER	01-10-22-water
4349	U	570-79044-B-3-D - 1		10 Jan 2022 17:47:04	0.0645	ug/L	-	65	WATER	01-10-22-water
4350	U	570-79044-B-3-D - 2		10 Jan 2022 17:47:04	0.0667	ug/L	-	72	WATER	01-10-22-water
4351	U	570-78855-A-1-C - 1		10 Jan 2022 17:49:13	0.0554	ug/L	-	36	WATER	01-10-22-water
4352	U	570-78855-A-1-C - 2		10 Jan 2022 17:49:13	0.0551	ug/L	-	35	WATER	01-10-22-water
4353	U	570-78855-A-2-C - 1		10 Jan 2022 17:51:22	0.0544	ug/L	-	33	WATER	01-10-22-water
4354	U	570-78855-A-2-C - 2		10 Jan 2022 17:51:22	0.0551	ug/L	-	35	WATER	01-10-22-water
4355	U	570-78855-A-3-C - 1		10 Jan 2022 17:53:30	0.0541	ug/L	-	32	WATER	01-10-22-water
4356	U	570-78855-A-3-C - 2		10 Jan 2022 17:53:30	0.0538	ug/L	-	31	WATER	01-10-22-water
4357	U	570-78855-A-4-C - 1		10 Jan 2022 17:55:39	0.0598	ug/L	-	50	WATER	01-10-22-water
4358	U	570-78855-A-4-C - 2		10 Jan 2022 17:55:39	0.0576	ug/L	-	43	WATER	01-10-22-water
4359	U	570-78855-A-5-C - 1		10 Jan 2022 17:57:48	0.0576	ug/L	-	43	WATER	01-10-22-water
4360	U	570-78855-A-5-C - 2		10 Jan 2022 17:57:48	0.0591	ug/L	-	48	WATER	01-10-22-water
4361	U	570-78804-O-1-D - 1		10 Jan 2022 17:59:57	0.1533	ug/L	-	348	WATER	01-10-22-water
4362	U	570-78804-O-1-D - 2		10 Jan 2022 17:59:57	0.1555	ug/L	-	355	WATER	01-10-22-water
4363	U	570-80274-H-1-C - 1		10 Jan 2022 18:02:06	0.2557	ug/L	-	674	WATER	01-10-22-water
4364	U	570-80274-H-1-C - 2		10 Jan 2022 18:02:06	0.2638	ug/L	-	700	WATER	01-10-22-water
4365	U	570-80274-H-2-C - 1		10 Jan 2022 18:04:16	0.0849	ug/L	-	130	WATER	01-10-22-water
4366	U	570-80274-H-2-C - 2		10 Jan 2022 18:04:16	0.0877	ug/L	-	139	WATER	01-10-22-water
4367	C	CCV 440-664138/3-A - 1		10 Jan 2022 18:06:26	98.5% 3.9388	ug/L	-	12407	WATER	01-10-22-water
4368	C	CCV 440-664138/3-A - 2		10 Jan 2022 18:06:26	101.7% 4.0688	ug/L	-	12821	WATER	01-10-22-water
4369	C	CCB 440-664138/4-A - 1		10 Jan 2022 18:08:33	-0.0699	ug/L	-	-363	WATER	01-10-22-water
4370	C	CCB 440-664138/4-A - 2		10 Jan 2022 18:08:33	-0.0677	ug/L	-	-356	WATER	01-10-22-water
4371	U	570-80274-H-3-C - 1		10 Jan 2022 18:10:49	0.0679	ug/L	-	76	WATER	01-10-22-water
4372	U	570-80274-H-3-C - 2		10 Jan 2022 18:10:49	0.0679	ug/L	-	76	WATER	01-10-22-water
4373	U	570-80145-G-1-B - 1		10 Jan 2022 18:12:59	0.0764	ug/L	-	103	WATER	01-10-22-water
4374	U	570-80145-G-1-B - 2		10 Jan 2022 18:12:59	0.0761	ug/L	-	102	WATER	01-10-22-water
4375	U	570-80124-F-1-D - 1		10 Jan 2022 18:15:08	0.0638	ug/L	-	63	WATER	01-10-22-water
4376	U	570-80124-F-1-D - 2		10 Jan 2022 18:15:08	0.0657	ug/L	-	69	WATER	01-10-22-water
4377	U	570-80272-H-1-B - 1		10 Jan 2022 18:17:17	0.0783	ug/L	-	109	WATER	01-10-22-water
4378	U	570-80272-H-1-B - 2		10 Jan 2022 18:17:17	0.0783	ug/L	-	109	WATER	01-10-22-water
4379	U	570-80185-F-1-D - 1		10 Jan 2022 18:19:25	0.0730	ug/L	-	92	WATER	01-10-22-water
4380	U	570-80185-F-1-D - 2		10 Jan 2022 18:19:25	0.0733	ug/L	-	93	WATER	01-10-22-water
4381	U	MB 440-664059/1-A - 1		10 Jan 2022 18:21:34	0.0485	ug/L	-	14	WATER	01-10-22-water
4382	U	MB 440-664059/1-A - 2		10 Jan 2022 18:21:34	0.0469	ug/L	-	9	WATER	01-10-22-water
4383	U	LCS 440-664059/2-A - 1		10 Jan 2022 18:23:43	3.8946	ug/L	-	12266	WATER	01-10-22-water
4384	U	LCS 440-664059/2-A - 2		10 Jan 2022 18:23:43	4.0531	ug/L	-	12771	WATER	01-10-22-water
4385	U	570-80132-F-1-C - 1		10 Jan 2022 18:25:51	-0.0470	ug/L	-	-290	WATER	01-10-22-water
4386	U	570-80132-F-1-C - 2		10 Jan 2022 18:25:51	-0.0467	ug/L	-	-289	WATER	01-10-22-water
4387	U	570-80132-F-1-D MS - 1		10 Jan 2022 18:28:11	6.1008	ug/L	-	19294	WATER	01-10-22-water
4388	U	570-80132-F-1-D MS - 2		10 Jan 2022 18:28:11	6.2662	ug/L	-	19821	WATER	01-10-22-water
4389	U	570-80132-F-1-E MSD - 1		10 Jan 2022 18:30:20	5.9404	ug/L	-	18783	WATER	01-10-22-water
4390	U	570-80132-F-1-E MSD - 2		10 Jan 2022 18:30:20	6.1121	ug/L	-	19330	WATER	01-10-22-water
4391	C	CCV 440-664138/3-A - 1		10 Jan 2022 18:32:38	133% 5.7357	ug/L	-	11760	WATER	01-10-22-water
4392	C	CCV 440-664138/3-A - 2		10 Jan 2022 18:32:38	96.8% 3.8738	ug/L	-	12200	WATER	01-10-22-water

01-10-22-water

Method: WATER Operator: Admin Date of Analysis: 10 Jan 2022 16:26:01

Seq ID	Type	Sample ID	Extended ID	Date	Conc	Units	Stnd Conc	µ Abs	Method	Chapter
4393	C	CCB 440-664138/4-A - 1		10 Jan 2022 18:34:56	-0.0806	ug/L		-397	WATER	01-10-22-water
4394	C	CCB 440-664138/4-A - 2		10 Jan 2022 18:34:56	-0.0821	ug/L		-402	WATER	01-10-22-water
4395	U	570-78818-V-1-F - 1		10 Jan 2022 18:37:10	0.2164	ug/L		549	WATER	01-10-22-water
4396	U	570-78818-V-1-F - 2		10 Jan 2022 18:37:10	0.2230	ug/L		570	WATER	01-10-22-water
4397	U	440-292817-H-1-F - 1		10 Jan 2022 18:39:20	0.0384	ug/L		-18	WATER	01-10-22-water
4398	U	440-292817-H-1-F - 2		10 Jan 2022 18:39:20	0.0394	ug/L		-15	WATER	01-10-22-water
4399	U	440-292817-H-2-D - 1		10 Jan 2022 18:41:29	0.0277	ug/L		-52	WATER	01-10-22-water
4400	U	440-292817-H-2-D - 2		10 Jan 2022 18:41:29	0.0271	ug/L		-54	WATER	01-10-22-water
4401	U	440-292817-H-3-D - 1		10 Jan 2022 18:43:40	0.0296	ug/L		-46	WATER	01-10-22-water
4402	U	440-292817-H-3-D - 2		10 Jan 2022 18:43:40	0.0284	ug/L		-50	WATER	01-10-22-water
4403	U	570-79632-B-1-E - 1		10 Jan 2022 18:45:49	0.1128	ug/L		219	WATER	01-10-22-water
4404	U	570-79632-B-1-E - 2		10 Jan 2022 18:45:49	0.1160	ug/L		229	WATER	01-10-22-water
4405	U	440-293050-O-1-F - 1		10 Jan 2022 18:47:57	0.2189	ug/L		557	WATER	01-10-22-water
4406	U	440-293050-O-1-F - 2		10 Jan 2022 18:47:57	0.2246	ug/L		575	WATER	01-10-22-water
4407	U	440-293050-N-2-D - 1		10 Jan 2022 18:50:06	0.0397	ug/L		-14	WATER	01-10-22-water
4408	U	440-293050-N-2-D - 2		10 Jan 2022 18:50:06	0.0400	ug/L		-13	WATER	01-10-22-water
4409	U	440-293050-O-3-F - 1		10 Jan 2022 18:52:15	0.0579	ug/L		44	WATER	01-10-22-water
4410	U	440-293050-O-3-F - 2		10 Jan 2022 18:52:15	0.0579	ug/L		44	WATER	01-10-22-water
4411	U	440-293050-O-4-D - 1		10 Jan 2022 18:54:24	0.0453	ug/L		4	WATER	01-10-22-water
4412	U	440-293050-O-4-D - 2		10 Jan 2022 18:54:24	0.0460	ug/L		6	WATER	01-10-22-water
4413	U	440-293050-O-5-D - 1		10 Jan 2022 18:56:33	0.0547	ug/L		34	WATER	01-10-22-water
4414	U	440-293050-O-5-D - 2		10 Jan 2022 18:56:33	0.0569	ug/L		41	WATER	01-10-22-water
4415	C	CCV 440-664138/3-A - 1		10 Jan 2022 18:58:42	96.6% 3.8657	ug/L		12174	WATER	01-10-22-water
4416	C	CCV 440-664138/3-A - 2		10 Jan 2022 18:58:42	99.0% 3.9602	ug/L		12475	WATER	01-10-22-water
4417	C	CCB 440-664138/4-A - 1		10 Jan 2022 19:00:49	-0.0762	ug/L		-383	WATER	01-10-22-water
4418	C	CCB 440-664138/4-A - 2		10 Jan 2022 19:00:49	-0.0730	ug/L		-373	WATER	01-10-22-water
4419	U	440-293050-O-6-D - 1		10 Jan 2022 19:03:03	0.0497	ug/L		18	WATER	01-10-22-water
4420	U	440-293050-O-6-D - 2		10 Jan 2022 19:03:03	0.0513	ug/L		23	WATER	01-10-22-water
4421	U	440-293050-O-7-D - 1		10 Jan 2022 19:05:12	0.0805	ug/L		116	WATER	01-10-22-water
4422	U	440-293050-O-7-D - 2		10 Jan 2022 19:05:12	0.0814	ug/L		119	WATER	01-10-22-water
4423	U	440-293050-O-8-D - 1		10 Jan 2022 19:07:21	0.0409	ug/L		-10	WATER	01-10-22-water
4424	U	440-293050-O-8-D - 2		10 Jan 2022 19:07:21	0.0428	ug/L		-4	WATER	01-10-22-water
4425	U	440-293050-O-9-D - 1		10 Jan 2022 19:09:31	0.0482	ug/L		13	WATER	01-10-22-water
4426	U	440-293050-O-9-D - 2		10 Jan 2022 19:09:31	0.0497	ug/L		18	WATER	01-10-22-water
4427	U	440-293130-A-5-C - 1		10 Jan 2022 19:11:41	0.6663	ug/L		1982	WATER	01-10-22-water
4428	U	440-293130-A-5-C - 2		10 Jan 2022 19:11:41	0.6995	ug/L		2088	WATER	01-10-22-water
4429	U	440-293176-G-1-C - 1		10 Jan 2022 19:13:51	-0.0014	ug/L		-145	WATER	01-10-22-water
4430	U	440-293176-G-1-C - 2		10 Jan 2022 19:13:51	0.0011	ug/L		-137	WATER	01-10-22-water
4431	U	570-78864-B-1-A - 1		10 Jan 2022 19:16:02	0.0714	ug/L		87	WATER	01-10-22-water
4432	U	570-78864-B-1-A - 2		10 Jan 2022 19:16:02	0.0726	ug/L		91	WATER	01-10-22-water
4433	U	440-293092-D-1-C - 1		10 Jan 2022 19:18:12	0.0475	ug/L		11	WATER	01-10-22-water
4434	U	440-293092-D-1-C - 2		10 Jan 2022 19:18:12	0.0469	ug/L		9	WATER	01-10-22-water
4435	U	440-293293-A-8-B - 1		10 Jan 2022 19:20:21	0.0751	ug/L		99	WATER	01-10-22-water
4436	U	440-293293-A-8-B - 2		10 Jan 2022 19:20:21	0.0783	ug/L		109	WATER	01-10-22-water
4437	U	MB 440-664074/1-A - 1		10 Jan 2022 19:22:30	0.0416	ug/L		-8	WATER	01-10-22-water
4438	U	MB 440-664074/1-A - 2		10 Jan 2022 19:22:30	0.0400	ug/L		-13	WATER	01-10-22-water
4439	C	CCV 440-664138/3-A - 1		10 Jan 2022 19:24:40	97.4% 3.8974	ug/L		12275	WATER	01-10-22-water
4440	C	CCV 440-664138/3-A - 2		10 Jan 2022 19:24:40	100.6% 4.0255	ug/L		12683	WATER	01-10-22-water
4441	C	CCB 440-664138/4-A - 1		10 Jan 2022 19:26:47	-0.0806	ug/L		-397	WATER	01-10-22-water
4442	C	CCB 440-664138/4-A - 2		10 Jan 2022 19:26:47	-0.0834	ug/L		-406	WATER	01-10-22-water
4443	U	LCS 440-664074/2-A - 1		10 Jan 2022 19:29:01	3.9982	ug/L		12596	WATER	01-10-22-water
4444	U	LCS 440-664074/2-A - 2		10 Jan 2022 19:29:01	4.1319	ug/L		13022	WATER	01-10-22-water
4445	U	MB 440-664066/1-A - 1		10 Jan 2022 19:31:10	-0.0859	ug/L		-414	WATER	01-10-22-water
4446	U	MB 440-664066/1-A - 2		10 Jan 2022 19:31:10	-0.0859	ug/L		-414	WATER	01-10-22-water
4447	U	LCS 440-664066/2-A - 1		10 Jan 2022 19:33:26	4.1344	ug/L		13030	WATER	01-10-22-water
4448	U	LCS 440-664066/2-A - 2		10 Jan 2022 19:33:26	4.3020	ug/L		13564	WATER	01-10-22-water
4449	U	440-293212-G-1-C - 1		10 Jan 2022 19:35:36	-0.0900	ug/L		-427	WATER	01-10-22-water
4450	U	440-293212-G-1-C - 2		10 Jan 2022 19:35:36	-0.0881	ug/L		-421	WATER	01-10-22-water
4451	U	440-293212-G-1-D MS - 1		10 Jan 2022 19:37:52	3.6478	ug/L		11480	WATER	01-10-22-water
4452	U	440-293212-G-1-D MS - 2		10 Jan 2022 19:37:52	3.8155	ug/L		12014	WATER	01-10-22-water
4453	U	440-293212-G-1-E MSD - 1		10 Jan 2022 19:40:02	3.3465	ug/L		10520	WATER	01-10-22-water
4454	U	440-293212-G-1-E MSD - 2		10 Jan 2022 19:40:02	3.4887	ug/L		10973	WATER	01-10-22-water
4455	U	440-293212-G-2A% - 1		10 Jan 2022 19:42:29	-0.1948	ug/L		-761	WATER	01-10-22-water
4456	U	440-293212-G-2A% - 2		10 Jan 2022 19:42:29	-0.1986	ug/L		-773	WATER	01-10-22-water
4457	U	440-293160-H-1-I - 1		10 Jan 2022 19:44:52	0.0246	ug/L		-62	WATER	01-10-22-water
4458	U	440-293160-H-1-I - 2		10 Jan 2022 19:44:52	0.0243	ug/L		-63	WATER	01-10-22-water
4459	U	440-293160-H-2-F - 1		10 Jan 2022 19:47:02	0.0431	ug/L		-3	WATER	01-10-22-water
4460	U	440-293160-H-2-F - 2		10 Jan 2022 19:47:02	0.0431	ug/L		-3	WATER	01-10-22-water
4461	U	570-79044-B-1-E - 1		10 Jan 2022 19:49:11	0.0642	ug/L		64	WATER	01-10-22-water
4462	U	570-79044-B-1-E - 2		10 Jan 2022 19:49:11	0.0660	ug/L		70	WATER	01-10-22-water
4463	C	CCV 440-664138/3-A - 1		10 Jan 2022 19:51:20	97.0% 3.8786	ug/L		12215	WATER	01-10-22-water
4464	C	CCV 440-664138/3-A - 2		10 Jan 2022 19:51:20	100.6% 4.0226	ug/L		12674	WATER	01-10-22-water
4465	C	CCB 440-664138/4-A - 1		10 Jan 2022 19:53:28	-0.0677	ug/L		-356	WATER	01-10-22-water
4466	C	CCB 440-664138/4-A - 2		10 Jan 2022 19:53:28	-0.0683	ug/L		-358	WATER	01-10-22-water
4467	U	570-79044-B-1-F MS - 1		10 Jan 2022 19:55:43	5.7803	ug/L		18273	WATER	01-10-22-water
4468	U	570-79044-B-1-F MS - 2		10 Jan 2022 19:55:43	5.9862	ug/L		18929	WATER	01-10-22-water
4469	U	570-79044-B-1-G MSD - 1		10 Jan 2022 19:57:53	5.7043	ug/L		18031	WATER	01-10-22-water
4470	U	570-79044-B-1-G MSD - 2		10 Jan 2022 19:57:53	5.9134	ug/L		18697	WATER	01-10-22-water
4471	U	570-80642-D-2-E - 1		10 Jan 2022 20:00:12	-0.0865	ug/L		-416	WATER	01-10-22-water
4472	U	570-80642-D-2-E - 2		10 Jan 2022 20:00:12	-0.0875	ug/L		-419	WATER	01-10-22-water
4473	U	440-292883-C-1-G - 1		10 Jan 2022 20:02:31	0.0974	ug/L		170	WATER	01-10-22-water
4474	U	440-292883-C-1-G - 2		10 Jan 2022 20:02:31	0.1003	ug/L		179	WATER	01-10-22-water
4475	U	570-80419-H-1-A - 1		10 Jan 2022 20:04:41	0.0453	ug/L		4	WATER	01-10-22-water
4476	U	570-80419-H-1-A - 2		10 Jan 2022 20:04:41	0.0438	ug/L		-1	WATER	01-10-22-water
4477	U	570-79714-C-1-A - 1		10 Jan 2022 20:06:50	0.0488	ug/L		15	WATER	01-10-22-water
4478	U	570-79714-C-1-A - 2		10 Jan 2022 20:06:50	0.0472	ug/L		10	WATER	01-10-22-water
4479	C	CCV 440-664138/3-A - 1		10 Jan 2022 20:08:59	95.2% 3.8086	ug/L		11992	WATER	01-10-22-water
4480	C	CCV 440-664138/3-A - 2		10 Jan 2022 20:08:59	99.0% 3.9611	ug/L		12478	WATER	01-10-22-water
4481	C	CCB 440-664138/4-A - 1		10 Jan 2022 20:11:07	-0.0815	ug/L		-400	WATER	01-10-22-water
4482	C	CCB 440-664138/4-A - 2		10 Jan 2022 20:11:07	-0.0815	ug/L		-400	WATER	01-10-22-water

WATER



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
IC 440-664138/6-A	0.000	0.049	0.049	15	2.000	13	17			
IC 440-664138/7-A	0.100	0.148	0.048	330	1.4 %	326	335			
IC 440-664138/8-A	0.500	0.557	0.057	1633	2.3 %	1596	1670			
IC 440-664138/9-A	1.000	0.881	-0.119	2667	2.2 %	2609	2725			
IC 440-664138/10-A	5.000	4.920	-0.080	15532	2.0 %	15220	15844			
IC 440-664138/11-A	10.000	10.046	0.046	31860	1.5 %	31377	32344			

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0006S012	570-78855-1
A2BMP0007S020	570-78855-2
A2BMP0012S009	570-78855-3
EVBMP0001S018	570-78855-4
EVBMP0003S031	570-78855-5

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: A2BMP0006S012 Lab Sample ID: 570-78855-1

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 07:49

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Suspended Solids	16.5	1.18	0.975	mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: A2BMP0007S020 Lab Sample ID: 570-78855-2

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:30

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Suspended Solids	21.7	1.43	1.18	mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: A2BMP0012S009 Lab Sample ID: 570-78855-3

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:15

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Turbidity	32	0.05	0.05	NTU			1	SM 2130B
	Total Suspended Solids	37.1	1.25	1.04	mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EVBMP0001S018 Lab Sample ID: 570-78855-4

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 07:30

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Turbidity	18	0.05	0.05	NTU			1	SM 2130B
	Total Suspended Solids	11.4	1.11	0.921	mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EVBMP0003S031 Lab Sample ID: 570-78855-5

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:01

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Suspended Solids	181	4.00	3.31	mg/L			1	SM 2540D

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Analyst: WN6Y Batch Start Date: 12/15/2021

Reporting Units: NTU Analytical Batch No.: 201399

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
4	CCV	15:08	Turbidity	95					
12	CCV	15:08	Turbidity	95	100	96	95-105		WC_TUR_STD_00022
13	CCV	19:35	Turbidity	95	100	96	95-105		WC_TUR_STD_00022
16	CCV	19:35	Turbidity	95	100	95	95-105		WC_TUR_STD_00022

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 201997 Date: 12/17/2021 15:51							
SM 2540D	MB 570-201997/1	Total Suspended Solids	ND		mg/L	1.00	1

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 201399	Date: 12/15/2021 15:08							
SM 2130B		570-78570-T-1	Turbidity	70	NTU			
SM 2130B		570-78570-T-1 DU	Turbidity	70	NTU	0.7	25	
Batch ID: 201997	Date: 12/17/2021 15:51							
SM 2540D		570-78845-B-1	Total Suspended Solids	66.2	mg/L			
SM 2540D		570-78845-B-1 DU	Total Suspended Solids	72.60	mg/L	9	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 201997	Date: 12/17/2021 15:51										
						LCS Source: WC_TSS_STD_00029					
SM 2540D	LCS 570-201997/2	Total Suspended Solids	103.0		mg/L	100	103	77-116	2	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 201997	Date: 12/17/2021 15:51										
						LCSD Source: WC_TSS_STD_00029					
SM 2540D	LCSD 570-201997/3	Total Suspended Solids	101.0		mg/L	100	101	77-116	2	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LCS-CERTIFIED REFERENCE MATERIAL
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 201399	Date: 12/15/2021 15:08										
						LCS Source: WC_TUR_STD_00019					
SM 2130B	LCSSRM 570-201399/1	Turbidity	1000		NTU	1000	100.3	99.0-10		1.0	
Batch ID: 201399	Date: 12/15/2021 15:08										
						LCS Source: WC_TUR_STD_00018					
SM 2130B	LCSSRM 570-201399/2	Turbidity	10		NTU	10.0	101.0	99.0-10		1.0	
Batch ID: 201399	Date: 12/15/2021 15:08										
						LCS Source: WC_TUR_STD_00017					
SM 2130B	LCSSRM 570-201399/3	Turbidity	ND		NTU	0.0200	100.0	0.0-200		.0	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2130B MDL Date: 05/10/2018 00:00

Analyte	Wavelength/ Mass	RL (NTU)	MDL (NTU)
Turbidity		0.05	0.04392

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2130B XMDL Date: 05/10/2018 00:00

Analyte	Wavelength/ Mass	XRL (NTU)	XMDL (NTU)
Turbidity		0.05	0.04391639

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540D MDL Date: 03/22/2018 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Suspended Solids		1	0.82873

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540D XMDL Date: 03/22/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Suspended Solids		1	0.82873

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2130B

Start Date: 12/15/2021 15:08 End Date: 12/15/2021 19:35

Lab Sample Id	D/F	Type	Time	Analytes																								
				Turb																								
LCSSRM 570-201399/1	1	T	15:08	X																								
LCSSRM 570-201399/2	1	T	15:08	X																								
LCSSRM 570-201399/3	1	T	15:08	X																								
CCV 570-201399/4	1		15:08	X																								
ZZZZZZ			15:08																									
570-78570-T-1 DU	1	T	15:08	X																								
570-78855-3	1	T	15:08	X																								
570-78855-4	1	T	15:08	X																								
ZZZZZZ			15:08																									
ZZZZZZ			15:08																									
ZZZZZZ			15:08																									
CCV 570-201399/12	1		15:08	X																								
CCV 570-201399/13	1		19:35	X																								
ZZZZZZ			19:35																									
CCV 570-201399/16	1		19:35	X																								
ZZZZZZ			19:35																									

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2540D

Start Date: 12/17/2021 15:51 End Date: 12/17/2021 15:51

Lab Sample Id	D/F	Type	Time	Analytes																								
				TSS																								
MB 570-201997/1	1	T	15:51	X																								
LCS 570-201997/2	1	T	15:51	X																								
LCSD 570-201997/3	1	T	15:51	X																								
ZZZZZZ			15:51																									
570-78845-B-1 DU	1	T	15:51	X																								
570-78855-5	1	T	15:51	X																								
ZZZZZZ			15:51																									
ZZZZZZ			15:51																									
ZZZZZZ			15:51																									
ZZZZZZ			15:51																									
570-78855-1	1	T	15:51	X																								
570-78855-2	1	T	15:51	X																								
570-78855-3	1	T	15:51	X																								
570-78855-4	1	T	15:51	X																								
ZZZZZZ			15:51																									
ZZZZZZ			15:51																									
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Prep Types:
T = Total/NA

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 201399 Batch Start Date: 12/15/21 15:08 Batch Analyst: Perez, Reina

Batch Method: SM 2130B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	WC_TUR_STD 00017	WC_TUR_STD 00018	WC_TUR_STD 00019	WC_TUR_STD 00022	
LCSSRM 570-201399/1		SM 2130B		30 mL			30 mL		
LCSSRM 570-201399/2		SM 2130B		30 mL		30 mL			
LCSSRM 570-201399/3		SM 2130B		30 mL	30 mL				
CCV 570-201399/4		SM 2130B		30 mL					
570-78570-T-1 DU		SM 2130B	T	30 mL					
570-78855-B-3	A2BMP0012S009	SM 2130B	T	30 mL					
570-78855-B-4	EVBMP0001S018	SM 2130B	T	30 mL					
CCV 570-201399/12		SM 2130B		30 mL				0.75 mL	
CCV 570-201399/13		SM 2130B		30 mL				0.75 mL	
CCV 570-201399/16		SM 2130B		30 mL				0.75 mL	

Batch Notes	
Instrument ID	TUR04
Pipette/Syringe/Dispenser ID	p-121
Calibration Date	12/07/21

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 201997 Batch Start Date: 12/17/21 15:51 Batch Analyst: Torres, Brianna

Batch Method: SM 2540D Batch End Date: 12/18/21 12:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	CrucibleID	TareWeight	InitialAmount	Weight1	Weight2	WeightOne%Diff
MB 570-201997/1		SM 2540D		B1570658	0.4103 g	1000 mL	0.4105 g	0.4105 g	PASS <0.5mg
LCS 570-201997/2		SM 2540D		B1570657	0.4155 g	100 mL	0.4258 g	0.4258 g	PASS <0.5mg
LCSD 570-201997/3		SM 2540D		B1570656	0.4140 g	100 mL	0.4241 g	0.4241 g	PASS <0.5mg
570-78845-B-1 DU		SM 2540D	T	B1570652	0.4142 g	500 mL	0.4505 g	0.4505 g	PASS <0.5mg
570-78855-D-5	EVBMP0003S031	SM 2540D	T	B1570655	0.4150 g	250 mL	0.4604 g	0.4603 g	PASS <0.5mg
570-78855-D-1	A2BMP0006S012	SM 2540D	T	B1570647	0.4137 g	850 mL	0.4277 g	0.4277 g	PASS <0.5mg
570-78855-D-2	A2BMP0007S020	SM 2540D	T	B1570646	0.4149 g	700 mL	0.4302 g	0.4301 g	PASS <0.5mg
570-78855-D-3	A2BMP0012S009	SM 2540D	T	B1570645	0.4200 g	800 mL	0.4497 g	0.4497 g	PASS <0.5mg
570-78855-D-4	EVBMP0001S018	SM 2540D	T	B1570644	0.4187 g	900 mL	0.4291 g	0.4290 g	PASS <0.5mg

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue	Residue2	FinalAmount	ResDishWt	DishWeight	WC_TSS_STD 00029
MB 570-201997/1		SM 2540D		0.0002 g	0.0002 g	1000 mL	0.4105 g	0.4103 g	
LCS 570-201997/2		SM 2540D		0.0103 g	0.0103 g	1000 mL	0.4258 g	0.4155 g	100 mL
LCSD 570-201997/3		SM 2540D		0.0101 g	0.0101 g	1000 mL	0.4241 g	0.414 g	100 mL
570-78845-B-1 DU		SM 2540D	T	0.0363 g	0.0363 g	1000 mL	0.4505 g	0.4142 g	
570-78855-D-5	EVBMP0003S031	SM 2540D	T	0.0454 g	0.0453 g	1000 mL	0.4603 g	0.415 g	
570-78855-D-1	A2BMP0006S012	SM 2540D	T	0.0140 g	0.0140 g	1000 mL	0.4277 g	0.4137 g	
570-78855-D-2	A2BMP0007S020	SM 2540D	T	0.0153 g	0.0152 g	1000 mL	0.4301 g	0.4149 g	
570-78855-D-3	A2BMP0012S009	SM 2540D	T	0.0297 g	0.0297 g	1000 mL	0.4497 g	0.42 g	
570-78855-D-4	EVBMP0001S018	SM 2540D	T	0.0104 g	0.0103 g	1000 mL	0.429 g	0.4187 g	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 201997 Batch Start Date: 12/17/21 15:51 Batch Analyst: Torres, Brianna

Batch Method: SM 2540D Batch End Date: 12/18/21 12:00

Batch Notes	
Perform Calculation (0=No, 1=Yes)	1
Nominal Amount Used	1000 g
Filter ID	1221995
Balance ID	87
Oven ID	IO07
Thermometer ID	Y21-18
Date/Time - In	12/17/2021 19:10
Temperature - Start - Uncorrected	99 Celsius
Temperature - Start - Corrected	103 Celsius
Date/Time - Out	12/18/2021 09:10
Temperature - End - Uncorrected	99 Celsius
Temperature - End - Corrected	103 Celsius
Date/Time - In - CW (WT2)	12/18/2021 10:10
Temperature - Start-CW(WT2) -Uncorrected	99 Celsius
Temperature - Start - CW (WT2) - Correct	103 Celsius
Date/Time - Out - CW (WT2)	12/18/2021 11:10
Temperature - End-CW(WT2) -Uncorrected	99 Celsius
Temperature - End - CW (WT2) - Correct	103 Celsius
Date/Time - In - CW (WT3)	12/18/2021 11:33

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

General Chemistry Raw Data Report

Job ID: 570-78855-1

Batch: 201399 **Analyst Initials: WN6Y**
Method: SM 2130B **Instrument: NONE**
Building :ECL1 (Lincoln)

Lab Sample ID: LCSSRM 570-201399/1 **Analysis Date: Dec 15, 2021 15:08**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	1003	NTU	30 mL

Lab Sample ID: LCSSRM 570-201399/2 **Analysis Date: Dec 15, 2021 15:08**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	10.1	NTU	30 mL

Lab Sample ID: LCSSRM 570-201399/3 **Analysis Date: Dec 15, 2021 15:08**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	0.02	NTU	30 mL

Lab Sample ID: CCV 570-201399/4 **Analysis Date: Dec 15, 2021 15:08**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	95.6	NTU	30 mL

Lab Sample ID: 570-78570-T-1 DU **Analysis Date: Dec 15, 2021 15:08**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	68.0	NTU	30 mL

Lab Sample ID: 570-78855-B-3 **Analysis Date: Dec 15, 2021 15:08**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	32.2	NTU	30 mL

Lab Sample ID: 570-78855-B-4 **Analysis Date: Dec 15, 2021 15:08**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	17.7	NTU	30 mL

Lab Sample ID: CCV 570-201399/12 **Analysis Date: Dec 15, 2021 15:08**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	95.9	NTU	30 mL

Lab Sample ID: CCV 570-201399/13 **Analysis Date: Dec 15, 2021 19:35**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	95.7	NTU	30 mL

Lab Sample ID: CCV 570-201399/16 **Analysis Date: Dec 15, 2021 19:35**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	95.4	NTU	30 mL

General Chemistry Raw Data Report

Job ID: 570-78855-1

Batch: 201997
Method: SM 2540D
Building :ECL1 (Lincoln)

Analyst Initials: VWM4
Instrument: NONE

Lab Sample ID: MB 570-201997/1

Analysis Date: Dec 17, 2021 15:51

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	0.199999999999978	mg/L	1000 mL	1000 mL

Lab Sample ID: LCS 570-201997/2

Analysis Date: Dec 17, 2021 15:51

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	10.3	mg/L	100 mL	1000 mL

Lab Sample ID: LCSD 570-201997/3

Analysis Date: Dec 17, 2021 15:51

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	10.1	mg/L	100 mL	1000 mL

Lab Sample ID: 570-78845-B-1 DU

Analysis Date: Dec 17, 2021 15:51

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	36.3	mg/L	500 mL	1000 mL

Lab Sample ID: 570-78855-D-5

Analysis Date: Dec 17, 2021 15:51

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	45.3	mg/L	250 mL	1000 mL

Lab Sample ID: 570-78855-D-1

Analysis Date: Dec 17, 2021 15:51

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	14	mg/L	850 mL	1000 mL

Lab Sample ID: 570-78855-D-2

Analysis Date: Dec 17, 2021 15:51

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	15.2	mg/L	700 mL	1000 mL

Lab Sample ID: 570-78855-D-3

Analysis Date: Dec 17, 2021 15:51

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	29.7	mg/L	800 mL	1000 mL

Lab Sample ID: 570-78855-D-4

Analysis Date: Dec 17, 2021 15:51

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	10.3	mg/L	900 mL	1000 mL

BALANCE CALIBRATION CHECK LOG

Eurofins Calscience

12/7/21 JAPD

Date performed: 12/17/21 · Initials: JAPD

ID	Class 2 Weight (g)	Reading (g)	Acceptance Range	Pass? (circle one)	Comment (If not passed, note removal or corrective action)
83	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	100.00	98.00 - 102.00	(Y) N	
62	0.002	0.0018 *	0.0015 - 0.0025	(Y) N	IO Lab
	1	99.9996	0.9990 - 1.0010	(Y) N	
	100	0.9997	99.9000 - 100.1000	(Y) N	
11	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	100.00	98.00 - 102.00	(Y) N	
55	1	0.99	0.98 - 1.02	(Y) N	IO Lab
	100	1.00	98.00 - 102.00	(Y) N	
	500	499.97	490.00 - 510.00	(Y) N	
86	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	99.99	98.00 - 102.00	(Y) N	
	500	499.99	490.00 - 510.00	(Y) N	
71	0.002	0.0018	0.0015 - 0.0025	(Y) N	BOD Room
	1	1.0001	0.9990 - 1.0010	(Y) N	
	100	99.9997	99.9000 - 100.1000	(Y) N	
63	0.1	0.10 *	0.08 - 0.12	(Y) N	BOD Room
	100	100.0 NOT IN USE	98.00 - 102.00	(Y) N	
73	0.1	0.10	0.08 - 0.12	(Y) N	Oil & Grease Room
	1	1.00	0.98 - 1.02	(Y) N	
	100	100.00	98.00 - 102.00	(Y) N	
87	0.002	0.0021	0.0015 - 0.0025	(Y) N	Solids Room
	1	1.0001	0.9990 - 1.0010	(Y) N	
	100	100.0003	99.9000 - 100.1000	(Y) N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

Comments:

WT SET ID USED: 2 mg	21057	COMMENT:
WT SET ID USED: 10 mg - 100 g	69061	
WT SET ID USED: 500 g	64886	

BALANCE CALIBRATION CHECK LOG

Eurofins Calscience

Date performed: 12/18/21 · Initials: UAPD

ID	Class 2 Weight (g)	Reading (g)	Acceptance Range	Pass? (circle one)	Comment (If not passed, note removal or corrective action)
83	1	0.99	0.98 - 1.02	Y N	IO Lab
	100	100.0	98.00 - 102.00	Y N	
62	0.002	TUSIN	0.0015 - 0.0025	Y N	IO Lab
	1		0.9990 - 1.0010	Y N	
	100		99.9000 - 100.1000	Y N	
11	1	1.00	0.98 - 1.02	Y N	IO Lab
	100	100.0	98.00 - 102.00	Y N	
55	1	0.99	0.98 - 1.02	Y N	IO Lab
	100	100.01	98.00 - 102.00	Y N	
	500	499.97	490.00 - 510.00	Y N	
86	1	1.00	0.98 - 1.02	Y N	IO Lab
	100	99.99	98.00 - 102.00	Y N	
	500	499.99	490.00 - 510.00	Y N	
71	0.002	0.0018	0.0015 - 0.0025	Y N	BOD Room
	1	0.9996	0.9990 - 1.0010	Y N	
	100	99.9997	99.9000 - 100.1000	Y N	
63	0.1	NOT IN	0.08 - 0.12	Y N	BOD Room
	100	USE	98.00 - 102.00	Y N	
73	0.1	0.10	0.08 - 0.12	Y N	Oil & Grease Room
	1	1.00	0.98 - 1.02	Y N	
	100	100.0	98.00 - 102.00	Y N	
87	0.002	0.0019	0.0015 - 0.0025	Y N	Solids Room
	1	0.9996	0.9990 - 1.0010	Y N	
	100	99.9999	99.9000 - 100.1000	Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

Comments:

WT SET ID USED: 2 mg	25055	COMMENT:
WT SET ID USED: 10 mg - 100 g	69065	
WT SET ID USED: 500 g	64886	

COVER PAGE
GEOTECHNICAL

Lab Name: Eurofins Calscience Job Number: 570-78855-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0006S012	570-78855-1
A2BMP0007S020	570-78855-2
A2BMP0012S009	570-78855-3
EVBMP0001S018	570-78855-4
EVBMP0003S031	570-78855-5

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: A2BMP0006S012 Lab Sample ID: 570-78855-1

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 07:49

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	15.77	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	65.33	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	81.10	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	18.90	0.01	0.01	%			1	D4464

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: A2BMP0007S020 Lab Sample ID: 570-78855-2

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:30

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	13.76	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	72.92	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	86.68	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	13.32	0.01	0.01	%			1	D4464

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: A2BMP0012S009 Lab Sample ID: 570-78855-3

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:15

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	5.87	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	12.44	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	68.81	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	74.68	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	12.88	0.01	0.01	%			1	D4464

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: EVBMP0001S018 Lab Sample ID: 570-78855-4

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 07:30

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	1.74	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	72.63	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	74.36	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	25.64	0.01	0.01	%			1	D4464

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: EVBMP0003S031 Lab Sample ID: 570-78855-5

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG ID.:

Matrix: Water Date Sampled: 12/14/2021 08:01

Reporting Basis: WET Date Received: 12/15/2021 11:21

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	4.52	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	10.48	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	56.05	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	60.57	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	28.95	0.01	0.01	%			1	D4464

6-IN
DUPLICATE
GEOTECHNICAL

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 205446 Date: 01/04/2022 15:32								
D4464	EVBMP0003S031	570-78855-5	Clay (less than 0.00391 mm)	4.52	%			
D4464	EVBMP0003S031	570-78855-5 DU	Clay (less than 0.00391 mm)	4.12	%	9	20	
D4464	EVBMP0003S031	570-78855-5	Coarse Sand (0.5mm to 1mm)	ND	%			
D4464	EVBMP0003S031	570-78855-5 DU	Coarse Sand (0.5mm to 1mm)	ND	%	NC	20	
D4464	EVBMP0003S031	570-78855-5	Fine Sand (0.125 to 0.25mm)	10.48	%			
D4464	EVBMP0003S031	570-78855-5 DU	Fine Sand (0.125 to 0.25mm)	2.39	%	126	20	F3
D4464	EVBMP0003S031	570-78855-5	Gravel (greater than 2 mm)	ND	%			
D4464	EVBMP0003S031	570-78855-5 DU	Gravel (greater than 2 mm)	ND	%	NC	20	
D4464	EVBMP0003S031	570-78855-5	Medium Sand (0.25 to 0.5 mm)	ND	%			
D4464	EVBMP0003S031	570-78855-5 DU	Medium Sand (0.25 to 0.5 mm)	ND	%	NC	20	
D4464	EVBMP0003S031	570-78855-5	Silt (0.00391 to 0.0625mm)	56.05	%			
D4464	EVBMP0003S031	570-78855-5 DU	Silt (0.00391 to 0.0625mm)	64.50	%	14	20	
D4464	EVBMP0003S031	570-78855-5	Total Silt and Clay (0 to 0.0626mm)	60.57	%			
D4464	EVBMP0003S031	570-78855-5 DU	Total Silt and Clay (0 to 0.0626mm)	68.62	%	12	20	
D4464	EVBMP0003S031	570-78855-5	Very Coarse Sand (1 to 2mm)	ND	%			
D4464	EVBMP0003S031	570-78855-5 DU	Very Coarse Sand (1 to 2mm)	ND	%	NC	20	
D4464	EVBMP0003S031	570-78855-5	Very Fine Sand (0.0625 to 0.125 mm)	28.95	%			
D4464	EVBMP0003S031	570-78855-5 DU	Very Fine Sand (0.0625 to 0.125 mm)	28.99	%	0.1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

GEOTECHNICAL BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-78855-1

SDG No.:

Batch Number: 205446 Batch Start Date: 01/04/22 13:27 Batch Analyst: Stratford, Jordan

Batch Method: D4464 Batch End Date: 01/04/22 16:02

Lab Sample ID	Client Sample ID	Method Chain	Basis	MI_Fine Sand 00006					
CCV 570-205446/1		D4464		# g					
CCV 570-205446/12		D4464		# g					
LCS 570-205446/16		D4464		# g					
LCSD 570-205446/18		D4464		# g					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Chain of Custody Record

COC Number: CALS12142101

JACOBS

12/14/2021 10 41 03 AM

Project Name	SSFL
Project	CJ042 Stormwater PO 148015891
Location	Santa Susana Field Lab
Project Number	D3377900
Task Order	42
PO Number	
Turnaround Time	10 Days
Project Manager	Randy Dean
Sample Manager	

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200.8/245.1	200.8/245.1F	ASTMD4464	SM2540	SW8290/1613B
A2BMP0006S012	14-Dec-21 7 49	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4'C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						
A2BMP0007S020	14-Dec-21 8 30	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4'C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						

MS = Matrix Spike **SD = Matrix Spike Duplicate**

	Signatures	Date/Time
Sampled by	TJ BENSON 1246	12/14/21
Relinquished by	TJ 1246	12/14/21
Received by	12114121	1430
Relinquished by	12/14/21	20105
Received by	Chamber 12/14/21	2005

Shipping Details

Shipment Method: FedEx
Airbill No:
Lab Name: Eurofins Calscience Lab
Lab Phone: (949) 870-8766
On Ice: yes / no **Cooler Temp** _____

ATTN:

Sample Custody and

Special Instructions:

Report Copy to
Mark Fesler
(530) 229-3273

2.9/3.8 3.1/4.0 SCS

570-78855 Chain of Custody

78855

Chain of Custody Record

COC Number: CALS12142101

JACOBS

12/14/2021 10 41 03 AM

Project Name	SSFL
Project	CJ042 Stormwater PO 148015891
Location	Santa Susana Field Lab
Project Number	D3377900
Task Order	42
PO Number	
Turnaround Time	10 Days
Project Manager	Randy Dean
Sample Manager	

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200.8/245.1	200.8/245.1F	ASTMD4464	SM2540	SW8290/1613B
A2BMP0012S009	14-Dec-21 8 15	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
Turbidity TSS				4'C	☐	1	☑	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						
EVBMP0001S018	14-Dec-21 7:30	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
Turbidity TSS				4'C	☐	1	☑	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						

MS = Matrix Spike **SD = Matrix Spike Duplicate**

	Signatures	Date/Time
Sampled by	JJ Enson 1246	12/14/21
Relinquished by	JJ 1246	12/14/21
Received by	12/14/21	1430
Relinquished by	12/14/21	20:05
Received by	12/14/21	20:05

Shipping Details

Shipment Method: FedEx
Airbill No:
Lab Name: Eurofins Calscience Lab
Lab Phone: (949) 870-8766
On Ice: yes / no **Cooler Temp** _____

ATTN:

Sample Custody
and

Special Instructions:

Report Copy to
Mark Fesler
(530) 229-3273

78855

Chain of Custody Record

COC Number: CALS12142101

JACOBS

12/14/2021 10 41 04 AM

Project Name	SSFL
Project	CJ042 Stormwater PO 148015891
Location	Santa Susana Field Lab
Project Number	D3377900
Task Order	42
PO Number	
Turnaround Time	10 Days

Project Manager
Randy Dean

Sample Manager

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200.8/245.1	200.8/245.1F	ASTMD4464	SM2540	SW8290/1613B
EVBMP0003S031	14-Dec-21 8 01	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4'C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						

MS = Matrix Spike SD = Matrix Spike Duplicate

	Signatures	Date/Time
Sampled by	T BENSON 1246	12/14/21
Relinquished by	T 1246	12/14/21
Received by	12/14/21	1430
Relinquished by	12/14/21	20:05
Received by	12/14/21	20:05

Shipping Details

Shipment Method: FedEx

Airbill No:

Lab Name: Eurofins Calscience Lab

Lab Phone: (949) 870-8766

On Ice: yes / no **Cooler Temp** _____

ATTN:

Sample Custody and

Special Instructions:

Report Copy to
Mark Fesler
(530) 229-3273

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Thompson Lori	Carrier Tracking No(s)	COC No: 570-145454 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Lori.Thompson@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - California		Job #: 570-78855-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/7/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: NASA SSFL CJ042 Stormwater	Project #: 57006621			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290/8290_P_Sep 17 isomers List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A2BMP0006S012 (570-78855-1)	12/14/21	07:49 Pacific		Water			X	2	
A2BMP0007S020 (570-78855-2)	12/14/21	08:30 Pacific		Water			X	2	
A2BMP0012S009 (570-78855-3)	12/14/21	08:15 Pacific		Water			X	2	
EVBMP0001S018 (570-78855-4)	12/14/21	07:30 Pacific		Water			X	2	
EVBMP0003S031 (570-78855-5)	12/14/21	08:01 Pacific		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Calscience

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	12/15/21 1723				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Thompson, Lori	Carrier Tracking No(s):	COC No: 570-145454.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Lori.Thompson@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - California		Job #: 570-78855-1
Address: 880 Riverside Parkway,	Due Date Requested: 1/7/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA SSFL CJ042 Stormwater	Project #: 57006621			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290/8290_P_Sep 17 Isomers List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A2BMP0006S012 (570-78855-1)	12/14/21	07:49 Pacific		Water			X	2	
A2BMP0007S020 (570-78855-2)	12/14/21	08:30 Pacific		Water			X	2	
A2BMP0012S009 (570-78855-3)	12/14/21	08:15 Pacific		Water			X	2	
EVBMP0001S018 (570-78855-4)	12/14/21	07:30 Pacific		Water			X	2	
EVBMP0003S031 (570-78855-5)	12/14/21	08:01 Pacific		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/15/21 1723	Company	Received by:	Date/Time: 12/17/21 1100	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.8c

Ver: 06/08/2021

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01/13/2022

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Thompson Lori	Carrier Tracking No(s)	COC No: 570-149114 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Lori Thompson@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest		Accreditations Required (See note): State - California		Job #: 570-78855-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/10/2022			Preservation Codes
City: Tustin	TAT Requested (days)			A - HCL; B - NaOH; C Zn Acetate; D Nitric Acid; E NaHSO4; F MeOH; G Amchlor; H Ascorbic Acid; I Ice; J DI Water; K EDTA; L - EDA; M - Hexane; N - None; O AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S H2SO4; T TSP Dodecahydrate; U - Acetone; V MCAA; W pH 4-5; Z other (specify)
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			Other:
Email	WO #:			
Project Name: NASA SSFL CJ042 Stormwater	Project #: 57006621			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	245.1/245.1_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code						
A2BMP0006S012 (570-78855-1)	12/14/21	07 49 Pacific		Water			X	1	
A2BMP0007S020 (570-78855-2)	12/14/21	08 30 Pacific		Water			X	1	
A2BMP0012S009 (570-78855-3)	12/14/21	08 15 Pacific		Water			X	1	
EVBMP0001S018 (570-78855-4)	12/14/21	07 30 Pacific		Water			X	1	
EVBMP0003S031 (570-78855-5)	12/14/21	08 01 Pacific		Water			X	1	

Note Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
	1/5/2022 19 00	ECI		1/5/2022 19 00	ECT
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
		2.3/1.8 IR-9

Ver 06/08/2021

ANALYTICAL REPORT

Job Number: 570-80119-1

Job Description: NASA SSFL CJ042 Stormwater

For:
Jacobs Engineering Group, Inc.
4121 Carmichael Rd #400
Montgomery, AL 36106

Attention: Mark Fesler

Approved for release.
Ritu Sedha
Project Manager I
1/20/2022 12:17 PM

Designee for
Lori Thompson, Project Manager I
7440 Lincoln Way, Garden Grove, CA, 92841
(714)895-5494
Lori.Thompson@eurofinset.com
01/20/2022

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Qualifiers

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
H3	Sample was received and analyzed past holding time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Geotechnical

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

CASE NARRATIVE

Client: Jacobs Engineering Group, Inc.

Project: NASA SSFL CJ042 Stormwater

Report Number: 570-80119-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 12/27/2021 at 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.1ºC.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2 degrees Celsius of the required temperature or method specified range. For samples with a specified temperature of 4 degrees Celsius, samples with a temperature ranging from just above freezing temperature of water to 6 degrees Celsius shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

DISSOLVED METALS (ICPMS)
Samples A2BMP0007S021 (570-80119-1), A2BMP0012S010 (570-80119-2), EVBMP0001S019 (570-80119-3) and EVBMP0003S032 (570-80119-4) were analyzed for dissolved metals (ICPMS) in accordance with EPA Method 200.8. The samples were analyzed on 12/28/2021.

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: A2BMP0007S021 (570-80119-1), A2BMP0012S010 (570-80119-2), EVBMP0001S019 (570-80119-3), EVBMP0003S032 (570-80119-4), (570-80119-B-1 MS) and (570-80119-B-1 MSD). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS (ICPMS)
Samples A2BMP0007S021 (570-80119-1), A2BMP0012S010 (570-80119-2), EVBMP0001S019 (570-80119-3) and EVBMP0003S032 (570-80119-4) were analyzed for Total Recoverable Metals (ICPMS) in accordance with EPA Method 200.8. The samples were prepared and analyzed on 01/13/2022.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DISSOLVED MERCURY (CVAA)
Samples A2BMP0007S021 (570-80119-1), A2BMP0012S010 (570-80119-2), EVBMP0001S019 (570-80119-3) and EVBMP0003S032 (570-80119-4) were analyzed for dissolved mercury (CVAA) in accordance with EPA Method 245.1. The samples were prepared and analyzed on 12/28/2021.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY (CVAA)
Samples A2BMP0007S021 (570-80119-1), A2BMP0012S010 (570-80119-2), EVBMP0001S019 (570-80119-3) and EVBMP0003S032 (570-80119-4) were analyzed for total mercury (CVAA) in accordance with EPA Method 245.1. The samples were prepared and analyzed on 01/13/2022.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL SUSPENDED SOLIDS
Samples A2BMP0007S021 (570-80119-1), A2BMP0012S010 (570-80119-2), EVBMP0001S019 (570-80119-3) and EVBMP0003S032 (570-80119-4) were analyzed for total suspended solids in accordance with SM20 2540D. The samples were analyzed on 12/30/2021.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PARTICLE SIZE
Samples A2BMP0007S021 (570-80119-1), A2BMP0012S010 (570-80119-2), EVBMP0001S019 (570-80119-3) and EVBMP0003S032 (570-80119-4) were analyzed for Particle Size in accordance with ASTM D 4464. The samples were analyzed on 01/04/2022.

Fine Sand (0.125 to 0.25mm) exceeded the RPD limit for the duplicate of sample 570-78855-5. The associated laboratory control sample and laboratory control sample duplicate (LCS/LCSD) recovery met acceptance criteria.

Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TURBIDITY
Samples A2BMP0012S010 (570-80119-2) and EVBMP0001S019 (570-80119-3) were analyzed for turbidity in accordance with SM 2130B. The samples were analyzed on 12/28/2021.

The following samples were received outside of holding time: A2BMP0012S010 (570-80119-2) and EVBMP0001S019 (570-80119-3).

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method D4464: Insufficient particulate mass for analysis: EVBMP0001S019 (570-80119-3)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Jacobs Engineering Group, Inc.
Project/Site: NASA SSFL CJ042 Stormwater

Job ID: 570-80119-1

Client Sample ID: A2BMP0007S021 — Lab Sample ID: 570-80119-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	1.43	J	2.00	0.500	ug/L	1		200.8	Total Recoverable
Copper	1.44	H	1.00	0.610	ug/L	1		200.8	Dissolved
Lead	0.203	J H	1.00	0.190	ug/L	1		200.8	Dissolved
Total Suspended Solids	2.50		1.00	0.829	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	100.00		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	100.00		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: A2BMP0012S010 — Lab Sample ID: 570-80119-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.36		2.00	0.500	ug/L	1		200.8	Total Recoverable
Lead	1.63		1.00	0.500	ug/L	1		200.8	Total Recoverable
Copper	2.88	H	1.00	0.610	ug/L	1		200.8	Dissolved
Lead	0.392	J H	1.00	0.190	ug/L	1		200.8	Dissolved
Turbidity	9.9	H H3	0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Suspended Solids	2.60		1.00	0.829	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	100.00		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	100.00		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: EVBMP0001S019 — Lab Sample ID: 570-80119-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	5.19		2.00	0.500	ug/L	1		200.8	Total Recoverable
Copper	1.93	H	1.00	0.610	ug/L	1		200.8	Dissolved
Lead	0.206	J H	1.00	0.190	ug/L	1		200.8	Dissolved
Turbidity	2.8	H H3	0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Suspended Solids	0.900	J	1.00	0.829	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EVBMP0003S032 — Lab Sample ID: 570-80119-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	5.51		2.00	0.500	ug/L	1		200.8	Total Recoverable
Lead	2.74		1.00	0.500	ug/L	1		200.8	Total Recoverable
Copper	2.11	H	1.00	0.610	ug/L	1		200.8	Dissolved
Lead	0.371	J H	1.00	0.190	ug/L	1		200.8	Dissolved
Total Suspended Solids	7.90		1.00	0.829	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	11.59		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	48.07		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	59.66		0.01	0.01	%	1		D4464	Total/NA
Very Fine Sand (0.0625 to 0.125 mm)	40.34		0.01	0.01	%	1		D4464	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: A2BMP0007S021 **Lab Sample ID: 570-80119-1**
Date Collected: 12/24/21 08:05 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.250	ug/L		01/13/22 06:58	01/13/22 13:17	1
Copper	**1.43**	**J**	2.00	0.500	ug/L		01/13/22 06:58	01/13/22 13:17	1
Lead	ND		1.00	0.500	ug/L		01/13/22 06:58	01/13/22 13:17	1

Client Sample ID: A2BMP0012S010 **Lab Sample ID: 570-80119-2**
Date Collected: 12/24/21 07:50 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.250	ug/L		01/13/22 06:58	01/13/22 13:19	1
Copper	**3.36**		2.00	0.500	ug/L		01/13/22 06:58	01/13/22 13:19	1
Lead	**1.63**		1.00	0.500	ug/L		01/13/22 06:58	01/13/22 13:19	1

Client Sample ID: EVBMP0001S019 **Lab Sample ID: 570-80119-3**
Date Collected: 12/24/21 08:30 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.250	ug/L		01/13/22 06:58	01/13/22 13:21	1
Copper	**5.19**		2.00	0.500	ug/L		01/13/22 06:58	01/13/22 13:21	1
Lead	ND		1.00	0.500	ug/L		01/13/22 06:58	01/13/22 13:21	1

Client Sample ID: EVBMP0003S032 **Lab Sample ID: 570-80119-4**
Date Collected: 12/24/21 07:20 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.250	ug/L		01/13/22 06:58	01/13/22 13:23	1
Copper	**5.51**		2.00	0.500	ug/L		01/13/22 06:58	01/13/22 13:23	1
Lead	**2.74**		1.00	0.500	ug/L		01/13/22 06:58	01/13/22 13:23	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: A2BMP0007S021 **Lab Sample ID: 570-80119-1**
Date Collected: 12/24/21 08:05 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			12/28/21 11:58	1
Copper	**1.44**	**H**	1.00	0.610	ug/L			12/28/21 11:58	1
Lead	**0.203**	**J H**	1.00	0.190	ug/L			12/28/21 11:58	1

Client Sample ID: A2BMP0012S010 **Lab Sample ID: 570-80119-2**
Date Collected: 12/24/21 07:50 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			12/28/21 12:06	1
Copper	**2.88**	**H**	1.00	0.610	ug/L			12/28/21 12:06	1
Lead	**0.392**	**J H**	1.00	0.190	ug/L			12/28/21 12:06	1

Client Sample ID: EVBMP0001S019 **Lab Sample ID: 570-80119-3**
Date Collected: 12/24/21 08:30 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			12/28/21 12:08	1
Copper	**1.93**	**H**	1.00	0.610	ug/L			12/28/21 12:08	1
Lead	**0.206**	**J H**	1.00	0.190	ug/L			12/28/21 12:08	1

Client Sample ID: EVBMP0003S032 **Lab Sample ID: 570-80119-4**
Date Collected: 12/24/21 07:20 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			12/28/21 12:09	1
Copper	**2.11**	**H**	1.00	0.610	ug/L			12/28/21 12:09	1
Lead	**0.371**	**J H**	1.00	0.190	ug/L			12/28/21 12:09	1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: A2BMP0007S021 **Lab Sample ID: 570-80119-1**
Date Collected: 12/24/21 08:05 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		01/13/22 09:48	01/13/22 14:57	1

Client Sample ID: A2BMP0012S010 **Lab Sample ID: 570-80119-2**
Date Collected: 12/24/21 07:50 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		01/13/22 09:48	01/13/22 15:03	1

Client Sample ID: EVBMP0001S019 **Lab Sample ID: 570-80119-3**
Date Collected: 12/24/21 08:30 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		01/13/22 09:48	01/13/22 15:04	1

Client Sample ID: EVBMP0003S032 **Lab Sample ID: 570-80119-4**
Date Collected: 12/24/21 07:20 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		01/13/22 09:48	01/13/22 15:06	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: A2BMP0007S021 **Lab Sample ID: 570-80119-1**
Date Collected: 12/24/21 08:05 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/28/21 06:07	12/28/21 13:53	1

Client Sample ID: A2BMP0012S010 **Lab Sample ID: 570-80119-2**
Date Collected: 12/24/21 07:50 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/28/21 06:07	12/28/21 13:55	1

Client Sample ID: EVBMP0001S019 **Lab Sample ID: 570-80119-3**
Date Collected: 12/24/21 08:30 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/28/21 06:07	12/28/21 14:00	1

Client Sample ID: EVBMP0003S032 **Lab Sample ID: 570-80119-4**
Date Collected: 12/24/21 07:20 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/28/21 06:07	12/28/21 14:02	1

General Chemistry

Client Sample ID: A2BMP0007S021 **Lab Sample ID: 570-80119-1**
Date Collected: 12/24/21 08:05 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.50		1.00	0.829	mg/L			12/30/21 06:59	1

Client Sample ID: A2BMP0012S010 **Lab Sample ID: 570-80119-2**
Date Collected: 12/24/21 07:50 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	9.9	H H3	0.05	0.05	NTU			12/28/21 18:26	1
Total Suspended Solids	2.60		1.00	0.829	mg/L			12/30/21 06:59	1

Client Sample ID: EVBMP0001S019 **Lab Sample ID: 570-80119-3**
Date Collected: 12/24/21 08:30 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	2.8	H H3	0.05	0.05	NTU			12/28/21 18:26	1
Total Suspended Solids	0.900	J	1.00	0.829	mg/L			12/30/21 06:59	1

Client Sample ID: EVBMP0003S032 **Lab Sample ID: 570-80119-4**
Date Collected: 12/24/21 07:20 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	7.90		1.00	0.829	mg/L			12/30/21 06:59	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: A2BMP0007S021 **Lab Sample ID: 570-80119-1**
Date Collected: 12/24/21 08:05 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**100.00**		0.01	0.01	%			01/04/22 14:18	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 14:18	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 14:18	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 14:18	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 14:18	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/04/22 14:18	1
Total Silt and Clay (0 to 0.0626mm)	**100.00**		0.01	0.01	%			01/04/22 14:18	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 14:18	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/04/22 14:18	1

Client Sample ID: A2BMP0012S010 **Lab Sample ID: 570-80119-2**
Date Collected: 12/24/21 07:50 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**100.00**		0.01	0.01	%			01/04/22 14:26	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 14:26	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 14:26	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 14:26	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 14:26	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/04/22 14:26	1
Total Silt and Clay (0 to 0.0626mm)	**100.00**		0.01	0.01	%			01/04/22 14:26	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 14:26	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/04/22 14:26	1

Client Sample ID: EVBMP0001S019 **Lab Sample ID: 570-80119-3**
Date Collected: 12/24/21 08:30 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			01/04/22 14:34	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 14:34	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 14:34	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 14:34	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 14:34	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/04/22 14:34	1
Total Silt and Clay (0 to 0.0626mm)	ND		0.01	0.01	%			01/04/22 14:34	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 14:34	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/04/22 14:34	1

Client Sample ID: EVBMP0003S032 **Lab Sample ID: 570-80119-4**
Date Collected: 12/24/21 07:20 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**11.59**		0.01	0.01	%			01/04/22 14:41	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 14:41	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 14:41	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 14:41	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 14:41	1
Silt (0.00391 to 0.0625mm)	**48.07**		0.01	0.01	%			01/04/22 14:41	1
Total Silt and Clay (0 to 0.0626mm)	**59.66**		0.01	0.01	%			01/04/22 14:41	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 14:41	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Client Sample ID: EVBMP0003S032 **Lab Sample ID: 570-80119-4**
Date Collected: 12/24/21 07:20 **Matrix: Water**
Date Received: 12/27/21 17:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Very Fine Sand (0.0625 to 0.125 mm)	40.34		0.01	0.01	%			01/04/22 14:41	1

PARTICLE SIZE SUMMARY

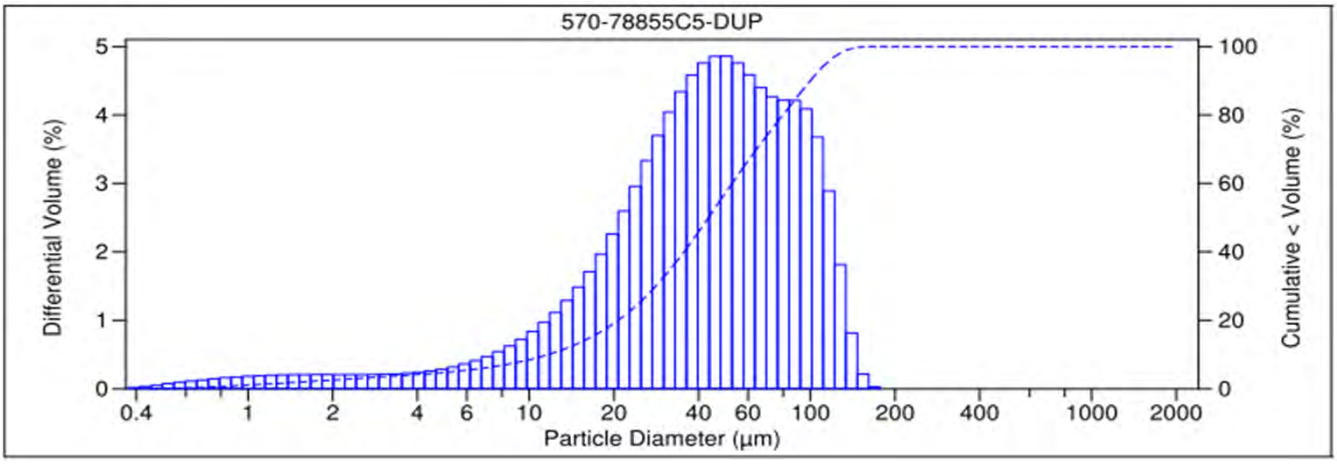
(ASTM D422 / D4464M)

Jacobs		Date Sampled:	12/14/21
		Date Received:	12/14/21
		Work Order No:	570-78855
		Date Analyzed:	01/04/22
		Method:	ASTM D4464M

Project: CJ042 Stormwater

Sample ID	Depth ft	Description	Mean Grain Size mm
EVBMP0003S031		Silt	0.050

Particle Size Distribution, wt by percent								Total Silt & Clay
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	
0.00	0.00	0.00	0.00	2.39	28.99	64.50	4.12	68.62



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

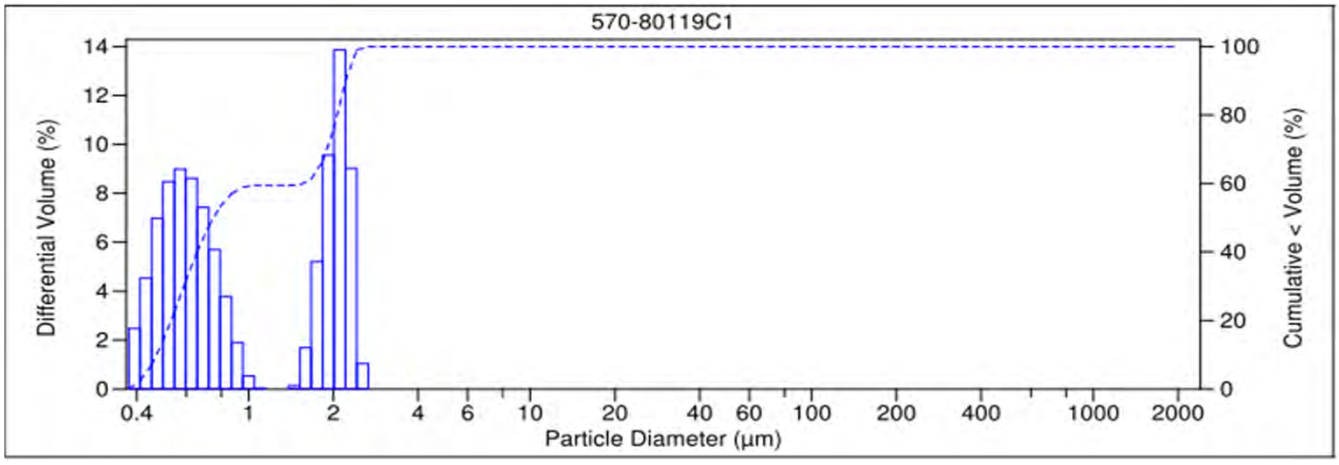
Jacobs

Date Sampled:	12/24/21
Date Received:	12/27/21
Work Order No:	570-80119
Date Analyzed:	01/04/22
Method:	ASTM D4464M

Project: CJ042 Stormwater

Sample ID	Depth ft	Description	Mean Grain Size mm
A2BMP0007S021		Med+Fine Clay	0.001

Particle Size Distribution, wt by percent								Total Silt & Clay
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00



V 3.0

PARTICLE SIZE SUMMARY

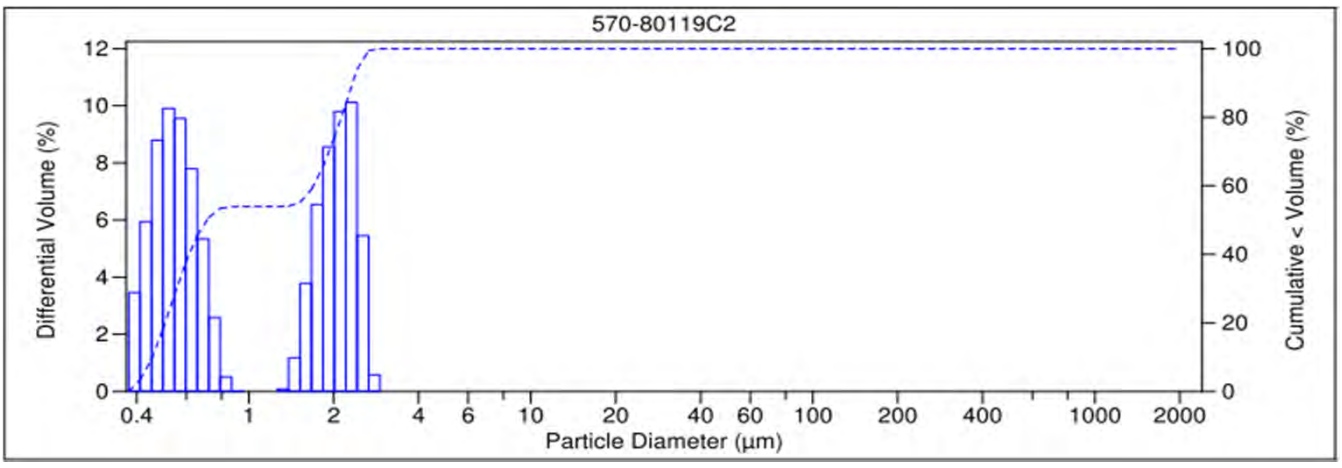
(ASTM D422 / D4464M)

Jacobs		Date Sampled:	12/24/21
		Date Received:	12/27/21
		Work Order No:	570-80119
		Date Analyzed:	01/04/22
		Method:	ASTM D4464M

Project: CJ042 Stormwater

Sample ID	Depth ft	Description	Mean Grain Size mm
A2BMP00012S010		Med+Fine Clay	0.001

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00



V 3.0

File name:	C:\LS13320\570-80119C3_ 4 Jan 2022_14.34.24.$ls 570-80119C3_ 4 Jan 2022_14.34.24.$ls		
File ID:	570-80119C3		
Sample ID:	570-80119C3		
Operator:	1106		
Run number:	9		
Comment 1:	ASTM D4464M , LPSA 1		
LS 13 320	Aqueous Liquid Module		
Start time:	14:33 4 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	7%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00

PARTICLE SIZE SUMMARY

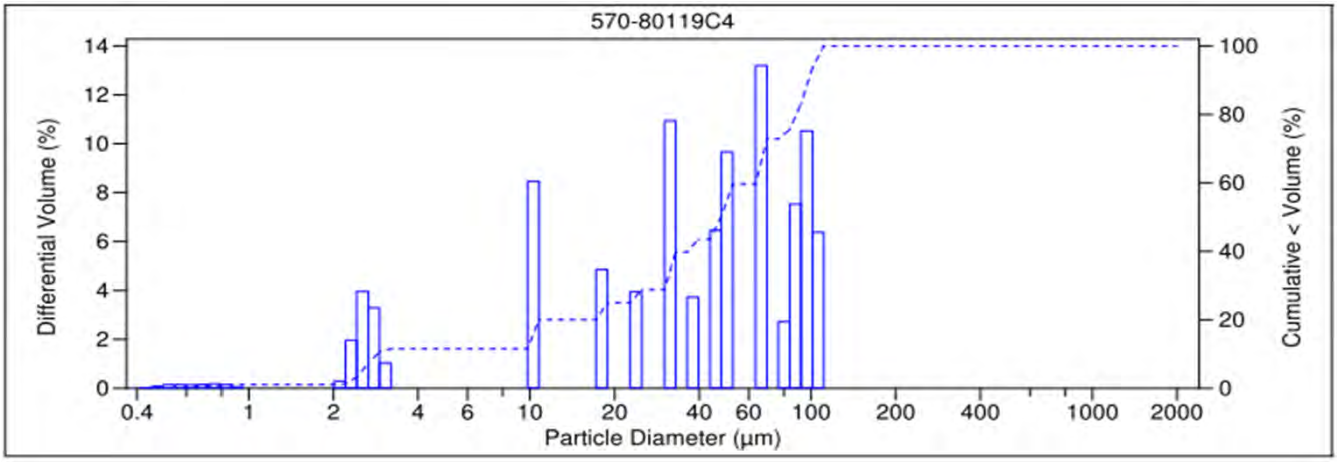
(ASTM D422 / D4464M)

Jacobs		Date Sampled:	12/24/21
		Date Received:	12/27/21
		Work Order No:	570-80119
		Date Analyzed:	01/04/22
		Method:	ASTM D4464M

Project: CJ042 Stormwater

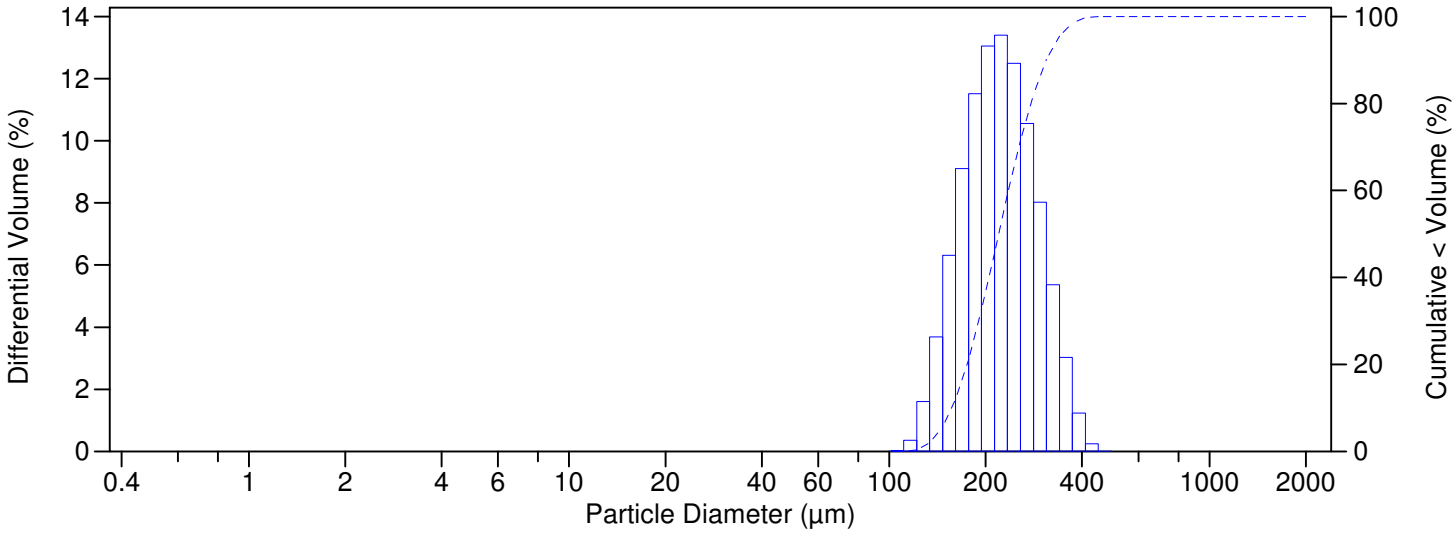
Sample ID	Depth ft	Description	Mean Grain Size mm
EVBMP0003S032		Silt	0.050

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	40.34	48.07	11.59	59.66



V 3.0

File name:	C:\LS13320\STD SAND_ 4 Jan 2022_15.25.54.$ls		
	STD SAND_ 4 Jan 2022_15.25.54.$ls		
File ID:	STD SAND		
Sample ID:	STD SAND		
Operator:	1106		
Run number:	16		
	Control Sample		
Comment 1:	ASTM D4464M , LPSA 1		
Comment 2:	1986955		
Optical model:	Fraunhofer.rf780d		
Residual:	7.74%		
LS 13 320	Aqueous Liquid Module		
Start time:	15:24 4 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	9%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00



Volume Statistics (Arithmetic) STD SAND_ 4 Jan 2022_15.25.54.$ls

Calculations from 0.375 µm to 2000 µm

Volume:	100%		
Mean:	227.4 µm	S.D.:	58.84 µm
Median:	220.0 µm	Variance:	3462 μm^2
Mean/Median ratio:	1.034	Skewness:	0.605 Right skewed
Mode:	223.4 µm	Kurtosis:	0.0083 Leptokurtic

d_{10}: 156.7 µm d_{50}: 220.0 µm d_{90}: 309.2 µm

Folk and Ward Statistics (Phi)

Mean:	2.18	Median:	2.18	Deviation:	0.38
Skewness:	-0.01	Kurtosis:	0.93		

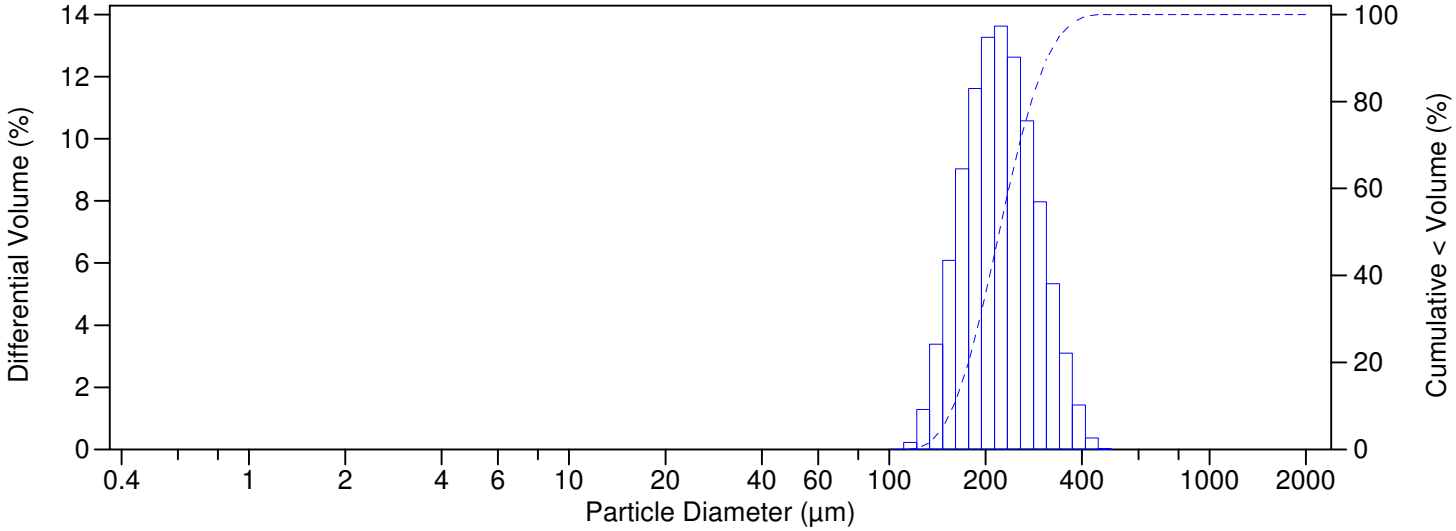
<5%	<16%	<25%	<40%	<50%	<75%	<84%	<95%
144.4 µm	168.1 µm	182.8 µm	205.0 µm	220.0 µm	265.2 µm	288.6 µm	337.2 µm

Particle Diameter µm	STD SAND_ 4 Jan 2022 _15.25.54 .$ls Volume %
0.04	0
0.4	0
1.95	0
3.91	0
62.5	0.81
125	66.9
250	32.3
500	0
1000	0
2000	

STD SAND_ 4 Jan 2022_15.25.54.$ls

Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %
0.375	0	24.95	0	1660	0
0.412	0	27.39	0	1822	0
0.452	0	30.07	0	2000	
0.496	0	33.01	0		
0.545	0	36.24	0		
0.598	0	39.78	0		
0.657	0	43.67	0		
0.721	0	47.94	0		
0.791	0	52.63	0		
0.869	0	57.77	0		
0.954	0	63.42	0		
1.047	0	69.62	0		
1.149	0	76.43	0		
1.261	0	83.90	0		
1.385	0	92.10	0		
1.520	0	101.1	0.020		
1.669	0	111.0	0.36		
1.832	0	121.8	1.60		
2.011	0	133.7	3.69		
2.208	0	146.8	6.31		
2.423	0	161.2	9.10		
2.660	0	176.9	11.5		
2.920	0	194.2	13.0		
3.206	0	213.2	13.4		
3.519	0	234.1	12.5		
3.863	0	256.9	10.6		
4.241	0	282.1	8.02		
4.656	0	309.6	5.36		
5.111	0	339.9	3.03		
5.611	0	373.1	1.24		
6.159	0	409.6	0.25		
6.761	0	449.7	0.011		
7.422	0	493.6	0		
8.148	0	541.9	0		
8.944	0	594.9	0		
9.819	0	653.0	0		
10.78	0	716.9	0		
11.83	0	786.9	0		
12.99	0	863.9	0		
14.26	0	948.3	0		
15.65	0	1041	0		
17.18	0	1143	0		
18.86	0	1255	0		
20.71	0	1377	0		
22.73	0	1512	0		

File name:	C:\LS13320\STD SAND_ 4 Jan 2022_16.02.56.$ls		
	STD SAND_ 4 Jan 2022_16.02.56.$ls		
File ID:	STD SAND		
Sample ID:	STD SAND		
Operator:	1106		
Run number:	18		
	Control Sample		
Comment 1:	ASTM D4464M , LPSA 1		
Comment 2:	1986955		
Optical model:	Fraunhofer.rf780d		
Residual:	8.94%		
LS 13 320	Aqueous Liquid Module		
Start time:	16:01 4 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	10%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00



Volume Statistics (Arithmetic) STD SAND_ 4 Jan 2022_16.02.56.$ls

Calculations from 0.375 µm to 2000 µm

Volume:	100%		
Mean:	229.0 µm	S.D.:	59.13 µm
Median:	221.0 µm	Variance:	3497 μm^2
Mean/Median ratio:	1.036	Skewness:	0.666 Right skewed
Mode:	223.4 µm	Kurtosis:	0.153 Leptokurtic

d_{10}: 158.8 µm d_{50}: 221.0 µm d_{90}: 311.2 µm

Folk and Ward Statistics (Phi)

Mean:	2.17	Median:	2.18	Deviation:	0.38
Skewness:	-0.02	Kurtosis:	0.93		

<5%	<16%	<25%	<40%	<50%	<75%	<84%	<95%
147.0 µm	169.9 µm	184.3 µm	206.2 µm	221.0 µm	266.0 µm	289.8 µm	339.5 µm

Particle Diameter µm	STD SAND_ 4 Jan 2022 _16.02.56 .$ls Volume %
0.04	0
0.4	0
1.95	0
3.91	0
62.5	0.58
125	66.8
250	32.7
500	0
1000	0
2000	

STD SAND_ 4 Jan 2022_16.02.56.$ls

Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %
0.375	0	24.95	0	1660	0
0.412	0	27.39	0	1822	0
0.452	0	30.07	0	2000	
0.496	0	33.01	0		
0.545	0	36.24	0		
0.598	0	39.78	0		
0.657	0	43.67	0		
0.721	0	47.94	0		
0.791	0	52.63	0		
0.869	0	57.77	0		
0.954	0	63.42	0		
1.047	0	69.62	0		
1.149	0	76.43	0		
1.261	0	83.90	0		
1.385	0	92.10	0		
1.520	0	101.1	0.0087		
1.669	0	111.0	0.23		
1.832	0	121.8	1.29		
2.011	0	133.7	3.38		
2.208	0	146.8	6.09		
2.423	0	161.2	9.04		
2.660	0	176.9	11.6		
2.920	0	194.2	13.3		
3.206	0	213.2	13.6		
3.519	0	234.1	12.6		
3.863	0	256.9	10.6		
4.241	0	282.1	7.97		
4.656	0	309.6	5.34		
5.111	0	339.9	3.10		
5.611	0	373.1	1.43		
6.159	0	409.6	0.37		
6.761	0	449.7	0.024		
7.422	0	493.6	0		
8.148	0	541.9	0		
8.944	0	594.9	0		
9.819	0	653.0	0		
10.78	0	716.9	0		
11.83	0	786.9	0		
12.99	0	863.9	0		
14.26	0	948.3	0		
15.65	0	1041	0		
17.18	0	1143	0		
18.86	0	1255	0		
20.71	0	1377	0		
22.73	0	1512	0		

Default Detection Limits

Client: Jacobs Engineering Group, Inc.
Project/Site: NASA SSFL CJ042 Stormwater

Job ID: 570-80119-1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Prep: 200.2

Analyte	RL	MDL	Units
Cadmium	1.00	0.250	ug/L
Copper	2.00	0.500	ug/L
Lead	1.00	0.500	ug/L

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	RL	MDL	Units
Cadmium	1.00	0.980	ug/L
Copper	1.00	0.610	ug/L
Lead	1.00	0.190	ug/L

Method: 245.1 - Mercury (CVAA)

Prep: 245.1

Analyte	RL	MDL	Units
Mercury	0.000248	0.000124	mg/L

Method: 245.1 - Mercury (CVAA) - Dissolved

Prep: 245.1

Analyte	RL	MDL	Units
Mercury	0.000248	0.000124	mg/L

General Chemistry

Analyte	RL	MDL	Units
Turbidity	0.05	0.05	NTU
Total Suspended Solids	1.00	0.829	mg/L

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	RL	MDL	Units
Clay (less than 0.00391 mm)	0.01	0.01	%
Coarse Sand (0.5mm to 1mm)	0.01	0.01	%
Fine Sand (0.125 to 0.25mm)	0.01	0.01	%
Gravel (greater than 2 mm)	0.01	0.01	%
Medium Sand (0.25 to 0.5 mm)	0.01	0.01	%
Silt (0.00391 to 0.0625mm)	0.01	0.01	%
Total Silt and Clay (0 to 0.0626mm)	0.01	0.01	%
Very Coarse Sand (1 to 2mm)	0.01	0.01	%
Very Fine Sand (0.0625 to 0.125 mm)	0.01	0.01	%

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664348/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664405 — **Prep Batch: 664348**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.250	ug/L		01/13/22 06:58	01/13/22 12:52	1
Copper	ND		2.00	0.500	ug/L		01/13/22 06:58	01/13/22 12:52	1
Lead	ND		1.00	0.500	ug/L		01/13/22 06:58	01/13/22 12:52	1

Lab Sample ID: LCS 440-664348/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664405 — **Prep Batch: 664348**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	74.85		ug/L		94	85 - 115
Copper	80.0	78.25		ug/L		98	85 - 115
Lead	80.0	77.35		ug/L		97	85 - 115

Lab Sample ID: 570-80603-B-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664405 — **Prep Batch: 664348**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	76.26		ug/L		95	70 - 130
Copper	3.02		80.0	79.32		ug/L		95	70 - 130
Lead	2.40		80.0	80.41		ug/L		98	70 - 130

Lab Sample ID: 570-80603-B-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 664405 — **Prep Batch: 664348**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	74.10		ug/L		93	70 - 130	3	20
Copper	3.02		80.0	76.98		ug/L		92	70 - 130	3	20
Lead	2.40		80.0	78.16		ug/L		95	70 - 130	3	20

Lab Sample ID: MB 570-204013/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 204104

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.980	ug/L			12/28/21 11:54	1
Copper	ND		1.00	0.610	ug/L			12/28/21 11:54	1
Lead	ND		1.00	0.190	ug/L			12/28/21 11:54	1

Lab Sample ID: LCS 570-204013/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 204104

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	100	95.76		ug/L		96	80 - 120
Copper	100	102.0		ug/L		102	80 - 120
Lead	100	99.07		ug/L		99	80 - 120

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 570-204013/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 204104

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium			100	98.04		ug/L		98	80 - 120	2	20
Copper			100	102.9		ug/L		103	80 - 120	1	20
Lead			100	97.91		ug/L		98	80 - 120	1	20

Lab Sample ID: 570-80119-1 MS — **Client Sample ID: A2BMP0007S021**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 204104

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium	ND	H	100	105.8		ug/L		106	80 - 120		
Copper	1.44	H	100	106.6		ug/L		105	80 - 120		
Lead	0.203	J H	100	102.7		ug/L		102	80 - 120		

Lab Sample ID: 570-80119-1 MSD — **Client Sample ID: A2BMP0007S021**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 204104

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND	H	100	105.1		ug/L		105	80 - 120	1	20
Copper	1.44	H	100	105.8		ug/L		104	80 - 120	1	20
Lead	0.203	J H	100	102.3		ug/L		102	80 - 120	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-207222/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207348 — **Prep Batch: 207222**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		01/13/22 09:48	01/13/22 14:51	1

Lab Sample ID: LCS 570-207222/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207348 — **Prep Batch: 207222**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.0100	0.009461		mg/L		95	85 - 115		

Lab Sample ID: LCSD 570-207222/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207348 — **Prep Batch: 207222**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.0100	0.009288		mg/L		93	85 - 115	2	10

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-80119-1 MS — **Client Sample ID: A2BMP0007S021**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207348 — **Prep Batch: 207222**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.0100	0.009575		mg/L		96	70 - 130

Lab Sample ID: 570-80119-1 MSD — **Client Sample ID: A2BMP0007S021**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207348 — **Prep Batch: 207222**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0100	0.009712		mg/L		97	70 - 130	1	10

Lab Sample ID: MB 570-204014/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 204205 — **Prep Batch: 204016**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/28/21 06:07	12/28/21 13:47	1

Lab Sample ID: LCS 570-204014/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 204205 — **Prep Batch: 204016**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0100	0.009790		mg/L		98	85 - 115

Lab Sample ID: LCSD 570-204014/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 204205 — **Prep Batch: 204016**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0100	0.009773		mg/L		98	85 - 115	0	10

Lab Sample ID: 570-80119-2 MS — **Client Sample ID: A2BMP0012S010**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 204205 — **Prep Batch: 204016**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.0100	0.009555		mg/L		96	70 - 130

Lab Sample ID: 570-80119-2 MSD — **Client Sample ID: A2BMP0012S010**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 204205 — **Prep Batch: 204016**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0100	0.009646		mg/L		96	70 - 130	1	10

Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-204312/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204312

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	1000	1000		NTU		99.6	99.0 - 101.0

Lab Sample ID: LCSSRM 570-204312/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204312

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	10.0	10		NTU		100.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-204312/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204312

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

Lab Sample ID: 570-80189-H-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204312

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	110		110		NTU		0.9	25

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-206583/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206583

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.00	0.829	mg/L			12/30/21 06:59	1

Lab Sample ID: LCS 570-206583/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206583

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	100.0		mg/L		100	77 - 116

Lab Sample ID: LCSD 570-206583/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206583

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	99.00		mg/L		99	77 - 116	1	10

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 570-80107-B-1 DU **Client Sample ID: Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 206583

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	76.5			78.00		mg/L				2	10

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Lab Sample ID: 570-78855-C-5 DU **Client Sample ID: Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205446

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay (less than 0.00391 mm)	4.52			4.12		%				9	20
Coarse Sand (0.5mm to 1mm)	ND			ND		%				NC	20
Fine Sand (0.125 to 0.25mm)	10.48			2.39	F3	%				126	20
Gravel (greater than 2 mm)	ND			ND		%				NC	20
Medium Sand (0.25 to 0.5 mm)	ND			ND		%				NC	20
Silt (0.00391 to 0.0625mm)	56.05			64.50		%				14	20
Total Silt and Clay (0 to 0.0626mm)	60.57			68.62		%				12	20
Very Coarse Sand (1 to 2mm)	ND			ND		%				NC	20
Very Fine Sand (0.0625 to 0.125 mm)	28.95			28.99		%				0.1	20

Metals

Filtration Batch: 204013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Dissolved	Water	Filtration	
570-80119-2	A2BMP0012S010	Dissolved	Water	Filtration	
570-80119-3	EVBMP0001S019	Dissolved	Water	Filtration	
570-80119-4	EVBMP0003S032	Dissolved	Water	Filtration	
MB 570-204013/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-204013/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-204013/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80119-1 MS	A2BMP0007S021	Dissolved	Water	Filtration	
570-80119-1 MSD	A2BMP0007S021	Dissolved	Water	Filtration	

Filtration Batch: 204014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Dissolved	Water	Filtration	
570-80119-2	A2BMP0012S010	Dissolved	Water	Filtration	
570-80119-3	EVBMP0001S019	Dissolved	Water	Filtration	
570-80119-4	EVBMP0003S032	Dissolved	Water	Filtration	
MB 570-204014/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-204014/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-204014/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80119-2 MS	A2BMP0012S010	Dissolved	Water	Filtration	
570-80119-2 MSD	A2BMP0012S010	Dissolved	Water	Filtration	

Prep Batch: 204016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Dissolved	Water	245.1	204014
570-80119-2	A2BMP0012S010	Dissolved	Water	245.1	204014
570-80119-3	EVBMP0001S019	Dissolved	Water	245.1	204014
570-80119-4	EVBMP0003S032	Dissolved	Water	245.1	204014
MB 570-204014/1-B	Method Blank	Dissolved	Water	245.1	204014
LCS 570-204014/2-B	Lab Control Sample	Dissolved	Water	245.1	204014
LCSD 570-204014/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	204014
570-80119-2 MS	A2BMP0012S010	Dissolved	Water	245.1	204014
570-80119-2 MSD	A2BMP0012S010	Dissolved	Water	245.1	204014

Analysis Batch: 204104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Dissolved	Water	200.8	204013
570-80119-2	A2BMP0012S010	Dissolved	Water	200.8	204013
570-80119-3	EVBMP0001S019	Dissolved	Water	200.8	204013
570-80119-4	EVBMP0003S032	Dissolved	Water	200.8	204013
MB 570-204013/1-A	Method Blank	Dissolved	Water	200.8	204013
LCS 570-204013/2-A	Lab Control Sample	Dissolved	Water	200.8	204013
LCSD 570-204013/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	204013
570-80119-1 MS	A2BMP0007S021	Dissolved	Water	200.8	204013
570-80119-1 MSD	A2BMP0007S021	Dissolved	Water	200.8	204013

Analysis Batch: 204205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Dissolved	Water	245.1	204016
570-80119-2	A2BMP0012S010	Dissolved	Water	245.1	204016
570-80119-3	EVBMP0001S019	Dissolved	Water	245.1	204016

Metals (Continued)

Analysis Batch: 204205 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-4	EVBMP0003S032	Dissolved	Water	245.1	204016
MB 570-204014/1-B	Method Blank	Dissolved	Water	245.1	204016
LCS 570-204014/2-B	Lab Control Sample	Dissolved	Water	245.1	204016
LCSD 570-204014/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	204016
570-80119-2 MS	A2BMP0012S010	Dissolved	Water	245.1	204016
570-80119-2 MSD	A2BMP0012S010	Dissolved	Water	245.1	204016

Prep Batch: 207222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Total/NA	Water	245.1	
570-80119-2	A2BMP0012S010	Total/NA	Water	245.1	
570-80119-3	EVBMP0001S019	Total/NA	Water	245.1	
570-80119-4	EVBMP0003S032	Total/NA	Water	245.1	
MB 570-207222/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-207222/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-207222/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-80119-1 MS	A2BMP0007S021	Total/NA	Water	245.1	
570-80119-1 MSD	A2BMP0007S021	Total/NA	Water	245.1	

Analysis Batch: 207348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Total/NA	Water	245.1	207222
570-80119-2	A2BMP0012S010	Total/NA	Water	245.1	207222
570-80119-3	EVBMP0001S019	Total/NA	Water	245.1	207222
570-80119-4	EVBMP0003S032	Total/NA	Water	245.1	207222
MB 570-207222/1-A	Method Blank	Total/NA	Water	245.1	207222
LCS 570-207222/2-A	Lab Control Sample	Total/NA	Water	245.1	207222
LCSD 570-207222/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	207222
570-80119-1 MS	A2BMP0007S021	Total/NA	Water	245.1	207222
570-80119-1 MSD	A2BMP0007S021	Total/NA	Water	245.1	207222

Prep Batch: 664348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Total Recoverable	Water	200.2	
570-80119-2	A2BMP0012S010	Total Recoverable	Water	200.2	
570-80119-3	EVBMP0001S019	Total Recoverable	Water	200.2	
570-80119-4	EVBMP0003S032	Total Recoverable	Water	200.2	
MB 440-664348/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664348/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80603-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80603-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Total Recoverable	Water	200.8	664348
570-80119-2	A2BMP0012S010	Total Recoverable	Water	200.8	664348
570-80119-3	EVBMP0001S019	Total Recoverable	Water	200.8	664348
570-80119-4	EVBMP0003S032	Total Recoverable	Water	200.8	664348
MB 440-664348/1-A	Method Blank	Total Recoverable	Water	200.8	664348
LCS 440-664348/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664348
570-80603-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	664348

Metals (Continued)

Analysis Batch: 664405 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80603-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664348

General Chemistry

Analysis Batch: 204312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-2	A2BMP0012S010	Total/NA	Water	SM 2130B	
570-80119-3	EVBMP0001S019	Total/NA	Water	SM 2130B	
LCSSRM 570-204312/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-204312/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-204312/3	Lab Control Sample	Total/NA	Water	SM 2130B	
570-80189-H-1 DU	Duplicate	Total/NA	Water	SM 2130B	

Analysis Batch: 206583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Total/NA	Water	SM 2540D	
570-80119-2	A2BMP0012S010	Total/NA	Water	SM 2540D	
570-80119-3	EVBMP0001S019	Total/NA	Water	SM 2540D	
570-80119-4	EVBMP0003S032	Total/NA	Water	SM 2540D	
MB 570-206583/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-206583/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-206583/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-80107-B-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 205446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80119-1	A2BMP0007S021	Total/NA	Water	D4464	
570-80119-2	A2BMP0012S010	Total/NA	Water	D4464	
570-80119-3	EVBMP0001S019	Total/NA	Water	D4464	
570-80119-4	EVBMP0003S032	Total/NA	Water	D4464	
LCS 570-205446/16	Lab Control Sample	Total/NA	Water	D4464	
LCSD 570-205446/18	Lab Control Sample Dup	Total/NA	Water	D4464	
570-78855-C-5 DU	Duplicate	Total/NA	Water	D4464	

Client Sample ID: A2BMP0007S021 — Lab Sample ID: 570-80119-1

Date Collected: 12/24/21 08:05 — **Matrix: Water**
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	204013	12/27/21 19:50	UIAS	ECL 1
Dissolved	Analysis	200.8		1			204104	12/28/21 11:58	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.2			25 mL	25 mL	664348	01/13/22 06:58		IRV 2
Total Recoverable	Analysis	200.8		1			664405	01/13/22 13:17	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	204014	12/27/21 19:50	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	204016	12/28/21 06:07	WL8G	ECL 1
Dissolved	Analysis	245.1		1			204205	12/28/21 13:53	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207222	01/13/22 09:48	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207348	01/13/22 14:57	VWJ7	ECL 4
	Instrument ID: HG9									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	206583	12/30/21 06:59	ULIN	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 14:18	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: A2BMP0012S010 — Lab Sample ID: 570-80119-2

Date Collected: 12/24/21 07:50 — **Matrix: Water**
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	204013	12/27/21 19:50	UIAS	ECL 1
Dissolved	Analysis	200.8		1			204104	12/28/21 12:06	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.2			25 mL	25 mL	664348	01/13/22 06:58		IRV 2
Total Recoverable	Analysis	200.8		1			664405	01/13/22 13:19	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	204014	12/27/21 19:50	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	204016	12/28/21 06:07	WL8G	ECL 1
Dissolved	Analysis	245.1		1			204205	12/28/21 13:55	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207222	01/13/22 09:48	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207348	01/13/22 15:03	VWJ7	ECL 4
	Instrument ID: HG9									
Total/NA	Analysis	SM 2130B		1			204312	12/28/21 18:26	ZE7V	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	206583	12/30/21 06:59	ULIN	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 14:26	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: EVBMP0001S019 — Lab Sample ID: 570-80119-3

Date Collected: 12/24/21 08:30 — **Matrix: Water**
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	204013	12/27/21 19:50	UIAS	ECL 1
Dissolved	Analysis	200.8		1			204104	12/28/21 12:08	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.2			25 mL	25 mL	664348	01/13/22 06:58		IRV 2
Total Recoverable	Analysis	200.8		1			664405	01/13/22 13:21	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	204014	12/27/21 19:50	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	204016	12/28/21 06:07	WL8G	ECL 1
Dissolved	Analysis	245.1		1			204205	12/28/21 14:00	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207222	01/13/22 09:48	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207348	01/13/22 15:04	VWJ7	ECL 4
	Instrument ID: HG9									
Total/NA	Analysis	SM 2130B		1			204312	12/28/21 18:26	ZE7V	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	206583	12/30/21 06:59	ULIN	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 14:34	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: EVBMP0003S032 — Lab Sample ID: 570-80119-4

Date Collected: 12/24/21 07:20 — **Matrix: Water**
Date Received: 12/27/21 17:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	204013	12/27/21 19:50	UIAS	ECL 1
Dissolved	Analysis	200.8		1			204104	12/28/21 12:09	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.2			25 mL	25 mL	664348	01/13/22 06:58		IRV 2
Total Recoverable	Analysis	200.8		1			664405	01/13/22 13:23	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	204014	12/27/21 19:50	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	204016	12/28/21 06:07	WL8G	ECL 1
Dissolved	Analysis	245.1		1			204205	12/28/21 14:02	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207222	01/13/22 09:48	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207348	01/13/22 15:06	VWJ7	ECL 4
	Instrument ID: HG9									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	206583	12/30/21 06:59	ULIN	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 14:41	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Jacobs Engineering Group, Inc. Job ID: 570-80119-1
Project/Site: NASA SSFL CJ042 Stormwater

Laboratory: Eurofins Calscience

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2944	09-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8		Water	Cadmium
200.8		Water	Copper
200.8		Water	Lead
245.1	245.1	Water	Mercury
D4464		Water	Clay (less than 0.00391 mm)
D4464		Water	Coarse Sand (0.5mm to 1mm)
D4464		Water	Fine Sand (0.125 to 0.25mm)
D4464		Water	Gravel (greater than 2 mm)
D4464		Water	Medium Sand (0.25 to 0.5 mm)
D4464		Water	Silt (0.00391 to 0.0625mm)
D4464		Water	Total Silt and Clay (0 to 0.0626mm)
D4464		Water	Very Coarse Sand (1 to 2mm)
D4464		Water	Very Fine Sand (0.0625 to 0.125 mm)
SM 2130B		Water	Turbidity

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

Method Summary

Client: Jacobs Engineering Group, Inc. Job ID: 570-80119-1
Project/Site: NASA SSFL CJ042 Stormwater

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	ECL 1
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
SM 2130B	Turbidity	SM	ECL 1
SM 2540D	Solids, Total Suspended (TSS)	SM	ECL 1
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 1
Filtration	Sample Filtration	None	ECL 1

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Jacobs Engineering Group, Inc.
Project/Site: NASA SSFL CJ042 Stormwater

Job ID: 570-80119-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80119-1	A2BMP0007S021	Water	12/24/21 08:05	12/27/21 17:35
570-80119-2	A2BMP0012S010	Water	12/24/21 07:50	12/27/21 17:35
570-80119-3	EVBMP0001S019	Water	12/24/21 08:30	12/27/21 17:35
570-80119-4	EVBMP0003S032	Water	12/24/21 07:20	12/27/21 17:35

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HG_1ppm ICV_00035	12/30/21	07/01/21	DI Water, Lot n/a	100 mL	MT-Hg-CS_00005	0.1 mL	Mercury	1 mg/L
.MT-Hg-CS_00005	11/30/22	High Purity Standards, Lot 2107432-50			(Purchased Reagent)		Mercury	1000 ug/mL
HG_1ppm ICV_00036	01/30/22	01/03/22	DI Water, Lot n/a	100 mL	MT-Hg-CS_00005	0.1 mL	Mercury	1 mg/L
.MT-Hg-CS_00005	11/30/22	High Purity Standards, Lot 2107432-50			(Purchased Reagent)		Mercury	1000 ug/mL
HG_1ppm STD_00040	12/31/21	11/30/21	DI Water, Lot n/a	100 mL	Hg 100ppm 1st_00001	1 mL	Mercury	1 mg/L
.Hg 100ppm 1st_00001	01/30/25	AccuStandard, Lot 220015025			(Purchased Reagent)		Mercury	100 ug/mL
HG_1ppm STD_00041	01/31/22	12/31/21	DI Water, Lot n/a	100 mL	Hg 100ppm 1st_00001	1 mL	Mercury	1 mg/L
.Hg 100ppm 1st_00001	01/30/25	AccuStandard, Lot 220015025			(Purchased Reagent)		Mercury	100 ug/mL
Hg_H2SO4_00010	06/29/22	Fisher, Lot 3120011			(Purchased Reagent)		Sulfuric acid	98 mg/L
Hg_K2S2O3_00006	02/22/22	02/22/21	DI Water, Lot N/A	10 L	HG_7440K2S2O8_00001	500 g	Potassium persulfate	4950000 mg/L
.HG_7440K2S2O8_00001	02/27/22	AcrosOrganic, Lot A0379062			(Purchased Reagent)		Potassium persulfate	99 g/g
Hg_KMnO4_00006	07/28/22	07/30/21	DI Water, Lot N/A	10 L	HG_7471_KMNO4_00002	500 g	Potassium Permanganate	5000000 mg/L
.HG_7471_KMNO4_00002	08/22/23	VWR, Lot 0277-C094			(Purchased Reagent)		Potassium Permanganate	100 g/g
Hg_NaCl-NH2OH_00018	07/06/22	07/07/21	DI Water, Lot N/A	10 L	HG_7470 NH3OH_00006	500 g	Hydroxylamine hydrochloride	0.00495 L
					HG_7470_NaCl_00003	10 Kg	Sodium Chloride	99000 L
.HG_7470 NH3OH_00006	03/20/25	FISHER, Lot 200072			(Purchased Reagent)		Hydroxylamine hydrochloride	99 g
.HG_7470_NaCl_00003	10/06/25	Fisher, Lot 196616			(Purchased Reagent)		Sodium Chloride	99 g/g
MI_Fine Sand_00006	06/13/23	10/06/21		1295 g	MI_WashedSand_00002	1295 g	Fine Sand (0.125 to 0.25mm)	100 %
							Medium Sand (0.25 to 0.5 mm)	100 %
.MI_WashedSand_00002	06/19/25	Fisher, Lot 204834A			(Purchased Reagent)		Fine Sand (0.125 to 0.25mm)	100 %
							Medium Sand (0.25 to 0.5 mm)	100 %
MT_1:1HNO3_00008	04/28/22	06/14/21	DI Water, Lot di water	2500 mL	MT_HNO3 Con_00020	1250 mL	Nitric acid	0.0035 %
.MT_HNO3 Con_00020	04/28/22	Fisher Chemical, Lot 1120120			(Purchased Reagent)		Nitric acid	70 mL
MT_HNO3 Con_00022	05/27/22	Fisher Chemical, Lot 1120050			(Purchased Reagent)		Nitric acid	70 mL
MT_HNO3 Con_00028	06/09/23	Fisher Chemical, Lot 1121051			(Purchased Reagent)		Nitric acid	70 mL
MT_ICP_Spike1_00012	04/30/22	08/02/21	DI Water, Lot 101320	1000 mL	MT-As-SpS_00001	10 mL	As	100 ug/mL
					MT-Be-SpS_00001	10 mL	Be	100 ug/mL
					MT-Ca-SpS_00001	10 mL	Ca	100 ug/mL
					MT-Cd-SpS_00001	10 mL	Cadmium	100 ug/mL
					MT-Co-SpS_00001	10 mL	Co	100 ug/mL
					MT-Cr-SpS_00001	10 mL	Cr	100 ug/mL
					MT-Fe-SpS_00001	10 mL	Fe	100 ug/mL
					MT-Mg-SpS_00001	10 mL	Mg	100 ug/mL
					MT-Mn-SpS_00001	10 mL	Mn	100 ug/mL
					MT-Ni-SpS_00001	10 mL	Ni	100 ug/mL
					MT-P-SpS_00001	10 mL	P	100 ug/mL
					MT-Pb-SpS_00001	10 mL	Lead	100 ug/mL
					MT-Sb-SpS_00001	10 mL	Sb	100 ug/mL
					MT-Se-SpS_00001	10 mL	Se	100 ug/mL
					MT-Sr-SpS_00001	10 mL	Sr	100 ug/mL
					MT-Ti-SpS_00001	10 mL	Ti	100 ug/mL
					MT-Tl-SpS_00001	10 mL	Tl	100 ug/mL
					MT-V-SpS_00001	10 mL	V	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MT-Zn-SpS_00001	10 mL	Zn	100 ug/mL
					MT_ICP_Cu_SpS_00003	10 mL	Copper	100 ug/mL
					MT_ICP_Mo_SpS_00003	10 mL	Mo	100.14 ug/mL
					MT_ICP_Sn_SpS_00004	10 mL	Sn	100.06 ug/mL
.MT-As-SpS_00001	04/30/23	AccuStandard, Lot 218045118			(Purchased Reagent)		As	10000 ug/mL
.MT-Be-SpS_00001	02/28/23	Ultra, Lot CP-0170			(Purchased Reagent)		Be	10000 ug/mL
.MT-Ca-SpS_00001	04/30/23	Ultra, Lot CP-0877			(Purchased Reagent)		Ca	10000 ug/mL
.MT-Cd-SpS_00001	02/28/23	Ultra, Lot CP-0156			(Purchased Reagent)		Cadmium	10000 ug/mL
.MT-Co-SpS_00001	05/31/23	Ultra, Lot CP-2011			(Purchased Reagent)		Co	10000 ug/mL
.MT-Cr-SpS_00001	05/31/23	Ultra, Lot CP-1768			(Purchased Reagent)		Cr	10000 ug/mL
.MT-Fe-SpS_00001	08/31/24	Ultra, Lot CR-3137			(Purchased Reagent)		Fe	10000 ug/mL
.MT-Mg-SpS_00001	09/30/22	Ultra, Lot CM-4445			(Purchased Reagent)		Mg	10000 ug/mL
.MT-Mn-SpS_00001	01/31/24	Ultra, Lot M00334A			(Purchased Reagent)		Mn	10000 ug/mL
.MT-Ni-SpS_00001	02/28/23	Ultra, Lot CP-0006			(Purchased Reagent)		Ni	10000 ug/mL
.MT-P-SpS_00001	09/10/23	Ultra, Lot CP-4381			(Purchased Reagent)		P	10000 ug/mL
.MT-Pb-SpS_00001	07/31/22	Ultra, Lot CM-3300			(Purchased Reagent)		Lead	10000 ug/mL
.MT-Sb-SpS_00001	06/30/23	Ultra, Lot CP-2412			(Purchased Reagent)		Sb	10000 ug/mL
.MT-Se-SpS_00001	11/30/22	Ultra, Lot CM-5316			(Purchased Reagent)		Se	10000 ug/mL
.MT-Sr-SpS_00001	09/30/22	Ultra, Lot CM-4363			(Purchased Reagent)		Sr	10000 ug/mL
.MT-Ti-SpS_00001	04/30/22	Ultra, Lot CM-1138			(Purchased Reagent)		Ti	10000 ug/mL
.MT-Tl-SpS_00001	05/31/23	Ultra, Lot CP-2010			(Purchased Reagent)		Tl	10000 ug/mL
.MT-V-SpS_00001	08/31/23	Ultra, Lot CP-3591			(Purchased Reagent)		V	10000 ug/mL
.MT-Zn-SpS_00001	02/28/23	Ultra, Lot CP-0155			(Purchased Reagent)		Zn	10000 ug/mL
.MT_ICP_Cu_SpS_00003	03/31/26	Agilent, Lot CT-0623			(Purchased Reagent)		Copper	10000 ug/mL
.MT_ICP_Mo_SpS_00003	02/28/26	Agilent, Lot CS-6398			(Purchased Reagent)		Mo	10014 ug/mL
.MT_ICP_Sn_SpS_00004	11/30/26	Agilent, Lot CT-0014			(Purchased Reagent)		Sn	10006 ug/mL
MT_ICP_Spike2_00015	01/31/23	09/01/21	HNO3, Lot 092220	1000 mL	MT-Na-SpS_00004	100 mL	Na	1000 ug/mL
					MT_ICP_Ag_SpS_00004	50 mL	Ag	50 ug/mL
					MT_ICP_Al_SpS_00003	10 mL	Al	100 ug/mL
					MT_ICP_B_SpS_00003	10 mL	B	100 ug/mL
					MT_ICP_Ba_SpS_00002	10 mL	Ba	100 ug/mL
					MT_ICP_K_SpS_00001	100 mL	K	1000 ug/mL
					MT_ICP_Si_SpS_00009	10 mL	Si	100 ug/mL
							SiO2	214 ug/mL
.MT-Na-SpS_00004	12/30/26	Agilent, Lot 0006505205			(Purchased Reagent)		Na	10000 ug/mL
.MT_ICP_Ag_SpS_00004	09/30/23	Ultra, Lot CP-4409			(Purchased Reagent)		Ag	1000 ug/mL
.MT_ICP_Al_SpS_00003	09/30/23	Ultra, Lot CS-5087			(Purchased Reagent)		Al	10000 ug/mL
.MT_ICP_B_SpS_00003	04/30/25	Ultra, Lot CS-1374			(Purchased Reagent)		B	10000 ug/mL
.MT_ICP_Ba_SpS_00002	01/31/23	Ultra Scientific, Lot CM-6544			(Purchased Reagent)		Ba	10000 ug/mL
.MT_ICP_K_SpS_00001	04/30/24	Ultra, Lot CR-0917			(Purchased Reagent)		K	10000 ug/mL
.MT_ICP_Si_SpS_00009	06/30/26	Agilent, Lot 0006468201			(Purchased Reagent)		Si	10000 ug/mL
							SiO2	21400 ug/mL
MT_MS_CCV_00010	12/30/21	03/30/21	1% HNO3, Lot DIWATER	1000 mL	MT_MS_IC_00014	500 mL	Cadmium	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
.MT_MS_IC_00014	12/30/21	03/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00005	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Lead	0.2 mg/L
..MT_MS_ICS2_00005	12/30/21		SPEX, Lot CL1-12MJY		(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_IC_00014	12/30/21	03/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00005	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
.MT_MS_ICS2_00005	12/30/21		SPEX, Lot CL1-12MJY		(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_ICS_A_00006	04/30/22	04/14/21	1% HNO3, Lot DIWATER	500 mL	MT_MS_INT_A_00005	5 mL	Al	10 mg/L
							Ca	30 mg/L
							Fe	25 mg/L
							K	10 mg/L
							Mg	10 mg/L
							Mo	0.2 mg/L
							Na	25 mg/L
							Ti	0.2 mg/L
.MT_MS_INT_A_00005	04/30/22		Spex, Lot CL51-063CRY		(Purchased Reagent)		Al	1000 mg/L
							Ca	3000 mg/L
							Fe	2500 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	2500 mg/L
							Ti	20 mg/L
MT_MS_ICS_AB_00008	02/26/22	11/01/21	1% HNO3, Lot DIWAATER	500 mL	MT_MS_INT_A_00005	5 mL	Al	10 mg/L
							Ca	30 mg/L
							Fe	25 mg/L
							K	10 mg/L
							Mg	10 mg/L
							Mo	0.2 mg/L
							Na	25 mg/L
							Ti	0.2 mg/L
					MT_MS_Int_B_00006	0.5 mL	Ag	0.005 mg/L
							As	0.01 mg/L
							Cadmium	0.01 mg/L
							Co	0.02 mg/L
							Copper	0.02 mg/L
							Cr	0.02 mg/L
							Mn	0.02 mg/L
							Ni	0.02 mg/L
							Se	0.01 mg/L
							V	0.02 mg/L
							Zn	0.01 mg/L
.MT_MS_INT_A_00005	04/30/22		Spex, Lot CL51-063CRY		(Purchased Reagent)		Al	1000 mg/L
							Ca	3000 mg/L

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fe	2500 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	2500 mg/L
							Ti	20 mg/L
.MT_MS_Int_B_00006	10/28/22	Spex, Lot CL3-075SGY			(Purchased Reagent)		Ag	5 mg/L
							As	10 mg/L
							Cadmium	10 mg/L
							Co	20 mg/L
							Copper	20 mg/L
							Cr	20 mg/L
							Mn	20 mg/L
							Ni	20 mg/L
							Se	10 mg/L
							V	20 mg/L
							Zn	10 mg/L
MT_MS_ICV1_00007	04/30/22	08/02/21	1% Nitric Acid, Lot DIWATER	2000 mL	MT_ICP_Spike1_00012	2 mL	Cadmium	0.1 ug/mL
							Lead	0.1 ug/mL
							Copper	0.1 ug/mL
.MT_ICP_Spike1_00012	04/30/22	08/02/21	DI Water, Lot 101320	1000 mL	MT-Cd-SpS_00001	10 mL	Cadmium	100 ug/mL
					MT-Pb-SpS_00001	10 mL	Lead	100 ug/mL
					MT_ICP_Cu_SpS_00003	10 mL	Copper	100 ug/mL
..MT-Cd-SpS_00001	02/28/23	Ultra, Lot CP-0156			(Purchased Reagent)		Cadmium	10000 ug/mL
..MT-Pb-SpS_00001	07/31/22	Ultra, Lot CM-3300			(Purchased Reagent)		Lead	10000 ug/mL
..MT_ICP_Cu_SpS_00003	03/31/26	Agilent, Lot CT-0623			(Purchased Reagent)		Copper	10000 ug/mL
MT_MS_LL_00010	12/30/21	03/30/21	1% HNO3, Lot DIWATER	100 mL	MT_MS_CCV_00010	1 mL	Cadmium	0.001 mg/L
							Copper	0.001 mg/L
							Lead	0.001 mg/L
.MT_MS_CCV_00010	12/30/21	03/30/21	1% HNO3, Lot DIWATER	1000 mL	MT_MS_IC_00014	500 mL	Cadmium	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
..MT_MS_IC_00014	12/30/21	03/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00005	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
...MT_MS_ICS2_00005	12/30/21	SPEX, Lot CL1-12MJY			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_SPIKE_3_00002	12/31/22	07/09/19	2% Nitric Acid, Lot DIWATER	1000 mL	MT_MS_Ca10000_00001	100 mL	Ca	1000 mg/L
					MT_MS_Fe10000_00001	100 mL	Fe	1000 mg/L
					MT_MS_Mg10000_00001	100 mL	Mg	1000 mg/L
.MT_MS_Ca10000_00001	09/30/24	Ultra, Lot CR-3808			(Purchased Reagent)		Ca	10000 mg/L
.MT_MS_Fe10000_00001	08/31/24	Ultra, Lot ICP-126-L			(Purchased Reagent)		Fe	10000 mg/L
.MT_MS_Mg10000_00001	04/20/23	Ultra, Lot ICP-112-L			(Purchased Reagent)		Mg	10000 mg/L
WC_TSS_STD_00029	05/05/22	11/05/21	DI Water, Lot NA	10 L	WC_TSS_STK_00006	1 g	Total Suspended Solids	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.WC_TSS_STK_00006	11/05/26	SIGMA, Lot SLCB7764			(Purchased Reagent)		Total Suspended Solids	1 g/g
WC_TUR_STD_00017	02/28/23	PROCAL, Lot 210292/210274			(Purchased Reagent)		Turbidity	0.02 NTU
WC_TUR_STD_00018	02/28/23	PROCAL, Lot 210292/210250			(Purchased Reagent)		Turbidity	10 NTU
WC_TUR_STD_00019	02/28/23	PROCAL, Lot 210292/210221			(Purchased Reagent)		Turbidity	1000 NTU
WC_TUR_STD_00022	07/31/22	HACH, Lot A0196			(Purchased Reagent)		Turbidity	4000 NTU

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ME 1:1 HCl_00124	07/07/22	01/07/22	Di Water, Lot N/A	1000 mL	ME HCl_00819	500 mL	Hydrogen Chloride	17.5 %
.ME HCl_00819	12/20/22		Fisher, Lot 4121060		(Purchased Reagent)		Hydrogen Chloride	35 %
ME 1:1 HNO3_00421	06/17/22	12/20/21	Di Water, Lot N/A	2000 mL	ME HNO3_00724	1000 mL	Nitric acid	34.5 %
.ME HNO3_00724	12/20/22		Fisher, Lot 1121070		(Purchased Reagent)		Nitric acid	69 %
ME ICPMS ICV_00242	04/08/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	CECSRBTH 2ND_00005	1 mL	Ce	10 mg/L
							Cs	10 mg/L
							Rb	10 mg/L
					ME AL 2nd_00003	0.1 mL	Al	10 mg/L
					ME CA 2nd_00006	5 mL	Ca	500 mg/L
					ME FE 2nd_00005	1 mL	Fe	100 mg/L
					ME ICPMS CAL_00064	10 mL	As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Cadmium	10 mg/L
							Co	10 mg/L
							Copper	10 mg/L
							Cr	10 mg/L
							Lead	10 mg/L
							Li	10 mg/L
							Mn	10 mg/L
							Mo	10 mg/L
							Ni	10 mg/L
							Sb	10 mg/L
							Se	10 mg/L
							Si	100 mg/L
							Sn	10 mg/L
							Sr	10 mg/L
							Ti	10 mg/L
							Tl	10 mg/L
							V	10 mg/L
					ME K 2nd_00004	2.5 mL	K	250 mg/L
					ME MG 2nd_00004	2.5 mL	Mg	250 mg/L
					ME NA 2nd_00003	2.5 mL	Na	250 mg/L
					ME SILVER 2nd_00003	1 mL	Ag	10 mg/L
					ME U 2nd_00004	1 mL	U	10 mg/L
					ME ZINC 2nd_00005	1 mL	Zn	10 mg/L
.CECSRBTH 2ND_00005	06/15/23		CPI International, Lot 10117286-4		(Purchased Reagent)		Ce	1000 ug/mL
							Cs	1000 ug/mL
							Rb	1000 ug/mL
.ME AL 2nd_00003	04/08/22		CPI International, Lot 1092831		(Purchased Reagent)		Al	10000 ug/mL
.ME CA 2nd_00006	06/03/23		CPI International, Lot 711512117B-1		(Purchased Reagent)		Ca	10000 ug/mL
.ME FE 2nd_00005	06/03/23		CPI International, Lot 711512117A-1		(Purchased Reagent)		Fe	10000 ug/mL
.ME ICPMS CAL_00064	08/11/22		CPI International, Lot 1072834-1		(Purchased Reagent)		As	100 mg/L
							Ba	100 mg/L
							Be	100 mg/L
							Cadmium	100 mg/L
							Co	100 mg/L

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Copper	100 mg/L
							Cr	100 mg/L
							Lead	100 mg/L
							Li	100 mg/L
							Mn	100 mg/L
							Mo	100 mg/L
							Ni	100 mg/L
							Sb	100 mg/L
							Se	100 mg/L
							Si	1000 mg/L
							Sn	100 mg/L
							Sr	100 mg/L
							Ti	100 mg/L
							Tl	100 mg/L
							V	100 mg/L
.ME K 2nd 00004	08/11/22	CPI International, Lot 711332679A-1			(Purchased Reagent)		K	10000 ug/mL
.ME MG 2nd 00004	08/11/22	CPI International, Lot 711384061-1			(Purchased Reagent)		Mg	10000 ug/mL
.ME NA 2nd 00003	08/11/22	CPI International, Lot 711320484-1			(Purchased Reagent)		Na	10000 ug/mL
.ME SILVER 2nd 00003	05/04/23	CPI International, Lot 711445023-1			(Purchased Reagent)		Ag	1000 ug/mL
.ME U 2nd 00004	06/03/23	CPI International, Lot 711412616-2			(Purchased Reagent)		U	1000 ug/mL
.ME ZINC 2nd 00005	05/04/23	CPI International, Lot 711400668-1			(Purchased Reagent)		Zn	1000 ug/mL
MEICPMS CCV 00840	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	250 mL	ME ICPMS CAL 00069	1.25 mL	Cadmium	50 ug/L
							Copper	50 ug/L
							Lead	50 ug/L
.ME ICPMS CAL 00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL 00063	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
..ME ICPMS CAL 00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MEICPMS CRI1 00844	08/15/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00018	0.1 mL	Cadmium	1 ug/L
							Copper	1 ug/L
							Lead	1 ug/L
.ME_CRI_30_00018	08/15/22	CPI International, Lot 10106962-2			(Purchased Reagent)		Cadmium	1 ug/mL
							Copper	1 ug/mL
							Lead	1 ug/mL
MEICPMS CRI2 00847	08/15/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00018	0.2 mL	Cadmium	2 ug/L
							Copper	2 ug/L
							Lead	2 ug/L
.ME_CRI_30_00018	08/15/22	CPI International, Lot 10106962-2			(Purchased Reagent)		Cadmium	1 ug/mL
							Copper	1 ug/mL
							Lead	1 ug/mL
MEICPMS ICSA 00917	03/15/23	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC 00032	10 mL	Al	100000 ug/L
							Fe	100000 ug/L
							Mo	2000 ug/L
.ME ICPMS LLIC 00032	03/15/23	CPI International, Lot 1136841-1			(Purchased Reagent)		Al	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fe	1000 ug/mL
							Mo	20 ug/mL
MEICPMS ICSAB_00843	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS CAL_00069	0.2 mL	Ce	20 ug/L
							Cs	20 ug/L
							Rb	20 ug/L
							Ag	20 ug/L
							Al	100020 ug/L
							Fe	100200 ug/L
							U	20 ug/L
							Zn	20 ug/L
							As	20 ug/L
							Ba	20 ug/L
							Be	20 ug/L
							Cadmium	20 ug/L
							Co	20 ug/L
							Copper	20 ug/L
							Cr	20 ug/L
							Lead	20 ug/L
							Mn	20 ug/L
							Mo	2020 ug/L
							Ni	20 ug/L
							Sb	20 ug/L
							Se	20 ug/L
							Sn	20 ug/L
							Tl	20 ug/L
							V	20 ug/L
					ME ICPMS LLIC_00032	10 mL	Al	100020 ug/L
							Fe	100200 ug/L
							Mo	2020 ug/L
.ME ICPMS CAL_00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	CECSRBTH 1ST_00005	1 mL	Ce	10 mg/L
							Cs	10 mg/L
							Rb	10 mg/L
					ICPMS STD AG_00004	1 mL	Ag	10 mg/L
					ICPMS STD AL_00004	0.1 mL	Al	10 mg/L
					ICPMS STD FE_00003	1 mL	Fe	100 mg/L
					ICPMS STD U_00004	1 mL	U	10 mg/L
					ICPMS STD ZN_00005	1 mL	Zn	10 mg/L
					ME ICPMS CAL_00063	10 mL	As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Cadmium	10 mg/L
							Co	10 mg/L
							Copper	10 mg/L
							Cr	10 mg/L
							Lead	10 mg/L
							Mn	10 mg/L
							Mo	10 mg/L

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ni	10 mg/L
							Sb	10 mg/L
							Se	10 mg/L
							Sn	10 mg/L
							Tl	10 mg/L
							V	10 mg/L
..CECSRBTH 1ST_00005	06/15/23	CPI International, Lot 10117286-3			(Purchased Reagent)		Ce	1000 ug/mL
							Cs	1000 ug/mL
							Rb	1000 ug/mL
..ICPMS STD AG_00004	03/30/23	CPI International, Lot 1106123-34			(Purchased Reagent)		Ag	1000 ug/mL
..ICPMS STD AL_00004	01/22/23	CPI International, Lot 1077245-28			(Purchased Reagent)		Al	10000 ug/mL
..ICPMS STD FE_00003	01/22/23	CPI International, Lot 1034257-61			(Purchased Reagent)		Fe	10000 ug/mL
..ICPMS STD U_00004	08/11/22	CPI International, Lot 1062807-9			(Purchased Reagent)		U	1000 ug/mL
..ICPMS STD ZN_00005	01/22/23	CPI International, Lot 1095528-11			(Purchased Reagent)		Zn	1000 ug/mL
..ME ICPMS CAL_00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		As	100 mg/L
							Ba	100 mg/L
							Be	100 mg/L
							Cadmium	100 mg/L
							Co	100 mg/L
							Copper	100 mg/L
							Cr	100 mg/L
							Lead	100 mg/L
							Mn	100 mg/L
							Mo	100 mg/L
							Ni	100 mg/L
							Sb	100 mg/L
							Se	100 mg/L
							Sn	100 mg/L
							Tl	100 mg/L
							V	100 mg/L
.ME ICPMS LLIC_00032	03/15/23	CPI International, Lot 1136841-1			(Purchased Reagent)		Al	1000 ug/mL
							Fe	1000 ug/mL
							Mo	20 ug/mL
MEICPMS ICV_00849	04/08/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS ICV_00242	250 uL	Cadmium	25 ug/L
							Copper	25 ug/L
							Lead	25 ug/L
.ME ICPMS ICV_00242	04/08/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL_00064	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
..ME ICPMS CAL_00064	08/11/22	CPI International, Lot 1072834-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MEICPMS STD1_00851	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS STD3_00967	2 mL	Cadmium	0.2 ug/L
							Copper	0.2 ug/L
							Lead	0.2 ug/L
.MEICPMS STD3_00967	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS STD4_00845	10 mL	Cadmium	10 ug/L
							Copper	10 ug/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Lead	10 ug/L
..MEICPMS STD4_00845	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS CAL_00069	1 mL	Cadmium	100 ug/L
							Copper	100 ug/L
							Lead	100 ug/L
...ME ICPMS CAL_00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL_00063	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
....ME ICPMS CAL_00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MEICPMS STD2_00728	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS STD3_00967	10 mL	Cadmium	1 ug/L
							Copper	1 ug/L
							Lead	1 ug/L
.MEICPMS STD3_00967	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS STD4_00845	10 mL	Cadmium	10 ug/L
							Copper	10 ug/L
							Lead	10 ug/L
..MEICPMS STD4_00845	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS CAL_00069	1 mL	Cadmium	100 ug/L
							Copper	100 ug/L
							Lead	100 ug/L
...ME ICPMS CAL_00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL_00063	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
....ME ICPMS CAL_00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MEICPMS STD3_00967	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS STD4_00845	10 mL	Cadmium	10 ug/L
							Copper	10 ug/L
							Lead	10 ug/L
.MEICPMS STD4_00845	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS CAL_00069	1 mL	Cadmium	100 ug/L
							Copper	100 ug/L
							Lead	100 ug/L
..ME ICPMS CAL_00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL_00063	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
...ME ICPMS CAL_00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MEICPMS STD4_00845	08/11/22	01/13/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS CAL_00069	1 mL	Cadmium	100 ug/L
							Copper	100 ug/L
							Lead	100 ug/L
.ME ICPMS CAL_00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL_00063	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
..ME ICPMS CAL_00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L

Reagent

HG_7471_KMNO4_00002

Certificate of Analysis

Potassium Permanganate

Material: **0277**

Grade: **ACS GRADE**

Batch Number: **20H0456701**

Chemical Formula: KMnO4
Molecular Weight: 158.03
CAS #: 7722-64-7
Appearance:

Dark solid.

Manufacture Date: 02/29/2020
Reassay Date: 02/29/2024

Storage: Room Temperature

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Chloride & Chlorate	<= 0.005 %	<=0.005 %	PASS
Insolubles	<= 0.2 %	0.1 %	PASS
Purity	>= 99.0 %	99.4 %	PASS
Sulfate	<= 0.02 %	<=0.02 %	PASS

Spec Set: 0277ACS

Internal ID #: 647

Signature

We certify that this batch conforms to the specifications listed.

This document has been electronically produced and is valid without a signature.

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.

Reagent

MT-Hg-CS_00005

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Product Description: Mercury

Product Number:	**100033-1-50**
Lot Number:	**2107432-50**
Matrix:	2% HNO3
Density:	1.014 g/mL ± 0.002 g/mL @ 22.0°C ± 0.3°C

Certified Value:

Element	µg/mL	SRM ID
Hg	1000 ± 6	3133

The Certified value is based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Uncertified Values:

Trace Metal Impurity Scan: The data reported are based upon a scan of this specific lot via ICP-OES/ICP-MS analysis. The values are reported in µg/L.

Ag	7	Cu	<0.02	La	<0.02	Pt	<2	Te	<0.02
Al	<0.3	Dy	<0.02	Li	<0.02	Rb	<0.02	Th	<0.02
As	na	Er	<0.02	Lu	<0.02	Re	<0.02	Ti	<0.02
Au	<0.02	Eu	<0.02	Mg	<0.1	Rh	<0.02	Tl	<0.02
B	<1	Fe	<1	Mn	<0.5	Ru	<0.02	Tm	<0.02
Ba	<0.02	Ga	<0.02	Mo	<0.02	Sb	<0.02	U	<0.05
Be	<0.02	Gd	<0.02	Na	<3	Sc	<3	V	<0.05
Bi	<0.02	Ge	<0.02	Nb	<0.02	Se	<0.1	W	<0.02
Ca	<1	Hf	<0.02	Nd	<0.02	Si	<5	Y	<0.02
Cd	<0.02	Hg	M	Ni	<0.6	Sm	<0.02	Yb	<0.02
Ce	<0.02	Ho	<0.02	Os	<2	Sn	<0.5	Zn	<0.02
Co	<0.05	In	<0.02	Pb	<0.05	Sr	<0.02	Zr	<0.02
Cr	<0.05	Ir	<0.02	Pd	<0.02	Ta	<0.02		
Cs	na	K	<1	Pr	<0.02	Tb	<0.02		

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for eighteen months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: May 2021

Expiration Date: November 30, 2022

Certificate Issue Date: April 26, 2021

Moven Mutuvari

Moven Mutuvari, Ph. D, VP Manufacturing

Reagent

MT-Na-SpS_00004

Agilent

Certificate of Analysis
ISO 17034

Product Number: ICP-111
Lot Number: 0006505205

Lot Issue Date: 25-Nov 2019
Expiration Date: 31-Dec 2026

Product Name: Sodium ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO 17034 and under Agilent's ISO 9001 registered quality system. The neat materials used for this product have been verified by Agilent's ISO 17025 laboratory and under Agilent's ISO 17034 accreditation. The analyte concentrations were verified by Agilent's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Calculated Value	Traceability & Method
sodium	sodium nitrate	RM10629	99.999%	10008± 20 µg/mL	NIST SRM 3152a; ICP-OES

Solvent: 2% nitric acid in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 1.0329 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*	Al	<0.005 ND	*	Ga	<0.005 ND	n	Nb		n	S			
*	Sb	<0.005 ND	n	Ge		n	Os		n	Ta			
*	As	<0.005 ND	n	Au		*	Pd	<0.005 ND	n	Te			
*	Ba	<0.005 ND	n	Hf		*	P	<0.005 ND	n	Tb			
*	Be	<0.005 ND	n	Ho		*	Pt	<0.005 ND	*	Tl	<0.005 ND		
*	Bi	<0.005 ND	*	In	<0.005 ND	*	K	<0.005 ND	n	Th			
*	B	<0.005 ND	n	Ir		n	Pr		n	Tm			
*	Cd	<0.005 ND	*	Fe	<0.04 D	n	Re		*	Sn	<0.005 ND		
n	Cs		*	La	<0.005 ND	n	Rh		*	Ti	<0.005 ND		
*	Ca	<0.3 D	*	Pb	<0.005 ND	n	Rb		n	W			
n	Ce		*	Li	<0.005 ND	n	Ru		n	U			
*	Cr	<0.005 ND	n	Lu		n	Sm		*	V	<0.005 ND		
*	Co	<0.005 ND	*	Mg	<0.04 D	n	Sc		n	Yb			
*	Cu	<0.005 ND	*	Mn	<0.005 ND	*	Se	<0.005 ND	n	Y			
n	Dy		*	Hg	<0.005 ND	*	Si	<0.005 ND	*	Zn	<0.005 ND		
*	Er	<0.005 ND	*	Mo	<0.005 ND	*	Ag	<0.005 ND	n	Zr			
*	Eu	<0.005 ND	n	Nd		s	Na						
*	Gd	<0.005 ND	*	Ni	<0.005 ND	*	Sr	<0.005 ND					

* - element checked; i - spectral interference; n – element not checked; D – element detected; ND – element not detected;
s - standard element

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED TESTING LABORATORY
ISO 17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Reagent

MT_ICP_Si_SpS_00009

Agilent

Certificate of Analysis
ISO Guide 34

Product Number: ICP-114
Lot Number: 0006468201

Lot Issue Date: 23-May 2019
Expiration Date: 30-Jun 2026

Product Name: Silicon ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under Agilent's ISO 9001 registered quality system. The neat materials used for this product have been verified by Agilent's ISO 17025 laboratory and under Agilent's ISO Guide 34 accreditation. The analyte concentrations were verified by Agilent's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Analyte Concentration	Traceability & Method
silicon	ammonium hexafluorosilicate	RM11386	99.999	10002 ± 20 µg/mL	NIST SRM 3150; ICP-OES

Solvent: 2% nitric acid and trace hydrofluoric acid in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 1.0448 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*	Al	<0.005 D	*	Ga	<0.005 ND	n	Nb		n	S	
*	Sb	<0.005 ND	n	Ge		n	Os		n	Ta	
*	As	<0.005 ND	n	Au		*	Pd	<0.005 ND	n	Te	
*	Ba	<0.005 ND	n	Hf		*	P	<0.005 ND	n	Tb	
*	Be	<0.005 ND	n	Ho		*	Pt	<0.005 ND	*	Tl	<0.005 ND
*	Bi	<0.005 ND	*	In	<0.005 ND	*	K	<0.005 ND	n	Th	
*	B	<0.005 ND	n	Ir		n	Pr		n	Tm	
*	Cd	<0.005 ND	*	Fe	<0.005 ND	n	Re		*	Sn	<0.005 ND
n	Cs		*	La	<0.005 ND	n	Rh		*	Ti	<0.005 D
*	Ca	<0.005 D	*	Pb	<0.005 ND	n	Rb		n	W	
n	Ce		n	Li		n	Ru		n	U	
*	Cr	<0.005 ND	n	Lu		n	Sm		*	V	<0.005 ND
*	Co	<0.005 ND	*	Mg	<0.005 ND	n	Sc		n	Yb	
*	Cu	<0.005 ND	*	Mn	<0.005 ND	*	Se	<0.005 ND	n	Y	
n	Dy		*	Hg	<0.005 ND	s	Si		*	Zn	<0.005 ND
*	Er	<0.005 ND	*	Mo	<0.005 ND	*	Ag	<0.005 ND	n	Zr	
*	Eu	<0.005 ND	n	Nd		*	Na	<0.005 ND			
*	Gd	<0.005 ND	*	Ni	<0.005 ND	*	Sr	<0.005 ND			

* - element checked; I - spectral interference; n – element not checked; D – element detected; ND – element not detected; s - standard element

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

Page 1 of 2

ANAB ACCREDITED TESTING LABORATORY
ISO17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Reagent

MT_MS_ICS2_00005

1274709
ID: M1_MS_ICS2_00005
Exp:12/30/21 Prpd:UELE Opn:01/11/21
100 ppm Cal Std 2 SPEX

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®
Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: CL-CAL-2 **Lot No.** CL3-12MJY
Description: Instrument Calibration Standard 2
Matrix: 5% HNO_3 / Tr. Tart. Acid / Tr. HF

This **CLARITAS PPT®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations. See side 2 for details of certification.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Certified	Uncertainty	SRM	Analyte	Labeled	Certified	Uncertainty	SRM
Ag	100 µg/mL	100 µg/mL	±0.5 µg/mL	3151*	Mn	100 µg/mL	99.8 µg/mL	±0.5 µg/mL	3132*
Al	100 µg/mL	100 µg/mL	±0.5 µg/mL	3101a*	Mo	100 µg/mL	101 µg/mL	±0.5 µg/mL	3134*
As	100 µg/mL	99.9 µg/mL	±0.5 µg/mL	3103a*	Na	100 µg/mL	100 µg/mL	±0.5 µg/mL	3152a*
Ba	100 µg/mL	100 µg/mL	±0.5 µg/mL	3104a*	Ni	100 µg/mL	101 µg/mL	±0.5 µg/mL	3136*
Be	100 µg/mL	100 µg/mL	±0.5 µg/mL	3105a*	Pb	100 µg/mL	100 µg/mL	±0.5 µg/mL	3128*
Ca	100 µg/mL	100 µg/mL	±0.5 µg/mL	3109a*	Sb	100 µg/mL	100 µg/mL	±0.5 µg/mL	3102a*
Cd	100 µg/mL	100 µg/mL	±0.5 µg/mL	3108*	Se	100 µg/mL	100 µg/mL	±0.5 µg/mL	3149*
Co	100 µg/mL	100 µg/mL	±0.5 µg/mL	3113*	Sn	100 µg/mL	101 µg/mL	±0.5 µg/mL	3161a*
Cr	100 µg/mL	100 µg/mL	±0.5 µg/mL	3112a*	Sr	100 µg/mL	101 µg/mL	±0.5 µg/mL	3153a*
Cu	100 µg/mL	102 µg/mL	±0.5 µg/mL	3114*	Ti	100 µg/mL	101 µg/mL	±0.5 µg/mL	3162a*
Fe	100 µg/mL	99.2 µg/mL	±0.5 µg/mL	3126a*	Tl	100 µg/mL	101 µg/mL	±0.5 µg/mL	3158*
K	100 µg/mL	99.9 µg/mL	±0.5 µg/mL	3141a*	V	100 µg/mL	100 µg/mL	±0.5 µg/mL	3165*
Mg	100 µg/mL	100 µg/mL	±0.5 µg/mL	3131a*	Zn	100 µg/mL	100 µg/mL	±0.5 µg/mL	3168a*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# 2-69WG, 2-112MJ, CL2-06YJ, CL13-72YP, CL1-205YJ

Trace Metallic Impurities in the Actual Solution via ICP-MS Analysis:

Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L
Au	<0.5	Eu	<1	In	<1	P	<500	Ru	0.7	Th	<0.06
B	<7	Ga	1	Ir	<0.6	Pd	<30	Sc	<0.6	Tm	<0.03
Bi	1	Gd	0.4	La	5	Pr	<0.09	Si	<200	U	<0.05
Ce	0.7	Ge	<2	Li	<0.5	Pt	<0.2	Sm	20	W	8
Cs	0.7	Hf	0.2	Lu	0.02	Rb	<2	Ta	2	Y	2
Dy	0.2	Hg	<2	Nb	1	Re	1	Tb	<0.06	Yb	<0.02
Er	<0.01	Ho	<0.01	Nd	<0.1	Rh	6	Te	<4	Zr	10

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±0.5% of the certified value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. No measured concentration of any individual component exceeds ±2% of the labeled value. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: DEC - - 2020

Certifying Officer: Katherine Cullinan
Katherine Cullinan, QC Manager

Rev. 0
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Reagent

MT_MS_INT_A_00005

1517491

ID: M1_MS_INT_A_00005
Exp:04/30/22 Prod:UFLE Opn:04/14/21
Interferents A

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: CL-INT-A1 **Lot No.** CL51-063CRY
Description: Interferents A
Matrix: 5% HNO_3 / tr HF

This **CLARITAS PPT®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations. See side 2 for details of certification.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Certified	Uncertainty	SRM	Analyte	Labeled	Certified	Uncertainty	SRM
Cl^-	21215 µg/mL	21437 µg/mL	±110 µg/mL	3182*	K	1000 µg/mL	1001 µg/mL	±5 µg/mL	3141a*
Ca	3000 µg/mL	3011 µg/mL	±20 µg/mL	3109a*	Mg	1000 µg/mL	999 µg/mL	±5 µg/mL	3131a*
Fe	2500 µg/mL	2512 µg/mL	±10 µg/mL	3126a*	P	1000 µg/mL	998 µg/mL	±5 µg/mL	3139a*
Na	2500 µg/mL	2489 µg/mL	±10 µg/mL	3152a*	S	1000 µg/mL	997 µg/mL	±5 µg/mL	3154*
C	2000 µg/mL	1975 µg/mL	±10 µg/mL	0312A†	Mo	20 µg/mL	20.0 µg/mL	±0.1 µg/mL	3134*
Al	1000 µg/mL	1000 µg/mL	±5 µg/mL	3101a*	Ti	20 µg/mL	19.9 µg/mL	±0.1 µg/mL	3162a*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# CL1-119YJ, CL51-020CR

Trace Metallic Impurities in the Actual Solution via ICP-MS Analysis:

Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L
Ag	2	Cr	10	Hg	<4	Ni	10	Sc	<5	Tl	40
As	<6	Cs	<4	Ho	<0.1	Pb	100	Se	<30	Tm	<0.2
Au	<0.9	Cu	4	In	1	Pd	<1	Si	1000	U	<0.3
B	50	Dy	<0.3	Ir	<0.4	Pr	<0.2	Sm	<0.4	V	2
Ba	20	Er	<0.3	La	2	Pt	10	Sn	<2	W	<2
Be	<0.8	Eu	<0.2	Li	<2	Rb	40	Sr	<50	Y	<1
Bi	0.1	Ga	<2	Lu	<0.2	Re	<0.7	Ta	<0.4	Yb	<0.2
Cd	4	Gd	<0.4	Mn	8	Rh	<0.4	Tb	<0.07	Zn	20
Ce	4	Ge	<10	Nb	<0.4	Ru	<0.9	Te	<6	Zr	6
Co	5	Hf	<0.7	Nd	<0.3	Sb	7	Th	<0.6		

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±0.5% of the certified value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. No measured concentration of any individual component exceeds ±2% of the labeled value. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: APR - - 2021

Certifying Officer: Katherine Cullinan

Katherine Cullinan, QC Manager

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Reagent

WC_TUR_STD_00017

scientific
A WATTS Brand
3170 Old Metro Parkway | Fort Myers, FL 33916 | T: (888) 203-7248 | F: (239) 332-7643

ProCal

Turbidity Calibration Standards

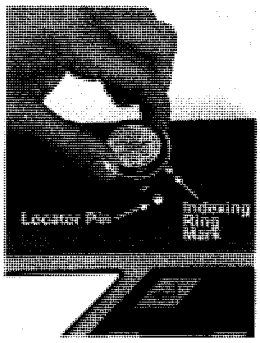
CERTIFICATE OF COMPLIANCE

Calibration Set# **39957** **Kit Lot# 210292**

TEST PERFORMED: An HF laboratory turbidimeter was used to measure the standards listed below. This instrument was calibrated on standards that are traceable to the Stock Primary Standard Formazin Suspension as specified in the 22nd Edition of Standard Methods, Section 2130 B, part 3b and EN-ISO 7027:1999(E) Section 6.2

Value	Variation	Value	Variation	Value	Variation
0.02 NTU	± 0.02 NTU	10.0 NTU	± 1%	1000 NTU	±1%
Lot 210274		Lot 210250		Lot 210221	
Exp. Date: FEB 2023		Exp. Date: FEB 2023		Exp. Date: FEB 2023	

HF scientific *ProCal* turbidity standards are produced with HF Scientific's styrene divinylbenzene co-polymer microspheres approved as Primary Calibration Standards in compliance with USEPA Method 180.1.** Also Certified as Alternative Use Secondary Standards Equivalent to Freshly Prepared Formazin Suspensions Ref EN-ISO 7027: 1999(E)Section 6.2.4 Water Quality - Determination of Turbidity.



**Standard Methods for the Examination of Water and Wastewater, 22nd Edition 2012 Section 2130 Turbidity
**EPA Guidance Manual for Compliance with the Interim Enhanced Surface Treatment Rule: Turbidity Provisions. EPA 815-R-99-010 April 1999 Section 3.4.5 Calibration Standards

The USEPA & HF scientific recommend that cuvettes used for instrument calibration or sample measurement be indexed. Indexing the cuvette will achieve the greatest accuracy, and account for normal scratches and aberrations in cuvette glass when calibrating.
Standards and standard kits purchased from HF scientific are supplied with indexing rings.

The following steps allow repeatable indexing of calibration standards.

THIS PROCEDURE REPLACES PREVIOUS INDEXING INSTRUCTIONS:

1. With the instrument in AUTO or normal reading mode insert the standard.
2. Slowly rotate the standard, inside the optical well, one complete revolution (360°). While rotating the standard slowly, observe the measured turbidity and locate the position of the cuvette having the lowest reading.
3. With the calibration standard positioned at the location having the lowest turbidity reading, install the Indexing Ring over the cap on the standard so that the pointer of the **INDEXING RING FACES DIRECTLY FORWARD, TOWARD THE OPERATOR.**
4. Repeat this procedure for all standards in the kit.

When using the standards in the future, **ALWAYS INSERT THE STANDARD SO THAT THE POINTER OF THE INDEXING RING FACES FORWARD.** Slowly rotate the standard back and forth about 5° to find the lowest point. The standard is now indexed and ready for use. Follow the calibration instructions in the owner's manual that accompanied the instrument.

Note: *ProCal* Standard values above 1000 NTU/FNU should be gently agitated prior to use in order to remix any settled particles. The latest version of owner's manuals may be downloaded from HF scientific's website: www.hfscientific.com.

Reagent

WC_TUR_STD_00018

hf scientific
A WATTS Brand
3170 Old Metro Parkway | Fort Myers, FL 33916 | T: (888) 203-7248 | F: (239) 332-7643

ProCal

Turbidity Calibration Standards

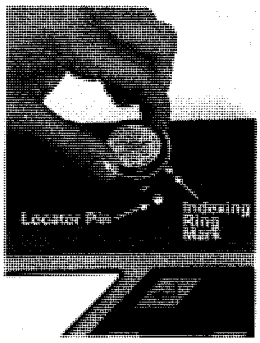
CERTIFICATE OF COMPLIANCE

Calibration Set# **39957** **Kit Lot# 210292**

TEST PERFORMED: An HF laboratory turbidimeter was used to measure the standards listed below. This instrument was calibrated on standards that are traceable to the Stock Primary Standard Formazin Suspension as specified in the 22nd Edition of Standard Methods, Section 2130 B, part 3b and EN-ISO 7027:1999(E) Section 6.2

Value	Variation	Value	Variation	Value	Variation
0.02 NTU	± 0.02 NTU	10.0 NTU	± 1%	1000 NTU	±1%
Lot 210274		Lot 210250		Lot 210221	
Exp. Date: FEB 2023		Exp. Date: FEB 2023		Exp. Date: FEB 2023	

HF scientific *ProCal* turbidity standards are produced with HF Scientific's styrene divinylbenzene co-polymer microspheres approved as Primary Calibration Standards in compliance with USEPA Method 180.1.** Also Certified as Alternative Use Secondary Standards Equivalent to Freshly Prepared Formazin Suspensions Ref EN-ISO 7027: 1999(E)Section 6.2.4 Water Quality - Determination of Turbidity.



**Standard Methods for the Examination of Water and Wastewater, 22nd Edition 2012 Section 2130 Turbidity
**EPA Guidance Manual for Compliance with the Interim Enhanced Surface Treatment Rule: Turbidity Provisions. EPA 815-R-99-010 April 1999 Section 3.4.5 Calibration Standards

The USEPA & HF scientific recommend that cuvettes used for instrument calibration or sample measurement be indexed. Indexing the cuvette will achieve the greatest accuracy, and account for normal scratches and aberrations in cuvette glass when calibrating.
Standards and standard kits purchased from HF scientific are supplied with indexing rings.

The following steps allow repeatable indexing of calibration standards.

THIS PROCEDURE REPLACES PREVIOUS INDEXING INSTRUCTIONS:

1. With the instrument in AUTO or normal reading mode insert the standard.
2. Slowly rotate the standard, inside the optical well, one complete revolution (360°). While rotating the standard slowly, observe the measured turbidity and locate the position of the cuvette having the lowest reading.
3. With the calibration standard positioned at the location having the lowest turbidity reading, install the Indexing Ring over the cap on the standard so that the pointer of the **INDEXING RING FACES DIRECTLY FORWARD, TOWARD THE OPERATOR.**
4. Repeat this procedure for all standards in the kit.

When using the standards in the future, **ALWAYS INSERT THE STANDARD SO THAT THE POINTER OF THE INDEXING RING FACES FORWARD.** Slowly rotate the standard back and forth about 5° to find the lowest point. The standard is now indexed and ready for use. Follow the calibration instructions in the owner's manual that accompanied the instrument.

Note: *ProCal* Standard values above 1000 NTU/FNU should be gently agitated prior to use in order to remix any settled particles. The latest version of owner's manuals may be downloaded from HF scientific's website: www.hfscientific.com.

Reagent

WC_TUR_STD_00019

scientific
A WATTS Brand
3170 Old Metro Parkway | Fort Myers, FL 33916 | T: (888) 203-7248 | F: (239) 332-7643

ProCal

Turbidity Calibration Standards

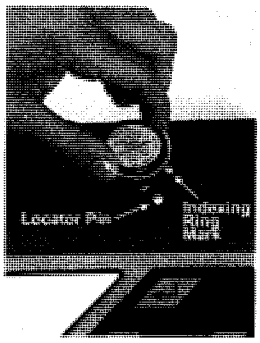
CERTIFICATE OF COMPLIANCE

Calibration Set# **39957** **Kit Lot# 210292**

TEST PERFORMED: An HF laboratory turbidimeter was used to measure the standards listed below. This instrument was calibrated on standards that are traceable to the Stock Primary Standard Formazin Suspension as specified in the 22nd Edition of Standard Methods, Section 2130 B, part 3b and EN-ISO 7027:1999(E) Section 6.2

Value	Variation	Value	Variation	Value	Variation
0.02 NTU	± 0.02 NTU	10.0 NTU	± 1%	1000 NTU	±1%
Lot 210274		Lot 210250		Lot 210221	
Exp. Date: FEB 2023		Exp. Date: FEB 2023		Exp. Date: FEB 2023	

HF scientific *ProCal* turbidity standards are produced with HF Scientific's styrene divinylbenzene co-polymer microspheres approved as Primary Calibration Standards in compliance with USEPA Method 180.1.** Also Certified as Alternative Use Secondary Standards Equivalent to Freshly Prepared Formazin Suspensions Ref EN-ISO 7027: 1999(E)Section 6.2.4 Water Quality - Determination of Turbidity.



**Standard Methods for the Examination of Water and Wastewater, 22nd Edition 2012 Section 2130 Turbidity
**EPA Guidance Manual for Compliance with the Interim Enhanced Surface Treatment Rule: Turbidity Provisions. EPA 815-R-99-010 April 1999 Section 3.4.5 Calibration Standards

The USEPA & HF scientific recommend that cuvettes used for instrument calibration or sample measurement be indexed. Indexing the cuvette will achieve the greatest accuracy, and account for normal scratches and aberrations in cuvette glass when calibrating.
Standards and standard kits purchased from HF scientific are supplied with indexing rings.

The following steps allow repeatable indexing of calibration standards.

THIS PROCEDURE REPLACES PREVIOUS INDEXING INSTRUCTIONS:

1. With the instrument in AUTO or normal reading mode insert the standard.
2. Slowly rotate the standard, inside the optical well, one complete revolution (360°). While rotating the standard slowly, observe the measured turbidity and locate the position of the cuvette having the lowest reading.
3. With the calibration standard positioned at the location having the lowest turbidity reading, install the Indexing Ring over the cap on the standard so that the pointer of the **INDEXING RING FACES DIRECTLY FORWARD, TOWARD THE OPERATOR.**
4. Repeat this procedure for all standards in the kit.

When using the standards in the future, **ALWAYS INSERT THE STANDARD SO THAT THE POINTER OF THE INDEXING RING FACES FORWARD.** Slowly rotate the standard back and forth about 5° to find the lowest point. The standard is now indexed and ready for use. Follow the calibration instructions in the owner's manual that accompanied the instrument.

Note: *ProCal* Standard values above 1000 NTU/FNU should be gently agitated prior to use in order to remix any settled particles. The latest version of owner's manuals may be downloaded from HF scientific's website: www.hfscientific.com.

Reagent

ICPMS STD AL_00004

6690103

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M11

SE Std Aluminum (Al) – 10,000 µg/mL

Product Lot #: 1077245-28

Matrix: 5% HNO_3

Source Material Lot #: ALZ082018A1

Element	Certified Concentration & Uncertainty
Al	10,010 ± 50 µg/mL (w/v)
	9402 ± 48 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure aluminum nitrate [$Al(NO_3)_3$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a, lot #140903**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tl	<5
Al	MAJOR	Co	<10	Ge	<5	Mg	76	Pd	<5	Si	<1000	Tm	<2
As	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	U	<5
Au	<5	Cr	24	Hg	<5	Mo	<5	Pt	<5	Sn	<5	V	<10
B	<50	Cu	<10	Ho	<2	Na	830	Rb	<5	Sr	120	W	<5
Ba	<10	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Y	<5
Be	<5	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5	Yb	<2
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10	Zn	<20
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Th	<5	Zr	<5
Cd	<5	Ga	265	Li	<20	P	<1000	Sc	<50	Ti	<20		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

July 22, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ICPMS STD FE_00003

669 0102

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M261

SE Std Iron (Fe) – 10,000 µg/mL

Product Lot #: 1034257-61

Matrix: 5% HNO_3

Source Material Lot #: FEZ0120149A1

Element	Certified Concentration & Uncertainty
Fe	10,000 ± 30 µg/mL (w/v)
	9636 ± 28 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure iron nitrate nonahydrate [$Fe(NO_3)_3 9H_2O$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a, lot #140812**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	21	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	31	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	MAJOR	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

July 22, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
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F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM
Ag	3151	-
Al	3101a	-
As	3103a	3103a
Au	3121	-
B	3107	3107
Ba	3104a	-
Be	3105a	3105a
Bi	3106	3106
Br^-	3184	-
Ca	3109a	3109a
Cd	3108	-
Ce	3110	3110
Cl^-	3182	1818a
Co	3113	3113
Cr	3112a	-
Cs	3111a	-
Cu	3114	-
Dy	3115a	-
Er	3116a	-
Eu	3117a	-
F^-	3183	-
Fe	3126a	-
Ga	3119a	-
Gd	3118a	-
Ge	3120a	-

Analyte	Aq. SRM	MO SRM
Hf	3122	-
Hg	3133	3133
Ho	3123a	-
In	3124a	3124a
K	3141a	3141a
La	3127a	3127a
Li	3129a	3129a
Lu	3130a	-
Mg	3131a	3131a
Mn	3132	3132
Mo	3134	3134
Na	3152a	-
Nb	3137	-
Nd	3135a	-
Ni	3136	-
NO_3^-	3185	-
P	3139a	3139a
Pb	3128	-
Pd	3138	-
PO_4^{-3}	3186	-
Pr	3142a	-
Pt	3140	3140
Rb	3145a	-
Re	3143	-
Rh	3144	3144

Analyte	Aq. SRM	MO SRM
S	3154	2770
Sb	3102a	3102a
Sc	3148a	3148a
Se	3149	3149
Si	3150	-
Sm	3147a	-
Sn	3161a	-
SO_4^{-2}	3181	-
Sr	3153a	3153a
Ta	3155	-
Tb	3157a	-
Te	3156	-
Th	-	-
Ti	3162a	3162a
Tl	3158	3158
Tm	3160a	-
U	3164	-
V	3165	-
W	3163	3163
Y	3167a	3167a
Yb	3166a	-
Zn	3168a	3168a
Zr	3169	3169

Reagent

ICPMS STD U_00004

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Uranium (U) – 1000 µg/mL

Matrix: 5% HNO_3

Product #: TA-1000641

Product Lot #: 1062807-9

Source Material Lot #: AP18-81UX

Element	Certified Concentration & Uncertainty
U	997.0 ± 3.0 µg/mL (w/v)
	988.0 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% Uranyl (VI) Nitrate Hexahydrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 10M64-1D, lot# 1733101**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	2	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	3	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	3	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	95
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
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Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This RM was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ICPMS STD ZN_00005

6901OT

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000681

SE Std Zinc (Zn) – 1000 µg/mL

Lot #: 1095528-11

Matrix: 5% HNO_3

Source Material Lot #: L17Y005/Y28D045

Element	Certified Concentration & Uncertainty
Zn	998 ± 2 µg/mL (w/v)
	989 ± 2 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	3	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	3	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	MAJOR
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

July 22, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br^-	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl^-	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F^-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

ME AL 2nd_00003

6445685
ID: ME AL 2nd_00003
Exp:03/08/22 Prpd:KE Opn:12/17/20
1000 ppm ALUMINUM 2nd Sou

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M11-SS

SE Std Aluminum (Al) – 10,000 µg/mL

Product Lot #: 1092831

Matrix: 10% HNO_3

Source Material Lot #: AP18-72ALX

Element	Certified Concentration & Uncertainty
Al	9978 ± 50 µg/mL (w/v)
	9188 ± 50 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using high purity aluminum (Al) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/mL)

Ag	0.002	Co	<0.001	Ge	<0.001	Mg	0.01	Pd	0.02	Si	0.2	V	<0.001
Al	Major	Cr	0.01	Hf	<0.001	Mn	0.001	Pr	<0.001	Sm	<0.001	W	<0.001
As	<0.001	Cs	<0.001	Hg	0.001	Mo	<0.001	Pt	<0.001	Sn	0.001	Y	<0.001
Au	<0.001	Cu	0.003	Ho	<0.001	Na	0.1	Rb	<0.001	Sr	<0.001	Yb	<0.001
B	0.007	Dy	<0.001	In	<0.001	Nb	<0.001	Re	<0.001	Ta	<0.001	Zn	0.02
Ba	0.003	Er	<0.001	Ir	<0.001	Nd	<0.001	Rh	<0.001	Tb	<0.001		
Bi	<0.001	Eu	<0.001	K	<0.2	Ni	0.004	Ru	<0.001	Te	0.002		
Ca	2	Fe	0.01	La	<0.001	Os	Nd	Sb	<0.001	Ti	<0.001		
Cd	<0.001	Ga	<0.001	Li	0.004	P	<0.3	Sc	<0.001	Tl	<0.001		
Ce	0.001	Gd	<0.001	Lu	<0.001	Pb	<0.001	Se	<0.008	Tm	<0.001		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 8, 2020
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME HCl_00819

ThermoFisher SCIENTIFIC

Certificate of Analysis

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Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based on the intended use of the end project. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	**A508**	**Mfg. Date**	06/30/2021
Lot Number	**4121060**	**Sample Id**	N/A
Product Description	Hydrochloric Acid (TRACEMETAL GRADE)		
Chemical Origin	Inorganic		
BSE/TSE Comment:	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Country Origin	Canada

Result Name	Units	Specifications	Test Value
Expiry date	mm/dd/yyyy	3 yrs	06/30/2024
Assay (HCl, w/w)	% by w/w	34 - 37 %	35%
Color	APHA	<= 10	< 7
Aluminum (Al)	ppb	<= 1	< 0.5
Antimony (Sb)	ppb	<= 0.5	< 0.1
Arsenic (As)	ppb	<= 0.5	< 0.1
Barium (Ba)	ppb	<= 0.1	< 0.1
Beryllium (Be)	ppb	<= 0.1	< 0.1
Bismuth (Bi)	ppb	<= 0.1	< 0.1
Boron (B)	ppb	<= 1	< 0.5
Cadmium (Cd)	ppb	<= 0.1	< 0.1
Calcium (Ca)	ppb	<= 1	< 1
Cerium (Ce)	ppb	<= 0.1	< 0.1
Cesium (Cs)	ppb	<= 0.1	< 0.1
Chromium (Cr)	ppb	<= 0.5	< 0.1
Cobalt (Co)	ppb	<= 0.1	< 0.1
Copper (Cu)	ppb	<= 0.5	< 0.2
Dysprosium (Dy)	ppb	<= 0.1	< 0.1
Erbium (Er)	ppb	<= 0.1	< 0.1
Europium (Eu)	ppb	<= 0.1	< 0.1
Gadolinium (Gd)	ppb	<= 0.1	< 0.1
Gallium (Ga)	ppb	<= 0.1	< 0.1
Gold (Au)	ppb	<= 0.5	< 0.1
Hafnium (Hf)	ppb	<= 0.1	< 0.1
Holmium (Ho)	ppb	<= 0.1	< 0.1
Indium (In)	ppb	<= 0.1	< 0.1
Iron (Fe)	ppb	<= 1	< 0.5
Lanthanum (La)	ppb	<= 0.1	< 0.1
Lead (Pb)	ppb	<= 0.1	< 0.1
Lithium (Li)	ppb	<= 0.1	< 0.1

Lutetium (Lu)	ppb	<= 0.1	< 0.1
Magnesium (Mg)	ppb	<= 0.5	< 0.5
Manganese (Mn)	ppb	<= 0.1	< 0.1
Mercury (Hg)	ppb	<= 0.1	< 0.02
Molybdenum (Mo)	ppb	<= 0.1	< 0.1
Neodymium (Nd)	ppb	<= 0.1	< 0.1
Nickel (Ni)	ppb	<= 0.5	< 0.2
Niobium (Nb)	ppb	<= 0.1	< 0.1
Palladium (Pd)	ppb	Information Only	< 0.5
Platinum (Pt)	ppb	Information Only	< 0.5
Potassium (K)	ppb	<= 1	< 0.1
Praseodymium (Pr)	ppb	<= 0.1	< 0.1
Rhenium (Re)	ppb	<= 0.1	< 0.1
Rhodium (Rh)	ppb	<= 0.1	< 0.1
Rubidium (Rb)	ppb	<= 0.1	< 0.1
Ruthenium (Ru)	ppb	<= 0.1	< 0.1
Samarium (Sm)	ppb	<= 0.1	< 0.1
Scandium (Sc)	ppb	<= 0.1	< 0.1
Selenium (Se)	ppb	<= 1	< 0.2
Silver (Ag)	ppb	<= 1	< 0.1
Sodium (Na)	ppb	<= 1	< 0.5
Strontium (Sr)	ppb	<= 0.1	< 0.1
Tantalum (Ta)	ppb	Information Only	< 1
Tellurium (Te)	ppb	<= 0.1	< 0.1
Terbium (Tb)	ppb	<= 0.1	< 0.1
Thallium (Tl)	ppb	<= 0.1	< 0.1
Thorium (Th)	ppb	<= 0.1	< 0.1
Thulium (Tm)	ppb	<= 0.1	< 0.1
Tin (Sn)	ppb	<= 0.5	< 0.1
Titanium (Ti)	ppb	<= 0.5	< 0.1
Tungsten (W)	ppb	<= 0.1	< 0.1
Uranium (U)	ppb	<= 0.1	< 0.1
Vanadium (V)	ppb	<= 0.5	< 0.1
Ytterbium (Yb)	ppb	<= 0.1	< 0.1
Yttrium (Y)	ppb	<= 0.1	< 0.1
Zinc (Zn)	ppb	<= 1	< 0.5
Zirconium (Zr)	ppb	<= 0.1	< 0.1
Bromide (Br^-)	ppm	<= 10	< 10
Free Chlorine (Cl_2)	ppm	<= 0.5	< 0.5
Total Phosphorus (P)	ppm	<= 0.01	< 0.01
Total Sulfur (S)	ppm	<= 0.3	< 0.3

Julian Burton

Julian Burton - Quality Control Manager - Bridgewater

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Reagent

ME HNO3_00724

ThermoFisher SCIENTIFIC

Certificate of Analysis

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201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based on the intended use of the end project. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	**A509**	**Mfg. Date**	07/30/2021
Lot Number	**1121070**	**Sample Id**	N/A
Product Description	Nitric Acid (TRACEMETAL GRADE)		
Chemical Origin	Inorganic		
BSE/TSE Comment:	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Country Origin	Canada

Result Name	Units	Specifications	Test Value
Expiry Date	mm/dd/yyyy	2 yrs	07/30/2023
Assay (HNO_3, w/w)	% by w/w	67 - 70%	69%
Color	APHA	<= 10	< 7
Aluminum (Al)	ppb	<= 1	< 0.5
Antimony (Sb)	ppb	<= 0.5	< 0.1
Arsenic (As)	ppb	<= 0.5	< 0.1
Barium (Ba)	ppb	<= 0.1	< 0.1
Beryllium (Be)	ppb	<= 0.1	< 0.1
Bismuth (Bi)	ppb	<= 0.1	< 0.1
Boron (B)	ppb	<= 1	< 0.5
Cadmium (Cd)	ppb	<= 0.5	< 0.1
Calcium (Ca)	ppb	<= 1	< 1
Cerium (Ce)	ppb	<= 0.1	< 0.1
Cesium (Cs)	ppb	<= 0.1	< 0.1
Chromium (Cr)	ppb	<= 1	< 0.5
Cobalt (Co)	ppb	<= 0.5	< 0.1
Copper (Cu)	ppb	<= 0.5	< 0.1
Dysprosium (Dy)	ppb	<= 0.1	< 0.1
Erbium (Er)	ppb	<= 0.1	< 0.1
Europium (Eu)	ppb	<= 0.1	< 0.1
Gadolinium (Gd)	ppb	<= 0.1	< 0.1
Gallium (Ga)	ppb	<= 0.1	< 0.1
Germanium (Ge)	ppb	<= 0.1	< 0.1
Gold (Au)	ppb	<= 0.1	< 0.1
Hafnium (Hf)	ppb	<= 0.1	< 0.1
Holmium (Ho)	ppb	<= 0.1	< 0.1
Indium (In)	ppb	<= 0.1	< 0.1
Iron (Fe)	ppb	<= 1	< 0.5
Lanthanum (La)	ppb	<= 0.1	< 0.1
Lead (Pb)	ppb	<= 0.1	< 0.1

Lithium (Li)	ppb	<= 0.1	< 0.1
Lutetium (Lu)	ppb	<= 0.1	< 0.1
Magnesium (Mg)	ppb	<= 1	< 0.2
Manganese (Mn)	ppb	<= 0.1	< 0.1
Mercury (Hg)	ppb	<= 0.1	< 0.02
Molybdenum (Mo)	ppb	<= 0.1	< 0.1
Neodymium (Nd)	ppb	<= 0.1	< 0.1
Nickel (Ni)	ppb	<= 0.5	< 0.5
Niobium (Nb)	ppb	<= 0.1	< 0.1
Palladium (Pd)	ppb	<= 0.5	< 0.1
Platinum (Pt)	ppb	<= 0.5	< 0.1
Potassium (K)	ppb	<= 1	< 0.1
Praseodymium (Pr)	ppb	<= 0.1	< 0.1
Rhenium (Re)	ppb	<= 0.1	< 0.1
Rhodium (Rh)	ppb	<= 0.5	< 0.1
Rubidium (Rb)	ppb	<= 0.1	< 0.1
Ruthenium (Ru)	ppb	<= 0.5	< 0.1
Samarium (Sm)	ppb	<= 0.1	< 0.1
Scandium (Sc)	ppb	<= 0.1	< 0.1
Selenium (Se)	ppb	<= 1	< 0.2
Silver (Ag)	ppb	<= 0.1	< 0.1
Sodium (Na)	ppb	<= 1	< 0.5
Strontium (Sr)	ppb	<= 0.1	< 0.1
Tantalum (Ta)	ppb	Information Only	< 0.1
Tellurium (Te)	ppb	<= 0.1	< 0.1
Terbium (Tb)	ppb	<= 0.1	< 0.1
Thallium (Tl)	ppb	<= 0.1	< 0.1
Thorium (Th)	ppb	<= 0.1	< 0.1
Thulium (Tm)	ppb	<= 0.1	< 0.1
Tin (Sn)	ppb	<= 0.5	< 0.1
Titanium (Ti)	ppb	<= 0.5	< 0.1
Tungsten (W)	ppb	<= 0.1	< 0.1
Uranium (U)	ppb	<= 0.1	< 0.1
Vanadium (V)	ppb	<= 0.5	< 0.1
Ytterbium (Yb)	ppb	<= 0.1	< 0.1
Yttrium (Y)	ppb	<= 0.1	< 0.1
Zinc (Zn)	ppb	<= 0.5	< 0.5
Zirconium (Zr)	ppb	<= 0.1	< 0.1
Chloride (Cl^-)	ppm	<= 0.2	< 0.2
Total Phosphorus (P)	ppm	<= 0.01	< 0.01
Total Sulfur (S)	ppm	<= 0.3	< 0.3

Julian Burton

Julian Burton - Quality Control Manager - Bridgewater

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Reagent

ME ICPMS CAL_00063

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CAL1

ICP ICPMS CAL Mix # 1

Lot #: 1114917-1

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	100.1 ± 0.5 mg/L	Li	101.2 ± 0.5 mg/L	Si	1000 ± 5 mg/L
Ba	100.2 ± 0.5 mg/L	Mn	100.1 ± 0.5 mg/L	Sn	100.8 ± 0.5 mg/L
Be	100.1 ± 0.5 mg/L	Mo	100.3 ± 0.5 mg/L	Sr	100.1 ± 0.5 mg/L
Cd	100.0 ± 0.5 mg/L	Ni	100.3 ± 0.5 mg/L	Ti	100.1 ± 0.5 mg/L
Co	100.0 ± 0.5 mg/L	Pb	100.4 ± 0.5 mg/L	Tl	100.6 ± 0.5 mg/L
Cr	100.1 ± 0.5 mg/L	Sb	100.1 ± 0.5 mg/L	V	100.3 ± 0.5 mg/L
Cu	100.0 ± 0.5 mg/L	Se	100.1 ± 0.5 mg/L		

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
As	981756	Li	1062674	Si	1004988
Ba	150283R	Mn	985851	Sn	1025087
Be	989234	Mo	175215	Sr	1065634
Cd	983033	Ni	752769	Ti	983035
Co	979870	Pb	1035677	Tl	1011878
Cr	880115	Sb	978317	V	1035777
Cu	1063159	Se	929078		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM
Ag	3151	-
Al	3101a	-
As	3103a	3103a
Au	3121	-
B	3107	3107
Ba	3104a	-
Be	3105a	3105a
Bi	3106	3106
Br	3184	-
Ca	3109a	3109a
Cd	3108	-
Ce	3110	3110
Cl	3182	1818a
Co	3113	3113
Cr	3112a	-
Cs	3111a	-
Cu	3114	-
Dy	3115a	-
Er	3116a	-
Eu	3117a	-
F-	3183	-
Fe	3126a	-
Ga	3119a	-
Gd	3118a	-
Ge	3120a	-

Analyte	Aq. SRM	MO SRM
Hf	3122	-
Hg	3133	3133
Ho	3123a	-
In	3124a	3124a
K	3141a	3141a
La	3127a	3127a
Li	3129a	3129a
Lu	3130a	-
Mg	3131a	3131a
Mn	3132	3132
Mo	3134	3134
Na	3152a	-
Nb	3137	-
Nd	3135a	-
Ni	3136	-
NO_3-	3185	-
P	3139a	3139a
Pb	3128	-
Pd	3138	-
PO_4^{-3}	3186	-
Pr	3142a	-
Pt	3140	3140
Rb	3145a	-
Re	3143	-
Rh	3144	3144

Analyte	Aq. SRM	MO SRM
S	3154	2770
Sb	3102a	3102a
Sc	3148a	3148a
Se	3149	3149
Si	3150	-
Sm	3147a	-
Sn	3161a	-
SO_4^{-2}	3181	-
Sr	3153a	3153a
Ta	3155	-
Tb	3157a	-
Te	3156	-
Th	-	-
Ti	3162a	3162a
Tl	3158	3158
Tm	3160a	-
U	3164	-
V	3165	-
W	3163	3163
Y	3167a	3167a
Yb	3166a	-
Zn	3168a	3168a
Zr	3169	3169

Reagent

ME ICPMS CAL_00064

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CAL1-SS

ICP ICPMS CAL Mix # 1

Lot #: 1072834-1

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	100.0 ± 0.5 mg/L	Li	100.0 ± 0.5 mg/L	Si	1000 ± 5 mg/L
Ba	100.0 ± 0.5 mg/L	Mn	99.99 ± 0.50 mg/L	Sn	100.1 ± 0.5 mg/L
Be	100.0 ± 0.5 mg/L	Mo	100.0 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Cd	100.1 ± 0.5 mg/L	Ni	99.97 ± 0.50 mg/L	Ti	100.0 ± 0.5 mg/L
Co	100.1 ± 0.5 mg/L	Pb	100.0 ± 0.5 mg/L	Tl	100.0 ± 0.5 mg/L
Cr	100.1 ± 0.5 mg/L	Sb	100.1 ± 0.5 mg/L	V	100.0 ± 0.5 mg/L
Cu	100.0 ± 0.5 mg/L	Se	100.0 ± 0.5 mg/L		

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
As	AK17-170ASX	Li	AY18-54LIX	Si	AQ18-71SIX
Ba	AN17-150BAX	Mn	AO18-58MNX	Sn	AH18-50SNX
Be	AP18-28BEX	Mo	1820642	Sr	AO17-188SRX
Cd	AO18-22CDX	Ni	AP17-177NIX	Ti	1913720
Co	AO17-137COX	Pb	AP17-160PBX	Tl	1822147
Cr	AK18-8CRX	Sb	1916107	V	AM18-32VX
Cu	AR18-44CUX	Se	AM18-23SEX		

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
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- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM
Ag	3151	-
Al	3101a	-
As	3103a	3103a
Au	3121	-
B	3107	3107
Ba	3104a	-
Be	3105a	3105a
Bi	3106	3106
Br	3184	-
Ca	3109a	3109a
Cd	3108	-
Ce	3110	3110
Cl	3182	1818a
Co	3113	3113
Cr	3112a	-
Cs	3111a	-
Cu	3114	-
Dy	3115a	-
Er	3116a	-
Eu	3117a	-
F	3183	-
Fe	3126a	-
Ga	3119a	-
Gd	3118a	-
Ge	3120a	-

Analyte	Aq. SRM	MO SRM
Hf	3122	-
Hg	3133	3133
Ho	3123a	-
In	3124a	3124a
K	3141a	3141a
La	3127a	3127a
Li	3129a	3129a
Lu	3130a	-
Mg	3131a	3131a
Mn	3132	3132
Mo	3134	3134
Na	3152a	-
Nb	3137	-
Nd	3135a	-
Ni	3136	-
NO_3	3185	-
P	3139a	3139a
Pb	3128	-
Pd	3138	-
PO_4^{-3}	3186	-
Pr	3142a	-
Pt	3140	3140
Rb	3145a	-
Re	3143	-
Rh	3144	3144

Analyte	Aq. SRM	MO SRM
S	3154	2770
Sb	3102a	3102a
Sc	3148a	3148a
Se	3149	3149
Si	3150	-
Sm	3147a	-
Sn	3161a	-
SO_4^{-2}	3181	-
Sr	3153a	3153a
Ta	3155	-
Tb	3157a	-
Te	3156	-
Th	-	-
Ti	3162a	3162a
Tl	3158	3158
Tm	3160a	-
U	3164	-
V	3165	-
W	3163	3163
Y	3167a	3167a
Yb	3166a	-
Zn	3168a	3168a
Zr	3169	3169

Reagent

ME ICPMS LLIC_00032

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-ICPMS-ICSA

ICPMS ICSA Mix

Lot #: 1136841-1

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	1000 ± 5 mg/L	Fe	1000 ± 5 mg/L	Na	1000 ± 5 mg/L
C	2000 ± 10 mg/L	K	1000 ± 5 mg/L	P	1000 ± 5 mg/L
Ca	1000 ± 5 mg/L	Mg	1000 ± 5 mg/L	S	1000 ± 5 mg/L
Cl	9998 ± 50 mg/L	Mo	20.00 ± 0.10 mg/L	Ti	19.99 ± 0.10 mg/L

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Al	1077624	Fe	1114543	Na	1122654
C	P12G045	K	1073557	P	1107349
Ca	1121798	Mg	1013351	S	1051383
Cl	203610	Mo	1120495	Ti	1010581

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Trace Concentrations (µg/L)

Ag	3	Co	3	Ge	2	Lu	<0.2	P	MAJOR	Sb	2	Te	<1
Al	MAJOR	Cs	1	Hf	<0.2	Mg	MAJOR	Pb	2	Sc	<5	Ti	MAJOR
As	<2	Cr	6	Hg	<0.5	Mn	4	Pd	<0.5	Se	<2	Tl	2
Au	<0.5	Cu	5	Ho	<0.2	Mo	MAJOR	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	MAJOR	Pt	<0.5	Sm	<0.2	V	<1
Ba	14	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	9	Sn	3	W	2
Bi	0.7	Eu	<0.2	K	MAJOR	Nd	<0.2	Re	0.5	Sr	26	Y	8
Ca	MAJOR	Fe	MAJOR	La	0.8	Ni	3	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	3	Ga	39	Li	4	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	8
Ce	<0.2	Gd	0.3										

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Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

September 13, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

ME K 2nd_00004

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M411-SS

SE Std Potassium (K) – 10,000 µg/mL

Product Lot #: 711332679A-1

Matrix: 1% HNO_3

Source Material Lot #: 2001639-500

Element	Certified Concentration & Uncertainty
K	10,000 ± 30 µg/mL (w/v)
	9814 ± 30 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using pure a single-element concentrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.1	Co	<0.3	Ge	<0.1	Mn	<0.3	Pt	<0.1	Sn	<3	Y	<0.1
Al	<0.3	Cr	<0.3	Hf	<0.1	Mo	<0.1	Rb	100	Sr	<0.1	Yb	<0.1
As	<0.3	Cs	<0.1	Ho	<0.1	Na	90	Re	<0.1	Ta	<0.1	Zn	<0.1
Au	<0.1	Cu	<0.1	In	<0.1	Nb	<0.1	Rh	<0.1	Tb	<0.1		
B	<5	Dy	<0.1	Ir	<0.1	Nd	<0.1	Ru	<0.1	Te	<0.1		
Ba	<0.1	Er	<0.1	K	Major	Ni	<0.1	Sb	<0.1	Ti	<0.1		
Bi	<0.1	Eu	<0.1	La	<0.1	Os	<0.1	Sc	<0.1	Tl	<0.1		
Ca	<5	Fe	<5	Li	<0.1	Pb	<0.3	Se	<0.5	Tm	<0.1		
Cd	<0.1	Ga	<0.1	Lu	<0.1	Pd	<0.1	Si	<10	V	<0.3		
Ce	<0.1	Gd	<0.1	Mg	<0.5	Pr	<0.1	Sm	<0.1	W	<0.1		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
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- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME MG 2nd_00004

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M311-SS

SE Std Magnesium (Mg) – 10,000 µg/mL

Product Lot #: 711384061-1

Matrix: 4% HNO_3

Source Material Lot #: 1934612-500

Element	Certified Concentration & Uncertainty
Mg	10,000 ± 30 µg/mL (w/v)
	9497 ± 30 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using a single-element concentrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3131a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.1	Co	<0.3	Ge	<0.1	Mn	6	Pt	<0.1	Sn	<3	Y	<0.1
Al	<0.3	Cr	<0.3	Hf	<0.1	Mo	<0.1	Rb	<0.1	Sr	<0.1	Yb	<0.1
As	<0.3	Cs	<0.1	Ho	<0.1	Na	<5	Re	<0.1	Ta	<0.1	Zn	<1
Au	<0.1	Cu	<0.1	In	<0.1	Nb	<0.1	Rh	<0.1	Tb	<0.1		
B	<5	Dy	<0.1	Ir	<0.1	Nd	<0.1	Ru	<0.1	Te	<0.1		
Ba	<0.1	Er	<0.1	K	<5	Ni	<0.1	Sb	<0.1	Ti	<0.1		
Bi	<0.1	Eu	<0.1	La	<0.1	Os	<0.1	Sc	<0.1	Tl	<0.1		
Ca	<5	Fe	<10	Li	<0.1	Pb	21	Se	<0.5	Tm	<0.1		
Cd	<0.1	Ga	4	Lu	<0.1	Pd	<0.1	Si	<50	V	<0.3		
Ce	<0.1	Gd	<0.1	Mg	Major	Pr	<0.1	Sm	<0.1	W	<0.1		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME NA 2nd_00003

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M521-SS

SE Std Sodium (Na) – 10,000 µg/mL

Product Lot #: 711320484-1

Matrix: 1% HNO_3

Source Material Lot #: 1921232-500

Element	Certified Concentration & Uncertainty
Na	10,000 ± 30 µg/mL (w/v)
	9709 ± 30 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using pure sodium carbonate (Na_2CO_3) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.1	Co	<0.3	Ge	<0.1	Mn	<0.3	Pt	<0.1	Sn	<3	Y	<0.1
Al	<5	Cr	<0.3	Hf	<0.1	Mo	<0.1	Rb	<0.1	Sr	9	Yb	<0.1
As	<0.3	Cs	<0.1	Ho	<0.1	Na	Major	Re	<0.1	Ta	<0.1	Zn	<10
Au	<0.1	Cu	<2	In	<0.1	Nb	<0.1	Rh	<0.1	Tb	<0.1		
B	36	Dy	<0.1	Ir	<0.1	Nd	<0.1	Ru	<0.1	Te	<0.1		
Ba	19	Er	<0.1	K	<20	Ni	<0.1	Sb	<0.1	Ti	<0.1		
Bi	<0.1	Eu	<0.1	La	<0.1	Os	<0.1	Sc	<0.1	Tl	<0.1		
Ca	<5	Fe	<5	Li	<2	Pb	<0.3	Se	<0.5	Tm	<0.1		
Cd	<0.1	Ga	<0.1	Lu	<0.1	Pd	<0.1	Si	<20	V	<0.3		
Ce	<0.1	Gd	<0.1	Mg	<3	Pr	<0.1	Sm	<0.1	W	<3		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **12 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021

Certification Date

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The Netherlands

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME_CRI_30_00018

6601214

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CM-NOV19-IRV1-250

ICPMS Check Standard

Lot #: 10106962-2

Matrix: 2% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Ag	1.001 ± 0.005 µg/mL	Cs	505.0 ± 2.5 µg/L	Sb	1.005 ± 0.005 µg/mL
Al	9.996 ± 0.050 µg/mL	Cu	1.005 ± 0.005 µg/mL	Se	987.0 ± 4.9 µg/L
As	1.006 ± 0.005 µg/mL	Fe	20.00 ± 0.10 µg/mL	Sn	10.00 ± 0.05 µg/mL
B	1.003 ± 0.005 µg/mL	K	100.0 ± 0.5 µg/mL	Sr	1.000 ± 0.005 µg/mL
Ba	1.005 ± 0.005 µg/mL	Mg	99.97 ± 0.50 µg/mL	Th	502.0 ± 2.5 µg/L
Be	497.0 ± 2.5 µg/L	Mn	999.0 ± 5.0 µg/L	Ti	997.0 ± 5.0 µg/L
Ca	500.0 ± 2.5 µg/mL	Mo	1.010 ± 0.005 µg/mL	Tl	995.0 ± 5.0 µg/L
Cd	1.004 ± 0.005 µg/mL	Na	99.97 ± 0.50 µg/mL	U	1.007 ± 0.005 µg/mL
Ce	1.002 ± 0.005 µg/mL	Ni	996.0 ± 5.0 µg/L	V	1.000 ± 0.005 µg/mL
Co	999.0 ± 5.0 µg/L	Pb	999.0 ± 5.0 µg/L	Zr	995.0 ± 5.0 µg/L
Cr	1.005 ± 0.005 µg/mL	Rb	503.0 ± 2.5 µg/L	Zn	9.999 ± 0.050 µg/mL

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Ag	1026960	Cs	1084153	Sb	1045232
Al	1063015	Cu	1074805	Se	1063158
As	1034904	Fe	1046975	Sn	977645
B	1024903	K	1053109	Sr	998106
Ba	994634	Mg	1013353	Th	1029141
Be	1072683	Mn	1063019	Ti	987438R
Ca	1072921	Mo	987189	Tl	148983
Cd	1080470	Na	1055526	U	1032239
Ce	1045447	Ni	1049780	V	1055682
Co	1024904	Pb	1046594	Zr	1097984
Cr	1011874	Rb	1009740	Zn	1095528

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized the appropriate high-purity acid(s) as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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The Netherlands

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Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

METALS

COVER PAGE
METALS

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0007S021	570-80119-1
A2BMP0012S010	570-80119-2
EVBMP0001S019	570-80119-3
EVBMP0003S032	570-80119-4

Comments:

COVER PAGE
METALS

Lab Name: Eurofins Calscience Tustin Job Number: 570-80119-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0007S021	570-80119-1
A2BMP0012S010	570-80119-2
EVBMP0001S019	570-80119-3
EVBMP0003S032	570-80119-4

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: A2BMP0007S021 Lab Sample ID: 570-80119-1

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 08:05

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: A2BMP0007S021 Lab Sample ID: 570-80119-1

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 08:05

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	1.44	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	0.203	1.00	0.190	ug/L	J	H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: A2BMP0012S010 Lab Sample ID: 570-80119-2

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 07:50

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: A2BMP0012S010 Lab Sample ID: 570-80119-2

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 07:50

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	2.88	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	0.392	1.00	0.190	ug/L	J	H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EVBMP0001S019 Lab Sample ID: 570-80119-3

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 08:30

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: EVBMP0001S019 Lab Sample ID: 570-80119-3

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 08:30

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	1.93	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	0.206	1.00	0.190	ug/L	J	H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EVBMP0003S032 Lab Sample ID: 570-80119-4

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 07:20

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: EVBMP0003S032 Lab Sample ID: 570-80119-4

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 07:20

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	2.11	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	0.371	1.00	0.190	ug/L	J	H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: A2BMP0007S021 Lab Sample ID: 570-80119-1

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 08:05

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.250	ug/L			1	200.8
7440-50-8	Copper	1.43	2.00	0.500	ug/L	J		1	200.8
7439-92-1	Lead	ND	1.00	0.500	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: A2BMP0012S010 Lab Sample ID: 570-80119-2

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 07:50

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.250	ug/L			1	200.8
7440-50-8	Copper	3.36	2.00	0.500	ug/L			1	200.8
7439-92-1	Lead	1.63	1.00	0.500	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: EVBMP0001S019 Lab Sample ID: 570-80119-3

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 08:30

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.250	ug/L			1	200.8
7440-50-8	Copper	5.19	2.00	0.500	ug/L			1	200.8
7439-92-1	Lead	ND	1.00	0.500	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: EVBMP0003S032 Lab Sample ID: 570-80119-4

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 07:20

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.250	ug/L			1	200.8
7440-50-8	Copper	5.51	2.00	0.500	ug/L			1	200.8
7439-92-1	Lead	2.74	1.00	0.500	ug/L			1	200.8

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

ICV Source: MT_MS_ICV1_00007 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00010

Analyte	ICV 570-204104/3 12/28/2021 07:55				CCV 570-204104/99 12/28/2021 11:44				CCV 570-204104/111 12/28/2021 12:03			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	100.9		100	101	99.26		100	99	99.77		100	100
Copper	103.2		100	103	100.8		100	101	103.7		100	104
Lead	99.54		100	100	100.1		100	100	100.1		100	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

ICV Source: MT_MS_ICV1_00007 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00010

Analyte	CCV 570-204104/122 12/28/2021 12:20											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	100.4		100	100								
Copper	104.9		100	105								
Lead	99.53		100	100								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

ICV Source: MT_MS_LL_00010 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00010

Analyte	ICVL 570-204104/11 12/28/2021 08:24				CCV 570-204104/99 12/28/2021 11:44				CCV 570-204104/111 12/28/2021 12:03			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	1.041		1.00	104	99.26		100	99	99.77		100	100
Copper	1.071		1.00	107	100.8		100	101	103.7		100	104
Lead	1.038		1.00	104	100.1		100	100	100.1		100	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

ICV Source: MT_MS_LL_00010 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00010

Analyte	CCV 570-204104/122 12/28/2021 12:20											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	100.4		100	100								
Copper	104.9		100	105								
Lead	99.53		100	100								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

ICV Source: HG_1ppm ICV_00035 Concentration Units: ug/L

CCV Source: HG_1ppm STD_00040

Analyte	ICV 570-204128/7-A 12/28/2021 11:41				CCV 570-204128/9-A 12/28/2021 13:42				CCV 570-204128/9-A 12/28/2021 14:06			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	9.770		10.0	98	4.071		4.00	102	4.195		4.00	105

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

ICV Source: HG_1ppm ICV_00036 Concentration Units: ug/L

CCV Source: HG_1ppm STD_00041

Analyte	ICV 570-207215/7-A 01/13/2022 14:00				CCV 570-207215/9-A 01/13/2022 14:11				CCV 570-207215/9-A 01/13/2022 15:08			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	9.847		10.0	98	4.033		4.00	101	3.615		4.00	90

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

ICV Source: MEICPMS ICV_00849 Concentration Units: ug/L

CCV Source: MEICPMS CCV_00840

Analyte	ICV 440-664405/9 01/13/2022 09:07				CCV 440-664405/42 01/13/2022 12:48				CCV 440-664405/53 01/13/2022 13:10			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	25.21		25.0	101	49.07		50.0	98	50.63		50.0	101
Copper	25.34		25.0	101	52.71		50.0	105	51.14		50.0	102
Lead	25.84		25.0	103	50.73		50.0	101	50.81		50.0	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

ICV Source: MEICPMS ICV_00849 Concentration Units: ug/L

CCV Source: MEICPMS CCV_00840

Analyte	CCV 440-664405/65 01/13/2022 13:35											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	51.17		50.0	102								
Copper	51.33		50.0	103								
Lead	51.35		50.0	103								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Method: 245.1 Instrument ID: HG7

Lab Sample ID: CRA 570-204128/11-A Concentration Units: ug/L

CRQL Check Standard Source: HG_1ppm STD_00040

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.1900	J	95	65-135

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Method: 245.1 Instrument ID: HG9

Lab Sample ID: CRA 570-207215/11-A Concentration Units: ug/L

CRQL Check Standard Source: HG_1ppm STD_00041

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.1623	J	81	65-135

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Method: 200.8 Instrument ID: ICPMS6

Lab Sample ID: CRI 440-664405/11 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS CRI1_00844

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Cadmium	1.00	1.016		102	50-150
Copper	1.00	1.093	J	109	50-150
Lead	1.00	1.041		104	50-150

Lab Sample ID: CRI 440-664405/12 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS CRI2_00847

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Cadmium	2.00	2.120		106	50-150
Copper	2.00	2.202		110	50-150
Lead	2.00	2.151		108	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 570-204104/5 12/28/2021 08:02		CCB 570-204104/100 12/28/2021 11:46		CCB 570-204104/112 12/28/2021 12:04		CCB 570-204104/123 12/28/2021 12:21	
		Found	C	Found	C	Found	C	Found	C
Cadmium	1.00	ND		ND		ND		ND	
Copper	1.00	ND		ND		ND		ND	
Lead	1.00	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 570-204128/8-A 12/28/2021 11:42		CCB 570-204128/10-A 12/28/2021 13:44		CCB 570-204128/10-A 12/28/2021 14:08			
		Found	C	Found	C	Found	C	Found	C
Mercury	0.248	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 570-207215/8-A 01/13/2022 14:01		CCB 570-207215/10-A 01/13/2022 14:13		CCB 570-207215/10-A 01/13/2022 15:10			
		Found	C	Found	C	Found	C	Found	C
Mercury	0.248	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 440-664405/10 01/13/2022 09:09		CCB 440-664405/43 01/13/2022 12:50		CCB 440-664405/54 01/13/2022 13:12		CCB 440-664405/66 01/13/2022 13:37	
		Found	C	Found	C	Found	C	Found	C
Cadmium	1.00	ND		ND		ND		ND	
Copper	2.00	ND		ND		ND		ND	
Lead	1.00	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 570-204013/1-A

Instrument Code: ICPMS05 Batch No.: 204104

CAS No.	Analyte	Concentration	C	Q	Method
7440-43-9	Cadmium	ND			200.8
7440-50-8	Copper	ND			200.8
7439-92-1	Lead	ND			200.8

3-IN
METHOD BLANK
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 570-204014/1-B

Instrument Code: HG7 Batch No.: 204205

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			245.1

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 570-207222/1-A

Instrument Code: HG9 Batch No.: 207348

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			245.1

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 440-664348/1-A

Instrument Code: ICPMS6 Batch No.: 664405

CAS No.	Analyte	Concentration	C	Q	Method
7440-43-9	Cadmium	ND			200.8
7440-50-8	Copper	ND			200.8
7439-92-1	Lead	ND			200.8

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Lab Sample ID: ICSA 570-204104/8 Instrument ID: ICPMS05

Lab File ID: 211228e1_ical.rep ICS Source: MT_MS_ICS_A_00006

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Cadmium		**-0.392**	
Copper		**0.403**	
Lead		**0.0529**	
Aluminum	*10000*	*10339*	*103*
Antimony		*0.0802*	
Arsenic		*0.0755*	
Barium		*0.193*	
Beryllium		*0.0056*	
Boron		*2.97*	
Calcium	*30000*	*29515*	*98*
Chromium		*0.259*	
Cobalt		*0.0462*	
Iron	*25000*	*24799*	*99*
Magnesium	*10000*	*9734*	*97*
Manganese		*0.331*	
Molybdenum	*200*	*201*	*101*
Nickel		*0.174*	
Potassium	*10000*	*9851*	*99*
Selenium		*-0.0020*	
Silver		*0.0469*	
Sodium	*25000*	*24817*	*99*
Strontium		*0.424*	
Thallium		*0.0214*	
Tin		*0.112*	
Titanium	*200*	*212*	*106*
Vanadium		*0.0186*	
Zinc		*0.645*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Lab Sample ID: ICSAB 570-204104/9 Instrument ID: ICPMS05

Lab File ID: 211228e1_ical.rep ICS Source: MT_MS_ICS_AB_00008

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Cadmium	**10.0**	**9.32**	**93**
Copper	**20.0**	**19.9**	**100**
Lead		**0.0296**	
Aluminum	*10000*	*10698*	*107*
Antimony		*0.0696*	
Arsenic	*10.0*	*10.2*	*102*
Barium		*0.184*	
Beryllium		*0.0028*	
Boron		*3.08*	
Calcium	*30000*	*30104*	*100*
Chromium	*20.0*	*20.1*	*101*
Cobalt	*20.0*	*20.1*	*101*
Iron	*25000*	*25650*	*103*
Magnesium	*10000*	*9956*	*100*
Manganese	*20.0*	*20.2*	*101*
Molybdenum	*200*	*208*	*104*
Nickel	*20.0*	*19.4*	*97*
Potassium	*10000*	*10242*	*102*
Selenium	*10.0*	*9.37*	*94*
Silver	*5.00*	*4.52*	*90*
Sodium	*25000*	*25921*	*104*
Strontium		*0.435*	
Thallium		*0.0011*	
Tin		*-0.0202*	
Titanium	*200*	*214*	*107*
Vanadium	*20.0*	*20.2*	*101*
Zinc	*10.0*	*10.6*	*106*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Lab Sample ID: ICSA 440-664405/13 Instrument ID: ICPMS6

Lab File ID: 013ICSA.d ICS Source: MEICPMS ICSA_00917

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Cadmium		**0.172**	
Copper		**0.257**	
Lead		**0.195**	
Aluminum	*100000*	*93352*	*93*
Antimony		*0.0620*	
Arsenic		*0.0550*	
Barium		*1.65*	
Beryllium		*0.0210*	
Cerium		*0.0320*	
Cesium		*0.0240*	
Chromium		*0.695*	
Cobalt		*0.294*	
Iron	*100000*	*96552*	*97*
Manganese		*0.379*	
Molybdenum	*2000*	*2092*	*105*
Nickel		*0.371*	
Selenium		*0.123*	
Silver		*0.387*	
Thallium		*0.0020*	
Tin		*0.394*	
Total Heavy Metals		*0.695*	
Uranium		*0.0250*	
Vanadium		*0.0170*	
Zinc		*0.889*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Lab Sample ID: ICSAB 440-664405/14 Instrument ID: ICPMS6

Lab File ID: 014ICSB.d ICS Source: MEICPMS ICSAB_00843

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Cadmium	**20.0**	**20.2**	**101**
Copper	**20.0**	**19.3**	**96**
Lead	**20.0**	**19.7**	**99**
Aluminum	*100000*	*95633*	*96*
Antimony	*20.0*	*22.1*	*111*
Arsenic	*20.0*	*20.9*	*105*
Barium	*20.0*	*22.7*	*114*
Beryllium	*20.0*	*19.6*	*98*
Cerium	*20.0*	*21.2*	*106*
Cesium	*20.0*	*20.9*	*104*
Chromium	*20.0*	*20.6*	*103*
Cobalt	*20.0*	*19.7*	*98*
Iron	*100000*	*98929*	*99*
Manganese	*20.0*	*20.4*	*102*
Molybdenum	*2020*	*2137*	*106*
Nickel	*20.0*	*19.1*	*95*
Rubidium	*20.0*	*22.2*	*111*
Selenium	*20.0*	*19.8*	*99*
Silver	*20.0*	*20.4*	*102*
Thallium	*20.0*	*19.6*	*98*
Tin	*20.0*	*22.0*	*110*
Total Heavy Metals	*120*	*119*	*99*
Uranium	*20.0*	*20.6*	*103*
Vanadium	*20.0*	*20.5*	*103*
Zinc	*20.0*	*20.0*	*100*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: A2BMP0007S021 MS
Lab ID: 570-80119-1 MS
Lab Name: Eurofins Calscience
Job No.: 570-80119-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	0.009575		ND		0.0100	96	70-130		245.1

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: A2BMP0007S021 MS
Lab ID: 570-80119-1 MS
Lab Name: Eurofins Calscience
Job No.: 570-80119-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Cadmium	105.8		ND		100	106	80-120		200.8
Copper	106.6		1.44		100	105	80-120		200.8
Lead	102.7		0.203	J	100	102	80-120		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: A2BMP0012S010 MS
Lab ID: 570-80119-2 MS
Lab Name: Eurofins Calscience
Job No.: 570-80119-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	0.009555		ND		0.0100	96	70-130		245.1

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: A2BMP0007S021 MSD
Lab ID: 570-80119-1 MSD
Lab Name: Eurofins Calscience
Job No.: 570-80119-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.009712		0.0100	97	70-130	1	10		245.1

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: A2BMP0007S021 MSD
Lab ID: 570-80119-1 MSD
Lab Name: Eurofins Calscience
Job No.: 570-80119-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Cadmium	105.1		100	105	80-120	1	20		200.8
Copper	105.8		100	104	80-120	1	20		200.8
Lead	102.3		100	102	80-120	0	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: A2BMP0012S010 MSD
Lab ID: 570-80119-2 MSD
Lab Name: Eurofins Calscience
Job No.: 570-80119-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.009646		0.0100	96	70-130	1	10		245.1

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 570-80603-B-1-B MS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Cadmium	76.26		ND		80.0	95	70-130		200.8
Copper	79.32		3.02		80.0	95	70-130		200.8
Lead	80.41		2.40		80.0	98	70-130		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 570-80603-B-1-C MSD

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Cadmium	74.10		80.0	93	70-130	3	20		200.8
Copper	76.98		80.0	92	70-130	3	20		200.8
Lead	78.16		80.0	95	70-130	3	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS - DISSOLVED

Lab ID: LCS 570-204013/2-A

Lab Name: Eurofins Calscience Job No.: 570-80119-1

Sample Matrix: Water LCS Source: MT_ICP_Spike1_00012

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Cadmium	100	95.76		96	80	120		200.8
Copper	100	102.0		102	80	120		200.8
Lead	100	99.07		99	80	120		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS - DISSOLVED

Lab ID: LCSD 570-204013/3-A

Lab Name: Eurofins Calscience Job No.: 570-80119-1

Sample Matrix: Water LCS Source: MT_ICP_Spike1_00012

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Cadmium	98.04		100	98	80-120	2	20		200.8
Copper	102.9		100	103	80-120	1	20		200.8
Lead	97.91		100	98	80-120	1	20		200.8

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS - DISSOLVED

Lab ID: LCS 570-204014/2-B

Lab Name: Eurofins Calscience | Job No.: 570-80119-1

Sample Matrix: Water | LCS Source: HG_1ppm STD_00040

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.0100	0.009790		98	85	115		245.1

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS - DISSOLVED

Lab ID: LCSD 570-204014/3-B

Lab Name: Eurofins Calscience Job No.: 570-80119-1

Sample Matrix: Water LCS Source: HG_1ppm STD_00040

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.009773		0.0100	98	85-115	0	10		245.1

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 570-207222/2-A

Lab Name: Eurofins Calscience | Job No.: 570-80119-1

Sample Matrix: Water | LCS Source: HG_1ppm STD_00041

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.0100	0.009461		95	85	115		245.1

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS

Lab ID: LCSD 570-207222/3-A

Lab Name: Eurofins Calscience Job No.: 570-80119-1

Sample Matrix: Water LCS Source: HG_1ppm STD_00041

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.009288		0.0100	93	85-115	2	10		245.1

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 440-664348/2-A

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

Sample Matrix: Water LCS Source: ME ICPMS ICV_00242

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Cadmium	80.0	74.85		94	85	115		200.8
Copper	80.0	78.25		98	85	115		200.8
Lead	80.0	77.35		97	85	115		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: ICPMS05

Method: 200.8 MDL Date: 02/19/2021 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Cadmium	111	0.001	0.00098
Copper	65	0.001	0.00061
Lead	207	0.001	0.00019

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: ICPMS05

Method: 200.8 XMDL Date: 02/19/2021 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Cadmium	111	1	0.9785
Copper	65	1	0.6066
Lead	207	1	0.1929

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: HG9

Method: 245.1 MDL Date: 05/26/2020 11:11

Prep Method: 245.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Mercury		0.000248	0.000124

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: HG9

Method: 245.1 XMDL Date: 05/26/2020 11:12

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.124	0.062

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: HG7

Method: 245.1 MDL Date: 05/26/2020 11:11

Prep Method: 245.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Mercury		0.000248	0.000124

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: HG7

Method: 245.1 XMDL Date: 05/26/2020 11:12

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.124	0.062

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins Calscience Tustin Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: ICPMS6

Method: 200.8 MDL Date: 05/13/2019 10:08

Prep Method: 200.2

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Cadmium	114	1	0.25
Copper		2	0.5
Lead	208	1	0.5

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins Calscience Tustin Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: ICPMS6

Method: 200.8 XMDL Date: 05/13/2019 10:08

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Cadmium	114	1	0.25
Copper		2	0.5
Lead	208	1	0.5

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Calscience Job No: 570-80119-1

SDG No.:

Instrument ID: ICPMS05 Date: 09/01/2021 00:00

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Cadmium		900	200.8
Copper		900	200.8
Lead		1500	200.8

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Calscience Job No: 570-80119-1

SDG No.:

Instrument ID: HG7 Date: 04/17/2017 05:54

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Mercury		10	245.1

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Calscience Tustin Job No: 570-80119-1

SDG No.:

Instrument ID: ICPMS6 Date: 09/19/2021 00:00

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Cadmium		4500	200.8
Copper		1800	200.8
Lead		4500	200.8

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Prep Method: 245.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 570-204014/1-B	12/28/2021 06:07	204016		50	100
LCS 570-204014/2-B	12/28/2021 06:07	204016		50	100
LCSD 570-204014/3-B	12/28/2021 06:07	204016		50	100
570-80119-1	12/28/2021 06:07	204016		50	100
570-80119-2	12/28/2021 06:07	204016		50	100
570-80119-2 MS	12/28/2021 06:07	204016		50	100
570-80119-2 MSD	12/28/2021 06:07	204016		50	100
570-80119-3	12/28/2021 06:07	204016		50	100
570-80119-4	12/28/2021 06:07	204016		50	100

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Prep Method: 245.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 570-207222/1-A	01/13/2022 09:48	207222		50	100
LCS 570-207222/2-A	01/13/2022 09:48	207222		50	100
LCSD 570-207222/3-A	01/13/2022 09:48	207222		50	100
570-80119-1	01/13/2022 09:48	207222		50	100
570-80119-1 MS	01/13/2022 09:48	207222		50	100
570-80119-1 MSD	01/13/2022 09:48	207222		50	100
570-80119-2	01/13/2022 09:48	207222		50	100
570-80119-3	01/13/2022 09:48	207222		50	100
570-80119-4	01/13/2022 09:48	207222		50	100

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Prep Method: 200.2

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 440-664348/1-A	01/13/2022 06:58	664348		25	25
LCS 440-664348/2-A	01/13/2022 06:58	664348		25	25
570-80603-B-1-B MS	01/13/2022 06:58	664348		25	25
570-80603-B-1-C MSD	01/13/2022 06:58	664348		25	25
570-80119-1	01/13/2022 06:58	664348		25	25
570-80119-2	01/13/2022 06:58	664348		25	25
570-80119-3	01/13/2022 06:58	664348		25	25
570-80119-4	01/13/2022 06:58	664348		25	25

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 12/28/2021 07:49 End Date: 12/28/2021 16:04

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
ICIS 570-204104/1	1		07:49	X	X	X																								
IC 570-204104/2			07:52	X	X	X																								
ICV 570-204104/3	1		07:55	X	X	X																								
ICV 570-204104/4	1		07:59	X	X	X																								
ICB 570-204104/5	1		08:02	X	X	X																								
CCV 570-204104/6			08:05																											
CCB 570-204104/7			08:08																											
ICSA 570-204104/8	1		08:11	X	X	X																								
ICSAB 570-204104/9	1		08:15	X	X	X																								
CCB 570-204104/10			08:21																											
ICVL 570-204104/11	1		08:24	X	X	X																								
ZZZZZZ			08:27																											
ZZZZZZ			08:30																											
CCV 570-204104/14			08:34																											
CCB 570-204104/15			08:37																											
CCB 570-204104/16			08:40																											
ZZZZZZ			08:46																											
ZZZZZZ			08:50																											
ZZZZZZ			08:53																											
ZZZZZZ			08:56																											
ZZZZZZ			08:59																											
ZZZZZZ			09:02																											
CCV 570-204104/23			09:06																											
CCB 570-204104/24			09:09																											
ZZZZZZ			09:14																											
ZZZZZZ			09:17																											
ZZZZZZ			09:21																											
ZZZZZZ			09:24																											
ZZZZZZ			09:27																											
ZZZZZZ			09:30																											
ZZZZZZ			09:33																											
ZZZZZZ			09:37																											
ZZZZZZ			09:40																											
CCV 570-204104/34			09:43																											
CCB 570-204104/35			09:46																											
ZZZZZZ			10:06																											
ICIS 570-204104/37			10:08	X	X	X																								
IC 570-204104/38	1		10:10	X	X	X																								
CCV 570-204104/39			10:11																											
CCB 570-204104/40			10:13																											
ZZZZZZ			10:14																											
ZZZZZZ			10:16																											

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 12/28/2021 07:49 End Date: 12/28/2021 16:04

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
ZZZZZZ			10:17																											
ZZZZZZ			10:19																											
ZZZZZZ			10:21																											
ZZZZZZ			10:22																											
ZZZZZZ			10:24																											
ZZZZZZ			10:25																											
ZZZZZZ			10:27																											
CCV 570-204104/50			10:28																											
CCB 570-204104/51			10:30																											
ZZZZZZ			10:31																											
ZZZZZZ			10:33																											
ZZZZZZ			10:35																											
ZZZZZZ			10:36																											
ZZZZZZ			10:38																											
ZZZZZZ			10:39																											
ZZZZZZ			10:41																											
ZZZZZZ			10:42																											
ZZZZZZ			10:44																											
ZZZZZZ			10:45																											
CCV 570-204104/62			10:47																											
CCB 570-204104/63			10:48																											
ZZZZZZ			10:50																											
ZZZZZZ			10:52																											
ZZZZZZ			10:53																											
ZZZZZZ			10:55																											
ZZZZZZ			10:56																											
ZZZZZZ			10:58																											
ZZZZZZ			10:59																											
ZZZZZZ			11:01																											
ZZZZZZ			11:02																											
ZZZZZZ			11:04																											
CCV 570-204104/74			11:05																											
CCB 570-204104/75			11:07																											
ZZZZZZ			11:09																											
ZZZZZZ			11:10																											
ZZZZZZ			11:12																											
ZZZZZZ			11:13																											
ZZZZZZ			11:15																											
ZZZZZZ			11:16																											
ZZZZZZ			11:18																											
ZZZZZZ			11:19																											
ZZZZZZ			11:21																											

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 12/28/2021 07:49 End Date: 12/28/2021 16:04

Lab Sample Id	D/F	Type	Time	Analytes																									
				Cd	Cu	Pb																							
ZZZZZZ			11:23																										
ZZZZZZ			11:24																										
CCV 570-204104/87			11:26																										
CCB 570-204104/88			11:27																										
ZZZZZZ			11:29																										
ZZZZZZ			11:30																										
ZZZZZZ			11:32																										
ZZZZZZ			11:33																										
ZZZZZZ			11:35																										
ZZZZZZ			11:37																										
ZZZZZZ			11:38																										
ZZZZZZ			11:40																										
ZZZZZZ			11:41																										
ZZZZZZ			11:43																										
CCV 570-204104/99	1		11:44	X	X	X																							
CCB 570-204104/100	1		11:46	X	X	X																							
ZZZZZZ			11:47																										
ZZZZZZ			11:49																										
ZZZZZZ			11:50																										
ZZZZZZ			11:52																										
MB 570-204013/1-A	1	D	11:54	X	X	X																							
LCS 570-204013/2-A	1	D	11:55	X	X	X																							
LCSD 570-204013/3-A	1	D	11:57	X	X	X																							
570-80119-1	1	D	11:58	X	X	X																							
570-80119-1 MS	1	D	12:00	X	X	X																							
570-80119-1 MSD	1	D	12:01	X	X	X																							
CCV 570-204104/111	1		12:03	X	X	X																							
CCB 570-204104/112	1		12:04	X	X	X																							
570-80119-2	1	D	12:06	X	X	X																							
570-80119-3	1	D	12:08	X	X	X																							
570-80119-4	1	D	12:09	X	X	X																							
ZZZZZZ			12:11																										
ZZZZZZ			12:12																										
ZZZZZZ			12:14																										
ZZZZZZ			12:15																										
ZZZZZZ			12:17																										
ZZZZZZ			12:18																										
CCV 570-204104/122	1		12:20	X	X	X																							
CCB 570-204104/123	1		12:21	X	X	X																							
ZZZZZZ			12:48																										
ZZZZZZ			12:50																										
ZZZZZZ			12:51																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 12/28/2021 07:49 End Date: 12/28/2021 16:04

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
ZZZZZZ			12:53																											
ZZZZZZ			12:54																											
ZZZZZZ			12:56																											
CCV 570-204104/130			12:58																											
CCB 570-204104/131			12:59																											
ZZZZZZ			13:02																											
ZZZZZZ			13:03																											
ZZZZZZ			13:05																											
ZZZZZZ			13:06																											
ZZZZZZ			13:08																											
CCV 570-204104/137			13:09																											
CCB 570-204104/138			13:11																											
ICIS 570-204104/139			13:17	X	X	X																								
IC 570-204104/140			13:20	X	X	X																								
CCV 570-204104/141			13:23																											
CCB 570-204104/142			13:26																											
ZZZZZZ			13:29																											
ZZZZZZ			13:32																											
ZZZZZZ			13:36																											
ZZZZZZ			13:39																											
ZZZZZZ			13:42																											
ZZZZZZ			13:45																											
ZZZZZZ			13:48																											
ZZZZZZ			13:52																											
ZZZZZZ			13:55																											
ZZZZZZ			13:58																											
CCV 570-204104/153			14:01																											
CCB 570-204104/154			14:04																											
ZZZZZZ			14:12																											
ZZZZZZ			14:13																											
ZZZZZZ			14:15																											
ZZZZZZ			14:16																											
ZZZZZZ			14:17																											
ZZZZZZ			14:19																											
ZZZZZZ			14:20																											
ZZZZZZ			14:22																											
ZZZZZZ			14:23																											
ZZZZZZ			14:25																											
CCV 570-204104/165			14:26																											
CCB 570-204104/166			14:28																											
ICIS 570-204104/167			14:31	X	X	X																								
IC 570-204104/168			14:32	X	X	X																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 12/28/2021 07:49 End Date: 12/28/2021 16:04

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
CCV 570-204104/169			14:34																											
CCB 570-204104/170			14:35																											
ZZZZZZ			14:37																											
CCV 570-204104/172			14:39																											
CCB 570-204104/173			14:40																											
ZZZZZZ			15:26																											
ICIS 570-204104/175			15:29	X	X	X																								
IC 570-204104/176			15:32	X	X	X																								
CCV 570-204104/177			15:35																											
CCB 570-204104/178			15:38																											
ZZZZZZ			15:41																											
ZZZZZZ			15:44																											
ZZZZZZ			15:46																											
ZZZZZZ			15:49																											
ZZZZZZ			15:52																											
ZZZZZZ			15:55																											
ZZZZZZ			15:58																											
CCV 570-204104/186			16:01																											
CCB 570-204104/187			16:04																											

Prep Types:
D = Dissolved

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: HG7 Analysis Method: 245.1

Start Date: 12/28/2021 11:29 End Date: 12/28/2021 16:10

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ICIS 570-204128/1-A			11:29	X																								
IC 570-204128/2-A			11:31	X																								
IC 570-204128/3-A			11:33	X																								
IC 570-204128/4-A			11:35	X																								
IC 570-204128/5-A			11:37	X																								
IC 570-204128/6-A			11:38	X																								
ICV 570-204128/7-A	1		11:41	X																								
ICB 570-204128/8-A	1		11:42	X																								
CRA 570-204128/11-A	1		11:44	X																								
CCV 570-204128/9-A			11:46																									
CCB 570-204128/10-A			11:48																									
ZZZZZZ			13:05																									
ZZZZZZ			13:07																									
ZZZZZZ			13:09																									
ZZZZZZ			13:11																									
ZZZZZZ			13:13																									
ZZZZZZ			13:14																									
ZZZZZZ			13:16																									
ZZZZZZ			13:18																									
ZZZZZZ			13:20																									
ZZZZZZ			13:22																									
CCV 570-204128/9-A			13:24																									
CCB 570-204128/10-A			13:25																									
ZZZZZZ			13:27																									
ZZZZZZ			13:29																									
ZZZZZZ			13:31																									
ZZZZZZ			13:33																									
ZZZZZZ			13:35																									
ZZZZZZ			13:36																									
ZZZZZZ			13:38																									
ZZZZZZ			13:40																									
CCV 570-204128/9-A	1		13:42	X																								
CCB 570-204128/10-A	1		13:44	X																								
MB 570-204014/1-B	1	D	13:47	X																								
LCS 570-204014/2-B	1	D	13:49	X																								
LCSD 570-204014/3-B	1	D	13:51	X																								
570-80119-1	1	D	13:53	X																								
570-80119-2	1	D	13:55	X																								
570-80119-2 MS	1	D	13:57	X																								
570-80119-2 MSD	1	D	13:58	X																								
570-80119-3	1	D	14:00	X																								
570-80119-4	1	D	14:02	X																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: HG7 Analysis Method: 245.1

Start Date: 12/28/2021 11:29 End Date: 12/28/2021 16:10

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
ZZZZZZ			14:04	
CCV 570-204128/9-A	1		14:06	X
CCB 570-204128/10-A	1		14:08	X
ZZZZZZ			14:09	
ZZZZZZ			14:11	
ZZZZZZ			14:13	
ZZZZZZ			14:15	
ZZZZZZ			14:17	
ZZZZZZ			14:19	
ZZZZZZ			14:21	
CCV 570-204128/9-A			14:22	
CCB 570-204128/10-A			14:24	
ZZZZZZ			15:18	
ZZZZZZ			15:20	
ZZZZZZ			15:22	
ZZZZZZ			15:23	
ZZZZZZ			15:25	
ZZZZZZ			15:27	
ZZZZZZ			15:29	
ZZZZZZ			15:31	
ZZZZZZ			15:33	
ZZZZZZ			15:35	
CCV 570-204128/9-A			15:36	
CCB 570-204128/10-A			15:38	
ZZZZZZ			15:40	
ZZZZZZ			15:42	
ZZZZZZ			15:44	
ZZZZZZ			15:48	
ZZZZZZ			15:49	
ZZZZZZ			15:51	
ZZZZZZ			15:53	
ZZZZZZ			15:55	
ZZZZZZ			15:57	
CCV 570-204128/9-A			15:59	
CCB 570-204128/10-A			16:01	
ZZZZZZ			16:02	
ZZZZZZ			16:04	
ZZZZZZ			16:06	
CCV 570-204128/9-A			16:08	
CCB 570-204128/10-A			16:10	

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: HG7 Analysis Method: 245.1

Start Date: 12/28/2021 11:29 End Date: 12/28/2021 16:10

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								

Prep Types:
D = Dissolved

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: HG9 Analysis Method: 245.1

Start Date: 01/13/2022 13:33 End Date: 01/13/2022 15:10

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ICIS 570-207215/1-A			13:33	X																								
IC 570-207215/2-A			13:35	X																								
IC 570-207215/3-A			13:37	X																								
IC 570-207215/4-A			13:39	X																								
IC 570-207215/5-A			13:40	X																								
IC 570-207215/6-A			13:42	X																								
ICV 570-207215/7-A	1		14:00	X																								
ICB 570-207215/8-A	1		14:01	X																								
CRA 570-207215/11-A	1		14:09	X																								
CCV 570-207215/9-A	1		14:11	X																								
CCB 570-207215/10-A	1		14:13	X																								
MB 570-207222/1-A	1	T	14:51	X																								
LCS 570-207222/2-A	1	T	14:53	X																								
LCSD 570-207222/3-A	1	T	14:55	X																								
570-80119-1	1	T	14:57	X																								
570-80119-1 MS	1	T	14:59	X																								
570-80119-1 MSD	1	T	15:01	X																								
570-80119-2	1	T	15:03	X																								
570-80119-3	1	T	15:04	X																								
570-80119-4	1	T	15:06	X																								
CCV 570-207215/9-A	1		15:08	X																								
CCB 570-207215/10-A	1		15:10	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Instrument ID: ICPMS6 Analysis Method: 200.8

Start Date: 01/13/2022 08:46 End Date: 01/13/2022 13:37

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
RINSE 440-664405/1			08:46																											
RINSE 440-664405/2			08:48																											
STD0 440-664405/3 IC	1		08:51	X	X	X																								
STD1 440-664405/4 IC	1		08:53	X	X	X																								
STD2 440-664405/5 IC	1		08:55	X	X	X																								
STD3 440-664405/6 IC	1		08:57	X	X	X																								
STD4 440-664405/7 IC	1		09:00	X	X	X																								
ZZZZZZ			09:02																											
ICV 440-664405/9	1		09:07	X	X	X																								
ICB 440-664405/10	1		09:09	X	X	X																								
CRI 440-664405/11	1		09:11	X	X	X																								
CRI 440-664405/12	1		09:13	X	X	X																								
ICSA 440-664405/13	1		09:16	X	X	X																								
ICSAB 440-664405/14	1		09:18	X	X	X																								
RINSE 440-664405/15			09:20																											
RINSE 440-664405/16			09:22																											
RINSE 440-664405/17			09:25																											
CCV 440-664405/18			11:58																											
CCB 440-664405/19			12:00																											
ZZZZZZ			12:02																											
ZZZZZZ			12:04																											
ZZZZZZ			12:06																											
ZZZZZZ			12:08																											
ZZZZZZ			12:10																											
ZZZZZZ			12:12																											
ZZZZZZ			12:15																											
ZZZZZZ			12:17																											
ZZZZZZ			12:19																											
ZZZZZZ			12:21																											
CCV 440-664405/30			12:23																											
CCB 440-664405/31			12:25																											
ZZZZZZ			12:27																											
ZZZZZZ			12:29																											
ZZZZZZ			12:31																											
ZZZZZZ			12:33																											
ZZZZZZ			12:35																											
ZZZZZZ			12:37																											
ZZZZZZ			12:39																											
ZZZZZZ			12:41																											
ZZZZZZ			12:43																											
ZZZZZZ			12:46																											
CCV 440-664405/42	1		12:48	X	X	X																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Instrument ID: ICPMS6 Analysis Method: 200.8

Start Date: 01/13/2022 08:46 End Date: 01/13/2022 13:37

Lab Sample Id	D/F	Type	Time	Analytes																									
				Cd	Cu	Pb																							
CCB 440-664405/43	1		12:50	X	X	X																							
MB 440-664348/1-A	1	R	12:52	X	X	X																							
LCS 440-664348/2-A	1	R	12:54	X	X	X																							
ZZZZZZ			12:56																										
ZZZZZZ			12:58																										
ZZZZZZ			13:00																										
ZZZZZZ			13:02																										
570-80603-B-1-B MS	1	R	13:04	X	X	X																							
570-80603-B-1-C MSD	1	R	13:06	X	X	X																							
ZZZZZZ			13:08																										
CCV 440-664405/53	1		13:10	X	X	X																							
CCB 440-664405/54	1		13:12	X	X	X																							
ZZZZZZ			13:14																										
570-80119-1	1	R	13:17	X	X	X																							
570-80119-2	1	R	13:19	X	X	X																							
570-80119-3	1	R	13:21	X	X	X																							
570-80119-4	1	R	13:23	X	X	X																							
ZZZZZZ			13:25																										
ZZZZZZ			13:27																										
ZZZZZZ			13:29																										
ZZZZZZ			13:31																										
ZZZZZZ			13:33																										
CCV 440-664405/65	1		13:35	X	X	X																							
CCB 440-664405/66	1		13:37	X	X	X																							

Prep Types:
R = Total Recoverable

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.: Analysis Batch No.: 204104

ICP-MS Instrument ID: ICPMS05 Start Date: 12/28/2021 End Date: 12/28/2021

Lab Sample ID	Time	Internal Standards %RI For:									
		Element	Q	Element Sc	Q	Element Ga	Q	Element Ga	Q	Element In	Q
ICIS 570-204104/1	07:49										
ICV 570-204104/3	07:55			100						104	
ICV 570-204104/4	07:59			102						102	
ICB 570-204104/5	08:02			100						102	
ICSA 570-204104/8	08:11			103						100	
ICSAB 570-204104/9	08:15			102						100	
ICVL 570-204104/11	08:24			105						103	
IC 570-204104/38	10:10										
CCV 570-204104/99	11:44			104						99	
CCB 570-204104/100	11:46			98						98	
MB 570-204013/1-A	11:54			102						102	
LCS 570-204013/2-A	11:55			103						101	
LCSD 570-204013/3-A	11:57			103						100	
570-80119-1	11:58			105						100	
570-80119-1 MS	12:00			103						98	
570-80119-1 MSD	12:01			103						99	
CCV 570-204104/111	12:03			102						97	
CCB 570-204104/112	12:04			100						97	
570-80119-2	12:06			105						100	
570-80119-3	12:08			104						99	
570-80119-4	12:09			105						102	
CCV 570-204104/122	12:20			103						99	
CCB 570-204104/123	12:21			101						99	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.: Analysis Batch No.: 204104

ICP-MS Instrument ID: ICPMS05 Start Date: 12/28/2021 End Date: 12/28/2021

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Tb	Q	Element Ho	Q	Element Bi	Q	Element	Q	Element	Q
ICIS 570-204104/1	07:49										
ICV 570-204104/3	07:55	100									
ICV 570-204104/4	07:59	100									
ICB 570-204104/5	08:02	100									
ICSA 570-204104/8	08:11	101									
ICSAB 570-204104/9	08:15	101									
ICVL 570-204104/11	08:24	102									
IC 570-204104/38	10:10										
CCV 570-204104/99	11:44	101									
CCB 570-204104/100	11:46	98									
MB 570-204013/1-A	11:54	101									
LCS 570-204013/2-A	11:55	100									
LCSD 570-204013/3-A	11:57	100									
570-80119-1	11:58	100									
570-80119-1 MS	12:00	101									
570-80119-1 MSD	12:01	101									
CCV 570-204104/111	12:03	99									
CCB 570-204104/112	12:04	99									
570-80119-2	12:06	101									
570-80119-3	12:08	100									
570-80119-4	12:09	102									
CCV 570-204104/122	12:20	100									
CCB 570-204104/123	12:21	99									

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.: Analysis Batch No.: 664405

ICP-MS Instrument ID: ICPMS6 Start Date: 01/13/2022 End Date: 01/13/2022

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45	Q	Element Ge	Q	Element In-115	Q	Element Tb-159	Q	Element	Q
STD0 440-664405/3 IC	08:51	100		100		100		100			
STD1 440-664405/4 IC	08:53	100		100		100		100			
STD2 440-664405/5 IC	08:55	100		100		100		100			
STD3 440-664405/6 IC	08:57	100		100		101		101			
STD4 440-664405/7 IC	09:00	99		100		100		101			
ICV 440-664405/9	09:07	97		98		99		100			
ICB 440-664405/10	09:09	96		96		98		99			
CRI 440-664405/11	09:11	97		96		98		99			
CRI 440-664405/12	09:13	97		97		99		100			
ICSA 440-664405/13	09:16	99		96		95		100			
ICSAB 440-664405/14	09:18	100		98		96		101			
CCV 440-664405/42	12:48	78		85		94		101			
CCB 440-664405/43	12:50	77		83		91		99			
MB 440-664348/1-A	12:52	82		87		97		102			
LCS 440-664348/2-A	12:54	83		88		97		103			
570-80603-B-1-B MS	13:04	85		87		90		98			
570-80603-B-1-C MSD	13:06	89		90		94		100			
CCV 440-664405/53	13:10	81		84		89		94			
CCB 440-664405/54	13:12	79		82		86		92			
570-80119-1	13:17	83		86		93		96			
570-80119-2	13:19	81		83		89		94			
570-80119-3	13:21	81		84		90		95			
570-80119-4	13:23	80		83		89		94			
CCV 440-664405/65	13:35	78		81		86		91			
CCB 440-664405/66	13:37	76		80		84		90			

15A-IN
ICP-MS INTERNAL STANDARDS RELATIONS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.: Analysis Batch No.: 664405

ICP-MS Instrument ID: ICPMS6 Start Date: 01/13/2022 End Date: 01/13/2022

Analyte	Mass	Internal Standard Used:				
		Element In-115 115	Element Tb-159 159	Element Sc-45 45	Element Ge 72	Element
Cadmium	111	X				
Copper	65			X		
Lead	208		X			
Aluminum	27			X		
Antimony	121	X				
Arsenic	75				X	
Barium	137	X				
Beryllium	9			X		
Cerium	140	X				
Cesium	133	X				
Chromium	52			X		
Cobalt	59			X		
Iron	56			X		
Manganese	55			X		
Molybdenum	95	X				
Nickel	60			X		
Rubidium	85	X				
Selenium	78				X	
Silver	107	X				
Thallium	205		X			
Tin	118	X				
Total Heavy Metals						
Uranium	238		X			
Vanadium	51			X		
Zinc	66				X	
Internal Standard Name on Instrument		In-115 (IS)	Tb-159 (IS)	Sc-45 (IS)	Ge (IS)	

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 204013 Batch Start Date: 12/27/21 19:50 Batch Analyst: Semenova, Irina

Batch Method: Filtration Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	Final pH	MT_1:1HNO3 00008	MT_ICP_Spike1 00012
MB 570-204013/1		Filtration, 200.8		50 mL	50 mL		<2 SU	1 mL	
LCS 570-204013/2		Filtration, 200.8		50 mL	50 mL		<2 SU	1 mL	50 uL
LCSD 570-204013/3		Filtration, 200.8		50 mL	50 mL		<2 SU	1 mL	50 uL
570-80119-B-1	A2BMP0007S021	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80119-B-1 MS	A2BMP0007S021	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	50 uL
570-80119-B-1 MSD	A2BMP0007S021	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	50 uL
570-80119-B-2	A2BMP0012S010	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80119-B-3	EVBMP0001S019	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80119-B-4	EVBMP0003S032	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_ICP_Spike2 00015	MT_MS_SPIKE_3 00002				
MB 570-204013/1		Filtration, 200.8							
LCS 570-204013/2		Filtration, 200.8		50 uL	0.25 mL				
LCSD 570-204013/3		Filtration, 200.8		50 uL	0.25 mL				
570-80119-B-1	A2BMP0007S021	Filtration, 200.8	D						
570-80119-B-1 MS	A2BMP0007S021	Filtration, 200.8	D	50 uL	0.25 mL				
570-80119-B-1 MSD	A2BMP0007S021	Filtration, 200.8	D	50 uL	0.25 mL				
570-80119-B-2	A2BMP0012S010	Filtration, 200.8	D						
570-80119-B-3	EVBMP0001S019	Filtration, 200.8	D						
570-80119-B-4	EVBMP0003S032	Filtration, 200.8	D						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 204013 Batch Start Date: 12/27/21 19:50 Batch Analyst: Semenova, Irina

Batch Method: Filtration Batch End Date:

Batch Notes	
Pipette/Syringe/Dispenser ID	p-116,p-069,d-030
Filter ID	r8na47060
Nitric Acid ID	See Reagent Additions Worksheet

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 204104 Batch Start Date: 12/28/21 07:49 Batch Analyst: Lee, Francis

Batch Method: 200.8 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_MS_BLK_1 00005	MT_MS_CCV 00010	MT_MS_IC 00014	MT_MS_ICS_A 00006	MT_MS_ICS_AB 00008	MT_MS_ICV1 00007
ICIS 570-204104/1		200.8		# mL					
ICV 570-204104/3		200.8							# mL
ICV 570-204104/4		200.8							
ICB 570-204104/5		200.8		# mL					
ICSA 570-204104/8		200.8					# mL		
ICSAB 570-204104/9		200.8						# mL	
ICVL 570-204104/11		200.8							
IC 570-204104/38		200.8				# mL			
CCV 570-204104/99		200.8			# mL				
CCB 570-204104/100		200.8		# mL					
CCV 570-204104/111		200.8			# mL				
CCB 570-204104/112		200.8		# mL					
CCV 570-204104/122		200.8			# mL				
CCB 570-204104/123		200.8		# mL					

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_MS_ICV2 00008	MT_MS_LL 00010				
ICIS 570-204104/1		200.8							
ICV 570-204104/3		200.8							
ICV 570-204104/4		200.8		# mL					
ICB 570-204104/5		200.8							
ICSA 570-204104/8		200.8							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 204104 Batch Start Date: 12/28/21 07:49 Batch Analyst: Lee, Francis

Batch Method: 200.8 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_MS_ICV2 00008	MT_MS_LL 00010				
ICSAB 570-204104/9		200.8							
ICVL 570-204104/11		200.8			# mL				
IC 570-204104/38		200.8							
CCV 570-204104/99		200.8							
CCB 570-204104/100		200.8							
CCV 570-204104/111		200.8							
CCB 570-204104/112		200.8							
CCV 570-204104/122		200.8							
CCB 570-204104/123		200.8							

Batch Notes	
Pipette/Syringe/Dispenser ID	MP-062/P-007/MP-58
Analyst ID - Aliquot Step	UFLE
Internal Standard ID#	2099615
Carrier Lot Number	23530

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 204014 Batch Start Date: 12/27/21 19:50 Batch Analyst: Semenova, Irina

Batch Method: Filtration Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	Final pH	MT_1:1HNO3 00008	
MB 570-204014/1		Filtration, 245.1, 245.1		50 mL	50 mL		<2 SU	1 mL	
LCS 570-204014/2		Filtration, 245.1, 245.1		50 mL	50 mL		<2 SU	1 mL	
LCSD 570-204014/3		Filtration, 245.1, 245.1		50 mL	50 mL		<2 SU	1 mL	
570-80119-B-1	A2BMP0007S021	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80119-B-2	A2BMP0012S010	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80119-B-2 MS	A2BMP0012S010	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80119-B-2 MSD	A2BMP0012S010	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80119-B-3	EVBMP0001S019	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80119-B-4	EVBMP0003S032	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	

Batch Notes	
Pipette/Syringe/Dispenser ID	p-116,p-069,d-030
Filter ID	r8na47060
Nitric Acid ID	See Reagent Additions Worksheet

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 204016 Batch Start Date: 12/28/21 06:07 Batch Analyst: Rolin, Randy

Batch Method: 245.1 Batch End Date: 12/28/21 08:11

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	HG_1ppm STD 00040	Hg_H2SO4 00010	Hg_K2S2O3 00006
MB 570-204014/1-A		245.1, 245.1		<2	50 mL	100 mL		2.5 mL	4 mL
LCS 570-204014/2-A		245.1, 245.1		<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
LCSD 570-204014/3-A		245.1, 245.1		<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80119-B-1-D	A2BMP0007S021	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL
570-80119-B-2-B	A2BMP0012S010	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL
570-80119-B-2-C MS	A2BMP0012S010	245.1, 245.1	D	<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80119-B-2-D MSD	A2BMP0012S010	245.1, 245.1	D	<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80119-B-3-B	EVBMP0001S019	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL
570-80119-B-4-B	EVBMP0003S032	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00028			
MB 570-204014/1-A		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
LCS 570-204014/2-A		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
LCSD 570-204014/3-A		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
570-80119-B-1-D	A2BMP0007S021	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-80119-B-2-B	A2BMP0012S010	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-80119-B-2-C MS	A2BMP0012S010	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-80119-B-2-D MSD	A2BMP0012S010	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-80119-B-3-B	EVBMP0001S019	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-80119-B-4-B	EVBMP0003S032	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 204016 Batch Start Date: 12/28/21 06:07 Batch Analyst: Rolin, Randy

Batch Method: 245.1 Batch End Date: 12/28/21 08:11

Batch Notes	
Digestion Tube/Cup ID	mld300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	1220
Sufficient Volume for Batch QC	yes
Nitric Acid ID	reagent addition worksheet
Sulfuric Acid Lot Number	reagent addition worksheet
Potassium Permanganate ID	reagent addition worksheet
Potassium Persulfate ID	reagent addition worksheet
Digestion Unit ID	Block 17
Thermometer ID	Y22-12
Temperature - Uncorrected - Start	96 Degrees C
Temperature - Corrected - Start	97 Degrees C
Digestion Start Time	12/28/2021 06:07
Digestion End Time	12/28/2021 08:07
Temperature - Uncorrected - End	96 Degrees C
Temperature - Corrected - End	97 Degrees C
Hydroxylamine ID	reagent addition worksheet

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 204128 Batch Start Date: 12/28/21 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 12/28/21 10:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	HG_1ppm ICV 00035	HG_1ppm STD 00040	Hg_H2SO4 00010	Hg_K2S2O3 00006
ICV 570-204128/7		7470A, 245.1		50 mL	100 mL	500 uL		2.5 mL	4 mL
ICB 570-204128/8		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CCV 570-204128/9		7470A, 245.1		50 mL	100 mL		200 uL	2.5 mL	4 mL
CCB 570-204128/10		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CRA 570-204128/11		7470A, 245.1		50 mL	100 mL		10 uL	2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00022			
ICV 570-204128/7		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
ICB 570-204128/8		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCV 570-204128/9		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCB 570-204128/10		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CRA 570-204128/11		7470A, 245.1		7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 204128 Batch Start Date: 12/28/21 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 12/28/21 10:45

Batch Notes	
Digestion Tube/Cup ID	mld0300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	6214
Sufficient Volume for Batch QC	yes
Nitric Acid ID	891458
Sulfuric Acid ID	1127963
Potassium Permanganate ID	548814
Potassium Persulfate ID	1381067
Digestion Unit ID	16
Thermometer ID	Y22-11
Temperature - Uncorrected - Start	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion Start Time	08:45
Digestion End Time	10:45
Temperature - Uncorrected - End	99 Degrees C
Temperature - Corrected - End	99 Degrees C
Hydroxylamine ID	1611140

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 207215 Batch Start Date: 01/13/22 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 01/13/22 10:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	HG_1ppm ICV 00036	HG_1ppm STD 00041	Hg_H2SO4 00010	Hg_K2S2O3 00006
ICV 570-207215/7		7470A, 245.1		50 mL	100 mL	500 uL		2.5 mL	4 mL
ICB 570-207215/8		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CCV 570-207215/9		7470A, 245.1		50 mL	100 mL		200 uL	2.5 mL	4 mL
CCB 570-207215/10		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CRA 570-207215/11		7470A, 245.1		50 mL	100 mL		10 uL	2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00022			
ICV 570-207215/7		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
ICB 570-207215/8		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCV 570-207215/9		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCB 570-207215/10		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CRA 570-207215/11		7470A, 245.1		7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 207215 Batch Start Date: 01/13/22 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 01/13/22 10:45

Batch Notes	
Digestion Tube/Cup ID	mld0300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	6214
Sufficient Volume for Batch QC	yes
Nitric Acid ID	891458
Sulfuric Acid ID	1127963
Potassium Permanganate ID	548814
Potassium Persulfate ID	1381067
Digestion Unit ID	16
Thermometer ID	Y22-11
Temperature - Uncorrected - Start	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion Start Time	08:45
Digestion End Time	10:45
Temperature - Uncorrected - End	99 Degrees C
Temperature - Corrected - End	99 Degrees C
Hydroxylamine ID	1611140

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 207222 Batch Start Date: 01/13/22 09:48 Batch Analyst: Cruz, Ariana

Batch Method: 245.1 Batch End Date: 01/13/22 11:53

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	HG_1ppm STD 00041	Hg_H2SO4 00010	Hg_K2S2O3 00006
MB 570-207222/1		245.1, 245.1		<2	50 mL	100 mL		2.5 mL	4 mL
LCS 570-207222/2		245.1, 245.1		<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
LCSD 570-207222/3		245.1, 245.1		<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80119-A-1	A2BMP0007S021	245.1, 245.1	T	<2	50 mL	100 mL		2.5 mL	4 mL
570-80119-A-1 MS	A2BMP0007S021	245.1, 245.1	T	<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80119-A-1 MSD	A2BMP0007S021	245.1, 245.1	T	<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80119-A-2	A2BMP0012S010	245.1, 245.1	T	<2	50 mL	100 mL		2.5 mL	4 mL
570-80119-A-3	EVBMP0001S019	245.1, 245.1	T	<2	50 mL	100 mL		2.5 mL	4 mL
570-80119-A-4	EVBMP0003S032	245.1, 245.1	T	<2	50 mL	100 mL		2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00028			
MB 570-207222/1		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
LCS 570-207222/2		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
LCSD 570-207222/3		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
570-80119-A-1	A2BMP0007S021	245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			
570-80119-A-1 MS	A2BMP0007S021	245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			
570-80119-A-1 MSD	A2BMP0007S021	245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			
570-80119-A-2	A2BMP0012S010	245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			
570-80119-A-3	EVBMP0001S019	245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			
570-80119-A-4	EVBMP0003S032	245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 207222 Batch Start Date: 01/13/22 09:48 Batch Analyst: Cruz, Ariana

Batch Method: 245.1 Batch End Date: 01/13/22 11:53

Batch Notes	
Digestion Tube/Cup ID	mld300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	6214
Sufficient Volume for Batch QC	yes
Nitric Acid ID	reagent addition worksheet
Sulfuric Acid Lot Number	reagent addition worksheet
Potassium Permanganate ID	reagent addition worksheet
Potassium Persulfate ID	reagent addition worksheet
Digestion Unit ID	Block 17
Thermometer ID	Y22-12
Temperature - Uncorrected - Start	96 Degrees C
Temperature - Corrected - Start	97 Degrees C
Digestion Start Time	01/13/2022 09:48
Digestion End Time	01/13/2022 11:48
Temperature - Uncorrected - End	96 Degrees C
Temperature - Corrected - End	97 Degrees C
Hydroxylamine ID	reagent addition worksheet

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Tustin Job No.: 570-80119-1

SDG No.:

Batch Number: 664348 Batch Start Date: 01/13/22 06:58 Batch Analyst: Rolin, Randy

Batch Method: 200.2 Batch End Date: 01/13/22 10:58

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ME 1:1 HCl 00124	ME 1:1 HNO3 00421	ME ICPMS ICV 00242
MB 440-664348/1		200.2, 200.8			25 mL	25 mL	0.25 mL	0.5 mL	
LCS 440-664348/2		200.2, 200.8			25 mL	25 mL	0.25 mL	0.5 mL	0.2 mL
570-80603-B-1 MS		200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	0.2 mL
570-80603-B-1 MSD		200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	0.2 mL
570-80119-A-1	A2BMP0007S021	200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	
570-80119-A-2	A2BMP0012S010	200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	
570-80119-A-3	EVBMP0001S019	200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	
570-80119-A-4	EVBMP0003S032	200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	

Batch Notes	
Digestion Tube/Cup ID	2108282
Hot Block ID	6
Hood ID	12
Lot # of Nitric Acid	6803471
Uncorrected Temperature	93 Celsius
Oven, Bath or Block Temperature 1	93 Celsius
Thermometer ID	P-125 CF=0
Pipette ID	MET100
First Start time	6:58
First End time	10:58
Batch Comment	HCl#6816164 pH#230418 MB A6

Basis	Basis Description
R	Total Recoverable

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, December 28, 2021 07:49:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICIS-1479530.013
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44926.096		ppb	1.412		
9	**Be**		36.667		ppb	18.182		
10	**B**		1817.894		ppb	6.053		
27	**Al**		9451.793		ppb	1.534		
43	**Ca-2**		106.667		ppb	23.593		
49	**Ti**		212.224		ppb	17.301		
52	**Cr**		18720.042		ppb	2.822		
55	**Mn**		1591.200		ppb	5.781		
57	**Fe**		14598.568		ppb	1.569		
45	**Sc-IS**	>	1777472.230		ppb	0.278		
66	**Zn**		904.473		ppb	0.767		
86	**Sr**		17.187		ppb	109.650		
65	**Cu**		412.228		ppb	20.043		
69	**Ga-IS**		514898.296		ppb	1.388		
95	**Mo**		535.566		ppb	14.812		
115	**In-IS**	>	219027.825		ppb	1.442		
111	**Cd**		41.098		ppb	32.871		
118	**Sn**		3441.526		ppb	2.657		
121	**Sb**		436.673		ppb	6.785		
135	**Ba**		56.667		ppb	25.641		
165	**Ho-IS**		373728.975		ppb	0.787		
159	**Tb-IS**	>	362592.971		ppb	0.757		
207	**Pb**		750.008		ppb	8.653		
203	**Tl**		240.002		ppb	14.096		
209	**Bi-IS**		211955.496		ppb	1.564		
51	**V**		2.222		ppb	86.603		
59	**Co**		16.667		ppb	20.000		
60	**Ni**		105.556		ppb	20.303		
75	**As**		269.196		ppb	6.658		
71	**Ga-ISK**		60067.165		ppb	2.104		
82	**Se-2**		4.127		ppb	220.670		
107	**Ag-1**		411.117		ppb	19.482		
115	**In-ISK**	>	81046.652		ppb	1.843		
45	**Sc-ISK**		147886.464		ppb	3.146		
23	**Na**		9291.354		ppb	1.324		
39	**K**		36695.968		ppb	1.630		
24	**Mg**		276.669		ppb	9.954		
159	**Tb-ISK**	>	162588.970		ppb	2.253		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-1479552
Autosampler Position: 204
Sample Date/Time: Tuesday, December 28, 2021 07:52:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\IC-1479552.014
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44991.859		ppb	1.438		44926.096
9	**Be**		512494.307	**200.000000**	ppb	2.826	1.082	36.667
10	**B**		377889.881	**500.000000**	ppb	4.706	2.863	1817.894
27	**Al**		2808789.113	**200.000000**	ppb	1.072	1.475	9451.793
43	**Ca-2**		496071.088	**10200.000000**	ppb	1.775	0.124	106.667
49	**Ti**		255160.800	**200.000000**	ppb	0.132	1.806	212.224
52	**Cr**		3467335.450	**200.000000**	ppb	0.525	1.607	18720.042
55	**Mn**		5271212.651	**200.000000**	ppb	2.343	1.361	1591.200
57	**Fe**		5424199.067	**10200.000000**	ppb	3.109	2.437	14598.568
45	**Sc-IS**	>	1782786.942		ppb	1.897		1777472.230
66	**Zn**		529447.645	**200.000000**	ppb	1.047	0.940	904.473
86	**Sr**		872327.879	**200.000000**	ppb	0.056	1.877	17.187
65	**Cu**		762127.436	**200.000000**	ppb	1.801	2.341	412.228
69	**Ga-IS**		576975.409		ppb	0.326		514898.296
95	**Mo**		992529.323	**200.000000**	ppb	0.757	2.261	535.566
115	**In-IS**	>	218796.554		ppb	4.197		219027.825
111	**Cd**		602407.834	**200.000000**	ppb	3.120	1.072	41.098
118	**Sn**		1709031.913	**200.000000**	ppb	2.943	1.491	3441.526
121	**Sb**		1830111.643	**200.000000**	ppb	2.966	1.245	436.673
135	**Ba**		509563.710	**200.000000**	ppb	2.608	1.575	56.667
165	**Ho-IS**		375297.516		ppb	1.412		373728.975
159	**Tb-IS**	>	357831.849		ppb	2.134		362592.971
207	**Pb**		8395839.463	**200.000000**	ppb	2.581	1.159	750.008
203	**Tl**		2716537.345	**200.000000**	ppb	1.686	0.758	240.002
209	**Bi-IS**		200274.466		ppb	2.069		211955.496
51	**V**		58026.553	**200.000000**	ppb	2.655	4.104	2.222
59	**Co**		194363.325	**200.000000**	ppb	0.834	2.065	16.667
60	**Ni**		372395.786	**200.000000**	ppb	0.355	1.683	105.556
75	**As**		123403.845	**200.000000**	ppb	0.953	2.861	269.196
71	**Ga-ISK**		57709.664		ppb	0.400		60067.165
82	**Se-2**		12754.872	**200.000000**	ppb	2.036	3.126	4.127
107	**Ag-1**		1379707.105	**200.000000**	ppb	0.370	2.236	411.117
115	**In-ISK**	>	79189.019		ppb	1.984		81046.652
45	**Sc-ISK**		150689.596		ppb	1.516		147886.464
23	**Na**		3987632.886	**10200.000000**	ppb	1.117	1.597	9291.354
39	**K**		7579044.848	**10200.000000**	ppb	0.248	0.646	36695.968
24	**Mg**		3452356.280	**10200.000000**	ppb	0.994	0.547	276.669
159	**Tb-ISK**	>	165548.381		ppb	0.580		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICV-1800319
Autosampler Position: 206
Sample Date/Time: Tuesday, December 28, 2021 07:55:58
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICV-1800319.015
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45739.781		ppb	1.190		44926.096
9	**Be**		258643.309	**101.070351**	ppb	2.176	2.007	36.667
10	**B**		4734.118	**3.879116**	ppb	3.155	4.226	1817.894
27	**Al**		14996.543	**0.396012**	ppb	4.219	15.479	9451.793
43	**Ca-2**		251742.084	**5182.102961**	ppb	0.466	1.175	106.667
49	**Ti**		129027.910	**101.157868**	ppb	1.302	0.436	212.224
52	**Cr**		1748907.273	**100.459119**	ppb	0.361	1.317	18720.042
55	**Mn**		2662149.781	**101.101485**	ppb	1.678	0.115	1591.200
57	**Fe**		2876236.950	**5403.072221**	ppb	0.902	1.370	14598.568
45	**Sc-IS**	>	1780575.574		ppb	1.565		1777472.230
66	**Zn**		281973.675	**106.494930**	ppb	1.229	2.088	904.473
86	**Sr**		434517.601	**99.734633**	ppb	1.148	1.747	17.187
65	**Cu**		392904.918	**103.170968**	ppb	1.390	1.378	412.228
69	**Ga-IS**		527908.020		ppb	1.231		514898.296
95	**Mo**		501104.535	**101.026733**	ppb	1.083	0.884	535.566
115	**In-IS**	>	227102.601		ppb	3.504		219027.825
111	**Cd**		315597.959	**100.933803**	ppb	2.673	1.463	41.098
118	**Sn**		868582.464	**97.708204**	ppb	2.580	1.047	3441.526
121	**Sb**		914388.646	**96.237406**	ppb	2.524	1.098	436.673
135	**Ba**		154.445	**0.036558**	ppb	25.015	45.237	56.667
165	**Ho-IS**		377028.665		ppb	2.188		373728.975
159	**Tb-IS**	>	362955.320		ppb	2.070		362592.971
207	**Pb**		4238652.081	**99.542031**	ppb	2.040	0.974	750.008
203	**Tl**		1298536.558	**94.231449**	ppb	2.462	0.389	240.002
209	**Bi-IS**		208768.465		ppb	2.740		211955.496
51	**V**		28833.514	**96.014007**	ppb	0.477	2.395	2.222
59	**Co**		96247.733	**95.725138**	ppb	2.645	4.560	16.667
60	**Ni**		190372.505	**98.763680**	ppb	1.626	1.977	105.556
75	**As**		64410.587	**100.652956**	ppb	0.636	2.364	269.196
71	**Ga-ISK**		59848.438		ppb	0.552		60067.165
82	**Se-2**		6477.282	**98.096036**	ppb	2.093	2.324	4.127
107	**Ag-1**		1811.226	**0.195669**	ppb	5.894	9.590	411.117
115	**In-ISK**	>	81950.150		ppb	1.921		81046.652
45	**Sc-ISK**		149456.628		ppb	0.230		147886.464
23	**Na**		11007.575	**3.754550**	ppb	2.704	20.939	9291.354
39	**K**		43381.327	**7.698698**	ppb	0.938	10.646	36695.968
24	**Mg**		1747097.855	**5122.430197**	ppb	2.051	1.812	276.669
159	**Tb-ISK**	>	166805.539		ppb	0.480		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICV-1896925
Autosampler Position: 213
Sample Date/Time: Tuesday, December 28, 2021 07:59:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICV-1896925.016
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45745.422		ppb	3.913		44926.096
9	**Be**		78.889	**0.016006**	ppb	17.592	31.599	36.667
10	**B**		82335.665	**105.621895**	ppb	3.455	0.658	1817.894
27	**Al**		1522191.605	**106.662993**	ppb	1.227	2.271	9451.793
43	**Ca-2**		218.335	**2.239480**	ppb	8.043	21.343	106.667
49	**Ti**		310.003	**0.072869**	ppb	9.855	29.271	212.224
52	**Cr**		19261.866	**0.013902**	ppb	0.872	206.617	18720.042
55	**Mn**		3191.468	**0.058968**	ppb	2.594	3.367	1591.200
57	**Fe**		16233.666	**2.620237**	ppb	2.359	54.376	14598.568
45	**Sc-IS**	>	1806693.887		ppb	2.813		1777472.230
66	**Zn**		1864.566	**0.353130**	ppb	4.705	9.777	904.473
86	**Sr**		132.808	**0.026080**	ppb	24.187	27.788	17.187
65	**Cu**		634.459	**0.055983**	ppb	2.894	16.574	412.228
69	**Ga-IS**		560715.420		ppb	1.162		514898.296
95	**Mo**		2312.409	**0.352000**	ppb	1.947	5.607	535.566
115	**In-IS**	>	222973.193		ppb	2.330		219027.825
111	**Cd**		76.255	**0.011159**	ppb	15.475	29.178	41.098
118	**Sn**		10904.161	**0.852116**	ppb	2.344	6.776	3441.526
121	**Sb**		2004.585	**0.167332**	ppb	1.839	3.109	436.673
135	**Ba**		276591.367	**106.478348**	ppb	1.785	0.559	56.667
165	**Ho-IS**		375106.041		ppb	2.431		373728.975
159	**Tb-IS**	>	361857.447		ppb	2.498		362592.971
207	**Pb**		1560.034	**0.019135**	ppb	0.000	4.841	750.008
203	**Tl**		872.249	**0.046055**	ppb	12.063	15.899	240.002
209	**Bi-IS**		213050.324		ppb	0.902		211955.496
51	**V**		11.111	**0.027936**	ppb	75.498	93.179	2.222
59	**Co**		36.667	**0.018489**	ppb	9.091	19.138	16.667
60	**Ni**		187.779	**0.038858**	ppb	15.098	39.037	105.556
75	**As**		318.971	**0.057327**	ppb	9.556	99.315	269.196
71	**Ga-ISK**		61149.484		ppb	0.187		60067.165
82	**Se-2**		11.471	**0.104876**	ppb	30.529	50.242	4.127
107	**Ag-1**		384905.527	**52.034385**	ppb	2.014	0.682	411.117
115	**In-ISK**	>	84822.993		ppb	2.363		81046.652
45	**Sc-ISK**		153043.210		ppb	0.643		147886.464
23	**Na**		409142.043	**999.236092**	ppb	3.345	3.903	9291.354
39	**K**		809897.908	**1018.298005**	ppb	2.126	3.422	36695.968
24	**Mg**		768.354	**1.382176**	ppb	4.571	6.447	276.669
159	**Tb-ISK**	>	169700.789		ppb	1.410		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 08:02:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICB-1479530.017
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43255.390		ppb	0.888		44926.096
9	**Be**		38.889	**0.000816**	ppb	32.451	608.084	36.667
10	**B**		2005.697	**0.238556**	ppb	5.281	50.078	1817.894
27	**Al**		8261.388	**-0.087740**	ppb	1.605	14.691	9451.793
43	**Ca-2**		100.000	**-0.146060**	ppb	21.795	307.746	106.667
49	**Ti**		221.113	**0.006288**	ppb	7.437	213.387	212.224
52	**Cr**		19409.844	**0.035381**	ppb	0.485	25.729	18720.042
55	**Mn**		1468.965	**-0.004878**	ppb	6.649	80.253	1591.200
57	**Fe**		14091.391	**-1.069731**	ppb	0.545	35.971	14598.568
45	**Sc-IS**	>	1785053.759		ppb	1.074		1777472.230
66	**Zn**		786.688	**-0.045966**	ppb	1.942	10.567	904.473
86	**Sr**		51.133	**0.007674**	ppb	114.749	172.586	17.187
65	**Cu**		356.671	**-0.014947**	ppb	14.599	96.957	412.228
69	**Ga-IS**		502648.502		ppb	1.781		514898.296
95	**Mo**		630.014	**0.018544**	ppb	2.306	9.915	535.566
115	**In-IS**	>	222620.709		ppb	1.991		219027.825
111	**Cd**		35.344	**-0.002197**	ppb	74.944	386.396	41.098
118	**Sn**		4247.299	**0.086682**	ppb	4.490	35.077	3441.526
121	**Sb**		630.014	**0.020037**	ppb	4.762	20.574	436.673
135	**Ba**		66.667	**0.003535**	ppb	15.000	117.120	56.667
165	**Ho-IS**		377775.473		ppb	2.693		373728.975
159	**Tb-IS**	>	363275.441		ppb	0.489		362592.971
207	**Pb**		787.786	**0.000856**	ppb	4.661	110.874	750.008
203	**Tl**		273.336	**0.002385**	ppb	3.227	27.455	240.002
209	**Bi-IS**		207991.000		ppb	0.753		211955.496
51	**V**		3.333	**0.003489**	ppb		6.659	2.222
59	**Co**		26.667	**0.009415**	ppb	97.628	270.171	16.667
60	**Ni**		123.334	**0.007932**	ppb	16.216	134.626	105.556
75	**As**		298.031	**0.035201**	ppb	1.061	36.601	269.196
71	**Ga-ISK**		60169.809		ppb	1.822		60067.165
82	**Se-2**		8.828	**0.068525**	ppb	29.710	54.622	4.127
107	**Ag-1**		1058.929	**0.088219**	ppb	14.045	21.070	411.117
115	**In-ISK**	>	82925.480		ppb	2.106		81046.652
45	**Sc-ISK**		149678.972		ppb	0.842		147886.464
23	**Na**		9321.375	**-0.702063**	ppb	2.535	91.983	9291.354
39	**K**		37501.385	**-0.544800**	ppb	1.285	185.448	36695.968
24	**Mg**		223.335	**-0.182410**	ppb	13.679	46.464	276.669
159	**Tb-ISK**	>	167985.263		ppb	0.749		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 08:05:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.018
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45616.073		ppb	2.363		44926.096
9	**Be**		260528.742	**99.170718**	ppb	0.923	0.964	36.667
10	**B**		201502.508	**258.981296**	ppb	1.592	1.686	1817.894
27	**Al**		1401314.907	**96.961342**	ppb	0.860	0.984	9451.793
43	**Ca-2**		255197.694	**5116.830845**	ppb	0.953	0.848	106.667
49	**Ti**		128847.340	**98.398526**	ppb	0.249	0.132	212.224
52	**Cr**		1731843.527	**96.856570**	ppb	0.647	0.510	18720.042
55	**Mn**		2710758.517	**100.287090**	ppb	1.475	1.339	1591.200
57	**Fe**		2743845.944	**5018.646103**	ppb	0.713	0.669	14598.568
45	**Sc-IS**	>	1827801.834		ppb	0.144		1777472.230
66	**Zn**		265892.824	**97.781627**	ppb	0.632	0.602	904.473
86	**Sr**		434437.313	**97.126428**	ppb	0.459	0.565	17.187
65	**Cu**		383102.012	**97.985531**	ppb	1.660	1.771	412.228
69	**Ga-IS**		543327.609		ppb	0.854		514898.296
95	**Mo**		483660.410	**94.977832**	ppb	1.680	1.718	535.566
115	**In-IS**	>	223765.465		ppb	2.832		219027.825
111	**Cd**		298969.731	**97.036964**	ppb	1.822	1.039	41.098
118	**Sn**		851569.812	**97.216916**	ppb	1.906	0.965	3441.526
121	**Sb**		901625.527	**96.304105**	ppb	1.979	1.131	436.673
135	**Ba**		252880.049	**97.019296**	ppb	1.623	1.393	56.667
165	**Ho-IS**		382664.111		ppb	1.893		373728.975
159	**Tb-IS**	>	366367.789		ppb	1.275		362592.971
207	**Pb**		4176442.609	**97.164822**	ppb	1.138	0.159	750.008
203	**Tl**		1326747.096	**95.384534**	ppb	1.830	0.958	240.002
209	**Bi-IS**		204839.575		ppb	1.894		211955.496
51	**V**		28414.901	**94.135414**	ppb	1.295	0.552	2.222
59	**Co**		96670.573	**95.625343**	ppb	2.631	2.240	16.667
60	**Ni**		186590.759	**96.320585**	ppb	1.131	0.796	105.556
75	**As**		63039.688	**98.011127**	ppb	1.908	2.631	269.196
71	**Ga-ISK**		59672.145		ppb	0.052		60067.165
82	**Se-2**		6459.310	**97.353676**	ppb	0.472	2.000	4.127
107	**Ag-1**		699218.777	**97.406943**	ppb	1.837	0.573	411.117
115	**In-ISK**	>	82349.413		ppb	1.539		81046.652
45	**Sc-ISK**		151775.389		ppb	1.102		147886.464
23	**Na**		1993703.630	**4964.853349**	ppb	3.511	2.252	9291.354
39	**K**		3907374.288	**5108.771608**	ppb	1.242	1.489	36695.968
24	**Mg**		1730938.010	**4992.041484**	ppb	1.753	0.970	276.669
159	**Tb-ISK**	>	169599.127		ppb	2.245		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 08:08:40
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.019
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45312.940		ppb	4.066		44926.096
9	**Be**		55.556	**0.006918**	ppb	28.355	85.651	36.667
10	**B**		2169.054	**0.408313**	ppb	3.400	21.231	1817.894
27	**Al**		8069.279	**-0.111010**	ppb	1.471	9.322	9451.793
43	**Ca-2**		138.334	**0.605950**	ppb	22.955	119.533	106.667
49	**Ti**		240.002	**0.017659**	ppb	10.848	87.257	212.224
52	**Cr**		18399.623	**-0.040163**	ppb	2.211	125.011	18720.042
55	**Mn**		1663.430	**0.001406**	ppb	5.344	162.018	1591.200
57	**Fe**		14509.597	**-0.747912**	ppb	4.489	101.644	14598.568
45	**Sc-IS**	>	1815572.471		ppb	2.874		1777472.230
66	**Zn**		802.245	**-0.044899**	ppb	2.091	33.097	904.473
86	**Sr**		49.872	**0.007553**	ppb	127.011	194.257	17.187
65	**Cu**		395.561	**-0.006464**	ppb	4.324	102.066	412.228
69	**Ga-IS**		518915.716		ppb	0.788		514898.296
95	**Mo**		1638.983	**0.216226**	ppb	3.019	4.950	535.566
115	**In-IS**	>	224436.162		ppb	1.969		219027.825
111	**Cd**		65.447	**0.007531**	ppb	45.819	126.409	41.098
118	**Sn**		7090.650	**0.407638**	ppb	3.734	9.579	3441.526
121	**Sb**		828.913	**0.040610**	ppb	6.388	11.488	436.673
135	**Ba**		61.111	**0.001165**	ppb	3.149	49.133	56.667
165	**Ho-IS**		375533.735		ppb	1.553		373728.975
159	**Tb-IS**	>	364960.649		ppb	1.744		362592.971
207	**Pb**		1223.354	**0.010933**	ppb	4.844	8.530	750.008
203	**Tl**		332.226	**0.006513**	ppb	18.967	64.979	240.002
209	**Bi-IS**		210213.435		ppb	1.764		211955.496
51	**V**		5.556	**0.010432**	ppb	34.641	56.586	2.222
59	**Co**		36.667	**0.018429**	ppb	50.616	92.984	16.667
60	**Ni**		124.445	**0.007680**	ppb	28.390	241.853	105.556
75	**As**		285.855	**0.010145**	ppb	9.969	511.437	269.196
71	**Ga-ISK**		60214.418		ppb	0.739		60067.165
82	**Se-2**		7.468	**0.046790**	ppb	78.967	184.322	4.127
107	**Ag-1**		1303.393	**0.119316**	ppb	9.307	10.532	411.117
115	**In-ISK**	>	84192.123		ppb	2.643		81046.652
45	**Sc-ISK**		147724.318		ppb	0.561		147886.464
23	**Na**		9436.449	**-0.643700**	ppb	0.671	13.181	9291.354
39	**K**		39123.503	**1.111043**	ppb	1.068	85.198	36695.968
24	**Mg**		410.006	**0.349783**	ppb	9.680	31.928	276.669
159	**Tb-ISK**	>	169631.211		ppb	0.765		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICSA-1517520
Autosampler Position: 202
Sample Date/Time: Tuesday, December 28, 2021 08:11:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICSA-1517520.020
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45607.162		ppb	2.619		44926.096
9	**Be**		52.222	**0.005573**	ppb	30.165	113.034	36.667
10	**B**		4160.606	**2.970881**	ppb	1.943	5.970	1817.894
27	**Al**		148475201.034	**10339.010780**	ppb	1.573	1.360	9451.793
43	**Ca-2**		1472209.459	**29514.841734**	ppb	1.331	1.561	106.667
49	**Ti**		277280.778	**211.866022**	ppb	0.845	2.113	212.224
52	**Cr**		23829.862	**0.258614**	ppb	1.550	15.421	18720.042
55	**Mn**		10581.696	**0.331024**	ppb	1.743	3.464	1591.200
57	**Fe**		13506081.010	**24798.702156**	ppb	2.468	2.362	14598.568
45	**Sc-IS**	>	1828847.606		ppb	1.405		1777472.230
66	**Zn**		2679.140	**0.644777**	ppb	3.342	3.567	904.473
86	**Sr**		1913.688	**0.423805**	ppb	2.611	3.936	17.187
65	**Cu**		1997.918	**0.402919**	ppb	2.587	5.045	412.228
69	**Ga-IS**		517573.547		ppb	0.268		514898.296
95	**Mo**		1025538.090	**201.408097**	ppb	1.379	1.472	535.566
115	**In-IS**	>	218853.411		ppb	2.236		219027.825
111	**Cd**		-1139.149	**-0.391914**	ppb	2.720	4.706	41.098
118	**Sn**		4396.233	**0.112499**	ppb	4.171	25.054	3441.526
121	**Sb**		1170.048	**0.080181**	ppb	2.261	4.084	436.673
135	**Ba**		547.788	**0.192561**	ppb	5.910	4.301	56.667
165	**Ho-IS**		380691.778		ppb	2.227		373728.975
159	**Tb-IS**	>	366814.177		ppb	1.989		362592.971
207	**Pb**		3037.907	**0.052927**	ppb	6.538	6.099	750.008
203	**Tl**		542.233	**0.021435**	ppb	16.047	25.635	240.002
209	**Bi-IS**		200958.253		ppb	1.591		211955.496
51	**V**		7.778	**0.018639**	ppb	98.974	140.180	2.222
59	**Co**		63.333	**0.046188**	ppb	21.053	27.460	16.667
60	**Ni**		442.229	**0.174220**	ppb	8.303	9.498	105.556
75	**As**		319.977	**0.075495**	ppb	16.850	111.662	269.196
71	**Ga-ISK**		59456.816		ppb	1.163		60067.165
82	**Se-2**		4.119	**-0.002009**	ppb	267.244	8327.674	4.127
107	**Ag-1**		750.020	**0.046945**	ppb	2.037	5.644	411.117
115	**In-ISK**	>	81869.795		ppb	1.154		81046.652
45	**Sc-ISK**		155990.364		ppb	0.121		147886.464
23	**Na**		9985647.274	**24816.943081**	ppb	0.891	1.345	9291.354
39	**K**		7545935.392	**9851.137934**	ppb	1.708	1.365	36695.968
24	**Mg**		3395486.502	**9733.769528**	ppb	0.366	0.534	276.669
159	**Tb-ISK**	>	170623.566		ppb	0.454		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICSAB-2059235
Autosampler Position: 203
Sample Date/Time: Tuesday, December 28, 2021 08:15:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICSAB-2059235.021
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46027.380		ppb	1.888		44926.096
9	**Be**		44.445	**0.002785**	ppb	18.875	125.806	36.667
10	**B**		4199.506	**3.082689**	ppb	1.794	0.428	1817.894
27	**Al**		151879553.107	**10698.094448**	ppb	1.953	1.059	9451.793
43	**Ca-2**		1484438.162	**30103.634211**	ppb	1.329	0.787	106.667
49	**Ti**		277055.264	**214.147039**	ppb	0.445	1.774	212.224
52	**Cr**		371054.924	**20.131431**	ppb	0.459	1.843	18720.042
55	**Mn**		540817.956	**20.183481**	ppb	0.339	1.551	1591.200
57	**Fe**		13810767.897	**25649.529739**	ppb	2.358	0.717	14598.568
45	**Sc-IS**	>	1807944.584		ppb	1.813		1777472.230
66	**Zn**		29274.413	**10.579503**	ppb	1.440	0.816	904.473
86	**Sr**		1940.480	**0.434663**	ppb	3.072	2.522	17.187
65	**Cu**		77386.843	**19.925600**	ppb	1.359	1.050	412.228
69	**Ga-IS**		502662.107		ppb	2.193		514898.296
95	**Mo**		1047972.822	**208.217192**	ppb	0.608	1.473	535.566
115	**In-IS**	>	219433.630		ppb	2.771		219027.825
111	**Cd**		28210.490	**9.323902**	ppb	2.214	0.603	41.098
118	**Sn**		3270.375	**-0.020248**	ppb	6.710	164.992	3441.526
121	**Sb**		1074.485	**0.069615**	ppb	7.212	16.501	436.673
135	**Ba**		525.565	**0.183675**	ppb	10.075	12.997	56.667
165	**Ho-IS**		391535.937		ppb	1.463		373728.975
159	**Tb-IS**	>	364935.574		ppb	1.742		362592.971
207	**Pb**		2022.280	**0.029602**	ppb	4.784	6.385	750.008
203	**Tl**		256.669	**0.001112**	ppb	11.322	211.806	240.002
209	**Bi-IS**		201200.355		ppb	0.895		211955.496
51	**V**		6076.849	**20.219255**	ppb	3.418	1.010	2.222
59	**Co**		20266.596	**20.129115**	ppb	2.908	0.449	16.667
60	**Ni**		37484.686	**19.398894**	ppb	2.213	0.377	105.556
75	**As**		6761.389	**10.184753**	ppb	1.092	3.063	269.196
71	**Ga-ISK**		58637.944		ppb	2.920		60067.165
82	**Se-2**		622.816	**9.373723**	ppb	2.172	0.563	4.127
107	**Ag-1**		32667.320	**4.518230**	ppb	2.204	2.118	411.117
115	**In-ISK**	>	81955.382		ppb	2.536		81046.652
45	**Sc-ISK**		154366.309		ppb	1.423		147886.464
23	**Na**		10315161.184	**25920.809912**	ppb	0.654	1.798	9291.354
39	**K**		7758193.705	**10242.030175**	ppb	2.083	2.000	36695.968
24	**Mg**		3435719.862	**9955.922020**	ppb	3.267	2.397	276.669
159	**Tb-ISK**	>	168792.318		ppb	2.240		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, December 28, 2021 08:21:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.023
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46967.139		ppb	3.390		44926.096
9	**Be**		22.222	**-0.005853**	ppb	45.826	67.947	36.667
10	**B**		1866.789	**0.002710**	ppb	5.729	5424.092	1817.894
27	**Al**		13169.068	**0.242455**	ppb	1.787	2.955	9451.793
43	**Ca-2**		141.667	**0.648713**	ppb	2.038	13.344	106.667
49	**Ti**		270.003	**0.040220**	ppb	9.799	55.388	212.224
52	**Cr**		19061.606	**-0.008301**	ppb	3.206	285.912	18720.042
55	**Mn**		1286.725	**-0.012818**	ppb	2.920	13.868	1591.200
57	**Fe**		15472.820	**0.917003**	ppb	1.326	59.933	14598.568
45	**Sc-IS**	>	1823538.389		ppb	1.025		1777472.230
66	**Zn**		786.688	**-0.052089**	ppb	7.449	46.970	904.473
86	**Sr**		19.422	**0.000431**	ppb	159.955	1613.221	17.187
65	**Cu**		397.783	**-0.006460**	ppb	5.120	74.302	412.228
69	**Ga-IS**		534254.844		ppb	1.575		514898.296
95	**Mo**		861.137	**0.061429**	ppb	1.564	4.691	535.566
115	**In-IS**	>	224797.697		ppb	1.444		219027.825
111	**Cd**		10.414	**-0.010286**	ppb	74.135	23.985	41.098
118	**Sn**		2225.729	**-0.149021**	ppb	2.867	5.272	3441.526
121	**Sb**		303.337	**-0.015416**	ppb	5.495	8.710	436.673
135	**Ba**		28.889	**-0.011151**	ppb	24.019	25.361	56.667
165	**Ho-IS**		389317.779		ppb	1.598		373728.975
159	**Tb-IS**	>	365607.039		ppb	1.900		362592.971
207	**Pb**		644.450	**-0.002602**	ppb	5.207	32.626	750.008
203	**Tl**		133.334	**-0.007845**	ppb	30.721	36.580	240.002
209	**Bi-IS**		215187.531		ppb	0.743		211955.496
51	**V**		3.333	**0.003133**	ppb	100.000	339.105	2.222
59	**Co**		12.222	**-0.005061**	ppb	41.660	93.327	16.667
60	**Ni**		98.889	**-0.005653**	ppb	19.751	186.025	105.556
75	**As**		283.831	**0.003450**	ppb	11.813	1383.647	269.196
71	**Ga-ISK**		60847.095		ppb	1.069		60067.165
82	**Se-2**		1.127	**-0.048371**	ppb	1161.769	396.398	4.127
107	**Ag-1**		450.007	**0.002720**	ppb	4.626	75.547	411.117
115	**In-ISK**	>	84738.090		ppb	2.026		81046.652
45	**Sc-ISK**		152635.546		ppb	0.580		147886.464
23	**Na**		9901.765	**0.427538**	ppb	2.578	190.950	9291.354
39	**K**		37021.243	**-1.856547**	ppb	0.790	36.028	36695.968
24	**Mg**		478.341	**0.541208**	ppb	10.313	24.915	276.669
159	**Tb-ISK**	>	170297.065		ppb	0.782		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICVL-1479597
Autosampler Position: 205
Sample Date/Time: Tuesday, December 28, 2021 08:24:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICVL-1479597.024
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46546.840		ppb	2.016		44926.096
9	**Be**		2836.949	**1.040728**	ppb	3.156	2.881	36.667
10	**B**		40218.767	**48.543187**	ppb	1.649	0.829	1817.894
27	**Al**		708719.532	**47.573011**	ppb	1.160	2.561	9451.793
43	**Ca-2**		2933.636	**55.237797**	ppb	7.181	5.241	106.667
49	**Ti**		1665.653	**1.077857**	ppb	4.888	5.536	212.224
52	**Cr**		37856.785	**1.002590**	ppb	2.751	3.192	18720.042
55	**Mn**		30672.897	**1.048760**	ppb	1.315	1.759	1591.200
57	**Fe**		43532.930	**50.606215**	ppb	2.834	4.177	14598.568
45	**Sc-IS**	>	1871303.239		ppb	2.413		1777472.230
66	**Zn**		14085.833	**4.734424**	ppb	2.548	1.595	904.473
86	**Sr**		4705.106	**1.022903**	ppb	6.411	4.163	17.187
65	**Cu**		4714.112	**1.070573**	ppb	3.553	3.446	412.228
69	**Ga-IS**		536907.495		ppb	1.745		514898.296
95	**Mo**		5746.712	**0.995622**	ppb	3.407	4.391	535.566
115	**In-IS**	>	225852.226		ppb	2.567		219027.825
111	**Cd**		3281.645	**1.041418**	ppb	3.655	1.218	41.098
118	**Sn**		11166.590	**0.864932**	ppb	4.255	4.391	3441.526
121	**Sb**		9770.007	**0.987180**	ppb	0.985	3.642	436.673
135	**Ba**		2799.163	**1.042722**	ppb	2.874	5.415	56.667
165	**Ho-IS**		383939.315		ppb	2.288		373728.975
159	**Tb-IS**	>	369718.248		ppb	1.527		362592.971
207	**Pb**		45803.344	**1.038366**	ppb	3.059	1.818	750.008
203	**Tl**		14361.661	**1.005908**	ppb	1.765	0.337	240.002
209	**Bi-IS**		219692.048		ppb	1.052		211955.496
51	**V**		318.892	**1.027661**	ppb	9.656	11.396	2.222
59	**Co**		1108.932	**1.057095**	ppb	3.352	4.341	16.667
60	**Ni**		2199.058	**1.055899**	ppb	2.331	1.399	105.556
75	**As**		939.292	**1.008013**	ppb	1.656	2.487	269.196
71	**Ga-ISK**		61794.480		ppb	0.928		60067.165
82	**Se-2**		79.802	**1.113400**	ppb	15.778	15.781	4.127
107	**Ag-1**		7003.940	**0.897083**	ppb	3.262	3.029	411.117
115	**In-ISK**	>	84164.121		ppb	2.006		81046.652
45	**Sc-ISK**		156634.115		ppb	1.324		147886.464
23	**Na**		30168.489	**50.325756**	ppb	0.739	1.515	9291.354
39	**K**		76059.742	**48.648813**	ppb	1.334	1.321	36695.968
24	**Mg**		18253.322	**51.170176**	ppb	1.272	0.686	276.669
159	**Tb-ISK**	>	171694.974		ppb	0.703		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-200696_11-A @20
Autosampler Position: 101
Sample Date/Time: Tuesday, December 28, 2021 08:27:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCS 570-200696_11-A @20.025
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45376.415		ppb	2.021		44926.096
9	**Be**		68951.561	**26.419743**	ppb	0.668	2.982	36.667
10	**B**		20234.325	**24.001058**	ppb	2.246	2.515	1817.894
27	**Al**		353862.340	**24.146809**	ppb	1.507	2.398	9451.793
43	**Ca-2**		13366.251	**267.750930**	ppb	1.436	2.402	106.667
49	**Ti**		33132.840	**25.344348**	ppb	2.628	1.015	212.224
52	**Cr**		461161.435	**25.173644**	ppb	1.188	2.936	18720.042
55	**Mn**		669046.844	**24.892026**	ppb	1.366	5.003	1591.200
57	**Fe**		152503.301	**254.941924**	ppb	2.310	5.645	14598.568
45	**Sc-IS**	>	1816373.932		ppb	3.564		1777472.230
66	**Zn**		73928.589	**27.132686**	ppb	1.091	3.527	904.473
86	**Sr**		109333.552	**24.622458**	ppb	1.973	5.063	17.187
65	**Cu**		102766.148	**26.403361**	ppb	1.619	5.299	412.228
69	**Ga-IS**		534969.051		ppb	2.905		514898.296
95	**Mo**		124086.800	**24.465025**	ppb	2.474	4.876	535.566
115	**In-IS**	>	221841.941		ppb	5.103		219027.825
111	**Cd**		77326.299	**25.324644**	ppb	2.611	3.126	41.098
118	**Sn**		216434.844	**24.632085**	ppb	4.405	3.181	3441.526
121	**Sb**		238558.517	**25.676998**	ppb	3.972	2.730	436.673
135	**Ba**		63255.410	**24.475529**	ppb	3.606	3.346	56.667
165	**Ho-IS**		382267.966		ppb	4.833		373728.975
159	**Tb-IS**	>	367831.395		ppb	4.047		362592.971
207	**Pb**		1072539.069	**24.853212**	ppb	2.063	2.013	750.008
203	**Tl**		339115.904	**24.290358**	ppb	1.167	3.022	240.002
209	**Bi-IS**		212281.734		ppb	2.389		211955.496
51	**V**		7594.241	**24.142187**	ppb	3.057	3.023	2.222
59	**Co**		25483.830	**24.183484**	ppb	2.510	2.559	16.667
60	**Ni**		49681.818	**24.574113**	ppb	1.989	2.016	105.556
75	**As**		15518.976	**22.829112**	ppb	1.089	1.172	269.196
71	**Ga-ISK**		62792.190		ppb	2.289		60067.165
82	**Se-2**		1718.598	**24.810127**	ppb	1.513	1.473	4.127
107	**Ag-1**		91910.311	**12.239233**	ppb	1.444	1.498	411.117
115	**In-ISK**	>	85794.158		ppb	0.095		81046.652
45	**Sc-ISK**		157671.078		ppb	1.835		147886.464
23	**Na**		100675.493	**221.049104**	ppb	3.741	3.584	9291.354
39	**K**		213590.715	**224.016473**	ppb	1.619	1.257	36695.968
24	**Mg**		89269.790	**249.858710**	ppb	1.999	1.406	276.669
159	**Tb-ISK**	>	174178.783		ppb	0.801		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-200696_12-A @20
Autosampler Position: 102
Sample Date/Time: Tuesday, December 28, 2021 08:30:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCSD 570-200696_12-A @20.026
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46845.634		ppb	3.518		44926.096
9	**Be**		70033.469	**26.320527**	ppb	0.455	2.902	36.667
10	**B**		20244.338	**23.521699**	ppb	2.048	4.923	1817.894
27	**Al**		366082.415	**24.518950**	ppb	1.310	3.642	9451.793
43	**Ca-2**		13414.629	**263.533660**	ppb	0.797	1.803	106.667
49	**Ti**		34007.104	**25.522547**	ppb	1.784	2.130	212.224
52	**Cr**		465400.821	**24.910218**	ppb	0.775	3.277	18720.042
55	**Mn**		664902.993	**24.251275**	ppb	0.663	2.970	1591.200
57	**Fe**		150559.231	**245.856767**	ppb	0.371	2.429	14598.568
45	**Sc-IS**	>	1851415.732		ppb	2.532		1777472.230
66	**Zn**		74380.979	**26.758255**	ppb	2.262	1.006	904.473
86	**Sr**		109476.871	**24.169536**	ppb	1.442	2.685	17.187
65	**Cu**		101325.860	**25.516762**	ppb	0.635	2.826	412.228
69	**Ga-IS**		532401.358		ppb	2.247		514898.296
95	**Mo**		126561.526	**24.462986**	ppb	1.064	1.867	535.566
115	**In-IS**	>	230740.079		ppb	2.790		219027.825
111	**Cd**		77988.002	**24.537682**	ppb	1.655	1.118	41.098
118	**Sn**		222540.998	**24.331488**	ppb	3.031	0.399	3441.526
121	**Sb**		240716.708	**24.894635**	ppb	2.951	1.176	436.673
135	**Ba**		64815.621	**24.098512**	ppb	1.674	1.526	56.667
165	**Ho-IS**		384971.449		ppb	1.805		373728.975
159	**Tb-IS**	>	371123.391		ppb	1.996		362592.971
207	**Pb**		1083196.358	**24.866664**	ppb	1.346	0.907	750.008
203	**Tl**		340535.887	**24.159137**	ppb	1.361	1.213	240.002
209	**Bi-IS**		215036.713		ppb	1.885		211955.496
51	**V**		7509.751	**23.964594**	ppb	0.819	1.565	2.222
59	**Co**		25722.034	**24.506720**	ppb	2.392	3.561	16.667
60	**Ni**		49812.269	**24.729375**	ppb	1.890	1.150	105.556
75	**As**		15432.013	**22.786120**	ppb	2.432	2.660	269.196
71	**Ga-ISK**		61923.941		ppb	1.547		60067.165
82	**Se-2**		1735.256	**25.141332**	ppb	2.777	1.699	4.127
107	**Ag-1**		93302.588	**12.472621**	ppb	0.382	1.026	411.117
115	**In-ISK**	>	85478.916		ppb	1.337		81046.652
45	**Sc-ISK**		156062.382		ppb	1.507		147886.464
23	**Na**		99691.647	**221.679592**	ppb	0.715	1.251	9291.354
39	**K**		210669.031	**223.611795**	ppb	1.945	2.362	36695.968
24	**Mg**		87141.687	**246.978170**	ppb	1.685	3.258	276.669
159	**Tb-ISK**	>	172072.993		ppb	1.763		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 08:34:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.027
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47356.197		ppb	3.326		44926.096
9	**Be**		271056.546	**101.701095**	ppb	1.376	0.769	36.667
10	**B**		208853.551	**264.642681**	ppb	1.264	1.015	1817.894
27	**Al**		1452886.247	**99.114005**	ppb	0.879	1.523	9451.793
43	**Ca-2**		255698.323	**5054.051278**	ppb	1.332	1.977	106.667
49	**Ti**		130729.955	**98.410542**	ppb	1.371	1.285	212.224
52	**Cr**		1777675.438	**98.020262**	ppb	1.829	2.314	18720.042
55	**Mn**		2749098.507	**100.252940**	ppb	0.821	0.217	1591.200
57	**Fe**		2804787.356	**5056.939959**	ppb	1.294	0.839	14598.568
45	**Sc-IS**	>	1854319.497		ppb	0.912		1777472.230
66	**Zn**		274446.409	**99.487199**	ppb	2.187	1.781	904.473
86	**Sr**		433503.665	**95.522877**	ppb	2.381	1.475	17.187
65	**Cu**		390012.474	**98.328557**	ppb	0.980	1.024	412.228
69	**Ga-IS**		552042.334		ppb	0.830		514898.296
95	**Mo**		489663.172	**94.778699**	ppb	1.685	1.154	535.566
115	**In-IS**	>	225223.353		ppb	4.476		219027.825
111	**Cd**		301226.541	**97.175109**	ppb	3.028	2.540	41.098
118	**Sn**		848005.089	**96.205366**	ppb	3.002	1.520	3441.526
121	**Sb**		902440.435	**95.809204**	ppb	2.443	2.088	436.673
135	**Ba**		255212.150	**97.339757**	ppb	1.737	2.905	56.667
165	**Ho-IS**		386307.526		ppb	3.472		373728.975
159	**Tb-IS**	>	366819.719		ppb	1.857		362592.971
207	**Pb**		4342787.196	**100.925329**	ppb	1.292	1.672	750.008
203	**Tl**		1344488.511	**96.541520**	ppb	2.318	1.083	240.002
209	**Bi-IS**		212852.975		ppb	0.928		211955.496
51	**V**		30280.956	**97.431743**	ppb	2.020	2.212	2.222
59	**Co**		102506.490	**98.476066**	ppb	1.273	0.480	16.667
60	**Ni**		190068.363	**95.292658**	ppb	1.026	1.624	105.556
75	**As**		64787.947	**97.810177**	ppb	1.356	0.979	269.196
71	**Ga-ISK**		62355.793		ppb	0.328		60067.165
82	**Se-2**		6682.366	**97.796845**	ppb	0.914	0.481	4.127
107	**Ag-1**		708098.917	**95.811888**	ppb	1.682	2.011	411.117
115	**In-ISK**	>	84790.716		ppb	0.935		81046.652
45	**Sc-ISK**		155893.820		ppb	1.010		147886.464
23	**Na**		2085913.848	**5183.208053**	ppb	1.673	3.381	9291.354
39	**K**		3976604.785	**5185.824481**	ppb	0.564	2.445	36695.968
24	**Mg**		1771893.236	**5094.929987**	ppb	2.465	1.141	276.669
159	**Tb-ISK**	>	170084.089		ppb	1.927		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 08:37:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.028
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46213.557		ppb	2.822		44926.096
9	**Be**		80.000	**0.016343**	ppb	19.094	31.744	36.667
10	**B**		2147.939	**0.393356**	ppb	3.015	40.600	1817.894
27	**Al**		9327.062	**-0.019436**	ppb	9.566	395.200	9451.793
43	**Ca-2**		115.000	**0.122829**	ppb	23.007	383.098	106.667
49	**Ti**		281.114	**0.049971**	ppb	12.342	41.330	212.224
52	**Cr**		18717.811	**-0.018680**	ppb	0.981	117.478	18720.042
55	**Mn**		1573.420	**-0.001681**	ppb	2.943	156.532	1591.200
57	**Fe**		15519.539	**1.255575**	ppb	1.949	106.037	14598.568
45	**Sc-IS**	>	1808930.654		ppb	2.735		1777472.230
66	**Zn**		814.468	**-0.039813**	ppb	8.589	46.412	904.473
86	**Sr**		92.245	**0.017045**	ppb	42.546	54.922	17.187
65	**Cu**		368.894	**-0.012958**	ppb	10.590	90.874	412.228
69	**Ga-IS**		512916.457		ppb	1.263		514898.296
95	**Mo**		1841.230	**0.257571**	ppb	6.688	9.599	535.566
115	**In-IS**	>	220425.995		ppb	1.647		219027.825
111	**Cd**		40.578	**-0.000265**	ppb	12.367	577.502	41.098
118	**Sn**		6724.918	**0.379612**	ppb	4.227	9.303	3441.526
121	**Sb**		878.916	**0.047714**	ppb	3.042	9.393	436.673
135	**Ba**		65.556	**0.003280**	ppb	24.030	176.900	56.667
165	**Ho-IS**		381799.022		ppb	1.749		373728.975
159	**Tb-IS**	>	369185.451		ppb	1.028		362592.971
207	**Pb**		1200.019	**0.010073**	ppb	3.859	8.959	750.008
203	**Tl**		405.561	**0.011490**	ppb	12.848	30.875	240.002
209	**Bi-IS**		214721.823		ppb	3.488		211955.496
51	**V**		10.000	**0.025043**	ppb	57.735	74.974	2.222
59	**Co**		31.111	**0.013434**	ppb	48.313	108.335	16.667
60	**Ni**		141.112	**0.016119**	ppb	12.122	50.934	105.556
75	**As**		308.774	**0.045971**	ppb	13.187	129.202	269.196
71	**Ga-ISK**		60237.851		ppb	0.837		60067.165
82	**Se-2**		14.849	**0.156864**	ppb	42.358	60.236	4.127
107	**Ag-1**		1323.395	**0.122821**	ppb	6.707	8.949	411.117
115	**In-ISK**	>	83885.064		ppb	0.646		81046.652
45	**Sc-ISK**		153577.859		ppb	1.292		147886.464
23	**Na**		9309.699	**-1.003381**	ppb	0.604	23.091	9291.354
39	**K**		38975.324	**0.819782**	ppb	1.391	126.656	36695.968
24	**Mg**		445.007	**0.447598**	ppb	15.851	43.311	276.669
159	**Tb-ISK**	>	169946.248		ppb	0.693		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Tuesday, December 28, 2021 08:40:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.029
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45948.329		ppb	4.730		44926.096
9	**Be**		42.222	**0.001937**	ppb	27.725	228.774	36.667
10	**B**		1905.683	**0.083458**	ppb	5.580	196.385	1817.894
27	**Al**		8124.643	**-0.102977**	ppb	0.579	9.132	9451.793
43	**Ca-2**		75.000	**-0.671351**	ppb	29.059	67.987	106.667
49	**Ti**		215.557	**0.000508**	ppb	19.703	6742.380	212.224
52	**Cr**		18441.902	**-0.030947**	ppb	2.678	57.018	18720.042
55	**Mn**		1262.278	**-0.013165**	ppb	5.966	23.590	1591.200
57	**Fe**		14674.206	**-0.240016**	ppb	3.577	314.959	14598.568
45	**Sc-IS**	>	1802101.692		ppb	1.075		1777472.230
66	**Zn**		804.467	**-0.042052**	ppb	5.214	41.411	904.473
86	**Sr**		41.670	**0.005543**	ppb	69.007	119.021	17.187
65	**Cu**		357.782	**-0.015576**	ppb	6.203	43.169	412.228
69	**Ga-IS**		517425.427		ppb	0.899		514898.296
95	**Mo**		555.566	**0.002533**	ppb	3.904	197.864	535.566
115	**In-IS**	>	221974.784		ppb	2.651		219027.825
111	**Cd**		26.611	**-0.004909**	ppb	50.453	91.325	41.098
118	**Sn**		3499.318	**0.001793**	ppb	5.069	1629.625	3441.526
121	**Sb**		418.895	**-0.002433**	ppb	14.507	306.489	436.673
135	**Ba**		31.111	**-0.010088**	ppb	40.564	50.876	56.667
165	**Ho-IS**		377757.614		ppb	2.906		373728.975
159	**Tb-IS**	>	366229.993		ppb	1.417		362592.971
207	**Pb**		742.229	**-0.000373**	ppb	12.137	503.099	750.008
203	**Tl**		215.557	**-0.001917**	ppb	21.109	176.726	240.002
209	**Bi-IS**		217055.719		ppb	1.675		211955.496
51	**V**		2.222	**-0.000389**	ppb	173.205	3156.821	2.222
59	**Co**		8.889	**-0.008333**	ppb	43.301	44.772	16.667
60	**Ni**		108.889	**-0.001695**	ppb	18.704	593.309	105.556
75	**As**		270.519	**-0.023648**	ppb	1.561	39.629	269.196
71	**Ga-ISK**		61482.027		ppb	1.037		60067.165
82	**Se-2**		9.841	**0.077757**	ppb	79.703	144.121	4.127
107	**Ag-1**		457.785	**0.002799**	ppb	15.657	368.664	411.117
115	**In-ISK**	>	86235.797		ppb	1.640		81046.652
45	**Sc-ISK**		151914.576		ppb	0.322		147886.464
23	**Na**		8340.770	**-3.396175**	ppb	3.559	28.845	9291.354
39	**K**		36778.393	**-2.027821**	ppb	0.333	21.311	36695.968
24	**Mg**		163.334	**-0.361956**	ppb	7.704	8.970	276.669
159	**Tb-ISK**	>	169777.645		ppb	1.117		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-76163-A-19-Q MDLS
Autosampler Position: 103
Sample Date/Time: Tuesday, December 28, 2021 08:46:58
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-76163-A-19-Q MDLS.030
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48588.061		ppb	1.811		44926.096
9	**Be**		694.461	**0.246337**	ppb	11.524	12.643	36.667
10	**B**		10887.487	**11.495008**	ppb	4.647	5.153	1817.894
27	**Al**		185424.177	**12.057987**	ppb	1.705	2.251	9451.793
43	**Ca-2**		680.016	**11.245149**	ppb	2.941	3.629	106.667
49	**Ti**		457.785	**0.178242**	ppb	4.449	8.763	212.224
52	**Cr**		24272.837	**0.264308**	ppb	2.848	12.641	18720.042
55	**Mn**		7242.947	**0.203711**	ppb	1.151	1.440	1591.200
57	**Fe**		21048.839	**10.548665**	ppb	3.115	11.584	14598.568
45	**Sc-IS**	>	1854381.716		ppb	0.476		1777472.230
66	**Zn**		3862.745	**1.061942**	ppb	2.060	3.313	904.473
86	**Sr**		1071.147	**0.232087**	ppb	2.726	2.414	17.187
65	**Cu**		1222.275	**0.199888**	ppb	10.337	15.606	412.228
69	**Ga-IS**		540085.521		ppb	2.975		514898.296
95	**Mo**		1368.954	**0.157024**	ppb	2.210	4.500	535.566
115	**In-IS**	>	227162.115		ppb	4.336		219027.825
111	**Cd**		672.697	**0.201815**	ppb	2.738	6.890	41.098
118	**Sn**		4965.307	**0.158005**	ppb	1.890	8.898	3441.526
121	**Sb**		2299.075	**0.194081**	ppb	8.085	5.179	436.673
135	**Ba**		632.236	**0.217250**	ppb	4.390	8.996	56.667
165	**Ho-IS**		381056.460		ppb	2.668		373728.975
159	**Tb-IS**	>	370613.729		ppb	1.985		362592.971
207	**Pb**		10205.874	**0.217073**	ppb	3.878	2.229	750.008
203	**Tl**		3202.581	**0.210207**	ppb	3.347	2.672	240.002
209	**Bi-IS**		216643.892		ppb	1.403		211955.496
51	**V**		75.556	**0.229462**	ppb	9.184	8.548	2.222
59	**Co**		218.891	**0.188220**	ppb	15.330	16.049	16.667
60	**Ni**		573.345	**0.225221**	ppb	12.429	16.401	105.556
75	**As**		410.797	**0.180533**	ppb	11.931	41.559	269.196
71	**Ga-ISK**		63210.690		ppb	2.127		60067.165
82	**Se-2**		19.807	**0.220037**	ppb	57.726	74.720	4.127
107	**Ag-1**		1628.982	**0.156779**	ppb	9.185	12.201	411.117
115	**In-ISK**	>	86956.241		ppb	0.879		81046.652
45	**Sc-ISK**		155646.741		ppb	1.310		147886.464
23	**Na**		12855.782	**7.412246**	ppb	0.787	8.835	9291.354
39	**K**		43753.575	**6.313686**	ppb	1.319	11.739	36695.968
24	**Mg**		4088.919	**10.773960**	ppb	1.495	1.400	276.669
159	**Tb-ISK**	>	172338.069		ppb	1.329		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-76163-A-19-R MDLS
Autosampler Position: 104
Sample Date/Time: Tuesday, December 28, 2021 08:50:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-76163-A-19-R MDLS.031
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47687.316		ppb	3.849		44926.096
9	**Be**		1562.308	**0.565552**	ppb	5.826	6.166	36.667
10	**B**		23935.604	**27.844862**	ppb	3.100	2.927	1817.894
27	**Al**		443667.469	**29.461446**	ppb	0.937	1.401	9451.793
43	**Ca-2**		1470.076	**26.544550**	ppb	11.379	12.111	106.667
49	**Ti**		955.588	**0.545883**	ppb	7.912	10.825	212.224
52	**Cr**		29649.635	**0.546034**	ppb	2.171	5.614	18720.042
55	**Mn**		16203.629	**0.524218**	ppb	0.895	0.849	1591.200
57	**Fe**		29900.163	**25.999428**	ppb	2.749	5.049	14598.568
45	**Sc-IS**	>	1874831.500		ppb	0.437		1777472.230
66	**Zn**		8574.795	**2.741835**	ppb	1.584	1.766	904.473
86	**Sr**		2434.530	**0.526686**	ppb	2.219	2.027	17.187
65	**Cu**		2586.901	**0.537200**	ppb	1.394	1.150	412.228
69	**Ga-IS**		541672.551		ppb	1.222		514898.296
95	**Mo**		3030.321	**0.472510**	ppb	1.918	1.855	535.566
115	**In-IS**	>	230754.838		ppb	2.300		219027.825
111	**Cd**		1694.849	**0.520070**	ppb	1.834	3.895	41.098
118	**Sn**		7005.051	**0.376026**	ppb	1.422	7.748	3441.526
121	**Sb**		5326.549	**0.504295**	ppb	1.667	1.531	436.673
135	**Ba**		1436.739	**0.512587**	ppb	1.292	3.704	56.667
165	**Ho-IS**		386758.458		ppb	1.530		373728.975
159	**Tb-IS**	>	373497.827		ppb	1.301		362592.971
207	**Pb**		24168.967	**0.534011**	ppb	1.408	0.149	750.008
203	**Tl**		7793.237	**0.532228**	ppb	2.836	2.151	240.002
209	**Bi-IS**		216650.994		ppb	2.245		211955.496
51	**V**		144.445	**0.455205**	ppb	7.050	6.017	2.222
59	**Co**		552.233	**0.511783**	ppb	5.134	5.468	16.667
60	**Ni**		1215.608	**0.551560**	ppb	8.409	8.015	105.556
75	**As**		638.347	**0.537503**	ppb	8.130	16.160	269.196
71	**Ga-ISK**		63255.294		ppb	0.689		60067.165
82	**Se-2**		38.736	**0.500954**	ppb	29.311	32.142	4.127
107	**Ag-1**		3980.555	**0.478465**	ppb	3.932	3.988	411.117
115	**In-ISK**	>	85134.956		ppb	1.243		81046.652
45	**Sc-ISK**		157846.156		ppb	0.574		147886.464
23	**Na**		19453.236	**23.566647**	ppb	0.522	4.524	9291.354
39	**K**		55792.083	**21.810186**	ppb	1.488	6.791	36695.968
24	**Mg**		9448.125	**25.922897**	ppb	3.178	0.840	276.669
159	**Tb-ISK**	>	172726.440		ppb	2.732		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-76163-A-19-S MDLS
Autosampler Position: 105
Sample Date/Time: Tuesday, December 28, 2021 08:53:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-76163-A-19-S MDLS.032
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47780.999		ppb	4.670		44926.096
9	**Be**		610.013	**0.211558**	ppb	10.383	6.890	36.667
10	**B**		10665.094	**11.058170**	ppb	3.697	2.371	1817.894
27	**Al**		185112.008	**11.895392**	ppb	2.265	1.784	9451.793
43	**Ca-2**		623.347	**9.958232**	ppb	14.446	13.894	106.667
49	**Ti**		496.675	**0.202442**	ppb	12.574	15.587	212.224
52	**Cr**		24829.352	**0.279899**	ppb	3.256	8.997	18720.042
55	**Mn**		7440.828	**0.207830**	ppb	3.743	0.471	1591.200
57	**Fe**		21418.270	**10.816659**	ppb	1.807	16.846	14598.568
45	**Sc-IS**	>	1875912.209		ppb	3.961		1777472.230
66	**Zn**		3752.715	**1.007681**	ppb	0.438	5.773	904.473
86	**Sr**		1088.901	**0.233365**	ppb	4.615	4.547	17.187
65	**Cu**		1242.276	**0.201483**	ppb	2.944	2.405	412.228
69	**Ga-IS**		536902.777		ppb	1.698		514898.296
95	**Mo**		1203.384	**0.122946**	ppb	7.918	21.760	535.566
115	**In-IS**	>	226936.177		ppb	2.362		219027.825
111	**Cd**		723.047	**0.217681**	ppb	12.492	12.708	41.098
118	**Sn**		4060.577	**0.056212**	ppb	2.877	37.902	3441.526
121	**Sb**		2254.622	**0.189851**	ppb	2.744	0.700	436.673
135	**Ba**		625.569	**0.214622**	ppb	4.532	6.781	56.667
165	**Ho-IS**		387411.734		ppb	0.371		373728.975
159	**Tb-IS**	>	370511.026		ppb	0.204		362592.971
207	**Pb**		10002.482	**0.212516**	ppb	1.766	2.100	750.008
203	**Tl**		3078.110	**0.201438**	ppb	3.759	4.238	240.002
209	**Bi-IS**		219086.575		ppb	2.154		211955.496
51	**V**		68.889	**0.208925**	ppb	10.073	10.534	2.222
59	**Co**		232.224	**0.201045**	ppb	9.771	10.349	16.667
60	**Ni**		606.680	**0.241659**	ppb	4.695	5.302	105.556
75	**As**		406.779	**0.175364**	ppb	11.014	39.669	269.196
71	**Ga-ISK**		62438.393		ppb	1.438		60067.165
82	**Se-2**		23.460	**0.272503**	ppb	26.074	32.714	4.127
107	**Ag-1**		1792.335	**0.178690**	ppb	6.551	9.138	411.117
115	**In-ISK**	>	86855.084		ppb	0.571		81046.652
45	**Sc-ISK**		158932.661		ppb	1.511		147886.464
23	**Na**		12922.509	**7.645909**	ppb	0.388	3.684	9291.354
39	**K**		43841.617	**6.557109**	ppb	0.713	2.511	36695.968
24	**Mg**		4045.573	**10.678316**	ppb	2.808	3.493	276.669
159	**Tb-ISK**	>	171938.539		ppb	0.642		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-76163-A-19-T MDLS
Autosampler Position: 106
Sample Date/Time: Tuesday, December 28, 2021 08:56:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-76163-A-19-T MDLS.033
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48147.718		ppb	3.062		44926.096
9	**Be**		1505.635	**0.544001**	ppb	3.102	4.671	36.667
10	**B**		23245.566	**26.941824**	ppb	1.431	2.507	1817.894
27	**Al**		448664.721	**29.766558**	ppb	0.573	2.080	9451.793
43	**Ca-2**		1500.079	**27.116582**	ppb	5.508	7.408	106.667
49	**Ti**		978.923	**0.562300**	ppb	8.454	11.228	212.224
52	**Cr**		30425.709	**0.586674**	ppb	2.121	3.437	18720.042
55	**Mn**		16188.061	**0.522816**	ppb	3.034	1.727	1591.200
57	**Fe**		29330.138	**24.895497**	ppb	5.464	8.910	14598.568
45	**Sc-IS**	>	1877248.108		ppb	1.478		1777472.230
66	**Zn**		8342.437	**2.653842**	ppb	3.654	2.783	904.473
86	**Sr**		2574.652	**0.556610**	ppb	2.142	2.740	17.187
65	**Cu**		2590.235	**0.536981**	ppb	5.296	4.619	412.228
69	**Ga-IS**		550707.588		ppb	1.913		514898.296
95	**Mo**		2943.637	**0.455336**	ppb	1.335	3.316	535.566
115	**In-IS**	>	229359.675		ppb	1.333		219027.825
111	**Cd**		1716.145	**0.529561**	ppb	6.192	5.185	41.098
118	**Sn**		6624.869	**0.337996**	ppb	1.533	6.308	3441.526
121	**Sb**		5351.002	**0.510130**	ppb	2.688	2.688	436.673
135	**Ba**		1414.515	**0.506879**	ppb	8.869	7.928	56.667
165	**Ho-IS**		391272.577		ppb	0.049		373728.975
159	**Tb-IS**	>	373316.145		ppb	2.025		362592.971
207	**Pb**		23588.819	**0.520991**	ppb	2.710	0.834	750.008
203	**Tl**		7764.333	**0.530440**	ppb	2.751	0.798	240.002
209	**Bi-IS**		219954.340		ppb	2.420		211955.496
51	**V**		178.890	**0.556389**	ppb	26.109	27.548	2.222
59	**Co**		601.124	**0.547275**	ppb	6.307	4.627	16.667
60	**Ni**		1291.170	**0.577371**	ppb	3.663	3.325	105.556
75	**As**		641.404	**0.524324**	ppb	8.262	18.250	269.196
71	**Ga-ISK**		62677.199		ppb	0.724		60067.165
82	**Se-2**		45.138	**0.582184**	ppb	9.265	8.713	4.127
107	**Ag-1**		4241.741	**0.502844**	ppb	1.690	0.312	411.117
115	**In-ISK**	>	86784.111		ppb	1.829		81046.652
45	**Sc-ISK**		160163.101		ppb	2.174		147886.464
23	**Na**		19081.073	**21.621465**	ppb	2.494	6.083	9291.354
39	**K**		55551.159	**19.916816**	ppb	1.965	6.761	36695.968
24	**Mg**		9933.453	**26.691508**	ppb	1.743	2.114	276.669
159	**Tb-ISK**	>	176564.655		ppb	1.791		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-76163-A-19-O MDLS
Autosampler Position: 107
Sample Date/Time: Tuesday, December 28, 2021 08:59:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-76163-A-19-O MDLS.034
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47476.588		ppb	3.094		44926.096
9	**Be**		684.461	**0.240645**	ppb	8.468	6.609	36.667
10	**B**		10314.835	**10.682277**	ppb	2.283	1.978	1817.894
27	**Al**		183597.202	**11.853421**	ppb	1.940	1.239	9451.793
43	**Ca-2**		608.346	**9.754747**	ppb	3.422	4.543	106.667
49	**Ti**		513.343	**0.217928**	ppb	4.546	10.413	212.224
52	**Cr**		24837.129	**0.287548**	ppb	1.012	10.884	18720.042
55	**Mn**		7197.370	**0.200395**	ppb	3.767	4.033	1591.200
57	**Fe**		20901.958	**10.037271**	ppb	3.292	4.159	14598.568
45	**Sc-IS**	>	1866138.366		ppb	2.274		1777472.230
66	**Zn**		3837.182	**1.044867**	ppb	3.171	7.120	904.473
86	**Sr**		997.733	**0.214418**	ppb	6.941	5.254	17.187
65	**Cu**		1197.828	**0.191916**	ppb	4.791	7.629	412.228
69	**Ga-IS**		529457.152		ppb	1.242		514898.296
95	**Mo**		1158.936	**0.114910**	ppb	2.446	3.660	535.566
115	**In-IS**	>	226419.290		ppb	4.697		219027.825
111	**Cd**		702.028	**0.211697**	ppb	7.199	7.672	41.098
118	**Sn**		3709.371	**0.017712**	ppb	3.352	125.145	3441.526
121	**Sb**		2173.499	**0.181902**	ppb	5.451	5.202	436.673
135	**Ba**		570.011	**0.194385**	ppb	7.090	10.967	56.667
165	**Ho-IS**		382060.715		ppb	2.765		373728.975
159	**Tb-IS**	>	369474.804		ppb	3.355		362592.971
207	**Pb**		10071.381	**0.214788**	ppb	3.183	2.276	750.008
203	**Tl**		3143.680	**0.206679**	ppb	5.810	4.596	240.002
209	**Bi-IS**		215695.698		ppb	2.471		211955.496
51	**V**		63.333	**0.191844**	ppb	41.107	41.346	2.222
59	**Co**		265.558	**0.233707**	ppb	6.318	7.936	16.667
60	**Ni**		580.012	**0.230163**	ppb	7.537	10.353	105.556
75	**As**		394.876	**0.160321**	ppb	2.232	3.953	269.196
71	**Ga-ISK**		63418.234		ppb	0.492		60067.165
82	**Se-2**		13.421	**0.129694**	ppb	11.440	18.005	4.127
107	**Ag-1**		1867.900	**0.190003**	ppb	5.130	8.467	411.117
115	**In-ISK**	>	86429.921		ppb	1.448		81046.652
45	**Sc-ISK**		158767.550		ppb	1.744		147886.464
23	**Na**		13027.605	**7.840105**	ppb	1.227	2.787	9291.354
39	**K**		43450.424	**5.943581**	ppb	0.703	19.123	36695.968
24	**Mg**		3977.220	**10.461215**	ppb	1.707	2.354	276.669
159	**Tb-ISK**	>	172296.355		ppb	1.874		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-76163-A-19-P MDLS
Autosampler Position: 108
Sample Date/Time: Tuesday, December 28, 2021 09:02:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-76163-A-19-P MDLS.035
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47270.310		ppb	1.391		44926.096
9	**Be**		1542.306	**0.554491**	ppb	7.445	5.753	36.667
10	**B**		23087.554	**26.607529**	ppb	4.389	3.641	1817.894
27	**Al**		440508.510	**29.080049**	ppb	1.730	0.524	9451.793
43	**Ca-2**		1458.408	**26.171722**	ppb	6.490	7.577	106.667
49	**Ti**		1000.035	**0.575110**	ppb	3.930	6.802	212.224
52	**Cr**		31023.658	**0.612353**	ppb	1.905	1.753	18720.042
55	**Mn**		16439.464	**0.529301**	ppb	4.077	2.811	1591.200
57	**Fe**		30017.062	**25.927031**	ppb	1.282	5.263	14598.568
45	**Sc-IS**	>	1885335.767		ppb	1.960		1777472.230
66	**Zn**		8533.661	**2.709738**	ppb	3.579	3.037	904.473
86	**Sr**		2458.657	**0.528778**	ppb	5.205	3.525	17.187
65	**Cu**		2572.454	**0.530098**	ppb	1.610	1.589	412.228
69	**Ga-IS**		541623.137		ppb	0.250		514898.296
95	**Mo**		2866.954	**0.438191**	ppb	2.518	2.538	535.566
115	**In-IS**	>	229193.520		ppb	2.669		219027.825
111	**Cd**		1671.856	**0.516064**	ppb	3.389	0.838	41.098
118	**Sn**		6282.492	**0.300493**	ppb	1.141	8.724	3441.526
121	**Sb**		5235.404	**0.498550**	ppb	2.934	2.739	436.673
135	**Ba**		1381.178	**0.495868**	ppb	5.442	8.403	56.667
165	**Ho-IS**		385159.977		ppb	1.975		373728.975
159	**Tb-IS**	>	372807.238		ppb	1.759		362592.971
207	**Pb**		24303.682	**0.538157**	ppb	1.941	1.717	750.008
203	**Tl**		7688.736	**0.526059**	ppb	1.955	3.189	240.002
209	**Bi-IS**		217601.353		ppb	3.135		211955.496
51	**V**		191.112	**0.583200**	ppb	20.809	18.289	2.222
59	**Co**		623.347	**0.561910**	ppb	7.234	10.639	16.667
60	**Ni**		1177.826	**0.514684**	ppb	5.298	7.278	105.556
75	**As**		593.526	**0.441142**	ppb	9.356	19.062	269.196
71	**Ga-ISK**		63596.837		ppb	1.955		60067.165
82	**Se-2**		46.502	**0.594536**	ppb	14.369	17.553	4.127
107	**Ag-1**		4198.395	**0.490211**	ppb	3.035	5.493	411.117
115	**In-ISK**	>	87946.864		ppb	3.076		81046.652
45	**Sc-ISK**		161107.842		ppb	0.822		147886.464
23	**Na**		19449.898	**22.741431**	ppb	0.436	3.409	9291.354
39	**K**		55343.674	**20.008535**	ppb	1.320	7.122	36695.968
24	**Mg**		9604.894	**25.913369**	ppb	0.301	1.158	276.669
159	**Tb-ISK**	>	175684.481		ppb	1.407		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 09:06:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.036
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47048.484		ppb	2.215		44926.096
9	**Be**		267097.019	**100.264029**	ppb	2.478	1.646	36.667
10	**B**		207405.082	**262.931982**	ppb	1.866	1.497	1817.894
27	**Al**		1422248.996	**97.071937**	ppb	1.148	2.302	9451.793
43	**Ca-2**		256550.333	**5072.981999**	ppb	1.891	1.143	106.667
49	**Ti**		130646.937	**98.401315**	ppb	0.909	0.354	212.224
52	**Cr**		1736581.322	**95.772544**	ppb	1.316	0.576	18720.042
55	**Mn**		2672258.234	**97.503714**	ppb	0.816	0.382	1591.200
57	**Fe**		2826741.592	**5099.918554**	ppb	0.613	1.148	14598.568
45	**Sc-IS**	>	1853322.020		ppb	1.180		1777472.230
66	**Zn**		275341.190	**99.880330**	ppb	2.221	2.639	904.473
86	**Sr**		439523.231	**96.906376**	ppb	1.812	0.876	17.187
65	**Cu**		396452.562	**100.016146**	ppb	0.450	1.483	412.228
69	**Ga-IS**		559753.317		ppb	2.516		514898.296
95	**Mo**		491103.376	**95.118477**	ppb	0.592	1.126	535.566
115	**In-IS**	>	223584.226		ppb	2.347		219027.825
111	**Cd**		301108.693	**97.803218**	ppb	1.662	0.906	41.098
118	**Sn**		841608.221	**96.140794**	ppb	2.302	1.124	3441.526
121	**Sb**		893766.197	**95.541192**	ppb	1.417	1.343	436.673
135	**Ba**		251146.396	**96.433459**	ppb	1.310	2.007	56.667
165	**Ho-IS**		384120.362		ppb	0.833		373728.975
159	**Tb-IS**	>	364679.600		ppb	0.890		362592.971
207	**Pb**		4229329.079	**98.841885**	ppb	2.401	1.589	750.008
203	**Tl**		1338520.126	**96.673859**	ppb	1.849	0.958	240.002
209	**Bi-IS**		207187.251		ppb	0.918		211955.496
51	**V**		29138.579	**95.280176**	ppb	1.403	1.220	2.222
59	**Co**		100371.447	**98.019409**	ppb	1.816	2.976	16.667
60	**Ni**		190662.969	**97.138303**	ppb	1.477	0.319	105.556
75	**As**		63843.487	**97.956664**	ppb	1.458	1.161	269.196
71	**Ga-ISK**		61243.220		ppb	0.600		60067.165
82	**Se-2**		6552.979	**97.453205**	ppb	3.249	2.432	4.127
107	**Ag-1**		709588.236	**97.578082**	ppb	1.029	1.335	411.117
115	**In-ISK**	>	83431.882		ppb	1.161		81046.652
45	**Sc-ISK**		158238.243		ppb	0.675		147886.464
23	**Na**		2100907.564	**5212.506438**	ppb	0.724	0.638	9291.354
39	**K**		3968289.214	**5167.296000**	ppb	0.576	0.567	36695.968
24	**Mg**		1754579.003	**5039.473444**	ppb	1.774	1.657	276.669
159	**Tb-ISK**	>	170278.810		ppb	0.171		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 09:09:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.037
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46695.109		ppb	2.418		44926.096
9	**Be**		43.333	**0.001929**	ppb	53.846	449.235	36.667
10	**B**		2146.828	**0.337541**	ppb	2.426	24.823	1817.894
27	**Al**		8829.077	**-0.066405**	ppb	9.551	102.417	9451.793
43	**Ca-2**		105.000	**-0.103324**	ppb	37.192	788.066	106.667
49	**Ti**		228.891	**0.006667**	ppb	14.368	364.709	212.224
52	**Cr**		18851.320	**-0.031078**	ppb	1.403	88.459	18720.042
55	**Mn**		1367.843	**-0.010329**	ppb	3.086	22.577	1591.200
57	**Fe**		15428.327	**0.536540**	ppb	0.195	78.224	14598.568
45	**Sc-IS**	>	1842969.714		ppb	1.536		1777472.230
66	**Zn**		812.245	**-0.045926**	ppb	2.260	15.158	904.473
86	**Sr**		44.429	**0.005873**	ppb	47.072	77.908	17.187
65	**Cu**		341.115	**-0.021926**	ppb	6.652	24.524	412.228
69	**Ga-IS**		517171.714		ppb	0.510		514898.296
95	**Mo**		1617.870	**0.207138**	ppb	4.718	6.064	535.566
115	**In-IS**	>	219414.242		ppb	3.339		219027.825
111	**Cd**		39.936	**-0.000415**	ppb	52.481	1650.385	41.098
118	**Sn**		6366.976	**0.341477**	ppb	4.361	9.060	3441.526
121	**Sb**		685.572	**0.026982**	ppb	6.637	9.231	436.673
135	**Ba**		56.667	**-0.000042**	ppb	36.735	19182.693	56.667
165	**Ho-IS**		374703.553		ppb	1.640		373728.975
159	**Tb-IS**	>	361196.049		ppb	0.819		362592.971
207	**Pb**		1015.570	**0.006340**	ppb	2.942	13.623	750.008
203	**Tl**		241.113	**0.000152**	ppb	4.444	578.303	240.002
209	**Bi-IS**		210637.908		ppb	2.855		211955.496
51	**V**		6.667	**0.014064**	ppb	0.000	4.491	2.222
59	**Co**		23.333	**0.005785**	ppb	49.487	193.964	16.667
60	**Ni**		146.667	**0.018550**	ppb	25.612	104.500	105.556
75	**As**		311.516	**0.048647**	ppb	15.447	178.803	269.196
71	**Ga-ISK**		61669.561		ppb	2.853		60067.165
82	**Se-2**		11.484	**0.110659**	ppb	166.445	255.801	4.127
107	**Ag-1**		1093.375	**0.090482**	ppb	6.388	12.305	411.117
115	**In-ISK**	>	84469.449		ppb	2.919		81046.652
45	**Sc-ISK**		152324.557		ppb	1.370		147886.464
23	**Na**		8592.584	**-2.366925**	ppb	2.372	28.325	9291.354
39	**K**		37971.516	**0.487035**	ppb	1.468	195.559	36695.968
24	**Mg**		448.340	**0.482488**	ppb	16.097	41.770	276.669
159	**Tb-ISK**	>	166646.401		ppb	0.901		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-203960_1-A @20
Autosampler Position: 159
Sample Date/Time: Tuesday, December 28, 2021 09:14:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\MB 570-203960_1-A @20.038
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46654.963		ppb	1.690		44926.096
9	**Be**		58.889	**0.008025**	ppb	22.876	60.638	36.667
10	**B**		1790.112	**-0.105183**	ppb	4.340	44.595	1817.894
27	**Al**		11863.925	**0.149070**	ppb	0.793	10.455	9451.793
43	**Ca-2**		136.667	**0.537847**	ppb	9.207	40.908	106.667
49	**Ti**		200.001	**-0.014004**	ppb	4.410	52.699	212.224
52	**Cr**		19862.688	**0.034190**	ppb	0.537	63.905	18720.042
55	**Mn**		1397.846	**-0.008874**	ppb	4.064	11.349	1591.200
57	**Fe**		14987.861	**-0.056419**	ppb	2.354	1365.852	14598.568
45	**Sc-IS**	>	1829090.976		ppb	2.341		1777472.230
66	**Zn**		1465.631	**0.197312**	ppb	3.097	7.248	904.473
86	**Sr**		99.449	**0.018158**	ppb	35.345	40.581	17.187
65	**Cu**		356.671	**-0.017290**	ppb	3.238	6.339	412.228
69	**Ga-IS**		529334.118		ppb	0.466		514898.296
95	**Mo**		301.114	**-0.049130**	ppb	9.415	10.470	535.566
115	**In-IS**	>	219379.899		ppb	2.599		219027.825
111	**Cd**		40.479	**-0.000232**	ppb	25.031	1447.399	41.098
118	**Sn**		2429.096	**-0.118928**	ppb	5.917	14.636	3441.526
121	**Sb**		351.115	**-0.009420**	ppb	8.614	29.737	436.673
135	**Ba**		51.111	**-0.002271**	ppb	22.904	179.872	56.667
165	**Ho-IS**		378842.716		ppb	1.519		373728.975
159	**Tb-IS**	>	364423.211		ppb	0.948		362592.971
207	**Pb**		987.791	**0.005474**	ppb	2.247	8.619	750.008
203	**Tl**		203.335	**-0.002735**	ppb	13.115	72.179	240.002
209	**Bi-IS**		215081.843		ppb	1.919		211955.496
51	**V**		4.444	**0.006506**	ppb	43.301	92.035	2.222
59	**Co**		3.333	**-0.013660**	ppb	100.000	22.556	16.667
60	**Ni**		124.445	**0.005927**	ppb	22.464	255.233	105.556
75	**As**		272.112	**-0.023414**	ppb	9.016	122.870	269.196
71	**Ga-ISK**		62483.036		ppb	1.603		60067.165
82	**Se-2**		8.822	**0.062914**	ppb	22.625	41.524	4.127
107	**Ag-1**		311.115	**-0.016974**	ppb	8.726	22.226	411.117
115	**In-ISK**	>	86602.104		ppb	2.076		81046.652
45	**Sc-ISK**		156061.294		ppb	1.704		147886.464
23	**Na**		7975.562	**-4.489470**	ppb	4.123	20.146	9291.354
39	**K**		37099.226	**-2.038988**	ppb	1.203	26.464	36695.968
24	**Mg**		168.334	**-0.351612**	ppb	19.326	26.420	276.669
159	**Tb-ISK**	>	171287.444		ppb	0.518		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-203960_2-A @20
Autosampler Position: 160
Sample Date/Time: Tuesday, December 28, 2021 09:17:58
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCS 570-203960_2-A @20.039
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46875.708		ppb	2.754		44926.096
9	**Be**		66736.664	**25.441150**	ppb	1.820	0.214	36.667
10	**B**		21124.510	**25.036164**	ppb	3.705	4.300	1817.894
27	**Al**		367489.153	**24.979746**	ppb	1.267	1.380	9451.793
43	**Ca-2**		1918.462	**36.350352**	ppb	3.662	2.562	106.667
49	**Ti**		31618.320	**24.059916**	ppb	3.884	1.953	212.224
52	**Cr**		437126.128	**23.684686**	ppb	0.754	1.619	18720.042
55	**Mn**		621731.328	**23.009473**	ppb	1.699	3.658	1591.200
57	**Fe**		27987.402	**23.972412**	ppb	2.725	6.875	14598.568
45	**Sc-IS**	>	1824367.472		ppb	2.007		1777472.230
66	**Zn**		69580.176	**25.393843**	ppb	1.577	3.406	904.473
86	**Sr**		104625.753	**23.443650**	ppb	2.073	3.905	17.187
65	**Cu**		97680.603	**24.957705**	ppb	0.683	2.502	412.228
69	**Ga-IS**		535886.899		ppb	1.145		514898.296
95	**Mo**		117311.928	**23.003919**	ppb	0.254	1.872	535.566
115	**In-IS**	>	222831.901		ppb	2.154		219027.825
111	**Cd**		72735.239	**23.690020**	ppb	2.756	0.832	41.098
118	**Sn**		203951.260	**23.065746**	ppb	3.657	1.527	3441.526
121	**Sb**		224536.967	**24.037861**	ppb	3.838	1.710	436.673
135	**Ba**		65563.525	**25.234289**	ppb	2.946	1.071	56.667
165	**Ho-IS**		387919.286		ppb	1.508		373728.975
159	**Tb-IS**	>	369867.369		ppb	4.011		362592.971
207	**Pb**		1021566.499	**23.537406**	ppb	2.664	1.712	750.008
203	**Tl**		321872.924	**22.912879**	ppb	3.460	1.026	240.002
209	**Bi-IS**		211467.204		ppb	1.489		211955.496
51	**V**		7130.669	**22.891147**	ppb	2.077	0.473	2.222
59	**Co**		24377.451	**23.367813**	ppb	1.436	2.785	16.667
60	**Ni**		46089.786	**23.025350**	ppb	0.453	2.391	105.556
75	**As**		14653.595	**21.753351**	ppb	1.286	2.209	269.196
71	**Ga-ISK**		60988.826		ppb	1.774		60067.165
82	**Se-2**		1653.600	**24.125359**	ppb	3.176	5.573	4.127
107	**Ag-1**		95370.629	**12.832205**	ppb	0.710	2.664	411.117
115	**In-ISK**	>	84965.347		ppb	2.536		81046.652
45	**Sc-ISK**		155711.932		ppb	1.571		147886.464
23	**Na**		103294.078	**230.814580**	ppb	3.592	3.709	9291.354
39	**K**		219750.618	**235.729558**	ppb	0.458	0.289	36695.968
24	**Mg**		8762.688	**24.107096**	ppb	3.108	3.335	276.669
159	**Tb-ISK**	>	171874.416		ppb	0.237		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-203960_3-A @20
Autosampler Position: 301
Sample Date/Time: Tuesday, December 28, 2021 09:21:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCSD 570-203960_3-A @20.040
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46816.620		ppb	2.518		44926.096
9	**Be**		66673.062	**24.982004**	ppb	2.441	4.625	36.667
10	**B**		21025.467	**24.434336**	ppb	2.356	4.859	1817.894
27	**Al**		370704.969	**24.748277**	ppb	0.655	1.941	9451.793
43	**Ca-2**		1805.114	**33.471919**	ppb	5.784	8.240	106.667
49	**Ti**		32118.287	**24.019663**	ppb	0.207	2.057	212.224
52	**Cr**		440328.040	**23.428461**	ppb	1.059	3.000	18720.042
55	**Mn**		635705.304	**23.101645**	ppb	2.251	2.103	1591.200
57	**Fe**		28422.709	**23.855738**	ppb	3.088	9.038	14598.568
45	**Sc-IS**	>	1857321.817		ppb	2.218		1777472.230
66	**Zn**		70915.683	**25.419615**	ppb	2.965	3.694	904.473
86	**Sr**		103771.127	**22.836414**	ppb	1.123	2.714	17.187
65	**Cu**		97952.747	**24.589412**	ppb	3.684	5.267	412.228
69	**Ga-IS**		544684.771		ppb	1.055		514898.296
95	**Mo**		117820.640	**22.700242**	ppb	1.850	4.056	535.566
115	**In-IS**	>	223443.397		ppb	5.312		219027.825
111	**Cd**		73461.371	**23.870692**	ppb	4.379	0.991	41.098
118	**Sn**		205054.671	**23.136160**	ppb	4.986	0.751	3441.526
121	**Sb**		223445.763	**23.884020**	ppb	2.536	2.782	436.673
135	**Ba**		65745.471	**25.258340**	ppb	2.948	2.388	56.667
165	**Ho-IS**		379052.866		ppb	1.747		373728.975
159	**Tb-IS**	>	367815.164		ppb	0.937		362592.971
207	**Pb**		1021634.194	**23.661597**	ppb	0.795	0.572	750.008
203	**Tl**		320660.025	**22.948992**	ppb	3.133	2.742	240.002
209	**Bi-IS**		214253.608		ppb	0.392		211955.496
51	**V**		7110.659	**22.916262**	ppb	2.228	2.055	2.222
59	**Co**		24645.697	**23.708391**	ppb	2.813	2.278	16.667
60	**Ni**		46338.395	**23.235687**	ppb	2.432	2.896	105.556
75	**As**		14745.652	**21.975586**	ppb	1.244	1.416	269.196
71	**Ga-ISK**		60581.528		ppb	1.181		60067.165
82	**Se-2**		1605.585	**23.492906**	ppb	4.809	4.474	4.127
107	**Ag-1**		95683.841	**12.920655**	ppb	1.141	0.906	411.117
115	**In-ISK**	>	84626.328		ppb	0.546		81046.652
45	**Sc-ISK**		156707.494		ppb	2.846		147886.464
23	**Na**		104129.843	**235.725109**	ppb	1.390	2.349	9291.354
39	**K**		220489.883	**239.853540**	ppb	1.501	2.535	36695.968
24	**Mg**		8650.952	**24.059594**	ppb	1.474	2.206	276.669
159	**Tb-ISK**	>	170026.623		ppb	1.375		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293312-A-1-D sd @100
Autosampler Position: 302
Sample Date/Time: Tuesday, December 28, 2021 09:24:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293312-A-1-D sd @100.041
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47944.842		ppb	3.814		44926.096
9	**Be**		338.893	**0.114237**	ppb	9.553	12.984	36.667
10	**B**		2203.504	**0.417566**	ppb	6.778	30.630	1817.894
27	**Al**		41832734.370	**2900.852285**	ppb	2.630	3.368	9451.793
43	**Ca-2**		208051.505	**4150.876372**	ppb	2.845	1.661	106.667
49	**Ti**		107053.242	**81.316262**	ppb	3.321	1.102	212.224
52	**Cr**		101743.295	**4.640516**	ppb	1.426	4.366	18720.042
55	**Mn**		3124894.526	**115.139821**	ppb	2.166	4.606	1591.200
57	**Fe**		2296118.684	**4176.961253**	ppb	3.533	4.829	14598.568
45	**Sc-IS**	>	1836755.106		ppb	2.408		1777472.230
66	**Zn**		51809.338	**18.688590**	ppb	0.914	1.881	904.473
86	**Sr**		104482.024	**23.252188**	ppb	2.649	3.782	17.187
65	**Cu**		27957.335	**7.016665**	ppb	1.760	2.077	412.228
69	**Ga-IS**		567981.913		ppb	1.112		514898.296
95	**Mo**		1666.764	**0.218045**	ppb	3.650	8.069	535.566
115	**In-IS**	>	223565.736		ppb	3.350		219027.825
111	**Cd**		160.945	**0.038763**	ppb	8.294	14.525	41.098
118	**Sn**		5320.992	**0.207494**	ppb	3.508	6.077	3441.526
121	**Sb**		556.678	**0.011917**	ppb	4.149	28.030	436.673
135	**Ba**		102243.581	**39.254591**	ppb	2.186	2.415	56.667
165	**Ho-IS**		386407.334		ppb	0.499		373728.975
159	**Tb-IS**	>	371714.118		ppb	0.856		362592.971
207	**Pb**		232565.457	**5.316666**	ppb	1.478	2.179	750.008
203	**Tl**		897.806	**0.046228**	ppb	9.203	13.728	240.002
209	**Bi-IS**		207010.321		ppb	1.173		211955.496
51	**V**		2354.639	**7.809988**	ppb	2.554	4.922	2.222
59	**Co**		2610.239	**2.571784**	ppb	4.238	6.622	16.667
60	**Ni**		7515.310	**3.833368**	ppb	1.132	3.488	105.556
75	**As**		857.333	**0.913977**	ppb	4.499	8.129	269.196
71	**Ga-ISK**		63247.561		ppb	3.001		60067.165
82	**Se-2**		10.072	**0.090436**	ppb	148.961	251.013	4.127
107	**Ag-1**		1114.488	**0.097443**	ppb	7.480	13.479	411.117
115	**In-ISK**	>	82240.750		ppb	2.420		81046.652
45	**Sc-ISK**		154576.291		ppb	1.066		147886.464
23	**Na**		66445.842	**140.041188**	ppb	0.842	3.205	9291.354
39	**K**		542788.815	**657.335842**	ppb	0.861	1.801	36695.968
24	**Mg**		581597.891	**1656.120534**	ppb	1.547	1.367	276.669
159	**Tb-ISK**	>	171714.754		ppb	1.902		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293312-A-1-D @20
Autosampler Position: 303
Sample Date/Time: Tuesday, December 28, 2021 09:27:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293312-A-1-D @20.042
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56644.374		ppb	3.150		44926.096
9	**Be**		1531.193	**0.553984**	ppb	3.903	3.965	36.667
10	**B**		4556.282	**3.337717**	ppb	1.814	3.112	1817.894
27	**Al**		215543886.402	**14641.618858**	ppb	0.717	0.696	9451.793
43	**Ca-2**		1043172.087	**20399.364338**	ppb	2.239	2.275	106.667
49	**Ti**		547341.832	**408.059138**	ppb	0.528	0.568	212.224
52	**Cr**		438553.460	**23.093294**	ppb	0.929	1.008	18720.042
55	**Mn**		15612781.287	**563.443398**	ppb	2.605	2.648	1591.200
57	**Fe**		11294088.298	**20223.737504**	ppb	0.854	0.887	14598.568
45	**Sc-IS**	>	1874724.062		ppb	0.045		1777472.230
66	**Zn**		270144.307	**96.855151**	ppb	2.011	1.997	904.473
86	**Sr**		522303.388	**113.848298**	ppb	3.103	3.112	17.187
65	**Cu**		138637.498	**34.500964**	ppb	2.409	2.420	412.228
69	**Ga-IS**		694488.785		ppb	3.179		514898.296
95	**Mo**		4530.718	**0.760160**	ppb	1.472	1.733	535.566
115	**In-IS**	>	218140.778		ppb	2.381		219027.825
111	**Cd**		729.394	**0.229130**	ppb	6.385	5.427	41.098
118	**Sn**		4213.955	**0.092661**	ppb	3.978	25.723	3441.526
121	**Sb**		414.451	**-0.002192**	ppb	16.878	369.776	436.673
135	**Ba**		529179.247	**208.302933**	ppb	1.169	2.423	56.667
165	**Ho-IS**		403546.428		ppb	2.741		373728.975
159	**Tb-IS**	>	386455.097		ppb	1.750		362592.971
207	**Pb**		1187334.687	**26.173588**	ppb	2.012	0.397	750.008
203	**Tl**		2235.731	**0.134894**	ppb	6.979	6.263	240.002
209	**Bi-IS**		204102.720		ppb	2.490		211955.496
51	**V**		11533.552	**38.962591**	ppb	5.500	6.745	2.222
59	**Co**		12060.649	**12.151501**	ppb	3.498	5.002	16.667
60	**Ni**		35294.679	**18.525806**	ppb	2.716	2.483	105.556
75	**As**		3312.212	**4.845709**	ppb	2.417	4.122	269.196
71	**Ga-ISK**		72003.313		ppb	2.748		60067.165
82	**Se-2**		22.632	**0.286493**	ppb	59.956	75.009	4.127
107	**Ag-1**		656.682	**0.035045**	ppb	7.161	16.812	411.117
115	**In-ISK**	>	80791.271		ppb	1.478		81046.652
45	**Sc-ISK**		160624.772		ppb	1.549		147886.464
23	**Na**		298980.092	**702.041623**	ppb	3.303	2.219	9291.354
39	**K**		2646706.804	**3341.523272**	ppb	1.605	0.249	36695.968
24	**Mg**		2922489.560	**8181.999368**	ppb	2.018	0.959	276.669
159	**Tb-ISK**	>	174695.118		ppb	1.376		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293312-A-1-E MS @20
Autosampler Position: 304
Sample Date/Time: Tuesday, December 28, 2021 09:30:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293312-A-1-E MS @20.043
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		50350.804		ppb	0.946		44926.096
9	**Be**		86013.740	**32.050904**	ppb	1.060	1.995	36.667
10	**B**		21669.779	**25.082957**	ppb	4.549	1.724	1817.894
27	**Al**		88098633.132	**6010.975237**	ppb	1.660	3.198	9451.793
43	**Ca-2**		157613.255	**3093.112030**	ppb	1.983	1.140	106.667
49	**Ti**		272834.528	**204.132810**	ppb	3.075	1.207	212.224
52	**Cr**		760150.582	**41.011900**	ppb	0.745	2.470	18720.042
55	**Mn**		8113591.442	**294.131722**	ppb	0.656	3.382	1591.200
57	**Fe**		5022679.575	**9022.868131**	ppb	1.797	4.831	14598.568
45	**Sc-IS**	>	1867353.524		ppb	3.037		1777472.230
66	**Zn**		236102.079	**84.983018**	ppb	1.676	2.806	904.473
86	**Sr**		257736.586	**56.401526**	ppb	3.075	1.215	17.187
65	**Cu**		188170.069	**47.082648**	ppb	0.344	3.267	412.228
69	**Ga-IS**		612776.452		ppb	2.617		514898.296
95	**Mo**		110201.399	**21.099748**	ppb	2.687	0.662	535.566
115	**In-IS**	>	222522.463		ppb	3.864		219027.825
111	**Cd**		97155.151	**31.701979**	ppb	3.027	1.172	41.098
118	**Sn**		147604.297	**16.619807**	ppb	1.510	2.555	3441.526
121	**Sb**		37640.660	**3.999017**	ppb	2.783	3.433	436.673
135	**Ba**		272106.093	**105.030991**	ppb	1.068	2.843	56.667
165	**Ho-IS**		400791.081		ppb	0.218		373728.975
159	**Tb-IS**	>	379406.396		ppb	1.639		362592.971
207	**Pb**		1511106.059	**33.936530**	ppb	2.141	1.574	750.008
203	**Tl**		230549.153	**15.991227**	ppb	1.722	0.346	240.002
209	**Bi-IS**		211828.646		ppb	2.824		211955.496
51	**V**		14411.711	**46.853114**	ppb	0.856	2.169	2.222
59	**Co**		35931.811	**34.872910**	ppb	2.075	2.906	16.667
60	**Ni**		76861.819	**38.899497**	ppb	1.864	1.650	105.556
75	**As**		20006.436	**30.217216**	ppb	3.532	2.442	269.196
71	**Ga-ISK**		66999.071		ppb	3.181		60067.165
82	**Se-2**		1725.852	**25.473507**	ppb	0.819	0.544	4.127
107	**Ag-1**		32333.221	**4.364321**	ppb	1.471	0.208	411.117
115	**In-ISK**	>	83922.635		ppb	1.357		81046.652
45	**Sc-ISK**		158355.223		ppb	1.695		147886.464
23	**Na**		211478.919	**482.470441**	ppb	1.008	3.189	9291.354
39	**K**		1544383.218	**1901.045639**	ppb	0.901	1.362	36695.968
24	**Mg**		1262072.704	**3482.993474**	ppb	2.605	1.833	276.669
159	**Tb-ISK**	>	177209.965		ppb	2.005		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293312-A-1-F MSD @20
Autosampler Position: 305
Sample Date/Time: Tuesday, December 28, 2021 09:33:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293312-A-1-F MSD @20.044
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		51368.918		ppb	3.127		44926.096
9	**Be**		86974.216	**32.881359**	ppb	3.869	5.011	36.667
10	**B**		21234.666	**24.943350**	ppb	2.507	4.636	1817.894
27	**Al**		90210843.808	**6243.040104**	ppb	1.552	3.008	9451.793
43	**Ca-2**		157679.026	**3139.262401**	ppb	2.194	2.718	106.667
49	**Ti**		271802.075	**206.317264**	ppb	2.141	1.727	212.224
52	**Cr**		749099.403	**40.972601**	ppb	3.811	2.280	18720.042
55	**Mn**		8068078.357	**296.502753**	ppb	2.526	0.871	1591.200
57	**Fe**		5139943.638	**9360.500420**	ppb	1.225	1.279	14598.568
45	**Sc-IS**	>	1840622.549		ppb	1.728		1777472.230
66	**Zn**		238909.247	**87.223264**	ppb	1.565	2.047	904.473
86	**Sr**		262582.290	**58.301156**	ppb	0.721	1.015	17.187
65	**Cu**		189794.769	**48.153344**	ppb	1.071	0.662	412.228
69	**Ga-IS**		605708.254		ppb	3.436		514898.296
95	**Mo**		111958.261	**21.752332**	ppb	2.273	2.607	535.566
115	**In-IS**	>	221140.897		ppb	3.500		219027.825
111	**Cd**		96662.733	**31.727797**	ppb	3.930	0.427	41.098
118	**Sn**		150246.139	**17.028756**	ppb	1.890	1.864	3441.526
121	**Sb**		38067.326	**4.069800**	ppb	1.532	1.995	436.673
135	**Ba**		276654.124	**107.405916**	ppb	2.402	1.395	56.667
165	**Ho-IS**		397471.728		ppb	2.057		373728.975
159	**Tb-IS**	>	381501.086		ppb	3.077		362592.971
207	**Pb**		1546913.258	**34.569107**	ppb	0.524	2.803	750.008
203	**Tl**		235253.736	**16.229485**	ppb	3.325	2.010	240.002
209	**Bi-IS**		214890.055		ppb	1.807		211955.496
51	**V**		15002.321	**50.011783**	ppb	2.596	4.496	2.222
59	**Co**		36004.209	**35.816415**	ppb	1.493	2.085	16.667
60	**Ni**		79268.247	**41.143049**	ppb	1.778	3.881	105.556
75	**As**		20463.344	**31.714906**	ppb	0.791	2.410	269.196
71	**Ga-ISK**		67726.833		ppb	0.600		60067.165
82	**Se-2**		1674.544	**25.336434**	ppb	2.660	2.935	4.127
107	**Ag-1**		32456.842	**4.493204**	ppb	2.350	2.973	411.117
115	**In-ISK**	>	81892.209		ppb	3.063		81046.652
45	**Sc-ISK**		161078.675		ppb	1.218		147886.464
23	**Na**		219051.946	**504.262437**	ppb	1.634	1.021	9291.354
39	**K**		1579287.357	**1959.413169**	ppb	2.424	1.748	36695.968
24	**Mg**		1270374.033	**3531.555590**	ppb	1.920	1.198	276.669
159	**Tb-ISK**	>	175909.118		ppb	0.729		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293312-A-1-D pds @20
Autosampler Position: 306
Sample Date/Time: Tuesday, December 28, 2021 09:37:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293312-A-1-D pds @20.045
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		52994.840		ppb	3.017		44926.096
9	**Be**		67528.131	**25.555078**	ppb	1.249	1.494	36.667
10	**B**		22255.101	**26.294582**	ppb	1.225	2.913	1817.894
27	**Al**		186962260.819	**12955.340793**	ppb	1.111	1.056	9451.793
43	**Ca-2**		944978.023	**18844.821923**	ppb	3.702	2.174	106.667
49	**Ti**		517736.097	**393.718844**	ppb	1.482	0.689	212.224
52	**Cr**		809225.677	**44.424035**	ppb	2.451	1.602	18720.042
55	**Mn**		14471367.625	**532.723762**	ppb	1.724	1.331	1591.200
57	**Fe**		10176045.853	**18588.317926**	ppb	3.469	3.984	14598.568
45	**Sc-IS**	>	1838059.304		ppb	2.154		1777472.230
66	**Zn**		315350.183	**115.422799**	ppb	2.016	3.080	904.473
86	**Sr**		574093.337	**127.658771**	ppb	2.812	3.001	17.187
65	**Cu**		214315.089	**54.479542**	ppb	2.364	3.386	412.228
69	**Ga-IS**		692214.804		ppb	2.688		514898.296
95	**Mo**		121862.024	**23.720964**	ppb	0.852	1.682	535.566
115	**In-IS**	>	214530.253		ppb	3.663		219027.825
111	**Cd**		76576.898	**25.917182**	ppb	2.441	1.201	41.098
118	**Sn**		206582.143	**24.304814**	ppb	1.782	1.887	3441.526
121	**Sb**		232676.843	**25.891687**	ppb	2.269	1.418	436.673
135	**Ba**		537973.245	**215.384564**	ppb	1.198	2.441	56.667
165	**Ho-IS**		397196.462		ppb	2.066		373728.975
159	**Tb-IS**	>	385019.608		ppb	0.760		362592.971
207	**Pb**		2054599.166	**45.476191**	ppb	1.732	1.852	750.008
203	**Tl**		139068.320	**9.497094**	ppb	5.541	5.108	240.002
209	**Bi-IS**		202949.852		ppb	2.608		211955.496
51	**V**		17599.729	**58.668942**	ppb	2.684	1.024	2.222
59	**Co**		34567.348	**34.400361**	ppb	2.786	1.933	16.667
60	**Ni**		77786.758	**40.391790**	ppb	0.194	2.740	105.556
75	**As**		18105.914	**28.027344**	ppb	2.124	2.739	269.196
71	**Ga-ISK**		70648.716		ppb	0.876		60067.165
82	**Se-2**		1781.749	**26.978068**	ppb	1.732	1.785	4.127
107	**Ag-1**		88909.162	**12.416892**	ppb	0.977	1.786	411.117
115	**In-ISK**	>	81835.018		ppb	2.619		81046.652
45	**Sc-ISK**		159745.122		ppb	2.162		147886.464
23	**Na**		361115.239	**840.140209**	ppb	2.179	1.481	9291.354
39	**K**		2555685.017	**3177.048988**	ppb	0.858	1.802	36695.968
24	**Mg**		2647536.104	**7304.153595**	ppb	0.729	1.804	276.669
159	**Tb-ISK**	>	177311.037		ppb	1.282		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293311-A-1-F @20
Autosampler Position: 307
Sample Date/Time: Tuesday, December 28, 2021 09:40:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293311-A-1-F @20.046
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49806.678		ppb	0.909		44926.096
9	**Be**		791.133	**0.284234**	ppb	5.611	5.493	36.667
10	**B**		3137.011	**1.608444**	ppb	3.761	5.026	1817.894
27	**Al**		84319067.185	**5824.438840**	ppb	1.926	2.111	9451.793
43	**Ca-2**		129583.590	**2574.708363**	ppb	2.237	1.261	106.667
49	**Ti**		182343.497	**138.115405**	ppb	2.537	1.539	212.224
52	**Cr**		217310.748	**11.096247**	ppb	1.893	1.630	18720.042
55	**Mn**		6734453.812	**247.112278**	ppb	1.118	0.821	1591.200
57	**Fe**		5008258.556	**9104.397500**	ppb	1.509	1.087	14598.568
45	**Sc-IS**	>	1843721.234		ppb	1.876		1777472.230
66	**Zn**		144993.566	**52.711728**	ppb	2.731	2.965	904.473
86	**Sr**		116928.557	**25.918151**	ppb	0.247	1.653	17.187
65	**Cu**		70406.537	**17.762608**	ppb	3.392	2.594	412.228
69	**Ga-IS**		606063.413		ppb	2.365		514898.296
95	**Mo**		1824.561	**0.247445**	ppb	1.698	4.254	535.566
115	**In-IS**	>	223222.654		ppb	2.783		219027.825
111	**Cd**		236.170	**0.063232**	ppb	2.452	3.234	41.098
118	**Sn**		5292.091	**0.205356**	ppb	0.096	8.171	3441.526
121	**Sb**		528.899	**0.008947**	ppb	7.981	38.828	436.673
135	**Ba**		194172.811	**74.645059**	ppb	3.406	0.640	56.667
165	**Ho-IS**		399352.197		ppb	2.811		373728.975
159	**Tb-IS**	>	379831.304		ppb	4.240		362592.971
207	**Pb**		233829.921	**5.233905**	ppb	2.103	2.513	750.008
203	**Tl**		1381.178	**0.078439**	ppb	2.829	4.751	240.002
209	**Bi-IS**		211071.301		ppb	1.058		211955.496
51	**V**		5476.606	**18.486834**	ppb	3.710	9.421	2.222
59	**Co**		5633.334	**5.649210**	ppb	3.373	2.266	16.667
60	**Ni**		18500.868	**9.663890**	ppb	2.967	4.279	105.556
75	**As**		1887.607	**2.571110**	ppb	2.232	5.244	269.196
71	**Ga-ISK**		64945.150		ppb	2.893		60067.165
82	**Se-2**		11.999	**0.119551**	ppb	48.494	70.388	4.127
107	**Ag-1**		1070.040	**0.093859**	ppb	8.937	20.471	411.117
115	**In-ISK**	>	81067.477		ppb	5.451		81046.652
45	**Sc-ISK**		154766.110		ppb	4.626		147886.464
23	**Na**		114033.613	**260.393781**	ppb	3.133	3.736	9291.354
39	**K**		1277733.377	**1632.209357**	ppb	1.465	3.121	36695.968
24	**Mg**		1167828.152	**3359.817226**	ppb	1.163	3.589	276.669
159	**Tb-ISK**	>	170084.955		ppb	2.562		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 09:43:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.047
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44884.908		ppb	3.610		44926.096
9	**Be**		256373.803	**98.930921**	ppb	3.249	1.620	36.667
10	**B**		199242.075	**259.574451**	ppb	3.601	1.412	1817.894
27	**Al**		1409194.118	**98.899712**	ppb	0.874	2.249	9451.793
43	**Ca-2**		249853.374	**5079.103865**	ppb	2.242	0.509	106.667
49	**Ti**		127776.698	**98.975507**	ppb	0.789	2.915	212.224
52	**Cr**		1726595.055	**97.968011**	ppb	1.334	3.718	18720.042
55	**Mn**		2669152.564	**100.141221**	ppb	1.864	2.430	1591.200
57	**Fe**		2729707.295	**5062.106529**	ppb	2.363	0.482	14598.568
45	**Sc-IS**	>	1802876.010		ppb	2.381		1777472.230
66	**Zn**		274636.125	**102.465729**	ppb	1.263	3.506	904.473
86	**Sr**		431265.672	**97.779676**	ppb	0.570	1.948	17.187
65	**Cu**		385442.003	**99.956214**	ppb	2.758	2.140	412.228
69	**Ga-IS**		555858.142		ppb	0.640		514898.296
95	**Mo**		483536.359	**96.306774**	ppb	0.876	2.733	535.566
115	**In-IS**	>	219946.754		ppb	4.280		219027.825
111	**Cd**		296962.282	**98.048139**	ppb	4.016	0.478	41.098
118	**Sn**		841627.987	**97.735847**	ppb	4.368	0.944	3441.526
121	**Sb**		901773.947	**98.011392**	ppb	3.066	1.415	436.673
135	**Ba**		252813.389	**98.739812**	ppb	1.747	3.297	56.667
165	**Ho-IS**		391663.904		ppb	1.545		373728.975
159	**Tb-IS**	>	373893.985		ppb	1.758		362592.971
207	**Pb**		4235042.922	**96.557827**	ppb	0.560	1.286	750.008
203	**Tl**		1333923.481	**93.963483**	ppb	2.636	0.991	240.002
209	**Bi-IS**		208082.384		ppb	1.118		211955.496
51	**V**		29457.006	**97.385321**	ppb	0.721	1.609	2.222
59	**Co**		99330.829	**98.047908**	ppb	1.092	1.047	16.667
60	**Ni**		192131.822	**98.993658**	ppb	2.801	4.010	105.556
75	**As**		64243.005	**99.697957**	ppb	2.147	4.026	269.196
71	**Ga-ISK**		61564.618		ppb	1.645		60067.165
82	**Se-2**		6578.647	**98.913503**	ppb	2.612	1.927	4.127
107	**Ag-1**		710373.194	**98.749269**	ppb	1.928	1.414	411.117
115	**In-ISK**	>	82533.386		ppb	1.870		81046.652
45	**Sc-ISK**		159009.226		ppb	2.265		147886.464
23	**Na**		2169938.635	**5431.263859**	ppb	2.857	3.242	9291.354
39	**K**		4037438.803	**5304.092627**	ppb	3.694	4.068	36695.968
24	**Mg**		1796884.090	**5205.304391**	ppb	1.128	1.347	276.669
159	**Tb-ISK**	>	168838.573		ppb	0.796		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 09:46:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.048
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44912.726		ppb	1.729		44926.096
9	**Be**		54.445	**0.006660**	ppb	56.887	175.579	36.667
10	**B**		2223.506	**0.518660**	ppb	2.061	22.829	1817.894
27	**Al**		19496.319	**0.696980**	ppb	58.461	110.437	9451.793
43	**Ca-2**		148.334	**0.825923**	ppb	22.444	73.885	106.667
49	**Ti**		341.115	**0.098694**	ppb	16.536	38.643	212.224
52	**Cr**		19030.446	**0.009295**	ppb	1.130	195.928	18720.042
55	**Mn**		2233.521	**0.023375**	ppb	33.717	112.296	1591.200
57	**Fe**		17272.665	**4.796000**	ppb	3.208	20.703	14598.568
45	**Sc-IS**	>	1792029.683		ppb	2.226		1777472.230
66	**Zn**		975.589	**0.024318**	ppb	4.048	93.585	904.473
86	**Sr**		70.434	**0.011806**	ppb	140.653	186.574	17.187
65	**Cu**		345.560	**-0.018375**	ppb	13.168	58.792	412.228
69	**Ga-IS**		517967.663		ppb	0.653		514898.296
95	**Mo**		1430.072	**0.178300**	ppb	7.460	8.938	535.566
115	**In-IS**	>	221210.416		ppb	3.958		219027.825
111	**Cd**		38.108	**-0.001001**	ppb	42.613	575.712	41.098
118	**Sn**		6412.552	**0.341598**	ppb	4.591	15.650	3441.526
121	**Sb**		804.467	**0.039529**	ppb	8.695	26.633	436.673
135	**Ba**		102.223	**0.017537**	ppb	47.740	111.333	56.667
165	**Ho-IS**		377355.256		ppb	1.555		373728.975
159	**Tb-IS**	>	362478.481		ppb	1.597		362592.971
207	**Pb**		1322.248	**0.013507**	ppb	20.309	48.976	750.008
203	**Tl**		466.674	**0.016497**	ppb	3.114	9.764	240.002
209	**Bi-IS**		209055.460		ppb	1.608		211955.496
51	**V**		7.778	**0.018160**	ppb	24.744	34.161	2.222
59	**Co**		22.222	**0.005072**	ppb	37.749	158.670	16.667
60	**Ni**		207.779	**0.051464**	ppb	2.451	3.910	105.556
75	**As**		279.230	**0.007546**	ppb	11.025	716.429	269.196
71	**Ga-ISK**		60394.104		ppb	2.336		60067.165
82	**Se-2**		11.455	**0.107526**	ppb	121.200	192.823	4.127
107	**Ag-1**		1206.718	**0.109358**	ppb	10.767	17.429	411.117
115	**In-ISK**	>	82700.379		ppb	1.492		81046.652
45	**Sc-ISK**		150150.821		ppb	2.431		147886.464
23	**Na**		8475.848	**-2.997816**	ppb	1.803	24.263	9291.354
39	**K**		40631.034	**3.211706**	ppb	0.607	30.030	36695.968
24	**Mg**		731.686	**1.279379**	ppb	17.481	27.276	276.669
159	**Tb-ISK**	>	169296.741		ppb	1.602		162588.970

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, December 28, 2021 10:06:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\blk.049
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46309.434		ppb	3.195		0.000
9	**Be**		23.333		ppb	49.487		0.000
10	**B**		1655.652		ppb	1.341		0.000
27	**Al**		13514.725		ppb	2.312		0.000
43	**Ca-2**		130.001		ppb	21.415		0.000
49	**Ti**		307.781		ppb	0.625		0.000
52	**Cr**		20583.708		ppb	0.634		0.000
55	**Mn**		1476.743		ppb	3.160		0.000
57	**Fe**		21789.943		ppb	1.941		0.000
45	**Sc-IS**	>	1853093.487		ppb	2.161		0.000
66	**Zn**		1220.052		ppb	4.473		0.000
86	**Sr**		65.540		ppb	62.291		0.000
65	**Cu**		295.559		ppb	5.677		0.000
69	**Ga-IS**		530138.901		ppb	3.079		0.000
95	**Mo**		657.793		ppb	1.055		0.000
115	**In-IS**	>	220852.184		ppb	4.802		0.000
111	**Cd**		9.730		ppb	39.414		0.000
118	**Sn**		13904.554		ppb	5.236		0.000
121	**Sb**		794.467		ppb	6.409		0.000
135	**Ba**		28.889		ppb	56.918		0.000
165	**Ho-IS**		384208.743		ppb	2.985		0.000
159	**Tb-IS**	>	372046.623		ppb	3.175		0.000
207	**Pb**		631.116		ppb	9.686		0.000
203	**Tl**		170.001		ppb	8.547		0.000
209	**Bi-IS**		216695.535		ppb	3.174		0.000

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, December 28, 2021 10:08:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICIS-1479530.050
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47034.008		ppb	2.837		
9	**Be**		17.778		ppb	39.031		
10	**B**		1578.976		ppb	5.112		
27	**Al**		9300.360		ppb	0.915		
43	**Ca-2**		98.334		ppb	25.593		
49	**Ti**		245.558		ppb	7.837		
52	**Cr**		20633.780		ppb	0.624		
55	**Mn**		1120.044		ppb	3.800		
57	**Fe**		15888.835		ppb	2.656		
45	**Sc-IS**	>	1834215.724		ppb	1.858		
66	**Zn**		840.025		ppb	6.605		
86	**Sr**		39.884		ppb	17.103		
65	**Cu**		362.227		ppb	23.468		
69	**Ga-IS**		546548.716		ppb	1.249		
95	**Mo**		88.889		ppb	36.806		
115	**In-IS**	>	216333.830		ppb	1.295		
111	**Cd**		8.702		ppb	21.731		
118	**Sn**		2076.821		ppb	18.759		
121	**Sb**		241.113		ppb	14.189		
135	**Ba**		37.778		ppb	18.368		
165	**Ho-IS**		386287.569		ppb	0.691		
159	**Tb-IS**	>	367848.161		ppb	0.828		
207	**Pb**		581.116		ppb	2.172		
203	**Tl**		60.000		ppb	27.778		
209	**Bi-IS**		215677.226		ppb	1.469		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-1479552
Autosampler Position: 204
Sample Date/Time: Tuesday, December 28, 2021 10:10:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\IC-1479552.051
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45631.652		ppb	0.222		47034.008
9	**Be**		526764.900	**200.000000**	ppb	1.896	1.232	17.778
10	**B**		405906.953	**500.000000**	ppb	1.739	1.153	1578.976
27	**Al**		2933537.649	**200.000000**	ppb	1.054	1.381	9300.360
43	**Ca-2**		500650.125	**10200.000000**	ppb	0.420	0.265	98.334
49	**Ti**		267965.415	**200.000000**	ppb	0.345	0.459	245.558
52	**Cr**		3577403.877	**200.000000**	ppb	1.681	2.383	20633.780
55	**Mn**		5410617.135	**200.000000**	ppb	0.873	1.550	1120.044
57	**Fe**		5439689.056	**10200.000000**	ppb	1.408	2.014	15888.835
45	**Sc-IS**	>	1890043.677		ppb	0.683		1834215.724
66	**Zn**		564911.130	**200.000000**	ppb	1.538	2.157	840.025
86	**Sr**		881250.200	**200.000000**	ppb	0.725	0.972	39.884
65	**Cu**		793429.060	**200.000000**	ppb	1.980	2.375	362.227
69	**Ga-IS**		607304.565		ppb	0.406		546548.716
95	**Mo**		1011920.151	**200.000000**	ppb	1.019	0.878	88.889
115	**In-IS**	>	212943.364		ppb	0.216		216333.830
111	**Cd**		580026.299	**200.000000**	ppb	0.144	0.084	8.702
118	**Sn**		1658541.593	**200.000000**	ppb	1.146	1.287	2076.821
121	**Sb**		1756474.859	**200.000000**	ppb	0.958	1.037	241.113
135	**Ba**		498554.786	**200.000000**	ppb	2.478	2.541	37.778
165	**Ho-IS**		381643.667		ppb	1.590		386287.569
159	**Tb-IS**	>	360470.804		ppb	2.495		367848.161
207	**Pb**		8351207.076	**200.000000**	ppb	1.764	3.412	581.116
203	**Tl**		2653096.885	**200.000000**	ppb	0.513	1.999	60.000
209	**Bi-IS**		202688.134		ppb	2.001		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 10:11:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.052
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46228.017		ppb	1.291		47034.008
9	**Be**		266941.101	**101.585392**	ppb	1.031	3.187	17.778
10	**B**		207749.761	**255.536614**	ppb	0.825	3.378	1578.976
27	**Al**		1459730.642	**99.422631**	ppb	0.953	3.530	9300.360
43	**Ca-2**		256176.531	**5229.938021**	ppb	0.353	2.888	98.334
49	**Ti**		132510.745	**98.992432**	ppb	1.755	0.781	245.558
52	**Cr**		1758019.465	**97.874493**	ppb	0.825	2.122	20633.780
55	**Mn**		2666647.992	**98.750697**	ppb	1.536	2.466	1120.044
57	**Fe**		2750532.053	**5151.578807**	ppb	1.944	0.634	15888.835
45	**Sc-IS**	>	1886700.369		ppb	2.527		1834215.724
66	**Zn**		281183.784	**99.590976**	ppb	0.967	1.691	840.025
86	**Sr**		438167.925	**99.657588**	ppb	0.228	2.779	39.884
65	**Cu**		393660.304	**99.385708**	ppb	0.599	2.075	362.227
69	**Ga-IS**		568345.344		ppb	1.874		546548.716
95	**Mo**		497426.746	**98.508662**	ppb	0.772	1.891	88.889
115	**In-IS**	>	213215.758		ppb	2.074		216333.830
111	**Cd**		290050.198	**99.905645**	ppb	0.518	1.622	8.702
118	**Sn**		826479.710	**99.430529**	ppb	1.228	1.764	2076.821
121	**Sb**		870884.052	**99.044878**	ppb	0.582	1.742	241.113
135	**Ba**		253209.285	**101.466722**	ppb	1.908	2.723	37.778
165	**Ho-IS**		385706.934		ppb	1.171		386287.569
159	**Tb-IS**	>	368771.634		ppb	1.031		367848.161
207	**Pb**		4212744.825	**98.573040**	ppb	1.380	2.013	581.116
203	**Tl**		1320883.701	**97.306767**	ppb	1.341	1.940	60.000
209	**Bi-IS**		203818.133		ppb	0.492		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 10:13:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.053
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45826.724		ppb	1.071		47034.008
9	**Be**		122.223	**0.040231**	ppb	16.439	18.094	17.778
10	**B**		2610.239	**1.276093**	ppb	3.897	14.442	1578.976
27	**Al**		10623.354	**0.082371**	ppb	16.525	124.980	9300.360
43	**Ca-2**		206.668	**2.226455**	ppb	3.696	12.434	98.334
49	**Ti**		252.224	**0.003067**	ppb	13.304	937.651	245.558
52	**Cr**		20245.453	**-0.036596**	ppb	2.657	89.452	20633.780
55	**Mn**		2249.067	**0.042037**	ppb	8.760	19.666	1120.044
57	**Fe**		15835.443	**-0.480167**	ppb	2.834	66.215	15888.835
45	**Sc-IS**	>	1857039.791		ppb	2.731		1834215.724
66	**Zn**		884.472	**0.012385**	ppb	3.502	101.985	840.025
86	**Sr**		184.881	**0.033440**	ppb	13.396	18.935	39.884
65	**Cu**		483.342	**0.029980**	ppb	7.772	33.310	362.227
69	**Ga-IS**		546538.812		ppb	2.375		546548.716
95	**Mo**		1115.599	**0.205970**	ppb	11.411	9.565	88.889
115	**In-IS**	>	214104.828		ppb	0.493		216333.830
111	**Cd**		109.880	**0.034739**	ppb	7.457	8.586	8.702
118	**Sn**		4171.725	**0.254262**	ppb	10.650	21.674	2076.821
121	**Sb**		694.461	**0.051626**	ppb	4.139	6.150	241.113
135	**Ba**		105.556	**0.027183**	ppb	21.495	32.865	37.778
165	**Ho-IS**		376642.774		ppb	0.435		386287.569
159	**Tb-IS**	>	357751.076		ppb	1.023		367848.161
207	**Pb**		2068.947	**0.036299**	ppb	7.106	11.124	581.116
203	**Tl**		704.462	**0.049071**	ppb	5.191	6.108	60.000
209	**Bi-IS**		212176.348		ppb	0.896		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-1-A sd @500
Autosampler Position: 109
Sample Date/Time: Tuesday, December 28, 2021 10:14:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-1-A sd @500.054
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44310.853		ppb	1.908		47034.008
9	**Be**		111.112	**0.035587**	ppb	28.827	34.836	17.778
10	**B**		3099.226	**1.854614**	ppb	4.726	12.063	1578.976
27	**Al**		1416807.322	**97.075892**	ppb	2.564	2.984	9300.360
43	**Ca-2**		47299.925	**970.403544**	ppb	3.995	5.542	98.334
49	**Ti**		322.226	**0.054146**	ppb	12.471	64.049	245.558
52	**Cr**		20036.268	**-0.059496**	ppb	2.328	33.128	20633.780
55	**Mn**		80094282.908	**2985.836323**	ppb	1.622	0.886	1120.044
57	**Fe**		22525.525	**11.944184**	ppb	1.479	12.673	15888.835
45	**Sc-IS**	>	1874520.655		ppb	2.211		1834215.724
66	**Zn**		11920.530	**3.956248**	ppb	3.105	4.467	840.025
86	**Sr**		116649.797	**26.687093**	ppb	2.749	2.494	39.884
65	**Cu**		4356.220	**1.013875**	ppb	1.115	2.873	362.227
69	**Ga-IS**		654176.348		ppb	1.931		546548.716
95	**Mo**		905.584	**0.162512**	ppb	3.216	5.850	88.889
115	**In-IS**	>	214212.466		ppb	0.783		216333.830
111	**Cd**		52.543	**0.015043**	ppb	24.113	28.418	8.702
118	**Sn**		2532.453	**0.057443**	ppb	20.713	113.440	2076.821
121	**Sb**		448.896	**0.023817**	ppb	9.692	22.286	241.113
135	**Ba**		695997.017	**277.567424**	ppb	0.470	1.016	37.778
165	**Ho-IS**		379339.688		ppb	1.027		386287.569
159	**Tb-IS**	>	360559.728		ppb	2.532		367848.161
207	**Pb**		1703.373	**0.027080**	ppb	12.953	16.831	581.116
203	**Tl**		454.452	**0.029737**	ppb	15.669	15.058	60.000
209	**Bi-IS**		208948.501		ppb	2.009		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-1-A @100
Autosampler Position: 110
Sample Date/Time: Tuesday, December 28, 2021 10:16:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-1-A @100.055
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45554.761		ppb	2.111		47034.008
9	**Be**		274.447	**0.098674**	ppb	12.227	11.938	17.778
10	**B**		6266.930	**5.849298**	ppb	1.981	1.432	1578.976
27	**Al**		6859924.929	**475.358766**	ppb	1.298	2.527	9300.360
43	**Ca-2**		220226.224	**4550.362827**	ppb	0.713	1.673	98.334
49	**Ti**		784.466	**0.405233**	ppb	5.969	7.502	245.558
52	**Cr**		20563.679	**-0.022289**	ppb	0.942	167.954	20633.780
55	**Mn**		384582288.784	**14421.325374**	ppb	1.470	0.854	1120.044
57	**Fe**		47287.022	**59.433594**	ppb	0.147	3.748	15888.835
45	**Sc-IS**	>	1863617.781		ppb	2.310		1834215.724
66	**Zn**		52276.596	**18.499531**	ppb	1.266	3.296	840.025
86	**Sr**		558559.770	**128.597649**	ppb	0.833	2.273	39.884
65	**Cu**		18652.174	**4.678806**	ppb	2.608	4.346	362.227
69	**Ga-IS**		1064018.011		ppb	0.422		546548.716
95	**Mo**		2386.867	**0.459980**	ppb	8.003	6.033	88.889
115	**In-IS**	>	217048.660		ppb	2.013		216333.830
111	**Cd**		77.210	**0.023253**	ppb	24.129	29.372	8.702
118	**Sn**		1959.026	**-0.015224**	ppb	16.751	224.029	2076.821
121	**Sb**		375.561	**0.014913**	ppb	5.350	9.363	241.113
135	**Ba**		3468352.295	**1365.480518**	ppb	0.025	1.982	37.778
165	**Ho-IS**		377004.333		ppb	0.377		386287.569
159	**Tb-IS**	>	360915.661		ppb	0.573		367848.161
207	**Pb**		3057.907	**0.059487**	ppb	2.557	3.746	581.116
203	**Tl**		324.448	**0.019985**	ppb	7.711	8.945	60.000
209	**Bi-IS**		204711.958		ppb	0.982		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-1-B MS @100
Autosampler Position: 111
Sample Date/Time: Tuesday, December 28, 2021 10:17:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-1-B MS @100.056
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45419.868		ppb	0.555		47034.008
9	**Be**		3094.780	**1.163255**	ppb	4.066	5.667	17.778
10	**B**		6968.367	**6.564421**	ppb	3.164	3.002	1578.976
27	**Al**		7101831.105	**482.844537**	ppb	0.558	1.531	9300.360
43	**Ca-2**		227451.582	**4611.378324**	ppb	1.254	1.953	98.334
49	**Ti**		1047.816	**0.590556**	ppb	5.412	9.089	245.558
52	**Cr**		30064.960	**0.486696**	ppb	3.340	6.780	20633.780
55	**Mn**		400495428.379	**14735.293916**	ppb	1.688	0.420	1120.044
57	**Fe**		50891.611	**64.461425**	ppb	1.442	0.487	15888.835
45	**Sc-IS**	>	1899130.823		ppb	1.639		1834215.724
66	**Zn**		55941.554	**19.433928**	ppb	1.413	1.409	840.025
86	**Sr**		566888.545	**128.025342**	ppb	2.391	1.130	39.884
65	**Cu**		22805.983	**5.628226**	ppb	3.580	2.055	362.227
69	**Ga-IS**		1112508.604		ppb	2.289		546548.716
95	**Mo**		2372.419	**0.448580**	ppb	2.712	2.174	88.889
115	**In-IS**	>	215324.519		ppb	0.487		216333.830
111	**Cd**		3102.023	**1.054791**	ppb	2.279	1.837	8.702
118	**Sn**		1487.856	**-0.069107**	ppb	15.479	40.657	2076.821
121	**Sb**		436.673	**0.022152**	ppb	4.039	9.192	241.113
135	**Ba**		3554323.015	**1410.116038**	ppb	1.412	0.940	37.778
165	**Ho-IS**		378400.599		ppb	0.596		386287.569
159	**Tb-IS**	>	359007.477		ppb	0.853		367848.161
207	**Pb**		3933.542	**0.080939**	ppb	3.691	5.288	581.116
203	**Tl**		2260.179	**0.166580**	ppb	1.935	1.111	60.000
209	**Bi-IS**		206112.998		ppb	0.967		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-1-C MSD @100
Autosampler Position: 112
Sample Date/Time: Tuesday, December 28, 2021 10:19:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-1-C MSD @100.057
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45392.029		ppb	2.440		47034.008
9	**Be**		3211.474	**1.228882**	ppb	8.594	10.383	17.778
10	**B**		7315.208	**7.151493**	ppb	3.917	7.007	1578.976
27	**Al**		7109306.229	**491.722933**	ppb	2.109	3.319	9300.360
43	**Ca-2**		225717.629	**4654.467751**	ppb	0.815	1.184	98.334
49	**Ti**		1011.147	**0.575047**	ppb	10.264	11.768	245.558
52	**Cr**		30666.221	**0.549966**	ppb	2.001	1.704	20633.780
55	**Mn**		401884464.077	**15038.414575**	ppb	2.558	0.928	1120.044
57	**Fe**		50958.626	**66.189779**	ppb	4.505	4.169	15888.835
45	**Sc-IS**	>	1867189.607		ppb	1.945		1834215.724
66	**Zn**		56289.584	**19.896780**	ppb	1.425	1.110	840.025
86	**Sr**		579749.487	**133.209861**	ppb	3.179	3.687	39.884
65	**Cu**		22839.374	**5.734301**	ppb	4.105	2.367	362.227
69	**Ga-IS**		1111106.753		ppb	2.102		546548.716
95	**Mo**		2390.200	**0.460187**	ppb	2.055	2.152	88.889
115	**In-IS**	>	211810.602		ppb	0.682		216333.830
111	**Cd**		3053.086	**1.055579**	ppb	5.429	5.782	8.702
118	**Sn**		1310.061	**-0.087718**	ppb	14.023	26.446	2076.821
121	**Sb**		404.450	**0.019268**	ppb	6.611	14.732	241.113
135	**Ba**		3543623.313	**1429.315160**	ppb	0.712	1.308	37.778
165	**Ho-IS**		379014.481		ppb	0.903		386287.569
159	**Tb-IS**	>	358998.046		ppb	1.869		367848.161
207	**Pb**		3854.645	**0.079053**	ppb	1.827	3.785	581.116
203	**Tl**		2211.282	**0.162951**	ppb	2.197	3.459	60.000
209	**Bi-IS**		207249.229		ppb	0.781		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-1-A PDS @100
Autosampler Position: 113
Sample Date/Time: Tuesday, December 28, 2021 10:21:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-1-A PDS @100.058
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46767.548		ppb	1.426		47034.008
9	**Be**		287690.718	**108.535430**	ppb	1.736	1.606	17.778
10	**B**		86345.772	**104.098256**	ppb	1.819	1.508	1578.976
27	**Al**		8353079.021	**567.041260**	ppb	0.405	0.450	9300.360
43	**Ca-2**		487497.006	**9868.445047**	ppb	0.812	0.180	98.334
49	**Ti**		143624.017	**106.433971**	ppb	1.434	2.229	245.558
52	**Cr**		1862836.077	**102.901693**	ppb	1.362	2.062	20633.780
55	**Mn**		376389422.626	**13826.466161**	ppb	1.240	1.285	1120.044
57	**Fe**		2961694.093	**5504.205934**	ppb	1.780	2.589	15888.835
45	**Sc-IS**	>	1902187.332		ppb	0.815		1834215.724
66	**Zn**		352037.310	**123.731416**	ppb	2.267	3.077	840.025
86	**Sr**		997648.673	**225.001066**	ppb	2.640	3.306	39.884
65	**Cu**		428179.225	**107.210597**	ppb	2.576	3.386	362.227
69	**Ga-IS**		1074706.126		ppb	3.845		546548.716
95	**Mo**		517042.213	**101.528858**	ppb	1.143	0.898	88.889
115	**In-IS**	>	210943.382		ppb	0.776		216333.830
111	**Cd**		298564.283	**103.926762**	ppb	0.400	0.789	8.702
118	**Sn**		861460.579	**104.743288**	ppb	1.895	1.304	2076.821
121	**Sb**		927727.560	**106.617253**	ppb	1.922	1.180	241.113
135	**Ba**		3619484.079	**1465.832323**	ppb	0.810	0.082	37.778
165	**Ho-IS**		372586.723		ppb	1.314		386287.569
159	**Tb-IS**	>	363893.151		ppb	0.666		367848.161
207	**Pb**		4412601.813	**104.627413**	ppb	0.445	0.953	581.116
203	**Tl**		1356133.106	**101.226215**	ppb	2.519	1.989	60.000
209	**Bi-IS**		205098.598		ppb	1.184		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-2-A @100
Autosampler Position: 114
Sample Date/Time: Tuesday, December 28, 2021 10:22:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-2-A @100.059
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46335.068		ppb	3.077		47034.008
9	**Be**		77.778	**0.022831**	ppb	15.051	20.780	17.778
10	**B**		2916.965	**1.623402**	ppb	1.796	2.291	1578.976
27	**Al**		1210827.271	**82.814120**	ppb	0.540	1.198	9300.360
43	**Ca-2**		38189.325	**782.129733**	ppb	2.114	0.811	98.334
49	**Ti**		382.227	**0.098849**	ppb	3.302	13.385	245.558
52	**Cr**		19680.213	**-0.080228**	ppb	0.531	16.683	20633.780
55	**Mn**		9974628.784	**371.718559**	ppb	1.999	3.627	1120.044
57	**Fe**		465492.452	**851.511328**	ppb	0.494	1.222	15888.835
45	**Sc-IS**	>	1875526.462		ppb	1.667		1834215.724
66	**Zn**		2565.786	**0.610183**	ppb	4.298	7.750	840.025
86	**Sr**		59751.993	**13.658274**	ppb	0.568	1.102	39.884
65	**Cu**		1889.014	**0.385923**	ppb	1.592	0.286	362.227
69	**Ga-IS**		559008.568		ppb	0.496		546548.716
95	**Mo**		1093.375	**0.199697**	ppb	1.220	0.571	88.889
115	**In-IS**	>	211432.935		ppb	1.039		216333.830
111	**Cd**		55.482	**0.016289**	ppb	22.793	26.012	8.702
118	**Sn**		3798.285	**0.215366**	ppb	9.146	21.794	2076.821
121	**Sb**		682.239	**0.051249**	ppb	4.407	8.282	241.113
135	**Ba**		93377.573	**37.713096**	ppb	1.669	0.824	37.778
165	**Ho-IS**		373671.421		ppb	1.581		386287.569
159	**Tb-IS**	>	353406.355		ppb	1.492		367848.161
207	**Pb**		2103.394	**0.037719**	ppb	2.905	1.921	581.116
203	**Tl**		792.245	**0.056377**	ppb	17.714	17.508	60.000
209	**Bi-IS**		211045.268		ppb	0.410		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, December 28, 2021 10:24:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\blk.060
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45342.959		ppb	0.758		47034.008
9	**Be**		35.556	**0.006773**	ppb	37.889	78.419	17.778
10	**B**		1850.120	**0.307262**	ppb	6.148	42.134	1578.976
27	**Al**		15466.838	**0.418941**	ppb	15.641	44.289	9300.360
43	**Ca-2**		178.334	**1.618793**	ppb	4.283	7.253	98.334
49	**Ti**		208.890	**-0.030574**	ppb	13.572	78.185	245.558
52	**Cr**		18958.128	**-0.114575**	ppb	1.393	21.851	20633.780
55	**Mn**		48114.564	**1.762325**	ppb	7.968	9.647	1120.044
57	**Fe**		15099.092	**-1.995905**	ppb	3.169	53.052	15888.835
45	**Sc-IS**	>	1864234.718		ppb	1.551		1834215.724
66	**Zn**		1214.496	**0.129611**	ppb	9.196	29.584	840.025
86	**Sr**		167.727	**0.029207**	ppb	26.195	33.099	39.884
65	**Cu**		365.560	**-0.000766**	ppb	13.287	1466.020	362.227
69	**Ga-IS**		552257.524		ppb	2.157		546548.716
95	**Mo**		266.669	**0.035402**	ppb	11.457	19.456	88.889
115	**In-IS**	>	213486.095		ppb	0.718		216333.830
111	**Cd**		23.884	**0.005256**	ppb	21.185	32.439	8.702
118	**Sn**		1893.461	**-0.018752**	ppb	14.885	182.067	2076.821
121	**Sb**		334.448	**0.010984**	ppb	15.094	53.958	241.113
135	**Ba**		471.119	**0.173640**	ppb	11.931	13.142	37.778
165	**Ho-IS**		362297.852		ppb	0.772		386287.569
159	**Tb-IS**	>	348760.615		ppb	1.082		367848.161
207	**Pb**		906.678	**0.008799**	ppb	3.507	7.097	581.116
203	**Tl**		230.002	**0.013488**	ppb	7.531	10.419	60.000
209	**Bi-IS**		207760.149		ppb	1.760		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-204040_1-A @20
Autosampler Position: 115
Sample Date/Time: Tuesday, December 28, 2021 10:25:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\MB 570-204040_1-A @20.061
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45310.658		ppb	2.331		47034.008
9	**Be**		34.444	**0.006222**	ppb	31.109	65.817	17.778
10	**B**		1691.211	**0.094950**	ppb	1.086	21.115	1578.976
27	**Al**		8920.452	**-0.040751**	ppb	2.769	47.299	9300.360
43	**Ca-2**		133.334	**0.672988**	ppb	5.728	25.268	98.334
49	**Ti**		172.223	**-0.059350**	ppb	9.548	22.275	245.558
52	**Cr**		19458.805	**-0.093161**	ppb	2.591	34.710	20633.780
55	**Mn**		20465.114	**0.719914**	ppb	21.862	23.373	1120.044
57	**Fe**		14420.616	**-3.468482**	ppb	4.128	32.406	15888.835
45	**Sc-IS**	>	1876109.715		ppb	0.923		1834215.724
66	**Zn**		1061.151	**0.072014**	ppb	5.938	26.607	840.025
86	**Sr**		68.773	**0.006335**	ppb	73.140	180.455	39.884
65	**Cu**		373.338	**0.000709**	ppb	5.855	731.798	362.227
69	**Ga-IS**		546186.598		ppb	0.476		546548.716
95	**Mo**		176.668	**0.017028**	ppb	39.533	80.169	88.889
115	**In-IS**	>	213836.074		ppb	0.473		216333.830
111	**Cd**		22.962	**0.004947**	ppb	62.756	100.529	8.702
118	**Sn**		1383.401	**-0.080444**	ppb	8.857	19.187	2076.821
121	**Sb**		222.224	**-0.001821**	ppb	6.245	92.755	241.113
135	**Ba**		192.224	**0.061847**	ppb	16.390	19.906	37.778
165	**Ho-IS**		366081.550		ppb	1.061		386287.569
159	**Tb-IS**	>	352854.859		ppb	1.019		367848.161
207	**Pb**		721.118	**0.004004**	ppb	4.295	19.520	581.116
203	**Tl**		187.779	**0.010046**	ppb	19.634	29.771	60.000
209	**Bi-IS**		207756.757		ppb	1.733		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-204040_2-A @20
Autosampler Position: 116
Sample Date/Time: Tuesday, December 28, 2021 10:27:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCS 570-204040_2-A @20.062
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44605.106		ppb	2.199		47034.008
9	**Be**		65300.040	**24.858708**	ppb	1.617	0.692	17.778
10	**B**		20748.390	**23.727721**	ppb	0.785	2.245	1578.976
27	**Al**		369863.203	**24.721935**	ppb	1.893	3.301	9300.360
43	**Ca-2**		1901.793	**36.799055**	ppb	4.251	4.237	98.334
49	**Ti**		32886.700	**24.453659**	ppb	0.582	1.926	245.558
52	**Cr**		457746.182	**24.622114**	ppb	1.824	2.355	20633.780
55	**Mn**		653237.048	**24.180348**	ppb	2.923	3.452	1120.044
57	**Fe**		27915.029	**21.864741**	ppb	1.553	5.355	15888.835
45	**Sc-IS**	>	1884658.773		ppb	1.365		1834215.724
66	**Zn**		71939.575	**25.276426**	ppb	0.646	1.928	840.025
86	**Sr**		103267.016	**23.493464**	ppb	1.896	0.606	39.884
65	**Cu**		100206.898	**25.249259**	ppb	0.662	0.931	362.227
69	**Ga-IS**		551050.081		ppb	1.218		546548.716
95	**Mo**		117848.544	**23.344438**	ppb	0.444	0.935	88.889
115	**In-IS**	>	209079.399		ppb	2.588		216333.830
111	**Cd**		69746.935	**24.495969**	ppb	1.644	1.235	8.702
118	**Sn**		196957.570	**23.978661**	ppb	1.667	1.968	2076.821
121	**Sb**		213426.961	**24.735649**	ppb	0.694	2.055	241.113
135	**Ba**		63537.675	**25.965064**	ppb	1.660	4.200	37.778
165	**Ho-IS**		368565.251		ppb	0.953		386287.569
159	**Tb-IS**	>	352736.509		ppb	1.144		367848.161
207	**Pb**		996849.034	**24.372083**	ppb	1.428	0.422	581.116
203	**Tl**		311582.810	**23.991028**	ppb	1.384	0.411	60.000
209	**Bi-IS**		211577.510		ppb	0.526		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 10:28:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.063
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46479.939		ppb	0.875		47034.008
9	**Be**		265363.206	**102.346208**	ppb	0.994	1.548	17.778
10	**B**		206611.357	**257.540139**	ppb	1.493	0.784	1578.976
27	**Al**		1462427.400	**100.950805**	ppb	0.264	1.122	9300.360
43	**Ca-2**		250699.384	**5186.632050**	ppb	1.730	0.889	98.334
49	**Ti**		131592.192	**99.667948**	ppb	0.331	0.752	245.558
52	**Cr**		1772333.949	**100.053280**	ppb	1.542	2.480	20633.780
55	**Mn**		2736625.737	**102.743654**	ppb	3.109	3.943	1120.044
57	**Fe**		2796901.176	**5312.400708**	ppb	1.742	2.359	15888.835
45	**Sc-IS**	>	1860798.022		ppb	1.039		1834215.724
66	**Zn**		283574.880	**101.821214**	ppb	1.165	1.495	840.025
86	**Sr**		441580.209	**101.788050**	ppb	0.627	0.654	39.884
65	**Cu**		401540.782	**102.758732**	ppb	0.766	0.910	362.227
69	**Ga-IS**		582983.953		ppb	2.354		546548.716
95	**Mo**		489562.304	**98.270351**	ppb	1.130	0.562	88.889
115	**In-IS**	>	207373.337		ppb	0.975		216333.830
111	**Cd**		284174.040	**100.622733**	ppb	0.299	0.931	8.702
118	**Sn**		787914.000	**97.435584**	ppb	1.811	1.342	2076.821
121	**Sb**		844277.441	**98.700750**	ppb	1.666	1.321	241.113
135	**Ba**		239644.655	**98.709522**	ppb	1.322	0.932	37.778
165	**Ho-IS**		368055.363		ppb	1.869		386287.569
159	**Tb-IS**	>	354993.401		ppb	0.734		367848.161
207	**Pb**		4139314.302	**100.608337**	ppb	0.214	0.951	581.116
203	**Tl**		1292759.332	**98.911750**	ppb	2.770	2.062	60.000
209	**Bi-IS**		203881.296		ppb	0.873		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 10:30:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.064
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44517.032		ppb	0.306		47034.008
9	**Be**		83.334	**0.025137**	ppb	21.166	27.888	17.778
10	**B**		2260.179	**0.820587**	ppb	2.961	16.812	1578.976
27	**Al**		9184.619	**-0.019206**	ppb	2.068	48.486	9300.360
43	**Ca-2**		125.001	**0.516817**	ppb	4.000	28.953	98.334
49	**Ti**		231.113	**-0.014181**	ppb	3.630	32.127	245.558
52	**Cr**		19795.932	**-0.067929**	ppb	2.081	45.417	20633.780
55	**Mn**		6146.880	**0.187419**	ppb	4.809	3.972	1120.044
57	**Fe**		15155.814	**-1.916068**	ppb	1.479	36.739	15888.835
45	**Sc-IS**	>	1866150.607		ppb	1.862		1834215.724
66	**Zn**		876.694	**0.007883**	ppb	3.970	119.987	840.025
86	**Sr**		153.794	**0.026098**	ppb	44.962	61.187	39.884
65	**Cu**		396.672	**0.007265**	ppb	8.104	128.998	362.227
69	**Ga-IS**		531073.461		ppb	2.317		546548.716
95	**Mo**		898.918	**0.161573**	ppb	15.001	14.918	88.889
115	**In-IS**	>	208632.374		ppb	2.788		216333.830
111	**Cd**		57.001	**0.017180**	ppb	18.292	24.442	8.702
118	**Sn**		3271.490	**0.155559**	ppb	13.751	28.334	2076.821
121	**Sb**		505.565	**0.031795**	ppb	3.116	10.553	241.113
135	**Ba**		160.001	**0.050879**	ppb	40.236	53.305	37.778
165	**Ho-IS**		366935.919		ppb	2.631		386287.569
159	**Tb-IS**	>	345567.421		ppb	3.522		367848.161
207	**Pb**		1341.135	**0.019957**	ppb	9.011	21.450	581.116
203	**Tl**		468.897	**0.032464**	ppb	13.532	15.754	60.000
209	**Bi-IS**		205019.932		ppb	1.947		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66817-A-1-G sd @100
Autosampler Position: 118
Sample Date/Time: Tuesday, December 28, 2021 10:33:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66817-A-1-G sd @100.066
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46672.800		ppb	1.726		47034.008
9	**Be**		95.556	**0.028685**	ppb	32.971	40.931	17.778
10	**B**		2978.088	**1.606176**	ppb	3.418	7.294	1578.976
27	**Al**		4174184.623	**279.830078**	ppb	1.357	1.158	9300.360
43	**Ca-2**		10343.744	**205.012807**	ppb	0.982	1.053	98.334
49	**Ti**		9987.935	**7.141548**	ppb	0.537	0.769	245.558
52	**Cr**		74449.073	**2.917406**	ppb	1.488	1.978	20633.780
55	**Mn**		130003.631	**4.678950**	ppb	2.927	2.766	1120.044
57	**Fe**		385609.551	**681.652823**	ppb	0.533	0.430	15888.835
45	**Sc-IS**	>	1923833.427		ppb	0.215		1834215.724
66	**Zn**		36959.980	**12.567062**	ppb	1.636	1.651	840.025
86	**Sr**		9133.986	**2.027257**	ppb	0.847	0.799	39.884
65	**Cu**		37477.990	**9.190616**	ppb	1.154	0.948	362.227
69	**Ga-IS**		559729.124		ppb	2.834		546548.716
95	**Mo**		527.788	**0.084406**	ppb	13.610	16.761	88.889
115	**In-IS**	>	216916.192		ppb	0.701		216333.830
111	**Cd**		90.003	**0.027431**	ppb	61.049	66.889	8.702
118	**Sn**		5099.799	**0.357715**	ppb	2.424	5.187	2076.821
121	**Sb**		411.117	**0.018942**	ppb	5.399	14.276	241.113
135	**Ba**		5338.775	**2.087895**	ppb	1.535	2.201	37.778
165	**Ho-IS**		372914.694		ppb	0.608		386287.569
159	**Tb-IS**	>	358287.841		ppb	1.354		367848.161
207	**Pb**		157153.723	**3.771674**	ppb	1.088	1.558	581.116
203	**Tl**		814.468	**0.057333**	ppb	7.834	8.739	60.000
209	**Bi-IS**		211233.937		ppb	1.912		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66817-A-1-G @20
Autosampler Position: 119
Sample Date/Time: Tuesday, December 28, 2021 10:35:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66817-A-1-G @20.067
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47183.359		ppb	1.558		47034.008
9	**Be**		232.224	**0.080353**	ppb	10.869	13.708	17.778
10	**B**		7072.862	**6.635864**	ppb	1.938	0.795	1578.976
27	**Al**		17032508.652	**1151.429156**	ppb	0.452	2.545	9300.360
43	**Ca-2**		41734.237	**838.587294**	ppb	2.802	0.989	98.334
49	**Ti**		40499.557	**29.731459**	ppb	1.492	2.915	245.558
52	**Cr**		240316.989	**12.169306**	ppb	1.506	3.371	20633.780
55	**Mn**		497440.582	**18.143007**	ppb	0.810	2.335	1120.044
57	**Fe**		1530926.110	**2815.094043**	ppb	2.864	0.799	15888.835
45	**Sc-IS**	>	1911879.185		ppb	2.083		1834215.724
66	**Zn**		168089.886	**58.615851**	ppb	1.280	0.996	840.025
86	**Sr**		37790.312	**8.472960**	ppb	1.595	3.314	39.884
65	**Cu**		153085.100	**38.066587**	ppb	2.572	0.872	362.227
69	**Ga-IS**		552441.207		ppb	1.231		546548.716
95	**Mo**		575.567	**0.094349**	ppb	7.537	8.229	88.889
115	**In-IS**	>	212755.566		ppb	0.273		216333.830
111	**Cd**		235.460	**0.078321**	ppb	11.346	11.970	8.702
118	**Sn**		11592.482	**1.154000**	ppb	3.008	3.458	2076.821
121	**Sb**		311.115	**0.008426**	ppb	12.325	50.741	241.113
135	**Ba**		20455.751	**8.198584**	ppb	2.178	1.912	37.778
165	**Ho-IS**		380655.348		ppb	1.334		386287.569
159	**Tb-IS**	>	360433.680		ppb	0.443		367848.161
207	**Pb**		643103.799	**15.383714**	ppb	1.797	2.196	581.116
203	**Tl**		850.025	**0.059648**	ppb	7.263	8.260	60.000
209	**Bi-IS**		210509.817		ppb	1.246		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66817-A-1-G pds @20
Autosampler Position: 122
Sample Date/Time: Tuesday, December 28, 2021 10:39:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66817-A-1-G pds @20.070
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47494.408		ppb	2.518		47034.008
9	**Be**		69388.203	**26.063242**	ppb	2.929	2.451	17.778
10	**B**		26778.434	**30.758212**	ppb	3.971	3.731	1578.976
27	**Al**		19253280.970	**1302.537312**	ppb	2.829	3.064	9300.360
43	**Ca-2**		48927.039	**984.311825**	ppb	3.383	2.119	98.334
49	**Ti**		78052.672	**57.509689**	ppb	1.341	0.633	245.558
52	**Cr**		714102.989	**38.545434**	ppb	0.414	1.539	20633.780
55	**Mn**		1245979.596	**45.541790**	ppb	0.930	1.388	1120.044
57	**Fe**		1725603.807	**3180.183452**	ppb	1.902	0.524	15888.835
45	**Sc-IS**	>	1910178.467		ppb	1.811		1834215.724
66	**Zn**		261122.861	**91.326512**	ppb	1.183	2.734	840.025
86	**Sr**		146850.617	**32.979202**	ppb	1.104	2.884	39.884
65	**Cu**		274347.127	**68.369346**	ppb	0.693	1.327	362.227
69	**Ga-IS**		560496.255		ppb	0.421		546548.716
95	**Mo**		117807.235	**23.032885**	ppb	2.143	3.877	88.889
115	**In-IS**	>	213579.572		ppb	0.855		216333.830
111	**Cd**		74313.347	**25.547162**	ppb	0.714	1.448	8.702
118	**Sn**		207671.006	**24.752229**	ppb	1.502	1.485	2076.821
121	**Sb**		222211.720	**25.204129**	ppb	1.189	1.486	241.113
135	**Ba**		85305.094	**34.108507**	ppb	1.687	2.027	37.778
165	**Ho-IS**		377028.044		ppb	1.699		386287.569
159	**Tb-IS**	>	361610.653		ppb	0.462		367848.161
207	**Pb**		1711195.375	**40.821081**	ppb	0.132	0.514	581.116
203	**Tl**		267756.090	**20.108127**	ppb	3.795	3.350	60.000
209	**Bi-IS**		209714.912		ppb	1.221		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66817-A-2-E @20
Autosampler Position: 123
Sample Date/Time: Tuesday, December 28, 2021 10:41:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66817-A-2-E @20.071
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		50399.860		ppb	0.338		47034.008
9	**Be**		467.785	**0.164243**	ppb	5.760	6.386	17.778
10	**B**		11510.192	**11.707195**	ppb	1.666	2.111	1578.976
27	**Al**		44521821.511	**2934.228386**	ppb	1.948	2.463	9300.360
43	**Ca-2**		92030.596	**1804.997724**	ppb	2.373	1.419	98.334
49	**Ti**		96439.986	**69.245673**	ppb	0.336	1.258	245.558
52	**Cr**		502528.362	**26.040546**	ppb	0.592	1.784	20633.780
55	**Mn**		1227516.871	**43.692045**	ppb	1.918	2.082	1120.044
57	**Fe**		3762938.012	**6788.579347**	ppb	1.928	1.384	15888.835
45	**Sc-IS**	>	1961323.610		ppb	1.240		1834215.724
66	**Zn**		422939.406	**144.212438**	ppb	0.156	1.363	840.025
86	**Sr**		85802.965	**18.757006**	ppb	1.172	0.991	39.884
65	**Cu**		405550.379	**98.466598**	ppb	0.173	1.170	362.227
69	**Ga-IS**		576702.342		ppb	1.196		546548.716
95	**Mo**		1711.214	**0.307920**	ppb	2.839	3.920	88.889
115	**In-IS**	>	210798.542		ppb	1.783		216333.830
111	**Cd**		719.758	**0.247706**	ppb	3.487	1.764	8.702
118	**Sn**		28521.778	**3.232645**	ppb	0.631	2.271	2076.821
121	**Sb**		543.344	**0.035450**	ppb	5.916	7.670	241.113
135	**Ba**		52336.821	**21.196461**	ppb	1.540	0.789	37.778
165	**Ho-IS**		390565.314		ppb	1.314		386287.569
159	**Tb-IS**	>	370966.039		ppb	0.599		367848.161
207	**Pb**		1513587.731	**35.193448**	ppb	1.057	0.457	581.116
203	**Tl**		2353.527	**0.167897**	ppb	3.064	2.537	60.000
209	**Bi-IS**		211848.602		ppb	2.165		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66817-A-3-E @20
Autosampler Position: 124
Sample Date/Time: Tuesday, December 28, 2021 10:42:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66817-A-3-E @20.072
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49609.339		ppb	1.714		47034.008
9	**Be**		361.116	**0.121216**	ppb	6.928	9.009	17.778
10	**B**		9853.400	**9.366958**	ppb	3.746	2.416	1578.976
27	**Al**		34152987.491	**2181.828537**	ppb	1.455	3.131	9300.360
43	**Ca-2**		68753.494	**1306.948045**	ppb	3.190	4.419	98.334
49	**Ti**		82963.604	**57.710827**	ppb	2.021	2.968	245.558
52	**Cr**		399661.365	**19.799110**	ppb	1.906	2.762	20633.780
55	**Mn**		964296.256	**33.270296**	ppb	0.793	3.673	1120.044
57	**Fe**		2909627.156	**5083.132435**	ppb	1.952	4.585	15888.835
45	**Sc-IS**	>	2024519.504		ppb	3.917		1834215.724
66	**Zn**		351838.061	**116.241477**	ppb	2.281	3.667	840.025
86	**Sr**		63266.596	**13.405547**	ppb	1.407	3.028	39.884
65	**Cu**		307421.226	**72.348389**	ppb	3.059	4.796	362.227
69	**Ga-IS**		568022.236		ppb	2.400		546548.716
95	**Mo**		1080.041	**0.181184**	ppb	4.376	1.527	88.889
115	**In-IS**	>	215883.344		ppb	2.659		216333.830
111	**Cd**		436.628	**0.145642**	ppb	6.397	7.365	8.702
118	**Sn**		23441.440	**2.545820**	ppb	0.748	2.170	2076.821
121	**Sb**		422.228	**0.020372**	ppb	6.132	8.239	241.113
135	**Ba**		41351.996	**16.357293**	ppb	1.635	3.278	37.778
165	**Ho-IS**		385518.160		ppb	1.835		386287.569
159	**Tb-IS**	>	368273.119		ppb	1.893		367848.161
207	**Pb**		1156892.659	**27.102738**	ppb	1.018	2.724	581.116
203	**Tl**		1382.289	**0.097582**	ppb	1.964	4.074	60.000
209	**Bi-IS**		212551.928		ppb	1.171		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66817-A-4-B @20
Autosampler Position: 125
Sample Date/Time: Tuesday, December 28, 2021 10:44:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66817-A-4-B @20.073
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49185.661		ppb	1.979		47034.008
9	**Be**		354.449	**0.127106**	ppb	4.241	4.470	17.778
10	**B**		9792.244	**10.051904**	ppb	0.940	1.676	1578.976
27	**Al**		35251625.523	**2401.023443**	ppb	1.529	1.480	9300.360
43	**Ca-2**		69731.467	**1413.273339**	ppb	1.585	1.246	98.334
49	**Ti**		94855.003	**70.397047**	ppb	1.047	1.306	245.558
52	**Cr**		392030.057	**20.762905**	ppb	1.164	0.531	20633.780
55	**Mn**		991501.269	**36.471710**	ppb	1.003	1.731	1120.044
57	**Fe**		2920145.423	**5439.824031**	ppb	2.674	3.111	15888.835
45	**Sc-IS**	>	1897581.575		ppb	1.314		1834215.724
66	**Zn**		326169.864	**114.889176**	ppb	1.550	1.960	840.025
86	**Sr**		65203.031	**14.731202**	ppb	0.744	1.133	39.884
65	**Cu**		300906.232	**75.492297**	ppb	0.989	1.564	362.227
69	**Ga-IS**		567951.397		ppb	0.777		546548.716
95	**Mo**		1028.926	**0.184431**	ppb	3.309	2.264	88.889
115	**In-IS**	>	213263.262		ppb	0.209		216333.830
111	**Cd**		486.737	**0.164616**	ppb	6.981	6.928	8.702
118	**Sn**		22021.410	**2.407889**	ppb	2.166	2.184	2076.821
121	**Sb**		383.338	**0.016561**	ppb	5.431	14.260	241.113
135	**Ba**		45005.233	**18.013322**	ppb	1.359	1.283	37.778
165	**Ho-IS**		388001.752		ppb	1.754		386287.569
159	**Tb-IS**	>	368476.261		ppb	0.822		367848.161
207	**Pb**		1102679.900	**25.809312**	ppb	0.789	0.202	581.116
203	**Tl**		1292.281	**0.090815**	ppb	7.066	6.785	60.000
209	**Bi-IS**		216281.781		ppb	1.340		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65390-F-1-C @20
Autosampler Position: 126
Sample Date/Time: Tuesday, December 28, 2021 10:45:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-65390-F-1-C @20.074
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48964.921		ppb	2.637		47034.008
9	**Be**		412.228	**0.147384**	ppb	4.874	6.840	17.778
10	**B**		10517.209	**10.797623**	ppb	4.747	2.522	1578.976
27	**Al**		28807310.661	**1941.181688**	ppb	1.292	2.567	9300.360
43	**Ca-2**		84073.476	**1685.585770**	ppb	2.954	0.500	98.334
49	**Ti**		40610.998	**29.700718**	ppb	2.456	0.999	245.558
52	**Cr**		461013.350	**24.347369**	ppb	2.436	1.781	20633.780
55	**Mn**		897376.432	**32.643279**	ppb	2.387	1.312	1120.044
57	**Fe**		2810333.901	**5177.374389**	ppb	2.791	3.144	15888.835
45	**Sc-IS**	>	1918869.743		ppb	3.437		1834215.724
66	**Zn**		285712.979	**99.592276**	ppb	2.103	5.454	840.025
86	**Sr**		83137.813	**18.593950**	ppb	1.444	4.470	39.884
65	**Cu**		300225.075	**74.535972**	ppb	2.135	4.102	362.227
69	**Ga-IS**		563633.566		ppb	2.107		546548.716
95	**Mo**		818.912	**0.141474**	ppb	1.024	4.527	88.889
115	**In-IS**	>	211650.422		ppb	0.285		216333.830
111	**Cd**		329.395	**0.111309**	ppb	20.900	21.381	8.702
118	**Sn**		19947.253	**2.176266**	ppb	1.799	2.107	2076.821
121	**Sb**		417.784	**0.020834**	ppb	18.374	41.889	241.113
135	**Ba**		28888.074	**11.645014**	ppb	1.860	1.599	37.778
165	**Ho-IS**		382164.325		ppb	1.891		386287.569
159	**Tb-IS**	>	366554.572		ppb	1.078		367848.161
207	**Pb**		1146024.471	**26.965619**	ppb	0.819	0.457	581.116
203	**Tl**		861.137	**0.059379**	ppb	5.037	4.848	60.000
209	**Bi-IS**		207639.247		ppb	0.559		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 10:47:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.075
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46113.198		ppb	0.888		47034.008
9	**Be**		265621.381	**98.749094**	ppb	1.293	1.591	17.778
10	**B**		207977.755	**249.825322**	ppb	1.843	0.828	1578.976
27	**Al**		1486800.170	**98.919984**	ppb	0.413	1.305	9300.360
43	**Ca-2**		260329.177	**5192.454389**	ppb	1.315	2.080	98.334
49	**Ti**		136448.802	**99.604728**	ppb	2.461	1.470	245.558
52	**Cr**		1809499.636	**98.432262**	ppb	2.974	2.789	20633.780
55	**Mn**		2750521.104	**99.517367**	ppb	1.568	1.271	1120.044
57	**Fe**		2823040.534	**5167.459688**	ppb	1.312	1.432	15888.835
45	**Sc-IS**	>	1930418.169		ppb	1.065		1834215.724
66	**Zn**		289449.666	**100.174472**	ppb	0.604	0.555	840.025
86	**Sr**		451339.437	**100.285529**	ppb	1.052	1.065	39.884
65	**Cu**		410236.978	**101.197343**	ppb	0.373	0.760	362.227
69	**Ga-IS**		587313.261		ppb	0.636		546548.716
95	**Mo**		508576.315	**98.408231**	ppb	1.168	1.117	88.889
115	**In-IS**	>	213595.641		ppb	2.471		216333.830
111	**Cd**		291924.936	**100.351831**	ppb	2.380	0.174	8.702
118	**Sn**		813260.194	**97.683712**	ppb	1.228	2.836	2076.821
121	**Sb**		858551.674	**97.484885**	ppb	1.424	2.826	241.113
135	**Ba**		244174.703	**97.685783**	ppb	0.793	2.643	37.778
165	**Ho-IS**		375812.499		ppb	0.605		386287.569
159	**Tb-IS**	>	357892.323		ppb	1.017		367848.161
207	**Pb**		4180925.307	**100.800624**	ppb	0.255	1.272	581.116
203	**Tl**		1295728.154	**98.349577**	ppb	0.981	1.090	60.000
209	**Bi-IS**		208155.574		ppb	0.611		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 10:48:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.076
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45643.927		ppb	1.724		47034.008
9	**Be**		53.333	**0.013569**	ppb	0.000	3.271	17.778
10	**B**		2186.834	**0.728246**	ppb	1.677	1.925	1578.976
27	**Al**		13185.097	**0.257913**	ppb	6.121	16.361	9300.360
43	**Ca-2**		160.001	**1.243889**	ppb	31.715	86.818	98.334
49	**Ti**		274.447	**0.017978**	ppb	26.508	279.986	245.558
52	**Cr**		20555.895	**-0.024442**	ppb	2.307	40.679	20633.780
55	**Mn**		2327.968	**0.044502**	ppb	5.998	8.879	1120.044
57	**Fe**		17184.775	**1.961907**	ppb	0.564	28.136	15888.835
45	**Sc-IS**	>	1865434.948		ppb	2.169		1834215.724
66	**Zn**		938.920	**0.030367**	ppb	4.038	34.889	840.025
86	**Sr**		92.032	**0.011854**	ppb	94.870	169.858	39.884
65	**Cu**		453.341	**0.021715**	ppb	4.822	24.767	362.227
69	**Ga-IS**		537843.403		ppb	1.978		546548.716
95	**Mo**		734.463	**0.129079**	ppb	3.640	5.942	88.889
115	**In-IS**	>	212201.622		ppb	0.829		216333.830
111	**Cd**		77.347	**0.023816**	ppb	19.845	22.491	8.702
118	**Sn**		2616.908	**0.070375**	ppb	11.288	53.004	2076.821
121	**Sb**		502.231	**0.030346**	ppb	8.534	14.865	241.113
135	**Ba**		76.667	**0.015978**	ppb	31.353	61.764	37.778
165	**Ho-IS**		369382.357		ppb	0.219		386287.569
159	**Tb-IS**	>	359175.492		ppb	1.605		367848.161
207	**Pb**		1578.923	**0.024269**	ppb	10.004	13.426	581.116
203	**Tl**		345.560	**0.021711**	ppb	15.860	19.201	60.000
209	**Bi-IS**		209860.299		ppb	0.956		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65390-F-2-C @20
Autosampler Position: 127
Sample Date/Time: Tuesday, December 28, 2021 10:50:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-65390-F-2-C @20.077
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46708.470		ppb	1.662		47034.008
9	**Be**		170.001	**0.057775**	ppb	12.858	14.630	17.778
10	**B**		5285.423	**4.542524**	ppb	3.203	5.135	1578.976
27	**Al**		13074094.898	**896.023693**	ppb	2.600	3.085	9300.360
43	**Ca-2**		27130.745	**552.216067**	ppb	2.015	1.535	98.334
49	**Ti**		36297.167	**26.998100**	ppb	0.798	0.365	245.558
52	**Cr**		187673.693	**9.386273**	ppb	1.111	1.638	20633.780
55	**Mn**		380351.443	**14.055647**	ppb	1.983	1.853	1120.044
57	**Fe**		1116600.264	**2074.637768**	ppb	0.747	0.719	15888.835
45	**Sc-IS**	>	1885084.225		ppb	0.485		1834215.724
66	**Zn**		124023.835	**43.782044**	ppb	0.694	0.856	840.025
86	**Sr**		25307.024	**5.749330**	ppb	1.463	1.404	39.884
65	**Cu**		122890.772	**30.976873**	ppb	0.684	0.480	362.227
69	**Ga-IS**		557933.204		ppb	0.358		546548.716
95	**Mo**		557.789	**0.092408**	ppb	9.284	10.569	88.889
115	**In-IS**	>	211965.417		ppb	1.243		216333.830
111	**Cd**		199.941	**0.066284**	ppb	5.327	4.249	8.702
118	**Sn**		8926.122	**0.836073**	ppb	1.815	3.610	2076.821
121	**Sb**		292.225	**0.006381**	ppb	15.571	78.231	241.113
135	**Ba**		16373.825	**6.585967**	ppb	1.827	3.047	37.778
165	**Ho-IS**		372929.413		ppb	0.203		386287.569
159	**Tb-IS**	>	358772.624		ppb	0.359		367848.161
207	**Pb**		461715.604	**11.091437**	ppb	0.328	0.292	581.116
203	**Tl**		635.570	**0.043688**	ppb	4.582	4.700	60.000
209	**Bi-IS**		206340.616		ppb	0.375		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-65390-F-3-C @20
Autosampler Position: 128
Sample Date/Time: Tuesday, December 28, 2021 10:52:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-65390-F-3-C @20.078
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47452.063		ppb	3.126		47034.008
9	**Be**		208.890	**0.073284**	ppb	12.395	11.363	17.778
10	**B**		6140.210	**5.678993**	ppb	4.552	2.806	1578.976
27	**Al**		16164744.344	**1120.403655**	ppb	1.229	4.442	9300.360
43	**Ca-2**		38125.829	**785.094958**	ppb	2.541	1.479	98.334
49	**Ti**		38744.694	**29.146690**	ppb	0.881	2.461	245.558
52	**Cr**		209724.317	**10.754662**	ppb	2.295	1.984	20633.780
55	**Mn**		487094.697	**18.204044**	ppb	1.937	1.294	1120.044
57	**Fe**		1341260.196	**2524.492191**	ppb	3.081	0.824	15888.835
45	**Sc-IS**	>	1865793.272		ppb	3.191		1834215.724
66	**Zn**		155736.938	**55.634508**	ppb	2.773	1.226	840.025
86	**Sr**		32258.385	**7.410329**	ppb	1.101	2.111	39.884
65	**Cu**		281555.639	**71.844077**	ppb	2.863	2.064	362.227
69	**Ga-IS**		551208.795		ppb	2.368		546548.716
95	**Mo**		520.010	**0.085987**	ppb	8.672	9.186	88.889
115	**In-IS**	>	209883.928		ppb	3.167		216333.830
111	**Cd**		267.799	**0.090913**	ppb	8.288	11.060	8.702
118	**Sn**		10350.415	**1.021953**	ppb	0.363	4.165	2076.821
121	**Sb**		375.561	**0.016480**	ppb	11.584	37.569	241.113
135	**Ba**		18758.977	**7.627129**	ppb	1.725	4.336	37.778
165	**Ho-IS**		376894.526		ppb	3.108		386287.569
159	**Tb-IS**	>	356818.340		ppb	2.344		367848.161
207	**Pb**		593066.707	**14.336970**	ppb	1.280	3.676	581.116
203	**Tl**		652.237	**0.045223**	ppb	3.767	2.916	60.000
209	**Bi-IS**		205409.078		ppb	2.588		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-C-8-B @20
Autosampler Position: 129
Sample Date/Time: Tuesday, December 28, 2021 10:53:38
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-C-8-B @20.079
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47923.586		ppb	0.865		47034.008
9	**Be**		270.003	**0.092695**	ppb	10.105	12.130	17.778
10	**B**		7009.498	**6.405842**	ppb	2.685	1.983	1578.976
27	**Al**		20613345.750	**1368.755897**	ppb	0.597	1.914	9300.360
43	**Ca-2**		43327.315	**855.437944**	ppb	3.185	3.501	98.334
49	**Ti**		54394.479	**39.280961**	ppb	1.061	2.341	245.558
52	**Cr**		285170.520	**14.378318**	ppb	0.896	0.705	20633.780
55	**Mn**		586341.429	**21.009488**	ppb	0.839	1.005	1120.044
57	**Fe**		1768596.912	**3199.359583**	ppb	0.835	0.783	15888.835
45	**Sc-IS**	>	1946260.812		ppb	1.328		1834215.724
66	**Zn**		194414.370	**66.627474**	ppb	2.199	1.128	840.025
86	**Sr**		40522.797	**8.922671**	ppb	1.538	1.851	39.884
65	**Cu**		193679.834	**47.335087**	ppb	1.538	0.552	362.227
69	**Ga-IS**		552064.234		ppb	1.987		546548.716
95	**Mo**		666.682	**0.109905**	ppb	2.646	4.431	88.889
115	**In-IS**	>	214642.442		ppb	1.291		216333.830
111	**Cd**		297.492	**0.098845**	ppb	15.550	16.169	8.702
118	**Sn**		13769.967	**1.402779**	ppb	0.492	1.997	2076.821
121	**Sb**		285.558	**0.005201**	ppb	13.428	75.461	241.113
135	**Ba**		26436.662	**10.508591**	ppb	0.635	1.715	37.778
165	**Ho-IS**		381097.861		ppb	1.128		386287.569
159	**Tb-IS**	>	366660.925		ppb	1.515		367848.161
207	**Pb**		740548.298	**17.416486**	ppb	0.679	1.191	581.116
203	**Tl**		741.130	**0.050460**	ppb	7.477	7.142	60.000
209	**Bi-IS**		209918.922		ppb	0.921		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-C-9-B @20
Autosampler Position: 130
Sample Date/Time: Tuesday, December 28, 2021 10:55:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-C-9-B @20.080
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49416.513		ppb	3.744		47034.008
9	**Be**		382.227	**0.133431**	ppb	3.302	3.196	17.778
10	**B**		9726.645	**9.625364**	ppb	2.216	3.060	1578.976
27	**Al**		34111444.114	**2256.418210**	ppb	2.423	2.793	9300.360
43	**Ca-2**		67351.738	**1325.583102**	ppb	0.929	1.208	98.334
49	**Ti**		64285.522	**46.262685**	ppb	3.125	2.639	245.558
52	**Cr**		427863.285	**22.078590**	ppb	1.080	0.704	20633.780
55	**Mn**		1103328.246	**39.414077**	ppb	0.972	0.733	1120.044
57	**Fe**		3165827.147	**5728.428144**	ppb	0.230	0.280	15888.835
45	**Sc-IS**	>	1953882.717		ppb	0.503		1834215.724
66	**Zn**		295062.556	**100.888240**	ppb	2.231	2.108	840.025
86	**Sr**		64252.662	**14.096771**	ppb	1.259	1.272	39.884
65	**Cu**		282464.348	**68.808027**	ppb	1.250	1.171	362.227
69	**Ga-IS**		558232.633		ppb	0.740		546548.716
95	**Mo**		840.025	**0.142485**	ppb	7.907	8.536	88.889
115	**In-IS**	>	217200.379		ppb	0.497		216333.830
111	**Cd**		356.018	**0.117368**	ppb	9.229	8.996	8.702
118	**Sn**		29292.245	**3.220339**	ppb	3.330	3.341	2076.821
121	**Sb**		357.782	**0.012935**	ppb	16.466	51.944	241.113
135	**Ba**		40478.394	**15.906749**	ppb	2.088	2.305	37.778
165	**Ho-IS**		384741.052		ppb	1.913		386287.569
159	**Tb-IS**	>	373440.483		ppb	0.824		367848.161
207	**Pb**		1217161.427	**28.112458**	ppb	0.634	0.985	581.116
203	**Tl**		998.924	**0.068216**	ppb	5.395	4.891	60.000
209	**Bi-IS**		217980.652		ppb	1.354		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-C-13-C @20
Autosampler Position: 131
Sample Date/Time: Tuesday, December 28, 2021 10:56:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-C-13-C @20.081
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47963.736		ppb	1.896		47034.008
9	**Be**		240.002	**0.082801**	ppb	12.345	13.326	17.778
10	**B**		7672.061	**7.333879**	ppb	3.487	4.314	1578.976
27	**Al**		18863366.808	**1270.124868**	ppb	3.263	3.068	9300.360
43	**Ca-2**		59974.003	**1201.638944**	ppb	2.263	1.927	98.334
49	**Ti**		30726.347	**22.419241**	ppb	1.536	0.750	245.558
52	**Cr**		366079.659	**19.080701**	ppb	1.545	1.115	20633.780
55	**Mn**		575415.284	**20.912977**	ppb	2.742	3.255	1120.044
57	**Fe**		1858419.630	**3411.888450**	ppb	1.982	2.387	15888.835
45	**Sc-IS**	>	1918903.064		ppb	0.845		1834215.724
66	**Zn**		216412.503	**75.274390**	ppb	0.791	1.571	840.025
86	**Sr**		57191.526	**12.776262**	ppb	1.456	1.898	39.884
65	**Cu**		206867.046	**51.290861**	ppb	0.485	1.298	362.227
69	**Ga-IS**		557443.903		ppb	1.978		546548.716
95	**Mo**		547.788	**0.088521**	ppb	5.103	5.242	88.889
115	**In-IS**	>	216633.366		ppb	1.088		216333.830
111	**Cd**		313.298	**0.103125**	ppb	18.252	17.838	8.702
118	**Sn**		14323.844	**1.453284**	ppb	0.586	1.686	2076.821
121	**Sb**		427.784	**0.020889**	ppb	7.805	20.269	241.113
135	**Ba**		19011.533	**7.483804**	ppb	1.750	2.801	37.778
165	**Ho-IS**		379405.183		ppb	1.571		386287.569
159	**Tb-IS**	>	363574.082		ppb	0.699		367848.161
207	**Pb**		951440.296	**22.568185**	ppb	0.413	0.286	581.116
203	**Tl**		575.567	**0.038574**	ppb	9.434	10.510	60.000
209	**Bi-IS**		207742.946		ppb	0.415		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-C-14-C @20
Autosampler Position: 132
Sample Date/Time: Tuesday, December 28, 2021 10:58:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-C-14-C @20.082
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48386.286		ppb	2.611		47034.008
9	**Be**		356.671	**0.124057**	ppb	10.532	12.374	17.778
10	**B**		9127.360	**8.898715**	ppb	1.682	1.652	1578.976
27	**Al**		24397279.422	**1612.453685**	ppb	1.302	2.275	9300.360
43	**Ca-2**		64553.869	**1269.372739**	ppb	1.139	0.926	98.334
49	**Ti**		49593.754	**35.615826**	ppb	2.682	1.562	245.558
52	**Cr**		362003.332	**18.477986**	ppb	2.521	1.519	20633.780
55	**Mn**		734292.799	**26.192520**	ppb	2.532	1.502	1120.044
57	**Fe**		2399123.082	**4329.293129**	ppb	3.253	2.171	15888.835
45	**Sc-IS**	>	1955517.043		ppb	1.183		1834215.724
66	**Zn**		270787.884	**92.496776**	ppb	0.252	1.442	840.025
86	**Sr**		58040.503	**12.724261**	ppb	0.934	2.102	39.884
65	**Cu**		273451.460	**66.539960**	ppb	3.805	2.641	362.227
69	**Ga-IS**		563057.848		ppb	2.674		546548.716
95	**Mo**		772.243	**0.129370**	ppb	6.048	5.588	88.889
115	**In-IS**	>	213864.492		ppb	1.155		216333.830
111	**Cd**		420.607	**0.141533**	ppb	9.958	10.867	8.702
118	**Sn**		16720.892	**1.763535**	ppb	1.398	2.375	2076.821
121	**Sb**		407.784	**0.019239**	ppb	10.415	27.081	241.113
135	**Ba**		30748.613	**12.268453**	ppb	0.621	0.765	37.778
165	**Ho-IS**		382987.193		ppb	0.810		386287.569
159	**Tb-IS**	>	364244.049		ppb	0.332		367848.161
207	**Pb**		1064149.556	**25.197028**	ppb	1.520	1.693	581.116
203	**Tl**		812.245	**0.056149**	ppb	4.049	4.566	60.000
209	**Bi-IS**		209769.038		ppb	1.245		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-C-18-B @20
Autosampler Position: 133
Sample Date/Time: Tuesday, December 28, 2021 10:59:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-C-18-B @20.083
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48109.835		ppb	3.681		47034.008
9	**Be**		268.891	**0.093427**	ppb	2.581	5.191	17.778
10	**B**		8174.561	**7.921989**	ppb	1.653	1.573	1578.976
27	**Al**		17484791.820	**1175.054538**	ppb	1.329	4.047	9300.360
43	**Ca-2**		61127.181	**1222.039676**	ppb	1.333	2.299	98.334
49	**Ti**		29433.625	**21.424329**	ppb	0.610	3.179	245.558
52	**Cr**		305878.975	**15.709562**	ppb	0.701	2.667	20633.780
55	**Mn**		520773.493	**18.882274**	ppb	0.454	3.295	1120.044
57	**Fe**		1801691.872	**3299.505389**	ppb	0.179	2.879	15888.835
45	**Sc-IS**	>	1924009.758		ppb	2.897		1834215.724
66	**Zn**		220699.636	**76.587514**	ppb	1.102	1.847	840.025
86	**Sr**		58865.546	**13.120175**	ppb	1.258	2.447	39.884
65	**Cu**		205715.452	**50.910673**	ppb	2.124	4.759	362.227
69	**Ga-IS**		550022.059		ppb	0.736		546548.716
95	**Mo**		537.788	**0.086350**	ppb	7.447	9.205	88.889
115	**In-IS**	>	211180.780		ppb	0.760		216333.830
111	**Cd**		408.877	**0.139280**	ppb	9.392	10.349	8.702
118	**Sn**		13402.952	**1.385029**	ppb	1.468	2.356	2076.821
121	**Sb**		367.783	**0.015203**	ppb	1.887	3.349	241.113
135	**Ba**		18123.716	**7.317603**	ppb	2.564	3.097	37.778
165	**Ho-IS**		375422.780		ppb	1.186		386287.569
159	**Tb-IS**	>	363284.896		ppb	2.258		367848.161
207	**Pb**		929805.299	**22.077668**	ppb	1.788	2.398	581.116
203	**Tl**		627.792	**0.042608**	ppb	11.806	15.546	60.000
209	**Bi-IS**		209684.602		ppb	1.669		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-C-22-B @20
Autosampler Position: 134
Sample Date/Time: Tuesday, December 28, 2021 11:01:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-C-22-B @20.084
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47946.996		ppb	0.575		47034.008
9	**Be**		285.558	**0.097543**	ppb	11.809	13.871	17.778
10	**B**		8008.915	**7.519166**	ppb	5.431	4.313	1578.976
27	**Al**		20988522.788	**1382.074744**	ppb	1.105	3.580	9300.360
43	**Ca-2**		57659.487	**1129.097482**	ppb	1.846	0.666	98.334
49	**Ti**		33676.326	**24.036167**	ppb	2.163	2.745	245.558
52	**Cr**		318047.861	**16.023697**	ppb	1.959	1.461	20633.780
55	**Mn**		610434.989	**21.691762**	ppb	0.458	2.872	1120.044
57	**Fe**		1958496.357	**3515.839329**	ppb	0.656	1.910	15888.835
45	**Sc-IS**	>	1963403.688		ppb	2.435		1834215.724
66	**Zn**		216481.257	**73.610206**	ppb	0.358	2.669	840.025
86	**Sr**		53732.058	**11.740925**	ppb	3.539	5.956	39.884
65	**Cu**		213880.453	**51.836028**	ppb	1.269	1.399	362.227
69	**Ga-IS**		556301.142		ppb	1.193		546548.716
95	**Mo**		622.236	**0.100459**	ppb	6.209	10.316	88.889
115	**In-IS**	>	214688.397		ppb	1.488		216333.830
111	**Cd**		340.920	**0.113583**	ppb	8.436	7.469	8.702
118	**Sn**		14035.781	**1.434209**	ppb	1.344	1.987	2076.821
121	**Sb**		424.451	**0.020919**	ppb	1.200	2.416	241.113
135	**Ba**		24228.308	**9.626967**	ppb	1.321	1.478	37.778
165	**Ho-IS**		383442.634		ppb	1.028		386287.569
159	**Tb-IS**	>	365834.066		ppb	0.787		367848.161
207	**Pb**		830428.105	**19.573986**	ppb	1.243	0.932	581.116
203	**Tl**		740.019	**0.050494**	ppb	11.493	11.834	60.000
209	**Bi-IS**		210610.123		ppb	1.052		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-77912-A-1-H @20
Autosampler Position: 135
Sample Date/Time: Tuesday, December 28, 2021 11:02:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-77912-A-1-H @20.085
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46199.035		ppb	1.340		47034.008
9	**Be**		34.444	**0.005991**	ppb	11.175	22.564	17.778
10	**B**		4571.845	**3.582004**	ppb	7.497	6.964	1578.976
27	**Al**		72638515.942	**4920.860152**	ppb	1.380	1.983	9300.360
43	**Ca-2**		44434.068	**894.364075**	ppb	3.956	0.962	98.334
49	**Ti**		4510.712	**3.150049**	ppb	1.748	4.029	245.558
52	**Cr**		26511.245	**0.281313**	ppb	0.977	12.946	20633.780
55	**Mn**		3091834.174	**113.186023**	ppb	1.179	1.922	1120.044
57	**Fe**		89183.113	**135.335307**	ppb	1.591	1.760	15888.835
45	**Sc-IS**	>	1908700.458		ppb	2.980		1834215.724
66	**Zn**		6545.945	**1.991689**	ppb	2.767	2.386	840.025
86	**Sr**		38213.094	**8.579338**	ppb	2.628	0.958	39.884
65	**Cu**		105193.955	**26.171350**	ppb	3.405	0.530	362.227
69	**Ga-IS**		556821.829		ppb	2.782		546548.716
95	**Mo**		498.898	**0.079361**	ppb	13.268	12.717	88.889
115	**In-IS**	>	218183.501		ppb	1.516		216333.830
111	**Cd**		37.841	**0.009836**	ppb	50.402	66.933	8.702
118	**Sn**		983.368	**-0.131092**	ppb	15.568	12.409	2076.821
121	**Sb**		308.892	**0.007261**	ppb	16.378	70.853	241.113
135	**Ba**		10812.980	**4.219512**	ppb	0.928	1.712	37.778
165	**Ho-IS**		376942.872		ppb	0.739		386287.569
159	**Tb-IS**	>	357556.627		ppb	1.481		367848.161
207	**Pb**		8502.094	**0.191600**	ppb	0.839	2.475	581.116
203	**Tl**		87.778	**0.002235**	ppb	20.915	61.609	60.000
209	**Bi-IS**		209050.724		ppb	0.588		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, December 28, 2021 11:04:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\blk.086
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46053.014		ppb	1.660		47034.008
9	**Be**		24.444	**0.002202**	ppb	20.830	98.615	17.778
10	**B**		1675.654	**0.024668**	ppb	1.692	128.098	1578.976
27	**Al**		30407.694	**1.388693**	ppb	3.947	5.542	9300.360
43	**Ca-2**		125.001	**0.424337**	ppb	31.241	170.532	98.334
49	**Ti**		223.335	**-0.024859**	ppb	3.949	45.724	245.558
52	**Cr**		23544.946	**0.105765**	ppb	1.606	20.698	20633.780
55	**Mn**		2289.073	**0.040692**	ppb	8.593	24.181	1120.044
57	**Fe**		22156.057	**10.178483**	ppb	0.698	13.315	15888.835
45	**Sc-IS**	>	1923577.796		ppb	3.197		1834215.724
66	**Zn**		1271.168	**0.136143**	ppb	4.759	16.589	840.025
86	**Sr**		85.528	**0.010074**	ppb	77.977	154.348	39.884
65	**Cu**		402.228	**0.005695**	ppb	5.821	149.022	362.227
69	**Ga-IS**		559366.693		ppb	2.899		546548.716
95	**Mo**		55.556	**-0.007220**	ppb	38.575	63.267	88.889
115	**In-IS**	>	220079.014		ppb	0.754		216333.830
111	**Cd**		15.439	**0.002192**	ppb	33.267	76.946	8.702
118	**Sn**		882.250	**-0.143671**	ppb	14.645	11.006	2076.821
121	**Sb**		205.557	**-0.004360**	ppb	15.413	83.580	241.113
135	**Ba**		51.111	**0.004944**	ppb	29.408	120.010	37.778
165	**Ho-IS**		375246.913		ppb	0.836		386287.569
159	**Tb-IS**	>	361440.438		ppb	2.512		367848.161
207	**Pb**		743.341	**0.004140**	ppb	8.401	43.805	581.116
203	**Tl**		71.111	**0.000918**	ppb	2.706	29.611	60.000
209	**Bi-IS**		209721.692		ppb	1.281		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 11:05:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.087
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46472.138		ppb	1.079		47034.008
9	**Be**		269648.960	**99.389578**	ppb	0.802	5.211	17.778
10	**B**		212599.319	**253.195982**	ppb	1.275	4.713	1578.976
27	**Al**		1493141.239	**98.463653**	ppb	0.186	4.444	9300.360
43	**Ca-2**		263571.023	**5209.391176**	ppb	0.950	3.664	98.334
49	**Ti**		137793.593	**99.709666**	ppb	0.546	4.155	245.558
52	**Cr**		1839775.442	**99.144146**	ppb	2.530	2.181	20633.780
55	**Mn**		2830487.082	**101.440754**	ppb	2.578	1.939	1120.044
57	**Fe**		2898281.948	**5257.721764**	ppb	1.996	3.937	15888.835
45	**Sc-IS**	>	1950018.321		ppb	4.558		1834215.724
66	**Zn**		294067.556	**100.849293**	ppb	1.792	3.587	840.025
86	**Sr**		452940.493	**99.777582**	ppb	0.948	5.069	39.884
65	**Cu**		413847.931	**101.190034**	ppb	1.834	4.722	362.227
69	**Ga-IS**		590832.115		ppb	1.516		546548.716
95	**Mo**		505396.955	**96.954848**	ppb	0.607	5.034	88.889
115	**In-IS**	>	217438.756		ppb	1.605		216333.830
111	**Cd**		292142.573	**98.667440**	ppb	0.293	1.672	8.702
118	**Sn**		822361.384	**97.009275**	ppb	0.605	2.066	2076.821
121	**Sb**		873434.173	**97.402475**	ppb	0.665	2.004	241.113
135	**Ba**		249587.036	**98.067849**	ppb	0.763	2.207	37.778
165	**Ho-IS**		377603.154		ppb	0.283		386287.569
159	**Tb-IS**	>	363496.738		ppb	0.985		367848.161
207	**Pb**		4164406.325	**98.859169**	ppb	1.485	2.323	581.116
203	**Tl**		1313124.155	**98.136767**	ppb	0.577	1.306	60.000
209	**Bi-IS**		204408.753		ppb	0.868		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 11:07:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.088
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45322.894		ppb	0.494		47034.008
9	**Be**		90.000	**0.027266**	ppb	32.919	42.504	17.778
10	**B**		2216.839	**0.729172**	ppb	4.834	21.632	1578.976
27	**Al**		10940.859	**0.092505**	ppb	3.742	29.271	9300.360
43	**Ca-2**		146.667	**0.923353**	ppb	7.097	24.565	98.334
49	**Ti**		270.003	**0.012593**	ppb	9.799	156.418	245.558
52	**Cr**		21574.057	**0.017090**	ppb	1.149	112.609	20633.780
55	**Mn**		1741.217	**0.021671**	ppb	4.898	13.702	1120.044
57	**Fe**		16357.137	**-0.040548**	ppb	0.796	1065.985	15888.835
45	**Sc-IS**	>	1890908.407		ppb	0.946		1834215.724
66	**Zn**		912.251	**0.016347**	ppb	8.149	154.600	840.025
86	**Sr**		106.078	**0.014736**	ppb	12.824	20.800	39.884
65	**Cu**		431.118	**0.014563**	ppb	2.715	26.070	362.227
69	**Ga-IS**		540695.683		ppb	0.351		546548.716
95	**Mo**		783.355	**0.136707**	ppb	7.800	9.329	88.889
115	**In-IS**	>	214344.095		ppb	1.084		216333.830
111	**Cd**		60.577	**0.017812**	ppb	8.513	11.140	8.702
118	**Sn**		2560.230	**0.060198**	ppb	6.641	30.246	2076.821
121	**Sb**		460.007	**0.025011**	ppb	3.834	6.954	241.113
135	**Ba**		74.445	**0.014787**	ppb	15.725	33.609	37.778
165	**Ho-IS**		369969.621		ppb	2.025		386287.569
159	**Tb-IS**	>	356839.882		ppb	1.129		367848.161
207	**Pb**		1356.693	**0.019206**	ppb	12.403	22.838	581.116
203	**Tl**		326.670	**0.020446**	ppb	3.679	5.785	60.000
209	**Bi-IS**		206978.831		ppb	1.452		215677.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-204041_1-A @20
Autosampler Position: 136
Sample Date/Time: Tuesday, December 28, 2021 11:10:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\MB 570-204041_1-A @20.090
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45390.907		ppb	2.089		46057.465
9	**Be**		23.333	**-0.007693**	ppb	28.571	33.585	43.333
10	**B**		1663.430	**-0.227804**	ppb	6.934	72.133	1841.230
27	**Al**		10019.179	**-0.019455**	ppb	1.140	74.272	10270.358
43	**Ca-2**		118.334	**-0.598036**	ppb	23.272	87.250	146.667
49	**Ti**		227.780	**0.004807**	ppb	13.598	555.869	221.113
52	**Cr**		21788.826	**-0.007278**	ppb	0.691	381.173	21852.260
55	**Mn**		1305.615	**-0.006625**	ppb	6.900	37.379	1477.854
57	**Fe**		16036.775	**-0.228869**	ppb	1.187	402.300	16111.303
45	**Sc-IS**	>	1875753.257		ppb	1.885		1869683.891
66	**Zn**		1040.038	**0.025541**	ppb	0.555	20.049	965.588
86	**Sr**		22.605	**-0.016693**	ppb	133.735	41.013	94.916
65	**Cu**		348.893	**-0.010851**	ppb	10.481	71.904	390.005
69	**Ga-IS**		554855.545		ppb	1.277		546389.105
95	**Mo**		132.223	**-0.021959**	ppb	33.854	43.087	242.224
115	**In-IS**	>	217649.767		ppb	0.887		216701.669
111	**Cd**		17.500	**-0.004098**	ppb	48.410	68.700	29.491
118	**Sn**		1061.151	**-0.032888**	ppb	8.981	32.136	1333.396
121	**Sb**		198.890	**-0.006327**	ppb	21.809	75.183	254.447
135	**Ba**		52.222	**-0.000080**	ppb	16.064	4232.388	52.222
165	**Ho-IS**		372612.512		ppb	0.598		371788.794
159	**Tb-IS**	>	354958.446		ppb	1.322		357198.314
207	**Pb**		770.008	**-0.001194**	ppb	4.992	85.830	824.454
203	**Tl**		98.889	**-0.004954**	ppb	25.745	37.247	164.445
209	**Bi-IS**		209633.783		ppb	1.407		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-204041_2-A @20
Autosampler Position: 137
Sample Date/Time: Tuesday, December 28, 2021 11:12:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCS 570-204041_2-A @20.091
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47016.137		ppb	1.196		46057.465
9	**Be**		67425.495	**24.852492**	ppb	2.859	2.949	43.333
10	**B**		21763.252	**23.836894**	ppb	4.305	3.588	1841.230
27	**Al**		383668.093	**24.799422**	ppb	2.237	5.353	10270.358
43	**Ca-2**		1998.473	**36.582688**	ppb	5.013	8.554	146.667
49	**Ti**		34177.512	**24.659092**	ppb	1.978	5.805	221.113
52	**Cr**		470174.876	**24.474652**	ppb	1.901	6.880	21852.260
55	**Mn**		667443.340	**23.938851**	ppb	1.393	5.850	1477.854
57	**Fe**		30628.364	**25.353070**	ppb	2.146	10.382	16111.303
45	**Sc-IS**	>	1947230.569		ppb	4.747		1869683.891
66	**Zn**		74242.446	**25.237246**	ppb	1.489	4.440	965.588
86	**Sr**		108469.813	**23.914864**	ppb	1.120	5.570	94.916
65	**Cu**		105106.393	**25.655223**	ppb	1.284	3.498	390.005
69	**Ga-IS**		569310.639		ppb	1.945		546389.105
95	**Mo**		124131.546	**23.800633**	ppb	1.930	4.841	242.224
115	**In-IS**	>	214807.326		ppb	0.105		216701.669
111	**Cd**		72467.354	**24.761042**	ppb	1.791	1.760	29.491
118	**Sn**		201608.364	**23.971644**	ppb	1.346	1.275	1333.396
121	**Sb**		219835.261	**24.789015**	ppb	0.641	0.718	254.447
135	**Ba**		64343.474	**25.568937**	ppb	0.873	0.790	52.222
165	**Ho-IS**		369418.136		ppb	1.201		371788.794
159	**Tb-IS**	>	353587.935		ppb	2.002		357198.314
207	**Pb**		1020756.934	**24.898700**	ppb	0.437	2.346	824.454
203	**Tl**		318388.972	**24.454957**	ppb	0.553	2.073	164.445
209	**Bi-IS**		209415.469		ppb	2.463		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-204041_3-A @20
Autosampler Position: 138
Sample Date/Time: Tuesday, December 28, 2021 11:13:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCSD 570-204041_3-A @20.092
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45953.843		ppb	3.215		46057.465
9	**Be**		66289.034	**24.807438**	ppb	1.890	4.648	43.333
10	**B**		21799.960	**24.291082**	ppb	2.289	5.495	1841.230
27	**Al**		379668.482	**24.889798**	ppb	1.867	3.064	10270.358
43	**Ca-2**		2068.483	**38.536358**	ppb	2.833	4.462	146.667
49	**Ti**		33694.154	**24.638294**	ppb	2.815	1.529	221.113
52	**Cr**		467404.410	**24.668585**	ppb	2.154	3.234	21852.260
55	**Mn**		665572.983	**24.188940**	ppb	3.263	0.427	1477.854
57	**Fe**		30621.678	**26.129736**	ppb	1.558	2.759	16111.303
45	**Sc-IS**	>	1918100.578		ppb	2.843		1869683.891
66	**Zn**		73352.380	**25.280925**	ppb	2.807	0.555	965.588
86	**Sr**		106718.251	**23.855642**	ppb	0.674	2.623	94.916
65	**Cu**		102005.445	**25.244237**	ppb	3.757	1.583	390.005
69	**Ga-IS**		562837.346		ppb	2.407		546389.105
95	**Mo**		120756.024	**23.484770**	ppb	0.833	3.171	242.224
115	**In-IS**	>	217916.497		ppb	0.762		216701.669
111	**Cd**		71996.439	**24.249822**	ppb	0.764	0.995	29.491
118	**Sn**		202673.119	**23.754218**	ppb	0.414	0.977	1333.396
121	**Sb**		218709.274	**24.309796**	ppb	0.549	0.213	254.447
135	**Ba**		64587.911	**25.301461**	ppb	1.129	1.645	52.222
165	**Ho-IS**		373744.890		ppb	0.680		371788.794
159	**Tb-IS**	>	359695.692		ppb	1.056		357198.314
207	**Pb**		1018079.616	**24.406855**	ppb	1.281	2.091	824.454
203	**Tl**		321961.240	**24.306362**	ppb	1.070	2.095	164.445
209	**Bi-IS**		211753.674		ppb	1.647		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-1-G sd @100
Autosampler Position: 139
Sample Date/Time: Tuesday, December 28, 2021 11:15:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-1-G sd @100.093
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48122.115		ppb	4.083		46057.465
9	**Be**		152.223	**0.040085**	ppb	16.725	21.531	43.333
10	**B**		4061.689	**2.635436**	ppb	1.821	2.927	1841.230
27	**Al**		14299552.188	**960.770357**	ppb	0.892	2.381	10270.358
43	**Ca-2**		17520.740	**347.901837**	ppb	1.691	1.780	146.667
49	**Ti**		48528.959	**35.469816**	ppb	0.932	1.868	221.113
52	**Cr**		128478.532	**5.860403**	ppb	1.137	3.143	21852.260
55	**Mn**		388462.468	**14.060731**	ppb	1.327	1.550	1477.854
57	**Fe**		1004678.901	**1826.513143**	ppb	1.171	1.509	16111.303
45	**Sc-IS**	>	1923237.846		ppb	2.157		1869683.891
66	**Zn**		81594.598	**28.093543**	ppb	1.157	2.642	965.588
86	**Sr**		16918.442	**3.752016**	ppb	2.863	2.499	94.916
65	**Cu**		74570.836	**18.381774**	ppb	1.916	0.935	390.005
69	**Ga-IS**		560191.914		ppb	1.014		546389.105
95	**Mo**		591.123	**0.066501**	ppb	5.054	10.979	242.224
115	**In-IS**	>	217094.173		ppb	1.750		216701.669
111	**Cd**		150.982	**0.041062**	ppb	9.917	11.645	29.491
118	**Sn**		7307.425	**0.707622**	ppb	2.589	5.257	1333.396
121	**Sb**		346.671	**0.010327**	ppb	15.475	64.875	254.447
135	**Ba**		16320.429	**6.403823**	ppb	1.046	2.800	52.222
165	**Ho-IS**		375178.417		ppb	2.003		371788.794
159	**Tb-IS**	>	358208.929		ppb	0.886		357198.314
207	**Pb**		279811.950	**6.721483**	ppb	1.391	2.241	824.454
203	**Tl**		1094.486	**0.070522**	ppb	5.063	6.915	164.445
209	**Bi-IS**		207745.199		ppb	0.388		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-1-G @20
Autosampler Position: 140
Sample Date/Time: Tuesday, December 28, 2021 11:16:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-1-G @20.094
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		51803.768		ppb	1.349		46057.465
9	**Be**		542.233	**0.176615**	ppb	12.694	14.116	43.333
10	**B**		13436.321	**13.294059**	ppb	3.381	3.674	1841.230
27	**Al**		67236429.682	**4316.207908**	ppb	0.887	2.398	10270.358
43	**Ca-2**		82960.211	**1584.029037**	ppb	1.242	3.117	146.667
49	**Ti**		230887.555	**161.770752**	ppb	0.482	3.130	221.113
52	**Cr**		524603.214	**26.451658**	ppb	0.483	2.701	21852.260
55	**Mn**		1847488.779	**64.091918**	ppb	1.863	4.862	1477.854
57	**Fe**		4832312.039	**8498.934250**	ppb	1.342	1.733	16111.303
45	**Sc-IS**	>	2014423.075		ppb	3.057		1869683.891
66	**Zn**		405862.706	**134.666457**	ppb	3.149	0.672	965.588
86	**Sr**		79528.995	**16.918235**	ppb	3.139	3.108	94.916
65	**Cu**		347273.577	**82.092254**	ppb	2.841	2.932	390.005
69	**Ga-IS**		581574.783		ppb	2.901		546389.105
95	**Mo**		1437.850	**0.218576**	ppb	2.899	7.150	242.224
115	**In-IS**	>	214600.946		ppb	1.215		216701.669
111	**Cd**		674.774	**0.220885**	ppb	5.140	5.250	29.491
118	**Sn**		25241.176	**2.865798**	ppb	2.236	2.086	1333.396
121	**Sb**		375.560	**0.013978**	ppb	2.712	11.881	254.447
135	**Ba**		78621.439	**31.275850**	ppb	3.021	2.481	52.222
165	**Ho-IS**		389224.380		ppb	2.537		371788.794
159	**Tb-IS**	>	370186.316		ppb	2.822		357198.314
207	**Pb**		1327761.382	**30.947770**	ppb	0.996	3.137	824.454
203	**Tl**		2220.173	**0.150460**	ppb	1.917	2.134	164.445
209	**Bi-IS**		208299.933		ppb	0.964		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-1-H MS @20
Autosampler Position: 141
Sample Date/Time: Tuesday, December 28, 2021 11:18:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-1-H MS @20.095
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		50640.718		ppb	1.187		46057.465
9	**Be**		63941.678	**23.457120**	ppb	0.994	1.445	43.333
10	**B**		27152.448	**30.166067**	ppb	1.079	1.503	1841.230
27	**Al**		53636968.529	**3546.177403**	ppb	0.819	1.202	10270.358
43	**Ca-2**		59523.783	**1169.699394**	ppb	1.991	2.388	146.667
49	**Ti**		200434.379	**144.589242**	ppb	1.834	1.427	221.113
52	**Cr**		821640.072	**43.426079**	ppb	1.542	1.133	21852.260
55	**Mn**		1947965.999	**69.565902**	ppb	1.817	1.472	1477.854
57	**Fe**		3602925.209	**6519.703070**	ppb	1.955	1.524	16111.303
45	**Sc-IS**	>	1954987.023		ppb	0.452		1869683.891
66	**Zn**		364915.634	**124.741699**	ppb	1.093	1.495	965.588
86	**Sr**		155303.400	**34.054184**	ppb	1.075	1.011	94.916
65	**Cu**		367219.722	**89.427577**	ppb	1.784	1.831	390.005
69	**Ga-IS**		592667.236		ppb	1.632		546389.105
95	**Mo**		79188.922	**15.084057**	ppb	1.815	1.707	242.224
115	**In-IS**	>	216062.723		ppb	0.466		216701.669
111	**Cd**		70950.328	**24.100726**	ppb	2.045	1.679	29.491
118	**Sn**		188366.149	**22.256438**	ppb	1.560	1.738	1333.396
121	**Sb**		24324.027	**2.701553**	ppb	1.478	1.500	254.447
135	**Ba**		113673.875	**44.925387**	ppb	1.564	1.527	52.222
165	**Ho-IS**		386157.329		ppb	1.854		371788.794
159	**Tb-IS**	>	367829.954		ppb	2.108		357198.314
207	**Pb**		1958196.409	**45.929432**	ppb	0.645	1.808	824.454
203	**Tl**		258402.095	**19.072473**	ppb	1.776	0.893	164.445
209	**Bi-IS**		208347.238		ppb	0.696		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-1-I MSD @20
Autosampler Position: 142
Sample Date/Time: Tuesday, December 28, 2021 11:19:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-1-I MSD @20.096
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		50196.926		ppb	0.437		46057.465
9	**Be**		61716.363	**22.527811**	ppb	0.756	2.167	43.333
10	**B**		25462.678	**27.986812**	ppb	1.956	0.258	1841.230
27	**Al**		52462971.457	**3451.351210**	ppb	0.367	2.023	10270.358
43	**Ca-2**		58606.648	**1145.736051**	ppb	1.205	1.353	146.667
49	**Ti**		195076.929	**139.981001**	ppb	2.842	1.071	221.113
52	**Cr**		793930.916	**41.703572**	ppb	1.391	1.594	21852.260
55	**Mn**		1860337.101	**66.092824**	ppb	1.906	0.577	1477.854
57	**Fe**		3525344.160	**6347.059010**	ppb	0.498	1.643	16111.303
45	**Sc-IS**	>	1965141.603		ppb	1.849		1869683.891
66	**Zn**		351561.348	**119.577970**	ppb	1.061	2.853	965.588
86	**Sr**		151164.802	**32.972423**	ppb	3.830	3.005	94.916
65	**Cu**		354546.295	**85.910734**	ppb	1.474	2.423	390.005
69	**Ga-IS**		584268.515		ppb	0.101		546389.105
95	**Mo**		76988.013	**14.589950**	ppb	0.806	1.466	242.224
115	**In-IS**	>	212298.059		ppb	0.687		216701.669
111	**Cd**		69140.468	**23.903202**	ppb	0.834	0.388	29.491
118	**Sn**		183736.295	**22.093159**	ppb	0.856	0.968	1333.396
121	**Sb**		23714.111	**2.680350**	ppb	0.586	0.844	254.447
135	**Ba**		111493.396	**44.847335**	ppb	0.589	1.246	52.222
165	**Ho-IS**		382059.710		ppb	1.121		371788.794
159	**Tb-IS**	>	365349.898		ppb	1.151		357198.314
207	**Pb**		1907047.531	**45.024449**	ppb	0.484	0.731	824.454
203	**Tl**		244919.667	**18.201601**	ppb	1.314	2.446	164.445
209	**Bi-IS**		207012.452		ppb	0.354		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-1-G pds @20
Autosampler Position: 143
Sample Date/Time: Tuesday, December 28, 2021 11:21:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-1-G pds @20.097
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		51972.197		ppb	2.877		46057.465
9	**Be**		69129.110	**25.337112**	ppb	1.716	1.445	43.333
10	**B**		31491.348	**35.314384**	ppb	2.090	0.370	1841.230
27	**Al**		64098769.308	**4234.769443**	ppb	1.138	2.464	10270.358
43	**Ca-2**		78513.553	**1542.157803**	ppb	2.011	0.395	146.667
49	**Ti**		245923.295	**177.305292**	ppb	1.128	1.924	221.113
52	**Cr**		941722.828	**49.913569**	ppb	0.913	1.666	21852.260
55	**Mn**		2422562.412	**86.457001**	ppb	1.391	1.730	1477.854
57	**Fe**		4406236.477	**7973.183263**	ppb	2.161	1.967	16111.303
45	**Sc-IS**	>	1957042.684		ppb	2.201		1869683.891
66	**Zn**		455783.411	**155.777573**	ppb	0.369	2.553	965.588
86	**Sr**		182210.927	**39.922516**	ppb	1.545	1.546	94.916
65	**Cu**		425249.118	**103.513917**	ppb	1.031	3.241	390.005
69	**Ga-IS**		587842.131		ppb	0.628		546389.105
95	**Mo**		122221.908	**23.284498**	ppb	2.331	1.596	242.224
115	**In-IS**	>	214213.323		ppb	1.612		216701.669
111	**Cd**		74766.497	**25.619565**	ppb	1.095	0.740	29.491
118	**Sn**		224896.453	**26.839138**	ppb	0.542	1.940	1333.396
121	**Sb**		227933.262	**25.783972**	ppb	1.815	3.435	254.447
135	**Ba**		137791.484	**54.950434**	ppb	1.827	3.317	52.222
165	**Ho-IS**		388925.294		ppb	1.785		371788.794
159	**Tb-IS**	>	371462.377		ppb	1.225		357198.314
207	**Pb**		2260439.014	**52.498200**	ppb	0.854	1.964	824.454
203	**Tl**		316876.371	**23.165589**	ppb	1.555	2.685	164.445
209	**Bi-IS**		209820.834		ppb	0.939		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-2-E @20
Autosampler Position: 144
Sample Date/Time: Tuesday, December 28, 2021 11:23:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-2-E @20.098
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		51375.672		ppb	4.490		46057.465
9	**Be**		516.676	**0.172708**	ppb	12.460	13.235	43.333
10	**B**		13256.148	**13.526223**	ppb	0.698	0.625	1841.230
27	**Al**		59416510.411	**3922.582260**	ppb	1.066	0.616	10270.358
43	**Ca-2**		93813.943	**1842.401162**	ppb	3.492	3.145	146.667
49	**Ti**		185911.921	**133.914627**	ppb	0.600	0.145	221.113
52	**Cr**		546330.314	**28.416868**	ppb	2.490	2.372	21852.260
55	**Mn**		1629157.747	**58.086409**	ppb	3.294	2.909	1477.854
57	**Fe**		4499478.954	**8137.973873**	ppb	2.259	1.814	16111.303
45	**Sc-IS**	>	1957768.840		ppb	0.456		1869683.891
66	**Zn**		395389.359	**134.988978**	ppb	0.711	0.433	965.588
86	**Sr**		83242.258	**18.216969**	ppb	1.344	1.329	94.916
65	**Cu**		399245.768	**97.091620**	ppb	2.069	1.656	390.005
69	**Ga-IS**		565277.516		ppb	0.953		546389.105
95	**Mo**		1955.690	**0.324855**	ppb	5.540	6.864	242.224
115	**In-IS**	>	209977.005		ppb	1.812		216701.669
111	**Cd**		603.684	**0.201053**	ppb	9.412	9.167	29.491
118	**Sn**		26722.763	**3.113302**	ppb	3.004	1.326	1333.396
121	**Sb**		498.898	**0.029242**	ppb	13.518	30.164	254.447
135	**Ba**		70066.975	**28.490636**	ppb	1.011	1.510	52.222
165	**Ho-IS**		382135.514		ppb	1.653		371788.794
159	**Tb-IS**	>	365473.023		ppb	1.201		357198.314
207	**Pb**		1553539.987	**36.662796**	ppb	1.005	1.280	824.454
203	**Tl**		2454.655	**0.169974**	ppb	1.676	2.641	164.445
209	**Bi-IS**		205621.560		ppb	1.037		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-3-E @20
Autosampler Position: 145
Sample Date/Time: Tuesday, December 28, 2021 11:24:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-3-E @20.099
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		51059.992		ppb	1.674		46057.465
9	**Be**		353.338	**0.110887**	ppb	4.323	1.539	43.333
10	**B**		10516.100	**10.054983**	ppb	5.770	2.470	1841.230
27	**Al**		44981711.361	**2928.520442**	ppb	1.730	6.044	10270.358
43	**Ca-2**		59768.171	**1155.048518**	ppb	2.921	1.985	146.667
49	**Ti**		164911.978	**117.053114**	ppb	0.654	3.892	221.113
52	**Cr**		374747.912	**18.803378**	ppb	1.524	3.143	21852.260
55	**Mn**		1264825.391	**44.450387**	ppb	0.570	4.971	1477.854
57	**Fe**		3482797.112	**6203.204007**	ppb	1.553	5.095	16111.303
45	**Sc-IS**	>	1988745.463		ppb	4.493		1869683.891
66	**Zn**		359158.895	**120.768102**	ppb	2.056	2.750	965.588
86	**Sr**		58398.092	**12.585045**	ppb	1.791	3.026	94.916
65	**Cu**		270611.351	**64.845278**	ppb	0.809	4.740	390.005
69	**Ga-IS**		584303.617		ppb	0.715		546389.105
95	**Mo**		1237.831	**0.184561**	ppb	5.005	9.691	242.224
115	**In-IS**	>	217785.732		ppb	0.622		216701.669
111	**Cd**		232.958	**0.068569**	ppb	9.257	11.078	29.491
118	**Sn**		20463.539	**2.257412**	ppb	2.031	1.584	1333.396
121	**Sb**		515.565	**0.028938**	ppb	1.627	4.428	254.447
135	**Ba**		57367.178	**22.483556**	ppb	0.518	1.120	52.222
165	**Ho-IS**		386423.666		ppb	1.130		371788.794
159	**Tb-IS**	>	368738.429		ppb	0.774		357198.314
207	**Pb**		1049179.979	**24.535239**	ppb	1.336	2.100	824.454
203	**Tl**		1526.748	**0.100001**	ppb	5.511	6.959	164.445
209	**Bi-IS**		209509.705		ppb	1.196		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 11:26:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.100
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45667.334		ppb	1.663		46057.465
9	**Be**		262735.367	**98.061436**	ppb	1.198	2.478	43.333
10	**B**		205065.592	**246.927504**	ppb	3.112	0.678	1841.230
27	**Al**		1469647.461	**98.102382**	ppb	1.476	1.964	10270.358
43	**Ca-2**		258195.996	**5169.144347**	ppb	1.355	2.154	146.667
49	**Ti**		135129.814	**99.034783**	ppb	3.035	1.033	221.113
52	**Cr**		1815417.921	**99.105759**	ppb	2.451	2.386	21852.260
55	**Mn**		2787368.369	**101.272671**	ppb	0.723	3.349	1477.854
57	**Fe**		2861210.853	**5261.241231**	ppb	0.645	4.036	16111.303
45	**Sc-IS**	>	1923553.525		ppb	3.383		1869683.891
66	**Zn**		290393.119	**100.902674**	ppb	1.071	3.841	965.588
86	**Sr**		435571.809	**97.182531**	ppb	0.657	3.318	94.916
65	**Cu**		412672.894	**102.234661**	ppb	2.737	4.539	390.005
69	**Ga-IS**		584688.009		ppb	1.522		546389.105
95	**Mo**		491955.008	**95.593277**	ppb	1.388	4.514	242.224
115	**In-IS**	>	212374.497		ppb	0.587		216701.669
111	**Cd**		287015.430	**99.225616**	ppb	0.947	1.185	29.491
118	**Sn**		807908.181	**97.648242**	ppb	0.417	0.720	1333.396
121	**Sb**		860308.508	**98.204051**	ppb	0.849	0.263	254.447
135	**Ba**		245917.657	**98.901672**	ppb	1.171	0.940	52.222
165	**Ho-IS**		374415.734		ppb	1.167		371788.794
159	**Tb-IS**	>	358730.590		ppb	0.722		357198.314
207	**Pb**		4148947.918	**99.785128**	ppb	0.555	1.029	824.454
203	**Tl**		1284103.985	**97.232248**	ppb	1.221	1.578	164.445
209	**Bi-IS**		202774.972		ppb	2.163		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 11:27:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.101
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45317.325		ppb	1.053		46057.465
9	**Be**		78.889	**0.013993**	ppb	21.683	51.952	43.333
10	**B**		2221.284	**0.492991**	ppb	7.131	25.630	1841.230
27	**Al**		15959.293	**0.402684**	ppb	9.173	29.331	10270.358
43	**Ca-2**		151.667	**0.133643**	ppb	18.157	464.299	146.667
49	**Ti**		298.892	**0.061078**	ppb	10.600	52.754	221.113
52	**Cr**		21165.670	**-0.030041**	ppb	1.512	87.002	21852.260
55	**Mn**		1957.912	**0.018433**	ppb	7.324	23.660	1477.854
57	**Fe**		17140.285	**2.224451**	ppb	3.554	89.496	16111.303
45	**Sc-IS**	>	1856756.279		ppb	3.579		1869683.891
66	**Zn**		923.364	**-0.012227**	ppb	14.319	422.523	965.588
86	**Sr**		160.473	**0.015043**	ppb	34.211	74.983	94.916
65	**Cu**		444.451	**0.014664**	ppb	5.728	34.433	390.005
69	**Ga-IS**		543702.651		ppb	0.905		546389.105
95	**Mo**		708.907	**0.094093**	ppb	7.817	6.597	242.224
115	**In-IS**	>	211261.772		ppb	1.405		216701.669
111	**Cd**		66.289	**0.013037**	ppb	5.948	8.224	29.491
118	**Sn**		2663.582	**0.166174**	ppb	6.978	16.113	1333.396
121	**Sb**		482.230	**0.026893**	ppb	3.117	7.874	254.447
135	**Ba**		94.445	**0.017511**	ppb	48.178	103.791	52.222
165	**Ho-IS**		367739.783		ppb	0.636		371788.794
159	**Tb-IS**	>	354706.434		ppb	0.804		357198.314
207	**Pb**		1514.477	**0.016953**	ppb	14.292	32.692	824.454
203	**Tl**		367.783	**0.015672**	ppb	11.829	22.249	164.445
209	**Bi-IS**		208687.674		ppb	0.364		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-4-E @20
Autosampler Position: 146
Sample Date/Time: Tuesday, December 28, 2021 11:29:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-4-E @20.102
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49873.595		ppb	1.949		46057.465
9	**Be**		458.896	**0.150397**	ppb	9.255	9.846	43.333
10	**B**		11834.900	**11.732753**	ppb	0.415	0.275	1841.230
27	**Al**		50415200.510	**3305.569982**	ppb	0.459	0.394	10270.358
43	**Ca-2**		77303.600	**1507.341252**	ppb	0.833	0.599	146.667
49	**Ti**		170420.565	**121.901037**	ppb	1.103	0.657	221.113
52	**Cr**		449060.107	**22.971862**	ppb	2.363	2.817	21852.260
55	**Mn**		1404880.449	**49.746774**	ppb	1.824	2.242	1477.854
57	**Fe**		3991990.184	**7167.982008**	ppb	2.393	2.715	16111.303
45	**Sc-IS**	>	1971228.233		ppb	0.449		1869683.891
66	**Zn**		604769.264	**205.250582**	ppb	1.264	1.563	965.588
86	**Sr**		74594.534	**16.210960**	ppb	0.537	0.944	94.916
65	**Cu**		2886602.607	**697.873192**	ppb	1.753	2.093	390.005
69	**Ga-IS**		571104.777		ppb	0.947		546389.105
95	**Mo**		1332.285	**0.204082**	ppb	9.404	11.500	242.224
115	**In-IS**	>	213854.113		ppb	2.393		216701.669
111	**Cd**		688.330	**0.226398**	ppb	13.736	14.576	29.491
118	**Sn**		26732.783	**3.055478**	ppb	3.150	1.712	1333.396
121	**Sb**		514.454	**0.029918**	ppb	7.676	17.656	254.447
135	**Ba**		107881.519	**43.091455**	ppb	2.368	3.341	52.222
165	**Ho-IS**		384922.932		ppb	1.245		371788.794
159	**Tb-IS**	>	365154.420		ppb	1.766		357198.314
207	**Pb**		1250980.765	**29.547987**	ppb	0.806	1.782	824.454
203	**Tl**		1841.230	**0.124519**	ppb	1.682	3.593	164.445
209	**Bi-IS**		205926.990		ppb	0.849		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-5-E @20
Autosampler Position: 147
Sample Date/Time: Tuesday, December 28, 2021 11:30:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-5-E @20.103
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		50346.384		ppb	2.797		46057.465
9	**Be**		401.117	**0.132055**	ppb	14.306	13.590	43.333
10	**B**		10231.444	**10.072235**	ppb	4.122	0.883	1841.230
27	**Al**		48727261.677	**3260.713635**	ppb	1.046	2.523	10270.358
43	**Ca-2**		66536.352	**1323.119867**	ppb	3.075	0.356	146.667
49	**Ti**		126415.995	**92.238768**	ppb	2.525	2.862	221.113
52	**Cr**		417226.350	**21.726499**	ppb	0.728	4.416	21852.260
55	**Mn**		1309352.107	**47.326567**	ppb	1.209	3.868	1477.854
57	**Fe**		3455941.746	**6332.454425**	ppb	1.431	4.711	16111.303
45	**Sc-IS**	>	1932523.441		ppb	3.426		1869683.891
66	**Zn**		294861.188	**102.000780**	ppb	1.377	4.523	965.588
86	**Sr**		60402.017	**13.404152**	ppb	2.700	6.160	94.916
65	**Cu**		293682.603	**72.401960**	ppb	0.848	4.302	390.005
69	**Ga-IS**		578061.596		ppb	2.230		546389.105
95	**Mo**		1078.930	**0.160330**	ppb	3.304	5.962	242.224
115	**In-IS**	>	213931.111		ppb	3.023		216701.669
111	**Cd**		503.299	**0.162893**	ppb	2.663	5.075	29.491
118	**Sn**		19746.972	**2.216204**	ppb	0.371	2.809	1333.396
121	**Sb**		305.559	**0.006361**	ppb	28.329	169.534	254.447
135	**Ba**		57969.638	**23.132425**	ppb	2.188	0.826	52.222
165	**Ho-IS**		379137.567		ppb	0.675		371788.794
159	**Tb-IS**	>	365569.251		ppb	1.743		357198.314
207	**Pb**		1057994.459	**24.960237**	ppb	0.792	2.375	824.454
203	**Tl**		1513.414	**0.099932**	ppb	3.897	2.790	164.445
209	**Bi-IS**		205491.948		ppb	1.091		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-6-E @20
Autosampler Position: 148
Sample Date/Time: Tuesday, December 28, 2021 11:32:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-6-E @20.104
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		52949.075		ppb	1.740		46057.465
9	**Be**		707.796	**0.226916**	ppb	14.896	15.860	43.333
10	**B**		17131.381	**16.901138**	ppb	2.416	2.652	1841.230
27	**Al**		91245218.399	**5655.578400**	ppb	0.449	0.401	10270.358
43	**Ca-2**		133618.686	**2464.705162**	ppb	0.985	0.999	146.667
49	**Ti**		255138.230	**172.579222**	ppb	0.592	0.503	221.113
52	**Cr**		730669.834	**35.997531**	ppb	0.168	0.317	21852.260
55	**Mn**		2480207.644	**83.046175**	ppb	1.594	1.458	1477.854
57	**Fe**		6487229.862	**11026.395943**	ppb	2.552	2.548	16111.303
45	**Sc-IS**	>	2085408.908		ppb	0.148		1869683.891
66	**Zn**		591096.887	**189.593148**	ppb	1.383	1.350	965.588
86	**Sr**		113896.593	**23.406067**	ppb	2.292	2.333	94.916
65	**Cu**		510276.332	**116.522403**	ppb	1.060	1.014	390.005
69	**Ga-IS**		590084.173		ppb	0.782		546389.105
95	**Mo**		2162.386	**0.338970**	ppb	3.365	3.742	242.224
115	**In-IS**	>	210351.164		ppb	0.730		216701.669
111	**Cd**		1286.629	**0.438971**	ppb	11.149	10.942	29.491
118	**Sn**		35230.076	**4.147667**	ppb	2.808	2.740	1333.396
121	**Sb**		407.784	**0.018536**	ppb	4.995	12.505	254.447
135	**Ba**		106175.328	**43.102342**	ppb	0.399	1.034	52.222
165	**Ho-IS**		393235.746		ppb	1.013		371788.794
159	**Tb-IS**	>	372943.084		ppb	0.066		357198.314
207	**Pb**		1930249.386	**44.641886**	ppb	0.513	0.568	824.454
203	**Tl**		2750.265	**0.187823**	ppb	1.951	2.089	164.445
209	**Bi-IS**		207187.184		ppb	0.405		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-7-E @20
Autosampler Position: 149
Sample Date/Time: Tuesday, December 28, 2021 11:33:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-7-E @20.105
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49895.887		ppb	1.564		46057.465
9	**Be**		364.449	**0.119373**	ppb	6.090	6.507	43.333
10	**B**		9234.096	**8.925543**	ppb	2.702	4.144	1841.230
27	**Al**		47774705.623	**3211.466723**	ppb	1.049	1.700	10270.358
43	**Ca-2**		81585.744	**1631.167606**	ppb	2.627	2.706	146.667
49	**Ti**		115756.041	**84.833914**	ppb	1.432	1.227	221.113
52	**Cr**		401403.666	**20.946108**	ppb	0.750	1.022	21852.260
55	**Mn**		1270150.088	**46.099982**	ppb	1.385	0.971	1477.854
57	**Fe**		3449870.799	**6345.432052**	ppb	5.321	4.752	16111.303
45	**Sc-IS**	>	1922845.926		ppb	0.699		1869683.891
66	**Zn**		301848.633	**104.839261**	ppb	3.835	3.413	965.588
86	**Sr**		63516.625	**14.146613**	ppb	2.585	1.992	94.916
65	**Cu**		293339.771	**72.603738**	ppb	4.012	3.584	390.005
69	**Ga-IS**		572426.039		ppb	1.968		546389.105
95	**Mo**		980.034	**0.142002**	ppb	5.960	7.835	242.224
115	**In-IS**	>	214157.255		ppb	0.405		216701.669
111	**Cd**		491.284	**0.158429**	ppb	6.564	6.637	29.491
118	**Sn**		19557.828	**2.189913**	ppb	2.449	3.050	1333.396
121	**Sb**		307.781	**0.006367**	ppb	11.979	63.342	254.447
135	**Ba**		55139.545	**21.975778**	ppb	0.694	1.070	52.222
165	**Ho-IS**		387161.264		ppb	1.418		371788.794
159	**Tb-IS**	>	369367.732		ppb	0.819		357198.314
207	**Pb**		1119702.672	**26.139653**	ppb	1.197	1.519	824.454
203	**Tl**		1463.408	**0.095145**	ppb	3.402	4.744	164.445
209	**Bi-IS**		210451.326		ppb	1.714		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-10-E @20
Autosampler Position: 150
Sample Date/Time: Tuesday, December 28, 2021 11:35:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-10-E @20.106
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49870.230		ppb	0.511		46057.465
9	**Be**		351.115	**0.110724**	ppb	9.881	14.502	43.333
10	**B**		9277.456	**8.640608**	ppb	1.274	3.580	1841.230
27	**Al**		39509709.930	**2578.034423**	ppb	1.571	5.269	10270.358
43	**Ca-2**		79326.319	**1538.613925**	ppb	1.127	3.084	146.667
49	**Ti**		113152.059	**80.423919**	ppb	2.273	1.840	221.113
52	**Cr**		352545.275	**17.664793**	ppb	1.244	3.219	21852.260
55	**Mn**		1089391.056	**38.356819**	ppb	0.856	3.247	1477.854
57	**Fe**		3018097.422	**5381.440680**	ppb	1.758	2.361	16111.303
45	**Sc-IS**	>	1983448.429		ppb	4.133		1869683.891
66	**Zn**		250874.885	**84.454493**	ppb	2.922	2.569	965.588
86	**Sr**		61286.984	**13.242603**	ppb	4.320	4.998	94.916
65	**Cu**		253990.687	**60.947923**	ppb	3.280	0.971	390.005
69	**Ga-IS**		578460.157		ppb	4.058		546389.105
95	**Mo**		910.029	**0.122953**	ppb	5.283	1.622	242.224
115	**In-IS**	>	210733.195		ppb	0.559		216701.669
111	**Cd**		339.204	**0.108197**	ppb	5.980	6.513	29.491
118	**Sn**		16849.934	**1.897559**	ppb	2.156	2.405	1333.396
121	**Sb**		266.669	**0.002211**	ppb	2.500	27.204	254.447
135	**Ba**		47219.030	**19.122879**	ppb	1.389	1.879	52.222
165	**Ho-IS**		382826.436		ppb	1.031		371788.794
159	**Tb-IS**	>	365604.150		ppb	1.277		357198.314
207	**Pb**		1030120.842	**24.297271**	ppb	1.640	2.446	824.454
203	**Tl**		1163.381	**0.073900**	ppb	7.232	7.297	164.445
209	**Bi-IS**		208641.930		ppb	2.209		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-11-E @20
Autosampler Position: 151
Sample Date/Time: Tuesday, December 28, 2021 11:37:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-11-E @20.107
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49333.928		ppb	0.541		46057.465
9	**Be**		338.893	**0.109637**	ppb	5.593	8.874	43.333
10	**B**		9281.904	**8.953213**	ppb	1.153	1.947	1841.230
27	**Al**		41637844.383	**2791.645461**	ppb	0.807	1.915	10270.358
43	**Ca-2**		59794.985	**1191.070998**	ppb	3.570	0.891	146.667
49	**Ti**		112606.570	**82.328550**	ppb	1.431	3.153	221.113
52	**Cr**		365978.772	**18.937298**	ppb	0.695	2.179	21852.260
55	**Mn**		1143492.033	**41.394858**	ppb	0.721	1.983	1477.854
57	**Fe**		3173743.581	**5823.226267**	ppb	0.942	3.595	16111.303
45	**Sc-IS**	>	1928324.770		ppb	2.708		1869683.891
66	**Zn**		258741.140	**89.627675**	ppb	0.945	3.628	965.588
86	**Sr**		57506.123	**12.774800**	ppb	0.822	1.930	94.916
65	**Cu**		251995.884	**62.218261**	ppb	1.908	3.539	390.005
69	**Ga-IS**		566244.458		ppb	0.749		546389.105
95	**Mo**		902.251	**0.126510**	ppb	8.428	12.516	242.224
115	**In-IS**	>	213474.619		ppb	1.151		216701.669
111	**Cd**		417.000	**0.133518**	ppb	14.368	15.982	29.491
118	**Sn**		17981.311	**2.007433**	ppb	1.535	1.436	1333.396
121	**Sb**		234.446	**-0.001812**	ppb	13.438	215.670	254.447
135	**Ba**		49492.262	**19.789221**	ppb	1.416	2.511	52.222
165	**Ho-IS**		380883.274		ppb	2.102		371788.794
159	**Tb-IS**	>	365034.425		ppb	1.434		357198.314
207	**Pb**		950346.351	**22.449660**	ppb	0.782	2.065	824.454
203	**Tl**		1313.394	**0.085280**	ppb	4.194	6.260	164.445
209	**Bi-IS**		206667.684		ppb	1.367		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-12-E @20
Autosampler Position: 152
Sample Date/Time: Tuesday, December 28, 2021 11:38:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-12-E @20.108
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		52260.994		ppb	1.810		46057.465
9	**Be**		591.123	**0.199508**	ppb	6.536	7.163	43.333
10	**B**		14429.511	**14.882478**	ppb	3.246	3.544	1841.230
27	**Al**		66075827.843	**4351.097522**	ppb	0.898	0.317	10270.358
43	**Ca-2**		108420.189	**2124.414670**	ppb	3.442	3.467	146.667
49	**Ti**		152207.688	**109.329379**	ppb	0.652	1.168	221.113
52	**Cr**		622937.207	**32.488255**	ppb	1.496	0.899	21852.260
55	**Mn**		1829579.548	**65.073366**	ppb	1.333	0.563	1477.854
57	**Fe**		5178366.073	**9347.555134**	ppb	0.888	1.710	16111.303
45	**Sc-IS**	>	1962845.960		ppb	0.856		1869683.891
66	**Zn**		481491.493	**164.037078**	ppb	2.369	2.319	965.588
86	**Sr**		100612.679	**21.967959**	ppb	1.966	2.489	94.916
65	**Cu**		477535.884	**115.858257**	ppb	0.481	0.629	390.005
69	**Ga-IS**		587705.821		ppb	0.844		546389.105
95	**Mo**		1320.061	**0.202924**	ppb	7.938	10.522	242.224
115	**In-IS**	>	214670.598		ppb	1.897		216701.669
111	**Cd**		708.357	**0.232172**	ppb	5.968	4.205	29.491
118	**Sn**		32427.875	**3.726575**	ppb	0.540	2.350	1333.396
121	**Sb**		340.004	**0.009995**	ppb	12.284	53.467	254.447
135	**Ba**		82271.828	**32.724023**	ppb	1.785	1.815	52.222
165	**Ho-IS**		391496.154		ppb	1.627		371788.794
159	**Tb-IS**	>	374898.116		ppb	1.131		357198.314
207	**Pb**		1791554.638	**41.218252**	ppb	0.577	0.553	824.454
203	**Tl**		1976.803	**0.130762**	ppb	1.626	2.991	164.445
209	**Bi-IS**		208427.260		ppb	0.513		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-15-E @20
Autosampler Position: 153
Sample Date/Time: Tuesday, December 28, 2021 11:40:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-15-E @20.109
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48573.588		ppb	2.643		46057.465
9	**Be**		281.114	**0.088917**	ppb	6.743	9.607	43.333
10	**B**		8329.096	**7.882822**	ppb	3.251	6.550	1841.230
27	**Al**		33532212.761	**2266.070563**	ppb	1.854	2.856	10270.358
43	**Ca-2**		46856.720	**940.618308**	ppb	0.505	1.901	146.667
49	**Ti**		113926.152	**83.911350**	ppb	3.430	1.697	221.113
52	**Cr**		310115.896	**15.989869**	ppb	1.467	0.562	21852.260
55	**Mn**		949804.992	**34.645204**	ppb	0.635	1.269	1477.854
57	**Fe**		2628366.861	**4854.632614**	ppb	1.384	2.551	16111.303
45	**Sc-IS**	>	1912850.516		ppb	1.794		1869683.891
66	**Zn**		218367.568	**76.158298**	ppb	1.219	0.620	965.588
86	**Sr**		45302.734	**10.141516**	ppb	1.741	3.531	94.916
65	**Cu**		221307.774	**55.054258**	ppb	0.866	1.973	390.005
69	**Ga-IS**		563541.980		ppb	2.003		546389.105
95	**Mo**		1196.717	**0.185272**	ppb	6.755	7.475	242.224
115	**In-IS**	>	213865.973		ppb	1.306		216701.669
111	**Cd**		264.156	**0.080661**	ppb	12.474	13.377	29.491
118	**Sn**		16377.161	**1.811058**	ppb	1.606	3.137	1333.396
121	**Sb**		338.893	**0.009943**	ppb	13.782	51.566	254.447
135	**Ba**		40775.894	**16.268329**	ppb	1.201	1.108	52.222
165	**Ho-IS**		384629.106		ppb	0.054		371788.794
159	**Tb-IS**	>	365095.756		ppb	1.167		357198.314
207	**Pb**		814461.880	**19.231293**	ppb	0.553	0.991	824.454
203	**Tl**		1062.262	**0.066493**	ppb	7.715	7.888	164.445
209	**Bi-IS**		208097.013		ppb	0.994		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-16-E @20
Autosampler Position: 154
Sample Date/Time: Tuesday, December 28, 2021 11:41:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-16-E @20.110
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		51734.655		ppb	2.429		46057.465
9	**Be**		618.902	**0.205478**	ppb	8.174	11.108	43.333
10	**B**		12702.316	**12.527300**	ppb	3.563	4.658	1841.230
27	**Al**		62442633.301	**4032.863232**	ppb	1.015	4.432	10270.358
43	**Ca-2**		102610.606	**1970.882436**	ppb	1.802	3.071	146.667
49	**Ti**		109240.685	**76.847705**	ppb	2.399	1.278	221.113
52	**Cr**		591035.693	**30.126786**	ppb	2.237	2.143	21852.260
55	**Mn**		1666097.280	**58.073971**	ppb	2.314	1.458	1477.854
57	**Fe**		4698741.132	**8311.690220**	ppb	0.954	2.947	16111.303
45	**Sc-IS**	>	2003336.222		ppb	3.507		1869683.891
66	**Zn**		465231.372	**155.403372**	ppb	1.925	4.107	965.588
86	**Sr**		90709.419	**19.404741**	ppb	2.698	1.017	94.916
65	**Cu**		460835.018	**109.634454**	ppb	0.436	3.787	390.005
69	**Ga-IS**		572666.257		ppb	1.414		546389.105
95	**Mo**		1407.847	**0.214402**	ppb	6.307	9.437	242.224
115	**In-IS**	>	215528.753		ppb	2.030		216701.669
111	**Cd**		784.843	**0.257396**	ppb	2.570	1.927	29.491
118	**Sn**		28911.449	**3.291245**	ppb	0.573	1.547	1333.396
121	**Sb**		320.004	**0.007553**	ppb	4.541	28.181	254.447
135	**Ba**		74446.812	**29.494719**	ppb	0.350	1.664	52.222
165	**Ho-IS**		389356.073		ppb	1.030		371788.794
159	**Tb-IS**	>	372740.233		ppb	0.621		357198.314
207	**Pb**		1745492.704	**40.389346**	ppb	0.457	0.386	824.454
203	**Tl**		1942.355	**0.129092**	ppb	6.455	7.714	164.445
209	**Bi-IS**		213358.258		ppb	1.161		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-17-E @20
Autosampler Position: 155
Sample Date/Time: Tuesday, December 28, 2021 11:43:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-17-E @20.111
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		50625.138		ppb	2.566		46057.465
9	**Be**		453.341	**0.149676**	ppb	5.147	4.262	43.333
10	**B**		11739.268	**11.728747**	ppb	2.868	2.274	1841.230
27	**Al**		55891035.540	**3694.076334**	ppb	1.593	1.638	10270.358
43	**Ca-2**		94573.710	**1859.567909**	ppb	1.200	1.022	146.667
49	**Ti**		176774.856	**127.469308**	ppb	1.033	0.902	221.113
52	**Cr**		467656.480	**24.176829**	ppb	1.940	2.451	21852.260
55	**Mn**		1545741.397	**55.174800**	ppb	1.146	0.750	1477.854
57	**Fe**		4213045.245	**7627.988580**	ppb	1.268	2.291	16111.303
45	**Sc-IS**	>	1955771.509		ppb	1.862		1869683.891
66	**Zn**		350492.145	**119.773407**	ppb	2.210	2.968	965.588
86	**Sr**		76657.093	**16.795462**	ppb	0.883	2.234	94.916
65	**Cu**		347607.241	**84.631994**	ppb	2.117	2.919	390.005
69	**Ga-IS**		580256.824		ppb	2.812		546389.105
95	**Mo**		1213.385	**0.183389**	ppb	1.671	1.032	242.224
115	**In-IS**	>	214708.831		ppb	1.466		216701.669
111	**Cd**		490.794	**0.157848**	ppb	6.541	6.761	29.491
118	**Sn**		23265.597	**2.627918**	ppb	0.603	0.917	1333.396
121	**Sb**		347.782	**0.010839**	ppb	7.194	31.429	254.447
135	**Ba**		66828.187	**26.571330**	ppb	1.364	1.366	52.222
165	**Ho-IS**		387672.771		ppb	1.551		371788.794
159	**Tb-IS**	>	370369.707		ppb	0.463		357198.314
207	**Pb**		1285681.680	**29.934824**	ppb	0.598	0.597	824.454
203	**Tl**		1726.771	**0.114135**	ppb	3.293	3.147	164.445
209	**Bi-IS**		207696.724		ppb	0.396		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 11:44:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.112
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46154.446		ppb	1.271		46057.465
9	**Be**		266237.137	**98.693317**	ppb	1.307	1.953	43.333
10	**B**		205850.531	**246.270513**	ppb	1.630	1.286	1841.230
27	**Al**		1482540.209	**98.283316**	ppb	2.017	0.727	10270.358
43	**Ca-2**		261636.131	**5202.142865**	ppb	1.465	0.792	146.667
49	**Ti**		135212.685	**98.439012**	ppb	2.470	0.853	221.113
52	**Cr**		1783217.104	**96.674180**	ppb	0.433	1.677	21852.260
55	**Mn**		2749379.019	**99.192811**	ppb	0.499	1.560	1477.854
57	**Fe**		2858931.727	**5219.469911**	ppb	0.948	2.176	16111.303
45	**Sc-IS**	>	1936059.914		ppb	1.993		1869683.891
66	**Zn**		289273.162	**99.788261**	ppb	1.489	1.190	965.588
86	**Sr**		438300.033	**97.129391**	ppb	2.035	3.609	94.916
65	**Cu**		409663.733	**100.760179**	ppb	1.354	0.876	390.005
69	**Ga-IS**		586006.816		ppb	0.680		546389.105
95	**Mo**		495593.757	**95.619721**	ppb	0.990	2.932	242.224
115	**In-IS**	>	213681.637		ppb	1.305		216701.669
111	**Cd**		288871.563	**99.263675**	ppb	0.854	1.434	29.491
118	**Sn**		810800.084	**97.403660**	ppb	0.636	1.078	1333.396
121	**Sb**		860331.318	**97.613533**	ppb	0.512	0.802	254.447
135	**Ba**		248924.525	**99.511159**	ppb	0.810	1.602	52.222
165	**Ho-IS**		377221.235		ppb	0.834		371788.794
159	**Tb-IS**	>	360606.824		ppb	0.284		357198.314
207	**Pb**		4182143.253	**100.057457**	ppb	0.506	0.790	824.454
203	**Tl**		1303813.621	**98.205728**	ppb	0.876	0.752	164.445
209	**Bi-IS**		205321.699		ppb	0.819		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 11:46:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.113
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45750.932		ppb	1.530		46057.465
9	**Be**		60.000	**0.006931**	ppb	11.111	51.994	43.333
10	**B**		2164.608	**0.459527**	ppb	0.928	31.143	1841.230
27	**Al**		17726.326	**0.539704**	ppb	1.524	6.656	10270.358
43	**Ca-2**		138.334	**-0.105531**	ppb	10.434	413.155	146.667
49	**Ti**		295.559	**0.060492**	ppb	3.625	4.829	221.113
52	**Cr**		21018.798	**-0.024354**	ppb	3.650	117.754	21852.260
55	**Mn**		1954.578	**0.019292**	ppb	2.084	19.010	1477.854
57	**Fe**		16763.166	**1.873957**	ppb	2.080	68.888	16111.303
45	**Sc-IS**	>	1834982.215		ppb	4.235		1869683.891
66	**Zn**		1028.926	**0.030197**	ppb	5.835	92.998	965.588
86	**Sr**		115.965	**0.005259**	ppb	18.059	78.553	94.916
65	**Cu**		486.675	**0.027219**	ppb	2.986	31.439	390.005
69	**Ga-IS**		524691.140		ppb	2.108		546389.105
95	**Mo**		681.127	**0.090086**	ppb	9.029	7.651	242.224
115	**In-IS**	>	211474.868		ppb	2.317		216701.669
111	**Cd**		63.014	**0.011889**	ppb	2.907	4.609	29.491
118	**Sn**		2369.086	**0.129717**	ppb	5.378	7.858	1333.396
121	**Sb**		451.118	**0.023235**	ppb	5.190	6.898	254.447
135	**Ba**		106.667	**0.022519**	ppb	26.700	50.647	52.222
165	**Ho-IS**		371357.759		ppb	2.444		371788.794
159	**Tb-IS**	>	351336.222		ppb	2.500		357198.314
207	**Pb**		1503.364	**0.017030**	ppb	4.213	11.731	824.454
203	**Tl**		305.559	**0.011158**	ppb	9.838	25.331	164.445
209	**Bi-IS**		207612.684		ppb	2.292		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-19-E @20
Autosampler Position: 156
Sample Date/Time: Tuesday, December 28, 2021 11:47:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-19-E @20.114
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		53058.349		ppb	0.170		46057.465
9	**Be**		676.683	**0.219965**	ppb	7.742	11.659	43.333
10	**B**		15684.164	**15.534078**	ppb	2.287	5.011	1841.230
27	**Al**		81639170.685	**5134.969296**	ppb	0.846	4.845	10270.358
43	**Ca-2**		114596.132	**2143.992480**	ppb	0.420	3.595	146.667
49	**Ti**		190078.584	**130.373882**	ppb	1.448	3.285	221.113
52	**Cr**		677668.467	**33.791190**	ppb	1.793	3.581	21852.260
55	**Mn**		2265155.063	**76.944935**	ppb	2.060	4.352	1477.854
57	**Fe**		6124626.953	**10557.143940**	ppb	2.117	3.282	16111.303
45	**Sc-IS**	>	2057597.831		ppb	3.898		1869683.891
66	**Zn**		497170.401	**161.740344**	ppb	0.912	4.117	965.588
86	**Sr**		107991.996	**22.523031**	ppb	1.582	5.419	94.916
65	**Cu**		513508.783	**118.967557**	ppb	0.732	3.935	390.005
69	**Ga-IS**		592771.622		ppb	0.148		546389.105
95	**Mo**		2025.699	**0.320052**	ppb	5.683	9.696	242.224
115	**In-IS**	>	216771.165		ppb	0.589		216701.669
111	**Cd**		836.882	**0.273413**	ppb	7.981	7.769	29.491
118	**Sn**		36322.793	**4.149686**	ppb	1.612	1.244	1333.396
121	**Sb**		430.007	**0.019609**	ppb	15.485	36.909	254.447
135	**Ba**		95784.515	**37.727412**	ppb	1.179	0.678	52.222
165	**Ho-IS**		385499.288		ppb	1.257		371788.794
159	**Tb-IS**	>	371978.340		ppb	2.631		357198.314
207	**Pb**		1880293.082	**43.615670**	ppb	0.434	2.222	824.454
203	**Tl**		2383.532	**0.161661**	ppb	1.219	3.698	164.445
209	**Bi-IS**		207941.441		ppb	1.006		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-20-E @20
Autosampler Position: 157
Sample Date/Time: Tuesday, December 28, 2021 11:49:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-20-E @20.115
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49481.119		ppb	1.790		46057.465
9	**Be**		330.004	**0.105190**	ppb	12.121	12.160	43.333
10	**B**		8962.811	**8.489781**	ppb	0.268	2.216	1841.230
27	**Al**		41585194.881	**2767.797894**	ppb	1.606	0.227	10270.358
43	**Ca-2**		62295.543	**1232.703875**	ppb	1.180	1.525	146.667
49	**Ti**		79766.562	**57.839353**	ppb	1.712	1.675	221.113
52	**Cr**		368685.670	**18.940824**	ppb	1.794	2.352	21852.260
55	**Mn**		1121374.433	**40.308296**	ppb	2.189	3.340	1477.854
57	**Fe**		3031278.031	**5520.323193**	ppb	2.918	4.313	16111.303
45	**Sc-IS**	>	1941833.132		ppb	1.716		1869683.891
66	**Zn**		299123.129	**102.933449**	ppb	3.754	5.235	965.588
86	**Sr**		55556.807	**12.257389**	ppb	3.200	4.878	94.916
65	**Cu**		300843.963	**73.766232**	ppb	2.656	3.791	390.005
69	**Ga-IS**		575803.219		ppb	1.466		546389.105
95	**Mo**		874.472	**0.119891**	ppb	13.544	19.245	242.224
115	**In-IS**	>	216069.685		ppb	0.868		216701.669
111	**Cd**		427.059	**0.135163**	ppb	9.488	10.510	29.491
118	**Sn**		19841.551	**2.202600**	ppb	2.008	1.433	1333.396
121	**Sb**		311.115	**0.006453**	ppb	15.390	84.698	254.447
135	**Ba**		49170.055	**19.418839**	ppb	2.144	1.279	52.222
165	**Ho-IS**		382688.044		ppb	2.622		371788.794
159	**Tb-IS**	>	364981.464		ppb	2.006		357198.314
207	**Pb**		1069536.400	**25.273871**	ppb	1.393	2.541	824.454
203	**Tl**		1374.511	**0.089864**	ppb	3.868	6.250	164.445
209	**Bi-IS**		205542.956		ppb	2.028		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-21-E @20
Autosampler Position: 158
Sample Date/Time: Tuesday, December 28, 2021 11:50:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-21-E @20.116
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		51342.104		ppb	1.201		46057.465
9	**Be**		576.678	**0.194284**	ppb	2.649	3.997	43.333
10	**B**		11555.786	**11.459527**	ppb	2.884	2.254	1841.230
27	**Al**		65194936.681	**4293.426470**	ppb	0.986	0.311	10270.358
43	**Ca-2**		97765.091	**1915.550232**	ppb	1.248	1.543	146.667
49	**Ti**		111307.534	**79.908805**	ppb	1.079	0.671	221.113
52	**Cr**		583476.214	**30.356328**	ppb	1.341	1.559	21852.260
55	**Mn**		1793104.024	**63.779475**	ppb	1.574	0.764	1477.854
57	**Fe**		4989087.677	**9005.379860**	ppb	0.663	1.431	16111.303
45	**Sc-IS**	>	1962698.989		ppb	1.030		1869683.891
66	**Zn**		430097.906	**146.522395**	ppb	1.193	2.239	965.588
86	**Sr**		92023.135	**20.092999**	ppb	1.456	2.316	94.916
65	**Cu**		422080.488	**102.405402**	ppb	1.940	2.274	390.005
69	**Ga-IS**		576759.594		ppb	2.878		546389.105
95	**Mo**		1040.038	**0.149694**	ppb	8.678	12.872	242.224
115	**In-IS**	>	216123.374		ppb	1.220		216701.669
111	**Cd**		567.827	**0.183027**	ppb	9.068	10.312	29.491
118	**Sn**		28397.087	**3.220445**	ppb	1.113	2.278	1333.396
121	**Sb**		302.225	**0.005446**	ppb	6.463	43.128	254.447
135	**Ba**		76160.292	**30.083228**	ppb	1.723	0.710	52.222
165	**Ho-IS**		384155.723		ppb	0.805		371788.794
159	**Tb-IS**	>	367390.972		ppb	0.619		357198.314
207	**Pb**		1657306.771	**38.905118**	ppb	1.229	0.663	824.454
203	**Tl**		2060.149	**0.139821**	ppb	4.207	4.490	164.445
209	**Bi-IS**		210911.211		ppb	1.177		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, December 28, 2021 11:52:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\blk.117
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46067.492		ppb	0.340		46057.465
9	**Be**		15.556	**-0.010830**	ppb	65.465	34.547	43.333
10	**B**		1731.216	**-0.187054**	ppb	4.623	61.660	1841.230
27	**Al**		32000.136	**1.451160**	ppb	1.085	0.907	10270.358
43	**Ca-2**		138.334	**-0.240988**	ppb	21.179	236.242	146.667
49	**Ti**		251.113	**0.018256**	ppb	7.778	78.131	221.113
52	**Cr**		22262.893	**-0.006070**	ppb	1.711	112.263	21852.260
55	**Mn**		1999.029	**0.017748**	ppb	4.420	18.270	1477.854
57	**Fe**		21661.969	**9.599016**	ppb	1.426	6.262	16111.303
45	**Sc-IS**	>	1914090.493		ppb	1.169		1869683.891
66	**Zn**		1420.071	**0.151149**	ppb	3.689	13.216	965.588
86	**Sr**		64.354	**-0.007394**	ppb	82.169	158.474	94.916
65	**Cu**		506.676	**0.026745**	ppb	6.963	32.422	390.005
69	**Ga-IS**		563669.239		ppb	3.255		546389.105
95	**Mo**		105.556	**-0.027782**	ppb	19.035	14.439	242.224
115	**In-IS**	>	218763.310		ppb	0.392		216701.669
111	**Cd**		8.667	**-0.007084**	ppb	80.377	33.062	29.491
118	**Sn**		1132.268	**-0.025169**	ppb	15.580	80.598	1333.396
121	**Sb**		198.890	**-0.006421**	ppb	16.788	58.527	254.447
135	**Ba**		54.445	**0.000693**	ppb	37.409	1159.265	52.222
165	**Ho-IS**		371377.045		ppb	1.440		371788.794
159	**Tb-IS**	>	358872.003		ppb	2.207		357198.314
207	**Pb**		1185.575	**0.008602**	ppb	1.872	10.907	824.454
203	**Tl**		76.667	**-0.006720**	ppb	23.007	18.332	164.445
209	**Bi-IS**		207547.987		ppb	0.921		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-204013_1-A
Autosampler Position: 308
Sample Date/Time: Tuesday, December 28, 2021 11:54:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\MB 570-204013_1-A.118
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47054.038		ppb	1.096		46057.465
9	**Be**		18.889	**-0.009532**	ppb	40.754	30.781	43.333
10	**B**		1697.879	**-0.227102**	ppb	3.470	40.071	1841.230
27	**Al**		16907.337	**0.432202**	ppb	2.640	6.195	10270.358
43	**Ca-2**		140.001	**-0.203383**	ppb	28.347	390.908	146.667
49	**Ti**		236.669	**0.007667**	ppb	3.726	81.043	221.113
52	**Cr**		22420.915	**0.003257**	ppb	0.994	249.278	21852.260
55	**Mn**		1403.402	**-0.003968**	ppb	5.701	79.610	1477.854
57	**Fe**		19413.186	**5.442417**	ppb	2.217	21.078	16111.303
45	**Sc-IS**	>	1913355.932		ppb	1.048		1869683.891
66	**Zn**		1225.609	**0.083365**	ppb	10.366	56.681	965.588
86	**Sr**		38.148	**-0.013199**	ppb	54.622	35.694	94.916
65	**Cu**		382.227	**-0.004181**	ppb	6.187	153.857	390.005
69	**Ga-IS**		554910.233		ppb	2.672		546389.105
95	**Mo**		82.222	**-0.032358**	ppb	12.385	5.639	242.224
115	**In-IS**	>	220380.181		ppb	1.469		216701.669
111	**Cd**		9.827	**-0.006735**	ppb	67.767	32.221	29.491
118	**Sn**		821.135	**-0.062486**	ppb	12.289	16.946	1333.396
121	**Sb**		212.224	**-0.005119**	ppb	9.468	43.846	254.447
135	**Ba**		45.556	**-0.002923**	ppb	22.354	136.899	52.222
165	**Ho-IS**		375262.725		ppb	0.468		371788.794
159	**Tb-IS**	>	359379.876		ppb	0.546		357198.314
207	**Pb**		845.566	**0.000382**	ppb	7.056	351.830	824.454
203	**Tl**		75.556	**-0.006797**	ppb	11.103	8.933	164.445
209	**Bi-IS**		212067.170		ppb	1.668		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-204013_2-A
Autosampler Position: 309
Sample Date/Time: Tuesday, December 28, 2021 11:55:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCS 570-204013_2-A.119
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47181.121		ppb	0.926		46057.465
9	**Be**		272162.131	**101.839790**	ppb	2.088	1.596	43.333
10	**B**		83464.222	**99.480279**	ppb	0.292	3.077	1841.230
27	**Al**		1541107.604	**103.189999**	ppb	1.596	1.743	10270.358
43	**Ca-2**		281709.625	**5655.722451**	ppb	2.110	2.635	146.667
49	**Ti**		138178.821	**101.552827**	ppb	3.151	1.109	221.113
52	**Cr**		1825825.904	**99.974643**	ppb	1.501	2.490	21852.260
55	**Mn**		2726196.699	**99.267586**	ppb	2.593	0.740	1477.854
57	**Fe**		3107336.301	**5729.048528**	ppb	2.117	1.689	16111.303
45	**Sc-IS**	>	1918214.074		ppb	3.344		1869683.891
66	**Zn**		298070.310	**103.820137**	ppb	1.709	1.637	965.588
86	**Sr**		430202.927	**96.209447**	ppb	1.986	1.341	94.916
65	**Cu**		410542.544	**101.965914**	ppb	1.975	3.181	390.005
69	**Ga-IS**		597178.900		ppb	1.404		546389.105
95	**Mo**		491190.075	**95.675970**	ppb	1.100	3.042	242.224
115	**In-IS**	>	219233.924		ppb	0.843		216701.669
111	**Cd**		285937.810	**95.764992**	ppb	0.791	1.544	29.491
118	**Sn**		823718.543	**96.438852**	ppb	1.063	0.261	1333.396
121	**Sb**		886974.828	**98.082286**	ppb	0.679	0.333	254.447
135	**Ba**		267010.371	**104.023793**	ppb	1.549	0.981	52.222
165	**Ho-IS**		375965.489		ppb	0.922		371788.794
159	**Tb-IS**	>	358346.825		ppb	0.990		357198.314
207	**Pb**		4114874.900	**99.069063**	ppb	0.817	0.481	824.454
203	**Tl**		1277833.112	**96.853611**	ppb	1.493	0.696	164.445
209	**Bi-IS**		206651.160		ppb	2.400		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-204013_3-A
Autosampler Position: 310
Sample Date/Time: Tuesday, December 28, 2021 11:57:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCSD 570-204013_3-A.120
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45947.159		ppb	3.323		46057.465
9	**Be**		273255.615	**101.532452**	ppb	3.863	4.347	43.333
10	**B**		84919.499	**100.486272**	ppb	2.091	2.631	1841.230
27	**Al**		1543163.010	**102.581416**	ppb	0.954	1.377	10270.358
43	**Ca-2**		279220.065	**5565.200171**	ppb	2.464	2.780	146.667
49	**Ti**		137204.649	**100.135499**	ppb	0.837	0.339	221.113
52	**Cr**		1832072.476	**99.571141**	ppb	2.144	1.696	21852.260
55	**Mn**		2748096.678	**99.363440**	ppb	0.759	0.263	1477.854
57	**Fe**		3163628.698	**5791.230566**	ppb	1.819	1.386	16111.303
45	**Sc-IS**	>	1931424.097		ppb	0.504		1869683.891
66	**Zn**		301694.023	**104.323894**	ppb	1.596	1.120	965.588
86	**Sr**		431903.675	**95.901332**	ppb	0.716	0.728	94.916
65	**Cu**		417272.416	**102.868458**	ppb	1.146	0.762	390.005
69	**Ga-IS**		604639.468		ppb	2.667		546389.105
95	**Mo**		491422.100	**95.006002**	ppb	0.916	0.899	242.224
115	**In-IS**	>	216288.906		ppb	0.740		216701.669
111	**Cd**		288815.558	**98.041309**	ppb	0.105	0.690	29.491
118	**Sn**		826006.131	**98.032318**	ppb	1.026	1.438	1333.396
121	**Sb**		885874.008	**99.301629**	ppb	1.058	1.739	254.447
135	**Ba**		267124.348	**105.494117**	ppb	0.505	1.203	52.222
165	**Ho-IS**		373079.229		ppb	1.183		371788.794
159	**Tb-IS**	>	357542.687		ppb	1.128		357198.314
207	**Pb**		4057307.753	**97.908330**	ppb	0.123	1.027	824.454
203	**Tl**		1255218.623	**95.355599**	ppb	1.147	0.050	164.445
209	**Bi-IS**		206583.004		ppb	0.698		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80119-B-1-A
Autosampler Position: 311
Sample Date/Time: Tuesday, December 28, 2021 11:58:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-80119-B-1-A.121
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45783.248		ppb	0.560		46057.465
9	**Be**		130.001	**0.031108**	ppb	24.460	37.967	43.333
10	**B**		18069.200	**19.304142**	ppb	1.781	1.620	1841.230
27	**Al**		927038.029	**60.594732**	ppb	1.131	1.339	10270.358
43	**Ca-2**		43190.222	**847.825575**	ppb	2.704	2.273	146.667
49	**Ti**		3540.448	**2.388528**	ppb	17.474	18.057	221.113
52	**Cr**		28530.689	**0.308892**	ppb	1.633	6.013	21852.260
55	**Mn**		22753.663	**0.758091**	ppb	1.042	1.593	1477.854
57	**Fe**		45767.754	**52.582573**	ppb	4.806	7.352	16111.303
45	**Sc-IS**	>	1954911.930		ppb	0.570		1869683.891
66	**Zn**		6883.883	**2.013577**	ppb	4.439	5.115	965.588
86	**Sr**		9802.330	**2.129239**	ppb	1.952	2.404	94.916
65	**Cu**		6305.837	**1.437827**	ppb	3.914	3.760	390.005
69	**Ga-IS**		554642.046		ppb	1.340		546389.105
95	**Mo**		2179.055	**0.368000**	ppb	5.309	5.820	242.224
115	**In-IS**	>	215768.720		ppb	1.545		216701.669
111	**Cd**		107.647	**0.026634**	ppb	17.645	24.117	29.491
118	**Sn**		3608.235	**0.272143**	ppb	7.779	14.682	1333.396
121	**Sb**		1481.189	**0.138151**	ppb	12.516	16.418	254.447
135	**Ba**		1286.725	**0.488875**	ppb	2.056	1.590	52.222
165	**Ho-IS**		375515.136		ppb	1.153		371788.794
159	**Tb-IS**	>	355656.375		ppb	0.980		357198.314
207	**Pb**		9176.682	**0.202683**	ppb	5.681	5.499	824.454
203	**Tl**		1033.371	**0.066431**	ppb	12.803	15.259	164.445
209	**Bi-IS**		204936.263		ppb	1.046		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80119-B-1-B MS
Autosampler Position: 312
Sample Date/Time: Tuesday, December 28, 2021 12:00:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-80119-B-1-B MS.122
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47485.462		ppb	1.102		46057.465
9	**Be**		282976.406	**105.739285**	ppb	0.857	0.517	43.333
10	**B**		93080.126	**110.997976**	ppb	2.189	1.395	1841.230
27	**Al**		2364488.883	**158.472042**	ppb	1.446	1.602	10270.358
43	**Ca-2**		286579.584	**5744.556542**	ppb	1.313	0.662	146.667
49	**Ti**		143625.181	**105.432620**	ppb	1.714	0.884	221.113
52	**Cr**		1898797.771	**103.855691**	ppb	0.717	0.817	21852.260
55	**Mn**		2806262.861	**102.063966**	ppb	1.126	1.708	1477.854
57	**Fe**		2701308.981	**4969.720371**	ppb	0.176	1.121	16111.303
45	**Sc-IS**	>	1920334.094		ppb	1.003		1869683.891
66	**Zn**		309040.487	**107.495917**	ppb	0.992	0.210	965.588
86	**Sr**		460470.078	**102.841930**	ppb	2.612	2.790	94.916
65	**Cu**		429752.237	**106.562701**	ppb	1.253	0.850	390.005
69	**Ga-IS**		581189.071		ppb	2.788		546389.105
95	**Mo**		510410.280	**99.252640**	ppb	2.381	2.459	242.224
115	**In-IS**	>	211754.057		ppb	1.601		216701.669
111	**Cd**		305052.978	**105.765285**	ppb	1.925	0.596	29.491
118	**Sn**		844485.764	**102.379418**	ppb	1.109	0.611	1333.396
121	**Sb**		897460.768	**102.761810**	ppb	0.857	1.535	254.447
135	**Ba**		243891.568	**98.395493**	ppb	2.130	2.904	52.222
165	**Ho-IS**		380876.520		ppb	1.131		371788.794
159	**Tb-IS**	>	359612.532		ppb	1.066		357198.314
207	**Pb**		4279763.768	**102.677738**	ppb	1.360	1.210	824.454
203	**Tl**		1323038.366	**99.924972**	ppb	2.031	1.218	164.445
209	**Bi-IS**		206275.829		ppb	2.480		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80119-B-1-C MSD
Autosampler Position: 313
Sample Date/Time: Tuesday, December 28, 2021 12:01:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-80119-B-1-C MSD.123
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47747.443		ppb	0.981		46057.465
9	**Be**		286303.997	**106.243577**	ppb	0.980	1.402	43.333
10	**B**		95431.522	**113.020986**	ppb	4.868	3.642	1841.230
27	**Al**		2383143.804	**158.615961**	ppb	0.290	1.170	10270.358
43	**Ca-2**		287686.110	**5725.740238**	ppb	2.926	1.670	146.667
49	**Ti**		145754.313	**106.269263**	ppb	1.368	2.127	221.113
52	**Cr**		1921545.625	**104.399185**	ppb	2.528	3.723	21852.260
55	**Mn**		2812203.706	**101.581344**	ppb	4.016	4.693	1477.854
57	**Fe**		2726449.960	**4981.913310**	ppb	2.262	3.340	16111.303
45	**Sc-IS**	>	1933857.934		ppb	1.437		1869683.891
66	**Zn**		312601.297	**108.000293**	ppb	1.259	2.543	965.588
86	**Sr**		450589.886	**99.938212**	ppb	0.173	1.434	94.916
65	**Cu**		429478.136	**105.777387**	ppb	1.759	3.030	390.005
69	**Ga-IS**		581703.851		ppb	0.544		546389.105
95	**Mo**		520918.012	**100.587736**	ppb	1.021	0.414	242.224
115	**In-IS**	>	214425.452		ppb	1.333		216701.669
111	**Cd**		307045.069	**105.142730**	ppb	0.709	1.291	29.491
118	**Sn**		861297.901	**103.119084**	ppb	1.230	1.351	1333.396
121	**Sb**		909720.467	**102.864251**	ppb	1.045	1.568	254.447
135	**Ba**		245877.225	**97.946502**	ppb	1.795	1.878	52.222
165	**Ho-IS**		374456.196		ppb	1.748		371788.794
159	**Tb-IS**	>	360985.531		ppb	1.247		357198.314
207	**Pb**		4279077.568	**102.280401**	ppb	1.001	1.751	824.454
203	**Tl**		1317354.176	**99.127307**	ppb	0.656	0.688	164.445
209	**Bi-IS**		205236.039		ppb	0.835		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 12:03:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.124
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45928.194		ppb	2.808		46057.465
9	**Be**		265564.915	**100.461534**	ppb	1.566	2.237	43.333
10	**B**		205929.255	**251.513831**	ppb	0.911	2.569	1841.230
27	**Al**		1451807.614	**98.254230**	ppb	0.654	2.918	10270.358
43	**Ca-2**		256518.186	**5204.857809**	ppb	2.043	1.718	146.667
49	**Ti**		135396.426	**100.626600**	ppb	1.068	2.297	221.113
52	**Cr**		1824741.042	**101.030313**	ppb	1.055	3.323	21852.260
55	**Mn**		2765388.244	**101.848572**	ppb	0.301	3.500	1477.854
57	**Fe**		2880280.886	**5368.843004**	ppb	2.289	4.398	16111.303
45	**Sc-IS**	>	1897670.016		ppb	3.346		1869683.891
66	**Zn**		284554.080	**100.236673**	ppb	1.198	4.481	965.588
86	**Sr**		440222.761	**99.574479**	ppb	0.704	3.941	94.916
65	**Cu**		412868.342	**103.698547**	ppb	2.088	4.758	390.005
69	**Ga-IS**		575339.640		ppb	0.878		546389.105
95	**Mo**		491891.762	**96.865361**	ppb	1.380	3.835	242.224
115	**In-IS**	>	210251.158		ppb	0.860		216701.669
111	**Cd**		285710.952	**99.771002**	ppb	1.273	1.163	29.491
118	**Sn**		804661.108	**98.238861**	ppb	0.922	0.882	1333.396
121	**Sb**		852088.065	**98.251990**	ppb	0.793	0.892	254.447
135	**Ba**		243865.262	**99.065301**	ppb	1.508	0.982	52.222
165	**Ho-IS**		367857.094		ppb	1.935		371788.794
159	**Tb-IS**	>	355116.905		ppb	1.507		357198.314
207	**Pb**		4117714.429	**100.053559**	ppb	1.643	2.276	824.454
203	**Tl**		1280356.948	**97.949874**	ppb	1.966	2.745	164.445
209	**Bi-IS**		205334.222		ppb	1.396		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 12:04:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.125
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45235.987		ppb	2.717		46057.465
9	**Be**		92.223	**0.018756**	ppb	25.387	48.813	43.333
10	**B**		2372.419	**0.662422**	ppb	2.690	16.486	1841.230
27	**Al**		10250.343	**-0.001956**	ppb	1.318	416.054	10270.358
43	**Ca-2**		173.334	**0.549054**	ppb	8.813	64.681	146.667
49	**Ti**		301.114	**0.060362**	ppb	12.344	49.216	221.113
52	**Cr**		20587.046	**-0.072752**	ppb	0.264	25.914	21852.260
55	**Mn**		2034.591	**0.020795**	ppb	11.458	45.016	1477.854
57	**Fe**		16248.129	**0.229947**	ppb	2.962	239.386	16111.303
45	**Sc-IS**	>	1871282.932		ppb	1.366		1869683.891
66	**Zn**		1024.481	**0.020858**	ppb	4.068	78.983	965.588
86	**Sr**		167.764	**0.016751**	ppb	20.891	50.483	94.916
65	**Cu**		497.787	**0.027313**	ppb	23.055	106.136	390.005
69	**Ga-IS**		540797.797		ppb	2.813		546389.105
95	**Mo**		1173.382	**0.185718**	ppb	9.033	9.862	242.224
115	**In-IS**	>	210141.836		ppb	1.798		216701.669
111	**Cd**		94.203	**0.022850**	ppb	23.440	31.847	29.491
118	**Sn**		3816.067	**0.309211**	ppb	7.967	14.737	1333.396
121	**Sb**		965.588	**0.082975**	ppb	4.219	6.035	254.447
135	**Ba**		113.334	**0.025295**	ppb	39.570	69.783	52.222
165	**Ho-IS**		361212.238		ppb	1.209		371788.794
159	**Tb-IS**	>	352798.801		ppb	0.359		357198.314
207	**Pb**		1763.378	**0.023220**	ppb	5.749	11.361	824.454
203	**Tl**		492.231	**0.025402**	ppb	12.290	18.640	164.445
209	**Bi-IS**		204073.237		ppb	2.084		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80119-B-2-A
Autosampler Position: 314
Sample Date/Time: Tuesday, December 28, 2021 12:06:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-80119-B-2-A.126
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46814.365		ppb	1.232		46057.465
9	**Be**		111.112	**0.023879**	ppb	17.578	23.317	43.333
10	**B**		15461.701	**16.125471**	ppb	2.951	3.042	1841.230
27	**Al**		282621.965	**17.929752**	ppb	1.455	4.695	10270.358
43	**Ca-2**		288032.569	**5654.765755**	ppb	2.513	3.876	146.667
49	**Ti**		873.360	**0.461938**	ppb	5.999	9.102	221.113
52	**Cr**		29881.219	**0.378757**	ppb	0.582	24.095	21852.260
55	**Mn**		39806.520	**1.363149**	ppb	2.693	3.579	1477.854
57	**Fe**		38258.985	**38.764526**	ppb	3.612	11.150	16111.303
45	**Sc-IS**	>	1963068.693		ppb	5.193		1869683.891
66	**Zn**		58790.746	**19.766375**	ppb	1.672	6.558	965.588
86	**Sr**		106652.371	**23.327757**	ppb	1.088	5.671	94.916
65	**Cu**		12243.028	**2.880726**	ppb	4.184	8.635	390.005
69	**Ga-IS**		547142.042		ppb	1.857		546389.105
95	**Mo**		2644.689	**0.455788**	ppb	0.525	5.606	242.224
115	**In-IS**	>	215803.822		ppb	1.075		216701.669
111	**Cd**		164.447	**0.045863**	ppb	28.361	33.355	29.491
118	**Sn**		2544.673	**0.144802**	ppb	10.026	19.049	1333.396
121	**Sb**		1799.002	**0.173695**	ppb	1.021	1.724	254.447
135	**Ba**		21540.684	**8.506482**	ppb	3.330	3.076	52.222
165	**Ho-IS**		373704.314		ppb	2.343		371788.794
159	**Tb-IS**	>	360123.302		ppb	1.543		357198.314
207	**Pb**		17181.793	**0.391896**	ppb	1.178	2.812	824.454
203	**Tl**		523.343	**0.026970**	ppb	8.329	11.809	164.445
209	**Bi-IS**		205614.778		ppb	0.938		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80119-B-3-A
Autosampler Position: 315
Sample Date/Time: Tuesday, December 28, 2021 12:08:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-80119-B-3-A.127
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48595.863		ppb	1.678		46057.465
9	**Be**		58.889	**0.005139**	ppb	11.783	46.758	43.333
10	**B**		26033.715	**29.069806**	ppb	3.081	3.603	1841.230
27	**Al**		186767.025	**11.737311**	ppb	1.041	2.522	10270.358
43	**Ca-2**		526676.699	**10452.765975**	ppb	0.903	0.472	146.667
49	**Ti**		787.800	**0.406407**	ppb	2.753	4.001	221.113
52	**Cr**		31829.868	**0.501579**	ppb	1.061	2.052	21852.260
55	**Mn**		18218.283	**0.600817**	ppb	2.991	1.823	1477.854
57	**Fe**		44046.731	**50.072845**	ppb	3.067	4.878	16111.303
45	**Sc-IS**	>	1940103.900		ppb	1.333		1869683.891
66	**Zn**		10203.643	**3.178507**	ppb	1.196	1.422	965.588
86	**Sr**		159976.117	**35.354349**	ppb	1.262	2.153	94.916
65	**Cu**		8253.496	**1.928874**	ppb	2.579	4.134	390.005
69	**Ga-IS**		554693.268		ppb	0.865		546389.105
95	**Mo**		2680.252	**0.467895**	ppb	3.422	5.036	242.224
115	**In-IS**	>	214390.198		ppb	1.658		216701.669
111	**Cd**		76.594	**0.016214**	ppb	25.340	40.132	29.491
118	**Sn**		1617.870	**0.035965**	ppb	8.687	52.820	1333.396
121	**Sb**		2147.939	**0.214444**	ppb	4.336	3.843	254.447
135	**Ba**		38068.434	**15.152645**	ppb	0.654	2.285	52.222
165	**Ho-IS**		374425.063		ppb	1.413		371788.794
159	**Tb-IS**	>	357038.165		ppb	1.255		357198.314
207	**Pb**		9331.185	**0.205595**	ppb	2.539	2.080	824.454
203	**Tl**		340.004	**0.013346**	ppb	8.986	15.053	164.445
209	**Bi-IS**		203062.131		ppb	1.559		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80119-B-4-A
Autosampler Position: 316
Sample Date/Time: Tuesday, December 28, 2021 12:09:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-80119-B-4-A.128
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47557.951		ppb	2.473		46057.465
9	**Be**		58.889	**0.004831**	ppb	6.536	24.601	43.333
10	**B**		18122.609	**19.226544**	ppb	3.560	4.803	1841.230
27	**Al**		278164.141	**17.560964**	ppb	0.818	1.345	10270.358
43	**Ca-2**		110109.563	**2152.002653**	ppb	2.544	3.388	146.667
49	**Ti**		710.018	**0.342477**	ppb	3.286	6.018	221.113
52	**Cr**		28894.750	**0.318289**	ppb	1.058	9.716	21852.260
55	**Mn**		36612.412	**1.244681**	ppb	0.297	1.598	1477.854
57	**Fe**		33846.728	**30.495664**	ppb	2.154	4.079	16111.303
45	**Sc-IS**	>	1968310.906		ppb	1.424		1869683.891
66	**Zn**		42525.445	**14.132996**	ppb	2.328	2.492	965.588
86	**Sr**		36673.460	**7.971582**	ppb	0.498	1.567	94.916
65	**Cu**		9138.482	**2.114464**	ppb	4.919	6.362	390.005
69	**Ga-IS**		559569.648		ppb	1.218		546389.105
95	**Mo**		1242.277	**0.187226**	ppb	11.468	13.067	242.224
115	**In-IS**	>	220834.450		ppb	1.177		216701.669
111	**Cd**		109.614	**0.026465**	ppb	3.650	6.463	29.491
118	**Sn**		1490.079	**0.015258**	ppb	16.785	189.829	1333.396
121	**Sb**		1171.159	**0.100157**	ppb	2.211	3.970	254.447
135	**Ba**		13820.017	**5.326214**	ppb	2.227	2.589	52.222
165	**Ho-IS**		375282.728		ppb	2.373		371788.794
159	**Tb-IS**	>	362760.462		ppb	0.723		357198.314
207	**Pb**		16434.785	**0.371079**	ppb	2.320	3.218	824.454
203	**Tl**		225.557	**0.004393**	ppb	20.389	79.504	164.445
209	**Bi-IS**		208908.949		ppb	1.767		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-1-A sd @2500
Autosampler Position: 109
Sample Date/Time: Tuesday, December 28, 2021 12:11:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-1-A sd @2500.129
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45290.580		ppb	1.584		46057.465
9	**Be**		44.445	**0.000355**	ppb	21.651	974.375	43.333
10	**B**		2279.071	**0.541873**	ppb	1.695	13.024	1841.230
27	**Al**		281455.816	**18.709754**	ppb	1.191	0.757	10270.358
43	**Ca-2**		9639.924	**195.043644**	ppb	5.269	3.577	146.667
49	**Ti**		290.003	**0.051655**	ppb	2.299	17.146	221.113
52	**Cr**		22989.602	**0.062012**	ppb	2.490	57.122	21852.260
55	**Mn**		15742458.013	**586.965117**	ppb	2.670	1.427	1477.854
57	**Fe**		18226.068	**3.943415**	ppb	2.487	10.051	16111.303
45	**Sc-IS**	>	1873735.757		ppb	1.751		1869683.891
66	**Zn**		3319.275	**0.841108**	ppb	1.560	1.879	965.588
86	**Sr**		23126.051	**5.272135**	ppb	2.279	0.542	94.916
65	**Cu**		1217.830	**0.210143**	ppb	7.869	9.202	390.005
69	**Ga-IS**		562245.843		ppb	1.618		546389.105
95	**Mo**		240.002	**-0.000572**	ppb	8.674	626.141	242.224
115	**In-IS**	>	216678.372		ppb	1.130		216701.669
111	**Cd**		13.940	**-0.005270**	ppb	27.525	24.572	29.491
118	**Sn**		913.363	**-0.049799**	ppb	3.845	9.713	1333.396
121	**Sb**		254.447	**-0.000002**	ppb	6.594759	20.370	254.447
135	**Ba**		134943.282	**53.183701**	ppb	1.091	0.275	52.222
165	**Ho-IS**		367332.857		ppb	0.664		371788.794
159	**Tb-IS**	>	351862.008		ppb	1.155		357198.314
207	**Pb**		746.674	**-0.001602**	ppb	1.946	31.230	824.454
203	**Tl**		131.112	**-0.002385**	ppb	5.292	21.103	164.445
209	**Bi-IS**		205743.194		ppb	0.219		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-1-A @500
Autosampler Position: 110
Sample Date/Time: Tuesday, December 28, 2021 12:12:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-1-A @500.130
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44426.760		ppb	1.366		46057.465
9	**Be**		85.556	**0.016620**	ppb	8.110	15.713	43.333
10	**B**		2913.631	**1.387618**	ppb	3.146	9.742	1841.230
27	**Al**		1332250.927	**92.570592**	ppb	2.270	1.692	10270.358
43	**Ca-2**		44512.597	**925.579216**	ppb	2.275	2.259	146.667
49	**Ti**		355.560	**0.105005**	ppb	5.493	15.517	221.113
52	**Cr**		22213.944	**0.036844**	ppb	4.129	162.143	21852.260
55	**Mn**		75644910.535	**2863.061843**	ppb	0.997	1.436	1477.854
57	**Fe**		21864.499	**11.466641**	ppb	1.331	4.909	16111.303
45	**Sc-IS**	>	1846198.536		ppb	0.599		1869683.891
66	**Zn**		12349.781	**4.136837**	ppb	1.215	1.964	965.588
86	**Sr**		111879.501	**25.975646**	ppb	2.607	3.135	94.916
65	**Cu**		4029.458	**0.941047**	ppb	4.882	6.050	390.005
69	**Ga-IS**		645825.611		ppb	1.603		546389.105
95	**Mo**		540.010	**0.060840**	ppb	9.093	15.348	242.224
115	**In-IS**	>	214442.997		ppb	1.056		216701.669
111	**Cd**		33.310	**0.001378**	ppb	45.248	365.799	29.491
118	**Sn**		736.686	**-0.069940**	ppb	11.869	13.668	1333.396
121	**Sb**		257.780	**0.000668**	ppb	7.353	289.671	254.447
135	**Ba**		651947.001	**259.728481**	ppb	0.683	1.563	52.222
165	**Ho-IS**		369107.933		ppb	1.032		371788.794
159	**Tb-IS**	>	355867.974		ppb	0.339		357198.314
207	**Pb**		1027.792	**0.005005**	ppb	4.879	23.971	824.454
203	**Tl**		91.111	**-0.005551**	ppb	7.616	9.596	164.445
209	**Bi-IS**		201968.157		ppb	2.290		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-1-B MS @500
Autosampler Position: 111
Sample Date/Time: Tuesday, December 28, 2021 12:14:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-1-B MS @500.131
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44988.509		ppb	0.910		46057.465
9	**Be**		698.906	**0.251807**	ppb	2.627	0.567	43.333
10	**B**		3118.118	**1.600532**	ppb	2.368	8.240	1841.230
27	**Al**		1373515.761	**94.380724**	ppb	1.017	3.775	10270.358
43	**Ca-2**		45669.575	**938.399154**	ppb	2.288	0.855	146.667
49	**Ti**		388.894	**0.127061**	ppb	1.309	8.157	221.113
52	**Cr**		23403.600	**0.089591**	ppb	0.450	37.085	21852.260
55	**Mn**		78766899.757	**2946.545368**	ppb	1.479	2.486	1477.854
57	**Fe**		22090.402	**11.403294**	ppb	1.549	6.275	16111.303
45	**Sc-IS**	>	1868634.995		ppb	2.957		1869683.891
66	**Zn**		13390.720	**4.460106**	ppb	2.517	5.157	965.588
86	**Sr**		112655.368	**25.858441**	ppb	1.335	4.002	94.916
65	**Cu**		5083.126	**1.197987**	ppb	0.731	3.848	390.005
69	**Ga-IS**		663002.345		ppb	1.368		546389.105
95	**Mo**		553.344	**0.062374**	ppb	4.174	12.234	242.224
115	**In-IS**	>	217066.850		ppb	2.110		216701.669
111	**Cd**		673.298	**0.218048**	ppb	7.701	10.084	29.491
118	**Sn**		746.686	**-0.069653**	ppb	7.376	11.822	1333.396
121	**Sb**		242.224	**-0.001419**	ppb	14.586	268.005	254.447
135	**Ba**		674961.914	**265.719075**	ppb	0.621	2.676	52.222
165	**Ho-IS**		366698.128		ppb	0.984		371788.794
159	**Tb-IS**	>	351674.440		ppb	1.554		357198.314
207	**Pb**		1241.133	**0.010549**	ppb	2.481	11.578	824.454
203	**Tl**		483.342	**0.024824**	ppb	8.475	12.128	164.445
209	**Bi-IS**		205221.348		ppb	0.549		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-1-C MSD @500
Autosampler Position: 112
Sample Date/Time: Tuesday, December 28, 2021 12:15:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-1-C MSD @500.132
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44264.032		ppb	1.242		46057.465
9	**Be**		666.682	**0.234122**	ppb	4.359	4.329	43.333
10	**B**		3150.347	**1.558072**	ppb	2.441	6.826	1841.230
27	**Al**		1346041.507	**90.515971**	ppb	0.948	2.909	10270.358
43	**Ca-2**		46311.645	**931.714955**	ppb	2.552	1.478	146.667
49	**Ti**		382.227	**0.116280**	ppb	8.736	26.667	221.113
52	**Cr**		23238.887	**0.052367**	ppb	0.996	28.304	21852.260
55	**Mn**		78395151.126	**2871.037268**	ppb	2.023	2.003	1477.854
57	**Fe**		21973.568	**10.297133**	ppb	3.685	9.600	16111.303
45	**Sc-IS**	>	1908204.141		ppb	2.123		1869683.891
66	**Zn**		13077.097	**4.247295**	ppb	3.022	3.600	965.588
86	**Sr**		113031.777	**25.389353**	ppb	1.739	1.055	94.916
65	**Cu**		4889.726	**1.122722**	ppb	2.618	5.222	390.005
69	**Ga-IS**		661384.331		ppb	3.171		546389.105
95	**Mo**		521.121	**0.053785**	ppb	9.365	21.807	242.224
115	**In-IS**	>	216491.771		ppb	0.567		216701.669
111	**Cd**		673.366	**0.218370**	ppb	2.830	2.374	29.491
118	**Sn**		698.906	**-0.075175**	ppb	8.953	10.305	1333.396
121	**Sb**		263.336	**0.001017**	ppb	6.329	168.155	254.447
135	**Ba**		659049.257	**260.033714**	ppb	1.850	1.288	52.222
165	**Ho-IS**		368397.508		ppb	0.608		371788.794
159	**Tb-IS**	>	350208.726		ppb	1.063		357198.314
207	**Pb**		1168.908	**0.008866**	ppb	11.693	34.789	824.454
203	**Tl**		540.010	**0.029399**	ppb	5.953	9.692	164.445
209	**Bi-IS**		202071.396		ppb	0.810		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-1-A PDS @500
Autosampler Position: 113
Sample Date/Time: Tuesday, December 28, 2021 12:17:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-1-A PDS @500.133
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44829.161		ppb	3.069		46057.465
9	**Be**		285738.065	**107.455942**	ppb	2.283	3.473	43.333
10	**B**		80118.502	**95.849989**	ppb	1.197	2.740	1841.230
27	**Al**		2778664.967	**187.546342**	ppb	1.758	3.109	10270.358
43	**Ca-2**		318960.084	**6433.796024**	ppb	1.178	1.430	146.667
49	**Ti**		141649.935	**104.637382**	ppb	0.713	1.667	221.113
52	**Cr**		1886180.629	**103.810263**	ppb	1.550	2.330	21852.260
55	**Mn**		76612767.367	**2805.021905**	ppb	1.556	1.975	1477.854
57	**Fe**		3028050.950	**5609.337076**	ppb	0.135	1.619	16111.303
45	**Sc-IS**	>	1908653.906		ppb	1.496		1869683.891
66	**Zn**		339487.761	**118.867299**	ppb	0.876	2.020	965.588
86	**Sr**		564812.861	**126.931481**	ppb	0.768	1.499	94.916
65	**Cu**		431525.820	**107.687555**	ppb	1.421	2.841	390.005
69	**Ga-IS**		704029.554		ppb	1.719		546389.105
95	**Mo**		508798.346	**99.552176**	ppb	1.079	1.577	242.224
115	**In-IS**	>	217432.915		ppb	0.143		216701.669
111	**Cd**		311298.784	**105.115026**	ppb	1.042	1.084	29.491
118	**Sn**		843990.189	**99.637656**	ppb	1.178	1.246	1333.396
121	**Sb**		947557.978	**105.650996**	ppb	0.400	0.540	254.447
135	**Ba**		899113.311	**353.241918**	ppb	0.855	0.834	52.222
165	**Ho-IS**		369755.210		ppb	0.485		371788.794
159	**Tb-IS**	>	355974.224		ppb	1.109		357198.314
207	**Pb**		4260126.238	**103.252980**	ppb	0.740	0.747	824.454
203	**Tl**		1317237.469	**100.517090**	ppb	0.866	1.424	164.445
209	**Bi-IS**		202717.262		ppb	1.483		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79849-B-2-A @50
Autosampler Position: 114
Sample Date/Time: Tuesday, December 28, 2021 12:18:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79849-B-2-A @50.134
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45140.126		ppb	2.625		46057.465
9	**Be**		91.111	**0.018546**	ppb	4.225	7.401	43.333
10	**B**		4332.879	**3.148892**	ppb	1.045	4.486	1841.230
27	**Al**		2432149.150	**168.487069**	ppb	0.886	2.133	10270.358
43	**Ca-2**		74919.299	**1549.506445**	ppb	1.475	1.209	146.667
49	**Ti**		662.238	**0.335880**	ppb	6.570	7.860	221.113
52	**Cr**		20490.242	**-0.070301**	ppb	1.609	39.706	21852.260
55	**Mn**		20082931.591	**755.099577**	ppb	1.304	2.358	1477.854
57	**Fe**		872816.071	**1638.829864**	ppb	0.766	1.980	16111.303
45	**Sc-IS**	>	1858659.546		ppb	1.577		1869683.891
66	**Zn**		3660.470	**0.974529**	ppb	5.466	9.256	965.588
86	**Sr**		119739.524	**27.620612**	ppb	1.289	2.819	94.916
65	**Cu**		3225.920	**0.727629**	ppb	5.446	5.246	390.005
69	**Ga-IS**		566091.483		ppb	1.765		546389.105
95	**Mo**		1518.971	**0.256981**	ppb	13.084	15.888	242.224
115	**In-IS**	>	213090.584		ppb	1.541		216701.669
111	**Cd**		87.922	**0.020385**	ppb	39.080	59.045	29.491
118	**Sn**		3811.620	**0.301790**	ppb	2.662	5.236	1333.396
121	**Sb**		521.121	**0.030842**	ppb	8.732	17.140	254.447
135	**Ba**		192478.389	**77.142572**	ppb	2.140	1.018	52.222
165	**Ho-IS**		366102.968		ppb	0.599		371788.794
159	**Tb-IS**	>	349974.042		ppb	0.772		357198.314
207	**Pb**		2733.437	**0.047469**	ppb	4.496	5.460	824.454
203	**Tl**		842.247	**0.052844**	ppb	8.324	9.364	164.445
209	**Bi-IS**		207666.281		ppb	0.323		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 12:20:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.135
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45335.161		ppb	1.202		46057.465
9	**Be**		265312.779	**99.130436**	ppb	2.024	2.259	43.333
10	**B**		208846.061	**251.908896**	ppb	5.282	5.363	1841.230
27	**Al**		1455638.399	**97.273527**	ppb	0.785	0.935	10270.358
43	**Ca-2**		264197.758	**5295.166326**	ppb	1.702	1.580	146.667
49	**Ti**		138316.493	**101.526766**	ppb	1.636	1.862	221.113
52	**Cr**		1847586.557	**101.009212**	ppb	1.654	1.781	21852.260
55	**Mn**		2861894.417	**104.066796**	ppb	2.321	2.140	1477.854
57	**Fe**		2927930.757	**5388.157539**	ppb	1.636	1.340	16111.303
45	**Sc-IS**	>	1920515.309		ppb	0.309		1869683.891
66	**Zn**		289314.406	**100.600851**	ppb	2.107	1.963	965.588
86	**Sr**		447723.233	**99.978758**	ppb	2.725	2.709	94.916
65	**Cu**		423293.867	**104.948496**	ppb	1.473	1.354	390.005
69	**Ga-IS**		594375.192		ppb	1.245		546389.105
95	**Mo**		502578.583	**97.715598**	ppb	1.905	1.893	242.224
115	**In-IS**	>	214491.948		ppb	2.429		216701.669
111	**Cd**		293104.751	**100.354261**	ppb	1.127	1.810	29.491
118	**Sn**		812126.462	**97.219800**	ppb	0.424	2.162	1333.396
121	**Sb**		855572.025	**96.735658**	ppb	0.889	2.439	254.447
135	**Ba**		244592.980	**97.438461**	ppb	1.169	2.802	52.222
165	**Ho-IS**		372929.465		ppb	1.940		371788.794
159	**Tb-IS**	>	357205.310		ppb	0.750		357198.314
207	**Pb**		4121288.764	**99.534909**	ppb	1.544	0.797	824.454
203	**Tl**		1292491.061	**98.278337**	ppb	1.223	0.567	164.445
209	**Bi-IS**		201724.791		ppb	2.377		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 12:21:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.136
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45535.811		ppb	2.061		46057.465
9	**Be**		73.334	**0.011429**	ppb	15.746	43.435	43.333
10	**B**		2180.167	**0.408484**	ppb	9.123	54.884	1841.230
27	**Al**		9797.359	**-0.035955**	ppb	1.909	65.240	10270.358
43	**Ca-2**		160.001	**0.259113**	ppb	33.072	418.163	146.667
49	**Ti**		266.669	**0.033343**	ppb	8.750	50.612	221.113
52	**Cr**		21004.323	**-0.054367**	ppb	1.884	23.122	21852.260
55	**Mn**		8611.533	**0.265143**	ppb	16.853	20.761	1477.854
57	**Fe**		17380.567	**2.251994**	ppb	0.980	39.370	16111.303
45	**Sc-IS**	>	1879471.365		ppb	1.938		1869683.891
66	**Zn**		976.700	**0.002294**	ppb	6.485	1062.932	965.588
86	**Sr**		136.477	**0.009324**	ppb	36.804	121.122	94.916
65	**Cu**		454.452	**0.015797**	ppb	4.298	19.662	390.005
69	**Ga-IS**		542557.667		ppb	0.378		546389.105
95	**Mo**		1048.928	**0.160224**	ppb	8.589	12.269	242.224
115	**In-IS**	>	213941.405		ppb	0.838		216701.669
111	**Cd**		68.909	**0.013664**	ppb	18.520	32.479	29.491
118	**Sn**		3604.900	**0.274899**	ppb	5.556	7.451	1333.396
121	**Sb**		565.567	**0.035616**	ppb	5.316	8.081	254.447
135	**Ba**		131.112	**0.031780**	ppb	15.534	25.847	52.222
165	**Ho-IS**		367953.975		ppb	1.924		371788.794
159	**Tb-IS**	>	352462.490		ppb	1.655		357198.314
207	**Pb**		1646.704	**0.020436**	ppb	7.004	17.161	824.454
203	**Tl**		513.343	**0.027152**	ppb	19.899	31.672	164.445
209	**Bi-IS**		207687.732		ppb	0.643		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, December 28, 2021 12:48:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\blk.139
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46212.416		ppb	1.643		46057.465
9	**Be**		18.889	**-0.009447**	ppb	81.508	60.918	43.333
10	**B**		1500.079	**-0.430838**	ppb	5.169	11.934	1841.230
27	**Al**		13019.264	**0.188633**	ppb	1.564	9.574	10270.358
43	**Ca-2**		111.667	**-0.718037**	ppb	28.437	95.210	146.667
49	**Ti**		283.336	**0.046980**	ppb	9.338	52.902	221.113
52	**Cr**		22163.851	**0.015538**	ppb	1.907	89.551	21852.260
55	**Mn**		1584.532	**0.003915**	ppb	0.676	55.988	1477.854
57	**Fe**		16980.087	**1.598712**	ppb	1.467	30.859	16111.303
45	**Sc-IS**	>	1873322.128		ppb	2.971		1869683.891
66	**Zn**		1164.492	**0.070445**	ppb	3.602	7.735	965.588
86	**Sr**		56.589	**-0.008912**	ppb	58.444	81.751	94.916
65	**Cu**		364.449	**-0.006616**	ppb	1.904	63.483	390.005
69	**Ga-IS**		539193.778		ppb	1.338		546389.105
95	**Mo**		230.002	**-0.002689**	ppb	20.134	298.467	242.224
115	**In-IS**	>	211301.305		ppb	1.654		216701.669
111	**Cd**		3.961	**-0.008616**	ppb	51.030	8.153	29.491
118	**Sn**		5636.711	**0.525938**	ppb	24.202	29.401	1333.396
121	**Sb**		415.562	**0.019185**	ppb	8.652	17.634	254.447
135	**Ba**		44.445	**-0.002623**	ppb	11.456	75.806	52.222
165	**Ho-IS**		364837.775		ppb	0.132		371788.794
159	**Tb-IS**	>	346085.600		ppb	1.062		357198.314
207	**Pb**		500.003	**-0.007447**	ppb	7.688	13.380	824.454
203	**Tl**		73.334	**-0.006746**	ppb	9.091	8.566	164.445
209	**Bi-IS**		201988.666		ppb	2.761		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-204040_3-A @20
Autosampler Position: 117
Sample Date/Time: Tuesday, December 28, 2021 12:50:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCSD 570-204040_3-A @20.140
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46258.111		ppb	1.025		46057.465
9	**Be**		56811.648	**21.156561**	ppb	1.556	0.737	43.333
10	**B**		18497.527	**20.151417**	ppb	2.163	0.762	1841.230
27	**Al**		331751.050	**21.562405**	ppb	1.476	1.309	10270.358
43	**Ca-2**		1891.792	**34.840522**	ppb	5.432	7.493	146.667
49	**Ti**		29974.750	**21.817826**	ppb	1.156	2.747	221.113
52	**Cr**		414136.023	**21.617780**	ppb	1.776	1.995	21852.260
55	**Mn**		576473.785	**20.858550**	ppb	3.553	2.115	1477.854
57	**Fe**		28381.500	**21.767420**	ppb	0.958	4.765	16111.303
45	**Sc-IS**	>	1925787.689		ppb	2.058		1869683.891
66	**Zn**		65668.369	**22.511162**	ppb	0.779	2.319	965.588
86	**Sr**		93966.882	**20.912018**	ppb	1.553	1.780	94.916
65	**Cu**		89963.630	**22.173855**	ppb	2.703	3.792	390.005
69	**Ga-IS**		554103.598		ppb	1.121		546389.105
95	**Mo**		105854.075	**20.493087**	ppb	0.661	2.433	242.224
115	**In-IS**	>	220197.891		ppb	1.290		216701.669
111	**Cd**		62933.711	**20.974320**	ppb	2.137	0.992	29.491
118	**Sn**		176175.432	**20.410906**	ppb	1.726	0.566	1333.396
121	**Sb**		192477.997	**21.170766**	ppb	0.129	1.194	254.447
135	**Ba**		57254.512	**22.195053**	ppb	1.082	1.794	52.222
165	**Ho-IS**		370210.844		ppb	1.611		371788.794
159	**Tb-IS**	>	356839.522		ppb	0.218		357198.314
207	**Pb**		884603.656	**21.371771**	ppb	0.869	1.020	824.454
203	**Tl**		277149.270	**21.086224**	ppb	0.348	0.545	164.445
209	**Bi-IS**		206869.286		ppb	0.308		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-6-E @100
Autosampler Position: 401
Sample Date/Time: Tuesday, December 28, 2021 12:51:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-6-E @20.141
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45348.576		ppb	3.123		46057.465
9	**Be**		161.112	**0.044568**	ppb	15.529	18.691	43.333
10	**B**		4213.955	**2.922306**	ppb	2.256	4.762	1841.230
27	**Al**		15701612.906	**1075.728231**	ppb	1.152	0.998	10270.358
43	**Ca-2**		23354.078	**473.963596**	ppb	1.729	1.389	146.667
49	**Ti**		44668.627	**33.291654**	ppb	1.601	3.572	221.113
52	**Cr**		148128.724	**7.110376**	ppb	2.300	4.886	21852.260
55	**Mn**		431511.445	**15.941594**	ppb	2.426	4.385	1477.854
57	**Fe**		1129587.362	**2098.887577**	ppb	0.332	1.983	16111.303
45	**Sc-IS**	>	1885925.855		ppb	2.054		1869683.891
66	**Zn**		110965.012	**39.102272**	ppb	2.377	4.130	965.588
86	**Sr**		20806.383	**4.712413**	ppb	1.519	3.091	94.916
65	**Cu**		95700.896	**24.087113**	ppb	3.778	3.308	390.005
69	**Ga-IS**		551734.339		ppb	1.019		546389.105
95	**Mo**		508.898	**0.052534**	ppb	6.943	17.365	242.224
115	**In-IS**	>	213476.087		ppb	0.980		216701.669
111	**Cd**		235.600	**0.071119**	ppb	14.885	17.941	29.491
118	**Sn**		7349.668	**0.727019**	ppb	0.344	1.438	1333.396
121	**Sb**		271.114	**0.002311**	ppb	10.601	132.692	254.447
135	**Ba**		18580.966	**7.416121**	ppb	1.376	2.151	52.222
165	**Ho-IS**		367550.621		ppb	0.773		371788.794
159	**Tb-IS**	>	349557.323		ppb	0.687		357198.314
207	**Pb**		340266.211	**8.380249**	ppb	0.961	1.433	824.454
203	**Tl**		931.141	**0.059847**	ppb	4.476	4.815	164.445
209	**Bi-IS**		200559.174		ppb	0.635		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-19-E @100
Autosampler Position: 402
Sample Date/Time: Tuesday, December 28, 2021 12:53:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-19-E @20.142
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46591.430		ppb	2.066		46057.465
9	**Be**		128.889	**0.032732**	ppb	17.604	24.616	43.333
10	**B**		3949.435	**2.632790**	ppb	1.152	2.695	1841.230
27	**Al**		14343763.562	**990.402456**	ppb	1.190	1.070	10270.358
43	**Ca-2**		19953.926	**407.775399**	ppb	0.458	1.452	146.667
49	**Ti**		32848.834	**24.625948**	ppb	0.246	1.505	221.113
52	**Cr**		137167.622	**6.550431**	ppb	0.716	1.216	21852.260
55	**Mn**		391421.340	**14.566550**	ppb	2.047	3.200	1477.854
57	**Fe**		1053859.561	**1971.753548**	ppb	4.125	4.558	16111.303
45	**Sc-IS**	>	1871082.612		ppb	1.747		1869683.891
66	**Zn**		92365.510	**32.739528**	ppb	2.199	2.664	965.588
86	**Sr**		18481.521	**4.216377**	ppb	1.650	2.851	94.916
65	**Cu**		93218.833	**23.652502**	ppb	2.502	3.416	390.005
69	**Ga-IS**		539241.830		ppb	1.096		546389.105
95	**Mo**		361.116	**0.023612**	ppb	12.601	32.863	242.224
115	**In-IS**	>	213344.383		ppb	2.077		216701.669
111	**Cd**		153.687	**0.043114**	ppb	27.068	35.754	29.491
118	**Sn**		6794.949	**0.660656**	ppb	2.037	0.113	1333.396
121	**Sb**		203.335	**-0.005376**	ppb	7.146	22.292	254.447
135	**Ba**		16829.910	**6.722275**	ppb	1.956	3.966	52.222
165	**Ho-IS**		372121.555		ppb	2.342		371788.794
159	**Tb-IS**	>	355576.851		ppb	1.286		357198.314
207	**Pb**		332337.291	**8.045822**	ppb	0.431	0.942	824.454
203	**Tl**		650.015	**0.037110**	ppb	11.593	13.907	164.445
209	**Bi-IS**		201932.002		ppb	2.058		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66817-A-1-H MS @20
Autosampler Position: 403
Sample Date/Time: Tuesday, December 28, 2021 12:54:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66817-A-1-H MS @20.143
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48515.583		ppb	1.214		46057.465
9	**Be**		69648.260	**25.722232**	ppb	0.557	2.522	43.333
10	**B**		25285.696	**28.130544**	ppb	1.760	2.238	1841.230
27	**Al**		18897550.832	**1257.292280**	ppb	0.954	2.736	10270.358
43	**Ca-2**		48488.842	**958.369215**	ppb	2.109	1.516	146.667
49	**Ti**		77778.998	**56.365434**	ppb	2.071	0.478	221.113
52	**Cr**		700558.941	**37.086692**	ppb	2.370	1.153	21852.260
55	**Mn**		1181867.050	**42.464175**	ppb	1.177	1.908	1477.854
57	**Fe**		1648718.873	**2986.939018**	ppb	0.891	2.402	16111.303
45	**Sc-IS**	>	1942784.490		ppb	2.535		1869683.891
66	**Zn**		255308.988	**87.748813**	ppb	0.383	2.203	965.588
86	**Sr**		145407.621	**32.099265**	ppb	1.412	3.264	94.916
65	**Cu**		267797.042	**65.612339**	ppb	1.394	1.434	390.005
69	**Ga-IS**		557063.129		ppb	1.066		546389.105
95	**Mo**		114493.848	**21.971649**	ppb	2.594	2.221	242.224
115	**In-IS**	>	211110.705		ppb	0.998		216701.669
111	**Cd**		74312.489	**25.837070**	ppb	0.817	0.419	29.491
118	**Sn**		201717.531	**24.408432**	ppb	0.598	0.600	1333.396
121	**Sb**		221553.746	**25.421383**	ppb	0.757	0.418	254.447
135	**Ba**		83610.643	**33.814321**	ppb	0.931	0.474	52.222
165	**Ho-IS**		373335.459		ppb	0.572		371788.794
159	**Tb-IS**	>	358769.451		ppb	0.976		357198.314
207	**Pb**		1663966.571	**40.003336**	ppb	0.593	0.834	824.454
203	**Tl**		257893.996	**19.511945**	ppb	3.086	2.114	164.445
209	**Bi-IS**		204016.602		ppb	1.183		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66817-A-1-I MSD @20
Autosampler Position: 404
Sample Date/Time: Tuesday, December 28, 2021 12:56:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66817-A-1-I MSD @20.144
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47921.409		ppb	3.240		46057.465
9	**Be**		68823.226	**25.888541**	ppb	2.418	3.059	43.333
10	**B**		25110.946	**28.480197**	ppb	2.092	1.886	1841.230
27	**Al**		18755328.766	**1270.783578**	ppb	0.484	0.335	10270.358
43	**Ca-2**		47298.170	**952.318746**	ppb	0.230	1.044	146.667
49	**Ti**		78995.617	**58.330390**	ppb	1.447	2.036	221.113
52	**Cr**		710057.478	**38.336833**	ppb	0.365	1.211	21852.260
55	**Mn**		1219907.463	**44.649018**	ppb	1.172	1.794	1477.854
57	**Fe**		1693728.316	**3126.633866**	ppb	0.630	1.291	16111.303
45	**Sc-IS**	>	1906914.049		ppb	0.809		1869683.891
66	**Zn**		255759.199	**89.531944**	ppb	0.660	0.360	965.588
86	**Sr**		146405.468	**32.916591**	ppb	2.372	3.081	94.916
65	**Cu**		274171.038	**68.430747**	ppb	1.965	2.210	390.005
69	**Ga-IS**		561576.120		ppb	1.211		546389.105
95	**Mo**		115777.441	**22.635226**	ppb	2.411	2.656	242.224
115	**In-IS**	>	212551.404		ppb	1.370		216701.669
111	**Cd**		75097.241	**25.937561**	ppb	0.770	2.125	29.491
118	**Sn**		204185.562	**24.544136**	ppb	0.637	2.011	1333.396
121	**Sb**		222253.320	**25.330762**	ppb	0.270	1.113	254.447
135	**Ba**		84564.012	**33.968800**	ppb	1.060	0.388	52.222
165	**Ho-IS**		375013.031		ppb	0.664		371788.794
159	**Tb-IS**	>	356560.933		ppb	1.289		357198.314
207	**Pb**		1669900.610	**40.396909**	ppb	1.052	1.501	824.454
203	**Tl**		258835.994	**19.712222**	ppb	3.788	4.462	164.445
209	**Bi-IS**		205986.748		ppb	0.945		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 12:58:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.145
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46272.621		ppb	2.182		46057.465
9	**Be**		265594.347	**100.454184**	ppb	1.573	2.358	43.333
10	**B**		208110.712	**254.156280**	ppb	1.639	3.028	1841.230
27	**Al**		1465937.896	**99.198900**	ppb	0.862	3.071	10270.358
43	**Ca-2**		253720.259	**5147.995834**	ppb	1.514	2.601	146.667
49	**Ti**		135990.022	**101.022371**	ppb	2.510	1.673	221.113
52	**Cr**		1809713.886	**100.189167**	ppb	0.453	4.119	21852.260
55	**Mn**		2772541.302	**102.108962**	ppb	0.691	4.236	1477.854
57	**Fe**		2819147.867	**5251.294427**	ppb	1.972	2.717	16111.303
45	**Sc-IS**	>	1898286.517		ppb	3.830		1869683.891
66	**Zn**		286040.458	**100.679952**	ppb	1.984	2.066	965.588
86	**Sr**		439183.637	**99.317452**	ppb	0.331	3.855	94.916
65	**Cu**		404970.654	**101.604166**	ppb	2.886	0.993	390.005
69	**Ga-IS**		579142.786		ppb	1.784		546389.105
95	**Mo**		492062.241	**96.892587**	ppb	0.645	4.171	242.224
115	**In-IS**	>	210090.838		ppb	0.630		216701.669
111	**Cd**		286187.644	**100.012242**	ppb	0.846	0.591	29.491
118	**Sn**		800966.652	**97.864188**	ppb	1.031	1.438	1333.396
121	**Sb**		851678.989	**98.281798**	ppb	0.718	1.284	254.447
135	**Ba**		244423.423	**99.368851**	ppb	1.089	0.710	52.222
165	**Ho-IS**		373342.477		ppb	2.104		371788.794
159	**Tb-IS**	>	357303.359		ppb	0.930		357198.314
207	**Pb**		4171348.483	**100.727573**	ppb	0.780	1.359	824.454
203	**Tl**		1286590.236	**97.805463**	ppb	1.093	0.746	164.445
209	**Bi-IS**		203306.471		ppb	0.453		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 12:59:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.146
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46498.908		ppb	2.137		46057.465
9	**Be**		72.222	**0.011282**	ppb	2.665	10.620	43.333
10	**B**		2171.276	**0.432180**	ppb	5.878	45.747	1841.230
27	**Al**		11667.098	**0.102163**	ppb	2.487	32.071	10270.358
43	**Ca-2**		146.668	**0.031183**	ppb	61.111	6069.818	146.667
49	**Ti**		276.669	**0.043012**	ppb	14.608	62.664	221.113
52	**Cr**		21412.703	**-0.016929**	ppb	0.690	90.252	21852.260
55	**Mn**		1772.333	**0.011428**	ppb	7.928	44.458	1477.854
57	**Fe**		16713.106	**1.350734**	ppb	1.569	5.891	16111.303
45	**Sc-IS**	>	1857625.819		ppb	1.670		1869683.891
66	**Zn**		986.701	**0.010226**	ppb	7.726	323.277	965.588
86	**Sr**		94.329	**0.000108**	ppb	46.839	9649.682	94.916
65	**Cu**		395.561	**0.002134**	ppb	16.129	796.237	390.005
69	**Ga-IS**		538798.136		ppb	1.872		546389.105
95	**Mo**		1001.146	**0.152853**	ppb	7.035	7.628	242.224
115	**In-IS**	>	210951.445		ppb	1.314		216701.669
111	**Cd**		53.453	**0.008620**	ppb	3.827	10.784	29.491
118	**Sn**		3642.691	**0.285480**	ppb	11.815	16.840	1333.396
121	**Sb**		521.121	**0.031402**	ppb	7.133	11.140	254.447
135	**Ba**		81.111	**0.012299**	ppb	13.211	38.638	52.222
165	**Ho-IS**		365645.133		ppb	1.215		371788.794
159	**Tb-IS**	>	354397.725		ppb	0.615		357198.314
207	**Pb**		1387.805	**0.013881**	ppb	4.925	13.293	824.454
203	**Tl**		475.563	**0.023946**	ppb	2.918	4.233	164.445
209	**Bi-IS**		206008.239		ppb	1.287		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, December 28, 2021 13:02:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\blk.147
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46802.096		ppb	0.442		46057.465
9	**Be**		37.778	**-0.002498**	ppb	10.189	51.497	43.333
10	**B**		1732.328	**-0.188682**	ppb	6.945	82.966	1841.230
27	**Al**		13703.907	**0.214485**	ppb	3.139	18.620	10270.358
43	**Ca-2**		140.001	**-0.209541**	ppb	12.372	155.562	146.667
49	**Ti**		248.891	**0.016482**	ppb	19.331	219.493	221.113
52	**Cr**		21878.968	**-0.028764**	ppb	1.990	117.314	21852.260
55	**Mn**		1603.424	**0.003222**	ppb	6.702	117.795	1477.854
57	**Fe**		16535.125	**0.032365**	ppb	3.028	2156.215	16111.303
45	**Sc-IS**	>	1916673.983		ppb	1.178		1869683.891
66	**Zn**		1247.832	**0.090315**	ppb	3.781	22.188	965.588
86	**Sr**		125.604	**0.006286**	ppb	33.789	146.973	94.916
65	**Cu**		400.006	**-0.000012**	ppb	11.667	92809.500	390.005
69	**Ga-IS**		541613.460		ppb	1.055		546389.105
95	**Mo**		360.005	**0.021687**	ppb	16.998	51.740	242.224
115	**In-IS**	>	217092.066		ppb	0.926		216701.669
111	**Cd**		25.911	**-0.001247**	ppb	33.769	229.899	29.491
118	**Sn**		2136.827	**0.094809**	ppb	9.109	23.330	1333.396
121	**Sb**		307.781	**0.005919**	ppb	23.161	136.019	254.447
135	**Ba**		60.000	**0.002992**	ppb	24.216	183.320	52.222
165	**Ho-IS**		367492.954		ppb	3.070		371788.794
159	**Tb-IS**	>	351317.064		ppb	1.716		357198.314
207	**Pb**		804.453	**-0.000150**	ppb	12.881	1722.040	824.454
203	**Tl**		251.113	**0.006964**	ppb	25.233	74.944	164.445
209	**Bi-IS**		210375.818		ppb	1.816		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-6-E @200
Autosampler Position: 401
Sample Date/Time: Tuesday, December 28, 2021 13:03:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-6-E @200.148
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46593.666		ppb	2.350		46057.465
9	**Be**		68.889	**0.009580**	ppb	5.587	12.352	43.333
10	**B**		2996.981	**1.412958**	ppb	3.028	4.123	1841.230
27	**Al**		7852716.675	**537.867050**	ppb	1.850	3.411	10270.358
43	**Ca-2**		11477.944	**231.433438**	ppb	2.342	1.998	146.667
49	**Ti**		22492.143	**16.674400**	ppb	2.334	0.570	221.113
52	**Cr**		84065.564	**3.496323**	ppb	1.830	0.776	21852.260
55	**Mn**		293536.558	**10.822782**	ppb	1.404	0.399	1477.854
57	**Fe**		575294.858	**1054.003152**	ppb	1.089	1.751	16111.303
45	**Sc-IS**	>	1885600.788		ppb	1.782		1869683.891
66	**Zn**		54373.324	**18.981513**	ppb	2.553	3.158	965.588
86	**Sr**		10468.303	**2.360298**	ppb	0.973	2.461	94.916
65	**Cu**		46992.744	**11.778696**	ppb	2.165	1.235	390.005
69	**Ga-IS**		550497.614		ppb	0.709		546389.105
95	**Mo**		308.892	**0.012917**	ppb	14.249	76.412	242.224
115	**In-IS**	>	211607.083		ppb	1.651		216701.669
111	**Cd**		107.130	**0.027215**	ppb	12.640	18.407	29.491
118	**Sn**		4257.303	**0.358872**	ppb	6.105	6.965	1333.396
121	**Sb**		394.450	**0.016700**	ppb	8.632	19.366	254.447
135	**Ba**		9556.531	**3.836848**	ppb	3.337	1.726	52.222
165	**Ho-IS**		370796.077		ppb	0.322		371788.794
159	**Tb-IS**	>	353325.716		ppb	1.723		357198.314
207	**Pb**		173697.659	**4.223590**	ppb	1.403	2.970	824.454
203	**Tl**		491.120	**0.025249**	ppb	2.826	1.812	164.445
209	**Bi-IS**		204280.344		ppb	1.239		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66684-A-19-E @200
Autosampler Position: 402
Sample Date/Time: Tuesday, December 28, 2021 13:05:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66684-A-19-E @200.149
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46128.810		ppb	1.438		46057.465
9	**Be**		67.778	**0.009227**	ppb	10.238	26.706	43.333
10	**B**		2859.176	**1.253147**	ppb	6.048	17.735	1841.230
27	**Al**		7126969.203	**489.434327**	ppb	0.182	2.501	10270.358
43	**Ca-2**		10078.554	**203.437751**	ppb	1.390	1.390	146.667
49	**Ti**		16536.233	**12.254849**	ppb	1.121	2.998	221.113
52	**Cr**		78473.849	**3.195442**	ppb	1.030	4.512	21852.260
55	**Mn**		291702.711	**10.789541**	ppb	1.016	3.345	1477.854
57	**Fe**		549232.202	**1008.079461**	ppb	1.315	3.593	16111.303
45	**Sc-IS**	>	1880455.329		ppb	2.342		1869683.891
66	**Zn**		45213.660	**15.771900**	ppb	0.501	2.405	965.588
86	**Sr**		9661.085	**2.183350**	ppb	5.313	6.416	94.916
65	**Cu**		47030.626	**11.823841**	ppb	0.854	1.720	390.005
69	**Ga-IS**		548207.549		ppb	1.461		546389.105
95	**Mo**		276.669	**0.006603**	ppb	6.024	60.287	242.224
115	**In-IS**	>	213506.574		ppb	2.673		216701.669
111	**Cd**		90.530	**0.021281**	ppb	23.417	37.546	29.491
118	**Sn**		4019.456	**0.325541**	ppb	6.252	5.635	1333.396
121	**Sb**		337.782	**0.009928**	ppb	5.064	26.506	254.447
135	**Ba**		9120.690	**3.629130**	ppb	2.970	2.068	52.222
165	**Ho-IS**		371161.252		ppb	1.064		371788.794
159	**Tb-IS**	>	356325.811		ppb	0.037		357198.314
207	**Pb**		168105.020	**4.051076**	ppb	2.416	2.463	824.454
203	**Tl**		376.672	**0.016211**	ppb	11.707	20.796	164.445
209	**Bi-IS**		207324.740		ppb	0.661		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66817-A-1-H MS @100
Autosampler Position: 403
Sample Date/Time: Tuesday, December 28, 2021 13:06:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66817-A-1-H MS @100.150
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46037.413		ppb	1.930		46057.465
9	**Be**		13395.170	**5.169811**	ppb	3.151	2.599	43.333
10	**B**		6312.505	**5.660003**	ppb	0.389	0.789	1841.230
27	**Al**		3613039.860	**251.307040**	ppb	0.987	1.011	10270.358
43	**Ca-2**		9394.756	**192.198342**	ppb	1.944	1.420	146.667
49	**Ti**		15070.167	**11.314726**	ppb	0.799	1.421	221.113
52	**Cr**		154643.685	**7.626333**	ppb	1.103	1.348	21852.260
55	**Mn**		236241.897	**8.851266**	ppb	0.944	0.346	1477.854
57	**Fe**		319181.245	**581.510903**	ppb	1.490	1.540	16111.303
45	**Sc-IS**	>	1853367.256		ppb	0.609		1869683.891
66	**Zn**		51962.190	**18.443127**	ppb	3.598	3.948	965.588
86	**Sr**		28334.991	**6.536462**	ppb	1.021	1.329	94.916
65	**Cu**		53177.682	**13.576450**	ppb	0.546	1.159	390.005
69	**Ga-IS**		545167.838		ppb	2.997		546389.105
95	**Mo**		19481.055	**3.878813**	ppb	1.888	2.485	242.224
115	**In-IS**	>	214041.369		ppb	1.245		216701.669
111	**Cd**		14496.484	**4.962914**	ppb	1.876	1.218	29.491
118	**Sn**		35536.371	**4.111026**	ppb	1.231	2.369	1333.396
121	**Sb**		43379.099	**4.886253**	ppb	1.017	0.279	254.447
135	**Ba**		16387.172	**6.520171**	ppb	0.958	0.524	52.222
165	**Ho-IS**		366007.278		ppb	0.721		371788.794
159	**Tb-IS**	>	352530.046		ppb	0.249		357198.314
207	**Pb**		325185.473	**7.939844**	ppb	0.959	0.948	824.454
203	**Tl**		29963.670	**2.296459**	ppb	5.206	5.263	164.445
209	**Bi-IS**		204319.876		ppb	1.553		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-66817-A-1-I MSD @100
Autosampler Position: 404
Sample Date/Time: Tuesday, December 28, 2021 13:08:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-66817-A-1-I MSD @100.151
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46251.429		ppb	1.517		46057.465
9	**Be**		13377.373	**5.069922**	ppb	1.514	1.166	43.333
10	**B**		6479.247	**5.723072**	ppb	0.721	1.405	1841.230
27	**Al**		3633778.660	**248.176136**	ppb	1.350	0.940	10270.358
43	**Ca-2**		9544.855	**191.754121**	ppb	1.107	1.167	146.667
49	**Ti**		14921.124	**10.994882**	ppb	2.153	1.545	221.113
52	**Cr**		152523.523	**7.346318**	ppb	2.345	2.032	21852.260
55	**Mn**		232027.289	**8.534345**	ppb	1.822	1.187	1477.854
57	**Fe**		312155.865	**557.260677**	ppb	0.505	1.042	16111.303
45	**Sc-IS**	>	1887394.994		ppb	0.640		1869683.891
66	**Zn**		50902.756	**17.726939**	ppb	1.063	1.013	965.588
86	**Sr**		27861.291	**6.309834**	ppb	2.651	2.059	94.916
65	**Cu**		52014.522	**13.036115**	ppb	0.411	1.048	390.005
69	**Ga-IS**		536313.351		ppb	1.645		546389.105
95	**Mo**		19122.816	**3.736244**	ppb	5.508	5.168	242.224
115	**In-IS**	>	210663.779		ppb	0.757		216701.669
111	**Cd**		14290.360	**4.970874**	ppb	1.049	0.694	29.491
118	**Sn**		35371.551	**4.158123**	ppb	3.586	3.093	1333.396
121	**Sb**		42476.398	**4.860894**	ppb	1.551	0.974	254.447
135	**Ba**		15827.656	**6.398918**	ppb	2.736	3.398	52.222
165	**Ho-IS**		363627.681		ppb	0.788		371788.794
159	**Tb-IS**	>	348392.782		ppb	0.835		357198.314
207	**Pb**		322223.771	**7.961521**	ppb	2.059	2.356	824.454
203	**Tl**		30386.798	**2.357359**	ppb	5.706	6.260	164.445
209	**Bi-IS**		205694.072		ppb	2.210		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 13:09:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.152
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		45613.845		ppb	2.407		46057.465
9	**Be**		264888.547	**100.618183**	ppb	2.315	2.081	43.333
10	**B**		204976.984	**251.363097**	ppb	1.605	1.635	1841.230
27	**Al**		1437370.373	**97.688220**	ppb	1.585	3.397	10270.358
43	**Ca-2**		256090.055	**5219.070587**	ppb	0.695	2.048	146.667
49	**Ti**		134587.936	**100.417854**	ppb	2.475	0.943	221.113
52	**Cr**		1803590.359	**100.237660**	ppb	1.112	0.702	21852.260
55	**Mn**		2770707.955	**102.448721**	ppb	1.084	2.226	1477.854
57	**Fe**		2859012.404	**5350.638138**	ppb	1.530	3.268	16111.303
45	**Sc-IS**	>	1889165.085		ppb	1.808		1869683.891
66	**Zn**		286726.056	**101.390041**	ppb	1.741	2.946	965.588
86	**Sr**		434440.344	**98.649695**	ppb	0.529	2.321	94.916
65	**Cu**		409593.263	**103.266694**	ppb	1.701	2.904	390.005
69	**Ga-IS**		572006.203		ppb	1.906		546389.105
95	**Mo**		489925.789	**96.852931**	ppb	1.304	1.942	242.224
115	**In-IS**	>	212774.886		ppb	0.881		216701.669
111	**Cd**		285239.973	**98.425536**	ppb	0.862	0.787	29.491
118	**Sn**		806563.383	**97.304733**	ppb	1.092	1.432	1333.396
121	**Sb**		855236.306	**97.440631**	ppb	1.273	0.611	254.447
135	**Ba**		244841.552	**98.283921**	ppb	0.899	0.187	52.222
165	**Ho-IS**		368948.151		ppb	0.697		371788.794
159	**Tb-IS**	>	354237.372		ppb	1.072		357198.314
207	**Pb**		4147577.584	**101.022354**	ppb	0.853	1.499	824.454
203	**Tl**		1288327.573	**98.797418**	ppb	1.319	2.125	164.445
209	**Bi-IS**		203500.330		ppb	0.621		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 13:11:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.153
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46096.505		ppb	2.528		46057.465
9	**Be**		68.889	**0.009561**	ppb	32.218	88.183	43.333
10	**B**		2142.383	**0.357126**	ppb	1.395	41.921	1841.230
27	**Al**		9826.712	**-0.035811**	ppb	1.193	87.940	10270.358
43	**Ca-2**		155.001	**0.154792**	ppb	29.032	640.601	146.667
49	**Ti**		271.114	**0.035406**	ppb	13.487	50.254	221.113
52	**Cr**		21184.586	**-0.047457**	ppb	1.247	86.709	21852.260
55	**Mn**		1654.541	**0.006228**	ppb	8.454	116.769	1477.854
57	**Fe**		16433.892	**0.376626**	ppb	0.189	365.514	16111.303
45	**Sc-IS**	>	1886574.455		ppb	4.693		1869683.891
66	**Zn**		881.138	**-0.032893**	ppb	5.791	53.875	965.588
86	**Sr**		113.831	**0.004589**	ppb	94.076	559.360	94.916
65	**Cu**		426.673	**0.008606**	ppb	6.675	119.184	390.005
69	**Ga-IS**		536039.216		ppb	1.207		546389.105
95	**Mo**		816.690	**0.114068**	ppb	10.350	20.869	242.224
115	**In-IS**	>	211361.454		ppb	0.925		216701.669
111	**Cd**		71.618	**0.014898**	ppb	36.460	61.182	29.491
118	**Sn**		3024.766	**0.209803**	ppb	7.110	13.002	1333.396
121	**Sb**		487.786	**0.027484**	ppb	11.483	22.918	254.447
135	**Ba**		82.222	**0.012661**	ppb	8.439	24.211	52.222
165	**Ho-IS**		364497.120		ppb	0.592		371788.794
159	**Tb-IS**	>	346548.926		ppb	1.182		357198.314
207	**Pb**		1288.912	**0.012202**	ppb	14.715	40.693	824.454
203	**Tl**		432.229	**0.021405**	ppb	12.467	21.202	164.445
209	**Bi-IS**		203079.112		ppb	1.797		210221.050

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, December 28, 2021 13:17:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICIS-1479530.154
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44536.096		ppb	5.024		
9	**Be**		28.889		ppb	29.038		
10	**B**		1476.743		ppb	3.584		
27	**Al**		9072.213		ppb	1.087		
43	**Ca-2**		98.334		ppb	21.170		
49	**Ti**		215.557		ppb	17.034		
52	**Cr**		20288.845		ppb	1.803		
55	**Mn**		1154.491		ppb	2.186		
57	**Fe**		16020.092		ppb	2.536		
45	**Sc-IS**	>	1833181.894		ppb	0.790		
66	**Zn**		938.920		ppb	8.928		
86	**Sr**		48.311		ppb	83.363		
65	**Cu**		308.892		ppb	8.656		
69	**Ga-IS**		524196.186		ppb	2.667		
95	**Mo**		162.223		ppb	13.682		
115	**In-IS**	>	218967.215		ppb	4.074		
111	**Cd**		11.882		ppb	58.392		
118	**Sn**		4016.121		ppb	3.985		
121	**Sb**		370.005		ppb	10.032		
135	**Ba**		51.111		ppb	24.691		
165	**Ho-IS**		372130.158		ppb	0.533		
159	**Tb-IS**	>	359981.339		ppb	0.265		
207	**Pb**		585.560		ppb	10.896		
203	**Tl**		118.889		ppb	7.056		
209	**Bi-IS**		208464.873		ppb	2.081		
51	**V**		2.222		ppb	173.205		
59	**Co**		7.778		ppb	49.487		
60	**Ni**		117.778		ppb	21.242		
75	**As**		307.648		ppb	4.353		
71	**Ga-ISK**		61745.386		ppb	1.282		
82	**Se-2**		-2.886		ppb	323.167		
107	**Ag-1**		298.892		ppb	12.285		
115	**In-ISK**	>	82799.858		ppb	0.612		
45	**Sc-ISK**		153098.385		ppb	1.757		
23	**Na**		7665.391		ppb	3.310		
39	**K**		36055.447		ppb	1.267		
24	**Mg**		100.000		ppb	18.028		
159	**Tb-ISK**	>	165940.226		ppb	0.640		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-1479552
Autosampler Position: 204
Sample Date/Time: Tuesday, December 28, 2021 13:20:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\IC-1479552.155
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		44208.405		ppb	4.871		44536.096
9	**Be**		507511.713	**200.000000**	ppb	1.207	4.358	28.889
10	**B**		377193.540	**500.000000**	ppb	1.789	3.185	1476.743
27	**Al**		2734119.436	**200.000000**	ppb	2.034	1.364	9072.213
43	**Ca-2**		497028.906	**10200.000000**	ppb	1.955	1.996	98.334
49	**Ti**		262366.892	**200.000000**	ppb	2.042	1.378	215.557
52	**Cr**		3535891.021	**200.000000**	ppb	1.553	1.700	20288.845
55	**Mn**		5356939.146	**200.000000**	ppb	1.593	2.356	1154.491
57	**Fe**		5411794.973	**10200.000000**	ppb	1.702	3.112	16020.092
45	**Sc-IS**	>	1792863.740		ppb	3.253		1833181.894
66	**Zn**		533657.413	**200.000000**	ppb	2.403	1.272	938.920
86	**Sr**		873059.461	**200.000000**	ppb	1.771	4.671	48.311
65	**Cu**		767979.424	**200.000000**	ppb	1.945	1.293	308.892
69	**Ga-IS**		581630.634		ppb	2.417		524196.186
95	**Mo**		972166.567	**200.000000**	ppb	1.611	3.799	162.223
115	**In-IS**	>	216220.115		ppb	3.807		218967.215
111	**Cd**		596343.008	**200.000000**	ppb	3.468	0.336	11.882
118	**Sn**		1672064.620	**200.000000**	ppb	2.787	1.511	4016.121
121	**Sb**		1801494.638	**200.000000**	ppb	2.379	1.611	370.005
135	**Ba**		503735.752	**200.000000**	ppb	1.747	2.211	51.111
165	**Ho-IS**		380008.800		ppb	2.496		372130.158
159	**Tb-IS**	>	361435.912		ppb	1.622		359981.339
207	**Pb**		8356165.196	**200.000000**	ppb	1.853	0.624	585.560
203	**Tl**		2672762.341	**200.000000**	ppb	1.269	1.556	118.889
209	**Bi-IS**		199853.087		ppb	2.117		208464.873
51	**V**		59587.363	**200.000000**	ppb	1.362	1.854	2.222
59	**Co**		200340.651	**200.000000**	ppb	1.066	2.031	7.778
60	**Ni**		370657.503	**200.000000**	ppb	1.324	1.411	117.778
75	**As**		125877.232	**200.000000**	ppb	1.343	3.828	307.648
71	**Ga-ISK**		59281.713		ppb	3.080		61745.386
82	**Se-2**		12981.383	**200.000000**	ppb	1.619	2.268	-2.886
107	**Ag-1**		1372852.429	**200.000000**	ppb	1.350	2.385	298.892
115	**In-ISK**	>	80345.686		ppb	2.501		82799.858
45	**Sc-ISK**		154747.659		ppb	3.571		153098.385
23	**Na**		4048819.245	**10200.000000**	ppb	2.117	2.088	7665.391
39	**K**		7803682.124	**10200.000000**	ppb	1.622	0.448	36055.447
24	**Mg**		3555502.071	**10200.000000**	ppb	2.203	1.017	100.000
159	**Tb-ISK**	>	162730.349		ppb	1.217		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 13:23:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.156
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43754.703		ppb	2.201		44536.096
9	**Be**		244683.912	**96.466635**	ppb	2.254	3.311	28.889
10	**B**		183855.552	**242.900524**	ppb	0.455	1.107	1476.743
27	**Al**		1349014.150	**98.451537**	ppb	0.385	1.421	9072.213
43	**Ca-2**		245917.400	**5051.308597**	ppb	1.890	3.212	98.334
49	**Ti**		126758.917	**96.626271**	ppb	1.930	0.589	215.557
52	**Cr**		1703879.531	**95.875022**	ppb	1.734	1.670	20288.845
55	**Mn**		2610745.943	**97.536897**	ppb	0.486	1.834	1154.491
57	**Fe**		2679102.628	**5038.982142**	ppb	1.640	3.002	16020.092
45	**Sc-IS**	>	1790763.419		ppb	1.381		1833181.894
66	**Zn**		270083.992	**101.146145**	ppb	1.491	0.112	938.920
86	**Sr**		435803.461	**99.863566**	ppb	0.707	1.817	48.311
65	**Cu**		383927.401	**100.040789**	ppb	0.627	0.785	308.892
69	**Ga-IS**		558771.725		ppb	1.330		524196.186
95	**Mo**		481937.547	**99.196114**	ppb	1.995	2.988	162.223
115	**In-IS**	>	221279.430		ppb	2.697		218967.215
111	**Cd**		296395.937	**97.117749**	ppb	3.069	1.026	11.882
118	**Sn**		838943.336	**97.803526**	ppb	1.699	1.433	4016.121
121	**Sb**		884003.550	**95.847587**	ppb	2.297	0.592	370.005
135	**Ba**		249287.326	**96.649510**	ppb	2.782	0.534	51.111
165	**Ho-IS**		377461.916		ppb	0.839		372130.158
159	**Tb-IS**	>	362766.937		ppb	1.758		359981.339
207	**Pb**		4104864.719	**97.891598**	ppb	1.322	1.362	585.560
203	**Tl**		1274247.944	**94.999148**	ppb	1.421	1.832	118.889
209	**Bi-IS**		204334.394		ppb	1.014		208464.873
51	**V**		29541.625	**98.348098**	ppb	0.688	1.950	2.222
59	**Co**		100134.209	**99.138718**	ppb	1.476	1.747	7.778
60	**Ni**		186680.773	**99.879432**	ppb	0.883	1.207	117.778
75	**As**		63228.338	**99.374540**	ppb	0.070	2.016	307.648
71	**Ga-ISK**		60166.439		ppb	0.816		61745.386
82	**Se-2**		6511.940	**99.546487**	ppb	2.552	3.672	-2.886
107	**Ag-1**		679792.203	**98.199075**	ppb	0.800	1.644	298.892
115	**In-ISK**	>	80999.799		ppb	2.017		82799.858
45	**Sc-ISK**		158067.847		ppb	2.607		153098.385
23	**Na**		2014456.039	**4917.585456**	ppb	3.621	2.880	7665.391
39	**K**		3954840.464	**4996.287517**	ppb	1.628	0.903	36055.447
24	**Mg**		1733326.555	**4829.496723**	ppb	0.711	1.524	100.000
159	**Tb-ISK**	>	167572.465		ppb	0.822		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 13:26:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.157
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43464.951		ppb	3.050		44536.096
9	**Be**		100.000	**0.028295**	ppb	20.817	25.143	28.889
10	**B**		2222.395	**1.047626**	ppb	2.852	1.689	1476.743
27	**Al**		8776.696	**-0.004097**	ppb	1.432	206.449	9072.213
43	**Ca-2**		130.001	**0.705632**	ppb	13.324	49.725	98.334
49	**Ti**		262.225	**0.039758**	ppb	11.811	45.878	215.557
52	**Cr**		18718.937	**-0.058913**	ppb	4.155	81.729	20288.845
55	**Mn**		2050.147	**0.034772**	ppb	2.524	10.453	1154.491
57	**Fe**		15562.920	**-0.055662**	ppb	2.210	1873.244	16020.092
45	**Sc-IS**	>	1785093.301		ppb	2.643		1833181.894
66	**Zn**		884.472	**-0.011066**	ppb	6.220	210.145	938.920
86	**Sr**		105.865	**0.013387**	ppb	68.554	121.741	48.311
65	**Cu**		455.563	**0.040265**	ppb	13.299	31.224	308.892
69	**Ga-IS**		517506.713		ppb	1.376		524196.186
95	**Mo**		2791.384	**0.543980**	ppb	5.315	5.895	162.223
115	**In-IS**	>	218550.196		ppb	1.659		218967.215
111	**Cd**		97.472	**0.028419**	ppb	12.641	14.942	11.882
118	**Sn**		9020.627	**0.594534**	ppb	3.389	6.698	4016.121
121	**Sb**		1191.161	**0.090152**	ppb	8.957	10.548	370.005
135	**Ba**		111.112	**0.023642**	ppb	12.490	25.081	51.111
165	**Ho-IS**		376124.426		ppb	2.362		372130.158
159	**Tb-IS**	>	356872.999		ppb	3.054		359981.339
207	**Pb**		1771.154	**0.028871**	ppb	3.157	3.501	585.560
203	**Tl**		564.456	**0.033846**	ppb	4.272	4.315	118.889
209	**Bi-IS**		207414.935		ppb	0.743		208464.873
51	**V**		15.556	**0.043739**	ppb	12.372	14.884	2.222
59	**Co**		62.222	**0.053065**	ppb	11.152	12.121	7.778
60	**Ni**		184.446	**0.035545**	ppb	15.048	42.615	117.778
75	**As**		304.154	**-0.002629**	ppb	10.594	1866.793	307.648
71	**Ga-ISK**		60391.850		ppb	1.660		61745.386
82	**Se-2**		5.468	**0.125120**	ppb	74.735	48.842	-2.886
107	**Ag-1**		1348.953	**0.149550**	ppb	3.839	4.423	298.892
115	**In-ISK**	>	82306.414		ppb	0.699		82799.858
45	**Sc-ISK**		153949.611		ppb	1.325		153098.385
23	**Na**		9733.315	**5.254875**	ppb	0.757	2.308	7665.391
39	**K**		43637.661	**10.082972**	ppb	0.766	4.381	36055.447
24	**Mg**		1083.374	**2.783661**	ppb	4.935	4.884	100.000
159	**Tb-ISK**	>	165003.462		ppb	0.540		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-203960_1-A @20
Autosampler Position: 322
Sample Date/Time: Tuesday, December 28, 2021 13:29:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\MB 570-203960_1-A @20.158
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43003.528		ppb	1.563		44536.096
9	**Be**		61234.298	**24.157111**	ppb	0.931	1.839	28.889
10	**B**		19238.504	**23.722459**	ppb	1.757	0.886	1476.743
27	**Al**		345322.016	**24.745242**	ppb	0.868	1.626	9072.213
43	**Ca-2**		1905.127	**37.201878**	ppb	2.288	0.122	98.334
49	**Ti**		31755.257	**24.116499**	ppb	0.959	1.511	215.557
52	**Cr**		434575.369	**23.644038**	ppb	0.110	2.335	20288.845
55	**Mn**		624274.493	**23.320209**	ppb	0.722	2.949	1154.491
57	**Fe**		28404.879	**24.193349**	ppb	0.778	4.213	16020.092
45	**Sc-IS**	>	1788982.348		ppb	2.242		1833181.894
66	**Zn**		69218.433	**25.707545**	ppb	1.775	4.072	938.920
86	**Sr**		106283.619	**24.378708**	ppb	2.345	3.869	48.311
65	**Cu**		95674.930	**24.906926**	ppb	1.751	3.669	308.892
69	**Ga-IS**		527413.954		ppb	0.539		524196.186
95	**Mo**		115654.307	**23.810747**	ppb	2.903	4.368	162.223
115	**In-IS**	>	221188.781		ppb	2.648		218967.215
111	**Cd**		72871.641	**23.884234**	ppb	3.045	1.158	11.882
118	**Sn**		205240.310	**23.570515**	ppb	3.132	0.583	4016.121
121	**Sb**		223334.824	**24.196968**	ppb	1.868	1.364	370.005
135	**Ba**		64154.951	**24.865575**	ppb	3.353	0.768	51.111
165	**Ho-IS**		375382.773		ppb	1.064		372130.158
159	**Tb-IS**	>	361942.719		ppb	1.359		359981.339
207	**Pb**		1003195.180	**23.969809**	ppb	1.191	2.310	585.560
203	**Tl**		315864.438	**23.591396**	ppb	1.709	0.368	118.889
209	**Bi-IS**		207731.964		ppb	1.756		208464.873
51	**V**		7088.425	**23.094331**	ppb	0.449	1.329	2.222
59	**Co**		24584.476	**23.828163**	ppb	2.284	3.771	7.778
60	**Ni**		45803.322	**23.942457**	ppb	1.538	1.565	117.778
75	**As**		14752.905	**22.330971**	ppb	3.051	3.585	307.648
71	**Ga-ISK**		59941.121		ppb	3.021		61745.386
82	**Se-2**		1603.279	**24.013155**	ppb	3.405	1.815	-2.886
107	**Ag-1**		92062.382	**12.980952**	ppb	1.147	0.948	298.892
115	**In-ISK**	>	82738.587		ppb	1.600		82799.858
45	**Sc-ISK**		154305.668		ppb	1.481		153098.385
23	**Na**		98793.884	**223.521795**	ppb	2.307	2.334	7665.391
39	**K**		219975.210	**234.501577**	ppb	0.886	1.645	36055.447
24	**Mg**		8931.125	**24.641108**	ppb	2.354	2.652	100.000
159	**Tb-ISK**	>	167323.568		ppb	0.778		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-203960_2-A @20
Autosampler Position: 323
Sample Date/Time: Tuesday, December 28, 2021 13:32:58
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCS 570-203960_2-A @20.159
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43288.841		ppb	2.107		44536.096
9	**Be**		61903.884	**24.426167**	ppb	2.387	2.697	28.889
10	**B**		19847.115	**24.541127**	ppb	2.246	2.214	1476.743
27	**Al**		348767.958	**25.004245**	ppb	2.150	2.522	9072.213
43	**Ca-2**		1838.452	**35.847195**	ppb	3.550	3.878	98.334
49	**Ti**		31760.836	**24.124186**	ppb	2.345	2.064	215.557
52	**Cr**		433936.128	**23.608463**	ppb	2.174	2.053	20288.845
55	**Mn**		624406.347	**23.323271**	ppb	1.993	1.671	1154.491
57	**Fe**		28185.567	**23.781895**	ppb	2.549	4.929	16020.092
45	**Sc-IS**	>	1788280.465		ppb	0.356		1833181.894
66	**Zn**		70065.848	**26.021417**	ppb	0.319	0.534	938.920
86	**Sr**		103960.344	**23.844428**	ppb	1.483	1.828	48.311
65	**Cu**		99168.574	**25.816279**	ppb	0.440	0.249	308.892
69	**Ga-IS**		523453.355		ppb	2.007		524196.186
95	**Mo**		117177.496	**24.121912**	ppb	0.117	0.451	162.223
115	**In-IS**	>	222015.009		ppb	1.480		218967.215
111	**Cd**		72206.129	**23.578083**	ppb	2.064	1.110	11.882
118	**Sn**		206643.202	**23.645026**	ppb	2.254	0.856	4016.121
121	**Sb**		224067.365	**24.180313**	ppb	2.066	0.599	370.005
135	**Ba**		65099.161	**25.142099**	ppb	2.481	2.350	51.111
165	**Ho-IS**		382166.844		ppb	0.943		372130.158
159	**Tb-IS**	>	361127.914		ppb	1.194		359981.339
207	**Pb**		1003846.541	**24.035931**	ppb	1.255	1.169	585.560
203	**Tl**		318724.315	**23.863726**	ppb	1.107	2.250	118.889
209	**Bi-IS**		211926.099		ppb	1.304		208464.873
51	**V**		7011.721	**23.035171**	ppb	1.775	2.949	2.222
59	**Co**		24002.385	**23.457451**	ppb	3.435	4.873	7.778
60	**Ni**		45550.295	**24.006975**	ppb	1.686	2.034	117.778
75	**As**		14780.506	**22.561036**	ppb	1.599	2.307	307.648
71	**Ga-ISK**		60350.548		ppb	0.873		61745.386
82	**Se-2**		1575.204	**23.797365**	ppb	1.107	2.472	-2.886
107	**Ag-1**		92554.427	**13.158793**	ppb	0.974	1.410	298.892
115	**In-ISK**	>	82063.430		ppb	1.512		82799.858
45	**Sc-ISK**		152262.707		ppb	0.536		153098.385
23	**Na**		99560.926	**227.742093**	ppb	2.939	2.860	7665.391
39	**K**		219211.409	**236.199398**	ppb	1.026	0.942	36055.447
24	**Mg**		8807.715	**24.533324**	ppb	1.480	2.101	100.000
159	**Tb-ISK**	>	165733.881		ppb	0.940		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-203960_3-A @20
Autosampler Position: 324
Sample Date/Time: Tuesday, December 28, 2021 13:36:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCSD 570-203960_3-A @20.160
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43862.865		ppb	4.092		44536.096
9	**Be**		62122.598	**24.808575**	ppb	2.139	3.526	28.889
10	**B**		19319.725	**24.142131**	ppb	2.097	1.609	1476.743
27	**Al**		343782.525	**24.936801**	ppb	1.390	1.721	9072.213
43	**Ca-2**		1885.124	**37.297461**	ppb	3.260	6.256	98.334
49	**Ti**		31019.217	**23.833452**	ppb	3.051	1.470	215.557
52	**Cr**		433690.895	**23.891009**	ppb	1.290	2.325	20288.845
55	**Mn**		606367.504	**22.919843**	ppb	1.428	2.070	1154.491
57	**Fe**		27543.194	**23.207777**	ppb	0.540	7.980	16020.092
45	**Sc-IS**	>	1767857.471		ppb	3.009		1833181.894
66	**Zn**		69133.545	**25.987478**	ppb	0.403	3.217	938.920
86	**Sr**		102716.305	**23.840867**	ppb	0.930	2.270	48.311
65	**Cu**		97073.193	**25.571718**	ppb	1.569	2.195	308.892
69	**Ga-IS**		528162.193		ppb	1.571		524196.186
95	**Mo**		116213.022	**24.211993**	ppb	0.857	2.645	162.223
115	**In-IS**	>	223894.666		ppb	3.896		218967.215
111	**Cd**		71982.789	**23.303637**	ppb	4.714	0.847	11.882
118	**Sn**		207375.782	**23.529544**	ppb	3.860	0.539	4016.121
121	**Sb**		224418.902	**24.021764**	ppb	2.975	0.935	370.005
135	**Ba**		64059.977	**24.553312**	ppb	0.500	3.461	51.111
165	**Ho-IS**		376022.155		ppb	1.801		372130.158
159	**Tb-IS**	>	360906.908		ppb	1.239		359981.339
207	**Pb**		994141.236	**23.818917**	ppb	1.688	1.936	585.560
203	**Tl**		316221.882	**23.687539**	ppb	1.197	1.014	118.889
209	**Bi-IS**		207895.265		ppb	1.209		208464.873
51	**V**		6872.764	**22.677632**	ppb	0.758	1.853	2.222
59	**Co**		24105.882	**23.661715**	ppb	1.998	3.645	7.778
60	**Ni**		45813.354	**24.253499**	ppb	1.542	1.595	117.778
75	**As**		14478.819	**22.196806**	ppb	1.949	3.674	307.648
71	**Ga-ISK**		60524.725		ppb	3.698		61745.386
82	**Se-2**		1568.547	**23.786890**	ppb	5.655	4.103	-2.886
107	**Ag-1**		92497.452	**13.211477**	ppb	1.975	2.977	298.892
115	**In-ISK**	>	81698.696		ppb	1.624		82799.858
45	**Sc-ISK**		152578.422		ppb	1.765		153098.385
23	**Na**		99298.965	**225.552981**	ppb	1.490	2.009	7665.391
39	**K**		218296.442	**233.242777**	ppb	1.008	1.642	36055.447
24	**Mg**		8500.862	**23.514672**	ppb	1.621	1.565	100.000
159	**Tb-ISK**	>	166790.020		ppb	0.367		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293312-A-1-D sd @100
Autosampler Position: 325
Sample Date/Time: Tuesday, December 28, 2021 13:39:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293312-A-1-D sd @100.161
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		46327.225		ppb	1.210		44536.096
9	**Be**		185.557	**0.060813**	ppb	2.744	2.848	28.889
10	**B**		1783.445	**0.416141**	ppb	6.331	42.286	1476.743
27	**Al**		18425883.912	**1330.654244**	ppb	1.172	2.050	9072.213
43	**Ca-2**		29919.636	**602.504556**	ppb	1.427	0.356	98.334
49	**Ti**		47895.722	**35.808722**	ppb	1.432	0.970	215.557
52	**Cr**		64366.907	**2.476017**	ppb	0.447	2.460	20288.845
55	**Mn**		1495871.942	**54.933591**	ppb	1.653	0.476	1154.491
57	**Fe**		1139918.257	**2090.828701**	ppb	1.734	1.227	16020.092
45	**Sc-IS**	>	1820835.786		ppb	1.358		1833181.894
66	**Zn**		30999.158	**11.112092**	ppb	1.562	1.243	938.920
86	**Sr**		27001.260	**6.075437**	ppb	1.314	2.651	48.311
65	**Cu**		16115.754	**4.053990**	ppb	2.029	0.705	308.892
69	**Ga-IS**		541883.457		ppb	1.085		524196.186
95	**Mo**		1257.834	**0.222319**	ppb	11.830	14.963	162.223
115	**In-IS**	>	222695.370		ppb	1.966		218967.215
111	**Cd**		81.803	**0.022651**	ppb	18.985	20.596	11.882
118	**Sn**		6806.068	**0.317385**	ppb	4.753	16.569	4016.121
121	**Sb**		694.461	**0.034296**	ppb	6.446	13.965	370.005
135	**Ba**		44678.659	**17.197993**	ppb	1.679	1.795	51.111
165	**Ho-IS**		385042.766		ppb	2.870		372130.158
159	**Tb-IS**	>	369825.068		ppb	2.910		359981.339
207	**Pb**		52713.926	**1.219283**	ppb	2.153	0.931	585.560
203	**Tl**		747.797	**0.045706**	ppb	7.165	5.186	118.889
209	**Bi-IS**		209032.689		ppb	0.620		208464.873
51	**V**		1411.181	**4.589873**	ppb	8.890	9.309	2.222
59	**Co**		1362.287	**1.311985**	ppb	5.915	5.915	7.778
60	**Ni**		4243.964	**2.160778**	ppb	4.030	3.685	117.778
75	**As**		647.147	**0.524447**	ppb	4.304	7.722	307.648
71	**Ga-ISK**		61486.534		ppb	2.460		61745.386
82	**Se-2**		9.421	**0.184098**	ppb	68.335	52.493	-2.886
107	**Ag-1**		1022.259	**0.102279**	ppb	7.294	10.479	298.892
115	**In-ISK**	>	82785.349		ppb	0.442		82799.858
45	**Sc-ISK**		155653.451		ppb	1.088		153098.385
23	**Na**		31057.068	**58.711615**	ppb	2.384	2.912	7665.391
39	**K**		321153.560	**371.521961**	ppb	1.415	1.680	36055.447
24	**Mg**		262330.173	**745.662719**	ppb	0.994	0.657	100.000
159	**Tb-ISK**	>	164204.479		ppb	1.621		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293312-A-1-D @20
Autosampler Position: 326
Sample Date/Time: Tuesday, December 28, 2021 13:42:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293312-A-1-D @20.162
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48419.712		ppb	1.765		44536.096
9	**Be**		760.020	**0.285025**	ppb	5.496	6.408	28.889
10	**B**		2566.898	**1.454712**	ppb	5.719	8.363	1476.743
27	**Al**		83739443.790	**6079.517848**	ppb	0.286	2.556	9072.213
43	**Ca-2**		134877.403	**2735.548972**	ppb	2.869	0.291	98.334
49	**Ti**		215600.429	**162.547478**	ppb	1.126	1.679	215.557
52	**Cr**		223449.934	**11.443751**	ppb	1.861	2.477	20288.845
55	**Mn**		6800073.602	**251.074474**	ppb	1.876	1.057	1154.491
57	**Fe**		5102126.280	**9511.469110**	ppb	1.758	4.018	16020.092
45	**Sc-IS**	>	1812474.661		ppb	2.786		1833181.894
66	**Zn**		145449.053	**53.668931**	ppb	1.704	1.306	938.920
86	**Sr**		119517.749	**27.065479**	ppb	1.872	4.020	48.311
65	**Cu**		70637.572	**18.124428**	ppb	1.650	1.518	308.892
69	**Ga-IS**		590710.517		ppb	1.493		524196.186
95	**Mo**		1104.487	**0.191953**	ppb	4.981	3.517	162.223
115	**In-IS**	>	220944.226		ppb	3.157		218967.215
111	**Cd**		233.238	**0.072490**	ppb	10.677	8.017	11.882
118	**Sn**		3143.680	**-0.106332**	ppb	4.751	20.123	4016.121
121	**Sb**		387.783	**0.001666**	ppb	10.679	329.934	370.005
135	**Ba**		202870.443	**78.818499**	ppb	1.151	3.170	51.111
165	**Ho-IS**		392403.674		ppb	1.424		372130.158
159	**Tb-IS**	>	374480.449		ppb	1.999		359981.339
207	**Pb**		234065.788	**5.394057**	ppb	1.992	1.783	585.560
203	**Tl**		1180.049	**0.076260**	ppb	4.802	3.367	118.889
209	**Bi-IS**		205662.748		ppb	2.703		208464.873
51	**V**		5991.256	**20.149456**	ppb	1.837	1.099	2.222
59	**Co**		6146.878	**6.142893**	ppb	2.393	1.558	7.778
60	**Ni**		18464.147	**9.928564**	ppb	0.814	0.537	117.778
75	**As**		1807.606	**2.409062**	ppb	3.235	2.793	307.648
71	**Ga-ISK**		65215.221		ppb	1.961		61745.386
82	**Se-2**		11.989	**0.228337**	ppb	12.776	10.889	-2.886
107	**Ag-1**		455.563	**0.024283**	ppb	14.530	39.790	298.892
115	**In-ISK**	>	80134.448		ppb	0.905		82799.858
45	**Sc-ISK**		159311.201		ppb	0.899		153098.385
23	**Na**		112408.852	**252.520454**	ppb	0.165	2.356	7665.391
39	**K**		1312921.545	**1603.064363**	ppb	1.176	1.135	36055.447
24	**Mg**		1219988.630	**3348.914603**	ppb	0.847	1.265	100.000
159	**Tb-ISK**	>	170098.963		ppb	2.049		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293312-A-1-E MS @20
Autosampler Position: 327
Sample Date/Time: Tuesday, December 28, 2021 13:45:40
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293312-A-1-E MS @20.163
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		48643.813		ppb	2.132		44536.096
9	**Be**		84626.641	**32.996209**	ppb	1.841	3.507	28.889
10	**B**		20471.324	**25.044387**	ppb	0.340	2.214	1476.743
27	**Al**		88733731.896	**6446.377379**	ppb	1.433	1.189	9072.213
43	**Ca-2**		147632.312	**2997.843362**	ppb	1.132	0.739	98.334
49	**Ti**		304773.454	**229.988861**	ppb	3.298	2.084	215.557
52	**Cr**		765580.073	**41.979220**	ppb	2.356	1.934	20288.845
55	**Mn**		8260269.203	**305.303734**	ppb	1.087	1.440	1154.491
57	**Fe**		5262683.653	**9815.297993**	ppb	1.849	0.792	16020.092
45	**Sc-IS**	>	1810575.126		ppb	1.757		1833181.894
66	**Zn**		238092.411	**88.166533**	ppb	1.483	2.461	938.920
86	**Sr**		258319.404	**58.527179**	ppb	2.482	0.744	48.311
65	**Cu**		190335.170	**49.016346**	ppb	0.729	1.213	308.892
69	**Ga-IS**		587396.116		ppb	1.657		524196.186
95	**Mo**		108153.540	**21.986118**	ppb	2.166	0.623	162.223
115	**In-IS**	>	218874.549		ppb	2.739		218967.215
111	**Cd**		98452.579	**32.621413**	ppb	1.574	1.838	11.882
118	**Sn**		114709.042	**13.105564**	ppb	3.386	0.708	4016.121
121	**Sb**		39288.422	**4.267732**	ppb	2.709	0.995	370.005
135	**Ba**		278874.764	**109.307673**	ppb	3.705	2.218	51.111
165	**Ho-IS**		386211.750		ppb	2.388		372130.158
159	**Tb-IS**	>	368781.586		ppb	4.275		359981.339
207	**Pb**		1495335.704	**35.100637**	ppb	1.274	3.627	585.560
203	**Tl**		252497.961	**18.507203**	ppb	4.351	0.084	118.889
209	**Bi-IS**		205083.061		ppb	1.972		208464.873
51	**V**		15363.814	**51.607685**	ppb	1.329	0.846	2.222
59	**Co**		36507.703	**36.470385**	ppb	0.978	0.445	7.778
60	**Ni**		78188.960	**42.186933**	ppb	1.037	2.237	117.778
75	**As**		19989.013	**31.379629**	ppb	1.310	1.980	307.648
71	**Ga-ISK**		64664.968		ppb	2.394		61745.386
82	**Se-2**		1668.143	**25.764881**	ppb	2.640	3.384	-2.886
107	**Ag-1**		33876.788	**4.898243**	ppb	0.688	0.864	298.892
115	**In-ISK**	>	80254.742		ppb	1.227		82799.858
45	**Sc-ISK**		157020.458		ppb	0.464		153098.385
23	**Na**		209206.349	**489.794557**	ppb	2.508	1.442	7665.391
39	**K**		1584658.698	**1958.734018**	ppb	1.732	1.299	36055.447
24	**Mg**		1270753.250	**3512.677581**	ppb	2.547	1.012	100.000
159	**Tb-ISK**	>	168875.842		ppb	1.781		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293312-A-1-F MSD @20
Autosampler Position: 328
Sample Date/Time: Tuesday, December 28, 2021 13:48:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293312-A-1-F MSD @20.164
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49743.133		ppb	1.554		44536.096
9	**Be**		82983.730	**32.405830**	ppb	2.160	3.728	28.889
10	**B**		19963.941	**24.413912**	ppb	1.338	1.748	1476.743
27	**Al**		88357528.706	**6430.287295**	ppb	2.183	3.179	9072.213
43	**Ca-2**		145983.796	**2969.430756**	ppb	0.743	2.189	98.334
49	**Ti**		300935.579	**227.503184**	ppb	0.492	1.341	215.557
52	**Cr**		756319.025	**41.529347**	ppb	1.701	2.256	20288.845
55	**Mn**		8233289.953	**304.778166**	ppb	1.519	1.785	1154.491
57	**Fe**		5175300.346	**9668.163328**	ppb	3.718	3.877	16020.092
45	**Sc-IS**	>	1807743.344		ppb	1.597		1833181.894
66	**Zn**		237028.144	**87.880733**	ppb	3.157	2.147	938.920
86	**Sr**		256237.023	**58.164970**	ppb	1.421	2.582	48.311
65	**Cu**		187723.542	**48.408841**	ppb	2.257	0.748	308.892
69	**Ga-IS**		595812.420		ppb	3.451		524196.186
95	**Mo**		109254.040	**22.253096**	ppb	1.679	3.175	162.223
115	**In-IS**	>	219284.846		ppb	3.100		218967.215
111	**Cd**		98998.495	**32.741557**	ppb	1.635	1.447	11.882
118	**Sn**		116041.969	**13.239402**	ppb	3.367	1.543	4016.121
121	**Sb**		39370.867	**4.269113**	ppb	2.538	1.023	370.005
135	**Ba**		275460.329	**107.784813**	ppb	2.479	0.623	51.111
165	**Ho-IS**		391461.255		ppb	2.700		372130.158
159	**Tb-IS**	>	371429.555		ppb	2.420		359981.339
207	**Pb**		1510875.506	**35.190089**	ppb	0.564	2.217	585.560
203	**Tl**		253747.107	**18.466906**	ppb	2.813	1.639	118.889
209	**Bi-IS**		202658.506		ppb	0.749		208464.873
51	**V**		15001.218	**49.714335**	ppb	4.910	4.952	2.222
59	**Co**		36987.838	**36.457679**	ppb	2.266	2.867	7.778
60	**Ni**		77582.375	**41.285044**	ppb	2.023	0.815	117.778
75	**As**		19514.048	**30.201144**	ppb	1.031	0.207	307.648
71	**Ga-ISK**		65471.944		ppb	1.863		61745.386
82	**Se-2**		1604.115	**24.438233**	ppb	2.689	1.908	-2.886
107	**Ag-1**		34883.678	**4.976338**	ppb	3.188	2.941	298.892
115	**In-ISK**	>	81349.189		ppb	1.224		82799.858
45	**Sc-ISK**		156118.502		ppb	1.220		153098.385
23	**Na**		208659.497	**484.043416**	ppb	0.464	1.545	7665.391
39	**K**		1589948.916	**1947.127358**	ppb	2.966	1.501	36055.447
24	**Mg**		1276016.642	**3496.296921**	ppb	1.609	1.323	100.000
159	**Tb-ISK**	>	170399.822		ppb	1.938		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293312-A-1-D pds @20
Autosampler Position: 329
Sample Date/Time: Tuesday, December 28, 2021 13:52:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293312-A-1-D pds @20.165
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		49536.870		ppb	1.928		44536.096
9	**Be**		68799.740	**26.569002**	ppb	1.483	2.218	28.889
10	**B**		20844.098	**25.270670**	ppb	3.688	2.697	1476.743
27	**Al**		83538046.945	**6012.972233**	ppb	0.547	1.178	9072.213
43	**Ca-2**		134926.103	**2713.921453**	ppb	2.462	1.290	98.334
49	**Ti**		238887.474	**178.609560**	ppb	0.354	1.230	215.557
52	**Cr**		632800.100	**34.174181**	ppb	0.924	0.524	20288.845
55	**Mn**		7401090.765	**271.041286**	ppb	1.062	2.383	1154.491
57	**Fe**		4949354.240	**9143.862888**	ppb	2.651	2.453	16020.092
45	**Sc-IS**	>	1827442.147		ppb	1.384		1833181.894
66	**Zn**		215866.807	**79.162727**	ppb	1.714	2.772	938.920
86	**Sr**		223634.481	**50.214701**	ppb	1.823	2.824	48.311
65	**Cu**		162281.177	**41.391138**	ppb	1.849	1.919	308.892
69	**Ga-IS**		595377.917		ppb	0.371		524196.186
95	**Mo**		118636.145	**23.901839**	ppb	0.731	1.765	162.223
115	**In-IS**	>	224237.166		ppb	3.348		218967.215
111	**Cd**		78878.405	**25.506301**	ppb	2.843	1.113	11.882
118	**Sn**		203046.662	**22.998161**	ppb	2.379	1.556	4016.121
121	**Sb**		236456.479	**25.269371**	ppb	3.056	0.356	370.005
135	**Ba**		259309.567	**99.239736**	ppb	2.010	1.338	51.111
165	**Ho-IS**		395750.166		ppb	1.848		372130.158
159	**Tb-IS**	>	374620.699		ppb	1.980		359981.339
207	**Pb**		1263869.059	**29.182384**	ppb	0.829	2.376	585.560
203	**Tl**		227502.181	**16.415249**	ppb	2.146	1.408	118.889
209	**Bi-IS**		208988.794		ppb	1.063		208464.873
51	**V**		13131.588	**43.715936**	ppb	0.850	3.123	2.222
59	**Co**		30901.164	**30.586724**	ppb	0.746	1.761	7.778
60	**Ni**		64801.123	**34.629286**	ppb	2.021	2.748	117.778
75	**As**		17089.356	**26.504258**	ppb	1.609	1.173	307.648
71	**Ga-ISK**		65831.393		ppb	2.431		61745.386
82	**Se-2**		1839.169	**28.137544**	ppb	1.272	1.840	-2.886
107	**Ag-1**		88903.634	**12.801851**	ppb	2.083	0.896	298.892
115	**In-ISK**	>	81015.315		ppb	2.492		82799.858
45	**Sc-ISK**		158780.967		ppb	1.385		153098.385
23	**Na**		201131.058	**464.847170**	ppb	0.904	0.645	7665.391
39	**K**		1518005.004	**1853.419175**	ppb	0.822	1.168	36055.447
24	**Mg**		1222816.036	**3343.688232**	ppb	0.529	0.860	100.000
159	**Tb-ISK**	>	170741.715		ppb	1.205		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293311-A-1-F @20
Autosampler Position: 330
Sample Date/Time: Tuesday, December 28, 2021 13:55:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293311-A-1-F @20.166
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		54239.481		ppb	2.487		44536.096
9	**Be**		1473.409	**0.545921**	ppb	3.925	4.591	28.889
10	**B**		4348.440	**3.632036**	ppb	2.127	4.502	1476.743
27	**Al**		202173491.367	**14241.024184**	ppb	1.650	2.300	9072.213
43	**Ca-2**		1047123.299	**20623.358187**	ppb	2.124	1.297	98.334
49	**Ti**		582606.334	**426.456291**	ppb	0.688	1.283	215.557
52	**Cr**		425851.808	**22.119509**	ppb	0.090	0.959	20288.845
55	**Mn**		15371280.425	**550.793534**	ppb	0.141	0.697	1154.491
57	**Fe**		10981444.639	**19887.474272**	ppb	0.757	0.813	16020.092
45	**Sc-IS**	>	1867505.232		ppb	0.830		1833181.894
66	**Zn**		259086.323	**93.014042**	ppb	1.301	1.060	938.920
86	**Sr**		509054.147	**111.849793**	ppb	0.959	1.760	48.311
65	**Cu**		130520.215	**32.557782**	ppb	0.640	0.655	308.892
69	**Ga-IS**		666416.718		ppb	0.681		524196.186
95	**Mo**		5243.185	**1.002337**	ppb	2.745	2.757	162.223
115	**In-IS**	>	218353.104		ppb	3.533		218967.215
111	**Cd**		769.011	**0.251459**	ppb	3.259	0.863	11.882
118	**Sn**		7385.242	**0.401881**	ppb	0.532	7.023	4016.121
121	**Sb**		684.461	**0.034731**	ppb	8.169	19.083	370.005
135	**Ba**		522671.599	**205.497362**	ppb	1.124	2.419	51.111
165	**Ho-IS**		398948.085		ppb	1.570		372130.158
159	**Tb-IS**	>	380770.120		ppb	0.632		359981.339
207	**Pb**		1136723.154	**25.813371**	ppb	0.708	0.077	585.560
203	**Tl**		2432.429	**0.163844**	ppb	2.565	3.091	118.889
209	**Bi-IS**		202127.829		ppb	1.262		208464.873
51	**V**		12003.932	**40.527229**	ppb	2.095	2.621	2.222
59	**Co**		12617.792	**12.664770**	ppb	0.385	1.765	7.778
60	**Ni**		35939.600	**19.459284**	ppb	1.271	3.432	117.778
75	**As**		3152.399	**4.573840**	ppb	1.680	2.555	307.648
71	**Ga-ISK**		74099.503		ppb	1.910		61745.386
82	**Se-2**		39.293	**0.654922**	ppb	33.875	33.833	-2.886
107	**Ag-1**		973.367	**0.100178**	ppb	12.810	15.417	298.892
115	**In-ISK**	>	79862.149		ppb	2.113		82799.858
45	**Sc-ISK**		162700.169		ppb	0.693		153098.385
23	**Na**		300382.200	**692.493109**	ppb	1.325	3.026	7665.391
39	**K**		2674116.723	**3248.233685**	ppb	1.136	1.730	36055.447
24	**Mg**		2980455.684	**8023.064056**	ppb	0.720	1.037	100.000
159	**Tb-ISK**	>	173455.540		ppb	1.653		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293310-A-1-F @20
Autosampler Position: 331
Sample Date/Time: Tuesday, December 28, 2021 13:58:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293310-A-1-F @20.167
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		47943.756		ppb	4.471		44536.096
9	**Be**		133.334	**0.043635**	ppb	6.614	8.660	28.889
10	**B**		4316.208	**4.066291**	ppb	2.513	4.114	1476.743
27	**Al**		8183782.323	**625.583929**	ppb	1.456	1.725	9072.213
43	**Ca-2**		10999840.285	**235388.433790**	ppb	2.127	1.915	98.334
49	**Ti**		36025.369	**28.495611**	ppb	0.778	0.587	215.557
52	**Cr**		52066.938	**1.959544**	ppb	0.820	1.734	20288.845
55	**Mn**		322177.247	**12.500211**	ppb	1.266	1.478	1154.491
57	**Fe**		488309.352	**932.497689**	ppb	1.822	1.630	16020.092
45	**Sc-IS**	>	1719025.350		ppb	0.292		1833181.894
66	**Zn**		26437.774	**10.004803**	ppb	0.377	0.649	938.920
86	**Sr**		358498.938	**85.566039**	ppb	1.778	2.070	48.311
65	**Cu**		3414.853	**0.848916**	ppb	1.581	1.529	308.892
69	**Ga-IS**		461548.280		ppb	1.356		524196.186
95	**Mo**		8876.090	**1.870793**	ppb	0.963	1.211	162.223
115	**In-IS**	>	195591.106		ppb	4.200		218967.215
111	**Cd**		165.806	**0.057603**	ppb	3.027	5.371	11.882
118	**Sn**		3631.573	**0.006398**	ppb	1.648	329.170	4016.121
121	**Sb**		22511.066	**2.724278**	ppb	2.954	4.492	370.005
135	**Ba**		17764.378	**7.776379**	ppb	2.875	1.384	51.111
165	**Ho-IS**		355988.839		ppb	2.116		372130.158
159	**Tb-IS**	>	338891.853		ppb	2.428		359981.339
207	**Pb**		52439.120	**1.324640**	ppb	2.408	0.210	585.560
203	**Tl**		690.017	**0.046152**	ppb	7.214	9.007	118.889
209	**Bi-IS**		180538.240		ppb	1.495		208464.873
51	**V**		112849.661	**409.009643**	ppb	2.122	2.512	2.222
59	**Co**		607.791	**0.647592**	ppb	1.267	0.963	7.778
60	**Ni**		75736.963	**44.082408**	ppb	2.194	2.644	117.778
75	**As**		1329.006	**1.809790**	ppb	4.660	6.504	307.648
71	**Ga-ISK**		56533.865		ppb	0.409		61745.386
82	**Se-2**		25.802	**0.472618**	ppb	37.493	34.257	-2.886
107	**Ag-1**		357.782	**0.014009**	ppb	13.576	52.182	298.892
115	**In-ISK**	>	74392.874		ppb	0.623		82799.858
45	**Sc-ISK**		154217.973		ppb	0.745		153098.385
23	**Na**		140179.521	**342.639579**	ppb	1.618	1.840	7665.391
39	**K**		208586.289	**233.506896**	ppb	0.965	0.763	36055.447
24	**Mg**		725958.259	**2128.494594**	ppb	1.127	0.213	100.000
159	**Tb-ISK**	>	159217.052		ppb	0.925		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 14:01:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.168
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43334.521		ppb	1.169		44536.096
9	**Be**		241435.365	**97.891544**	ppb	0.625	2.835	28.889
10	**B**		182491.595	**247.981174**	ppb	0.791	1.475	1476.743
27	**Al**		1299856.585	**97.529920**	ppb	2.601	1.676	9072.213
43	**Ca-2**		243323.664	**5137.892461**	ppb	2.121	0.167	98.334
49	**Ti**		124853.292	**97.886927**	ppb	1.436	1.514	215.557
52	**Cr**		1697814.283	**98.273224**	ppb	1.073	1.198	20288.845
55	**Mn**		2574690.122	**98.910145**	ppb	1.224	1.421	1154.491
57	**Fe**		2655665.951	**5137.276598**	ppb	0.470	2.707	16020.092
45	**Sc-IS**	>	1741554.194		ppb	2.247		1833181.894
66	**Zn**		262362.140	**101.071378**	ppb	3.141	4.067	938.920
86	**Sr**		431634.209	**101.731250**	ppb	0.655	2.896	48.311
65	**Cu**		377486.742	**101.143132**	ppb	2.614	2.022	308.892
69	**Ga-IS**		534855.258		ppb	2.690		524196.186
95	**Mo**		470927.996	**99.677110**	ppb	1.181	2.386	162.223
115	**In-IS**	>	223730.839		ppb	4.131		218967.215
111	**Cd**		300240.415	**97.354324**	ppb	2.298	2.032	11.882
118	**Sn**		841811.516	**97.033637**	ppb	4.356	0.737	4016.121
121	**Sb**		903148.856	**96.887729**	ppb	2.457	1.700	370.005
135	**Ba**		248503.615	**95.334098**	ppb	2.476	1.749	51.111
165	**Ho-IS**		379921.277		ppb	1.943		372130.158
159	**Tb-IS**	>	359816.420		ppb	0.999		359981.339
207	**Pb**		4129770.669	**99.278142**	ppb	2.207	1.552	585.560
203	**Tl**		1314662.421	**98.800697**	ppb	1.899	1.498	118.889
209	**Bi-IS**		206206.546		ppb	0.914		208464.873
51	**V**		29756.517	**98.950733**	ppb	1.132	2.094	2.222
59	**Co**		99813.110	**98.697141**	ppb	1.806	0.777	7.778
60	**Ni**		181490.260	**96.995841**	ppb	1.775	2.320	117.778
75	**As**		61769.823	**96.948684**	ppb	1.744	1.819	307.648
71	**Ga-ISK**		59960.078		ppb	2.785		61745.386
82	**Se-2**		6553.613	**100.048332**	ppb	1.085	1.338	-2.886
107	**Ag-1**		674057.415	**97.251689**	ppb	1.259	1.048	298.892
115	**In-ISK**	>	81091.996		ppb	2.049		82799.858
45	**Sc-ISK**		152425.726		ppb	1.931		153098.385
23	**Na**		1986267.035	**4996.679685**	ppb	4.167	4.314	7665.391
39	**K**		3939243.150	**5128.962592**	ppb	2.051	2.493	36055.447
24	**Mg**		1727165.346	**4957.552407**	ppb	1.864	1.811	100.000
159	**Tb-ISK**	>	162658.895		ppb	1.346		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 14:04:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.169
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43268.809		ppb	3.339		44536.096
9	**Be**		58.889	**0.012850**	ppb	28.490	56.859	28.889
10	**B**		1836.785	**0.595431**	ppb	6.243	14.265	1476.743
27	**Al**		12822.764	**0.318255**	ppb	5.479	9.136	9072.213
43	**Ca-2**		661.682	**12.008196**	ppb	10.063	9.785	98.334
49	**Ti**		355.560	**0.119174**	ppb	4.811	18.510	215.557
52	**Cr**		19064.937	**-0.010561**	ppb	1.581	228.466	20288.845
55	**Mn**		2082.374	**0.038004**	ppb	3.442	8.840	1154.491
57	**Fe**		17455.103	**4.407099**	ppb	1.271	24.031	16020.092
45	**Sc-IS**	>	1739721.973		ppb	3.546		1833181.894
66	**Zn**		931.142	**0.014847**	ppb	11.691	196.453	938.920
86	**Sr**		112.682	**0.015352**	ppb	80.824	135.742	48.311
65	**Cu**		395.561	**0.027624**	ppb	1.946	20.620	308.892
69	**Ga-IS**		490793.078		ppb	2.166		524196.186
95	**Mo**		1710.103	**0.330495**	ppb	7.276	11.244	162.223
115	**In-IS**	>	221686.393		ppb	4.157		218967.215
111	**Cd**		61.965	**0.016164**	ppb	34.873	37.802	11.882
118	**Sn**		7003.943	**0.345173**	ppb	6.398	22.303	4016.121
121	**Sb**		893.361	**0.056362**	ppb	3.787	13.158	370.005
135	**Ba**		82.222	**0.011819**	ppb	13.032	36.182	51.111
165	**Ho-IS**		367848.068		ppb	0.621		372130.158
159	**Tb-IS**	>	351924.615		ppb	1.127		359981.339
207	**Pb**		1451.140	**0.021594**	ppb	5.442	7.892	585.560
203	**Tl**		464.452	**0.026770**	ppb	7.260	10.349	118.889
209	**Bi-IS**		203903.887		ppb	3.603		208464.873
51	**V**		17.778	**0.050936**	ppb	39.031	44.889	2.222
59	**Co**		28.889	**0.020580**	ppb	6.662	7.548	7.778
60	**Ni**		197.779	**0.042312**	ppb	10.159	19.959	117.778
75	**As**		313.310	**0.011970**	ppb	8.400	423.586	307.648
71	**Ga-ISK**		60182.071		ppb	1.368		61745.386
82	**Se-2**		6.132	**0.137029**	ppb	136.418	91.971	-2.886
107	**Ag-1**		1156.714	**0.121995**	ppb	7.510	7.763	298.892
115	**In-ISK**	>	82377.165		ppb	2.350		82799.858
45	**Sc-ISK**		151093.777		ppb	1.108		153098.385
23	**Na**		8275.730	**2.228618**	ppb	2.003	8.013	7665.391
39	**K**		38438.329	**4.801888**	ppb	2.336	11.916	36055.447
24	**Mg**		830.024	**2.136903**	ppb	8.751	10.591	100.000
159	**Tb-ISK**	>	160314.643		ppb	1.513		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LB4 570-204167_1-C @20
Autosampler Position: 332
Sample Date/Time: Tuesday, December 28, 2021 14:12:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LB4 570-204167_1-C @20.170
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		238.891	**0.069092**	ppb	6.594	13.314	117.778
75	**As**		297.536	**0.004893**	ppb	8.771	770.805	307.648
71	**Ga-ISK**		58713.773		ppb	1.974		61745.386
82	**Se-2**		10.812	**0.212482**	ppb	51.439	41.389	-2.886
107	**Ag-1**		185.557	**-0.014833**	ppb	5.488	10.547	298.892
115	**In-ISK**	>	79225.177		ppb	0.963		82799.858
45	**Sc-ISK**		151775.342		ppb	0.570		153098.385
23	**Na**		16195864.733	**41687.884949**	ppb	2.151	1.973	7665.391
39	**K**		69769.970	**47.049298**	ppb	0.961	1.450	36055.447
24	**Mg**		63083.979	**184.401521**	ppb	0.264	0.830	100.000
159	**Tb-ISK**	>	159488.055		ppb	0.968		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-204167_2-C @20
Autosampler Position: 333
Sample Date/Time: Tuesday, December 28, 2021 14:13:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCS 570-204167_2-C @20.171
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		39522.411	**21.505664**	ppb	3.237	1.598	117.778
75	**As**		13678.268	**21.545518**	ppb	1.598	1.312	307.648
71	**Ga-ISK**		58132.531		ppb	2.464		61745.386
82	**Se-2**		1597.907	**24.937558**	ppb	1.761	3.030	-2.886
107	**Ag-1**		82185.736	**12.069265**	ppb	0.664	2.423	298.892
115	**In-ISK**	>	79446.328		ppb	2.412		82799.858
45	**Sc-ISK**		150133.029		ppb	3.036		153098.385
23	**Na**		16089205.431	**41381.538217**	ppb	1.712	2.360	7665.391
39	**K**		239036.992	**273.549568**	ppb	1.748	1.912	36055.447
24	**Mg**		71264.015	**208.140156**	ppb	1.859	0.542	100.000
159	**Tb-ISK**	>	159633.051		ppb	1.378		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-204167_3-C @20
Autosampler Position: 334
Sample Date/Time: Tuesday, December 28, 2021 14:15:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCSD 570-204167_3-C @20.172
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		38466.181	**21.059503**	ppb	2.317	2.519	117.778
75	**As**		13579.157	**21.514993**	ppb	1.635	1.412	307.648
71	**Ga-ISK**		58371.299		ppb	2.931		61745.386
82	**Se-2**		1556.197	**24.422261**	ppb	3.730	3.076	-2.886
107	**Ag-1**		82893.190	**12.243218**	ppb	1.898	1.809	298.892
115	**In-ISK**	>	78983.545		ppb	2.629		82799.858
45	**Sc-ISK**		149732.993		ppb	1.777		153098.385
23	**Na**		15925282.127	**40863.970146**	ppb	1.216	2.152	7665.391
39	**K**		239738.229	**273.750701**	ppb	0.474	1.423	36055.447
24	**Mg**		68825.434	**200.553383**	ppb	1.904	1.822	100.000
159	**Tb-ISK**	>	160007.174		ppb	1.193		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79845-A-1-B @20
Autosampler Position: 335
Sample Date/Time: Tuesday, December 28, 2021 14:16:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79845-A-1-B @20.173
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		115.556	**-0.000614**	ppb	9.273	908.299	117.778
75	**As**		306.113	**0.003862**	ppb	48.492	6182.677	307.648
71	**Ga-ISK**		59847.363		ppb	2.264		61745.386
82	**Se-2**		340.137	**5.171884**	ppb	3.409	2.858	-2.886
107	**Ag-1**		403.339	**0.015283**	ppb	7.884	29.192	298.892
115	**In-ISK**	>	82053.335		ppb	1.971		82799.858
45	**Sc-ISK**		149958.812		ppb	2.403		153098.385
23	**Na**		310106.544	**771.321751**	ppb	0.969	2.191	7665.391
39	**K**		39046.629	**5.343821**	ppb	1.312	22.577	36055.447
24	**Mg**		1320.062	**3.545428**	ppb	12.033	13.958	100.000
159	**Tb-ISK**	>	161184.970		ppb	1.185		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79845-A-1-C MS @20
Autosampler Position: 336
Sample Date/Time: Tuesday, December 28, 2021 14:17:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79845-A-1-C MS @20.174
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		38844.966	**20.576491**	ppb	0.894	2.022	117.778
75	**As**		13184.469	**20.188729**	ppb	3.081	4.293	307.648
71	**Ga-ISK**		59483.589		ppb	0.878		61745.386
82	**Se-2**		2079.236	**31.568504**	ppb	1.686	2.847	-2.886
107	**Ag-1**		85232.520	**12.177735**	ppb	2.747	1.486	298.892
115	**In-ISK**	>	81619.714		ppb	1.298		82799.858
45	**Sc-ISK**		151712.460		ppb	0.615		153098.385
23	**Na**		357656.996	**896.653291**	ppb	0.834	1.678	7665.391
39	**K**		210652.903	**234.124029**	ppb	0.677	0.564	36055.447
24	**Mg**		8484.188	**24.405390**	ppb	3.789	3.304	100.000
159	**Tb-ISK**	>	160441.972		ppb	0.884		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79845-A-1-D MSD @20
Autosampler Position: 337
Sample Date/Time: Tuesday, December 28, 2021 14:19:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79845-A-1-D MSD @20.175
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		39178.097	**20.487540**	ppb	0.983	1.367	117.778
75	**As**		13611.574	**20.581874**	ppb	1.503	1.705	307.648
71	**Ga-ISK**		60473.318		ppb	2.093		61745.386
82	**Se-2**		2139.253	**32.060923**	ppb	1.795	1.803	-2.886
107	**Ag-1**		87952.143	**12.410351**	ppb	0.591	1.348	298.892
115	**In-ISK**	>	82670.784		ppb	1.481		82799.858
45	**Sc-ISK**		149261.448		ppb	1.876		153098.385
23	**Na**		345448.919	**865.466926**	ppb	1.259	2.970	7665.391
39	**K**		213007.705	**237.256215**	ppb	1.745	2.634	36055.447
24	**Mg**		8199.019	**23.577047**	ppb	1.365	1.593	100.000
159	**Tb-ISK**	>	160465.683		ppb	1.642		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80167-A-1-B @20
Autosampler Position: 338
Sample Date/Time: Tuesday, December 28, 2021 14:20:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-80167-A-1-B @20.176
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		140.001	**0.010708**	ppb	18.898	124.568	117.778
75	**As**		353.824	**0.063527**	ppb	31.874	263.675	307.648
71	**Ga-ISK**		59793.792		ppb	1.865		61745.386
82	**Se-2**		297.740	**4.438421**	ppb	3.241	3.244	-2.886
107	**Ag-1**		736.686	**0.060602**	ppb	5.777	8.874	298.892
115	**In-ISK**	>	83815.089		ppb	1.127		82799.858
45	**Sc-ISK**		149918.135		ppb	0.928		153098.385
23	**Na**		246214.411	**618.887014**	ppb	2.386	1.940	7665.391
39	**K**		38881.731	**5.982779**	ppb	0.517	4.894	36055.447
24	**Mg**		1030.037	**2.751989**	ppb	2.953	2.411	100.000
159	**Tb-ISK**	>	158526.109		ppb	1.021		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80168-A-1-B @20
Autosampler Position: 339
Sample Date/Time: Tuesday, December 28, 2021 14:22:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-80168-A-1-B @20.177
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		108.889	**-0.003979**	ppb	24.744	352.906	117.778
75	**As**		331.519	**0.043229**	ppb	6.708	74.686	307.648
71	**Ga-ISK**		59860.723		ppb	1.312		61745.386
82	**Se-2**		302.764	**4.624425**	ppb	0.330	0.803	-2.886
107	**Ag-1**		287.781	**-0.001081**	ppb	19.115	712.194	298.892
115	**In-ISK**	>	81766.669		ppb	0.502		82799.858
45	**Sc-ISK**		148931.194		ppb	0.514		153098.385
23	**Na**		223276.463	**558.245890**	ppb	1.185	2.479	7665.391
39	**K**		38856.107	**5.830260**	ppb	0.865	15.213	36055.447
24	**Mg**		1001.702	**2.659745**	ppb	14.488	15.009	100.000
159	**Tb-ISK**	>	158897.563		ppb	1.237		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80169-A-1-B @20
Autosampler Position: 340
Sample Date/Time: Tuesday, December 28, 2021 14:23:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-80169-A-1-B @20.178
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		137.778	**0.010962**	ppb	24.830	158.753	117.778
75	**As**		345.317	**0.062232**	ppb	6.221	40.930	307.648
71	**Ga-ISK**		60425.393		ppb	3.291		61745.386
82	**Se-2**		160.464	**2.458781**	ppb	6.861	5.092	-2.886
107	**Ag-1**		208.890	**-0.012508**	ppb	13.383	29.539	298.892
115	**In-ISK**	>	82138.157		ppb	1.717		82799.858
45	**Sc-ISK**		150630.587		ppb	3.440		153098.385
23	**Na**		204436.252	**510.238276**	ppb	2.321	1.638	7665.391
39	**K**		38789.257	**5.820972**	ppb	0.350	11.544	36055.447
24	**Mg**		800.022	**2.073658**	ppb	7.500	8.954	100.000
159	**Tb-ISK**	>	158646.089		ppb	0.960		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80171-A-1-B @20
Autosampler Position: 341
Sample Date/Time: Tuesday, December 28, 2021 14:25:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-80171-A-1-B @20.179
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		113.334	**-0.001466**	ppb	16.376	794.067	117.778
75	**As**		342.704	**0.057645**	ppb	30.728	261.715	307.648
71	**Ga-ISK**		59375.358		ppb	0.460		61745.386
82	**Se-2**		299.146	**4.568116**	ppb	6.226	8.824	-2.886
107	**Ag-1**		174.446	**-0.017419**	ppb	22.311	27.833	298.892
115	**In-ISK**	>	81934.320		ppb	3.255		82799.858
45	**Sc-ISK**		151409.319		ppb	1.152		153098.385
23	**Na**		229066.943	**570.633435**	ppb	0.591	1.182	7665.391
39	**K**		38967.521	**5.756897**	ppb	0.848	14.317	36055.447
24	**Mg**		1065.040	**2.835185**	ppb	7.379	8.271	100.000
159	**Tb-ISK**	>	159570.278		ppb	0.760		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 14:26:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.180
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		183815.437	**98.027309**	ppb	2.308	2.268	117.778
75	**As**		63810.658	**99.949732**	ppb	2.458	1.916	307.648
71	**Ga-ISK**		60101.787		ppb	2.874		61745.386
82	**Se-2**		6577.599	**100.230465**	ppb	1.192	3.022	-2.886
107	**Ag-1**		665977.244	**95.928750**	ppb	1.761	3.959	298.892
115	**In-ISK**	>	81269.706		ppb	2.775		82799.858
45	**Sc-ISK**		154926.072		ppb	3.101		153098.385
23	**Na**		1990762.340	**4882.580724**	ppb	2.287	2.411	7665.391
39	**K**		3920580.313	**4975.904985**	ppb	1.305	1.823	36055.447
24	**Mg**		1754974.840	**4911.973193**	ppb	1.074	1.578	100.000
159	**Tb-ISK**	>	166811.610		ppb	0.504		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 14:28:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.181
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
60	**Ni**		147.779	**0.017112**	ppb	3.446	15.217	117.778
75	**As**		308.394	**0.009763**	ppb	6.842	331.852	307.648
71	**Ga-ISK**		60243.461		ppb	2.100		61745.386
82	**Se-2**		19.820	**0.344774**	ppb	41.545	36.455	-2.886
107	**Ag-1**		1221.163	**0.133488**	ppb	6.106	7.940	298.892
115	**In-ISK**	>	81323.392		ppb	0.166		82799.858
45	**Sc-ISK**		150112.376		ppb	0.879		153098.385
23	**Na**		8113.972	**1.802764**	ppb	3.671	49.303	7665.391
39	**K**		38345.853	**4.646706**	ppb	1.996	26.524	36055.447
24	**Mg**		376.672	**0.814996**	ppb	13.817	18.890	100.000
159	**Tb-ISK**	>	160437.230		ppb	0.635		165940.226

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Tuesday, December 28, 2021 14:31:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_se_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICIS-1479530.182
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42634.647		ppb	1.581		
9	**Be**		44.445		ppb	4.330		
10	**B**		1483.410		ppb	1.946		
27	**Al**		12308.301		ppb	1.257		
43	**Ca-2**		221.668		ppb	23.150		
49	**Ti**		312.226		ppb	6.164		
52	**Cr**		19189.548		ppb	1.152		
55	**Mn**		1616.759		ppb	11.135		
57	**Fe**		15015.669		ppb	2.662		
45	**Sc-IS**	>	1739900.208		ppb	1.007		
66	**Zn**		1024.481		ppb	3.387		
86	**Sr**		62.656		ppb	78.732		
65	**Cu**		408.895		ppb	14.636		
69	**Ga-IS**		502873.339		ppb	1.417		
82	**Se-1**		36.144		ppb	83.545		
95	**Mo**		203.335		ppb	9.128		
115	**In-IS**	>	205903.697		ppb	0.804		
111	**Cd**		31.795		ppb	12.125		
118	**Sn**		1417.848		ppb	3.801		
121	**Sb**		250.002		ppb	12.719		
135	**Ba**		74.445		ppb	16.952		
165	**Ho-IS**		351285.503		ppb	0.263		
159	**Tb-IS**	>	341398.067		ppb	0.928		
207	**Pb**		817.787		ppb	2.011		
203	**Tl**		160.001		ppb	11.600		
209	**Bi-IS**		197957.675		ppb	0.184		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-1479552
Autosampler Position: 204
Sample Date/Time: Tuesday, December 28, 2021 14:32:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_se_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\IC-1479552.183
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42902.145		ppb	3.183		42634.647
9	**Be**		490880.793	**200.000000**	ppb	1.075	1.605	44.445
10	**B**		367195.087	**500.000000**	ppb	0.968	1.386	1483.410
27	**Al**		2686903.279	**200.000000**	ppb	0.915	1.584	12308.301
43	**Ca-2**		477061.480	**10200.000000**	ppb	0.355	0.631	221.668
49	**Ti**		261115.907	**200.000000**	ppb	0.594	0.274	312.226
52	**Cr**		3522024.210	**200.000000**	ppb	0.432	0.258	19189.548
55	**Mn**		5274889.363	**200.000000**	ppb	2.691	2.500	1616.759
57	**Fe**		5349320.698	**10200.000000**	ppb	1.754	1.449	15015.669
45	**Sc-IS**	>	1771519.930		ppb	0.682		1739900.208
66	**Zn**		534513.544	**200.000000**	ppb	2.898	3.419	1024.481
86	**Sr**		863419.095	**200.000000**	ppb	2.020	2.618	62.656
65	**Cu**		776224.109	**200.000000**	ppb	1.010	1.280	408.895
69	**Ga-IS**		582423.897		ppb	1.977		502873.339
82	**Se-1**		72139.867	**200.000000**	ppb	1.069	1.743	36.144
95	**Mo**		979006.489	**200.000000**	ppb	1.622	2.294	203.335
115	**In-IS**	>	205780.163		ppb	0.805		205903.697
111	**Cd**		565955.021	**200.000000**	ppb	1.186	0.922	31.795
118	**Sn**		1609903.191	**200.000000**	ppb	0.284	0.891	1417.848
121	**Sb**		1714881.767	**200.000000**	ppb	0.446	0.545	250.002
135	**Ba**		489127.336	**200.000000**	ppb	0.666	0.154	74.445
165	**Ho-IS**		354791.839		ppb	0.781		351285.503
159	**Tb-IS**	>	343277.767		ppb	0.681		341398.067
207	**Pb**		7881243.609	**200.000000**	ppb	1.474	2.130	817.787
203	**Tl**		2526297.509	**200.000000**	ppb	0.789	0.603	160.001
209	**Bi-IS**		191930.833		ppb	1.222		197957.675

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 14:34:16
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_se_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.184
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42118.698		ppb	2.854		42634.647
9	**Be**		242388.220	**97.727877**	ppb	1.517	1.052	44.445
10	**B**		187250.911	**251.304023**	ppb	2.710	1.959	1483.410
27	**Al**		1325264.917	**97.159620**	ppb	1.188	1.982	12308.301
43	**Ca-2**		241085.931	**5099.128094**	ppb	1.591	0.899	221.668
49	**Ti**		129259.930	**97.872303**	ppb	0.220	1.010	312.226
52	**Cr**		1718166.171	**96.001950**	ppb	1.608	2.418	19189.548
55	**Mn**		2631954.659	**98.753523**	ppb	1.742	2.539	1616.759
57	**Fe**		2726419.706	**5131.950148**	ppb	2.540	3.339	15015.669
45	**Sc-IS**	>	1789845.914		ppb	0.785		1739900.208
66	**Zn**		269376.306	**99.576138**	ppb	3.916	4.701	1024.481
86	**Sr**		427518.393	**97.996695**	ppb	0.858	0.141	62.656
65	**Cu**		389212.432	**99.217088**	ppb	2.861	3.621	408.895
69	**Ga-IS**		547592.062		ppb	1.286		502873.339
82	**Se-1**		35693.375	**97.884731**	ppb	0.641	0.565	36.144
95	**Mo**		481929.736	**97.417040**	ppb	0.320	0.866	203.335
115	**In-IS**	>	208350.189		ppb	0.968		205903.697
111	**Cd**		283691.414	**99.018160**	ppb	0.522	1.375	31.795
118	**Sn**		795801.528	**97.555606**	ppb	0.065	1.020	1417.848
121	**Sb**		841180.780	**96.884427**	ppb	1.277	1.808	250.002
135	**Ba**		239351.134	**96.652529**	ppb	1.870	2.219	74.445
165	**Ho-IS**		359628.093		ppb	1.911		351285.503
159	**Tb-IS**	>	344490.971		ppb	3.010		341398.067
207	**Pb**		3979231.869	**100.671912**	ppb	0.431	3.350	817.787
203	**Tl**		1242875.816	**98.060240**	ppb	2.321	1.492	160.001
209	**Bi-IS**		196565.457		ppb	1.284		197957.675

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 14:35:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_se_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.185
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42164.372		ppb	2.074		42634.647
9	**Be**		116.667	**0.028320**	ppb	12.454	20.350	44.445
10	**B**		2475.770	**1.265037**	ppb	1.011	3.599	1483.410
27	**Al**		9564.201	**-0.233538**	ppb	0.356	1.856	12308.301
43	**Ca-2**		231.669	**0.049999**	ppb	23.872	2367.784	221.668
49	**Ti**		282.225	**-0.030929**	ppb	16.759	113.441	312.226
52	**Cr**		19682.440	**-0.010062**	ppb	1.279	87.383	19189.548
55	**Mn**		2449.099	**0.028957**	ppb	3.587	12.872	1616.759
57	**Fe**		15710.858	**0.318388**	ppb	1.762	129.386	15015.669
45	**Sc-IS**	>	1800785.512		ppb	0.486		1739900.208
66	**Zn**		1072.263	**0.004398**	ppb	4.444	394.885	1024.481
86	**Sr**		204.919	**0.031934**	ppb	12.361	18.650	62.656
65	**Cu**		474.452	**0.013030**	ppb	7.990	78.400	408.895
69	**Ga-IS**		513206.126		ppb	2.149		502873.339
82	**Se-1**		55.779	**0.050175**	ppb	44.364	134.584	36.144
95	**Mo**		1278.947	**0.214663**	ppb	11.991	13.792	203.335
115	**In-IS**	>	207605.191		ppb	0.781		205903.697
111	**Cd**		116.204	**0.029480**	ppb	13.292	18.445	31.795
118	**Sn**		3953.882	**0.311116**	ppb	7.105	11.139	1417.848
121	**Sb**		704.462	**0.052304**	ppb	3.968	6.090	250.002
135	**Ba**		131.112	**0.022723**	ppb	23.623	55.194	74.445
165	**Ho-IS**		355094.999		ppb	1.163		351285.503
159	**Tb-IS**	>	338002.934		ppb	2.045		341398.067
207	**Pb**		1976.720	**0.030084**	ppb	5.145	8.611	817.787
203	**Tl**		656.682	**0.040073**	ppb	7.161	9.598	160.001
209	**Bi-IS**		202178.430		ppb	0.661		197957.675

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293555-A-1-A @5
Autosampler Position: 345
Sample Date/Time: Tuesday, December 28, 2021 14:37:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_se_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\440-293555-A-1-A @5.186
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		50994.190		ppb	0.881		42634.647
9	**Be**		70.000	**0.009291**	ppb	9.524	26.886	44.445
10	**B**		42379.452	**54.290489**	ppb	2.070	2.832	1483.410
27	**Al**		1309614.945	**94.299389**	ppb	2.181	2.026	12308.301
43	**Ca-2**		377258.106	**7843.178754**	ppb	0.291	0.751	221.668
49	**Ti**		2555.784	**1.662462**	ppb	3.501	4.432	312.226
52	**Cr**		34327.872	**0.790833**	ppb	1.956	6.438	19189.548
55	**Mn**		147903.953	**5.393302**	ppb	0.760	1.415	1616.759
57	**Fe**		338041.942	**599.421957**	ppb	1.058	1.055	15015.669
45	**Sc-IS**	>	1821633.640		ppb	0.750		1739900.208
66	**Zn**		62512.037	**22.397749**	ppb	0.952	0.919	1024.481
86	**Sr**		862709.484	**194.330941**	ppb	0.797	1.513	62.656
65	**Cu**		4173.943	**0.939010**	ppb	2.072	1.652	408.895
69	**Ga-IS**		501956.691		ppb	2.925		502873.339
82	**Se-1**		22654.333	**61.003138**	ppb	0.763	0.152	36.144
95	**Mo**		17094.669	**3.354571**	ppb	1.981	2.529	203.335
115	**In-IS**	>	200824.268		ppb	1.648		205903.697
111	**Cd**		76.324	**0.016369**	ppb	14.939	22.706	31.795
118	**Sn**		3284.823	**0.242606**	ppb	4.634	10.941	1417.848
121	**Sb**		790.022	**0.065274**	ppb	4.025	4.948	250.002
135	**Ba**		73164.684	**30.634467**	ppb	1.495	2.267	74.445
165	**Ho-IS**		353854.677		ppb	2.218		351285.503
159	**Tb-IS**	>	337821.472		ppb	1.391		341398.067
207	**Pb**		3024.569	**0.057102**	ppb	6.127	6.932	817.787
203	**Tl**		412.228	**0.020449**	ppb	7.065	13.302	160.001
209	**Bi-IS**		179312.985		ppb	1.646		197957.675

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 3
Sample Date/Time: Tuesday, December 28, 2021 14:39:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_se_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.187
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41981.678		ppb	4.476		42634.647
9	**Be**		241551.325	**95.459611**	ppb	2.365	2.349	44.445
10	**B**		188361.882	**247.773096**	ppb	2.304	2.243	1483.410
27	**Al**		1341050.500	**96.347215**	ppb	1.031	0.715	12308.301
43	**Ca-2**		244849.136	**5076.028747**	ppb	1.586	1.333	221.668
49	**Ti**		129028.983	**95.748776**	ppb	0.665	0.599	312.226
52	**Cr**		1732811.082	**94.874412**	ppb	1.810	1.792	19189.548
55	**Mn**		2638216.090	**97.011129**	ppb	3.984	3.997	1616.759
57	**Fe**		2757792.986	**5086.971683**	ppb	2.512	2.600	15015.669
45	**Sc-IS**	>	1826076.820		ppb	0.324		1739900.208
66	**Zn**		272944.041	**98.865725**	ppb	0.965	0.649	1024.481
86	**Sr**		432499.554	**97.173633**	ppb	0.640	0.949	62.656
65	**Cu**		394883.501	**98.649114**	ppb	3.203	3.283	408.895
69	**Ga-IS**		563500.226		ppb	1.484		502873.339
82	**Se-1**		36951.150	**99.323752**	ppb	0.329	0.403	36.144
95	**Mo**		484039.640	**95.898831**	ppb	0.868	1.026	203.335
115	**In-IS**	>	214105.610		ppb	0.580		205903.697
111	**Cd**		284501.899	**96.623679**	ppb	0.538	0.319	31.795
118	**Sn**		810256.575	**96.651495**	ppb	2.344	2.404	1417.848
121	**Sb**		856204.309	**95.957014**	ppb	1.345	1.410	250.002
135	**Ba**		243800.190	**95.798483**	ppb	2.396	2.560	74.445
165	**Ho-IS**		362678.969		ppb	2.471		351285.503
159	**Tb-IS**	>	350579.045		ppb	1.474		341398.067
207	**Pb**		4045034.590	**100.499360**	ppb	0.743	0.741	817.787
203	**Tl**		1271618.974	**98.559671**	ppb	2.354	1.082	160.001
209	**Bi-IS**		200738.332		ppb	0.641		197957.675

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Tuesday, December 28, 2021 14:40:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_se_std.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.188
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41920.311		ppb	1.239		42634.647
9	**Be**		80.000	**0.013700**	ppb	15.023	37.498	44.445
10	**B**		2129.048	**0.801244**	ppb	4.539	11.004	1483.410
27	**Al**		9480.145	**-0.238645**	ppb	1.714	9.632	12308.301
43	**Ca-2**		198.335	**-0.656239**	ppb	16.403	93.843	221.668
49	**Ti**		248.891	**-0.055782**	ppb	4.703	15.540	312.226
52	**Cr**		19900.530	**0.003811**	ppb	3.636	1199.620	19189.548
55	**Mn**		2473.547	**0.029977**	ppb	1.070	2.913	1616.759
57	**Fe**		16407.199	**1.671265**	ppb	2.663	54.725	15015.669
45	**Sc-IS**	>	1798626.914		ppb	1.734		1739900.208
66	**Zn**		973.367	**-0.031360**	ppb	6.398	90.381	1024.481
86	**Sr**		202.110	**0.031378**	ppb	7.026	12.851	62.656
65	**Cu**		446.674	**0.006071**	ppb	4.478	66.517	408.895
69	**Ga-IS**		517771.266		ppb	1.152		502873.339
82	**Se-1**		58.097	**0.056844**	ppb	19.376	56.850	36.144
95	**Mo**		1153.380	**0.190006**	ppb	5.972	9.476	203.335
115	**In-IS**	>	211824.021		ppb	1.343		205903.697
111	**Cd**		79.800	**0.016205**	ppb	14.704	26.920	31.795
118	**Sn**		3255.930	**0.217031**	ppb	11.916	21.260	1417.848
121	**Sb**		532.232	**0.031206**	ppb	8.909	19.153	250.002
135	**Ba**		117.778	**0.016395**	ppb	18.844	55.245	74.445
165	**Ho-IS**		354462.668		ppb	2.100		351285.503
159	**Tb-IS**	>	342361.134		ppb	1.573		341398.067
207	**Pb**		1570.034	**0.019070**	ppb	7.795	14.739	817.787
203	**Tl**		407.784	**0.019637**	ppb	12.725	21.195	160.001
209	**Bi-IS**		204484.205		ppb	0.343		197957.675

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Tuesday, December 28, 2021 15:26:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\blk.209
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42234.588		ppb	2.530		0.000
9	**Be**		17.778		ppb	10.825		0.000
52	**Cr**		22101.531		ppb	1.756		0.000
55	**Mn**		1454.519		ppb	4.302		0.000
45	**Sc-IS**	>	1844222.951		ppb	3.322		0.000
66	**Zn**		1197.828		ppb	2.107		0.000
65	**Cu**		318.180		ppb	19.605		0.000
69	**Ga-IS**		511998.203		ppb	0.723		0.000
95	**Mo**		285.558		ppb	4.860		0.000
115	**In-IS**		234744.859		ppb	3.506		0.000
111	**Cd**		12.734		ppb	52.520		0.000
121	**Sb**		490.008		ppb	6.803		0.000
135	**Ba**		53.333		ppb	10.825		0.000
165	**Ho-IS**		365317.728		ppb	3.914		0.000
159	**Tb-IS**		354564.473		ppb	1.421		0.000
207	**Pb**		546.671		ppb	1.613		0.000
203	**Tl**		54.445		ppb	24.744		0.000
209	**Bi-IS**	>	203208.471		ppb	0.833		0.000
51	**V**		1.111		ppb	173.205		0.000
59	**Co**		3.333		ppb	100.000		0.000
60	**Ni**		102.223		ppb	23.590		0.000
75	**As**		255.534		ppb	6.115		0.000
71	**Ga-ISK**	>	60862.006		ppb	6.930		0.000
82	**Se-2**		20.972		ppb	46.171		0.000
107	**Ag-1**		100.000		ppb	20.817		0.000
115	**In-ISK**		87586.768		ppb	1.376		0.000
45	**Sc-ISK**	>	154522.295		ppb	4.460		0.000
159	**Tb-ISK**		179368.391		ppb	0.608		0.000

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 221
Sample Date/Time: Tuesday, December 28, 2021 15:29:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\ICIS-1479530.210
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41289.584		ppb	0.565		
9	**Be**		22.222		ppb	45.826		
52	**Cr**		100413.979		ppb	1.952		
55	**Mn**		3987.223		ppb	2.596		
45	**Sc-IS**	>	1813421.351		ppb	0.920		
66	**Zn**		1350.064		ppb	4.769		
65	**Cu**		1672.922		ppb	4.312		
69	**Ga-IS**		510754.570		ppb	2.411		
95	**Mo**		154.445		ppb	13.010		
115	**In-IS**		238760.795		ppb	1.997		
111	**Cd**		26.342		ppb	45.775		
121	**Sb**		714.462		ppb	8.219		
135	**Ba**		190.001		ppb	12.281		
165	**Ho-IS**		380456.560		ppb	2.097		
159	**Tb-IS**		364205.272		ppb	0.118		
207	**Pb**		955.568		ppb	5.934		
203	**Tl**		76.667		ppb	22.592		
209	**Bi-IS**	>	203615.377		ppb	3.616		
51	**V**		2.222		ppb	173.205		
59	**Co**		21.111		ppb	63.812		
60	**Ni**		940.031		ppb	6.152		
75	**As**		343.633		ppb	12.316		
71	**Ga-ISK**	>	60011.346		ppb	0.934		
82	**Se-2**		18.697		ppb	41.133		
107	**Ag-1**		410.006		ppb	6.655		
115	**In-ISK**		84748.831		ppb	1.330		
45	**Sc-ISK**	>	149820.803		ppb	2.760		
159	**Tb-ISK**		164649.719		ppb	2.274		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-1479552
Autosampler Position: 219
Sample Date/Time: Tuesday, December 28, 2021 15:32:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\IC-1479552.211
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	⌈	41008.803		ppb	2.610		41289.584
9	**Be**	|	509555.671	**200.000000**	ppb	1.016	1.440	22.222
52	**Cr**	|	3688601.110	**200.000000**	ppb	1.593	2.524	100413.979
55	**Mn**	|	5399496.835	**200.000000**	ppb	1.180	1.994	3987.223
45	**Sc-IS**	>	1772515.695		ppb	0.866		1813421.351
66	**Zn**	|	569413.530	**200.000000**	ppb	0.833	1.304	1350.064
65	**Cu**	|	826627.562	**200.000000**	ppb	0.829	1.685	1672.922
69	**Ga-IS**	|	564729.569		ppb	1.935		510754.570
95	**Mo**	|	811300.107	**200.000000**	ppb	0.901	1.750	154.445
115	**In-IS**	|	226008.829		ppb	4.650		238760.795
111	**Cd**	|	673125.349	**200.000000**	ppb	3.863	4.709	26.342
121	**Sb**	|	2011317.924	**200.000000**	ppb	3.891	4.757	714.462
135	**Ba**	|	538005.049	**200.000000**	ppb	2.767	3.623	190.001
165	**Ho-IS**	⌊	371492.476		ppb	1.712		380456.560
159	**Tb-IS**	⌈	358168.682		ppb	1.834		364205.272
207	**Pb**	|	8898143.403	**200.000000**	ppb	1.678	1.171	955.568
203	**Tl**	|	2862200.338	**200.000000**	ppb	1.127	1.960	76.667
209	**Bi-IS**	⌊>	203591.172		ppb	2.736		203615.377
51	**V**	⌈	64032.130	**200.000000**	ppb	2.471	1.511	2.222
59	**Co**	|	221106.156	**200.000000**	ppb	1.987	2.048	21.111
60	**Ni**	|	395513.298	**200.000000**	ppb	1.469	1.717	940.031
75	**As**	|	138542.787	**200.000000**	ppb	0.427	2.056	343.633
71	**Ga-ISK**	>	58946.944		ppb	1.674		60011.346
82	**Se-2**	|	14797.464	**200.000000**	ppb	0.158	1.607	18.697
107	**Ag-1**	⌊	1527325.952	**200.000000**	ppb	1.907	2.898	410.006
115	**In-ISK**	⌈	82760.832		ppb	0.676		84748.831
45	**Sc-ISK**	>	150088.795		ppb	0.855		149820.803
159	**Tb-ISK**	⌊	162482.160		ppb	0.771		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 220
Sample Date/Time: Tuesday, December 28, 2021 15:35:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.212
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	⌈	41198.220		ppb	1.701		41289.584
9	**Be**	|	254051.606	**98.391686**	ppb	3.119	3.315	22.222
52	**Cr**	|	1919281.798	**100.043665**	ppb	1.976	3.582	100413.979
55	**Mn**	|	2822372.269	**103.134965**	ppb	1.877	4.395	3987.223
45	**Sc-IS**	>	1796915.031		ppb	3.349		1813421.351
66	**Zn**	|	291851.722	**100.977044**	ppb	1.846	4.487	1350.064
65	**Cu**	|	425672.468	**101.480004**	ppb	0.782	4.112	1672.922
69	**Ga-IS**	|	542293.952		ppb	3.070		510754.570
95	**Mo**	|	410292.768	**99.830218**	ppb	1.581	4.169	154.445
115	**In-IS**	|	227972.974		ppb	4.310		238760.795
111	**Cd**	|	339793.512	**99.584972**	ppb	2.300	1.386	26.342
121	**Sb**	|	981621.772	**96.234791**	ppb	2.764	0.584	714.462
135	**Ba**	|	263402.165	**96.572354**	ppb	1.723	2.017	190.001
165	**Ho-IS**	⌊	368587.438		ppb	1.611		380456.560
159	**Tb-IS**	⌈	350961.341		ppb	1.119		364205.272
207	**Pb**	|	4387157.694	**98.532382**	ppb	1.994	2.211	955.568
203	**Tl**	|	1375996.862	**96.069053**	ppb	1.820	1.934	76.667
209	**Bi-IS**	⌊>	203746.779		ppb	2.881		203615.377
51	**V**	⌈	32337.676	**100.253484**	ppb	1.581	3.058	2.222
59	**Co**	|	111276.225	**99.886817**	ppb	1.653	3.131	21.111
60	**Ni**	|	194622.493	**97.403267**	ppb	1.442	0.133	940.031
75	**As**	|	67949.049	**97.045358**	ppb	3.438	2.349	343.633
71	**Ga-ISK**	>	59406.616		ppb	1.502		60011.346
82	**Se-2**	|	7406.154	**99.176630**	ppb	3.101	2.363	18.697
107	**Ag-1**	⌊	765672.146	**99.442515**	ppb	1.854	1.807	410.006
115	**In-ISK**	⌈	82618.512		ppb	3.102		84748.831
45	**Sc-ISK**	>	148210.465		ppb	1.044		149820.803
159	**Tb-ISK**	⌊	163740.105		ppb	2.572		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 221
Sample Date/Time: Tuesday, December 28, 2021 15:38:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.213
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	⌈	41522.523		ppb	3.337		41289.584
9	**Be**	|	163.334	**0.054436**	ppb	21.501	24.914	22.222
52	**Cr**	|	99064.612	**-0.050969**	ppb	2.033	146.369	100413.979
55	**Mn**	|	5462.156	**0.054347**	ppb	3.878	18.550	3987.223
45	**Sc-IS**	>	1806195.483		ppb	2.691		1813421.351
66	**Zn**	|	1354.509	**0.003823**	ppb	5.625	883.532	1350.064
65	**Cu**	|	1786.047	**0.028891**	ppb	3.172	81.518	1672.922
69	**Ga-IS**	|	491083.049		ppb	1.758		510754.570
95	**Mo**	|	2731.372	**0.624322**	ppb	3.267	6.346	154.445
115	**In-IS**	|	229568.084		ppb	3.525		238760.795
111	**Cd**	|	217.599	**0.055757**	ppb	5.591	3.846	26.342
121	**Sb**	|	1100.043	**0.037933**	ppb	8.305	23.199	714.462
135	**Ba**	|	314.448	**0.045820**	ppb	5.010	18.383	190.001
165	**Ho-IS**	⌊	380024.828		ppb	1.723		380456.560
159	**Tb-IS**	⌈	359862.679		ppb	2.669		364205.272
207	**Pb**	|	3417.940	**0.054356**	ppb	9.849	11.867	955.568
203	**Tl**	|	850.025	**0.053248**	ppb	8.986	7.846	76.667
209	**Bi-IS**	⌊>	206107.610		ppb	1.858		203615.377
51	**V**	⌈	26.667	**0.076495**	ppb	33.072	37.028	2.222
59	**Co**	|	130.001	**0.098717**	ppb	15.385	19.074	21.111
60	**Ni**	|	1102.265	**0.089945**	ppb	11.366	73.081	940.031
75	**As**	|	345.887	**0.011502**	ppb	6.584	327.905	343.633
71	**Ga-ISK**	>	59042.879		ppb	0.983		60011.346
82	**Se-2**	|	23.159	**0.064711**	ppb	65.761	317.931	18.697
107	**Ag-1**	⌊	1844.564	**0.188381**	ppb	3.101	2.720	410.006
115	**In-ISK**	⌈	83511.064		ppb	1.683		84748.831
45	**Sc-ISK**	>	149766.604		ppb	1.329		149820.803
159	**Tb-ISK**	⌊	164746.560		ppb	0.953		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-204095_1-A
Autosampler Position: 405
Sample Date/Time: Tuesday, December 28, 2021 15:41:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\MB 570-204095_1-A.214
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	⌈	40543.050		ppb	3.440		41289.584
9	**Be**	|	84.445	**0.024585**	ppb	12.689	17.833	22.222
52	**Cr**	|	98172.847	**-0.006560**	ppb	0.620	820.997	100413.979
55	**Mn**	|	4316.209	**0.015324**	ppb	5.176	59.571	3987.223
45	**Sc-IS**	>	1775130.904		ppb	0.553		1813421.351
66	**Zn**	|	1121.155	**-0.070498**	ppb	7.670	41.283	1350.064
65	**Cu**	|	1599.156	**-0.009251**	ppb	5.044	226.781	1672.922
69	**Ga-IS**	|	494273.414		ppb	1.630		510754.570
95	**Mo**	|	924.474	**0.190377**	ppb	1.365	2.080	154.445
115	**In-IS**	|	234460.669		ppb	2.592		238760.795
111	**Cd**	|	139.170	**0.033653**	ppb	13.821	17.672	26.342
121	**Sb**	|	835.580	**0.013551**	ppb	10.972	69.845	714.462
135	**Ba**	|	232.224	**0.017152**	ppb	6.630	31.431	190.001
165	**Ho-IS**	⌊	376291.398		ppb	1.858		380456.560
159	**Tb-IS**	⌈	363565.937		ppb	2.724		364205.272
207	**Pb**	|	2098.950	**0.025446**	ppb	9.248	13.530	955.568
203	**Tl**	|	494.453	**0.028968**	ppb	17.073	17.798	76.667
209	**Bi-IS**	⌊>	204503.866		ppb	2.298		203615.377
51	**V**	⌈	13.333	**0.034404**	ppb	43.301	52.156	2.222
59	**Co**	|	74.445	**0.047878**	ppb	11.268	16.389	21.111
60	**Ni**	|	927.808	**-0.002975**	ppb	8.196	1190.101	940.031
75	**As**	|	355.687	**0.020749**	ppb	10.553	263.610	343.633
71	**Ga-ISK**	>	59592.929		ppb	0.579		60011.346
82	**Se-2**	|	0.867	**-0.237557**	ppb	2131.882	104.332	18.697
107	**Ag-1**	⌊	830.024	**0.054762**	ppb	6.183	11.480	410.006
115	**In-ISK**	⌈	85813.224		ppb	2.683		84748.831
45	**Sc-ISK**	>	154208.285		ppb	2.859		149820.803
159	**Tb-ISK**	⌊	168591.315		ppb	2.298		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-204095_2-A
Autosampler Position: 406
Sample Date/Time: Tuesday, December 28, 2021 15:44:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCS 570-204095_2-A.215
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		41787.737		ppb	3.211		41289.584
9	**Be**		19677.996	**7.449132**	ppb	2.944	1.101	22.222
52	**Cr**		275962.220	**9.374819**	ppb	2.611	0.846	100413.979
55	**Mn**		240452.065	**8.460986**	ppb	2.625	0.562	3987.223
45	**Sc-IS**	>	1835503.101		ppb	2.075		1813421.351
66	**Zn**		27490.876	**8.883582**	ppb	1.803	2.804	1350.064
65	**Cu**		36542.534	**8.157120**	ppb	2.673	1.021	1672.922
69	**Ga-IS**		504142.699		ppb	2.089		510754.570
95	**Mo**		30810.978	**7.300023**	ppb	2.127	2.783	154.445
115	**In-IS**		234986.338		ppb	3.523		238760.795
111	**Cd**		29381.195	**8.419586**	ppb	3.652	2.239	26.342
121	**Sb**		84872.566	**8.081249**	ppb	2.251	1.211	714.462
135	**Ba**		21383.776	**7.610194**	ppb	2.384	2.868	190.001
165	**Ho-IS**		372341.228		ppb	0.821		380456.560
159	**Tb-IS**		359642.301		ppb	2.335		364205.272
207	**Pb**		398731.539	**8.961202**	ppb	2.146	0.549	955.568
203	**Tl**		121791.670	**8.523157**	ppb	2.796	2.283	76.667
209	**Bi-IS**	>	203094.824		ppb	1.596		203615.377
51	**V**		3046.992	**9.379997**	ppb	3.677	5.159	2.222
59	**Co**		10411.575	**9.269672**	ppb	4.225	5.644	21.111
60	**Ni**		18347.332	**8.697637**	ppb	1.729	0.384	940.031
75	**As**		5599.445	**7.495581**	ppb	4.305	3.324	343.633
71	**Ga-ISK**	>	59799.360		ppb	1.472		60011.346
82	**Se-2**		625.379	**8.095065**	ppb	5.658	6.428	18.697
107	**Ag-1**		35279.063	**4.501779**	ppb	0.142	1.375	410.006
115	**In-ISK**		84272.278		ppb	1.700		84748.831
45	**Sc-ISK**	>	149250.118		ppb	1.246		149820.803
159	**Tb-ISK**		163687.845		ppb	1.093		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-204095_3-A
Autosampler Position: 407
Sample Date/Time: Tuesday, December 28, 2021 15:46:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\LCSD 570-204095_3-A.216
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	⌈	41346.441		ppb	2.643		41289.584
9	**Be**	|	19513.318	**7.468170**	ppb	0.402	0.403	22.222
52	**Cr**	|	272194.617	**9.333229**	ppb	1.516	2.636	100413.979
55	**Mn**	|	241229.934	**8.583589**	ppb	1.428	1.344	3987.223
45	**Sc-IS**	>	1815719.359		ppb	0.649		1813421.351
66	**Zn**	|	27812.604	**9.093544**	ppb	0.463	0.217	1350.064
65	**Cu**	|	36424.755	**8.222432**	ppb	2.257	1.714	1672.922
69	**Ga-IS**	|	516624.350		ppb	1.873		510754.570
95	**Mo**	|	31083.786	**7.443692**	ppb	1.567	1.249	154.445
115	**In-IS**	|	235449.510		ppb	2.829		238760.795
111	**Cd**	|	29964.036	**8.681198**	ppb	1.673	1.124	26.342
121	**Sb**	|	84576.507	**8.140650**	ppb	3.628	3.334	714.462
135	**Ba**	|	21332.586	**7.673356**	ppb	1.859	1.480	190.001
165	**Ho-IS**	⌊	374039.328		ppb	1.069		380456.560
159	**Tb-IS**	⌈	364095.175		ppb	1.214		364205.272
207	**Pb**	|	396778.760	**8.953974**	ppb	1.432	0.991	955.568
203	**Tl**	|	122785.551	**8.627701**	ppb	2.000	1.764	76.667
209	**Bi-IS**	⌊>	202276.555		ppb	1.157		203615.377
51	**V**	⌈	3008.095	**9.323170**	ppb	4.273	6.686	2.222
59	**Co**	|	10119.140	**9.066552**	ppb	2.437	4.579	21.111
60	**Ni**	|	17816.663	**8.489847**	ppb	2.350	2.243	940.031
75	**As**	|	5448.459	**7.331385**	ppb	4.245	4.080	343.633
71	**Ga-ISK**	>	59427.844		ppb	2.402		60011.346
82	**Se-2**	|	632.029	**8.232712**	ppb	6.087	5.331	18.697
107	**Ag-1**	⌊	37000.080	**4.755786**	ppb	1.137	3.476	410.006
115	**In-ISK**	⌈	84764.482		ppb	2.619		84748.831
45	**Sc-ISK**	>	149419.625		ppb	0.993		149820.803
159	**Tb-ISK**	⌊	167118.753		ppb	2.041		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79656-A-1-A
Autosampler Position: 408
Sample Date/Time: Tuesday, December 28, 2021 15:49:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79656-A-1-A.217
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		43744.747		ppb	4.637		41289.584
9	**Be**		65.556	**0.016083**	ppb	14.678	21.949	22.222
52	**Cr**		123749.539	**1.126848**	ppb	2.947	14.979	100413.979
55	**Mn**		162023.986	**5.600285**	ppb	2.430	2.142	3987.223
45	**Sc-IS**	>	1852770.928		ppb	0.389		1813421.351
66	**Zn**		53404.081	**17.521481**	ppb	0.672	0.942	1350.064
65	**Cu**		56039.419	**12.598628**	ppb	3.200	2.992	1672.922
69	**Ga-IS**		472197.413		ppb	2.269		510754.570
95	**Mo**		8320.200	**1.925177**	ppb	0.649	0.392	154.445
115	**In-IS**		220727.647		ppb	4.228		238760.795
111	**Cd**		188.085	**0.045786**	ppb	19.384	22.288	26.342
121	**Sb**		1047.816	**0.030227**	ppb	7.116	22.498	714.462
135	**Ba**		5507.730	**1.889761**	ppb	5.087	4.874	190.001
165	**Ho-IS**		358818.834		ppb	3.158		380456.560
159	**Tb-IS**		345452.108		ppb	3.904		364205.272
207	**Pb**		15053.099	**0.352054**	ppb	2.487	0.635	955.568
203	**Tl**		876.694	**0.062281**	ppb	4.943	5.634	76.667
209	**Bi-IS**	>	184393.939		ppb	2.321		203615.377
51	**V**		643.348	**2.102198**	ppb	16.846	16.570	2.222
59	**Co**		202.224	**0.173229**	ppb	12.481	13.509	21.111
60	**Ni**		1951.244	**0.570261**	ppb	1.531	3.542	940.031
75	**As**		1017.448	**1.056897**	ppb	3.769	4.890	343.633
71	**Ga-ISK**	>	56149.019		ppb	0.421		60011.346
82	**Se-2**		30.833	**0.188903**	ppb	78.383	181.483	18.697
107	**Ag-1**		1120.044	**0.101227**	ppb	4.678	6.666	410.006
115	**In-ISK**		80666.519		ppb	1.091		84748.831
45	**Sc-ISK**	>	151302.620		ppb	0.962		149820.803
159	**Tb-ISK**		161346.998		ppb	2.234		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79656-A-2-A
Autosampler Position: 409
Sample Date/Time: Tuesday, December 28, 2021 15:52:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79656-A-2-A.218
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		42574.468		ppb	1.570		41289.584
9	**Be**		44.445	**0.008613**	ppb	37.749	74.144	22.222
52	**Cr**		107943.027	**0.442434**	ppb	1.783	5.164	100413.979
55	**Mn**		81805.821	**2.835609**	ppb	1.624	0.288	3987.223
45	**Sc-IS**	>	1803413.039		ppb	1.668		1813421.351
66	**Zn**		92876.604	**31.671157**	ppb	2.395	1.762	1350.064
65	**Cu**		100337.130	**23.506765**	ppb	2.532	0.961	1672.922
69	**Ga-IS**		468970.384		ppb	2.300		510754.570
95	**Mo**		7794.349	**1.851810**	ppb	2.125	2.712	154.445
115	**In-IS**		229165.405		ppb	4.405		238760.795
111	**Cd**		150.300	**0.036149**	ppb	26.719	30.812	26.342
121	**Sb**		897.806	**0.018202**	ppb	12.361	52.186	714.462
135	**Ba**		13114.908	**4.723510**	ppb	2.148	1.446	190.001
165	**Ho-IS**		364446.941		ppb	3.378		380456.560
159	**Tb-IS**		352143.770		ppb	3.332		364205.272
207	**Pb**		12856.684	**0.297533**	ppb	1.751	1.553	955.568
203	**Tl**		406.672	**0.026025**	ppb	9.664	12.612	76.667
209	**Bi-IS**	>	184405.949		ppb	0.833		203615.377
51	**V**		431.118	**1.375420**	ppb	0.446	2.192	2.222
59	**Co**		142.223	**0.113514**	ppb	26.134	31.348	21.111
60	**Ni**		844.469	**-0.028629**	ppb	3.954	73.318	940.031
75	**As**		1005.114	**1.003313**	ppb	5.336	5.635	343.633
71	**Ga-ISK**	>	57444.174		ppb	1.733		60011.346
82	**Se-2**		16.484	**-0.019354**	ppb	35.025	418.970	18.697
107	**Ag-1**		1085.597	**0.093122**	ppb	7.085	10.330	410.006
115	**In-ISK**		80802.062		ppb	0.753		84748.831
45	**Sc-ISK**	>	150709.943		ppb	2.204		149820.803
159	**Tb-ISK**		160465.594		ppb	1.105		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79656-A-2-A pds
Autosampler Position: 410
Sample Date/Time: Tuesday, December 28, 2021 15:55:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79656-A-2-A pds.219
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	⌈	41056.710		ppb	2.219		41289.584
9	**Be**	|	24180.451	**9.342056**	ppb	1.746	1.042	22.222
52	**Cr**	|	293911.753	**10.662556**	ppb	1.026	1.569	100413.979
55	**Mn**	|	341509.444	**12.325919**	ppb	2.147	1.451	3987.223
45	**Sc-IS**	>	1798978.367		ppb	0.725		1813421.351
66	**Zn**	|	122171.322	**41.914591**	ppb	0.958	1.680	1350.064
65	**Cu**	|	142038.624	**33.530173**	ppb	1.505	1.994	1672.922
69	**Ga-IS**	|	476061.451		ppb	0.842		510754.570
95	**Mo**	|	47235.777	**11.435936**	ppb	2.601	1.908	154.445
115	**In-IS**	|	231993.370		ppb	3.551		238760.795
111	**Cd**	|	33792.078	**9.882531**	ppb	1.693	1.249	26.342
121	**Sb**	|	101740.253	**9.898872**	ppb	3.892	3.684	714.462
135	**Ba**	|	39854.439	**14.529631**	ppb	3.057	2.604	190.001
165	**Ho-IS**	⌊	359311.537		ppb	2.830		380456.560
159	**Tb-IS**	⌈	347332.829		ppb	2.049		364205.272
207	**Pb**	|	400656.815	**10.043463**	ppb	1.904	1.535	955.568
203	**Tl**	|	124289.658	**9.698051**	ppb	2.441	0.851	76.667
209	**Bi-IS**	⌊>	182151.920		ppb	1.712		203615.377
51	**V**	⌈	3941.655	**12.887120**	ppb	3.511	1.046	2.222
59	**Co**	|	11515.752	**10.893089**	ppb	2.116	1.617	21.111
60	**Ni**	|	19060.488	**9.651585**	ppb	1.971	1.813	940.031
75	**As**	|	7334.803	**10.627131**	ppb	2.342	0.625	343.633
71	**Ga-ISK**	>	56279.579		ppb	2.588		60011.346
82	**Se-2**	|	713.066	**9.859319**	ppb	4.073	4.343	18.697
107	**Ag-1**	⌊	36529.979	**4.959628**	ppb	0.261	2.440	410.006
115	**In-ISK**	⌈	81572.505		ppb	2.141		84748.831
45	**Sc-ISK**	>	150649.083		ppb	0.757		149820.803
159	**Tb-ISK**	⌊	162738.385		ppb	0.763		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79656-A-2-A pdsd
Autosampler Position: 411
Sample Date/Time: Tuesday, December 28, 2021 15:58:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\570-79656-A-2-A pdsd.220
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	⌈	42999.116		ppb	3.641		41289.584
9	**Be**	|	25201.123	**9.538125**	ppb	4.177	1.430	22.222
52	**Cr**	|	291137.898	**10.200286**	ppb	0.591	6.339	100413.979
55	**Mn**	|	342278.627	**12.112482**	ppb	0.578	4.163	3987.223
45	**Sc-IS**	>	1836339.745		ppb	3.551		1813421.351
66	**Zn**	|	117827.255	**39.607511**	ppb	0.306	3.699	1350.064
65	**Cu**	|	140991.953	**32.634775**	ppb	1.875	5.453	1672.922
69	**Ga-IS**	|	463970.188		ppb	1.153		510754.570
95	**Mo**	|	47009.443	**11.157524**	ppb	0.608	2.989	154.445
115	**In-IS**	|	232247.425		ppb	2.775		238760.795
111	**Cd**	|	33910.629	**9.717330**	ppb	3.108	1.563	26.342
121	**Sb**	|	106831.453	**10.187930**	ppb	2.420	1.193	714.462
135	**Ba**	|	40578.704	**14.497863**	ppb	3.341	2.772	190.001
165	**Ho-IS**	⌊	362761.021		ppb	2.475		380456.560
159	**Tb-IS**	⌈	348411.975		ppb	2.049		364205.272
207	**Pb**	|	416566.659	**10.400656**	ppb	1.477	0.541	955.568
203	**Tl**	|	128977.550	**10.023854**	ppb	2.024	0.625	76.667
209	**Bi-IS**	⌊>	182890.142		ppb	1.671		203615.377
51	**V**	⌈	3938.321	**13.452091**	ppb	1.953	4.318	2.222
59	**Co**	|	11280.008	**11.158942**	ppb	1.624	7.665	21.111
60	**Ni**	|	19501.094	**10.361251**	ppb	4.102	9.267	940.031
75	**As**	|	7215.676	**10.950393**	ppb	5.154	9.697	343.633
71	**Ga-ISK**	>	53974.244		ppb	6.097		60011.346
82	**Se-2**	|	795.327	**11.549871**	ppb	4.992	10.485	18.697
107	**Ag-1**	⌊	36241.478	**5.147516**	ppb	1.794	8.239	410.006
115	**In-ISK**	⌈	77651.077		ppb	4.850		84748.831
45	**Sc-ISK**	>	141157.312		ppb	4.966		149820.803
159	**Tb-ISK**	⌊	156865.536		ppb	5.433		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-1479565
Autosampler Position: 220
Sample Date/Time: Tuesday, December 28, 2021 16:01:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCV-1479565.221
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**	⌈	41111.341		ppb	3.524		41289.584
9	**Be**	|	248601.584	**94.676479**	ppb	1.849	0.841	22.222
52	**Cr**	|	1969231.869	**100.928391**	ppb	4.226	2.396	100413.979
55	**Mn**	|	2768263.492	**99.426617**	ppb	2.030	2.004	3987.223
45	**Sc-IS**	>	1826856.016		ppb	2.627		1813421.351
66	**Zn**	|	296405.599	**100.792751**	ppb	2.342	1.865	1350.064
65	**Cu**	|	426022.947	**99.832157**	ppb	0.856	1.776	1672.922
69	**Ga-IS**	|	541105.444		ppb	0.694		510754.570
95	**Mo**	|	400488.965	**95.779739**	ppb	2.211	1.886	154.445
115	**In-IS**	|	233673.715		ppb	5.159		238760.795
111	**Cd**	|	353465.379	**101.845523**	ppb	3.930	1.379	26.342
121	**Sb**	|	1020729.686	**98.429080**	ppb	3.208	2.620	714.462
135	**Ba**	|	268027.883	**96.645640**	ppb	2.859	3.143	190.001
165	**Ho-IS**	⌊	365353.009		ppb	3.383		380456.560
159	**Tb-IS**	⌈	349919.610		ppb	3.669		364205.272
207	**Pb**	|	4303312.600	**97.994226**	ppb	1.926	1.193	955.568
203	**Tl**	|	1367811.389	**96.808928**	ppb	3.832	2.516	76.667
209	**Bi-IS**	⌊>	200898.639		ppb	1.913		203615.377
51	**V**	⌈	34737.744	**108.327358**	ppb	1.311	1.636	2.222
59	**Co**	|	119453.022	**107.848409**	ppb	1.986	1.566	21.111
60	**Ni**	|	199571.307	**100.503937**	ppb	1.833	1.465	940.031
75	**As**	|	71066.398	**102.204587**	ppb	0.982	3.692	343.633
71	**Ga-ISK**	>	59059.673		ppb	2.843		60011.346
82	**Se-2**	|	7397.284	**99.727427**	ppb	1.445	4.254	18.697
107	**Ag-1**	⌊	786320.072	**102.817319**	ppb	2.294	5.114	410.006
115	**In-ISK**	⌈	85789.386		ppb	0.714		84748.831
45	**Sc-ISK**	>	150391.031		ppb	2.109		149820.803
159	**Tb-ISK**	⌊	166501.618		ppb	2.083		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 221
Sample Date/Time: Tuesday, December 28, 2021 16:04:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\epa 200.8_6020_REDUCTIVE.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\CCB-1479530.222
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		40951.981		ppb	2.952		41289.584
9	**Be**		72.222	**0.019560**	ppb	2.665	7.932	22.222
52	**Cr**		100030.203	**0.048318**	ppb	2.099	99.629	100413.979
55	**Mn**		4479.591	**0.019970**	ppb	0.969	26.250	3987.223
45	**Sc-IS**	>	1790964.717		ppb	2.960		1813421.351
66	**Zn**		4260.635	**1.020599**	ppb	0.591	3.548	1350.064
65	**Cu**		1764.418	**0.026971**	ppb	3.134	34.534	1672.922
69	**Ga-IS**		483041.446		ppb	1.164		510754.570
95	**Mo**		2062.371	**0.465761**	ppb	5.761	3.421	154.445
115	**In-IS**		236606.378		ppb	2.674		238760.795
111	**Cd**		137.892	**0.032887**	ppb	16.480	20.196	26.342
121	**Sb**		942.254	**0.023093**	ppb	14.588	46.745	714.462
135	**Ba**		241.113	**0.019654**	ppb	5.587	18.074	190.001
165	**Ho-IS**		368007.097		ppb	1.500		380456.560
159	**Tb-IS**		350431.166		ppb	2.581		364205.272
207	**Pb**		2080.057	**0.025510**	ppb	7.502	11.235	955.568
203	**Tl**		447.785	**0.026102**	ppb	0.860	1.417	76.667
209	**Bi-IS**	>	202462.544		ppb	1.361		203615.377
51	**V**		16.667	**0.045674**	ppb	72.111	82.413	2.222
59	**Co**		73.334	**0.048671**	ppb	28.386	37.942	21.111
60	**Ni**		1016.703	**0.056803**	ppb	2.914	13.845	940.031
75	**As**		378.128	**0.069087**	ppb	2.720	32.289	343.633
71	**Ga-ISK**	>	57880.400		ppb	2.497		60011.346
82	**Se-2**		6.423	**-0.161356**	ppb	361.435	197.262	18.697
107	**Ag-1**		1332.285	**0.125100**	ppb	6.762	11.667	410.006
115	**In-ISK**		84305.411		ppb	1.770		84748.831
45	**Sc-ISK**	>	145909.253		ppb	1.622		149820.803
159	**Tb-ISK**		163449.102		ppb	0.818		164649.719

QC Out of Limits

Analyte	Mass	Out of Limits Message

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Tuesday, December 28, 2021 07:24:13
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\STD Performance Check.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2021\211228E1\STD Performance Check.006
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	5630.8	5630.760	42.652	0.8	Standard
	In	114.9	68826.0	68825.967	336.004	0.5	Standard
	U	238.1	94460.4	94460.404	341.860	0.4	Standard
⌈	CeO	155.9	1546.7	0.022	0.000	1.5	Standard
| >	Ce	139.9	70749.7	70749.697	363.525	0.5	Standard
⌊	Ce++	70.0	771.3	0.011	0.000	2.7	Standard
	Bkgd	220.0	0.5	0.533	0.183	34.2	Standard

Current Conditions File Data

Current Value	Description
1.02	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-10.75	Deflector Voltage
1600.00	ICP RF Power
-1737.00	Analog Stage Voltage
1350.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-9.00	Cell Rod Offset STD [CRO]
12.00	Discriminator Threshold
-8.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
1.02	DRC Mode NEB
-9.00	DRC Mode QRO
-2.00	DRC Mode CRO
-7.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
200.00	Axial Field Voltage
-10.00	KED Mode CRO
-12.00	KED Mode QRO
-8.00	KED Mode Cell Entrance Voltage
-29.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
4.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

Instrument Tuning Report

Instrument Name: ICP-MS-05 US26INS00175
Analyst Name: ECSINSTICPMS05
Sample Date/Time: Tuesday, December 28, 2021 07:11:01
File Name: Default.tun
File Path: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Li	7.016	6.975	1237	2061	0.695	
Mg	23.985	23.975	4634	2060	0.688	
In	114.904	114.875	22865	2028	0.693	
U	238.050	238.025	47575	1975	0.702	

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211228G1.sifx
Batch ID:
Results Data Set: 211228G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: EPA 7470A+7471A-Hg-7 **Method Last Saved: 12/28/2021 11:29:38 AM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-204128/1-A **Date Collected: 12/28/2021 11:29:45 AM**
Analyst: **Data Type: Original**

Replicate Data: ICIS 570-204128/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0001	0.0006	0.0001	11:30:38 AM	Yes
2		[0.00]	0.0001	0.0002	0.0001	11:31:13 AM	Yes
Mean:		[0.00]	0.0001				
SD:		0.0000	0.0000				
%RSD:		0.00%	22.27				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: IC 570-204128/2-A **Date Collected: 12/28/2021 11:31:34 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-204128/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0006	0.0026	0.0007	11:32:27 AM	Yes
2		[0.100]	0.0006	0.0032	0.0007	11:33:02 AM	Yes
Mean:		[0.100]	0.0006				
SD:		0.00000	0.0000				
%RSD:		0.00%	0.39				

Standard number 1 applied. [0.100]
Correlation Coef.: 1.000000 Slope: 0.00640 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: IC 570-204128/3-A **Date Collected: 12/28/2021 11:33:23 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-204128/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0065	0.0269	0.0066	11:34:17 AM	Yes
2		[1.000]	0.0065	0.0262	0.0066	11:34:52 AM	Yes
Mean:		[1.000]	0.0065				
SD:		0.00000	0.0000				
%RSD:		0.00%	0.21				

Standard number 2 applied. [1.000]
Correlation Coef.: 1.000000 Slope: 0.00650 Intercept: -0.00001

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: IC 570-204128/4-A **Date Collected: 12/28/2021 11:35:13 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-204128/4-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0124	0.0511	0.0124	11:36:08 AM	Yes
2		[2.000]	0.0123	0.0499	0.0124	11:36:43 AM	Yes
Mean:		[2.000]	0.0123				
SD:		0.00000	0.0001				
%RSD:		0.00%	0.43				

Standard number 3 applied. [2.000]
Correlation Coef.: 0.999619 Slope: 0.00631 Intercept: 0.00001

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: IC 570-204128/5-A **Date Collected: 12/28/2021 11:37:05 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-204128/5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.0317	0.1291	0.0318	11:37:59 AM	Yes
2		[5.000]	0.0312	0.1257	0.0313	11:38:34 AM	Yes
Mean:		[5.000]	0.0314				
SD:		0.00000	0.0004				
%RSD:		0.00%	1.13				

Standard number 4 applied. [5.000]
Correlation Coef.: 0.999753 Slope: 0.00630 Intercept: 0.00001

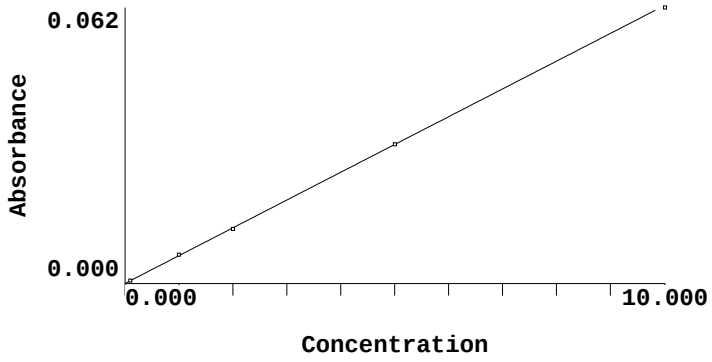
==========

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: IC 570-204128/6-A **Date Collected: 12/28/2021 11:38:57 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-204128/6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.000]	0.0625	0.2572	0.0626	11:39:49 AM	Yes
2		[10.000]	0.0622	0.2467	0.0623	11:40:24 AM	Yes
Mean:		[10.000]	0.0623				
SD:		0.00000	0.0002				
%RSD:		0.00%	0.37				

Standard number 5 applied. [10.000]
Correlation Coef.: 0.999807 Slope: 0.00628 Intercept: 0.00001



Calibration data for Hg 253.7 **Equation: Weighted Linear**

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
ICIS 570-204128/1-A	0.0000	0	-0.0021	0.00	22.27
IC 570-204128/2-A	0.0006	0.100	0.0998	0.00	0.39
IC 570-204128/3-A	0.0065	1.000	1.0302	0.00	0.21
IC 570-204128/4-A	0.0123	2.000	1.9589	0.00	0.43
IC 570-204128/5-A	0.0314	5.000	5.0013	0.00	1.13
IC 570-204128/6-A	0.0623	10.000	9.9199	0.00	0.37

Correlation Coef.: 0.999807 Slope: 0.00628 Intercept: 0.00001

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211228G1.sifx
Batch ID:
Results Data Set: 211228G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: EPA 7470A+7471A-Hg-7 **Method Last Saved: 12/28/2021 11:29:38 AM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 7**
Sample ID: ICV 570-204128/7-A **Date Collected: 12/28/2021 11:41:01 AM**
Analyst: **Data Type: Original**

Replicate Data: ICV 570-204128/7-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.92	0.0309	0.1266	0.0310	11:41:54 AM	Yes
2	0.0048	4.85	0.0305	0.1229	0.0306	11:42:29 AM	Yes
Mean:	0.0049	4.88	0.0307				
SD:	0.00005	0.051	0.0003				
%RSD:	1.05%	1.05%	1.05				

QC value within limits for Hg 253.7 Recovery = 97.70%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: ICB 570-204128/8-A **Date Collected: 12/28/2021 11:42:50 AM**
Analyst: **Data Type: Original**

Replicate Data: ICB 570-204128/8-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0072	-0.0000	-0.0006	0.0000	11:43:43 AM	Yes
2	-0.0000	-0.0108	-0.0001	-0.0011	0.0000	11:44:18 AM	Yes
Mean:	-0.0000	-0.0090	-0.0000				
SD:	0.00000	0.00259	0.0000				
%RSD:	28.80%	28.80%	37.63				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 8**
Sample ID: CRA 570-204128/11-A **Date Collected: 12/28/2021 11:44:39 AM**
Analyst: **Data Type: Original**

Replicate Data: CRA 570-204128/11-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0991	0.0006	0.0020	0.0007	11:45:33 AM	Yes
2	0.0001	0.0910	0.0006	0.0018	0.0007	11:46:08 AM	Yes
Mean:	0.0001	0.0950	0.0006				
SD:	0.00001	0.00576	0.0000				
%RSD:	6.06%	6.06%	5.93				

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: CCV 570-204128/9-A **Date Collected: 12/28/2021 11:46:29 AM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-204128/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored

#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.0020	1.98	0.0124	0.0501	0.0125	11:47:23 AM	Yes
2	0.0020	1.97	0.0124	0.0486	0.0124	11:47:58 AM	Yes
Mean:	0.0020	1.97	0.0124				
SD:	0.00001	0.009	0.0001				
%RSD:	0.48%	0.48%	0.48				

QC value within limits for Hg 253.7 Recovery = 98.59%
All analyte(s) passed QC.

==========

Sequence No.: 5 **Autosampler Location: 1**
Sample ID: CCB 570-204128/10-A **Date Collected: 12/28/2021 11:48:20 AM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-204128/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0110	-0.0001	-0.0020	0.0000	11:49:13 AM	Yes
2	-0.0000	-0.0127	-0.0001	-0.0012	0.0000	11:49:48 AM	Yes
Mean:	-0.0000	-0.0119	-0.0001				
SD:	0.00000	0.00118	0.0000				
%RSD:	9.97%	9.97%	12.13				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211228G1.sifx
Batch ID:
Results Data Set: 211228G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: EPA 7470A+7471A-Hg-7 **Method Last Saved: 12/28/2021 1:05:33 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 9**
Sample ID: MB 570-204132/1-A **Date Collected: 12/28/2021 1:05:38 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-204132/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0028	0.0000	0.0010	0.0001	1:06:32 PM	Yes
2	0.0000	0.0016	0.0000	0.0006	0.0001	1:07:07 PM	Yes
Mean:	0.0000	0.0022	0.0000				
SD:	0.00000	0.00085	0.0000				
%RSD:	39.37%	39.37%	19.93				

==========

Sequence No.: 2 **Autosampler Location: 10**
Sample ID: LCS 570-204132/2-A **Date Collected: 12/28/2021 1:07:29 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-204132/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0051	5.08	0.0319	0.1306	0.0320	1:08:23 PM	Yes
2	0.0051	5.09	0.0320	0.1298	0.0321	1:08:58 PM	Yes
Mean:	0.0051	5.08	0.0320				
SD:	0.00001	0.005	0.0000				
%RSD:	0.10%	0.10%	0.10				

==========

Sequence No.: 3 **Autosampler Location: 11**
Sample ID: LCSD 570-204132/3-A **Date Collected: 12/28/2021 1:09:20 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-204132/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	5.04	0.0317	0.1284	0.0318	1:10:14 PM	Yes
2	0.0051	5.07	0.0319	0.1277	0.0320	1:10:49 PM	Yes
Mean:	0.0051	5.05	0.0318				
SD:	0.00002	0.022	0.0001				
%RSD:	0.44%	0.44%	0.44				

==========

Sequence No.: 4 **Autosampler Location: 12**
Sample ID: 570-78689-B-1-B **Date Collected: 12/28/2021 1:11:11 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78689-B-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0000	0.0000	0.0002	0.0001	1:12:06 PM	Yes
2	0.0000	0.0061	0.0001	0.0010	0.0001	1:12:40 PM	Yes
Mean:	0.0000	0.0030	0.0000				

SD:	0.00000	0.00436	0.0000
%RSD:	143.71%	143.71%	84.73

Sequence No.: 5 **Autosampler Location: 13**
Sample ID: 570-78689-B-1-C MS **Date Collected: 12/28/2021 1:13:03 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78689-B-1-C MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.88	0.0307	0.1245	0.0308	1:13:58 PM	Yes
2	0.0049	4.89	0.0307	0.1246	0.0308	1:14:32 PM	Yes
Mean:	0.0049	4.88	0.0307				
SD:	0.00001	0.006	0.0000				
%RSD:	0.12%	0.12%	0.12				

Sequence No.: 6 **Autosampler Location: 14**
Sample ID: 570-78689-B-1-D MSD **Date Collected: 12/28/2021 1:14:55 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78689-B-1-D MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.92	0.0309	0.1263	0.0310	1:15:48 PM	Yes
2	0.0049	4.89	0.0307	0.1250	0.0308	1:16:23 PM	Yes
Mean:	0.0049	4.90	0.0308				
SD:	0.00002	0.019	0.0001				
%RSD:	0.38%	0.38%	0.38				

Sequence No.: 7 **Autosampler Location: 15**
Sample ID: 570-78689-B-2-B **Date Collected: 12/28/2021 1:16:44 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78689-B-2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0052	0.0000	0.0006	0.0001	1:17:38 PM	Yes
2	0.0000	0.0000	0.0000	0.0002	0.0001	1:18:12 PM	Yes
Mean:	0.0000	0.0026	0.0000				
SD:	0.00000	0.00365	0.0000				
%RSD:	141.34%	141.34%	77.75				

Sequence No.: 8 **Autosampler Location: 16**
Sample ID: 570-78689-B-3-B **Date Collected: 12/28/2021 1:18:34 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78689-B-3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0049	0.0000	0.0003	0.0001	1:19:27 PM	Yes
2	0.0000	0.0048	0.0000	0.0003	0.0001	1:20:02 PM	Yes
Mean:	0.0000	0.0049	0.0000				
SD:	0.00000	0.00008	0.0000				
%RSD:	1.68%	1.68%	1.17				

Sequence No.: 9 **Autosampler Location: 17**
Sample ID: 570-78689-B-5-B **Date Collected: 12/28/2021 1:20:23 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78689-B-5-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0129	-0.0001	-0.0011	0.0000	1:21:16 PM	Yes
2	0.0000	0.0001	0.0000	-0.0000	0.0001	1:21:51 PM	Yes
Mean:	-0.0000	-0.0064	-0.0000				

SD:	0.00001	0.00922	0.0001
%RSD:	143.89%	143.89%	214.57

==========

Sequence No.: 10 **Autosampler Location: 18**
Sample ID: 570-78689-B-4-B **Date Collected: 12/28/2021 1:22:12 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78689-B-4-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0029	0.0000	0.0003	0.0001	1:23:06 PM	Yes
2	0.0000	0.0018	0.0000	0.0003	0.0001	1:23:41 PM	Yes
Mean:	0.0000	0.0024	0.0000				
SD:	0.00000	0.00081	0.0000				
%RSD:	34.35%	34.35%	18.15				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-204128/9-A **Date Collected: 12/28/2021 1:24:02 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-204128/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0021	2.09	0.0132	0.0538	0.0133	1:24:56 PM	Yes
2	0.0020	2.02	0.0127	0.0501	0.0128	1:25:31 PM	Yes
Mean:	0.0021	2.06	0.0129				
SD:	0.00005	0.051	0.0003				
%RSD:	2.49%	2.49%	2.49				

QC value within limits for Hg 253.7 Recovery = 102.88%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-204128/10-A **Date Collected: 12/28/2021 1:25:53 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-204128/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0040	-0.0000	-0.0002	0.0001	1:26:46 PM	Yes
2	-0.0000	-0.0049	-0.0000	-0.0001	0.0001	1:27:21 PM	Yes
Mean:	-0.0000	-0.0044	-0.0000				
SD:	0.00000	0.00060	0.0000				
%RSD:	13.48%	13.48%	25.72				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 19**
Sample ID: MB 570-204138/1-A **Date Collected: 12/28/2021 1:27:42 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-204138/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0045	-0.0000	-0.0002	0.0001	1:28:36 PM	Yes
2	-0.0000	-0.0026	-0.0000	-0.0001	0.0001	1:29:10 PM	Yes
Mean:	-0.0000	-0.0036	-0.0000				
SD:	0.00000	0.00134	0.0000				
%RSD:	37.32%	37.32%	90.40				

==========

Sequence No.: 14 **Autosampler Location: 20**
Sample ID: LCS 570-204138/2-A **Date Collected: 12/28/2021 1:29:31 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-204138/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored

#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.0049	4.88	0.0307	0.1262	0.0308	1:30:25 PM	Yes
2	0.0048	4.82	0.0303	0.1218	0.0304	1:31:00 PM	Yes
Mean:	0.0049	4.85	0.0305				
SD:	0.00005	0.045	0.0003				
%RSD:	0.93%	0.93%	0.93				

==========

Sequence No.: 15 **Autosampler Location: 21**
Sample ID: LCSD 570-204138/3-A **Date Collected: 12/28/2021 1:31:22 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-204138/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.88	0.0307	0.1258	0.0307	1:32:16 PM	Yes
2	0.0048	4.84	0.0304	0.1233	0.0305	1:32:51 PM	Yes
Mean:	0.0049	4.86	0.0305				
SD:	0.00003	0.029	0.0002				
%RSD:	0.60%	0.60%	0.60				

==========

Sequence No.: 16 **Autosampler Location: 22**
Sample ID: 570-78688-B-1-B **Date Collected: 12/28/2021 1:33:13 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78688-B-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0009	0.0000	-0.0003	0.0001	1:34:07 PM	Yes
2	-0.0000	-0.0053	-0.0000	-0.0006	0.0001	1:34:42 PM	Yes
Mean:	-0.0000	-0.0022	-0.0000				
SD:	0.00000	0.00439	0.0000				
%RSD:	203.59%	203.59%	>999.9%				

==========

Sequence No.: 17 **Autosampler Location: 23**
Sample ID: 570-78688-B-1-C MS **Date Collected: 12/28/2021 1:35:04 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78688-B-1-C MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	4.97	0.0313	0.1271	0.0314	1:35:58 PM	Yes
2	0.0049	4.86	0.0306	0.1224	0.0306	1:36:33 PM	Yes
Mean:	0.0049	4.92	0.0309				
SD:	0.00008	0.080	0.0005				
%RSD:	1.62%	1.62%	1.62				

==========

Sequence No.: 18 **Autosampler Location: 24**
Sample ID: 570-78688-B-1-D MSD **Date Collected: 12/28/2021 1:36:55 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78688-B-1-D MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0048	4.84	0.0304	0.1236	0.0305	1:37:50 PM	Yes
2	0.0048	4.78	0.0300	0.1194	0.0301	1:38:24 PM	Yes
Mean:	0.0048	4.81	0.0302				
SD:	0.00004	0.041	0.0003				
%RSD:	0.84%	0.84%	0.84				

==========

Sequence No.: 19 **Autosampler Location: 25**
Sample ID: 570-80109-J-1-B **Date Collected: 12/28/2021 1:38:47 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80109-J-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak

#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.0001	0.118	0.0008	0.0024	0.0008	1:39:41 PM	Yes
2	0.0001	0.109	0.0007	0.0018	0.0008	1:40:16 PM	Yes
Mean:	0.0001	0.114	0.0007				
SD:	0.00001	0.0059	0.0000				
%RSD:	5.18%	5.18%	5.09				

==========

Sequence No.: 20 **Autosampler Location: 26**
Sample ID: 570-78689-B-6-B **Date Collected: 12/28/2021 1:40:39 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-78689-B-6-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0124	-0.0001	-0.0015	0.0000	1:41:33 PM	Yes
2	-0.0000	-0.0085	-0.0000	-0.0007	0.0000	1:42:07 PM	Yes
Mean:	-0.0000	-0.0105	-0.0001				
SD:	0.00000	0.00274	0.0000				
%RSD:	26.12%	26.12%	32.72				

==========

Sequence No.: 21 **Autosampler Location: 4**
Sample ID: CCV 570-204128/9-A **Date Collected: 12/28/2021 1:42:28 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-204128/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0020	2.02	0.0127	0.0513	0.0128	1:43:23 PM	Yes
2	0.0021	2.05	0.0129	0.0511	0.0130	1:43:58 PM	Yes
Mean:	0.0020	2.04	0.0128				
SD:	0.00002	0.023	0.0001				
%RSD:	1.13%	1.13%	1.13				

QC value within limits for Hg 253.7 Recovery = 101.77%
All analyte(s) passed QC.

==========

Sequence No.: 22 **Autosampler Location: 1**
Sample ID: CCB 570-204128/10-A **Date Collected: 12/28/2021 1:44:20 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-204128/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0092	-0.0000	-0.0010	0.0000	1:45:13 PM	Yes
2	-0.0000	-0.0143	-0.0001	-0.0033	0.0000	1:45:48 PM	Yes
Mean:	-0.0000	-0.0118	-0.0001				
SD:	0.00000	0.00360	0.0000				
%RSD:	30.57%	30.57%	37.23				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211228G1.sifx
Batch ID:
Results Data Set: 211228G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 27**
Sample ID: MB 570-204014/1-B **Date Collected: 12/28/2021 1:47:54 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-204014/1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0123	0.0001	0.0001	0.0002	1:48:47 PM	Yes
2	0.0000	0.0136	0.0001	0.0005	0.0002	1:49:22 PM	Yes
Mean:	0.0000	0.0129	0.0001				
SD:	0.00000	0.00092	0.0000				
%RSD:	7.12%	7.12%	6.12				

==========

Sequence No.: 2 **Autosampler Location: 28**
Sample ID: LCS 570-204014/2-B **Date Collected: 12/28/2021 1:49:43 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-204014/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	4.98	0.0313	0.1282	0.0314	1:50:37 PM	Yes
2	0.0048	4.81	0.0302	0.1222	0.0303	1:51:11 PM	Yes
Mean:	0.0049	4.89	0.0308				
SD:	0.00013	0.125	0.0008				
%RSD:	2.56%	2.56%	2.56				

==========

Sequence No.: 3 **Autosampler Location: 29**
Sample ID: LCSD 570-204014/3-B **Date Collected: 12/28/2021 1:51:33 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-204014/3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	4.96	0.0312	0.1275	0.0312	1:52:26 PM	Yes
2	0.0048	4.82	0.0303	0.1224	0.0304	1:53:01 PM	Yes
Mean:	0.0049	4.89	0.0307				
SD:	0.00010	0.097	0.0006				
%RSD:	1.99%	1.99%	1.99				

==========

Sequence No.: 4 **Autosampler Location: 30**
Sample ID: 570-80119-B-1-E **Date Collected: 12/28/2021 1:53:22 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-B-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0026	0.0000	-0.0001	0.0001	1:54:16 PM	Yes
2	0.0000	0.0043	0.0000	0.0001	0.0001	1:54:51 PM	Yes
Mean:	0.0000	0.0034	0.0000				
SD:	0.00000	0.00115	0.0000				
%RSD:	33.43%	33.43%	20.73				

==========

Sequence No.: 5 **Autosampler Location: 31**

Sample ID: 570-80119-B-2-E **Date Collected: 12/28/2021 1:55:12 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-B-2-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0132	0.0001	-0.0002	0.0002	1:56:06 PM	Yes
2	0.0000	0.0157	0.0001	0.0004	0.0002	1:56:40 PM	Yes
Mean:	0.0000	0.0145	0.0001				
SD:	0.00000	0.00177	0.0000				
%RSD:	12.24%	12.24%	10.68				

Sequence No.: 6 **Autosampler Location: 32**
Sample ID: 570-80119-B-2-F MS **Date Collected: 12/28/2021 1:57:02 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-B-2-F MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0047	4.75	0.0298	0.1231	0.0299	1:57:56 PM	Yes
2	0.0048	4.81	0.0302	0.1225	0.0303	1:58:30 PM	Yes
Mean:	0.0048	4.78	0.0300				
SD:	0.00004	0.042	0.0003				
%RSD:	0.88%	0.88%	0.88				

Sequence No.: 7 **Autosampler Location: 33**
Sample ID: 570-80119-B-2-G MSD **Date Collected: 12/28/2021 1:58:52 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-B-2-G MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0048	4.80	0.0302	0.1235	0.0303	1:59:46 PM	Yes
2	0.0048	4.84	0.0304	0.1234	0.0305	2:00:21 PM	Yes
Mean:	0.0048	4.82	0.0303				
SD:	0.00003	0.029	0.0002				
%RSD:	0.60%	0.60%	0.60				

Sequence No.: 8 **Autosampler Location: 34**
Sample ID: 570-80119-B-3-C **Date Collected: 12/28/2021 2:00:43 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-B-3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0060	0.0001	-0.0005	0.0001	2:01:37 PM	Yes
2	0.0000	0.0063	0.0001	-0.0006	0.0001	2:02:12 PM	Yes
Mean:	0.0000	0.0062	0.0001				
SD:	0.00000	0.00025	0.0000				
%RSD:	4.06%	4.06%	3.03				

Sequence No.: 9 **Autosampler Location: 35**
Sample ID: 570-80119-B-4-C **Date Collected: 12/28/2021 2:02:34 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-B-4-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0017	0.0000	-0.0002	0.0001	2:03:28 PM	Yes
2	0.0000	0.0064	0.0001	-0.0002	0.0001	2:04:03 PM	Yes
Mean:	0.0000	0.0041	0.0000				
SD:	0.00000	0.00330	0.0000				
%RSD:	81.07%	81.07%	53.38				

Sequence No.: 10 **Autosampler Location: 36**

Sample ID: LB 570-203893/1-C **Date Collected: 12/28/2021 2:04:25 PM**
Analyst: **Data Type: Original**

Replicate Data: LB 570-203893/1-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0283	0.0002	0.0005	0.0003	2:05:20 PM	Yes
2	0.0000	0.0238	0.0002	-0.0003	0.0002	2:05:54 PM	Yes
Mean:	0.0000	0.0260	0.0002				
SD:	0.00000	0.00318	0.0000				
%RSD:	12.21%	12.21%	11.29				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-204128/9-A **Date Collected: 12/28/2021 2:06:17 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-204128/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0022	2.16	0.0136	0.0526	0.0137	2:07:11 PM	Yes
2	0.0020	2.03	0.0128	0.0512	0.0129	2:07:46 PM	Yes
Mean:	0.0021	2.10	0.0132				
SD:	0.00009	0.089	0.0006				
%RSD:	4.24%	4.24%	4.24				

QC value within limits for Hg 253.7 Recovery = 104.88%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-204128/10-A **Date Collected: 12/28/2021 2:08:08 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-204128/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0026	-0.0000	-0.0003	0.0001	2:09:01 PM	Yes
2	-0.0000	-0.0036	-0.0000	-0.0001	0.0001	2:09:36 PM	Yes
Mean:	-0.0000	-0.0031	-0.0000				
SD:	0.00000	0.00071	0.0000				
%RSD:	22.92%	22.92%	72.42				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 37**
Sample ID: LCS 570-203893/2-C **Date Collected: 12/28/2021 2:09:57 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-203893/2-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0048	4.75	0.0299	0.1226	0.0299	2:10:52 PM	Yes
2	0.0047	4.74	0.0298	0.1222	0.0299	2:11:26 PM	Yes
Mean:	0.0047	4.74	0.0298				
SD:	0.00001	0.010	0.0001				
%RSD:	0.22%	0.22%	0.22				

==========

Sequence No.: 14 **Autosampler Location: 38**
Sample ID: LCSD 570-203893/3-C **Date Collected: 12/28/2021 2:11:49 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-203893/3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.87	0.0306	0.1259	0.0307	2:12:43 PM	Yes
2	0.0048	4.76	0.0299	0.1220	0.0300	2:13:18 PM	Yes
Mean:	0.0048	4.81	0.0303				
SD:	0.00008	0.075	0.0005				

%RSD: 1.56% 1.56% 1.56

==========

Sequence No.: 15 **Autosampler Location: 39**
Sample ID: 570-79996-A-1-C **Date Collected: 12/28/2021 2:13:40 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79996-A-1-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0002	0.222	0.0014	0.0053	0.0015	2:14:34 PM	Yes
2	0.0002	0.238	0.0015	0.0062	0.0016	2:15:08 PM	Yes
Mean:	0.0002	0.230	0.0015				
SD:	0.00001	0.0113	0.0001				
%RSD:	4.92%	4.92%	4.87				

==========

Sequence No.: 16 **Autosampler Location: 40**
Sample ID: 570-79996-A-1-D MS **Date Collected: 12/28/2021 2:15:30 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79996-A-1-D MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.92	0.0309	0.1270	0.0310	2:16:24 PM	Yes
2	0.0048	4.82	0.0303	0.1234	0.0304	2:16:59 PM	Yes
Mean:	0.0049	4.87	0.0306				
SD:	0.00007	0.069	0.0004				
%RSD:	1.42%	1.42%	1.42				

==========

Sequence No.: 17 **Autosampler Location: 41**
Sample ID: 570-79996-A-1-E MSD **Date Collected: 12/28/2021 2:17:20 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79996-A-1-E MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.95	0.0311	0.1273	0.0312	2:18:14 PM	Yes
2	0.0050	5.00	0.0314	0.1267	0.0315	2:18:49 PM	Yes
Mean:	0.0050	4.97	0.0313				
SD:	0.00004	0.037	0.0002				
%RSD:	0.74%	0.74%	0.74				

==========

Sequence No.: 18 **Autosampler Location: 42**
Sample ID: 570-80110-A-1-F **Date Collected: 12/28/2021 2:19:11 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80110-A-1-F **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0253	25.3	0.1588	0.6626	0.1589	2:20:05 PM	Yes
	Sample concentration is greater than that of the highest standard.						
2	0.0245	24.5	0.1541	0.6303	0.1542	2:20:39 PM	Yes
	Sample concentration is greater than that of the highest standard.						
Mean:	0.0249	24.9	0.1565				
SD:	0.00054	0.54	0.0034				
%RSD:	2.16%	2.16%	2.16				
	Sample concentration is greater than that of the highest standard.						

==========

Sequence No.: 19 **Autosampler Location: 43**
Sample ID: 570-80110-A-3-F **Date Collected: 12/28/2021 2:21:01 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80110-A-3-F **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0459	0.0003	0.0005	0.0004	2:21:55 PM	Yes

2	0.0001	0.0564	0.0004	0.0014	0.0004	2:22:30 PM	Yes
Mean:	0.0001	0.0512	0.0003				
SD:	0.00001	0.00741	0.0000				
%RSD:	14.48%	14.48%	13.91				

==========

Sequence No.: 20 **Autosampler Location: 4**
Sample ID: CCV 570-204128/9-A **Date Collected: 12/28/2021 2:22:51 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-204128/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0021	2.07	0.0130	0.0532	0.0131	2:23:46 PM	Yes
2	0.0020	1.99	0.0125	0.0518	0.0126	2:24:21 PM	Yes
Mean:	0.0020	2.03	0.0127				
SD:	0.00006	0.055	0.0003				
%RSD:	2.74%	2.74%	2.74				

QC value within limits for Hg 253.7 Recovery = 101.34%
All analyte(s) passed QC.

==========

Sequence No.: 21 **Autosampler Location: 1**
Sample ID: CCB 570-204128/10-A **Date Collected: 12/28/2021 2:24:43 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-204128/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0022	-0.0000	0.0001	0.0001	2:25:36 PM	Yes
2	-0.0000	-0.0012	0.0000	0.0001	0.0001	2:26:11 PM	Yes
Mean:	-0.0000	-0.0017	0.0000				
SD:	0.00000	0.00070	0.0000				
%RSD:	42.40%	42.40%	155.76				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 211228G1.sifx
Batch ID:
Results Data Set: 211228G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 44**
Sample ID: 570-79164-N-7-D **Date Collected: 12/28/2021 3:18:28 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79164-N-7-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0074	0.0001	0.0013	0.0001	3:19:22 PM	Yes
2	0.0000	0.0045	0.0000	0.0011	0.0001	3:19:56 PM	Yes
Mean:	0.0000	0.0059	0.0001				
SD:	0.00000	0.00203	0.0000				
%RSD:	34.23%	34.23%	25.23				

==========

Sequence No.: 2 **Autosampler Location: 45**
Sample ID: 570-79164-N-8-B **Date Collected: 12/28/2021 3:20:18 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79164-N-8-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0083	0.0001	0.0013	0.0001	3:21:12 PM	Yes
2	0.0000	0.0075	0.0001	0.0016	0.0001	3:21:47 PM	Yes
Mean:	0.0000	0.0079	0.0001				
SD:	0.00000	0.00056	0.0000				
%RSD:	7.17%	7.17%	5.65				

==========

Sequence No.: 3 **Autosampler Location: 46**
Sample ID: 570-79164-N-10-B **Date Collected: 12/28/2021 3:22:08 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79164-N-10-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0009	0.0000	0.0010	0.0001	3:23:03 PM	Yes
2	0.0000	0.0098	0.0001	0.0018	0.0002	3:23:37 PM	Yes
Mean:	0.0000	0.0053	0.0000				
SD:	0.00001	0.00630	0.0000				
%RSD:	117.85%	117.85%	84.50				

==========

Sequence No.: 4 **Autosampler Location: 47**
Sample ID: 570-79164-N-11-B **Date Collected: 12/28/2021 3:23:59 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79164-N-11-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0078	0.0001	0.0017	0.0001	3:24:54 PM	Yes
2	0.0000	0.0080	0.0001	0.0015	0.0001	3:25:29 PM	Yes
Mean:	0.0000	0.0079	0.0001				
SD:	0.00000	0.00017	0.0000				
%RSD:	2.19%	2.19%	1.73				

==========

Sequence No.: 5 **Autosampler Location: 48**

Sample ID: 570-79164-N-12-B **Date Collected: 12/28/2021 3:25:51 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79164-N-12-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0019	0.0000	0.0013	0.0001	3:26:46 PM	Yes
2	0.0000	0.0023	0.0000	0.0011	0.0001	3:27:21 PM	Yes
Mean:	0.0000	0.0021	0.0000				
SD:	0.00000	0.00023	0.0000				
%RSD:	11.12%	11.12%	5.55				

Sequence No.: 6 **Autosampler Location: 49**
Sample ID: 570-79164-N-14-B **Date Collected: 12/28/2021 3:27:43 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79164-N-14-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0013	0.0000	0.0011	0.0001	3:28:38 PM	Yes
2	0.0000	0.0037	0.0000	0.0009	0.0001	3:29:12 PM	Yes
Mean:	0.0000	0.0025	0.0000				
SD:	0.00000	0.00169	0.0000				
%RSD:	68.58%	68.58%	36.96				

Sequence No.: 7 **Autosampler Location: 50**
Sample ID: LB4 570-204167/1-D **Date Collected: 12/28/2021 3:29:35 PM**
Analyst: **Data Type: Original**

Replicate Data: LB4 570-204167/1-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0005	0.0000	0.0006	0.0001	3:30:29 PM	Yes
2	0.0000	0.0016	0.0000	0.0010	0.0001	3:31:04 PM	Yes
Mean:	0.0000	0.0011	0.0000				
SD:	0.00000	0.00081	0.0000				
%RSD:	75.65%	75.65%	25.37				

Sequence No.: 8 **Autosampler Location: 51**
Sample ID: LCS 570-204167/2-D **Date Collected: 12/28/2021 3:31:26 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-204167/2-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	5.00	0.0314	0.1310	0.0315	3:32:20 PM	Yes
2	0.0049	4.95	0.0311	0.1303	0.0312	3:32:54 PM	Yes
Mean:	0.0050	4.98	0.0313				
SD:	0.00004	0.037	0.0002				
%RSD:	0.74%	0.74%	0.74				

Sequence No.: 9 **Autosampler Location: 52**
Sample ID: LCSD 570-204167/3-D **Date Collected: 12/28/2021 3:33:16 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-204167/3-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0051	5.11	0.0321	0.1297	0.0322	3:34:10 PM	Yes
2	0.0049	4.92	0.0309	0.1291	0.0310	3:34:45 PM	Yes
Mean:	0.0050	5.02	0.0315				
SD:	0.00014	0.136	0.0009				
%RSD:	2.70%	2.70%	2.70				

Sequence No.: 10 **Autosampler Location: 53**

Sample ID: 570-80110-H-2-L **Date Collected: 12/28/2021 3:35:07 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80110-H-2-L **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0060	0.0001	0.0006	0.0001	3:36:01 PM	Yes
2	0.0000	0.0093	0.0001	0.0007	0.0002	3:36:36 PM	Yes
Mean:	0.0000	0.0076	0.0001				
SD:	0.00000	0.00233	0.0000				
%RSD:	30.50%	30.50%	23.90				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-204128/9-A **Date Collected: 12/28/2021 3:36:58 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-204128/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.88	0.0118	0.0498	0.0119	3:37:52 PM	Yes
2	0.0019	1.87	0.0118	0.0492	0.0119	3:38:27 PM	Yes
Mean:	0.0019	1.88	0.0118				
SD:	0.00001	0.006	0.0000				
%RSD:	0.32%	0.32%	0.32				

QC value within limits for Hg 253.7 Recovery = 93.78%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-204128/10-A **Date Collected: 12/28/2021 3:38:49 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-204128/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0024	0.0000	0.0008	0.0001	3:39:42 PM	Yes
2	-0.0000	-0.0022	-0.0000	0.0004	0.0001	3:40:17 PM	Yes
Mean:	0.0000	0.0001	0.0000				
SD:	0.00000	0.00327	0.0000				
%RSD:	>999.9%	>999.9%	147.30				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 54**
Sample ID: 570-80110-H-2-M MS **Date Collected: 12/28/2021 3:40:38 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80110-H-2-M MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.22	0.0328	0.1373	0.0329	3:41:32 PM	Yes
2	0.0051	5.14	0.0323	0.1354	0.0324	3:42:06 PM	Yes
Mean:	0.0052	5.18	0.0326				
SD:	0.00005	0.052	0.0003				
%RSD:	1.00%	1.00%	1.00				

==========

Sequence No.: 14 **Autosampler Location: 55**
Sample ID: 570-80110-H-2-N MSD **Date Collected: 12/28/2021 3:42:28 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80110-H-2-N MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.22	0.0328	0.1364	0.0329	3:43:22 PM	Yes
2	0.0051	5.11	0.0321	0.1346	0.0322	3:43:57 PM	Yes
Mean:	0.0052	5.16	0.0325				
SD:	0.00008	0.076	0.0005				

%RSD: 1.47% 1.47% 1.47

==========

Sequence No.: 15 **Autosampler Location: 56**
Sample ID: 570-80010-A-1-C **Date Collected: 12/28/2021 3:44:19 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80010-A-1-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0022	0.0000	0.0003	0.0001	3:45:13 PM	Yes
2	-0.0000	-0.0055	-0.0000	-0.0005	0.0001	3:45:48 PM	Yes
Mean:	-0.0000	-0.0017	0.0000				
SD:	0.00001	0.00544	0.0000				
%RSD:	326.22%	326.22%	>999.9%				

==========

Sequence No.: 16 **Autosampler Location: 57**
Sample ID: LB 570-204135/1-C **Date Collected: 12/28/2021 3:46:09 PM**
Analyst: **Data Type: Original**

Replicate Data: LB 570-204135/1-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0002	0.198	0.0013	0.0052	0.0013	3:47:04 PM	Yes
2	0.0002	0.187	0.0012	0.0047	0.0013	3:47:38 PM	Yes
Mean:	0.0002	0.193	0.0012				
SD:	0.00001	0.0077	0.0000				
%RSD:	4.00%	4.00%	3.95				

==========

Sequence No.: 17 **Autosampler Location: 58**
Sample ID: LCS 570-204135/2-C **Date Collected: 12/28/2021 3:48:00 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-204135/2-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.92	0.0309	0.1300	0.0310	3:48:54 PM	Yes
2	0.0049	4.89	0.0307	0.1275	0.0308	3:49:29 PM	Yes
Mean:	0.0049	4.90	0.0308				
SD:	0.00002	0.019	0.0001				
%RSD:	0.39%	0.39%	0.39				

==========

Sequence No.: 18 **Autosampler Location: 59**
Sample ID: LCSD 570-204135/3-C **Date Collected: 12/28/2021 3:49:51 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-204135/3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.91	0.0309	0.1296	0.0310	3:50:45 PM	Yes
2	0.0051	5.14	0.0323	0.1328	0.0324	3:51:20 PM	Yes
Mean:	0.0050	5.03	0.0316				
SD:	0.00016	0.163	0.0010				
%RSD:	3.25%	3.25%	3.25				

==========

Sequence No.: 19 **Autosampler Location: 60**
Sample ID: 570-80110-H-2-E **Date Collected: 12/28/2021 3:51:42 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80110-H-2-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0008	0.0000	-0.0003	0.0001	3:52:37 PM	Yes
2	0.0000	0.0039	0.0000	0.0005	0.0001	3:53:12 PM	Yes
Mean:	0.0000	0.0024	0.0000				
SD:	0.00000	0.00217	0.0000				

%RSD: 91.35% 91.35% 48.34

==========

Sequence No.: 20 **Autosampler Location: 61**
Sample ID: 570-80110-H-2-F MS **Date Collected: 12/28/2021 3:53:34 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80110-H-2-F MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.16	0.0324	0.1367	0.0325	3:54:29 PM	Yes
2	0.0051	5.07	0.0319	0.1332	0.0319	3:55:04 PM	Yes
Mean:	0.0051	5.11	0.0322				
SD:	0.00007	0.065	0.0004				
%RSD:	1.28%	1.28%	1.28				

==========

Sequence No.: 21 **Autosampler Location: 62**
Sample ID: 570-80110-H-2-G MSD **Date Collected: 12/28/2021 3:55:27 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80110-H-2-G MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	5.05	0.0317	0.1336	0.0318	3:56:21 PM	Yes
2	0.0051	5.09	0.0320	0.1343	0.0321	3:56:56 PM	Yes
Mean:	0.0051	5.07	0.0319				
SD:	0.00003	0.029	0.0002				
%RSD:	0.58%	0.58%	0.58				

==========

Sequence No.: 22 **Autosampler Location: 63**
Sample ID: 570-80147-M-2-C **Date Collected: 12/28/2021 3:57:18 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80147-M-2-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0092	0.0001	0.0002	0.0002	3:58:12 PM	Yes
2	0.0000	0.0079	0.0001	0.0003	0.0001	3:58:47 PM	Yes
Mean:	0.0000	0.0085	0.0001				
SD:	0.00000	0.00094	0.0000				
%RSD:	11.00%	11.00%	8.82				

==========

Sequence No.: 23 **Autosampler Location: 4**
Sample ID: CCV 570-204128/9-A **Date Collected: 12/28/2021 3:59:09 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-204128/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.87	0.0118	0.0494	0.0118	4:00:03 PM	Yes
2	0.0018	1.85	0.0116	0.0488	0.0117	4:00:38 PM	Yes
Mean:	0.0019	1.86	0.0117				
SD:	0.00002	0.018	0.0001				
%RSD:	0.95%	0.95%	0.94				

QC value within limits for Hg 253.7 Recovery = 92.90%
All analyte(s) passed QC.

==========

Sequence No.: 24 **Autosampler Location: 1**
Sample ID: CCB 570-204128/10-A **Date Collected: 12/28/2021 4:01:00 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-204128/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0007	0.0000	0.0000	0.0001	4:01:54 PM	Yes
2	-0.0000	-0.0019	0.0000	-0.0002	0.0001	4:02:28 PM	Yes

Mean: -0.0000 -0.0013 0.0000
SD: 0.00000 0.00086 0.0000
%RSD: 64.26% 64.26% 111.46
QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 25 **Autosampler Location: 64**
Sample ID: 570-80148-M-2-C **Date Collected: 12/28/2021 4:02:49 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80148-M-2-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0025	-0.0000	-0.0006	0.0001	4:03:44 PM	Yes
2	0.0000	0.0082	0.0001	0.0003	0.0001	4:04:19 PM	Yes
Mean:	0.0000	0.0029	0.0000				
SD:	0.00001	0.00760	0.0000				
%RSD:	266.38%	266.38%	153.08				

Sequence No.: 26 **Autosampler Location: 65**
Sample ID: 570-80110-A-1-F@10 **Date Collected: 12/28/2021 4:04:41 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80110-A-1-F@10 **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0027	2.65	0.0167	0.0705	0.0168	4:05:35 PM	Yes
2	0.0026	2.61	0.0164	0.0688	0.0165	4:06:10 PM	Yes
Mean:	0.0026	2.63	0.0165				
SD:	0.00003	0.032	0.0002				
%RSD:	1.23%	1.23%	1.23				

Sequence No.: 27 **Autosampler Location: 66**
Sample ID: LB 570-204135/1-C **Date Collected: 12/28/2021 4:06:32 PM**
Analyst: **Data Type: Original**

Replicate Data: LB 570-204135/1-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0093	-0.0000	-0.0007	0.0000	4:07:26 PM	Yes
2	-0.0000	-0.0031	-0.0000	-0.0002	0.0001	4:08:01 PM	Yes
Mean:	-0.0000	-0.0062	-0.0000				
SD:	0.00000	0.00444	0.0000				
%RSD:	71.69%	71.69%	108.73				

Sequence No.: 28 **Autosampler Location: 4**
Sample ID: CCV 570-204128/9-A **Date Collected: 12/28/2021 4:08:23 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-204128/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.86	0.0117	0.0494	0.0118	4:09:17 PM	Yes
2	0.0018	1.84	0.0116	0.0486	0.0116	4:09:52 PM	Yes
Mean:	0.0018	1.85	0.0116				
SD:	0.00001	0.014	0.0001				
%RSD:	0.77%	0.77%	0.77				

QC value within limits for Hg 253.7 Recovery = 92.45%
All analyte(s) passed QC.

Sequence No.: 29 **Autosampler Location: 1**
Sample ID: CCB 570-204128/10-A **Date Collected: 12/28/2021 4:10:14 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-204128/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0015	0.0000	-0.0001	0.0001	4:11:07 PM	Yes
2	0.0000	0.0002	0.0000	0.0001	0.0001	4:11:42 PM	Yes
Mean:	-0.0000	-0.0007	0.0000				
SD:	0.00000	0.00117	0.0000				
%RSD:	177.08%	177.08%	81.14				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg **Method Last Saved: 1/13/2022 12:30:51 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-207215/1-A **Date Collected: 1/13/2022 12:30:58 PM**
Analyst: **Data Type: Original**

Replicate Data: ICIS 570-207215/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0006	0.0035	0.0006	12:31:54 PM	Yes
2		[0.00]	0.0007	0.0048	0.0007	12:32:30 PM	Yes
Mean:		[0.00]	0.0006				
SD:		0.0000	0.0001				
%RSD:		0.00%	9.82%				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: IC 570-207215/2-A **Date Collected: 1/13/2022 12:32:49 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0018	0.0116	0.0024	12:33:42 PM	Yes
2		[0.100]	0.0018	0.0118	0.0024	12:34:18 PM	Yes
Mean:		[0.100]	0.0018				
SD:		0.00000	0.0000				
%RSD:		0.00%	1.21%				

Standard number 1 applied. [0.100]
Correlation Coef.: 1.000000 Slope: 0.01793 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: IC 570-207215/3-A **Date Collected: 1/13/2022 12:34:37 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0174	0.0869	0.0180	12:35:30 PM	Yes
2		[1.000]	0.0175	0.0894	0.0181	12:36:07 PM	Yes
Mean:		[1.000]	0.0174				
SD:		0.00000	0.0001				
%RSD:		0.00%	0.34%				

Standard number 2 applied. [1.000]
Correlation Coef.: 1.000000 Slope: 0.01738 Intercept: 0.00005

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: IC 570-207215/4-A **Date Collected: 1/13/2022 12:36:26 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/4-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0341	0.1665	0.0347	12:37:20 PM	Yes
2		[2.000]	0.0340	0.1660	0.0347	12:37:57 PM	Yes
Mean:		[2.000]	0.0340				
SD:		0.00000	0.0000				
%RSD:		0.00%	0.10%				

Standard number 3 applied. [2.000]
Correlation Coef.: 0.999930 Slope: 0.01717 Intercept: 0.00008

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: IC 570-207215/5-A **Date Collected: 1/13/2022 12:38:17 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.1135	0.5532	0.1141	12:39:12 PM	Yes
2		[5.000]	0.1114	0.5417	0.1121	12:39:48 PM	Yes
Mean:		[5.000]	0.1124				
SD:		0.00000	0.0015				
%RSD:		0.00%	1.30%				

Standard number 4 applied. [5.000]
Correlation Coef.: 0.990797 Slope: 0.01912 Intercept: -0.00014

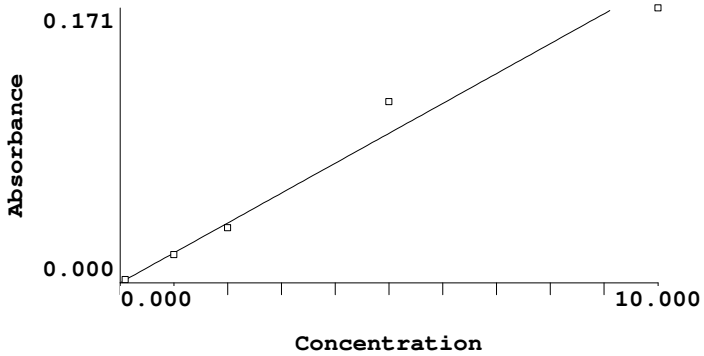
==========

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: IC 570-207215/6-A **Date Collected: 1/13/2022 12:40:09 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.000]	0.1706	0.8394	0.1712	12:41:02 PM	Yes
2		[10.000]	0.1708	0.8366	0.1714	12:41:38 PM	Yes
Mean:		[10.000]	0.1707				
SD:		0.00000	0.0002				
%RSD:		0.00%	0.09%				

Standard number 5 applied. [10.000]
Correlation Coef.: 0.991655 Slope: 0.01857 Intercept: -0.00008



Calibration data for Hg 253.7 **Equation: Weighted Linear**

ID	Mean Signal (Abs)	Entered Conc. µg/L	Calculated Conc. µg/L	Standard Deviation	%RSD
ICIS 570-207215/1-A	0.0000	0	0.0041	0.00	9.82
IC 570-207215/2-A	0.0018	0.100	0.1006	0.00	1.21
IC 570-207215/3-A	0.0174	1.000	0.9431	0.00	0.34
IC 570-207215/4-A	0.0340	2.000	1.8377	0.00	0.10
IC 570-207215/5-A	0.1124	5.000	6.0602	0.00	1.30
IC 570-207215/6-A	0.1707	10.000	9.1967	0.00	0.09

Correlation Coef.: 0.991655 Slope: 0.01857 Intercept: -0.00008

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg **Method Last Saved: 1/13/2022 1:03:43 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-207215/1-A **Date Collected: 1/13/2022 1:03:51 PM**
Analyst: **Data Type: Original**

Replicate Data: ICIS 570-207215/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0006	0.0032	0.0006	1:04:45 PM	Yes
2		[0.00]	0.0005	0.0019	0.0005	1:05:20 PM	Yes
Mean:		[0.00]	0.0006				
SD:		0.0000	0.0000				
%RSD:		0.00%	4.58%				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: IC 570-207215/2-A **Date Collected: 1/13/2022 1:05:39 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0018	0.0133	0.0023	1:06:33 PM	Yes
2		[0.100]	0.0018	0.0126	0.0023	1:07:09 PM	Yes
Mean:		[0.100]	0.0018				
SD:		0.00000	0.0000				
%RSD:		0.00%	0.33%				

Standard number 1 applied. [0.100]
Correlation Coef.: 1.000000 Slope: 0.01773 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: IC 570-207215/3-A **Date Collected: 1/13/2022 1:07:29 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0155	0.0910	0.0160	1:08:22 PM	Yes
2		[1.000]	0.0157	0.0901	0.0163	1:08:58 PM	Yes
Mean:		[1.000]	0.0156				
SD:		0.00000	0.0002				
%RSD:		0.00%	1.19%				

Standard number 2 applied. [1.000]
Correlation Coef.: 1.000000 Slope: 0.01535 Intercept: 0.00024

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: IC 570-207215/4-A **Date Collected: 1/13/2022 1:09:18 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/4-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0305	0.1772	0.0311	1:10:12 PM	Yes
2		[2.000]	0.0301	0.1726	0.0306	1:10:48 PM	Yes
Mean:		[2.000]	0.0303				
SD:		0.00000	0.0003				
%RSD:		0.00%	1.12%				

Standard number 3 applied. [2.000]
Correlation Coef.: 0.999938 Slope: 0.01517 Intercept: 0.00026

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: IC 570-207215/5-A **Date Collected: 1/13/2022 1:11:09 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.0922	0.5282	0.0927	1:12:03 PM	Yes
2		[5.000]	0.0970	0.5392	0.0976	1:12:39 PM	Yes
Mean:		[5.000]	0.0946				
SD:		0.00000	0.0034				
%RSD:		0.00%	3.61%				

Standard number 4 applied. [5.000]
Correlation Coef.: 0.994011 Slope: 0.01654 Intercept: 0.00011

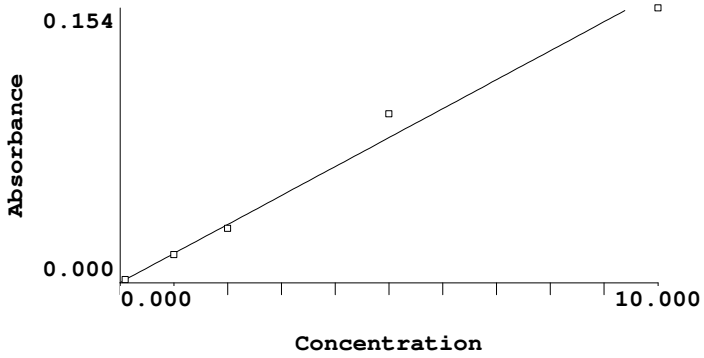
==========

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: IC 570-207215/6-A **Date Collected: 1/13/2022 1:13:00 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.000]	0.1544	0.8889	0.1550	1:13:53 PM	Yes
2		[10.000]	0.1534	0.8729	0.1540	1:14:29 PM	Yes
Mean:		[10.000]	0.1539				
SD:		0.00000	0.0007				
%RSD:		0.00%	0.47%				

Standard number 5 applied. [10.000]
Correlation Coef.: 0.994941 Slope: 0.01622 Intercept: 0.00014



Calibration data for Hg 253.7 **Equation: Weighted Linear**

ID	Mean Signal (Abs)	Entered Conc. µg/L	Calculated Conc. µg/L	Standard Deviation	%RSD
ICIS 570-207215/1-A	0.0000	0	-0.0087	0.00	4.58
IC 570-207215/2-A	0.0018	0.100	0.1006	0.00	0.33
IC 570-207215/3-A	0.0156	1.000	0.9524	0.00	1.19
IC 570-207215/4-A	0.0303	2.000	1.8593	0.00	1.12
IC 570-207215/5-A	0.0946	5.000	5.8219	0.00	3.61
IC 570-207215/6-A	0.1539	10.000	9.4803	0.00	0.47

Correlation Coef.: 0.994941 Slope: 0.01622 Intercept: 0.00014

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-207215/1-A **Date Collected: 1/13/2022 1:33:34 PM**
Analyst: **Data Type: Original**

Replicate Data: ICIS 570-207215/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0000	-0.0042	0.0000	1:34:28 PM	Yes
2		[0.00]	-0.0000	-0.0018	-0.0000	1:35:04 PM	Yes
Mean:		[0.00]	-0.0000				
SD:		0.0000	0.0000				
%RSD:		0.00%	449.23%				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: IC 570-207215/2-A **Date Collected: 1/13/2022 1:35:23 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0014	0.0089	0.0014	1:36:16 PM	Yes
2		[0.100]	0.0017	0.0110	0.0017	1:36:53 PM	Yes
Mean:		[0.100]	0.0015				
SD:		0.00000	0.0002				
%RSD:		0.00%	10.95%				

Standard number 1 applied. [0.100]
Correlation Coef.: 1.000000 Slope: 0.01550 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: IC 570-207215/3-A **Date Collected: 1/13/2022 1:37:12 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0114	0.0810	0.0114	1:38:06 PM	Yes
2		[1.000]	0.0107	0.0740	0.0107	1:38:42 PM	Yes
Mean:		[1.000]	0.0111				
SD:		0.00000	0.0005				
%RSD:		0.00%	4.87%				

Standard number 2 applied. [1.000]
Correlation Coef.: 1.000000 Slope: 0.01057 Intercept: 0.00049

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: IC 570-207215/4-A **Date Collected: 1/13/2022 1:39:02 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/4-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0212	0.1521	0.0212	1:39:56 PM	Yes
2		[2.000]	0.0216	0.1508	0.0216	1:40:32 PM	Yes

Mean: [2.000] 0.0214
SD: 0.00000 0.0003
%RSD: 0.00% 1.25%
Standard number 3 applied. [2.000]
Correlation Coef.: 0.999981 Slope: 0.01050 Intercept: 0.00050

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: IC 570-207215/5-A **Date Collected: 1/13/2022 1:40:58 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.0471	0.3359	0.0471	1:41:53 PM	Yes
2		[5.000]	0.0485	0.3381	0.0485	1:42:29 PM	Yes
Mean:		[5.000]	0.0478				
SD:		0.00000	0.0010				
%RSD:		0.00%	2.06%				

Standard number 4 applied. [5.000]
Correlation Coef.: 0.998702 Slope: 0.01012 Intercept: 0.00054

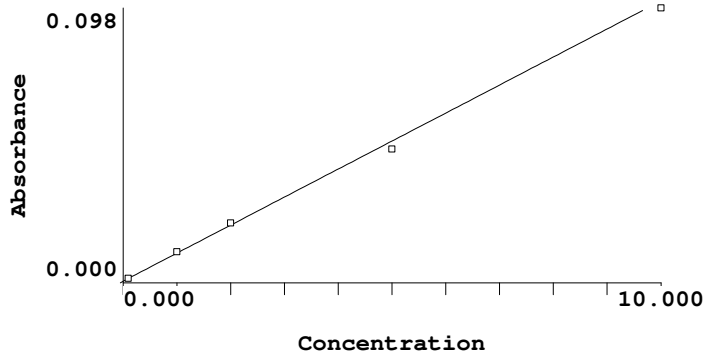
==========

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: IC 570-207215/6-A **Date Collected: 1/13/2022 1:42:49 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.000]	0.0995	0.7178	0.0995	1:43:42 PM	Yes
2		[10.000]	0.0972	0.6947	0.0972	1:44:18 PM	Yes
Mean:		[10.000]	0.0984				
SD:		0.00000	0.0016				
%RSD:		0.00%	1.67%				

Standard number 5 applied. [10.000]
Correlation Coef.: 0.998920 Slope: 0.01003 Intercept: 0.00055



Calibration data for Hg 253.7 **Equation: Weighted Linear**

ID	Mean Signal (Abs)	Entered Conc. µg/L	Calculated Conc. µg/L	Standard Deviation	%RSD
ICIS 570-207215/1-A	0.0000	0	-0.0551	0.00	449.23
IC 570-207215/2-A	0.0015	0.100	0.0995	0.00	10.95
IC 570-207215/3-A	0.0111	1.000	1.0484	0.00	4.87
IC 570-207215/4-A	0.0214	2.000	2.0785	0.00	1.25
IC 570-207215/5-A	0.0478	5.000	4.7116	0.00	2.06
IC 570-207215/6-A	0.0984	10.000	9.7544	0.00	1.67

Correlation Coef.: 0.998920 Slope: 0.01003 Intercept: 0.00055

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg* **Method Last Saved: 1/13/2022 1:03:43 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 7**
Sample ID: ICV 570-207215/7-A **Date Collected: 1/13/2022 1:49:02 PM**
Analyst: **Data Type: Original**

Replicate Data: ICV 570-207215/7-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0044	4.43	0.0450	0.3263	0.0450	1:49:55 PM	Yes
2	0.0043	4.26	0.0432	0.3098	0.0432	1:50:32 PM	Yes
Mean:	0.0043	4.34	0.0441				
SD:	0.00012	0.124	0.0012				
%RSD:	2.86%	2.86%	2.83%				

QC value less than the lower limit for Hg 253.7 Recovery = 86.89%
QC Failed. Continue with analysis.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: ICB 570-207215/8-A **Date Collected: 1/13/2022 1:50:52 PM**
Analyst: **Data Type: Original**

Replicate Data: ICB 570-207215/8-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0539	0.0000	-0.0007	0.0000	1:51:46 PM	Yes
2	-0.0001	-0.0542	0.0000	-0.0010	0.0000	1:52:22 PM	Yes
Mean:	-0.0001	-0.0540	0.0000				
SD:	0.00000	0.00024	0.0000				
%RSD:	0.44%	0.44%	22.80%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 8**
Sample ID: CRA 570-207215/11-A **Date Collected: 1/13/2022 1:52:42 PM**
Analyst: **Data Type: Original**

Replicate Data: CRA 570-207215/11-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0753	0.0013	0.0087	0.0013	1:53:36 PM	Yes
2	0.0001	0.0711	0.0013	0.0085	0.0013	1:54:13 PM	Yes
Mean:	0.0001	0.0732	0.0013				
SD:	0.00000	0.00296	0.0000				
%RSD:	4.05%	4.05%	2.31%				

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 1:54:33 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.88	0.0194	0.1397	0.0194	1:55:28 PM	Yes
2	0.0018	1.82	0.0188	0.1382	0.0188	1:56:05 PM	Yes
Mean:	0.0018	1.85	0.0191				
SD:	0.00004	0.041	0.0004				
%RSD:	2.23%	2.23%	2.16%				

QC value within limits for Hg 253.7 Recovery = 92.39%
All analyte(s) passed QC.

==========

Sequence No.: 5 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 1:56:27 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0340	0.0002	0.0021	0.0002	1:57:20 PM	Yes
2	-0.0001	-0.0553	-0.0000	-0.0012	-0.0000	1:57:57 PM	Yes
Mean:	-0.0000	-0.0447	0.0001				
SD:	0.00002	0.01508	0.0002				
%RSD:	33.76%	33.76%	144.52%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 7**
Sample ID: ICV 570-207215/7-A **Date Collected: 1/13/2022 2:00:06 PM**
Analyst: **Data Type: Original**

Replicate Data: ICV 570-207215/7-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.95	0.0501	0.3516	0.0501	2:00:59 PM	Yes
2	0.0049	4.90	0.0497	0.3464	0.0497	2:01:35 PM	Yes
Mean:	0.0049	4.92	0.0499				
SD:	0.00003	0.031	0.0003				
%RSD:	0.63%	0.63%	0.62%				

QC value within limits for Hg 253.7 Recovery = 98.47%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: ICB 570-207215/8-A **Date Collected: 1/13/2022 2:01:55 PM**
Analyst: **Data Type: Original**

Replicate Data: ICB 570-207215/8-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0533	0.0000	-0.0005	0.0000	2:02:49 PM	Yes
2	-0.0001	-0.0558	-0.0000	-0.0014	-0.0000	2:03:26 PM	Yes
Mean:	-0.0001	-0.0546	0.0000				
SD:	0.00000	0.00178	0.0000				
%RSD:	3.25%	3.25%	335.94%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 8**
Sample ID: CRA 570-207215/11-A **Date Collected: 1/13/2022 2:03:46 PM**
Analyst: **Data Type: Original**

Replicate Data: CRA 570-207215/11-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0643	0.0012	0.0077	0.0012	2:04:40 PM	Yes
2	0.0001	0.0537	0.0011	0.0069	0.0011	2:05:17 PM	Yes
Mean:	0.0001	0.0590	0.0011				
SD:	0.00001	0.00746	0.0001				
%RSD:	12.64%	12.64%	6.54%				

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 2:05:37 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0018	1.85	0.0191	0.1362	0.0191	2:06:32 PM	Yes
2	0.0018	1.83	0.0189	0.1315	0.0189	2:07:08 PM	Yes
Mean:	0.0018	1.84	0.0190				

SD: 0.00002 0.016 0.0002
%RSD: 0.87% 0.87% 0.84%
QC value within limits for Hg 253.7 Recovery = 91.87%
All analyte(s) passed QC.

==========

Sequence No.: 5 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 2:07:35 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0551	0.0000	-0.0022	-0.0000	2:08:29 PM	Yes
2	-0.0001	-0.0522	0.0000	-0.0014	0.0000	2:09:06 PM	Yes
Mean:	-0.0001	-0.0536	0.0000				
SD:	0.00000	0.00201	0.0000				
%RSD:	3.75%	3.75%	139.10%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg **Method Last Saved: 1/13/2022 2:09:30 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 8**
Sample ID: CRA 570-207215/11-A **Date Collected: 1/13/2022 2:09:36 PM**
Analyst: **Data Type: Original**

Replicate Data: CRA 570-207215/11-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0805	0.0014	0.0086	0.0014	2:10:31 PM	Yes
2	0.0001	0.0818	0.0014	0.0076	0.0014	2:11:07 PM	Yes
Mean:	0.0001	0.0812	0.0014				
SD:	0.00000	0.00087	0.0000				
%RSD:	1.08%	1.08%	0.64%				

==========

Sequence No.: 2 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 2:11:28 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0021	2.06	0.0212	0.1432	0.0212	2:12:23 PM	Yes
2	0.0020	1.97	0.0203	0.1367	0.0203	2:13:00 PM	Yes
Mean:	0.0020	2.02	0.0208				
SD:	0.00006	0.065	0.0006				
%RSD:	3.21%	3.21%	3.13%				

QC value within limits for Hg 253.7 Recovery = 100.83%
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 2:13:22 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0551	0.0000	-0.0012	-0.0000	2:14:16 PM	Yes
2	-0.0000	-0.0442	0.0001	-0.0002	0.0001	2:14:53 PM	Yes
Mean:	-0.0000	-0.0496	0.0001				
SD:	0.00001	0.00766	0.0001				
%RSD:	15.44%	15.44%	140.79%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: MB 570-207222/1-A **Date Collected: 1/13/2022 2:28:13 PM**
Analyst: **Data Type: Original**
User canceled analysis.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: MB 570-207222/1-A **Date Collected: 1/13/2022 2:28:43 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-207222/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0523	0.0000	-0.0007	0.0000	2:29:37 PM	Yes
2	0.0000	0.0330	0.0009	0.0050	0.0009	2:30:13 PM	Yes
Mean:	-0.0000	-0.0096	0.0005				
SD:	0.00006	0.06034	0.0006				
%RSD:	626.14%	626.14%	132.75%				

==========

Sequence No.: 2 **Autosampler Location: 12**
Sample ID: LCS 570-207222/2-A **Date Collected: 1/13/2022 2:30:33 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-207222/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0464	0.0001	0.0007	0.0001	2:31:28 PM	Yes
2	-0.0001	-0.0545	0.0000	-0.0008	0.0000	2:32:05 PM	Yes
Mean:	-0.0001	-0.0505	0.0000				
SD:	0.00001	0.00569	0.0001				
%RSD:	11.27%	11.27%	123.18%				

==========

Sequence No.: 3 **Autosampler Location: 13**
Sample ID: LCSD 570-207222/3-A **Date Collected: 1/13/2022 2:32:25 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-207222/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0474	0.0001	0.0009	0.0001	2:33:19 PM	Yes
2	-0.0000	-0.0453	0.0001	0.0005	0.0001	2:33:55 PM	Yes
Mean:	-0.0000	-0.0464	0.0001				
SD:	0.00000	0.00146	0.0000				
%RSD:	3.15%	3.15%	16.73%				

==========

Sequence No.: 4 **Autosampler Location: 14**
Sample ID: 570-80119-A-1-B **Date Collected: 1/13/2022 2:34:16 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0515	0.0000	0.0000	0.0000	2:35:10 PM	Yes
2	-0.0001	-0.0528	0.0000	-0.0001	0.0000	2:35:47 PM	Yes
Mean:	-0.0001	-0.0522	0.0000				
SD:	0.00000	0.00088	0.0000				
%RSD:	1.68%	1.68%	29.86%				

==========

Sequence No.: 5 **Autosampler Location: 15**
Sample ID: 570-80119-A-1-C MS **Date Collected: 1/13/2022 2:36:08 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-C MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0515	0.0000	-0.0001	0.0000	2:37:02 PM	Yes
2	-0.0001	-0.0510	0.0000	0.0003	0.0000	2:37:39 PM	Yes
Mean:	-0.0001	-0.0512	0.0000				
SD:	0.00000	0.00037	0.0000				
%RSD:	0.72%	0.72%	9.58%				

Sequence No.: 6 **Autosampler Location: 16**
Sample ID: 570-80119-A-1-D MSD **Date Collected: 1/13/2022 2:37:59 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-D MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0443	0.0001	0.0010	0.0001	2:38:53 PM	Yes
2	-0.0000	-0.0481	0.0001	-0.0001	0.0001	2:39:29 PM	Yes
Mean:	-0.0000	-0.0462	0.0001				
SD:	0.00000	0.00265	0.0000				
%RSD:	5.74%	5.74%	29.92%				

Sequence No.: 7 **Autosampler Location: 17**
Sample ID: 570-80119-A-2-B **Date Collected: 1/13/2022 2:39:49 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0496	0.0001	-0.0006	0.0001	2:40:44 PM	Yes
2	-0.0000	-0.0474	0.0001	0.0005	0.0001	2:41:20 PM	Yes
Mean:	-0.0000	-0.0485	0.0001				
SD:	0.00000	0.00152	0.0000				
%RSD:	3.12%	3.12%	23.07%				

Sequence No.: 8 **Autosampler Location: 18**
Sample ID: 570-80119-A-3-B **Date Collected: 1/13/2022 2:41:41 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0524	0.0000	-0.0009	0.0000	2:42:35 PM	Yes
2	-0.0000	-0.0117	0.0004	0.0031	0.0004	2:43:12 PM	Yes
Mean:	-0.0000	-0.0320	0.0002				
SD:	0.00003	0.02882	0.0003				
%RSD:	89.95%	89.95%	124.98%				

Sequence No.: 9 **Autosampler Location: 19**
Sample ID: 570-80119-A-4-B **Date Collected: 1/13/2022 2:43:33 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-4-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0535	0.0000	-0.0019	0.0000	2:44:28 PM	Yes
2	-0.0001	-0.0542	0.0000	-0.0005	0.0000	2:45:04 PM	Yes
Mean:	-0.0001	-0.0539	0.0000				
SD:	0.00000	0.00044	0.0000				
%RSD:	0.82%	0.82%	35.86%				

==========

Sequence No.: 10 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 2:45:25 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.94	0.0200	0.1392	0.0200	2:46:21 PM	Yes
2	0.0019	1.95	0.0201	0.1381	0.0201	2:46:57 PM	Yes
Mean:	0.0019	1.94	0.0201				
SD:	0.00001	0.007	0.0001				
%RSD:	0.34%	0.34%	0.33%				

QC value within limits for Hg 253.7 Recovery = 97.25%
All analyte(s) passed QC.

==========

Sequence No.: 11 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 2:47:18 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0524	0.0000	-0.0001	0.0000	2:48:12 PM	Yes
2	-0.0001	-0.0514	0.0000	-0.0004	0.0000	2:48:49 PM	Yes
Mean:	-0.0001	-0.0519	0.0000				
SD:	0.00000	0.00070	0.0000				
%RSD:	1.35%	1.35%	21.76%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: MB 570-207222/1-A **Date Collected: 1/13/2022 2:50:53 PM**
Analyst: **Data Type: Original**
User canceled analysis.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: MB 570-207222/1-A **Date Collected: 1/13/2022 2:51:25 PM**
Analyst: **Data Type: Original**
User canceled analysis.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: MB 570-207222/1-A **Date Collected: 1/13/2022 2:51:57 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-207222/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0184	0.0004	0.0021	0.0004	2:52:51 PM	Yes
2	-0.0000	-0.0152	0.0004	0.0025	0.0004	2:53:28 PM	Yes
Mean:	-0.0000	-0.0168	0.0004				
SD:	0.00000	0.00224	0.0000				
%RSD:	13.34%	13.34%	5.86%				

==========

Sequence No.: 2 **Autosampler Location: 12**
Sample ID: LCS 570-207222/2-A **Date Collected: 1/13/2022 2:53:48 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-207222/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0048	4.76	0.0483	0.3313	0.0483	2:54:42 PM	Yes
2	0.0047	4.70	0.0477	0.3249	0.0477	2:55:18 PM	Yes
Mean:	0.0047	4.73	0.0480				
SD:	0.00004	0.040	0.0004				
%RSD:	0.84%	0.84%	0.83%				

==========

Sequence No.: 3 **Autosampler Location: 13**
Sample ID: LCSD 570-207222/3-A **Date Collected: 1/13/2022 2:55:39 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-207222/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0046	4.65	0.0472	0.3245	0.0472	2:56:33 PM	Yes
2	0.0046	4.64	0.0471	0.3218	0.0471	2:57:10 PM	Yes
Mean:	0.0046	4.64	0.0471				
SD:	0.00001	0.008	0.0001				
%RSD:	0.18%	0.18%	0.18%				

==========

Sequence No.: 4 **Autosampler Location: 14**
Sample ID: 570-80119-A-1-B **Date Collected: 1/13/2022 2:57:30 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0210	0.0003	0.0016	0.0003	2:58:25 PM	Yes
2	-0.0000	-0.0238	0.0003	0.0013	0.0003	2:59:01 PM	Yes
Mean:	-0.0000	-0.0224	0.0003				
SD:	0.00000	0.00200	0.0000				
%RSD:	8.94%	8.94%	6.13%				

==========

Sequence No.: 5 **Autosampler Location: 15**
Sample ID: 570-80119-A-1-C MS **Date Collected: 1/13/2022 2:59:22 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-C MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0047	4.74	0.0481	0.3328	0.0481	3:00:17 PM	Yes
2	0.0048	4.84	0.0490	0.3366	0.0490	3:00:53 PM	Yes
Mean:	0.0048	4.79	0.0486				
SD:	0.00007	0.069	0.0007				
%RSD:	1.45%	1.45%	1.43%				

Sequence No.: 6 **Autosampler Location: 16**
Sample ID: 570-80119-A-1-D MSD **Date Collected: 1/13/2022 3:01:13 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-D MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0048	4.77	0.0484	0.3372	0.0484	3:02:08 PM	Yes
2	0.0049	4.94	0.0501	0.3425	0.0501	3:02:44 PM	Yes
Mean:	0.0049	4.86	0.0492				
SD:	0.00012	0.117	0.0012				
%RSD:	2.41%	2.41%	2.38%				

Sequence No.: 7 **Autosampler Location: 17**
Sample ID: 570-80119-A-2-B **Date Collected: 1/13/2022 3:03:05 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0229	0.0003	0.0018	0.0003	3:04:00 PM	Yes
2	-0.0000	-0.0178	0.0004	0.0024	0.0004	3:04:36 PM	Yes
Mean:	-0.0000	-0.0204	0.0003				
SD:	0.00000	0.00356	0.0000				
%RSD:	17.47%	17.47%	10.24%				

Sequence No.: 8 **Autosampler Location: 18**
Sample ID: 570-80119-A-3-B **Date Collected: 1/13/2022 3:04:57 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0036	0.0005	0.0032	0.0005	3:05:51 PM	Yes
2	-0.0000	-0.0097	0.0005	0.0032	0.0005	3:06:27 PM	Yes
Mean:	-0.0000	-0.0067	0.0005				
SD:	0.00000	0.00432	0.0000				
%RSD:	64.70%	64.70%	8.92%				

Sequence No.: 9 **Autosampler Location: 19**
Sample ID: 570-80119-A-4-B **Date Collected: 1/13/2022 3:06:48 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-4-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0182	0.0004	0.0024	0.0004	3:07:43 PM	Yes
2	-0.0000	-0.0196	0.0004	0.0022	0.0004	3:08:19 PM	Yes
Mean:	-0.0000	-0.0189	0.0004				
SD:	0.00000	0.00096	0.0000				
%RSD:	5.07%	5.07%	2.65%				

==========

Sequence No.: 10 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 3:08:40 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0018	1.83	0.0189	0.1340	0.0189	3:09:36 PM	Yes
2	0.0018	1.78	0.0184	0.1289	0.0184	3:10:12 PM	Yes
Mean:	0.0018	1.81	0.0187				
SD:	0.00004	0.035	0.0004				
%RSD:	1.95%	1.95%	1.89%				

QC value within limits for Hg 253.7 Recovery = 90.38%
All analyte(s) passed QC.

==========

Sequence No.: 11 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 3:10:34 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0510	0.0000	0.0000	0.0000	3:11:28 PM	Yes
2	-0.0001	-0.0548	0.0000	-0.0005	0.0000	3:12:04 PM	Yes
Mean:	-0.0001	-0.0529	0.0000				
SD:	0.00000	0.00262	0.0000				
%RSD:	4.95%	4.95%	119.51%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg **Method Last Saved: 1/13/2022 5:07:14 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 20**
Sample ID: MB 440-664267/1-B **Date Collected: 1/13/2022 5:07:18 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 440-664267/1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0078	0.0006	0.0079	0.0006	5:08:12 PM	Yes
2	-0.0000	-0.0169	0.0004	0.0029	0.0004	5:08:49 PM	Yes
Mean:	-0.0000	-0.0046	0.0005				
SD:	0.00002	0.01746	0.0002				
%RSD:	380.03%	380.03%	34.58%				

==========

Sequence No.: 2 **Autosampler Location: 21**
Sample ID: LCS 440-664267/2-B **Date Collected: 1/13/2022 5:09:10 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 440-664267/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0068	6.76	0.0683	0.4746	0.0683	5:10:05 PM	Yes
2	0.0068	6.82	0.0689	0.4758	0.0689	5:10:42 PM	Yes
Mean:	0.0068	6.79	0.0686				
SD:	0.00004	0.041	0.0004				
%RSD:	0.61%	0.61%	0.60%				

==========

Sequence No.: 3 **Autosampler Location: 22**
Sample ID: LCSD 440-664267/3-D **Date Collected: 1/13/2022 5:11:04 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 440-664267/3-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0068	6.84	0.0692	0.4805	0.0692	5:12:00 PM	Yes
2	0.0069	6.90	0.0697	0.4814	0.0697	5:12:36 PM	Yes
Mean:	0.0069	6.87	0.0695				
SD:	0.00004	0.039	0.0004				
%RSD:	0.57%	0.57%	0.57%				

==========

Sequence No.: 4 **Autosampler Location: 23**
Sample ID: 440-293211-A-1-J **Date Collected: 1/13/2022 5:12:58 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-J **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0416	0.0001	-0.0004	0.0001	5:13:53 PM	Yes
2	-0.0000	-0.0260	0.0003	0.0016	0.0003	5:14:30 PM	Yes

Mean:	-0.0000	-0.0338	0.0002
SD:	0.00001	0.01102	0.0001
%RSD:	32.66%	32.66%	51.67%

Sequence No.: 5 **Autosampler Location: 24**
Sample ID: 440-293211-A-1-K MS **Date Collected: 1/13/2022 5:14:51 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-K MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0068	6.78	0.0685	0.4759	0.0685	5:15:45 PM	Yes
2	0.0071	7.13	0.0720	0.4970	0.0720	5:16:22 PM	Yes
Mean:	0.0070	6.96	0.0703				
SD:	0.00025	0.247	0.0025				
%RSD:	3.55%	3.55%	3.52%				

Sequence No.: 6 **Autosampler Location: 25**
Sample ID: 440-293211-A-1-L MSD **Date Collected: 1/13/2022 5:16:42 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-L MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0068	6.75	0.0682	0.4747	0.0682	5:17:37 PM	Yes
2	0.0068	6.81	0.0688	0.4697	0.0688	5:18:13 PM	Yes
Mean:	0.0068	6.78	0.0685				
SD:	0.00004	0.040	0.0004				
%RSD:	0.60%	0.60%	0.59%				

Sequence No.: 7 **Autosampler Location: 26**
Sample ID: 440-293211-A-2-H **Date Collected: 1/13/2022 5:18:34 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-2-H **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0380	0.0002	0.0005	0.0002	5:19:28 PM	Yes
2	-0.0000	-0.0432	0.0001	-0.0004	0.0001	5:20:04 PM	Yes
Mean:	-0.0000	-0.0406	0.0001				
SD:	0.00000	0.00370	0.0000				
%RSD:	9.11%	9.11%	25.49%				

Sequence No.: 8 **Autosampler Location: 27**
Sample ID: 440-293261-A-1-E **Date Collected: 1/13/2022 5:20:25 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293261-A-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0219	0.0003	0.0026	0.0003	5:21:19 PM	Yes
2	-0.0000	-0.0261	0.0003	0.0021	0.0003	5:21:56 PM	Yes
Mean:	-0.0000	-0.0240	0.0003				
SD:	0.00000	0.00299	0.0000				
%RSD:	12.45%	12.45%	9.61%				

Sequence No.: 9 **Autosampler Location: 28**
Sample ID: 440-293728-A-1-E **Date Collected: 1/13/2022 5:22:17 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293728-A-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0393	0.0002	0.0002	0.0002	5:23:12 PM	Yes

2	-0.0000	-0.0268	0.0003	0.0003	0.0003	5:23:49 PM	Yes
Mean:	-0.0000	-0.0331	0.0002				
SD:	0.00001	0.00883	0.0001				
%RSD:	26.70%	26.70%	40.08%				

==========

Sequence No.: 10 **Autosampler Location: 29**
Sample ID: 570-79933-A-1-O **Date Collected: 1/13/2022 5:24:09 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79933-A-1-O **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0361	0.0002	0.0014	0.0002	5:25:04 PM	Yes
2	-0.0000	-0.0304	0.0002	0.0018	0.0002	5:25:40 PM	Yes
Mean:	-0.0000	-0.0332	0.0002				
SD:	0.00000	0.00397	0.0000				
%RSD:	11.93%	11.93%	18.16%				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 5:26:01 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0024	2.44	0.0250	0.1744	0.0250	5:26:56 PM	Yes
2	0.0024	2.39	0.0245	0.1694	0.0245	5:27:33 PM	Yes
Mean:	0.0024	2.42	0.0248				
SD:	0.00004	0.036	0.0004				
%RSD:	1.48%	1.48%	1.45%				

QC value greater than the upper limit for Hg 253.7 Recovery = 120.80%
QC Failed. Continue with analysis.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 5:27:54 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0254	0.0003	0.0015	0.0003	5:28:47 PM	Yes

User canceled analysis.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 20**
Sample ID: MB 440-664267/1-B **Date Collected: 1/13/2022 5:29:22 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 440-664267/1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0369	0.0002	0.0011	0.0002	5:30:17 PM	Yes
2	-0.0000	-0.0382	0.0002	0.0008	0.0002	5:30:54 PM	Yes
Mean:	-0.0000	-0.0375	0.0002				
SD:	0.00000	0.00088	0.0000				
%RSD:	2.35%	2.35%	5.03%				

==========

Sequence No.: 2 **Autosampler Location: 21**
Sample ID: LCS 440-664267/2-B **Date Collected: 1/13/2022 5:31:16 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 440-664267/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0045	4.52	0.0459	0.3638	0.0459	5:32:11 PM	Yes
2	0.0045	4.46	0.0453	0.3575	0.0453	5:32:48 PM	Yes
Mean:	0.0045	4.49	0.0456				
SD:	0.00004	0.041	0.0004				
%RSD:	0.92%	0.92%	0.91%				

==========

Sequence No.: 3 **Autosampler Location: 22**
Sample ID: LCSD 440-664267/3-D **Date Collected: 1/13/2022 5:33:09 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 440-664267/3-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0044	4.43	0.0450	0.3587	0.0450	5:34:04 PM	Yes
2	0.0043	4.29	0.0435	0.3422	0.0435	5:34:41 PM	Yes
Mean:	0.0044	4.36	0.0443				
SD:	0.00010	0.103	0.0010				
%RSD:	2.36%	2.36%	2.33%				

==========

Sequence No.: 4 **Autosampler Location: 23**
Sample ID: 440-293211-A-1-J **Date Collected: 1/13/2022 5:35:03 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-J **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0512	0.0000	-0.0010	0.0000	5:35:57 PM	Yes
2	-0.0000	-0.0367	0.0002	0.0005	0.0002	5:36:34 PM	Yes
Mean:	-0.0000	-0.0439	0.0001				
SD:	0.00001	0.01021	0.0001				
%RSD:	23.24%	23.24%	91.63%				

==========

Sequence No.: 5 **Autosampler Location: 24**
Sample ID: 440-293211-A-1-K MS **Date Collected: 1/13/2022 5:36:54 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-K MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0045	4.53	0.0460	0.3647	0.0460	5:37:50 PM	Yes
2	0.0044	4.43	0.0449	0.3518	0.0449	5:38:26 PM	Yes
Mean:	0.0045	4.48	0.0455				
SD:	0.00007	0.074	0.0007				
%RSD:	1.66%	1.66%	1.64%				

Sequence No.: 6 **Autosampler Location: 25**
Sample ID: 440-293211-A-1-L MSD **Date Collected: 1/13/2022 5:38:46 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-L MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0044	4.37	0.0443	0.3528	0.0443	5:39:41 PM	Yes
2	0.0040	3.96	0.0402	0.3163	0.0402	5:40:17 PM	Yes
Mean:	0.0042	4.16	0.0423				
SD:	0.00029	0.288	0.0029				
%RSD:	6.93%	6.93%	6.84%				

Sequence No.: 7 **Autosampler Location: 26**
Sample ID: 440-293211-A-2-H **Date Collected: 1/13/2022 5:40:38 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-2-H **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0560	-0.0000	-0.0012	-0.0000	5:41:33 PM	Yes
2	-0.0001	-0.0511	0.0000	-0.0008	0.0000	5:42:09 PM	Yes
Mean:	-0.0001	-0.0536	0.0000				
SD:	0.00000	0.00348	0.0000				
%RSD:	6.49%	6.49%	230.57%				

Sequence No.: 8 **Autosampler Location: 27**
Sample ID: 440-293261-A-1-E **Date Collected: 1/13/2022 5:42:30 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293261-A-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0408	0.0001	0.0006	0.0001	5:43:24 PM	Yes
2	-0.0000	-0.0432	0.0001	0.0004	0.0001	5:44:00 PM	Yes
Mean:	-0.0000	-0.0420	0.0001				
SD:	0.00000	0.00169	0.0000				
%RSD:	4.04%	4.04%	12.92%				

Sequence No.: 9 **Autosampler Location: 28**
Sample ID: 440-293728-A-1-E **Date Collected: 1/13/2022 5:44:21 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293728-A-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0505	0.0000	-0.0002	0.0000	5:45:15 PM	Yes
2	-0.0000	-0.0347	0.0002	0.0004	0.0002	5:45:52 PM	Yes
Mean:	-0.0000	-0.0426	0.0001				
SD:	0.00001	0.01124	0.0001				
%RSD:	26.37%	26.37%	89.94%				

==========

Sequence No.: 10 **Autosampler Location: 29**
Sample ID: 570-79933-A-1-O **Date Collected: 1/13/2022 5:46:12 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79933-A-1-O **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0533	0.0000	-0.0007	0.0000	5:47:07 PM	Yes
2	-0.0001	-0.0546	0.0000	-0.0014	0.0000	5:47:43 PM	Yes
Mean:	-0.0001	-0.0540	0.0000				
SD:	0.00000	0.00094	0.0000				
%RSD:	1.74%	1.74%	83.36%				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 5:48:04 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0015	1.46	0.0151	0.1211	0.0151	5:48:59 PM	Yes
2	0.0015	1.49	0.0155	0.1222	0.0155	5:49:35 PM	Yes
Mean:	0.0015	1.47	0.0153				
SD:	0.00002	0.023	0.0002				
%RSD:	1.55%	1.55%	1.50%				

QC value less than the lower limit for Hg 253.7 Recovery = 73.59%
QC Failed. Continue with analysis.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 5:49:57 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0394	0.0002	0.0003	0.0002	5:50:51 PM	Yes
2	-0.0000	-0.0431	0.0001	-0.0003	0.0001	5:51:27 PM	Yes
Mean:	-0.0000	-0.0413	0.0001				
SD:	0.00000	0.00258	0.0000				
%RSD:	6.26%	6.26%	18.67%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 30**
Sample ID: 570-80204-A-1-R **Date Collected: 1/13/2022 5:51:48 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80204-A-1-R **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0594	0.0011	0.0143	0.0011	5:52:43 PM	Yes
2	-0.0000	-0.0279	0.0003	0.0012	0.0003	5:53:19 PM	Yes
Mean:	0.0000	0.0158	0.0007				
SD:	0.00006	0.06173	0.0006				
%RSD:	390.93%	390.93%	87.09%				

==========

Sequence No.: 14 **Autosampler Location: 31**
Sample ID: 570-80205-A-1-P **Date Collected: 1/13/2022 5:53:41 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80205-A-1-P **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0004	0.356	0.0041	0.0322	0.0041	5:54:36 PM	Yes

2	0.0003	0.337	0.0039	0.0298	0.0039	5:55:18 PM	Yes
Mean:	0.0003	0.347	0.0040				
SD:	0.00001	0.0133	0.0001				
%RSD:	3.84%	3.84%	3.32%				

Sequence No.: 15 **Autosampler Location: 32**
Sample ID: 570-80205-A-2-N **Date Collected: 1/13/2022 5:55:39 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80205-A-2-N **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0421	0.0001	0.0003	0.0001	5:56:34 PM	Yes
2	-0.0000	-0.0457	0.0001	0.0004	0.0001	5:57:11 PM	Yes
Mean:	-0.0000	-0.0439	0.0001				
SD:	0.00000	0.00253	0.0000				
%RSD:	5.75%	5.75%	22.64%				

Sequence No.: 16 **Autosampler Location: 33**
Sample ID: 570-80972-F-1-B **Date Collected: 1/13/2022 5:57:32 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80972-F-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0394	0.0002	-0.0004	0.0002	5:58:28 PM	Yes
2	-0.0001	-0.0542	0.0000	-0.0010	0.0000	5:59:04 PM	Yes
Mean:	-0.0000	-0.0468	0.0001				
SD:	0.00001	0.01048	0.0001				
%RSD:	22.38%	22.38%	126.92%				

Sequence No.: 17 **Autosampler Location: 25**
Sample ID: 440-293211-A-1-L MSD **Date Collected: 1/13/2022 5:59:25 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-L MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0035	3.49	0.0356	0.2891	0.0356	6:00:20 PM	Yes
2	0.0032	3.24	0.0330	0.2621	0.0330	6:00:57 PM	Yes
Mean:	0.0034	3.37	0.0343				
SD:	0.00018	0.180	0.0018				
%RSD:	5.35%	5.35%	5.26%				

Sequence No.: 18 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 6:01:18 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0013	1.27	0.0133	0.1048	0.0132	6:02:13 PM	Yes
2	0.0012	1.25	0.0131	0.1022	0.0131	6:02:49 PM	Yes
Mean:	0.0013	1.26	0.0132				
SD:	0.00001	0.013	0.0001				
%RSD:	1.01%	1.01%	0.97%				

QC value less than the lower limit for Hg 253.7 Recovery = 62.88%
QC Failed. Continue with analysis.

Sequence No.: 19 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 6:03:11 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0424	0.0001	0.0006	0.0001	6:04:05 PM	Yes
2	-0.0001	-0.0581	-0.0000	-0.0026	-0.0000	6:04:41 PM	Yes
Mean:	-0.0001	-0.0502	0.0000				
SD:	0.00001	0.01108	0.0001				
%RSD:	22.05%	22.05%	228.48%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 6:17:46 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0023	2.26	0.0232	0.1427	0.0232	6:18:42 PM	Yes
2	0.0022	2.24	0.0230	0.1412	0.0230	6:19:18 PM	Yes
Mean:	0.0022	2.25	0.0231				
SD:	0.00001	0.014	0.0001				
%RSD:	0.61%	0.61%	0.59%				

QC value within limits for Hg 253.7 Recovery = 112.30%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 6:19:40 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0327	0.0002	0.0004	0.0002	6:20:33 PM	Yes
2	-0.0000	-0.0205	0.0003	0.0014	0.0003	6:21:11 PM	Yes
Mean:	-0.0000	-0.0266	0.0003				
SD:	0.00001	0.00866	0.0001				
%RSD:	32.58%	32.58%	30.38%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 21**
Sample ID: LCS 440-664267/2-B **Date Collected: 1/13/2022 6:21:44 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 440-664267/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	4.98	0.0504	0.3006	0.0504	6:22:39 PM	Yes
2	0.0050	4.97	0.0504	0.2988	0.0504	6:23:16 PM	Yes
Mean:	0.0050	4.97	0.0504				
SD:	0.00000	0.001	0.0000				
%RSD:	0.02%	0.02%	0.02%				

==========

Sequence No.: 2 **Autosampler Location: 22**
Sample ID: LCSD 440-664267/3-D **Date Collected: 1/13/2022 6:23:37 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 440-664267/3-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.29	0.0536	0.3349	0.0536	6:24:33 PM	Yes
2	0.0051	5.14	0.0521	0.3178	0.0521	6:25:09 PM	Yes
Mean:	0.0052	5.21	0.0528				
SD:	0.00011	0.106	0.0011				
%RSD:	2.04%	2.04%	2.02%				

==========

Sequence No.: 3 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 6:25:31 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0023	2.28	0.0234	0.1421	0.0234	6:26:26 PM	Yes
2	0.0022	2.19	0.0225	0.1376	0.0225	6:27:03 PM	Yes
Mean:	0.0022	2.23	0.0229				
SD:	0.00007	0.065	0.0007				
%RSD:	2.93%	2.93%	2.86%				

QC value within limits for Hg 253.7 Recovery = 111.60%
All analyte(s) passed QC.

==========

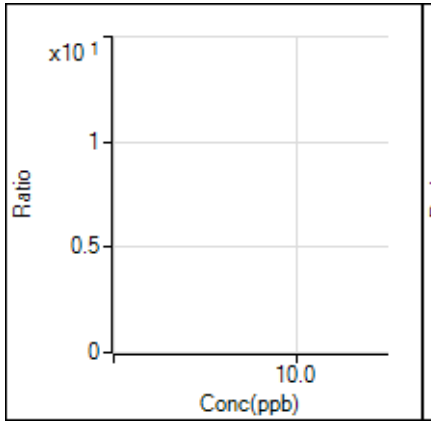
Sequence No.: 4 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 6:27:24 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0203	0.0003	0.0021	0.0003	6:28:18 PM	Yes
2	-0.0000	-0.0192	0.0004	0.0022	0.0004	6:28:54 PM	Yes
Mean:	-0.0000	-0.0197	0.0004				
SD:	0.00000	0.00078	0.0000				
%RSD:	3.93%	3.93%	2.19%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Tune Mode	Mass	Name	ISTD	R	a	b (blank)	DL	BEC	Units
He	6	Li	45 Sc-45 (IS) [He]						ppb
He	7	Li	45 Sc-45 (IS) [He]						ppb
He	9	Be	45 Sc-45 (IS) [He]	0.999998896	0.000244426	1.99E-06	0.02116464	0.008145735	ppb
He	23	Na	45 Sc-45 (IS) [He]	0.999999248	0.003059239	0.052495943	1.304123707	17.1598064	ppb
He	24	Mg	45 Sc-45 (IS) [He]	0.999999986	0.001499471	0.000399078	0.217607603	0.266145566	ppb
He	27	Al	45 Sc-45 (IS) [He]	0.999953048	0.000527015	0.000339257	0.333694262	0.643732749	ppb
He	39	K	45 Sc-45 (IS) [He]	0.999999422	0.001451536	0.097890503	2.728182729	67.43924534	ppb
He	44	Ca	45 Sc-45 (IS) [He]	0.999999731	8.08E-05	0.000572204	2.831193373	7.082560387	ppb
He	51	V	45 Sc-45 (IS) [He]	0.999999976	0.021496502	0.000699027	0.014694434	0.032518174	ppb
He	52	Cr	45 Sc-45 (IS) [He]	0.999999899	0.027337817	0.000971981	0.010662986	0.035554437	ppb
He	53	[V]	45 Sc-45 (IS) [He]						ppb
He	55	Mn	45 Sc-45 (IS) [He]	0.999994052	0.013562476	0.000352739	0.017678013	0.026008417	ppb
He	56	Fe	45 Sc-45 (IS) [He]	0.999997289	0.021259729	0.031812635	0.314954983	1.496380067	ppb
He	59	Co	45 Sc-45 (IS) [He]	0.999999407	0.049394837	9.33E-05	0.00074674	0.001888629	ppb
He	60	Ni	45 Sc-45 (IS) [He]	0.999999575	0.0137546	0.000332796	0.019601799	0.02419527	ppb
He	65	Cu	45 Sc-45 (IS) [He]	0.999999459	0.0196105	0.0009591	0.00932269	0.04890748	ppb
He	66	Zn	72 Ge (IS) [He]	0.999083737	0.006271795	0.00493851	0.296957258	0.787415765	ppb
He	75	As	72 Ge (IS) [He]	0.999999809	0.00410207	7.20E-05	0.005319317	0.017555055	ppb
He	77	[Se]	72 Ge (IS) [He]						ppb
He	78	Se	72 Ge (IS) [He]	0.999998465	0.000251731	0.000481441	0.758406424	1.912518424	ppb
He	83	[Se]	72 Ge (IS) [He]						ppb
He	85	Rb	115 In-115 (IS) [He]	0.999998825	0.001630831	2.09E-06	0.003852387	0.001279342	ppb
He	88	Sr	115 In-115 (IS) [He]	0.99999872	0.002108121	9.71E-06	0.004513584	0.004606929	ppb
He	95	Mo	115 In-115 (IS) [He]	0.999995189	0.002094505	8.32E-06	0.005112836	0.003970323	ppb
He	98	[Mo]	115 In-115 (IS) [He]	0.999995931	0.003561023	1.53E-05	0.003700432	0.004289204	ppb
He	99	[Mo]	115 In-115 (IS) [He]						ppb
He	106	[Cd]	115 In-115 (IS) [He]						ppb
He	107	Ag	115 In-115 (IS) [He]	0.999997292	0.00766136	1.11E-05	0.002846949	0.001447954	ppb
He	108	[Cd]	115 In-115 (IS) [He]						ppb
He	111	Cd	115 In-115 (IS) [He]	0.999997608	0.000978318	2.09E-06	0.004466192	0.002132055	ppb
He	118	Sn	115 In-115 (IS) [He]	0.999986932	0.00207896	0.000108929	0.014385088	0.052396033	ppb
He	121	Sb	115 In-115 (IS) [He]	0.999998533	0.002363003	2.98E-05	0.010137701	0.012630858	ppb
He	133	Cs	115 In-115 (IS) [He]	0.999999405	0.005439482	3.47E-06	0.00133944	0.000638847	ppb
He	137	Ba	115 In-115 (IS) [He]	0.999995956	0.000971589	5.54E-06	0.007340588	0.005706738	ppb
He	140	Ce	115 In-115 (IS) [He]	0.999996523	0.014987331	8.88E-05	0.002985974	0.005923355	ppb
He	205	Tl	159 Tb-159 (IS) [He]	0.999999371	0.00442096	1.59E-05	0.002755315	0.003591308	ppb
He	206	[Pb]	159 Tb-159 (IS) [He]	0.999999652	0.001411455	1.13E-05	0.010040591	0.007996673	ppb
He	207	[Pb]	159 Tb-159 (IS) [He]	0.999999007	0.001247851	7.14E-06	0.001887023	0.005720306	ppb
He	208	Pb	159 Tb-159 (IS) [He]	0.999999831	0.005674924	3.82E-05	0.002601137	0.006736319	ppb
He	232	Th	159 Tb-159 (IS) [He]	0.999978298	3.77E-05	0.000149692	0.167389873	3.971439055	ppb
He	238	U	159 Tb-159 (IS) [He]	0.999990753	0.00544654	2.07E-06	7.08E-06	0.000380526	ppb
He	45	Sc-45 (IS)							ug/l
He	72	Ge (IS)							ug/l
He	115	In-115 (IS)							ug/l
He	159	Tb-159 (IS)							ug/l



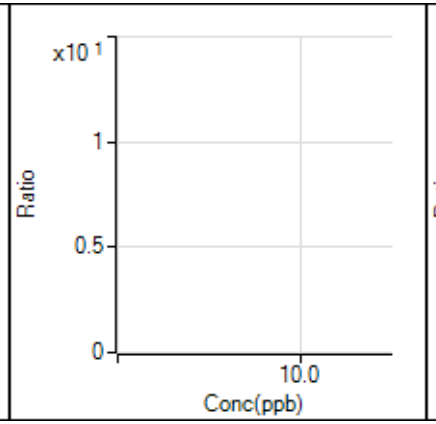
6 Li [He] / ISTD: 45 Sc-45 (IS)

y =

R

DL

BEC



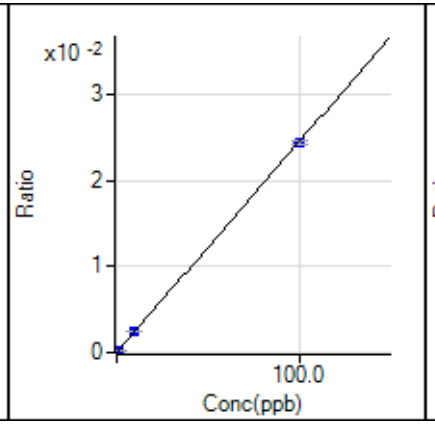
7 Li [He] / ISTD: 45 Sc-45 (IS)

y =

R

DL

BEC



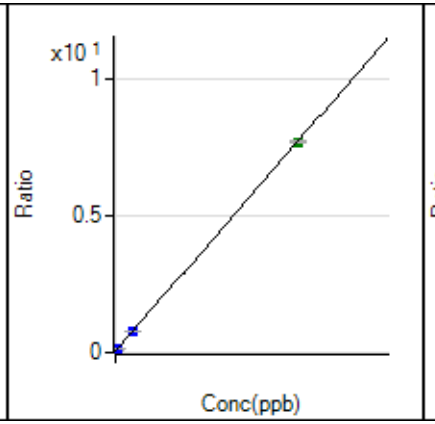
9 Be [He] / ISTD: 45 Sc-45 (IS)

y = 2.444E-4 x + 1.991E-6

R 1.0000

DL 0.02116

BEC 0.008146



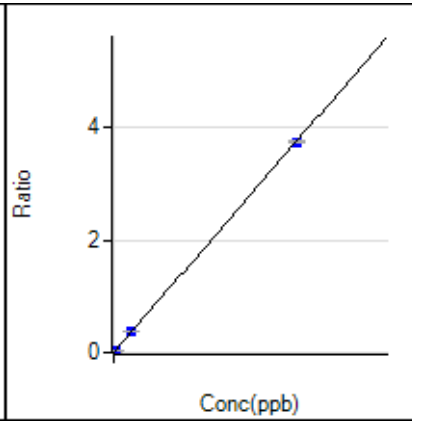
23 Na [He] / ISTD: 45 Sc-45 (IS)

y = 3.059E-3 x + 5.250E-2

R 1.0000

DL 1.304

BEC 17.16



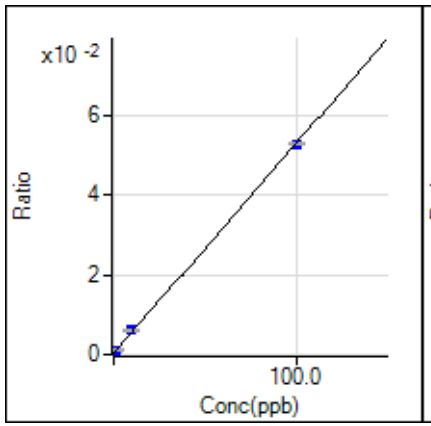
24 Mg [He] / ISTD: 45 Sc-45 (IS)

y = 1.499E-3 x + 3.991E-4

R 1.0000

DL 0.2176

BEC 0.2661



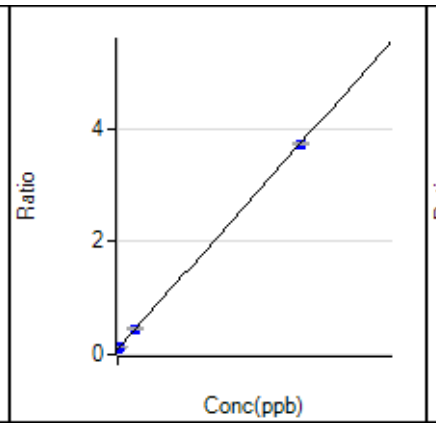
27 Al [He] / ISTD: 45 Sc-45 (IS)

y = 5.270E-4 x + 3.393E-4

R 1.0000

DL 0.3337

BEC 0.6437



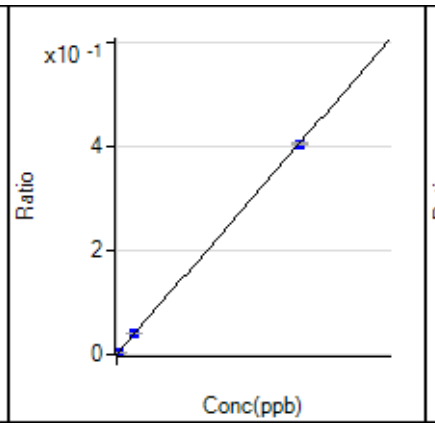
39 K [He] / ISTD: 45 Sc-45 (IS)

y = 1.452E-3 x + 9.789E-2

R 1.0000

DL 2.728

BEC 67.44



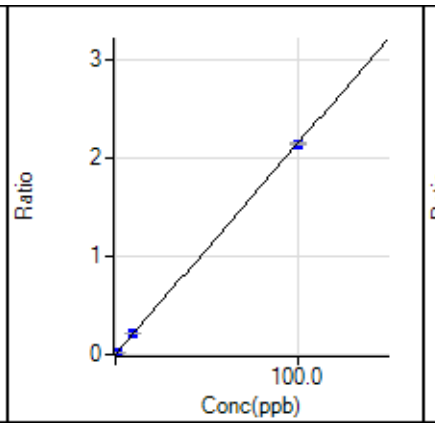
44 Ca [He] / ISTD: 45 Sc-45 (IS)

y = 8.079E-5 x + 5.722E-4

R 1.0000

DL 2.831

BEC 7.083



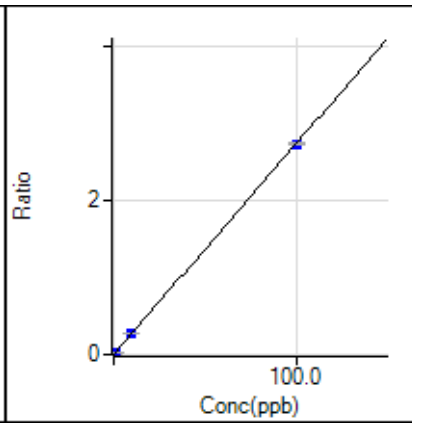
51 V [He] / ISTD: 45 Sc-45 (IS)

y = 2.150E-2 x + 6.990E-4

R 1.0000

DL 0.01469

BEC 0.03252



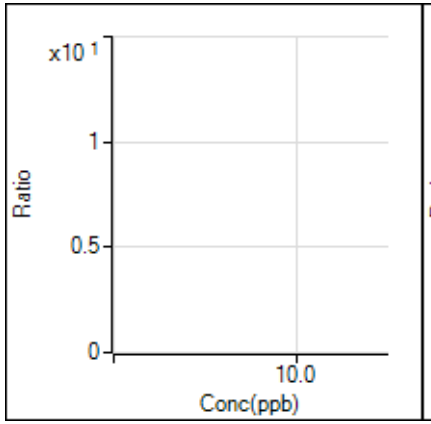
52 Cr [He] / ISTD: 45 Sc-45 (IS)

y = 2.734E-2 x + 9.720E-4

R 1.0000

DL 0.01066

BEC 0.03555



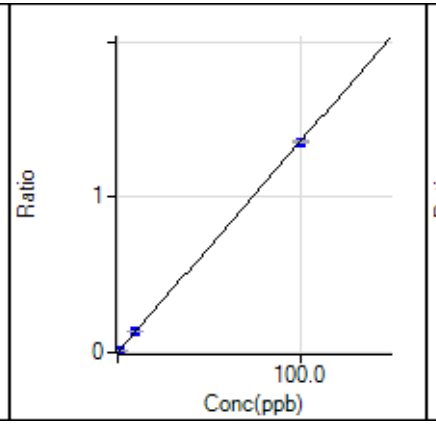
53 [V] [He] / ISTD: 45 Sc-45 (IS)

y =

R

DL

BEC



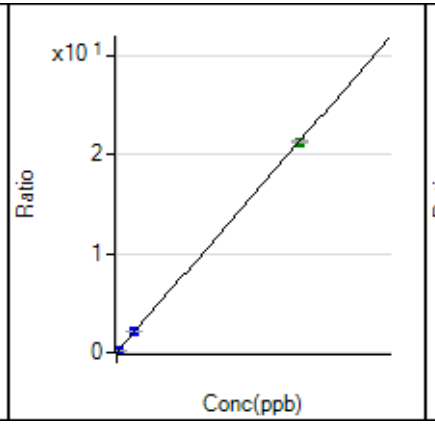
55 Mn [He] / ISTD: 45 Sc-45 (IS)

y = 1.356E-2 x + 3.527E-4

R 1.0000

DL 0.01768

BEC 0.02601



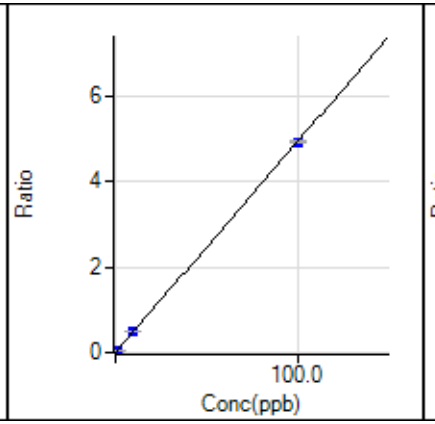
56 Fe [He] / ISTD: 45 Sc-45 (IS)

y = 2.126E-2 x + 3.181E-2

R 1.0000

DL 0.315

BEC 1.496



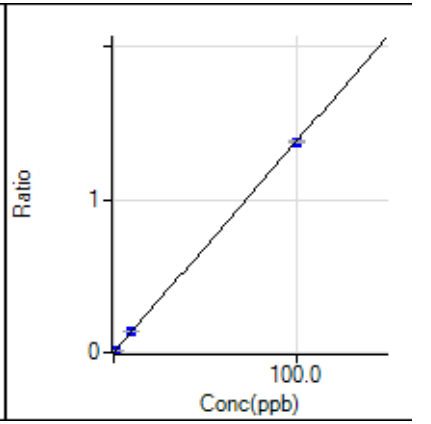
59 Co [He] / ISTD: 45 Sc-45 (IS)

y = 4.939E-2 x + 9.329E-5

R 1.0000

DL 0.0007467

BEC 0.001889



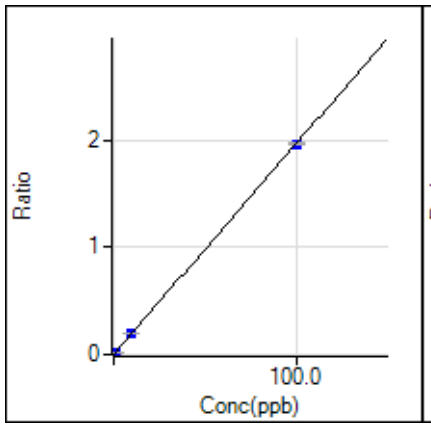
60 Ni [He] / ISTD: 45 Sc-45 (IS)

y = 1.375E-2 x + 3.328E-4

R 1.0000

DL 0.0196

BEC 0.0242



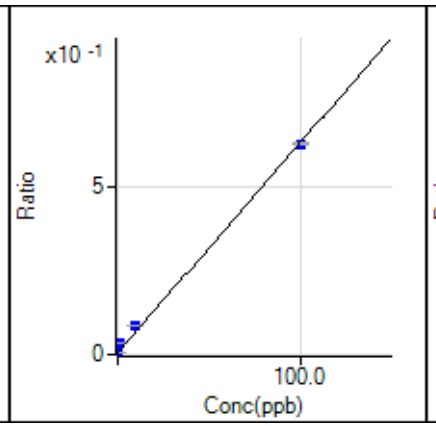
65 Cu [He] / ISTD: 45 Sc-45 (IS)

y = 1.961E-2 x + 9.591E-4

R 1.0000

DL 0.009323

BEC 0.04891



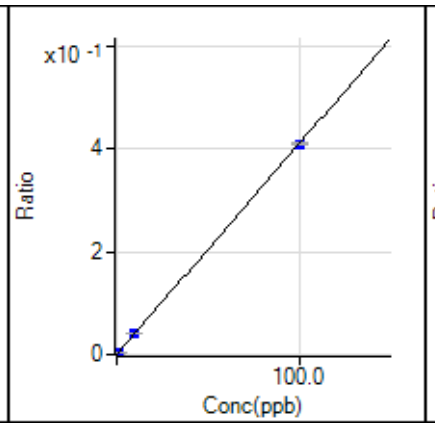
66 Zn [He] / ISTD: 72 Ge (IS)

y = 6.272E-3 x + 4.939E-3

R 0.9991

DL 0.297

BEC 0.7874



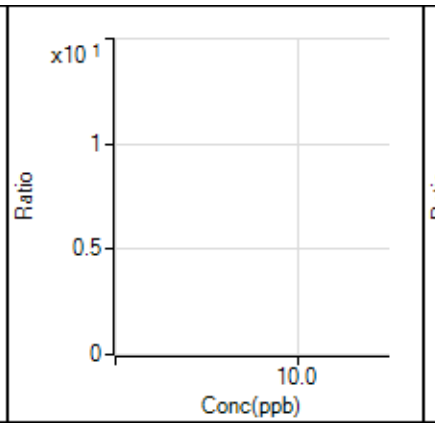
75 As [He] / ISTD: 72 Ge (IS)

y = 4.102E-3 x + 7.201E-5

R 1.0000

DL 0.005319

BEC 0.01756



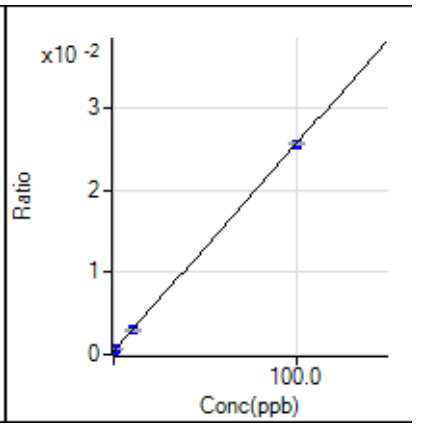
77 [Se] [He] / ISTD: 72 Ge (IS)

y =

R

DL

BEC



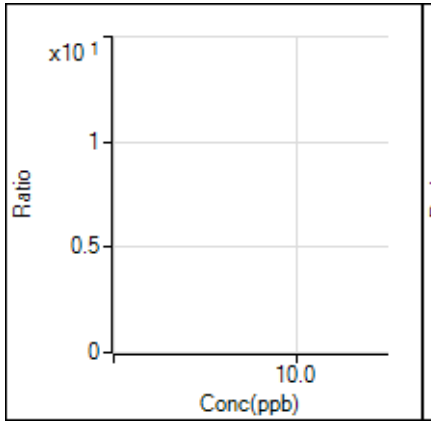
78 Se [He] / ISTD: 72 Ge (IS)

y = 2.517E-4 x + 4.814E-4

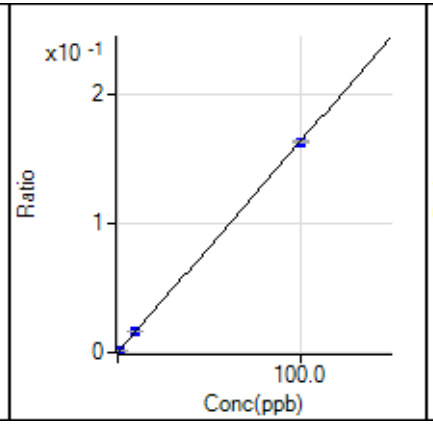
R 1.0000

DL 0.7584

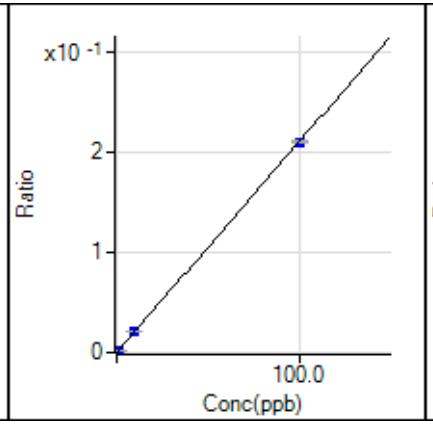
BEC 1.913



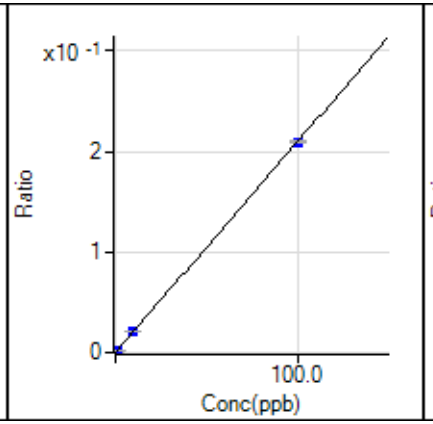
83 [Se] [He] / ISTD: 72 Ge (IS)
y =
R
DL
BEC



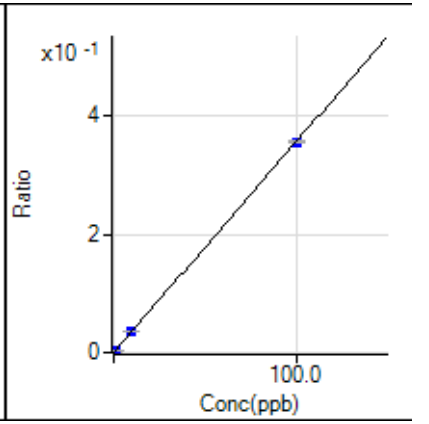
85 Rb [He] / ISTD: 115 In-115 (IS)
y = 1.631E-3 x + 2.086E-6
R 1.0000
DL 0.003852
BEC 0.001279



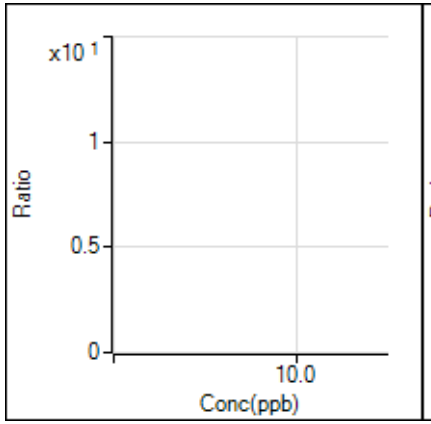
88 Sr [He] / ISTD: 115 In-115 (IS)
y = 2.108E-3 x + 9.712E-6
R 1.0000
DL 0.004514
BEC 0.004607



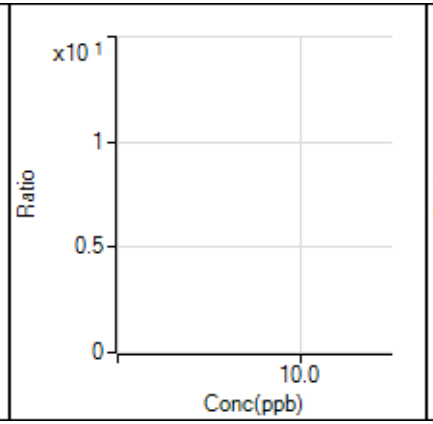
95 Mo [He] / ISTD: 115 In-115 (IS)
y = 2.095E-3 x + 8.316E-6
R 1.0000
DL 0.005113
BEC 0.00397



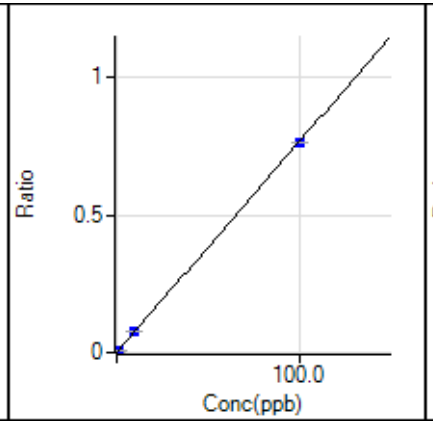
98 [Mo] [He] / ISTD: 115 In-115 (IS)
y = 3.561E-3 x + 1.527E-5
R 1.0000
DL 0.0037
BEC 0.004289



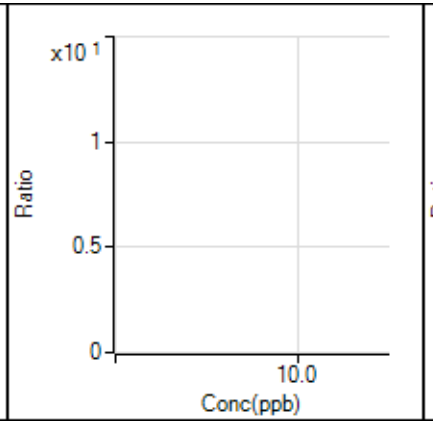
99 [Mo] [He] / ISTD: 115 In-115 (IS)
y =
R
DL
BEC



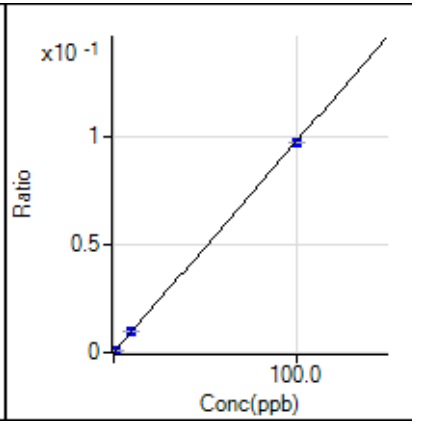
106 [Cd] [He] / ISTD: 115 In-115 (IS)
y =
R
DL
BEC



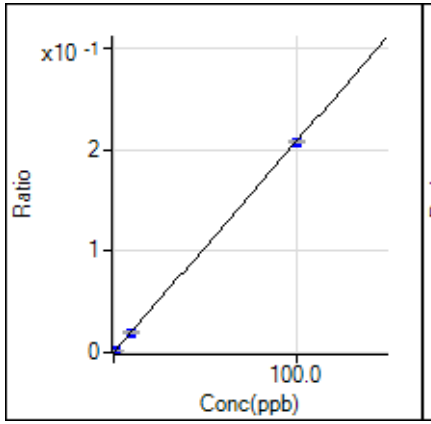
107 Ag [He] / ISTD: 115 In-115 (IS)
y = 7.661E-3 x + 1.109E-5
R 1.0000
DL 0.002847
BEC 0.001448



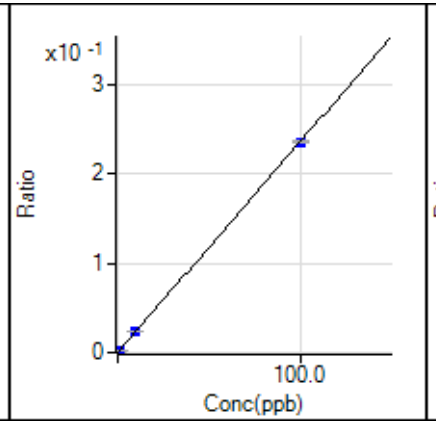
108 [Cd] [He] / ISTD: 115 In-115 (IS)
y =
R
DL
BEC



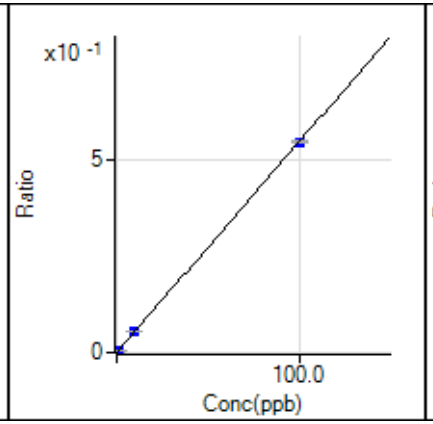
111 Cd [He] / ISTD: 115 In-115 (IS)
y = 9.783E-4 x + 2.086E-6
R 1.0000
DL 0.004466
BEC 0.002132



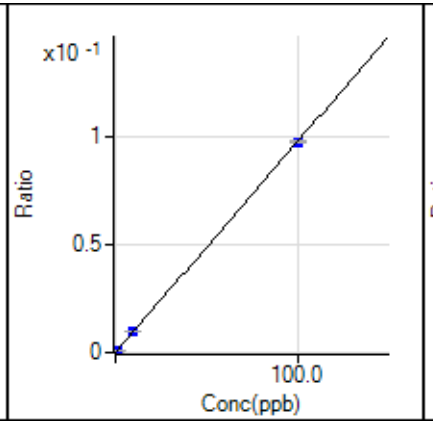
118 Sn [He] / ISTD: 115 In-115 (IS)
y = 2.079E-3 x + 1.089E-4
R 1.0000
DL 0.01439
BEC 0.0524



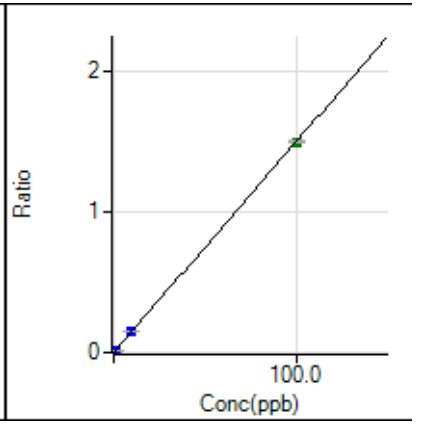
121 Sb [He] / ISTD: 115 In-115 (IS)
y = 2.363E-3 x + 2.985E-5
R 1.0000
DL 0.01014
BEC 0.01263



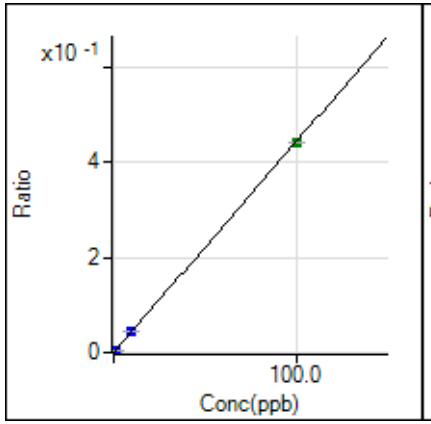
133 Cs [He] / ISTD: 115 In-115 (IS)
y = 5.439E-3 x + 3.475E-6
R 1.0000
DL 0.001339
BEC 0.0006388



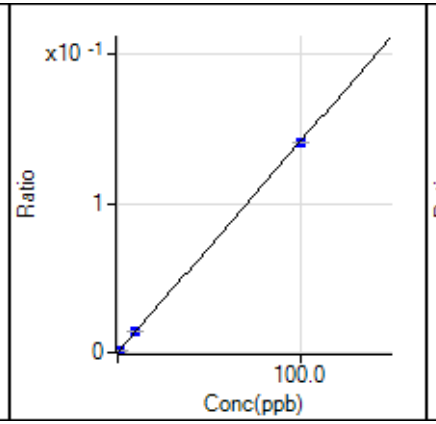
137 Ba [He] / ISTD: 115 In-115 (IS)
y = 9.716E-4 x + 5.545E-6
R 1.0000
DL 0.007341
BEC 0.005707



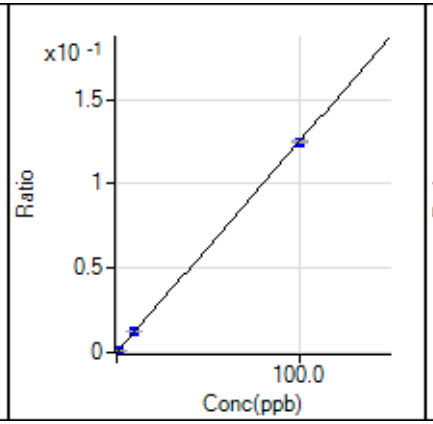
140 Ce [He] / ISTD: 115 In-115 (IS)
y = 1.499E-2 x + 8.878E-5
R 1.0000
DL 0.002986
BEC 0.005923



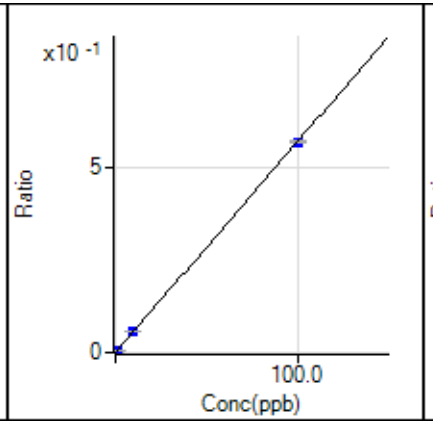
205 Tl [He] / ISTD: 159 Tb-159 (IS)
y = 4.421E-3 x + 1.588E-5
R 1.0000
DL 0.002755
BEC 0.003591



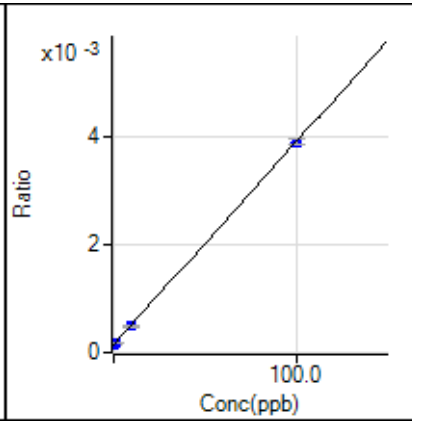
206 [Pb] [He] / ISTD: 159 Tb-159 (IS)
y = 1.411E-3 x + 1.129E-5
R 1.0000
DL 0.01004
BEC 0.007997



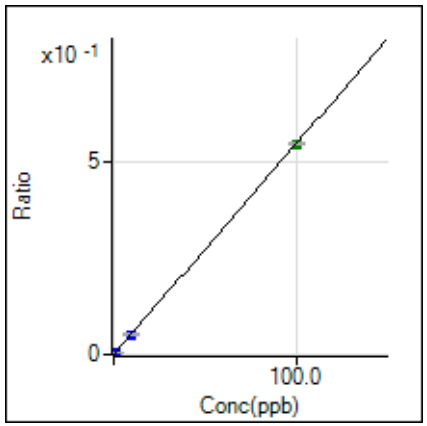
207 [Pb] [He] / ISTD: 159 Tb-159 (IS)
y = 1.248E-3 x + 7.138E-6
R 1.0000
DL 0.001887
BEC 0.00572



208 Pb [He] / ISTD: 159 Tb-159 (IS)
y = 5.675E-3 x + 3.823E-5
R 1.0000
DL 0.002601
BEC 0.006736



232 Th [He] / ISTD: 159 Tb-159 (IS)
y = 3.769E-5 x + 1.497E-4
R 1.0000
DL 0.1674
BEC 3.971



238 U [He] / ISTD: 159 Tb-159 (IS)

y = 5.447E-3 x + 2.073E-6

R	1.0000
DL	7.077E-06
BEC	0.0003805

Sample Report

Sample Name	RINSE
File Name	001SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 08:46:55
Sample Type	Sample
Total Dilution	1.0000
Comment	—
Location	1

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag

Sample Report

Sample Name	RINSE
File Name	002SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 08:48:58
Sample Type	Sample
Total Dilution	1.0000
Comment	—
Location	1

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag

Calibration Blank Report

Sample Name	STD0-6816995
File Name	003CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 08:51:02
Sample Type	CalBlk
Total Dilution	1.0000
Comment	—
Location	1101

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	He	0.33	86.6
Na	23	45	He	8760.28	2.3
Mg	24	45	He	66.67	27.8
Al	27	45	He	56.67	18.1
K	39	45	He	16335.38	0.8
Ca	44	45	He	95.55	14.1
V	51	45	He	116.67	15.1
Cr	52	45	He	162.22	10.1
Mn	55	45	He	58.89	22.9
Fe	56	45	He	5307.62	6.5
Co	59	45	He	15.56	12.4
Ni	60	45	He	55.56	27.1
Cu	65	45	He	160.00	5.5
Zn	66	72	He	731.14	12.6
As	75	72	He	10.67	10.8
Se	78	72	He	71.33	14.0
Rb	85	115	He	3.33	100.1
Sr	88	115	He	15.56	32.7
Mo	95	115	He	13.33	43.3
Ag	107	115	He	17.78	65.8
Cd	111	115	He	3.33	69.3
Sn	118	115	He	174.45	8.8
Sb	121	115	He	47.78	26.4
Cs	133	115	He	5.55	69.3
Ba	137	115	He	8.89	43.3
Ce	140	115	He	142.22	17.0
Tl	205	159	He	76.67	26.1
Pb	208	159	He	184.45	12.8
U	238	159	He	10.00	0.0

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Sc-45 (IS)	45	He	166884.59	0.9
Ge (IS)	72	He	148055.94	0.8
In-115 (IS)	115	He	1601841.24	0.5
Tb-159 (IS)	159	He	4825099.95	0.6

Calibration Standard Report

Sample Name	STD1-6816994
File Name	004CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 08:53:04
Sample Type	CalStd
Total Dilution	1.0000
Comment	--
ISTD Ref FileName	003CALB.d
Location	1102

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	He	8.17	57.9
Na	23	45	He	10980.59	1.8
Mg	24	45	He	1277.84	5.3
Al	27	45	He	97.33	15.4
K	39	45	He	17750.27	2.7
Ca	44	45	He	218.89	29.9
V	51	45	He	804.47	4.2
Cr	52	45	He	1031.15	8.5
Mn	55	45	He	471.12	7.8
Fe	56	45	He	12581.91	1.4
Co	59	45	He	1593.42	8.7
Ni	60	45	He	474.45	10.5
Cu	65	45	He	836.70	6.4
Zn	66	72	He	998.93	12.1
As	75	72	He	122.00	5.7
Se	78	72	He	71.33	17.5
Rb	85	115	He	474.45	6.6
Sr	88	115	He	665.58	8.6
Mo	95	115	He	628.90	8.5
Ag	107	115	He	2410.21	3.3
Cd	111	115	He	310.67	7.2
Sn	118	115	He	811.14	4.7
Sb	121	115	He	755.58	2.4
Cs	133	115	He	1663.44	1.0
Ba	137	115	He	326.67	9.2
Ce	140	115	He	4787.49	4.8
Tl	205	159	He	4139.53	1.0
[Pb]	206	159	He	1387.85	5.1
Pb	208	159	He	5572.69	2.0
U	238	159	He	5021.03	2.1

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	166201.69	1.1	166884.59	99.59	60	120	
Ge (IS)	72	He	148049.57	0.7	148055.94	100	60	120	
In-115 (IS)	115	He	1599955.88	0.2	1601841.24	99.88	60	120	
Tb-159 (IS)	159	He	4821382.03	0.3	4825099.95	99.92	60	120	

Calibration Standard Report

Sample Name	STD2-6816993
File Name	005CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 08:55:08
Sample Type	CalStd
Total Dilution	1.0000
Comment	--
ISTD Ref FileName	003CALB.d
Location	1103

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	He	39.67	11.0
Na	23	45	He	20772.75	1.8
Mg	24	45	He	6191.26	3.9
Al	27	45	He	195.33	12.0
K	39	45	He	22125.92	1.5
Ca	44	45	He	800.03	3.3
V	51	45	He	3649.35	3.7
Cr	52	45	He	4748.54	2.9
Mn	55	45	He	3029.20	3.9
Fe	56	45	He	40971.68	1.6
Co	59	45	He	8058.84	1.2
Ni	60	45	He	2337.97	2.9
Cu	65	45	He	3478.19	2.0
Zn	66	72	He	5247.60	2.5
As	75	72	He	579.01	4.3
Se	78	72	He	102.33	6.2
Rb	85	115	He	2540.23	3.4
Sr	88	115	He	3499.32	1.5
Mo	95	115	He	3331.50	2.0
Ag	107	115	He	11883.74	2.5
Cd	111	115	He	1520.41	0.7
Sn	118	115	He	3313.73	2.4
Sb	121	115	He	3774.95	3.3
Cs	133	115	He	8634.83	0.6
Ba	137	115	He	1542.31	3.5
Ce	140	115	He	23581.57	0.9
Tl	205	159	He	20834.69	1.3
[Pb]	206	159	He	6677.20	1.8
Pb	208	159	He	26830.35	1.8
U	238	159	He	24866.58	1.3

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	166533.05	0.5	166884.59	99.79	60	120	
Ge (IS)	72	He	147452.57	1.2	148055.94	99.59	60	120	
In-115 (IS)	115	He	1593417.40	0.3	1601841.24	99.47	60	120	
Tb-159 (IS)	159	He	4818266.76	0.4	4825099.95	99.86	60	120	

Calibration Standard Report

Sample Name	STD3-6816992
File Name	006CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 08:57:11
Sample Type	CalStd
Total Dilution	1.0000
Comment	--
ISTD Ref FileName	003CALB.d
Location	1104

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	He	401.68	2.8
Na	23	45	He	134627.82	1.1
Mg	24	45	He	62519.39	0.4
Al	27	45	He	1030.70	8.7
K	39	45	He	76378.32	0.7
Ca	44	45	He	6807.09	1.1
V	51	45	He	36022.40	0.7
Cr	52	45	He	45574.43	1.2
Mn	55	45	He	22523.37	1.9
Fe	56	45	He	368187.57	0.6
Co	59	45	He	83207.67	0.5
Ni	60	45	He	22782.66	0.7
Cu	65	45	He	33229.82	1.2
Zn	66	72	He	13099.03	1.8
As	75	72	He	6109.25	1.8
Se	78	72	He	439.68	6.1
Rb	85	115	He	26058.32	1.1
Sr	88	115	He	33759.30	0.7
Mo	95	115	He	32971.12	0.7
Ag	107	115	He	121490.63	0.2
Cd	111	115	He	15538.22	1.8
Sn	118	115	He	32192.16	2.5
Sb	121	115	He	37754.49	2.0
Cs	133	115	He	87361.51	0.4
Ba	137	115	He	15344.89	0.9
Ce	140	115	He	237068.30	0.3
Tl	205	159	He	212439.88	0.8
[Pb]	206	159	He	68067.51	1.0
Pb	208	159	He	274372.74	0.4
U	238	159	He	253184.10	1.6

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	166829.60	1.3	166884.59	99.97	60	120	
Ge (IS)	72	He	148487.09	0.8	148055.94	100.29	60	120	
In-115 (IS)	115	He	1623935.93	0.3	1601841.24	101.38	60	120	
Tb-159 (IS)	159	He	4861200.78	0.4	4825099.95	100.75	60	120	

Calibration Standard Report

Sample Name	STD4-6816991
File Name	007CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:00:17
Sample Type	CalStd
Total Dilution	1.0000
Comment	--
ISTD Ref FileName	003CALB.d
Location	1105

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	He	4038.68	1.6
Na	23	45	He	1272274.95	1.1
Mg	24	45	He	619321.16	0.5
Al	27	45	He	8751.81	0.6
K	39	45	He	615679.89	0.8
Ca	44	45	He	66825.88	0.1
V	51	45	He	355210.92	0.1
Cr	52	45	He	451784.63	0.8
Mn	55	45	He	224105.95	0.4
Fe	56	45	He	3516408.33	1.2
Co	59	45	He	815912.19	1.1
Ni	60	45	He	227292.23	0.5
Cu	65	45	He	324072.39	0.5
Zn	66	72	He	92897.04	0.6
As	75	72	He	60515.11	0.8
Se	78	72	He	3784.82	1.4
Rb	85	115	He	261546.22	0.8
Sr	88	115	He	338093.56	0.8
Mo	95	115	He	335966.95	0.8
Ag	107	115	He	1228787.56	0.5
Cd	111	115	He	156907.89	0.3
Sn	118	115	He	333706.02	0.8
Sb	121	115	He	379016.54	0.7
Cs	133	115	He	872296.25	0.1
Ba	137	115	He	155844.62	1.2
Ce	140	115	He	2403953.65	0.6
Tl	205	159	He	2160840.54	0.4
[Pb]	206	159	He	689884.94	0.3
Pb	208	159	He	2773638.10	0.1
U	238	159	He	2662905.07	0.7

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	165193.34	0.6	166884.59	98.99	60	120	
Ge (IS)	72	He	147501.01	0.7	148055.94	99.63	60	120	
In-115 (IS)	115	He	1603464.08	0.4	1601841.24	100.1	60	120	
Tb-159 (IS)	159	He	4886948.28	0.4	4825099.95	101.28	60	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV-6816990
File Name	008_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:02:21
Sample Type	ICV
Total Dilution	1.0000
Comment	—
Location	1106

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	20.120	ppb	4.0	804.35	25	80.48	90	110	> +/- 10%
Al	27	45	He	19.490	ppb	5.3	1734.77	25	77.96	90	110	> +/- 10%
V	51	45	He	20.391	ppb	0.9	71782.30	25	81.56	90	110	> +/- 10%
Cr	52	45	He	20.700	ppb	1.3	92681.80	25	82.8	90	110	> +/- 10%
Mn	55	45	He	20.585	ppb	1.8	45703.97	25	82.34	90	110	> +/- 10%
Fe	56	45	He	211.450	ppb	1.3	740192.45	250	84.58	90	110	> +/- 10%
Co	59	45	He	20.626	ppb	1.8	166586.89	25	82.5	90	110	> +/- 10%
Ni	60	45	He	20.422	ppb	2.4	45980.59	25	81.69	90	110	> +/- 10%
Cu	65	45	He	20.388	ppb	0.9	65530.18	25	81.55	90	110	> +/- 10%
Zn	66	72	He	20.268	ppb	1.2	19386.91	25	81.07	90	110	> +/- 10%
As	75	72	He	20.517	ppb	0.7	12366.75	25	82.07	90	110	> +/- 10%
Se	78	72	He	19.581	ppb	4.5	794.35	25	78.32	90	110	> +/- 10%
Rb	85	115	He	20.041	ppb	0.3	52364.89	25	80.16	90	110	> +/- 10%
Sr	88	115	He	20.126	ppb	1.7	67990.04	25	80.5	90	110	> +/- 10%
Mo	95	115	He	20.624	ppb	0.6	69219.71	25	82.5	90	110	> +/- 10%
Ag	107	115	He	19.801	ppb	0.2	243057.79	25	79.2	90	110	> +/- 10%
Cd	111	115	He	20.191	ppb	0.7	31649.36	25	80.76	90	110	> +/- 10%
Sn	118	115	He	20.539	ppb	0.3	68585.01	25	82.16	90	110	> +/- 10%
Sb	121	115	He	21.437	ppb	0.5	81203.04	25	85.75	90	110	> +/- 10%
Cs	133	115	He	20.261	ppb	0.6	176567.63	25	81.04	90	110	> +/- 10%
Ba	137	115	He	20.121	ppb	1.8	31330.73	25	80.48	90	110	> +/- 10%
Ce	140	115	He	20.039	ppb	0.7	481317.69	25	80.16	90	110	> +/- 10%
Tl	205	159	He	20.350	ppb	0.3	437144.07	25	81.4	90	110	> +/- 10%
Pb	208	159	He	20.755	ppb	0.2	572382.43	25	83.02	90	110	> +/- 10%
U	238	159	He	20.405	ppb	0.1	539920.24	25	81.62	90	110	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	163506.48	0.5	166884.59	97.98	60	120	
Ge (IS)	72	He	146810.73	0.1	148055.94	99.16	60	120	
In-115 (IS)	115	He	1602096.99	0.6	1601841.24	100.02	60	120	
Tb-159 (IS)	159	He	4858050.92	0.5	4825099.95	100.68	60	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV-6816990
File Name	009_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:07:42
Sample Type	ICV
Total Dilution	1.0000
Comment	—
Location	1106

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	25.158	ppb	3.4	1000.03	25	100.63	90	110	
Al	27	45	He	25.365	ppb	1.8	2228.17	25	101.46	90	110	
V	51	45	He	25.422	ppb	1.5	88950.69	25	101.69	90	110	
Cr	52	45	He	25.603	ppb	0.8	113939.94	25	102.41	90	110	
Mn	55	45	He	25.639	ppb	0.6	56584.70	25	102.56	90	110	
Fe	56	45	He	260.707	ppb	0.3	906157.19	250	104.28	90	110	
Co	59	45	He	25.644	ppb	0.4	205926.23	25	102.58	90	110	
Ni	60	45	He	25.448	ppb	0.6	56953.04	25	101.79	90	110	
Cu	65	45	He	25.337	ppb	0.1	80925.27	25	101.35	90	110	
Zn	66	72	He	25.161	ppb	1.5	23688.60	25	100.64	90	110	
As	75	72	He	25.460	ppb	1.0	15212.36	25	101.84	90	110	
Se	78	72	He	24.561	ppb	1.8	970.03	25	98.24	90	110	
Rb	85	115	He	24.880	ppb	0.3	64599.13	25	99.52	90	110	
Sr	88	115	He	25.138	ppb	0.6	84386.79	25	100.55	90	110	
Mo	95	115	He	25.310	ppb	0.0	84410.22	25	101.24	90	110	
Ag	107	115	He	24.848	ppb	0.1	303092.66	25	99.39	90	110	
Cd	111	115	He	25.214	ppb	0.4	39274.02	25	100.86	90	110	
Sn	118	115	He	24.747	ppb	0.5	82082.00	25	98.99	90	110	
Sb	121	115	He	26.218	ppb	0.5	98681.09	25	104.87	90	110	
Cs	133	115	He	25.398	ppb	0.8	219947.09	25	101.59	90	110	
Ba	137	115	He	25.310	ppb	0.7	39157.60	25	101.24	90	110	
Ce	140	115	He	25.085	ppb	0.5	598682.98	25	100.34	90	110	
Tl	205	159	He	25.461	ppb	0.5	543925.15	25	101.84	90	110	
Pb	208	159	He	25.836	ppb	0.5	708597.34	25	103.34	90	110	
U	238	159	He	25.373	ppb	0.8	667751.94	25	101.49	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	162556.66	0.4	166884.59	97.41	60	120	
Ge (IS)	72	He	145557.60	0.2	148055.94	98.31	60	120	
In-115 (IS)	115	He	1592040.86	0.4	1601841.24	99.39	60	120	
Tb-159 (IS)	159	He	4831734.81	0.7	4825099.95	100.14	60	120	

Initial Calibration Blank (ICB) Report

Sample Name	ICB-6816995
File Name	010_ICB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:09:45
Sample Type	ICB
Total Dilution	1.0000
Comment	—
Location	1101

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.009	ppb	165.1	0.67	0.05	
Al	27	45	He	0.092	ppb	206.3	62.00	1	
V	51	45	He	0.000	ppb	1545.0	112.22	0.1	
Cr	52	45	He	0.005	ppb	107.5	177.78	0.1	
Mn	55	45	He	0.014	ppb	52.0	86.67	0.1	
Fe	56	45	He	0.638	ppb	13.2	7249.54	100	
Co	59	45	He	0.001	ppb	50.2	26.67	0.1	
Ni	60	45	He	0.004	ppb	211.4	62.22	0.1	
Cu	65	45	He	0.008	ppb	54.3	178.89	0.1	
Zn	66	72	He	-0.061	ppb	N/A	648.91	0.5	
As	75	72	He	0.010	ppb	29.3	16.00	0.1	
Se	78	72	He	-0.119	ppb	N/A	64.33	0.1	
Rb	85	115	He	0.004	ppb	68.4	14.44	0.1	
Sr	88	115	He	0.003	ppb	179.7	24.45	0.1	
Mo	95	115	He	0.040	ppb	29.5	143.33	0.1	
Ag	107	115	He	0.009	ppb	30.2	124.45	0.1	
Cd	111	115	He	0.000	ppb	278.0	3.67	0.1	
Sn	118	115	He	0.296	ppb	16.1	1128.94	1	
Sb	121	115	He	0.154	ppb	7.8	614.46	0.2	
Cs	133	115	He	0.003	ppb	20.8	28.89	0.1	
Ba	137	115	He	0.007	ppb	99.0	18.89	0.1	
Ce	140	115	He	0.002	ppb	67.1	186.67	0.1	
Tl	205	159	He	0.003	ppb	55.6	131.11	0.1	
Pb	208	159	He	0.006	ppb	15.6	338.89	0.1	
U	238	159	He	0.064	ppb	4.1	1663.47	0.1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	159779.29	0.6	166884.59	95.74	60	120	
Ge (IS)	72	He	142480.51	0.8	148055.94	96.23	60	120	
In-115 (IS)	115	He	1561580.35	1.0	1601841.24	97.49	60	120	
Tb-159 (IS)	159	He	4773154.53	0.8	4825099.95	98.92	60	120	

Reporting Limit Check (1.0x)

Sample Name	CRI-6816998
File Name	011RL_1.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:11:49
Sample Type	RL_1
Total Dilution	1.0000
Comment	--
Location	1301

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Be	9	45	He	0.500	ppb	22.5	20.00	0.5	100	50	150	
Al	27	45	He	9.962	ppb	6.4	900.03	10	99.62	50	150	
V	51	45	He	1.033	ppb	3.0	3689.35	1	103.3	50	150	
Cr	52	45	He	1.057	ppb	2.9	4811.89	1	105.7	50	150	
Mn	55	45	He	0.996	ppb	6.1	2233.51	1	99.6	50	150	
Fe	56	45	He	21.464	ppb	0.8	78619.85	20	107.32	50	150	
Co	59	45	He	1.033	ppb	1.0	8233.38	1	103.3	50	150	
Ni	60	45	He	1.073	ppb	7.5	2430.21	1	107.3	50	150	
Cu	65	45	He	1.093	ppb	3.5	3606.00	1	109.3	50	150	
Zn	66	72	He	10.436	ppb	3.8	10002.24	10	104.36	50	150	
As	75	72	He	1.053	ppb	2.3	624.01	1	105.3	50	150	
Se	78	72	He	1.107	ppb	10.2	108.00	1	110.7	50	150	
Rb	85	115	He	0.514	ppb	5.3	1325.62	0.5	102.8	50	150	
Sr	88	115	He	1.037	ppb	3.9	3460.42	1	103.7	50	150	
Mo	95	115	He	1.000	ppb	2.5	3314.83	1	100	50	150	
Ag	107	115	He	0.997	ppb	2.7	12067.21	1	99.7	50	150	
Cd	111	115	He	1.016	ppb	2.4	1571.08	1	101.6	50	150	
Sn	118	115	He	9.682	ppb	1.1	31912.67	10	96.82	50	150	
Sb	121	115	He	1.166	ppb	3.2	4390.69	1	116.6	50	150	
Cs	133	115	He	0.520	ppb	1.4	4467.38	0.5	104	50	150	
Ba	137	115	He	1.031	ppb	4.5	1588.99	1	103.1	50	150	
Ce	140	115	He	1.006	ppb	0.9	23923.29	1	100.6	50	150	
Tl	205	159	He	1.021	ppb	1.9	21653.74	1	102.1	50	150	
Pb	208	159	He	1.041	ppb	1.3	28424.87	1	104.1	50	150	
U	238	159	He	1.039	ppb	3.1	27064.11	1	103.9	50	150	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	161068.82	0.7	166884.59	96.52	60	120	
Ge (IS)	72	He	142092.80	0.4	148055.94	95.97	60	120	
In-115 (IS)	115	He	1576818.67	0.5	1601841.24	98.44	60	120	
Tb-159 (IS)	159	He	4781978.42	0.2	4825099.95	99.11	60	120	

Reporting Limit Check (CRI 2.0x)

Sample Name CRI-6816999

File Name 012RL_2.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 09:13:53

Sample Type RL_2

Total Dilution 1.0000

Comment —

Location 1302

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Be	9	45	He	0.966	ppb	6.0	38.50	1	96.6	50	150	
Al	27	45	He	20.225	ppb	3.7	1778.11	20	101.12	50	150	
V	51	45	He	2.115	ppb	1.7	7460.73	2	105.75	50	150	
Cr	52	45	He	2.148	ppb	0.2	9646.42	2	107.4	50	150	
Mn	55	45	He	2.107	ppb	2.4	4675.18	2	105.35	50	150	
Fe	56	45	He	43.823	ppb	0.7	155719.07	40	109.56	50	150	
Co	59	45	He	2.114	ppb	2.0	16888.34	2	105.7	50	150	
Ni	60	45	He	2.152	ppb	4.1	4838.57	2	107.6	50	150	
Cu	65	45	He	2.202	ppb	3.2	7133.93	2	110.1	50	150	
Zn	66	72	He	21.097	ppb	2.7	19793.01	20	105.49	50	150	
As	75	72	He	2.038	ppb	1.2	1215.72	2	101.9	50	150	
Se	78	72	He	1.650	ppb	7.2	129.33	2	82.5	50	150	
Rb	85	115	He	1.016	ppb	4.6	2635.80	1	101.6	50	150	
Sr	88	115	He	2.137	ppb	2.7	7176.20	2	106.85	50	150	
Mo	95	115	He	2.125	ppb	3.4	7088.40	2	106.25	50	150	
Ag	107	115	He	2.035	ppb	1.0	24797.60	2	101.75	50	150	
Cd	111	115	He	2.120	ppb	1.6	3299.71	2	106	50	150	
Sn	118	115	He	20.052	ppb	0.7	66426.06	20	100.26	50	150	
Sb	121	115	He	2.312	ppb	0.9	8731.54	2	115.6	50	150	
Cs	133	115	He	1.030	ppb	1.6	8912.78	1	103	50	150	
Ba	137	115	He	2.136	ppb	2.1	3307.07	2	106.8	50	150	
Ce	140	115	He	2.093	ppb	1.5	49997.78	2	104.65	50	150	
Tl	205	159	He	2.095	ppb	0.5	44656.70	2	104.75	50	150	
Pb	208	159	He	2.151	ppb	1.2	58917.40	2	107.55	50	150	
U	238	159	He	2.120	ppb	0.5	55588.16	2	106	50	150	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	161630.16	1.2	166884.59	96.85	60	120	
Ge (IS)	72	He	144210.27	0.3	148055.94	97.4	60	120	
In-115 (IS)	115	He	1589262.32	0.3	1601841.24	99.21	60	120	
Tb-159 (IS)	159	He	4812505.78	0.1	4825099.95	99.74	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name ICSA-6817002

File Name 013ICSA.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 09:16:01

Sample Type ICSA

Total Dilution 1.0000

Comment ---

Location 1201

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Be	9	45	He	0.021	ppb	33.7	1.17	-0.5	100	100	
Al	27	45	He	93352.436	ppb	0.4	8160965.67	-100000	120	120	
V	51	45	He	0.017	ppb	45.4	176.67	-2	100	100	
Cr	52	45	He	0.695	ppb	6.2	3312.60	-2	100	100	
Mn	55	45	He	0.379	ppb	1.4	911.14	-2	100	100	
Fe	56	45	He	96551.554	ppb	0.5	340495319.80	-100000	120	120	
Co	59	45	He	0.294	ppb	3.3	2425.76	-2	100	100	
Ni	60	45	He	0.371	ppb	12.0	902.25	-2	100	100	
Cu	65	45	He	0.257	ppb	5.5	996.70	-2	100	100	
Zn	66	72	He	0.889	ppb	4.6	1490.08	-20	100	100	
As	75	72	He	0.055	ppb	24.8	42.00	-2	100	100	
Se	78	72	He	0.123	ppb	340.6	72.67	-2	100	100	
Rb	85	115	He	0.960	ppb	3.6	2375.76	-2	100	100	
Sr	88	115	He	2.764	ppb	3.7	8842.66	-2	100	100	>2x RL
Mo	95	115	He	2092.083	ppb	0.6	6640022.79	-2000	120	120	
Ag	107	115	He	0.387	ppb	2.8	4508.49	-2	100	100	
Cd	111	115	He	0.172	ppb	16.5	258.00	-2	100	100	
Sn	118	115	He	0.394	ppb	5.1	1406.74	-20	100	100	
Sb	121	115	He	0.062	ppb	8.4	267.78	-2	100	100	
Cs	133	115	He	0.024	ppb	15.0	203.34	-2	100	100	
Ba	137	115	He	1.646	ppb	3.4	2432.44	-2	100	100	
Ce	140	115	He	0.032	ppb	6.5	853.36	-2	100	100	
Tl	205	159	He	0.002	ppb	25.7	127.78	-2	100	100	
Pb	208	159	He	0.195	ppb	4.1	5527.13	-2	100	100	
U	238	159	He	0.025	ppb	8.6	663.37	-2	100	100	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	165880.73	0.6	166884.59	99.4	60	120	
Ge (IS)	72	He	141762.00	0.3	148055.94	95.75	60	120	
In-115 (IS)	115	He	1515343.89	0.2	1601841.24	94.6	60	120	
Tb-159 (IS)	159	He	4818930.92	0.3	4825099.95	99.87	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB-6817003
File Name	014ICSB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:18:06
Sample Type	ICSB
Total Dilution	1.0000
Comment	—
Location	1202

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Be	9	45	He	19.574	ppb	1.2	800.19	20	80	120	
Al	27	45	He	95632.846	ppb	0.2	8426241.33	100000	80	120	
V	51	45	He	20.534	ppb	0.4	73913.37	20	80	120	
Cr	52	45	He	20.643	ppb	0.3	94509.44	20	80	120	
Mn	55	45	He	20.403	ppb	0.2	46321.38	20	80	120	
Fe	56	45	He	98929.284	ppb	0.4	351629541.58	100200	80	120	
Co	59	45	He	19.671	ppb	0.3	162457.98	20	80	120	
Ni	60	45	He	19.056	ppb	0.0	43876.60	20	80	120	
Cu	65	45	He	19.297	ppb	1.1	63427.97	20	80	120	
Zn	66	72	He	19.955	ppb	0.3	18825.09	20	80	120	
As	75	72	He	20.916	ppb	1.9	12425.13	20	80	120	
Se	78	72	He	19.809	ppb	2.3	791.35	20	80	120	
Rb	85	115	He	22.202	ppb	0.2	55743.73	20	80	120	
Sr	88	115	He	24.106	ppb	0.5	78248.88	20	80	120	> +/- 10%
Mo	95	115	He	2136.857	ppb	0.4	6890123.34	2020	80	120	
Ag	107	115	He	20.405	ppb	0.3	240681.21	20	80	120	
Cd	111	115	He	20.157	ppb	0.3	30361.31	20	80	120	
Sn	118	115	He	22.029	ppb	0.6	70670.38	20	80	120	
Sb	121	115	He	22.126	ppb	0.9	80535.94	20	80	120	
Cs	133	115	He	20.876	ppb	0.7	174814.44	20	80	120	
Ba	137	115	He	22.735	ppb	0.8	34014.58	20	80	120	
Ce	140	115	He	21.164	ppb	0.6	488443.19	20	80	120	
Tl	205	159	He	19.557	ppb	0.9	421368.95	20	80	120	
Pb	208	159	He	19.719	ppb	0.4	545447.18	20	80	120	
U	238	159	He	20.582	ppb	0.6	546223.70	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	167186.62	0.5	166884.59	100.18	60	120	
Ge (IS)	72	He	144710.67	1.0	148055.94	97.74	60	120	
In-115 (IS)	115	He	1539470.11	0.1	1601841.24	96.11	60	120	
Tb-159 (IS)	159	He	4872507.45	0.2	4825099.95	100.98	60	120	

Sample Report

Sample Name	RINSE
File Name	015SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:20:11
Sample Type	Sample
Total Dilution	1.0000
Comment	—
Location	4

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.000	ppb	3693.0	0.33	5000	
Al	27	45	He	4.709	ppb	18.3	455.34	5000	
V	51	45	He	0.017	ppb	20.5	173.34	5000	
Cr	52	45	He	0.004	ppb	179.3	176.67	5000	
Mn	55	45	He	0.008	ppb	105.0	73.33	5000	
Fe	56	45	He	21.544	ppb	3.8	79022.11	50000	
Co	59	45	He	0.001	ppb	53.3	24.44	4000	
Ni	60	45	He	-0.003	ppb	N/A	47.78	2000	
Cu	65	45	He	0.016	ppb	33.1	206.67	2000	
Zn	66	72	He	0.006	ppb	993.6	716.69	5000	
As	75	72	He	0.002	ppb	426.3	11.67	5000	
Se	78	72	He	-0.215	ppb	N/A	61.67	5000	
Rb	85	115	He	0.003	ppb	88.6	11.11	5000	
Sr	88	115	He	0.001	ppb	54.0	18.89	5000	
Mo	95	115	He	1.429	ppb	8.6	4789.69	3000	
Ag	107	115	He	0.006	ppb	9.0	85.55	100	
Cd	111	115	He	0.000	ppb	14306.9	3.33	5000	
Sn	118	115	He	0.092	ppb	22.6	480.01	5000	
Sb	121	115	He	0.019	ppb	24.9	120.00	5000	
Cs	133	115	He	0.001	ppb	44.0	13.33	5000	
Ba	137	115	He	0.011	ppb	42.4	25.55	5000	
Ce	140	115	He	0.001	ppb	63.9	176.67	5000	
Tl	205	159	He	0.010	ppb	24.2	285.56	5000	
Pb	208	159	He	0.004	ppb	13.5	307.78	4000	
U	238	159	He	0.011	ppb	12.9	303.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	161313.57	1.0	166884.59	96.66	60	120	
Ge (IS)	72	He	144119.59	1.1	148055.94	97.34	60	120	
In-115 (IS)	115	He	1594541.77	1.0	1601841.24	99.54	60	120	
Tb-159 (IS)	159	He	4851669.67	0.9	4825099.95	100.55	60	120	

Sample Report

Sample Name	RINSE
File Name	016SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:22:14
Sample Type	Sample
Total Dilution	1.0000
Comment	—
Location	4

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.000	ppb	1640.2	0.33	5000	
Al	27	45	He	1.468	ppb	11.5	176.67	5000	
V	51	45	He	0.023	ppb	18.8	187.78	5000	
Cr	52	45	He	0.007	ppb	94.2	186.67	5000	
Mn	55	45	He	0.005	ppb	111.7	67.78	5000	
Fe	56	45	He	8.094	ppb	8.3	32356.67	50000	
Co	59	45	He	0.001	ppb	124.3	18.89	4000	
Ni	60	45	He	-0.001	ppb	N/A	51.11	2000	
Cu	65	45	He	0.009	ppb	80.2	178.89	2000	
Zn	66	72	He	-0.073	ppb	N/A	638.91	5000	
As	75	72	He	0.000	ppb	4447.2	10.33	5000	
Se	78	72	He	-0.240	ppb	N/A	60.00	5000	
Rb	85	115	He	0.001	ppb	98.8	6.67	5000	
Sr	88	115	He	0.002	ppb	121.4	22.22	5000	
Mo	95	115	He	0.369	ppb	7.6	1230.06	3000	
Ag	107	115	He	0.002	ppb	82.8	37.78	100	
Cd	111	115	He	0.000	ppb	N/A	2.67	5000	
Sn	118	115	He	0.086	ppb	22.9	453.34	5000	
Sb	121	115	He	0.009	ppb	40.0	81.11	5000	
Cs	133	115	He	0.001	ppb	89.4	11.11	5000	
Ba	137	115	He	0.011	ppb	45.5	25.56	5000	
Ce	140	115	He	0.000	ppb	N/A	130.00	5000	
Tl	205	159	He	0.003	ppb	31.7	147.78	5000	
Pb	208	159	He	0.001	ppb	11.7	222.22	4000	
U	238	159	He	0.005	ppb	49.2	143.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	158701.00	0.6	166884.59	95.1	60	120	
Ge (IS)	72	He	142545.73	0.7	148055.94	96.28	60	120	
In-115 (IS)	115	He	1574440.98	0.5	1601841.24	98.29	60	120	
Tb-159 (IS)	159	He	4798052.31	0.5	4825099.95	99.44	60	120	

Sample Report

Sample Name	RINSE
File Name	017SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:25:06
Sample Type	Sample
Total Dilution	1.0000
Comment	—
Location	4

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.018	ppb	73.5	1.00	5000	
Al	27	45	He	0.561	ppb	27.5	98.67	5000	
V	51	45	He	0.021	ppb	26.1	178.89	5000	
Cr	52	45	He	0.013	ppb	49.5	204.45	5000	
Mn	55	45	He	0.018	ppb	71.1	92.22	5000	
Fe	56	45	He	3.777	ppb	12.9	17425.61	50000	
Co	59	45	He	0.001	ppb	64.8	22.22	4000	
Ni	60	45	He	0.004	ppb	167.0	60.00	2000	
Cu	65	45	He	0.021	ppb	32.3	212.23	2000	
Zn	66	72	He	-0.049	ppb	N/A	648.90	5000	
As	75	72	He	-0.003	ppb	N/A	8.33	5000	
Se	78	72	He	-0.089	ppb	N/A	64.33	5000	
Rb	85	115	He	0.002	ppb	34.0	8.89	5000	
Sr	88	115	He	0.001	ppb	102.9	18.89	5000	
Mo	95	115	He	0.168	ppb	10.3	562.24	3000	
Ag	107	115	He	0.001	ppb	40.9	34.45	100	
Cd	111	115	He	-0.001	ppb	N/A	1.67	5000	
Sn	118	115	He	0.074	ppb	32.6	410.01	5000	
Sb	121	115	He	0.008	ppb	29.2	75.56	5000	
Cs	133	115	He	0.000	ppb	N/A	2.22	5000	
Ba	137	115	He	0.010	ppb	44.2	24.45	5000	
Ce	140	115	He	0.000	ppb	85.1	148.89	5000	
Tl	205	159	He	0.000	ppb	102.7	85.56	5000	
Pb	208	159	He	0.000	ppb	935.3	186.67	4000	
U	238	159	He	0.003	ppb	30.2	86.67	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	155537.86	1.0	166884.59	93.2	60	120	
Ge (IS)	72	He	140092.10	0.6	148055.94	94.62	60	120	
In-115 (IS)	115	He	1559400.29	0.4	1601841.24	97.35	60	120	
Tb-159 (IS)	159	He	4769610.51	0.6	4825099.95	98.85	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV-6816997
File Name	018_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:27:09
Sample Type	CCV
Total Dilution	1.0000
Comment	—
Location	1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	49.884	ppb	1.8	1909.28	50	99.77	90	110	
Al	27	45	He	48.717	ppb	3.3	4073.21	50	97.43	90	110	
V	51	45	He	50.341	ppb	1.1	169520.54	50	100.68	90	110	
Cr	52	45	He	50.661	ppb	1.0	216960.74	50	101.32	90	110	
Mn	55	45	He	50.381	ppb	1.2	107017.72	50	100.76	90	110	
Fe	56	45	He	512.379	ppb	0.3	1710262.81	500	102.48	90	110	
Co	59	45	He	51.025	ppb	0.6	394558.11	50	102.05	90	110	
Ni	60	45	He	50.925	ppb	0.7	109700.30	50	101.85	90	110	
Cu	65	45	He	51.489	ppb	0.5	158218.70	50	102.98	90	110	
Zn	66	72	He	50.332	ppb	0.4	45527.28	50	100.66	90	110	
As	75	72	He	49.832	ppb	1.0	29038.95	50	99.66	90	110	
Se	78	72	He	48.511	ppb	2.8	1802.45	50	97.02	90	110	
Rb	85	115	He	49.061	ppb	0.5	126296.08	50	98.12	90	110	
Sr	88	115	He	49.349	ppb	0.4	164230.75	50	98.7	90	110	
Mo	95	115	He	50.000	ppb	0.9	165316.90	50	100	90	110	
Ag	107	115	He	50.359	ppb	0.5	609019.63	50	100.72	90	110	
Cd	111	115	He	49.917	ppb	0.9	77087.33	50	99.83	90	110	
Sn	118	115	He	50.234	ppb	0.4	165017.00	50	100.47	90	110	
Sb	121	115	He	50.206	ppb	0.4	187308.10	50	100.41	90	110	
Cs	133	115	He	49.801	ppb	0.3	427592.50	50	99.6	90	110	
Ba	137	115	He	49.782	ppb	0.7	76354.68	50	99.56	90	110	
Ce	140	115	He	50.497	ppb	0.6	1194738.15	50	100.99	90	110	
Tl	205	159	He	50.107	ppb	0.6	1074571.24	50	100.21	90	110	
Pb	208	159	He	50.488	ppb	0.7	1389946.47	50	100.98	90	110	
U	238	159	He	49.889	ppb	0.9	1318004.72	50	99.78	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	156546.02	1.0	166884.59	93.8	60	120	
Ge (IS)	72	He	142002.89	0.7	148055.94	95.91	60	120	
In-115 (IS)	115	He	1578459.94	0.6	1601841.24	98.54	60	120	
Tb-159 (IS)	159	He	4850666.20	0.7	4825099.95	100.53	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB-6816995
File Name	019_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:29:17
Sample Type	CCB
Total Dilution	1.0000
Comment	—
Location	1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.010	ppb	209.5	0.67	0.5	
Al	27	45	He	0.507	ppb	38.1	92.00	10	
V	51	45	He	0.020	ppb	13.4	172.23	1	
Cr	52	45	He	0.008	ppb	84.8	178.89	1	
Mn	55	45	He	0.016	ppb	27.5	86.67	1	
Fe	56	45	He	2.478	ppb	13.1	12818.80	20	
Co	59	45	He	0.002	ppb	21.0	30.00	1	
Ni	60	45	He	0.015	ppb	13.0	81.11	1	
Cu	65	45	He	0.024	ppb	22.2	216.67	1	
Zn	66	72	He	-0.002	ppb	N/A	678.91	5	
As	75	72	He	0.011	ppb	17.1	16.00	1	
Se	78	72	He	-0.147	ppb	N/A	61.33	1	
Rb	85	115	He	0.008	ppb	27.4	22.22	1	
Sr	88	115	He	0.005	ppb	115.1	30.00	1	
Mo	95	115	He	0.126	ppb	3.6	416.67	1	
Ag	107	115	He	0.009	ppb	45.3	126.67	1	
Cd	111	115	He	-0.001	ppb	N/A	1.33	1	
Sn	118	115	He	0.313	ppb	12.3	1158.94	10	
Sb	121	115	He	0.131	ppb	17.6	518.90	1	
Cs	133	115	He	0.003	ppb	36.3	32.22	1	
Ba	137	115	He	0.032	ppb	47.7	55.56	1	
Ce	140	115	He	0.004	ppb	27.7	233.34	1	
Tl	205	159	He	0.005	ppb	52.7	187.78	1	
Pb	208	159	He	0.010	ppb	15.3	446.67	1	
U	238	159	He	0.058	ppb	11.2	1500.12	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	151727.99	0.3	166884.59	90.92	60	120	
Ge (IS)	72	He	137914.18	0.6	148055.94	93.15	60	120	
In-115 (IS)	115	He	1528129.42	0.8	1601841.24	95.4	60	120	
Tb-159 (IS)	159	He	4741544.40	0.3	4825099.95	98.27	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664290/1-a
File Name	020_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:31:20
Sample Type	MB
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2101

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.010	ppb	207.1	0.67	0.5	
Al	27	45	He	0.670	ppb	24.2	104.00	10	
V	51	45	He	0.019	ppb	44.7	167.78	1	
Cr	52	45	He	0.005	ppb	148.9	167.78	1	
Mn	55	45	He	0.005	ppb	142.3	63.33	1	
Fe	56	45	He	1.470	ppb	16.2	9466.33	20	
Co	59	45	He	0.002	ppb	62.6	31.11	1	
Ni	60	45	He	0.019	ppb	34.7	88.89	1	
Cu	65	45	He	0.013	ppb	23.7	182.22	1	
Zn	66	72	He	-0.067	ppb	N/A	621.13	5	
As	75	72	He	-0.001	ppb	N/A	9.33	1	
Se	78	72	He	-0.043	ppb	N/A	64.67	1	
Rb	85	115	He	0.001	ppb	82.0	5.56	1	
Sr	88	115	He	0.004	ppb	59.1	27.78	1	
Mo	95	115	He	0.059	ppb	23.9	201.12	1	
Ag	107	115	He	0.005	ppb	6.1	76.67	1	
Cd	111	115	He	-0.001	ppb	N/A	1.00	1	
Sn	118	115	He	0.122	ppb	22.7	556.68	10	
Sb	121	115	He	0.045	ppb	3.2	207.78	1	
Cs	133	115	He	0.001	ppb	88.6	11.11	1	
Ba	137	115	He	0.008	ppb	55.3	21.11	1	
Ce	140	115	He	0.002	ppb	105.4	177.78	1	
Tl	205	159	He	0.002	ppb	93.0	106.67	1	
Pb	208	159	He	0.002	ppb	64.6	246.67	1	
U	238	159	He	0.015	ppb	21.2	400.01	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	150153.78	0.6	166884.59	89.97	60	120	
Ge (IS)	72	He	137449.00	0.3	148055.94	92.84	60	120	
In-115 (IS)	115	He	1531091.34	0.4	1601841.24	95.58	60	120	
Tb-159 (IS)	159	He	4730793.70	0.4	4825099.95	98.05	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	lcs 440-664290/2-a
File Name	021_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:33:23
Sample Type	LCS
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**IRVINSTIC** **PMS6**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	74.842	ppb	0.6	2913.10	80	93.55	85	115	
Al	27	45	He	78.019	ppb	0.6	6600.75	80	97.52	85	115	
V	51	45	He	76.364	ppb	0.1	261485.79	80	95.46	85	115	
Cr	52	45	He	77.431	ppb	0.6	337209.02	80	96.79	85	115	
Mn	55	45	He	77.269	ppb	0.1	166915.66	80	96.59	85	115	
Fe	56	45	He	776.942	ppb	0.3	2635088.30	800	97.12	85	115	
Co	59	45	He	77.689	ppb	0.5	611038.59	80	97.11	85	115	
Ni	60	45	He	76.720	ppb	0.5	168075.97	80	95.9	85	115	
Cu	65	45	He	77.324	ppb	0.5	241588.87	80	96.66	85	115	
Zn	66	72	He	75.597	ppb	1.5	69185.35	80	94.5	85	115	
As	75	72	He	76.258	ppb	0.4	45185.58	80	95.32	85	115	
Se	78	72	He	76.698	ppb	1.7	2857.61	80	95.87	85	115	
Rb	85	115	He	74.388	ppb	0.8	193802.30	80	92.99	85	115	
Sr	88	115	He	75.236	ppb	0.4	253395.83	80	94.04	85	115	
Mo	95	115	He	76.485	ppb	0.0	255943.66	80	95.61	85	115	
Ag	107	115	He	75.317	ppb	0.5	921841.11	80	94.15	85	115	
Cd	111	115	He	76.874	ppb	0.1	120154.98	80	96.09	85	115	
Sn	118	115	He	73.567	ppb	0.5	244521.08	80	91.96	85	115	
Sb	121	115	He	79.728	ppb	0.4	301025.13	80	99.66	85	115	
Cs	133	115	He	77.261	ppb	0.3	671393.45	80	96.58	85	115	
Ba	137	115	He	77.422	ppb	1.3	120173.07	80	96.78	85	115	
Ce	140	115	He	75.913	ppb	0.3	1817799.30	80	94.89	85	115	
Tl	205	159	He	77.852	ppb	0.2	1698348.27	80	97.32	85	115	
[Pb]	206	159	He	80.455	ppb	0.7	560383.83	80	100.57	85	115	
[Pb]	207	159	He	76.462	ppb	0.5	470830.50	80	95.58	85	115	
Pb	208	159	He	78.607	ppb	0.3	2201309.63	80	98.26	85	115	
U	238	159	He	77.339	ppb	1.8	2078530.85	80	96.67	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	159223.16	0.8	166884.59	95.41	60	120	
Ge (IS)	72	He	144416.89	0.7	148055.94	97.54	60	120	
In-115 (IS)	115	He	1597590.10	1.0	1601841.24	99.73	60	120	
Tb-159 (IS)	159	He	4934234.66	0.4	4825099.95	102.26	60	120	

Sample Report

Sample Name	570-80324-i-4-bSD@5
File Name	022SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:35:26
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2106

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.021	ppb	88.8	1.17	5000	
Al	27	45	He	291.163	ppb	1.9	24848.49	5000	
V	51	45	He	1.619	ppb	2.6	5737.77	5000	
Cr	52	45	He	4.702	ppb	1.0	20932.18	5000	
Mn	55	45	He	46.977	ppb	1.6	103003.56	5000	
Fe	56	45	He	569.796	ppb	1.4	1962523.88	50000	
Co	59	45	He	0.381	ppb	6.1	3052.55	4000	
Ni	60	45	He	1.096	ppb	3.7	2491.33	2000	
Cu	65	45	He	1.016	ppb	2.9	3374.83	2000	
Zn	66	72	He	18.856	ppb	1.0	17994.10	5000	
As	75	72	He	0.935	ppb	0.7	570.68	5000	
Se	78	72	He	0.491	ppb	27.2	88.33	5000	
Rb	85	115	He	0.840	ppb	1.7	2196.84	5000	
Sr	88	115	He	213.208	ppb	0.7	719953.24	5000	
Mo	95	115	He	0.930	ppb	6.7	3134.79	3000	
Ag	107	115	He	0.022	ppb	19.3	291.12	100	
Cd	111	115	He	0.028	ppb	13.9	46.67	5000	
Sn	118	115	He	0.804	ppb	10.9	2853.63	5000	
Sb	121	115	He	0.332	ppb	4.3	1305.62	5000	
Cs	133	115	He	0.043	ppb	12.7	381.12	5000	
Ba	137	115	He	11.604	ppb	1.6	18066.92	5000	
Ce	140	115	He	0.690	ppb	2.8	16709.78	5000	
Tl	205	159	He	0.014	ppb	6.9	390.01	5000	
Pb	208	159	He	0.339	ppb	1.7	9682.53	4000	
U	238	159	He	2.341	ppb	2.2	62923.62	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	161608.08	1.6	166884.59	96.84	60	120	
Ge (IS)	72	He	146053.50	0.8	148055.94	98.65	60	120	
In-115 (IS)	115	He	1601787.20	0.5	1601841.24	100	60	120	
Tb-159 (IS)	159	He	4933709.25	0.3	4825099.95	102.25	60	120	

Sample Report

Sample Name 570-80324-i-4-b

File Name 023SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 09:38:19

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664290 BH

Location 2103

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.059	ppb	66.2	3.00	5000	
Al	27	45	He	1476.605	ppb	0.4	142739.52	5000	
V	51	45	He	8.275	ppb	2.5	32741.74	5000	
Cr	52	45	He	23.116	ppb	1.3	116034.23	5000	
Mn	55	45	He	232.379	ppb	0.9	577882.56	5000	
Fe	56	45	He	2787.996	ppb	1.0	10872576.51	50000	
Co	59	45	He	1.828	ppb	1.4	16573.52	4000	
Ni	60	45	He	4.943	ppb	3.9	12525.21	2000	
Cu	65	45	He	4.031	ppb	1.0	14670.51	2000	
Zn	66	72	He	24.135	ppb	1.5	24866.05	5000	
As	75	72	He	4.607	ppb	3.2	3017.31	5000	
Se	78	72	He	3.455	ppb	2.0	215.00	5000	
Rb	85	115	He	4.517	ppb	1.1	12536.43	5000	
Sr	88	115	He	1121.090	ppb	0.2	4021023.45	5000	
Mo	95	115	He	4.035	ppb	1.5	14393.70	3000	
Ag	107	115	He	0.009	ppb	16.0	132.22	100	
Cd	111	115	He	0.119	ppb	3.1	201.67	5000	
Sn	118	115	He	0.321	ppb	6.4	1318.96	5000	
Sb	121	115	He	0.306	ppb	7.4	1281.17	5000	
Cs	133	115	He	0.186	ppb	7.1	1726.78	5000	
Ba	137	115	He	59.353	ppb	1.4	98123.25	5000	
Ce	140	115	He	3.477	ppb	0.4	88815.04	5000	
Tl	205	159	He	0.031	ppb	8.0	808.92	5000	
Pb	208	159	He	1.590	ppb	1.1	47605.95	4000	
U	238	159	He	11.132	ppb	1.0	318543.51	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	183348.26	1.0	166884.59	109.87	60	120	
Ge (IS)	72	He	159095.42	0.9	148055.94	107.46	60	120	
In-115 (IS)	115	He	1701366.57	0.4	1601841.24	106.21	60	120	
Tb-159 (IS)	159	He	5253531.87	0.4	4825099.95	108.88	60	120	

Sample Report

Sample Name	570-80324-i-4-c ms
File Name	024SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:40:24
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2104

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	77.712	ppb	1.7	3320.85	5000	
Al	27	45	He	2180.740	ppb	0.8	200955.73	5000	
V	51	45	He	88.780	ppb	0.6	333729.66	5000	
Cr	52	45	He	102.591	ppb	0.5	490425.15	5000	
Mn	55	45	He	314.064	ppb	0.5	744638.17	5000	
Fe	56	45	He	4132.937	ppb	0.6	15364828.83	50000	
Co	59	45	He	78.218	ppb	0.5	675379.87	4000	
Ni	60	45	He	78.782	ppb	0.9	189480.20	2000	
Cu	65	45	He	81.454	ppb	0.4	279390.19	2000	
Zn	66	72	He	95.009	ppb	0.6	91391.18	5000	
As	75	72	He	85.236	ppb	0.8	53195.66	5000	
Se	78	72	He	80.518	ppb	3.7	3156.34	5000	
Rb	85	115	He	85.525	ppb	0.4	226631.13	5000	
Sr	88	115	He	1205.586	ppb	0.6	4129627.75	5000	
Mo	95	115	He	84.693	ppb	0.8	288250.32	3000	
Ag	107	115	He	53.066	ppb	0.5	660589.99	100	
Cd	111	115	He	77.460	ppb	0.6	123135.42	5000	
Sn	118	115	He	30.987	ppb	0.5	104850.96	5000	
Sb	121	115	He	85.137	ppb	0.7	326919.22	5000	
Cs	133	115	He	80.782	ppb	0.2	713971.57	5000	
Ba	137	115	He	143.232	ppb	0.5	226125.63	5000	
Ce	140	115	He	83.364	ppb	0.5	2030236.66	5000	
Tl	205	159	He	77.888	ppb	0.3	1742098.23	5000	
Pb	208	159	He	79.614	ppb	0.2	2285889.77	4000	
U	238	159	He	92.749	ppb	0.6	2555664.96	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	174802.84	0.4	166884.59	104.74	60	120	
Ge (IS)	72	He	152110.54	0.2	148055.94	102.74	60	120	
In-115 (IS)	115	He	1624833.50	0.7	1601841.24	101.44	60	120	
Tb-159 (IS)	159	He	5059056.19	0.5	4825099.95	104.85	60	120	

Sample Report

Sample Name 570-80324-i-4-d msd

File Name 025SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 09:42:27

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664290 BH

Location 2105

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	76.223	ppb	0.4	3199.82	5000	
Al	27	45	He	2214.927	ppb	0.9	200517.38	5000	
V	51	45	He	86.753	ppb	0.9	320375.84	5000	
Cr	52	45	He	100.388	ppb	1.3	471457.12	5000	
Mn	55	45	He	309.684	ppb	0.6	721338.41	5000	
Fe	56	45	He	4088.479	ppb	0.8	14932150.52	50000	
Co	59	45	He	75.913	ppb	1.1	643945.89	4000	
Ni	60	45	He	76.701	ppb	0.9	181229.61	2000	
Cu	65	45	He	76.144	ppb	0.9	256594.71	2000	
Zn	66	72	He	90.792	ppb	1.2	86183.18	5000	
As	75	72	He	82.432	ppb	1.2	50749.55	5000	
Se	78	72	He	77.692	ppb	2.7	3006.64	5000	
Rb	85	115	He	83.029	ppb	0.8	217129.02	5000	
Sr	88	115	He	1193.271	ppb	0.5	4033741.64	5000	
Mo	95	115	He	83.157	ppb	0.7	279292.51	3000	
Ag	107	115	He	59.094	ppb	0.2	725977.82	100	
Cd	111	115	He	75.662	ppb	0.3	118696.18	5000	
Sn	118	115	He	33.955	ppb	1.2	113369.60	5000	
Sb	121	115	He	83.990	ppb	0.3	318294.01	5000	
Cs	133	115	He	78.636	ppb	0.6	685865.41	5000	
Ba	137	115	He	140.306	ppb	0.3	218597.44	5000	
Ce	140	115	He	81.552	ppb	1.1	1960031.86	5000	
Tl	205	159	He	76.026	ppb	0.5	1673657.92	5000	
Pb	208	159	He	77.957	ppb	0.6	2203045.78	4000	
U	238	159	He	91.714	ppb	1.0	2487314.02	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	171732.03	0.4	166884.59	102.9	60	120	
Ge (IS)	72	He	150055.72	0.6	148055.94	101.35	60	120	
In-115 (IS)	115	He	1603493.81	0.5	1601841.24	100.1	60	120	
Tb-159 (IS)	159	He	4979366.89	0.4	4825099.95	103.2	60	120	

Sample Report

Sample Name 570-80324-i-4-e pds

File Name 026SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 09:44:30

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664290 BH

Location 2210

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.371	ppb	11.5	17.00	5000	
Al	27	45	He	1769.845	ppb	1.6	171191.07	5000	
V	51	45	He	3.617	ppb	1.1	14393.53	5000	
Cr	52	45	He	7.059	ppb	5.6	35554.48	5000	
Mn	55	45	He	709.517	ppb	0.7	1765849.90	5000	
Fe	56	45	He	1435.398	ppb	1.0	5605252.83	50000	
Co	59	45	He	1.769	ppb	2.0	16048.53	4000	
Ni	60	45	He	50.849	ppb	2.0	128367.28	2000	
Cu	65	45	He	2.321	ppb	3.2	8522.44	2000	
Zn	66	72	He	32.853	ppb	0.6	30535.28	5000	
As	75	72	He	2.543	ppb	1.3	1520.08	5000	
Se	78	72	He	3.026	ppb	17.3	179.67	5000	
Rb	85	115	He	5.845	ppb	0.9	13443.89	5000	
Sr	88	115	He	4214.726	ppb	0.7	12528320.06	5000	
Mo	95	115	He	1.890	ppb	1.9	5592.19	3000	
Ag	107	115	He	0.581	ppb	2.3	6293.60	100	
Cd	111	115	He	10.671	ppb	0.3	14722.38	5000	
Sn	118	115	He	0.809	ppb	10.9	2526.90	5000	
Sb	121	115	He	0.424	ppb	10.7	1456.75	5000	
Cs	133	115	He	0.163	ppb	4.6	1252.28	5000	
Ba	137	115	He	59.833	ppb	0.5	81972.20	5000	
Ce	140	115	He	3.758	ppb	0.3	79539.05	5000	
Tl	205	159	He	0.061	ppb	1.8	1254.51	5000	
Pb	208	159	He	1.071	ppb	2.5	27020.45	4000	
U	238	159	He	0.327	ppb	3.7	7879.16	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	183521.73	3.0	166884.59	109.97	60	120	
Ge (IS)	72	He	144715.36	2.0	148055.94	97.74	60	120	
In-115 (IS)	115	He	1409972.43	0.8	1601841.24	88.02	60	120	
Tb-159 (IS)	159	He	4419219.27	1.0	4825099.95	91.59	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6816997

File Name 027_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 09:46:38

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	51.107	ppb	0.4	2439.53	50	102.21	90	110	
Al	27	45	He	53.246	ppb	3.1	5546.34	50	106.49	90	110	
V	51	45	He	49.426	ppb	1.1	207619.41	50	98.85	90	110	
Cr	52	45	He	49.277	ppb	0.5	263232.71	50	98.55	90	110	
Mn	55	45	He	49.384	ppb	0.8	130856.46	50	98.77	90	110	
Fe	56	45	He	499.633	ppb	0.7	2080380.75	500	99.93	90	110	
Co	59	45	He	48.268	ppb	0.8	465566.06	50	96.54	90	110	
Ni	60	45	He	47.736	ppb	0.2	128270.96	50	95.47	90	110	
Cu	65	45	He	47.783	ppb	0.6	183162.24	50	95.57	90	110	
Zn	66	72	He	50.540	ppb	1.1	53724.09	50	101.08	90	110	
As	75	72	He	49.631	ppb	1.6	33990.30	50	99.26	90	110	
Se	78	72	He	49.527	ppb	6.3	2161.16	50	99.05	90	110	
Rb	85	115	He	51.726	ppb	0.6	147759.77	50	103.45	90	110	
Sr	88	115	He	51.438	ppb	1.1	189962.93	50	102.88	90	110	
Mo	95	115	He	49.625	ppb	0.4	182074.55	50	99.25	90	110	
Ag	107	115	He	49.144	ppb	0.9	659506.10	50	98.29	90	110	
Cd	111	115	He	49.005	ppb	0.5	83976.18	50	98.01	90	110	
Sn	118	115	He	49.508	ppb	0.2	180471.95	50	99.02	90	110	
Sb	121	115	He	49.092	ppb	0.9	203251.71	50	98.18	90	110	
Cs	133	115	He	48.960	ppb	0.4	466458.37	50	97.92	90	110	
Ba	137	115	He	47.858	ppb	1.0	81445.74	50	95.72	90	110	
Ce	140	115	He	48.219	ppb	0.5	1265898.87	50	96.44	90	110	
Tl	205	159	He	48.852	ppb	0.6	1098705.34	50	97.7	90	110	
Pb	208	159	He	49.445	ppb	0.7	1427562.47	50	98.89	90	110	
U	238	159	He	48.510	ppb	0.6	1344024.87	50	97.02	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	195257.65	1.7	166884.59	117	60	120	
Ge (IS)	72	He	166870.52	1.5	148055.94	112.71	60	120	
In-115 (IS)	115	He	1751541.41	1.4	1601841.24	109.35	60	120	
Tb-159 (IS)	159	He	5086957.99	0.6	4825099.95	105.43	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 028_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 09:48:48

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.008	ppb	N/A	0.00	0.5	
Al	27	45	He	0.417	ppb	38.0	100.67	10	
V	51	45	He	0.128	ppb	9.9	620.02	1	
Cr	52	45	He	0.001	ppb	799.4	178.89	1	
Mn	55	45	He	0.027	ppb	45.3	128.89	1	
Fe	56	45	He	2.311	ppb	14.9	14572.63	20	
Co	59	45	He	0.003	ppb	67.3	45.55	1	
Ni	60	45	He	0.001	ppb	740.5	62.22	1	
Cu	65	45	He	0.018	ppb	8.3	235.56	1	
Zn	66	72	He	0.010	ppb	452.2	777.80	5	
As	75	72	He	0.016	ppb	31.1	21.33	1	
Se	78	72	He	-0.142	ppb	N/A	69.33	1	
Rb	85	115	He	0.009	ppb	34.9	27.78	1	
Sr	88	115	He	0.042	ppb	41.0	162.23	1	
Mo	95	115	He	0.097	ppb	21.1	347.79	1	
Ag	107	115	He	0.010	ppb	25.1	142.22	1	
Cd	111	115	He	0.001	ppb	464.9	4.33	1	
Sn	118	115	He	0.366	ppb	16.0	1435.63	10	
Sb	121	115	He	0.139	ppb	3.5	590.02	1	
Cs	133	115	He	0.005	ppb	6.8	50.00	1	
Ba	137	115	He	0.031	ppb	13.1	58.89	1	
Ce	140	115	He	0.004	ppb	43.9	256.67	1	
Tl	205	159	He	0.007	ppb	14.4	224.45	1	
Pb	208	159	He	0.016	ppb	5.9	640.01	1	
U	238	159	He	0.064	ppb	14.3	1720.15	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	180088.65	0.7	166884.59	107.91	60	120	
Ge (IS)	72	He	155534.06	0.6	148055.94	105.05	60	120	
In-115 (IS)	115	He	1651878.80	0.7	1601841.24	103.12	60	120	
Tb-159 (IS)	159	He	4911237.17	0.5	4825099.95	101.79	60	120	

Sample Report

Sample Name 570-80324-i-4-e pds

File Name 029SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 09:50:51

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664290 BH

Location 2212

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.030	ppb	133.9	1.67	5000	
Al	27	45	He	824.946	ppb	0.4	77373.41	5000	
V	51	45	He	5.969	ppb	0.9	22943.93	5000	
Cr	52	45	He	20.217	ppb	0.8	98459.81	5000	
Mn	55	45	He	219.743	ppb	0.6	530044.49	5000	
Fe	56	45	He	1462.424	ppb	0.4	5534517.42	50000	
Co	59	45	He	1.287	ppb	2.2	11322.05	4000	
Ni	60	45	He	3.569	ppb	2.9	8788.13	2000	
Cu	65	45	He	3.002	ppb	1.0	10639.34	2000	
Zn	66	72	He	14.806	ppb	2.1	14957.46	5000	
As	75	72	He	3.731	ppb	1.9	2351.85	5000	
Se	78	72	He	3.445	ppb	14.2	206.33	5000	
Rb	85	115	He	2.081	ppb	2.9	5559.95	5000	
Sr	88	115	He	1130.199	ppb	0.6	3900166.65	5000	
Mo	95	115	He	3.255	ppb	2.6	11173.14	3000	
Ag	107	115	He	0.005	ppb	22.7	78.89	100	
Cd	111	115	He	0.114	ppb	10.2	185.33	5000	
Sn	118	115	He	0.298	ppb	9.3	1192.28	5000	
Sb	121	115	He	0.253	ppb	11.1	1027.82	5000	
Cs	133	115	He	0.065	ppb	6.5	581.13	5000	
Ba	137	115	He	49.768	ppb	0.6	79161.94	5000	
Ce	140	115	He	2.843	ppb	0.7	69882.50	5000	
Tl	205	159	He	0.016	ppb	7.1	444.46	5000	
Pb	208	159	He	1.339	ppb	0.9	38722.66	4000	
U	238	159	He	11.040	ppb	1.2	304805.15	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	177828.26	0.3	166884.59	106.56	60	120	
Ge (IS)	72	He	152936.60	0.7	148055.94	103.3	60	120	
In-115 (IS)	115	He	1636904.58	0.5	1601841.24	102.19	60	120	
Tb-159 (IS)	159	He	5069193.41	0.5	4825099.95	105.06	60	120	

Sample Report

Sample Name	570-80324-i-1-d
File Name	030SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:52:57
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2301

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.512	ppb	13.8	23.00	5000	
Al	27	45	He	10389.784	ppb	1.0	990759.25	5000	>LDR
V	51	45	He	31.223	ppb	0.7	121568.73	5000	
Cr	52	45	He	27.342	ppb	1.7	135410.11	5000	
Mn	55	45	He	2021.181	ppb	0.9	4959818.27	5000	
Fe	56	45	He	18505.189	ppb	1.1	71185846.06	50000	
Co	59	45	He	10.620	ppb	1.1	94929.05	4000	
Ni	60	45	He	17.173	ppb	1.1	42796.83	2000	
Cu	65	45	He	18.487	ppb	1.2	65766.79	2000	
Zn	66	72	He	55.435	ppb	1.9	53145.30	5000	
As	75	72	He	14.898	ppb	1.1	9222.16	5000	
Se	78	72	He	14.939	ppb	3.9	639.35	5000	
Rb	85	115	He	25.703	ppb	1.5	67450.71	5000	
Sr	88	115	He	2175.298	ppb	0.5	7378991.65	5000	
Mo	95	115	He	4.479	ppb	1.0	15109.97	3000	
Ag	107	115	He	0.106	ppb	8.3	1322.29	100	
Cd	111	115	He	1.236	ppb	3.1	1949.46	5000	
Sn	118	115	He	0.183	ppb	9.7	787.80	5000	
Sb	121	115	He	0.372	ppb	0.4	1462.31	5000	
Cs	133	115	He	1.228	ppb	1.6	10751.84	5000	
Ba	137	115	He	216.360	ppb	0.8	338257.59	5000	
Ce	140	115	He	23.114	ppb	0.9	557551.68	5000	
Tl	205	159	He	0.206	ppb	1.9	4641.92	5000	
Pb	208	159	He	5.446	ppb	0.7	155338.81	4000	
U	238	159	He	21.980	ppb	0.6	600962.95	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	180943.18	1.1	166884.59	108.42	60	120	
Ge (IS)	72	He	150726.86	0.6	148055.94	101.8	60	120	
In-115 (IS)	115	He	1609098.48	0.3	1601841.24	100.45	60	120	
Tb-159 (IS)	159	He	5019875.49	0.3	4825099.95	104.04	60	120	

Sample Report

Sample Name	570-80324-i-2-b
File Name	031SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:55:02
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2302

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.496	ppb	6.4	21.83	5000	
Al	27	45	He	11591.237	ppb	0.3	1082161.87	5000	>LDR
V	51	45	He	33.287	ppb	0.4	126877.21	5000	
Cr	52	45	He	3327.391	ppb	0.5	16113352.14	5000	
Mn	55	45	He	4990.316	ppb	0.2	11988985.91	5000	>LDR
Fe	56	45	He	27892.039	ppb	0.1	105044631.38	50000	
Co	59	45	He	8.833	ppb	0.8	77297.93	4000	
Ni	60	45	He	18.130	ppb	1.3	44235.42	2000	
Cu	65	45	He	19.099	ppb	0.5	66512.23	2000	
Zn	66	72	He	61.824	ppb	0.8	58571.92	5000	
As	75	72	He	44.958	ppb	0.6	27517.43	5000	
Se	78	72	He	1.418	ppb	23.9	125.00	5000	
Rb	85	115	He	26.030	ppb	0.8	67609.17	5000	
Sr	88	115	He	1897.165	ppb	0.6	6369438.36	5000	
Mo	95	115	He	13.445	ppb	0.6	44860.00	3000	
Ag	107	115	He	0.074	ppb	5.1	914.48	100	
Cd	111	115	He	0.566	ppb	2.5	885.70	5000	
Sn	118	115	He	0.115	ppb	14.0	553.35	5000	
Sb	121	115	He	0.247	ppb	5.1	978.93	5000	
Cs	133	115	He	1.373	ppb	1.7	11896.06	5000	
Ba	137	115	He	293.755	ppb	0.6	454545.69	5000	
Ce	140	115	He	31.892	ppb	0.3	761340.27	5000	
Tl	205	159	He	0.205	ppb	6.3	4646.36	5000	
Pb	208	159	He	6.783	ppb	0.7	194259.98	4000	
U	238	159	He	19.663	ppb	0.1	539909.26	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	177138.04	1.0	166884.59	106.14	60	120	
Ge (IS)	72	He	149152.44	0.6	148055.94	100.74	60	120	
In-115 (IS)	115	He	1592542.92	0.5	1601841.24	99.42	60	120	
Tb-159 (IS)	159	He	5041155.49	0.7	4825099.95	104.48	60	120	

Sample Report

Sample Name 570-80324-i-3-b

File Name 032SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 09:57:07

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664290 BH

Location 2109

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.040	ppb	41.3	2.17	5000	
Al	27	45	He	102.712	ppb	3.0	9919.18	5000	
V	51	45	He	0.345	ppb	5.0	1477.86	5000	
Cr	52	45	He	2.478	ppb	1.7	12509.61	5000	
Mn	55	45	He	1377.527	ppb	0.4	3402215.77	5000	
Fe	56	45	He	716.852	ppb	0.7	2781068.43	50000	
Co	59	45	He	0.102	ppb	4.5	933.37	4000	
Ni	60	45	He	0.566	ppb	3.3	1478.97	2000	
Cu	65	45	He	0.921	ppb	3.2	3462.64	2000	
Zn	66	72	He	2.923	ppb	1.4	3588.22	5000	
As	75	72	He	2.068	ppb	4.9	1319.06	5000	
Se	78	72	He	-0.433	ppb	N/A	57.33	5000	
Rb	85	115	He	1.153	ppb	1.8	3089.23	5000	
Sr	88	115	He	2402.342	ppb	0.5	8314655.50	5000	
Mo	95	115	He	10.831	ppb	1.5	37257.92	3000	
Ag	107	115	He	0.004	ppb	29.8	72.22	100	
Cd	111	115	He	0.018	ppb	26.1	32.67	5000	
Sn	118	115	He	0.103	ppb	18.4	528.90	5000	
Sb	121	115	He	0.556	ppb	1.9	2206.85	5000	
Cs	133	115	He	0.014	ppb	26.3	126.67	5000	
Ba	137	115	He	287.377	ppb	0.2	458404.96	5000	
Ce	140	115	He	0.313	ppb	1.7	7849.95	5000	
Tl	205	159	He	0.005	ppb	34.4	198.89	5000	
Pb	208	159	He	1.070	ppb	1.0	30681.42	4000	
U	238	159	He	2.535	ppb	0.2	69324.83	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	182101.04	0.9	166884.59	109.12	60	120	
Ge (IS)	72	He	154177.79	1.2	148055.94	104.13	60	120	
In-115 (IS)	115	He	1641743.90	0.5	1601841.24	102.49	60	120	
Tb-159 (IS)	159	He	5020430.91	0.5	4825099.95	104.05	60	120	

Sample Report

Sample Name	570-80324-i-5-b
File Name	033SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 09:59:12
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2110

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.015	ppb	152.9	1.00	5000	
Al	27	45	He	158.695	ppb	1.9	14757.69	5000	
V	51	45	He	0.894	ppb	7.2	3500.42	5000	
Cr	52	45	He	2658.349	ppb	0.4	12769969.49	5000	
Mn	55	45	He	606.303	ppb	0.5	1444941.02	5000	
Fe	56	45	He	464.243	ppb	0.4	1739821.32	50000	
Co	59	45	He	0.222	ppb	3.9	1942.36	4000	
Ni	60	45	He	0.531	ppb	5.9	1343.40	2000	
Cu	65	45	He	0.643	ppb	3.1	2383.53	2000	
Zn	66	72	He	2.410	ppb	3.6	3018.10	5000	
As	75	72	He	2.776	ppb	1.5	1724.10	5000	
Se	78	72	He	-0.126	ppb	N/A	67.67	5000	
Rb	85	115	He	1.261	ppb	0.2	3277.05	5000	
Sr	88	115	He	1774.901	ppb	0.7	5955305.18	5000	
Mo	95	115	He	49.081	ppb	0.8	163626.16	3000	
Ag	107	115	He	0.002	ppb	75.9	47.78	100	
Cd	111	115	He	0.020	ppb	28.8	34.00	5000	
Sn	118	115	He	0.150	ppb	12.4	667.80	5000	
Sb	121	115	He	0.266	ppb	8.4	1047.82	5000	
Cs	133	115	He	0.021	ppb	19.7	190.00	5000	
Ba	137	115	He	150.614	ppb	0.1	232912.92	5000	
Ce	140	115	He	0.337	ppb	3.5	8172.47	5000	
Tl	205	159	He	0.006	ppb	13.5	208.89	5000	
Pb	208	159	He	0.349	ppb	1.8	9949.26	4000	
U	238	159	He	73.439	ppb	1.2	1971017.06	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	175718.75	1.1	166884.59	105.29	60	120	
Ge (IS)	72	He	150488.88	0.9	148055.94	101.64	60	120	
In-115 (IS)	115	He	1591578.39	0.8	1601841.24	99.36	60	120	
Tb-159 (IS)	159	He	4927531.33	0.5	4825099.95	102.12	60	120	

Sample Report

Sample Name	570-80324-i-6-b
File Name	034SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:01:17
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2111

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.035	ppb	85.7	1.83	5000	
Al	27	45	He	630.689	ppb	1.8	58371.64	5000	
V	51	45	He	2.140	ppb	1.9	8194.45	5000	
Cr	52	45	He	4.888	ppb	1.2	23614.97	5000	
Mn	55	45	He	2190.074	ppb	0.1	5210764.24	5000	
Fe	56	45	He	1219.453	ppb	0.3	4553482.88	50000	
Co	59	45	He	0.733	ppb	1.9	6365.81	4000	
Ni	60	45	He	2.064	ppb	3.2	5038.64	2000	
Cu	65	45	He	2.428	ppb	3.1	8517.99	2000	
Zn	66	72	He	7.263	ppb	2.5	7565.25	5000	
As	75	72	He	1.698	ppb	4.4	1054.37	5000	
Se	78	72	He	-0.162	ppb	N/A	66.00	5000	
Rb	85	115	He	2.200	ppb	2.0	5752.25	5000	
Sr	88	115	He	1855.220	ppb	0.8	6265435.58	5000	
Mo	95	115	He	11.729	ppb	0.8	39364.45	3000	
Ag	107	115	He	0.006	ppb	22.5	86.66	100	
Cd	111	115	He	0.113	ppb	17.0	181.00	5000	
Sn	118	115	He	0.440	ppb	5.6	1640.10	5000	
Sb	121	115	He	0.157	ppb	0.7	643.35	5000	
Cs	133	115	He	0.075	ppb	8.2	661.13	5000	
Ba	137	115	He	239.748	ppb	0.8	373169.66	5000	
Ce	140	115	He	1.191	ppb	1.0	28730.93	5000	
Tl	205	159	He	0.010	ppb	0.5	301.11	5000	
Pb	208	159	He	0.617	ppb	1.6	17451.09	4000	
U	238	159	He	0.339	ppb	2.9	9133.30	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	175428.80	1.3	166884.59	105.12	60	120	
Ge (IS)	72	He	149807.78	0.9	148055.94	101.18	60	120	
In-115 (IS)	115	He	1601929.39	0.7	1601841.24	100.01	60	120	
Tb-159 (IS)	159	He	4934270.08	1.4	4825099.95	102.26	60	120	

Sample Report

Sample Name	570-80324-i-7-b
File Name	035SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:03:23
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2303

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.031	ppb	40.5	1.50	5000	
Al	27	45	He	1055.742	ppb	0.9	87596.22	5000	
V	51	45	He	4.308	ppb	3.2	14677.11	5000	
Cr	52	45	He	95621.352	ppb	0.5	411265601.43	5000	>LDR
Mn	55	45	He	244.497	ppb	0.4	521752.37	5000	
Fe	56	45	He	1643.030	ppb	0.8	5500533.95	50000	
Co	59	45	He	0.823	ppb	2.2	6409.16	4000	
Ni	60	45	He	2.327	ppb	2.6	5089.77	2000	
Cu	65	45	He	2.639	ppb	1.1	8291.20	2000	
Zn	66	72	He	12.954	ppb	0.9	11892.49	5000	
As	75	72	He	4.964	ppb	2.7	2819.93	5000	
Se	78	72	He	0.869	ppb	60.7	96.67	5000	
Rb	85	115	He	2.692	ppb	2.6	6718.21	5000	
Sr	88	115	He	1495.573	ppb	0.6	4822449.95	5000	
Mo	95	115	He	18.124	ppb	0.6	58072.28	3000	
Ag	107	115	He	0.009	ppb	18.5	124.45	100	
Cd	111	115	He	0.073	ppb	9.2	113.00	5000	
Sn	118	115	He	0.177	ppb	8.6	727.80	5000	
Sb	121	115	He	0.592	ppb	3.9	2184.62	5000	
Cs	133	115	He	0.130	ppb	2.0	1083.38	5000	
Ba	137	115	He	39.950	ppb	0.6	59377.52	5000	
Ce	140	115	He	2.379	ppb	1.5	54673.72	5000	
Tl	205	159	He	0.019	ppb	2.7	478.90	5000	
Pb	208	159	He	0.955	ppb	0.4	26624.66	4000	
U	238	159	He	75.497	ppb	1.1	2006537.00	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	157326.04	1.7	166884.59	94.27	60	120	
Ge (IS)	72	He	137987.04	0.4	148055.94	93.2	60	120	
In-115 (IS)	115	He	1529489.93	0.9	1601841.24	95.48	60	120	
Tb-159 (IS)	159	He	4879527.58	0.6	4825099.95	101.13	60	120	

Sample Report

Sample Name 570-80324-i-8-b

File Name 036SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 10:05:29

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664290 BH

Location 2201

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.005	ppb	284.3	0.50	5000	
Al	27	45	He	13.149	ppb	4.2	1178.05	5000	
V	51	45	He	0.376	ppb	4.8	1424.52	5000	
Cr	52	45	He	2314.335	ppb	0.4	10247709.04	5000	
Mn	55	45	He	420.236	ppb	0.7	923151.49	5000	
Fe	56	45	He	193.264	ppb	0.7	670612.25	50000	
Co	59	45	He	0.052	ppb	4.3	430.01	4000	
Ni	60	45	He	0.221	ppb	14.8	546.68	2000	
Cu	65	45	He	0.349	ppb	8.7	1263.39	2000	
Zn	66	72	He	1.149	ppb	2.9	1703.44	5000	
As	75	72	He	2.437	ppb	1.8	1413.07	5000	
Se	78	72	He	0.124	ppb	119.6	72.00	5000	
Rb	85	115	He	0.591	ppb	4.5	1474.53	5000	
Sr	88	115	He	1985.107	ppb	0.3	6393805.02	5000	
Mo	95	115	He	11.955	ppb	0.6	38269.35	3000	
Ag	107	115	He	0.001	ppb	43.6	27.78	100	
Cd	111	115	He	0.007	ppb	19.0	13.33	5000	
Sn	118	115	He	0.428	ppb	5.5	1526.75	5000	
Sb	121	115	He	0.045	ppb	17.0	206.67	5000	
Cs	133	115	He	0.005	ppb	33.8	50.00	5000	
Ba	137	115	He	138.662	ppb	0.4	205852.79	5000	
Ce	140	115	He	0.026	ppb	13.3	732.24	5000	
Tl	205	159	He	0.004	ppb	37.3	156.67	5000	
Pb	208	159	He	0.073	ppb	5.7	2137.85	4000	
U	238	159	He	13.178	ppb	0.4	340054.10	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	161977.41	2.1	166884.59	97.06	60	120	
Ge (IS)	72	He	140309.48	2.2	148055.94	94.77	60	120	
In-115 (IS)	115	He	1527875.89	1.5	1601841.24	95.38	60	120	
Tb-159 (IS)	159	He	4737488.42	0.9	4825099.95	98.18	60	120	

Sample Report

Sample Name	570-80324-i-9-a
File Name	037SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:07:34
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2202

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.179	ppb	22.8	7.33	5000	
Al	27	45	He	3076.697	ppb	1.7	260379.56	5000	
V	51	45	He	10.295	ppb	2.4	35643.79	5000	
Cr	52	45	He	2139.146	ppb	1.6	9389150.18	5000	
Mn	55	45	He	543.783	ppb	1.2	1184155.09	5000	
Fe	56	45	He	8508.119	ppb	1.4	29046123.29	50000	
Co	59	45	He	2.416	ppb	1.8	19174.35	4000	
Ni	60	45	He	5.509	ppb	2.4	12218.28	2000	
Cu	65	45	He	7.515	ppb	2.2	23813.23	2000	
Zn	66	72	He	23.055	ppb	1.4	20624.09	5000	
As	75	72	He	20.004	ppb	0.7	11327.27	5000	
Se	78	72	He	0.862	ppb	32.0	96.33	5000	
Rb	85	115	He	6.245	ppb	0.8	15326.80	5000	
Sr	88	115	He	1770.088	ppb	0.7	5614533.94	5000	
Mo	95	115	He	9.314	ppb	1.5	29363.53	3000	
Ag	107	115	He	0.023	ppb	6.3	284.45	100	
Cd	111	115	He	0.242	ppb	4.2	359.00	5000	
Sn	118	115	He	0.072	ppb	20.0	390.01	5000	
Sb	121	115	He	0.544	ppb	2.5	1980.15	5000	
Cs	133	115	He	0.328	ppb	4.0	2692.49	5000	
Ba	137	115	He	123.454	ppb	0.8	180485.48	5000	
Ce	140	115	He	8.436	ppb	0.2	190375.77	5000	
Tl	205	159	He	0.058	ppb	4.9	1282.29	5000	
Pb	208	159	He	3.095	ppb	1.2	82703.49	4000	
U	238	159	He	17.853	ppb	0.7	456848.31	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	160564.78	0.9	166884.59	96.21	60	120	
Ge (IS)	72	He	137920.90	0.1	148055.94	93.15	60	120	
In-115 (IS)	115	He	1504621.41	0.8	1601841.24	93.93	60	120	
Tb-159 (IS)	159	He	4698007.31	0.5	4825099.95	97.37	60	120	

Sample Report

Sample Name	570-80324-i-10-a
File Name	038SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:09:41
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2203

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.013	ppb	56.7	0.83	5000	
Al	27	45	He	368.583	ppb	2.1	31423.21	5000	
V	51	45	He	1.171	ppb	2.9	4179.48	5000	
Cr	52	45	He	2.575	ppb	1.8	11524.40	5000	
Mn	55	45	He	894.093	ppb	0.4	1958173.54	5000	
Fe	56	45	He	1863.952	ppb	0.5	6404088.91	50000	
Co	59	45	He	0.279	ppb	5.6	2237.95	4000	
Ni	60	45	He	0.800	ppb	1.4	1830.12	2000	
Cu	65	45	He	0.993	ppb	1.9	3298.15	2000	
Zn	66	72	He	16.009	ppb	1.1	14629.36	5000	
As	75	72	He	8.328	ppb	1.7	4754.09	5000	
Se	78	72	He	0.032	ppb	446.9	68.00	5000	
Rb	85	115	He	1.727	ppb	3.4	4228.39	5000	
Sr	88	115	He	2058.293	ppb	0.7	6509992.80	5000	
Mo	95	115	He	30.832	ppb	1.2	96895.91	3000	
Ag	107	115	He	0.006	ppb	12.1	85.56	100	
Cd	111	115	He	0.028	ppb	3.1	43.67	5000	
Sn	118	115	He	0.105	ppb	19.3	490.01	5000	
Sb	121	115	He	0.064	ppb	13.1	270.00	5000	
Cs	133	115	He	0.049	ppb	7.7	403.34	5000	
Ba	137	115	He	182.454	ppb	0.7	265971.72	5000	
Ce	140	115	He	0.783	ppb	1.9	17730.98	5000	
Tl	205	159	He	0.007	ppb	22.1	228.89	5000	
Pb	208	159	He	0.211	ppb	2.8	5789.40	4000	
U	238	159	He	11.885	ppb	0.6	302945.09	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	161478.43	0.4	166884.59	96.76	60	120	
Ge (IS)	72	He	138878.55	1.0	148055.94	93.8	60	120	
In-115 (IS)	115	He	1500300.82	0.5	1601841.24	93.66	60	120	
Tb-159 (IS)	159	He	4679614.26	0.2	4825099.95	96.98	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6816997

File Name 039_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 10:11:47

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	51.854	ppb	1.3	1999.29	50	103.71	90	110	
Al	27	45	He	52.624	ppb	1.7	4427.31	50	105.25	90	110	
V	51	45	He	50.055	ppb	0.2	169824.73	50	100.11	90	110	
Cr	52	45	He	50.611	ppb	0.7	218387.94	50	101.22	90	110	
Mn	55	45	He	50.662	ppb	0.2	108428.77	50	101.32	90	110	
Fe	56	45	He	514.904	ppb	0.4	1731618.54	500	102.98	90	110	
Co	59	45	He	49.851	ppb	0.1	388390.94	50	99.7	90	110	
Ni	60	45	He	49.025	ppb	0.6	106405.76	50	98.05	90	110	
Cu	65	45	He	49.450	ppb	0.3	153104.30	50	98.9	90	110	
Zn	66	72	He	50.735	ppb	0.6	44884.24	50	101.47	90	110	
As	75	72	He	49.248	ppb	0.7	28070.12	50	98.5	90	110	
Se	78	72	He	49.082	ppb	2.6	1782.78	50	98.16	90	110	
Rb	85	115	He	49.678	ppb	0.4	123887.21	50	99.36	90	110	
Sr	88	115	He	49.876	ppb	0.7	160799.19	50	99.75	90	110	
Mo	95	115	He	49.298	ppb	1.3	157910.40	50	98.6	90	110	
Ag	107	115	He	49.710	ppb	0.6	582396.11	50	99.42	90	110	
Cd	111	115	He	49.751	ppb	0.2	74430.70	50	99.5	90	110	
Sn	118	115	He	50.476	ppb	0.4	160634.04	50	100.95	90	110	
Sb	121	115	He	49.757	ppb	0.2	179835.56	50	99.51	90	110	
Cs	133	115	He	49.255	ppb	0.8	409699.19	50	98.51	90	110	
Ba	137	115	He	49.497	ppb	1.0	73548.02	50	98.99	90	110	
Ce	140	115	He	49.606	ppb	0.3	1137013.29	50	99.21	90	110	
Tl	205	159	He	50.242	ppb	0.6	1027101.56	50	100.48	90	110	
Pb	208	159	He	50.479	ppb	0.4	1324736.46	50	100.96	90	110	
U	238	159	He	49.713	ppb	0.3	1252018.39	50	99.43	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	157726.87	1.2	166884.59	94.51	60	120	
Ge (IS)	72	He	138897.47	0.8	148055.94	93.81	60	120	
In-115 (IS)	115	He	1529150.59	0.5	1601841.24	95.46	60	120	
Tb-159 (IS)	159	He	4623900.37	0.7	4825099.95	95.83	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 040_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 10:13:51

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.004	ppb	N/A	0.17	0.5	
Al	27	45	He	0.415	ppb	40.2	85.33	10	
V	51	45	He	0.031	ppb	9.0	210.00	1	
Cr	52	45	He	0.333	ppb	4.4	1540.08	1	
Mn	55	45	He	0.078	ppb	6.3	216.67	1	
Fe	56	45	He	3.117	ppb	14.9	14993.03	20	
Co	59	45	He	0.002	ppb	113.7	31.11	1	
Ni	60	45	He	0.003	ppb	296.6	57.78	1	
Cu	65	45	He	0.036	ppb	42.7	253.34	1	
Zn	66	72	He	0.074	ppb	81.0	726.69	5	
As	75	72	He	0.012	ppb	22.5	16.33	1	
Se	78	72	He	-0.210	ppb	N/A	57.67	1	
Rb	85	115	He	0.005	ppb	43.7	14.44	1	
Sr	88	115	He	0.030	ppb	11.1	108.89	1	
Mo	95	115	He	0.077	ppb	9.4	253.34	1	
Ag	107	115	He	0.010	ppb	18.2	134.44	1	
Cd	111	115	He	0.001	ppb	2.7	5.00	1	
Sn	118	115	He	0.288	ppb	3.5	1063.38	10	
Sb	121	115	He	0.126	ppb	10.5	491.12	1	
Cs	133	115	He	0.004	ppb	19.4	38.89	1	
Ba	137	115	He	0.020	ppb	63.0	37.78	1	
Ce	140	115	He	0.004	ppb	16.8	228.89	1	
Tl	205	159	He	0.005	ppb	21.7	176.67	1	
Pb	208	159	He	0.014	ppb	13.0	540.01	1	
U	238	159	He	0.067	ppb	4.7	1676.81	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	152915.11	0.3	166884.59	91.63	60	120	
Ge (IS)	72	He	134547.44	0.3	148055.94	90.88	60	120	
In-115 (IS)	115	He	1501692.23	1.0	1601841.24	93.75	60	120	
Tb-159 (IS)	159	He	4557234.40	0.7	4825099.95	94.45	60	120	

Sample Report

Sample Name 440-292829-g-4-b

File Name 041SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 10:15:54

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664290 BH

Location 2211

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.411	ppb	21.6	15.50	5000	
Al	27	45	He	916.989	ppb	1.9	72935.79	5000	
V	51	45	He	7.439	ppb	4.0	24216.98	5000	
Cr	52	45	He	11.762	ppb	13.1	48581.34	5000	
Mn	55	45	He	29.573	ppb	1.9	60543.19	5000	
Fe	56	45	He	821.982	ppb	1.9	2640204.82	50000	
Co	59	45	He	1.195	ppb	2.4	8912.65	4000	
Ni	60	45	He	4.974	ppb	2.1	10368.02	2000	
Cu	65	45	He	3.248	ppb	1.5	9750.95	2000	
Zn	66	72	He	7.874	ppb	2.8	6912.73	5000	
As	75	72	He	4.730	ppb	1.9	2477.87	5000	
Se	78	72	He	4.235	ppb	10.2	197.00	5000	
Rb	85	115	He	1.014	ppb	3.9	2190.18	5000	
Sr	88	115	He	447.743	ppb	0.4	1248601.27	5000	
Mo	95	115	He	2.132	ppb	1.9	5918.99	3000	
Ag	107	115	He	0.019	ppb	6.8	205.56	100	
Cd	111	115	He	0.136	ppb	13.8	178.33	5000	
Sn	118	115	He	0.706	ppb	1.8	2086.83	5000	
Sb	121	115	He	1.699	ppb	3.0	5351.01	5000	
Cs	133	115	He	0.062	ppb	2.7	451.12	5000	
Ba	137	115	He	24.230	ppb	3.0	31149.93	5000	
Ce	140	115	He	1.497	ppb	0.8	29804.24	5000	
Tl	205	159	He	0.015	ppb	11.6	354.45	5000	
Pb	208	159	He	0.464	ppb	1.2	11390.81	4000	
U	238	159	He	0.101	ppb	8.7	2350.26	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	150844.07	1.8	166884.59	90.39	60	120	
Ge (IS)	72	He	127252.55	0.9	148055.94	85.95	60	120	
In-115 (IS)	115	He	1322807.95	0.3	1601841.24	82.58	60	120	
Tb-159 (IS)	159	He	4261179.41	1.2	4825099.95	88.31	60	120	

Sample Report

Sample Name	570-80324-i-7-b@100
File Name	042SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:17:59
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2304

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.005	ppb	446.5	0.50	5000	
Al	27	45	He	11.092	ppb	2.9	955.36	5000	
V	51	45	He	0.067	ppb	14.7	331.12	5000	
Cr	52	45	He	961.816	ppb	0.8	4061599.00	5000	
Mn	55	45	He	2.572	ppb	3.1	5442.11	5000	
Fe	56	45	He	18.816	ppb	1.6	66699.03	50000	
Co	59	45	He	0.010	ppb	27.2	90.00	4000	
Ni	60	45	He	0.042	ppb	14.7	141.11	2000	
Cu	65	45	He	0.039	ppb	43.6	267.78	2000	
Zn	66	72	He	0.194	ppb	27.5	836.69	5000	
As	75	72	He	0.061	ppb	24.7	44.00	5000	
Se	78	72	He	-0.160	ppb	N/A	60.00	5000	
Rb	85	115	He	0.030	ppb	35.7	74.44	5000	
Sr	88	115	He	14.922	ppb	0.9	46638.40	5000	
Mo	95	115	He	0.194	ppb	7.6	615.57	3000	
Ag	107	115	He	0.004	ppb	60.7	60.00	100	
Cd	111	115	He	0.000	ppb	631.7	3.33	5000	
Sn	118	115	He	0.075	ppb	23.7	391.12	5000	
Sb	121	115	He	0.041	ppb	13.1	187.78	5000	
Cs	133	115	He	0.003	ppb	73.8	30.00	5000	
Ba	137	115	He	0.411	ppb	5.5	600.01	5000	
Ce	140	115	He	0.024	ppb	2.5	671.13	5000	
Tl	205	159	He	0.002	ppb	27.4	101.11	5000	
Pb	208	159	He	0.013	ppb	7.8	487.78	4000	
U	238	159	He	0.734	ppb	1.6	17675.20	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	154459.54	0.6	166884.59	92.55	60	120	
Ge (IS)	72	He	136011.60	1.1	148055.94	91.87	60	120	
In-115 (IS)	115	He	1482098.62	0.8	1601841.24	92.52	60	120	
Tb-159 (IS)	159	He	4420279.82	0.8	4825099.95	91.61	60	120	

Sample Report

Sample Name	570-80324-i-11-a
File Name	043SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:20:02
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2204

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.014	ppb	144.3	0.83	5000	
Al	27	45	He	77.258	ppb	1.3	6254.61	5000	
V	51	45	He	0.797	ppb	2.3	2716.92	5000	
Cr	52	45	He	1.186	ppb	2.4	5088.65	5000	
Mn	55	45	He	1474.418	ppb	0.3	3046386.27	5000	
Fe	56	45	He	434.141	ppb	0.3	1410913.28	50000	
Co	59	45	He	0.172	ppb	7.2	1308.95	4000	
Ni	60	45	He	0.995	ppb	1.9	2135.72	2000	
Cu	65	45	He	0.555	ppb	2.6	1803.45	2000	
Zn	66	72	He	9.495	ppb	1.5	8625.83	5000	
As	75	72	He	0.638	ppb	2.4	359.67	5000	
Se	78	72	He	0.107	ppb	56.4	68.00	5000	
Rb	85	115	He	1.282	ppb	0.6	2965.87	5000	
Sr	88	115	He	2223.181	ppb	0.6	6639824.32	5000	
Mo	95	115	He	37.390	ppb	0.6	110961.24	3000	
Ag	107	115	He	0.002	ppb	62.1	34.44	100	
Cd	111	115	He	0.024	ppb	26.6	36.67	5000	
Sn	118	115	He	0.188	ppb	8.2	708.91	5000	
Sb	121	115	He	0.094	ppb	15.4	356.67	5000	
Cs	133	115	He	0.012	ppb	17.6	95.55	5000	
Ba	137	115	He	239.950	ppb	0.8	330292.06	5000	
Ce	140	115	He	0.168	ppb	4.2	3700.50	5000	
Tl	205	159	He	0.004	ppb	31.5	144.45	5000	
Pb	208	159	He	0.189	ppb	3.0	5049.29	4000	
U	238	159	He	1.542	ppb	2.0	38127.70	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	152341.85	0.3	166884.59	91.29	60	120	
Ge (IS)	72	He	133758.14	0.6	148055.94	90.34	60	120	
In-115 (IS)	115	He	1416738.81	0.3	1601841.24	88.44	60	120	
Tb-159 (IS)	159	He	4539647.32	0.4	4825099.95	94.08	60	120	

Sample Report

Sample Name 570-80324-i-12-a

File Name 044SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 10:22:07

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664290 BH

Location 2205

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.031	ppb	112.0	1.50	5000	
Al	27	45	He	115.948	ppb	1.9	9751.08	5000	
V	51	45	He	3.377	ppb	1.5	11632.26	5000	
Cr	52	45	He	1.017	ppb	1.6	4565.18	5000	
Mn	55	45	He	765.348	ppb	0.9	1647412.02	5000	
Fe	56	45	He	857.269	ppb	1.0	2897460.44	50000	
Co	59	45	He	0.202	ppb	4.5	1601.21	4000	
Ni	60	45	He	1.093	ppb	1.4	2437.99	2000	
Cu	65	45	He	0.525	ppb	1.8	1786.78	2000	
Zn	66	72	He	1.816	ppb	3.5	2235.73	5000	
As	75	72	He	2.975	ppb	3.2	1680.76	5000	
Se	78	72	He	0.070	ppb	158.2	68.33	5000	
Rb	85	115	He	1.428	ppb	2.8	3500.43	5000	
Sr	88	115	He	1759.393	ppb	0.4	5571549.92	5000	
Mo	95	115	He	16.836	ppb	1.0	52981.18	3000	
Ag	107	115	He	0.003	ppb	6.1	51.11	100	
Cd	111	115	He	0.026	ppb	11.7	41.00	5000	
Sn	118	115	He	0.293	ppb	2.9	1078.93	5000	
Sb	121	115	He	0.089	ppb	8.4	362.23	5000	
Cs	133	115	He	0.018	ppb	9.1	148.89	5000	
Ba	137	115	He	72.620	ppb	0.4	105996.18	5000	
Ce	140	115	He	0.307	ppb	1.8	7048.43	5000	
Tl	205	159	He	0.005	ppb	13.1	177.78	5000	
Pb	208	159	He	0.131	ppb	3.3	3625.76	4000	
U	238	159	He	42.129	ppb	0.4	1065655.74	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	158711.38	0.8	166884.59	95.1	60	120	
Ge (IS)	72	He	136904.16	0.1	148055.94	92.47	60	120	
In-115 (IS)	115	He	1502168.37	0.3	1601841.24	93.78	60	120	
Tb-159 (IS)	159	He	4644263.56	0.7	4825099.95	96.25	60	120	

Sample Report

Sample Name	570-80324-i-13-a
File Name	045SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:24:22
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.017	ppb	126.8	1.00	5000	
Al	27	45	He	8.656	ppb	1.0	782.69	5000	
V	51	45	He	0.296	ppb	5.2	1128.93	5000	
Cr	52	45	He	0.197	ppb	6.4	1015.59	5000	
Mn	55	45	He	39.936	ppb	0.8	86557.75	5000	
Fe	56	45	He	12.396	ppb	2.3	47165.09	50000	
Co	59	45	He	0.025	ppb	22.0	212.23	4000	
Ni	60	45	He	0.349	ppb	2.2	818.91	2000	
Cu	65	45	He	0.368	ppb	4.0	1305.62	2000	
Zn	66	72	He	1.886	ppb	7.1	2311.30	5000	
As	75	72	He	2.154	ppb	2.0	1228.72	5000	
Se	78	72	He	-0.134	ppb	N/A	61.67	5000	
Rb	85	115	He	0.478	ppb	5.6	1177.83	5000	
Sr	88	115	He	1771.815	ppb	0.4	5633035.19	5000	
Mo	95	115	He	11.709	ppb	1.2	37000.57	3000	
Ag	107	115	He	0.001	ppb	72.0	31.11	100	
Cd	111	115	He	0.014	ppb	8.3	23.33	5000	
Sn	118	115	He	0.271	ppb	2.9	1013.37	5000	
Sb	121	115	He	0.041	ppb	27.8	192.23	5000	
Cs	133	115	He	0.008	ppb	21.1	73.33	5000	
Ba	137	115	He	125.152	ppb	0.2	183390.65	5000	
Ce	140	115	He	0.017	ppb	12.9	517.79	5000	
Tl	205	159	He	0.004	ppb	10.3	151.11	5000	
Pb	208	159	He	0.053	ppb	5.0	1593.39	4000	
U	238	159	He	38.237	ppb	0.3	977348.45	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	159703.66	0.4	166884.59	95.7	60	120	
Ge (IS)	72	He	137883.06	1.2	148055.94	93.13	60	120	
In-115 (IS)	115	He	1508111.85	0.9	1601841.24	94.15	60	120	
Tb-159 (IS)	159	He	4692916.90	0.6	4825099.95	97.26	60	120	

Sample Report

Sample Name	570-80324-i-14-a
File Name	046SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:26:25
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.010	ppb	213.6	0.67	5000	
Al	27	45	He	209.704	ppb	1.8	17114.12	5000	
V	51	45	He	3.193	ppb	1.3	10703.78	5000	
Cr	52	45	He	0.726	ppb	1.6	3214.80	5000	
Mn	55	45	He	234.378	ppb	0.6	490800.16	5000	
Fe	56	45	He	411.561	ppb	0.5	1355707.51	50000	
Co	59	45	He	0.255	ppb	7.1	1961.25	4000	
Ni	60	45	He	1.099	ppb	6.8	2385.77	2000	
Cu	65	45	He	1.028	ppb	0.2	3261.48	2000	
Zn	66	72	He	5.829	ppb	0.7	5547.71	5000	
As	75	72	He	3.620	ppb	0.6	1995.14	5000	
Se	78	72	He	0.139	ppb	251.3	69.00	5000	
Rb	85	115	He	5.285	ppb	2.8	12168.34	5000	
Sr	88	115	He	1961.421	ppb	0.2	5836887.68	5000	
Mo	95	115	He	32.390	ppb	0.9	95777.89	3000	
Ag	107	115	He	0.003	ppb	29.8	48.89	100	
Cd	111	115	He	0.058	ppb	14.0	83.00	5000	
Sn	118	115	He	0.201	ppb	10.2	744.47	5000	
Sb	121	115	He	0.274	ppb	3.9	955.59	5000	
Cs	133	115	He	0.034	ppb	12.8	267.78	5000	
Ba	137	115	He	70.278	ppb	0.7	96396.31	5000	
Ce	140	115	He	0.478	ppb	3.3	10230.36	5000	
Tl	205	159	He	0.011	ppb	9.7	290.00	5000	
Pb	208	159	He	0.180	ppb	4.4	4769.24	4000	
U	238	159	He	4.346	ppb	1.8	106619.75	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	154386.49	0.9	166884.59	92.51	60	120	
Ge (IS)	72	He	133694.16	0.5	148055.94	90.3	60	120	
In-115 (IS)	115	He	1411601.19	0.5	1601841.24	88.12	60	120	
Tb-159 (IS)	159	He	4504286.62	1.1	4825099.95	93.35	60	120	

Sample Report

Sample Name	570-80324-h-15-c
File Name	047SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:28:30
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2208

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.040	ppb	37.0	1.83	5000	
Al	27	45	He	282.364	ppb	0.7	23012.36	5000	
V	51	45	He	1.297	ppb	2.5	4408.44	5000	
Cr	52	45	He	17.429	ppb	1.9	73664.69	5000	
Mn	55	45	He	421.338	ppb	0.7	881699.41	5000	
Fe	56	45	He	1230.417	ppb	0.9	4040741.78	50000	
Co	59	45	He	0.373	ppb	2.2	2855.84	4000	
Ni	60	45	He	1.008	ppb	4.9	2190.17	2000	
Cu	65	45	He	0.899	ppb	3.4	2868.06	2000	
Zn	66	72	He	8.231	ppb	3.0	7537.47	5000	
As	75	72	He	2.322	ppb	1.1	1279.06	5000	
Se	78	72	He	0.114	ppb	122.8	68.00	5000	
Rb	85	115	He	1.460	ppb	3.0	3357.07	5000	
Sr	88	115	He	1882.539	ppb	1.2	5589154.78	5000	
Mo	95	115	He	8.223	ppb	2.3	24265.47	3000	
Ag	107	115	He	0.002	ppb	62.8	40.00	100	
Cd	111	115	He	0.036	ppb	12.5	52.00	5000	
Sn	118	115	He	0.349	ppb	6.6	1176.72	5000	
Sb	121	115	He	0.101	ppb	20.9	376.68	5000	
Cs	133	115	He	0.039	ppb	1.5	300.00	5000	
Ba	137	115	He	132.622	ppb	1.8	181474.08	5000	
Ce	140	115	He	0.850	ppb	3.6	18056.99	5000	
Tl	205	159	He	0.010	ppb	14.9	268.89	5000	
Pb	208	159	He	0.237	ppb	1.0	6245.03	4000	
U	238	159	He	1.069	ppb	1.9	26339.42	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	154285.56	0.7	166884.59	92.45	60	120	
Ge (IS)	72	He	133267.33	1.0	148055.94	90.01	60	120	
In-115 (IS)	115	He	1408343.23	0.4	1601841.24	87.92	60	120	
Tb-159 (IS)	159	He	4522783.02	0.5	4825099.95	93.73	60	120	

Sample Report

Sample Name 570-80324-i-16-a

File Name 048SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 10:30:35

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664290 BH

Location 2209

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.070	ppb	93.0	2.83	5000	
Al	27	45	He	57.843	ppb	4.6	4574.76	5000	
V	51	45	He	0.544	ppb	6.3	1840.12	5000	
Cr	52	45	He	2.278	ppb	3.1	9384.04	5000	
Mn	55	45	He	1410.315	ppb	0.5	2838669.96	5000	
Fe	56	45	He	608.215	ppb	0.6	1923664.99	50000	
Co	59	45	He	0.917	ppb	0.4	6738.20	4000	
Ni	60	45	He	1.290	ppb	3.8	2682.48	2000	
Cu	65	45	He	0.773	ppb	2.4	2392.42	2000	
Zn	66	72	He	5.632	ppb	5.9	5156.46	5000	
As	75	72	He	1.934	ppb	3.8	1025.04	5000	
Se	78	72	He	0.413	ppb	65.4	75.00	5000	
Rb	85	115	He	0.991	ppb	4.4	2214.62	5000	
Sr	88	115	He	2299.829	ppb	0.6	6633854.46	5000	
Mo	95	115	He	68.683	ppb	0.7	196848.39	3000	
Ag	107	115	He	0.002	ppb	15.2	41.11	100	
Cd	111	115	He	0.030	ppb	12.3	43.67	5000	
Sn	118	115	He	0.359	ppb	5.8	1170.05	5000	
Sb	121	115	He	0.145	ppb	7.6	508.90	5000	
Cs	133	115	He	0.013	ppb	18.6	103.33	5000	
Ba	137	115	He	155.072	ppb	0.4	206160.47	5000	
Ce	140	115	He	0.207	ppb	5.2	4361.80	5000	
Tl	205	159	He	0.006	ppb	16.7	188.89	5000	
Pb	208	159	He	0.282	ppb	0.3	7114.10	4000	
U	238	159	He	44.416	ppb	0.7	1049564.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	148404.99	0.6	166884.59	88.93	60	120	
Ge (IS)	72	He	128081.53	0.7	148055.94	86.51	60	120	
In-115 (IS)	115	He	1368263.97	0.4	1601841.24	85.42	60	120	
Tb-159 (IS)	159	He	4338586.08	1.0	4825099.95	89.92	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6816997

File Name 049_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 10:32:39

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	50.898	ppb	0.4	1820.94	50	101.8	90	110	
Al	27	45	He	52.757	ppb	0.3	4118.56	50	105.51	90	110	
V	51	45	He	50.122	ppb	1.0	157764.01	50	100.24	90	110	
Cr	52	45	He	50.267	ppb	0.9	201224.05	50	100.53	90	110	
Mn	55	45	He	51.145	ppb	0.6	101557.32	50	102.29	90	110	
Fe	56	45	He	511.349	ppb	0.0	1595585.11	500	102.27	90	110	
Co	59	45	He	49.838	ppb	0.5	360262.54	50	99.68	90	110	
Ni	60	45	He	49.023	ppb	0.3	98727.96	50	98.05	90	110	
Cu	65	45	He	49.022	ppb	0.3	140823.43	50	98.04	90	110	
Zn	66	72	He	50.935	ppb	0.9	41546.91	50	101.87	90	110	
As	75	72	He	49.495	ppb	0.6	26013.44	50	98.99	90	110	
Se	78	72	He	49.910	ppb	5.4	1670.43	50	99.82	90	110	
Rb	85	115	He	51.068	ppb	0.7	115176.97	50	102.14	90	110	
Sr	88	115	He	51.463	ppb	1.2	150056.35	50	102.93	90	110	
Mo	95	115	He	50.838	ppb	0.4	147263.24	50	101.68	90	110	
Ag	107	115	He	51.002	ppb	0.4	540379.86	50	102	90	110	
Cd	111	115	He	51.054	ppb	0.8	69079.41	50	102.11	90	110	
Sn	118	115	He	51.833	ppb	0.6	149177.50	50	103.67	90	110	
Sb	121	115	He	50.995	ppb	1.3	166696.74	50	101.99	90	110	
Cs	133	115	He	50.464	ppb	0.4	379609.84	50	100.93	90	110	
Ba	137	115	He	51.100	ppb	0.5	68668.54	50	102.2	90	110	
Ce	140	115	He	51.265	ppb	0.4	1062687.18	50	102.53	90	110	
Tl	205	159	He	50.301	ppb	0.5	944375.14	50	100.6	90	110	
Pb	208	159	He	50.981	ppb	0.3	1228698.90	50	101.96	90	110	
U	238	159	He	49.952	ppb	0.4	1155332.61	50	99.9	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	146344.48	1.8	166884.59	87.69	60	120	
Ge (IS)	72	He	128080.74	1.0	148055.94	86.51	60	120	
In-115 (IS)	115	He	1382933.18	0.9	1601841.24	86.33	60	120	
Tb-159 (IS)	159	He	4246373.44	0.8	4825099.95	88.01	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 050_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 10:34:42

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.003	ppb	N/A	0.17	0.5	
Al	27	45	He	0.428	ppb	34.3	79.33	10	
V	51	45	He	0.072	ppb	13.1	314.45	1	
Cr	52	45	He	0.111	ppb	18.7	564.46	1	
Mn	55	45	He	0.066	ppb	14.7	174.45	1	
Fe	56	45	He	2.041	ppb	13.1	10563.72	20	
Co	59	45	He	0.004	ppb	24.9	41.11	1	
Ni	60	45	He	0.003	ppb	181.8	53.33	1	
Cu	65	45	He	0.028	ppb	67.0	211.11	1	
Zn	66	72	He	-0.014	ppb	N/A	603.35	5	
As	75	72	He	0.011	ppb	62.3	14.67	1	
Se	78	72	He	-0.006	ppb	N/A	59.67	1	
Rb	85	115	He	0.009	ppb	71.3	22.22	1	
Sr	88	115	He	0.033	ppb	19.1	105.56	1	
Mo	95	115	He	0.075	ppb	11.2	221.11	1	
Ag	107	115	He	0.009	ppb	34.5	106.67	1	
Cd	111	115	He	0.001	ppb	351.2	3.67	1	
Sn	118	115	He	0.294	ppb	19.2	967.82	10	
Sb	121	115	He	0.129	ppb	4.7	447.79	1	
Cs	133	115	He	0.005	ppb	25.9	44.44	1	
Ba	137	115	He	0.031	ppb	12.4	47.78	1	
Ce	140	115	He	0.005	ppb	42.7	221.11	1	
Tl	205	159	He	0.005	ppb	26.6	161.11	1	
Pb	208	159	He	0.013	ppb	12.3	458.89	1	
U	238	159	He	0.084	ppb	6.8	1903.50	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	140486.60	0.4	166884.59	84.18	60	120	
Ge (IS)	72	He	124405.81	0.6	148055.94	84.03	60	120	
In-115 (IS)	115	He	1342751.03	0.6	1601841.24	83.83	60	120	
Tb-159 (IS)	159	He	4154315.81	0.9	4825099.95	86.1	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664280/1-a
File Name	051_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:36:45
Sample Type	MB
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2305

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.026	ppb	129.3	1.17	0.5	
Al	27	45	He	0.671	ppb	35.8	96.67	10	
V	51	45	He	0.054	ppb	9.5	258.89	1	
Cr	52	45	He	0.095	ppb	4.4	498.90	1	
Mn	55	45	He	0.041	ppb	22.9	126.67	1	
Fe	56	45	He	1.060	ppb	17.8	7576.37	20	
Co	59	45	He	0.001	ppb	482.0	16.67	1	
Ni	60	45	He	0.016	ppb	61.2	76.67	1	
Cu	65	45	He	0.014	ppb	19.3	172.22	1	
Zn	66	72	He	-0.049	ppb	N/A	572.24	5	
As	75	72	He	0.006	ppb	149.1	12.00	1	
Se	78	72	He	-0.198	ppb	N/A	53.33	1	
Rb	85	115	He	0.004	ppb	46.8	11.11	1	
Sr	88	115	He	0.015	ppb	23.1	55.56	1	
Mo	95	115	He	0.028	ppb	15.2	90.00	1	
Ag	107	115	He	0.006	ppb	25.2	81.11	1	
Cd	111	115	He	-0.001	ppb	N/A	2.00	1	
Sn	118	115	He	0.116	ppb	15.1	468.90	10	
Sb	121	115	He	0.044	ppb	11.5	180.00	1	
Cs	133	115	He	0.002	ppb	38.7	22.22	1	
Ba	137	115	He	0.010	ppb	53.9	20.00	1	
Ce	140	115	He	0.001	ppb	227.0	130.00	1	
Tl	205	159	He	0.002	ppb	19.4	101.11	1	
Pb	208	159	He	0.004	ppb	29.1	245.55	1	
U	238	159	He	0.025	ppb	33.8	570.02	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	139460.86	0.6	166884.59	83.57	60	120	
Ge (IS)	72	He	123555.52	0.6	148055.94	83.45	60	120	
In-115 (IS)	115	He	1342302.79	0.6	1601841.24	83.8	60	120	
Tb-159 (IS)	159	He	4185641.50	1.0	4825099.95	86.75	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	lcs 440-664280/2-a
File Name	052_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:38:48
Sample Type	LCS
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**IRVINSTIC** **PMS6**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	84.828	ppb	1.5	2929.11	80	106.04	85	115	
Al	27	45	He	85.951	ppb	1.8	6444.68	80	107.44	85	115	
V	51	45	He	81.932	ppb	1.0	248862.43	80	102.42	85	115	
Cr	52	45	He	82.918	ppb	0.7	320291.27	80	103.65	85	115	
Mn	55	45	He	83.860	ppb	0.4	160687.76	80	104.82	85	115	
Fe	56	45	He	953.088	ppb	0.6	2866301.62	800	119.14	85	115	> +/- 10%
Co	59	45	He	82.333	ppb	0.3	574399.18	80	102.92	85	115	
Ni	60	45	He	80.897	ppb	0.7	157205.79	80	101.12	85	115	
Cu	65	45	He	80.671	ppb	1.0	223555.89	80	100.84	85	115	
Zn	66	72	He	88.758	ppb	0.3	70711.30	80	110.95	85	115	
As	75	72	He	81.087	ppb	0.3	41889.42	80	101.36	85	115	
Se	78	72	He	82.543	ppb	0.8	2676.91	80	103.18	85	115	
Rb	85	115	He	81.403	ppb	1.0	183020.31	80	101.75	85	115	
Sr	88	115	He	82.970	ppb	1.3	241142.54	80	103.71	85	115	
Mo	95	115	He	82.328	ppb	0.8	237732.23	80	102.91	85	115	
Ag	107	115	He	81.440	ppb	0.8	860147.41	80	101.8	85	115	
Cd	111	115	He	83.589	ppb	0.9	112738.71	80	104.49	85	115	
Sn	118	115	He	80.907	ppb	1.4	232036.84	80	101.13	85	115	
Sb	121	115	He	87.299	ppb	1.1	284427.21	80	109.12	85	115	
Cs	133	115	He	83.884	ppb	0.9	629033.85	80	104.86	85	115	
Ba	137	115	He	84.393	ppb	1.0	113047.21	80	105.49	85	115	
Ce	140	115	He	83.658	ppb	0.9	1728633.78	80	104.57	85	115	
Tl	205	159	He	83.214	ppb	0.7	1587588.97	80	104.02	85	115	
[Pb]	206	159	He	86.783	ppb	0.7	528626.73	80	108.48	85	115	
[Pb]	207	159	He	82.624	ppb	0.8	444950.83	80	103.28	85	115	
Pb	208	159	He	84.740	ppb	0.8	2075345.37	80	105.92	85	115	
U	238	159	He	83.692	ppb	0.4	1967068.98	80	104.62	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	141232.59	1.6	166884.59	84.63	60	120	
Ge (IS)	72	He	125907.98	1.4	148055.94	85.04	60	120	
In-115 (IS)	115	He	1378573.15	0.6	1601841.24	86.06	60	120	
Tb-159 (IS)	159	He	4315391.22	0.8	4825099.95	89.44	60	120	

Sample Report

Sample Name	570-80324-h-2-b
File Name	053SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:40:51
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2307

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	83.621	ppb	1.4	2935.77	5000	
Al	27	45	He	3188.524	ppb	0.8	241387.40	5000	
V	51	45	He	91.401	ppb	0.4	282286.91	5000	
Cr	52	45	He	789.276	ppb	1.1	3099019.67	5000	
Mn	55	45	He	1285.605	ppb	0.8	2504204.34	5000	
Fe	56	45	He	7409.222	ppb	0.9	22627218.55	50000	
Co	59	45	He	80.840	ppb	1.0	573496.46	4000	
Ni	60	45	He	81.206	ppb	0.5	160465.62	2000	
Cu	65	45	He	81.113	ppb	0.8	228590.16	2000	
Zn	66	72	He	94.846	ppb	1.6	74885.67	5000	
As	75	72	He	93.551	ppb	1.5	47922.00	5000	
Se	78	72	He	80.154	ppb	2.4	2579.23	5000	
Rb	85	115	He	90.081	ppb	0.4	197298.46	5000	
Sr	88	115	He	1951.719	ppb	0.1	5525841.31	5000	
Mo	95	115	He	96.248	ppb	0.4	270749.40	3000	
Ag	107	115	He	33.813	ppb	0.3	347926.91	100	
Cd	111	115	He	82.120	ppb	0.6	107903.04	5000	
Sn	118	115	He	34.357	ppb	0.7	96072.22	5000	
Sb	121	115	He	88.871	ppb	0.5	282085.60	5000	
Cs	133	115	He	86.505	ppb	0.6	631933.86	5000	
Ba	137	115	He	225.569	ppb	0.5	294348.64	5000	
Ce	140	115	He	94.117	ppb	0.7	1894564.37	5000	
Tl	205	159	He	80.763	ppb	0.5	1560866.46	5000	
Pb	208	159	He	83.113	ppb	0.6	2061941.50	4000	
U	238	159	He	104.429	ppb	0.9	2486387.88	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	143621.12	0.3	166884.59	86.06	60	120	
Ge (IS)	72	He	124860.46	0.6	148055.94	84.33	60	120	
In-115 (IS)	115	He	1343025.50	0.8	1601841.24	83.84	60	120	
Tb-159 (IS)	159	He	4371270.66	0.7	4825099.95	90.59	60	120	

Sample Report

Sample Name	570-80324-h-2-c ms
File Name	054SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:42:56
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2308

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.158	ppb	19.4	5.50	5000	
Al	27	45	He	3026.547	ppb	1.1	215816.49	5000	
V	51	45	He	8.872	ppb	1.3	25895.29	5000	
Cr	52	45	He	715.670	ppb	1.4	2646782.04	5000	
Mn	55	45	He	1205.496	ppb	1.5	2211731.44	5000	
Fe	56	45	He	6782.943	ppb	1.3	19511664.78	50000	
Co	59	45	He	2.185	ppb	2.3	14612.62	4000	
Ni	60	45	He	5.251	ppb	2.6	9815.45	2000	
Cu	65	45	He	5.339	ppb	2.0	14292.35	2000	
Zn	66	72	He	20.729	ppb	2.5	16054.12	5000	
As	75	72	He	10.747	ppb	0.7	5253.92	5000	
Se	78	72	He	0.468	ppb	22.7	71.33	5000	
Rb	85	115	He	6.641	ppb	0.6	13994.39	5000	
Sr	88	115	He	1829.128	ppb	0.5	4981340.91	5000	
Mo	95	115	He	12.075	ppb	0.4	32682.68	3000	
Ag	107	115	He	0.036	ppb	27.9	374.47	100	
Cd	111	115	He	0.133	ppb	8.7	170.33	5000	
Sn	118	115	He	0.570	ppb	9.0	1670.11	5000	
Sb	121	115	He	0.238	ppb	4.0	765.58	5000	
Cs	133	115	He	0.363	ppb	2.1	2556.91	5000	
Ba	137	115	He	137.142	ppb	0.6	172139.75	5000	
Ce	140	115	He	7.007	ppb	0.3	135772.63	5000	
Tl	205	159	He	0.059	ppb	3.0	1156.72	5000	
Pb	208	159	He	1.568	ppb	0.6	37479.08	4000	
U	238	159	He	18.711	ppb	0.7	427449.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135280.53	0.5	166884.59	81.06	60	120	
Ge (IS)	72	He	118987.73	1.3	148055.94	80.37	60	120	
In-115 (IS)	115	He	1291822.95	0.3	1601841.24	80.65	60	120	
Tb-159 (IS)	159	He	4194186.36	0.5	4825099.95	86.92	60	120	

Sample Report

Sample Name	570-80324-h-2-d msd
File Name	055SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:44:59
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2309

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	89.106	ppb	1.1	2983.28	5000	
Al	27	45	He	3487.198	ppb	0.7	251732.72	5000	
V	51	45	He	98.309	ppb	0.8	289506.46	5000	
Cr	52	45	He	790.890	ppb	0.3	2961161.69	5000	
Mn	55	45	He	1275.271	ppb	0.7	2368679.56	5000	
Fe	56	45	He	7697.394	ppb	0.4	22415295.77	50000	
Co	59	45	He	86.819	ppb	0.6	587307.68	4000	
Ni	60	45	He	86.569	ppb	0.3	163120.68	2000	
Cu	65	45	He	86.474	ppb	0.8	232367.88	2000	
Zn	66	72	He	102.790	ppb	1.3	77939.76	5000	
As	75	72	He	100.397	ppb	1.2	49420.15	5000	
Se	78	72	He	88.904	ppb	0.9	2742.92	5000	
Rb	85	115	He	95.253	ppb	0.5	201225.92	5000	
Sr	88	115	He	1906.201	ppb	0.3	5205422.15	5000	
Mo	95	115	He	103.426	ppb	0.7	280621.78	3000	
Ag	107	115	He	36.933	ppb	0.3	366544.57	100	
Cd	111	115	He	87.643	ppb	0.3	111070.02	5000	
Sn	118	115	He	46.644	ppb	0.4	125754.73	5000	
Sb	121	115	He	96.456	ppb	0.5	295285.06	5000	
Cs	133	115	He	91.653	ppb	0.5	645799.05	5000	
Ba	137	115	He	229.400	ppb	0.5	288718.05	5000	
Ce	140	115	He	99.500	ppb	0.6	1931812.42	5000	
Tl	205	159	He	87.936	ppb	1.3	1622815.32	5000	
Pb	208	159	He	89.268	ppb	0.5	2114731.03	4000	
U	238	159	He	112.290	ppb	1.1	2552903.55	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	136952.89	1.0	166884.59	82.06	60	120	
Ge (IS)	72	He	119981.21	0.4	148055.94	81.04	60	120	
In-115 (IS)	115	He	1295354.64	0.3	1601841.24	80.87	60	120	
Tb-159 (IS)	159	He	4174127.19	0.2	4825099.95	86.51	60	120	

Sample Report

Sample Name 570-80324-h-2-e pds

File Name 056SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 10:47:02

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2310

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.138	ppb	38.4	5.00	5000	
Al	27	45	He	2845.959	ppb	0.2	210489.17	5000	
V	51	45	He	8.319	ppb	0.7	25190.79	5000	
Cr	52	45	He	711.874	ppb	0.2	2730618.22	5000	
Mn	55	45	He	1207.744	ppb	0.3	2298270.39	5000	
Fe	56	45	He	6566.900	ppb	0.4	19592483.11	50000	
Co	59	45	He	2.107	ppb	0.8	14617.08	4000	
Ni	60	45	He	4.847	ppb	2.9	9399.62	2000	
Cu	65	45	He	5.286	ppb	1.5	14679.38	2000	
Zn	66	72	He	19.158	ppb	2.0	15315.57	5000	
As	75	72	He	10.965	ppb	2.0	5515.01	5000	
Se	78	72	He	0.564	ppb	40.0	76.33	5000	
Rb	85	115	He	6.751	ppb	1.5	14590.52	5000	
Sr	88	115	He	1852.458	ppb	0.8	5174362.99	5000	
Mo	95	115	He	11.760	ppb	0.5	32647.04	3000	
Ag	107	115	He	0.025	ppb	3.7	270.00	100	
Cd	111	115	He	0.131	ppb	8.5	172.67	5000	
Sn	118	115	He	0.359	ppb	9.0	1132.27	5000	
Sb	121	115	He	0.160	ppb	8.0	541.12	5000	
Cs	133	115	He	0.361	ppb	3.3	2609.14	5000	
Ba	137	115	He	137.355	ppb	0.5	176829.31	5000	
Ce	140	115	He	6.729	ppb	1.7	133744.07	5000	
Tl	205	159	He	0.065	ppb	4.3	1296.74	5000	
Pb	208	159	He	1.556	ppb	0.5	37960.81	4000	
U	238	159	He	18.920	ppb	0.9	441081.32	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	140306.17	1.0	166884.59	84.07	60	120	
Ge (IS)	72	He	122423.99	0.9	148055.94	82.69	60	120	
In-115 (IS)	115	He	1324966.87	0.3	1601841.24	82.72	60	120	
Tb-159 (IS)	159	He	4280191.64	1.0	4825099.95	88.71	60	120	

Sample Report

Sample Name	570-80324-h-2-bSD@5
File Name	057SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:49:05
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2311

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	17.754	ppb	1.4	562.84	5000	
Al	27	45	He	663.435	ppb	1.0	45373.93	5000	
V	51	45	He	18.829	ppb	0.9	52566.87	5000	
Cr	52	45	He	161.889	ppb	1.3	573908.55	5000	
Mn	55	45	He	266.488	ppb	1.1	468615.88	5000	
Fe	56	45	He	1564.896	ppb	1.5	4317466.77	50000	
Co	59	45	He	17.236	ppb	1.1	110384.89	4000	
Ni	60	45	He	17.407	ppb	1.4	31084.02	2000	
Cu	65	45	He	17.481	ppb	1.8	44569.97	2000	
Zn	66	72	He	22.049	ppb	1.1	16729.31	5000	
As	75	72	He	18.916	ppb	1.0	9072.08	5000	
Se	78	72	He	16.263	ppb	3.9	534.68	5000	
Rb	85	115	He	17.648	ppb	0.5	36604.84	5000	
Sr	88	115	He	380.890	ppb	0.8	1021159.96	5000	
Mo	95	115	He	19.257	ppb	1.5	51305.19	3000	
Ag	107	115	He	7.095	ppb	1.4	69146.31	100	
Cd	111	115	He	16.880	ppb	0.2	21003.68	5000	
Sn	118	115	He	7.095	ppb	2.6	18897.87	5000	
Sb	121	115	He	17.855	ppb	0.6	53691.98	5000	
Cs	133	115	He	17.124	ppb	1.1	118453.29	5000	
Ba	137	115	He	44.926	ppb	0.8	55515.46	5000	
Ce	140	115	He	18.752	ppb	1.1	357536.40	5000	
Tl	205	159	He	16.975	ppb	0.5	303688.45	5000	
Pb	208	159	He	17.467	ppb	0.6	401178.41	4000	
U	238	159	He	21.240	ppb	0.9	468028.67	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	129641.35	0.7	166884.59	77.68	60	120	
Ge (IS)	72	He	116816.83	1.7	148055.94	78.9	60	120	
In-115 (IS)	115	He	1271696.09	0.7	1601841.24	79.39	60	120	
Tb-159 (IS)	159	He	4045889.14	1.3	4825099.95	83.85	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV-6816997
File Name	058_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:51:08
Sample Type	CCV
Total Dilution	1.0000
Comment	—
Location	1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	53.224	ppb	2.3	1635.58	50	106.45	90	110	
Al	27	45	He	54.398	ppb	1.8	3646.44	50	108.8	90	110	
V	51	45	He	52.166	ppb	1.1	141054.53	50	104.33	90	110	
Cr	52	45	He	51.903	ppb	0.6	178490.95	50	103.81	90	110	
Mn	55	45	He	52.919	ppb	1.4	90264.69	50	105.84	90	110	
Fe	56	45	He	532.287	ppb	1.0	1426546.09	500	106.46	90	110	
Co	59	45	He	52.075	ppb	0.9	323360.25	50	104.15	90	110	
Ni	60	45	He	51.296	ppb	0.8	88735.68	50	102.59	90	110	
Cu	65	45	He	51.194	ppb	0.1	126325.59	50	102.39	90	110	
Zn	66	72	He	51.375	ppb	1.2	37322.65	50	102.75	90	110	
As	75	72	He	49.778	ppb	0.9	23304.00	50	99.56	90	110	
Se	78	72	He	50.856	ppb	3.0	1515.74	50	101.71	90	110	
Rb	85	115	He	51.169	ppb	0.9	104446.38	50	102.34	90	110	
Sr	88	115	He	51.906	ppb	1.1	136965.78	50	103.81	90	110	
Mo	95	115	He	51.503	ppb	0.6	135021.39	50	103.01	90	110	
Ag	107	115	He	52.413	ppb	0.1	502593.33	50	104.83	90	110	
Cd	111	115	He	52.585	ppb	0.8	64389.89	50	105.17	90	110	
Sn	118	115	He	53.986	ppb	0.4	140605.37	50	107.97	90	110	
Sb	121	115	He	52.538	ppb	1.9	155416.62	50	105.08	90	110	
Cs	133	115	He	52.064	ppb	0.4	354454.67	50	104.13	90	110	
Ba	137	115	He	52.428	ppb	0.5	63759.42	50	104.86	90	110	
Ce	140	115	He	53.289	ppb	0.8	999708.02	50	106.58	90	110	
Tl	205	159	He	51.998	ppb	0.3	910746.60	50	104	90	110	
Pb	208	159	He	52.703	ppb	0.3	1185007.06	50	105.41	90	110	
U	238	159	He	51.862	ppb	0.5	1119011.31	50	103.72	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	125709.78	0.4	166884.59	75.33	60	120	
Ge (IS)	72	He	114090.45	0.9	148055.94	77.06	60	120	
In-115 (IS)	115	He	1251585.92	0.6	1601841.24	78.13	60	120	
Tb-159 (IS)	159	He	3961617.07	0.7	4825099.95	82.1	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 059_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 10:53:11

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.003	ppb	326.2	0.33	0.5	
Al	27	45	He	0.703	ppb	13.1	87.33	10	
V	51	45	He	0.033	ppb	19.8	172.23	1	
Cr	52	45	He	0.073	ppb	10.7	364.45	1	
Mn	55	45	He	0.074	ppb	34.4	166.67	1	
Fe	56	45	He	3.221	ppb	11.5	12328.38	20	
Co	59	45	He	0.004	ppb	78.9	37.78	1	
Ni	60	45	He	0.009	ppb	76.1	55.56	1	
Cu	65	45	He	0.034	ppb	33.2	198.89	1	
Zn	66	72	He	0.044	ppb	225.2	582.24	5	
As	75	72	He	0.012	ppb	26.1	13.67	1	
Se	78	72	He	-0.135	ppb	N/A	50.00	1	
Rb	85	115	He	0.014	ppb	43.3	30.00	1	
Sr	88	115	He	0.023	ppb	33.6	72.22	1	
Mo	95	115	He	0.080	ppb	4.3	217.78	1	
Ag	107	115	He	0.011	ppb	25.9	121.11	1	
Cd	111	115	He	0.001	ppb	278.9	3.67	1	
Sn	118	115	He	0.369	ppb	16.5	1080.05	10	
Sb	121	115	He	0.149	ppb	23.6	470.01	1	
Cs	133	115	He	0.011	ppb	28.4	76.66	1	
Ba	137	115	He	0.036	ppb	28.1	50.00	1	
Ce	140	115	He	0.006	ppb	13.8	221.11	1	
Tl	205	159	He	0.009	ppb	2.8	222.23	1	
Pb	208	159	He	0.014	ppb	7.3	458.89	1	
U	238	159	He	0.078	ppb	3.5	1676.80	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	123016.06	1.2	166884.59	73.71	60	120	
Ge (IS)	72	He	111761.89	0.6	148055.94	75.49	60	120	
In-115 (IS)	115	He	1232715.48	0.5	1601841.24	76.96	60	120	
Tb-159 (IS)	159	He	3911416.79	0.5	4825099.95	81.06	60	120	

Sample Report

Sample Name	570-80324-h-1-d
File Name	060SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 10:58:06
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2312

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.113	ppb	21.1	3.83	5000	
Al	27	45	He	2410.641	ppb	0.4	164690.88	5000	
V	51	45	He	7.183	ppb	0.8	20101.05	5000	
Cr	52	45	He	702.622	ppb	0.7	2489433.16	5000	
Mn	55	45	He	1219.274	ppb	0.9	2143091.16	5000	
Fe	56	45	He	5895.359	ppb	0.9	16246843.80	50000	
Co	59	45	He	1.858	ppb	2.4	11904.71	4000	
Ni	60	45	He	4.416	ppb	2.8	7914.31	2000	
Cu	65	45	He	5.054	ppb	0.9	12968.93	2000	
Zn	66	72	He	37.259	ppb	0.8	27204.48	5000	
As	75	72	He	10.601	ppb	1.9	4965.82	5000	
Se	78	72	He	0.446	ppb	29.5	67.67	5000	
Rb	85	115	He	5.418	ppb	0.7	11064.14	5000	
Sr	88	115	He	1869.832	ppb	0.5	4934625.22	5000	
Mo	95	115	He	11.435	ppb	0.1	29993.68	3000	
Ag	107	115	He	0.016	ppb	2.4	167.78	100	
Cd	111	115	He	0.124	ppb	12.9	154.00	5000	
Sn	118	115	He	0.131	ppb	21.2	476.68	5000	
Sb	121	115	He	0.139	ppb	9.9	448.90	5000	
Cs	133	115	He	0.311	ppb	4.8	2119.06	5000	
Ba	137	115	He	135.378	ppb	0.2	164668.01	5000	
Ce	140	115	He	6.597	ppb	0.6	123884.22	5000	
Tl	205	159	He	0.046	ppb	4.8	905.59	5000	
Pb	208	159	He	1.481	ppb	1.0	34848.55	4000	
U	238	159	He	18.998	ppb	0.5	426968.48	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	129599.62	0.5	166884.59	77.66	60	120	
Ge (IS)	72	He	114005.47	0.4	148055.94	77	60	120	
In-115 (IS)	115	He	1251876.84	0.4	1601841.24	78.15	60	120	
Tb-159 (IS)	159	He	4126355.25	0.5	4825099.95	85.52	60	120	

Sample Report

Sample Name 570-80324-h-3-b

File Name 061SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:00:10

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2401

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.003	ppb	N/A	0.17	5000	
Al	27	45	He	4.979	ppb	5.6	374.68	5000	
V	51	45	He	0.083	ppb	0.9	313.34	5000	
Cr	52	45	He	1.360	ppb	1.1	4825.25	5000	
Mn	55	45	He	431.122	ppb	0.8	739367.02	5000	
Fe	56	45	He	26.642	ppb	1.8	75639.23	50000	
Co	59	45	He	0.025	ppb	19.7	165.56	4000	
Ni	60	45	He	0.701	ppb	6.9	1261.17	2000	
Cu	65	45	He	1.053	ppb	0.8	2731.37	2000	
Zn	66	72	He	7.297	ppb	2.8	5652.19	5000	
As	75	72	He	0.786	ppb	4.9	367.34	5000	
Se	78	72	He	-0.141	ppb	N/A	49.67	5000	
Rb	85	115	He	1.056	ppb	6.6	2095.71	5000	
Sr	88	115	He	2416.940	ppb	0.7	6192848.37	5000	
Mo	95	115	He	13.478	ppb	1.3	34321.92	3000	
Ag	107	115	He	0.003	ppb	57.4	40.00	100	
Cd	111	115	He	0.009	ppb	52.5	13.67	5000	
Sn	118	115	He	0.147	ppb	3.5	503.34	5000	
Sb	121	115	He	0.736	ppb	2.3	2150.17	5000	
Cs	133	115	He	0.005	ppb	47.3	38.89	5000	
Ba	137	115	He	290.986	ppb	0.5	343631.63	5000	
Ce	140	115	He	0.007	ppb	13.7	236.67	5000	
Tl	205	159	He	0.007	ppb	22.9	180.00	5000	
Pb	208	159	He	0.071	ppb	4.7	1737.84	4000	
U	238	159	He	3.306	ppb	1.3	71318.60	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	126444.00	0.4	166884.59	75.77	60	120	
Ge (IS)	72	He	111470.93	0.7	148055.94	75.29	60	120	
In-115 (IS)	115	He	1215428.60	0.2	1601841.24	75.88	60	120	
Tb-159 (IS)	159	He	3959812.34	0.3	4825099.95	82.07	60	120	

Sample Report

Sample Name 570-80324-h-4-b

File Name 062SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:02:14

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2402

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.016	ppb	137.4	0.83	5000	
Al	27	45	He	38.795	ppb	5.1	2923.68	5000	
V	51	45	He	3.635	ppb	2.4	11088.52	5000	
Cr	52	45	He	19.738	ppb	2.0	76042.87	5000	
Mn	55	45	He	18.464	ppb	1.2	35280.78	5000	
Fe	56	45	He	52.373	ppb	3.5	161088.26	50000	
Co	59	45	He	0.437	ppb	0.9	3053.66	4000	
Ni	60	45	He	2.929	ppb	3.7	5712.21	2000	
Cu	65	45	He	1.353	ppb	7.4	3864.95	2000	
Zn	66	72	He	6.318	ppb	1.8	5645.52	5000	
As	75	72	He	1.830	ppb	2.1	960.03	5000	
Se	78	72	He	3.376	ppb	4.6	168.67	5000	
Rb	85	115	He	1.110	ppb	5.4	2506.89	5000	
Sr	88	115	He	1174.567	ppb	0.4	3424545.49	5000	
Mo	95	115	He	4.982	ppb	1.9	14442.64	3000	
Ag	107	115	He	0.000	ppb	248.5	16.67	100	
Cd	111	115	He	0.029	ppb	27.6	41.67	5000	
Sn	118	115	He	0.268	ppb	5.6	921.15	5000	
Sb	121	115	He	0.237	ppb	7.0	815.58	5000	
Cs	133	115	He	0.010	ppb	28.0	83.33	5000	
Ba	137	115	He	43.350	ppb	0.9	58257.48	5000	
Ce	140	115	He	0.075	ppb	4.9	1668.99	5000	
Tl	205	159	He	0.003	ppb	64.1	133.33	5000	
Pb	208	159	He	0.098	ppb	5.2	2680.12	4000	
U	238	159	He	9.086	ppb	1.3	222980.93	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	140698.64	1.5	166884.59	84.31	60	120	
Ge (IS)	72	He	126684.38	0.5	148055.94	85.57	60	120	
In-115 (IS)	115	He	1383031.74	0.4	1601841.24	86.34	60	120	
Tb-159 (IS)	159	He	4505482.32	0.4	4825099.95	93.38	60	120	

Sample Report

Sample Name	570-80324-h-5-b
File Name	063SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:04:17
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2403

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.029	ppb	114.6	1.17	5000	
Al	27	45	He	14.047	ppb	6.6	995.37	5000	
V	51	45	He	0.414	ppb	3.6	1234.50	5000	
Cr	52	45	He	5973.512	ppb	0.9	20992105.28	5000	>LDR
Mn	55	45	He	401.357	ppb	0.8	699778.48	5000	
Fe	56	45	He	35.864	ppb	0.9	102110.23	50000	
Co	59	45	He	0.106	ppb	13.0	683.35	4000	
Ni	60	45	He	0.431	ppb	8.4	804.47	2000	
Cu	65	45	He	0.768	ppb	5.0	2057.93	2000	
Zn	66	72	He	4.707	ppb	4.3	3881.63	5000	
As	75	72	He	2.291	ppb	2.5	1067.37	5000	
Se	78	72	He	0.507	ppb	37.9	68.67	5000	
Rb	85	115	He	0.862	ppb	2.6	1716.77	5000	
Sr	88	115	He	1709.057	ppb	0.1	4391444.55	5000	
Mo	95	115	He	47.241	ppb	0.3	120611.60	3000	
Ag	107	115	He	0.001	ppb	154.8	21.11	100	
Cd	111	115	He	0.022	ppb	21.8	29.33	5000	
Sn	118	115	He	0.145	ppb	13.2	500.01	5000	
Sb	121	115	He	0.322	ppb	10.1	963.37	5000	
Cs	133	115	He	0.010	ppb	14.0	70.00	5000	
Ba	137	115	He	126.978	ppb	1.3	150371.89	5000	
Ce	140	115	He	0.028	ppb	7.0	615.57	5000	
Tl	205	159	He	0.005	ppb	11.5	150.00	5000	
Pb	208	159	He	0.054	ppb	9.4	1342.25	4000	
U	238	159	He	152.370	ppb	1.5	3242251.62	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	128553.43	1.0	166884.59	77.03	60	120	
Ge (IS)	72	He	112687.69	1.3	148055.94	76.11	60	120	
In-115 (IS)	115	He	1218856.81	0.6	1601841.24	76.09	60	120	
Tb-159 (IS)	159	He	3907071.51	1.1	4825099.95	80.97	60	120	

Sample Report

Sample Name 570-80324-h-6-b

File Name 064SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:06:22

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2404

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.001	ppb	820.5	0.33	5000	
Al	27	45	He	15.228	ppb	3.2	1245.39	5000	
V	51	45	He	0.480	ppb	2.7	1641.21	5000	
Cr	52	45	He	1.891	ppb	2.4	7842.05	5000	
Mn	55	45	He	509.567	ppb	0.6	1028766.38	5000	
Fe	56	45	He	28.465	ppb	1.0	94821.50	50000	
Co	59	45	He	0.070	ppb	1.9	525.57	4000	
Ni	60	45	He	0.727	ppb	2.9	1538.98	2000	
Cu	65	45	He	2.845	ppb	0.6	8449.06	2000	
Zn	66	72	He	2.331	ppb	4.4	2556.89	5000	
As	75	72	He	1.153	ppb	2.1	628.35	5000	
Se	78	72	He	-0.064	ppb	N/A	60.67	5000	
Rb	85	115	He	1.298	ppb	3.4	2954.76	5000	
Sr	88	115	He	1970.225	ppb	0.1	5793311.85	5000	
Mo	95	115	He	18.140	ppb	1.1	53012.27	3000	
Ag	107	115	He	0.001	ppb	71.8	23.34	100	
Cd	111	115	He	0.023	ppb	6.0	34.33	5000	
Sn	118	115	He	0.125	ppb	11.0	514.46	5000	
Sb	121	115	He	0.141	ppb	9.4	505.57	5000	
Cs	133	115	He	0.014	ppb	10.0	110.00	5000	
Ba	137	115	He	217.760	ppb	1.0	295086.79	5000	
Ce	140	115	He	0.024	ppb	10.4	628.91	5000	
Tl	205	159	He	0.006	ppb	11.5	193.34	5000	
Pb	208	159	He	0.131	ppb	1.3	3487.97	4000	
U	238	159	He	0.485	ppb	4.9	11752.02	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	148861.48	1.5	166884.59	89.2	60	120	
Ge (IS)	72	He	130793.95	2.4	148055.94	88.34	60	120	
In-115 (IS)	115	He	1394816.40	1.4	1601841.24	87.08	60	120	
Tb-159 (IS)	159	He	4446639.54	1.6	4825099.95	92.16	60	120	

Sample Report

Sample Name	570-80324-h-7-b
File Name	065SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:08:27
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2405

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.011	ppb	148.8	0.67	5000	
Al	27	45	He	11.992	ppb	11.9	935.37	5000	
V	51	45	He	1.519	ppb	3.0	4682.97	5000	
Cr	52	45	He	99864.815	ppb	0.1	383328784.77	5000	>LDR
Mn	55	45	He	221.298	ppb	0.4	421471.95	5000	
Fe	56	45	He	13.358	ppb	1.2	44341.08	50000	
Co	59	45	He	0.103	ppb	2.4	724.47	4000	
Ni	60	45	He	0.693	ppb	3.9	1384.52	2000	
Cu	65	45	He	1.260	ppb	2.3	3602.67	2000	
Zn	66	72	He	3.173	ppb	3.3	3117.00	5000	
As	75	72	He	3.580	ppb	0.5	1851.78	5000	
Se	78	72	He	0.895	ppb	38.3	88.67	5000	
Rb	85	115	He	0.978	ppb	3.2	2186.84	5000	
Sr	88	115	He	1601.713	ppb	0.4	4625308.57	5000	
Mo	95	115	He	20.358	ppb	1.0	58420.22	3000	
Ag	107	115	He	0.001	ppb	107.8	23.33	100	
Cd	111	115	He	0.055	ppb	11.3	76.33	5000	
Sn	118	115	He	0.212	ppb	3.1	753.35	5000	
Sb	121	115	He	0.613	ppb	4.9	2025.71	5000	
Cs	133	115	He	0.008	ppb	28.8	62.22	5000	
Ba	137	115	He	31.017	ppb	1.3	41289.10	5000	
Ce	140	115	He	0.019	ppb	3.9	502.23	5000	
Tl	205	159	He	0.006	ppb	16.4	192.23	5000	
Pb	208	159	He	0.033	ppb	4.8	1021.14	4000	
U	238	159	He	77.922	ppb	0.6	1904214.09	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	140409.37	0.6	166884.59	84.14	60	120	
Ge (IS)	72	He	125463.45	0.6	148055.94	84.74	60	120	
In-115 (IS)	115	He	1369821.54	0.4	1601841.24	85.52	60	120	
Tb-159 (IS)	159	He	4486698.71	0.2	4825099.95	92.99	60	120	

Sample Report

Sample Name	570-80324-h-7-b@100
File Name	066SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:10:35
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2405

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.012	ppb	71.7	0.67	5000	
Al	27	45	He	12.983	ppb	13.6	980.72	5000	
V	51	45	He	1.511	ppb	2.8	4528.47	5000	
Cr	52	45	He	100336.469	ppb	0.7	374365682.90	5000	>LDR
Mn	55	45	He	222.071	ppb	1.1	411110.04	5000	
Fe	56	45	He	12.912	ppb	1.0	41805.21	50000	
Co	59	45	He	0.119	ppb	5.6	815.58	4000	
Ni	60	45	He	0.739	ppb	1.2	1433.41	2000	
Cu	65	45	He	1.274	ppb	6.2	3540.43	2000	
Zn	66	72	He	3.295	ppb	5.3	3143.67	5000	
As	75	72	He	3.575	ppb	0.9	1809.44	5000	
Se	78	72	He	0.946	ppb	24.6	88.33	5000	
Rb	85	115	He	0.991	ppb	1.9	2190.17	5000	
Sr	88	115	He	1592.704	ppb	0.8	4543967.46	5000	
Mo	95	115	He	20.271	ppb	1.3	57469.91	3000	
Ag	107	115	He	0.002	ppb	43.4	31.11	100	
Cd	111	115	He	0.051	ppb	0.6	70.33	5000	
Sn	118	115	He	0.217	ppb	5.0	756.69	5000	
Sb	121	115	He	0.586	ppb	1.2	1915.69	5000	
Cs	133	115	He	0.008	ppb	20.3	62.22	5000	
Ba	137	115	He	30.939	ppb	0.7	40688.52	5000	
Ce	140	115	He	0.017	ppb	0.6	458.90	5000	
Tl	205	159	He	0.006	ppb	15.9	185.56	5000	
Pb	208	159	He	0.032	ppb	1.5	993.36	4000	
U	238	159	He	78.156	ppb	1.1	1908219.40	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	136485.51	1.1	166884.59	81.78	60	120	
Ge (IS)	72	He	122800.31	0.7	148055.94	82.94	60	120	
In-115 (IS)	115	He	1353330.30	0.2	1601841.24	84.49	60	120	
Tb-159 (IS)	159	He	4482858.71	0.3	4825099.95	92.91	60	120	

Sample Report

Sample Name	570-80324-h-8-b
File Name	067SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:12:42
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2406

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.014	ppb	270.8	0.83	5000	
Al	27	45	He	11.816	ppb	1.7	993.37	5000	
V	51	45	He	0.442	ppb	0.4	1544.53	5000	
Cr	52	45	He	743.625	ppb	1.3	3075430.50	5000	
Mn	55	45	He	461.207	ppb	1.1	946289.89	5000	
Fe	56	45	He	15.290	ppb	0.9	53986.51	50000	
Co	59	45	He	0.060	ppb	7.6	458.90	4000	
Ni	60	45	He	0.406	ppb	3.6	895.59	2000	
Cu	65	45	He	0.699	ppb	4.0	2217.96	2000	
Zn	66	72	He	7.184	ppb	1.5	6682.62	5000	
As	75	72	He	1.701	ppb	6.4	942.37	5000	
Se	78	72	He	0.068	ppb	244.6	66.67	5000	
Rb	85	115	He	0.605	ppb	5.5	1457.86	5000	
Sr	88	115	He	2202.579	ppb	0.8	6835248.62	5000	
Mo	95	115	He	10.903	ppb	0.3	33632.63	3000	
Ag	107	115	He	0.001	ppb	57.6	28.89	100	
Cd	111	115	He	0.013	ppb	18.8	21.33	5000	
Sn	118	115	He	0.105	ppb	6.5	482.23	5000	
Sb	121	115	He	0.038	ppb	15.2	177.78	5000	
Cs	133	115	He	0.004	ppb	11.8	33.33	5000	
Ba	137	115	He	159.294	ppb	1.1	227828.39	5000	
Ce	140	115	He	0.007	ppb	31.8	295.56	5000	
Tl	205	159	He	0.007	ppb	15.0	207.78	5000	
Pb	208	159	He	0.108	ppb	0.9	2999.04	4000	
U	238	159	He	8.156	ppb	0.5	205115.21	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	151274.89	0.3	166884.59	90.65	60	120	
Ge (IS)	72	He	133669.76	0.4	148055.94	90.28	60	120	
In-115 (IS)	115	He	1472223.75	2.1	1601841.24	91.91	60	120	
Tb-159 (IS)	159	He	4616970.65	1.0	4825099.95	95.69	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6816997

File Name 068_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:14:47

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	50.218	ppb	1.5	1835.11	50	100.44	90	110	
Al	27	45	He	51.734	ppb	2.6	4126.56	50	103.47	90	110	
V	51	45	He	50.569	ppb	1.4	162592.94	50	101.14	90	110	
Cr	52	45	He	53.156	ppb	2.0	217375.70	50	106.31	90	110	
Mn	55	45	He	51.234	ppb	1.3	103919.89	50	102.47	90	110	
Fe	56	45	He	515.769	ppb	1.4	1643805.00	500	103.15	90	110	
Co	59	45	He	50.621	ppb	0.9	373753.76	50	101.24	90	110	
Ni	60	45	He	49.890	ppb	1.4	102625.79	50	99.78	90	110	
Cu	65	45	He	50.316	ppb	1.2	147631.91	50	100.63	90	110	
Zn	66	72	He	50.800	ppb	1.2	43467.92	50	101.6	90	110	
As	75	72	He	49.359	ppb	0.9	27211.55	50	98.72	90	110	
Se	78	72	He	50.773	ppb	1.8	1781.77	50	101.55	90	110	
Rb	85	115	He	48.852	ppb	0.3	120798.97	50	97.7	90	110	
Sr	88	115	He	49.771	ppb	1.0	159111.36	50	99.54	90	110	
Mo	95	115	He	48.546	ppb	1.0	154190.95	50	97.09	90	110	
Ag	107	115	He	49.550	ppb	0.3	575594.73	50	99.1	90	110	
Cd	111	115	He	49.720	ppb	0.3	73752.30	50	99.44	90	110	
Sn	118	115	He	50.175	ppb	1.1	158335.45	50	100.35	90	110	
Sb	121	115	He	50.129	ppb	1.1	179659.12	50	100.26	90	110	
Cs	133	115	He	49.402	ppb	0.3	407429.31	50	98.8	90	110	
Ba	137	115	He	49.941	ppb	0.8	73574.80	50	99.88	90	110	
Ce	140	115	He	50.019	ppb	0.3	1136770.85	50	100.04	90	110	
Tl	205	159	He	50.203	ppb	0.3	1020380.41	50	100.41	90	110	
Pb	208	159	He	50.646	ppb	0.3	1321475.13	50	101.29	90	110	
U	238	159	He	49.008	ppb	0.3	1227122.12	50	98.02	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	149468.44	1.0	166884.59	89.56	60	120	
Ge (IS)	72	He	134343.71	1.5	148055.94	90.74	60	120	
In-115 (IS)	115	He	1516196.36	1.1	1601841.24	94.65	60	120	
Tb-159 (IS)	159	He	4597173.01	0.8	4825099.95	95.28	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 069_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:16:53

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.040	ppb	20.2	1.67	0.5	
Al	27	45	He	0.186	ppb	35.8	61.33	10	
V	51	45	He	0.014	ppb	8.4	138.89	1	
Cr	52	45	He	1.343	ppb	5.1	5288.73	1	>RL
Mn	55	45	He	0.046	ppb	12.8	137.78	1	
Fe	56	45	He	1.490	ppb	15.0	8900.43	20	
Co	59	45	He	0.004	ppb	54.0	41.11	1	
Ni	60	45	He	0.004	ppb	114.0	54.44	1	
Cu	65	45	He	0.021	ppb	35.1	192.22	1	
Zn	66	72	He	0.003	ppb	1802.8	630.02	5	
As	75	72	He	0.009	ppb	34.7	13.67	1	
Se	78	72	He	-0.006	ppb	N/A	61.00	1	
Rb	85	115	He	0.007	ppb	31.6	18.89	1	
Sr	88	115	He	0.037	ppb	10.9	124.44	1	
Mo	95	115	He	0.076	ppb	20.8	235.56	1	
Ag	107	115	He	0.008	ppb	55.6	105.56	1	
Cd	111	115	He	0.002	ppb	86.2	5.33	1	
Sn	118	115	He	0.344	ppb	11.9	1157.83	10	
Sb	121	115	He	0.127	ppb	14.0	465.57	1	
Cs	133	115	He	0.004	ppb	36.3	36.67	1	
Ba	137	115	He	0.027	ppb	36.3	44.45	1	
Ce	140	115	He	0.005	ppb	12.3	220.00	1	
Tl	205	159	He	0.005	ppb	17.1	176.67	1	
Pb	208	159	He	0.010	ppb	24.6	431.11	1	
U	238	159	He	0.108	ppb	9.7	2600.30	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	140254.81	1.0	166884.59	84.04	60	120	
Ge (IS)	72	He	127137.13	0.6	148055.94	85.87	60	120	
In-115 (IS)	115	He	1407085.87	0.5	1601841.24	87.84	60	120	
Tb-159 (IS)	159	He	4421787.60	0.4	4825099.95	91.64	60	120	

Sample Report

Sample Name	570-80324-h-7-b@100
File Name	070SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:18:56
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2503

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.012	ppb	73.9	0.67	5000	
Al	27	45	He	1.002	ppb	22.5	118.67	5000	
V	51	45	He	0.026	ppb	35.9	171.11	5000	
Cr	52	45	He	982.393	ppb	1.3	3675353.33	5000	
Mn	55	45	He	2.194	ppb	4.5	4119.46	5000	
Fe	56	45	He	0.878	ppb	19.3	6908.28	50000	
Co	59	45	He	0.002	ppb	94.7	28.89	4000	
Ni	60	45	He	0.022	ppb	24.3	87.78	2000	
Cu	65	45	He	0.012	ppb	46.9	162.23	2000	
Zn	66	72	He	-0.011	ppb	N/A	610.02	5000	
As	75	72	He	0.031	ppb	11.9	25.00	5000	
Se	78	72	He	-0.179	ppb	N/A	54.67	5000	
Rb	85	115	He	0.020	ppb	37.1	47.78	5000	
Sr	88	115	He	15.035	ppb	0.8	44524.20	5000	
Mo	95	115	He	0.201	ppb	4.5	602.24	3000	
Ag	107	115	He	0.004	ppb	8.5	56.67	100	
Cd	111	115	He	0.000	ppb	2937.5	3.00	5000	
Sn	118	115	He	0.139	ppb	24.9	558.90	5000	
Sb	121	115	He	0.055	ppb	23.4	224.45	5000	
Cs	133	115	He	0.002	ppb	48.0	16.66	5000	
Ba	137	115	He	0.267	ppb	9.3	372.23	5000	
Ce	140	115	He	0.002	ppb	8.4	176.67	5000	
Tl	205	159	He	0.001	ppb	65.4	93.33	5000	
Pb	208	159	He	0.004	ppb	6.6	257.78	4000	
U	238	159	He	0.763	ppb	2.8	18406.24	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	136852.07	0.5	166884.59	82	60	120	
Ge (IS)	72	He	125308.48	0.4	148055.94	84.64	60	120	
In-115 (IS)	115	He	1404385.41	0.9	1601841.24	87.67	60	120	
Tb-159 (IS)	159	He	4427088.57	0.4	4825099.95	91.75	60	120	

Sample Report

Sample Name	570-80324-h-5-b@10
File Name	071SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:21:08
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2504

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.002	ppb	423.8	0.33	5000	
Al	27	45	He	1.968	ppb	3.5	184.00	5000	
V	51	45	He	0.036	ppb	10.6	196.67	5000	
Cr	52	45	He	606.726	ppb	1.0	2217795.95	5000	
Mn	55	45	He	41.468	ppb	1.2	75243.83	5000	
Fe	56	45	He	3.946	ppb	3.9	15469.01	50000	
Co	59	45	He	0.012	ppb	15.0	88.89	4000	
Ni	60	45	He	0.109	ppb	6.1	245.56	2000	
Cu	65	45	He	0.094	ppb	22.8	373.34	2000	
Zn	66	72	He	0.531	ppb	11.9	1022.27	5000	
As	75	72	He	0.220	ppb	12.3	120.67	5000	
Se	78	72	He	-0.017	ppb	N/A	59.00	5000	
Rb	85	115	He	0.086	ppb	7.9	197.78	5000	
Sr	88	115	He	161.032	ppb	0.5	468950.02	5000	
Mo	95	115	He	4.489	ppb	2.1	13001.31	3000	
Ag	107	115	He	0.003	ppb	33.0	50.00	100	
Cd	111	115	He	0.001	ppb	116.8	4.67	5000	
Sn	118	115	He	0.108	ppb	21.9	458.90	5000	
Sb	121	115	He	0.052	ppb	12.1	212.22	5000	
Cs	133	115	He	0.002	ppb	99.3	20.00	5000	
Ba	137	115	He	12.557	ppb	1.2	16861.03	5000	
Ce	140	115	He	0.003	ppb	64.4	186.67	5000	
Tl	205	159	He	0.001	ppb	59.1	96.67	5000	
Pb	208	159	He	0.018	ppb	11.8	617.79	4000	
U	238	159	He	14.710	ppb	1.0	352976.82	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133696.81	0.7	166884.59	80.11	60	120	
Ge (IS)	72	He	123662.92	0.6	148055.94	83.52	60	120	
In-115 (IS)	115	He	1381313.71	1.1	1601841.24	86.23	60	120	
Tb-159 (IS)	159	He	4405530.38	1.0	4825099.95	91.3	60	120	

Sample Report

Sample Name	570-80324-h-9-a
File Name	072SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:23:10
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2407

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.013	ppb	71.3	0.67	5000	
Al	27	45	He	5.550	ppb	1.7	430.01	5000	
V	51	45	He	0.314	ppb	3.1	981.15	5000	
Cr	52	45	He	944.885	ppb	0.6	3402706.67	5000	
Mn	55	45	He	349.745	ppb	0.3	624866.71	5000	
Fe	56	45	He	22.199	ppb	1.3	66356.20	50000	
Co	59	45	He	0.053	ppb	6.3	354.45	4000	
Ni	60	45	He	0.952	ppb	1.3	1767.89	2000	
Cu	65	45	He	0.852	ppb	2.9	2327.97	2000	
Zn	66	72	He	4.383	ppb	0.4	3868.29	5000	
As	75	72	He	1.896	ppb	4.8	936.70	5000	
Se	78	72	He	0.598	ppb	68.5	75.33	5000	
Rb	85	115	He	0.522	ppb	4.3	1120.05	5000	
Sr	88	115	He	1806.447	ppb	0.8	4996294.80	5000	
Mo	95	115	He	10.696	ppb	1.6	29401.40	3000	
Ag	107	115	He	0.003	ppb	27.5	45.56	100	
Cd	111	115	He	0.026	ppb	30.3	36.33	5000	
Sn	118	115	He	0.066	ppb	32.7	322.23	5000	
Sb	121	115	He	0.787	ppb	4.2	2478.00	5000	
Cs	133	115	He	0.003	ppb	45.7	27.78	5000	
Ba	137	115	He	89.054	ppb	0.8	113524.18	5000	
Ce	140	115	He	0.003	ppb	39.1	166.67	5000	
Tl	205	159	He	0.007	ppb	25.9	205.56	5000	
Pb	208	159	He	0.053	ppb	5.7	1470.04	4000	
U	238	159	He	13.094	ppb	0.9	307002.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	131723.41	0.2	166884.59	78.93	60	120	
Ge (IS)	72	He	119286.75	0.7	148055.94	80.57	60	120	
In-115 (IS)	115	He	1312000.97	0.5	1601841.24	81.91	60	120	
Tb-159 (IS)	159	He	4304544.13	0.1	4825099.95	89.21	60	120	

Sample Report

Sample Name 570-80324-h-10-a

File Name 073SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:25:14

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2408

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.002	ppb	950.0	0.33	5000	
Al	27	45	He	4.411	ppb	6.5	360.68	5000	
V	51	45	He	0.322	ppb	3.1	1032.26	5000	
Cr	52	45	He	936.157	ppb	1.1	3463833.06	5000	
Mn	55	45	He	344.172	ppb	1.2	631794.40	5000	
Fe	56	45	He	19.794	ppb	1.4	61259.40	50000	
Co	59	45	He	0.047	ppb	4.9	330.01	4000	
Ni	60	45	He	0.793	ppb	6.7	1520.09	2000	
Cu	65	45	He	0.833	ppb	5.1	2340.19	2000	
Zn	66	72	He	5.279	ppb	0.1	4610.73	5000	
As	75	72	He	1.832	ppb	3.4	919.36	5000	
Se	78	72	He	0.655	ppb	26.1	78.33	5000	
Rb	85	115	He	0.490	ppb	0.6	1074.49	5000	
Sr	88	115	He	1784.167	ppb	0.9	5039222.86	5000	
Mo	95	115	He	10.523	ppb	1.1	29541.65	3000	
Ag	107	115	He	0.001	ppb	78.1	25.56	100	
Cd	111	115	He	0.023	ppb	10.0	32.67	5000	
Sn	118	115	He	0.049	ppb	10.9	282.22	5000	
Sb	121	115	He	0.767	ppb	1.7	2466.89	5000	
Cs	133	115	He	0.002	ppb	48.0	18.89	5000	
Ba	137	115	He	88.104	ppb	1.5	114691.01	5000	
Ce	140	115	He	0.005	ppb	54.1	218.89	5000	
Tl	205	159	He	0.005	ppb	13.6	164.45	5000	
Pb	208	159	He	0.057	ppb	5.4	1575.60	4000	
U	238	159	He	13.051	ppb	2.0	310292.04	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135351.02	1.0	166884.59	81.1	60	120	
Ge (IS)	72	He	121181.89	0.4	148055.94	81.85	60	120	
In-115 (IS)	115	He	1339838.97	0.8	1601841.24	83.64	60	120	
Tb-159 (IS)	159	He	4365217.61	0.3	4825099.95	90.47	60	120	

Sample Report

Sample Name 570-80324-h-11-a

File Name 074SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:27:17

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2409

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.007	ppb	3.2	0.50	5000	
Al	27	45	He	10.101	ppb	2.8	750.02	5000	
V	51	45	He	0.500	ppb	4.0	1516.75	5000	
Cr	52	45	He	0.635	ppb	9.2	2431.32	5000	
Mn	55	45	He	498.310	ppb	0.7	894978.23	5000	
Fe	56	45	He	25.890	ppb	0.3	77105.40	50000	
Co	59	45	He	0.074	ppb	8.6	493.34	4000	
Ni	60	45	He	0.295	ppb	4.4	582.24	2000	
Cu	65	45	He	0.766	ppb	4.9	2114.60	2000	
Zn	66	72	He	2.084	ppb	7.5	2117.94	5000	
As	75	72	He	0.439	ppb	7.0	220.33	5000	
Se	78	72	He	0.004	ppb	5601.7	56.67	5000	
Rb	85	115	He	1.081	ppb	2.8	2309.08	5000	
Sr	88	115	He	2226.085	ppb	0.6	6138652.67	5000	
Mo	95	115	He	43.273	ppb	0.8	118570.83	3000	
Ag	107	115	He	0.001	ppb	39.5	23.33	100	
Cd	111	115	He	0.008	ppb	25.2	13.00	5000	
Sn	118	115	He	0.056	ppb	15.6	293.34	5000	
Sb	121	115	He	0.079	ppb	2.4	282.22	5000	
Cs	133	115	He	0.006	ppb	16.5	45.55	5000	
Ba	137	115	He	228.370	ppb	0.5	290245.27	5000	
Ce	140	115	He	0.023	ppb	11.6	568.90	5000	
Tl	205	159	He	0.004	ppb	50.2	152.23	5000	
Pb	208	159	He	0.069	ppb	4.3	1830.06	4000	
U	238	159	He	1.997	ppb	1.2	46437.26	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	132428.17	1.5	166884.59	79.35	60	120	
Ge (IS)	72	He	117573.69	1.3	148055.94	79.41	60	120	
In-115 (IS)	115	He	1308066.61	0.8	1601841.24	81.66	60	120	
Tb-159 (IS)	159	He	4269236.77	1.2	4825099.95	88.48	60	120	

Sample Report

Sample Name 570-80324-h-12-a

File Name 075SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:29:21

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2410

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.023	ppb	68.0	1.00	5000	
Al	27	45	He	82.822	ppb	0.2	5874.46	5000	
V	51	45	He	2.482	ppb	1.7	7218.40	5000	
Cr	52	45	He	1.258	ppb	7.0	4724.09	5000	
Mn	55	45	He	881.189	ppb	0.5	1596077.58	5000	
Fe	56	45	He	507.066	ppb	1.0	1443876.61	50000	
Co	59	45	He	0.182	ppb	7.5	1211.17	4000	
Ni	60	45	He	1.312	ppb	2.6	2453.54	2000	
Cu	65	45	He	1.216	ppb	5.9	3312.60	2000	
Zn	66	72	He	3.385	ppb	4.1	3095.89	5000	
As	75	72	He	2.400	ppb	2.5	1173.05	5000	
Se	78	72	He	0.348	ppb	59.8	67.33	5000	
Rb	85	115	He	1.376	ppb	5.2	2933.64	5000	
Sr	88	115	He	1833.294	ppb	0.3	5049277.44	5000	
Mo	95	115	He	17.019	ppb	0.6	46583.04	3000	
Ag	107	115	He	0.002	ppb	18.8	34.45	100	
Cd	111	115	He	0.030	ppb	15.8	41.00	5000	
Sn	118	115	He	0.162	ppb	10.3	582.24	5000	
Sb	121	115	He	0.105	ppb	15.2	364.45	5000	
Cs	133	115	He	0.020	ppb	13.5	147.78	5000	
Ba	137	115	He	75.372	ppb	0.6	95681.40	5000	
Ce	140	115	He	0.188	ppb	1.5	3792.75	5000	
Tl	205	159	He	0.009	ppb	16.3	230.00	5000	
Pb	208	159	He	0.211	ppb	2.3	5261.53	4000	
U	238	159	He	44.638	ppb	1.0	1034619.33	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133548.85	0.6	166884.59	80.02	60	120	
Ge (IS)	72	He	118289.19	0.7	148055.94	79.89	60	120	
In-115 (IS)	115	He	1306478.65	0.3	1601841.24	81.56	60	120	
Tb-159 (IS)	159	He	4255645.11	0.4	4825099.95	88.2	60	120	

Sample Report

Sample Name 570-80324-h-13-a

File Name 076SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:31:24

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2411

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.007	ppb	208.8	0.50	5000	
Al	27	45	He	9.350	ppb	3.0	692.69	5000	
V	51	45	He	0.328	ppb	0.8	1018.93	5000	
Cr	52	45	He	0.397	ppb	8.1	1553.42	5000	
Mn	55	45	He	9.796	ppb	1.2	17517.91	5000	
Fe	56	45	He	14.204	ppb	3.8	43896.74	50000	
Co	59	45	He	0.021	ppb	11.6	148.89	4000	
Ni	60	45	He	0.316	ppb	3.3	615.57	2000	
Cu	65	45	He	1.274	ppb	2.2	3412.62	2000	
Zn	66	72	He	4.437	ppb	3.0	3861.63	5000	
As	75	72	He	2.227	ppb	0.3	1085.04	5000	
Se	78	72	He	-0.036	ppb	N/A	55.67	5000	
Rb	85	115	He	0.500	ppb	3.1	1053.37	5000	
Sr	88	115	He	1853.736	ppb	0.2	5038014.11	5000	
Mo	95	115	He	12.368	ppb	1.0	33406.50	3000	
Ag	107	115	He	0.001	ppb	181.3	24.44	100	
Cd	111	115	He	0.012	ppb	36.5	17.67	5000	
Sn	118	115	He	0.069	ppb	6.9	324.45	5000	
Sb	121	115	He	0.102	ppb	7.6	347.79	5000	
Cs	133	115	He	0.009	ppb	45.7	65.56	5000	
Ba	137	115	He	137.145	ppb	0.7	171788.08	5000	
Ce	140	115	He	0.019	ppb	2.8	483.34	5000	
Tl	205	159	He	0.006	ppb	29.6	183.34	5000	
Pb	208	159	He	0.603	ppb	0.7	14533.07	4000	
U	238	159	He	33.376	ppb	0.4	763702.67	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	131513.65	1.1	166884.59	78.81	60	120	
Ge (IS)	72	He	117859.03	0.2	148055.94	79.6	60	120	
In-115 (IS)	115	He	1289186.91	0.3	1601841.24	80.48	60	120	
Tb-159 (IS)	159	He	4201218.86	0.6	4825099.95	87.07	60	120	

Sample Report

Sample Name 570-80324-h-14-a

File Name 077SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:33:27

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2412

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.033	ppb	69.3	1.33	5000	
Al	27	45	He	46.215	ppb	1.2	3224.35	5000	
V	51	45	He	2.927	ppb	2.1	8307.84	5000	
Cr	52	45	He	0.553	ppb	5.2	2097.93	5000	
Mn	55	45	He	175.546	ppb	1.4	310891.85	5000	
Fe	56	45	He	92.396	ppb	7.3	260482.53	50000	
Co	59	45	He	0.144	ppb	3.6	942.26	4000	
Ni	60	45	He	0.823	ppb	3.5	1522.31	2000	
Cu	65	45	He	0.760	ppb	2.6	2071.26	2000	
Zn	66	72	He	4.003	ppb	2.5	3480.41	5000	
As	75	72	He	3.522	ppb	0.2	1682.10	5000	
Se	78	72	He	0.532	ppb	15.8	71.33	5000	
Rb	85	115	He	4.906	ppb	2.0	10212.43	5000	
Sr	88	115	He	1985.099	ppb	0.6	5340509.79	5000	
Mo	95	115	He	33.963	ppb	1.3	90783.12	3000	
Ag	107	115	He	0.003	ppb	58.6	38.89	100	
Cd	111	115	He	0.042	ppb	7.8	55.33	5000	
Sn	118	115	He	0.102	ppb	24.4	410.01	5000	
Sb	121	115	He	0.281	ppb	2.3	886.70	5000	
Cs	133	115	He	0.018	ppb	11.4	132.22	5000	
Ba	137	115	He	69.847	ppb	1.3	86602.13	5000	
Ce	140	115	He	0.118	ppb	3.9	2372.43	5000	
Tl	205	159	He	0.011	ppb	13.5	268.89	5000	
Pb	208	159	He	0.079	ppb	2.7	2031.18	4000	
U	238	159	He	4.422	ppb	2.3	100664.42	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	130592.90	2.6	166884.59	78.25	60	120	
Ge (IS)	72	He	115843.71	2.4	148055.94	78.24	60	120	
In-115 (IS)	115	He	1276218.39	1.7	1601841.24	79.67	60	120	
Tb-159 (IS)	159	He	4180651.78	1.9	4825099.95	86.64	60	120	

Sample Report

Sample Name	570-80324-i-15-c
File Name	078SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:35:39
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2501

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.013	ppb	186.6	0.67	5000	
Al	27	45	He	76.769	ppb	1.7	5281.58	5000	
V	51	45	He	0.702	ppb	4.1	2043.48	5000	
Cr	52	45	He	3.238	ppb	2.9	11585.55	5000	
Mn	55	45	He	104.559	ppb	0.6	183622.00	5000	
Fe	56	45	He	204.836	ppb	0.5	567861.21	50000	
Co	59	45	He	0.117	ppb	1.1	760.02	4000	
Ni	60	45	He	0.548	ppb	9.2	1018.93	2000	
Cu	65	45	He	0.737	ppb	4.6	1994.59	2000	
Zn	66	72	He	2.078	ppb	4.4	2063.49	5000	
As	75	72	He	1.154	ppb	0.3	551.68	5000	
Se	78	72	He	0.359	ppb	34.9	65.67	5000	
Rb	85	115	He	1.124	ppb	3.5	2332.42	5000	
Sr	88	115	He	1898.563	ppb	0.8	5085164.80	5000	
Mo	95	115	He	9.306	ppb	0.5	24774.06	3000	
Ag	107	115	He	0.003	ppb	55.8	38.89	100	
Cd	111	115	He	0.021	ppb	26.3	28.33	5000	
Sn	118	115	He	0.061	ppb	15.0	298.89	5000	
Sb	121	115	He	0.075	ppb	9.9	263.34	5000	
Cs	133	115	He	0.020	ppb	16.1	141.11	5000	
Ba	137	115	He	131.142	ppb	0.8	161892.21	5000	
Ce	140	115	He	0.188	ppb	1.1	3696.05	5000	
Tl	205	159	He	0.010	ppb	9.6	254.45	5000	
Pb	208	159	He	0.094	ppb	1.0	2370.09	4000	
U	238	159	He	1.047	ppb	3.5	23694.48	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	129455.15	0.2	166884.59	77.57	60	120	
Ge (IS)	72	He	114814.84	0.3	148055.94	77.55	60	120	
In-115 (IS)	115	He	1270549.16	0.4	1601841.24	79.32	60	120	
Tb-159 (IS)	159	He	4154996.08	0.2	4825099.95	86.11	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV-6816997
File Name	079_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:37:44
Sample Type	CCV
Total Dilution	1.0000
Comment	—
Location	1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	51.725	ppb	0.3	1620.08	50	103.45	90	110	
Al	27	45	He	52.732	ppb	3.3	3603.76	50	105.46	90	110	
V	51	45	He	50.494	ppb	0.4	139156.05	50	100.99	90	110	
Cr	52	45	He	51.015	ppb	0.1	178806.95	50	102.03	90	110	
Mn	55	45	He	51.886	ppb	0.2	90204.34	50	103.77	90	110	
Fe	56	45	He	517.978	ppb	0.4	1414949.15	500	103.6	90	110	
Co	59	45	He	50.703	ppb	0.5	320889.03	50	101.41	90	110	
Ni	60	45	He	50.095	ppb	1.5	88326.50	50	100.19	90	110	
Cu	65	45	He	50.480	ppb	0.2	126956.22	50	100.96	90	110	
Zn	66	72	He	50.294	ppb	1.4	36960.68	50	100.59	90	110	
As	75	72	He	49.055	ppb	1.3	23221.89	50	98.11	90	110	
Se	78	72	He	51.458	ppb	5.6	1549.75	50	102.92	90	110	
Rb	85	115	He	49.721	ppb	0.9	104435.25	50	99.44	90	110	
Sr	88	115	He	50.507	ppb	1.0	137141.02	50	101.01	90	110	
Mo	95	115	He	49.891	ppb	0.9	134594.08	50	99.78	90	110	
Ag	107	115	He	51.156	ppb	0.8	504772.10	50	102.31	90	110	
Cd	111	115	He	51.250	ppb	0.8	64576.71	50	102.5	90	110	
Sn	118	115	He	52.047	ppb	1.1	139495.82	50	104.09	90	110	
Sb	121	115	He	51.740	ppb	1.0	157498.81	50	103.48	90	110	
Cs	133	115	He	51.204	ppb	0.7	358720.99	50	102.41	90	110	
Ba	137	115	He	51.982	ppb	0.4	65054.17	50	103.96	90	110	
Ce	140	115	He	52.288	ppb	0.7	1009400.59	50	104.58	90	110	
Tl	205	159	He	51.200	ppb	0.4	926145.42	50	102.4	90	110	
Pb	208	159	He	51.641	ppb	0.6	1199153.59	50	103.28	90	110	
U	238	159	He	50.249	ppb	0.8	1119750.30	50	100.5	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	128120.61	0.6	166884.59	76.77	60	120	
Ge (IS)	72	He	115366.71	0.7	148055.94	77.92	60	120	
In-115 (IS)	115	He	1287929.26	0.4	1601841.24	80.4	60	120	
Tb-159 (IS)	159	He	4091338.17	0.3	4825099.95	84.79	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 080_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:39:48

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.008	ppb	1.1	0.50	0.5	
Al	27	45	He	0.499	ppb	26.7	76.00	10	
V	51	45	He	0.069	ppb	42.2	274.46	1	
Cr	52	45	He	0.545	ppb	25.4	2002.38	1	
Mn	55	45	He	0.035	ppb	47.3	104.44	1	
Fe	56	45	He	1.504	ppb	10.5	8044.40	20	
Co	59	45	He	0.005	ppb	53.3	40.00	1	
Ni	60	45	He	0.019	ppb	76.5	75.56	1	
Cu	65	45	He	0.017	ppb	33.5	163.34	1	
Zn	66	72	He	-0.034	ppb	N/A	543.35	5	
As	75	72	He	0.007	ppb	165.6	11.67	1	
Se	78	72	He	-0.344	ppb	N/A	45.33	1	
Rb	85	115	He	0.008	ppb	31.0	18.89	1	
Sr	88	115	He	0.041	ppb	15.2	123.33	1	
Mo	95	115	He	0.081	ppb	16.6	226.67	1	
Ag	107	115	He	0.010	ppb	20.7	113.34	1	
Cd	111	115	He	0.001	ppb	68.4	4.33	1	
Sn	118	115	He	0.369	ppb	12.8	1118.94	10	
Sb	121	115	He	0.137	ppb	15.8	452.23	1	
Cs	133	115	He	0.005	ppb	83.6	37.78	1	
Ba	137	115	He	0.027	ppb	30.0	40.00	1	
Ce	140	115	He	0.004	ppb	42.8	198.89	1	
Tl	205	159	He	0.006	ppb	22.3	180.00	1	
Pb	208	159	He	0.010	ppb	23.9	387.79	1	
U	238	159	He	0.102	ppb	11.0	2283.58	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	126150.06	0.6	166884.59	75.59	60	120	
Ge (IS)	72	He	115051.93	1.1	148055.94	77.71	60	120	
In-115 (IS)	115	He	1276716.87	0.4	1601841.24	79.7	60	120	
Tb-159 (IS)	159	He	4076425.25	0.2	4825099.95	84.48	60	120	

Sample Report

Sample Name 570-80324-h-3-b

File Name 081SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:41:51

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2401

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.008	ppb	1.1	0.50	5000	
Al	27	45	He	4.803	ppb	4.7	355.34	5000	
V	51	45	He	0.095	ppb	17.1	340.01	5000	
Cr	52	45	He	1.687	ppb	17.5	5825.63	5000	
Mn	55	45	He	432.713	ppb	0.1	726449.21	5000	
Fe	56	45	He	20.203	ppb	0.9	57100.05	50000	
Co	59	45	He	0.028	ppb	10.4	180.00	4000	
Ni	60	45	He	0.708	ppb	4.5	1245.61	2000	
Cu	65	45	He	1.107	ppb	0.6	2805.83	2000	
Zn	66	72	He	7.223	ppb	1.1	5561.05	5000	
As	75	72	He	0.830	ppb	8.6	384.67	5000	
Se	78	72	He	-0.011	ppb	N/A	53.00	5000	
Rb	85	115	He	0.959	ppb	6.0	1919.02	5000	
Sr	88	115	He	2396.654	ppb	0.7	6193286.42	5000	
Mo	95	115	He	13.289	ppb	1.0	34128.18	3000	
Ag	107	115	He	0.003	ppb	31.9	44.44	100	
Cd	111	115	He	0.015	ppb	24.9	20.33	5000	
Sn	118	115	He	0.186	ppb	5.8	606.68	5000	
Sb	121	115	He	0.736	ppb	3.8	2167.95	5000	
Cs	133	115	He	0.007	ppb	10.8	48.89	5000	
Ba	137	115	He	290.978	ppb	0.5	346565.08	5000	
Ce	140	115	He	0.008	ppb	29.2	255.56	5000	
Tl	205	159	He	0.008	ppb	17.7	200.00	5000	
Pb	208	159	He	0.068	ppb	0.2	1707.83	4000	
U	238	159	He	3.237	ppb	1.1	71040.51	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	123777.77	0.6	166884.59	74.17	60	120	
Ge (IS)	72	He	110684.14	1.1	148055.94	74.76	60	120	
In-115 (IS)	115	He	1225817.36	0.6	1601841.24	76.53	60	120	
Tb-159 (IS)	159	He	4028644.84	0.6	4825099.95	83.49	60	120	

Sample Report

Sample Name	570-80324-h-6-b
File Name	082SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:43:54
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2404

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.009	ppb	193.6	0.50	5000	
Al	27	45	He	15.097	ppb	20.5	1004.10	5000	
V	51	45	He	0.487	ppb	2.0	1352.29	5000	
Cr	52	45	He	1.757	ppb	3.9	5936.74	5000	
Mn	55	45	He	512.769	ppb	0.5	842482.42	5000	
Fe	56	45	He	27.079	ppb	1.5	73588.06	50000	
Co	59	45	He	0.077	ppb	12.2	468.90	4000	
Ni	60	45	He	0.783	ppb	3.0	1344.51	2000	
Cu	65	45	He	2.847	ppb	1.2	6879.36	2000	
Zn	66	72	He	2.355	ppb	5.5	2137.94	5000	
As	75	72	He	1.143	ppb	6.0	516.68	5000	
Se	78	72	He	-0.106	ppb	N/A	49.33	5000	
Rb	85	115	He	1.253	ppb	2.8	2463.55	5000	
Sr	88	115	He	1912.384	ppb	0.8	4853562.03	5000	
Mo	95	115	He	17.573	ppb	1.1	44322.74	3000	
Ag	107	115	He	0.001	ppb	84.6	25.56	100	
Cd	111	115	He	0.021	ppb	21.2	27.00	5000	
Sn	118	115	He	0.128	ppb	10.7	451.12	5000	
Sb	121	115	He	0.124	ppb	12.3	387.79	5000	
Cs	133	115	He	0.018	ppb	8.8	118.89	5000	
Ba	137	115	He	220.110	ppb	0.7	257464.98	5000	
Ce	140	115	He	0.027	ppb	4.3	601.12	5000	
Tl	205	159	He	0.008	ppb	17.6	198.89	5000	
Pb	208	159	He	0.136	ppb	1.3	3193.50	4000	
U	238	159	He	0.286	ppb	5.4	6171.53	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	121134.73	0.7	166884.59	72.59	60	120	
Ge (IS)	72	He	108481.46	0.3	148055.94	73.27	60	120	
In-115 (IS)	115	He	1203864.50	0.6	1601841.24	75.16	60	120	
Tb-159 (IS)	159	He	3953795.12	1.2	4825099.95	81.94	60	120	

Sample Report

Sample Name	570-80324-h-11-a
File Name	083SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:45:57
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2409

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.009	ppb	187.6	0.50	5000	
Al	27	45	He	10.075	ppb	3.5	668.69	5000	
V	51	45	He	0.551	ppb	5.1	1483.41	5000	
Cr	52	45	He	0.503	ppb	8.0	1741.22	5000	
Mn	55	45	He	519.249	ppb	0.3	833513.72	5000	
Fe	56	45	He	26.786	ppb	0.7	71162.09	50000	
Co	59	45	He	0.067	ppb	4.7	402.23	4000	
Ni	60	45	He	0.299	ppb	4.2	526.68	2000	
Cu	65	45	He	0.758	ppb	7.0	1874.57	2000	
Zn	66	72	He	2.080	ppb	1.1	1889.02	5000	
As	75	72	He	0.479	ppb	6.5	214.00	5000	
Se	78	72	He	0.356	ppb	52.0	60.00	5000	
Rb	85	115	He	1.171	ppb	4.6	2224.62	5000	
Sr	88	115	He	2326.374	ppb	0.2	5710735.05	5000	
Mo	95	115	He	45.317	ppb	0.6	110537.14	3000	
Ag	107	115	He	0.001	ppb	196.9	22.22	100	
Cd	111	115	He	0.010	ppb	11.5	13.33	5000	
Sn	118	115	He	0.087	ppb	2.5	337.78	5000	
Sb	121	115	He	0.105	ppb	14.0	322.23	5000	
Cs	133	115	He	0.007	ppb	6.0	50.00	5000	
Ba	137	115	He	237.571	ppb	0.1	268783.85	5000	
Ce	140	115	He	0.027	ppb	13.4	578.90	5000	
Tl	205	159	He	0.006	ppb	20.5	157.78	5000	
Pb	208	159	He	0.075	ppb	2.6	1752.27	4000	
U	238	159	He	2.034	ppb	1.6	42056.09	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	118350.81	1.3	166884.59	70.92	60	120	
Ge (IS)	72	He	105045.19	0.7	148055.94	70.95	60	120	
In-115 (IS)	115	He	1164449.65	1.4	1601841.24	72.69	60	120	
Tb-159 (IS)	159	He	3795328.60	0.6	4825099.95	78.66	60	120	

Sample Report

Sample Name 570-80324-h-12-a

File Name 084SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:48:00

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2410

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.015	ppb	176.9	0.67	5000	
Al	27	45	He	86.325	ppb	2.8	5422.30	5000	
V	51	45	He	2.523	ppb	4.8	6498.08	5000	
Cr	52	45	He	1.362	ppb	4.3	4518.47	5000	
Mn	55	45	He	914.546	ppb	0.8	1467305.22	5000	
Fe	56	45	He	523.827	ppb	0.9	1321149.88	50000	
Co	59	45	He	0.194	ppb	1.0	1143.38	4000	
Ni	60	45	He	1.377	ppb	4.1	2280.18	2000	
Cu	65	45	He	1.270	ppb	3.5	3059.21	2000	
Zn	66	72	He	3.500	ppb	1.8	2829.17	5000	
As	75	72	He	2.460	ppb	1.4	1069.04	5000	
Se	78	72	He	0.769	ppb	42.5	71.00	5000	
Rb	85	115	He	1.411	ppb	2.7	2654.70	5000	
Sr	88	115	He	1911.402	ppb	1.1	4645089.68	5000	
Mo	95	115	He	17.491	ppb	0.3	42240.02	3000	
Ag	107	115	He	0.001	ppb	62.0	23.33	100	
Cd	111	115	He	0.024	ppb	9.3	29.00	5000	
Sn	118	115	He	0.173	ppb	9.8	541.12	5000	
Sb	121	115	He	0.108	ppb	19.9	327.78	5000	
Cs	133	115	He	0.023	ppb	5.3	148.89	5000	
Ba	137	115	He	78.005	ppb	0.6	87372.33	5000	
Ce	140	115	He	0.198	ppb	2.8	3524.90	5000	
Tl	205	159	He	0.008	ppb	32.1	194.45	5000	
Pb	208	159	He	0.223	ppb	0.6	4857.04	4000	
U	238	159	He	46.273	ppb	1.6	938021.05	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	118291.55	0.6	166884.59	70.88	60	120	
Ge (IS)	72	He	105199.39	1.1	148055.94	71.05	60	120	
In-115 (IS)	115	He	1152734.04	0.6	1601841.24	71.96	60	120	
Tb-159 (IS)	159	He	3721479.99	1.1	4825099.95	77.13	60	120	

Sample Report

Sample Name 570-80324-h-13-a

File Name 085SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:50:03

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2411

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.021	ppb	172.4	0.83	5000	
Al	27	45	He	9.238	ppb	2.9	604.68	5000	
V	51	45	He	0.344	ppb	14.4	938.92	5000	
Cr	52	45	He	0.512	ppb	5.4	1737.88	5000	
Mn	55	45	He	10.021	ppb	0.2	15824.91	5000	
Fe	56	45	He	14.228	ppb	2.0	38816.22	50000	
Co	59	45	He	0.019	ppb	14.2	117.78	4000	
Ni	60	45	He	0.324	ppb	1.7	555.57	2000	
Cu	65	45	He	1.322	ppb	4.3	3121.45	2000	
Zn	66	72	He	4.512	ppb	4.8	3480.42	5000	
As	75	72	He	2.215	ppb	2.6	958.70	5000	
Se	78	72	He	0.301	ppb	47.7	58.33	5000	
Rb	85	115	He	0.493	ppb	3.3	917.81	5000	
Sr	88	115	He	1900.813	ppb	1.3	4558330.79	5000	
Mo	95	115	He	12.564	ppb	2.4	29942.48	3000	
Ag	107	115	He	0.001	ppb	64.4	25.56	100	
Cd	111	115	He	0.014	ppb	6.5	18.00	5000	
Sn	118	115	He	0.077	ppb	5.9	306.67	5000	
Sb	121	115	He	0.094	ppb	19.9	287.78	5000	
Cs	133	115	He	0.008	ppb	47.9	55.56	5000	
Ba	137	115	He	139.985	ppb	0.9	154723.56	5000	
Ce	140	115	He	0.022	ppb	8.7	472.23	5000	
Tl	205	159	He	0.007	ppb	14.7	167.78	5000	
Pb	208	159	He	0.619	ppb	1.2	13060.29	4000	
U	238	159	He	33.636	ppb	0.6	673415.41	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	116129.70	1.1	166884.59	69.59	60	120	
Ge (IS)	72	He	104729.68	1.3	148055.94	70.74	60	120	
In-115 (IS)	115	He	1137548.98	0.3	1601841.24	71.02	60	120	
Tb-159 (IS)	159	He	3675747.22	0.6	4825099.95	76.18	60	120	

Sample Report

Sample Name 570-80324-h-14-a

File Name 086SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:52:07

Sample Type Sample

Total Dilution 1.0000

Comment CAM 6020 440-664280 BH

Location 2412

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.020	ppb	97.0	0.83	5000	
Al	27	45	He	145.053	ppb	117.0	9189.46	5000	
V	51	45	He	2.871	ppb	2.2	7551.91	5000	
Cr	52	45	He	0.651	ppb	1.7	2271.29	5000	
Mn	55	45	He	175.472	ppb	0.5	288043.22	5000	
Fe	56	45	He	88.545	ppb	0.9	231647.75	50000	
Co	59	45	He	0.131	ppb	4.6	792.25	4000	
Ni	60	45	He	0.861	ppb	6.9	1474.52	2000	
Cu	65	45	He	0.747	ppb	3.0	1887.91	2000	
Zn	66	72	He	4.040	ppb	3.5	3257.03	5000	
As	75	72	He	3.436	ppb	2.7	1524.08	5000	
Se	78	72	He	0.366	ppb	34.5	61.67	5000	
Rb	85	115	He	4.927	ppb	1.1	9436.37	5000	
Sr	88	115	He	2000.123	ppb	0.3	4949933.00	5000	
Mo	95	115	He	34.021	ppb	0.7	83667.18	3000	
Ag	107	115	He	0.001	ppb	63.4	24.45	100	
Cd	111	115	He	0.045	ppb	27.8	54.67	5000	
Sn	118	115	He	0.099	ppb	20.2	371.12	5000	
Sb	121	115	He	0.286	ppb	6.0	827.81	5000	
Cs	133	115	He	0.019	ppb	17.4	126.67	5000	
Ba	137	115	He	69.516	ppb	1.0	79301.67	5000	
Ce	140	115	He	0.122	ppb	0.7	2244.63	5000	
Tl	205	159	He	0.011	ppb	4.1	251.11	5000	
Pb	208	159	He	0.084	ppb	2.2	1946.74	4000	
U	238	159	He	4.410	ppb	0.6	91254.64	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	121011.61	1.5	166884.59	72.51	60	120	
Ge (IS)	72	He	107581.82	1.8	148055.94	72.66	60	120	
In-115 (IS)	115	He	1173911.83	1.9	1601841.24	73.29	60	120	
Tb-159 (IS)	159	He	3798863.88	2.1	4825099.95	78.73	60	120	

Sample Report

Sample Name	570-80324-i-15-c
File Name	087SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:54:12
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2501

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.009	ppb	1.8	0.50	5000	
Al	27	45	He	76.507	ppb	2.2	4758.75	5000	
V	51	45	He	0.732	ppb	5.6	1923.47	5000	
Cr	52	45	He	3.218	ppb	1.5	10409.15	5000	
Mn	55	45	He	106.223	ppb	0.6	168634.58	5000	
Fe	56	45	He	206.984	ppb	0.6	518699.53	50000	
Co	59	45	He	0.114	ppb	9.3	672.24	4000	
Ni	60	45	He	0.558	ppb	4.0	936.70	2000	
Cu	65	45	He	0.772	ppb	4.1	1884.57	2000	
Zn	66	72	He	2.175	ppb	1.9	1937.91	5000	
As	75	72	He	1.128	ppb	0.7	490.01	5000	
Se	78	72	He	0.344	ppb	104.0	59.33	5000	
Rb	85	115	He	1.093	ppb	4.2	2031.26	5000	
Sr	88	115	He	1942.235	ppb	0.9	4663299.40	5000	
Mo	95	115	He	9.581	ppb	2.0	22863.21	3000	
Ag	107	115	He	0.002	ppb	39.2	32.22	100	
Cd	111	115	He	0.019	ppb	21.9	23.00	5000	
Sn	118	115	He	0.058	ppb	26.7	262.23	5000	
Sb	121	115	He	0.075	ppb	26.1	235.56	5000	
Cs	133	115	He	0.018	ppb	24.4	114.44	5000	
Ba	137	115	He	133.518	ppb	0.9	147746.99	5000	
Ce	140	115	He	0.189	ppb	6.3	3329.30	5000	
Tl	205	159	He	0.010	ppb	33.3	217.78	5000	
Pb	208	159	He	0.092	ppb	5.1	2064.52	4000	
U	238	159	He	1.081	ppb	1.9	21761.22	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	117024.11	1.0	166884.59	70.12	60	120	
Ge (IS)	72	He	104303.36	1.3	148055.94	70.45	60	120	
In-115 (IS)	115	He	1138905.76	0.9	1601841.24	71.1	60	120	
Tb-159 (IS)	159	He	3694539.44	0.2	4825099.95	76.57	60	120	

Sample Report

Sample Name	570-80324-h-16-a
File Name	088SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 11:56:16
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2502

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.027	ppb	66.3	1.00	5000	
Al	27	45	He	21.981	ppb	1.3	1385.40	5000	
V	51	45	He	0.479	ppb	5.3	1276.73	5000	
Cr	52	45	He	0.480	ppb	5.3	1636.76	5000	
Mn	55	45	He	1367.209	ppb	0.5	2154614.57	5000	
Fe	56	45	He	90.476	ppb	0.5	227192.55	50000	
Co	59	45	He	0.751	ppb	2.9	4321.75	4000	
Ni	60	45	He	1.182	ppb	6.3	1927.91	2000	
Cu	65	45	He	0.529	ppb	3.8	1315.62	2000	
Zn	66	72	He	3.304	ppb	2.2	2665.81	5000	
As	75	72	He	1.262	ppb	4.5	545.01	5000	
Se	78	72	He	1.401	ppb	6.8	86.67	5000	
Rb	85	115	He	0.918	ppb	2.2	1693.44	5000	
Sr	88	115	He	2284.837	ppb	0.8	5442943.67	5000	
Mo	95	115	He	67.344	ppb	0.6	159393.09	3000	
Ag	107	115	He	0.002	ppb	48.0	30.00	100	
Cd	111	115	He	0.021	ppb	32.8	25.67	5000	
Sn	118	115	He	0.205	ppb	10.8	604.46	5000	
Sb	121	115	He	0.095	ppb	18.9	286.67	5000	
Cs	133	115	He	0.009	ppb	34.1	61.11	5000	
Ba	137	115	He	158.312	ppb	0.7	173814.52	5000	
Ce	140	115	He	0.044	ppb	4.6	837.81	5000	
Tl	205	159	He	0.010	ppb	23.6	214.45	5000	
Pb	208	159	He	0.084	ppb	2.0	1864.50	4000	
U	238	159	He	41.702	ppb	0.5	820508.45	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	116189.18	1.6	166884.59	69.62	60	120	
Ge (IS)	72	He	103858.15	1.8	148055.94	70.15	60	120	
In-115 (IS)	115	He	1129927.33	1.5	1601841.24	70.54	60	120	
Tb-159 (IS)	159	He	3612210.55	2.2	4825099.95	74.86	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6816997

File Name 089_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 11:58:19

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	51.559	ppb	0.9	1471.90	50	103.12	90	110	
Al	27	45	He	147.577	ppb	106.7	9168.89	50	295.15	90	110	> +/- 10%
V	51	45	He	53.501	ppb	0.3	134378.43	50	107	90	110	
Cr	52	45	He	53.658	ppb	0.3	171402.86	50	107.32	90	110	
Mn	55	45	He	54.490	ppb	0.9	86339.94	50	108.98	90	110	
Fe	56	45	He	544.192	ppb	0.4	1354697.55	500	108.84	90	110	
Co	59	45	He	53.463	ppb	0.3	308375.41	50	106.93	90	110	
Ni	60	45	He	52.539	ppb	0.5	84420.06	50	105.08	90	110	
Cu	65	45	He	53.078	ppb	0.5	121652.19	50	106.16	90	110	
Zn	66	72	He	51.992	ppb	0.8	35104.02	50	103.98	90	110	
As	75	72	He	51.182	ppb	0.7	22271.45	50	102.36	90	110	
Se	78	72	He	54.931	ppb	0.7	1517.41	50	109.86	90	110	
Rb	85	115	He	53.312	ppb	0.8	100939.26	50	106.62	90	110	
Sr	88	115	He	54.177	ppb	0.8	132603.70	50	108.35	90	110	
Mo	95	115	He	52.346	ppb	1.0	127294.77	50	104.69	90	110	
Ag	107	115	He	53.332	ppb	0.6	474370.00	50	106.66	90	110	
Cd	111	115	He	53.610	ppb	1.0	60891.37	50	107.22	90	110	
Sn	118	115	He	54.520	ppb	1.6	131713.62	50	109.04	90	110	
Sb	121	115	He	53.650	ppb	1.3	147213.38	50	107.3	90	110	
Cs	133	115	He	53.818	ppb	1.1	339862.95	50	107.64	90	110	
Ba	137	115	He	54.094	ppb	0.5	61023.17	50	108.19	90	110	
Ce	140	115	He	54.199	ppb	1.3	943141.77	50	108.4	90	110	
Tl	205	159	He	52.903	ppb	0.3	836747.33	50	105.81	90	110	
Pb	208	159	He	53.862	ppb	0.3	1093625.33	50	107.72	90	110	
U	238	159	He	51.763	ppb	0.8	1008594.99	50	103.53	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	116770.00	1.0	166884.59	69.97	60	120	
Ge (IS)	72	He	106047.51	1.0	148055.94	71.63	60	120	
In-115 (IS)	115	He	1160950.35	0.1	1601841.24	72.48	60	120	
Tb-159 (IS)	159	He	3577405.14	0.3	4825099.95	74.14	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 090_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 12:00:23

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.016	ppb	172.1	0.67	0.5	
Al	27	45	He	0.540	ppb	13.0	70.00	10	
V	51	45	He	0.073	ppb	2.1	254.45	1	
Cr	52	45	He	0.406	ppb	18.4	1354.56	1	
Mn	55	45	He	0.053	ppb	28.5	120.00	1	
Fe	56	45	He	1.615	ppb	13.8	7419.62	20	
Co	59	45	He	0.004	ppb	37.4	31.11	1	
Ni	60	45	He	0.000	ppb	N/A	36.67	1	
Cu	65	45	He	0.023	ppb	35.8	157.78	1	
Zn	66	72	He	0.054	ppb	186.7	544.46	5	
As	75	72	He	0.012	ppb	122.3	12.67	1	
Se	78	72	He	0.256	ppb	135.6	56.33	1	
Rb	85	115	He	0.010	ppb	32.5	20.00	1	
Sr	88	115	He	0.048	ppb	20.6	123.33	1	
Mo	95	115	He	0.093	ppb	10.0	228.89	1	
Ag	107	115	He	0.010	ppb	18.7	101.11	1	
Cd	111	115	He	0.001	ppb	114.8	3.67	1	
Sn	118	115	He	0.393	ppb	10.3	1037.82	10	
Sb	121	115	He	0.137	ppb	2.1	396.68	1	
Cs	133	115	He	0.006	ppb	40.0	37.78	1	
Ba	137	115	He	0.026	ppb	13.8	34.45	1	
Ce	140	115	He	0.006	ppb	8.4	204.45	1	
Tl	205	159	He	0.008	ppb	57.2	185.56	1	
Pb	208	159	He	0.014	ppb	17.9	414.45	1	
U	238	159	He	0.117	ppb	8.5	2233.56	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	112195.02	0.4	166884.59	67.23	60	120	
Ge (IS)	72	He	103118.64	0.6	148055.94	69.65	60	120	
In-115 (IS)	115	He	1121372.03	0.2	1601841.24	70.01	60	120	
Tb-159 (IS)	159	He	3482684.03	0.6	4825099.95	72.18	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664166/1-a@20
File Name	091_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:02:42
Sample Type	MB
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4101

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.017	ppb	128.0	0.67	0.5	
Al	27	45	He	4.657	ppb	7.0	302.00	10	
V	51	45	He	0.123	ppb	8.7	362.23	1	
Cr	52	45	He	0.836	ppb	5.3	2575.79	1	
Mn	55	45	He	0.275	ppb	4.3	441.12	1	
Fe	56	45	He	16.438	ppb	1.3	41211.21	20	
Co	59	45	He	0.010	ppb	22.2	63.34	1	
Ni	60	45	He	0.066	ppb	34.5	134.45	1	
Cu	65	45	He	0.144	ppb	25.4	407.79	1	
Zn	66	72	He	1.014	ppb	13.6	1105.60	5	
As	75	72	He	0.022	ppb	52.8	16.00	1	
Se	78	72	He	0.731	ppb	51.4	65.00	1	
Rb	85	115	He	0.015	ppb	18.6	28.89	1	
Sr	88	115	He	0.070	ppb	19.5	170.00	1	
Mo	95	115	He	0.096	ppb	15.7	226.67	1	
Ag	107	115	He	0.005	ppb	20.5	53.33	1	
Cd	111	115	He	0.001	ppb	232.7	3.00	1	
Sn	118	115	He	1.667	ppb	1.2	3863.86	10	
Sb	121	115	He	0.079	ppb	5.3	234.45	1	
Cs	133	115	He	0.006	ppb	45.0	38.89	1	
Ba	137	115	He	0.311	ppb	16.2	332.23	1	
Ce	140	115	He	0.008	ppb	8.8	220.00	1	
Tl	205	159	He	0.003	ppb	32.3	94.45	1	
Pb	208	159	He	0.027	ppb	7.4	644.46	1	
U	238	159	He	0.041	ppb	20.7	753.37	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	108087.99	0.5	166884.59	64.77	60	120	
Ge (IS)	72	He	97787.89	1.1	148055.94	66.05	60	120	
In-115 (IS)	115	He	1081266.43	0.6	1601841.24	67.5	60	120	
Tb-159 (IS)	159	He	3374409.45	0.3	4825099.95	69.93	60	120	

Sample Report

Sample Name	lcs 440-664166/2-a@20
File Name	092SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:04:46
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4102

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	99.137	ppb	3.1	2637.89	5000	
Al	27	45	He	108.594	ppb	1.4	6266.62	5000	
V	51	45	He	101.394	ppb	0.3	237331.30	5000	
Cr	52	45	He	102.437	ppb	0.4	304940.24	5000	
Mn	55	45	He	103.916	ppb	0.4	153442.70	5000	
Fe	56	45	He	114.663	ppb	0.6	268819.53	50000	
Co	59	45	He	103.718	ppb	0.2	557668.95	4000	
Ni	60	45	He	102.246	ppb	0.5	153115.32	2000	
Cu	65	45	He	102.370	ppb	0.5	218632.11	2000	
Zn	66	72	He	99.111	ppb	0.2	61395.21	5000	
As	75	72	He	98.641	ppb	0.7	39657.75	5000	
Se	78	72	He	104.173	ppb	0.7	2616.90	5000	
Rb	85	115	He	0.014	ppb	48.7	26.67	5000	
Sr	88	115	He	101.720	ppb	0.8	235303.54	5000	
Mo	95	115	He	100.400	ppb	0.4	230750.11	3000	
Ag	107	115	He	48.840	ppb	0.4	410587.06	100	
Cd	111	115	He	102.363	ppb	0.4	109886.94	5000	
Sn	118	115	He	108.556	ppb	0.6	247761.67	5000	
Sb	121	115	He	108.375	ppb	0.4	281041.47	5000	
Cs	133	115	He	0.004	ppb	33.0	30.00	5000	
Ba	137	115	He	104.704	ppb	0.4	111630.66	5000	
Ce	140	115	He	0.009	ppb	27.5	245.56	5000	
Tl	205	159	He	101.644	ppb	0.1	1538557.20	5000	
Pb	208	159	He	104.420	ppb	0.2	2028926.34	4000	
U	238	159	He	0.023	ppb	11.3	426.68	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	108850.10	1.3	166884.59	65.22	60	120	
Ge (IS)	72	He	97990.19	0.8	148055.94	66.18	60	120	
In-115 (IS)	115	He	1097279.66	0.9	1601841.24	68.5	60	120	
Tb-159 (IS)	159	He	3423724.59	0.8	4825099.95	70.96	60	120	

Sample Report

Sample Name 570-79989-a-194-a@20

File Name 093SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 12:06:49

Sample Type Sample

Total Dilution 1.0000

Comment CAM SOIL 440-664166 BH

Location 4103

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	1.383	ppb	14.5	35.33	5000	
Al	27	45	He	23341.739	ppb	0.7	1276170.92	5000	>LDR
V	51	45	He	47.040	ppb	0.7	104970.48	5000	
Cr	52	45	He	28.805	ppb	1.3	81781.10	5000	
Mn	55	45	He	760.171	ppb	1.0	1069474.78	5000	
Fe	56	45	He	30413.736	ppb	1.1	67074588.44	50000	
Co	59	45	He	12.587	ppb	1.3	64498.48	4000	
Ni	60	45	He	27.850	ppb	1.2	39771.99	2000	
Cu	65	45	He	27.869	ppb	1.3	56791.70	2000	
Zn	66	72	He	83.768	ppb	1.0	48339.28	5000	
As	75	72	He	9.242	ppb	2.4	3461.40	5000	
Se	78	72	He	3.538	ppb	8.6	125.00	5000	
Rb	85	115	He	35.078	ppb	0.8	58570.10	5000	
Sr	88	115	He	283.251	ppb	0.1	611329.51	5000	
Mo	95	115	He	1.780	ppb	2.0	3824.96	3000	
Ag	107	115	He	0.164	ppb	4.0	1300.07	100	
Cd	111	115	He	0.552	ppb	3.4	555.34	5000	
Sn	118	115	He	2.909	ppb	3.5	6301.40	5000	
Sb	121	115	He	0.447	ppb	4.9	1112.27	5000	
Cs	133	115	He	4.067	ppb	0.7	22651.12	5000	
Ba	137	115	He	435.668	ppb	0.5	433361.94	5000	
Ce	140	115	He	73.792	ppb	0.8	1132303.22	5000	
Tl	205	159	He	0.419	ppb	3.0	6292.58	5000	
Pb	208	159	He	20.831	ppb	0.4	397980.68	4000	
U	238	159	He	2.145	ppb	1.7	39331.18	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	103746.35	2.3	166884.59	62.17	60	120	
Ge (IS)	72	He	91143.13	1.6	148055.94	61.56	60	120	
In-115 (IS)	115	He	1023761.70	1.0	1601841.24	63.91	60	120	
Tb-159 (IS)	159	He	3365507.78	0.9	4825099.95	69.75	60	120	

Sample Report

Sample Name	570-79989-a-194-b ms@20
File Name	094SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:08:53
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4104

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	94.496	ppb	1.1	2355.01	5000	
Al	27	45	He	32253.387	ppb	0.6	1733041.42	5000	>LDR
V	51	45	He	150.509	ppb	0.5	329930.17	5000	
Cr	52	45	He	128.543	ppb	0.3	358369.84	5000	
Mn	55	45	He	835.149	ppb	0.2	1154817.70	5000	
Fe	56	45	He	31717.374	ppb	0.4	68750466.16	50000	
Co	59	45	He	108.856	ppb	0.2	548196.30	4000	
Ni	60	45	He	121.777	ppb	0.2	170802.63	2000	
Cu	65	45	He	122.215	ppb	0.8	244449.91	2000	
Zn	66	72	He	178.461	ppb	0.5	101872.06	5000	
As	75	72	He	102.595	ppb	0.3	38142.84	5000	
Se	78	72	He	95.546	ppb	1.2	2223.17	5000	
Rb	85	115	He	43.076	ppb	0.6	71326.36	5000	
Sr	88	115	He	379.958	ppb	0.6	813258.60	5000	
Mo	95	115	He	92.933	ppb	0.2	197635.34	3000	
Ag	107	115	He	47.455	ppb	0.4	369141.30	100	
Cd	111	115	He	100.037	ppb	0.1	99367.55	5000	
Sn	118	115	He	106.518	ppb	0.9	224944.42	5000	
Sb	121	115	He	41.212	ppb	1.2	98902.64	5000	
Cs	133	115	He	4.777	ppb	0.6	26382.99	5000	
Ba	137	115	He	532.188	ppb	0.1	524984.66	5000	
Ce	140	115	He	72.171	ppb	0.9	1098276.13	5000	
Tl	205	159	He	99.042	ppb	0.5	1460881.16	5000	
Pb	208	159	He	120.706	ppb	0.9	2285454.92	4000	
U	238	159	He	2.088	ppb	1.2	37950.37	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	101952.12	0.3	166884.59	61.09	60	120	
Ge (IS)	72	He	90617.76	0.5	148055.94	61.21	60	120	
In-115 (IS)	115	He	1015297.86	0.1	1601841.24	63.38	60	120	
Tb-159 (IS)	159	He	3336316.19	0.3	4825099.95	69.15	60	120	

Sample Report

Sample Name	570-79989-a-194-c msd@20
File Name	095SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:10:56
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4105

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	94.828	ppb	1.1	2377.51	5000	
Al	27	45	He	32773.931	ppb	0.4	1771678.92	5000	>LDR
V	51	45	He	153.619	ppb	1.1	338776.23	5000	
Cr	52	45	He	130.704	ppb	0.4	366598.45	5000	
Mn	55	45	He	841.622	ppb	0.3	1170830.65	5000	
Fe	56	45	He	31955.168	ppb	0.7	69684597.23	50000	
Co	59	45	He	110.048	ppb	0.6	557551.73	4000	
Ni	60	45	He	123.950	ppb	0.3	174905.56	2000	
Cu	65	45	He	123.721	ppb	1.1	248947.47	2000	
Zn	66	72	He	181.272	ppb	0.9	103699.94	5000	
As	75	72	He	105.147	ppb	1.1	39178.17	5000	
Se	78	72	He	98.618	ppb	2.3	2298.18	5000	
Rb	85	115	He	44.280	ppb	0.4	73569.36	5000	
Sr	88	115	He	400.319	ppb	0.7	859752.36	5000	
Mo	95	115	He	95.455	ppb	0.5	203689.23	3000	
Ag	107	115	He	48.541	ppb	1.2	378865.68	100	
Cd	111	115	He	102.068	ppb	0.8	101728.88	5000	
Sn	118	115	He	108.242	ppb	0.8	229358.81	5000	
Sb	121	115	He	43.331	ppb	0.9	104342.43	5000	
Cs	133	115	He	4.849	ppb	2.4	26871.69	5000	
Ba	137	115	He	515.179	ppb	0.8	509932.38	5000	
Ce	140	115	He	70.732	ppb	0.8	1080046.80	5000	
Tl	205	159	He	100.971	ppb	0.5	1491992.62	5000	
Pb	208	159	He	122.950	ppb	0.6	2332108.71	4000	
U	238	159	He	2.075	ppb	0.3	37780.00	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	102571.74	0.8	166884.59	61.46	60	120	
Ge (IS)	72	He	90822.31	0.7	148055.94	61.34	60	120	
In-115 (IS)	115	He	1018764.28	0.4	1601841.24	63.6	60	120	
Tb-159 (IS)	159	He	3342291.40	0.5	4825099.95	69.27	60	120	

Sample Report

Sample Name	570-79989-a-194-aPDS@20
File Name	096SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:12:59
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4106

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	100.756	ppb	1.8	2515.87	5000	
Al	27	45	He	23317.495	ppb	0.3	1255275.62	5000	>LDR
V	51	45	He	151.073	ppb	0.5	331792.56	5000	
Cr	52	45	He	131.989	ppb	0.5	368669.48	5000	
Mn	55	45	He	870.332	ppb	0.1	1205762.14	5000	
Fe	56	45	He	31750.177	ppb	0.1	68952090.59	50000	
Co	59	45	He	114.751	ppb	0.2	578991.73	4000	
Ni	60	45	He	128.209	ppb	0.3	180166.06	2000	
Cu	65	45	He	131.548	ppb	0.3	263608.31	2000	
Zn	66	72	He	183.366	ppb	0.8	106095.29	5000	
As	75	72	He	110.939	ppb	0.2	41810.22	5000	
Se	78	72	He	108.202	ppb	2.6	2546.22	5000	
Rb	85	115	He	139.873	ppb	0.3	232072.95	5000	
Sr	88	115	He	391.927	ppb	0.2	840586.27	5000	
Mo	95	115	He	109.342	ppb	0.2	233003.18	3000	
Ag	107	115	He	107.218	ppb	0.4	835709.97	100	>LDR
Cd	111	115	He	107.761	ppb	0.6	107257.28	5000	
Sn	118	115	He	117.524	ppb	0.4	248680.66	5000	
Sb	121	115	He	112.001	ppb	0.1	269283.80	5000	
Cs	133	115	He	114.341	ppb	0.5	632755.89	5000	
Ba	137	115	He	551.356	ppb	0.3	544998.47	5000	
Ce	140	115	He	189.654	ppb	0.3	2891850.58	5000	
Tl	205	159	He	107.076	ppb	0.8	1585840.18	5000	
Pb	208	159	He	128.172	ppb	0.4	2436777.02	4000	
U	238	159	He	112.649	ppb	0.3	2055383.25	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	102146.61	0.4	166884.59	61.21	60	120	
Ge (IS)	72	He	91860.83	0.5	148055.94	62.04	60	120	
In-115 (IS)	115	He	1017364.19	0.1	1601841.24	63.51	60	120	
Tb-159 (IS)	159	He	3349992.50	0.4	4825099.95	69.43	60	120	

Sample Report

Sample Name	570-79989-a-194-aSD@100
File Name	097SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:15:04
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4107

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.248	ppb	28.8	6.33	5000	
Al	27	45	He	4827.712	ppb	0.5	257263.24	5000	>LDR
V	51	45	He	9.824	ppb	1.7	21421.70	5000	
Cr	52	45	He	6.175	ppb	1.5	17165.24	5000	
Mn	55	45	He	160.202	ppb	0.7	219699.66	5000	
Fe	56	45	He	6419.440	ppb	0.9	13800669.73	50000	
Co	59	45	He	2.693	ppb	1.4	13460.44	4000	
Ni	60	45	He	5.983	ppb	1.4	8354.56	2000	
Cu	65	45	He	5.999	ppb	2.7	11990.34	2000	
Zn	66	72	He	17.599	ppb	0.5	10828.36	5000	
As	75	72	He	1.931	ppb	4.6	750.35	5000	
Se	78	72	He	1.120	ppb	22.5	71.67	5000	
Rb	85	115	He	7.015	ppb	0.6	12157.22	5000	
Sr	88	115	He	56.150	ppb	0.5	125782.88	5000	
Mo	95	115	He	0.490	ppb	1.6	1100.05	3000	
Ag	107	115	He	0.049	ppb	18.9	414.46	100	
Cd	111	115	He	0.110	ppb	12.0	117.00	5000	
Sn	118	115	He	0.741	ppb	2.6	1752.34	5000	
Sb	121	115	He	0.306	ppb	5.7	800.03	5000	
Cs	133	115	He	0.836	ppb	1.6	4837.51	5000	
Ba	137	115	He	85.700	ppb	0.8	88476.88	5000	
Ce	140	115	He	14.739	ppb	0.7	234801.32	5000	
Tl	205	159	He	0.107	ppb	5.4	1681.23	5000	
Pb	208	159	He	4.206	ppb	1.1	82210.85	4000	
U	238	159	He	0.467	ppb	2.8	8749.64	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	101098.65	1.0	166884.59	60.58	60	120	
Ge (IS)	72	He	93900.96	0.7	148055.94	63.42	60	120	
In-115 (IS)	115	He	1062509.94	0.5	1601841.24	66.33	60	120	
Tb-159 (IS)	159	He	3438904.86	0.6	4825099.95	71.27	60	120	

Sample Report

Sample Name	570-80324-i-4-e pds
File Name	098SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:17:07
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664290 BH
Location	2212

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	82.471	ppb	3.0	2016.96	5000	
Al	27	45	He	1053.685	ppb	1.0	55618.00	5000	
V	51	45	He	94.531	ppb	0.4	203439.64	5000	
Cr	52	45	He	108.176	ppb	0.7	296074.51	5000	
Mn	55	45	He	330.275	ppb	1.1	448401.51	5000	
Fe	56	45	He	2516.324	ppb	1.0	5357832.98	50000	
Co	59	45	He	86.610	ppb	1.1	428196.15	4000	
Ni	60	45	He	86.582	ppb	1.0	119238.52	2000	
Cu	65	45	He	91.829	ppb	0.4	180326.20	2000	
Zn	66	72	He	329.109	ppb	1.1	190889.00	5000	
As	75	72	He	88.641	ppb	1.3	33550.99	5000	
Se	78	72	He	89.752	ppb	2.2	2129.16	5000	
Rb	85	115	He	86.989	ppb	0.7	146214.41	5000	
Sr	88	115	He	1261.559	ppb	0.2	2741347.60	5000	
Mo	95	115	He	90.049	ppb	0.2	194404.35	3000	
Ag	107	115	He	77.034	ppb	3.6	608721.78	100	
Cd	111	115	He	84.117	ppb	1.1	84804.05	5000	
Sn	118	115	He	90.086	ppb	0.2	193150.09	5000	
Sb	121	115	He	88.265	ppb	0.6	214991.86	5000	
Cs	133	115	He	88.406	ppb	0.4	495631.58	5000	
Ba	137	115	He	149.345	ppb	0.5	149557.96	5000	
Ce	140	115	He	94.756	ppb	0.3	1463803.00	5000	
Tl	205	159	He	83.716	ppb	2.6	1267485.95	5000	
Pb	208	159	He	86.100	ppb	2.4	1673532.32	4000	
U	238	159	He	99.522	ppb	2.6	1856503.31	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	100075.54	3.2	166884.59	59.97	60	120	ISTD Failed
Ge (IS)	72	He	92284.76	4.3	148055.94	62.33	60	120	
In-115 (IS)	115	He	1030728.07	3.7	1601841.24	64.35	60	120	
Tb-159 (IS)	159	He	3426650.70	4.2	4825099.95	71.02	60	120	

Sample Report

Sample Name	570-80324-h-2-e pds
File Name	099SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:19:11
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2310

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	76.017	ppb	2.5	2835.92	5000	
Al	27	45	He	3038.547	ppb	0.7	244422.79	5000	
V	51	45	He	86.951	ppb	1.5	285327.72	5000	
Cr	52	45	He	758.094	ppb	1.0	3162721.47	5000	
Mn	55	45	He	1237.265	ppb	0.9	2560759.41	5000	
Fe	56	45	He	7217.388	ppb	1.4	23419227.40	50000	
Co	59	45	He	76.702	ppb	1.1	578166.42	4000	
Ni	60	45	He	76.837	ppb	1.5	161326.98	2000	
Cu	65	45	He	81.902	ppb	1.2	245245.51	2000	
Zn	66	72	He	307.370	ppb	0.4	262636.16	5000	
As	75	72	He	88.851	ppb	0.4	49538.20	5000	
Se	78	72	He	76.510	ppb	3.3	2682.58	5000	
Rb	85	115	He	81.487	ppb	1.0	207817.13	5000	
Sr	88	115	He	1769.953	ppb	0.8	5834927.55	5000	
Mo	95	115	He	88.418	ppb	1.0	289613.21	3000	
Ag	107	115	He	64.995	ppb	0.9	778707.00	100	
Cd	111	115	He	74.027	ppb	0.5	113255.92	5000	
Sn	118	115	He	79.195	ppb	0.7	257635.86	5000	
Sb	121	115	He	75.293	ppb	1.1	278270.90	5000	
Cs	133	115	He	78.338	ppb	0.6	666361.52	5000	
Ba	137	115	He	211.442	ppb	0.8	321264.84	5000	
Ce	140	115	He	87.538	ppb	1.4	2051765.82	5000	
Tl	205	159	He	76.038	ppb	0.3	1702770.49	5000	
Pb	208	159	He	76.885	ppb	0.5	2210181.48	4000	
U	238	159	He	97.599	ppb	0.8	2692520.69	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	152607.60	0.8	166884.59	91.44	60	120	
Ge (IS)	72	He	135891.50	0.2	148055.94	91.78	60	120	
In-115 (IS)	115	He	1563788.04	0.1	1601841.24	97.62	60	120	
Tb-159 (IS)	159	He	5065044.11	0.2	4825099.95	104.97	60	120	

Sample Report

Sample Name	570-80324-h-2-bSD@5
File Name	100SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:21:13
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 6020 440-664280 BH
Location	2311

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.029	ppb	29.0	1.33	5000	
Al	27	45	He	594.734	ppb	0.8	45655.44	5000	
V	51	45	He	1.773	ppb	1.1	5647.74	5000	
Cr	52	45	He	140.859	ppb	0.3	560500.73	5000	
Mn	55	45	He	241.453	ppb	0.4	476584.46	5000	
Fe	56	45	He	1373.920	ppb	0.2	4255052.33	50000	
Co	59	45	He	0.452	ppb	3.8	3264.81	4000	
Ni	60	45	He	1.157	ppb	3.1	2363.53	2000	
Cu	65	45	He	1.195	ppb	3.5	3549.33	2000	
Zn	66	72	He	5.107	ppb	0.7	4951.95	5000	
As	75	72	He	2.161	ppb	4.8	1197.05	5000	
Se	78	72	He	-0.052	ppb	N/A	62.67	5000	
Rb	85	115	He	1.248	ppb	4.0	3152.58	5000	
Sr	88	115	He	333.218	ppb	0.3	1087028.71	5000	
Mo	95	115	He	2.350	ppb	1.2	7629.78	3000	
Ag	107	115	He	0.097	ppb	21.4	1172.28	100	
Cd	111	115	He	0.025	ppb	5.5	41.00	5000	
Sn	118	115	He	0.821	ppb	13.6	2806.95	5000	
Sb	121	115	He	0.200	ppb	14.1	776.69	5000	
Cs	133	115	He	0.085	ppb	2.9	721.14	5000	
Ba	137	115	He	26.375	ppb	0.2	39661.17	5000	
Ce	140	115	He	1.368	ppb	1.0	31856.43	5000	
Tl	205	159	He	0.020	ppb	6.4	510.01	5000	
Pb	208	159	He	0.337	ppb	3.0	9538.04	4000	
U	238	159	He	3.841	ppb	1.1	102296.57	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	145514.41	1.4	166884.59	87.19	60	120	
Ge (IS)	72	He	133948.67	0.7	148055.94	90.47	60	120	
In-115 (IS)	115	He	1547410.34	1.0	1601841.24	96.6	60	120	
Tb-159 (IS)	159	He	4890058.42	0.7	4825099.95	101.35	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6816997

File Name 101_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 12:23:16

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	49.365	ppb	1.1	1730.43	50	98.73	90	110	
Al	27	45	He	51.244	ppb	0.1	3921.17	50	102.49	90	110	
V	51	45	He	49.909	ppb	1.9	153932.06	50	99.82	90	110	
Cr	52	45	He	49.938	ppb	1.8	195886.02	50	99.88	90	110	
Mn	55	45	He	50.999	ppb	2.0	99225.50	50	102	90	110	
Fe	56	45	He	514.439	ppb	1.8	1572738.27	500	102.89	90	110	
Co	59	45	He	50.323	ppb	1.3	356432.18	50	100.65	90	110	
Ni	60	45	He	49.806	ppb	1.3	98276.10	50	99.61	90	110	
Cu	65	45	He	50.240	ppb	0.4	141411.86	50	100.48	90	110	
Zn	66	72	He	49.778	ppb	1.3	41933.56	50	99.56	90	110	
As	75	72	He	48.336	ppb	0.7	26227.48	50	96.67	90	110	
Se	78	72	He	48.802	ppb	2.0	1688.10	50	97.6	90	110	
Rb	85	115	He	46.479	ppb	1.4	116866.55	50	92.96	90	110	
Sr	88	115	He	47.237	ppb	0.7	153547.10	50	94.47	90	110	
Mo	95	115	He	47.137	ppb	0.6	152227.19	50	94.27	90	110	
Ag	107	115	He	48.760	ppb	0.4	575964.41	50	97.52	90	110	
Cd	111	115	He	48.934	ppb	0.7	73812.27	50	97.87	90	110	
Sn	118	115	He	50.502	ppb	1.2	162038.38	50	101	90	110	
Sb	121	115	He	49.685	ppb	0.5	181056.79	50	99.37	90	110	
Cs	133	115	He	48.959	ppb	0.3	410588.65	50	97.92	90	110	
Ba	137	115	He	49.486	ppb	0.7	74136.44	50	98.97	90	110	
Ce	140	115	He	50.190	ppb	0.2	1159856.10	50	100.38	90	110	
Tl	205	159	He	49.648	ppb	0.5	1067427.74	50	99.3	90	110	
Pb	208	159	He	49.982	ppb	1.1	1379484.11	50	99.96	90	110	
U	238	159	He	49.218	ppb	1.0	1303597.19	50	98.44	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	143392.25	0.5	166884.59	85.92	60	120	
Ge (IS)	72	He	132229.33	0.4	148055.94	89.31	60	120	
In-115 (IS)	115	He	1541749.06	0.4	1601841.24	96.25	60	120	
Tb-159 (IS)	159	He	4862875.78	0.3	4825099.95	100.78	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 102_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 12:25:19

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.016	ppb	105.4	0.83	0.5	
Al	27	45	He	0.242	ppb	38.0	66.00	10	
V	51	45	He	0.041	ppb	22.2	223.34	1	
Cr	52	45	He	0.153	ppb	7.0	726.69	1	
Mn	55	45	He	0.038	ppb	19.3	123.33	1	
Fe	56	45	He	2.866	ppb	12.7	13103.50	20	
Co	59	45	He	0.004	ppb	48.3	41.11	1	
Ni	60	45	He	0.019	ppb	30.7	83.33	1	
Cu	65	45	He	0.026	ppb	35.5	206.67	1	
Zn	66	72	He	0.006	ppb	233.4	647.80	5	
As	75	72	He	0.007	ppb	167.4	13.00	1	
Se	78	72	He	-0.203	ppb	N/A	56.00	1	
Rb	85	115	He	0.010	ppb	51.2	27.78	1	
Sr	88	115	He	0.019	ppb	24.7	76.67	1	
Mo	95	115	He	0.081	ppb	4.7	270.00	1	
Ag	107	115	He	0.014	ppb	42.1	178.89	1	
Cd	111	115	He	0.003	ppb	99.5	7.33	1	
Sn	118	115	He	0.413	ppb	15.6	1466.75	10	
Sb	121	115	He	0.154	ppb	8.2	595.57	1	
Cs	133	115	He	0.008	ppb	10.8	68.89	1	
Ba	137	115	He	0.031	ppb	27.0	53.33	1	
Ce	140	115	He	0.007	ppb	9.7	283.34	1	
Tl	205	159	He	0.008	ppb	16.6	250.00	1	
Pb	208	159	He	0.012	ppb	3.9	501.12	1	
U	238	159	He	0.076	ppb	4.6	1990.19	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	141354.58	0.9	166884.59	84.7	60	120	
Ge (IS)	72	He	130135.95	0.4	148055.94	87.9	60	120	
In-115 (IS)	115	He	1514986.09	0.2	1601841.24	94.58	60	120	
Tb-159 (IS)	159	He	4776364.39	0.1	4825099.95	98.99	60	120	

Sample Report

Sample Name 570-79989-a-195-a@20

File Name 103SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 12:27:23

Sample Type Sample

Total Dilution 1.0000

Comment CAM SOIL 440-664166 BH

Location 4108

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.892	ppb	17.8	29.33	5000	
Al	27	45	He	17759.928	ppb	1.3	1248228.84	5000	>LDR
V	51	45	He	49.321	ppb	1.4	141483.16	5000	
Cr	52	45	He	34.583	ppb	0.9	126207.76	5000	
Mn	55	45	He	414.835	ppb	0.9	750325.47	5000	
Fe	56	45	He	29586.682	ppb	0.9	83885043.33	50000	
Co	59	45	He	11.251	ppb	0.4	74119.86	4000	
Ni	60	45	He	35.533	ppb	1.9	65221.74	2000	
Cu	65	45	He	52.888	ppb	1.3	138440.55	2000	
Zn	66	72	He	109.573	ppb	1.2	83689.29	5000	
As	75	72	He	16.636	ppb	1.4	8259.60	5000	
Se	78	72	He	2.889	ppb	34.6	146.33	5000	
Rb	85	115	He	30.132	ppb	0.7	68287.82	5000	
Sr	88	115	He	173.907	ppb	1.0	509478.02	5000	
Mo	95	115	He	2.955	ppb	2.1	8613.65	3000	
Ag	107	115	He	0.096	ppb	5.7	1042.27	100	
Cd	111	115	He	0.269	ppb	8.4	369.01	5000	
Sn	118	115	He	2.989	ppb	0.6	8786.03	5000	
Sb	121	115	He	0.561	ppb	2.4	1883.47	5000	
Cs	133	115	He	7.179	ppb	1.9	54274.98	5000	
Ba	137	115	He	249.933	ppb	0.7	337455.91	5000	
Ce	140	115	He	57.795	ppb	0.9	1203819.88	5000	
Tl	205	159	He	0.281	ppb	1.8	5845.71	5000	
Pb	208	159	He	20.227	ppb	0.3	532670.64	4000	
U	238	159	He	1.661	ppb	0.9	41972.33	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133350.58	0.5	166884.59	79.91	60	120	
Ge (IS)	72	He	120909.75	0.9	148055.94	81.66	60	120	
In-115 (IS)	115	He	1389615.41	0.3	1601841.24	86.75	60	120	
Tb-159 (IS)	159	He	4638822.73	0.7	4825099.95	96.14	60	120	

Sample Report

Sample Name	570-79989-a-196-a@20
File Name	104SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:29:26
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4109

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	1.334	ppb	4.1	44.50	5000	
Al	27	45	He	22623.754	ppb	1.6	1617766.33	5000	>LDR
V	51	45	He	45.146	ppb	0.9	131769.01	5000	
Cr	52	45	He	27.867	ppb	1.6	103497.46	5000	
Mn	55	45	He	747.661	ppb	1.4	1375849.18	5000	
Fe	56	45	He	29865.828	ppb	1.2	86152018.80	50000	
Co	59	45	He	12.887	ppb	1.1	86375.17	4000	
Ni	60	45	He	28.225	ppb	2.1	52719.07	2000	
Cu	65	45	He	28.893	ppb	1.0	77006.12	2000	
Zn	66	72	He	83.142	ppb	0.9	63188.12	5000	
As	75	72	He	10.169	ppb	1.1	5016.17	5000	
Se	78	72	He	2.720	ppb	7.6	140.00	5000	
Rb	85	115	He	32.758	ppb	1.5	74336.43	5000	
Sr	88	115	He	251.960	ppb	1.4	739072.21	5000	
Mo	95	115	He	0.799	ppb	0.9	2339.09	3000	
Ag	107	115	He	0.097	ppb	2.7	1044.48	100	
Cd	111	115	He	0.450	ppb	1.5	615.34	5000	
Sn	118	115	He	2.586	ppb	2.0	7633.14	5000	
Sb	121	115	He	0.418	ppb	4.1	1414.52	5000	
Cs	133	115	He	3.918	ppb	0.8	29658.24	5000	
Ba	137	115	He	387.547	ppb	1.3	523920.52	5000	
Ce	140	115	He	74.913	ppb	1.4	1562309.90	5000	
Tl	205	159	He	0.355	ppb	2.1	7452.05	5000	
Pb	208	159	He	20.265	ppb	0.6	540522.01	4000	
U	238	159	He	2.013	ppb	3.0	51512.20	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135677.14	0.4	166884.59	81.3	60	120	
Ge (IS)	72	He	120040.45	0.1	148055.94	81.08	60	120	
In-115 (IS)	115	He	1391414.83	0.2	1601841.24	86.86	60	120	
Tb-159 (IS)	159	He	4698497.18	0.2	4825099.95	97.38	60	120	

Sample Report

Sample Name	570-79989-a-197-a@20
File Name	105SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:31:33
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4110

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	1.073	ppb	19.3	35.17	5000	
Al	27	45	He	22254.936	ppb	1.5	1562492.54	5000	>LDR
V	51	45	He	46.494	ppb	0.9	133231.93	5000	
Cr	52	45	He	39.549	ppb	1.2	144160.33	5000	
Mn	55	45	He	637.475	ppb	1.1	1151779.40	5000	
Fe	56	45	He	34622.152	ppb	1.1	98057649.44	50000	
Co	59	45	He	11.884	ppb	1.4	78206.80	4000	
Ni	60	45	He	31.502	ppb	1.0	57763.84	2000	
Cu	65	45	He	34.500	ppb	0.7	90250.92	2000	
Zn	66	72	He	145.925	ppb	0.2	110191.22	5000	
As	75	72	He	18.106	ppb	0.7	8902.30	5000	
Se	78	72	He	2.784	ppb	16.9	141.67	5000	
Rb	85	115	He	31.612	ppb	0.4	71031.58	5000	
Sr	88	115	He	268.371	ppb	0.4	779502.02	5000	
Mo	95	115	He	2.049	ppb	3.3	5923.44	3000	
Ag	107	115	He	0.181	ppb	0.8	1926.80	100	
Cd	111	115	He	1.150	ppb	1.4	1552.42	5000	
Sn	118	115	He	52.083	ppb	0.3	149332.12	5000	
Sb	121	115	He	0.623	ppb	4.0	2069.05	5000	
Cs	133	115	He	3.237	ppb	1.2	24268.18	5000	
Ba	137	115	He	373.533	ppb	1.0	500037.55	5000	
Ce	140	115	He	59.301	ppb	0.7	1224642.45	5000	
Tl	205	159	He	0.337	ppb	0.8	7040.72	5000	
Pb	208	159	He	54.018	ppb	0.4	1431907.12	4000	
U	238	159	He	1.946	ppb	0.7	49501.31	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133212.71	0.7	166884.59	79.82	60	120	
Ge (IS)	72	He	119752.79	0.9	148055.94	80.88	60	120	
In-115 (IS)	115	He	1377761.26	0.4	1601841.24	86.01	60	120	
Tb-159 (IS)	159	He	4670446.48	0.1	4825099.95	96.79	60	120	

Sample Report

Sample Name 570-79989-a-200-a@20

File Name 106SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 12:33:36

Sample Type Sample

Total Dilution 1.0000

Comment CAM SOIL 440-664166 BH

Location 4111

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.524	ppb	28.4	17.17	5000	
Al	27	45	He	8876.739	ppb	0.4	618352.21	5000	>LDR
V	51	45	He	21.690	ppb	1.4	61711.99	5000	
Cr	52	45	He	15.580	ppb	1.1	56423.89	5000	
Mn	55	45	He	396.866	ppb	0.3	711430.70	5000	
Fe	56	45	He	13934.318	ppb	0.2	39157834.00	50000	
Co	59	45	He	6.050	ppb	0.2	39512.39	4000	
Ni	60	45	He	13.794	ppb	1.8	25120.81	2000	
Cu	65	45	He	10.401	ppb	1.3	27085.37	2000	
Zn	66	72	He	35.182	ppb	1.8	27374.79	5000	
As	75	72	He	4.282	ppb	1.1	2140.16	5000	
Se	78	72	He	1.483	ppb	27.7	103.67	5000	
Rb	85	115	He	13.435	ppb	1.7	30926.50	5000	
Sr	88	115	He	101.718	ppb	0.9	302658.82	5000	
Mo	95	115	He	0.514	ppb	17.9	1532.51	3000	
Ag	107	115	He	0.041	ppb	3.8	455.57	100	
Cd	111	115	He	0.166	ppb	10.2	232.67	5000	
Sn	118	115	He	1.871	ppb	2.4	5644.46	5000	
Sb	121	115	He	0.218	ppb	6.2	767.80	5000	
Cs	133	115	He	1.676	ppb	1.8	12869.10	5000	
Ba	137	115	He	153.565	ppb	1.2	210586.67	5000	
Ce	140	115	He	35.449	ppb	1.3	749959.68	5000	
Tl	205	159	He	0.138	ppb	1.9	2960.33	5000	
Pb	208	159	He	8.672	ppb	0.6	232588.94	4000	
U	238	159	He	0.855	ppb	1.2	22004.92	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	132166.95	1.1	166884.59	79.2	60	120	
Ge (IS)	72	He	121351.98	0.8	148055.94	81.96	60	120	
In-115 (IS)	115	He	1411369.46	0.0	1601841.24	88.11	60	120	
Tb-159 (IS)	159	He	4722644.12	0.1	4825099.95	97.88	60	120	

Sample Report

Sample Name	570-79989-a-199-a@20
File Name	107SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:35:40
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4112

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	1.383	ppb	19.8	45.67	5000	
Al	27	45	He	25588.629	ppb	0.9	1811290.54	5000	>LDR
V	51	45	He	45.937	ppb	0.3	132721.76	5000	
Cr	52	45	He	30.149	ppb	0.6	110830.63	5000	
Mn	55	45	He	658.955	ppb	0.9	1200377.28	5000	
Fe	56	45	He	30309.776	ppb	1.1	86549443.23	50000	
Co	59	45	He	12.465	ppb	0.8	82706.07	4000	
Ni	60	45	He	28.993	ppb	1.3	53607.65	2000	
Cu	65	45	He	34.648	ppb	1.1	91385.31	2000	
Zn	66	72	He	173.248	ppb	1.1	131797.66	5000	
As	75	72	He	9.285	ppb	1.1	4607.71	5000	
Se	78	72	He	3.098	ppb	20.3	152.33	5000	
Rb	85	115	He	33.748	ppb	0.4	77090.43	5000	
Sr	88	115	He	285.220	ppb	0.9	842186.43	5000	
Mo	95	115	He	1.099	ppb	3.8	3237.03	3000	
Ag	107	115	He	0.170	ppb	3.1	1836.79	100	
Cd	111	115	He	0.601	ppb	6.5	827.02	5000	
Sn	118	115	He	3.199	ppb	1.0	9467.56	5000	
Sb	121	115	He	0.631	ppb	1.7	2129.05	5000	
Cs	133	115	He	3.276	ppb	2.7	24963.84	5000	
Ba	137	115	He	369.535	ppb	0.7	502878.19	5000	
Ce	140	115	He	65.871	ppb	0.7	1382864.53	5000	
Tl	205	159	He	0.369	ppb	0.7	7834.49	5000	
Pb	208	159	He	42.106	ppb	0.5	1135299.62	4000	
U	238	159	He	2.041	ppb	0.4	52806.95	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	134310.91	0.8	166884.59	80.48	60	120	
Ge (IS)	72	He	120745.03	0.3	148055.94	81.55	60	120	
In-115 (IS)	115	He	1400635.82	0.4	1601841.24	87.44	60	120	
Tb-159 (IS)	159	He	4750492.45	0.2	4825099.95	98.45	60	120	

Sample Report

Sample Name	570-79989-a-198-a@20
File Name	108SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:37:43
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4201

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	1.735	ppb	3.6	57.17	5000	
Al	27	45	He	29726.973	ppb	1.3	2101439.92	5000	>LDR
V	51	45	He	52.807	ppb	0.7	152354.12	5000	
Cr	52	45	He	35.787	ppb	0.7	131355.10	5000	
Mn	55	45	He	825.561	ppb	1.1	1501888.69	5000	
Fe	56	45	He	34416.990	ppb	1.1	98148307.21	50000	
Co	59	45	He	14.287	ppb	0.6	94673.12	4000	
Ni	60	45	He	33.387	ppb	1.6	61641.31	2000	
Cu	65	45	He	33.975	ppb	0.8	89495.34	2000	
Zn	66	72	He	102.682	ppb	1.0	77337.87	5000	
As	75	72	He	43.872	ppb	1.5	21455.94	5000	
Se	78	72	He	3.656	ppb	22.8	167.00	5000	
Rb	85	115	He	37.754	ppb	1.0	85731.69	5000	
Sr	88	115	He	331.958	ppb	0.8	974408.40	5000	
Mo	95	115	He	1.971	ppb	2.7	5758.92	3000	
Ag	107	115	He	0.183	ppb	2.9	1966.81	100	
Cd	111	115	He	0.555	ppb	3.3	758.69	5000	
Sn	118	115	He	2.896	ppb	2.0	8533.65	5000	
Sb	121	115	He	0.595	ppb	5.0	2000.15	5000	
Cs	133	115	He	4.062	ppb	1.1	30769.43	5000	
Ba	137	115	He	482.804	ppb	0.6	653151.24	5000	
Ce	140	115	He	80.179	ppb	0.6	1673289.83	5000	
Tl	205	159	He	0.403	ppb	2.5	8548.25	5000	
Pb	208	159	He	29.856	ppb	0.4	806192.76	4000	
U	238	159	He	2.545	ppb	2.2	65954.71	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	134131.62	0.5	166884.59	80.37	60	120	
Ge (IS)	72	He	119176.00	0.3	148055.94	80.49	60	120	
In-115 (IS)	115	He	1392361.11	0.2	1601841.24	86.92	60	120	
Tb-159 (IS)	159	He	4757139.39	0.1	4825099.95	98.59	60	120	

Sample Report

Sample Name	570-79989-b-119-b@20
File Name	109SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:39:47
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4202

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.202	ppb	27.4	6.67	5000	
Al	27	45	He	8828.479	ppb	0.8	603365.12	5000	>LDR
V	51	45	He	27.625	ppb	1.0	77096.83	5000	
Cr	52	45	He	14.761	ppb	0.9	52452.04	5000	
Mn	55	45	He	212.488	ppb	0.9	373740.83	5000	
Fe	56	45	He	14807.695	ppb	0.9	40825365.04	50000	
Co	59	45	He	4.107	ppb	1.9	26317.29	4000	
Ni	60	45	He	8.873	ppb	0.6	15868.34	2000	
Cu	65	45	He	9.576	ppb	1.0	24475.36	2000	
Zn	66	72	He	45.341	ppb	0.7	34725.43	5000	
As	75	72	He	2.352	ppb	2.0	1166.72	5000	
Se	78	72	He	0.856	ppb	45.5	83.67	5000	
Rb	85	115	He	26.482	ppb	2.0	60894.82	5000	
Sr	88	115	He	46.843	ppb	2.1	139243.79	5000	
Mo	95	115	He	0.587	ppb	2.2	1744.55	3000	
Ag	107	115	He	0.033	ppb	2.3	370.01	100	
Cd	111	115	He	0.088	ppb	4.3	124.67	5000	
Sn	118	115	He	1.972	ppb	2.6	5934.57	5000	
Sb	121	115	He	0.075	ppb	5.6	291.12	5000	
Cs	133	115	He	1.770	ppb	4.4	13576.44	5000	
Ba	137	115	He	221.199	ppb	0.8	303025.11	5000	
Ce	140	115	He	72.588	ppb	1.3	1533996.47	5000	
Tl	205	159	He	0.240	ppb	1.7	5082.07	5000	
Pb	208	159	He	2.562	ppb	1.1	68801.06	4000	
U	238	159	He	0.567	ppb	1.9	14581.42	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	129667.10	0.7	166884.59	77.7	60	120	
Ge (IS)	72	He	120029.25	0.8	148055.94	81.07	60	120	
In-115 (IS)	115	He	1409957.91	0.3	1601841.24	88.02	60	120	
Tb-159 (IS)	159	He	4719433.42	0.1	4825099.95	97.81	60	120	

Sample Report

Sample Name	570-79989-b-120-b@20
File Name	110SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:41:51
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4203

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	1.510	ppb	9.8	49.67	5000	
Al	27	45	He	29576.182	ppb	0.8	2085598.25	5000	>LDR
V	51	45	He	51.132	ppb	0.3	147155.93	5000	
Cr	52	45	He	31.326	ppb	0.4	114713.38	5000	
Mn	55	45	He	680.794	ppb	0.3	1235427.87	5000	
Fe	56	45	He	34948.219	ppb	0.4	99413791.61	50000	
Co	59	45	He	13.420	ppb	1.8	88701.81	4000	
Ni	60	45	He	30.236	ppb	0.7	55688.37	2000	
Cu	65	45	He	32.371	ppb	1.0	85059.89	2000	
Zn	66	72	He	95.144	ppb	0.6	71266.04	5000	
As	75	72	He	12.416	ppb	0.7	6041.22	5000	
Se	78	72	He	2.828	ppb	16.4	141.33	5000	
Rb	85	115	He	38.367	ppb	1.7	87039.08	5000	
Sr	88	115	He	281.405	ppb	0.4	825188.11	5000	
Mo	95	115	He	1.371	ppb	4.0	4007.23	3000	
Ag	107	115	He	0.109	ppb	7.5	1180.05	100	
Cd	111	115	He	0.484	ppb	2.1	661.69	5000	
Sn	118	115	He	2.855	ppb	3.2	8406.91	5000	
Sb	121	115	He	0.468	ppb	2.3	1578.99	5000	
Cs	133	115	He	4.423	ppb	0.8	33466.54	5000	
Ba	137	115	He	617.765	ppb	0.2	834883.89	5000	
Ce	140	115	He	81.714	ppb	0.3	1703607.88	5000	
Tl	205	159	He	0.416	ppb	1.0	8791.74	5000	
Pb	208	159	He	23.928	ppb	0.3	644302.35	4000	
U	238	159	He	2.459	ppb	2.3	63546.72	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133796.48	0.8	166884.59	80.17	60	120	
Ge (IS)	72	He	118449.18	0.3	148055.94	80	60	120	
In-115 (IS)	115	He	1390955.51	0.4	1601841.24	86.83	60	120	
Tb-159 (IS)	159	He	4743439.95	0.1	4825099.95	98.31	60	120	

Sample Report

Sample Name 570-79989-b-121-b@20

File Name 111SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 12:43:55

Sample Type Sample

Total Dilution 1.0000

Comment CAM SOIL 440-664166 BH

Location 4204

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.131	ppb	40.2	4.33	5000	
Al	27	45	He	7607.232	ppb	2.1	511942.71	5000	>LDR
V	51	45	He	23.655	ppb	1.3	65019.98	5000	
Cr	52	45	He	11.553	ppb	2.9	40450.13	5000	
Mn	55	45	He	175.943	ppb	1.8	304730.63	5000	
Fe	56	45	He	12247.957	ppb	2.3	33250745.34	50000	
Co	59	45	He	3.636	ppb	1.0	22947.36	4000	
Ni	60	45	He	7.360	ppb	4.5	12967.81	2000	
Cu	65	45	He	8.591	ppb	2.4	21633.31	2000	
Zn	66	72	He	36.631	ppb	2.6	28157.34	5000	
As	75	72	He	1.731	ppb	4.5	860.69	5000	
Se	78	72	He	0.438	ppb	26.9	71.00	5000	
Rb	85	115	He	20.630	ppb	1.5	47269.14	5000	
Sr	88	115	He	52.317	ppb	1.8	154954.66	5000	
Mo	95	115	He	0.542	ppb	4.0	1605.65	3000	
Ag	107	115	He	0.031	ppb	13.1	348.90	100	
Cd	111	115	He	0.066	ppb	12.3	93.33	5000	
Sn	118	115	He	1.835	ppb	1.0	5513.29	5000	
Sb	121	115	He	0.069	ppb	2.8	272.23	5000	
Cs	133	115	He	1.292	ppb	1.3	9876.74	5000	
Ba	137	115	He	203.810	ppb	1.2	278201.25	5000	
Ce	140	115	He	12.368	ppb	1.6	260542.80	5000	
Tl	205	159	He	0.189	ppb	1.5	3999.49	5000	
Pb	208	159	He	2.133	ppb	0.5	57167.82	4000	
U	238	159	He	0.469	ppb	4.1	12022.23	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	127702.83	1.1	166884.59	76.52	60	120	
Ge (IS)	72	He	119994.70	0.7	148055.94	81.05	60	120	
In-115 (IS)	115	He	1404923.50	0.5	1601841.24	87.71	60	120	
Tb-159 (IS)	159	He	4707180.37	0.1	4825099.95	97.56	60	120	

Sample Report

Sample Name	570-79989-b-122-b@20
File Name	112SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:46:01
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664166 BH
Location	4205

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	1.532	ppb	11.8	49.33	5000	
Al	27	45	He	28559.514	ppb	1.0	1972222.63	5000	>LDR
V	51	45	He	50.275	ppb	0.6	141699.42	5000	
Cr	52	45	He	29.822	ppb	1.1	106954.20	5000	
Mn	55	45	He	734.512	ppb	0.9	1305341.62	5000	
Fe	56	45	He	32989.138	ppb	0.8	91900845.24	50000	
Co	59	45	He	13.231	ppb	1.1	85648.89	4000	
Ni	60	45	He	29.433	ppb	1.1	53090.32	2000	
Cu	65	45	He	31.286	ppb	0.8	80515.34	2000	
Zn	66	72	He	92.948	ppb	1.9	69187.65	5000	
As	75	72	He	15.454	ppb	1.8	7468.86	5000	
Se	78	72	He	2.498	ppb	8.1	130.67	5000	
Rb	85	115	He	37.214	ppb	0.7	83694.55	5000	
Sr	88	115	He	257.106	ppb	0.9	747455.80	5000	
Mo	95	115	He	1.236	ppb	3.0	3581.56	3000	
Ag	107	115	He	0.112	ppb	5.0	1202.28	100	
Cd	111	115	He	0.478	ppb	5.9	648.35	5000	
Sn	118	115	He	2.873	ppb	2.4	8385.78	5000	
Sb	121	115	He	0.538	ppb	4.6	1793.45	5000	
Cs	133	115	He	4.196	ppb	0.8	31479.87	5000	
Ba	137	115	He	384.532	ppb	0.7	515218.40	5000	
Ce	140	115	He	77.273	ppb	1.3	1597188.48	5000	
Tl	205	159	He	0.397	ppb	0.9	8377.03	5000	
Pb	208	159	He	23.199	ppb	1.1	623150.89	4000	
U	238	159	He	2.316	ppb	1.3	59698.81	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	131028.44	0.2	166884.59	78.51	60	120	
Ge (IS)	72	He	117686.72	0.2	148055.94	79.49	60	120	
In-115 (IS)	115	He	1379021.57	0.1	1601841.24	86.09	60	120	
Tb-159 (IS)	159	He	4731884.12	0.2	4825099.95	98.07	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6816997

File Name 113_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 12:48:04

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	47.319	ppb	2.1	1507.57	50	94.64	90	110	
Al	27	45	He	51.204	ppb	1.6	3561.08	50	102.41	90	110	
V	51	45	He	50.793	ppb	1.0	142383.38	50	101.59	90	110	
Cr	52	45	He	50.921	ppb	1.0	181540.86	50	101.84	90	110	
Mn	55	45	He	51.934	ppb	0.7	91837.35	50	103.87	90	110	
Fe	56	45	He	531.399	ppb	0.6	1476433.97	500	106.28	90	110	
Co	59	45	He	52.483	ppb	1.0	337855.72	50	104.97	90	110	
Ni	60	45	He	51.428	ppb	0.8	92226.17	50	102.86	90	110	
Cu	65	45	He	52.707	ppb	0.8	134822.50	50	105.41	90	110	
Zn	66	72	He	48.858	ppb	0.9	38995.73	50	97.72	90	110	
As	75	72	He	48.201	ppb	1.1	24771.35	50	96.4	90	110	
Se	78	72	He	48.857	ppb	3.5	1600.42	50	97.71	90	110	
Rb	85	115	He	45.177	ppb	1.0	110808.58	50	90.35	90	110	
Sr	88	115	He	46.139	ppb	0.3	146300.56	50	92.28	90	110	
Mo	95	115	He	47.062	ppb	0.7	148260.64	50	94.12	90	110	
Ag	107	115	He	48.819	ppb	0.6	562522.15	50	97.64	90	110	
Cd	111	115	He	49.066	ppb	0.4	72196.59	50	98.13	90	110	
Sn	118	115	He	50.723	ppb	0.5	158757.21	50	101.45	90	110	
Sb	121	115	He	49.632	ppb	0.9	176432.15	50	99.26	90	110	
Cs	133	115	He	49.316	ppb	0.4	403448.67	50	98.63	90	110	
Ba	137	115	He	50.220	ppb	1.0	73390.51	50	100.44	90	110	
Ce	140	115	He	50.933	ppb	1.0	1148188.08	50	101.87	90	110	
Tl	205	159	He	49.992	ppb	0.2	1072860.20	50	99.98	90	110	
Pb	208	159	He	50.733	ppb	0.2	1397663.46	50	101.47	90	110	
U	238	159	He	50.008	ppb	0.0	1322077.33	50	100.02	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	130320.32	0.3	166884.59	78.09	60	120	
Ge (IS)	72	He	125242.79	0.6	148055.94	84.59	60	120	
In-115 (IS)	115	He	1503950.03	0.2	1601841.24	93.89	60	120	
Tb-159 (IS)	159	He	4853944.39	0.8	4825099.95	100.6	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 114_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 12:50:08

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.003	ppb	N/A	0.17	0.5	
Al	27	45	He	0.818	ppb	1.5	99.33	10	
V	51	45	He	-0.003	ppb	N/A	81.11	1	
Cr	52	45	He	0.053	ppb	17.8	311.11	1	
Mn	55	45	He	0.048	ppb	5.4	128.89	1	
Fe	56	45	He	4.348	ppb	9.6	16014.04	20	
Co	59	45	He	0.003	ppb	52.6	31.11	1	
Ni	60	45	He	0.010	ppb	73.5	61.11	1	
Cu	65	45	He	0.021	ppb	56.9	176.67	1	
Zn	66	72	He	0.020	ppb	385.8	620.02	5	
As	75	72	He	0.002	ppb	251.1	10.00	1	
Se	78	72	He	-0.378	ppb	N/A	47.33	1	
Rb	85	115	He	0.007	ppb	55.1	18.89	1	
Sr	88	115	He	0.015	ppb	33.9	60.00	1	
Mo	95	115	He	0.056	ppb	11.3	185.56	1	
Ag	107	115	He	0.009	ppb	42.2	120.00	1	
Cd	111	115	He	0.002	ppb	93.1	5.67	1	
Sn	118	115	He	0.231	ppb	11.5	862.25	10	
Sb	121	115	He	0.132	ppb	6.5	501.12	1	
Cs	133	115	He	0.005	ppb	31.2	48.89	1	
Ba	137	115	He	0.034	ppb	43.2	56.67	1	
Ce	140	115	He	0.005	ppb	22.9	237.78	1	
Tl	205	159	He	0.006	ppb	39.8	211.11	1	
Pb	208	159	He	0.011	ppb	14.8	488.89	1	
U	238	159	He	0.046	ppb	7.0	1206.74	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	128915.21	0.8	166884.59	77.25	60	120	
Ge (IS)	72	He	122475.26	1.0	148055.94	82.72	60	120	
In-115 (IS)	115	He	1463770.03	2.3	1601841.24	91.38	60	120	
Tb-159 (IS)	159	He	4771863.98	0.5	4825099.95	98.9	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664348/1-a
File Name	115_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:52:12
Sample Type	MB
Total Dilution	1.0000
Comment	CAM 200.8 440-664348 BH
Location	3303

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.012	ppb	193.7	0.67	0.5	
Al	27	45	He	2.618	ppb	7.9	234.67	10	
V	51	45	He	-0.023	ppb	N/A	27.78	1	
Cr	52	45	He	0.073	ppb	7.8	403.34	1	
Mn	55	45	He	0.129	ppb	17.9	286.67	1	
Fe	56	45	He	5.899	ppb	2.7	21464.05	20	
Co	59	45	He	0.007	ppb	47.4	57.78	1	
Ni	60	45	He	0.064	ppb	25.0	165.56	1	
Cu	65	45	He	0.120	ppb	8.1	451.12	1	
Zn	66	72	He	0.252	ppb	10.1	842.25	5	
As	75	72	He	-0.002	ppb	N/A	8.00	1	
Se	78	72	He	-0.263	ppb	N/A	53.67	1	
Rb	85	115	He	0.010	ppb	41.4	27.78	1	
Sr	88	115	He	0.034	ppb	17.3	127.78	1	
Mo	95	115	He	0.022	ppb	22.2	85.55	1	
Ag	107	115	He	0.001	ppb	45.0	28.89	1	
Cd	111	115	He	0.000	ppb	N/A	2.67	1	
Sn	118	115	He	0.034	ppb	40.8	278.89	10	
Sb	121	115	He	0.029	ppb	13.8	151.11	1	
Cs	133	115	He	0.001	ppb	36.9	15.55	1	
Ba	137	115	He	0.173	ppb	126.0	271.31	1	
Ce	140	115	He	0.031	ppb	11.4	861.15	1	
Tl	205	159	He	0.007	ppb	19.4	225.56	1	
Pb	208	159	He	0.044	ppb	5.6	1422.26	1	
U	238	159	He	0.012	ppb	14.7	320.01	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	136505.76	0.4	166884.59	81.8	60	120	
Ge (IS)	72	He	129240.42	0.6	148055.94	87.29	60	120	
In-115 (IS)	115	He	1551838.81	0.6	1601841.24	96.88	60	120	
Tb-159 (IS)	159	He	4916671.47	0.8	4825099.95	101.9	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	lcs 440-664348/2-a
File Name	116_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:54:15
Sample Type	LCS
Total Dilution	1.0000
Comment	CAM 200.8 440-664348 BH
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**IRVINSTIC** **PMS6**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	72.168	ppb	0.9	2436.19	80	90.21	85	115	
Al	27	45	He	77.372	ppb	1.9	5678.38	80	96.71	85	115	
V	51	45	He	76.158	ppb	0.1	226178.14	80	95.2	85	115	
Cr	52	45	He	77.304	ppb	1.0	291990.63	80	96.63	85	115	
Mn	55	45	He	78.920	ppb	0.0	147860.20	80	98.65	85	115	
Fe	56	45	He	780.072	ppb	0.6	2294657.69	800	97.51	85	115	
Co	59	45	He	78.771	ppb	0.3	537328.33	80	98.46	85	115	
Ni	60	45	He	77.790	ppb	0.5	147804.23	80	97.24	85	115	
Cu	65	45	He	78.246	ppb	0.6	212040.63	80	97.81	85	115	
Zn	66	72	He	74.766	ppb	0.9	61586.04	80	93.46	85	115	
As	75	72	He	74.420	ppb	0.8	39685.48	80	93.02	85	115	
Se	78	72	He	76.289	ppb	2.0	2558.55	80	95.36	85	115	
Rb	85	115	He	69.259	ppb	0.8	175896.75	80	86.57	85	115	
Sr	88	115	He	71.290	ppb	0.9	234055.94	80	89.11	85	115	
Mo	95	115	He	72.097	ppb	0.9	235179.29	80	90.12	85	115	
Ag	107	115	He	72.248	ppb	0.6	862004.86	80	90.31	85	115	
Cd	111	115	He	74.847	ppb	0.7	114037.29	80	93.56	85	115	
Sn	118	115	He	72.724	ppb	0.7	235627.71	80	90.9	85	115	
Sb	121	115	He	78.887	ppb	0.6	290342.11	80	98.61	85	115	
Cs	133	115	He	75.918	ppb	0.3	643104.21	80	94.9	85	115	
Ba	137	115	He	77.000	ppb	1.0	116513.21	80	96.25	85	115	
Ce	140	115	He	76.623	ppb	0.9	1788556.11	80	95.78	85	115	
Tl	205	159	He	77.651	ppb	0.5	1704583.26	80	97.06	85	115	
[Pb]	206	159	He	79.319	ppb	0.5	555916.56	80	99.15	85	115	
[Pb]	207	159	He	75.346	ppb	0.3	466855.49	80	94.18	85	115	
Pb	208	159	He	77.348	ppb	0.3	2179582.39	80	96.68	85	115	
U	238	159	He	76.927	ppb	0.4	2080367.26	80	96.16	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	138096.46	0.8	166884.59	82.75	60	120	
Ge (IS)	72	He	129969.87	0.2	148055.94	87.78	60	120	
In-115 (IS)	115	He	1557323.37	0.8	1601841.24	97.22	60	120	
Tb-159 (IS)	159	He	4965123.83	0.8	4825099.95	102.9	60	120	

Sample Report

Sample Name	570-80602-b-1-a
File Name	117SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 12:56:19
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664348 BH
Location	3305

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	78.167	ppb	1.6	2612.88	5000	
Al	27	45	He	468.241	ppb	0.6	33789.26	5000	
V	51	45	He	87.126	ppb	0.8	256190.75	5000	
Cr	52	45	He	84.178	ppb	0.4	314802.44	5000	
Mn	55	45	He	198.726	ppb	0.8	368591.87	5000	
Fe	56	45	He	1173.221	ppb	0.8	3414867.85	50000	
Co	59	45	He	86.359	ppb	0.5	583295.85	4000	
Ni	60	45	He	90.994	ppb	0.9	171181.59	2000	
Cu	65	45	He	85.123	ppb	1.1	228381.30	2000	
Zn	66	72	He	145.279	ppb	1.2	116473.26	5000	
As	75	72	He	90.474	ppb	0.8	47195.05	5000	
Se	78	72	He	83.816	ppb	2.0	2743.59	5000	
Rb	85	115	He	87.259	ppb	1.3	206904.48	5000	
Sr	88	115	He	913.845	ppb	1.4	2800911.90	5000	
Mo	95	115	He	105.470	ppb	1.6	321179.35	3000	
Ag	107	115	He	77.492	ppb	1.2	863195.87	100	
Cd	111	115	He	80.480	ppb	1.0	114478.64	5000	
Sn	118	115	He	84.875	ppb	1.3	256701.88	5000	
Sb	121	115	He	96.948	ppb	1.3	333115.90	5000	
Cs	133	115	He	86.111	ppb	1.4	681000.18	5000	
Ba	137	115	He	234.928	ppb	1.0	331876.59	5000	
Ce	140	115	He	87.572	ppb	1.6	1908290.27	5000	
Tl	205	159	He	81.694	ppb	0.9	1745705.55	5000	
Pb	208	159	He	85.236	ppb	0.8	2338095.34	4000	
U	238	159	He	87.645	ppb	1.1	2307225.90	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	136742.28	0.9	166884.59	81.94	60	120	
Ge (IS)	72	He	127147.18	1.0	148055.94	85.88	60	120	
In-115 (IS)	115	He	1454080.07	1.5	1601841.24	90.78	60	120	
Tb-159 (IS)	159	He	4833457.59	0.5	4825099.95	100.17	60	120	

Sample Report

Sample Name 570-80602-b-1-b ms

File Name 118SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 12:58:22

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3306

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.021	ppb	69.3	1.00	5000	
Al	27	45	He	367.180	ppb	0.9	27605.15	5000	
V	51	45	He	3.451	ppb	3.8	10661.55	5000	
Cr	52	45	He	1.311	ppb	2.9	5243.15	5000	
Mn	55	45	He	114.587	ppb	0.8	221349.57	5000	
Fe	56	45	He	327.367	ppb	0.8	995582.08	50000	
Co	59	45	He	3.000	ppb	0.8	21116.93	4000	
Ni	60	45	He	10.456	ppb	0.3	20528.37	2000	
Cu	65	45	He	3.087	ppb	2.4	8759.24	2000	
Zn	66	72	He	66.748	ppb	0.6	55771.41	5000	
As	75	72	He	8.202	ppb	1.2	4439.66	5000	
Se	78	72	He	4.463	ppb	15.7	211.33	5000	
Rb	85	115	He	8.215	ppb	0.8	20270.49	5000	
Sr	88	115	He	831.666	ppb	0.2	2652374.62	5000	
Mo	95	115	He	21.775	ppb	1.1	69011.07	3000	
Ag	107	115	He	0.018	ppb	14.6	223.34	100	
Cd	111	115	He	0.041	ppb	6.8	64.33	5000	
Sn	118	115	He	0.647	ppb	17.6	2197.96	5000	
Sb	121	115	He	1.233	ppb	3.4	4452.93	5000	
Cs	133	115	He	0.198	ppb	3.8	1632.32	5000	
Ba	137	115	He	143.434	ppb	0.7	210838.35	5000	
Ce	140	115	He	0.665	ppb	1.4	15202.53	5000	
Tl	205	159	He	0.021	ppb	1.6	535.57	5000	
Pb	208	159	He	3.302	ppb	0.5	91732.65	4000	
U	238	159	He	0.991	ppb	1.6	26372.92	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	142403.19	0.7	166884.59	85.33	60	120	
Ge (IS)	72	He	131670.09	0.3	148055.94	88.93	60	120	
In-115 (IS)	115	He	1512833.11	0.4	1601841.24	94.44	60	120	
Tb-159 (IS)	159	He	4885759.80	0.6	4825099.95	101.26	60	120	

Sample Report

Sample Name 570-80602-b-1-c msd

File Name 119SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:00:25

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3307

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	79.117	ppb	1.8	2755.74	5000	
Al	27	45	He	467.472	ppb	1.8	35152.97	5000	
V	51	45	He	86.091	ppb	0.1	263794.67	5000	
Cr	52	45	He	83.782	ppb	0.4	326497.92	5000	
Mn	55	45	He	194.864	ppb	0.6	376617.87	5000	
Fe	56	45	He	1158.634	ppb	0.6	3514318.75	50000	
Co	59	45	He	85.637	ppb	0.6	602741.36	4000	
Ni	60	45	He	89.825	ppb	1.4	176089.39	2000	
Cu	65	45	He	84.520	ppb	0.1	236306.96	2000	
Zn	66	72	He	160.478	ppb	0.7	131748.39	5000	
As	75	72	He	90.291	ppb	0.8	48253.71	5000	
Se	78	72	He	84.201	ppb	4.5	2823.27	5000	
Rb	85	115	He	86.902	ppb	0.2	211430.63	5000	
Sr	88	115	He	891.554	ppb	0.4	2803984.61	5000	
Mo	95	115	He	103.685	ppb	0.5	323995.86	3000	
Ag	107	115	He	76.737	ppb	0.6	877066.21	100	
Cd	111	115	He	80.114	ppb	0.3	116930.46	5000	
Sn	118	115	He	82.888	ppb	0.7	257244.46	5000	
Sb	121	115	He	95.244	ppb	0.2	335803.34	5000	
Cs	133	115	He	84.942	ppb	0.4	689306.52	5000	
Ba	137	115	He	227.325	ppb	0.4	329510.26	5000	
Ce	140	115	He	86.519	ppb	0.5	1934597.35	5000	
Tl	205	159	He	82.540	ppb	0.2	1758848.33	5000	
Pb	208	159	He	85.359	ppb	0.4	2334879.26	4000	
U	238	159	He	87.153	ppb	0.2	2287868.82	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	142488.16	0.3	166884.59	85.38	60	120	
Ge (IS)	72	He	130259.04	0.5	148055.94	87.98	60	120	
In-115 (IS)	115	He	1491845.97	0.5	1601841.24	93.13	60	120	
Tb-159 (IS)	159	He	4819797.03	0.7	4825099.95	99.89	60	120	

Sample Report

Sample Name 570-80603-b-1-a

File Name 120SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:02:29

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3308

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.048	ppb	28.1	2.00	5000	
Al	27	45	He	420.444	ppb	1.9	32303.48	5000	
V	51	45	He	3.426	ppb	2.3	10821.65	5000	
Cr	52	45	He	1.381	ppb	0.3	5639.96	5000	
Mn	55	45	He	103.500	ppb	1.1	204398.66	5000	
Fe	56	45	He	342.815	ppb	1.3	1065581.28	50000	
Co	59	45	He	2.869	ppb	2.0	20645.15	4000	
Ni	60	45	He	11.075	ppb	2.2	22220.72	2000	
Cu	65	45	He	3.018	ppb	0.6	8755.91	2000	
Zn	66	72	He	60.918	ppb	2.0	50673.49	5000	
As	75	72	He	10.433	ppb	0.8	5614.05	5000	
Se	78	72	He	4.146	ppb	8.2	199.67	5000	
Rb	85	115	He	9.275	ppb	2.9	22362.35	5000	
Sr	88	115	He	720.190	ppb	2.2	2244597.41	5000	
Mo	95	115	He	25.975	ppb	1.5	80452.66	3000	
Ag	107	115	He	0.019	ppb	22.6	231.11	100	
Cd	111	115	He	0.048	ppb	25.4	73.00	5000	
Sn	118	115	He	0.728	ppb	9.2	2403.54	5000	
Sb	121	115	He	1.325	ppb	4.0	4674.11	5000	
Cs	133	115	He	0.208	ppb	2.1	1677.89	5000	
Ba	137	115	He	119.078	ppb	2.3	171050.53	5000	
Ce	140	115	He	0.478	ppb	2.1	10720.70	5000	
Tl	205	159	He	0.015	ppb	22.0	391.12	5000	
Pb	208	159	He	2.403	ppb	0.7	66163.75	4000	
U	238	159	He	1.143	ppb	2.2	30127.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	145591.83	1.6	166884.59	87.24	60	120	
Ge (IS)	72	He	130967.30	1.8	148055.94	88.46	60	120	
In-115 (IS)	115	He	1478856.35	2.1	1601841.24	92.32	60	120	
Tb-159 (IS)	159	He	4837932.17	0.6	4825099.95	100.27	60	120	

Sample Report

Sample Name	570-80603-b-1-b ms
File Name	121SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:04:35
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664348 BH
Location	3309

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	76.974	ppb	1.1	2682.73	5000	
Al	27	45	He	505.396	ppb	0.4	38023.02	5000	
V	51	45	He	83.338	ppb	0.9	255515.27	5000	
Cr	52	45	He	80.379	ppb	0.3	313430.40	5000	
Mn	55	45	He	183.851	ppb	0.8	355551.00	5000	
Fe	56	45	He	1145.705	ppb	0.7	3477272.78	50000	
Co	59	45	He	81.301	ppb	0.7	572567.13	4000	
Ni	60	45	He	86.209	ppb	0.3	169108.47	2000	
Cu	65	45	He	79.321	ppb	0.3	221914.26	2000	
Zn	66	72	He	134.198	ppb	0.7	109414.13	5000	
As	75	72	He	89.015	ppb	0.7	47200.40	5000	
Se	78	72	He	80.595	ppb	0.6	2684.24	5000	
Rb	85	115	He	86.806	ppb	1.5	204437.09	5000	
Sr	88	115	He	796.353	ppb	1.4	2424457.89	5000	
Mo	95	115	He	106.776	ppb	1.3	322991.23	3000	
Ag	107	115	He	73.068	ppb	1.4	808456.90	100	
Cd	111	115	He	76.257	ppb	1.7	107736.36	5000	
Sn	118	115	He	84.351	ppb	1.3	253407.81	5000	
Sb	121	115	He	92.800	ppb	1.3	316721.76	5000	
Cs	133	115	He	81.791	ppb	1.6	642477.16	5000	
Ba	137	115	He	201.389	ppb	1.6	282569.53	5000	
Ce	140	115	He	82.878	ppb	2.0	1793835.69	5000	
Tl	205	159	He	77.439	ppb	0.9	1610617.58	5000	
Pb	208	159	He	80.409	ppb	0.5	2146635.71	4000	
U	238	159	He	83.496	ppb	0.7	2139339.50	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	142574.83	0.4	166884.59	85.43	60	120	
Ge (IS)	72	He	129239.29	0.5	148055.94	87.29	60	120	
In-115 (IS)	115	He	1444317.53	1.5	1601841.24	90.17	60	120	
Tb-159 (IS)	159	He	4704033.98	1.1	4825099.95	97.49	60	120	

Sample Report

Sample Name 570-80603-b-1-c msd

File Name 122SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:06:40

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3310

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	74.307	ppb	1.2	2706.07	5000	
Al	27	45	He	506.330	ppb	0.3	39804.83	5000	
V	51	45	He	80.793	ppb	0.7	258837.92	5000	
Cr	52	45	He	77.868	ppb	0.9	317269.81	5000	
Mn	55	45	He	176.986	ppb	0.6	357650.14	5000	
Fe	56	45	He	1101.806	ppb	0.8	3494282.36	50000	
Co	59	45	He	78.394	ppb	0.7	576875.99	4000	
Ni	60	45	He	83.322	ppb	0.4	170786.03	2000	
Cu	65	45	He	76.975	ppb	1.5	225007.27	2000	
Zn	66	72	He	132.244	ppb	1.3	111715.39	5000	
As	75	72	He	85.910	ppb	1.0	47196.40	5000	
Se	78	72	He	78.689	ppb	3.3	2716.25	5000	
Rb	85	115	He	84.609	ppb	0.6	206950.77	5000	
Sr	88	115	He	773.644	ppb	0.5	2446097.20	5000	
Mo	95	115	He	103.754	ppb	0.1	325940.97	3000	
Ag	107	115	He	71.185	ppb	0.2	817973.68	100	
Cd	111	115	He	74.099	ppb	0.8	108726.33	5000	
Sn	118	115	He	81.105	ppb	0.1	253053.21	5000	
Sb	121	115	He	89.246	ppb	0.2	316340.53	5000	
Cs	133	115	He	79.137	ppb	0.4	645627.81	5000	
Ba	137	115	He	194.694	ppb	0.7	283717.28	5000	
Ce	140	115	He	80.257	ppb	0.9	1804110.27	5000	
Tl	205	159	He	75.842	ppb	1.1	1620183.37	5000	
Pb	208	159	He	78.160	ppb	0.3	2143429.01	4000	
U	238	159	He	81.105	ppb	1.4	2134502.41	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	148982.44	1.2	166884.59	89.27	60	120	
Ge (IS)	72	He	133909.60	1.4	148055.94	90.45	60	120	
In-115 (IS)	115	He	1499818.86	0.6	1601841.24	93.63	60	120	
Tb-159 (IS)	159	He	4832002.86	0.3	4825099.95	100.14	60	120	

Sample Report

Sample Name 570-80604-b-1-a

File Name 123SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:08:46

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3311

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.019	ppb	71.8	1.00	5000	
Al	27	45	He	19.243	ppb	1.2	1584.09	5000	
V	51	45	He	0.491	ppb	1.7	1700.10	5000	
Cr	52	45	He	3.574	ppb	1.5	14915.12	5000	
Mn	55	45	He	88.222	ppb	0.4	180894.47	5000	
Fe	56	45	He	2155.676	ppb	0.8	6931912.92	50000	
Co	59	45	He	2.000	ppb	1.0	14944.08	4000	
Ni	60	45	He	7.081	ppb	1.7	14768.35	2000	
Cu	65	45	He	6.126	ppb	2.3	18297.79	2000	
Zn	66	72	He	533.379	ppb	0.5	455439.01	5000	
As	75	72	He	2.725	ppb	0.9	1529.75	5000	
Se	78	72	He	254.968	ppb	0.6	8790.25	5000	
Rb	85	115	He	5.146	ppb	2.7	12906.77	5000	
Sr	88	115	He	232.529	ppb	0.3	753644.10	5000	
Mo	95	115	He	1.938	ppb	1.9	6252.45	3000	
Ag	107	115	He	0.019	ppb	7.4	236.67	100	
Cd	111	115	He	0.018	ppb	18.2	29.67	5000	
Sn	118	115	He	0.312	ppb	15.8	1162.27	5000	
Sb	121	115	He	0.665	ppb	8.2	2462.48	5000	
Cs	133	115	He	0.065	ppb	2.7	551.13	5000	
Ba	137	115	He	15.767	ppb	0.7	23561.54	5000	
Ce	140	115	He	0.092	ppb	2.8	2254.64	5000	
Tl	205	159	He	0.016	ppb	11.4	425.56	5000	
Pb	208	159	He	0.153	ppb	3.8	4448.09	4000	
U	238	159	He	0.841	ppb	2.3	22505.75	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	151144.68	1.4	166884.59	90.57	60	120	
Ge (IS)	72	He	135946.88	2.3	148055.94	91.82	60	120	
In-115 (IS)	115	He	1537344.40	2.0	1601841.24	95.97	60	120	
Tb-159 (IS)	159	He	4913710.36	1.8	4825099.95	101.84	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV-6816997
File Name	124_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:10:51
Sample Type	CCV
Total Dilution	1.0000
Comment	—
Location	1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	50.064	ppb	1.3	1661.92	50	100.13	90	110	
Al	27	45	He	51.255	ppb	2.5	3713.79	50	102.51	90	110	
V	51	45	He	50.761	ppb	0.6	148257.90	50	101.52	90	110	
Cr	52	45	He	50.620	ppb	1.1	188027.07	50	101.24	90	110	
Mn	55	45	He	51.492	ppb	1.0	94872.63	50	102.98	90	110	
Fe	56	45	He	520.966	ppb	1.2	1508160.18	500	104.19	90	110	
Co	59	45	He	51.031	ppb	0.8	342275.04	50	102.06	90	110	
Ni	60	45	He	50.221	ppb	1.3	93841.70	50	100.44	90	110	
Cu	65	45	He	51.144	ppb	2.3	136310.62	50	102.29	90	110	
Zn	66	72	He	50.417	ppb	0.6	39966.06	50	100.83	90	110	
As	75	72	He	48.743	ppb	0.5	24892.20	50	97.49	90	110	
Se	78	72	He	50.784	ppb	2.8	1651.10	50	101.57	90	110	
Rb	85	115	He	48.429	ppb	0.8	112166.37	50	96.86	90	110	
Sr	88	115	He	49.207	ppb	0.7	147329.54	50	98.41	90	110	
Mo	95	115	He	48.886	ppb	0.5	145420.83	50	97.77	90	110	
Ag	107	115	He	50.621	ppb	0.6	550777.93	50	101.24	90	110	
Cd	111	115	He	50.625	ppb	0.1	70336.99	50	101.25	90	110	
Sn	118	115	He	51.929	ppb	1.7	153477.38	50	103.86	90	110	
Sb	121	115	He	50.465	ppb	0.7	169393.01	50	100.93	90	110	
Cs	133	115	He	50.593	ppb	0.6	390820.02	50	101.19	90	110	
Ba	137	115	He	51.067	ppb	1.3	70468.43	50	102.13	90	110	
Ce	140	115	He	51.758	ppb	0.6	1101722.18	50	103.52	90	110	
Tl	205	159	He	50.173	ppb	0.6	1006294.47	50	100.35	90	110	
Pb	208	159	He	50.809	ppb	0.7	1308188.36	50	101.62	90	110	
U	238	159	He	49.801	ppb	0.5	1230476.42	50	99.6	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135780.30	0.7	166884.59	81.36	60	120	
Ge (IS)	72	He	124451.72	0.8	148055.94	84.06	60	120	
In-115 (IS)	115	He	1420091.22	0.9	1601841.24	88.65	60	120	
Tb-159 (IS)	159	He	4536389.82	0.5	4825099.95	94.02	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 125_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:12:55

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.007	ppb	212.6	0.50	0.5	
Al	27	45	He	0.225	ppb	53.2	60.67	10	
V	51	45	He	0.056	ppb	17.0	252.23	1	
Cr	52	45	He	0.043	ppb	18.7	284.45	1	
Mn	55	45	He	0.033	ppb	78.0	105.55	1	
Fe	56	45	He	2.921	ppb	13.8	12439.61	20	
Co	59	45	He	0.004	ppb	18.9	38.89	1	
Ni	60	45	He	0.011	ppb	43.1	64.44	1	
Cu	65	45	He	0.026	ppb	59.2	195.56	1	
Zn	66	72	He	0.088	ppb	52.7	667.80	5	
As	75	72	He	0.011	ppb	83.6	14.33	1	
Se	78	72	He	0.094	ppb	498.8	61.33	1	
Rb	85	115	He	0.010	ppb	36.7	25.56	1	
Sr	88	115	He	0.013	ppb	25.3	51.11	1	
Mo	95	115	He	0.079	ppb	4.8	241.11	1	
Ag	107	115	He	0.013	ppb	35.8	150.00	1	
Cd	111	115	He	0.001	ppb	104.4	4.33	1	
Sn	118	115	He	0.366	ppb	8.0	1201.17	10	
Sb	121	115	He	0.217	ppb	1.9	751.14	1	
Cs	133	115	He	0.011	ppb	12.2	87.78	1	
Ba	137	115	He	0.027	ppb	13.4	44.44	1	
Ce	140	115	He	0.007	ppb	22.3	272.23	1	
Tl	205	159	He	0.007	ppb	38.9	212.23	1	
Pb	208	159	He	0.011	ppb	17.8	453.34	1	
U	238	159	He	0.094	ppb	5.0	2270.24	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	132512.05	0.7	166884.59	79.4	60	120	
Ge (IS)	72	He	121681.29	1.2	148055.94	82.19	60	120	
In-115 (IS)	115	He	1382036.91	0.3	1601841.24	86.28	60	120	
Tb-159 (IS)	159	He	4439567.88	0.5	4825099.95	92.01	60	120	

Sample Report

Sample Name	570-80605-b-1-a
File Name	126SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:14:58
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664348 BH
Location	3312

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.007	ppb	2.5	0.50	5000	
Al	27	45	He	25.651	ppb	2.1	1888.12	5000	
V	51	45	He	0.607	ppb	1.0	1873.46	5000	
Cr	52	45	He	3.826	ppb	3.1	14384.62	5000	
Mn	55	45	He	107.938	ppb	0.9	199529.33	5000	
Fe	56	45	He	3364.683	ppb	0.8	9751522.67	50000	
Co	59	45	He	2.363	ppb	2.5	15916.16	4000	
Ni	60	45	He	8.262	ppb	0.9	15531.33	2000	
Cu	65	45	He	7.181	ppb	3.3	19322.37	2000	
Zn	66	72	He	685.863	ppb	0.7	535803.21	5000	
As	75	72	He	3.237	ppb	1.6	1661.09	5000	
Se	78	72	He	318.755	ppb	1.4	10043.03	5000	
Rb	85	115	He	5.800	ppb	2.1	12963.47	5000	
Sr	88	115	He	255.722	ppb	0.6	738832.59	5000	
Mo	95	115	He	2.069	ppb	1.5	5951.23	3000	
Ag	107	115	He	0.010	ppb	19.8	116.67	100	
Cd	111	115	He	0.021	ppb	25.0	30.33	5000	
Sn	118	115	He	0.378	ppb	9.7	1227.84	5000	
Sb	121	115	He	0.728	ppb	11.2	2397.99	5000	
Cs	133	115	He	0.075	ppb	6.3	564.46	5000	
Ba	137	115	He	17.775	ppb	1.7	23678.38	5000	
Ce	140	115	He	0.162	ppb	4.2	3444.88	5000	
Tl	205	159	He	0.015	ppb	24.4	370.00	5000	
Pb	208	159	He	0.237	ppb	2.9	6267.26	4000	
U	238	159	He	0.706	ppb	2.3	17448.27	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	136268.15	1.1	166884.59	81.65	60	120	
Ge (IS)	72	He	124417.99	0.9	148055.94	84.03	60	120	
In-115 (IS)	115	He	1370501.69	0.9	1601841.24	85.56	60	120	
Tb-159 (IS)	159	He	4532181.35	1.4	4825099.95	93.93	60	120	

Sample Report

Sample Name 570-80119-a-1-a

File Name 127SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:17:05

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3401

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.041	ppb	55.0	1.67	5000	
Al	27	45	He	124.424	ppb	5.5	9172.90	5000	
V	51	45	He	1.084	ppb	1.0	3340.38	5000	
Cr	52	45	He	0.442	ppb	7.3	1817.90	5000	
Mn	55	45	He	1.587	ppb	3.2	3044.77	5000	
Fe	56	45	He	114.829	ppb	2.5	344158.52	50000	
Co	59	45	He	0.052	ppb	8.2	371.12	4000	
Ni	60	45	He	0.567	ppb	6.2	1132.27	2000	
Cu	65	45	He	1.433	ppb	3.5	4043.89	2000	
Zn	66	72	He	2.357	ppb	8.0	2504.66	5000	
As	75	72	He	0.712	ppb	2.8	380.01	5000	
Se	78	72	He	0.278	ppb	130.3	70.00	5000	
Rb	85	115	He	0.981	ppb	1.7	2377.98	5000	
Sr	88	115	He	2.262	ppb	2.5	7091.72	5000	
Mo	95	115	He	0.248	ppb	15.5	783.36	3000	
Ag	107	115	He	0.005	ppb	22.4	75.56	100	
Cd	111	115	He	0.005	ppb	51.9	10.67	5000	
Sn	118	115	He	0.076	ppb	32.7	394.45	5000	
Sb	121	115	He	0.114	ppb	4.0	444.46	5000	
Cs	133	115	He	0.026	ppb	12.4	217.78	5000	
Ba	137	115	He	0.958	ppb	0.9	1388.97	5000	
Ce	140	115	He	0.633	ppb	1.3	14217.07	5000	
Tl	205	159	He	0.005	ppb	15.7	168.89	5000	
Pb	208	159	He	0.382	ppb	2.0	10234.85	4000	
U	238	159	He	0.076	ppb	2.8	1920.19	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	139169.45	0.6	166884.59	83.39	60	120	
Ge (IS)	72	He	127026.25	0.9	148055.94	85.8	60	120	
In-115 (IS)	115	He	1483917.24	1.1	1601841.24	92.64	60	120	
Tb-159 (IS)	159	He	4643563.01	0.8	4825099.95	96.24	60	120	

Sample Report

Sample Name 570-80119-a-2-a

File Name 128SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:19:09

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3402

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.032	ppb	72.1	1.33	5000	
Al	27	45	He	338.222	ppb	1.2	24149.46	5000	
V	51	45	He	2.025	ppb	2.4	5982.31	5000	
Cr	52	45	He	0.928	ppb	6.1	3560.43	5000	
Mn	55	45	He	12.273	ppb	1.1	22556.73	5000	
Fe	56	45	He	366.617	ppb	1.2	1058262.53	50000	
Co	59	45	He	0.284	ppb	2.6	1906.80	4000	
Ni	60	45	He	1.626	ppb	1.5	3069.21	2000	
Cu	65	45	He	3.362	ppb	2.0	9046.08	2000	
Zn	66	72	He	22.971	ppb	1.4	18397.93	5000	
As	75	72	He	0.444	ppb	4.8	233.67	5000	
Se	78	72	He	0.061	ppb	254.9	61.33	5000	
Rb	85	115	He	0.971	ppb	4.6	2262.41	5000	
Sr	88	115	He	23.823	ppb	1.9	71717.50	5000	
Mo	95	115	He	0.421	ppb	6.3	1270.06	3000	
Ag	107	115	He	0.007	ppb	27.2	96.67	100	
Cd	111	115	He	0.033	ppb	14.4	49.67	5000	
Sn	118	115	He	0.073	ppb	26.9	372.23	5000	
Sb	121	115	He	0.172	ppb	3.6	623.35	5000	
Cs	133	115	He	0.043	ppb	13.6	338.90	5000	
Ba	137	115	He	11.429	ppb	2.5	15859.91	5000	
Ce	140	115	He	1.331	ppb	0.8	28620.74	5000	
Tl	205	159	He	0.009	ppb	20.9	243.34	5000	
Pb	208	159	He	1.629	ppb	1.3	42239.85	4000	
U	238	159	He	0.089	ppb	6.1	2226.89	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135227.85	0.9	166884.59	81.03	60	120	
Ge (IS)	72	He	123471.22	0.6	148055.94	83.39	60	120	
In-115 (IS)	115	He	1428070.20	2.2	1601841.24	89.15	60	120	
Tb-159 (IS)	159	He	4550306.90	0.4	4825099.95	94.3	60	120	

Sample Report

Sample Name	570-80119-a-3-a
File Name	129SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:21:12
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664348 BH
Location	3403

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.022	ppb	69.3	1.00	5000	
Al	27	45	He	41.766	ppb	1.6	3024.97	5000	
V	51	45	He	1.092	ppb	3.6	3270.37	5000	
Cr	52	45	He	0.577	ppb	5.3	2265.74	5000	
Mn	55	45	He	1.618	ppb	1.0	3016.99	5000	
Fe	56	45	He	61.731	ppb	1.5	181917.26	50000	
Co	59	45	He	0.097	ppb	8.4	661.13	4000	
Ni	60	45	He	1.075	ppb	9.4	2047.93	2000	
Cu	65	45	He	5.194	ppb	0.9	13917.56	2000	
Zn	66	72	He	4.910	ppb	4.4	4464.01	5000	
As	75	72	He	2.444	ppb	0.8	1261.05	5000	
Se	78	72	He	0.440	ppb	45.1	74.00	5000	
Rb	85	115	He	0.680	ppb	2.4	1595.65	5000	
Sr	88	115	He	36.954	ppb	1.6	111924.59	5000	
Mo	95	115	He	0.509	ppb	6.6	1543.42	3000	
Ag	107	115	He	1.002	ppb	6.8	11033.07	100	
Cd	111	115	He	0.019	ppb	19.1	29.33	5000	
Sn	118	115	He	29.810	ppb	1.6	89214.71	5000	
Sb	121	115	He	0.252	ppb	1.9	897.81	5000	
Cs	133	115	He	0.002	ppb	33.8	23.34	5000	
Ba	137	115	He	17.006	ppb	1.7	23744.03	5000	
Ce	140	115	He	0.398	ppb	2.7	8703.78	5000	
Tl	205	159	He	0.007	ppb	19.2	210.00	5000	
Pb	208	159	He	0.315	ppb	2.9	8379.95	4000	
U	238	159	He	0.103	ppb	6.5	2590.30	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135353.34	1.3	166884.59	81.11	60	120	
Ge (IS)	72	He	124915.52	0.5	148055.94	84.37	60	120	
In-115 (IS)	115	He	1436851.92	2.3	1601841.24	89.7	60	120	
Tb-159 (IS)	159	He	4587389.96	1.0	4825099.95	95.07	60	120	

Sample Report

Sample Name 570-80119-a-4-a

File Name 130SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:23:15

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3404

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.053	ppb	57.4	2.00	5000	
Al	27	45	He	484.582	ppb	1.8	34132.41	5000	
V	51	45	He	2.261	ppb	4.0	6581.45	5000	
Cr	52	45	He	1.080	ppb	4.0	4071.67	5000	
Mn	55	45	He	23.368	ppb	1.1	42346.48	5000	
Fe	56	45	He	623.340	ppb	0.8	1773028.13	50000	
Co	59	45	He	0.374	ppb	4.0	2475.78	4000	
Ni	60	45	He	2.503	ppb	1.4	4639.62	2000	
Cu	65	45	He	5.511	ppb	1.6	14553.71	2000	
Zn	66	72	He	22.278	ppb	2.4	17668.14	5000	
As	75	72	He	0.643	ppb	3.7	331.00	5000	
Se	78	72	He	-0.025	ppb	N/A	58.00	5000	
Rb	85	115	He	1.644	ppb	2.3	3811.62	5000	
Sr	88	115	He	8.907	ppb	0.8	26683.94	5000	
Mo	95	115	He	0.221	ppb	12.5	670.02	3000	
Ag	107	115	He	0.015	ppb	15.4	180.00	100	
Cd	111	115	He	0.067	ppb	6.9	95.67	5000	
Sn	118	115	He	0.455	ppb	13.2	1498.97	5000	
Sb	121	115	He	0.167	ppb	6.7	601.13	5000	
Cs	133	115	He	0.081	ppb	15.7	631.13	5000	
Ba	137	115	He	11.257	ppb	1.7	15541.75	5000	
Ce	140	115	He	1.626	ppb	2.2	34734.59	5000	
Tl	205	159	He	0.015	ppb	19.3	370.01	5000	
Pb	208	159	He	2.735	ppb	0.7	70756.26	4000	
U	238	159	He	0.069	ppb	7.0	1710.13	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133470.57	0.3	166884.59	79.98	60	120	
Ge (IS)	72	He	122139.49	0.5	148055.94	82.5	60	120	
In-115 (IS)	115	He	1420418.81	1.1	1601841.24	88.67	60	120	
Tb-159 (IS)	159	He	4547079.54	0.2	4825099.95	94.24	60	120	

Sample Report

Sample Name	570-80983-b-1-a
File Name	131SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:25:19
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664348 BH
Location	3405

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.023	ppb	1.0	1.00	5000	
Al	27	45	He	6.668	ppb	11.9	513.34	5000	
V	51	45	He	1.393	ppb	4.9	4081.68	5000	
Cr	52	45	He	0.335	ppb	9.5	1350.07	5000	
Mn	55	45	He	1.822	ppb	3.3	3339.27	5000	
Fe	56	45	He	58.333	ppb	0.9	169458.05	50000	
Co	59	45	He	0.029	ppb	9.3	205.56	4000	
Ni	60	45	He	0.587	ppb	14.9	1118.94	2000	
Cu	65	45	He	10.161	ppb	0.7	26675.76	2000	
Zn	66	72	He	14.974	ppb	1.2	12081.54	5000	
As	75	72	He	4.794	ppb	1.7	2412.20	5000	
Se	78	72	He	0.146	ppb	83.0	63.33	5000	
Rb	85	115	He	4.540	ppb	1.0	10300.26	5000	
Sr	88	115	He	265.451	ppb	0.2	778319.95	5000	
Mo	95	115	He	16.345	ppb	0.7	47626.35	3000	
Ag	107	115	He	0.004	ppb	29.0	55.56	100	
Cd	111	115	He	0.009	ppb	29.7	14.67	5000	
Sn	118	115	He	0.236	ppb	3.4	833.36	5000	
Sb	121	115	He	0.934	ppb	6.4	3110.35	5000	
Cs	133	115	He	0.196	ppb	8.3	1486.75	5000	
Ba	137	115	He	25.650	ppb	1.7	34669.51	5000	
Ce	140	115	He	0.033	ppb	3.2	807.80	5000	
Tl	205	159	He	0.007	ppb	3.2	214.45	5000	
Pb	208	159	He	0.196	ppb	1.0	5175.97	4000	
U	238	159	He	7.114	ppb	0.9	174550.50	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133232.79	0.7	166884.59	79.84	60	120	
Ge (IS)	72	He	122211.15	0.6	148055.94	82.54	60	120	
In-115 (IS)	115	He	1390823.21	0.2	1601841.24	86.83	60	120	
Tb-159 (IS)	159	He	4504788.29	0.4	4825099.95	93.36	60	120	

Sample Report

Sample Name 570-80983-b-2-a

File Name 132SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:27:22

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3406

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.001	ppb	749.9	0.33	5000	
Al	27	45	He	8.209	ppb	4.9	686.69	5000	
V	51	45	He	1.327	ppb	3.8	4301.74	5000	
Cr	52	45	He	0.297	ppb	1.4	1336.73	5000	
Mn	55	45	He	4.343	ppb	1.6	8723.64	5000	
Fe	56	45	He	76.160	ppb	1.1	243060.90	50000	
Co	59	45	He	0.144	ppb	6.8	1060.04	4000	
Ni	60	45	He	6.672	ppb	3.7	13563.88	2000	
Cu	65	45	He	634.476	ppb	0.2	1831829.86	2000	
Zn	66	72	He	339.278	ppb	0.3	291155.84	5000	
As	75	72	He	3.862	ppb	2.3	2172.49	5000	
Se	78	72	He	-0.255	ppb	N/A	57.00	5000	
Rb	85	115	He	4.321	ppb	2.4	11162.01	5000	
Sr	88	115	He	255.524	ppb	0.8	852889.20	5000	
Mo	95	115	He	15.180	ppb	0.7	50351.99	3000	
Ag	107	115	He	0.009	ppb	24.3	122.22	100	
Cd	111	115	He	0.011	ppb	16.3	21.00	5000	
Sn	118	115	He	1.697	ppb	2.2	5760.06	5000	
Sb	121	115	He	0.859	ppb	4.4	3261.49	5000	
Cs	133	115	He	0.188	ppb	2.7	1627.88	5000	
Ba	137	115	He	24.434	ppb	0.4	37593.47	5000	
Ce	140	115	He	0.107	ppb	4.1	2673.60	5000	
Tl	205	159	He	0.005	ppb	4.9	191.12	5000	
Pb	208	159	He	1.472	ppb	2.2	42052.25	4000	
U	238	159	He	5.886	ppb	0.8	160582.41	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	147213.54	1.2	166884.59	88.21	60	120	
Ge (IS)	72	He	136514.00	1.3	148055.94	92.2	60	120	
In-115 (IS)	115	He	1583220.17	0.9	1601841.24	98.84	60	120	
Tb-159 (IS)	159	He	5008870.77	0.9	4825099.95	103.81	60	120	

Sample Report

Sample Name	570-80983-b-3-a
File Name	133SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:29:26
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664348 BH
Location	3407

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.012	ppb	143.3	0.67	5000	
Al	27	45	He	29.561	ppb	4.5	2096.82	5000	
V	51	45	He	4.249	ppb	2.1	12129.31	5000	
Cr	52	45	He	1.095	ppb	5.7	4069.45	5000	
Mn	55	45	He	9.037	ppb	0.6	16198.66	5000	
Fe	56	45	He	6088.235	ppb	0.9	17060352.10	50000	
Co	59	45	He	0.097	ppb	5.3	644.46	4000	
Ni	60	45	He	4.730	ppb	2.0	8619.16	2000	
Cu	65	45	He	334.999	ppb	1.3	865783.28	2000	
Zn	66	72	He	239.261	ppb	0.7	180705.99	5000	
As	75	72	He	7.449	ppb	0.4	3676.12	5000	
Se	78	72	He	0.360	ppb	16.7	68.67	5000	
Rb	85	115	He	4.127	ppb	0.8	9173.98	5000	
Sr	88	115	He	271.493	ppb	0.4	779934.19	5000	
Mo	95	115	He	14.588	ppb	0.6	41647.34	3000	
Ag	107	115	He	0.008	ppb	17.2	97.78	100	
Cd	111	115	He	0.034	ppb	2.8	48.00	5000	
Sn	118	115	He	0.535	ppb	2.4	1664.55	5000	
Sb	121	115	He	0.950	ppb	1.1	3099.24	5000	
Cs	133	115	He	0.167	ppb	1.2	1238.95	5000	
Ba	137	115	He	36.825	ppb	0.2	48762.27	5000	
Ce	140	115	He	0.140	ppb	1.7	2974.77	5000	
Tl	205	159	He	0.014	ppb	13.1	354.45	5000	
Pb	208	159	He	4.449	ppb	0.2	112129.96	4000	
U	238	159	He	7.364	ppb	1.8	177860.51	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	131787.18	1.7	166884.59	78.97	60	120	
Ge (IS)	72	He	120030.70	0.6	148055.94	81.07	60	120	
In-115 (IS)	115	He	1362661.26	0.8	1601841.24	85.07	60	120	
Tb-159 (IS)	159	He	4434112.05	0.5	4825099.95	91.9	60	120	

Sample Report

Sample Name 570-80983-b-4-a

File Name 134SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:31:29

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3408

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.023	ppb	67.6	1.00	5000	
Al	27	45	He	28.626	ppb	2.7	2030.14	5000	
V	51	45	He	4.329	ppb	1.2	12340.58	5000	
Cr	52	45	He	1.063	ppb	3.2	3953.86	5000	
Mn	55	45	He	9.226	ppb	0.3	16515.67	5000	
Fe	56	45	He	6172.509	ppb	0.5	17276585.98	50000	
Co	59	45	He	0.099	ppb	3.4	658.91	4000	
Ni	60	45	He	4.684	ppb	0.9	8524.65	2000	
Cu	65	45	He	339.133	ppb	0.7	875484.55	2000	
Zn	66	72	He	238.869	ppb	1.2	182366.56	5000	
As	75	72	He	7.557	ppb	0.8	3770.15	5000	
Se	78	72	He	0.336	ppb	99.5	68.67	5000	
Rb	85	115	He	4.108	ppb	0.5	9200.65	5000	
Sr	88	115	He	273.268	ppb	0.5	790915.28	5000	
Mo	95	115	He	14.526	ppb	0.3	41781.06	3000	
Ag	107	115	He	0.009	ppb	4.2	105.55	100	
Cd	111	115	He	0.030	ppb	12.3	43.00	5000	
Sn	118	115	He	0.484	ppb	4.9	1531.20	5000	
Sb	121	115	He	0.966	ppb	1.8	3173.70	5000	
Cs	133	115	He	0.160	ppb	4.1	1198.95	5000	
Ba	137	115	He	36.779	ppb	1.1	49066.67	5000	
Ce	140	115	He	0.141	ppb	1.2	3030.34	5000	
Tl	205	159	He	0.011	ppb	5.9	296.67	5000	
Pb	208	159	He	4.477	ppb	0.2	113283.16	4000	
U	238	159	He	7.312	ppb	1.1	177289.56	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	131626.64	0.8	166884.59	78.87	60	120	
Ge (IS)	72	He	121334.05	0.6	148055.94	81.95	60	120	
In-115 (IS)	115	He	1372901.83	0.2	1601841.24	85.71	60	120	
Tb-159 (IS)	159	He	4451843.99	0.5	4825099.95	92.26	60	120	

Sample Report

Sample Name 570-80983-b-5-a

File Name 135SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:33:32

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664348 BH

Location 3409

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.007	ppb	1.2	0.50	5000	
Al	27	45	He	5.488	ppb	2.9	430.68	5000	
V	51	45	He	1.320	ppb	4.0	3874.96	5000	
Cr	52	45	He	0.299	ppb	7.1	1217.83	5000	
Mn	55	45	He	1.168	ppb	3.9	2159.06	5000	
Fe	56	45	He	21.581	ppb	1.6	65385.37	50000	
Co	59	45	He	0.028	ppb	23.7	196.67	4000	
Ni	60	45	He	0.558	ppb	3.4	1066.71	2000	
Cu	65	45	He	55.292	ppb	0.8	144637.83	2000	
Zn	66	72	He	40.091	ppb	2.6	31575.15	5000	
As	75	72	He	4.773	ppb	2.1	2420.53	5000	
Se	78	72	He	0.315	ppb	117.3	69.00	5000	
Rb	85	115	He	4.606	ppb	2.8	10404.78	5000	
Sr	88	115	He	252.326	ppb	0.6	736689.08	5000	
Mo	95	115	He	16.572	ppb	1.6	48083.37	3000	
Ag	107	115	He	0.005	ppb	9.0	72.22	100	
Cd	111	115	He	0.005	ppb	49.2	9.00	5000	
Sn	118	115	He	0.225	ppb	12.6	797.80	5000	
Sb	121	115	He	0.879	ppb	3.6	2918.09	5000	
Cs	133	115	He	0.192	ppb	4.8	1450.08	5000	
Ba	137	115	He	23.781	ppb	1.4	32005.54	5000	
Ce	140	115	He	0.010	ppb	17.4	326.68	5000	
Tl	205	159	He	0.007	ppb	24.0	212.23	5000	
Pb	208	159	He	0.205	ppb	1.2	5371.55	4000	
U	238	159	He	6.985	ppb	1.8	170344.31	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133275.43	0.5	166884.59	79.86	60	120	
Ge (IS)	72	He	123191.49	1.8	148055.94	83.21	60	120	
In-115 (IS)	115	He	1384891.45	0.3	1601841.24	86.46	60	120	
Tb-159 (IS)	159	He	4477373.30	0.5	4825099.95	92.79	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV-6816997
File Name	136_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:35:36
Sample Type	CCV
Total Dilution	1.0000
Comment	—
Location	1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	49.078	ppb	3.1	1558.41	50	98.16	90	110	
Al	27	45	He	50.808	ppb	1.3	3522.41	50	101.62	90	110	
V	51	45	He	51.142	ppb	0.9	142906.02	50	102.28	90	110	
Cr	52	45	He	51.070	ppb	0.1	181481.39	50	102.14	90	110	
Mn	55	45	He	52.040	ppb	0.6	91723.42	50	104.08	90	110	
Fe	56	45	He	522.980	ppb	0.2	1448385.15	500	104.6	90	110	
Co	59	45	He	51.551	ppb	0.7	330777.34	50	103.1	90	110	
Ni	60	45	He	50.520	ppb	0.5	90303.54	50	101.04	90	110	
Cu	65	45	He	51.326	ppb	0.5	130870.57	50	102.65	90	110	
Zn	66	72	He	50.731	ppb	0.8	38784.10	50	101.46	90	110	
As	75	72	He	49.066	ppb	0.5	24168.71	50	98.13	90	110	
Se	78	72	He	50.779	ppb	1.4	1592.09	50	101.56	90	110	
Rb	85	115	He	48.780	ppb	1.1	109163.42	50	97.56	90	110	
Sr	88	115	He	49.599	ppb	2.0	143492.50	50	99.2	90	110	
Mo	95	115	He	49.172	ppb	0.9	141336.21	50	98.34	90	110	
Ag	107	115	He	50.688	ppb	0.7	532886.49	50	101.38	90	110	
Cd	111	115	He	51.166	ppb	0.6	68688.57	50	102.33	90	110	
Sn	118	115	He	52.477	ppb	0.4	149848.74	50	104.95	90	110	
Sb	121	115	He	51.443	ppb	0.6	166844.75	50	102.89	90	110	
Cs	133	115	He	51.168	ppb	0.1	381920.17	50	102.34	90	110	
Ba	137	115	He	52.578	ppb	0.8	70105.41	50	105.16	90	110	
Ce	140	115	He	52.615	ppb	1.1	1082179.58	50	105.23	90	110	
Tl	205	159	He	51.031	ppb	0.3	991918.74	50	102.06	90	110	
Pb	208	159	He	51.354	ppb	0.5	1281419.87	50	102.71	90	110	
U	238	159	He	50.461	ppb	0.2	1208304.44	50	100.92	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	129897.90	1.0	166884.59	77.84	60	120	
Ge (IS)	72	He	120036.15	0.9	148055.94	81.07	60	120	
In-115 (IS)	115	He	1372179.24	0.4	1601841.24	85.66	60	120	
Tb-159 (IS)	159	He	4396390.94	0.1	4825099.95	91.12	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 137_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:37:39

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.019	ppb	132.0	0.83	0.5	
Al	27	45	He	0.072	ppb	107.9	48.00	10	
V	51	45	He	0.015	ppb	32.6	128.89	1	
Cr	52	45	He	0.028	ppb	7.7	222.23	1	
Mn	55	45	He	0.018	ppb	17.2	76.66	1	
Fe	56	45	He	2.259	ppb	13.8	10156.78	20	
Co	59	45	He	0.005	ppb	28.1	42.22	1	
Ni	60	45	He	0.001	ppb	673.4	43.33	1	
Cu	65	45	He	0.042	ppb	22.4	227.78	1	
Zn	66	72	He	-0.054	ppb	N/A	542.24	5	
As	75	72	He	0.012	ppb	120.9	14.33	1	
Se	78	72	He	-0.060	ppb	N/A	55.00	1	
Rb	85	115	He	0.009	ppb	42.6	23.33	1	
Sr	88	115	He	0.012	ppb	10.2	46.67	1	
Mo	95	115	He	0.068	ppb	8.9	202.22	1	
Ag	107	115	He	0.008	ppb	15.3	95.56	1	
Cd	111	115	He	0.001	ppb	145.1	4.00	1	
Sn	118	115	He	0.307	ppb	22.7	1004.48	10	
Sb	121	115	He	0.156	ppb	10.0	536.68	1	
Cs	133	115	He	0.006	ppb	23.3	47.78	1	
Ba	137	115	He	0.010	ppb	92.1	20.00	1	
Ce	140	115	He	0.005	ppb	17.4	222.23	1	
Tl	205	159	He	0.007	ppb	14.0	197.78	1	
Pb	208	159	He	0.007	ppb	14.2	343.34	1	
U	238	159	He	0.075	ppb	3.4	1776.82	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	127259.19	0.4	166884.59	76.26	60	120	
Ge (IS)	72	He	117949.64	0.9	148055.94	79.67	60	120	
In-115 (IS)	115	He	1345642.87	0.3	1601841.24	84.01	60	120	
Tb-159 (IS)	159	He	4351204.13	0.6	4825099.95	90.18	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664161/1-a@20
File Name	138_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:39:49
Sample Type	MB
Total Dilution	1.0000
Comment	CAM SOIL 440-664161 BH
Location	4206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.008	ppb	195.5	0.50	0.5	
Al	27	45	He	4.790	ppb	1.6	352.68	10	
V	51	45	He	0.049	ppb	20.4	214.45	1	
Cr	52	45	He	0.232	ppb	8.9	900.03	1	
Mn	55	45	He	0.169	ppb	10.2	326.67	1	
Fe	56	45	He	13.180	ppb	2.2	38435.07	20	
Co	59	45	He	0.007	ppb	55.5	53.33	1	
Ni	60	45	He	0.058	ppb	17.1	140.00	1	
Cu	65	45	He	0.131	ppb	5.5	434.46	1	
Zn	66	72	He	0.407	ppb	48.4	851.14	5	
As	75	72	He	0.020	ppb	48.0	17.67	1	
Se	78	72	He	0.150	ppb	125.3	59.00	1	
Rb	85	115	He	0.008	ppb	38.8	20.00	1	
Sr	88	115	He	0.042	ppb	16.0	128.89	1	
Mo	95	115	He	0.065	ppb	4.6	188.89	1	
Ag	107	115	He	0.006	ppb	7.0	72.22	1	
Cd	111	115	He	0.000	ppb	369.6	3.00	1	
Sn	118	115	He	1.477	ppb	2.2	4161.73	10	
Sb	121	115	He	0.101	ppb	9.0	350.01	1	
Cs	133	115	He	0.003	ppb	24.5	25.56	1	
Ba	137	115	He	0.320	ppb	11.4	414.45	1	
Ce	140	115	He	0.006	ppb	14.0	243.34	1	
Tl	205	159	He	0.003	ppb	19.6	121.11	1	
Pb	208	159	He	0.027	ppb	10.0	804.46	1	
U	238	159	He	0.026	ppb	14.9	600.03	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	123174.14	0.6	166884.59	73.81	60	120	
Ge (IS)	72	He	113641.31	0.4	148055.94	76.76	60	120	
In-115 (IS)	115	He	1308886.10	0.3	1601841.24	81.71	60	120	
Tb-159 (IS)	159	He	4216026.22	0.4	4825099.95	87.38	60	120	

Sample Report

Sample Name	lcs 440-664161/2-a@20
File Name	139SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:41:53
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664161 BH
Location	4207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	99.603	ppb	1.4	2990.12	5000	
Al	27	45	He	102.693	ppb	3.2	6688.78	5000	
V	51	45	He	101.348	ppb	0.8	267629.82	5000	
Cr	52	45	He	102.796	ppb	0.1	345219.17	5000	
Mn	55	45	He	104.301	ppb	0.7	173756.73	5000	
Fe	56	45	He	116.745	ppb	0.2	308695.59	50000	
Co	59	45	He	105.179	ppb	0.5	638001.19	4000	
Ni	60	45	He	103.537	ppb	0.8	174923.50	2000	
Cu	65	45	He	105.128	ppb	1.3	253287.28	2000	
Zn	66	72	He	99.116	ppb	0.7	70557.25	5000	
As	75	72	He	99.413	ppb	0.6	45932.50	5000	
Se	78	72	He	97.959	ppb	1.5	2830.94	5000	
Rb	85	115	He	0.014	ppb	13.6	32.22	5000	
Sr	88	115	He	98.475	ppb	0.6	271495.38	5000	
Mo	95	115	He	99.162	ppb	0.5	271621.49	3000	
Ag	107	115	He	49.062	ppb	0.1	491556.99	100	
Cd	111	115	He	102.556	ppb	0.2	131209.30	5000	
Sn	118	115	He	106.788	ppb	0.3	290470.89	5000	
Sb	121	115	He	107.594	ppb	0.2	332519.72	5000	
Cs	133	115	He	0.003	ppb	61.7	23.33	5000	
Ba	137	115	He	104.753	ppb	0.6	133102.51	5000	
Ce	140	115	He	0.007	ppb	20.5	254.45	5000	
Tl	205	159	He	102.974	ppb	0.8	1932274.58	5000	
Pb	208	159	He	103.701	ppb	0.1	2497927.92	4000	
U	238	159	He	0.018	ppb	13.9	433.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	122802.33	0.7	166884.59	73.59	60	120	
Ge (IS)	72	He	112611.61	0.9	148055.94	76.06	60	120	
In-115 (IS)	115	He	1307722.76	0.5	1601841.24	81.64	60	120	
Tb-159 (IS)	159	He	4244330.39	0.1	4825099.95	87.96	60	120	

Sample Report

Sample Name	570-80965-a-2-a@20
File Name	140SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:43:57
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664161 BH
Location	4208

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.873	ppb	5.9	27.33	5000	
Al	27	45	He	21150.079	ppb	0.5	1415221.54	5000	>LDR
V	51	45	He	68.283	ppb	0.3	186449.30	5000	
Cr	52	45	He	27.432	ppb	0.8	95335.79	5000	
Mn	55	45	He	854.687	ppb	0.4	1471757.68	5000	
Fe	56	45	He	46425.232	ppb	0.4	125314839.46	50000	>LDR
Co	59	45	He	16.813	ppb	0.9	105449.02	4000	
Ni	60	45	He	32.695	ppb	0.2	57138.18	2000	
Cu	65	45	He	51.949	ppb	0.4	129464.05	2000	
Zn	66	72	He	152.525	ppb	1.3	106957.91	5000	
As	75	72	He	15.737	ppb	1.8	7188.39	5000	
Se	78	72	He	2.529	ppb	12.4	124.33	5000	
Rb	85	115	He	25.027	ppb	0.7	52960.33	5000	
Sr	88	115	He	49.838	ppb	0.4	136333.80	5000	
Mo	95	115	He	2.581	ppb	2.1	7025.04	3000	
Ag	107	115	He	0.275	ppb	1.4	2748.05	100	
Cd	111	115	He	0.744	ppb	2.2	946.70	5000	
Sn	118	115	He	3.066	ppb	2.3	8411.35	5000	
Sb	121	115	He	0.829	ppb	0.6	2579.13	5000	
Cs	133	115	He	2.630	ppb	0.5	18565.32	5000	
Ba	137	115	He	246.095	ppb	0.4	310242.64	5000	
Ce	140	115	He	35.780	ppb	0.6	695891.08	5000	
Tl	205	159	He	0.354	ppb	1.8	6822.83	5000	
Pb	208	159	He	23.400	ppb	0.5	573127.48	4000	
U	238	159	He	1.040	ppb	1.2	24449.08	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	126962.53	0.2	166884.59	76.08	60	120	
Ge (IS)	72	He	111246.00	1.1	148055.94	75.14	60	120	
In-115 (IS)	115	He	1297495.37	0.2	1601841.24	81	60	120	
Tb-159 (IS)	159	He	4314662.61	0.4	4825099.95	89.42	60	120	

Sample Report

Sample Name 570-80965-a-2-b ms@20

File Name 141SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:46:02

Sample Type Sample

Total Dilution 1.0000

Comment CAM SOIL 440-664161 BH

Location 4209

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	89.380	ppb	2.2	2966.78	5000	
Al	27	45	He	39782.129	ppb	0.7	2847040.33	5000	>LDR
V	51	45	He	191.033	ppb	1.0	557723.88	5000	
Cr	52	45	He	131.333	ppb	0.9	487668.64	5000	
Mn	55	45	He	1095.089	ppb	1.1	2016807.63	5000	
Fe	56	45	He	56237.484	ppb	0.8	162355624.66	50000	>LDR
Co	59	45	He	114.042	ppb	1.0	764927.09	4000	
Ni	60	45	He	131.775	ppb	0.7	246171.22	2000	
Cu	65	45	He	142.977	ppb	1.1	380862.81	2000	
Zn	66	72	He	231.120	ppb	1.6	169541.60	5000	
As	75	72	He	110.361	ppb	1.4	52779.17	5000	
Se	78	72	He	98.049	ppb	3.3	2932.96	5000	
Rb	85	115	He	37.731	ppb	0.4	81783.99	5000	
Sr	88	115	He	145.600	ppb	0.3	407951.47	5000	
Mo	95	115	He	95.191	ppb	0.4	264996.23	3000	
Ag	107	115	He	47.282	ppb	0.3	481450.21	100	
Cd	111	115	He	99.802	ppb	0.1	129768.67	5000	
Sn	118	115	He	98.777	ppb	0.4	273072.88	5000	
Sb	121	115	He	32.091	ppb	0.6	100821.38	5000	
Cs	133	115	He	3.519	ppb	1.2	25442.45	5000	
Ba	137	115	He	454.793	ppb	0.4	587273.00	5000	
Ce	140	115	He	49.737	ppb	0.4	990818.61	5000	
Tl	205	159	He	97.747	ppb	0.7	1903009.71	5000	
Pb	208	159	He	117.777	ppb	0.2	2943440.65	4000	
U	238	159	He	1.027	ppb	0.2	24652.85	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135797.37	0.8	166884.59	81.37	60	120	
Ge (IS)	72	He	116579.27	1.2	148055.94	78.74	60	120	
In-115 (IS)	115	He	1329049.04	0.3	1601841.24	82.97	60	120	
Tb-159 (IS)	159	He	4403611.77	0.4	4825099.95	91.26	60	120	

Sample Report

Sample Name	570-80965-a-2-c msd@20
File Name	142SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:48:07
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664161 BH
Location	4210

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	87.550	ppb	1.2	2920.44	5000	
Al	27	45	He	33097.098	ppb	0.7	2380316.50	5000	>LDR
V	51	45	He	180.193	ppb	0.0	528682.98	5000	
Cr	52	45	He	119.540	ppb	0.3	446081.46	5000	
Mn	55	45	He	955.491	ppb	0.3	1768437.15	5000	
Fe	56	45	He	50625.412	ppb	0.3	146876065.27	50000	>LDR
Co	59	45	He	110.272	ppb	0.5	743306.97	4000	
Ni	60	45	He	120.101	ppb	0.2	225472.60	2000	
Cu	65	45	He	141.755	ppb	0.4	379477.64	2000	
Zn	66	72	He	236.755	ppb	0.2	177594.08	5000	
As	75	72	He	106.625	ppb	1.0	52146.64	5000	
Se	78	72	He	95.064	ppb	2.5	2909.95	5000	
Rb	85	115	He	28.676	ppb	1.5	63217.82	5000	
Sr	88	115	He	152.636	ppb	0.7	434981.73	5000	
Mo	95	115	He	92.383	ppb	0.5	261574.12	3000	
Ag	107	115	He	45.828	ppb	0.3	474635.03	100	
Cd	111	115	He	96.968	ppb	0.8	128240.34	5000	
Sn	118	115	He	98.441	ppb	0.4	276796.39	5000	
Sb	121	115	He	35.089	ppb	0.4	112124.18	5000	
Cs	133	115	He	2.856	ppb	1.2	21005.33	5000	
Ba	137	115	He	339.056	ppb	0.3	445317.52	5000	
Ce	140	115	He	38.963	ppb	0.6	789496.05	5000	
Tl	205	159	He	94.879	ppb	0.6	1855453.61	5000	
Pb	208	159	He	114.260	ppb	0.6	2868276.52	4000	
U	238	159	He	1.114	ppb	1.3	26847.18	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	136462.10	0.3	166884.59	81.77	60	120	
Ge (IS)	72	He	119205.16	0.2	148055.94	80.51	60	120	
In-115 (IS)	115	He	1351789.37	0.4	1601841.24	84.39	60	120	
Tb-159 (IS)	159	He	4423268.16	0.4	4825099.95	91.67	60	120	

Sample Report

Sample Name 570-80965-a-2-aPDS@20

File Name 143SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:50:12

Sample Type Sample

Total Dilution 1.0000

Comment CAM SOIL 440-664161 BH

Location 4211

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	90.713	ppb	2.2	2948.11	5000	
Al	27	45	He	20822.401	ppb	1.1	1459013.46	5000	>LDR
V	51	45	He	164.797	ppb	0.4	471088.30	5000	
Cr	52	45	He	124.259	ppb	0.7	451761.72	5000	
Mn	55	45	He	948.715	ppb	1.1	1710707.85	5000	
Fe	56	45	He	47114.152	ppb	0.8	133172852.49	50000	>LDR
Co	59	45	He	114.022	ppb	0.4	748812.30	4000	
Ni	60	45	He	128.062	ppb	1.1	234228.58	2000	
Cu	65	45	He	149.602	ppb	0.9	390177.34	2000	
Zn	66	72	He	246.052	ppb	0.6	182646.74	5000	
As	75	72	He	113.774	ppb	0.6	55071.66	5000	
Se	78	72	He	103.303	ppb	3.4	3124.66	5000	
Rb	85	115	He	120.564	ppb	0.2	265051.84	5000	
Sr	88	115	He	148.678	ppb	0.5	422521.01	5000	
Mo	95	115	He	102.780	ppb	1.7	290191.06	3000	
Ag	107	115	He	97.930	ppb	0.9	1011378.33	100	
Cd	111	115	He	101.192	ppb	1.1	133449.71	5000	
Sn	118	115	He	109.164	ppb	0.8	306069.89	5000	
Sb	121	115	He	112.878	ppb	1.2	359585.70	5000	
Cs	133	115	He	105.861	ppb	0.8	776219.19	5000	
Ba	137	115	He	348.933	ppb	1.2	456996.39	5000	
Ce	140	115	He	141.013	ppb	1.2	2848936.21	5000	
Tl	205	159	He	100.848	ppb	0.4	1979461.73	5000	
Pb	208	159	He	123.980	ppb	1.1	3123817.76	4000	
U	238	159	He	104.493	ppb	0.8	2526737.31	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	132953.90	0.5	166884.59	79.67	60	120	
Ge (IS)	72	He	117981.23	0.6	148055.94	79.69	60	120	
In-115 (IS)	115	He	1348033.87	0.6	1601841.24	84.16	60	120	
Tb-159 (IS)	159	He	4439637.46	0.1	4825099.95	92.01	60	120	

Sample Report

Sample Name	570-80965-a-2-aSD@100
File Name	144SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:52:18
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664161 BH
Location	4212

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.164	ppb	19.8	5.50	5000	
Al	27	45	He	4319.562	ppb	0.8	298223.05	5000	
V	51	45	He	14.225	ppb	1.0	40146.01	5000	
Cr	52	45	He	5.719	ppb	0.7	20603.95	5000	
Mn	55	45	He	176.738	ppb	1.5	314004.88	5000	
Fe	56	45	He	9666.473	ppb	0.8	26922030.04	50000	
Co	59	45	He	3.482	ppb	2.3	22541.21	4000	
Ni	60	45	He	6.731	ppb	0.6	12170.48	2000	
Cu	65	45	He	11.062	ppb	0.5	28538.04	2000	
Zn	66	72	He	30.235	ppb	1.6	23577.28	5000	
As	75	72	He	3.085	ppb	2.4	1542.41	5000	
Se	78	72	He	0.635	ppb	36.3	77.67	5000	
Rb	85	115	He	5.036	ppb	1.7	11490.02	5000	
Sr	88	115	He	9.895	ppb	0.9	29190.84	5000	
Mo	95	115	He	0.599	ppb	0.8	1766.78	3000	
Ag	107	115	He	0.066	ppb	8.8	724.47	100	
Cd	111	115	He	0.154	ppb	7.5	213.00	5000	
Sn	118	115	He	0.763	ppb	4.7	2370.20	5000	
Sb	121	115	He	0.322	ppb	2.3	1105.60	5000	
Cs	133	115	He	0.515	ppb	2.0	3925.00	5000	
Ba	137	115	He	48.046	ppb	1.2	65296.31	5000	
Ce	140	115	He	6.982	ppb	1.6	146483.34	5000	
Tl	205	159	He	0.084	ppb	8.2	1745.68	5000	
Pb	208	159	He	4.607	ppb	0.8	118503.23	4000	
U	238	159	He	0.240	ppb	1.7	5918.06	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	130982.66	0.7	166884.59	78.49	60	120	
Ge (IS)	72	He	121172.92	0.7	148055.94	81.84	60	120	
In-115 (IS)	115	He	1398639.10	0.4	1601841.24	87.31	60	120	
Tb-159 (IS)	159	He	4525803.57	0.3	4825099.95	93.8	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6816997

File Name 145_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:54:21

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	48.213	ppb	2.3	1506.57	50	96.43	90	110	
Al	27	45	He	48.746	ppb	0.8	3327.03	50	97.49	90	110	
V	51	45	He	51.237	ppb	0.4	140871.84	50	102.47	90	110	
Cr	52	45	He	51.342	ppb	0.1	179538.78	50	102.68	90	110	
Mn	55	45	He	52.277	ppb	0.7	90671.49	50	104.55	90	110	
Fe	56	45	He	535.209	ppb	0.2	1458487.90	500	107.04	90	110	
Co	59	45	He	52.397	ppb	0.3	330830.97	50	104.79	90	110	
Ni	60	45	He	51.780	ppb	0.6	91078.19	50	103.56	90	110	
Cu	65	45	He	52.497	ppb	0.6	131715.49	50	104.99	90	110	
Zn	66	72	He	49.858	ppb	0.8	38311.79	50	99.72	90	110	
As	75	72	He	49.172	ppb	1.2	24339.31	50	98.34	90	110	
Se	78	72	He	52.369	ppb	1.2	1648.09	50	104.74	90	110	
Rb	85	115	He	48.052	ppb	0.4	109112.85	50	96.1	90	110	
Sr	88	115	He	48.713	ppb	1.1	143003.28	50	97.43	90	110	
Mo	95	115	He	49.245	ppb	0.6	143625.78	50	98.49	90	110	
Ag	107	115	He	50.683	ppb	0.6	540668.09	50	101.37	90	110	
Cd	111	115	He	50.946	ppb	0.6	69399.57	50	101.89	90	110	
Sn	118	115	He	52.762	ppb	0.8	152879.76	50	105.52	90	110	
Sb	121	115	He	51.538	ppb	1.3	169615.73	50	103.08	90	110	
Cs	133	115	He	51.457	ppb	0.6	389726.50	50	102.91	90	110	
Ba	137	115	He	52.456	ppb	1.1	70971.85	50	104.91	90	110	
Ce	140	115	He	52.630	ppb	0.4	1098378.74	50	105.26	90	110	
Tl	205	159	He	51.120	ppb	0.6	1011765.72	50	102.24	90	110	
Pb	208	159	He	51.349	ppb	0.4	1304672.18	50	102.7	90	110	
U	238	159	He	50.931	ppb	0.6	1241774.07	50	101.86	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	127825.21	1.8	166884.59	76.59	60	120	
Ge (IS)	72	He	120614.05	0.9	148055.94	81.47	60	120	
In-115 (IS)	115	He	1392315.96	0.8	1601841.24	86.92	60	120	
Tb-159 (IS)	159	He	4476659.12	0.8	4825099.95	92.78	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6816995

File Name 146_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220113-1LL.b

Acq Time 2022-01-13 13:56:25

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.025	ppb	114.4	1.00	0.5	
Al	27	45	He	0.304	ppb	66.5	61.33	10	
V	51	45	He	0.002	ppb	443.8	92.22	1	
Cr	52	45	He	0.024	ppb	11.6	198.89	1	
Mn	55	45	He	0.037	ppb	7.6	104.44	1	
Fe	56	45	He	4.182	ppb	12.4	14812.83	20	
Co	59	45	He	0.003	ppb	32.8	30.00	1	
Ni	60	45	He	0.008	ppb	247.8	54.44	1	
Cu	65	45	He	0.018	ppb	18.9	161.11	1	
Zn	66	72	He	-0.003	ppb	N/A	568.90	5	
As	75	72	He	0.013	ppb	32.5	14.67	1	
Se	78	72	He	-0.149	ppb	N/A	51.33	1	
Rb	85	115	He	0.009	ppb	42.6	23.33	1	
Sr	88	115	He	0.005	ppb	73.0	27.78	1	
Mo	95	115	He	0.078	ppb	12.5	230.00	1	
Ag	107	115	He	0.012	ppb	40.3	143.33	1	
Cd	111	115	He	0.002	ppb	120.1	5.00	1	
Sn	118	115	He	0.266	ppb	12.4	890.03	10	
Sb	121	115	He	0.160	ppb	10.2	547.79	1	
Cs	133	115	He	0.005	ppb	40.9	41.11	1	
Ba	137	115	He	0.022	ppb	30.5	36.67	1	
Ce	140	115	He	0.005	ppb	44.6	218.89	1	
Tl	205	159	He	0.009	ppb	23.5	244.45	1	
Pb	208	159	He	0.010	ppb	6.6	420.00	1	
U	238	159	He	0.052	ppb	3.8	1256.75	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	122773.23	1.0	166884.59	73.57	60	120	
Ge (IS)	72	He	115671.18	0.3	148055.94	78.13	60	120	
In-115 (IS)	115	He	1346505.05	0.3	1601841.24	84.06	60	120	
Tb-159 (IS)	159	He	4404841.77	0.6	4825099.95	91.29	60	120	

Sample Report

Sample Name	570-80965-a-4-a@20
File Name	147SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220113-1LL.b
Acq Time	2022-01-13 13:58:39
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664161 BH
Location	4301

QC Analyte Table

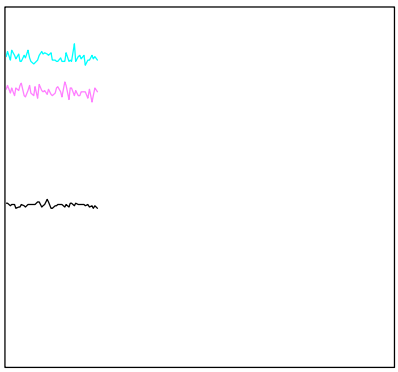
Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	1.000	ppb	13.9	33.33	5000	
Al	27	45	He	20599.022	ppb	1.1	1467803.58	5000	>LDR
V	51	45	He	63.909	ppb	0.6	185844.51	5000	
Cr	52	45	He	31.162	ppb	0.8	115313.33	5000	
Mn	55	45	He	702.952	ppb	1.1	1289041.37	5000	
Fe	56	45	He	45179.798	ppb	0.6	129871132.62	50000	>LDR
Co	59	45	He	14.391	ppb	1.0	96117.74	4000	
Ni	60	45	He	35.299	ppb	0.1	65693.63	2000	
Cu	65	45	He	51.969	ppb	0.4	137924.68	2000	
Zn	66	72	He	157.341	ppb	0.6	118863.77	5000	
As	75	72	He	15.109	ppb	0.7	7436.84	5000	
Se	78	72	He	3.080	ppb	12.8	150.67	5000	
Rb	85	115	He	23.046	ppb	0.6	51281.14	5000	
Sr	88	115	He	41.272	ppb	0.2	118719.98	5000	
Mo	95	115	He	2.755	ppb	2.7	7883.24	3000	
Ag	107	115	He	0.243	ppb	1.1	2552.46	100	
Cd	111	115	He	0.802	ppb	0.3	1073.37	5000	
Sn	118	115	He	2.521	ppb	3.3	7300.76	5000	
Sb	121	115	He	0.946	ppb	0.8	3091.46	5000	
Cs	133	115	He	2.461	ppb	0.7	18271.60	5000	
Ba	137	115	He	252.478	ppb	0.8	334683.79	5000	
Ce	140	115	He	39.964	ppb	0.6	817289.46	5000	
Tl	205	159	He	0.310	ppb	0.3	6180.30	5000	
Pb	208	159	He	23.130	ppb	0.7	584856.58	4000	
U	238	159	He	0.919	ppb	2.4	22298.73	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135211.01	0.9	166884.59	81.02	60	120	
Ge (IS)	72	He	119854.67	0.5	148055.94	80.95	60	120	
In-115 (IS)	115	He	1364343.90	0.4	1601841.24	85.17	60	120	
Tb-159 (IS)	159	He	4454508.85	0.4	4825099.95	92.32	60	120	

Current Signal

[He]



Mass	Range	Count	Avg. Count	RSD [%]
59	10000	8550	8624.2	1.38
89	10000	7674	7680.1	1.68
205	50000	22073	22526.0	1.16
70/140	1	0.812 %	0.856 %	6.62
156/140	1	0.186 %	0.228 %	13.92
51	20	8	5.3	35.72
56	5000	2773	2838.9	2.08
75	20	0	0.6	158.07
78	20	8	5.0	41.18
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1500	W	Nebulizer Pump	0.10	rps
RF Matching	1.80	V	S/C Temp	2	℃
Smpl Depth	8.0	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.80	L/min	Makeup/Dilution Gas	0.25	L/min
Option Gas	0.0	%			

Lenses Parameters

Extract 1	0.0	V	Cell Entrance	-40	V
Extract 2	-205.0	V	Cell Exit	-68	V
Omega Bias	-90	V	Deflect	4.4	V
Omega Lens	9.3	V	Plate Bias	-60	V

Cell Parameters

Use Gas	Yes		OctP RF	200	V
He Flow	4.5	mL/min	Energy Discrimination	5.0	V
OctP Bias	-18.0	V			

Qpole Parameters

Mass Gain	125	Axis Offset	0.05	
Mass Offset	125	QP Bias	-13.0	V
Axis Gain	0.9997			

Torch Axis Parameters

Torch H	0.3	mm	Torch V	-0.4	mm

EM Parameters

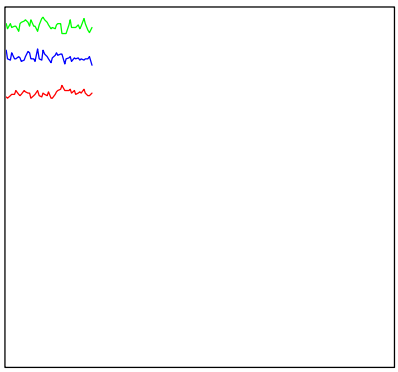
Discriminator	4.3	mV	Pulse HV	896	V
Analog HV	2117	V			

Meters

Analyzer Press	1.12E-4	Pa	Inlet Temp	29.5	℃	Forward Power	1499	W
Internal Temp	37.8	℃	Reflected Power	5	W			

Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
7	20000	16830	17257.8	1.17
65	1000	707	720.2	3.61
89	100000	76478	76264.1	1.04
205	50000	47271	47608.0	1.24
156/140	1	0.568 %	0.526 %	4.69
70/140	1	0.777 %	0.772 %	3.92
9	20	2	2.1	68.95
10	100	70	79.8	10.50
11	500	394	366.8	5.40
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1500	W	Nebulizer Pump	0.10	rps
RF Matching	1.80	V	S/C Temp	2	℃
Smpl Depth	8.0	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.80	L/min	Makeup/Dilution Gas	0.25	L/min
Option Gas	0.0	%			

Lenses Parameters

Extract 1	0.0	V	Cell Entrance	-38	V
Extract 2	-205.0	V	Cell Exit	-58	V
Omega Bias	-90	V	Deflect	16.6	V
Omega Lens	9.3	V	Plate Bias	-50	V

Cell Parameters

Use Gas	No		OctP RF	200	V
He Flow	0.0	mL/min	Energy Discrimination	5.0	V
OctP Bias	-8.0	V			

Qpole Parameters

Mass Gain	125	Axis Offset	0.05	
Mass Offset	125	QP Bias	-3.0	V
Axis Gain	0.9998			

Torch Axis Parameters

Torch H	0.3	mm	Torch V	-0.4	mm

EM Parameters

Discriminator	4.3	mV	Pulse HV	896	V
Analog HV	2117	V			

Meters

Analyzer Press	6.00E-5	Pa	Inlet Temp	29.3	℃	Forward Power	1499	W
Internal Temp	37.5	℃	Reflected Power	5	W			

US EPA Tune Check Sample Report

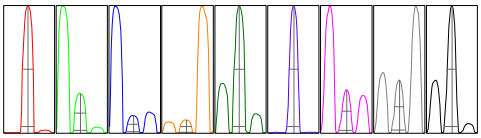
Batch Folder D:\Agilent\ICPMH\1\DATA\6_template_210510_3.b
Report Comment
Instrument Name G8403A JP16211410

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	2603	0.86	5.00	
24	16085	0.97	5.00	
25	2185	1.06	5.00	
26	2645	0.76	5.00	
59	24959	0.14	5.00	
115	44185	0.72	5.00	
206	9585	0.87	5.00	
207	8354	0.89	5.00	
208	20041	0.95	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	2612	2578	2579	2617	2627
24	16321	16140	16071	15962	15931
25	2219	2195	2182	2160	2168
26	2680	2645	2637	2632	2633
59	25018	24938	24955	24951	24936
115	44741	44064	44134	44043	43946
206	9707	9612	9542	9581	9482
207	8458	8394	8350	8276	8293
208	20311	20155	19932	19969	19838

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	4271	8.95	8.9 - 9.1		0.782	0.900	
24	25403	23.95	23.9 - 24.1		0.793	0.900	
25	3459	24.95	24.9 - 25.1		0.808	0.900	
26	4160	25.95	25.9 - 26.1		0.820	0.900	
59	41206	58.95	58.9 - 59.1		0.786	0.900	
115	81033	115.05	114.9 - 115.1		0.738	0.900	
206	17390	206.05	205.9 - 206.1		0.807	0.900	
207	15216	207.05	206.9 - 207.1		0.800	0.900	
208	36673	208.05	207.9 - 208.1		0.812	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 212.5 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1500	W	Carrier Gas	0.80	L/min	S/C Temp	2	℃
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas	
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.25	L/min

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	9.3	V	Deflect	16.6	V
Extract 2	-205.0	V	Cell Entrance	-38	V	Plate Bias	-50	V
Omega Bias	-90	V	Cell Exit	-58	V			

Cell Parameters

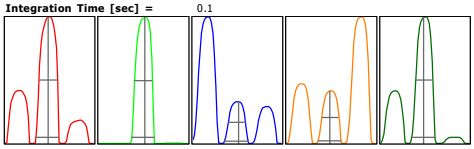
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	No		OctP Bias	-8.0	V	Energy Discrimination	5.0	V
He Flow	0.0	mL/min	OctP RF	200	V			

[He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)
59	5159	0.27	5.00
115	6142	0.27	5.00
206	4202	0.21	5.00
207	3684	0.50	5.00
208	8911	0.55	5.00

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
59	5178	5163	5162	5148	5144
115	6137	6154	6149	6115	6154
206	4213	4210	4198	4193	4194
207	3704	3689	3692	3677	3655
208	8991	8898	8858	8898	8911

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
59	8740	59.000	58.9 - 59.1		0.775	0.900	
115	11042	115.050	114.9 - 115.1		0.736	0.900	
206	7764	206.050	205.9 - 206.1		0.778	0.900	
207	6805	207.000	206.9 - 207.1		0.753	0.900	
208	16385	208.000	207.9 - 208.1		0.768	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 123.4 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1500	W	Carrier Gas	0.80	L/min	S/C Temp	2	℃
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas	
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.25	L/min

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	9.3	V	Deflect	4.4	V
Extract 2	-205.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-90	V	Cell Exit	-68	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	Yes		OctP Bias	-18.0	V	Energy Discrimination	5.0	V
He Flow	4.5	mL/min	OctP RF	200	V			

P/A Factor Tuning Report

========== Current Sample ==========
Sample Name: RINSE
Data File: 001SMPL.d
Acquired: 2022-01-13 08:46:55

========= Detector Parameters and P/A Factors =========
Discriminator: 4.3 mV
AnalogHV: 2117 V
PulseHV: 896 V

Acquired: 2022-01-13 07:46:30

Mass[u]	Element	P/A Factor
9		0.101645
24		0.109039
27		0.112487
45		0.119947
51		0.122713
52		0.127343
55		0.128625
59		0.135791
60		0.137764
65		0.143566
66		0.139535
72		0.137470
95		0.134578
96		0.134744
98		0.136844
100		0.139325
101		0.139343
102		0.140614
104		0.142753
115		0.150349
118		0.149160
121		0.147722
138		0.151625
193		0.161628
205		0.165702
208		0.167087
209		0.164547
232		0.165692
238		0.163526

Created: 2022-01-13 09:00:23

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0007S021	570-80119-1
A2BMP0012S010	570-80119-2
EVBMP0001S019	570-80119-3
EVBMP0003S032	570-80119-4

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: A2BMP0007S021 Lab Sample ID: 570-80119-1

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 08:05

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Suspended Solids	2.50	1.00	0.829	mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: A2BMP0012S010 Lab Sample ID: 570-80119-2

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 07:50

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Turbidity	9.9	0.05	0.05	NTU		H H3	1	SM 2130B
	Total Suspended Solids	2.60	1.00	0.829	mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EVBMP0001S019 Lab Sample ID: 570-80119-3

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 08:30

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Turbidity	2.8	0.05	0.05	NTU		H H3	1	SM 2130B
	Total Suspended Solids	0.900	1.00	0.829	mg/L	J		1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EVBMP0003S032 Lab Sample ID: 570-80119-4

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 07:20

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Suspended Solids	7.90	1.00	0.829	mg/L			1	SM 2540D

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Analyst: ZE7V Batch Start Date: 12/28/2021

Reporting Units: NTU Analytical Batch No.: 204312

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
4	CCV	18:26	Turbidity	95	100	95	95-105		WC_TUR_STD_00022
9	CCV	18:26	Turbidity	95	100	95	95-105		WC_TUR_STD_00022

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 206583 Date: 12/30/2021 06:59							
SM 2540D	MB 570-206583/1	Total Suspended Solids	ND		mg/L	1.00	1

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 204312	Date: 12/28/2021 18:26							
SM 2130B		570-80189-H-1	Turbidity	110	NTU			
SM 2130B		570-80189-H-1 DU	Turbidity	110	NTU	0.9	25	
Batch ID: 206583	Date: 12/30/2021 06:59							
SM 2540D		570-80107-B-1	Total Suspended Solids	76.5	mg/L			
SM 2540D		570-80107-B-1 DU	Total Suspended Solids	78.00	mg/L	2	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 206583	Date: 12/30/2021 06:59										
						LCS Source: WC_TSS_STD_00029					
SM 2540D	LCS 570-206583/2	Total Suspended Solids	100.0		mg/L	100	100	77-116	1	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 206583	Date: 12/30/2021 06:59										
						LCSD Source: WC_TSS_STD_00029					
SM 2540D	LCSD 570-206583/3	Total Suspended Solids	99.00		mg/L	100	99	77-116	1	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LCS-CERTIFIED REFERENCE MATERIAL
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 204312	Date: 12/28/2021 18:26										
						LCS Source: WC_TUR_STD_00019					
SM 2130B	LCSSRM 570-204312/1	Turbidity	1000		NTU	1000	99.6	99.0-10 1.0			
Batch ID: 204312	Date: 12/28/2021 18:26										
						LCS Source: WC_TUR_STD_00018					
SM 2130B	LCSSRM 570-204312/2	Turbidity	10		NTU	10.0	100.0	99.0-10 1.0			
Batch ID: 204312	Date: 12/28/2021 18:26										
						LCS Source: WC_TUR_STD_00017					
SM 2130B	LCSSRM 570-204312/3	Turbidity	ND		NTU	0.0200	100.0	0.0-200 .0			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2130B MDL Date: 05/10/2018 00:00

Analyte	Wavelength/ Mass	RL (NTU)	MDL (NTU)
Turbidity		0.05	0.04392

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2130B XMDL Date: 05/10/2018 00:00

Analyte	Wavelength/ Mass	XRL (NTU)	XMDL (NTU)
Turbidity		0.05	0.04391639

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540D MDL Date: 03/22/2018 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Suspended Solids		1	0.82873

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540D XMDL Date: 03/22/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Suspended Solids		1	0.82873

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2130B

Start Date: 12/28/2021 18:26 End Date: 12/28/2021 18:26

Lab Sample Id	D/F	Type	Time	Analytes																								
				Turb																								
LCSSRM 570-204312/1	1	T	18:26	X																								
LCSSRM 570-204312/2	1	T	18:26	X																								
LCSSRM 570-204312/3	1	T	18:26	X																								
CCV 570-204312/4	1		18:26	X																								
570-80119-2	1	T	18:26	X																								
570-80119-3	1	T	18:26	X																								
ZZZZZZ			18:26																									
570-80189-H-1 DU	1	T	18:26	X																								
CCV 570-204312/9	1		18:26	X																								

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2540D

Start Date: 12/30/2021 06:59 End Date: 12/30/2021 06:59

Lab Sample Id	D/F	Type	Time	Analytes																								
				TSS																								
MB 570-206583/1	1	T	06:59	X																								
LCS 570-206583/2	1	T	06:59	X																								
LCSD 570-206583/3	1	T	06:59	X																								
ZZZZZZ			06:59																									
570-80107-B-1 DU	1	T	06:59	X																								
ZZZZZZ			06:59																									
ZZZZZZ			06:59																									
ZZZZZZ			06:59																									
ZZZZZZ			06:59																									
ZZZZZZ			06:59																									
570-80119-1	1	T	06:59	X																								
570-80119-2	1	T	06:59	X																								
570-80119-3	1	T	06:59	X																								
570-80119-4	1	T	06:59	X																								
ZZZZZZ			06:59																									
ZZZZZZ			06:59																									
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ZZZZZZ			06:59																									
ZZZZZZ			06:59																									

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 204312 Batch Start Date: 12/28/21 18:26 Batch Analyst: Luong, Kate

Batch Method: SM 2130B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	WC_TUR_STD 00017	WC_TUR_STD 00018	WC_TUR_STD 00019	WC_TUR_STD 00022	
LCSSRM 570-204312/1		SM 2130B		30 mL			30 mL		
LCSSRM 570-204312/2		SM 2130B		30 mL		30 mL			
LCSSRM 570-204312/3		SM 2130B		30 mL	30 mL				
CCV 570-204312/4		SM 2130B		30 mL				0.75 mL	
570-80119-C-2	A2BMP0012S010	SM 2130B	T	30 mL					
570-80119-C-3	EVBMP0001S019	SM 2130B	T	30 mL					
570-80189-H-1 DU		SM 2130B	T	30 mL					
CCV 570-204312/9		SM 2130B		30 mL				0.75 mL	

Batch Notes	
Instrument ID	TUR04
Pipette/Syringe/Dispenser ID	p-121
Calibration Date	12/28/21

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 206583 Batch Start Date: 12/30/21 06:59 Batch Analyst: Ng, Lisa

Batch Method: SM 2540D Batch End Date: 01/03/22 13:36

Lab Sample ID	Client Sample ID	Method Chain	Basis	CrucibleID	TareWeight	InitialAmount	Weight1	Weight2	WeightOne%Diff
MB 570-206583/1		SM 2540D		B1570484	0.4112 g	1000 mL	0.4113 g	0.4113 g	PASS <0.5mg
LCS 570-206583/2		SM 2540D		B1570483	0.4129 g	100 mL	0.4229 g	0.4229 g	PASS <0.5mg
LCSD 570-206583/3		SM 2540D		B1570482	0.4129 g	100 mL	0.4228 g	0.4228 g	PASS <0.5mg
570-80107-B-1 DU		SM 2540D	T	B1570480	0.4117 g	200 mL	0.4273 g	0.4273 g	PASS <0.5mg
570-80119-D-1	A2BMP0007S021	SM 2540D	T	B1570474	0.4140 g	1000 mL	0.4165 g	0.4165 g	PASS <0.5mg
570-80119-D-2	A2BMP0012S010	SM 2540D	T	B1570473	0.4127 g	1000 mL	0.4153 g	0.4153 g	PASS <0.5mg
570-80119-D-3	EVBMP0001S019	SM 2540D	T	B1570472	0.4118 g	1000 mL	0.4127 g	0.4127 g	PASS <0.5mg
570-80119-D-4	EVBMP0003S032	SM 2540D	T	B1570471	0.4145 g	1000 mL	0.4224 g	0.4224 g	PASS <0.5mg

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue	Residue2	FinalAmount	ResDishWt	DishWeight	WC_TSS_STD 00029
MB 570-206583/1		SM 2540D		0.0001 g	0.0001 g	1000 mL	0.4113 g	0.4112 g	
LCS 570-206583/2		SM 2540D		0.0100 g	0.0100 g	1000 mL	0.4229 g	0.4129 g	100 mL
LCSD 570-206583/3		SM 2540D		0.0099 g	0.0099 g	1000 mL	0.4228 g	0.4129 g	100 mL
570-80107-B-1 DU		SM 2540D	T	0.0156 g	0.0156 g	1000 mL	0.4273 g	0.4117 g	
570-80119-D-1	A2BMP0007S021	SM 2540D	T	0.0025 g	0.0025 g	1000 mL	0.4165 g	0.414 g	
570-80119-D-2	A2BMP0012S010	SM 2540D	T	0.0026 g	0.0026 g	1000 mL	0.4153 g	0.4127 g	
570-80119-D-3	EVBMP0001S019	SM 2540D	T	0.0009 g	0.0009 g	1000 mL	0.4127 g	0.4118 g	
570-80119-D-4	EVBMP0003S032	SM 2540D	T	0.0079 g	0.0079 g	1000 mL	0.4224 g	0.4145 g	

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment					
MB 570-206583/1		SM 2540D							
LCS 570-206583/2		SM 2540D							
LCSD 570-206583/3		SM 2540D							
570-80107-B-1 DU		SM 2540D	T						
570-80119-D-1	A2BMP0007S021	SM 2540D	T						
570-80119-D-2	A2BMP0012S010	SM 2540D	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 206583 Batch Start Date: 12/30/21 06:59 Batch Analyst: Ng, Lisa

Batch Method: SM 2540D Batch End Date: 01/03/22 13:36

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment					
570-80119-D-3	EVBMP0001S019	SM 2540D	T						
570-80119-D-4	EVBMP0003S032	SM 2540D	T	B+C					

Batch Notes	
Perform Calculation (0=No, 1=Yes)	1
Nominal Amount Used	1000 g
Filter ID	1221995
Balance ID	87
Oven ID	IO07
Thermometer ID	Y21-18
Date/Time - In	12/30/2021 08:01
Temperature - Start - Uncorrected	99 Celsius
Temperature - Start - Corrected	103 Celsius
Date/Time - Out	01/03/2022 06:45
Temperature - End - Uncorrected	99 Celsius
Temperature - End - Corrected	103 Celsius
Date/Time - In - CW (WT2)	01/03/2022 09:00
Temperature - Start-CW(WT2) -Uncorrected	99 Celsius
Temperature - Start - CW (WT2) - Correct	103 Celsius
Date/Time - Out - CW (WT2)	01/03/2022 10:50
Temperature - End-CW(WT2) -Uncorrected	99 Celsius
Temperature - End - CW (WT2) - Correct	103 Celsius
Date/Time - In - CW (WT3)	12/18/2021 11:55

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

General Chemistry Raw Data Report

Job ID: 570-80119-1

Batch: 204312
Method: SM 2130B
Building :ECL1 (Lincoln)

Analyst Initials: ZE7V
Instrument: NONE

Lab Sample ID: LCSSRM 570-204312/1 — **Analysis Date: Dec 28, 2021 18:26**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	996	NTU	30 mL

Lab Sample ID: LCSSRM 570-204312/2 — **Analysis Date: Dec 28, 2021 18:26**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	10.0	NTU	30 mL

Lab Sample ID: LCSSRM 570-204312/3 — **Analysis Date: Dec 28, 2021 18:26**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	0.02	NTU	30 mL

Lab Sample ID: CCV 570-204312/4 — **Analysis Date: Dec 28, 2021 18:26**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	95.2	NTU	30 mL

Lab Sample ID: 570-80119-C-2 — **Analysis Date: Dec 28, 2021 18:26**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	9.90	NTU	30 mL

Lab Sample ID: 570-80119-C-3 — **Analysis Date: Dec 28, 2021 18:26**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	2.83	NTU	30 mL

Lab Sample ID: 570-80189-H-1 DU — **Analysis Date: Dec 28, 2021 18:26**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	108	NTU	30 mL

Lab Sample ID: CCV 570-204312/9 — **Analysis Date: Dec 28, 2021 18:26**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	95.0	NTU	30 mL

General Chemistry Raw Data Report

Job ID: 570-80119-1

Batch: 206583
Method: SM 2540D
Building :ECL1 (Lincoln)

Analyst Initials: ULIN
Instrument: NONE

Lab Sample ID: MB 570-206583/1

Analysis Date: Dec 30, 2021 06:59

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	0.099999999999989	mg/L	1000 mL	1000 mL

Lab Sample ID: LCS 570-206583/2

Analysis Date: Dec 30, 2021 06:59

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	10	mg/L	100 mL	1000 mL

Lab Sample ID: LCSD 570-206583/3

Analysis Date: Dec 30, 2021 06:59

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	9.90000000000002	mg/L	100 mL	1000 mL

Lab Sample ID: 570-80107-B-1 DU

Analysis Date: Dec 30, 2021 06:59

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	15.6	mg/L	200 mL	1000 mL

Lab Sample ID: 570-80119-D-1

Analysis Date: Dec 30, 2021 06:59

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	2.5	mg/L	1000 mL	1000 mL

Lab Sample ID: 570-80119-D-2

Analysis Date: Dec 30, 2021 06:59

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	2.59999999999999	mg/L	1000 mL	1000 mL

Lab Sample ID: 570-80119-D-3

Analysis Date: Dec 30, 2021 06:59

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	0.900000000000012	mg/L	1000 mL	1000 mL

Lab Sample ID: 570-80119-D-4

Analysis Date: Dec 30, 2021 06:59

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	7.90000000000002	mg/L	1000 mL	1000 mL

BALANCE CALIBRATION CHECK LOG

Eurofins Calscience

Date performed: 12/30/21 Initials: JARD

ID	Class 2 Weight (g)	Reading (g)	Acceptance Range	Pass? (circle one)	Comment (If not passed, note removal or corrective action)
83	1	1.00	0.98 - 1.02	Y N	IO Lab
	100	100.00	98.00 - 102.00	Y N	
62	0.002	NOT IN USE	0.0015 - 0.0025	Y N	IO Lab
	1		0.9990 - 1.0010	Y N	
	100		99.9000 - 100.1000	Y N	
11	1	1.00	0.98 - 1.02	Y N	IO Lab
	100	100.00	98.00 - 102.00	Y N	
55	1	0.99	0.98 - 1.02	Y N	IO Lab
	100	100.0	98.00 - 102.00	Y N	
	500	500.00	490.00 - 510.00	Y N	
86	1	1.00	0.98 - 1.02	Y N	IO Lab
	100	100.0	98.00 - 102.00	Y N	
	500	499.9	490.00 - 510.00	Y N	
71	0.002	0.0019	0.0015 - 0.0025	Y N	BOD Room
	1	0.9996	0.9990 - 1.0010	Y N	
	100	99.9993	99.9000 - 100.1000	Y N	
63	0.1	NOT IN USE	0.08 - 0.12	Y N	BOD Room
	100		98.00 - 102.00	Y N	
73	0.1	0.10	0.08 - 0.12	Y N	Oil & Grease Room
	1	1.00	0.98 - 1.02	Y N	
	100	100.00	98.00 - 102.00	Y N	
87	0.002	0.0019	0.0015 - 0.0025	Y N	Solids Room
	1	0.9999	0.9990 - 1.0010	Y N	
	100	100.0001	99.9000 - 100.1000	Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

Comments:

WT SET ID USED: 2 mg 21055	COMMENT:
WT SET ID USED: 10 mg - 100 g 69065	
WT SET ID USED: 500 g 64886	

BALANCE CALIBRATION CHECK LOG

Eurofins Calscience

Date performed: 01/03/22 Initials: LARD

ID	Class 2 Weight (g)	Reading (g)	Acceptance Range	Pass? (circle one)	Comment (If not passed, note removal or corrective action)
83	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	100.00	98.00 - 102.00	(Y) N	
62	0.002	TOSS IN	0.0015 - 0.0025	Y N	IO Lab
	1		0.9990 - 1.0010	Y N	
	100		99.9000 - 100.1000	Y N	
11	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	100.00	98.00 - 102.00	(Y) N	
55	1	0.99	0.98 - 1.02	(Y) N	IO Lab
	100	100.00	98.00 - 102.00	(Y) N	
	500	500.00	490.00 - 510.00	(Y) N	
86	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	99.99	98.00 - 102.00	(Y) N	
	500	499.99	490.00 - 510.00	(Y) N	
71	0.002	0.0018	0.0015 - 0.0025	(Y) N	BOD Room
	1	0.9997	0.9990 - 1.0010	(Y) N	
	100	99.9992	99.9000 - 100.1000	(Y) N	
63	0.1	NOT IN	0.08 - 0.12	Y N	BOD Room
	100	USE	98.00 - 102.00	Y N	
73	0.1	0.10	0.08 - 0.12	(Y) N	Oil & Grease Room
	1	1.00	0.98 - 1.02	(Y) N	
	100	100.00	98.00 - 102.00	(Y) N	
87	0.002	0.0019	0.0015 - 0.0025	(Y) N	Solids Room
	1	0.9999	0.9990 - 1.0010	(Y) N	
	100	99.9996	99.9000 - 100.1000	(Y) N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

Comments:

WT SET ID USED: 2 mg 250 55	COMMENT:
WT SET ID USED: 10 mg - 100 g 69065	
WT SET ID USED: 500 g 64886	

COVER PAGE
GEOTECHNICAL

Lab Name: Eurofins Calscience Job Number: 570-80119-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0007S021	570-80119-1
A2BMP0012S010	570-80119-2
EVBMP0001S019	570-80119-3
EVBMP0003S032	570-80119-4

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: A2BMP0007S021 Lab Sample ID: 570-80119-1

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 08:05

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	100.00	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	ND	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	100.00	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	ND	0.01	0.01	%			1	D4464

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: A2BMP0012S010 Lab Sample ID: 570-80119-2

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 07:50

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	100.00	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	ND	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	100.00	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	ND	0.01	0.01	%			1	D4464

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: EVBMP0001S019 Lab Sample ID: 570-80119-3

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 08:30

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	ND	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	ND	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	ND	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	ND	0.01	0.01	%			1	D4464

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: EVBMP0003S032 Lab Sample ID: 570-80119-4

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG ID.:

Matrix: Water Date Sampled: 12/24/2021 07:20

Reporting Basis: WET Date Received: 12/27/2021 17:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	11.59	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	48.07	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	59.66	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	40.34	0.01	0.01	%			1	D4464

6-IN
DUPLICATE
GEOTECHNICAL

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 205446 Date: 01/04/2022 15:32								
D4464		570-78855-C-5	Clay (less than 0.00391 mm)	4.52	%			
D4464		570-78855-C-5 DU	Clay (less than 0.00391 mm)	4.12	%	9	20	
D4464		570-78855-C-5	Coarse Sand (0.5mm to 1mm)	ND	%			
D4464		570-78855-C-5 DU	Coarse Sand (0.5mm to 1mm)	ND	%	NC	20	
D4464		570-78855-C-5	Fine Sand (0.125 to 0.25mm)	10.48	%			
D4464		570-78855-C-5 DU	Fine Sand (0.125 to 0.25mm)	2.39	%	126	20	F3
D4464		570-78855-C-5	Gravel (greater than 2 mm)	ND	%			
D4464		570-78855-C-5 DU	Gravel (greater than 2 mm)	ND	%	NC	20	
D4464		570-78855-C-5	Medium Sand (0.25 to 0.5 mm)	ND	%			
D4464		570-78855-C-5 DU	Medium Sand (0.25 to 0.5 mm)	ND	%	NC	20	
D4464		570-78855-C-5	Silt (0.00391 to 0.0625mm)	56.05	%			
D4464		570-78855-C-5 DU	Silt (0.00391 to 0.0625mm)	64.50	%	14	20	
D4464		570-78855-C-5	Total Silt and Clay (0 to 0.0626mm)	60.57	%			
D4464		570-78855-C-5 DU	Total Silt and Clay (0 to 0.0626mm)	68.62	%	12	20	
D4464		570-78855-C-5	Very Coarse Sand (1 to 2mm)	ND	%			
D4464		570-78855-C-5 DU	Very Coarse Sand (1 to 2mm)	ND	%	NC	20	
D4464		570-78855-C-5	Very Fine Sand (0.0625 to 0.125 mm)	28.95	%			
D4464		570-78855-C-5 DU	Very Fine Sand (0.0625 to 0.125 mm)	28.99	%	0.1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

GEOTECHNICAL BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80119-1

SDG No.:

Batch Number: 205446 Batch Start Date: 01/04/22 13:27 Batch Analyst: Stratford, Jordan

Batch Method: D4464 Batch End Date: 01/04/22 16:02

Lab Sample ID	Client Sample ID	Method Chain	Basis	MI_Fine Sand 00006					
CCV 570-205446/1		D4464		# g					
CCV 570-205446/12		D4464		# g					
LCS 570-205446/16		D4464		# g					
LCSD 570-205446/18		D4464		# g					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

80119

Chain of Custody Record

COC Number: CALS12242101

JACOBS

12/27/2021 10 47 52 AM

Project Name	SSFL
Project	CJ042 Stormwater PO 148015891
Location	Santa Susana Field Lab
Project Number	D3377900
Task Order	42
PO Number	148015891
Turnaround Time	10 Days

Project Manager
Randy Dean

Sample Manager

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200.8/245.1	200.8/245.1F	ASTMD4464	SM2540	SW8290/1613B
A2BMP0007S021	24-Dec-21 8 05	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4'C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						
A2BMP0012S010	24-Dec-21 7 50	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
Turbidity TSS				4'C	☐	1	☑	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						

570-80119 Chain of Custody

MS = Matrix Spike **SD = Matrix Spike Duplicate**

	Signatures	Date/Time
Sampled by	BRYAN BENSON	12/27/21 1120
Relinquished by		12/27/21 1130
Received by	Eydie Schwarz	12/27/21 1340
Relinquished by	Eydie Schwarz	12/27/21 1418
Received by		12/27/21 1418
		12/27/21 1735
		12/27/21 1735

Shipping Details

Shipment Method: FedEx

Airbill No:

Lab Name: Eurofins Calscience Lab

Lab Phone: (949) 870-8766

On Ice: yes / no **Cooler Temp** _____

2.2|3.1 SCS

ATTN:

Sample Custody and

Special Instructions:

Report Copy to
Mark Fesler
(530) 229-3273

80119

Chain of Custody Record

COC Number: CALS12242101

JACOBS

12/27/2021 10:47:52 AM

Project Name	SSFL
Project	CJ042 Stormwater PO 148015891
Location	Santa Susana Field Lab
Project Number	D3377900
Task Order	42
PO Number	148015891
Turnaround Time	10 Days
Project Manager	Randy Dean
Sample Manager	

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200.8/245.1	200.8/245.1F	ASTMD4464	SM2540	SW8290/1613B
EVBMP0001S019	24-Dec-21 8:30	N	Water									
Dioxins				4°C	☐	2	☐	☐	☐	☐	☐	☑
Turbidity TSS				4°C	☐	1	☑	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb Hg				4°C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4°C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4°C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		**6**						
EVBMP0003S032	24-Dec-21 7.20	N	Water									
Dioxins				4°C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4°C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4°C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb Hg				HNO3, 4°C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4°C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		**6**						

MS = Matrix Spike SD = Matrix Spike Duplicate

	Signatures	Date/Time
Sampled by	BRYAN BENSON	12/27/21 1120
Relinquished by	BRYAN BENSON	12/27/21 1120
Received by	Evelyn Schwartz	12/27/21 1340
Relinquished by	Evelyn Schwartz	12/27/21 1418
Received by		12/27/21 1418
		12/27/21 1735
		12/27/21 1735

Shipping Details

Shipment Method: FedEx

Airbill No:

Lab Name: Eurofins Calscience Lab

Lab Phone: (949) 870-8766

On Ice: yes / no **Cooler Temp** _____

ATTN:

Sample Custody and

Special Instructions:

Report Copy to
Mark Fesler
(530) 229-3273

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Thompson, Lori	Carrier Tracking No(s)	COC No: 570-147918 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Lori Thompson@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - California		Job #: 570-80119-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #			
Email:	WO #:			
Project Name: NASA SSFL CJ042 Stormwater	Project #: 57006621			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290/8290_P_Sep 17 Isomers List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A2BMP0007S021 (570-80119-1)	12/24/21	08 05 Pacific		Water			X	2	
A2BMP0012S010 (570-80119-2)	12/24/21	07 50 Pacific		Water			X	2	
EVBMP0001S019 (570-80119-3)	12/24/21	08 30 Pacific		Water			X	2	
EVBMP0003S032 (570-80119-4)	12/24/21	07 20 Pacific		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification Unconfirmed	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/28/21 1502				
Relinquished by	Date/Time	Company	Received by	Date/Time.	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM	Carrier Tracking No(s):	COC No
Client Contact: Shipping/Receiving	Phone	Thompson, Lori E-Mail: Lori Thompson@eurofinset com	State of Origin: California	570-149741 1 Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - California		Job #: 570-80119-1
Address: 2841 Dow Avenue,	Due Date Requested: 1/7/2022			
City: Tustin	TAT Requested (days):			
State Zip: CA, 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email	WO #			
Project Name: NASA SSFL CJ042 Stormwater	Project #: 57006621			
Site	SSOW#			

Preservation Codes:

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	245.1/245.1_Prep Mercury	200.8/200.2 (MOD) Cd/Cu/Pb	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
A2BMP0007S021 (570-80119-1)	12/24/21	08 05 Pacific		Water			X	X	1	
A2BMP0012S010 (570-80119-2)	12/24/21	07 50 Pacific		Water			X	X	1	
EVBMP0001S019 (570-80119-3)	12/24/21	08 30 Pacific		Water			X	X	1	
EVBMP0003S032 (570-80119-4)	12/24/21	07 20 Pacific		Water			X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: IR-90 2.6/2.1

Empty Kit Relinquished by:	Date	Time	Method of Shipment

	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
1		1-8-2022	ECI			
2	Relinquished by:	Date/Time	Company	Received by: Olga Omelas	Date/Time 1/8/22 1230	Company ECI
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact | Custody Seal No. | Cooler Temperature(s) °C and Other Remarks

1/10/2022

Login Sample Receipt Checklist

Client: Jacobs Engineering Group, Inc. Job Number: 570-80119-1

Login Number: 80119 **List Source: Eurofins Calscience**
List Number: 1
Creator: Thompson, Lori

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Jacobs Engineering Group, Inc. Job Number: 570-80119-1

Login Number: 80119 **List Source: Eurofins Calscience Tustin**
List Number: 3 **List Creation: 01/08/22 12:54 PM**
Creator: Ornelas, Olga

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 570-80119-2

Job Description: NASA SSFL CJ042 Stormwater

For:
Jacobs Engineering Group, Inc.
4121 Carmichael Rd #400
Montgomery, AL 36106

Attention: Mark Fesler

Approved for release.
Lori Thompson
Project Manager I
1/24/2022 1:18 PM

Lori Thompson, Project Manager I
7440 Lincoln Way, Garden Grove, CA, 92841
(714)895-5494
Lori.Thompson@eurofinset.com
01/24/2022

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Job Narrative
570-80119-2

Comments
No additional comments.

Receipt
The samples were received on 12/27/2021 5:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.1º C.

Dioxin
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method 8290

Dioxins and Furans (HRGC/HRMS) by Method 8290

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	PeCDF #	PeCDD #	HxCDF #	HxDD #	HpCDF #	HpCDD #
A2BMP0007S021	570-80119-1	95	94	91	91	94	88	100	96
A2BMP0012S010	570-80119-2	92	90	90	89	93	86	97	96
EVBMP0001S019	570-80119-3	94	89	88	90	92	83	96	94
EVBMP0003S032	570-80119-4	96	93	94	93	94	87	98	96
	MB 320-555858/1-A	93	89	90	88	91	85	93	92
	LCS 320-555858/2-A	98	93	94	95	95	90	100	101
	LCSD 320-555858/3-A	94	91	92	95	91	84	97	96

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	40-135
TCDD = 13C-2,3,7,8-TCDD	40-135
PeCDF = 13C-1,2,3,7,8-PeCDF	40-135
PeCDD = 13C-1,2,3,7,8-PeCDD	40-135
HxCDF = 13C-1,2,3,4,7,8-HxCDF	40-135
HxDD = 13C-1,2,3,6,7,8-HxCDD	40-135
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	40-135
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	40-135

Column to be used to flag recovery values

FORM II 8290

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	OCDD #
A2BMP0007S021	570-80119-1	116
A2BMP0012S010	570-80119-2	111
EVBMP0001S019	570-80119-3	113
EVBMP0003S032	570-80119-4	116
	MB 320-555858/1-A	106
	LCS 320-555858/2-A	118
	LCSD 320-555858/3-A	114

	QC LIMITS
OCDD = 13C-OCDD	40-135

Column to be used to flag recovery values

FORM II 8290

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Matrix: Water Level: Low Lab File ID: 20ja22dfs1_5.d

Lab ID: LCS 320-555858/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	203.1	102	72-128	
2,3,7,8-TCDF	200	193.8	97	67-135	
1,2,3,7,8-PeCDD	1000	1055	106	71-135	
1,2,3,7,8-PeCDF	1000	1070	107	70-133	
2,3,4,7,8-PeCDF	1000	1068	107	69-135	
1,2,3,4,7,8-HxCDD	1000	1008	101	67-130	
1,2,3,6,7,8-HxCDD	1000	992.4	99	61-144	
1,2,3,7,8,9-HxCDD	1000	1049	105	61-140	
1,2,3,4,7,8-HxCDF	1000	931.6	93	69-140	
1,2,3,6,7,8-HxCDF	1000	889.7	89	62-155	
2,3,4,6,7,8-HxCDF	1000	955.5	96	70-146	
1,2,3,7,8,9-HxCDF	1000	939.2	94	71-142	
1,2,3,4,6,7,8-HpCDD	1000	994.3	99	71-134	
1,2,3,4,6,7,8-HpCDF	1000	947.6	95	68-137	
1,2,3,4,7,8,9-HpCDF	1000	1019	102	74-134	
OCDD	2000	1764	88	72-134	
OCDF	2000	1785	89	65-143	
13C-2,3,7,8-TCDD	2000	1868	93	40-135	
13C-2,3,7,8-TCDF	2000	1968	98	40-135	
13C-1,2,3,7,8-PeCDD	2000	1897	95	40-135	
13C-1,2,3,7,8-PeCDF	2000	1878	94	40-135	
13C-1,2,3,6,7,8-HxCDD	2000	1793	90	40-135	
13C-1,2,3,4,7,8-HxCDF	2000	1910	95	40-135	
13C-1,2,3,4,6,7,8-HpCDD	2000	2012	101	40-135	
13C-1,2,3,4,6,7,8-HpCDF	2000	1999	100	40-135	
13C-OCDD	4000	4728	118	40-135	

Column to be used to flag recovery and RPD values

FORM III 8290

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Matrix: Water Level: Low Lab File ID: 20ja22dfs1_6.d

Lab ID: LCSD 320-555858/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	200.6	100	1	20	72-128	
2,3,7,8-TCDF	200	203.3	102	5	20	67-135	
1,2,3,7,8-PeCDD	1000	1064	106	1	20	71-135	
1,2,3,7,8-PeCDF	1000	1092	109	2	20	70-133	
2,3,4,7,8-PeCDF	1000	1068	107	0	20	69-135	
1,2,3,4,7,8-HxCDD	1000	1035	103	3	20	67-130	
1,2,3,6,7,8-HxCDD	1000	1022	102	3	20	61-144	
1,2,3,7,8,9-HxCDD	1000	1124	112	7	20	61-140	
1,2,3,4,7,8-HxCDF	1000	951.1	95	2	20	69-140	
1,2,3,6,7,8-HxCDF	1000	892.5	89	0	20	62-155	
2,3,4,6,7,8-HxCDF	1000	993.7	99	4	20	70-146	
1,2,3,7,8,9-HxCDF	1000	976.8	98	4	20	71-142	
1,2,3,4,6,7,8-HpCDD	1000	1030	103	4	20	71-134	
1,2,3,4,6,7,8-HpCDF	1000	974.6	97	3	20	68-137	
1,2,3,4,7,8,9-HpCDF	1000	1049	105	3	20	74-134	
OCDD	2000	1859	93	5	20	72-134	
OCDF	2000	1861	93	4	20	65-143	
13C-2,3,7,8-TCDD	2000	1829	91			40-135	
13C-2,3,7,8-TCDF	2000	1887	94			40-135	
13C-1,2,3,7,8-PeCDD	2000	1896	95			40-135	
13C-1,2,3,7,8-PeCDF	2000	1835	92			40-135	
13C-1,2,3,6,7,8-HxCDD	2000	1678	84			40-135	
13C-1,2,3,4,7,8-HxCDF	2000	1817	91			40-135	
13C-1,2,3,4,6,7,8-HpCDD	2000	1926	96			40-135	
13C-1,2,3,4,6,7,8-HpCDF	2000	1940	97			40-135	
13C-OCDD	4000	4554	114			40-135	

Column to be used to flag recovery and RPD values

FORM III 8290

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Lab File ID: 20ja22dfs1_4.d Lab Sample ID: MB 320-555858/1-A

Matrix: Water Date Extracted: 01/04/2022 09:56

Instrument ID: DFS 1 Date Analyzed: 01/20/2022 17:03

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-555858/2-A	20ja22dfs1_5.d	01/20/2022 17:51
	LCSD 320-555858/3-A	20ja22dfs1_6.d	01/20/2022 18:38
A2BMP0007S021	570-80119-1	20ja22dfs1_7.d	01/20/2022 19:26
A2BMP0012S010	570-80119-2	20ja22dfs1_8.d	01/20/2022 20:14
EVBMP0001S019	570-80119-3	20ja22dfs1_9.d	01/20/2022 21:02
EVBMP0003S032	570-80119-4	20ja22dfs1_10.d	01/20/2022 21:50

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80119-2

SDG No.:

Client Sample ID: A2BMP0007S021 | Lab Sample ID: 570-80119-1

Matrix: Water | Lab File ID: 20ja22dfs1_7.d

Analysis Method: 8290 | Date Collected: 12/24/2021 08:05

Extract. Method: 8290 | Date Extracted: 01/04/2022 09:56

Sample wt/vol: 1023.9(mL) | Date Analyzed: 01/20/2022 19:26

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559474 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.8	0.95
51207-31-9	2,3,7,8-TCDF	ND		9.8	0.39
40321-76-4	1,2,3,7,8-PeCDD	ND		49	0.58
57117-41-6	1,2,3,7,8-PeCDF	ND		49	0.38
57117-31-4	2,3,4,7,8-PeCDF	ND		49	0.41
39227-28-6	1,2,3,4,7,8-HxCDD	3.7	J B	49	0.31
57653-85-7	1,2,3,6,7,8-HxCDD	1.9	J q	49	0.27
19408-74-3	1,2,3,7,8,9-HxCDD	2.9	J q B	49	0.28
70648-26-9	1,2,3,4,7,8-HxCDF	ND		49	0.25
57117-44-9	1,2,3,6,7,8-HxCDF	ND		49	0.22
60851-34-5	2,3,4,6,7,8-HxCDF	1.1	J	49	0.23
72918-21-9	1,2,3,7,8,9-HxCDF	1.6	J	49	0.25
35822-46-9	1,2,3,4,6,7,8-HpCDD	30	J B	49	0.38
67562-39-4	1,2,3,4,6,7,8-HpCDF	4.8	J B	49	0.27
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.4	J B	49	0.31
3268-87-9	OCDD	230	B	98	0.45
39001-02-0	OCDF	14	J	98	0.33

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	94		40-135
89059-46-1	13C-2,3,7,8-TCDF	95		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	91		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	91		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	88		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	94		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	96		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	100		40-135
114423-97-1	13C-OCDD	116		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Lims ID: 570-80119-F-1-A
Client ID: A2BMP0007S021
Sample Type: Client
Inject. Date: 20-Jan-2022 19:26:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80119-f-1-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:56:25

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.004	7459961	0.79	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.094	7191925	0.79	1.0164	94.9	94.9	0.3854	0.3854	94.85	
2,3,7,8-TCDF	19.149						0.0201	0.0201		
A Non-2,3,7,8-sub-TCDF	18.694						0.0201	0.0201		
S Total TCDF							0.0201	0.0201		
D 13C-2,3,7,8-TCDD	20.364	5515698	0.81	0.7884	93.8	93.8	0.2461	0.2461	93.78	
2,3,7,8-TCDD	20.403						0.0489	0.0489		
A Non-2,3,7,8-sub-TCDD	19.493						0.0489	0.0489		
S Total TCDD							0.0489	0.0489		
D 13C-1,2,3,7,8-PeCDF	26.146	6282060	1.57	0.9232	91.2	91.2	0.4572	0.4572	91.22	
1,2,3,7,8-PeCDF	26.140						0.0196	0.0196		
2,3,4,7,8-PeCDF	27.572						0.0207	0.0207		
A F1 PeCDFs	23.390						0.0116	0.0116		
A Non-2,3,7,8-sub-PeCDF	26.772						0.0202	0.0202		
S Total PeCDF							0.0207	0.0207		
D 13C-1,2,3,7,8-PeCDD	28.361	3790684	1.57	0.5606	90.6	90.6	0.2613	0.2613	90.64	
1,2,3,7,8-PeCDD	28.378						0.0299	0.0299		RQU
A Non-2,3,7,8-sub-PeCDD	27.199						0.0299	0.0299		
S Total PeCDD							0.0299	0.0299		
D 13C-1,2,3,4,7,8-HxCDF	34.063	6039699	0.53	1.0566	94.1	94.1	0.2688	0.2688	94.12	
1,2,3,4,7,8-HxCDF	34.105						0.0129	0.0129		RQU
1,2,3,6,7,8-HxCDF	34.105						0.0111	0.0111		RQU
2,3,4,6,7,8-HxCDF	35.182	3458	1.21	0.9878	0.0580	0.0580	0.0116	0.0116		M
1,2,3,7,8,9-HxCDF	36.142	4580	1.31	0.9071	0.0836	0.0836	0.0126	0.0126		M
A Non-2,3,7,8-sub-HxCDF	34.083	2120	1.24	0.9518	0.0411	0.0369	0.0120	0.0369		RQ
S Total HxCDF					0.1827	0.1784	0.0120	0.0120		RQ
* 13C-1,2,3,7,8,9-HxCDD	35.949	6073497	1.25	2.5E+04	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.452	6788	1.10	0.8294	0.1902	0.1902	0.0156	0.0156		
D 13C-1,2,3,6,7,8-HxCDD	35.553	4303230	1.28	0.8027	88.3	88.3	0.1933	0.1933	88.27	
1,2,3,6,7,8-HxCDD	35.570	4008	1.24	0.9395	0.1127	0.0991	0.0138	0.0138		RQM
1,2,3,7,8,9-HxCDD	35.957	5745	1.24	0.9076	0.1723	0.1471	0.0143	0.0143		RQM

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDD	34.580	6147	1.24	0.8922	0.1965	0.1601	0.0145	0.1309		RQ
S Total HxCDD					0.6717	0.5965	0.0146	0.0146		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.116	3910570	0.46	0.6421	100.3	100.3	0.3998	0.3998	100	
1,2,3,4,6,7,8-HpCDF	38.124	13774	1.20	1.4385	0.2449	0.2449	0.0136	0.0136		
1,2,3,4,7,8,9-HpCDF	39.437	3329	1.06	1.2202	0.0698	0.0698	0.0161	0.0161		
A Non-2,3,7,8-sub-HpCDF	38.761	17047	1.15	1.3293	0.3279	0.3279	0.0148	0.3279		
S Total HpCDF					0.6425	0.6425	0.0149	0.0149		
D 13C-1,2,3,4,6,7,8-HpCDD	39.118	3659479	1.10	0.6246	96.5	96.5	0.2810	0.2810	96.47	
1,2,3,4,6,7,8-HpCDD	39.126	54143	1.04	0.9767	1.515	1.515	0.0195	0.0195		
A Non-2,3,7,8-sub-HpCDD	38.778	48078	1.04	0.9767	1.345	1.345	0.0195	1.345		
S Total HpCDD					2.860	2.860	0.0195	0.0195		
D 13C-OCDD	41.589	6124513	0.90	0.4360	231.3	231.3	0.2560	0.2560	116	
OCDF	41.665	28900	1.02	1.2756	0.7399	0.7399	0.0169	0.0169		M
OCDD	41.597	377879	0.88	1.0341	11.9	11.9	0.0229	0.0229		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Lims ID: 570-80119-F-1-A
Client ID: A2BMP0007S021
Sample Type: Client
Inject. Date: 20-Jan-2022 19:26:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80119-f-1-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:56:25

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.004	19.998	0		3300603	492875	558	1395	883		
333.9338	20.004	19.998	0		4159358	626567	311	777	2015	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.094	19.115	-1	0.955	3175516	514802	1163	2907	443		
317.9389	19.094	19.115	-1	0.955	4016409	639538	591	1477	1082	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.149						17	42			
305.8987	19.149						77	192			
A Non-2,3,7,8-sub-TCDF											
303.9016	18.694						17	42			
305.8987	18.694						77	192			
13C-2,3,7,8-TCDD											
331.9368	20.364	20.377	-1	1.018	2462944	353426	558	1395	633		
333.9338	20.373	20.377	0	1.018	3052754	425149	311	777	1367	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.403						125	312			
321.8936	20.403						26	65			
A Non-2,3,7,8-sub-TCDD											
319.8965	19.493						125	312			
321.8936	19.493						26	65			
13C-1,2,3,7,8-PeCDF											
351.9000	26.146	26.115	2	1.307	3836548	636776	1141	2852	558		
353.8970	26.154	26.115	2	1.307	2445512	409440	749	1872	547	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.140						4	10			
341.8567	26.140						76	190			

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.572						4	10			
341.8567	27.572						76	190			
A F1 PeCDFs											
339.8597	23.390						1	2			
341.8567	23.390						45	112			
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.772						4	10			
341.8567	26.772						76	190			
13C-1,2,3,7,8-PeCDD											
367.8949	28.361	28.330	2	1.418	2315903	354687	467	1167	760		
369.8919	28.369	28.330	2	1.418	1474781	229248	189	472	1213	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											RQU
355.8546	28.355						66	165			
357.8516	28.355						4	10			
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.199						66	165			
357.8516	27.199						4	10			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.063	34.034	2	0.948	2096363	389475	682	1705	571		
385.8610	34.054	34.034	1	0.947	3943336	722498	918	2295	787	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											RQU
373.8208	34.051						41	102			
375.8178	34.051						10	25			
1,2,3,6,7,8-HxCDF											RQU
373.8208	34.236						41	102			
375.8178	34.236						10	25			
2,3,4,6,7,8-HxCDF											M
373.8208	35.182	35.171	1	1.033	1894	305	41	102	7		
375.8178	35.199	35.171	2	1.033	1564	297	10	25	30	1.21(1.05-1.43)	M
1,2,3,7,8,9-HxCDF											M
373.8208	36.142	36.139	0	1.061	2598	503	41	102	12		M
375.8178	36.151	36.139	1	1.061	1982	421	10	25	42	1.31(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	33.339	34.083	-45	0.979	1174	270	41	102	7		
375.8178	33.331	34.083	-45	0.979	1188	316	10	25	32	0.99(1.05-1.43)	
	Empc Correction				946	217	10	25	22		
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.949	35.929	1		3370893	775365	554	1385	1400		
403.8529	35.949	35.929	1		2702604	632853	320	800	1978	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.452	35.423	2	0.997	3549	806	20	50	40		
391.8127	35.452	35.423	2	0.997	3239	693	28	70	25	1.10(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.553	35.533	1	0.989	2413578	524125	554	1385	946		
403.8529	35.561	35.533	2	0.989	1889652	401216	320	800	1254	1.28(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											RQM
389.8158	35.570	35.550	1	1.000	2219	567	20	50	28		M
391.8127	35.578	35.550	2	1.001	2338	610	28	70	22	0.95(1.05-1.43)	M
	Empc Correction				1789	457	28	70	16		
1,2,3,7,8,9-HxCDD											RQM
389.8158	35.957	35.946	1	1.011	4166	759	20	50	38		
	Empc Correction				3180	548	20	50	27		
391.8127	36.008	35.946	4	1.013	2565	442	28	70	16	1.62(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											RQ
389.8158	34.063	34.580	-31	0.958	1181	226	20	50	11		
	Empc Correction				621	219	20	50	11		
391.8127	34.172	34.580	-24	0.961	501	177	28	70	6	2.36(1.05-1.43)	
389.8158	34.593	34.580	1	0.973	2782	846	20	50	42		
391.8127	34.551	34.580	-2	0.972	3079	521	28	70	19	0.90(1.05-1.43)	
	Empc Correction				2243	682	28	70	24		
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.116	38.096	1	1.060	1229140	348244	511	1277	681		
419.8220	38.116	38.096	1	1.060	2681430	757453	935	2337	810	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.124	38.108	1	1.000	7510	2360	68	170	35		
409.7788	38.133	38.108	1	1.000	6264	1772	19	47	93	1.20(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.437	39.414	1	1.035	1715	777	68	170	11		
409.7788	39.437	39.414	1	1.035	1614	458	19	47	24	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.511	38.761	-15	1.010	9134	2722	68	170	40		
409.7788	38.520	38.761	-14	1.011	7913	1802	19	47	95	1.15(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.118	39.107	1	1.088	1914384	618648	475	1187	1302		
437.8140	39.118	39.107	1	1.088	1745095	561889	514	1285	1093	1.10(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.126	39.111	1	1.000	27550	8785	50	125	176		
425.7737	39.126	39.111	1	1.000	26593	8609	40	100	215	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.461	38.778	-19	0.983	24475	7381	50	125	148		
425.7737	38.452	38.778	-19	0.983	23603	7144	40	100	179	1.04(0.88-1.20)	
13C-OCDD											
469.7780	41.589	41.579	1	1.157	2893917	899577	289	722	3113		
471.7750	41.589	41.579	1	1.157	3230596	997591	340	850	2934	0.90(0.76-1.02)	
OCDF											M
441.7428	41.665	41.663	0	1.002	14623	3894	15	37	260		M
443.7399	41.681	41.663	1	1.002	14277	4131	67	167	62	1.02(0.76-1.02)	M
OCDD											
457.7377	41.597	41.587	1	1.000	177108	55865	41	102	1363		
459.7348	41.597	41.587	1	1.000	200771	62386	49	122	1273	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Lims ID: 570-80119-F-1-A
Client ID: A2BMP0007S021
Inject. Date: 20-Jan-2022 19:26:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 6

Non-2,3,7,8-sub-PeCDD, RT: 27.199

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.002	D 13C-1,2,3,7,8-PeCDD	100.000	3790684	583935

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
Signal Totals:							
	0	0	0	0			

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Lims ID: 570-80119-F-1-A
Client ID: A2BMP0007S021
Inject. Date: 20-Jan-2022 19:26:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 6

Non-2,3,7,8-sub-HxCDF, RT: 34.083

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883	D 13C-1,2,3,4,7,8-HxCDF	100.000	6039699	1111973
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.952		100.000	6039699	1111973

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
33.339	1174	270	1188	316	0.0411	0.99	RQ
33.339	1174	270	946	217	0.0369		Empc Correction
Signal Totals:							
	1174	270	946	217			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2362	586				0.99	RQ
	2120	487					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0411 = (2362 * 100.000) / (6039699 * 0.952)
Empc Amount: 0.0369 = (2120 * 100.000) / (6039699 * 0.952)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Lims ID: 570-80119-F-1-A
Client ID: A2BMP0007S021
Inject. Date: 20-Jan-2022 19:26:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 6

Non-2,3,7,8-sub-HxCDD, RT: 34.580

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829	D 13C-1,2,3,6,7,8-HxCDD	100.000	4303230	925341
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.892		100.000	4303230	925341

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
34.063	1181	226	501	177	0.0438	2.36	RQ
34.063	621	219	501	177	0.0292		Empc Correction
34.593	2782	846	3079	521	0.1527	0.90	RQ
34.593	2782	846	2243	682	0.1309		Empc Correction
Signal Totals:							
	3403	1065	2744	859			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7543	1770				1.11	RQ
	6147	1924					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1965 = (7543 * 100.000) / (4303230 * 0.892)
Empc Amount: 0.1601 = (6147 * 100.000) / (4303230 * 0.892)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Lims ID: 570-80119-F-1-A
Client ID: A2BMP0007S021
Inject. Date: 20-Jan-2022 19:26:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 6

Non-2,3,7,8-sub-HpCDF, RT: 38.761

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.439	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	3910570	1105697
1,2,3,4,7,8,9-HpCDF	1.220				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.329		100.000	3910570	1105697

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.511	9134	2722	7913	1802	0.3279	1.15	
Signal Totals:							
	9134	2722	7913	1802			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	17047	4524				1.15	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3279 = (17047 * 100.000) / (3910570 * 1.329)

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Lims ID: 570-80119-F-1-A
Client ID: A2BMP0007S021
Inject. Date: 20-Jan-2022 19:26:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 6

Non-2,3,7,8-sub-HpCDD, RT: 38.778

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3659479	1180537

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3659479	1180537

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.461	24475	7381	23603	7144	1.35	1.04	
Signal Totals:							
	24475	7381	23603	7144			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	48078	14525				1.04	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.345 = (48078 * 100.000) / (3659479 * 0.977)

Manual Integration/User Assign Peak Report

Eurofins Sacramento

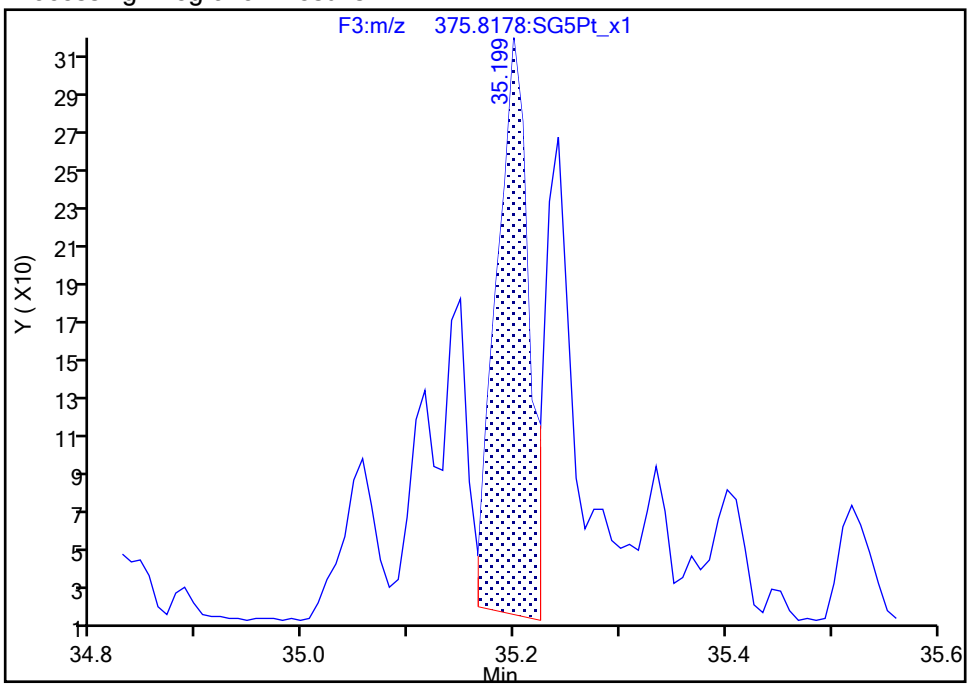
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d				
Injection Date:	20-Jan-2022 19:26:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-1-A	Lab Sample ID:	320-80119-1		
Client ID:	A2BMP0007S021				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

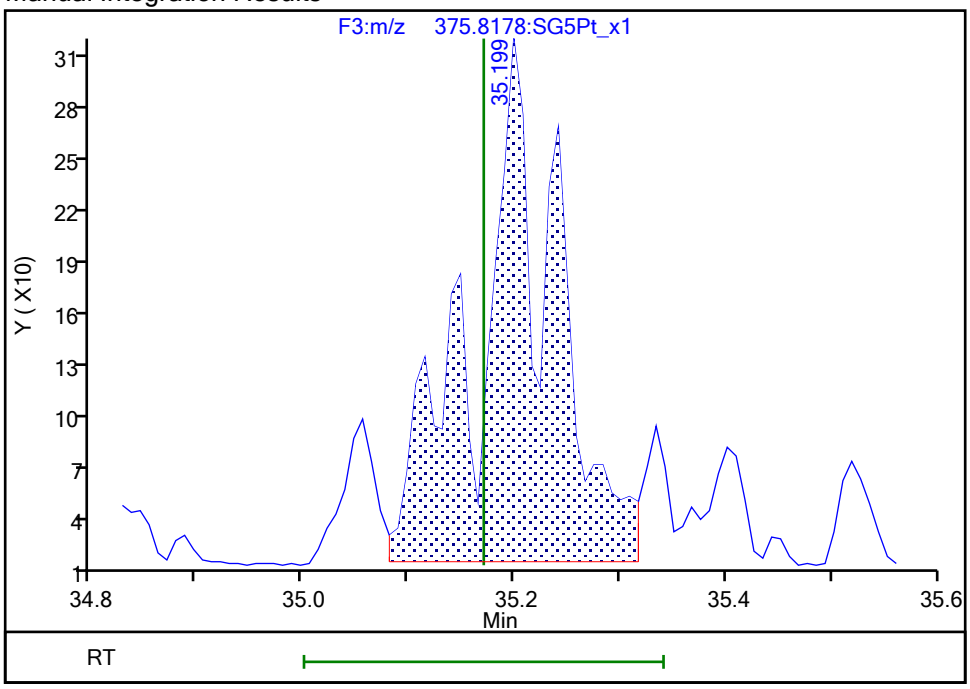
Processing Integration Results

RT: 35.20
Area: 616
Amount: 0.042072
Amount Units: pg/ul



Manual Integration Results

RT: 35.20
Area: 1564
Amount: 0.057962
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:54:28

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins Sacramento

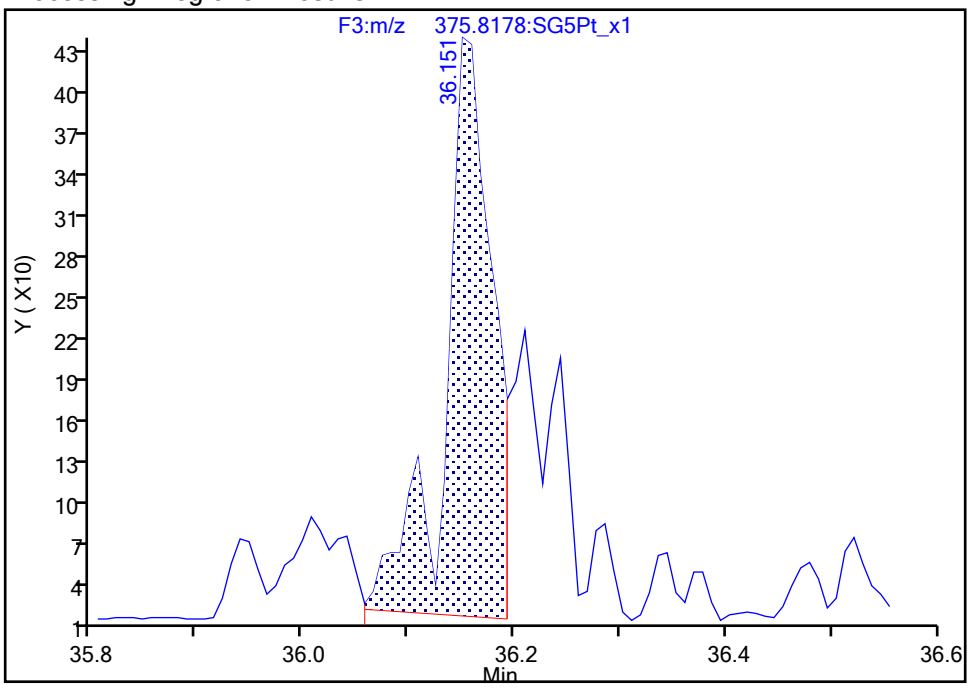
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d				
Injection Date:	20-Jan-2022 19:26:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-1-A	Lab Sample ID:	320-80119-1		
Client ID:	A2BMP0007S021				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

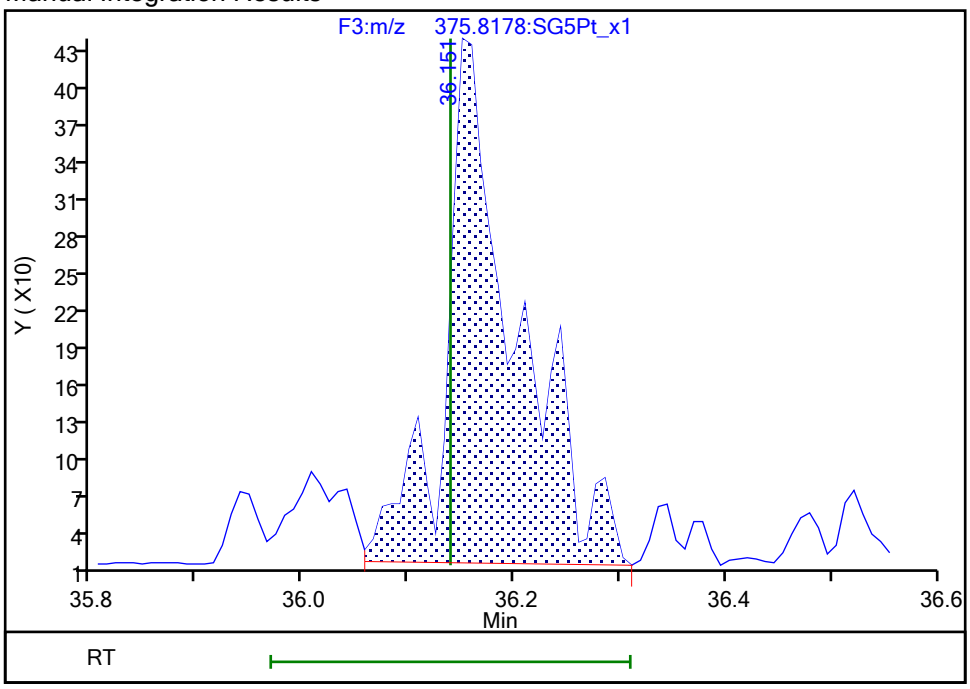
Processing Integration Results

RT: 36.15
Area: 1269
Amount: 0.062737
Amount Units: pg/ul



Manual Integration Results

RT: 36.15
Area: 1982
Amount: 0.083601
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:54:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

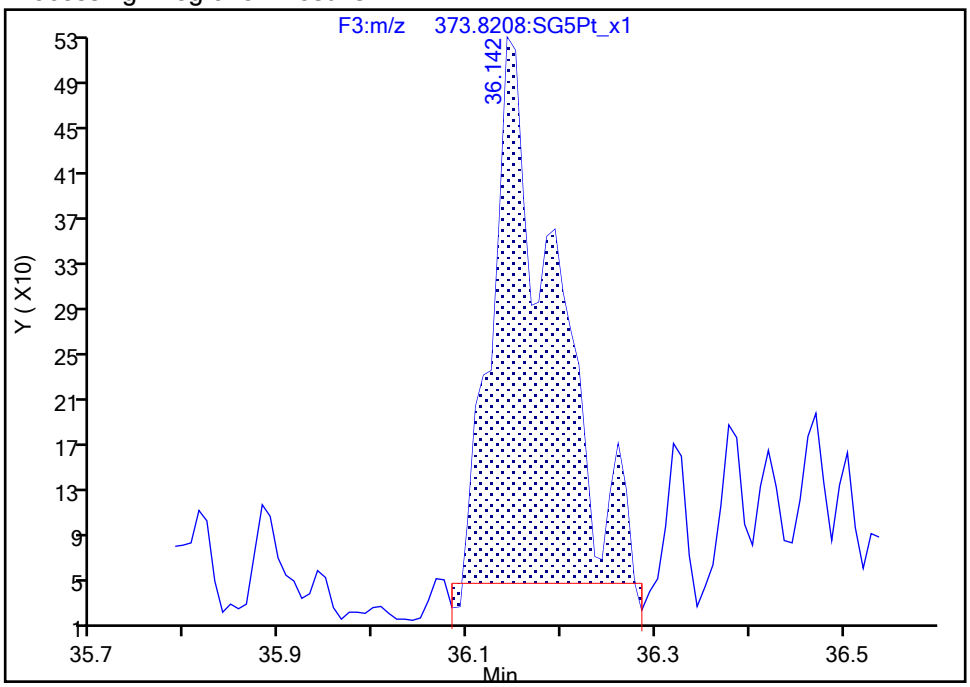
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d				
Injection Date:	20-Jan-2022 19:26:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-1-A	Lab Sample ID:	320-80119-1		
Client ID:	A2BMP0007S021				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

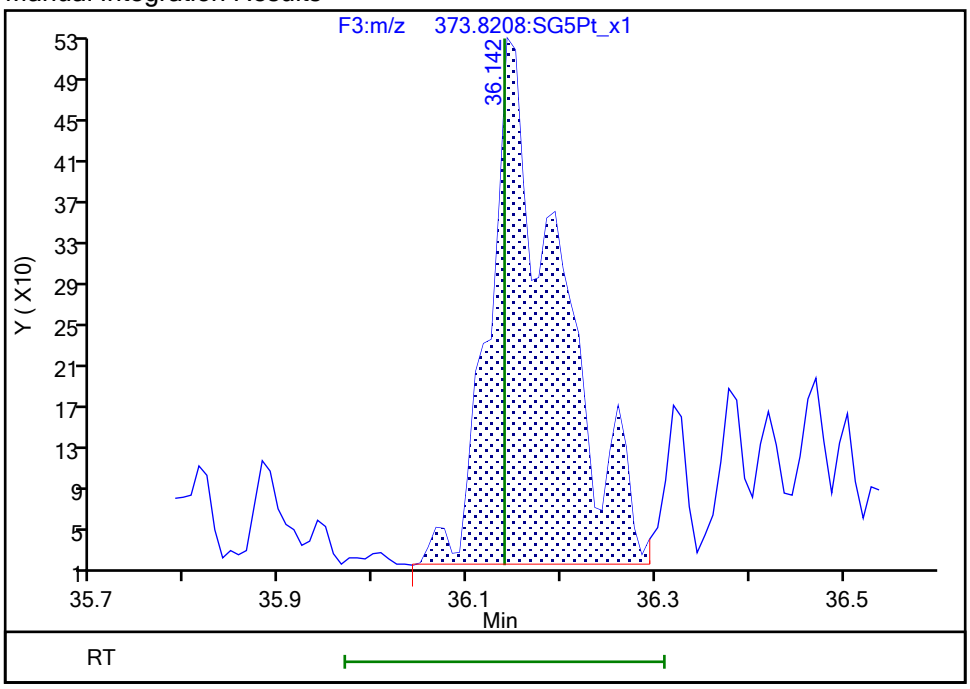
Processing Integration Results

RT: 36.14
Area: 2168
Amount: 0.062737
Amount Units: pg/ul



Manual Integration Results

RT: 36.14
Area: 2598
Amount: 0.083601
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:54:39
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

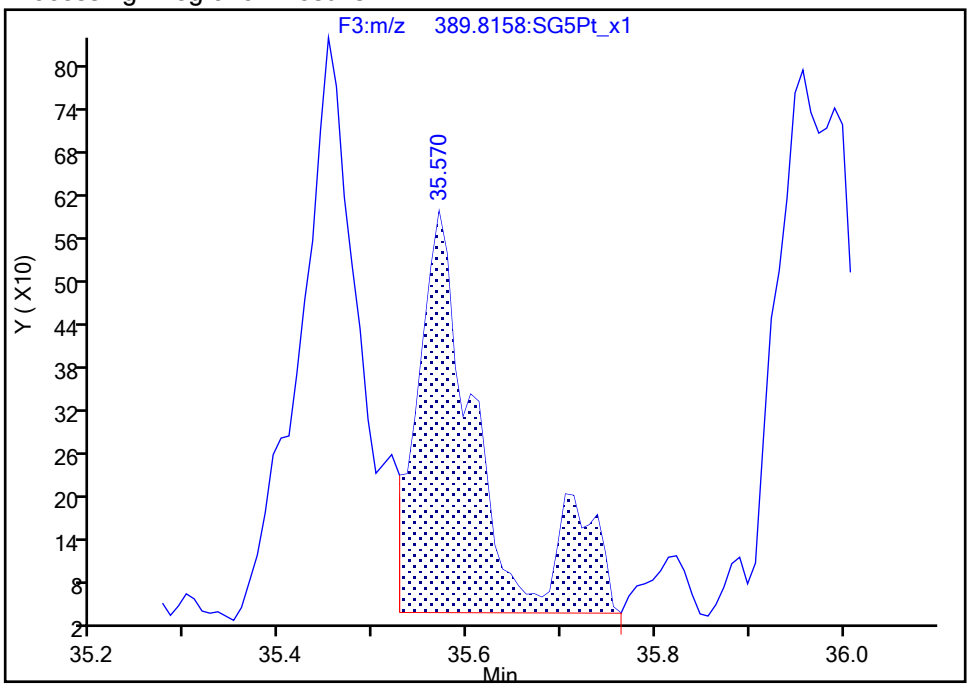
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d				
Injection Date:	20-Jan-2022 19:26:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-1-A	Lab Sample ID:	320-80119-1		
Client ID:	A2BMP0007S021				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

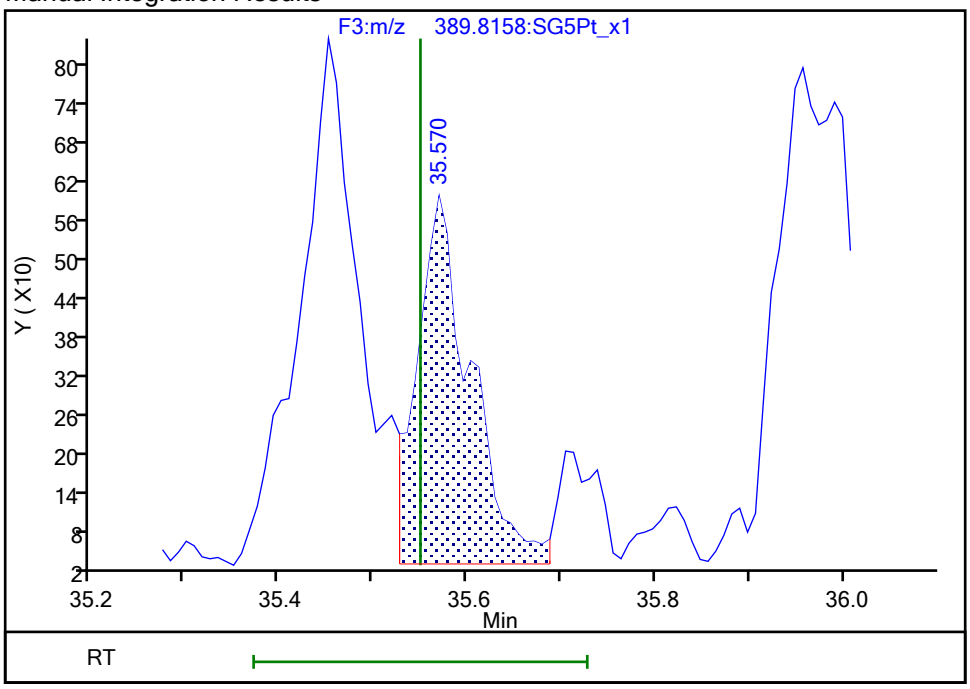
Processing Integration Results

RT: 35.57
Area: 2594
Amount: 0.129394
Amount Units: pg/ul



Manual Integration Results

RT: 35.57
Area: 2219
Amount: 0.112722
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:55:08
Audit Action: Manually Integrated Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins Sacramento

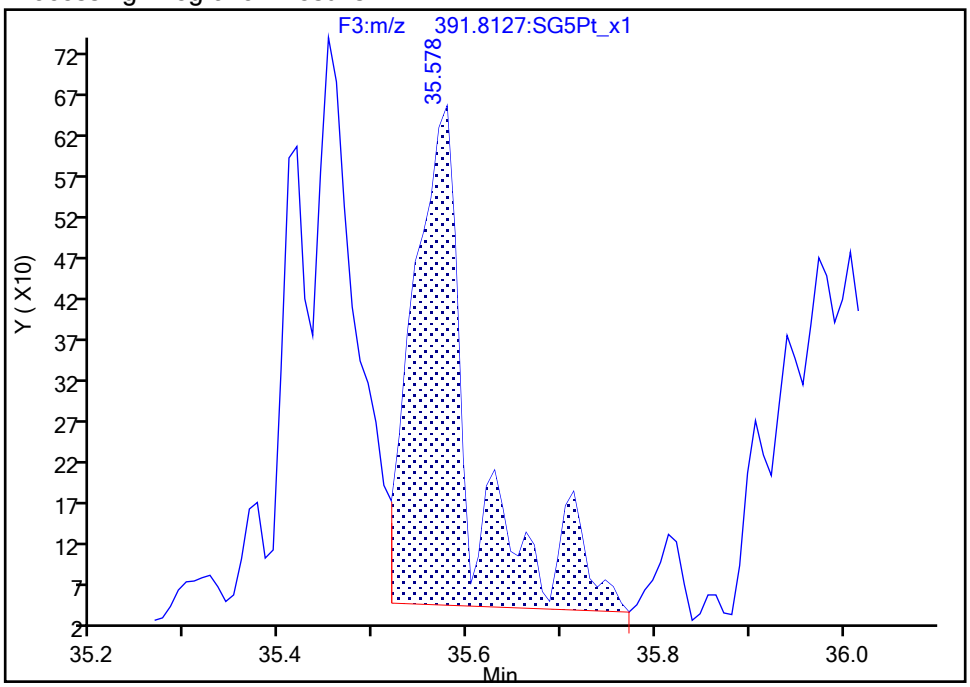
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d				
Injection Date:	20-Jan-2022 19:26:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-1-A	Lab Sample ID:	320-80119-1		
Client ID:	A2BMP0007S021				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

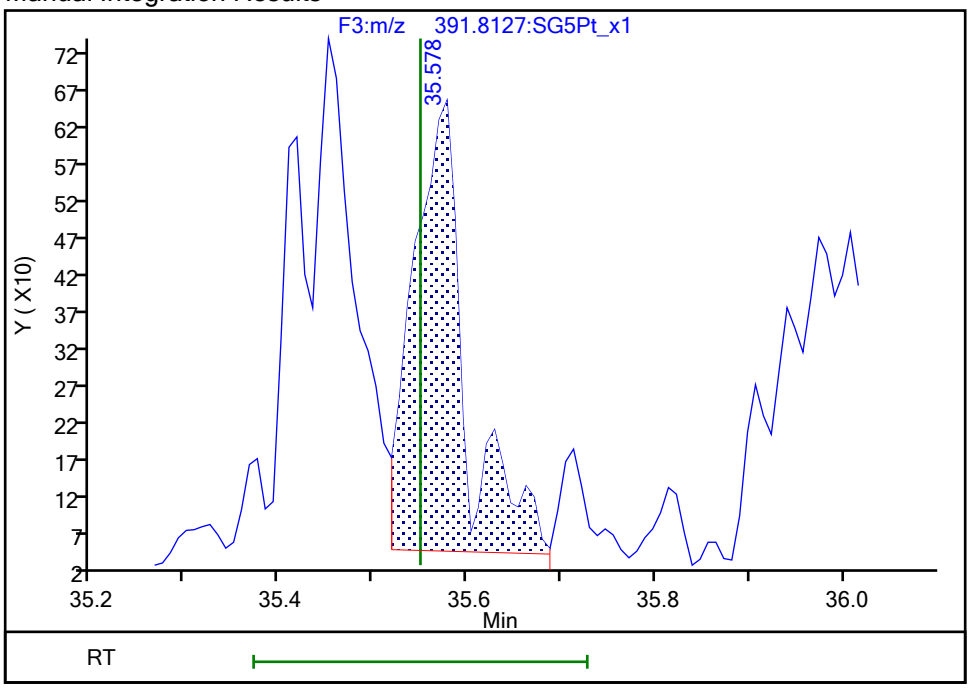
Processing Integration Results

RT: 35.58
Area: 2637
Amount: 0.129394
Amount Units: pg/ul



Manual Integration Results

RT: 35.58
Area: 2338
Amount: 0.112722
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:55:17
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins Sacramento

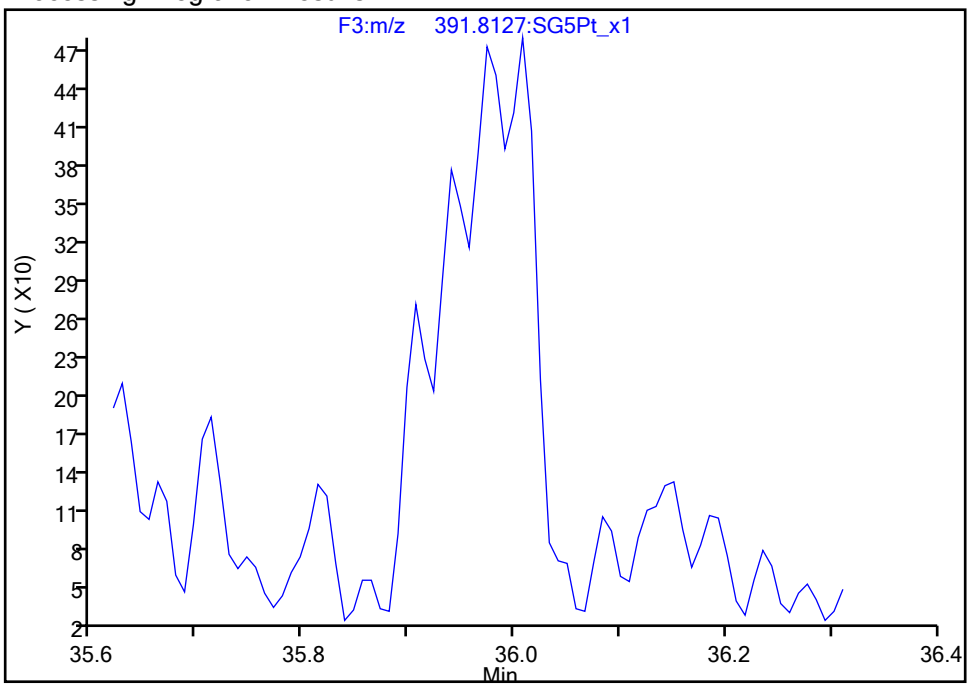
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d				
Injection Date:	20-Jan-2022 19:26:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-1-A	Lab Sample ID:	320-80119-1		
Client ID:	A2BMP0007S021				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

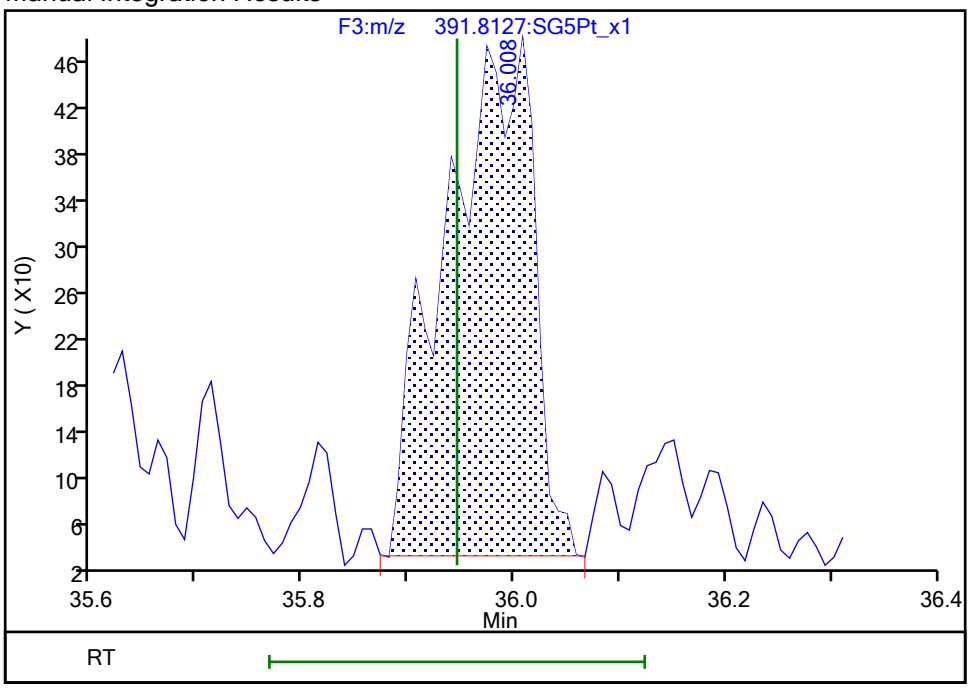
Not Detected
Expected RT: 35.95

Processing Integration Results



Manual Integration Results

RT: 36.01
Area: 2565
Amount: 0.172334
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:55:32
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins Sacramento

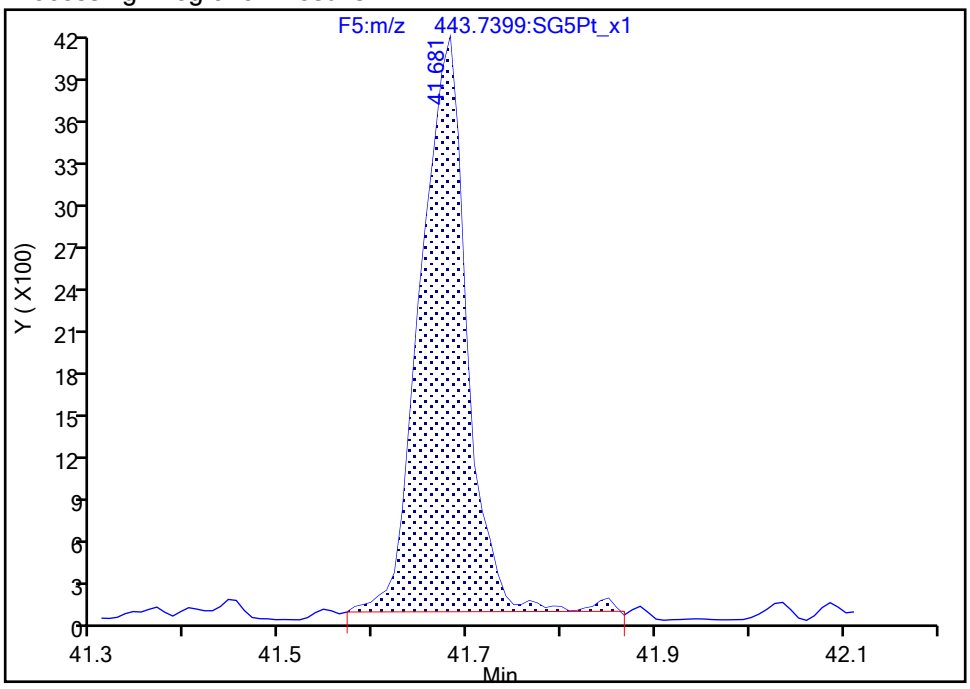
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Injection Date: 20-Jan-2022 19:26:00 Instrument ID: DFS 1
Lims ID: 570-80119-F-1-A Lab Sample ID: 320-80119-1
Client ID: A2BMP0007S021
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F5(41.08 :46.00)

OCDF, CAS: 39001-02-0

Signal: 2

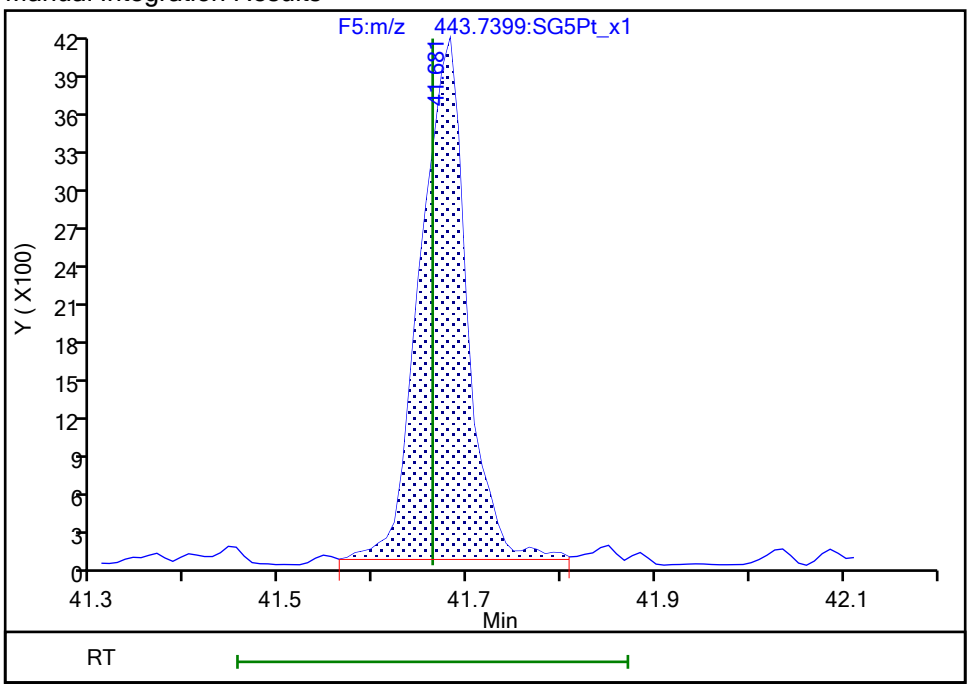
Processing Integration Results

RT: 41.68
Area: 14170
Amount: 0.752491
Amount Units: pg/ul



Manual Integration Results

RT: 41.68
Area: 14277
Amount: 0.739870
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:56:07
Audit Action: Manually Integrated Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins Sacramento

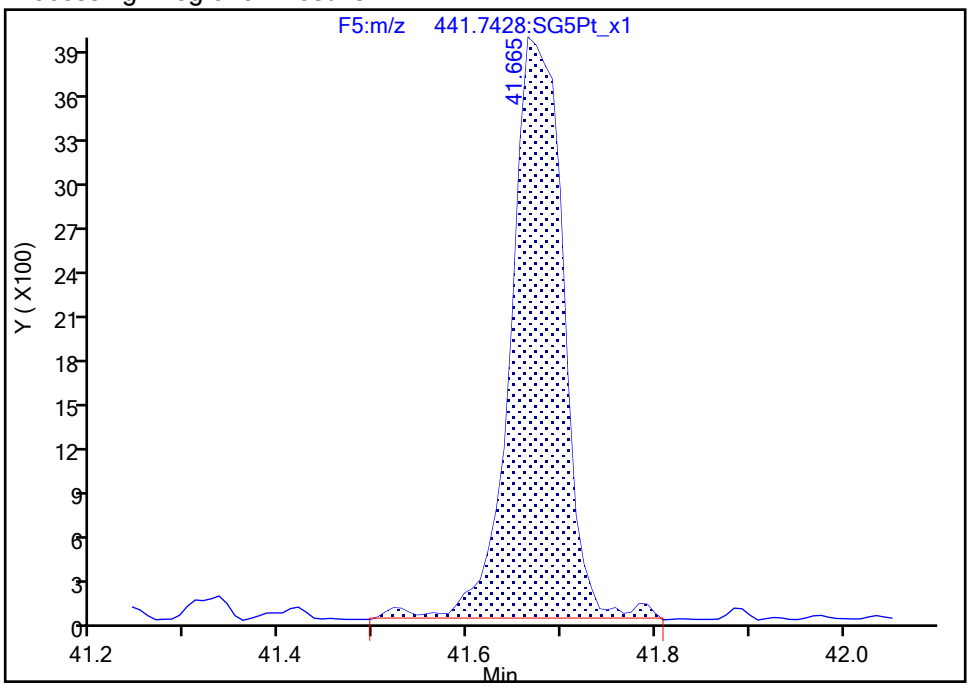
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d				
Injection Date:	20-Jan-2022 19:26:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-1-A	Lab Sample ID:	320-80119-1		
Client ID:	A2BMP0007S021				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5(41.08 :46.00)		

OCDF, CAS: 39001-02-0

Signal: 1

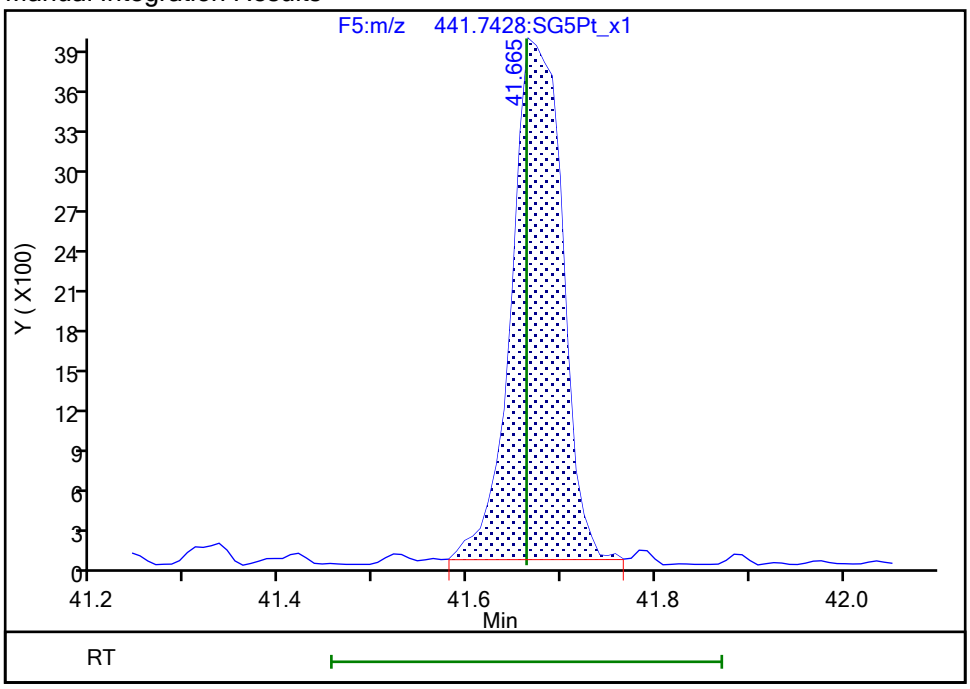
Processing Integration Results

RT: 41.66
Area: 15223
Amount: 0.752491
Amount Units: pg/ul



Manual Integration Results

RT: 41.66
Area: 14623
Amount: 0.739870
Amount Units: pg/ul

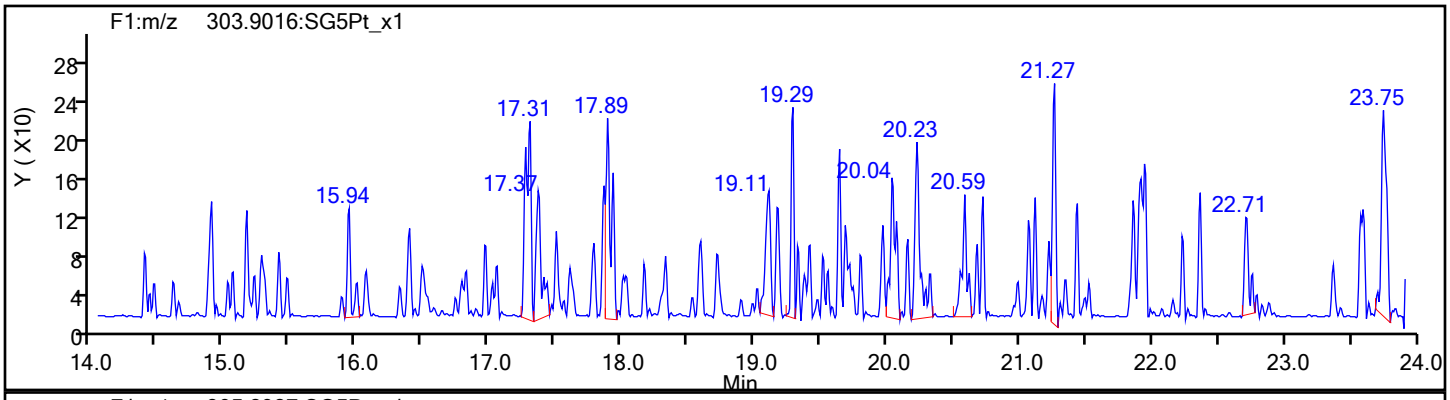


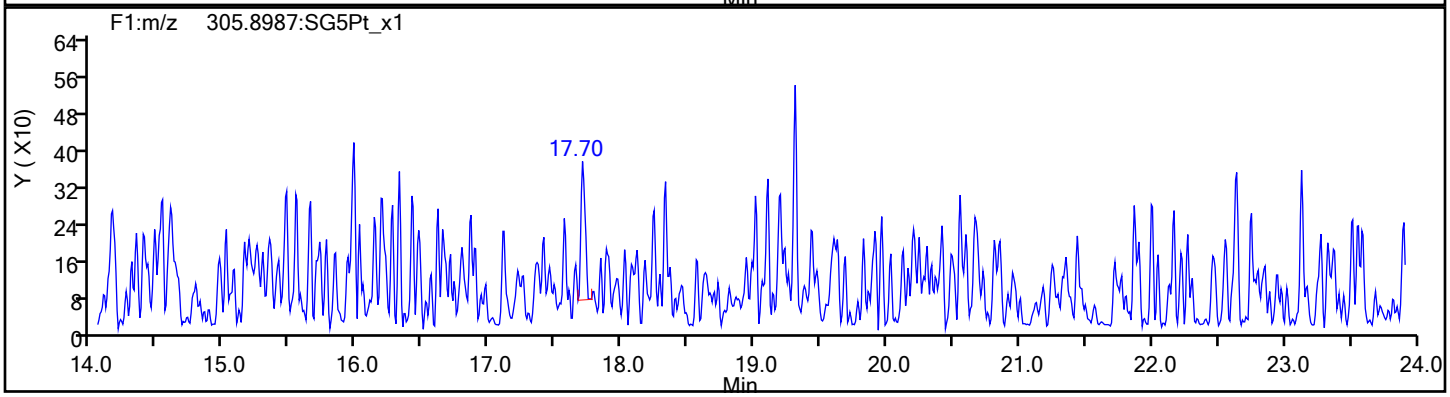
Reviewer: bilottag, 21-Jan-2022 07:56:16
Audit Action: Manually Integrated Audit Reason: Peak Tail

Eurofins Sacramento

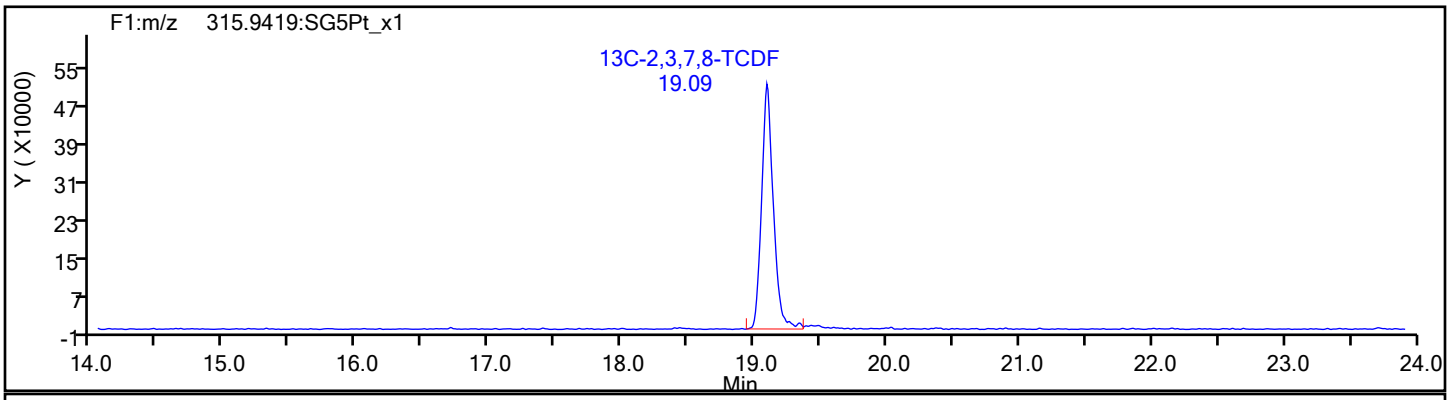
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Injection Date: 20-Jan-2022 19:26:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: A2BMP0007S021
Worklist#: 559474 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

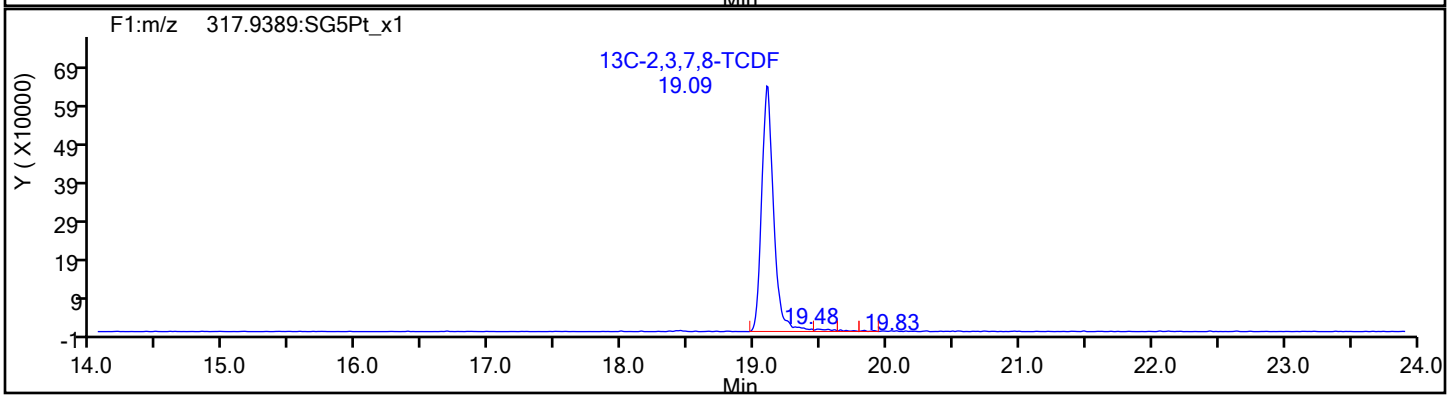
TCDF





TCDF Standards

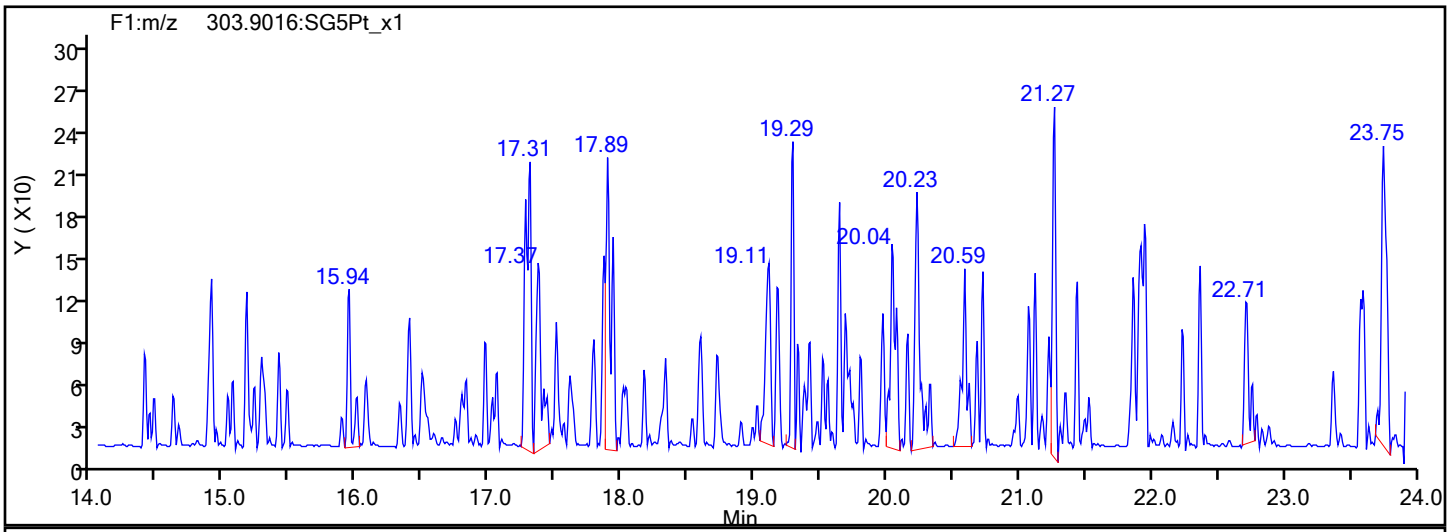


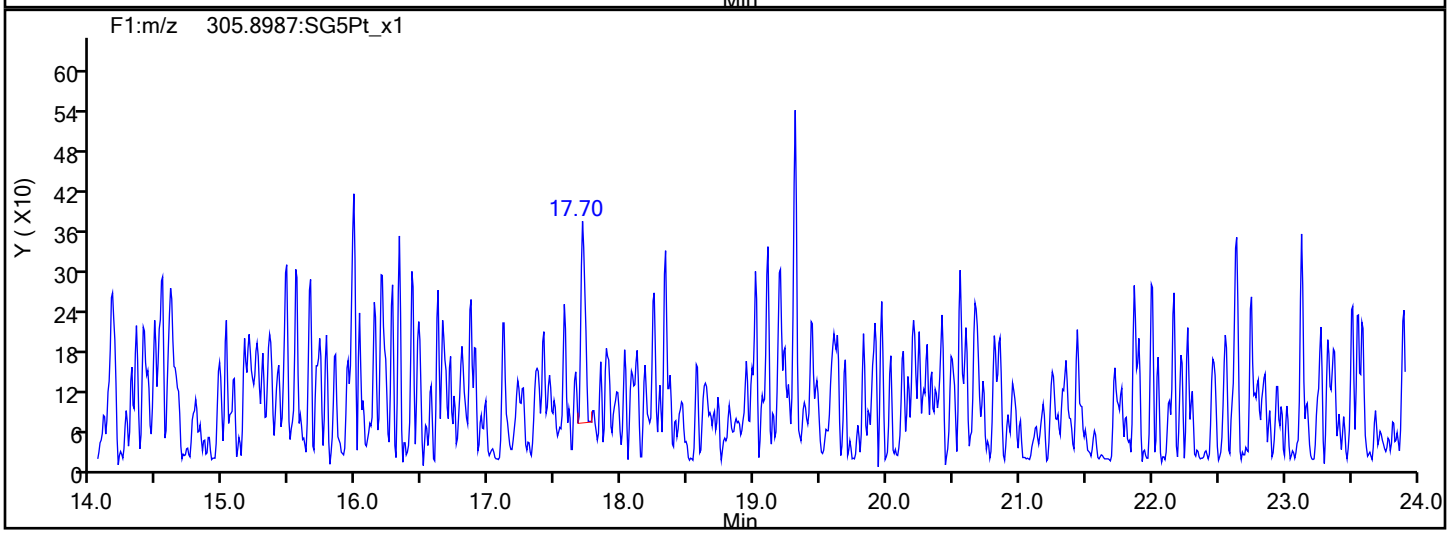


Eurofins Sacramento

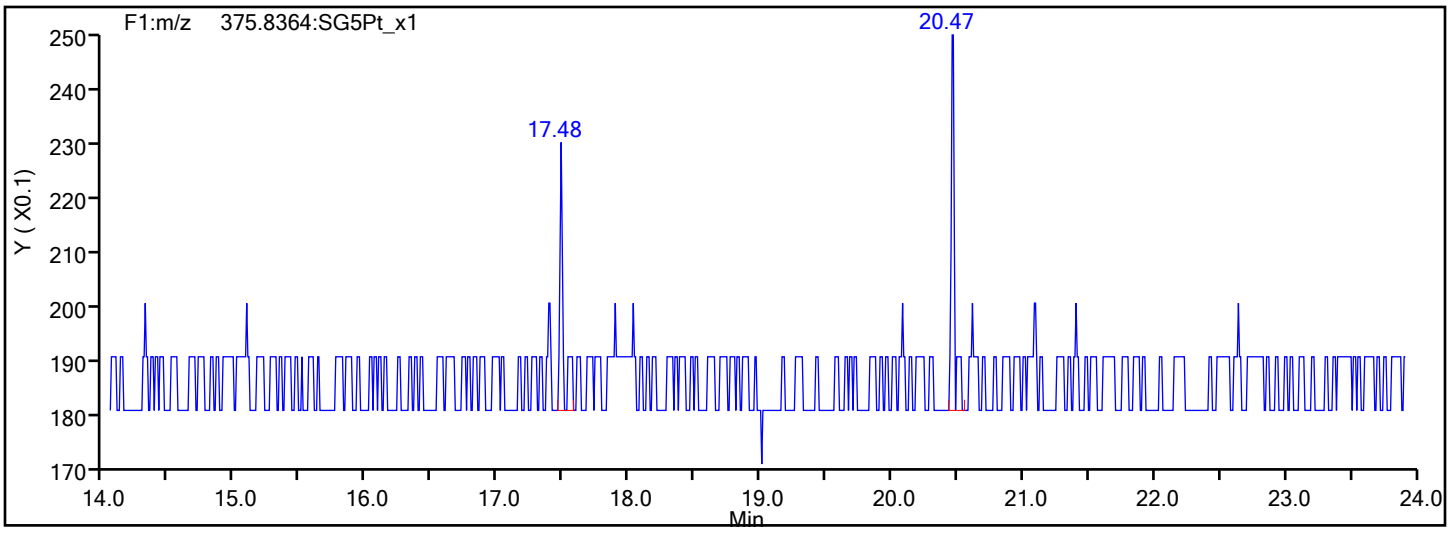
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
Injection Date:	20-Jan-2022 19:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



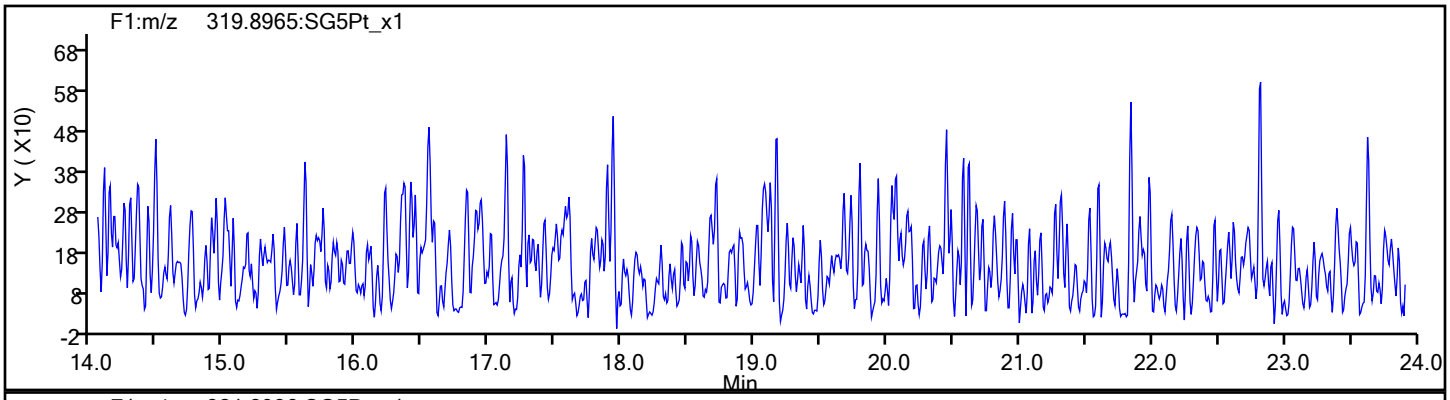
Report Date: 21-Jan-2022 08:05:46 Chrom Revision: 2.3 18-Jan-2022 20:25:40

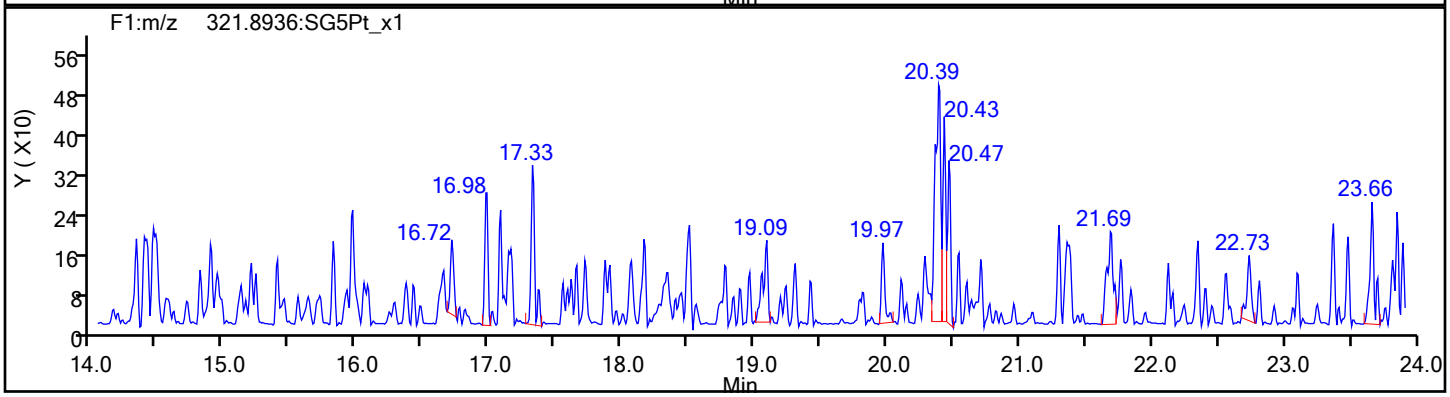
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d

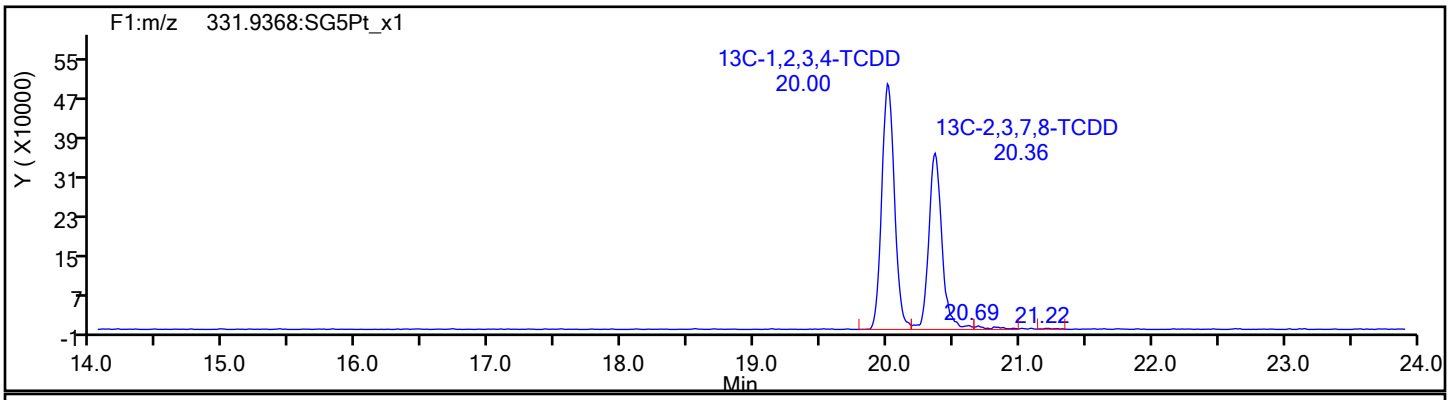
Injection Date:	20-Jan-2022 19:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

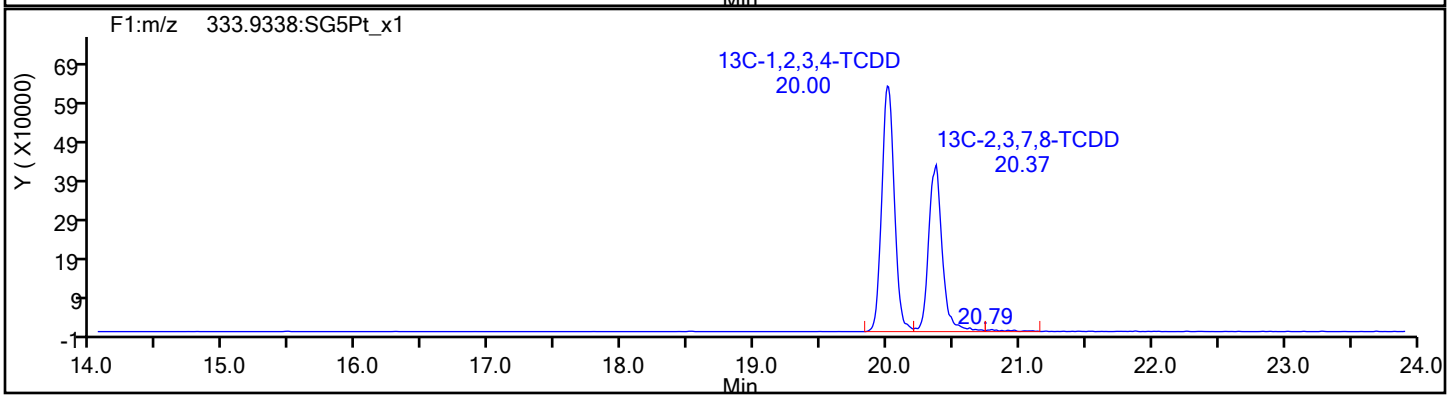
TCDD





TCDD Standards





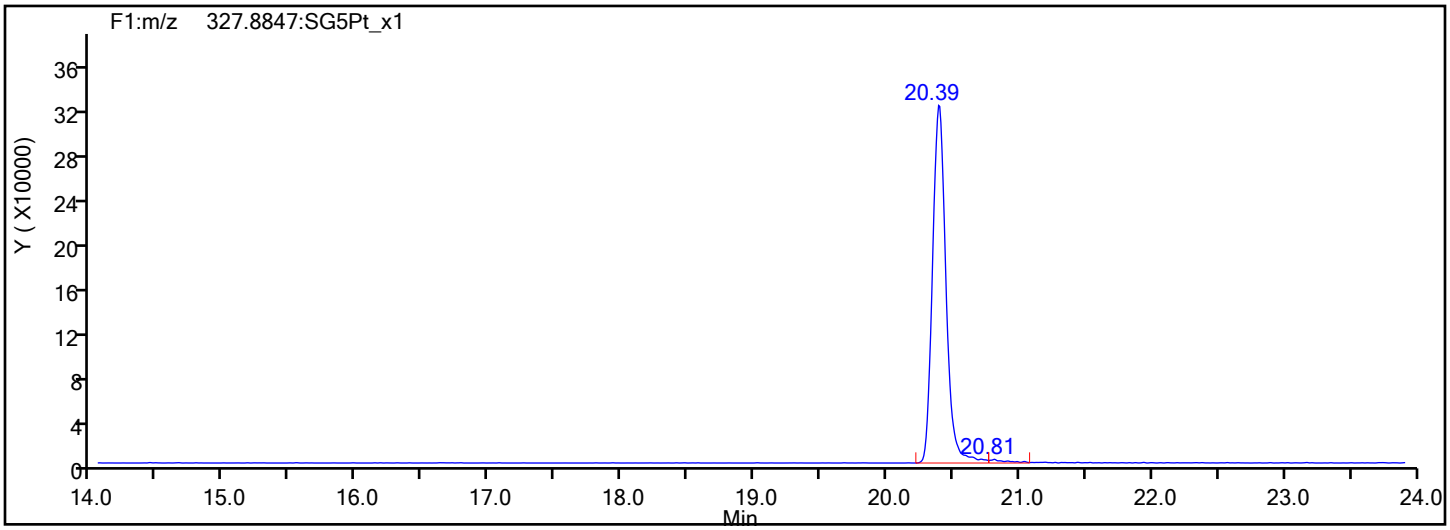
Report Date: 21-Jan-2022 08:05:46 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

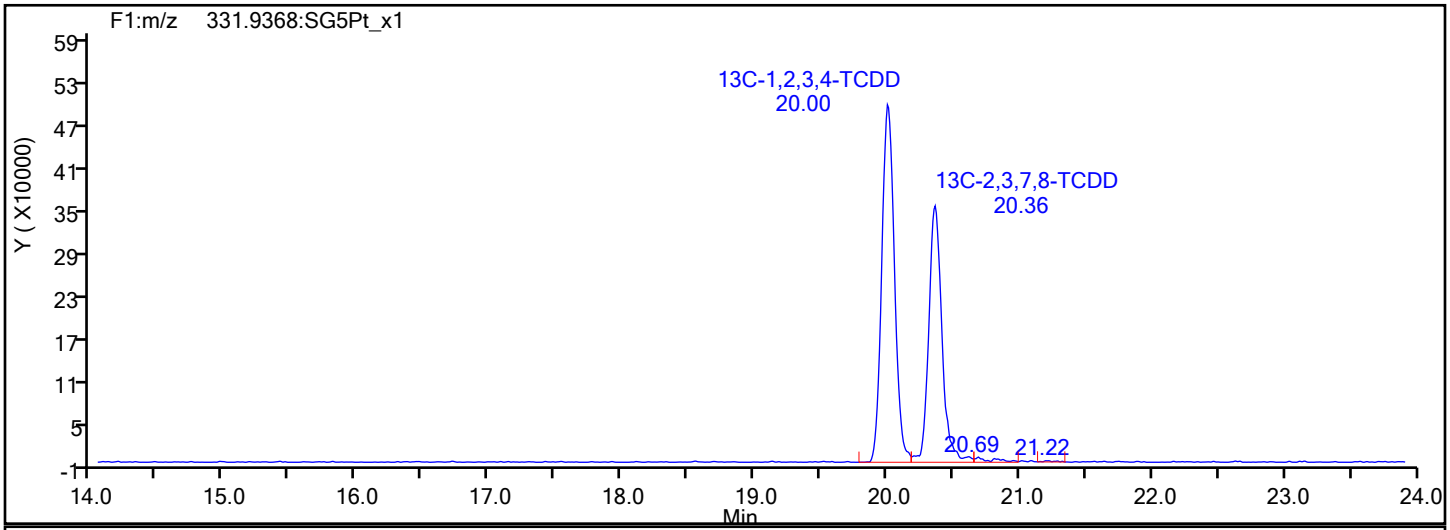
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d

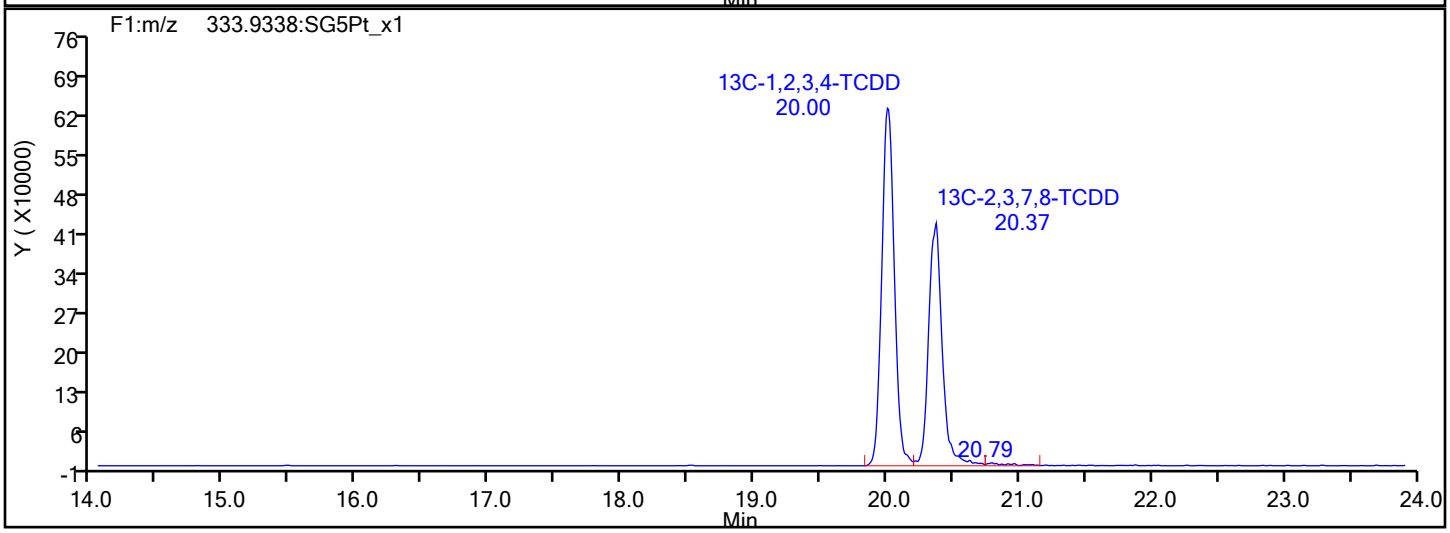
Injection Date:	20-Jan-2022 19:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





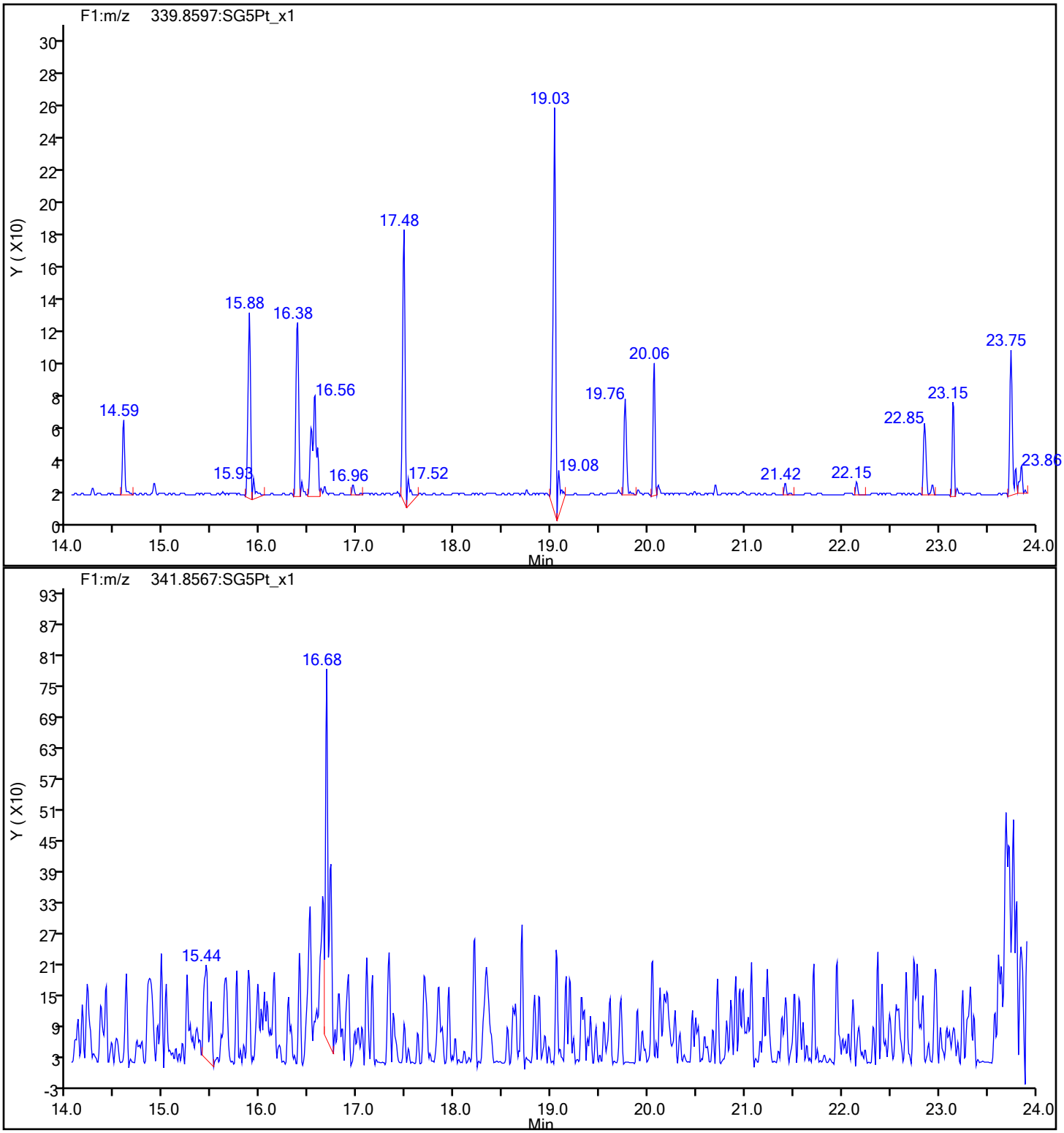
Report Date: 21-Jan-2022 08:05:46 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d

Injection Date:	20-Jan-2022 19:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

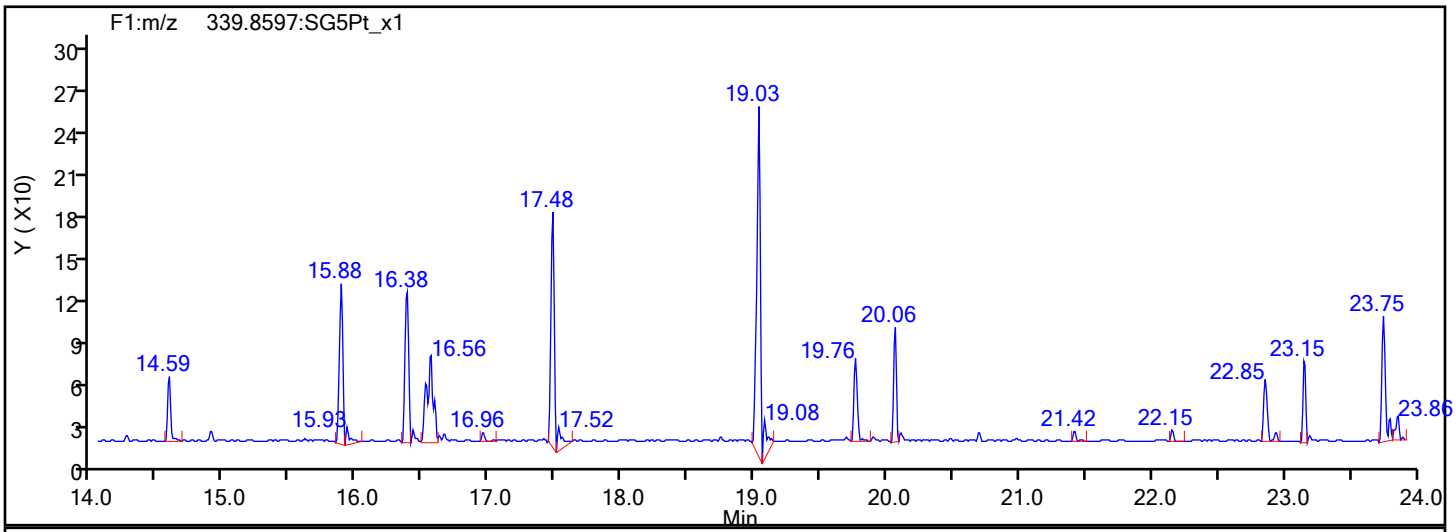
F1 PeCDFs

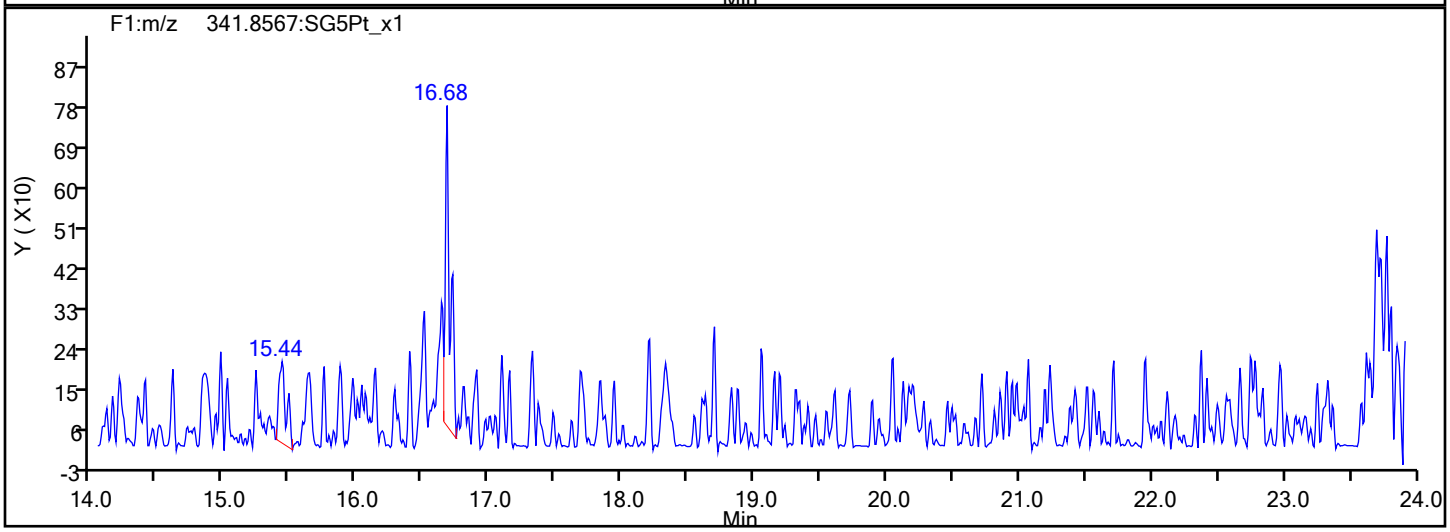


Eurofins Sacramento

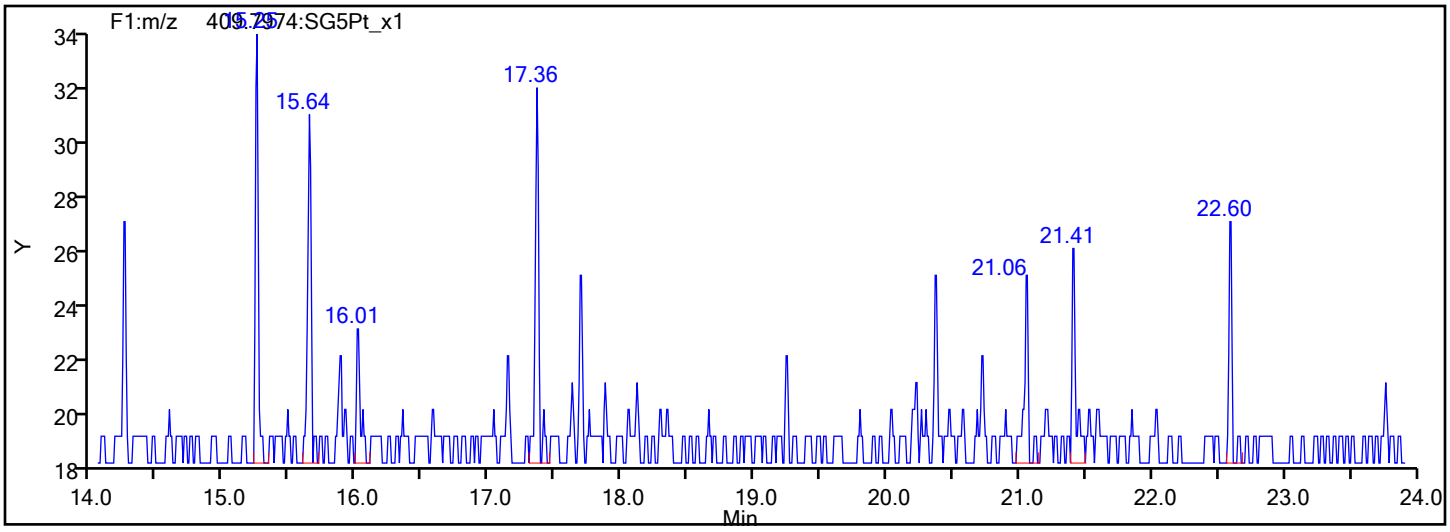
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
Injection Date:	20-Jan-2022 19:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

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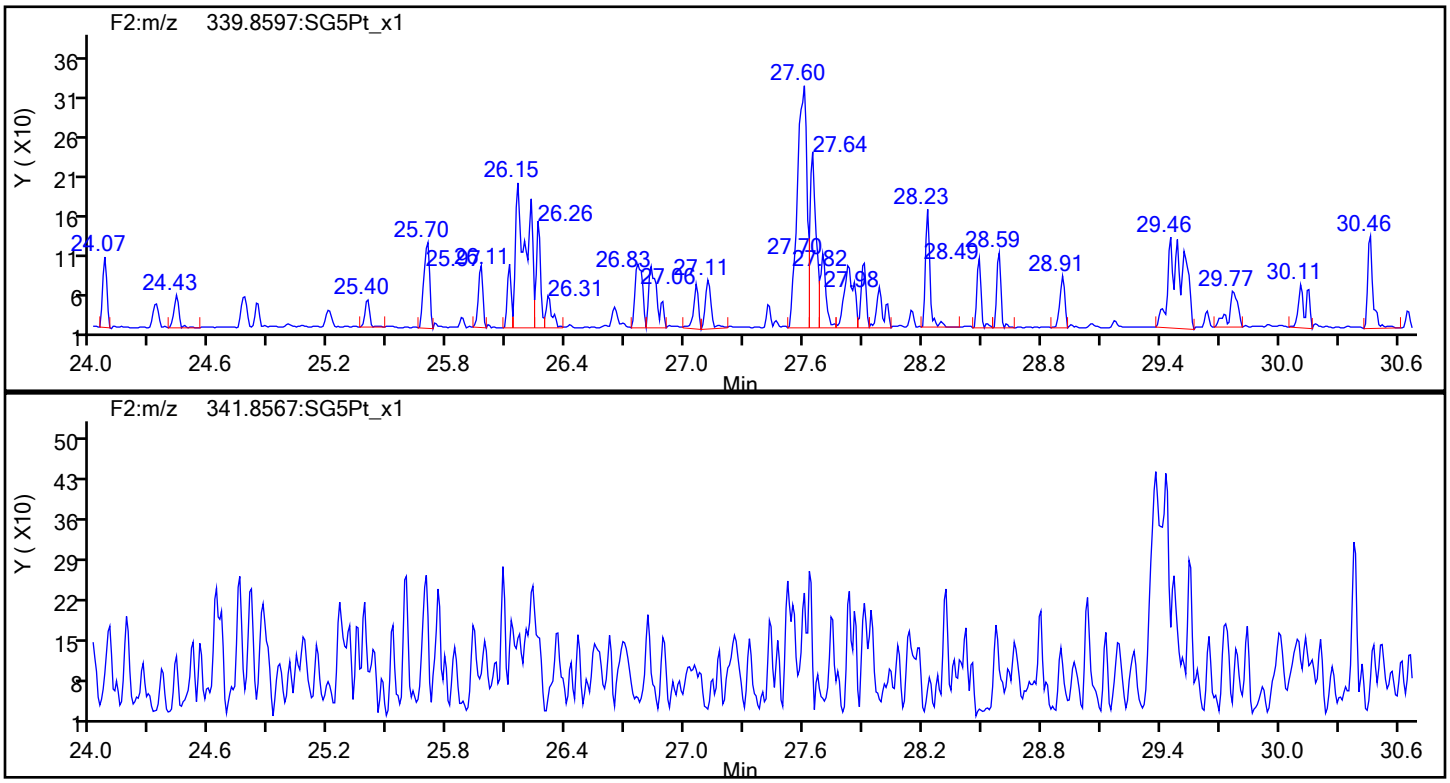
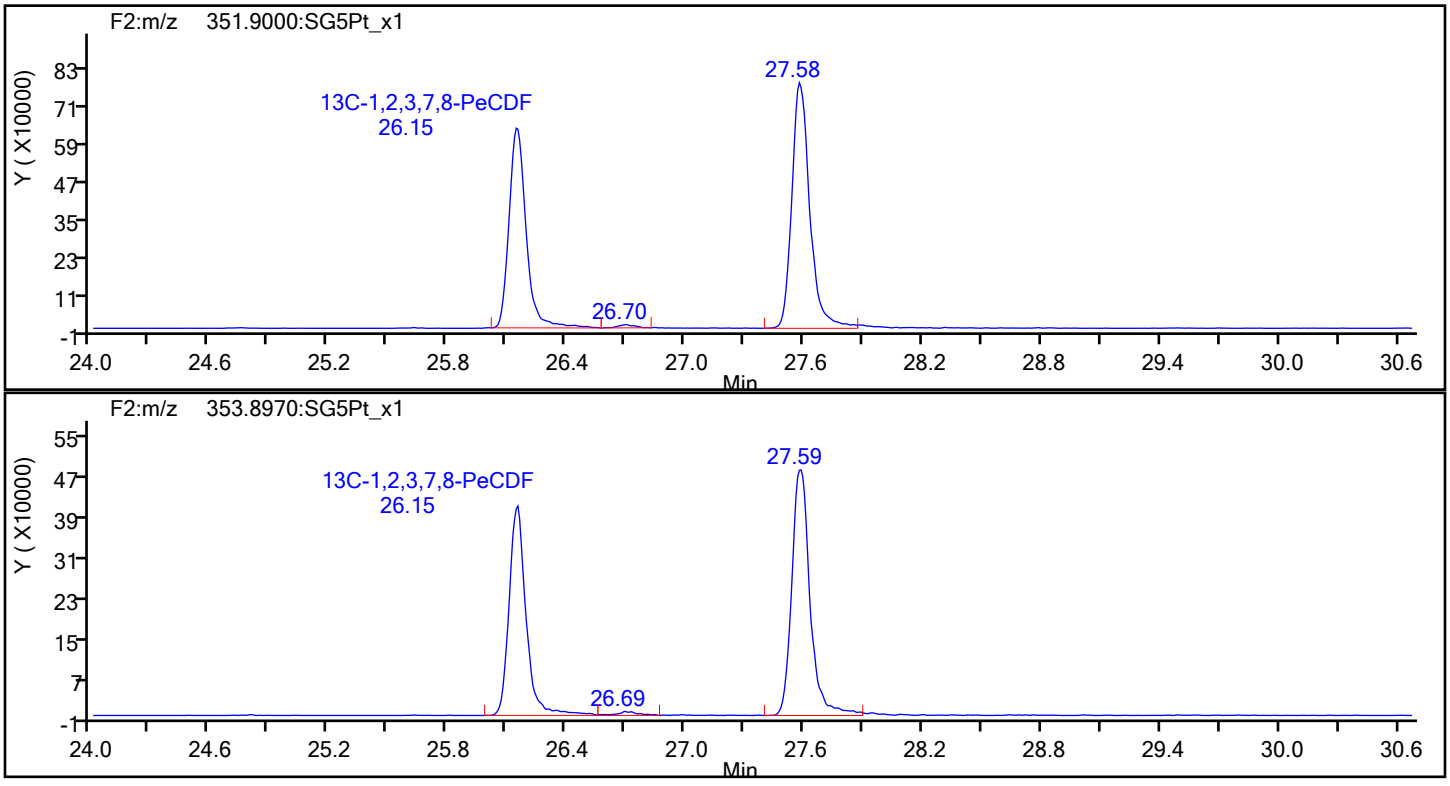


PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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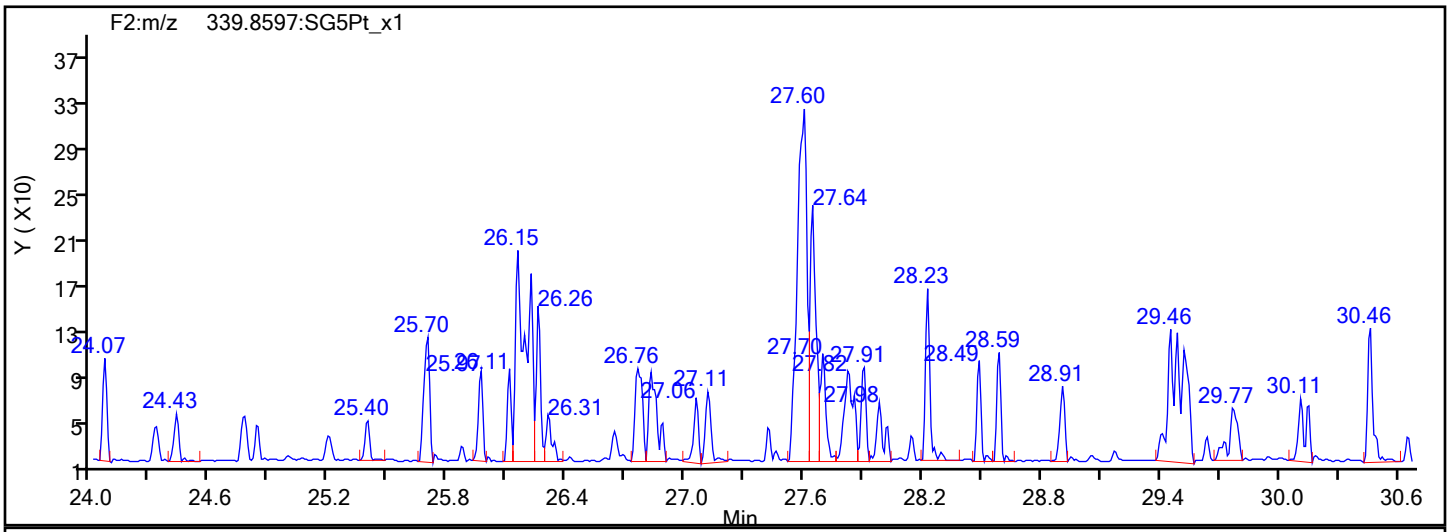
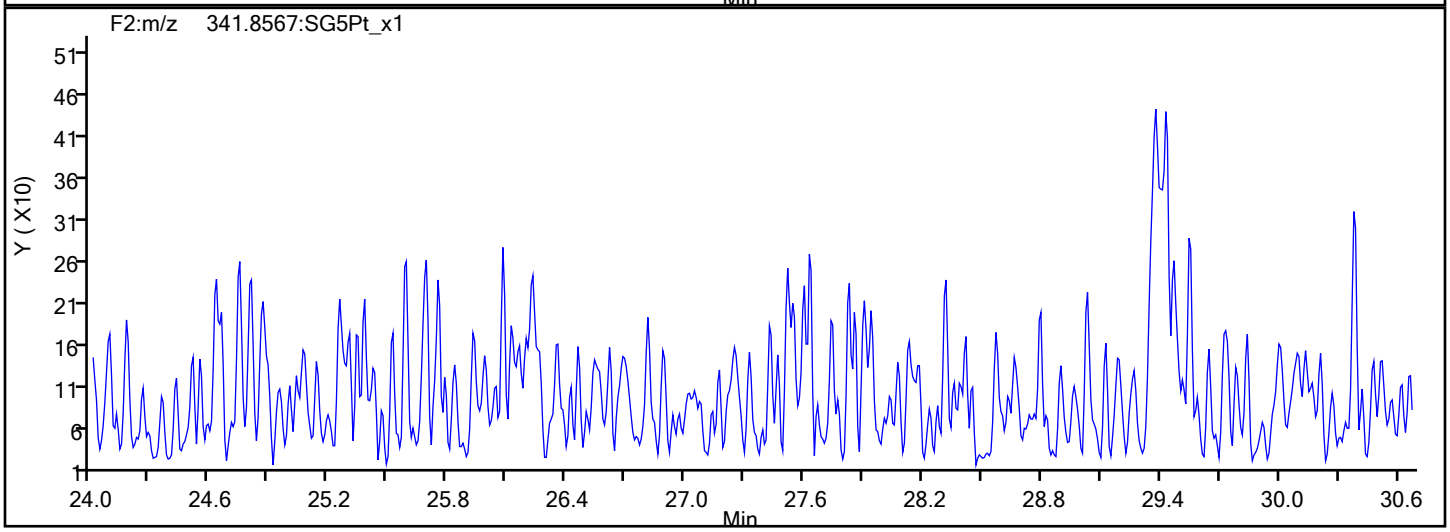
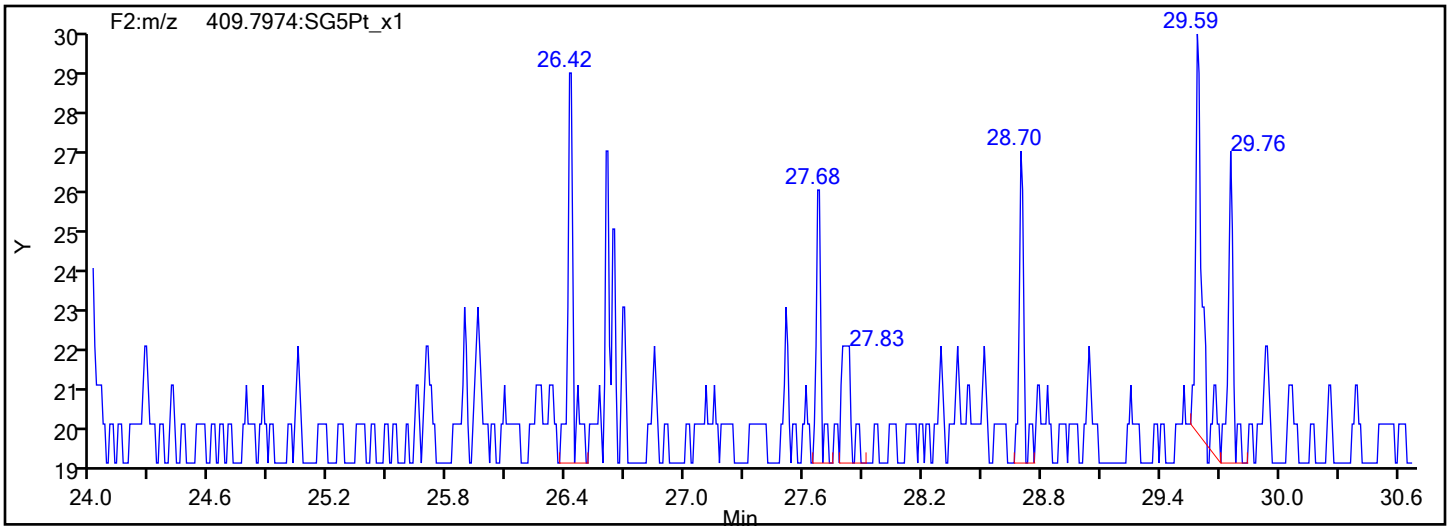




PeCDF Interference Mass



Report Date: 21-Jan-2022 08:05:47 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d

Injection Date:	20-Jan-2022 19:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

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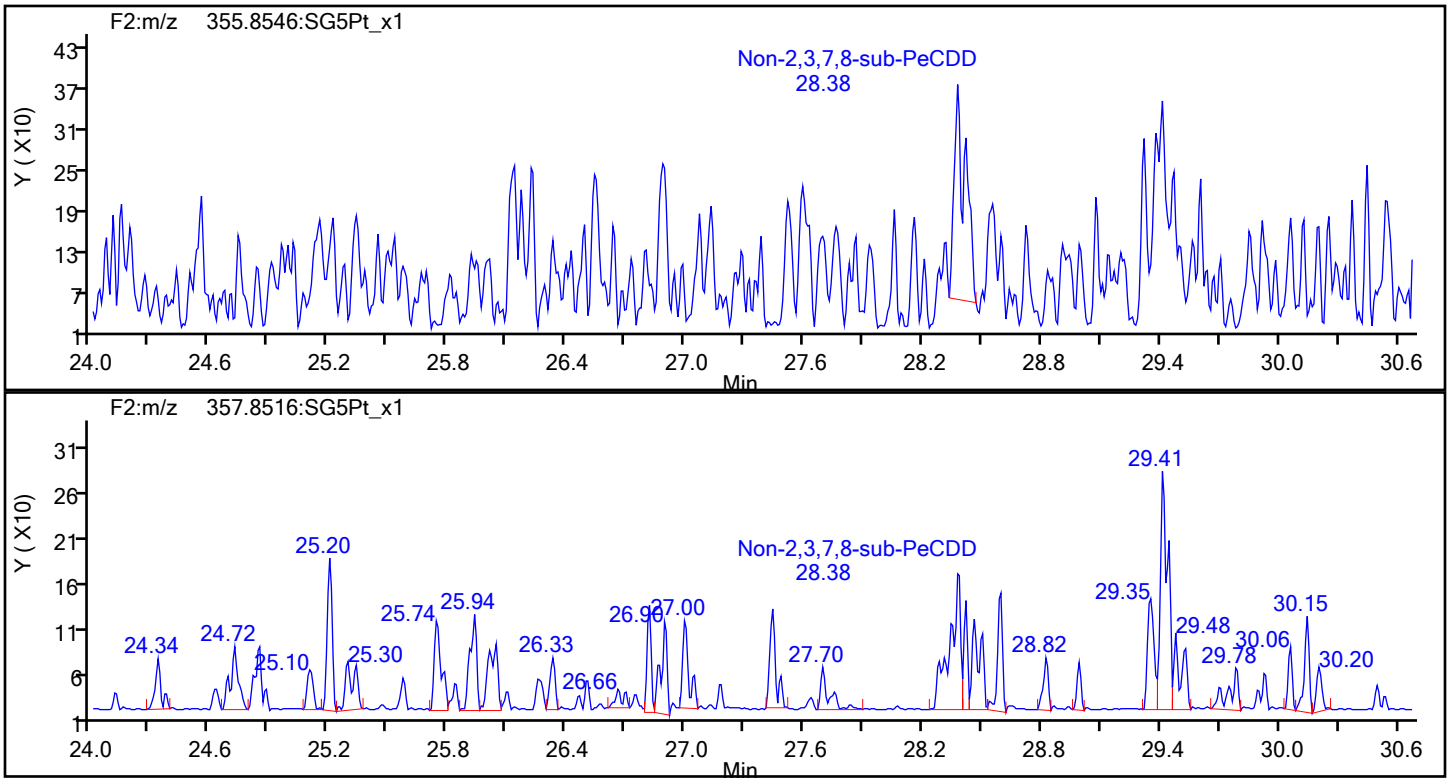

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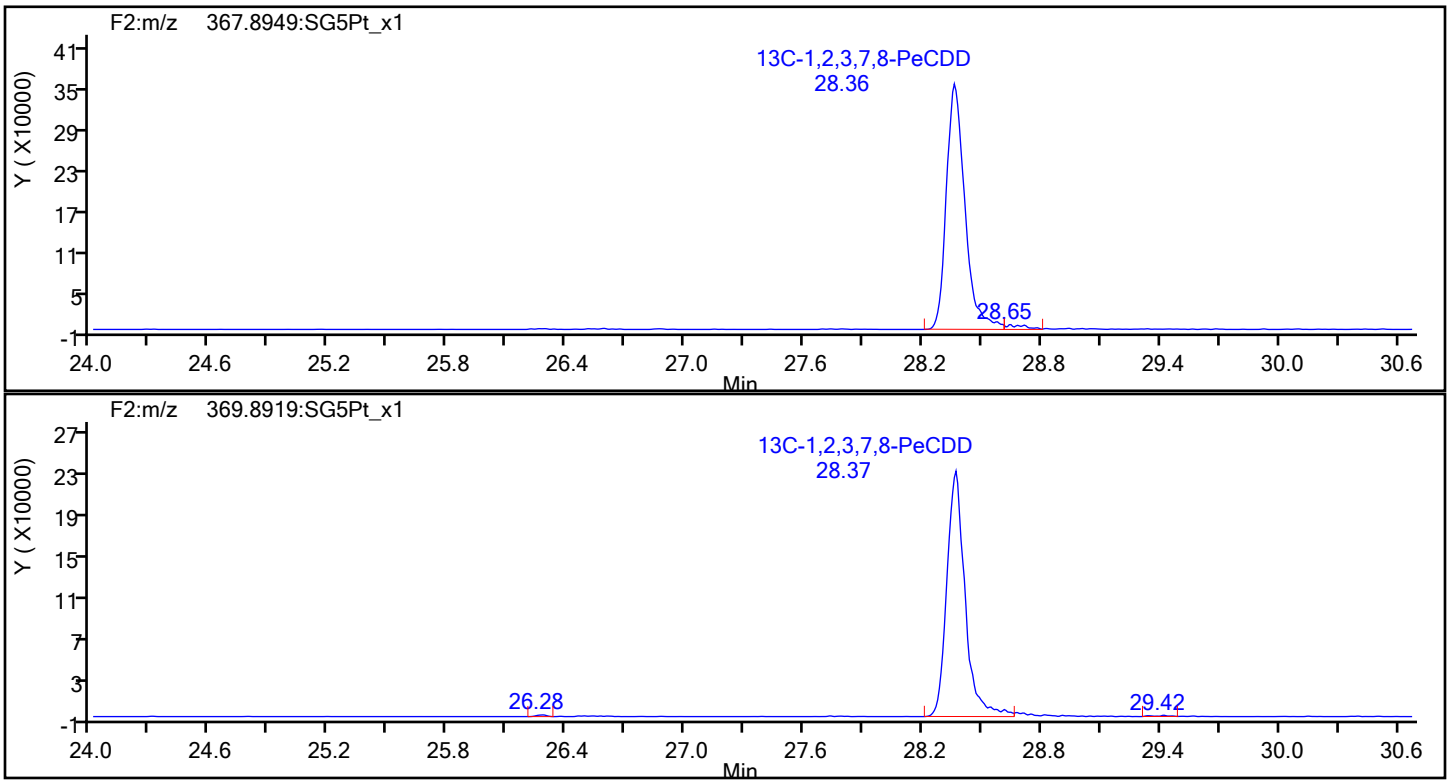
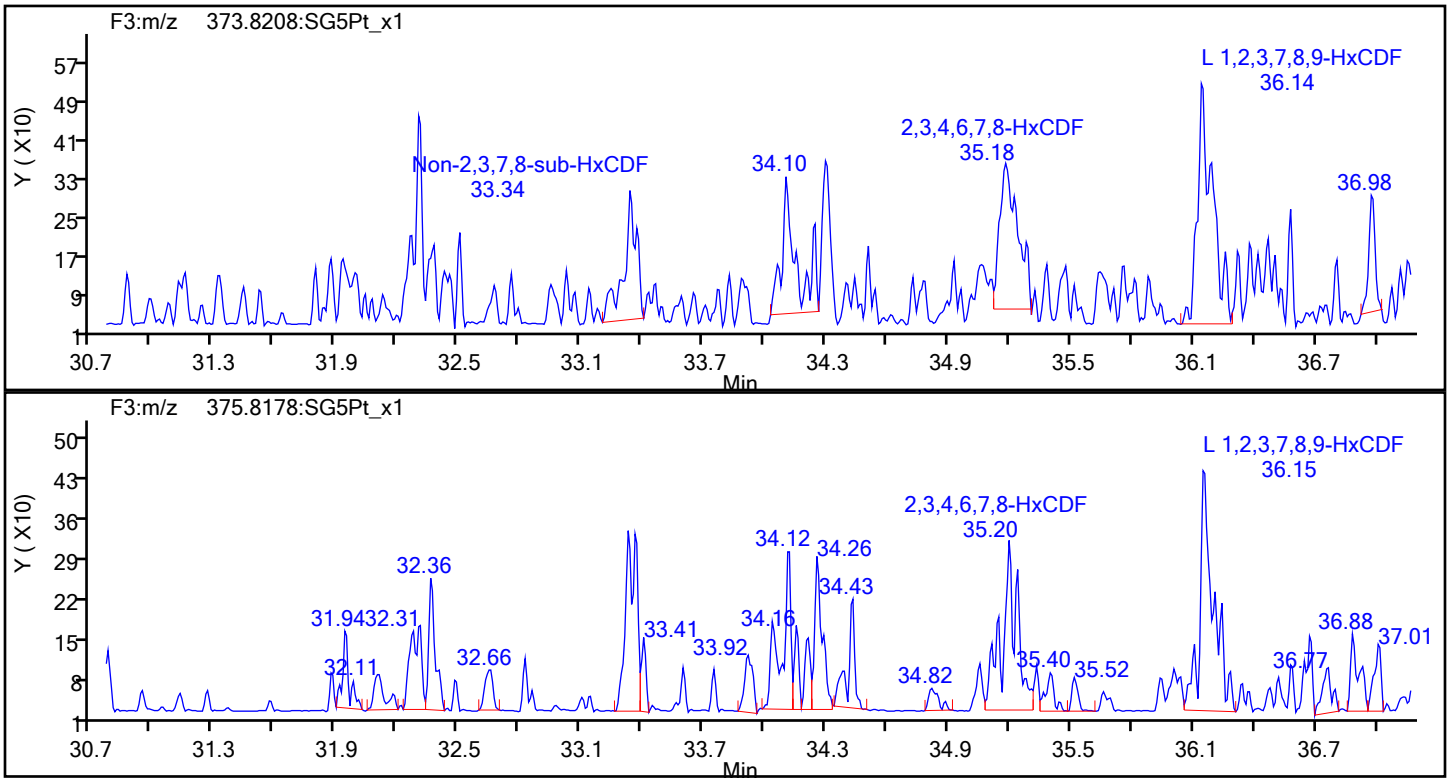


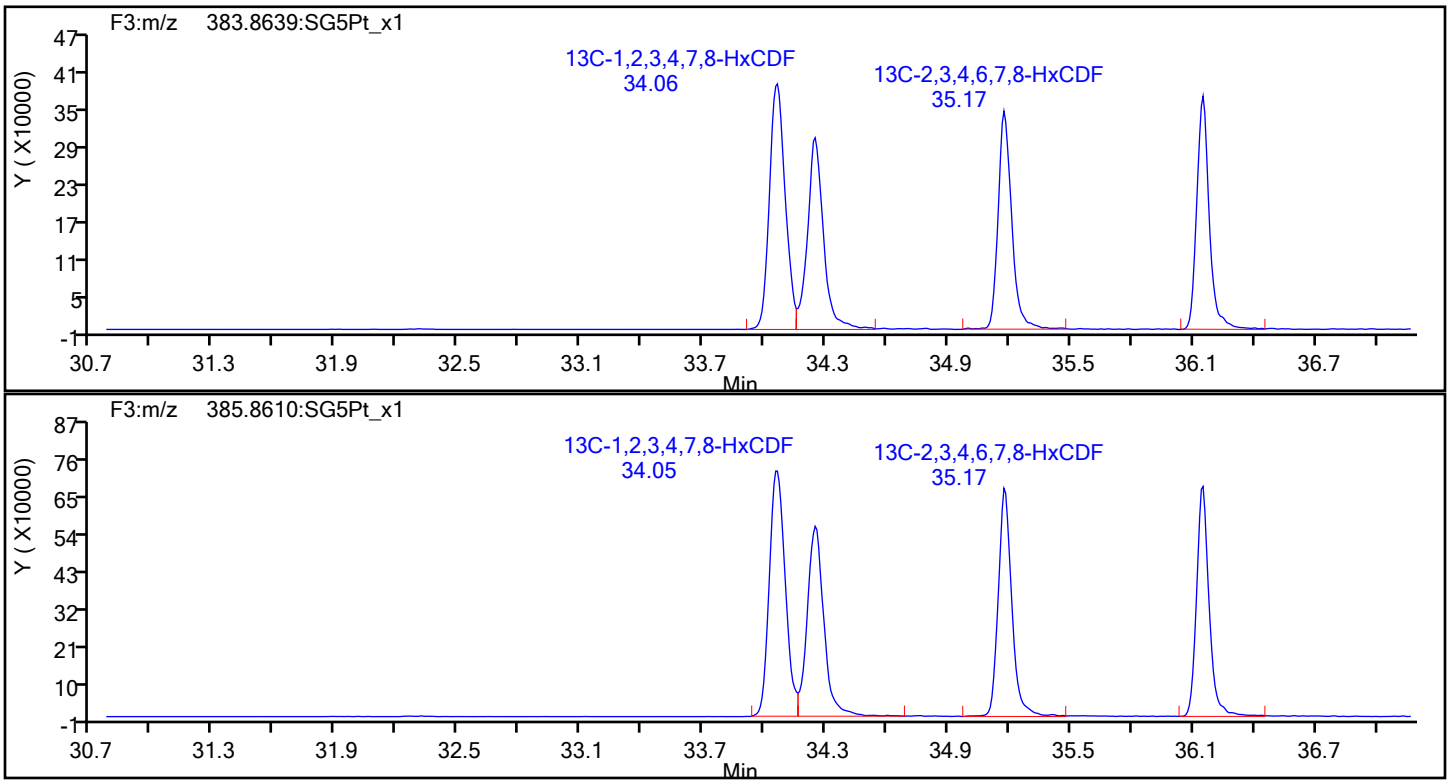
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Injection Date: 20-Jan-2022 19:26:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: A2BMP0007S021
Worklist#: 559474 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF



HxCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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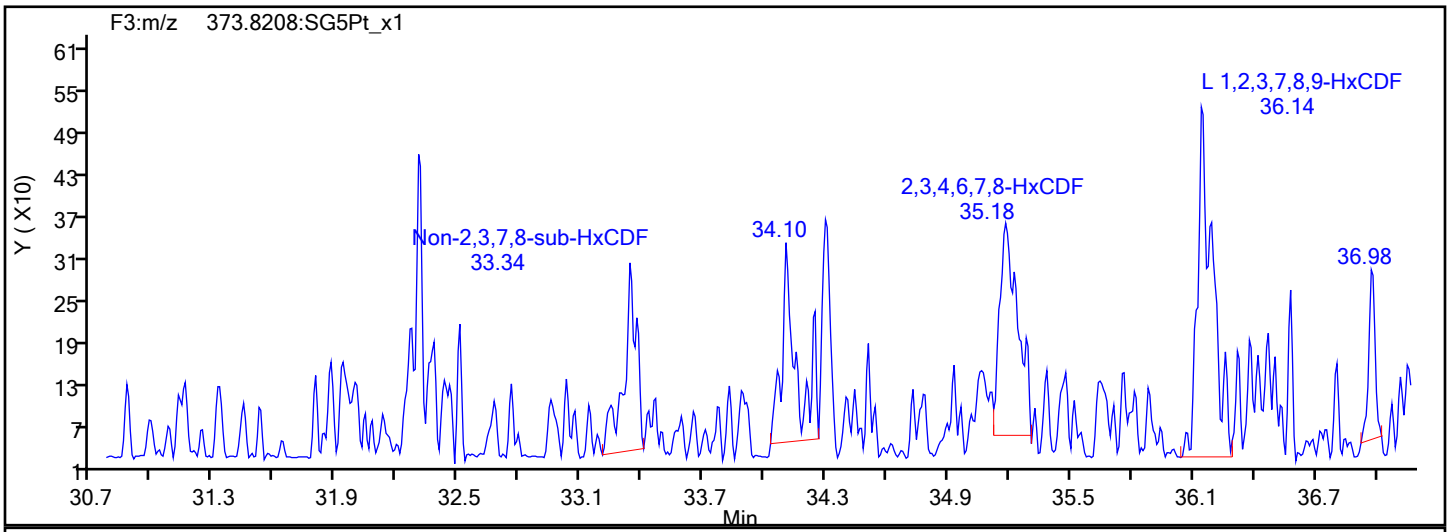
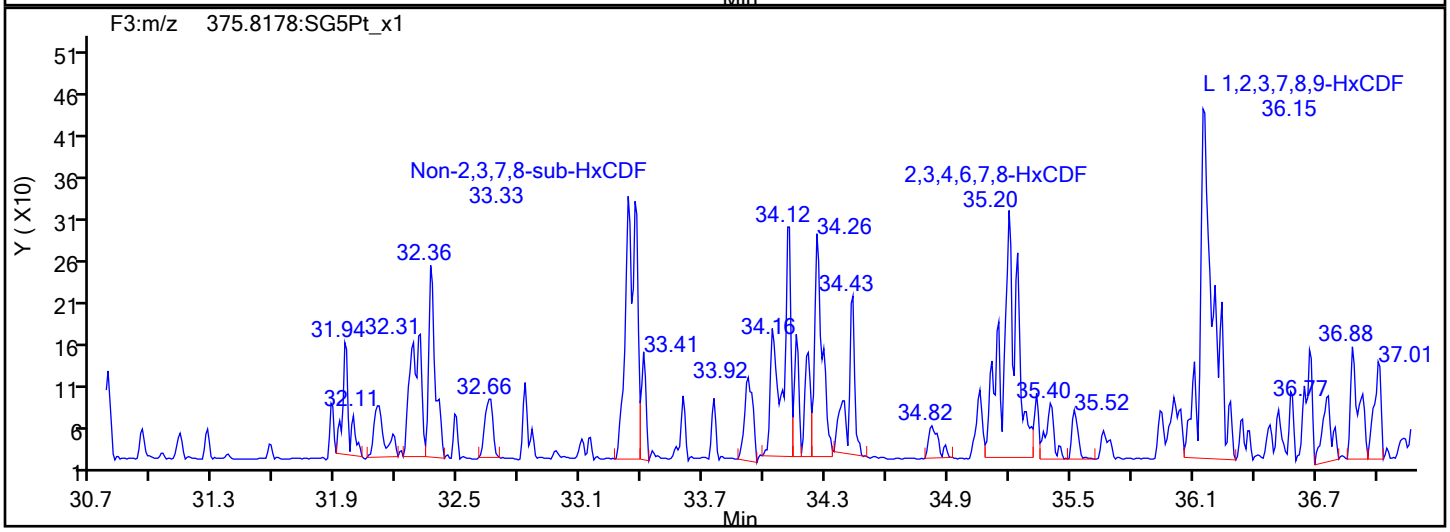
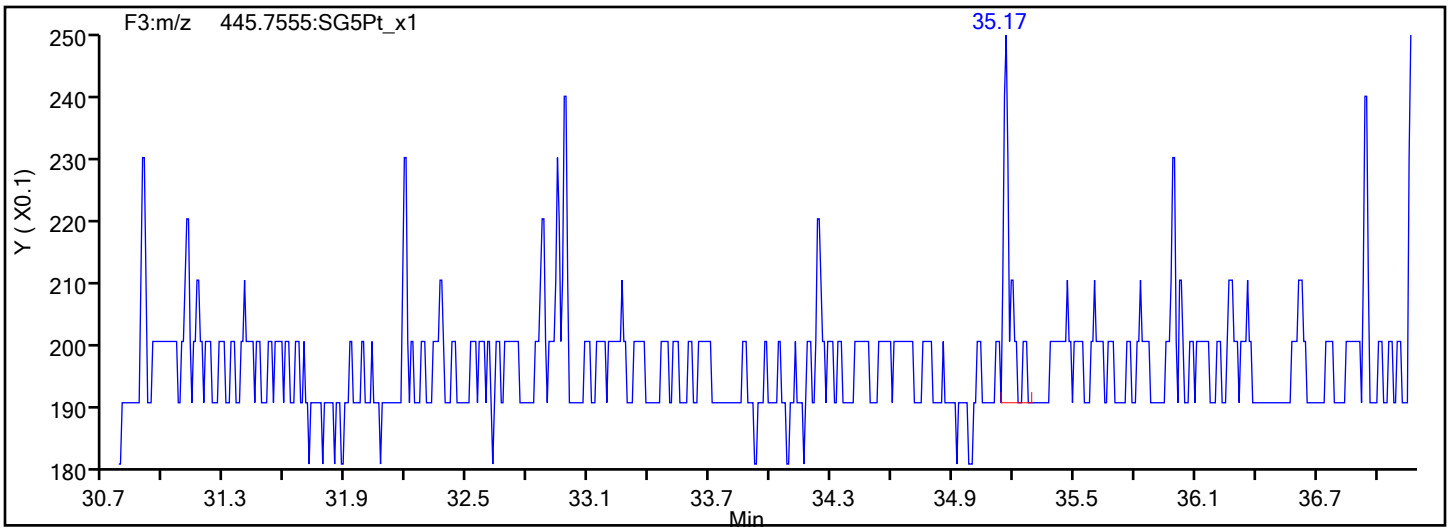
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





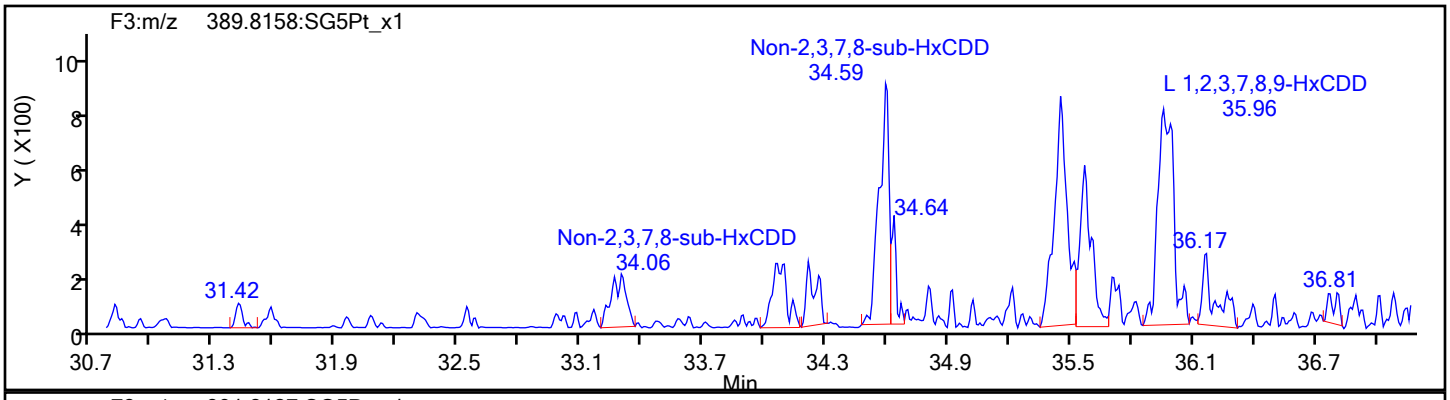
HxCDF Interference Mass

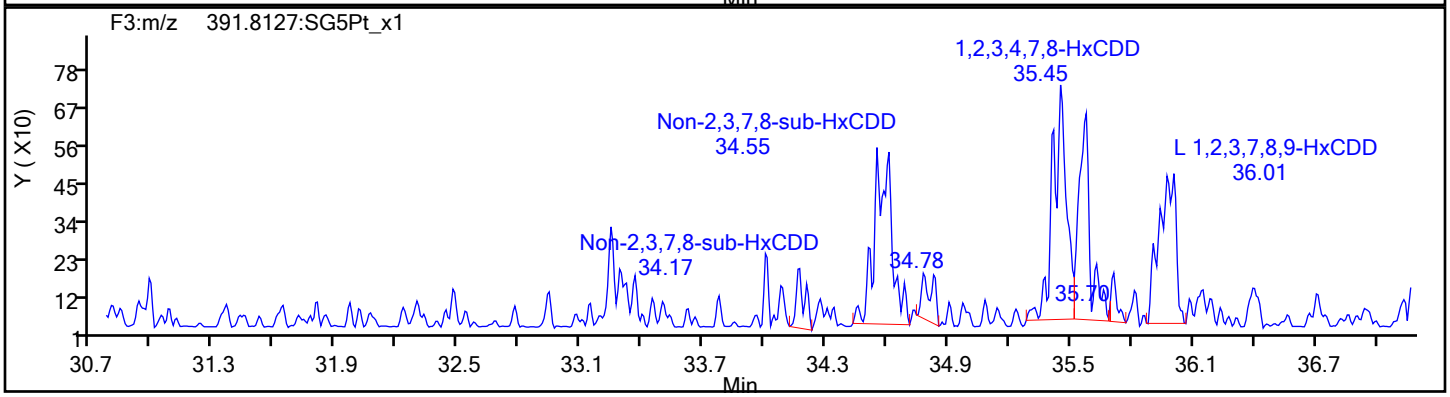


Eurofins Sacramento

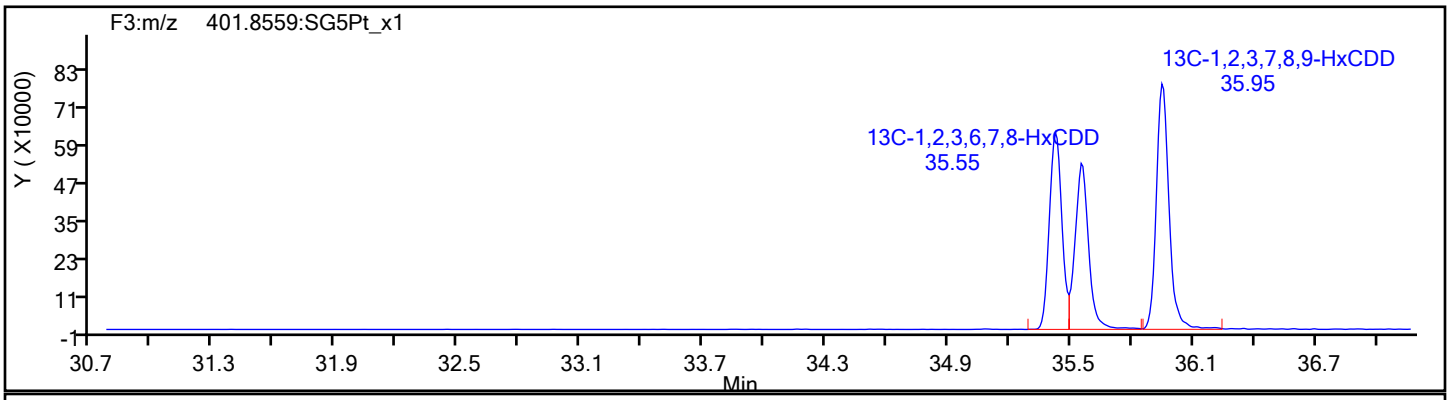
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d
Injection Date: 20-Jan-2022 19:26:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: A2BMP0007S021
Worklist#: 559474 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

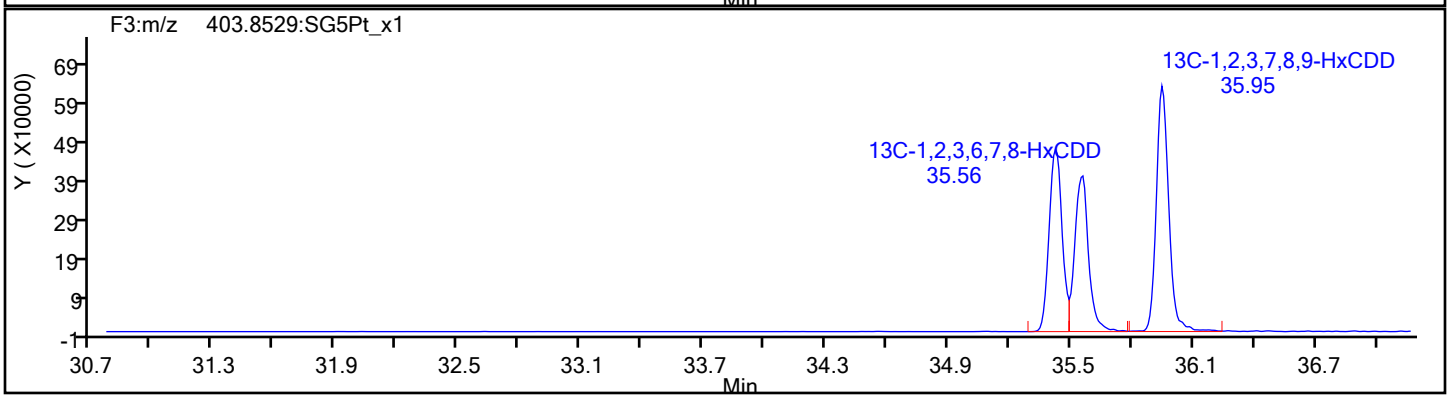
HxCDD





HxCDD Standards





Report Date: 21-Jan-2022 08:05:47 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d

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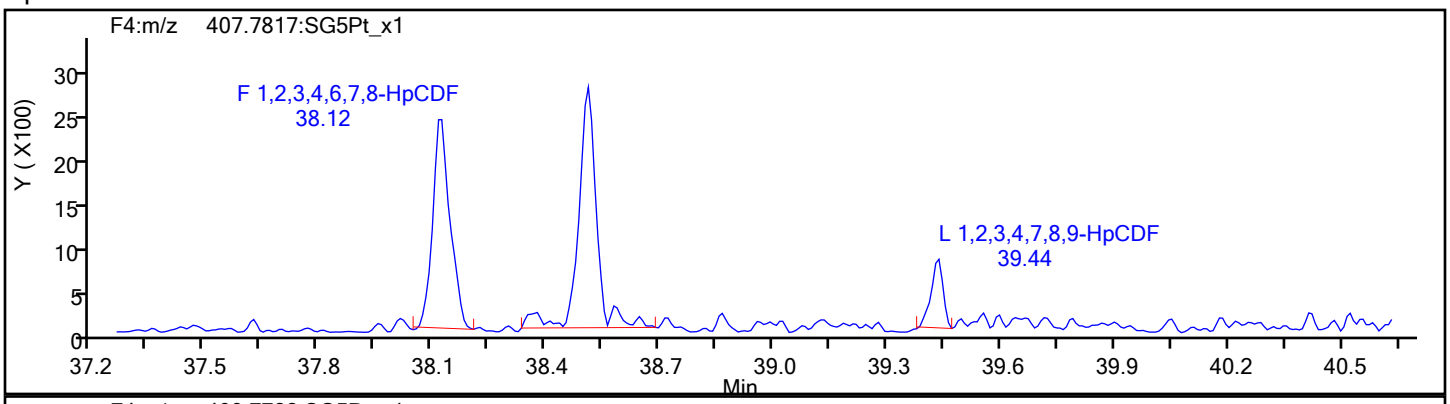
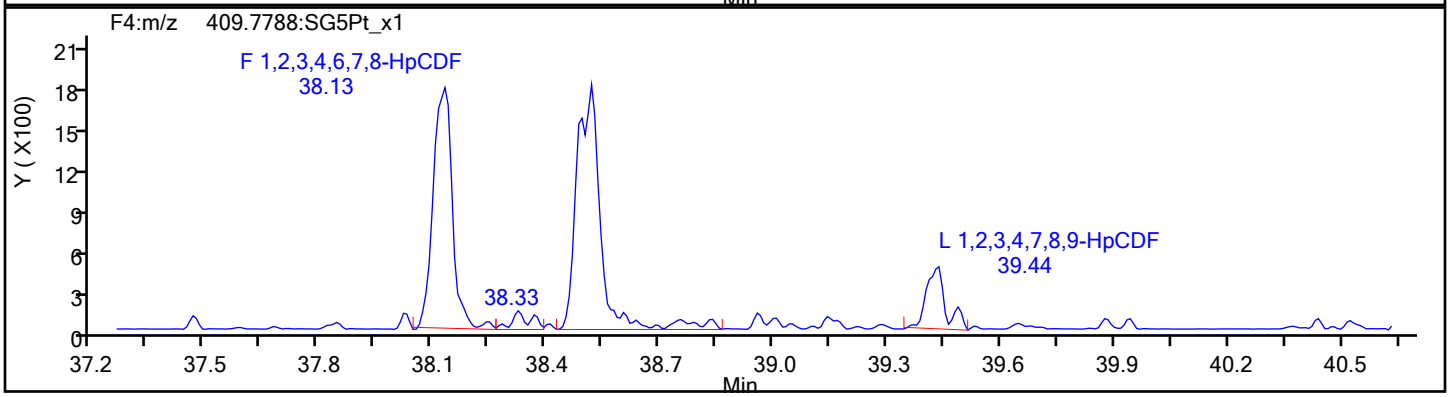
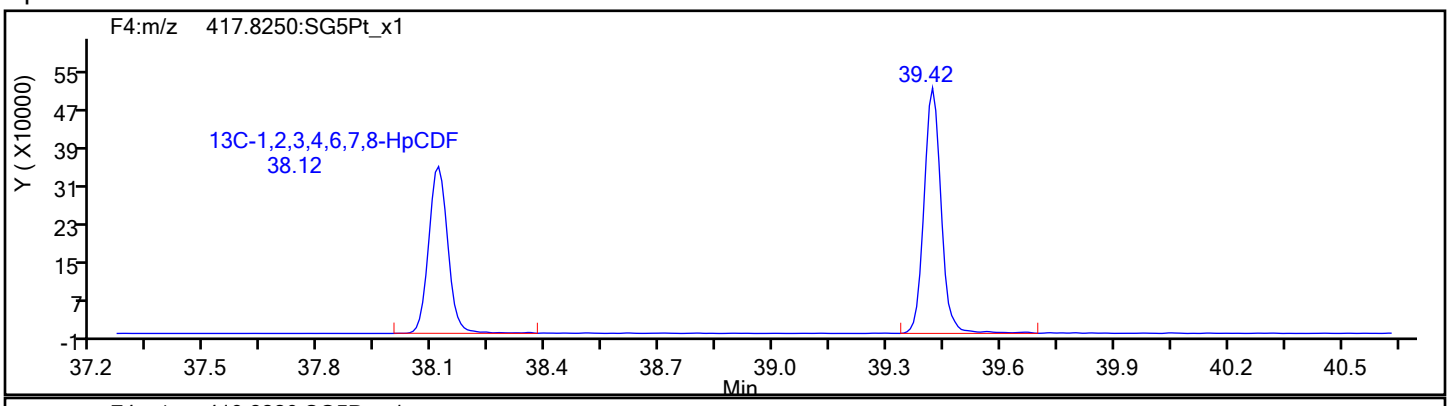
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

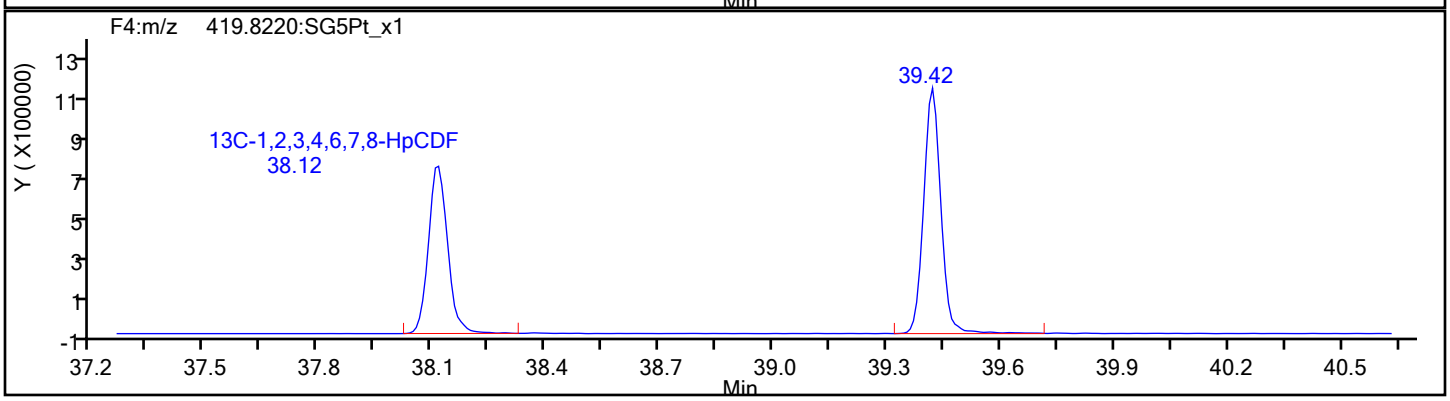
HpCDF





HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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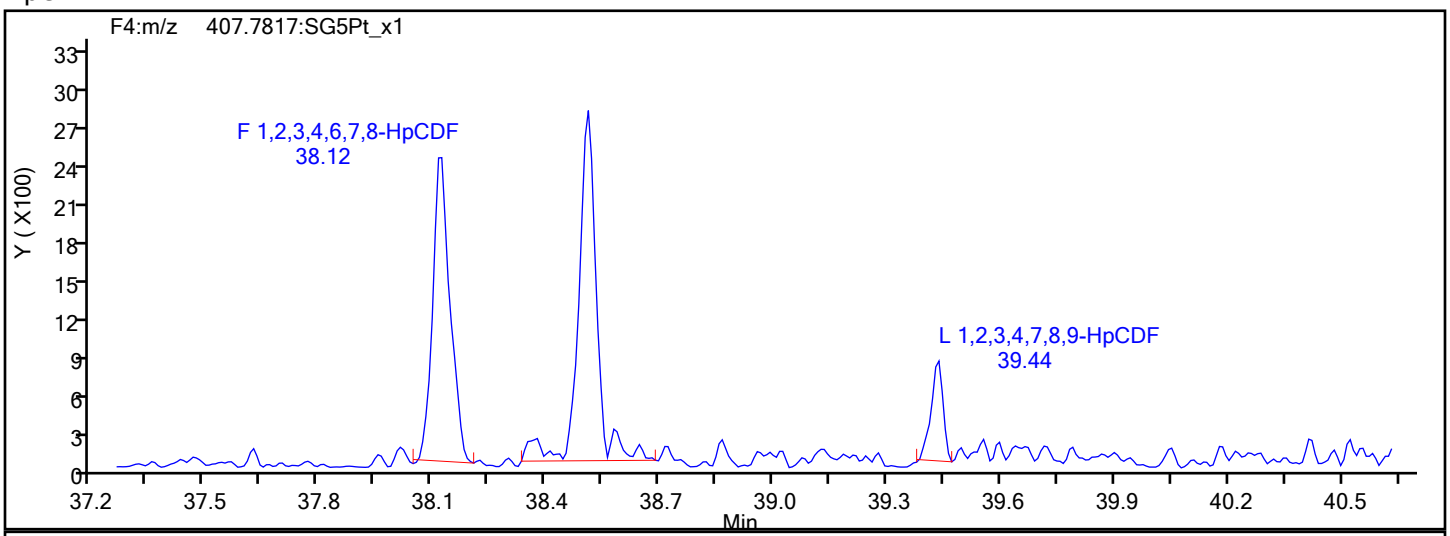
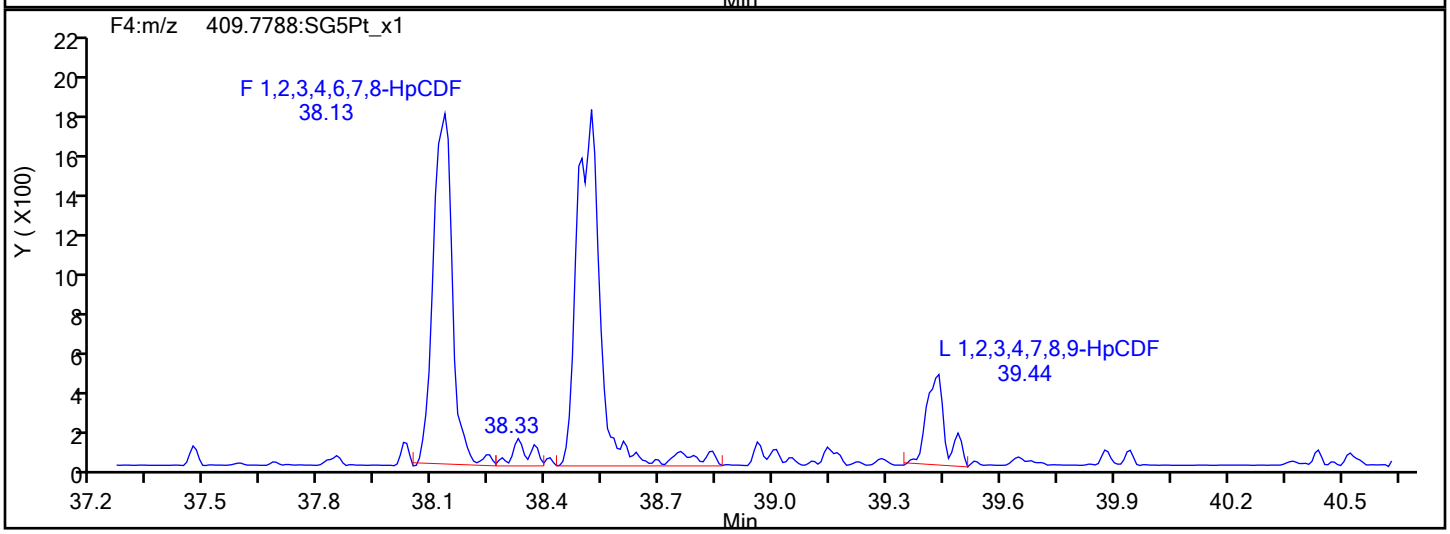
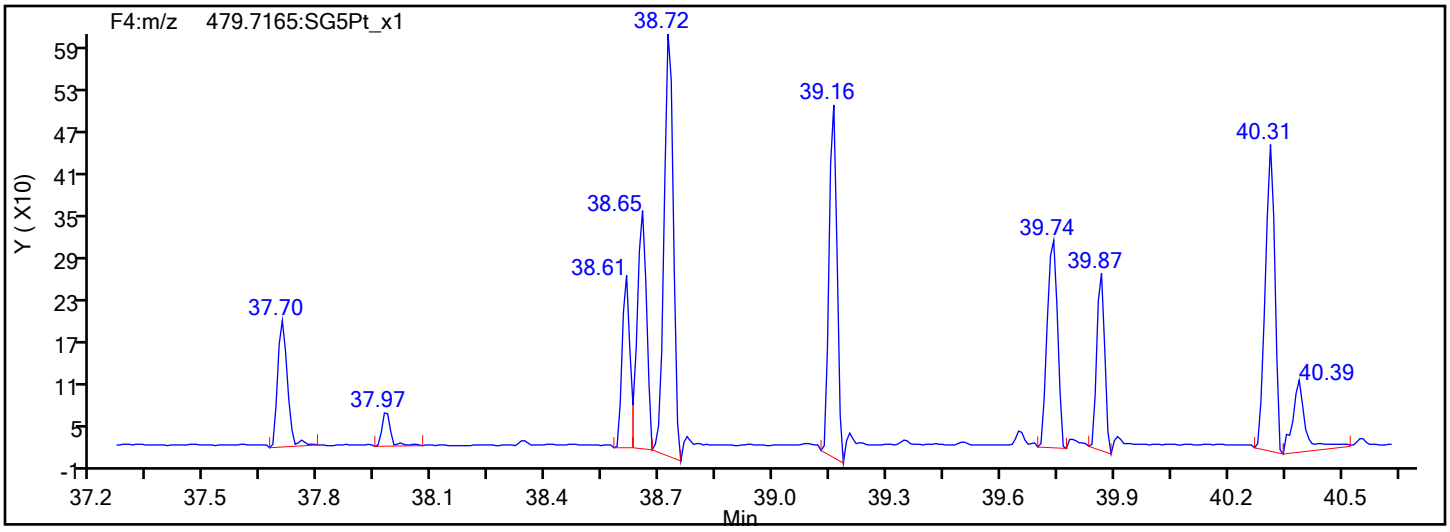
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
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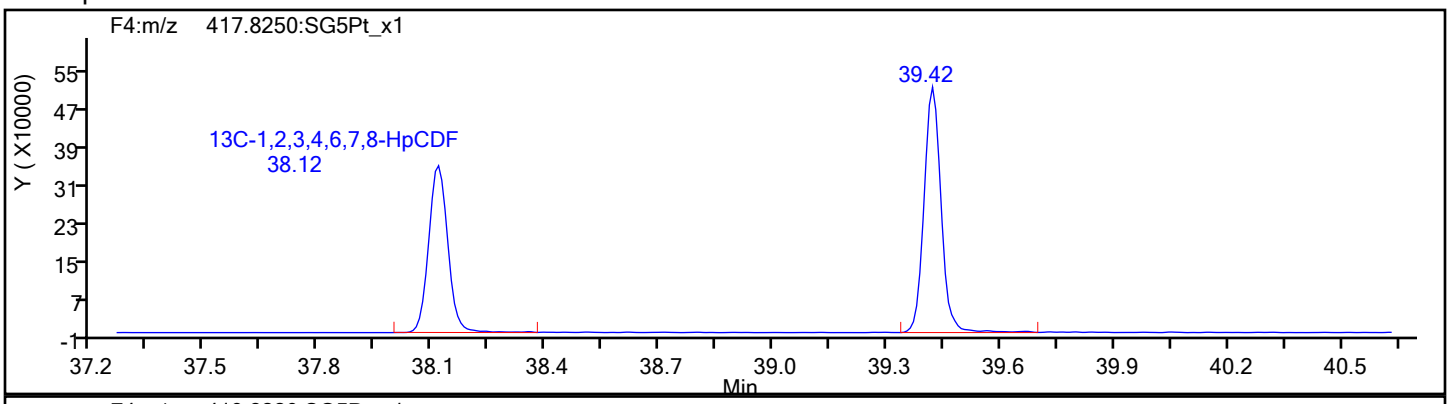
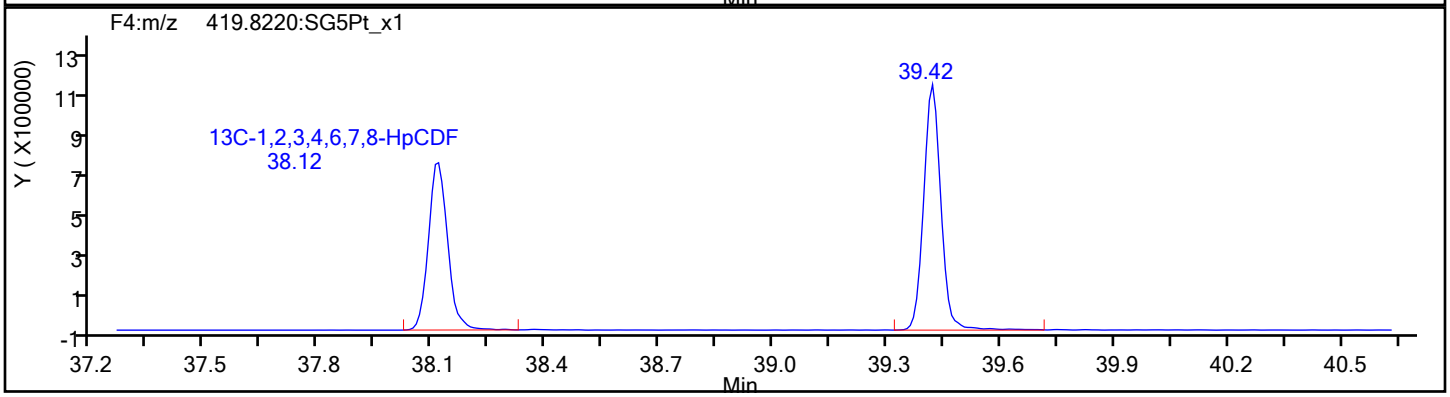
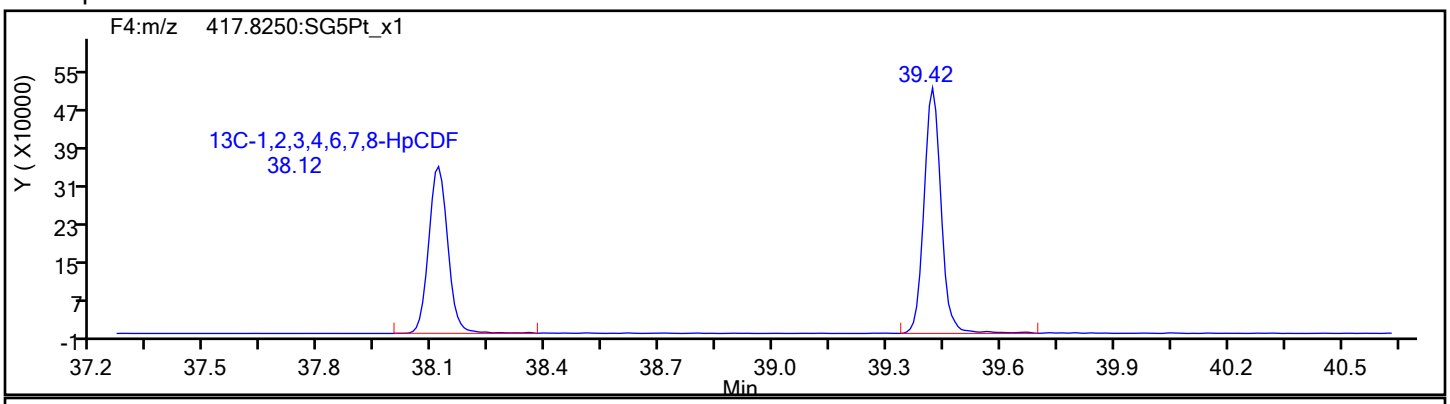
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

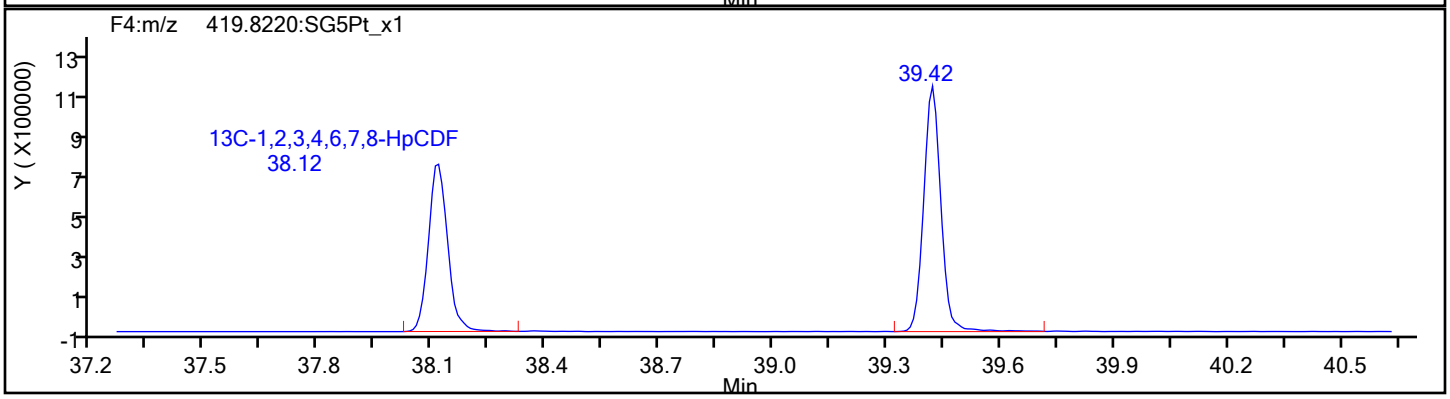
13C-HpCDF





13C-HpCDF Standards





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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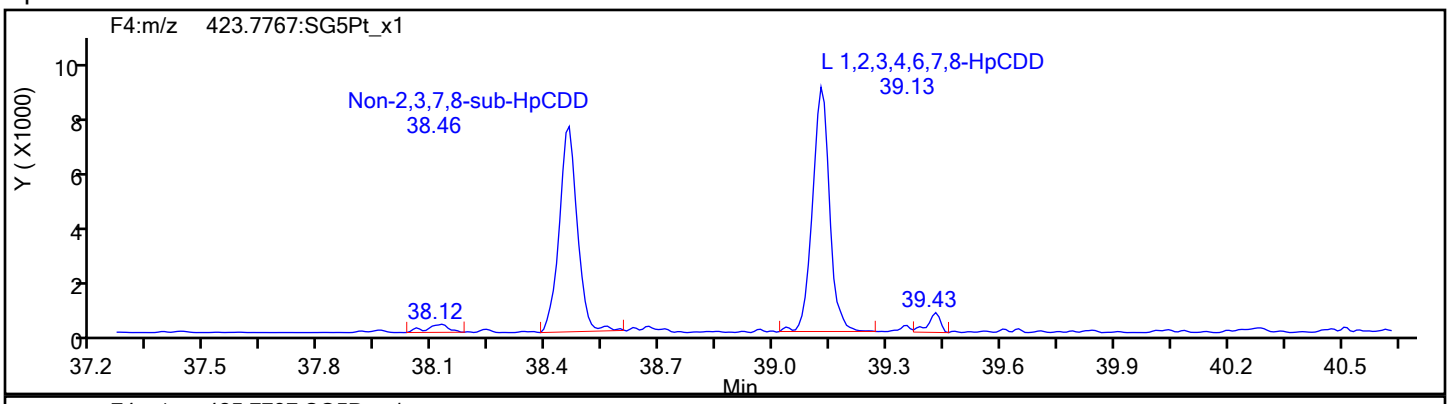
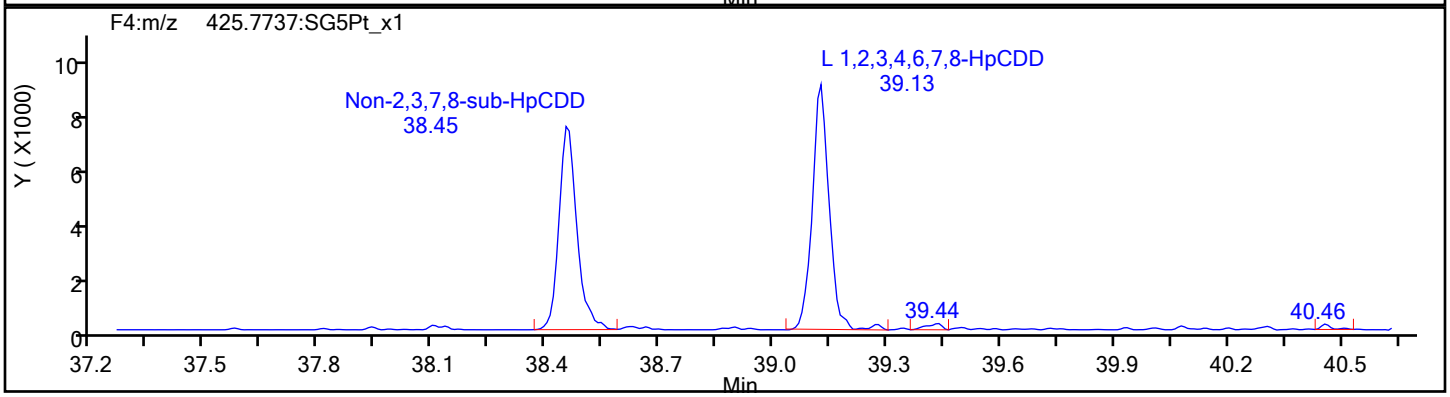
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD





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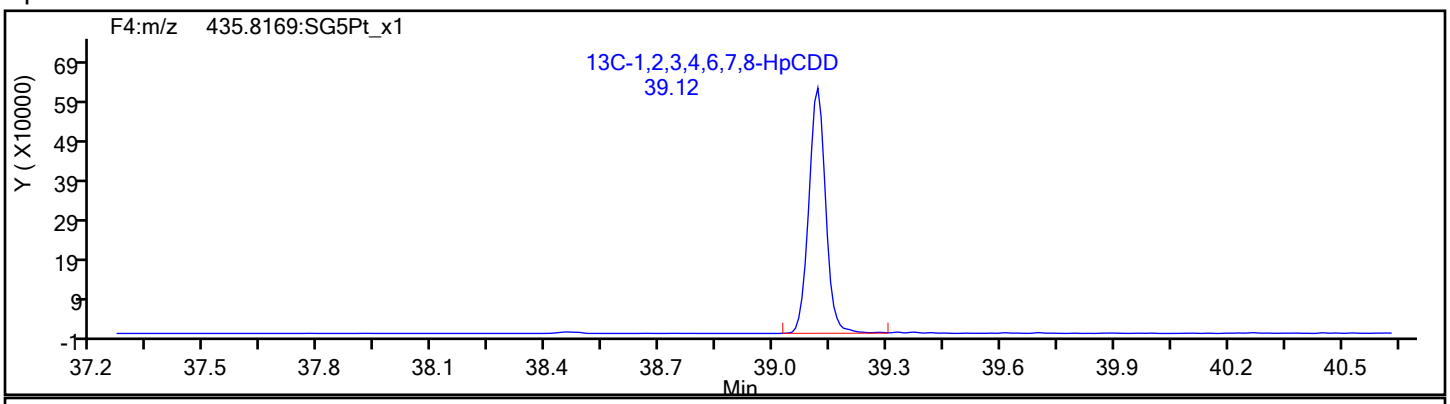

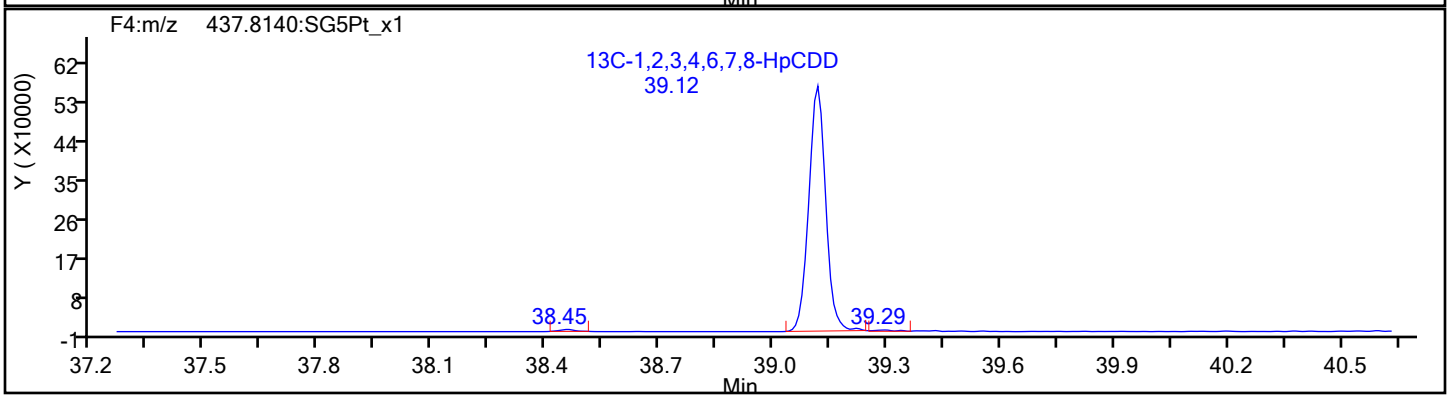

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
Injection Date:	20-Jan-2022 19:26:00	Injection Vol:	1.0 ul
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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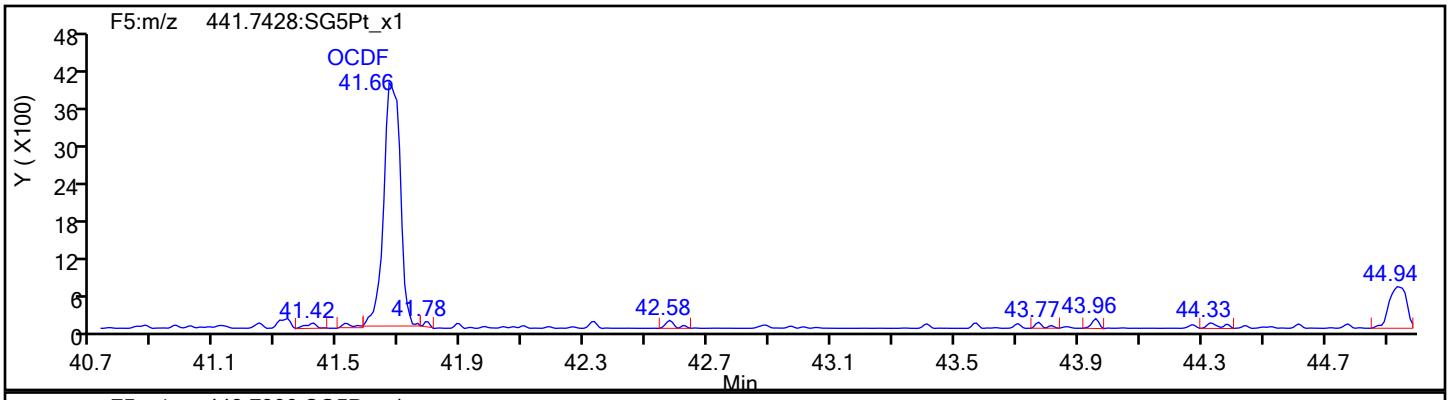
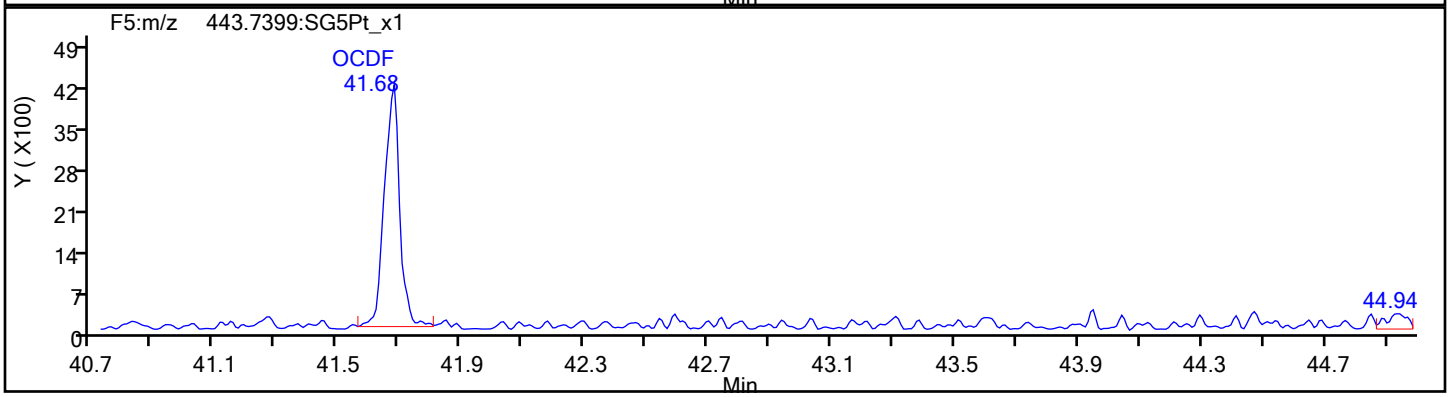
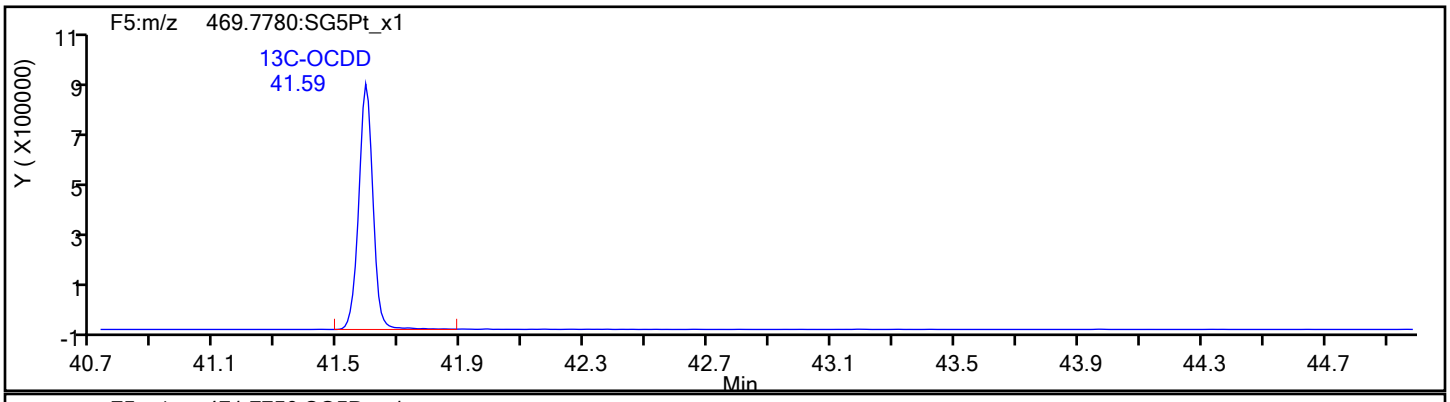
Column Type:	DB-5	Column Dia:	0.32 mm

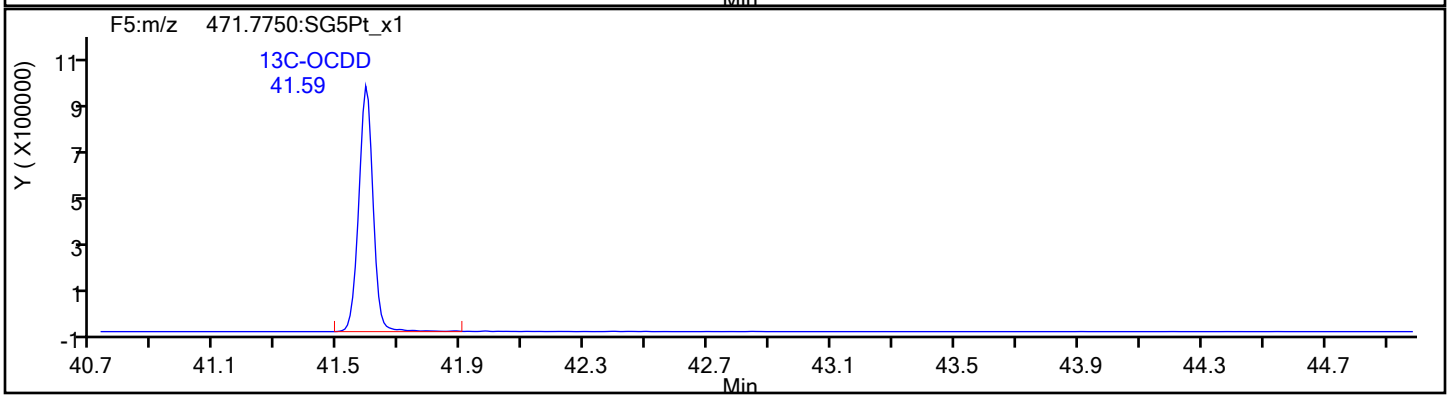
OCDF





OCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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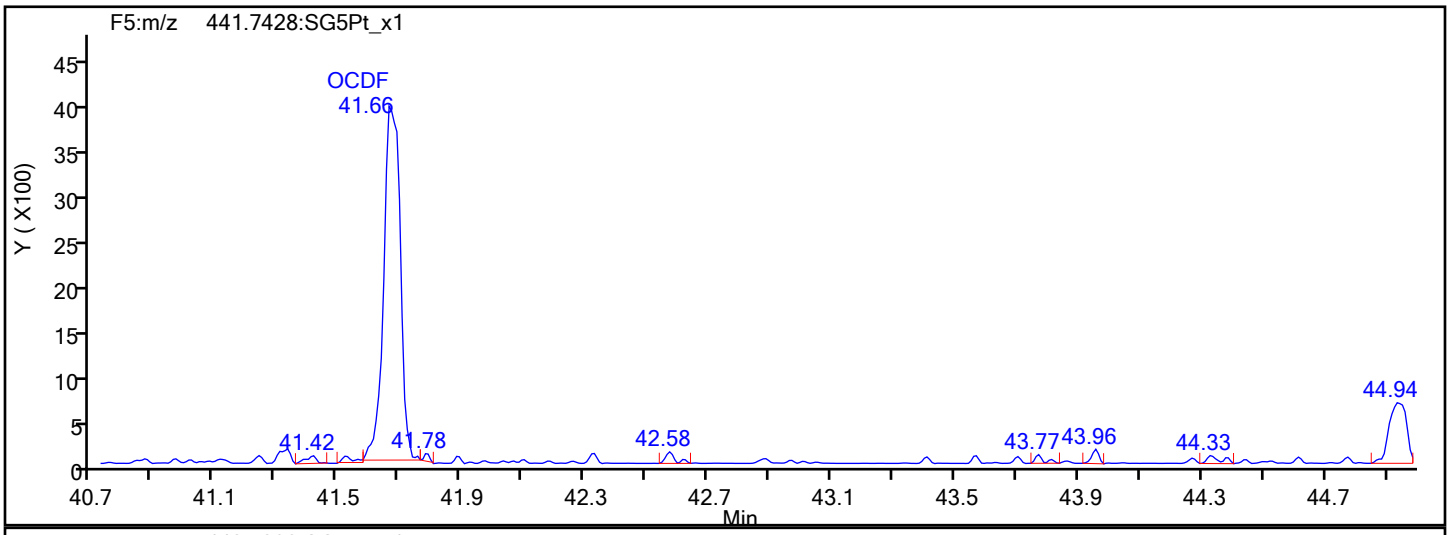
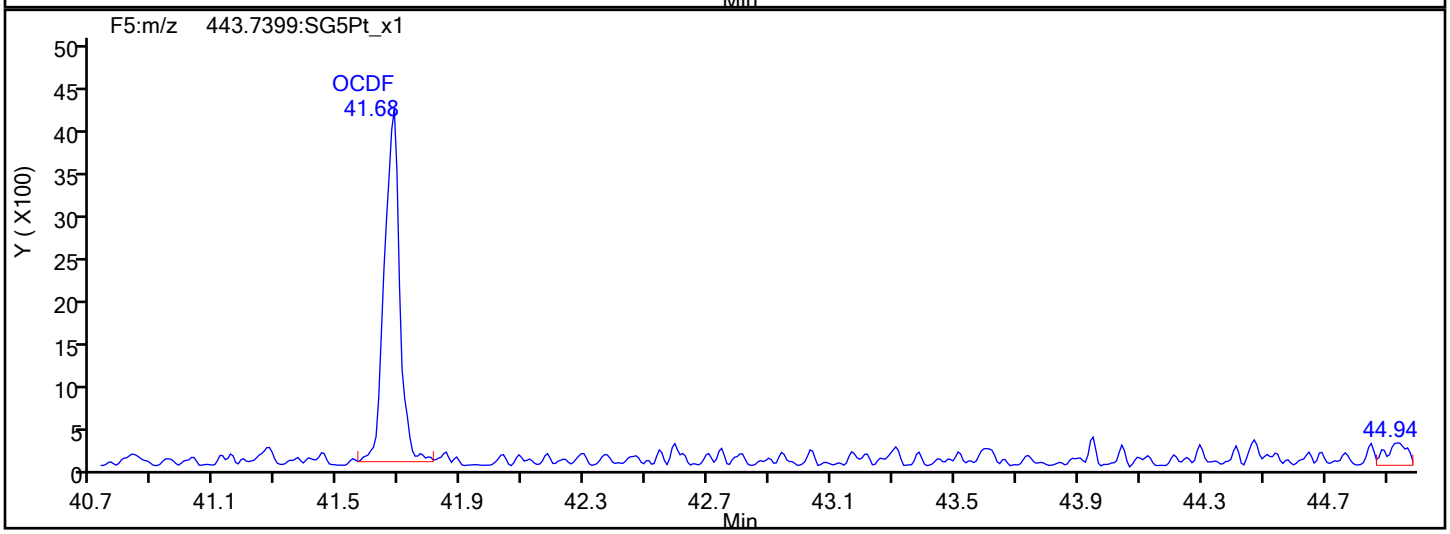
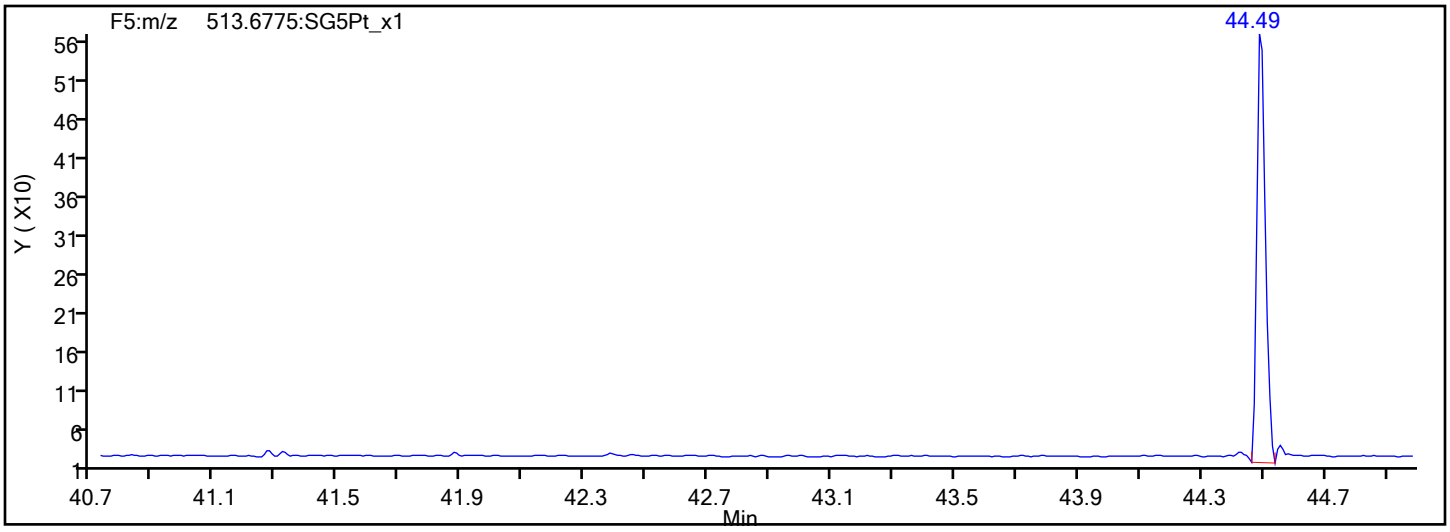
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





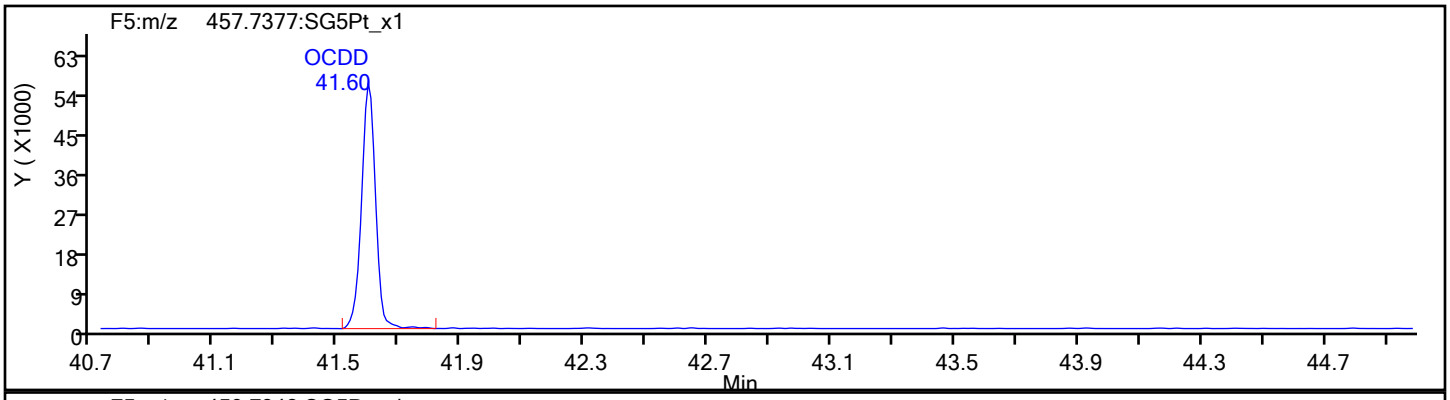
OCDF Interference Mass

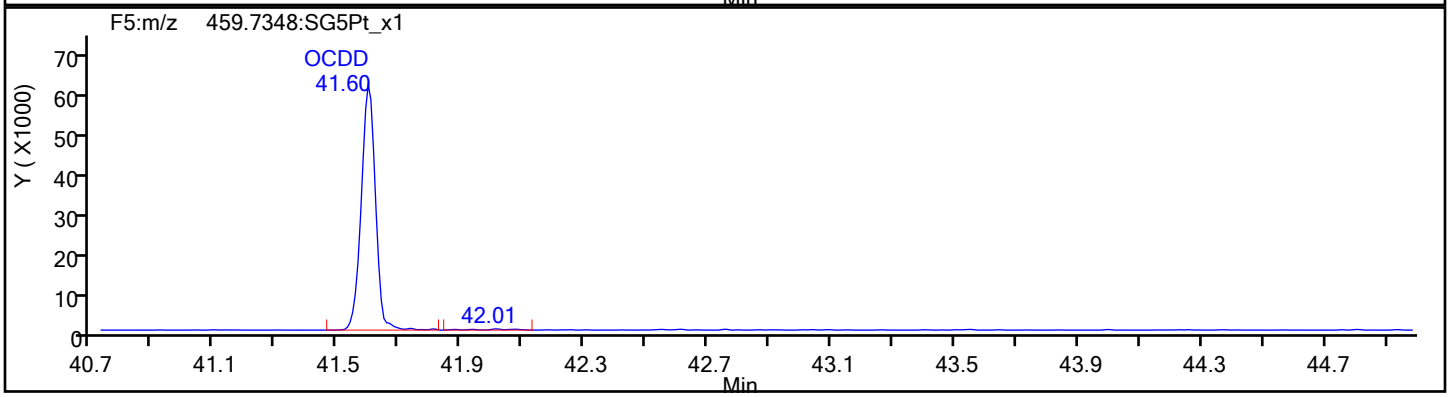


Eurofins Sacramento

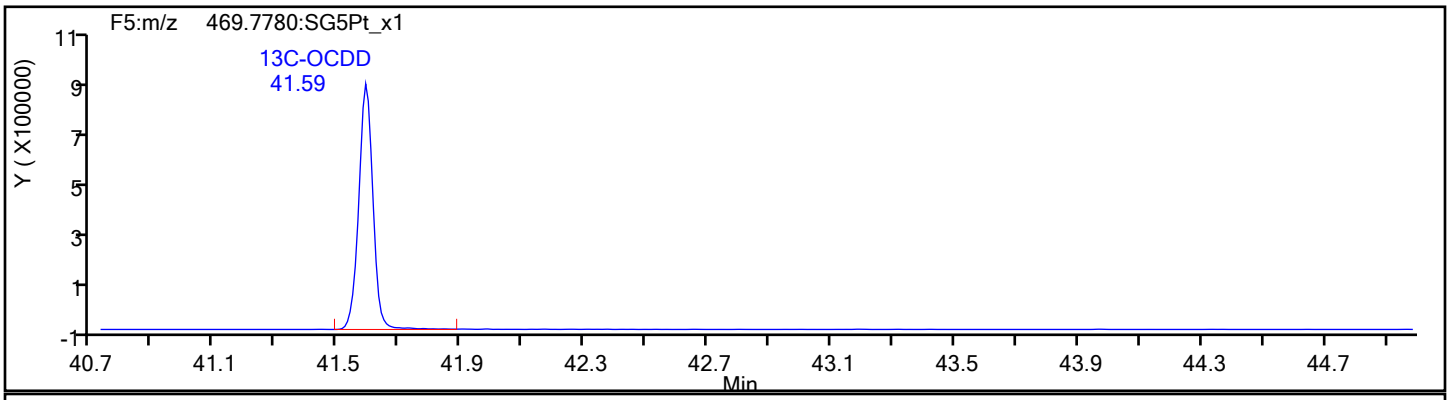
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
Injection Date:	20-Jan-2022 19:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

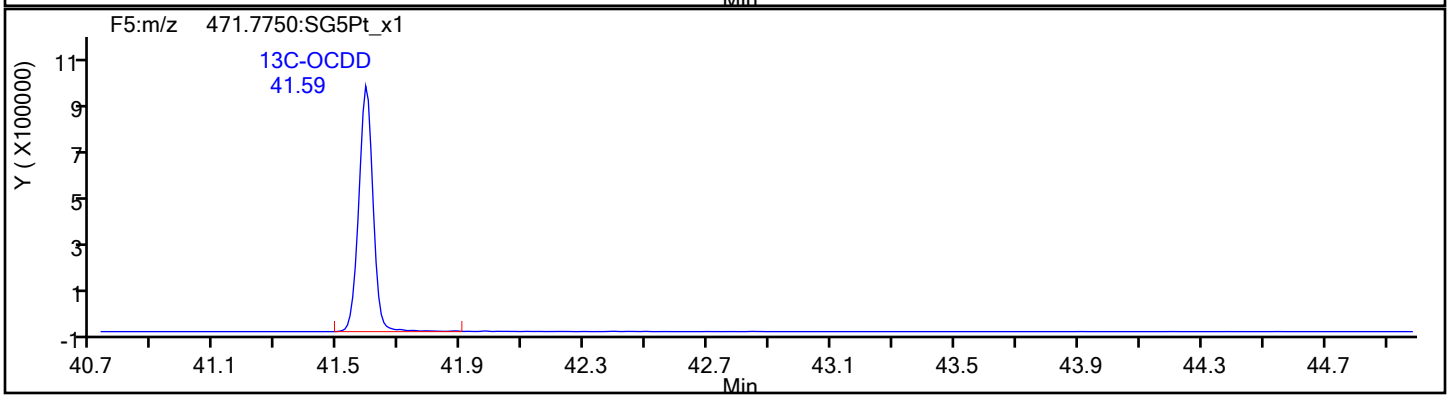
OCDD





OCDD Standards



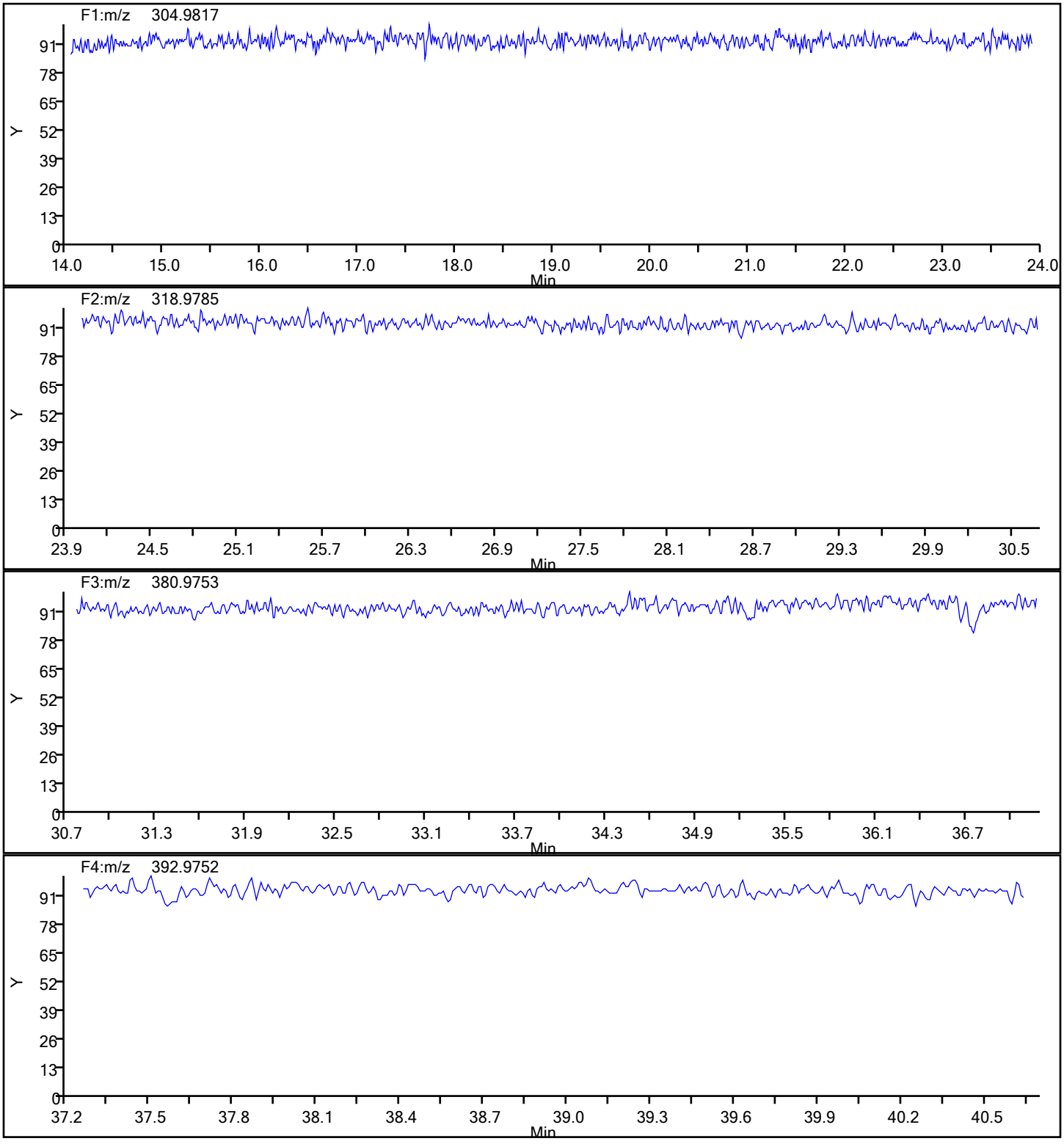


Report Date: 21-Jan-2022 08:05:48 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d

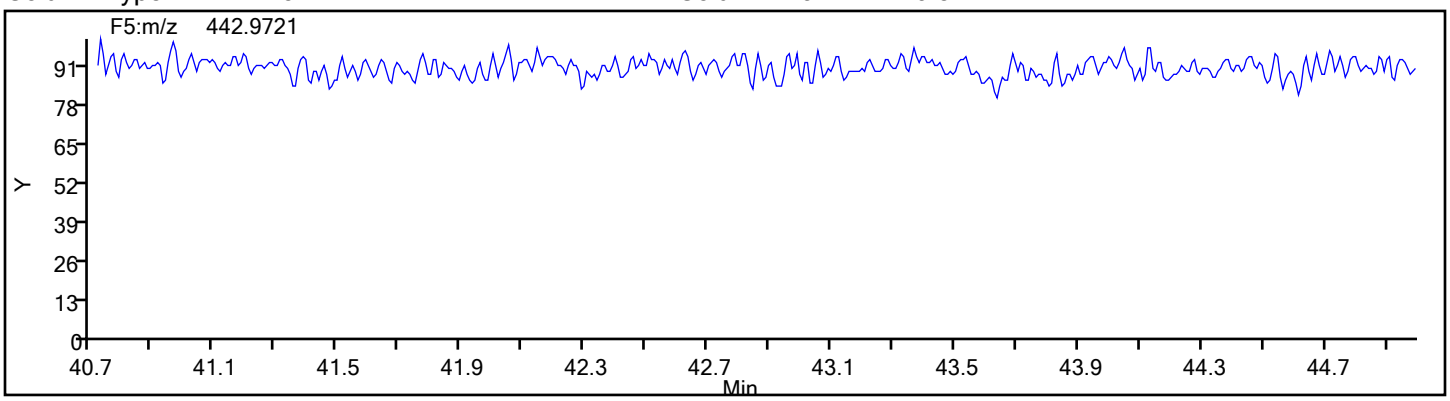
Injection Date:	20-Jan-2022 19:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 21-Jan-2022 08:05:48 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_7.d		
Injection Date:	20-Jan-2022 19:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0007S021		
Worklist#:	559474	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80119-2

SDG No.:

Client Sample ID: A2BMP0012S010 | Lab Sample ID: 570-80119-2

Matrix: Water | Lab File ID: 20ja22dfs1_8.d

Analysis Method: 8290 | Date Collected: 12/24/2021 07:50

Extract. Method: 8290 | Date Extracted: 01/04/2022 09:56

Sample wt/vol: 1050.5(mL) | Date Analyzed: 01/20/2022 20:14

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559474 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.5	0.88
51207-31-9	2,3,7,8-TCDF	ND		9.5	0.37
40321-76-4	1,2,3,7,8-PeCDD	ND		48	0.59
57117-41-6	1,2,3,7,8-PeCDF	ND		48	0.32
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.33
39227-28-6	1,2,3,4,7,8-HxCDD	3.3	J B	48	0.27
57653-85-7	1,2,3,6,7,8-HxCDD	2.7	J	48	0.24
19408-74-3	1,2,3,7,8,9-HxCDD	2.6	J B	48	0.25
70648-26-9	1,2,3,4,7,8-HxCDF	ND		48	0.25
57117-44-9	1,2,3,6,7,8-HxCDF	ND		48	0.22
60851-34-5	2,3,4,6,7,8-HxCDF	0.61	J q	48	0.23
72918-21-9	1,2,3,7,8,9-HxCDF	0.82	J	48	0.25
35822-46-9	1,2,3,4,6,7,8-HpCDD	45	J B	48	0.49
67562-39-4	1,2,3,4,6,7,8-HpCDF	9.8	J B	48	0.29
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		48	0.35
3268-87-9	OCDD	250	B	95	0.45
39001-02-0	OCDF	20	J	95	0.44

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	90		40-135
89059-46-1	13C-2,3,7,8-TCDF	92		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	89		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	90		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	86		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	93		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	96		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	97		40-135
114423-97-1	13C-OCDD	111		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d
Lims ID: 570-80119-E-2-A
Client ID: A2BMP0012S010
Sample Type: Client
Inject. Date: 20-Jan-2022 20:14:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80119-e-2-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:59:37

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.996	6914838	0.79	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.085	6489951	0.78	1.0164	92.3	92.3	0.4081	0.4081	92.34	
2,3,7,8-TCDF	19.149						0.0194	0.0194		
A Non-2,3,7,8-sub-TCDF	18.694	376	0.77	1.0120	0.0146	0.005725	0.0194	0.0194		RQ
S Total TCDF					0.0146	0.005725	0.0194	0.0194		RQ
D 13C-2,3,7,8-TCDD	20.348	4900141	0.78	0.7884	89.9	89.9	0.2925	0.2925	89.88	
2,3,7,8-TCDD	20.403						0.0464	0.0464		
A Non-2,3,7,8-sub-TCDD	19.493						0.0464	0.0464		
S Total TCDD							0.0464	0.0464		
D 13C-1,2,3,7,8-PeCDF	26.127	5760326	1.57	0.9232	90.2	90.2	0.4240	0.4240	90.24	
1,2,3,7,8-PeCDF	26.140						0.0166	0.0166		
2,3,4,7,8-PeCDF	27.572						0.0175	0.0175		
A F1 PeCDFs	23.390	139	1.55	0.9486	0.0266	0.002544	0.007275	0.007275		RQ
A Non-2,3,7,8-sub-PeCDF	26.772						0.0170	0.0170		
S Total PeCDF					0.0266	0.002544	0.0171	0.0171		RQ
D 13C-1,2,3,7,8-PeCDD	28.324	3458045	1.56	0.5606	89.2	89.2	0.2231	0.2231	89.21	
1,2,3,7,8-PeCDD	28.355						0.0308	0.0308		
A Non-2,3,7,8-sub-PeCDD	27.199						0.0308	0.0308		
S Total PeCDD							0.0308	0.0308		
D 13C-1,2,3,4,7,8-HxCDF	34.033	5671563	0.53	1.0566	93.1	93.1	0.3385	0.3385	93.07	
1,2,3,4,7,8-HxCDF	34.051						0.0134	0.0134		
1,2,3,6,7,8-HxCDF	34.236						0.0115	0.0115		
2,3,4,6,7,8-HxCDF	35.187	1809	1.24	0.9878	0.0465	0.0323	0.0119	0.0119		RQM
1,2,3,7,8,9-HxCDF	36.112	2205	1.25	0.9071	0.0429	0.0429	0.0130	0.0130		M
A Non-2,3,7,8-sub-HxCDF	34.083	11794	1.24	0.9518	0.2647	0.2185	0.0124	0.0970		RQ
S Total HxCDF					0.3541	0.2936	0.0124	0.0124		RQ
* 13C-1,2,3,7,8,9-HxCDD	35.927	5767397	1.28	2.5E+04	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.422	5667	1.13	0.8294	0.1718	0.1718	0.0144	0.0144		M
D 13C-1,2,3,6,7,8-HxCDD	35.532	3977462	1.29	0.8027	85.9	85.9	0.2167	0.2167	85.92	
1,2,3,6,7,8-HxCDD	35.557	5241	1.36	0.9395	0.1403	0.1403	0.0127	0.0127		M
1,2,3,7,8,9-HxCDD	35.952	4987	1.11	0.9076	0.1381	0.1381	0.0131	0.0131		M

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDD	34.580	11838	1.24	0.8922	0.4378	0.3336	0.0134	0.1833		RQ
S Total HxCDD					0.8880	0.7838	0.0134	0.0134		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.093	3604021	0.46	0.6421	97.3	97.3	0.4579	0.4579	97.32	
1,2,3,4,6,7,8-HpCDF	38.101	26571	1.18	1.4385	0.5125	0.5125	0.0154	0.0154		M
1,2,3,4,7,8,9-HpCDF	39.414						0.0182	0.0182		
A Non-2,3,7,8-sub-HpCDF	38.761	17001	1.04	1.3293	0.4928	0.3549	0.0167	0.3323		RQ
S Total HpCDF					1.005	0.8674	0.0168	0.0168		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	39.095	3449575	1.06	0.6246	95.8	95.8	0.2823	0.2823	95.76	
1,2,3,4,6,7,8-HpCDD	39.112	79089	0.97	0.9767	2.347	2.347	0.0256	0.0256		M
A Non-2,3,7,8-sub-HpCDD	38.778	50375	1.05	0.9767	1.495	1.495	0.0256	1.495		
S Total HpCDD					3.843	3.843	0.0256	0.0256		
D 13C-OCDD	41.573	5575658	0.90	0.4360	221.7	221.7	0.3165	0.3165	111	
OCDF	41.649	36477	0.83	1.2756	1.026	1.026	0.0232	0.0232		
OCDD	41.582	376730	0.88	1.0341	13.1	13.1	0.0235	0.0235		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d
Lims ID: 570-80119-E-2-A
Client ID: A2BMP0012S010
Sample Type: Client
Inject. Date: 20-Jan-2022 20:14:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80119-e-2-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:59:37

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	19.996	19.998	0		3053913	456594	652	1630	700		
333.9338	20.004	19.998	0		3860925	580547	305	762	1903	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.085	19.115	-2	0.954	2837453	448180	1133	2832	396		
317.9389	19.094	19.115	-1	0.955	3652498	545247	588	1470	927	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.149						7	17			
305.8987	19.149						71	177			
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	16.723	18.694	-118	0.876	164	97	7	17	14		
305.8987	16.723	18.694	-118	0.876	794	311	71	177	4	0.21(0.65-0.89)	
	Empc Correction				212	125	71	177	2		
13C-2,3,7,8-TCDD											
331.9368	20.348	20.377	-2	1.018	2145489	313082	652	1630	480		
333.9338	20.348	20.377	-2	1.018	2754652	386720	305	762	1268	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.403						114	285			
321.8936	20.403						15	37			
A Non-2,3,7,8-sub-TCDD											
319.8965	19.493						114	285			
321.8936	19.493						15	37			
13C-1,2,3,7,8-PeCDF											
351.9000	26.127	26.115	1	1.307	3523060	589919	954	2385	618		
353.8970	26.127	26.115	1	1.307	2237266	380929	670	1675	569	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.140						3	7			
341.8567	26.140						60	150			

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.572						3	7			
341.8567	27.572						60	150			
A F1 PeCDFs											RQ
339.8597	23.685	23.390	18	0.907	85	55	1	2	55		
341.8567	23.659	23.390	16	0.906	1371	523	26	65	20	0.06(1.32-1.78)	
	Empc Correction				54	35	26	65	1		
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.772						3	7			
341.8567	26.772						60	150			
13C-1,2,3,7,8-PeCDD											
367.8949	28.324	28.330	0	1.416	2108059	323150	339	847	953		
369.8919	28.324	28.330	0	1.416	1349986	201979	180	450	1122	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.355						59	147			
357.8516	28.355						6	15			
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.199						59	147			
357.8516	27.199						6	15			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.033	34.034	0	0.947	1960274	367233	624	1560	589		
385.8610	34.033	34.034	0	0.947	3711289	692236	1187	2967	583	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.051						38	95			
375.8178	34.051						12	30			
1,2,3,6,7,8-HxCDF											
373.8208	34.236						38	95			
375.8178	34.236						12	30			
2,3,4,6,7,8-HxCDF											RQM
373.8208	35.187	35.171	1	1.034	1799	319	38	95	8		M
	Empc Correction				1001	303	38	95	8		
375.8178	35.187	35.171	1	1.034	808	245	12	30	20	2.23(1.05-1.43)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.112	36.139	-2	1.061	1224	310	38	95	8		M
375.8178	36.129	36.139	-1	1.062	981	280	12	30	23	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	31.887	34.083	-131	0.937	812	212	38	95	6		
375.8178	31.921	34.083	-129	0.938	1105	207	12	30	17	0.73(1.05-1.43)	
	Empc Correction				654	170	12	30	14		
373.8208	32.274	34.083	-108	0.948	4260	797	38	95	21		
	Empc Correction				2818	564	38	95	15		
375.8178	32.274	34.083	-108	0.948	2273	455	12	30	38	1.87(1.05-1.43)	
373.8208	33.360	34.083	-43	0.980	3502	485	38	95	13		
	Empc Correction				2899	479	38	95	13		
375.8178	33.343	34.083	-44	0.980	2338	387	12	30	32	1.50(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.927	35.929	0		3232941	714133	526	1315	1358		
403.8529	35.927	35.929	0		2534456	551765	355	887	1554	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8158	35.422	35.423	0	0.997	3001	788	19	47	41		
391.8127	35.405	35.423	-1	0.996	2666	642	20	50	32	1.13(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.532	35.533	0	0.989	2240388	451512	526	1315	858		
403.8529	35.532	35.533	0	0.989	1737074	362884	355	887	1022	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											M
389.8158	35.557	35.550	0	1.001	3021	718	19	47	38		M
391.8127	35.574	35.550	1	1.001	2220	453	20	50	23	1.36(1.05-1.43)	M
1,2,3,7,8,9-HxCDD											M
389.8158	35.952	35.946	0	1.012	2624	648	19	47	34		M
391.8127	35.944	35.946	0	1.012	2363	627	20	50	31	1.11(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8158	33.276	34.580	-78	0.937	2444	412	19	47	22		
	Empc Correction				1827	425	19	47	22		
391.8127	33.268	34.580	-79	0.936	1474	343	20	50	17	1.66(1.05-1.43)	
389.8158	34.177	34.580	-24	0.962	1649	331	19	47	17		
	Empc Correction				882	181	19	47	10		
391.8127	34.118	34.580	-28	0.960	712	146	20	50	7	2.32(1.05-1.43)	
389.8158	34.555	34.580	-1	0.973	4783	705	19	47	37		
	Empc Correction				3600	834	19	47	44		
391.8127	34.547	34.580	-2	0.972	2904	673	20	50	34	1.65(1.05-1.43)	
389.8158	35.136	34.580	33	0.989	1374	303	19	47	16		
	Empc Correction				243	132	19	47	7		
391.8127	35.153	34.580	34	0.989	196	107	20	50	5	7.01(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.093	38.096	0	1.060	1139494	322553	529	1322	610		
419.8220	38.093	38.096	0	1.060	2464527	679759	960	2400	708	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7817	38.101	38.108	0	1.000	14380	3960	60	150	66		
409.7788	38.101	38.108	0	1.000	12191	3114	29	72	107	1.18(0.88-1.20)	M
1,2,3,4,7,8,9-HpCDF											
407.7817	39.414						60	150			
409.7788	39.414						29	72			
A Non-2,3,7,8-sub-HpCDF											RQ
407.7817	38.354	38.761	-24	1.007	652	301	60	150	5		
	Empc Correction				550	121	60	150	2		
409.7788	38.354	38.761	-24	1.007	529	117	29	72	4	1.23(0.88-1.20)	
407.7817	38.489	38.761	-16	1.010	14626	3931	60	150	66		
	Empc Correction				8117	3917	60	150	65		
409.7788	38.480	38.761	-17	1.010	7805	3767	29	72	130	1.87(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.095	39.107	-1	1.088	1773737	526374	484	1210	1088		
437.8140	39.095	39.107	-1	1.088	1675838	495222	409	1022	1211	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7767	39.112	39.111	0	1.000	38945	12295	69	172	178		M
425.7737	39.103	39.111	0	1.000	40144	12057	33	82	365	0.97(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.438	38.778	-20	0.983	25823	7933	69	172	115		
425.7737	38.446	38.778	-20	0.983	24552	7242	33	82	219	1.05(0.88-1.20)	
13C-OCDD											
469.7780	41.573	41.579	0	1.157	2637806	757188	352	880	2151		
471.7750	41.573	41.579	0	1.157	2937852	865073	347	867	2493	0.90(0.76-1.02)	
OCDF											
441.7428	41.649	41.663	-1	1.002	16512	4205	28	70	150		
443.7399	41.657	41.663	0	1.002	19965	5517	68	170	81	0.83(0.76-1.02)	
OCDD											
457.7377	41.582	41.587	0	1.000	176421	51699	34	85	1521		
459.7348	41.582	41.587	0	1.000	200309	59814	45	112	1329	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d
Lims ID: 570-80119-E-2-A
Client ID: A2BMP0012S010
Inject. Date: 20-Jan-2022 20:14:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 7

Non-2,3,7,8-sub-TCDF, RT: 18.694

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.012	D 13C-2,3,7,8-TCDF	100.000	6489951	993427

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.012		100.000	6489951	993427

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.723	164	97	794	311	0.0146	0.21	RQ
16.723	164	97	212	125	0.005725		Empc Correction
Signal Totals:							
	164	97	212	125			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	958	408				0.21	RQ
	376	222					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0146 = (958 * 100.000) / (6489951 * 1.012)
Empc Amount: 0.005725 = (376 * 100.000) / (6489951 * 1.012)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d
Lims ID: 570-80119-E-2-A
Client ID: A2BMP0012S010
Inject. Date: 20-Jan-2022 20:14:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 7

F1 PeCDFs, RT: 23.390

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	5760326	970848
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	5760326	970848

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.685	85	55	1371	523	0.0266	0.06	RQ
23.685	85	55	54	35	0.002544		Empc Correction
Signal Totals:							
	85	55	54	35			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1456	578				0.06	RQ
	139	90					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0266 = (1456 * 100.000) / (5760326 * 0.949)
Empc Amount: 0.002544 = (139 * 100.000) / (5760326 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d
Lims ID: 570-80119-E-2-A
Client ID: A2BMP0012S010
Inject. Date: 20-Jan-2022 20:14:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 7

Non-2,3,7,8-sub-HxCDF, RT: 34.083

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883	D 13C-1,2,3,4,7,8-HxCDF	100.000	5671563	1059469
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.952		100.000	5671563	1059469

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
31.887	812	212	1105	207	0.0355	0.73	RQ
31.887	812	212	654	170	0.0272		Empc Correction
32.274	4260	797	2273	455	0.1210	1.87	RQ
32.274	2818	564	2273	455	0.0943		Empc Correction
33.360	3502	485	2338	387	0.1082	1.50	RQ
33.360	2899	479	2338	387	0.0970		Empc Correction
Signal Totals:							
	6529	1255	5265	1012			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	14290	2543				1.50	RQ
	11794	2267					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2647 = (14290 * 100.000) / (5671563 * 0.952)
Empc Amount: 0.2185 = (11794 * 100.000) / (5671563 * 0.952)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d
Lims ID: 570-80119-E-2-A
Client ID: A2BMP0012S010
Inject. Date: 20-Jan-2022 20:14:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 7

Non-2,3,7,8-sub-HxCDD, RT: 34.580

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829	D 13C-1,2,3,6,7,8-HxCDD	100.000	3977462	814396
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.892		100.000	3977462	814396

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.276	2444	412	1474	343	0.1104	1.66	RQ
33.276	1827	425	1474	343	0.0930		Empc Correction
34.177	1649	331	712	146	0.0665	2.32	RQ
34.177	882	181	712	146	0.0449		Empc Correction
34.555	4783	705	2904	673	0.2166	1.65	RQ
34.555	3600	834	2904	673	0.1833		Empc Correction
35.136	1374	303	196	107	0.0442	7.01	RQ
35.136	243	132	196	107	0.0124		Empc Correction
Signal Totals:							
	6552	1572	5286	1269			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	15536	3020				1.94	RQ
	11838	2841					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4378 = (15536 * 100.000) / (3977462 * 0.892)
Empc Amount: 0.3336 = (11838 * 100.000) / (3977462 * 0.892)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d
Lims ID: 570-80119-E-2-A
Client ID: A2BMP0012S010
Inject. Date: 20-Jan-2022 20:14:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 7

Non-2,3,7,8-sub-HpCDF, RT: 38.761

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.439	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	3604021	1002312
1,2,3,4,7,8,9-HpCDF	1.220				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.329		100.000	3604021	1002312

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.354	652	301	529	117	0.0247	1.23	RQ
38.354	550	121	529	117	0.0225		Empc Correction
38.489	14626	3931	7805	3767	0.4682	1.87	RQ
38.489	8117	3917	7805	3767	0.3323		Empc Correction
Signal Totals:							
	8667	4038	8334	3884			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	23612	8116				1.83	RQ
	17001	7922					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4928 = (23612 * 100.000) / (3604021 * 1.329)
Empc Amount: 0.3549 = (17001 * 100.000) / (3604021 * 1.329)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d
Lims ID: 570-80119-E-2-A
Client ID: A2BMP0012S010
Inject. Date: 20-Jan-2022 20:14:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 7

Non-2,3,7,8-sub-HpCDD, RT: 38.778

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3449575	1021596

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3449575	1021596

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.438	25823	7933	24552	7242	1.50	1.05	
Signal Totals:							
	25823	7933	24552	7242			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	50375	15175				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.495 = (50375 * 100.000) / (3449575 * 0.977)

Manual Integration/User Assign Peak Report

Eurofins Sacramento

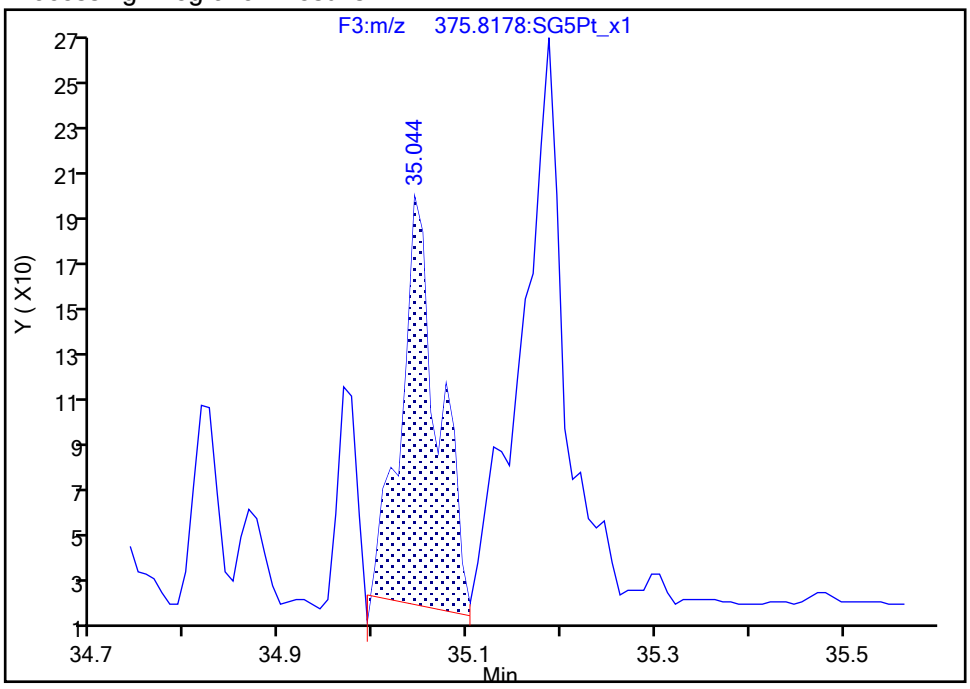
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d				
Injection Date:	20-Jan-2022 20:14:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-E-2-A	Lab Sample ID:	320-80119-2		
Client ID:	A2BMP0012S010				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

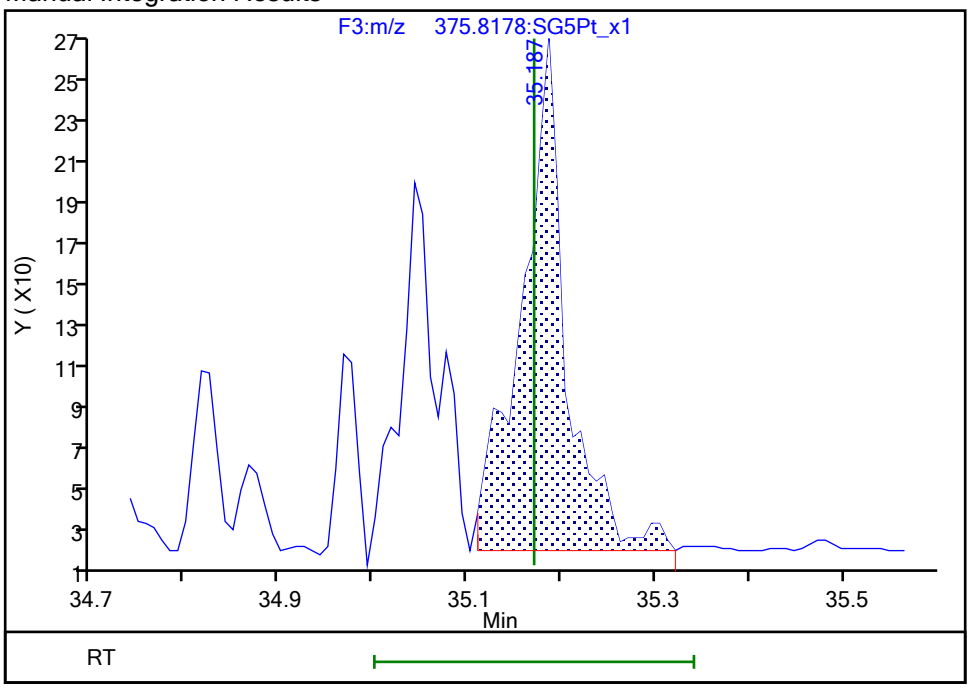
Processing Integration Results

RT: 35.04
Area: 484
Amount: 0.020598
Amount Units: pg/ul



Manual Integration Results

RT: 35.19
Area: 808
Amount: 0.046534
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:57:31
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d

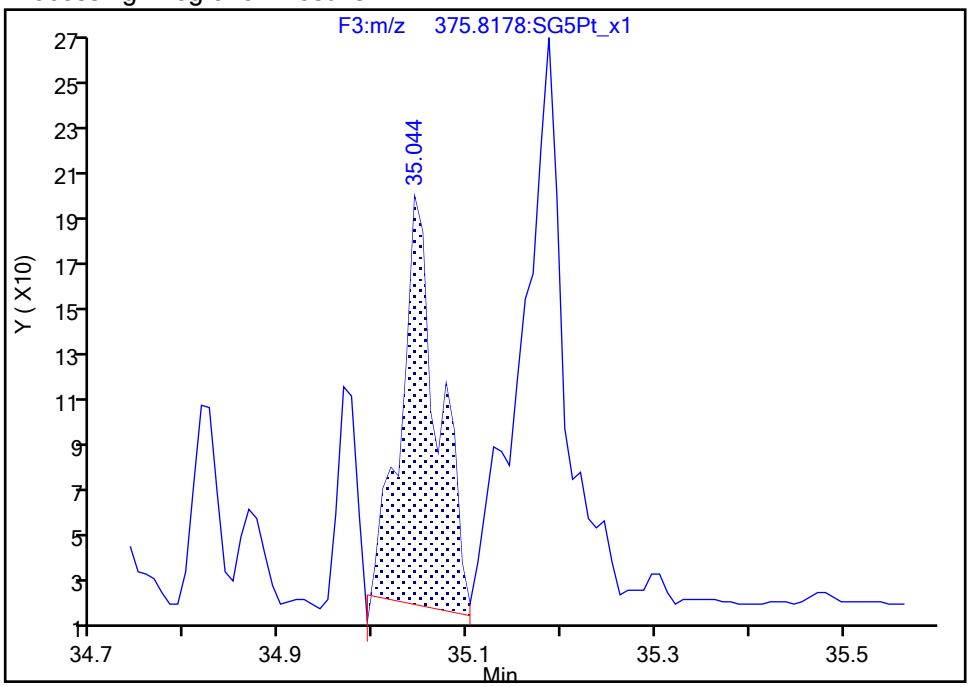
Injection Date:	20-Jan-2022 20:14:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-E-2-A	Lab Sample ID:	320-80119-2		
Client ID:	A2BMP0012S010				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 3

Processing Integration Results

RT: 35.03
Area: 1154
Amount: 0.020598
Amount Units: pg/ul



Manual Integration Results

RT: 35.19
Area: 2607
Amount: 0.046534
Amount Units: pg/ul
Reviewer: bilottag, 21-Jan-2022 07:57:31
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Sacramento

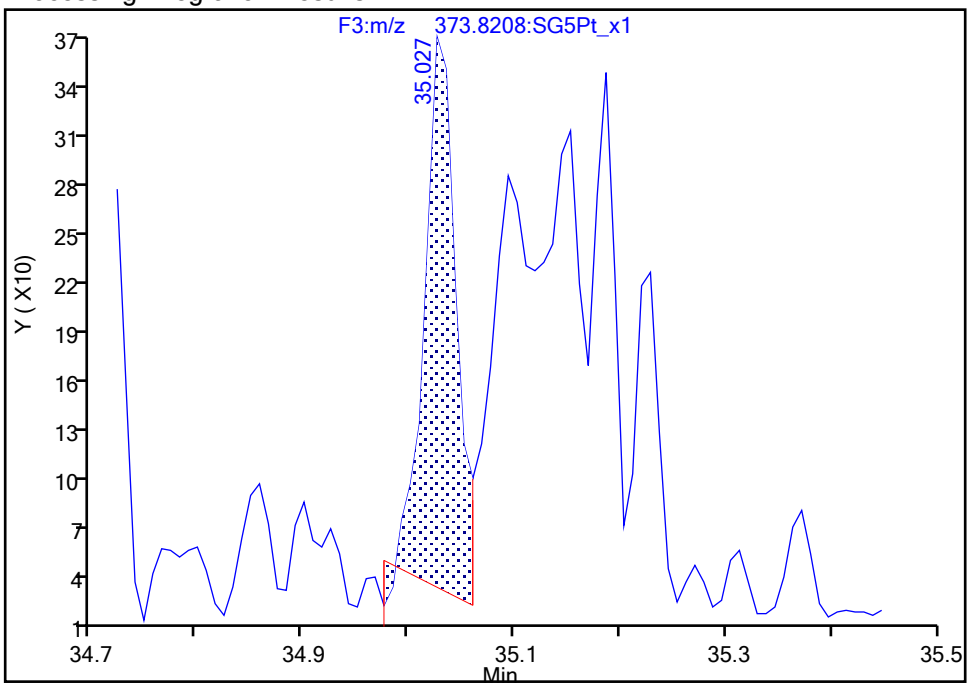
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d				
Injection Date:	20-Jan-2022 20:14:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-E-2-A	Lab Sample ID:	320-80119-2		
Client ID:	A2BMP0012S010				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

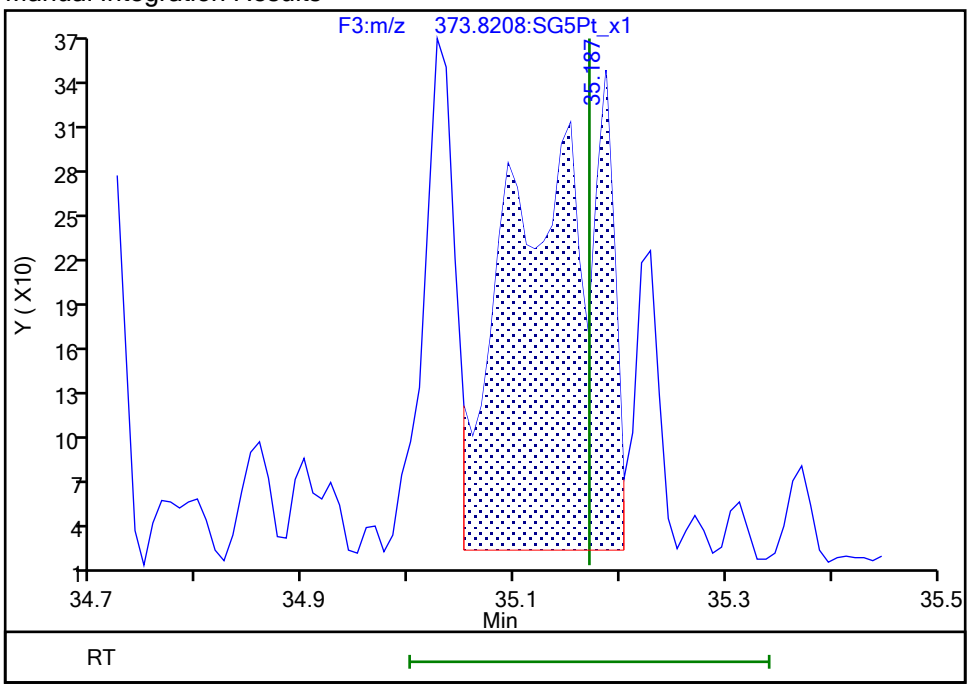
Processing Integration Results

RT: 35.03
Area: 670
Amount: 0.020598
Amount Units: pg/ul



Manual Integration Results

RT: 35.19
Area: 1799
Amount: 0.046534
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:58:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

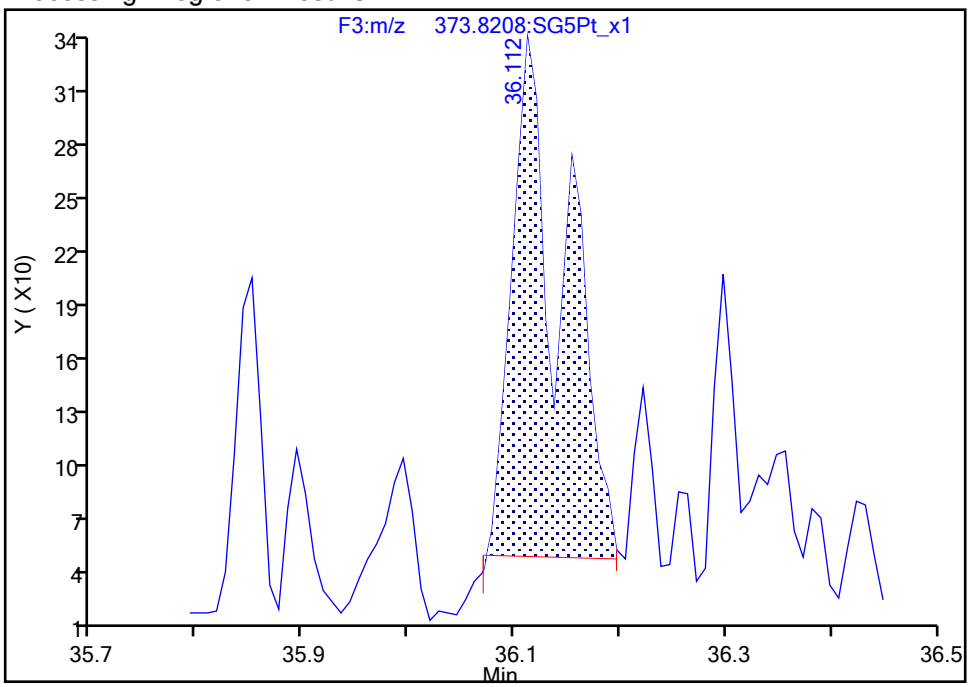
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d				
Injection Date:	20-Jan-2022 20:14:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-E-2-A	Lab Sample ID:	320-80119-2		
Client ID:	A2BMP0012S010				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

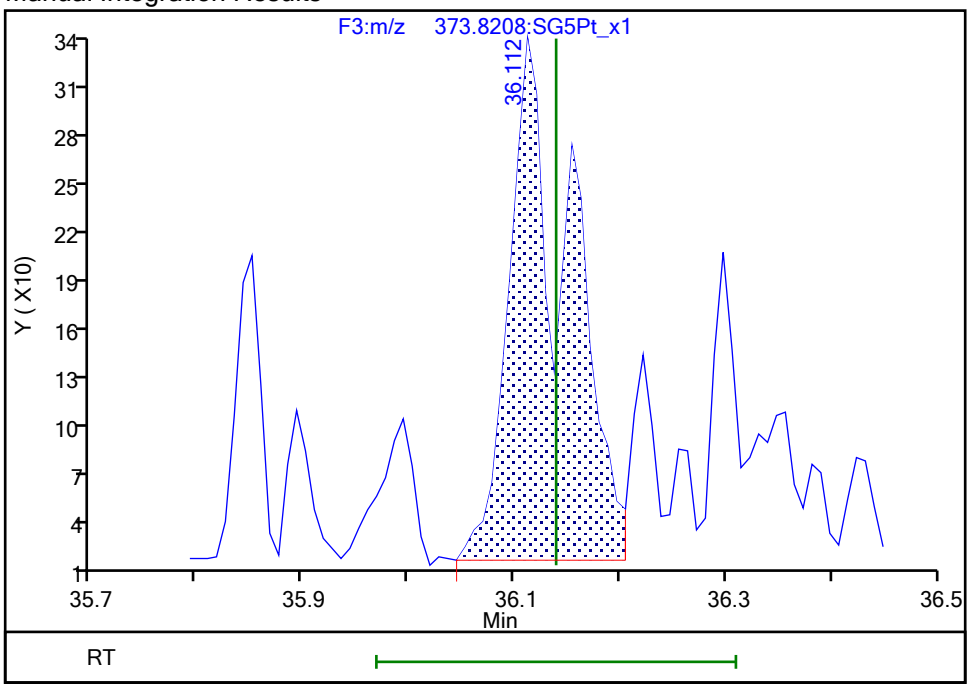
Processing Integration Results

RT: 36.11
Area: 954
Amount: 0.037613
Amount Units: pg/ul



Manual Integration Results

RT: 36.11
Area: 1224
Amount: 0.042862
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:57:42

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Sacramento

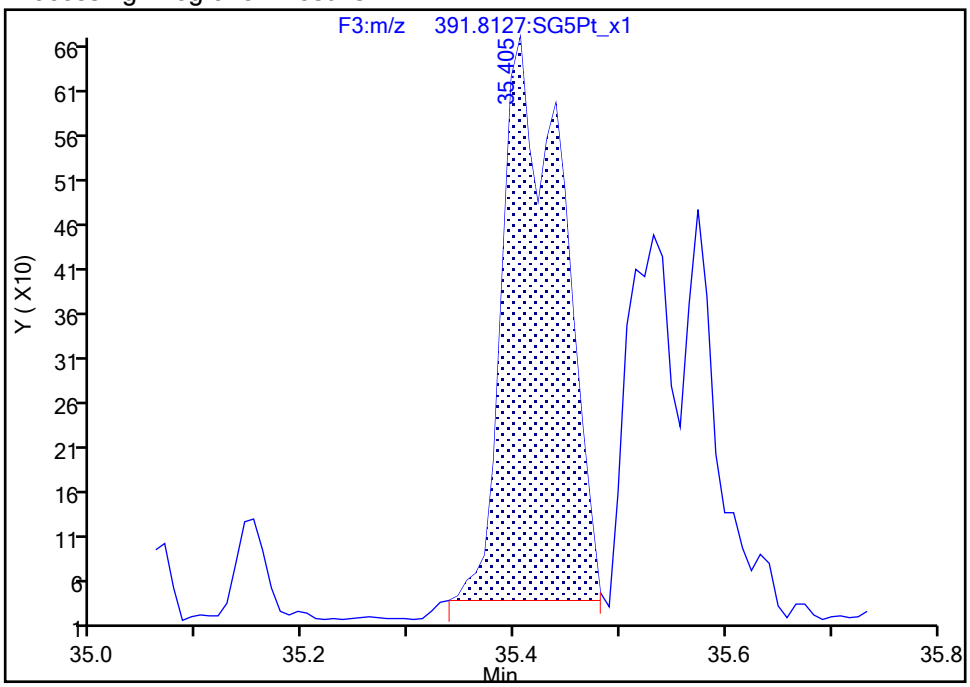
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d				
Injection Date:	20-Jan-2022 20:14:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-E-2-A	Lab Sample ID:	320-80119-2		
Client ID:	A2BMP0012S010				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

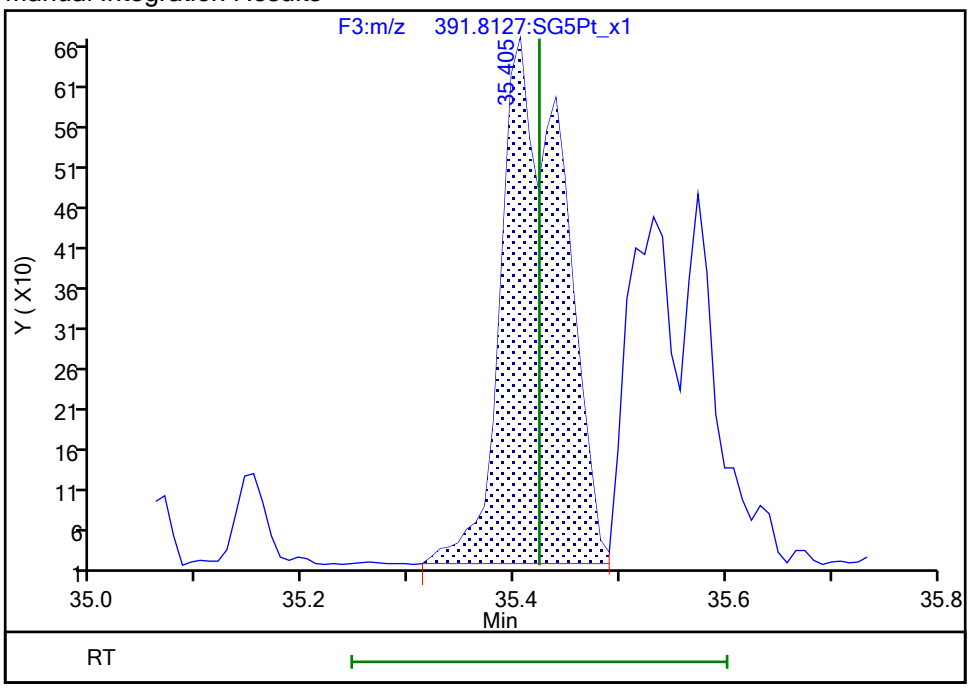
Processing Integration Results

RT: 35.41
Area: 2466
Amount: 0.165721
Amount Units: pg/ul



Manual Integration Results

RT: 35.41
Area: 2666
Amount: 0.171783
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:59:00

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Sacramento

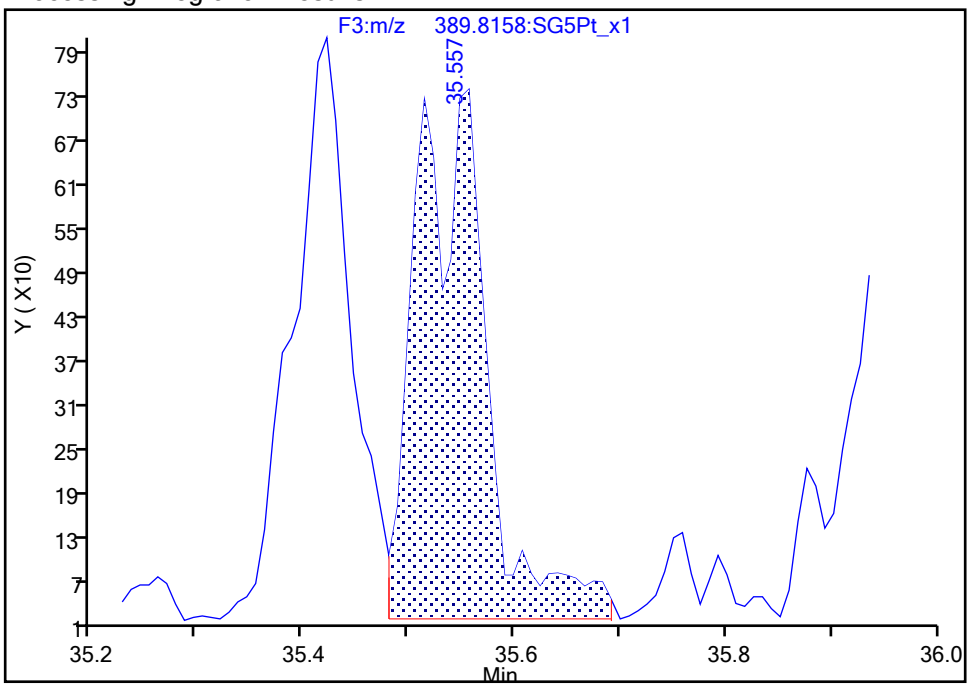
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d				
Injection Date:	20-Jan-2022 20:14:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-E-2-A	Lab Sample ID:	320-80119-2		
Client ID:	A2BMP0012S010				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

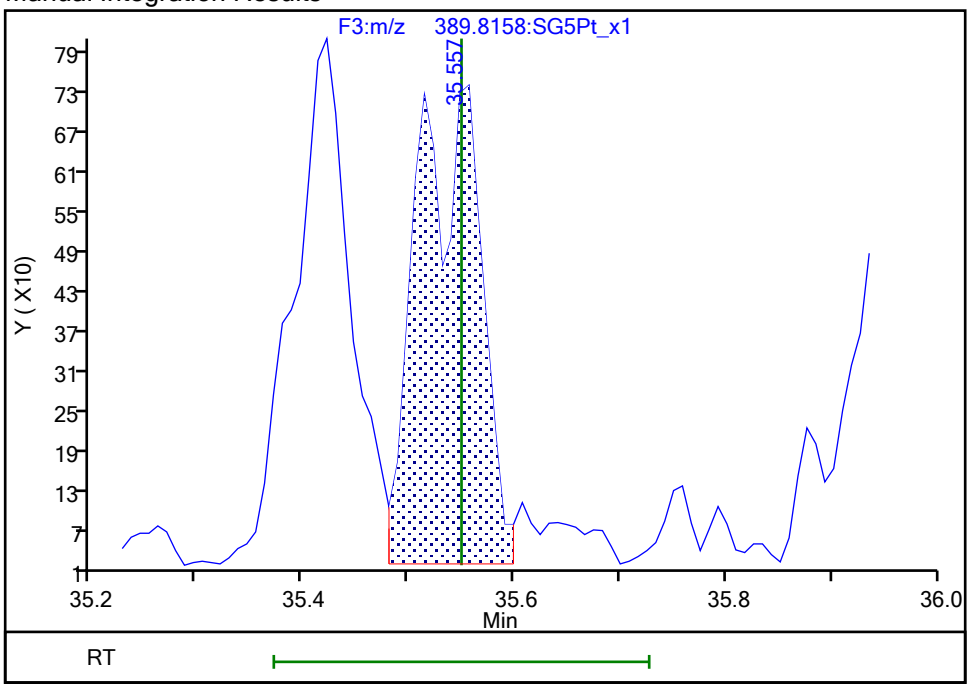
Processing Integration Results

RT: 35.56
Area: 3335
Amount: 0.143979
Amount Units: pg/ul



Manual Integration Results

RT: 35.56
Area: 3021
Amount: 0.140260
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:58:25
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins Sacramento

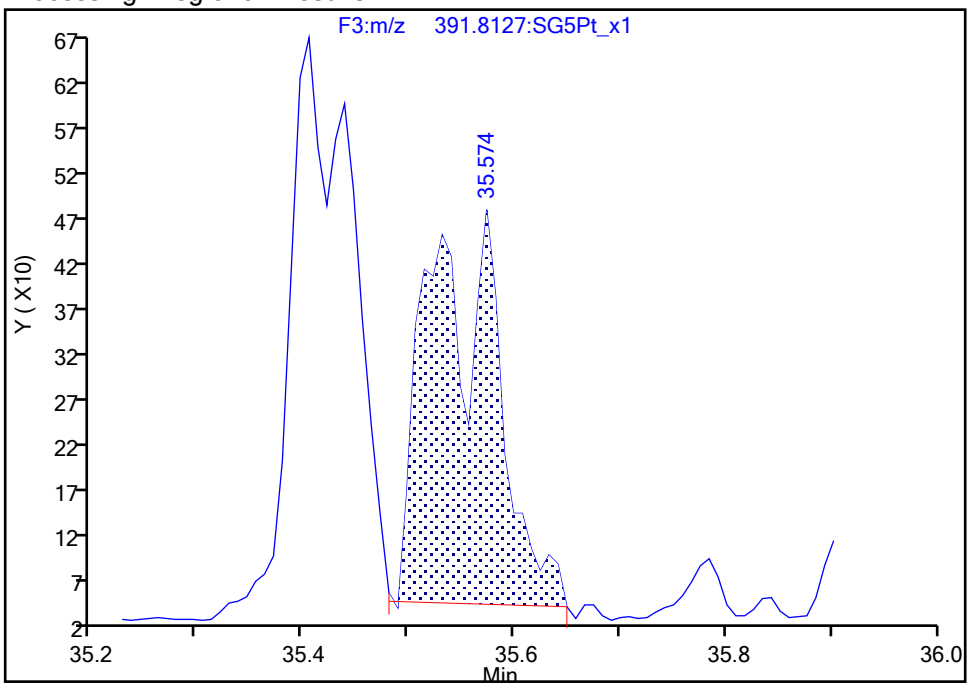
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d				
Injection Date:	20-Jan-2022 20:14:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-E-2-A	Lab Sample ID:	320-80119-2		
Client ID:	A2BMP0012S010				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

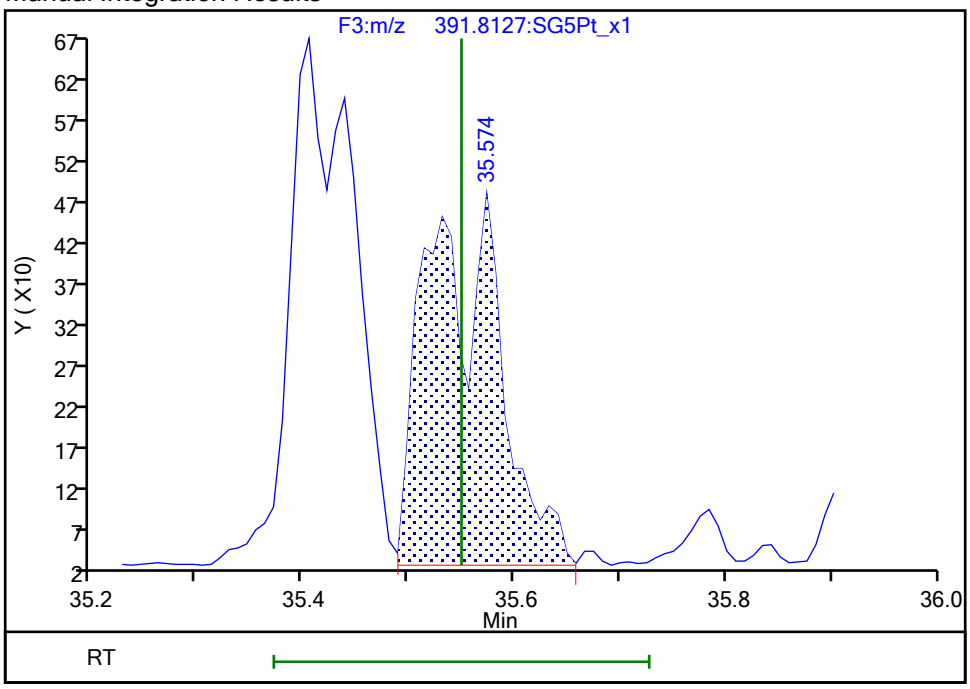
Processing Integration Results

RT: 35.57
Area: 2045
Amount: 0.143979
Amount Units: pg/ul



Manual Integration Results

RT: 35.57
Area: 2220
Amount: 0.140260
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:58:49
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

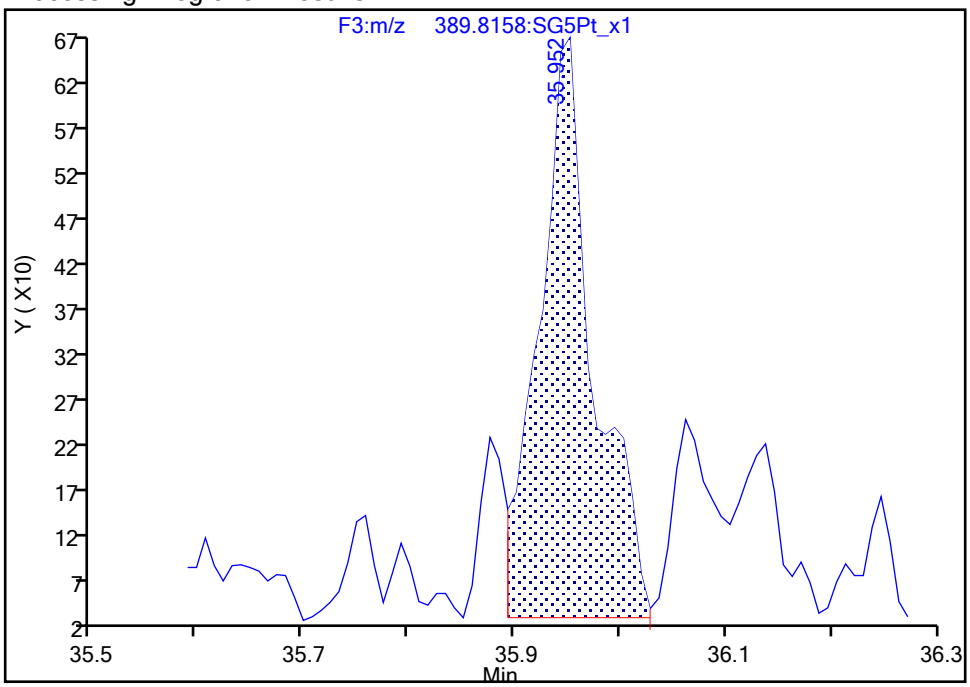
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d				
Injection Date:	20-Jan-2022 20:14:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-E-2-A	Lab Sample ID:	320-80119-2		
Client ID:	A2BMP0012S010				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

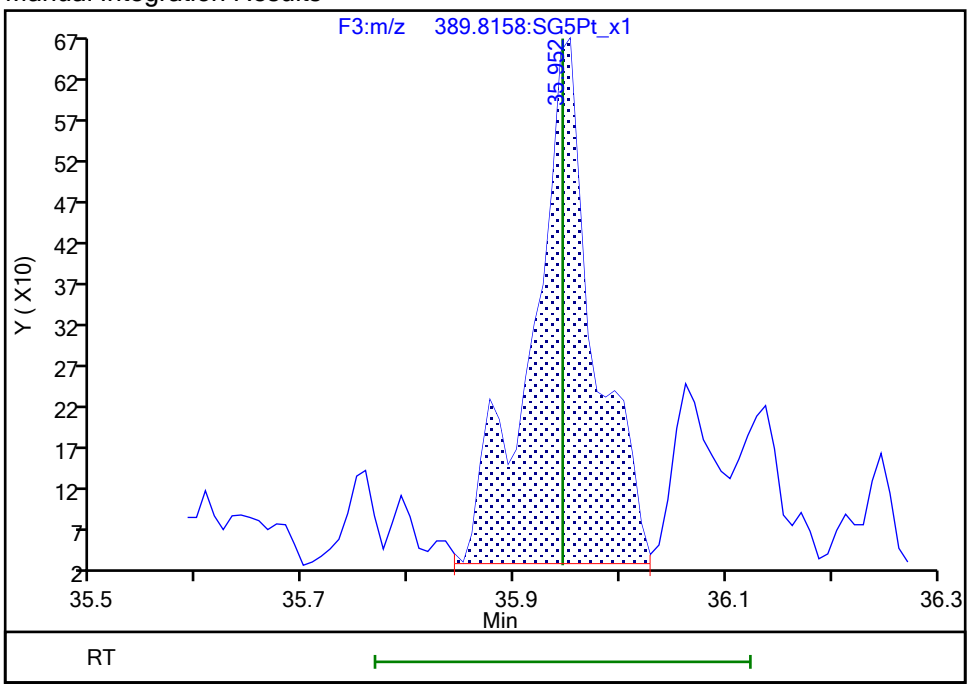
Processing Integration Results

RT: 35.95
Area: 2304
Amount: 0.129276
Amount Units: pg/ul



Manual Integration Results

RT: 35.95
Area: 2624
Amount: 0.138140
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:58:39

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

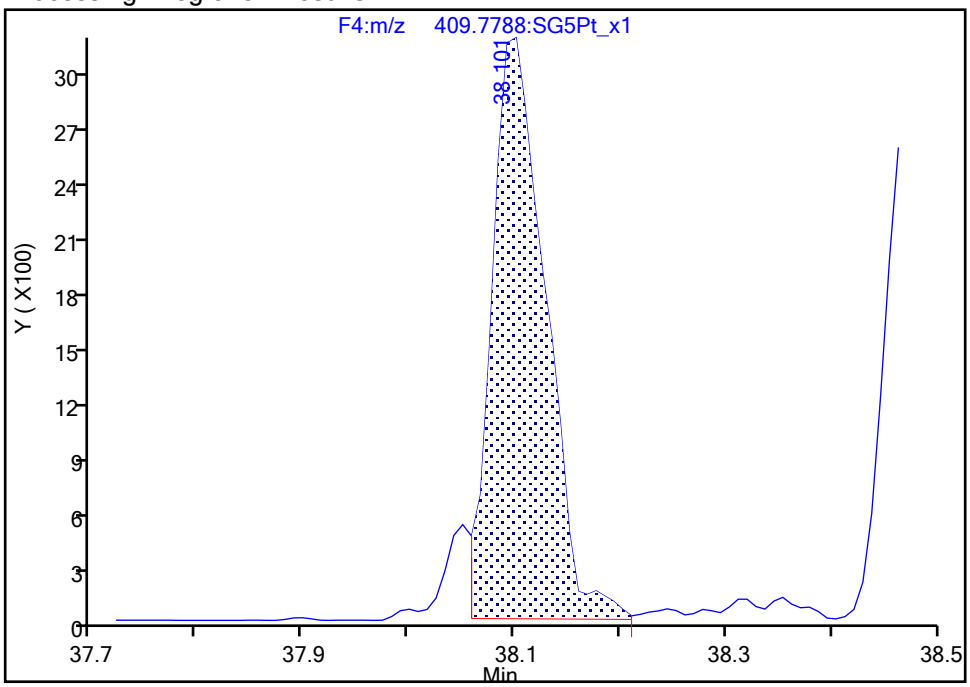
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d				
Injection Date:	20-Jan-2022 20:14:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-E-2-A	Lab Sample ID:	320-80119-2		
Client ID:	A2BMP0012S010				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

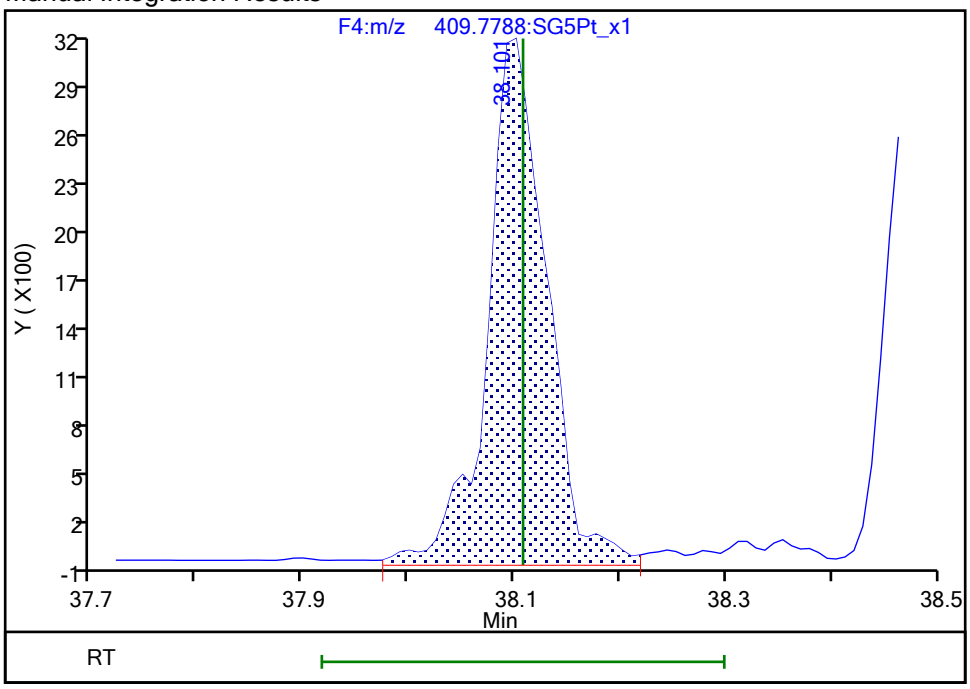
Processing Integration Results

RT: 38.10
Area: 10777
Amount: 0.485245
Amount Units: pg/ul



Manual Integration Results

RT: 38.10
Area: 12191
Amount: 0.512519
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:59:16

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

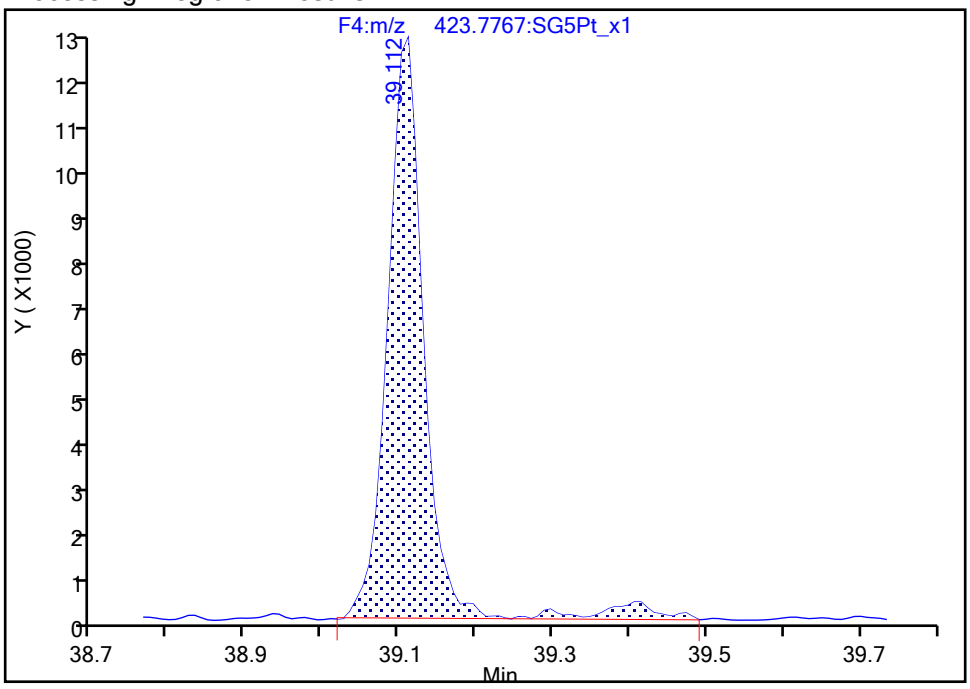
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d				
Injection Date:	20-Jan-2022 20:14:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-E-2-A	Lab Sample ID:	320-80119-2		
Client ID:	A2BMP0012S010				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

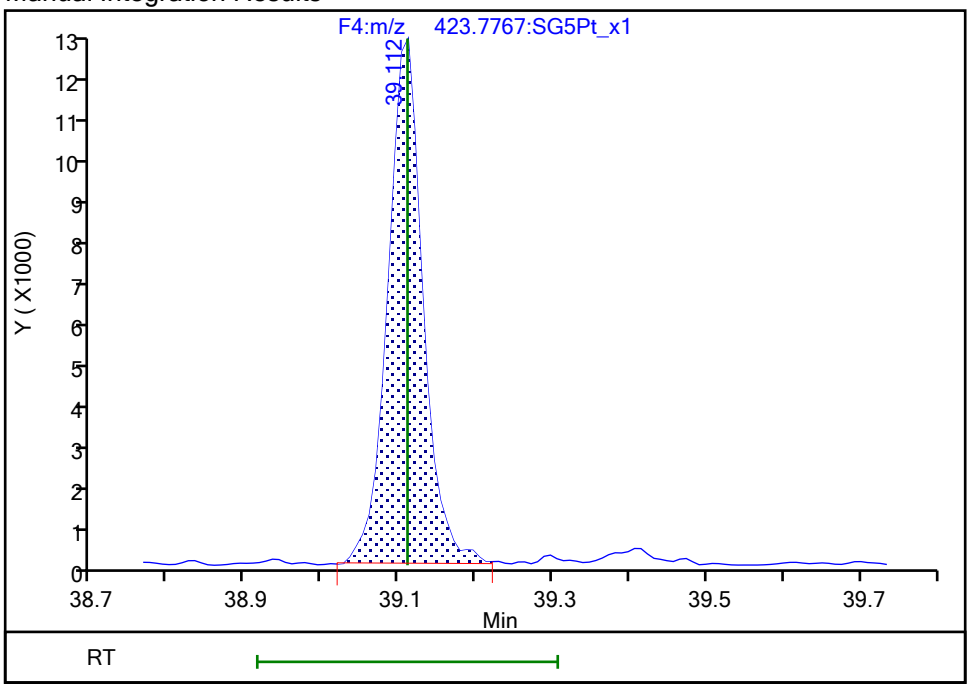
Processing Integration Results

RT: 39.11
Area: 41029
Amount: 2.409326
Amount Units: pg/ul



Manual Integration Results

RT: 39.11
Area: 38945
Amount: 2.347470
Amount Units: pg/ul



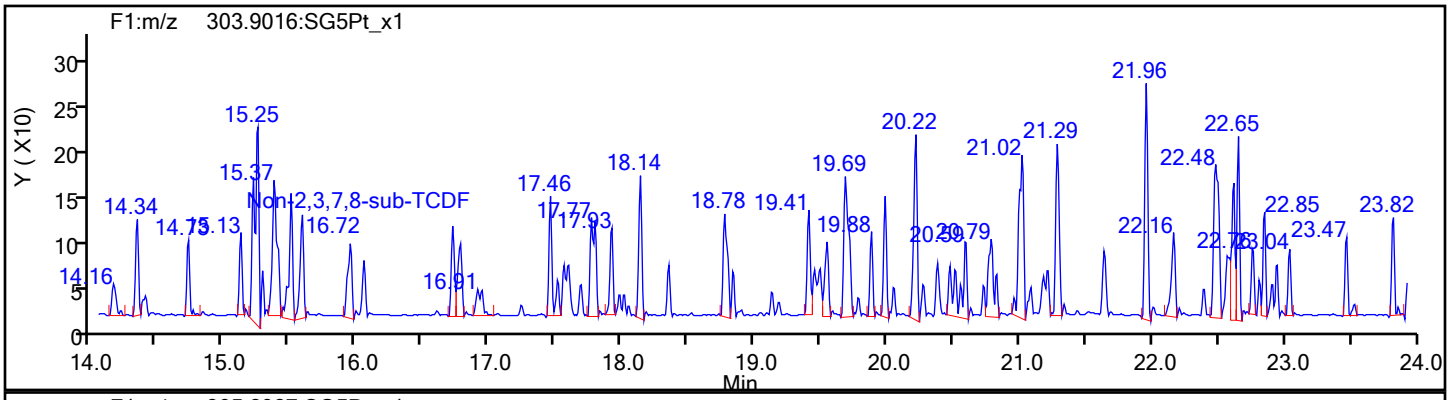
Reviewer: bilottag, 21-Jan-2022 07:59:26

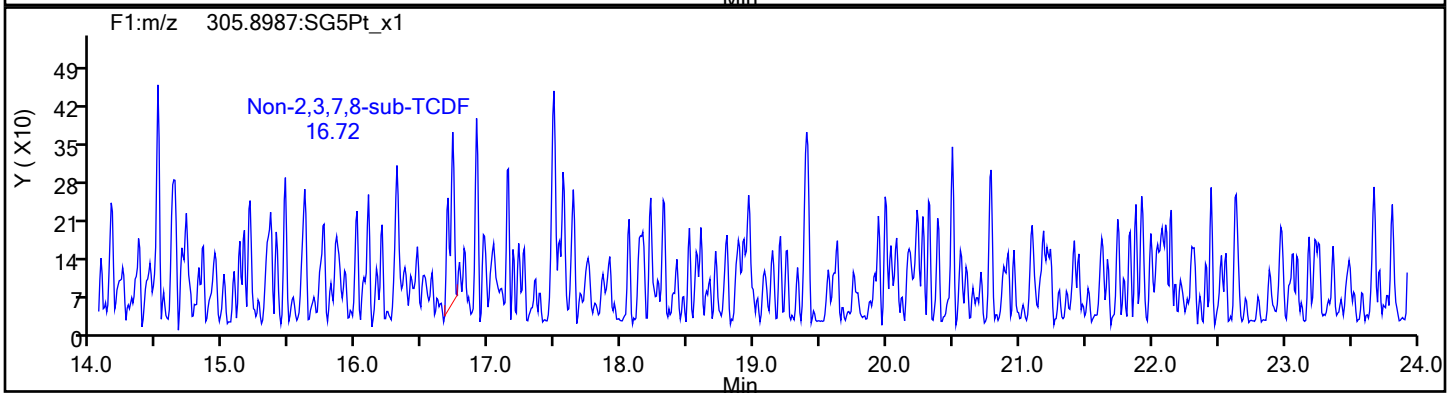
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Eurofins Sacramento

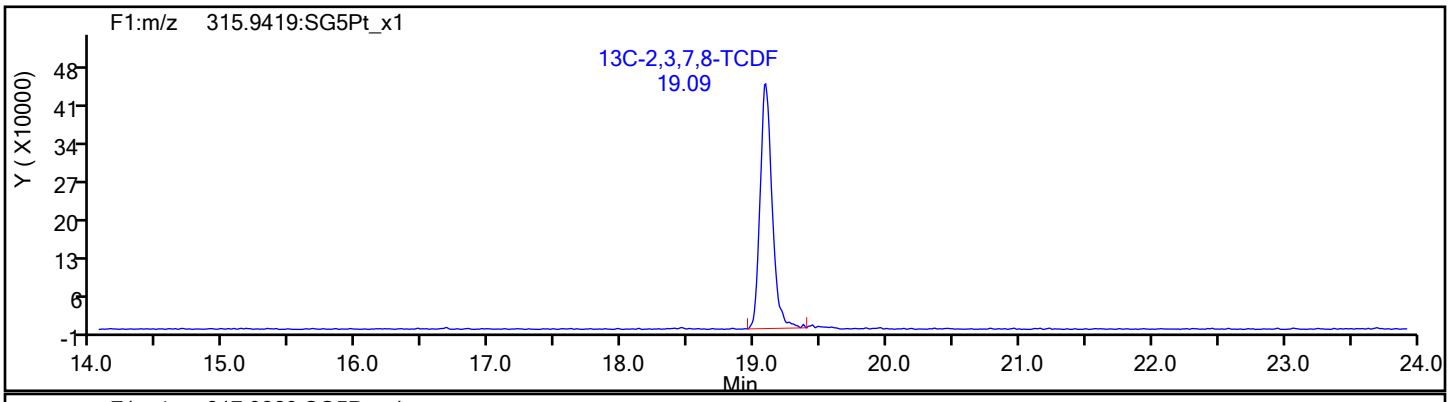
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

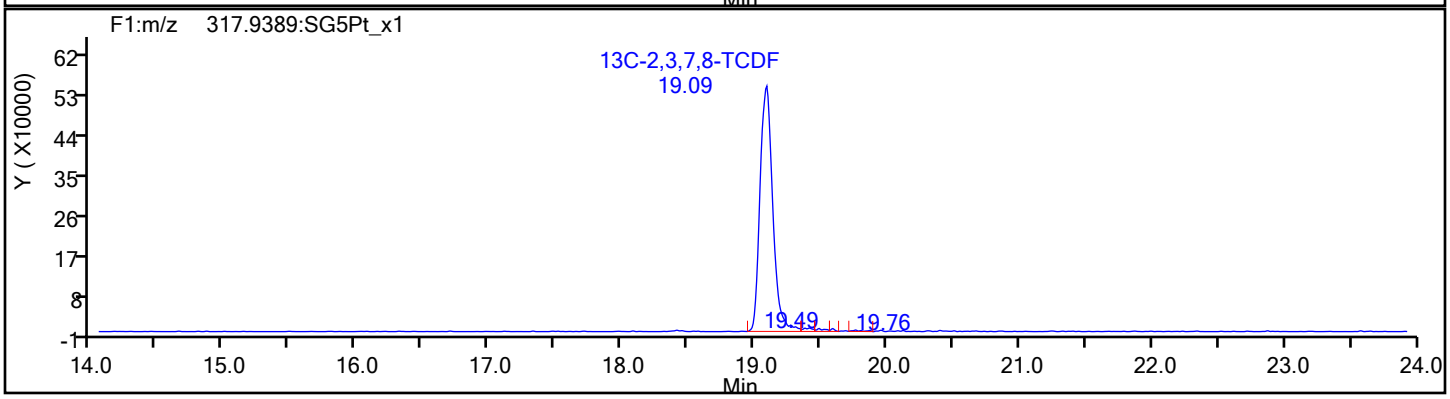
TCDF





TCDF Standards

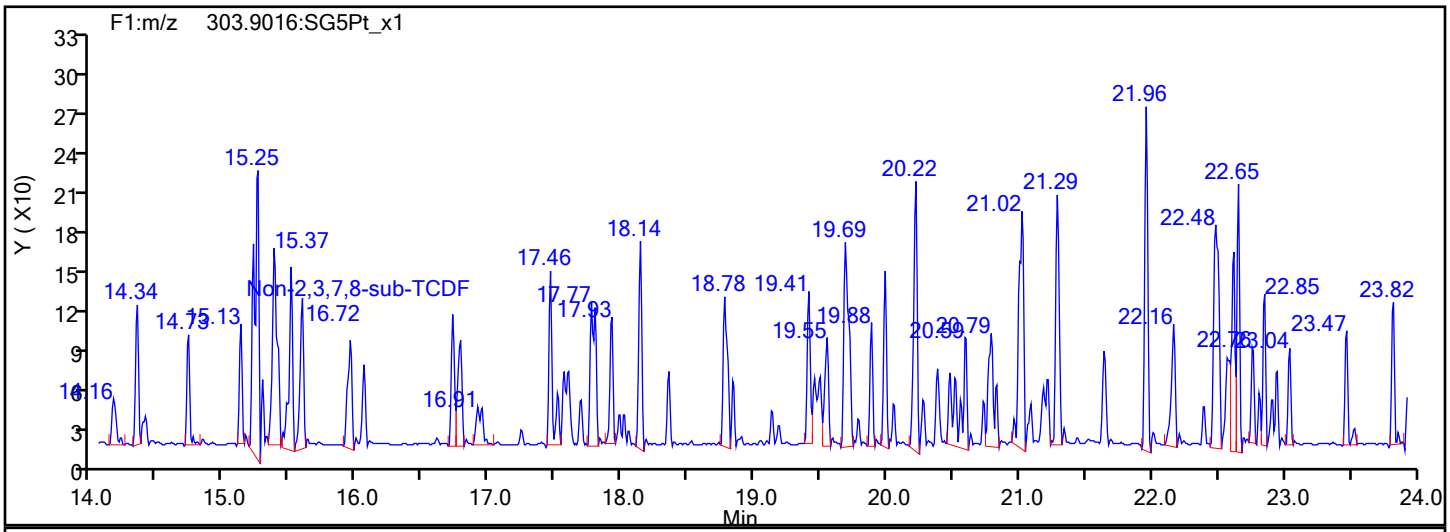


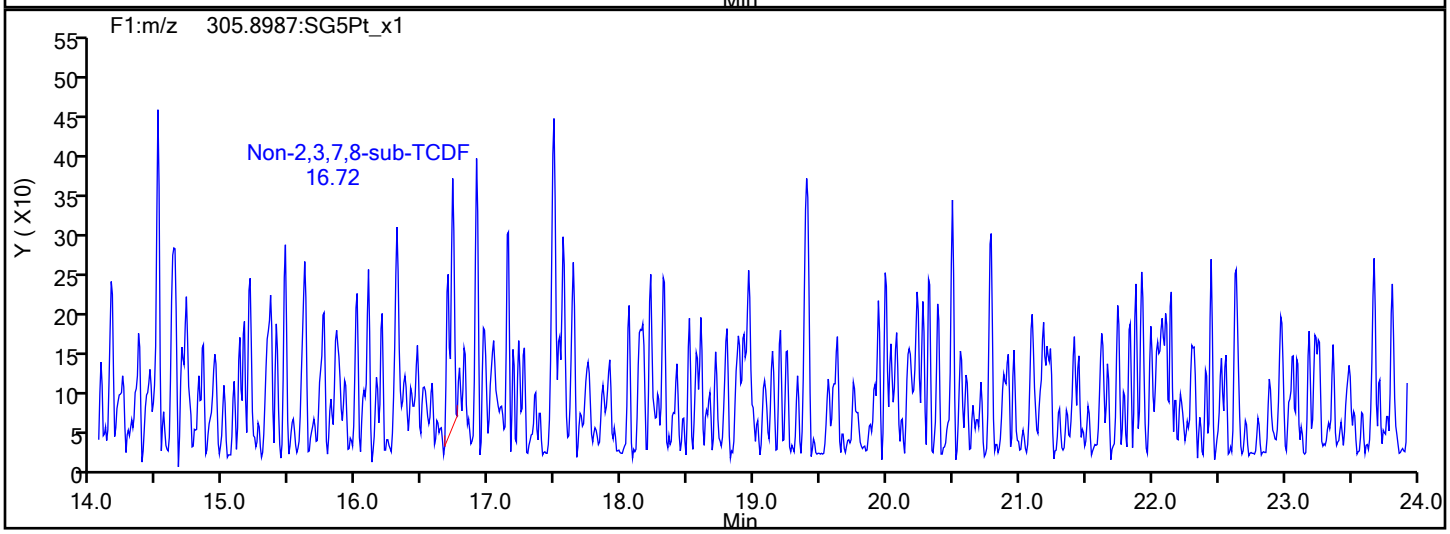


Eurofins Sacramento

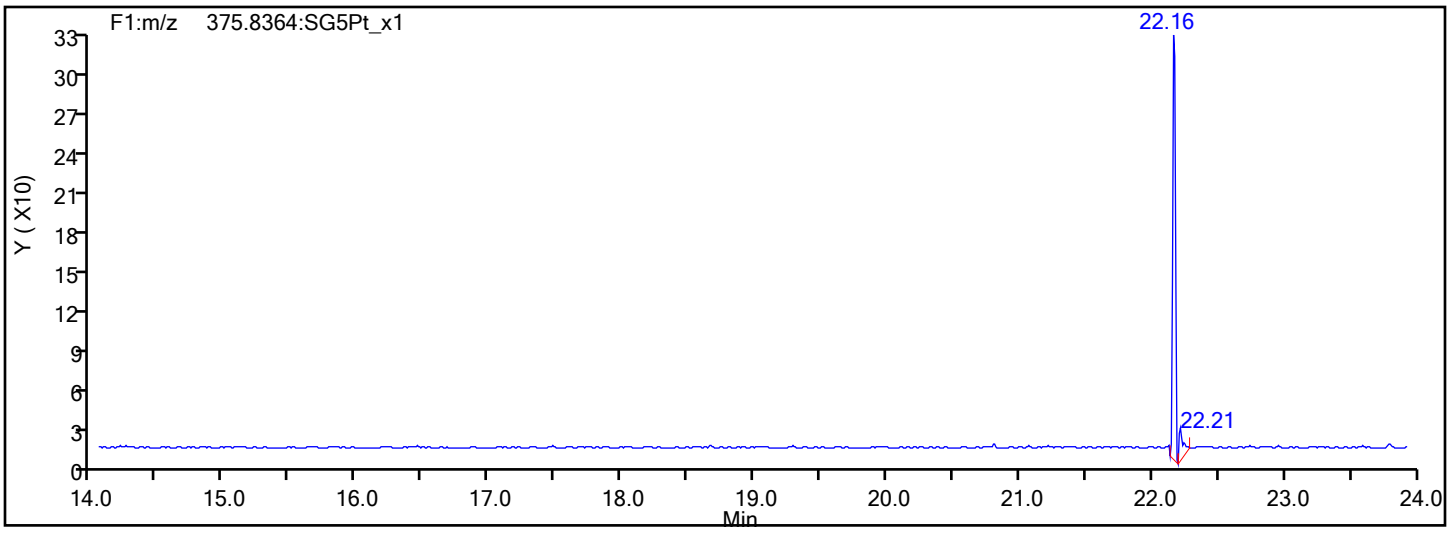
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



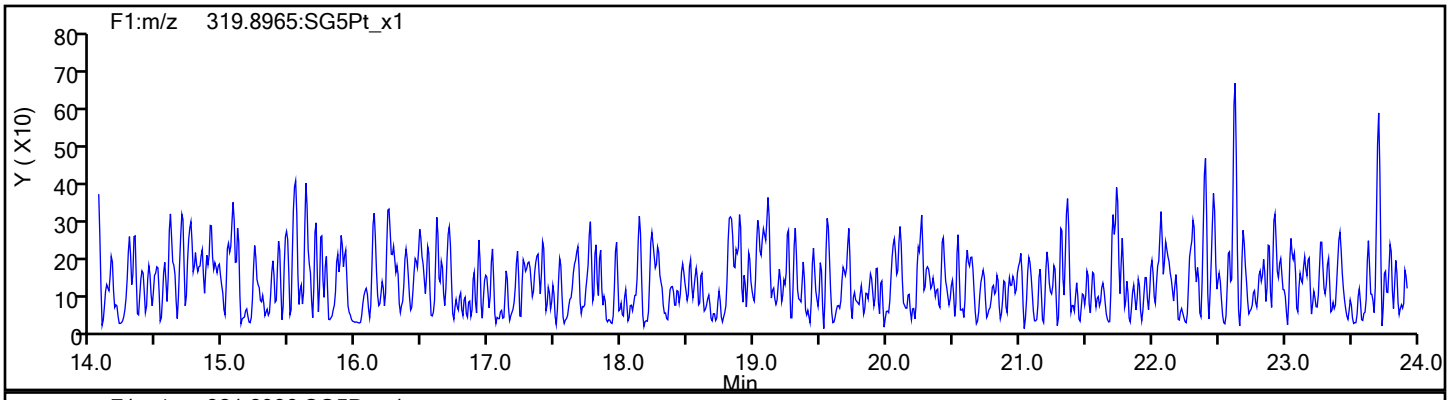
Report Date: 21-Jan-2022 08:05:49 Chrom Revision: 2.3 18-Jan-2022 20:25:40

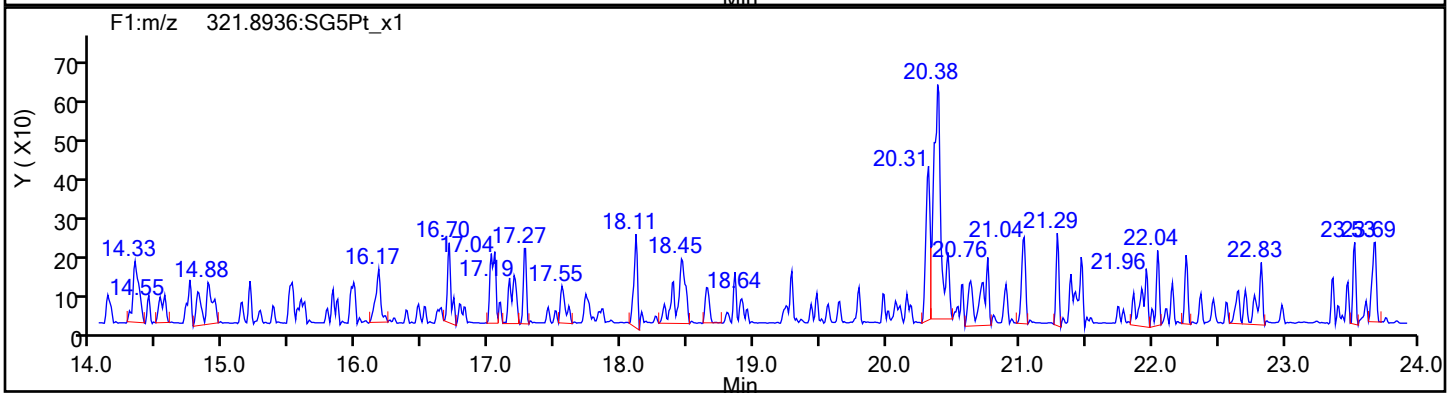
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d

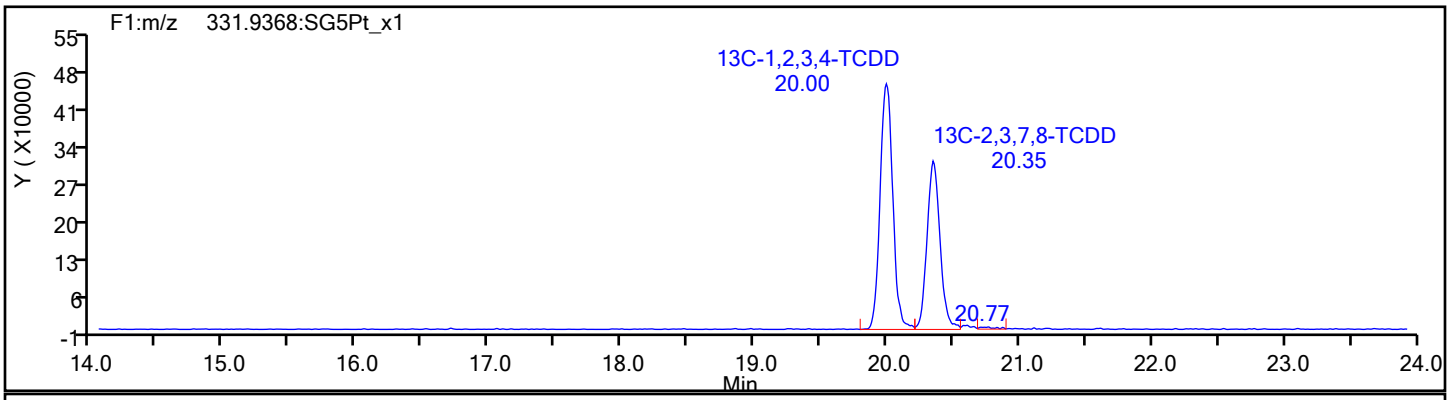
Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

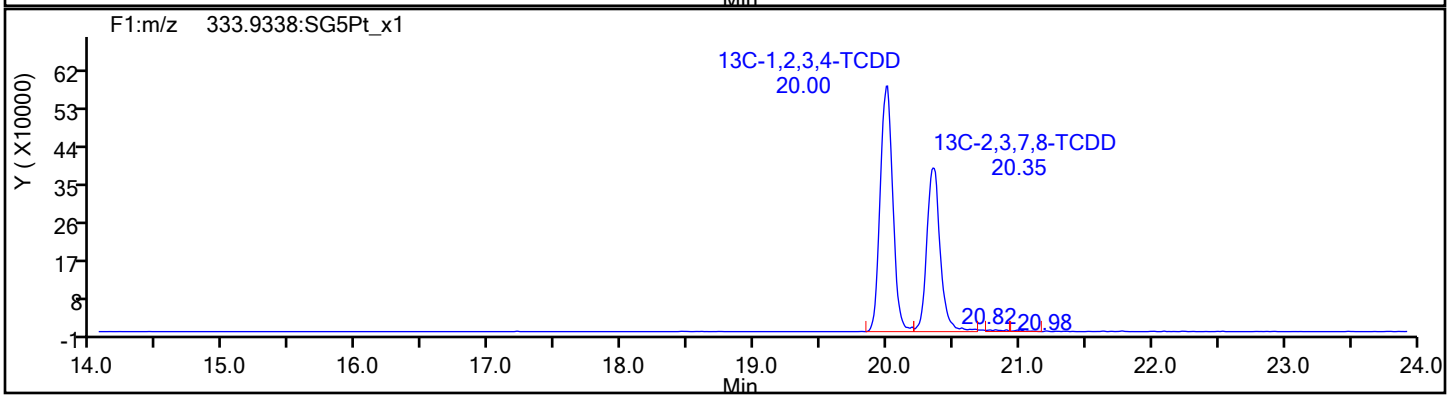
TCDD





TCDD Standards





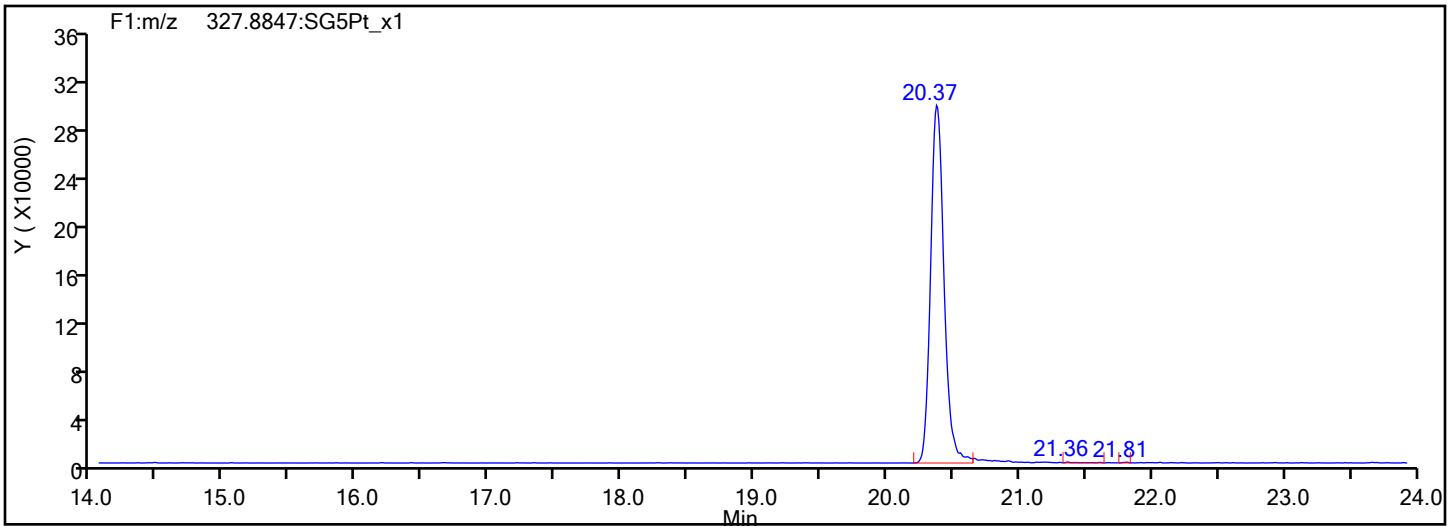
Report Date: 21-Jan-2022 08:05:50 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

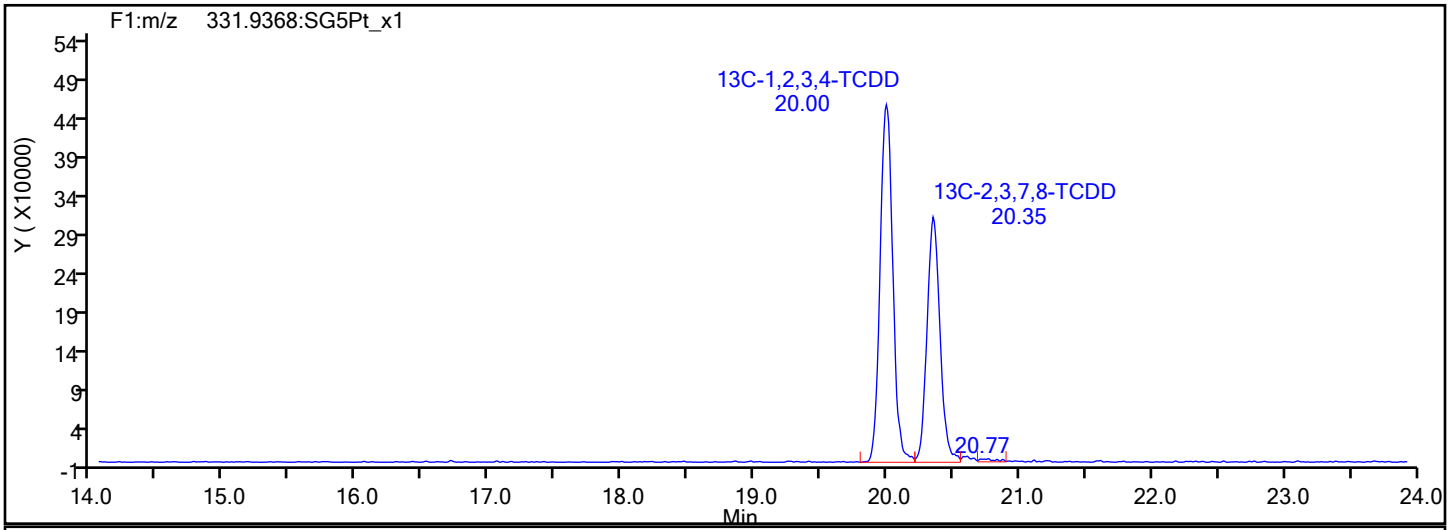
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d

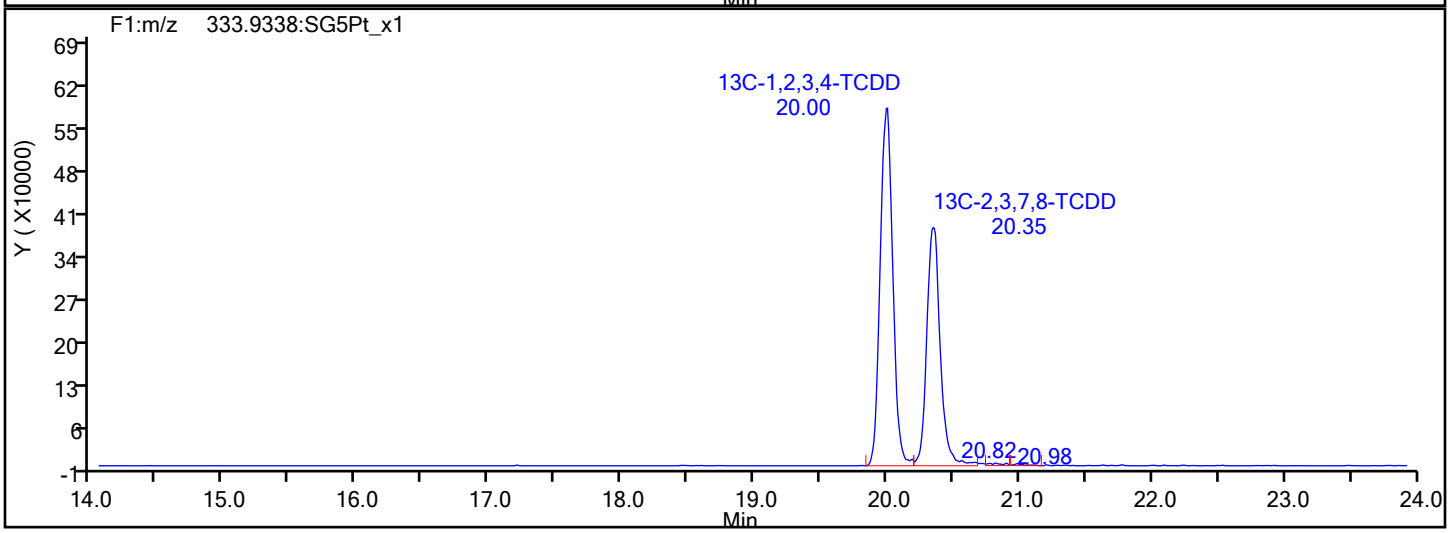
Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



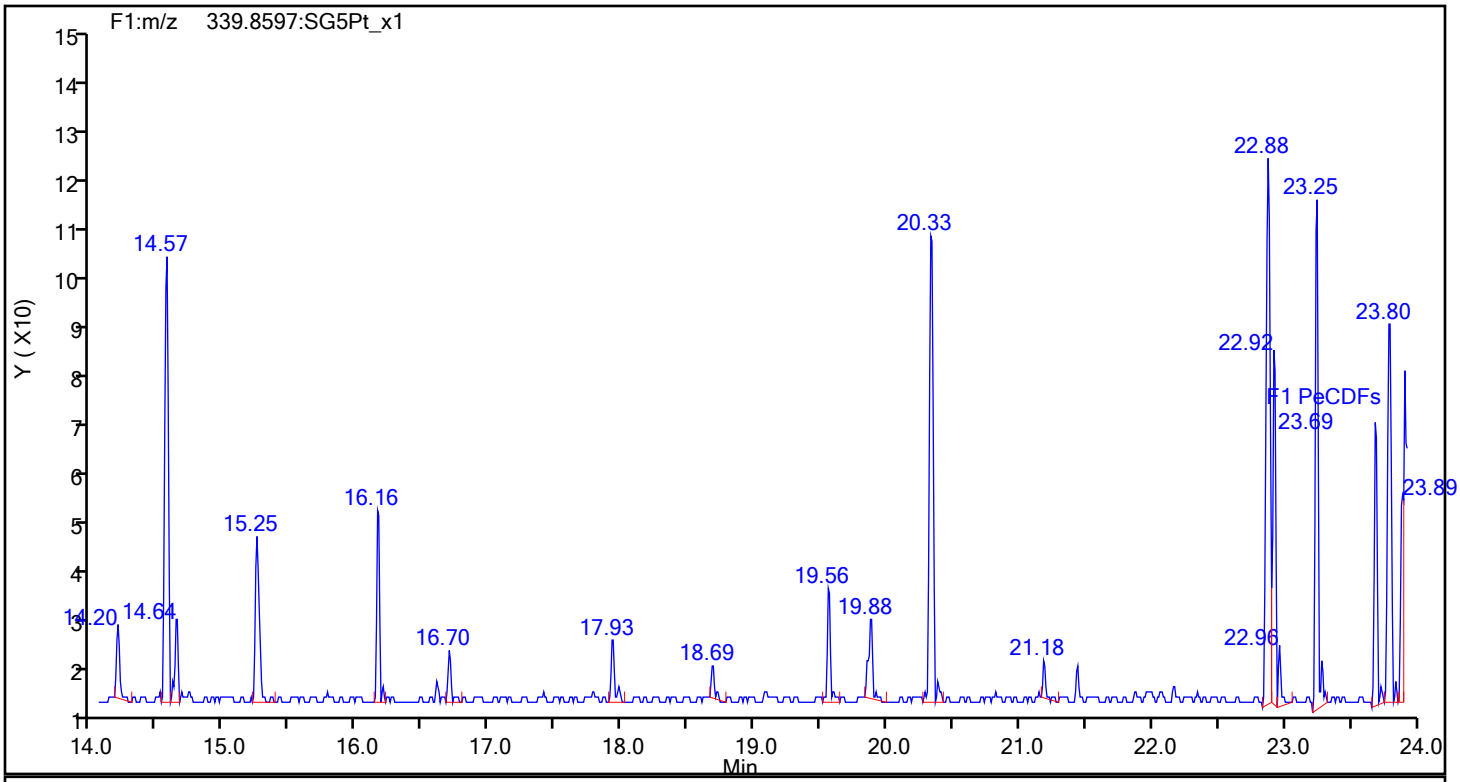


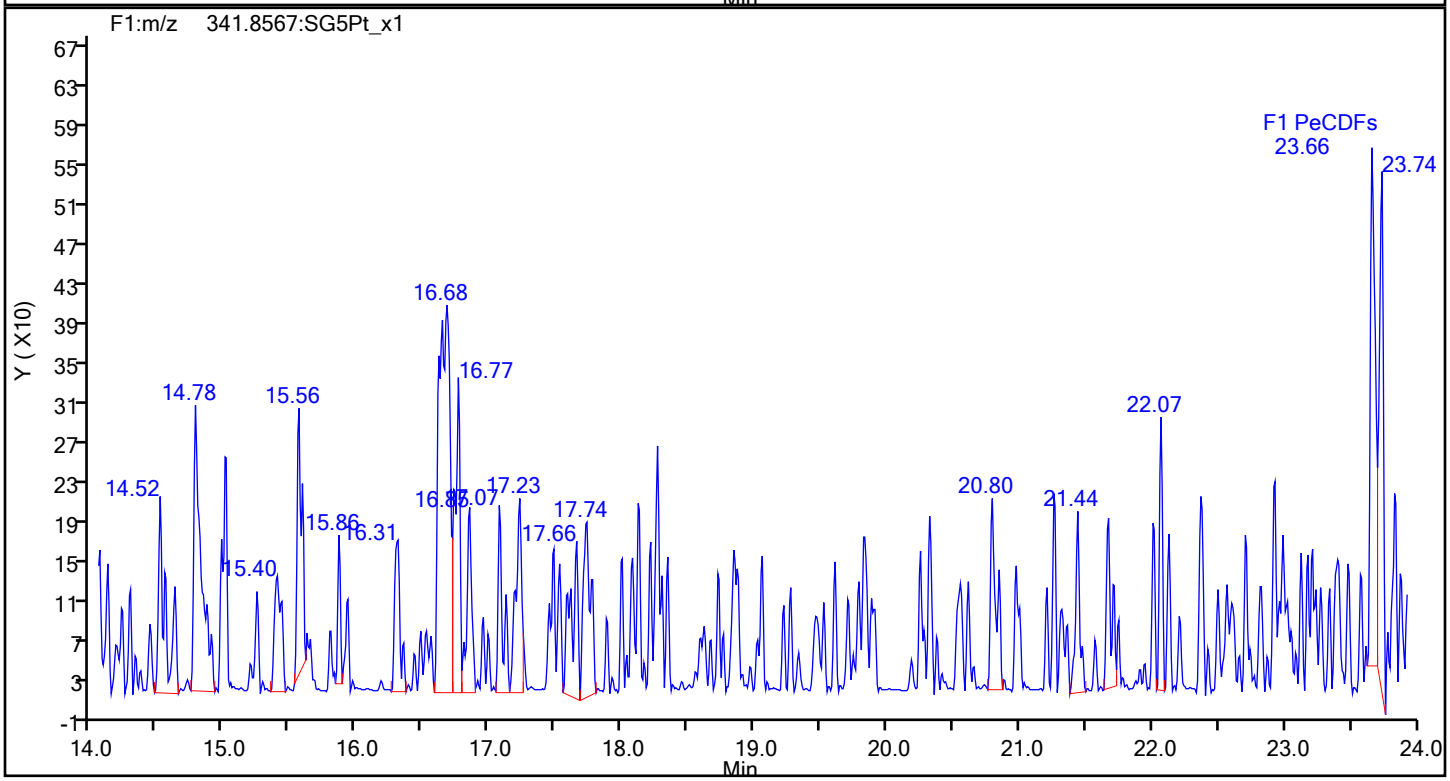
Report Date: 21-Jan-2022 08:05:50 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

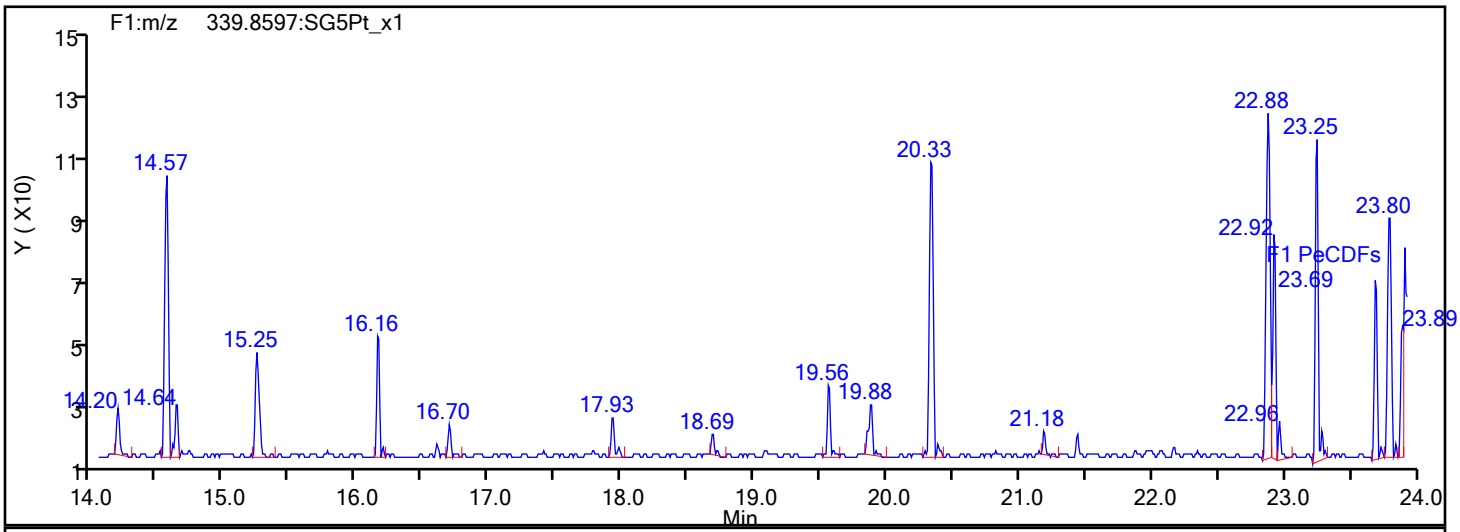


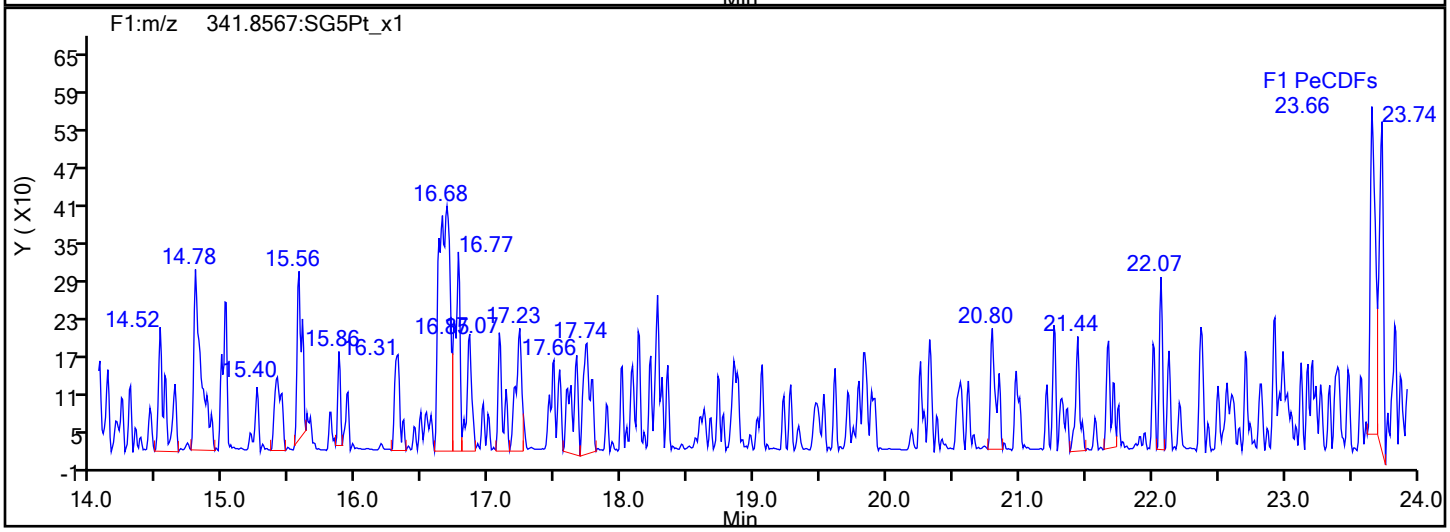


Eurofins Sacramento

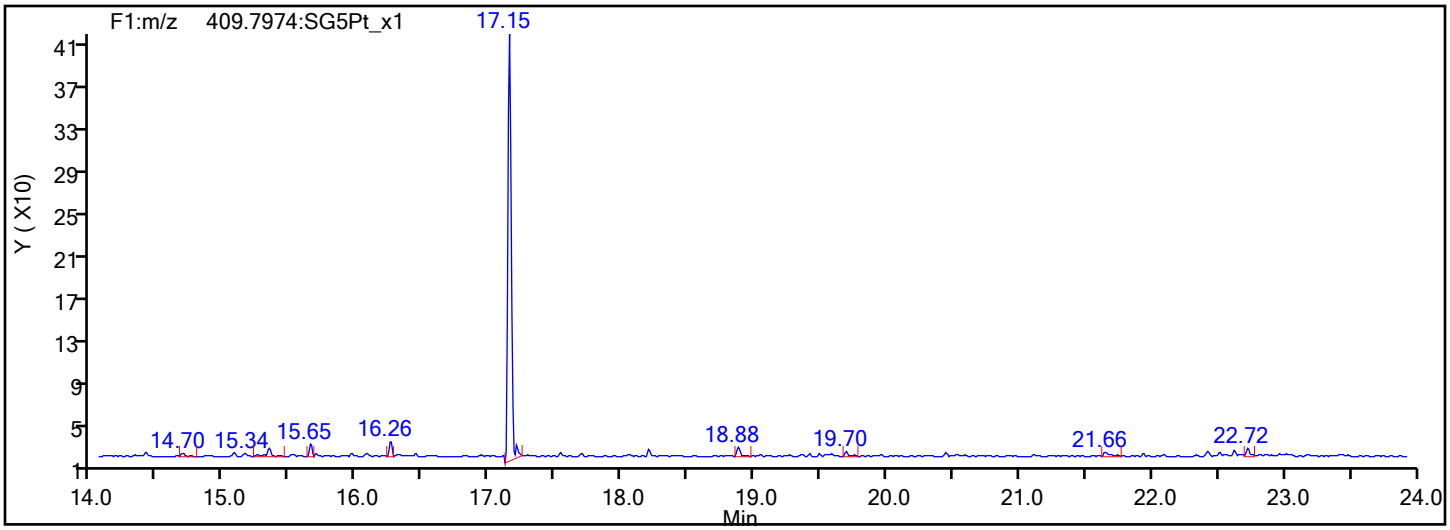
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





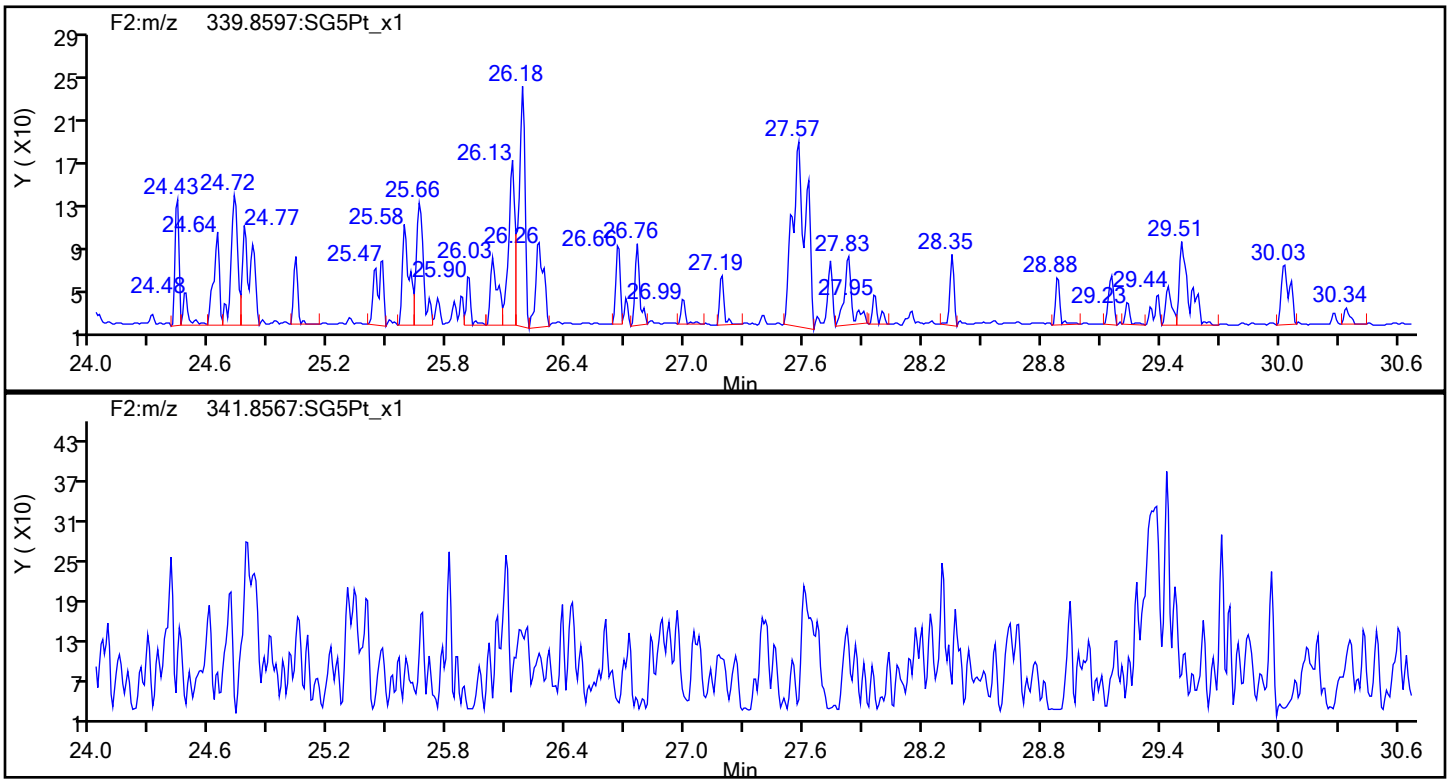
F1 PeCDFs Interference Mass



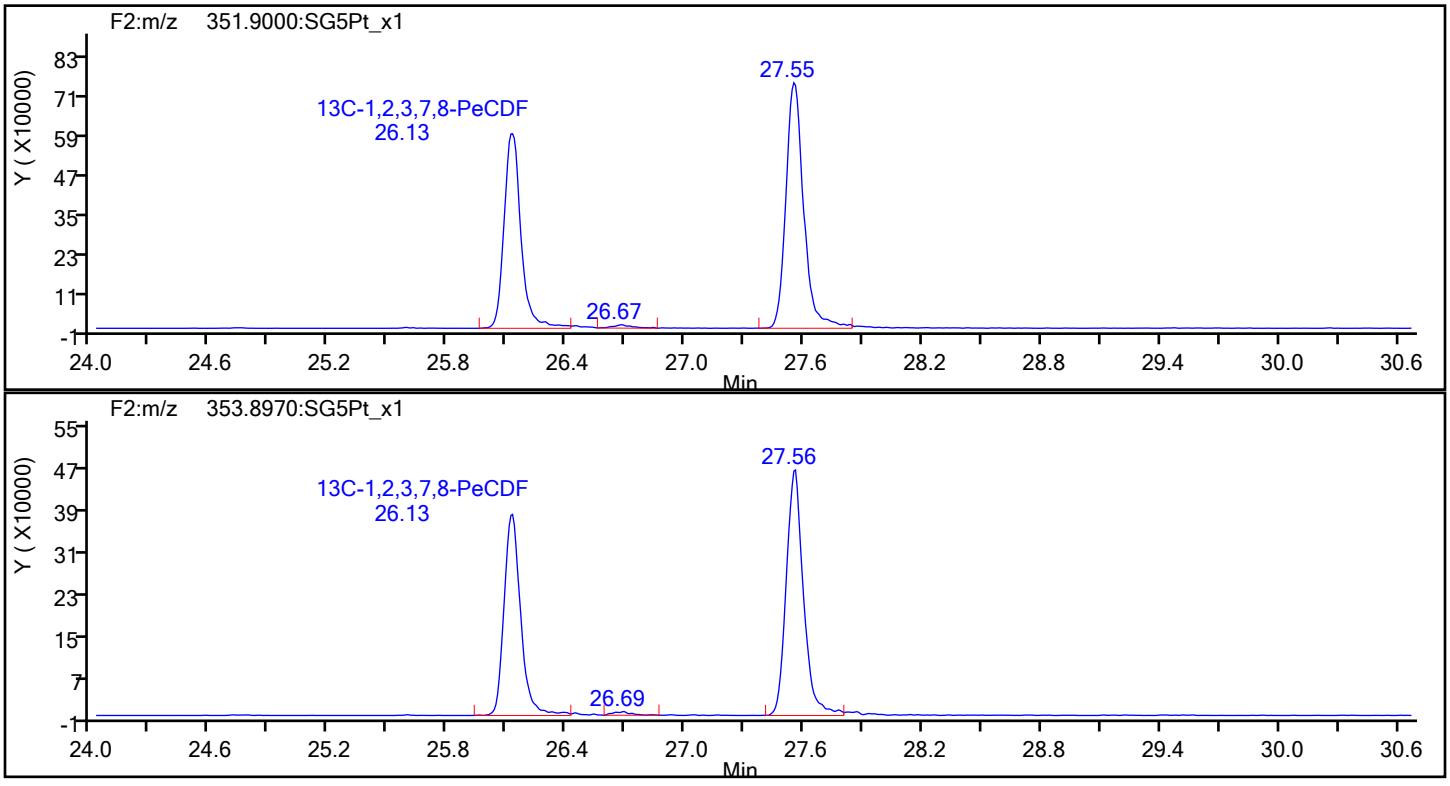
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d
Injection Date: 20-Jan-2022 20:14:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: A2BMP0012S010
Worklist#: 559474 Sample Line#: 7
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

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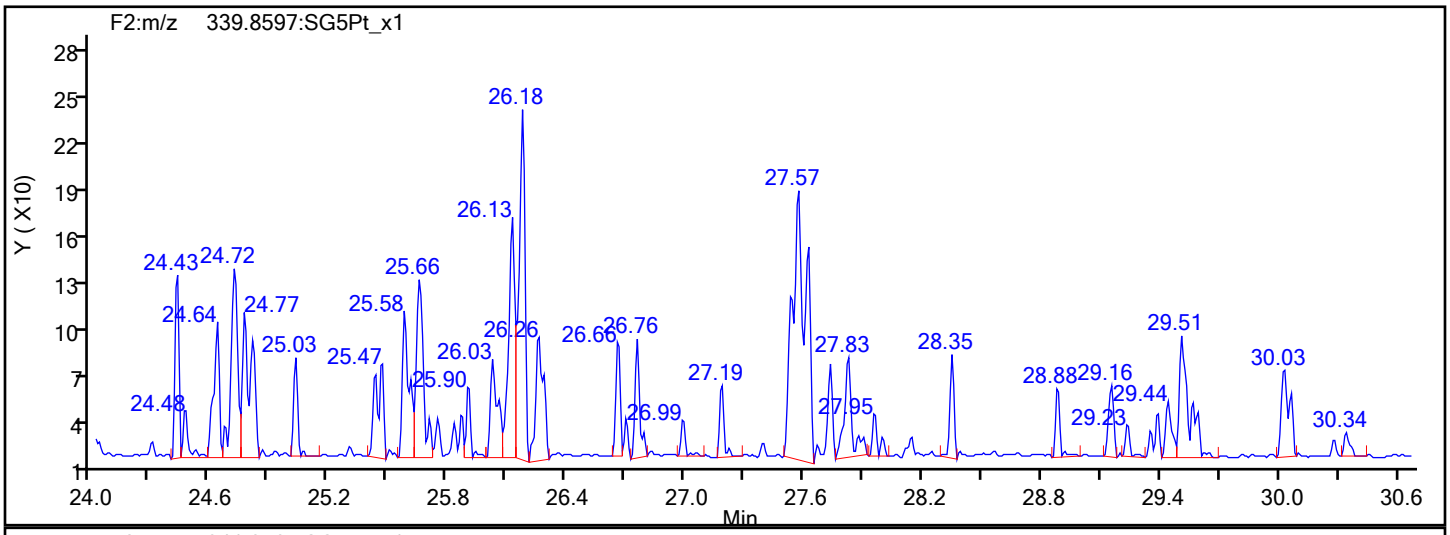
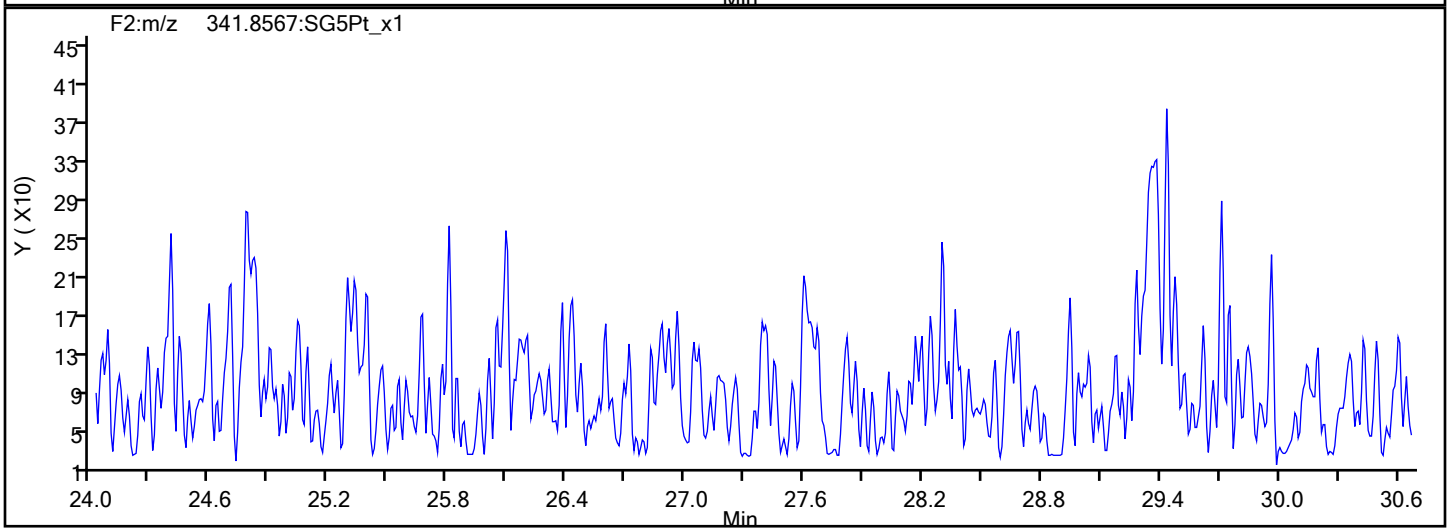
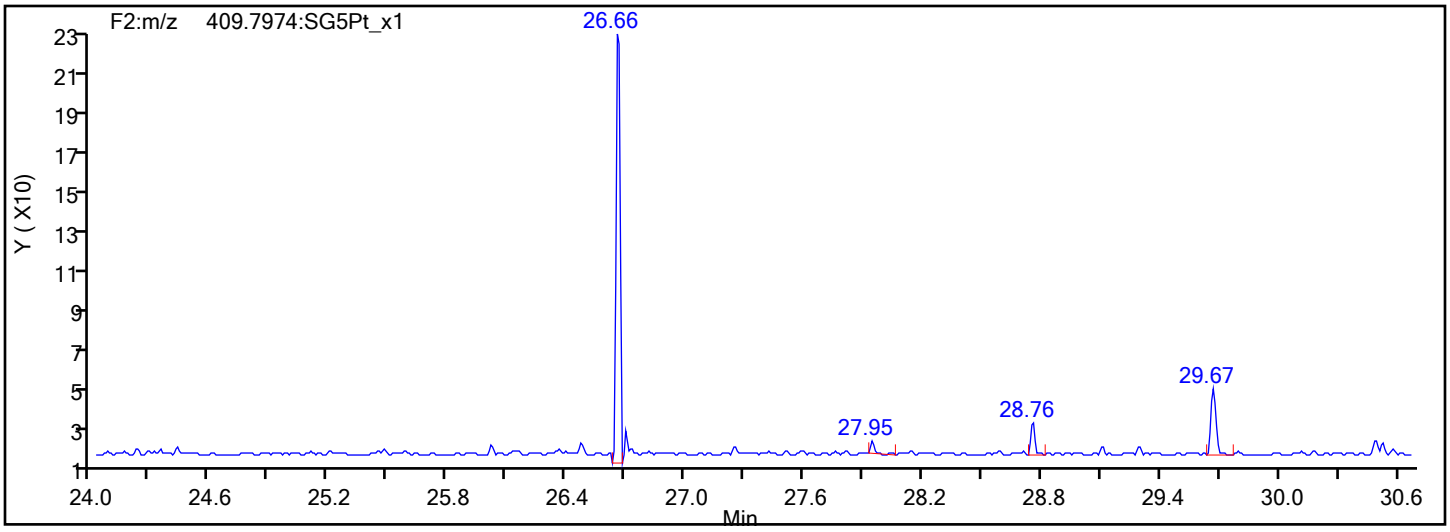




PeCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
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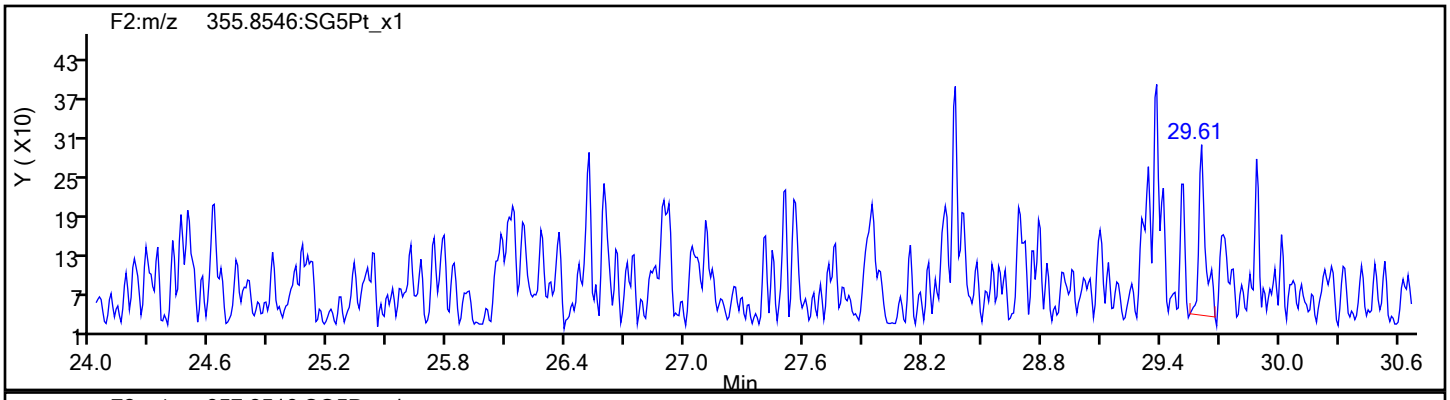
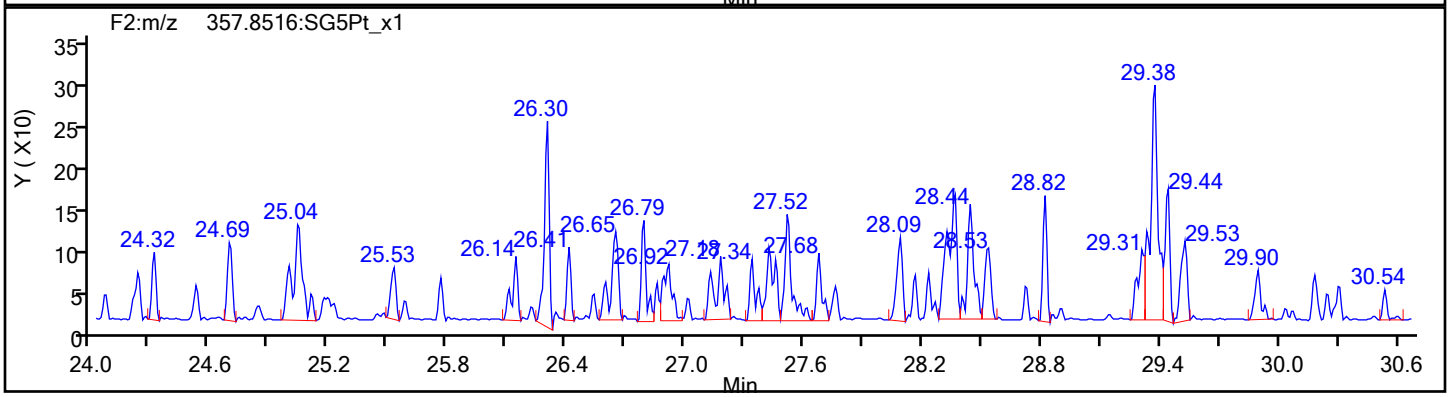
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD





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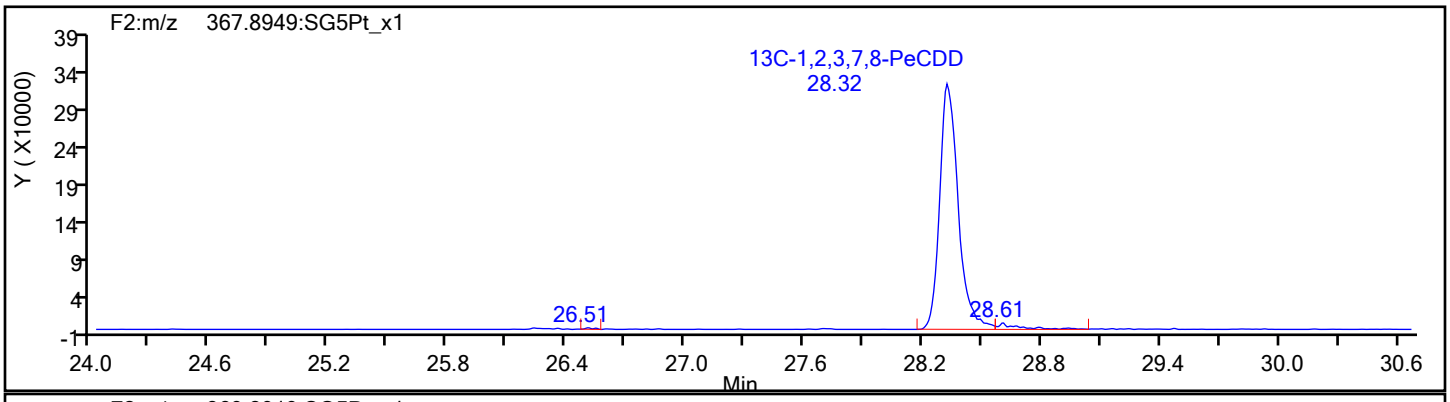

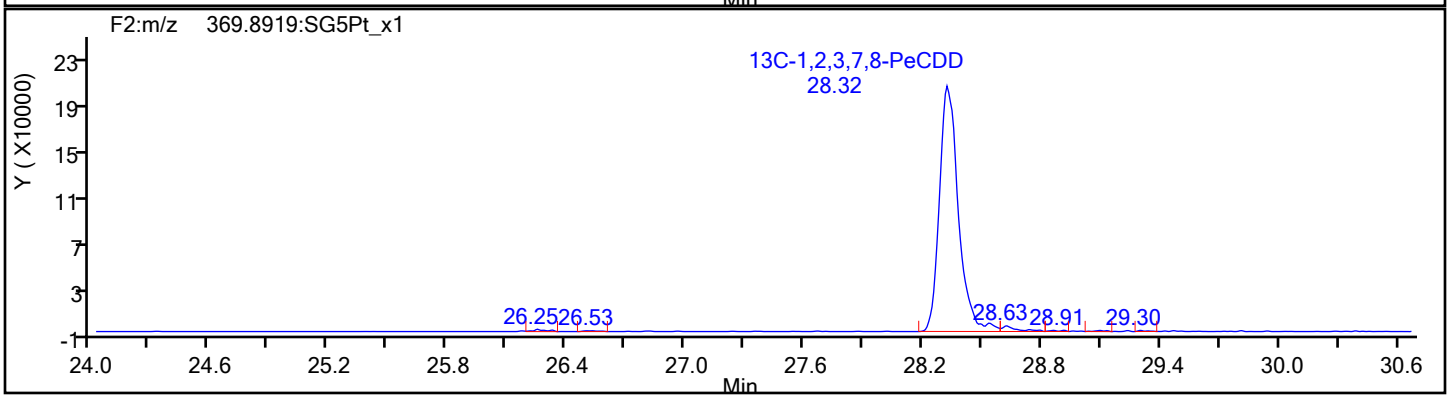

Report Date: 21-Jan-2022 08:05:50 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d

Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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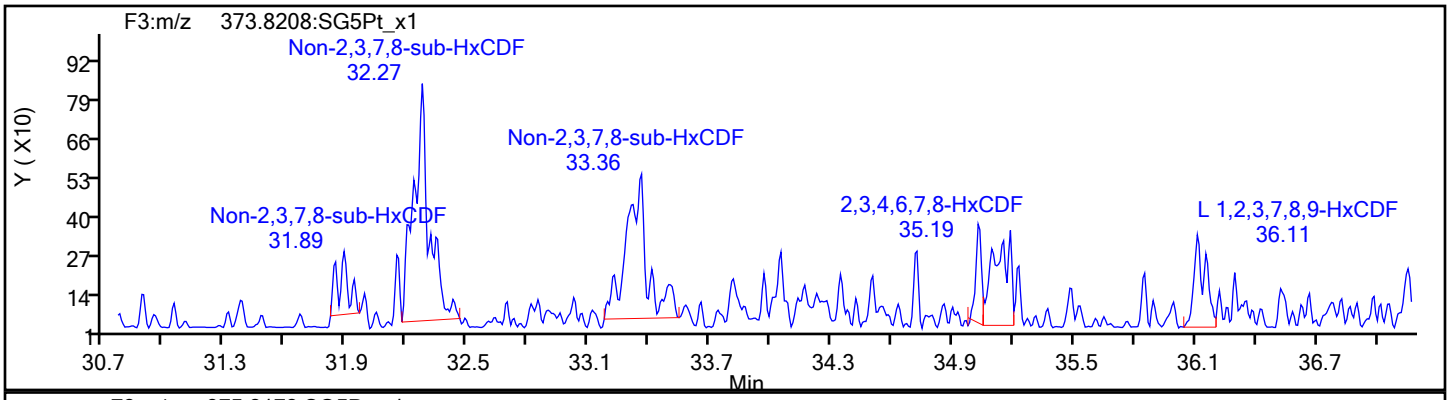
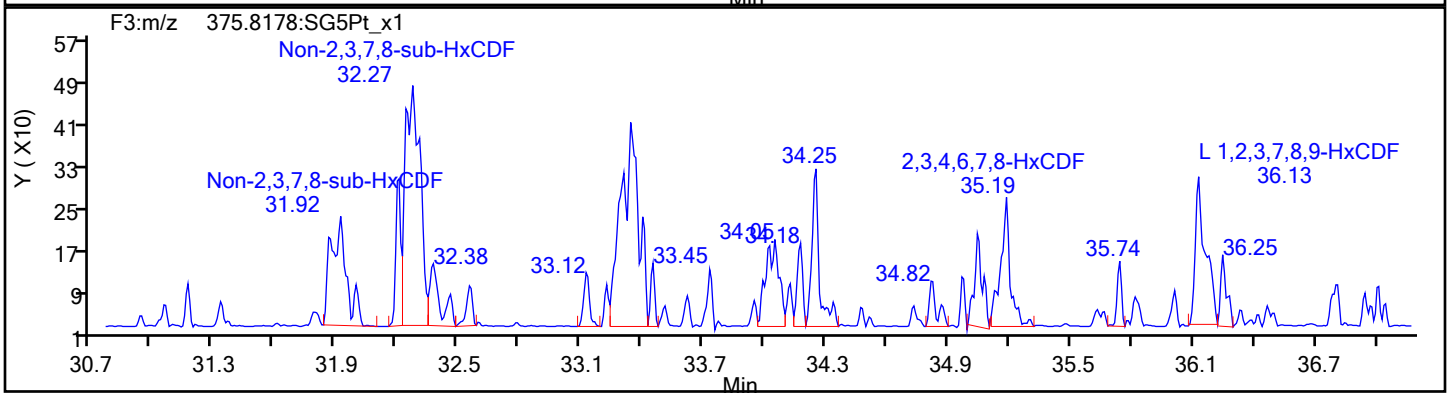
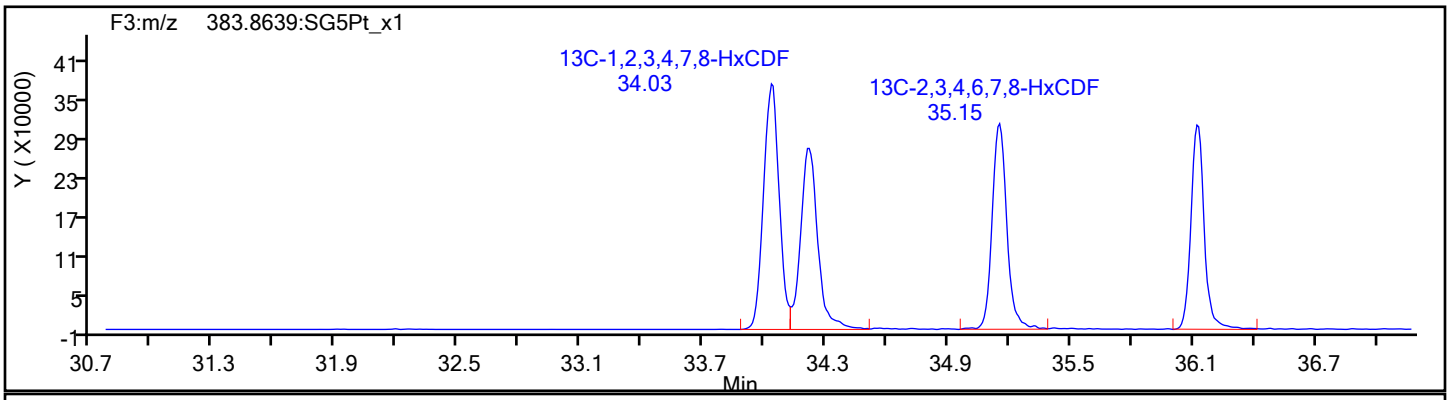
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

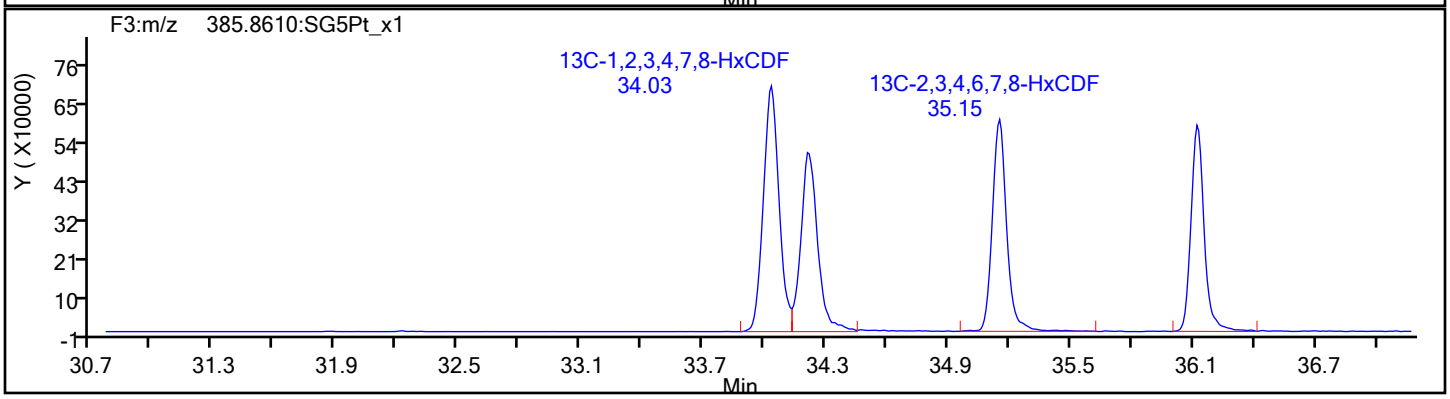
HxCDF





HxCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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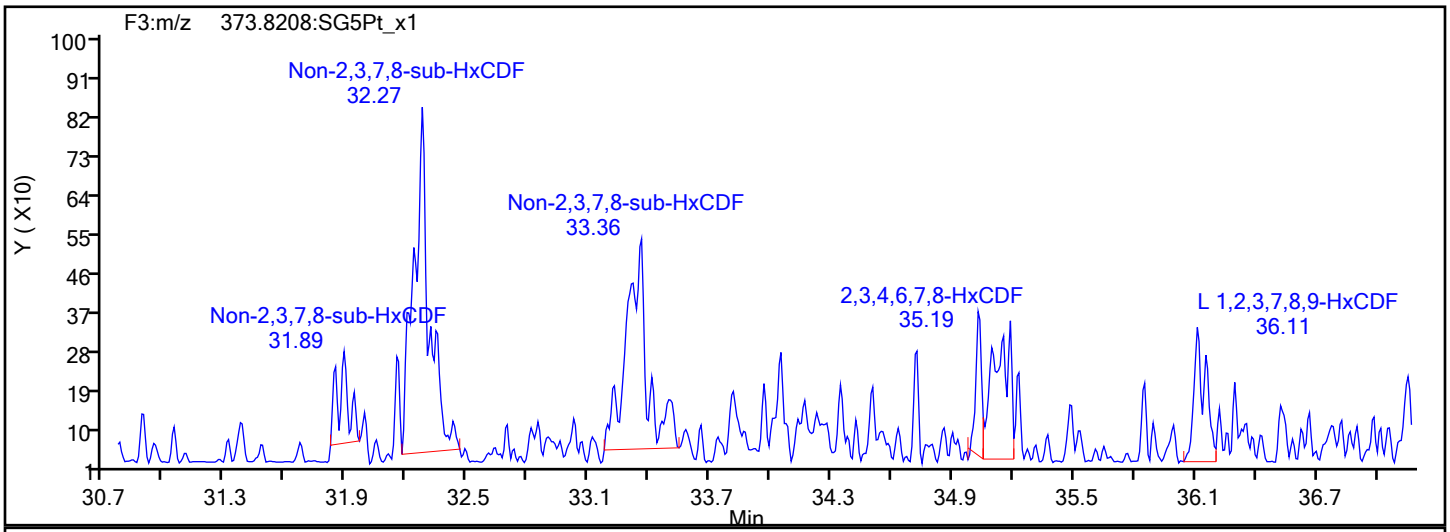
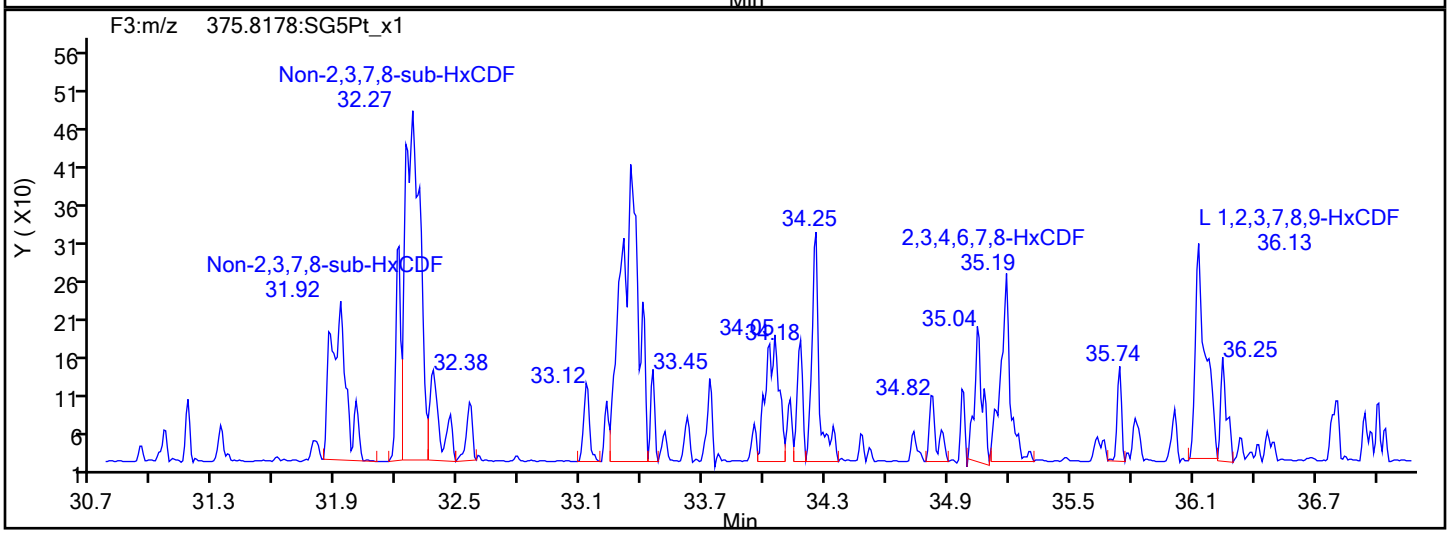
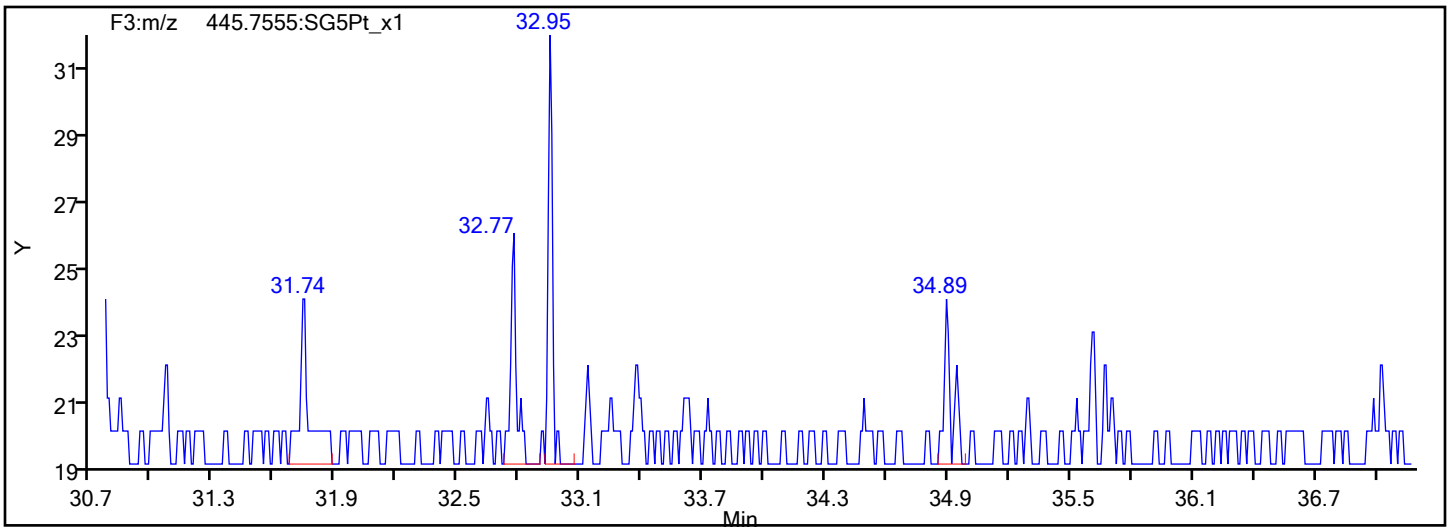




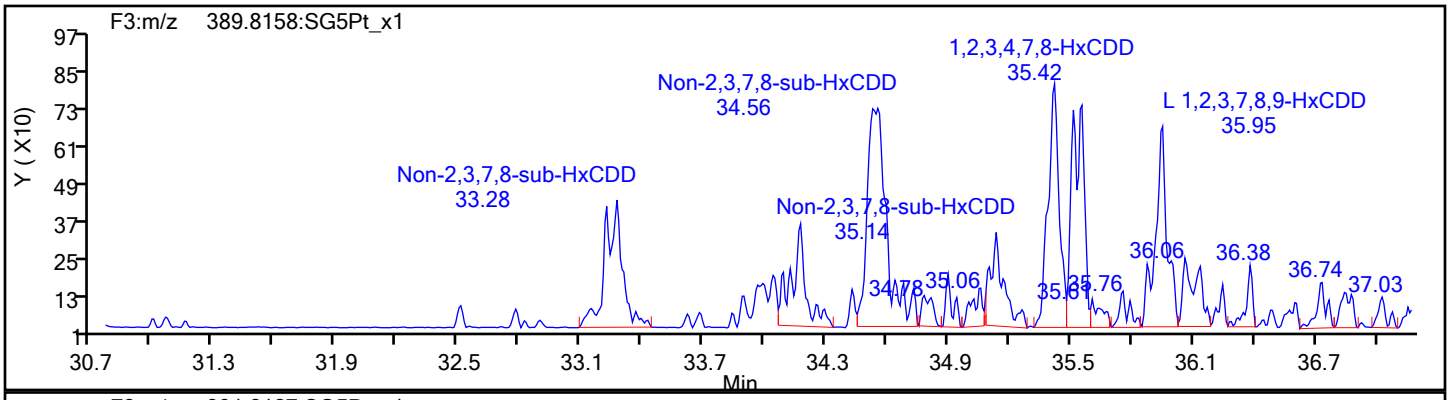
HxCDF Interference Mass

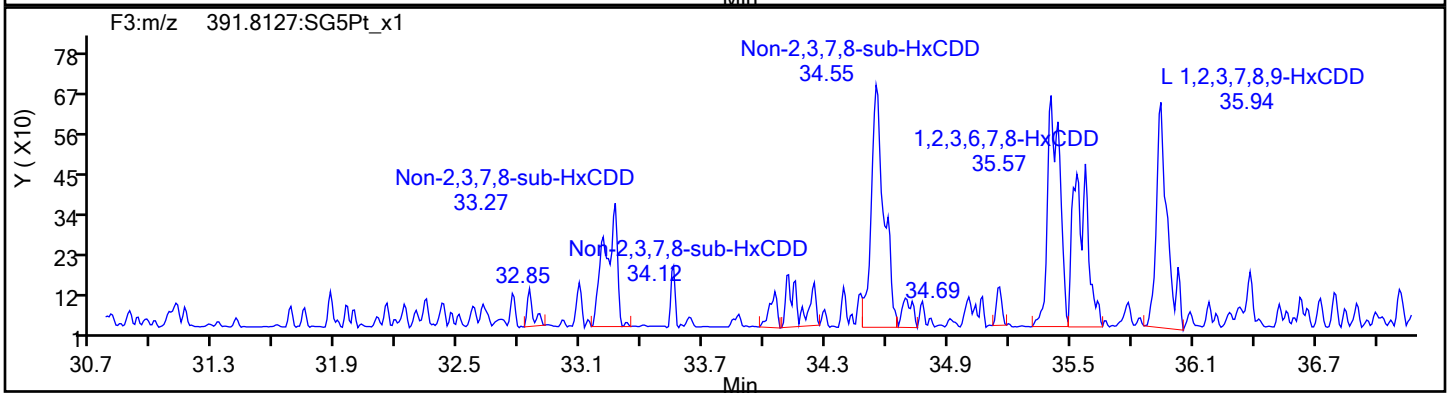


Eurofins Sacramento

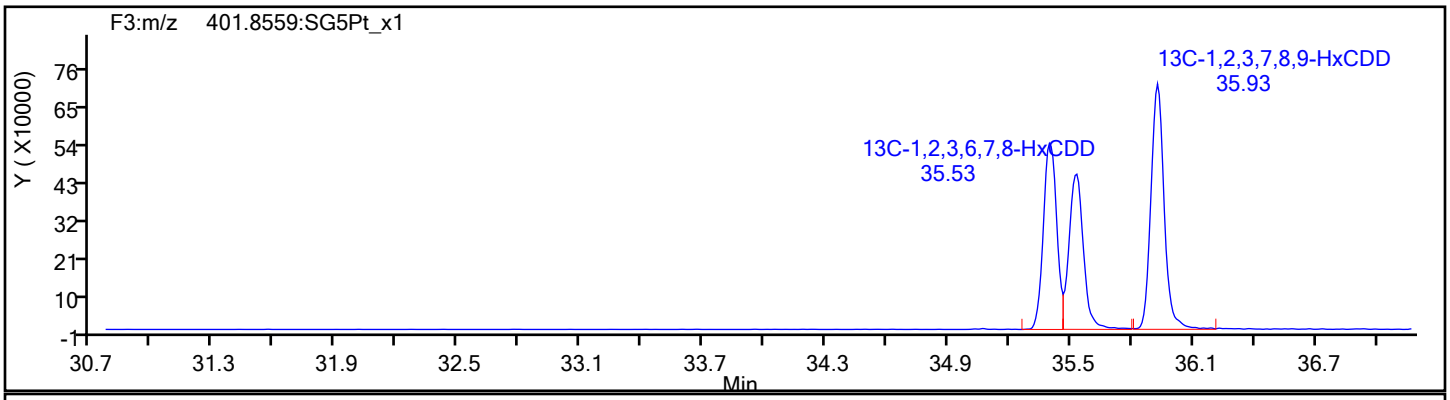
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d
Injection Date: 20-Jan-2022 20:14:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: A2BMP0012S010
Worklist#: 559474 Sample Line#: 7
Column Type: DB-5 Column Dia: 0.32 mm

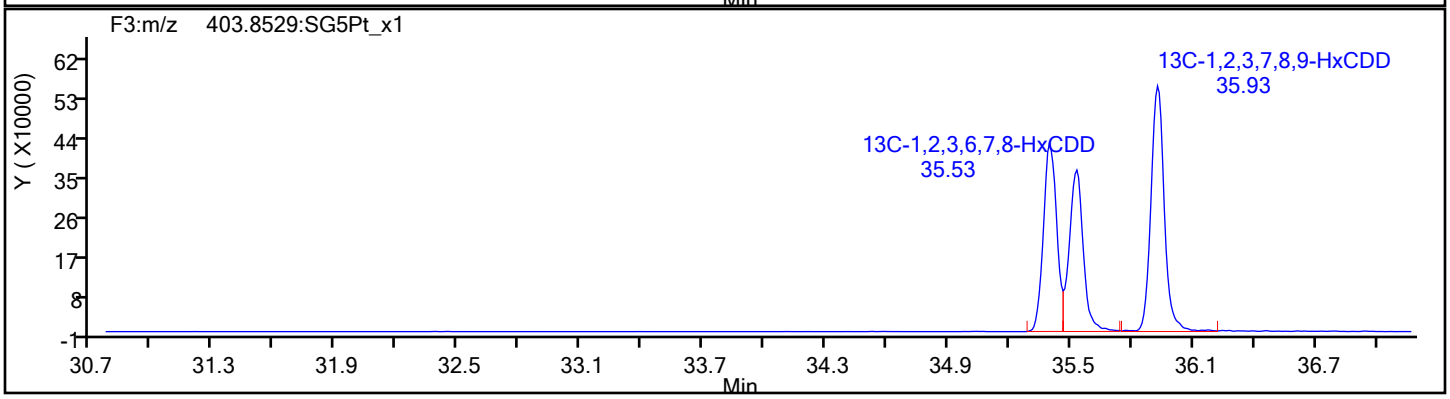
HxCDD





HxCDD Standards





Report Date: 21-Jan-2022 08:05:50 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d

Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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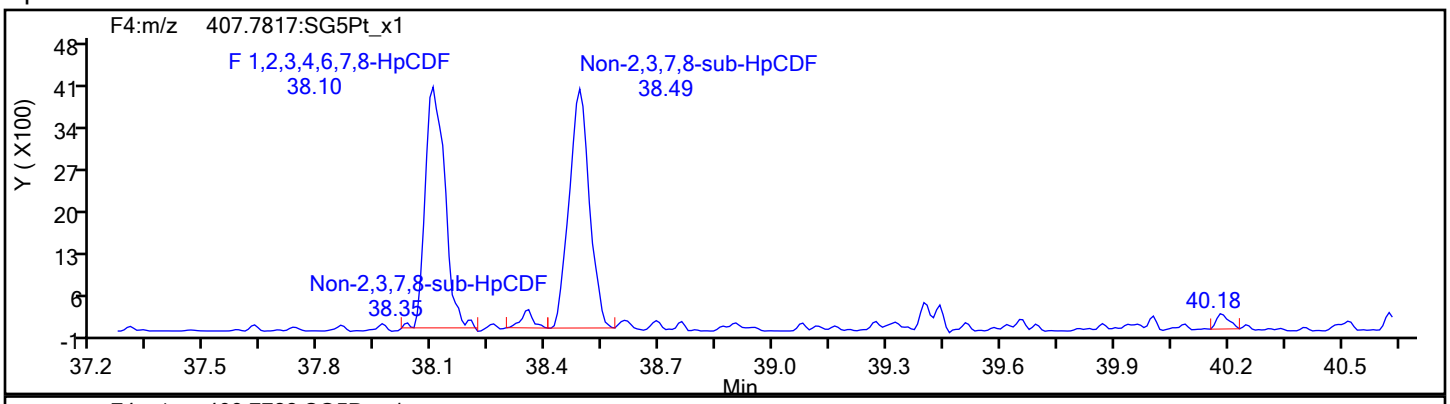
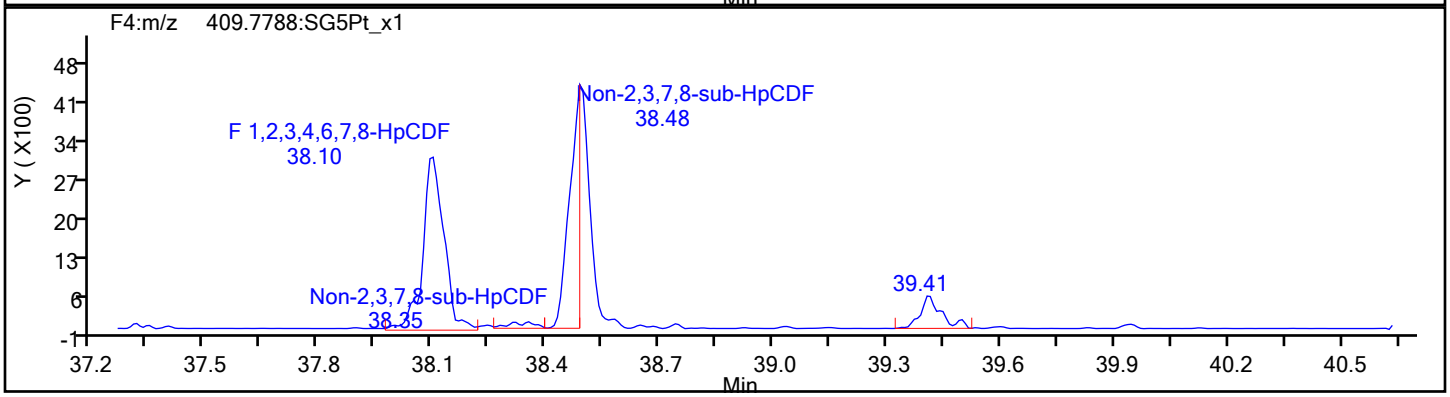
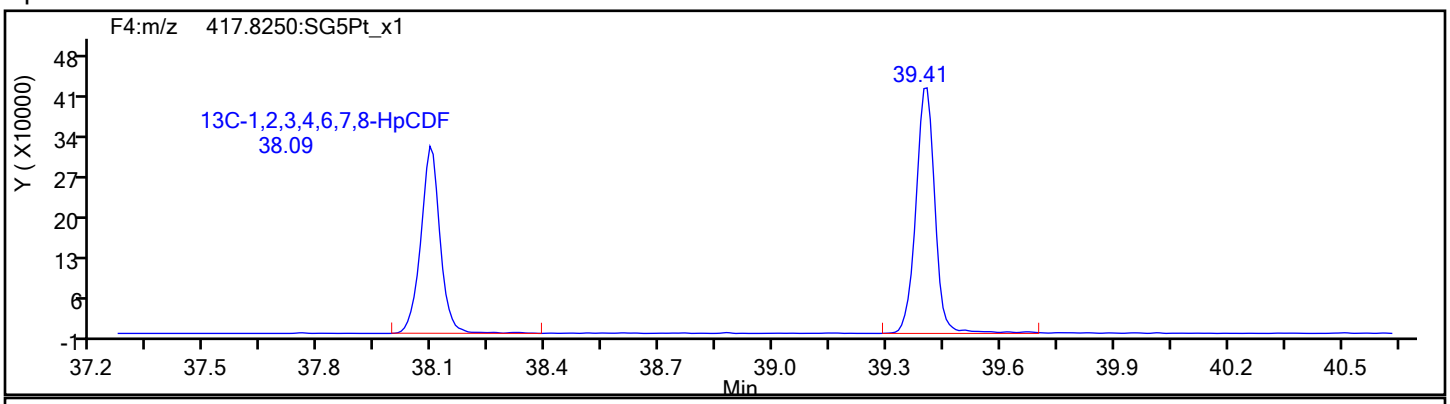
Column Type:	DB-5	Column Dia:	0.32 mm

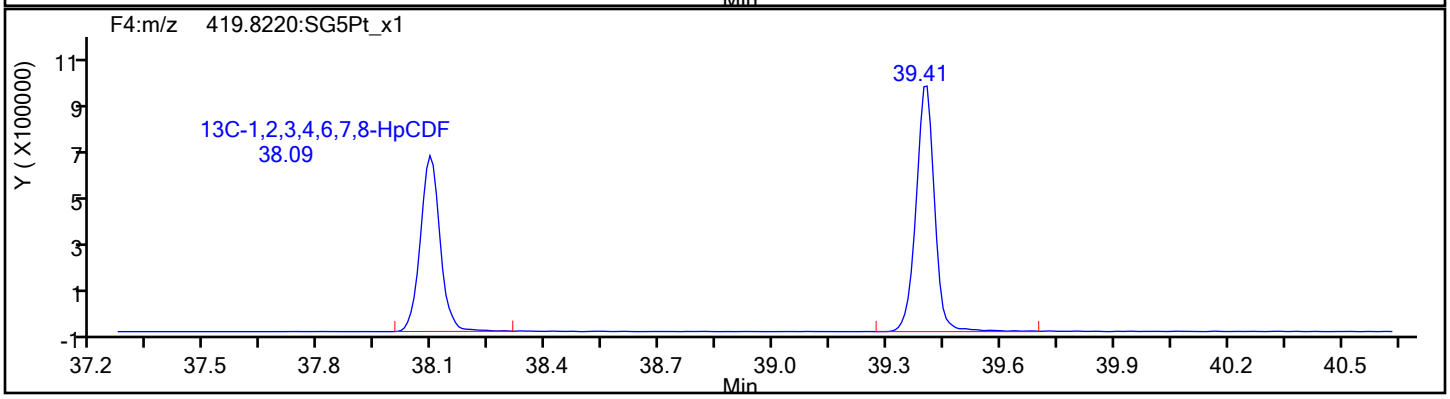
HpCDF





HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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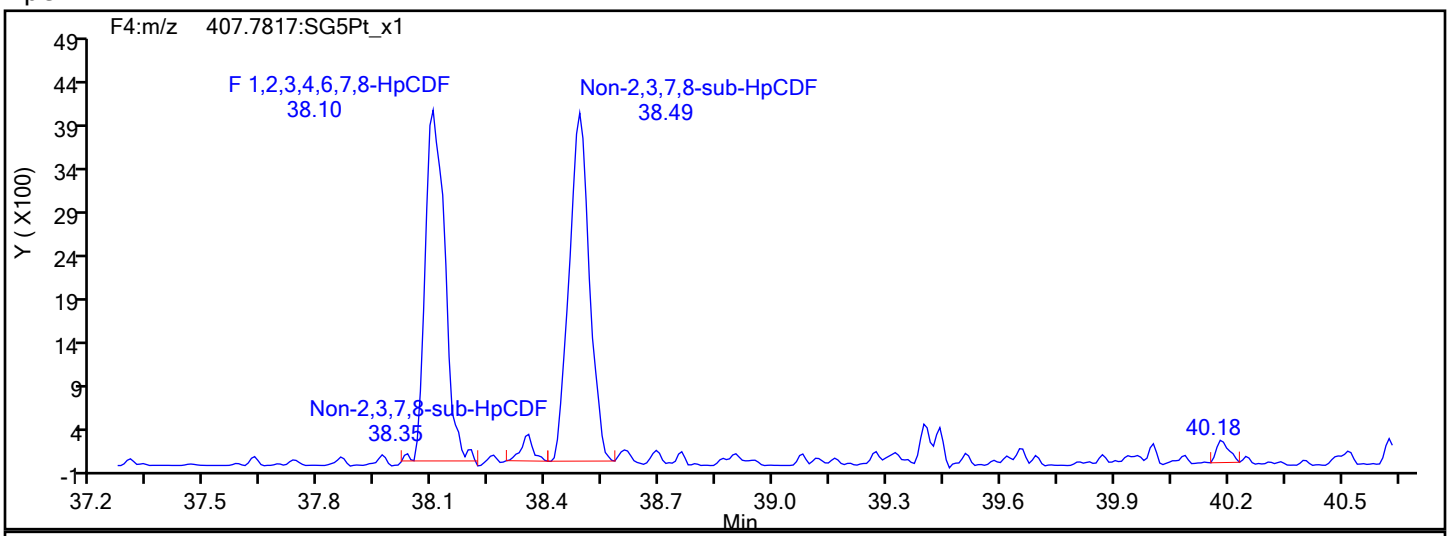
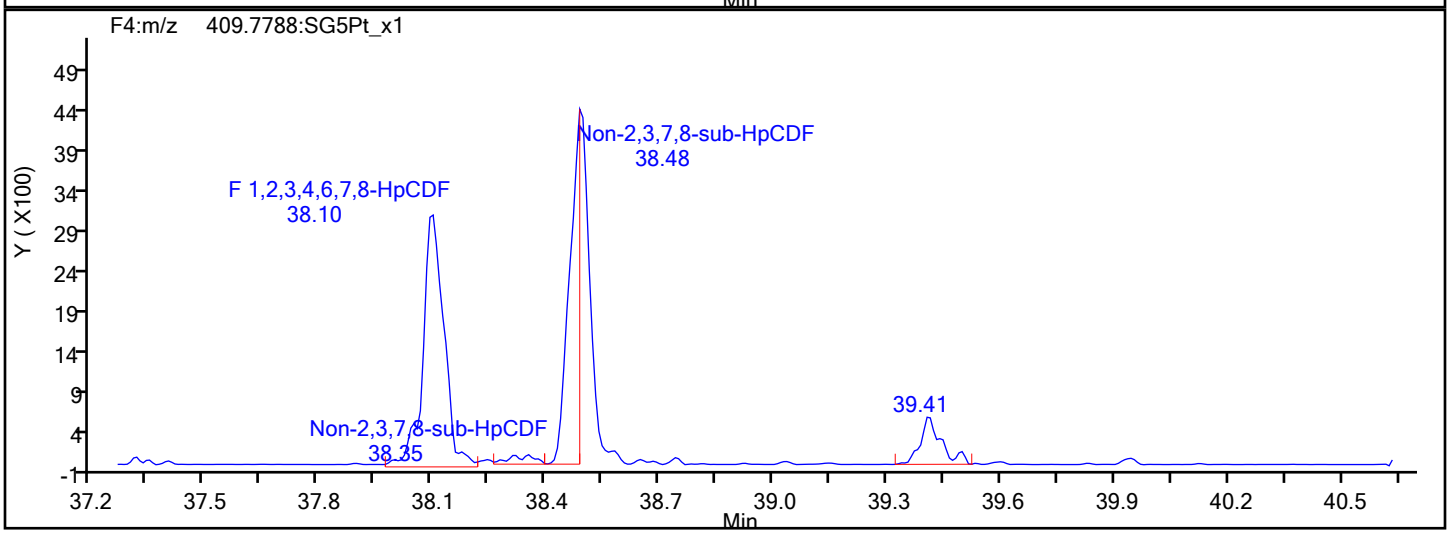
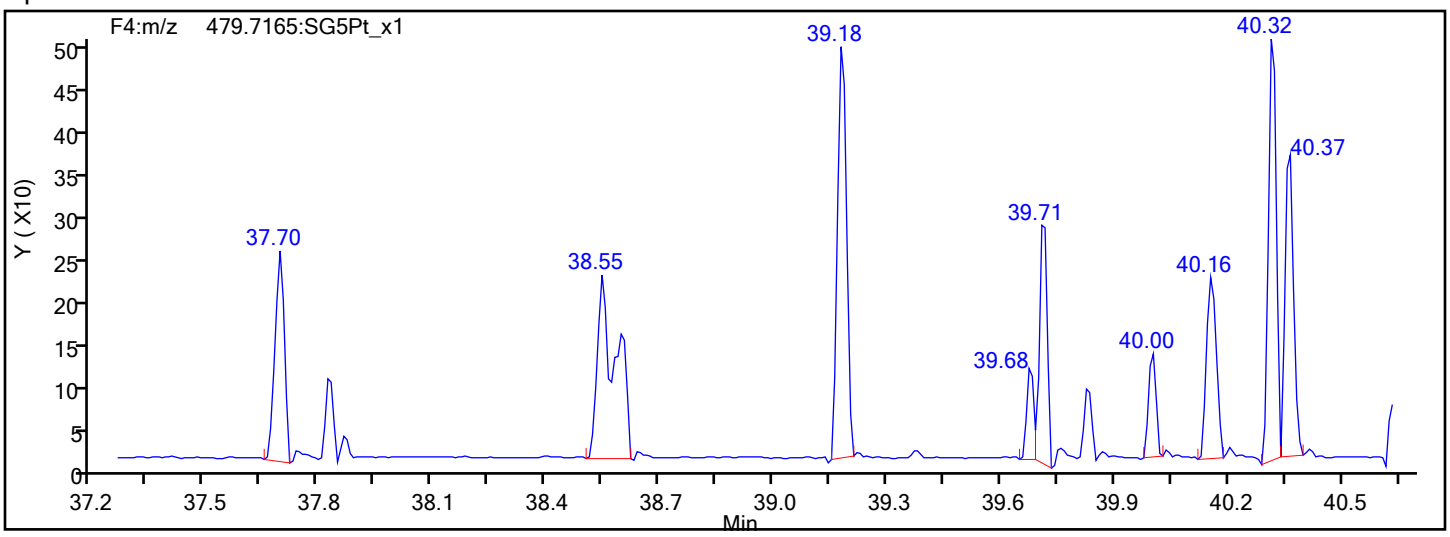
HpCDF





HpCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
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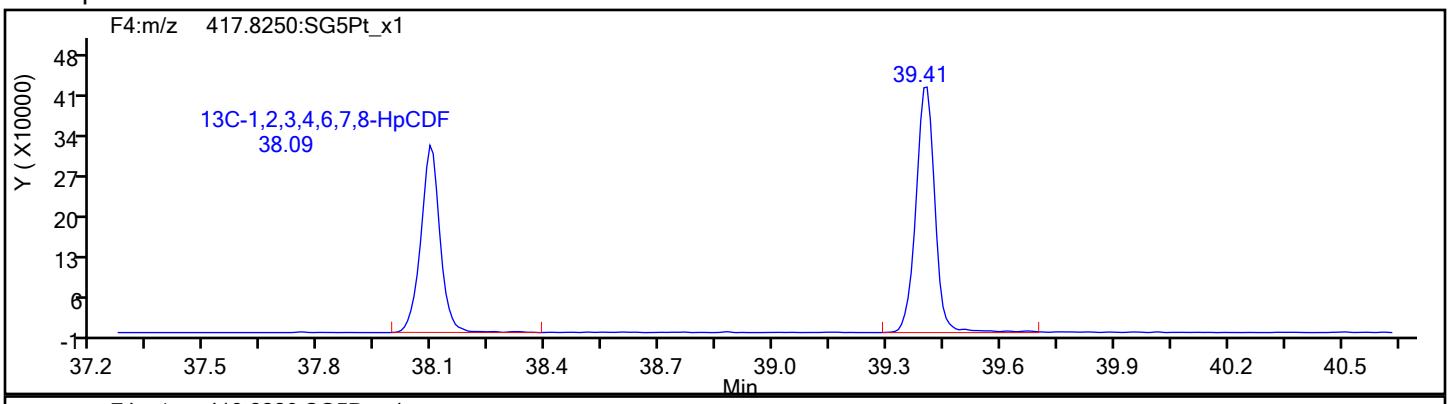
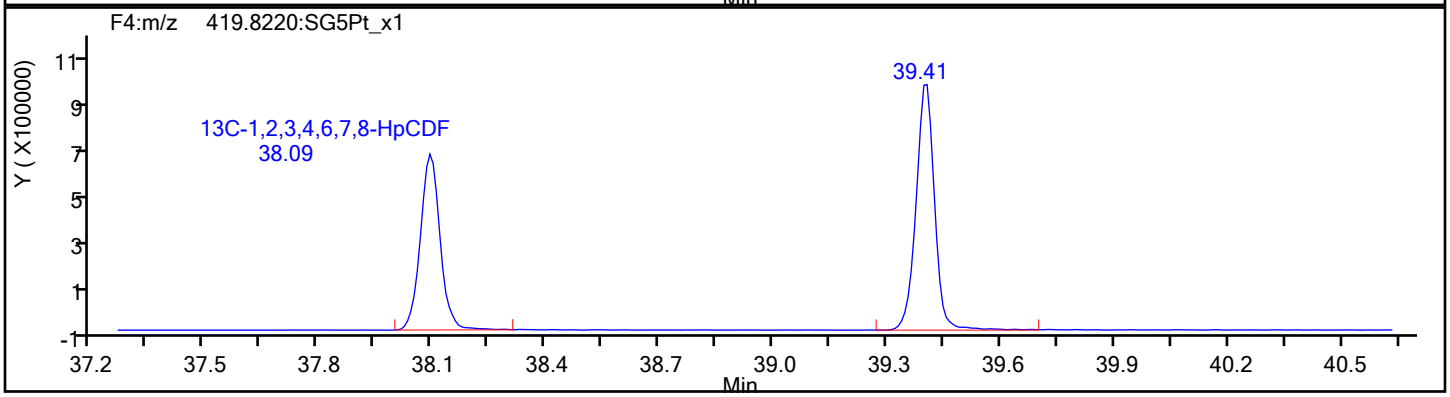
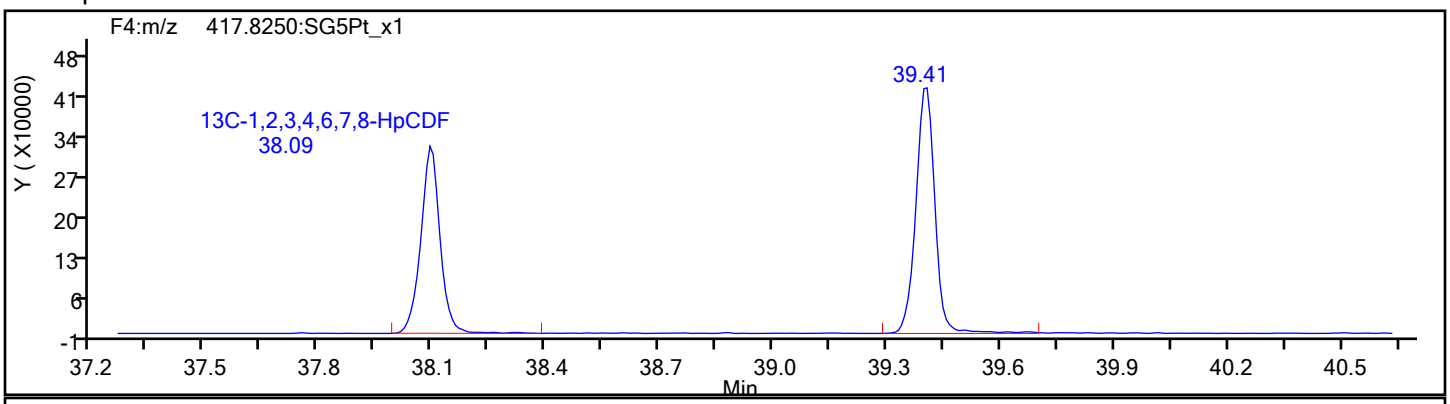
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

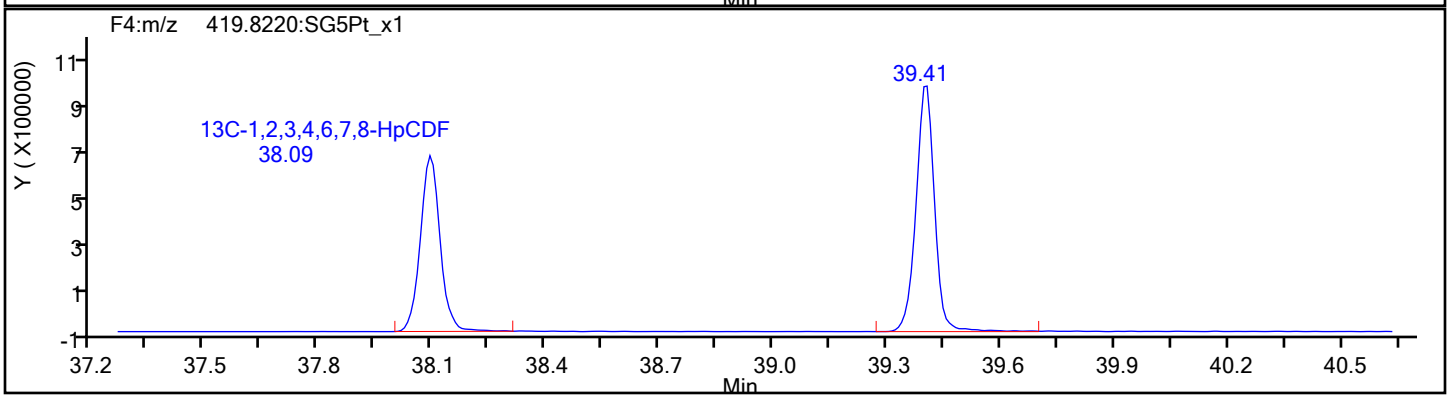
13C-HpCDF





13C-HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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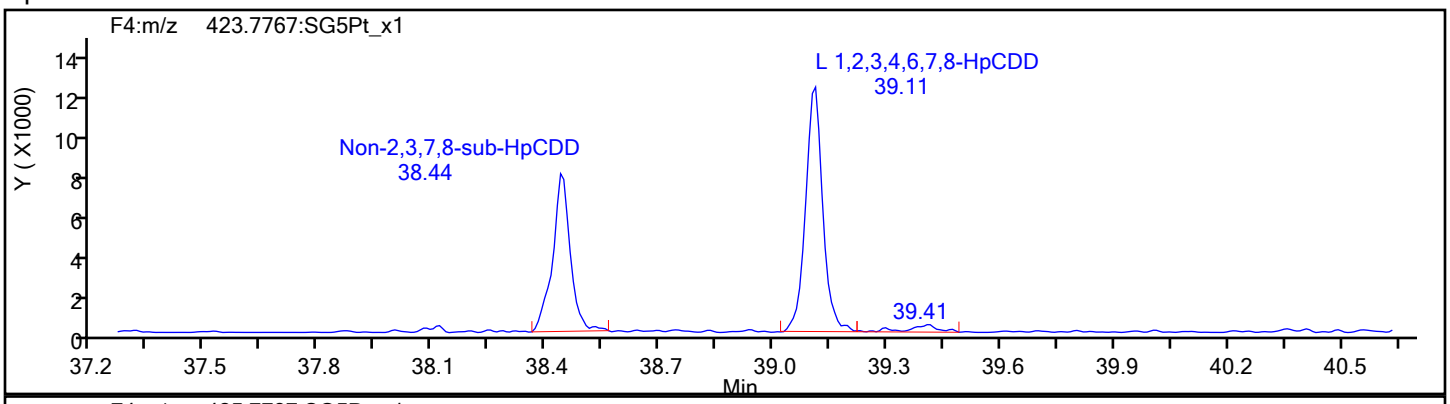
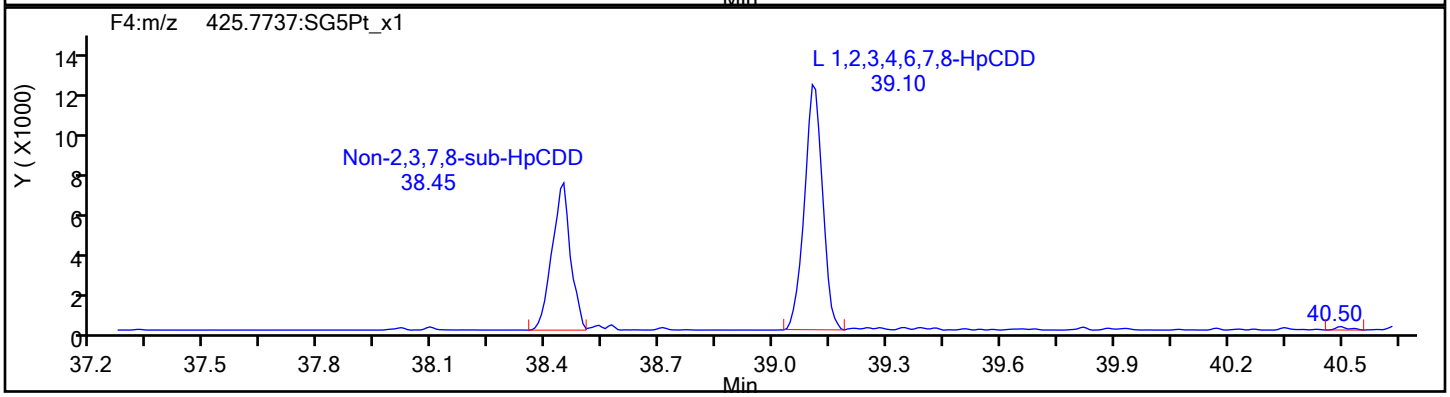
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD





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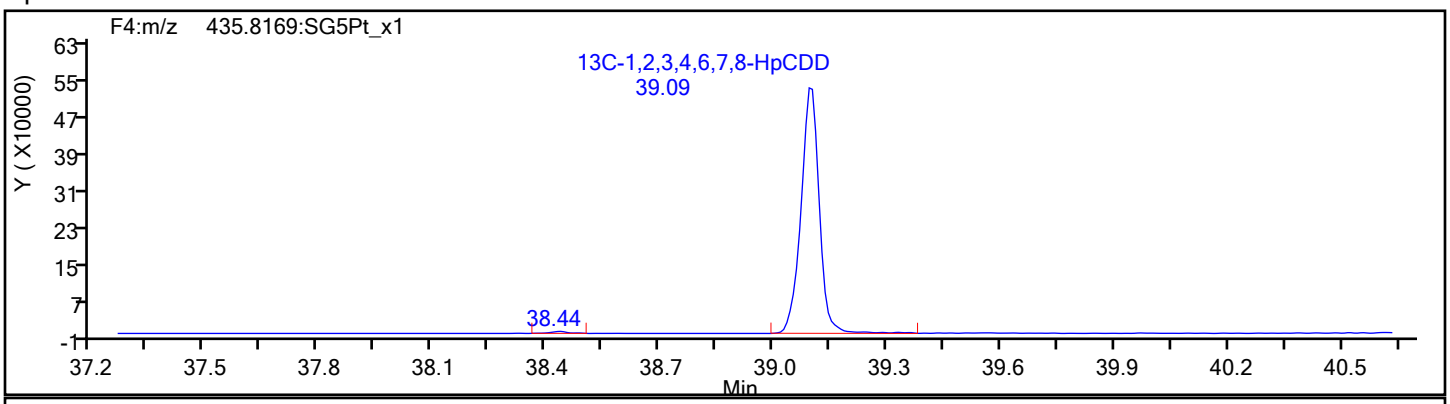

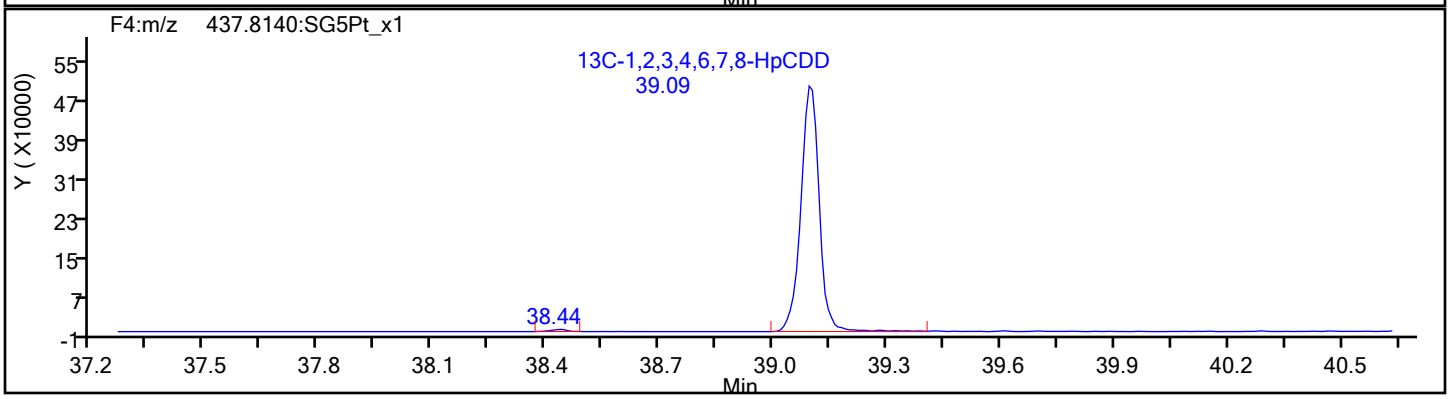

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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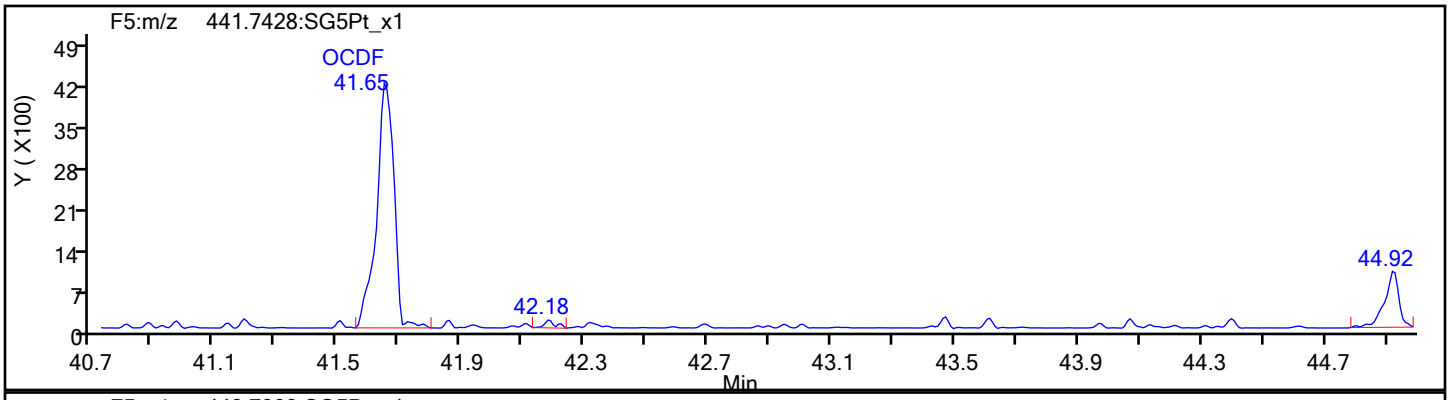
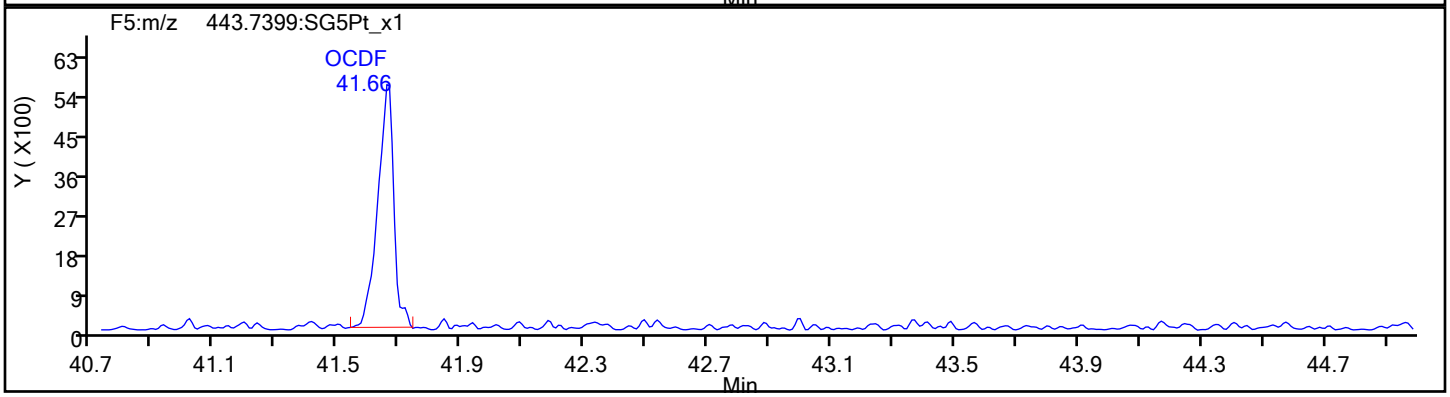
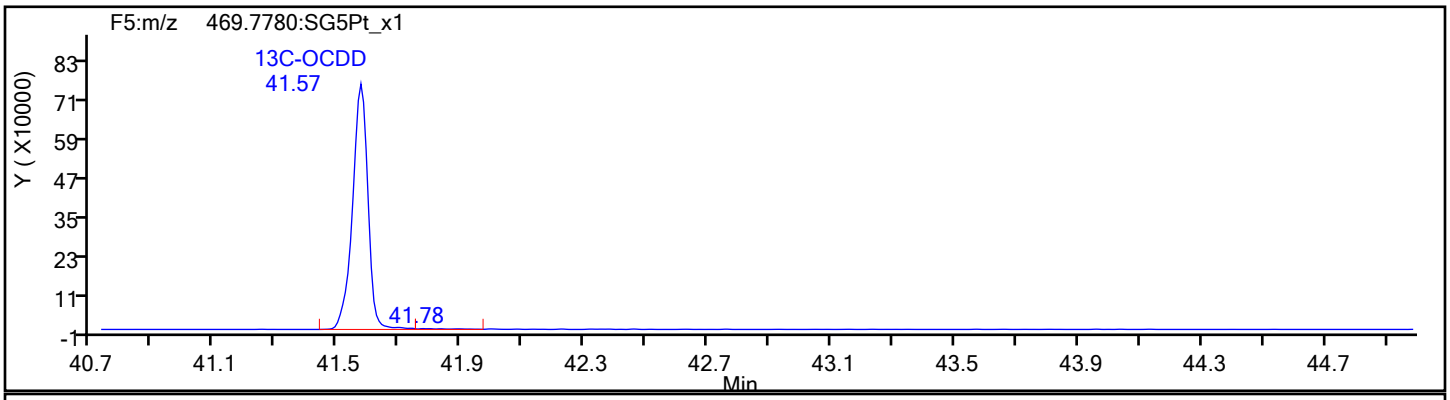
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

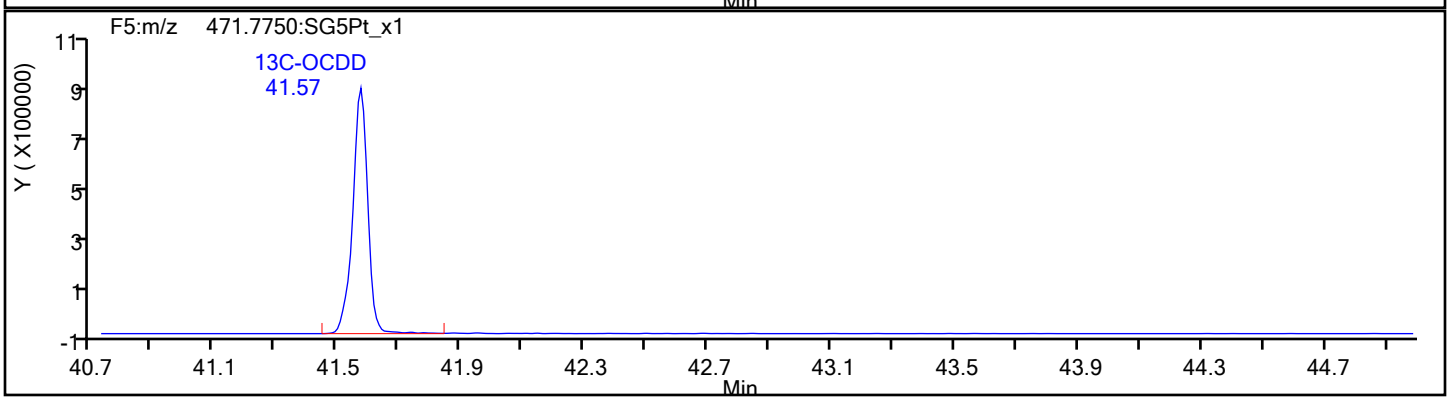
OCDF





OCDF Standards





Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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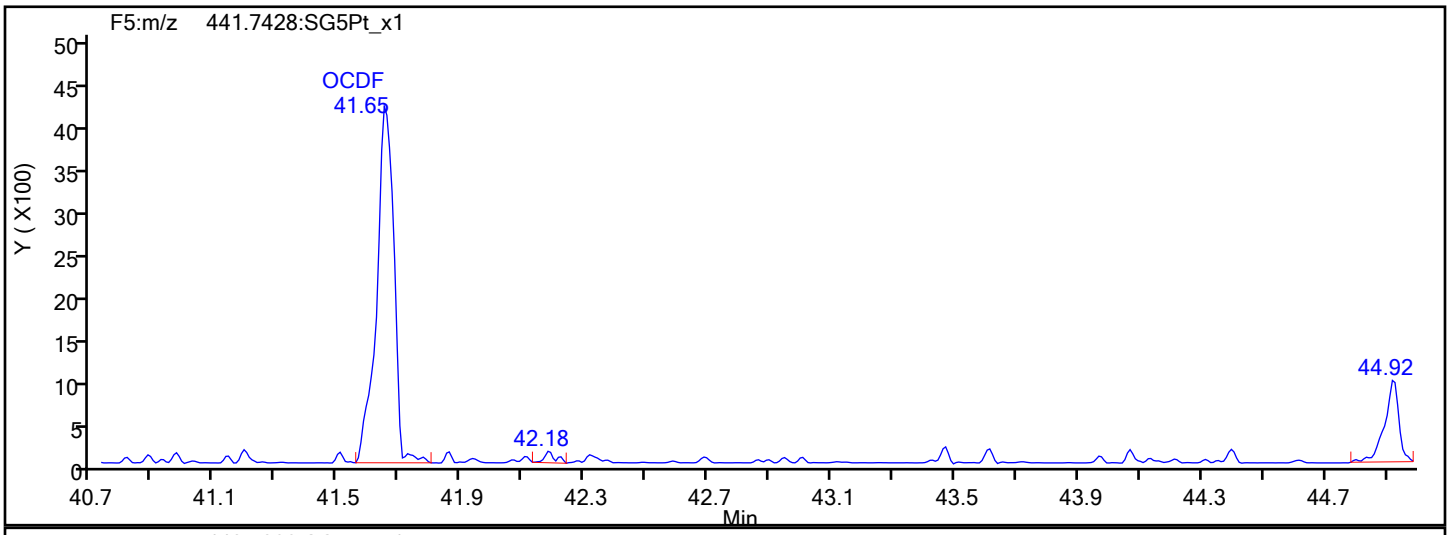
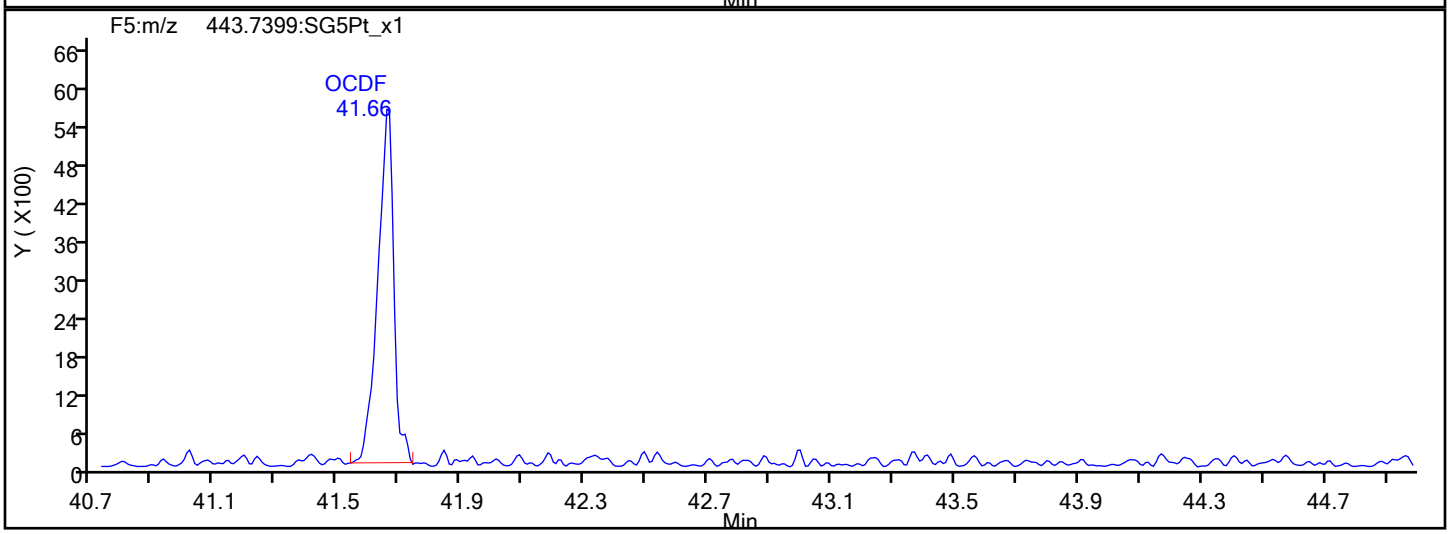
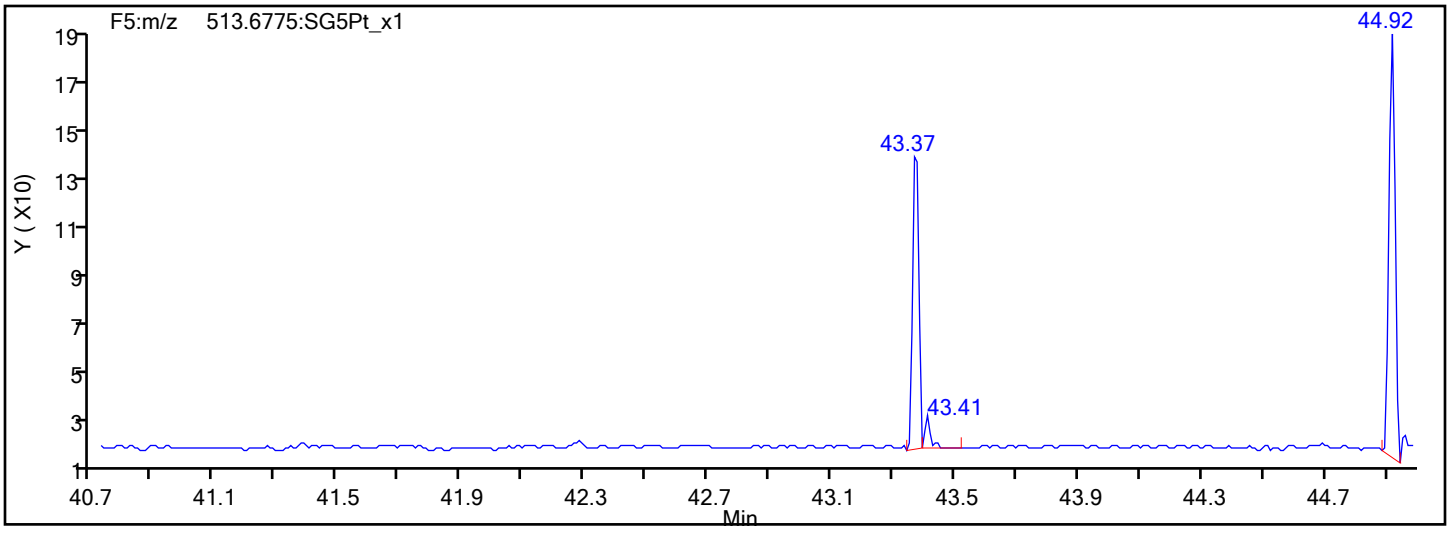
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





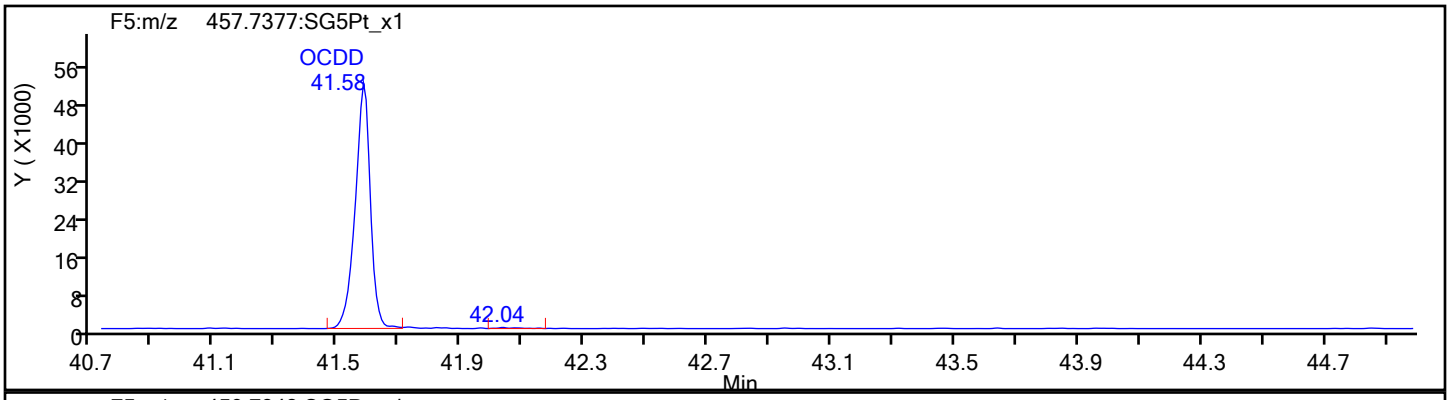
OCDF Interference Mass

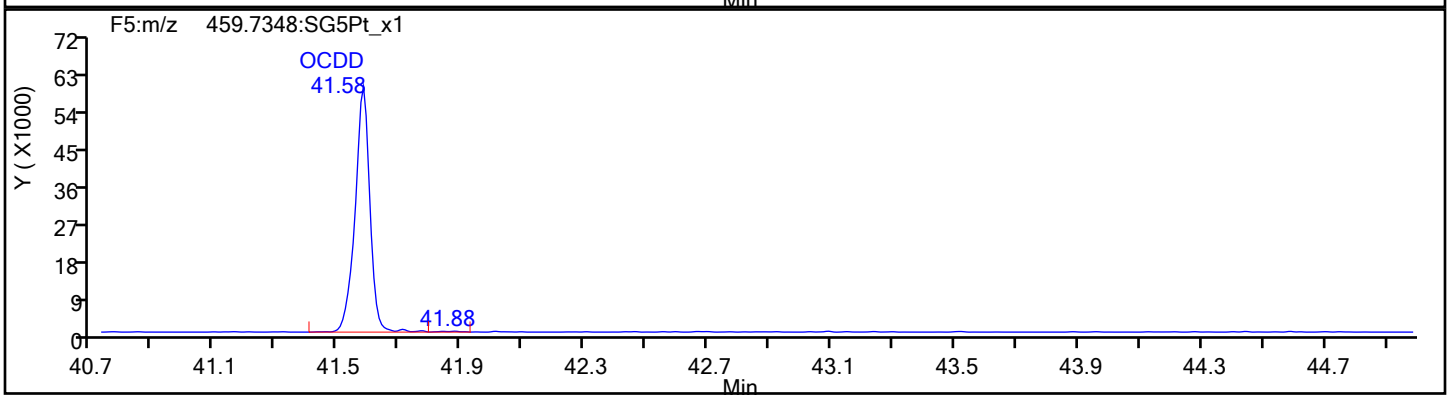


Eurofins Sacramento

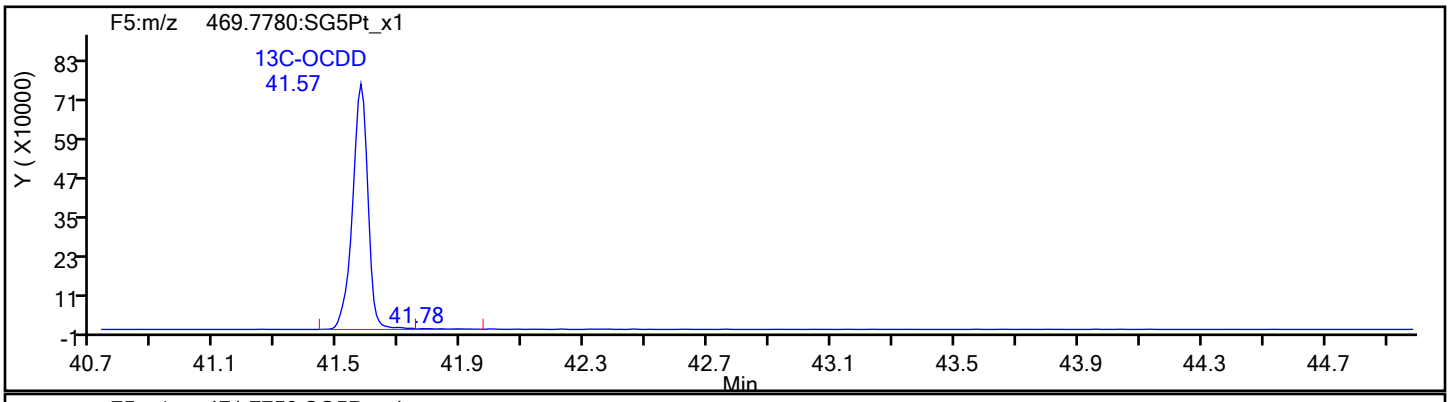
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

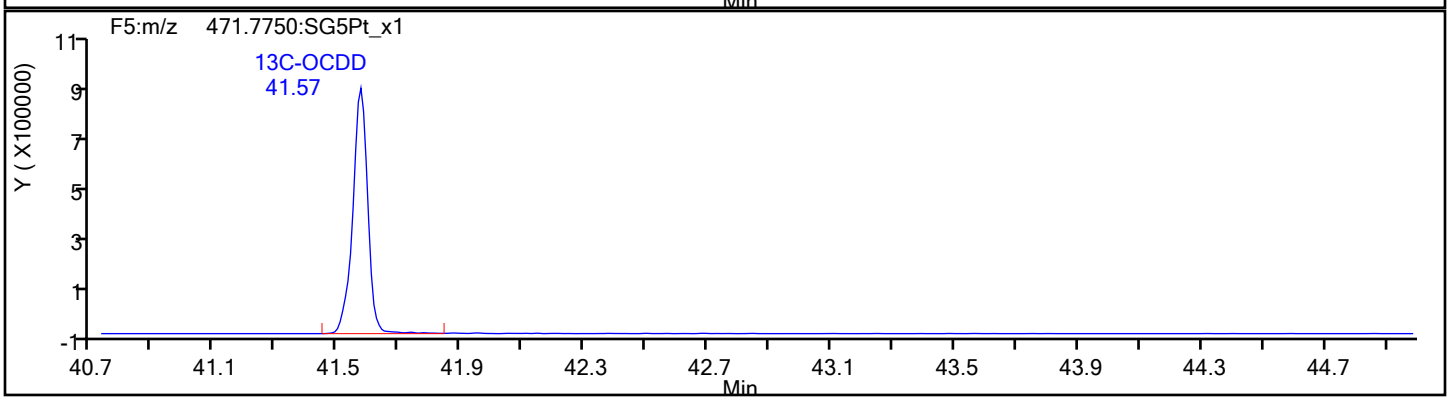
OCDD





OCDD Standards



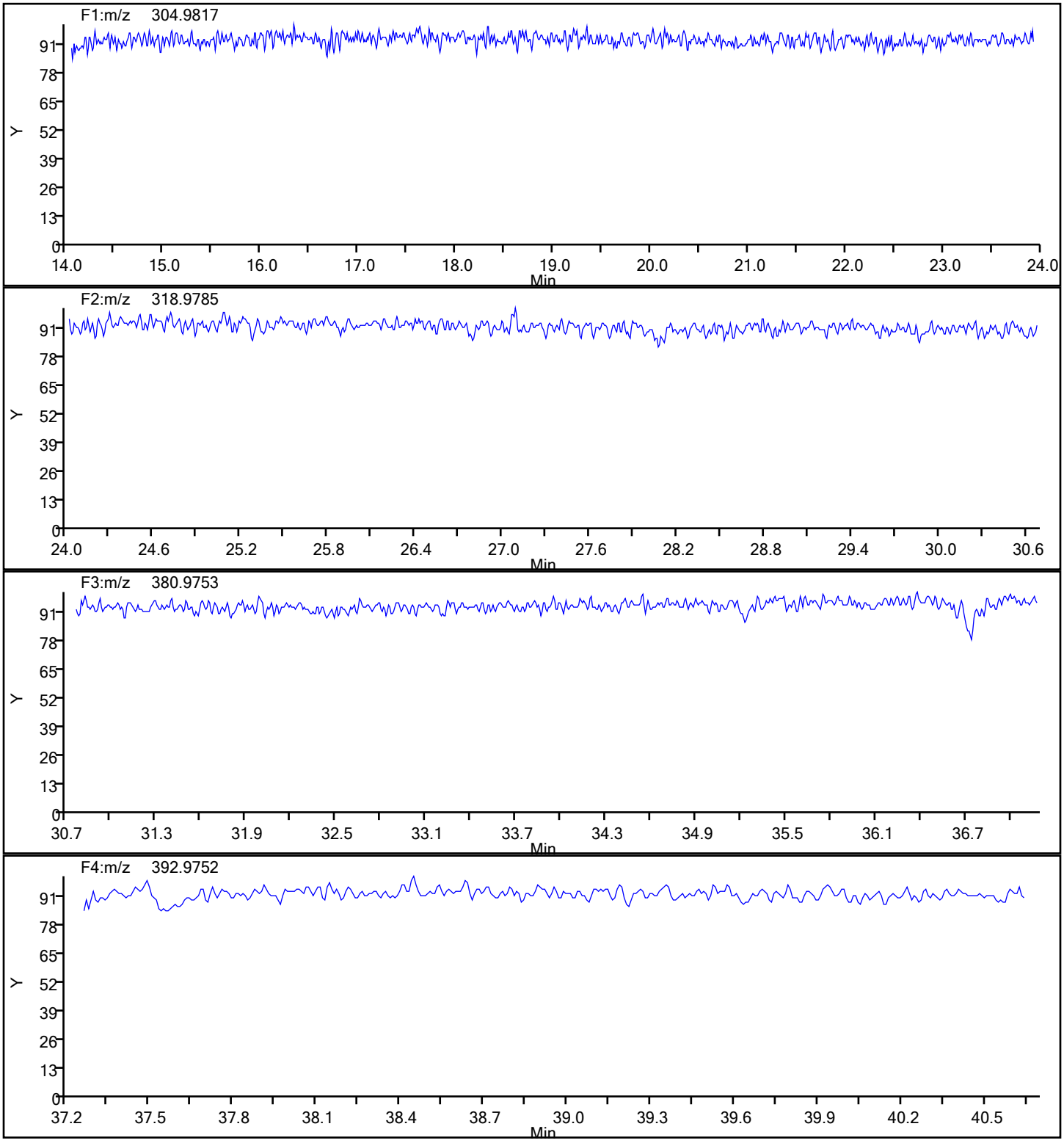


Report Date: 21-Jan-2022 08:05:51 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d

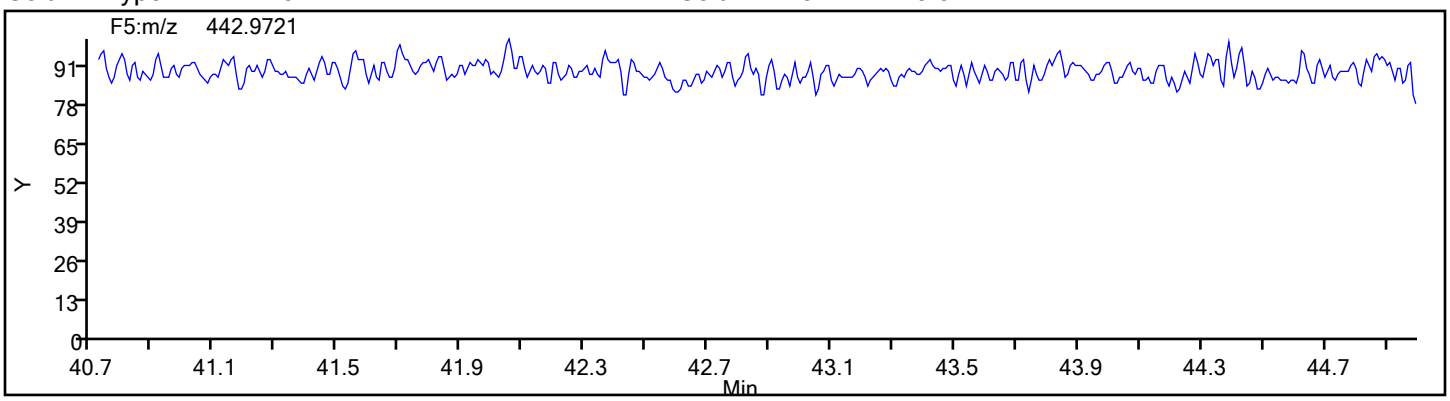
Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 21-Jan-2022 08:05:51 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_8.d		
Injection Date:	20-Jan-2022 20:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0012S010		
Worklist#:	559474	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80119-2

SDG No.:

Client Sample ID: EVBMP0001S019 | Lab Sample ID: 570-80119-3

Matrix: Water | Lab File ID: 20ja22dfs1_9.d

Analysis Method: 8290 | Date Collected: 12/24/2021 08:30

Extract. Method: 8290 | Date Extracted: 01/04/2022 09:56

Sample wt/vol: 1053.4(mL) | Date Analyzed: 01/20/2022 21:02

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559474 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.5	0.77
51207-31-9	2,3,7,8-TCDF	ND		9.5	0.31
40321-76-4	1,2,3,7,8-PeCDD	ND		47	0.61
57117-41-6	1,2,3,7,8-PeCDF	ND		47	0.35
57117-31-4	2,3,4,7,8-PeCDF	ND		47	0.37
39227-28-6	1,2,3,4,7,8-HxCDD	2.2	J B q	47	0.17
57653-85-7	1,2,3,6,7,8-HxCDD	ND		47	0.15
19408-74-3	1,2,3,7,8,9-HxCDD	1.3	J B	47	0.16
70648-26-9	1,2,3,4,7,8-HxCDF	ND		47	0.14
57117-44-9	1,2,3,6,7,8-HxCDF	ND		47	0.12
60851-34-5	2,3,4,6,7,8-HxCDF	ND		47	0.12
72918-21-9	1,2,3,7,8,9-HxCDF	ND		47	0.13
35822-46-9	1,2,3,4,6,7,8-HpCDD	4.9	J B	47	0.27
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.2	J B q	47	0.16
55673-89-7	1,2,3,4,7,8,9-HpCDF	0.42	J B q	47	0.19
3268-87-9	OCDD	38	J B	95	0.29
39001-02-0	OCDF	3.8	J	95	0.34

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	89		40-135
89059-46-1	13C-2,3,7,8-TCDF	94		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	90		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	88		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	83		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	92		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	94		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	96		40-135
114423-97-1	13C-OCDD	113		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d
Lims ID: 570-80119-F-3-A
Client ID: EVBMP0001S019
Sample Type: Client
Inject. Date: 20-Jan-2022 21:02:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80119-f-3-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 08:02:31

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.012	6317924	0.80	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.102	6064085	0.81	1.0164	94.4	94.4	0.3740	0.3740	94.43	
2,3,7,8-TCDF	19.149						0.0164	0.0164		
A Non-2,3,7,8-sub-TCDF	18.694						0.0164	0.0164		
S Total TCDF							0.0164	0.0164		
D 13C-2,3,7,8-TCDD	20.372	4410196	0.81	0.7884	88.5	88.5	0.2701	0.2701	88.54	
2,3,7,8-TCDD	20.403						0.0405	0.0405		
A Non-2,3,7,8-sub-TCDD	19.493						0.0405	0.0405		
S Total TCDD							0.0405	0.0405		
D 13C-1,2,3,7,8-PeCDF	26.130	5157853	1.59	0.9232	88.4	88.4	0.4574	0.4574	88.43	
1,2,3,7,8-PeCDF	26.140						0.0185	0.0185		
2,3,4,7,8-PeCDF	27.572						0.0196	0.0196		
A F1 PeCDFs	23.390						0.0119	0.0119		
A Non-2,3,7,8-sub-PeCDF	26.772	284	1.55	0.9486	0.0784	0.005805	0.0190	0.0190		RQ
S Total PeCDF					0.0784	0.005805	0.0190	0.0190		RQ
D 13C-1,2,3,7,8-PeCDD	28.336	3200929	1.59	0.5606	90.4	90.4	0.1968	0.1968	90.37	
1,2,3,7,8-PeCDD	28.355						0.0321	0.0321		
A Non-2,3,7,8-sub-PeCDD	27.199						0.0321	0.0321		
S Total PeCDD							0.0321	0.0321		
D 13C-1,2,3,4,7,8-HxCDF	34.031	5214314	0.53	1.0566	91.6	91.6	0.3311	0.3311	91.61	
1,2,3,4,7,8-HxCDF	34.051						0.007267	0.007267		
1,2,3,6,7,8-HxCDF	34.267						0.006240	0.006240		U
2,3,4,6,7,8-HxCDF	35.008						0.006499	0.006499		RQU
1,2,3,7,8,9-HxCDF	36.145						0.007078	0.007078		U
A Non-2,3,7,8-sub-HxCDF	34.083	264	1.24	0.9518	0.006911	0.005320	0.006745	0.006745		RQ
S Total HxCDF					0.006911	0.005320	0.006771	0.006771		RQ
* 13C-1,2,3,7,8,9-HxCDD	35.926	5387178	1.25	2.5E+04	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.412	3491	1.24	0.8294	0.1306	0.1168	0.009174	0.009174		RQM
D 13C-1,2,3,6,7,8-HxCDD	35.521	3602930	1.20	0.8027	83.3	83.3	0.1992	0.1992	83.32	
1,2,3,6,7,8-HxCDD	35.412						0.008099	0.008099		RQMU
1,2,3,7,8,9-HxCDD	35.917	2181	1.36	0.9076	0.0667	0.0667	0.008383	0.008383		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDD	34.580	625	1.24	0.8922	0.0282	0.0194	0.008529	0.0194		RQ
S Total HxCDD					0.2255	0.2030	0.008552	0.008552		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.094	3324714	0.44	0.6421	96.1	96.1	0.4363	0.4363	96.12	
1,2,3,4,6,7,8-HpCDF	38.119	2994	1.04	1.4385	0.0762	0.0626	0.008291	0.008291		RQM
1,2,3,4,7,8,9-HpCDF	39.424	899	1.04	1.2202	0.0253	0.0222	0.009775	0.009775		RQM
A Non-2,3,7,8-sub-HpCDF	38.761	2980	1.04	1.3293	0.0906	0.0674	0.008972	0.0674		RQ
S Total HpCDF					0.1920	0.1522	0.009033	0.009033		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	39.104	3166322	1.07	0.6246	94.1	94.1	0.2712	0.2712	94.10	
1,2,3,4,6,7,8-HpCDD	39.112	8032	1.08	0.9767	0.2597	0.2597	0.0141	0.0141		
A Non-2,3,7,8-sub-HpCDD	38.778	11484	1.18	0.9767	0.3714	0.3714	0.0141	0.3714		
S Total HpCDD					0.6311	0.6311	0.0141	0.0141		
D 13C-OCDD	41.574	5296349	0.88	0.4360	225.5	225.5	0.2069	0.2069	113	
OCDF	41.667	6827	0.87	1.2756	0.2021	0.2021	0.0181	0.0181		
OCDD	41.574	54845	0.86	1.0341	2.003	2.003	0.0154	0.0154		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d
Lims ID: 570-80119-F-3-A
Client ID: EVBMP0001S019
Sample Type: Client
Inject. Date: 20-Jan-2022 21:02:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80119-f-3-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 08:02:31

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.012	19.998	1		2806971	420492	535	1337	786		
333.9338	20.012	19.998	1		3510953	549366	291	727	1888	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.102	19.115	-1	0.955	2708099	409585	973	2432	421		
317.9389	19.102	19.115	-1	0.955	3355986	521952	502	1255	1040	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.149						4	10			
305.8987	19.149						58	145			
A Non-2,3,7,8-sub-TCDF											
303.9016	18.694						4	10			
305.8987	18.694						58	145			
13C-2,3,7,8-TCDD											
331.9368	20.372	20.377	0	1.018	1973532	289217	535	1337	541		
333.9338	20.372	20.377	0	1.018	2436664	358285	291	727	1231	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.403						94	235			
321.8936	20.403						10	25			
A Non-2,3,7,8-sub-TCDD											
319.8965	19.493						94	235			
321.8936	19.493						10	25			
13C-1,2,3,7,8-PeCDF											
351.9000	26.130	26.115	1	1.306	3169372	526775	967	2417	545		
353.8970	26.130	26.115	1	1.306	1988481	332105	671	1677	495	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.140						2	5			
341.8567	26.140						60	150			

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.572						2	5			
341.8567	27.572						60	150			
A F1 PeCDFs											
339.8597	23.390						1	2			
341.8567	23.390						38	95			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	29.405	26.772	158	1.125	173	78	2	5	39		
341.8567	29.380	26.772	156	1.124	3664	524	60	150	9	0.05(1.32-1.78)	
	Empc Correction				111	50	60	150	1		
13C-1,2,3,7,8-PeCDD											
367.8949	28.336	28.330	0	1.416	1965135	287202	227	567	1265		
369.8919	28.344	28.330	1	1.416	1235794	185357	201	502	922	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.355						59	147			
357.8516	28.355						2	5			
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.199						59	147			
357.8516	27.199						2	5			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.031	34.034	0	0.947	1811566	341231	597	1492	572		
385.8610	34.023	34.034	-1	0.947	3402748	624531	1105	2762	565	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.051						20	50			
375.8178	34.051						5	12			
1,2,3,6,7,8-HxCDF											U
373.8208	34.236						20	50			
375.8178	34.236						5	12			
2,3,4,6,7,8-HxCDF											RQU
373.8208	35.171						20	50			
375.8178	35.171						5	12			
1,2,3,7,8,9-HxCDF											U
373.8208	36.139						20	50			
375.8178	36.139						5	12			
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	35.008	34.083	55	1.029	225	104	20	50	5		
	Empc Correction				146	105	20	50	5		
375.8178	35.050	34.083	58	1.030	118	85	5	12	17	1.91(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.926	35.929	0		2992269	674023	456	1140	1478		
403.8529	35.926	35.929	0		2394909	542202	322	805	1684	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8158	35.412	35.423	-1	0.997	1933	407	8	20	51		M
391.8127	35.412	35.423	-1	0.997	1969	502	14	35	36	0.98(1.05-1.43)	M
	Empc Correction				1558	328	14	35	23		

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.521	35.533	-1	0.989	1966688	390000	456	1140	855		
403.8529	35.530	35.533	0	0.989	1636242	332818	322	805	1034	1.20(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQMU
389.8158	35.550						8	20			
391.8127	35.550						14	35			
1,2,3,7,8,9-HxCDD											
389.8158	35.917	35.946	-2	1.011	1256	281	8	20	35		
391.8127	35.875	35.946	-4	1.010	925	174	14	35	12	1.36(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8158	34.537	34.580	-3	0.972	346	156	8	20	20		
391.8127	34.554	34.580	-2	0.973	560	176	14	35	13	0.62(1.05-1.43)	
	Empc Correction				279	125	14	35	9		
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.094	38.096	0	1.060	1019713	259450	449	1122	578		
419.8220	38.094	38.096	0	1.060	2305001	595759	914	2285	652	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7817	38.119	38.108	1	1.001	2174	691	37	92	19		M
	Empc Correction				1526	420	37	92	11		
409.7788	38.102	38.108	0	1.000	1468	404	4	10	101	1.48(0.88-1.20)	M
1,2,3,4,7,8,9-HpCDF											RQM
407.7817	39.424	39.414	1	1.035	585	284	37	92	8		M
	Empc Correction				458	166	37	92	4		
409.7788	39.415	39.414	0	1.035	441	160	4	10	40	1.33(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											RQ
407.7817	38.489	38.761	-16	1.010	2542	591	37	92	16		
	Empc Correction				1519	334	37	92	9		
409.7788	38.481	38.761	-17	1.010	1461	322	4	10	81	1.74(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.104	39.107	0	1.088	1637215	456765	430	1075	1062		
437.8140	39.104	39.107	0	1.088	1529107	428515	394	985	1088	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.112	39.111	0	1.000	4165	1348	39	97	35		
425.7737	39.104	39.111	0	1.000	3867	1019	10	25	102	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.439	38.778	-20	0.983	6206	1184	39	97	30		
425.7737	38.439	38.778	-20	0.983	5278	1467	10	25	147	1.18(0.88-1.20)	
13C-OCDD											
469.7780	41.574	41.579	0	1.157	2474789	678259	198	495	3426		
471.7750	41.574	41.579	0	1.157	2821560	769247	241	602	3192	0.88(0.76-1.02)	
OCDF											
441.7428	41.667	41.663	0	1.002	3182	1155	8	20	144		
443.7399	41.667	41.663	0	1.002	3645	947	59	147	16	0.87(0.76-1.02)	
OCDD											
457.7377	41.574	41.587	-1	1.000	25353	6794	21	52	324		
459.7348	41.583	41.587	0	1.000	29492	7874	25	62	315	0.86(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d
Lims ID: 570-80119-F-3-A
Client ID: EVBMP0001S019
Inject. Date: 20-Jan-2022 21:02:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 8

Non-2,3,7,8-sub-PeCDF, RT: 26.772

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	5157853	858880
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	5157853	858880

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
29.405	173	78	3664	524	0.0784	0.05	RQ
29.405	173	78	111	50	0.005805		Empc Correction
Signal Totals:							
	173	78	111	50			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3837	602				0.05	RQ
	284	128					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0784 = (3837 * 100.000) / (5157853 * 0.949)
Empc Amount: 0.005805 = (284 * 100.000) / (5157853 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d
Lims ID: 570-80119-F-3-A
Client ID: EVBMP0001S019
Inject. Date: 20-Jan-2022 21:02:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDF, RT: 34.083

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883	D 13C-1,2,3,4,7,8-HxCDF	100.000	5214314	965762
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.952		100.000	5214314	965762

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
35.008	225	104	118	85	0.006911	1.91	RQ
35.008	146	105	118	85	0.005320		Empc Correction
Signal Totals:							
	146	105	118	85			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	343	189				1.91	RQ
	264	190					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.006911 = (343 * 100.000) / (5214314 * 0.952)
Empc Amount: 0.005320 = (264 * 100.000) / (5214314 * 0.952)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d
Lims ID: 570-80119-F-3-A
Client ID: EVBMP0001S019
Inject. Date: 20-Jan-2022 21:02:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDD, RT: 34.580

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829	D 13C-1,2,3,6,7,8-HxCDD	100.000	3602930	722818
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.892		100.000	3602930	722818

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
34.537	346	156	560	176	0.0282	0.62	RQ
34.537	346	156	279	125	0.0194		Empc Correction
Signal Totals:							
	346	156	279	125			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	906	332				0.62	RQ
	625	281					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0282 = (906 * 100.000) / (3602930 * 0.892)
Empc Amount: 0.0194 = (625 * 100.000) / (3602930 * 0.892)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d
Lims ID: 570-80119-F-3-A
Client ID: EVBMP0001S019
Inject. Date: 20-Jan-2022 21:02:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDF, RT: 38.761

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.439	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	3324714	855209
1,2,3,4,7,8,9-HpCDF	1.220				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.329		100.000	3324714	855209

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.489	2542	591	1461	322	0.0906	1.74	RQ
38.489	1519	334	1461	322	0.0674		Empc Correction
Signal Totals:							
	1519	334	1461	322			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4003	913				1.74	RQ
	2980	656					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0906 = (4003 * 100.000) / (3324714 * 1.329)
Empc Amount: 0.0674 = (2980 * 100.000) / (3324714 * 1.329)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d
Lims ID: 570-80119-F-3-A
Client ID: EVBMP0001S019
Inject. Date: 20-Jan-2022 21:02:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDD, RT: 38.778

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3166322	885280

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3166322	885280

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.439	6206	1184	5278	1467	0.3714	1.18	
Signal Totals:							
	6206	1184	5278	1467			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11484	2651				1.18	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3714 = (11484 * 100.000) / (3166322 * 0.977)

Manual Integration/User Assign Peak Report

Eurofins Sacramento

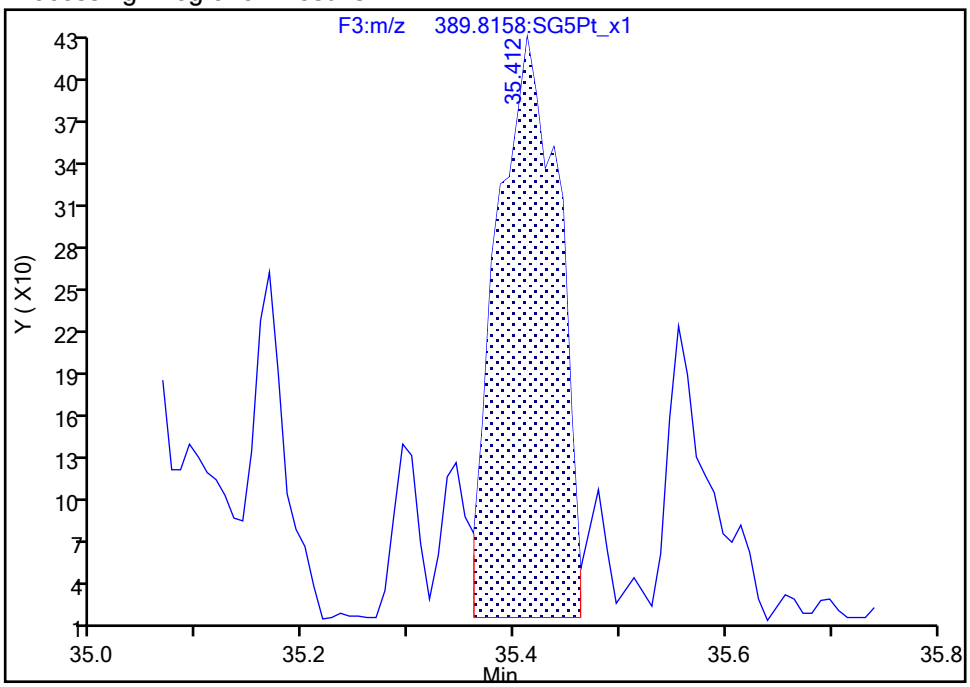
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d				
Injection Date:	20-Jan-2022 21:02:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-3-A	Lab Sample ID:	320-80119-3		
Client ID:	EVBMP0001S019				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

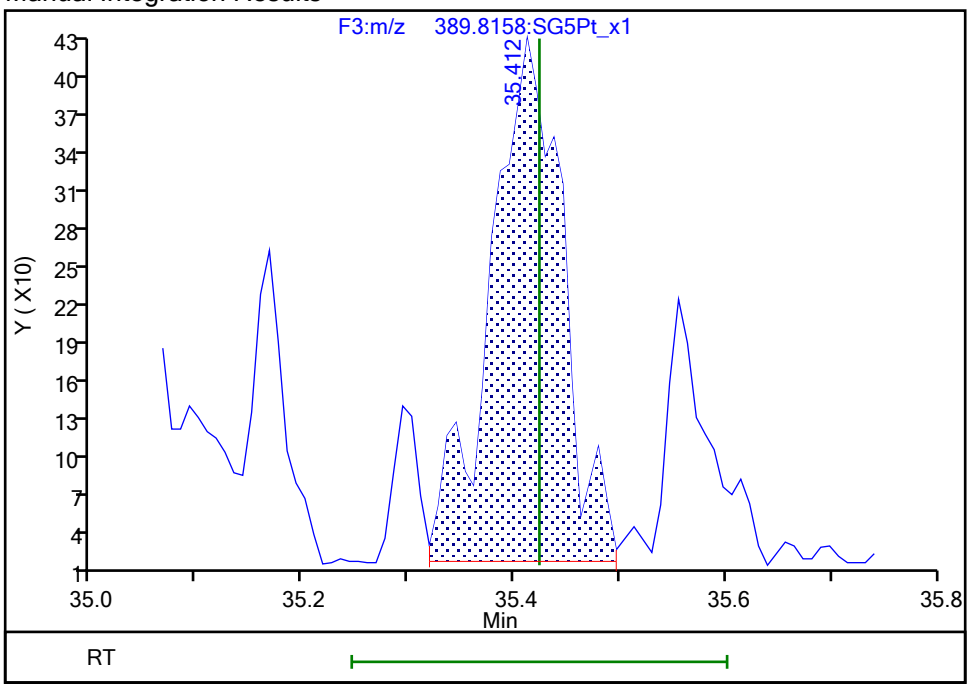
Processing Integration Results

RT: 35.41
Area: 1651
Amount: 0.111870
Amount Units: pg/ul



Manual Integration Results

RT: 35.41
Area: 1933
Amount: 0.130576
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:01:41

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

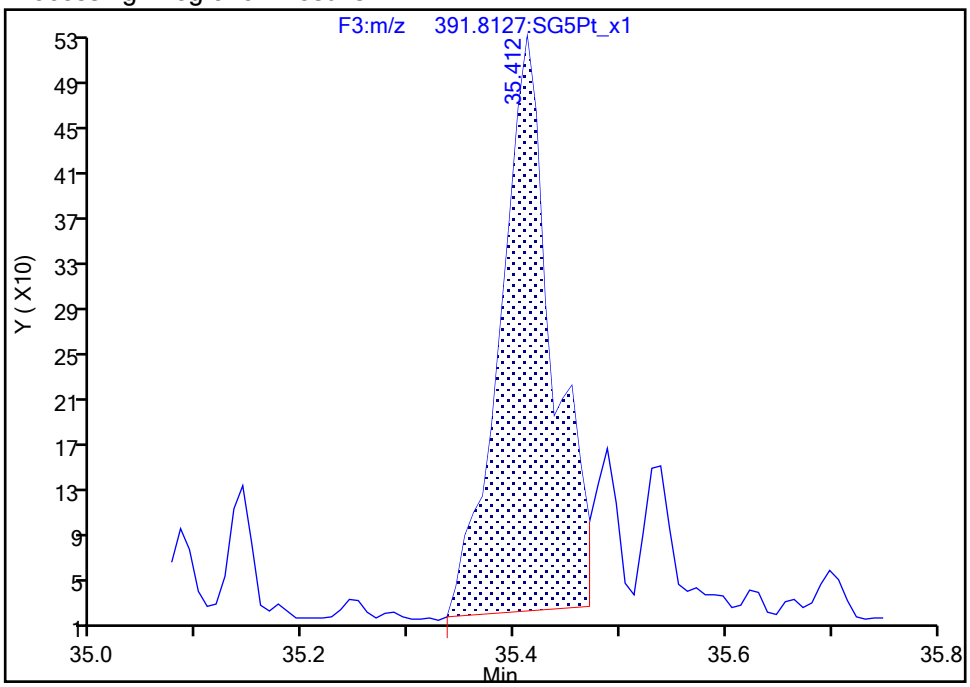
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d				
Injection Date:	20-Jan-2022 21:02:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-3-A	Lab Sample ID:	320-80119-3		
Client ID:	EVBMP0001S019				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

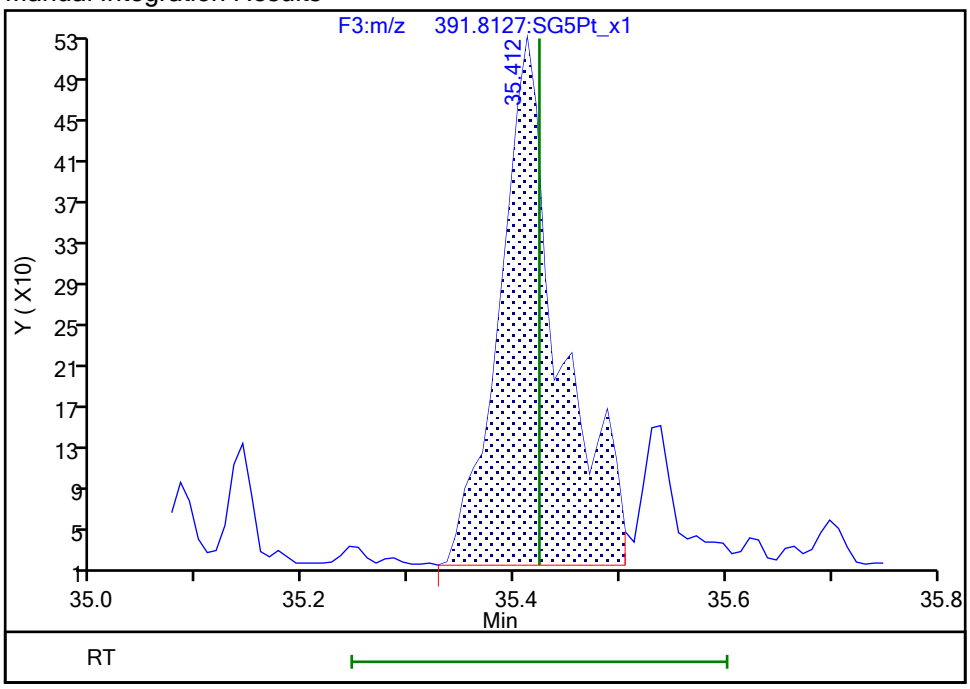
Processing Integration Results

RT: 35.41
Area: 1692
Amount: 0.111870
Amount Units: pg/ul



Manual Integration Results

RT: 35.41
Area: 1969
Amount: 0.130576
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:01:49
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

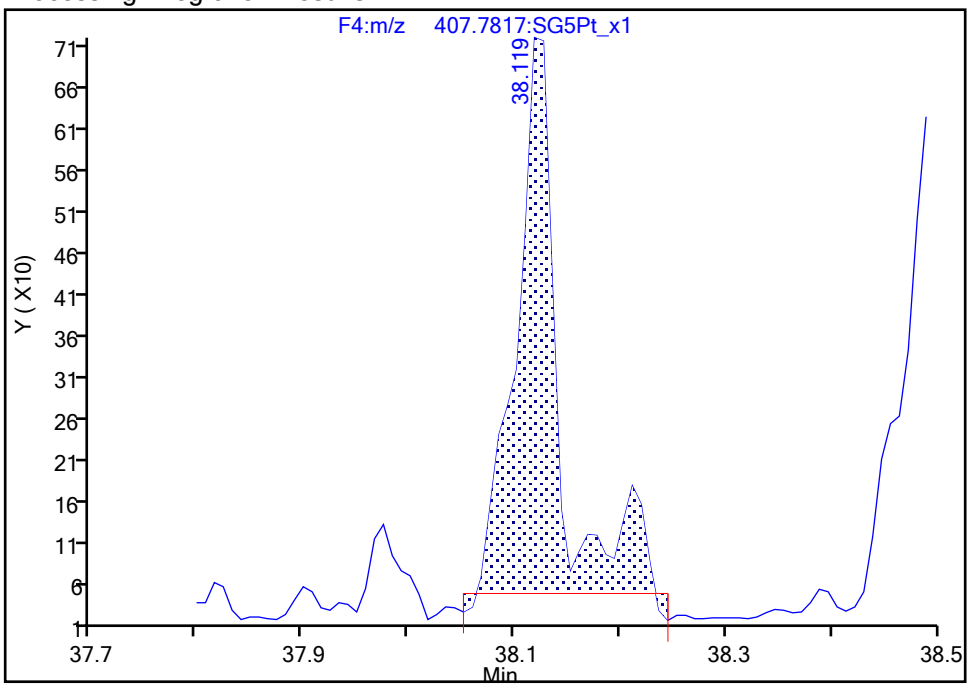
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d				
Injection Date:	20-Jan-2022 21:02:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-3-A	Lab Sample ID:	320-80119-3		
Client ID:	EVBMP0001S019				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

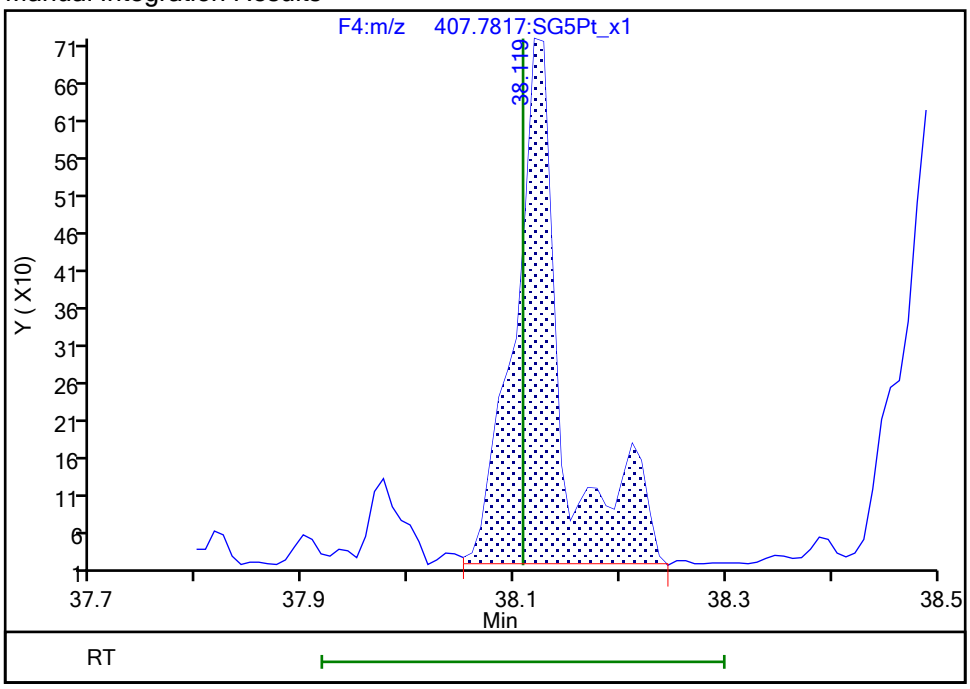
Processing Integration Results

RT: 38.12
Area: 1825
Amount: 0.058755
Amount Units: pg/ul



Manual Integration Results

RT: 38.12
Area: 2174
Amount: 0.076151
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:02:06

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

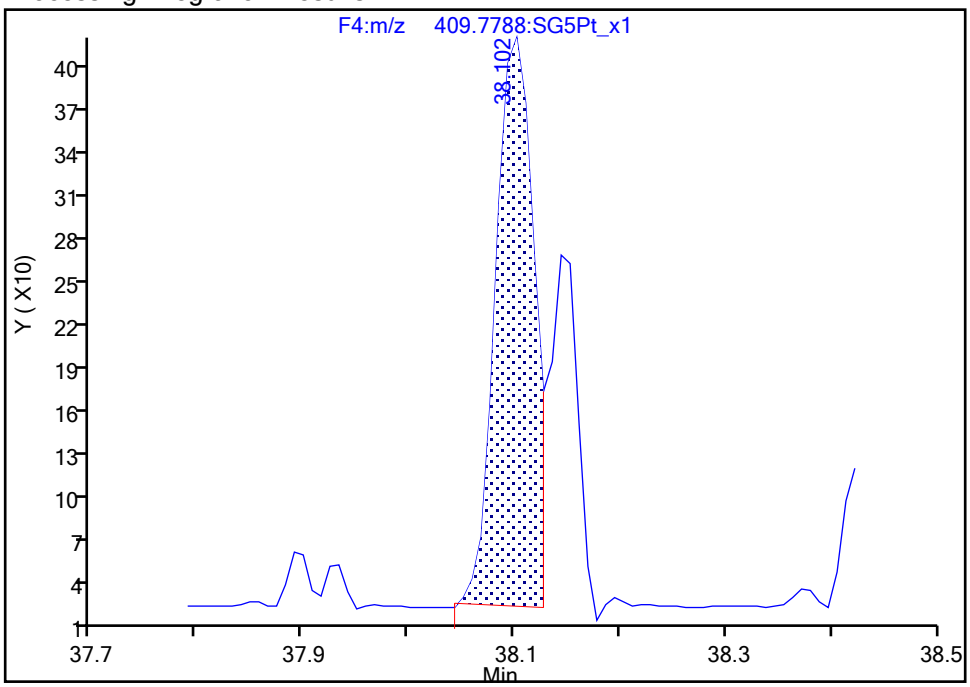
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d				
Injection Date:	20-Jan-2022 21:02:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-3-A	Lab Sample ID:	320-80119-3		
Client ID:	EVBMP0001S019				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

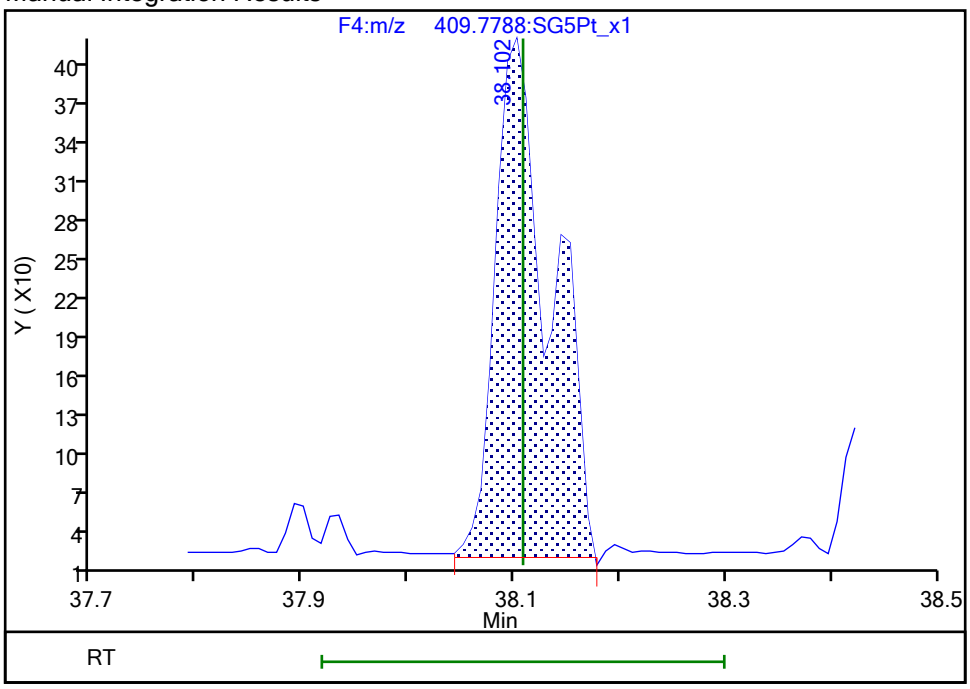
Processing Integration Results

RT: 38.10
Area: 985
Amount: 0.058755
Amount Units: pg/ul



Manual Integration Results

RT: 38.10
Area: 1468
Amount: 0.076151
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:02:09
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

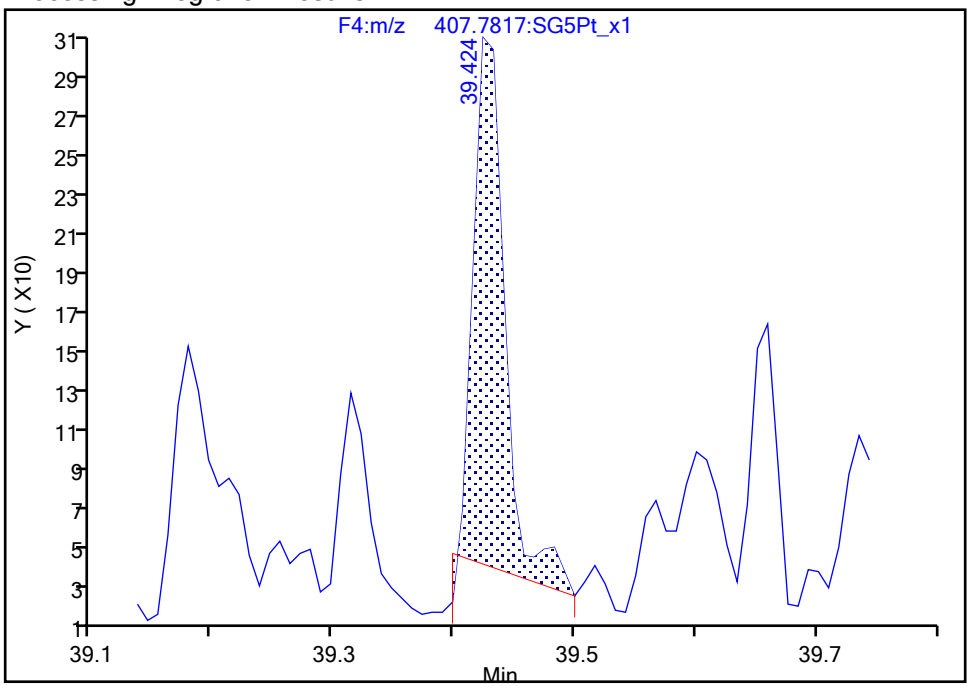
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d				
Injection Date:	20-Jan-2022 21:02:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-3-A	Lab Sample ID:	320-80119-3		
Client ID:	EVBMP0001S019				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

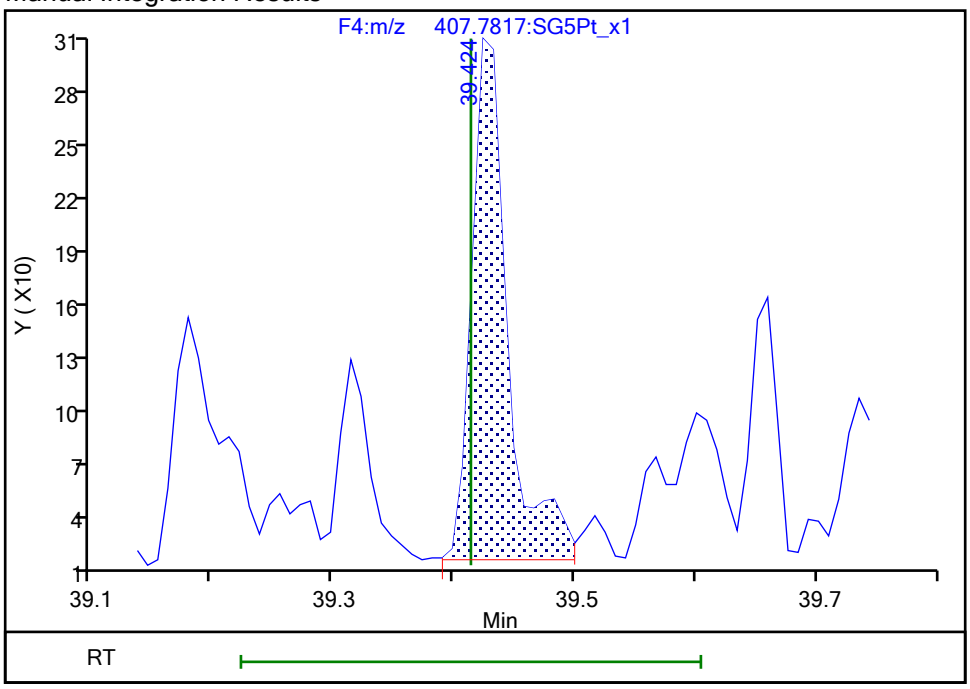
Processing Integration Results

RT: 39.42
Area: 465
Amount: 0.022333
Amount Units: pg/ul



Manual Integration Results

RT: 39.42
Area: 585
Amount: 0.025291
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:02:17
Audit Action: Manually Integrated Audit Reason: Baseline

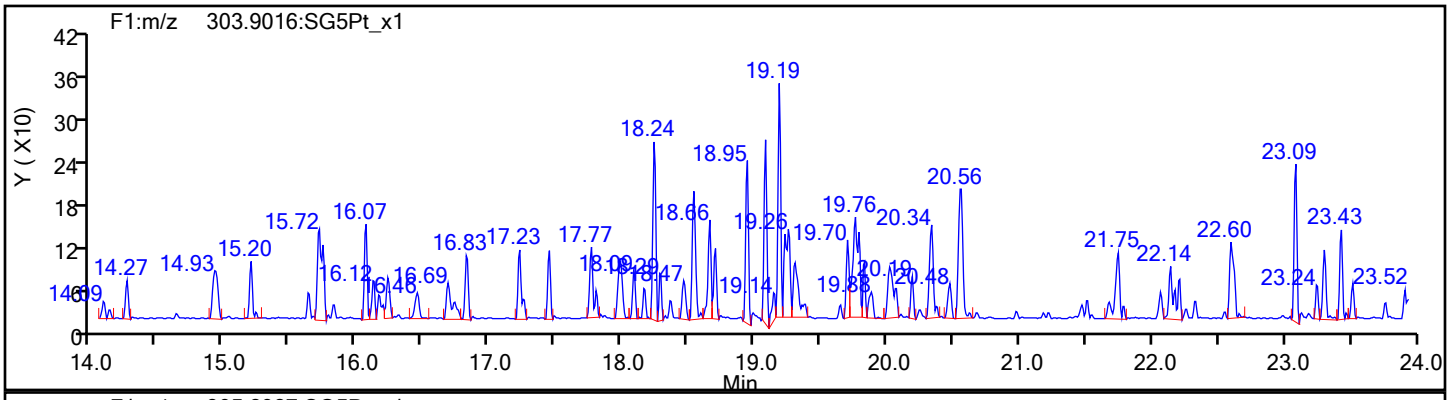
Report Date: 21-Jan-2022 08:05:52 Chrom Revision: 2.3 18-Jan-2022 20:25:40

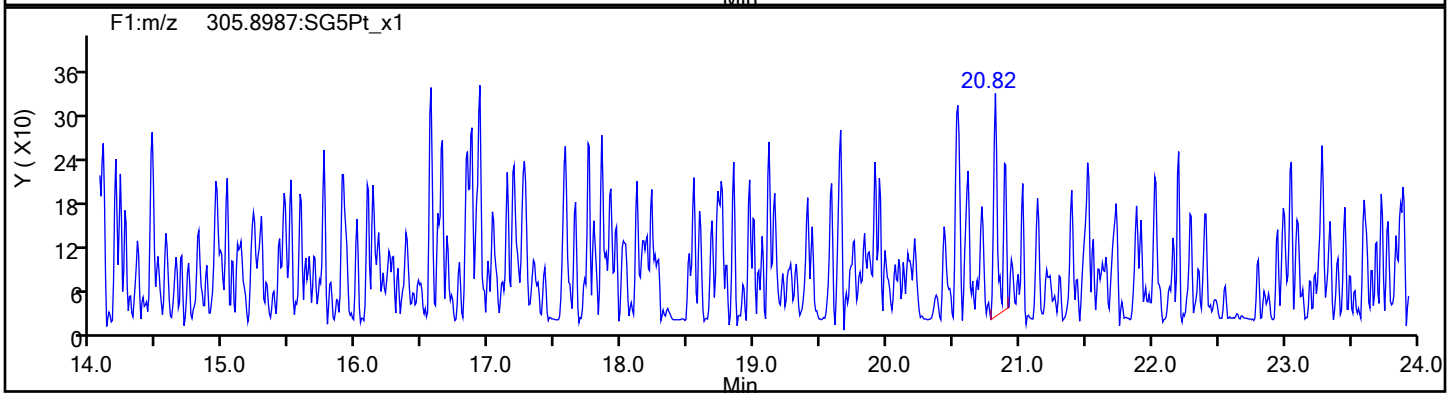
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d

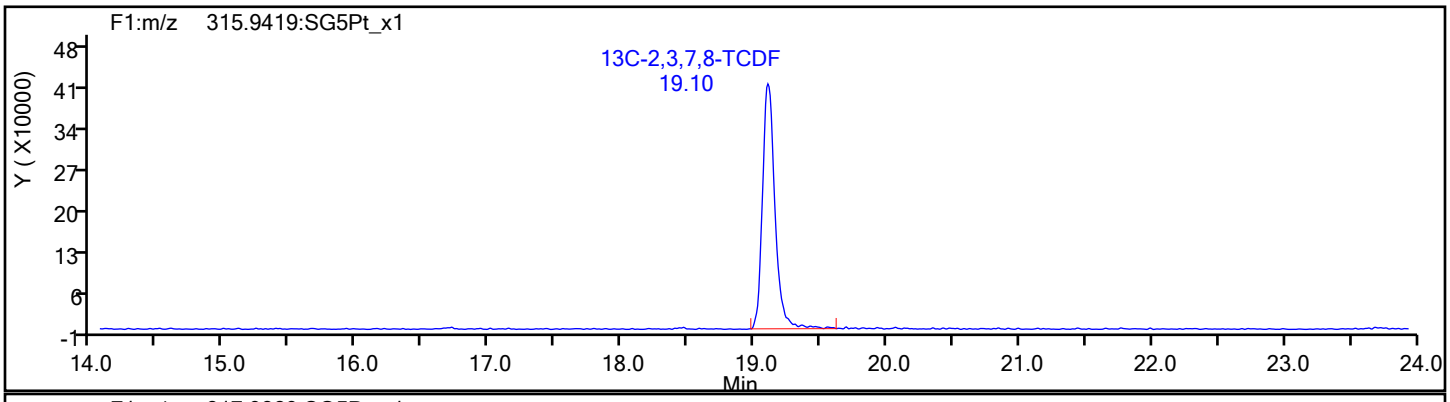
Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

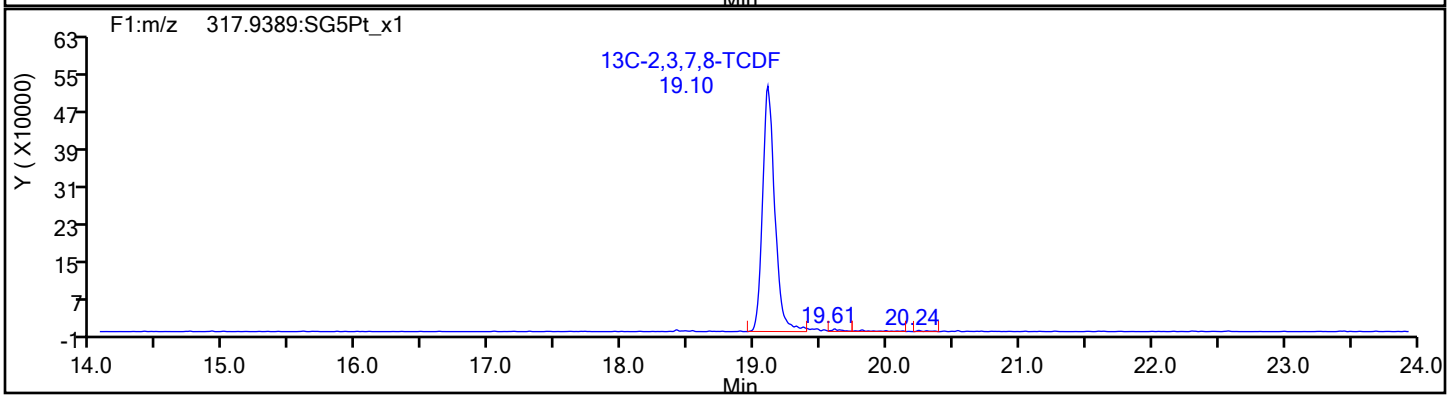
TCDF





TCDF Standards

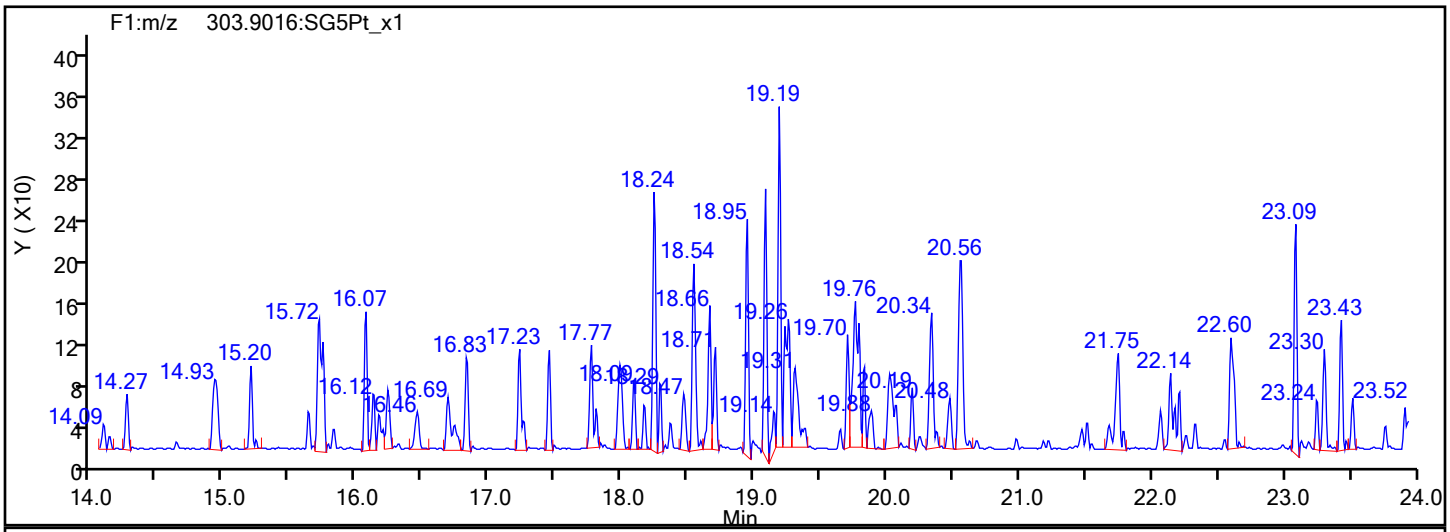


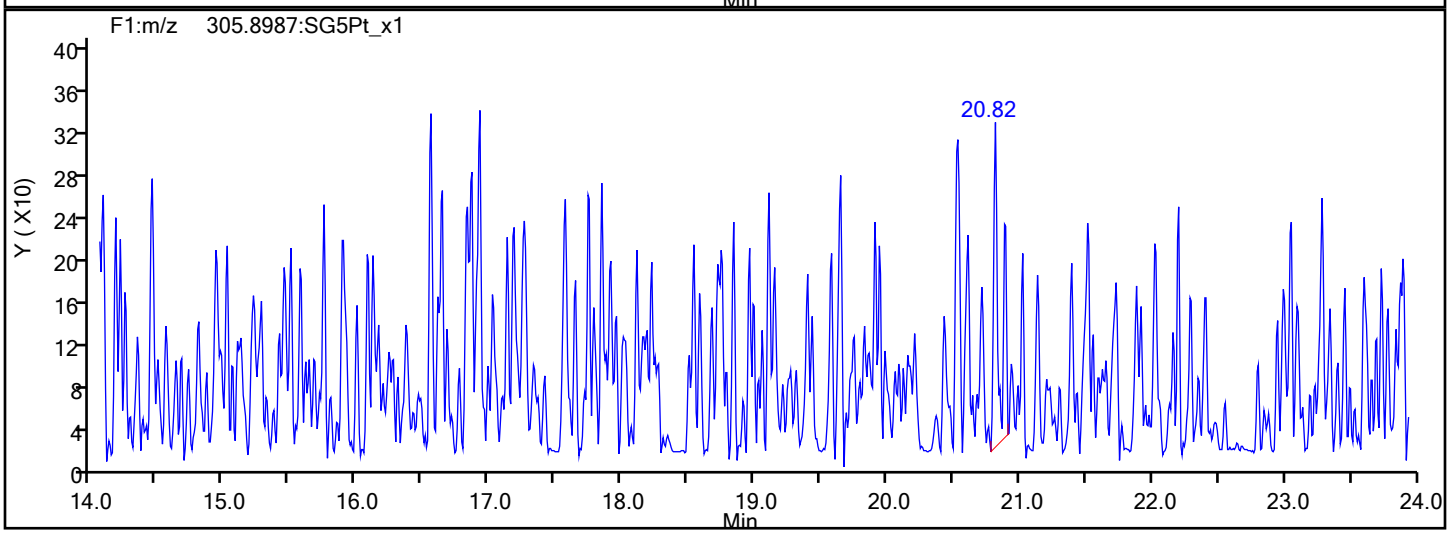


Eurofins Sacramento

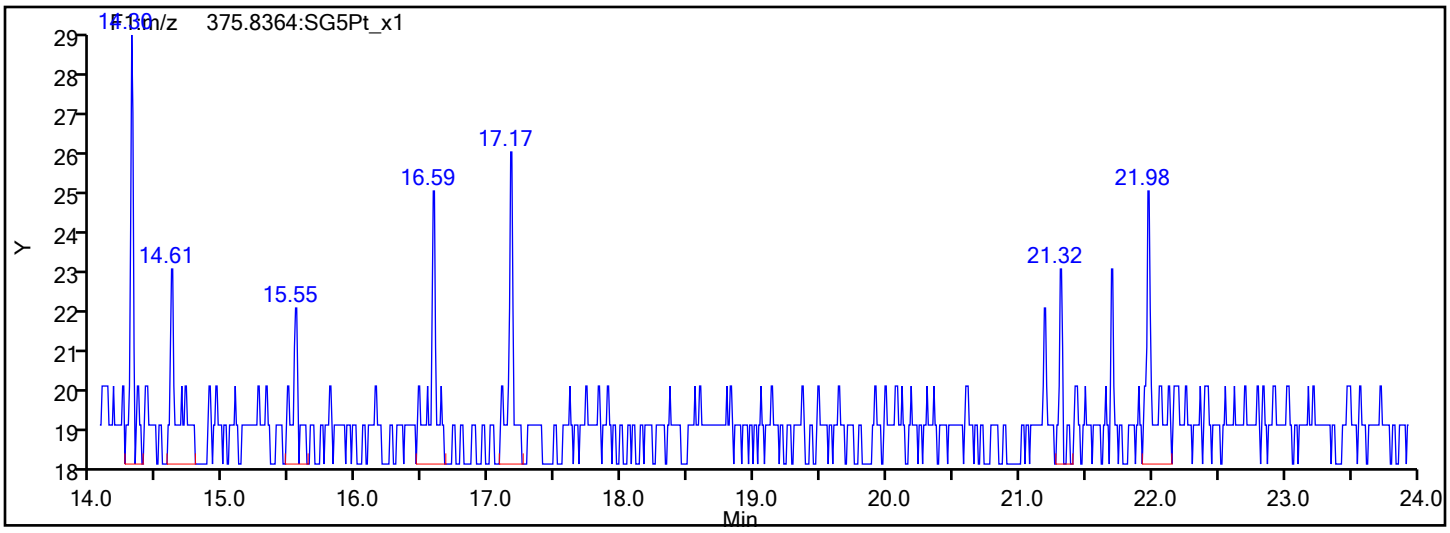
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d
Injection Date: 20-Jan-2022 21:02:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: EVBMP0001S019
Worklist#: 559474 Sample Line#: 8
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
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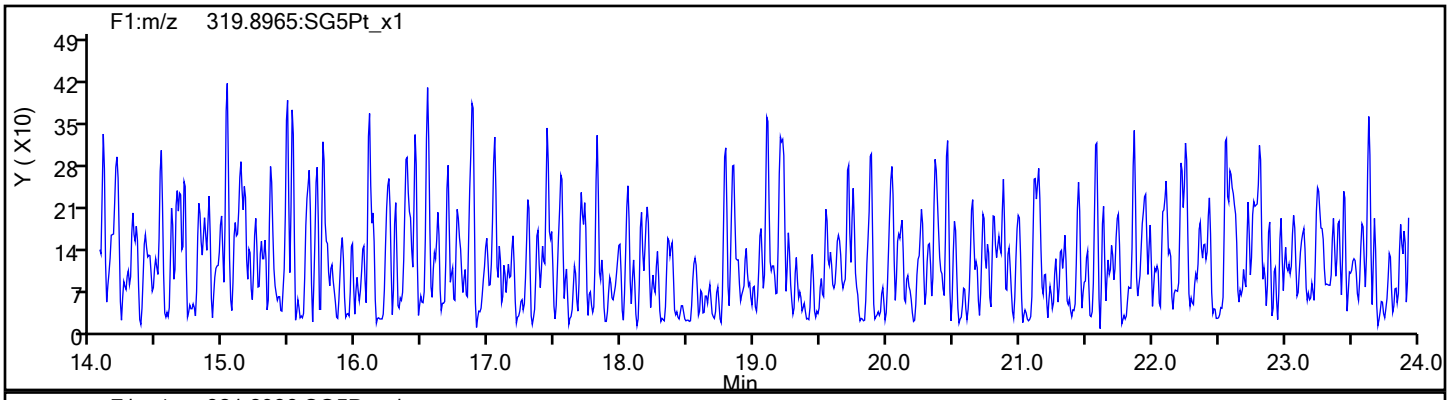
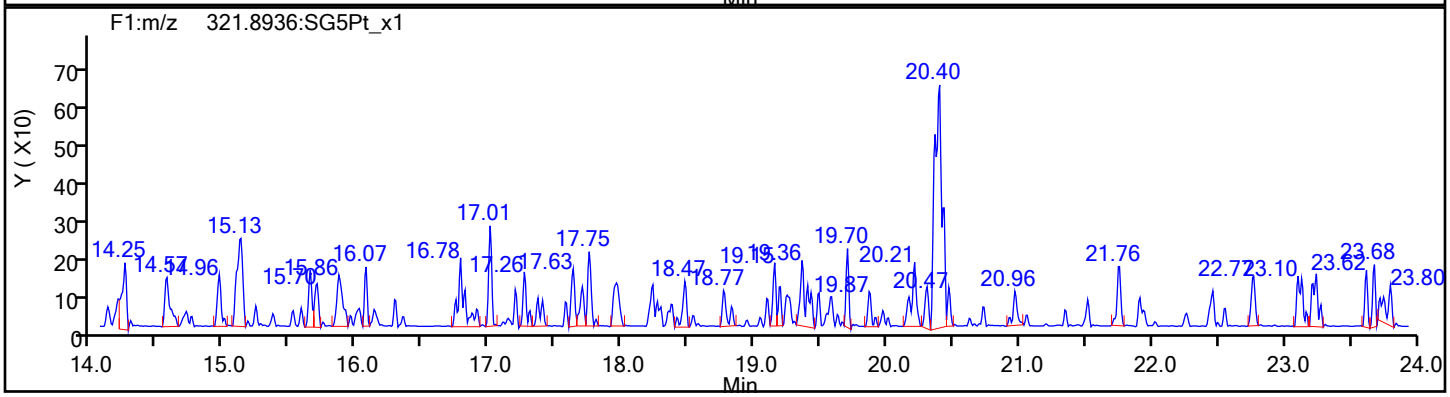
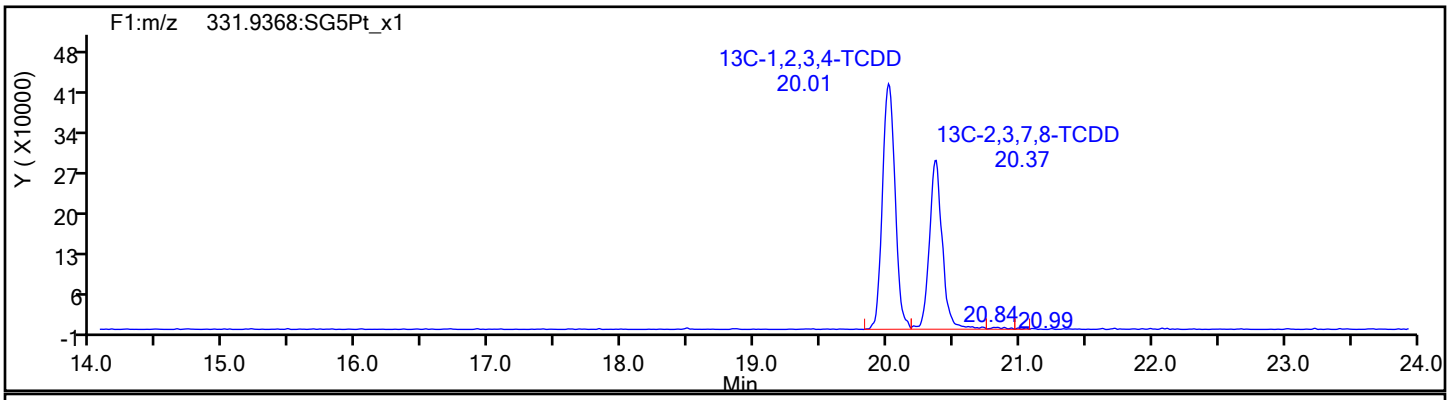
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

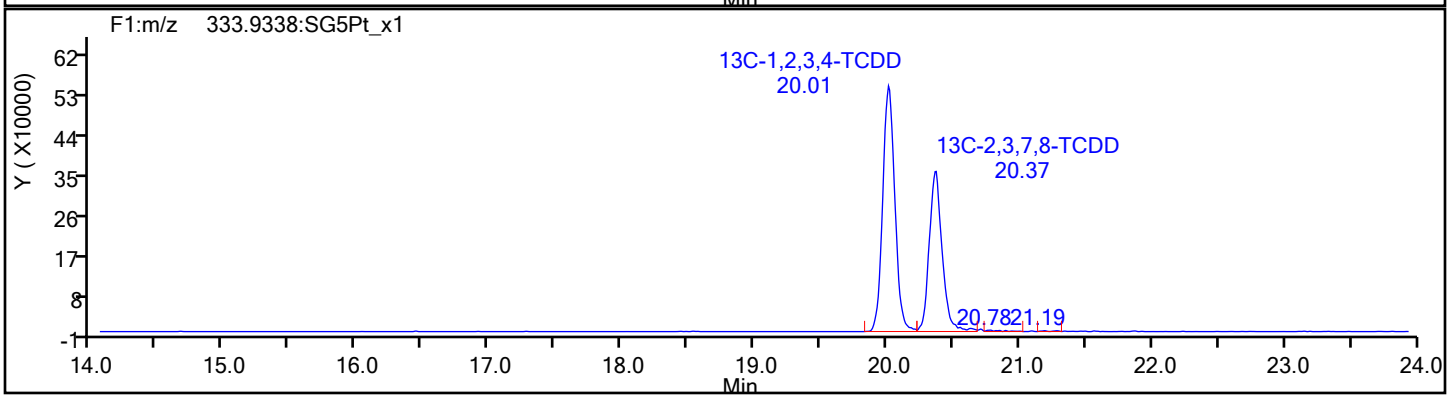
TCDD





TCDD Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
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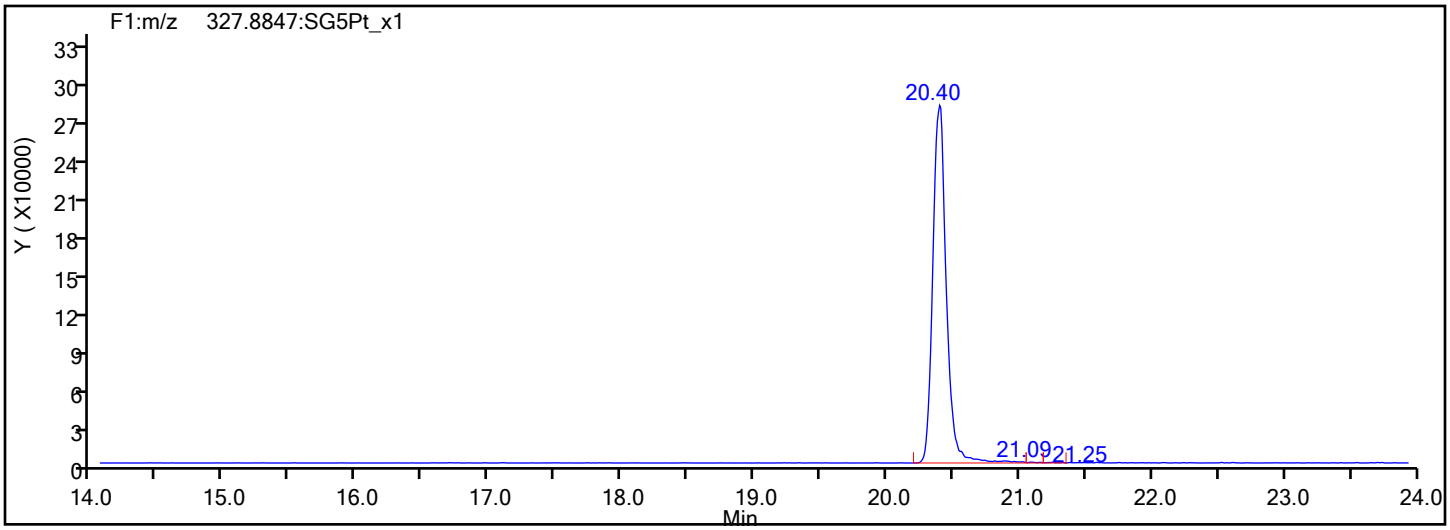
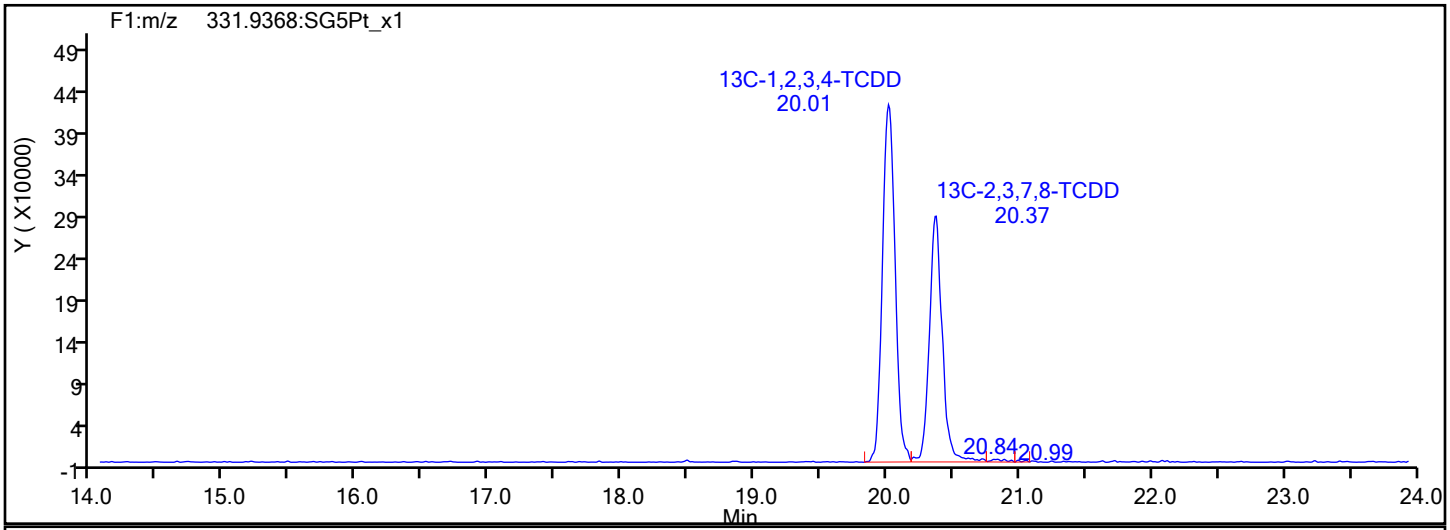
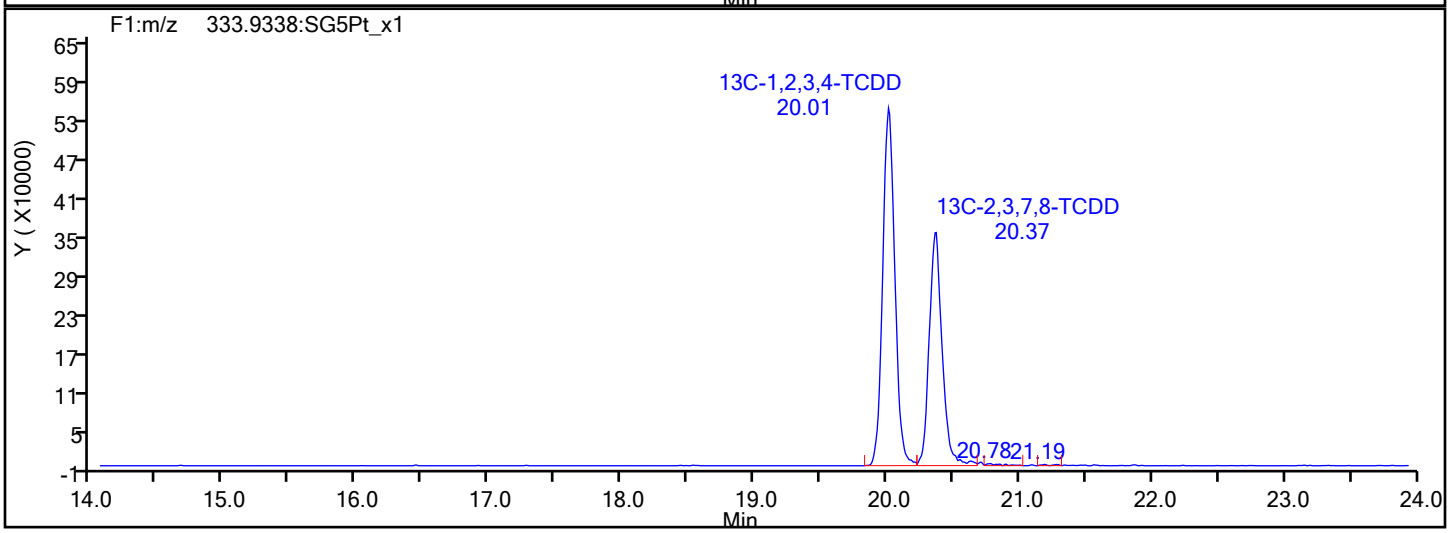
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





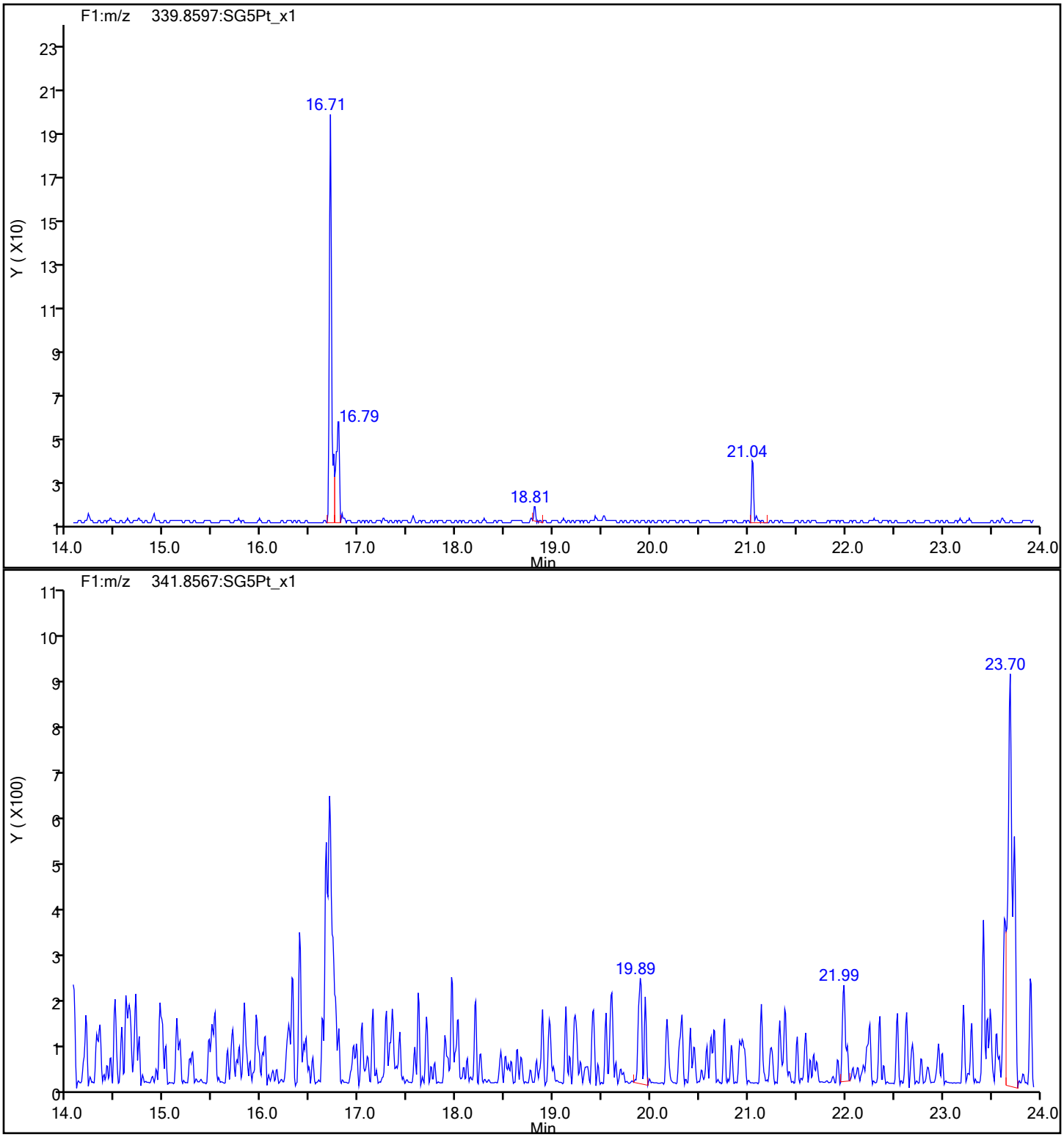
Report Date: 21-Jan-2022 08:05:52 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d

Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
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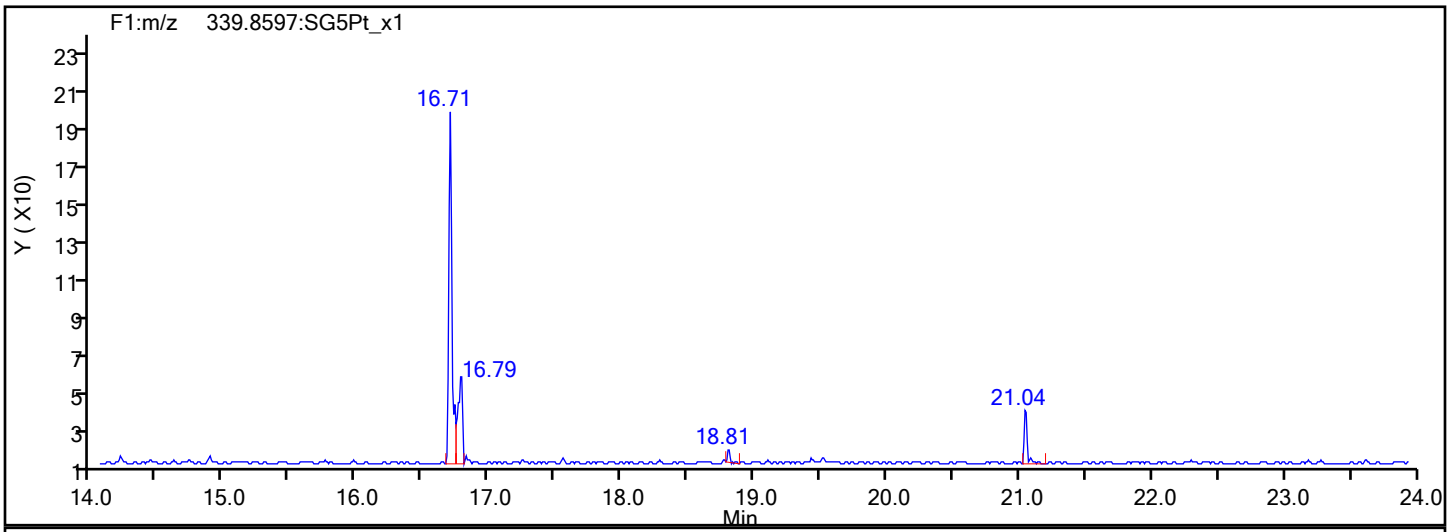
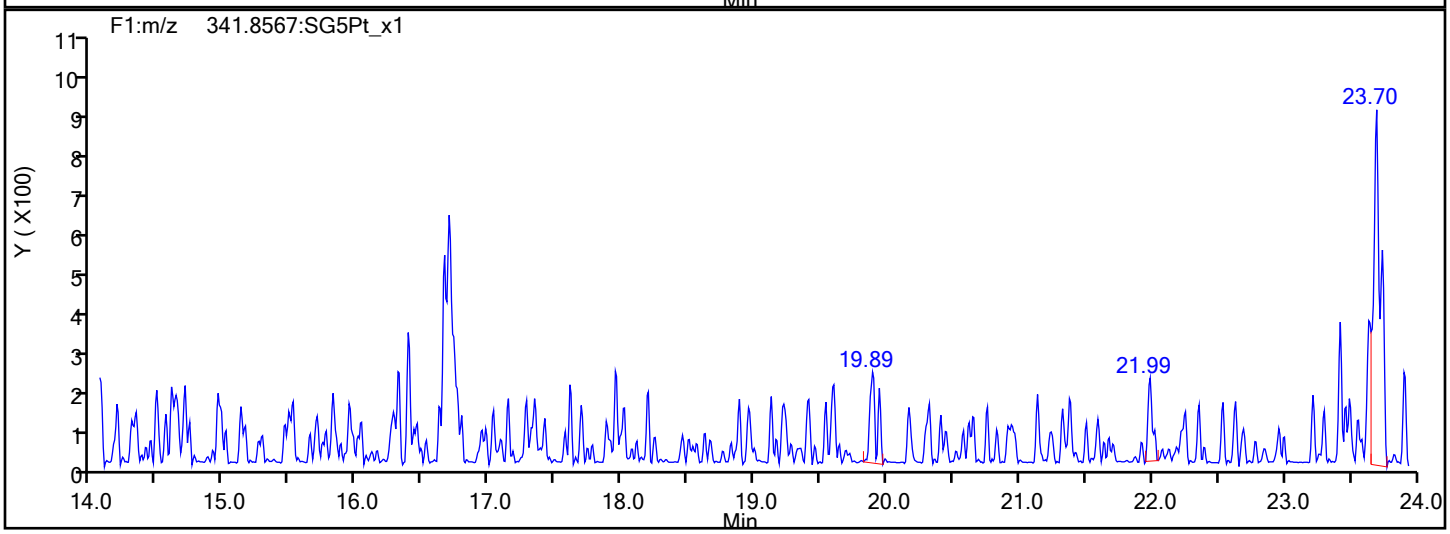
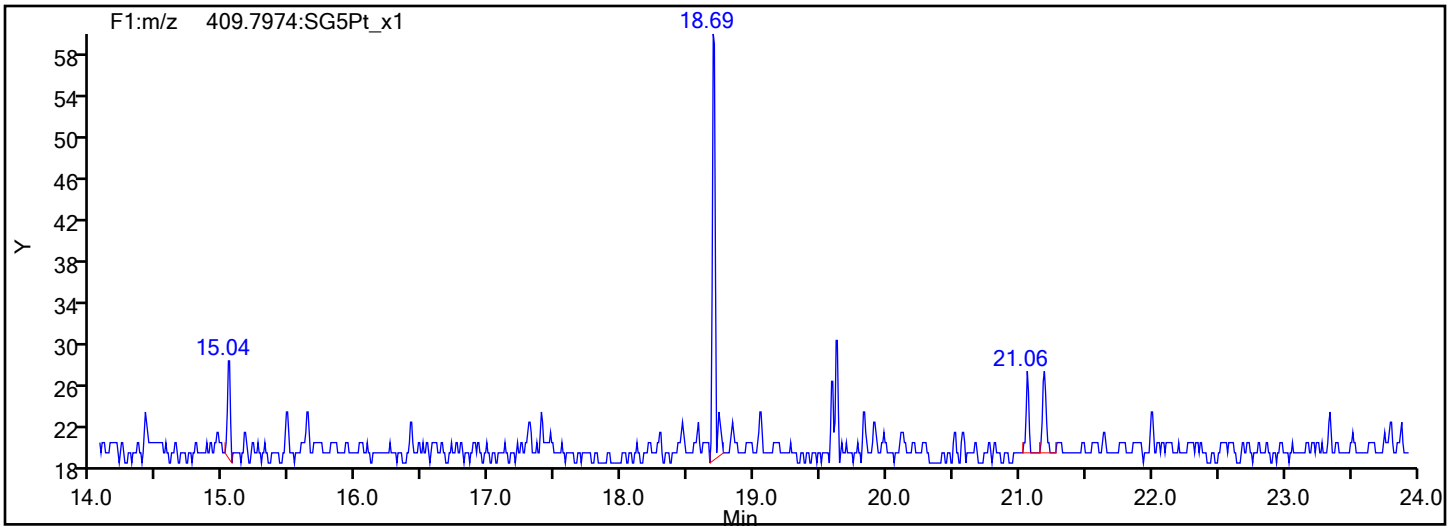
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
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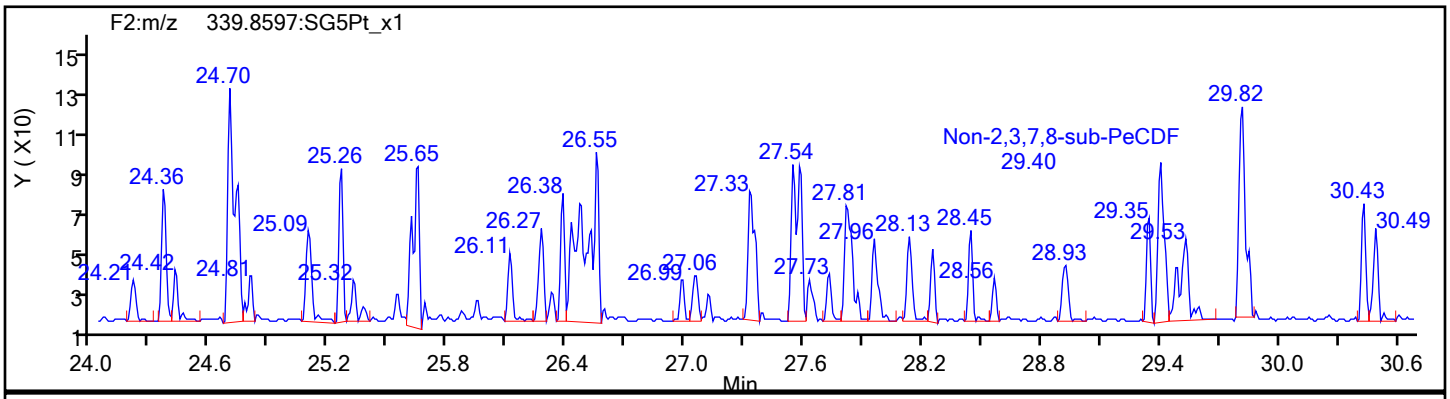
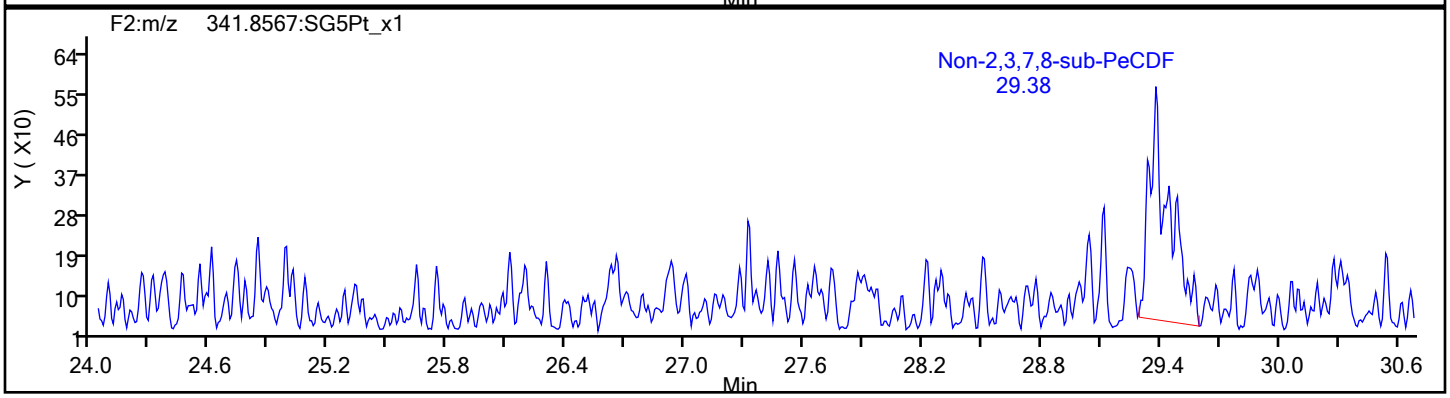
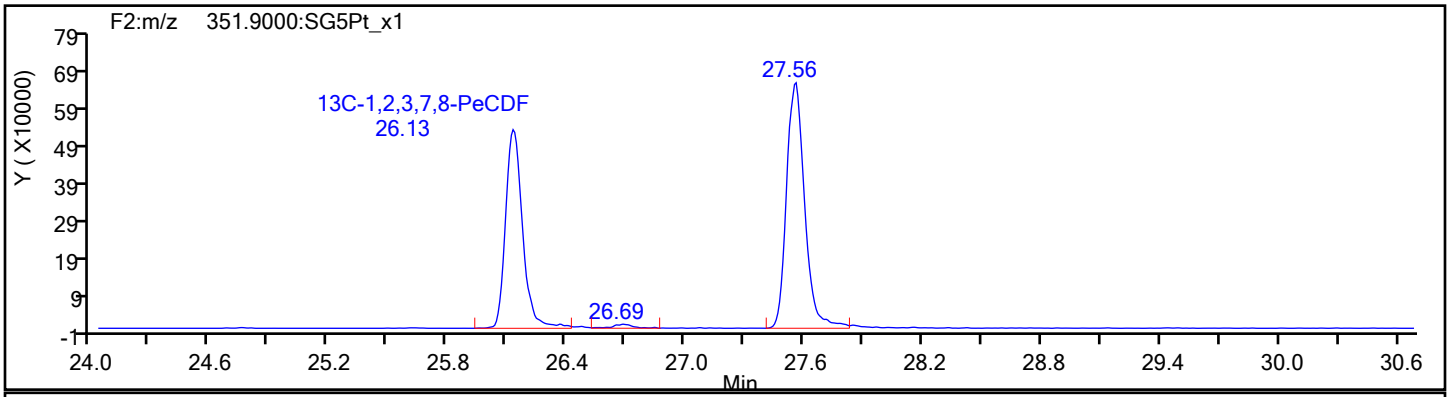
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

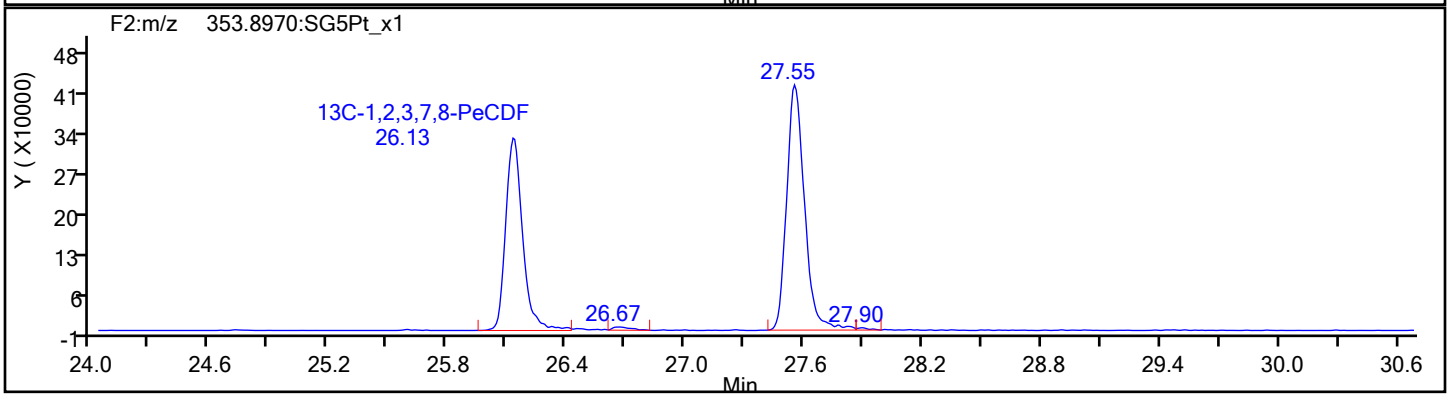
PeCDF





PeCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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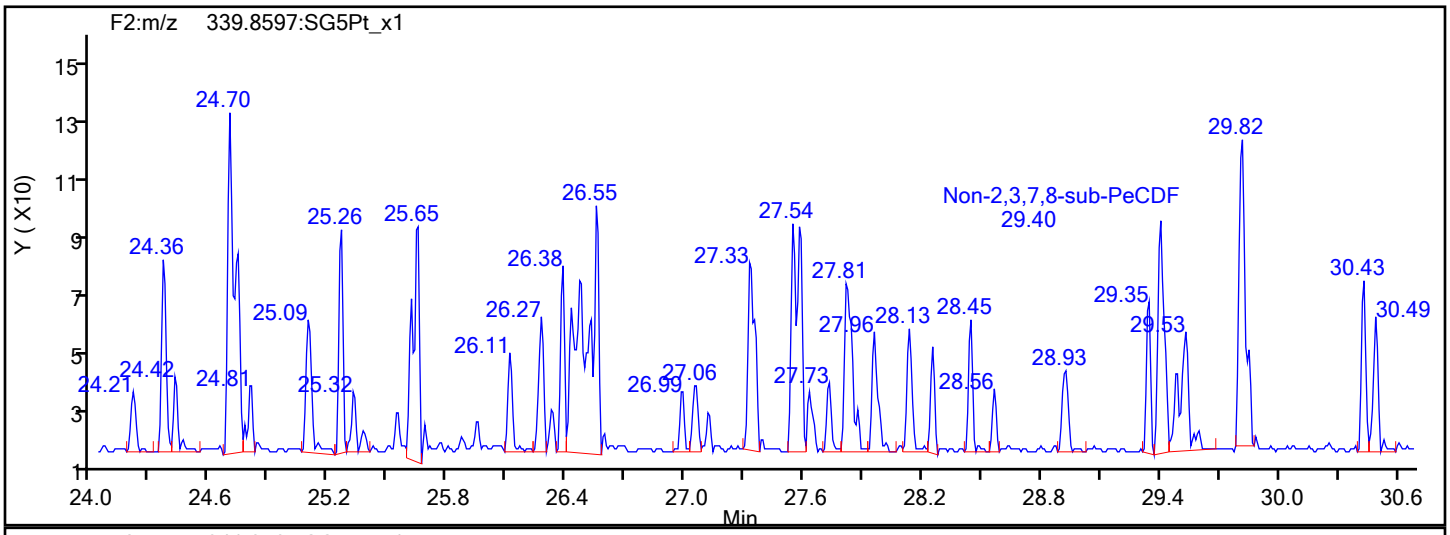
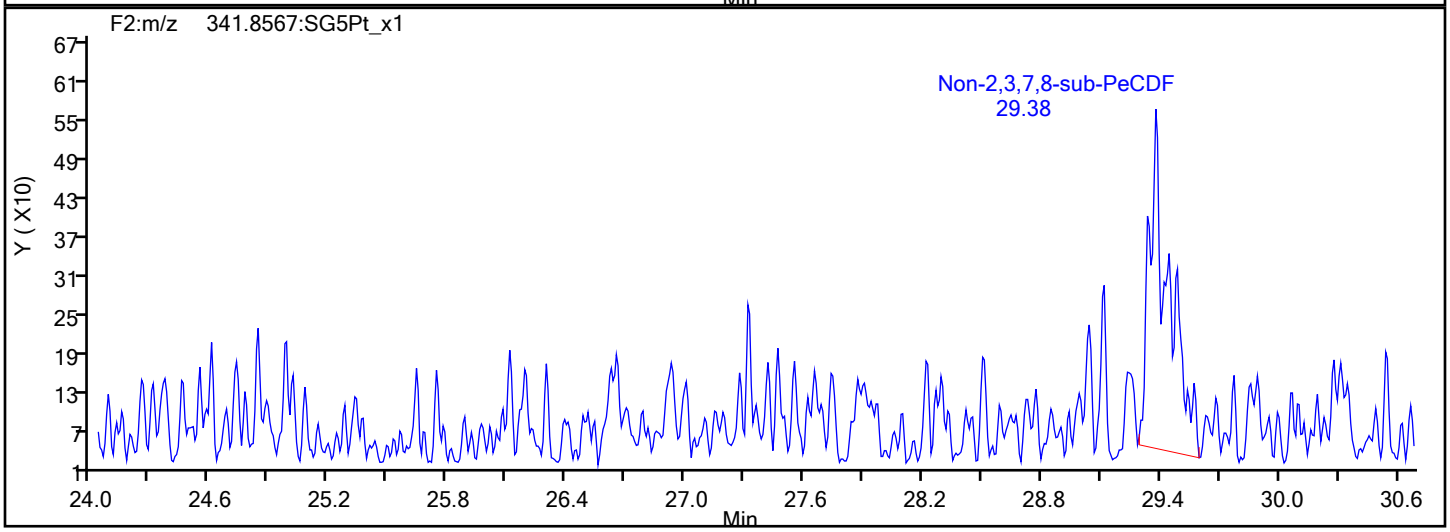
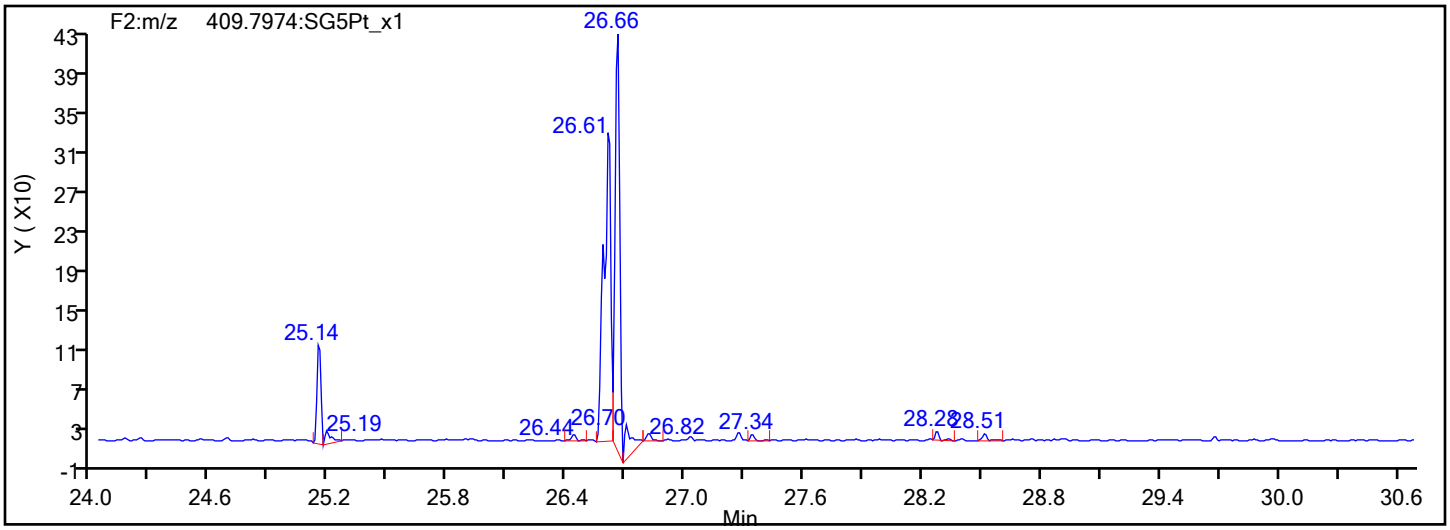
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



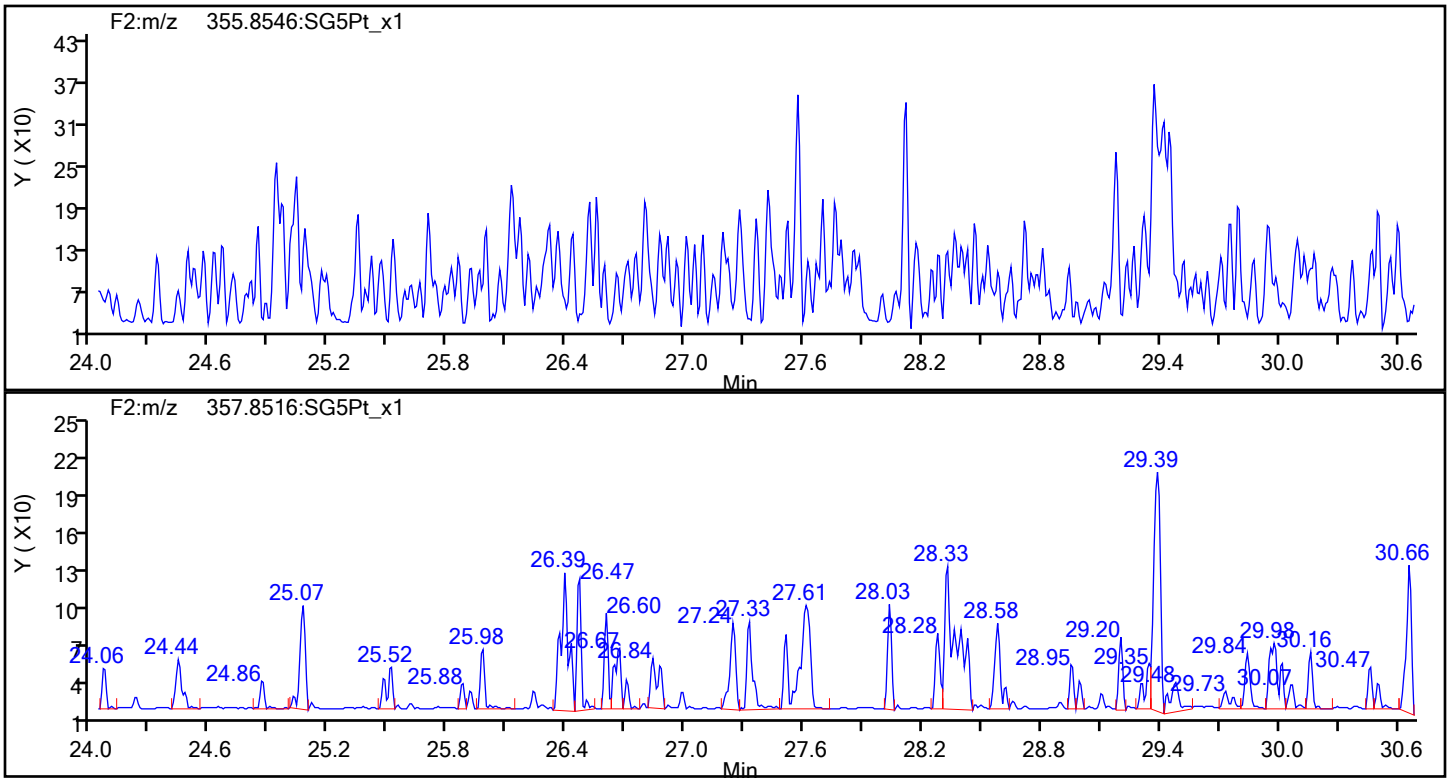
Report Date: 21-Jan-2022 08:05:53 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

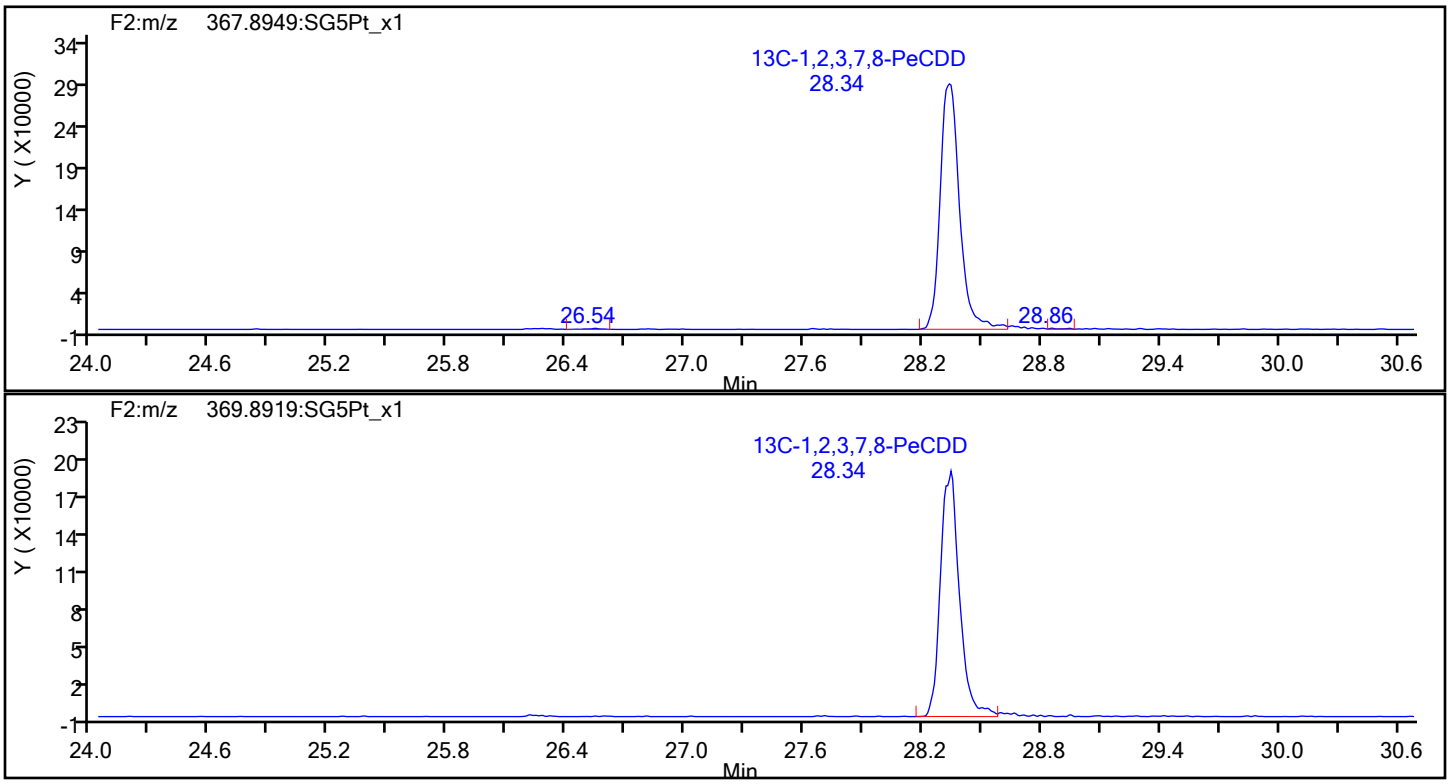
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d

Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD



PeCDD Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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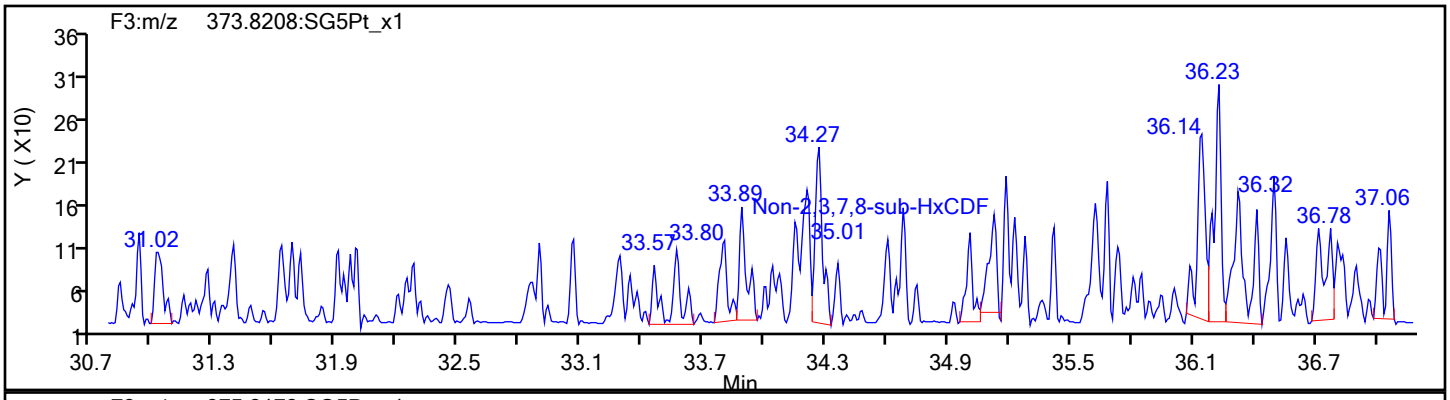
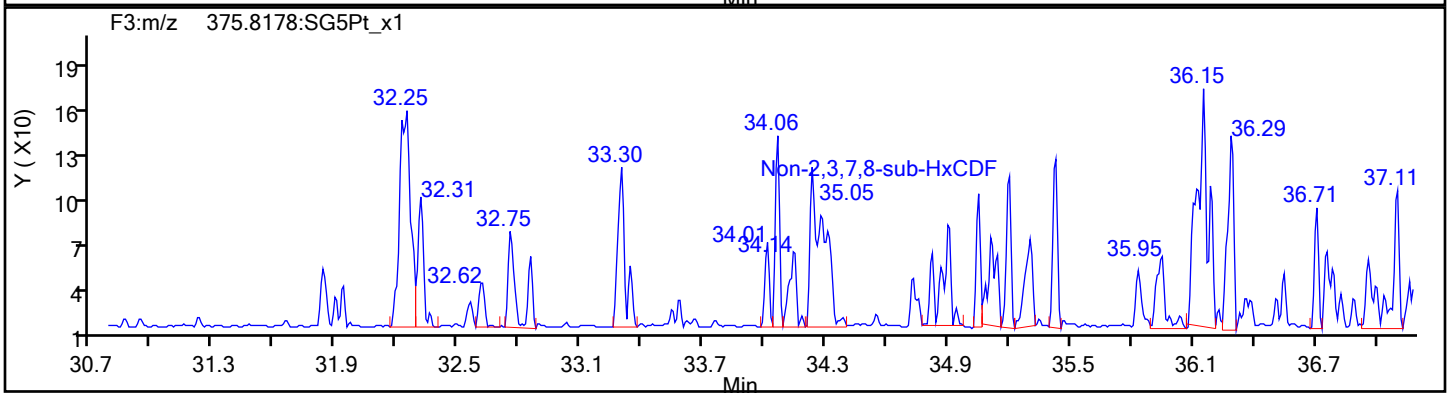
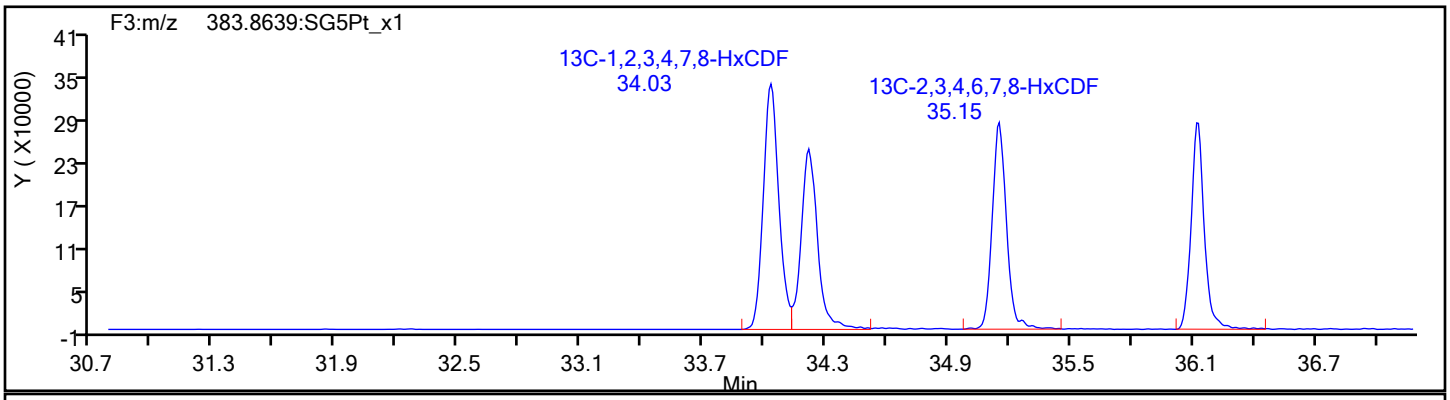
Column Type:	DB-5	Column Dia:	0.32 mm

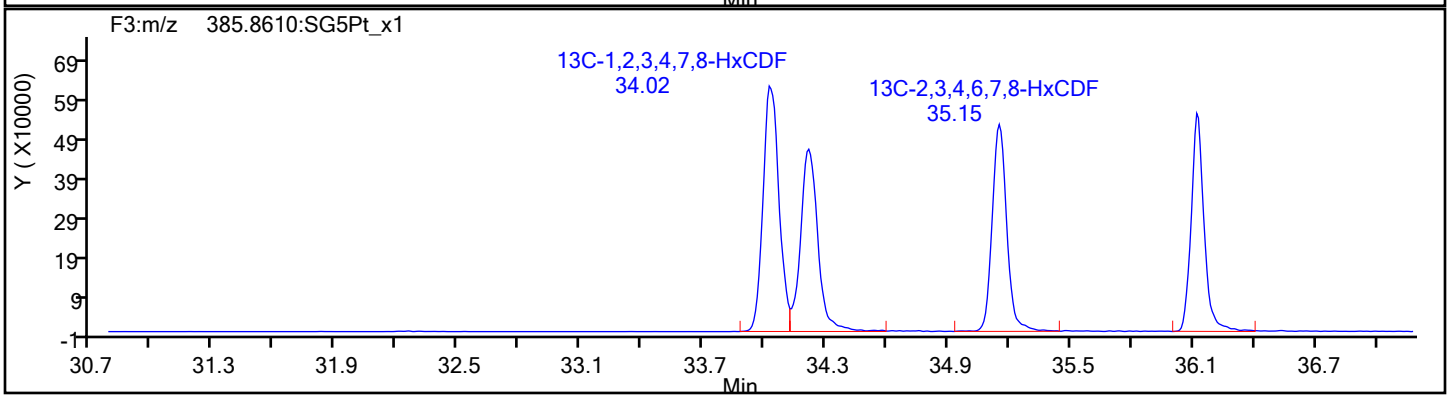
HxCDF





HxCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

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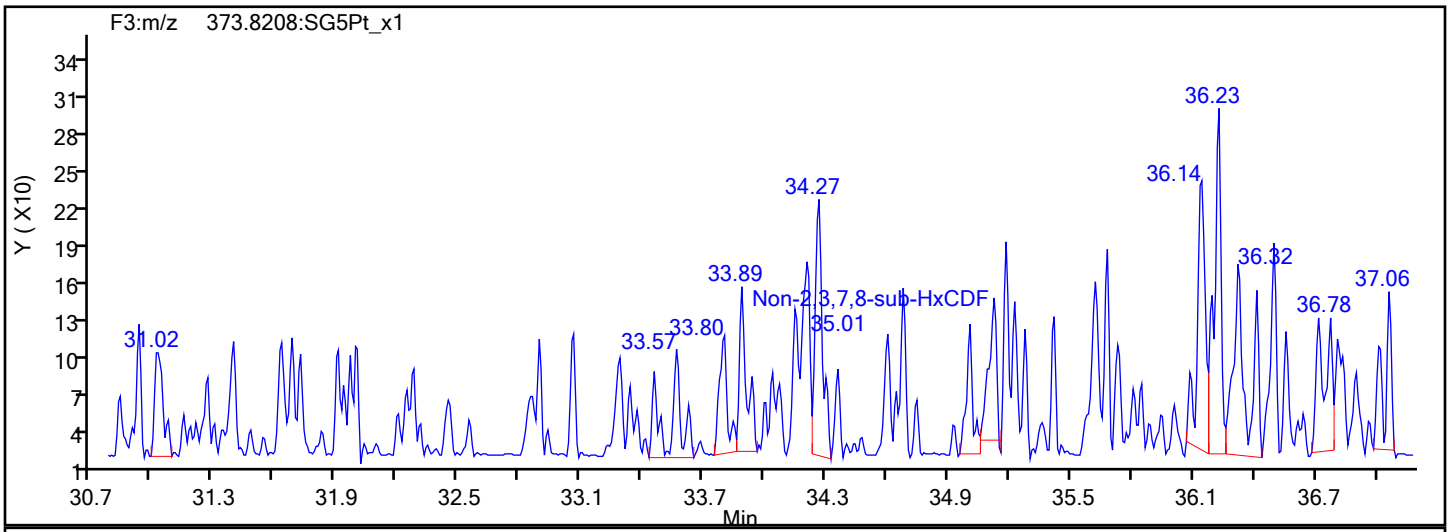
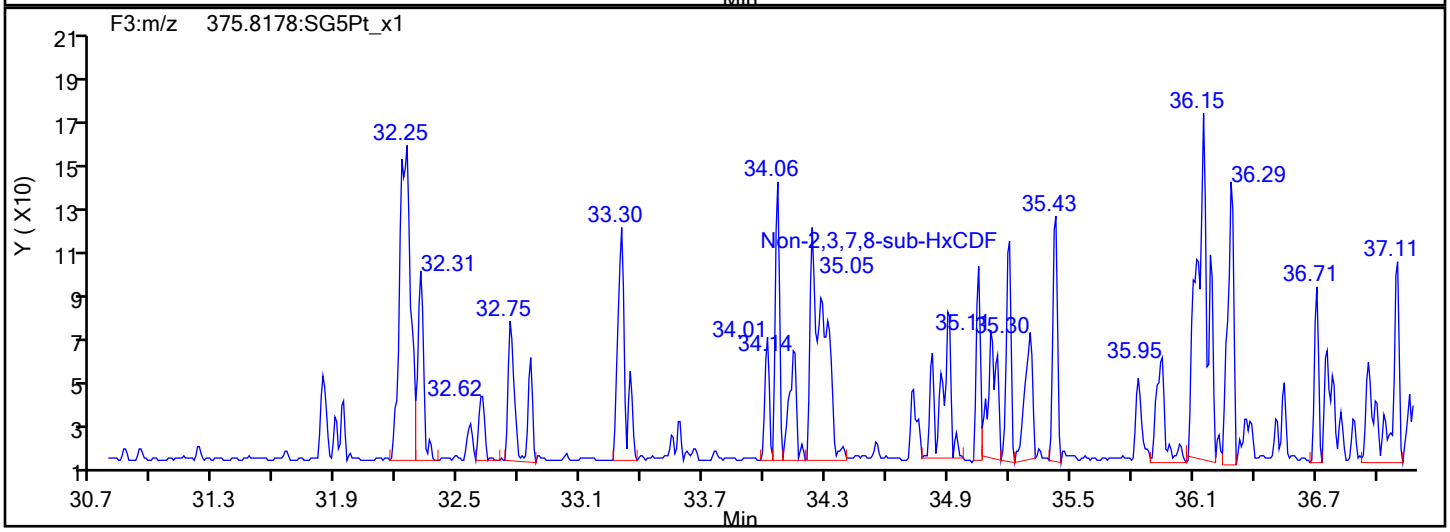
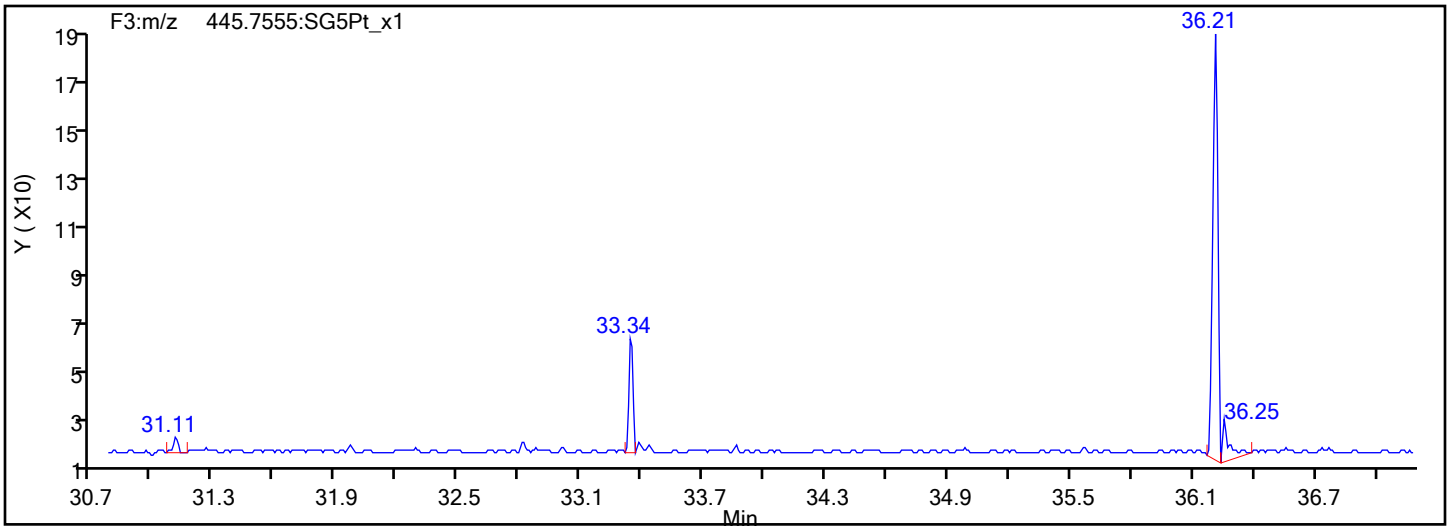




HxCDF Interference Mass



Report Date: 21-Jan-2022 08:05:53 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d

Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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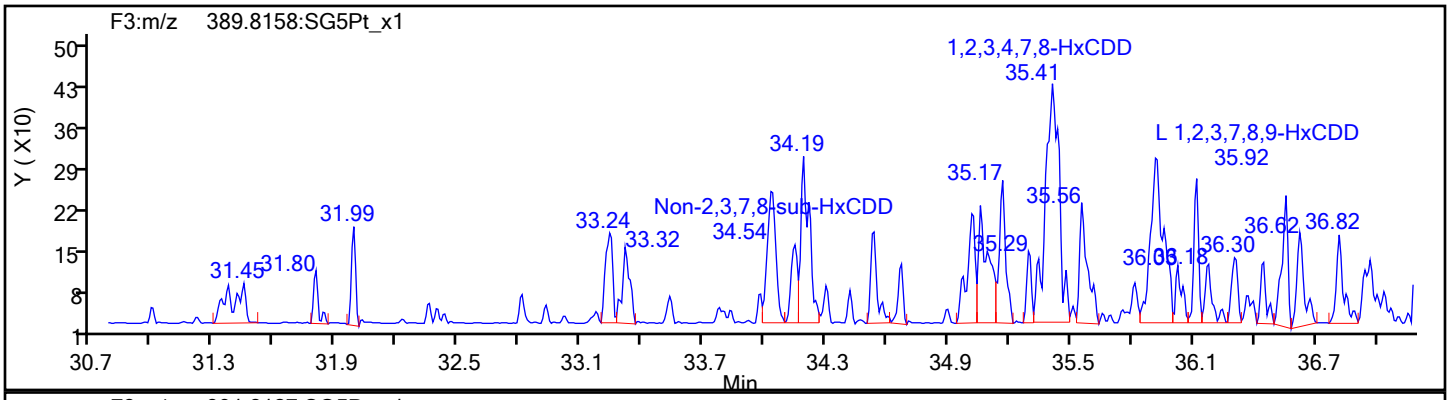
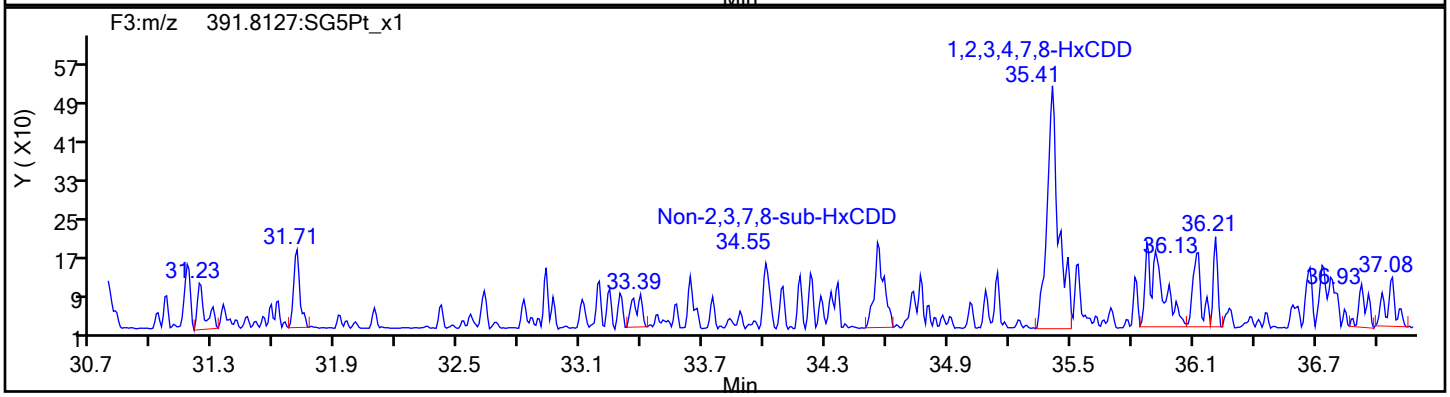
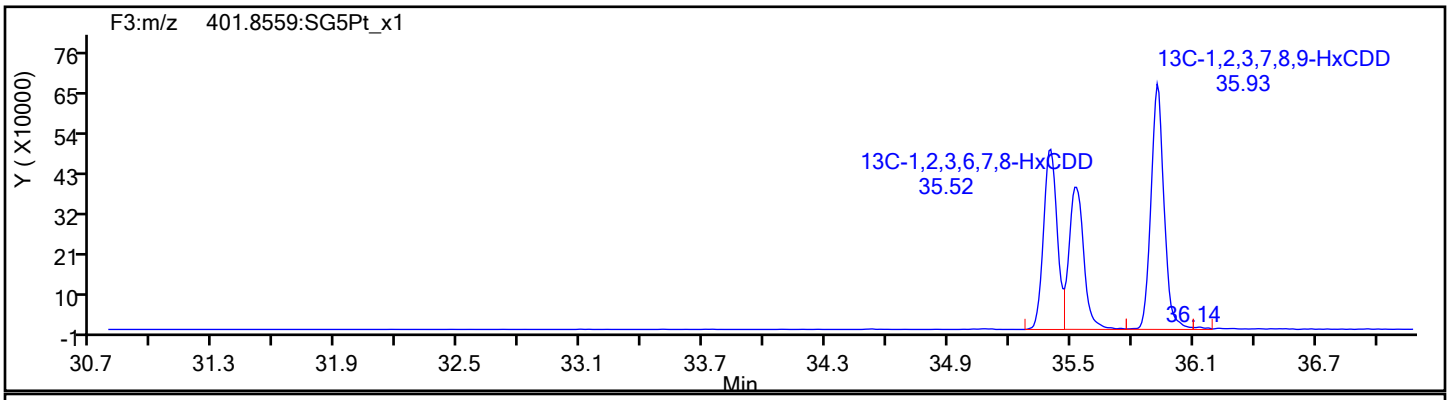
Column Type:	DB-5	Column Dia:	0.32 mm

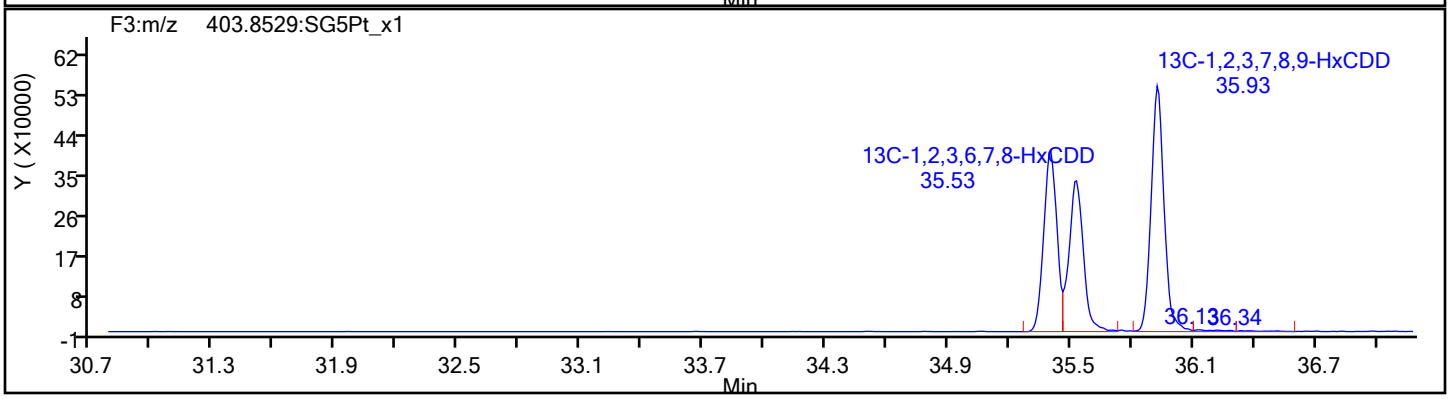
HxCDD





HxCDD Standards





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Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d

Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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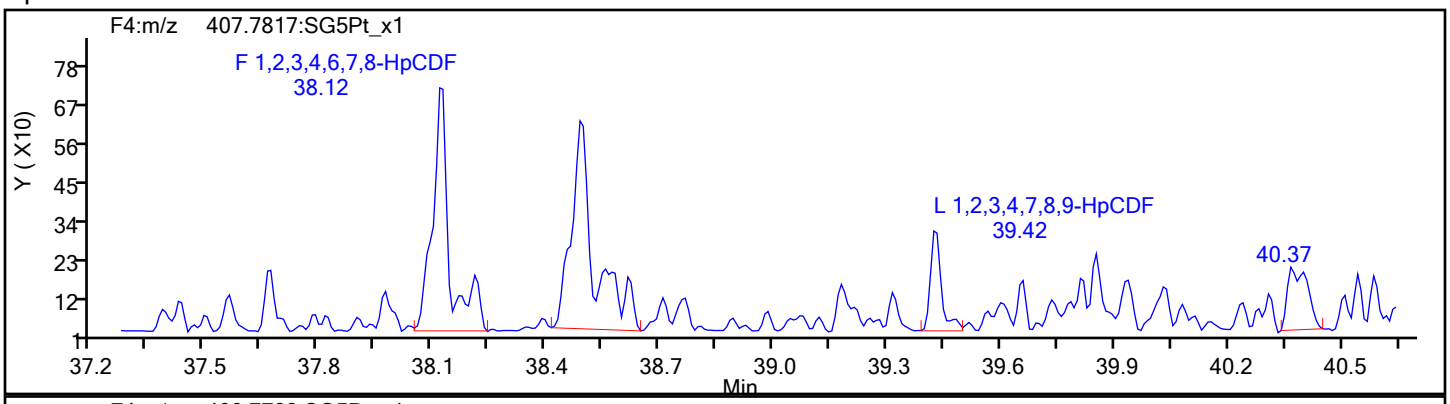
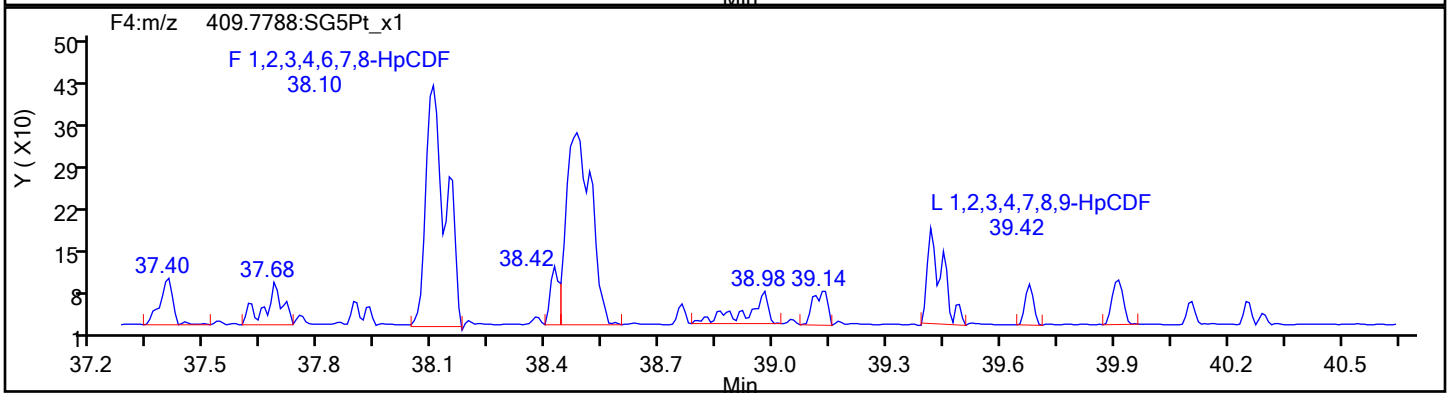
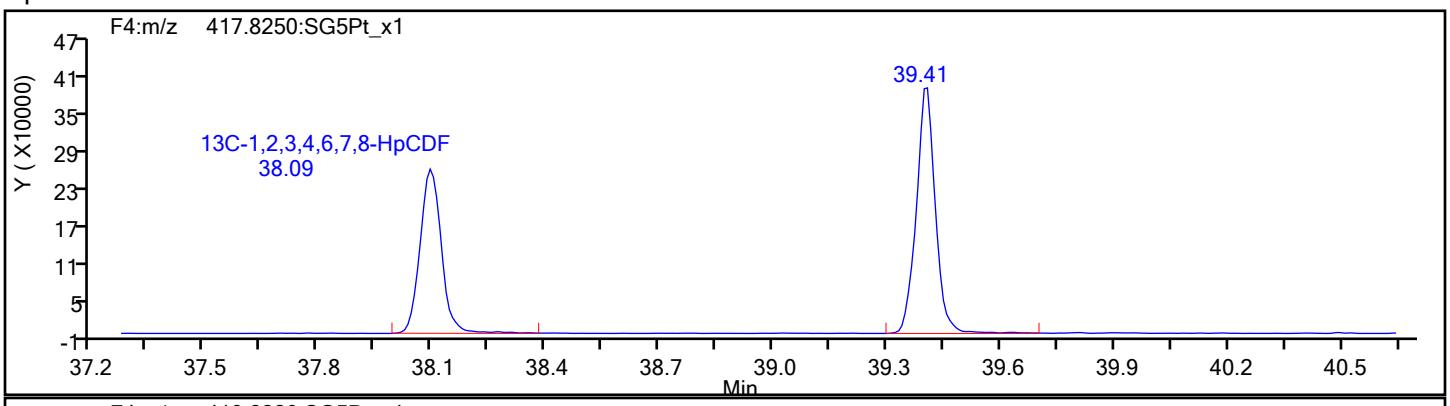
Column Type:	DB-5	Column Dia:	0.32 mm

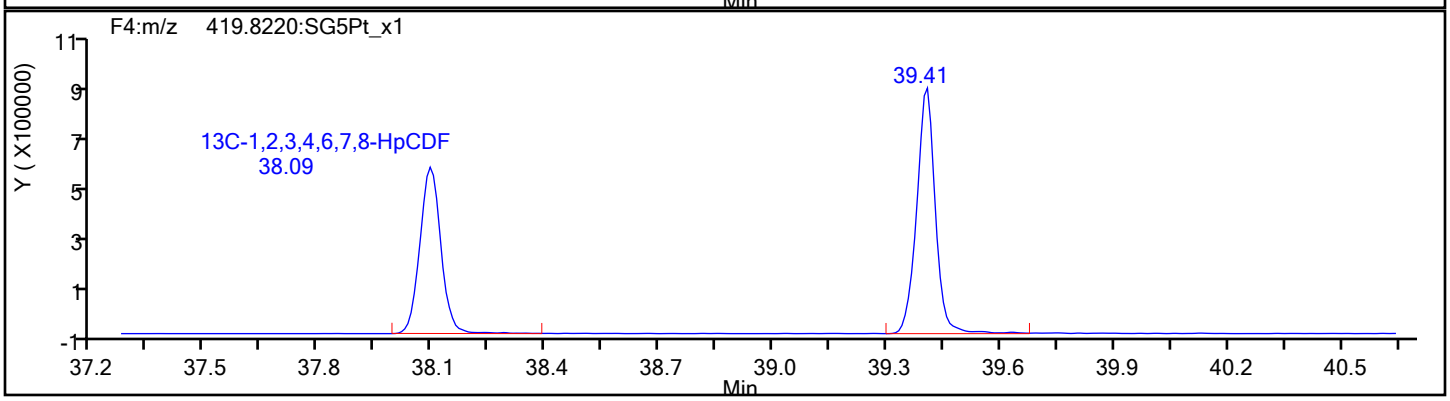
HpCDF





HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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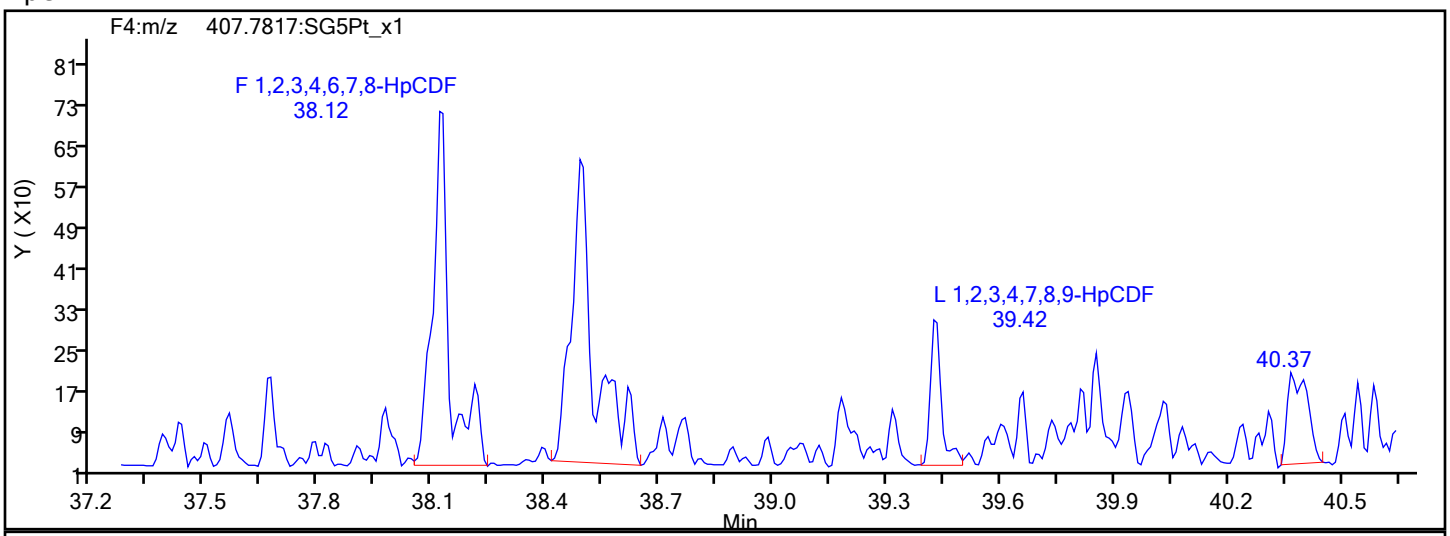
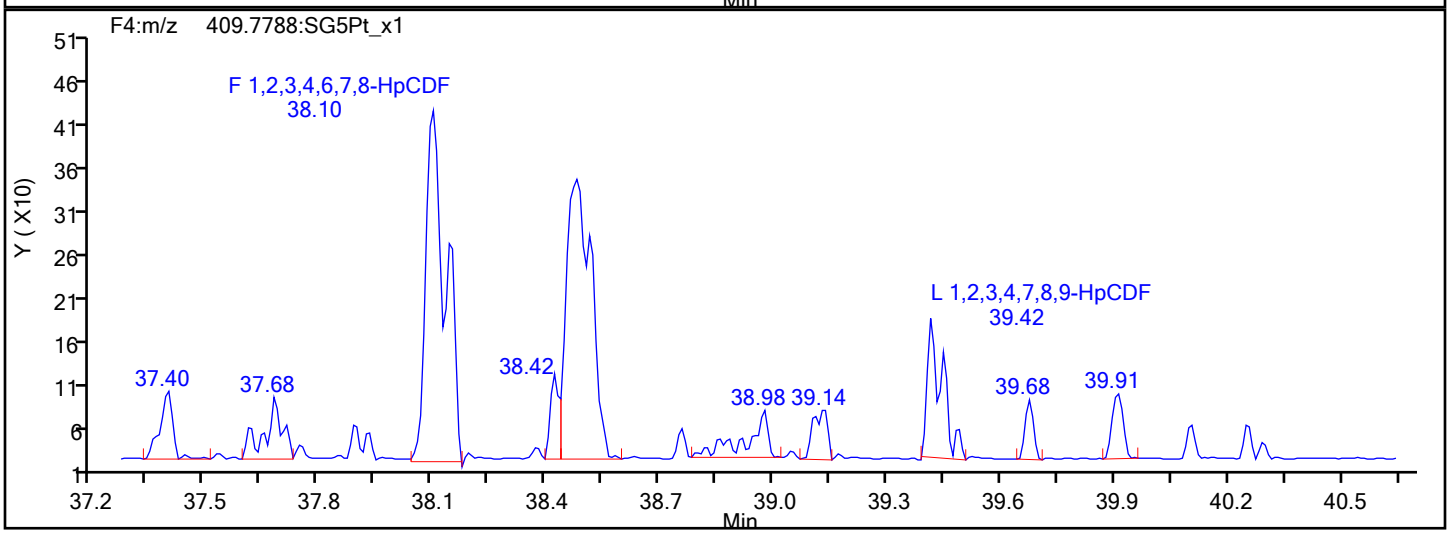
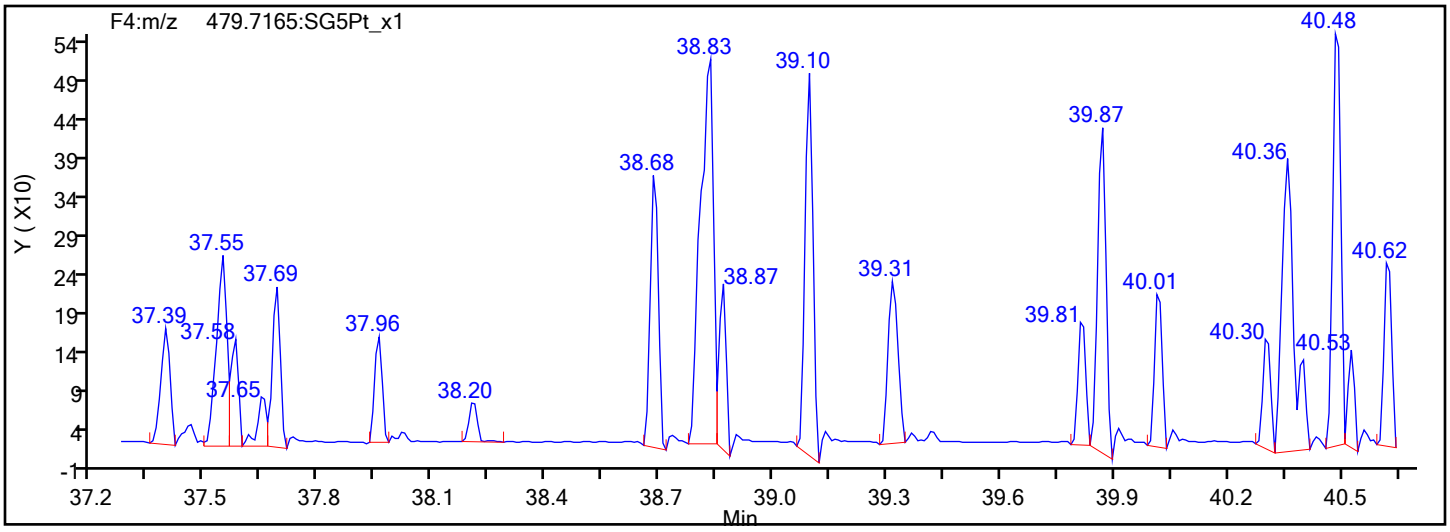
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





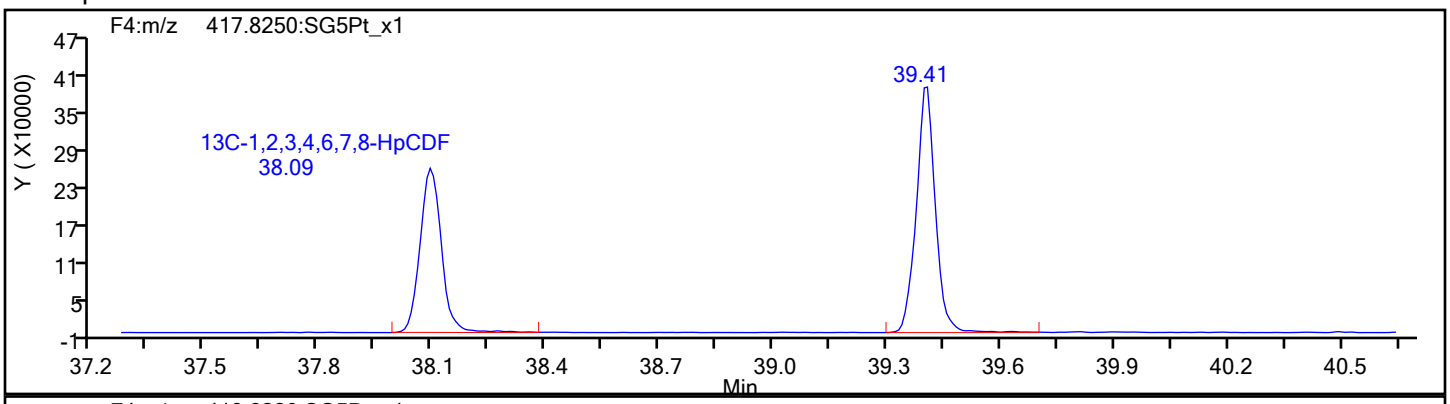
HpCDF Interference Mass

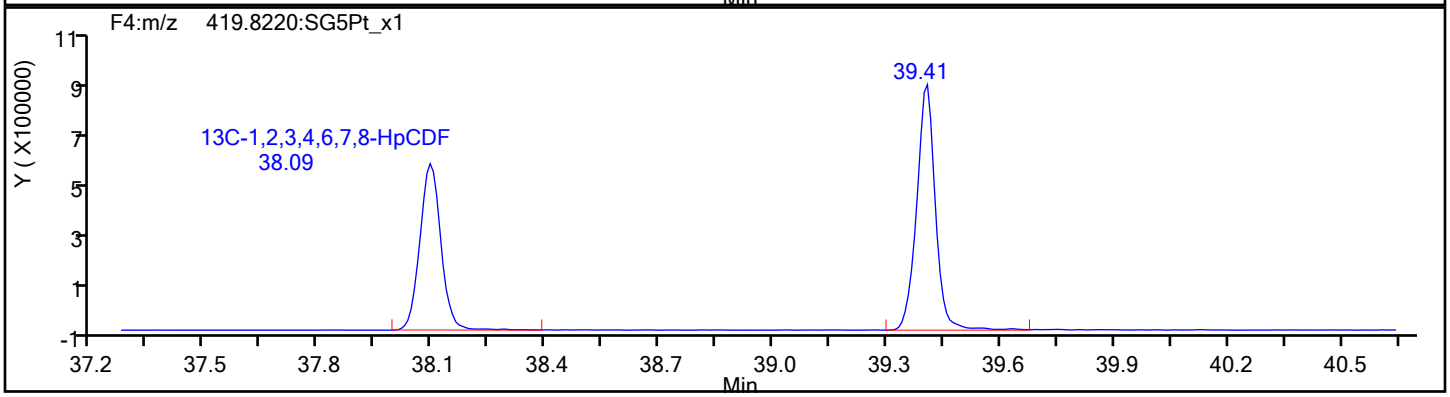


Eurofins Sacramento

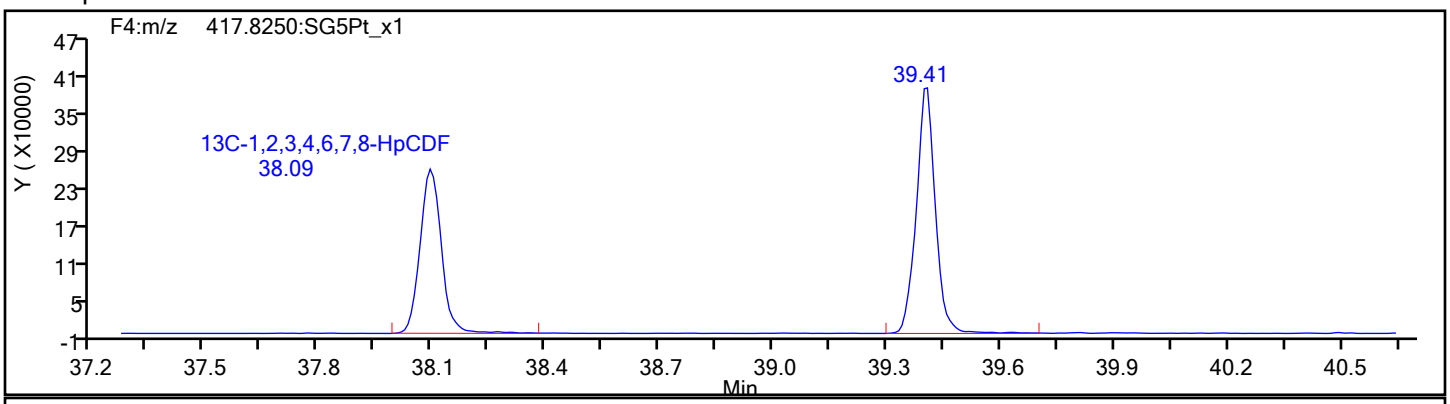
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d
Injection Date: 20-Jan-2022 21:02:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: EVBMP0001S019
Worklist#: 559474 Sample Line#: 8
Column Type: DB-5 Column Dia: 0.32 mm

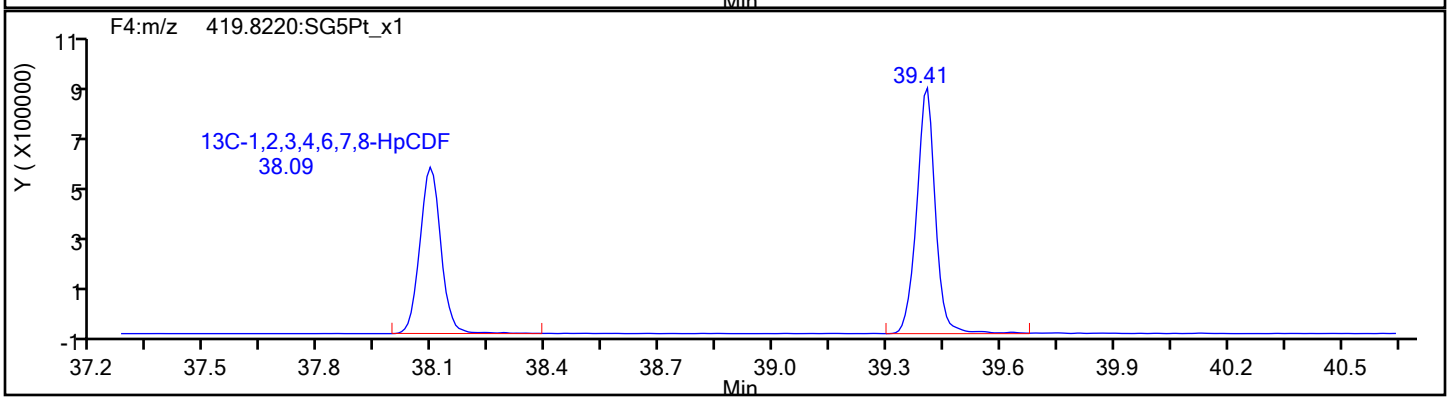
13C-HpCDF





13C-HpCDF Standards

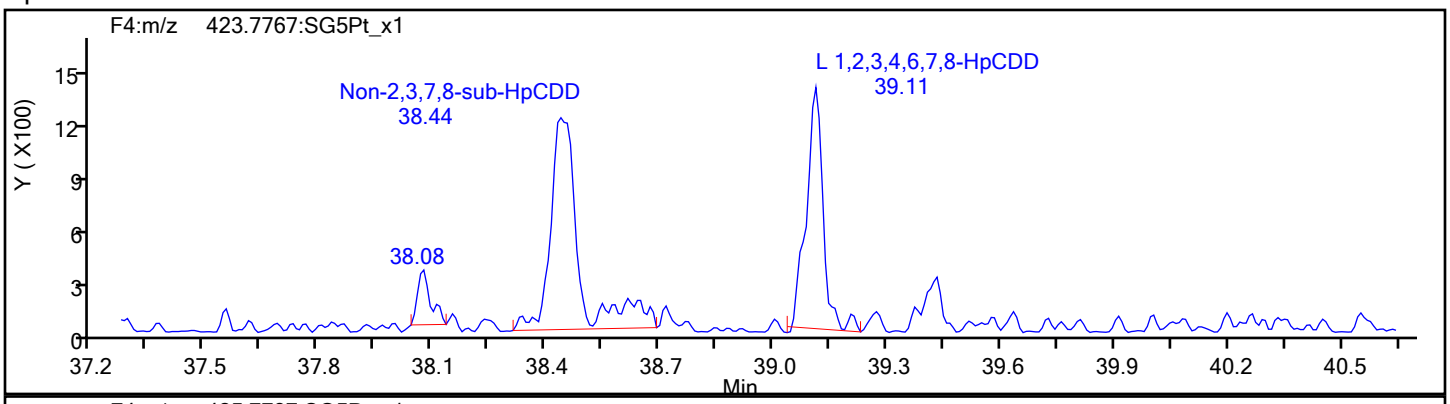


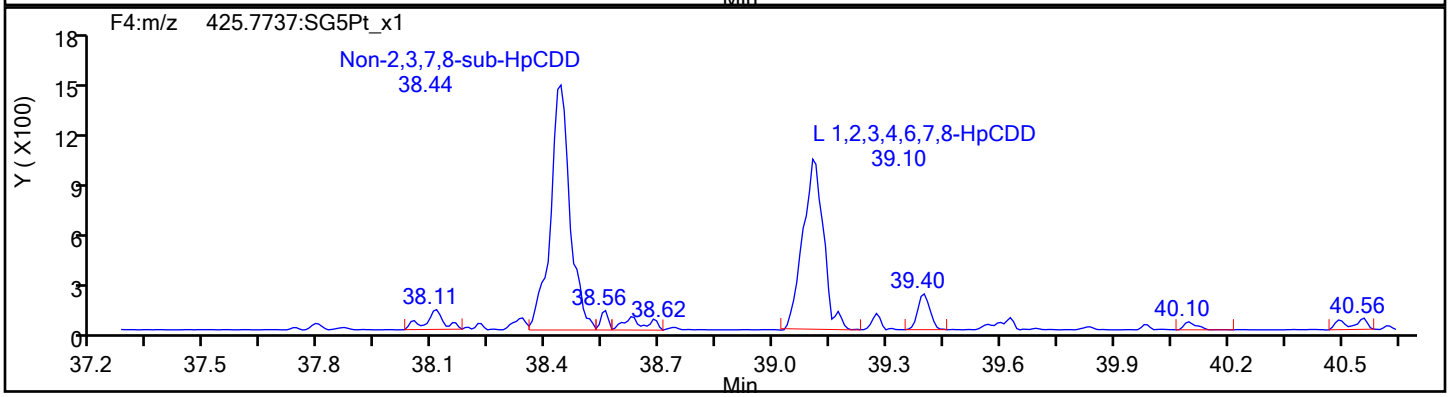


Eurofins Sacramento

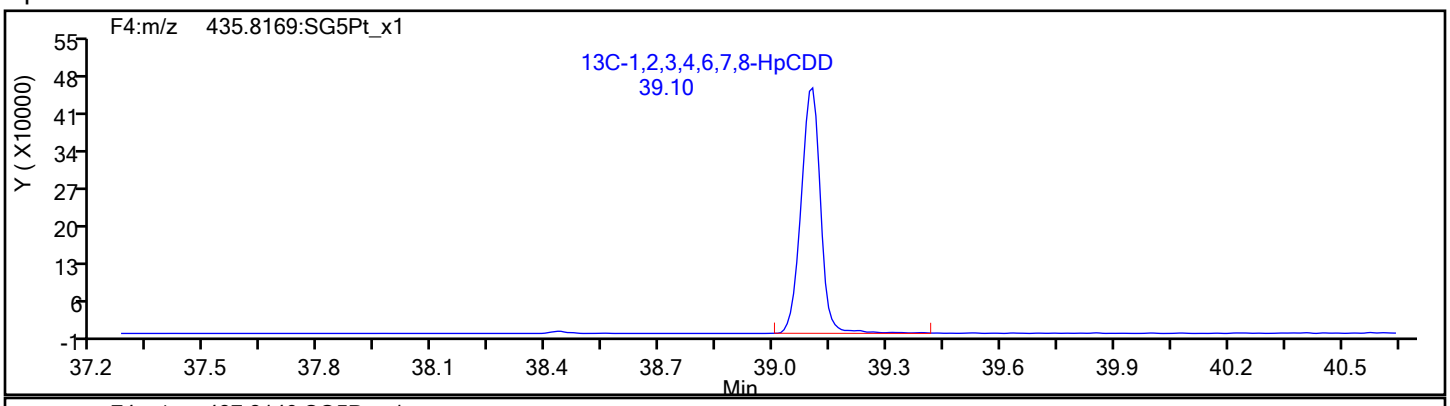
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

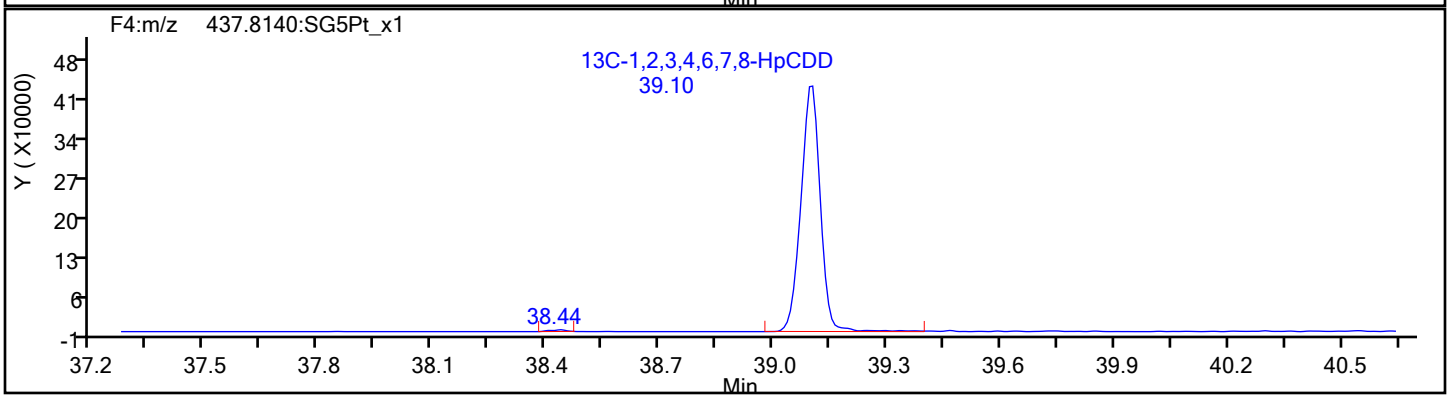
HpCDD





HpCDD Standards





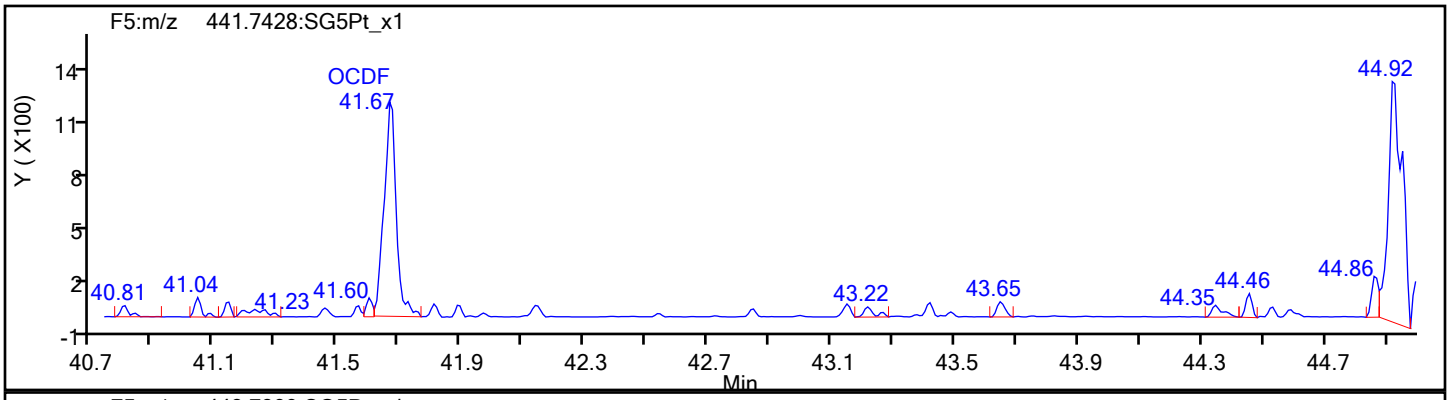
Report Date: 21-Jan-2022 08:05:53 Chrom Revision: 2.3 18-Jan-2022 20:25:40

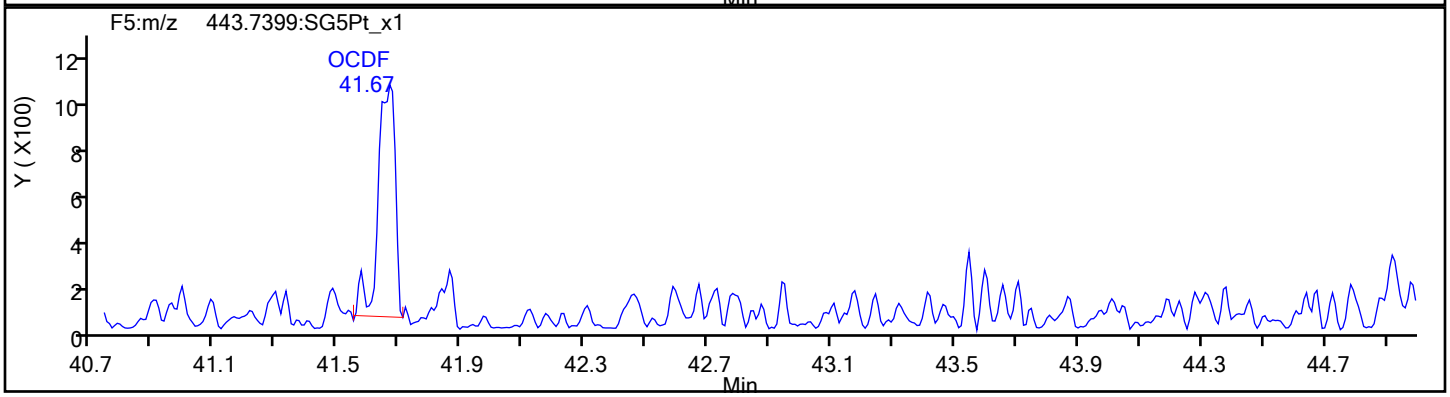
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d

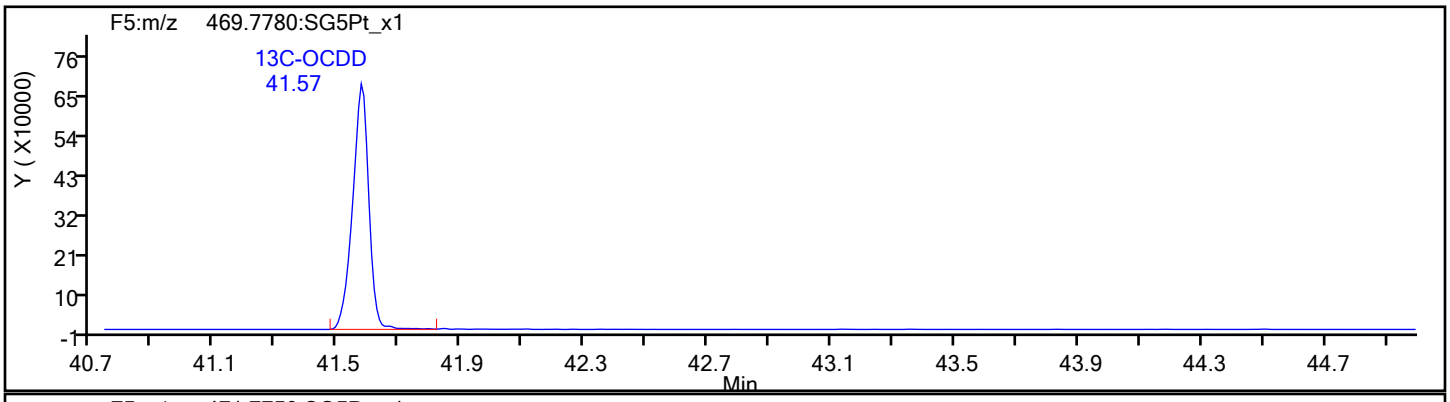
Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

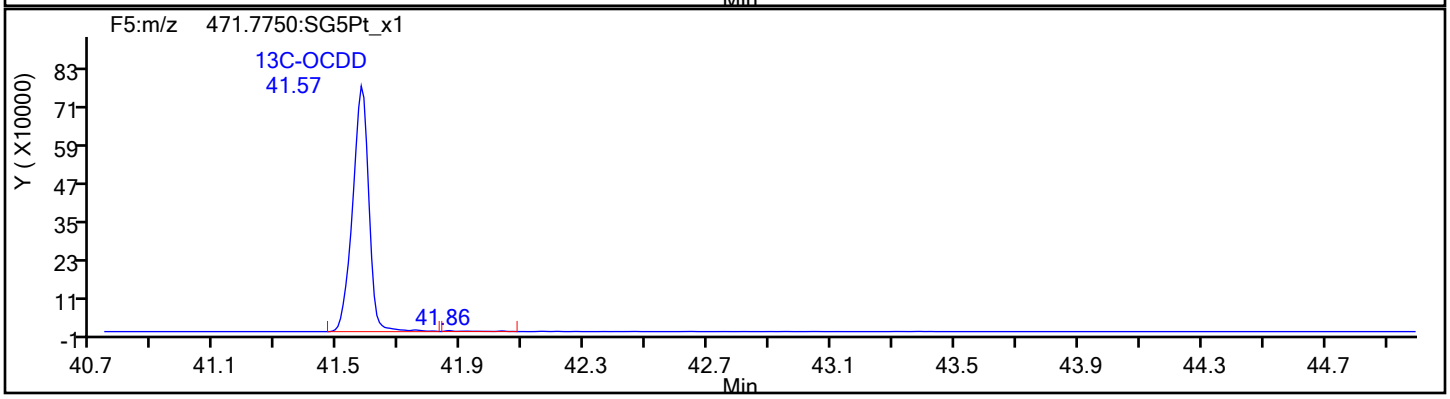
OCDF





OCDF Standards

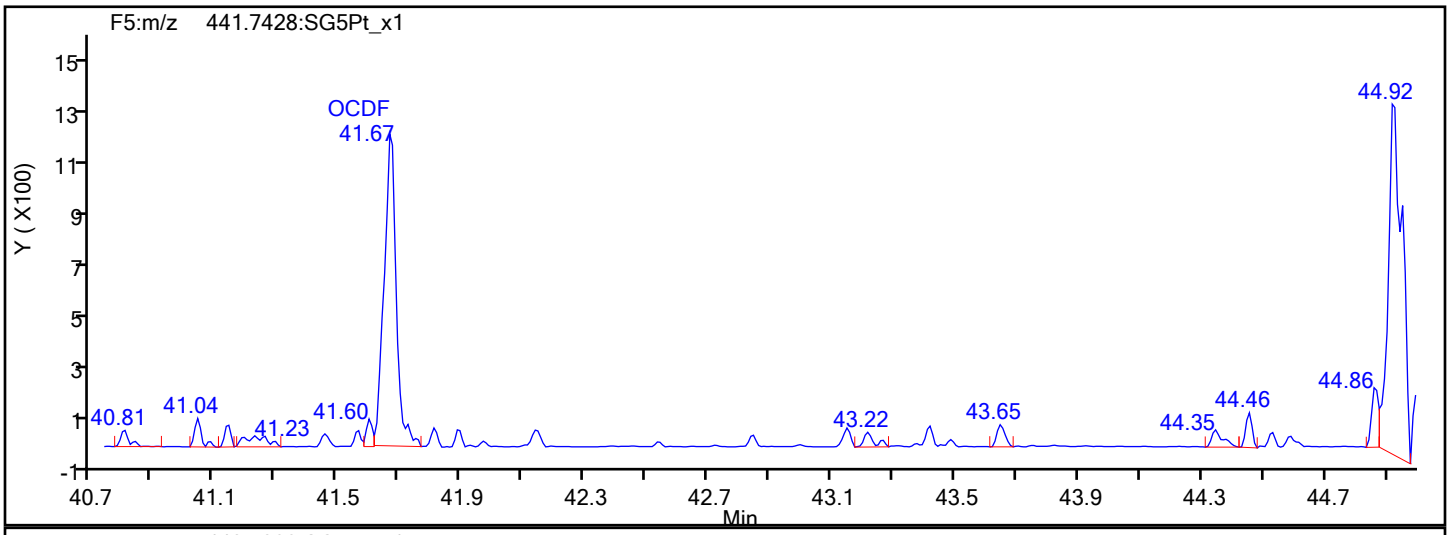


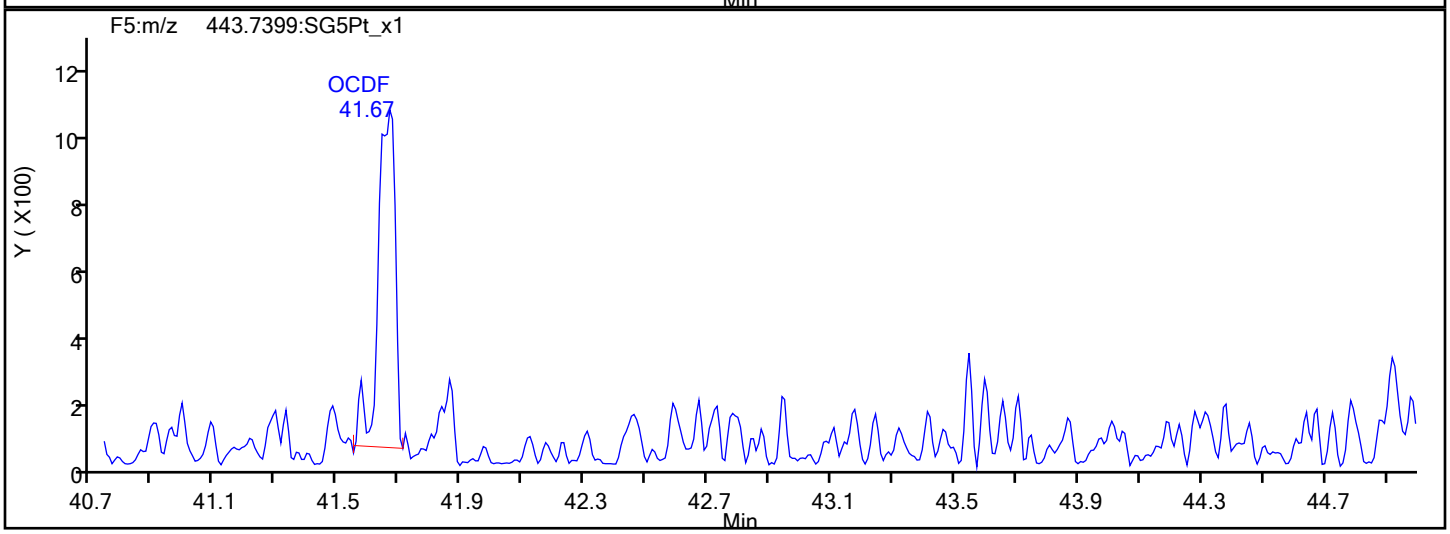


Eurofins Sacramento

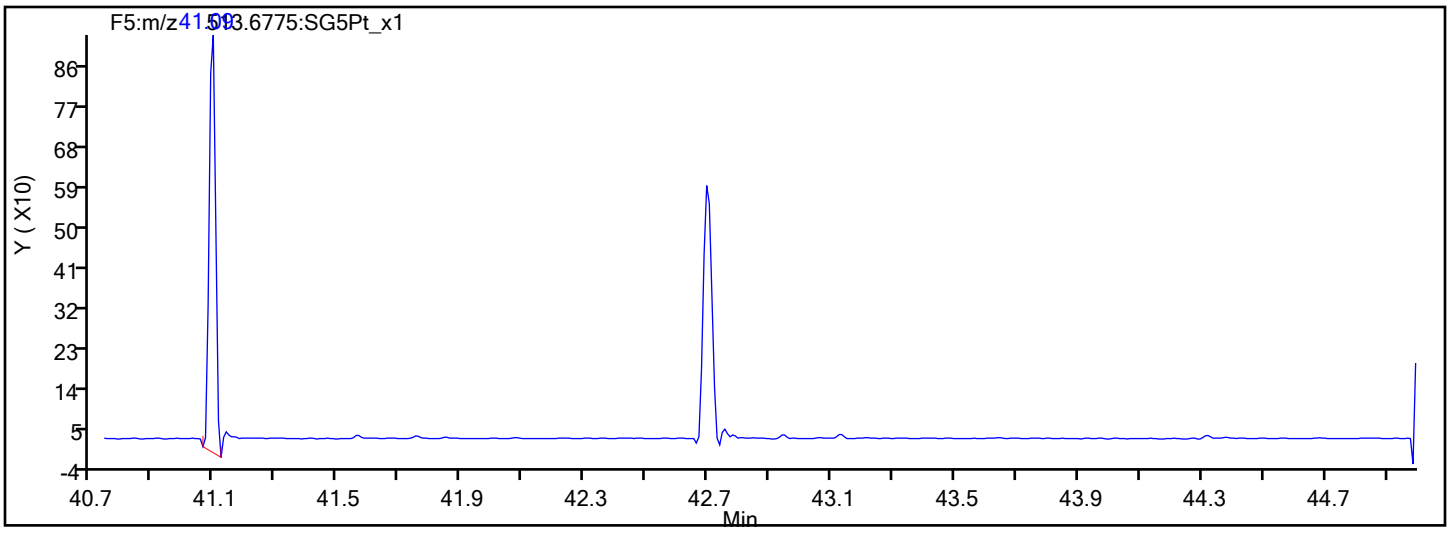
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



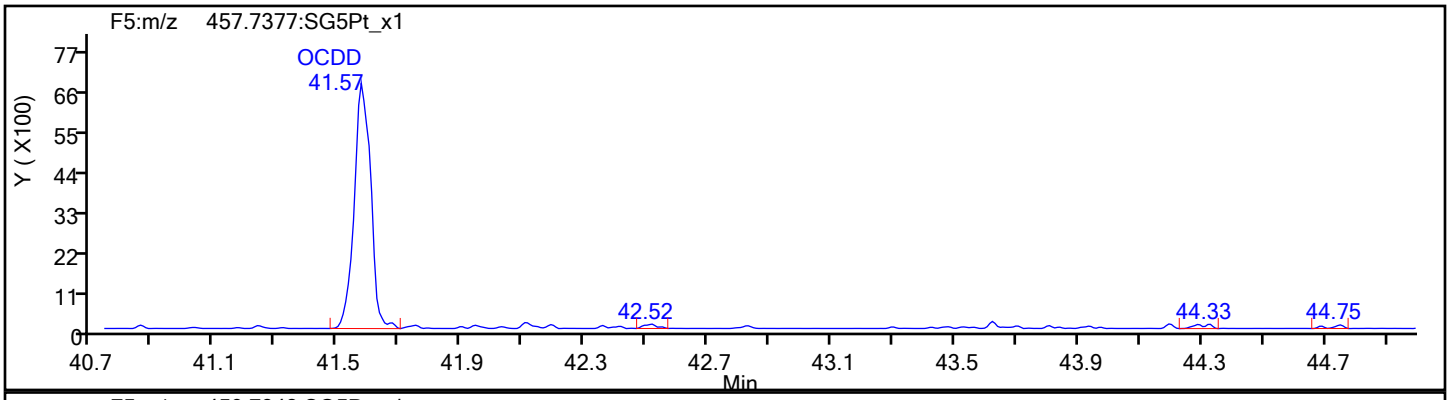
Report Date: 21-Jan-2022 08:05:53 Chrom Revision: 2.3 18-Jan-2022 20:25:40

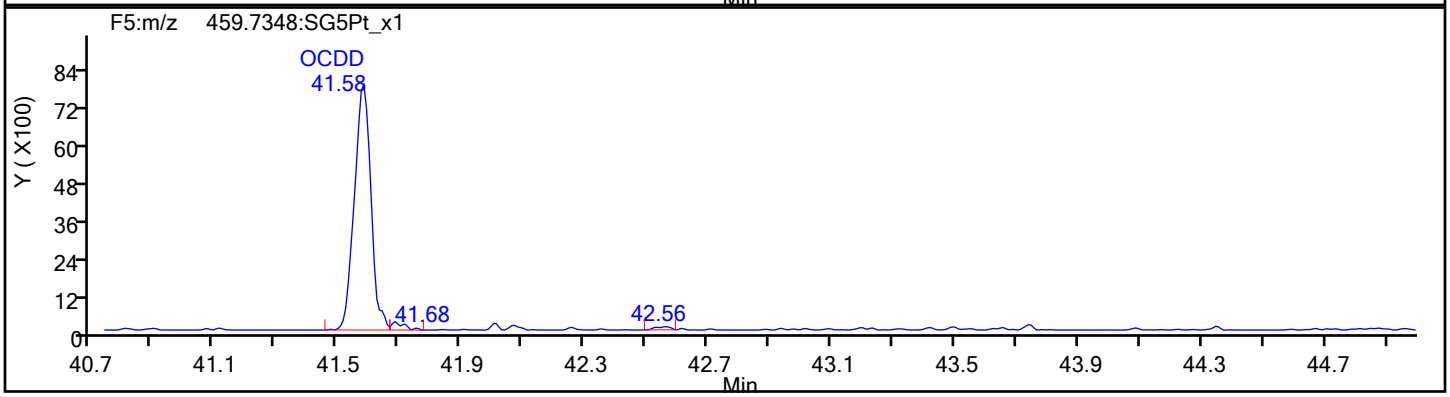
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d

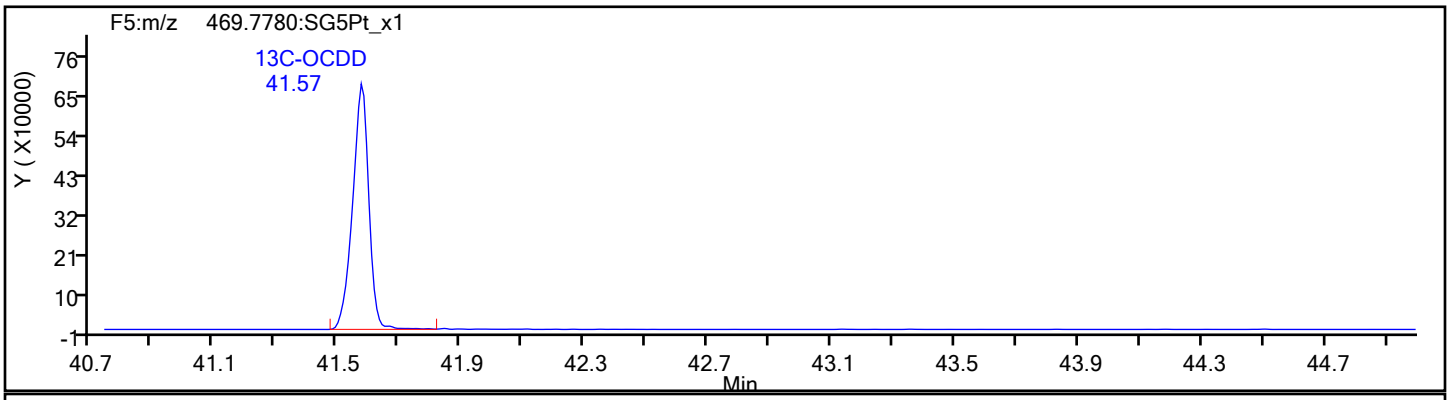
Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

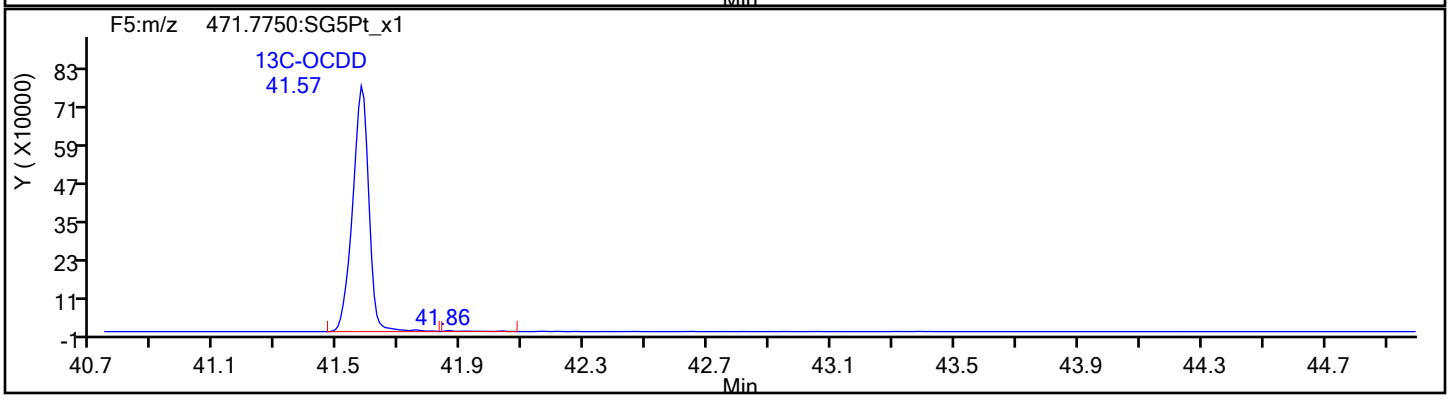
OCDD





OCDD Standards



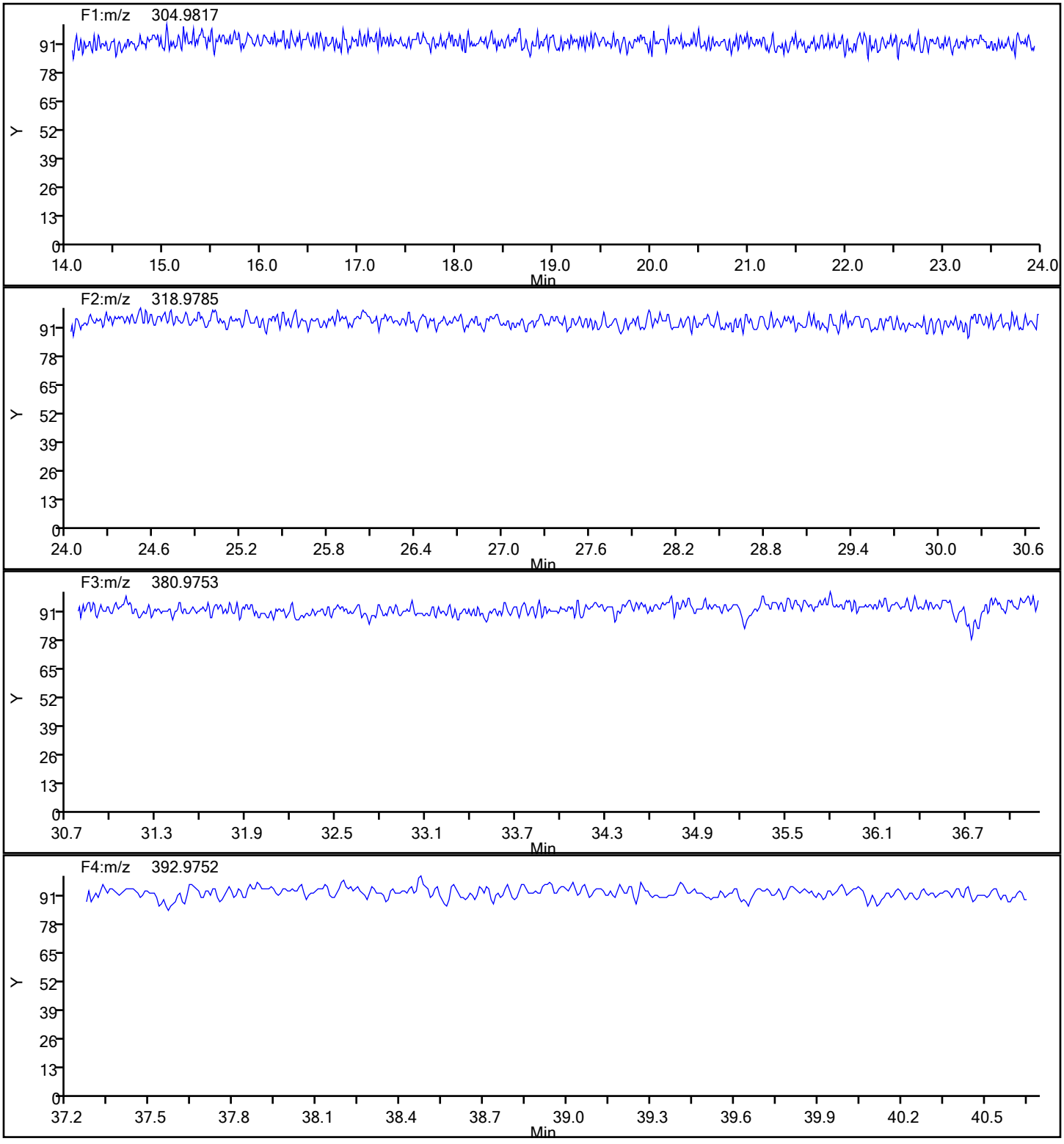


Report Date: 21-Jan-2022 08:05:53 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d

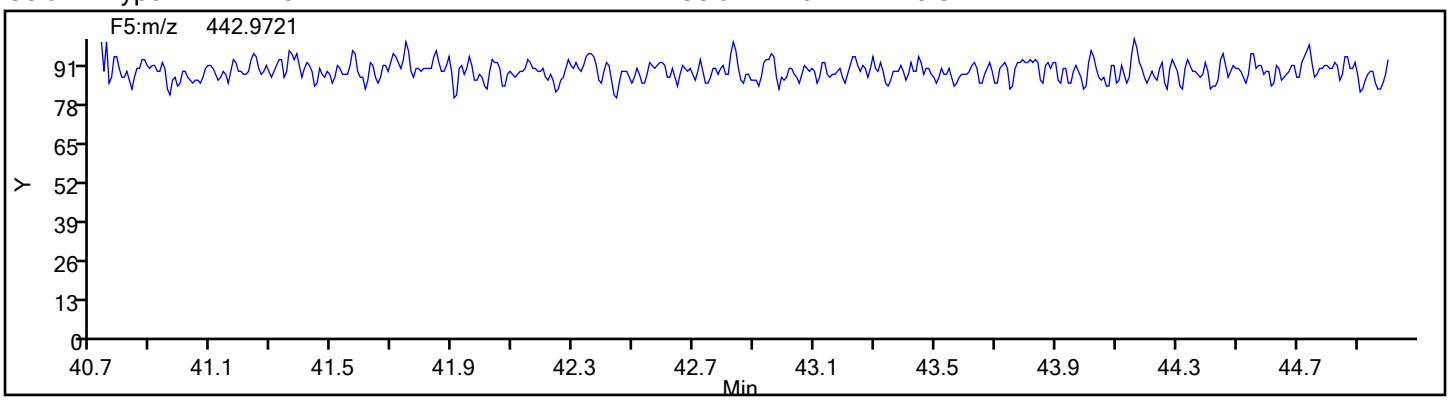
Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 21-Jan-2022 08:05:53 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_9.d		
Injection Date:	20-Jan-2022 21:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0001S019		
Worklist#:	559474	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80119-2

SDG No.:

Client Sample ID: EVBMP0003S032 | Lab Sample ID: 570-80119-4

Matrix: Water | Lab File ID: 20ja22dfs1_10.d

Analysis Method: 8290 | Date Collected: 12/24/2021 07:20

Extract. Method: 8290 | Date Extracted: 01/04/2022 09:56

Sample wt/vol: 1044(mL) | Date Analyzed: 01/20/2022 21:50

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559474 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.6	0.73
51207-31-9	2,3,7,8-TCDF	ND		9.6	0.36
40321-76-4	1,2,3,7,8-PeCDD	ND		48	0.53
57117-41-6	1,2,3,7,8-PeCDF	ND		48	0.31
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.33
39227-28-6	1,2,3,4,7,8-HxCDD	2.7	J B q	48	0.30
57653-85-7	1,2,3,6,7,8-HxCDD	1.8	J q	48	0.27
19408-74-3	1,2,3,7,8,9-HxCDD	1.5	J B q	48	0.28
70648-26-9	1,2,3,4,7,8-HxCDF	0.67	J	48	0.24
57117-44-9	1,2,3,6,7,8-HxCDF	0.60	J	48	0.20
60851-34-5	2,3,4,6,7,8-HxCDF	ND		48	0.21
72918-21-9	1,2,3,7,8,9-HxCDF	0.56	J	48	0.23
35822-46-9	1,2,3,4,6,7,8-HpCDD	42	J B	48	0.52
67562-39-4	1,2,3,4,6,7,8-HpCDF	17	J B	48	0.34
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.6	J B	48	0.40
3268-87-9	OCDD	340	B	96	0.56
39001-02-0	OCDF	56	J	96	0.48

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	93		40-135
89059-46-1	13C-2,3,7,8-TCDF	96		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	93		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	94		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	87		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	94		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	96		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	98		40-135
114423-97-1	13C-OCDD	116		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d
Lims ID: 570-80119-F-4-A
Client ID: EVBMP0003S032
Sample Type: Client
Inject. Date: 20-Jan-2022 21:50:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80119-f-4-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 08:04:41

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.960	6621072	0.79	3.5E+04	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.050	6489332	0.78	1.0164	96.4	96.4	0.3542	0.3542	96.43	
2,3,7,8-TCDF	19.149						0.0190	0.0190		
A Non-2,3,7,8-sub-TCDF	18.694						0.0190	0.0190		
S Total TCDF							0.0190	0.0190		
D 13C-2,3,7,8-TCDD	20.312	4840023	0.81	0.7884	92.7	92.7	0.2624	0.2624	92.72	
2,3,7,8-TCDD	20.403						0.0383	0.0383		
A Non-2,3,7,8-sub-TCDD	19.493						0.0383	0.0383		
S Total TCDD							0.0383	0.0383		
D 13C-1,2,3,7,8-PeCDF	26.088	5735740	1.55	0.9232	93.8	93.8	0.4222	0.4222	93.84	
1,2,3,7,8-PeCDF	26.140						0.0164	0.0164		
2,3,4,7,8-PeCDF	27.572						0.0174	0.0174		
A F1 PeCDFs	23.390	46	1.55	0.9486	0.0564	0.000845	0.009464	0.009464		RQ
A Non-2,3,7,8-sub-PeCDF	26.772	412	1.55	0.9486	0.0289	0.007572	0.0169	0.0169		RQ
S Total PeCDF					0.0853	0.008418	0.0169	0.0169		RQ
D 13C-1,2,3,7,8-PeCDD	28.286	3452509	1.53	0.5606	93.0	93.0	0.1501	0.1501	93.01	
1,2,3,7,8-PeCDD	28.355						0.0278	0.0278		
A Non-2,3,7,8-sub-PeCDD	27.199	1208	1.55	1.0020	0.0621	0.0349	0.0278	0.0349		RQ
S Total PeCDD					0.0621	0.0349	0.0278	0.0278		RQ
D 13C-1,2,3,4,7,8-HxCDF	33.998	5659869	0.54	1.0566	93.9	93.9	0.2518	0.2518	93.87	
1,2,3,4,7,8-HxCDF	34.040	1739	1.34	0.8835	0.0348	0.0348	0.0123	0.0123		
1,2,3,6,7,8-HxCDF	34.200	1826	1.32	1.0287	0.0314	0.0314	0.0106	0.0106		M
2,3,4,6,7,8-HxCDF	35.143						0.0110	0.0110		U
1,2,3,7,8,9-HxCDF	36.137	1492	1.27	0.9071	0.0291	0.0291	0.0120	0.0120		M
A Non-2,3,7,8-sub-HxCDF	34.083	16182	1.24	0.9518	0.3303	0.3004	0.0115	0.1598		RQ
S Total HxCDF					0.4255	0.3956	0.0115	0.0115		RQ
* 13C-1,2,3,7,8,9-HxCDD	35.901	5706896	1.26	2.5E+04	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.387	4586	1.24	0.8294	0.1684	0.1384	0.0158	0.0158		RQM
D 13C-1,2,3,6,7,8-HxCDD	35.497	3993983	1.21	0.8027	87.2	87.2	0.2338	0.2338	87.19	
1,2,3,6,7,8-HxCDD	35.530	3478	1.24	0.9395	0.1170	0.0927	0.0139	0.0139		RQMa
1,2,3,7,8,9-HxCDD	35.901	2882	1.24	0.9076	0.1071	0.0795	0.0144	0.0144		RQM

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDD	34.580	11212	1.24	0.8922	0.3298	0.3147	0.0146	0.2336		RQ
S Total HxCDD					0.7224	0.6253	0.0147	0.0147		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.071	3592977	0.45	0.6421	98.1	98.1	0.4424	0.4424	98.05	
1,2,3,4,6,7,8-HpCDF	38.079	44584	1.11	1.4385	0.8626	0.8626	0.0179	0.0179		
1,2,3,4,7,8,9-HpCDF	39.385	3748	0.92	1.2202	0.0855	0.0855	0.0211	0.0211		
A Non-2,3,7,8-sub-HpCDF	38.761	64947	1.09	1.3293	1.360	1.360	0.0194	1.360		
S Total HpCDF					2.308	2.308	0.0195	0.0195		
D 13C-1,2,3,4,6,7,8-HpCDD	39.081	3430720	1.07	0.6246	96.2	96.2	0.2874	0.2874	96.24	
1,2,3,4,6,7,8-HpCDD	39.081	72754	1.08	0.9767	2.171	2.171	0.0273	0.0273		
A Non-2,3,7,8-sub-HpCDD	38.778	90932	1.05	0.9767	2.714	2.714	0.0273	2.714		
S Total HpCDD					4.885	4.885	0.0273	0.0273		
D 13C-OCDD	41.552	5749787	0.88	0.4360	231.1	231.1	0.3166	0.3166	116	
OCDF	41.628	107103	0.85	1.2756	2.921	2.921	0.0248	0.0248		
OCDD	41.561	531503	0.86	1.0341	17.9	17.9	0.0293	0.0293		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d
Lims ID: 570-80119-F-4-A
Client ID: EVBMP0003S032
Sample Type: Client
Inject. Date: 20-Jan-2022 21:50:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80119-f-4-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 08:04:41

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	19.960	19.998	-2		2920965	444519	573	1432	776		a
333.9338	19.969	19.998	-2		3700107	586128	280	700	2093	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.050	19.115	-4	0.954	2851955	436665	1119	2797	390		
317.9389	19.059	19.115	-3	0.955	3637377	559499	365	912	1533	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.149						3	7			
305.8987	19.149						74	185			
A Non-2,3,7,8-sub-TCDF											
303.9016	18.694						3	7			
305.8987	18.694						74	185			
13C-2,3,7,8-TCDD											
331.9368	20.312	20.377	-4	1.018	2173008	311205	573	1432	543		
333.9338	20.321	20.377	-3	1.018	2667015	391688	280	700	1399	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.403						98	245			
321.8936	20.403						9	22			
A Non-2,3,7,8-sub-TCDD											
319.8965	19.493						98	245			
321.8936	19.493						9	22			
13C-1,2,3,7,8-PeCDF											
351.9000	26.088	26.115	-2	1.307	3489120	582762	943	2357	618		
353.8970	26.096	26.115	-1	1.307	2246620	386333	664	1660	582	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.140						2	5			
341.8567	26.140						60	150			

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.572						2	5			
341.8567	27.572						60	150			
A F1 PeCDFs											RQ
339.8597	23.627	23.390	14	0.906	28	16	1	2	16		
341.8567	23.636	23.390	15	0.906	3042	542	34	85	16	0.01(1.32-1.78)	
	Empc Correction				18	10	34	85	0		
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	29.364	26.772	155	1.126	251	60	2	5	30		
341.8567	29.330	26.772	153	1.124	1322	339	60	150	6	0.19(1.32-1.78)	
	Empc Correction				161	38	60	150	1		
13C-1,2,3,7,8-PeCDD											
367.8949	28.286	28.330	-3	1.417	2086755	311453	208	520	1497		
369.8919	28.294	28.330	-2	1.418	1365754	209076	139	347	1504	1.53(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.355						49	122			
357.8516	28.355						9	22			
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	29.423	27.199	133	1.040	1676	227	49	122	5		
	Empc Correction				734	313	49	122	6		
357.8516	29.347	27.199	129	1.038	474	202	9	22	22	3.54(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	33.998	34.034	-2	0.947	1972888	363423	599	1497	607		
385.8610	33.998	34.034	-2	0.947	3686981	691794	775	1937	893	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.040	34.051	-1	1.001	997	280	32	80	9		
375.8178	34.006	34.051	-3	1.000	742	175	14	35	13	1.34(1.05-1.43)	
1,2,3,6,7,8-HxCDF											M
373.8208	34.200	34.236	-2	1.006	1040	211	32	80	7		M
375.8178	34.208	34.236	-2	1.006	786	295	14	35	21	1.32(1.05-1.43)	M
2,3,4,6,7,8-HxCDF											U
373.8208	35.171						32	80			
375.8178	35.171						14	35			
1,2,3,7,8,9-HxCDF											M
373.8208	36.137	36.139	0	1.063	834	256	32	80	8		M
375.8178	36.086	36.139	-3	1.061	658	140	14	35	10	1.27(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	31.850	34.083	-134	0.937	2330	487	32	80	15		
	Empc Correction				720	241	32	80	8		
375.8178	31.842	34.083	-134	0.937	581	195	14	35	14	4.01(1.05-1.43)	
373.8208	32.187	34.083	-114	0.947	4491	693	32	80	22		
375.8178	32.204	34.083	-113	0.947	4119	706	14	35	50	1.09(1.05-1.43)	
373.8208	33.274	34.083	-48	0.979	3472	716	32	80	22		
375.8178	33.257	34.083	-49	0.978	2799	555	14	35	40	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.901	35.929	-2		3185142	733760	638	1595	1150		
403.8529	35.901	35.929	-2		2521754	557128	331	827	1683	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8158	35.387	35.423	-2	0.997	2539	622	21	52	30		M
391.8127	35.370	35.423	-3	0.996	3041	646	24	60	27	0.83(1.05-1.43)	M
	Empc Correction				2047	501	24	60	21		
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.497	35.533	-2	0.989	2186255	475429	638	1595	745		
403.8529	35.497	35.533	-2	0.989	1807728	381702	331	827	1153	1.21(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQMa
389.8158	35.530	35.550	-1	1.001	2837	531	21	52	25		M
	Empc Correction				1925	806	21	52	38		
391.8127	35.505	35.550	-3	1.000	1553	650	24	60	27	1.83(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQM
389.8158	35.901	35.946	-3	1.011	2597	452	21	52	22		
	Empc Correction				1595	374	21	52	18		
391.8127	35.926	35.946	-1	1.012	1287	302	24	60	13	2.02(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											RQ
389.8158	33.215	34.580	-82	0.936	2139	479	21	52	23		
	Empc Correction				1599	357	21	52	17		
391.8127	33.215	34.580	-82	0.936	1290	288	24	60	12	1.66(1.05-1.43)	
389.8158	34.545	34.580	-2	0.973	4724	761	21	52	36		
391.8127	34.562	34.580	-1	0.974	3599	655	24	60	27	1.31(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.071	38.096	-2	1.060	1116408	309533	601	1502	515		
419.8220	38.071	38.096	-2	1.060	2476569	686959	866	2165	793	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.079	38.108	-2	1.000	23449	6228	69	172	90		
409.7788	38.088	38.108	-1	1.000	21135	6009	34	85	177	1.11(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.385	39.414	-2	1.035	1791	428	69	172	6		
409.7788	39.393	39.414	-1	1.035	1957	630	34	85	19	0.92(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.467	38.761	-18	1.010	33942	9634	69	172	140		
409.7788	38.467	38.761	-18	1.010	31005	8038	34	85	236	1.09(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.081	39.107	-2	1.089	1774036	526213	479	1197	1099		
437.8140	39.081	39.107	-2	1.089	1656684	504495	448	1120	1126	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.081	39.111	-2	1.000	37697	10716	72	180	149		
425.7737	39.081	39.111	-2	1.000	35057	10474	38	95	276	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.425	38.778	-21	0.983	46581	13195	72	180	183		
425.7737	38.425	38.778	-21	0.983	44351	12460	38	95	328	1.05(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-OCDD											
469.7780	41.552	41.579	-2	1.157	2691301	802619	362	905	2217		
471.7750	41.552	41.579	-2	1.157	3058486	882546	351	877	2514	0.88(0.76-1.02)	
OCDF											
441.7428	41.628	41.663	-2	1.002	49258	14028	27	67	520		
443.7399	41.628	41.663	-2	1.002	57845	16409	80	200	205	0.85(0.76-1.02)	
OCDD											
457.7377	41.561	41.587	-2	1.000	245087	73243	43	107	1703		
459.7348	41.561	41.587	-2	1.000	286416	85173	59	147	1444	0.86(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d
Lims ID: 570-80119-F-4-A
Client ID: EVBMP0003S032
Inject. Date: 20-Jan-2022 21:50:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 9

F1 PeCDFs, RT: 23.390

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	5735740	969095
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	5735740	969095

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.627	28	16	3042	542	0.0564	0.01	RQ
23.627	28	16	18	10	0.000845		Empc Correction
Signal Totals:							
	28	16	18	10			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3070	558				0.01	RQ
	46	26					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0564 = (3070 * 100.000) / (5735740 * 0.949)
Empc Amount: 0.000845 = (46 * 100.000) / (5735740 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d
Lims ID: 570-80119-F-4-A
Client ID: EVBMP0003S032
Inject. Date: 20-Jan-2022 21:50:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 9

Non-2,3,7,8-sub-PeCDF, RT: 26.772

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	5735740	969095
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	5735740	969095

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
29.364	251	60	1322	339	0.0289	0.19	RQ
29.364	251	60	161	38	0.007572		Empc Correction
Signal Totals:							
	251	60	161	38			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1573	399				0.19	RQ
	412	98					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0289 = (1573 * 100.000) / (5735740 * 0.949)
Empc Amount: 0.007572 = (412 * 100.000) / (5735740 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d
Lims ID: 570-80119-F-4-A
Client ID: EVBMP0003S032
Inject. Date: 20-Jan-2022 21:50:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 9

Non-2,3,7,8-sub-PeCDD, RT: 27.199

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.002	D 13C-1,2,3,7,8-PeCDD	100.000	3452509	520529

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.002		100.000	3452509	520529

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
29.423	1676	227	474	202	0.0621	3.54	RQ
29.423	734	313	474	202	0.0349		Empc Correction
Signal Totals:							
	734	313	474	202			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2150	429				3.54	RQ
	1208	515					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0621 = (2150 * 100.000) / (3452509 * 1.002)
Empc Amount: 0.0349 = (1208 * 100.000) / (3452509 * 1.002)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d
Lims ID: 570-80119-F-4-A
Client ID: EVBMP0003S032
Inject. Date: 20-Jan-2022 21:50:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDF, RT: 34.083

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883	D 13C-1,2,3,4,7,8-HxCDF	100.000	5659869	1055217
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.952		100.000	5659869	1055217

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
31.850	2330	487	581	195	0.0540	4.01	RQ
31.850	720	241	581	195	0.0242		Empc Correction
32.187	4491	693	4119	706	0.1598	1.09	
33.274	3472	716	2799	555	0.1164	1.24	
Signal Totals:							
	8683	1650	7499	1456			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	17792	3352				1.37	RQ
	16182	3106					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3303 = (17792 * 100.000) / (5659869 * 0.952)
Empc Amount: 0.3004 = (16182 * 100.000) / (5659869 * 0.952)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d
Lims ID: 570-80119-F-4-A
Client ID: EVBMP0003S032
Inject. Date: 20-Jan-2022 21:50:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDD, RT: 34.580

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829	D 13C-1,2,3,6,7,8-HxCDD	100.000	3993983	857131
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.892		100.000	3993983	857131

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.215	2139	479	1290	288	0.0962	1.66	RQ
33.215	1599	357	1290	288	0.0811		Empc Correction
34.545	4724	761	3599	655	0.2336	1.31	
Signal Totals:							
	6323	1118	4889	943			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11752	2183				1.40	RQ
	11212	2061					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3298 = (11752 * 100.000) / (3993983 * 0.892)
Empc Amount: 0.3147 = (11212 * 100.000) / (3993983 * 0.892)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d
Lims ID: 570-80119-F-4-A
Client ID: EVBMP0003S032
Inject. Date: 20-Jan-2022 21:50:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDF, RT: 38.761

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.439	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	3592977	996492
1,2,3,4,7,8,9-HpCDF	1.220				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.329		100.000	3592977	996492

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.467	33942	9634	31005	8038	1.36	1.09	
Signal Totals:							
	33942	9634	31005	8038			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	64947	17672				1.09	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.360 = (64947 * 100.000) / (3592977 * 1.329)

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d
Lims ID: 570-80119-F-4-A
Client ID: EVBMP0003S032
Inject. Date: 20-Jan-2022 21:50:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDD, RT: 38.778

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3430720	1030708

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3430720	1030708

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.425	46581	13195	44351	12460	2.71	1.05	
Signal Totals:							
	46581	13195	44351	12460			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	90932	25655				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.714 = (90932 * 100.000) / (3430720 * 0.977)

Manual Integration/User Assign Peak Report

Eurofins Sacramento

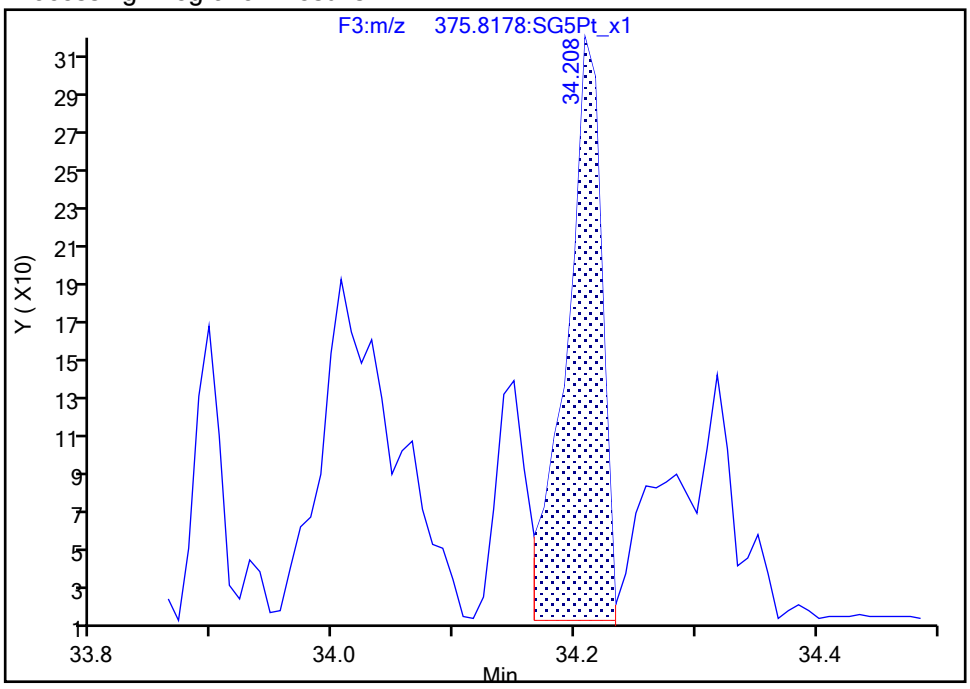
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d				
Injection Date:	20-Jan-2022 21:50:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-4-A	Lab Sample ID:	320-80119-4		
Client ID:	EVBMP0003S032				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

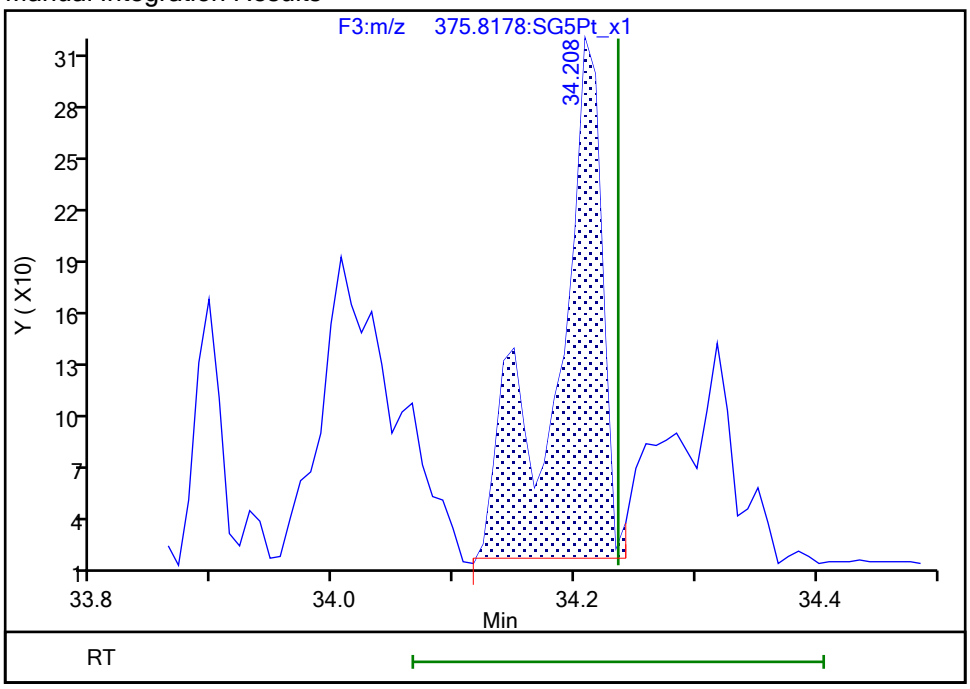
Processing Integration Results

RT: 34.21
Area: 602
Amount: 0.025195
Amount Units: pg/ul



Manual Integration Results

RT: 34.21
Area: 786
Amount: 0.031361
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:03:04
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

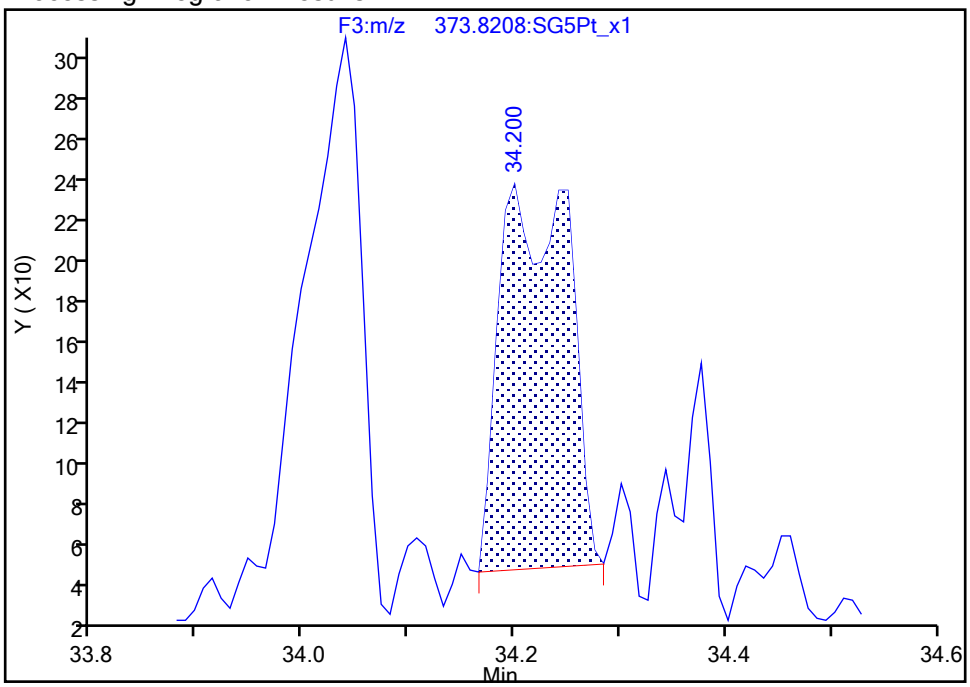
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d				
Injection Date:	20-Jan-2022 21:50:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-4-A	Lab Sample ID:	320-80119-4		
Client ID:	EVBMP0003S032				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

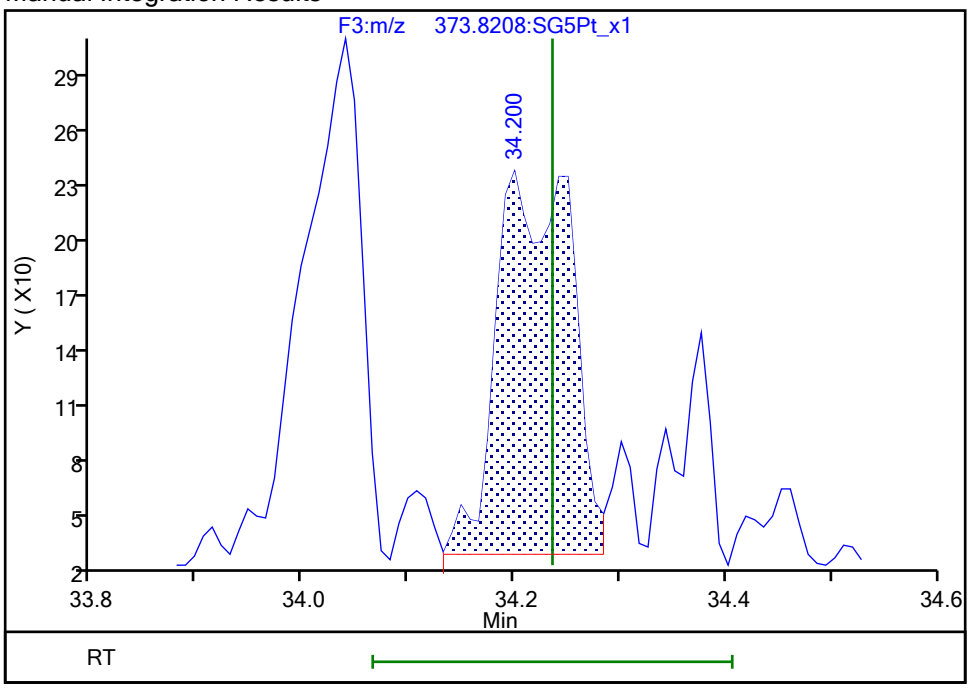
Processing Integration Results

RT: 34.20
Area: 865
Amount: 0.025195
Amount Units: pg/ul



Manual Integration Results

RT: 34.20
Area: 1040
Amount: 0.031361
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:03:15
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

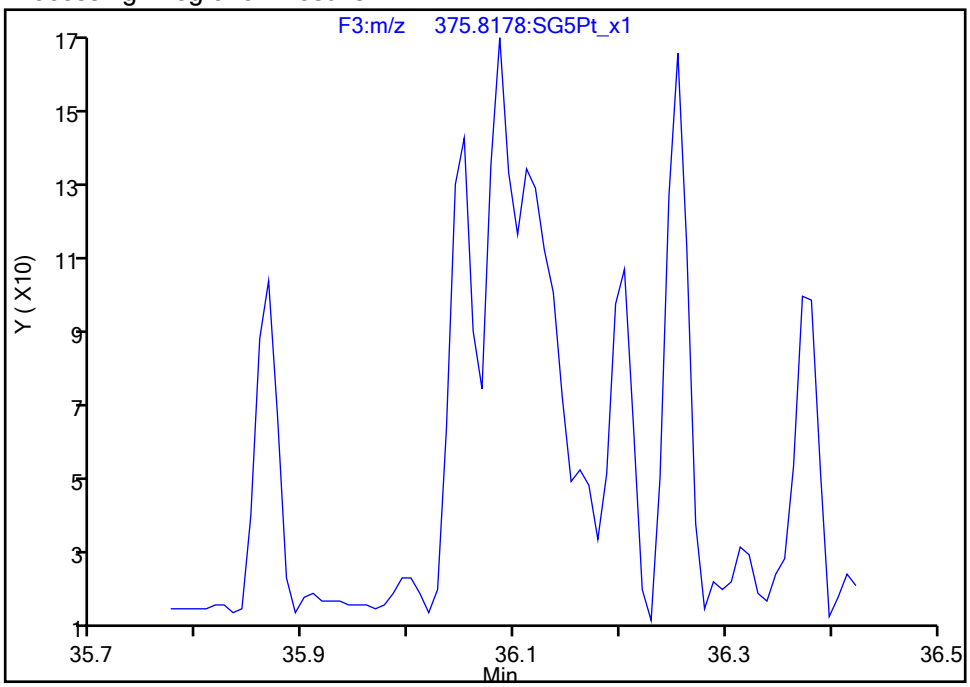
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d				
Injection Date:	20-Jan-2022 21:50:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-4-A	Lab Sample ID:	320-80119-4		
Client ID:	EVBMP0003S032				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

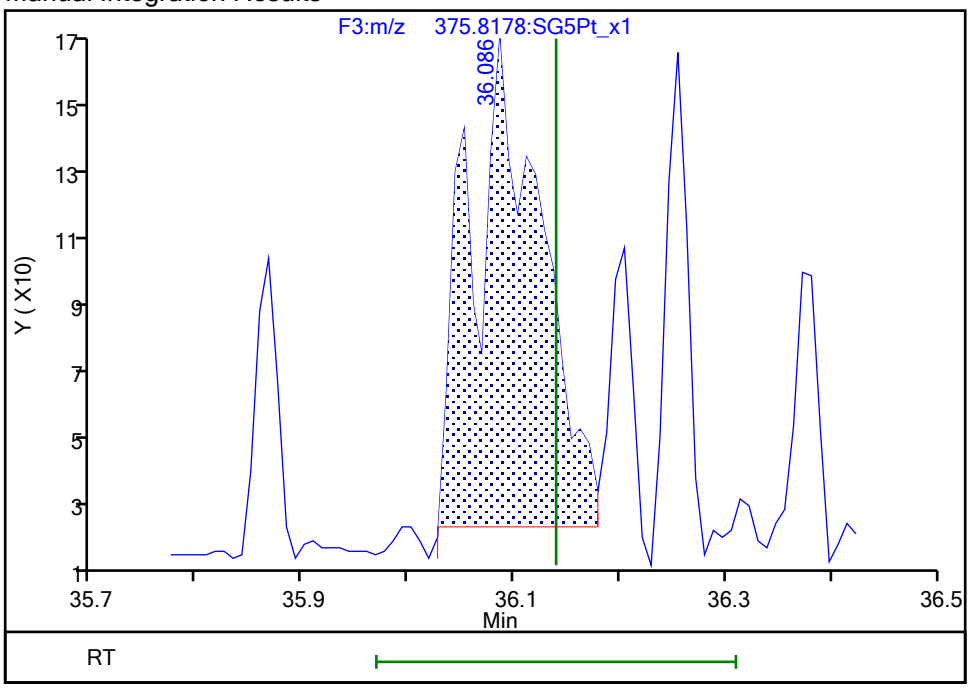
Not Detected
Expected RT: 36.14

Processing Integration Results



Manual Integration Results

RT: 36.09
Area: 658
Amount: 0.029062
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:03:34
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins Sacramento

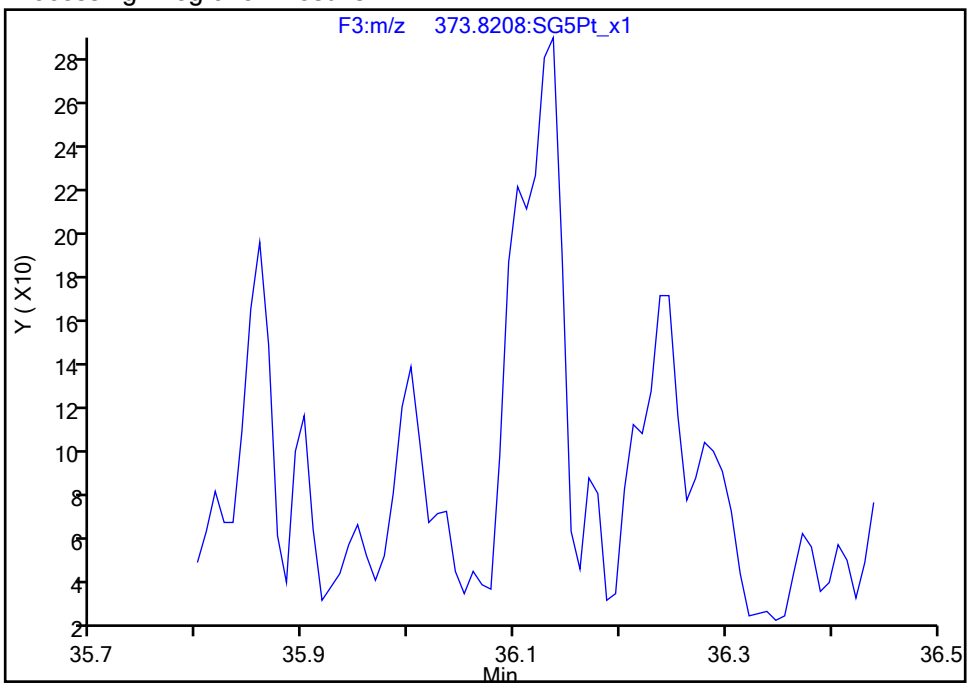
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d				
Injection Date:	20-Jan-2022 21:50:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-4-A	Lab Sample ID:	320-80119-4		
Client ID:	EVBMP0003S032				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

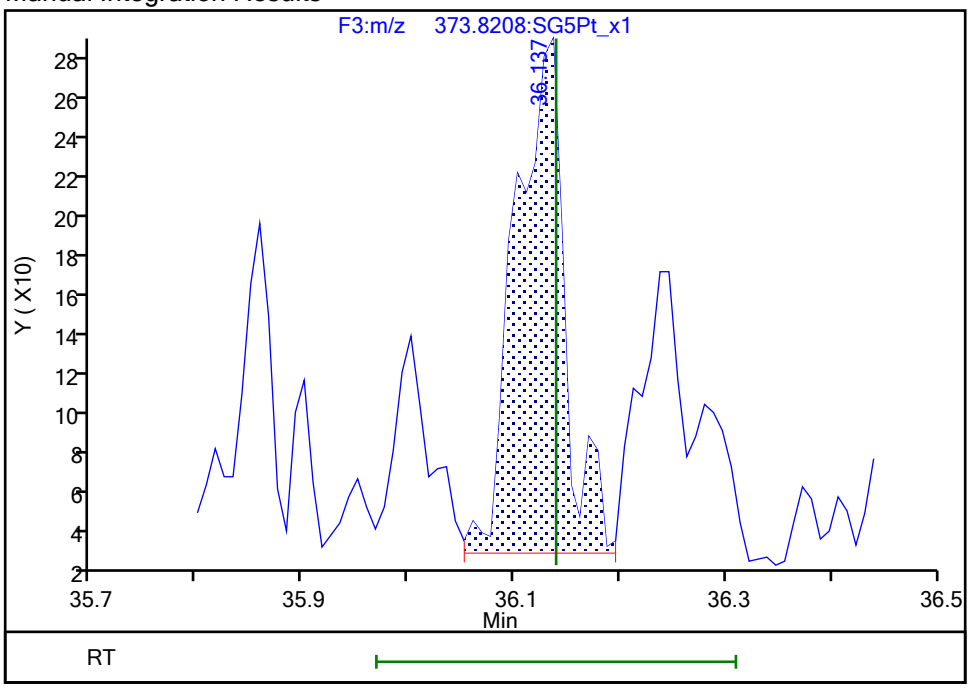
Not Detected
Expected RT: 36.14

Processing Integration Results



Manual Integration Results

RT: 36.14
Area: 834
Amount: 0.029062
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:03:36
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins Sacramento

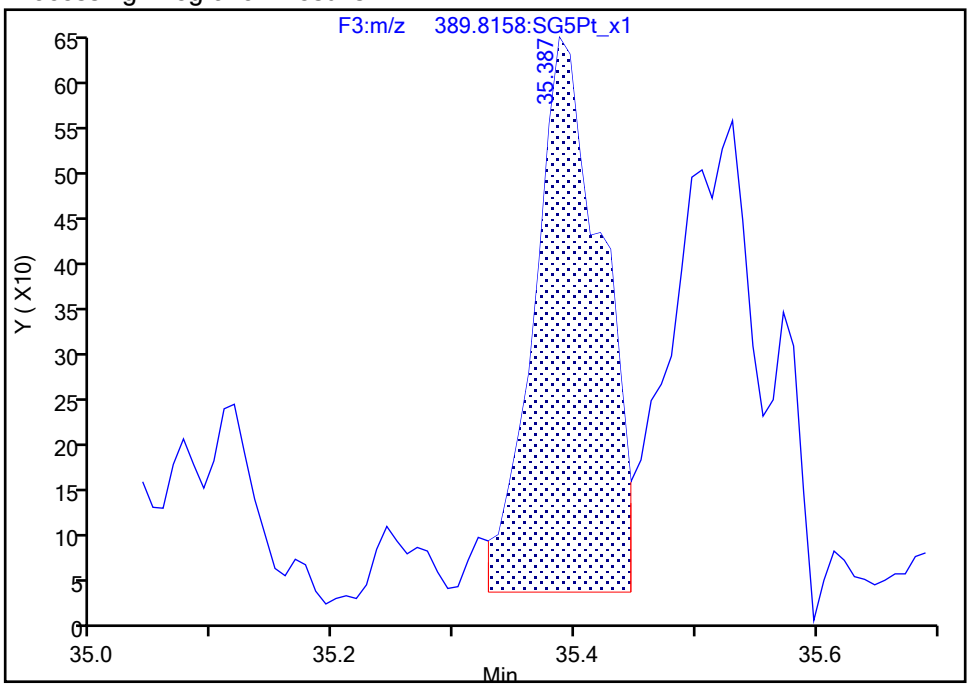
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d				
Injection Date:	20-Jan-2022 21:50:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-4-A	Lab Sample ID:	320-80119-4		
Client ID:	EVBMP0003S032				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

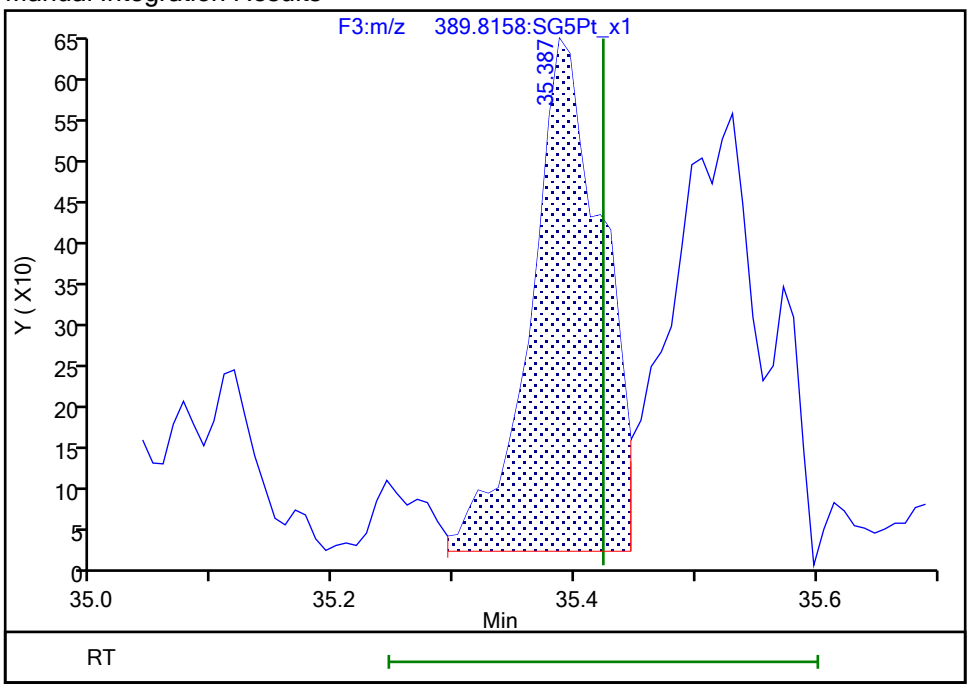
Processing Integration Results

RT: 35.39
Area: 2345
Amount: 0.161503
Amount Units: pg/ul



Manual Integration Results

RT: 35.39
Area: 2539
Amount: 0.168446
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:04:04
Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

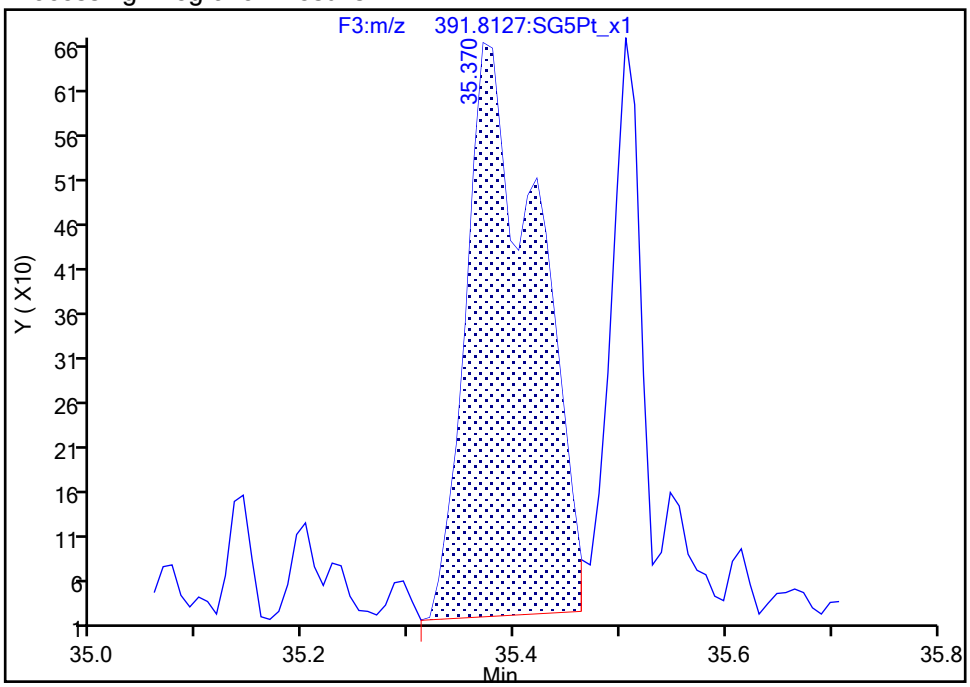
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d				
Injection Date:	20-Jan-2022 21:50:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-4-A	Lab Sample ID:	320-80119-4		
Client ID:	EVBMP0003S032				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

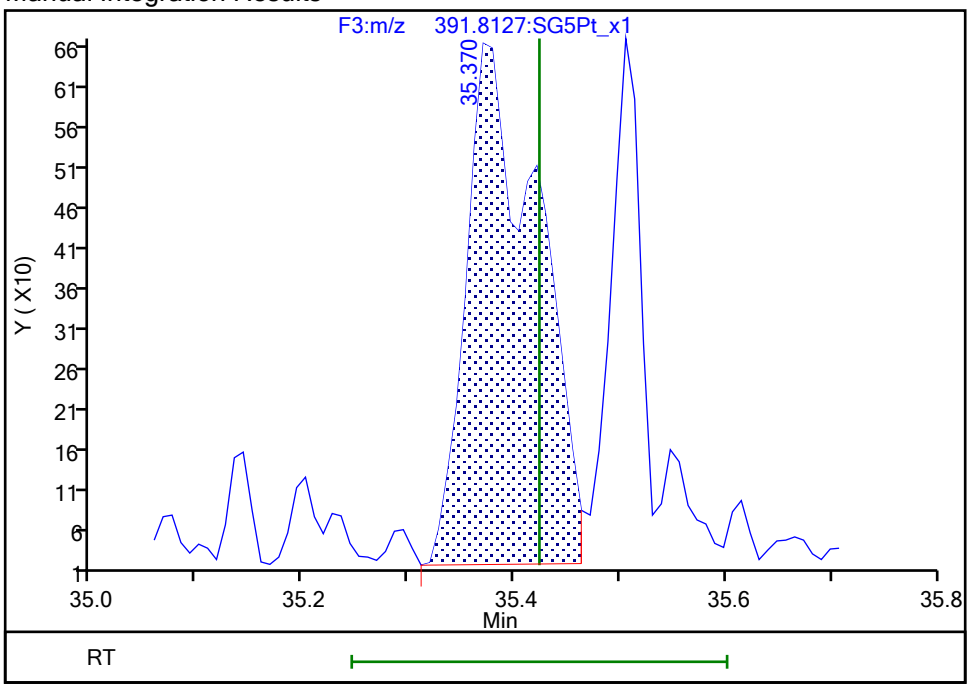
Processing Integration Results

RT: 35.37
Area: 3005
Amount: 0.161503
Amount Units: pg/ul



Manual Integration Results

RT: 35.37
Area: 3041
Amount: 0.168446
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:04:07
Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

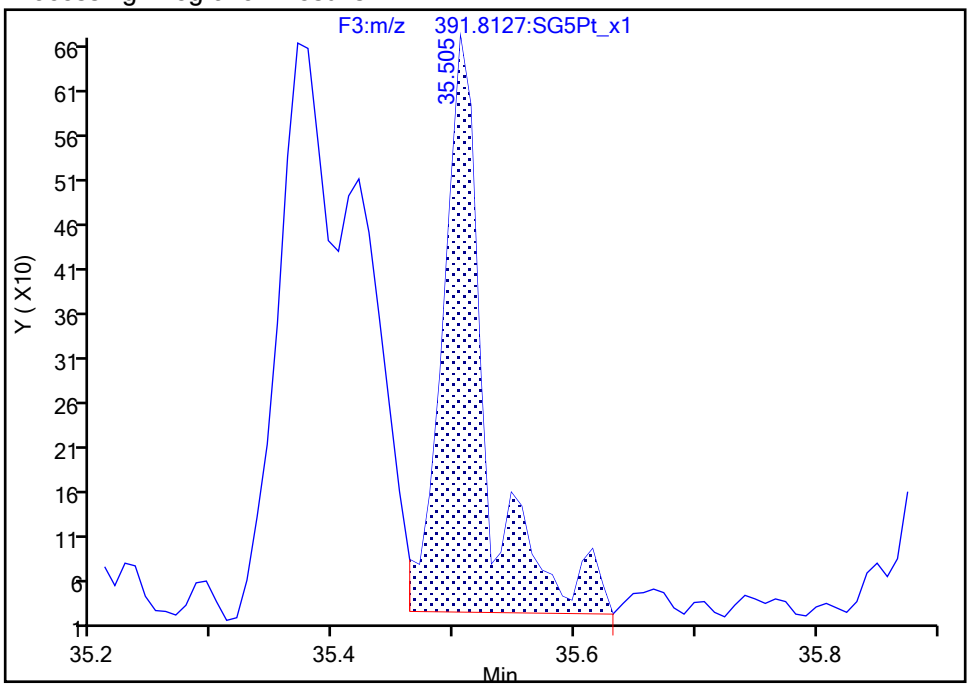
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d				
Injection Date:	20-Jan-2022 21:50:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-4-A	Lab Sample ID:	320-80119-4		
Client ID:	EVBMP0003S032				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

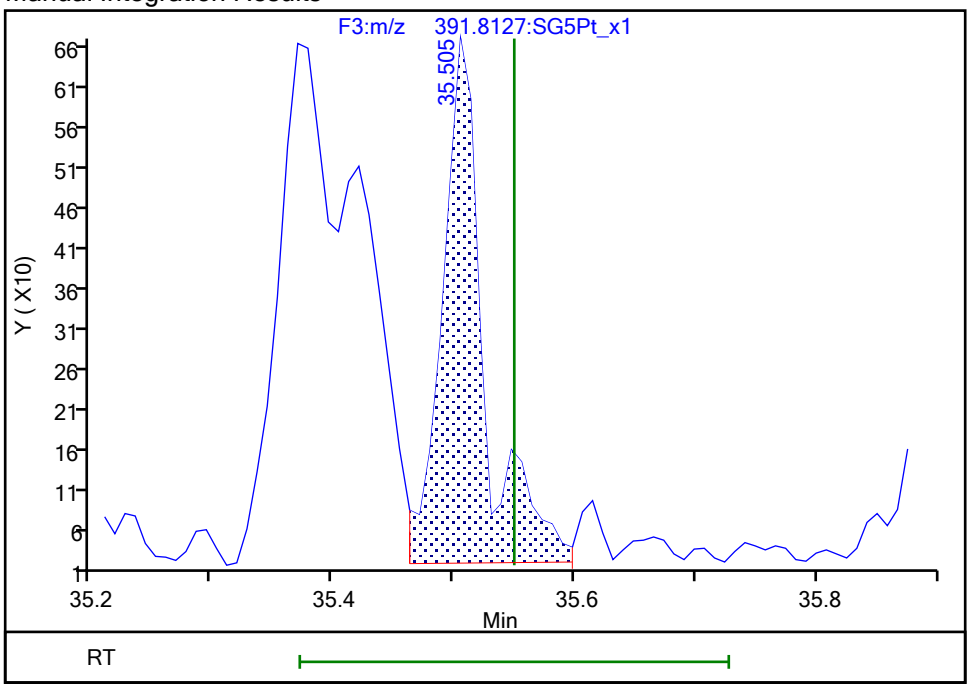
Processing Integration Results

RT: 35.51
Area: 1592
Amount: 0.118385
Amount Units: pg/ul



Manual Integration Results

RT: 35.51
Area: 1553
Amount: 0.116999
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:04:01

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

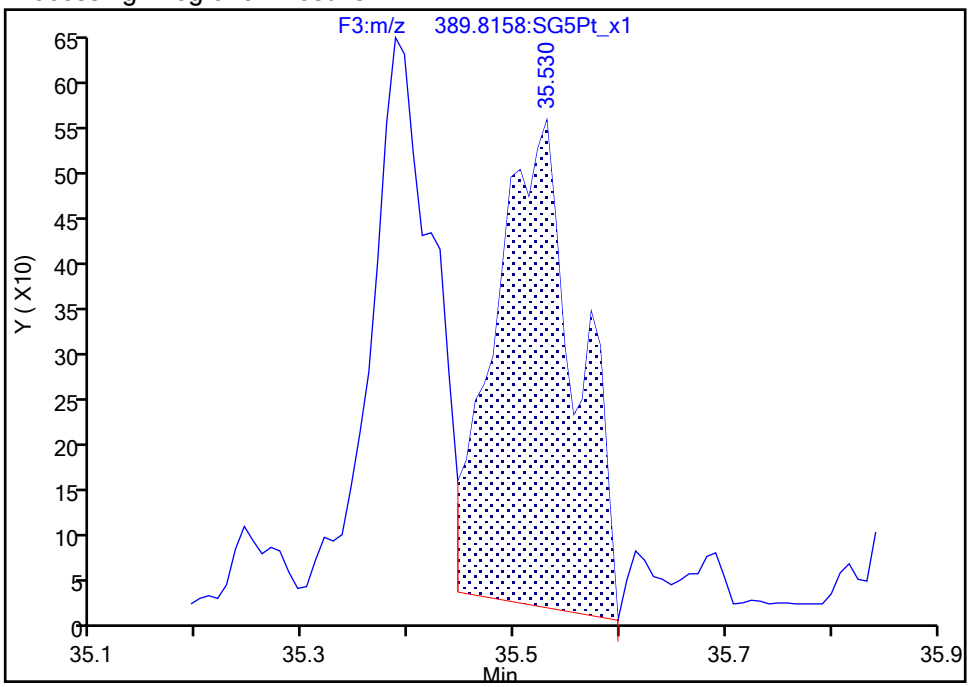
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d				
Injection Date:	20-Jan-2022 21:50:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-4-A	Lab Sample ID:	320-80119-4		
Client ID:	EVBMP0003S032				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

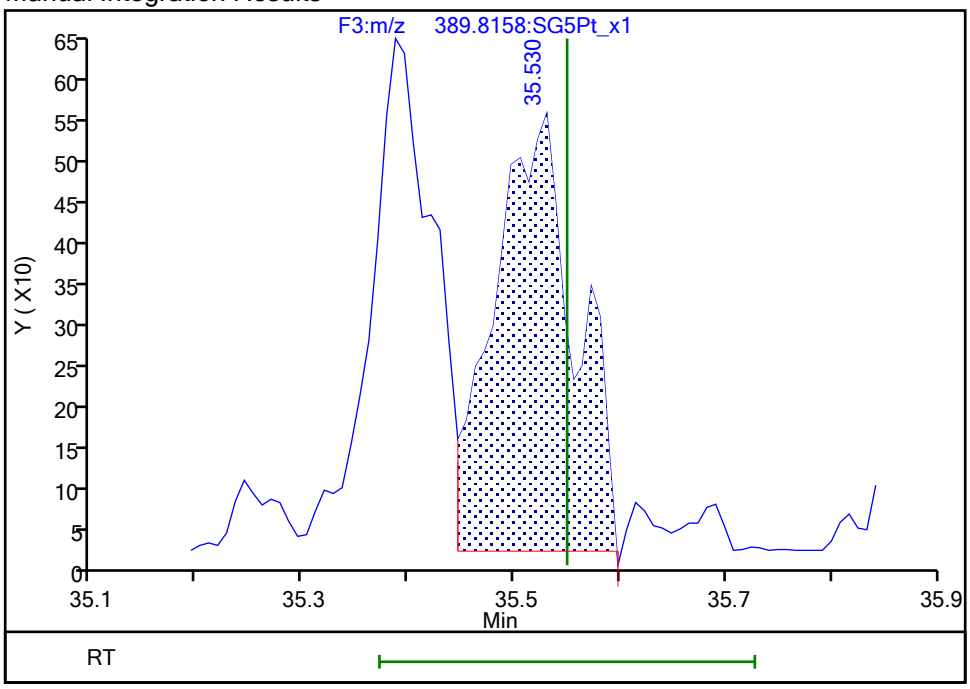
Processing Integration Results

RT: 35.53
Area: 2850
Amount: 0.118385
Amount Units: pg/ul



Manual Integration Results

RT: 35.53
Area: 2837
Amount: 0.116999
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 08:04:12

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

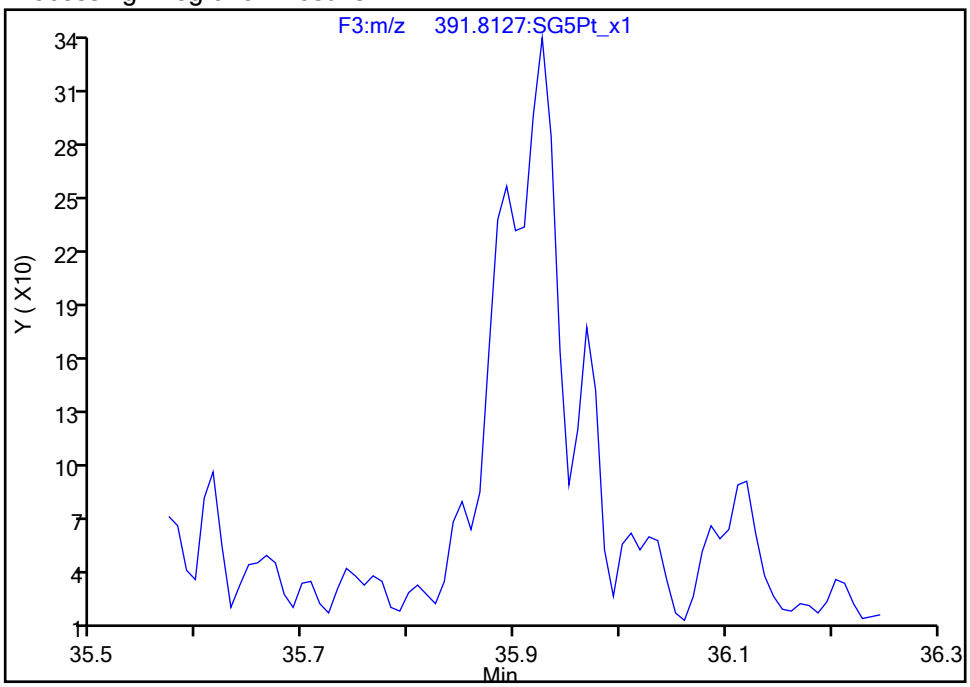
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d				
Injection Date:	20-Jan-2022 21:50:00	Instrument ID:	DFS 1		
Lims ID:	570-80119-F-4-A	Lab Sample ID:	320-80119-4		
Client ID:	EVBMP0003S032				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

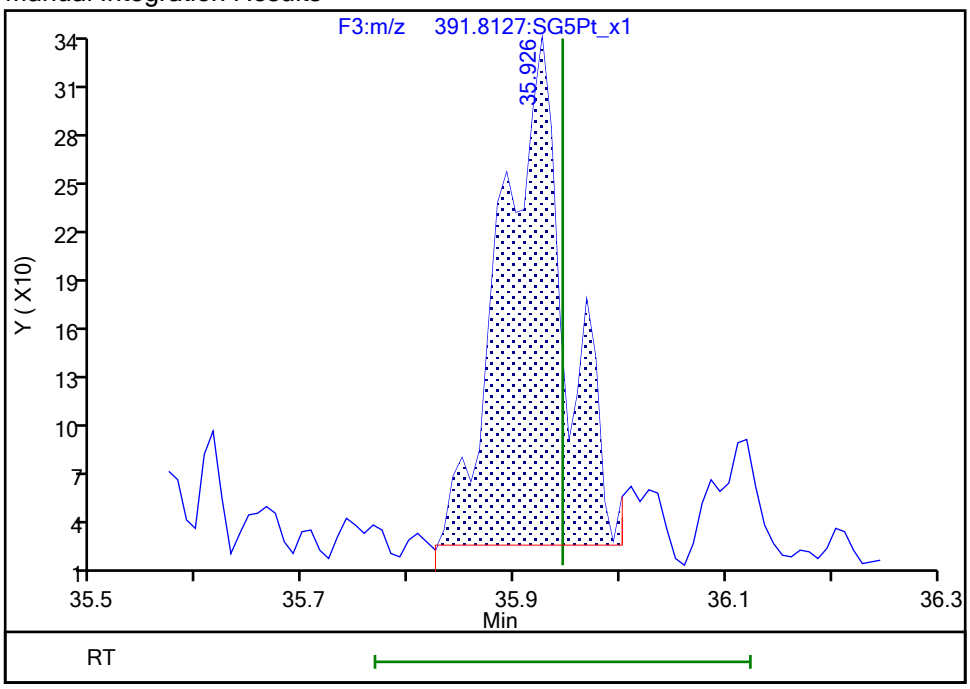
Not Detected
Expected RT: 35.95

Processing Integration Results



Manual Integration Results

RT: 35.93
Area: 1287
Amount: 0.107142
Amount Units: pg/ul

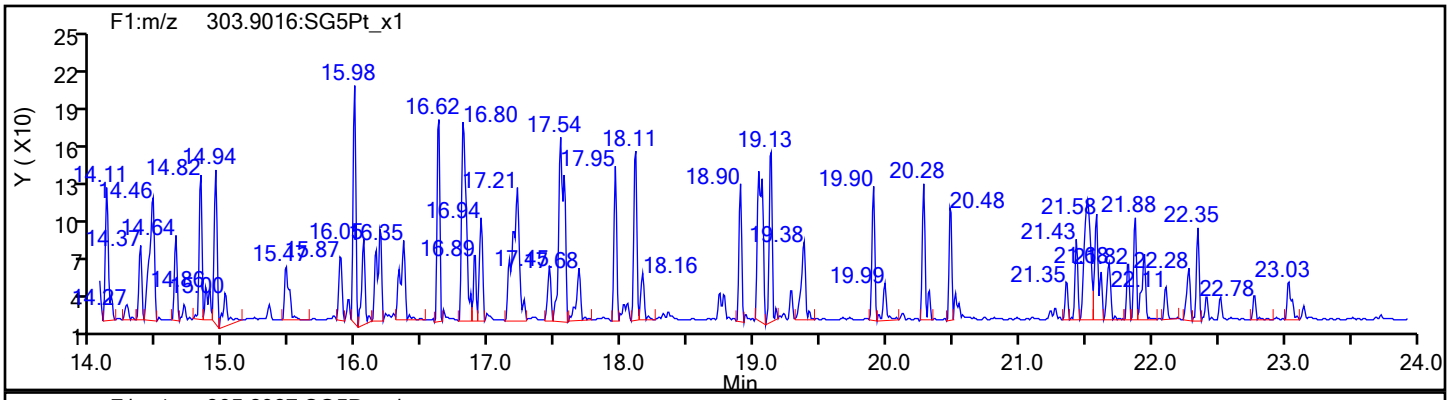


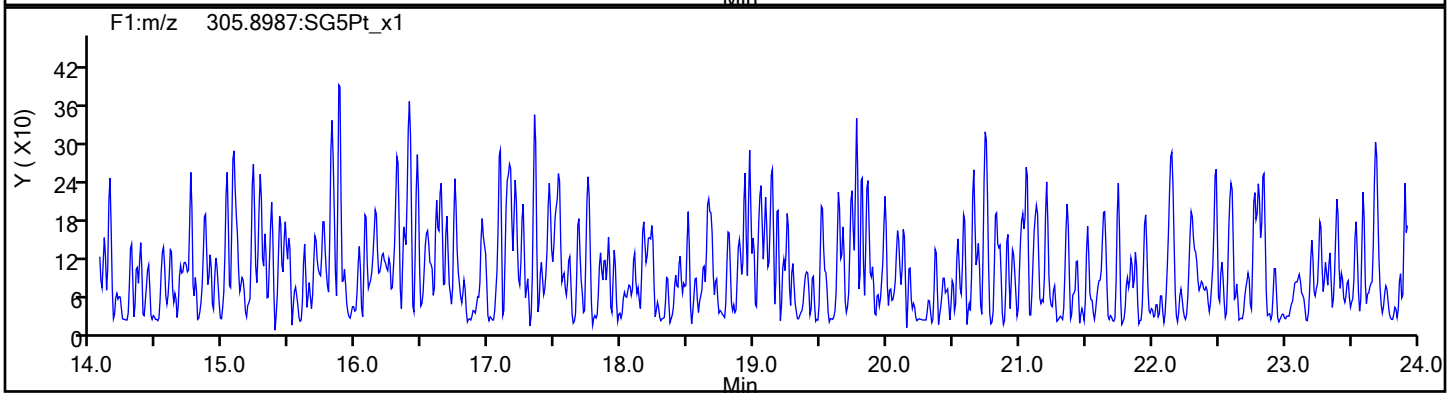
Reviewer: bilottag, 21-Jan-2022 08:04:25
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins Sacramento

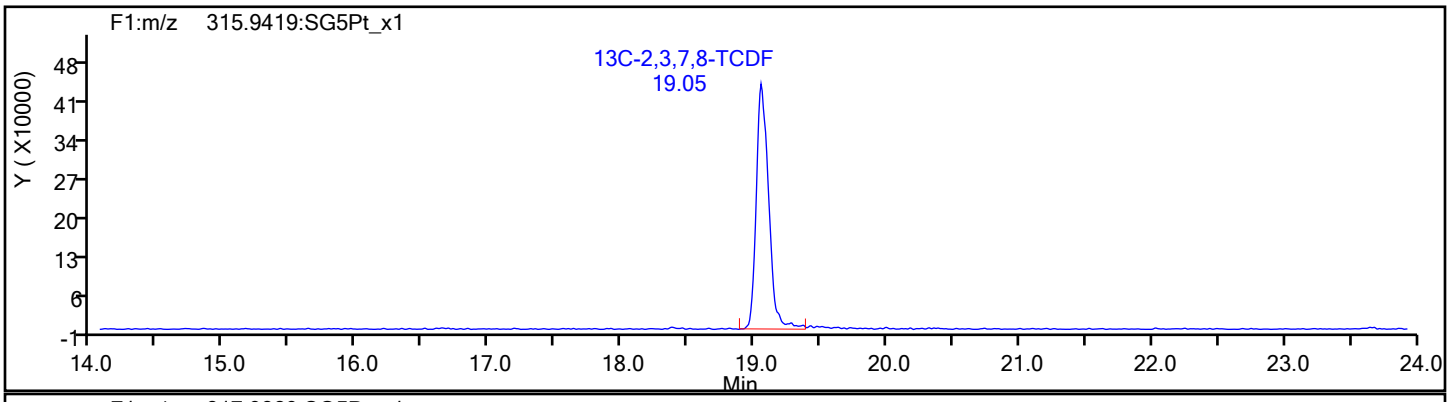
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
Injection Date:	20-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S032		
Worklist#:	559474	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

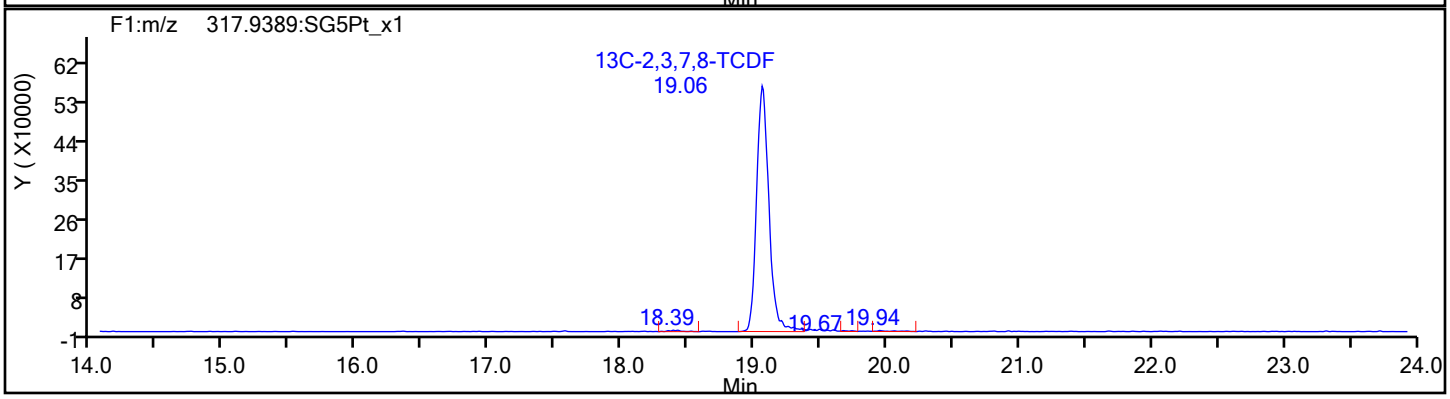
TCDF





TCDF Standards

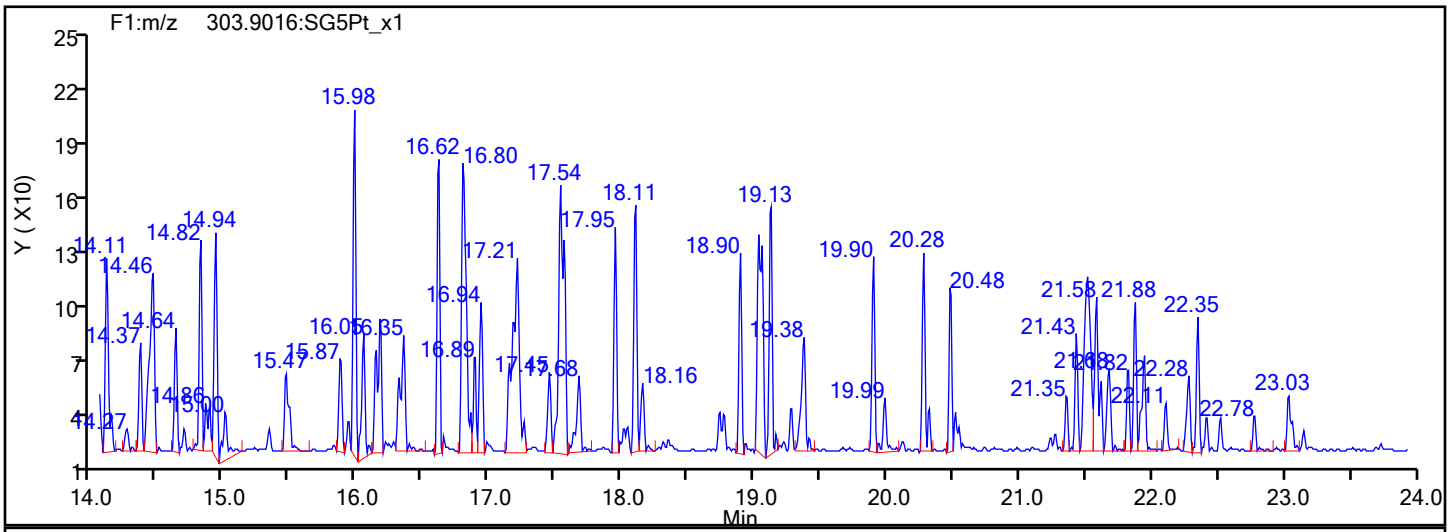


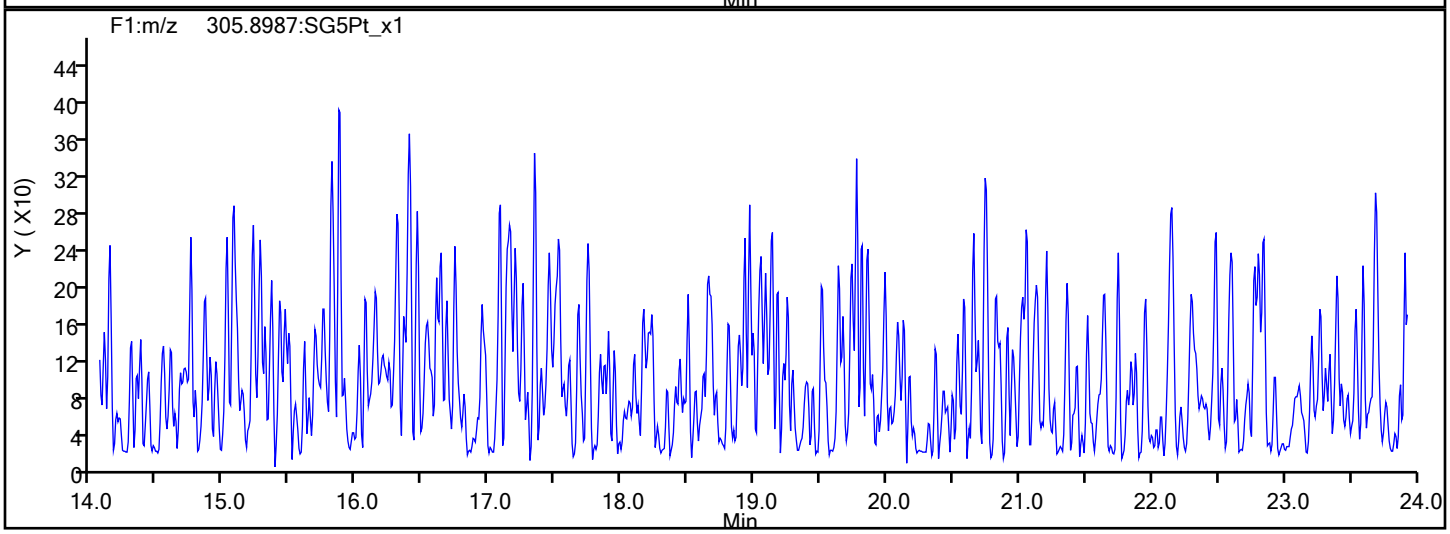


Eurofins Sacramento

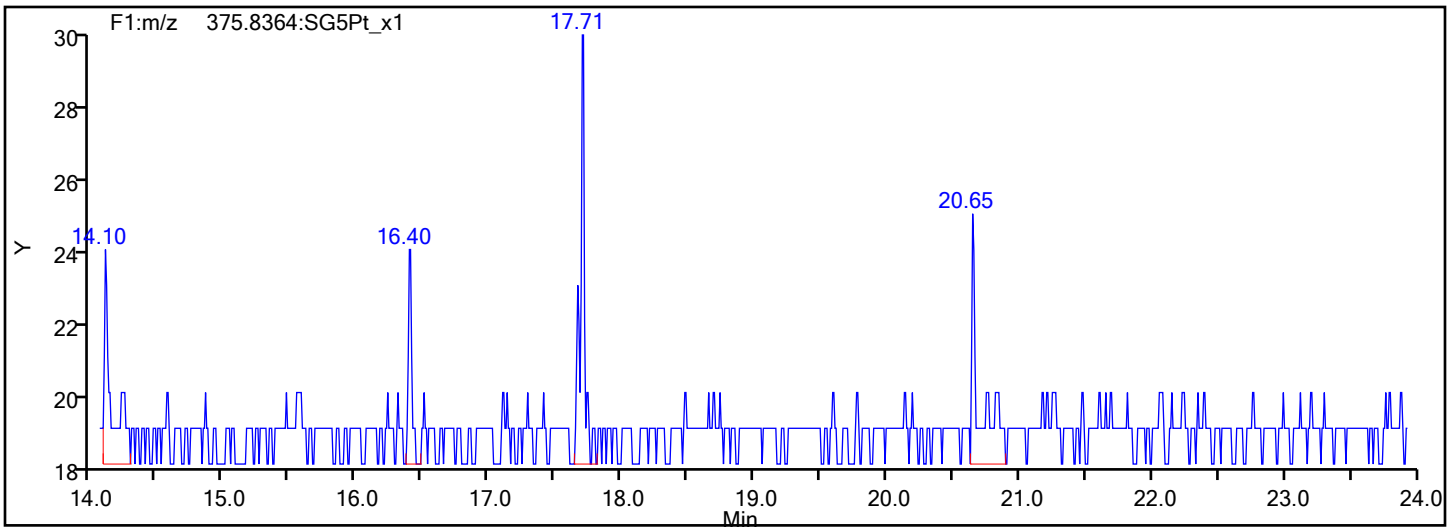
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
Injection Date:	20-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S032		
Worklist#:	559474	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
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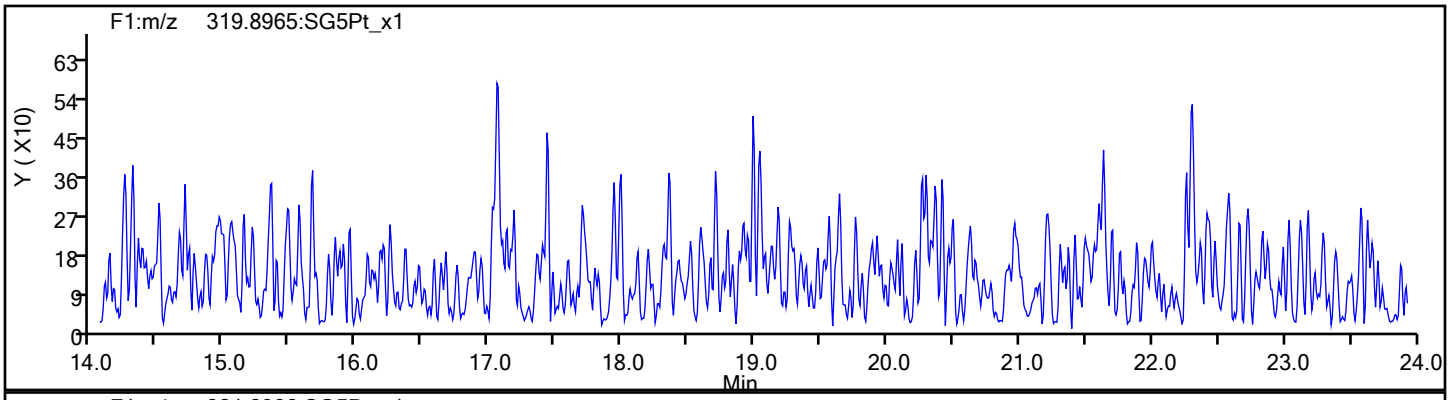
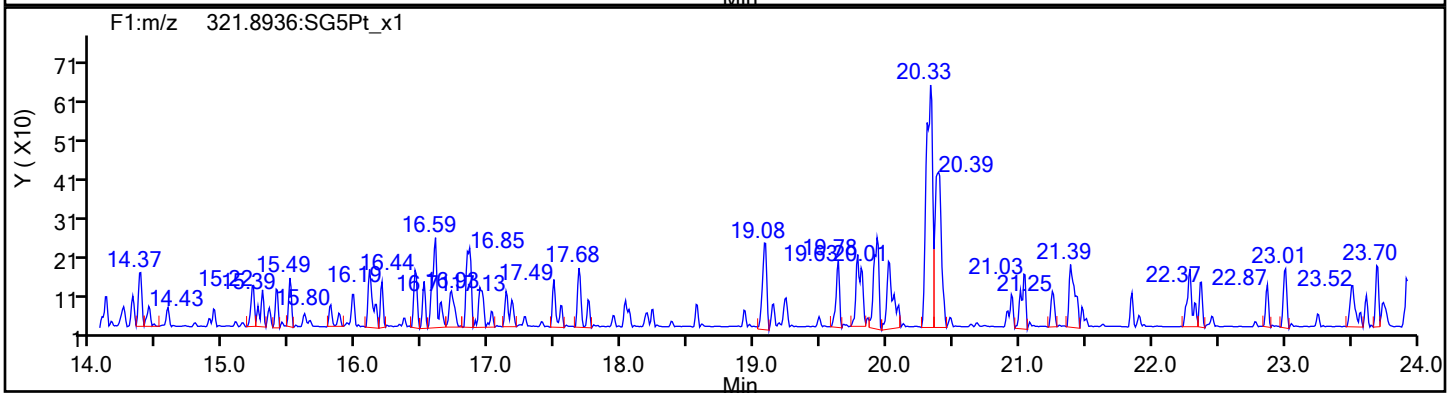
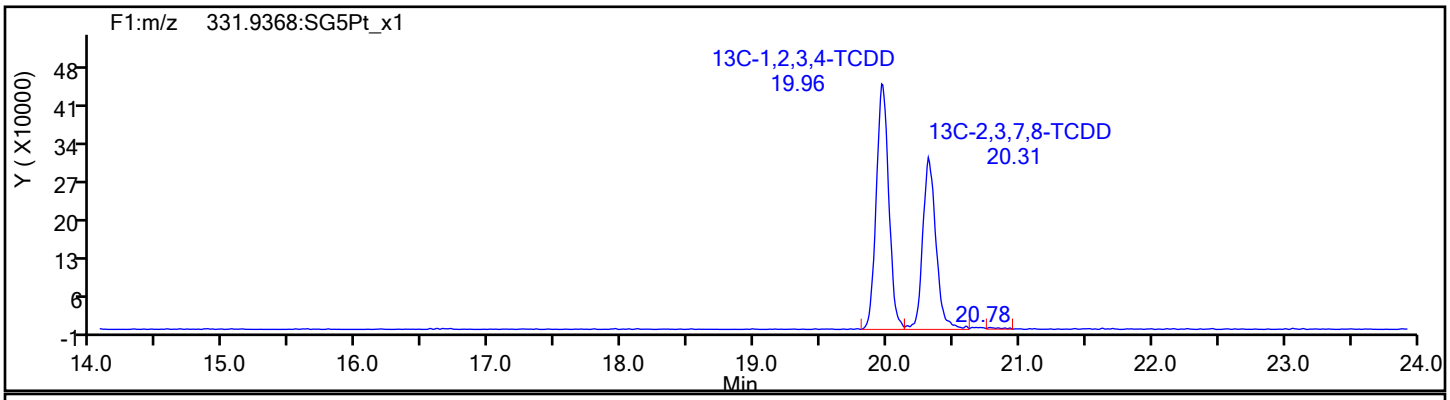
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S032		
Worklist#:	559474	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

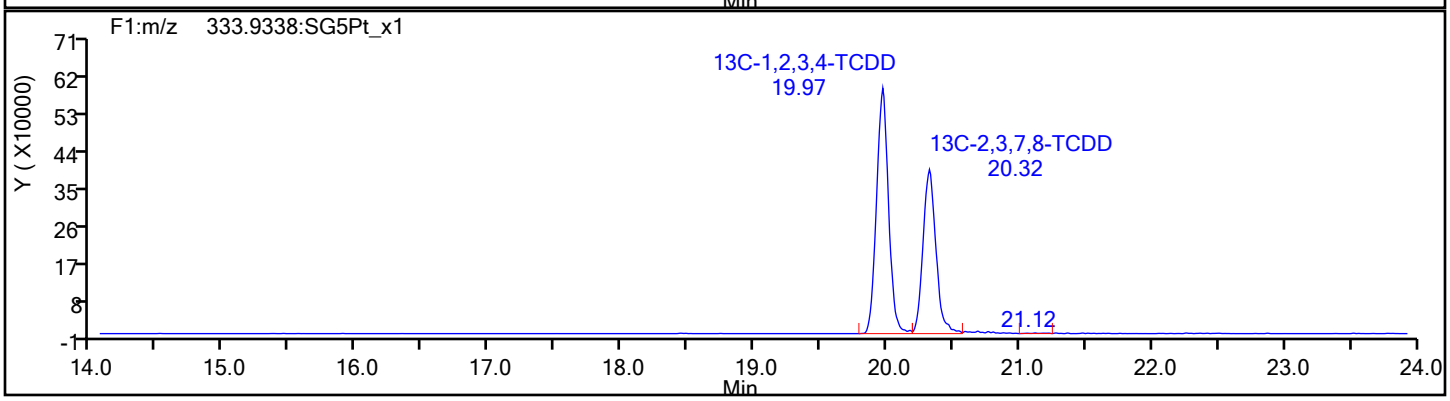
TCDD





TCDD Standards





Report Date: 21-Jan-2022 08:05:55 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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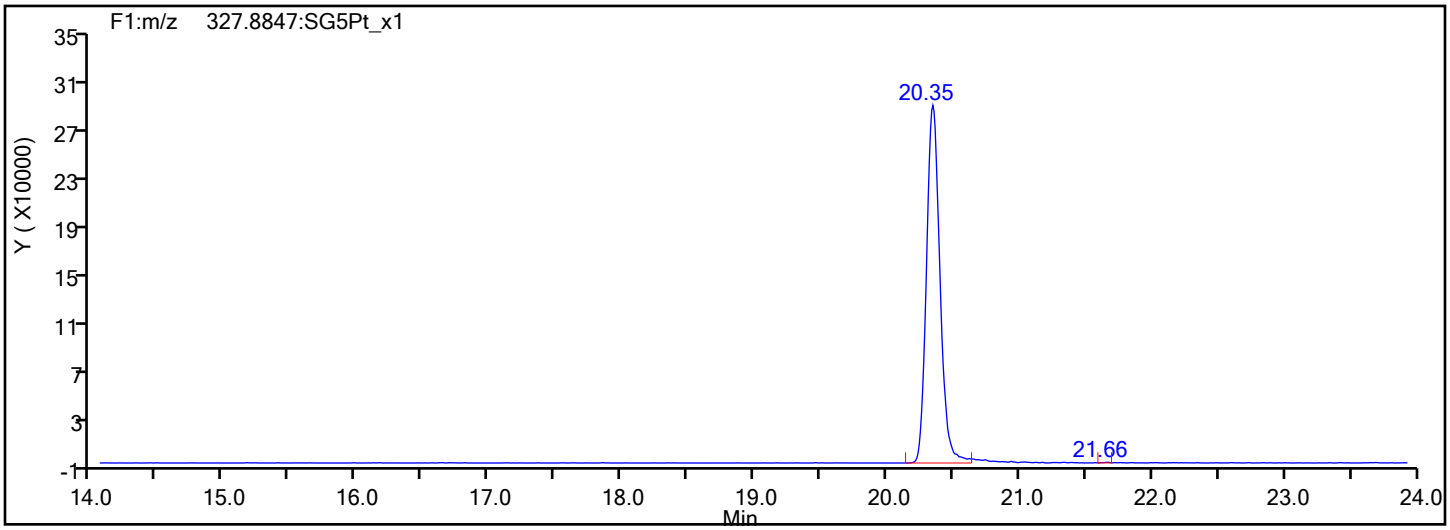
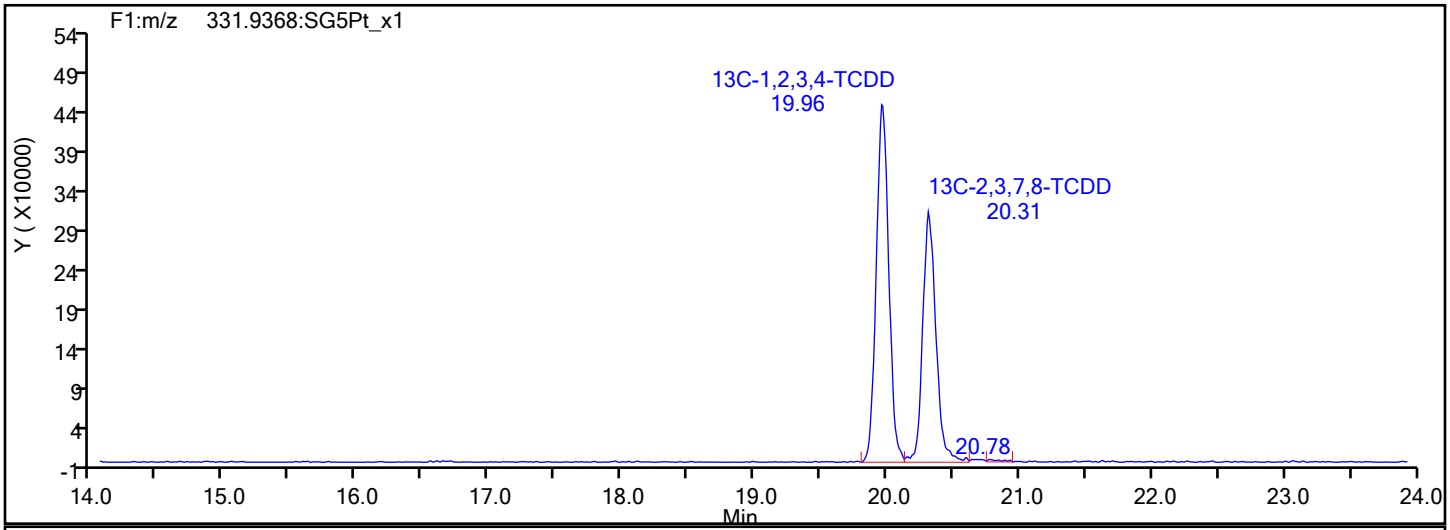
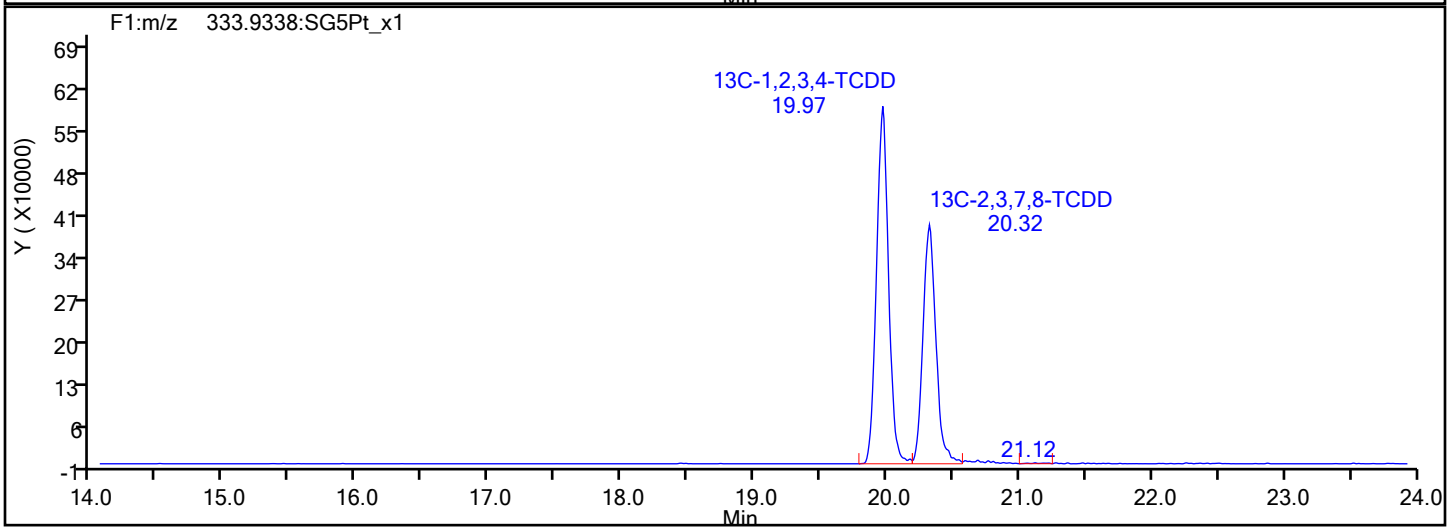
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 21-Jan-2022 08:05:55 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d

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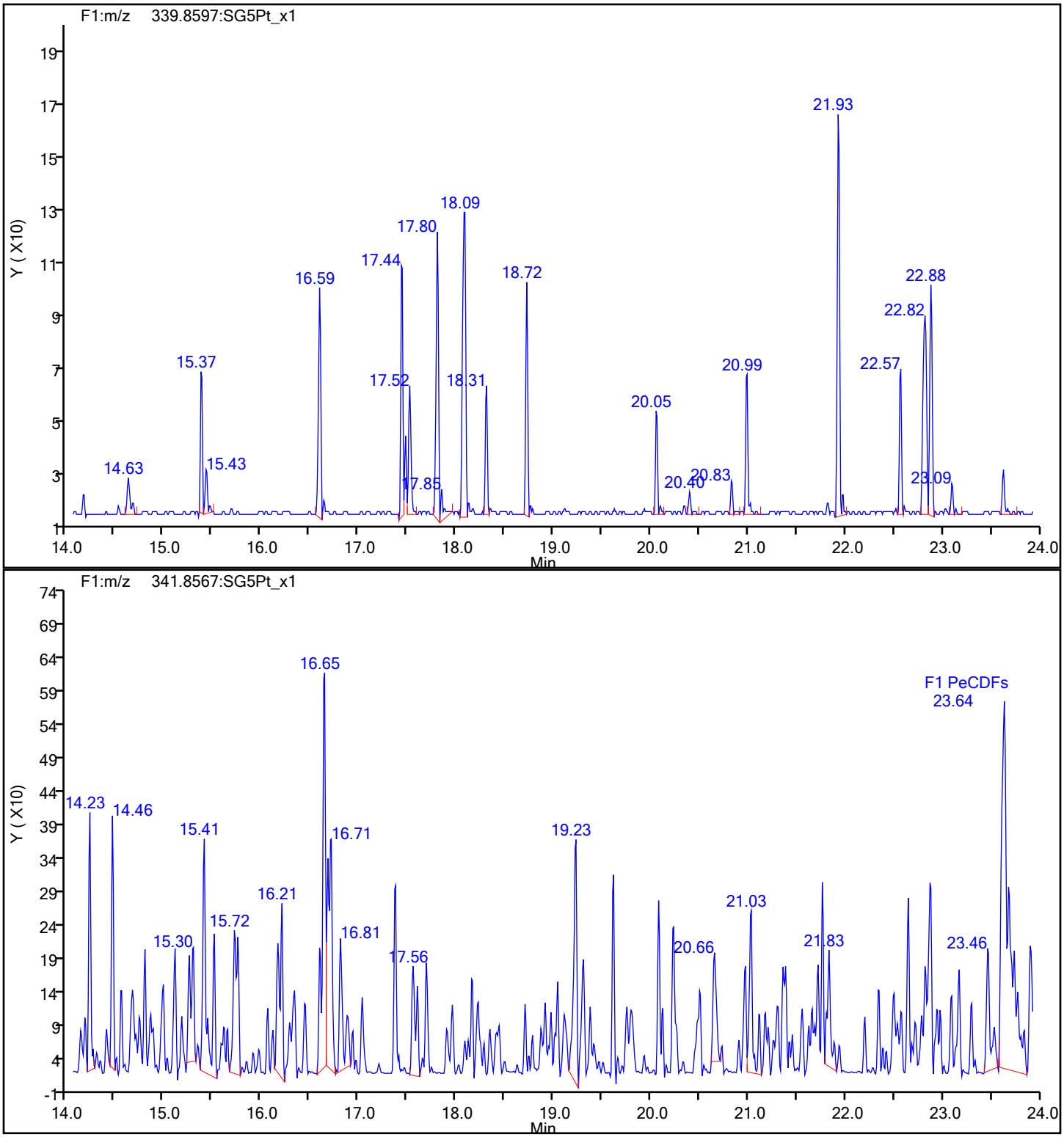
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S032		
Worklist#:	559474	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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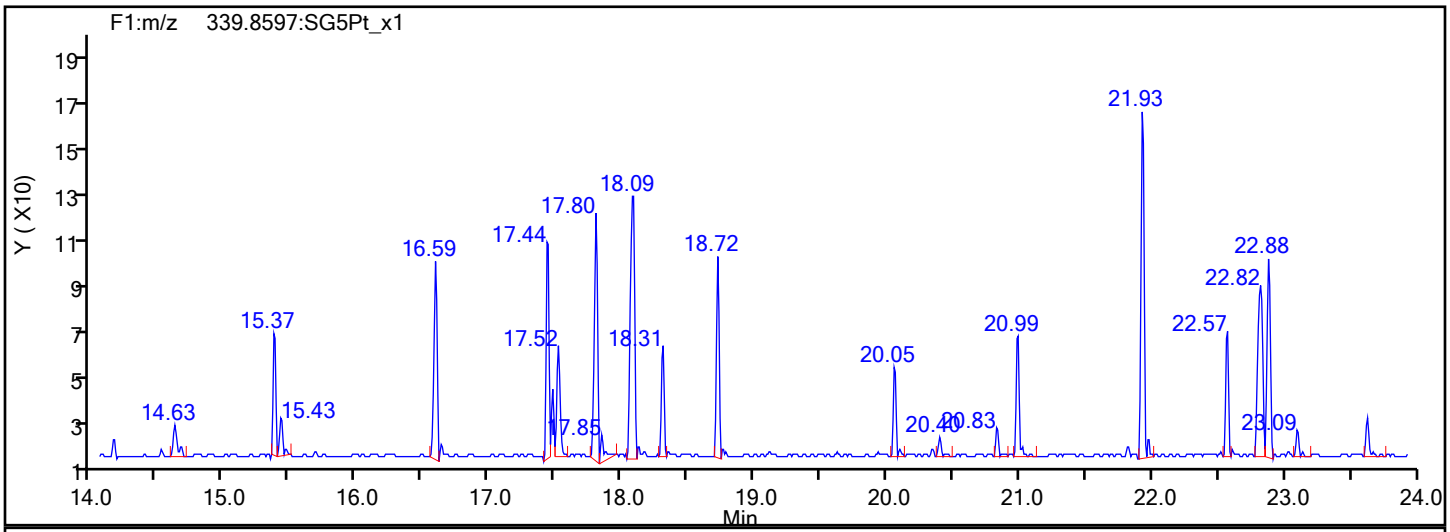
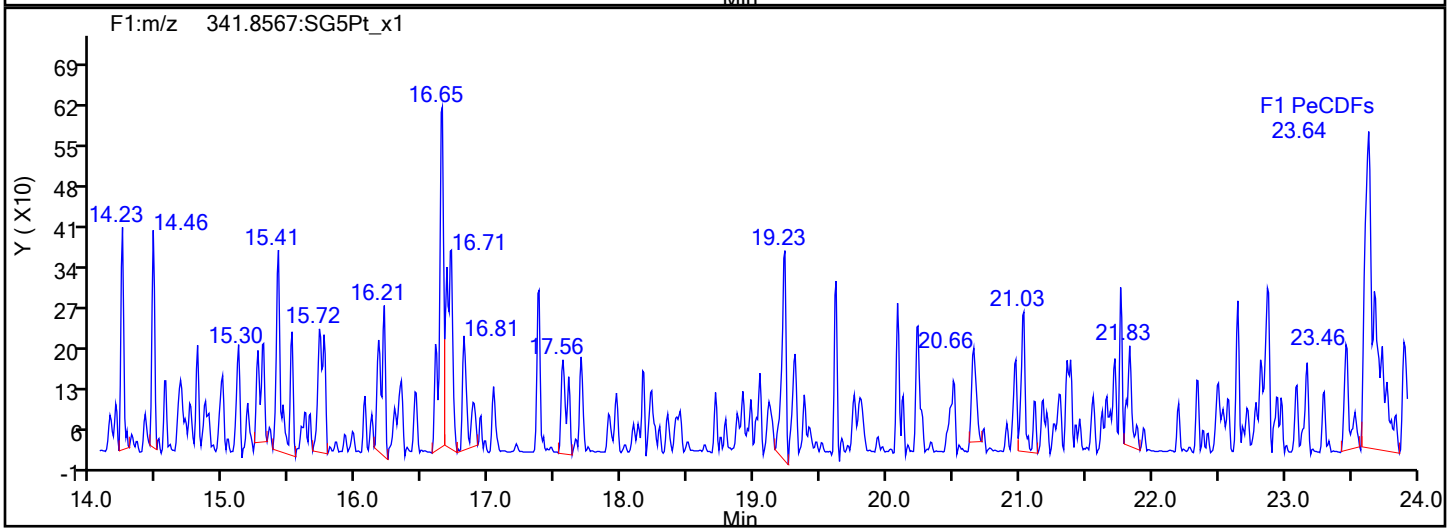
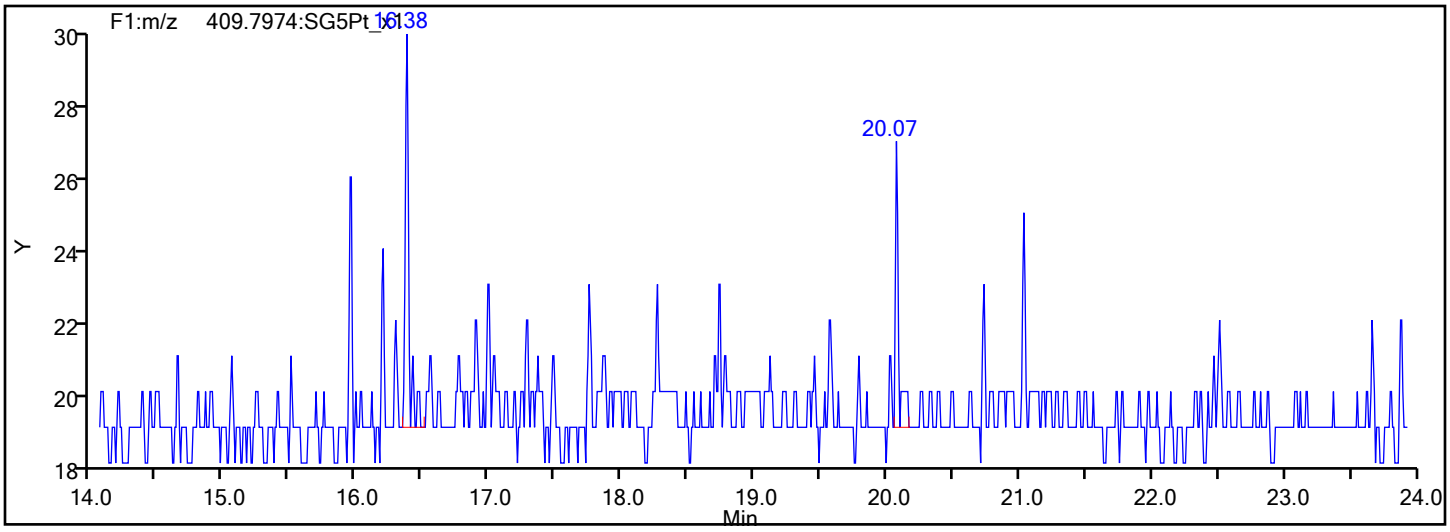
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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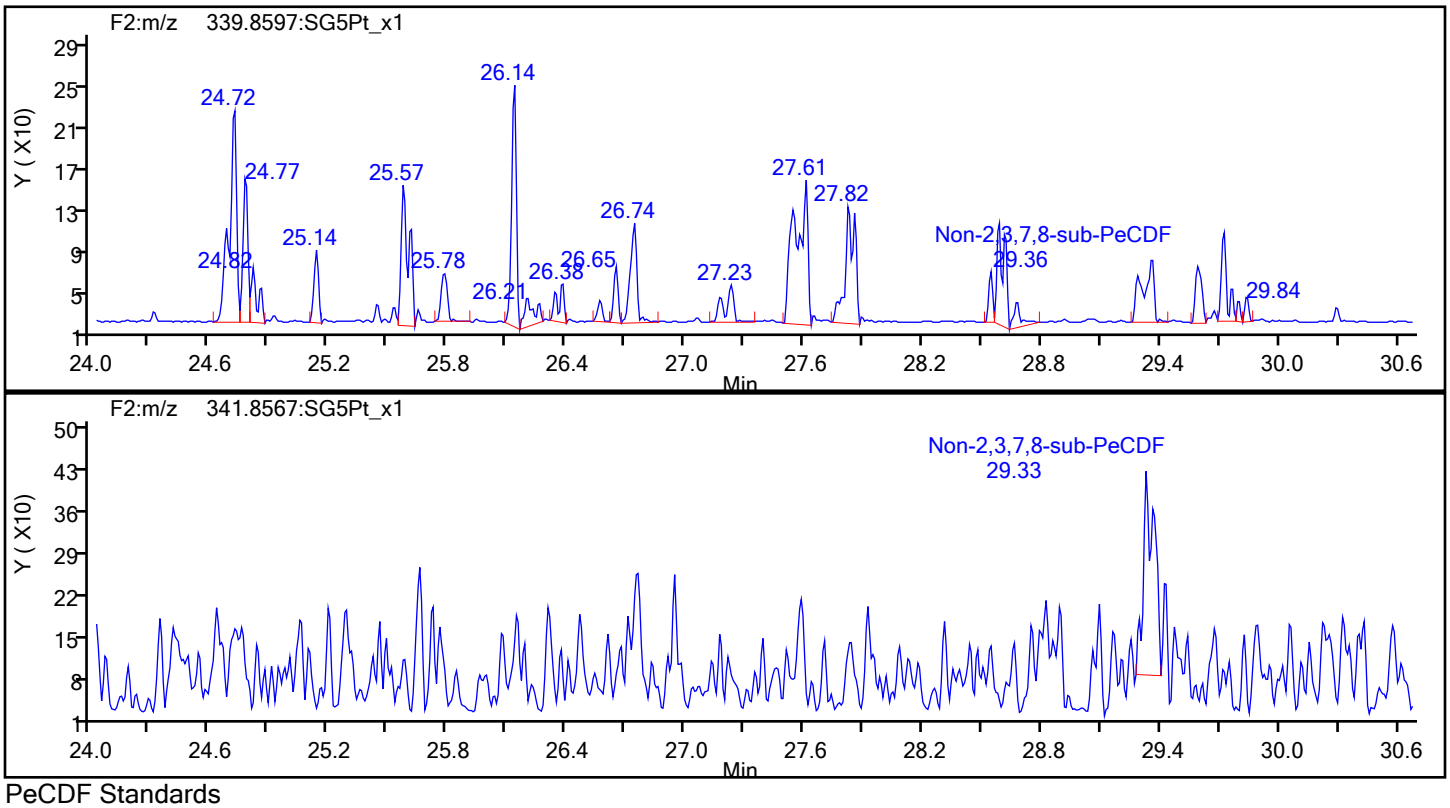
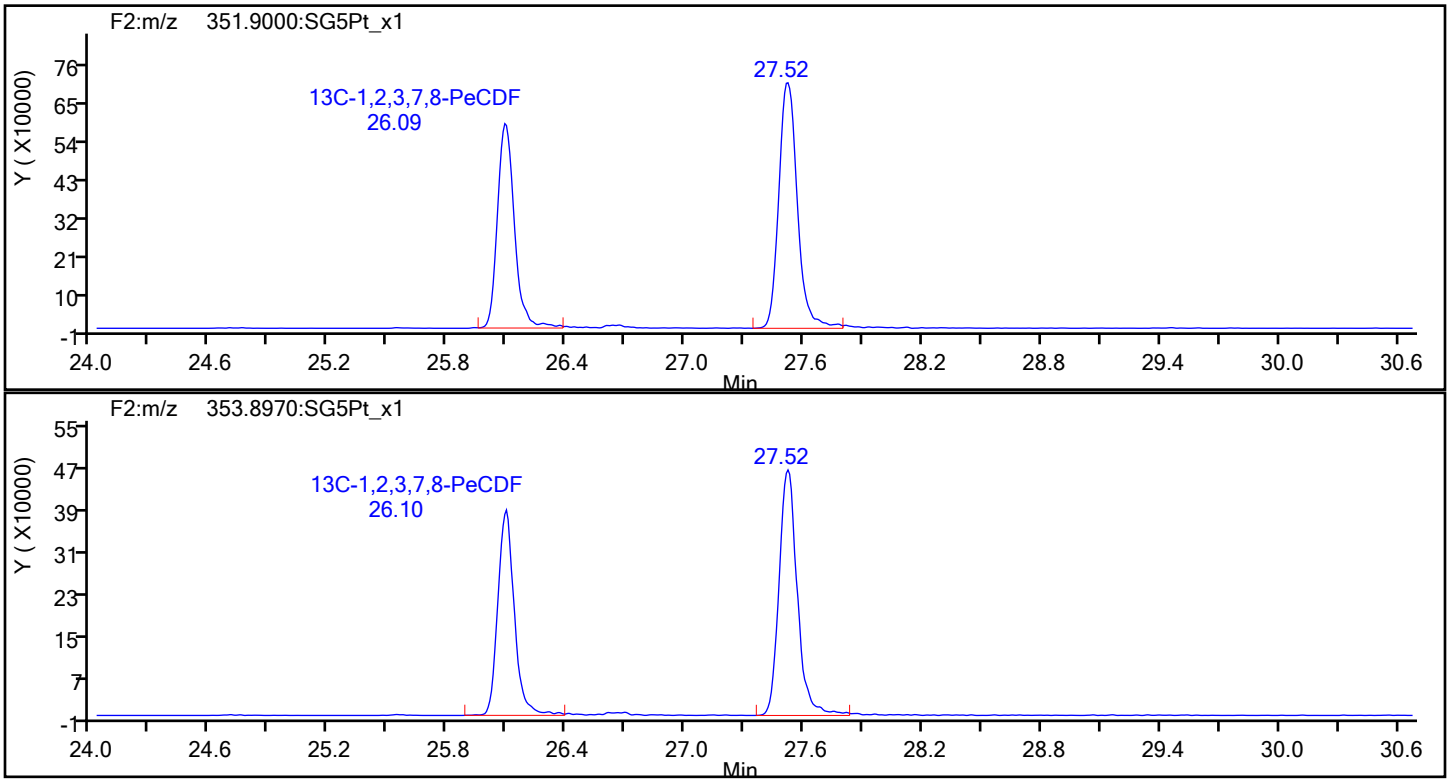
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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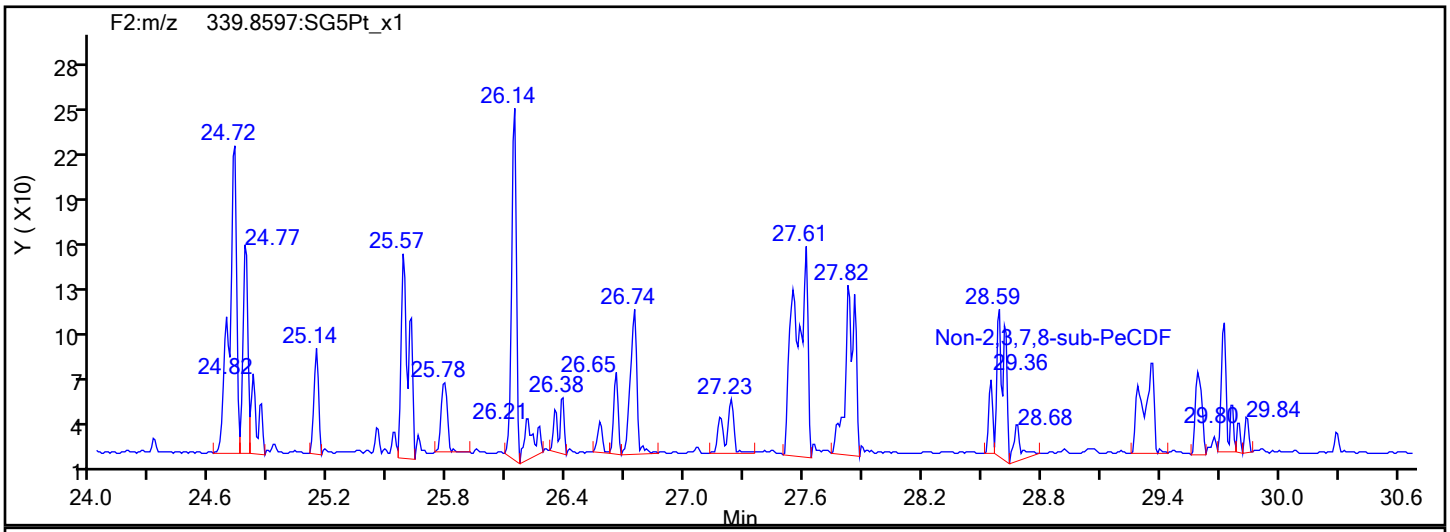
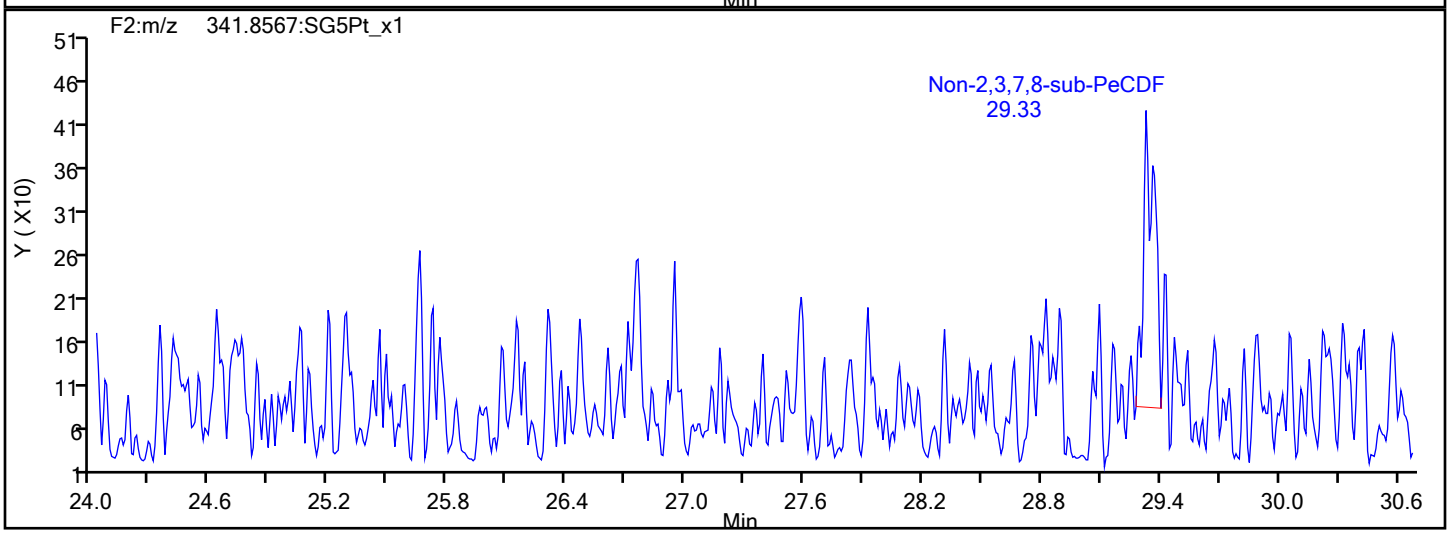
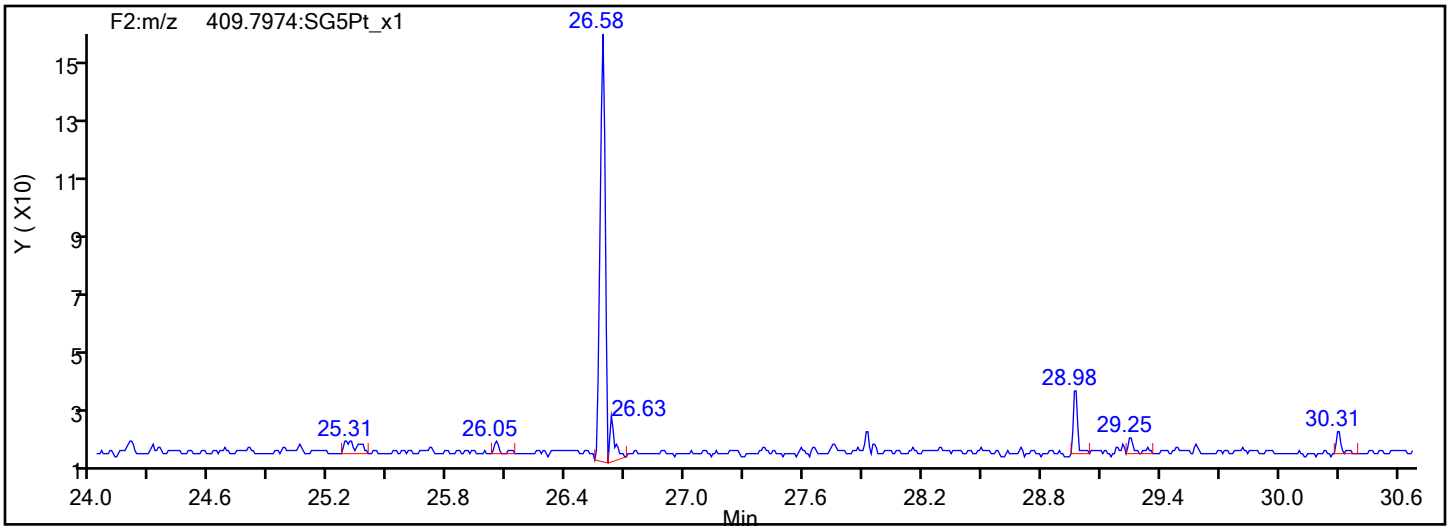
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
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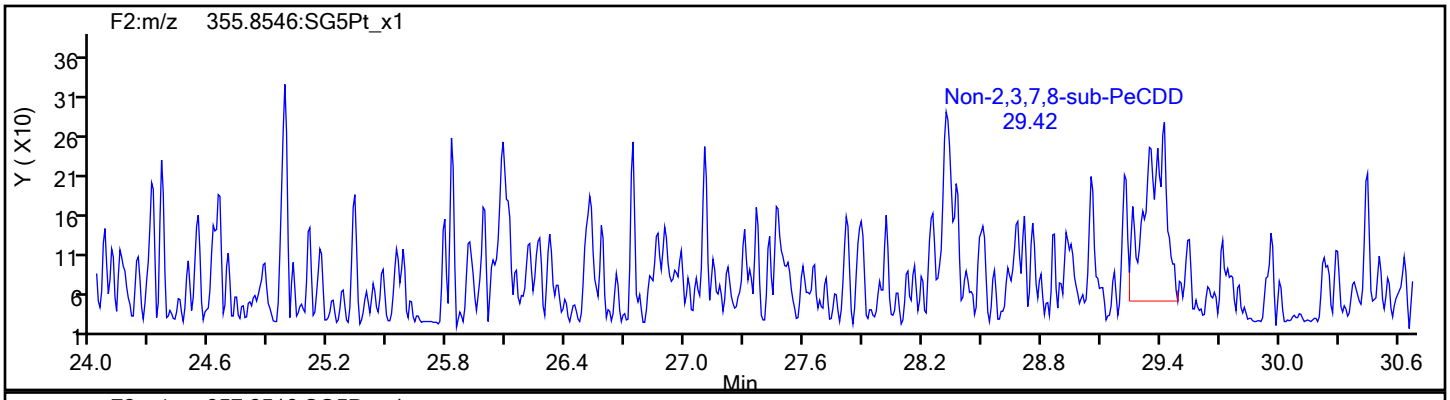
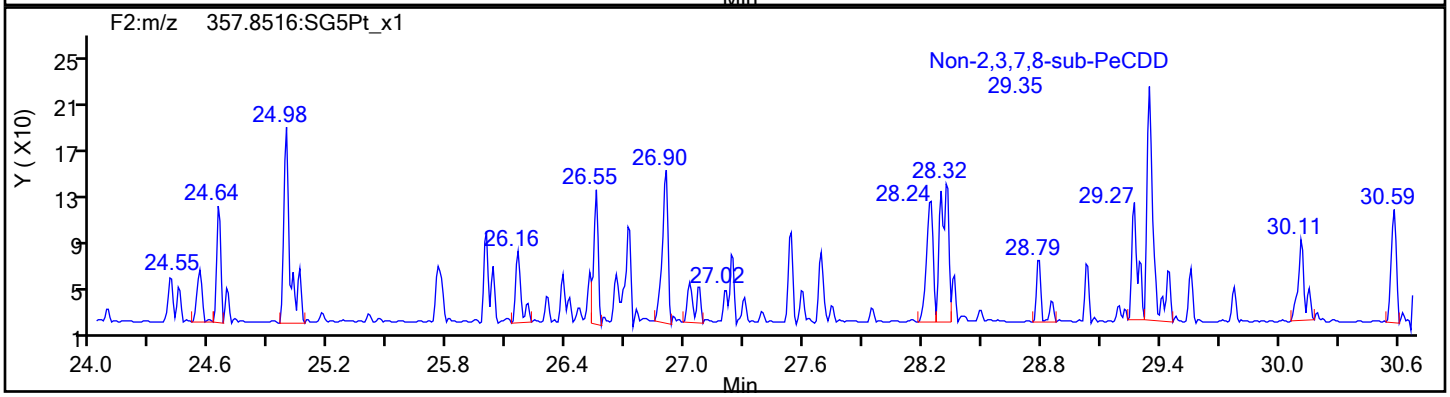
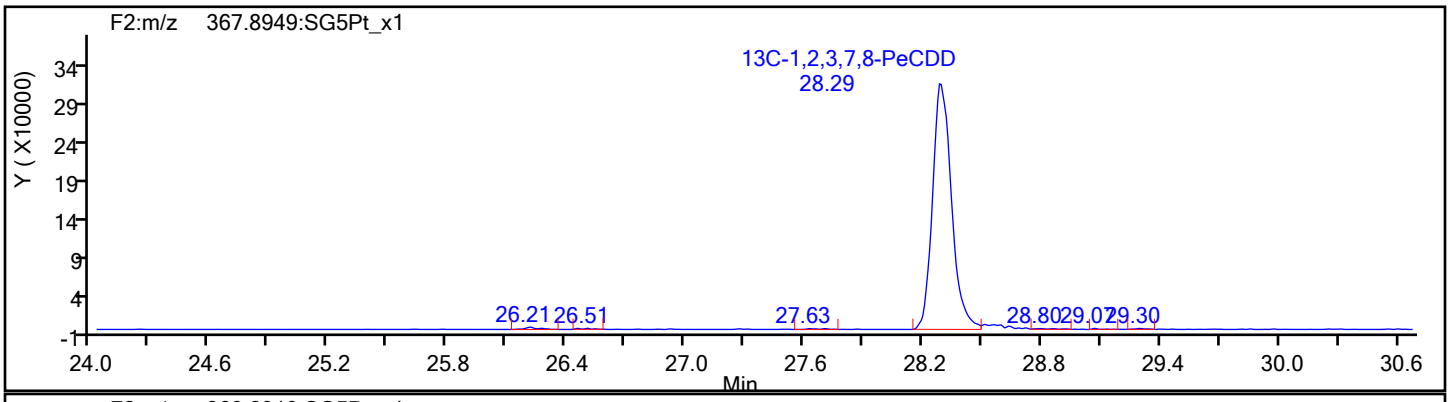
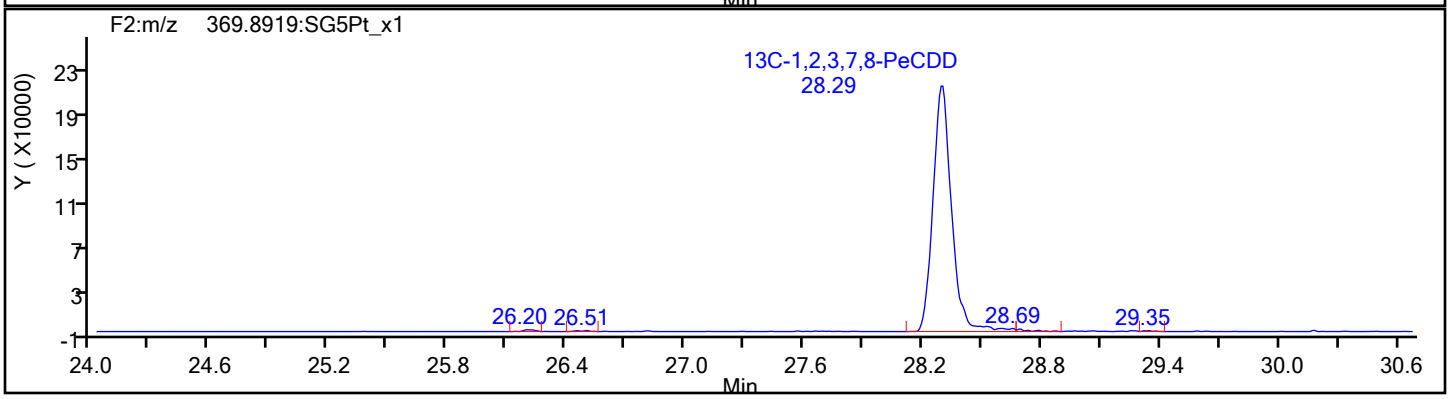
PeCDD





PeCDD Standards





Eurofins Sacramento

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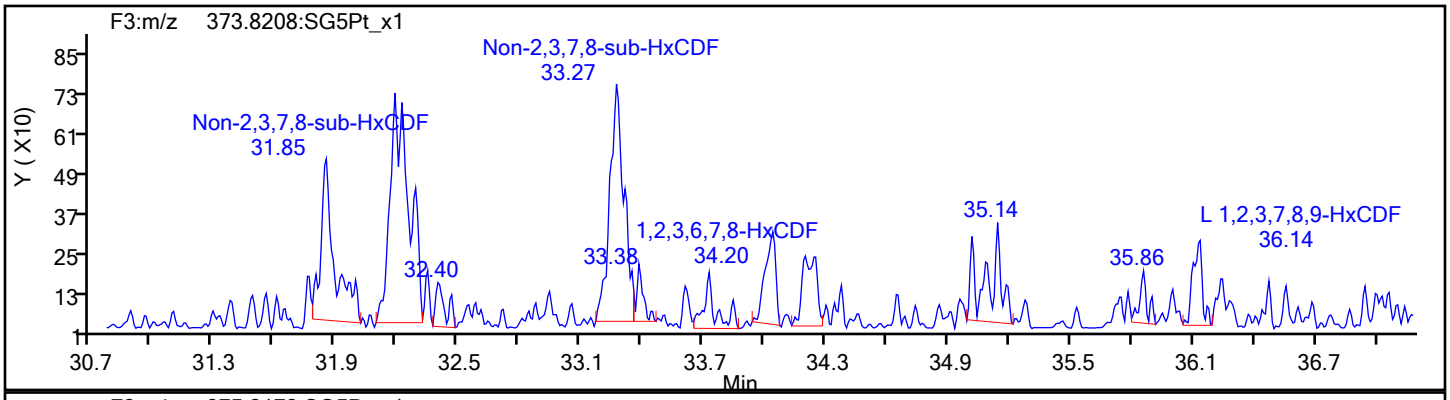
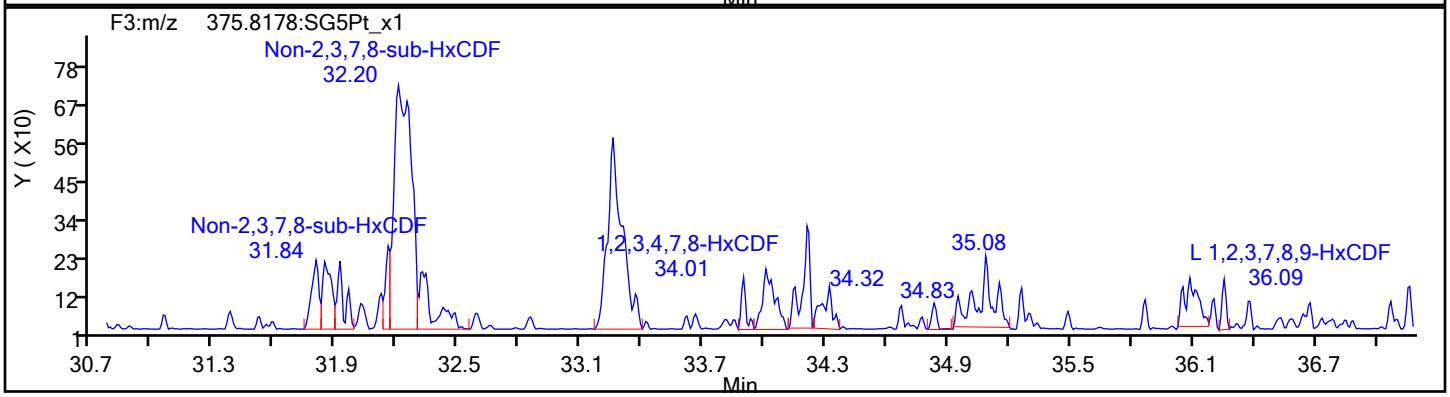
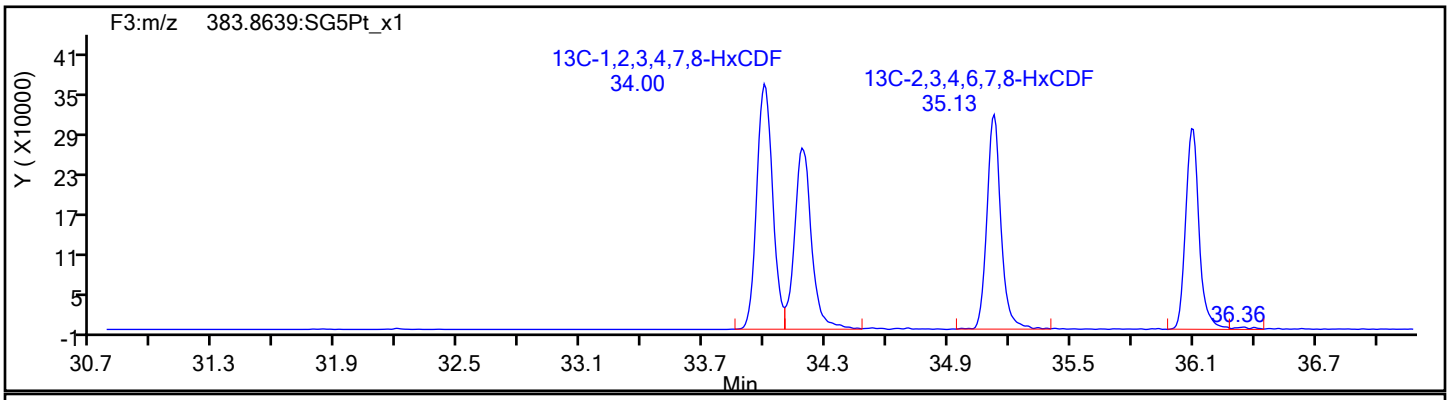
Column Type:	DB-5	Column Dia:	0.32 mm

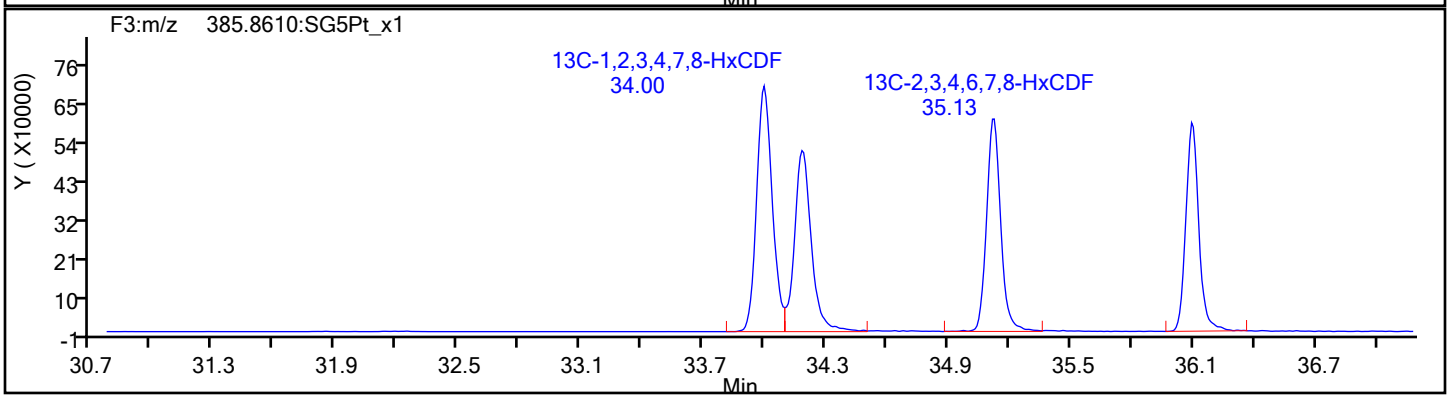
HxCDF





HxCDF Standards





Eurofins Sacramento

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Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: EVBMP0003S032
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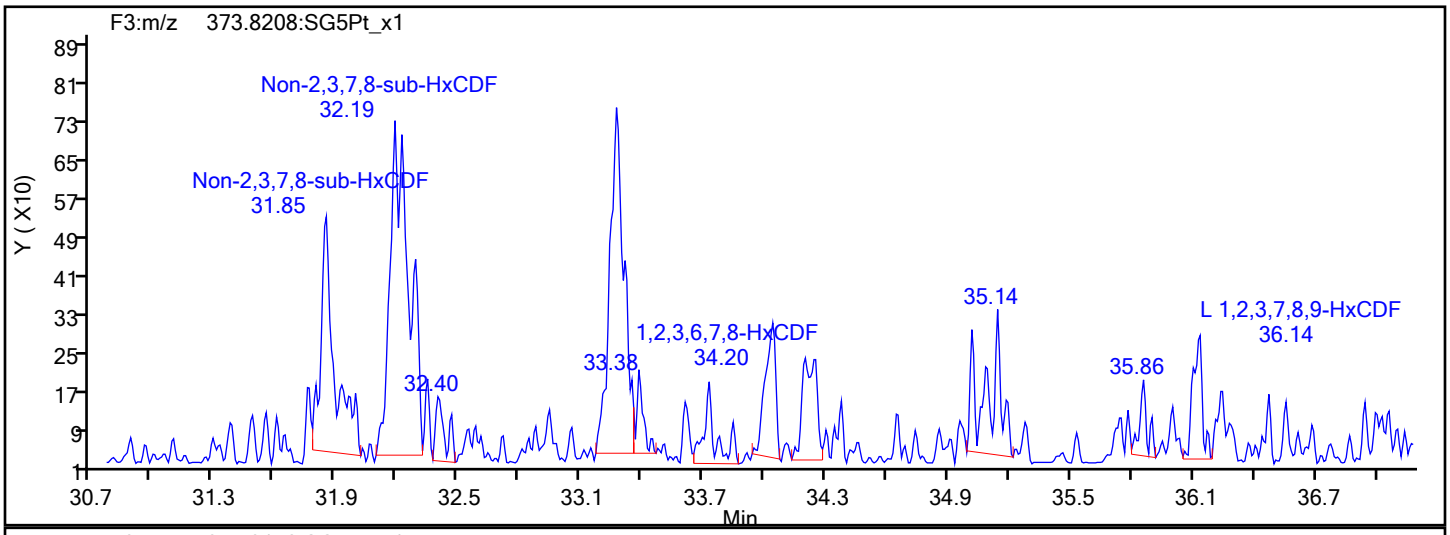
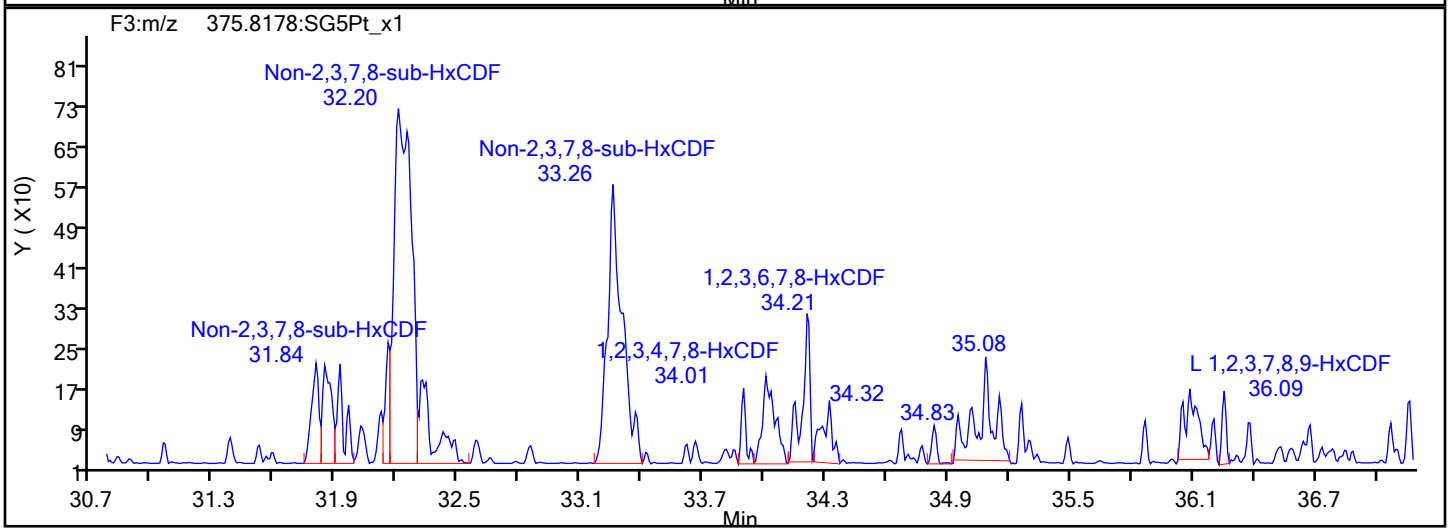
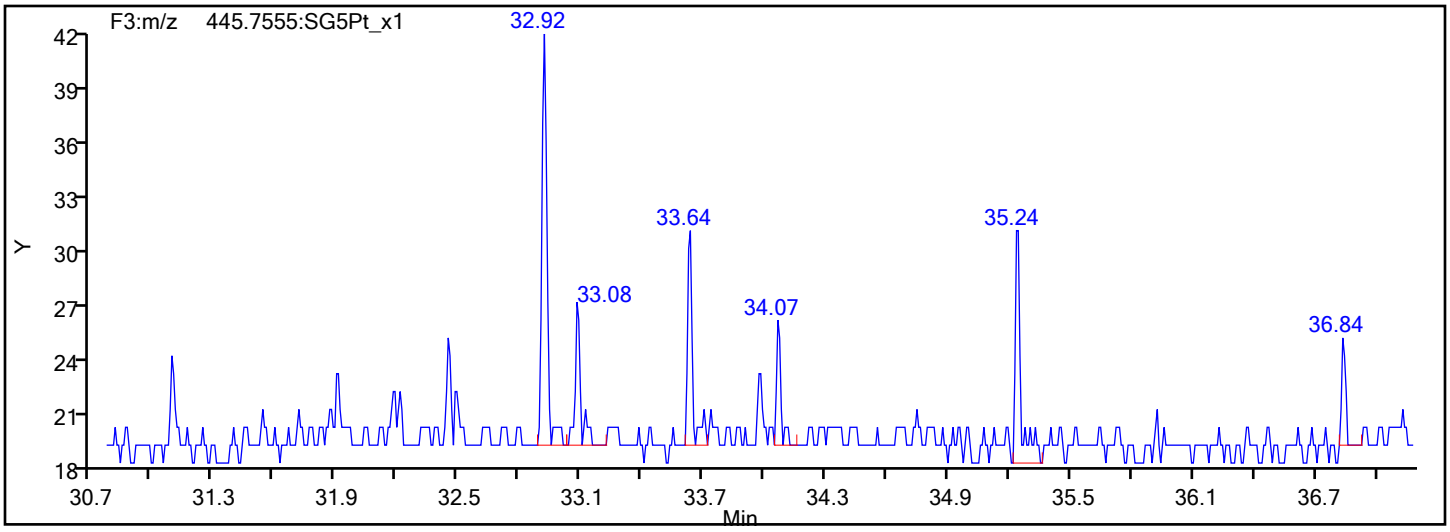
HxCDF





HxCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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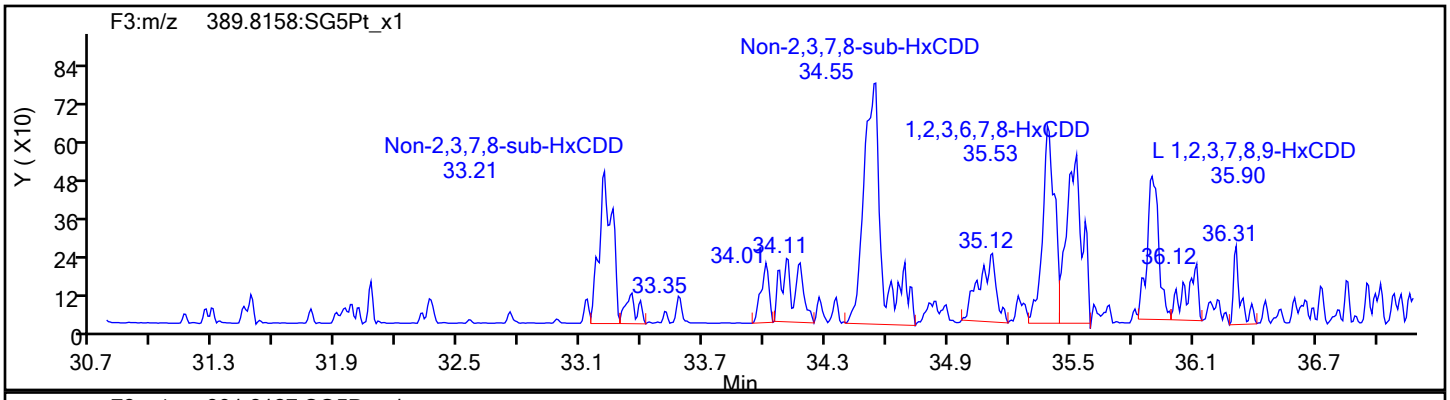
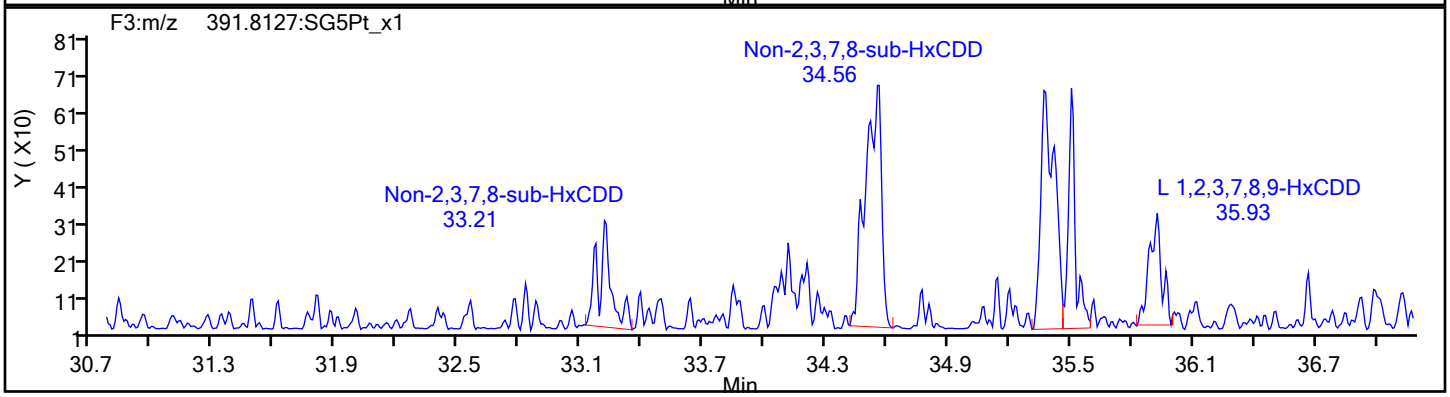
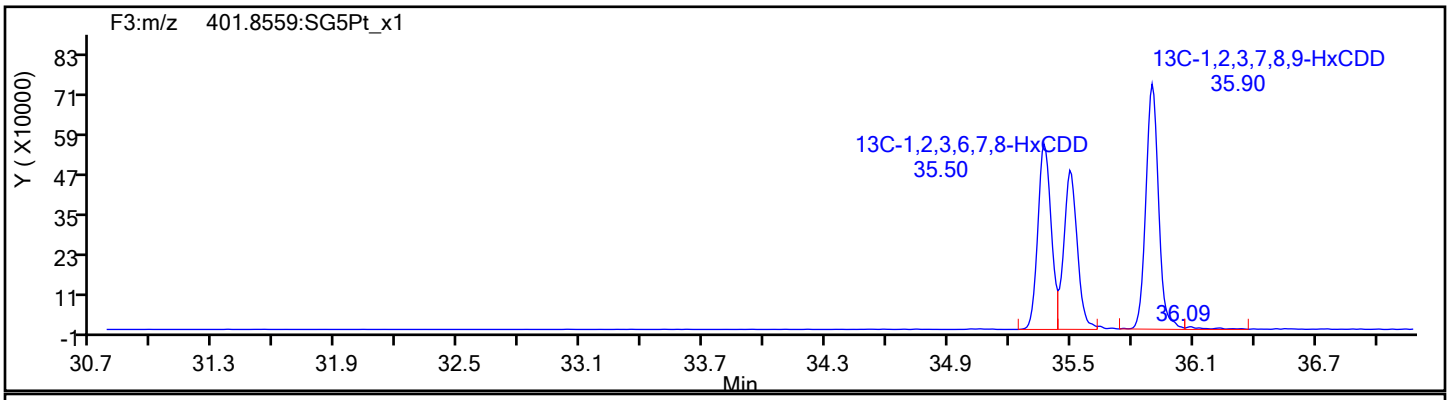
Column Type:	DB-5	Column Dia:	0.32 mm

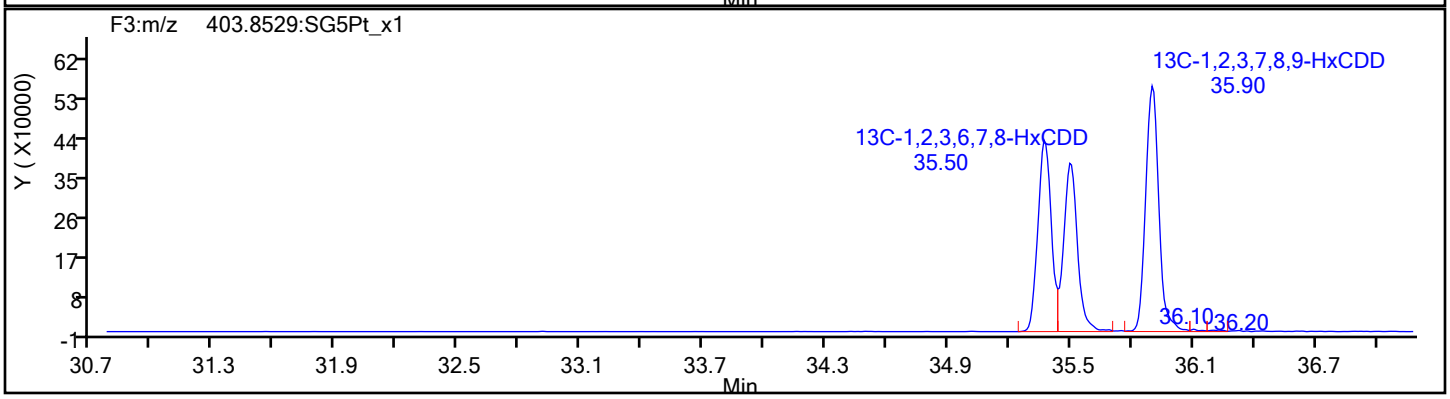
HxCDD





HxCDD Standards





Report Date: 21-Jan-2022 08:05:56 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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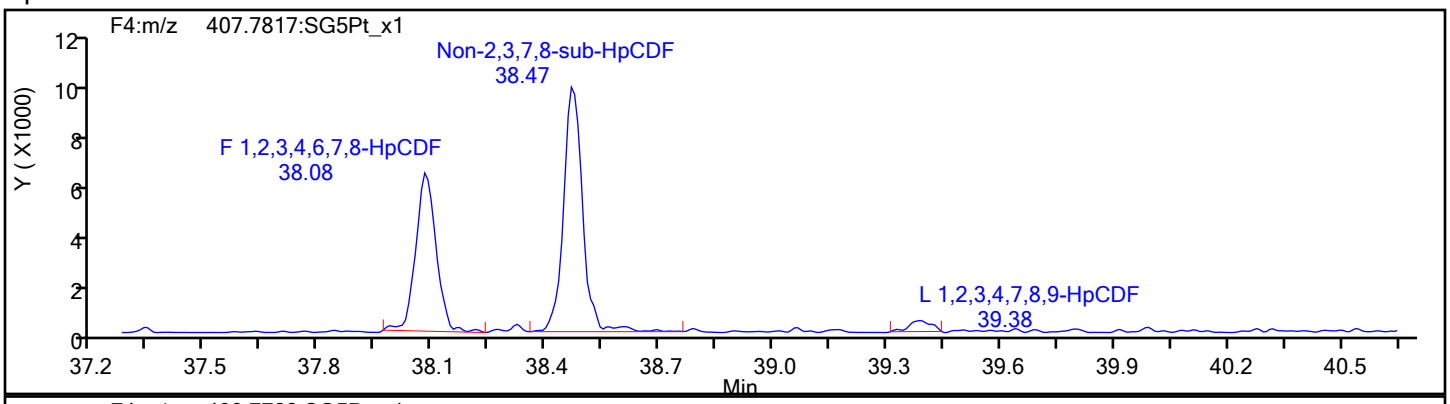
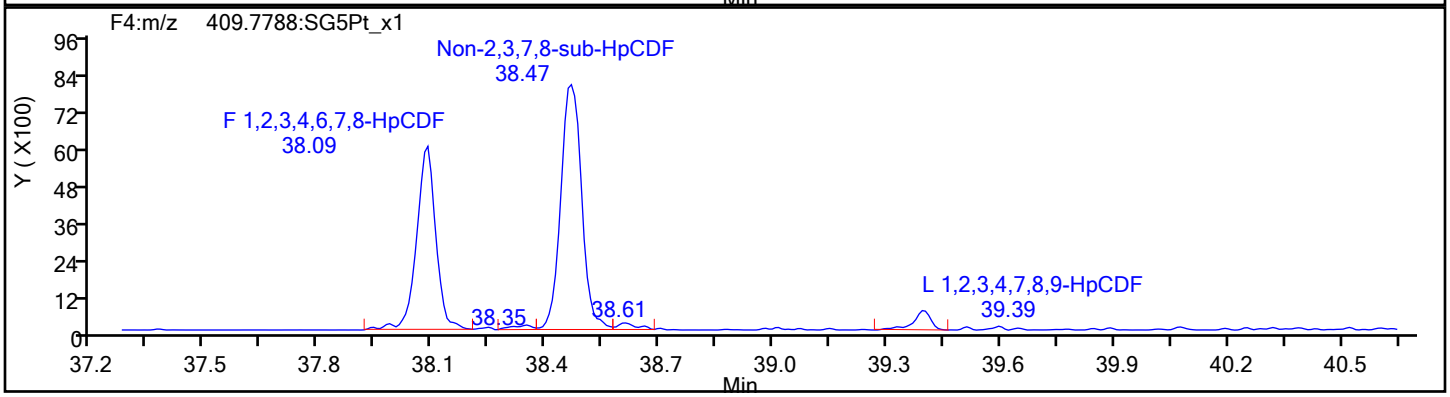
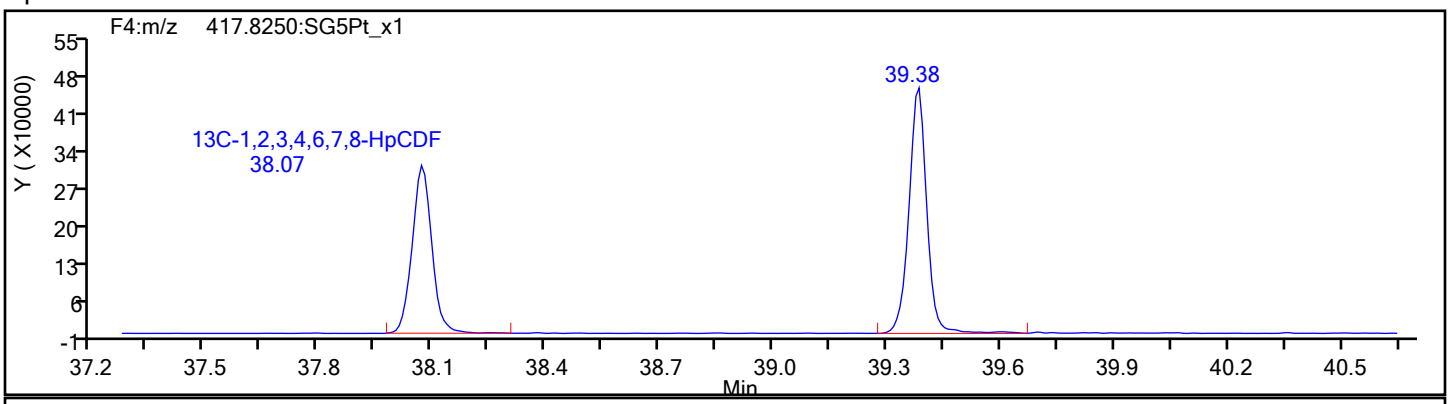
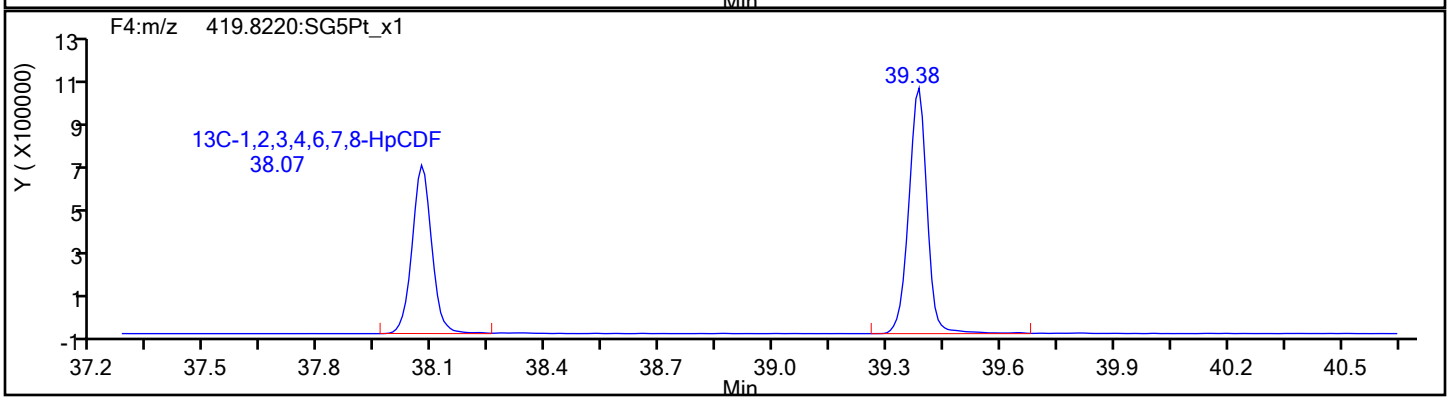
HpCDF





HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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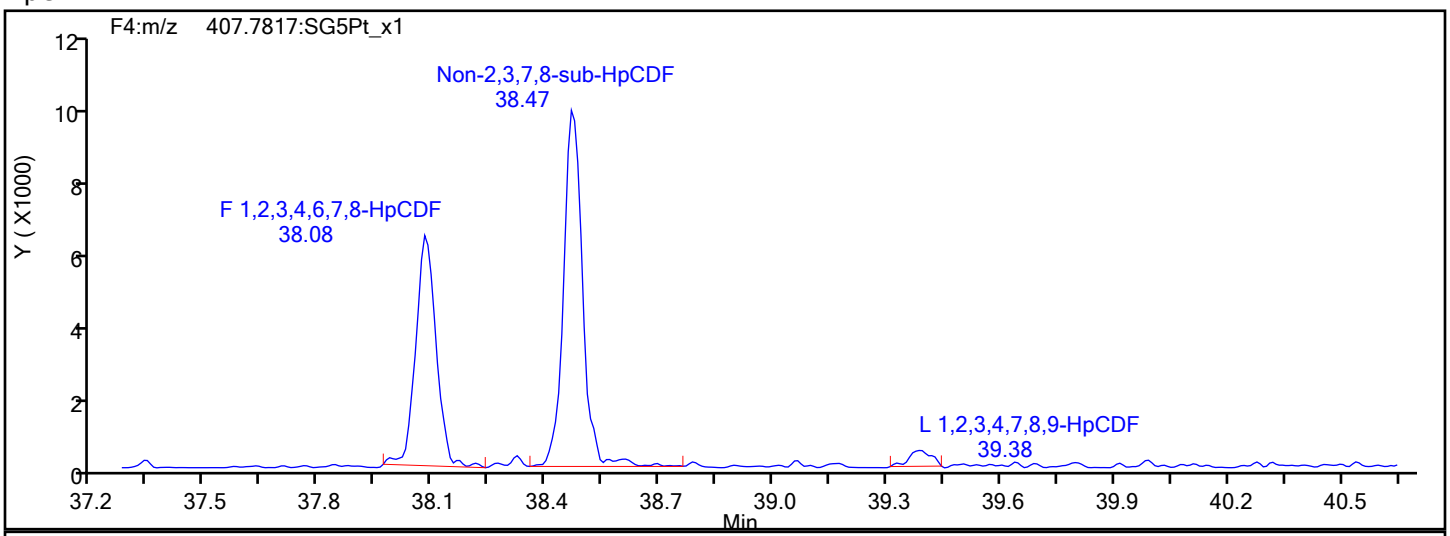
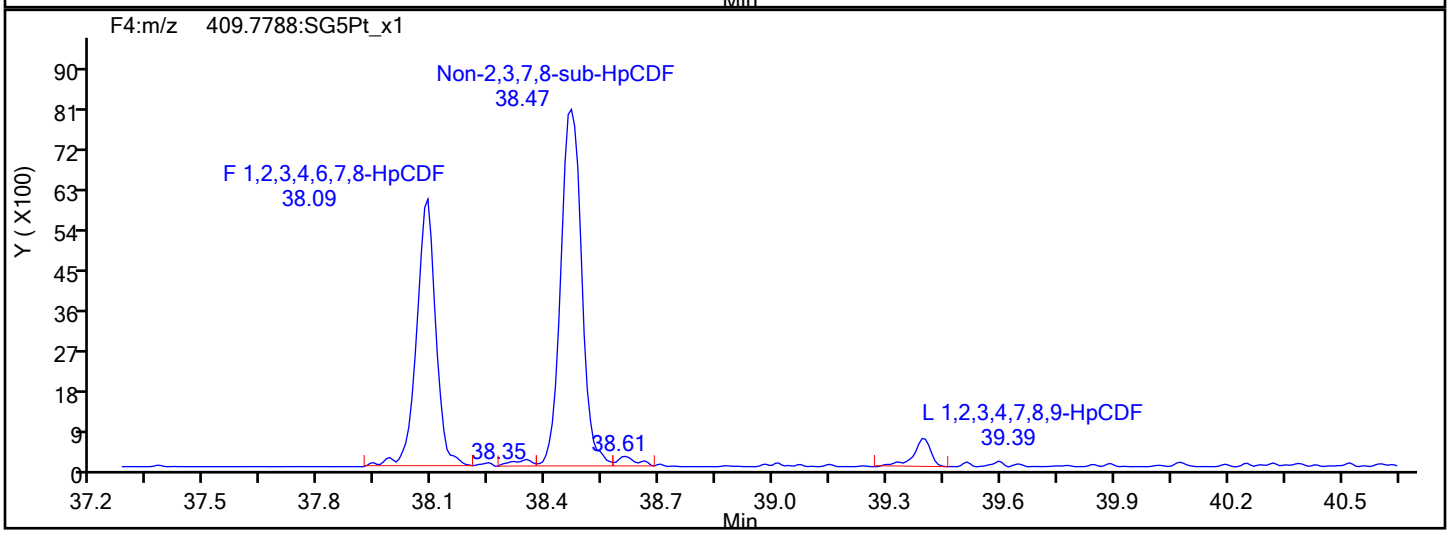
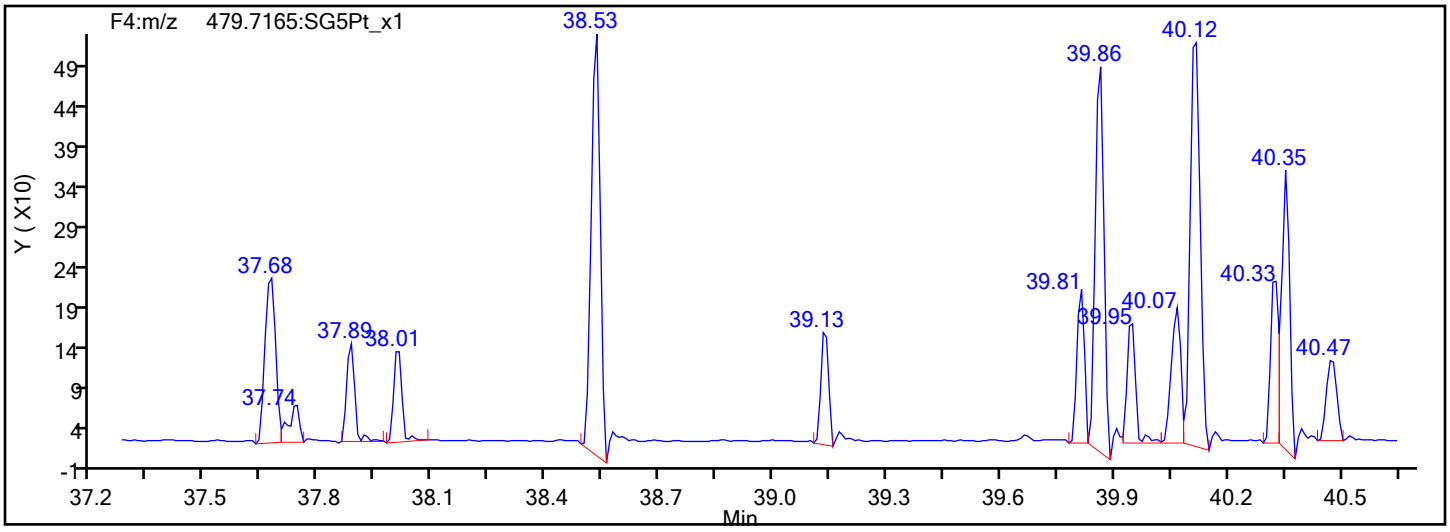
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





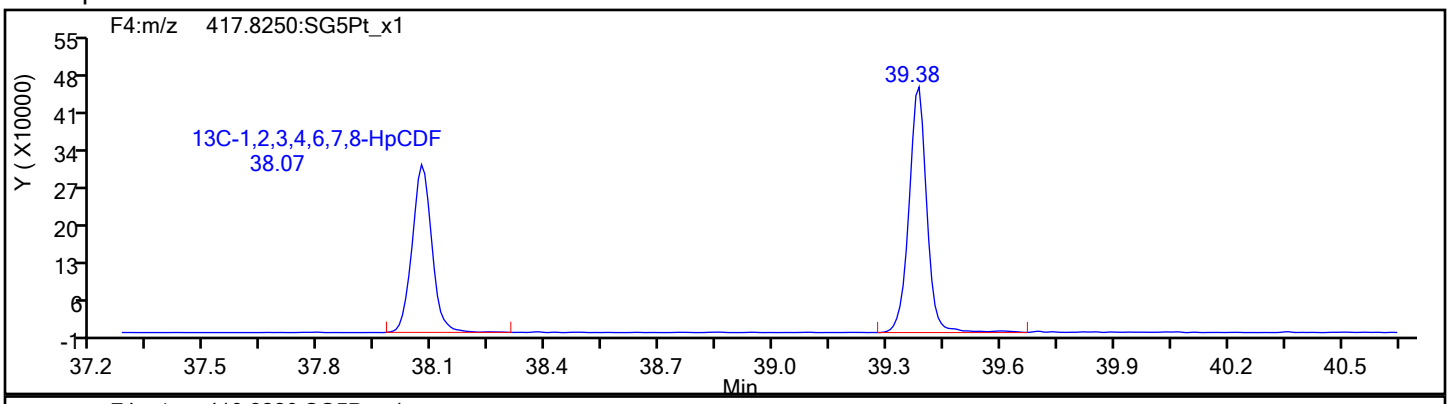
HpCDF Interference Mass

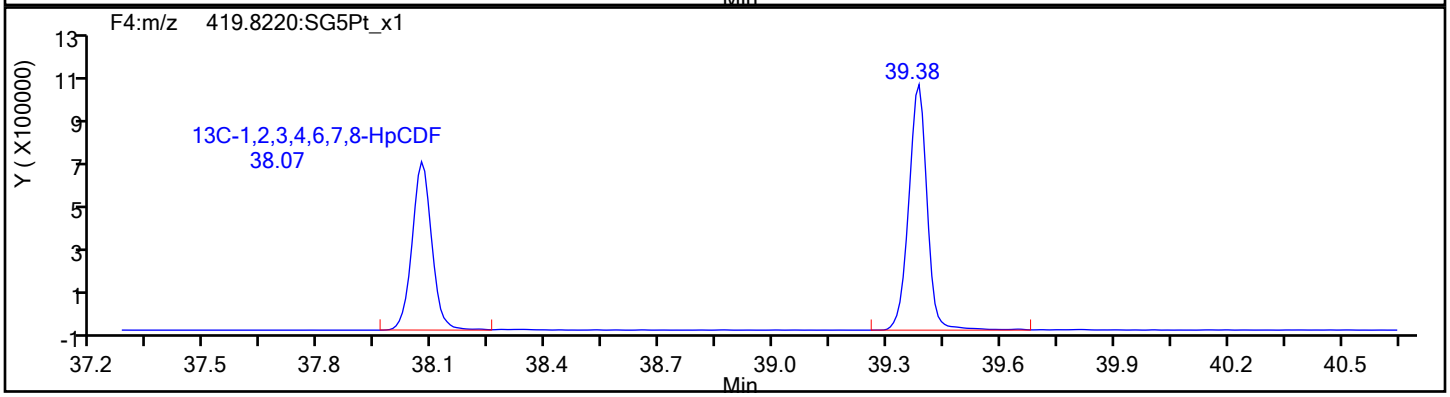


Eurofins Sacramento

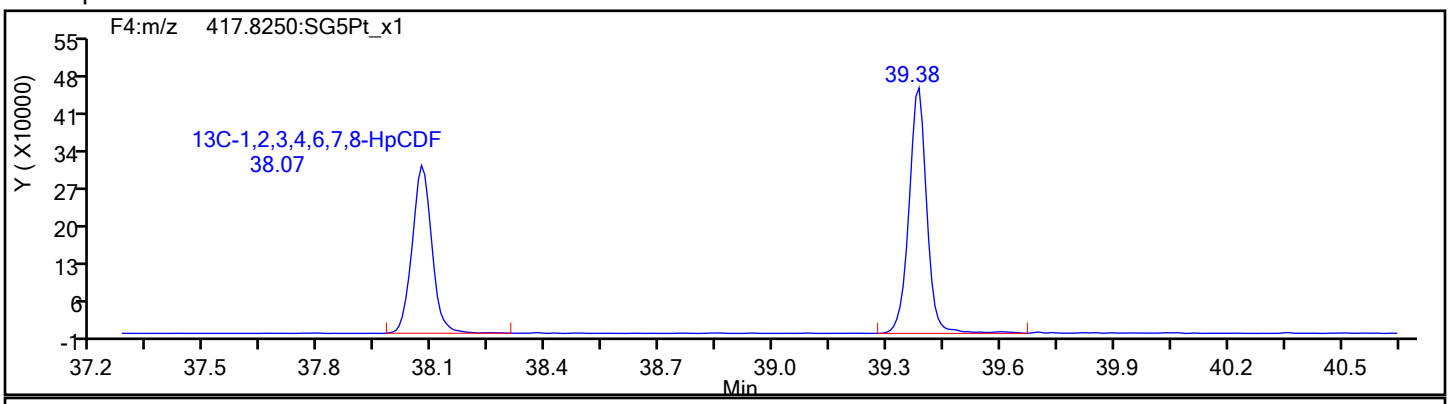
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
Injection Date:	20-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S032		
Worklist#:	559474	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

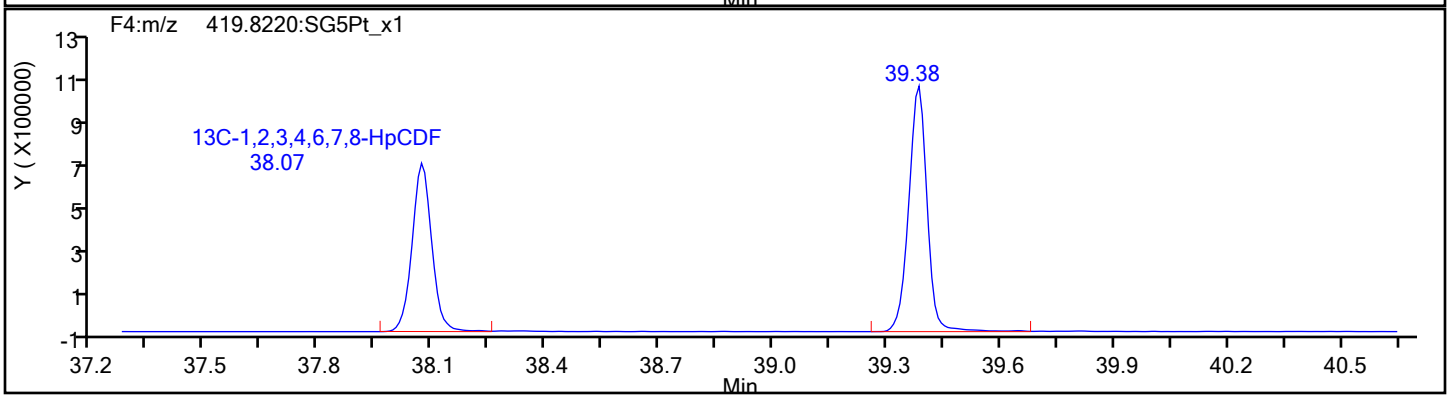
13C-HpCDF





13C-HpCDF Standards

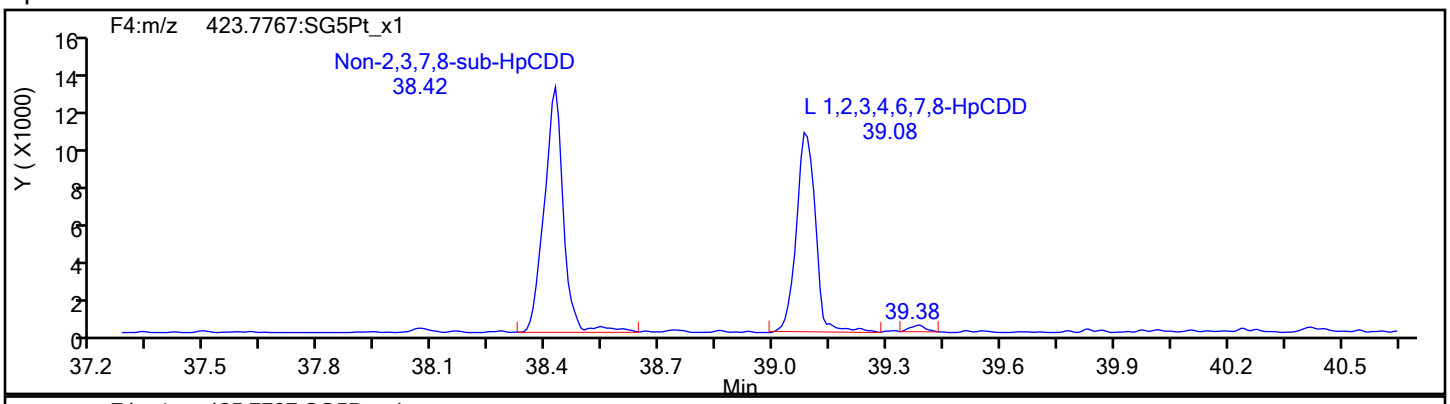


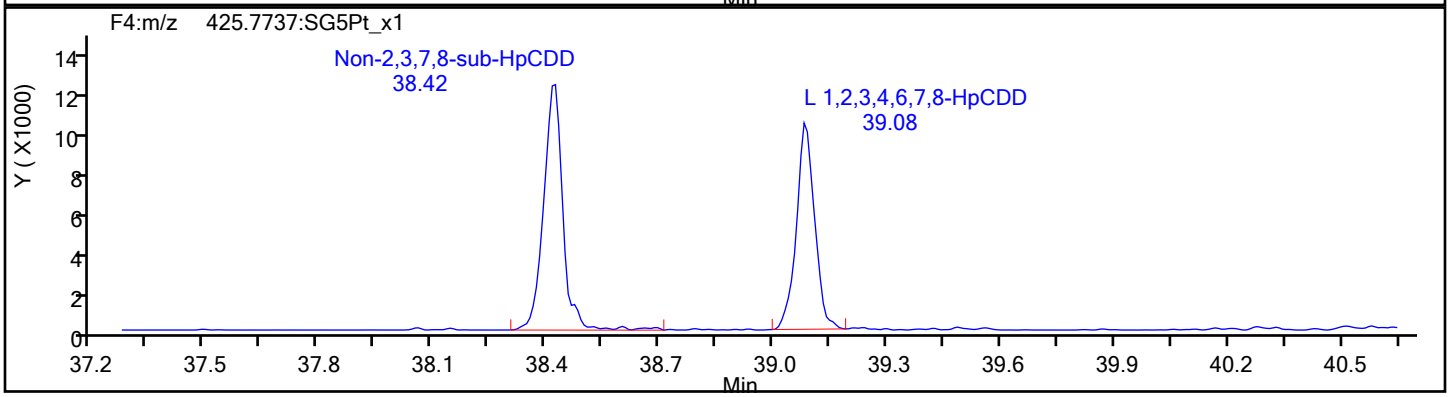


Eurofins Sacramento

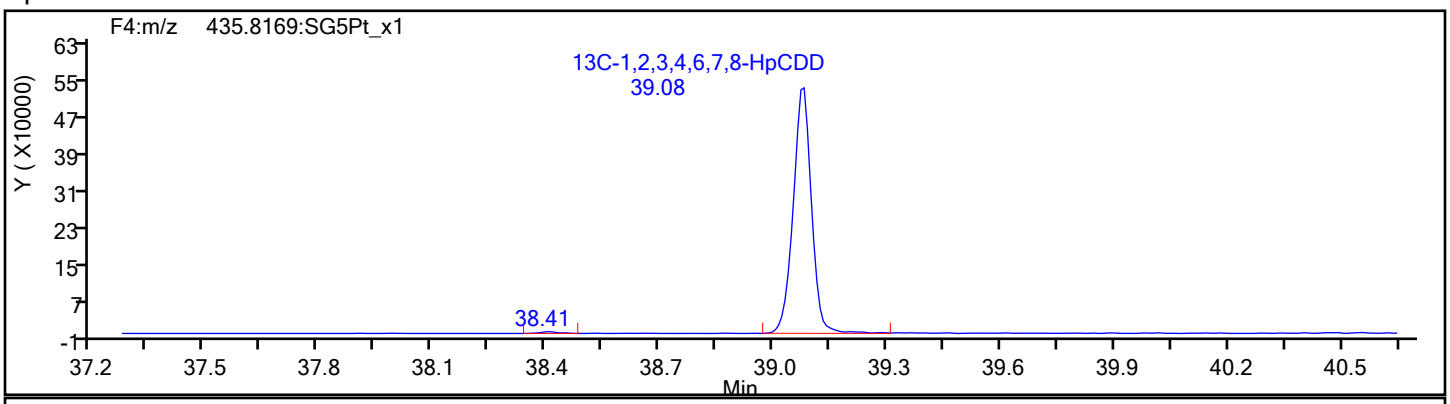
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d
Injection Date: 20-Jan-2022 21:50:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: EVBMP0003S032
Worklist#: 559474 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

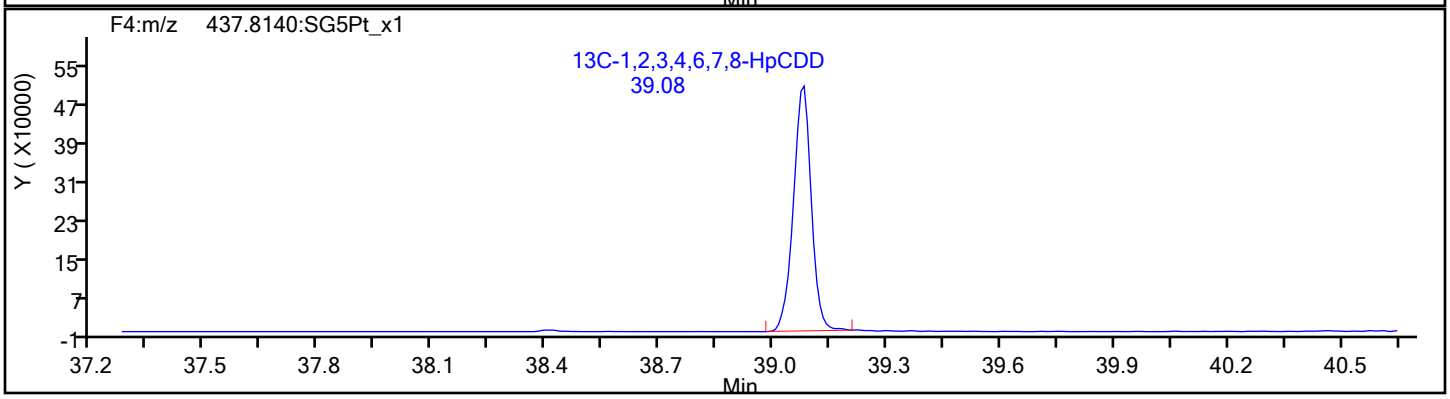
HpCDD





HpCDD Standards

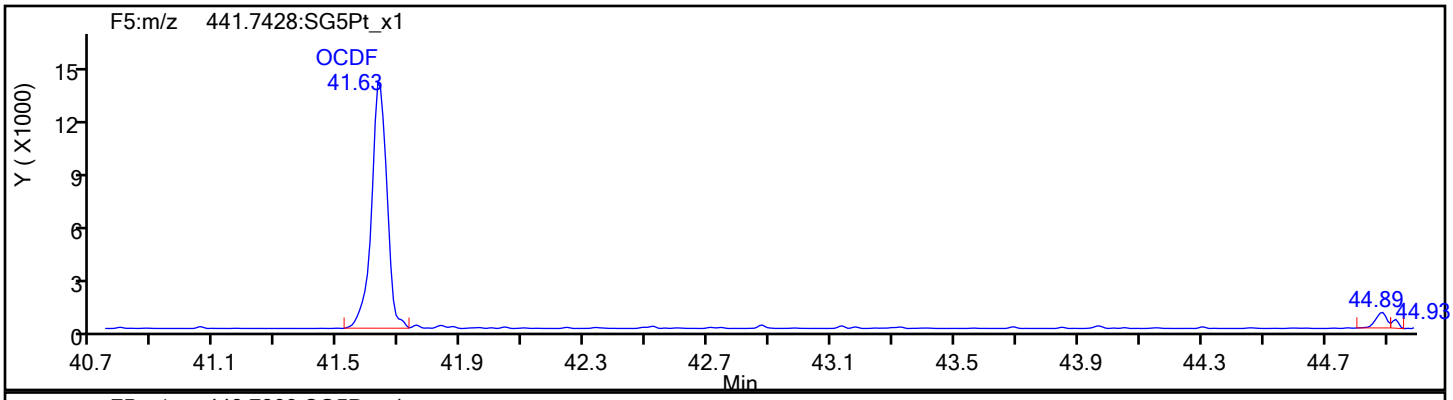


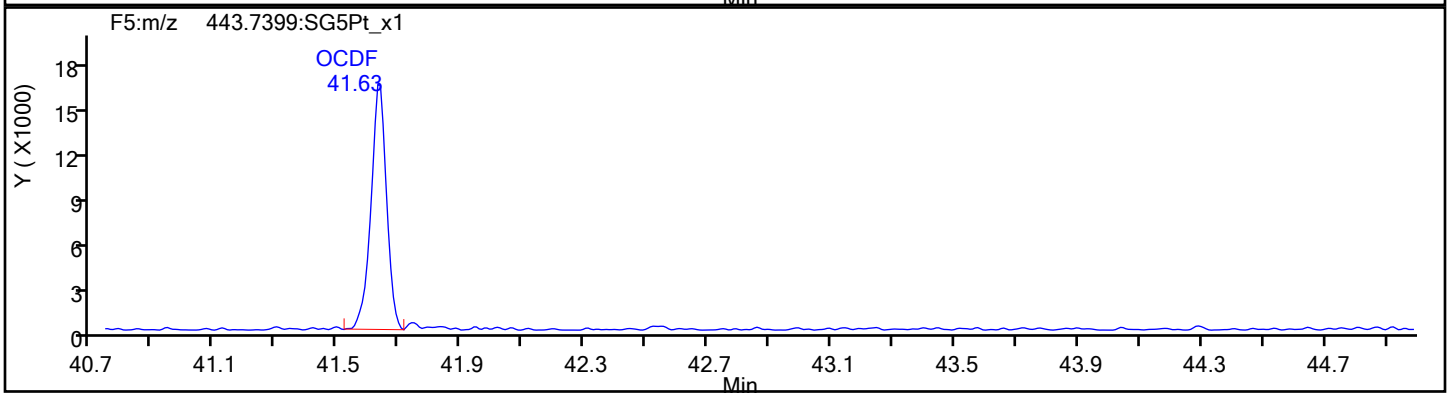


Eurofins Sacramento

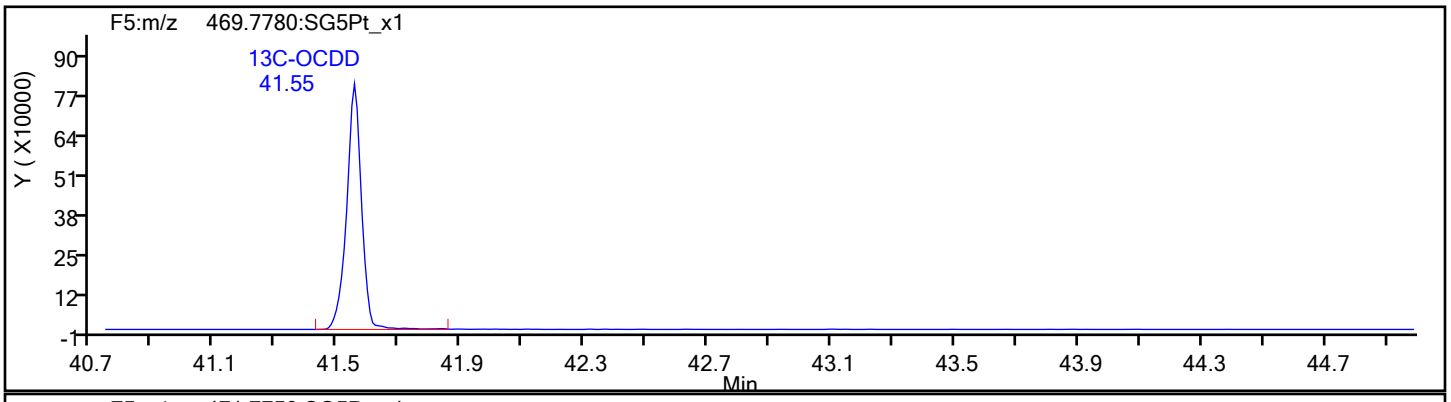
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
Injection Date:	20-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S032		
Worklist#:	559474	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

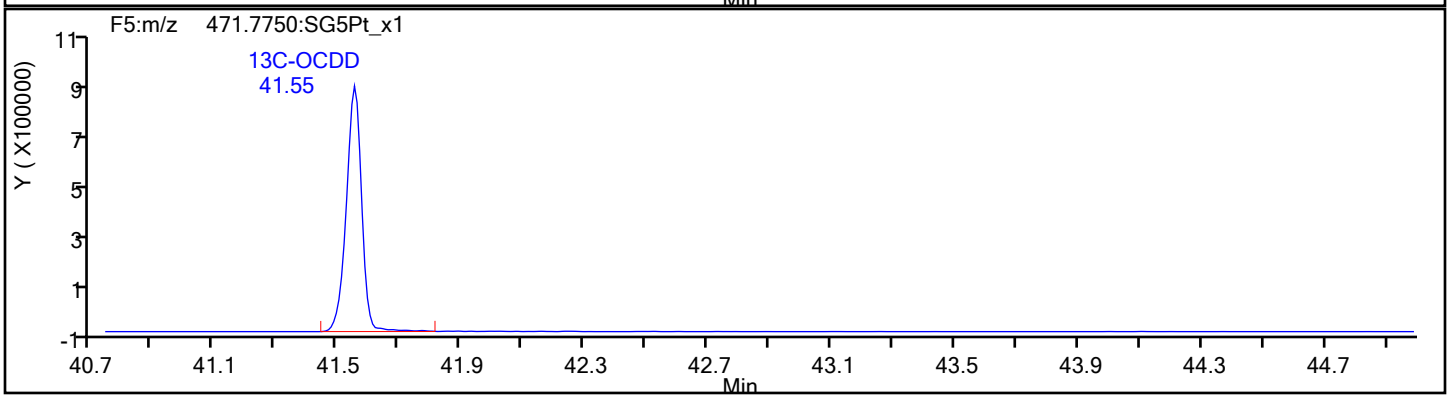
OCDF





OCDF Standards

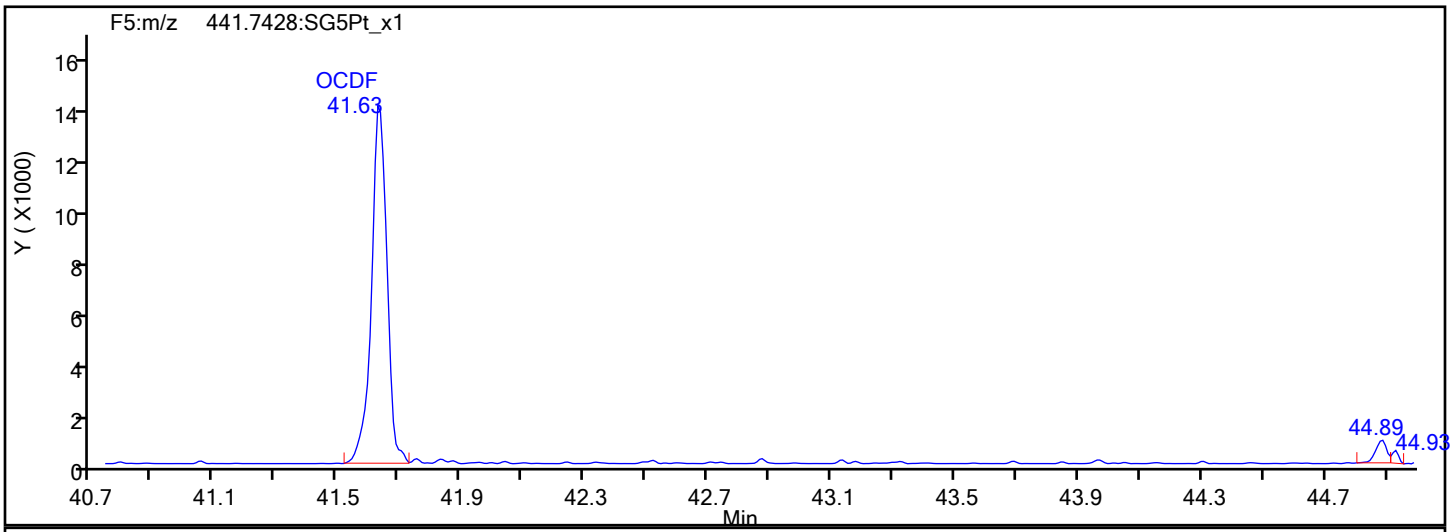


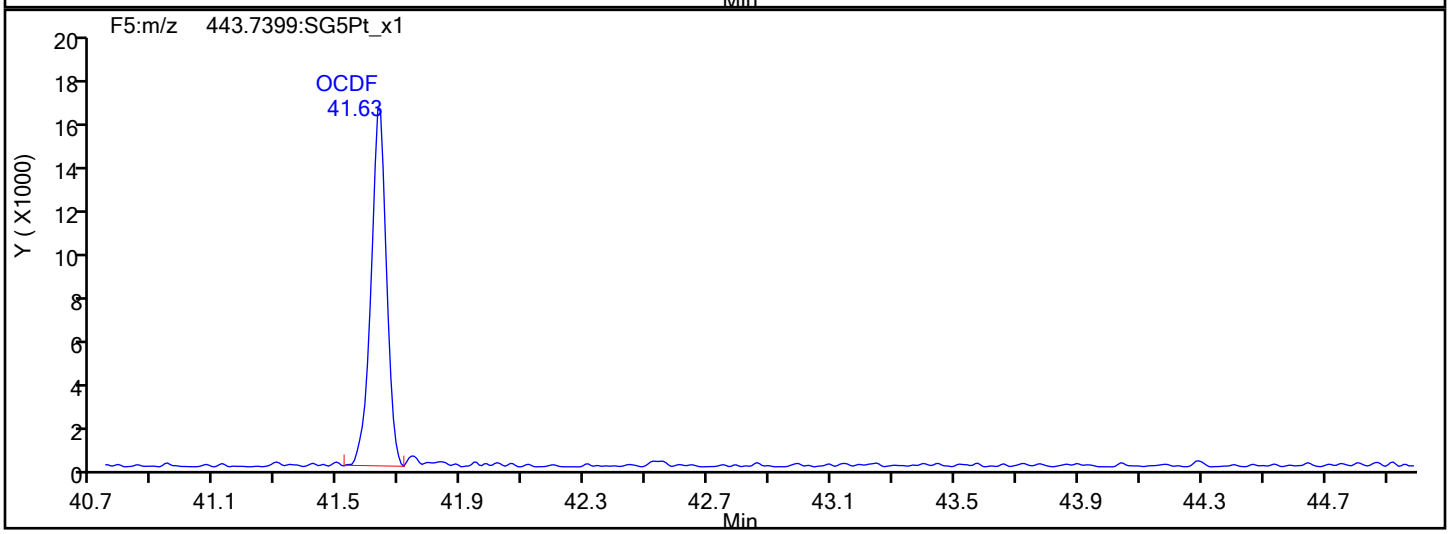


Eurofins Sacramento

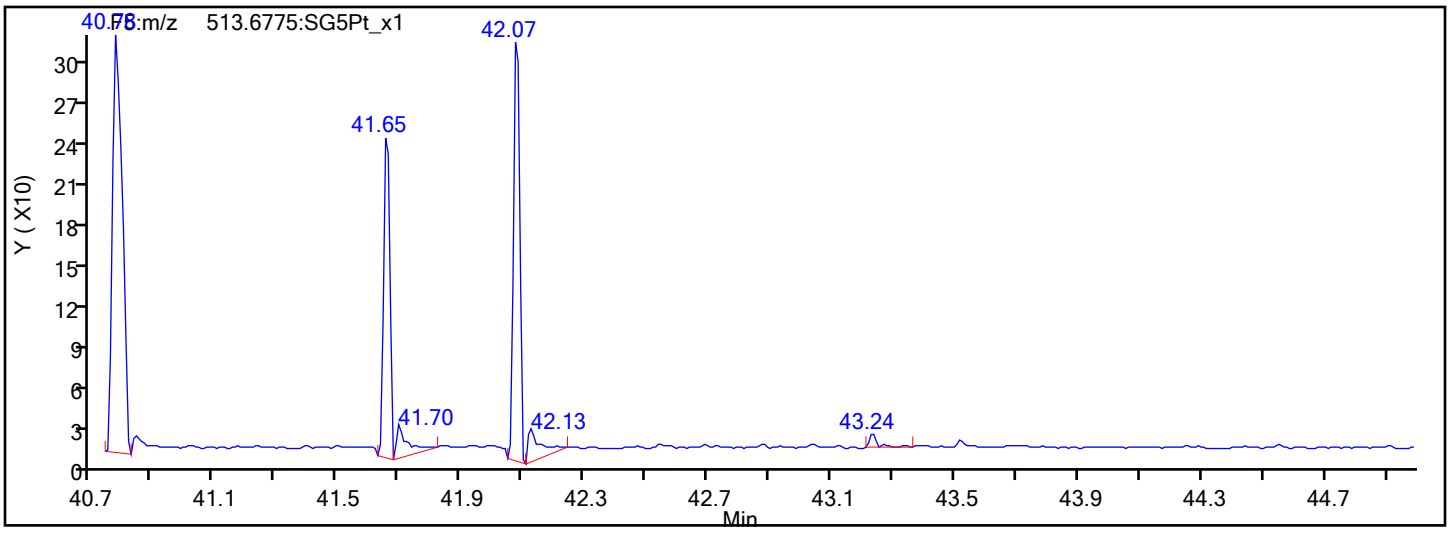
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
Injection Date:	20-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S032		
Worklist#:	559474	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





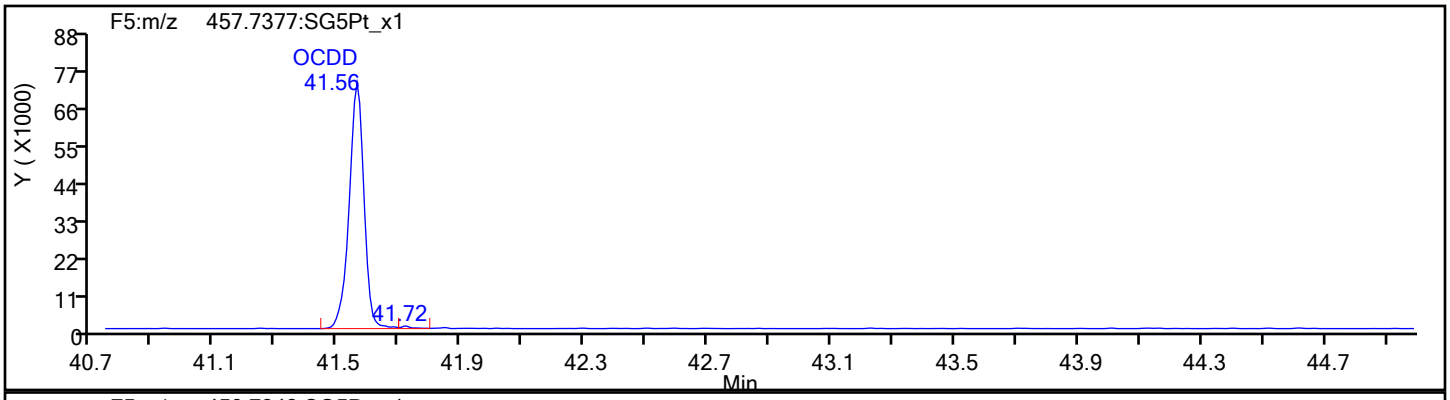
OCDF Interference Mass

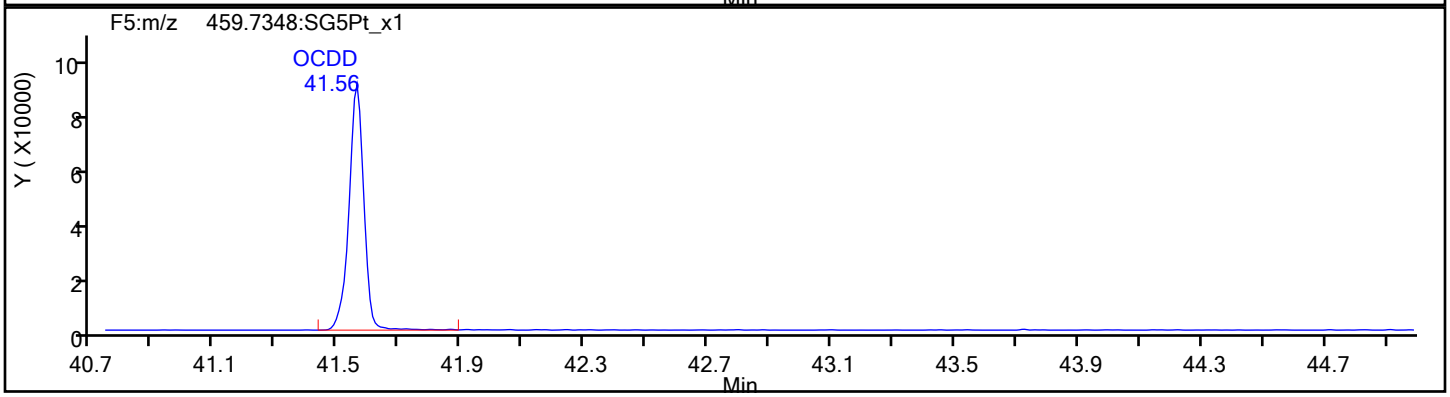


Eurofins Sacramento

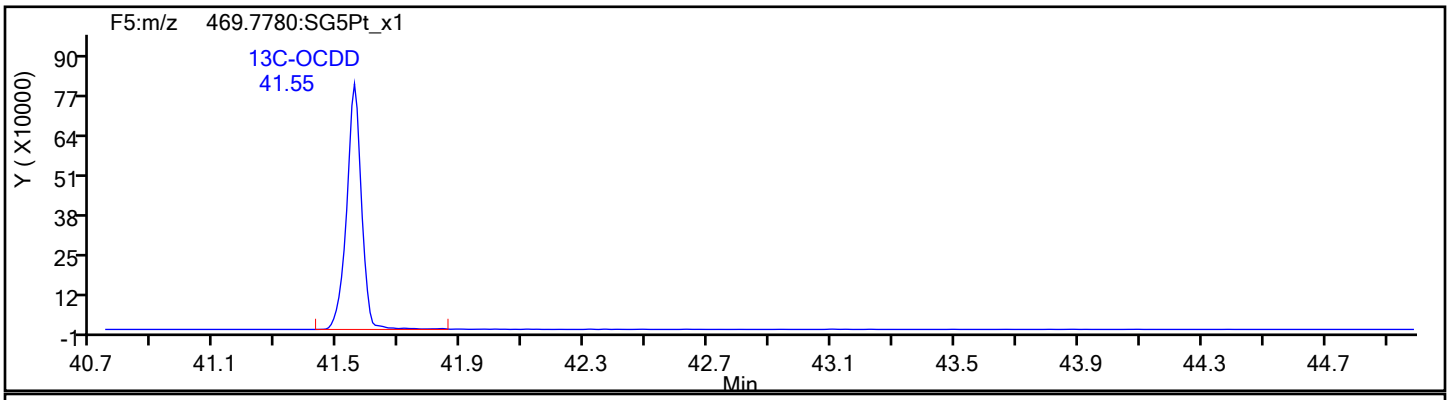
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
Injection Date:	20-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S032		
Worklist#:	559474	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

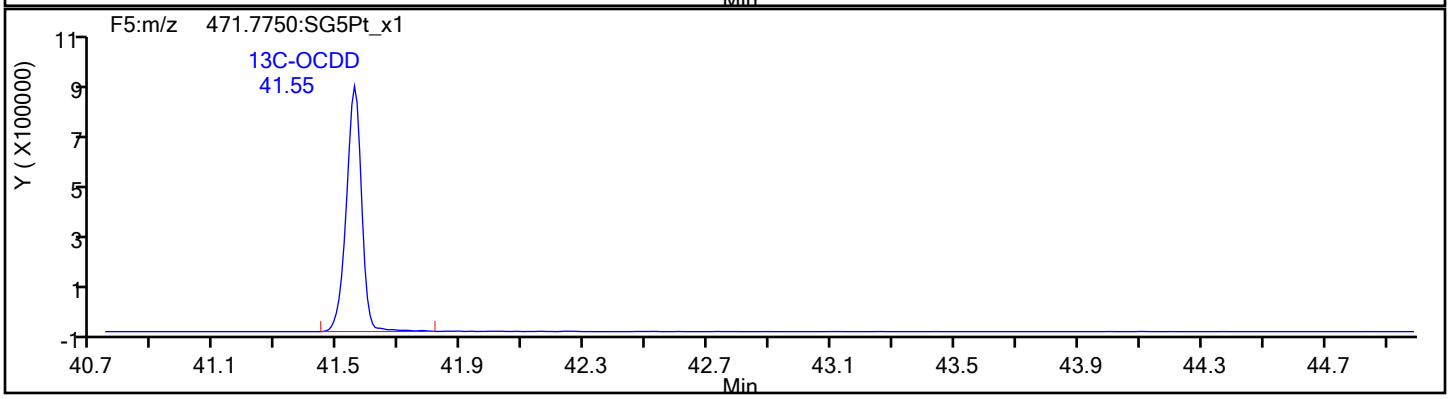
OCDD





OCDD Standards



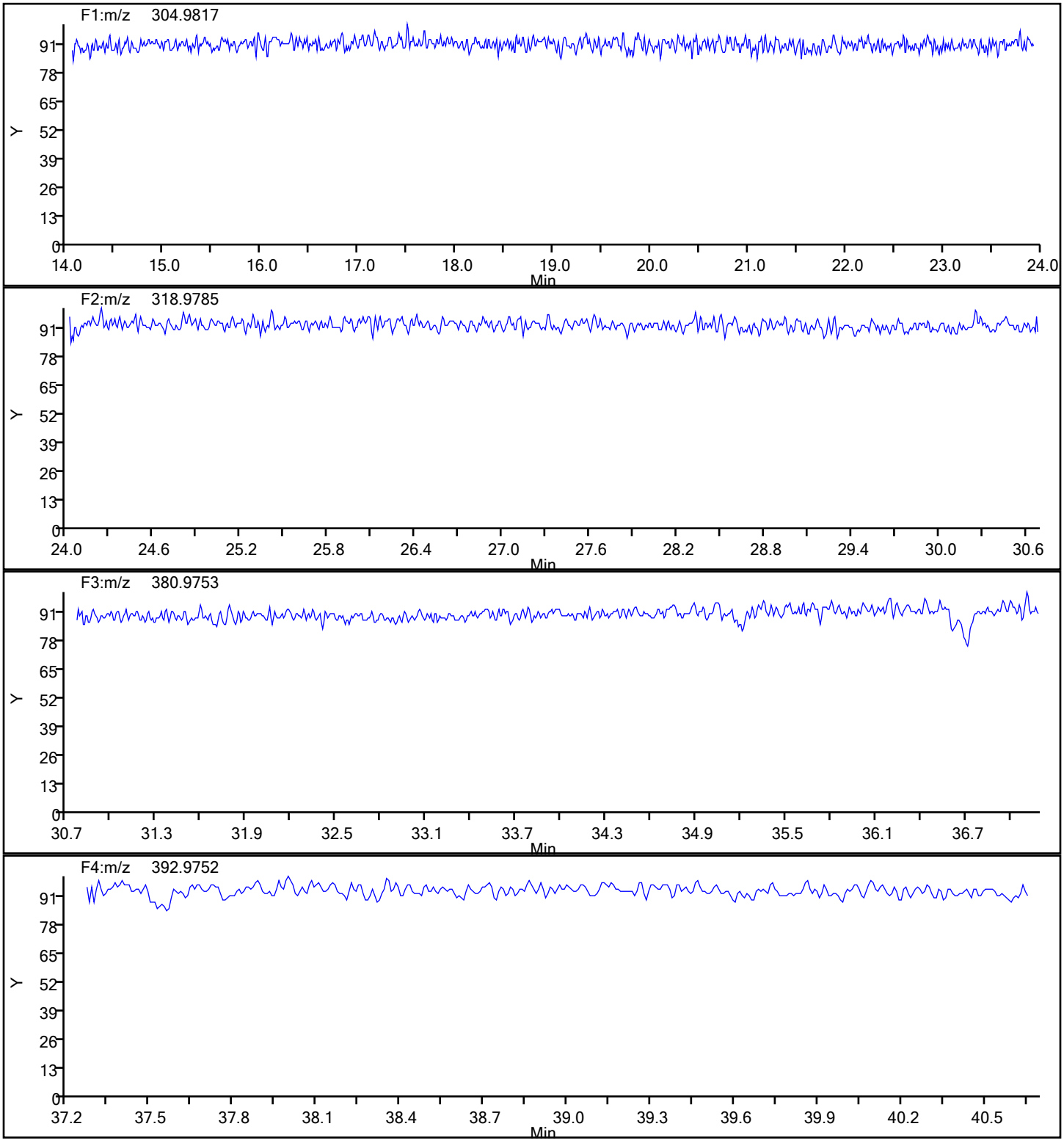


Report Date: 21-Jan-2022 08:05:57 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d

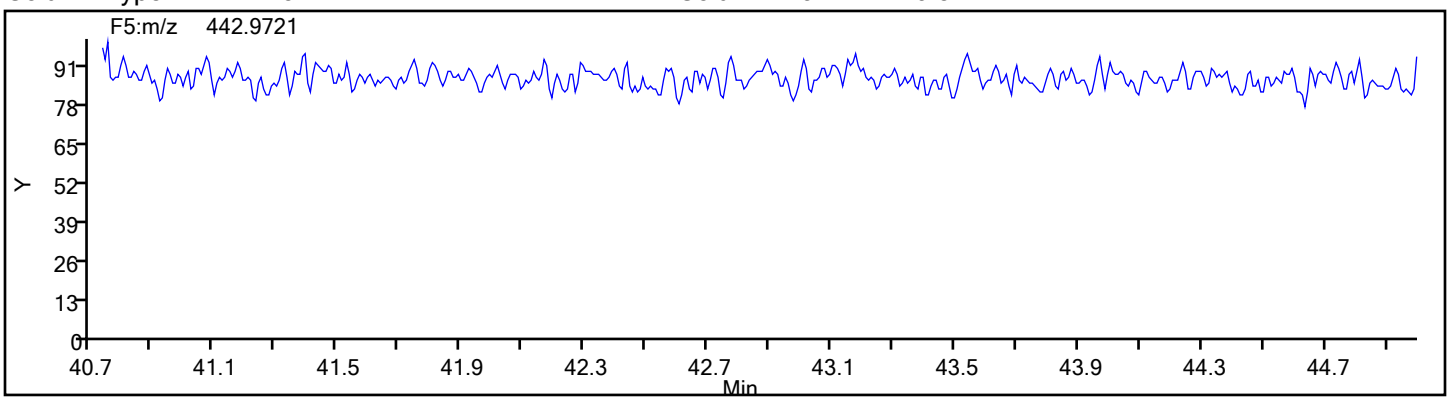
Injection Date:	20-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S032		
Worklist#:	559474	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 21-Jan-2022 08:05:57 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_10.d		
Injection Date:	20-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0003S032		
Worklist#:	559474	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Sacramento Job No.: 570-80119-2 Analy Batch No.: 558558

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/13/2022 17:16 Calibration End Date: 01/13/2022 20:27 Calibration ID: 58916

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-558558/3	13ja22dfs1_4.d
Level 2	IC 320-558558/4	13ja22dfs1_5.d
Level 3	IC 320-558558/5	13ja22dfs1_6.d
Level 4	IC 320-558558/6	13ja22dfs1_7.d
Level 5	IC 320-558558/7	13ja22dfs1_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	0.9718	1.0676	1.0015	1.0317	0.9873	AveID		1.0120				3.8		20.0			
2,3,7,8-TCDD	1.0566	1.0972	0.9703	0.9155	0.9135	AveID		0.9906				8.4		20.0			
1,2,3,7,8-PeCDF	1.0041	1.0605	0.8952	0.9839	0.9344	AveID		0.9756				6.5		20.0			
2,3,4,7,8-PeCDF	0.9219	1.0035	0.8569	0.9426	0.8828	AveID		0.9215				6.1		20.0			
1,2,3,7,8-PeCDD	1.0437	1.0604	0.9503	1.0192	0.9364	AveID		1.0020				5.6		20.0			
1,2,3,4,7,8-HxCDF	0.9213	0.9287	0.8073	0.9089	0.8512	AveID		0.8835				5.9		20.0			
1,2,3,6,7,8-HxCDF	1.0333	1.1457	0.9146	1.0407	1.0094	AveID		1.0287				8.0		20.0			
2,3,4,6,7,8-HxCDF	1.0231	1.0745	0.8798	1.0210	0.9406	AveID		0.9878				7.8		20.0			
1,2,3,4,7,8-HxCDD	0.8757	0.8832	0.7977	0.8239	0.7665	AveID		0.8294				6.0		20.0			
1,2,3,6,7,8-HxCDD	0.9647	1.0229	0.9195	0.9273	0.8628	AveID		0.9395				6.3		20.0			
1,2,3,7,8,9-HxCDD	0.9662	0.9465	0.8811	0.9128	0.8315	AveID		0.9076				5.9		20.0			
1,2,3,7,8,9-HxCDF	1.0435	1.0075	0.8356	0.8757	0.7731	AveID		0.9071				12.7		20.0			
1,2,3,4,6,7,8-HpCDF	1.5390	1.5275	1.3888	1.4106	1.3266	AveID		1.4385				6.4		20.0			
1,2,3,4,6,7,8-HpCDD	0.9639	1.1041	0.9135	0.9754	0.9266	AveID		0.9767				7.7		20.0			
1,2,3,4,7,8,9-HpCDF	1.2890	1.3489	1.1831	1.2043	1.0757	AveID		1.2202				8.6		20.0			
OCDD	1.0466	1.1404	0.9877	1.0450	0.9509	AveID		1.0341				6.9		20.0			
OCDF	1.2527	1.3369	1.2388	1.3129	1.2364	AveID		1.2756				3.6		20.0			
13C-2,3,7,8-TCDF	1.0230	1.0479	0.9868	1.0181	1.0061	Ave		1.0164				2.2		30.0			
13C-2,3,7,8-TCDD	0.8021	0.7726	0.7312	0.8218	0.8143	Ave		0.7884				4.7		30.0			
13C-1,2,3,7,8-PeCDF	0.9088	0.9083	0.9046	0.9398	0.9544	Ave		0.9232				2.4		30.0			
13C-2,3,4,7,8-PeCDF	1.0418	1.0506	1.0889	1.1063	1.1088	Ave		1.0793				2.9		30.0			
13C-1,2,3,7,8-PeCDD	0.5397	0.5534	0.5339	0.5727	0.6033	Ave		0.5606				5.0		30.0			
13C-1,2,3,4,7,8-HxCDF	0.9820	1.0445	1.0960	1.0881	1.0722	Ave		1.0566				4.4		30.0			
13C-1,2,3,6,7,8-HxCDF	0.9347	0.9392	0.9625	0.9875	1.0190	Ave		0.9686				3.6		30.0			
13C-2,3,4,6,7,8-HxCDF	0.8390	0.8914	0.9229	0.9484	0.9403	Ave		0.9084				4.9		30.0			
13C-1,2,3,4,7,8-HxCDD	0.7798	0.7980	0.8329	0.8344	0.8217	Ave		0.8133				2.9		30.0			
13C-1,2,3,6,7,8-HxCDD	0.7715	0.7789	0.7775	0.8420	0.8434	Ave		0.8027				4.6		30.0			
13C-1,2,3,7,8,9-HxCDF	0.8318	0.8330	0.8529	0.8244	0.7817	Ave		0.8248				3.2		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Sacramento Job No.: 570-80119-2 Analy Batch No.: 558558

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/13/2022 17:16 Calibration End Date: 01/13/2022 20:27 Calibration ID: 58916

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
13C-1,2,3,4,6,7,8-HpCDF	0.5993	0.6242	0.6256	0.7038	0.6575	Ave		0.6421				6.3		30.0			
13C-1,2,3,4,6,7,8-HpCDD	0.5976	0.6080	0.6246	0.6834	0.6094	Ave		0.6246				5.5		30.0			
13C-1,2,3,4,7,8,9-HpCDF	1.1620	1.2078	1.2502	1.1435	1.0894	AveID		1.1706				5.3					
13C-OCDD	0.4190	0.4344	0.4300	0.4830	0.4136	Ave		0.4360				6.3		30.0			
37Cl4-2,3,7,8-TCDD	0.7293	0.8297	0.7974	0.7901	0.8091	Ave		0.7911				4.8		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Sacramento Job No.: 570-80119-2 Analy Batch No.: 558558

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/13/2022 17:16 Calibration End Date: 01/13/2022 20:27 Calibration ID: 58916

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-558558/3	13ja22dfs1_4.d
Level 2	IC 320-558558/4	13ja22dfs1_5.d
Level 3	IC 320-558558/5	13ja22dfs1_6.d
Level 4	IC 320-558558/6	13ja22dfs1_7.d
Level 5	IC 320-558558/7	13ja22dfs1_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	15782	65332	327239	1913030	7319030	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	13454	49507	234925	1370244	5480713	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	72427	281241	1340624	8420453	32853418	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	66501	266127	1283336	8067144	31037717	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	44715	171354	839992	5315461	20812323	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	53675	204340	1001430	6462436	23549826	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	60204	252078	1134458	7400015	27928957	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	59609	236411	1091296	7259817	26024710	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	40085	144907	702018	4532842	16681538	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	44161	167823	809205	5102120	18776432	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	44229	155294	775382	5022242	18096602	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	60795	221680	1036430	6226674	21388952	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	54723	200857	983413	6487179	22505754	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	34176	141402	645784	4355719	14570735	2.50	10.0	50.0	200	1000

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Sacramento Job No.: 570-80119-2 Analy Batch No.: 558558

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/13/2022 17:16 Calibration End Date: 01/13/2022 20:27 Calibration ID: 58916

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
1,2,3,4,7,8,9-HpCDF		AveID	45833	177369	837721	5538539	18248889	2.50	10.0	50.0	200	1000
OCDD		AveID	52036	208726	961342	6596477	20297049	5.00	20.0	100	400	2000
OCDF		AveID	62285	244695	1205705	8287684	26390630	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTCDD	Ave	3248142	3059827	3267431	4635716	3706529	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTCDD	Ave	2546695	2255968	2421233	3741636	2999814	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTCDD	Ave	2885364	2652010	2995249	4279250	3515851	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTCDD	Ave	3307893	3067672	3605659	5037163	4084856	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTCDD	Ave	1713672	1615939	1767842	2607541	2222510	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHxCD	Ave	2330451	2200292	2480807	3555240	2766787	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHxCD	Ave	2218295	1978454	2178626	3226352	2629332	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHxCD	Ave	1991124	1877728	2089175	3098605	2426240	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHxCD	Ave	1850648	1680898	1885425	2726060	2120232	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHxCD	Ave	1830992	1640708	1760030	2750934	2176275	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHxCD	Ave	1973993	1754804	1930739	2693511	2017074	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHxCD	Ave	1422333	1314917	1416166	2299466	1696502	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHxCD	Ave	1418261	1280749	1413921	2232797	1572535	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF		AveID	1652819	1588136	1770500	2629404	1848147	100	100	100	100	100
13C-OCDD	13CHxCD	Ave	1988775	1830337	1946538	3156146	2134437	200	200	200	200	200

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SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/13/2022 17:16 Calibration End Date: 01/13/2022 20:27 Calibration ID: 58916

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
37Cl4-2,3,7,8-TCDD	13CT CDD	Ave	11578	48454	264027	1439023	5961456	0.500	2.00	10.0	40.0	200

Curve Type Legend
Ave = Average ISTD
AveID = Average isotope dilution

	File Name	SampleName	Sample ID	Position	Method/Matrix	Box	User	Sample Vol	Units
1	13JA22DFS1_1	Resolution Check	RC 011322	162			KSS	1.000	
2	13JA22DFS1_2	WDM HRDXNCP_00044	WDM 011322	1	Dioxin		KSS	1.000	
3	13JA22DFS1_3	SB Solvent Blank C14	SB 011322	3	Dioxin		KSS	1.000	
4	13JA22DFS1_4	IC CS2_HRDXNL2_00033	IC CS2_HRDXNL2_00033	4	DXN/ICAL	ICAL	KSS	1.000	
5	13JA22DFS1_5	IC CS3_HRDXNL3_00030	IC CS3_HRDXNL3_00030	5	DXN/ICAL		KSS	1.000	
6	13JA22DFS1_6	IC CS4_HRDXNL4_00105	IC CS4_HRDXNL4_00105	2	DXN/ICAL		KSS	1.000	
7	13JA22DFS1_7	IC CS5_HRDXNL5_00033	IC CS5_HRDXNL5_00033	6	DXN/ICAL		KSS	1.000	
8	13JA22DFS1_8	IC CS6_HRDXNL6_00030	IC CS6_HRDXNL6_00030	7	DXN/ICAL		KSS	1.000	
9	13JA22DFS1_9	SB Solvent Blank C14	SB 011322A	3	Dioxin		KSS	1.000	
10	13JA22DFS1_10	Resolution Check	RC 011322A	162			KSS	1.000	
11	13JA22DFS1_11	ICV HRDXNIC_00048	ICV HRDXNIC_00048	8	DXN/ICAL		KSS	1.000	
12	13JA22DFS1_12	Resolution Check	RC 011322B	162			KSS	1.000	

LOGFILE CHECKED
DB 1/13/22

Resolution Check Report (DFS SN: 3487)

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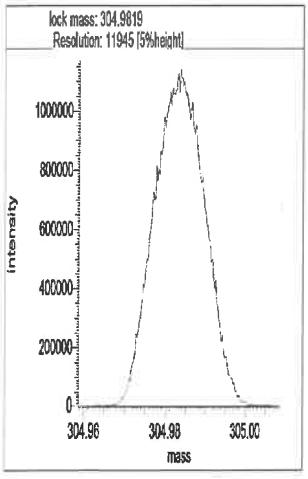
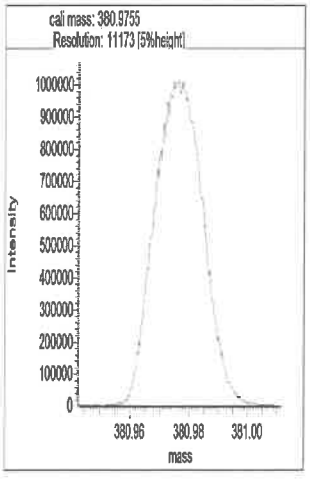
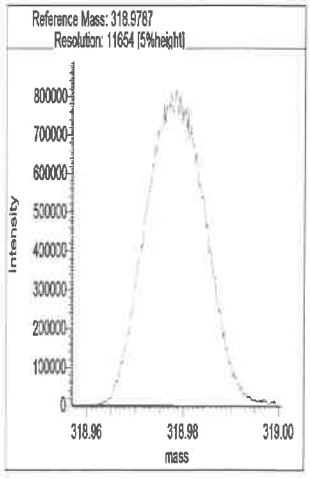
Date:	13 Jan 2022 14:53
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

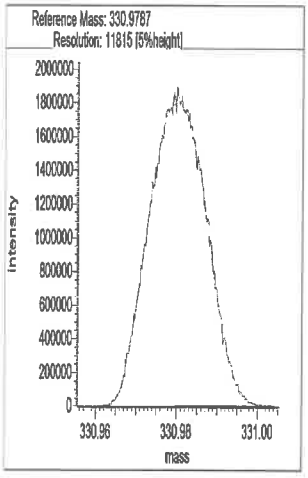
Segment 1

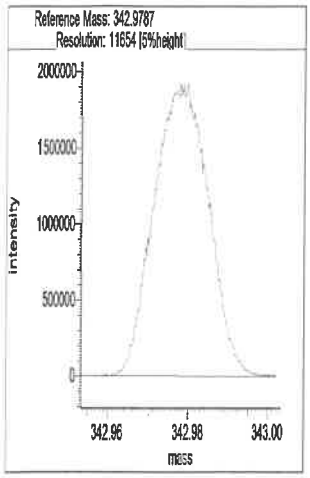
Lock mass 304.9819 [m/z] Resolution: 11945 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 11173 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 11654 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 11815 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 11654 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12000 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 10841 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 11014 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 11279 [5%height]

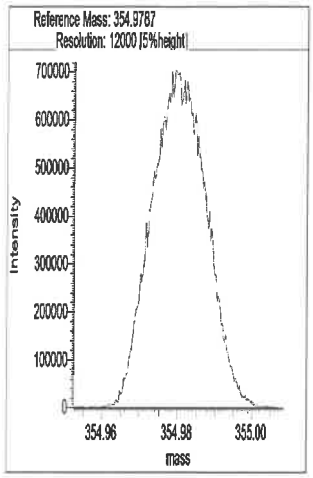


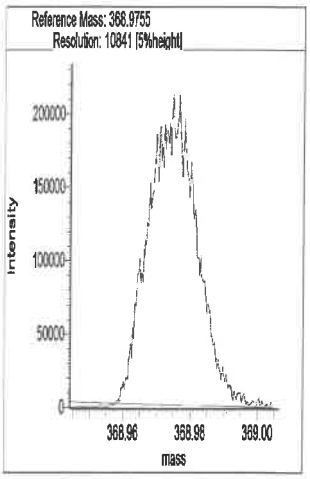


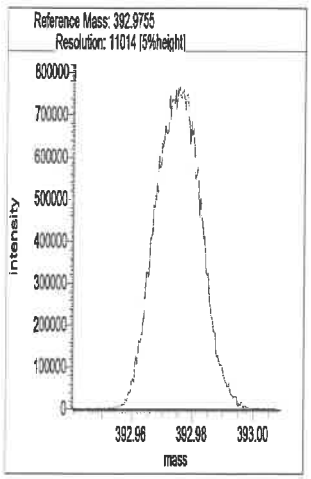


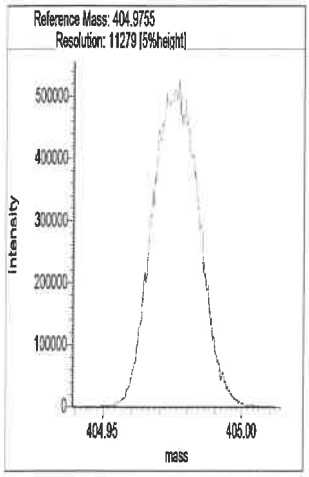












Segment 2

Lock mass 330.9787 [m/z] Resolution: 11758 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 11541 [5%height]

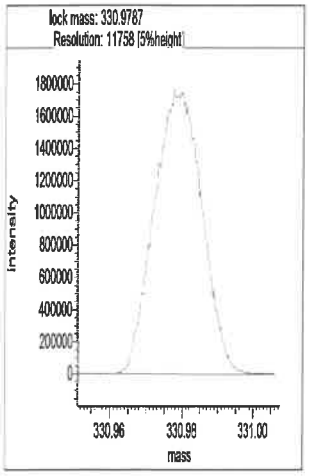
Ref. mass 342.9787 [m/z] Resolution: 11637 [5%height]

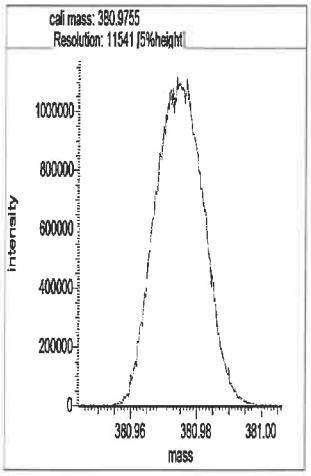
Ref. mass 354.9787 [m/z] Resolution: 11689 [5%height]

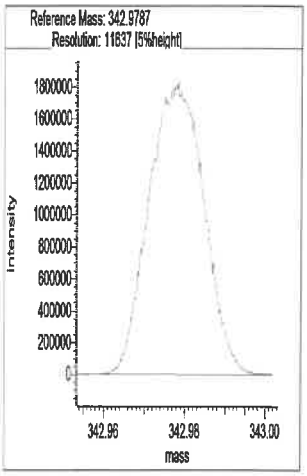
Ref. mass 368.9755 [m/z] Resolution: 11439 [5%height]

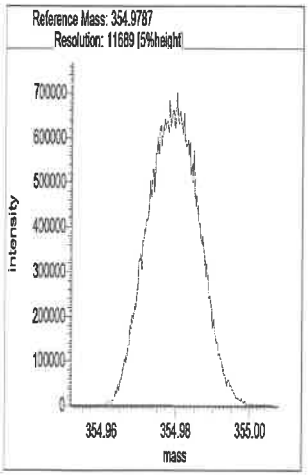
Ref. mass 392.9755 [m/z] Resolution: 11639 [5%height]

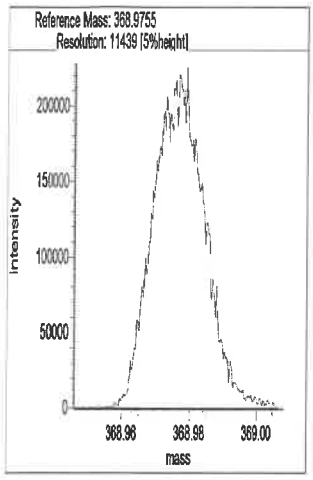
Ref. mass 404.9755 [m/z] Resolution: 11496 [5%height]

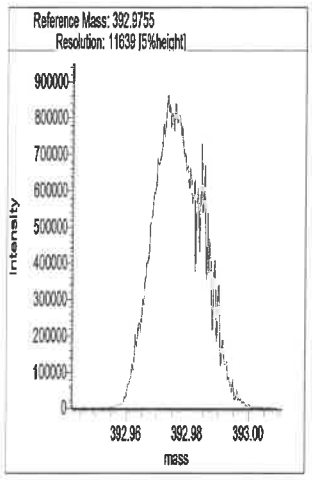


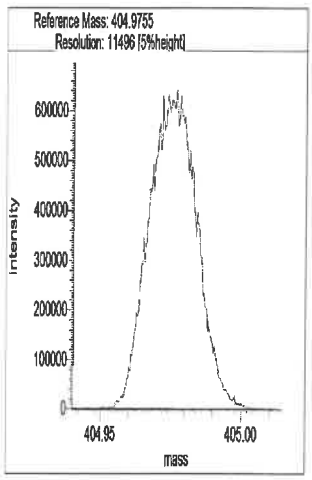












Segment 3

Lock mass 380.9755 [m/z] Resolution: 11760 [5%height]

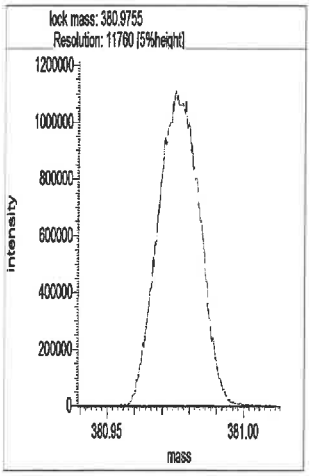
Cali. mass 430.9723 [m/z] Resolution: 11265 [5%height]

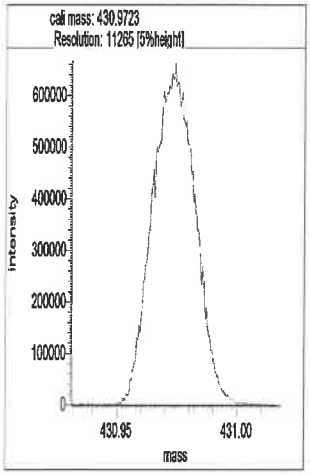
Ref. mass 392.9755 [m/z] Resolution: 11879 [5%height]

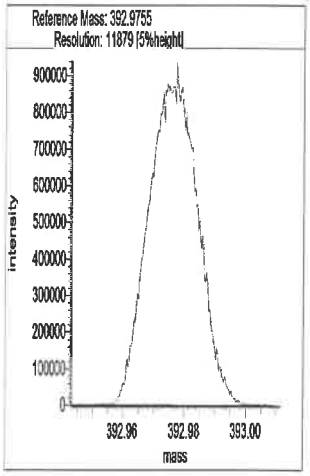
Ref. mass 404.9755 [m/z] Resolution: 11178 [5%height]

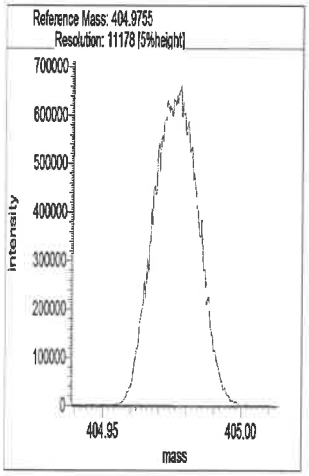
Ref. mass 416.9755 [m/z] Resolution: 11511 [5%height]

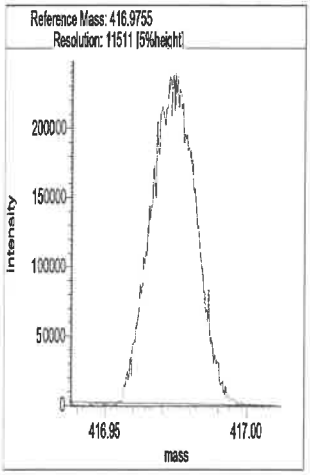
Ref. mass 442.9723 [m/z] Resolution: 11595 [5%height]

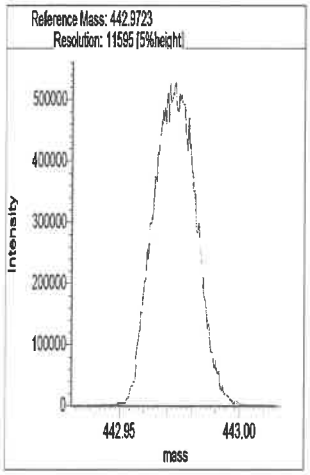












Segment 4

Lock mass 392.9754 [m/z] Resolution: 11655 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 10902 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 11791 [5%height]

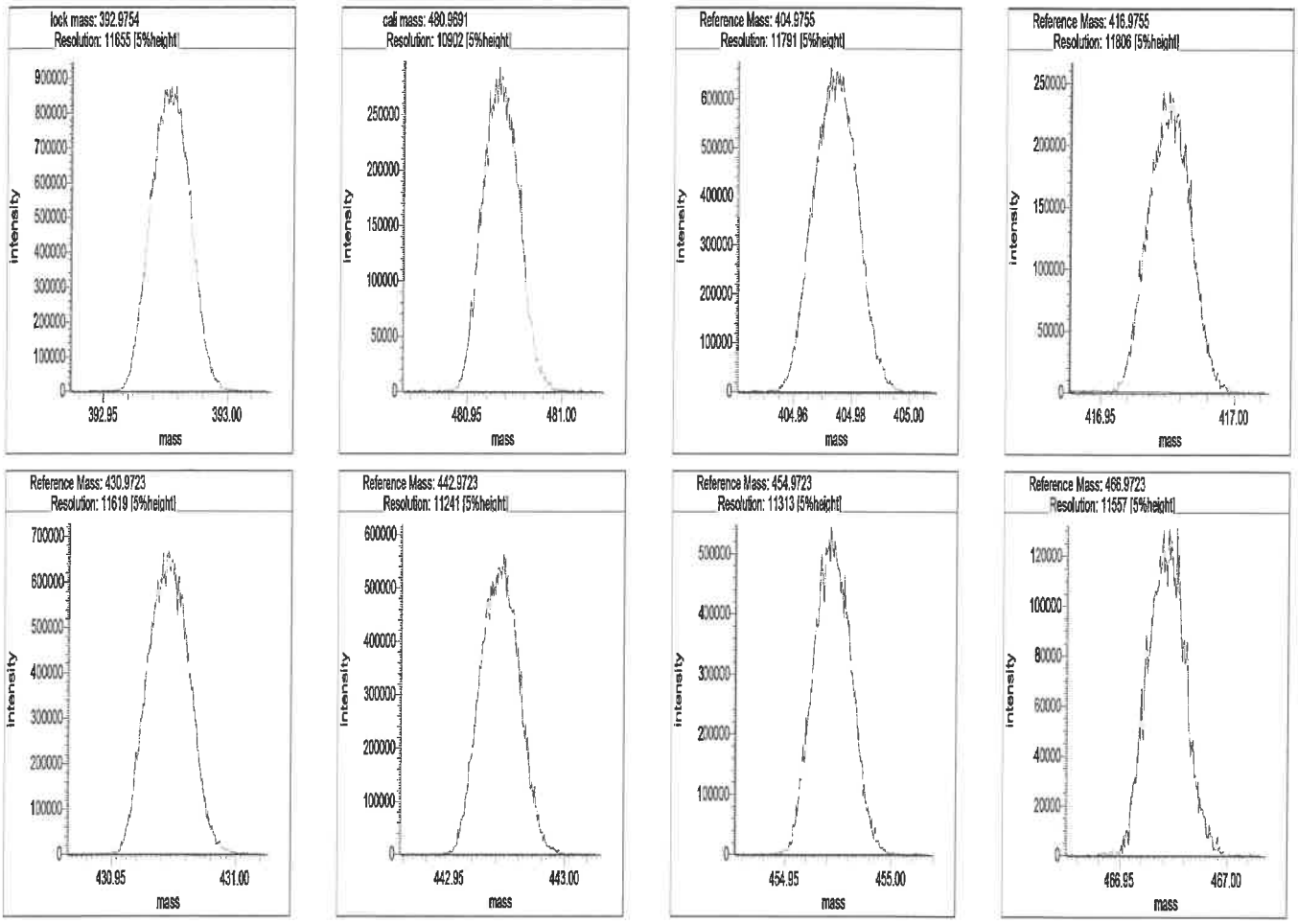
Ref. mass 416.9755 [m/z] Resolution: 11806 [5%height]

Ref. mass 430.9723 [m/z] Resolution: 11619 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 11241 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 11313 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 11557 [5%height]



Segment 5

Lock mass 442.9723 [m/z] Resolution: 11704 [5%height]

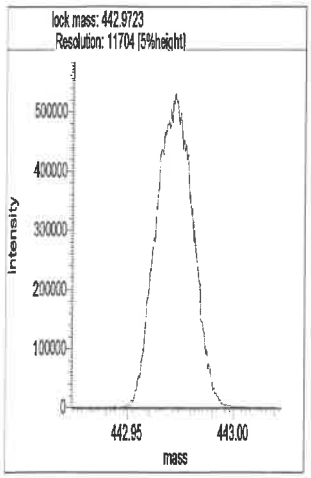
Cali. mass 504.9691 [m/z] Resolution: 11840 [5%height]

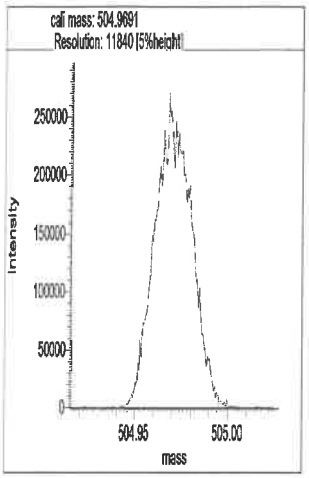
Ref. mass 454.9723 [m/z] Resolution: 11887 [5%height]

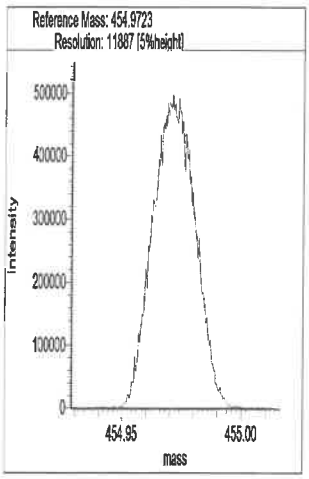
Ref. mass 466.9723 [m/z] Resolution: 11791 [5%height]

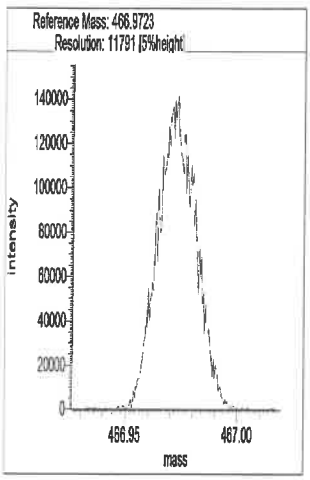
Ref. mass 480.9691 [m/z] Resolution: 11688 [5%height]

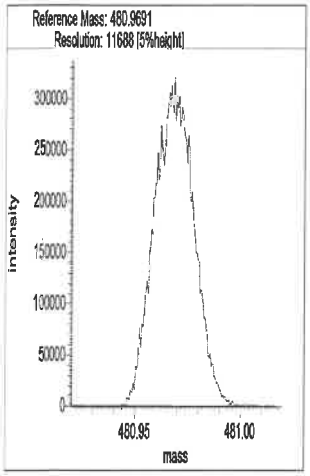
Ref. mass 492.9691 [m/z] Resolution: 11415 [5%height]

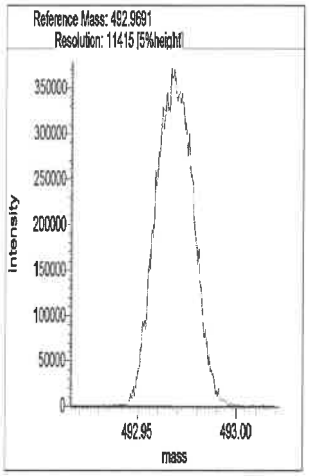

lock mass: 442.9723
Resolution: 11704 [5%height]
intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 11840 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 11887 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 11791 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 11688 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 11415 [5%height]
intensity
mass
492.95
493.00

Resolution Check Report (DFS SN: 3487)

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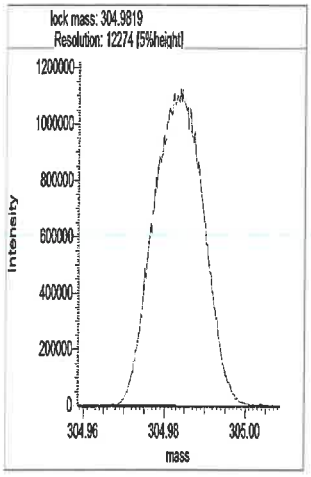
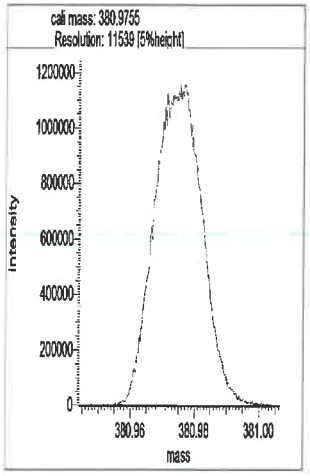
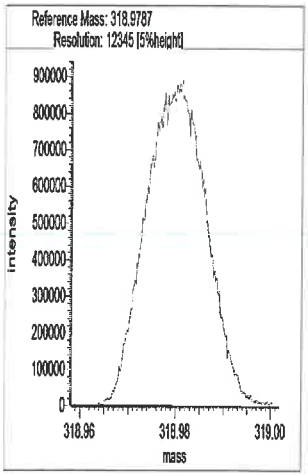
Date:	13 Jan 2022 22:03
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

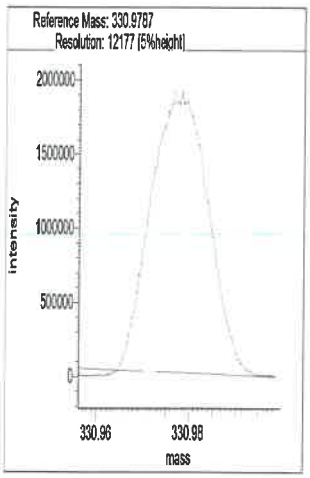
Segment 1

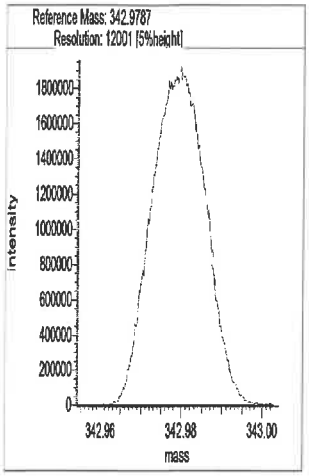
Lock mass 304.9819 [m/z] Resolution: 12274 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 11539 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 12345 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 12177 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 12001 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12224 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 10774 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 11714 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 11559 [5%height]

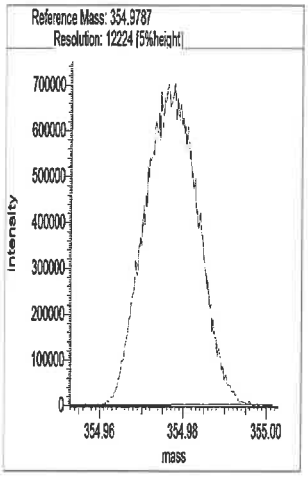


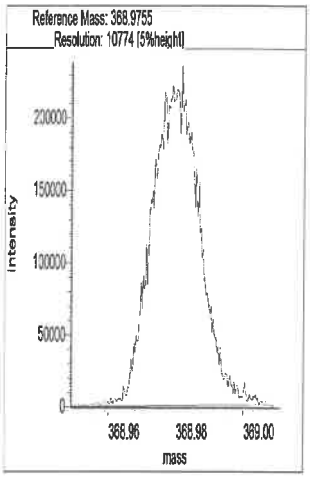


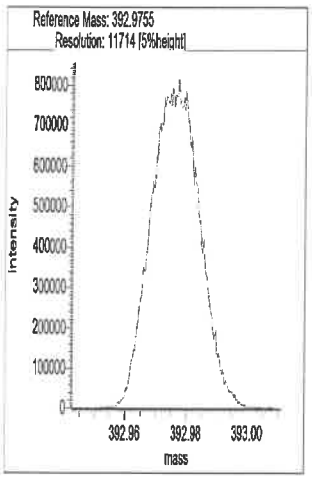


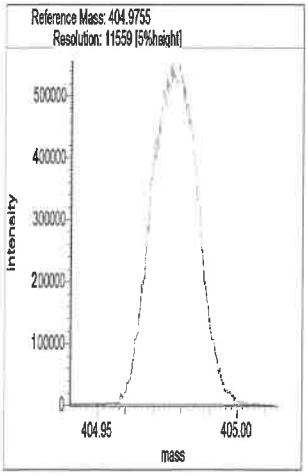












Segment 2

Lock mass 330.9787 [m/z] Resolution: 12328 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 11926 [5%height]

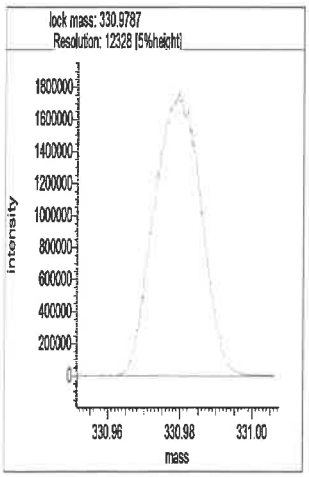
Ref. mass 342.9787 [m/z] Resolution: 11954 [5%height]

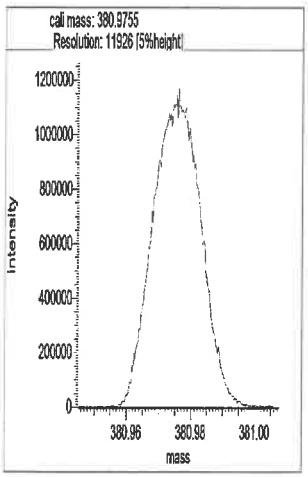
Ref. mass 354.9787 [m/z] Resolution: 12114 [5%height]

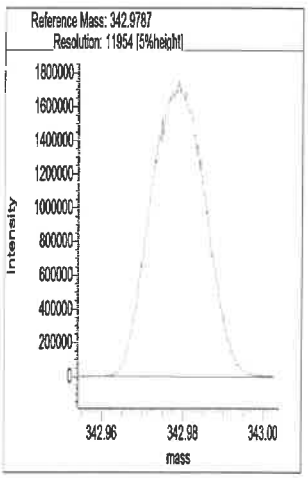
Ref. mass 368.9755 [m/z] Resolution: 11471 [5%height]

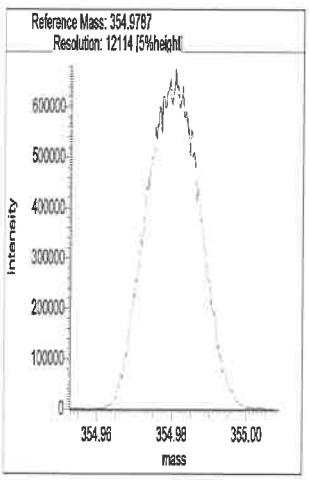
Ref. mass 392.9755 [m/z] Resolution: 11692 [5%height]

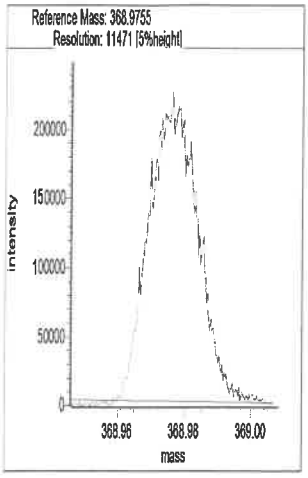
Ref. mass 404.9755 [m/z] Resolution: 11896 [5%height]

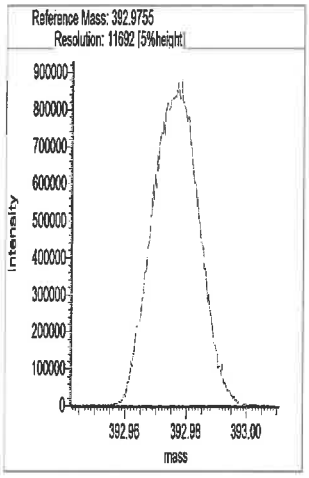


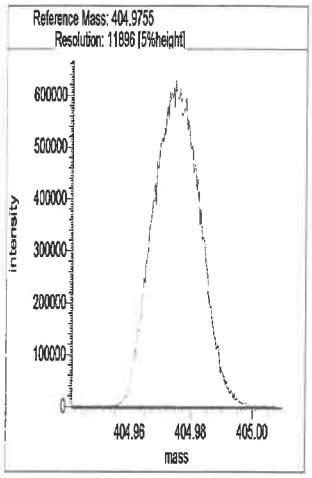












Segment 3

Lock mass 380.9755 [m/z] Resolution: 12157 [5%height]

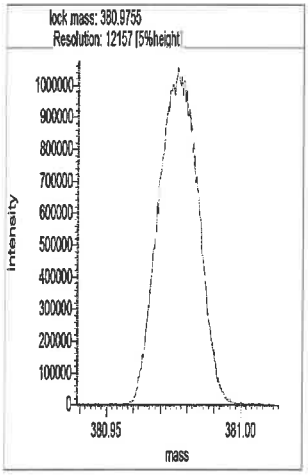
Cali. mass 430.9723 [m/z] Resolution: 12163 [5%height]

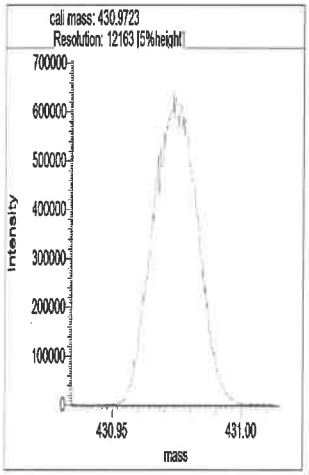
Ref. mass 392.9755 [m/z] Resolution: 12442 [5%height]

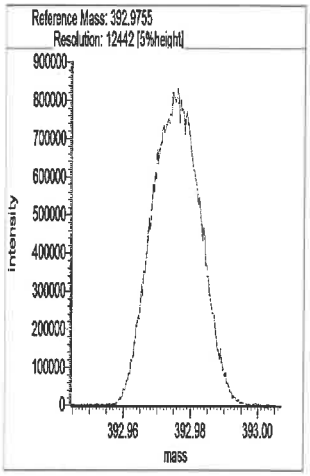
Ref. mass 404.9755 [m/z] Resolution: 12238 [5%height]

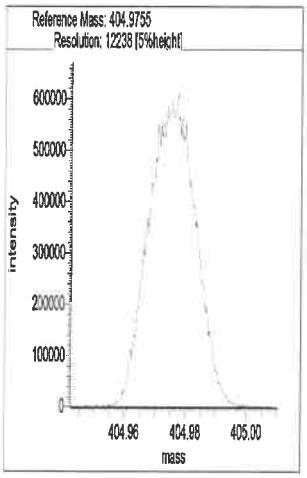
Ref. mass 416.9755 [m/z] Resolution: 12284 [5%height]

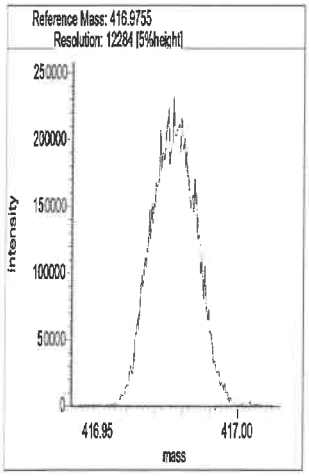
Ref. mass 442.9723 [m/z] Resolution: 11908 [5%height]

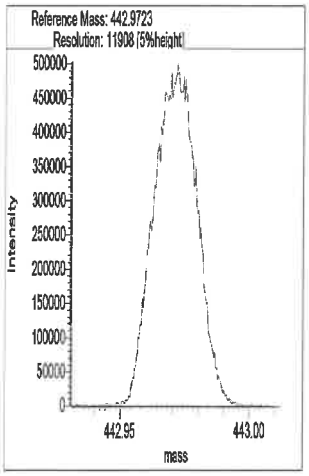












Segment 4

Lock mass 392.9754 [m/z] Resolution: 12320 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 11914 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 11992 [5%height]

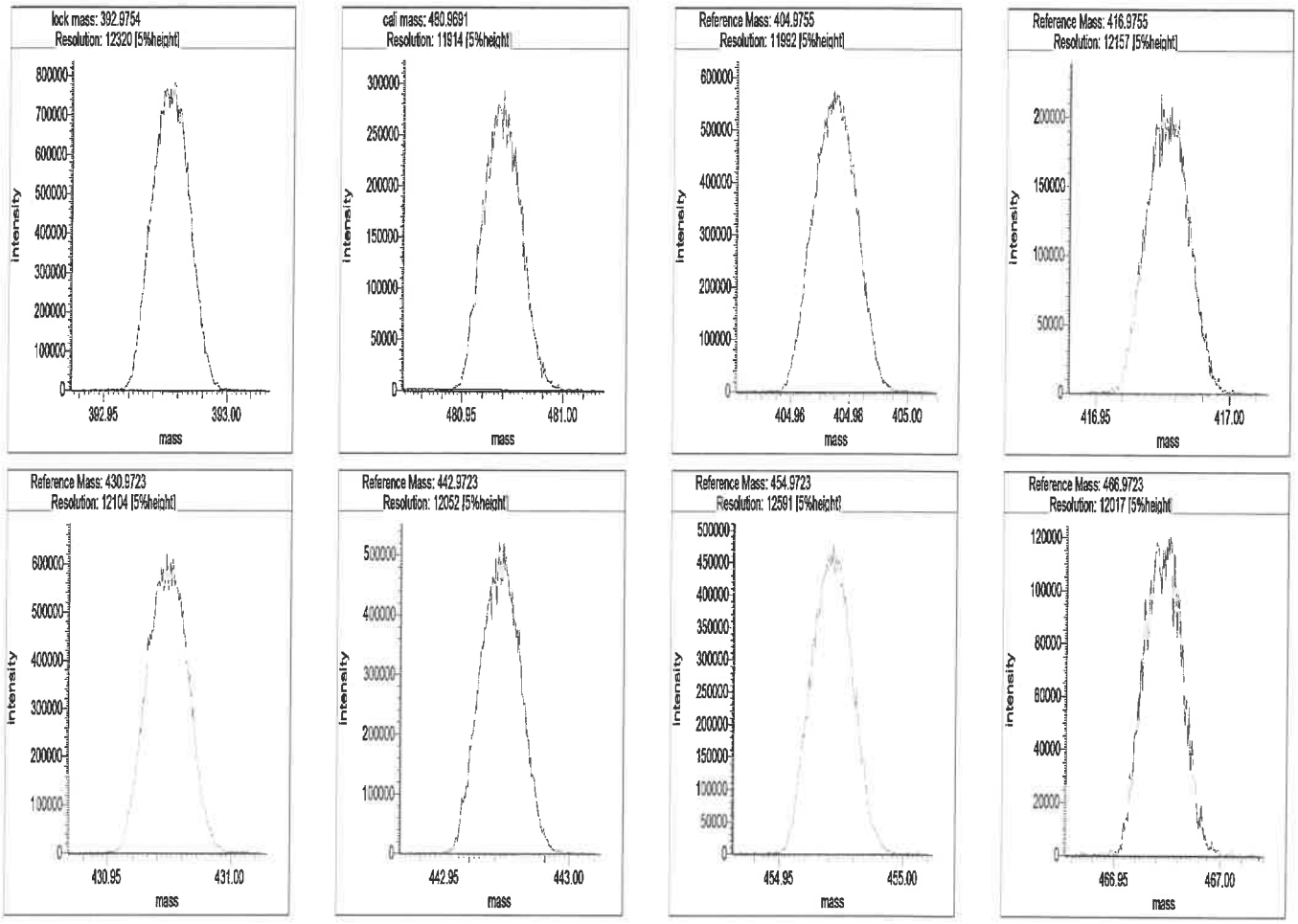
Ref. mass 416.9755 [m/z] Resolution: 12157 [5%height]

Ref. mass 430.9723 [m/z] Resolution: 12104 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12052 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12591 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12017 [5%height]



Segment 5

Lock mass 442.9723 [m/z] Resolution: 12749 [5%height]

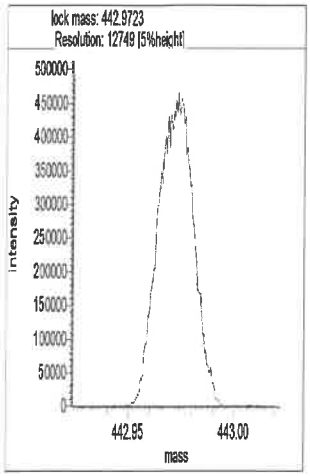
Cali. mass 504.9691 [m/z] Resolution: 12310 [5%height]

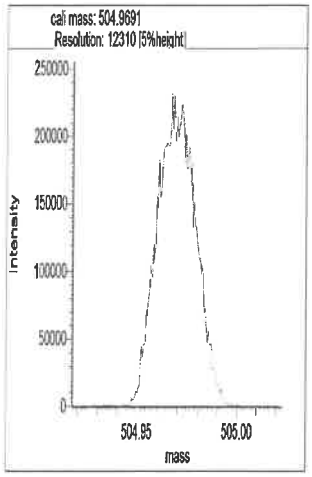
Ref. mass 454.9723 [m/z] Resolution: 12360 [5%height]

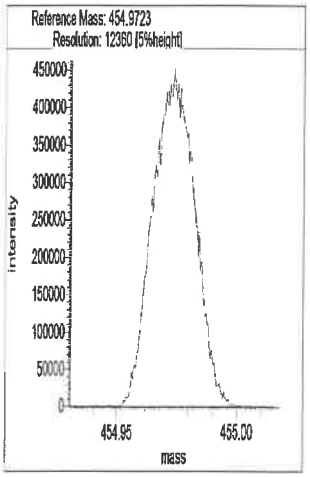
Ref. mass 466.9723 [m/z] Resolution: 12632 [5%height]

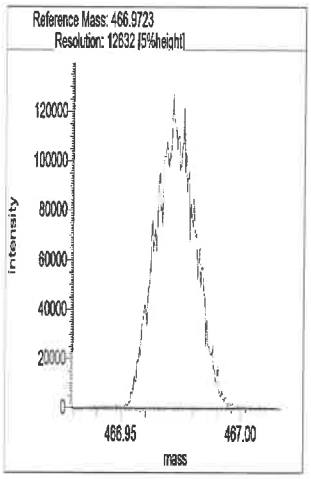
Ref. mass 480.9691 [m/z] Resolution: 12356 [5%height]

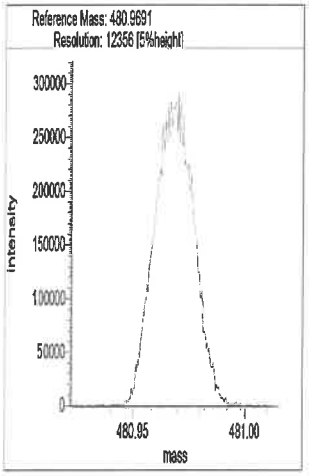
Ref. mass 492.9691 [m/z] Resolution: 12361 [5%height]

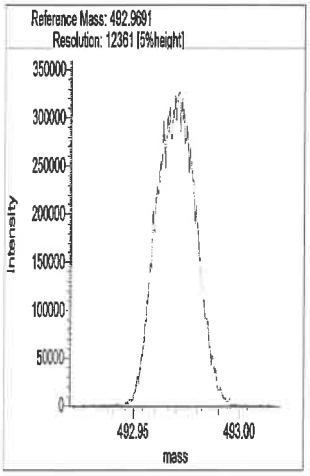

lock mass: 442.9723
Resolution: 12749 [5%height]
intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 12310 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 12360 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 12632 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 12356 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 12361 [5%height]
intensity
mass
492.95
493.00

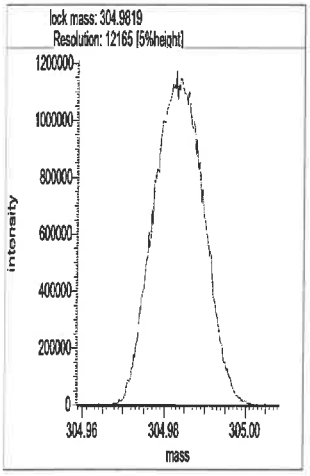
Resolution Check Report (DFS SN: 3487)

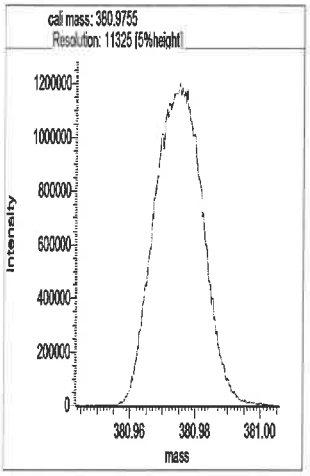
eurofins | Environment Testing TestAmerica

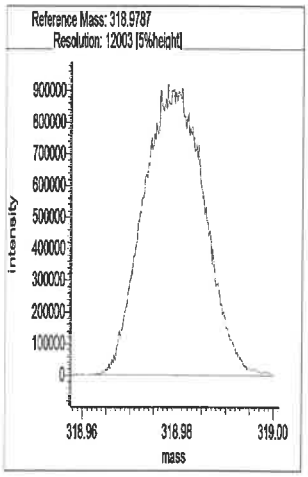
Date:	13 Jan 2022 23:08
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

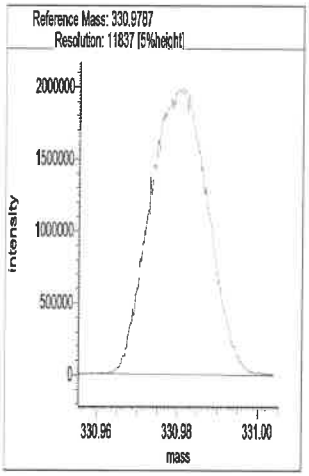
Segment 1

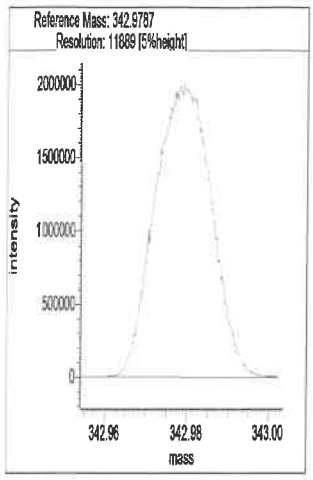
Lock mass 304.9819 [m/z] Resolution: 12165 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 11325 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 12003 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 11837 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 11889 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12167 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 10677 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 11712 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 11610 [5%height]

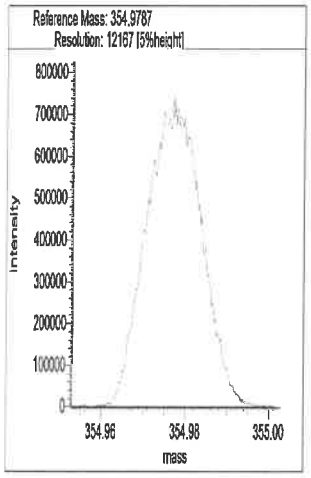


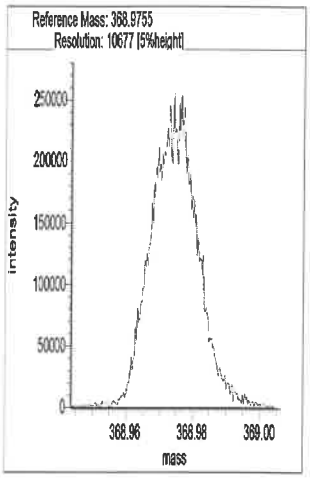


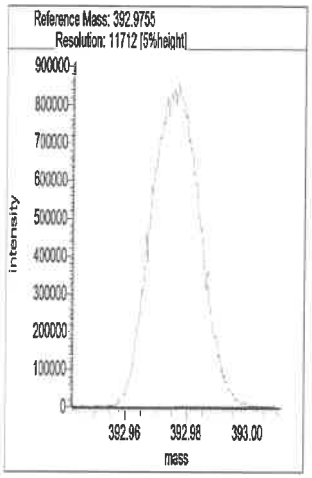


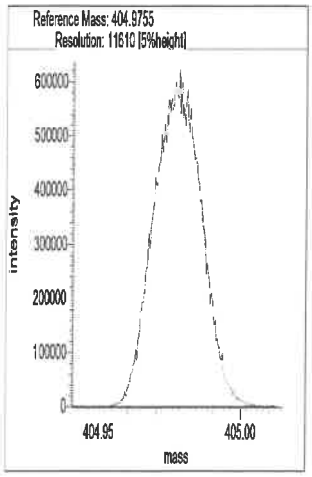












Segment 2

Lock mass 330.9787 [m/z] Resolution: 12243 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 11764 [5%height]

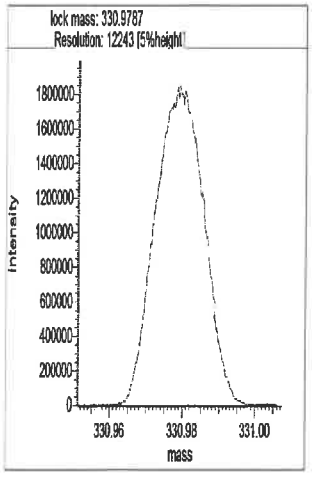
Ref. mass 342.9787 [m/z] Resolution: 11839 [5%height]

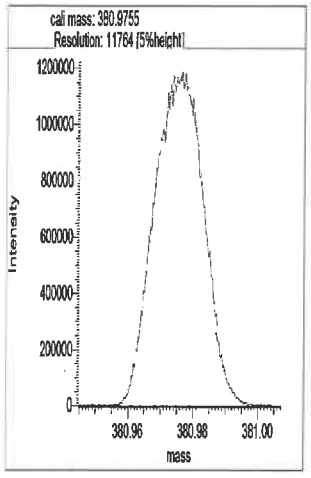
Ref. mass 354.9787 [m/z] Resolution: 11843 [5%height]

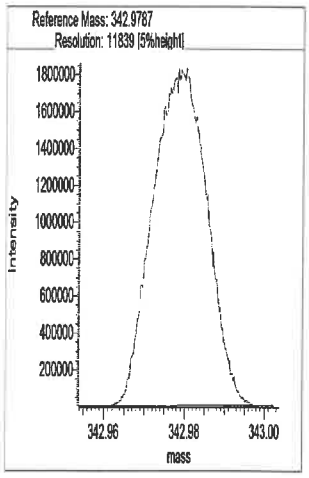
Ref. mass 368.9755 [m/z] Resolution: 11368 [5%height]

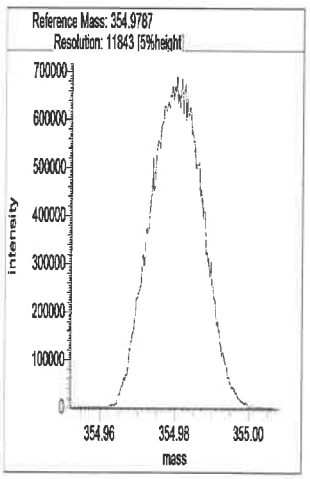
Ref. mass 392.9755 [m/z] Resolution: 11639 [5%height]

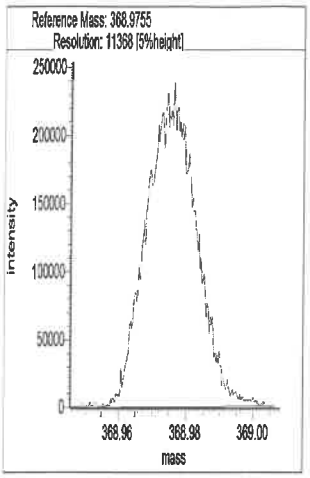
Ref. mass 404.9755 [m/z] Resolution: 11958 [5%height]

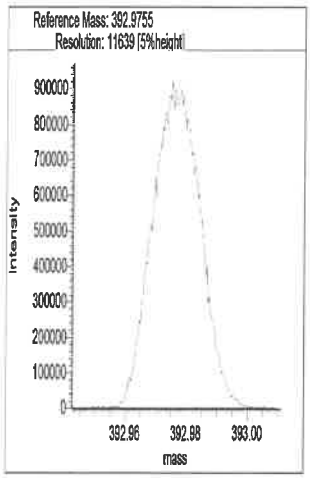


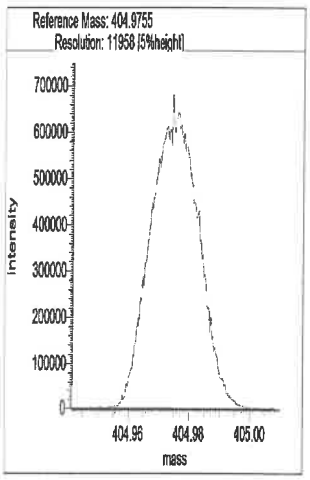












Segment 3

Lock mass 380.9755 [m/z] Resolution: 12009 [5%height]

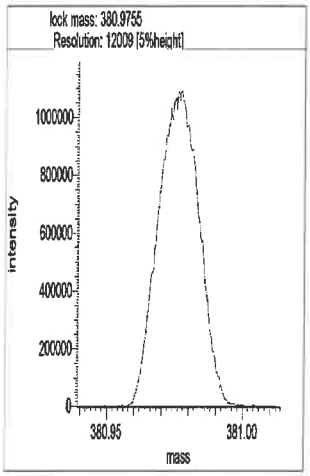
Cali. mass 430.9723 [m/z] Resolution: 11946 [5%height]

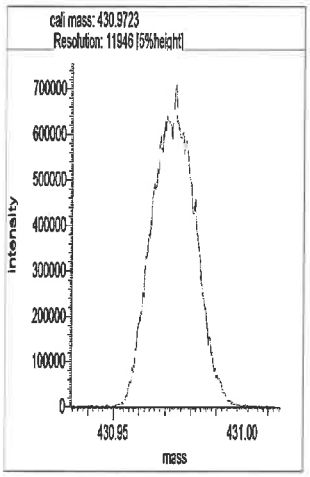
Ref. mass 392.9755 [m/z] Resolution: 12095 [5%height]

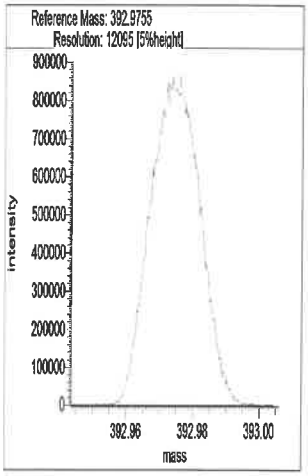
Ref. mass 404.9755 [m/z] Resolution: 12005 [5%height]

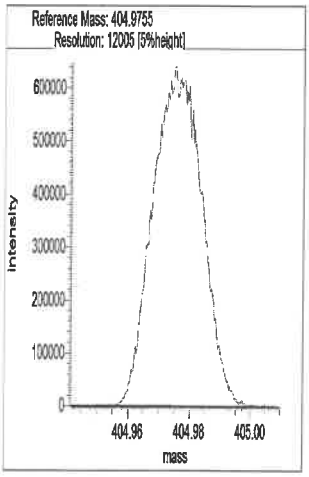
Ref. mass 416.9755 [m/z] Resolution: 12127 [5%height]

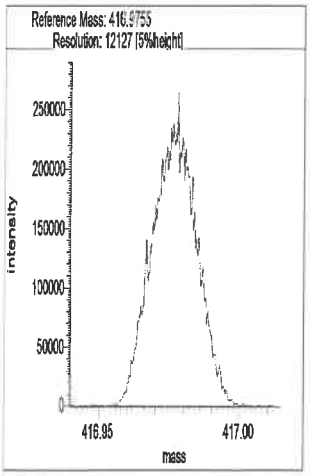
Ref. mass 442.9723 [m/z] Resolution: 11997 [5%height]

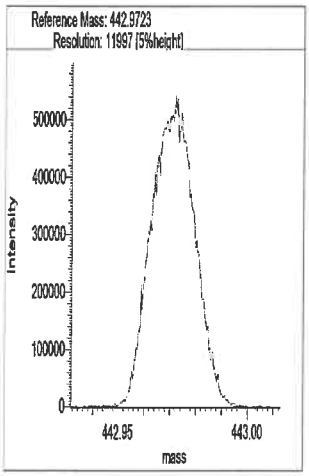












Segment 4

Lock mass 392.9754 [m/z] Resolution: 12028 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 11662 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12187 [5%height]

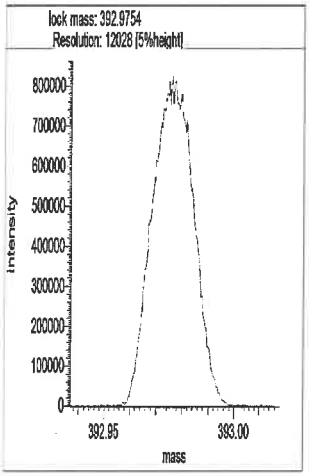
Ref. mass 416.9755 [m/z] Resolution: 12022 [5%height]

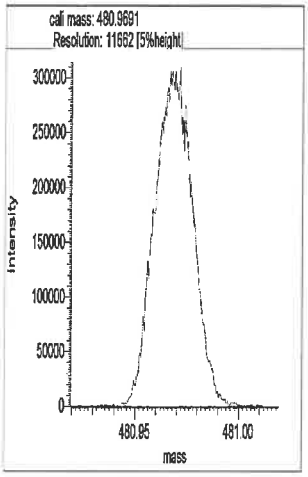
Ref. mass 430.9723 [m/z] Resolution: 11689 [5%height]

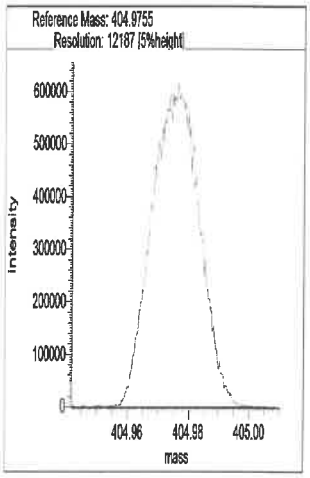
Ref. mass 442.9723 [m/z] Resolution: 12023 [5%height]

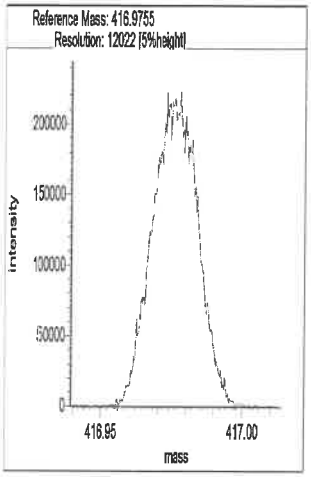
Ref. mass 454.9723 [m/z] Resolution: 11764 [5%height]

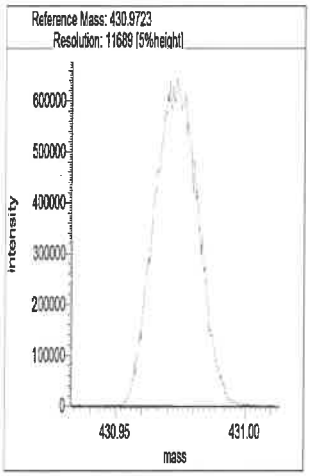
Ref. mass 466.9723 [m/z] Resolution: 11515 [5%height]

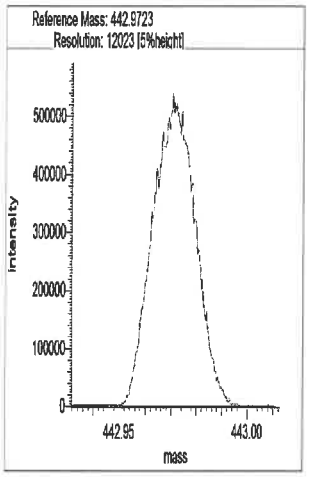


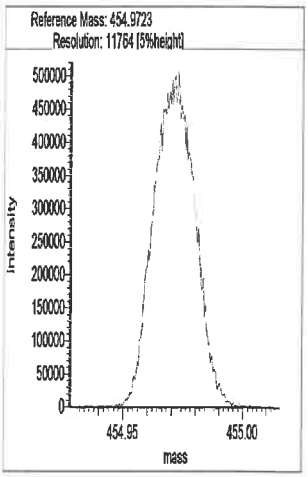


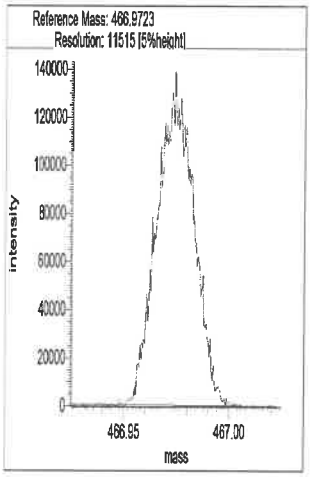












Segment 5

Lock mass 442.9723 [m/z] Resolution: 12180 [5%height]

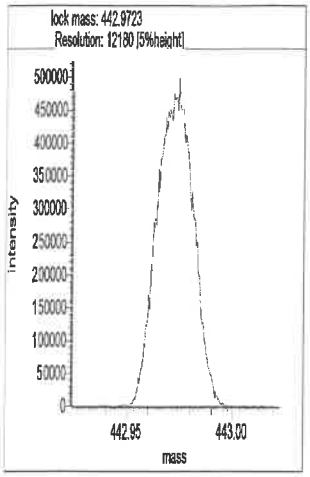
Cali. mass 504.9691 [m/z] Resolution: 12007 [5%height]

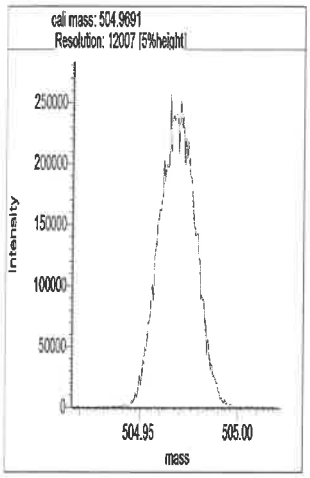
Ref. mass 454.9723 [m/z] Resolution: 11937 [5%height]

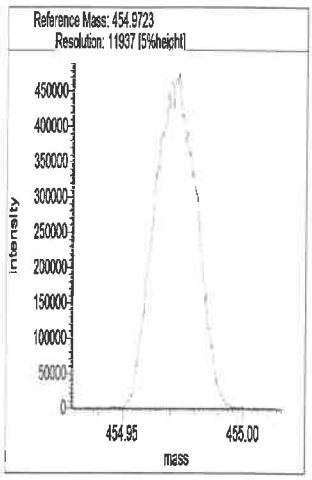
Ref. mass 466.9723 [m/z] Resolution: 12599 [5%height]

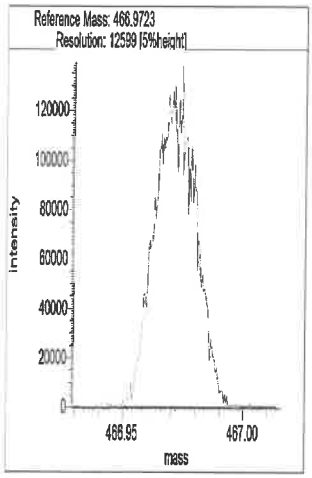
Ref. mass 480.9691 [m/z] Resolution: 11944 [5%height]

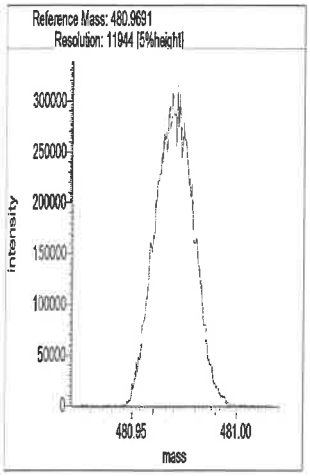
Ref. mass 492.9691 [m/z] Resolution: 12145 [5%height]

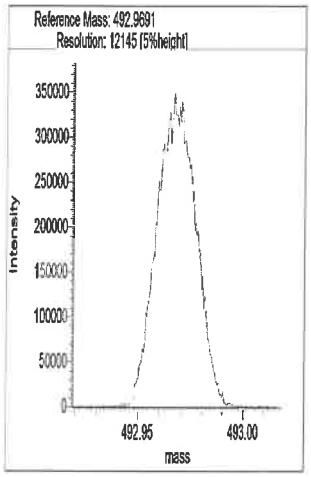

lock mass: 442.9723
Resolution: 12180 [5%height]
intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 12007 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 11937 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 12599 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 11944 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 12145 [5%height]
intensity
mass
492.95
493.00

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Jan-2022 17:16:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS2_HRDXNL2_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:33 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:48:30

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.403	3175076	0.81	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.475	3248142	0.80	1.0164	100.7	100.7	0.6374	0.6374	101	
2,3,7,8-TCDF	19.535	15782	0.70	1.0120	0.4801	0.4801	0.0197	0.0197	96.03	M
S Total TCDF					0.4801	0.4801	0.0197	0.0197		
D 13C-2,3,7,8-TCDD	20.763	2546695	0.76	0.7884	101.7	101.7	0.4013	0.4013	102	
$ 37Cl4-2,3,7,8-TCDD	20.746	11578		0.7911	0.4609	0.4609	0.007048	0.007048	92.19	M
2,3,7,8-TCDD	20.815	13454	0.68	0.9906	0.5333	0.5333	0.0363	0.0363	107	M
S Total TCDD					0.5333	0.5333	0.0363	0.0363		
D 13C-1,2,3,7,8-PeCDF	26.462	2885364	1.60	0.9232	98.4	98.4	0.5955	0.5955	98.44	
1,2,3,7,8-PeCDF	26.488	72427	1.50	0.9756	2.573	2.573	0.0471	0.0471	103	
D 13C-2,3,4,7,8-PeCDF	27.927	3307893	1.58	1.0793	96.5	96.5	0.5094	0.5094	96.53	
2,3,4,7,8-PeCDF	27.952	66501	1.54	0.9215	2.501	2.501	0.0499	0.0499	100	
S Total PeCDF					5.074	5.074	0.0485	0.0485		
D 13C-1,2,3,7,8-PeCDD	28.718	1713672	1.66	0.5606	96.3	96.3	0.6160	0.6160	96.28	
1,2,3,7,8-PeCDD	28.744	44715	1.45	1.0020	2.604	2.604	0.0399	0.0399	104	
S Total PeCDD					2.604	2.604	0.0399	0.0399		
D 13C-1,2,3,4,7,8-HxCDF	34.330	2330451	0.53	1.0566	92.9	92.9	0.4645	0.4645	92.94	
1,2,3,4,7,8-HxCDF	34.347	53675	1.41	0.8835	2.607	2.607	0.0420	0.0420	104	
D 13C-1,2,3,6,7,8-HxCDF	34.499	2218295	0.52	0.9686	96.5	96.5	0.5067	0.5067	96.51	
1,2,3,6,7,8-HxCDF	34.533	60204	1.25	1.0287	2.511	2.511	0.0360	0.0360	100	M
D 13C-2,3,4,6,7,8-HxCDF	35.392	1991124	0.50	0.9084	92.4	92.4	0.5402	0.5402	92.36	
2,3,4,6,7,8-HxCDF	35.409	59609	1.27	0.9878	2.589	2.589	0.0375	0.0375	104	
D 13C-1,2,3,7,8,9-HxCDF	36.343	1973993	0.52	0.8248	100.9	100.9	0.5950	0.5950	101	
1,2,3,7,8,9-HxCDF	36.360	60795	1.36	0.9071	2.876	2.876	0.0409	0.0409	115	
S Total HxCDF					10.6	10.6	0.0391	0.0391		
* 13C-1,2,3,7,8,9-HxCDD	36.141	2373168	1.29	2.5E+04	100.0	100.0				a
D 13C-1,2,3,4,7,8-HxCDD	35.628	1850648	1.30	0.8133	95.9	95.9	0.4183	0.4183	95.88	
1,2,3,4,7,8-HxCDD	35.636	40085	1.28	0.8294	2.640	2.640	0.0485	0.0485	106	
D 13C-1,2,3,6,7,8-HxCDD	35.762	1830992	1.27	0.8027	96.1	96.1	0.4238	0.4238	96.12	
1,2,3,6,7,8-HxCDD	35.771	44161	1.29	0.9395	2.567	2.567	0.0428	0.0428	103	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.166	44229	1.29	0.9076	2.661	2.661	0.0443	0.0443	106	
S Total HxCDD					7.868	7.868	0.0452	0.0452		
D 13C-1,2,3,4,6,7,8-HpCDF	38.267	1422333	0.46	0.6421	93.3	93.3	0.7453	0.7453	93.34	
1,2,3,4,6,7,8-HpCDF	38.275	54723	1.05	1.4385	2.675	2.675	0.0359	0.0359	107	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.547	1652819	0.46	1.1706	99.3	99.3	0.5269	0.5269	99.27	
1,2,3,4,7,8,9-HpCDF	39.564	45833	0.97	1.2202	2.641	2.641	0.0423	0.0423	106	
S Total HpCDF					5.315	5.315	0.0391	0.0391		
D 13C-1,2,3,4,6,7,8-HpCDD	39.244	1418261	1.11	0.6246	95.7	95.7	0.4479	0.4479	95.68	
1,2,3,4,6,7,8-HpCDD	39.252	34176	1.07	0.9767	2.467	2.467	0.0336	0.0336	98.69	M
S Total HpCDD					2.467	2.467	0.0336	0.0336		
D 13C-OCDD	41.716	1988775	0.90	0.4360	192.2	192.2	0.2193	0.2193	96.10	
OCDF	41.801	62285	0.84	1.2756	4.911	4.911	0.0701	0.0701	98.21	
OCDD	41.716	52036	0.93	1.0341	5.060	5.060	0.0570	0.0570	101	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

HRDXNL2_00033 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Jan-2022 17:16:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS2_HRDXNL2_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:33 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:48:30

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.403	20.418	-1		1418973	216166	438	1095	494		
333.9338	20.403	20.418	-1		1756103	268038	175	437	1532	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.475	19.485	-1	0.955	1443034	216371	895	2237	242		
317.9389	19.475	19.485	-1	0.955	1805108	269537	360	900	749	0.80(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	19.535	19.520	1	1.003	6494	1031	2	5	516		M
305.8987	19.509	19.520	-1	1.002	9288	1613	37	92	44	0.70(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.763	20.784	-1	1.018	1098943	152009	438	1095	347		
333.9338	20.755	20.784	-2	1.017	1447752	187404	175	437	1071	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											M
327.8847	20.746	20.809	-4	1.017	11578	1635	11	27	149		M
2,3,7,8-TCDD											M
319.8965	20.815	20.821	0	1.002	5433	1090	46	115	24		M
321.8936	20.781	20.821	-2	1.001	8021	1399	3	7	466	0.68(0.65-0.89)	M
13C-1,2,3,7,8-PeCDF											
351.9000	26.462	26.498	-2	1.297	1775887	282975	639	1597	443		
353.8970	26.471	26.498	-2	1.297	1109477	173725	426	1065	408	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.488	26.518	-2	1.001	43451	7564	19	47	398		
341.8567	26.496	26.518	-1	1.001	28976	4858	65	162	75	1.50(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.927	27.961	-2	1.369	2026454	311437	639	1597	487		
353.8970	27.910	27.961	-3	1.368	1281439	195040	426	1065	458	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.952	27.984	-2	1.001	40343	5845	19	47	308		
341.8567	27.944	27.984	-2	1.001	26158	3870	65	162	60	1.54(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.718	28.754	-2	1.408	1068718	157321	267	667	589		
369.8919	28.727	28.754	-2	1.408	644954	92516	402	1005	230	1.66(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.744	28.781	-2	1.001	26497	3846	36	90	107		
357.8516	28.727	28.781	-3	1.000	18218	2794	4	10	699	1.45(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.330	34.357	-2	0.950	806530	152291	240	600	635		
385.8610	34.330	34.357	-2	0.950	1523921	284773	725	1812	393	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.347	34.374	-2	1.000	31386	5992	36	90	166		
375.8178	34.347	34.374	-2	1.000	22289	4362	29	72	150	1.41(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.499	34.533	-2	0.955	755098	125689	240	600	524		
385.8610	34.507	34.533	-2	0.955	1463197	252368	725	1812	348	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											M
373.8208	34.533	34.553	-1	1.001	33417	5945	36	90	165		
375.8178	34.516	34.553	-2	1.000	26787	4566	29	72	157	1.25(1.05-1.43)	M
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.392	35.421	-2	0.979	668092	142453	240	600	594		
385.8610	35.392	35.421	-2	0.979	1323032	280885	725	1812	387	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.409	35.438	-2	1.000	33347	6226	36	90	173		
375.8178	35.400	35.438	-2	1.000	26262	5282	29	72	182	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.343	36.366	-1	1.006	678481	134666	240	600	561		
385.8610	36.335	36.366	-2	1.005	1295512	269536	725	1812	372	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.360	36.385	-1	1.000	35055	6908	36	90	192		
375.8178	36.352	36.385	-2	1.000	25740	6024	29	72	208	1.36(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											a
401.8559	36.141	36.172	-2		1337014	273967	343	857	799		a
403.8529	36.150	36.172	-1		1036154	217530	326	815	667	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.628	35.661	-2	0.986	1047592	240733	343	857	702		
403.8529	35.628	35.661	-2	0.986	803056	183537	326	815	563	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.636	35.676	-2	1.000	22487	4851	36	90	135		
391.8127	35.644	35.676	-2	1.000	17598	3902	24	60	163	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.762	35.787	-1	0.990	1025672	205606	343	857	599		
403.8529	35.762	35.787	-1	0.990	805320	167324	326	815	513	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.771	35.802	-2	1.000	24874	4851	36	90	135		
391.8127	35.779	35.802	-1	1.000	19287	3814	24	60	159	1.29(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.166	36.191	-1	1.015	24877	5132	36	90	143		
391.8127	36.150	36.191	-2	1.015	19352	4129	24	60	172	1.29(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.267	38.287	-1	1.059	446250	114956	456	1140	252		
419.8220	38.258	38.287	-2	1.059	976083	266385	485	1212	549	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.275	38.299	-1	1.000	28009	7326	55	137	133		
409.7788	38.275	38.299	-1	1.000	26714	6821	24	60	284	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.547	39.570	-1	1.094	519555	148439	456	1140	326		
419.8220	39.547	39.570	-1	1.094	1133264	315731	485	1212	651	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.564	39.584	-1	1.000	22607	6235	55	137	113		
409.7788	39.556	39.584	-2	1.000	23226	6449	24	60	269	0.97(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.244	39.269	-1	1.086	745431	199441	307	767	650		
437.8140	39.244	39.269	-1	1.086	672830	187560	243	607	772	1.11(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7767	39.252	39.277	-2	1.000	17705	4725	31	77	152		
425.7737	39.261	39.277	-1	1.000	16471	4031	20	50	202	1.07(0.88-1.20)	M
13C-OCDD											
469.7780	41.716	41.743	-2	1.154	939619	225092	127	317	1772		
471.7750	41.716	41.743	-2	1.154	1049156	267162	61	152	4380	0.90(0.76-1.02)	
OCDF											
441.7428	41.801	41.826	-2	1.002	28499	7710	34	85	227		
443.7399	41.801	41.826	-2	1.002	33786	8595	54	135	159	0.84(0.76-1.02)	
OCDD											
457.7377	41.716	41.748	-2	1.000	25102	6412	27	67	237		
459.7348	41.725	41.748	-1	1.000	26934	6330	31	77	204	0.93(0.76-1.02)	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

HRDXNL2_00033 Amount Added: 1.00 Units: ml

Manual Integration/User Assign Peak Report

Eurofins Sacramento

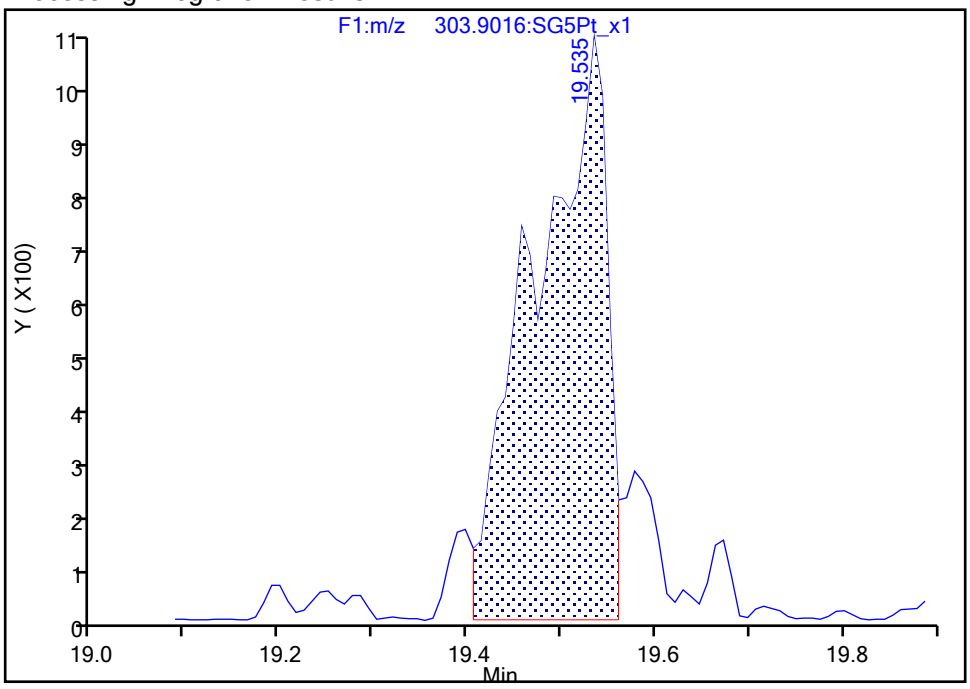
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

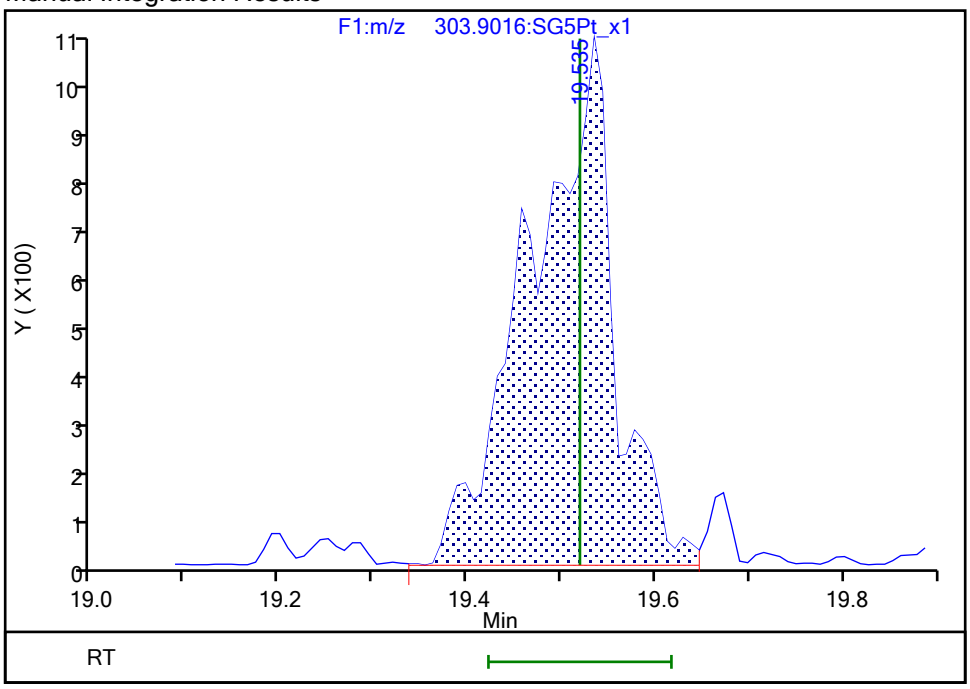
Processing Integration Results

RT: 19.53
Area: 5497
Amount: 0.455324
Amount Units: pg/ul



Manual Integration Results

RT: 19.53
Area: 6494
Amount: 0.480131
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:09:30
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

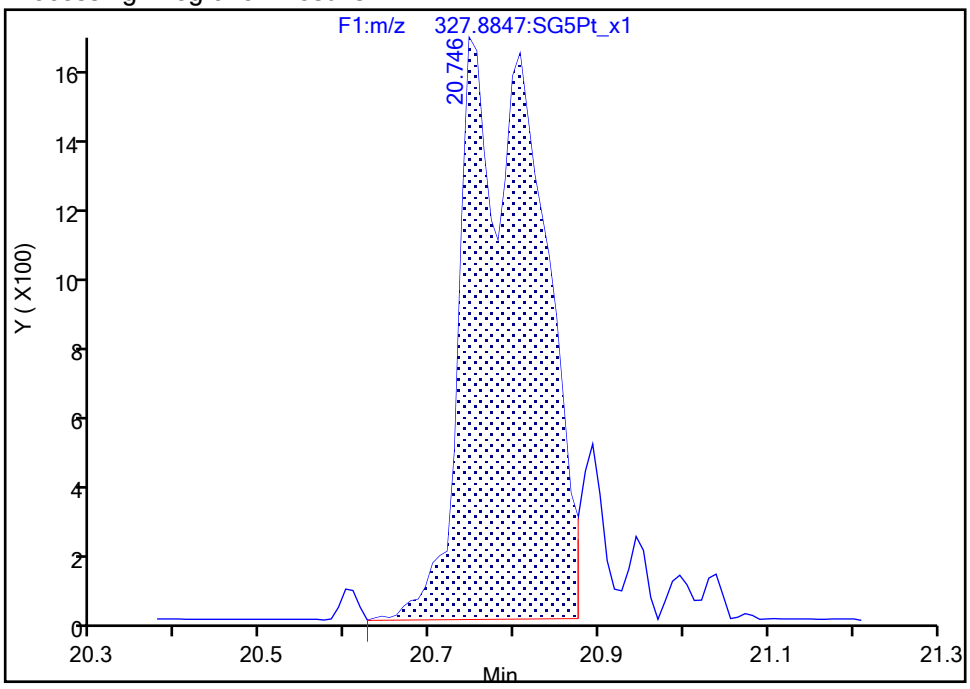
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

37Cl4-2,3,7,8-TCDD, CAS: 85508-50-5

Signal: 1

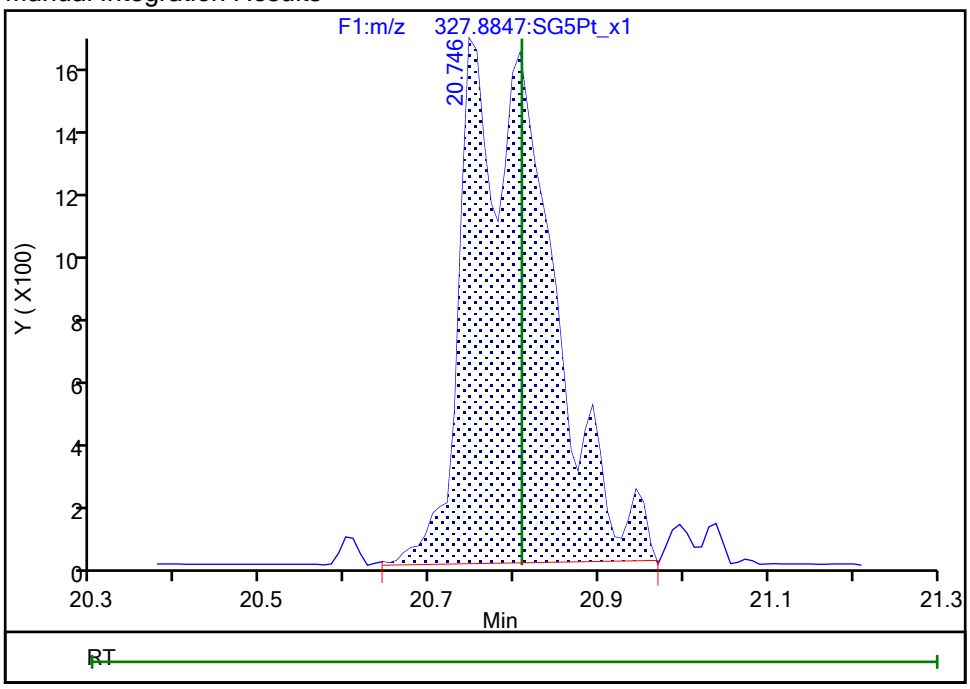
Processing Integration Results

RT: 20.75
Area: 10456
Amount: 0.428258
Amount Units: pg/ul



Manual Integration Results

RT: 20.75
Area: 11578
Amount: 0.460927
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:09:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

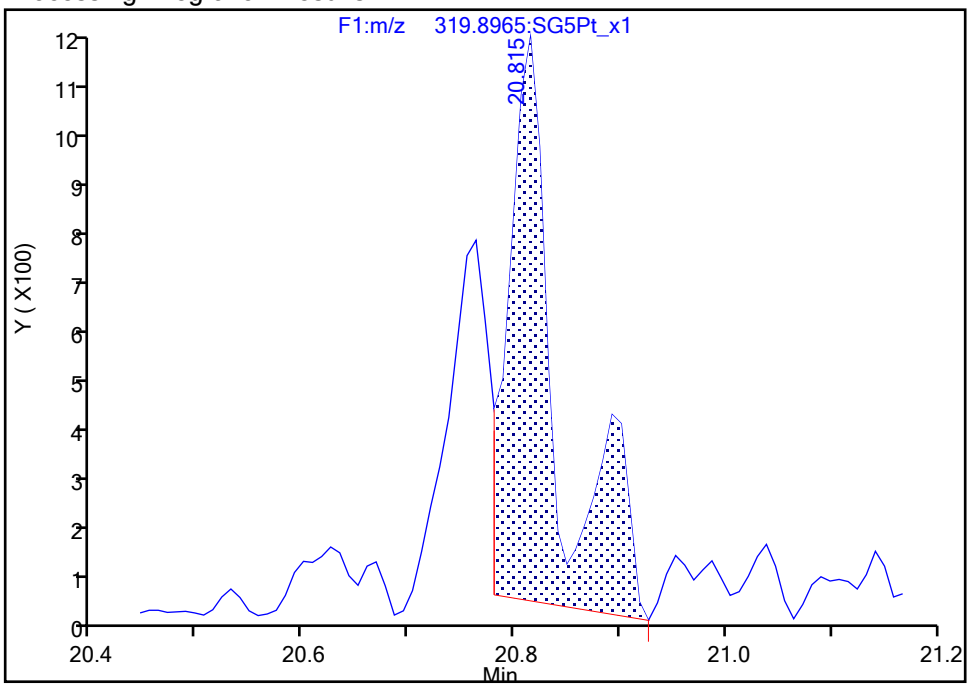
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

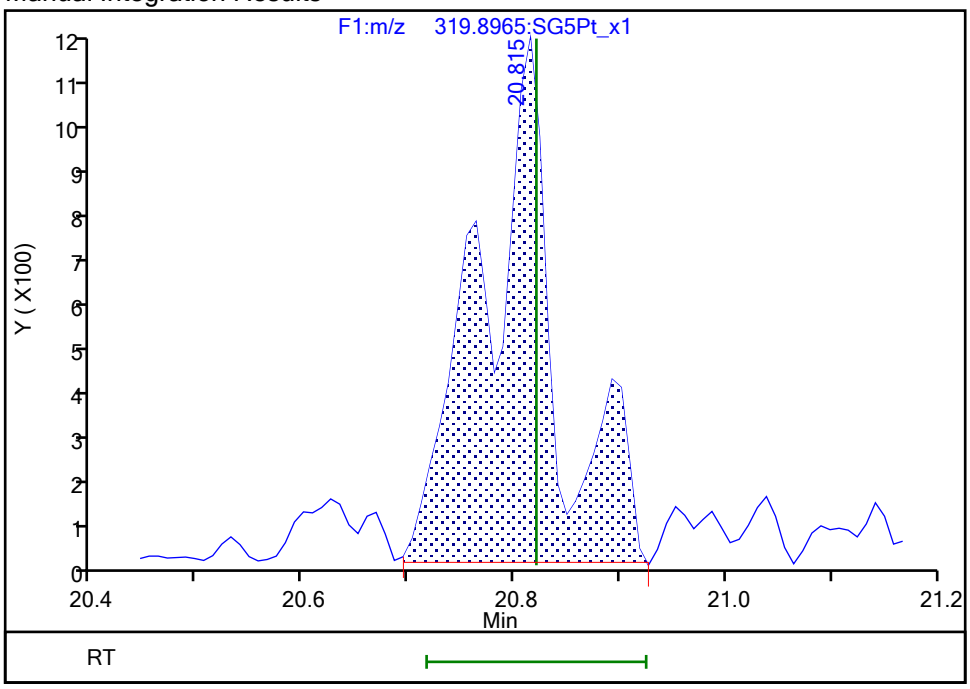
Processing Integration Results

RT: 20.82
Area: 3361
Amount: 0.393794
Amount Units: pg/ul



Manual Integration Results

RT: 20.82
Area: 5433
Amount: 0.533290
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:09:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

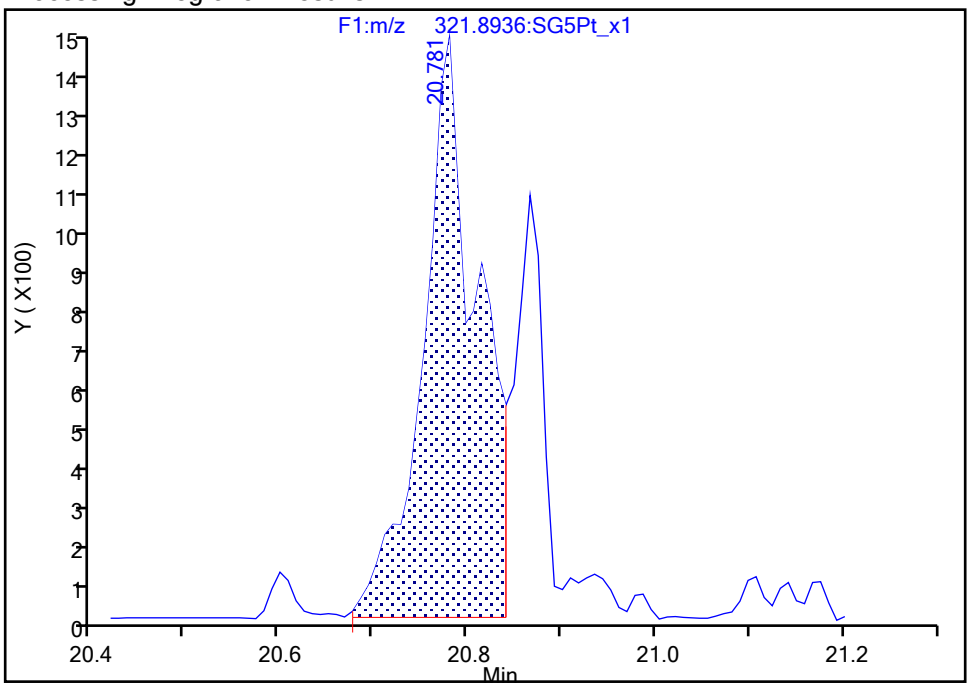
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

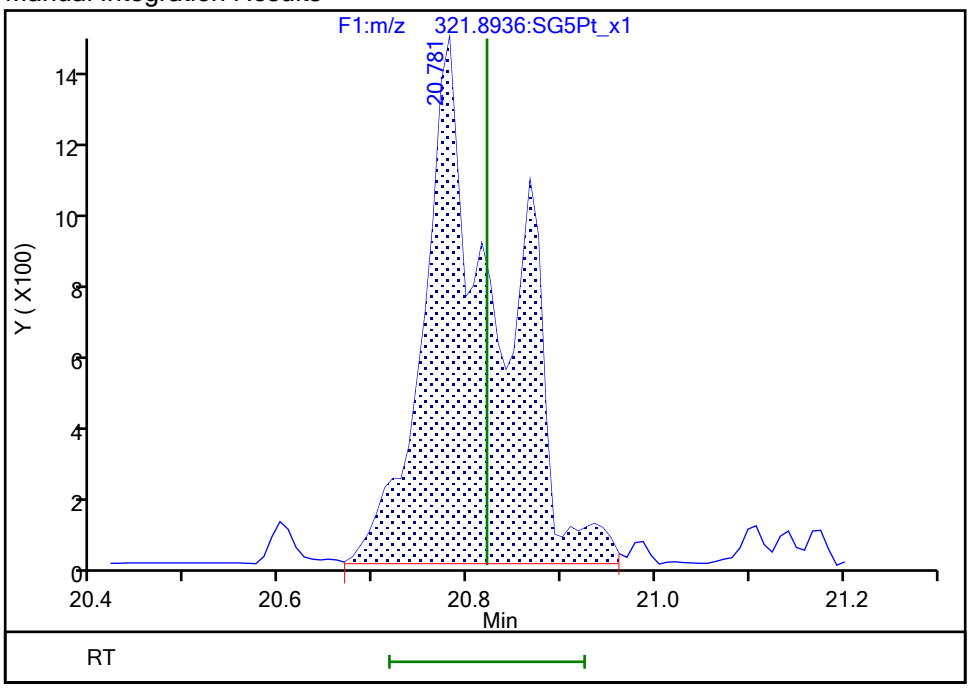
Processing Integration Results

RT: 20.78
Area: 5613
Amount: 0.393794
Amount Units: pg/ul



Manual Integration Results

RT: 20.78
Area: 8021
Amount: 0.533290
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:09:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

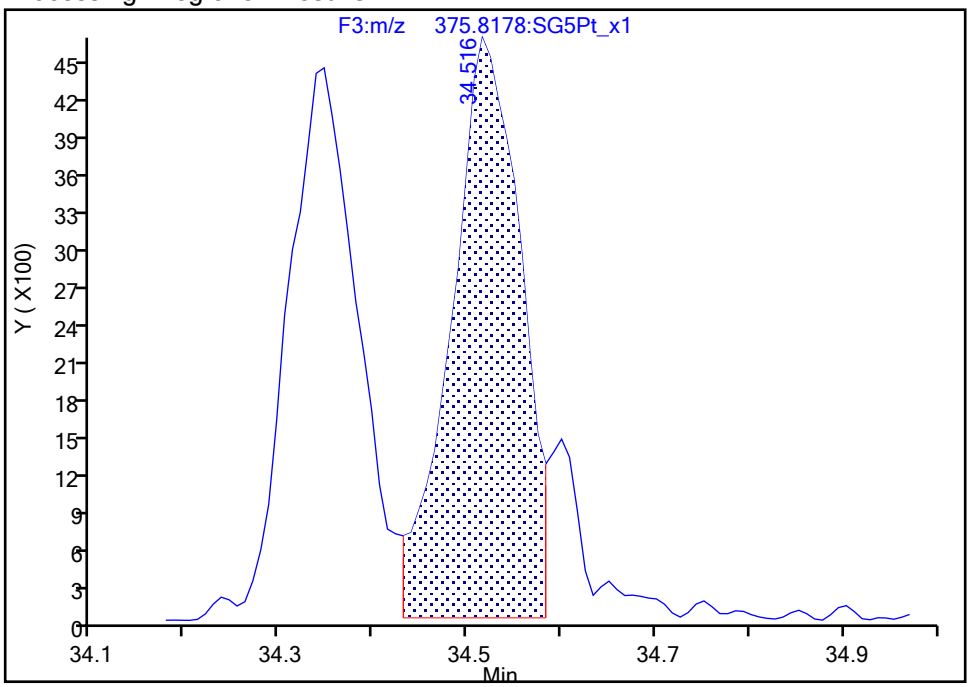
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

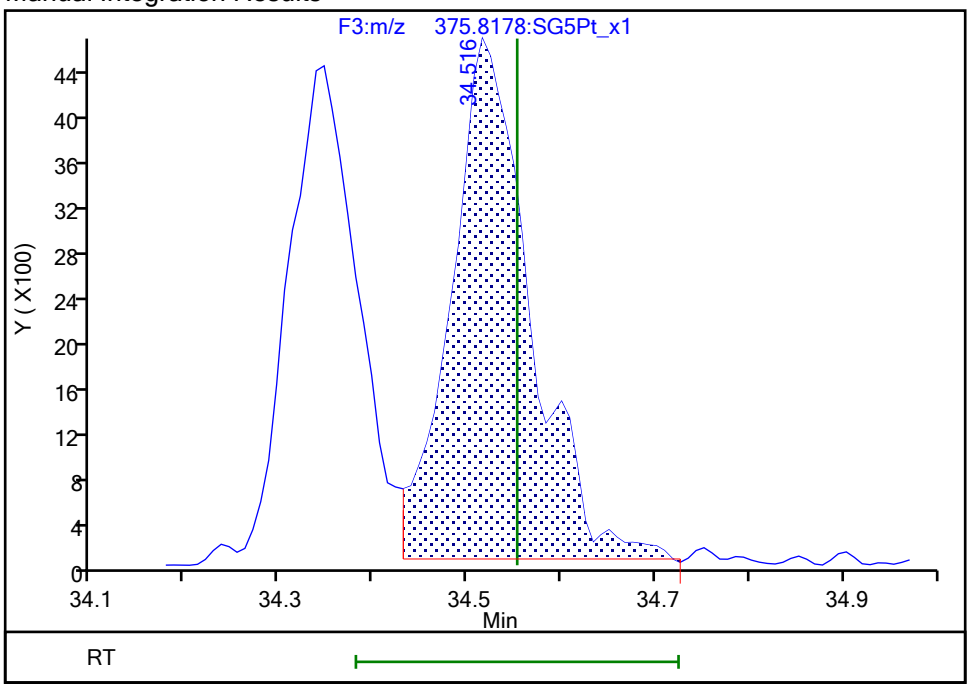
Processing Integration Results

RT: 34.52
Area: 23481
Amount: 2.310529
Amount Units: pg/ul



Manual Integration Results

RT: 34.52
Area: 26787
Amount: 2.511169
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:10:25
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

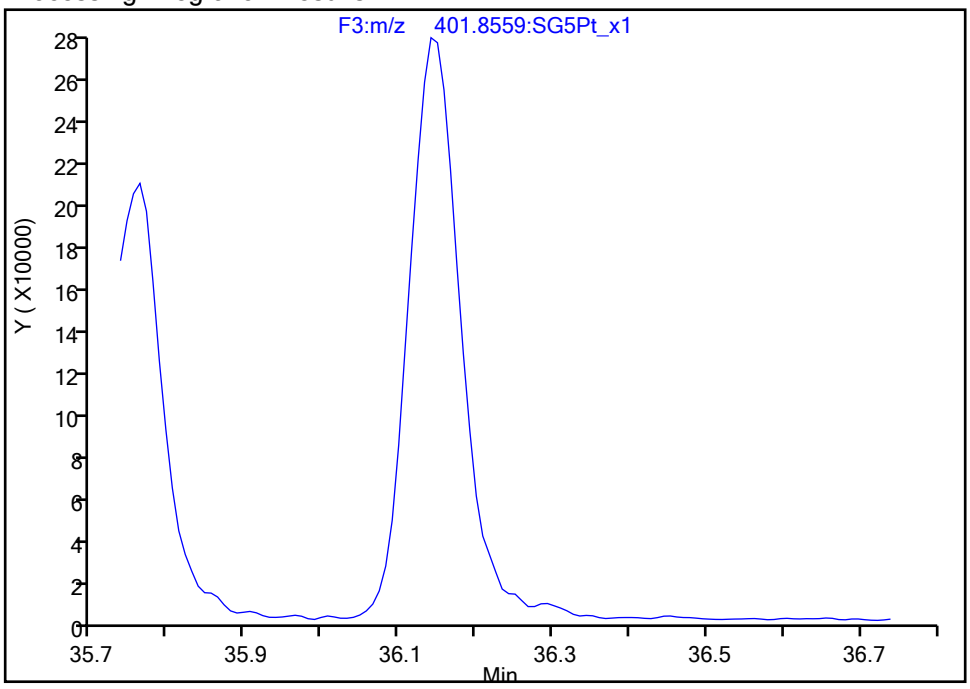
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

13C-1,2,3,7,8,9-HxCDD, CAS: 109719-82-6

Signal: 1

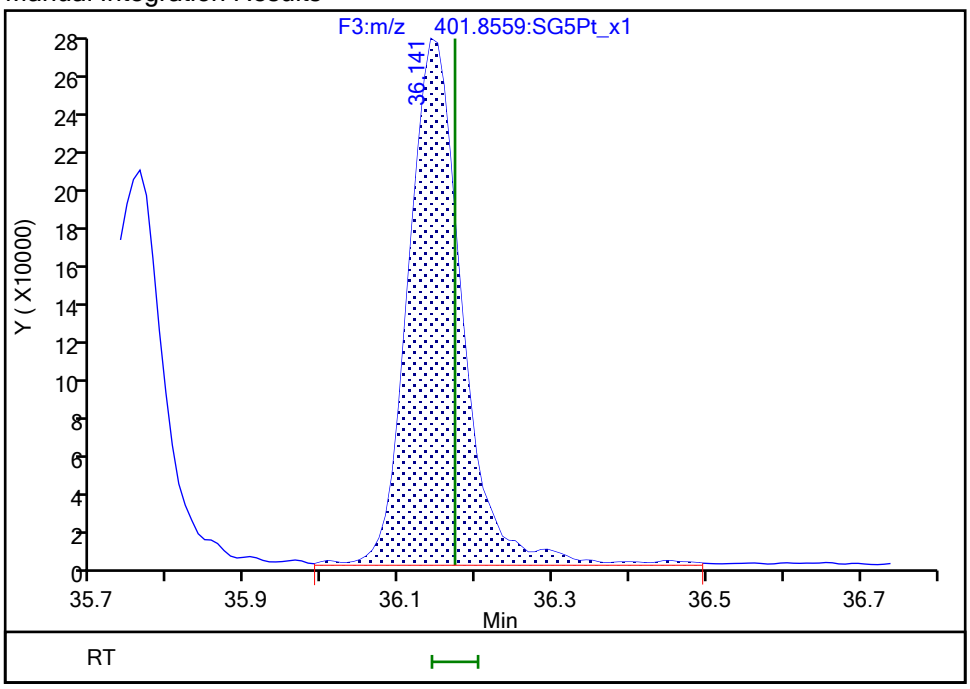
Not Detected
Expected RT: 36.17

Processing Integration Results



Manual Integration Results

RT: 36.14
Area: 1337014
Amount: 100.0000
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:09:20
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Sacramento

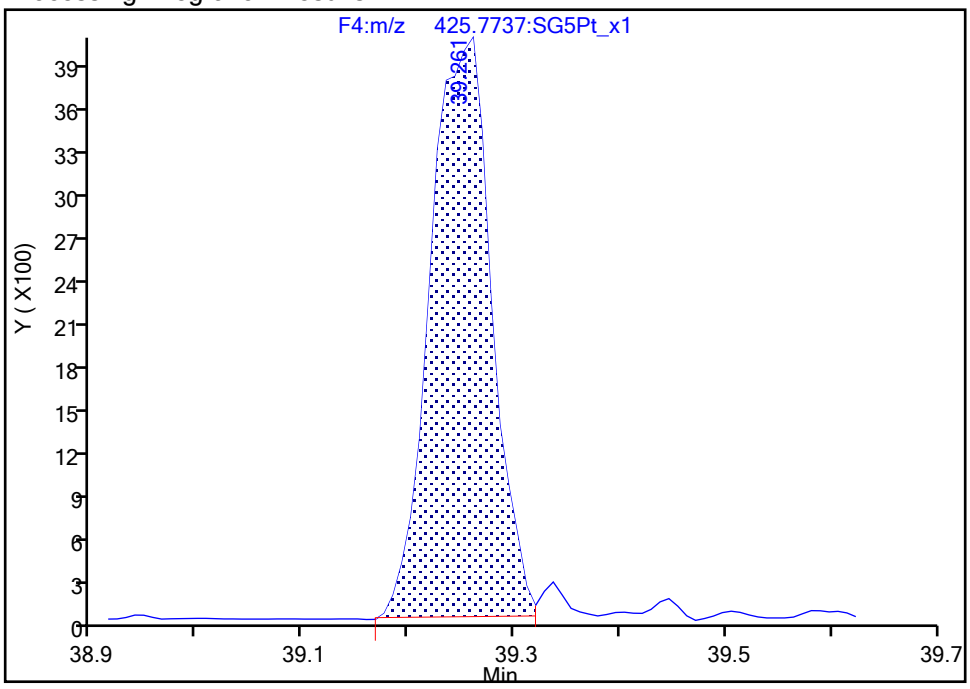
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

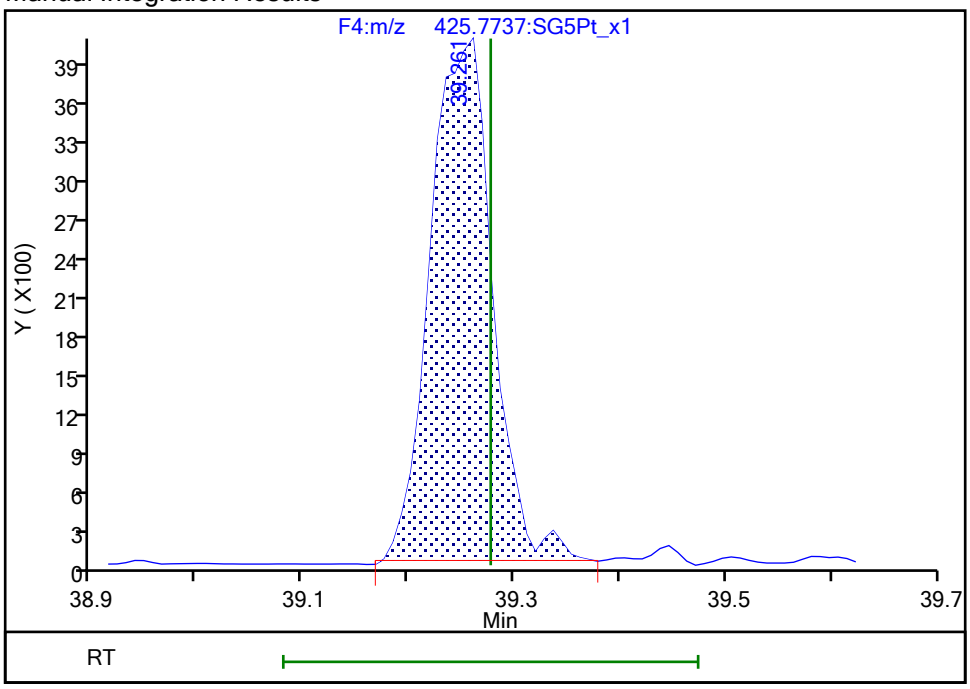
Processing Integration Results

RT: 39.26
Area: 16255
Amount: 2.454727
Amount Units: pg/ul



Manual Integration Results

RT: 39.26
Area: 16471
Amount: 2.467259
Amount Units: pg/ul

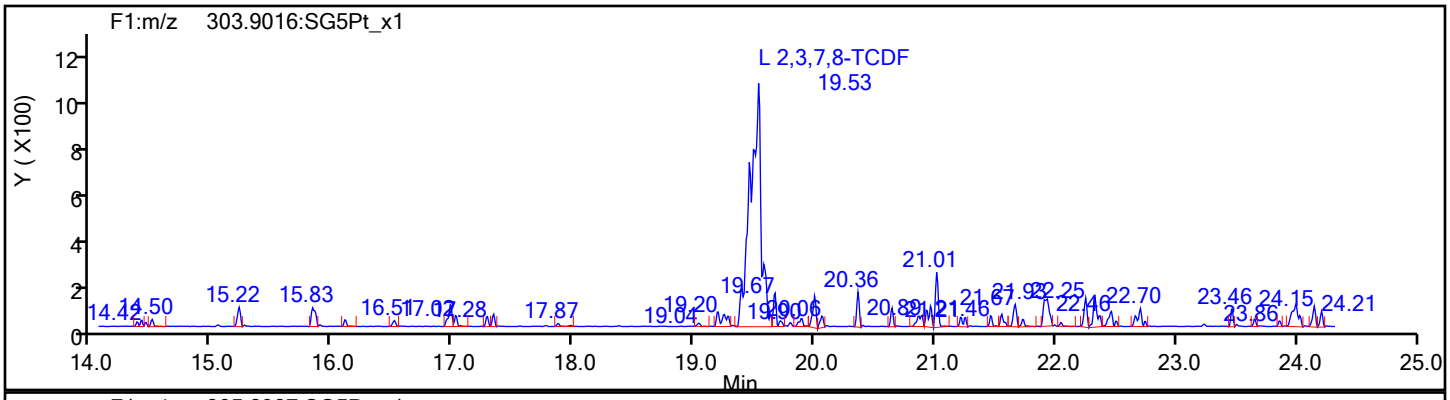


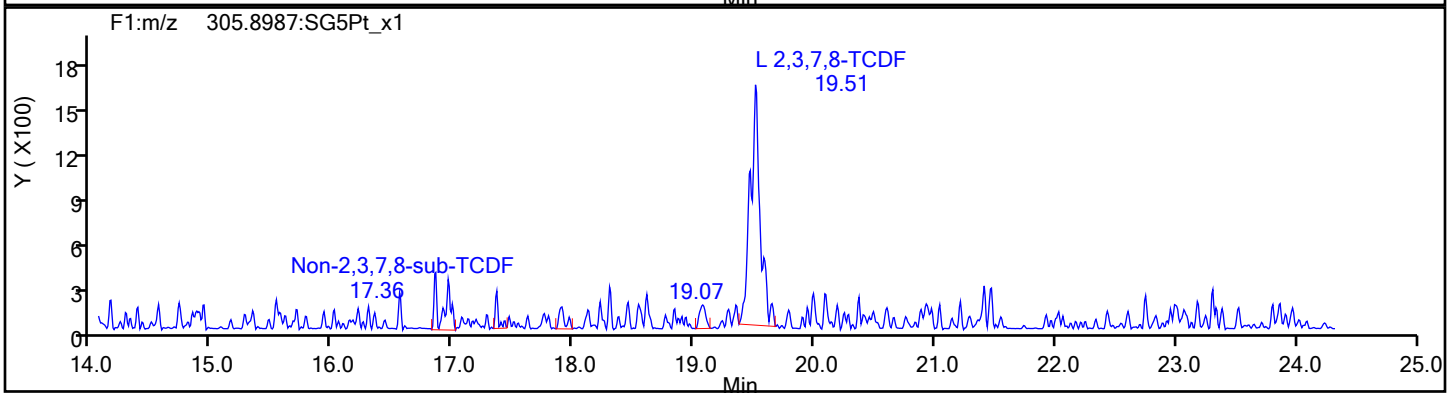
Reviewer: bilottag, 18-Jan-2022 12:10:43
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins Sacramento

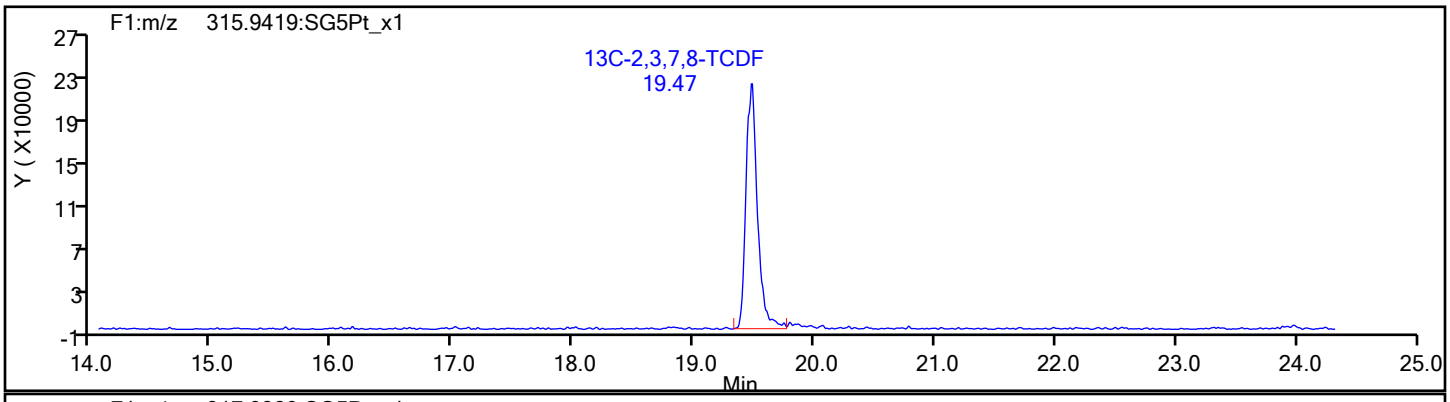
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d		
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

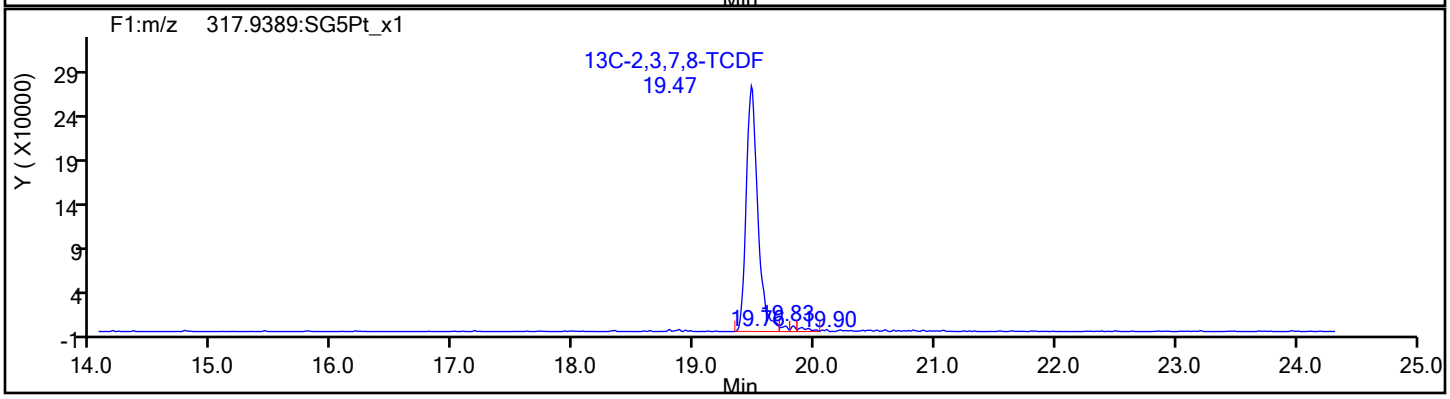
TCDF





TCDF Standards

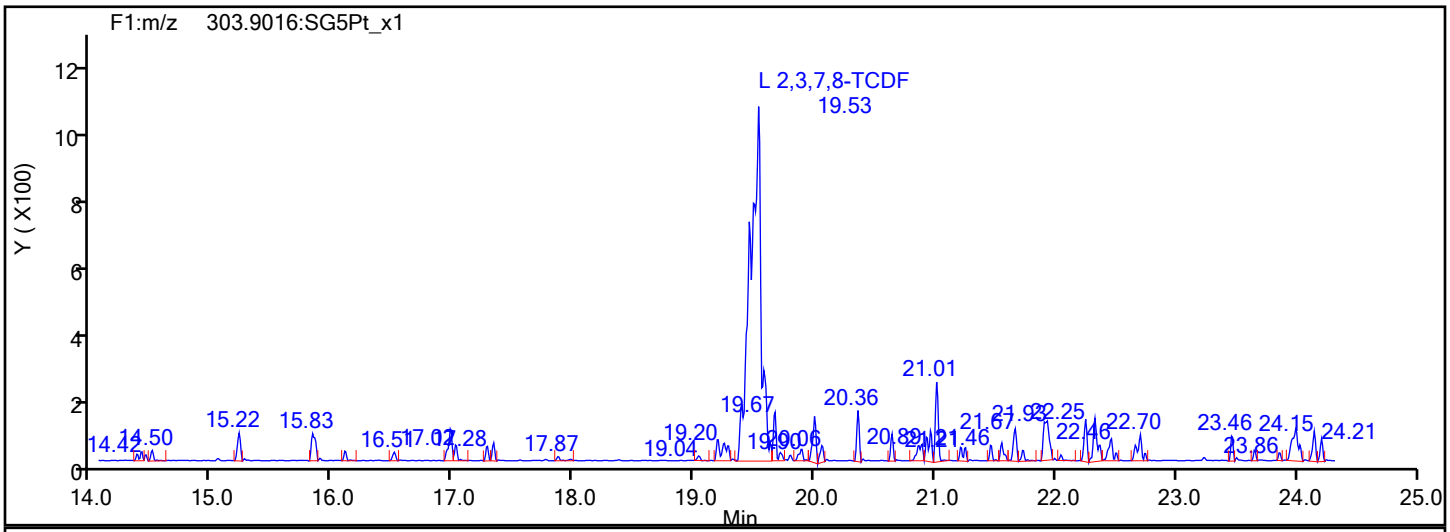


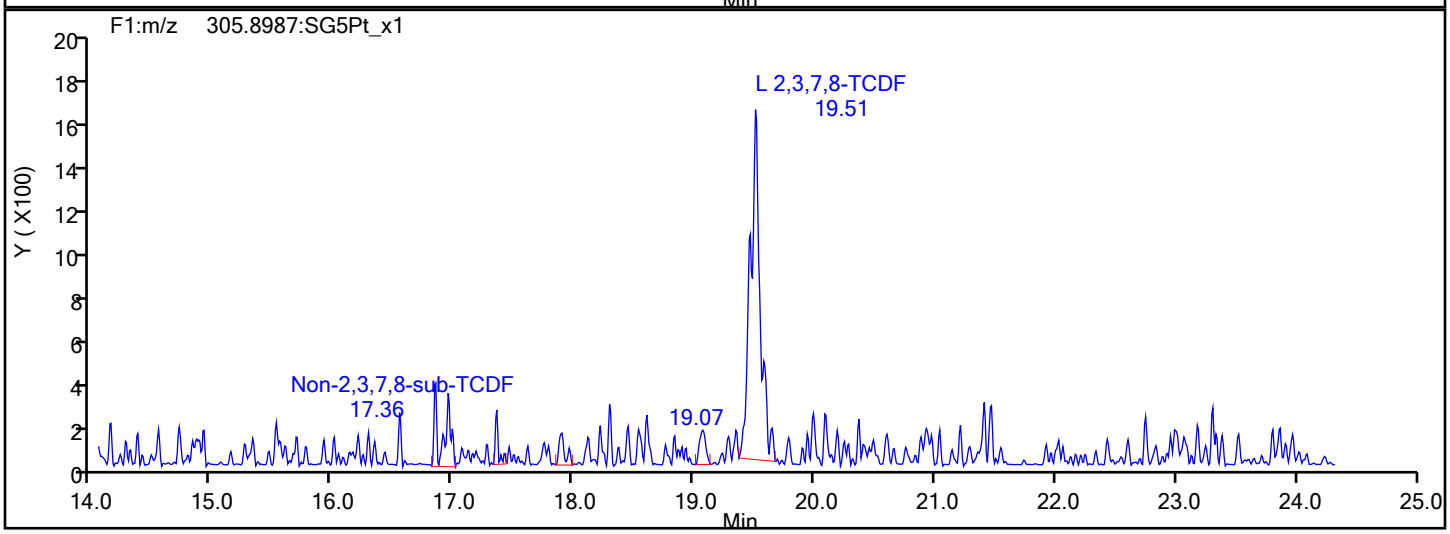


Eurofins Sacramento

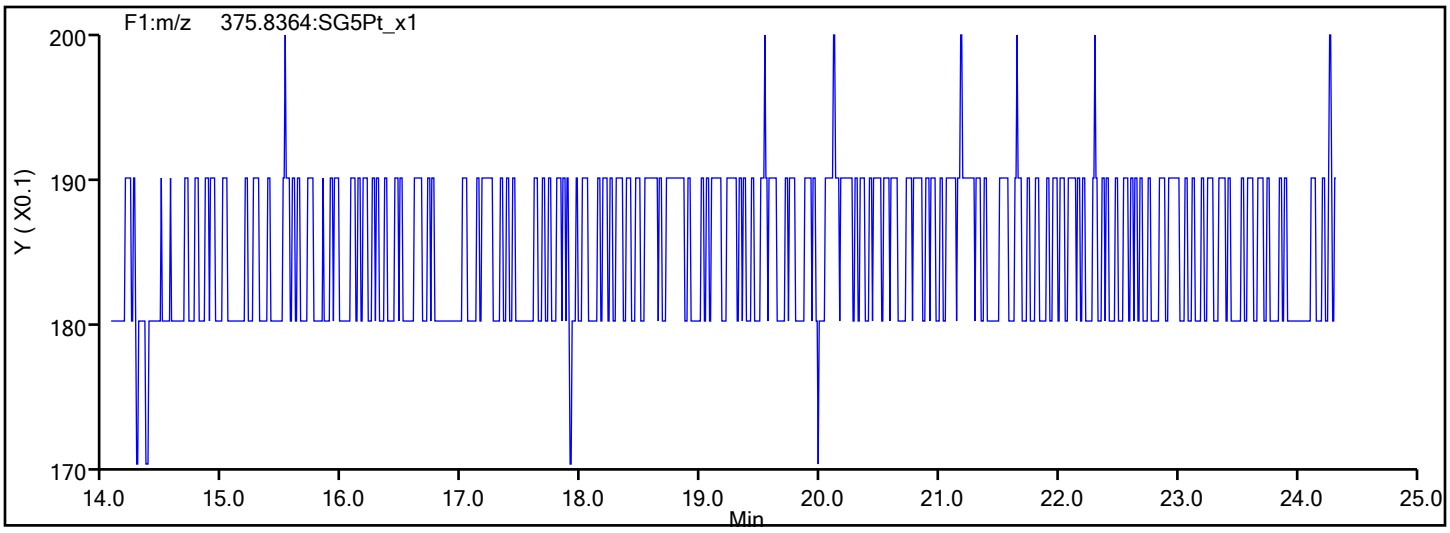
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d		
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





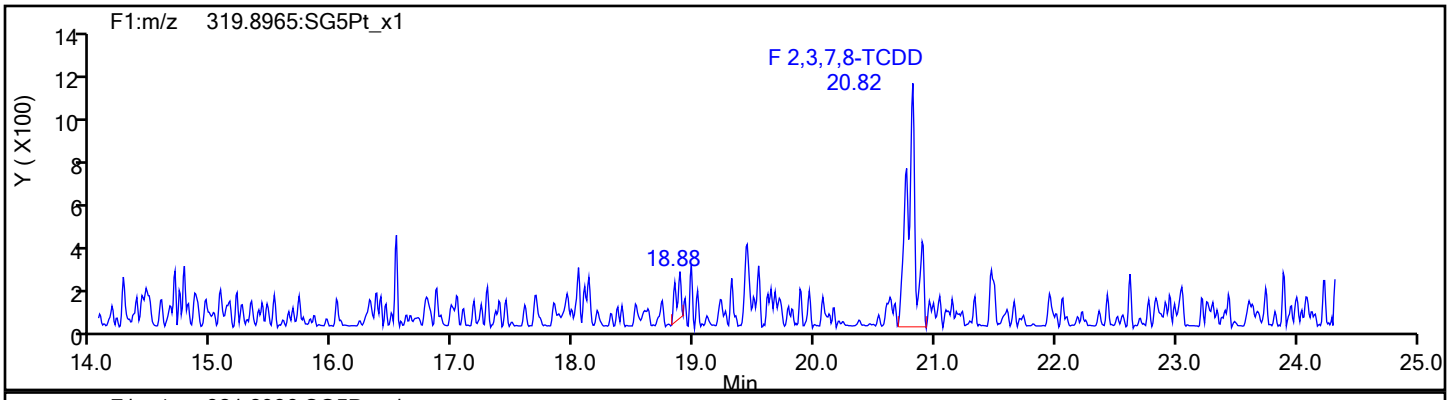
TCDF Interference Mass

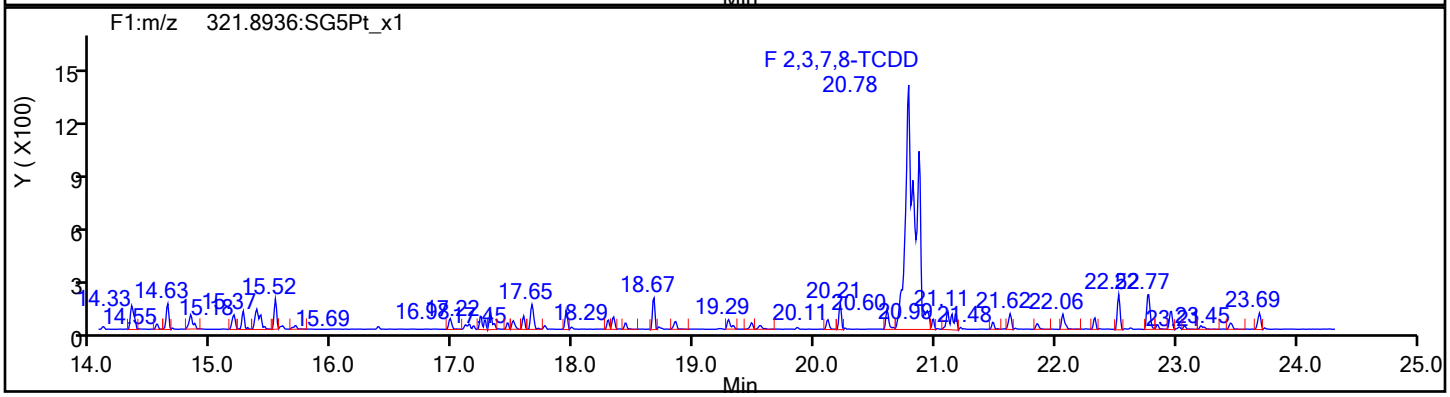


Eurofins Sacramento

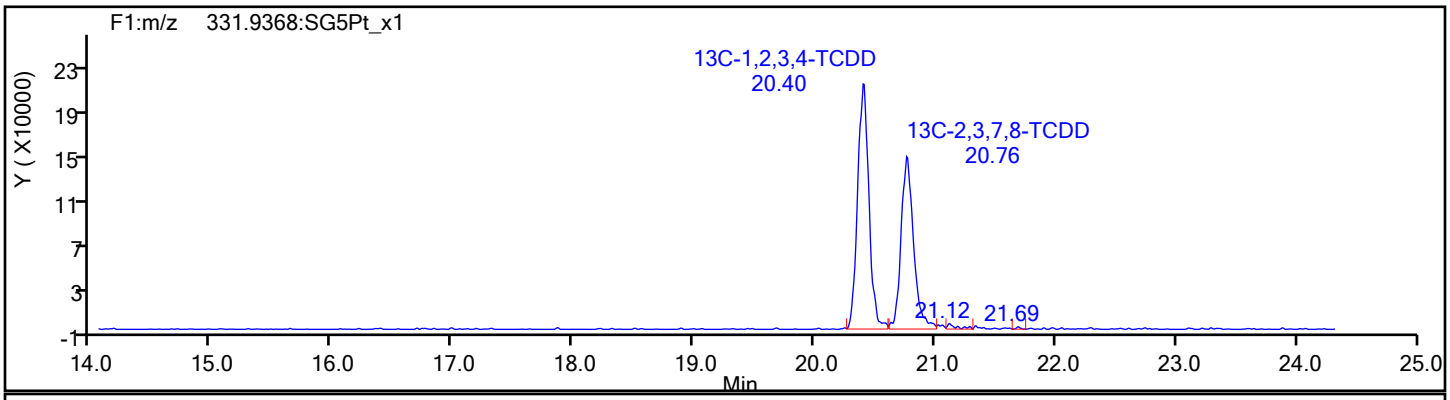
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

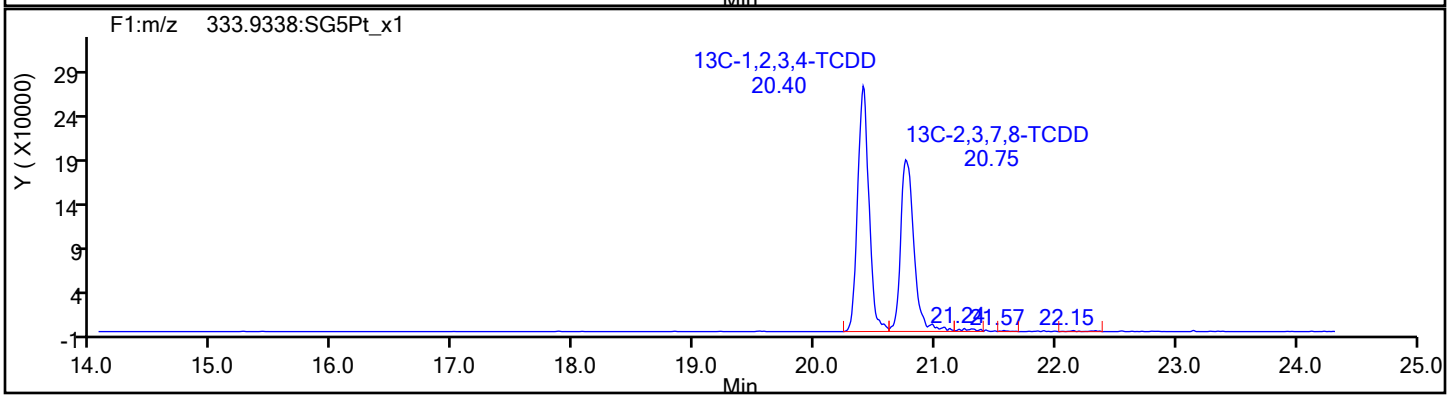
TCDD





TCDD Standards





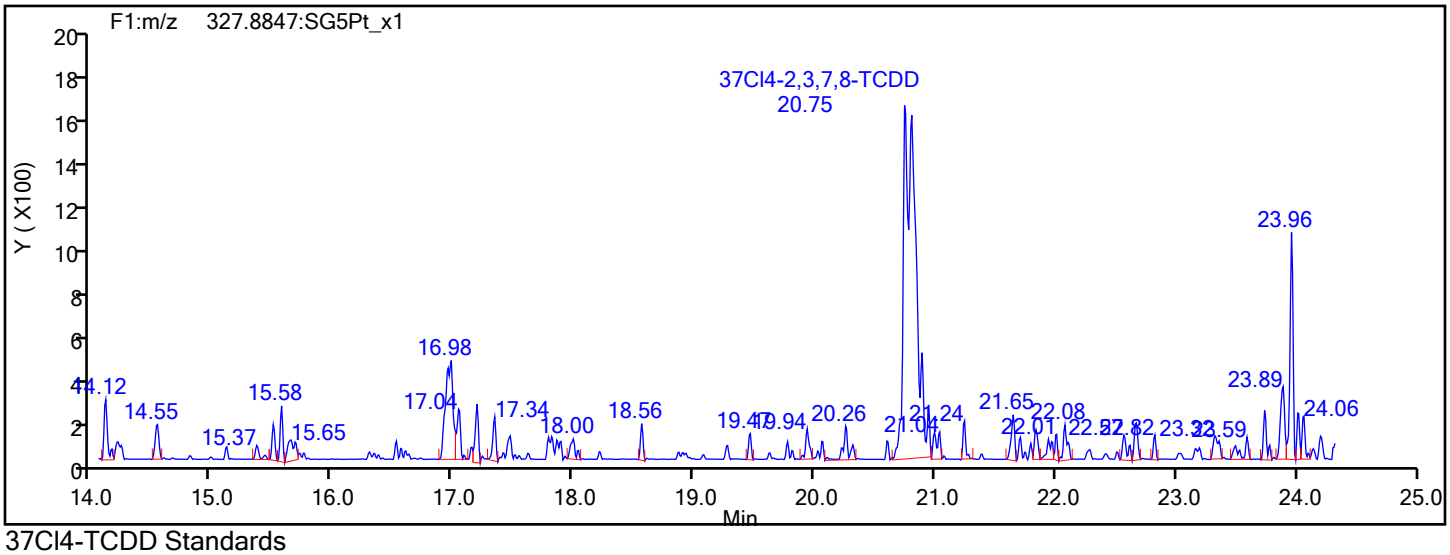
Report Date: 20-Jan-2022 15:58:35 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



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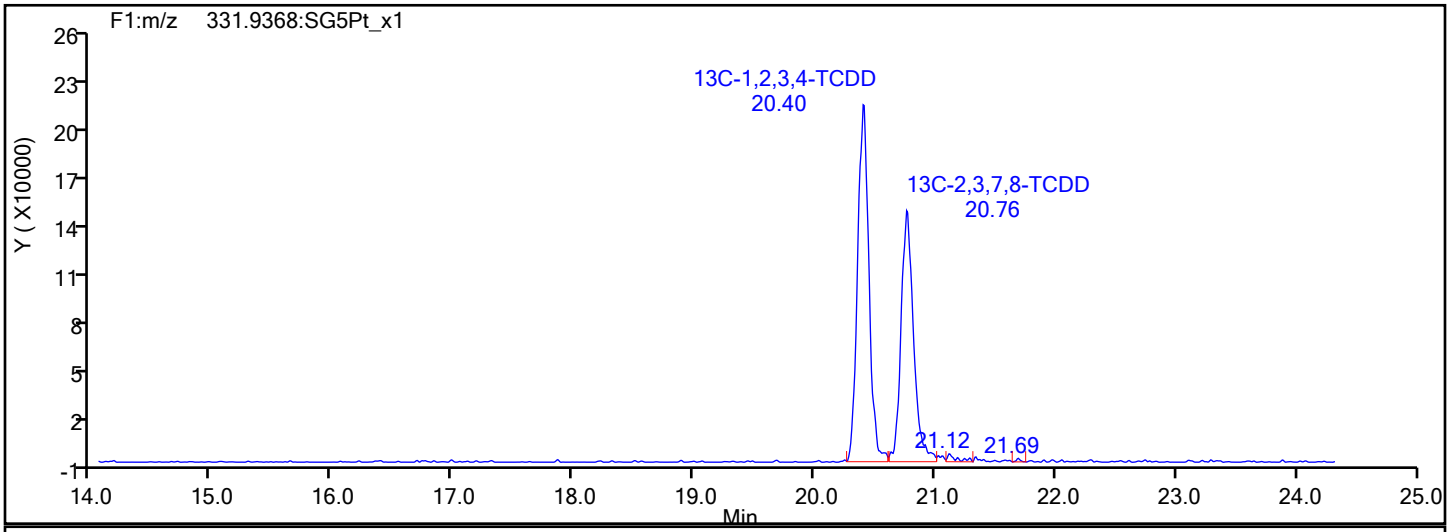

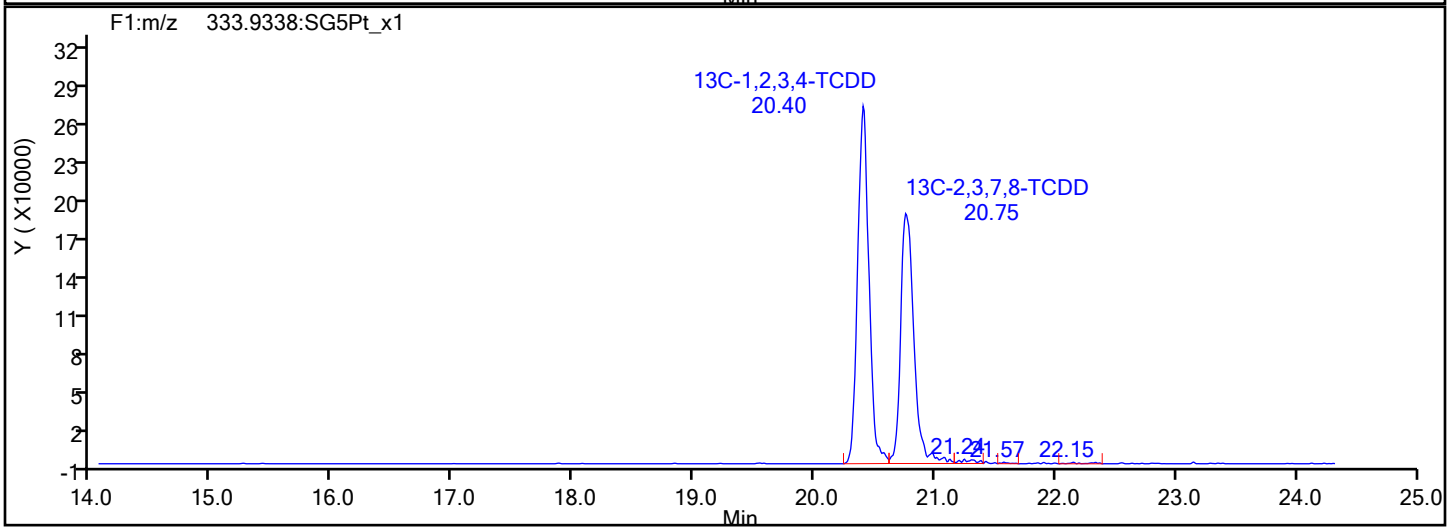

Report Date: 20-Jan-2022 15:58:35 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

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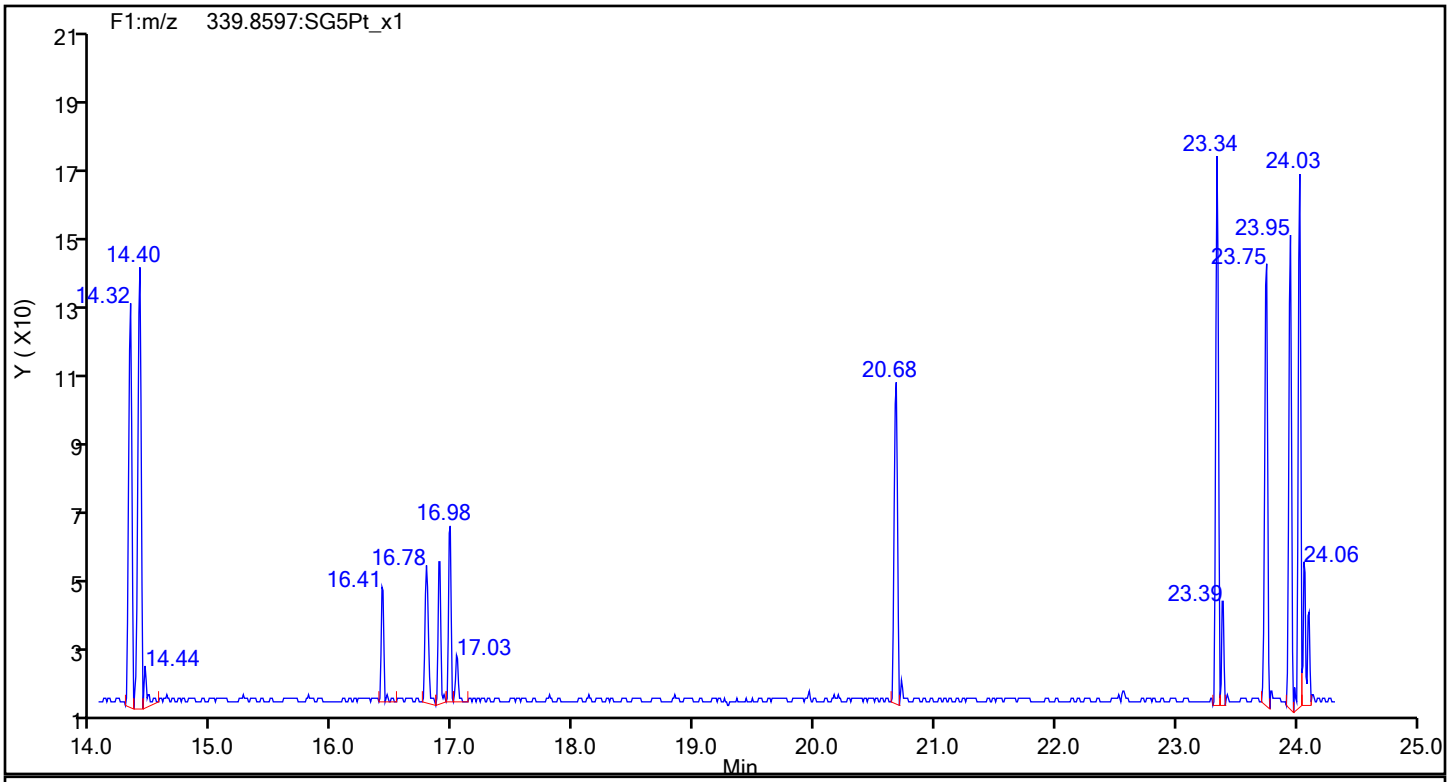
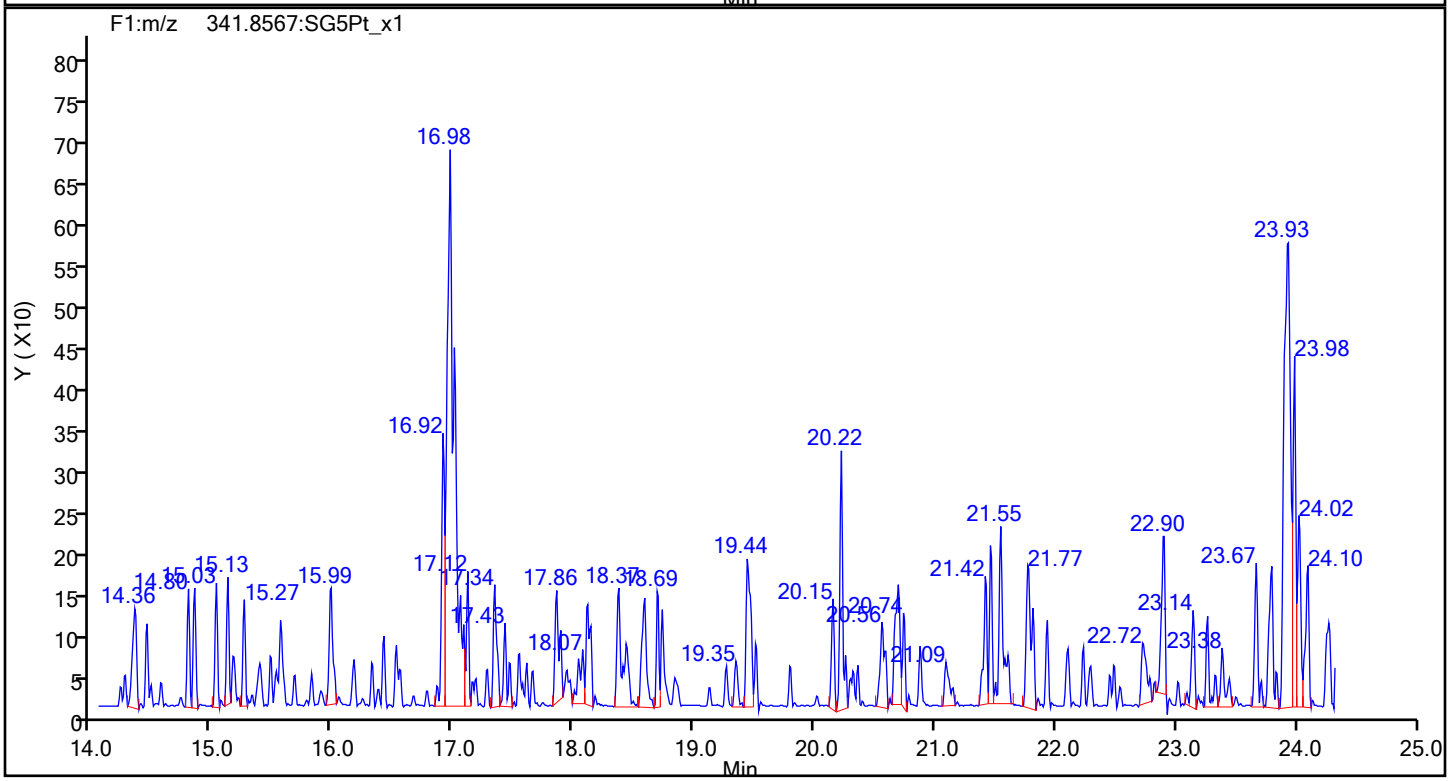
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d		
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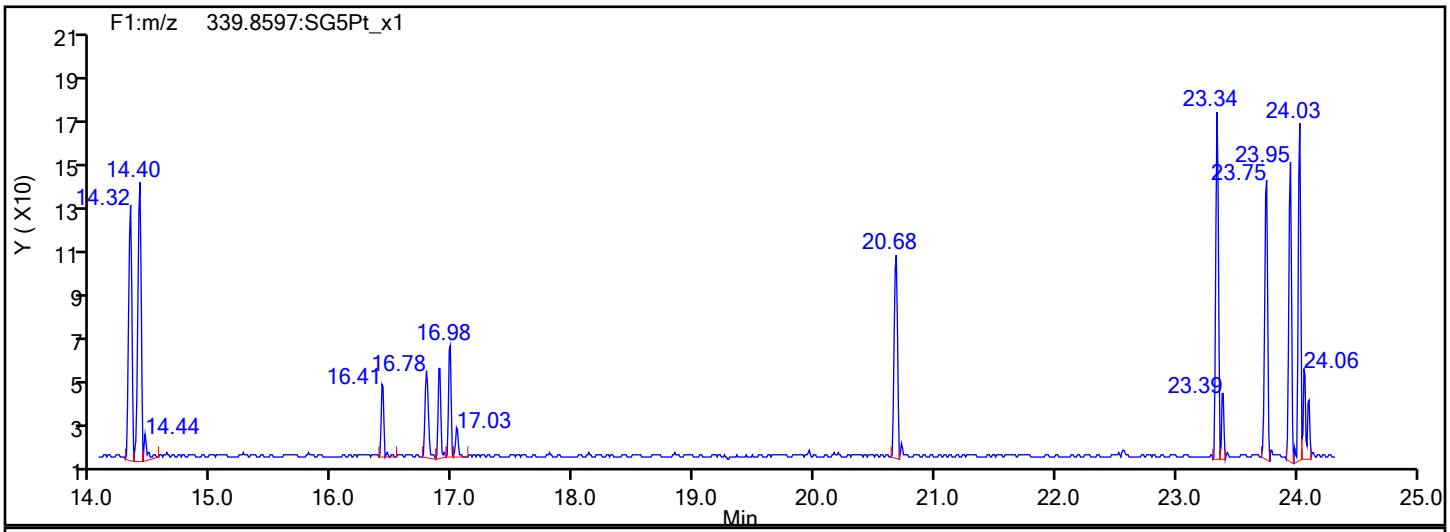
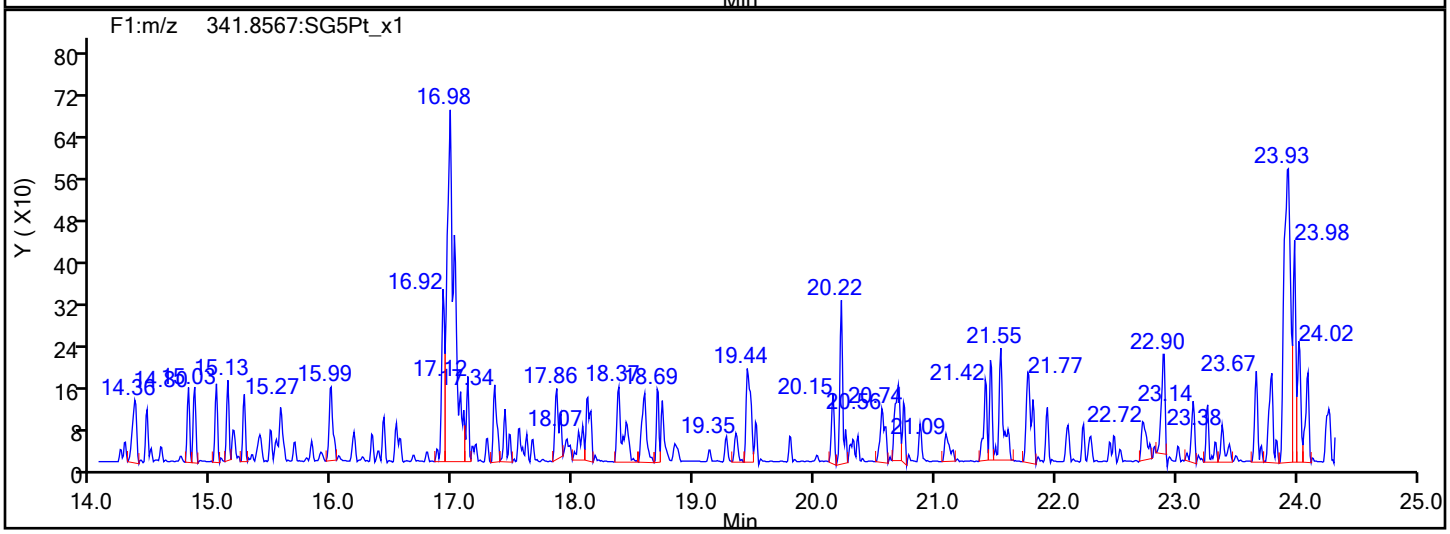
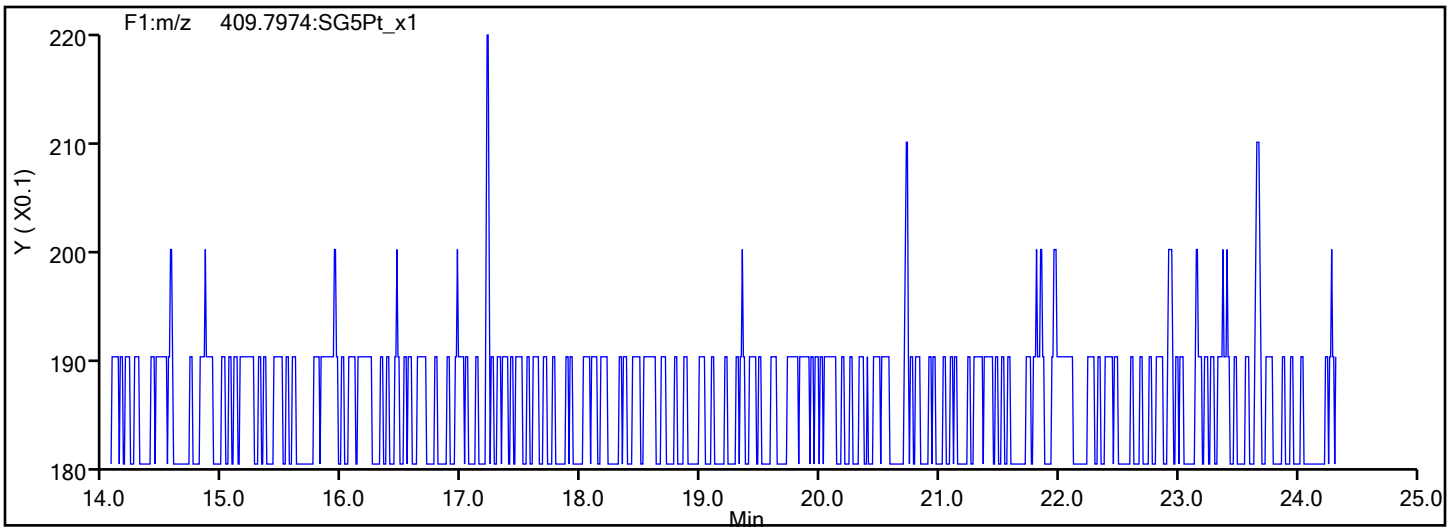
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d		
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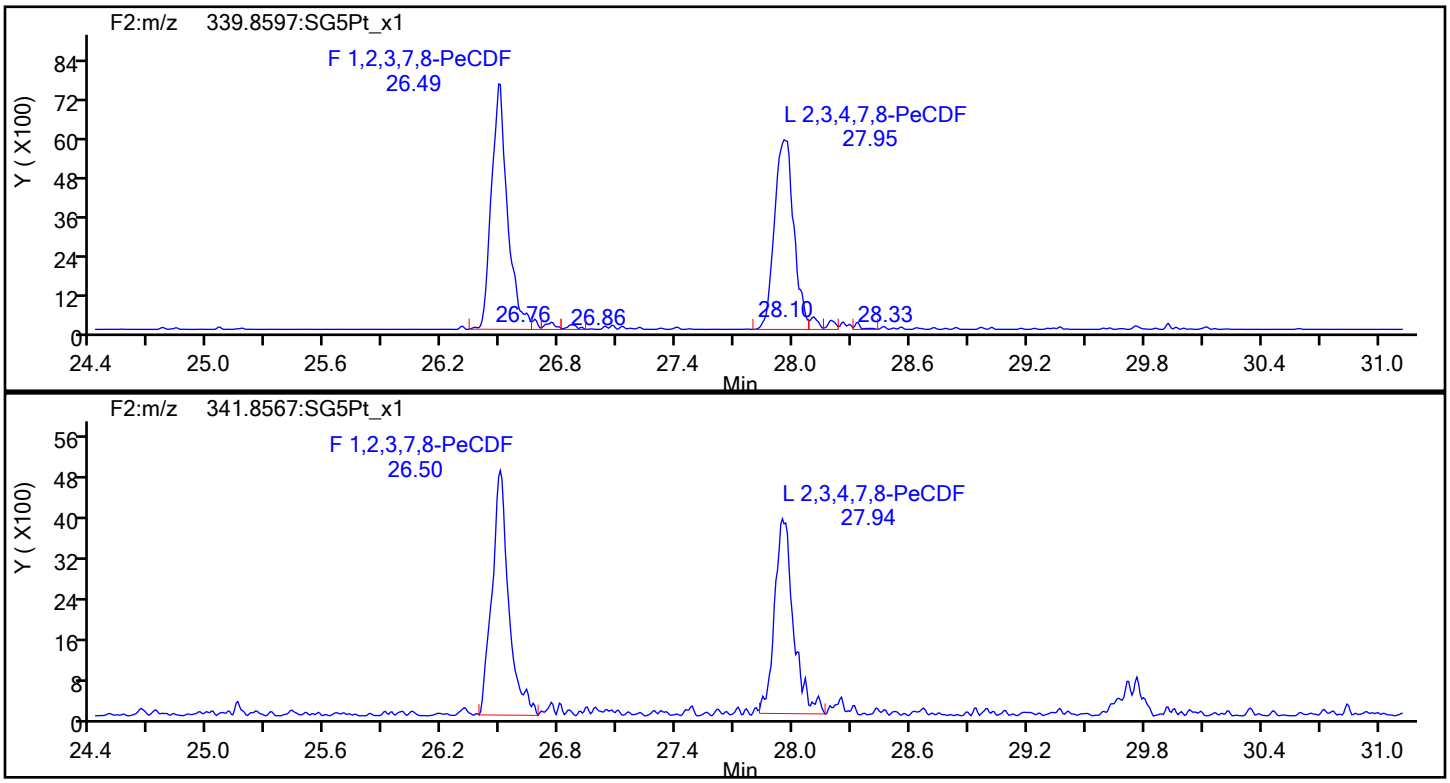
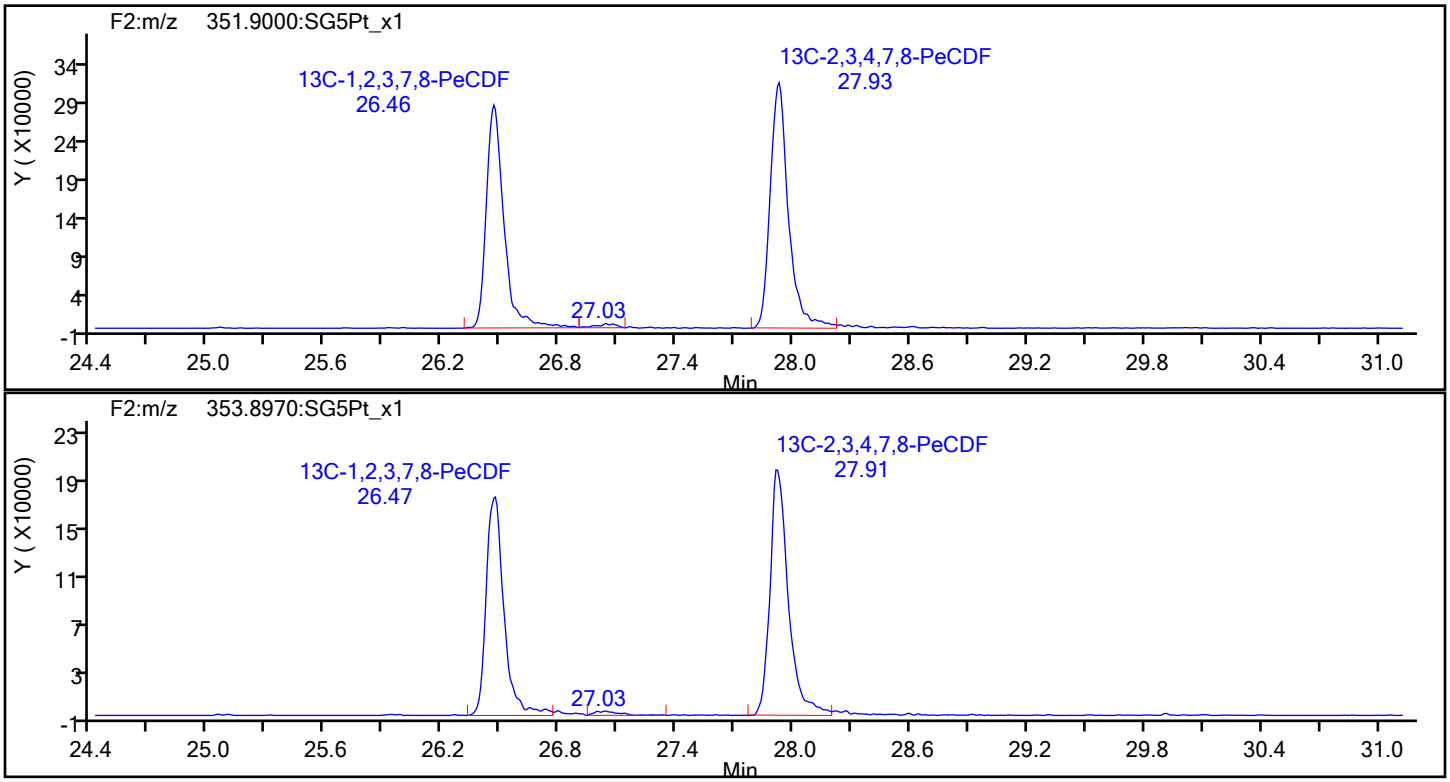
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d		
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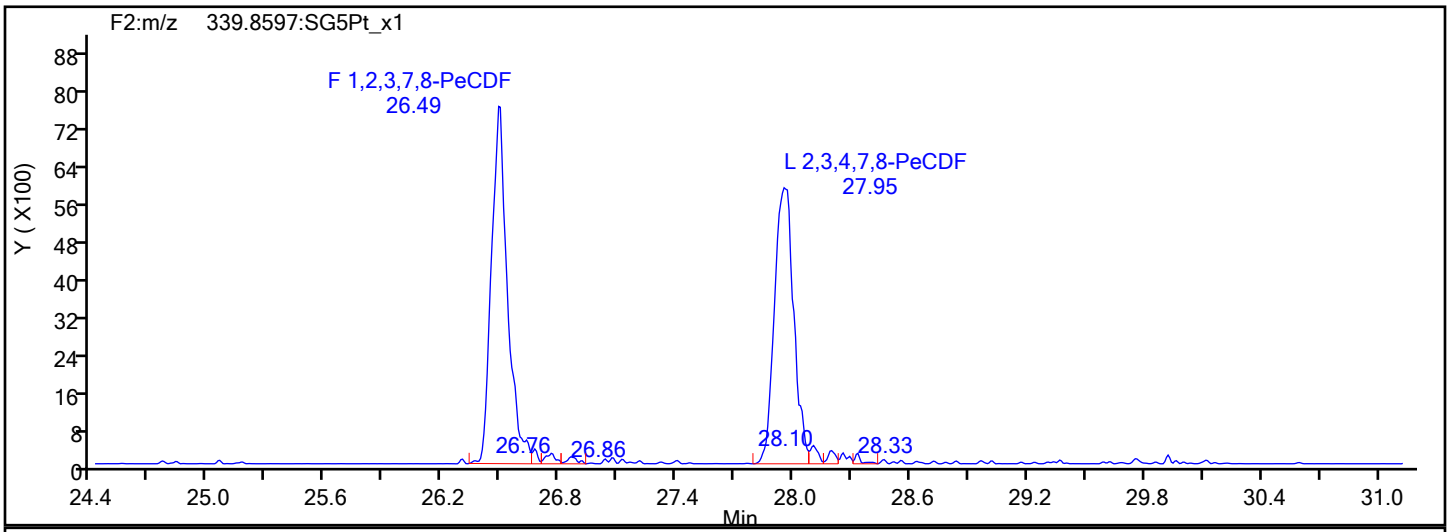
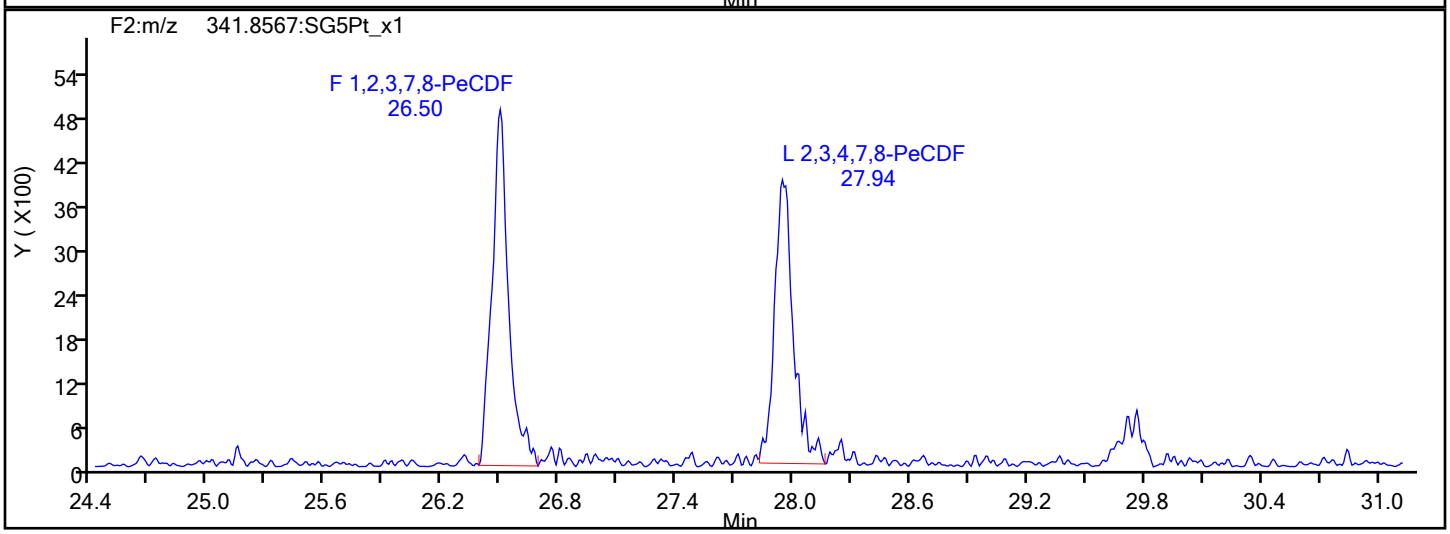
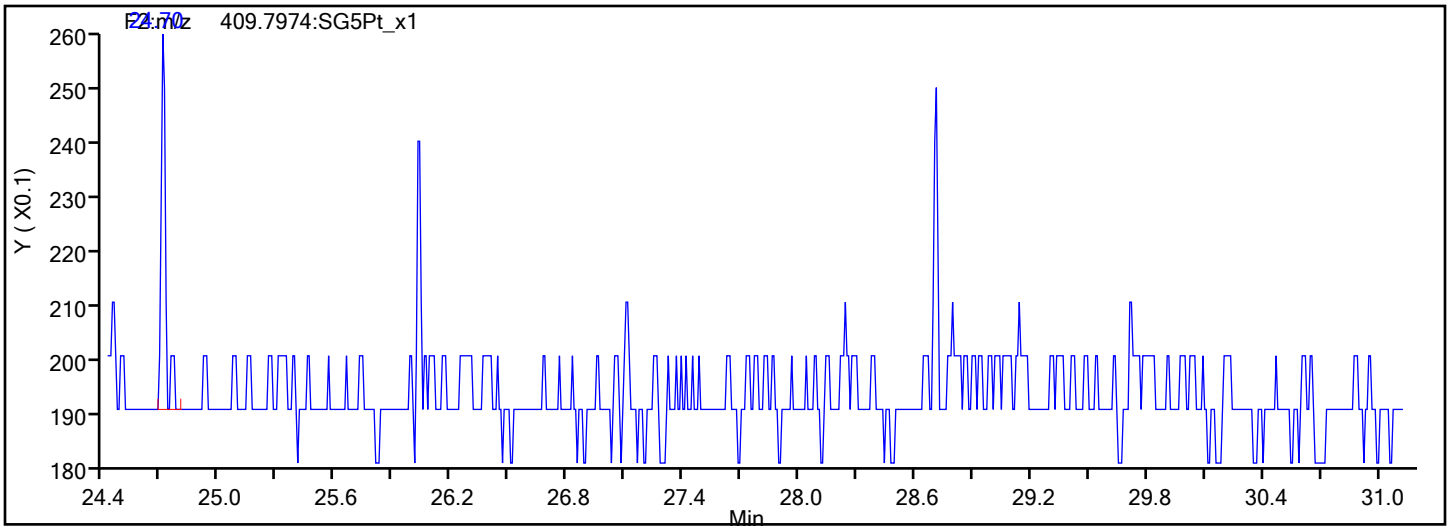
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Report Date: 20-Jan-2022 15:58:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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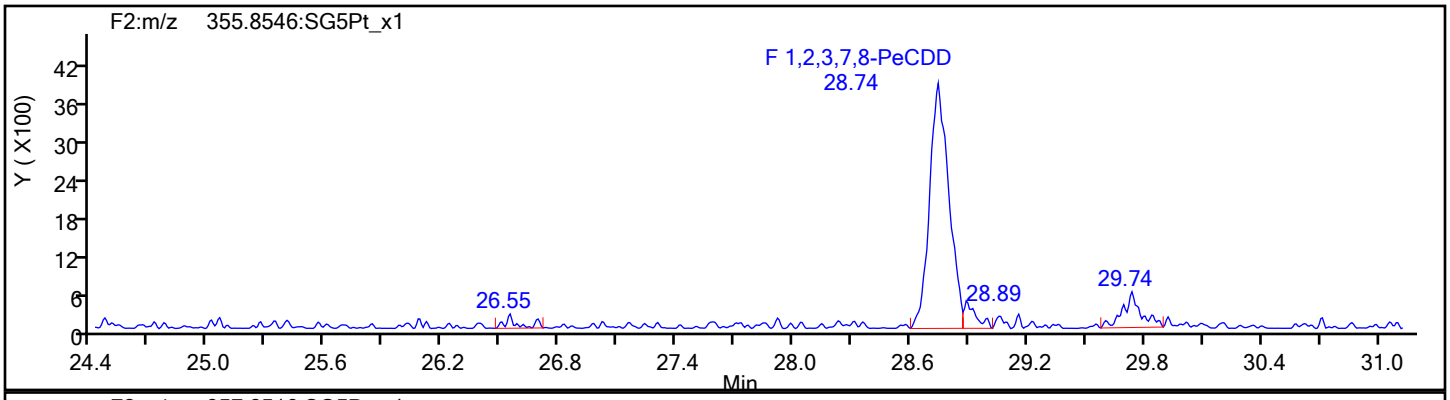
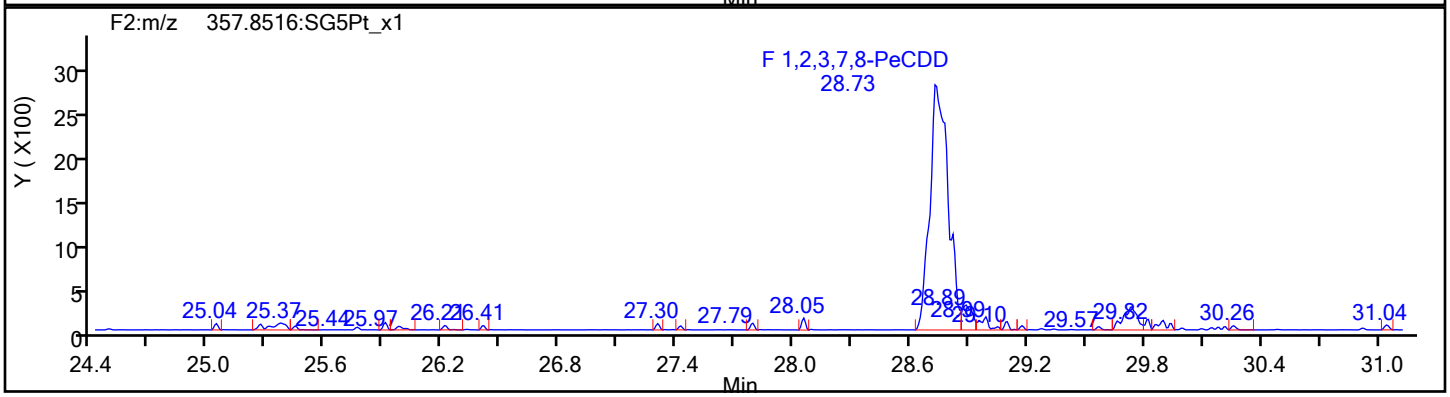
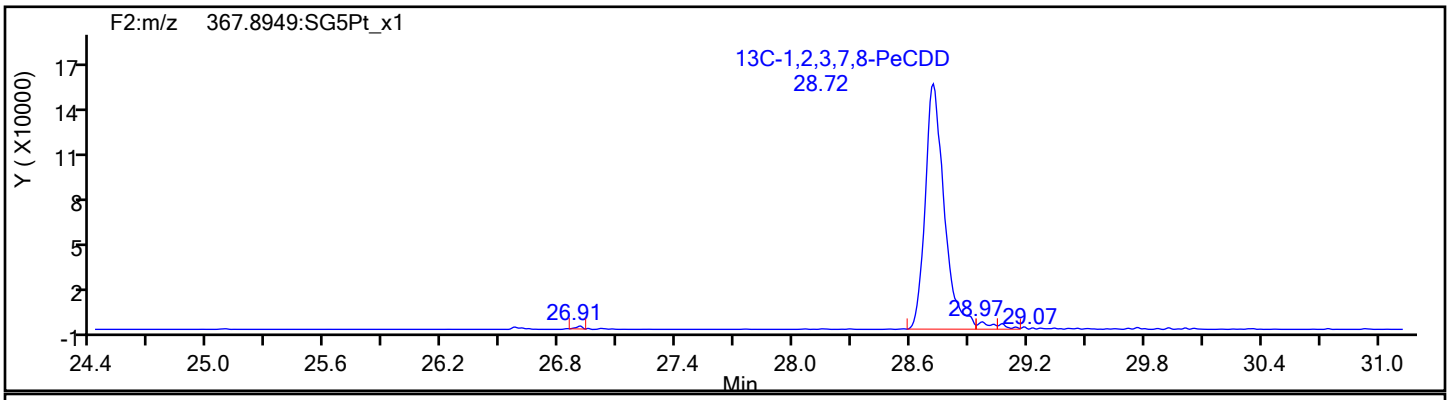
Column Type:	DB-5	Column Dia:	0.32 mm

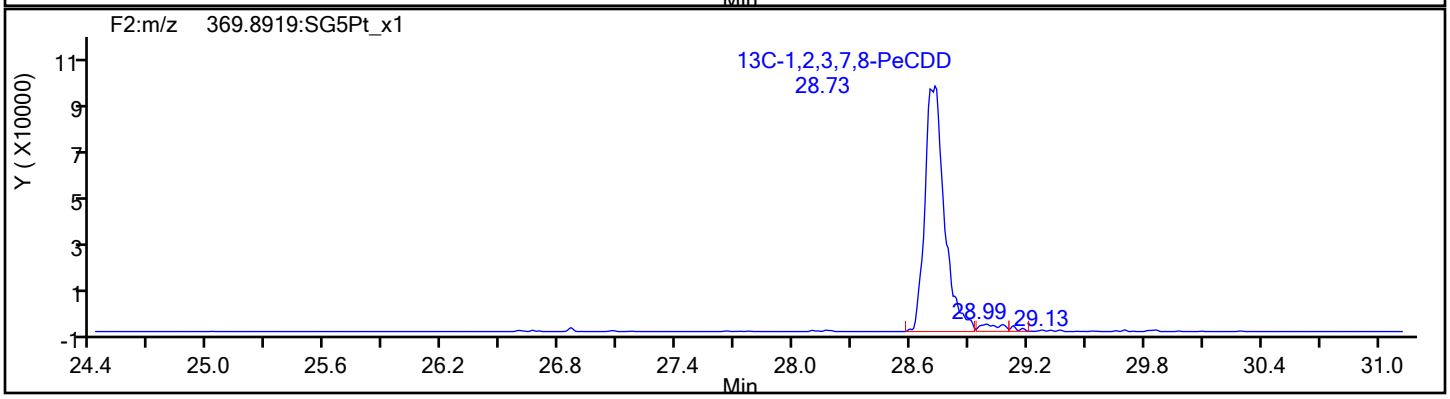
PeCDD





PeCDD Standards





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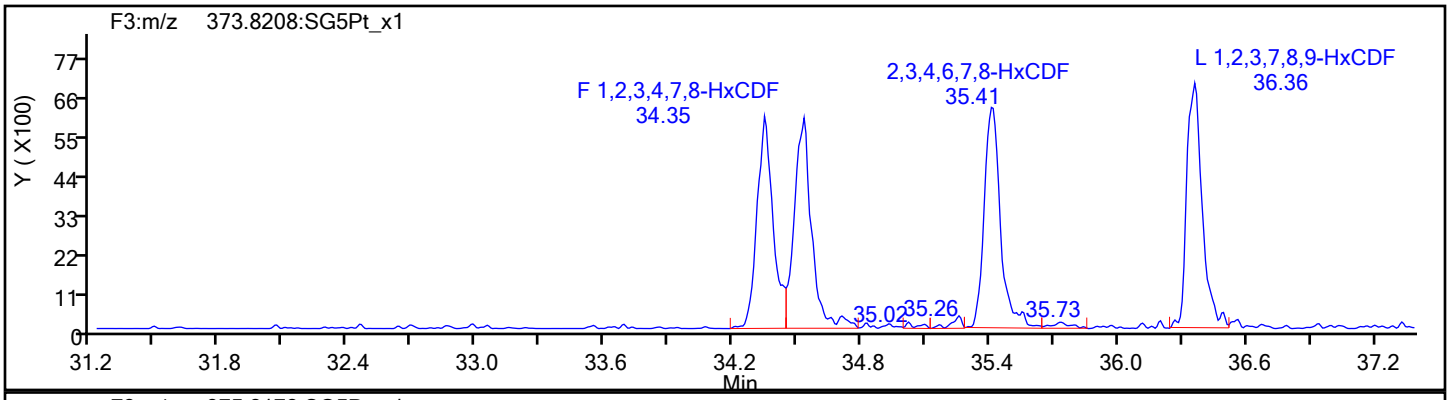
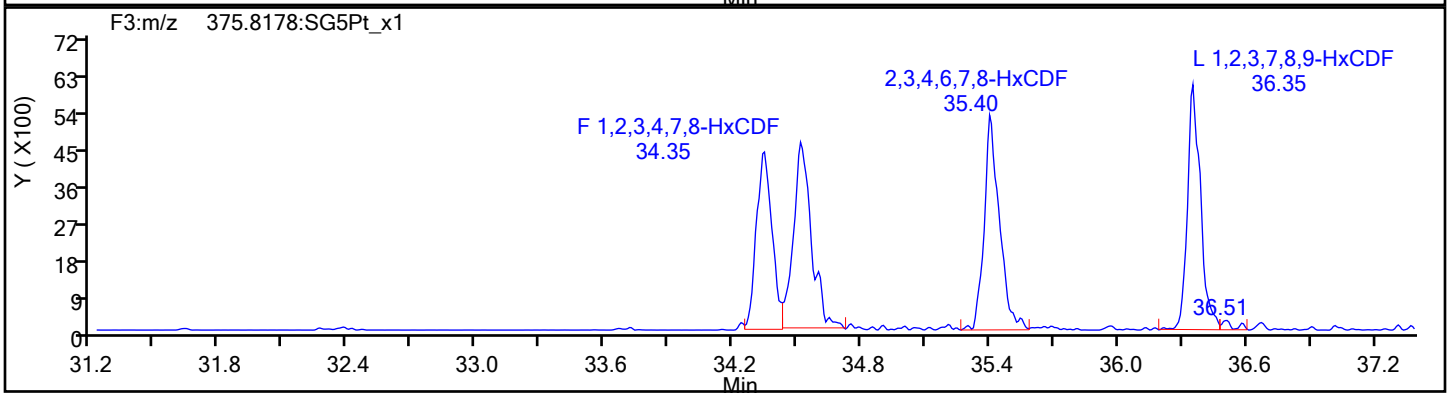
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

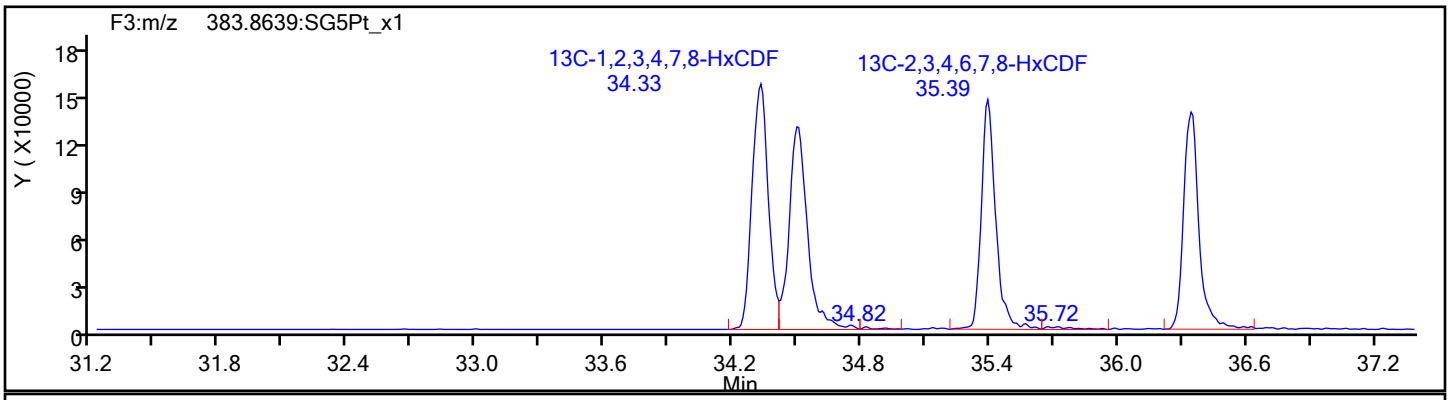
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

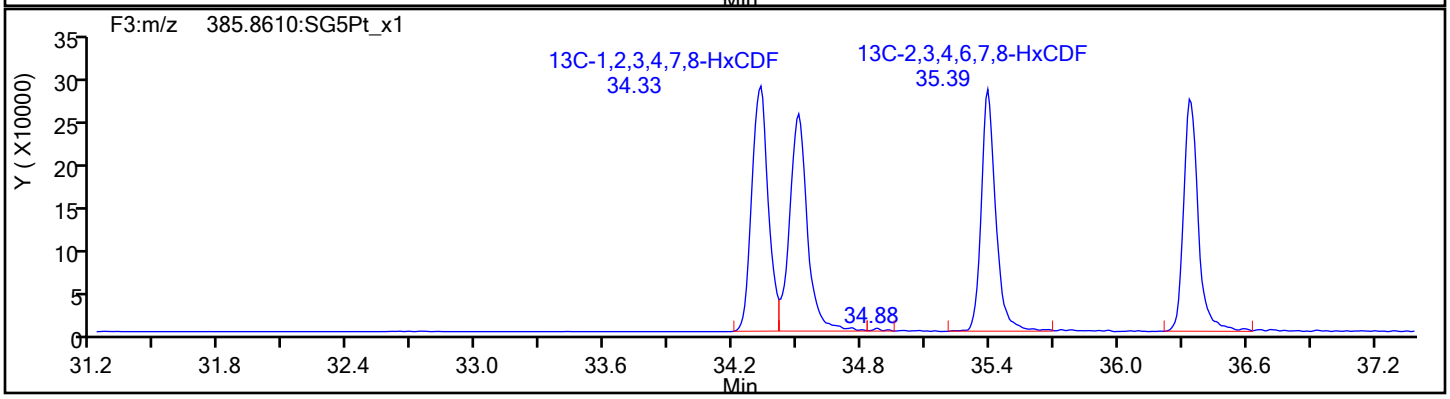
HxCDF





HxCDF Standards





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
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Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

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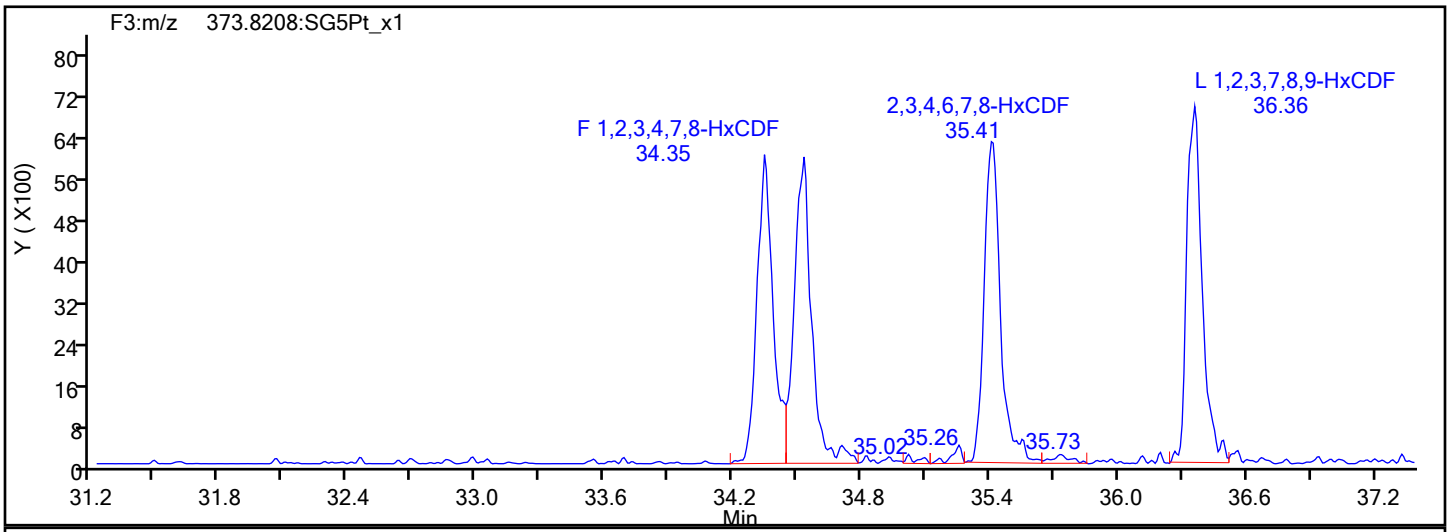
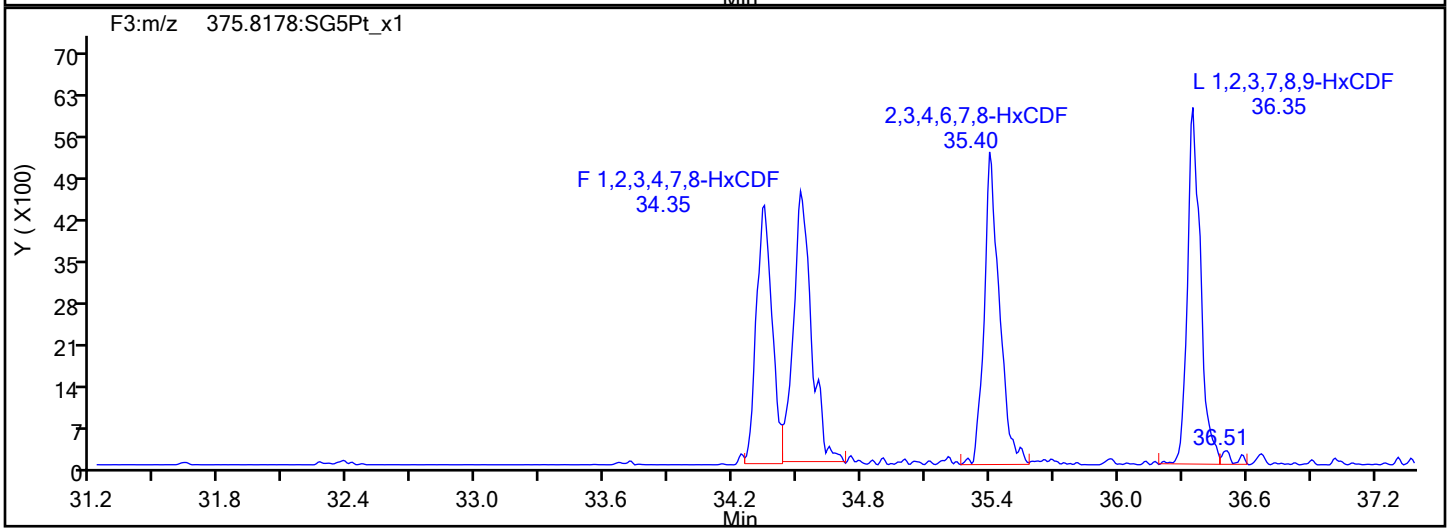
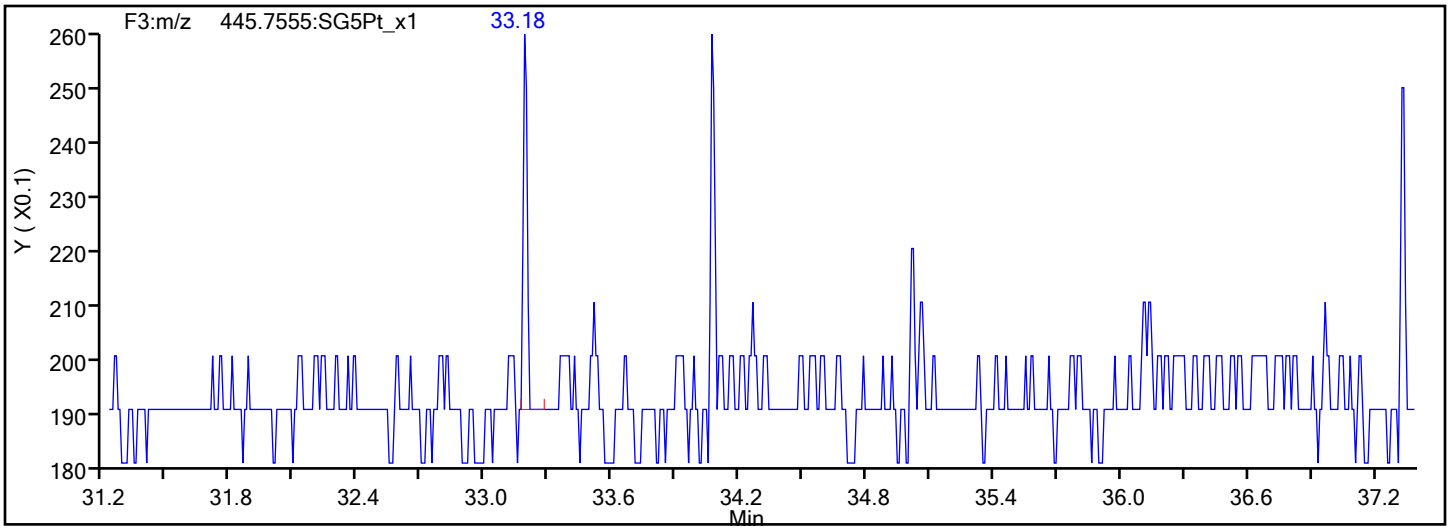




HxCDF Interference Mass



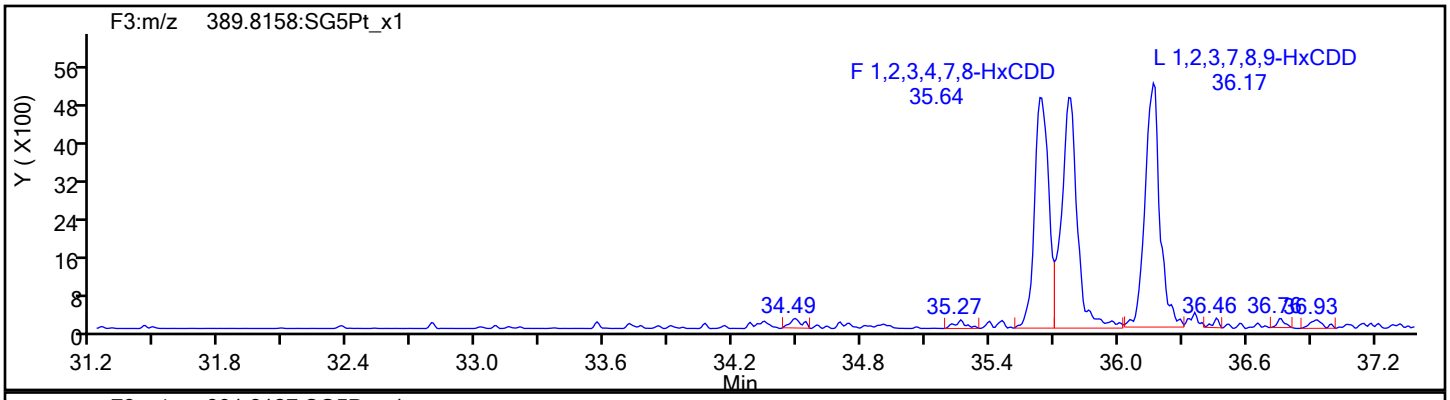
Report Date: 20-Jan-2022 15:58:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

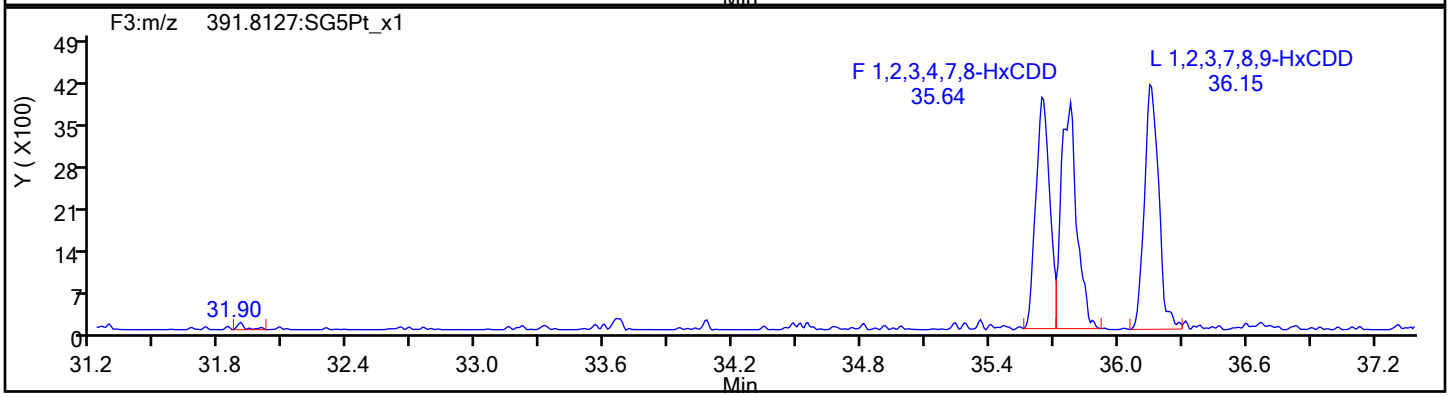
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

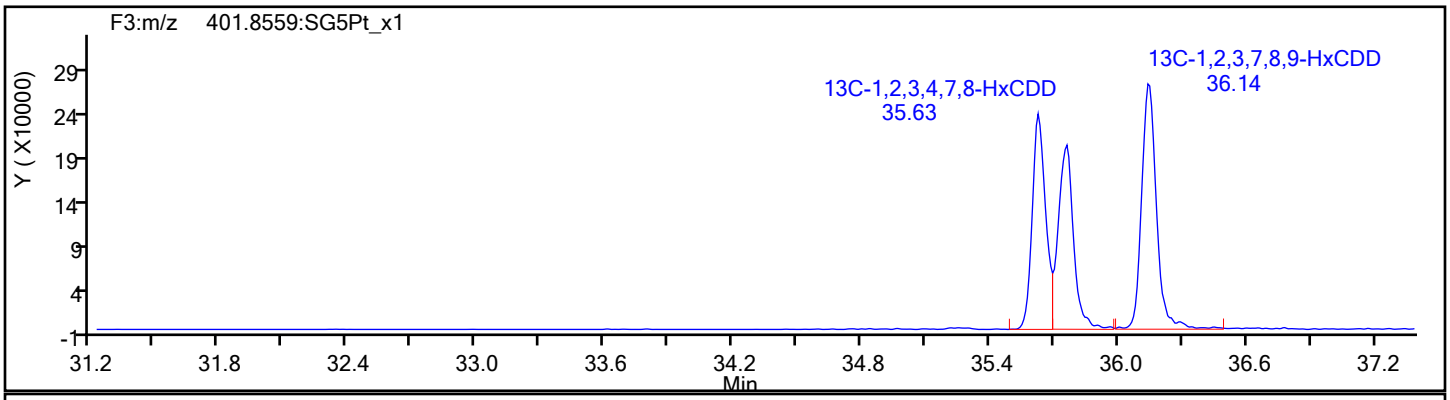
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

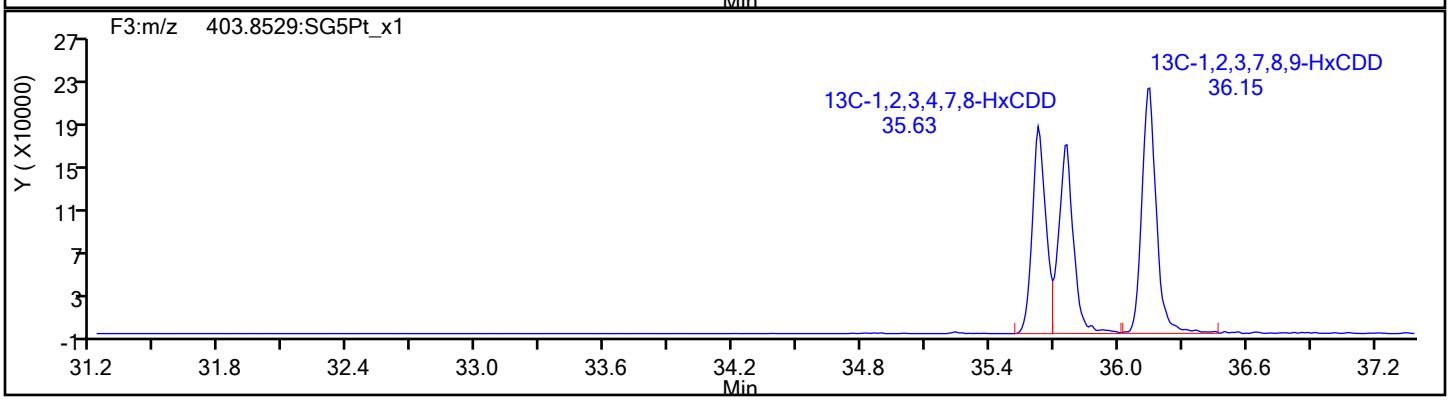
HxCDD





HxCDD Standards





Eurofins Sacramento

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Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
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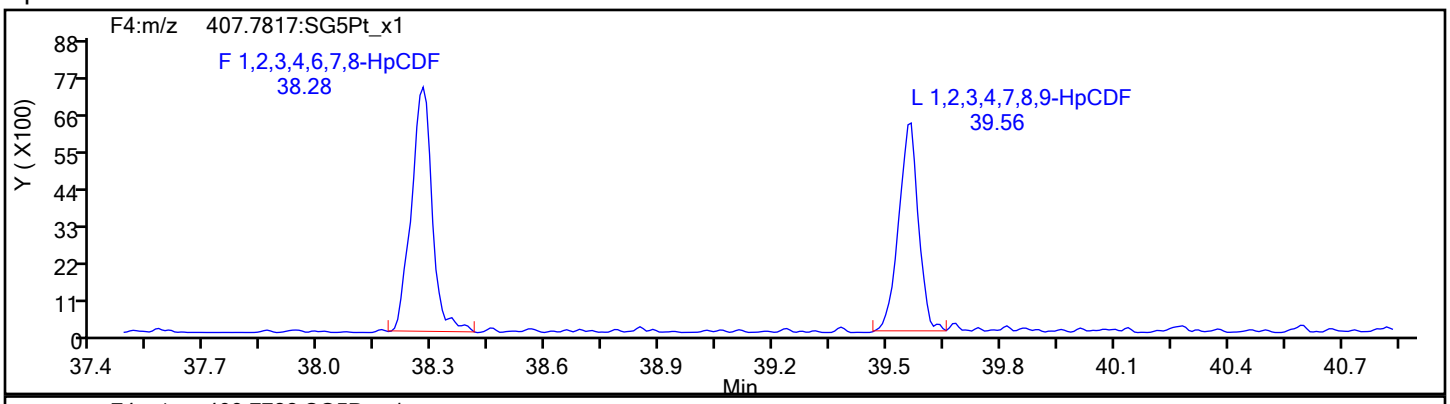
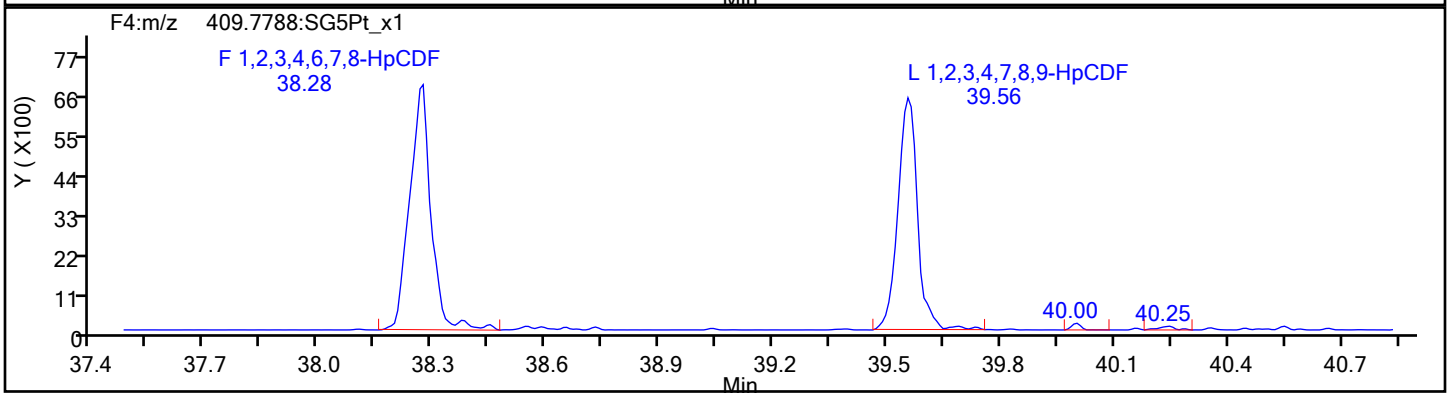
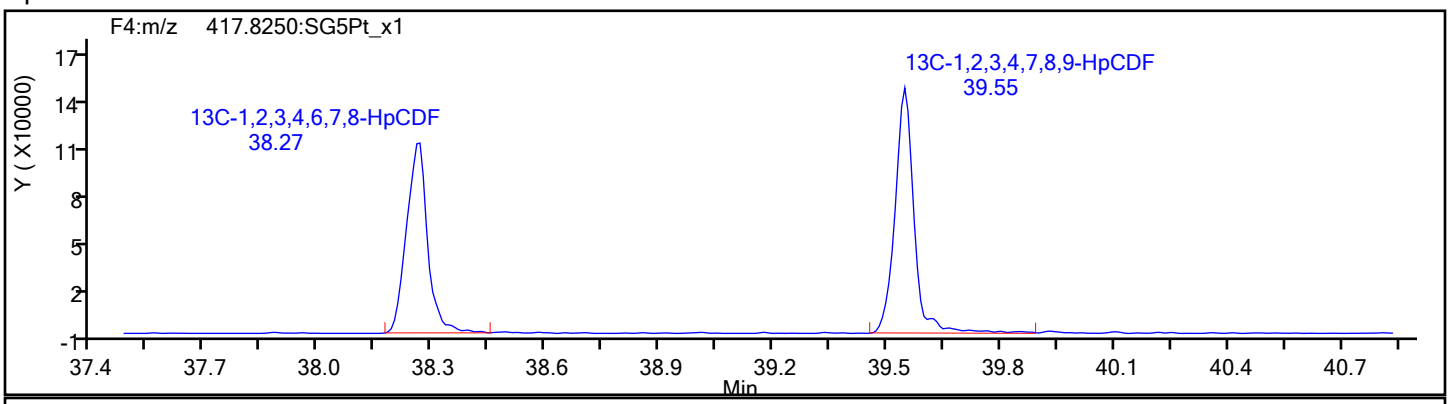
Column Type: DB-5 Column Dia: 0.32 mm

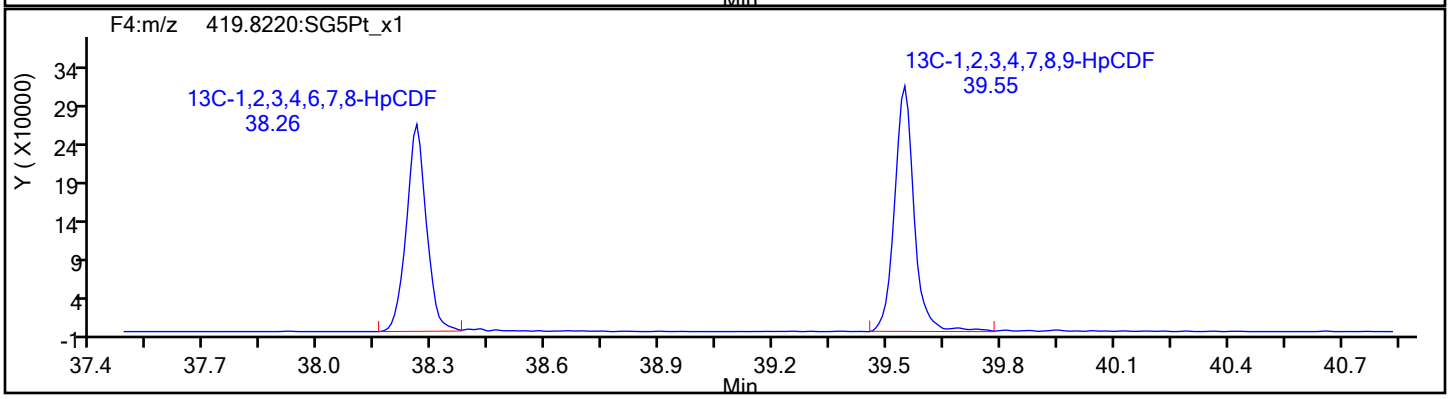
HpCDF





HpCDF Standards





Eurofins Sacramento

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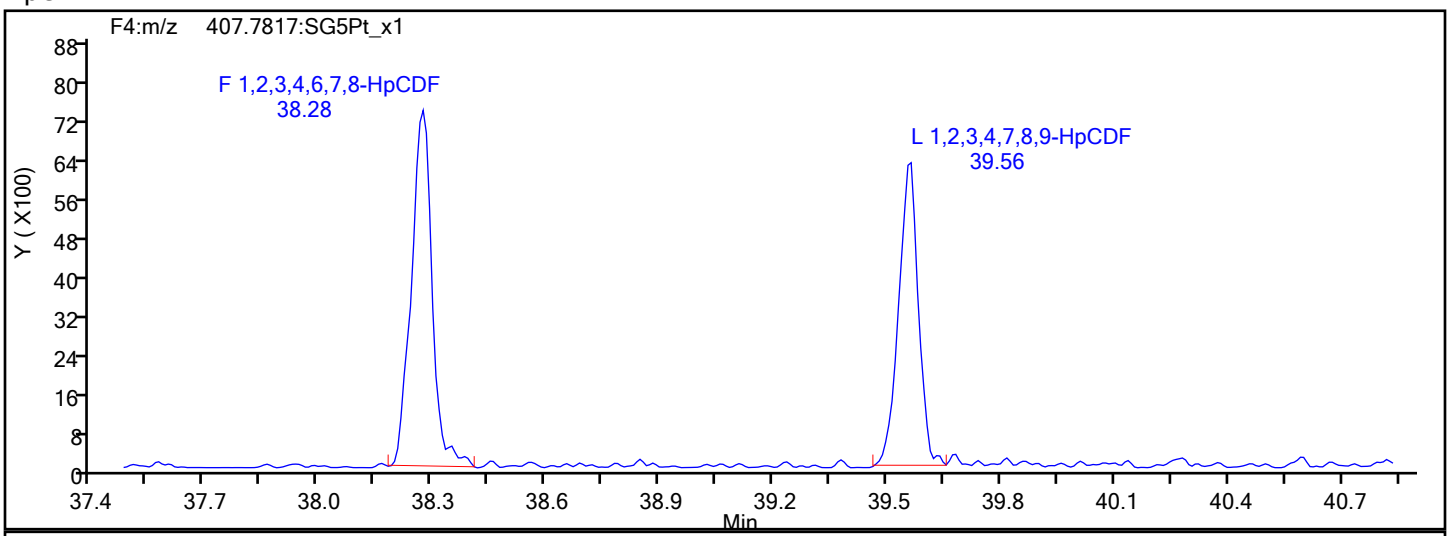
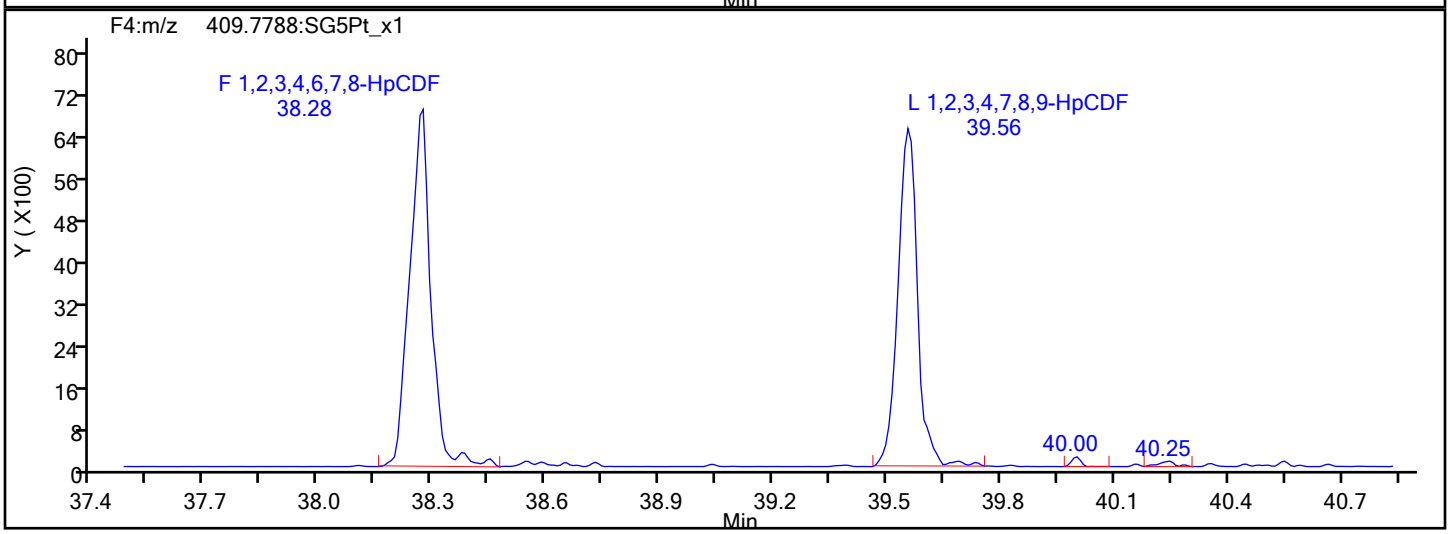
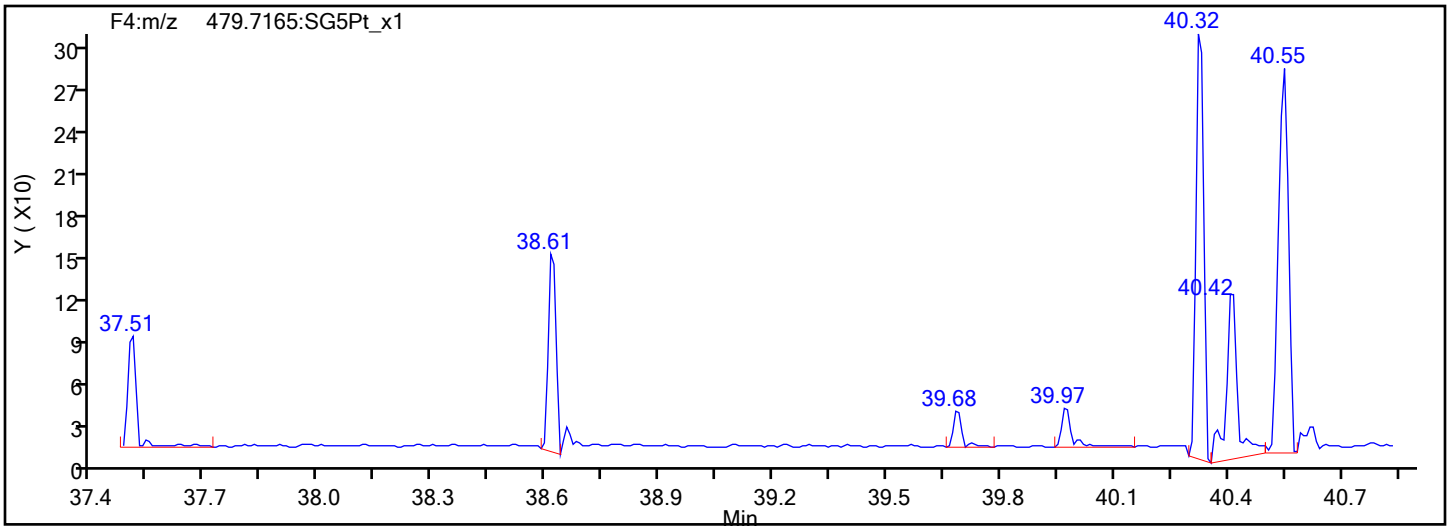
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

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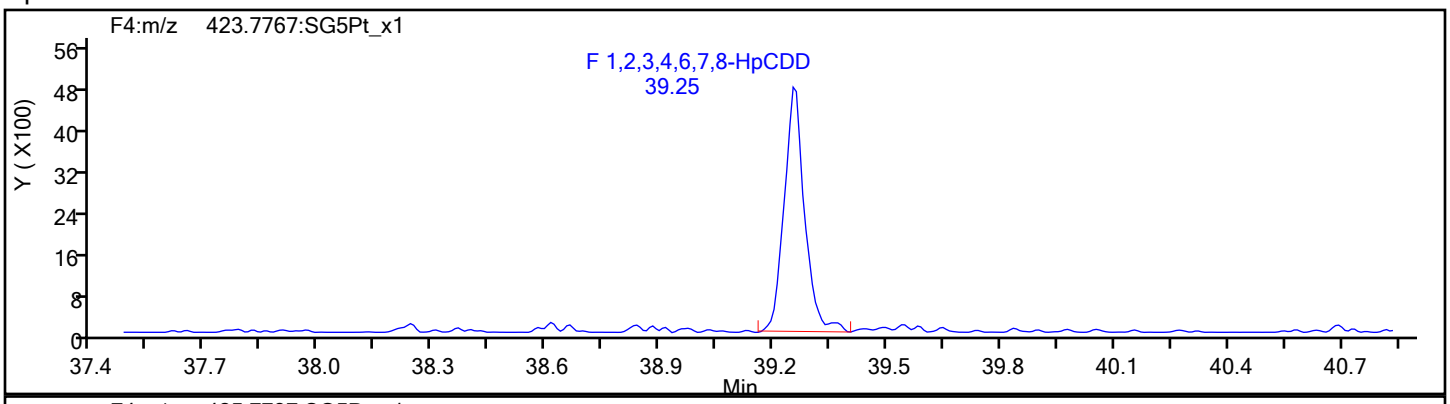
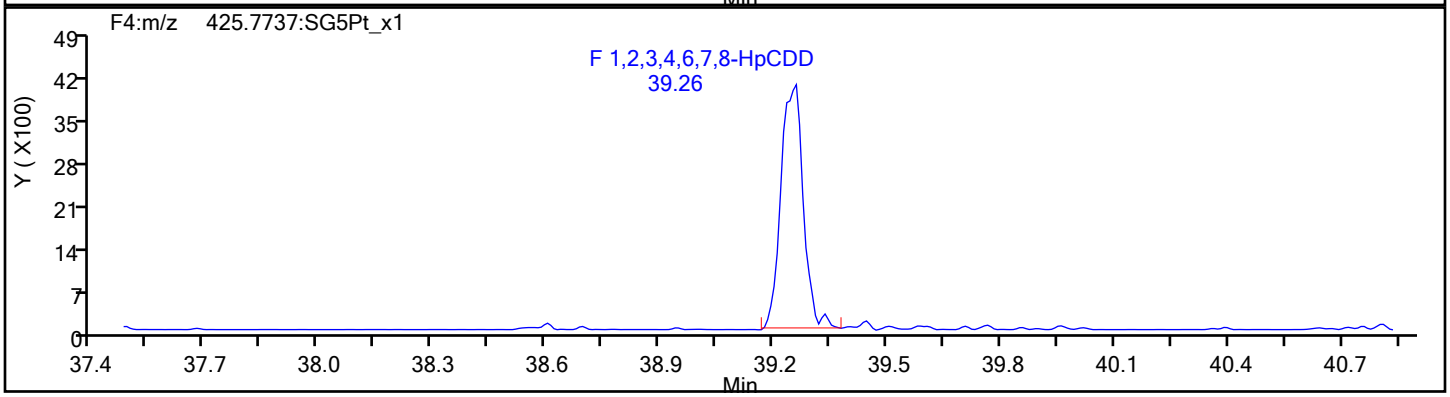
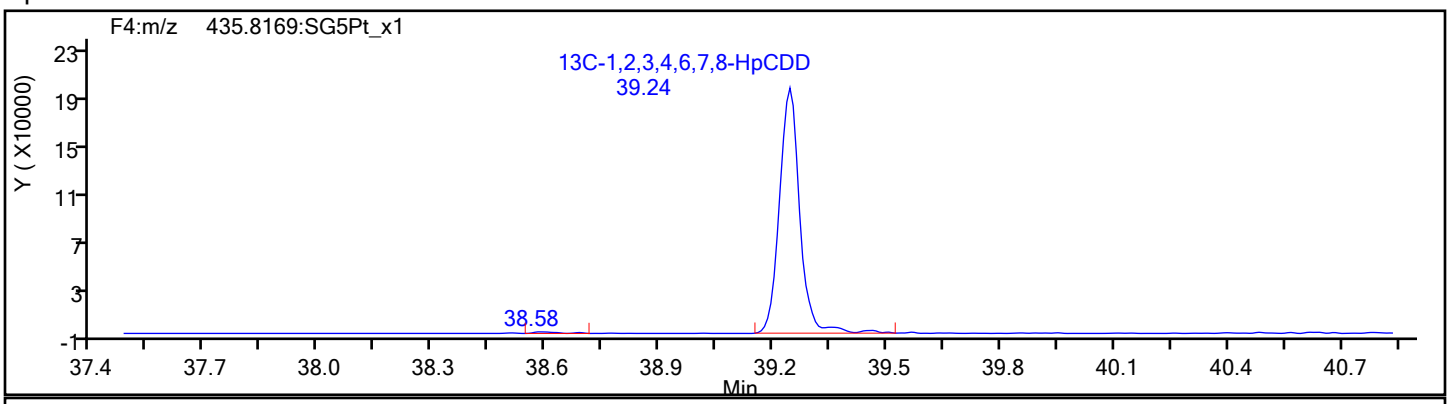
Injection Date: 13-Jan-2022 17:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

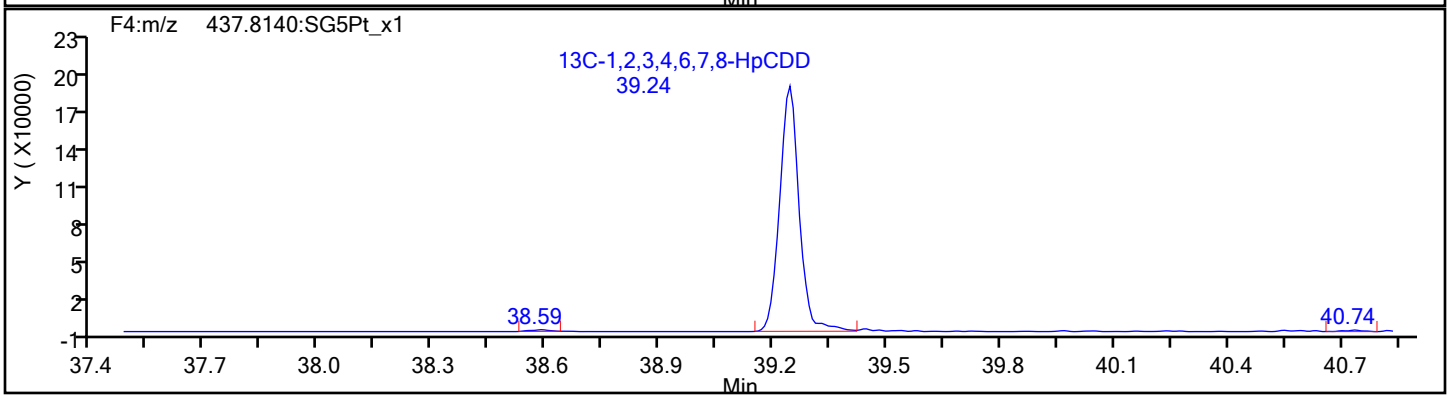
HpCDD





HpCDD Standards





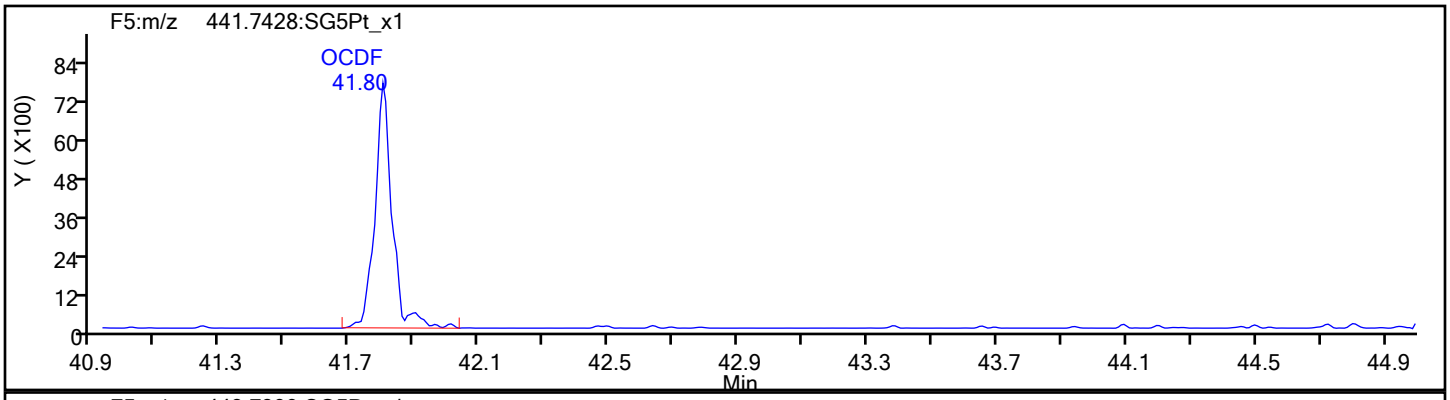
Report Date: 20-Jan-2022 15:58:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

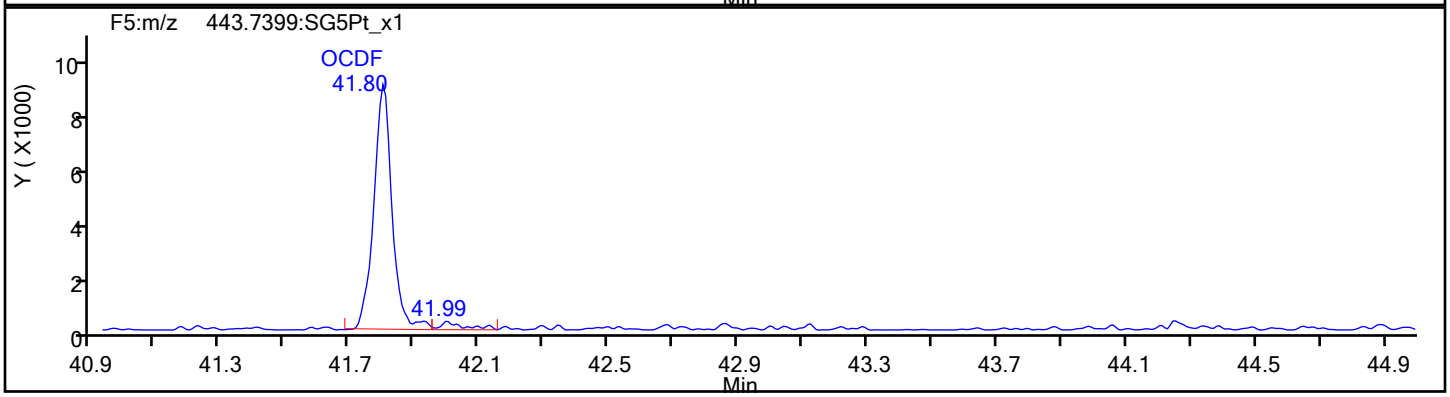
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

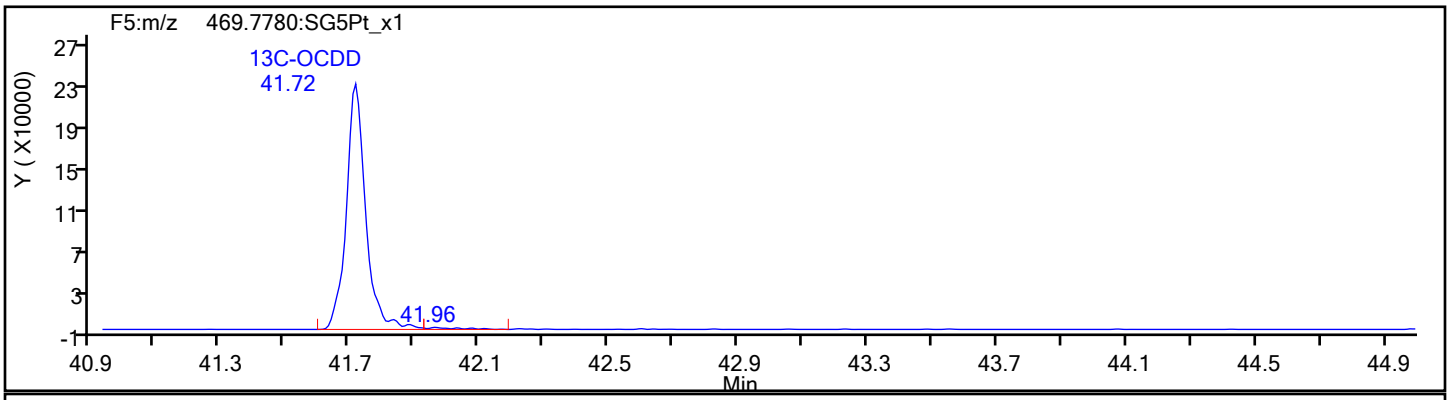
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

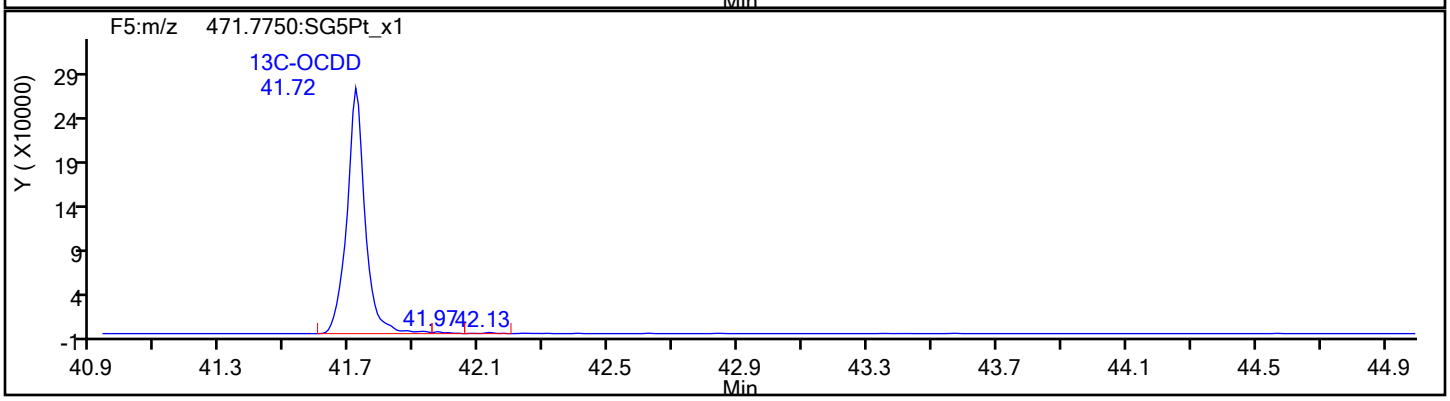
OCDF





OCDF Standards





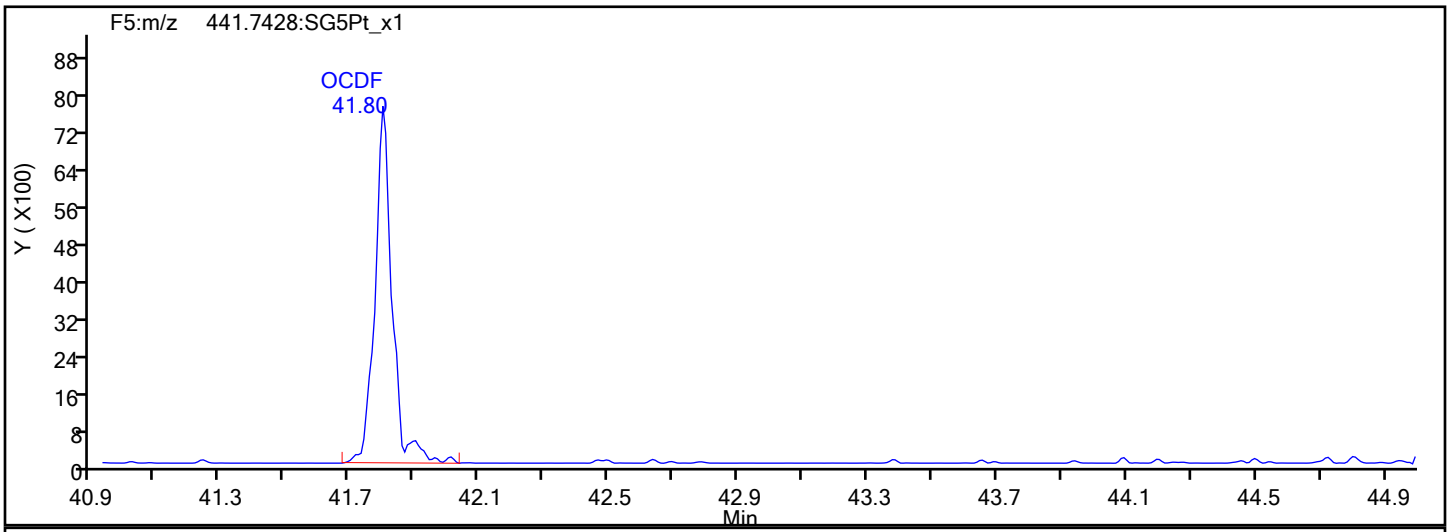
Report Date: 20-Jan-2022 15:58:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

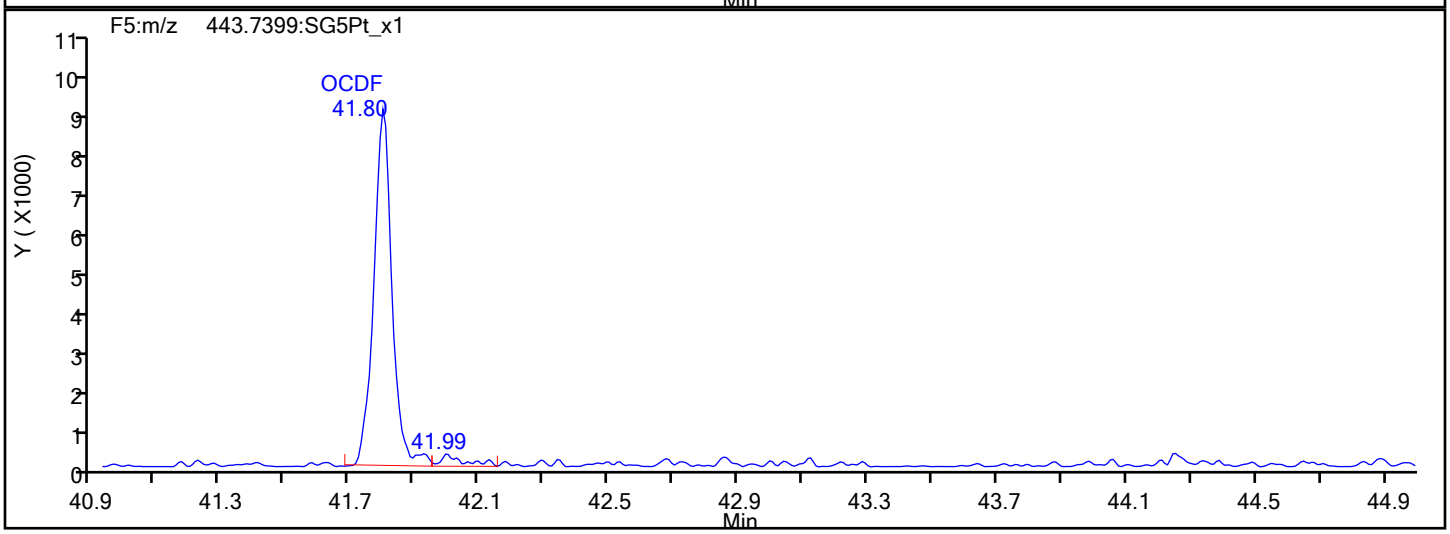
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

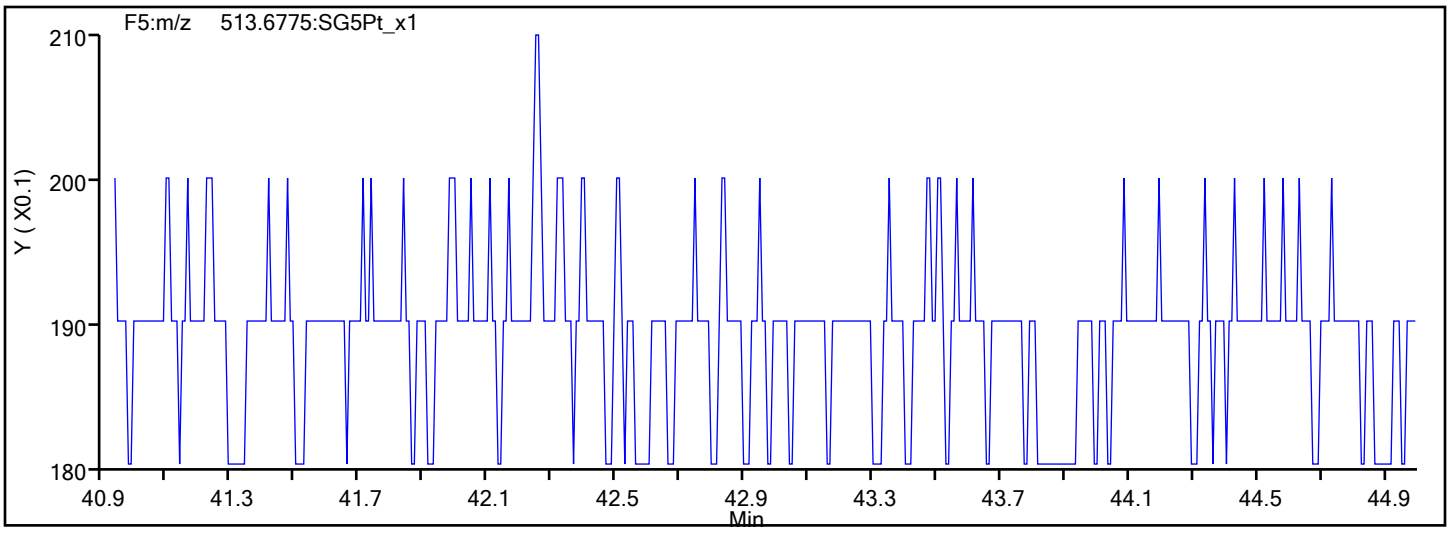
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



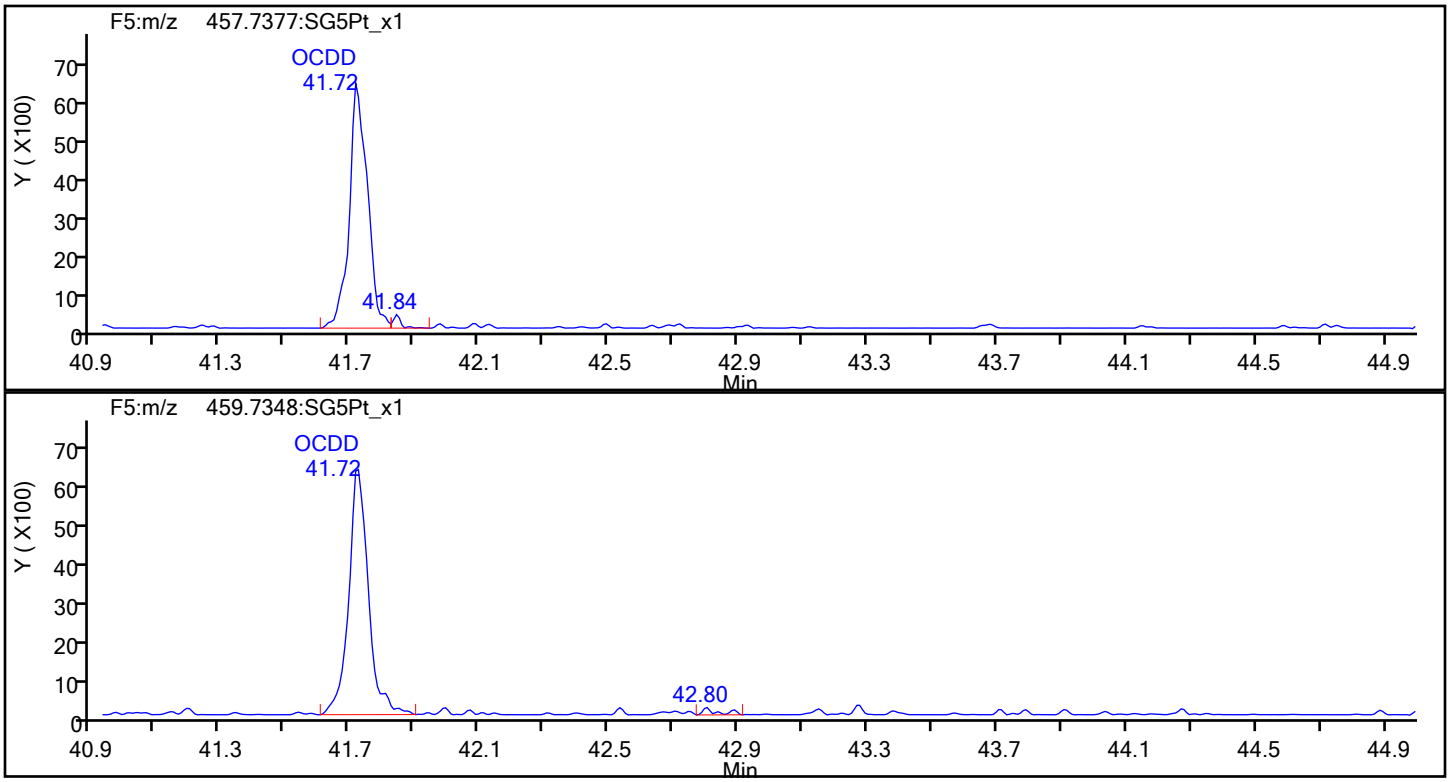
Report Date: 20-Jan-2022 15:58:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

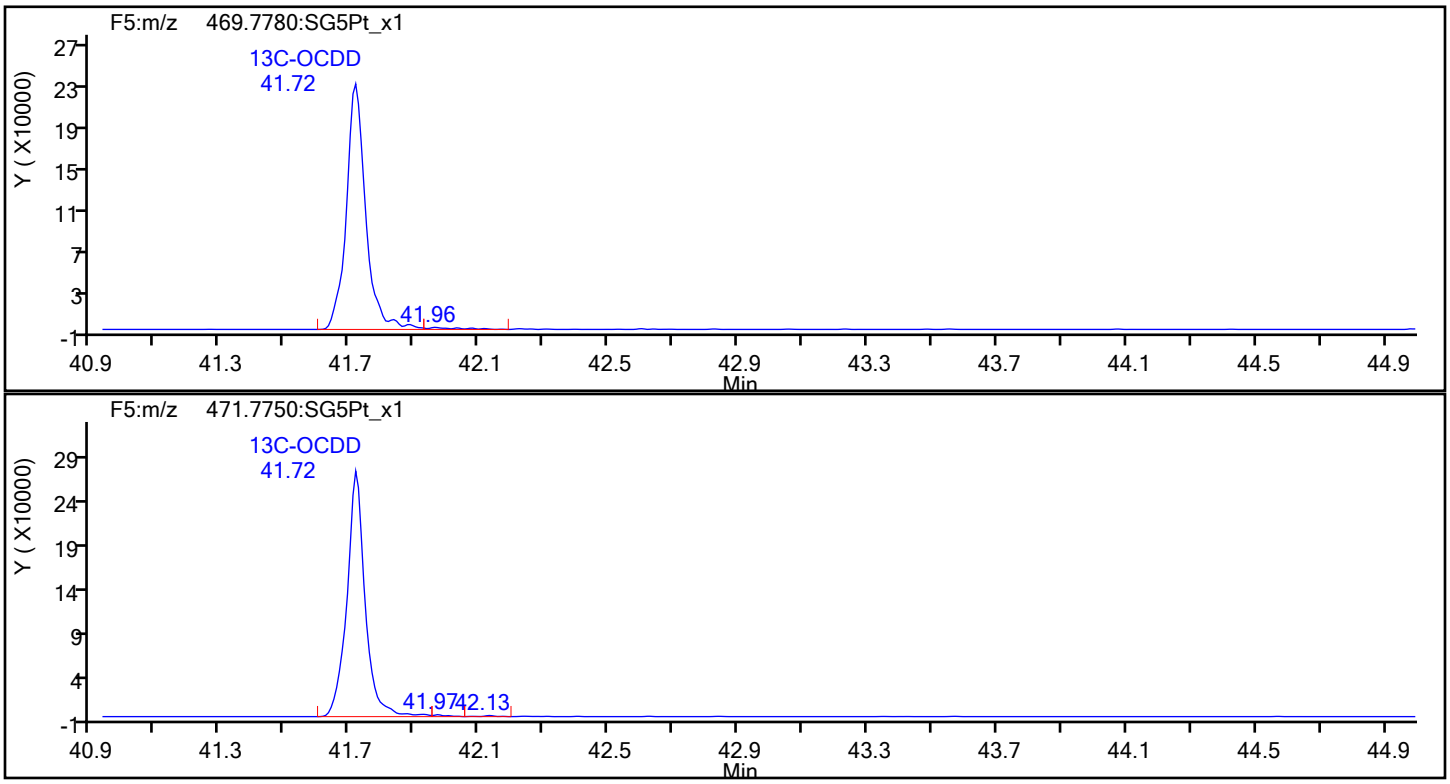
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD



OCDD Standards

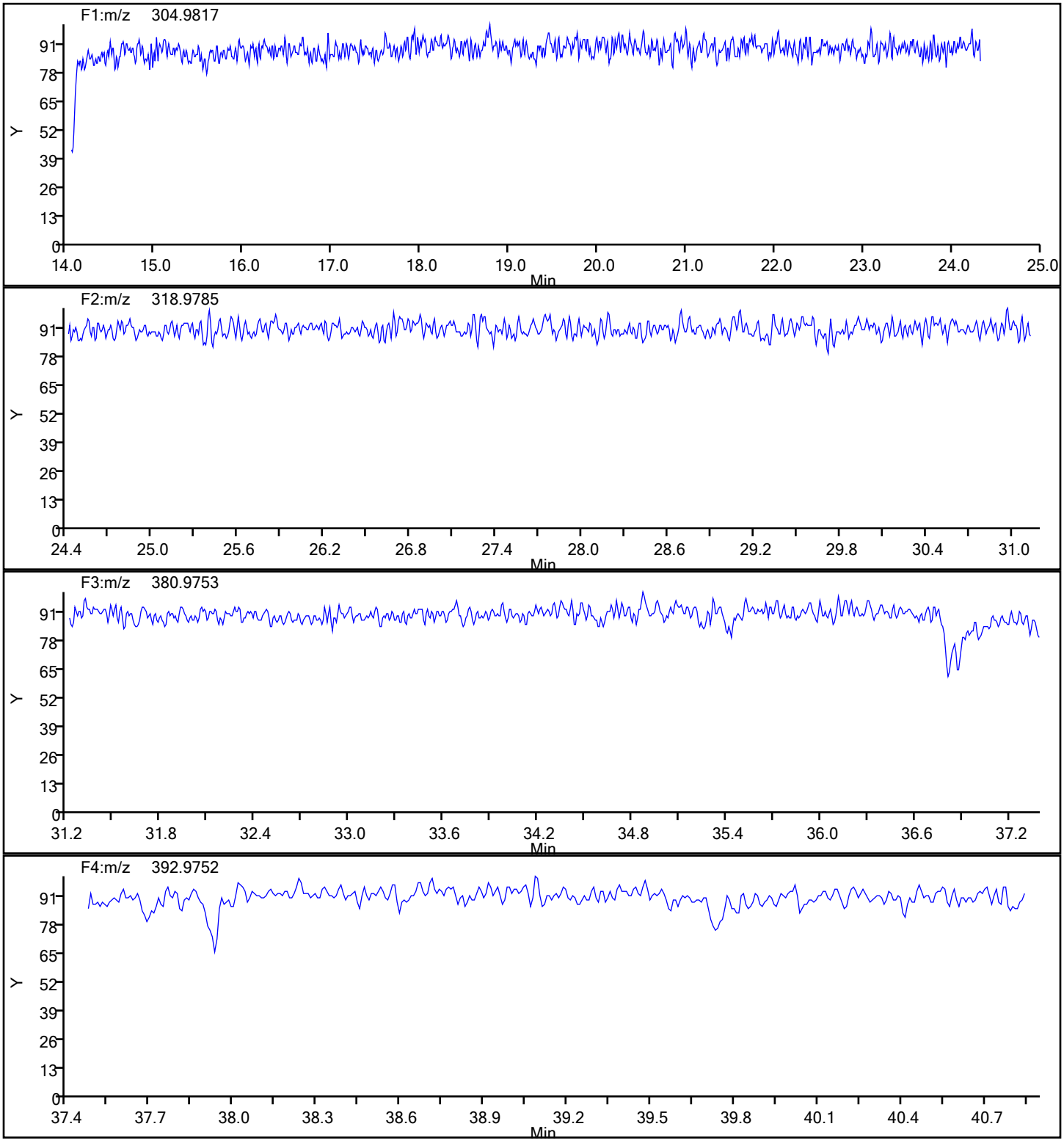


Report Date: 20-Jan-2022 15:58:37 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

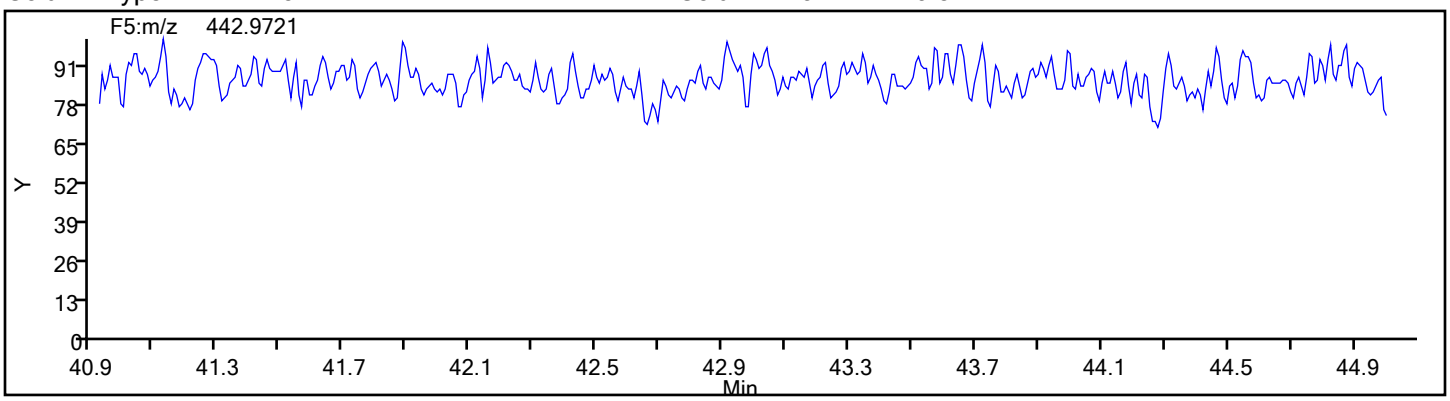
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 15:58:37 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d		
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Jan-2022 18:04:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS3_HRDXNL3_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:57 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:59:50

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.401	2919860	0.78	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.473	3059827	0.77	1.0164	103.1	103.1	0.6088	0.6088	103	
2,3,7,8-TCDF	19.508	65332	0.69	1.0120	2.110	2.110	0.0296	0.0296	105	
S Total TCDF					2.110	2.110	0.0296	0.0296		
D 13C-2,3,7,8-TCDD	20.779	2255968	0.74	0.7884	98.0	98.0	0.4658	0.4658	98.00	
$ 37Cl4-2,3,7,8-TCDD	20.805	48454		0.7911	2.098	2.098	0.0158	0.0158	105	
2,3,7,8-TCDD	20.796	49507	0.83	0.9906	2.215	2.215	0.0471	0.0471	111	M
S Total TCDD					2.215	2.215	0.0471	0.0471		
D 13C-1,2,3,7,8-PeCDF	26.477	2652010	1.57	0.9232	98.4	98.4	0.5756	0.5756	98.39	
1,2,3,7,8-PeCDF	26.494	281241	1.49	0.9756	10.9	10.9	0.0928	0.0928	109	
D 13C-2,3,4,7,8-PeCDF	27.934	3067672	1.56	1.0793	97.3	97.3	0.4923	0.4923	97.34	
2,3,4,7,8-PeCDF	27.959	266127	1.56	0.9215	10.9	10.9	0.0983	0.0983	109	
S Total PeCDF					21.8	21.8	0.0955	0.0955		
D 13C-1,2,3,7,8-PeCDD	28.734	1615939	1.60	0.5606	98.7	98.7	0.2957	0.2957	98.72	
1,2,3,7,8-PeCDD	28.743	171354	1.60	1.0020	10.6	10.6	0.0659	0.0659	106	M
S Total PeCDD					10.6	10.6	0.0659	0.0659		
D 13C-1,2,3,4,7,8-HxCDF	34.339	2200292	0.51	1.0566	98.9	98.9	0.4527	0.4527	98.86	
1,2,3,4,7,8-HxCDF	34.356	204340	1.38	0.8835	10.5	10.5	0.0861	0.0861	105	
D 13C-1,2,3,6,7,8-HxCDF	34.516	1978454	0.53	0.9686	97.0	97.0	0.4938	0.4938	96.97	
1,2,3,6,7,8-HxCDF	34.533	252078	1.23	1.0287	11.1	11.1	0.0739	0.0739	111	
D 13C-2,3,4,6,7,8-HxCDF	35.417	1877728	0.51	0.9084	98.1	98.1	0.5265	0.5265	98.13	
2,3,4,6,7,8-HxCDF	35.434	236411	1.20	0.9878	10.9	10.9	0.0770	0.0770	109	
D 13C-1,2,3,7,8,9-HxCDF	36.361	1754804	0.52	0.8248	101.0	101.0	0.5799	0.5799	101	
1,2,3,7,8,9-HxCDF	36.377	221680	1.23	0.9071	11.1	11.1	0.0839	0.0839	111	
S Total HxCDF					43.6	43.6	0.0802	0.0802		
* 13C-1,2,3,7,8,9-HxCDD	36.167	2106513	1.28	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.653	1680898	1.30	0.8133	98.1	98.1	0.4470	0.4470	98.11	
1,2,3,4,7,8-HxCDD	35.670	144907	1.33	0.8294	10.6	10.6	0.0694	0.0694	106	
D 13C-1,2,3,6,7,8-HxCDD	35.780	1640708	1.26	0.8027	97.0	97.0	0.4530	0.4530	97.04	
1,2,3,6,7,8-HxCDD	35.796	167823	1.21	0.9395	10.9	10.9	0.0613	0.0613	109	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.184	155294	1.23	0.9076	10.4	10.4	0.0634	0.0634	104	
S Total HxCDD					32.0	32.0	0.0647	0.0647		
D 13C-1,2,3,4,6,7,8-HpCDF	38.284	1314917	0.46	0.6421	97.2	97.2	0.7295	0.7295	97.22	
1,2,3,4,6,7,8-HpCDF	38.293	200857	1.03	1.4385	10.6	10.6	0.0859	0.0859	106	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.573	1588136	0.44	1.1706	103.2	103.2	0.5325	0.5325	103	
1,2,3,4,7,8,9-HpCDF	39.582	177369	1.06	1.2202	11.1	11.1	0.1013	0.1013	111	
S Total HpCDF					21.7	21.7	0.0936	0.0936		
D 13C-1,2,3,4,6,7,8-HpCDD	39.270	1280749	1.08	0.6246	97.3	97.3	0.4579	0.4579	97.34	
1,2,3,4,6,7,8-HpCDD	39.278	141402	1.02	0.9767	11.3	11.3	0.0534	0.0534	113	
S Total HpCDD					11.3	11.3	0.0534	0.0534		
D 13C-OCDD	41.749	1830337	0.85	0.4360	199.3	199.3	0.3919	0.3919	99.64	
OCDF	41.834	244695	0.89	1.2756	21.0	21.0	0.1002	0.1002	105	
OCDD	41.749	208726	0.89	1.0341	22.1	22.1	0.0713	0.0713	110	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

HRDXNL3_00030 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Jan-2022 18:04:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS3_HRDXNL3_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:57 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:59:50

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.401	20.418	-1		1280742	183196	408	1020	449		
333.9338	20.401	20.418	-1		1639118	257160	239	597	1076	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.473	19.485	-1	0.955	1328700	204673	758	1895	270		
317.9389	19.473	19.485	-1	0.955	1731127	246627	332	830	743	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.508	19.520	-1	1.002	26764	4060	10	25	406		
305.8987	19.508	19.520	-1	1.002	38568	6271	44	110	143	0.69(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.779	20.784	0	1.019	960636	135290	408	1020	332		
333.9338	20.771	20.784	-1	1.018	1295332	196697	239	597	823	0.74(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.805	20.809	0	1.020	48454	7249	22	55	330		
2,3,7,8-TCDD											M
319.8965	20.796	20.821	-1	1.001	22452	2768	54	135	51		
321.8936	20.788	20.821	-2	1.000	27055	3638	8	20	455	0.83(0.65-0.89)	M
13C-1,2,3,7,8-PeCDF											
351.9000	26.477	26.498	-1	1.298	1620758	262593	567	1417	463		
353.8970	26.477	26.498	-1	1.298	1031252	168108	369	922	456	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.494	26.518	-1	1.001	168302	26410	59	147	448		
341.8567	26.511	26.518	0	1.001	112939	15811	97	242	163	1.49(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.934	27.961	-2	1.369	1869718	283514	567	1417	500		
353.8970	27.926	27.961	-2	1.369	1197954	171589	369	922	465	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.959	27.984	-1	1.001	162130	23006	59	147	390		
341.8567	27.951	27.984	-2	1.001	103997	14755	97	242	152	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.734	28.754	-1	1.408	995214	147450	154	385	957		
369.8919	28.726	28.754	-2	1.408	620725	87135	138	345	631	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											M
355.8546	28.743	28.781	-2	1.000	105404	13818	50	125	276		
357.8516	28.760	28.781	-1	1.001	65950	8872	12	30	739	1.60(1.32-1.78)	M
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.339	34.357	-1	0.949	744055	148201	342	855	433		
385.8610	34.339	34.357	-1	0.949	1456237	275081	492	1230	559	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.356	34.374	-1	1.000	118416	21892	87	217	252		
375.8178	34.365	34.374	-1	1.001	85924	16145	42	105	384	1.38(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.516	34.533	-1	0.954	684248	127241	342	855	372		
385.8610	34.516	34.533	-1	0.954	1294206	225298	492	1230	458	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.533	34.553	-1	1.000	138906	23485	87	217	270		
375.8178	34.542	34.553	-1	1.001	113172	17495	42	105	417	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.417	35.421	0	0.979	630543	132518	342	855	387		
385.8610	35.417	35.421	0	0.979	1247185	267423	492	1230	544	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.434	35.438	0	1.000	128963	24988	87	217	287		
375.8178	35.434	35.438	0	1.000	107448	21429	42	105	510	1.20(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.361	36.366	0	1.005	597392	137903	342	855	403		
385.8610	36.369	36.366	0	1.006	1157412	247400	492	1230	503	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.377	36.385	0	1.000	122378	26435	87	217	304		
375.8178	36.377	36.385	0	1.000	99302	20143	42	105	480	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.167	36.172	0		1184232	246388	425	1062	580		
403.8529	36.167	36.172	0		922281	189566	209	522	907	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.653	35.661	0	0.986	950128	219478	425	1062	516		
403.8529	35.653	35.661	0	0.986	730770	168404	209	522	806	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.670	35.676	0	1.000	82754	18294	42	105	436		
391.8127	35.670	35.676	0	1.000	62153	14065	36	90	391	1.33(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.780	35.787	0	0.989	915685	196402	425	1062	462		
403.8529	35.771	35.787	-1	0.989	725023	142211	209	522	680	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.796	35.802	0	1.000	91743	18577	42	105	442		
391.8127	35.796	35.802	0	1.000	76080	15673	36	90	435	1.21(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.184	36.191	0	1.015	85700	18853	42	105	449		
391.8127	36.175	36.191	-1	1.015	69594	14337	36	90	398	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.284	38.287	0	1.059	412701	103450	357	892	290		
419.8220	38.284	38.287	0	1.059	902216	224172	460	1150	487	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.293	38.299	0	1.000	101864	25714	98	245	262		
409.7788	38.293	38.299	0	1.000	98993	25984	64	160	406	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.573	39.570	0	1.094	483016	139383	357	892	390		
419.8220	39.573	39.570	0	1.094	1105120	308174	460	1150	670	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.582	39.584	0	1.000	91165	24150	98	245	246		
409.7788	39.582	39.584	0	1.000	86204	22146	64	160	346	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.270	39.269	0	1.086	665847	178570	261	652	684		
437.8140	39.270	39.269	0	1.086	614902	157197	238	595	660	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.278	39.277	0	1.000	71489	18420	44	110	419		
425.7737	39.278	39.277	0	1.000	69913	19337	26	65	744	1.02(0.88-1.20)	
13C-OCDD											
469.7780	41.749	41.743	0	1.154	839878	196954	199	497	990		
471.7750	41.741	41.743	0	1.154	990459	228836	99	247	2311	0.85(0.76-1.02)	
OCDF											
441.7428	41.834	41.826	0	1.002	115408	27496	42	105	655		
443.7399	41.825	41.826	0	1.002	129287	31118	67	167	464	0.89(0.76-1.02)	
OCDD											
457.7377	41.749	41.748	0	1.000	98101	22907	26	65	881		
459.7348	41.758	41.748	1	1.000	110625	25019	37	92	676	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

HRDXNL3_00030 Amount Added: 1.00 Units: ml

Manual Integration/User Assign Peak Report

Eurofins Sacramento

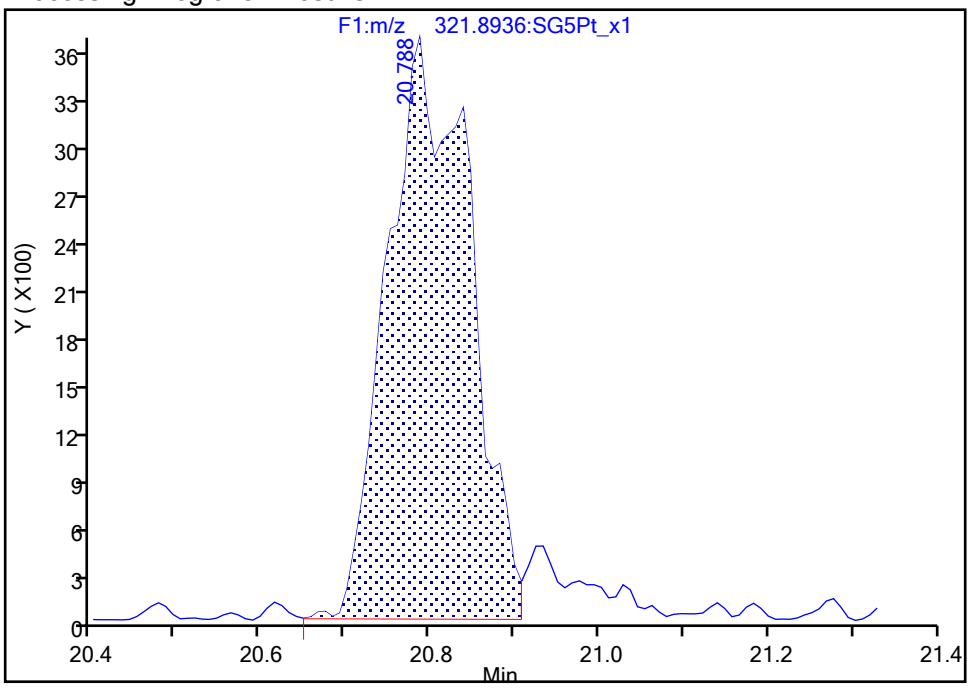
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

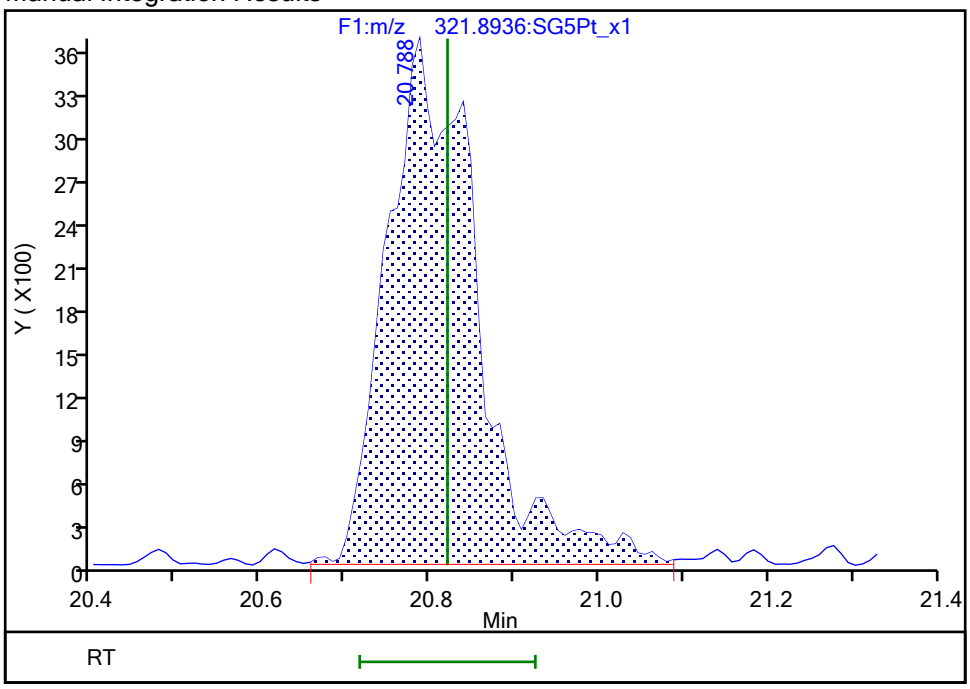
Processing Integration Results

RT: 20.79
Area: 24840
Amount: 2.171902
Amount Units: pg/ul



Manual Integration Results

RT: 20.79
Area: 27055
Amount: 2.215248
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:11:55
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

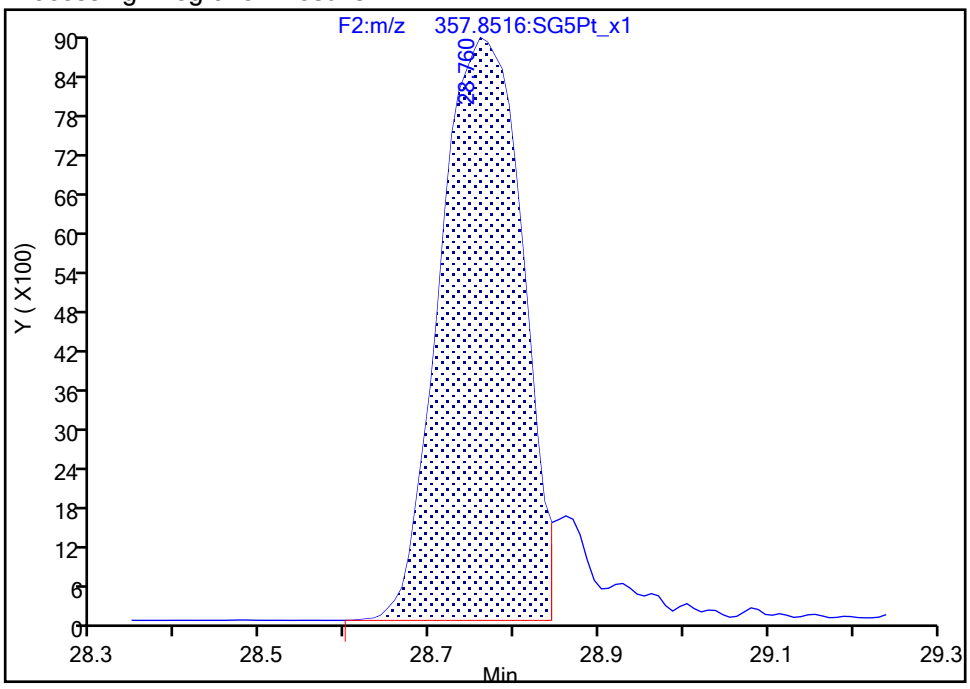
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F2(26.07 :33.00)

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

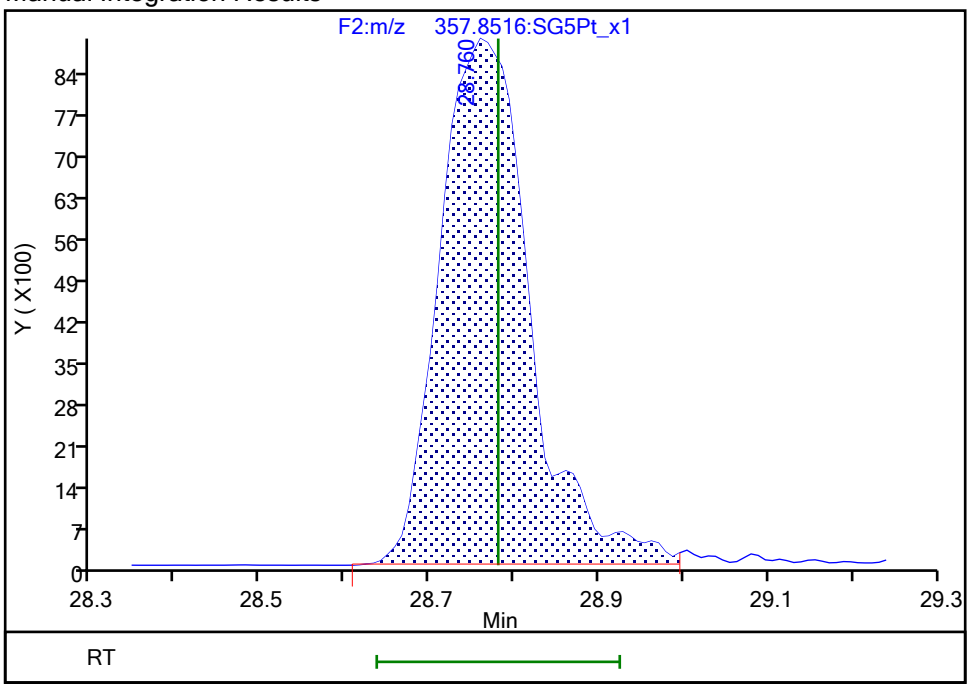
Processing Integration Results

RT: 28.76
Area: 59908
Amount: 10.286219
Amount Units: pg/ul



Manual Integration Results

RT: 28.76
Area: 65950
Amount: 10.582600
Amount Units: pg/ul

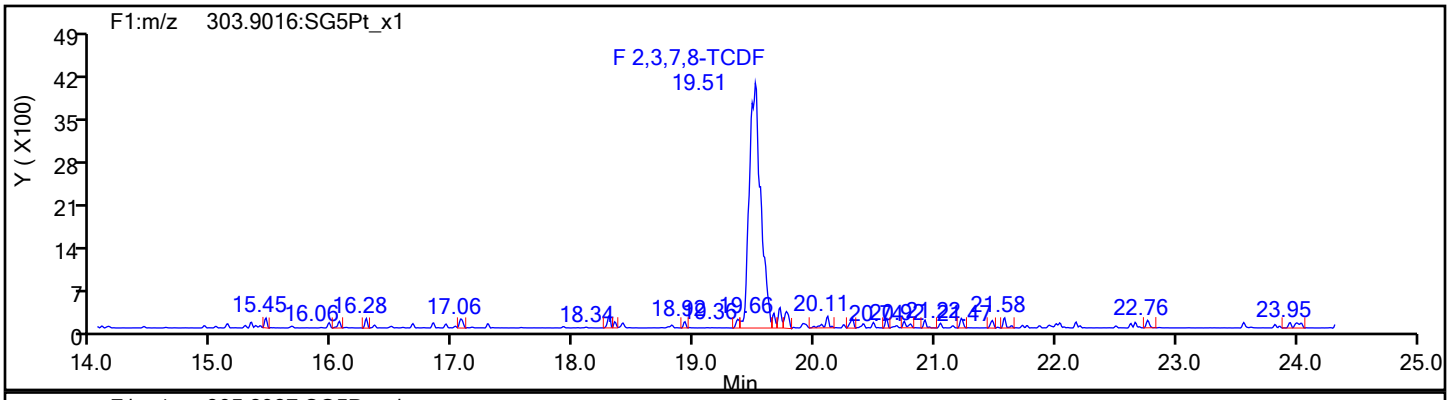


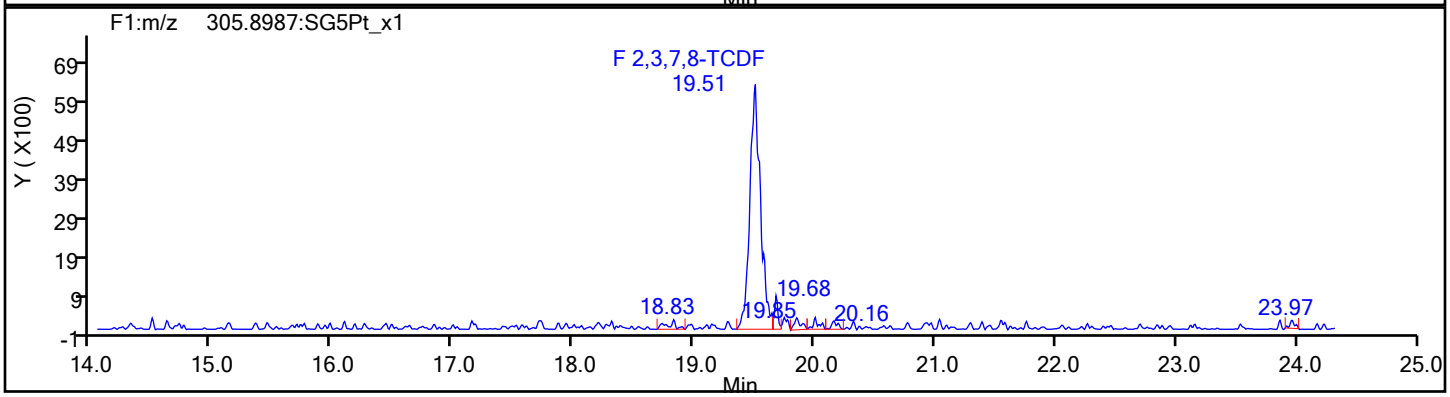
Reviewer: bilottag, 18-Jan-2022 12:12:07
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins Sacramento

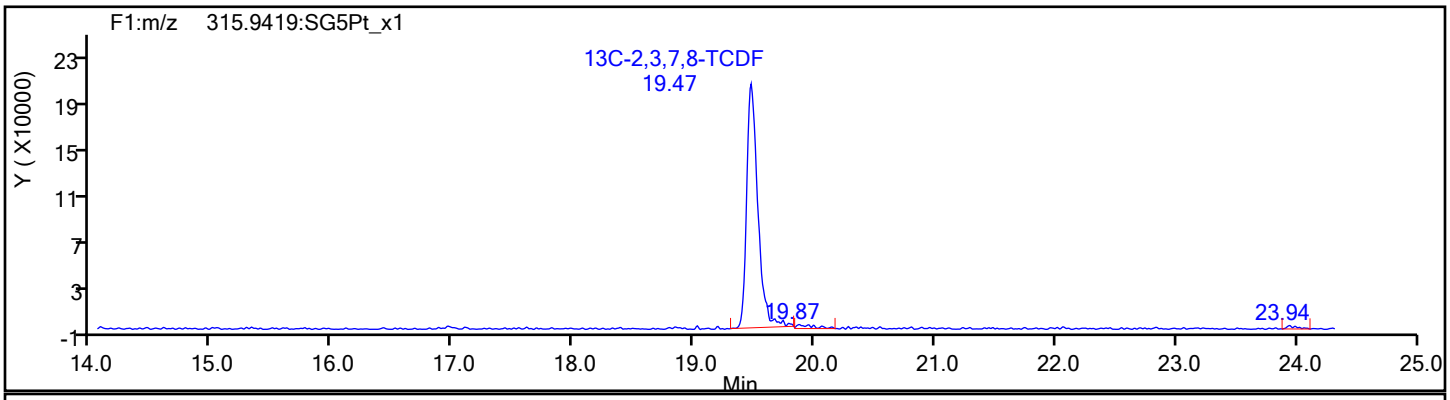
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

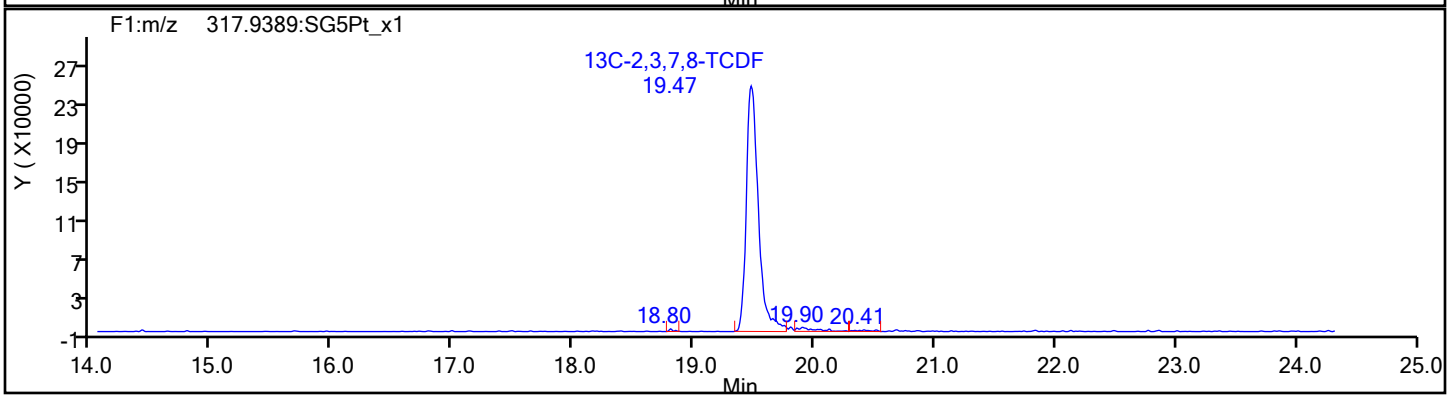
TCDF





TCDF Standards

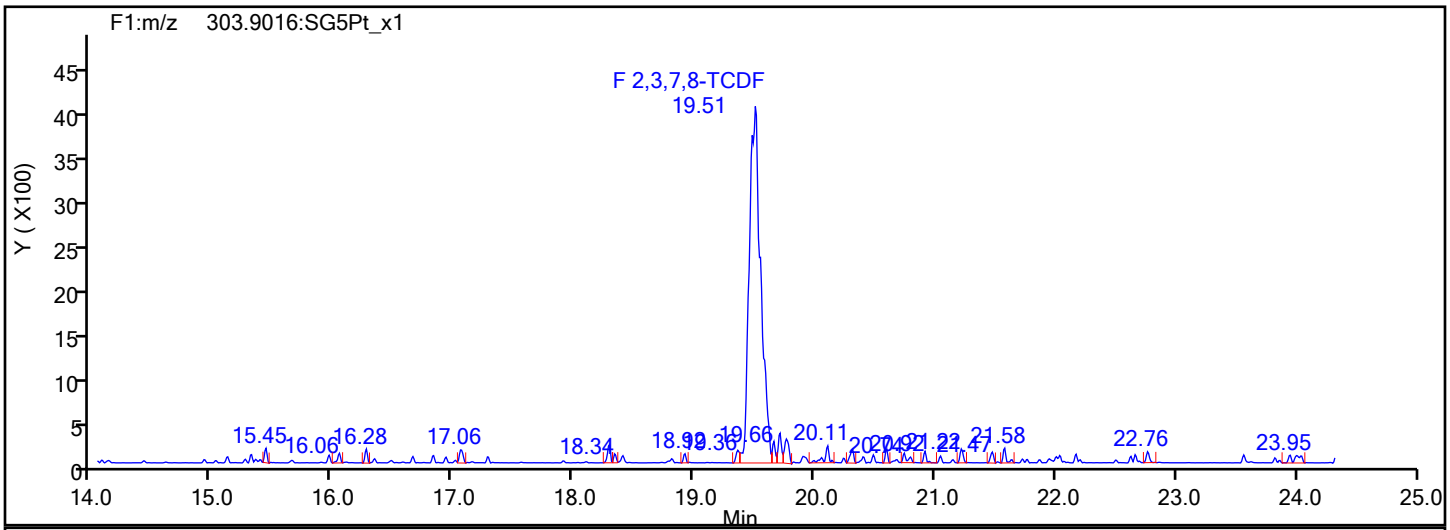


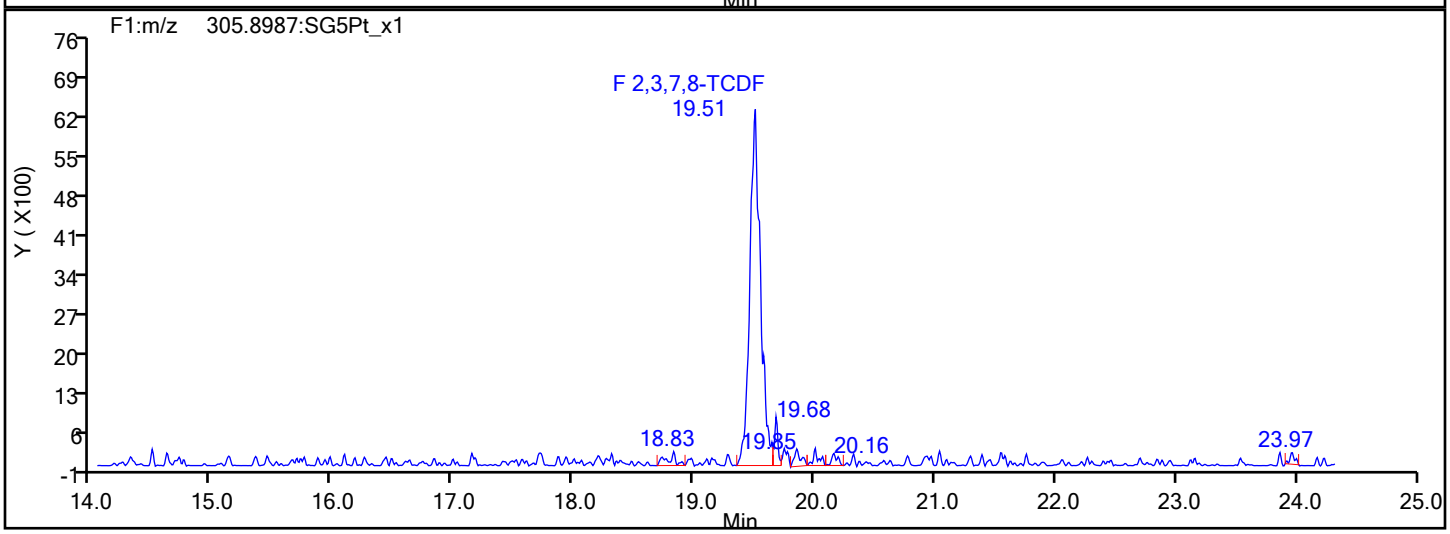


Eurofins Sacramento

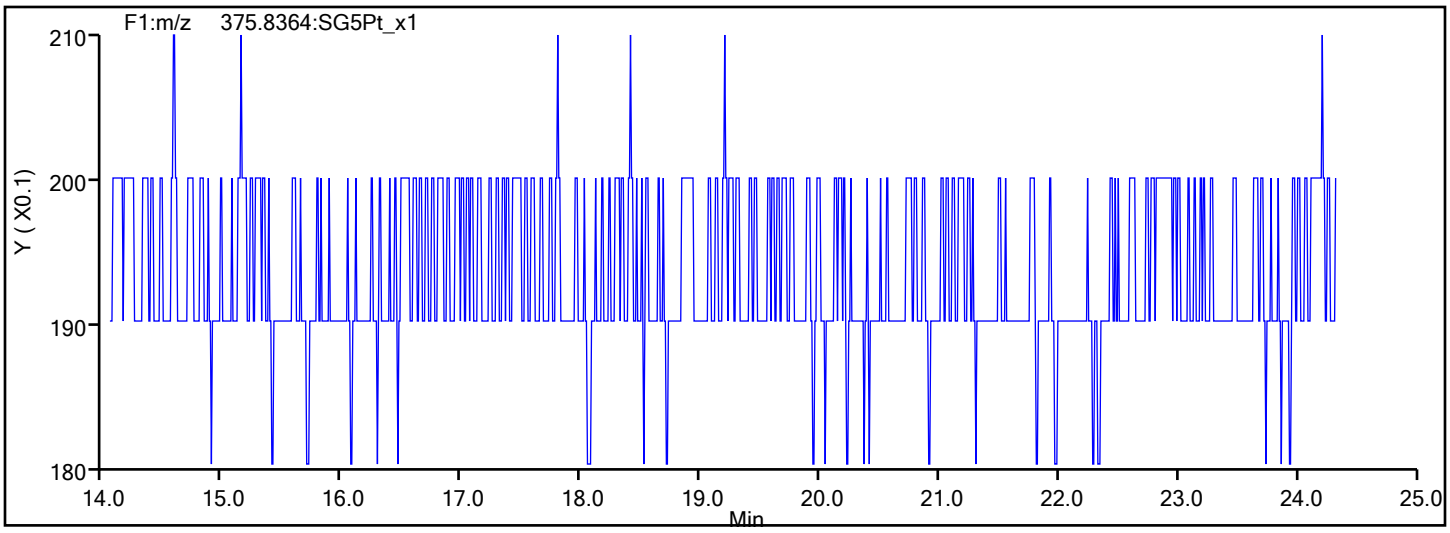
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d		
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



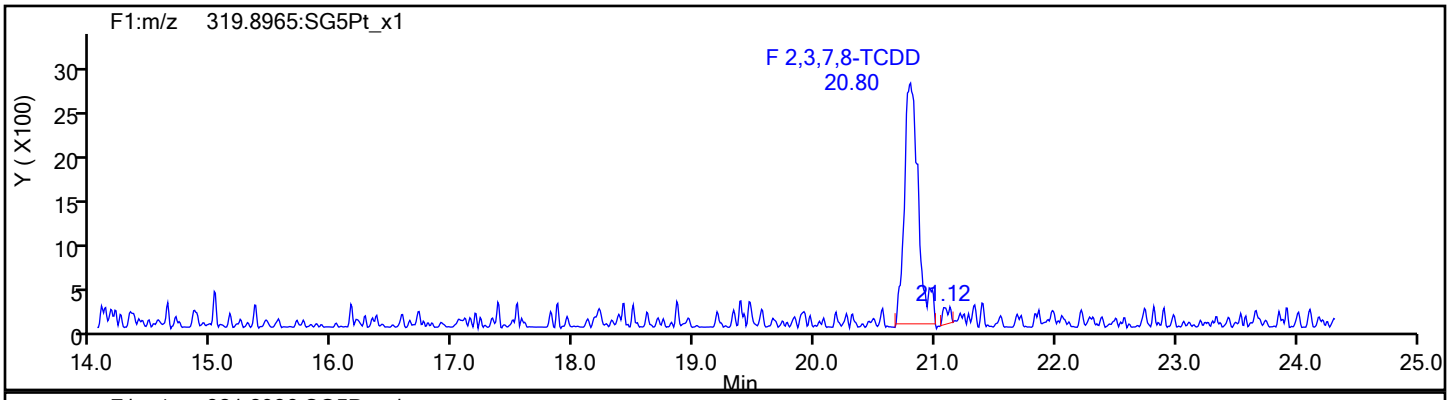
Report Date: 20-Jan-2022 15:59:01 Chrom Revision: 2.3 18-Jan-2022 20:25:40

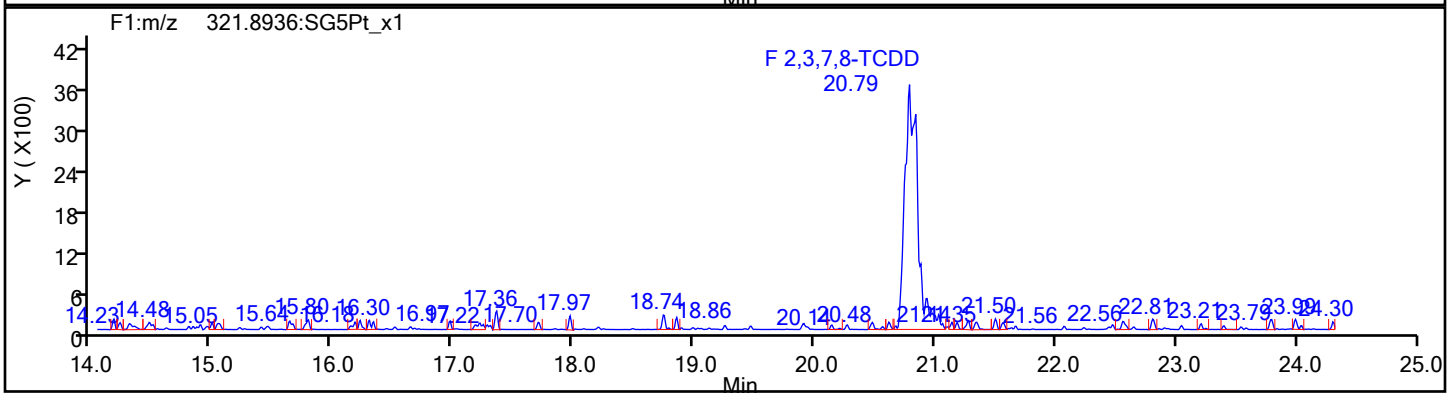
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

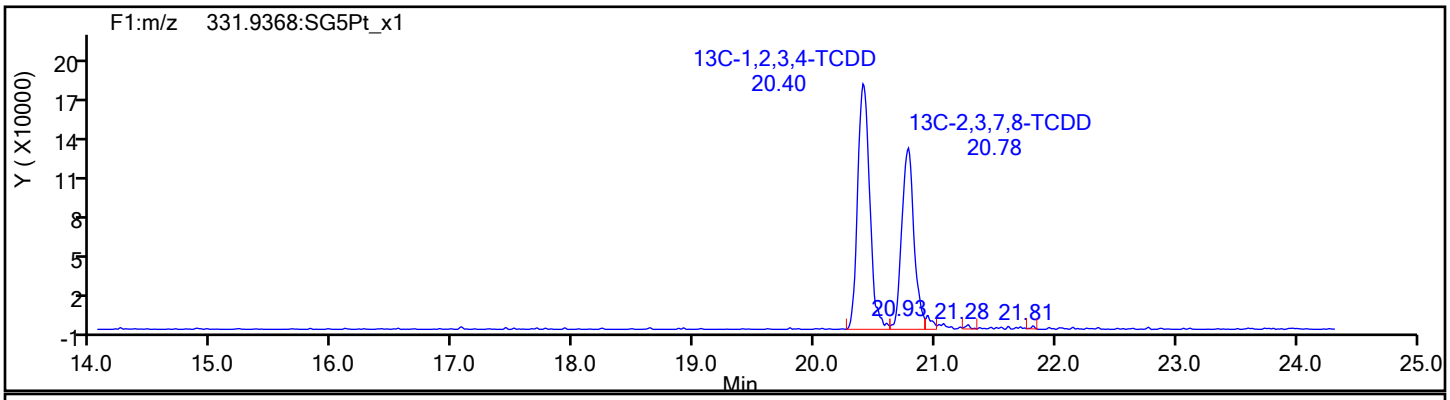
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

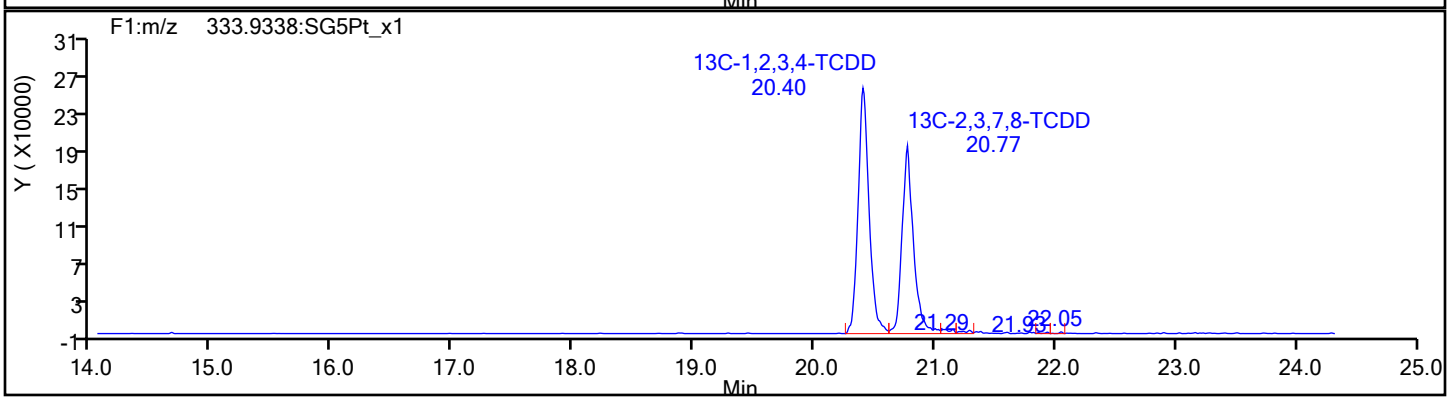
TCDD





TCDD Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d		
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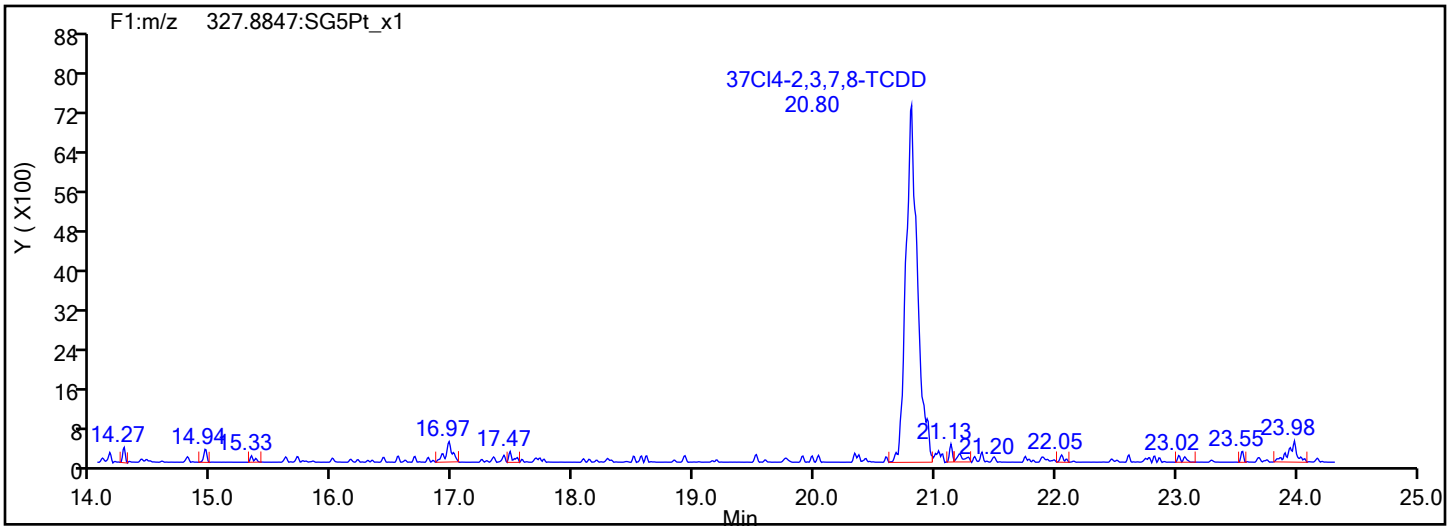
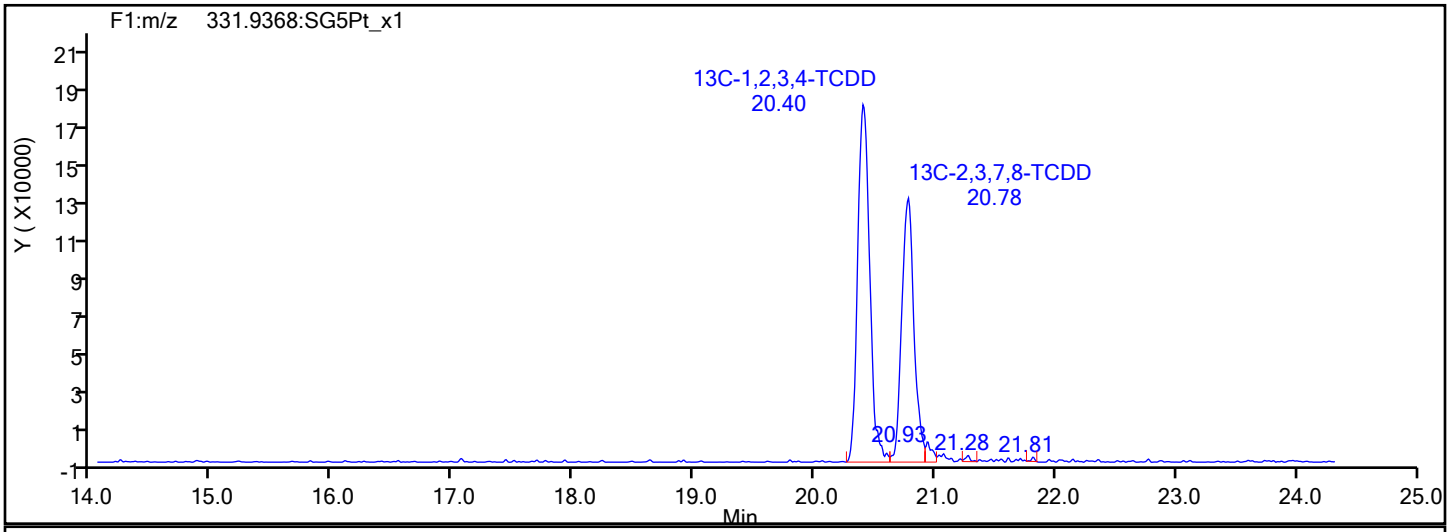
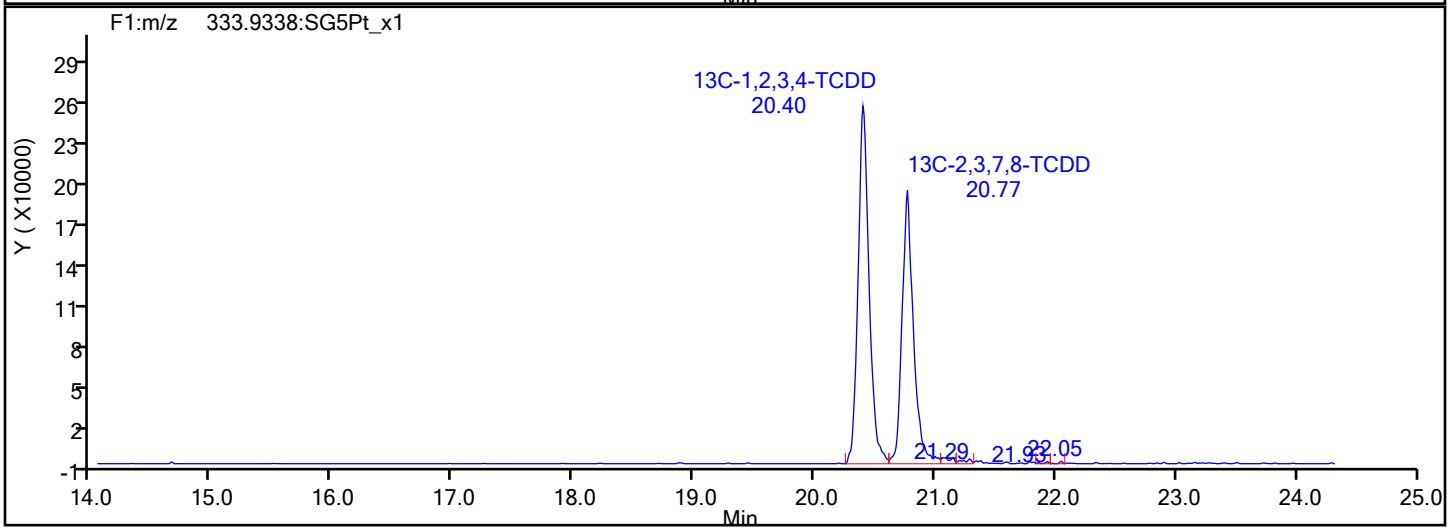
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





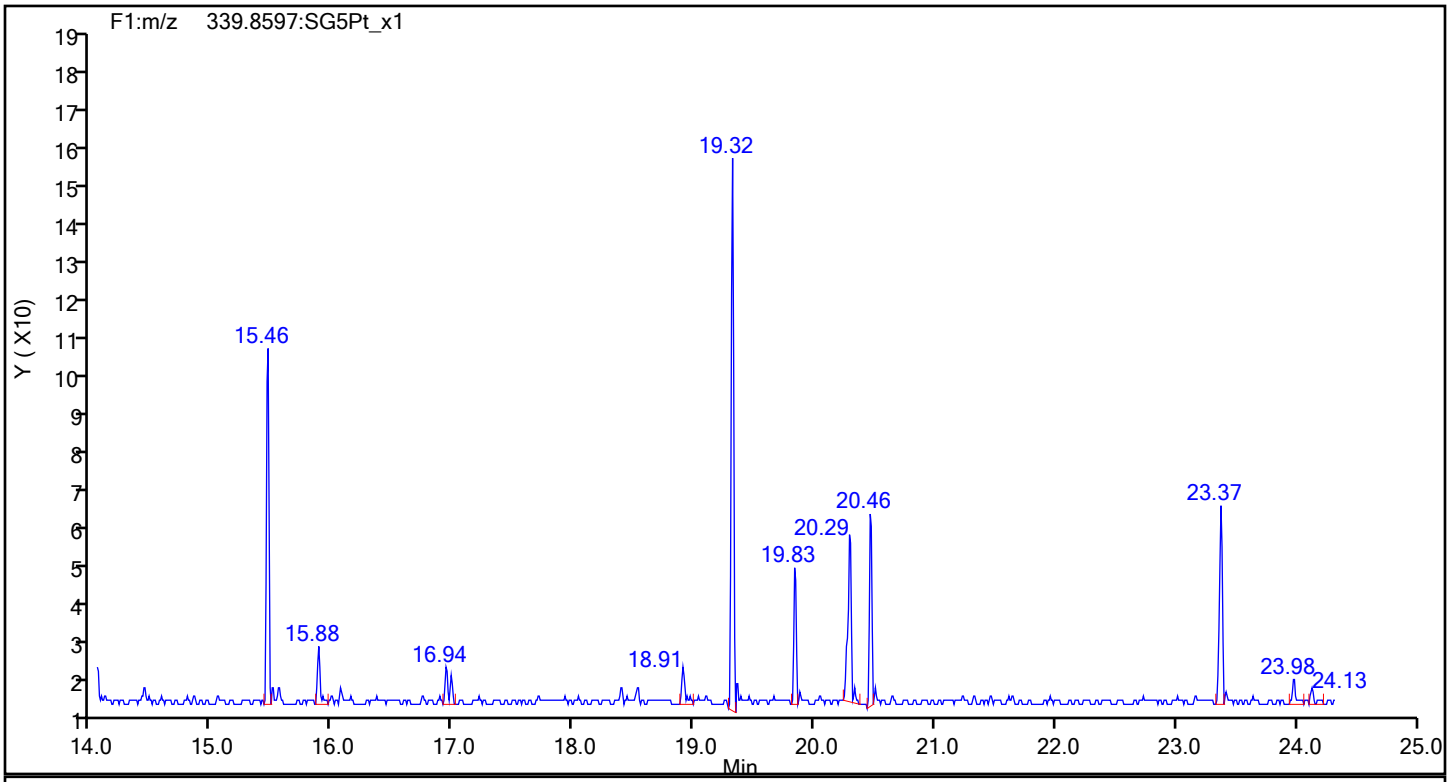
Report Date: 20-Jan-2022 15:59:02 Chrom Revision: 2.3 18-Jan-2022 20:25:40

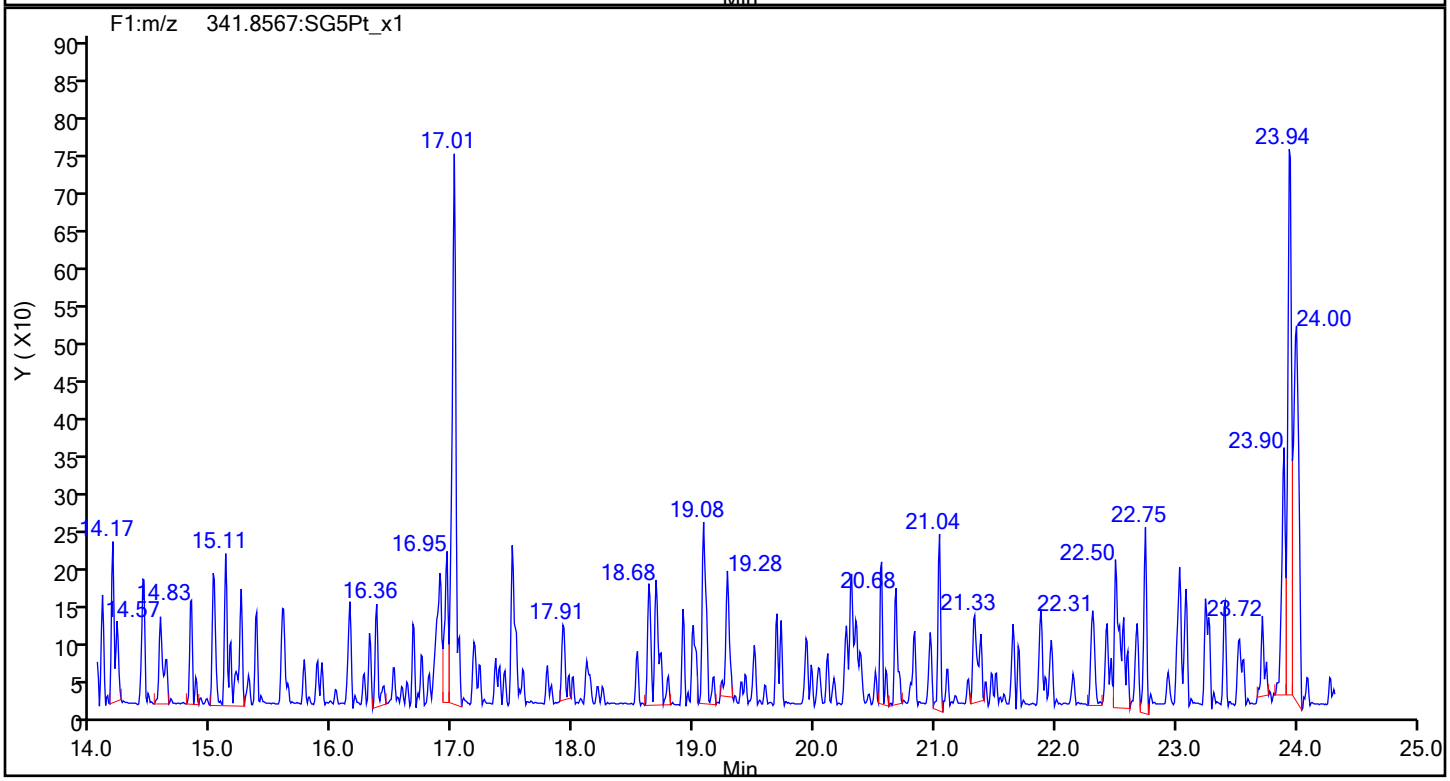
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

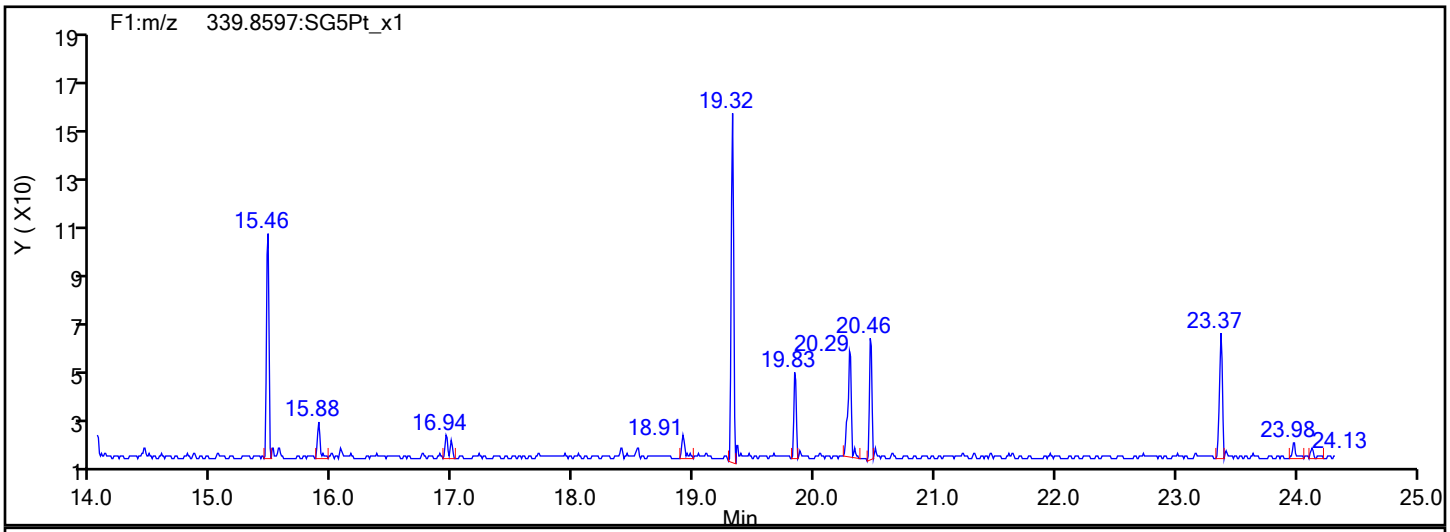


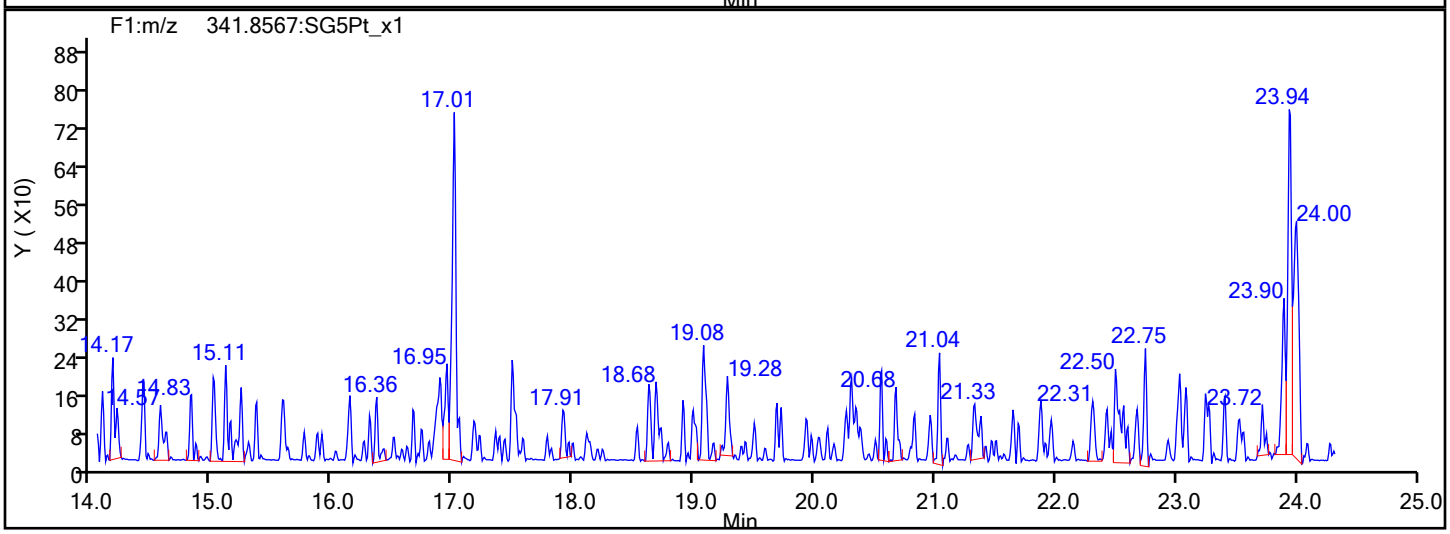


Eurofins Sacramento

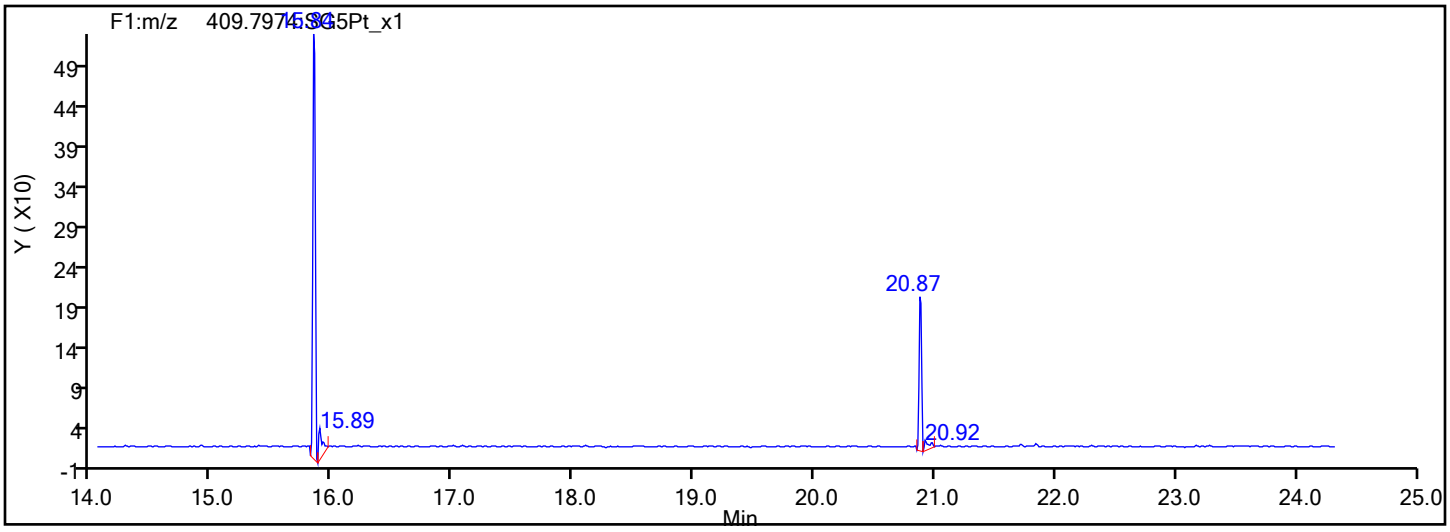
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs





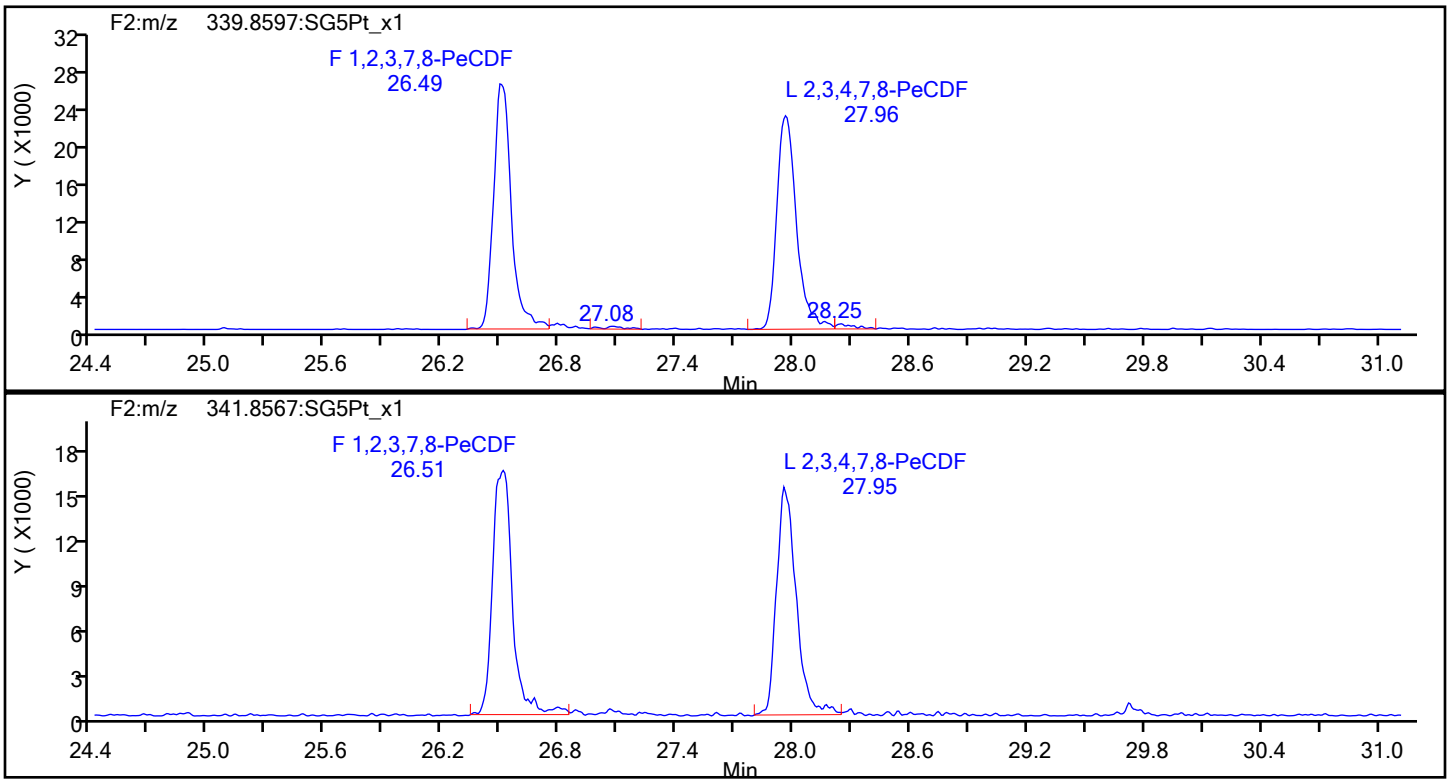
F1 PeCDFs Interference Mass



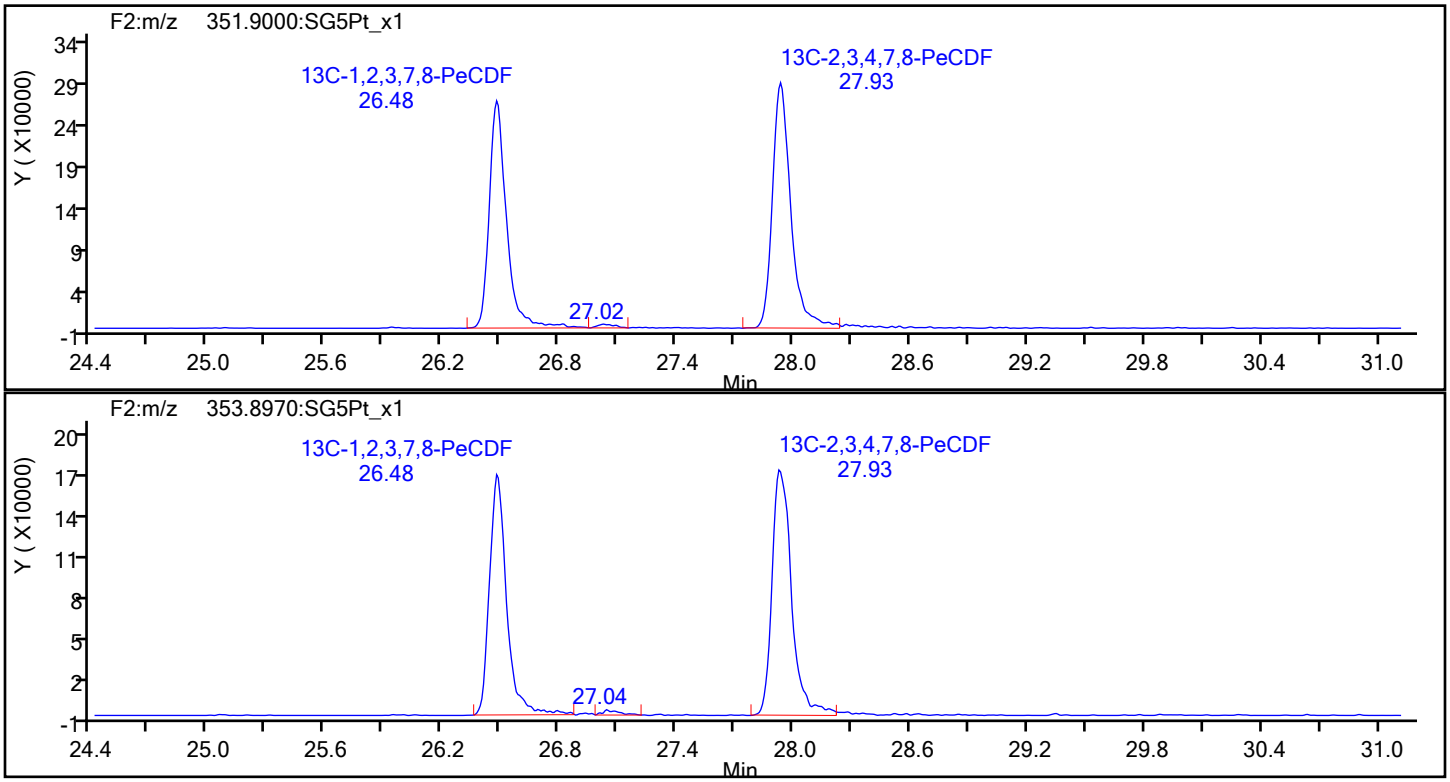
Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d		
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



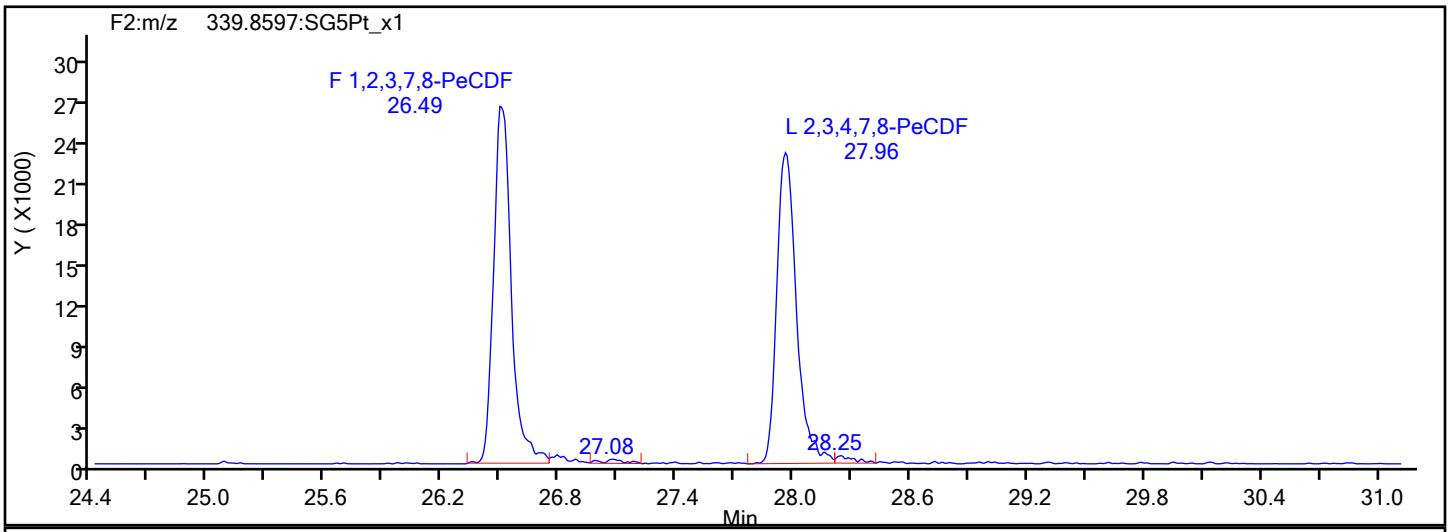
PeCDF Standards

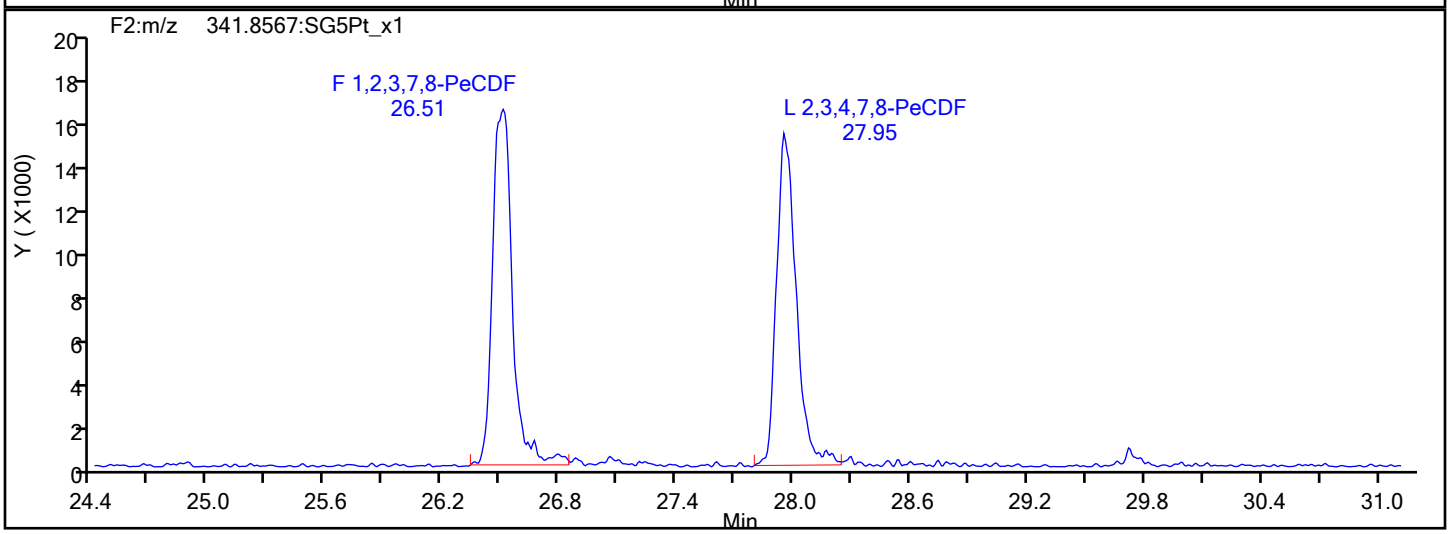


Eurofins Sacramento

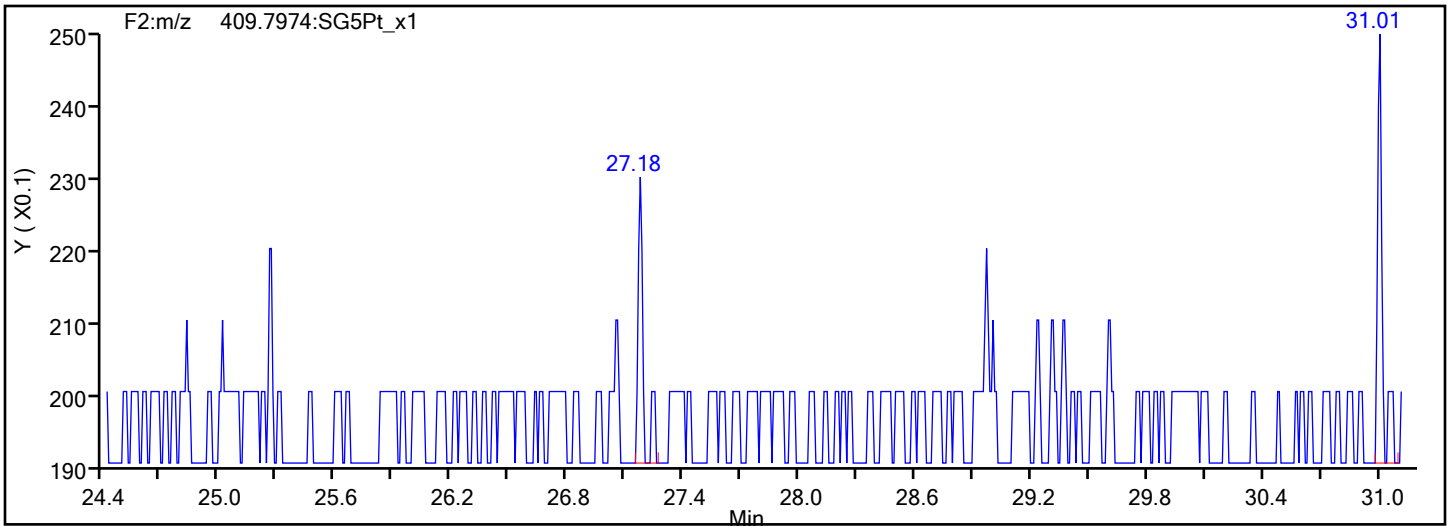
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d		
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





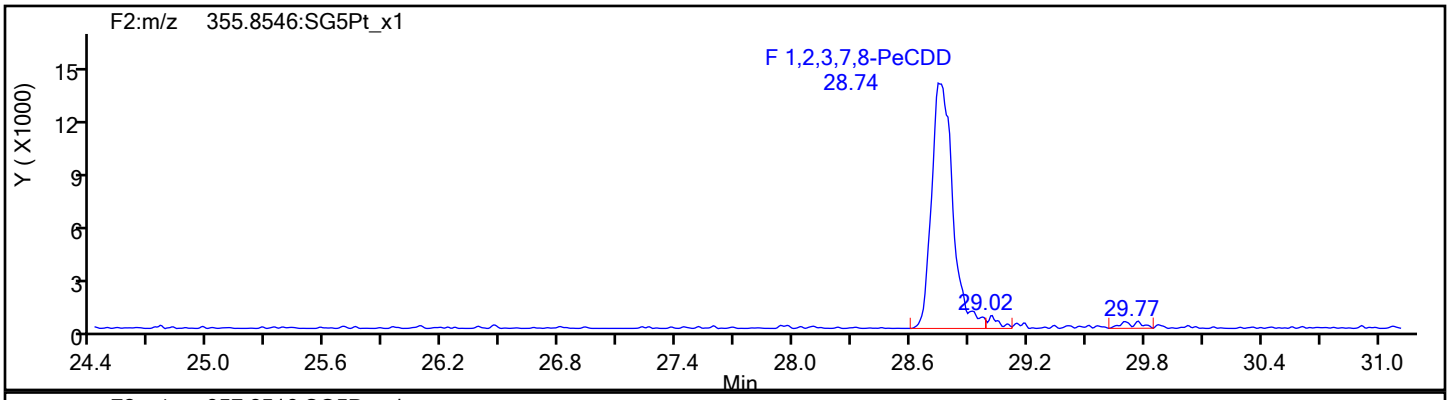
PeCDF Interference Mass

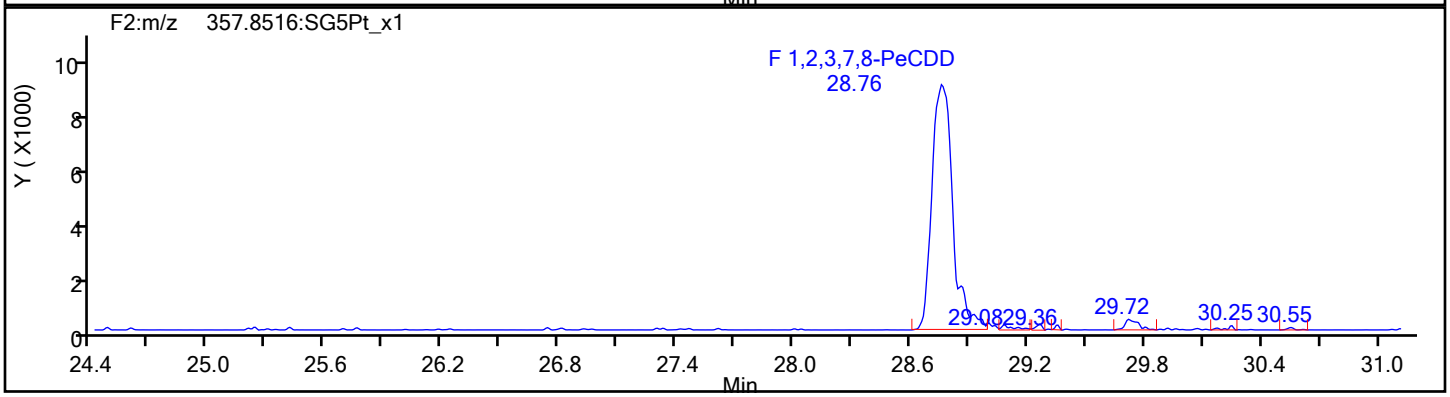


Eurofins Sacramento

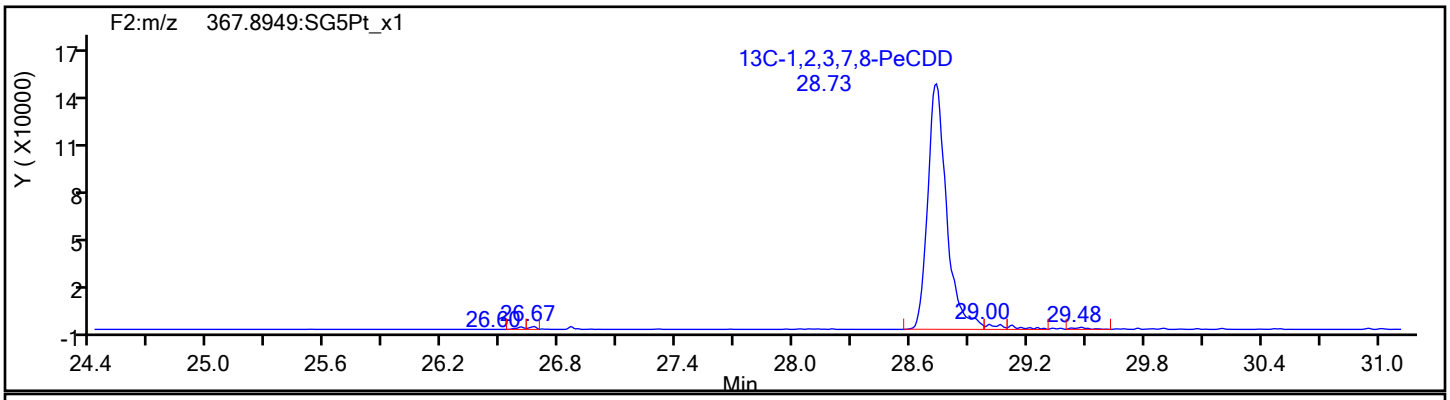
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

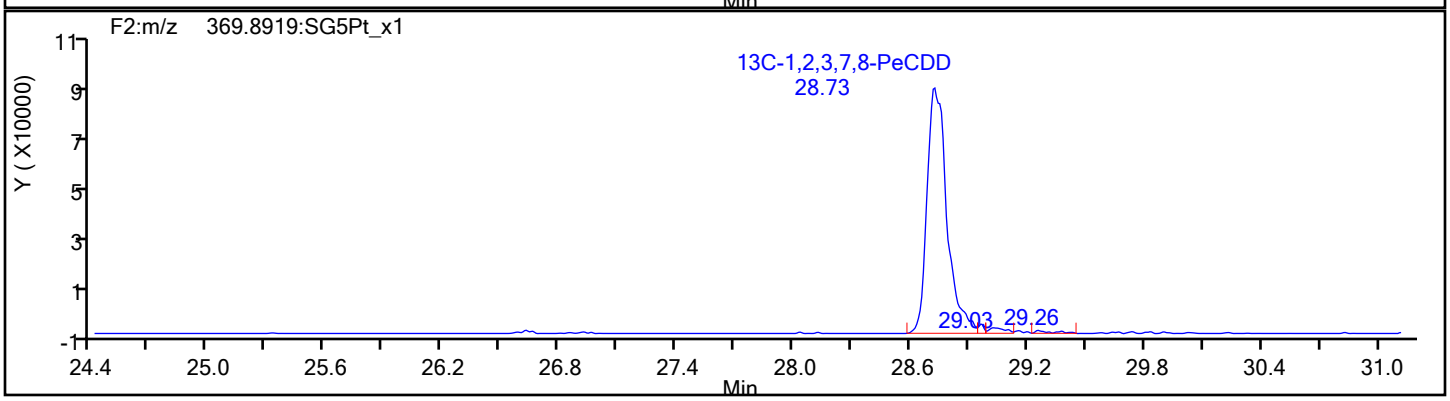
PeCDD





PeCDD Standards





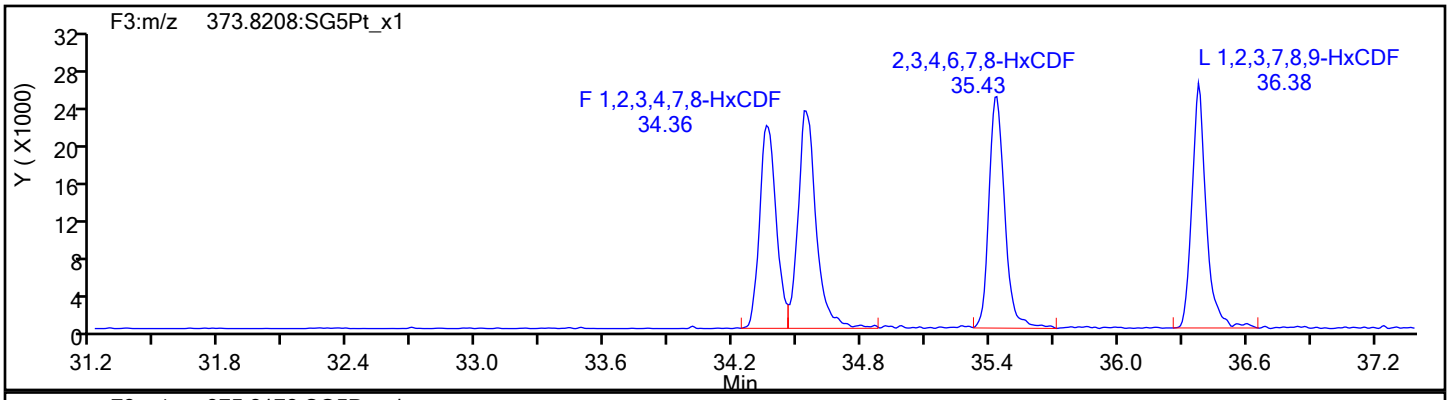
Report Date: 20-Jan-2022 15:59:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

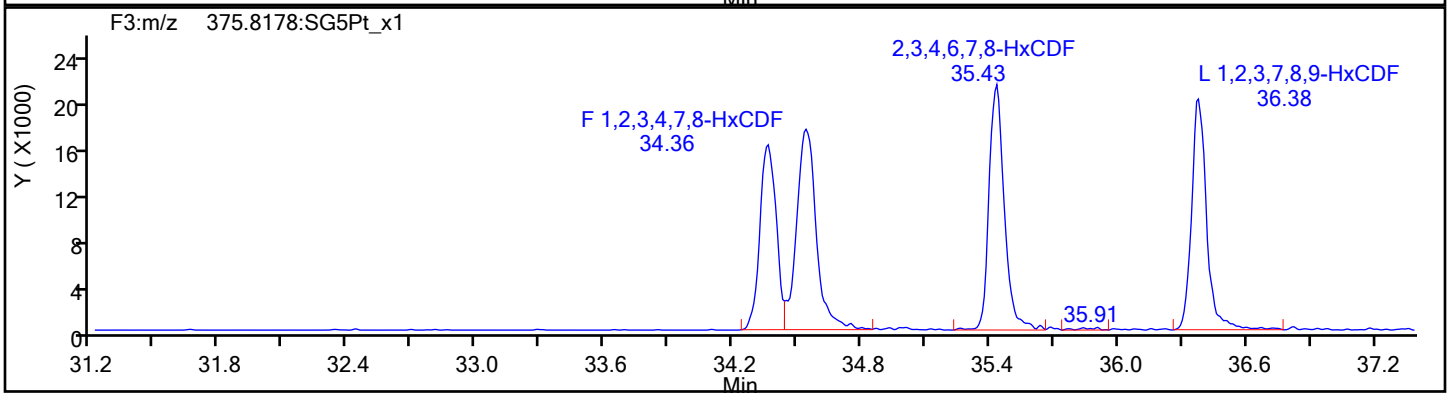
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

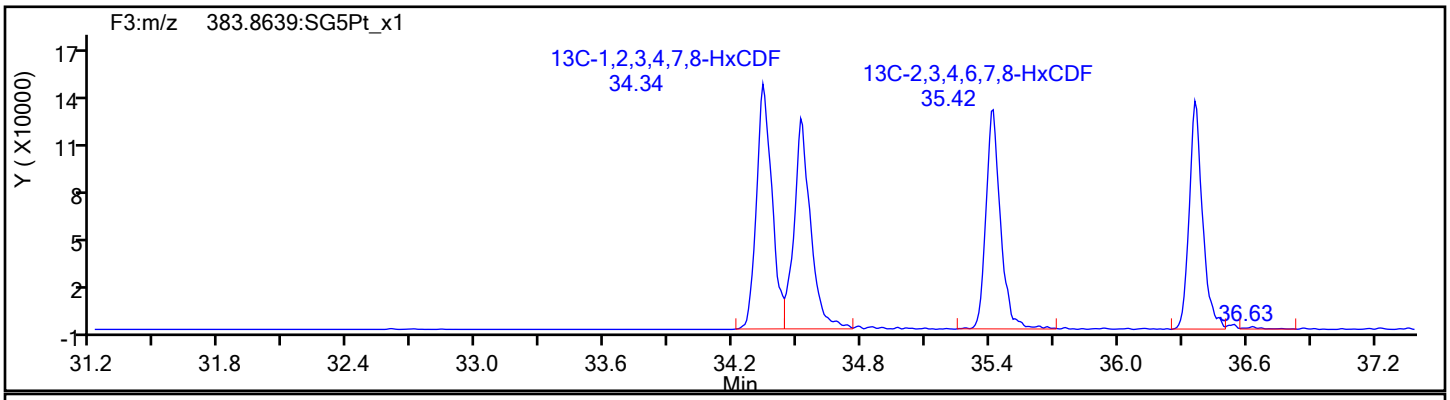
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

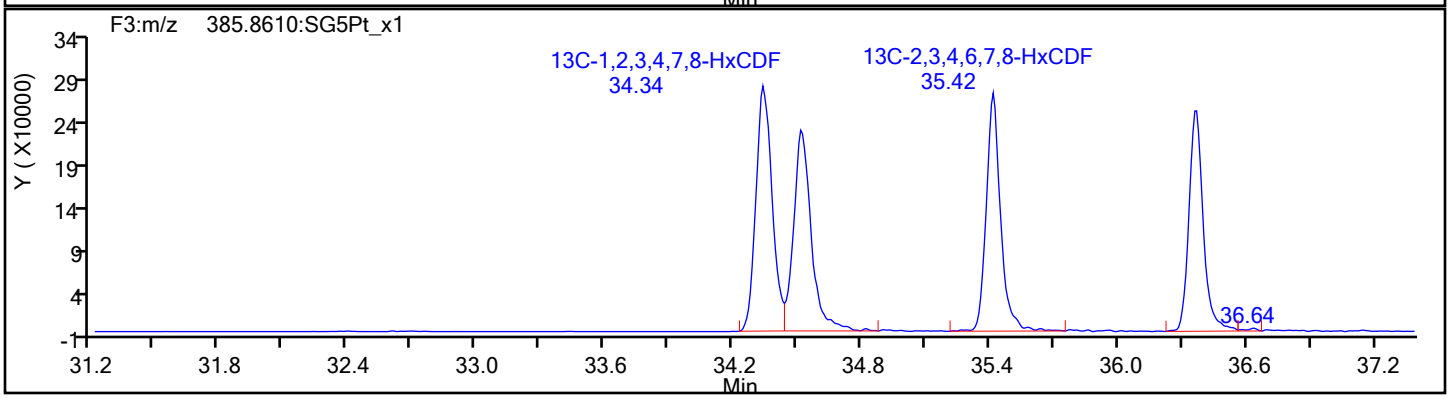
HxCDF





HxCDF Standards

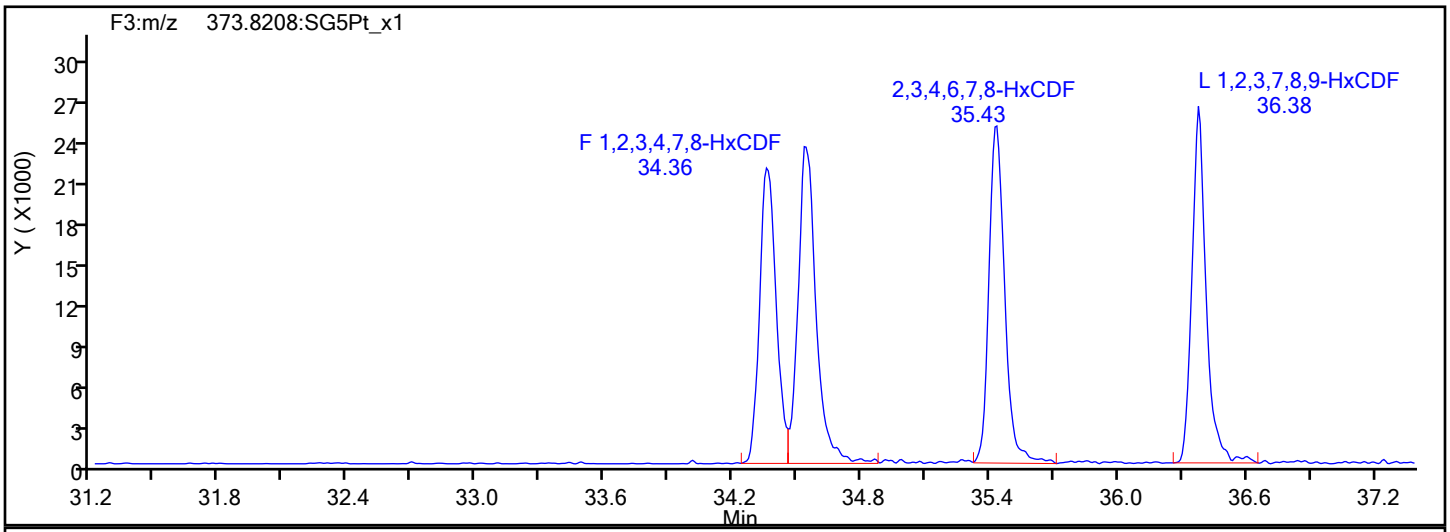


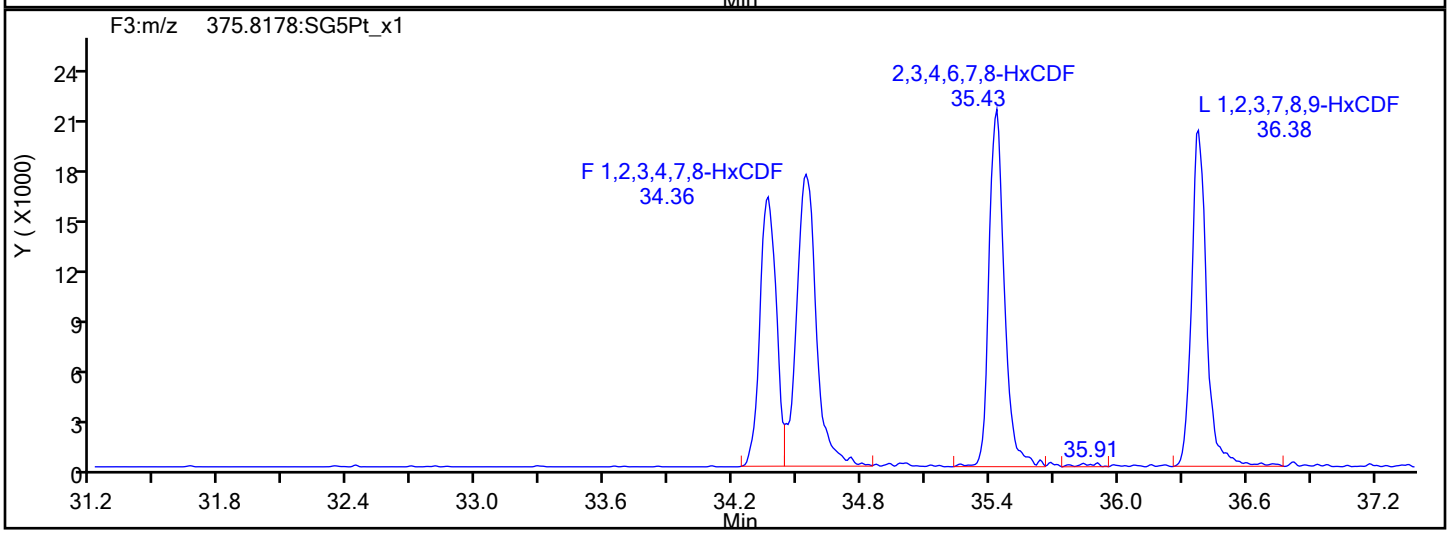


Eurofins Sacramento

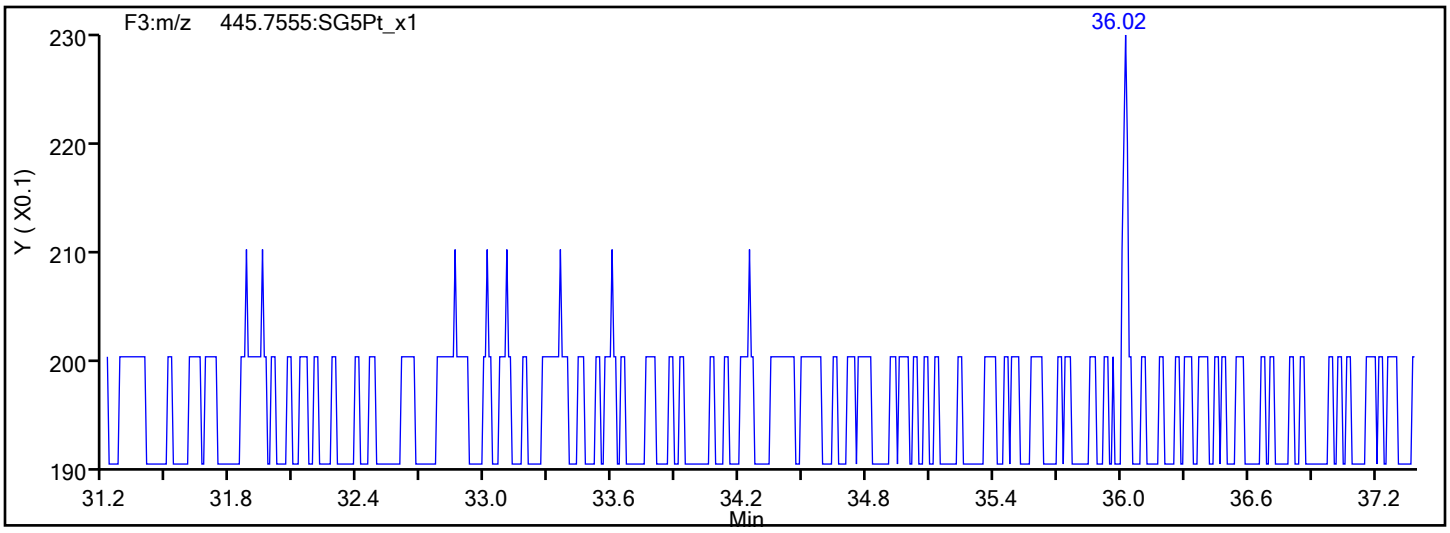
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



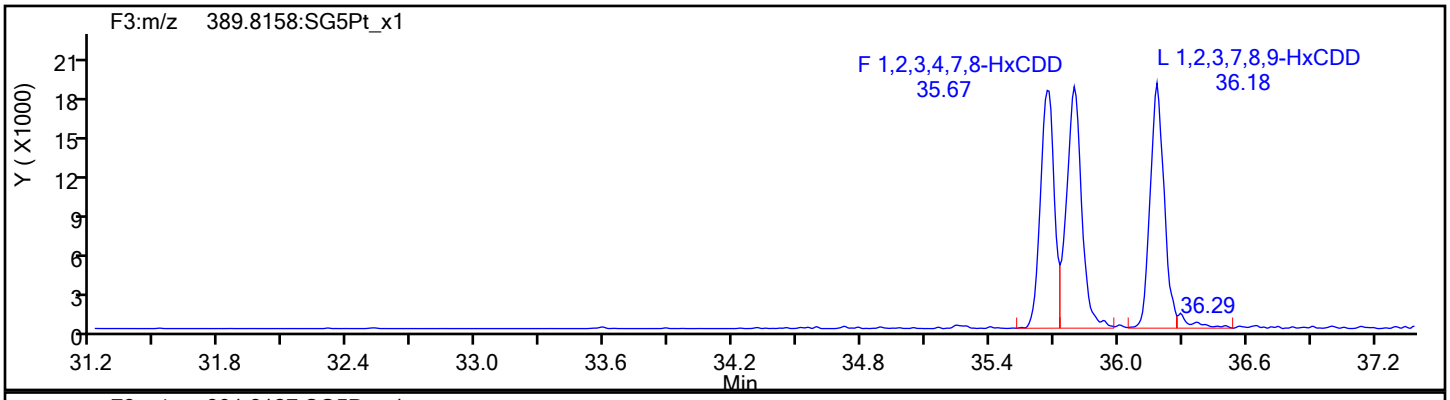
Report Date: 20-Jan-2022 15:59:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

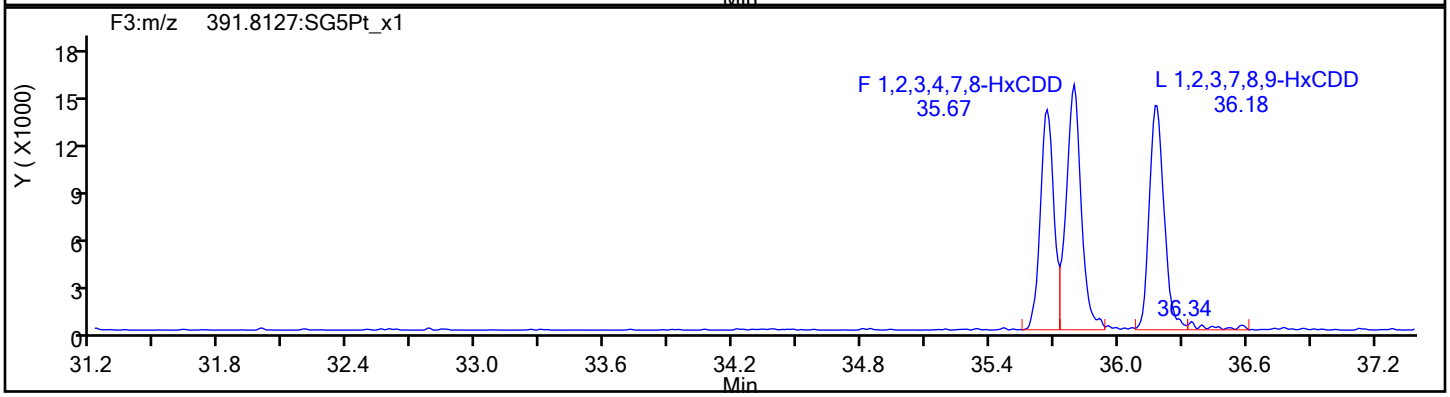
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

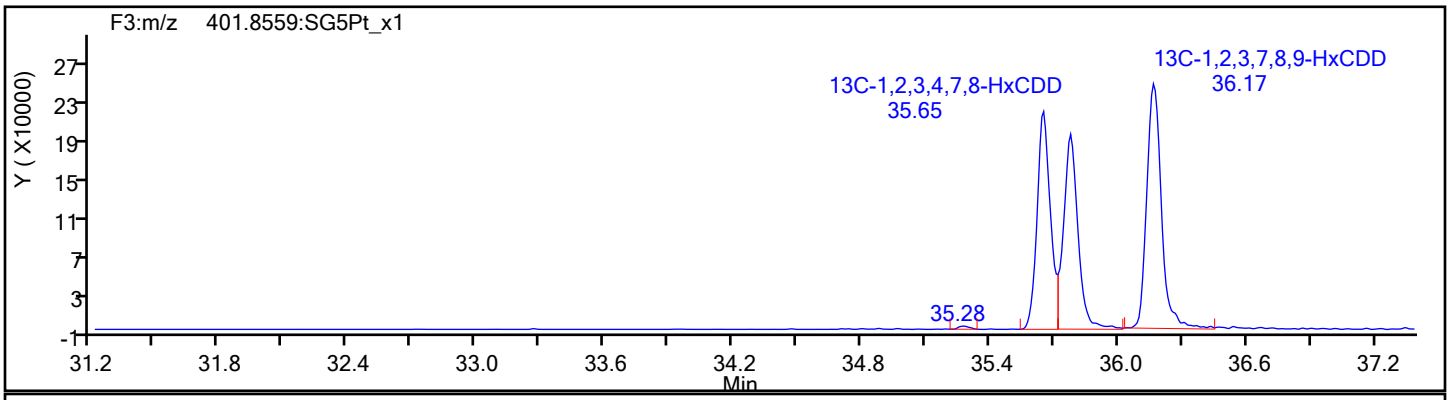
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

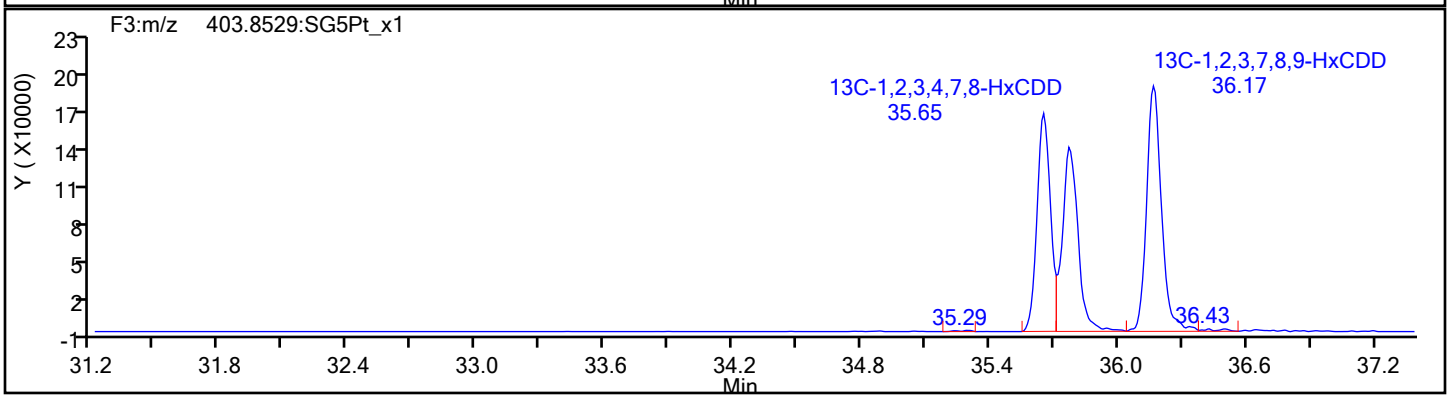
HxCDD





HxCDD Standards

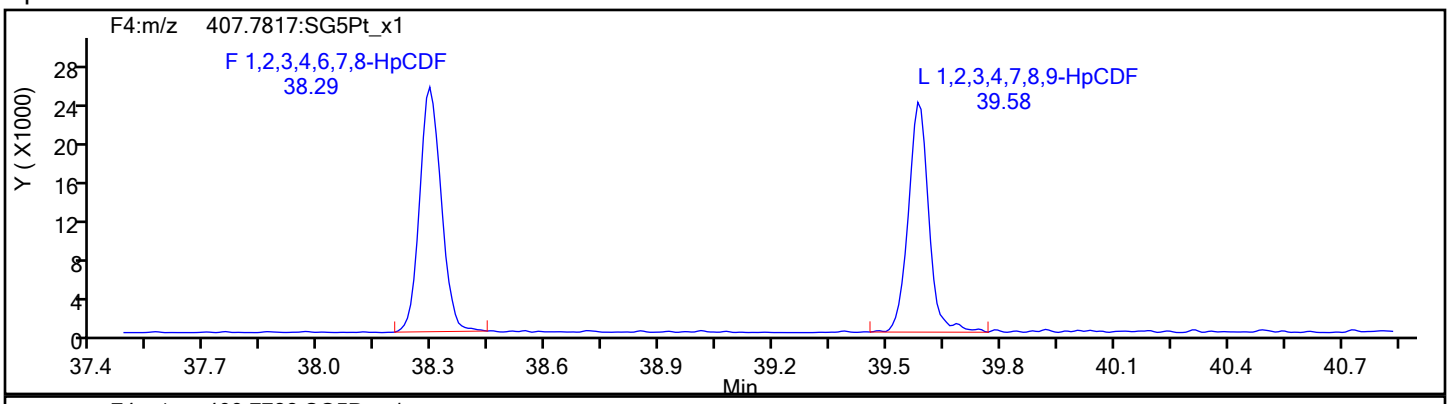


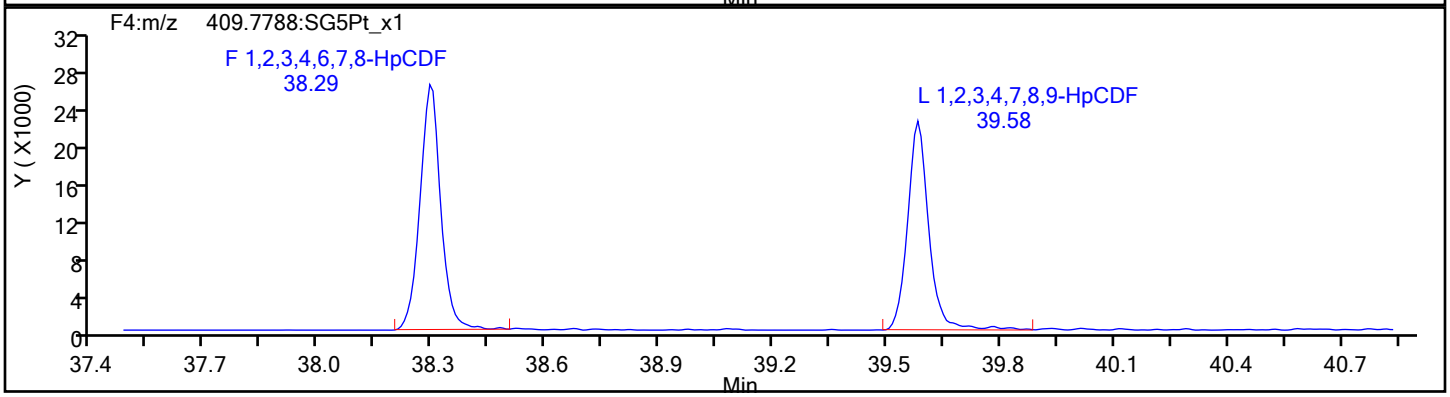


Eurofins Sacramento

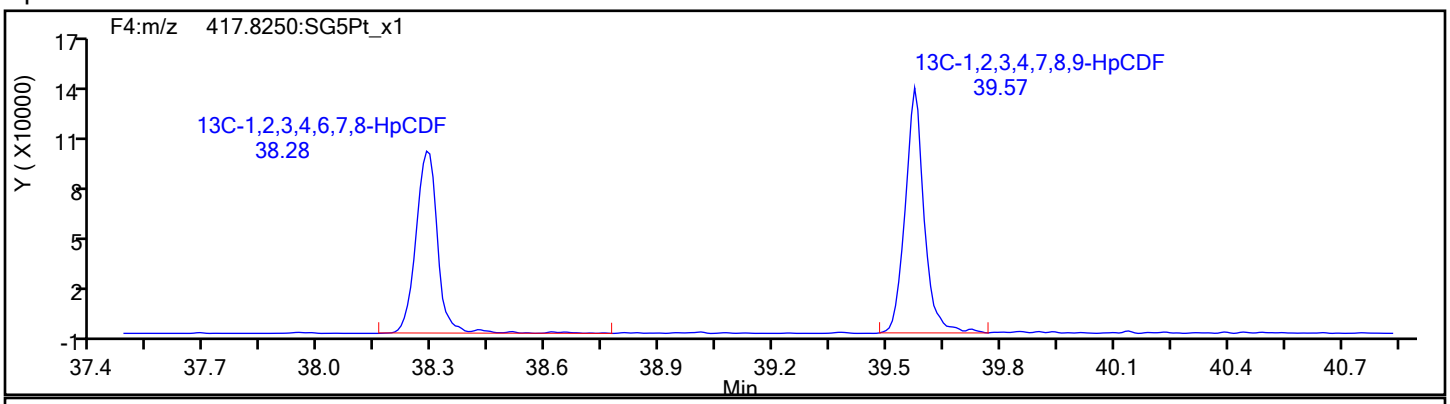
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

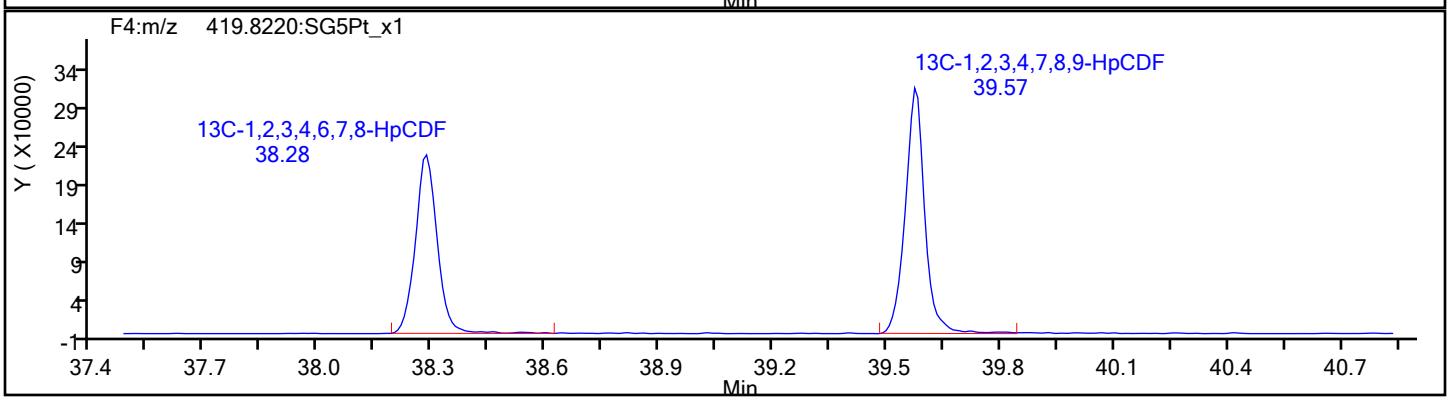
HpCDF





HpCDF Standards

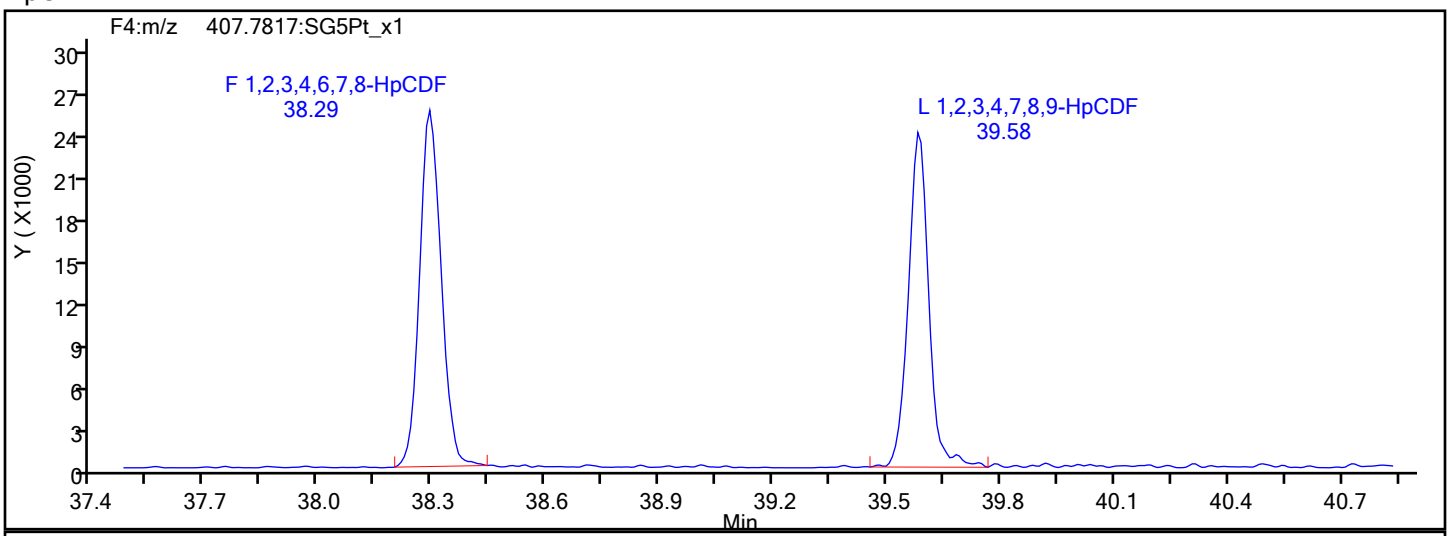


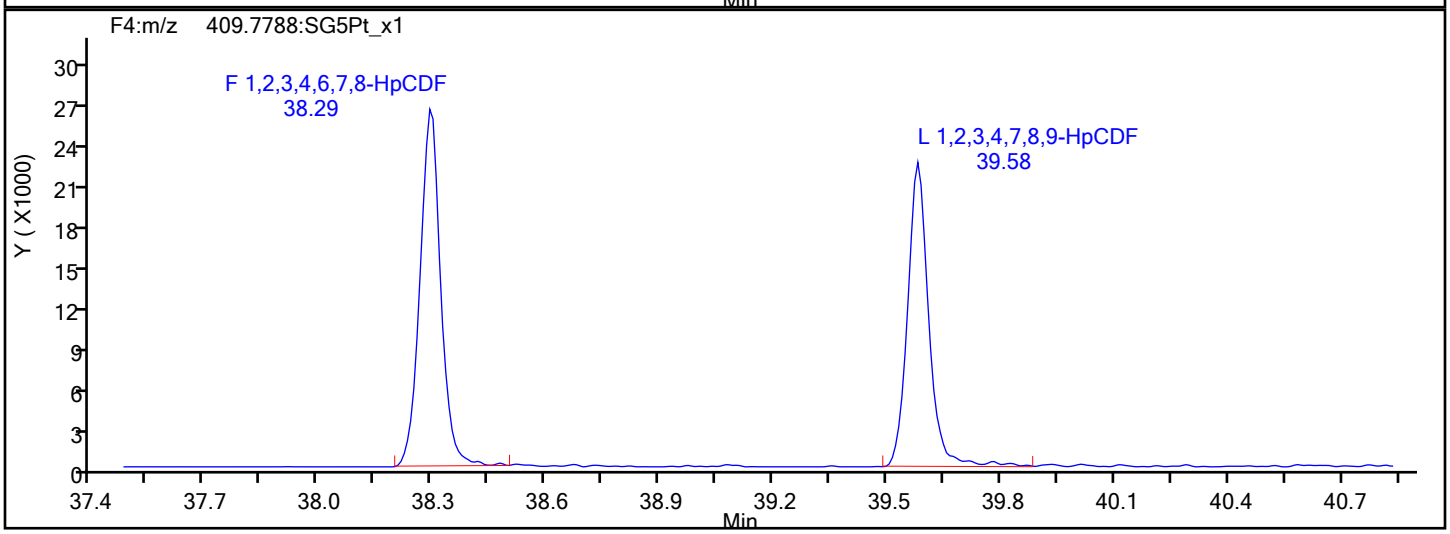


Eurofins Sacramento

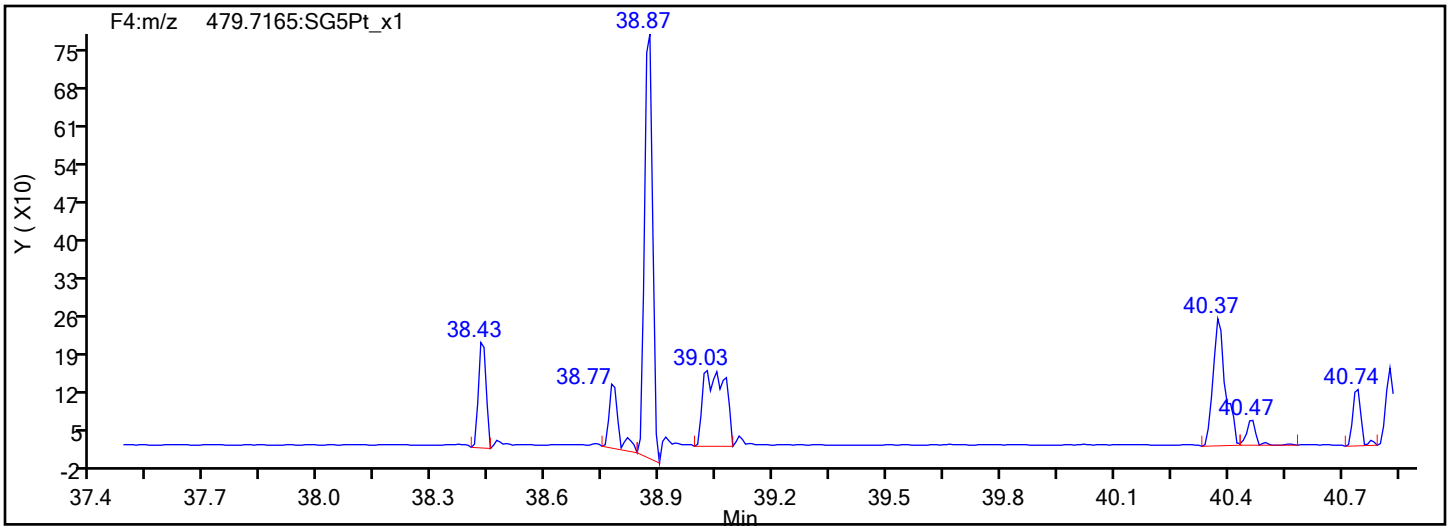
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass

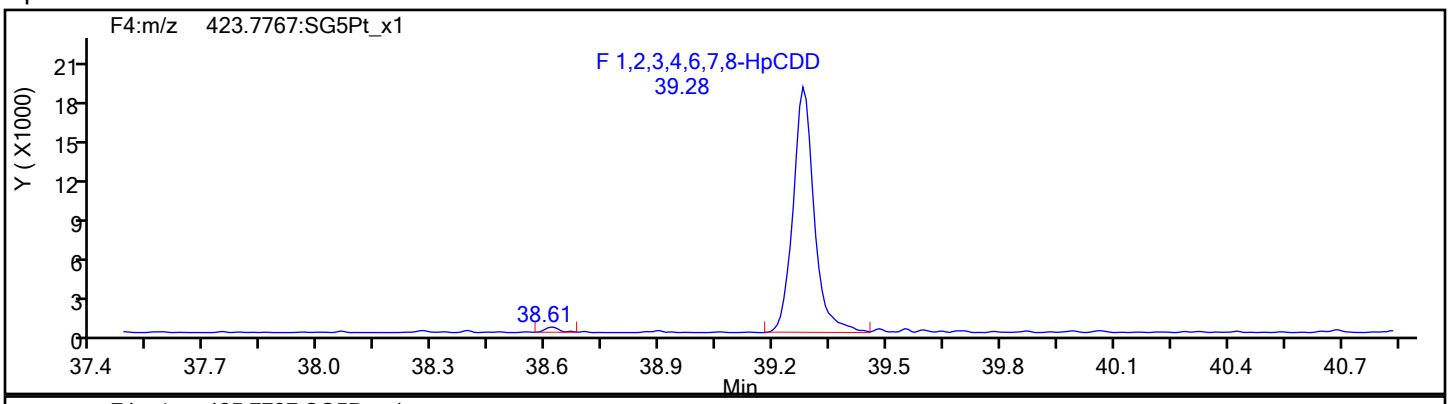


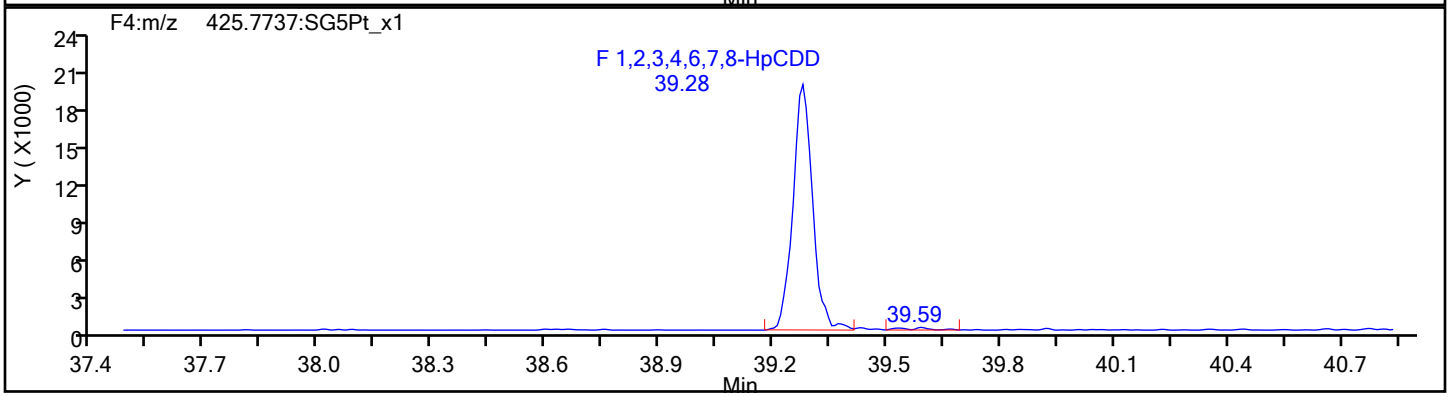
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

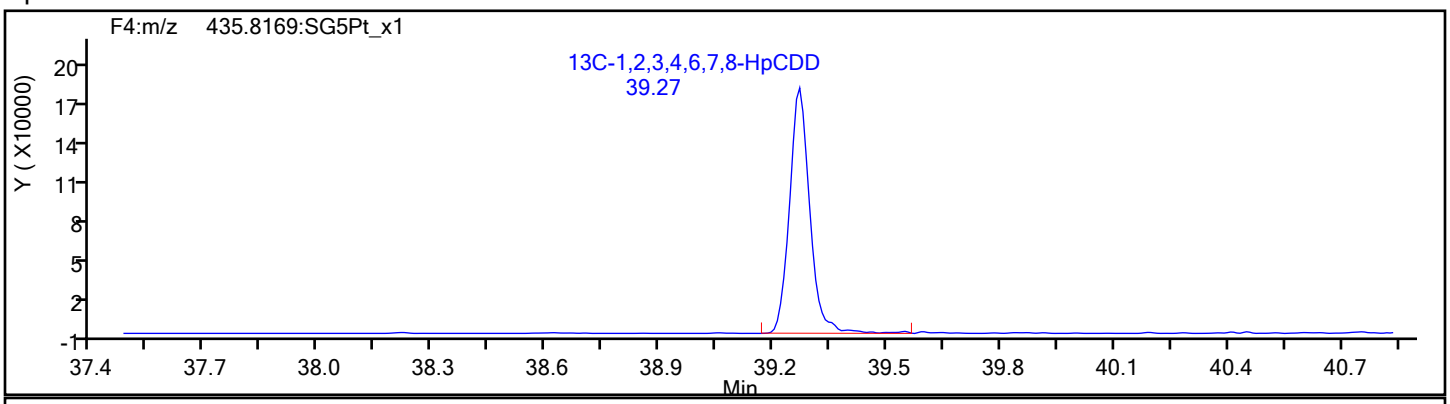
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

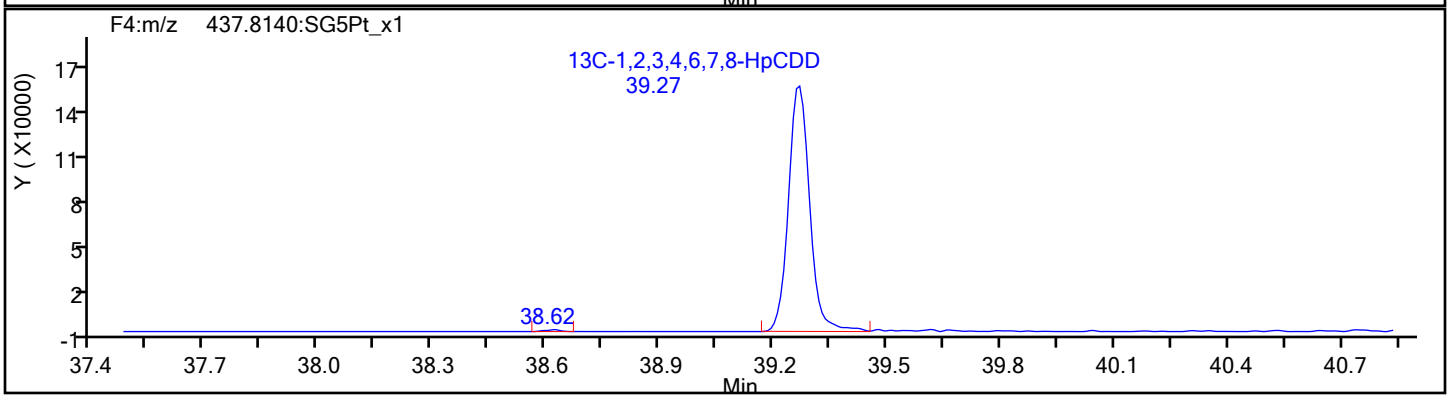
HpCDD





HpCDD Standards

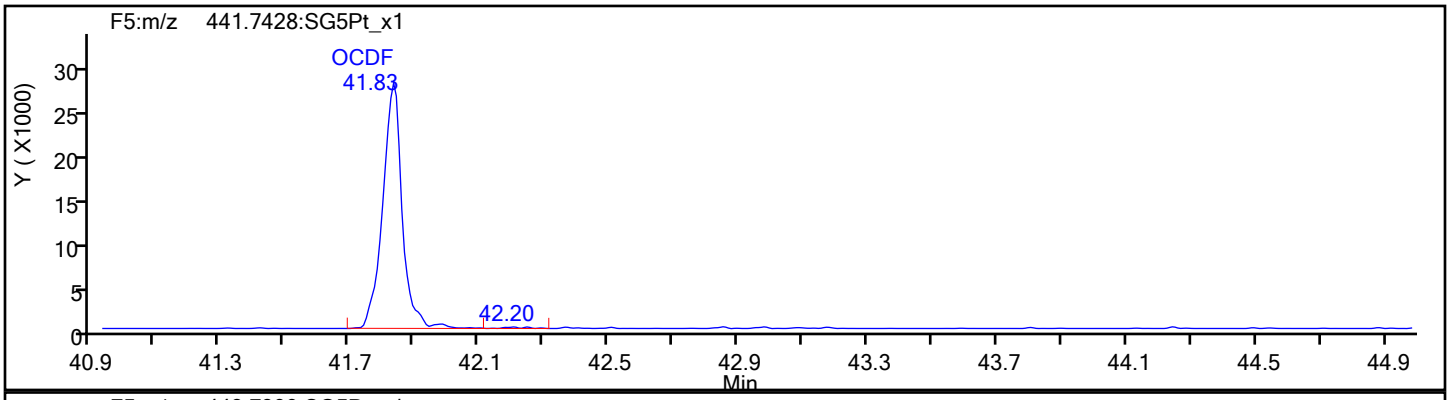


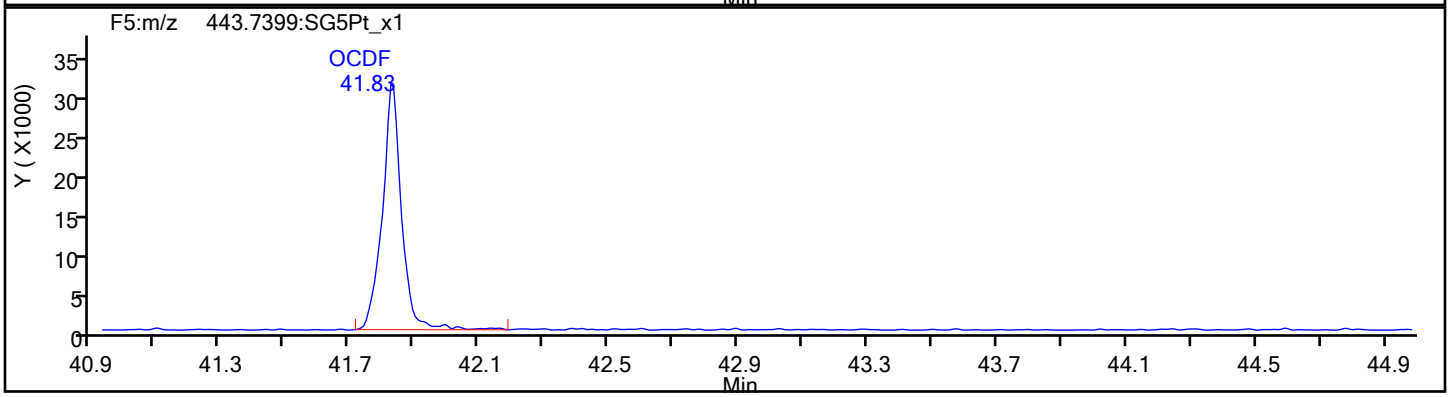


Eurofins Sacramento

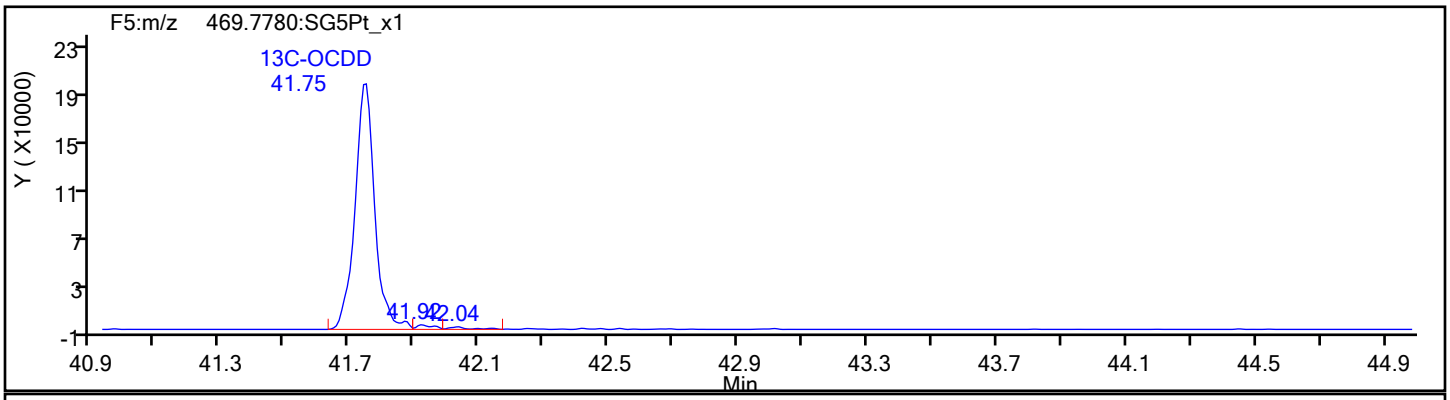
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

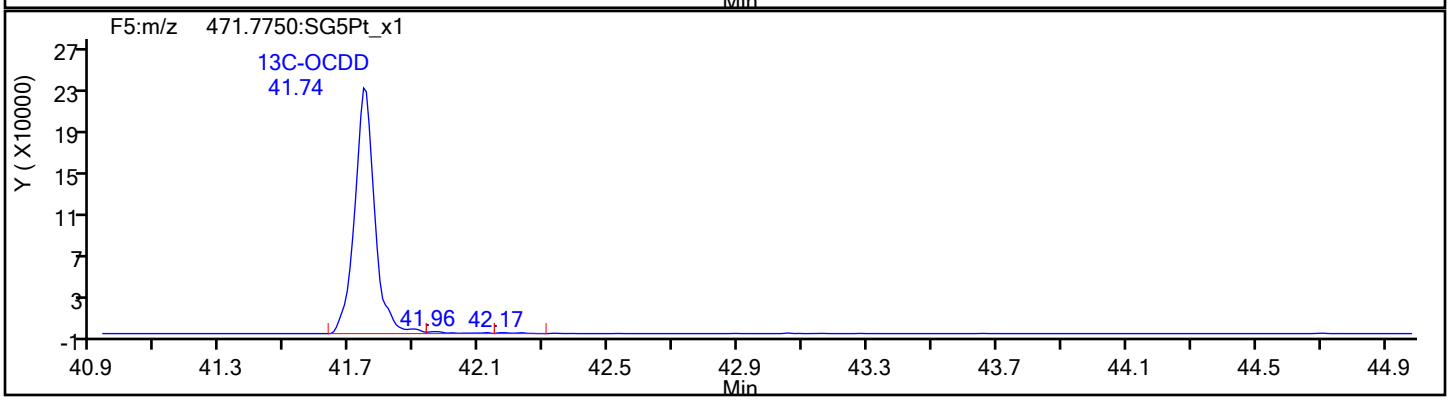
OCDF





OCDF Standards

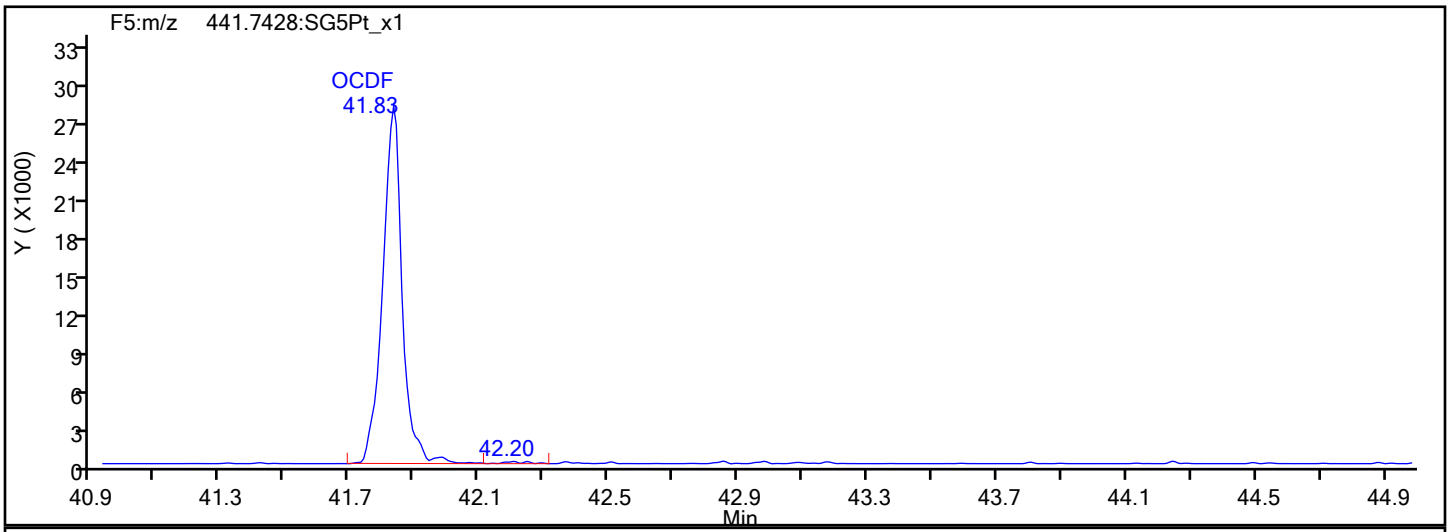


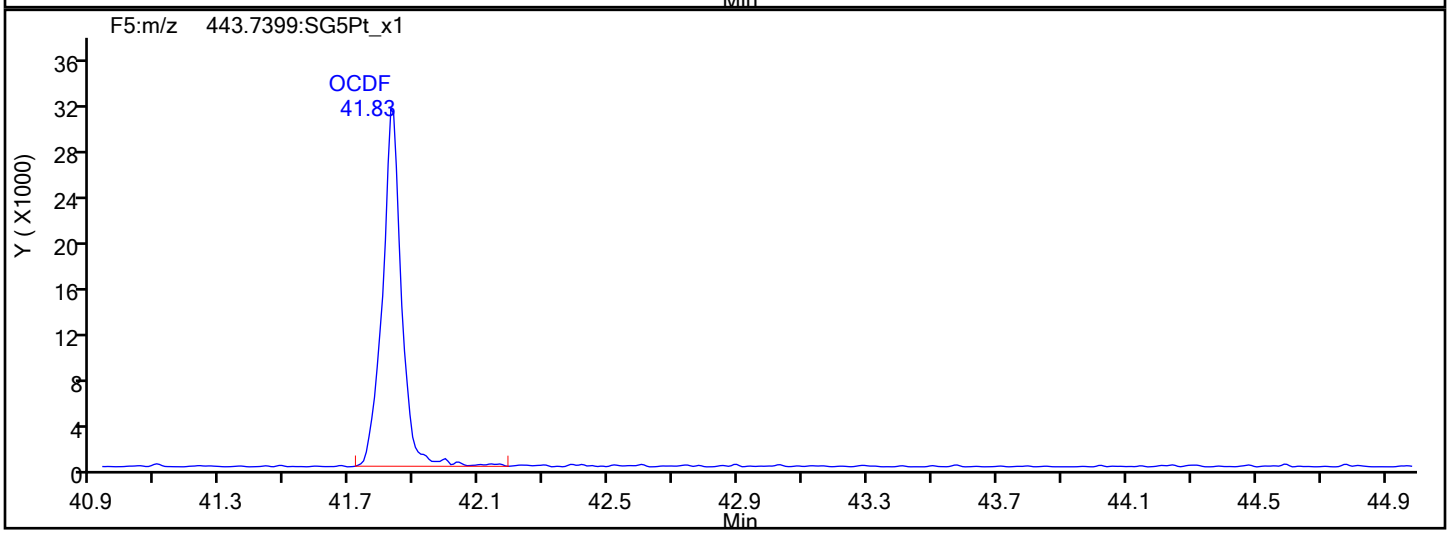


Eurofins Sacramento

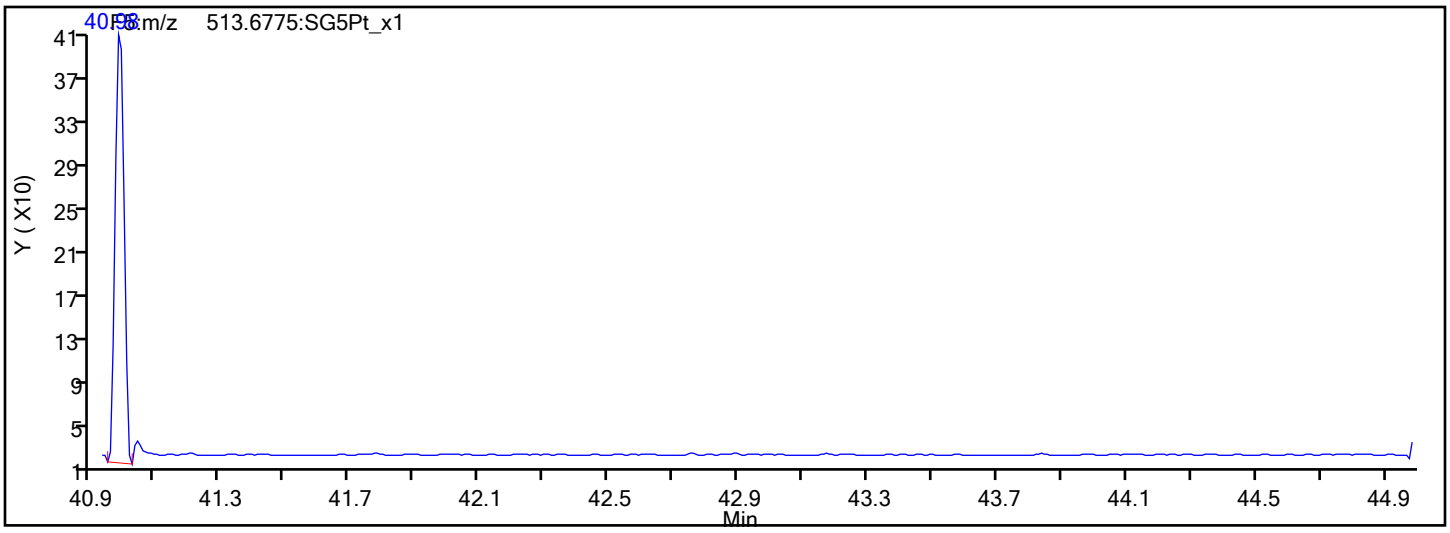
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



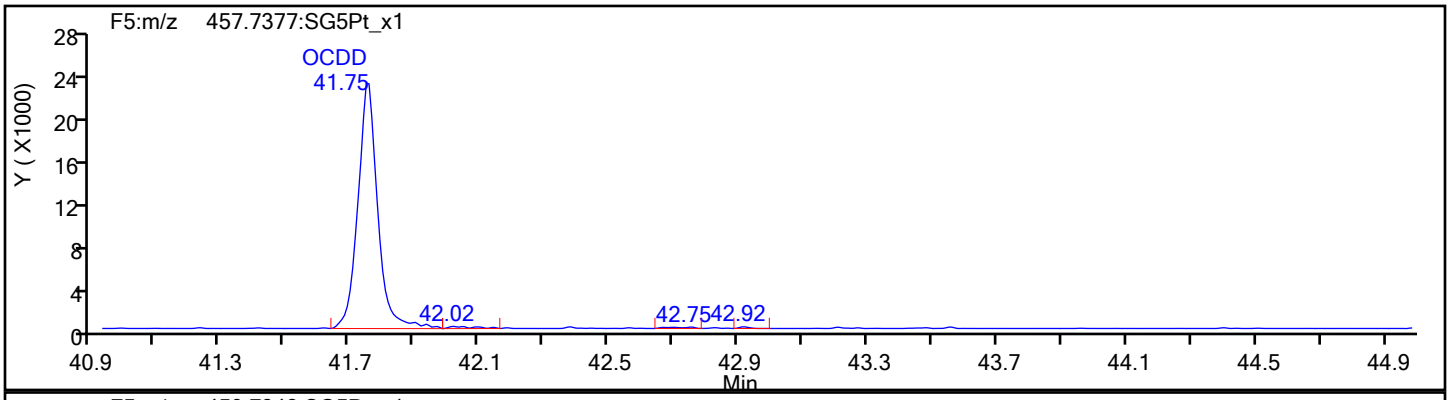
Report Date: 20-Jan-2022 15:59:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

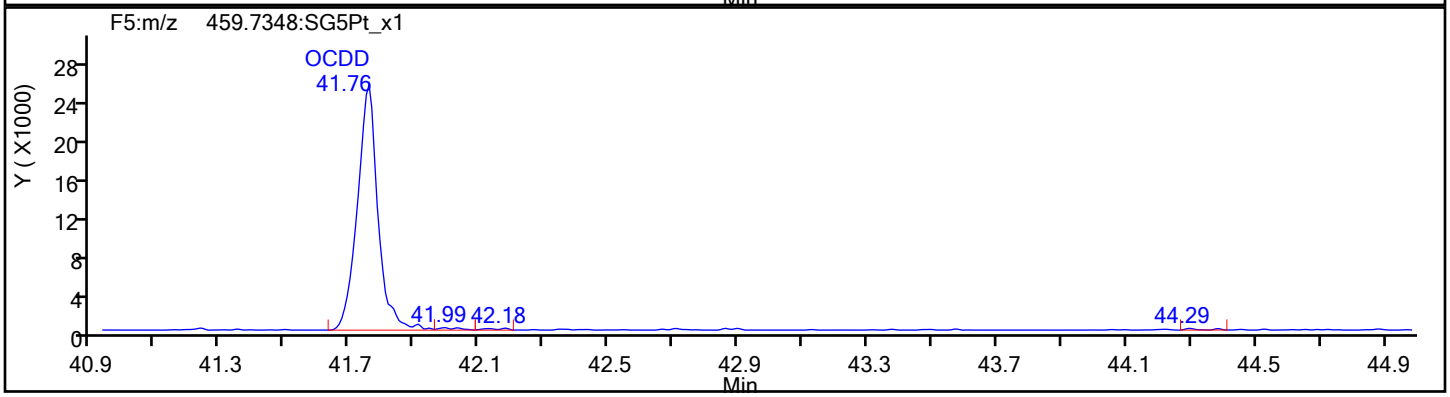
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

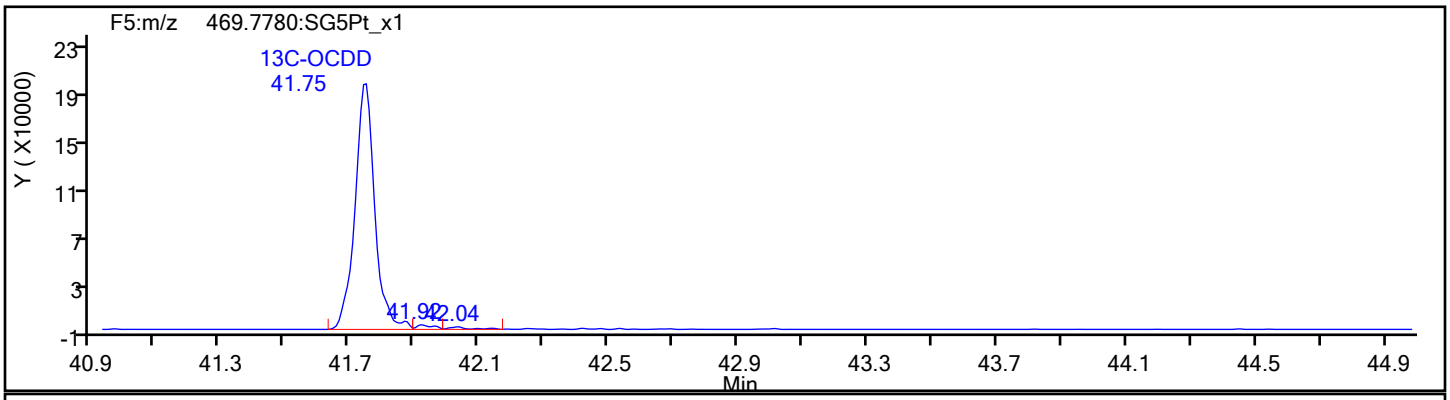
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

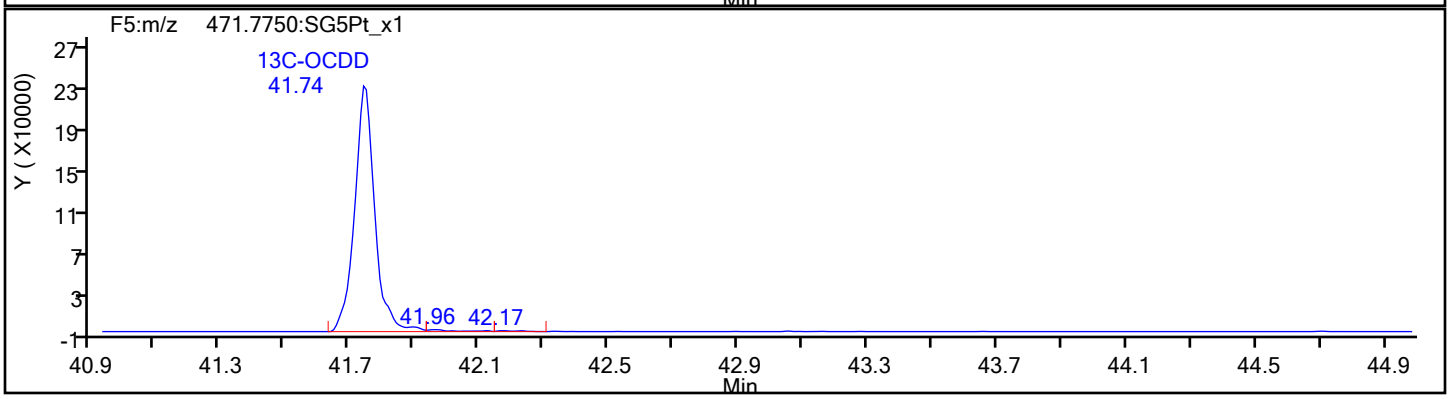
OCDD





OCDD Standards



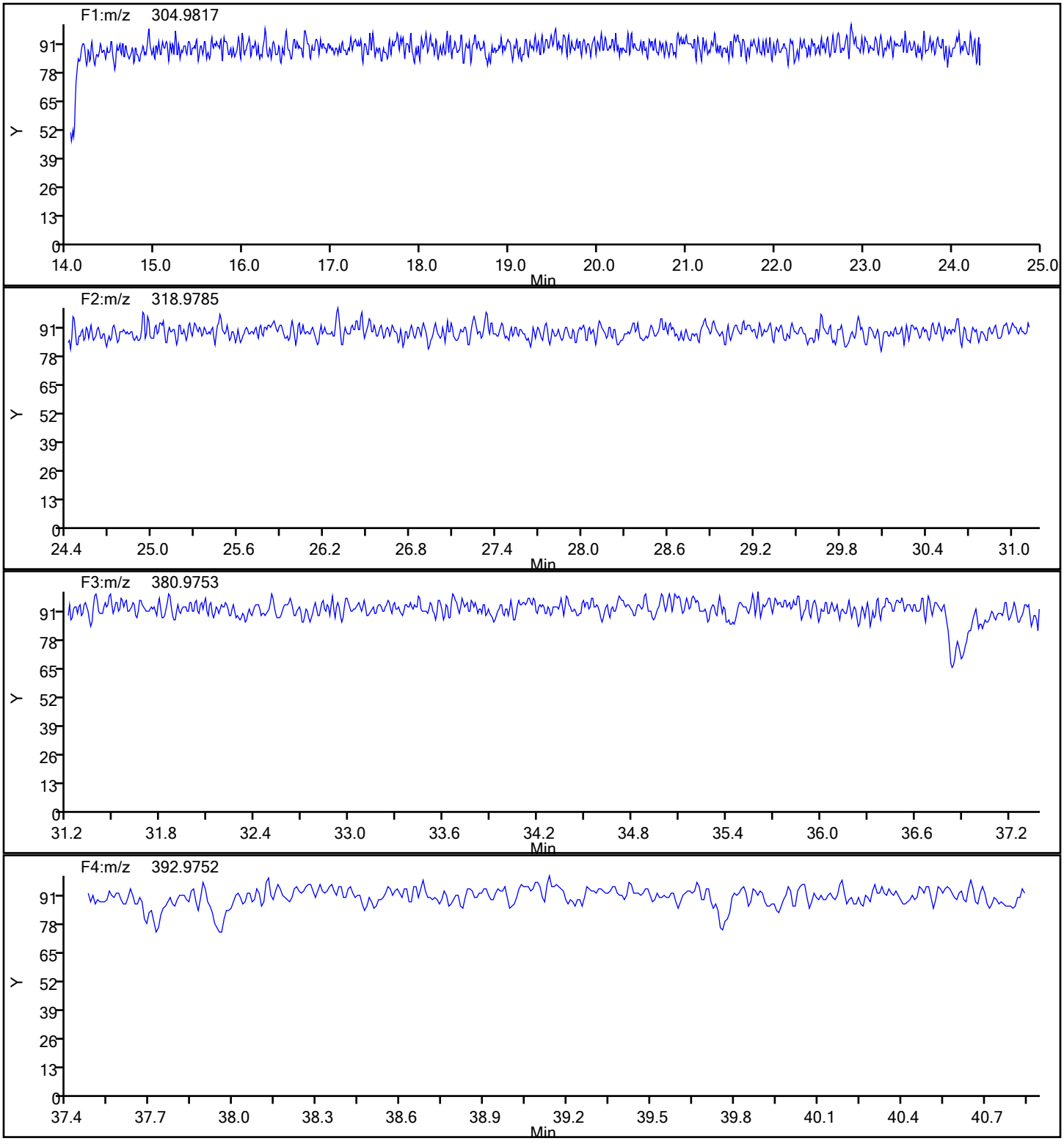


Report Date: 20-Jan-2022 15:59:04 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

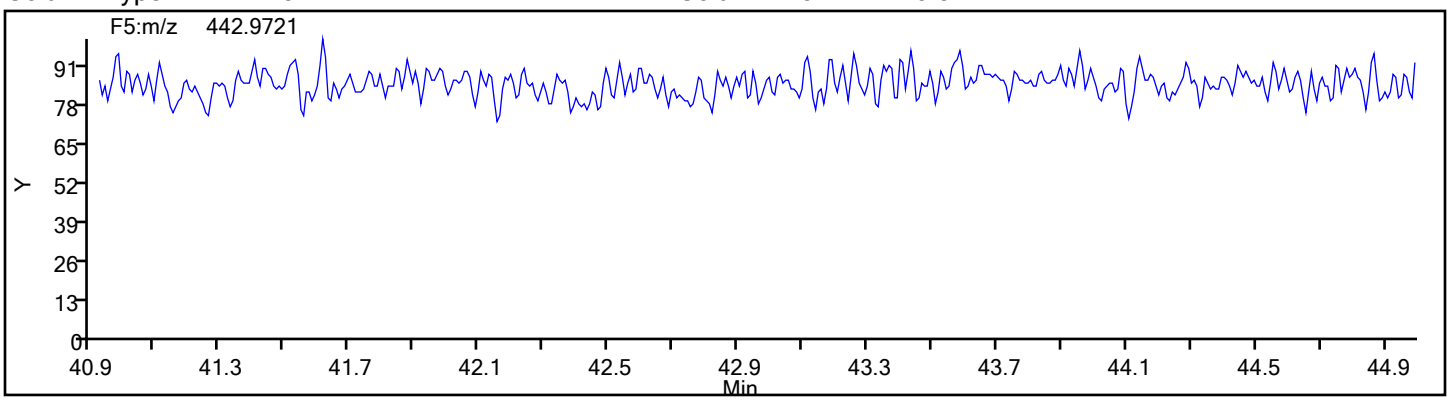
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 15:59:04 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d		
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Jan-2022 18:51:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS4_HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:15 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: ilczyszynd Date: 20-Jan-2022 15:58:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.397	3311179	0.80	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.478	3267431	0.84	1.0164	97.1	97.1	0.5739	0.5739	97.09	
2,3,7,8-TCDF	19.504	327239	0.78	1.0120	9.897	9.897	0.0620	0.0620	98.97	
S Total TCDF					9.897	9.897	0.0620	0.0620		
D 13C-2,3,7,8-TCDD	20.766	2421233	0.82	0.7884	92.7	92.7	0.3511	0.3511	92.75	
$ 37Cl4-2,3,7,8-TCDD	20.818	264027		0.7911	10.1	10.1	0.0363	0.0363	101	
2,3,7,8-TCDD	20.809	234925	0.82	0.9906	9.794	9.794	0.0737	0.0737	97.94	
S Total TCDD					9.794	9.794	0.0737	0.0737		
D 13C-1,2,3,7,8-PeCDF	26.482	2995249	1.56	0.9232	98.0	98.0	0.5891	0.5891	97.99	
1,2,3,7,8-PeCDF	26.498	1340624	1.56	0.9756	45.9	45.9	0.2771	0.2771	91.76	
D 13C-2,3,4,7,8-PeCDF	27.938	3605659	1.59	1.0793			0.5039	0.5039		
2,3,4,7,8-PeCDF	27.964	1283336	1.57	0.9215	46.5	46.5	0.2933	0.2933	92.99	
S Total PeCDF					92.4	92.4	0.2852	0.2852		
D 13C-1,2,3,7,8-PeCDD	28.730	1767842	1.59	0.5606	95.2	95.2	0.3928	0.3928	95.24	
1,2,3,7,8-PeCDD	28.764	839992	1.56	1.0020	47.4	47.4	0.1231	0.1231	94.84	
S Total PeCDD					47.4	47.4	0.1231	0.1231		
D 13C-1,2,3,4,7,8-HxCDF	34.340	2480807	0.54	1.0566			0.4941	0.4941		
1,2,3,4,7,8-HxCDF	34.366	1001430	1.27	0.8835	45.7	45.7	0.2256	0.2256	91.38	
D 13C-1,2,3,6,7,8-HxCDF	34.526	2178626	0.49	0.9686	99.4	99.4	0.5389	0.5389	99.37	
1,2,3,6,7,8-HxCDF	34.542	1134458	1.26	1.0287	44.5	44.5	0.1937	0.1937	88.90	
D 13C-2,3,4,6,7,8-HxCDF	35.409	2089175	0.53	0.9084	101.6	101.6	0.5746	0.5746	102	
2,3,4,6,7,8-HxCDF	35.426	1091296	1.23	0.9878	44.5	44.5	0.2018	0.2018	89.07	
D 13C-1,2,3,7,8,9-HxCDF	36.352	1930739	0.52	0.8248	103.4	103.4	0.6329	0.6329	103	
1,2,3,7,8,9-HxCDF	36.378	1036430	1.27	0.9071	46.1	46.1	0.2197	0.2197	92.12	
S Total HxCDF					180.7	180.7	0.2102	0.2102		
* 13C-1,2,3,7,8,9-HxCDD	36.167	2263613	1.28	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.654	1885425	1.24	0.8133			0.4718	0.4718		
1,2,3,4,7,8-HxCDD	35.670	702018	1.28	0.8294	48.1	48.1	0.1812	0.1812	96.18	
D 13C-1,2,3,6,7,8-HxCDD	35.780	1760030	1.29	0.8027	96.9	96.9	0.4781	0.4781	96.87	
1,2,3,6,7,8-HxCDD	35.797	809205	1.23	0.9395	48.9	48.9	0.1600	0.1600	97.88	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.184	775382	1.22	0.9076	48.5	48.5	0.1656	0.1656	97.08	
S Total HxCDD					145.6	145.6	0.1689	0.1689		
D 13C-1,2,3,4,6,7,8-HpCDF	38.276	1416166	0.46	0.6421	97.4	97.4	0.6871	0.6871	97.44	
1,2,3,4,6,7,8-HpCDF	38.293	983413	1.05	1.4385	48.3	48.3	0.2512	0.2512	96.55	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.564	1770500	0.42	1.1706	106.8	106.8	0.4807	0.4807	107	
1,2,3,4,7,8,9-HpCDF	39.581	837721	1.05	1.2202	48.5	48.5	0.2961	0.2961	96.96	
S Total HpCDF					96.8	96.8	0.2737	0.2737		
D 13C-1,2,3,4,6,7,8-HpCDD	39.261	1413921	1.09	0.6246	100.0	100.0	0.4214	0.4214	100	
1,2,3,4,6,7,8-HpCDD	39.270	645784	1.05	0.9767	46.8	46.8	0.1400	0.1400	93.53	
S Total HpCDD					46.8	46.8	0.1400	0.1400		
D 13C-OCDD	41.741	1946538	0.86	0.4360	197.2	197.2	0.3131	0.3131	98.62	
OCDF	41.825	1205705	0.92	1.2756	97.1	97.1	0.1456	0.1456	97.12	
OCDD	41.749	961342	0.89	1.0341	95.5	95.5	0.1479	0.1479	95.51	

QC Flag Legend

Processing Flags

Reagents:

HRDXNL4_00105 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Jan-2022 18:51:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS4_HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:15 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: ilczyszynd Date: 20-Jan-2022 15:58:14

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.397	20.418	-1		1476015	214606	358	895	599		
333.9338	20.406	20.418	-1		1835164	280363	190	475	1476	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.478	19.485	0	0.955	1495477	219834	777	1942	283		
317.9389	19.469	19.485	-1	0.955	1771954	253355	378	945	670	0.84(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.504	19.520	-1	1.001	142922	20855	45	112	463		
305.8987	19.512	19.520	0	1.002	184317	26072	74	185	352	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.766	20.784	-1	1.018	1094480	157250	358	895	439		
333.9338	20.758	20.784	-2	1.018	1326753	191868	190	475	1010	0.82(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.818	20.809	1	1.021	264027	34863	57	142	612		
2,3,7,8-TCDD											
319.8965	20.809	20.821	-1	1.002	106102	14812	73	182	203		
321.8936	20.809	20.821	-1	1.002	128823	17303	29	72	597	0.82(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.482	26.498	-1	1.298	1826650	299383	703	1757	426		
353.8970	26.482	26.498	-1	1.298	1168599	187853	374	935	502	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.498	26.518	-1	1.001	816101	126573	292	730	433		
341.8567	26.498	26.518	-1	1.001	524523	82556	235	587	351	1.56(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.938	27.961	-1	1.370	2213814	330602	703	1757	470		
353.8970	27.938	27.961	-1	1.370	1391845	204934	374	935	548	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.964	27.984	-1	1.001	783680	114451	292	730	392		
341.8567	27.964	27.984	-1	1.001	499656	71894	235	587	306	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.730	28.754	-1	1.409	1085718	162798	254	635	641		
369.8919	28.739	28.754	-1	1.409	682124	96689	182	455	531	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.764	28.781	-1	1.001	512293	71598	77	192	930		
357.8516	28.756	28.781	-2	1.001	327699	43821	51	127	859	1.56(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.340	34.357	-1	0.949	865112	162749	235	587	693		
385.8610	34.340	34.357	-1	0.949	1615695	291311	721	1802	404	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.366	34.374	-1	1.001	559887	99474	201	502	495		
375.8178	34.366	34.374	-1	1.001	441543	77638	161	402	482	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.526	34.533	0	0.955	719304	119277	235	587	508		
385.8610	34.526	34.533	0	0.955	1459322	245168	721	1802	340	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.542	34.553	-1	1.000	632059	110761	201	502	551		
375.8178	34.542	34.553	-1	1.000	502399	83124	161	402	516	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.409	35.421	-1	0.979	720040	146789	235	587	625		
385.8610	35.409	35.421	-1	0.979	1369135	268333	721	1802	372	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.426	35.438	-1	1.000	602826	116527	201	502	580		
375.8178	35.426	35.438	-1	1.000	488470	95223	161	402	591	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.352	36.366	-1	1.005	662005	144626	235	587	615		
385.8610	36.361	36.366	0	1.005	1268734	272266	721	1802	378	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.378	36.385	0	1.001	580725	122070	201	502	607		
375.8178	36.369	36.385	-1	1.000	455705	93818	161	402	583	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.167	36.172	0		1269136	255718	409	1022	625		
403.8529	36.167	36.172	0		994477	202134	294	735	688	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.654	35.661	0	0.986	1043740	239867	409	1022	586		
403.8529	35.654	35.661	0	0.986	841685	188177	294	735	640	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.670	35.676	0	1.000	394725	88398	116	290	762		
391.8127	35.670	35.676	0	1.000	307293	65221	95	237	687	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.780	35.787	0	0.989	992268	197861	409	1022	484		
403.8529	35.780	35.787	0	0.989	767762	152818	294	735	520	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.797	35.802	0	1.000	446543	88251	116	290	761		
391.8127	35.797	35.802	0	1.000	362662	73654	95	237	775	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.184	36.191	0	1.015	426422	86868	116	290	749		
391.8127	36.176	36.191	-1	1.015	348960	71127	95	237	749	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.276	38.287	-1	1.058	447217	111783	330	825	339		
419.8220	38.285	38.287	0	1.059	968949	247167	478	1195	517	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.293	38.299	0	1.000	504557	126047	303	757	416		
409.7788	38.293	38.299	0	1.000	478856	116744	216	540	540	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.564	39.570	0	1.094	524637	138530	330	825	420		
419.8220	39.564	39.570	0	1.094	1245863	328337	478	1195	687	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.581	39.584	0	1.000	428595	113201	303	757	374		
409.7788	39.573	39.584	-1	1.000	409126	109831	216	540	508	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.261	39.269	0	1.086	737543	196244	301	752	652		
437.8140	39.261	39.269	0	1.086	676378	174590	181	452	965	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.270	39.277	0	1.000	331273	85198	114	285	747		
425.7737	39.270	39.277	0	1.000	314511	82901	89	222	931	1.05(0.88-1.20)	
13C-OCDD											
469.7780	41.741	41.743	0	1.154	898340	209212	170	425	1231		
471.7750	41.741	41.743	0	1.154	1048198	248587	80	200	3107	0.86(0.76-1.02)	
OCDF											
441.7428	41.825	41.826	0	1.002	576978	137008	63	157	2175		
443.7399	41.825	41.826	0	1.002	628727	146321	107	267	1367	0.92(0.76-1.02)	
OCDD											
457.7377	41.749	41.748	0	1.000	452891	102143	61	152	1674		
459.7348	41.749	41.748	0	1.000	508451	115250	79	197	1459	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

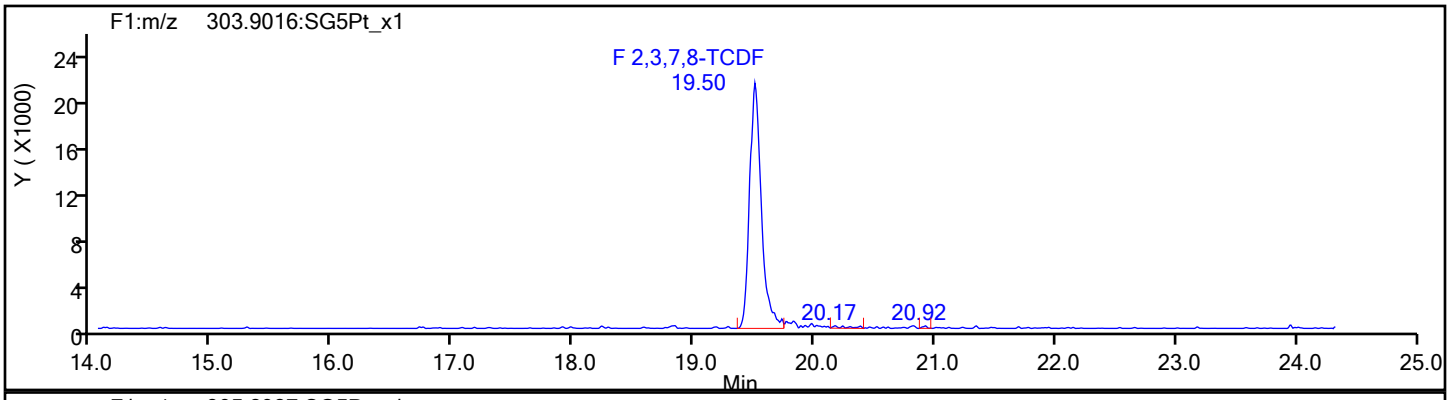
Reagents:

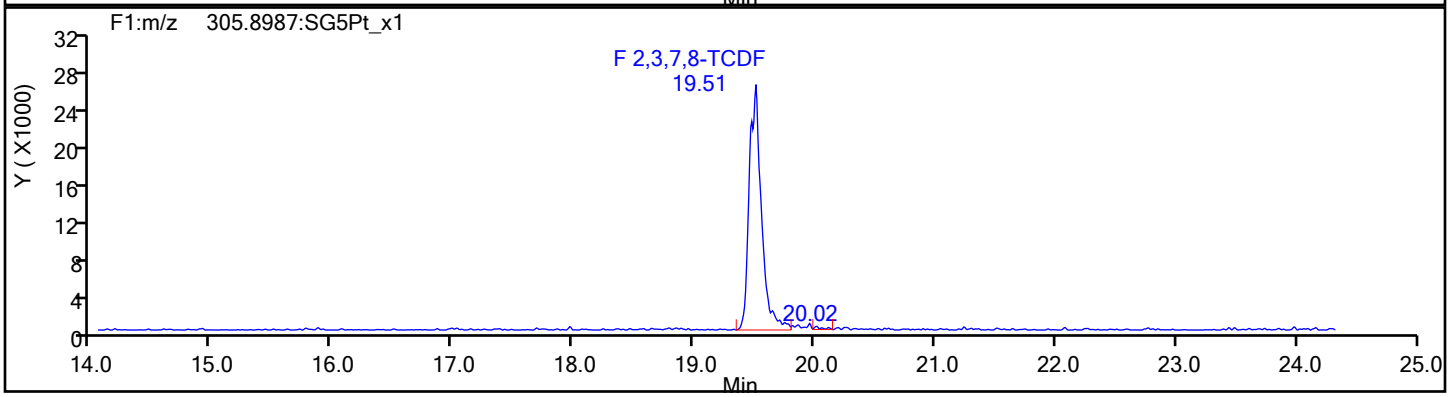
HRDXNL4_00105 Amount Added: 1.00 Units: ml

Eurofins Sacramento

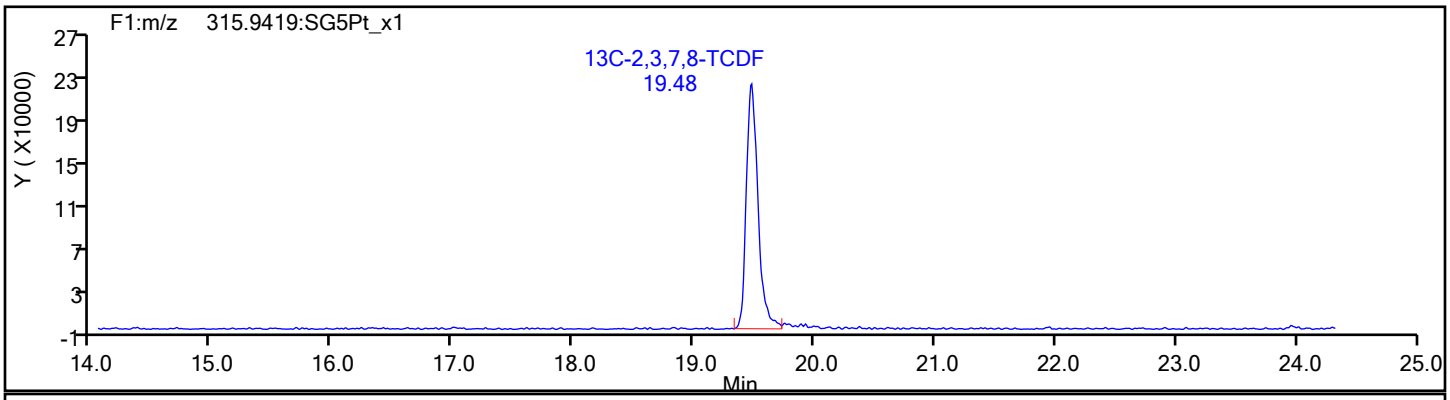
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Injection Date: 13-Jan-2022 18:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

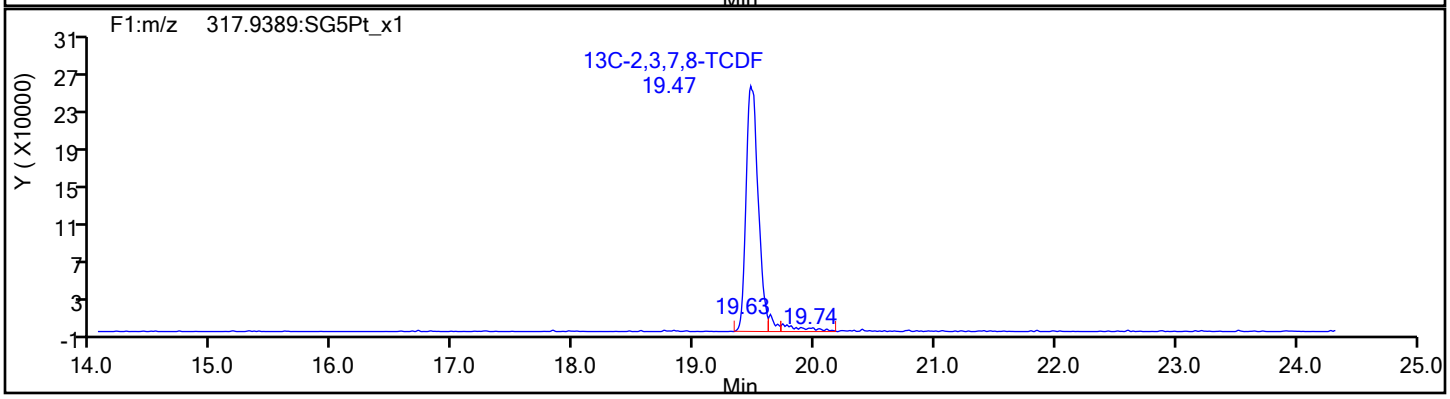
TCDF





TCDF Standards

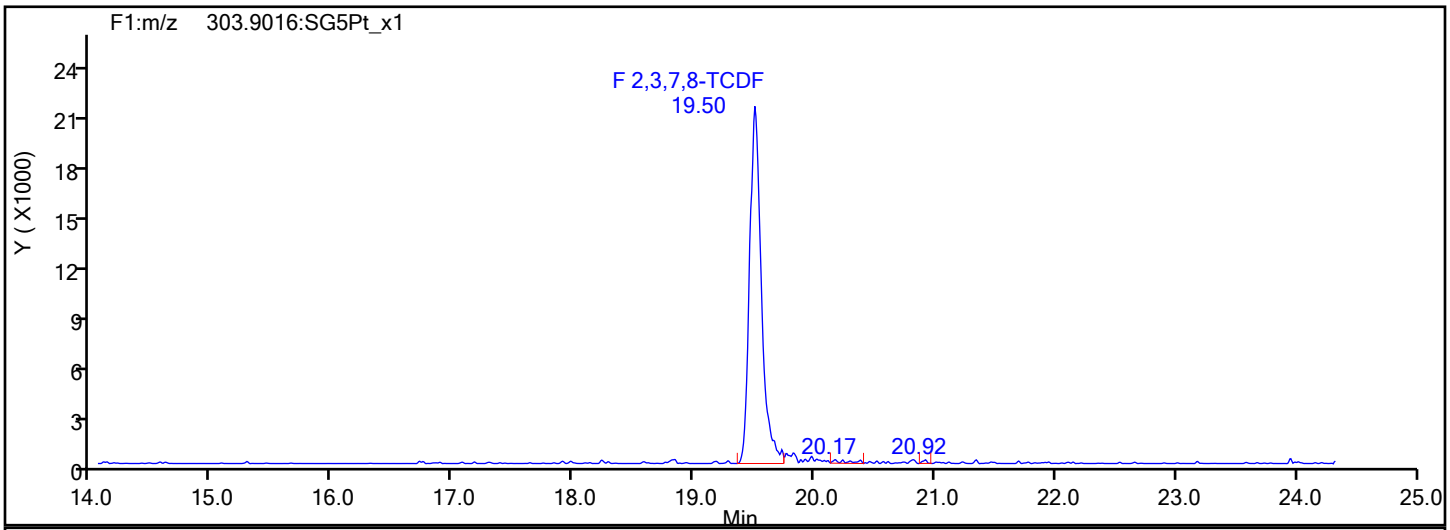


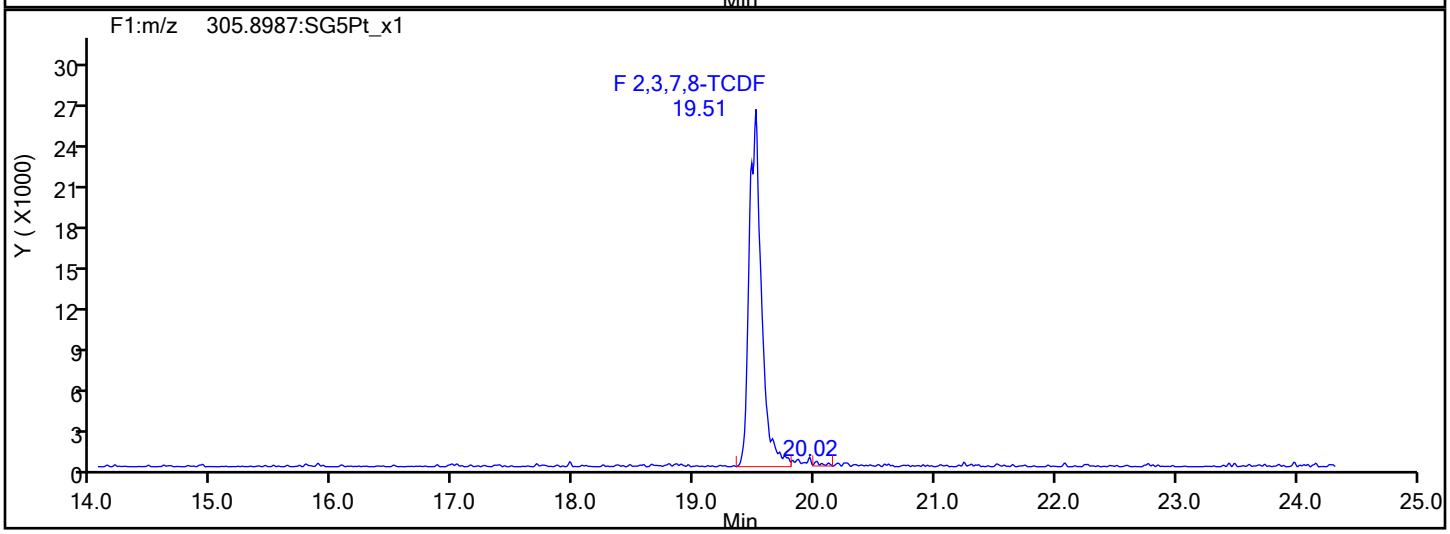


Eurofins Sacramento

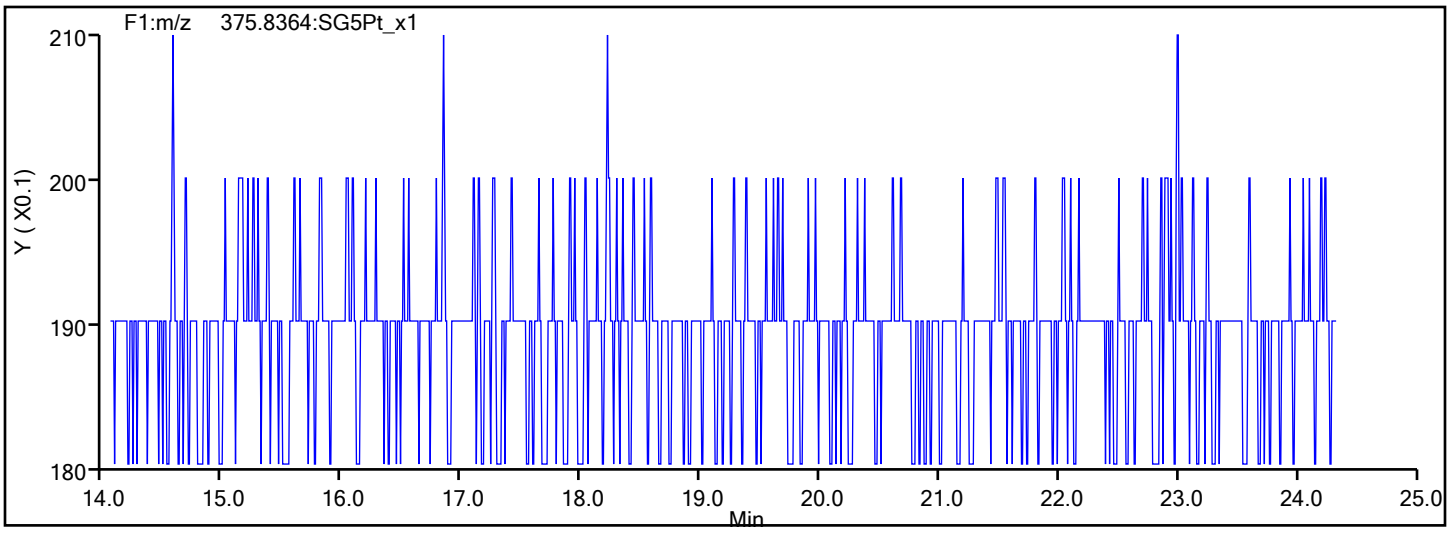
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d		
Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





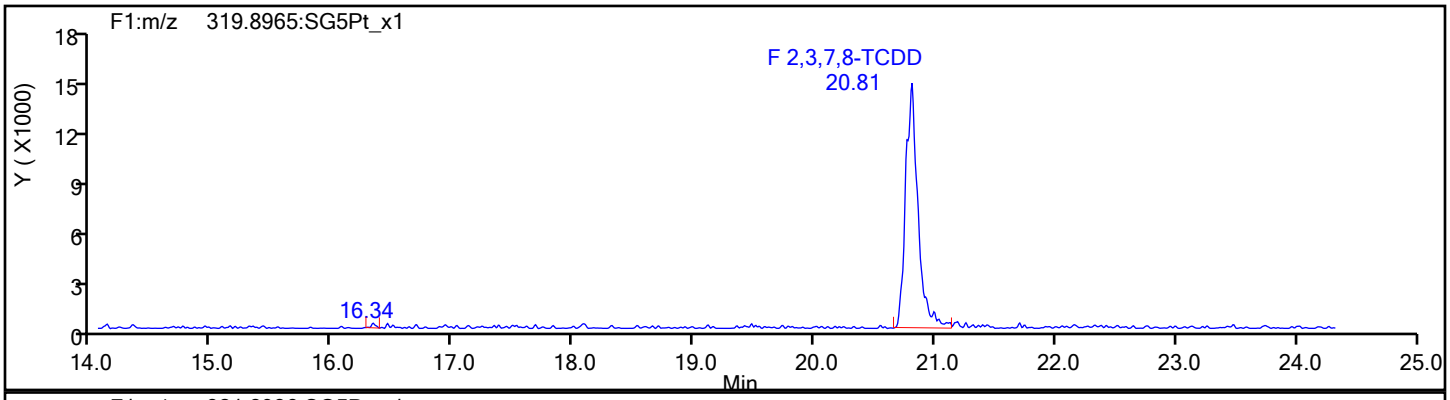
TCDF Interference Mass

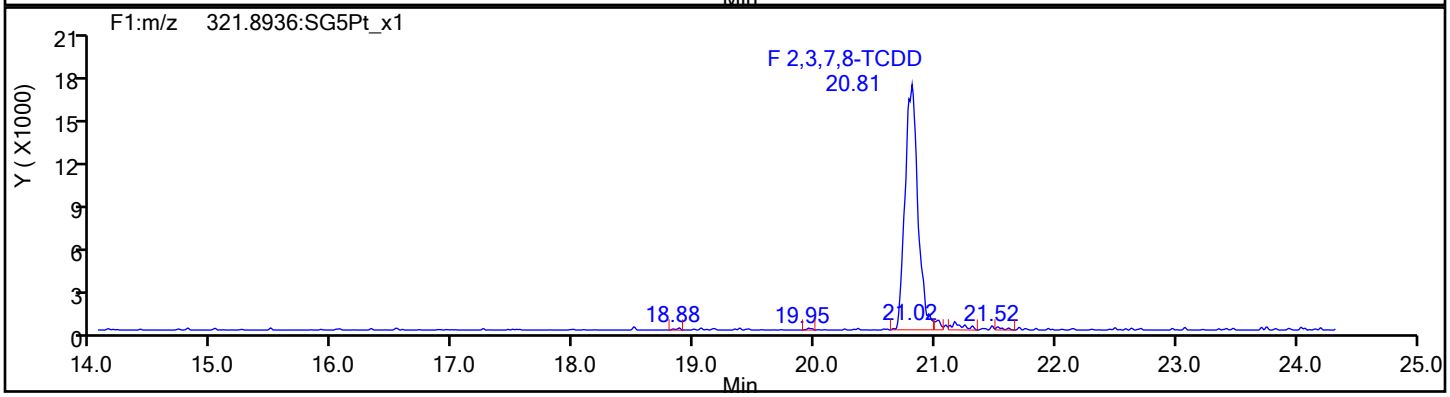


Eurofins Sacramento

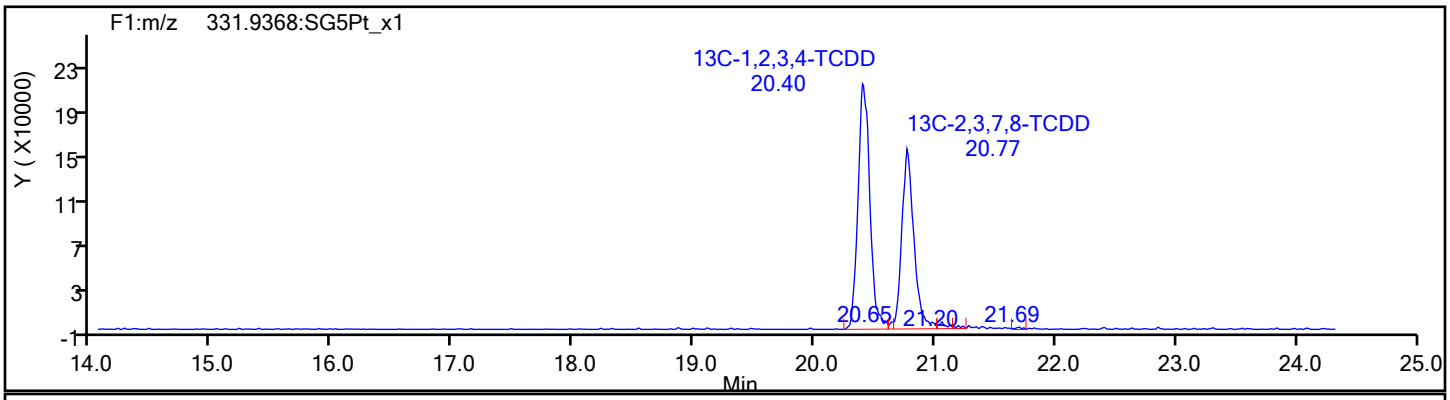
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Injection Date: 13-Jan-2022 18:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

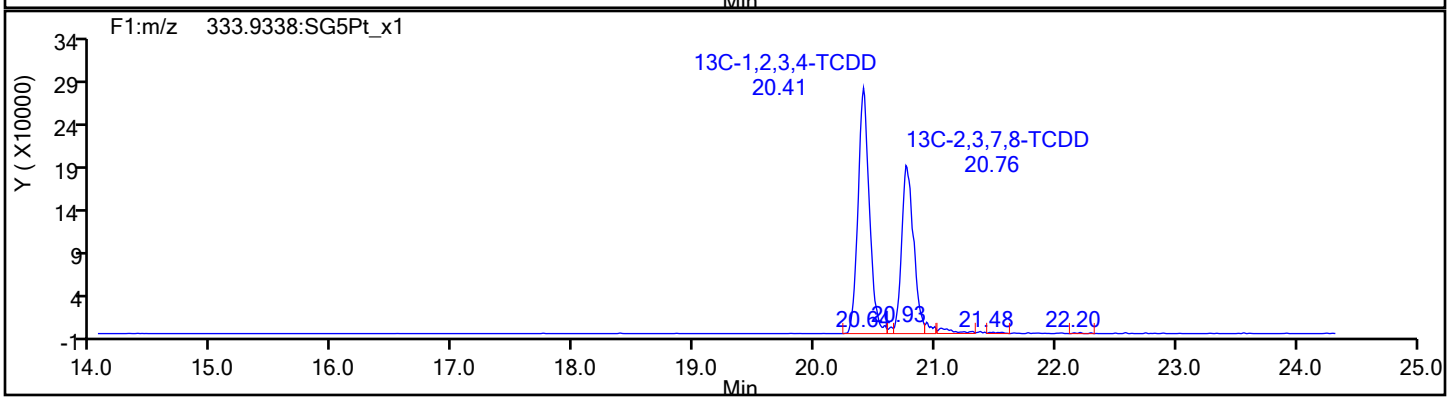
TCDD





TCDD Standards

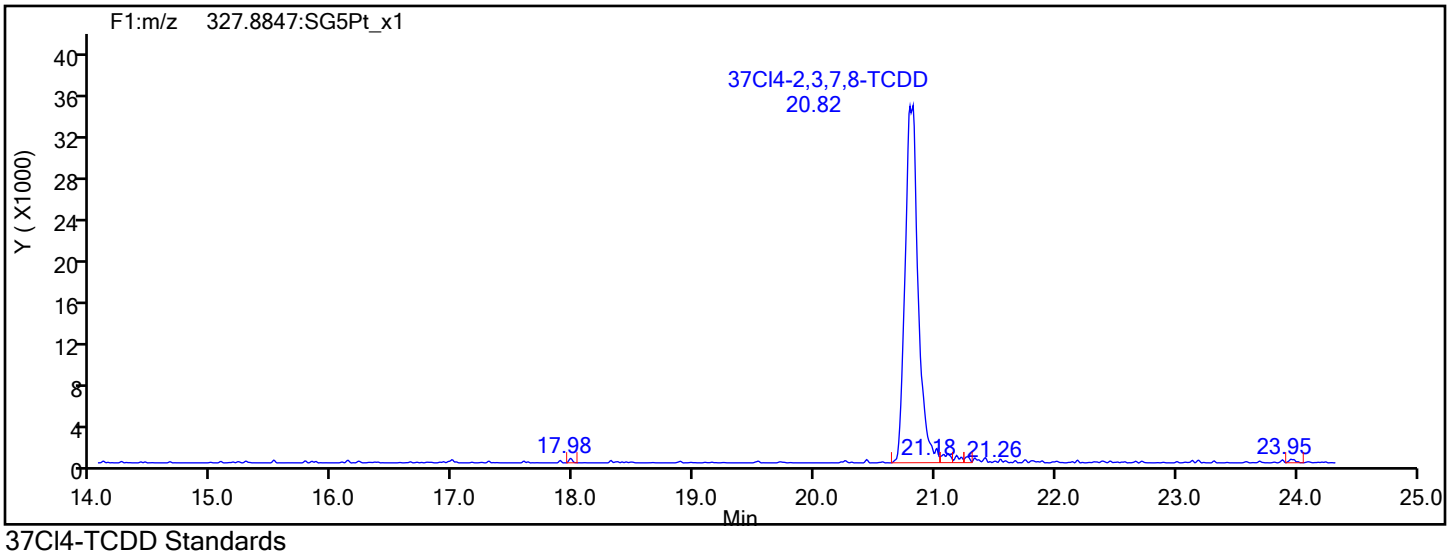




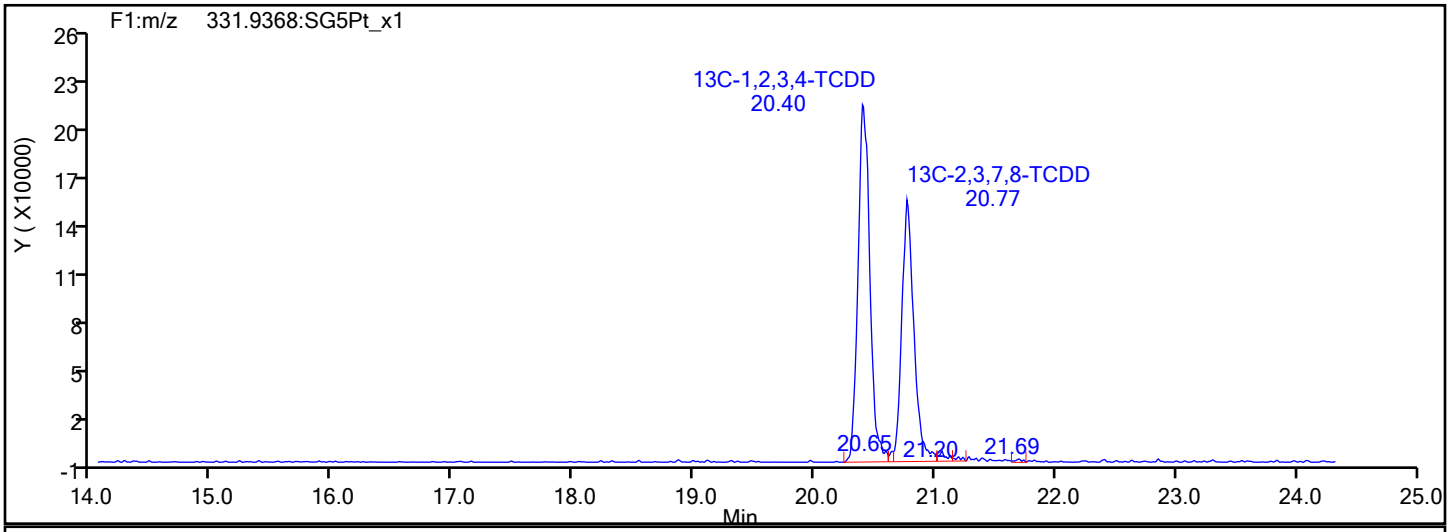
Eurofins Sacramento

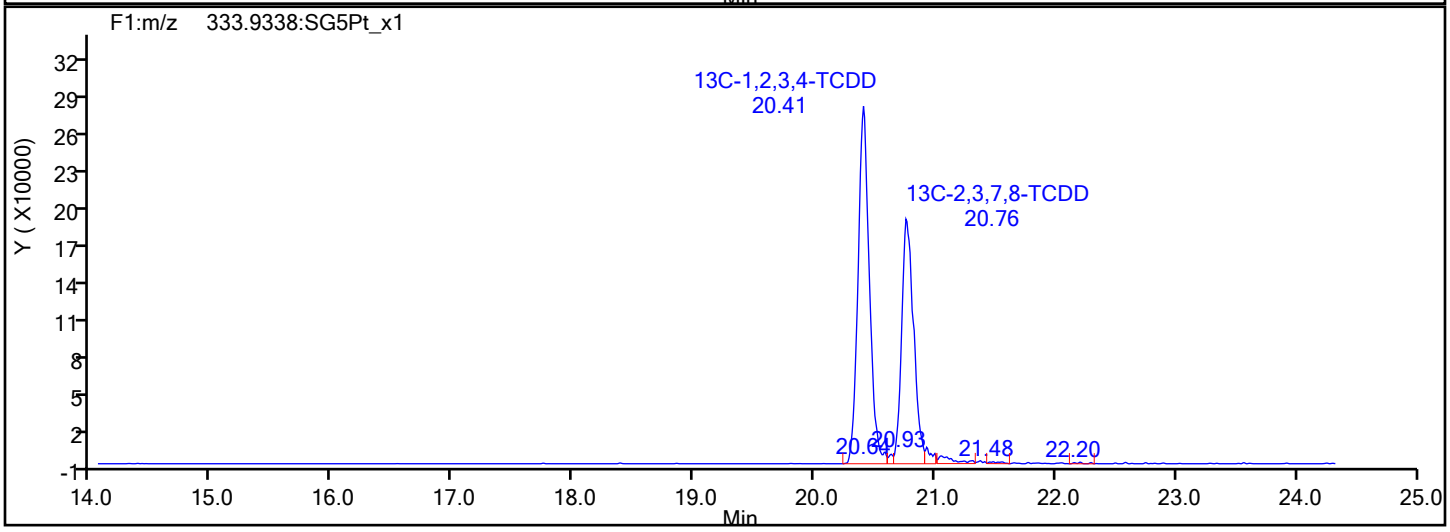
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Injection Date: 13-Jan-2022 18:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 20-Jan-2022 15:58:17 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

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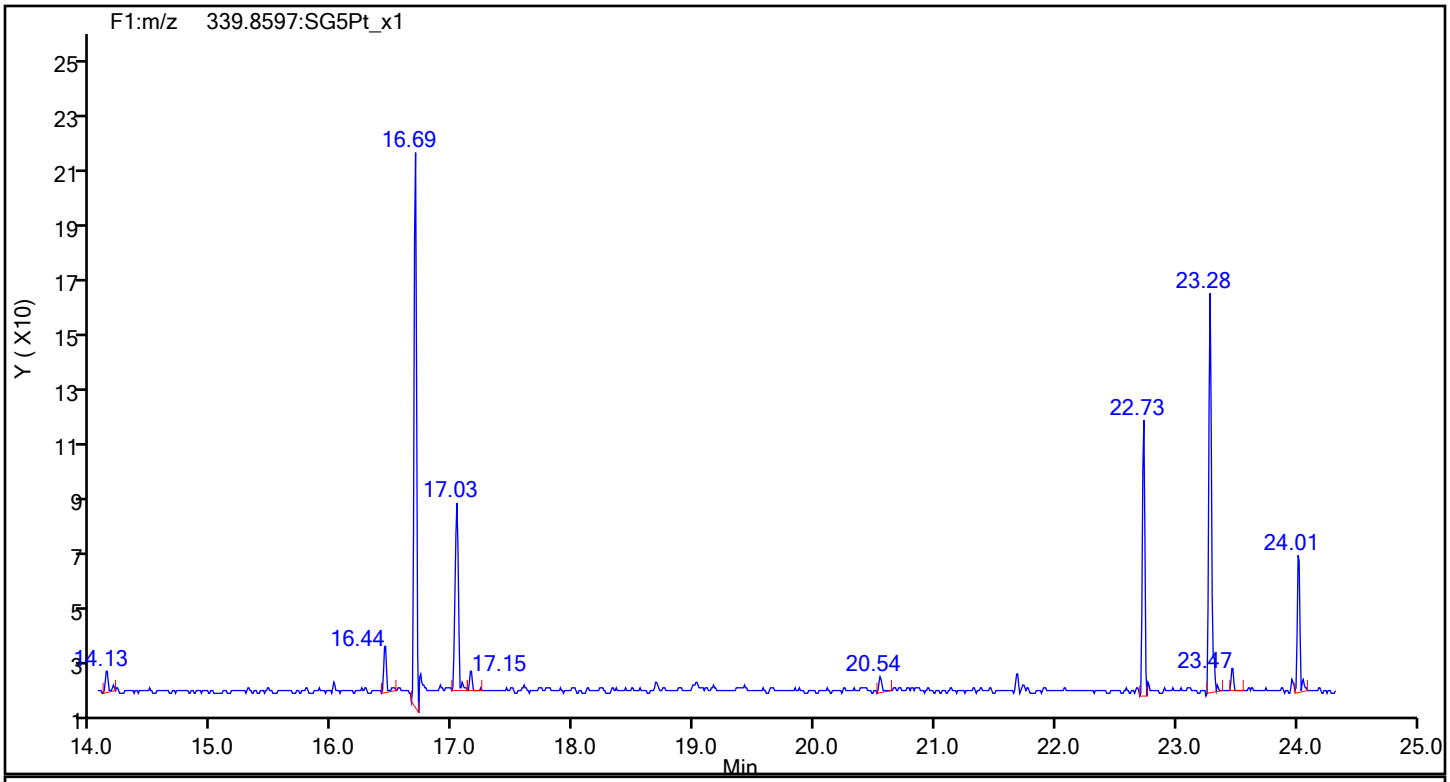
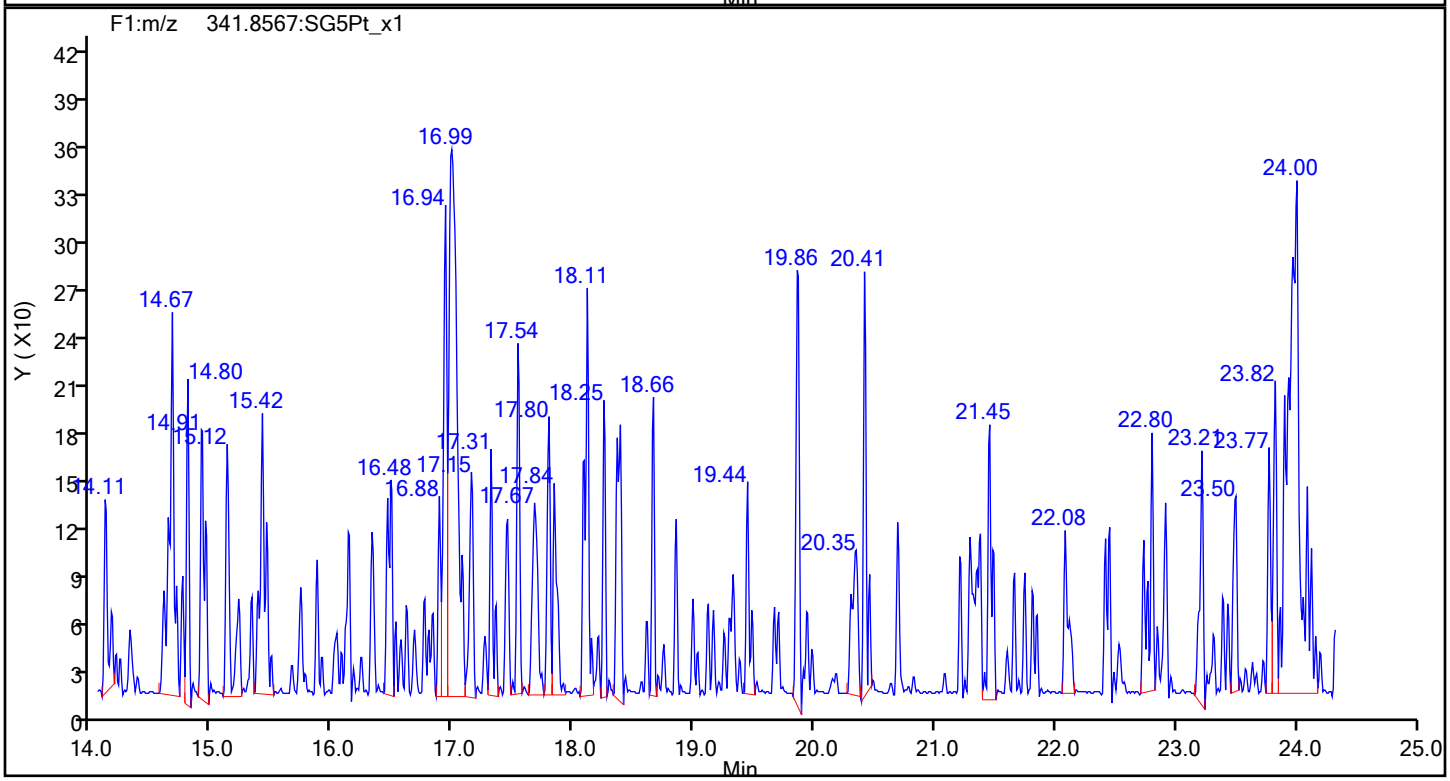
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d		
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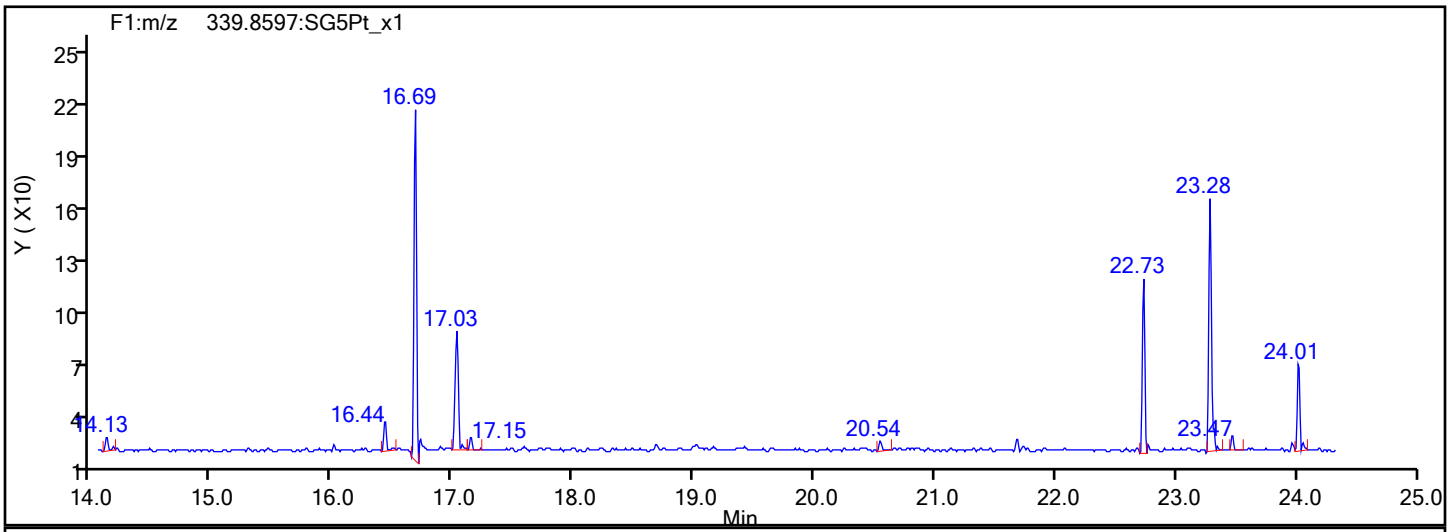
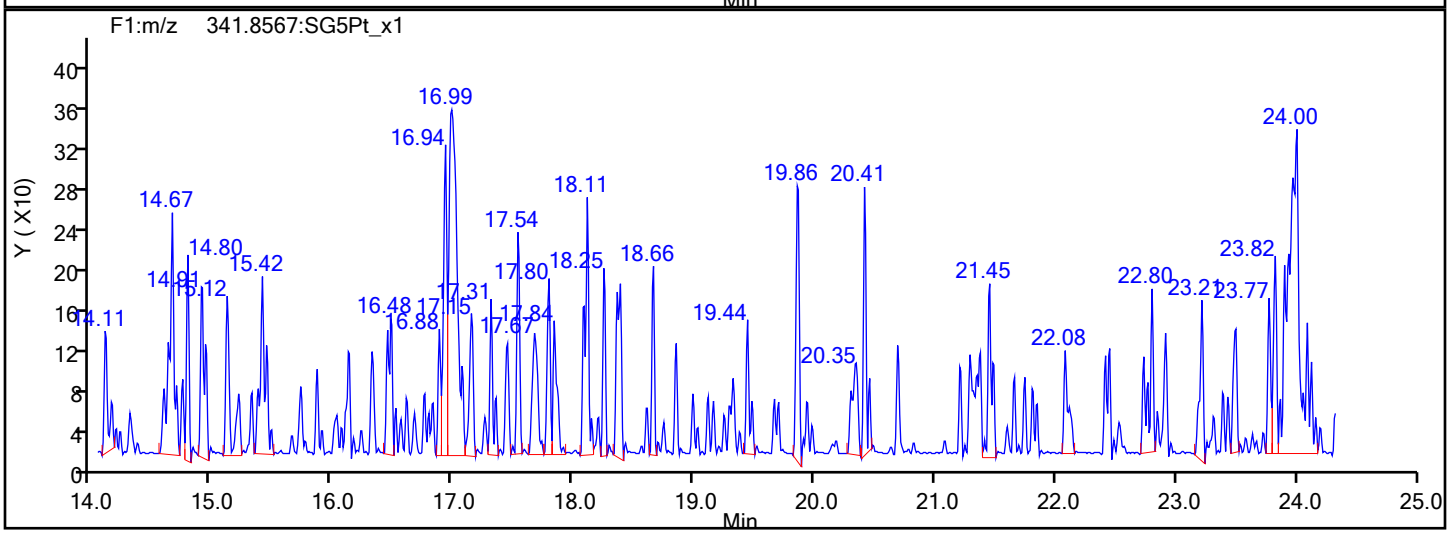
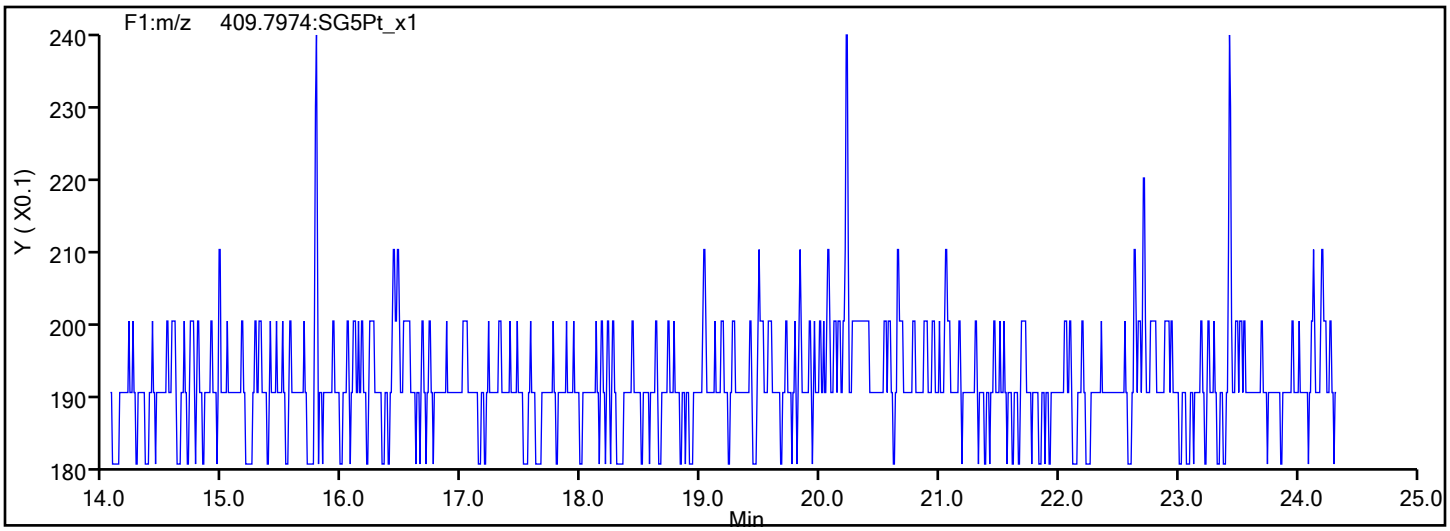
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
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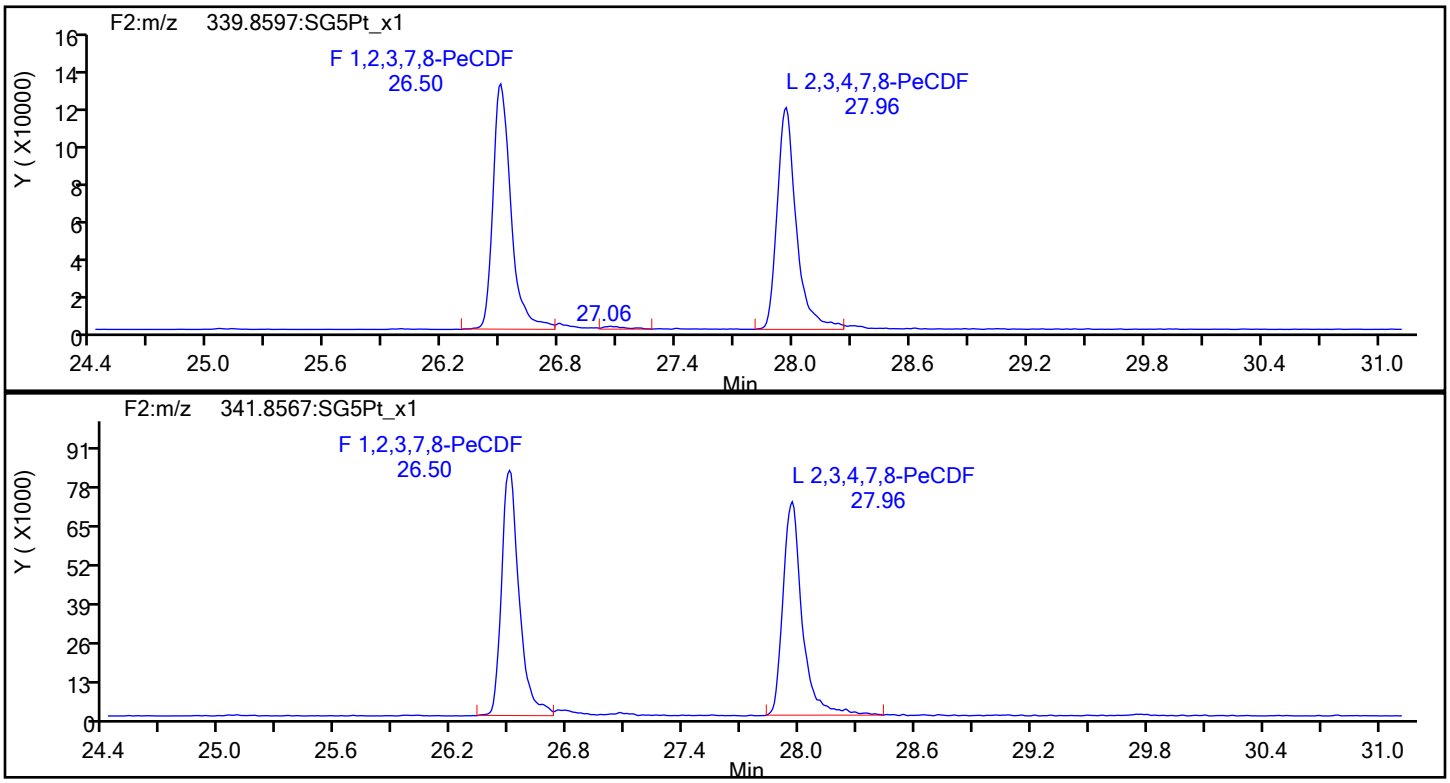
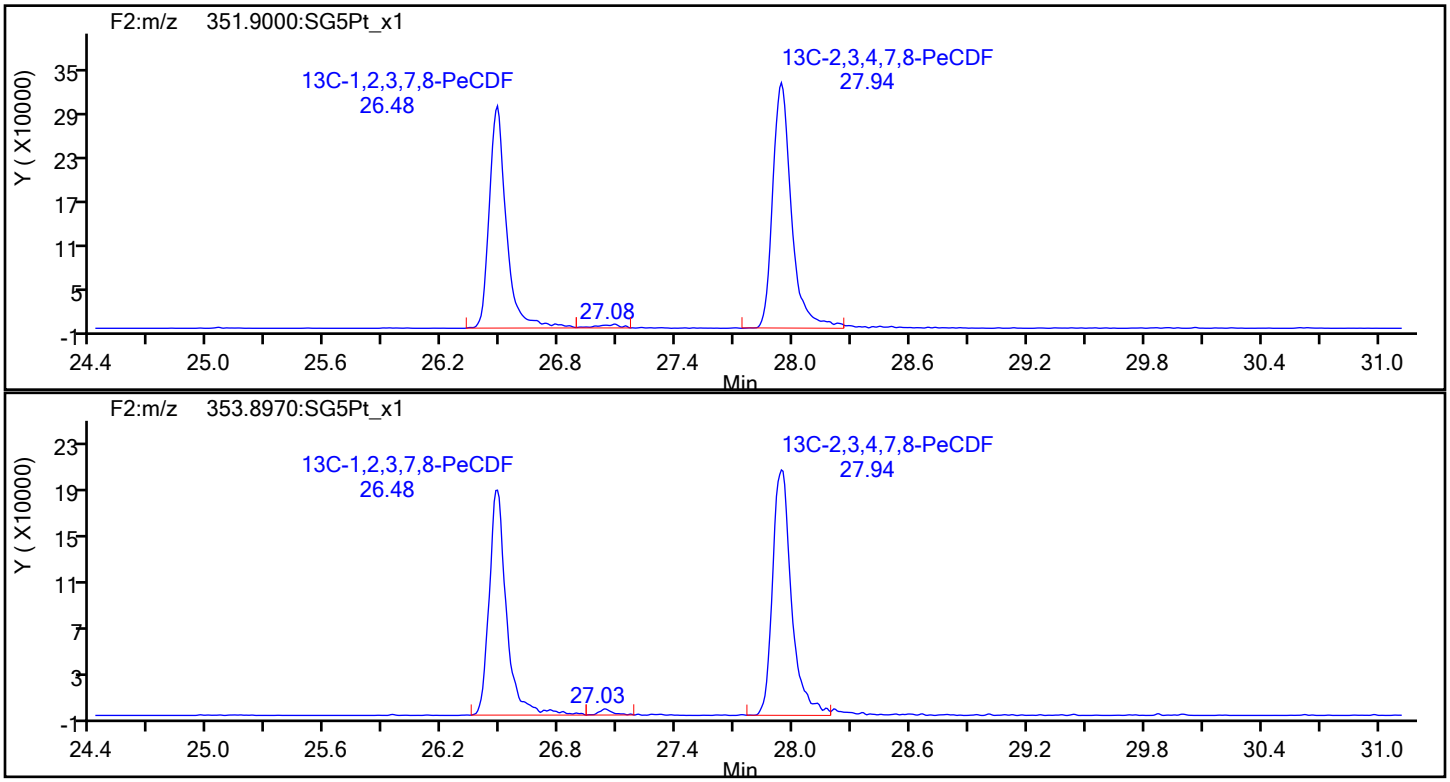
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d		
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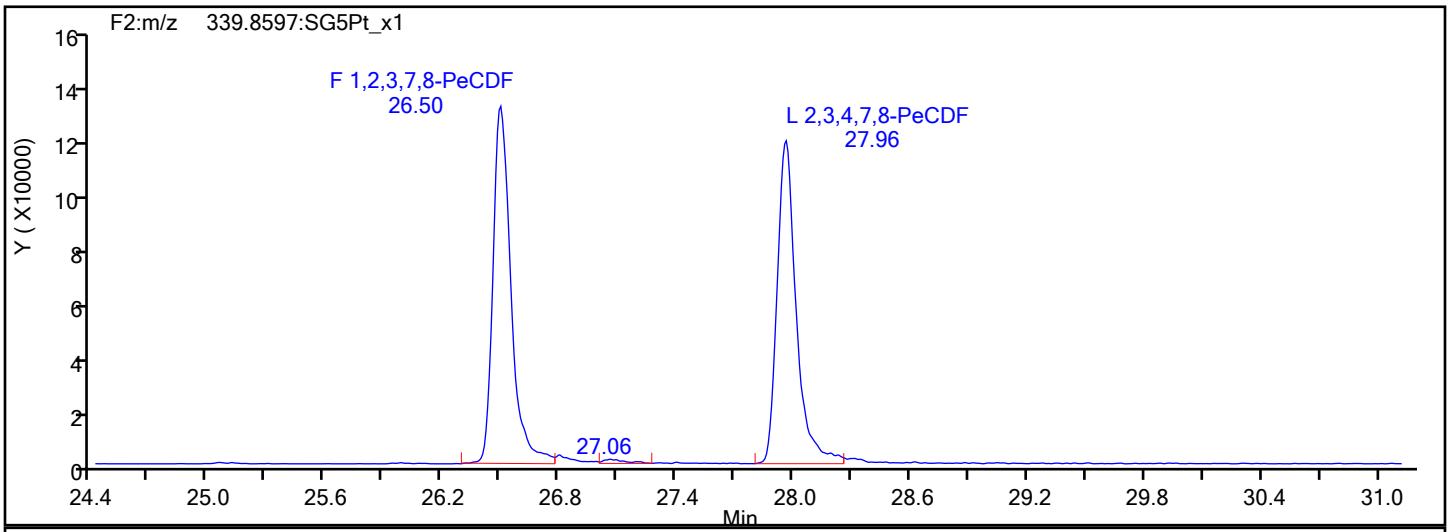
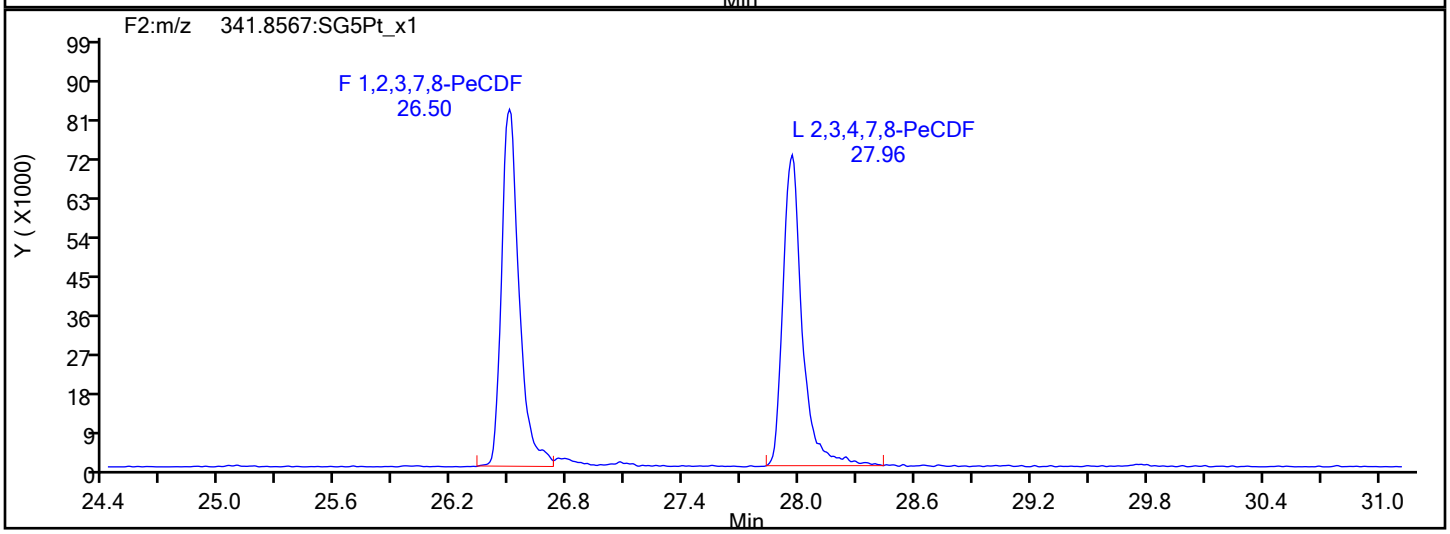
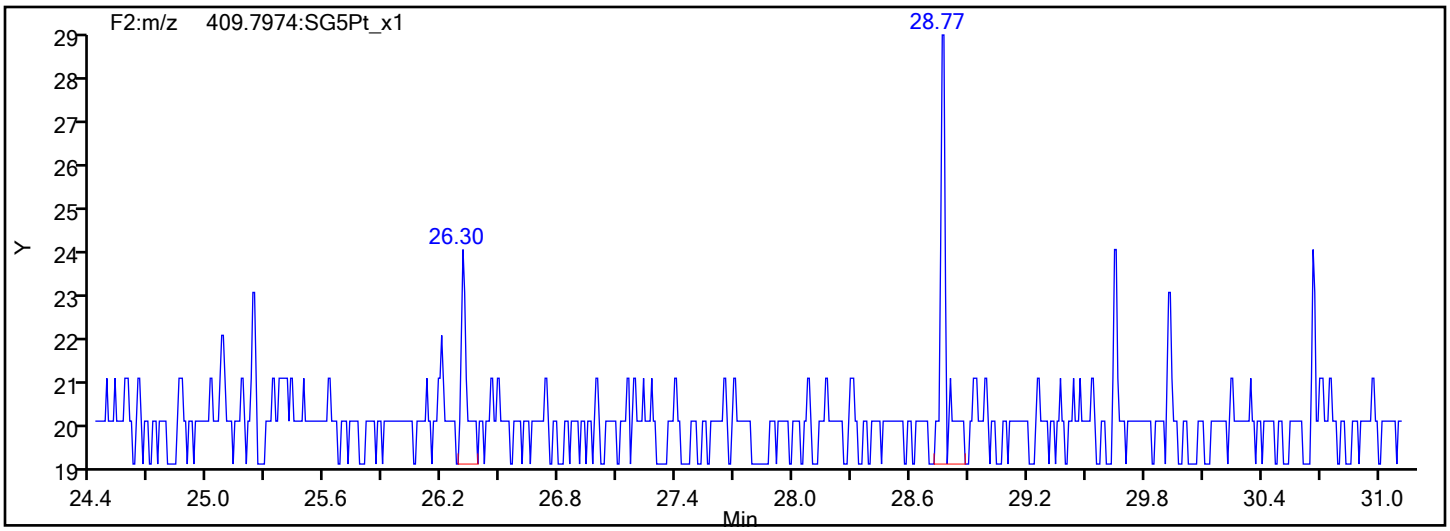
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



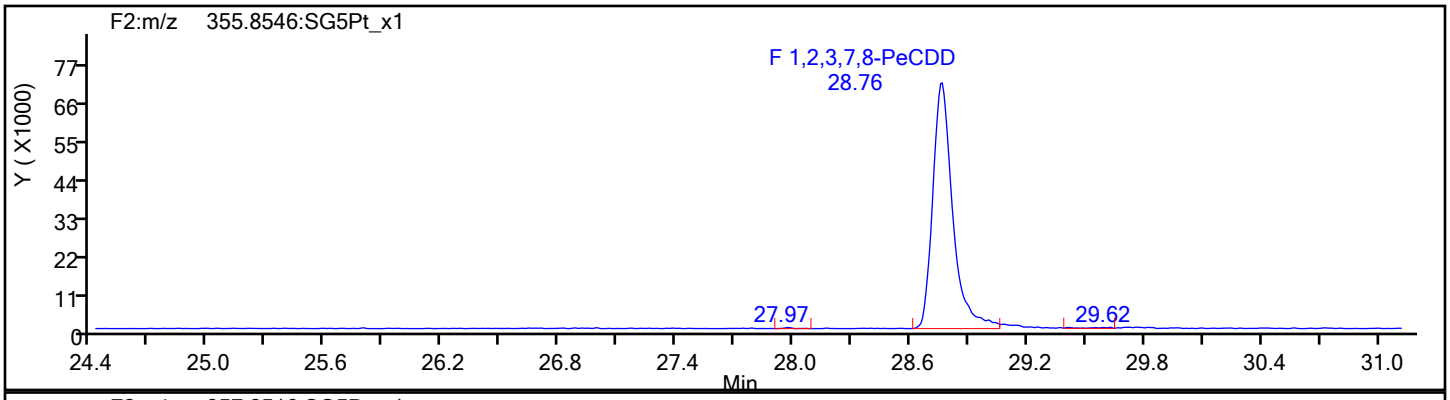
Report Date: 20-Jan-2022 15:58:17 Chrom Revision: 2.3 18-Jan-2022 20:25:40

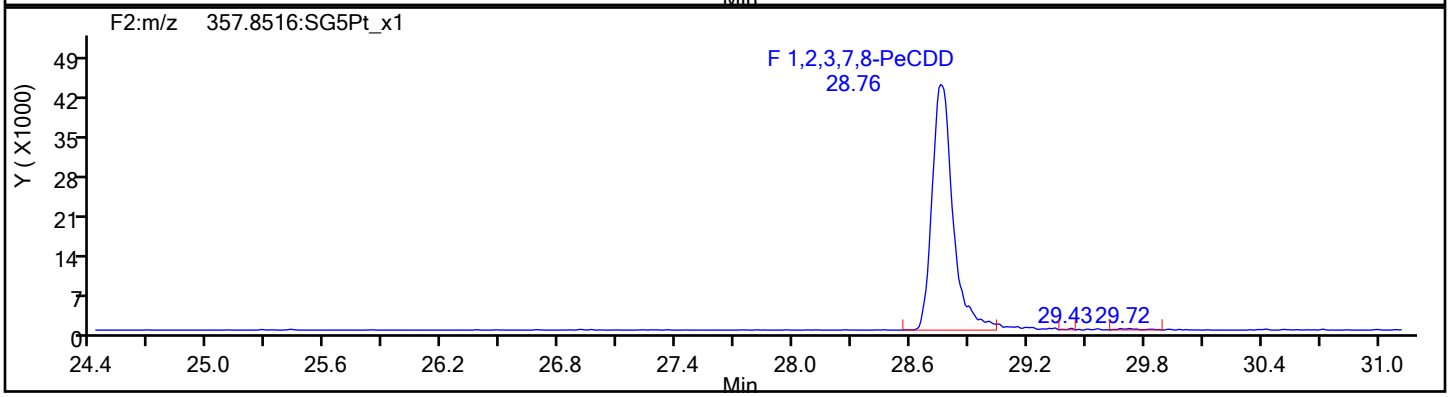
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d

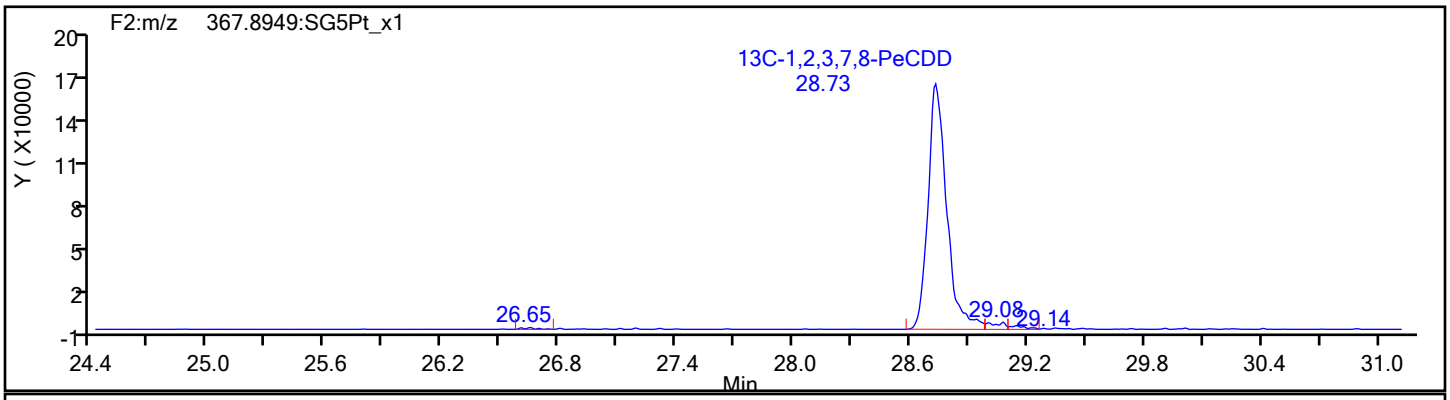
Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

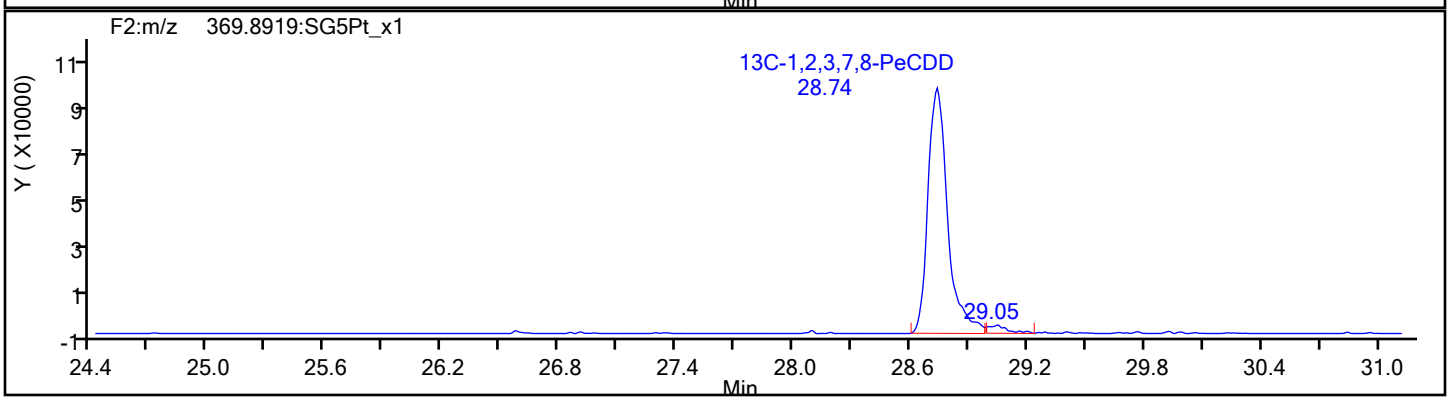
PeCDD





PeCDD Standards





Eurofins Sacramento

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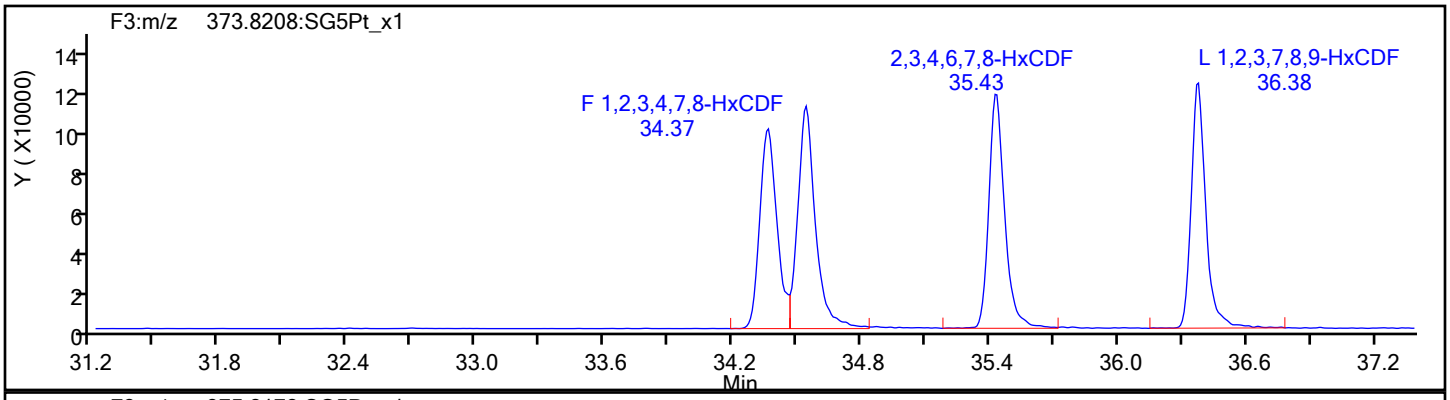
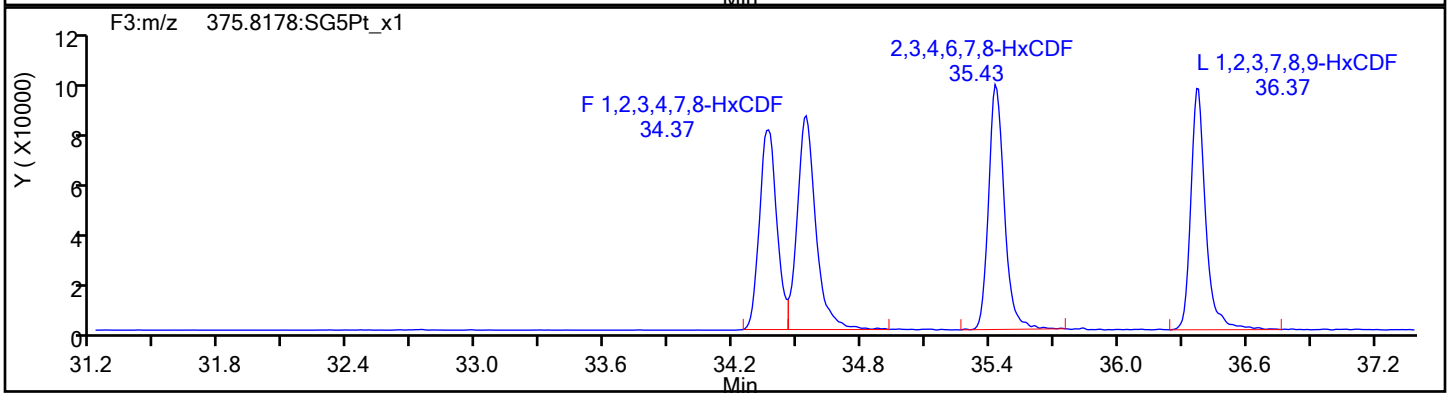
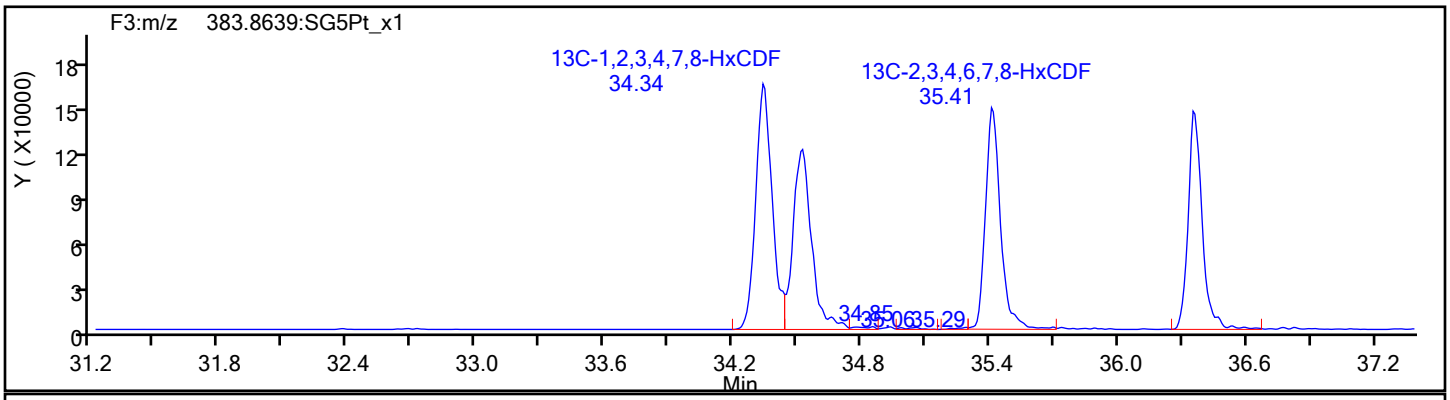
Injection Date: 13-Jan-2022 18:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

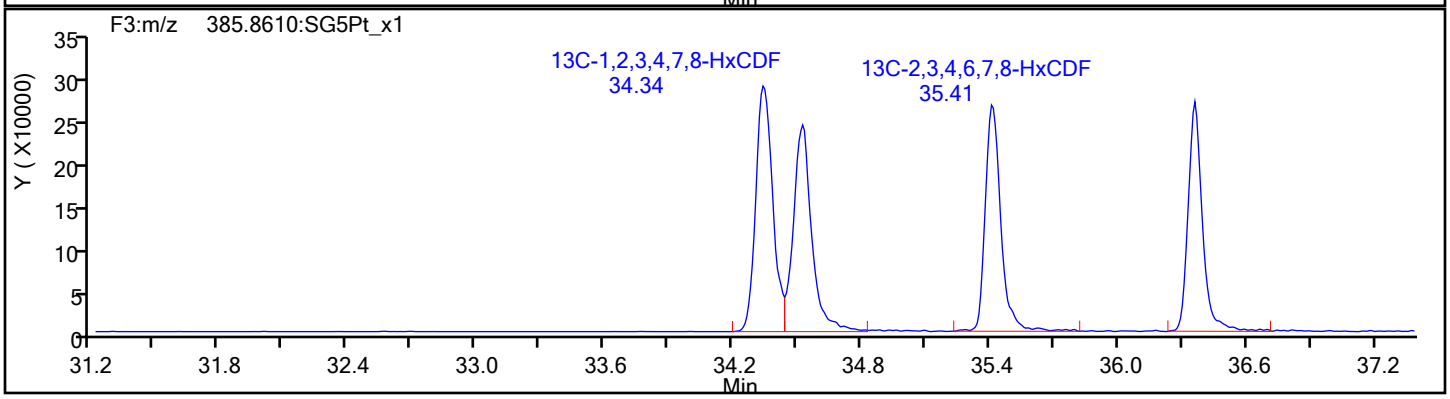
HxCDF





HxCDF Standards





Eurofins Sacramento

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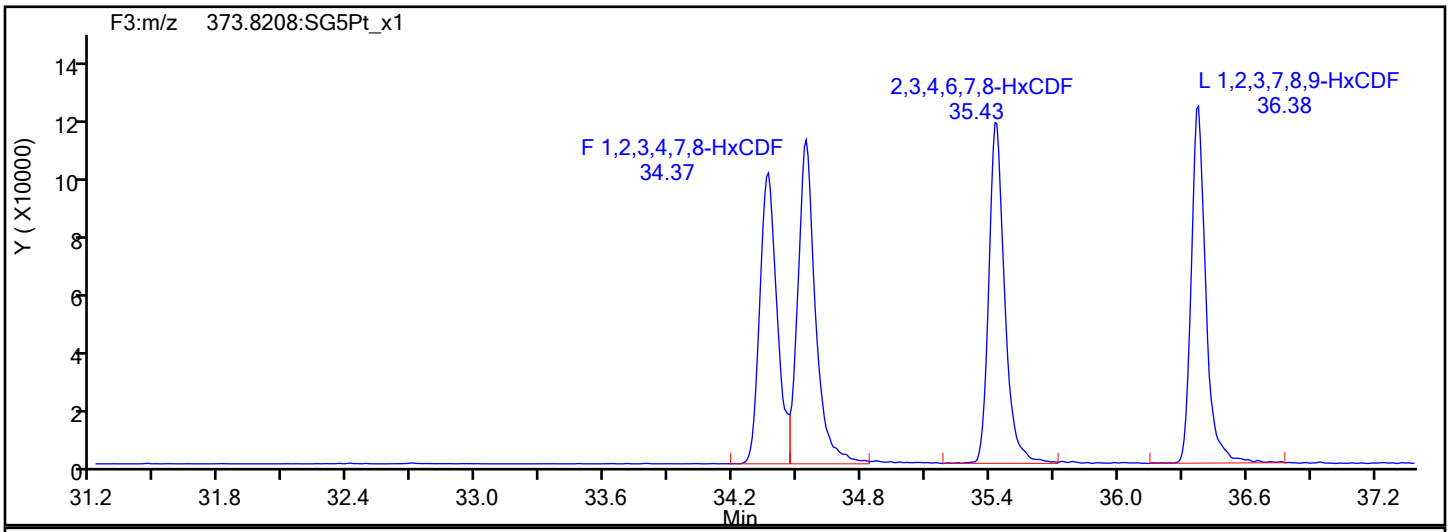
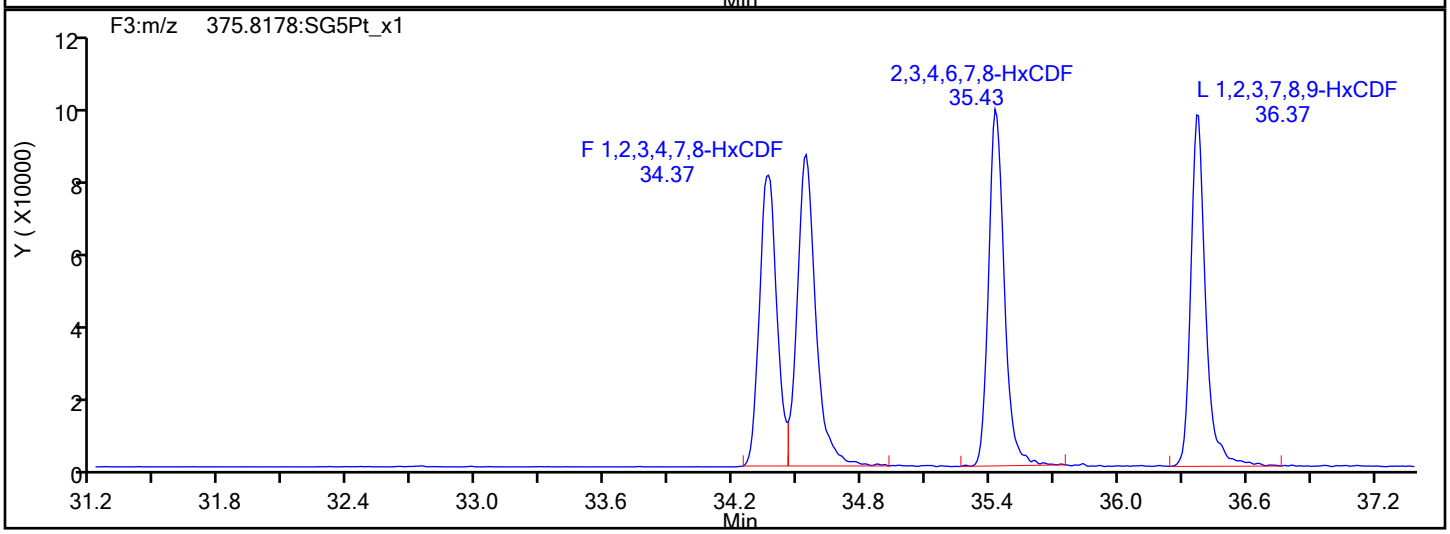
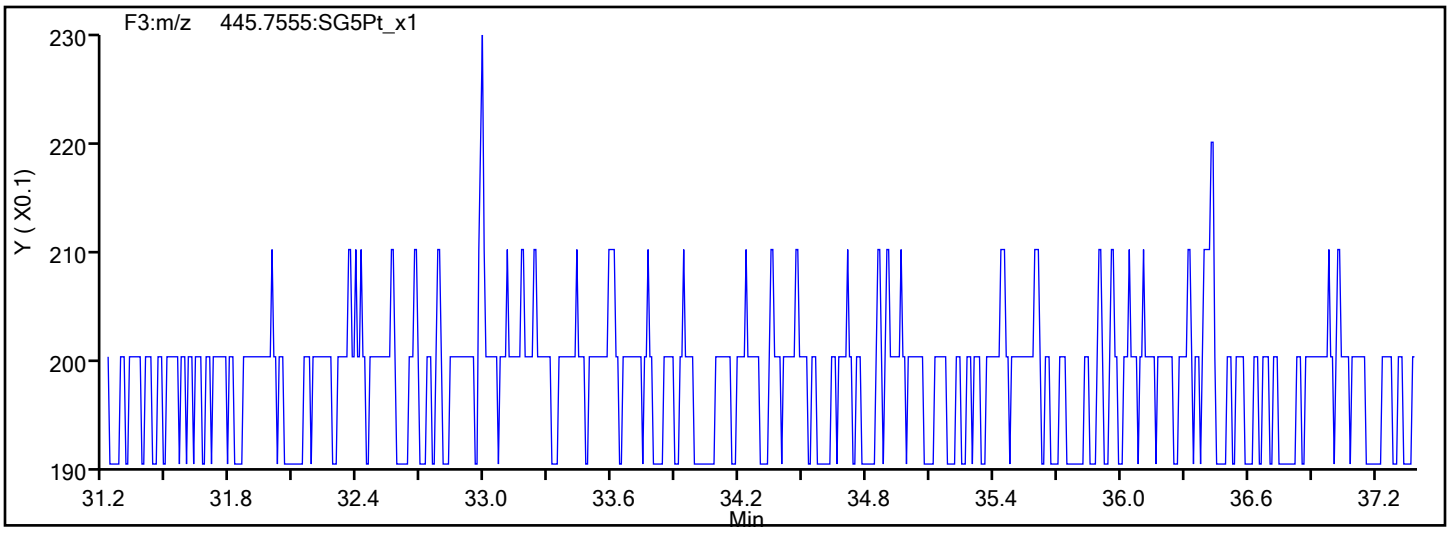
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins Sacramento

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Client ID:
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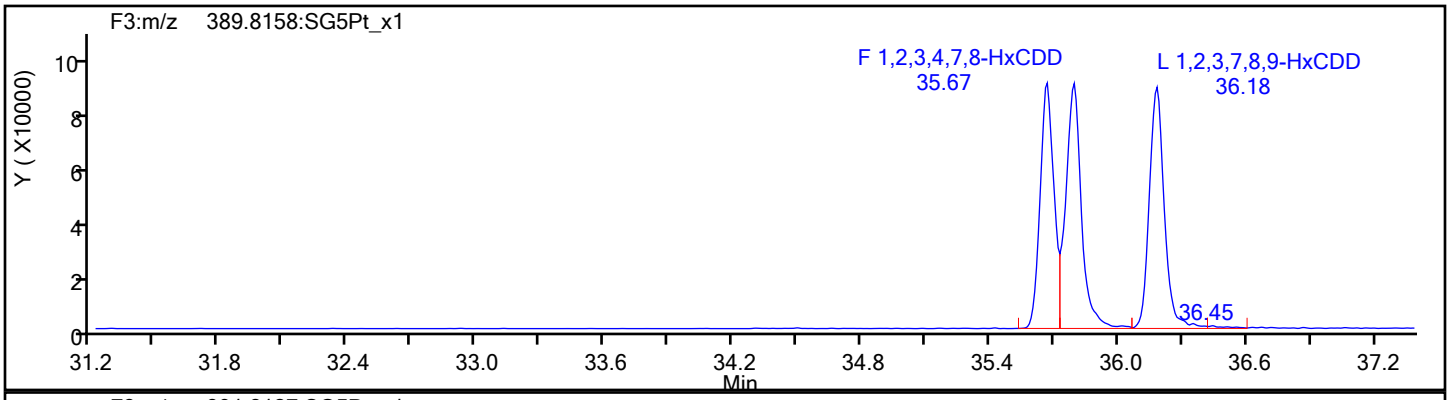
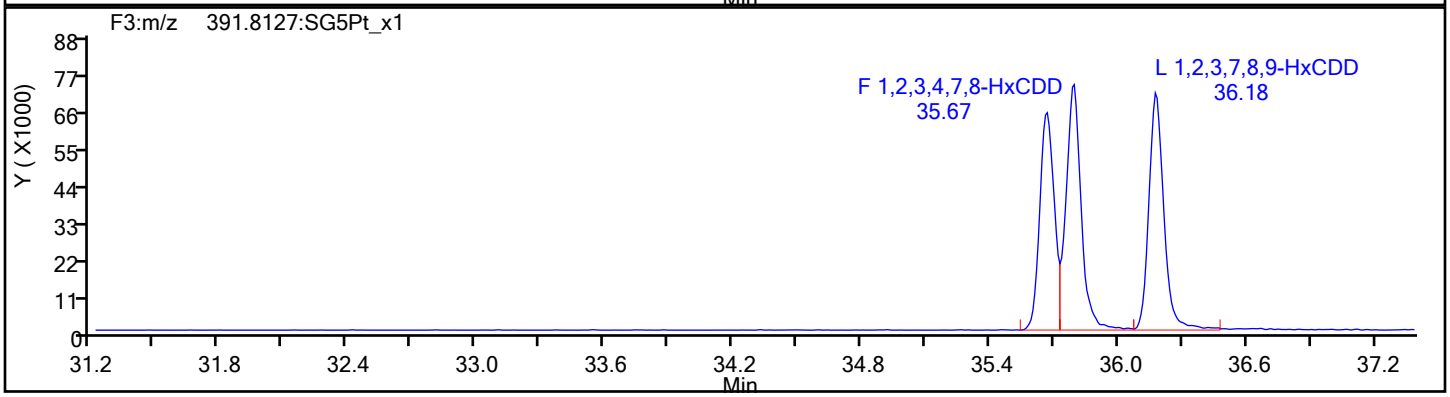
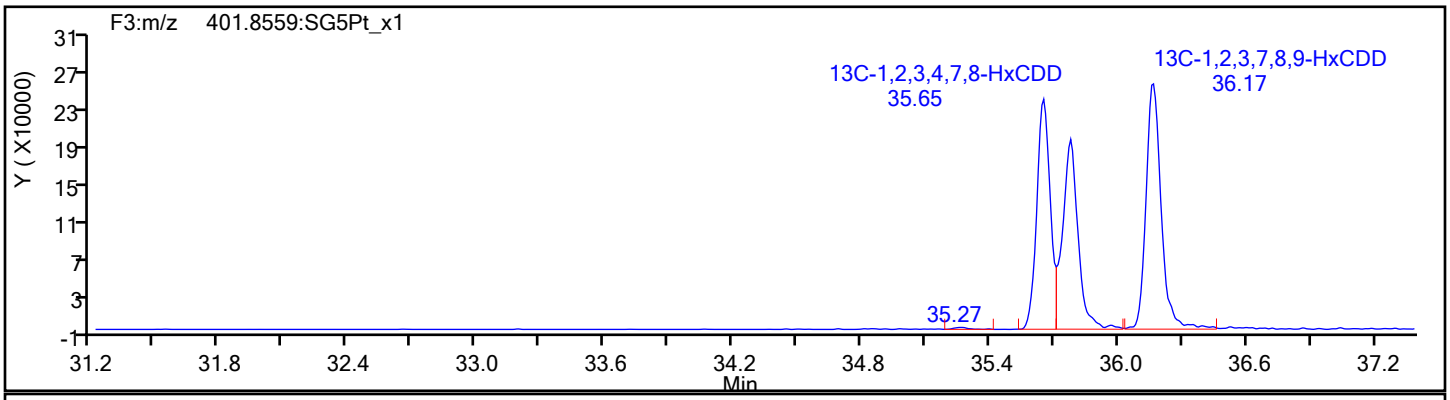
Column Type: DB-5 Column Dia: 0.32 mm

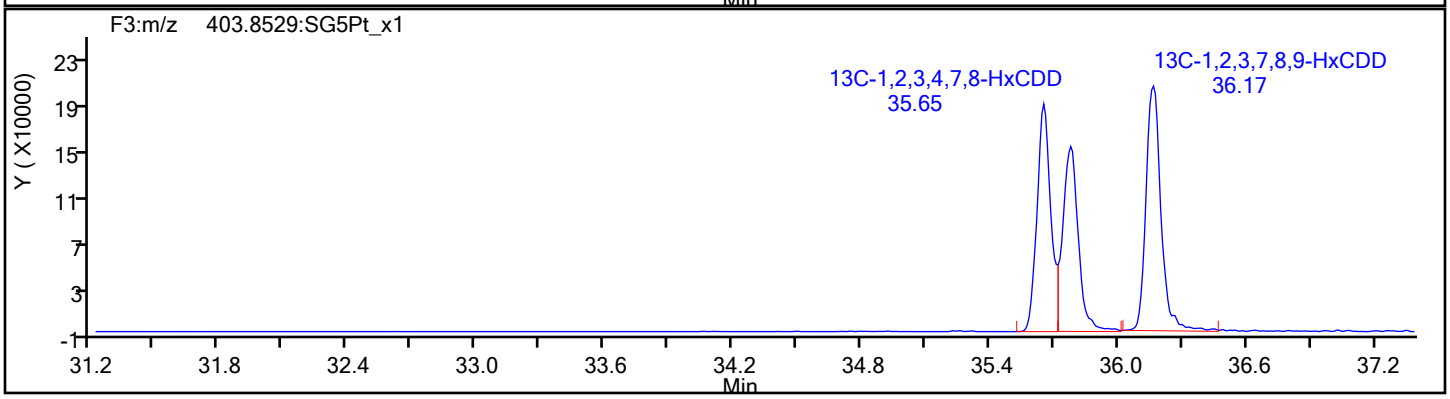
HxCDD





HxCDD Standards





Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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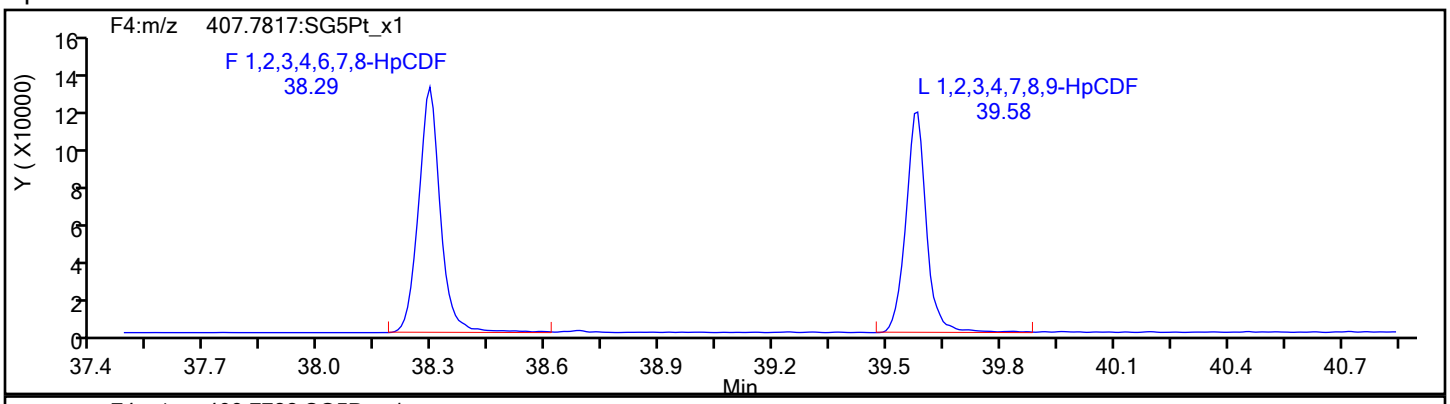
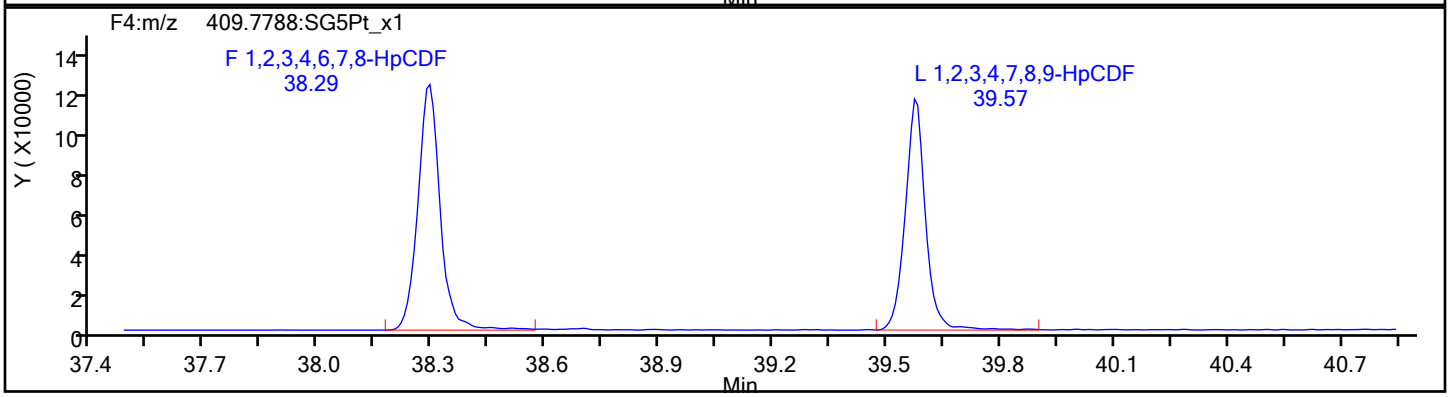
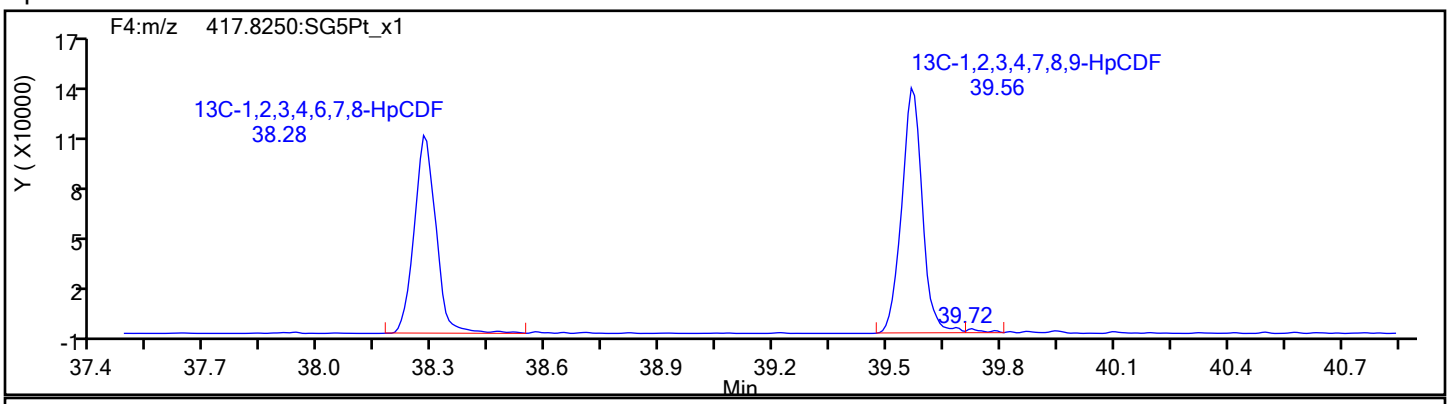
Column Type:	DB-5	Column Dia:	0.32 mm

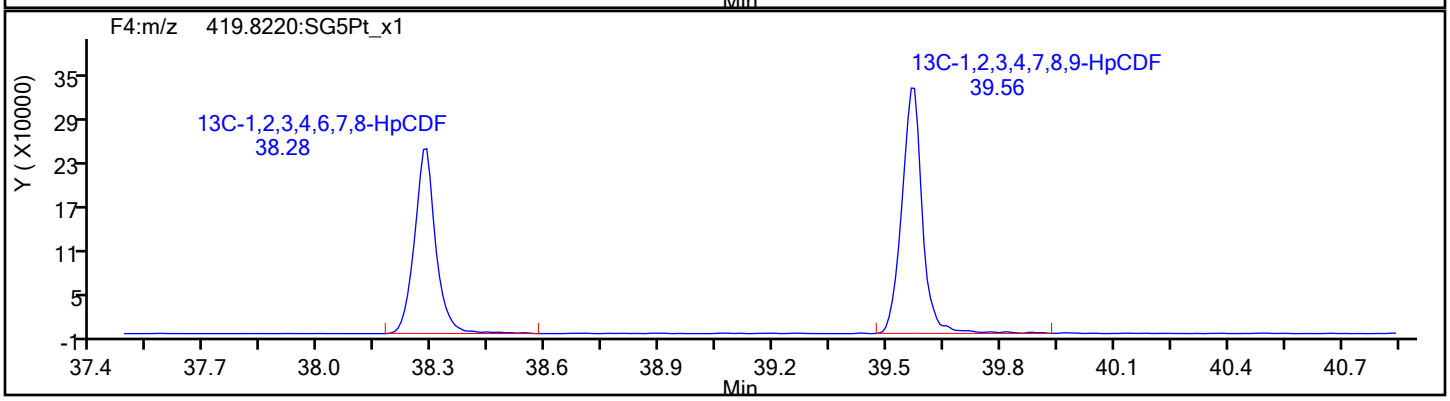
HpCDF





HpCDF Standards





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
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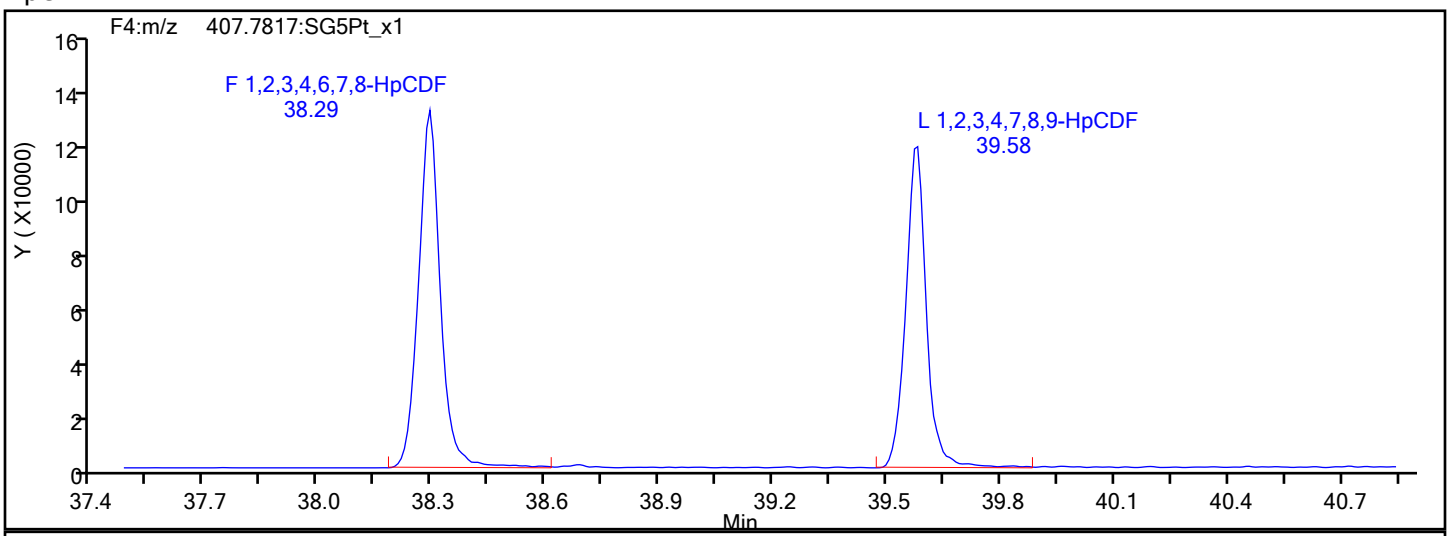
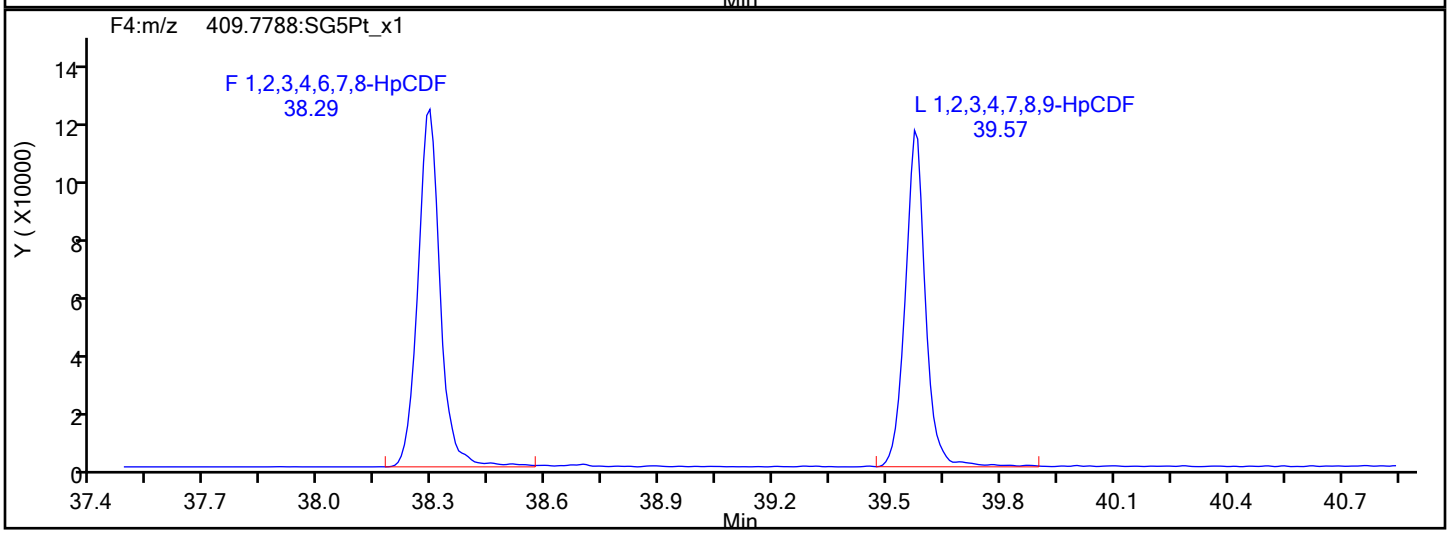
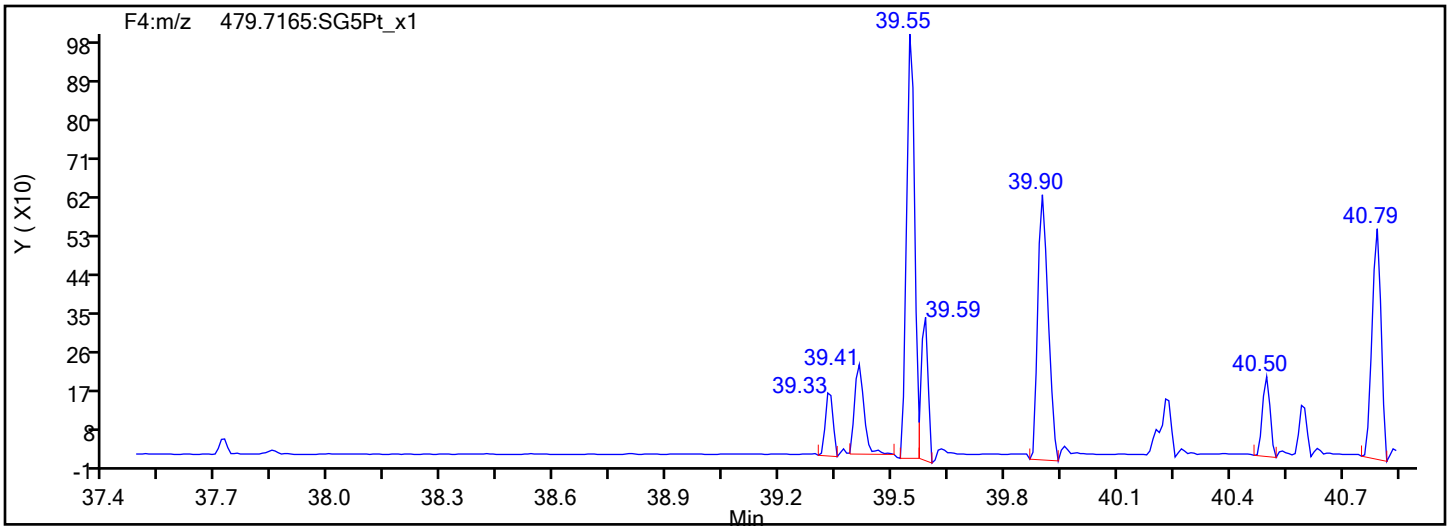
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

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Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
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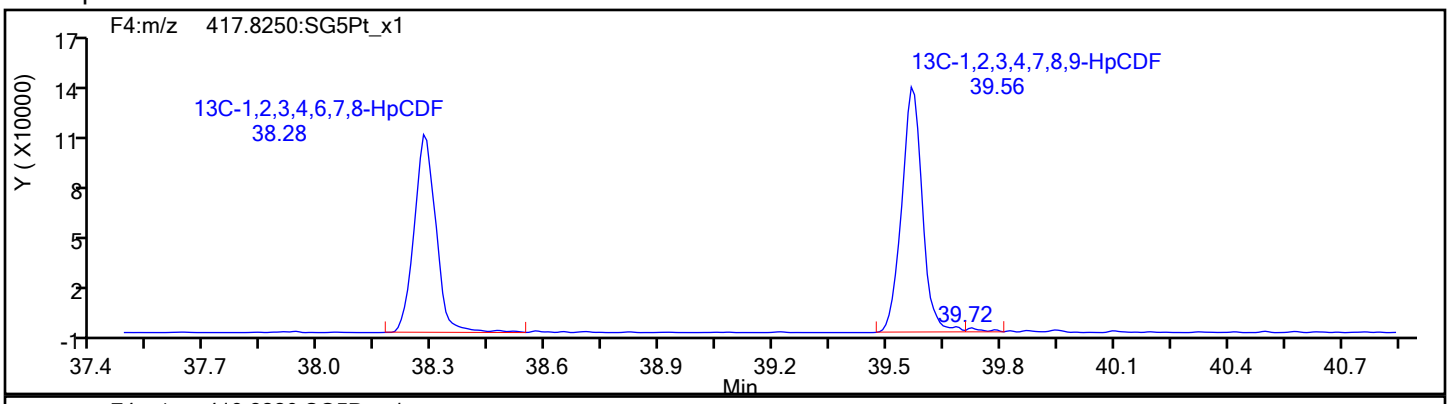
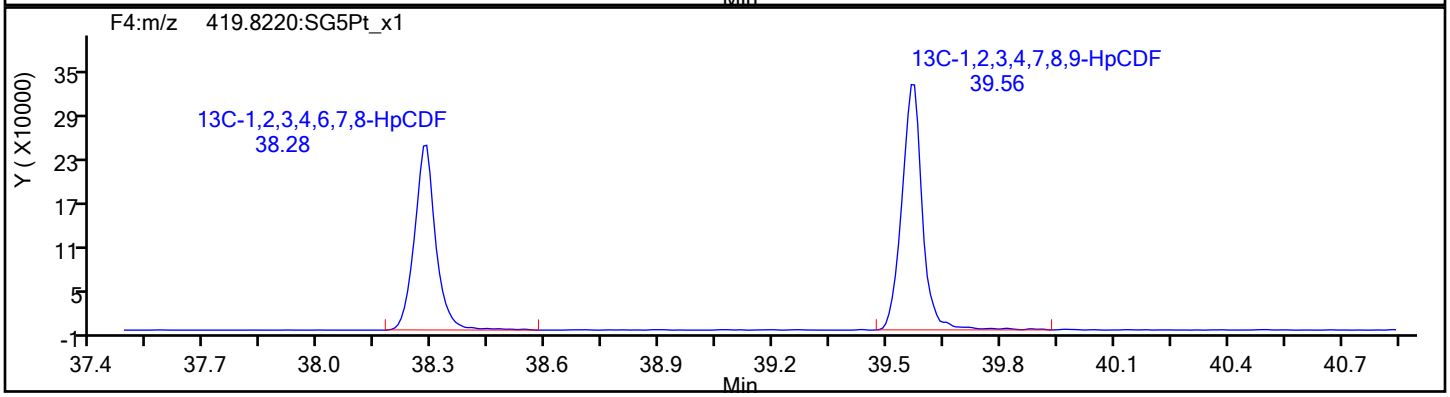
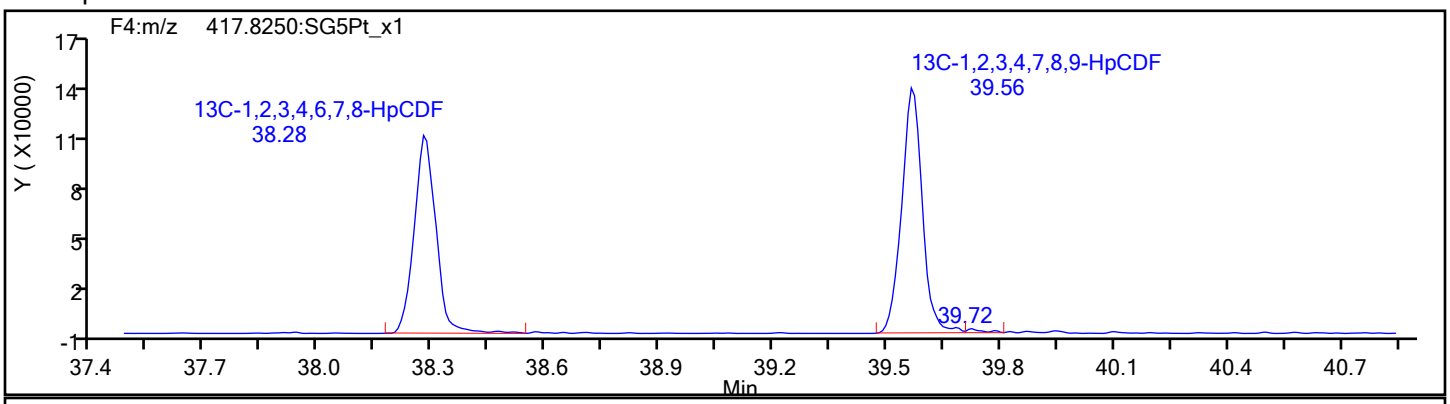
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

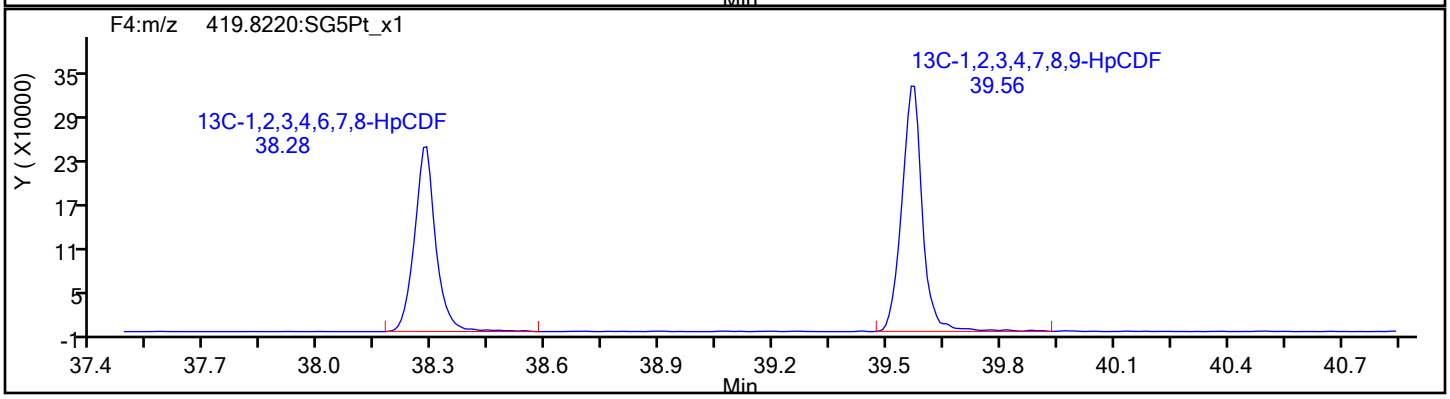
13C-HpCDF





13C-HpCDF Standards

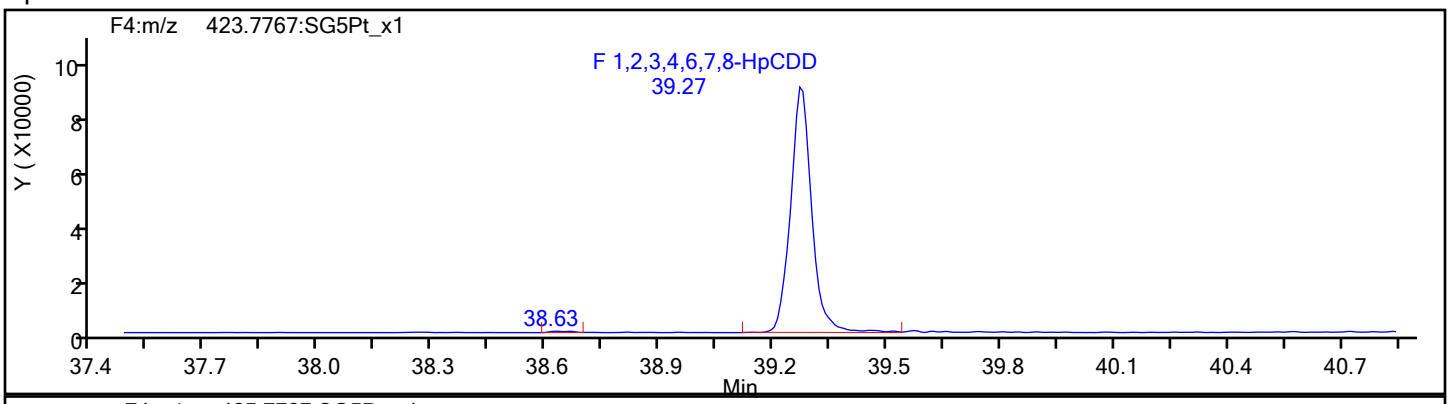


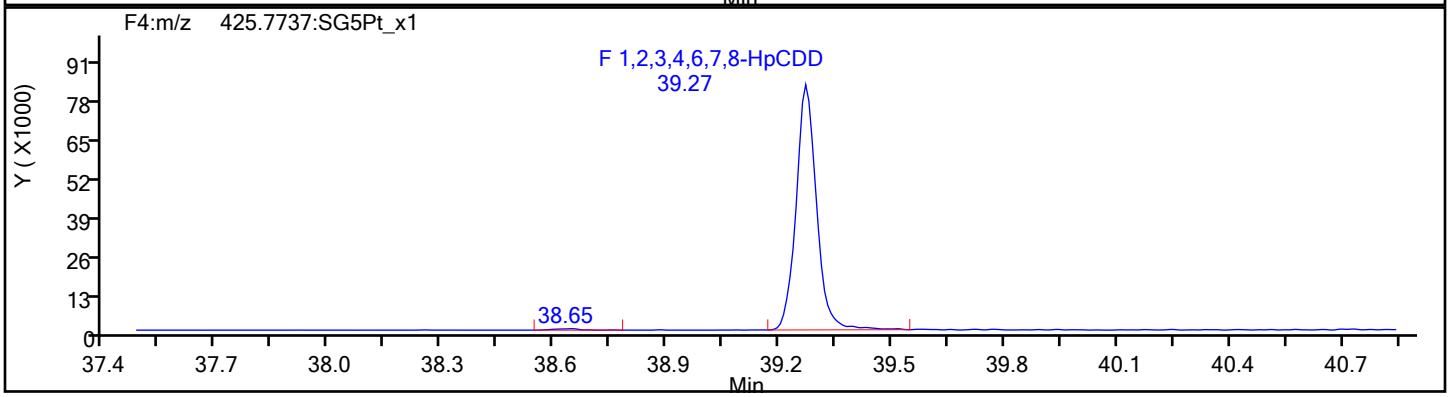


Eurofins Sacramento

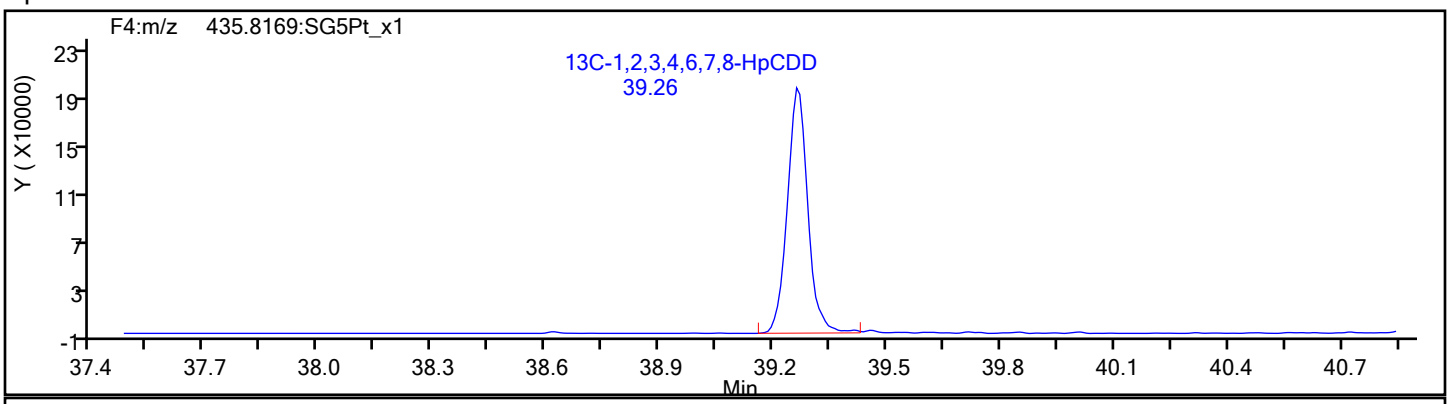
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Injection Date: 13-Jan-2022 18:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

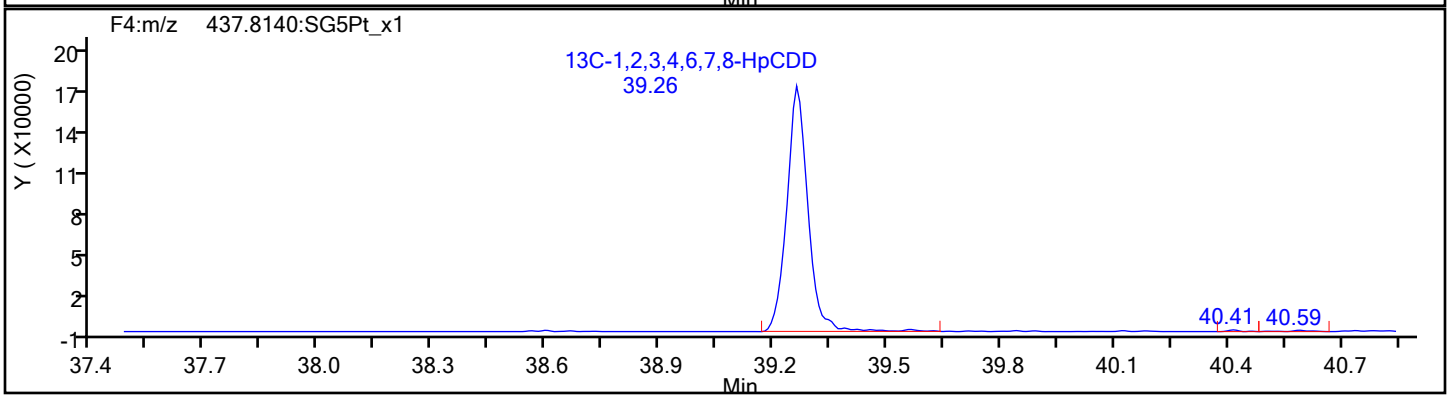
HpCDD





HpCDD Standards





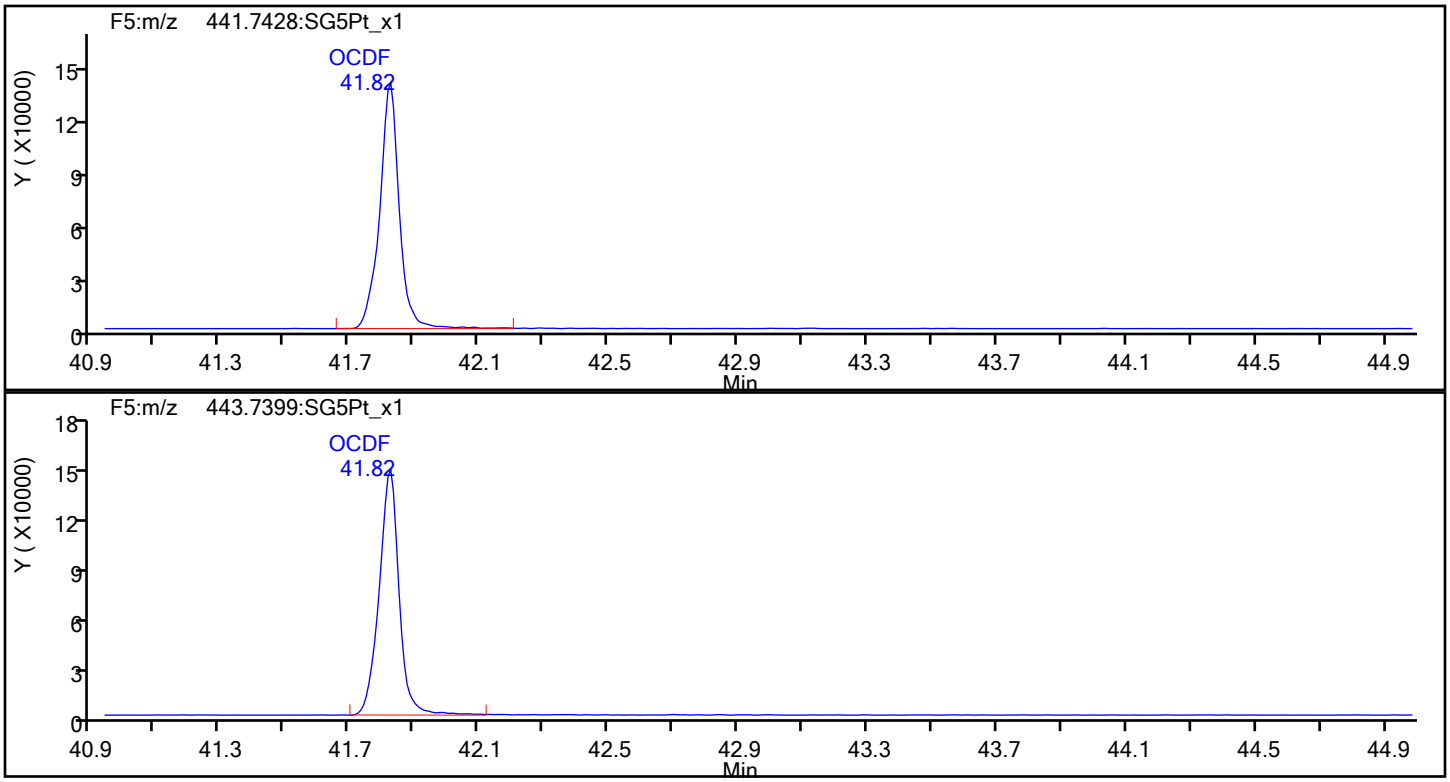
Report Date: 20-Jan-2022 15:58:18 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

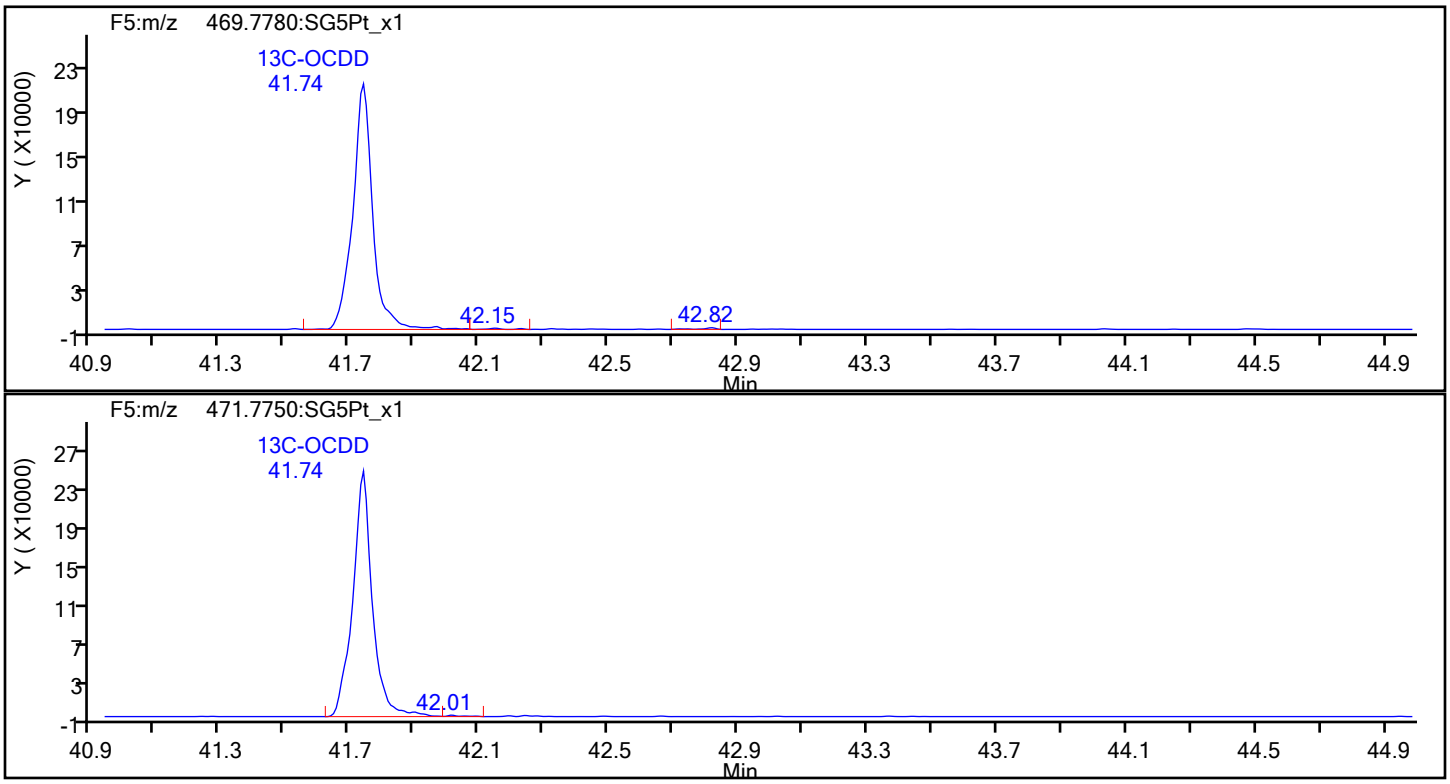
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d

Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



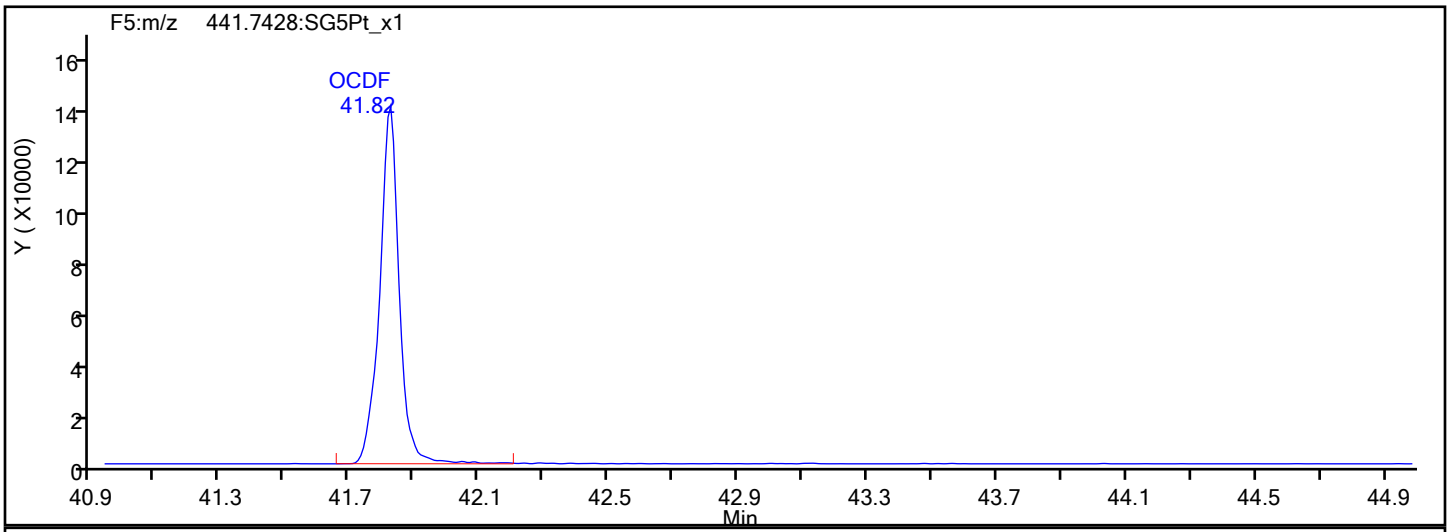
OCDF Standards

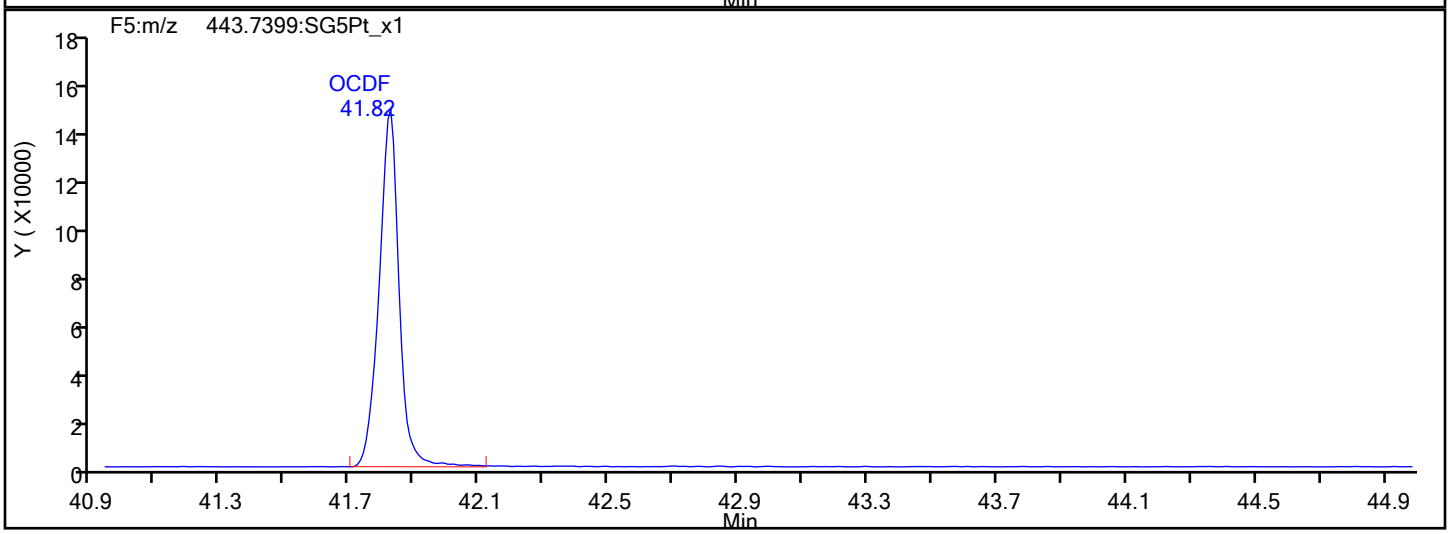


Eurofins Sacramento

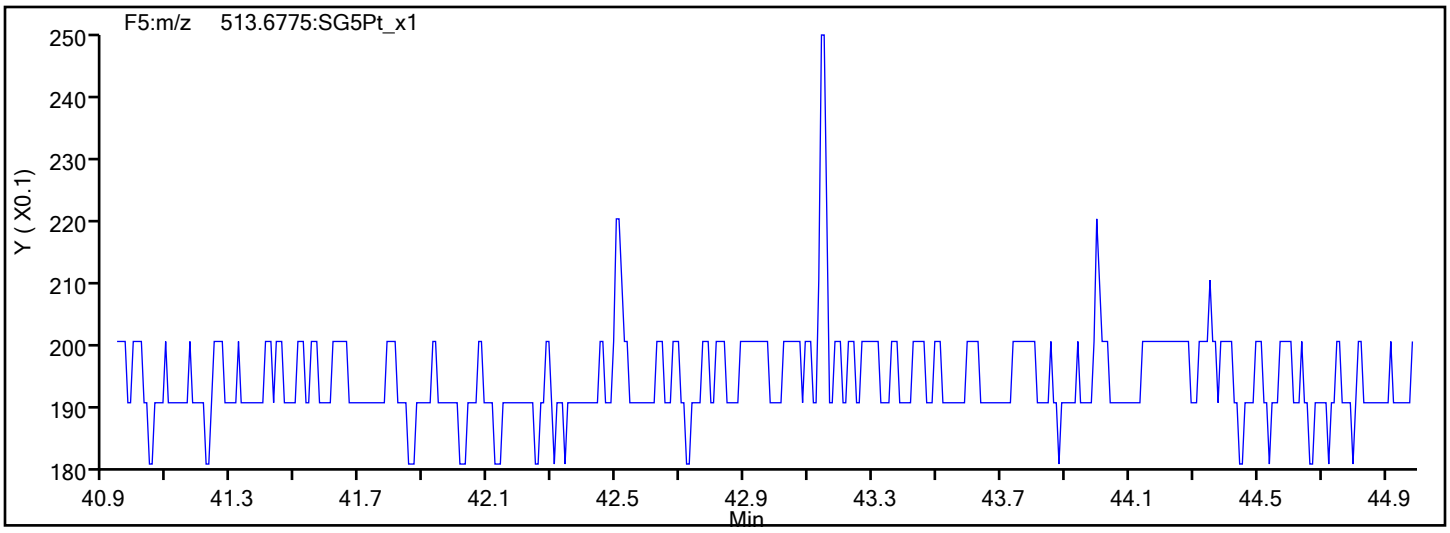
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Injection Date: 13-Jan-2022 18:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



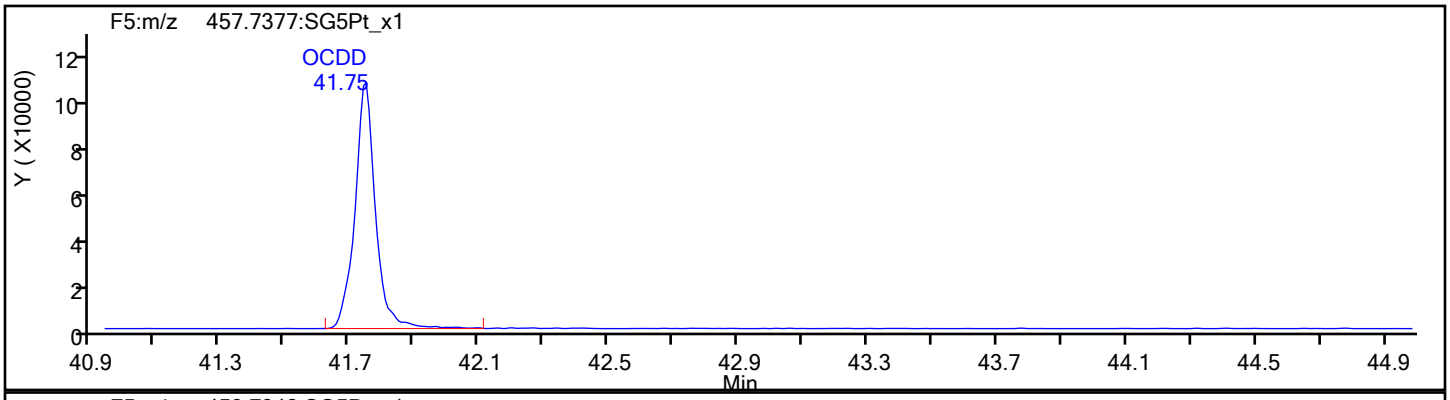
Report Date: 20-Jan-2022 15:58:18 Chrom Revision: 2.3 18-Jan-2022 20:25:40

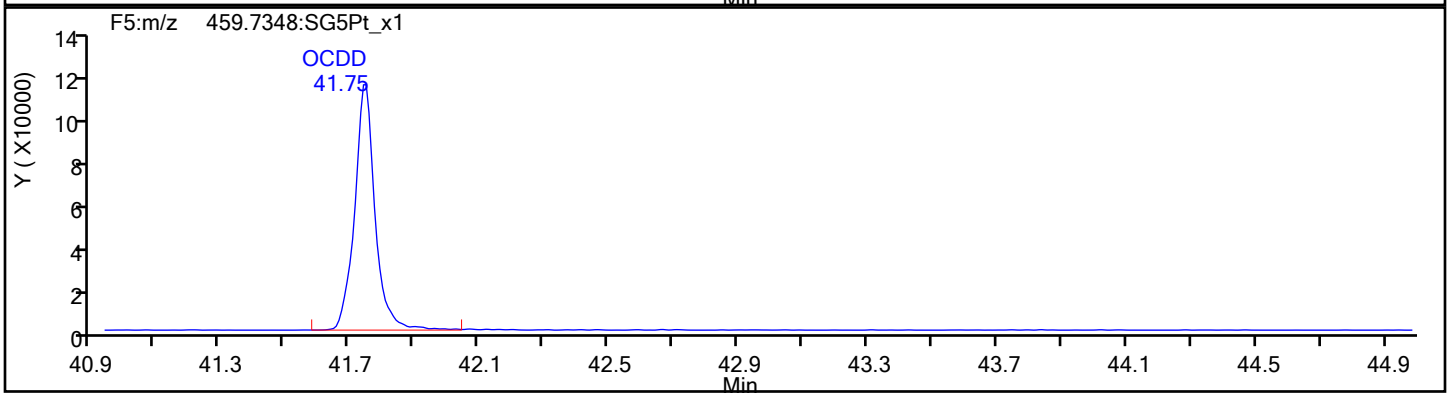
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d

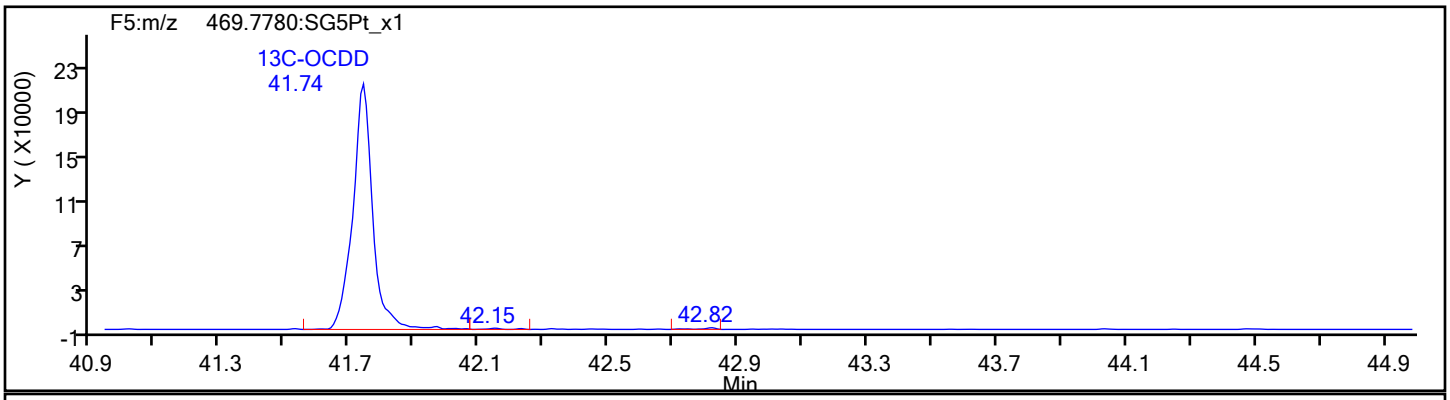
Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

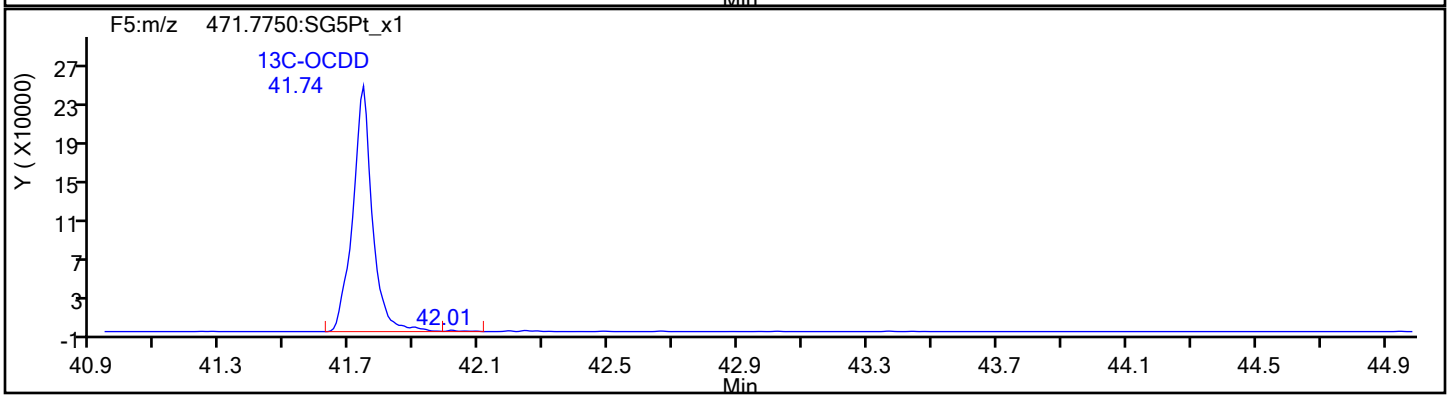
OCDD





OCDD Standards



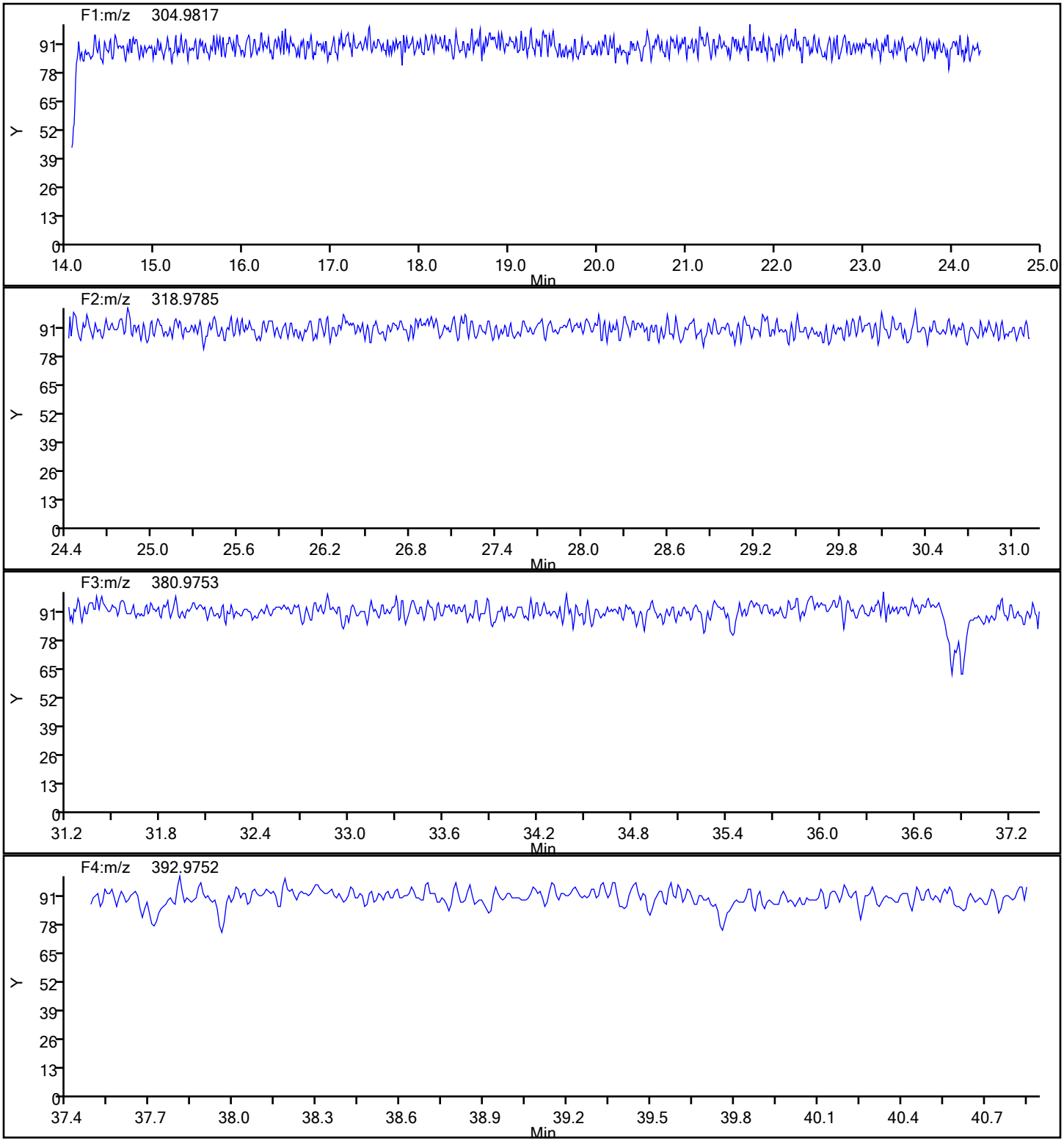


Report Date: 20-Jan-2022 15:58:18 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d

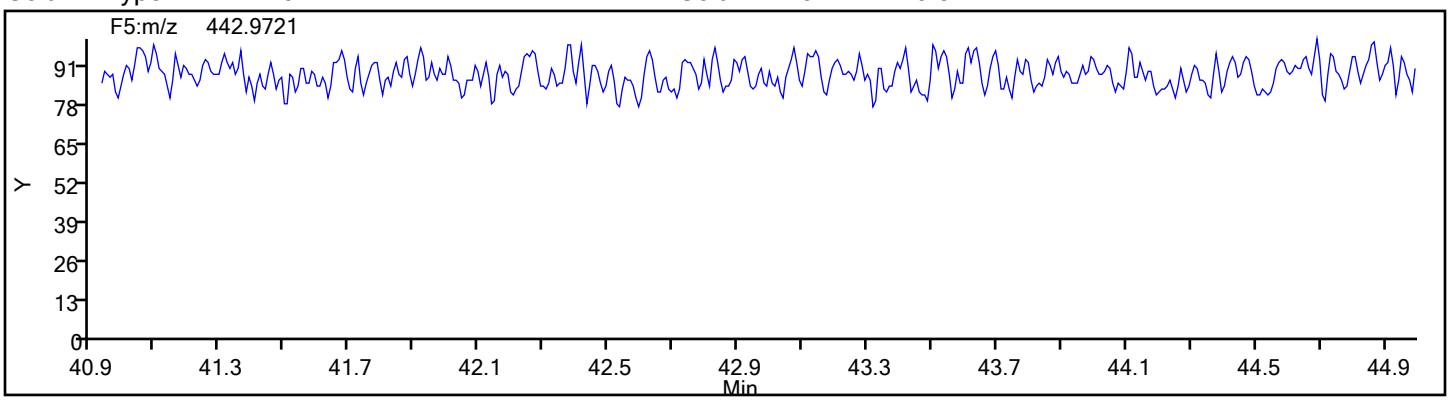
Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 15:58:18 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d		
Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Jan-2022 19:39:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS5_HRDXNL5_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:59:23 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:55:04

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.441	4553217	0.80	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.504	4635716	0.84	1.0164	100.2	100.2	0.5226	0.5226	100	
2,3,7,8-TCDF	19.530	1913030	0.77	1.0120	40.8	40.8	0.1028	0.1028	102	
S Total TCDF					40.8	40.8	0.1028	0.1028		
D 13C-2,3,7,8-TCDD	20.802	3741636	0.77	0.7884	104.2	104.2	0.3509	0.3509	104	
$ 37Cl4-2,3,7,8-TCDD	20.837	1439023		0.7911	39.9	39.9	0.1056	0.1056	99.87	
2,3,7,8-TCDD	20.845	1370244	0.76	0.9906	37.0	37.0	0.1218	0.1218	92.42	M
S Total TCDD					37.0	37.0	0.1218	0.1218		
D 13C-1,2,3,7,8-PeCDF	26.528	4279250	1.58	0.9232	101.8	101.8	0.6033	0.6033	102	
1,2,3,7,8-PeCDF	26.554	8420453	1.52	0.9756	201.7	201.7	0.8800	0.8800	101	
D 13C-2,3,4,7,8-PeCDF	28.001	5037163	1.60	1.0793	102.5	102.5	0.5160	0.5160	103	
2,3,4,7,8-PeCDF	28.026	8067144	1.55	0.9215	204.6	204.6	0.9316	0.9316	102	
S Total PeCDF					406.3	406.3	0.9058	0.9058		
D 13C-1,2,3,7,8-PeCDD	28.792	2607541	1.68	0.5606	102.2	102.2	0.2387	0.2387	102	
1,2,3,7,8-PeCDD	28.826	5315461	1.55	1.0020	203.4	203.4	0.1935	0.1935	102	
S Total PeCDD					203.4	203.4	0.1935	0.1935		
D 13C-1,2,3,4,7,8-HxCDF	34.393	3555240	0.53	1.0566	103.0	103.0	0.4079	0.4079	103	
1,2,3,4,7,8-HxCDF	34.401	6462436	1.25	0.8835	205.7	205.7	0.9887	0.9887	103	
D 13C-1,2,3,6,7,8-HxCDF	34.561	3226352	0.52	0.9686	102.0	102.0	0.4449	0.4449	102	
1,2,3,6,7,8-HxCDF	34.578	7400015	1.23	1.0287	202.3	202.3	0.8490	0.8490	101	
D 13C-2,3,4,6,7,8-HxCDF	35.444	3098605	0.52	0.9084	104.4	104.4	0.4744	0.4744	104	
2,3,4,6,7,8-HxCDF	35.461	7259817	1.23	0.9878	206.7	206.7	0.8842	0.8842	103	
D 13C-1,2,3,7,8,9-HxCDF	36.387	2693511	0.53	0.8248	100.0	100.0	0.5225	0.5225	99.95	
1,2,3,7,8,9-HxCDF	36.403	6226674	1.25	0.9071	193.1	193.1	0.9630	0.9630	96.54	
S Total HxCDF					807.9	807.9	0.9212	0.9212		
* 13C-1,2,3,7,8,9-HxCDD	36.193	3267249	1.23	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.688	2726060	1.26	0.8133	102.6	102.6	0.3238	0.3238	103	
1,2,3,4,7,8-HxCDD	35.705	4532842	1.24	0.8294	198.7	198.7	0.4148	0.4148	99.33	
D 13C-1,2,3,6,7,8-HxCDD	35.806	2750934	1.31	0.8027	104.9	104.9	0.3281	0.3281	105	
1,2,3,6,7,8-HxCDD	35.823	5102120	1.25	0.9395	197.4	197.4	0.3662	0.3662	98.71	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.210	5022242	1.24	0.9076	201.1	201.1	0.3790	0.3790	101	
S Total HxCDD					597.2	597.2	0.3867	0.3867		
D 13C-1,2,3,4,6,7,8-HpCDF	38.300	2299466	0.47	0.6421	109.6	109.6	0.4304	0.4304	110	
1,2,3,4,6,7,8-HpCDF	38.317	6487179	1.05	1.4385	196.1	196.1	0.6893	0.6893	98.06	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.588	2629404	0.47	1.1706	97.7	97.7	0.2653	0.2653	97.69	
1,2,3,4,7,8,9-HpCDF	39.597	5538539	1.04	1.2202	197.4	197.4	0.8126	0.8126	98.70	
S Total HpCDF					393.5	393.5	0.7510	0.7510		
D 13C-1,2,3,4,6,7,8-HpCDD	39.285	2232797	1.04	0.6246	109.4	109.4	0.3463	0.3463	109	
1,2,3,4,6,7,8-HpCDD	39.294	4355719	1.04	0.9767	199.7	199.7	0.4306	0.4306	99.87	
S Total HpCDD					199.7	199.7	0.4306	0.4306		
D 13C-OCDD	41.756	3156146	0.93	0.4360	221.6	221.6	0.3090	0.3090	111	
OCDF	41.840	8287684	0.90	1.2756	411.7	411.7	0.3574	0.3574	103	
OCDD	41.764	6596477	0.89	1.0341	404.2	404.2	0.3992	0.3992	101	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

HRDXNL5_00033 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Jan-2022 19:39:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS5_HRDXNL5_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:59:23 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:55:04

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.441	20.418	1		2030377	283130	435	1087	651		
333.9338	20.450	20.418	2		2522840	357301	274	685	1304	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.504	19.485	1	0.954	2114968	308394	818	2045	377		
317.9389	19.504	19.485	1	0.954	2520748	383660	543	1357	707	0.84(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.530	19.520	1	1.001	832951	114848	129	322	890		
305.8987	19.522	19.520	0	1.001	1080079	152366	159	397	958	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.802	20.784	1	1.018	1629260	226013	435	1087	520		
333.9338	20.820	20.784	2	1.019	2112376	275241	274	685	1005	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.837	20.809	2	1.019	1439023	197460	214	535	923		
2,3,7,8-TCDD											M
319.8965	20.845	20.821	1	1.002	592528	82278	138	345	596		M
321.8936	20.837	20.821	1	1.002	777716	105930	104	260	1019	0.76(0.65-0.89)	M
13C-1,2,3,7,8-PeCDF											
351.9000	26.528	26.498	2	1.298	2621920	433584	799	1997	543		
353.8970	26.528	26.498	2	1.298	1657330	269392	628	1570	429	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.554	26.518	2	1.001	5083520	805033	1536	3840	524		
341.8567	26.554	26.518	2	1.001	3336933	528299	878	2195	602	1.52(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.001	27.961	2	1.370	3102573	476910	799	1997	597		
353.8970	28.001	27.961	2	1.370	1934590	309242	628	1570	492	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.026	27.984	3	1.001	4909150	733677	1536	3840	478		
341.8567	28.026	27.984	3	1.001	3157994	460962	878	2195	525	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.792	28.754	2	1.409	1632786	239234	161	402	1486		
369.8919	28.809	28.754	3	1.409	974755	150226	182	455	825	1.68(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.826	28.781	3	1.001	3230998	463179	200	500	2316		
357.8516	28.826	28.781	3	1.001	2084463	296805	102	255	2910	1.55(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.393	34.357	2	0.950	1231045	254485	564	1410	451		
385.8610	34.384	34.357	2	0.950	2324195	465069	763	1907	610	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.401	34.374	2	1.000	3592143	717407	1367	3417	525		
375.8178	34.401	34.374	2	1.000	2870293	583727	1147	2867	509	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.561	34.533	2	0.955	1101714	205102	564	1410	364		
385.8610	34.561	34.533	2	0.955	2124638	408871	763	1907	536	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.578	34.553	1	1.000	4086728	765416	1367	3417	560		
375.8178	34.578	34.553	1	1.000	3313287	615737	1147	2867	537	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.444	35.421	1	0.979	1065264	238652	564	1410	423		
385.8610	35.444	35.421	1	0.979	2033341	444624	763	1907	583	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.461	35.438	1	1.000	4010886	873020	1367	3417	639		
375.8178	35.461	35.438	1	1.000	3248931	711524	1147	2867	620	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.387	36.366	1	1.005	930508	226897	564	1410	402		
385.8610	36.387	36.366	1	1.005	1763003	442376	763	1907	580	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.403	36.385	1	1.000	3455248	841507	1367	3417	616		
375.8178	36.403	36.385	1	1.000	2771426	674864	1147	2867	588	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.193	36.172	1		1803520	424960	469	1172	906		
403.8529	36.193	36.172	1		1463729	344724	342	855	1008	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.688	35.661	2	0.986	1520345	380179	469	1172	811		
403.8529	35.680	35.661	1	0.986	1205715	303471	342	855	887	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.705	35.676	2	1.000	2506812	601542	482	1205	1248		
391.8127	35.697	35.676	1	1.000	2026030	500087	391	977	1279	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.806	35.787	1	0.989	1558831	356575	469	1172	760		
403.8529	35.806	35.787	1	0.989	1192103	277694	342	855	812	1.31(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.823	35.802	1	1.000	2837210	641084	482	1205	1330		
391.8127	35.823	35.802	1	1.000	2264910	509757	391	977	1304	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.210	36.191	1	1.015	2782273	658354	482	1205	1366		
391.8127	36.210	36.191	1	1.015	2239969	520254	391	977	1331	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.300	38.287	1	1.058	733012	210938	328	820	643		
419.8220	38.300	38.287	1	1.058	1566454	473853	523	1307	906	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.317	38.299	1	1.000	3320510	968855	1397	3492	694		
409.7788	38.309	38.299	1	1.000	3166669	912718	1319	3297	692	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.588	39.570	1	1.094	838108	263172	328	820	802		
419.8220	39.588	39.570	1	1.094	1791296	590117	523	1307	1128	0.47(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.597	39.584	1	1.000	2823936	918832	1397	3492	658		
409.7788	39.597	39.584	1	1.000	2714603	877456	1319	3297	665	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.285	39.269	1	1.085	1139910	355747	360	900	988		
437.8140	39.285	39.269	1	1.085	1092887	334254	306	765	1092	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.294	39.277	1	1.000	2219188	687781	600	1500	1146		
425.7737	39.294	39.277	1	1.000	2136531	664394	561	1402	1184	1.04(0.88-1.20)	
13C-OCDD											
469.7780	41.756	41.743	1	1.154	1518280	418726	234	585	1789		
471.7750	41.756	41.743	1	1.154	1637866	463002	181	452	2558	0.93(0.76-1.02)	
OCDF											
441.7428	41.840	41.826	1	1.002	3936690	1167431	377	942	3097		
443.7399	41.840	41.826	1	1.002	4350994	1275284	427	1067	2987	0.90(0.76-1.02)	
OCDD											
457.7377	41.764	41.748	1	1.000	3108521	891814	345	862	2585		
459.7348	41.764	41.748	1	1.000	3487956	981312	383	957	2562	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

HRDXNL5_00033 Amount Added: 1.00 Units: ml

Eurofins Sacramento

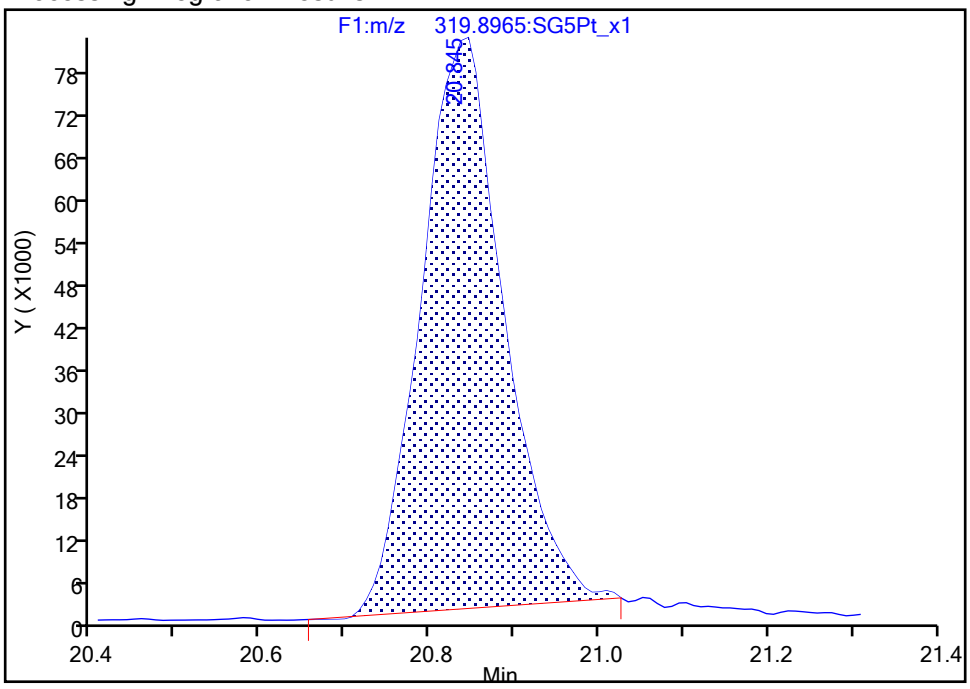
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

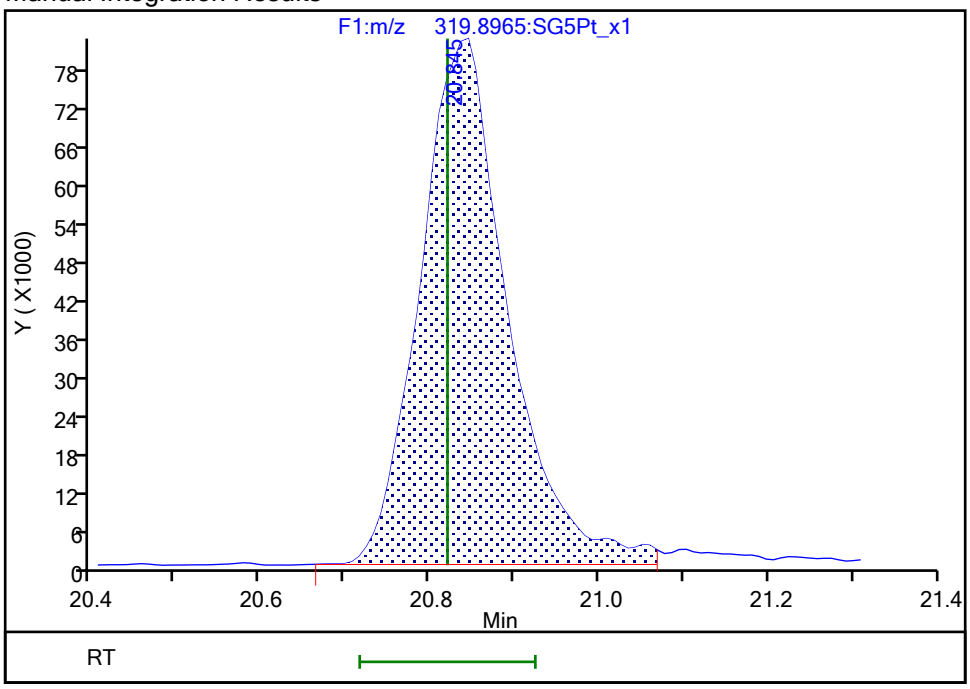
Processing Integration Results

RT: 20.85
Area: 551318
Amount: 34.356546
Amount Units: pg/ul



Manual Integration Results

RT: 20.85
Area: 592528
Amount: 36.967931
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:13:59
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Sacramento

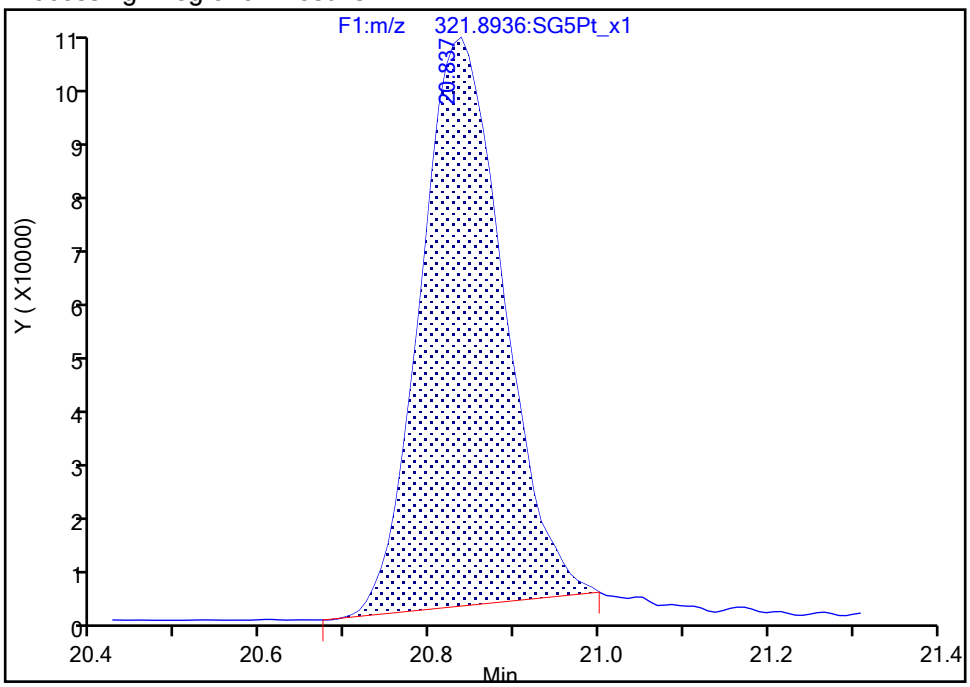
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

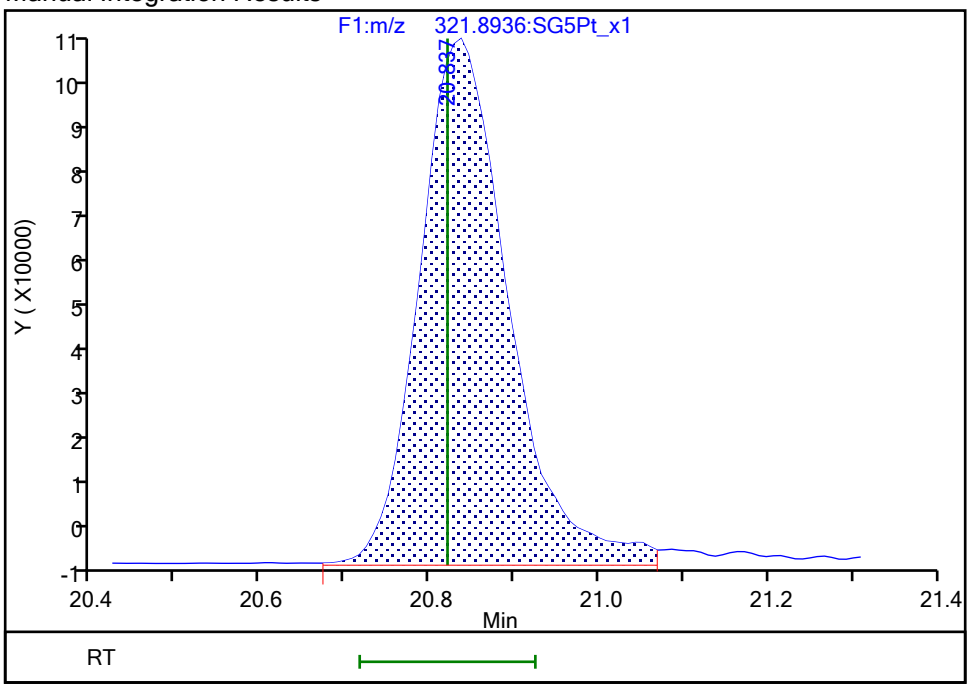
Processing Integration Results

RT: 20.84
Area: 702057
Amount: 34.356546
Amount Units: pg/ul



Manual Integration Results

RT: 20.84
Area: 777716
Amount: 36.967931
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:14:07
Audit Action: Manually Integrated Audit Reason: Baseline

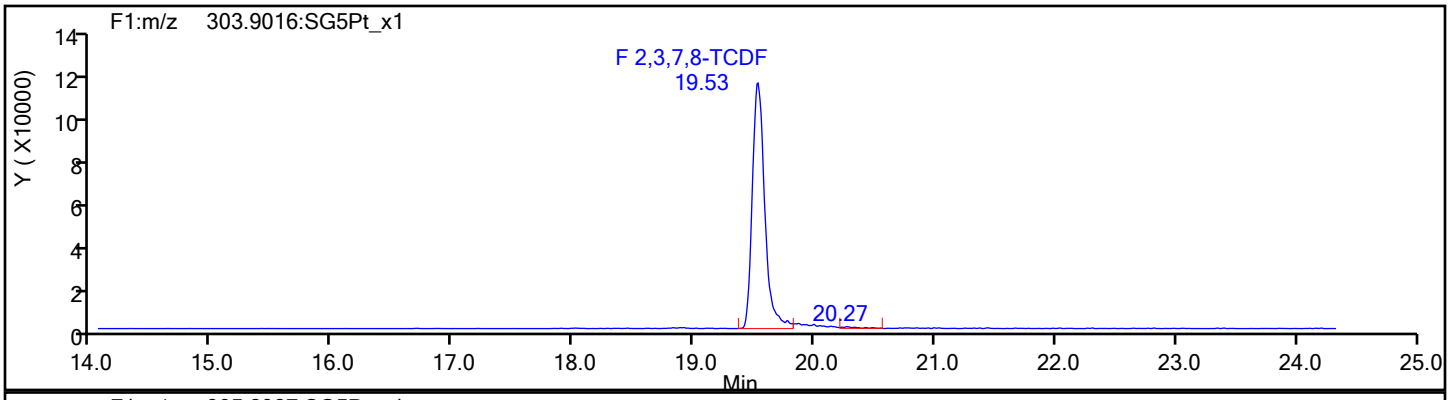
Report Date: 20-Jan-2022 15:59:24 Chrom Revision: 2.3 18-Jan-2022 20:25:40

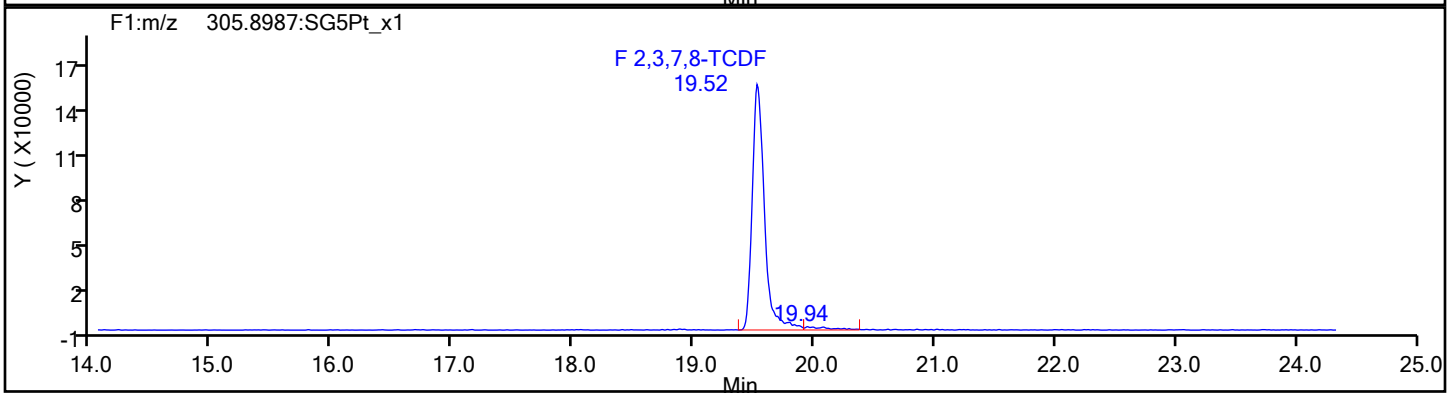
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

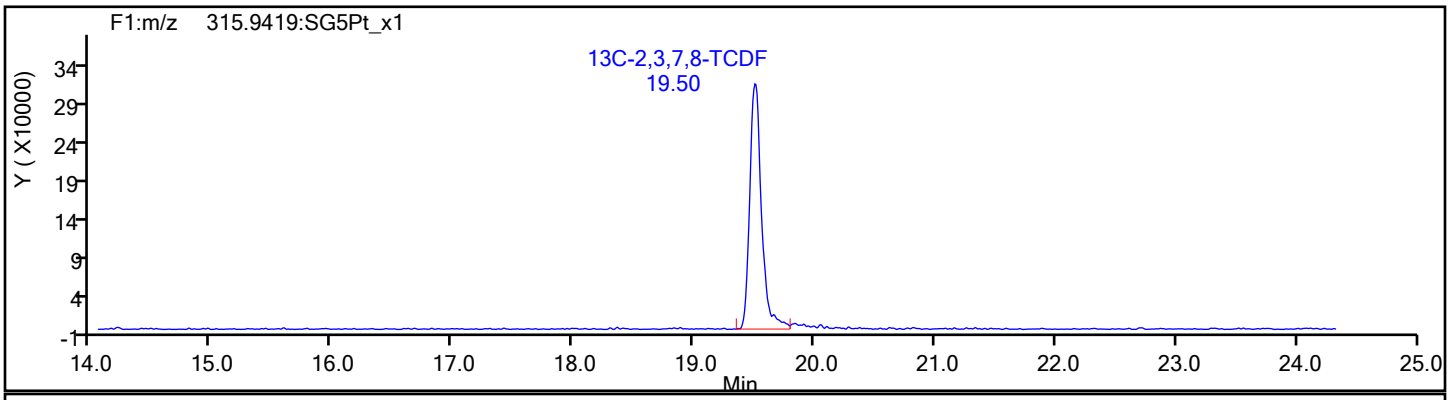
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

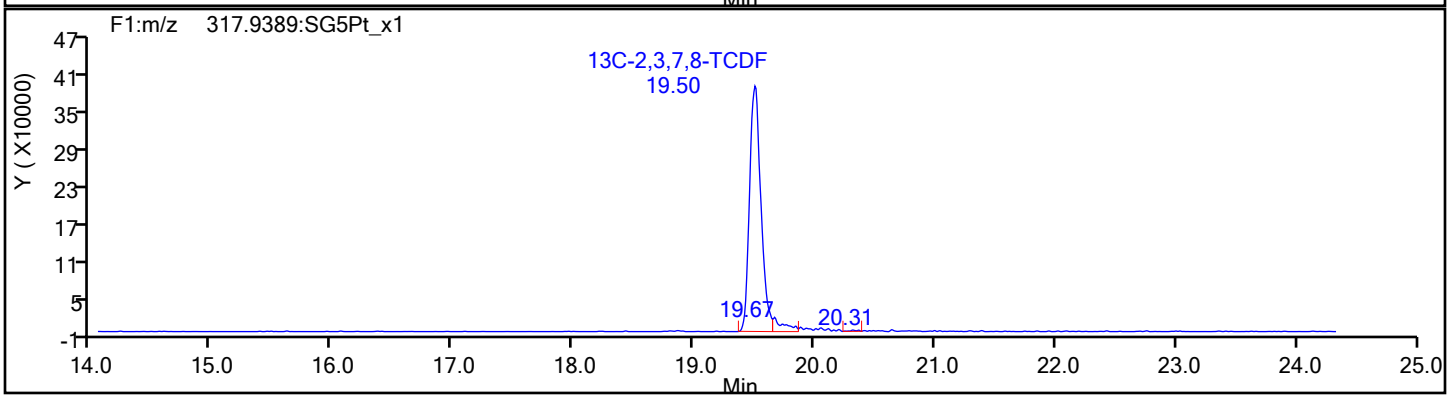
TCDF





TCDF Standards

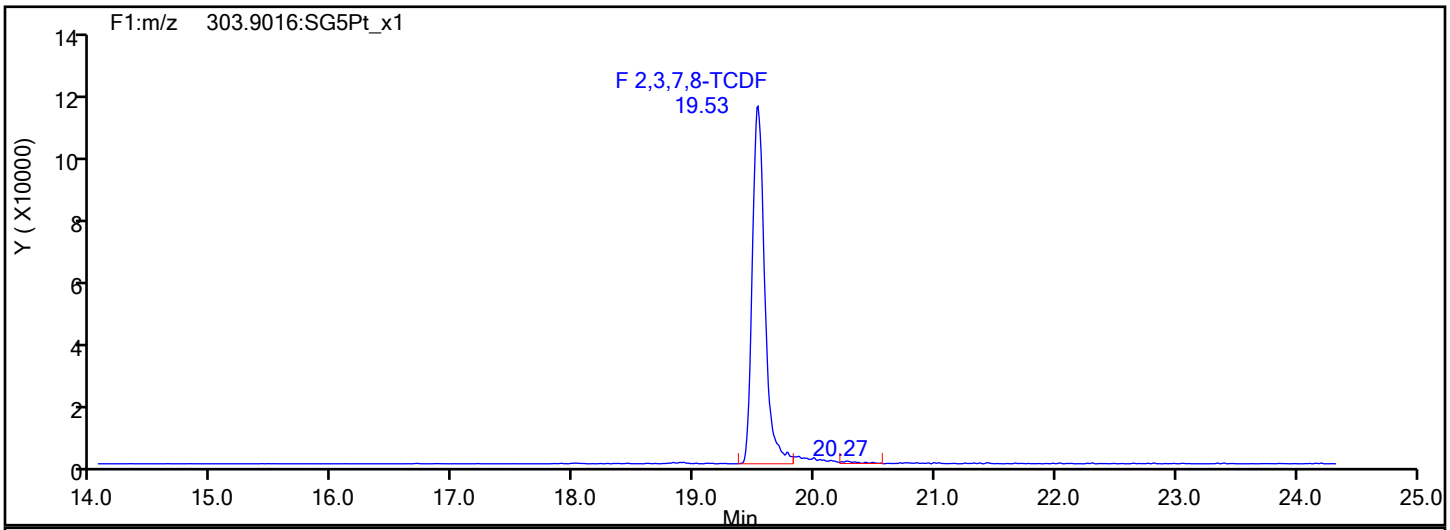


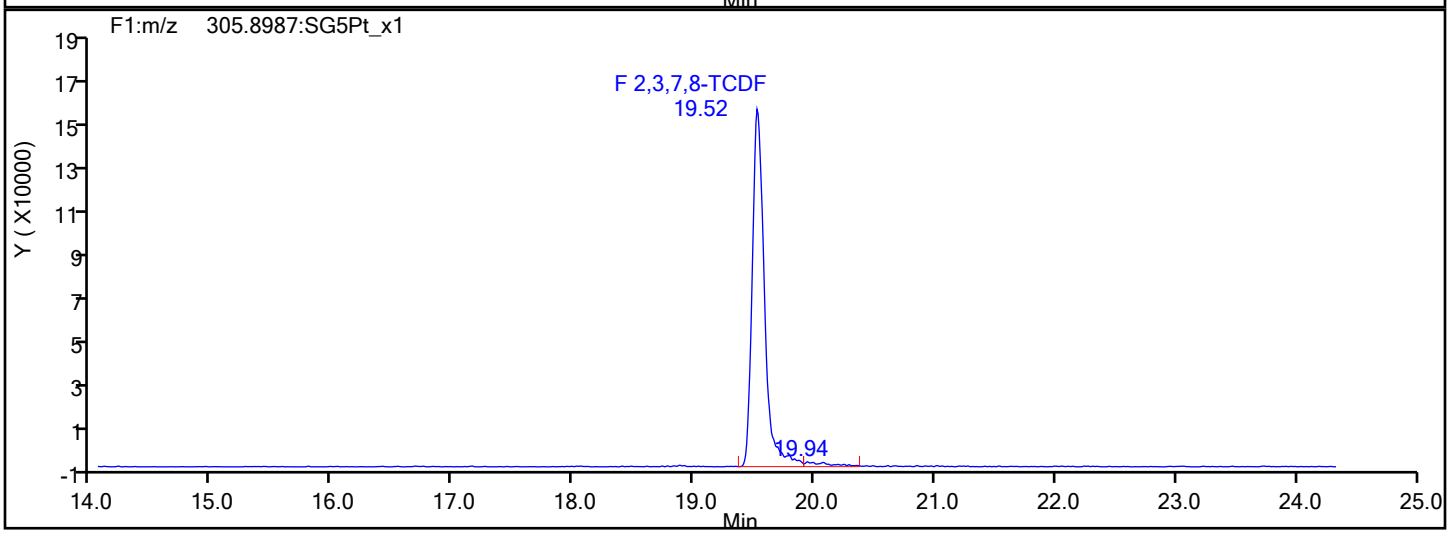


Eurofins Sacramento

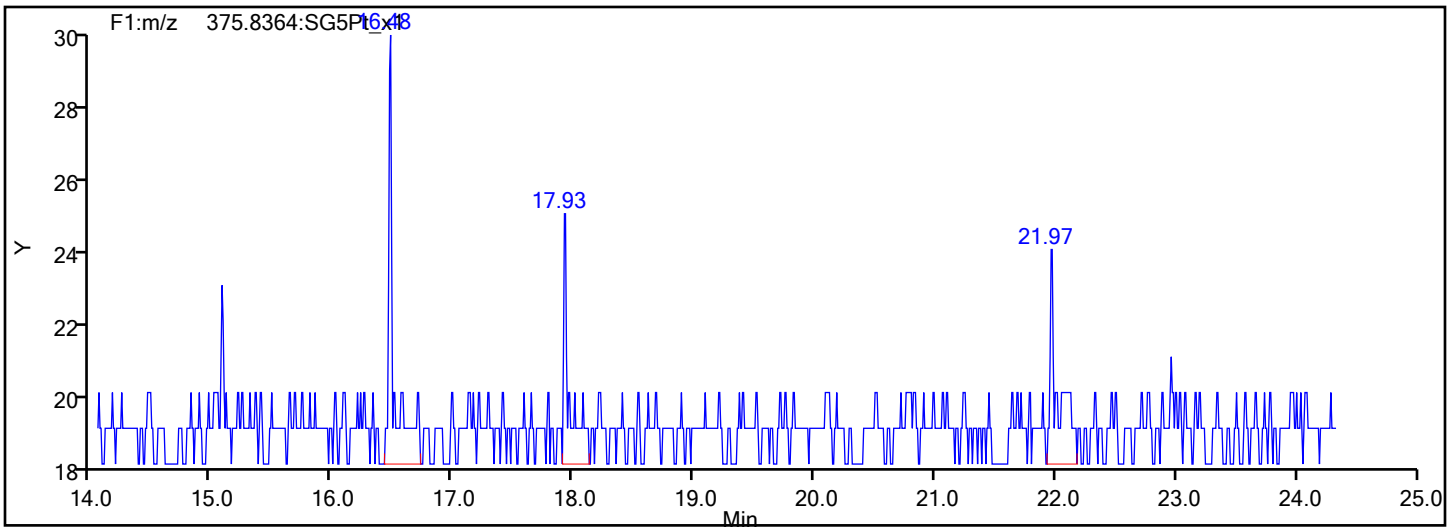
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d		
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



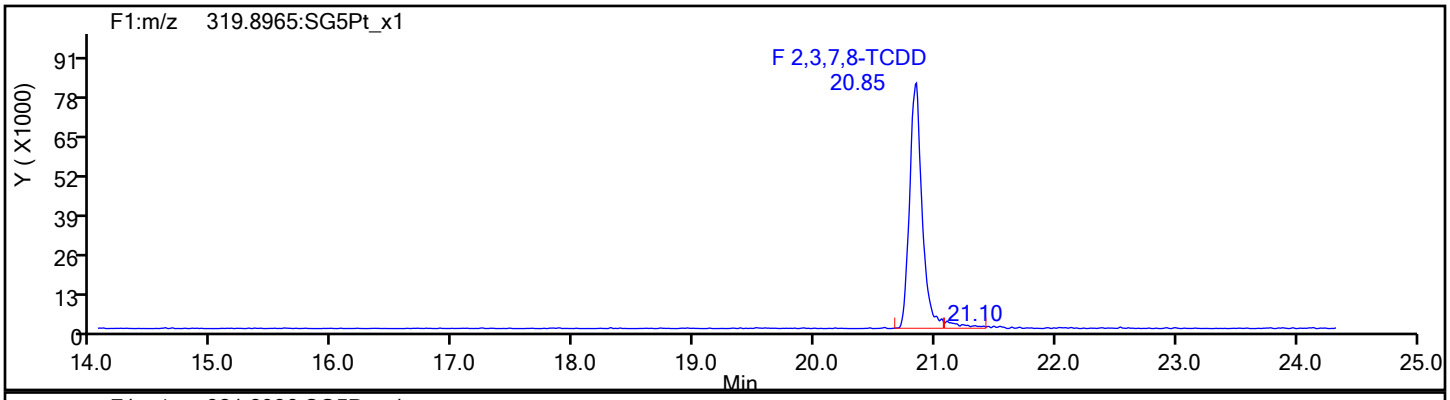
Report Date: 20-Jan-2022 15:59:24 Chrom Revision: 2.3 18-Jan-2022 20:25:40

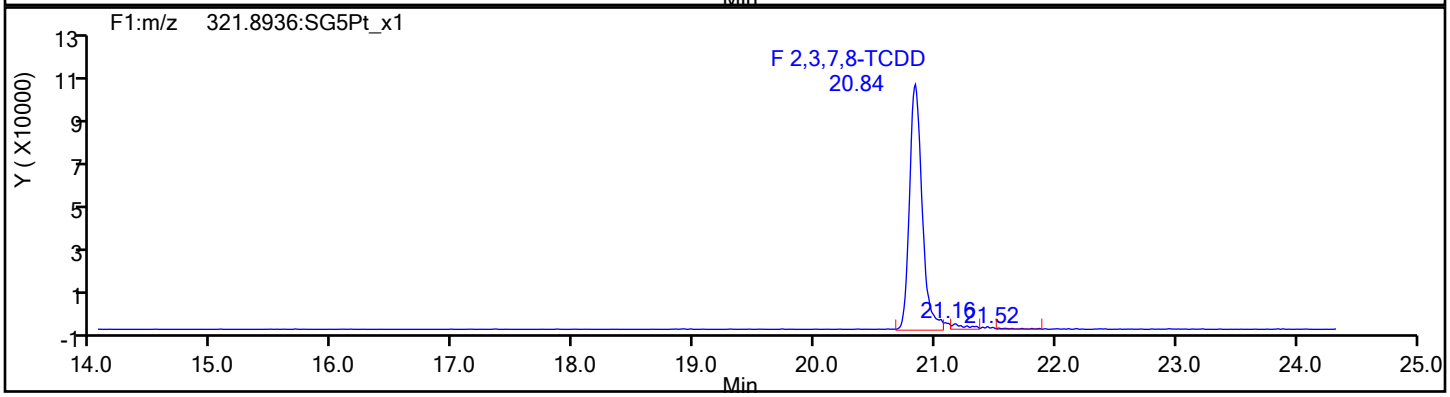
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

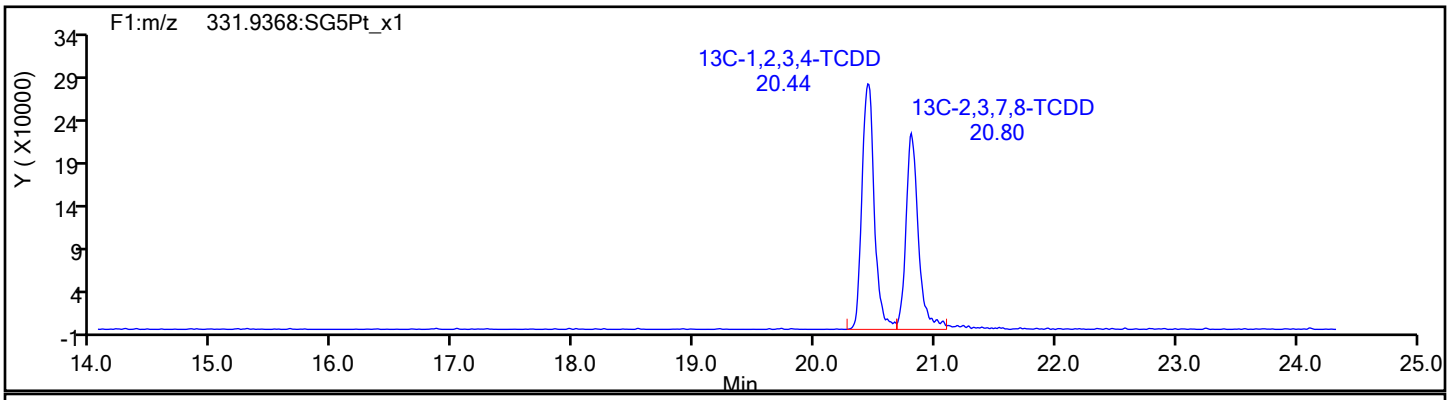
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

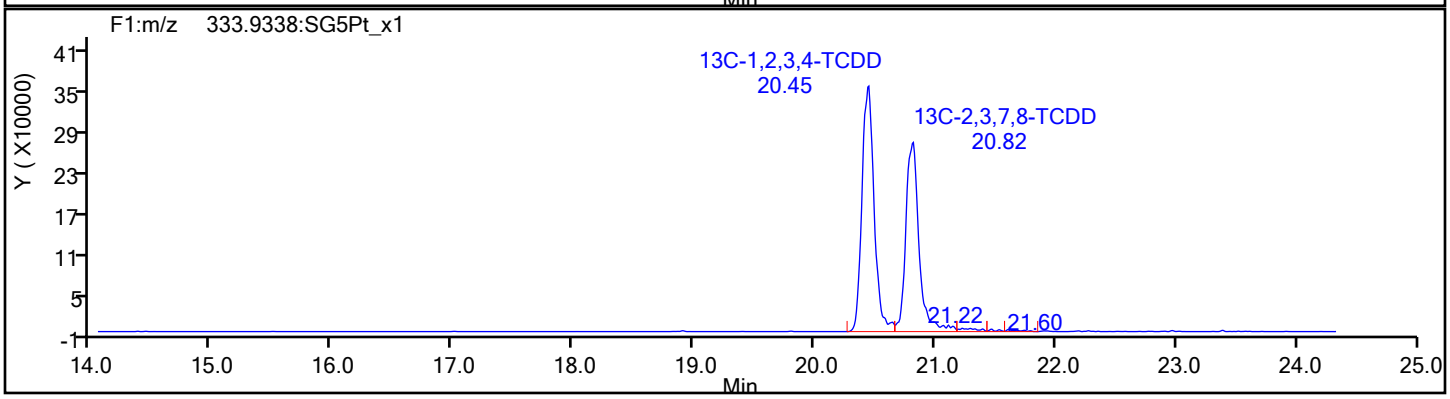
TCDD





TCDD Standards





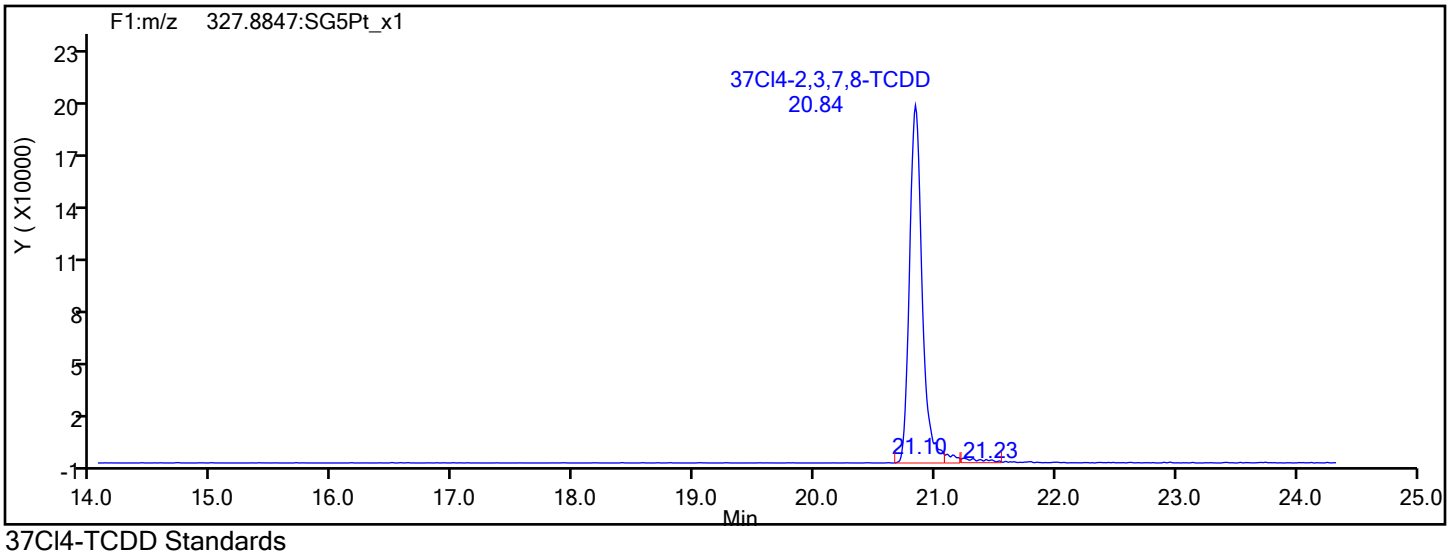
Report Date: 20-Jan-2022 15:59:24 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

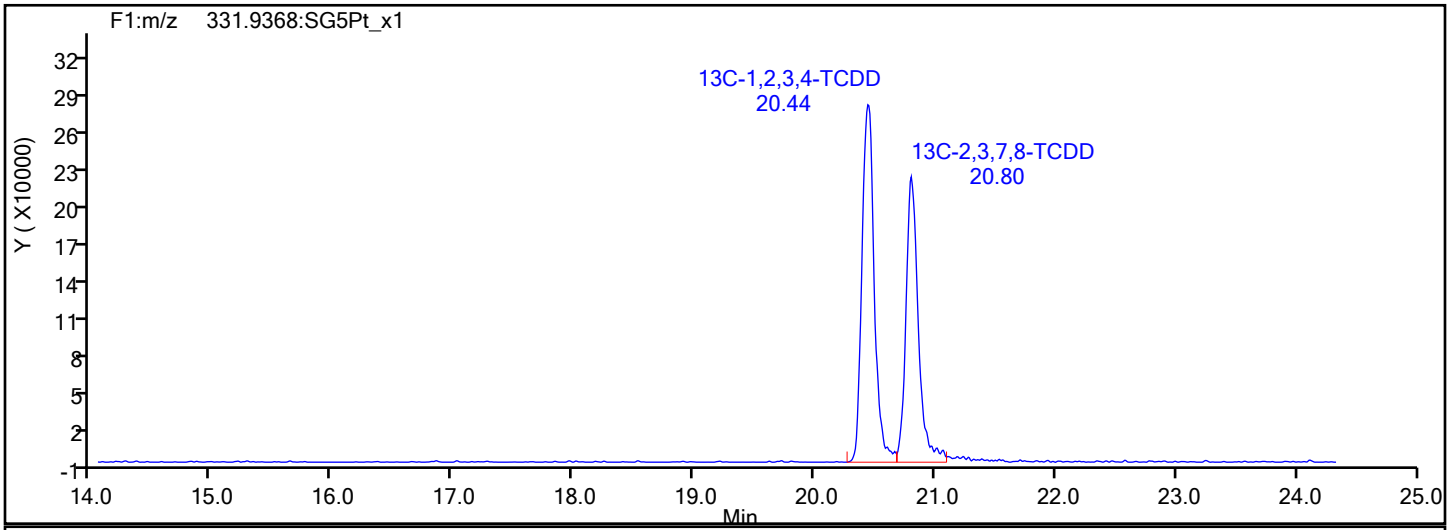
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

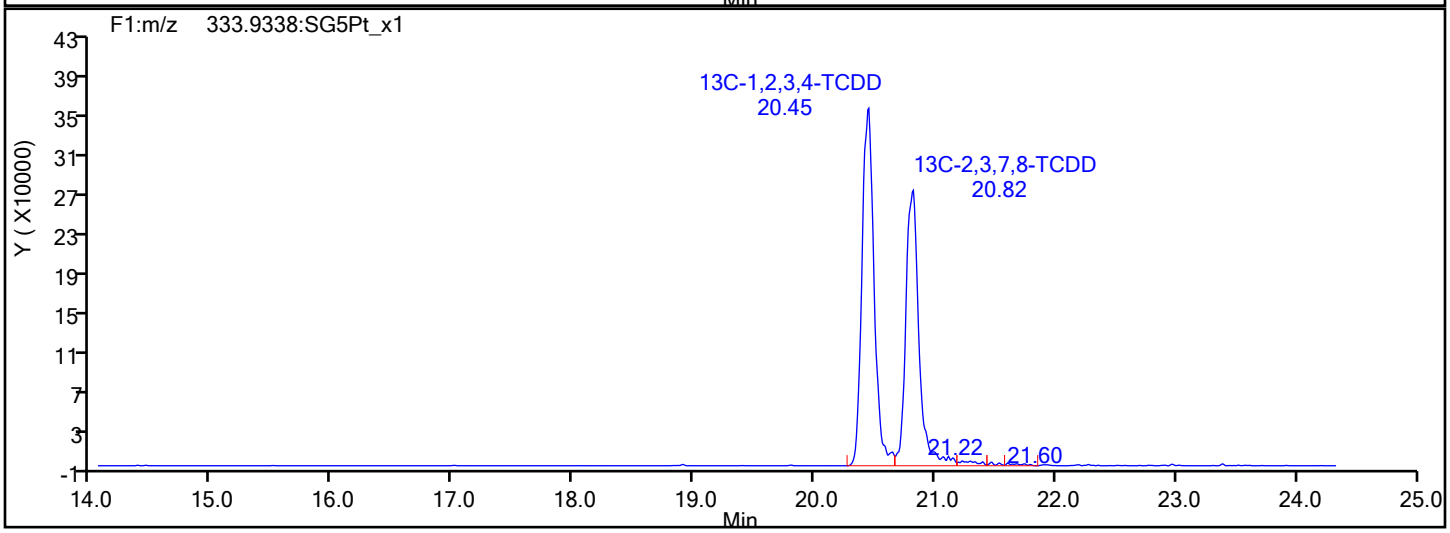
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





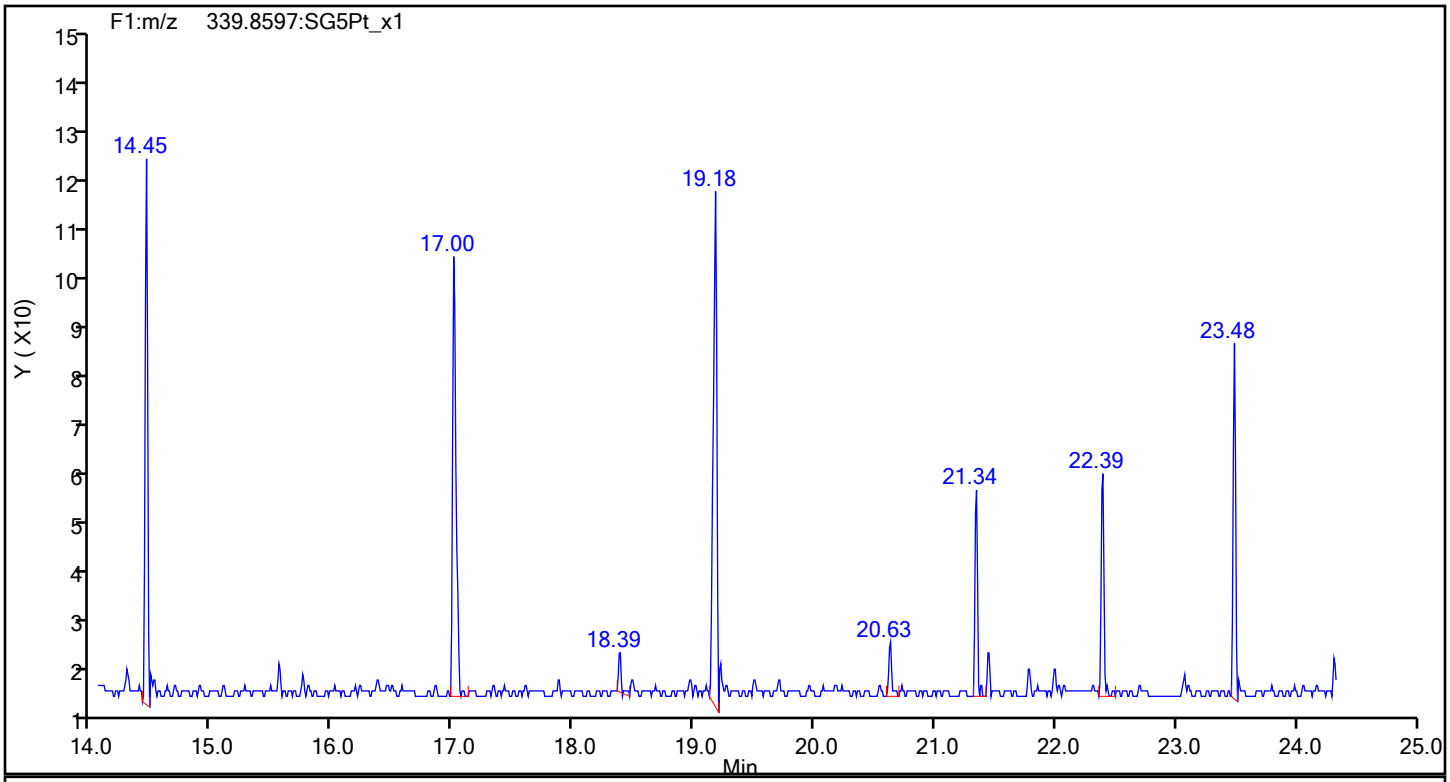
Report Date: 20-Jan-2022 15:59:25 Chrom Revision: 2.3 18-Jan-2022 20:25:40

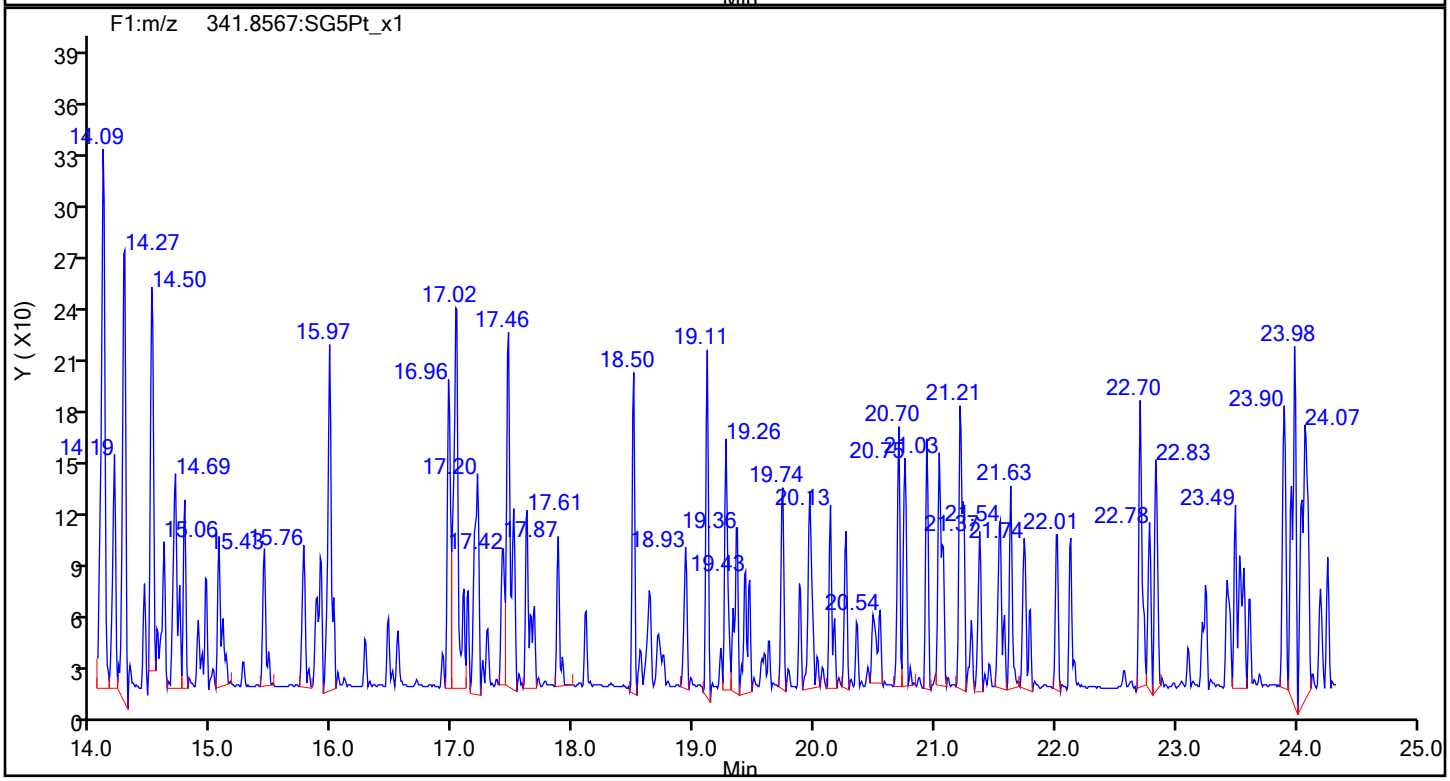
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

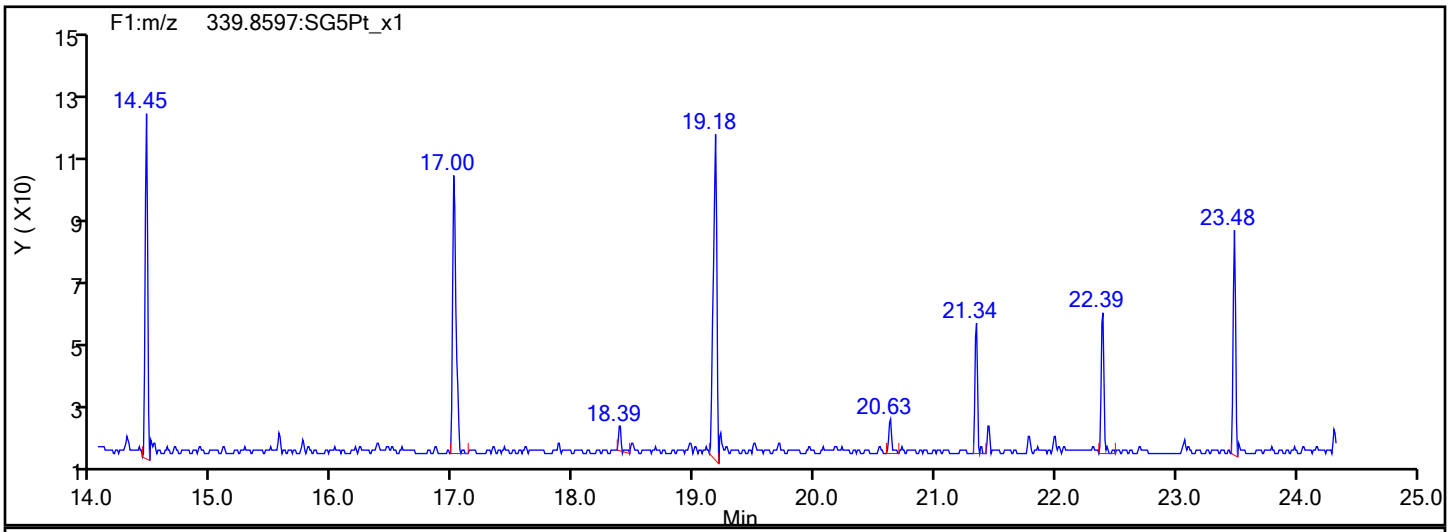


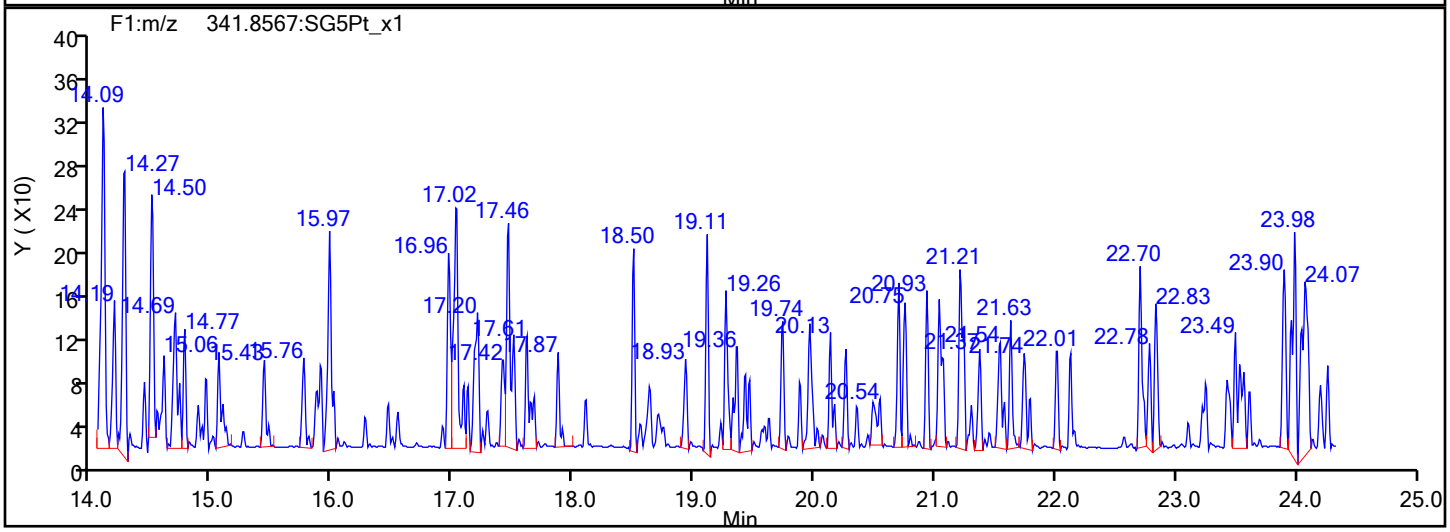


Eurofins Sacramento

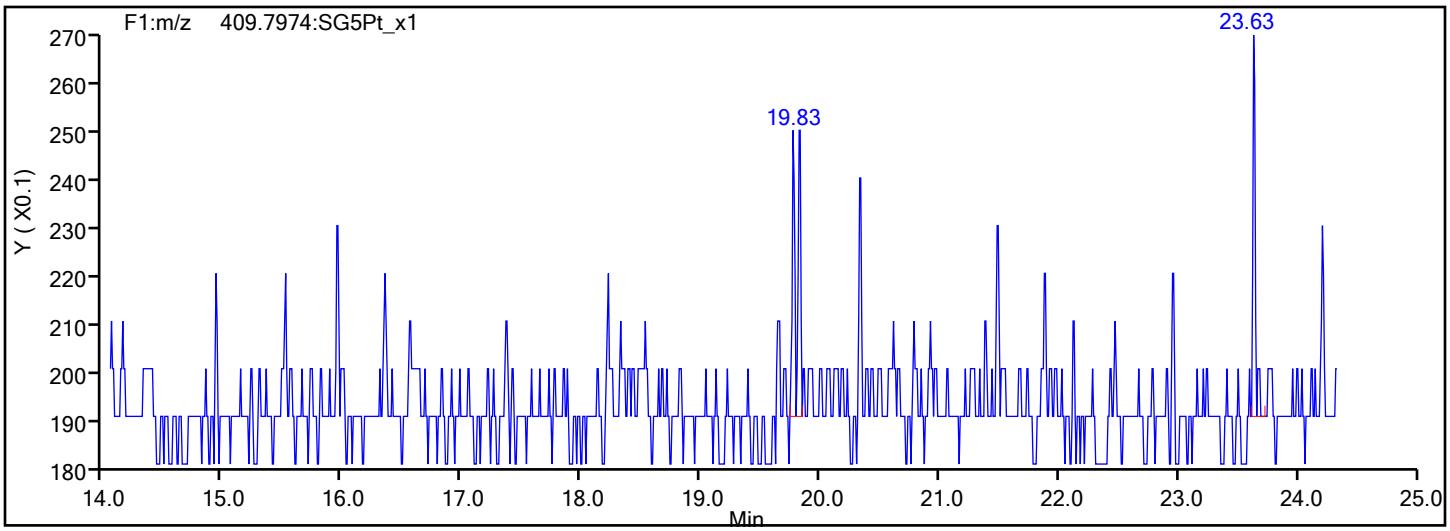
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d		
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





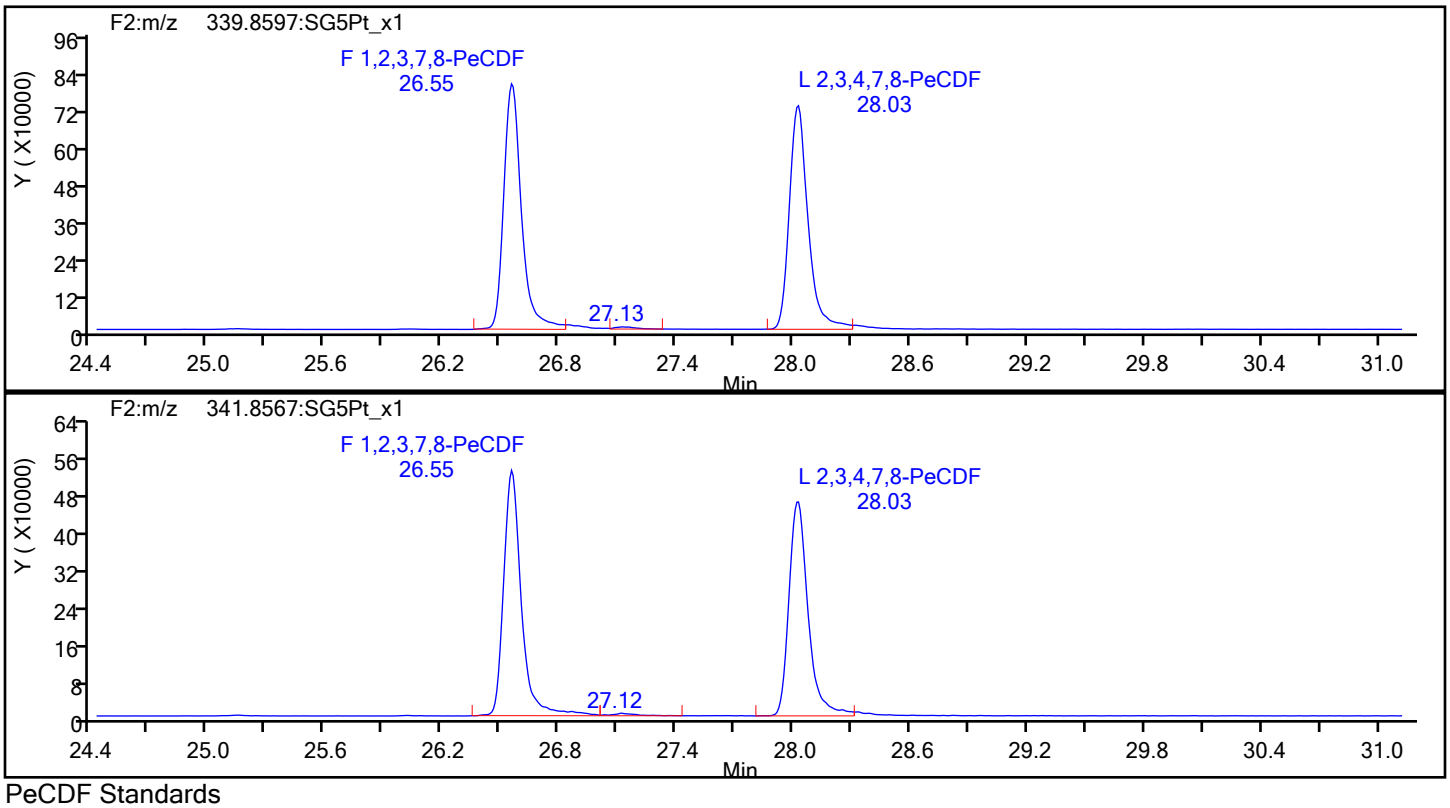
F1 PeCDFs Interference Mass



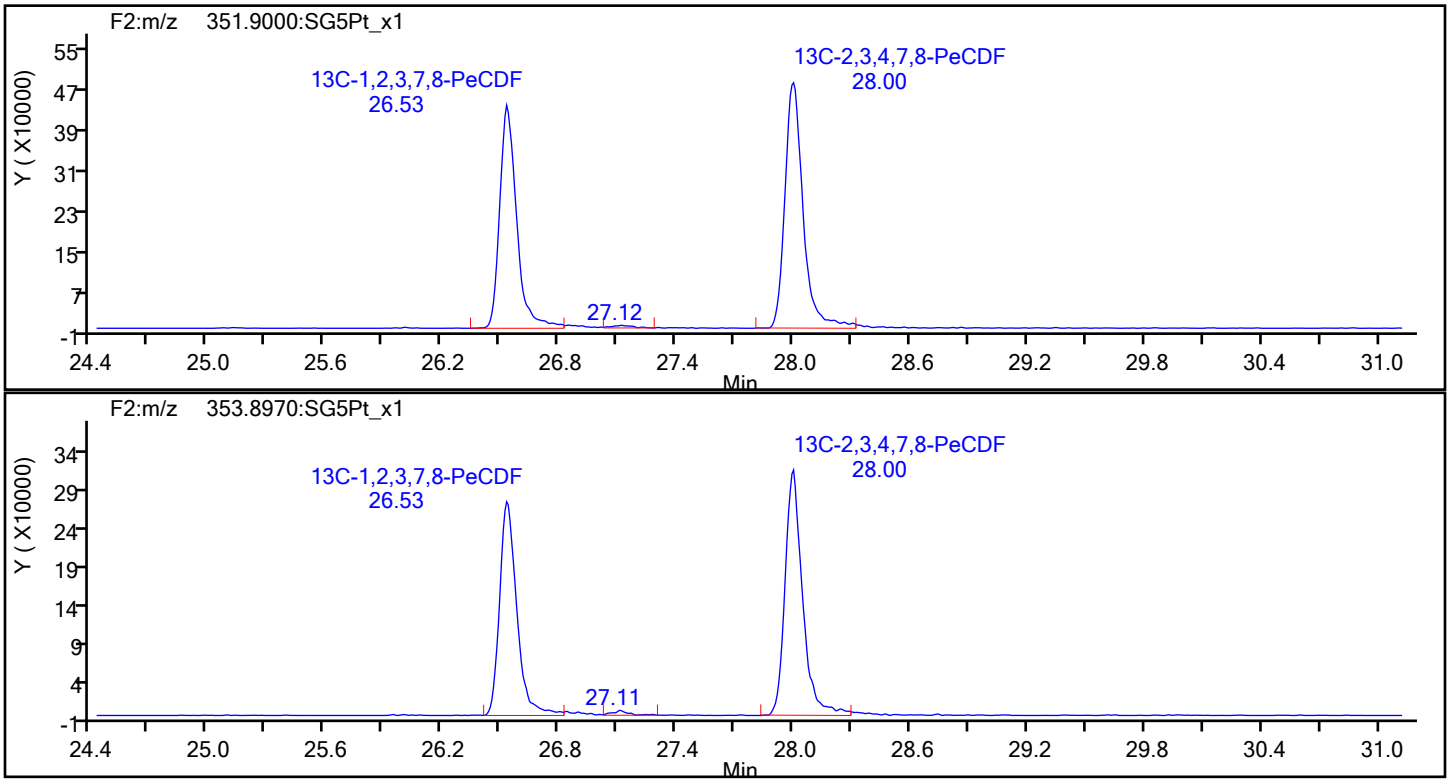
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



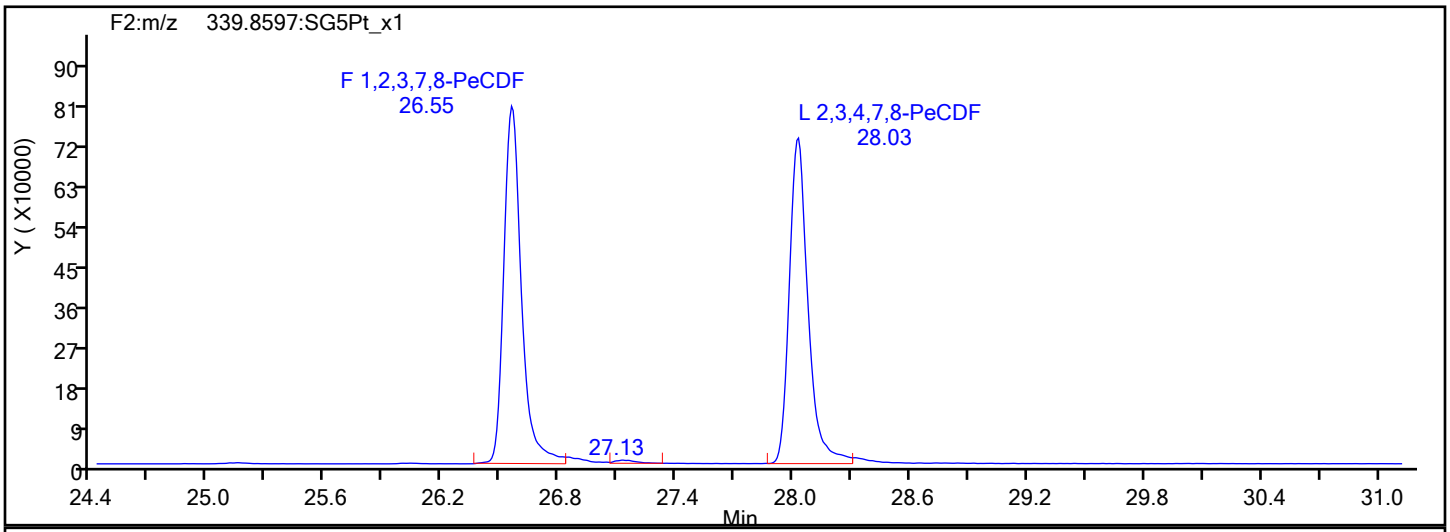
PeCDF Standards

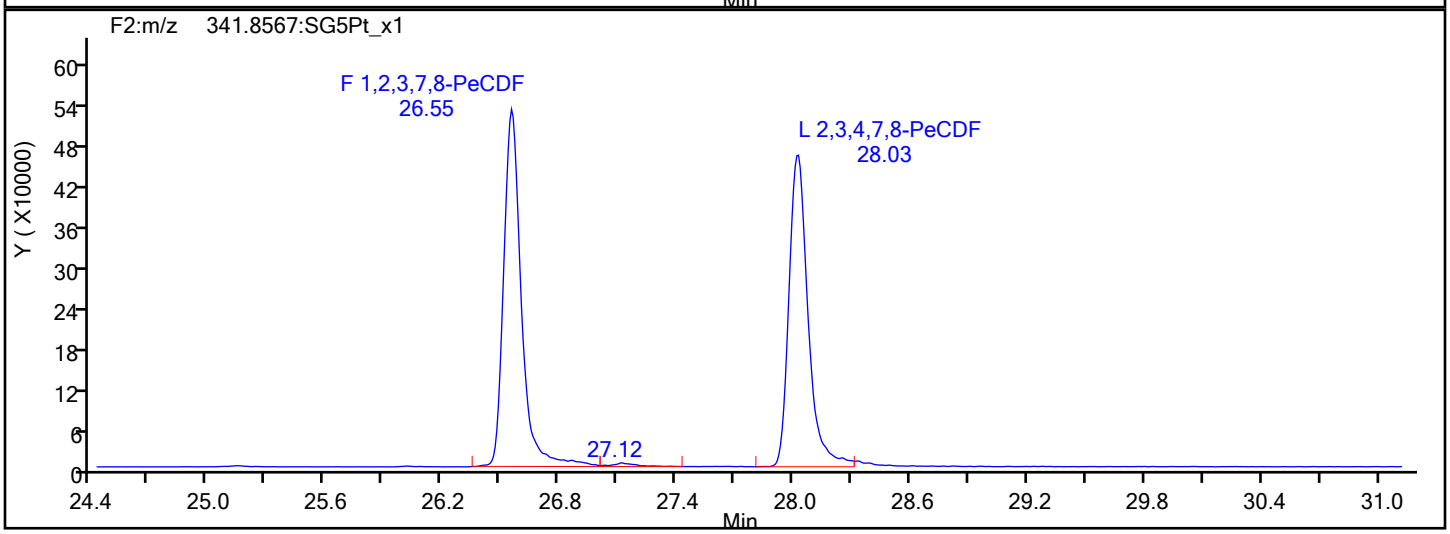


Eurofins Sacramento

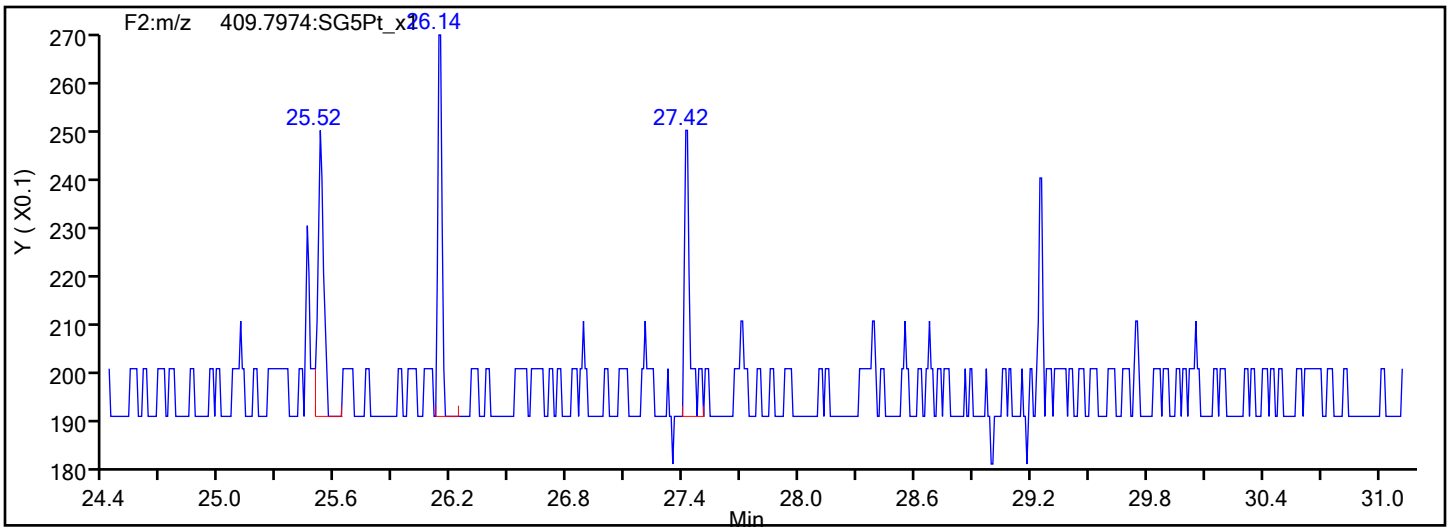
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d		
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



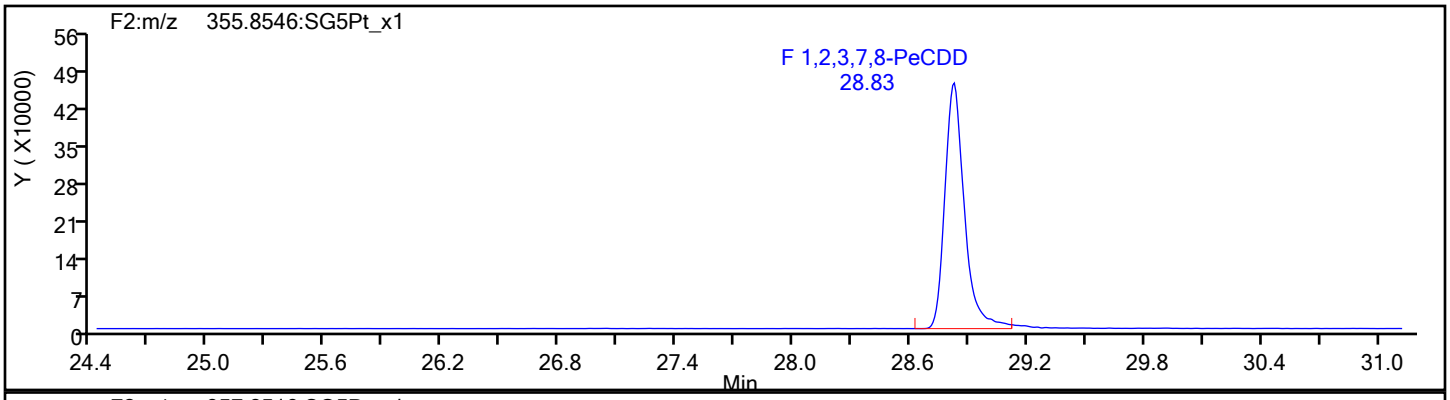
Report Date: 20-Jan-2022 15:59:25 Chrom Revision: 2.3 18-Jan-2022 20:25:40

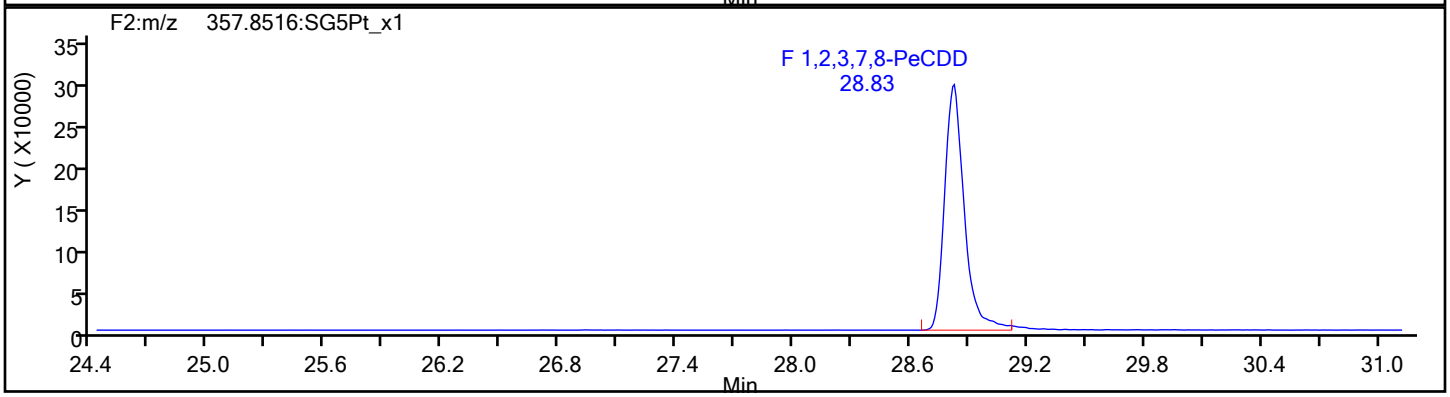
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

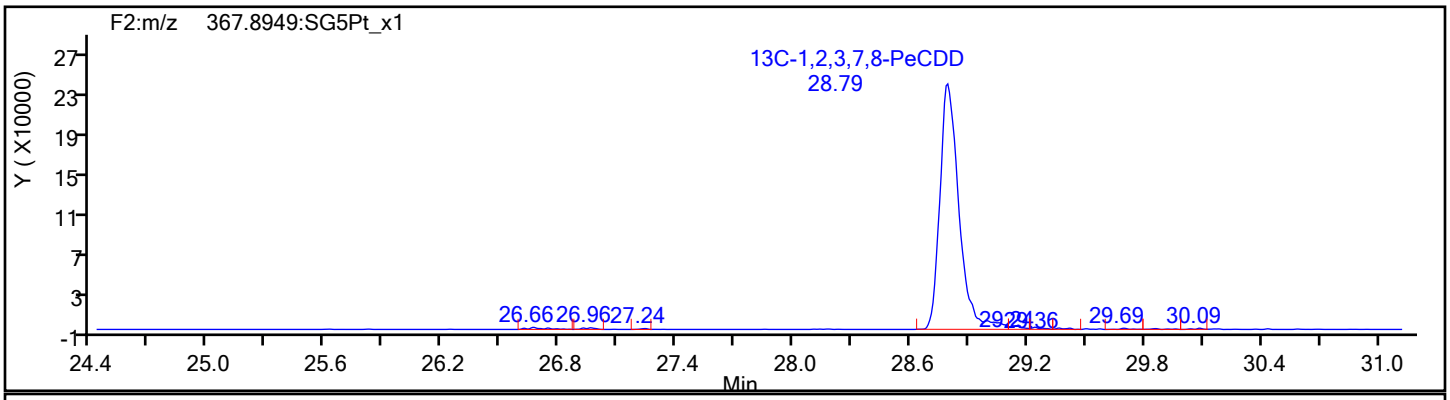
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

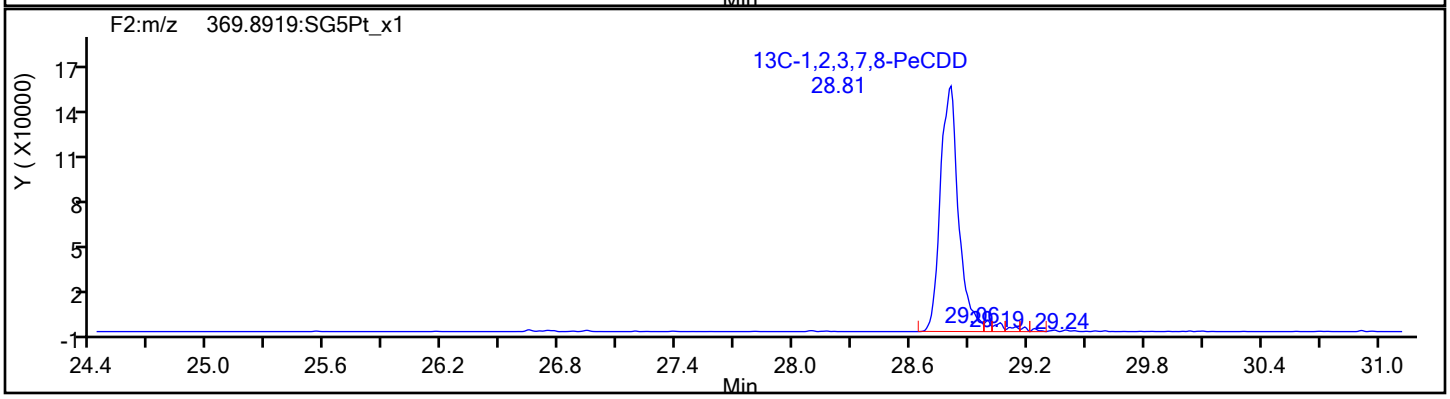
PeCDD





PeCDD Standards





Eurofins Sacramento

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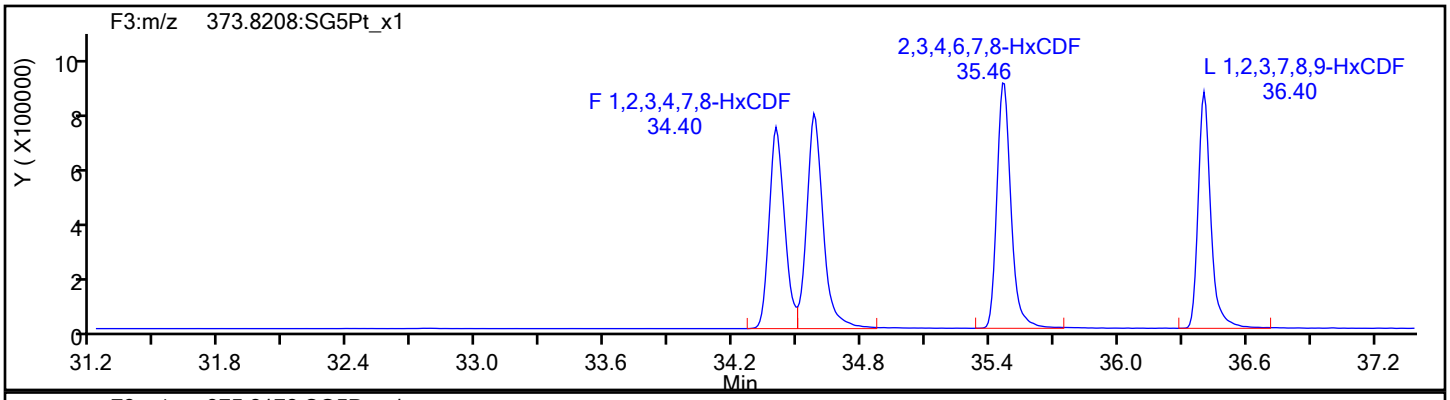
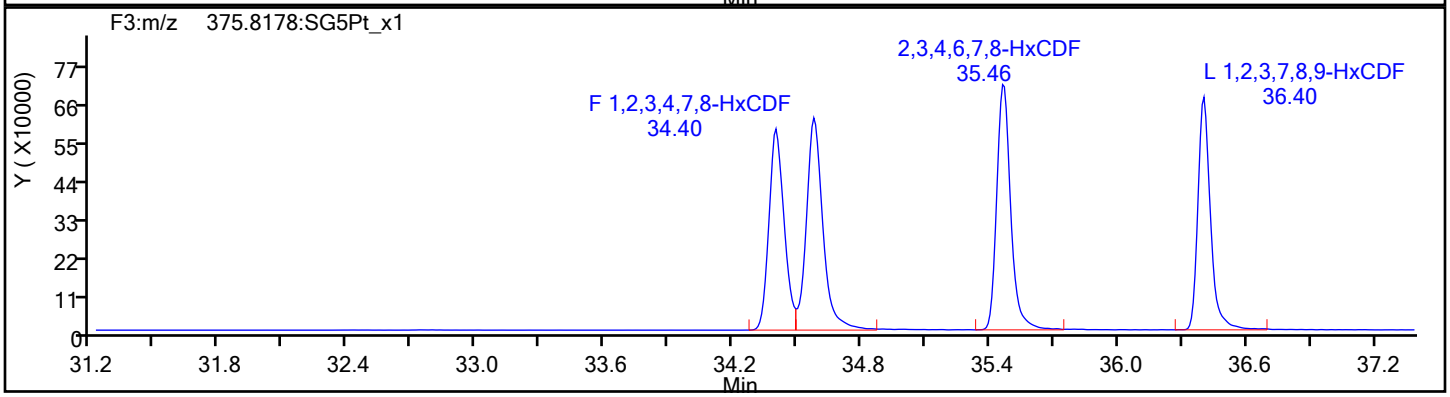
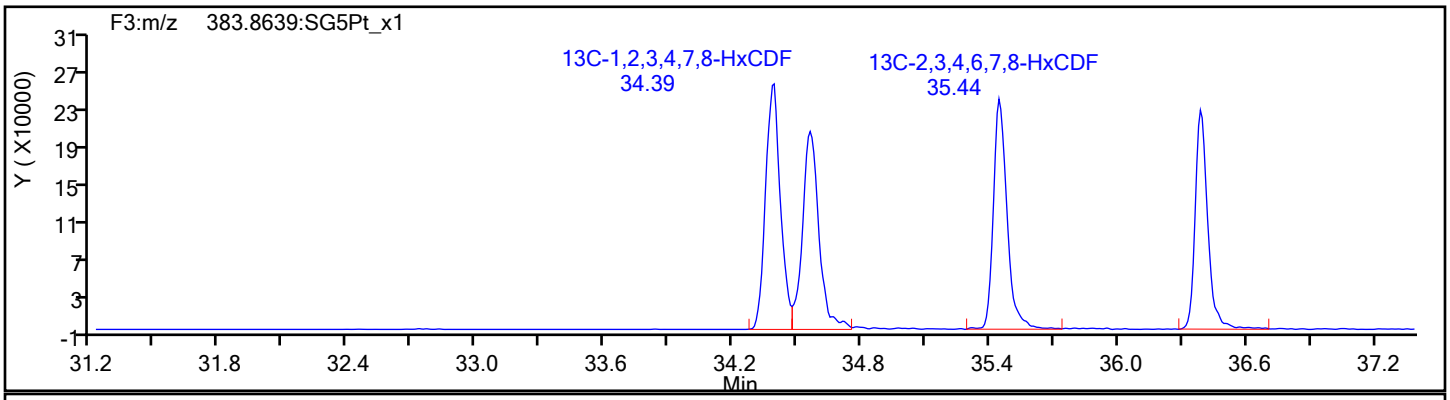
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

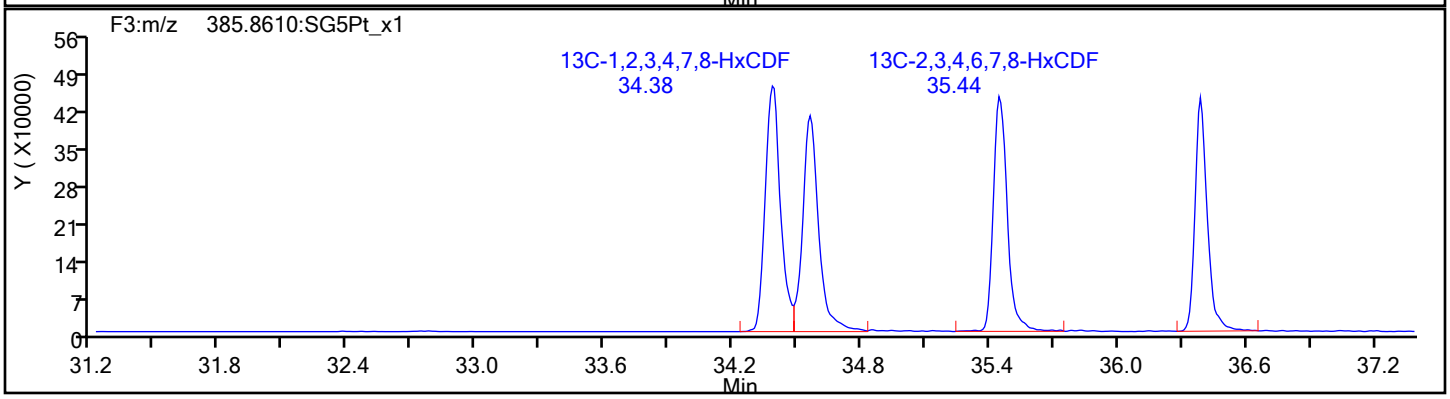
HxCDF





HxCDF Standards

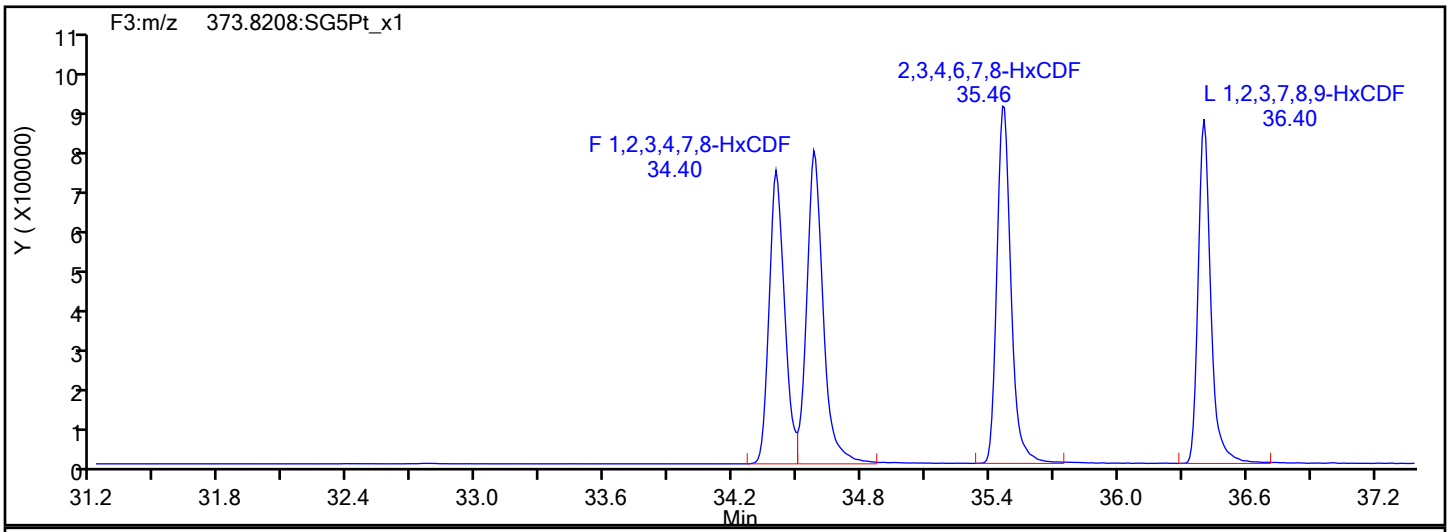


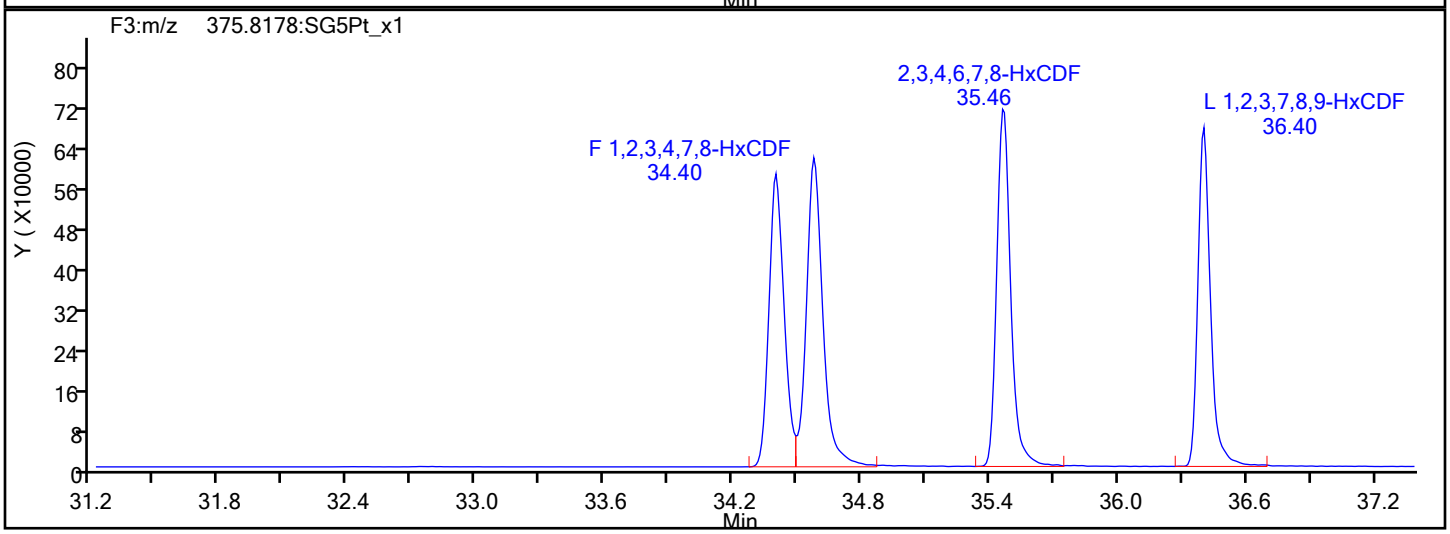


Eurofins Sacramento

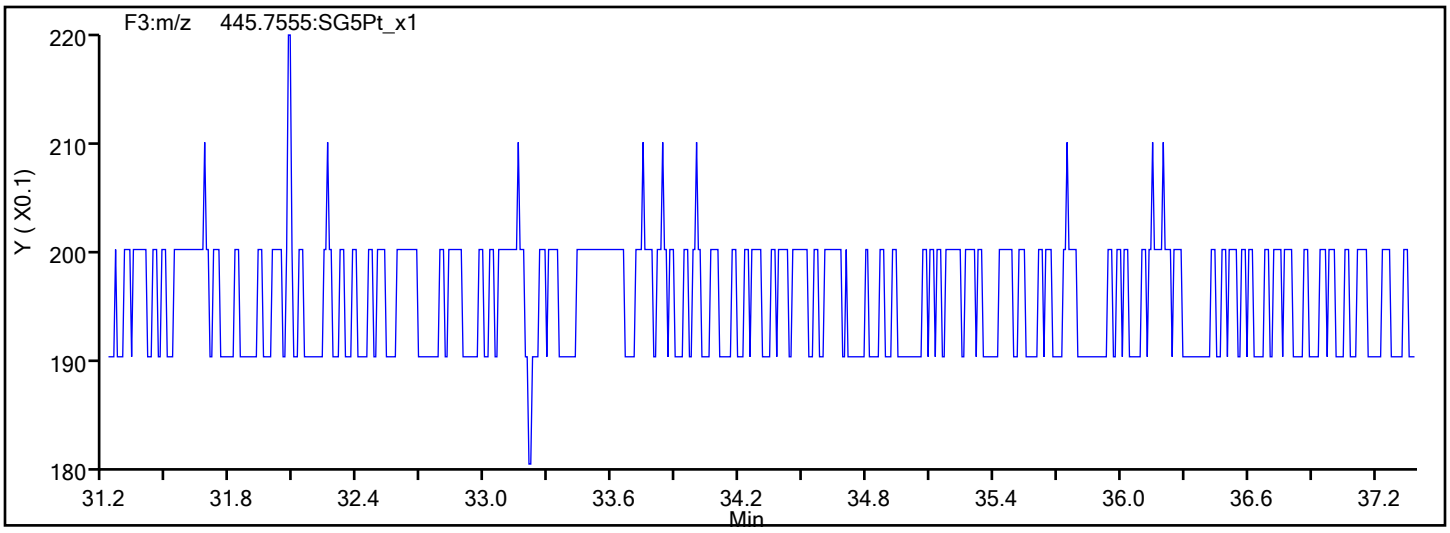
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



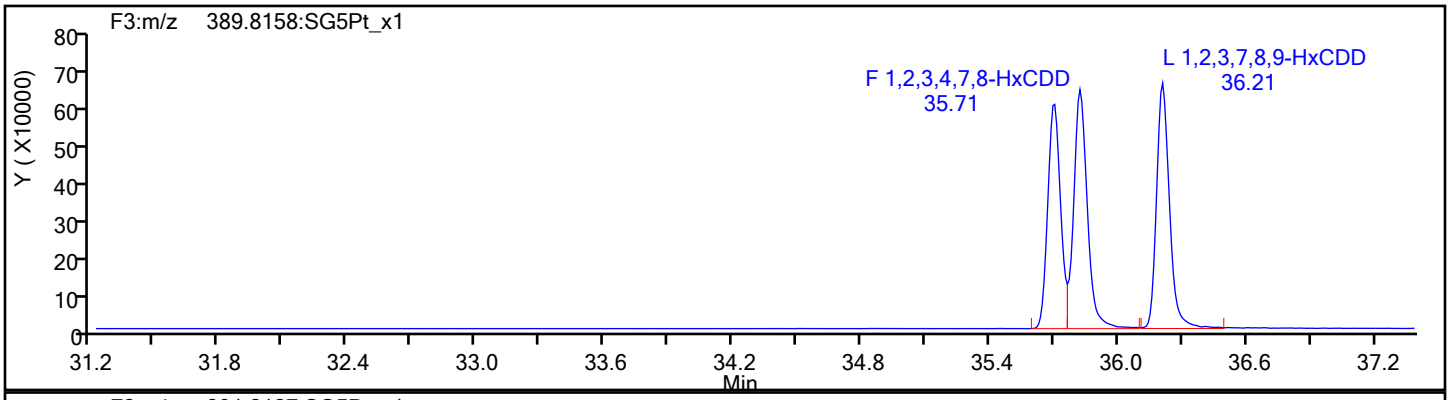
Report Date: 20-Jan-2022 15:59:25 Chrom Revision: 2.3 18-Jan-2022 20:25:40

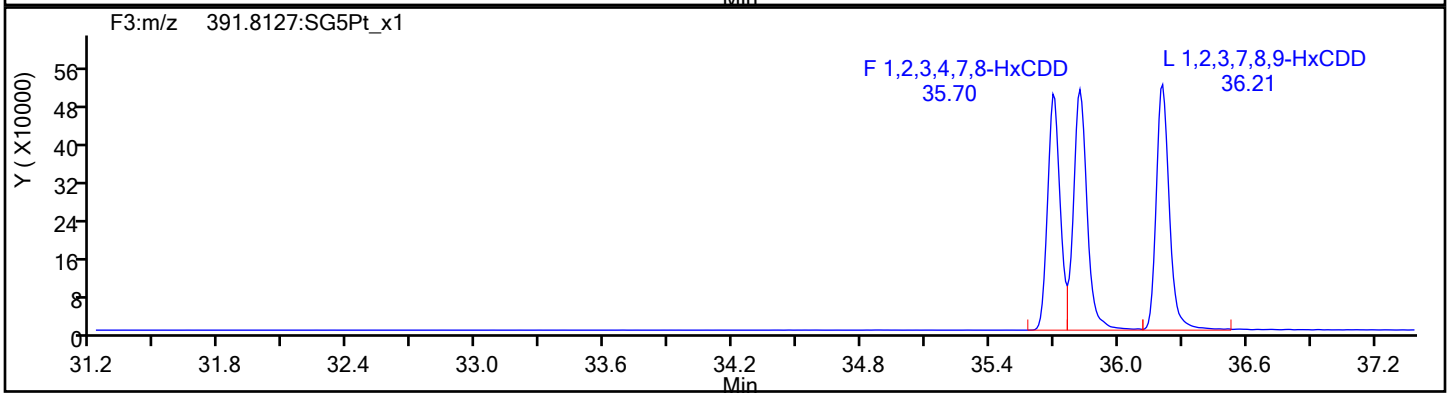
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

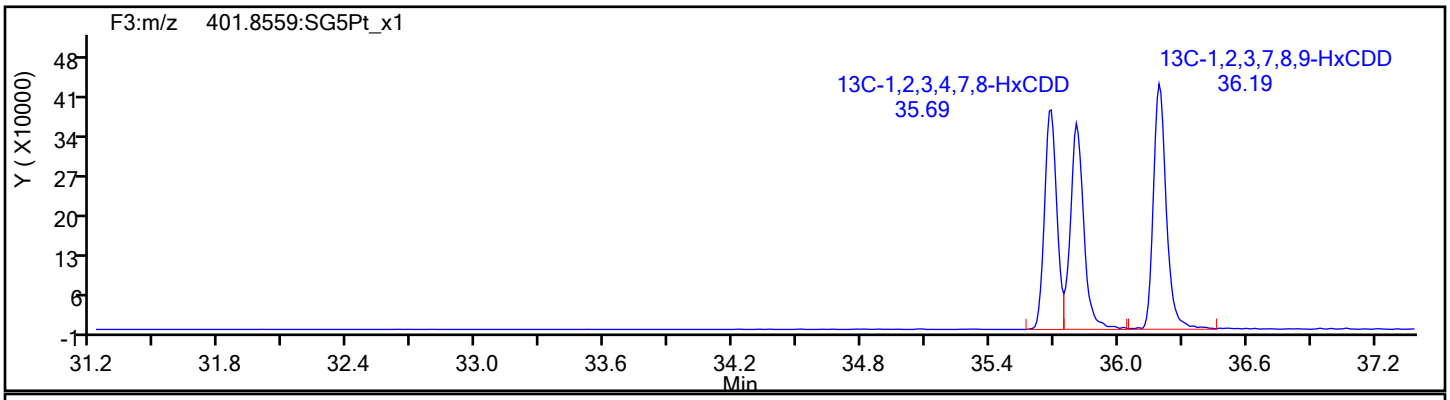
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

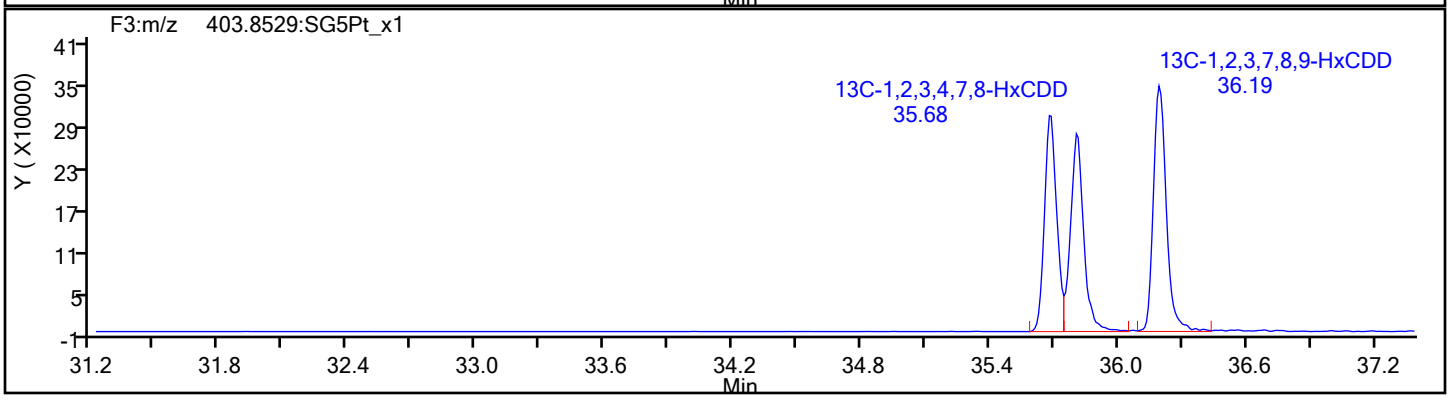
HxCDD





HxCDD Standards

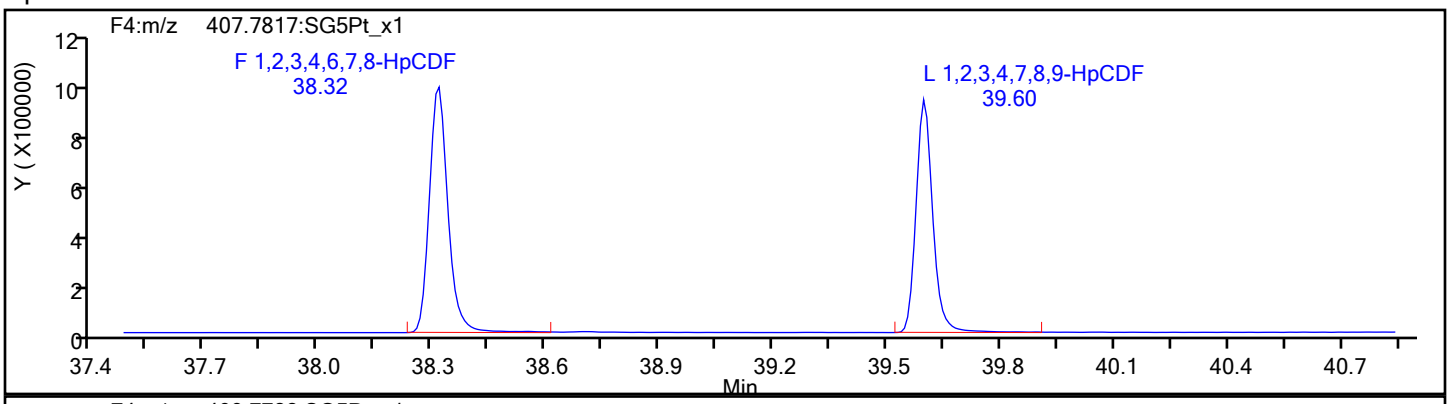


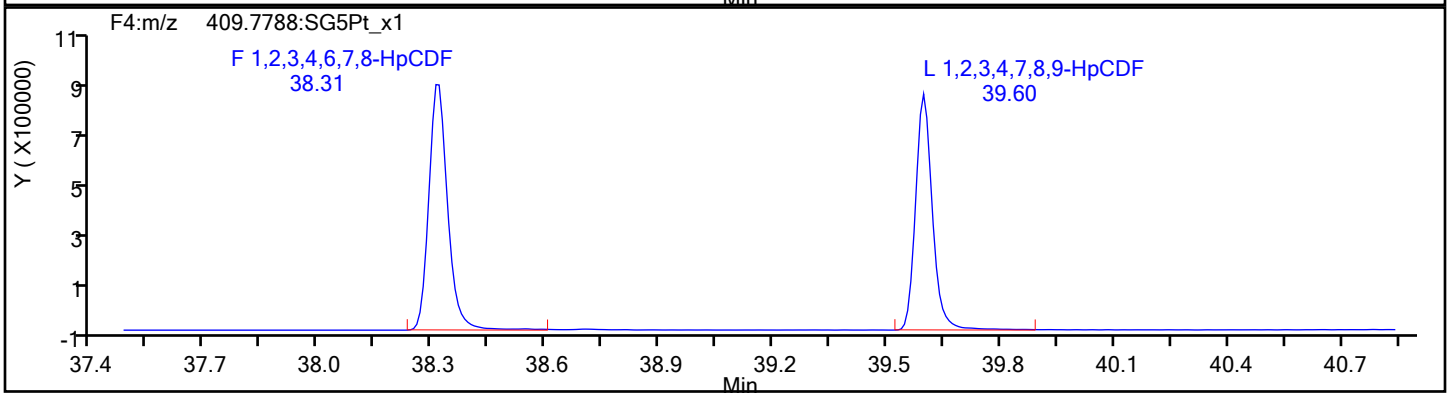


Eurofins Sacramento

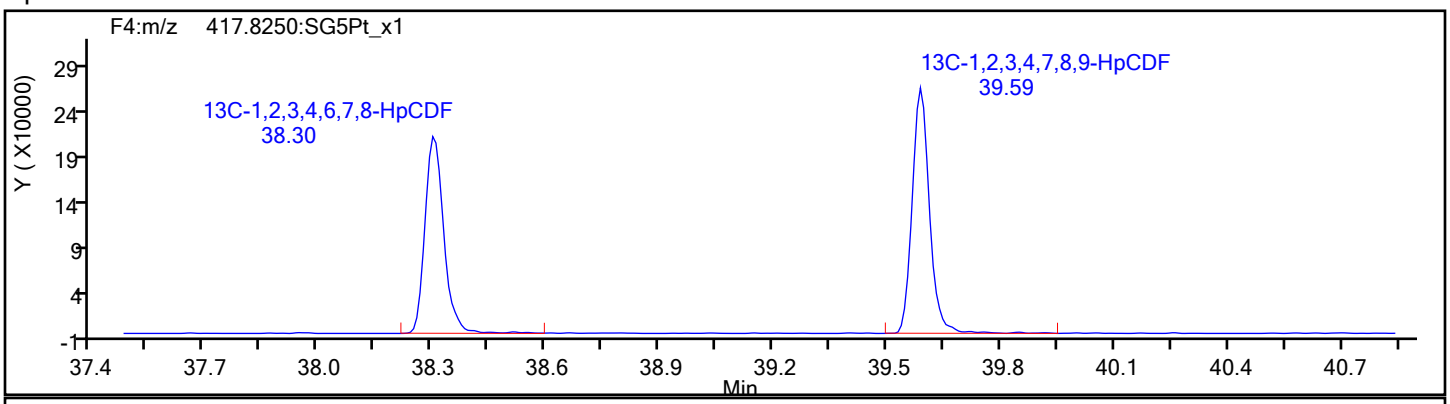
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

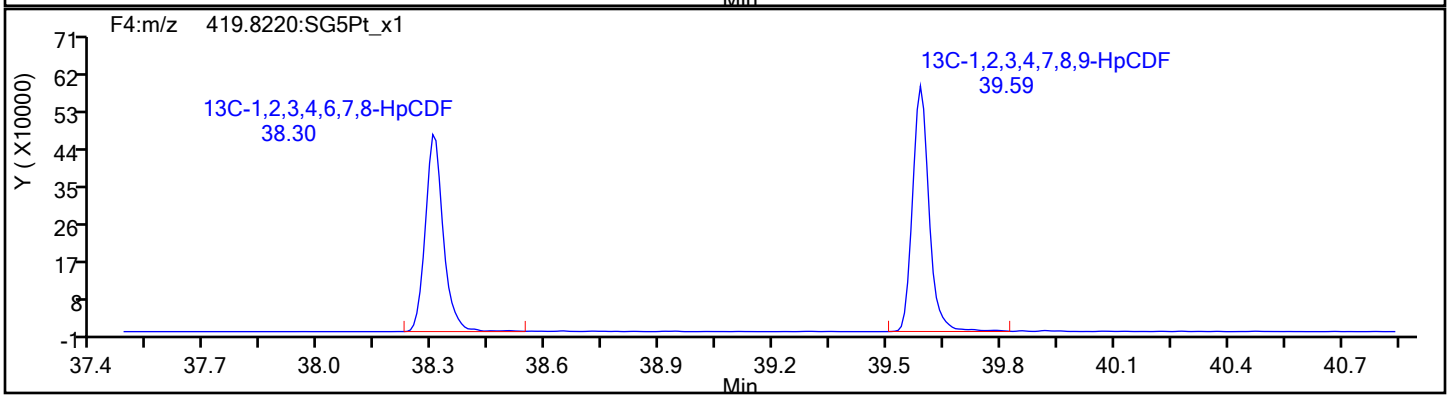
HpCDF





HpCDF Standards

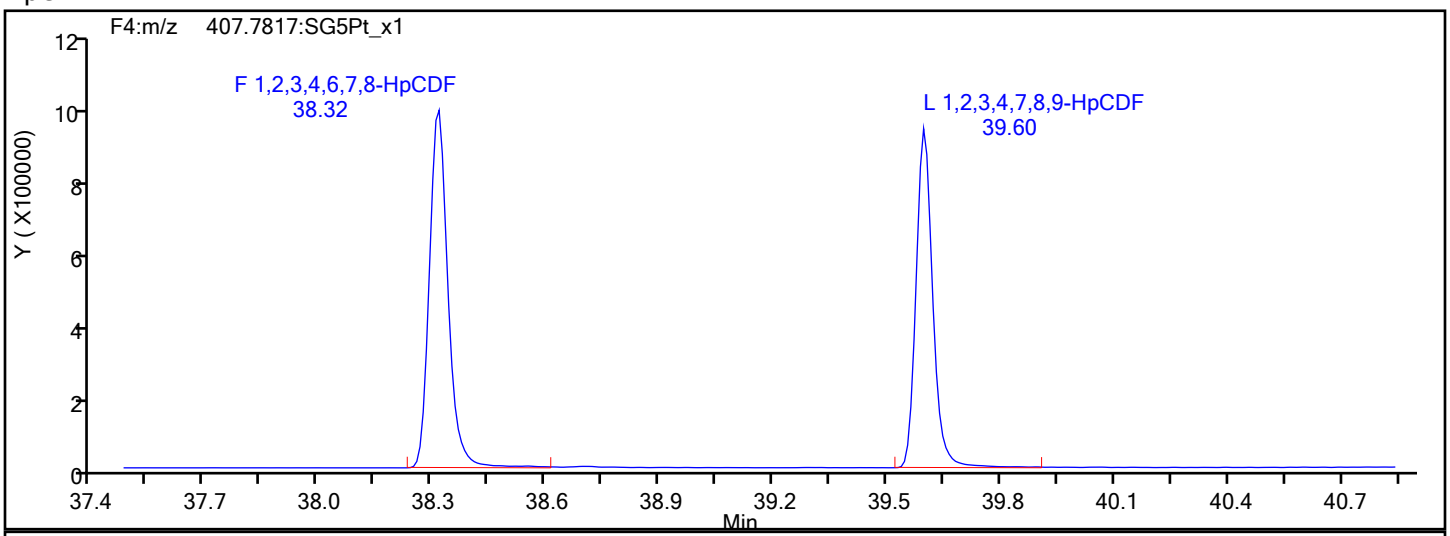


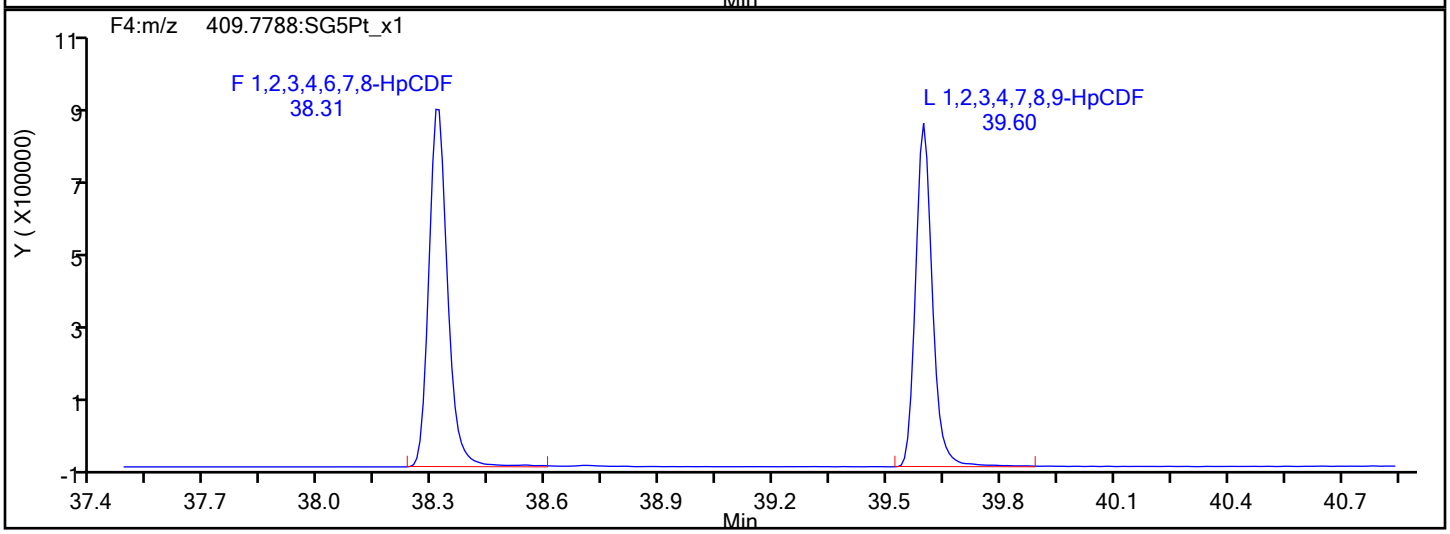


Eurofins Sacramento

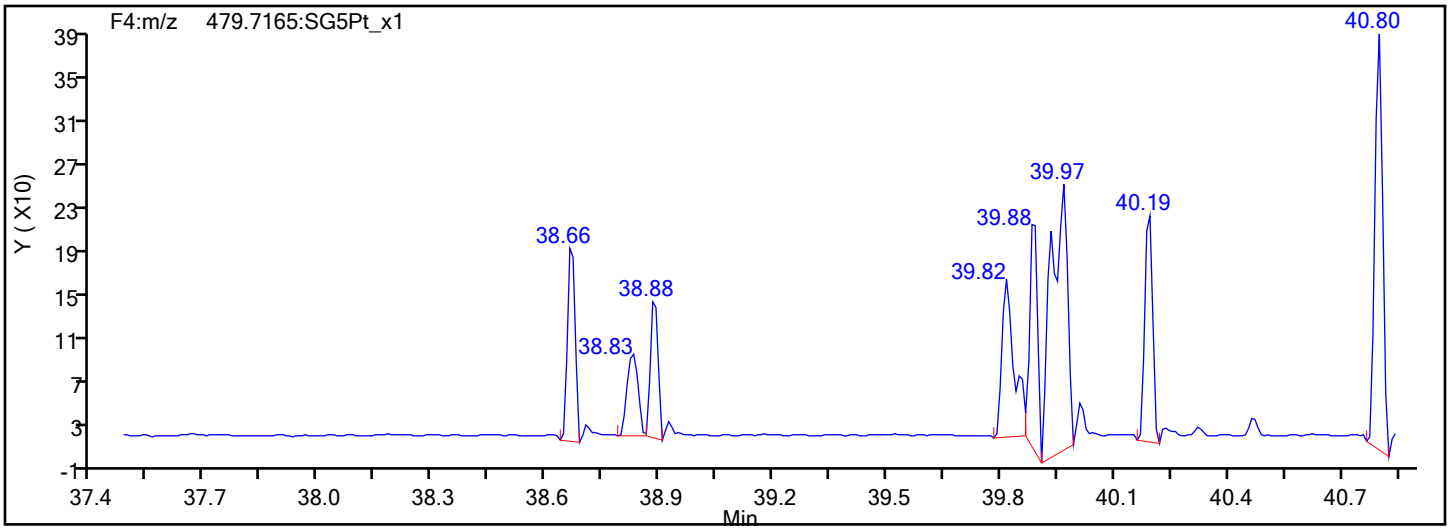
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
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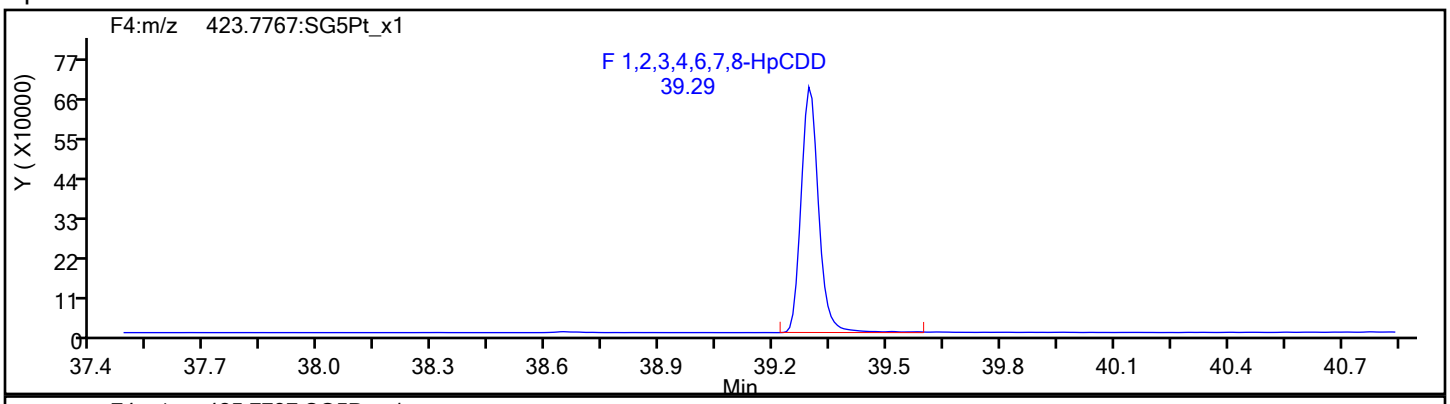
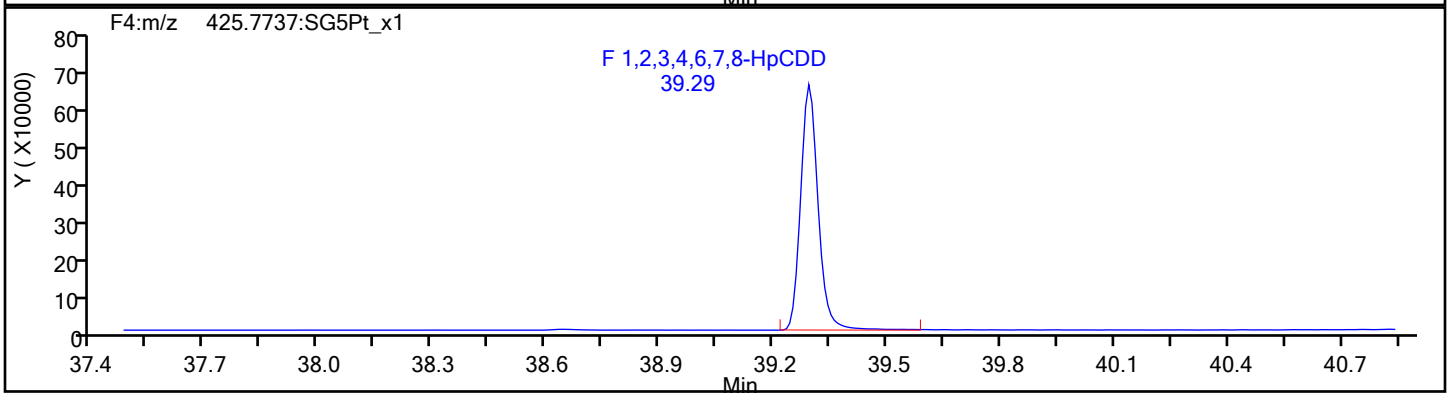
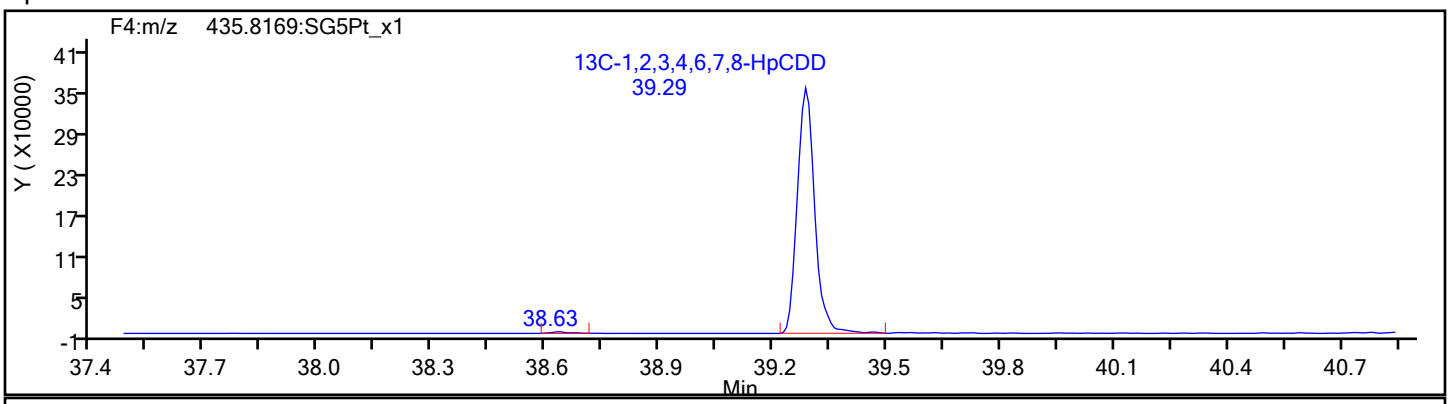
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

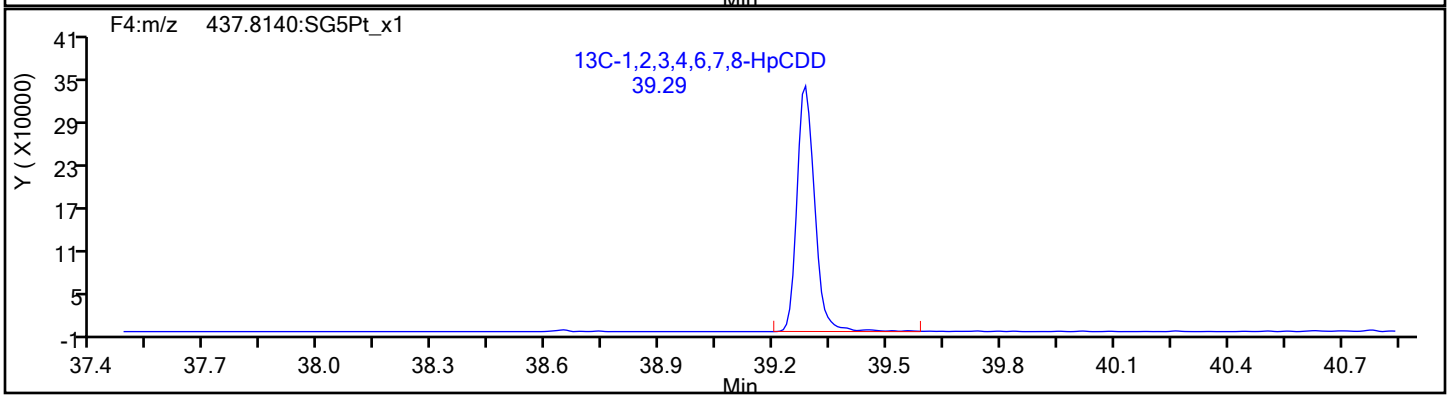
HpCDD





HpCDD Standards





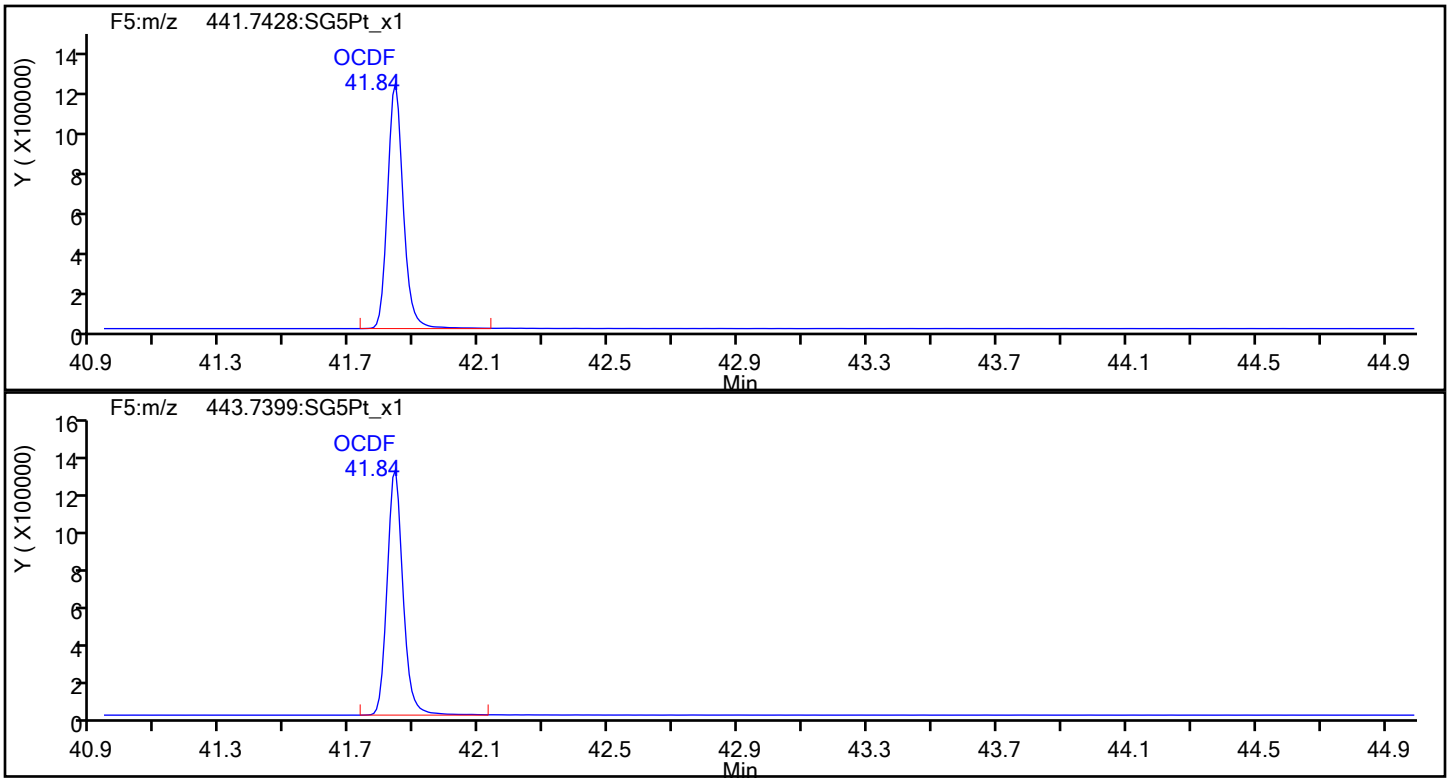
Report Date: 20-Jan-2022 15:59:26 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

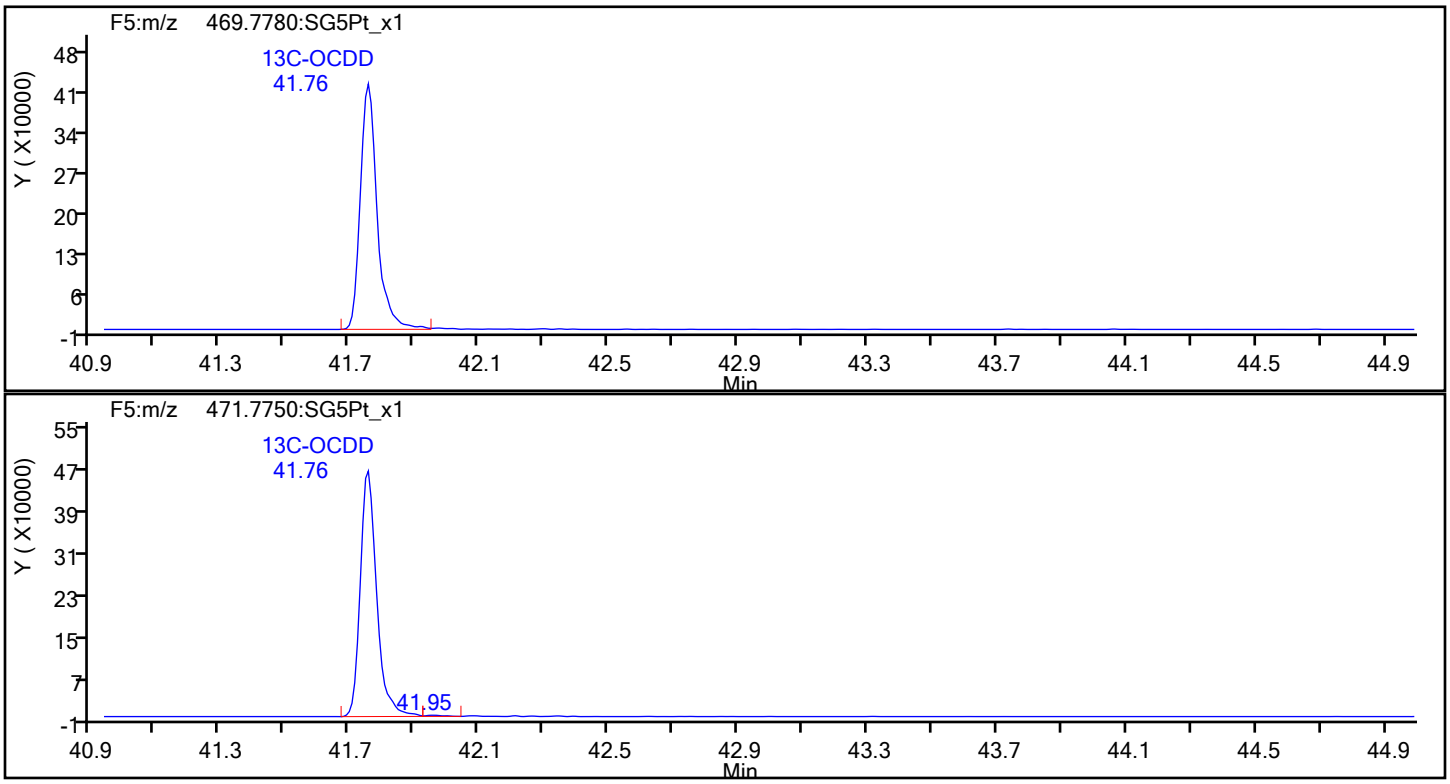
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



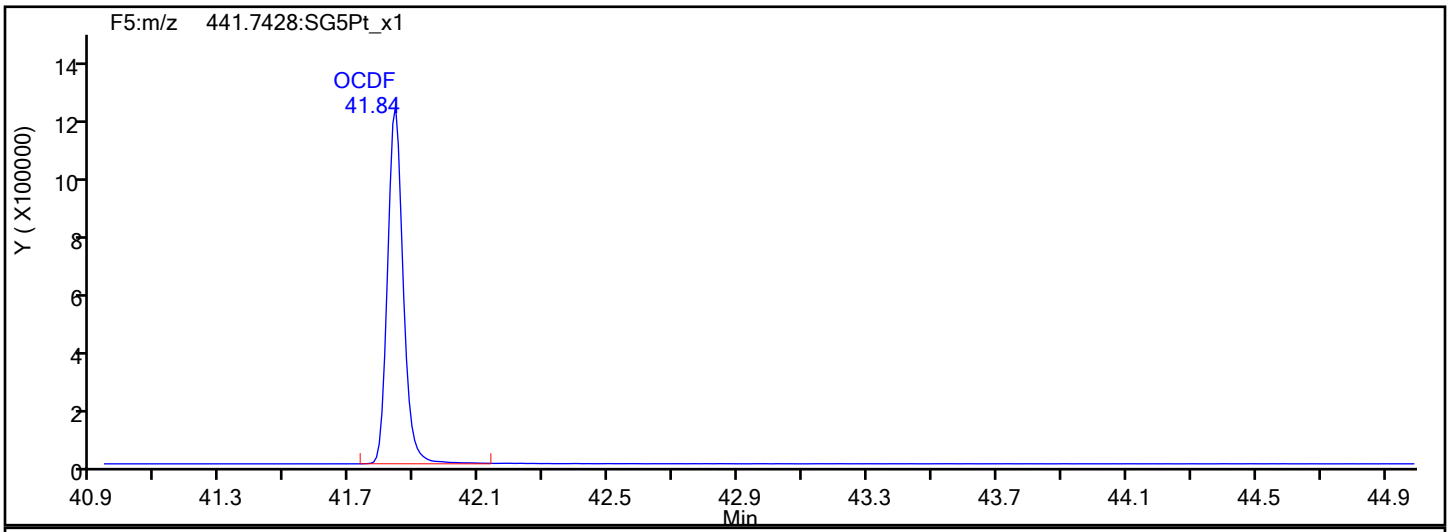
OCDF Standards

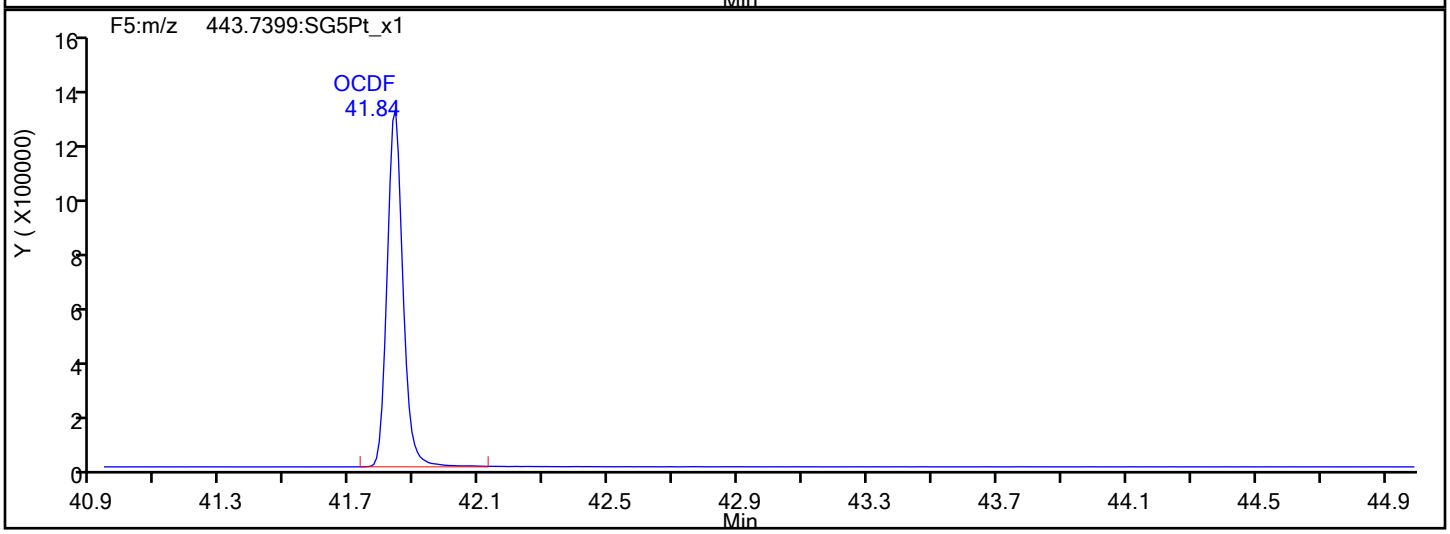


Eurofins Sacramento

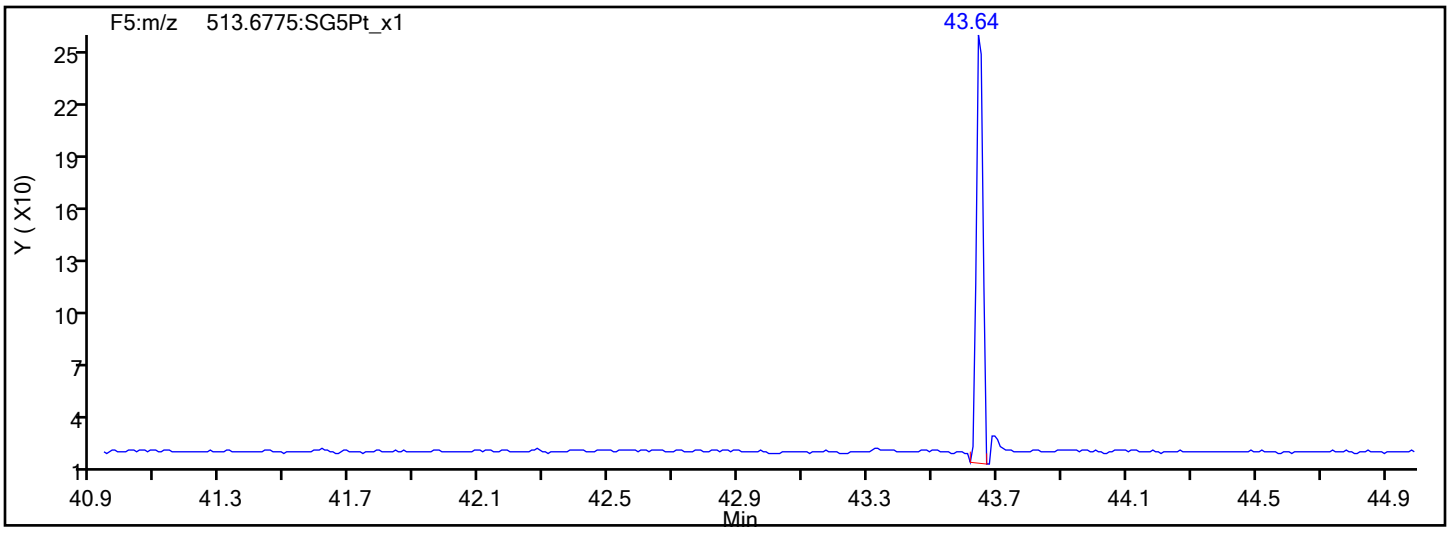
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



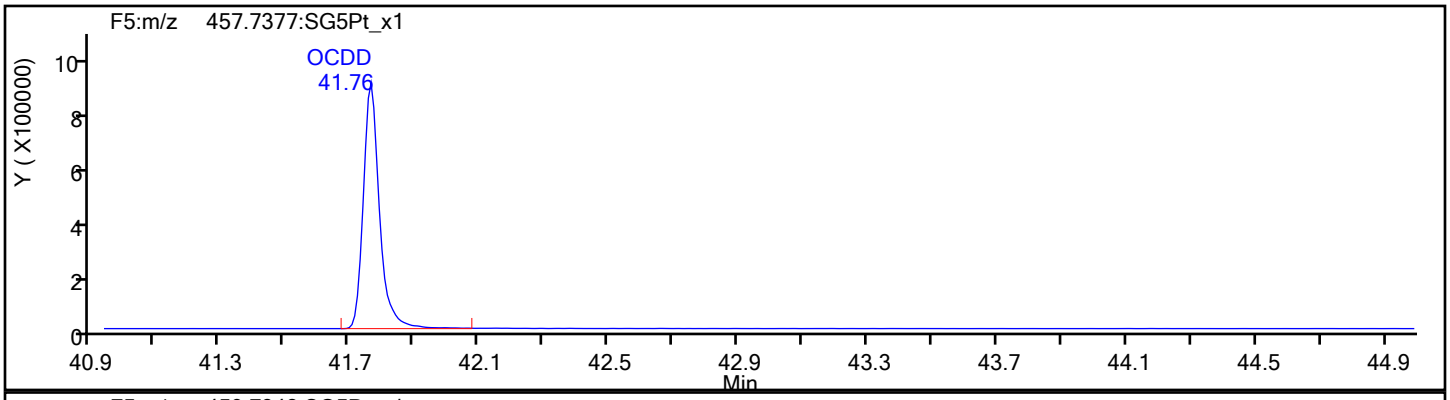
Report Date: 20-Jan-2022 15:59:26 Chrom Revision: 2.3 18-Jan-2022 20:25:40

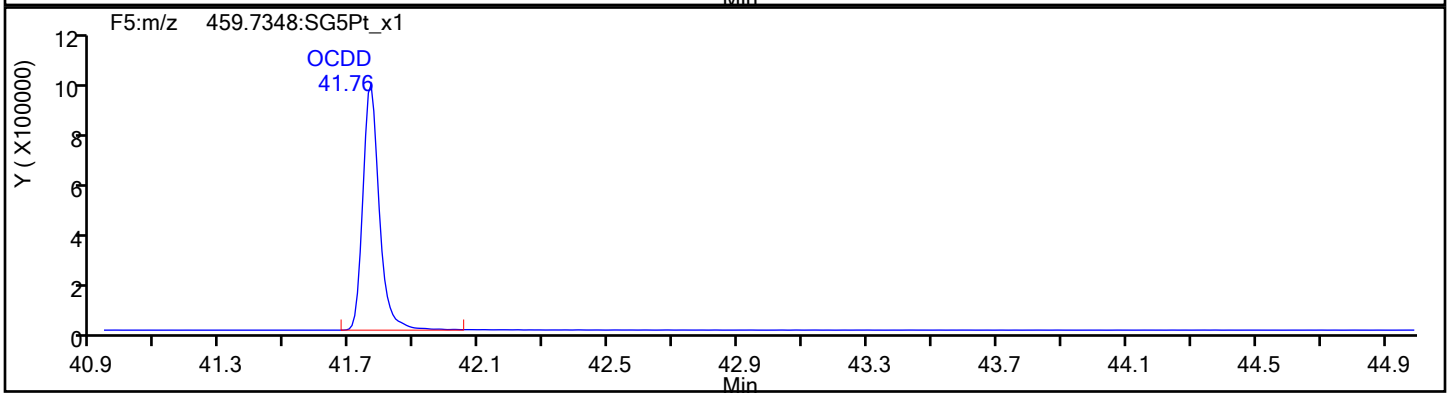
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

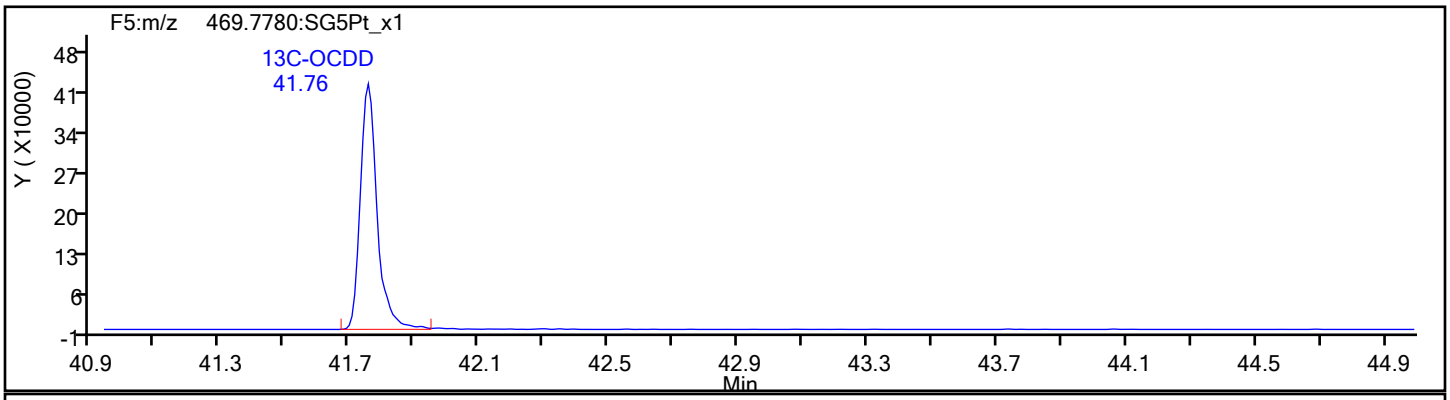
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

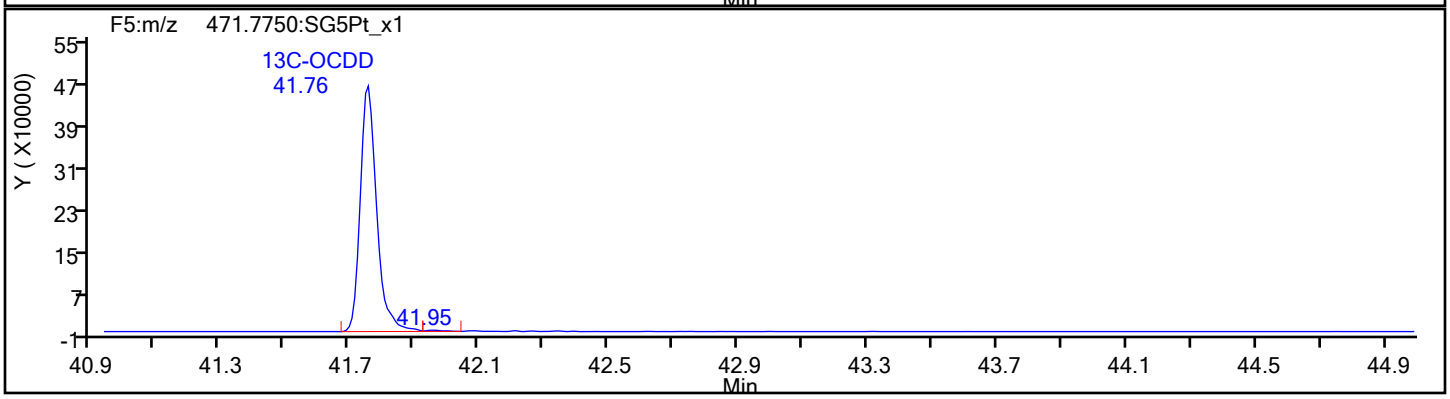
OCDD





OCDD Standards



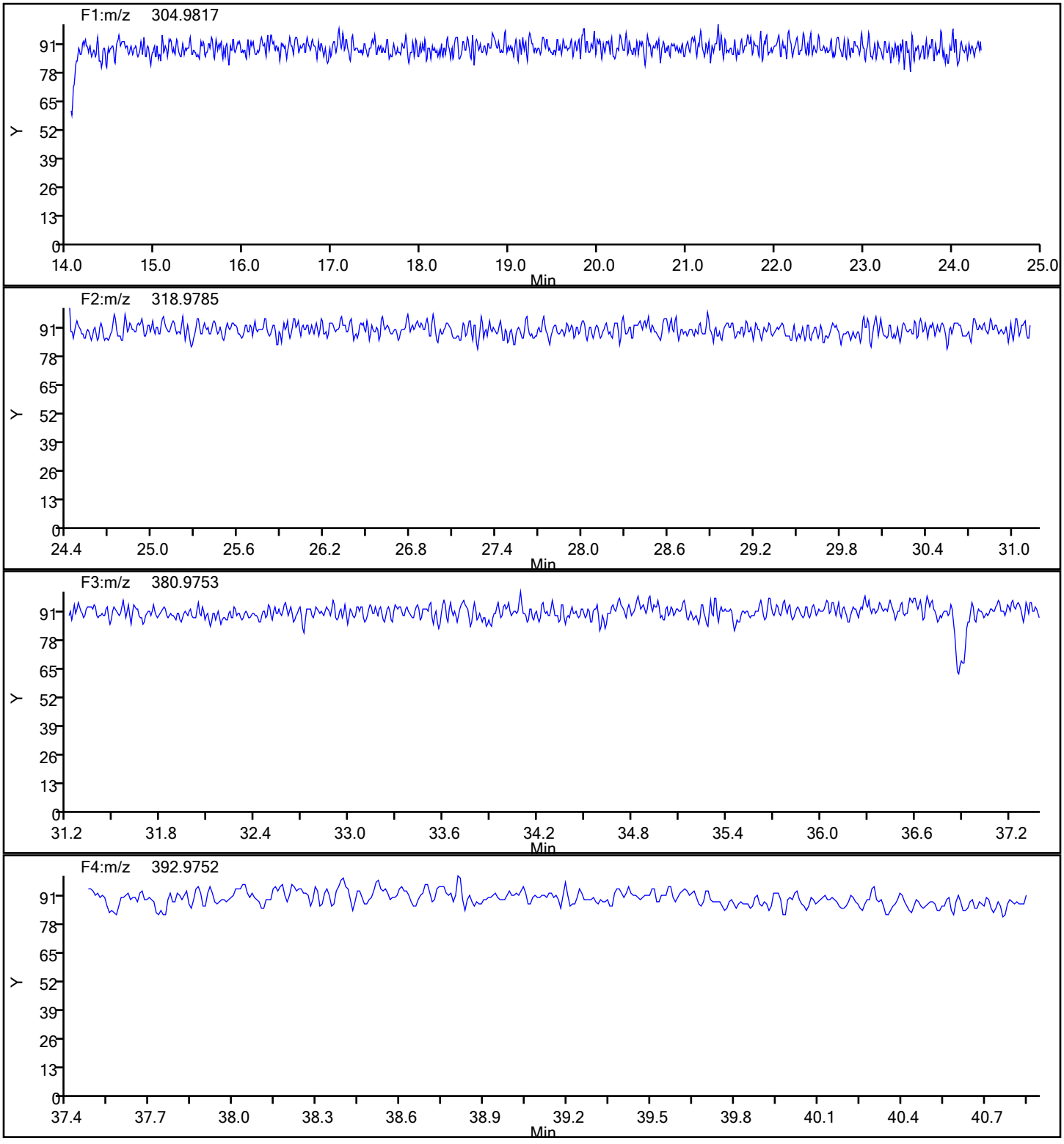


Report Date: 20-Jan-2022 15:59:26 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 15:59:26 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d		
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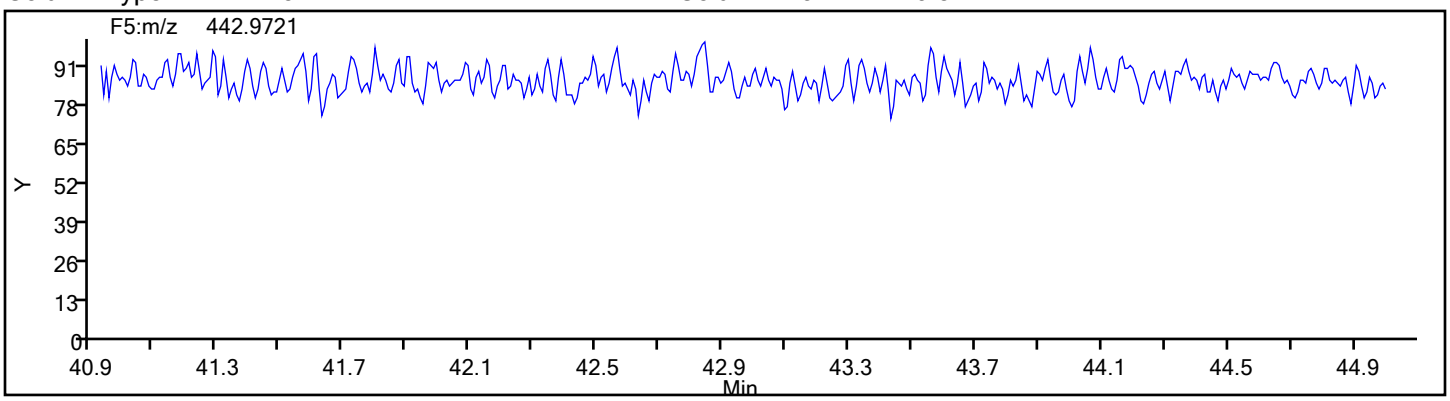
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Jan-2022 20:27:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS6_HRDXNL6_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:59:45 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:54:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.450	3683935	0.79	3.5E+04	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.495	3706529	0.83	1.0164	99.0	99.0	0.5089	0.5089	98.99	
2,3,7,8-TCDF	19.521	7319030	0.78	1.0120	195.1	195.1	0.3568	0.3568	97.56	
S Total TCDF					195.1	195.1	0.3568	0.3568		
D 13C-2,3,7,8-TCDD	20.811	2999814	0.80	0.7884	103.3	103.3	0.4975	0.4975	103	
$ 37Cl4-2,3,7,8-TCDD	20.837	5961456		0.7911	204.5	204.5	0.1409	0.1409	102	
2,3,7,8-TCDD	20.837	5480713	0.78	0.9906	184.4	184.4	0.2882	0.2882	92.21	
S Total TCDD					184.4	184.4	0.2882	0.2882		
D 13C-1,2,3,7,8-PeCDF	26.539	3515851	1.61	0.9232	103.4	103.4	0.6879	0.6879	103	
1,2,3,7,8-PeCDF	26.556	32853418	1.55	0.9756	957.8	957.8	3.861	3.861	95.78	
D 13C-2,3,4,7,8-PeCDF	28.002	4084856	1.61	1.0793	102.7	102.7	0.5884	0.5884	103	
2,3,4,7,8-PeCDF	28.019	31037717	1.53	0.9215	958.0	958.0	4.087	4.087	95.80	
S Total PeCDF					1915.8	1915.8	3.974	3.974		
D 13C-1,2,3,7,8-PeCDD	28.793	2222510	1.59	0.5606	107.6	107.6	0.2661	0.2661	108	
1,2,3,7,8-PeCDD	28.827	20812323	1.54	1.0020	934.5	934.5	0.7398	0.7398	93.45	
S Total PeCDD					934.5	934.5	0.7398	0.7398		
D 13C-1,2,3,4,7,8-HxCDF	34.384	2766787	0.53	1.0566	101.5	101.5	0.2756	0.2756	101	
1,2,3,4,7,8-HxCDF	34.401	23549826	1.23	0.8835	963.4	963.4	2.822	2.822	96.34	
D 13C-1,2,3,6,7,8-HxCDF	34.561	2629332	0.54	0.9686	105.2	105.2	0.3006	0.3006	105	
1,2,3,6,7,8-HxCDF	34.578	27928957	1.24	1.0287	981.2	981.2	2.424	2.424	98.12	
D 13C-2,3,4,6,7,8-HxCDF	35.445	2426240	0.54	0.9084	103.5	103.5	0.3205	0.3205	104	
2,3,4,6,7,8-HxCDF	35.462	26024710	1.23	0.9878	952.2	952.2	2.524	2.524	95.22	
D 13C-1,2,3,7,8,9-HxCDF	36.387	2017074	0.52	0.8248	94.8	94.8	0.3530	0.3530	94.78	
1,2,3,7,8,9-HxCDF	36.404	21388952	1.24	0.9071	852.3	852.3	2.749	2.749	85.23	
S Total HxCDF					3749.2	3749.2	2.630	2.630		
* 13C-1,2,3,7,8,9-HxCDD	36.194	2580408	1.30	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.680	2120232	1.28	0.8133	101.0	101.0	0.2512	0.2512	101	
1,2,3,4,7,8-HxCDD	35.697	16681538	1.24	0.8294	924.2	924.2	1.537	1.537	92.42	
D 13C-1,2,3,6,7,8-HxCDD	35.807	2176275	1.29	0.8027	105.1	105.1	0.2546	0.2546	105	
1,2,3,6,7,8-HxCDD	35.823	18776432	1.24	0.9395	918.4	918.4	1.357	1.357	91.84	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.211	18096602	1.23	0.9076	916.2	916.2	1.404	1.404	91.62	
S Total HxCDD					2758.7	2758.7	1.433	1.433		
D 13C-1,2,3,4,6,7,8-HpCDF	38.308	1696502	0.43	0.6421	102.4	102.4	0.4047	0.4047	102	
1,2,3,4,6,7,8-HpCDF	38.316	22505754	1.04	1.4385	922.2	922.2	2.729	2.729	92.22	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.579	1848147	0.46	1.1706	93.1	93.1	0.2630	0.2630	93.06	
1,2,3,4,7,8,9-HpCDF	39.596	18248889	1.03	1.2202	881.6	881.6	3.218	3.218	88.16	
S Total HpCDF					1803.8	1803.8	2.974	2.974		
D 13C-1,2,3,4,6,7,8-HpCDD	39.285	1572535	1.07	0.6246	97.6	97.6	0.2905	0.2905	97.57	
1,2,3,4,6,7,8-HpCDD	39.293	14570735	1.04	0.9767	948.7	948.7	1.641	1.641	94.87	
S Total HpCDD					948.7	948.7	1.641	1.641		
D 13C-OCDD	41.755	2134437	0.89	0.4360	189.7	189.7	0.2174	0.2174	94.86	
OCDF	41.830	26390630	0.91	1.2756	1938.6	1938.6	1.275	1.275	96.93	
OCDD	41.763	20297049	0.89	1.0341	1839.1	1839.1	1.443	1.443	91.95	

QC Flag Legend

Processing Flags
Review Flags
a - User Assigned ID

Reagents:

HRDXNL6_00030 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Jan-2022 20:27:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS6_HRDXNL6_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:59:45 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:54:49

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	20.450	20.418	2		1623272	226118	559	1397	405		a
333.9338	20.450	20.418	2		2060663	291476	253	632	1152	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.495	19.485	1	0.953	1678370	242546	747	1867	325		
317.9389	19.513	19.485	2	0.954	2028159	297452	324	810	918	0.83(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.521	19.520	0	1.001	3197530	446829	376	940	1188		
305.8987	19.530	19.520	1	1.002	4121500	570239	404	1010	1411	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.811	20.784	2	1.018	1333316	179586	559	1397	321		
333.9338	20.803	20.784	1	1.017	1666498	241480	253	632	954	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.837	20.809	2	1.019	5961456	772257	231	577	3343		
2,3,7,8-TCDD											
319.8965	20.837	20.821	1	1.001	2401534	320526	289	722	1109		
321.8936	20.837	20.821	1	1.001	3079179	411734	192	480	2144	0.78(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.539	26.498	2	1.298	2167810	335390	768	1920	437		
353.8970	26.530	26.498	2	1.297	1348041	223627	547	1367	409	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.556	26.518	2	1.001	19944918	2943318	5084	12710	579		
341.8567	26.556	26.518	2	1.001	12908500	1907462	3339	8347	571	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.002	27.961	3	1.369	2521545	357204	768	1920	465		
353.8970	28.002	27.961	3	1.369	1563311	228280	547	1367	417	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.019	27.984	2	1.001	18777291	2640458	5084	12710	519		
341.8567	28.019	27.984	2	1.001	12260426	1732189	3339	8347	519	1.53(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.793	28.754	2	1.408	1364539	195008	162	405	1204		
369.8919	28.802	28.754	3	1.408	857971	118208	147	367	804	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.827	28.781	3	1.001	12628375	1730495	572	1430	3025		
357.8516	28.819	28.781	2	1.001	8183948	1128458	357	892	3161	1.54(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.384	34.357	2	0.950	953247	185107	335	837	553		
385.8610	34.384	34.357	2	0.950	1813540	342940	353	882	972	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.401	34.374	2	1.000	12994633	2488579	2940	7350	846		
375.8178	34.401	34.374	2	1.000	10555193	2037408	2327	5817	876	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.561	34.533	2	0.955	923430	169789	335	837	507		
385.8610	34.561	34.533	2	0.955	1705902	301157	353	882	853	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.578	34.553	2	1.000	15444971	2714943	2940	7350	923		
375.8178	34.578	34.553	2	1.000	12483986	2210780	2327	5817	950	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.445	35.421	1	0.979	847624	186676	335	837	557		
385.8610	35.445	35.421	1	0.979	1578616	350759	353	882	994	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.462	35.438	1	1.000	14365318	3081682	2940	7350	1048		
375.8178	35.462	35.438	1	1.000	11659392	2497554	2327	5817	1073	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.387	36.366	1	1.005	690431	162990	335	837	487		
385.8610	36.387	36.366	1	1.005	1326643	318338	353	882	902	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.404	36.385	1	1.000	11860362	2747350	2940	7350	934		
375.8178	36.396	36.385	1	1.000	9528590	2192483	2327	5817	942	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.194	36.172	1		1460446	338743	292	730	1160		
403.8529	36.194	36.172	1		1119962	251981	191	477	1319	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.680	35.661	1	0.986	1192283	284539	292	730	974		
403.8529	35.689	35.661	2	0.986	927949	233628	191	477	1223	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.697	35.676	1	1.000	9218076	2203471	1374	3435	1604		
391.8127	35.697	35.676	1	1.000	7463462	1792041	1076	2690	1665	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.807	35.787	1	0.989	1225336	272237	292	730	932		
403.8529	35.807	35.787	1	0.989	950939	208260	191	477	1090	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.823	35.802	1	1.000	10397715	2278216	1374	3435	1658		
391.8127	35.823	35.802	1	1.000	8378717	1846112	1076	2690	1716	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.211	36.191	1	1.015	9985182	2237894	1374	3435	1629		
391.8127	36.211	36.191	1	1.015	8111420	1811526	1076	2690	1684	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.308	38.287	1	1.058	511229	151827	221	552	687		
419.8220	38.300	38.287	1	1.058	1185273	346726	393	982	882	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.316	38.299	1	1.000	11466644	3239905	4039	10097	802		
409.7788	38.308	38.299	1	1.000	11039110	3152320	3791	9477	832	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.579	39.570	1	1.094	581263	183332	221	552	830		
419.8220	39.587	39.570	1	1.094	1266884	402626	393	982	1024	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.596	39.584	1	1.000	9270602	2918021	4039	10097	722		
409.7788	39.596	39.584	1	1.000	8978287	2806990	3791	9477	740	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.285	39.269	1	1.085	813561	263579	189	472	1395		
437.8140	39.285	39.269	1	1.085	758974	238025	240	600	992	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.293	39.277	1	1.000	7430501	2351563	1655	4137	1421		
425.7737	39.293	39.277	1	1.000	7140234	2231634	1560	3900	1431	1.04(0.88-1.20)	
13C-OCDD											
469.7780	41.755	41.743	1	1.154	1005750	298985	108	270	2768		
471.7750	41.746	41.743	0	1.153	1128687	331047	116	290	2854	0.89(0.76-1.02)	
OCDF											
441.7428	41.830	41.826	0	1.002	12548533	3790049	909	2272	4169		
443.7399	41.830	41.826	0	1.002	13842097	4207728	1141	2852	3688	0.91(0.76-1.02)	
OCDD											
457.7377	41.763	41.748	1	1.000	9531441	2773030	865	2162	3206		
459.7348	41.755	41.748	0	1.000	10765608	3143233	1015	2537	3097	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

Review Flags

a - User Assigned ID

Reagents:

HRDXNL6_00030 Amount Added: 1.00 Units: ml

Manual Integration/User Assign Peak Report

Eurofins Sacramento

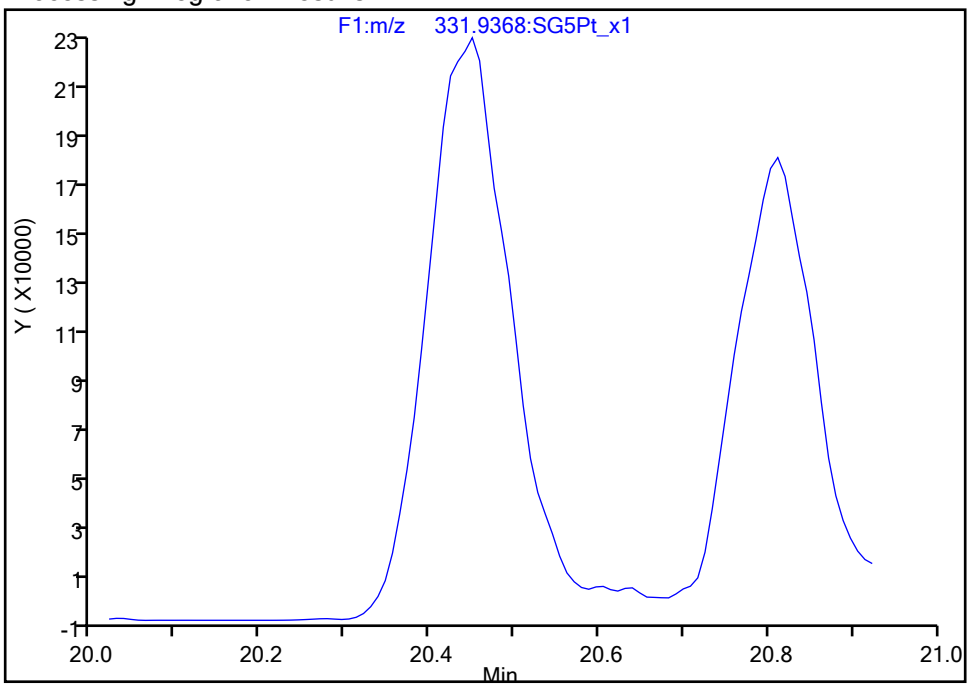
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d
Injection Date: 13-Jan-2022 20:27:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

13C-1,2,3,4-TCDD, CAS: 114423-99-3

Signal: 1

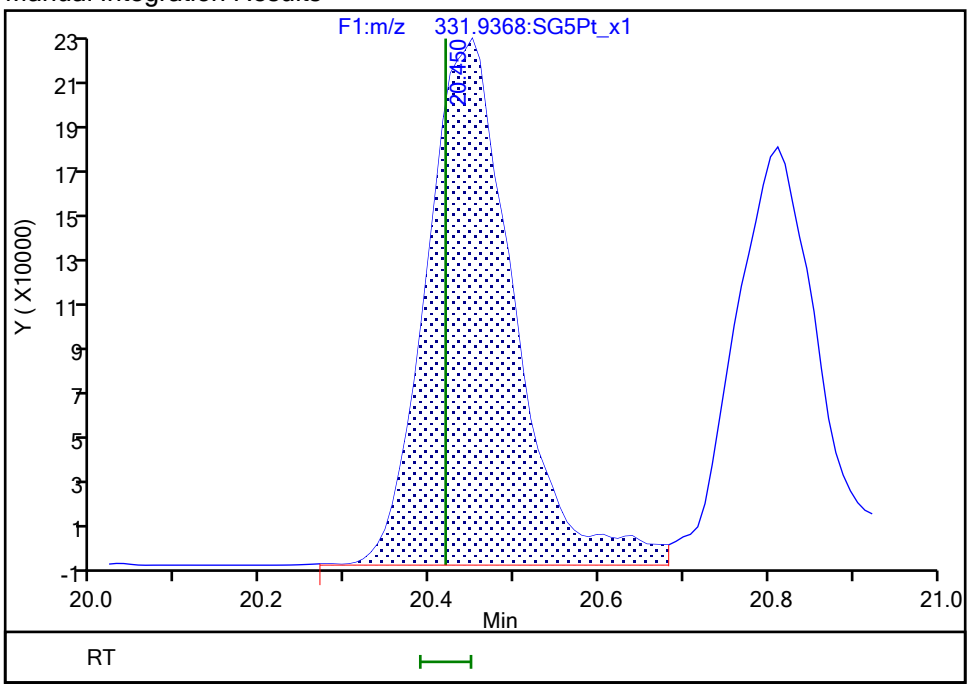
Not Detected
Expected RT: 20.42

Processing Integration Results



Manual Integration Results

RT: 20.45
Area: 1623272
Amount: 100.0000
Amount Units: pg/ul

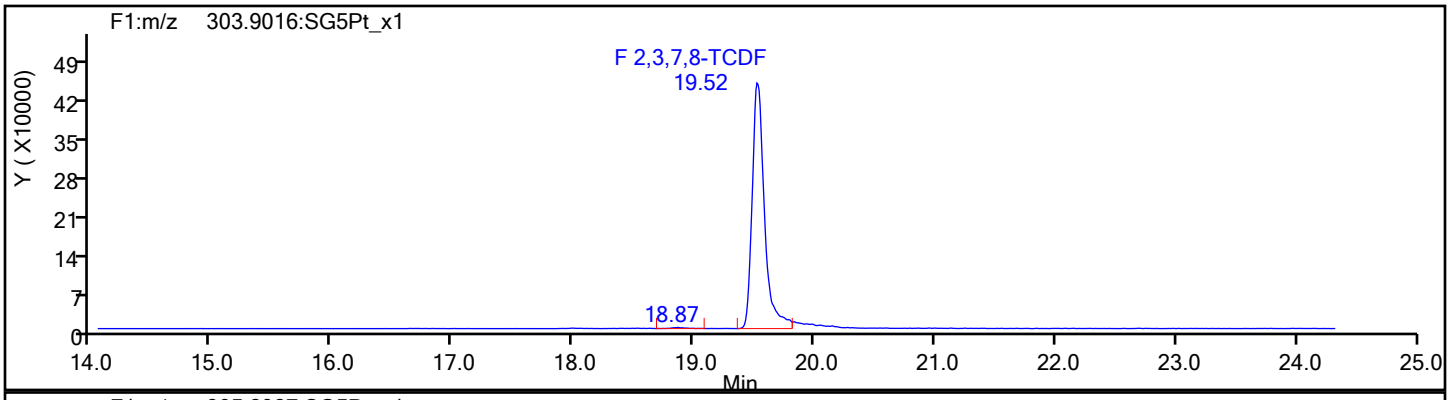


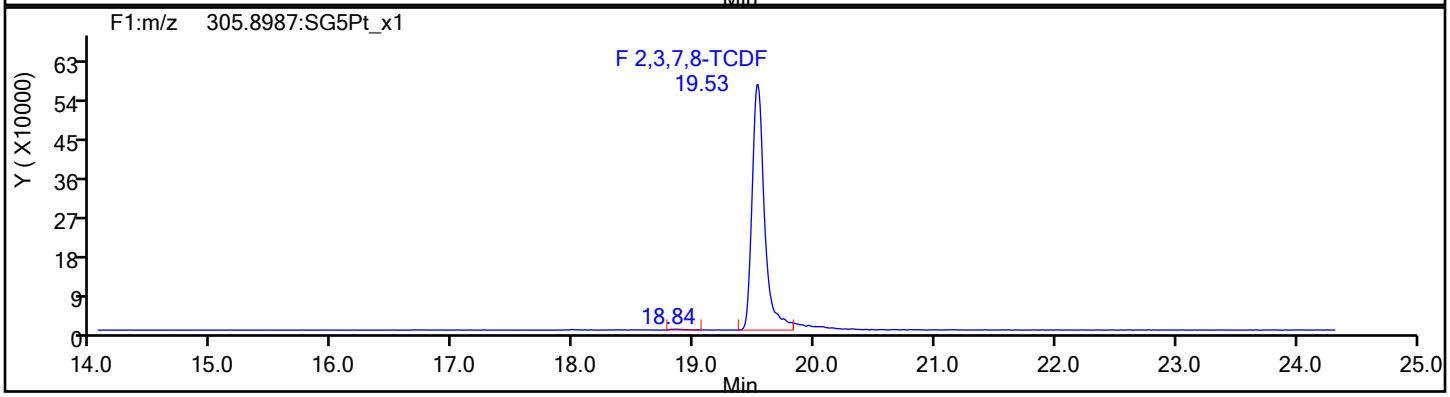
Reviewer: bilottag, 18-Jan-2022 12:14:59
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins Sacramento

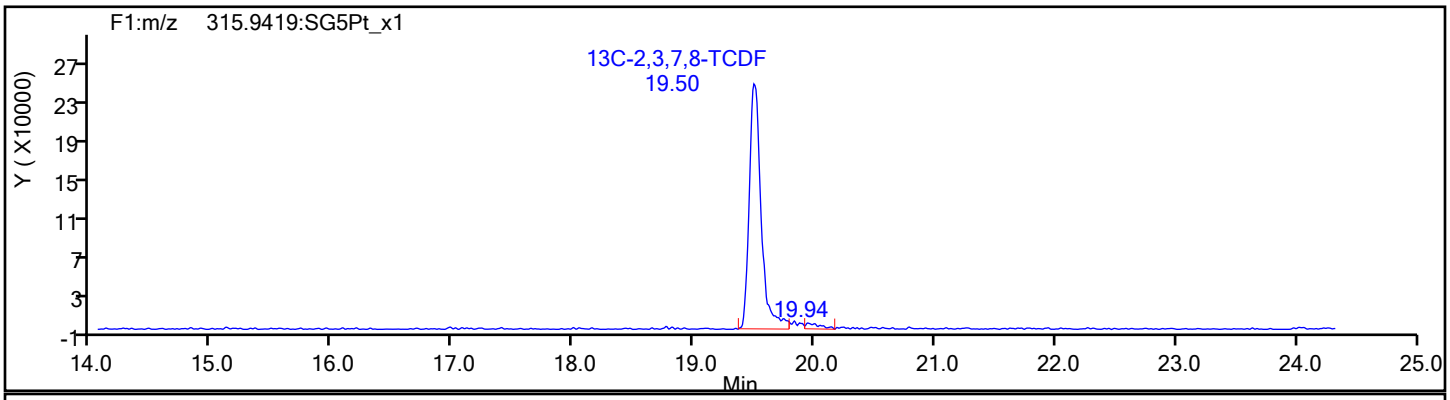
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d
Injection Date: 13-Jan-2022 20:27:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 7
Column Type: DB-5 Column Dia: 0.32 mm

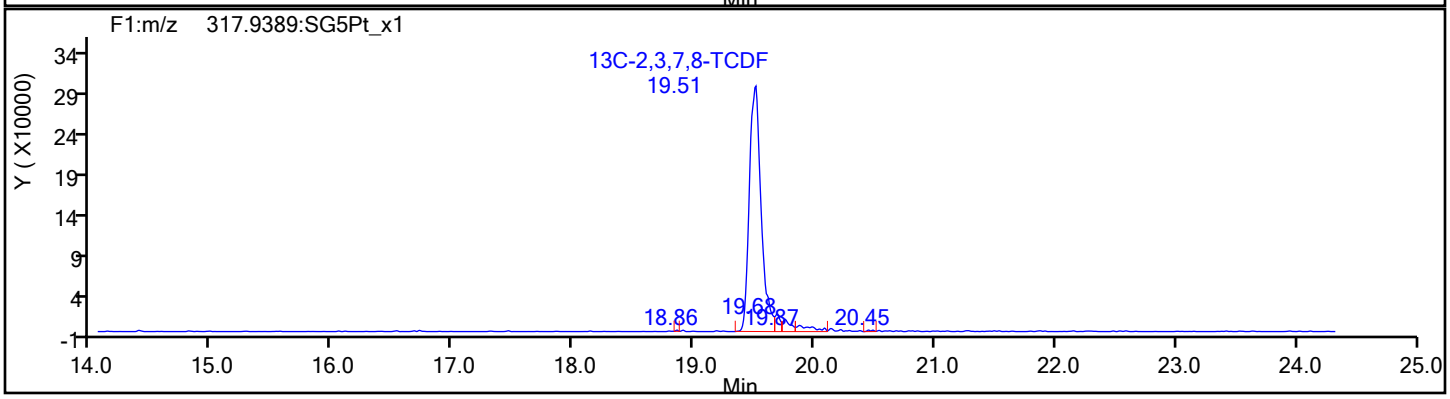
TCDF





TCDF Standards

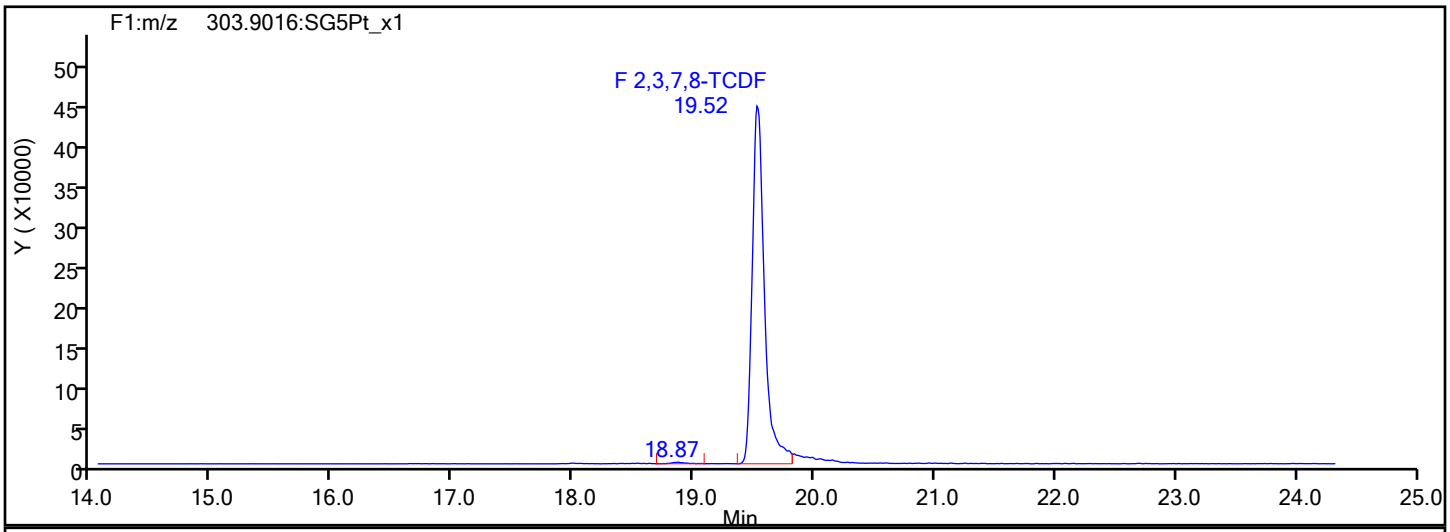


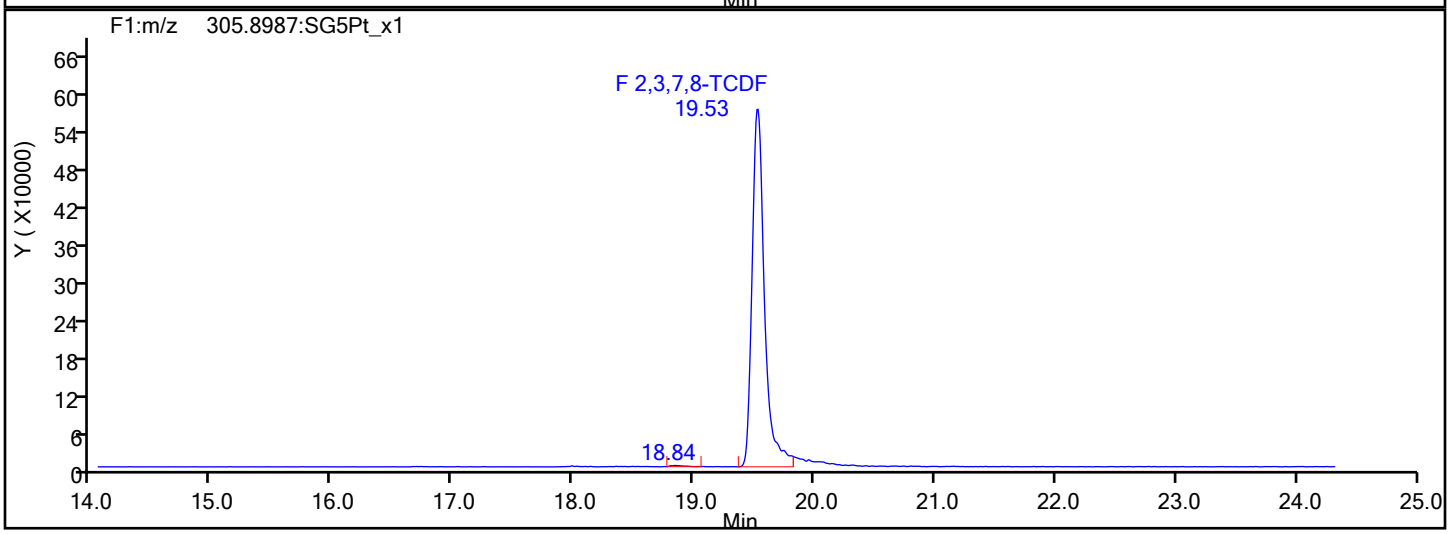


Eurofins Sacramento

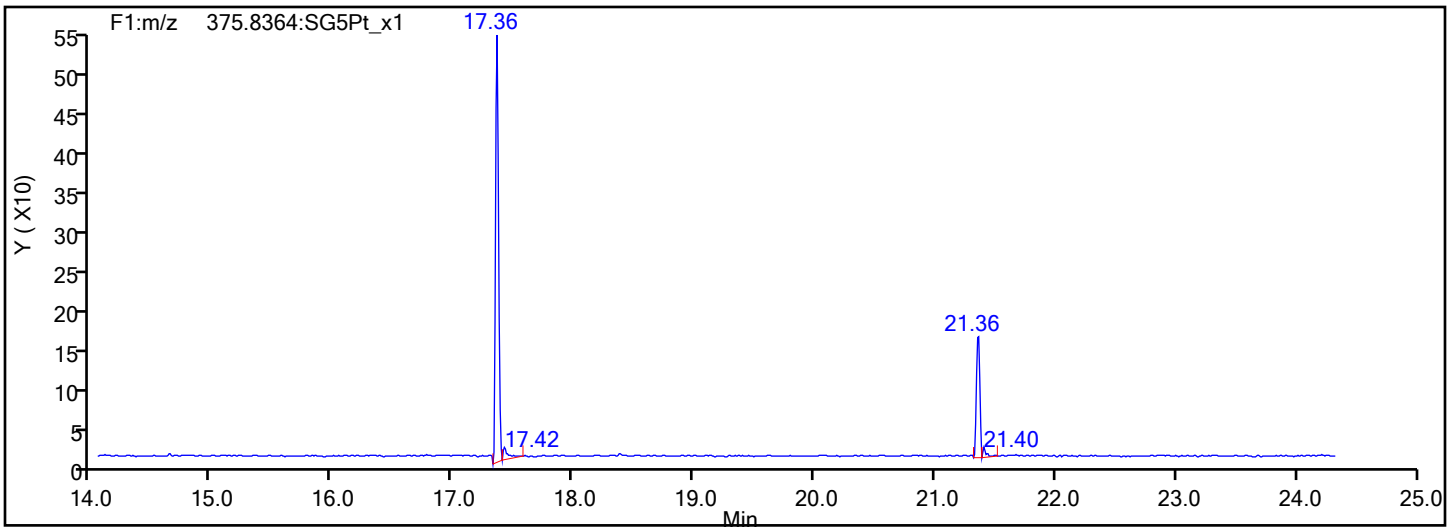
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d		
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Report Date: 20-Jan-2022 15:59:46 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

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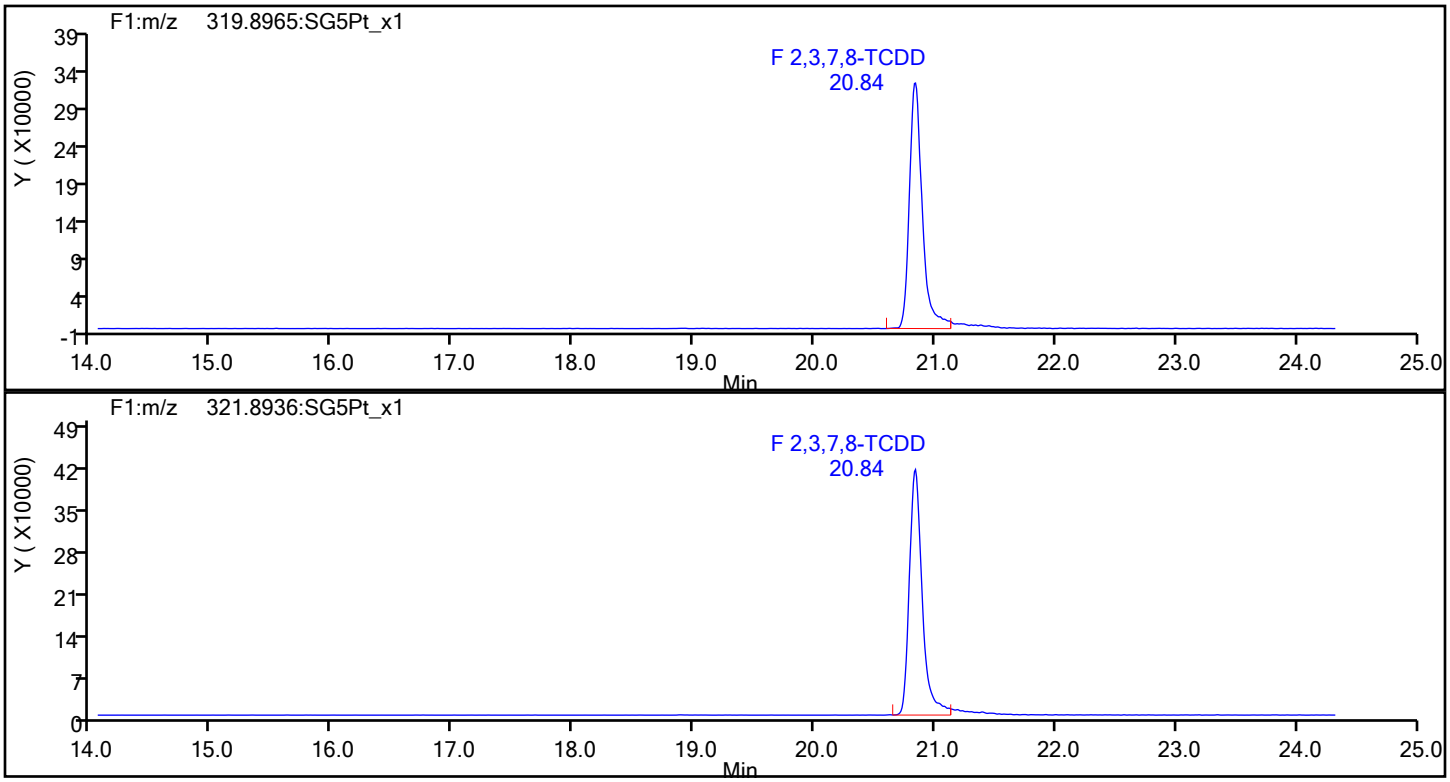
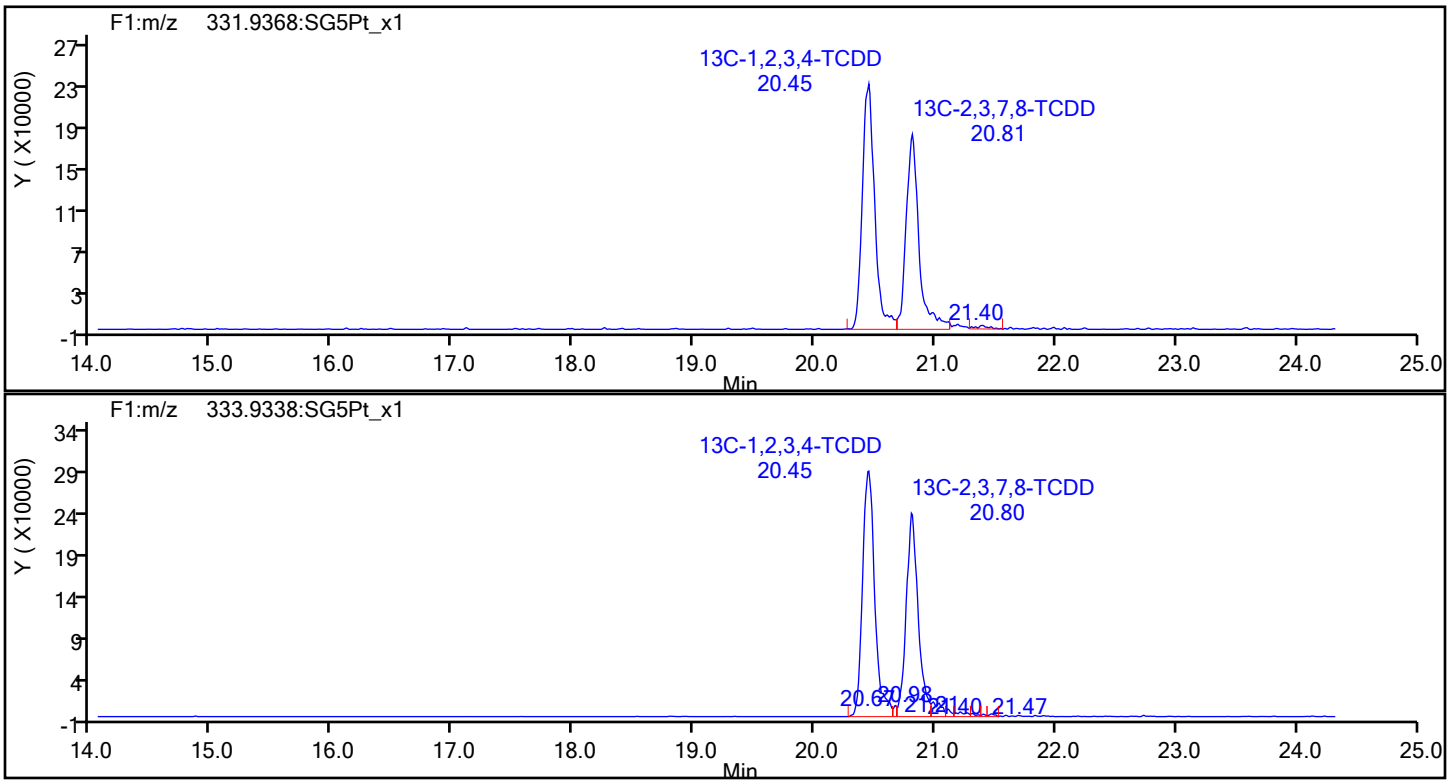
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD



TCDD Standards



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Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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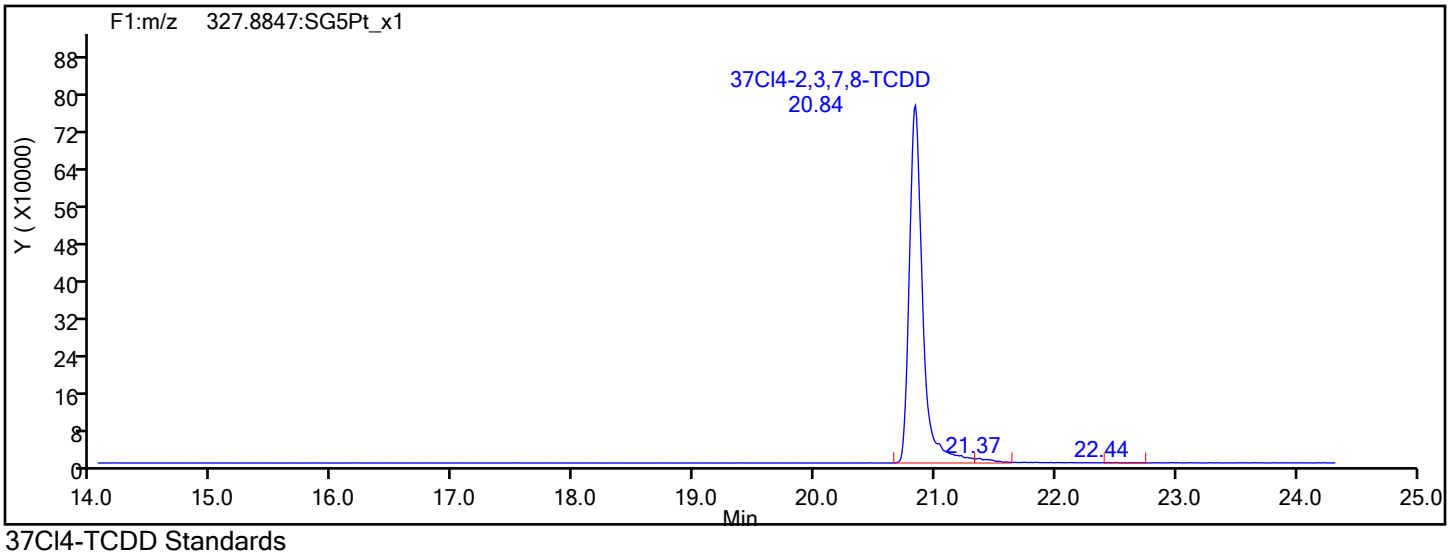
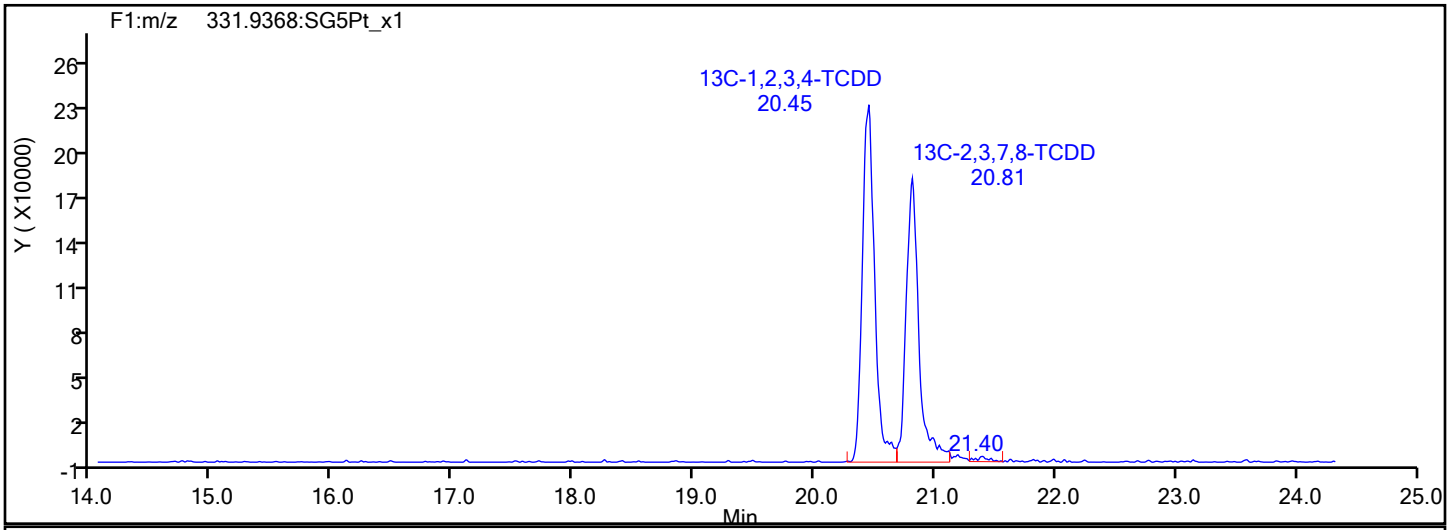
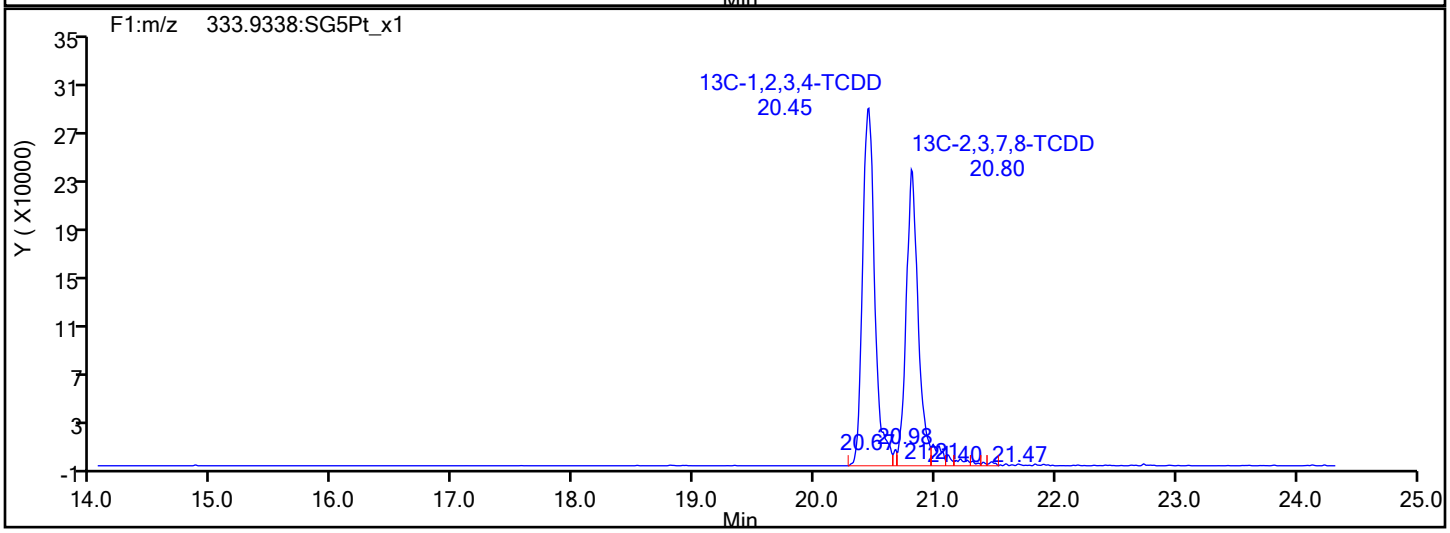
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





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Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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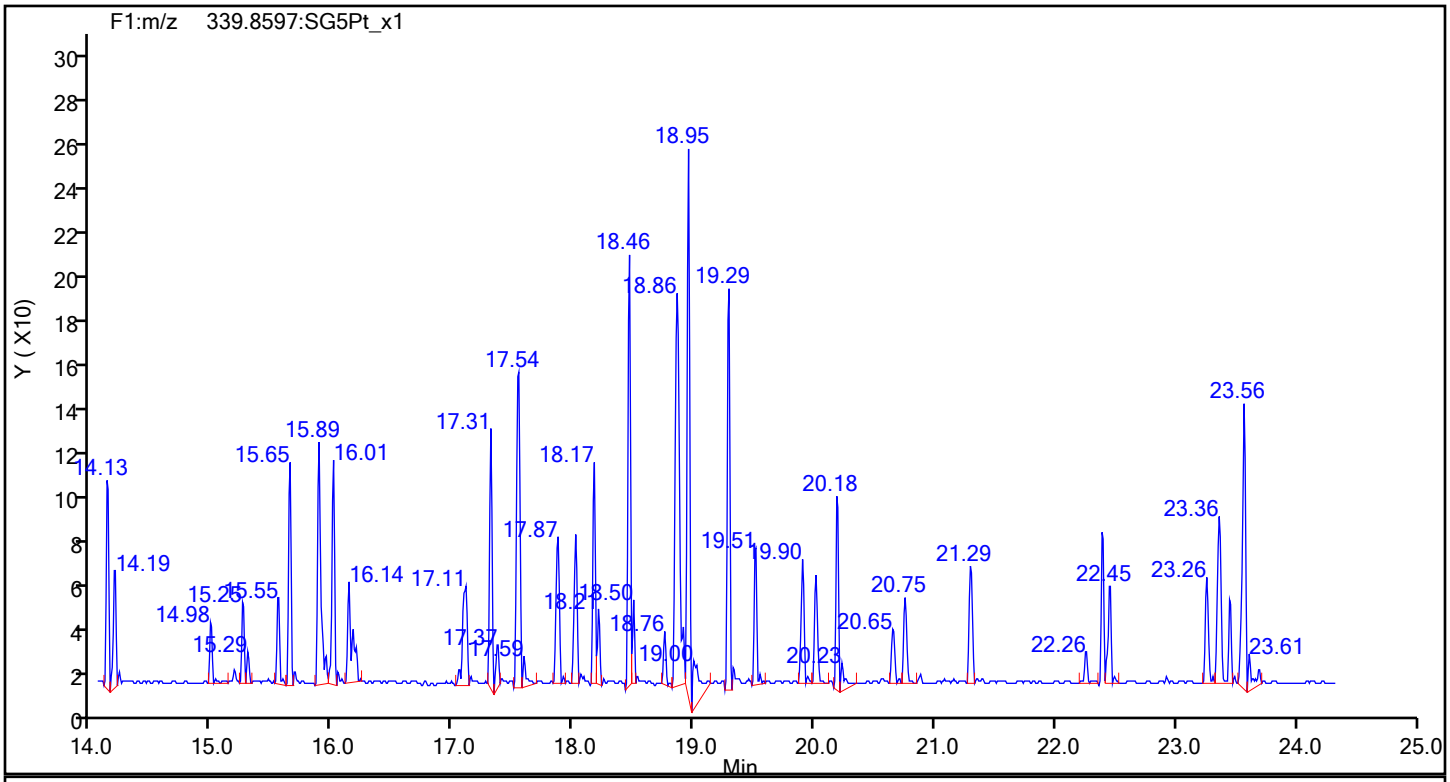
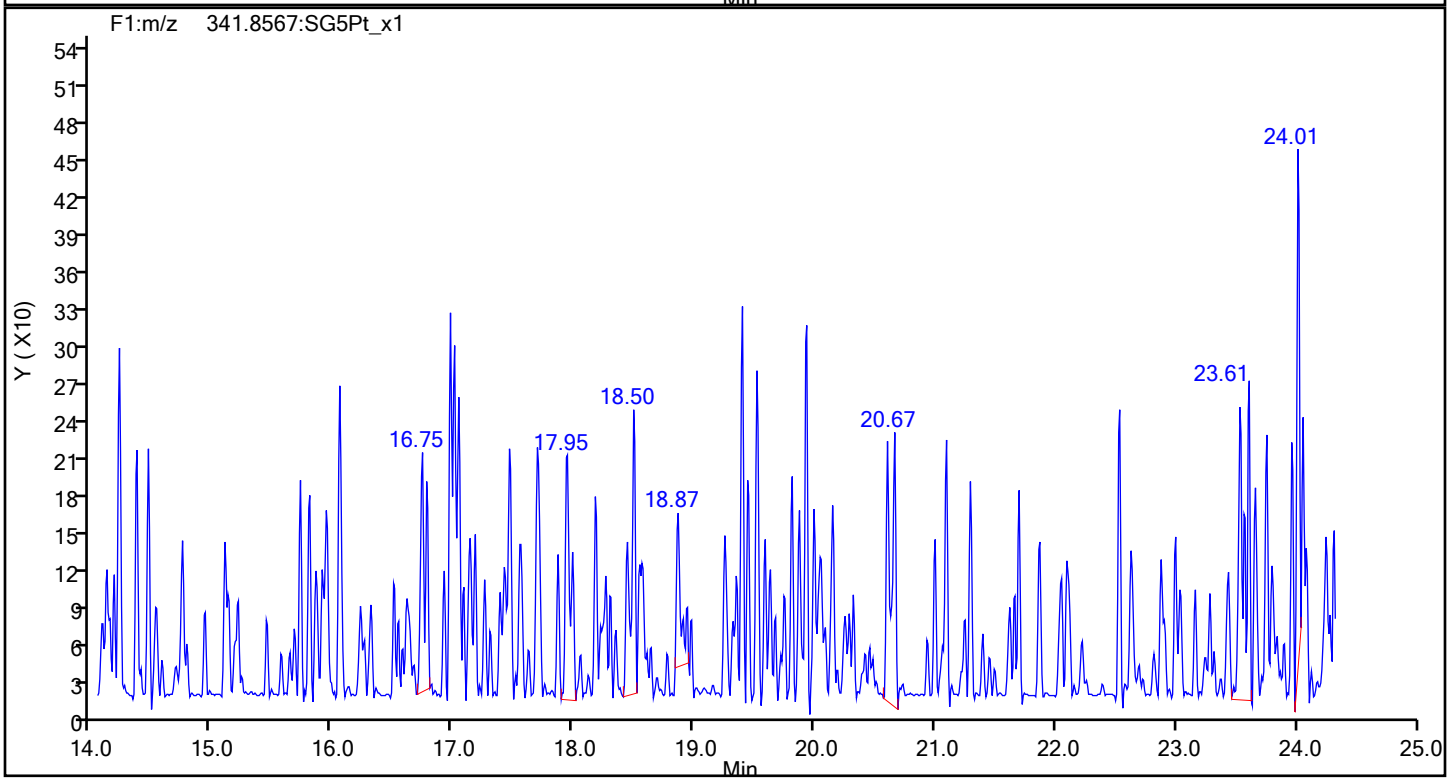
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

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Client ID:
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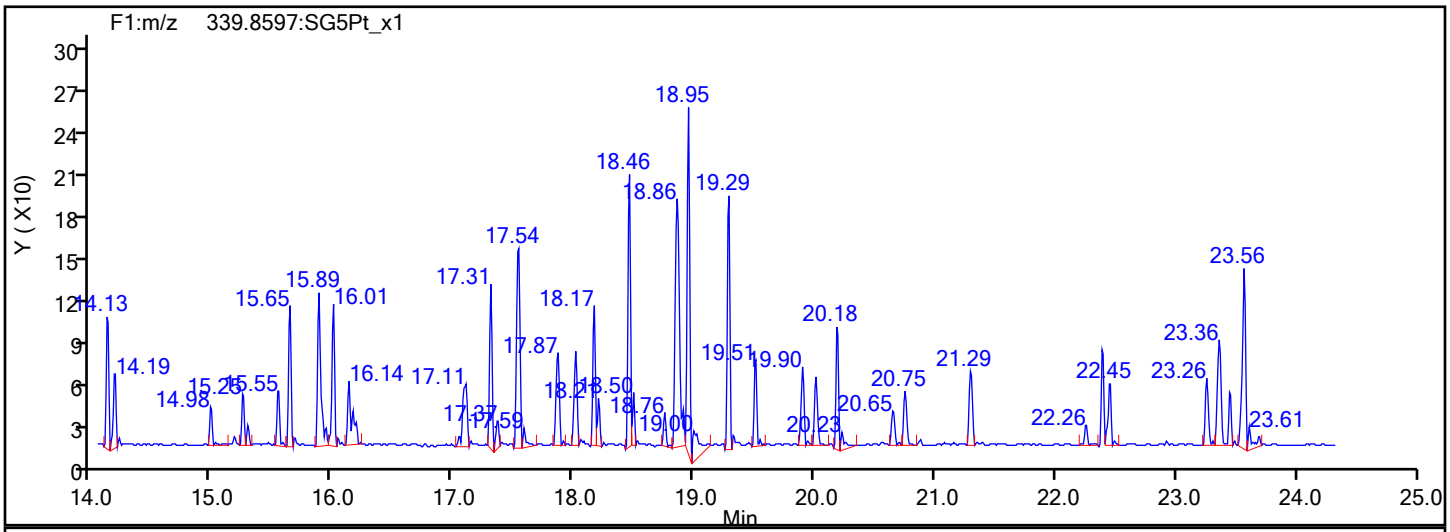
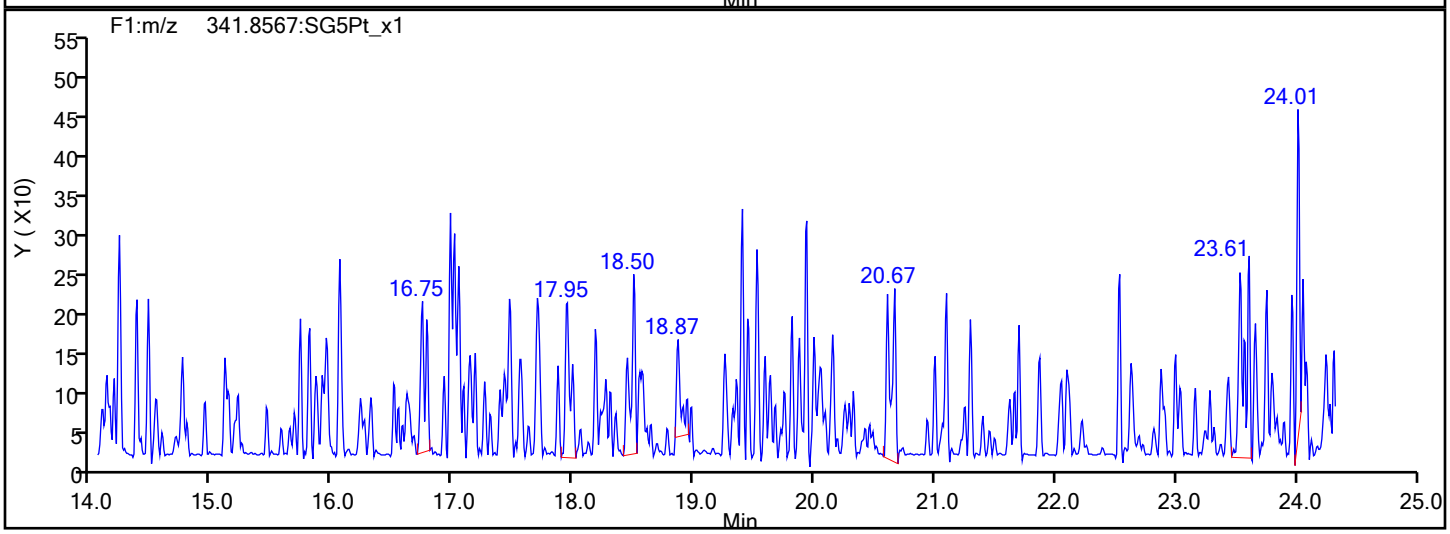
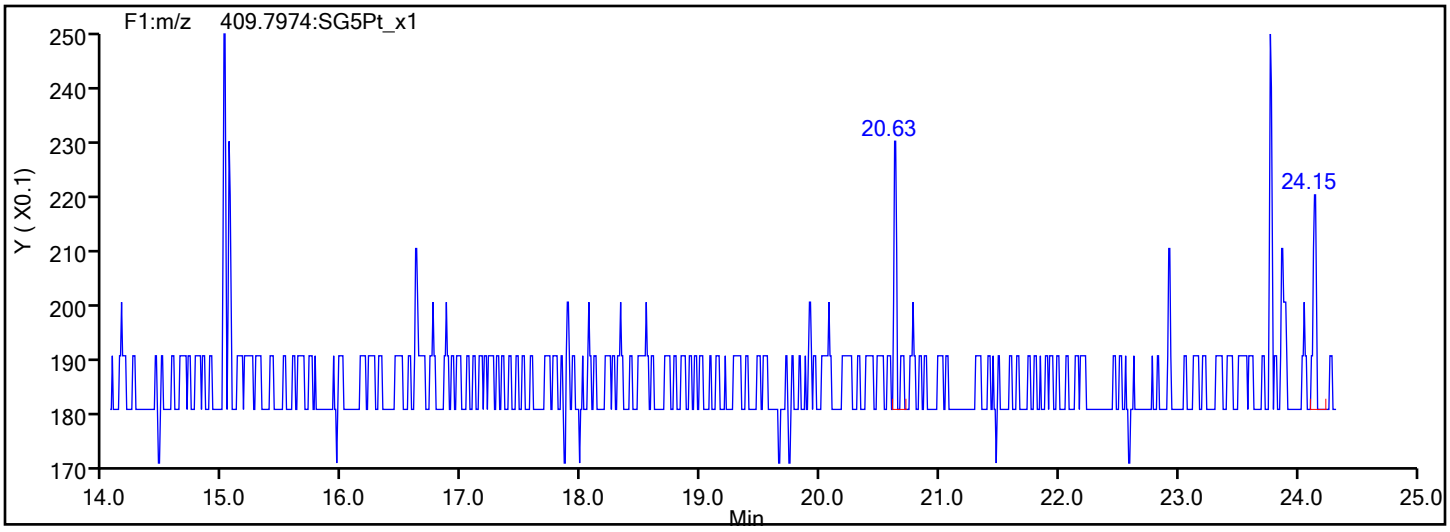
Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

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Instrument ID: DFS 1 Operator ID: Xcalibur_System
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Client ID:
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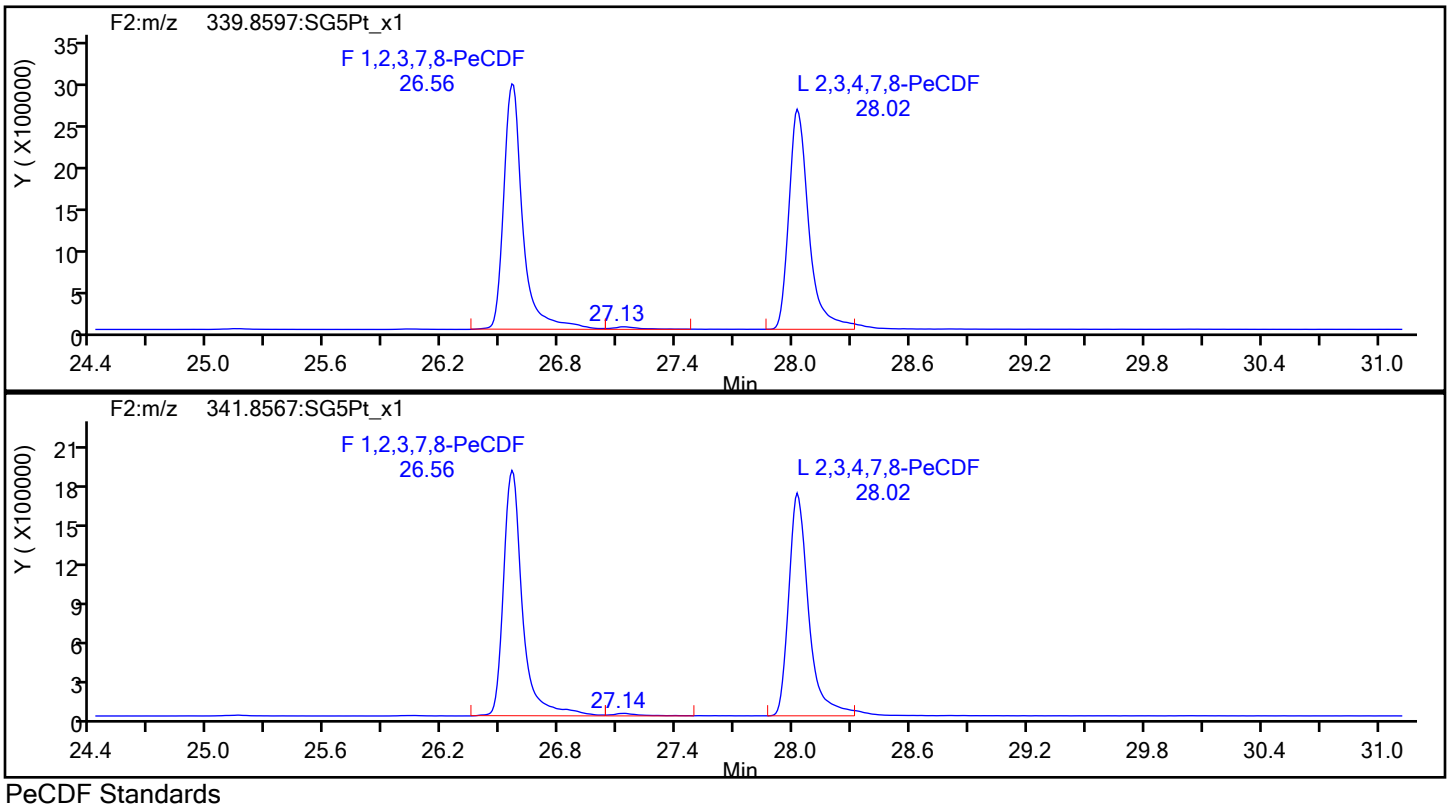
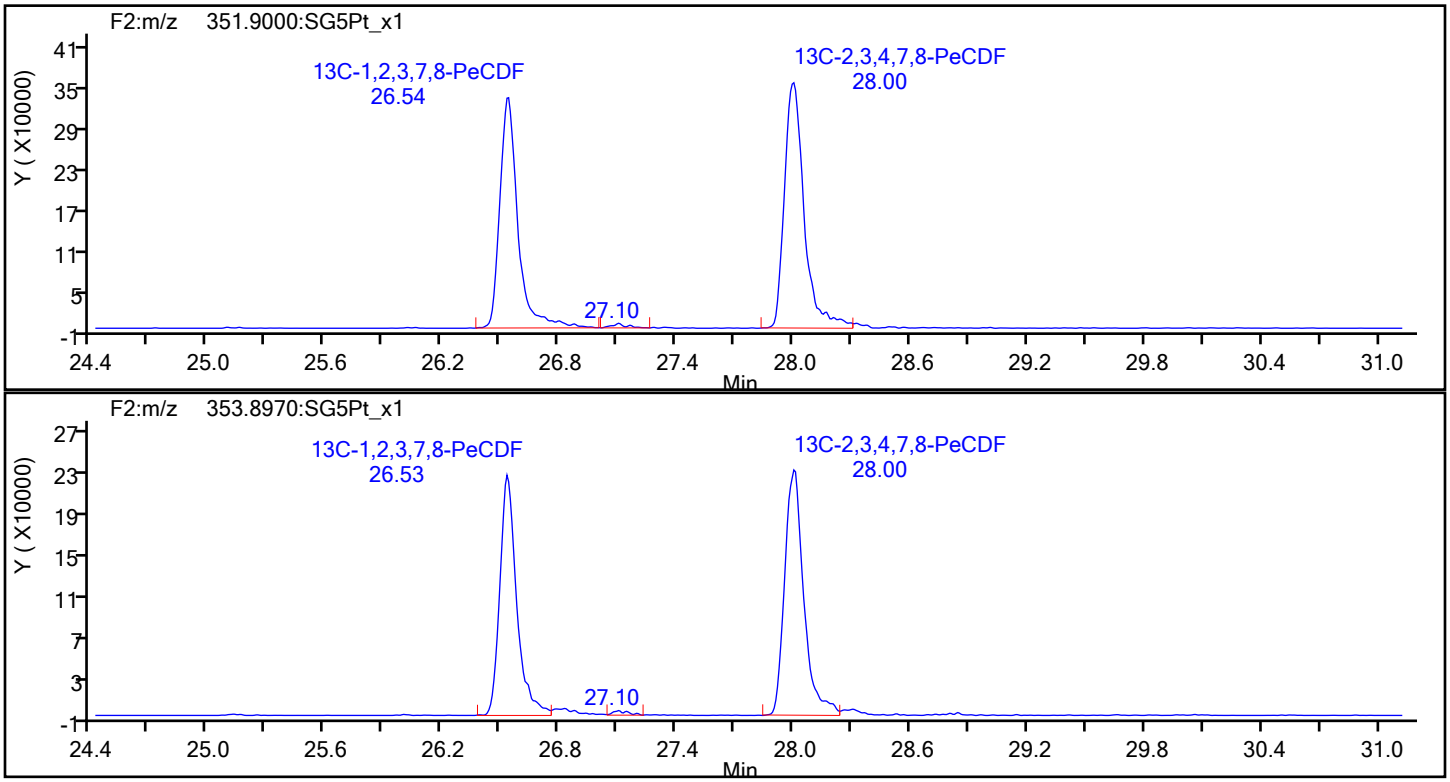
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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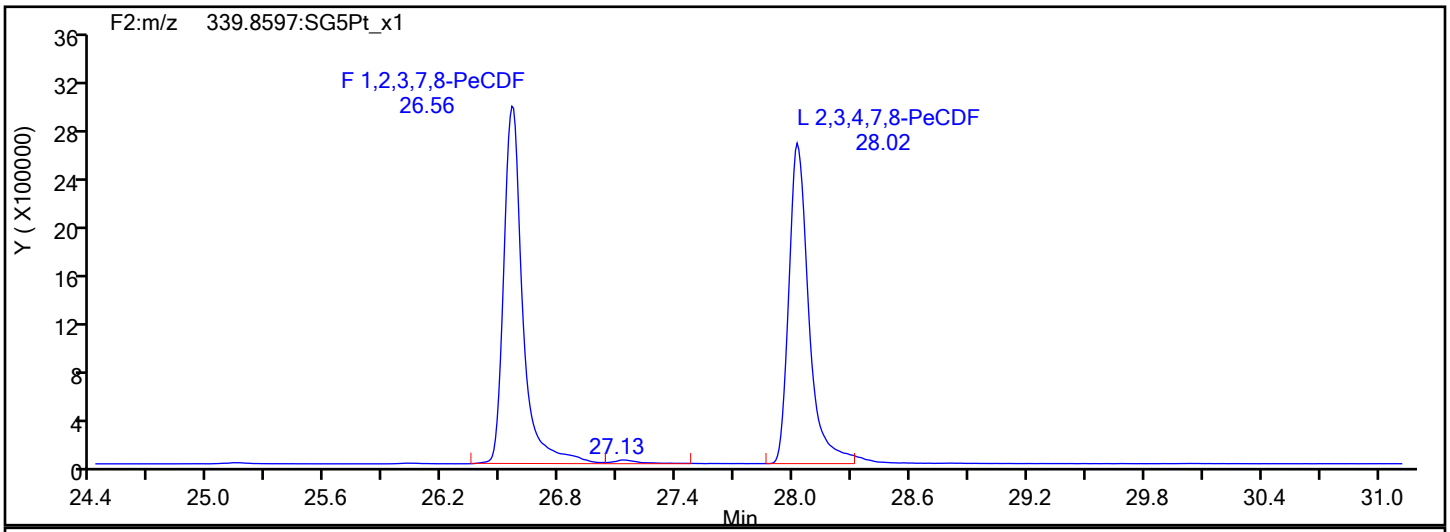
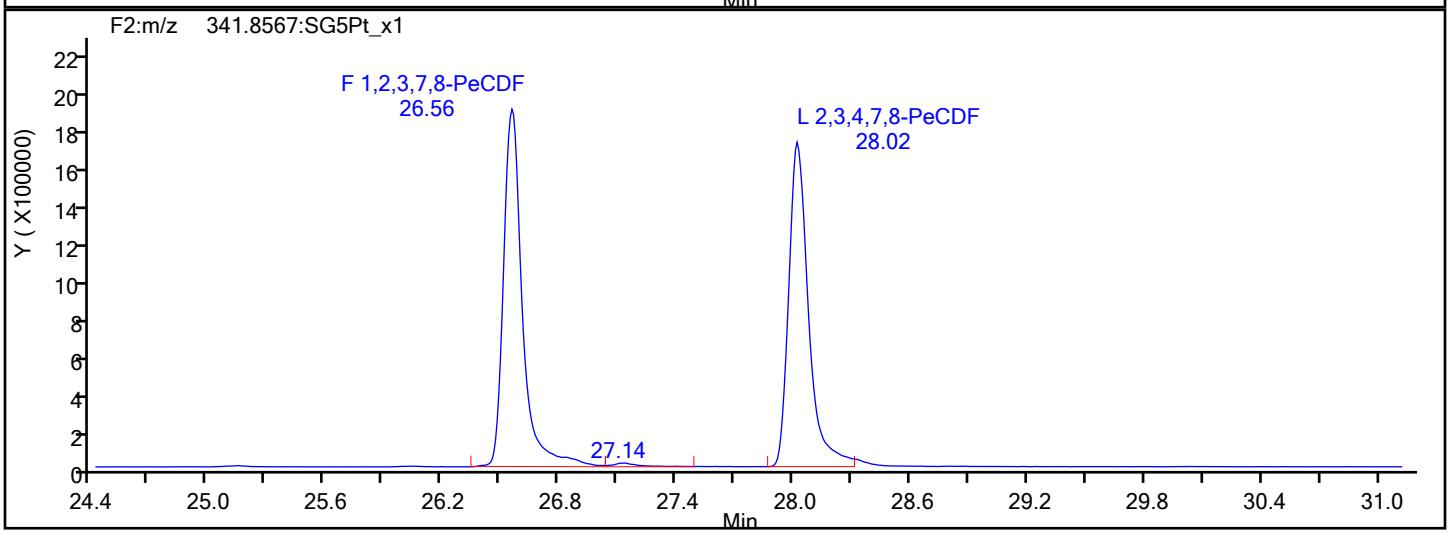
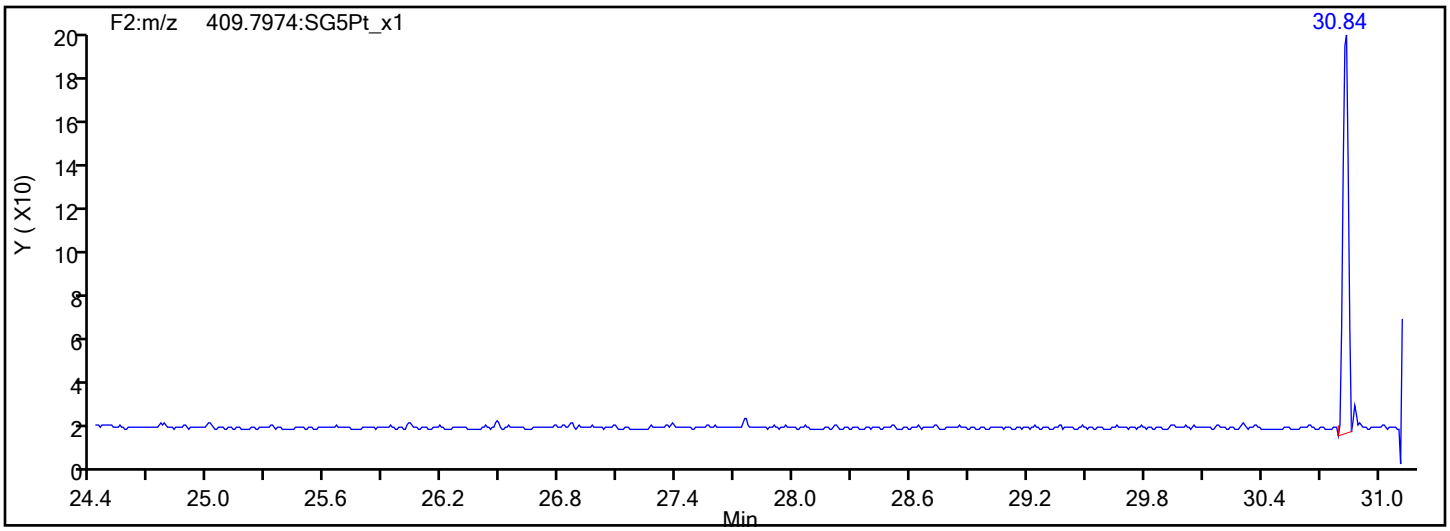
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Report Date: 20-Jan-2022 15:59:47 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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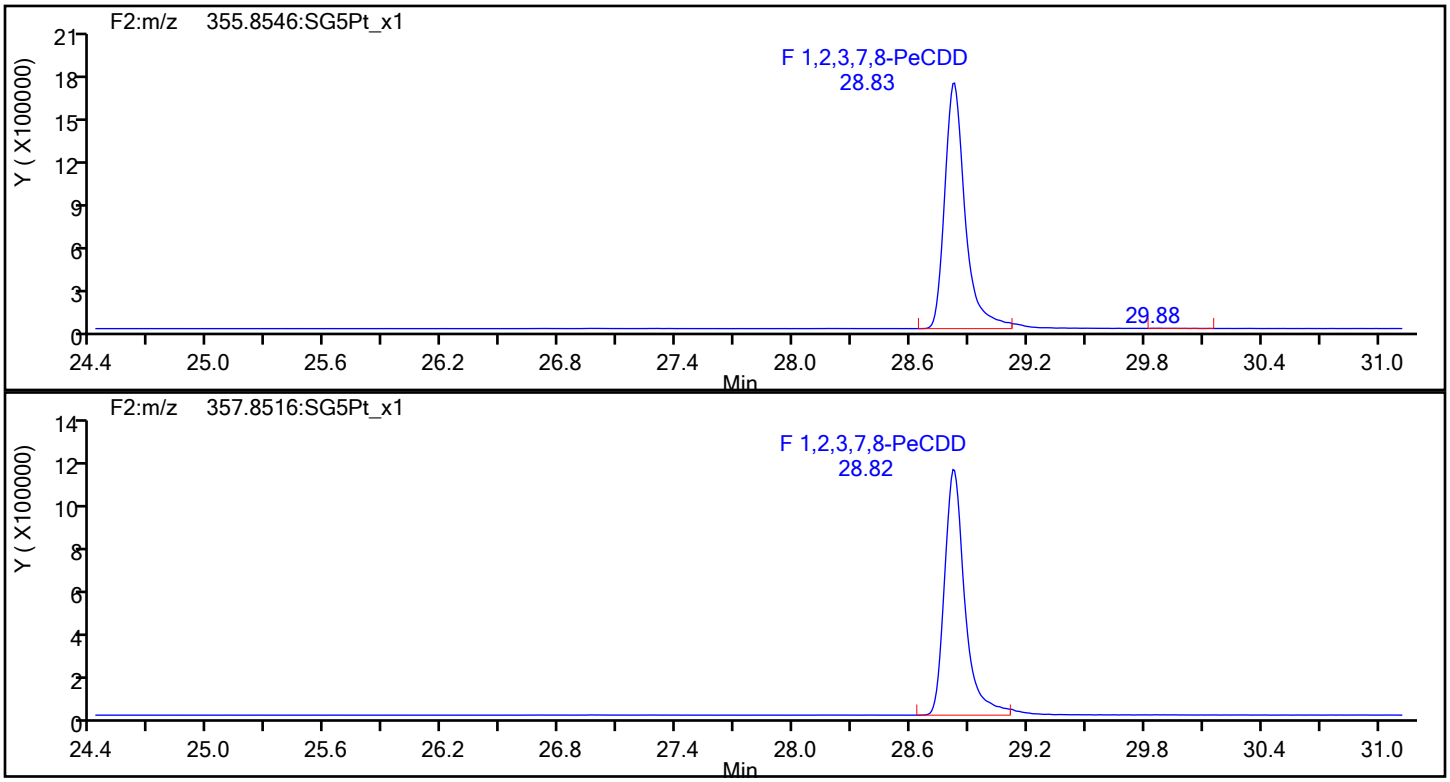
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD



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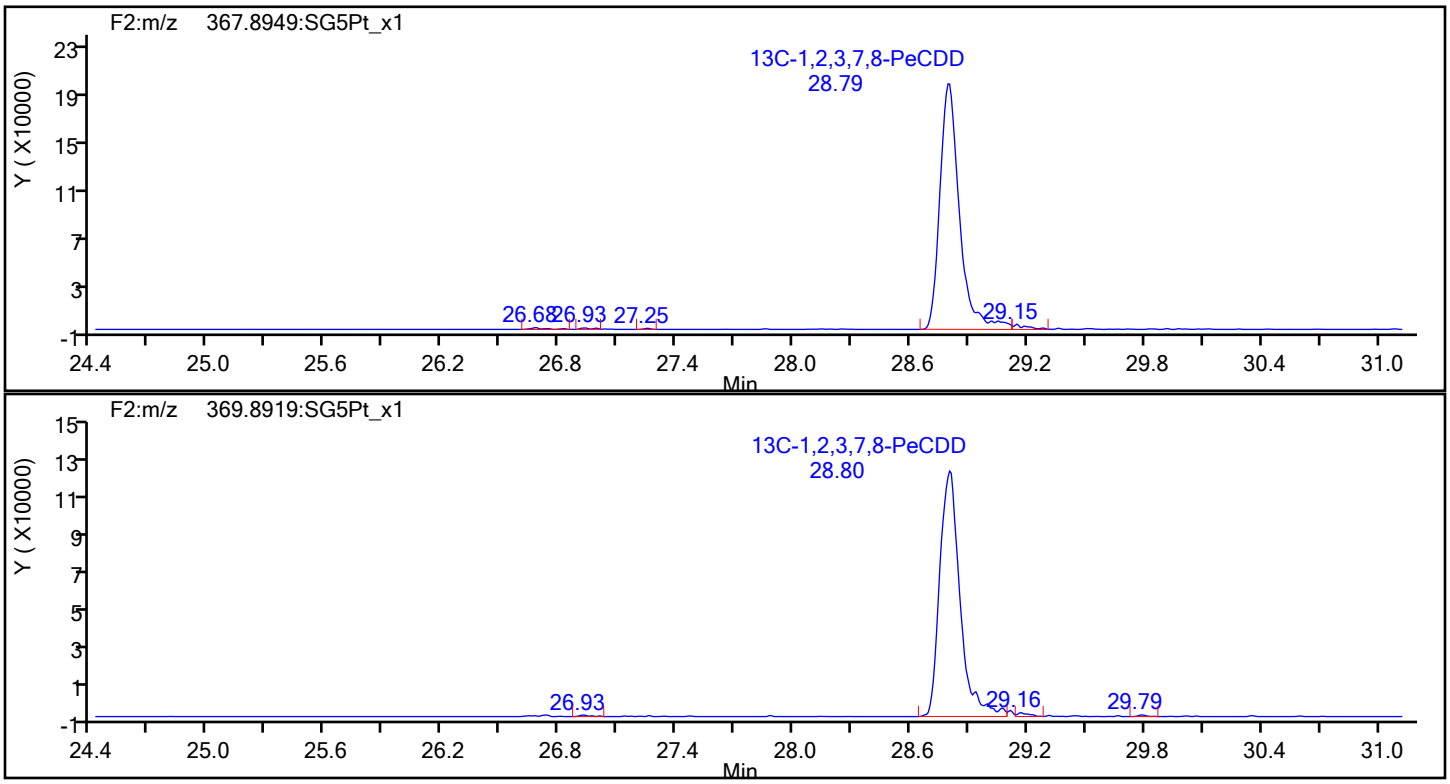

Eurofins Sacramento

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Client ID:
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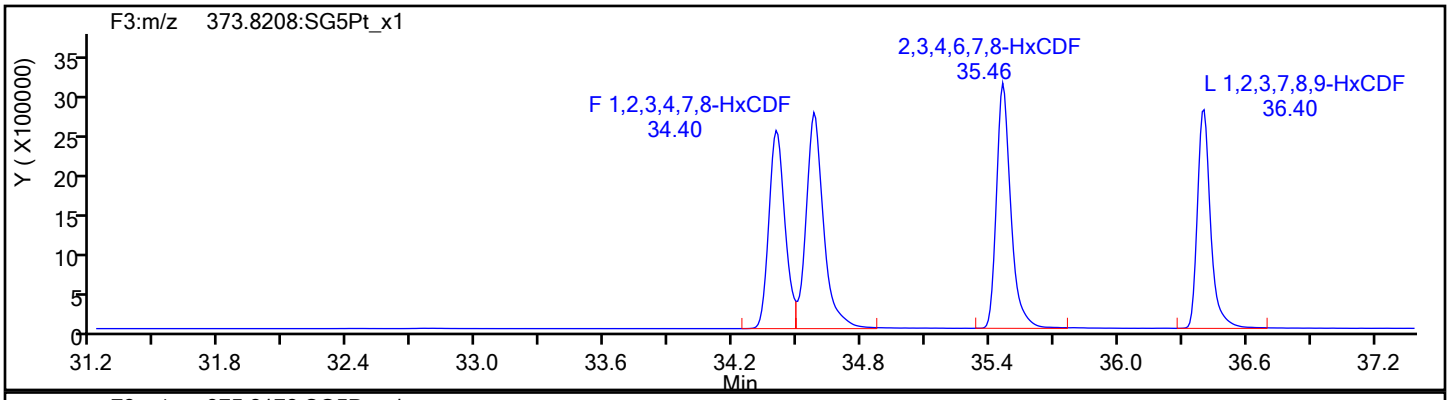
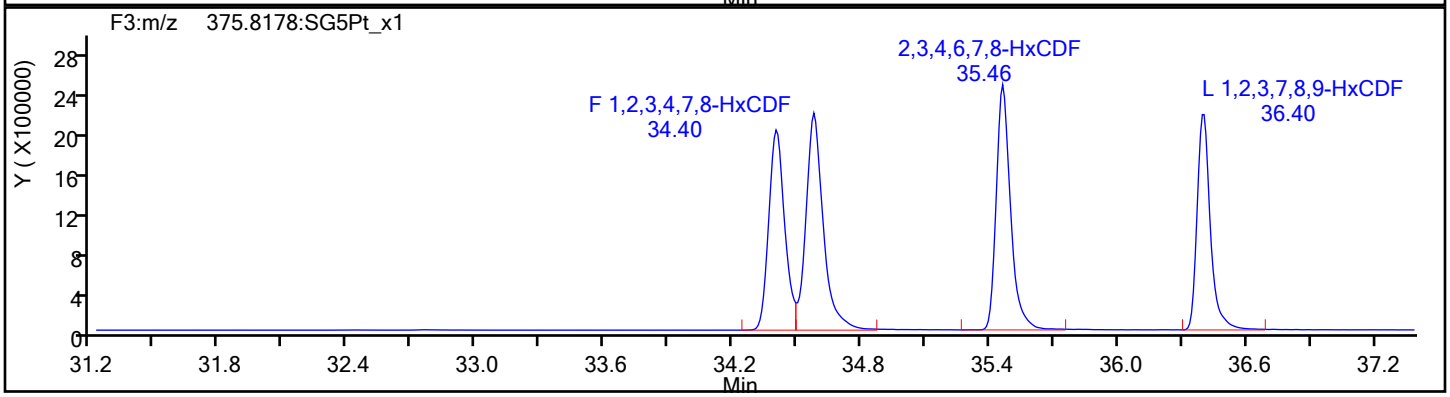
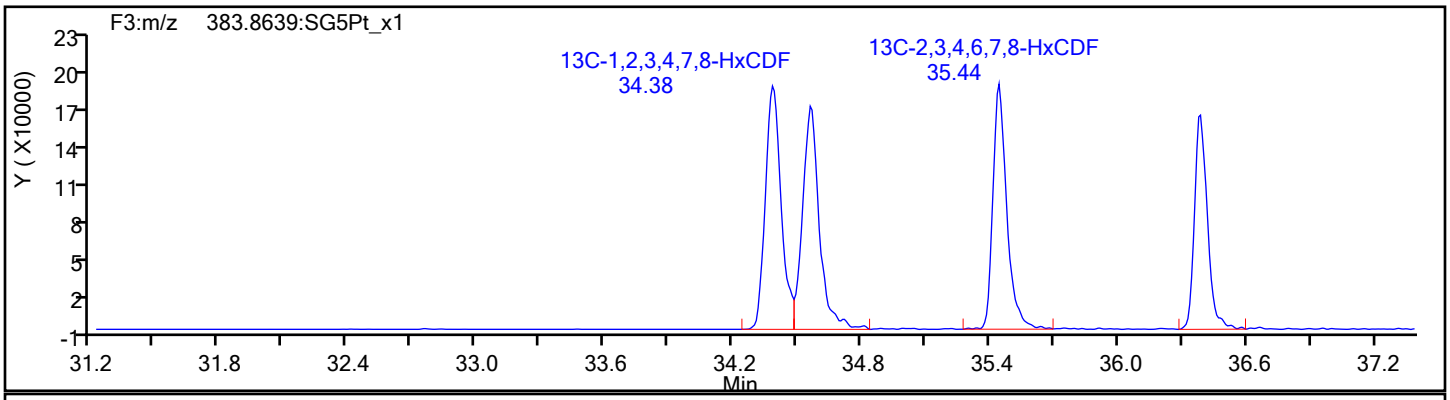
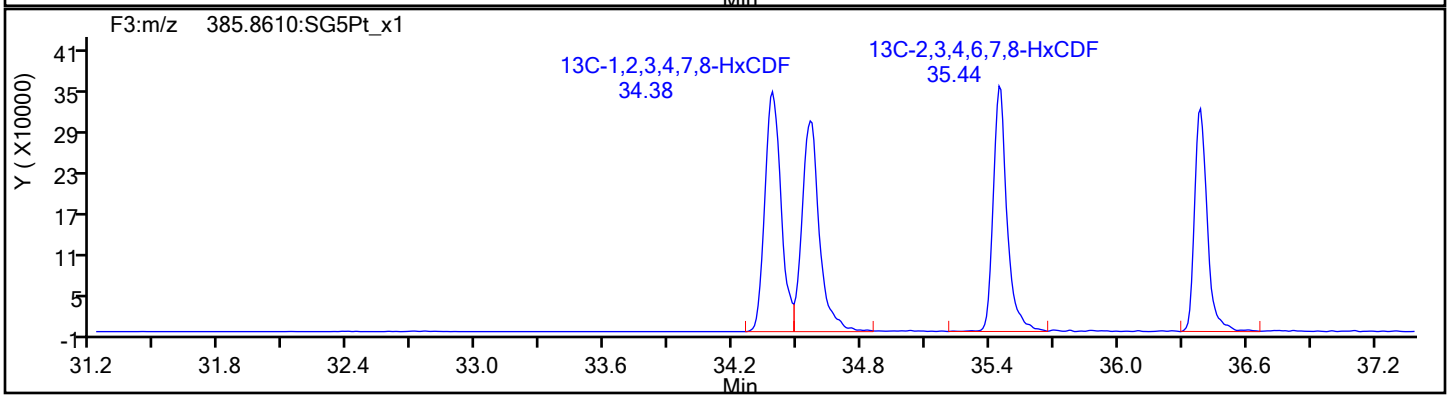
HxCDF





HxCDF Standards





Eurofins Sacramento

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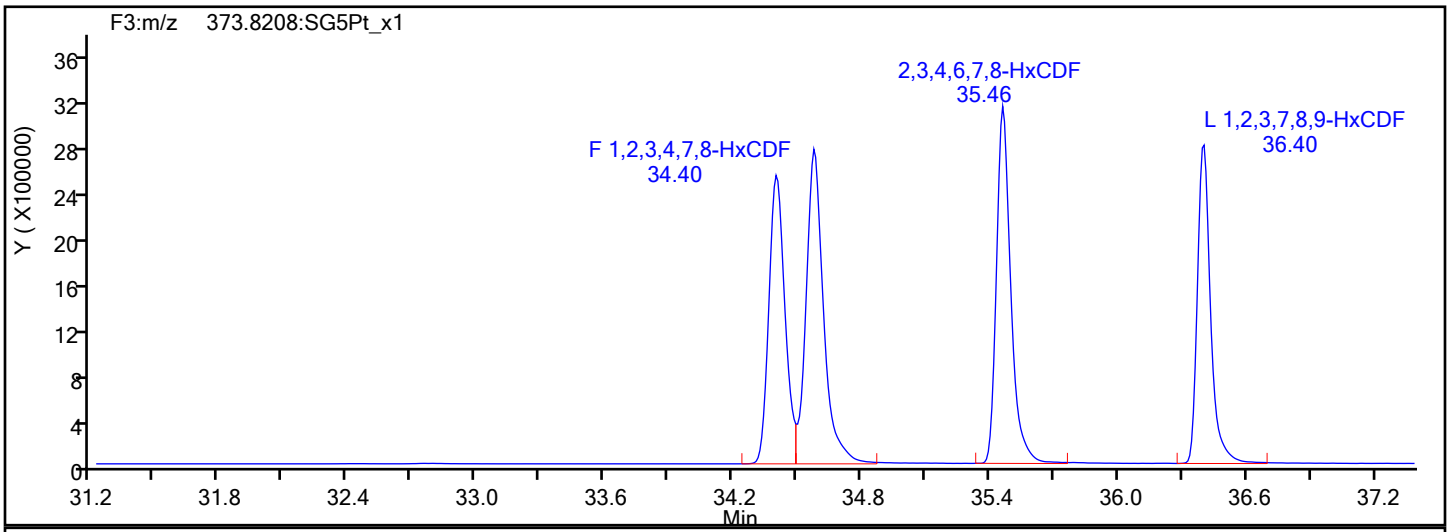
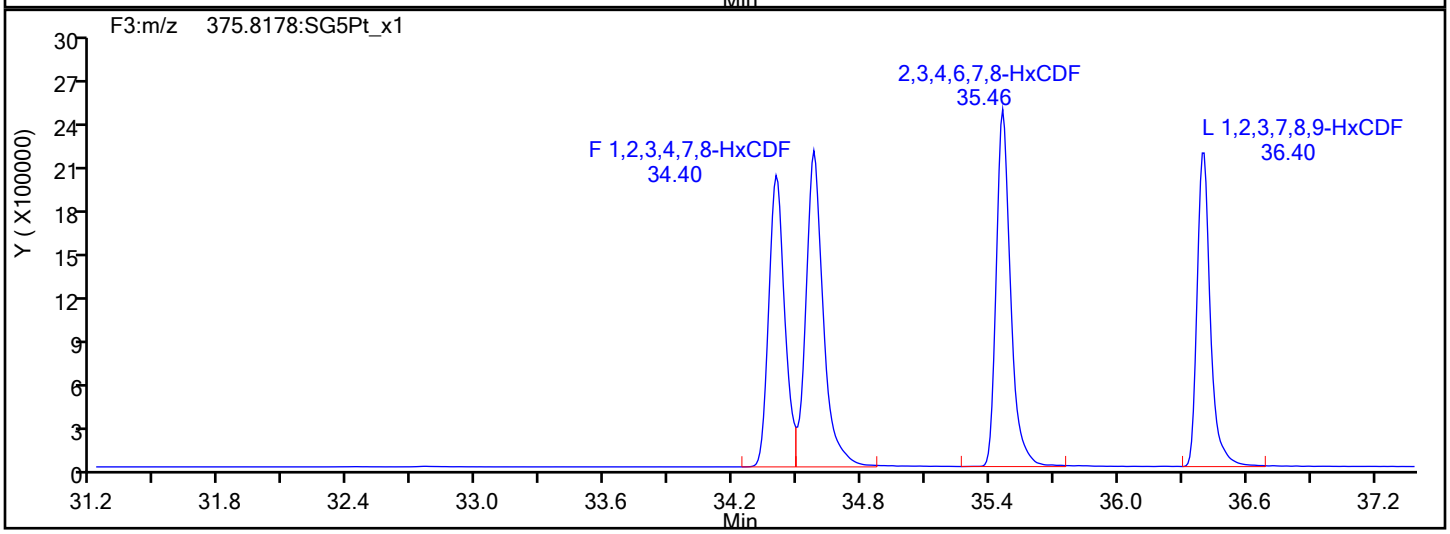
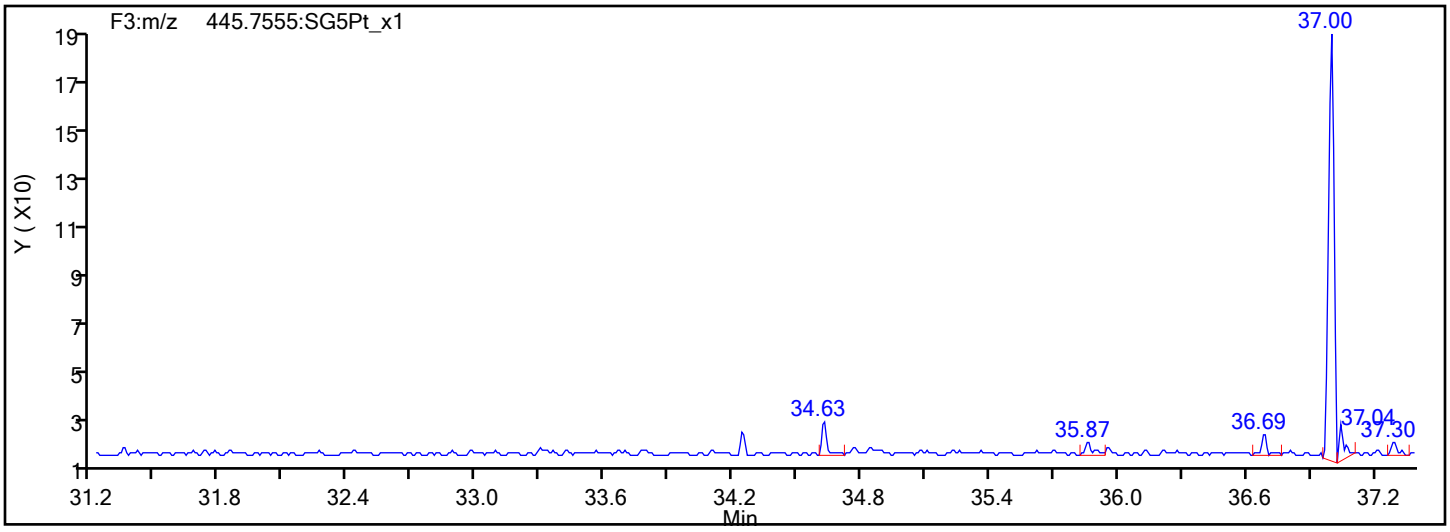




HxCDF Interference Mass



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Eurofins Sacramento

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Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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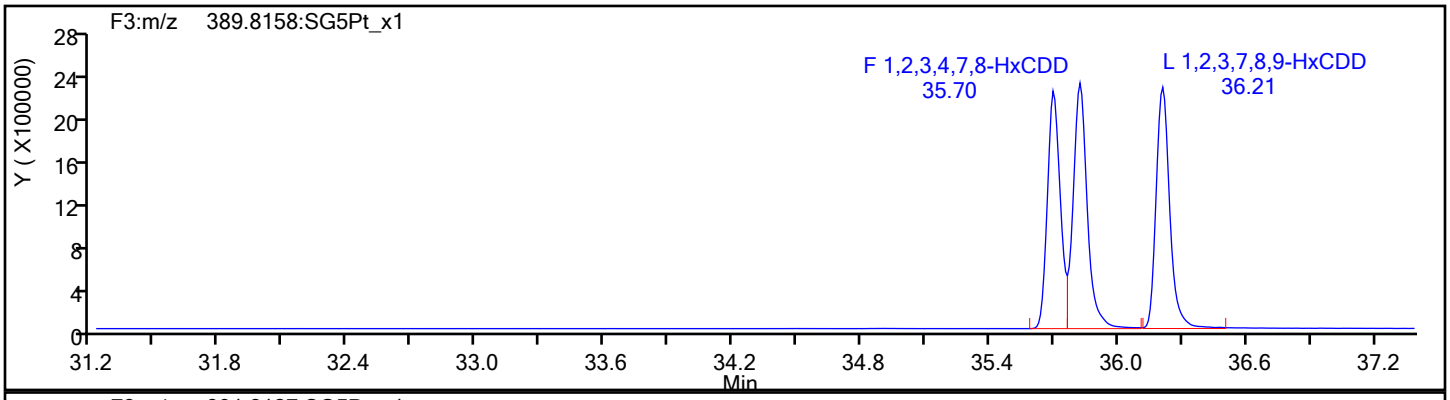
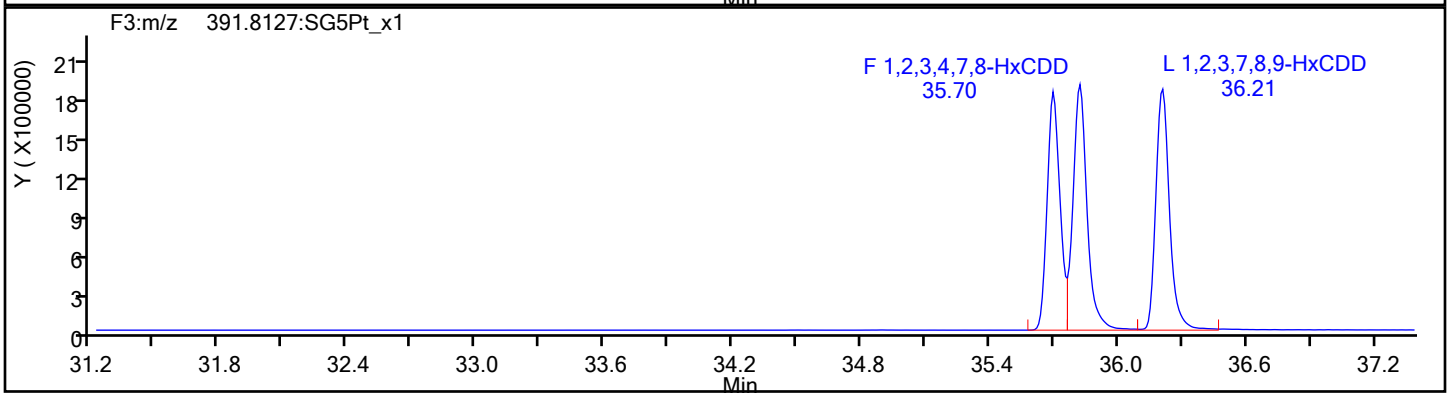
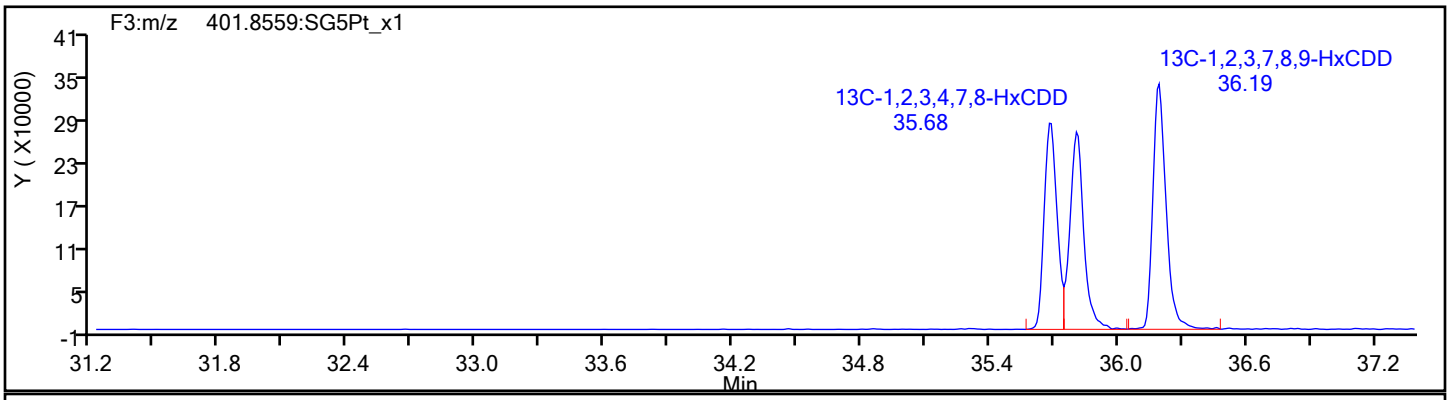
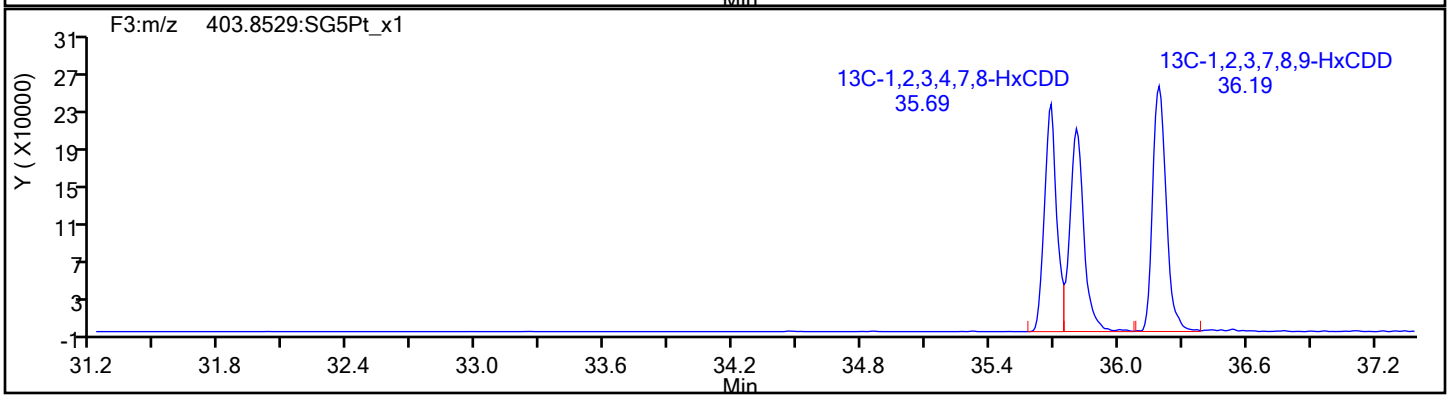




HxCDD Standards





Eurofins Sacramento

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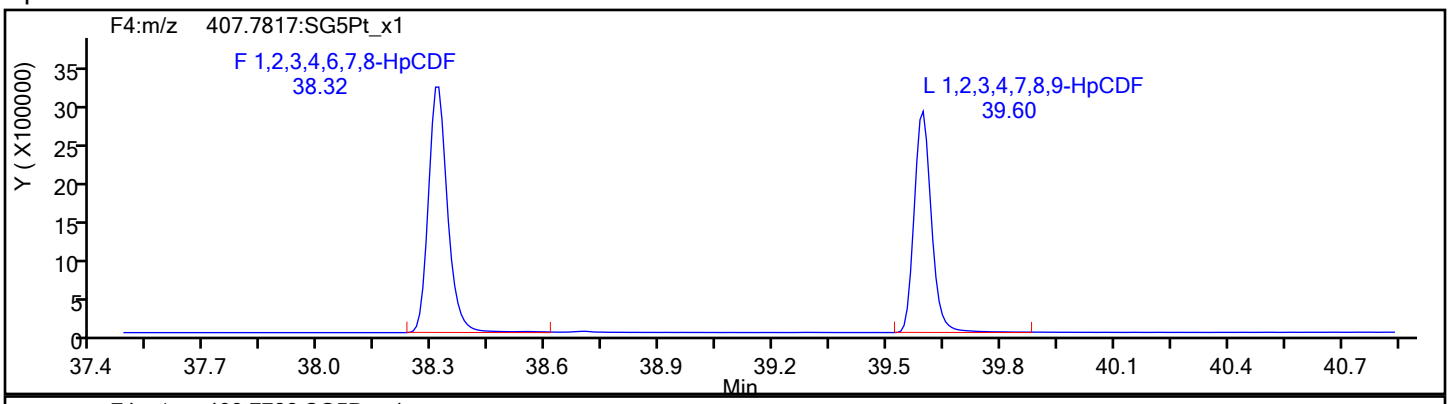
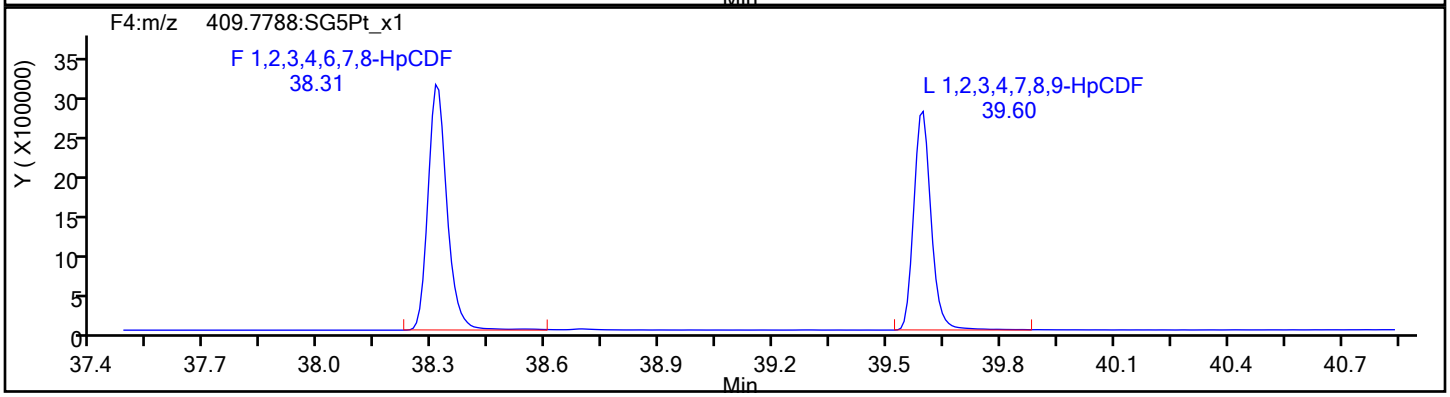
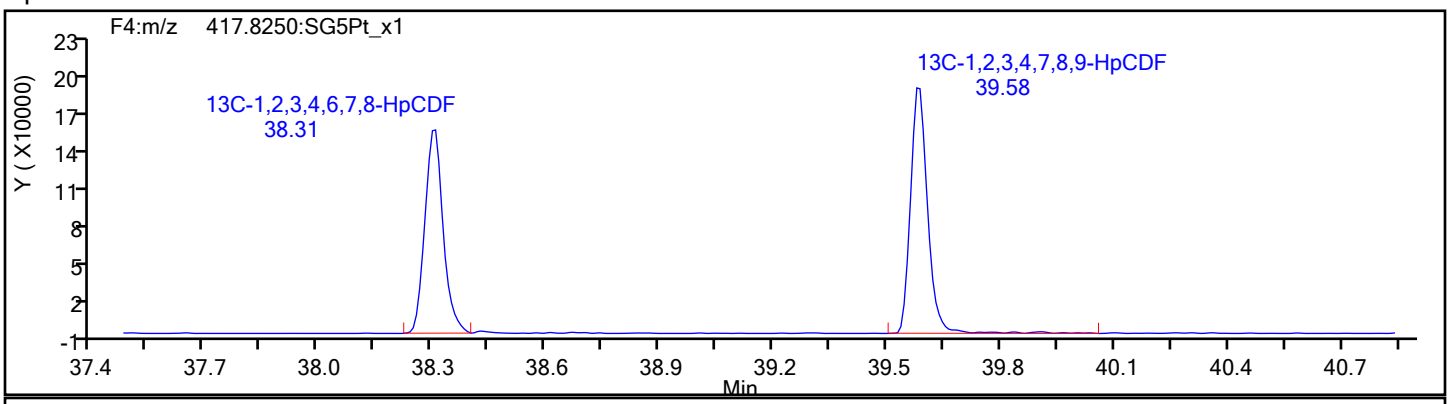
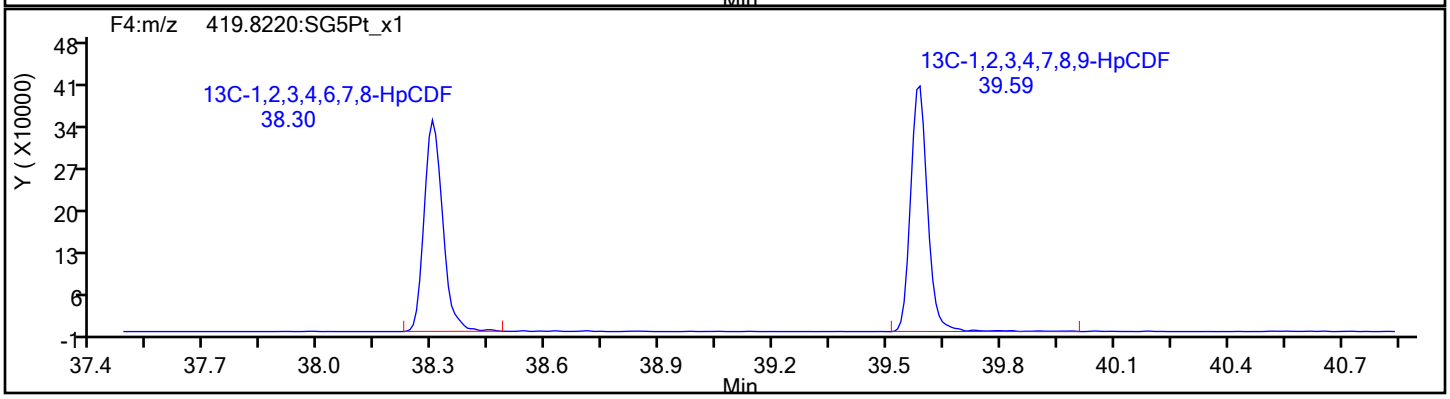
HpCDF





HpCDF Standards





Eurofins Sacramento

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Client ID:
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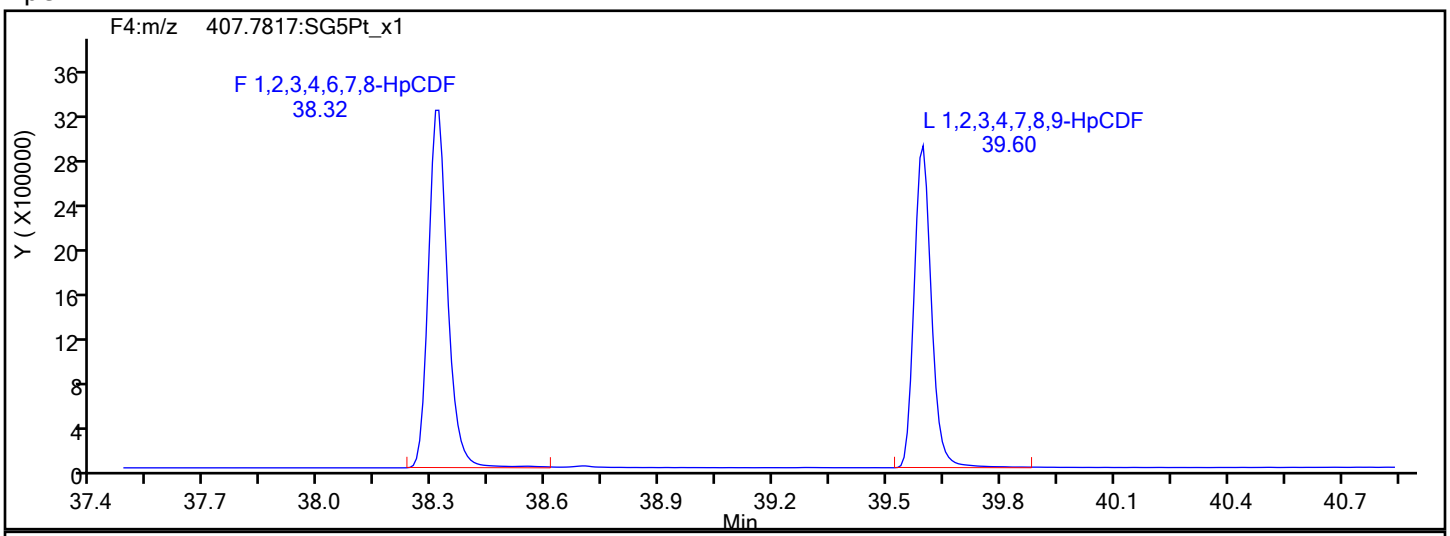
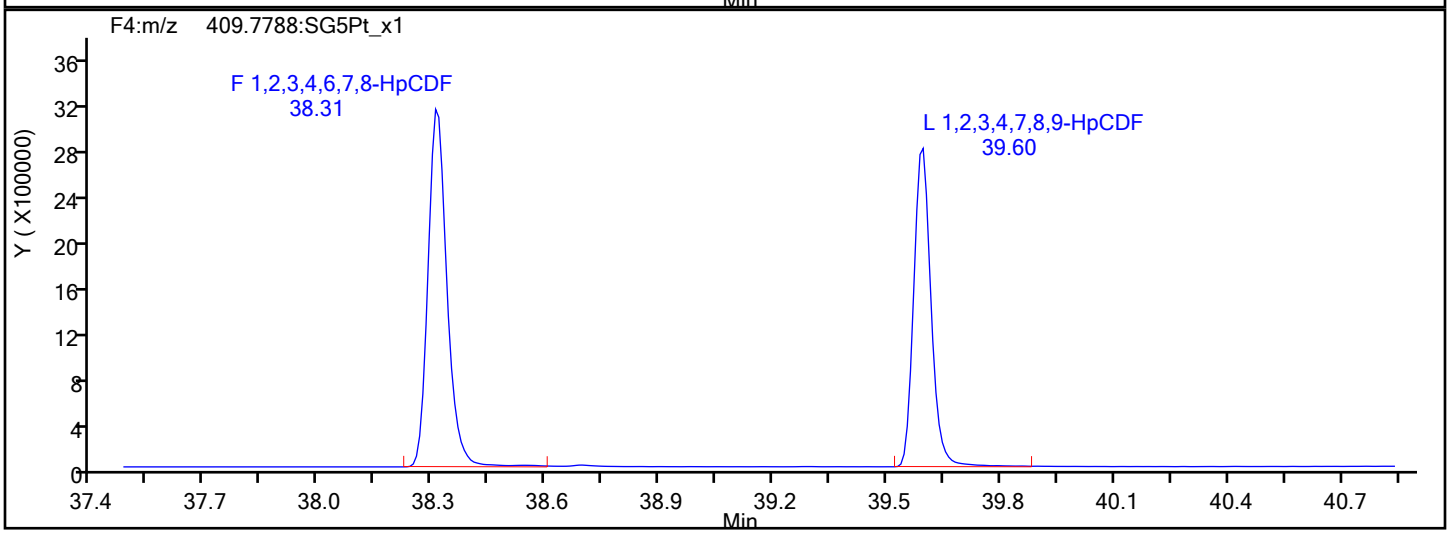
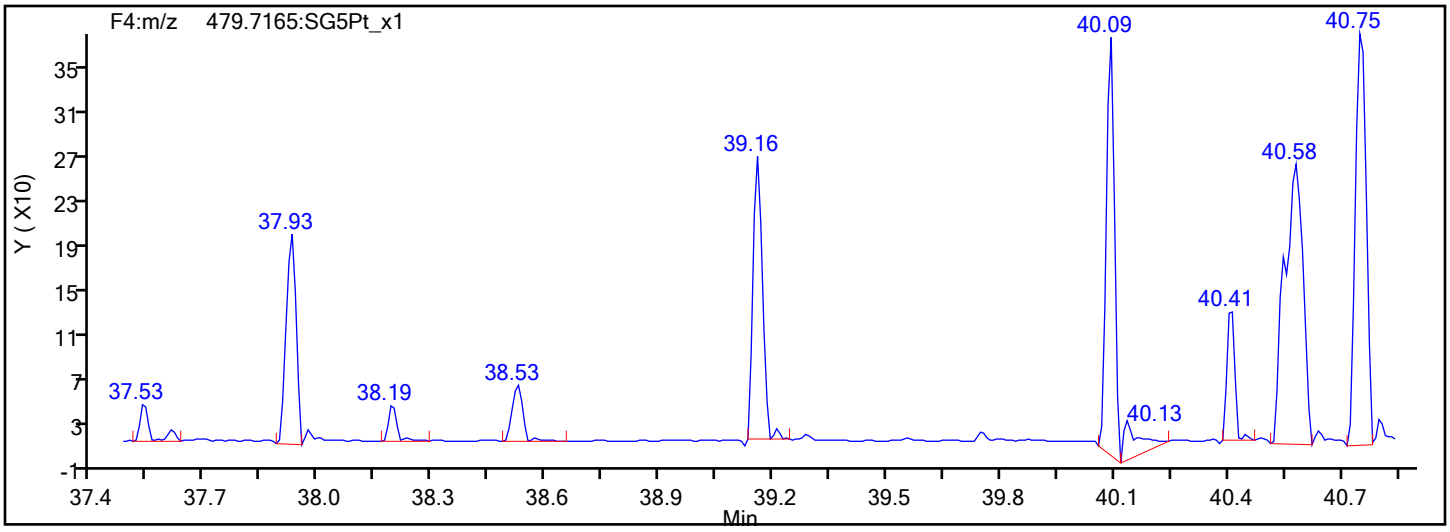
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d
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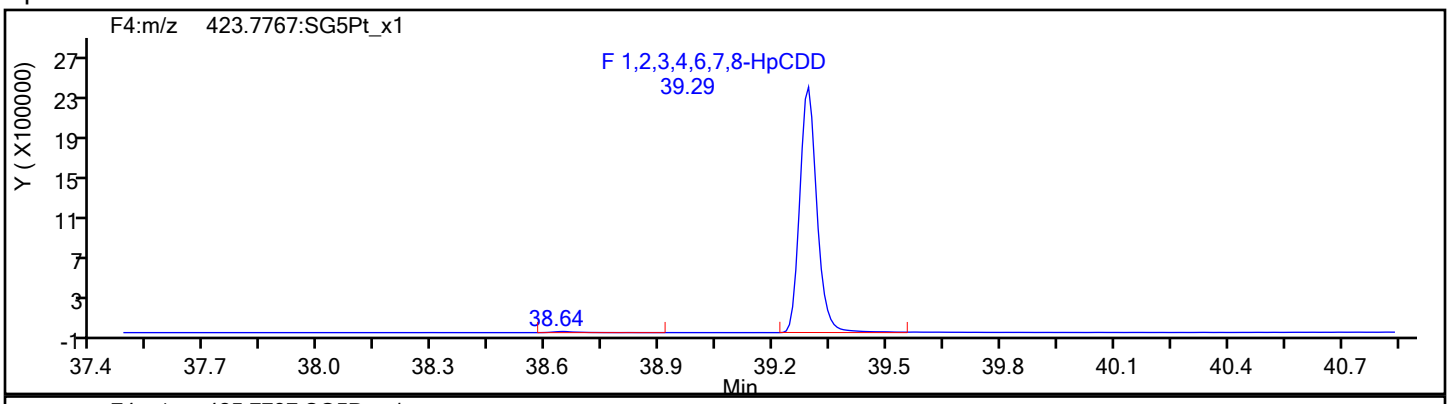
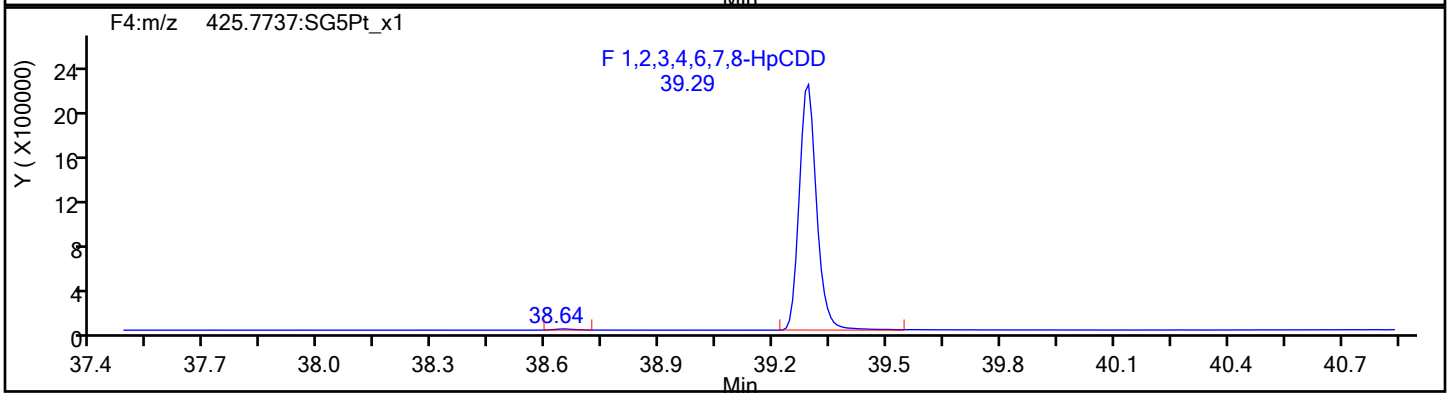
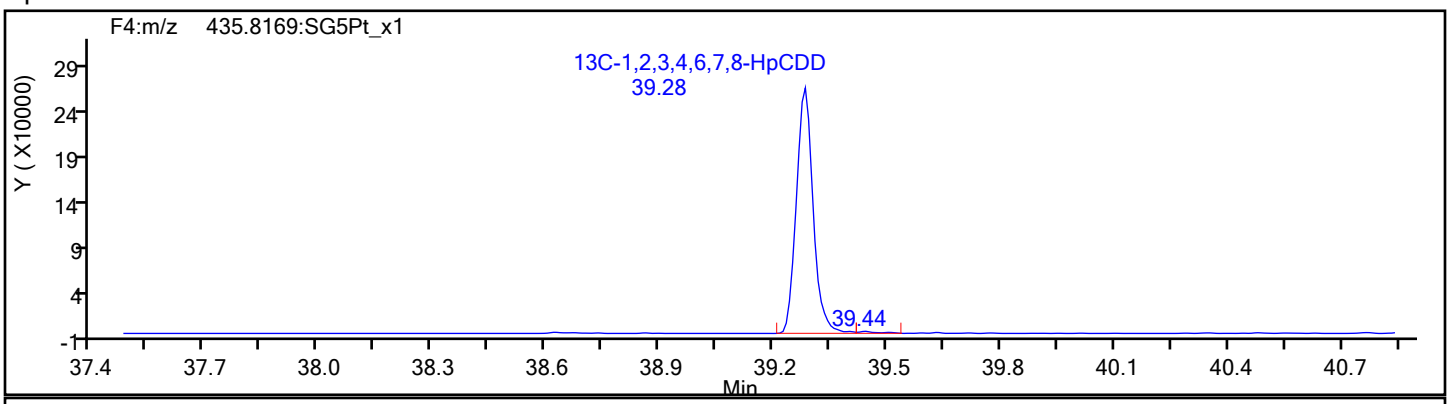
Column Type: DB-5 Column Dia: 0.32 mm

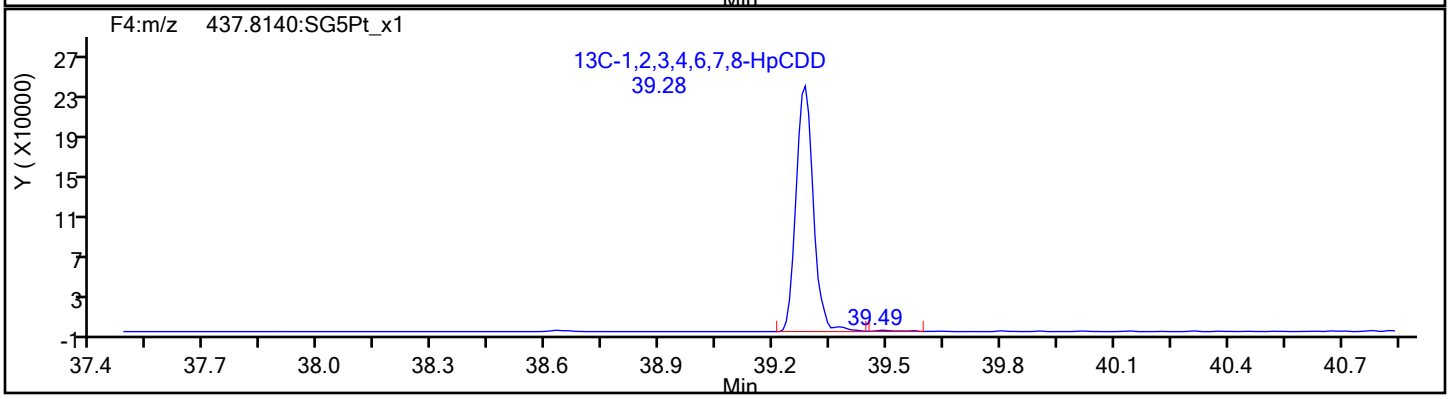
HpCDD





HpCDD Standards





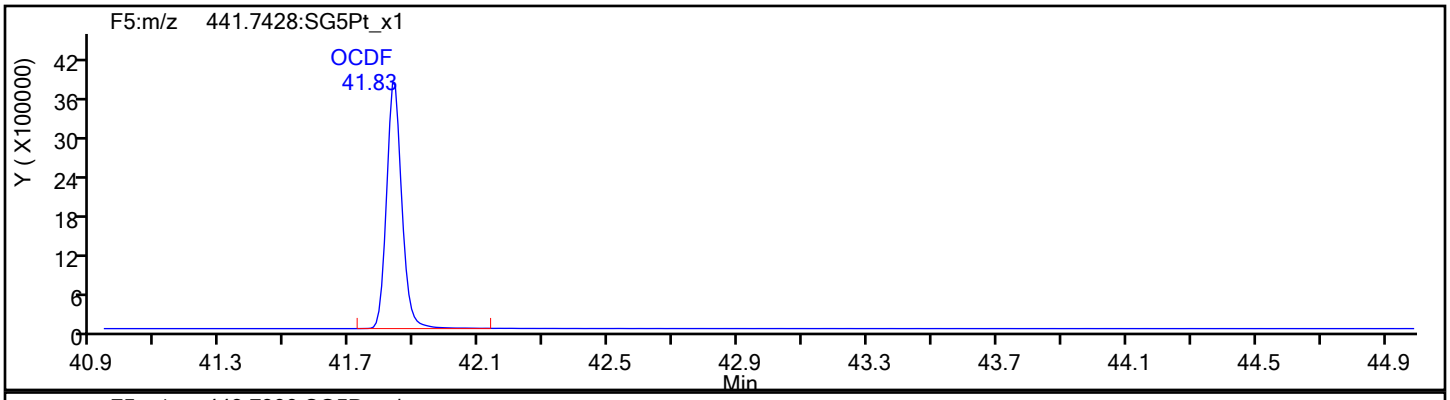
Report Date: 20-Jan-2022 15:59:47 Chrom Revision: 2.3 18-Jan-2022 20:25:40

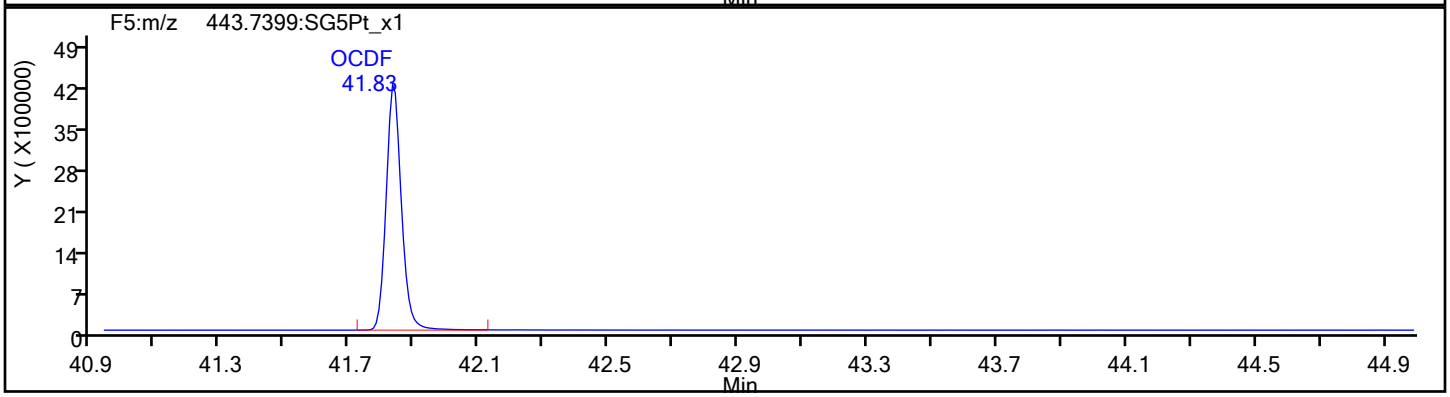
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

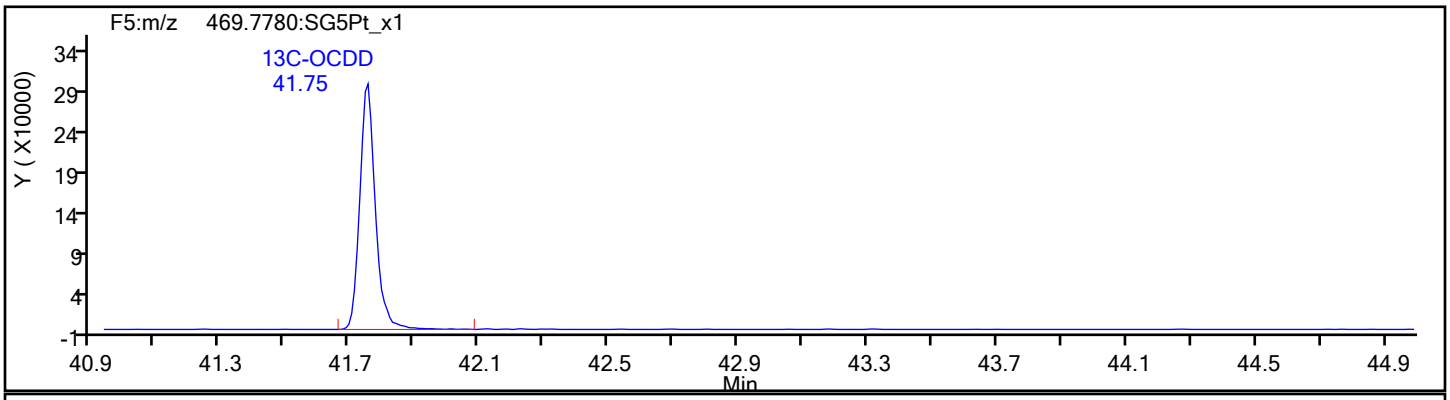
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

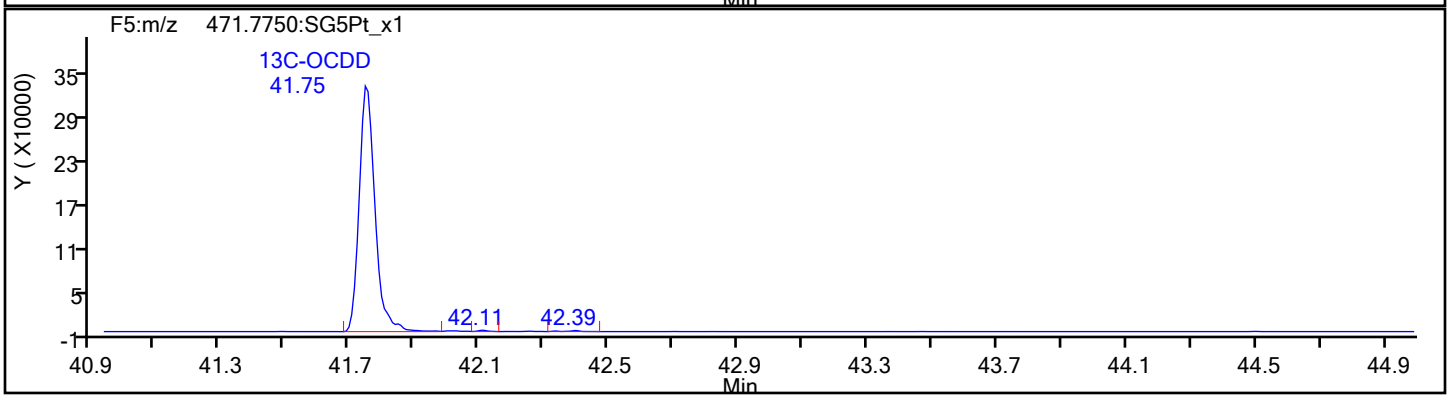
OCDF





OCDF Standards

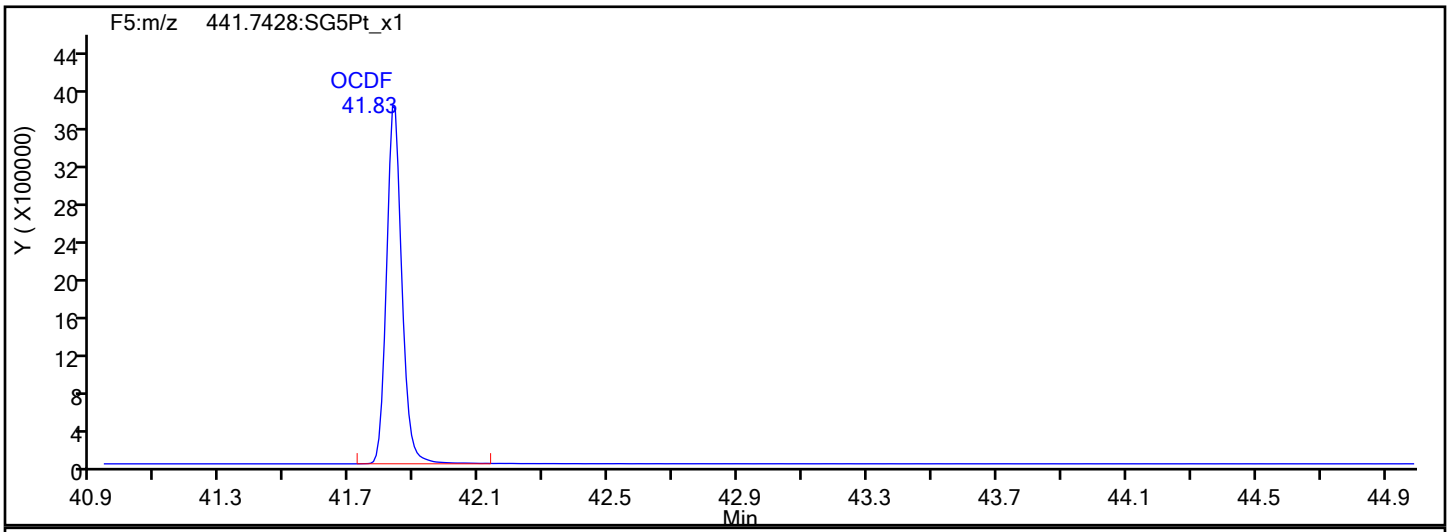


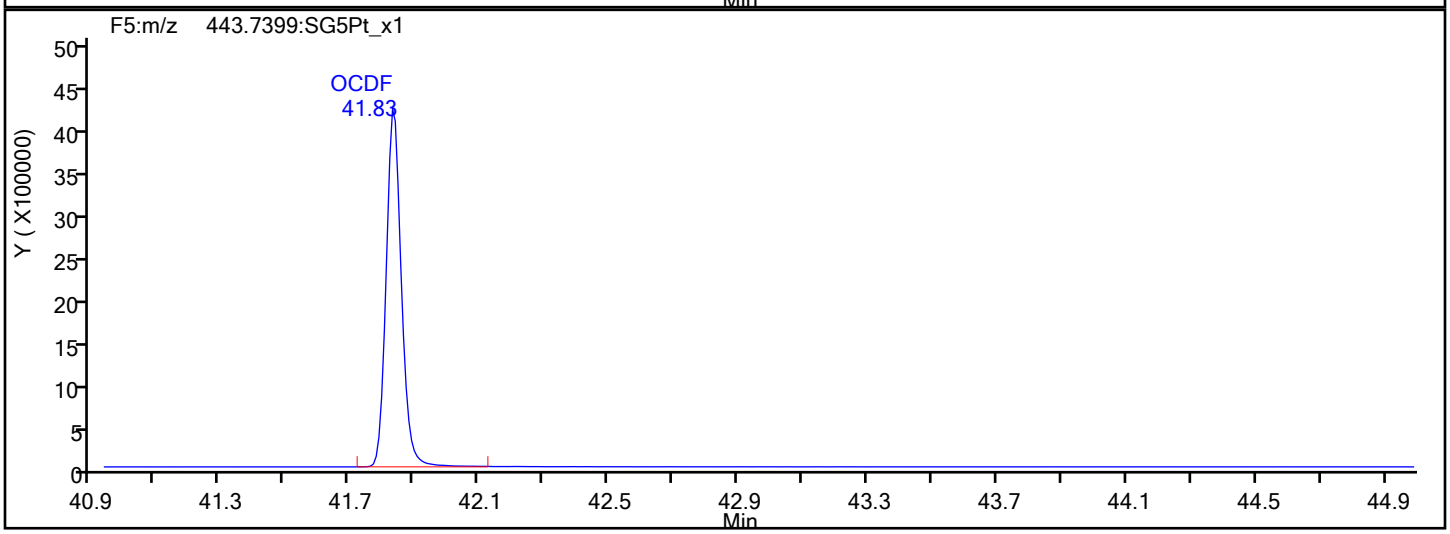


Eurofins Sacramento

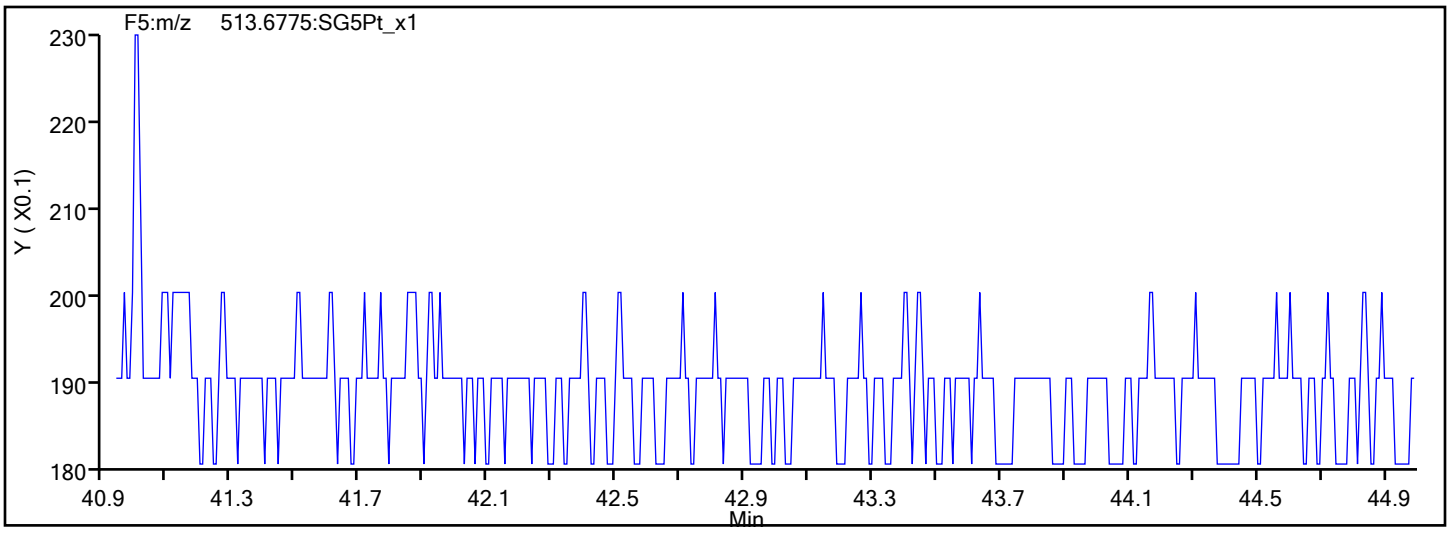
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d		
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



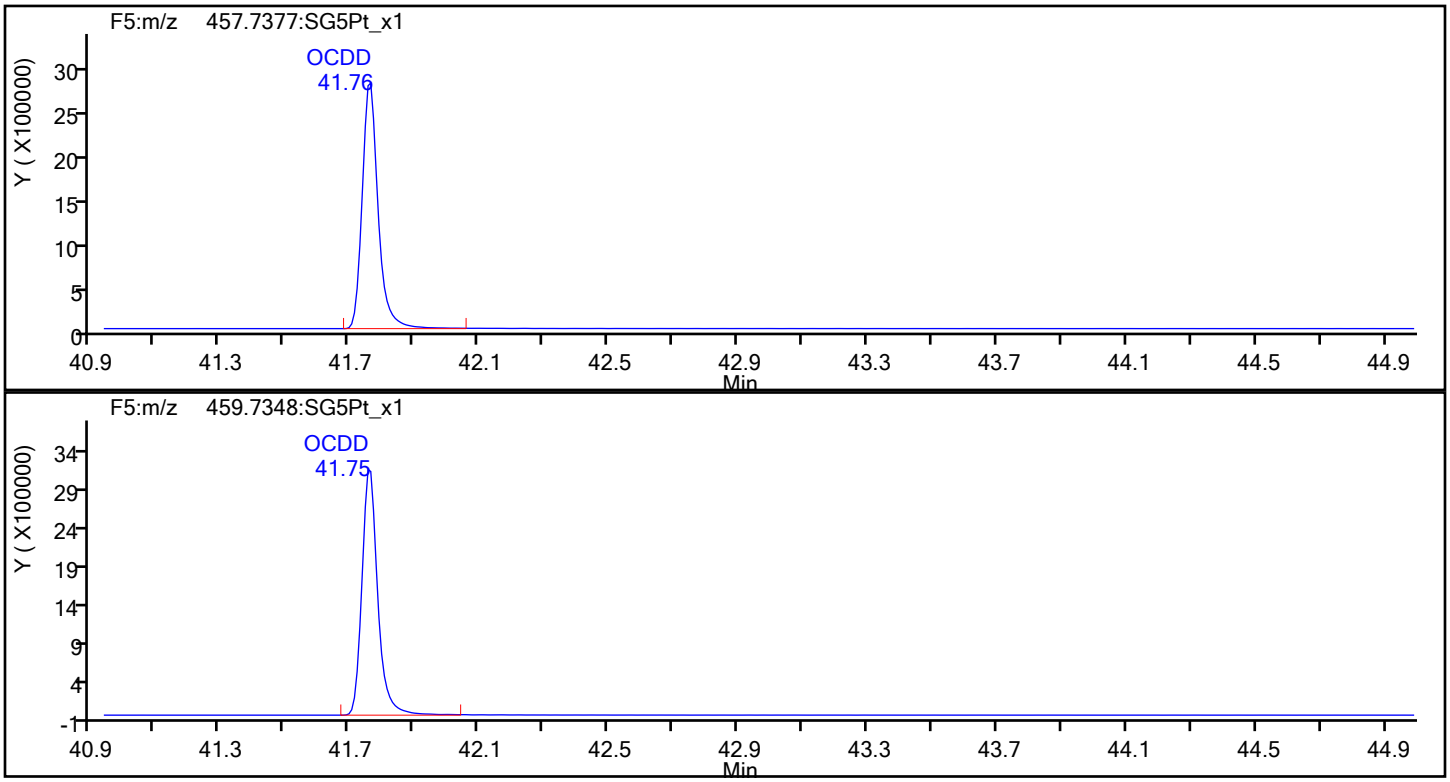
Report Date: 20-Jan-2022 15:59:47 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

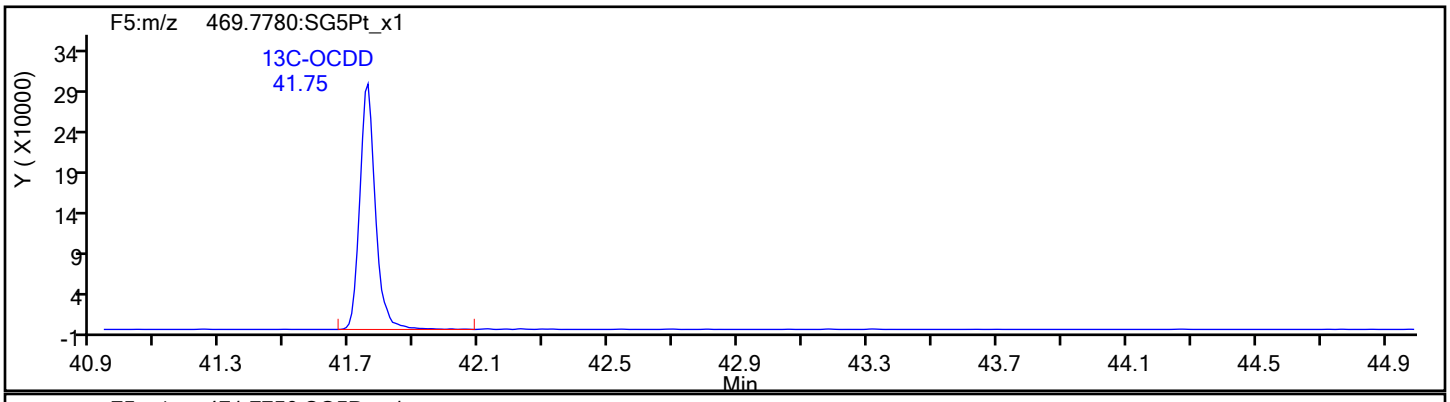
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

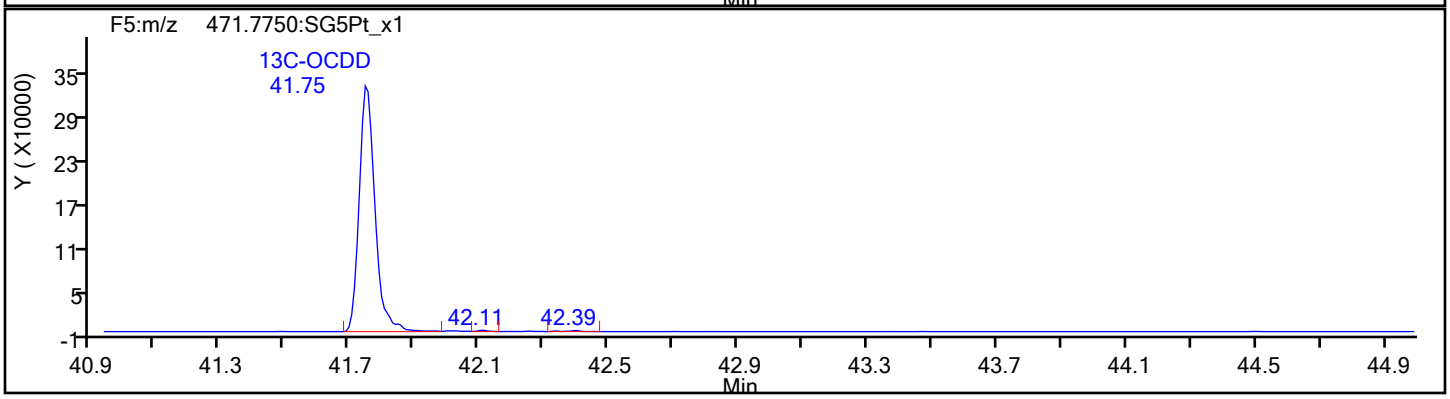
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD



OCDD Standards



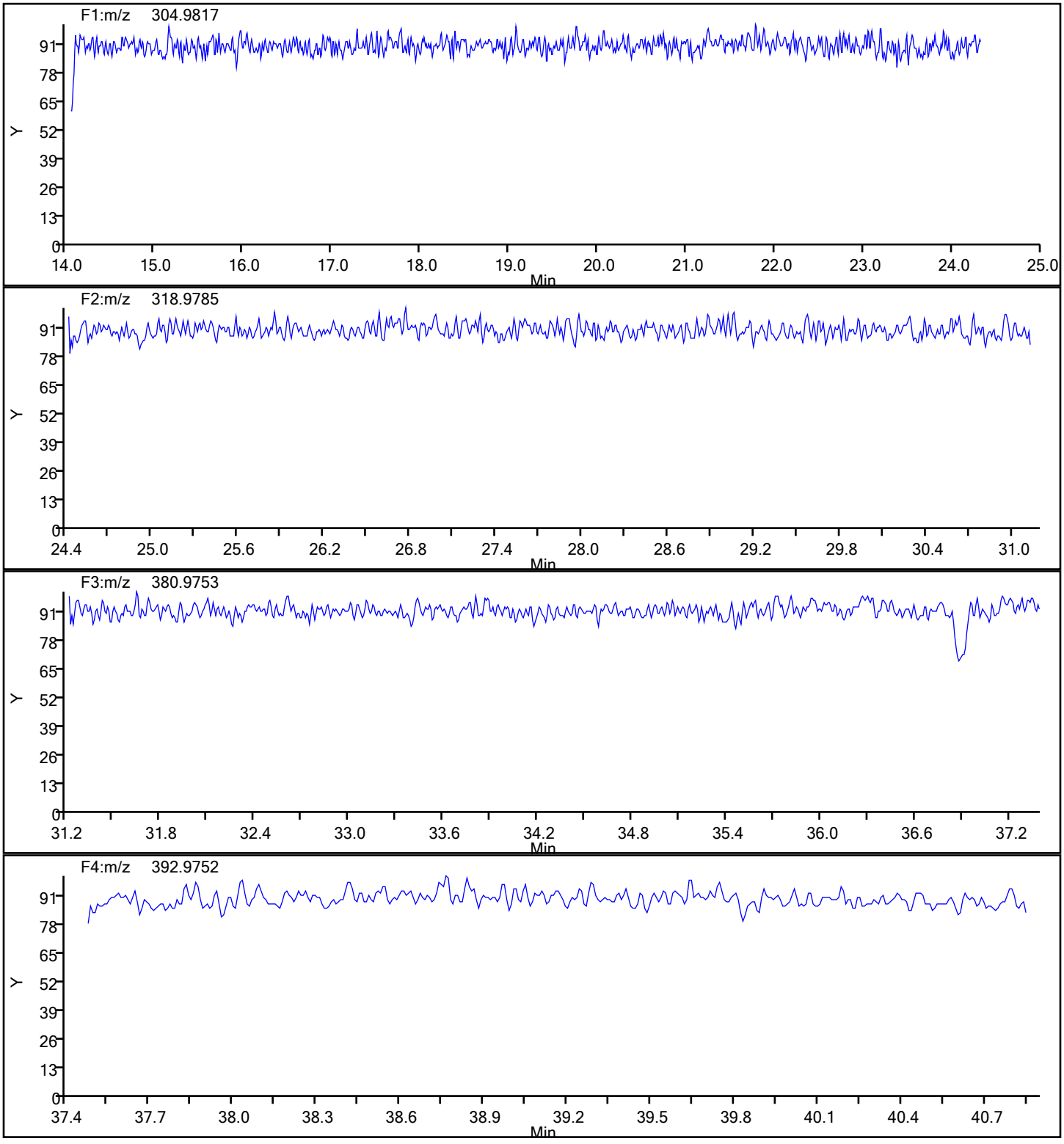


Report Date: 20-Jan-2022 15:59:48 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

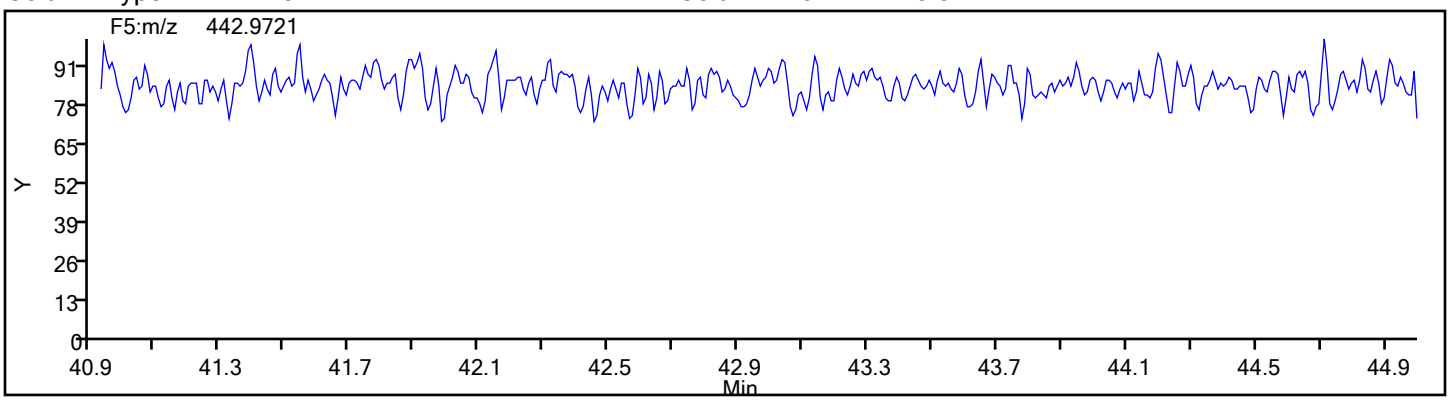
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 15:59:48 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d		
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

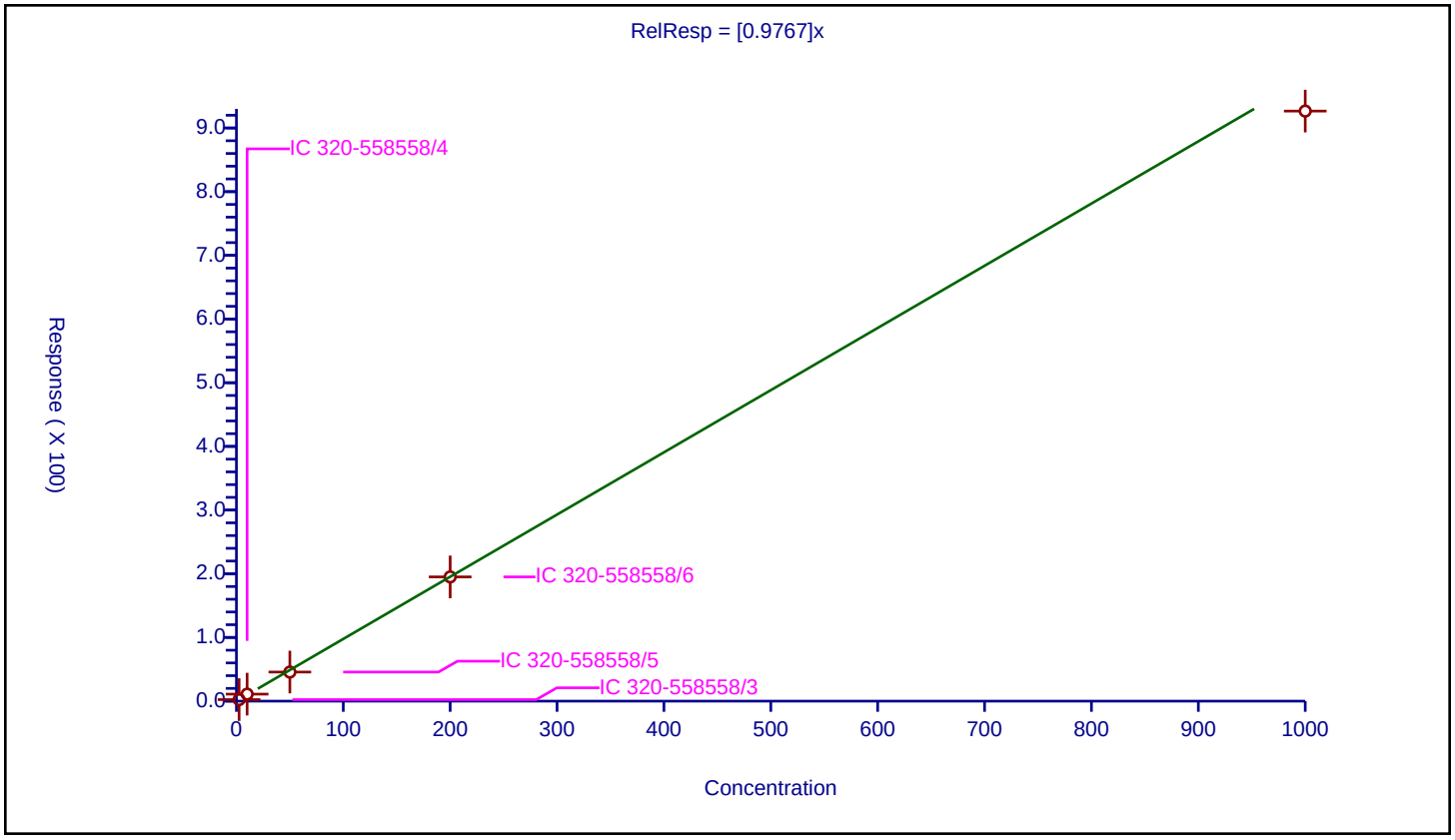
Curve Coefficients

Intercept:	0
Slope:	0.9767

Error Coefficients

Standard Error:	7610000
Relative Standard Error:	7.7
Correlation Coefficient:	0.989
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.409712	100.0	1418261.0	0.963885	Y
2	IC 320-558558/4	10.0	11.040571	100.0	1280749.0	1.104057	Y
3	IC 320-558558/5	50.0	45.673273	100.0	1413921.0	0.913465	Y
4	IC 320-558558/6	200.0	195.079042	100.0	2232797.0	0.975395	Y
5	IC 320-558558/7	1000.0	926.576197	100.0	1572535.0	0.926576	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

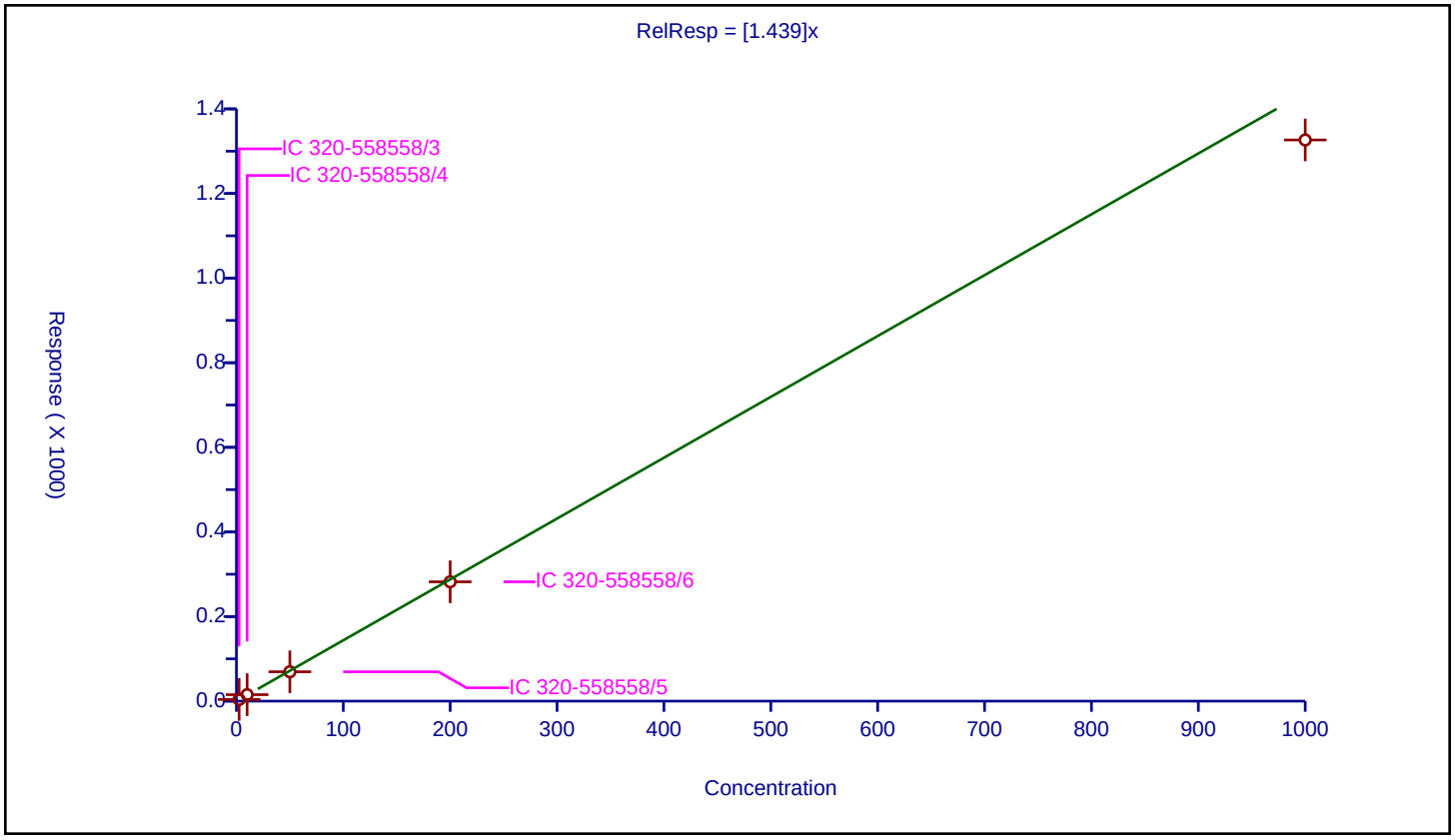
Curve Coefficients

Intercept:	0
Slope:	1.439

Error Coefficients

Standard Error:	11700000
Relative Standard Error:	6.4
Correlation Coefficient:	0.991
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	3.847411	100.0	1422333.0	1.538965	Y
2	IC 320-558558/4	10.0	15.275261	100.0	1314917.0	1.527526	Y
3	IC 320-558558/5	50.0	69.44193	100.0	1416166.0	1.388839	Y
4	IC 320-558558/6	200.0	282.116761	100.0	2299466.0	1.410584	Y
5	IC 320-558558/7	1000.0	1326.597552	100.0	1696502.0	1.326598	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

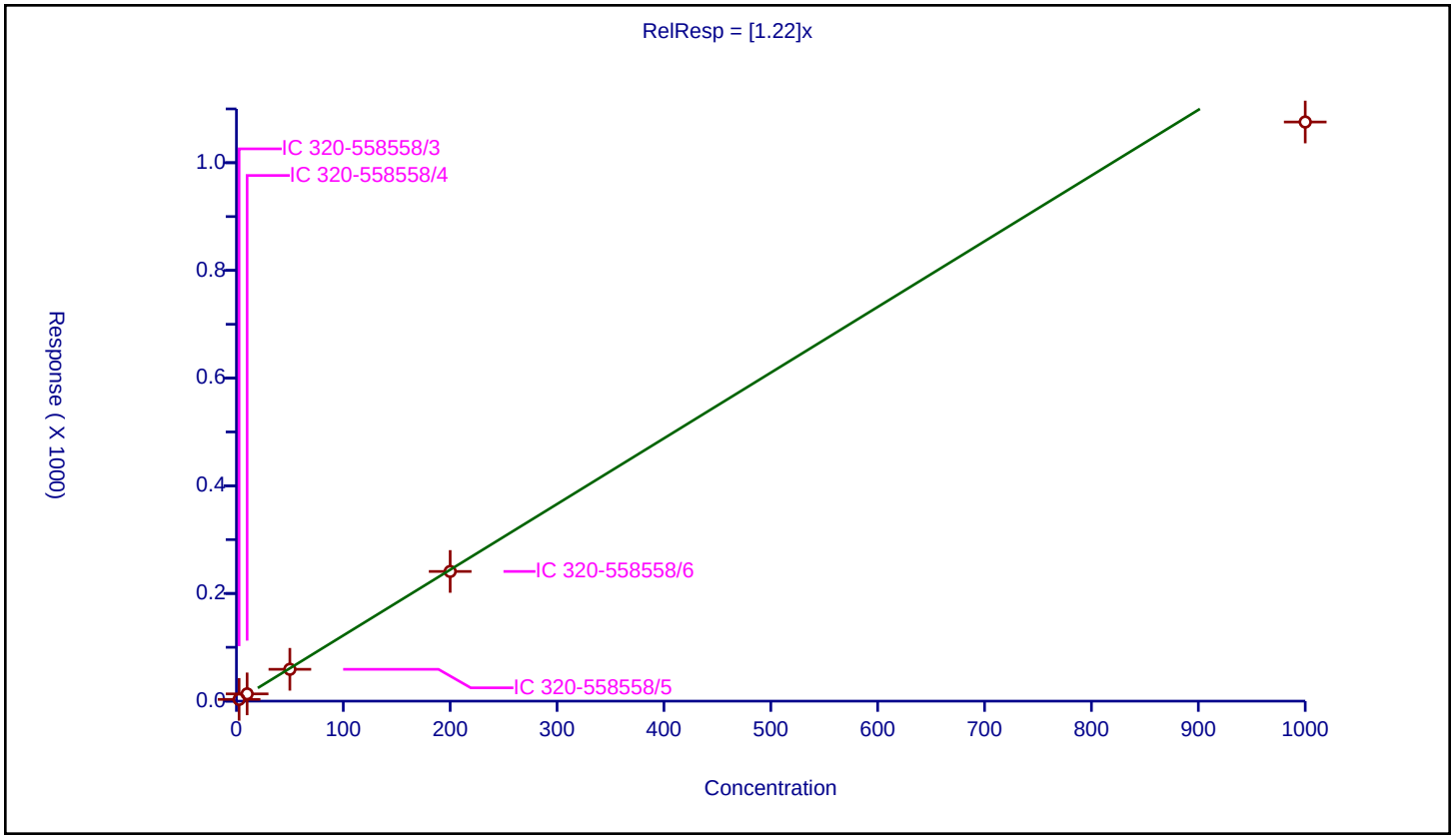
Curve Coefficients

Intercept:	0
Slope:	1.22

Error Coefficients

Standard Error:	9540000
Relative Standard Error:	8.6
Correlation Coefficient:	0.988
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	3.222382	100.0	1422333.0	1.288953	Y
2	IC 320-558558/4	10.0	13.488988	100.0	1314917.0	1.348899	Y
3	IC 320-558558/5	50.0	59.154153	100.0	1416166.0	1.183083	Y
4	IC 320-558558/6	200.0	240.861965	100.0	2299466.0	1.20431	Y
5	IC 320-558558/7	1000.0	1075.677423	100.0	1696502.0	1.075677	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

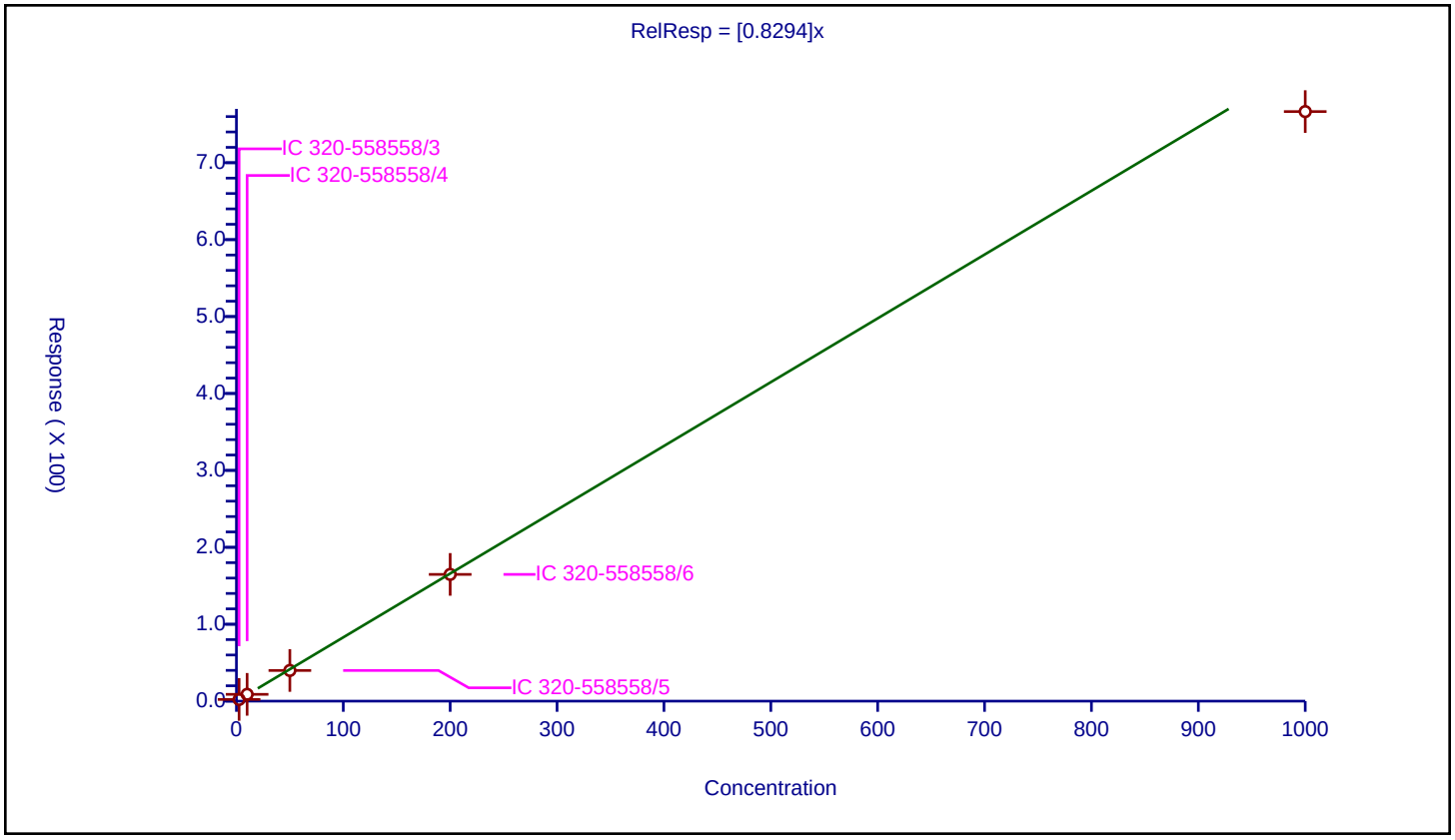
Curve Coefficients

Intercept:	0
Slope:	0.8294

Error Coefficients

Standard Error:	8650000
Relative Standard Error:	6.0
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.18925	100.0	1830992.0	0.8757	Y
2	IC 320-558558/4	10.0	8.83198	100.0	1640708.0	0.883198	Y
3	IC 320-558558/5	50.0	39.886706	100.0	1760030.0	0.797734	Y
4	IC 320-558558/6	200.0	164.774655	100.0	2750934.0	0.823873	Y
5	IC 320-558558/7	1000.0	766.517926	100.0	2176275.0	0.766518	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

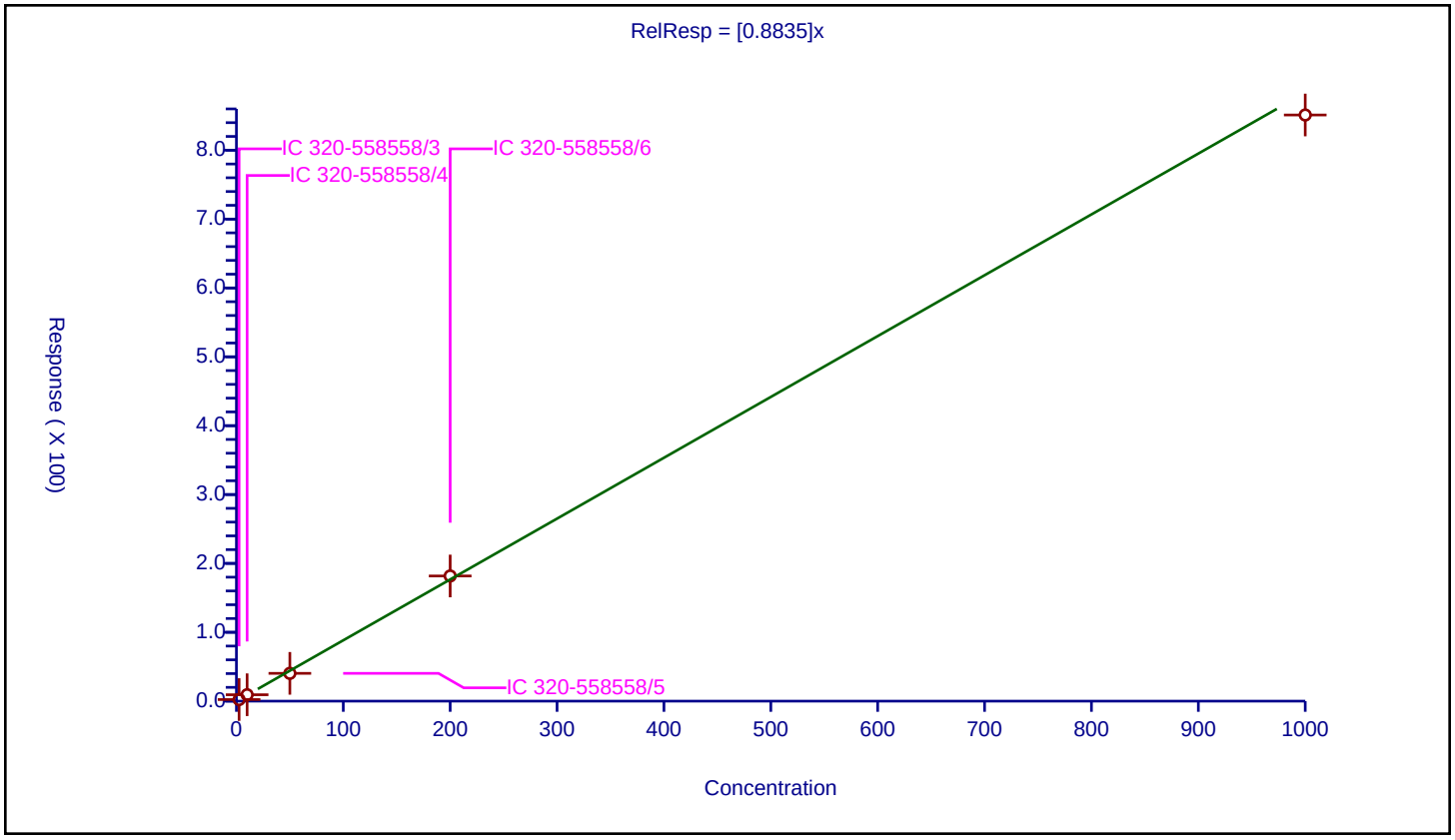
Curve Coefficients

Intercept:	0
Slope:	0.8835

Error Coefficients

Standard Error:	12200000
Relative Standard Error:	5.9
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.303202	100.0	2330451.0	0.921281	Y
2	IC 320-558558/4	10.0	9.286949	100.0	2200292.0	0.928695	Y
3	IC 320-558558/5	50.0	40.367106	100.0	2480807.0	0.807342	Y
4	IC 320-558558/6	200.0	181.772145	100.0	3555240.0	0.908861	Y
5	IC 320-558558/7	1000.0	851.16151	100.0	2766787.0	0.851162	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

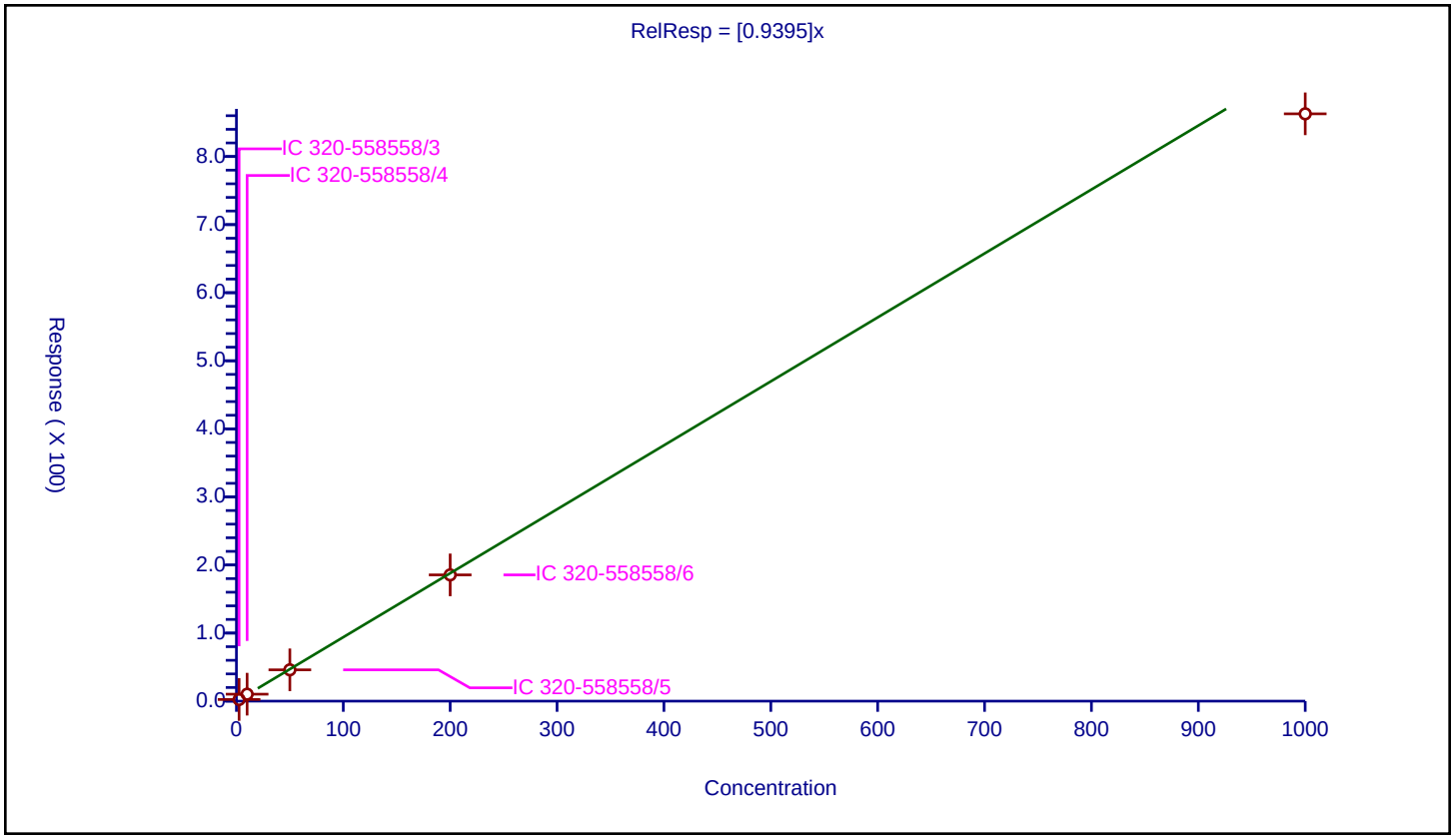
Curve Coefficients

Intercept:	0
Slope:	0.9395

Error Coefficients

Standard Error:	9740000
Relative Standard Error:	6.3
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.411862	100.0	1830992.0	0.964745	Y
2	IC 320-558558/4	10.0	10.228694	100.0	1640708.0	1.022869	Y
3	IC 320-558558/5	50.0	45.976773	100.0	1760030.0	0.919535	Y
4	IC 320-558558/6	200.0	185.468644	100.0	2750934.0	0.927343	Y
5	IC 320-558558/7	1000.0	862.778463	100.0	2176275.0	0.862778	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

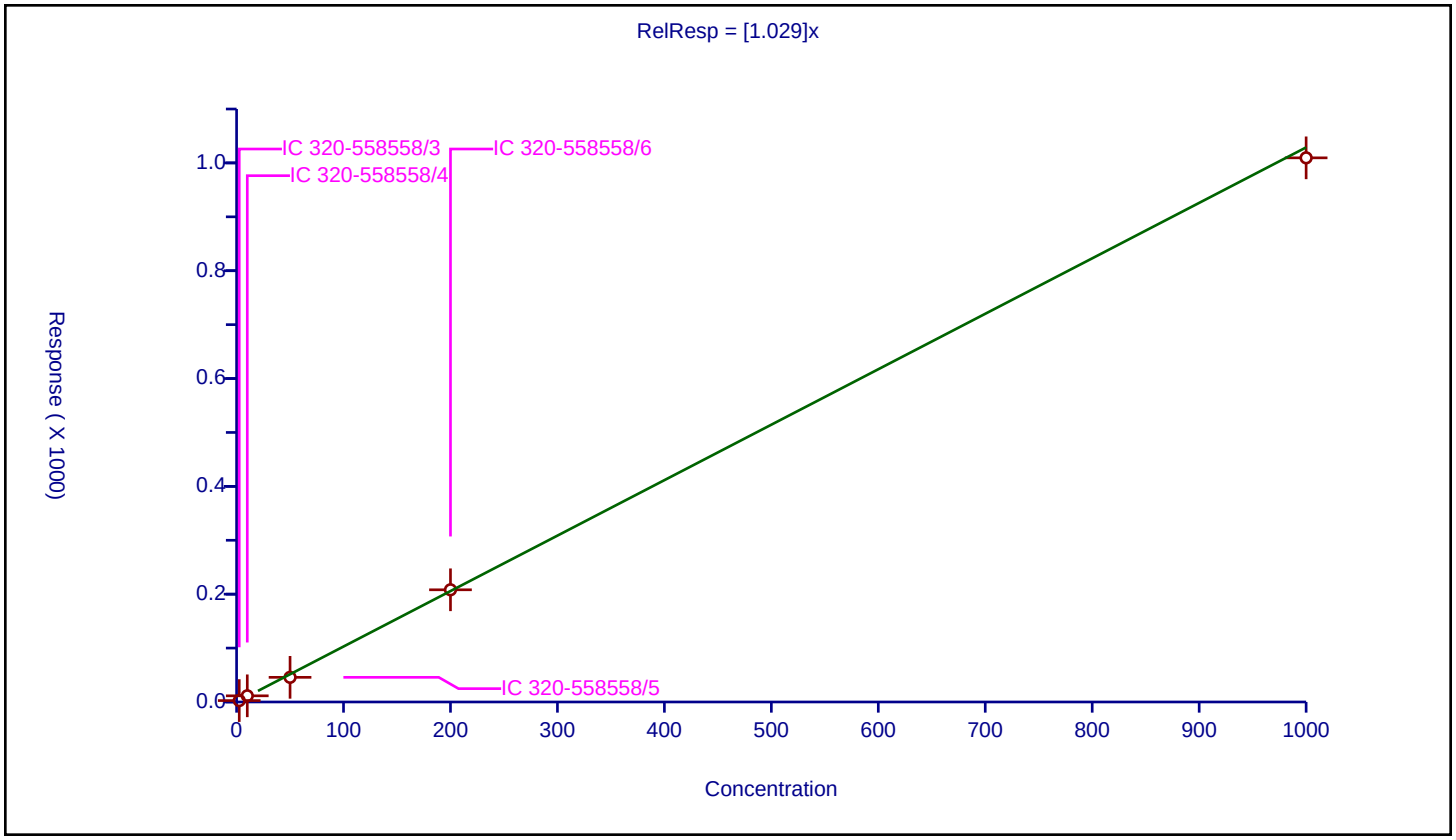
Curve Coefficients

Intercept:	0
Slope:	1.029

Error Coefficients

Standard Error:	14500000
Relative Standard Error:	8.0
Correlation Coefficient:	0.995
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.583363	100.0	2330451.0	1.033345	Y
2	IC 320-558558/4	10.0	11.45657	100.0	2200292.0	1.145657	Y
3	IC 320-558558/5	50.0	45.729394	100.0	2480807.0	0.914588	Y
4	IC 320-558558/6	200.0	208.143895	100.0	3555240.0	1.040719	Y
5	IC 320-558558/7	1000.0	1009.436469	100.0	2766787.0	1.009436	Y



Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

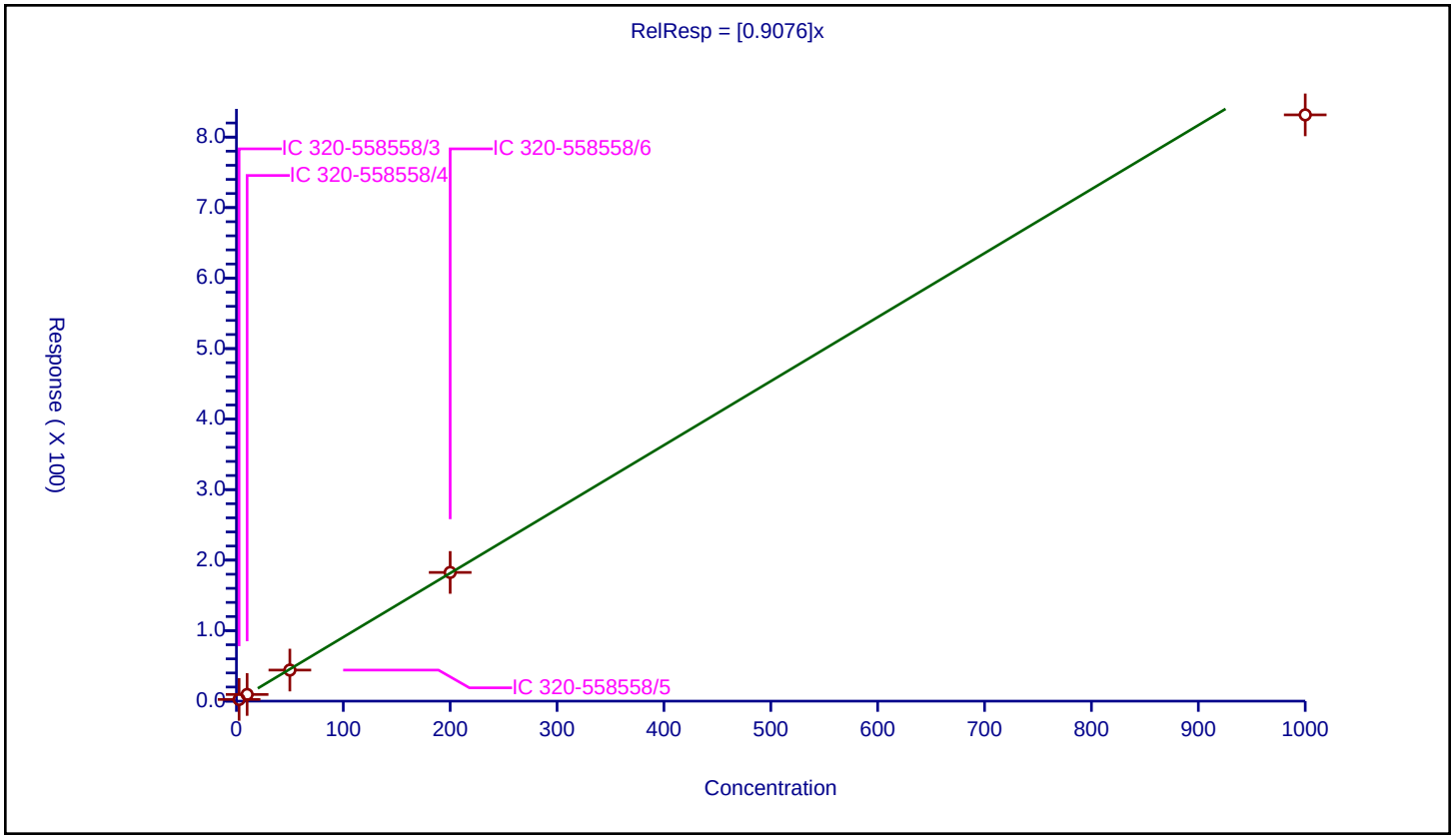
Curve Coefficients

Intercept:	0
Slope:	0.9076

Error Coefficients

Standard Error:	9400000
Relative Standard Error:	5.9
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.415576	100.0	1830992.0	0.96623	Y
2	IC 320-558558/4	10.0	9.46506	100.0	1640708.0	0.946506	Y
3	IC 320-558558/5	50.0	44.055045	100.0	1760030.0	0.881101	Y
4	IC 320-558558/6	200.0	182.564976	100.0	2750934.0	0.912825	Y
5	IC 320-558558/7	1000.0	831.540224	100.0	2176275.0	0.83154	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

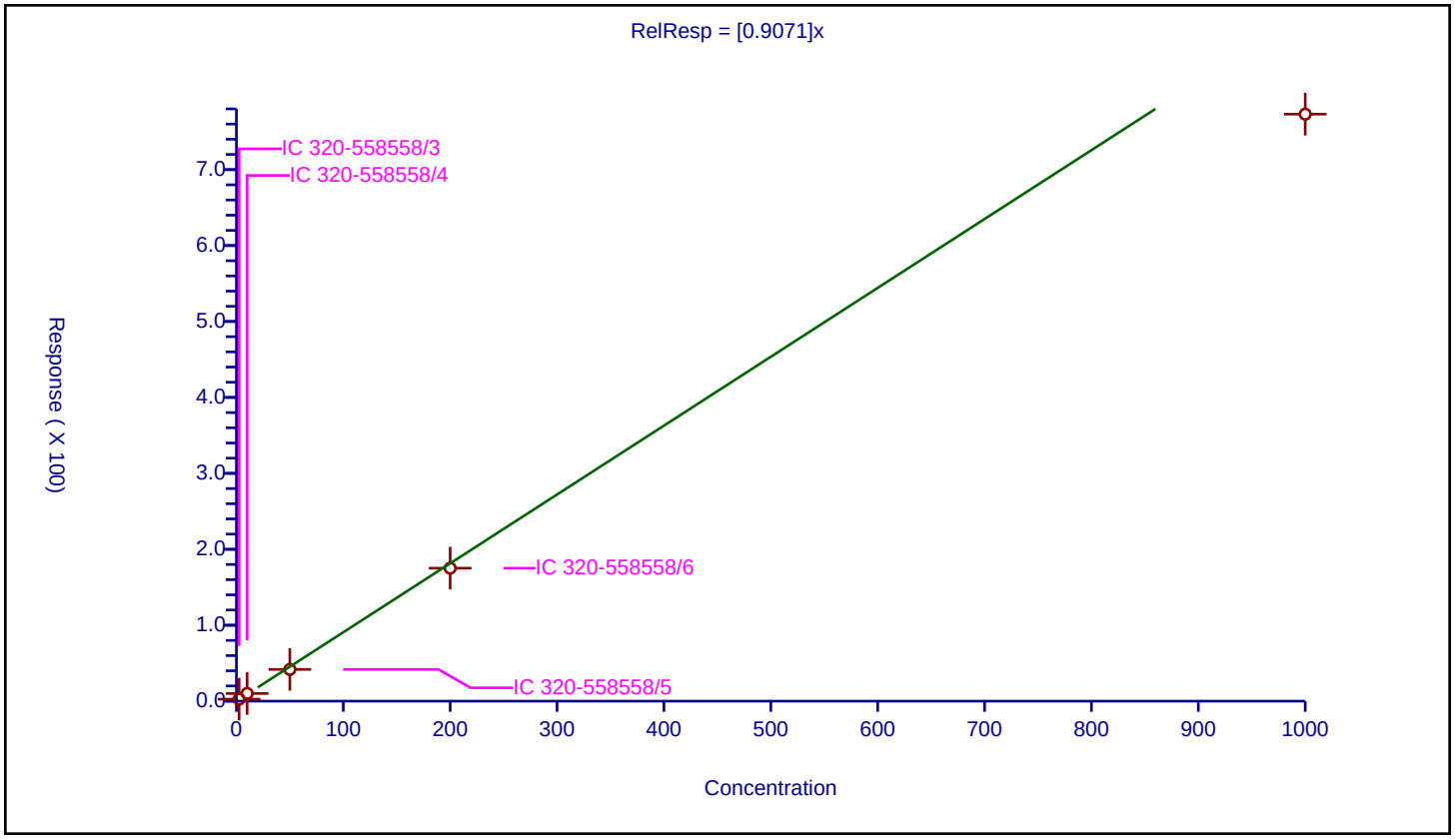
Curve Coefficients

Intercept:	0
Slope:	0.9071

Error Coefficients

Standard Error:	11200000
Relative Standard Error:	12.7
Correlation Coefficient:	0.991
Coefficient of Determination (Adjusted):	0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.608723	100.0	2330451.0	1.043489	Y
2	IC 320-558558/4	10.0	10.075026	100.0	2200292.0	1.007503	Y
3	IC 320-558558/5	50.0	41.777938	100.0	2480807.0	0.835559	Y
4	IC 320-558558/6	200.0	175.14075	100.0	3555240.0	0.875704	Y
5	IC 320-558558/7	1000.0	773.061027	100.0	2766787.0	0.773061	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

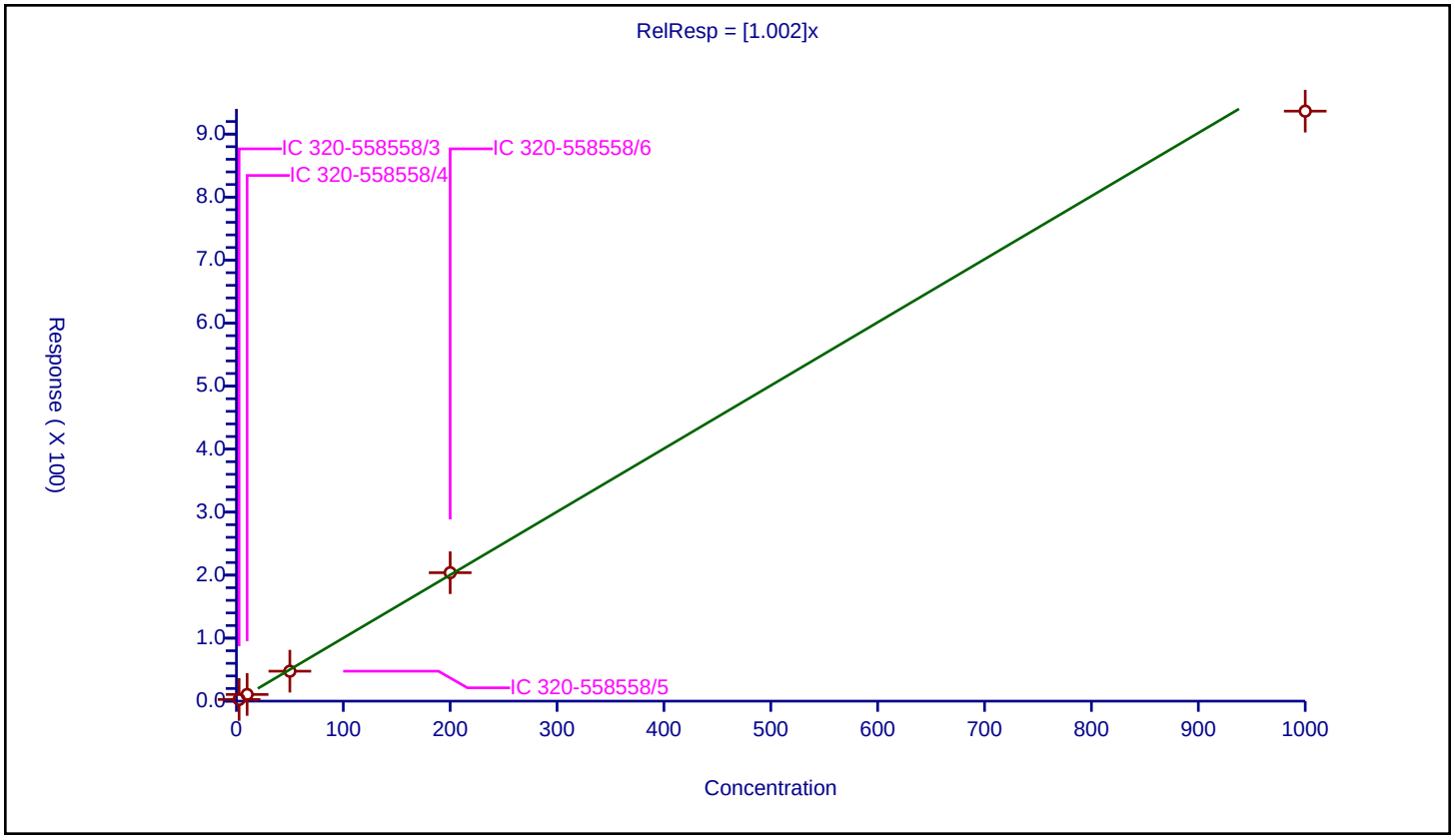
Curve Coefficients

Intercept:	0
Slope:	1.002

Error Coefficients

Standard Error:	10700000
Relative Standard Error:	5.6
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.609309	100.0	1713672.0	1.043724	Y
2	IC 320-558558/4	10.0	10.603989	100.0	1615939.0	1.060399	Y
3	IC 320-558558/5	50.0	47.515106	100.0	1767842.0	0.950302	Y
4	IC 320-558558/6	200.0	203.849566	100.0	2607541.0	1.019248	Y
5	IC 320-558558/7	1000.0	936.433267	100.0	2222510.0	0.936433	Y



Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

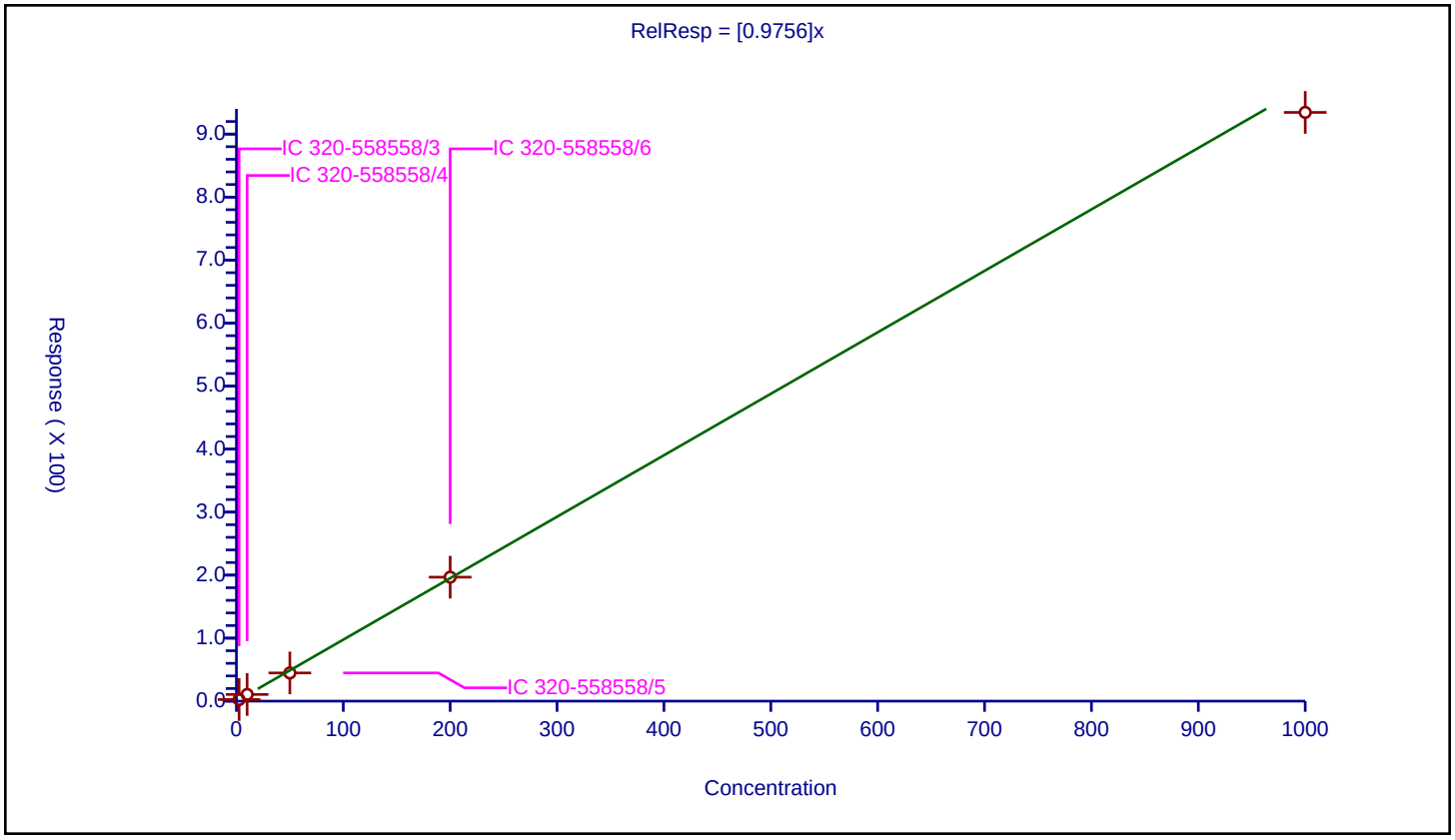
Curve Coefficients

Intercept:	0
Slope:	0.9756

Error Coefficients

Standard Error:	17000000
Relative Standard Error:	6.5
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.510151	100.0	2885364.0	1.00406	Y
2	IC 320-558558/4	10.0	10.604824	100.0	2652010.0	1.060482	Y
3	IC 320-558558/5	50.0	44.758349	100.0	2995249.0	0.895167	Y
4	IC 320-558558/6	200.0	196.774038	100.0	4279250.0	0.98387	Y
5	IC 320-558558/7	1000.0	934.437153	100.0	3515851.0	0.934437	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

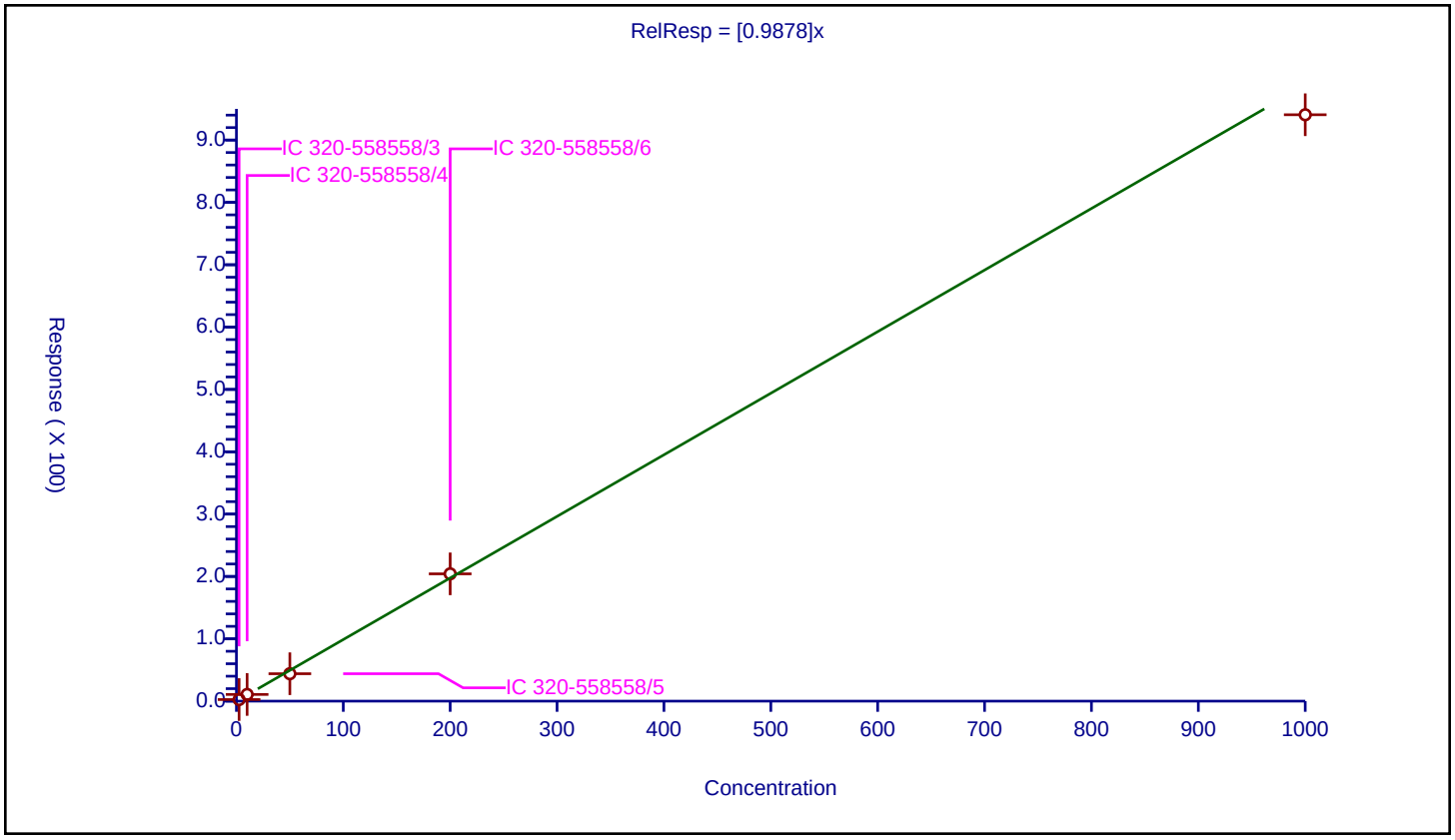
Curve Coefficients

Intercept:	0
Slope:	0.9878

Error Coefficients

Standard Error:	13500000
Relative Standard Error:	7.8
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.557831	100.0	2330451.0	1.023132	Y
2	IC 320-558558/4	10.0	10.744528	100.0	2200292.0	1.074453	Y
3	IC 320-558558/5	50.0	43.989557	100.0	2480807.0	0.879791	Y
4	IC 320-558558/6	200.0	204.200476	100.0	3555240.0	1.021002	Y
5	IC 320-558558/7	1000.0	940.611258	100.0	2766787.0	0.940611	Y



Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

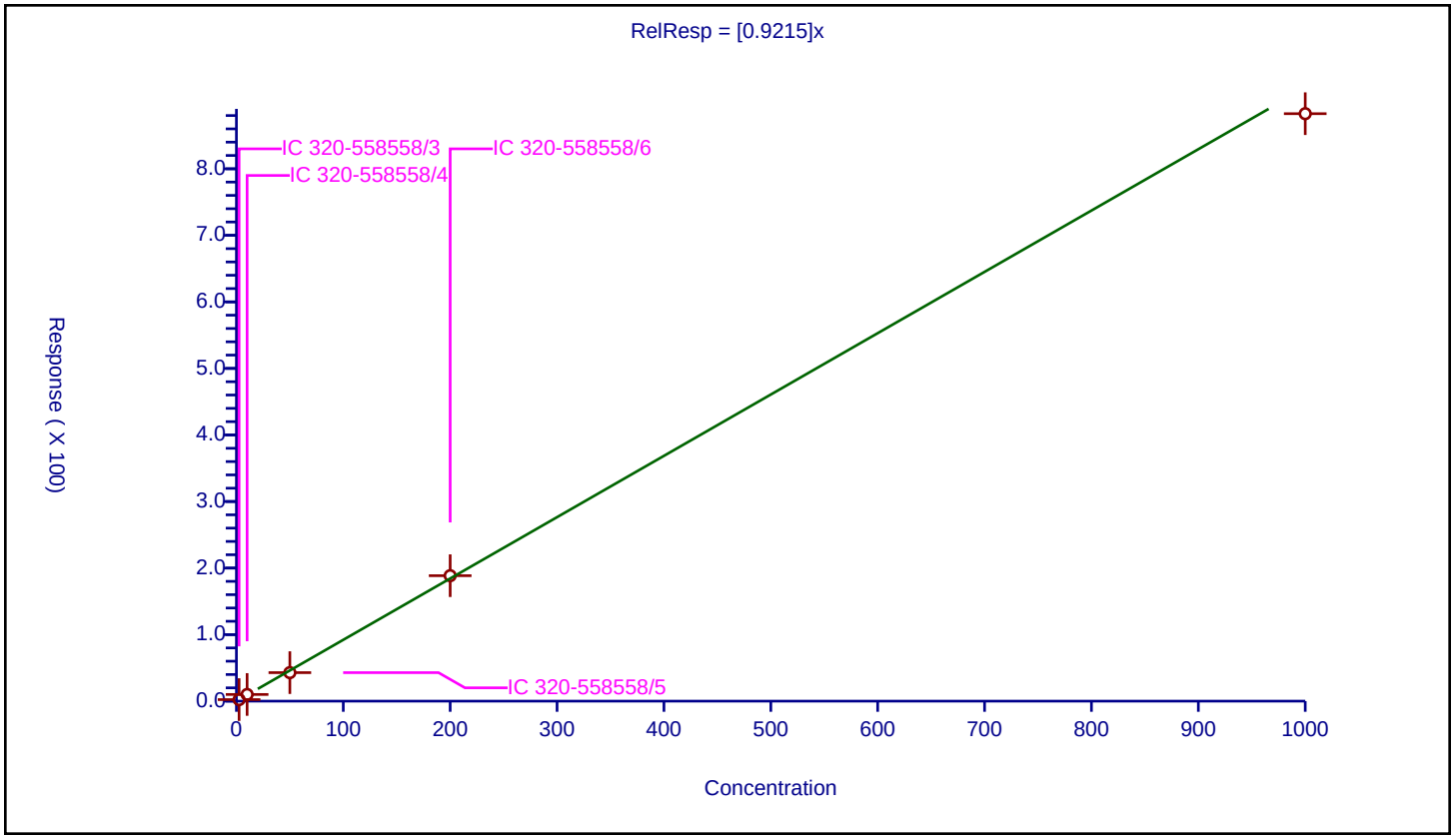
Curve Coefficients

Intercept:	0
Slope:	0.9215

Error Coefficients

Standard Error:	16000000
Relative Standard Error:	6.1
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.30477	100.0	2885364.0	0.921908	Y
2	IC 320-558558/4	10.0	10.034917	100.0	2652010.0	1.003492	Y
3	IC 320-558558/5	50.0	42.84572	100.0	2995249.0	0.856914	Y
4	IC 320-558558/6	200.0	188.517708	100.0	4279250.0	0.942589	Y
5	IC 320-558558/7	1000.0	882.793867	100.0	3515851.0	0.882794	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

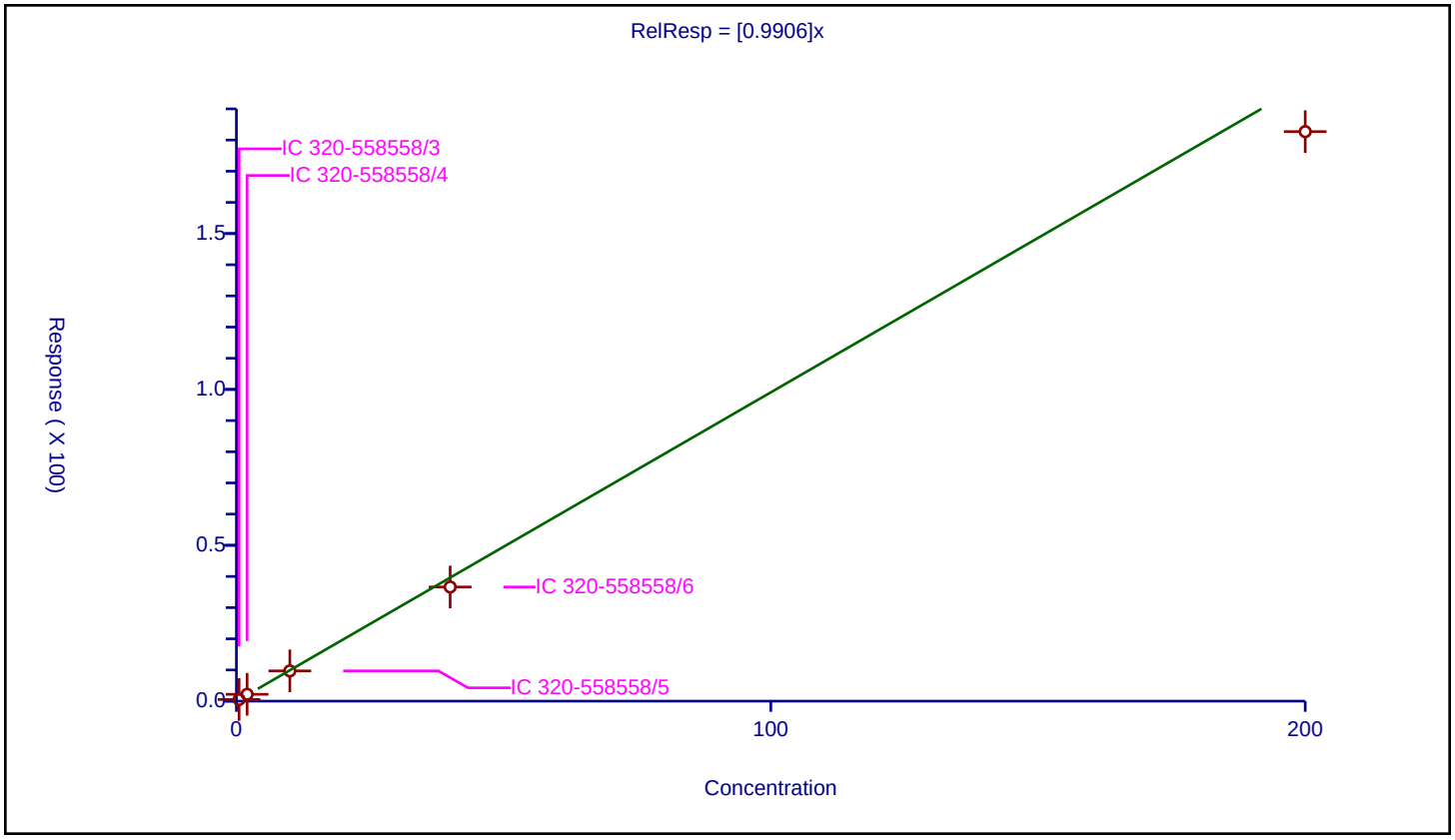
Curve Coefficients

Intercept:	0
Slope:	0.9906

Error Coefficients

Standard Error:	2830000
Relative Standard Error:	8.4
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	0.5	0.528293	100.0	2546695.0	1.056585	Y
2	IC 320-558558/4	2.0	2.19449	100.0	2255968.0	1.097245	Y
3	IC 320-558558/5	10.0	9.702701	100.0	2421233.0	0.97027	Y
4	IC 320-558558/6	40.0	36.621521	100.0	3741636.0	0.915538	Y
5	IC 320-558558/7	200.0	182.701761	100.0	2999814.0	0.913509	Y



Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

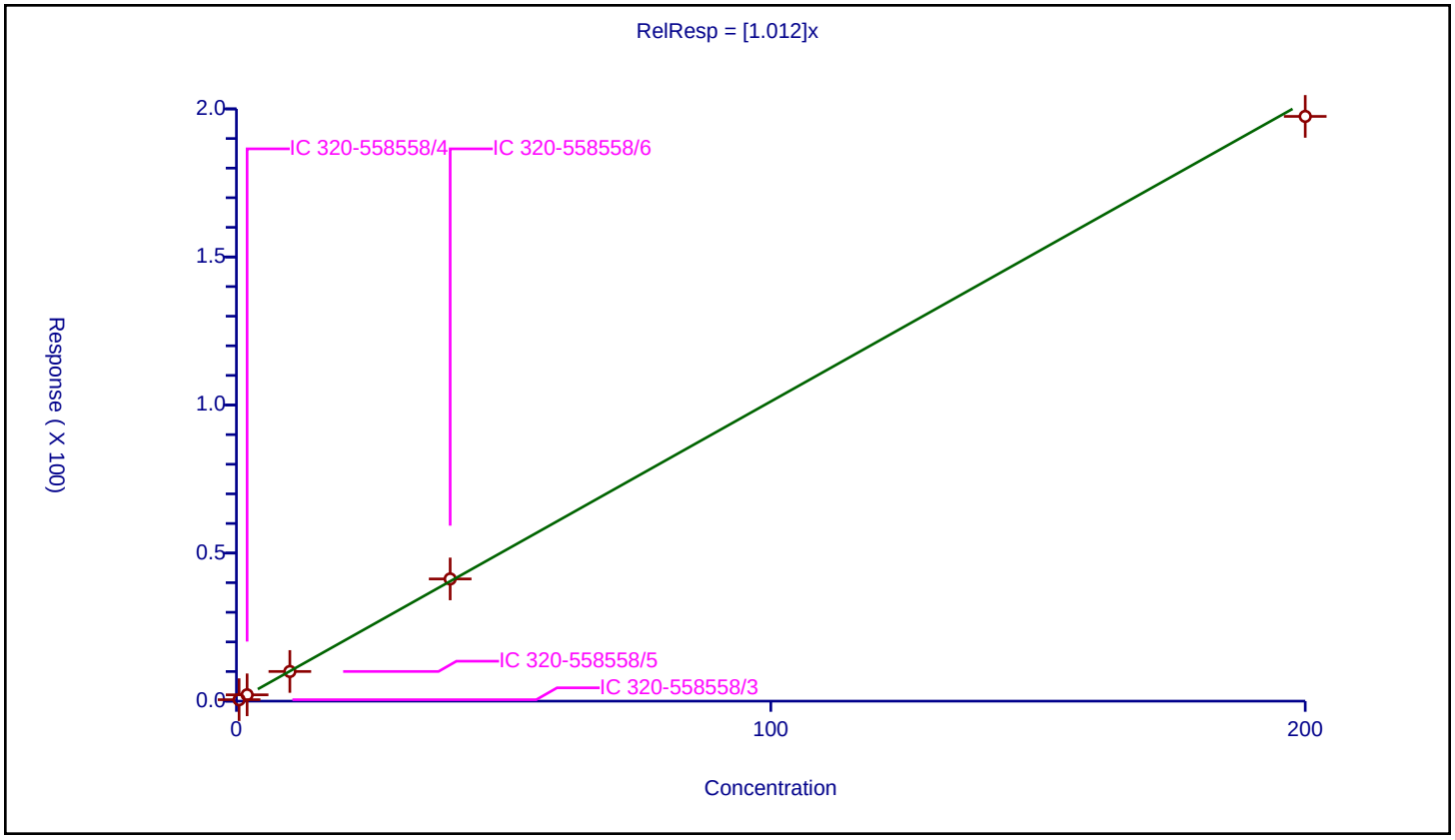
Curve Coefficients

Intercept:	0
Slope:	1.012

Error Coefficients

Standard Error:	3790000
Relative Standard Error:	3.8
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	0.5	0.485878	100.0	3248142.0	0.971756	Y
2	IC 320-558558/4	2.0	2.135153	100.0	3059827.0	1.067577	Y
3	IC 320-558558/5	10.0	10.015177	100.0	3267431.0	1.001518	Y
4	IC 320-558558/6	40.0	41.267196	100.0	4635716.0	1.03168	Y
5	IC 320-558558/7	200.0	197.463179	100.0	3706529.0	0.987316	Y



Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

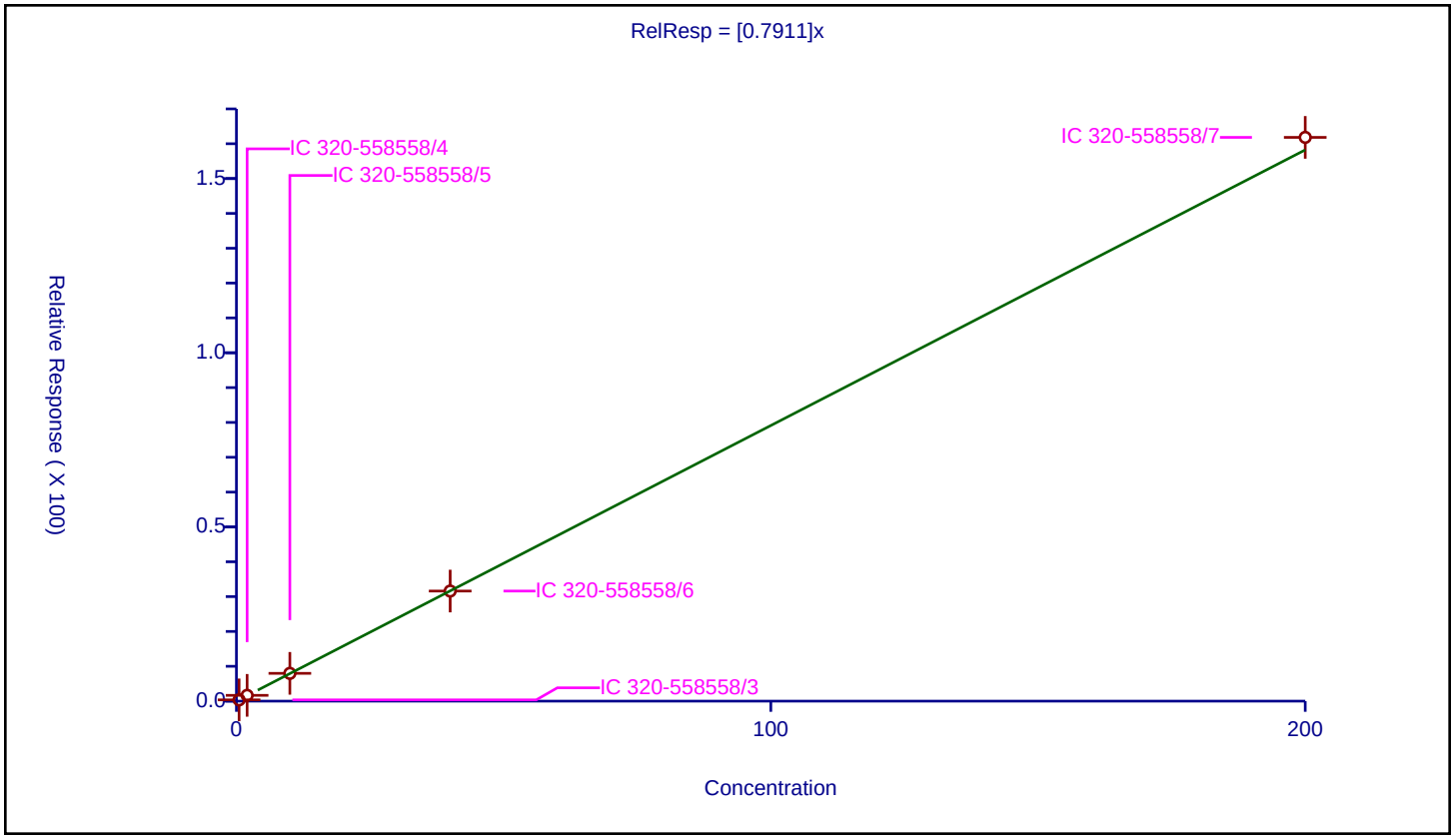
Curve Coefficients

Intercept:	0
Slope:	0.7911

Error Coefficients

Standard Error:	3070000
Relative Standard Error:	4.8
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	0.5	0.364653	100.0	3175076.0	0.729305	Y
2	IC 320-558558/4	2.0	1.659463	100.0	2919860.0	0.829732	Y
3	IC 320-558558/5	10.0	7.973806	100.0	3311179.0	0.797381	Y
4	IC 320-558558/6	40.0	31.604534	100.0	4553217.0	0.790113	Y
5	IC 320-558558/7	200.0	161.823051	100.0	3683935.0	0.809115	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

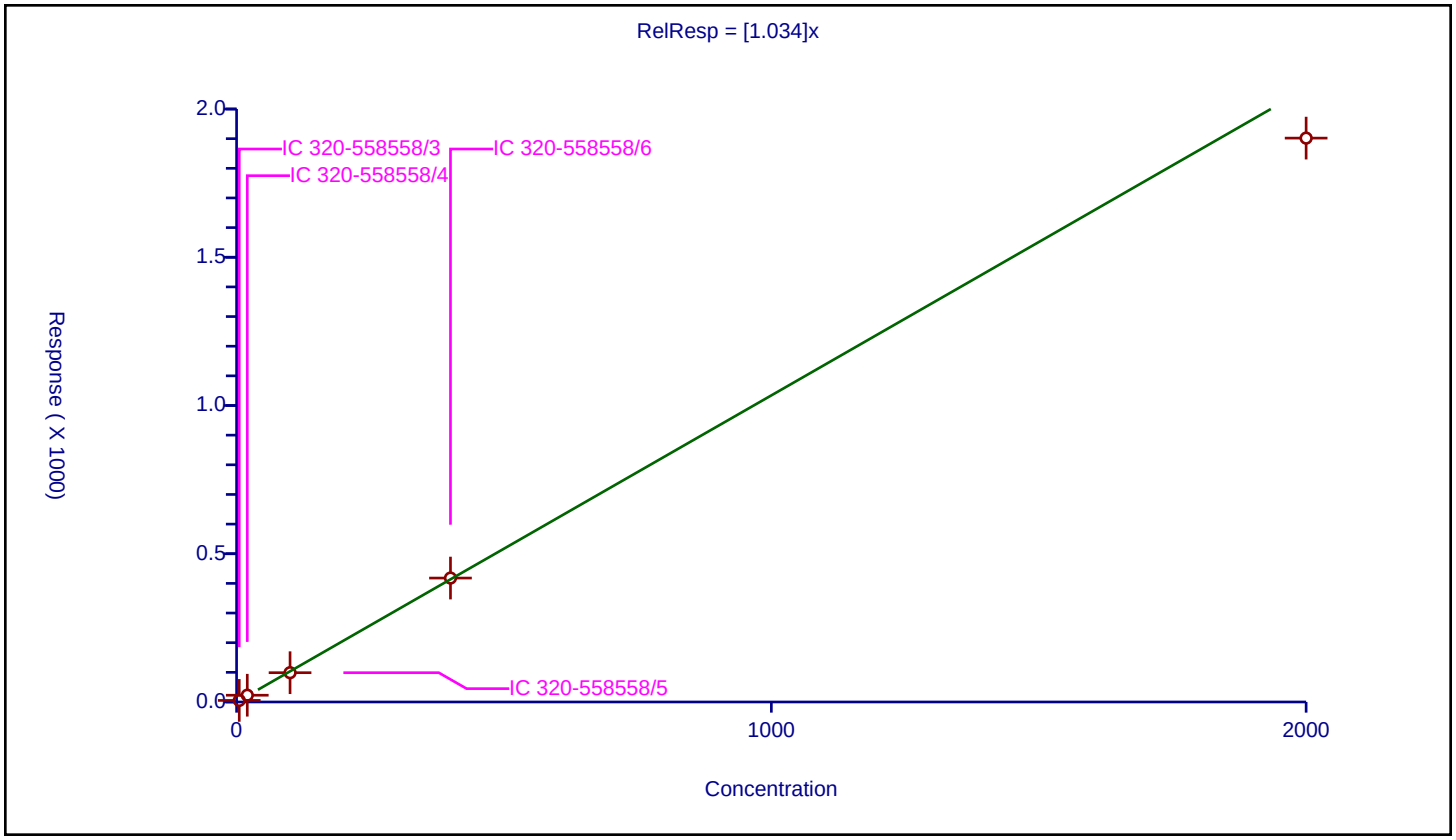
Curve Coefficients

Intercept:	0
Slope:	1.034

Error Coefficients

Standard Error:	10700000
Relative Standard Error:	6.9
Correlation Coefficient:	0.983
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	5.0	5.23297	200.0	1988775.0	1.046594	Y
2	IC 320-558558/4	20.0	22.807385	200.0	1830337.0	1.140369	Y
3	IC 320-558558/5	100.0	98.774542	200.0	1946538.0	0.987745	Y
4	IC 320-558558/6	400.0	418.008356	200.0	3156146.0	1.045021	Y
5	IC 320-558558/7	2000.0	1901.864426	200.0	2134437.0	0.950932	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

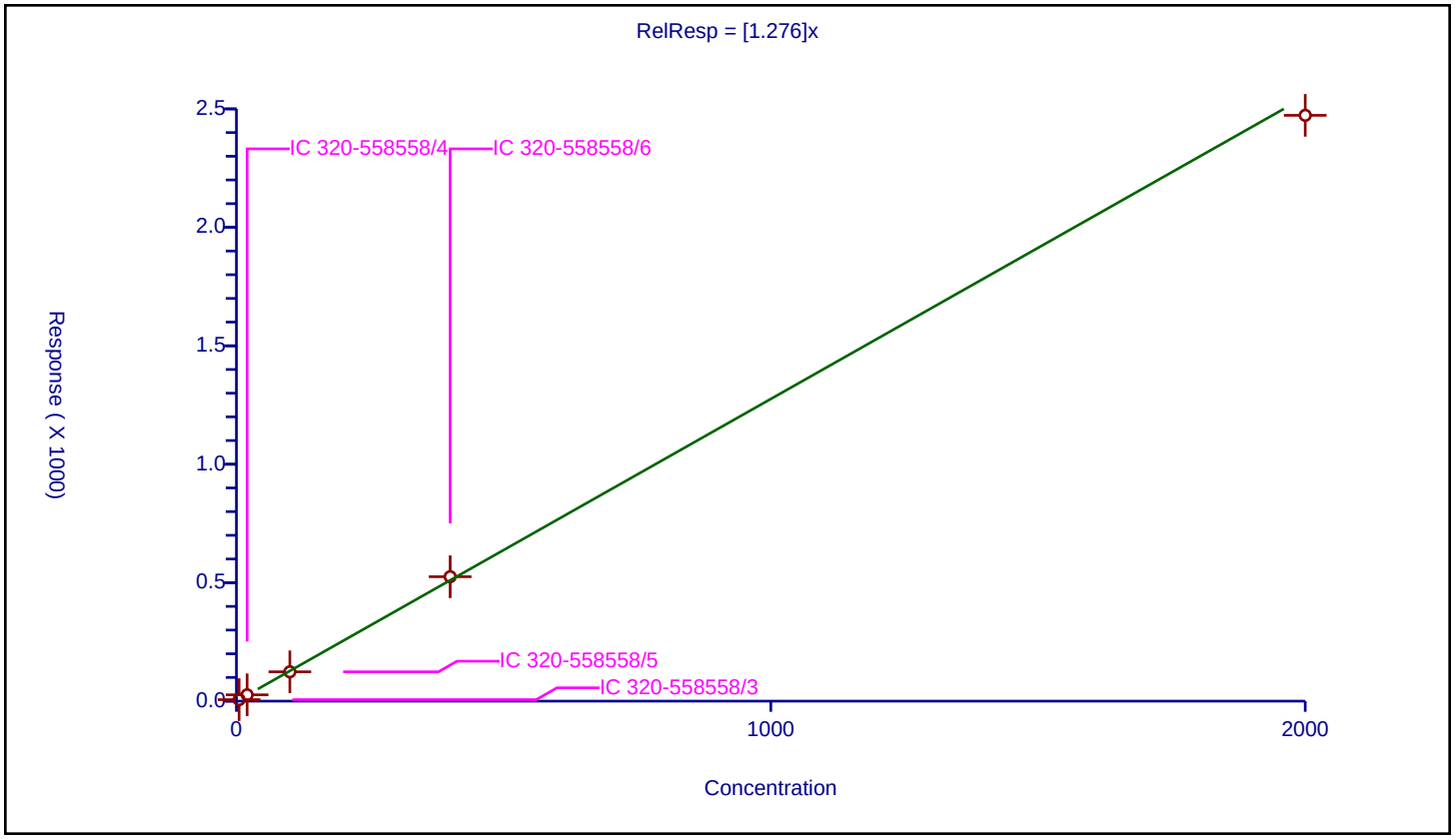
Curve Coefficients

Intercept:	0
Slope:	1.276

Error Coefficients

Standard Error:	13800000
Relative Standard Error:	3.6
Correlation Coefficient:	0.985
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	5.0	6.263655	200.0	1988775.0	1.252731	Y
2	IC 320-558558/4	20.0	26.737699	200.0	1830337.0	1.336885	Y
3	IC 320-558558/5	100.0	123.881989	200.0	1946538.0	1.23882	Y
4	IC 320-558558/6	400.0	525.177479	200.0	3156146.0	1.312944	Y
5	IC 320-558558/7	2000.0	2472.842253	200.0	2134437.0	1.236421	Y



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Lab Sample ID (1): WDM 320-558558/1 Instrument ID (1): DFS 1

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 01/13/2022 15:41

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	20.80	17

Resolution Report

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Instrument ID: DFS 1
Lims ID: WDM
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL

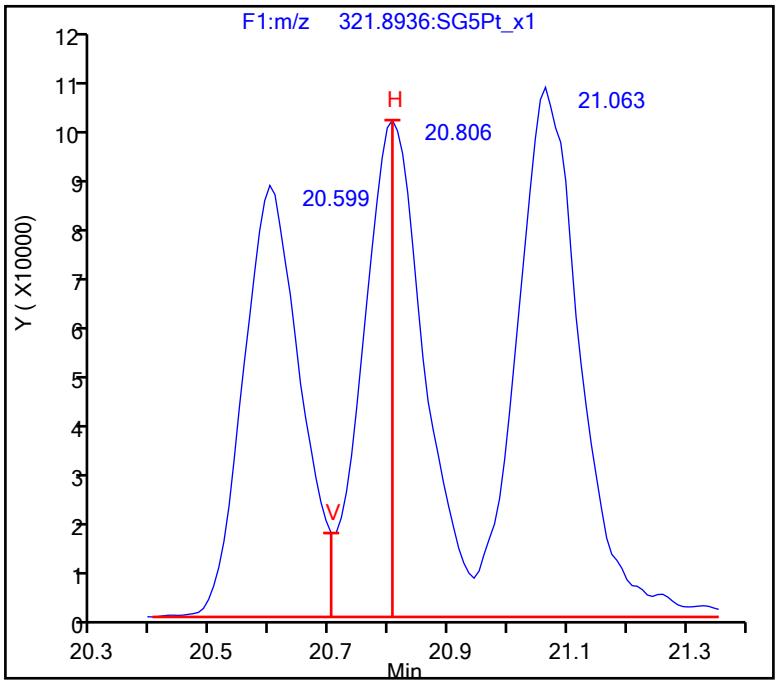
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 16045
H (Peak Height) = 95017

%R = 17 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Lab Sample ID (1): WDM 320-559474/2 Instrument ID (1): DFS 1

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 01/20/2022 16:16

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	20.40	16

Resolution Report

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Injection Date: 20-Jan-2022 16:16:00 Instrument ID: DFS 1
Lims ID: WDM
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL

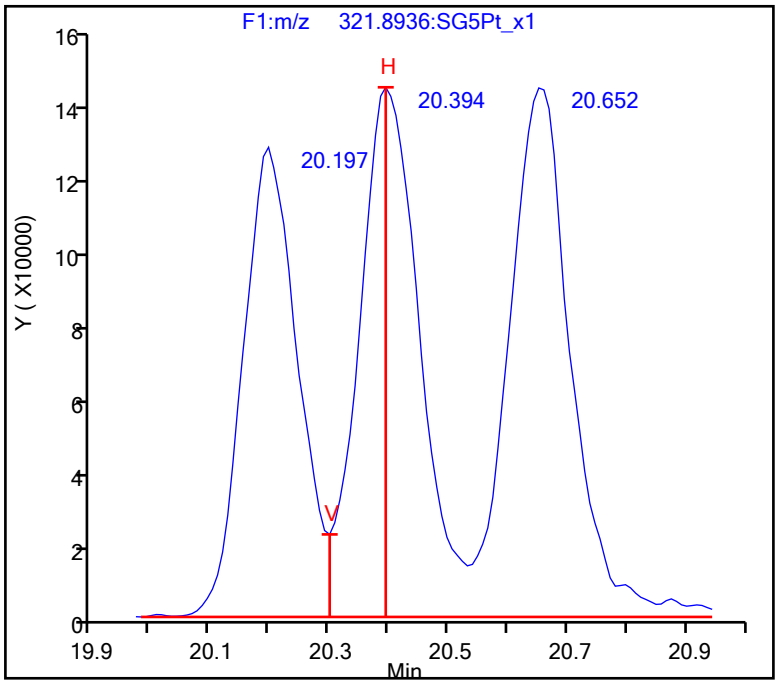
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 21696
H (Peak Height) = 139218

%R = 16 <= 25
Passed



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Lab Sample ID: ICV 320-558558/9 Calibration Date: 01/13/2022 22:21

Instrument ID: DFS 1 Calib Start Date: 01/13/2022 17:16

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/13/2022 20:27

Lab File ID: 13ja22dfs1_11.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.012	1.025		40.5	40.0	1.3	30.0
2,3,7,8-TCDD	AveID	0.9906	1.045		42.2	40.0	5.5	30.0
1,2,3,7,8-PeCDF	AveID	0.9756	0.9605		197	200	-1.5	30.0
2,3,4,7,8-PeCDF	AveID	0.9215	0.9922		215	200	7.7	30.0
1,2,3,7,8-PeCDD	AveID	1.002	0.9931		198	200	-0.9	30.0
1,2,3,4,7,8-HxCDF	AveID	0.8835	0.9083		206	200	2.8	30.0
1,2,3,6,7,8-HxCDF	AveID	1.029	1.065		207	200	3.5	30.0
2,3,4,6,7,8-HxCDF	AveID	0.9878	1.083		219	200	9.6	30.0
1,2,3,4,7,8-HxCDD	AveID	0.8294	0.8520		205	200	2.7	30.0
1,2,3,6,7,8-HxCDD	AveID	0.9395	1.005		214	200	7.0	30.0
1,2,3,7,8,9-HxCDD	AveID	0.9076	0.9110		201	200	0.4	30.0
1,2,3,7,8,9-HxCDF	AveID	0.9071	0.8125		179	200	-10.4	30.0
1,2,3,4,6,7,8-HpCDF	AveID	1.439	1.473		205	200	2.4	30.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9767	1.039		213	200	6.4	30.0
1,2,3,4,7,8,9-HpCDF	AveID	1.220	1.205		198	200	-1.3	30.0
OCDD	AveID	1.034	1.076		416	400	4.0	30.0
OCDF	AveID	1.276	1.321		414	400	3.6	30.0
13C-2,3,7,8-TCDF	Ave	1.016	1.010		99.3	100	-0.7	
13C-2,3,7,8-TCDD	Ave	0.7884	0.7960		101	100	1.0	
13C-1,2,3,7,8-PeCDF	Ave	0.9232	0.9166		99.3	100	-0.7	
13C-2,3,4,7,8-PeCDF	Ave	1.079	1.105		94.6	100	2.4	
13C-1,2,3,7,8-PeCDD	Ave	0.5606	0.5572		99.4	100	-0.6	
13C-1,2,3,4,7,8-HxCDF	Ave	1.057	1.105		105	100	4.6	
13C-1,2,3,6,7,8-HxCDF	Ave	0.9686	0.9761		101	100	0.8	
13C-2,3,4,6,7,8-HxCDF	Ave	0.9084	0.9620		106	100	5.9	
13C-1,2,3,4,7,8-HxCDD	Ave	0.8133	0.8410		82.9	100	3.4	
13C-1,2,3,6,7,8-HxCDD	Ave	0.8027	0.8413		105	100	4.8	
13C-1,2,3,7,8,9-HxCDF	Ave	0.8248	0.7768		94.2	100	-5.8	
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6421	0.6562		102	100	2.2	
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.6246	0.6176		98.9	100	-1.1	
13C-1,2,3,4,7,8,9-HpCDF	AveID	1.171	1.150		98.2	100	-1.8	
13C-OCDD	Ave	0.4360	0.4218		194	200	-3.3	
37Cl4-2,3,7,8-TCDD	Ave	0.7911	0.8152		41.2	40.0	3.0	

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 13-Jan-2022 22:21:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00048
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist:

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 14:08:57 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1647

First Level Reviewer: stephensk Date: 17-Jan-2022 15:13:59

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.423	2537262	0.80	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.496	2561638	0.84	1.0164	99.3	99.3	0.6716	0.6716	99.33	
2,3,7,8-TCDF	19.522	1049956	0.75	1.0120	40.5	40.5	0.1275	0.1275	101	
A Non-2,3,7,8-sub-TCDF	19.070	59677	0.77	1.0120	2.616	2.302	0.1275	2.018		RQ
S Total TCDF					43.1	42.8	0.1275	0.1275		RQ
D 13C-2,3,7,8-TCDD	20.784	2019627	0.79	0.7884	101.0	101.0	0.5433	0.5433	101	
2,3,7,8-TCDD	20.810	844257	0.81	0.9906	42.2	42.2	0.1288	0.1288	105	
$ 37Cl4-2,3,7,8-TCDD	20.818	827376		0.7911	41.2	41.2	0.0825	0.0825	103	
A Non-2,3,7,8-sub-TCDD	19.882	28558	0.77	0.9906	1.896	1.427	0.1288	0.8230		RQ
S Total TCDD					44.1	43.6	0.1288	0.1288		RQ
D 13C-1,2,3,7,8-PeCDF	26.499	2325699	1.56	0.9232	99.3	99.3	0.7739	0.7739	99.29	
1,2,3,7,8-PeCDF	26.516	4467810	1.55	0.9756	196.9	196.9	1.054	1.054	98.46	
D 13C-2,3,4,7,8-PeCDF	27.947	2804770	1.53	1.1692	94.5	94.5	0.6111	0.6111	94.55	
2,3,4,7,8-PeCDF	27.980	4615258	1.55	0.9215	215.3	215.3	1.116	1.116	108	a
A F1 PeCDFs	23.796						0.007681	0.007681		
A Non-2,3,7,8-sub-PeCDF	27.175						1.084	1.084		
S Total PeCDF					412.3	412.3	1.085	1.085		
D 13C-1,2,3,7,8-PeCDD	28.747	1413779	1.71	0.5606	99.4	99.4	0.2629	0.2629	99.39	
1,2,3,7,8-PeCDD	28.781	2807999	1.59	1.0020	198.2	198.2	0.2553	0.2553	99.11	
A Non-2,3,7,8-sub-PeCDD	27.560						0.2553	0.2553		
S Total PeCDD					198.2	198.2	0.2553	0.2553		
D 13C-1,2,3,4,7,8-HxCDF	34.359	1949378	0.51	1.0566	104.6	104.6	0.5175	0.5175	105	
1,2,3,4,7,8-HxCDF	34.376	3541335	1.25	0.8835	205.6	205.6	0.8465	0.8465	103	
D 13C-1,2,3,6,7,8-HxCDF	34.536	1721140	0.52	0.9686	100.8	100.8	0.5645	0.5645	101	
1,2,3,6,7,8-HxCDF	34.553	4152943	1.25	1.0287	207.1	207.1	0.7270	0.7270	104	
D 13C-2,3,4,6,7,8-HxCDF	35.420	1696330	0.52	0.9084	105.9	105.9	0.6019	0.6019	106	
2,3,4,6,7,8-HxCDF	35.437	4221109	1.24	0.9878	219.2	219.2	0.7571	0.7571	110	
D 13C-1,2,3,7,8,9-HxCDF	36.372	1369814	0.55	0.8248	94.2	94.2	0.6630	0.6630	94.19	
1,2,3,7,8,9-HxCDF	36.380	3167751	1.24	0.9071	179.2	179.2	0.8245	0.8245	89.58	
A Non-2,3,7,8-sub-HxCDF	34.398						0.7858	0.7858		
S Total HxCDF					811.1	811.1	0.7888	0.7888		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	36.169	1763356	1.27	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.664	1482952	1.27	1.0143	82.9	82.9	0.3344	0.3344	82.91	
1,2,3,4,7,8-HxCDD	35.673	2527820	1.25	0.8294	205.4	205.4	0.5133	0.5133	103	
D 13C-1,2,3,6,7,8-HxCDD	35.782	1483507	1.29	0.8027	104.8	104.8	0.4225	0.4225	105	
1,2,3,6,7,8-HxCDD	35.799	2982500	1.25	0.9395	214.0	214.0	0.4532	0.4532	107	
1,2,3,7,8,9-HxCDD	36.186	2702899	1.25	0.9076	200.7	200.7	0.4691	0.4691	100	
A Non-2,3,7,8-sub-HxCDD	34.845						0.4772	0.4772		
S Total HxCDD					620.2	620.2	0.4786	0.4786		
1,2,3,4,6,7,8-HpCDF	38.294	3408375	1.04	1.4385	204.8	204.8	0.8602	0.8602	102	
D 13C-1,2,3,4,6,7,8-HpCDF	38.285	1157158	0.43	0.6421	102.2	102.2	0.6218	0.6218	102	
1,2,3,4,7,8,9-HpCDF	39.582	2788451	1.04	1.2202	197.5	197.5	1.014	1.014	98.74	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.573	1330489	0.43	1.1706	98.2	98.2	0.4073	0.4073	98.22	
A Non-2,3,7,8-sub-HpCDF	38.916						0.9309	0.9309		
S Total HpCDF					402.2	402.2	0.9372	0.9372		
1,2,3,4,6,7,8-HpCDD	39.278	2263649	1.04	0.9767	212.8	212.8	0.5425	0.5425	106	
D 13C-1,2,3,4,6,7,8-HpCDD	39.270	1089073	1.03	0.6246	98.9	98.9	0.3312	0.3312	98.88	
A Non-2,3,7,8-sub-HpCDD	38.925						0.5425	0.5425		Rn
S Total HpCDD					212.8	212.8	0.5425	0.5425		
D 13C-OCDD	41.742	1487643	0.89	0.4360	193.5	193.5	0.2538	0.2538	96.75	
OCDF	41.827	3930844	0.91	1.2756	414.3	414.3	0.4412	0.4412	104	
OCDD	41.751	3201142	0.89	1.0341	416.2	416.2	0.4762	0.4762	104	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
a - User Assigned ID

Reagents:

HRDXNIC_00048 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 13-Jan-2022 22:21:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00048
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist:

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 14:08:57 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1647

First Level Reviewer: stephensk Date: 17-Jan-2022 15:13:59

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.423	20.418	0		1125987	160722	385	962	417		
333.9338	20.432	20.418	1		1411275	206964	245	612	845	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.496	19.482	1	0.955	1166919	170034	686	1715	248		
317.9389	19.487	19.482	0	0.954	1394719	218997	318	795	689	0.84(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.522	19.525	0	1.001	449599	64164	64	160	1003		
305.8987	19.513	19.525	-1	1.001	600357	84702	137	342	618	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	18.405	19.070	-40	0.944	3180	691	64	160	11		
305.8987	18.422	19.070	-39	0.945	4183	752	137	342	5	0.76(0.65-0.89)	
303.9016	19.745	19.070	40	1.013	30896	2511	64	160	39		
	Empc Correction				22758	2065	64	160	32		
305.8987	19.814	19.070	45	1.016	29556	2683	137	342	20	1.05(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.784	20.788	0	1.018	889688	116482	385	962	303		
333.9338	20.792	20.788	0	1.018	1129939	161780	245	612	660	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.810	20.797	1	1.001	377650	51794	83	207	624		
321.8936	20.818	20.797	1	1.002	466607	68077	59	147	1154	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.818	20.809	1	1.019	827376	109168	96	240	1137		
A Non-2,3,7,8-sub-TCDD											RQ

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
319.8965	20.664	19.882	47	0.994	6883	1438	83	207	17		
321.8936	20.672	19.882	47	0.995	9582	1902	59	147	32	0.72(0.65-0.89)	
319.8965	21.119	19.882	74	1.016	5261	1527	83	207	18		
321.8936	21.127	19.882	75	1.017	16214	1596	59	147	27	0.32(0.65-0.89)	
	Empc Correction				6832	1983	59	147	34		
13C-1,2,3,7,8-PeCDF											
351.9000	26.499	26.498	0	1.297	1415819	225995	677	1692	334		
353.8970	26.507	26.498	1	1.298	909880	144579	374	935	387	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.516	26.518	0	1.001	2718528	421162	880	2200	479		
341.8567	26.524	26.518	0	1.001	1749282	264928	645	1612	411	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.947	27.961	-1	1.368	1695144	239736	677	1692	354		
353.8970	27.955	27.961	0	1.369	1109626	162841	374	935	435	1.53(1.32-1.78)	
2,3,4,7,8-PeCDF											a
339.8597	27.980	27.984	0	1.001	2806400	396733	880	2200	451		a
341.8567	27.980	27.984	0	1.001	1808858	262238	645	1612	407	1.55(1.32-1.78)	
A F1 PeCDFs											
339.8597	23.796						1	2			
341.8567	23.796						10	25			
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.175						880	2200			
341.8567	27.175						645	1612			
13C-1,2,3,7,8-PeCDD											
367.8949	28.747	28.754	0	1.408	892164	131357	135	337	973		
369.8919	28.747	28.754	0	1.408	521615	79693	82	205	972	1.71(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.781	28.781	0	1.001	1725307	222534	138	345	1613		
357.8516	28.781	28.781	0	1.001	1082692	142844	78	195	1831	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.560						138	345			
357.8516	27.560						78	195			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.359	34.357	0	0.950	657146	127486	308	770	414		
385.8610	34.351	34.357	0	0.950	1292232	238484	522	1305	457	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.376	34.374	0	1.000	1967227	364061	600	1500	607		
375.8178	34.376	34.374	0	1.000	1574108	286586	495	1237	579	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.536	34.533	0	0.955	589235	104806	308	770	340		
385.8610	34.536	34.533	0	0.955	1131905	207338	522	1305	397	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.553	34.553	0	1.000	2304615	386794	600	1500	645		
375.8178	34.553	34.553	0	1.000	1848328	311472	495	1237	629	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.420	35.421	0	0.979	577100	118881	308	770	386		
385.8610	35.420	35.421	0	0.979	1119230	235895	522	1305	452	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,6,7,8-HxCDF											
373.8208	35.437	35.438	0	1.000	2333916	477973	600	1500	797		
375.8178	35.437	35.438	0	1.000	1887193	394306	495	1237	797	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.372	36.366	0	1.006	484780	110241	308	770	358		
385.8610	36.372	36.366	0	1.006	885034	191630	522	1305	367	0.55(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.380	36.385	0	1.000	1755909	389985	600	1500	650		
375.8178	36.380	36.385	0	1.000	1411842	317139	495	1237	641	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.398						600	1500			
375.8178	34.398						495	1237			
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.169	36.172	0		984953	221058	293	732	754		
403.8529	36.178	36.172	0		778403	158420	222	555	714	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.664	35.661	0	0.986	830232	193068	293	732	659		
403.8529	35.656	35.661	0	0.986	652720	143116	222	555	645	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.673	35.676	0	1.000	1405954	315009	285	712	1105		
391.8127	35.673	35.676	0	1.000	1121866	257742	235	587	1097	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.782	35.787	0	0.989	834965	171638	293	732	586		
403.8529	35.782	35.787	0	0.989	648542	133690	222	555	602	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.799	35.802	0	1.000	1654041	340928	285	712	1196		
391.8127	35.799	35.802	0	1.000	1328459	275091	235	587	1171	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.186	36.191	0	1.015	1502603	318115	285	712	1116		
391.8127	36.186	36.191	0	1.015	1200296	256546	235	587	1092	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.845						285	712			
391.8127	34.845						235	587			
1,2,3,4,6,7,8-HpCDF											
407.7817	38.294	38.276	1	1.000	1735858	456000	815	2037	560		
409.7788	38.294	38.276	1	1.000	1672517	435818	758	1895	575	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.285	38.287	0	1.058	349874	96235	231	577	417		
419.8220	38.285	38.287	0	1.058	807284	221516	375	937	591	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.582	39.557	2	1.000	1424746	422269	815	2037	518		
409.7788	39.582	39.557	2	1.000	1363705	400119	758	1895	528	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.573	39.570	0	1.094	400902	123410	231	577	534		
419.8220	39.573	39.570	0	1.094	929587	270438	375	937	721	0.43(0.37-0.51)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.916						815	2037			
409.7788	38.916						758	1895			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.278	39.253	2	1.000	1152978	336520	334	835	1008		
425.7737	39.278	39.253	2	1.000	1110671	317226	331	827	958	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.270	39.269	0	1.086	553567	153733	159	397	967		
437.8140	39.270	39.269	0	1.086	535506	159920	155	387	1032	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.630	38.925	-18	0.984	12185	3158	334	835	9		
425.7737	38.630	38.925	-18	0.984	9756	2607	331	827	8	1.25(0.88-1.20)	
13C-OCDD											
469.7780	41.742	41.743	0	1.154	698487	189740	118	295	1608		
471.7750	41.742	41.743	0	1.154	789156	185908	50	125	3718	0.89(0.76-1.02)	
OCDF											
441.7428	41.827	41.826	0	1.002	1870956	479648	185	462	2593		
443.7399	41.827	41.826	0	1.002	2059888	534555	238	595	2246	0.91(0.76-1.02)	
OCDD											
457.7377	41.751	41.748	0	1.000	1506628	365555	173	432	2113		
459.7348	41.751	41.748	0	1.000	1694514	402931	197	492	2045	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

n - Failed Sig-To-Noise Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

a - User Assigned ID

Reagents:

HRDXNIC_00048 Amount Added: 1.00 Units: ml

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Lims ID: ICV
Client ID:
Inject. Date: 13-Jan-2022 22:21:00 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 558558 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDF, RT: 19.070

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.012	D 13C-2,3,7,8-TCDF	100.000	2561638	389031

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.012		100.000	2561638	389031

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.405	3180	691	4183	752	0.2840	0.76	n
19.745	30896	2511	29556	2683	2.33	1.05	RQ
19.745	22758	2065	29556	2683	2.02		Empc Correction
Signal Totals:							
	25938	2756	33739	3435			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	67815	6637				1.01	RQ
	59677	6191					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.616 = (67815 * 100.000) / (2561638 * 1.012)
Empc Amount: 2.302 = (59677 * 100.000) / (2561638 * 1.012)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
n - Failed Sig-To-Noise Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Lims ID: ICV
Client ID:
Inject. Date: 13-Jan-2022 22:21:00 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 558558 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDD, RT: 19.882

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.991	D 13C-2,3,7,8-TCDD	100.000	2019627	278262

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.991		100.000	2019627	278262

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
20.664	6883	1438	9582	1902	0.8230	0.72	
21.119	5261	1527	16214	1596	1.07	0.32	RQ
21.119	5261	1527	6832	1983	0.6044		Empc Correction
Signal Totals:							
	12144	2965	16414	3885			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	37940	6463				0.47	RQ
	28558	6850					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.896 = (37940 * 100.000) / (2019627 * 0.991)
Empc Amount: 1.427 = (28558 * 100.000) / (2019627 * 0.991)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

Eurofins Sacramento

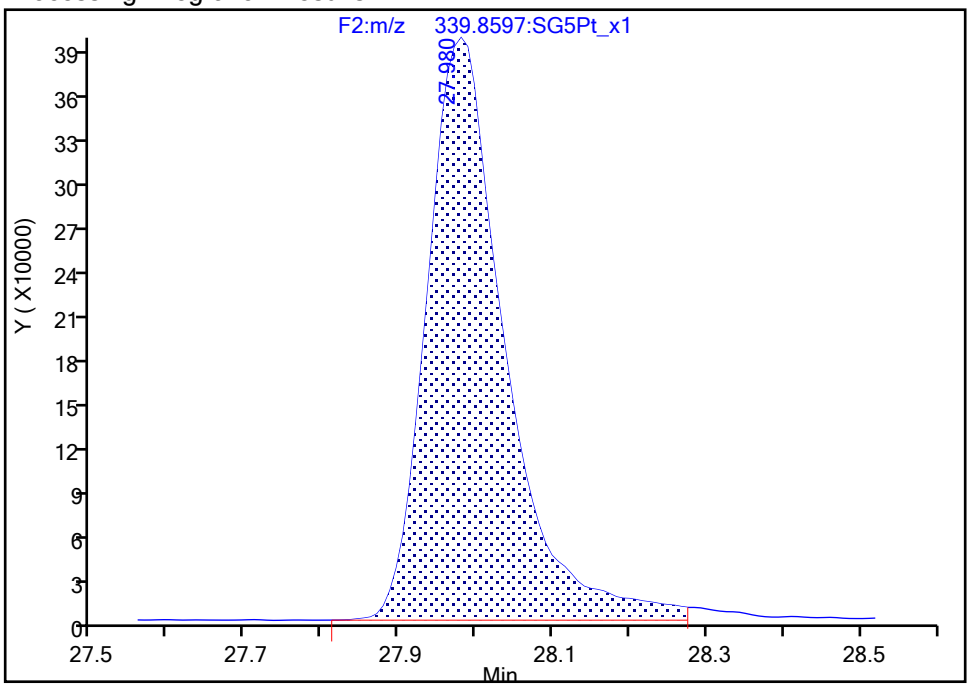
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Instrument ID: DFS 1
Lims ID: ICV
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F2(26.07 :33.00)

2,3,4,7,8-PeCDF, CAS: 57117-31-4

Signal: 1

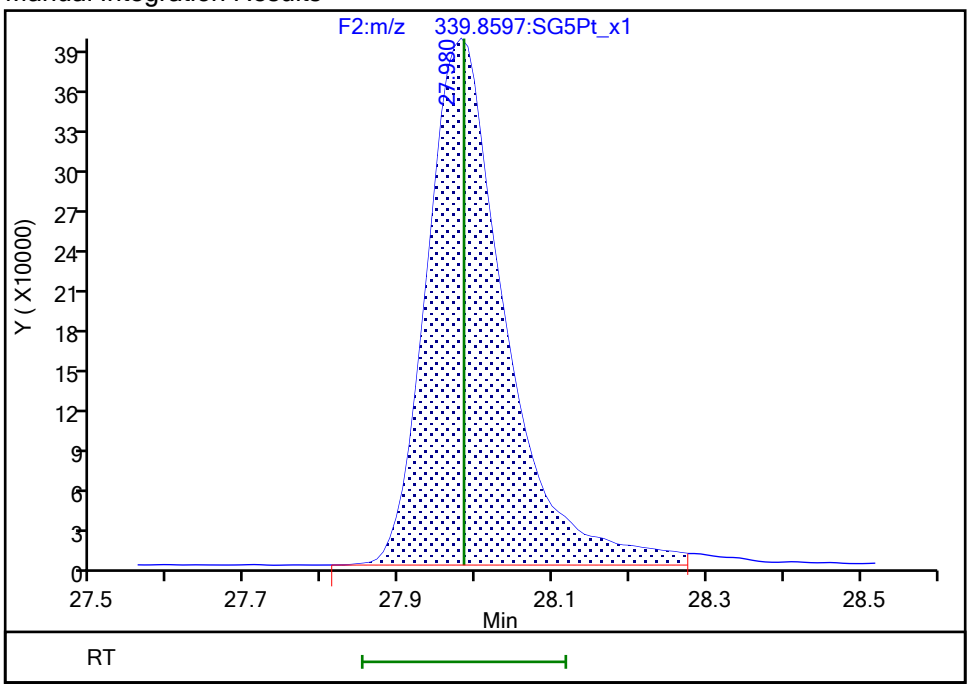
Processing Integration Results

RT: 27.98
Area: 2806400
Amount: 208.6030
Amount Units: pg/ul



Manual Integration Results

RT: 27.98
Area: 2806400
Amount: 215.3419
Amount Units: pg/ul



Reviewer: bilottag, 19-Jan-2022 14:40:40
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Sacramento

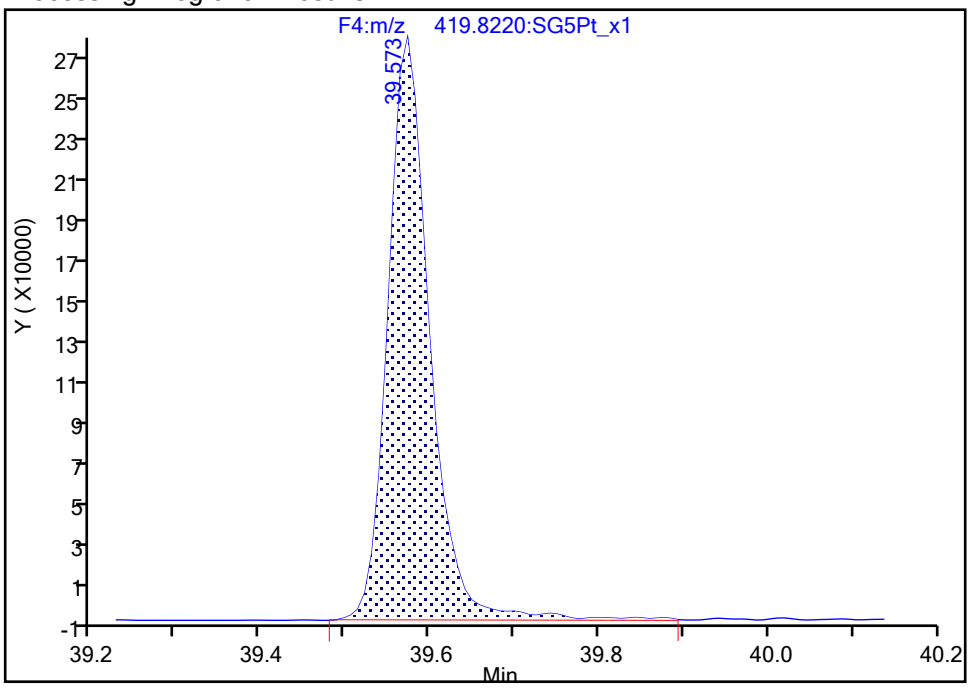
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Instrument ID: DFS 1
Lims ID: ICV
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 2

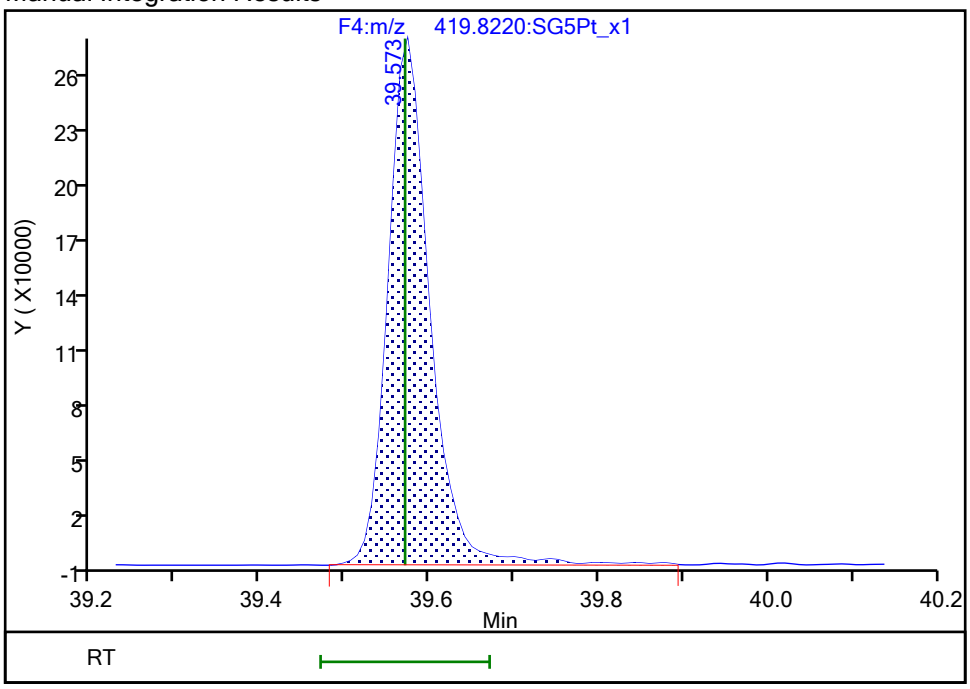
Processing Integration Results

RT: 39.57
Area: 929587
Amount: 64.456904
Amount Units: pg/ul



Manual Integration Results

RT: 39.57
Area: 929587
Amount: 98.223810
Amount Units: pg/ul



Reviewer: bilottag, 19-Jan-2022 15:16:27
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Sacramento

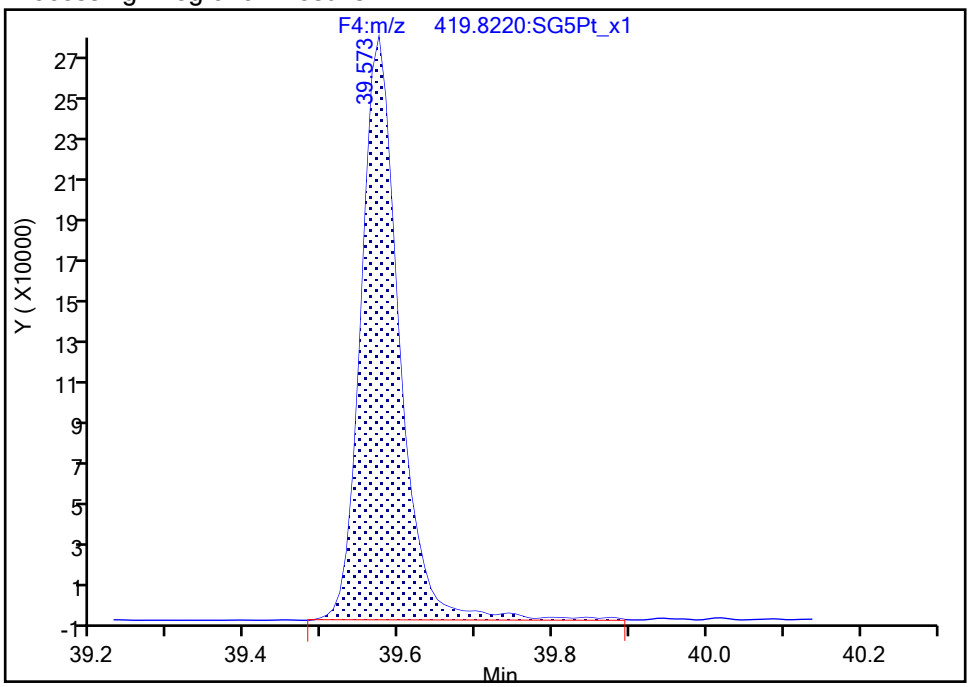
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Instrument ID: DFS 1
Lims ID: ICV
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 3

Processing Integration Results

RT: 39.57
Area: 1330489
Amount: 64.456904
Amount Units: pg/ul



Manual Integration Results

RT: 39.57
Area: 1330489
Amount: 98.223810
Amount Units: pg/ul
Reviewer: bilottag, 19-Jan-2022 15:16:27
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

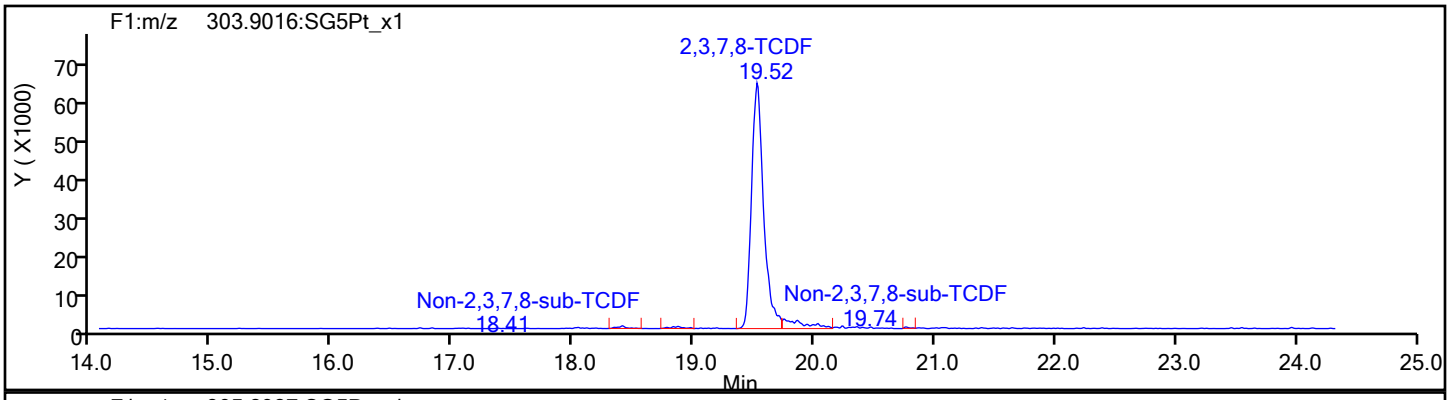
Report Date: 20-Jan-2022 14:08:58 Chrom Revision: 2.3 18-Jan-2022 20:25:40

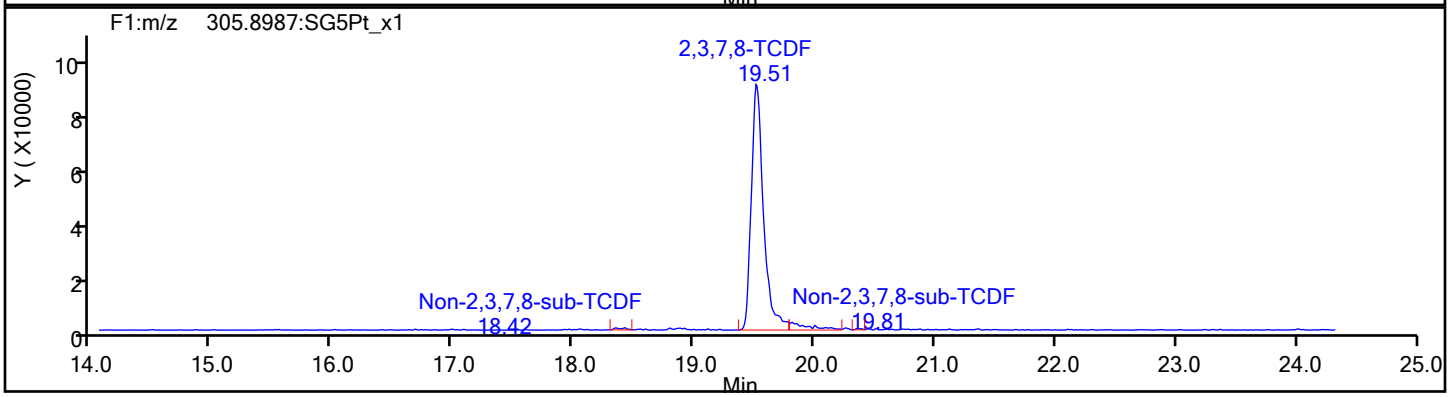
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

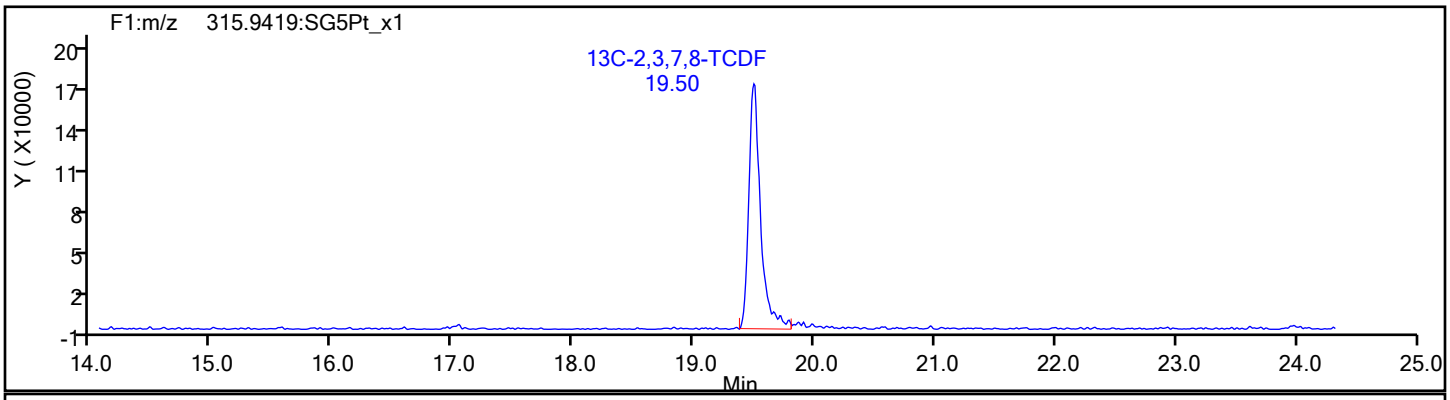
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

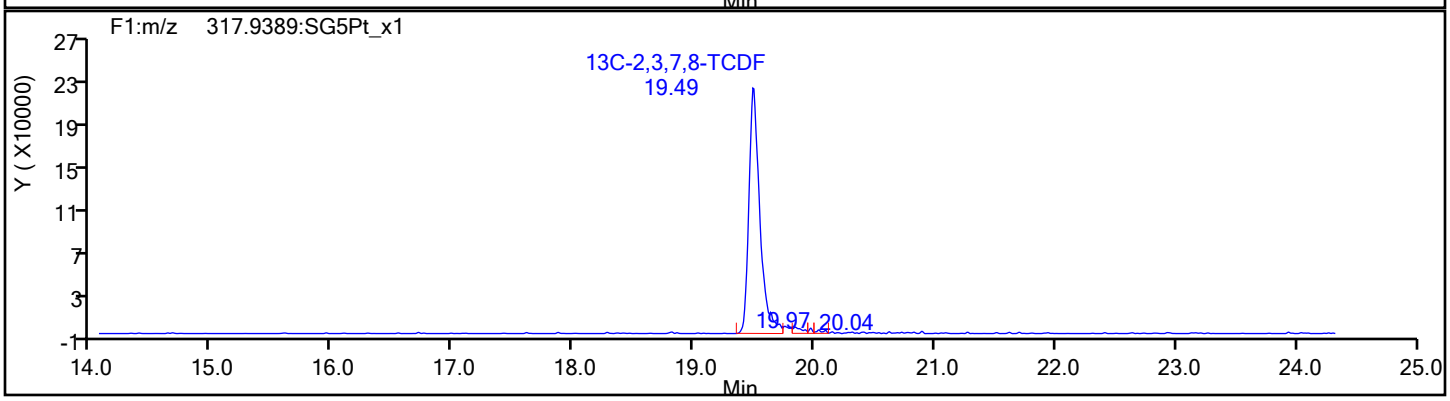
TCDF





TCDF Standards

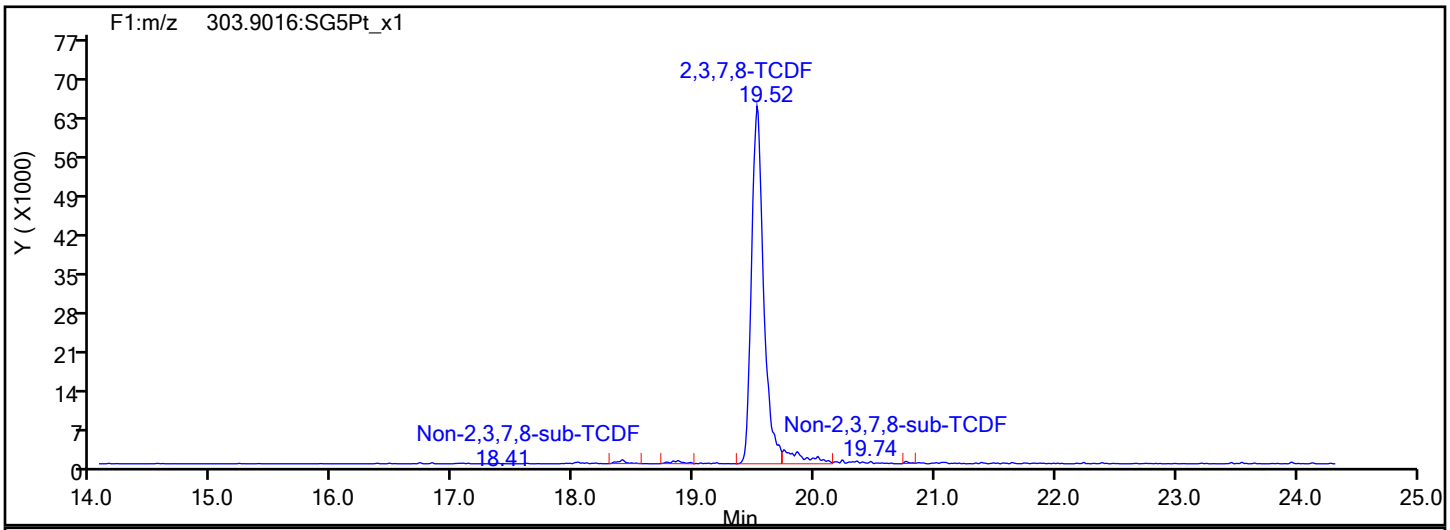


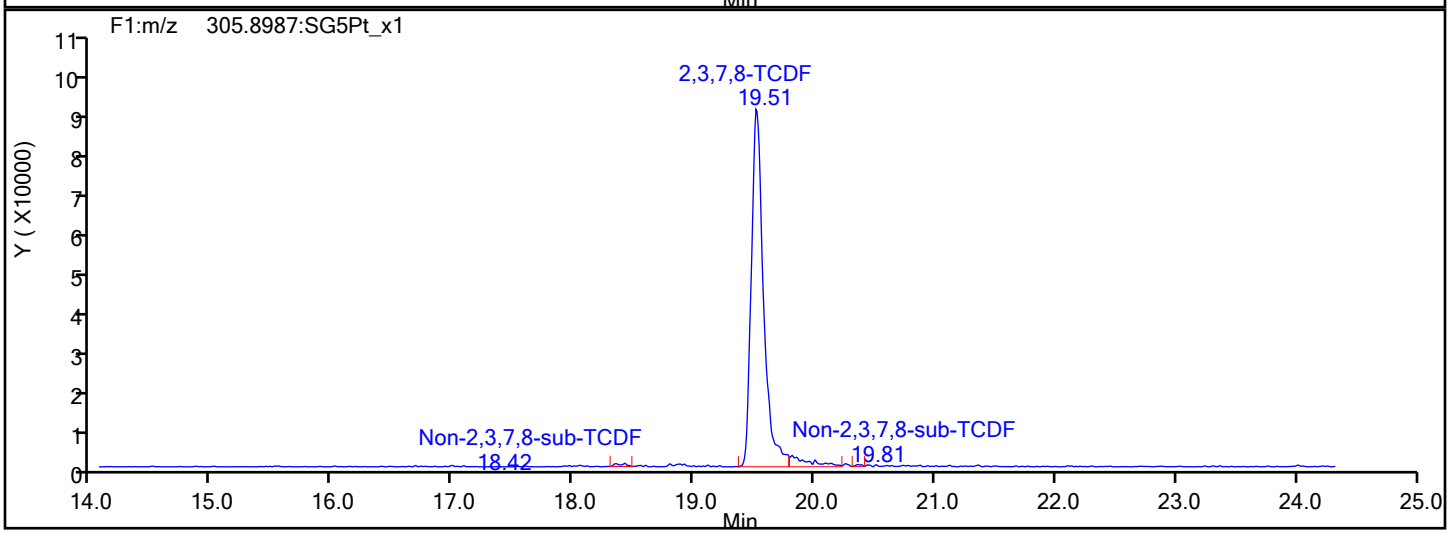


Eurofins Sacramento

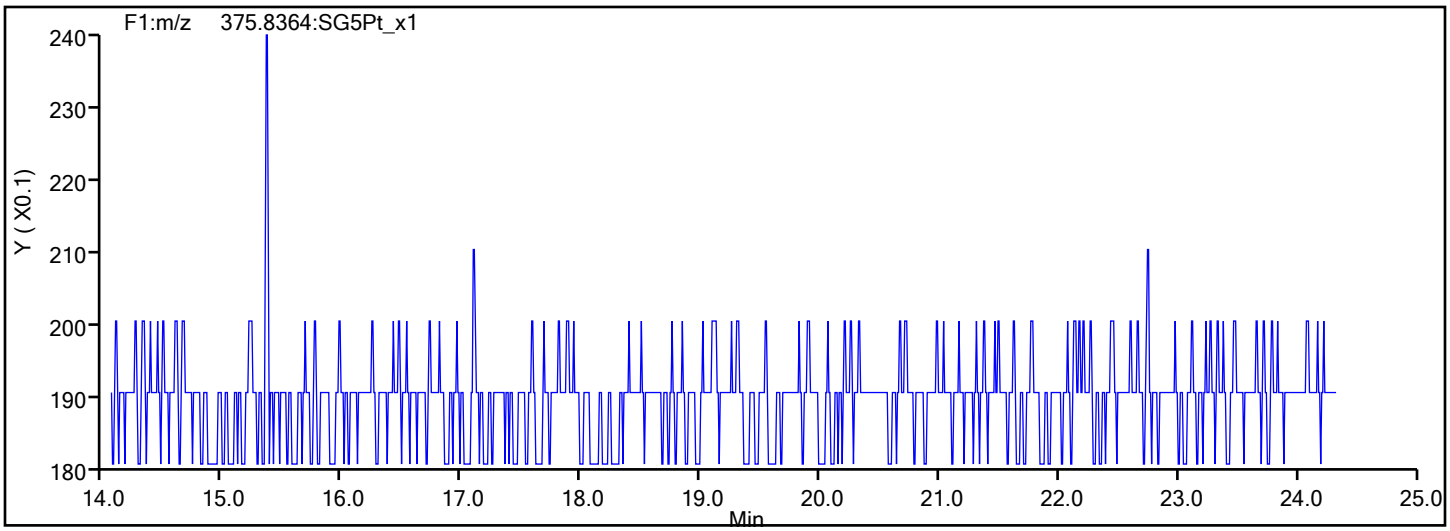
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



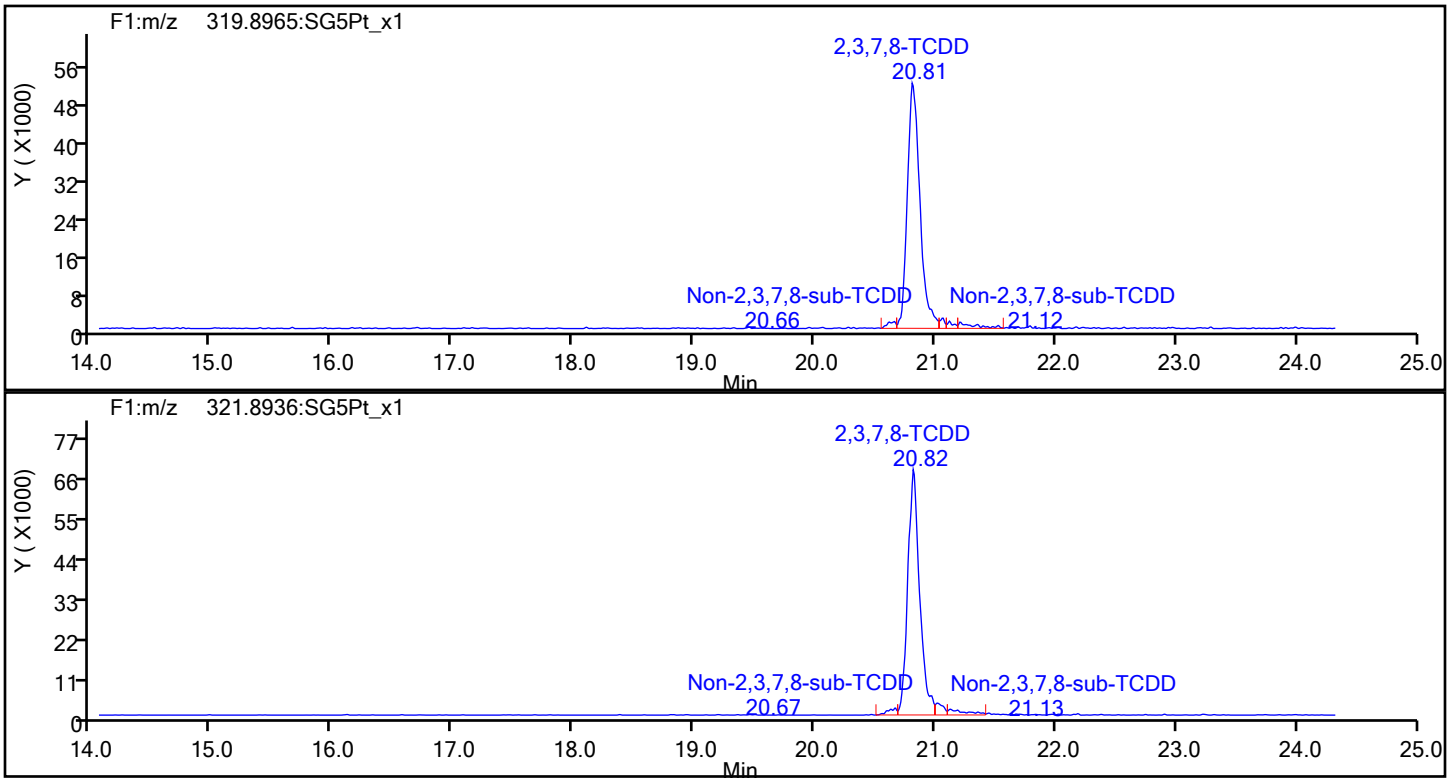
Report Date: 20-Jan-2022 14:08:58 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

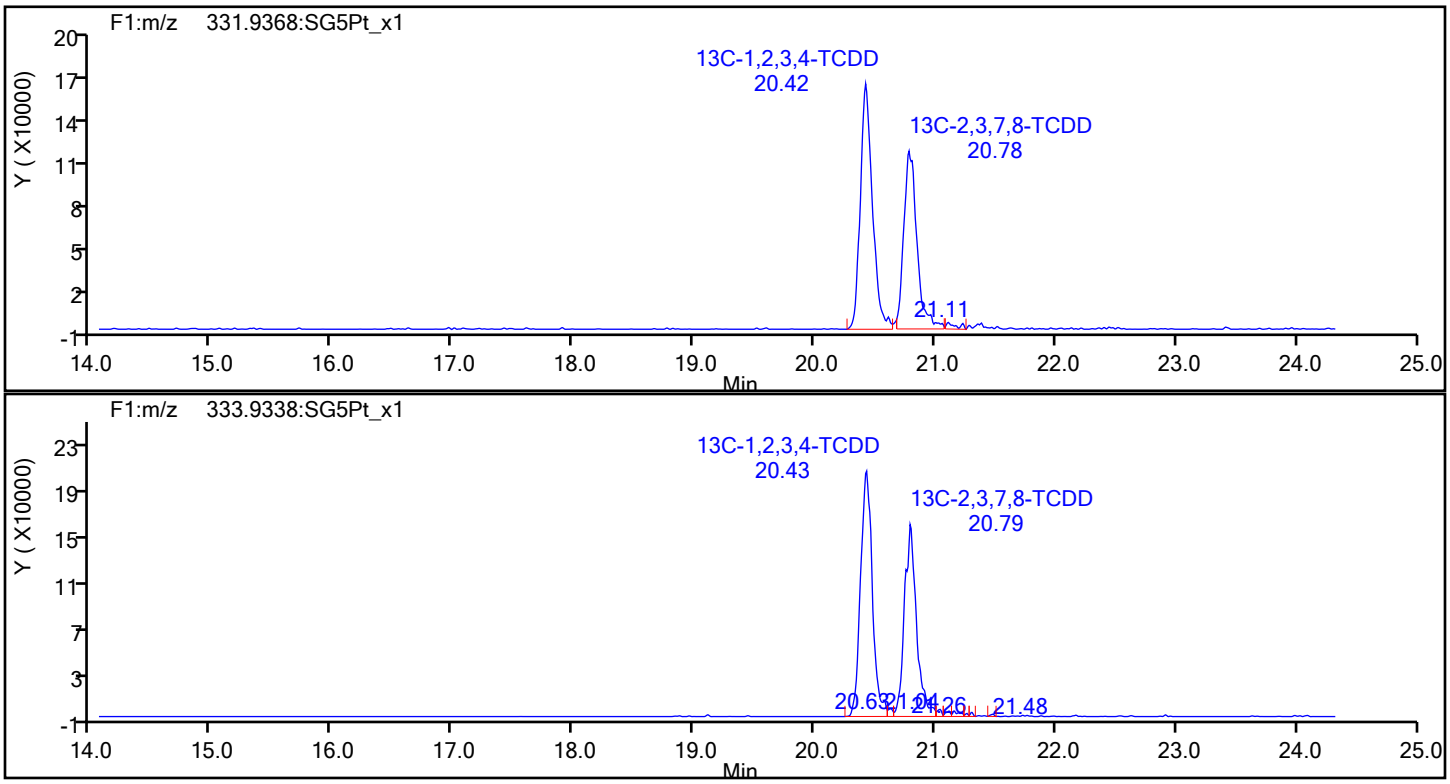
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD



TCDD Standards



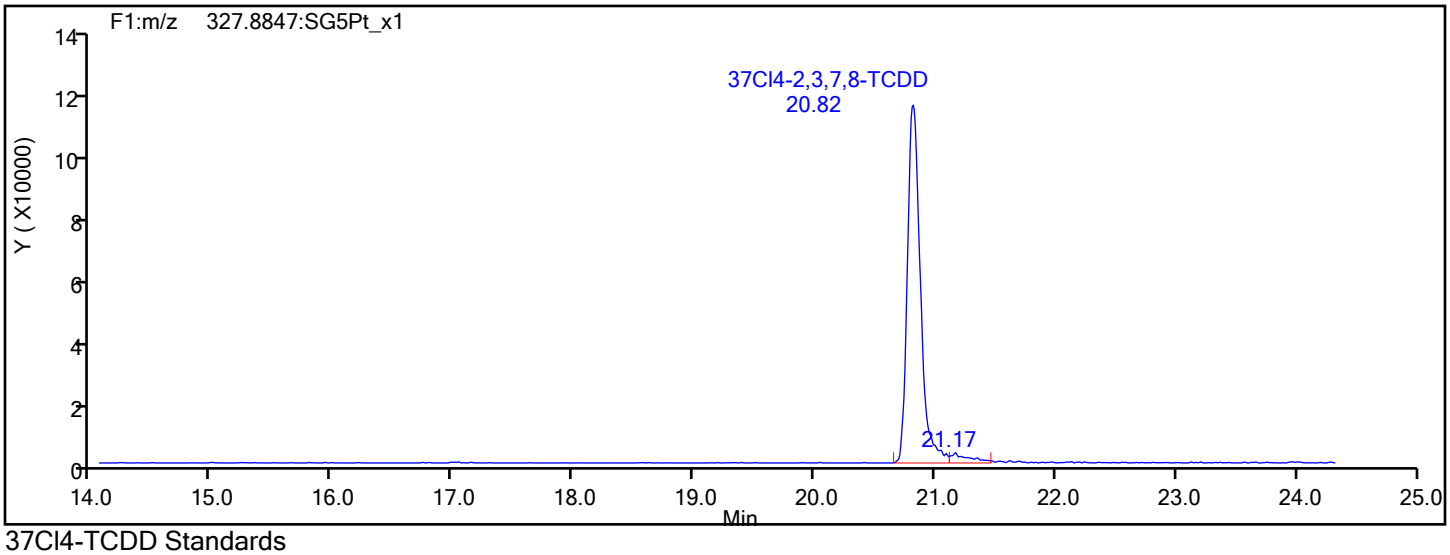
Report Date: 20-Jan-2022 14:08:58 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

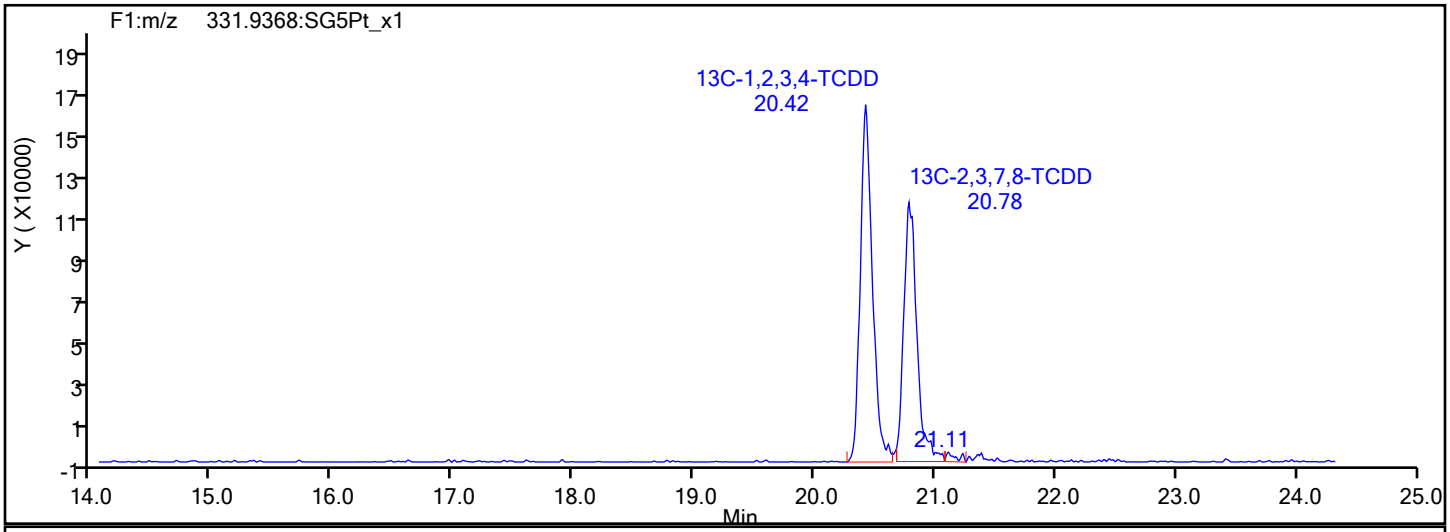
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

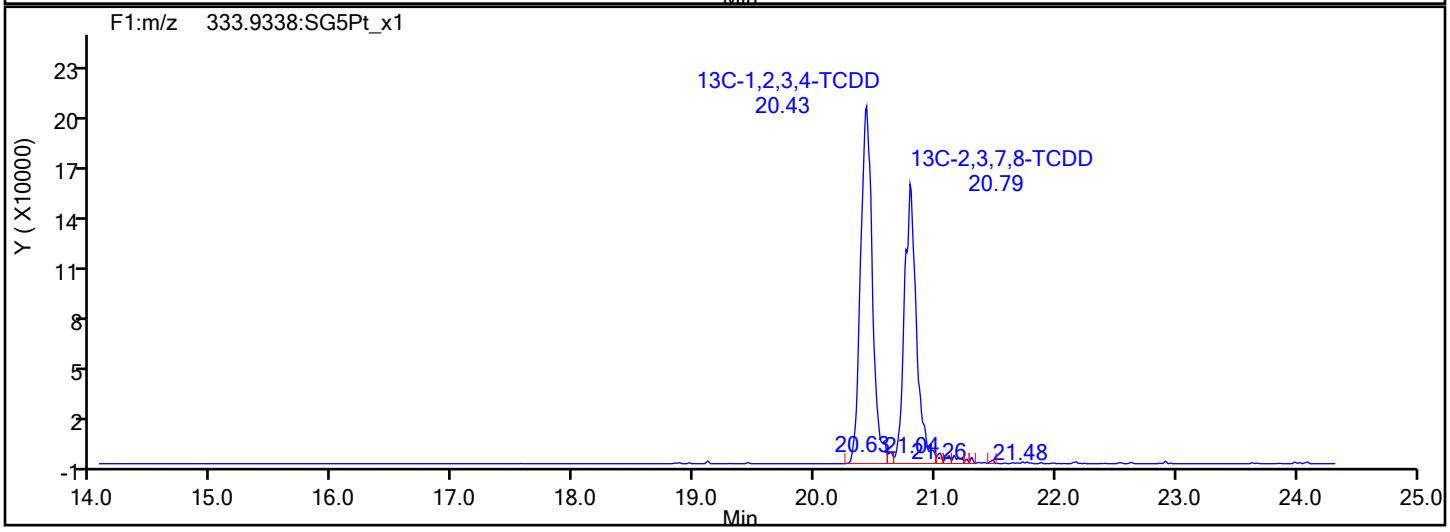
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





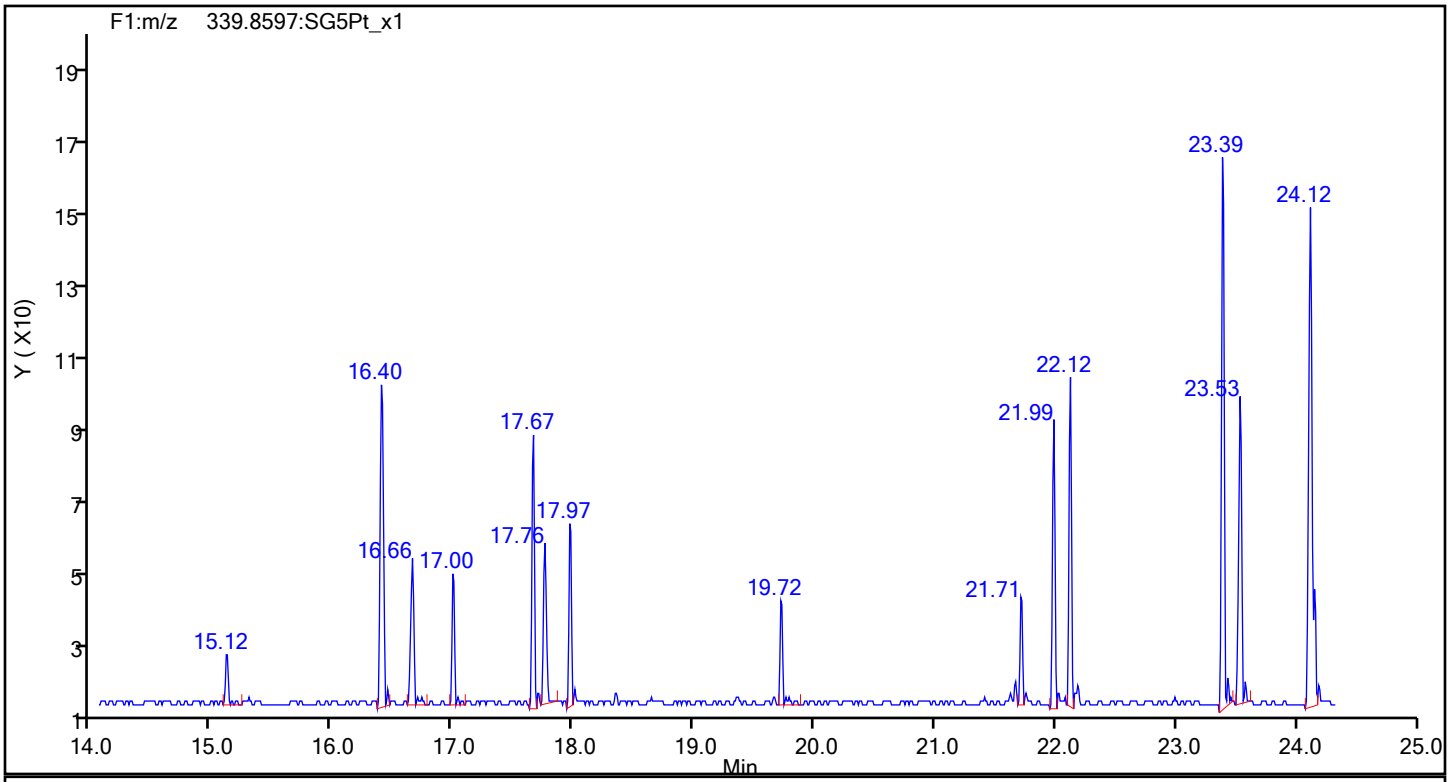
Report Date: 20-Jan-2022 14:08:58 Chrom Revision: 2.3 18-Jan-2022 20:25:40

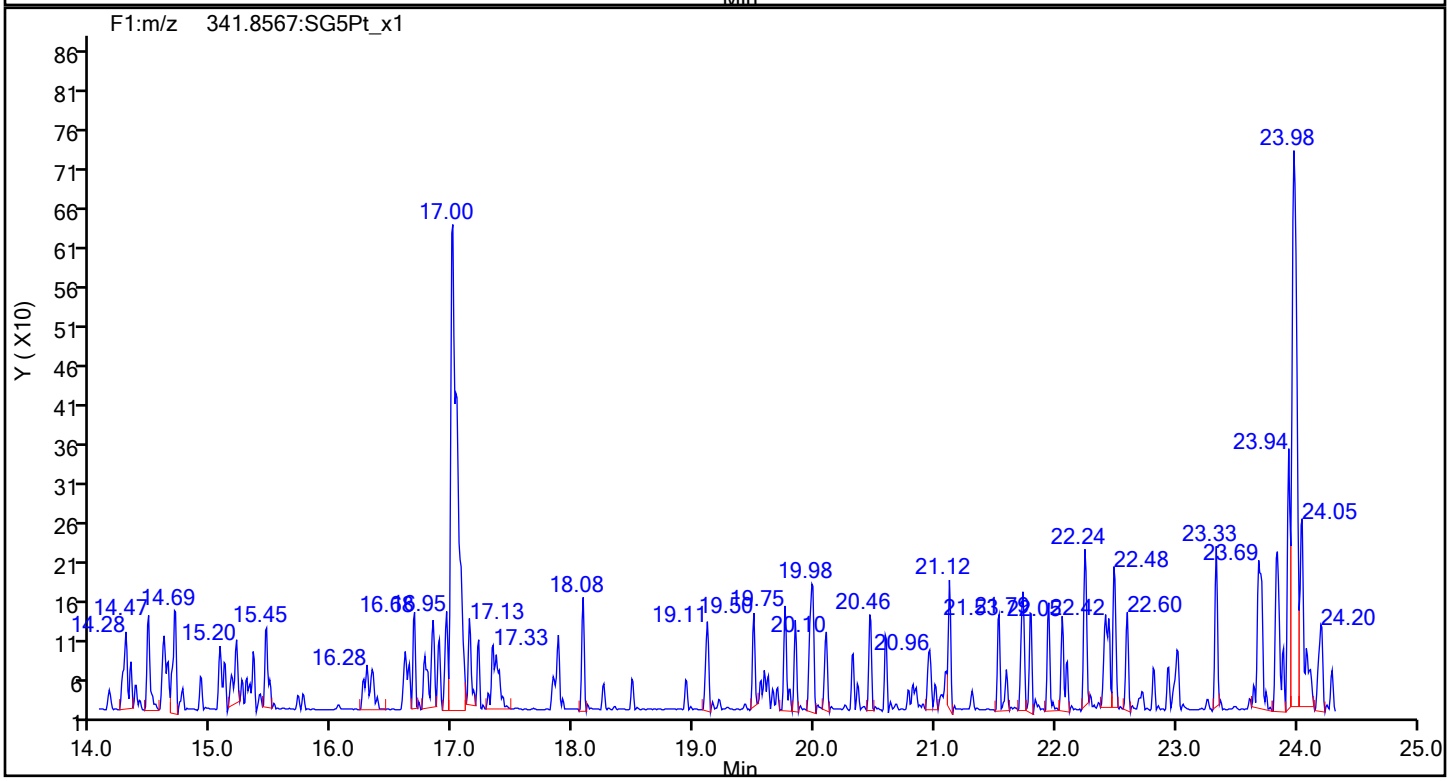
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

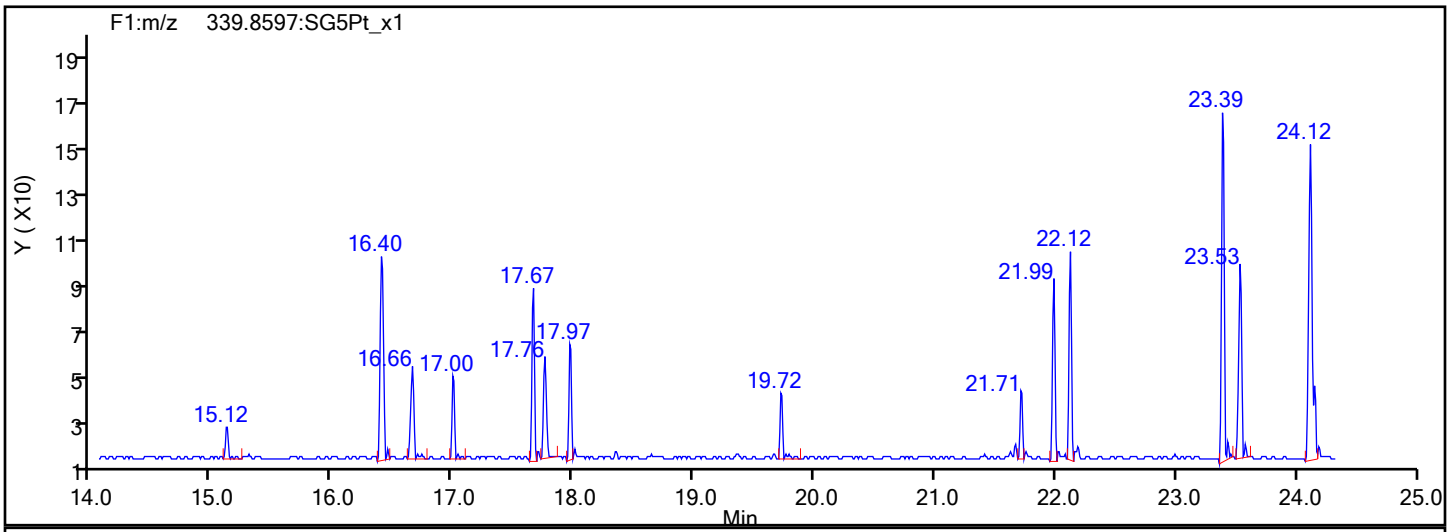


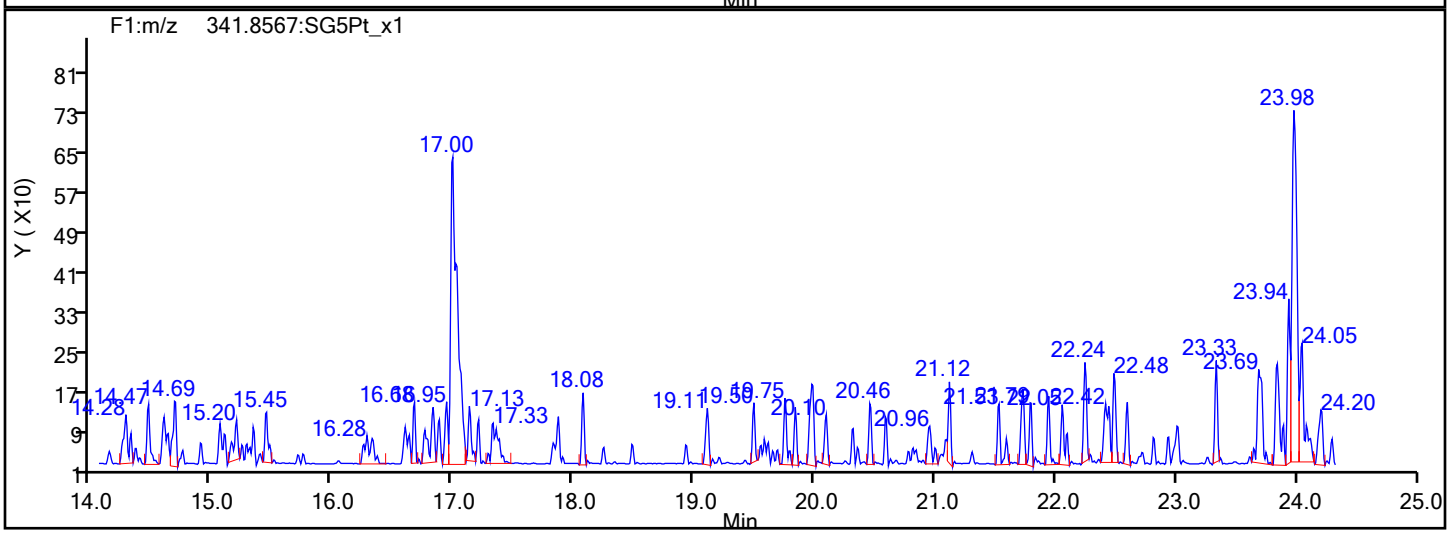


Eurofins Sacramento

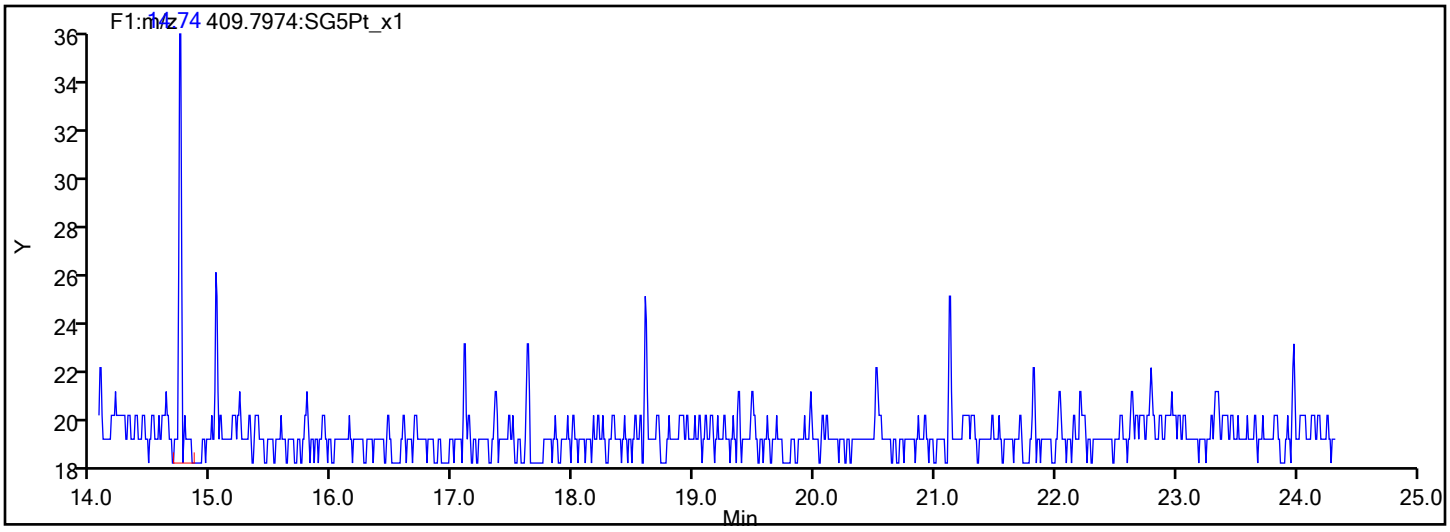
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs





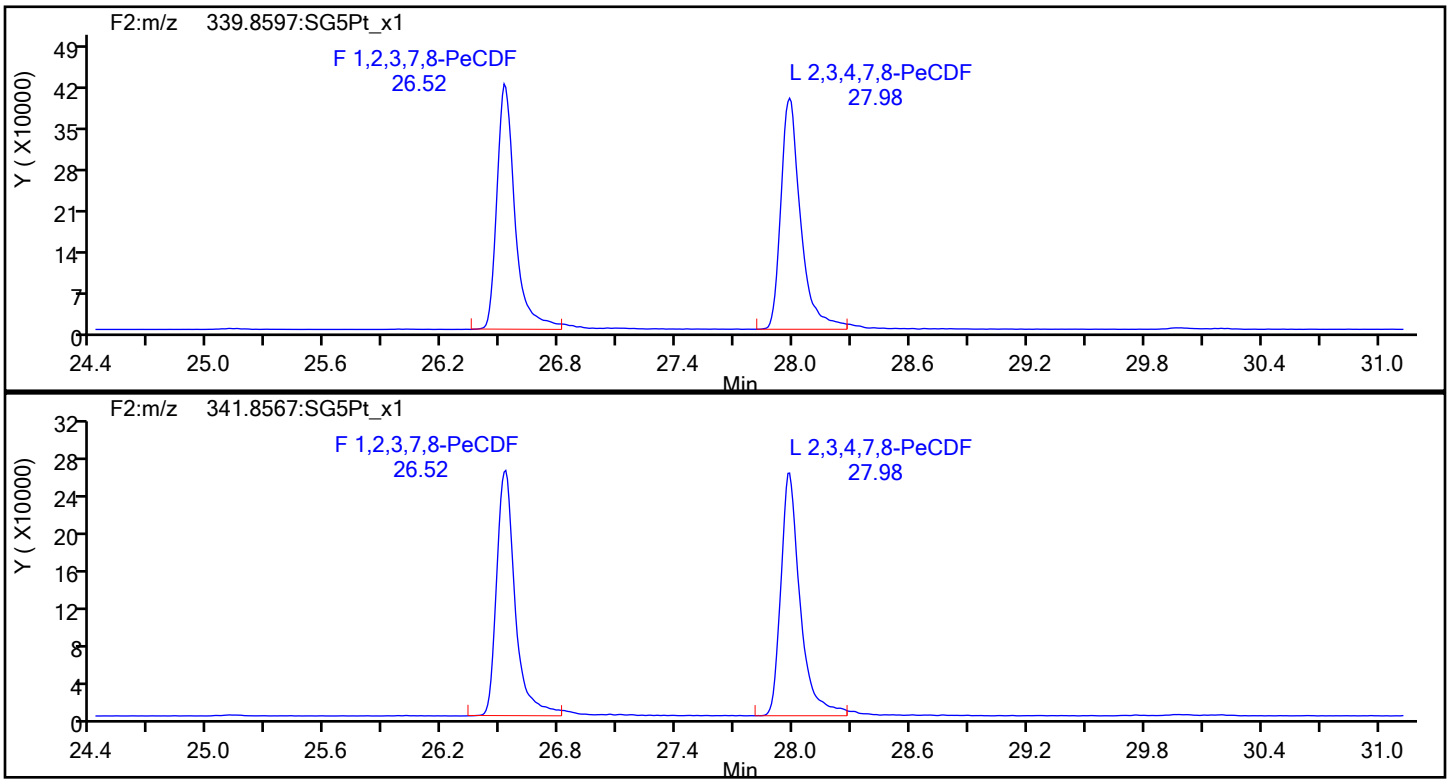
F1 PeCDFs Interference Mass



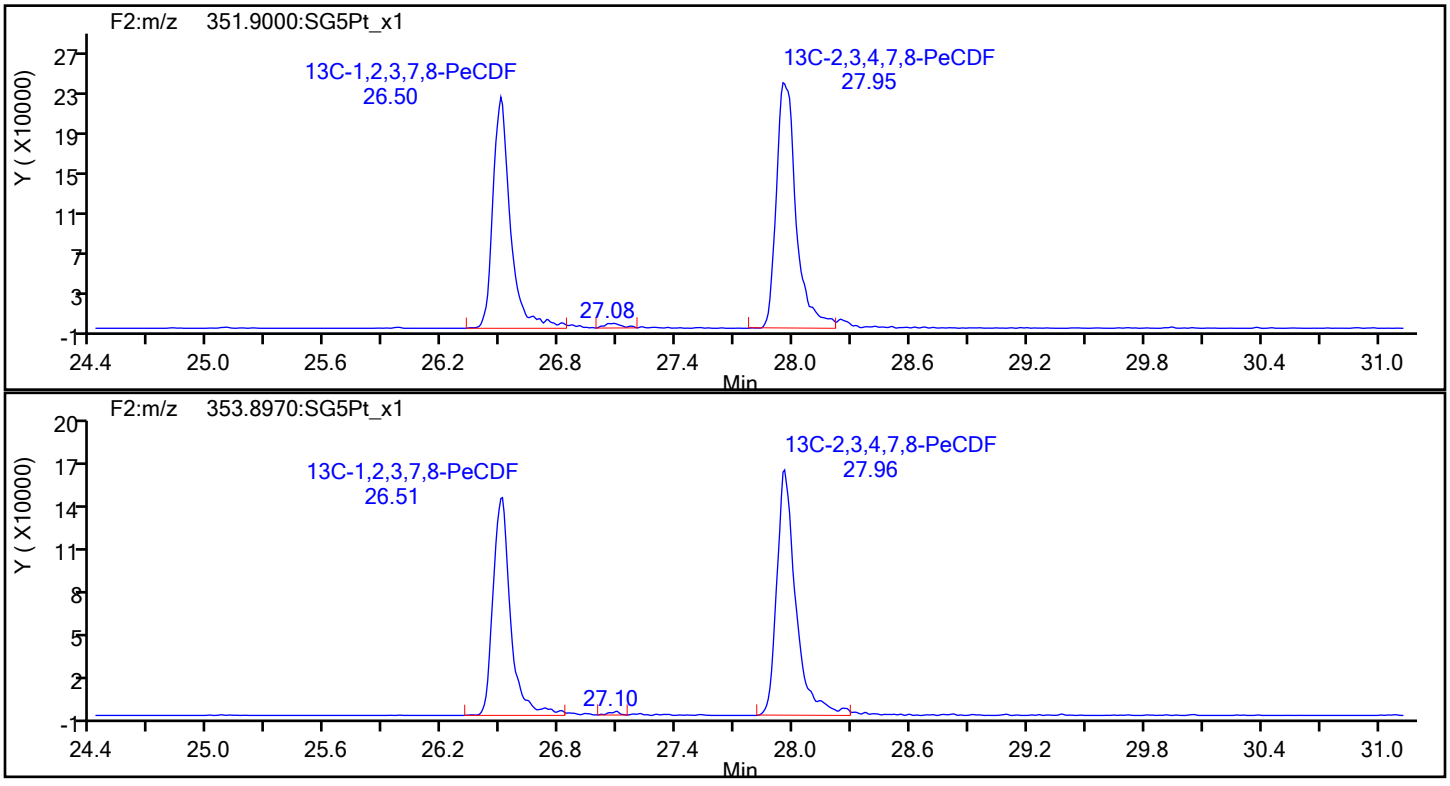
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



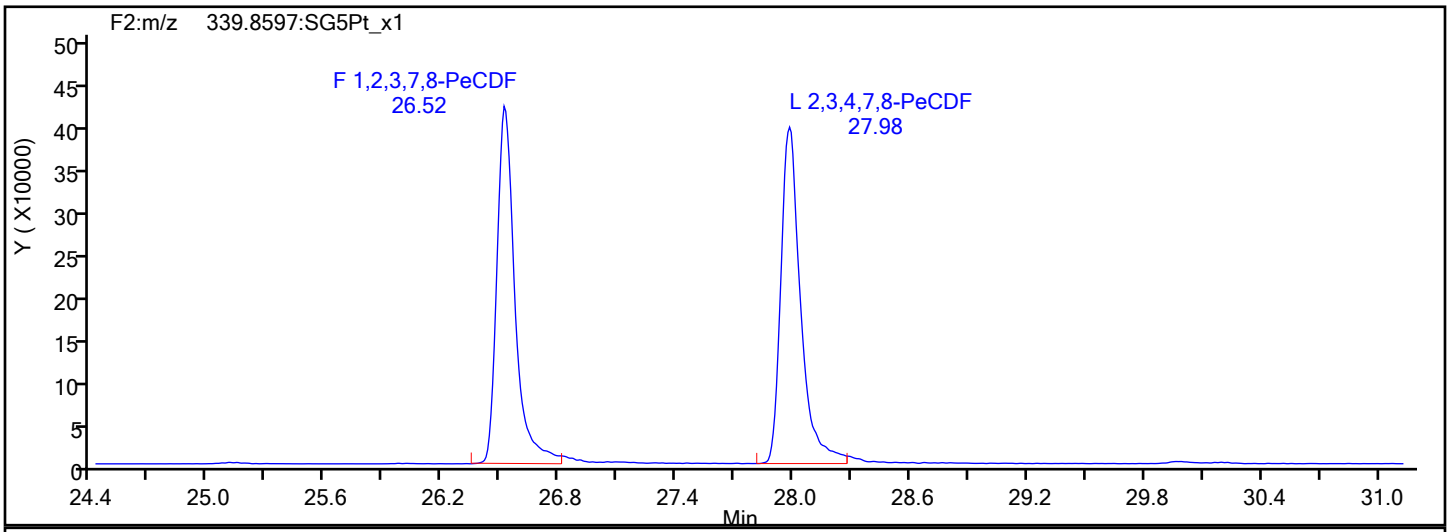
PeCDF Standards

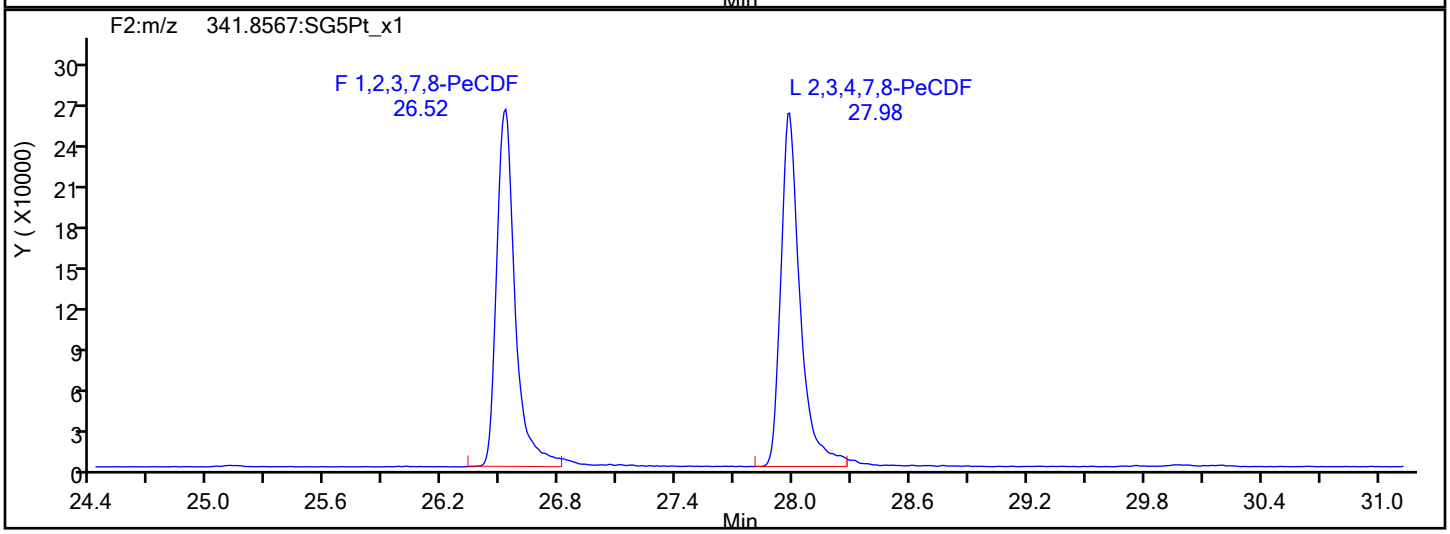


Eurofins Sacramento

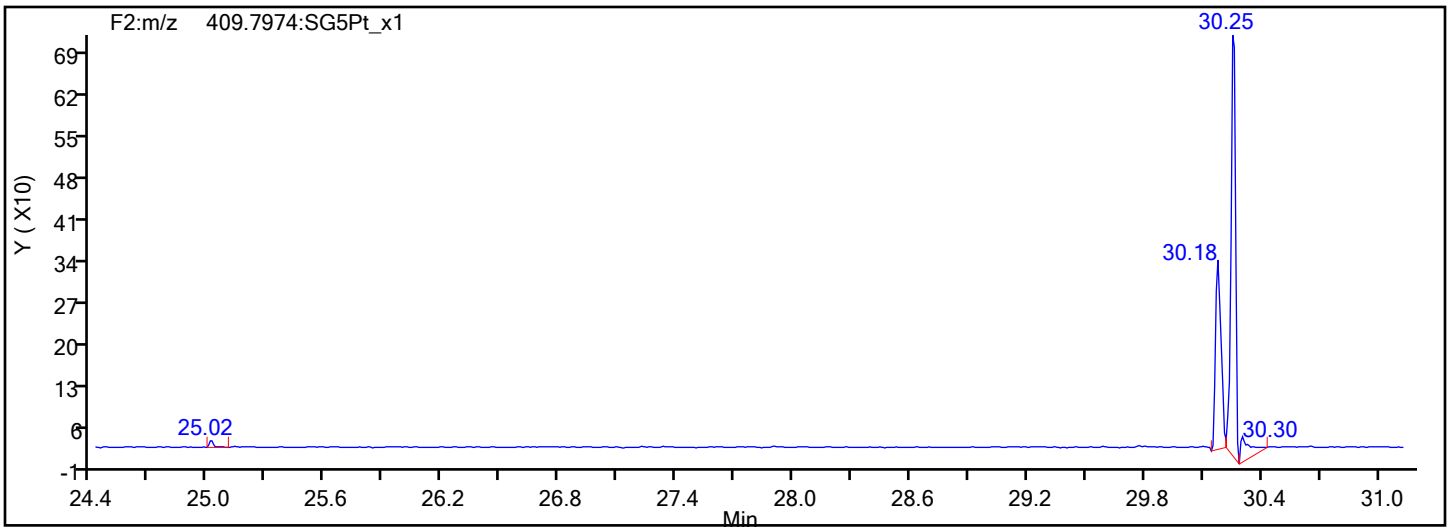
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass



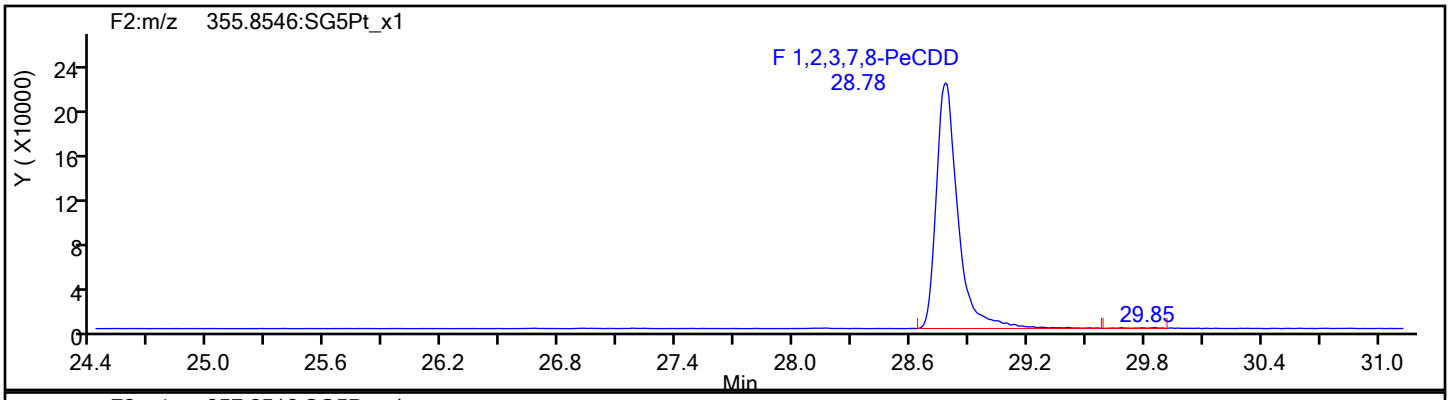
Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

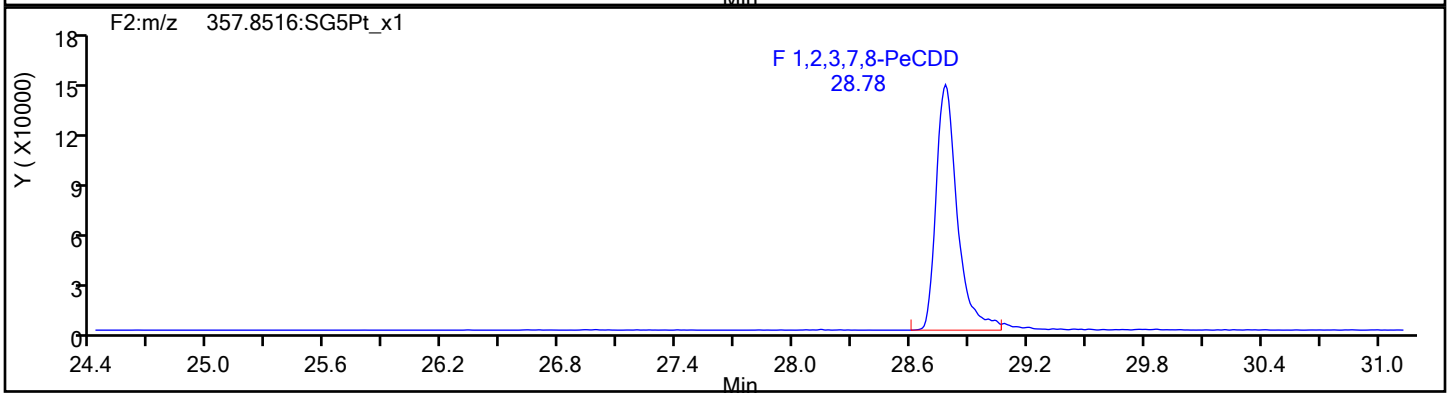
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

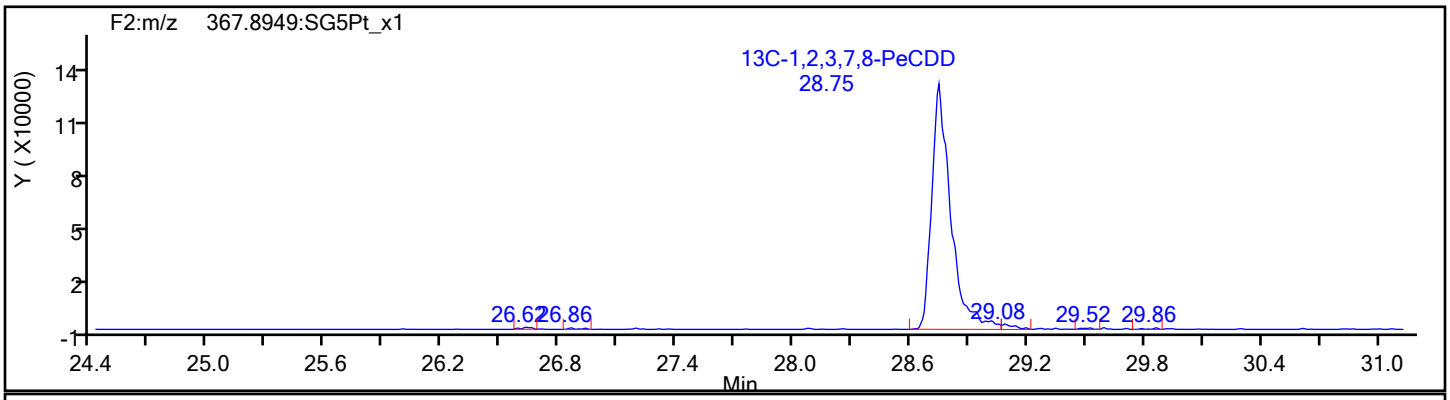
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

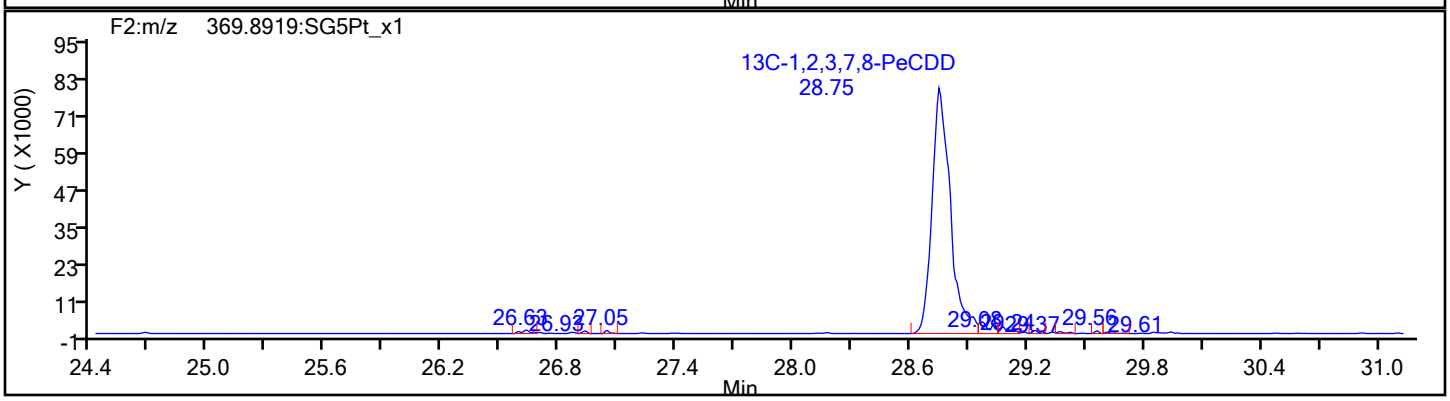
PeCDD





PeCDD Standards

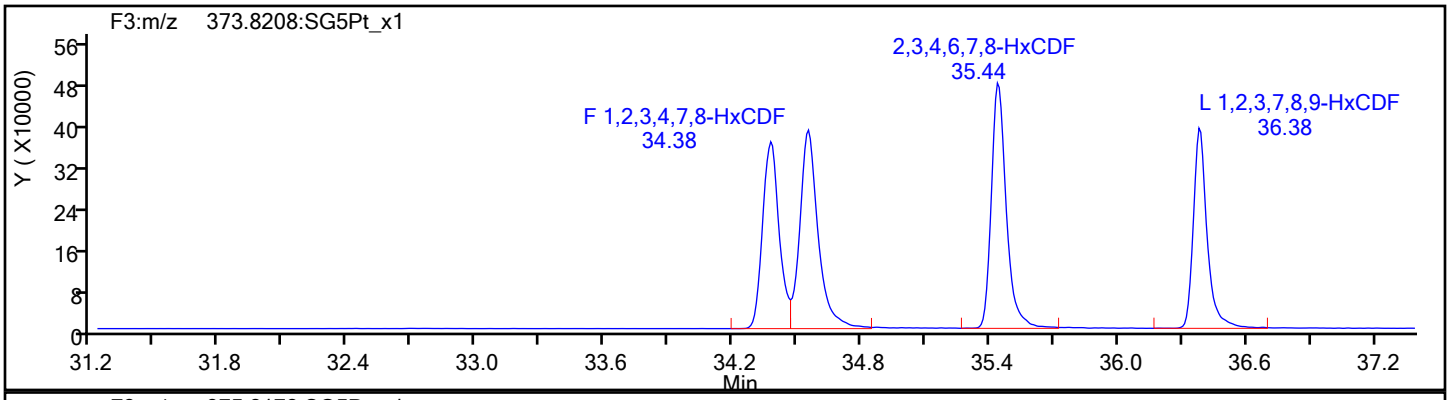


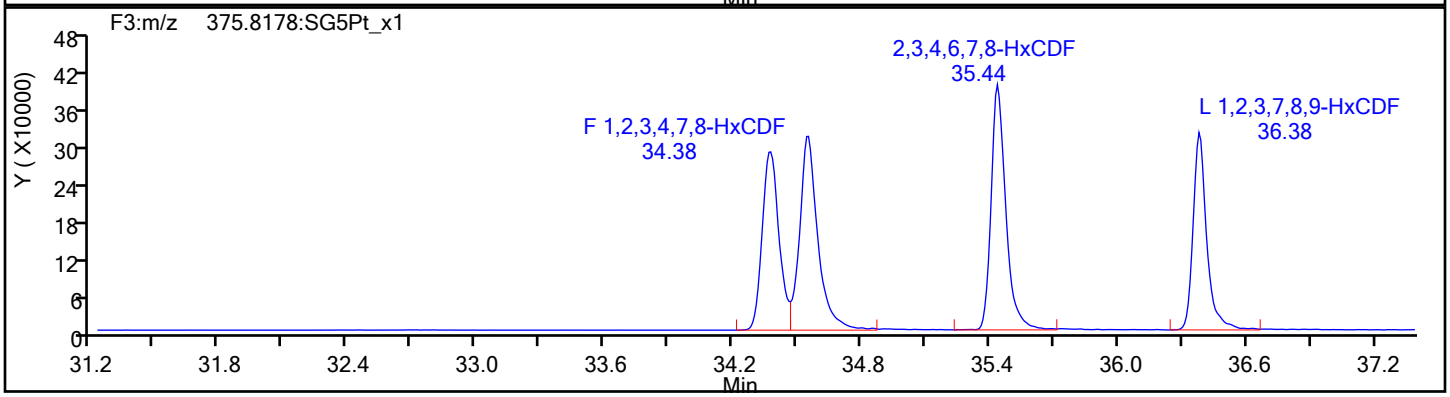


Eurofins Sacramento

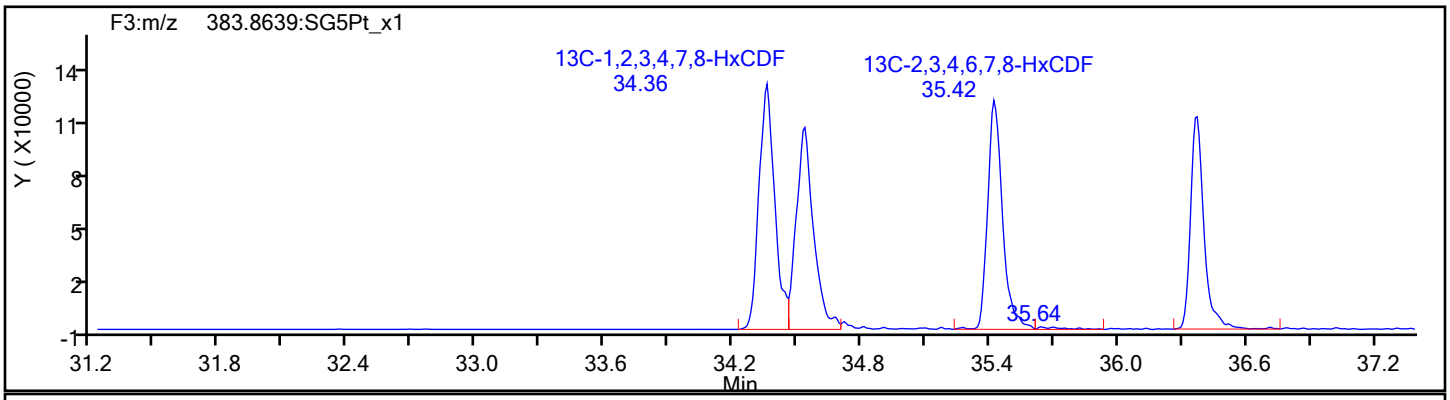
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

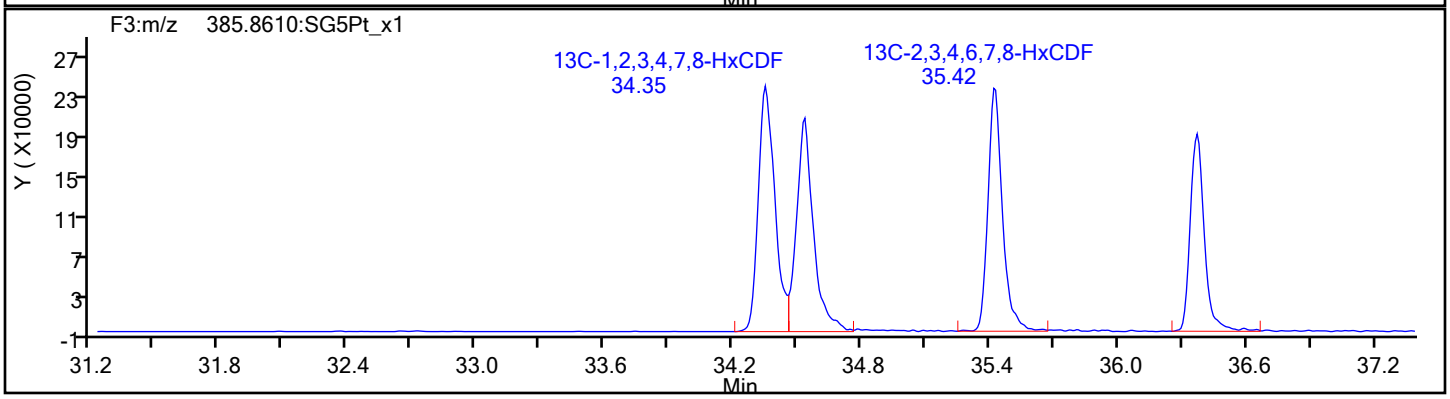
HxCDF





HxCDF Standards

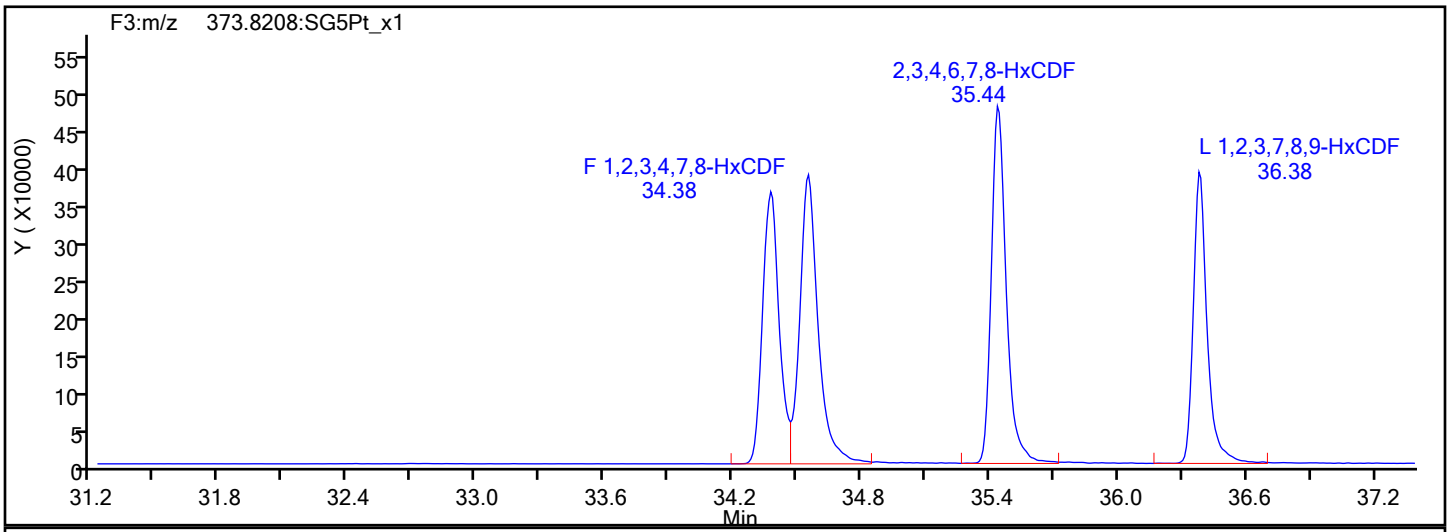


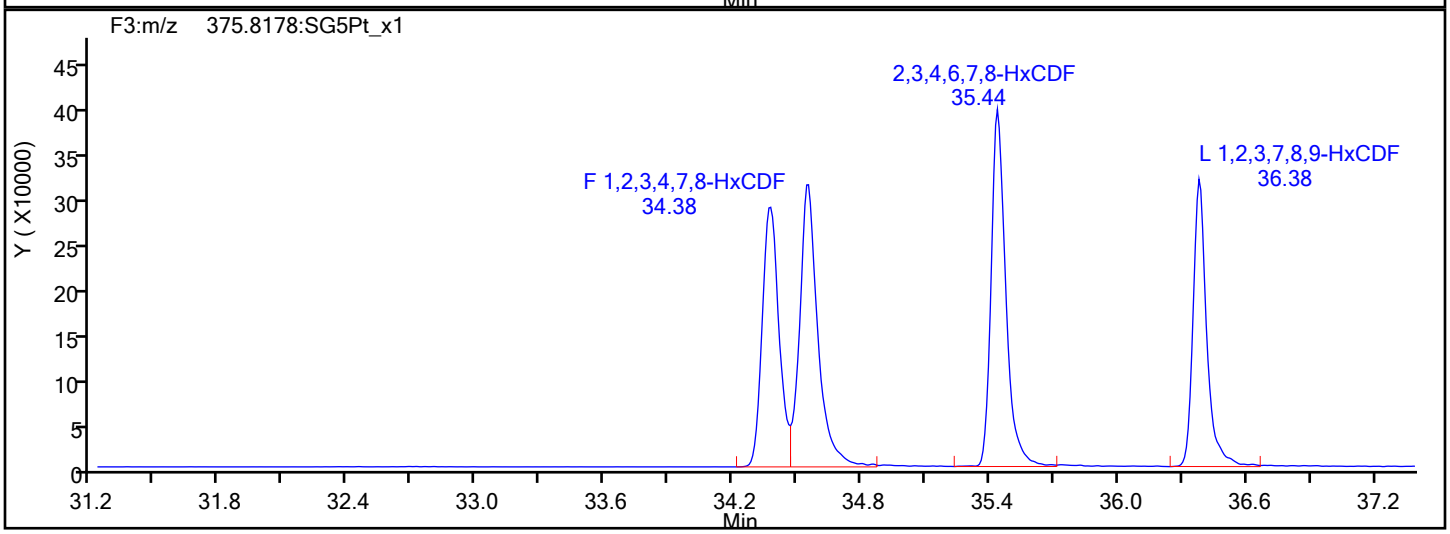


Eurofins Sacramento

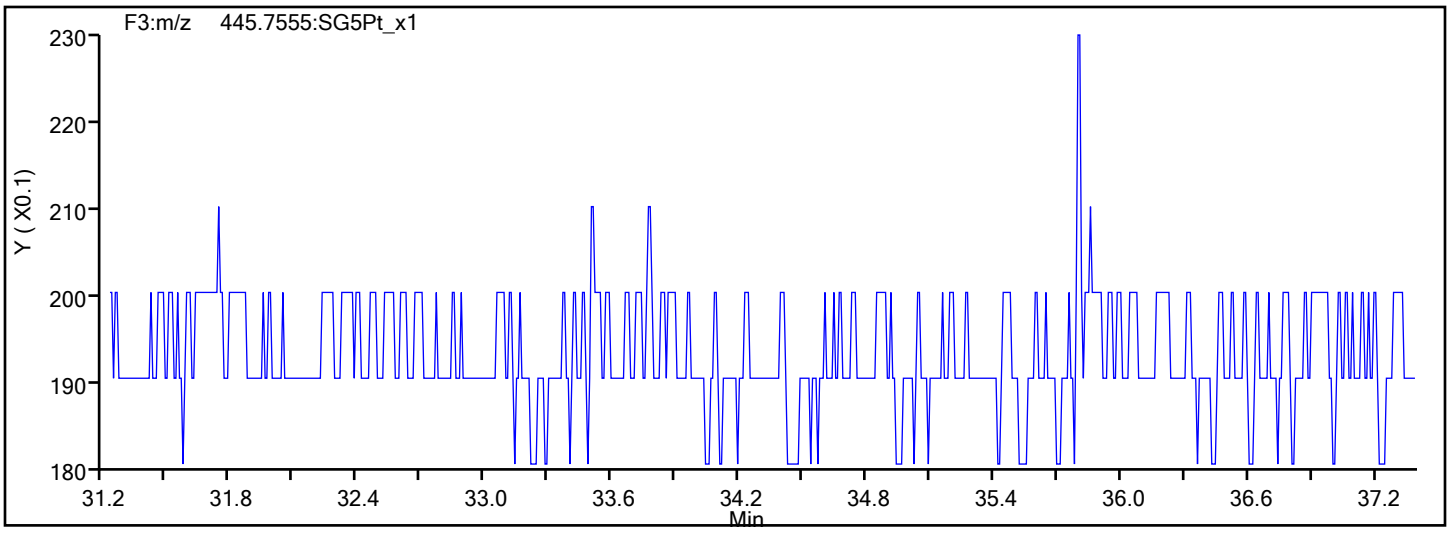
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



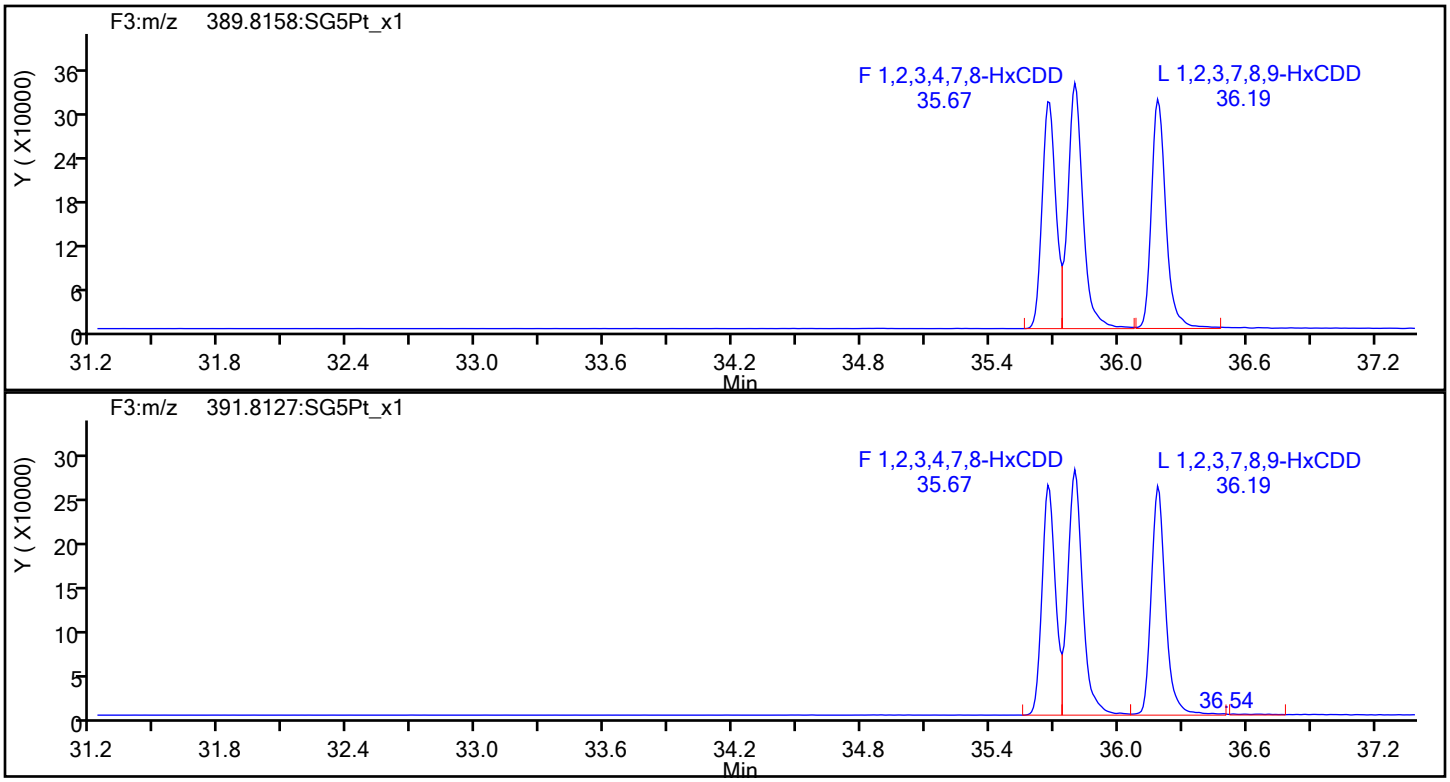
Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

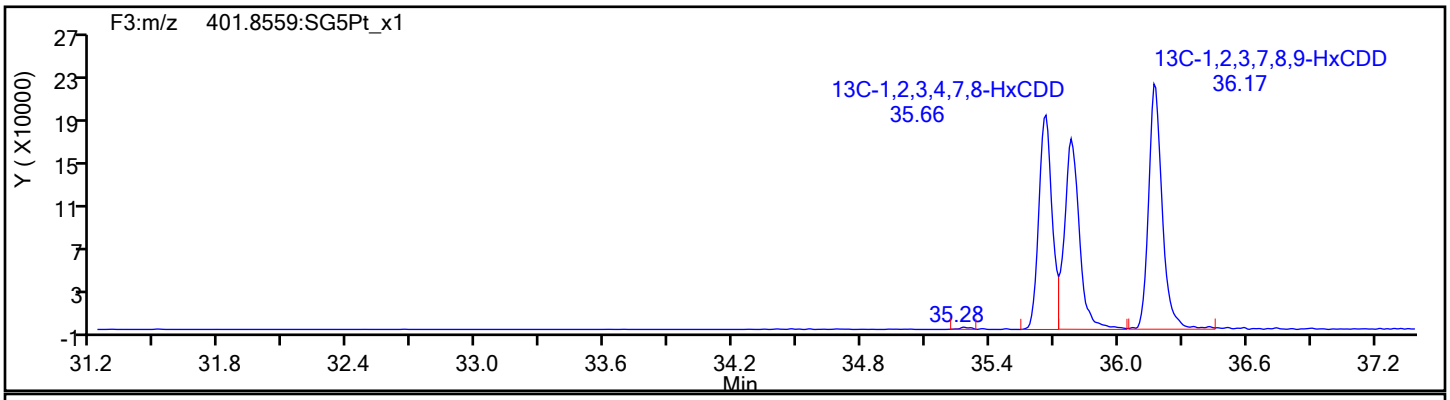
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

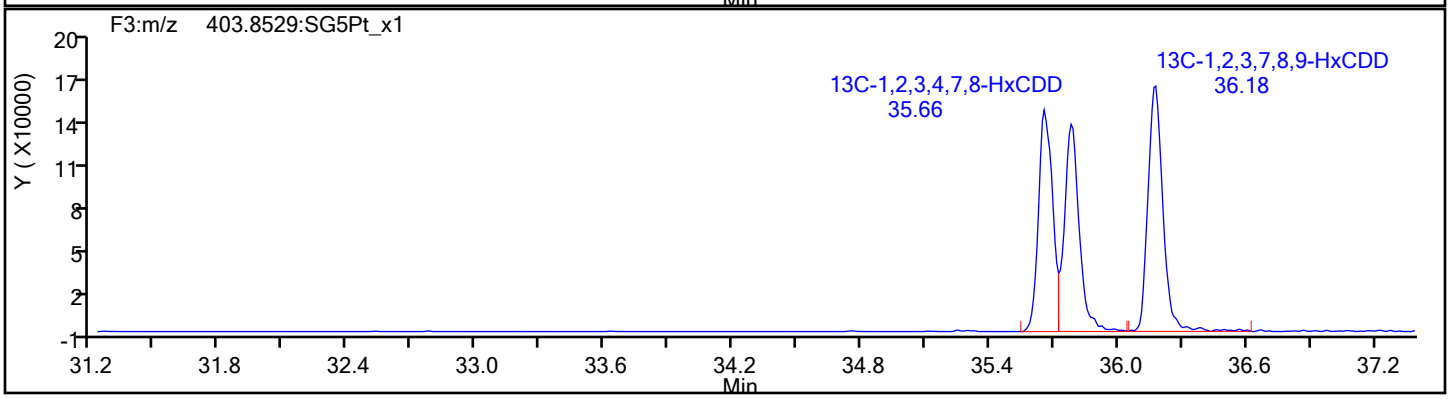
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD



HxCDD Standards





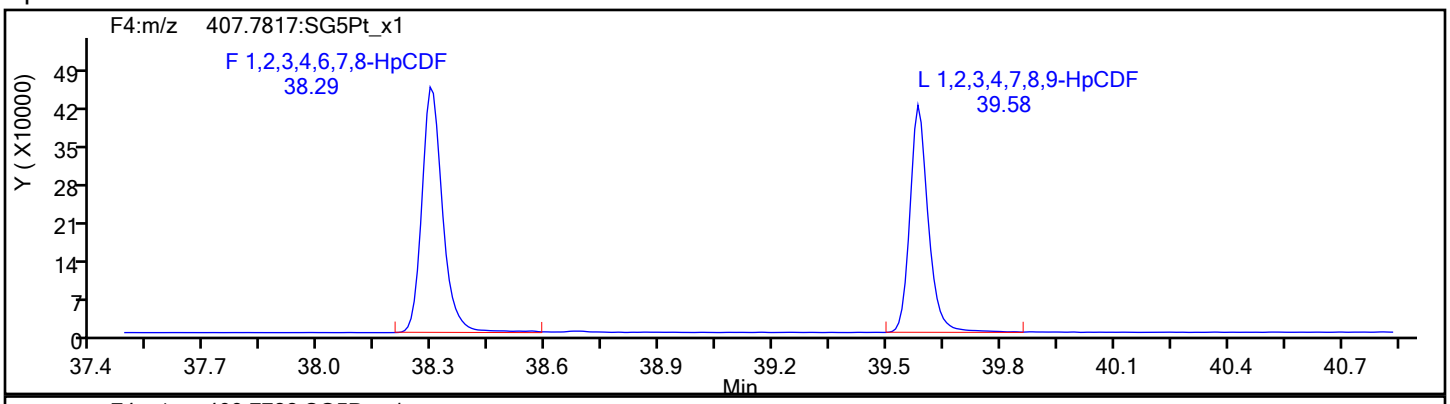
Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

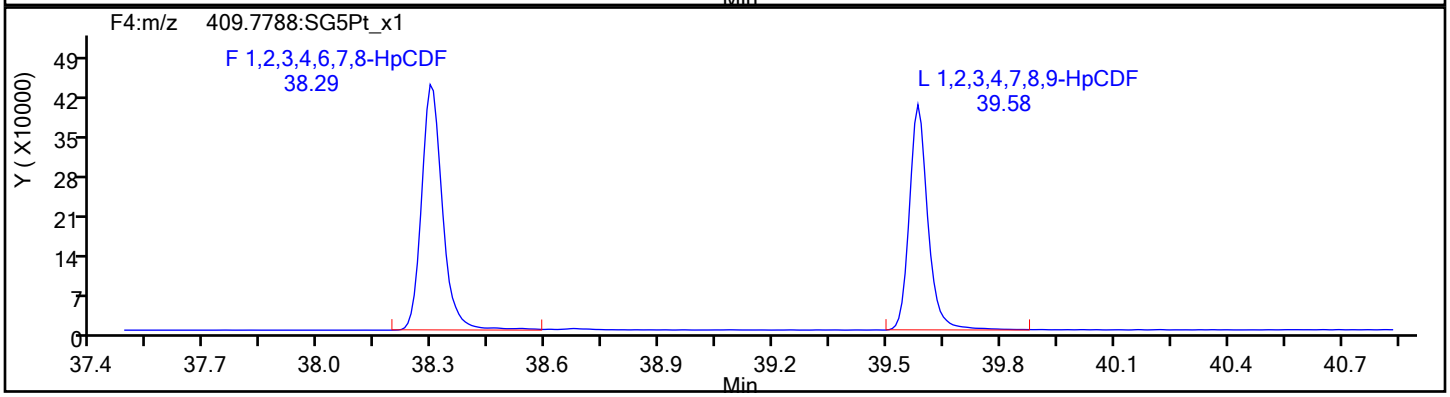
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

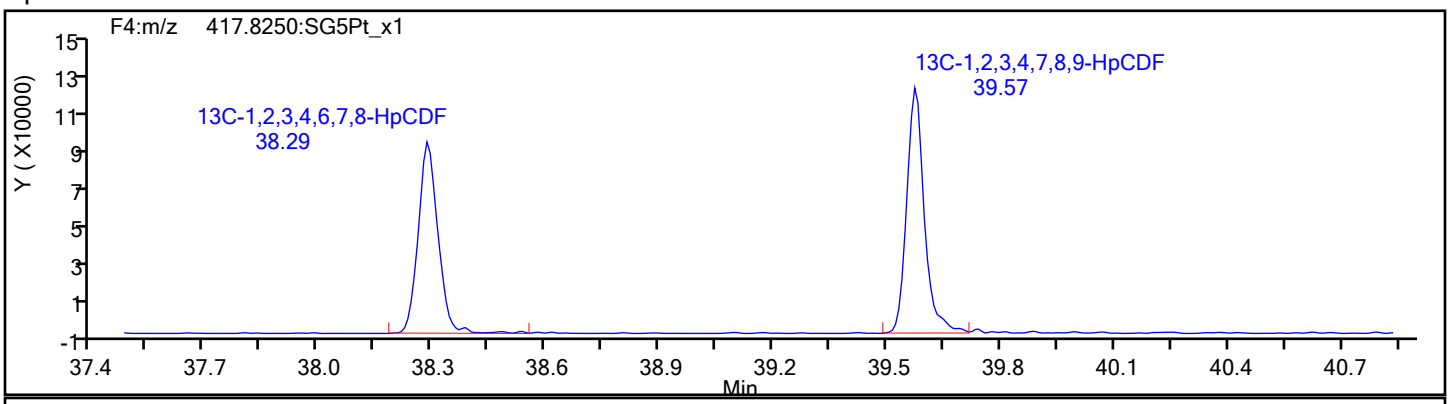
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

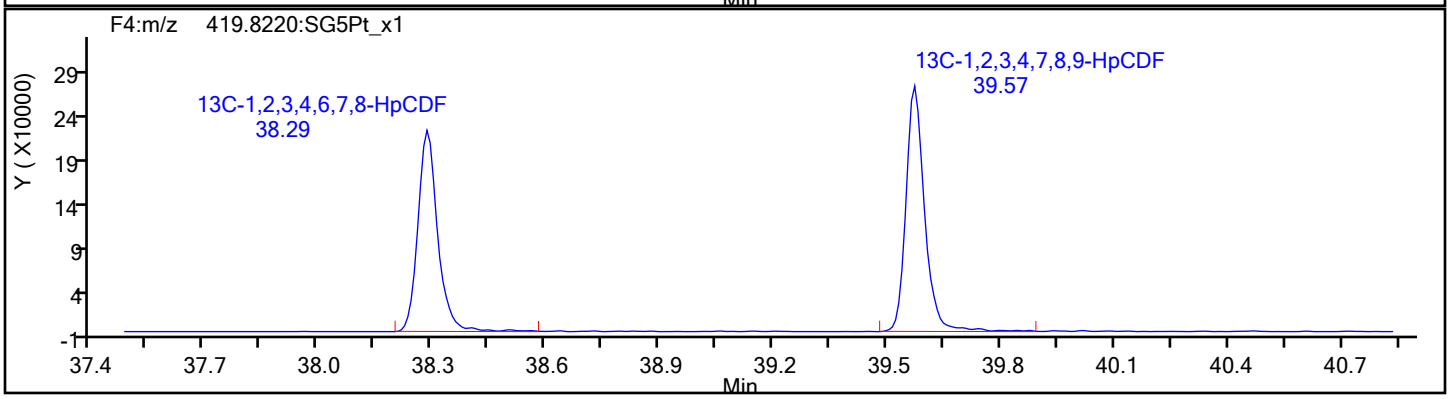
HpCDF





HpCDF Standards

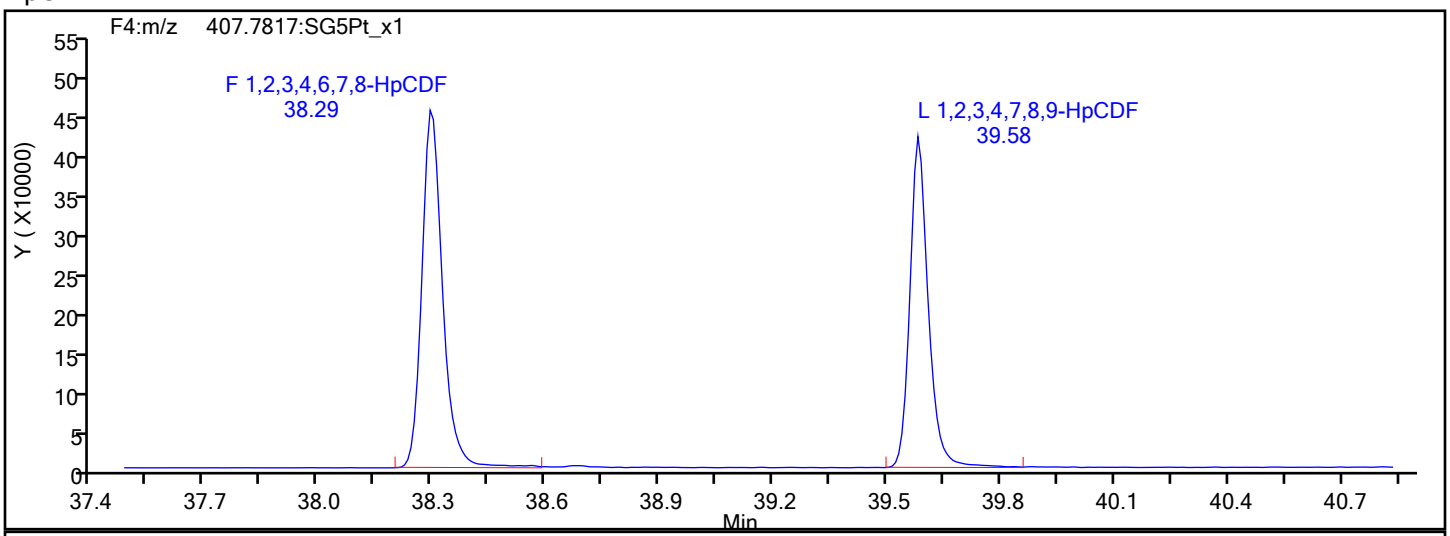


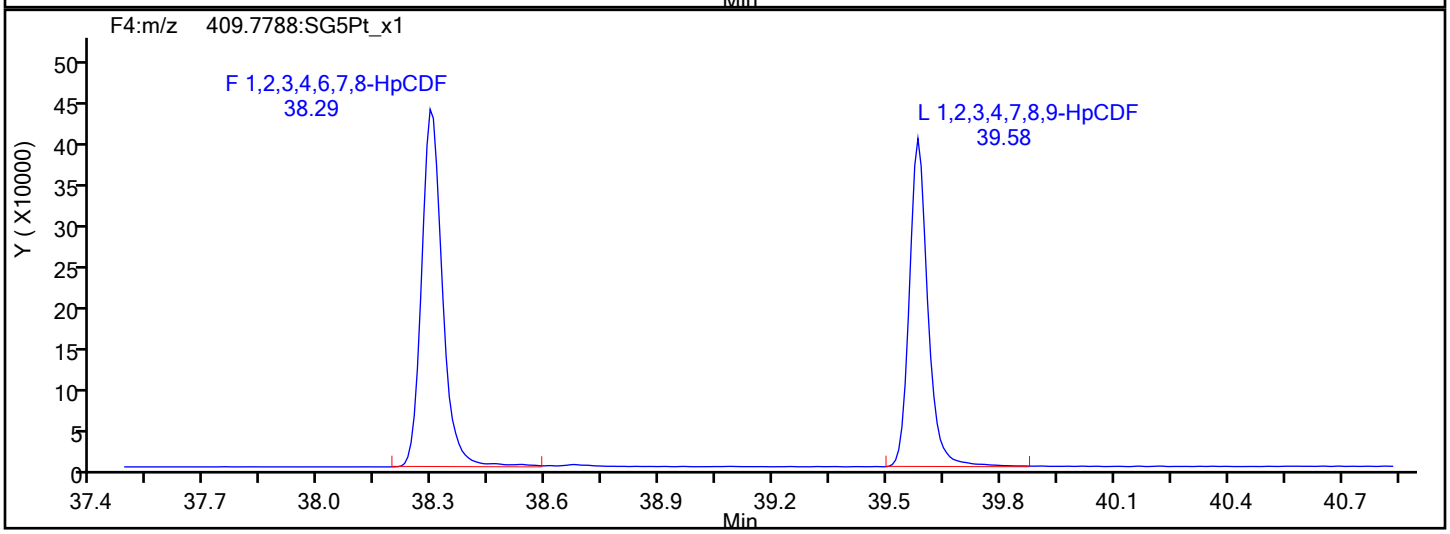


Eurofins Sacramento

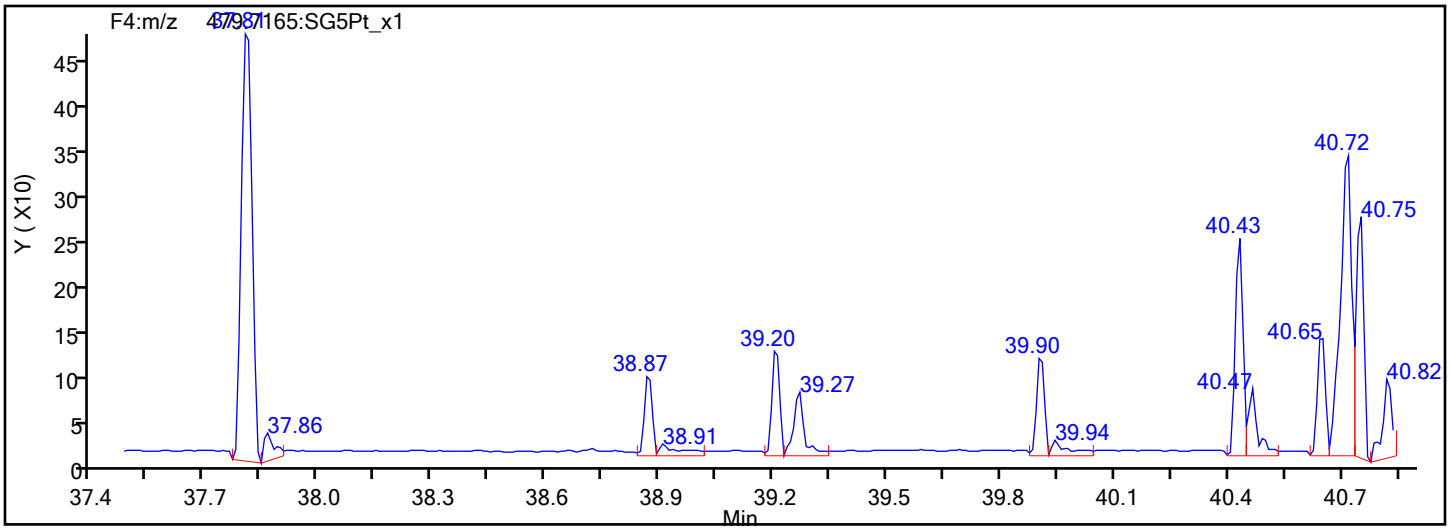
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





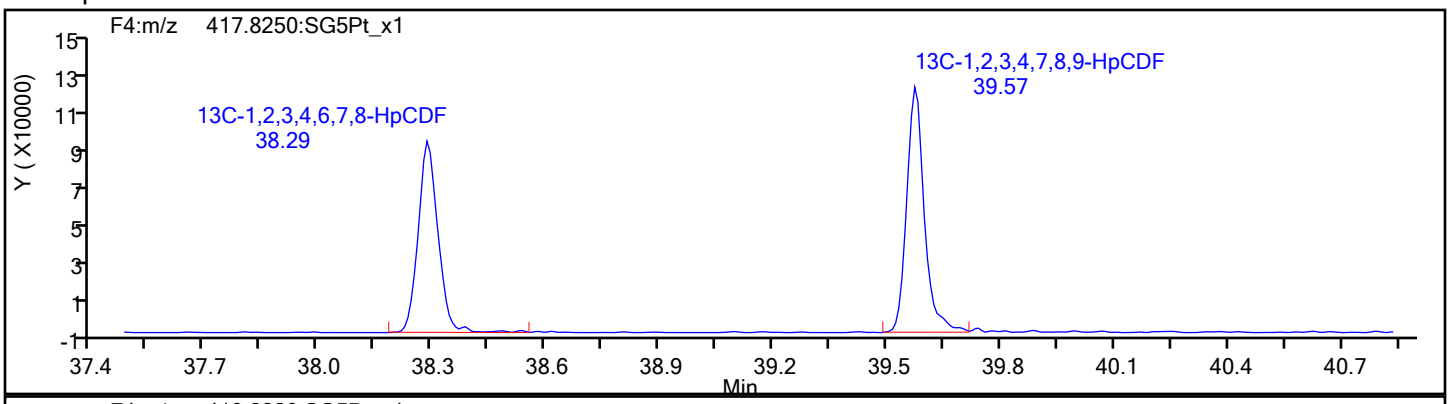
HpCDF Interference Mass

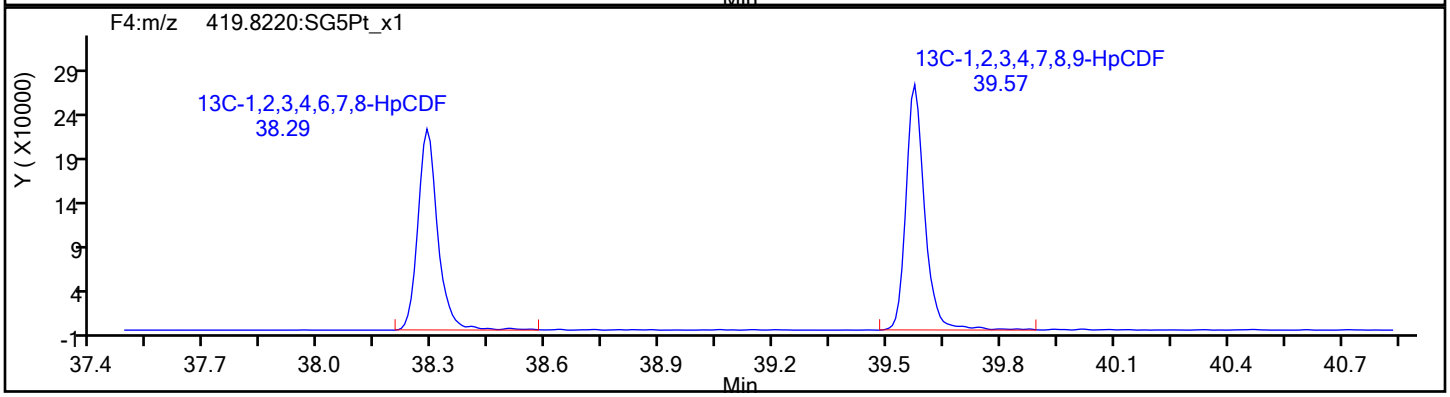


Eurofins Sacramento

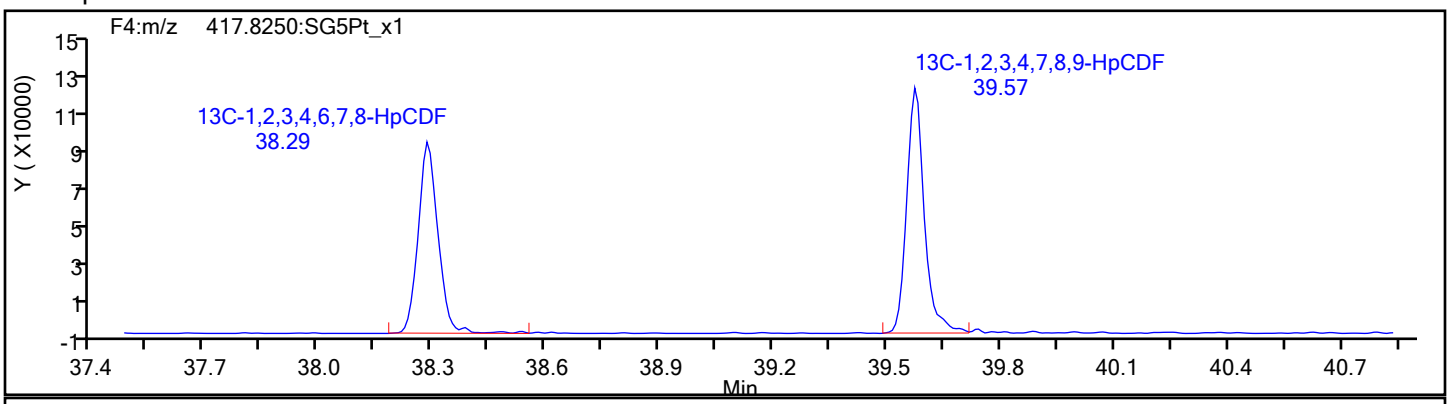
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

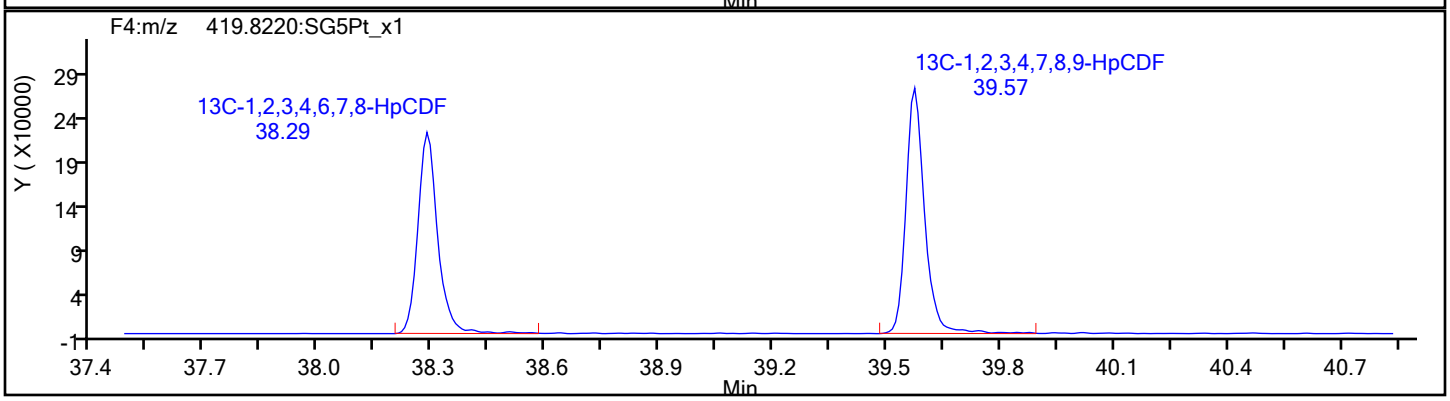
13C-HpCDF





13C-HpCDF Standards

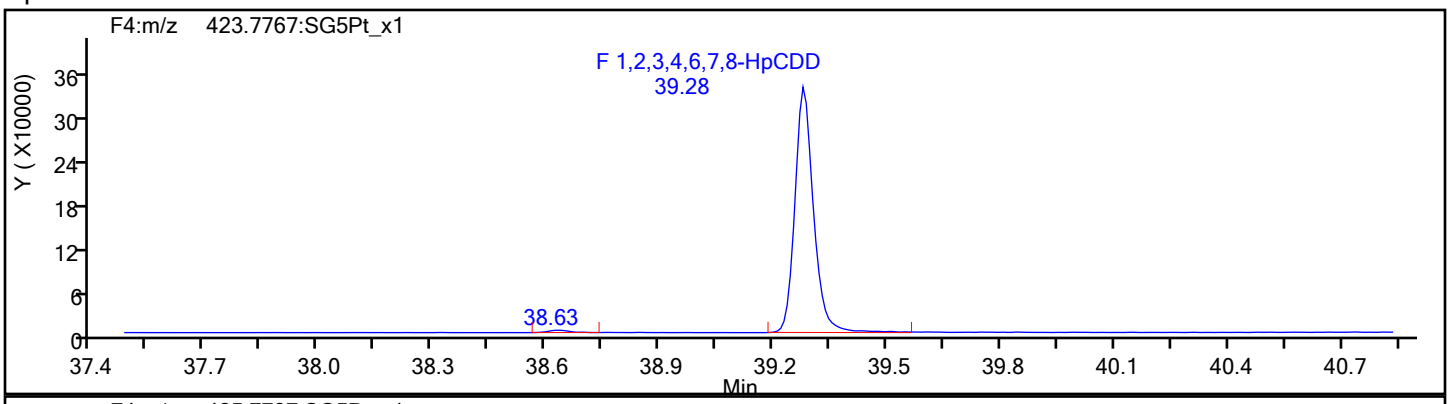


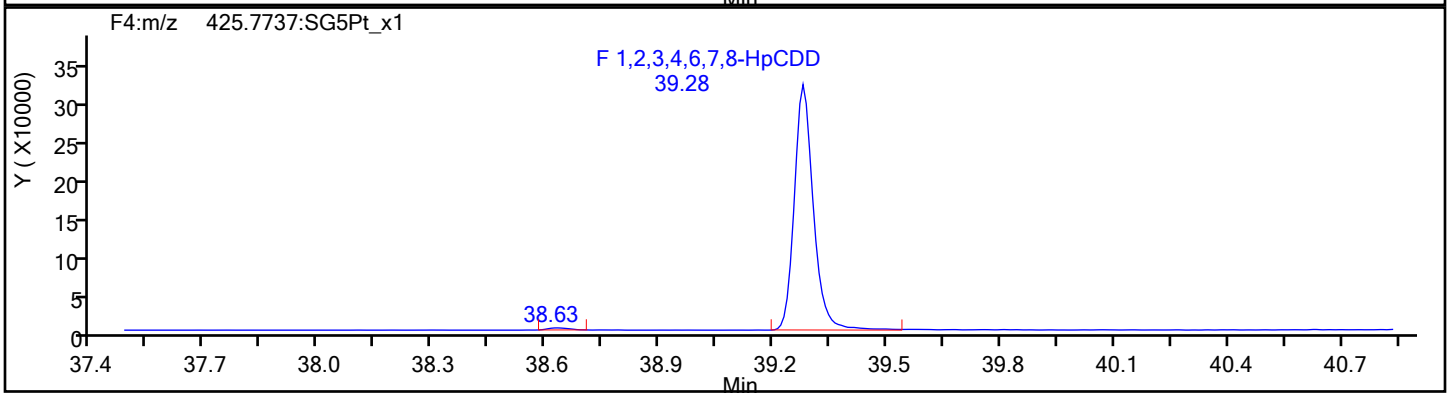


Eurofins Sacramento

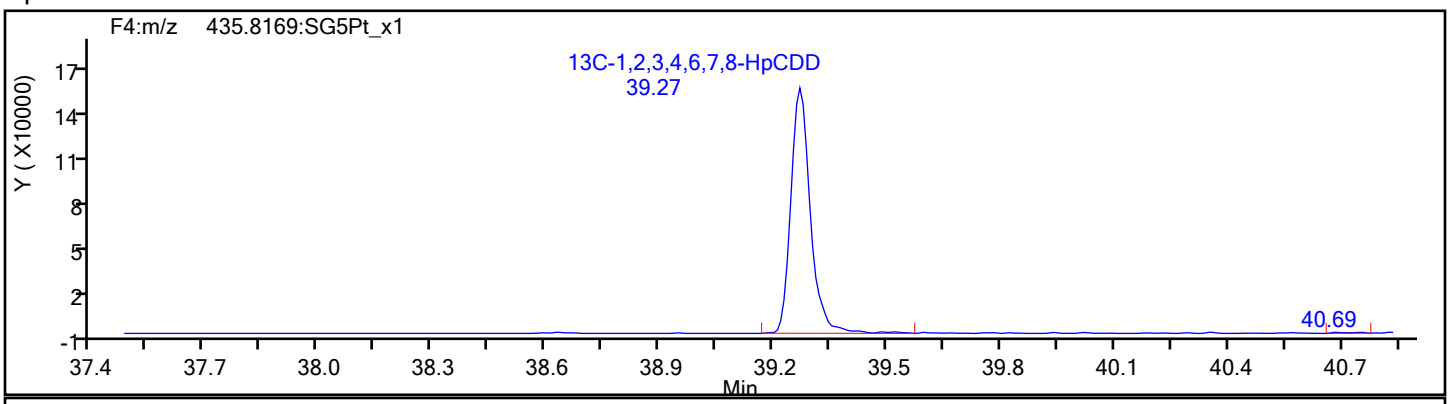
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

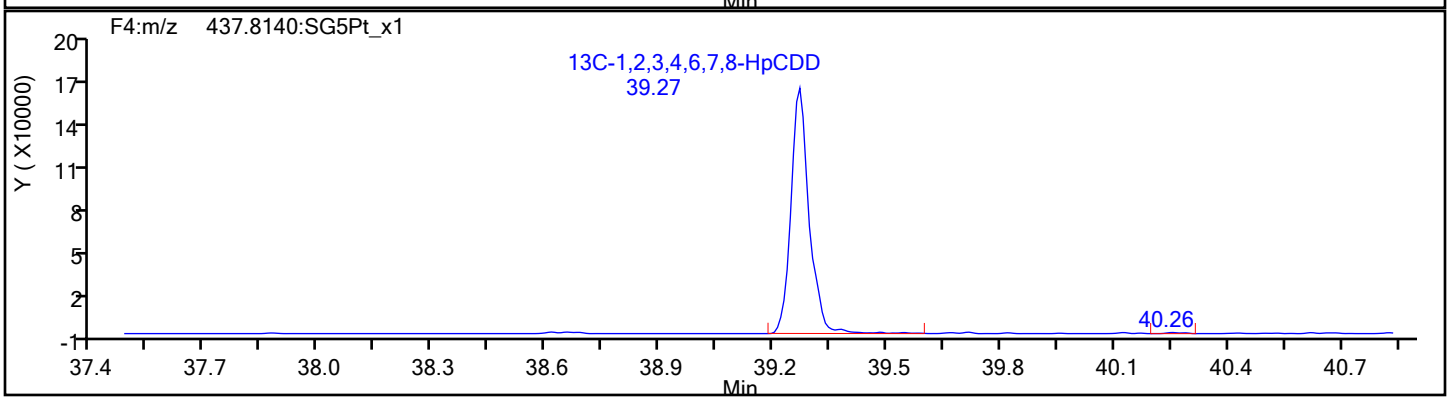
HpCDD





HpCDD Standards





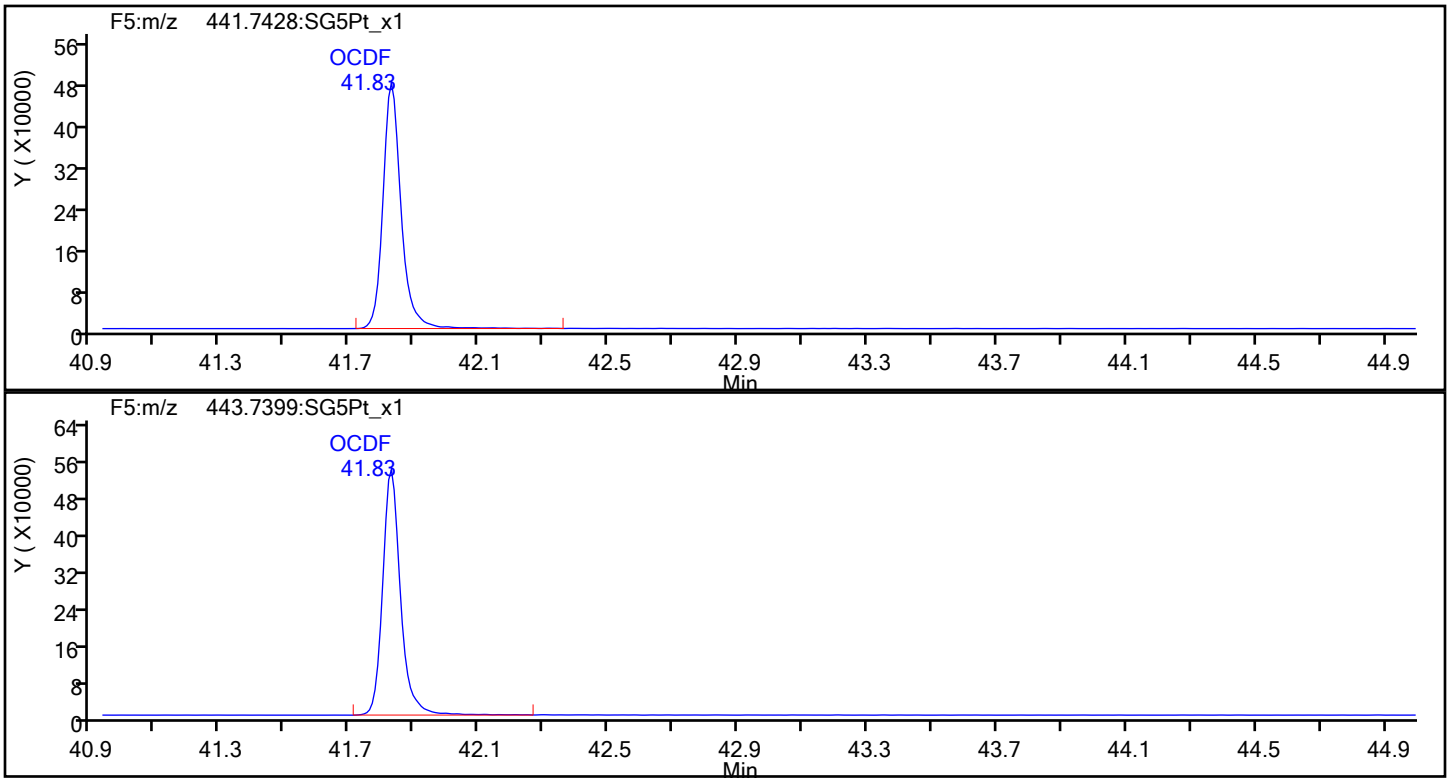
Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

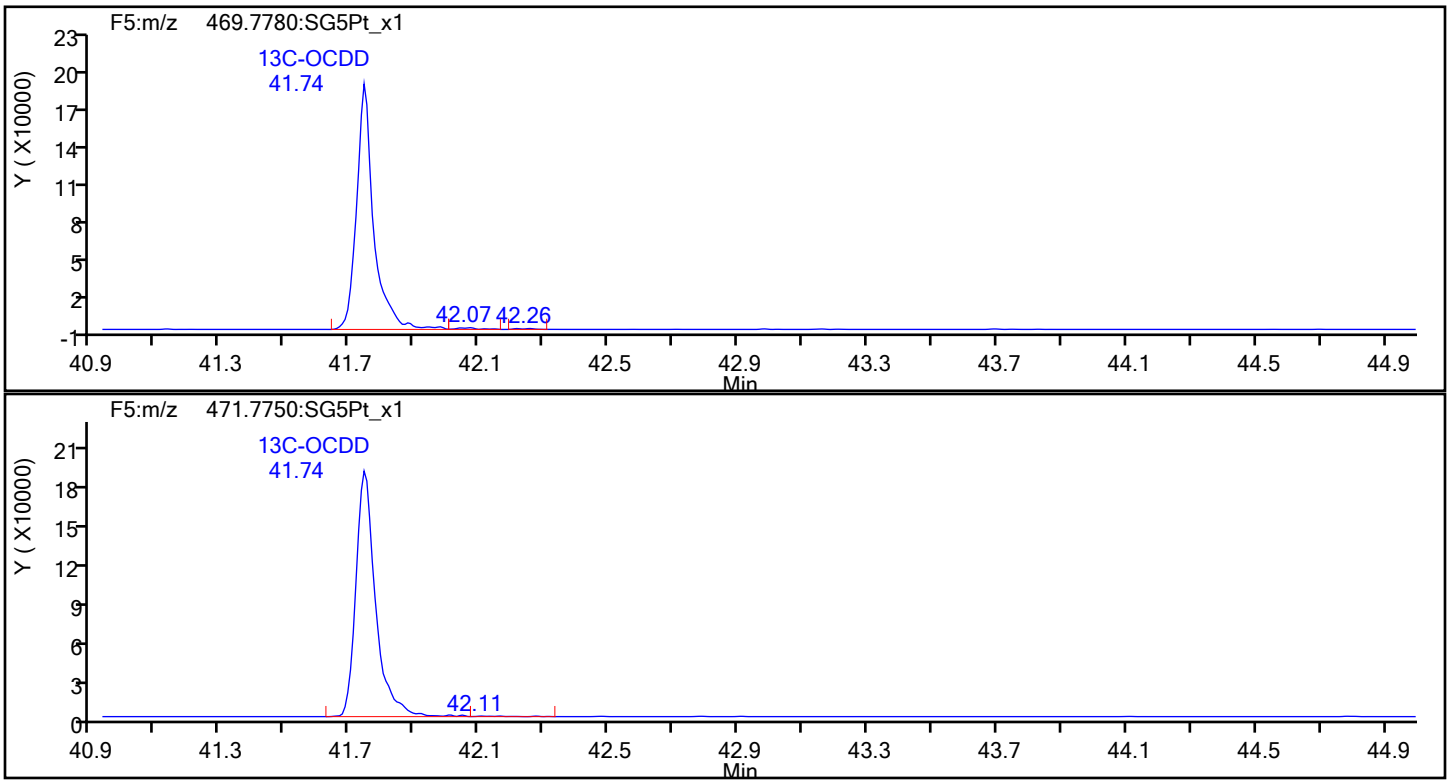
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



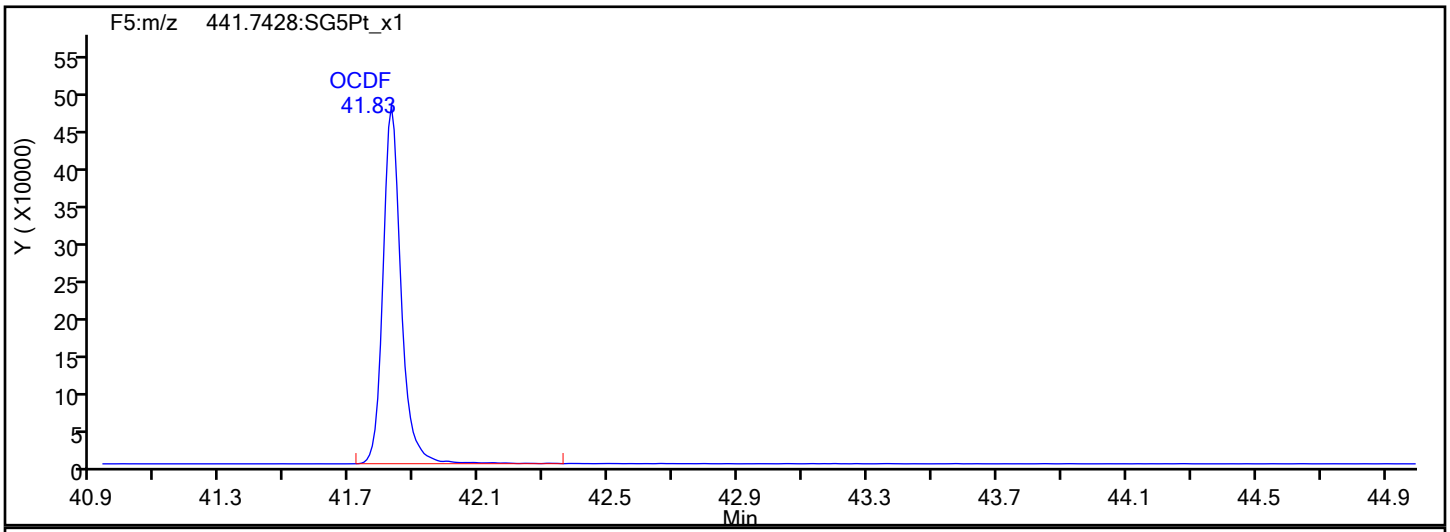
OCDF Standards

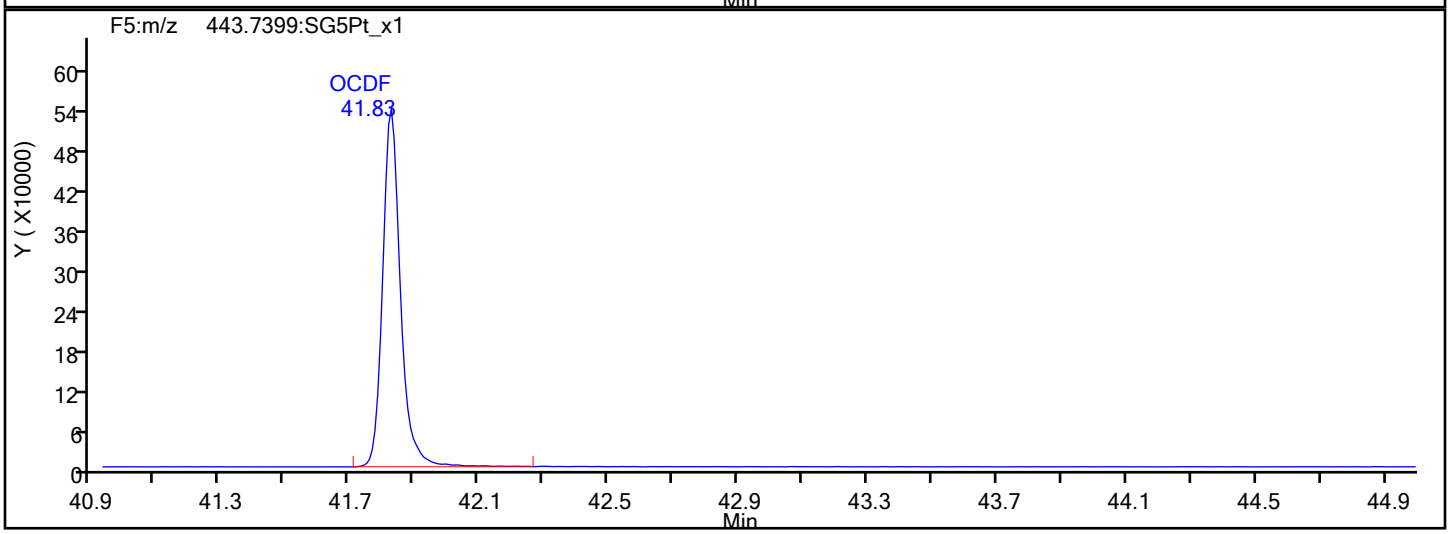


Eurofins Sacramento

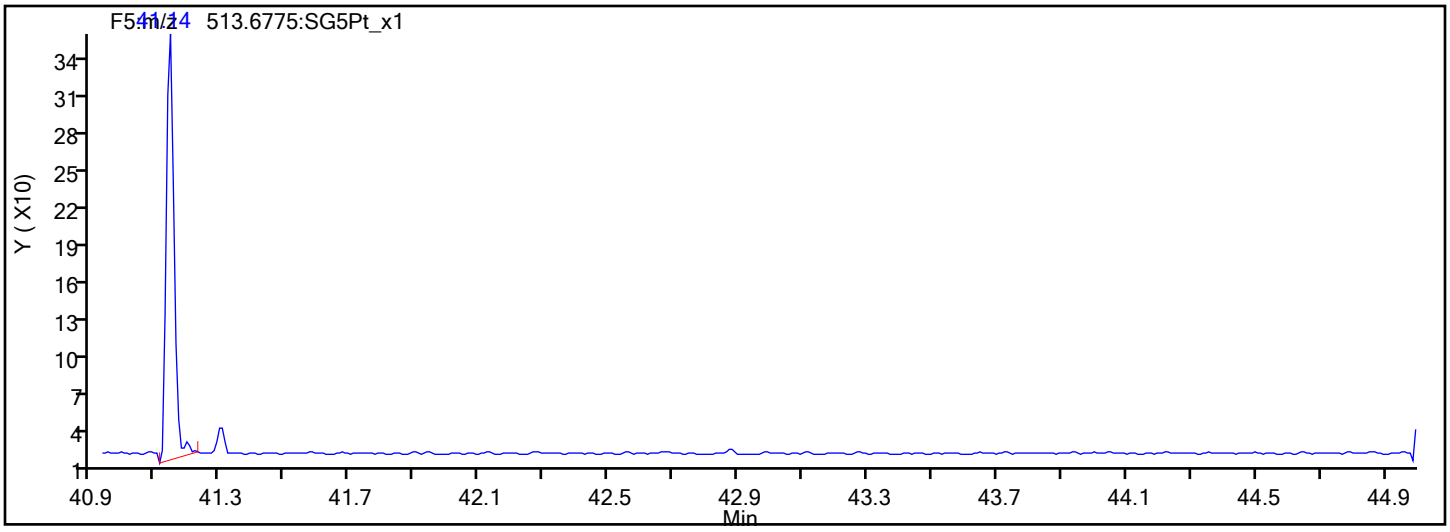
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



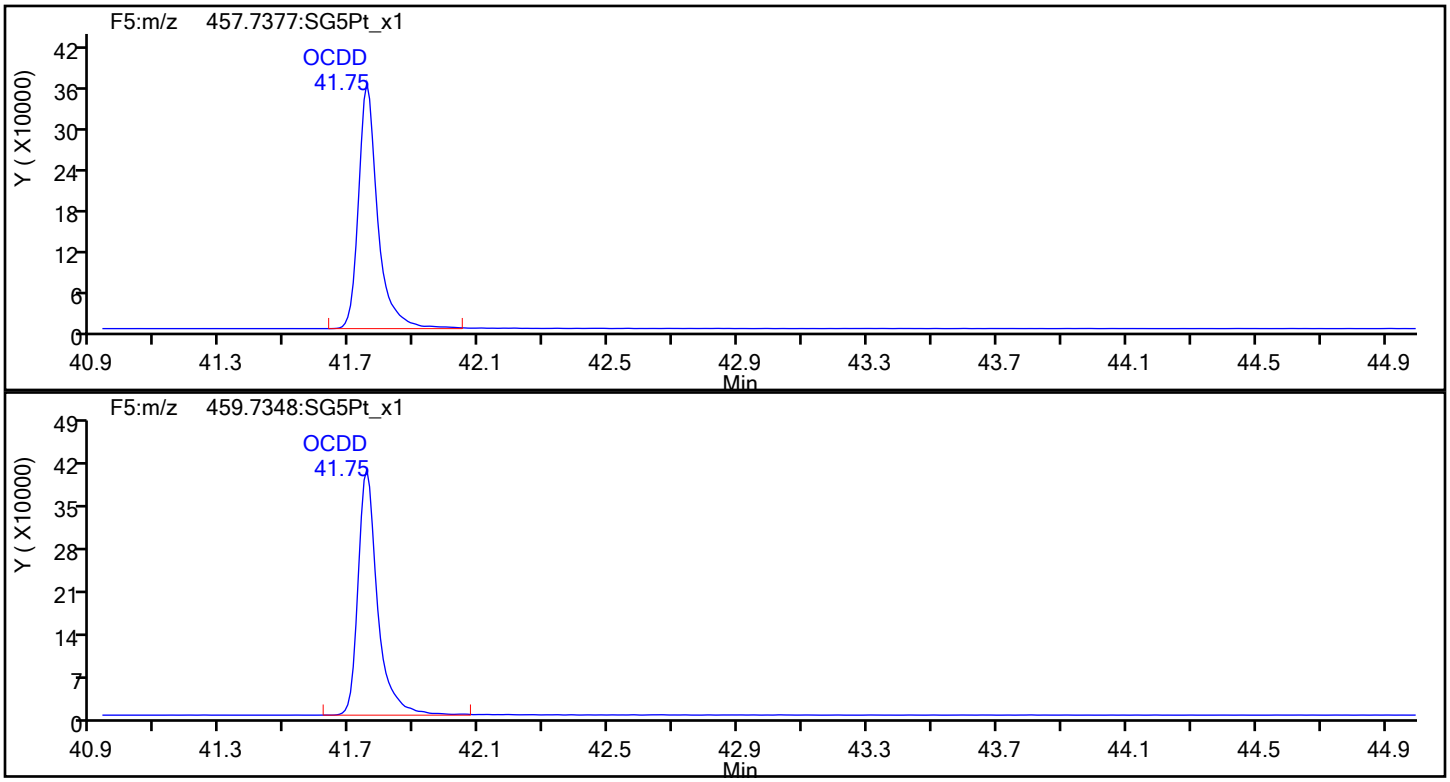
Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

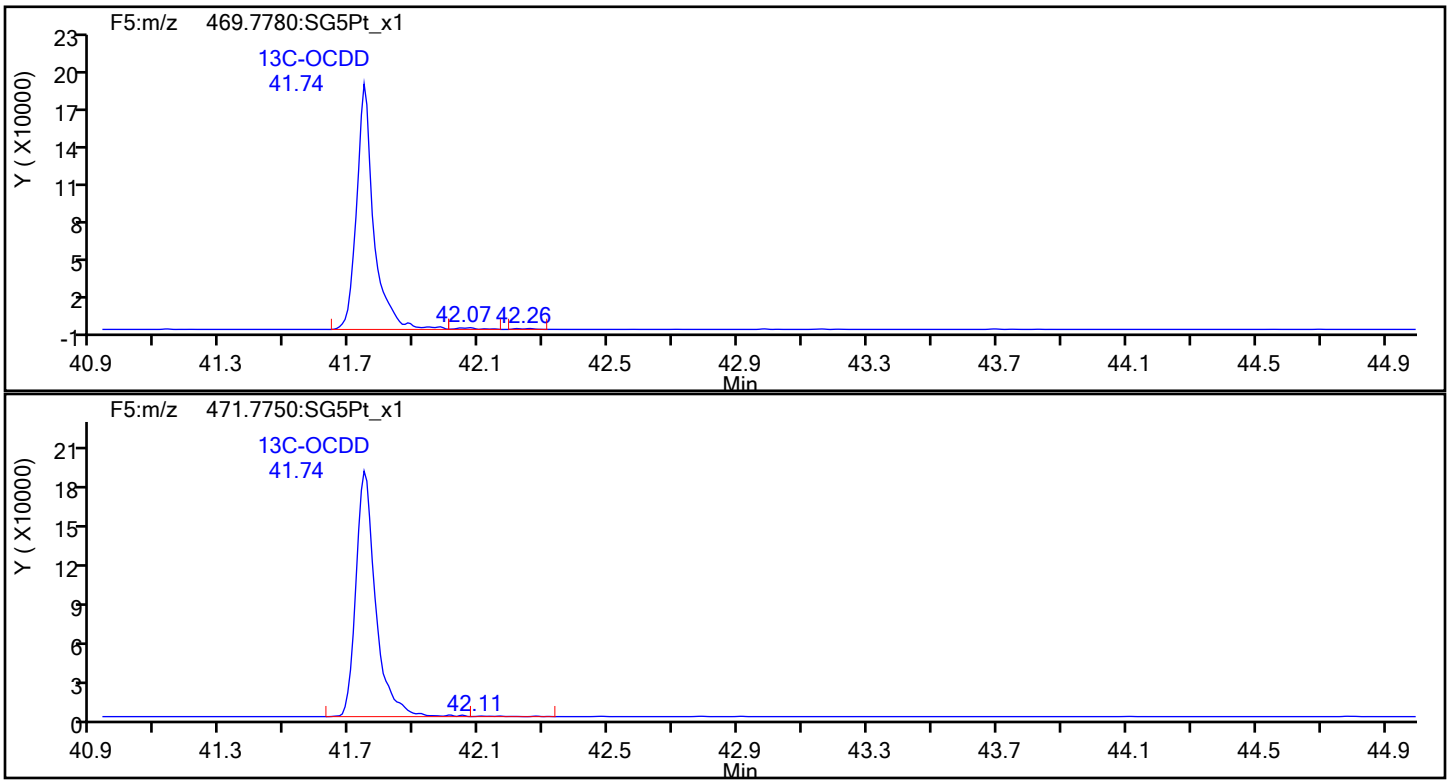
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD



OCDD Standards



Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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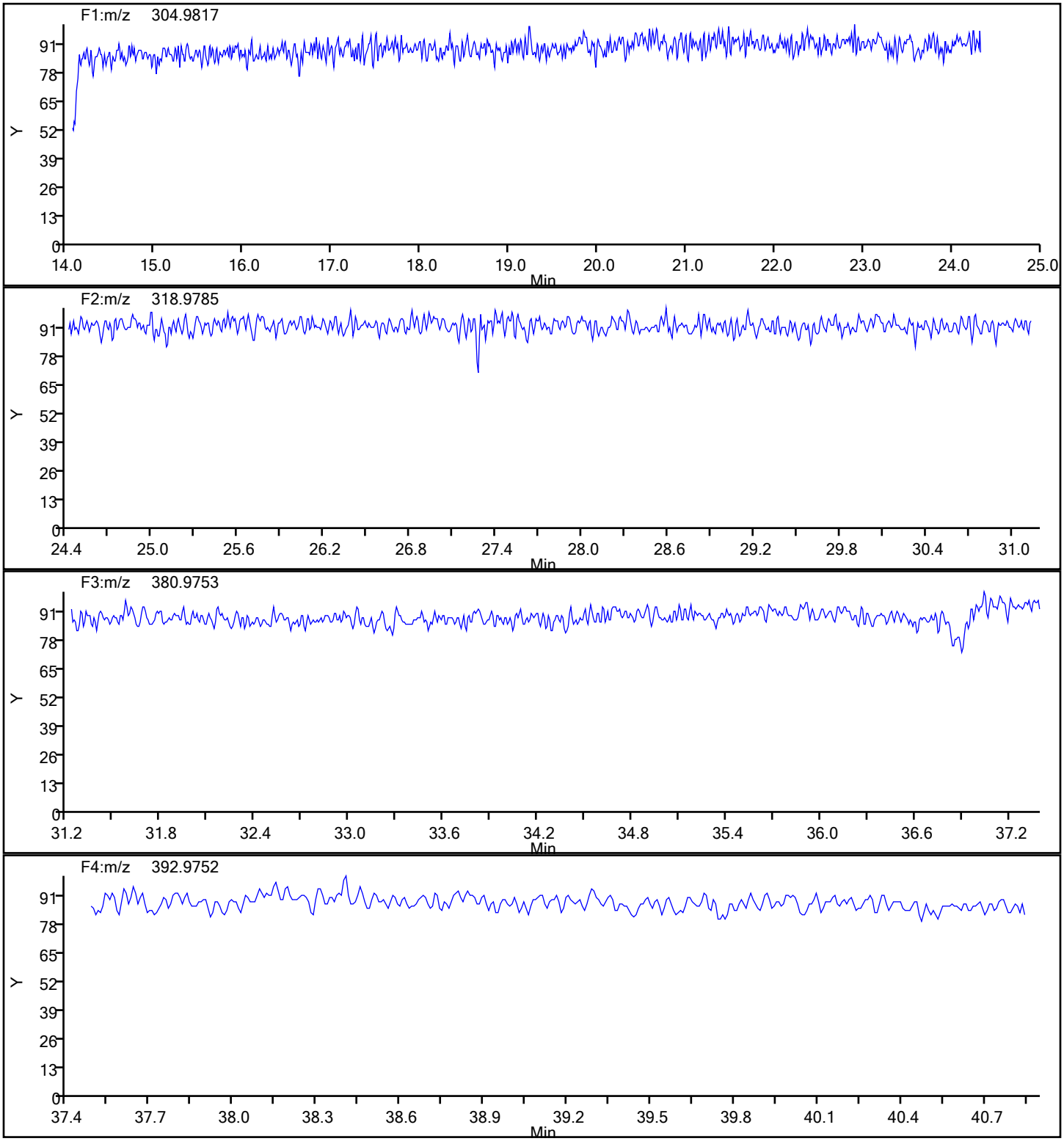
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d		
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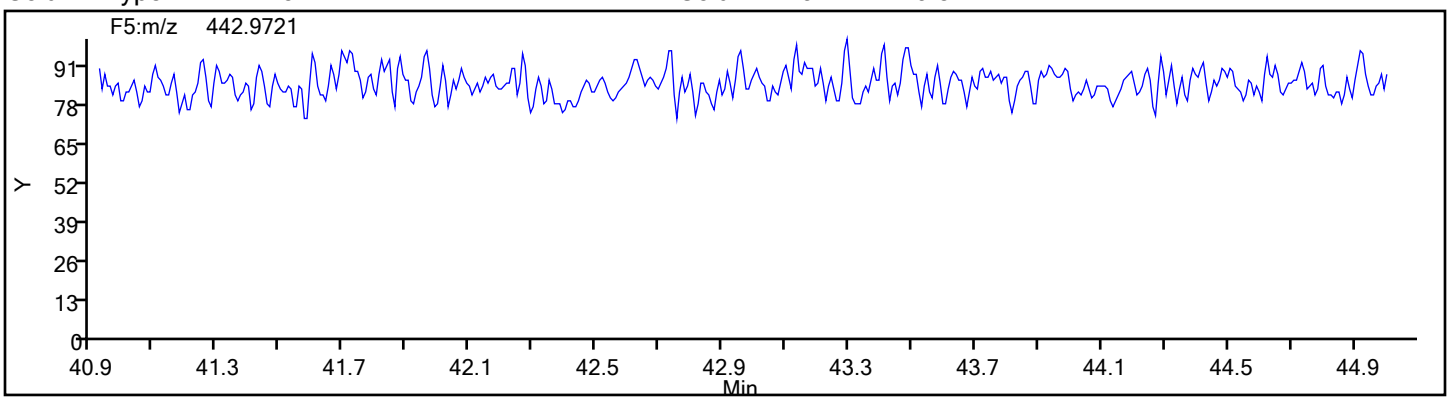
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Lab Sample ID: CCV 320-559474/1 Calibration Date: 01/20/2022 15:20

Instrument ID: DFS 1 Calib Start Date: 01/13/2022 17:16

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/13/2022 20:27

Lab File ID: 20ja22dfs1_2.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.012	0.9680		9.57	10.0	-4.3	20.0
2,3,7,8-TCDD	AveID	0.9906	0.9371		9.46	10.0	-5.4	20.0
1,2,3,7,8-PeCDF	AveID	0.9756	0.9274		47.5	50.0	-4.9	20.0
2,3,4,7,8-PeCDF	AveID	0.9215	0.8568		46.5	50.0	-7.0	20.0
1,2,3,7,8-PeCDD	AveID	1.002	0.9585		47.8	50.0	-4.3	20.0
1,2,3,4,7,8-HxCDF	AveID	0.8835	0.8019		45.4	50.0	-9.2	20.0
1,2,3,6,7,8-HxCDF	AveID	1.029	0.8881		43.2	50.0	-13.7	20.0
2,3,4,6,7,8-HxCDF	AveID	0.9878	0.9304		47.1	50.0	-5.8	20.0
1,2,3,4,7,8-HxCDD	AveID	0.8294	0.8272		49.9	50.0	-0.3	20.0
1,2,3,6,7,8-HxCDD	AveID	0.9395	0.9268		49.3	50.0	-1.3	20.0
1,2,3,7,8,9-HxCDD	AveID	0.9076	0.9179		50.6	50.0	1.1	20.0
1,2,3,7,8,9-HxCDF	AveID	0.9071	0.9130		50.3	50.0	0.7	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.439	1.396		48.5	50.0	-2.9	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9767	0.9178		47.0	50.0	-6.0	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.220	1.204		49.3	50.0	-1.4	20.0
OCDD	AveID	1.034	0.9927		96.0	100	-4.0	20.0
OCDF	AveID	1.276	1.233		96.7	100	-3.3	20.0
13C-2,3,7,8-TCDF	Ave	1.016	1.060		104	100	4.3	30.0
13C-2,3,7,8-TCDD	Ave	0.7884	0.7944		101	100	0.8	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9232	1.036		112	100	12.3	30.0
13C-2,3,4,7,8-PeCDF	Ave	1.079	1.240		106	100	14.9	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.5606	0.5962		106	100	6.4	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.057	1.033		97.8	100	-2.2	30.0
13C-1,2,3,6,7,8-HxCDF	Ave	0.9686	0.8707		89.9	100	-10.1	30.0
13C-2,3,4,6,7,8-HxCDF	Ave	0.9084	0.9001		99.1	100	-0.9	30.0
13C-1,2,3,4,7,8-HxCDD	Ave	0.8133	0.8549		84.3	100	5.1	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8027	0.7664		95.5	100	-4.5	30.0
13C-1,2,3,7,8,9-HxCDF	Ave	0.8248	0.8768		106	100	6.3	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6421	0.6794		106	100	5.8	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.6246	0.6884		110	100	10.2	30.0
13C-1,2,3,4,7,8,9-HpCDF	AveID	1.171	1.298		111	100	10.9	30.0
13C-OCDD	Ave	0.4360	0.5052		232	200	15.9	30.0
37Cl4-2,3,7,8-TCDD	Ave	0.7911	0.8535		10.8	10.0	7.9	

	File Name	SampleName	Sample ID	Position	Method/Matrix	Box	User	Sample Vol	Units
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2	20JA22DFS1_2	CCV CS-4 HRDXNL4_00105	CCV 012022	2	Dioxin		GRB	1.000	
3	20JA22DFS1_3	WDM HRDXNCP_00044	WDM 012022	1	Dioxin		GRB	1.000	
4	20JA22DFS1_4	mb 320-555858/1-a	mb 320-555858/1-a	4	8290/Water	5	GRB	1.000	L
5	20JA22DFS1_5	lcs 320-555858/2-a	lcs 320-555858/2-a	5	8290/Water		GRB	1.000	L
6	20JA22DFS1_6	lcsd 320-555858/3-a	lcsd 320-555858/3-a	6	8290/Water		GRB	1.000	L
7	20JA22DFS1_7	570-80119-f-1-a	570-80119-f-1-a	7	8290/Water		GRB	1.000	L
8	20JA22DFS1_8	570-80119-e-2-a	570-80119-e-2-a	8	8290/Water		GRB	1.000	L
9	20JA22DFS1_9	570-80119-f-3-a	570-80119-f-3-a	9	8290/Water		GRB	1.000	L
10	20JA22DFS1_10	570-80119-f-4-a	570-80119-f-4-a	10	8290/Water		GRB	1.000	L
11	20JA22DFS1_11	550-176826-v-2-a	550-176826-v-2-a	11	8290/Water	D305	GRB	1.000	L
12	20JA22DFS1_12	550-176826-v-3-a	550-176826-v-3-a	12	8290/Water		GRB	1.000	L
13	20JA22DFS1_13	SB Solvent Blank C14	SB 012022	3	Dioxin		GRB	1.000	
14	20JA22DFS1_14	CCV CS-4 HRDXNL4_00105	CCV 012022A	2	Dioxin		GRB	1.000	
15	20JA22DFS1_15	Resolution Check	RC 012022A	162			GRB	1.000	
16	20JA22DFS1_16	WDM HRDXNCP_00044	WDM 012022A	1	Dioxin		GRB	1.000	
17	20JA22DFS1_17	CCV CS-4 HRDXNL4_00105	CCV 012022B	2	Dioxin		GRB	1.000	
18	20JA22DFS1_18	DH28_00208 1A Eluent QC	DH28_00208 1A	13	8290/1613 QC	QC2	GRB	1.000	SA
19	20JA22DFS1_19	DH28_00208 1 Eluent QC	DH28_00208 1	14	8290/1613 QC		GRB	1.000	SA
20	20JA22DFS1_20	DH28_00209 2A Eluent QC	DH28_00209 2A	15	8290/1613 QC		GRB	1.000	SA
21	20JA22DFS1_21	DH28_00209 2 Eluent QC	DH28_00209 2	16	8290/1613 QC		GRB	1.000	SA
22	20JA22DFS1_22	DH6535_00579 3 Eluent QC	DH6535_00579 3	17	8290/1613 QC		GRB	1.000	SA
23	20JA22DFS1_23	DH6535_00580 4 Eluent QC	DH6535_00580 4	18	8290/1613 QC		GRB	1.000	SA
24	20JA22DFS1_24	DH6535_00581 5 Eluent QC	DH6535_00581 5	19	8290/1613 QC		GRB	1.000	SA
25	20JA22DFS1_25	DH6535_00582 6 Eluent QC	DH6535_00582 6	20	8290/1613 QC		GRB	1.000	SA
26	20JA22DFS1_26	CCV CS-4 HRDXNL4_00105	CCV 012022C	2	Dioxin		GRB	1.000	
27	20JA22DFS1_27	Resolution Check	RC 012022B	162			GRB	1.000	
28	20JA22DFS1_28	WDM HRDXNCP_00044	WDM 012022B	1	Dioxin		GRB	1.000	
29	20JA22DFS1_29	CCV CS-4 HRDXNL4_00105	CCV 012022D	2	Dioxin		GRB	1.000	
30	20JA22DFS1_30	mb 320-556950/1-a	mb 320-556950/1-a	21	8290A/Solid	D305	GRB	10.000	g
31	20JA22DFS1_31	lcs 320-556950/2-a	lcs 320-556950/2-a	22	8290A/Solid		GRB	10.000	g
32	20JA22DFS1_32	lcsd 320-556950/3-a	lcsd 320-556950/3-a	23	8290A/Solid		GRB	10.000	g
33	20JA22DFS1_33	440-293882-a-3-a	440-293882-a-3-a	24	8290A/Solid		GRB	10.000	g
34	20JA22DFS1_34	440-293882-a-19-a	440-293882-a-19-a	25	8290A/Solid		GRB	10.000	g
35	20JA22DFS1_35	320-83595-a-1-a	320-83595-a-1-a	26	8290A/Solid		GRB	10.000	g
36	20JA22DFS1_36	320-83595-a-2-a	320-83595-a-2-a	27	8290A/Solid		GRB	10.000	g
37	20JA22DFS1_37	320-83595-a-3-a	320-83595-a-3-a	28	8290A/Solid		GRB	10.000	g
38	20JA22DFS1_38	SB Solvent Blank C14	SB 012022A	3	Dioxin		GRB	1.000	
39	20JA22DFS1_39	CCV CS-4 HRDXNL4_00105	CCV 012022E	2	Dioxin		GRB	1.000	
40	20JA22DFS1_40	Resolution Check	RC 012022C	162			GRB	1.000	

Logfile ✓d
1/20/22
KSS

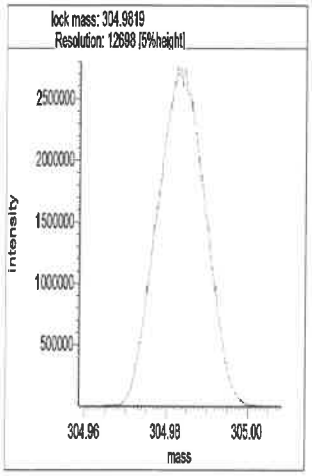
Resolution Check Report (DFS SN: 3487)

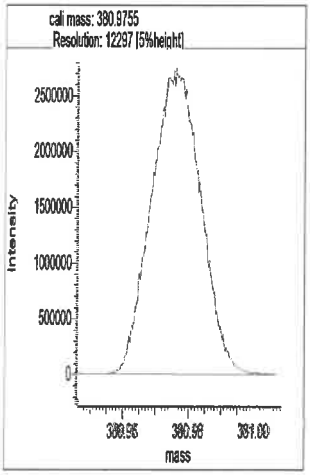
eurofins Environment Testing TestAmerica

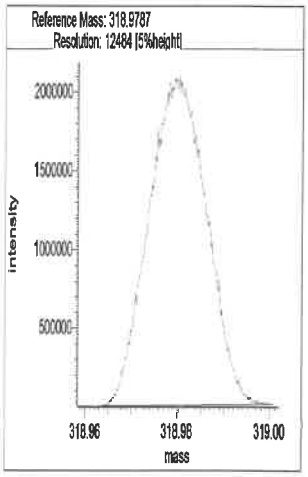
Date:	20 Jan 2022 15:01
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

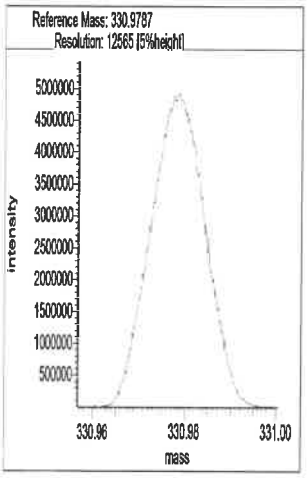
Segment 1

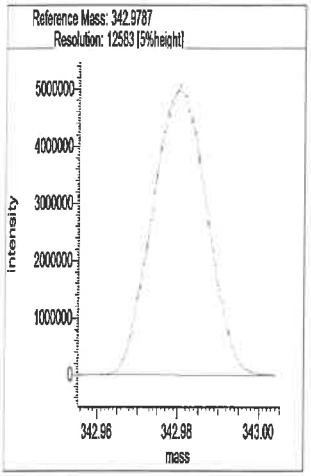
Lock mass 304.9819 [m/z] Resolution: 12698 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 12297 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 12484 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 12565 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 12583 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12428 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 11742 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 12165 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 12260 [5%height]

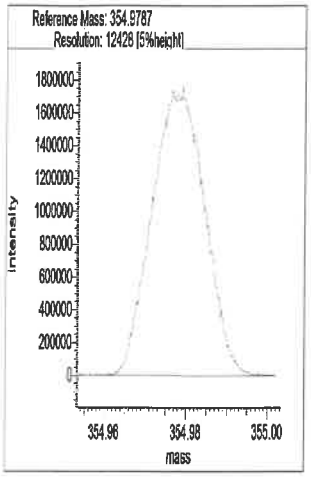


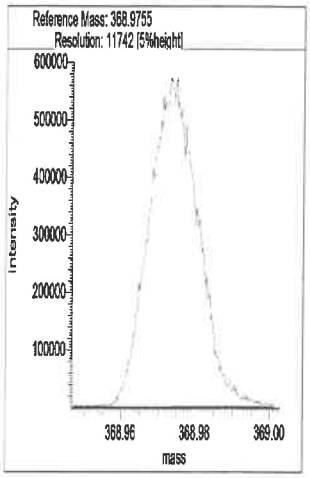


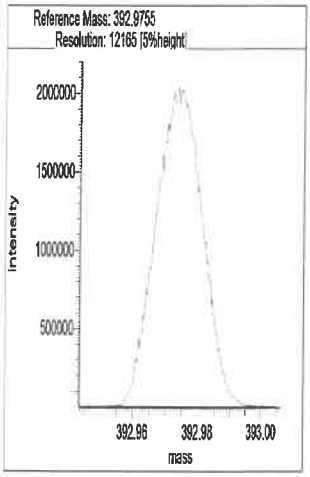


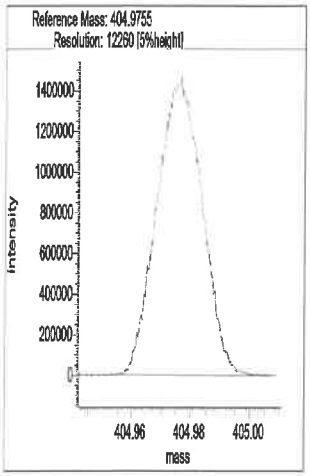












Segment 2

Lock mass 330.9787 [m/z] Resolution: 12686 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12268 [5%height]

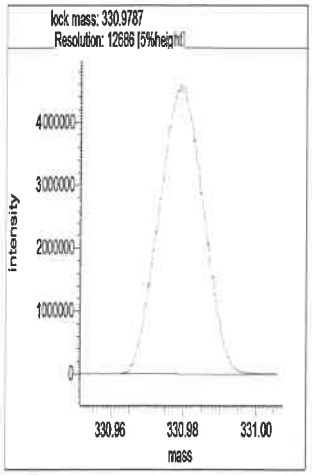
Ref. mass 342.9787 [m/z] Resolution: 12574 [5%height]

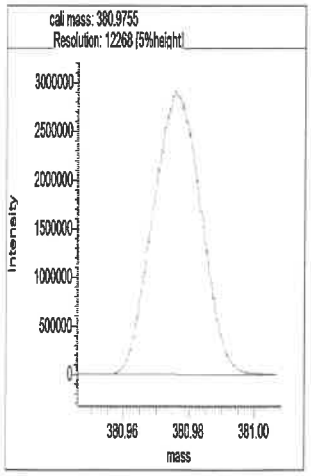
Ref. mass 354.9787 [m/z] Resolution: 12521 [5%height]

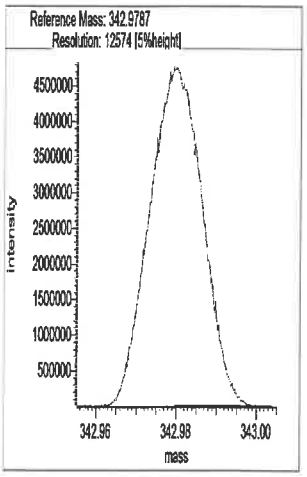
Ref. mass 368.9755 [m/z] Resolution: 11738 [5%height]

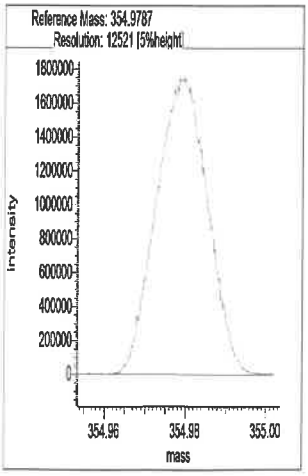
Ref. mass 392.9755 [m/z] Resolution: 12537 [5%height]

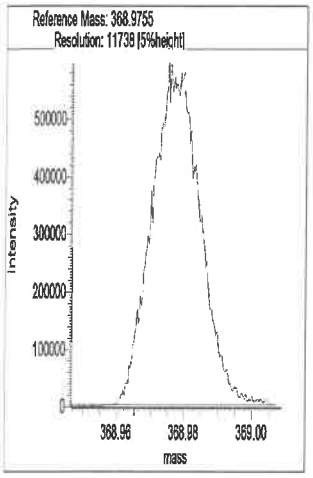
Ref. mass 404.9755 [m/z] Resolution: 12467 [5%height]

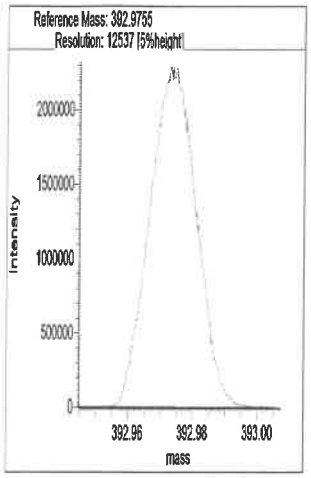


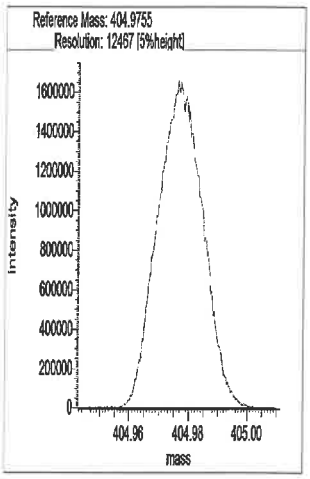












Segment 3

Lock mass 380.9755 [m/z] Resolution: 12319 [5%height]

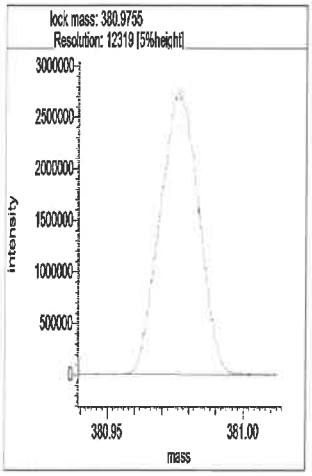
Cali. mass 430.9723 [m/z] Resolution: 12564 [5%height]

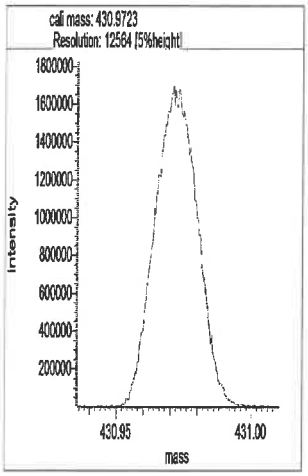
Ref. mass 392.9755 [m/z] Resolution: 12470 [5%height]

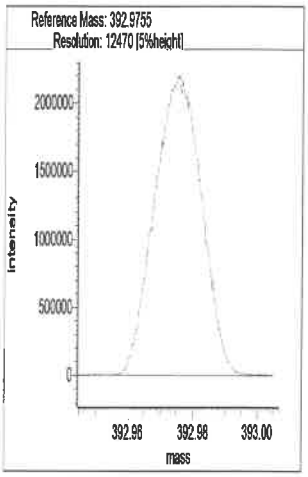
Ref. mass 404.9755 [m/z] Resolution: 12738 [5%height]

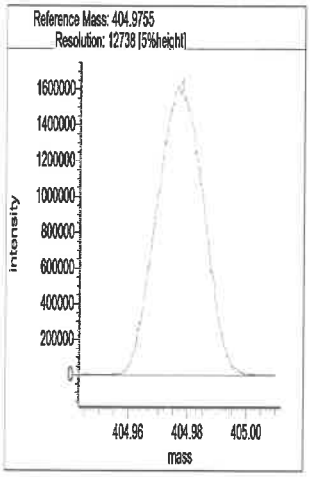
Ref. mass 416.9755 [m/z] Resolution: 12479 [5%height]

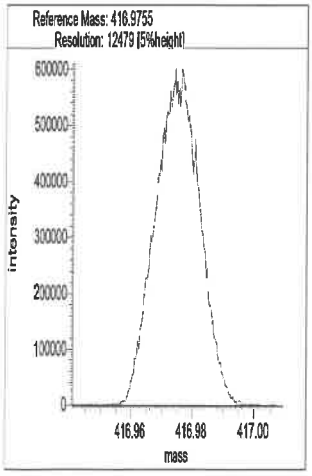
Ref. mass 442.9723 [m/z] Resolution: 12470 [5%height]

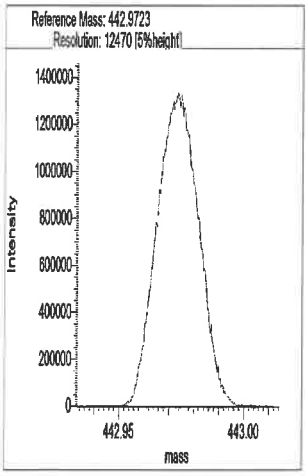












Segment 4

Lock mass 392.9754 [m/z] Resolution: 12540 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 12137 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12689 [5%height]

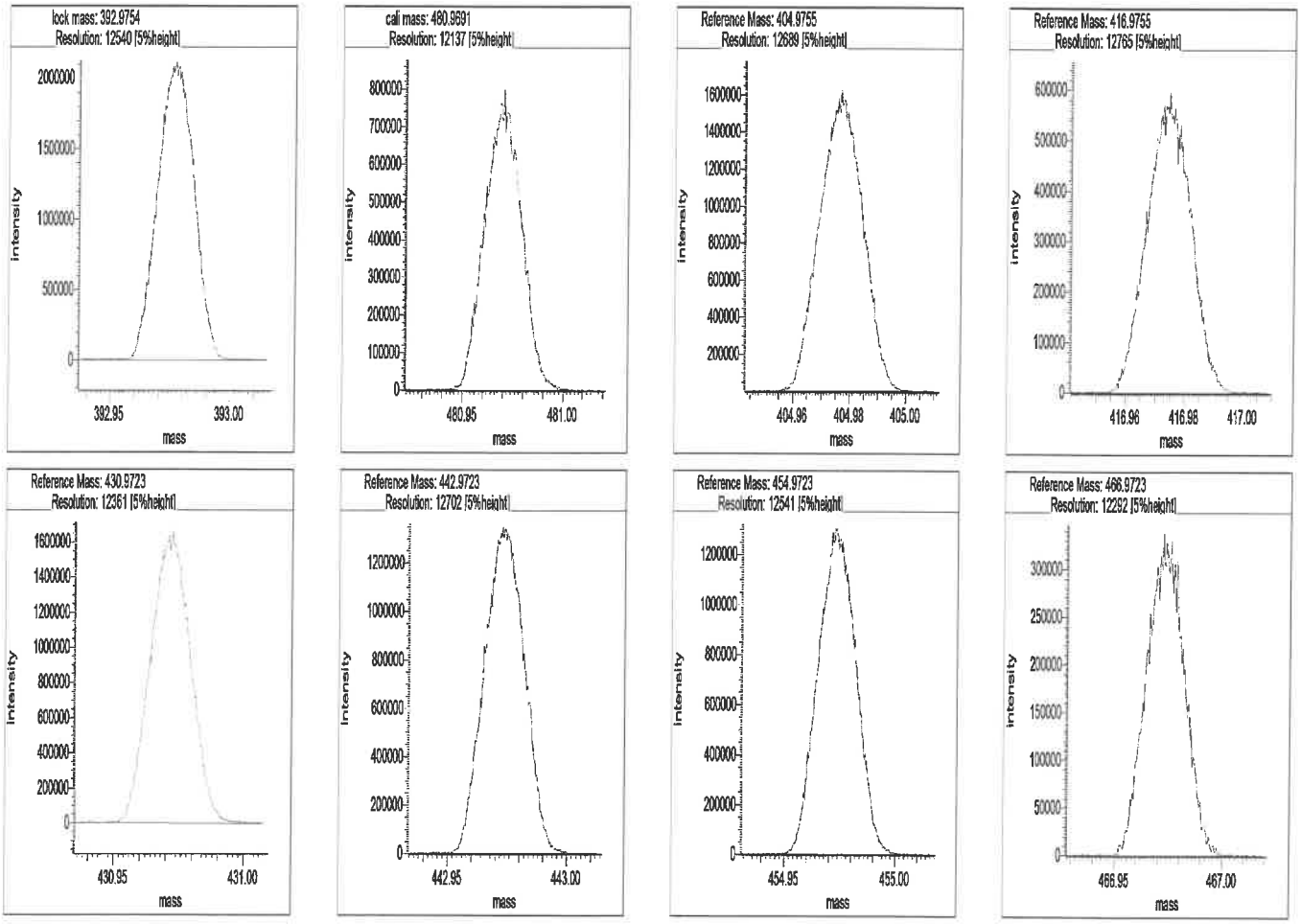
Ref. mass 416.9755 [m/z] Resolution: 12765 [5%height]

Ref. mass 430.9723 [m/z] Resolution: 12361 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12702 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12541 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12292 [5%height]



Segment 5

Lock mass 442.9723 [m/z] Resolution: 12469 [5%height]

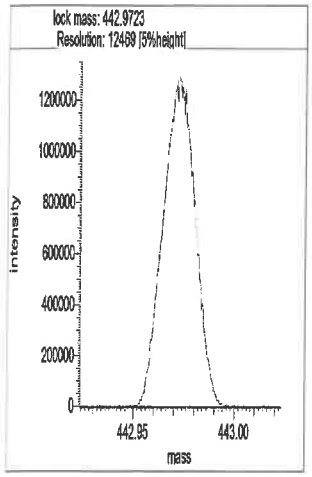
Cali. mass 504.9691 [m/z] Resolution: 12117 [5%height]

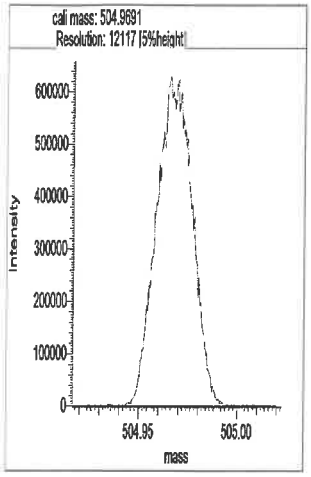
Ref. mass 454.9723 [m/z] Resolution: 12937 [5%height]

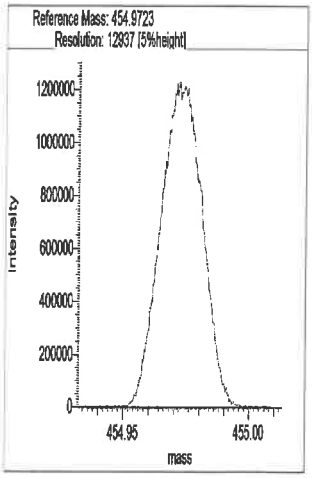
Ref. mass 466.9723 [m/z] Resolution: 12465 [5%height]

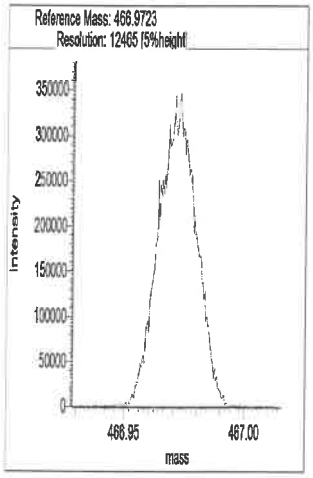
Ref. mass 480.9691 [m/z] Resolution: 12875 [5%height]

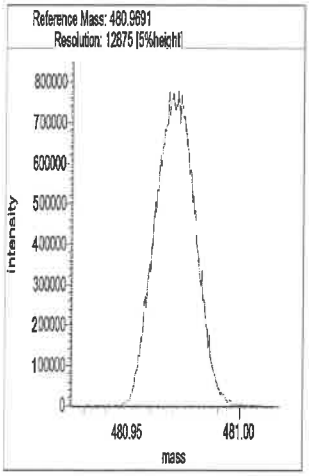
Ref. mass 492.9691 [m/z] Resolution: 12837 [5%height]

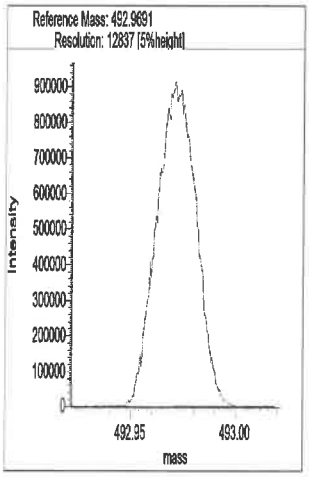

lock mass: 442.9723
Resolution: 12469 [5%height]
Intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 12117 [5%height]
Intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 12837 [5%height]
Intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 12465 [5%height]
Intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 12875 [5%height]
Intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 12837 [5%height]
Intensity
mass
492.95
493.00

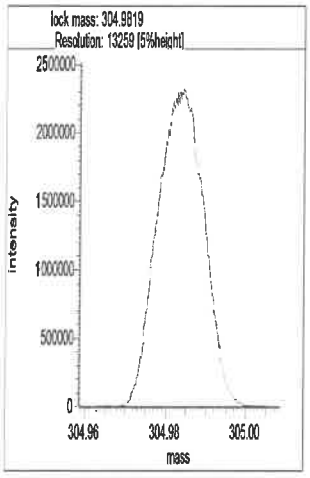
Resolution Check Report (DFS SN: 3487)

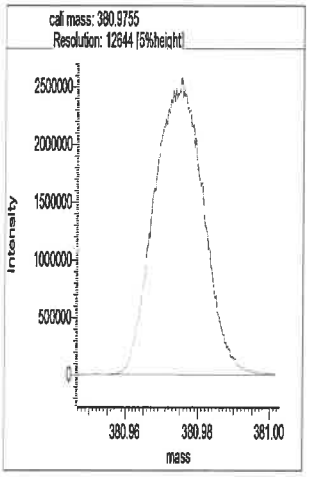
eurofins

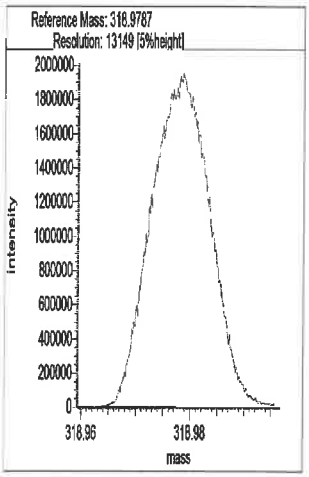
Date:	21 Jan 2022 01:49
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

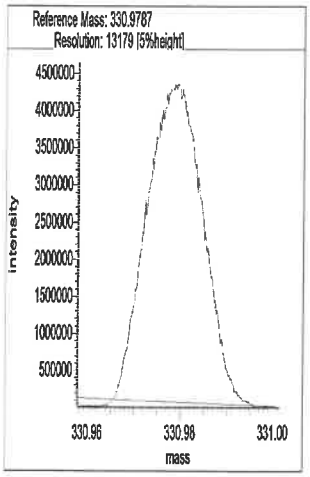
Segment 1

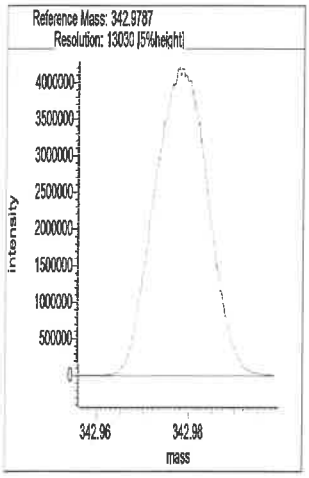
Lock mass 304.9819 [m/z] Resolution: 13259 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 12644 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 13149 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 13179 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 13030 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12791 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 11736 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 12409 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 12524 [5%height]

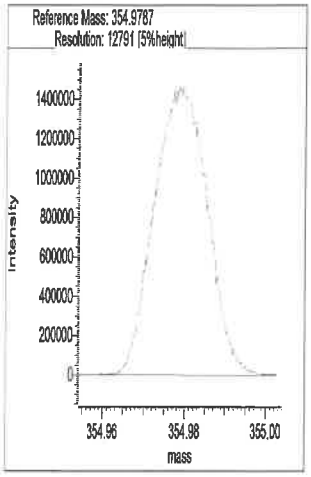


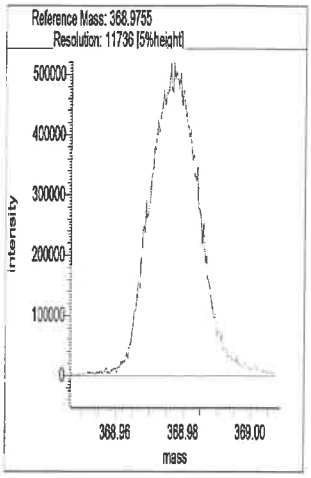


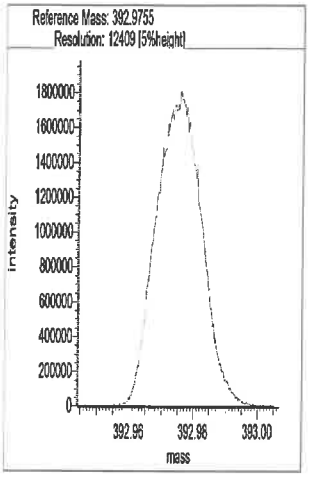


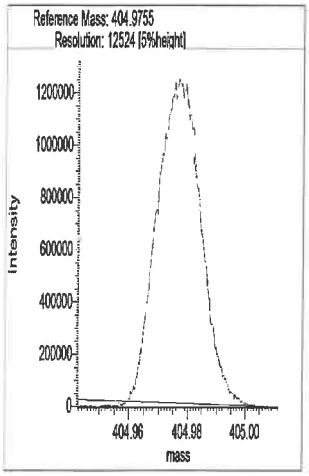












Segment 2

Lock mass 330.9787 [m/z] Resolution: 13150 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12650 [5%height]

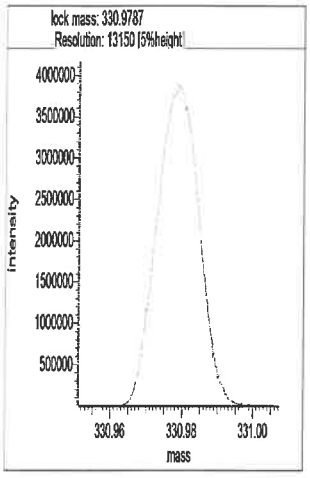
Ref. mass 342.9787 [m/z] Resolution: 13218 [5%height]

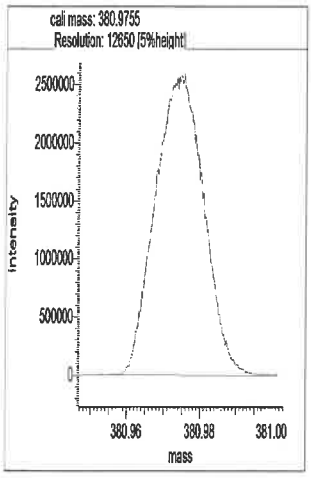
Ref. mass 354.9787 [m/z] Resolution: 13184 [5%height]

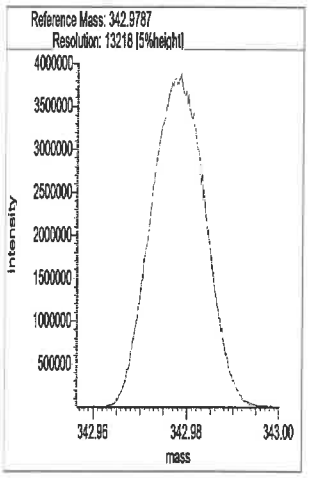
Ref. mass 368.9755 [m/z] Resolution: 11994 [5%height]

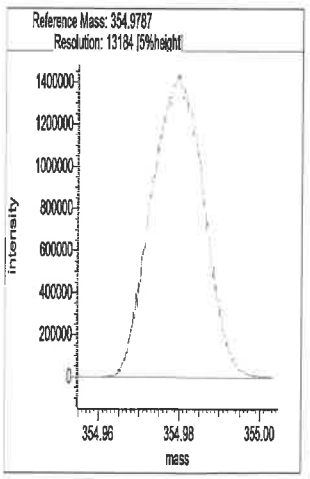
Ref. mass 392.9755 [m/z] Resolution: 12843 [5%height]

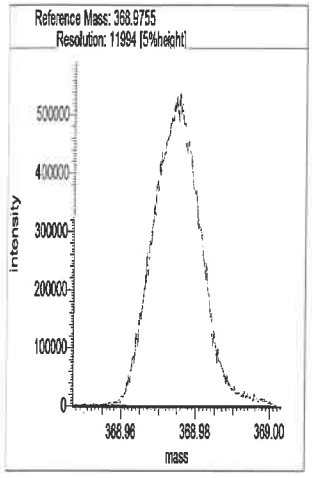
Ref. mass 404.9755 [m/z] Resolution: 12424 [5%height]

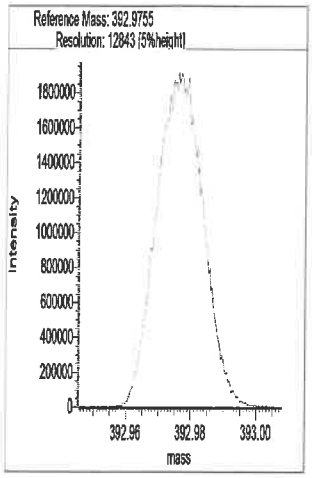


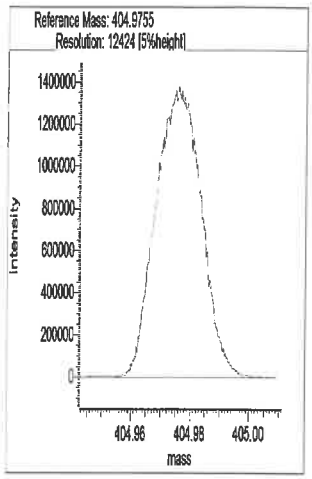












Segment 3

Lock mass 380.9755 [m/z] Resolution: 13133 [5%height]

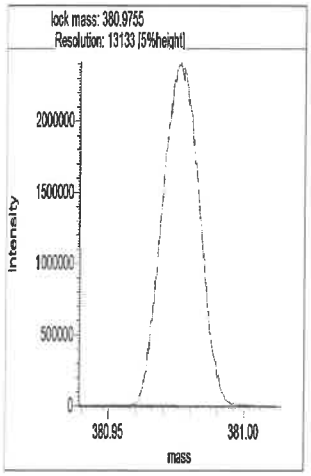
Cali. mass 430.9723 [m/z] Resolution: 13043 [5%height]

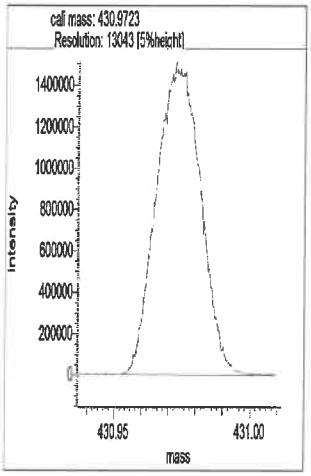
Ref. mass 392.9755 [m/z] Resolution: 13285 [5%height]

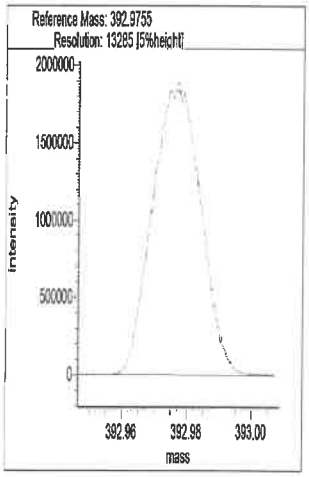
Ref. mass 404.9755 [m/z] Resolution: 13042 [5%height]

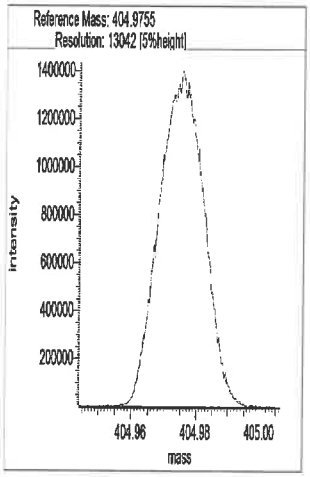
Ref. mass 416.9755 [m/z] Resolution: 13116 [5%height]

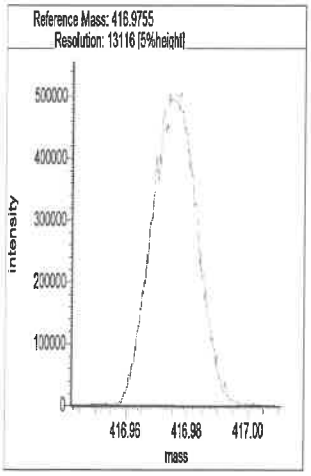
Ref. mass 442.9723 [m/z] Resolution: 13252 [5%height]

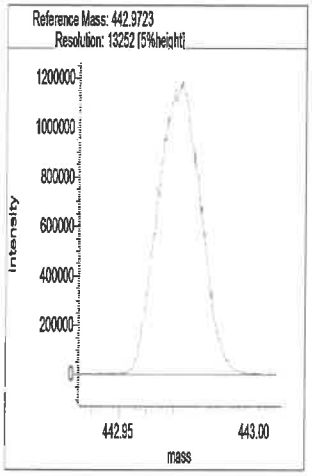












Segment 4

Lock mass 392.9754 [m/z] Resolution: 13250 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 12998 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 13450 [5%height]

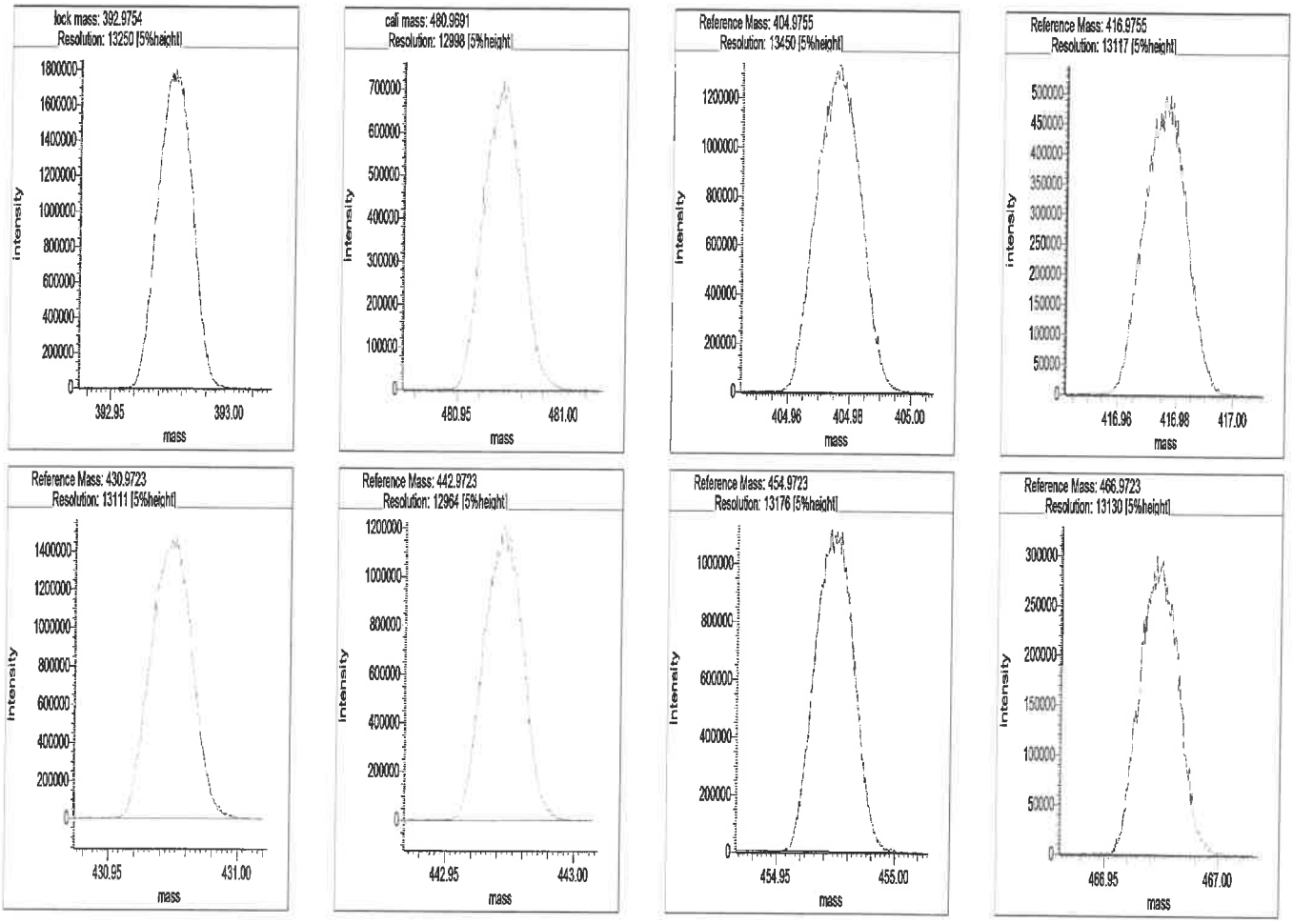
Ref. mass 416.9755 [m/z] Resolution: 13117 [5%height]

Ref. mass 430.9723 [m/z] Resolution: 13111 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12964 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 13176 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 13130 [5%height]



Segment 5

Lock mass 442.9723 [m/z] Resolution: 13323 [5%height]

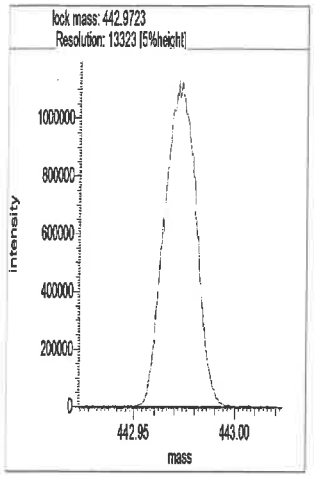
Cali. mass 504.9691 [m/z] Resolution: 12912 [5%height]

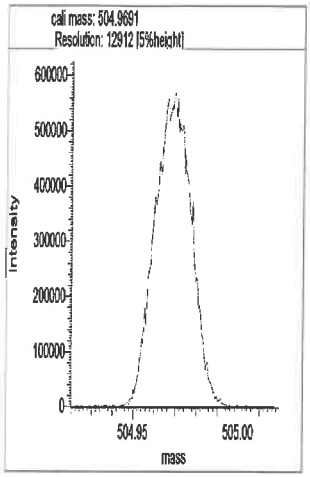
Ref. mass 454.9723 [m/z] Resolution: 13153 [5%height]

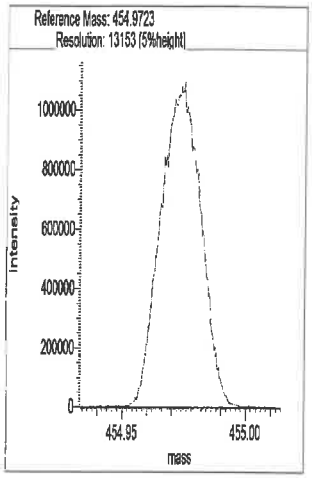
Ref. mass 466.9723 [m/z] Resolution: 13445 [5%height]

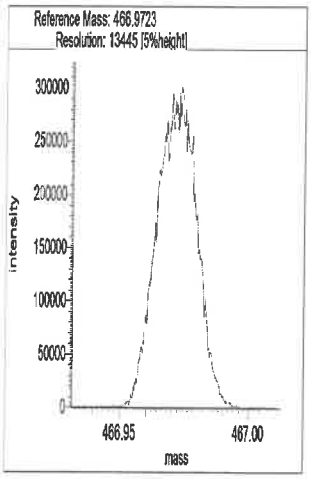
Ref. mass 480.9691 [m/z] Resolution: 13294 [5%height]

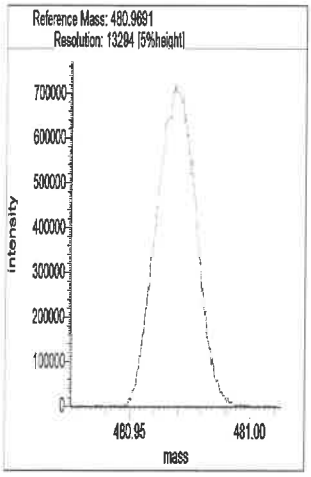
Ref. mass 492.9691 [m/z] Resolution: 13059 [5%height]

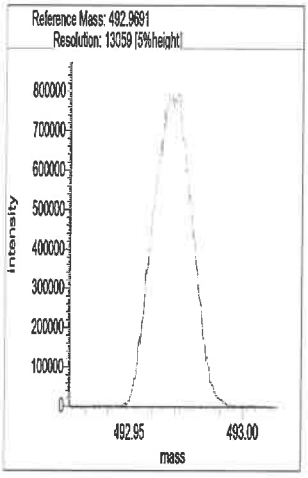

lock mass: 442.9723
Resolution: 13323 [5%height]
intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 12912 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 13153 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 13445 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 13294 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 13059 [5%height]
intensity
mass
492.95
493.00

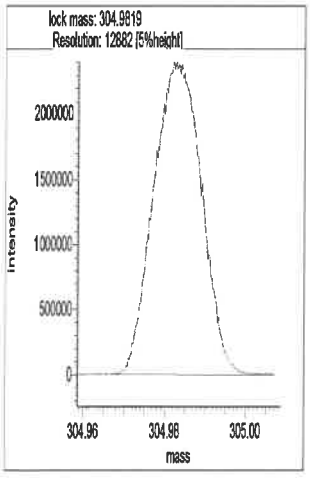
Resolution Check Report (DFS SN: 3487)

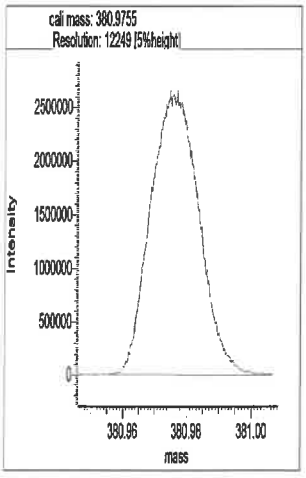
eurofins | Environment Testing TestAmerica

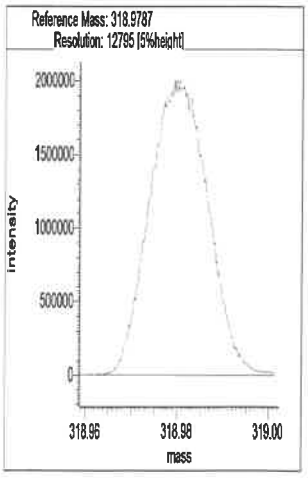
Date:	21 Jan 2022 10:53
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

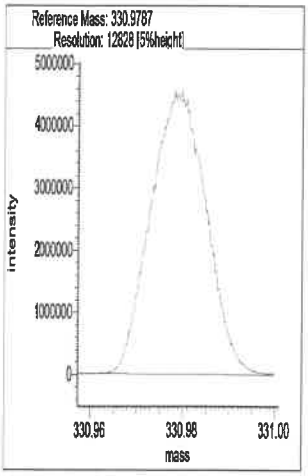
Segment 1

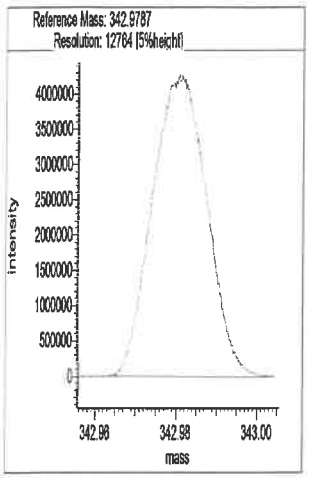
Lock mass 304.9819 [m/z] Resolution: 12882 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 12249 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 12795 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 12828 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 12764 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12689 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 11314 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 11984 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 12089 [5%height]

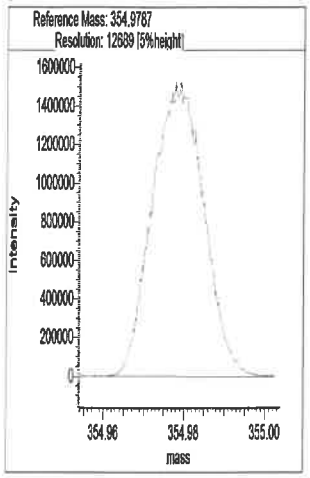


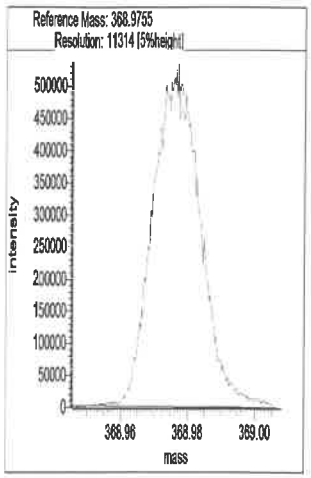


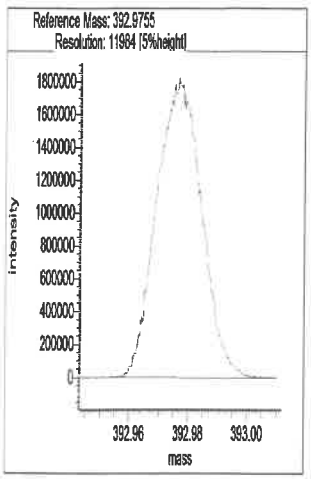


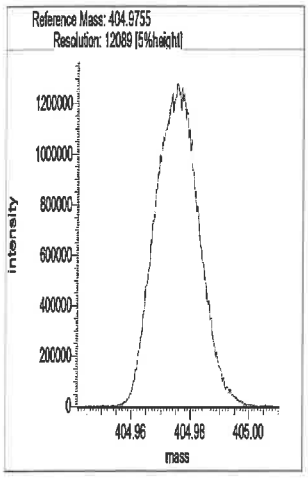












Segment 2

Lock mass 330.9787 [m/z] Resolution: 12839 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12560 [5%height]

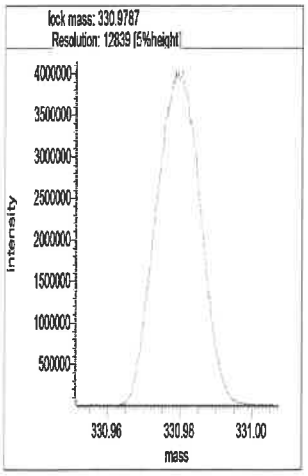
Ref. mass 342.9787 [m/z] Resolution: 12846 [5%height]

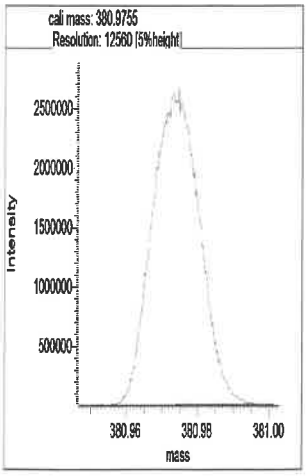
Ref. mass 354.9787 [m/z] Resolution: 12783 [5%height]

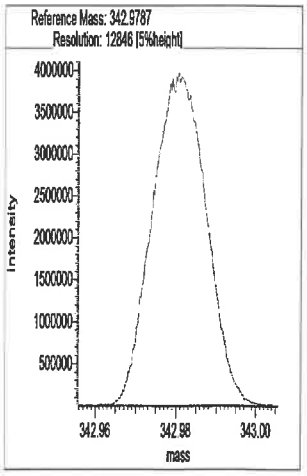
Ref. mass 368.9755 [m/z] Resolution: 11997 [5%height]

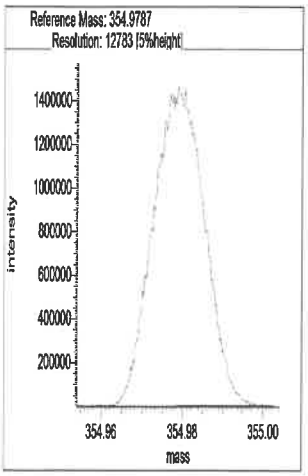
Ref. mass 392.9755 [m/z] Resolution: 12461 [5%height]

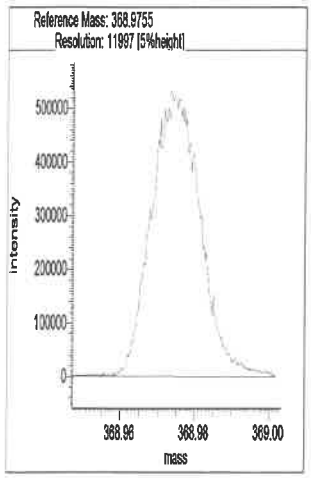
Ref. mass 404.9755 [m/z] Resolution: 12404 [5%height]

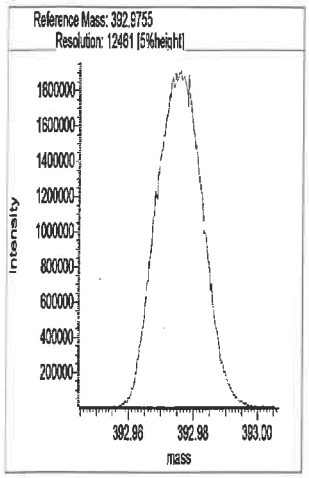


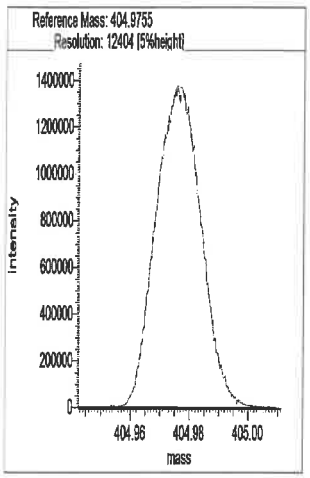












Segment 3

Lock mass 380.9755 [m/z] Resolution: 12906 [5%height]

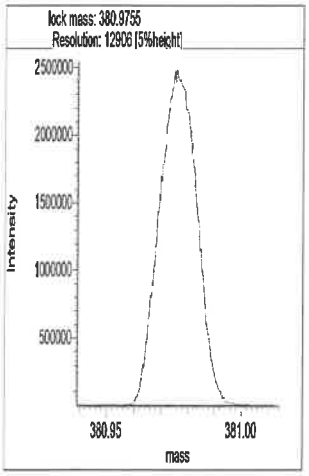
Cali. mass 430.9723 [m/z] Resolution: 12577 [5%height]

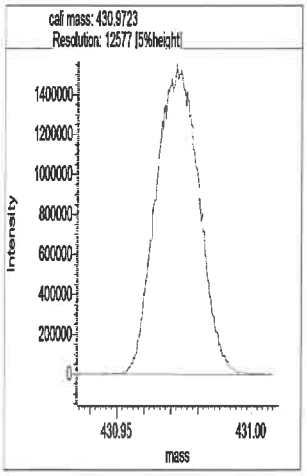
Ref. mass 392.9755 [m/z] Resolution: 13092 [5%height]

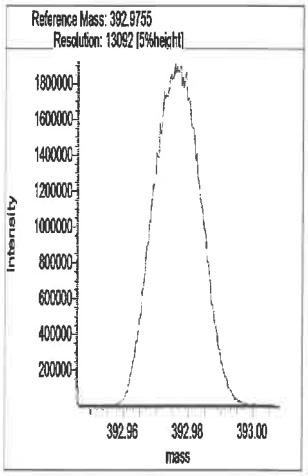
Ref. mass 404.9755 [m/z] Resolution: 13103 [5%height]

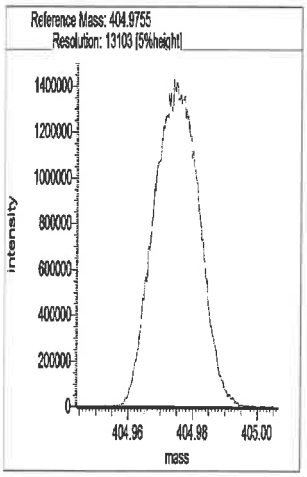
Ref. mass 416.9755 [m/z] Resolution: 12777 [5%height]

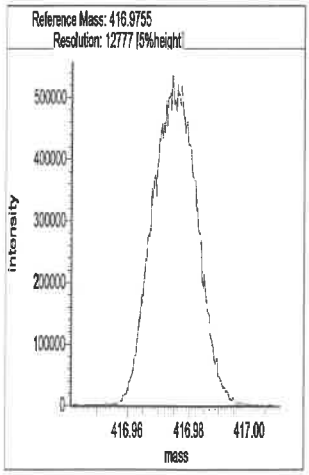
Ref. mass 442.9723 [m/z] Resolution: 12845 [5%height]

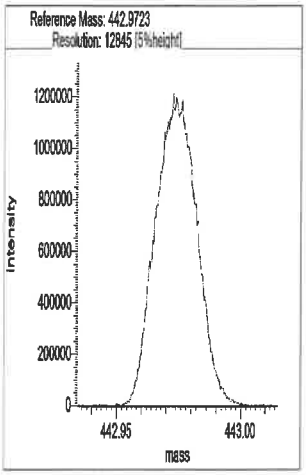












Segment 4

Lock mass 392.9754 [m/z] Resolution: 12969 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 12434 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12794 [5%height]

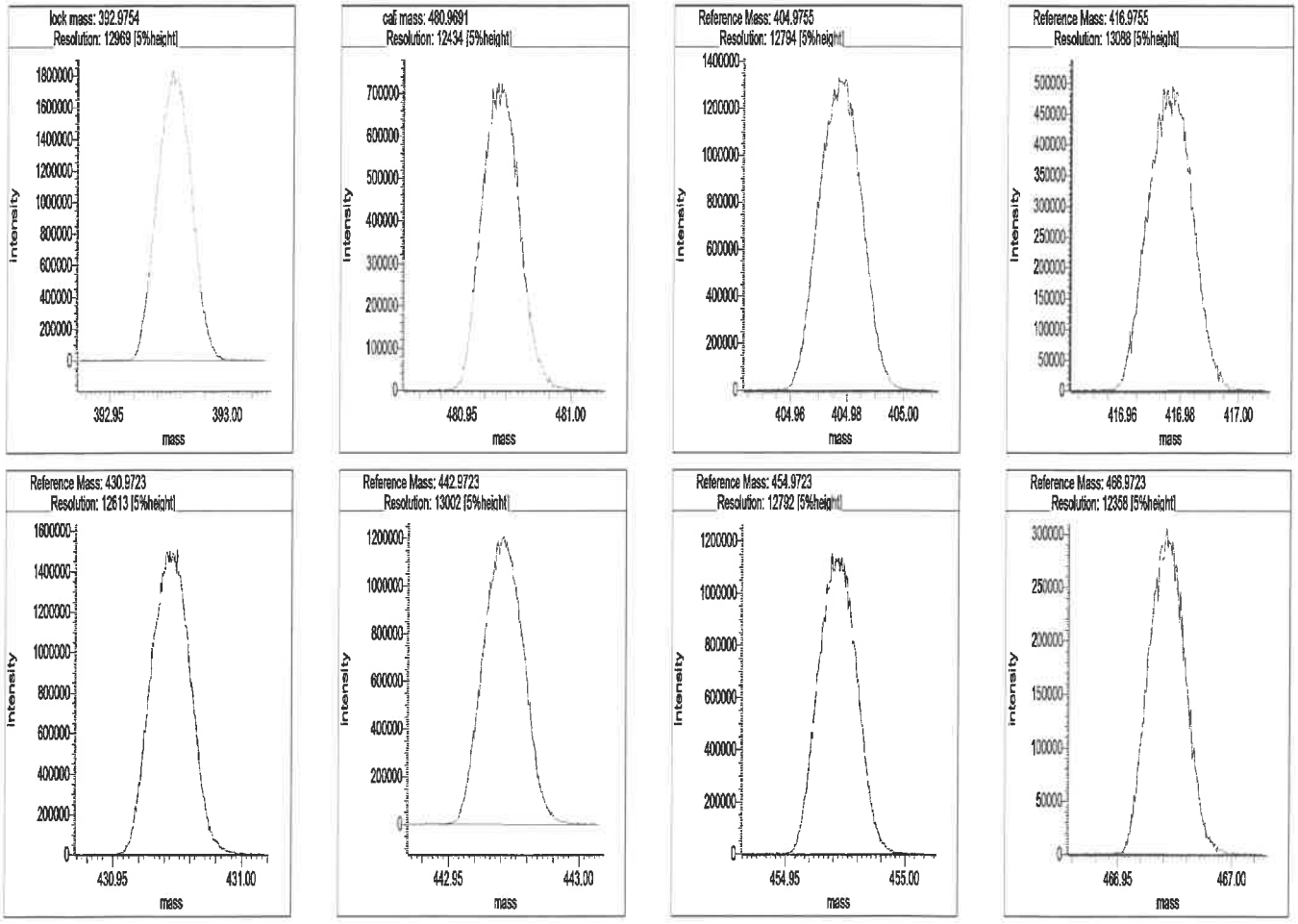
Ref. mass 416.9755 [m/z] Resolution: 13088 [5%height]

Ref. mass 430.9723 [m/z] Resolution: 12613 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 13002 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12792 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12358 [5%height]



Segment 5

Lock mass 442.9723 [m/z] Resolution: 13059 [5%height]

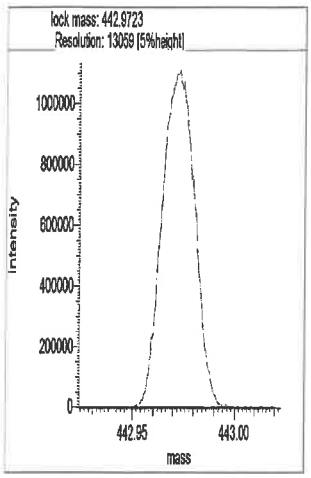
Cali. mass 504.9691 [m/z] Resolution: 12804 [5%height]

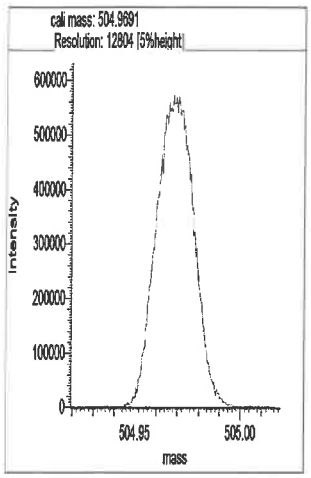
Ref. mass 454.9723 [m/z] Resolution: 13155 [5%height]

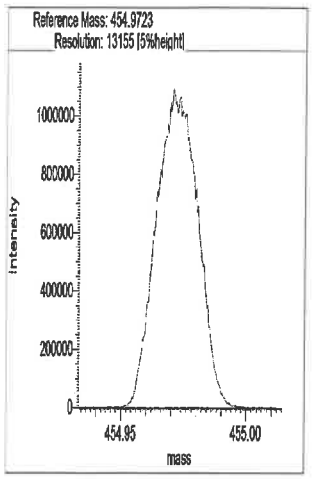
Ref. mass 466.9723 [m/z] Resolution: 13227 [5%height]

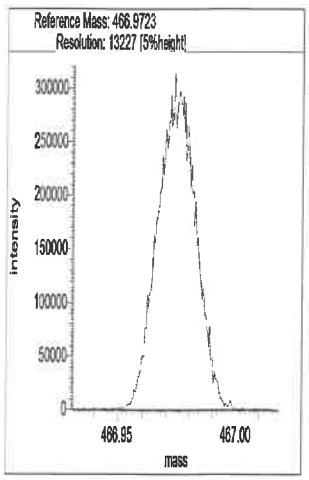
Ref. mass 480.9691 [m/z] Resolution: 12960 [5%height]

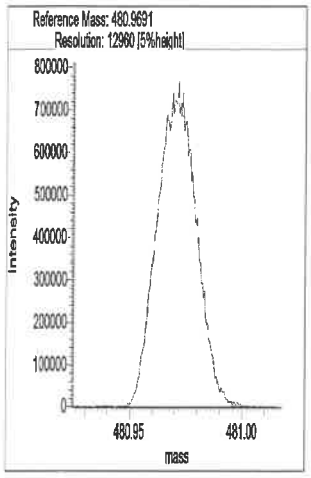
Ref. mass 492.9691 [m/z] Resolution: 13020 [5%height]

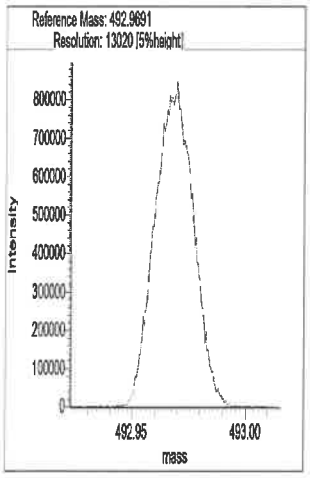

lock mass: 442.9723
Resolution: 13059 [5%height]
Intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 12804 [5%height]
Intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 13155 [5%height]
Intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 13227 [5%height]
Intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 12960 [5%height]
Intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 13020 [5%height]
Intensity
mass
492.95
493.00

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 20-Jan-2022 15:20:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:34 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 20-Jan-2022 16:18:55

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.998	6943298	0.81	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.079	7359573	0.81	1.0164	104.3	104.3	0.4390	0.4390	104	
2,3,7,8-TCDF	19.104	712422	0.79	1.0120	9.566	9.566	0.0493	0.0493	95.66	
A Non-2,3,7,8-sub-TCDF	18.672						0.0493	0.0493		
S Total TCDF					9.566	9.566	0.0493	0.0493		
D 13C-2,3,7,8-TCDD	20.341	5515925	0.78	0.7884	100.8	100.8	0.2403	0.2403	101	
2,3,7,8-TCDD	20.367	516872	0.81	0.9906	9.459	9.459	0.0803	0.0803	94.59	
$ 37Cl4-2,3,7,8-TCDD	20.367	592613		0.7911	10.8	10.8	0.0250	0.0250	108	
A Non-2,3,7,8-sub-TCDD	19.462						0.0803	0.0803		
S Total TCDD					9.459	9.459	0.0803	0.0803		
D 13C-1,2,3,7,8-PeCDF	26.115	7195194	1.58	0.9232	112.3	112.3	0.5839	0.5839	112	
1,2,3,7,8-PeCDF	26.140	3336510	1.58	0.9756	47.5	47.5	0.1951	0.1951	95.06	
D 13C-2,3,4,7,8-PeCDF	27.546	8612660	1.58	1.1692	106.1	106.1	0.4610	0.4610	106	
2,3,4,7,8-PeCDF	27.572	3082366	1.55	0.9215	46.5	46.5	0.2065	0.2065	92.97	
A F1 PeCDFs	23.359						0.007206	0.007206		
A Non-2,3,7,8-sub-PeCDF	26.772						0.2006	0.2006		n
S Total PeCDF					94.0	94.0	0.2008	0.2008		
D 13C-1,2,3,7,8-PeCDD	28.330	4139688	1.60	0.5606	106.4	106.4	0.2290	0.2290	106	
1,2,3,7,8-PeCDD	28.355	1984036	1.55	1.0020	47.8	47.8	0.0898	0.0898	95.66	
A Non-2,3,7,8-sub-PeCDD	27.152						0.0898	0.0898		
S Total PeCDD					47.8	47.8	0.0898	0.0898		
D 13C-1,2,3,4,7,8-HxCDF	34.034	6281311	0.52	1.0566	97.8	97.8	0.2876	0.2876	97.79	
1,2,3,4,7,8-HxCDF	34.051	2518449	1.25	0.8835	45.4	45.4	0.2049	0.2049	90.77	
D 13C-1,2,3,6,7,8-HxCDF	34.219	5293534	0.52	0.9686	89.9	89.9	0.3138	0.3138	89.90	
1,2,3,6,7,8-HxCDF	34.236	2789246	1.24	1.0287	43.2	43.2	0.1760	0.1760	86.33	
D 13C-2,3,4,6,7,8-HxCDF	35.154	5471912	0.54	0.9084	99.1	99.1	0.3346	0.3346	99.09	
2,3,4,6,7,8-HxCDF	35.171	2921995	1.23	0.9878	47.1	47.1	0.1833	0.1833	94.19	
D 13C-1,2,3,7,8,9-HxCDF	36.122	5330345	0.52	0.8248	106.3	106.3	0.3685	0.3685	106	
1,2,3,7,8,9-HxCDF	36.139	2867406	1.23	0.9071	50.3	50.3	0.1996	0.1996	101	
A Non-2,3,7,8-sub-HxCDF	34.036						0.1902	0.1902		
S Total HxCDF					186.0	186.0	0.1910	0.1910		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	35.929	6079318	1.24	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.407	5197106	1.26	1.0143	84.3	84.3	0.2033	0.2033	84.28	
1,2,3,4,7,8-HxCDD	35.423	1927091	1.26	0.8294	49.9	49.9	0.1205	0.1205	99.73	
D 13C-1,2,3,6,7,8-HxCDD	35.533	4659488	1.25	0.8027	95.5	95.5	0.2569	0.2569	95.49	
1,2,3,6,7,8-HxCDD	35.550	2159311	1.25	0.9395	49.3	49.3	0.1064	0.1064	98.66	
1,2,3,7,8,9-HxCDD	35.946	2138418	1.24	0.9076	50.6	50.6	0.1101	0.1101	101	
A Non-2,3,7,8-sub-HxCDD	34.533						0.1120	0.1120		
S Total HxCDD					149.8	149.8	0.1123	0.1123		
D 13C-1,2,3,4,6,7,8-HpCDF	38.096	4130569	0.44	0.6421	105.8	105.8	0.4952	0.4952	106	
1,2,3,4,6,7,8-HpCDF	38.113	2883578	1.03	1.4385	48.5	48.5	0.1834	0.1834	97.06	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.410	5363472	0.46	1.1706	110.9	110.9	0.3315	0.3315	111	
1,2,3,4,7,8,9-HpCDF	39.419	2485839	1.04	1.2202	49.3	49.3	0.2163	0.2163	98.64	
A Non-2,3,7,8-sub-HpCDF	38.738						0.1985	0.1985		
S Total HpCDF					97.9	97.9	0.1998	0.1998		
D 13C-1,2,3,4,6,7,8-HpCDD	39.107	4184785	1.06	0.6246	110.2	110.2	0.3219	0.3219	110	
1,2,3,4,6,7,8-HpCDD	39.115	1920439	1.05	0.9767	47.0	47.0	0.1081	0.1081	93.97	
A Non-2,3,7,8-sub-HpCDD	38.755	18525	1.20	0.9767	0.4532	0.4532	0.1081	0.4532	0.00	
S Total HpCDD					47.4	47.4	0.1081	0.1081		
D 13C-OCDD	41.579	6143041	0.89	0.4360	231.8	231.8	0.3579	0.3579	116	
OCDF	41.663	3787752	0.89	1.2756	96.7	96.7	0.1015	0.1015	96.68	
OCDD	41.587	3049048	0.87	1.0341	96.0	96.0	0.0906	0.0906	95.99	

Reagents:

HRDXNL4_00105 Amount Added: 1.00 Units: uL

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 20-Jan-2022 15:20:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:34 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 20-Jan-2022 16:18:55

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	19.998	19.998	0		3096837	486767	537	1342	906		
333.9338	19.989	19.998	-1		3846461	601642	288	720	2089	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.079	19.079	0	0.954	3283113	529332	1335	3337	397		
317.9389	19.079	19.079	0	0.954	4076460	633600	608	1520	1042	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.104	19.104	0	1.001	313373	46475	66	165	704		
305.8987	19.104	19.104	0	1.001	399049	60722	166	415	366	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.672						66	165			
305.8987	18.672						166	415			
13C-2,3,7,8-TCDD											
331.9368	20.341	20.341	0	1.017	2423478	336553	537	1342	627		
333.9338	20.332	20.341	-1	1.017	3092447	436298	288	720	1515	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.367	20.367	0	1.001	230762	34890	169	422	206		
321.8936	20.367	20.367	0	1.001	286110	41552	77	192	540	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.367	20.367	0	1.018	592613	82915	86	215	964		
A Non-2,3,7,8-sub-TCDD											
319.8965	19.462						169	422			
321.8936	19.462						77	192			
13C-1,2,3,7,8-PeCDF											
351.9000	26.115	26.115	0	1.306	4409515	778813	1425	3562	547		
353.8970	26.115	26.115	0	1.306	2785679	493939	922	2305	536	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.140	26.140	0	1.001	2041710	344401	567	1417	607		
341.8567	26.140	26.140	0	1.001	1294800	215519	402	1005	536	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.546	27.546	0	1.377	5280651	850984	1425	3562	597		
353.8970	27.546	27.546	0	1.377	3332009	547702	922	2305	594	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.572	27.572	0	1.056	1874734	297560	567	1417	525		
341.8567	27.572	27.572	0	1.056	1207632	191999	402	1005	478	1.55(1.32-1.78)	
A F1 PeCDFs											
339.8597	23.359						1	2			
341.8567	23.359						34	85			
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.670	26.742	-4	1.021	21608	3687	567	1417	7		
341.8567	26.696	26.742	-3	1.022	13878	2225	402	1005	6	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.330	28.330	0	1.417	2544711	403801	313	782	1290		
369.8919	28.330	28.330	0	1.417	1594977	265412	246	615	1079	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.355	28.355	0	1.001	1205869	186320	170	425	1096		
357.8516	28.355	28.355	0	1.001	778167	118664	71	177	1671	1.55(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.152						170	425			
357.8516	27.152						71	177			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.034	34.034	0	0.947	2142620	399662	627	1567	637		
385.8610	34.034	34.034	0	0.947	4138691	785022	1046	2615	750	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.051	34.051	0	1.000	1399199	262210	408	1020	643		
375.8178	34.051	34.051	0	1.000	1119250	215334	450	1125	479	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.219	34.219	0	0.952	1814403	333292	627	1567	532		
385.8610	34.219	34.219	0	0.952	3479131	630973	1046	2615	603	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.236	34.236	0	1.006	1541930	266031	408	1020	652		
375.8178	34.236	34.236	0	1.006	1247316	214657	450	1125	477	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.154	35.154	0	0.978	1908920	388862	627	1567	620		
385.8610	35.154	35.154	0	0.978	3562992	719027	1046	2615	687	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.171	35.171	0	1.033	1613145	328473	408	1020	805		
375.8178	35.171	35.171	0	1.033	1308850	261267	450	1125	581	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.122	36.122	0	1.005	1831635	411338	627	1567	656		
385.8610	36.122	36.122	0	1.005	3498710	781837	1046	2615	747	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	36.139	36.139	0	1.062	1583698	365169	408	1020	895		
375.8178	36.139	36.139	0	1.062	1283708	285130	450	1125	634	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.036						408	1020			
375.8178	34.036						450	1125			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.929	35.929	0		3370513	760903	655	1637	1162		
403.8529	35.929	35.929	0		2708805	615120	480	1200	1282	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.407	35.407	0	0.985	2901177	639984	655	1637	977		
403.8529	35.407	35.407	0	0.985	2295929	516276	480	1200	1076	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.423	35.423	0	0.997	1075021	238920	202	505	1183		
391.8127	35.423	35.423	0	0.997	852070	187370	182	455	1030	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.533	35.533	0	0.989	2588299	523430	655	1637	799		
403.8529	35.533	35.533	0	0.989	2071189	437305	480	1200	911	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.550	35.550	0	1.000	1199149	248000	202	505	1228		
391.8127	35.550	35.550	0	1.000	960162	198174	182	455	1089	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	35.946	35.946	0	1.012	1184317	251127	202	505	1243		
391.8127	35.946	35.946	0	1.012	954101	201651	182	455	1108	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.533						202	505			
391.8127	34.533						182	455			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.096	38.096	0	1.060	1271574	355838	604	1510	589		
419.8220	38.096	38.096	0	1.060	2858995	771581	1146	2865	673	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.113	38.113	0	1.000	1466404	385869	628	1570	614		
409.7788	38.105	38.113	-1	1.000	1417174	375979	562	1405	669	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.410	39.410	0	1.034	1700735	531615	604	1510	880		
419.8220	39.410	39.410	0	1.034	3662737	1078279	1146	2865	941	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.419	39.419	0	1.035	1267366	383356	628	1570	610		
409.7788	39.419	39.419	0	1.035	1218473	362857	562	1405	646	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.738						628	1570			
409.7788	38.738						562	1405			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.107	39.107	0	1.088	2150464	629275	556	1390	1132		
437.8140	39.107	39.107	0	1.088	2034321	594367	551	1377	1079	1.06(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7767	39.115	39.115	0	1.000	981888	293464	284	710	1033		
425.7737	39.115	39.115	0	1.000	938551	278034	233	582	1193	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.450	38.755	-18	0.983	10113	2886	284	710	10		
425.7737	38.450	38.755	-18	0.983	8412	2834	233	582	12	1.20(0.88-1.20)	
13C-OCDD											
469.7780	41.579	41.579	0	1.157	2888512	855429	465	1162	1840		
471.7750	41.579	41.579	0	1.157	3254529	969667	394	985	2461	0.89(0.76-1.02)	
OCDF											
441.7428	41.663	41.663	0	1.002	1780193	511969	197	492	2599		
443.7399	41.663	41.663	0	1.002	2007559	575894	276	690	2087	0.89(0.76-1.02)	
OCDD											
457.7377	41.587	41.587	0	1.000	1421648	420215	182	455	2309		
459.7348	41.587	41.587	0	1.000	1627400	484739	160	400	3030	0.87(0.76-1.02)	

Reagents:

HRDXNL4_00105 Amount Added: 1.00 Units: uL

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d
Lims ID: CCV
Client ID:
Inject. Date: 20-Jan-2022 15:20:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 1
Sublist: chrom-Dioxin_DFS1*sub1

Non-2,3,7,8-sub-HpCDD, RT: 38.755

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	4184785	1223642

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	4184785	1223642

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.450	10113	2886	8412	2834	0.4532	1.20	
Signal Totals:							
	10113	2886	8412	2834			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	18525	5720				1.20	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4532 = (18525 * 100.000) / (4184785 * 0.977)

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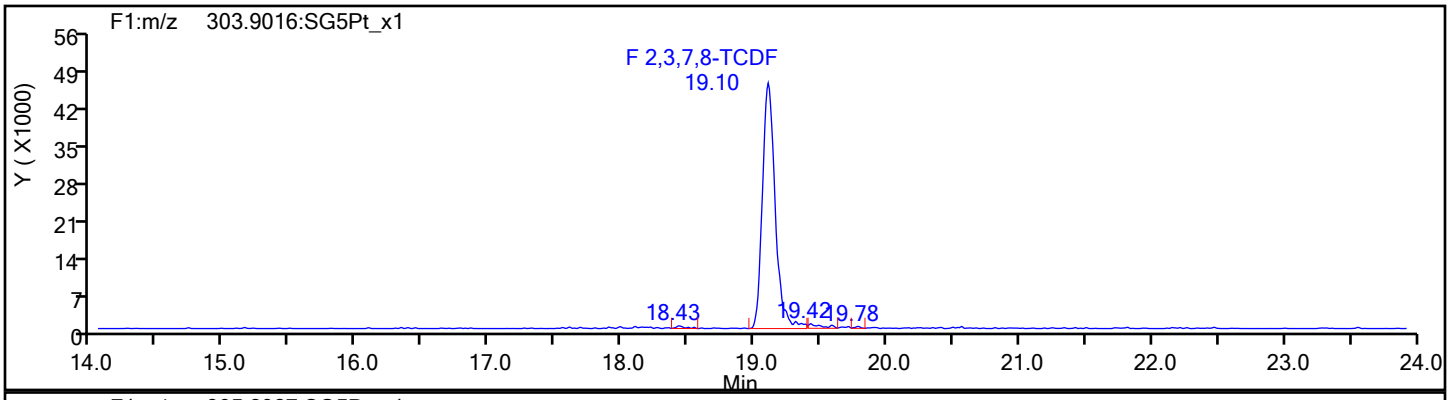
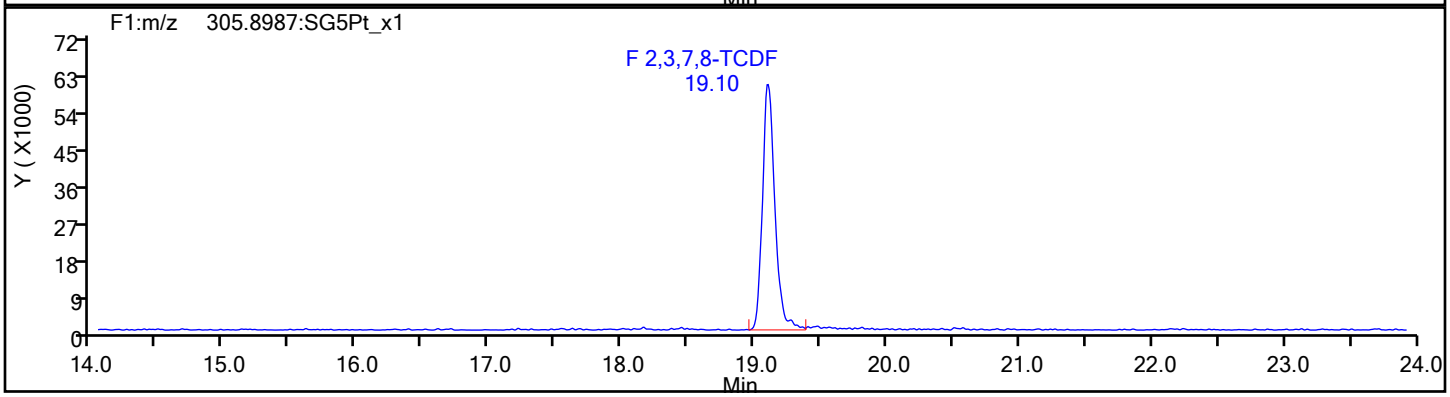
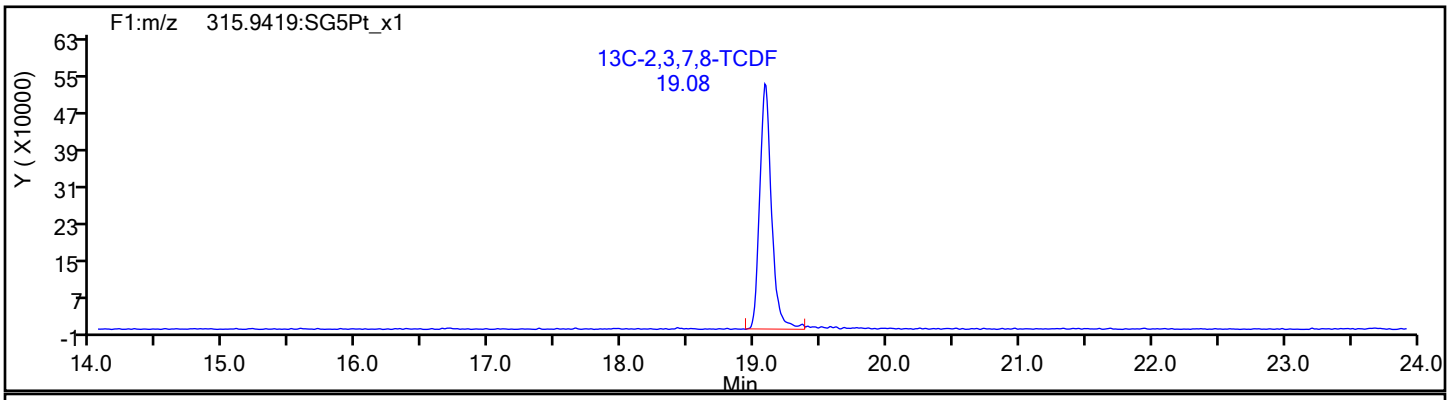
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d
Injection Date: 20-Jan-2022 15:20:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

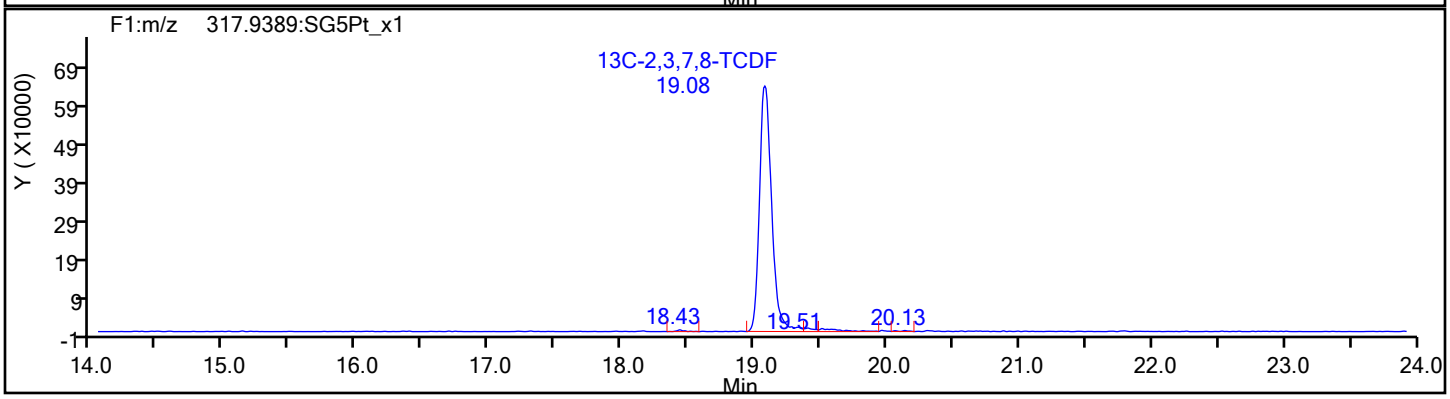
TCDF





TCDF Standards

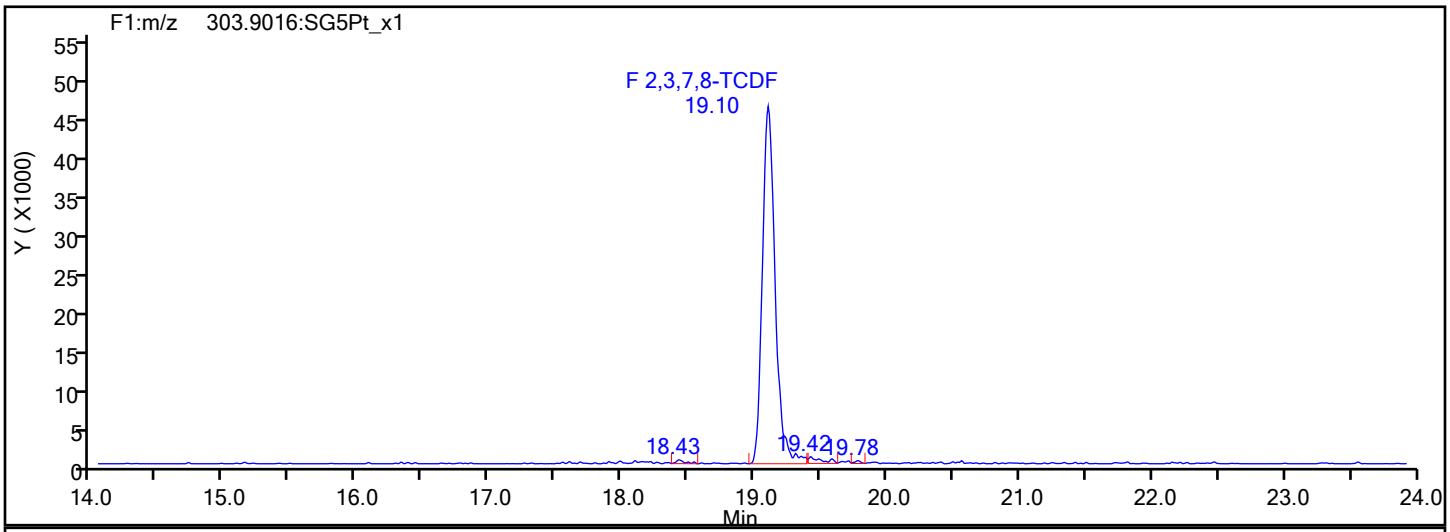


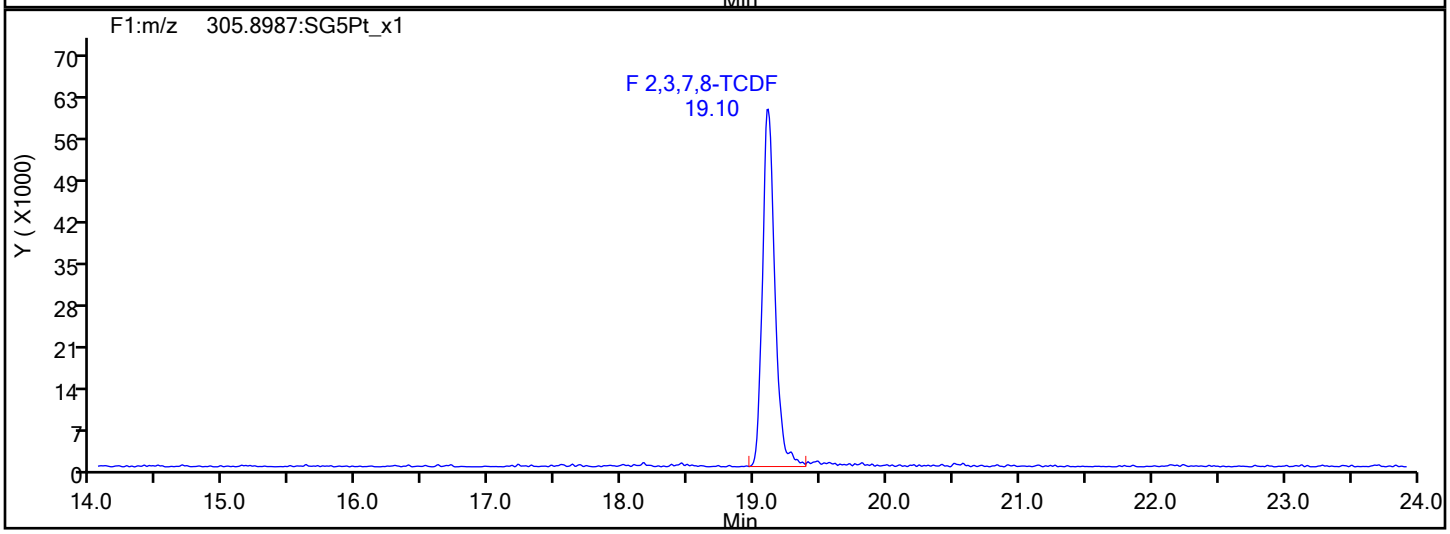


Eurofins Sacramento

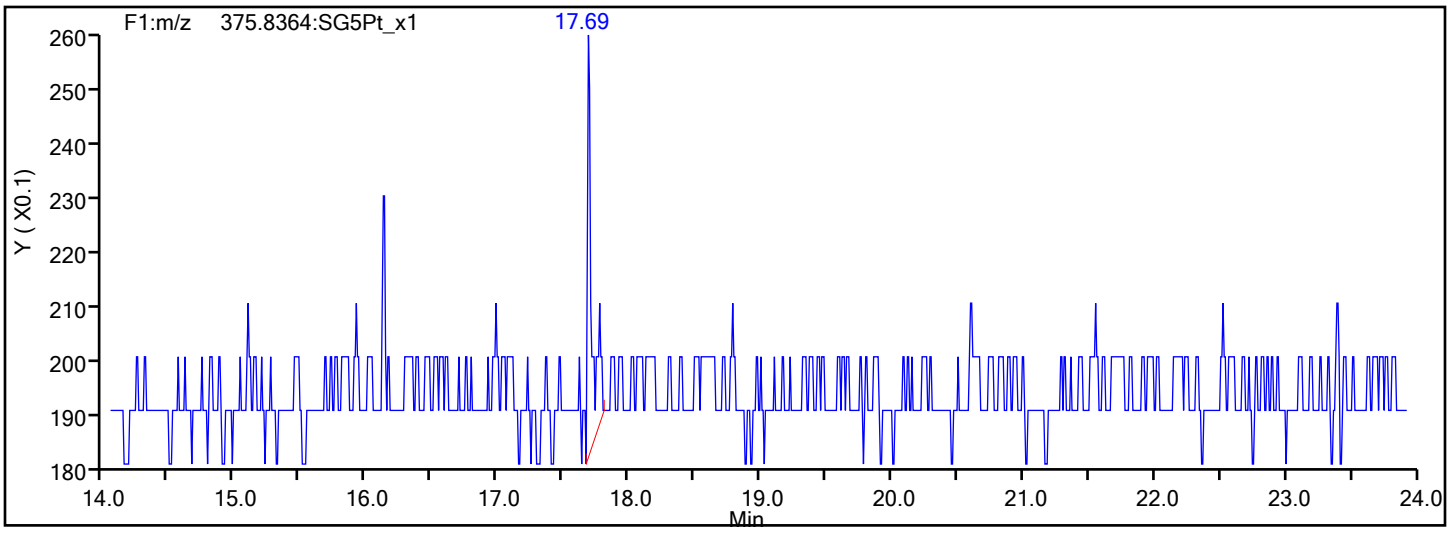
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d		
Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





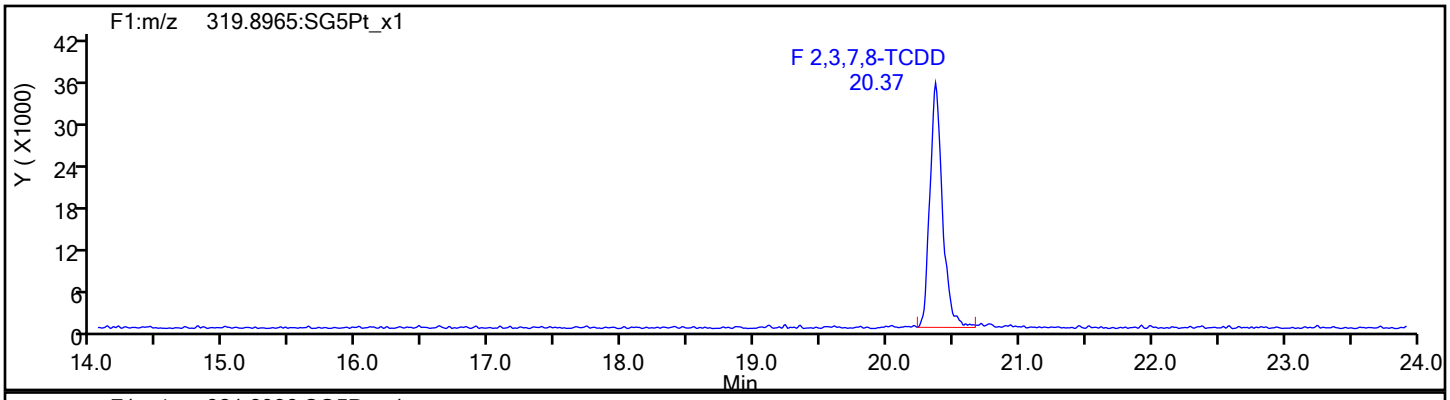
TCDF Interference Mass

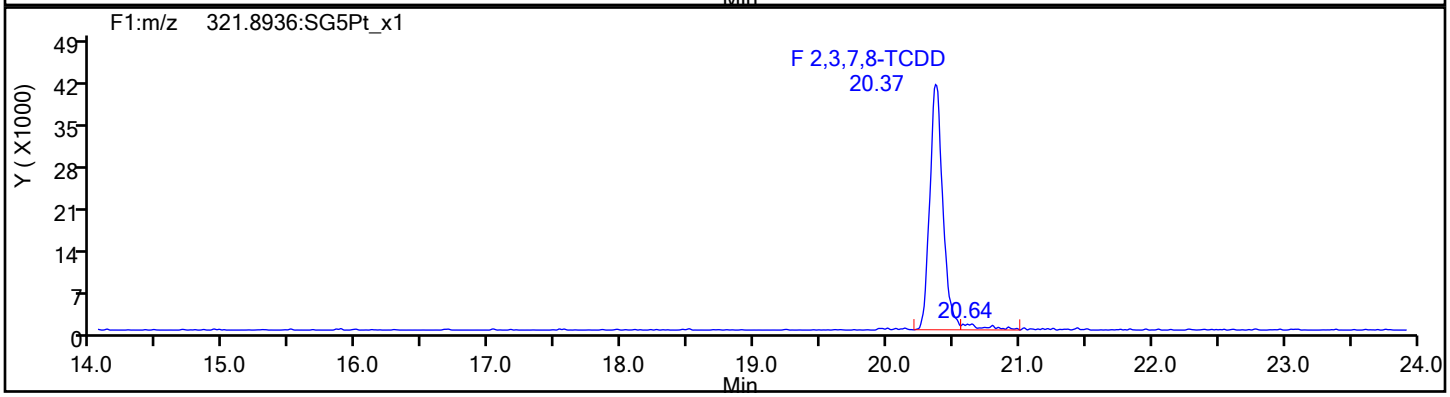


Eurofins Sacramento

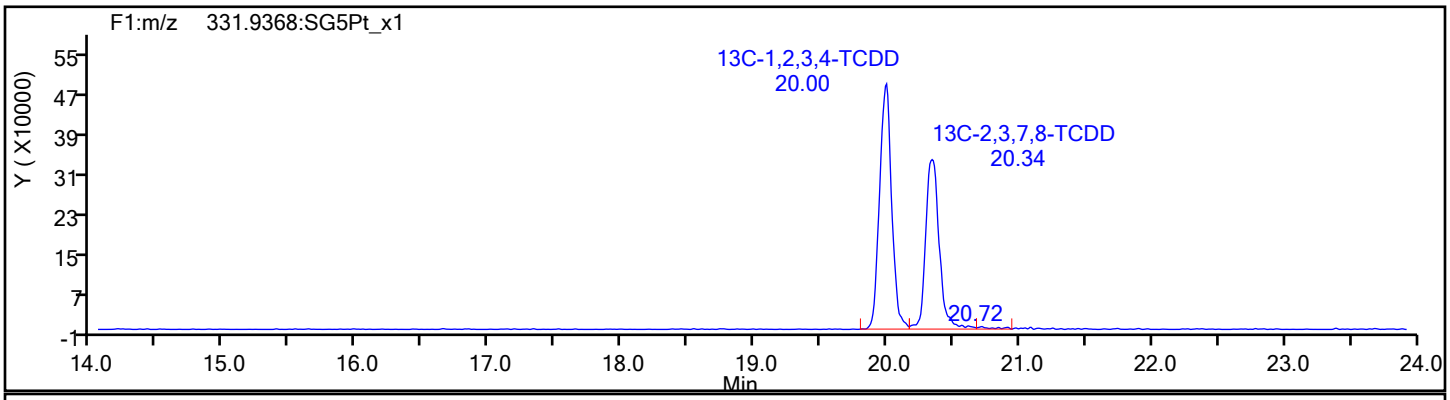
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d
Injection Date: 20-Jan-2022 15:20:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

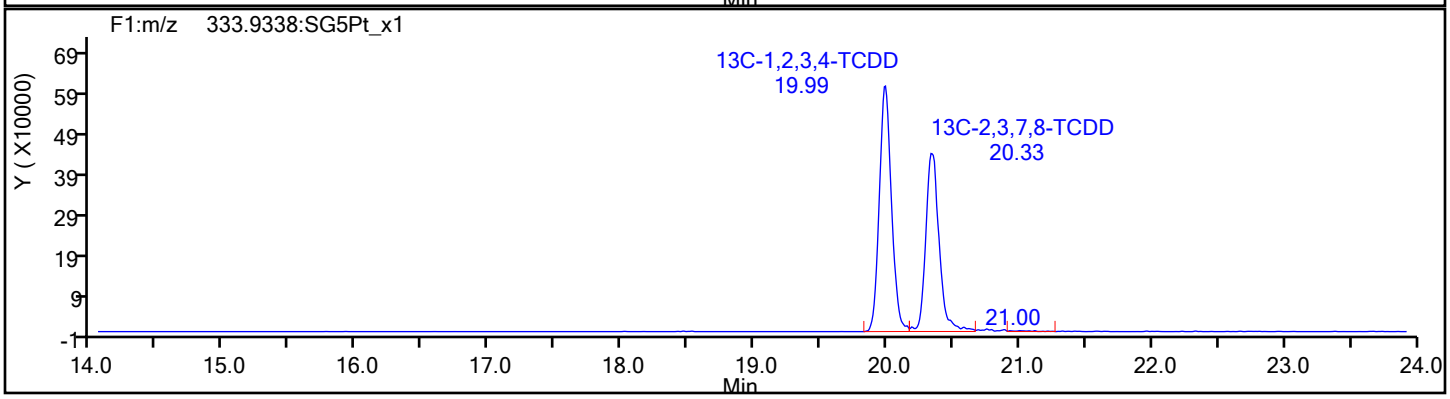
TCDD





TCDD Standards





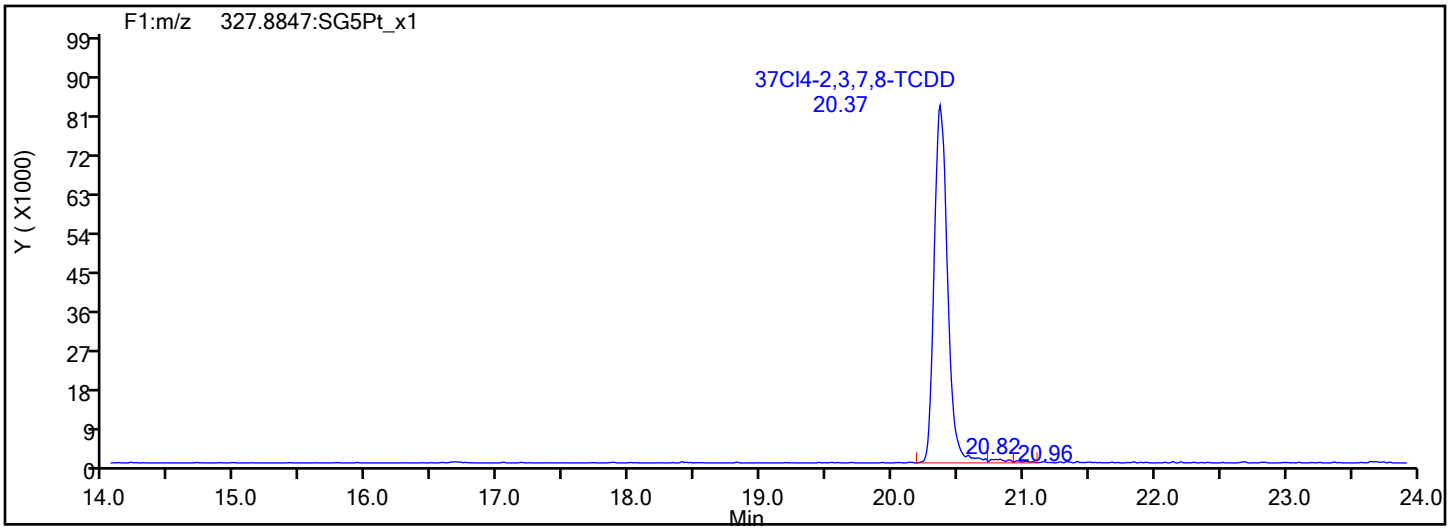
Report Date: 21-Jan-2022 08:05:34 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

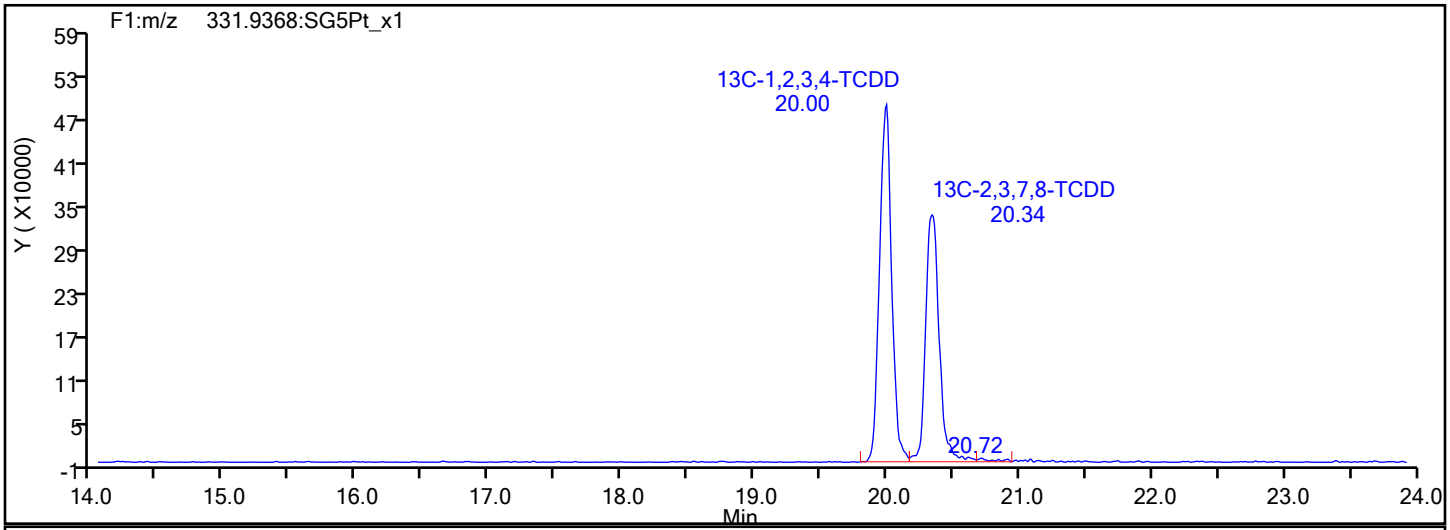
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d

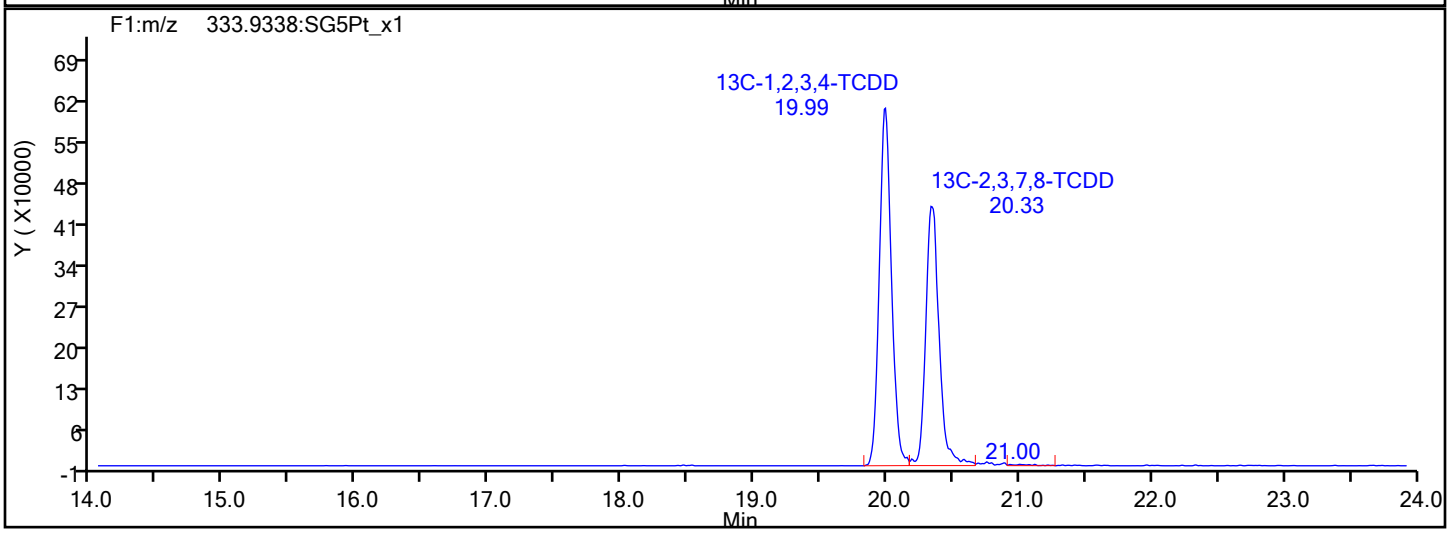
Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





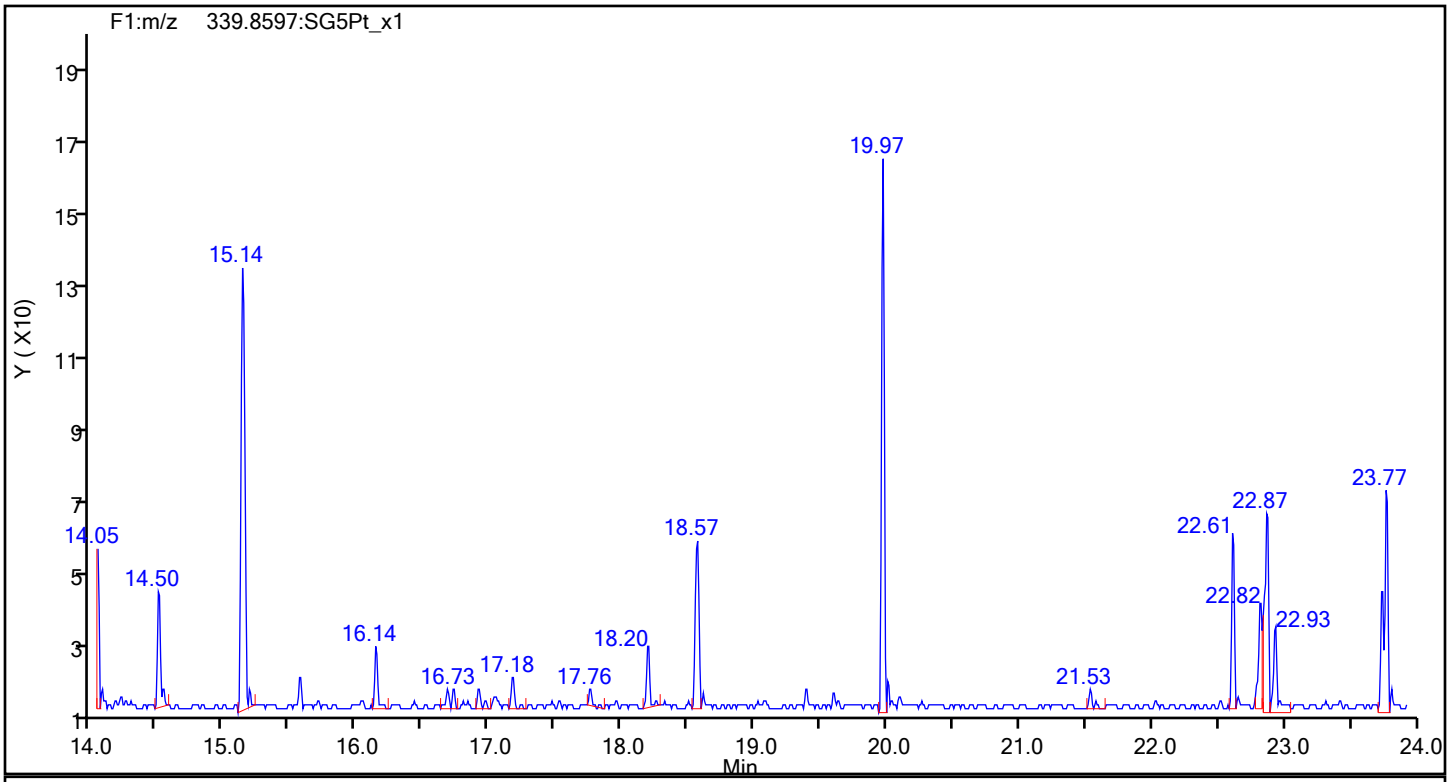
Report Date: 21-Jan-2022 08:05:35 Chrom Revision: 2.3 18-Jan-2022 20:25:40

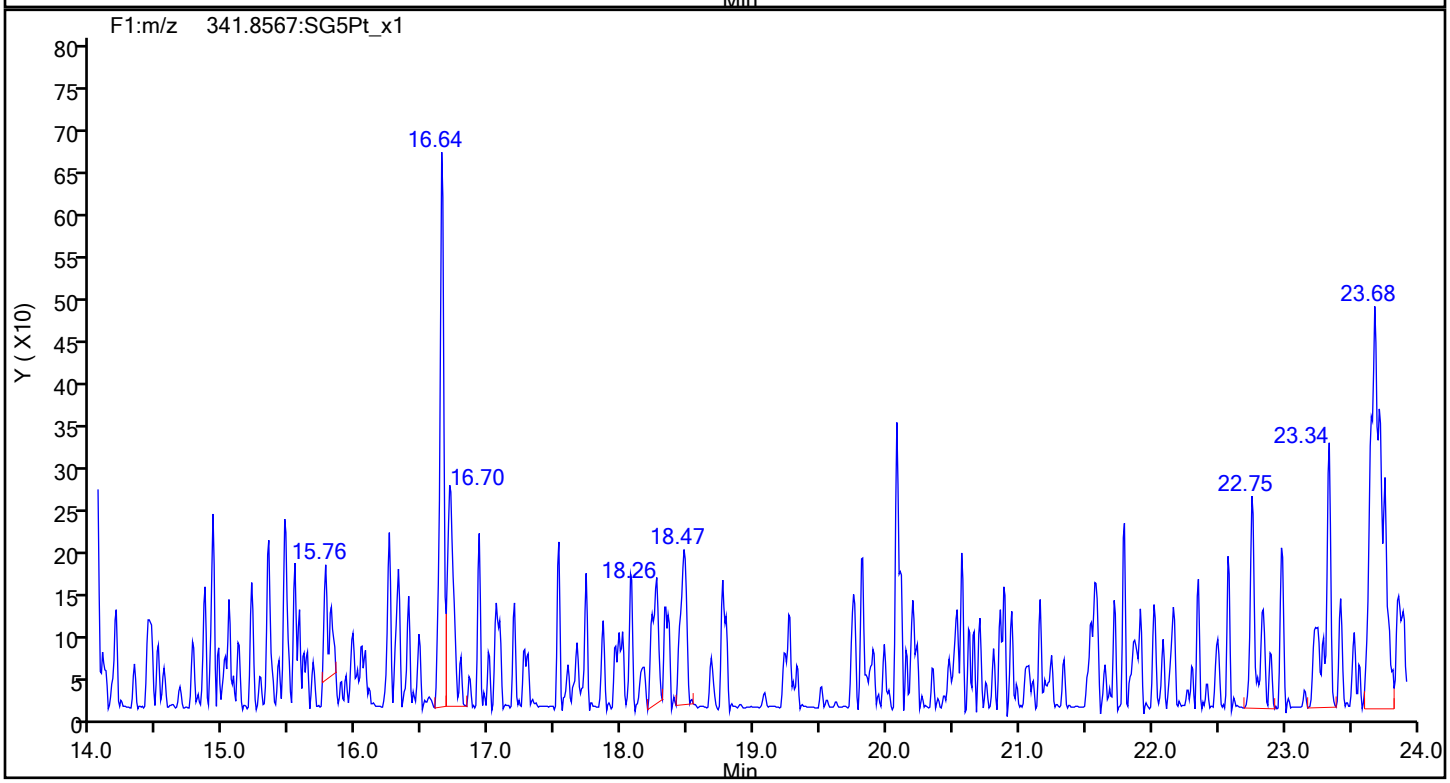
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d

Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d		
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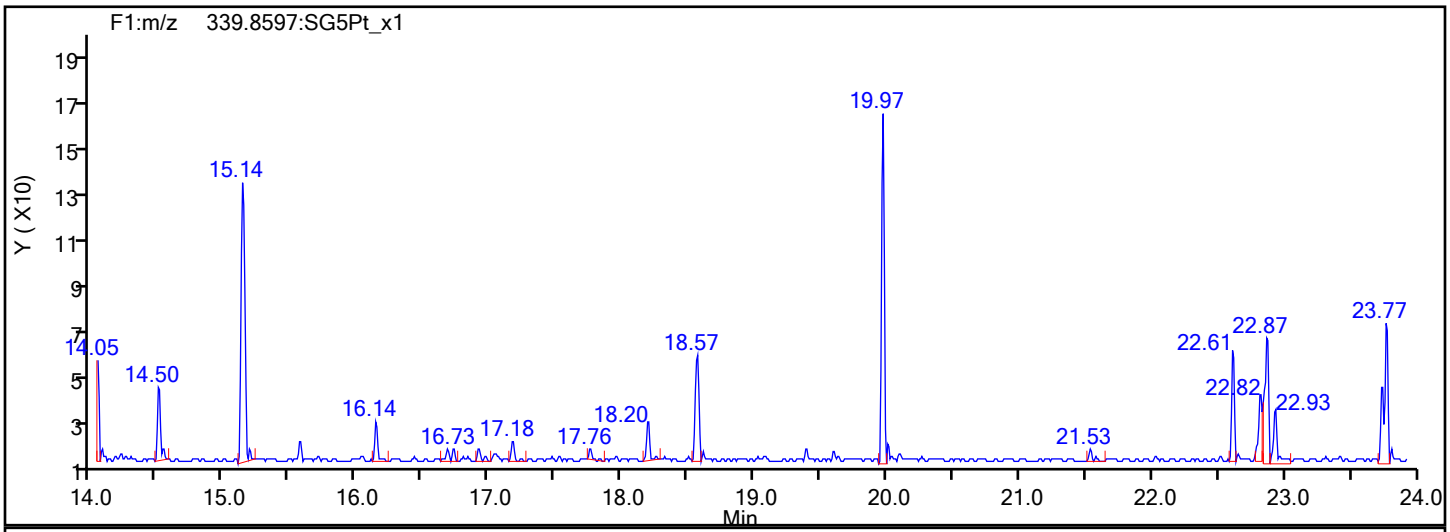
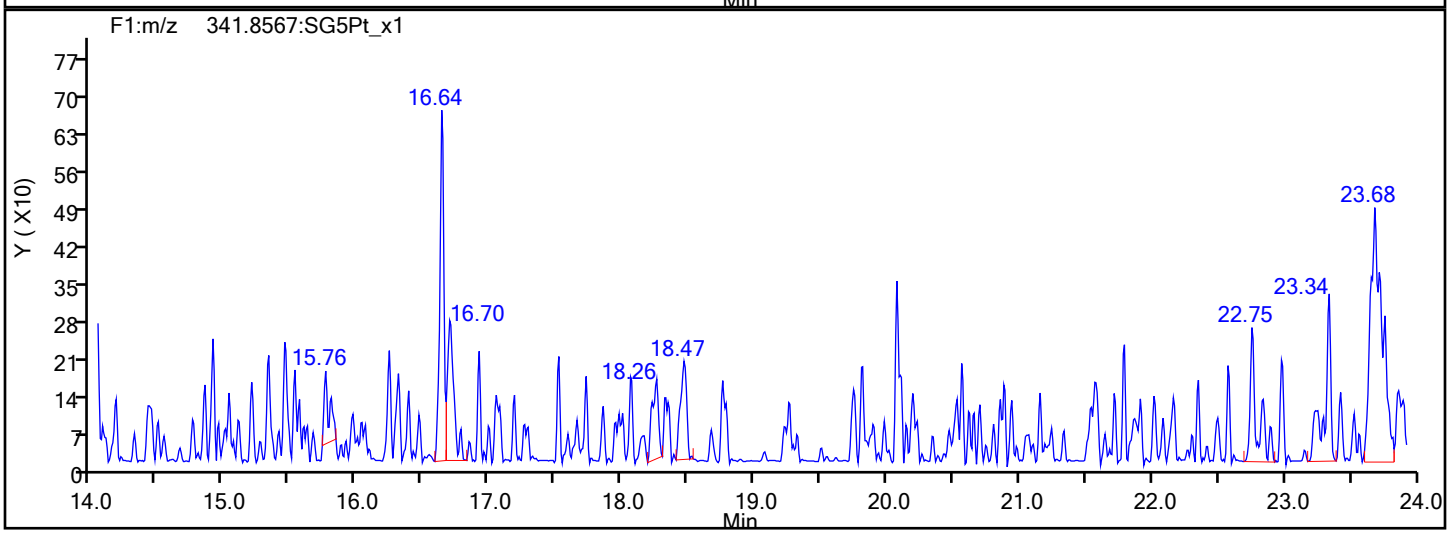
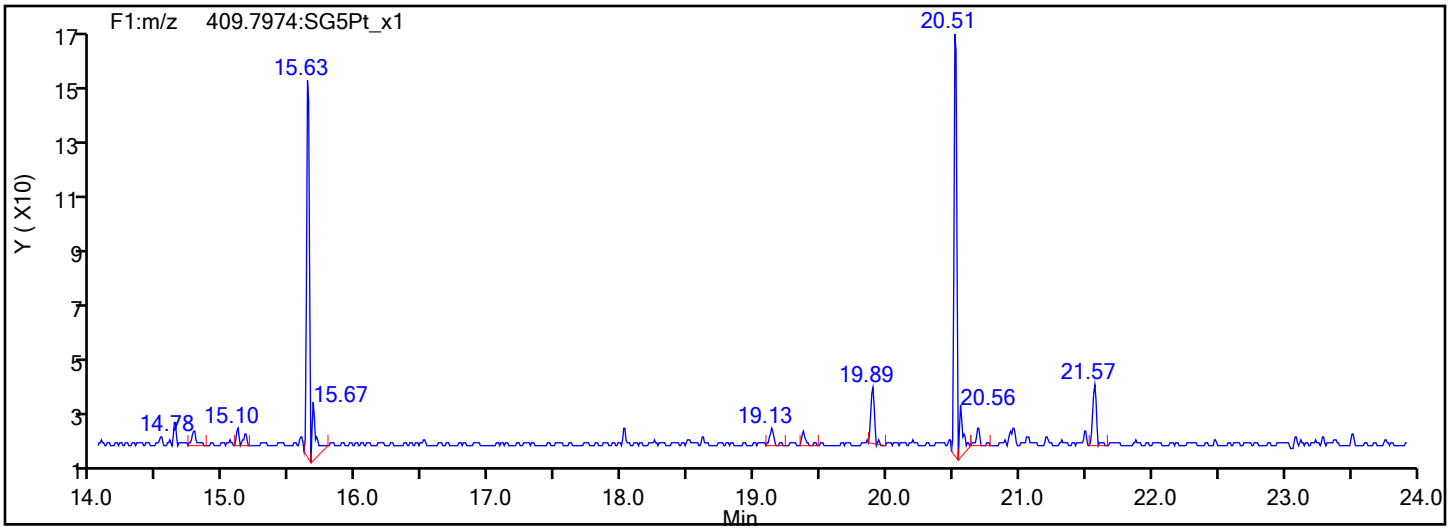
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





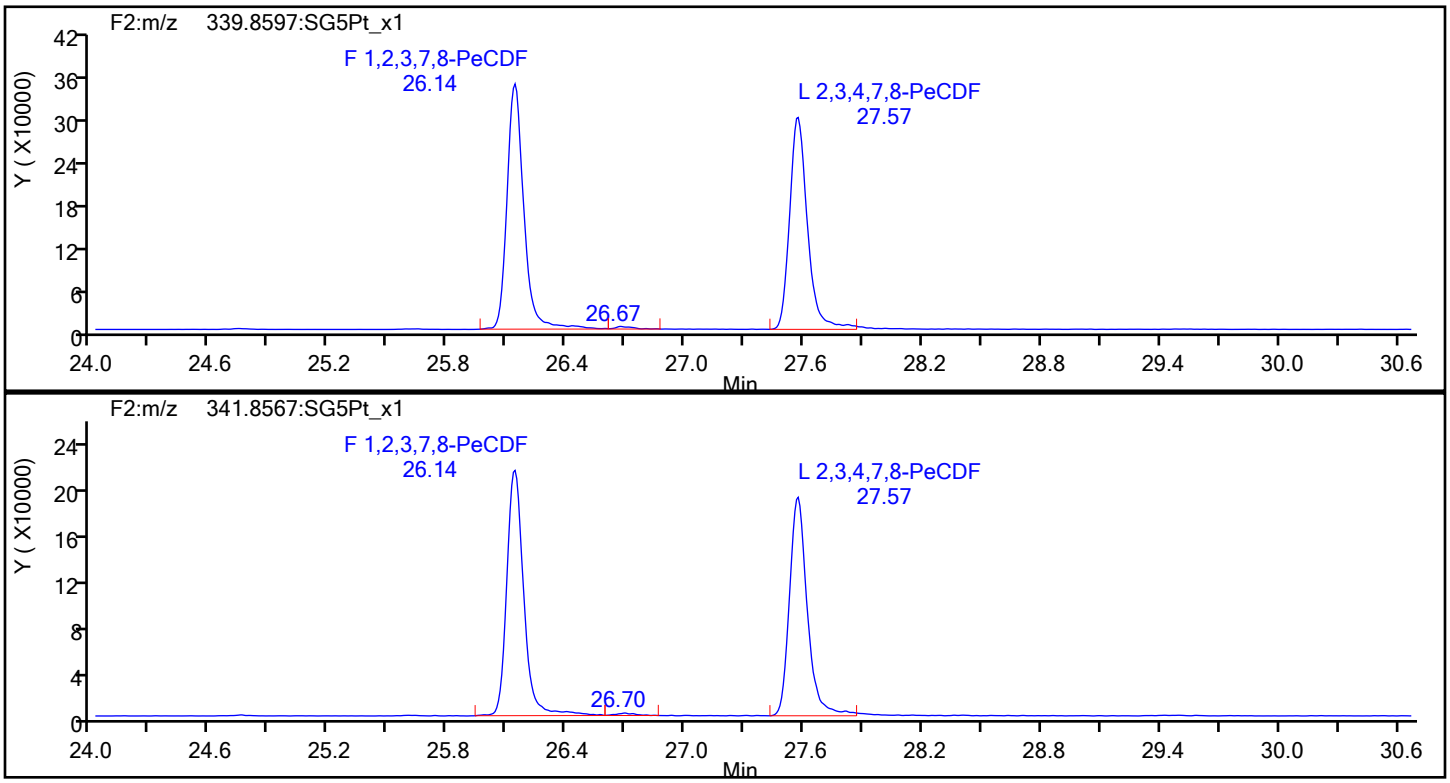
F1 PeCDFs Interference Mass



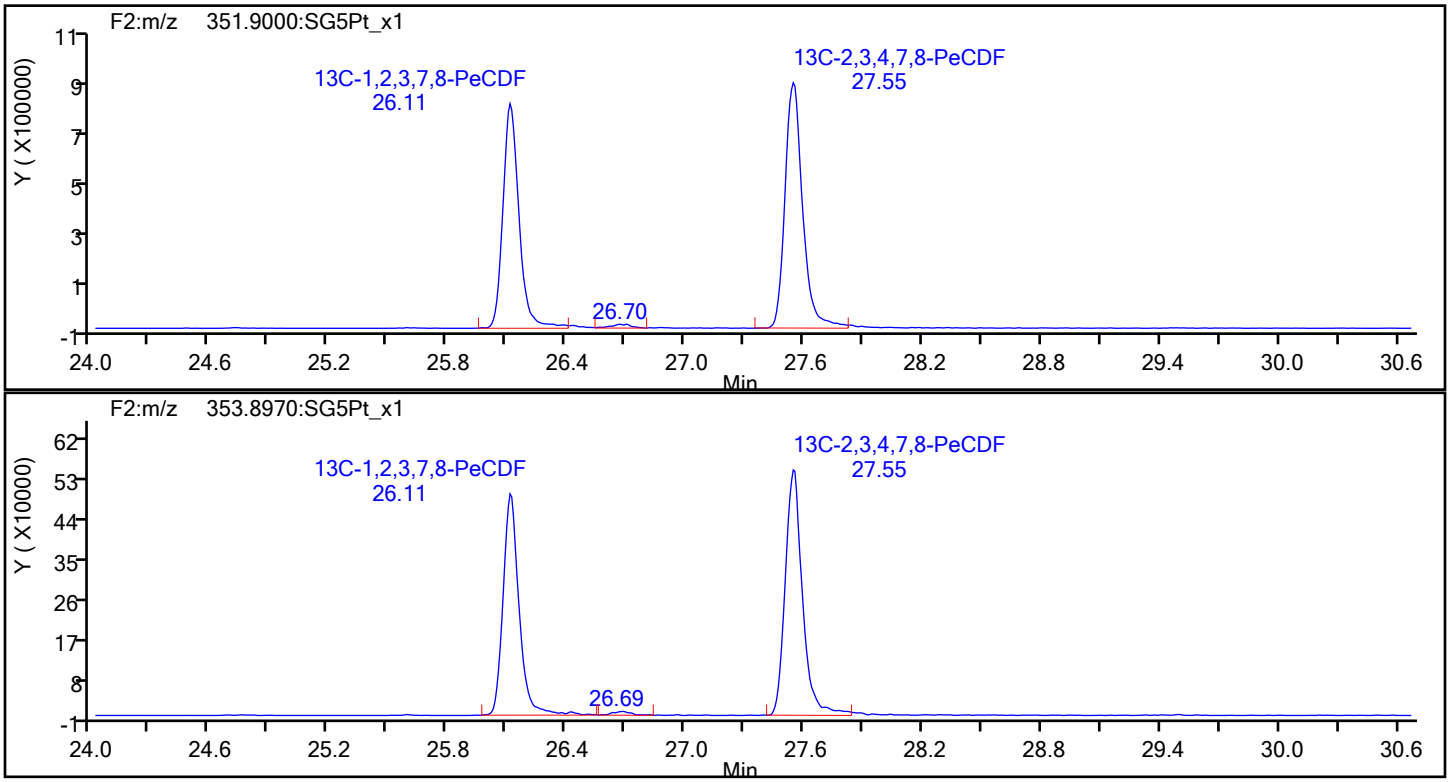
Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d		
Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



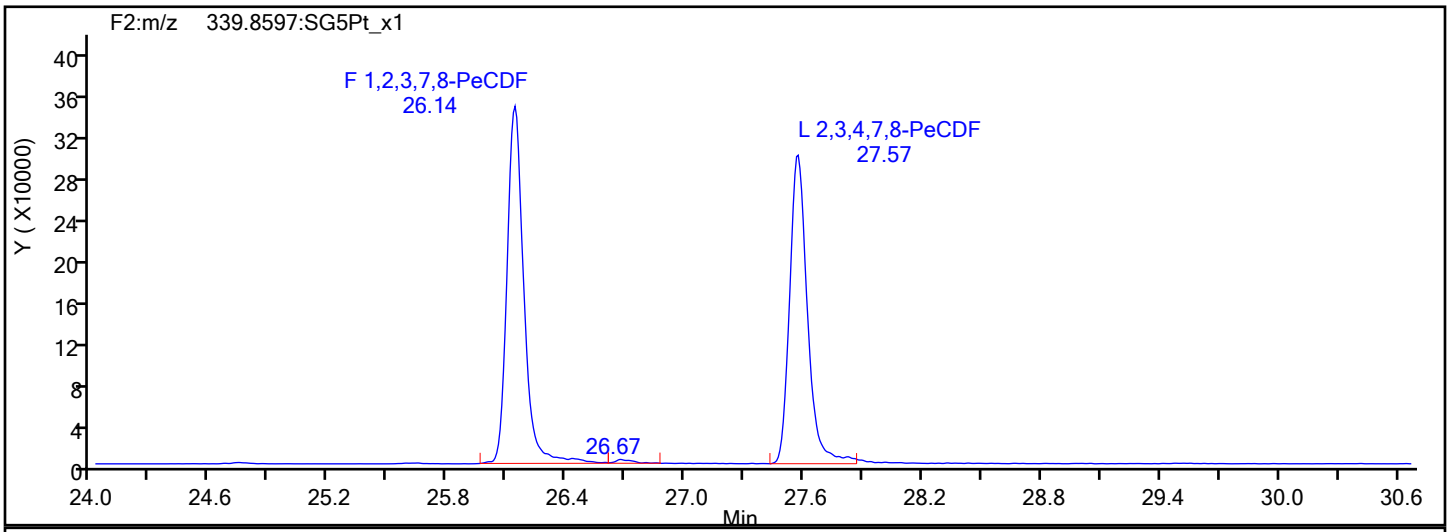
PeCDF Standards

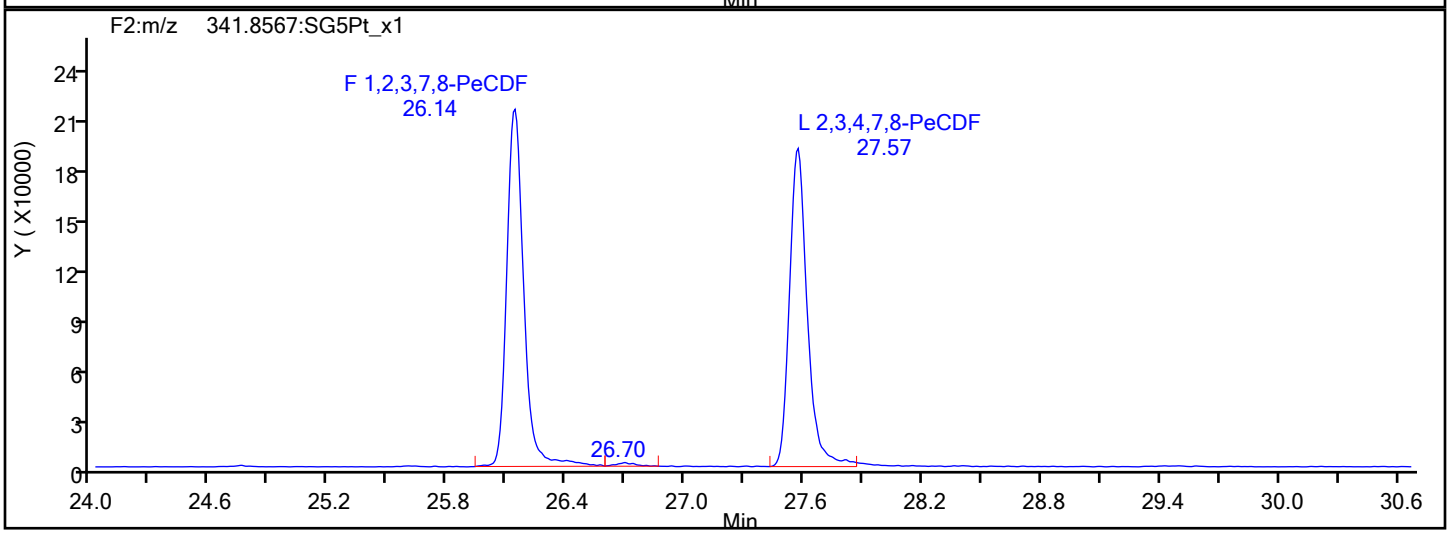


Eurofins Sacramento

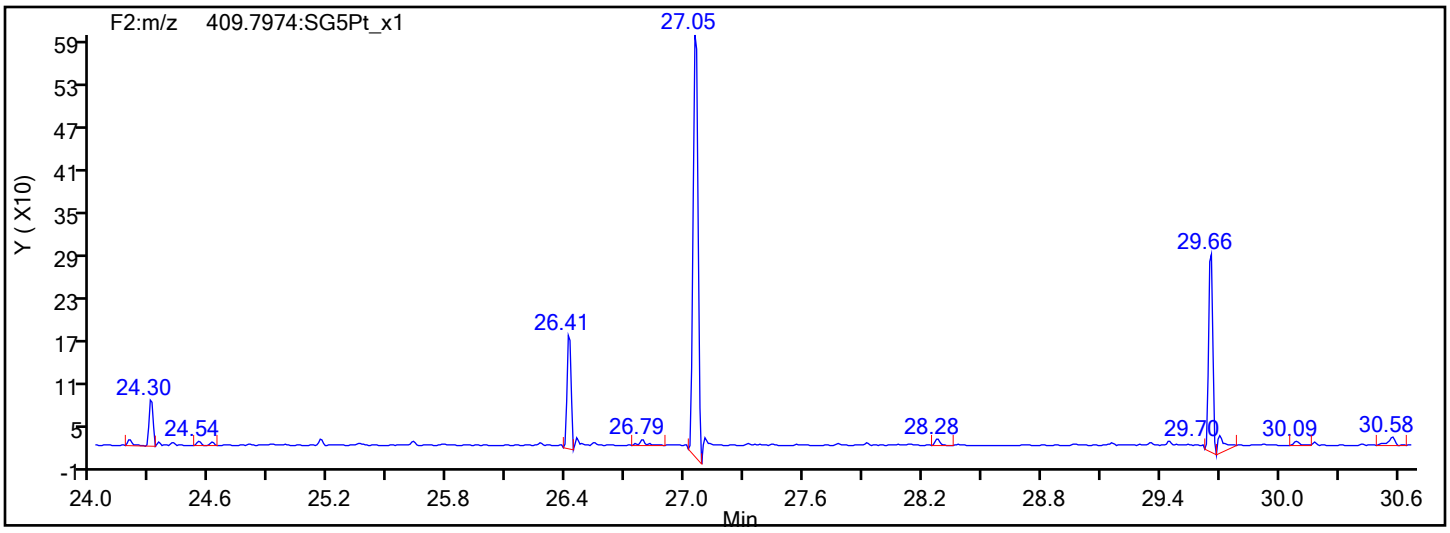
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d		
Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





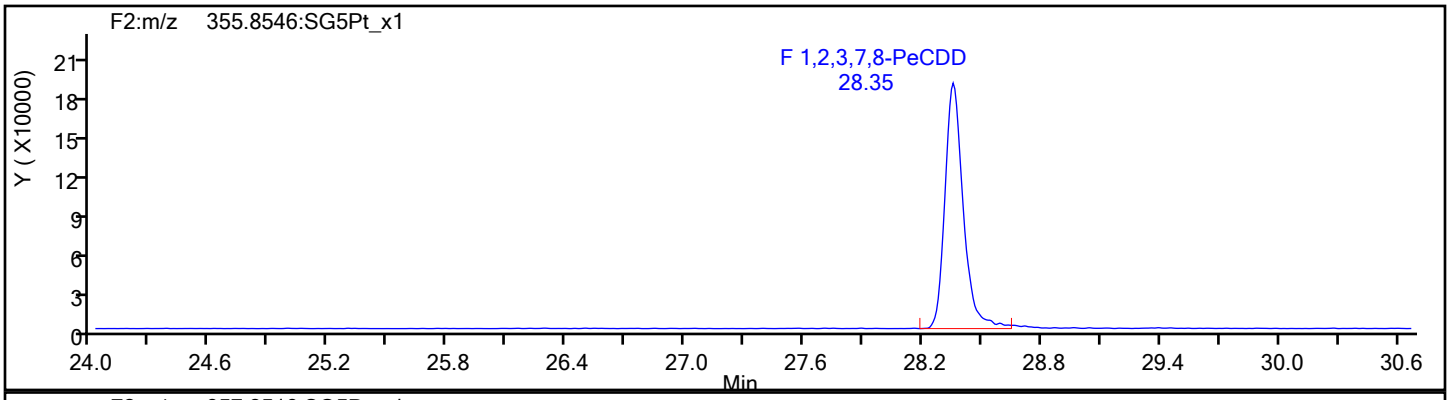
PeCDF Interference Mass

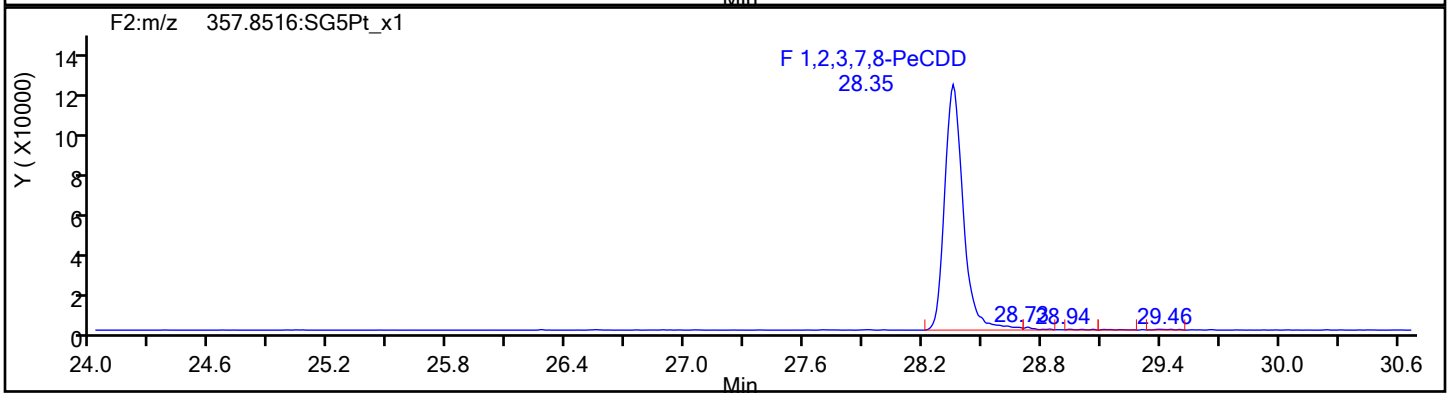


Eurofins Sacramento

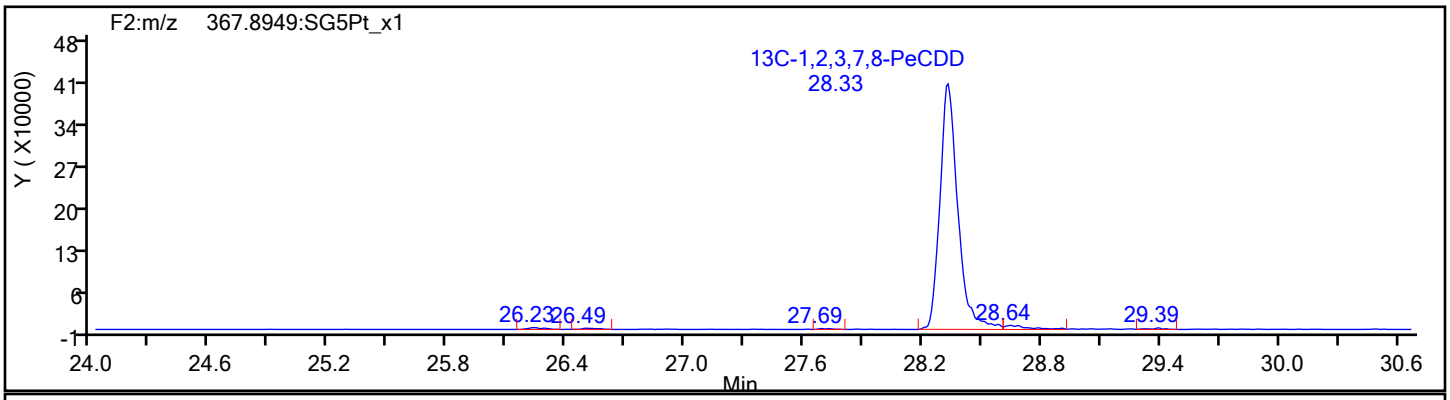
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d
Injection Date: 20-Jan-2022 15:20:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

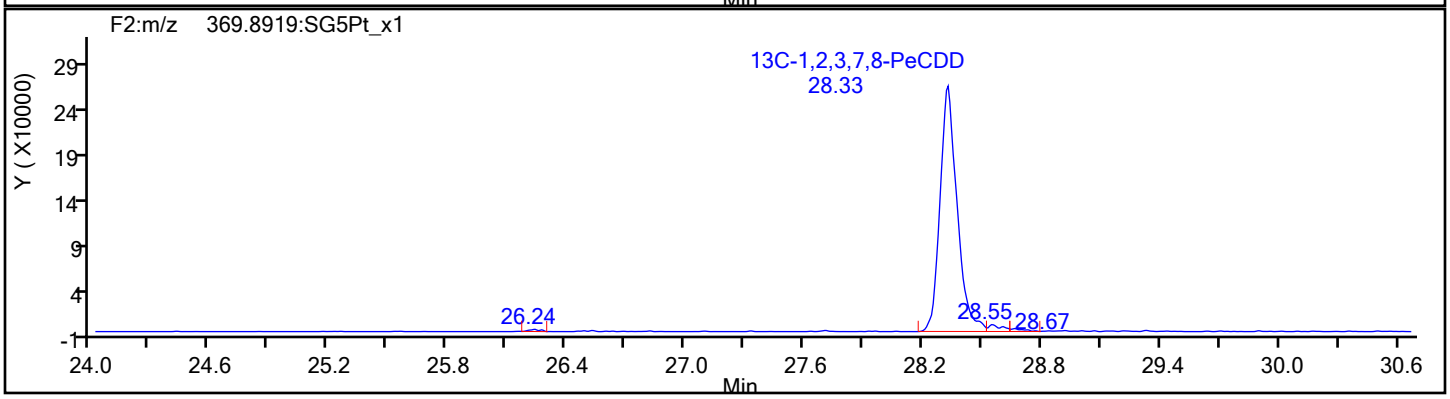
PeCDD





PeCDD Standards

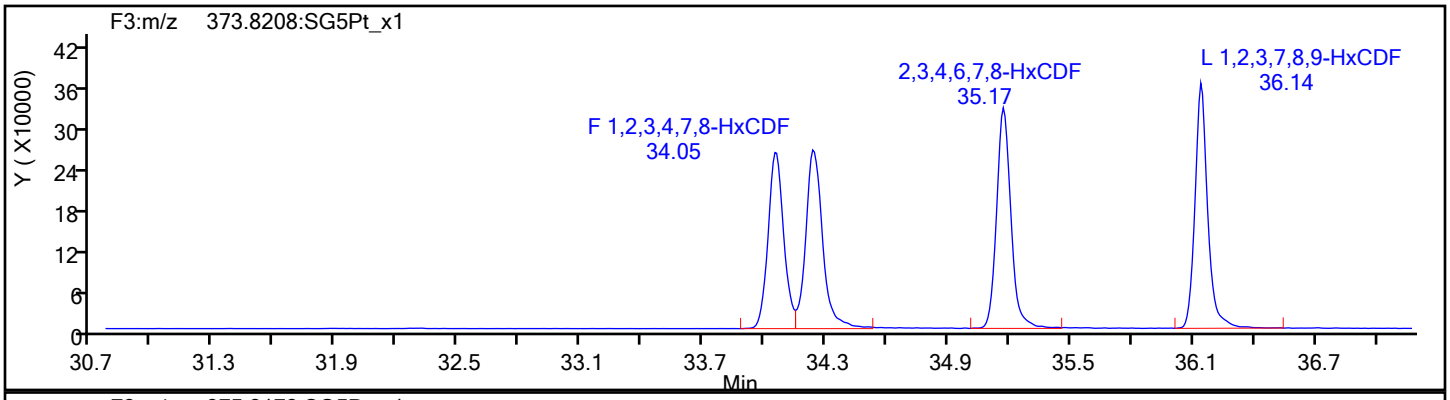


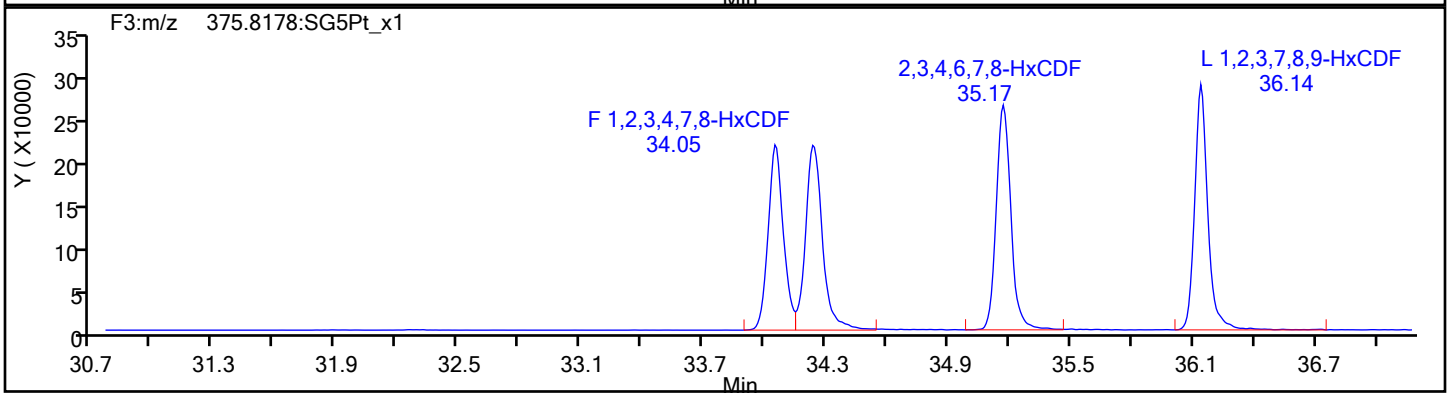


Eurofins Sacramento

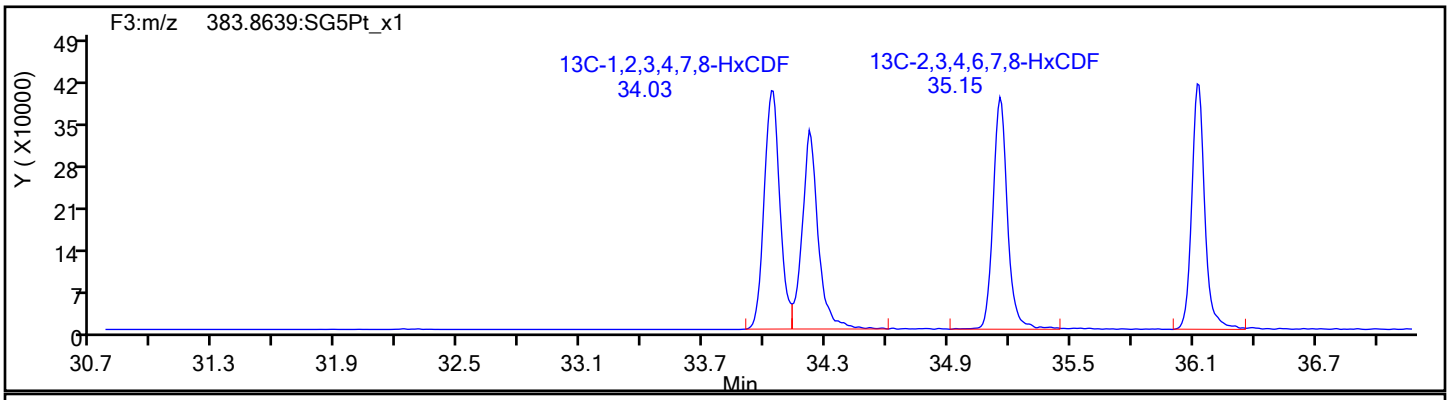
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d
Injection Date: 20-Jan-2022 15:20:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

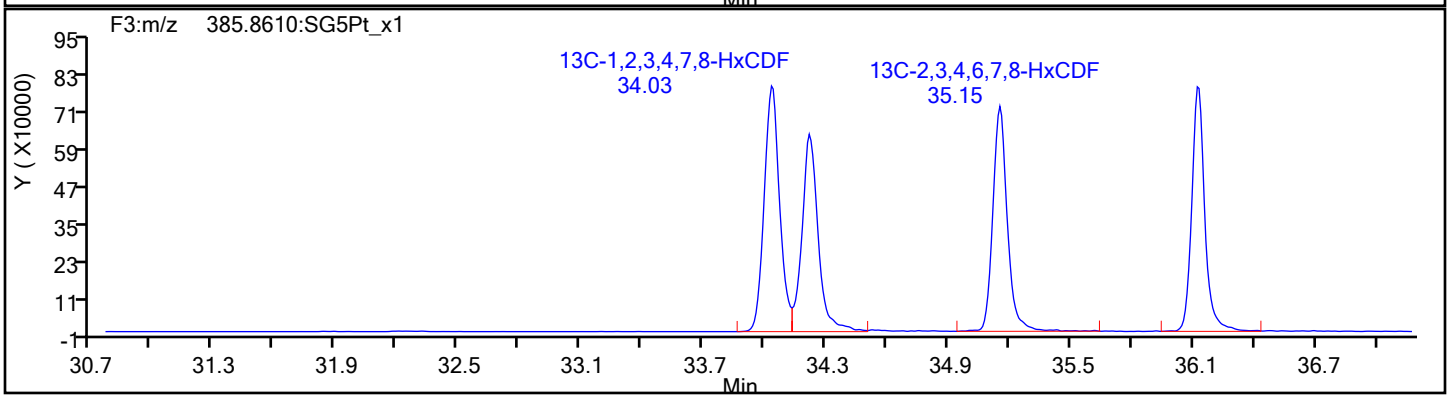
HxCDF





HxCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d		
Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

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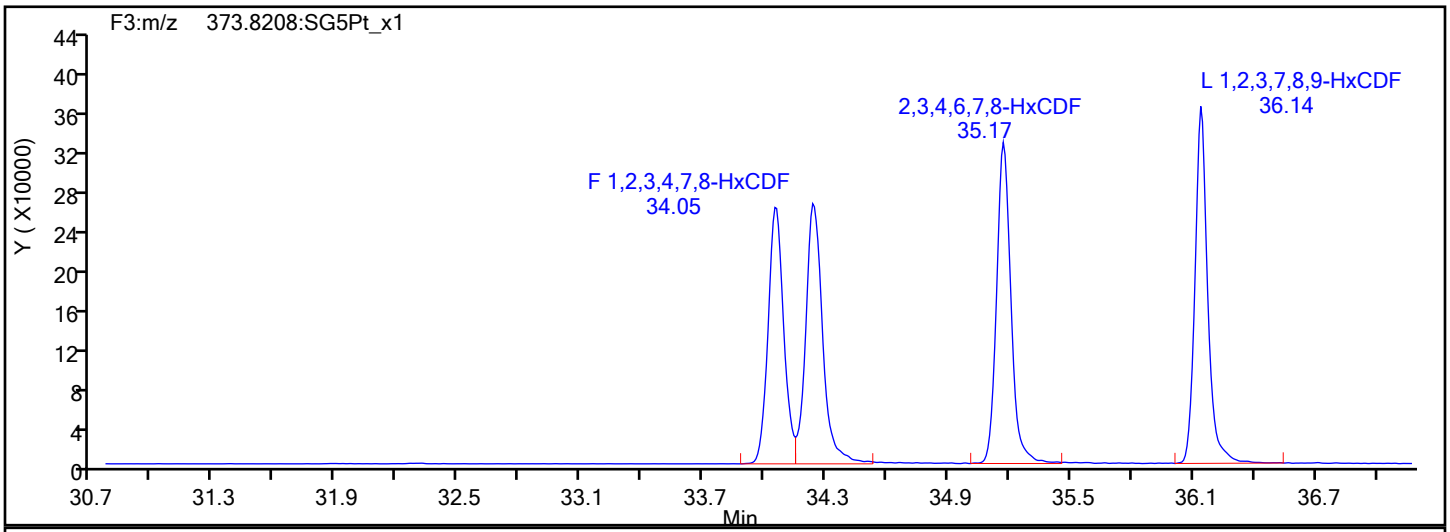
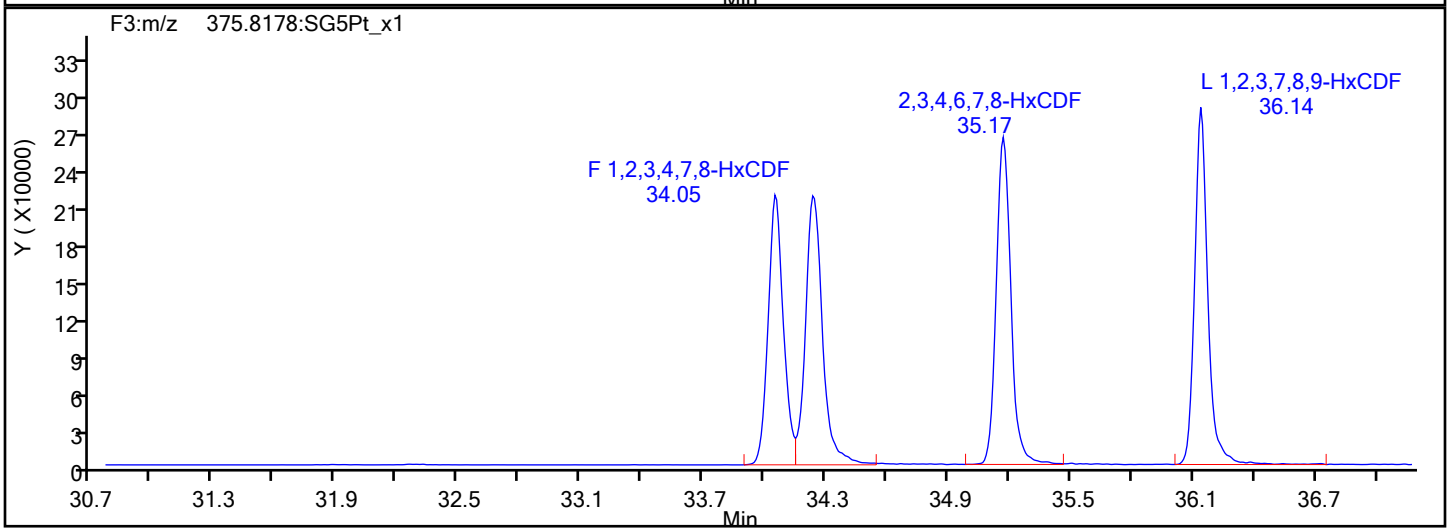
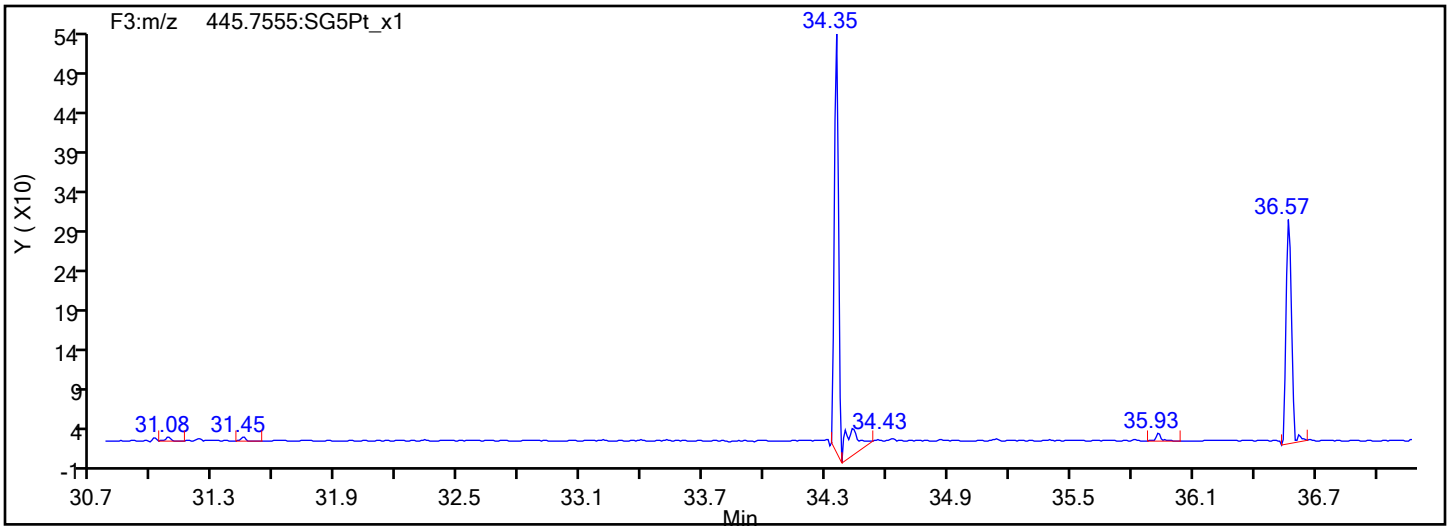




HxCDF Interference Mass



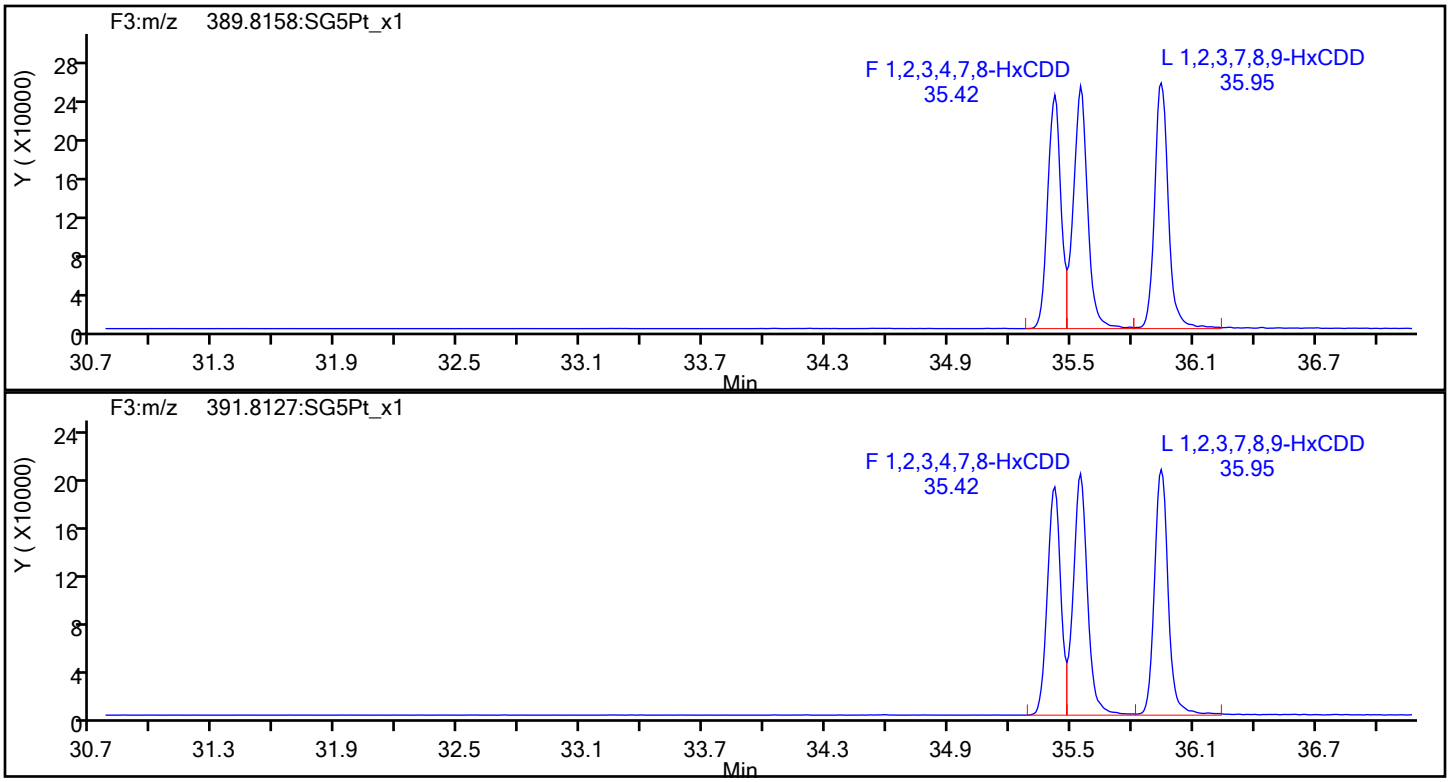
Report Date: 21-Jan-2022 08:05:35 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

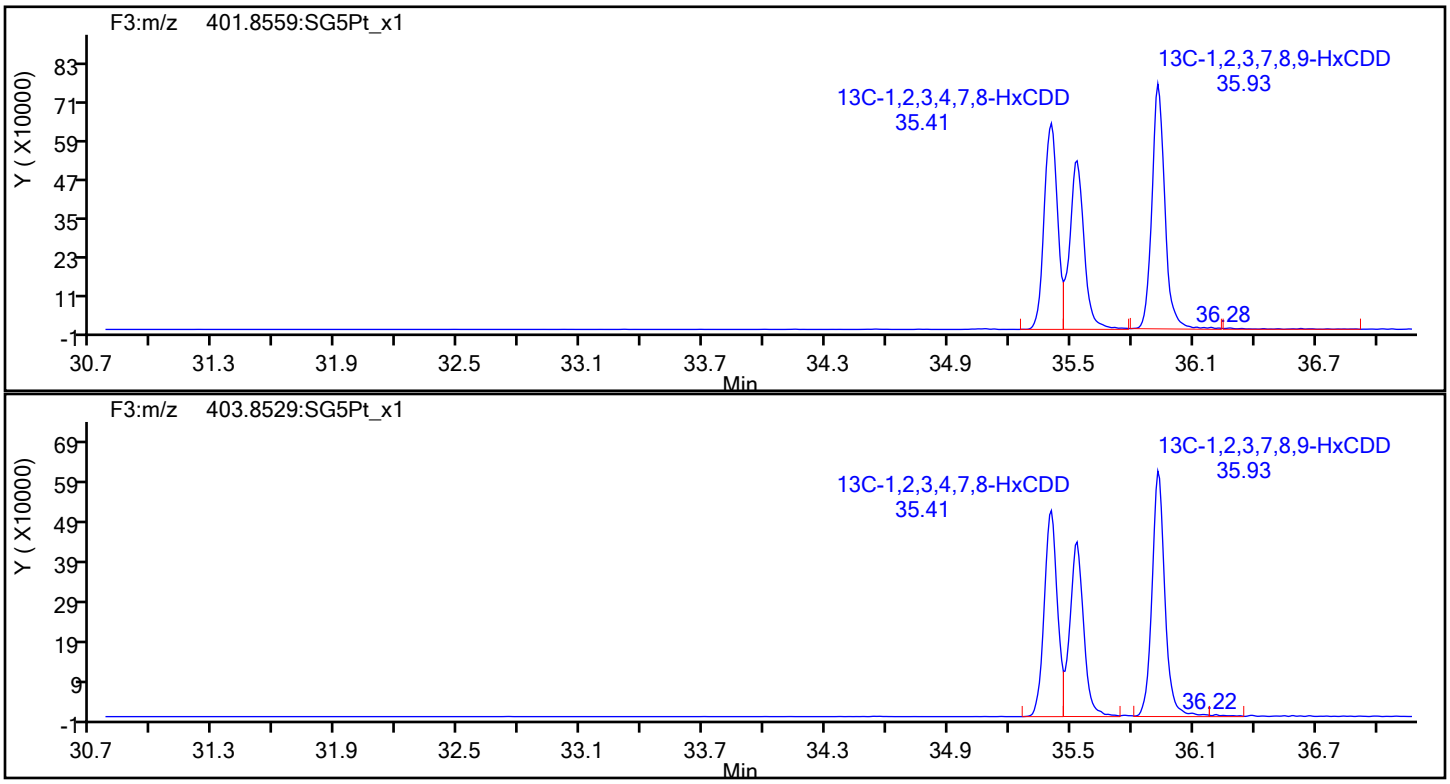
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d

Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD



HxCDD Standards



Report Date: 21-Jan-2022 08:05:35 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d

Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
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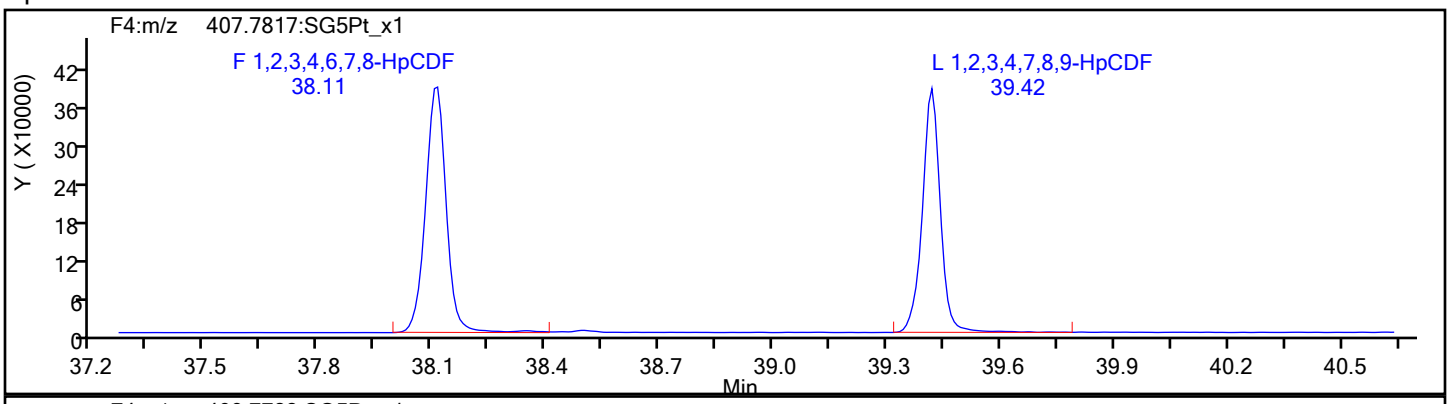
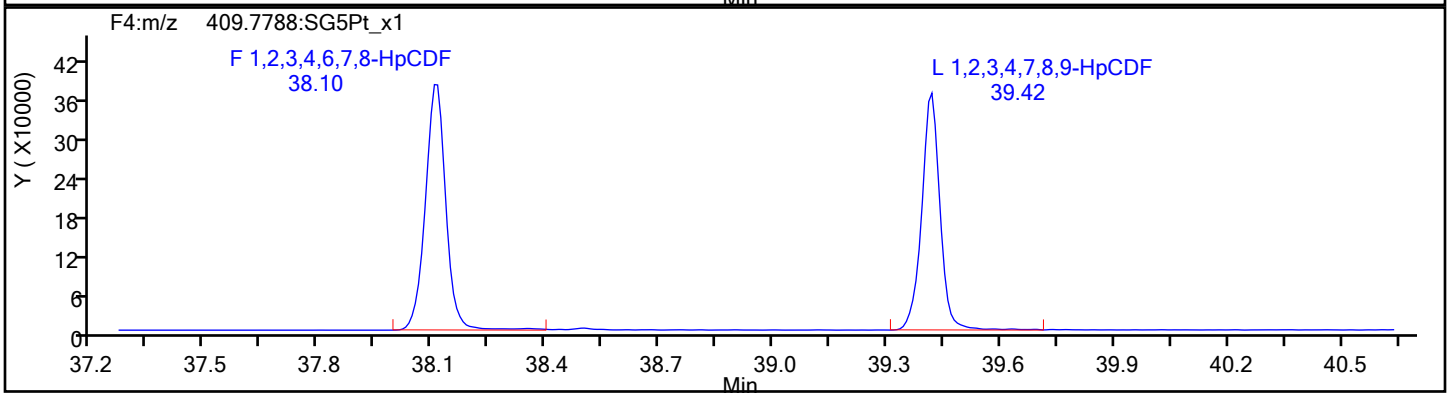
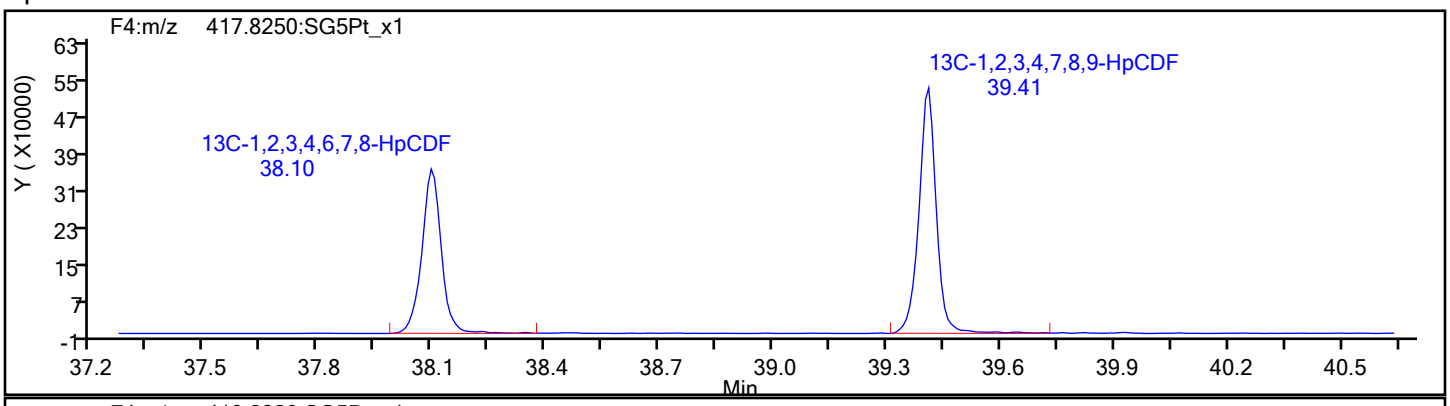
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

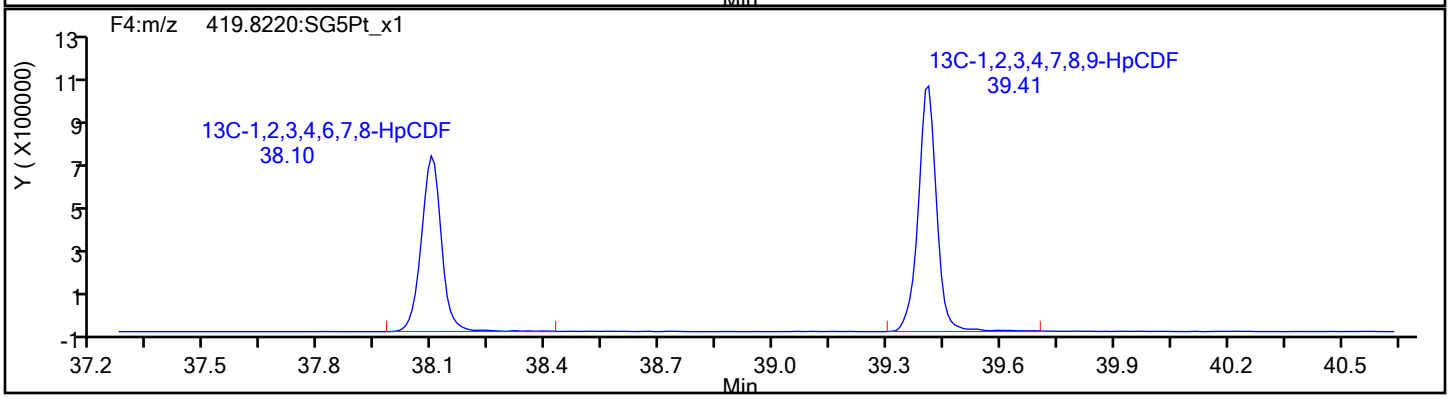
HpCDF





HpCDF Standards





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d
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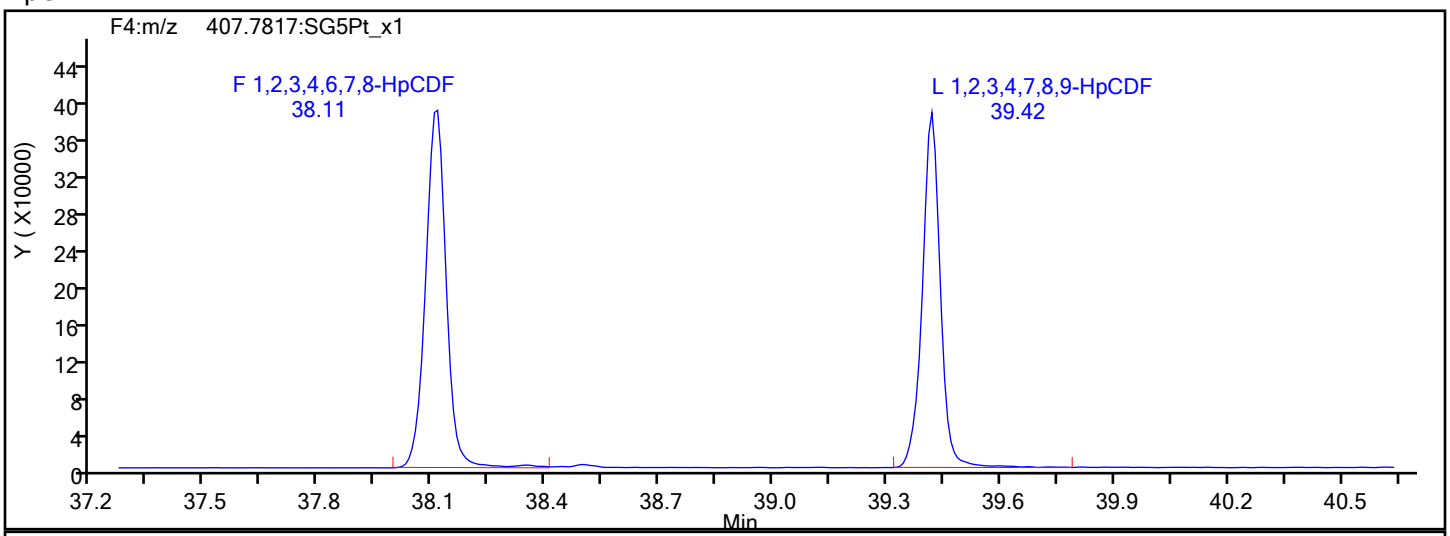
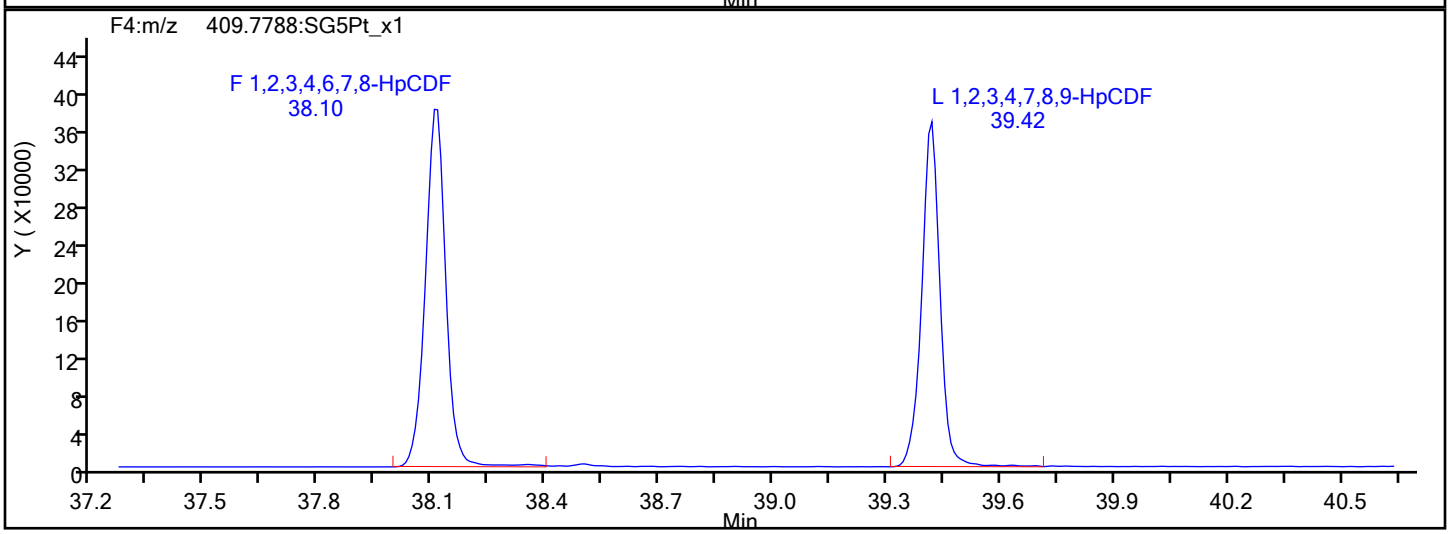
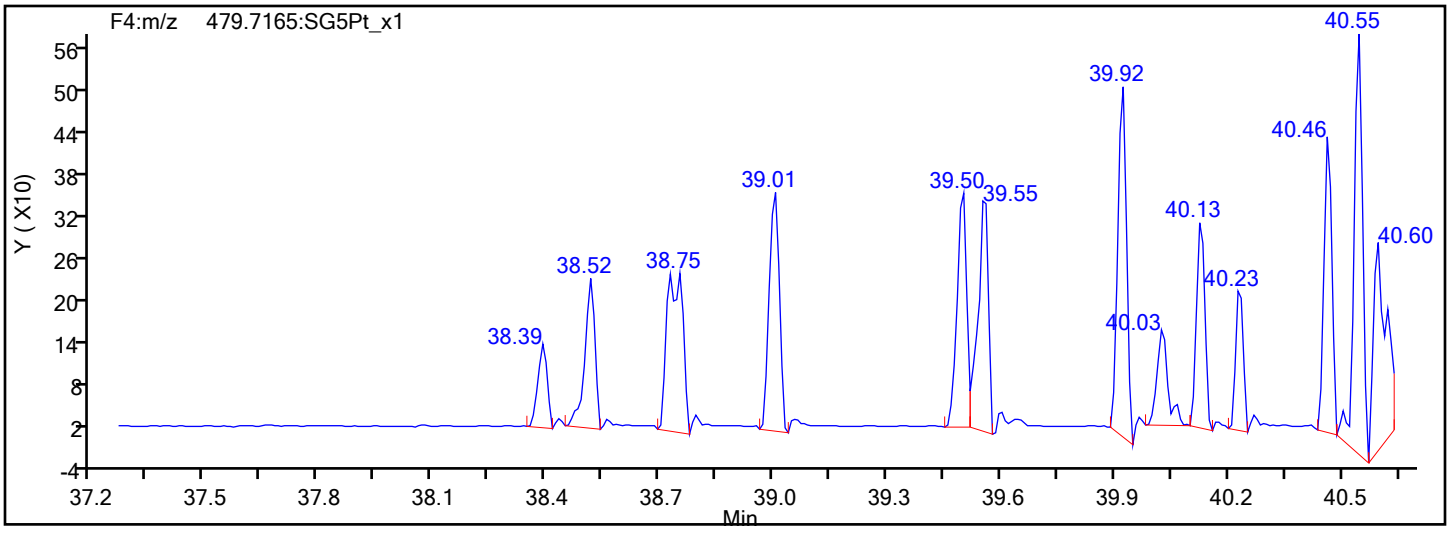
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





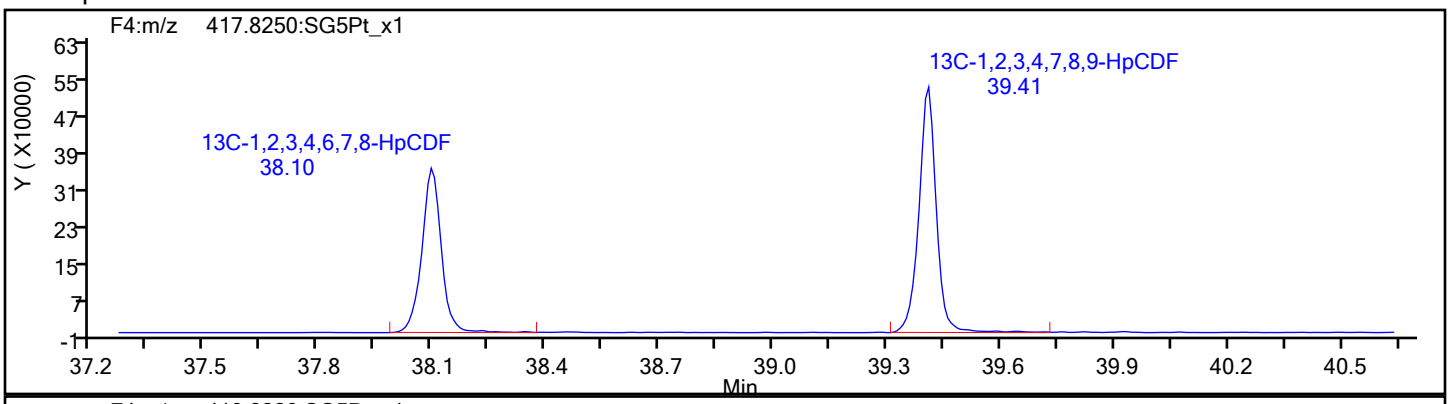
HpCDF Interference Mass

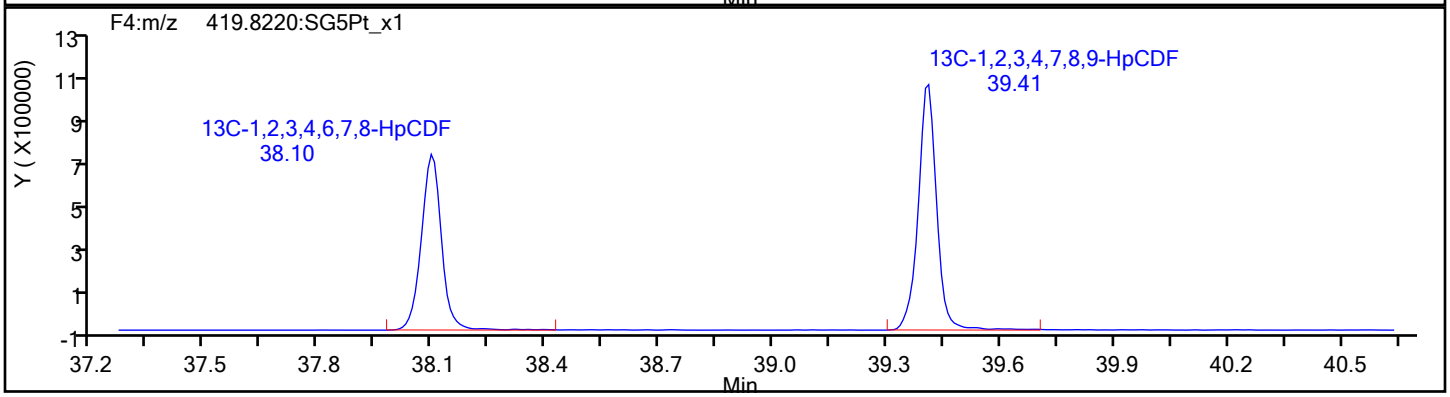


Eurofins Sacramento

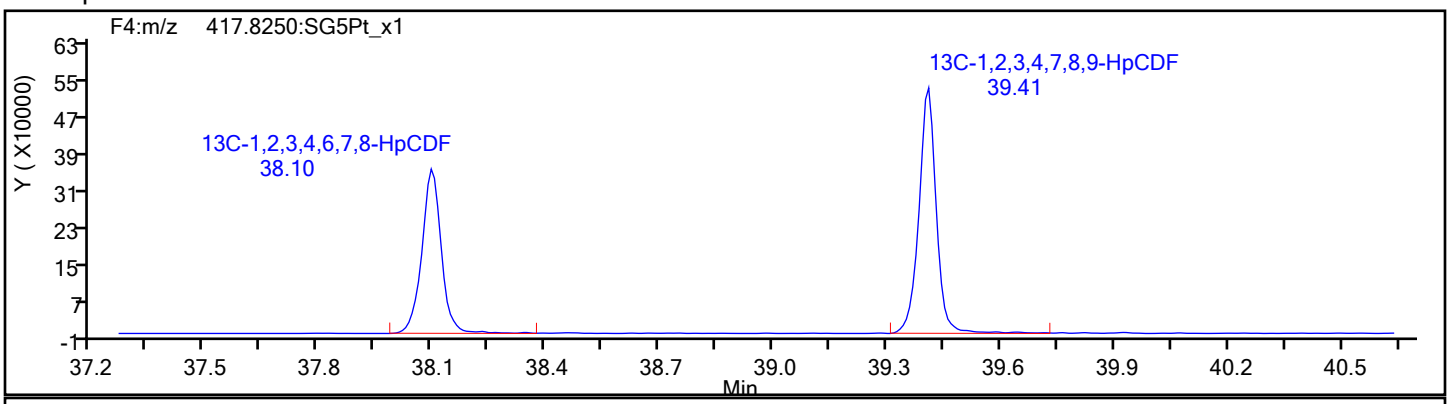
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d
Injection Date: 20-Jan-2022 15:20:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

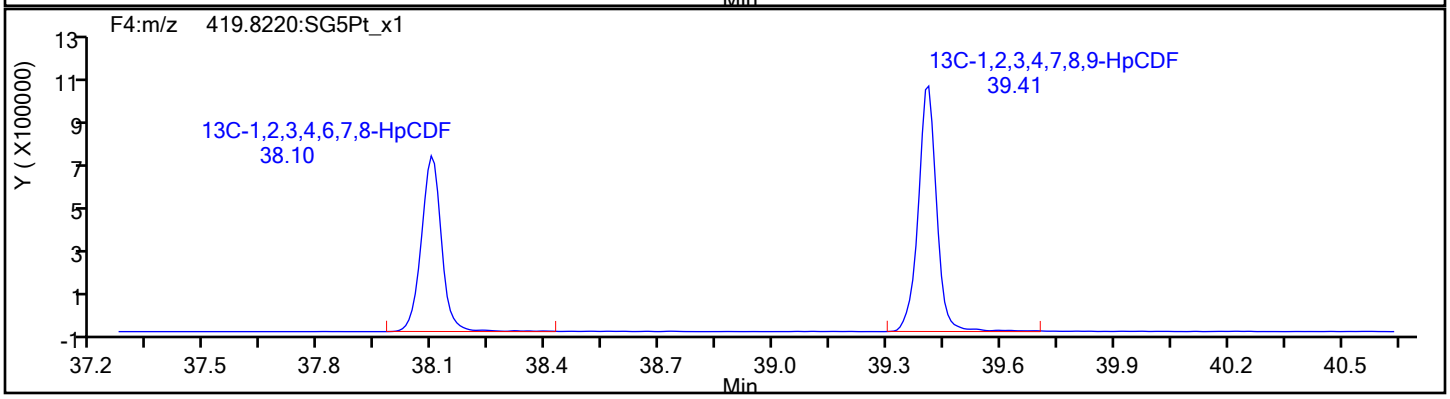
13C-HpCDF





13C-HpCDF Standards

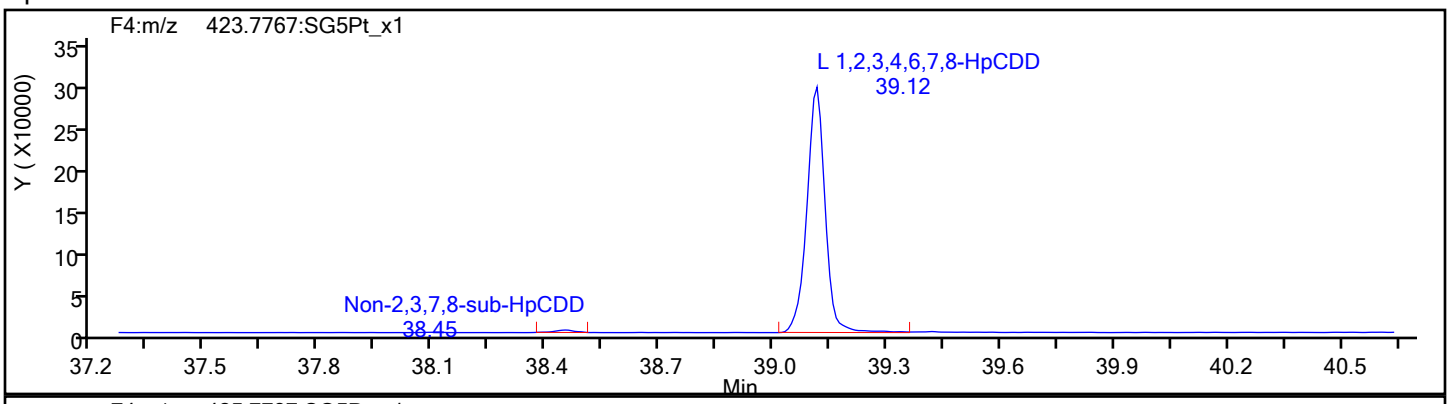


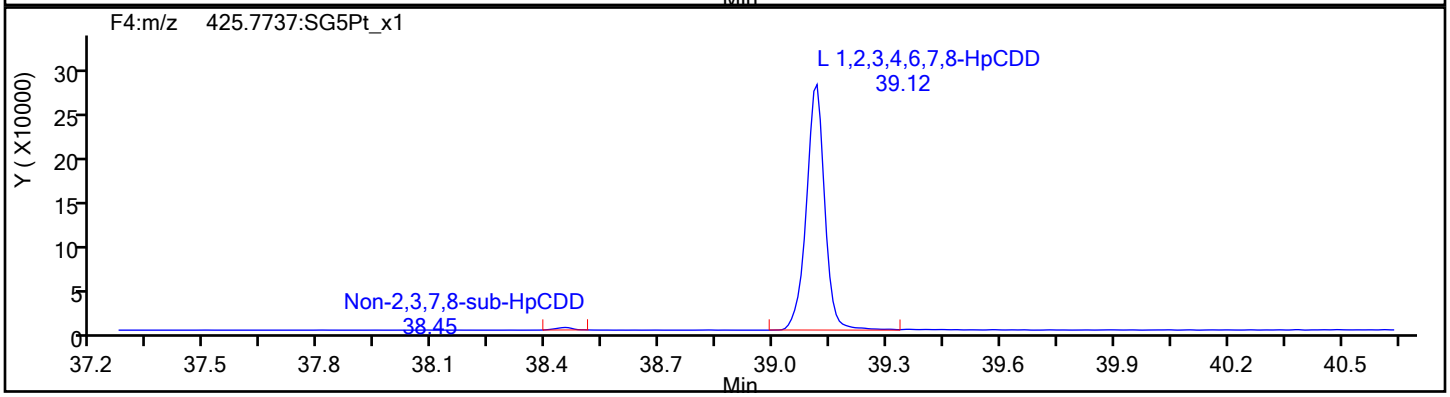


Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d
Injection Date: 20-Jan-2022 15:20:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

HpCDD





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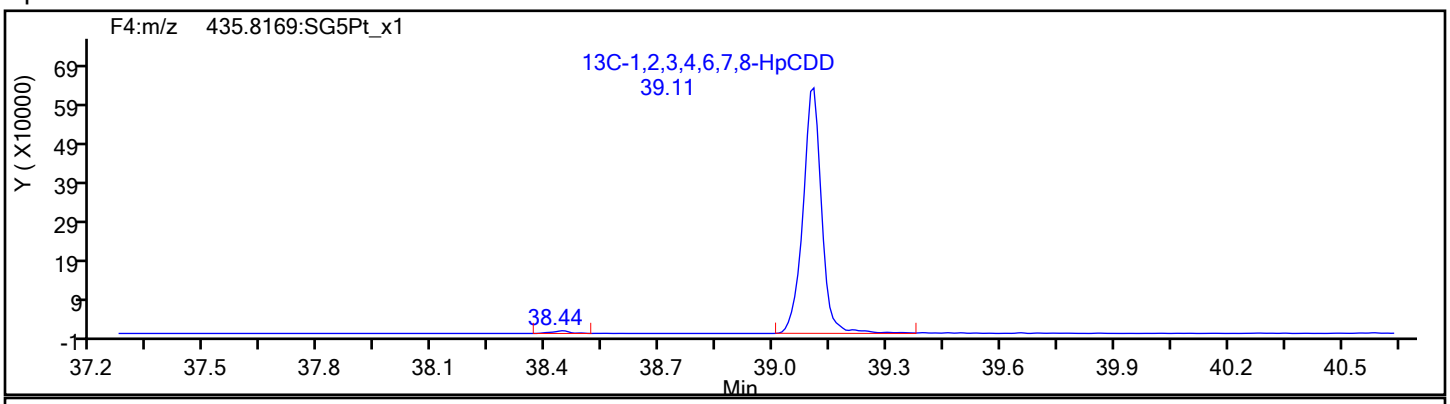
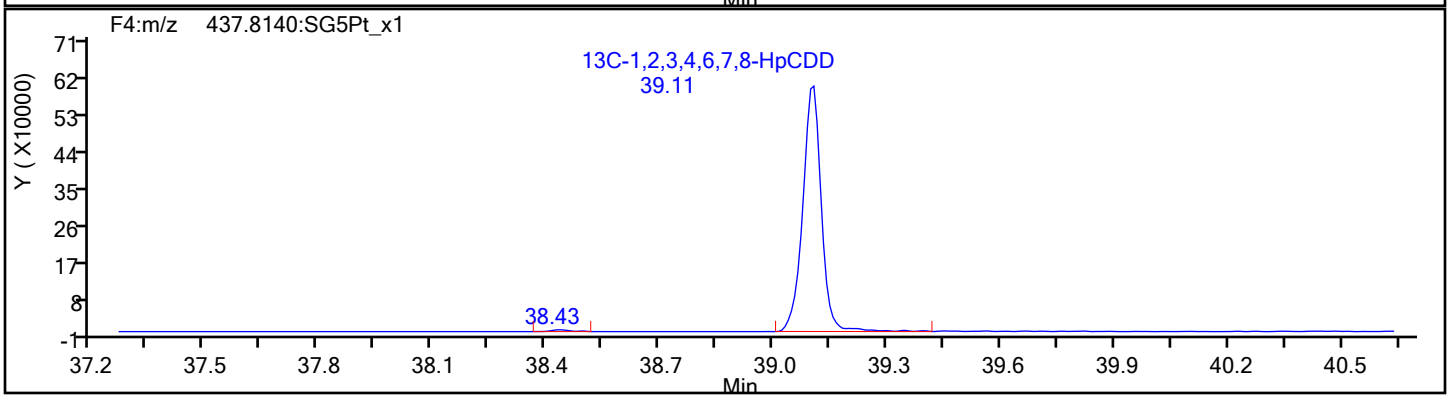




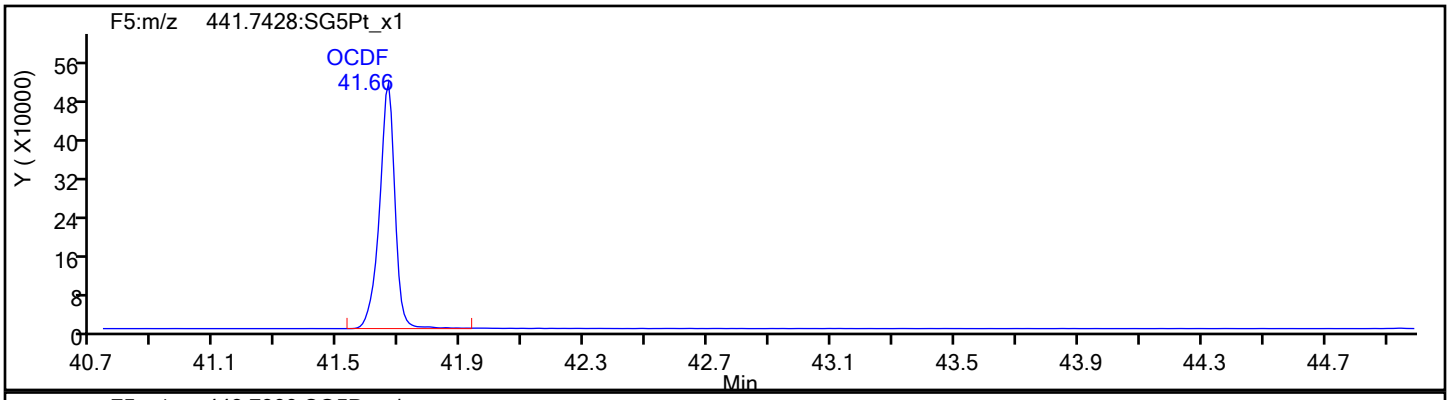
Report Date: 21-Jan-2022 08:05:35 Chrom Revision: 2.3 18-Jan-2022 20:25:40

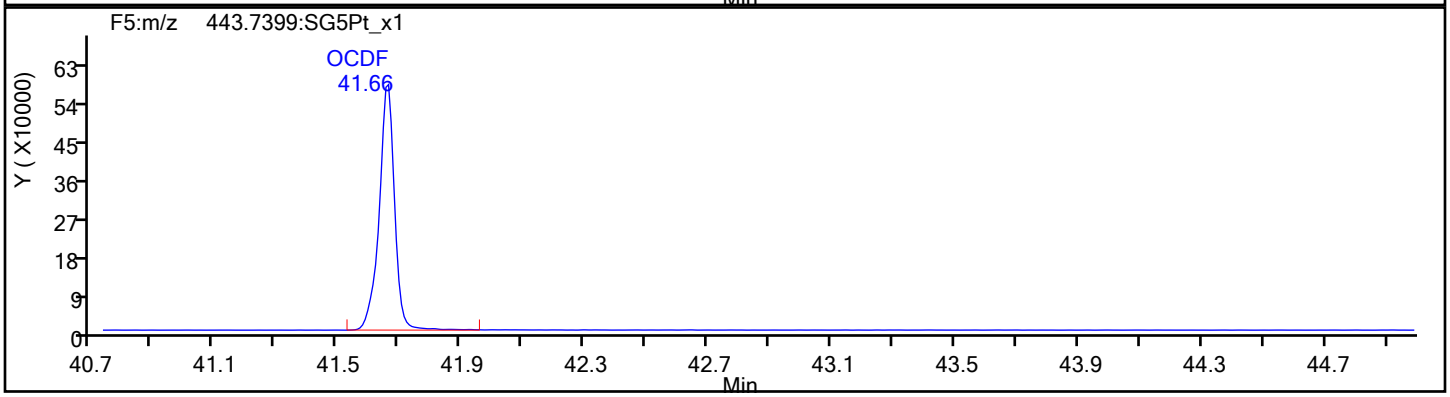
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d

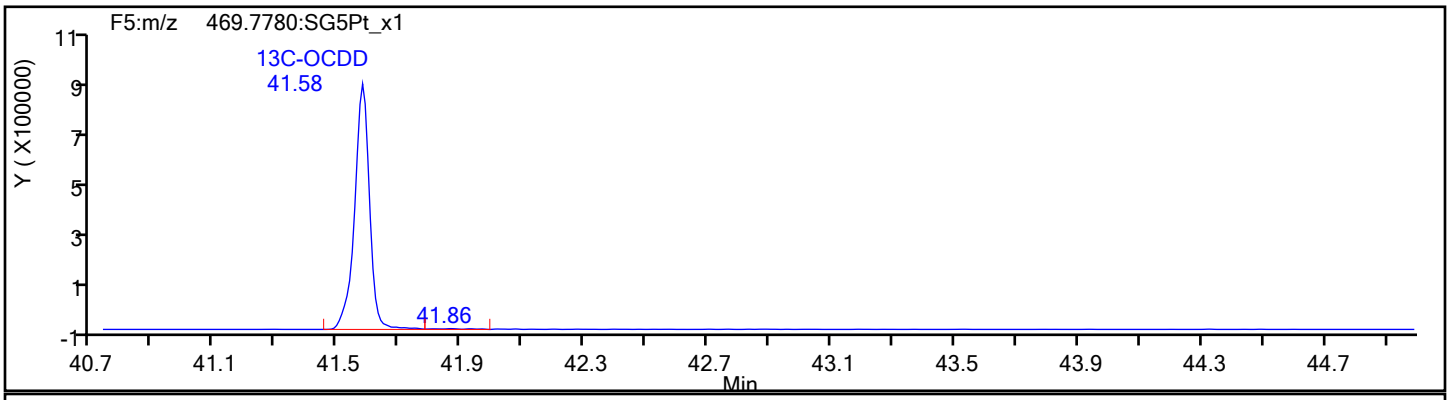
Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

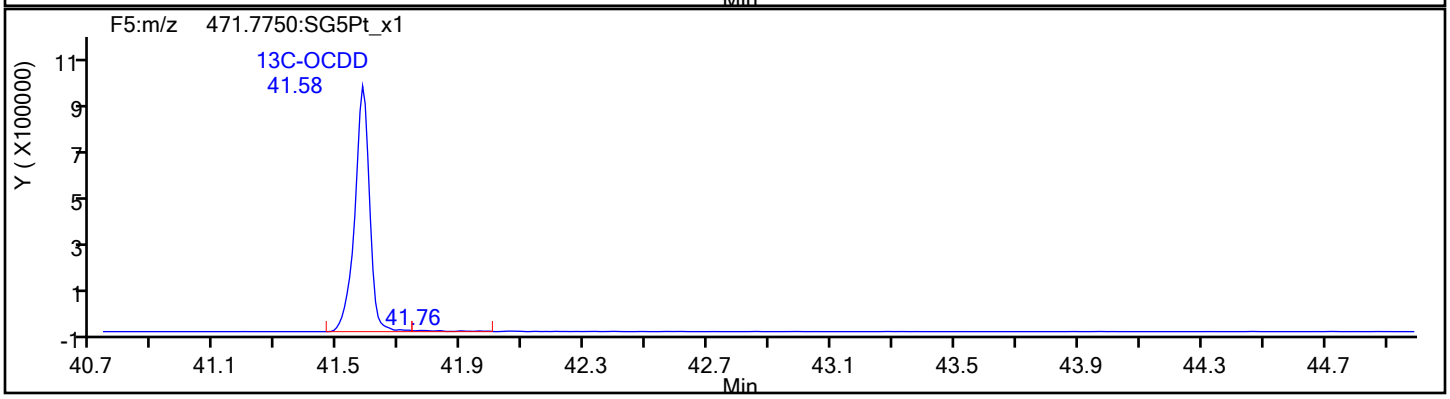
OCDF





OCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d		
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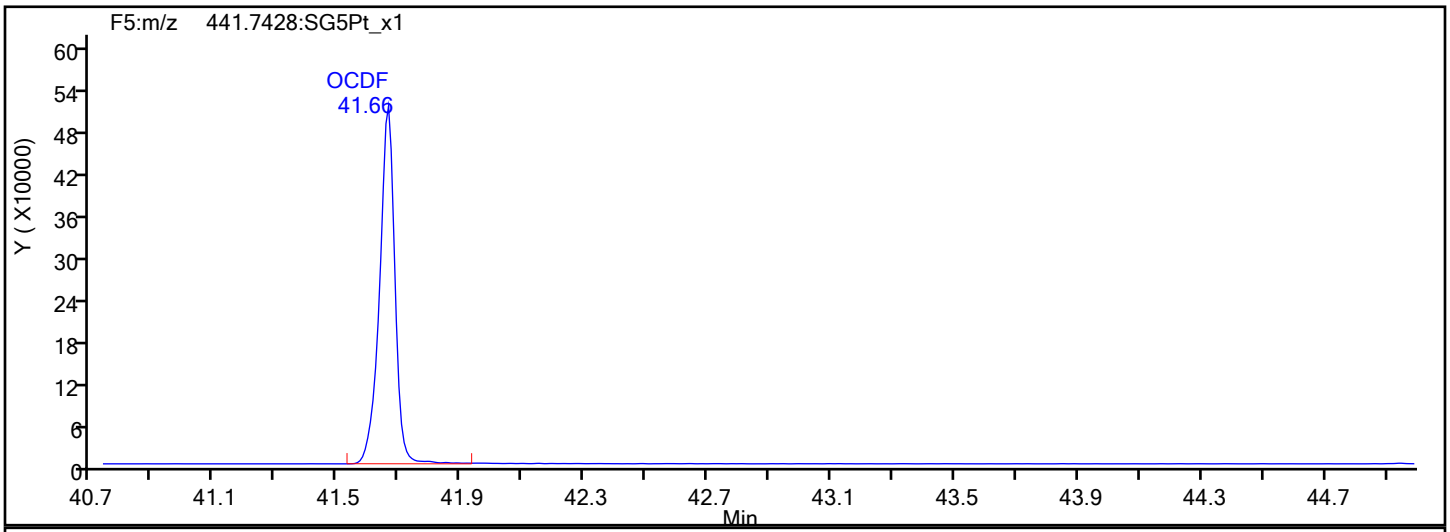
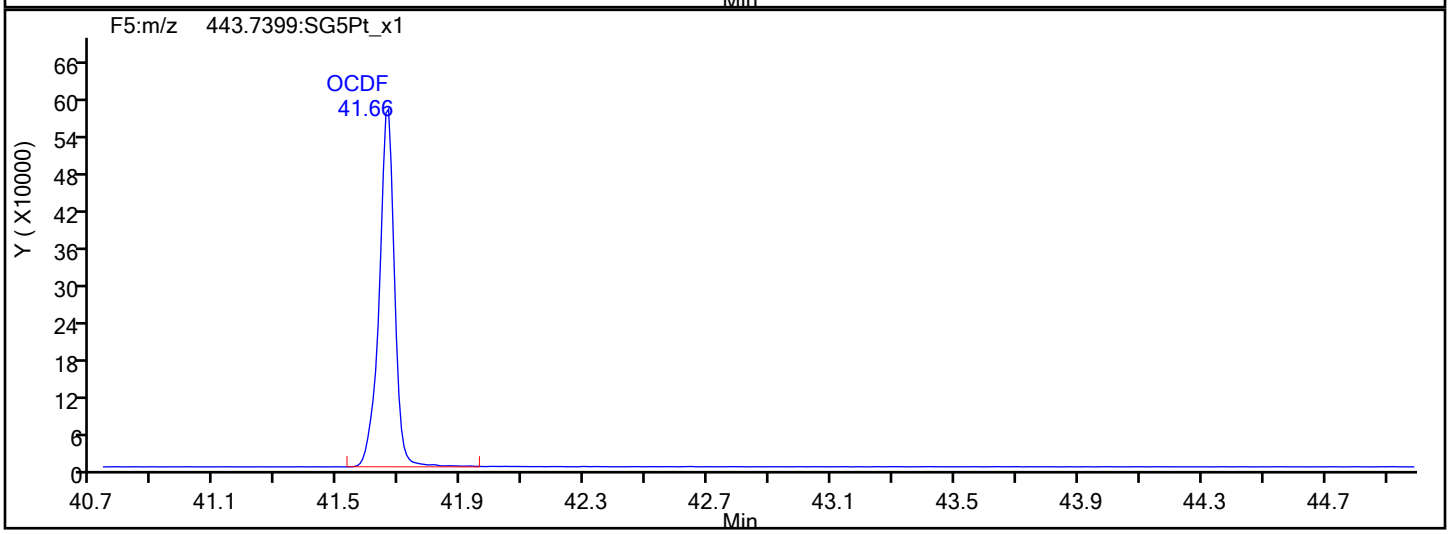
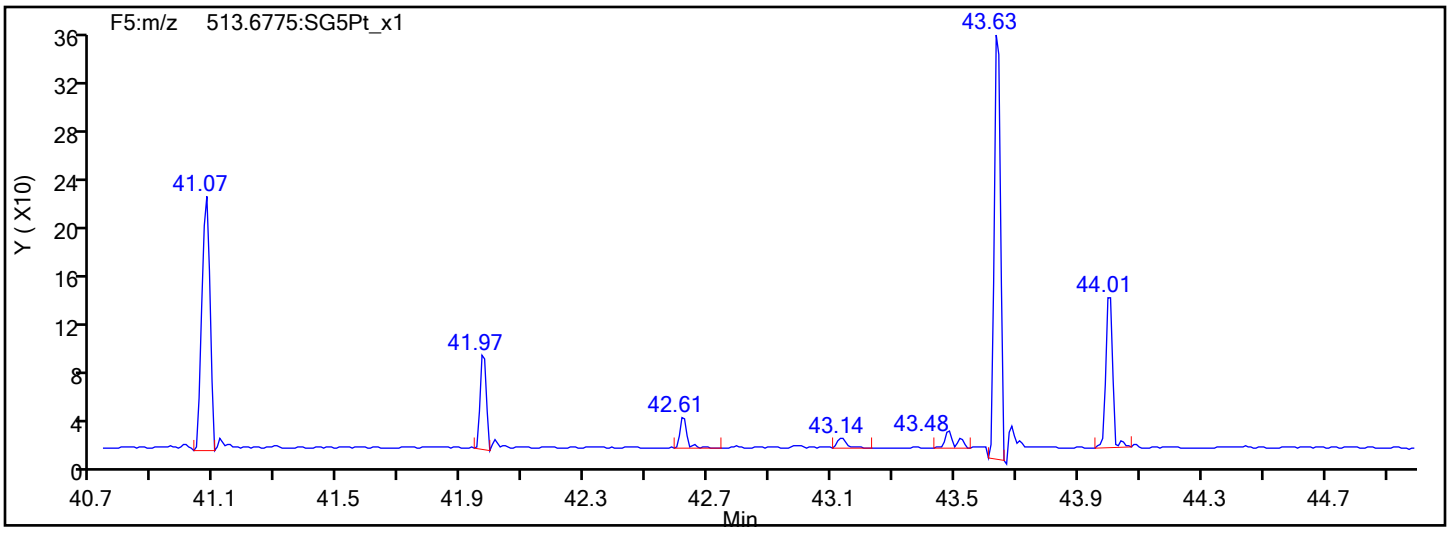
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



Report Date: 21-Jan-2022 08:05:35 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_2.d

Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

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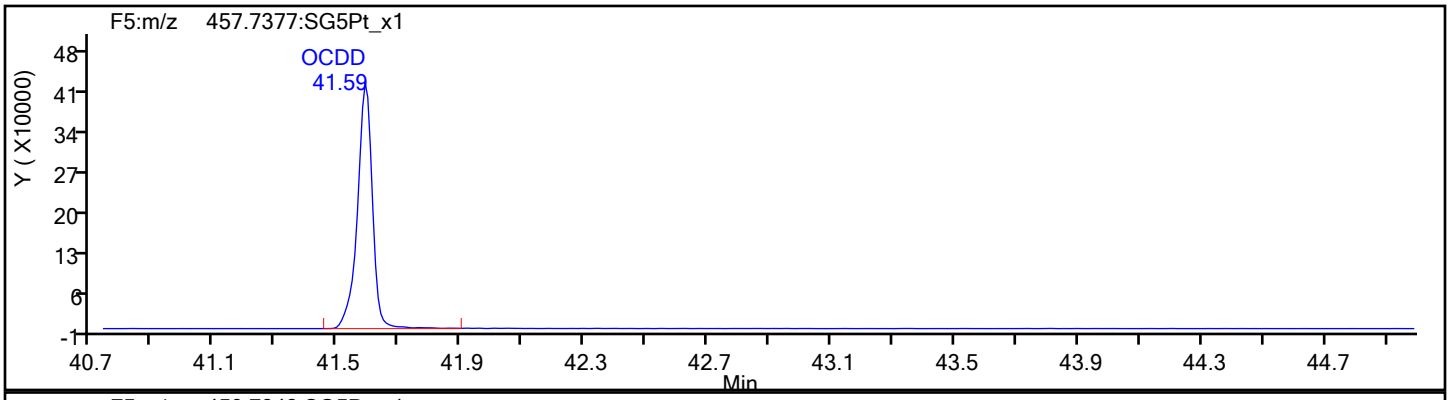
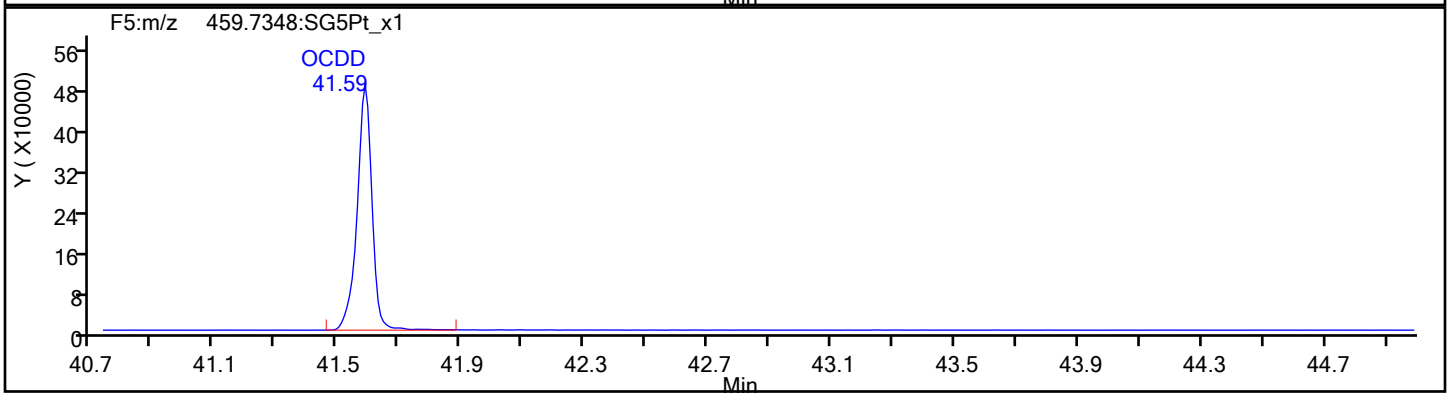
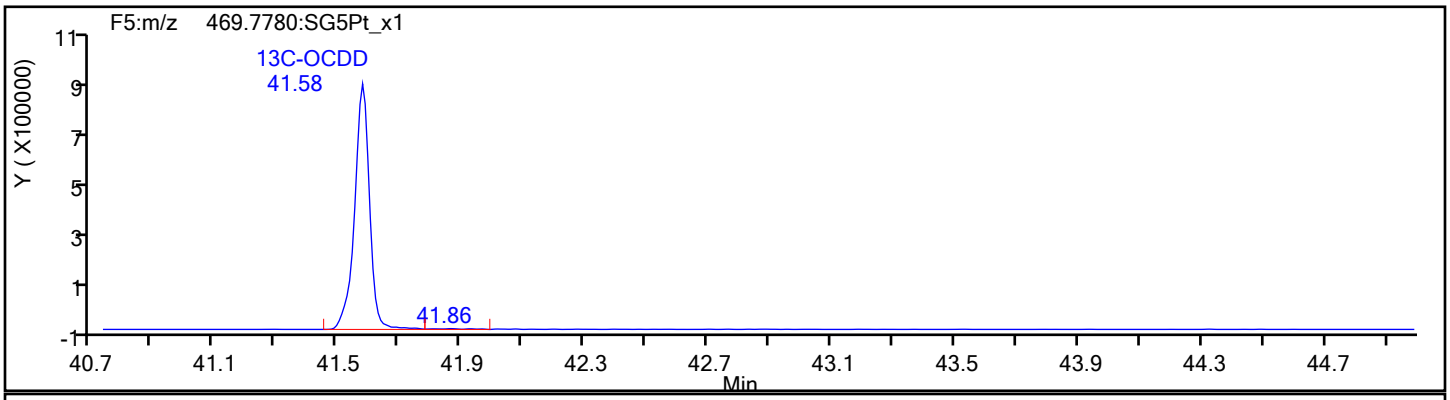
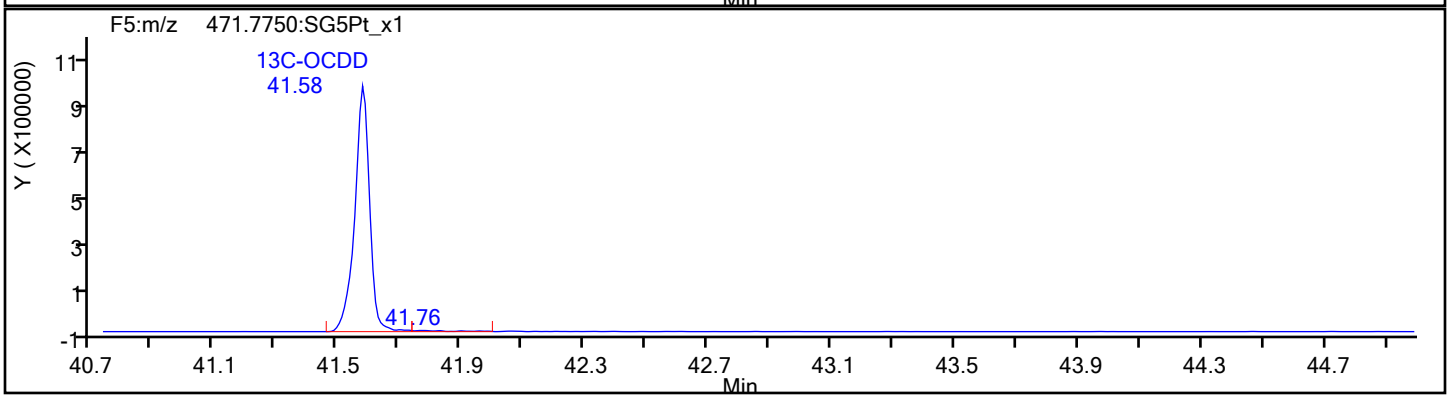




OCDD Standards





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Eurofins Sacramento

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Injection Date:	20-Jan-2022 15:20:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
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Client ID:			
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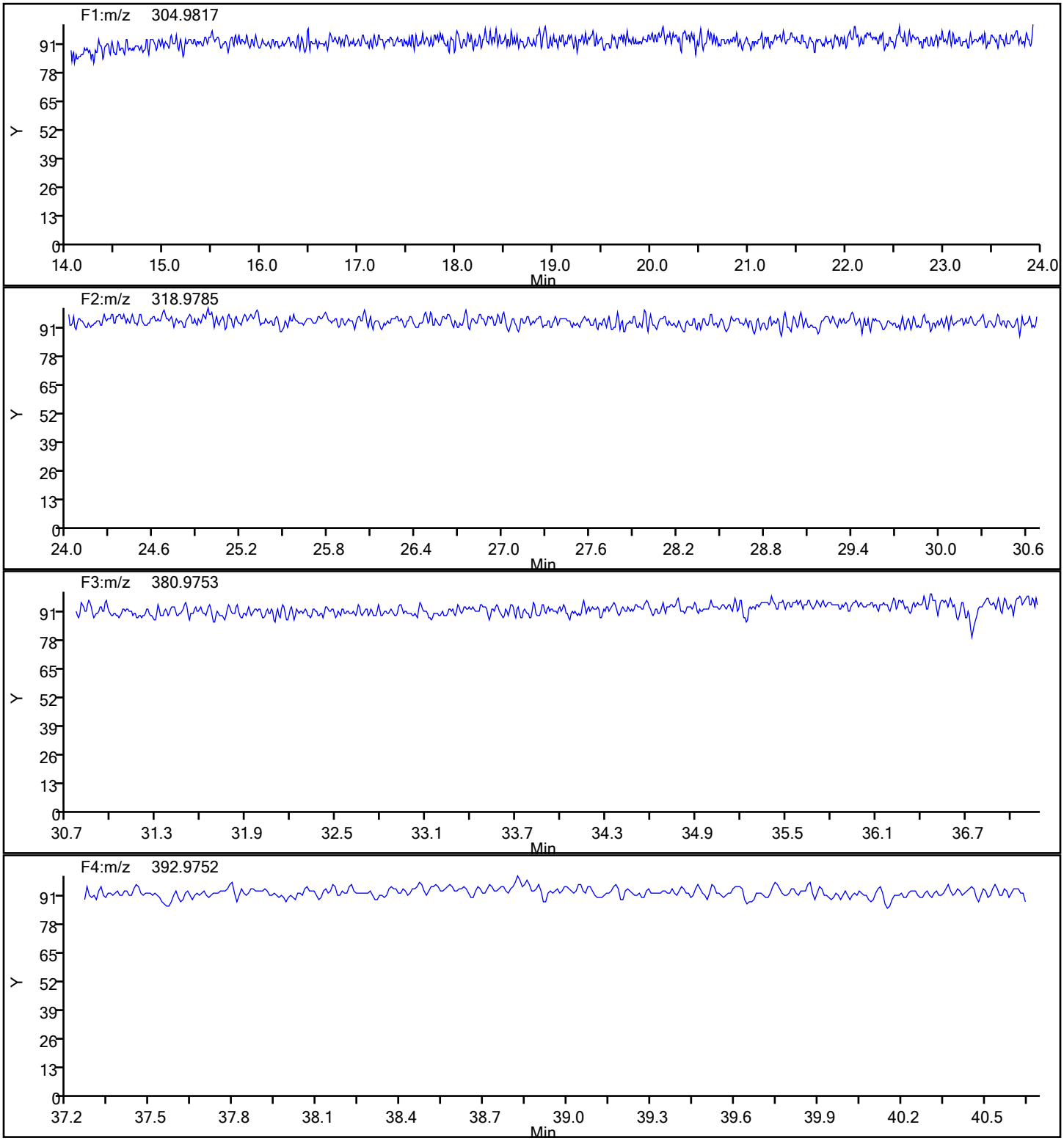

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Eurofins Sacramento

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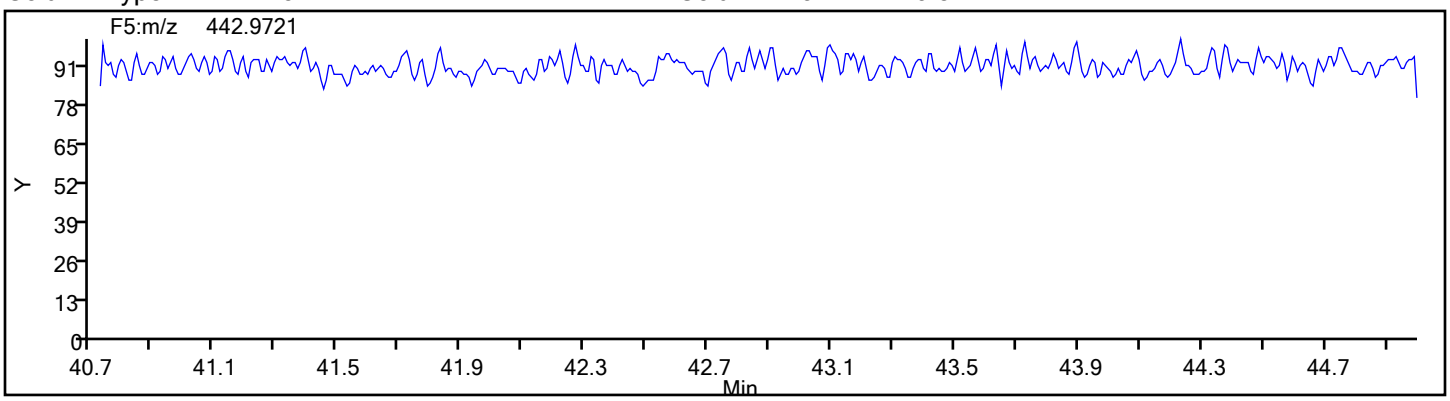


FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Lab Sample ID: CCV 320-559474/13 Calibration Date: 01/21/2022 01:01

Instrument ID: DFS 1 Calib Start Date: 01/13/2022 17:16

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/13/2022 20:27

Lab File ID: 20ja22dfs1_14.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.012	0.9487		9.38	10.0	-6.3	20.0
2,3,7,8-TCDD	AveID	0.9906	0.9411		9.50	10.0	-5.0	20.0
1,2,3,7,8-PeCDF	AveID	0.9756	0.9283		47.6	50.0	-4.8	20.0
2,3,4,7,8-PeCDF	AveID	0.9215	0.8774		47.6	50.0	-4.8	20.0
1,2,3,7,8-PeCDD	AveID	1.002	0.9542		47.6	50.0	-4.8	20.0
1,2,3,4,7,8-HxCDF	AveID	0.8835	0.7952		45.0	50.0	-10.0	20.0
1,2,3,6,7,8-HxCDF	AveID	1.029	0.8735		42.5	50.0	-15.1	20.0
2,3,4,6,7,8-HxCDF	AveID	0.9878	0.9074		45.9	50.0	-8.1	20.0
1,2,3,4,7,8-HxCDD	AveID	0.8294	0.8281		49.9	50.0	-0.2	20.0
1,2,3,6,7,8-HxCDD	AveID	0.9395	0.9397		50.0	50.0	0.0	20.0
1,2,3,7,8,9-HxCDD	AveID	0.9076	0.9391		51.7	50.0	3.5	20.0
1,2,3,7,8,9-HxCDF	AveID	0.9071	0.8823		48.6	50.0	-2.7	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.439	1.377		47.9	50.0	-4.3	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9767	0.9382		48.0	50.0	-3.9	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.220	1.216		49.8	50.0	-0.3	20.0
OCDD	AveID	1.034	0.9884		95.6	100	-4.4	20.0
OCDF	AveID	1.276	1.232		96.6	100	-3.4	20.0
13C-2,3,7,8-TCDF	Ave	1.016	1.022		101	100	0.6	30.0
13C-2,3,7,8-TCDD	Ave	0.7884	0.7775		98.6	100	-1.4	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9232	0.9736		106	100	5.5	30.0
13C-2,3,4,7,8-PeCDF	Ave	1.079	1.204		103	100	11.6	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.5606	0.5877		105	100	4.8	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.057	1.023		96.9	100	-3.1	30.0
13C-1,2,3,6,7,8-HxCDF	Ave	0.9686	0.8470		87.5	100	-12.5	30.0
13C-2,3,4,6,7,8-HxCDF	Ave	0.9084	0.8638		95.1	100	-4.9	30.0
13C-1,2,3,4,7,8-HxCDD	Ave	0.8133	0.8335		82.2	100	2.5	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8027	0.7295		90.9	100	-9.1	30.0
13C-1,2,3,7,8,9-HxCDF	Ave	0.8248	0.8500		103	100	3.1	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6421	0.6670		104	100	3.9	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.6246	0.6793		109	100	8.8	30.0
13C-1,2,3,4,7,8,9-HpCDF	AveID	1.171	1.333		114	100	13.9	30.0
13C-OCDD	Ave	0.4360	0.5310		244	200	21.8	30.0
37Cl4-2,3,7,8-TCDD	Ave	0.7911	0.8509		10.8	10.0	7.6	

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Jan-2022 01:01:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:06:06 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:33:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.951	6502986	0.82	3.5E+04	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.049	6646036	0.80	1.0164	100.6	100.6	0.4414	0.4414	101	
2,3,7,8-TCDF	19.066	630502	0.77	1.0120	9.375	9.375	0.0415	0.0415	93.75	
A Non-2,3,7,8-sub-TCDF	18.694						0.0415	0.0415		
S Total TCDF					9.375	9.375	0.0415	0.0415		
D 13C-2,3,7,8-TCDD	20.304	5056158	0.80	0.7884	98.6	98.6	0.2659	0.2659	98.62	
$ 37Cl4-2,3,7,8-TCDD	20.321	553332		0.7911	10.8	10.8	0.0305	0.0305	108	
2,3,7,8-TCDD	20.347	475860	0.84	0.9906	9.501	9.501	0.0712	0.0712	95.01	
A Non-2,3,7,8-sub-TCDD	19.493						0.0712	0.0712		
S Total TCDD					9.501	9.501	0.0712	0.0712		
D 13C-1,2,3,7,8-PeCDF	26.083	6331020	1.55	0.9232	105.5	105.5	0.4756	0.4756	105	
1,2,3,7,8-PeCDF	26.108	2938537	1.57	0.9756	47.6	47.6	0.1908	0.1908	95.15	
D 13C-2,3,4,7,8-PeCDF	27.505	7830199	1.56	1.1692	103.0	103.0	0.3755	0.3755	103	
2,3,4,7,8-PeCDF	27.530	2777348	1.55	0.9215	47.6	47.6	0.2020	0.2020	95.21	
A F1 PeCDFs	23.390	245	1.55	0.9486	0.0836	0.004080	0.0127	0.0127	0.00	RQ
A Non-2,3,7,8-sub-PeCDF	26.772						0.1962	0.1962		
S Total PeCDF					95.3	95.2	0.1964	0.1964		RQ
D 13C-1,2,3,7,8-PeCDD	28.280	3821482	1.57	0.5606	104.8	104.8	0.1860	0.1860	105	
1,2,3,7,8-PeCDD	28.314	1823226	1.59	1.0020	47.6	47.6	0.1034	0.1034	95.23	
A Non-2,3,7,8-sub-PeCDD	27.199						0.1034	0.1034		
S Total PeCDD					47.6	47.6	0.1034	0.1034		
D 13C-1,2,3,4,7,8-HxCDF	34.002	5791848	0.54	1.0566	96.9	96.9	0.3406	0.3406	96.86	
1,2,3,4,7,8-HxCDF	34.019	2302922	1.23	0.8835	45.0	45.0	0.1600	0.1600	90.01	
D 13C-1,2,3,6,7,8-HxCDF	34.179	4793991	0.51	0.9686	87.5	87.5	0.3716	0.3716	87.45	
1,2,3,6,7,8-HxCDF	34.212	2529464	1.24	1.0287	42.5	42.5	0.1374	0.1374	84.90	
D 13C-2,3,4,6,7,8-HxCDF	35.122	4889007	0.52	0.9084	95.1	95.1	0.3962	0.3962	95.09	
2,3,4,6,7,8-HxCDF	35.139	2627792	1.24	0.9878	45.9	45.9	0.1431	0.1431	91.86	
D 13C-1,2,3,7,8,9-HxCDF	36.098	4810766	0.53	0.8248	103.1	103.1	0.4364	0.4364	103	
1,2,3,7,8,9-HxCDF	36.115	2555143	1.25	0.9071	48.6	48.6	0.1558	0.1558	97.27	
A Non-2,3,7,8-sub-HxCDF	34.083						0.1485	0.1485		
S Total HxCDF					182.0	182.0	0.1491	0.1491		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	35.905	5659700	1.28	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.375	4717300	1.26	1.0143	82.2	82.2	0.1723	0.1723	82.17	
1,2,3,4,7,8-HxCDD	35.391	1709414	1.25	0.8294	49.9	49.9	0.0980	0.0980	99.84	
D 13C-1,2,3,6,7,8-HxCDD	35.501	4128605	1.25	0.8027	90.9	90.9	0.2177	0.2177	90.88	
1,2,3,6,7,8-HxCDD	35.518	1939787	1.24	0.9395	50.0	50.0	0.0865	0.0865	100	
1,2,3,7,8,9-HxCDD	35.922	1938578	1.25	0.9076	51.7	51.7	0.0895	0.0895	103	
A Non-2,3,7,8-sub-HxCDD	34.580						0.0911	0.0911		
S Total HxCDD					151.7	151.7	0.0913	0.0913		
D 13C-1,2,3,4,6,7,8-HpCDF	38.082	3775225	0.46	0.6421	103.9	103.9	0.4379	0.4379	104	
1,2,3,4,6,7,8-HpCDF	38.091	2598776	1.03	1.4385	47.9	47.9	0.1785	0.1785	95.71	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.387	5033740	0.45	1.1706	113.9	113.9	0.3005	0.3005	114	
1,2,3,4,7,8,9-HpCDF	39.395	2295371	1.01	1.2202	49.8	49.8	0.2104	0.2104	99.66	
A Non-2,3,7,8-sub-HpCDF	38.761						0.1931	0.1931		
S Total HpCDF					97.7	97.7	0.1945	0.1945		
D 13C-1,2,3,4,6,7,8-HpCDD	39.084	3844740	1.03	0.6246	108.8	108.8	0.3093	0.3093	109	
1,2,3,4,6,7,8-HpCDD	39.092	1803571	1.04	0.9767	48.0	48.0	0.1029	0.1029	96.06	
A Non-2,3,7,8-sub-HpCDD	38.778						0.1029	0.1029		n
S Total HpCDD					48.0	48.0	0.1029	0.1029		
D 13C-OCDD	41.563	6011076	0.88	0.4360	243.6	243.6	0.3201	0.3201	122	
OCDF	41.639	3701556	0.91	1.2756	96.6	96.6	0.0987	0.0987	96.55	
OCDD	41.571	2970750	0.88	1.0341	95.6	95.6	0.0871	0.0871	95.58	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
a - User Assigned ID

Reagents:

HRDXNL4_00105 Amount Added: 1.00 Units: uL

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Jan-2022 01:01:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:06:06 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:33:49

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	19.951	19.998	-3		2927842	442901	575	1437	770		a
333.9338	19.943	19.998	-3		3575144	551698	259	647	2130	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.049	19.049	0	0.955	2963372	460832	1175	2937	392		
317.9389	19.040	19.049	-1	0.954	3682664	574069	610	1525	941	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.066	19.066	0	1.001	274836	42161	48	120	878		
305.8987	19.057	19.066	-1	1.000	355666	52155	126	315	414	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.694						48	120			
305.8987	18.694						126	315			
13C-2,3,7,8-TCDD											
331.9368	20.304	20.304	0	1.018	2252274	328470	575	1437	571		
333.9338	20.295	20.304	-1	1.017	2803884	394226	259	647	1522	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.321	20.321	0	1.019	553332	73662	96	240	767		
2,3,7,8-TCDD											
319.8965	20.347	20.347	0	1.002	217385	29119	147	367	198		
321.8936	20.338	20.347	-1	1.002	258475	37029	57	142	650	0.84(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	19.493						147	367			
321.8936	19.493						57	142			
13C-1,2,3,7,8-PeCDF											
351.9000	26.083	26.083	0	1.307	3843960	680463	1017	2542	669		
353.8970	26.083	26.083	0	1.307	2487060	419292	730	1825	574	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.108	26.108	0	1.001	1795361	291600	438	1095	666		
341.8567	26.099	26.108	-1	1.001	1143176	187682	381	952	493	1.57(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.505	27.505	0	1.379	4770109	753465	1017	2542	741		
353.8970	27.513	27.505	1	1.379	3060090	478713	730	1825	656	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.530	27.530	0	1.055	1687353	264470	438	1095	604		
341.8567	27.530	27.530	0	1.055	1089995	166989	381	952	438	1.55(1.32-1.78)	
A F1 PeCDFs											RQ
339.8597	23.682	23.390	17	0.908	149	77	1	2	77		
341.8567	23.673	23.390	17	0.908	4870	857	52	130	16	0.03(1.32-1.78)	
	Empc Correction				96	49	52	130	1		
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.772						438	1095			
341.8567	26.772						381	952			
13C-1,2,3,7,8-PeCDD											
367.8949	28.280	28.280	0	1.417	2333311	355846	281	702	1266		
369.8919	28.288	28.280	1	1.418	1488171	220621	134	335	1646	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.314	28.314	0	1.001	1119093	163485	158	395	1035		
357.8516	28.322	28.314	1	1.001	704133	103329	81	202	1276	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.199						158	395			
357.8516	27.199						81	202			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.002	34.002	0	0.947	2021501	366762	636	1590	577		
385.8610	33.994	34.002	-1	0.947	3770347	685289	1156	2890	593	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.019	34.019	0	1.000	1270823	232992	333	832	700		
375.8178	34.019	34.019	0	1.000	1032099	195507	262	655	746	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.179	34.179	0	0.952	1629064	283479	636	1590	446		
385.8610	34.179	34.179	0	0.952	3164927	533815	1156	2890	462	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.212	34.212	0	1.006	1401953	240463	333	832	722		
375.8178	34.204	34.212	-1	1.006	1127511	194883	262	655	744	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.122	35.122	0	0.978	1677080	326615	636	1590	514		
385.8610	35.122	35.122	0	0.978	3211927	643524	1156	2890	557	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.139	35.139	0	1.033	1455498	291414	333	832	875		
375.8178	35.139	35.139	0	1.033	1172294	234058	262	655	893	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.098	36.098	0	1.005	1674685	368897	636	1590	580		
385.8610	36.098	36.098	0	1.005	3136081	704027	1156	2890	609	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	36.115	36.115	0	1.062	1418323	310885	333	832	934		
375.8178	36.115	36.115	0	1.062	1136820	245551	262	655	937	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.083						333	832			
375.8178	34.083						262	655			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.905	35.929	-1		3176449	693111	533	1332	1300		
403.8529	35.905	35.929	-1		2483251	551668	337	842	1637	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.375	35.375	0	0.985	2627083	566396	533	1332	1063		
403.8529	35.375	35.375	0	0.985	2090217	453463	337	842	1346	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.391	35.391	0	0.997	949135	210065	131	327	1604		
391.8127	35.391	35.391	0	0.997	760279	169641	140	350	1212	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.501	35.501	0	0.989	2293072	466946	533	1332	876		
403.8529	35.501	35.501	0	0.989	1835533	366115	337	842	1086	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.518	35.518	0	1.000	1072660	209734	131	327	1601		
391.8127	35.518	35.518	0	1.000	867127	178249	140	350	1273	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	35.922	35.922	0	1.012	1075868	233461	131	327	1782		
391.8127	35.913	35.922	-1	1.012	862710	185561	140	350	1325	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.580						131	327			
391.8127	34.580						140	350			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.082	38.082	0	1.061	1194724	320768	503	1257	638		
419.8220	38.074	38.082	-1	1.060	2580501	674369	897	2242	752	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.091	38.091	0	1.000	1321227	349316	537	1342	650		
409.7788	38.091	38.091	0	1.000	1277549	340601	485	1212	702	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.387	39.387	0	1.034	1566688	458505	503	1257	912		
419.8220	39.387	39.387	0	1.034	3467052	1022046	897	2242	1139	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.395	39.395	0	1.034	1156162	336991	537	1342	628		
409.7788	39.395	39.395	0	1.034	1139209	327293	485	1212	675	1.01(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.761						537	1342			
409.7788	38.761						485	1212			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.084	39.084	0	1.089	1949421	582678	448	1120	1301		
437.8140	39.084	39.084	0	1.089	1895319	551792	514	1285	1074	1.03(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7767	39.092	39.092	0	1.000	920686	269546	250	625	1078		
425.7737	39.092	39.092	0	1.000	882885	263150	206	515	1277	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.435	38.778	-20	0.983	4733	1669	250	625	7		
425.7737	38.427	38.778	-21	0.983	4419	1471	206	515	7	1.07(0.88-1.20)	
13C-OCDD											
469.7780	41.563	41.563	0	1.158	2817693	773862	357	892	2168		
471.7750	41.563	41.563	0	1.158	3193383	880612	338	845	2605	0.88(0.76-1.02)	
OCDF											
441.7428	41.639	41.639	0	1.002	1759528	482296	176	440	2740		
443.7399	41.639	41.639	0	1.002	1942028	538086	241	602	2233	0.91(0.76-1.02)	
OCDD											
457.7377	41.571	41.571	0	1.000	1393966	387317	130	325	2979		
459.7348	41.571	41.571	0	1.000	1576784	435899	168	420	2595	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

a - User Assigned ID

Reagents:

HRDXNL4_00105 Amount Added: 1.00 Units: uL

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d
Lims ID: CCV
Client ID:
Inject. Date: 21-Jan-2022 01:01:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 13
Sublist: chrom-Dioxin_DFS1*sub1

F1 PeCDFs, RT: 23.390

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	6331020	1099755
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	6331020	1099755

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.682	149	77	4870	857	0.0836	0.03	RQ
23.682	149	77	96	49	0.004080		Empc Correction
Signal Totals:							
	149	77	96	49			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5019	934				0.03	RQ
	245	126					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0836 = (5019 * 100.000) / (6331020 * 0.949)
Empc Amount: 0.004080 = (245 * 100.000) / (6331020 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

Eurofins Sacramento

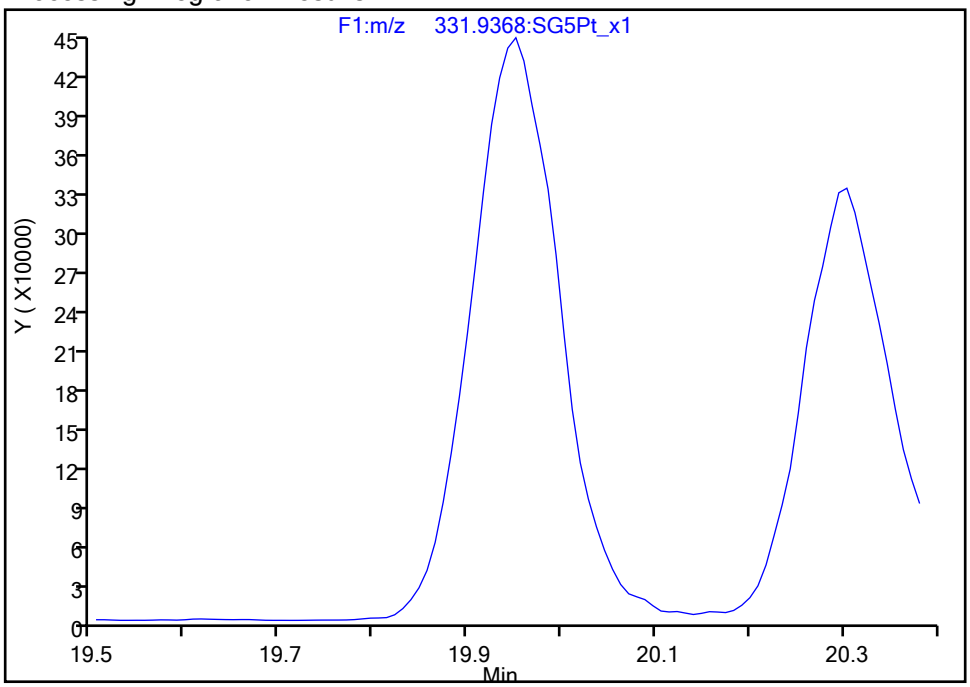
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d
Injection Date: 21-Jan-2022 01:01:00 Instrument ID: DFS 1
Lims ID: CCV
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

13C-1,2,3,4-TCDD, CAS: 114423-99-3

Signal: 1

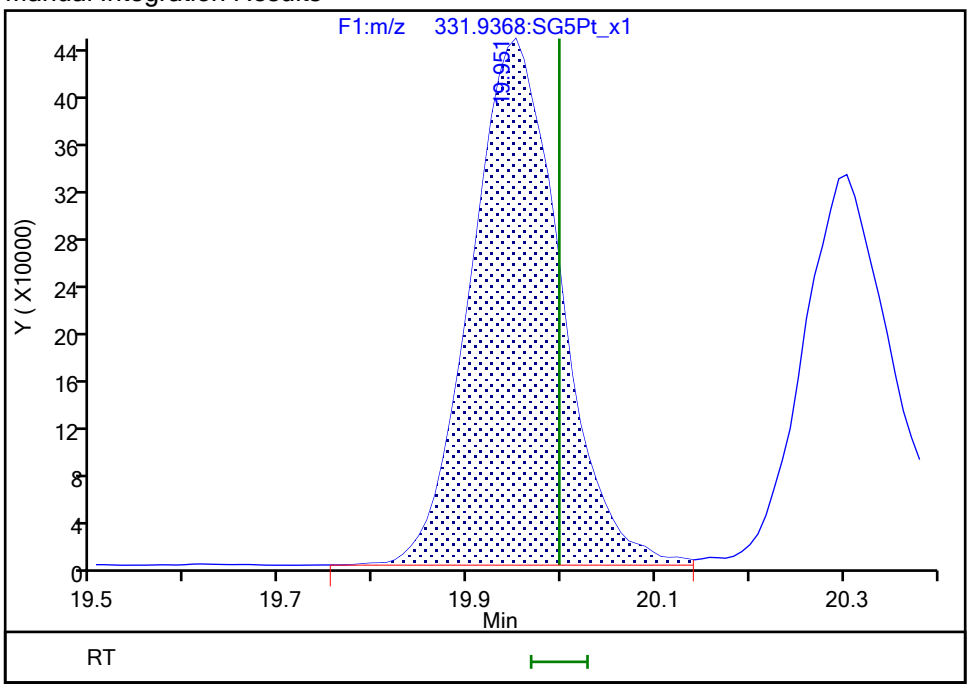
Not Detected
Expected RT: 20.00

Processing Integration Results



Manual Integration Results

RT: 19.95
Area: 2927842
Amount: 100.0000
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:33:22
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

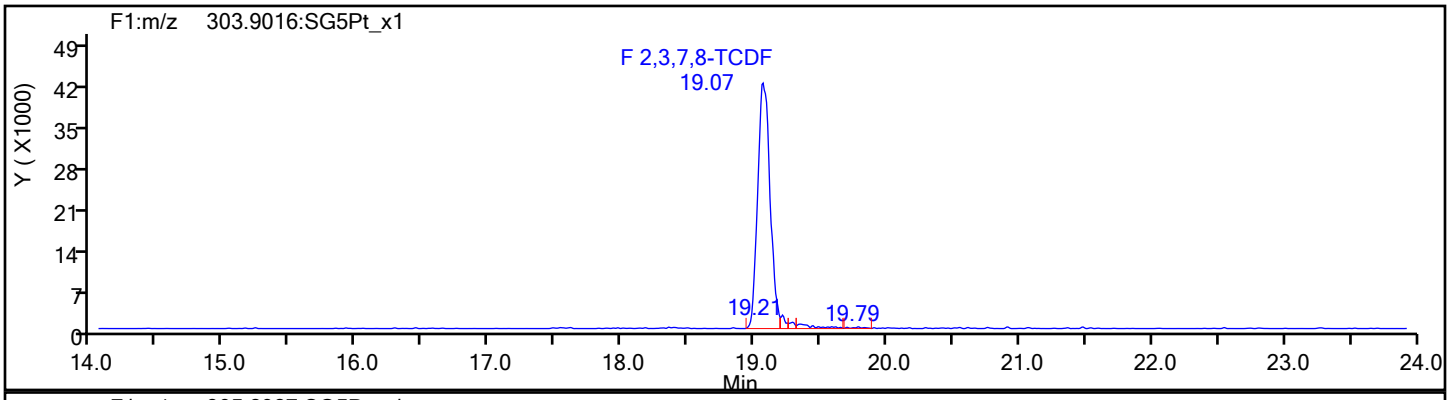
Report Date: 21-Jan-2022 08:06:06 Chrom Revision: 2.3 18-Jan-2022 20:25:40

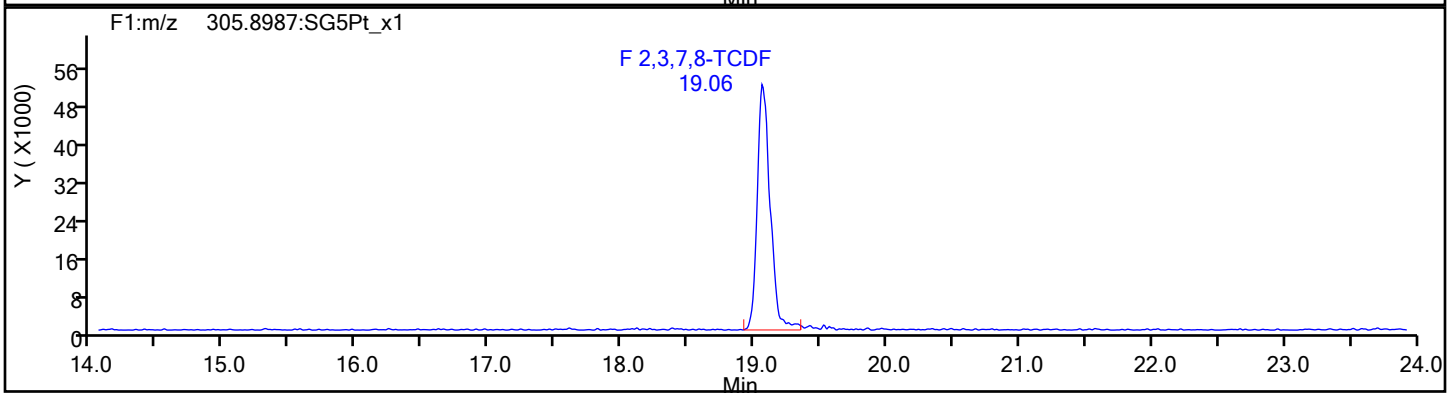
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d

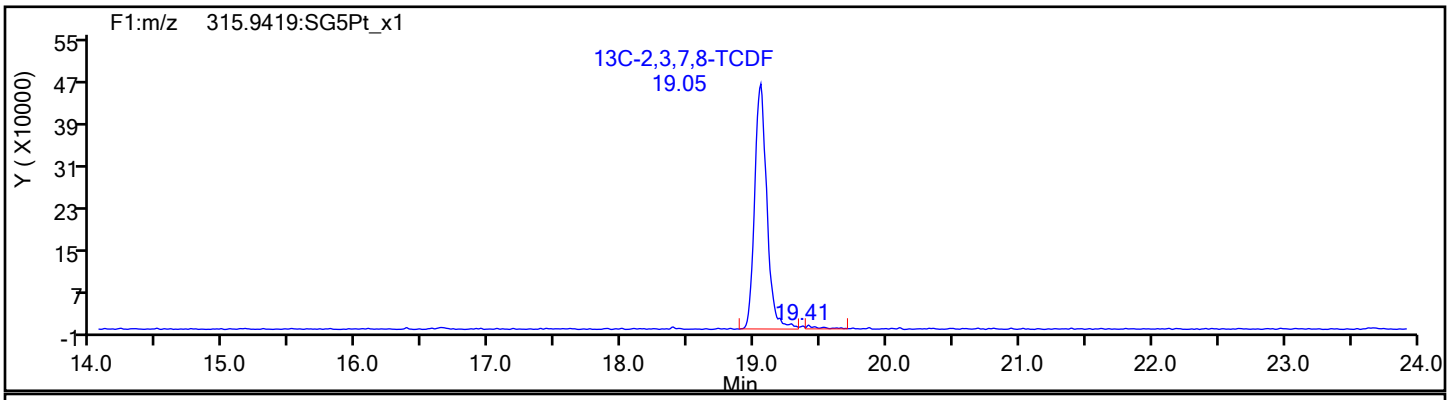
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

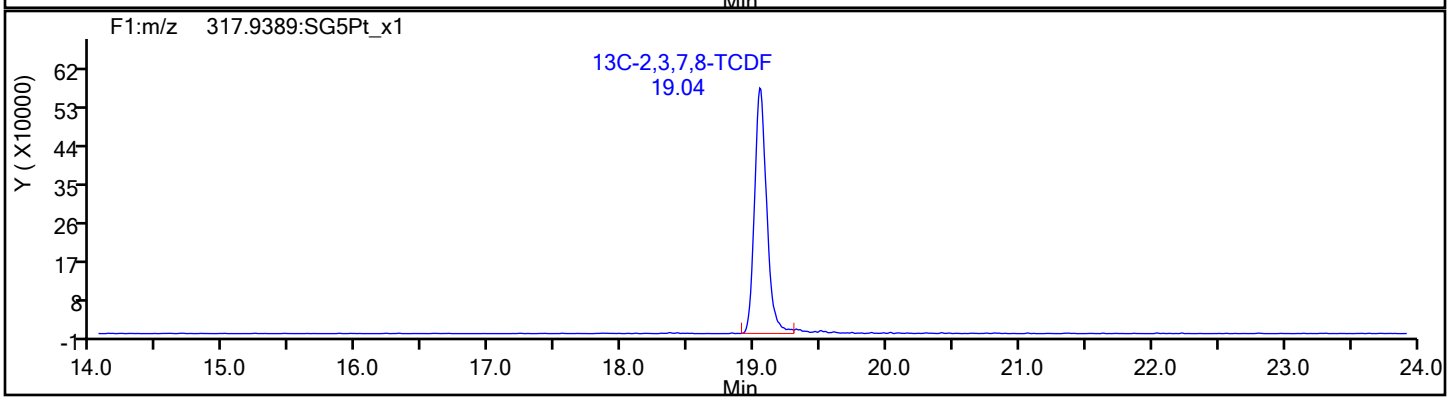
TCDF





TCDF Standards

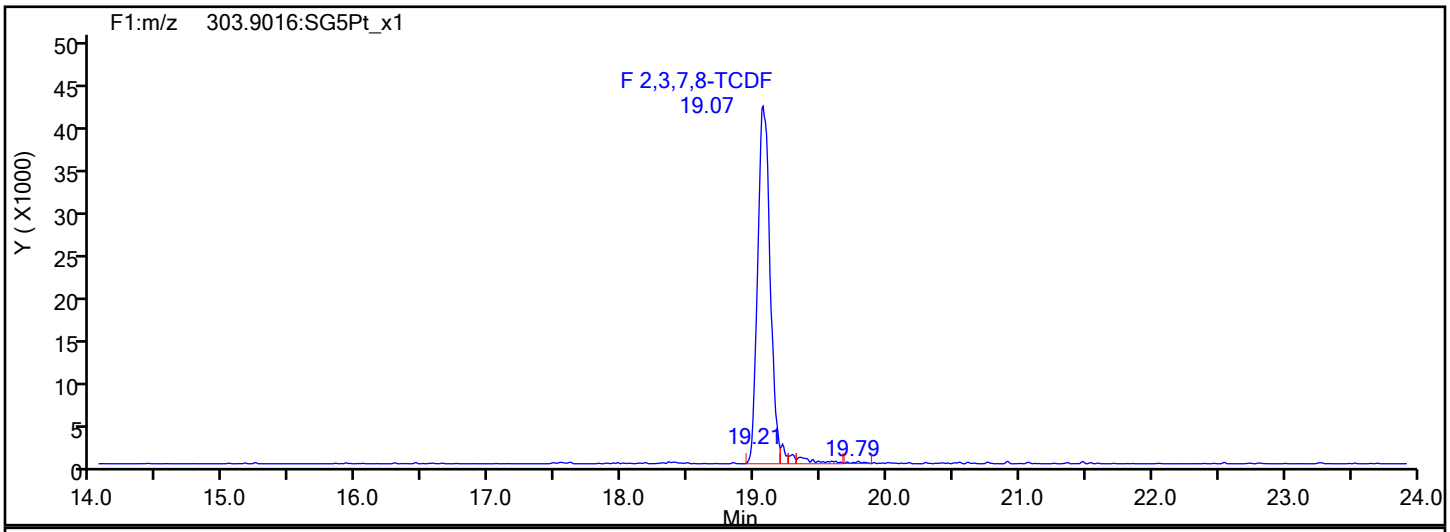


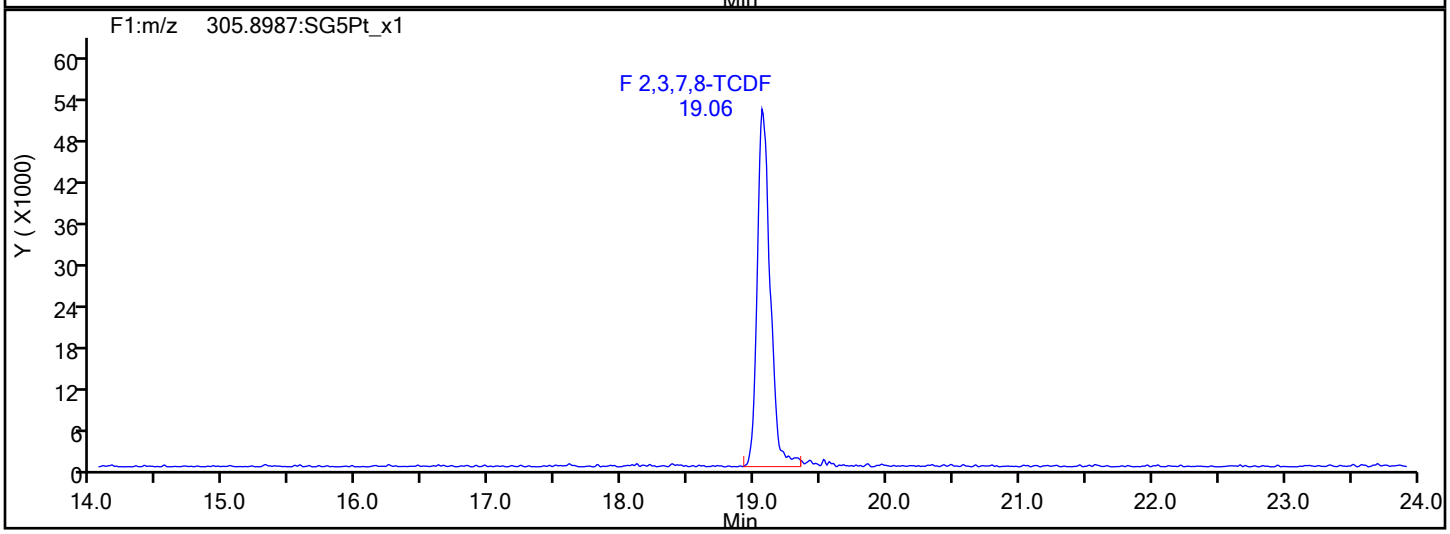


Eurofins Sacramento

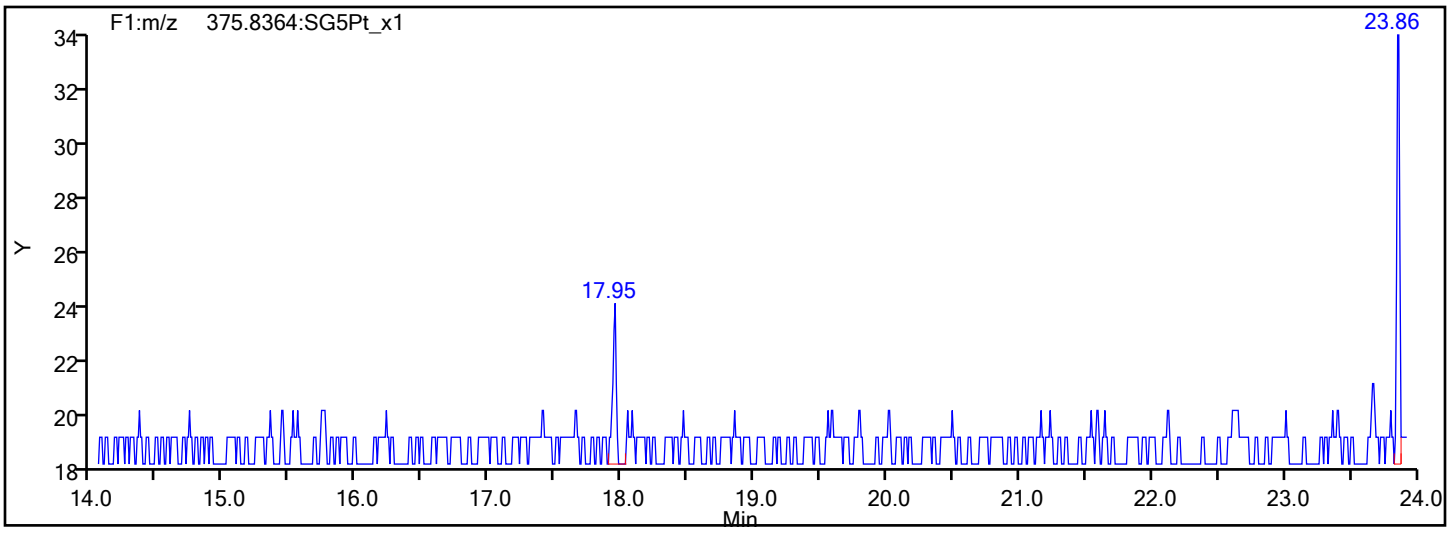
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d		
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



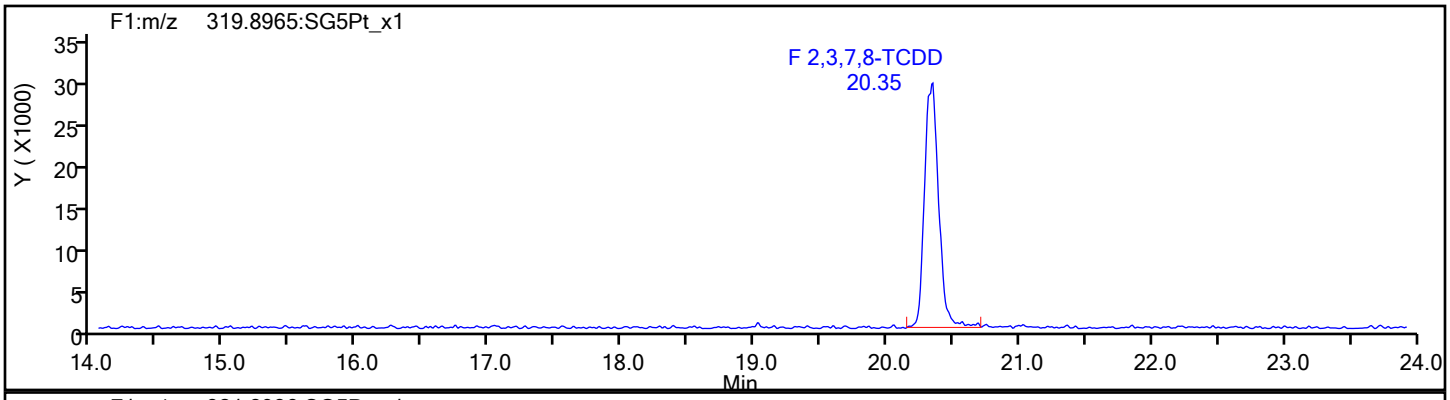
Report Date: 21-Jan-2022 08:06:07 Chrom Revision: 2.3 18-Jan-2022 20:25:40

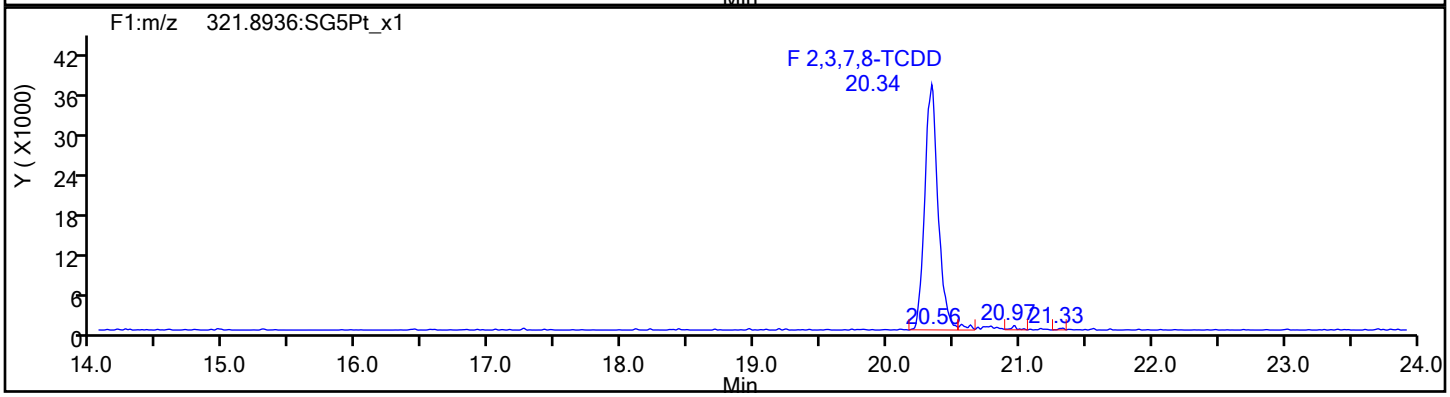
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d

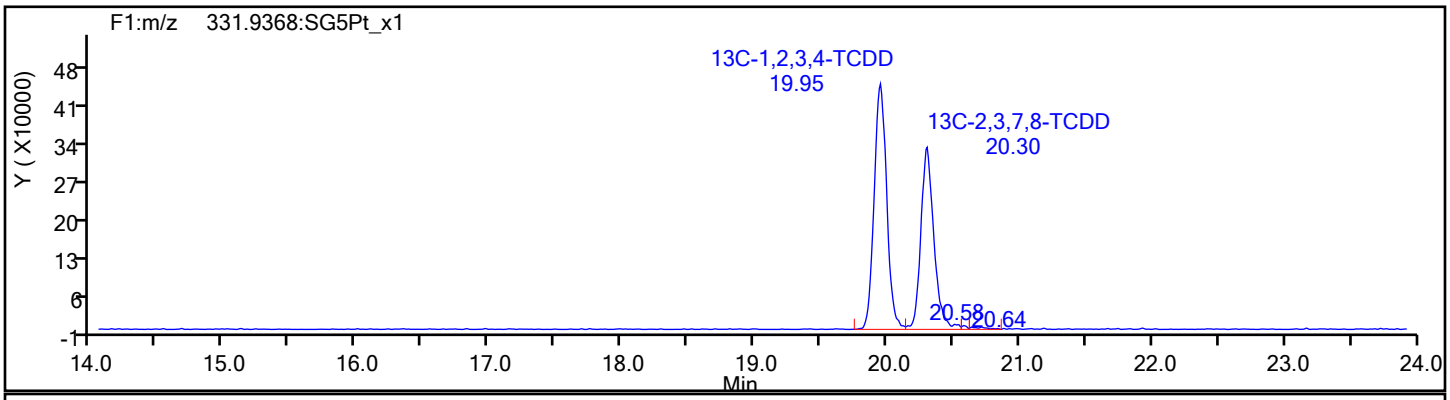
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

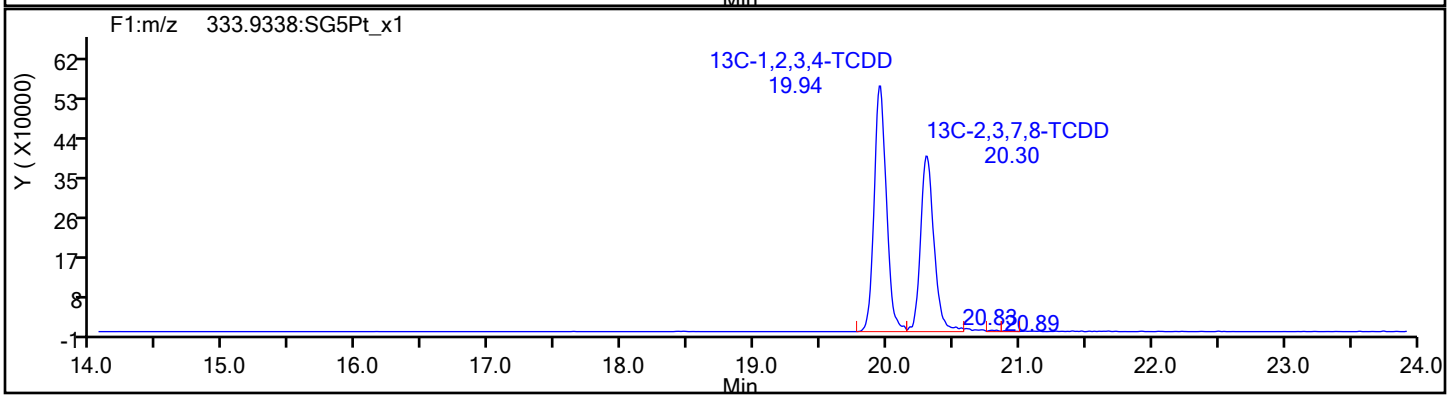
TCDD





TCDD Standards





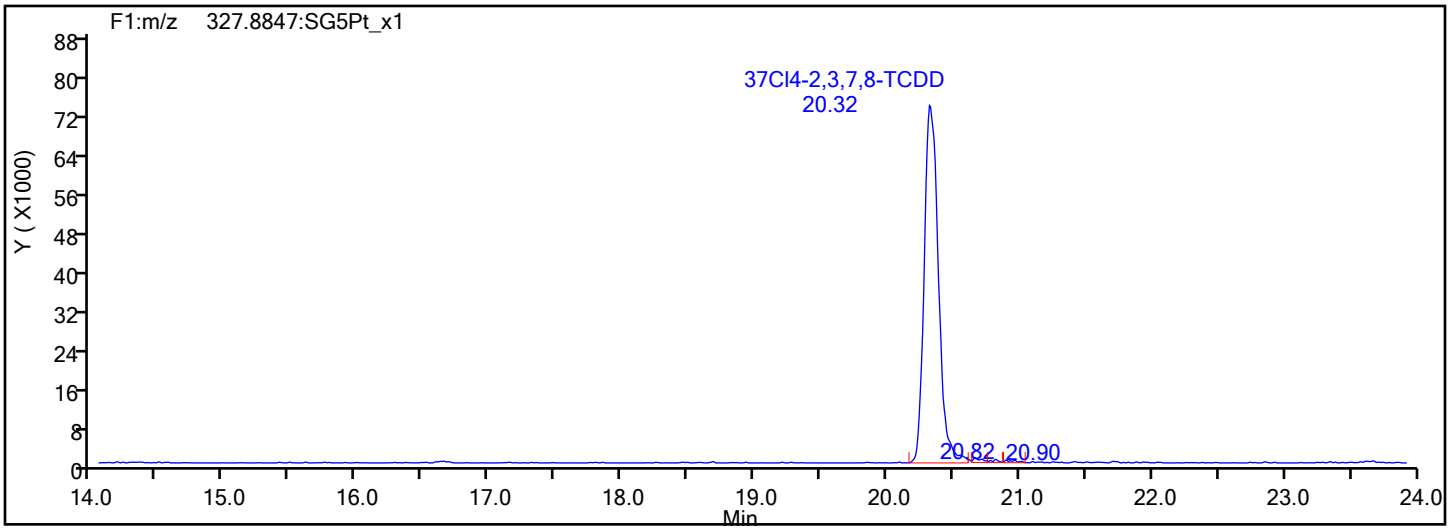
Report Date: 21-Jan-2022 08:06:07 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

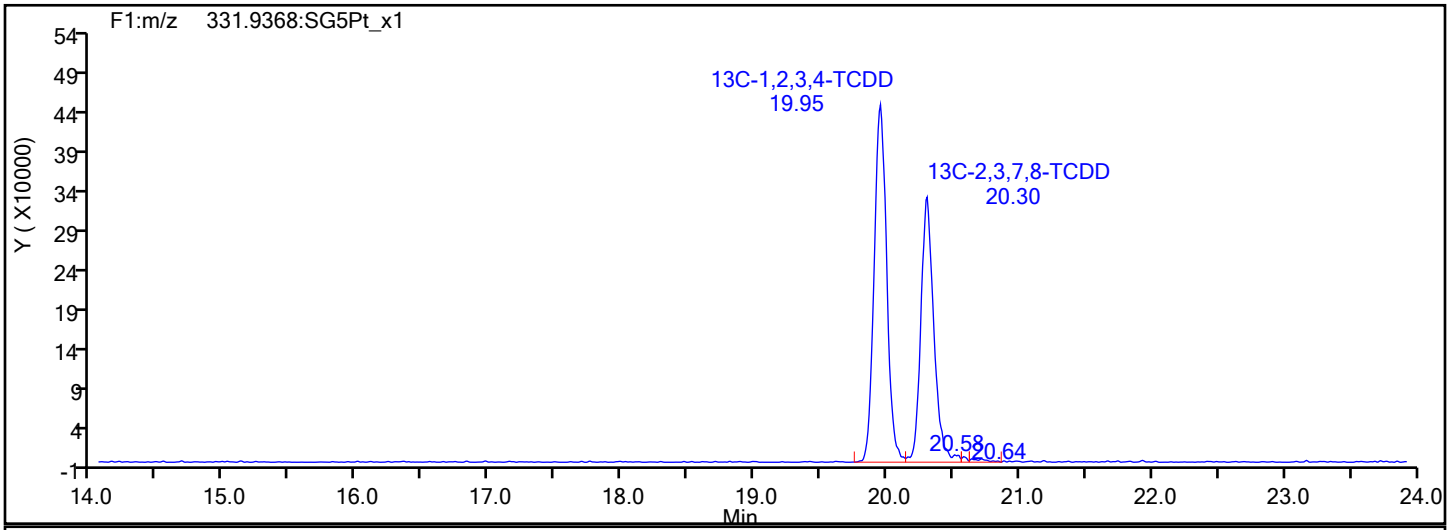
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d

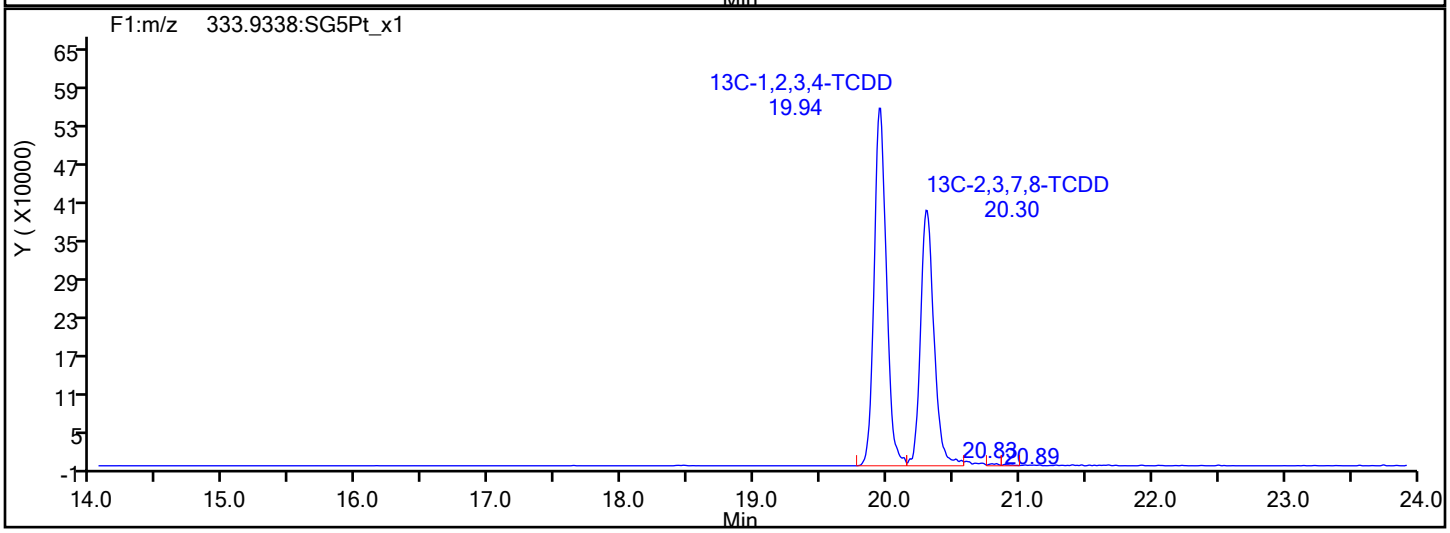
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





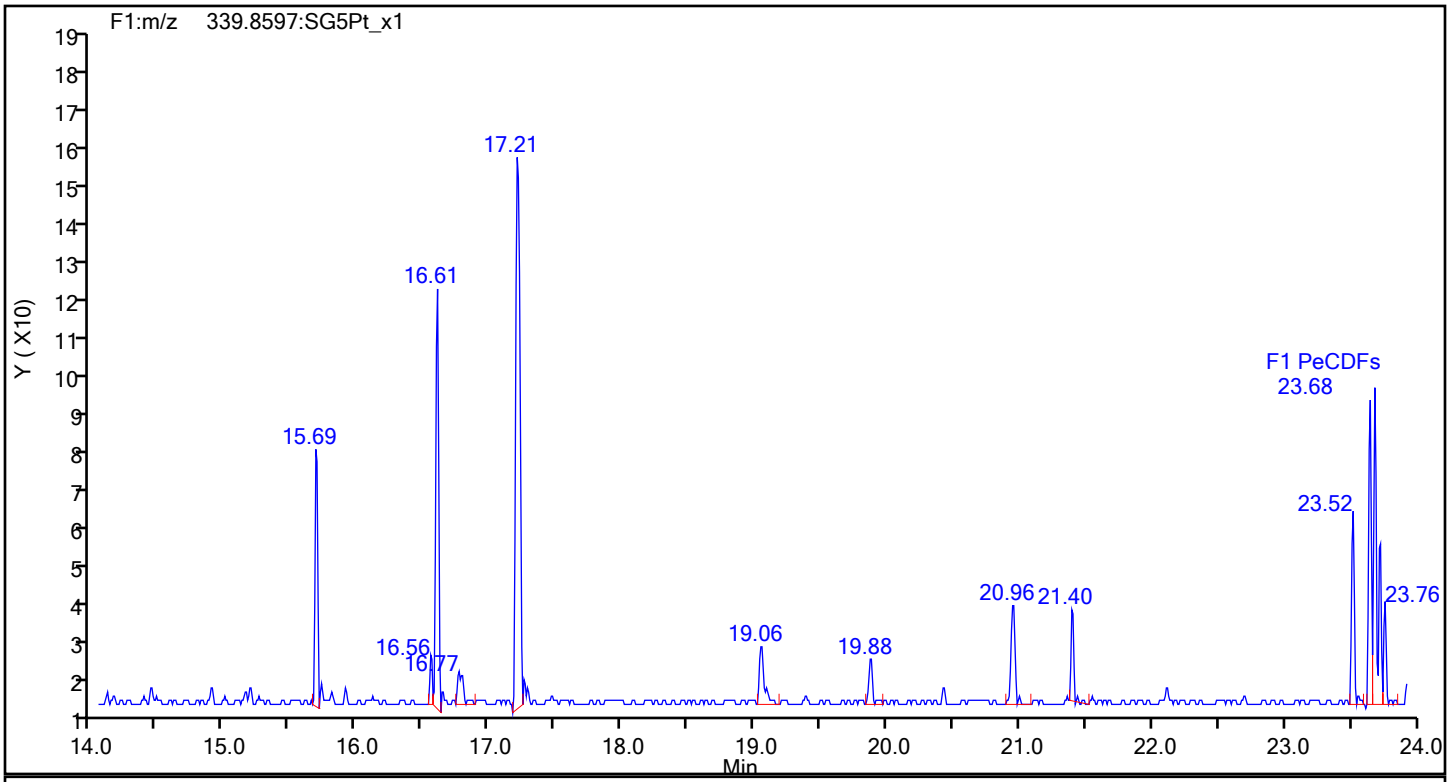
Report Date: 21-Jan-2022 08:06:07 Chrom Revision: 2.3 18-Jan-2022 20:25:40

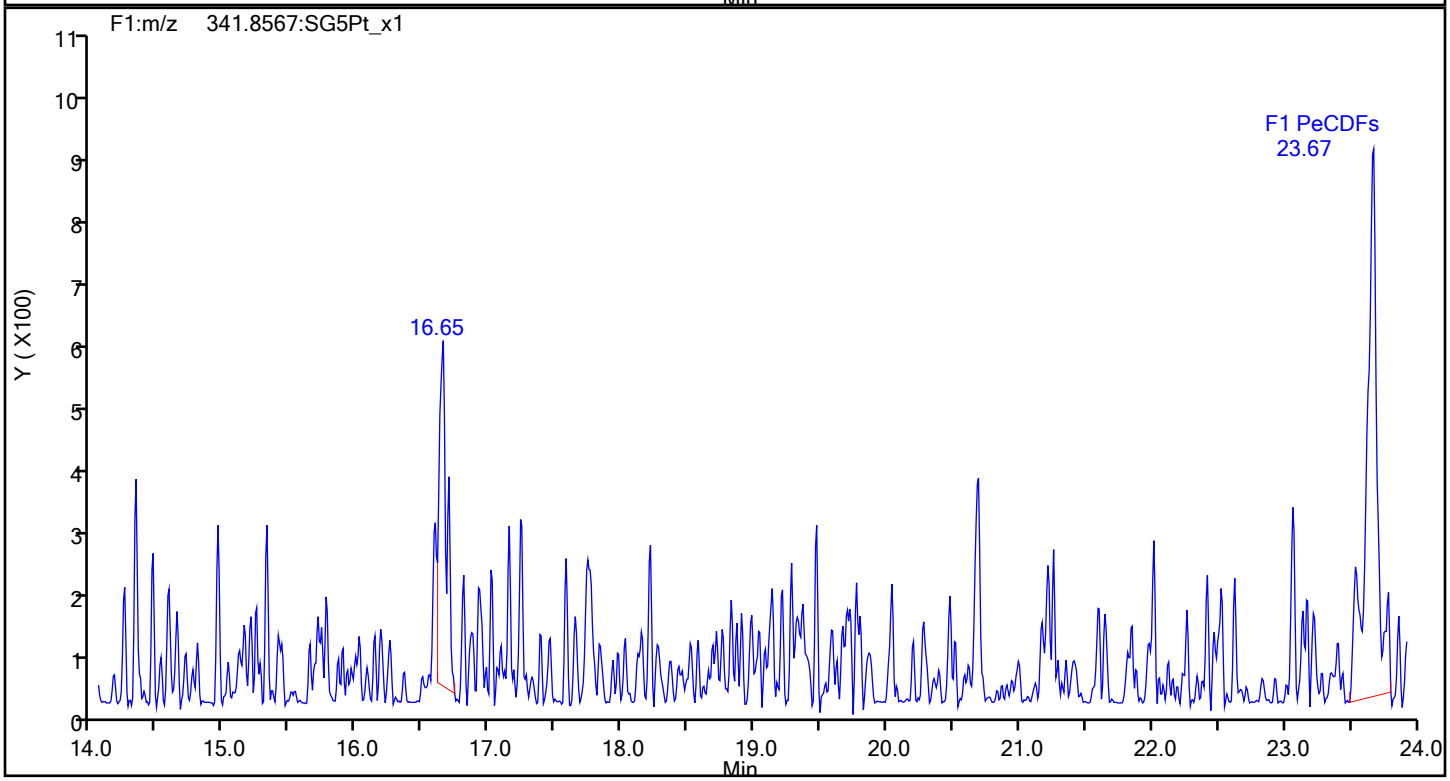
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d

Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

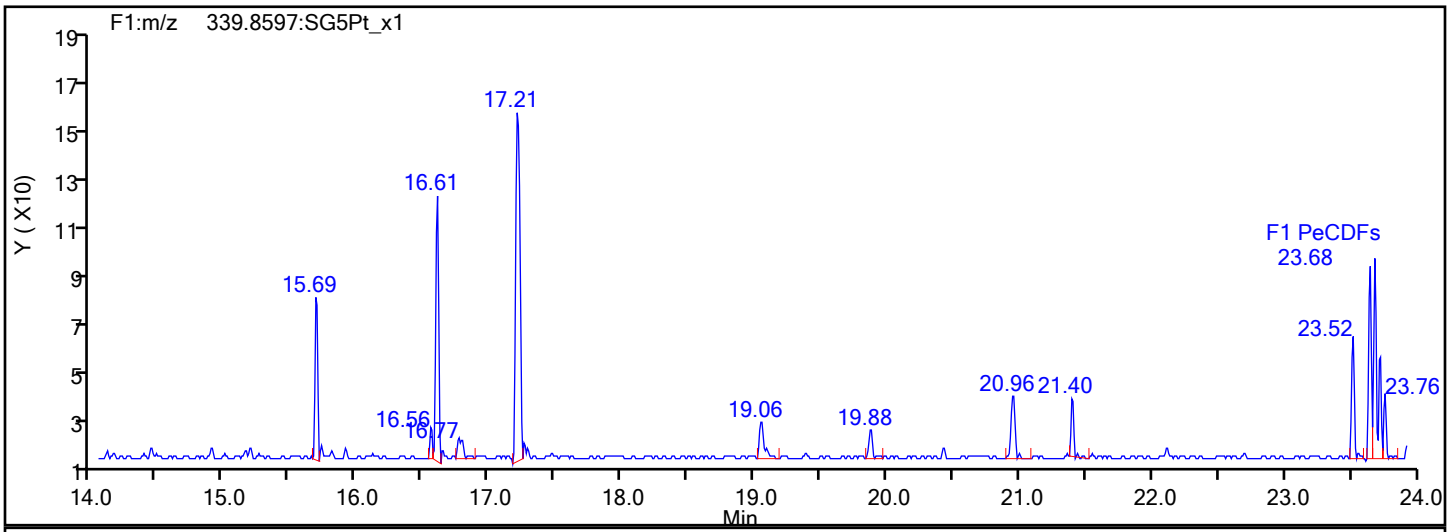


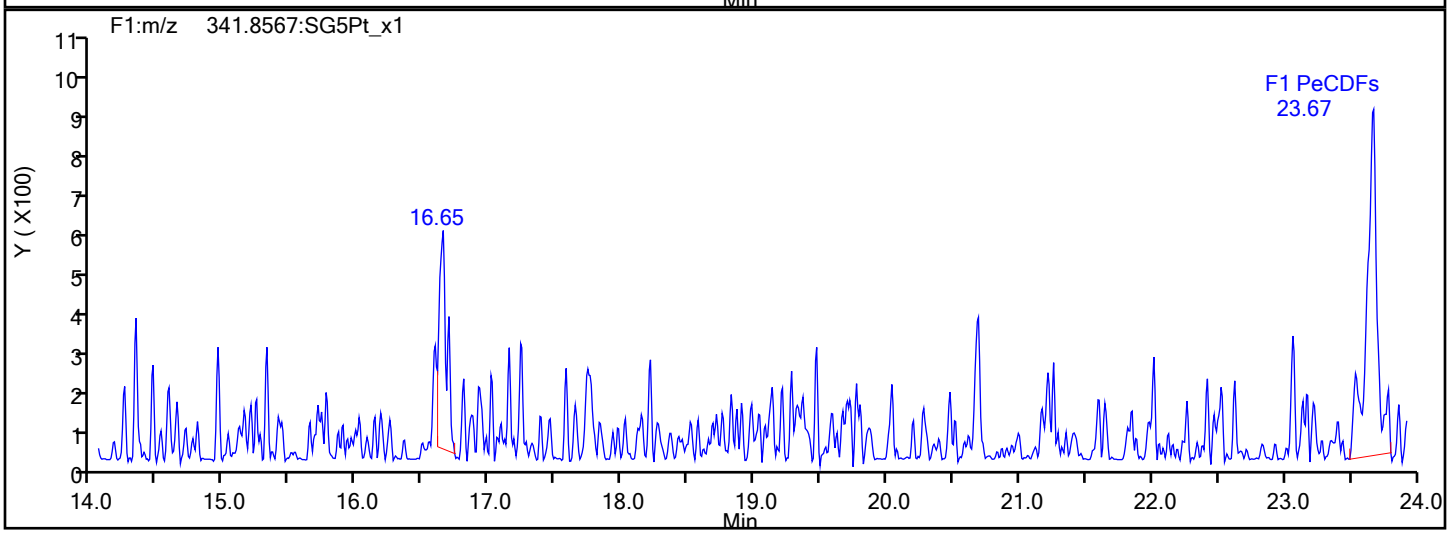


Eurofins Sacramento

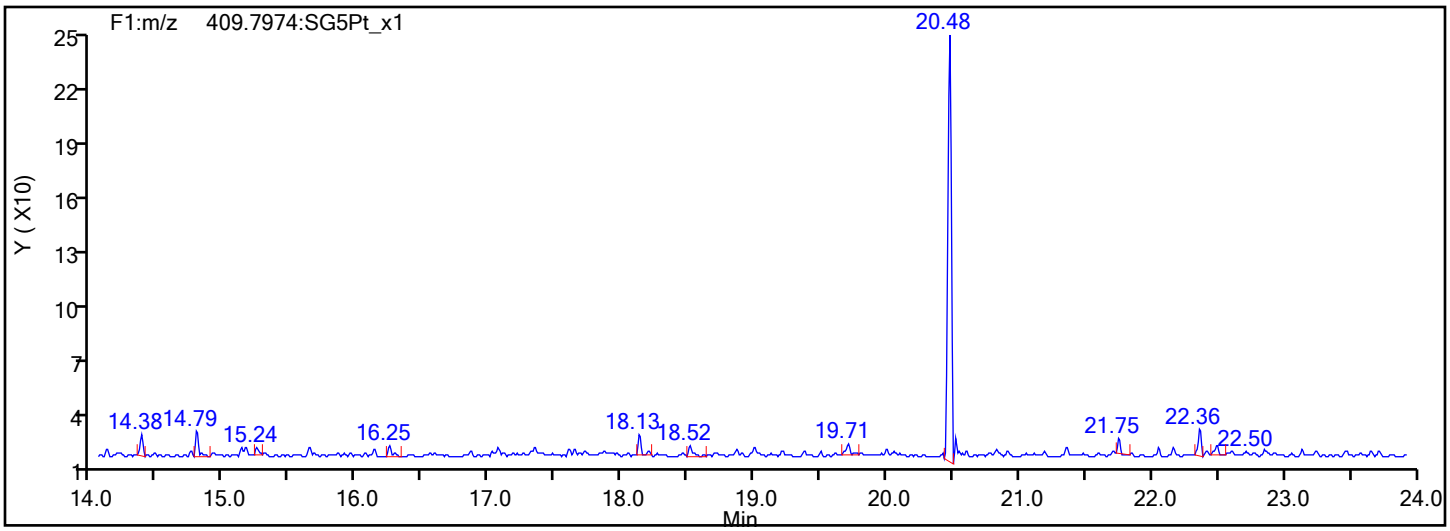
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d		
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





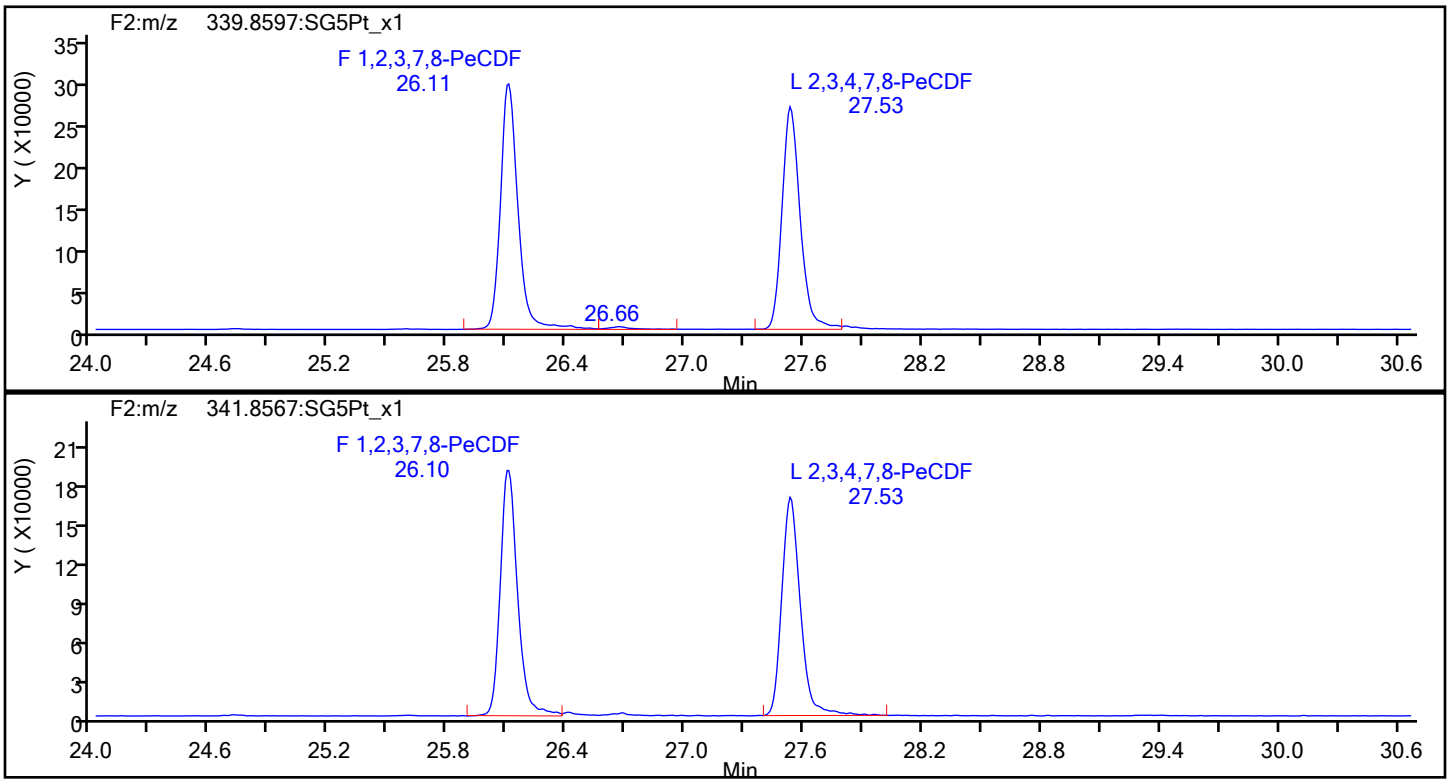
F1 PeCDFs Interference Mass



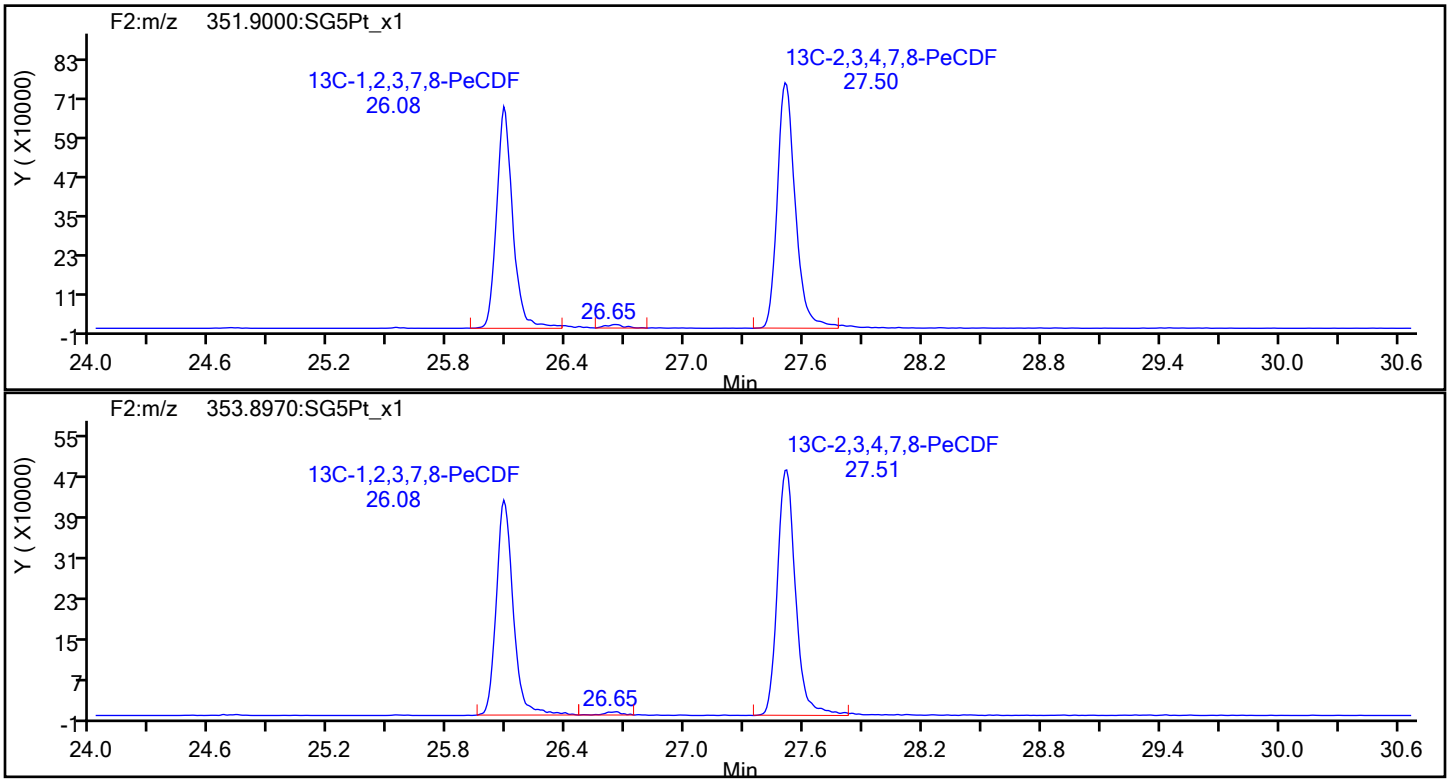
Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d		
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



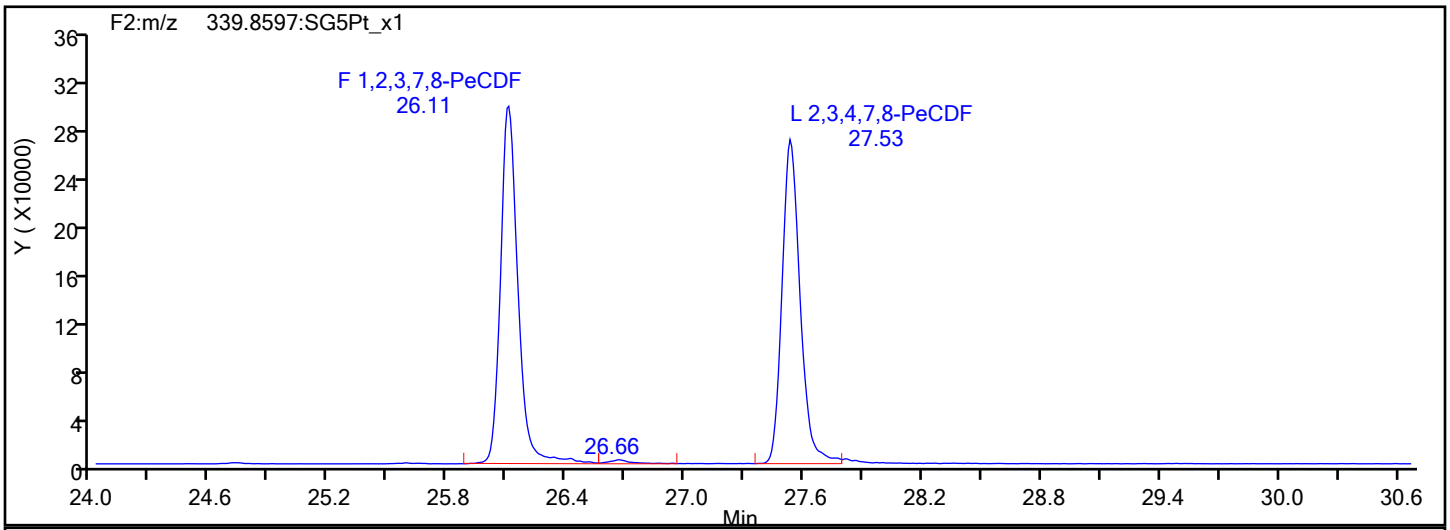
PeCDF Standards

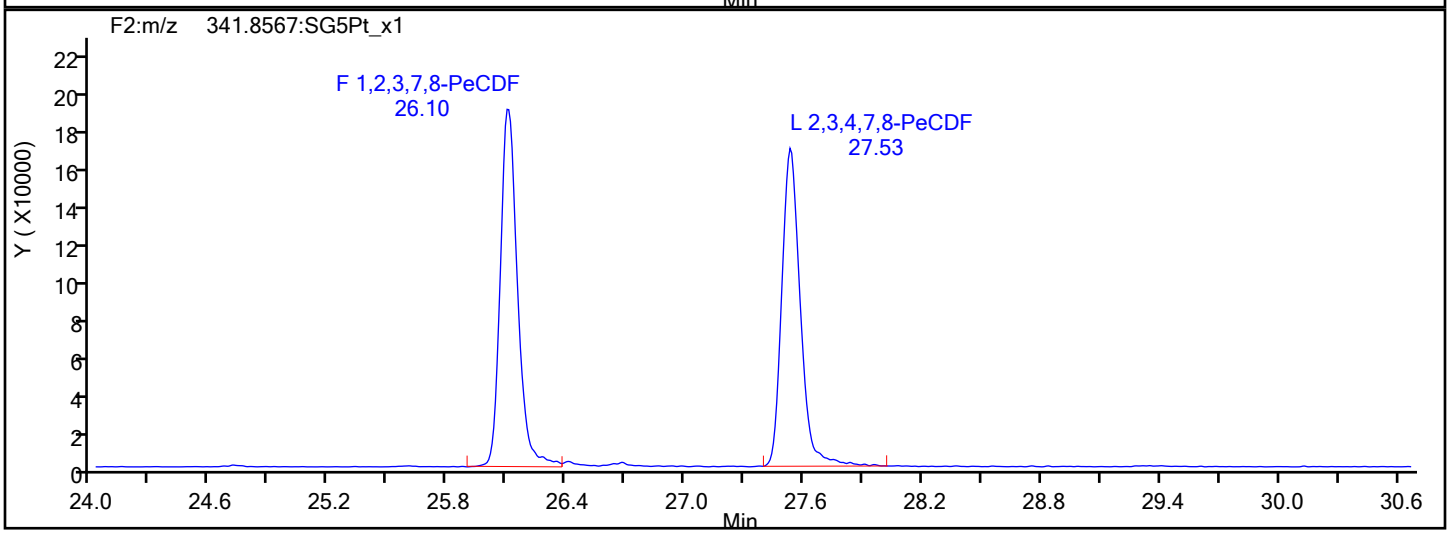


Eurofins Sacramento

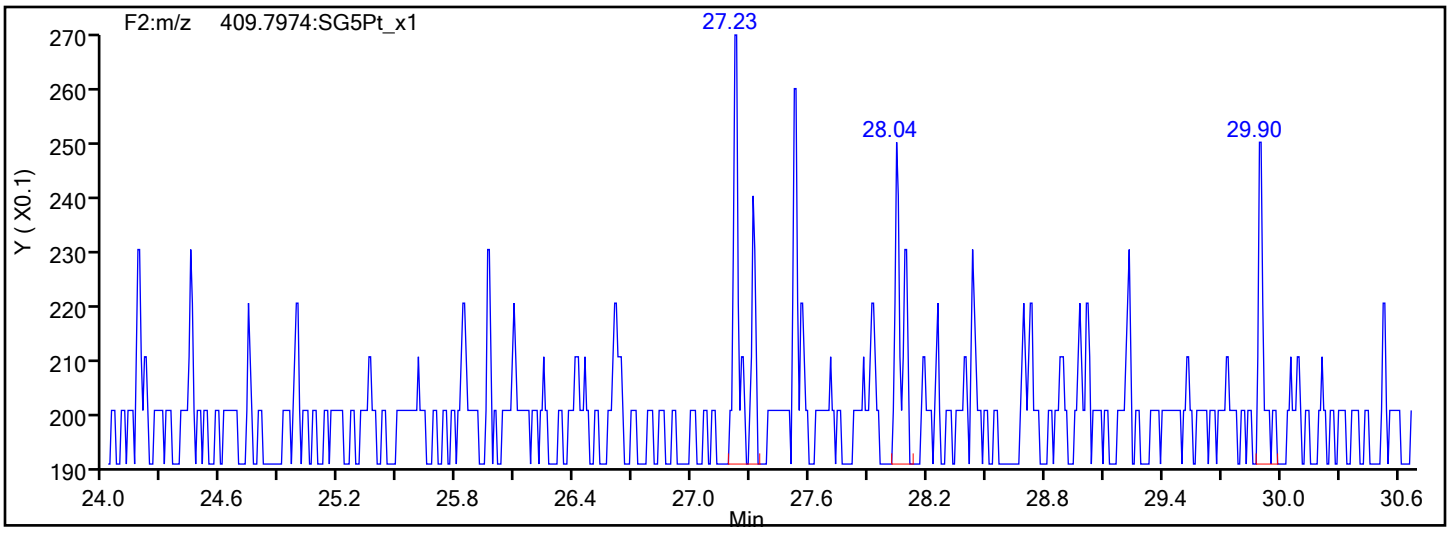
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d		
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





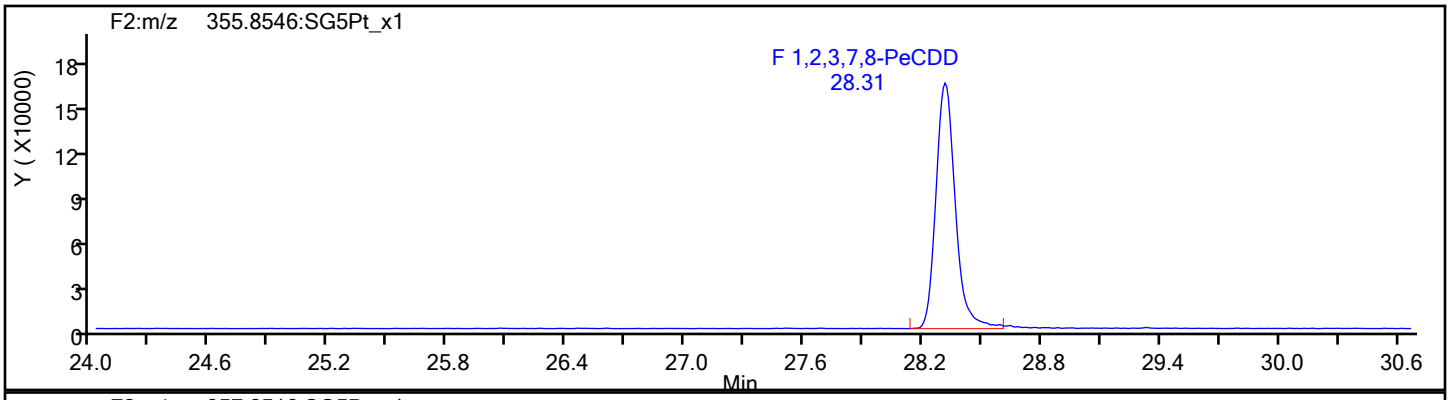
PeCDF Interference Mass

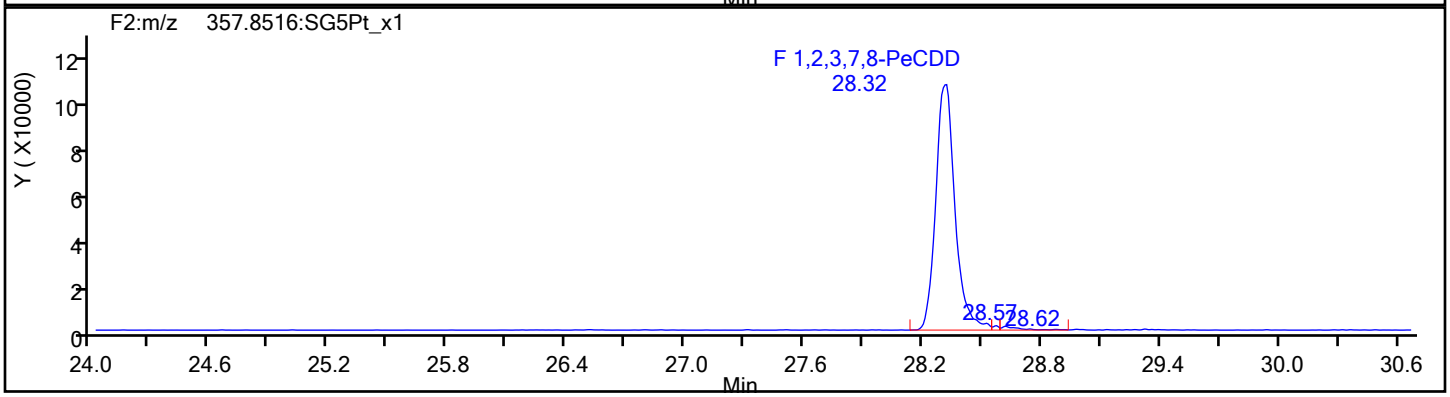


Eurofins Sacramento

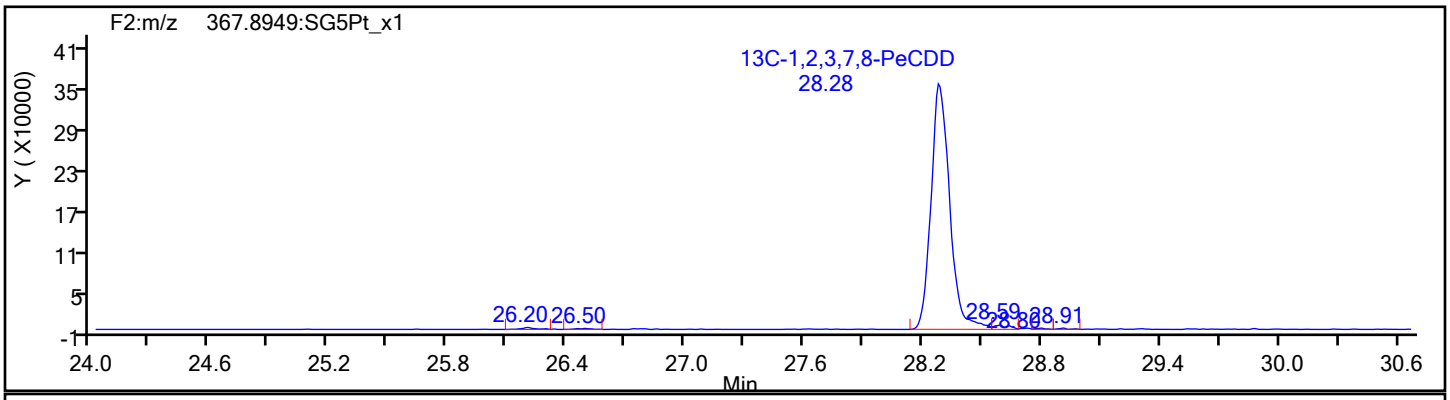
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d		
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

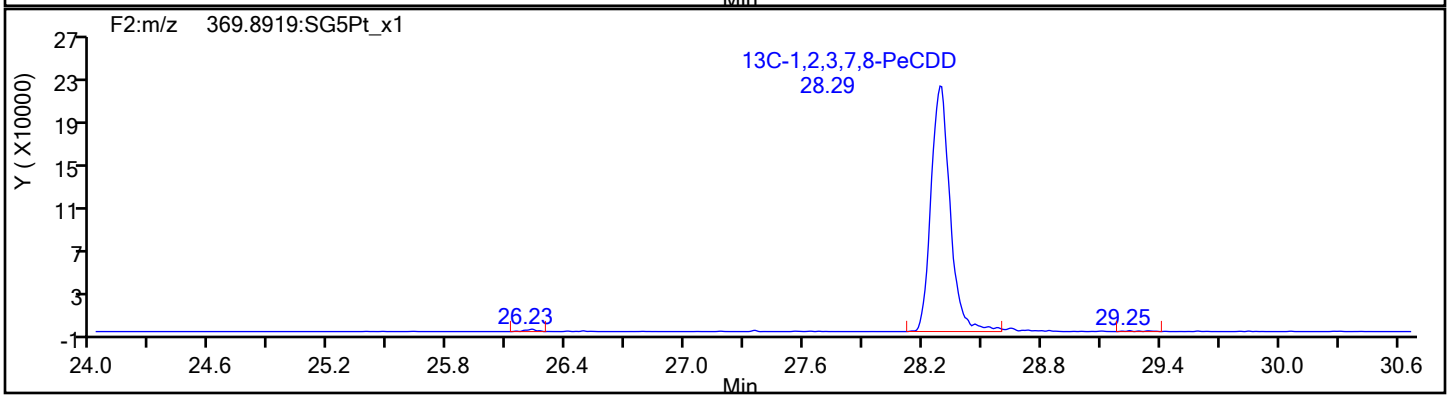
PeCDD





PeCDD Standards

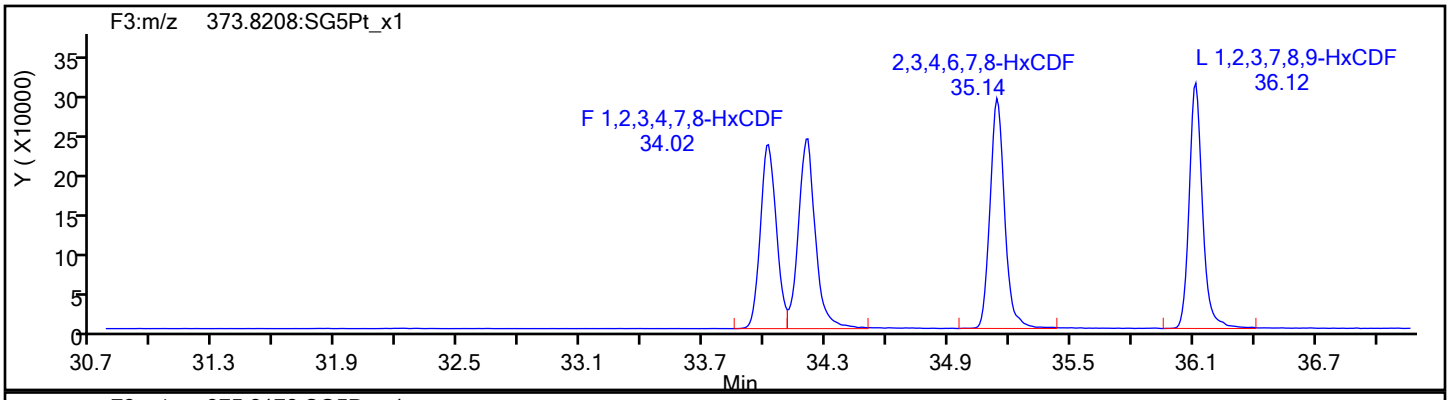


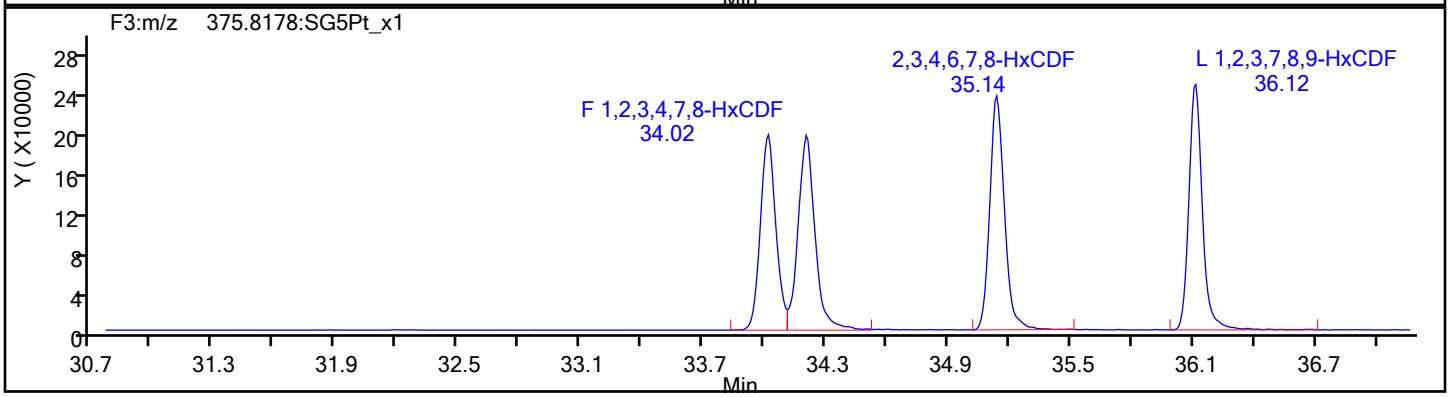


Eurofins Sacramento

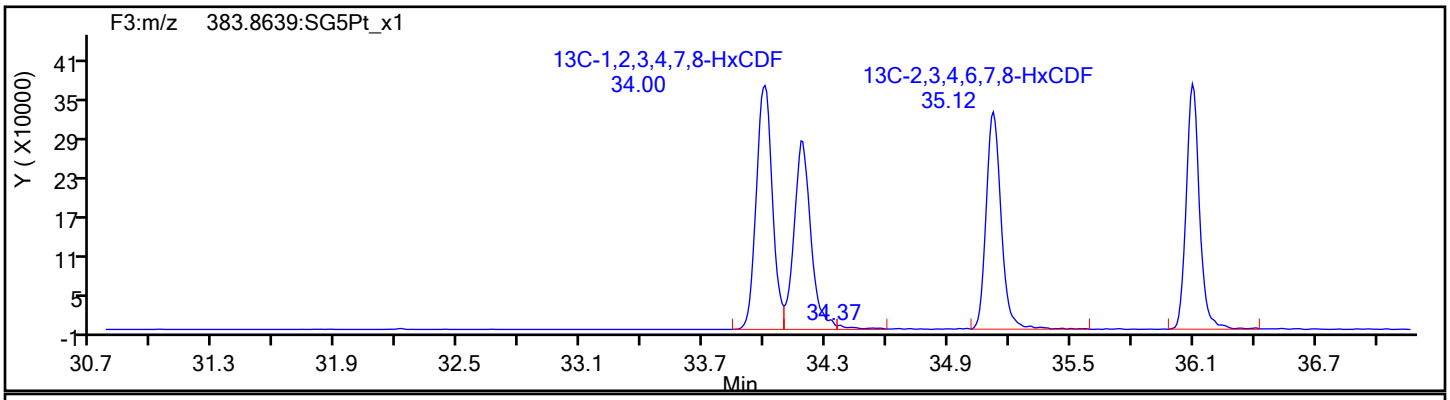
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d
Injection Date: 21-Jan-2022 01:01:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 13
Column Type: DB-5 Column Dia: 0.32 mm

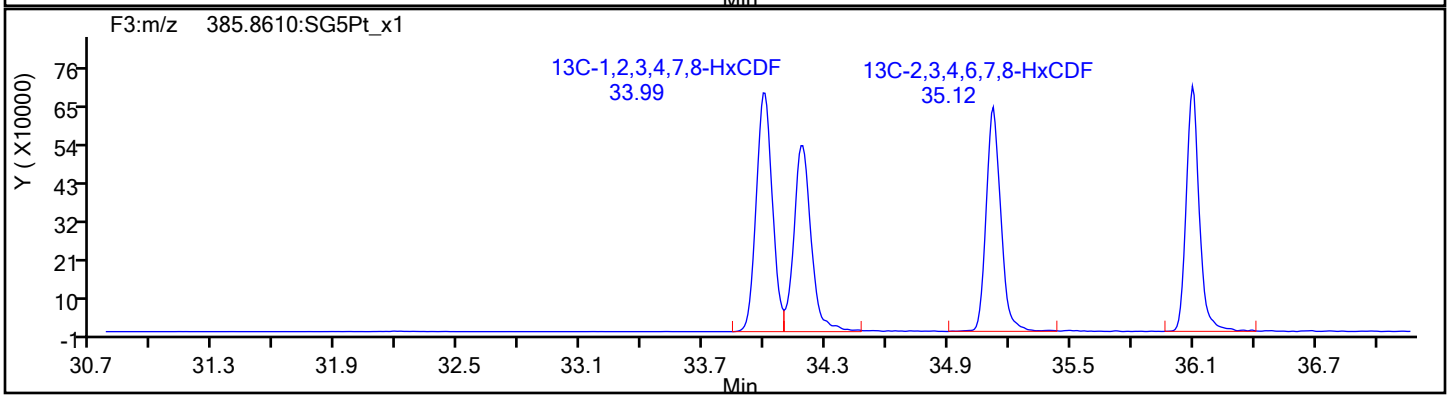
HxCDF





HxCDF Standards

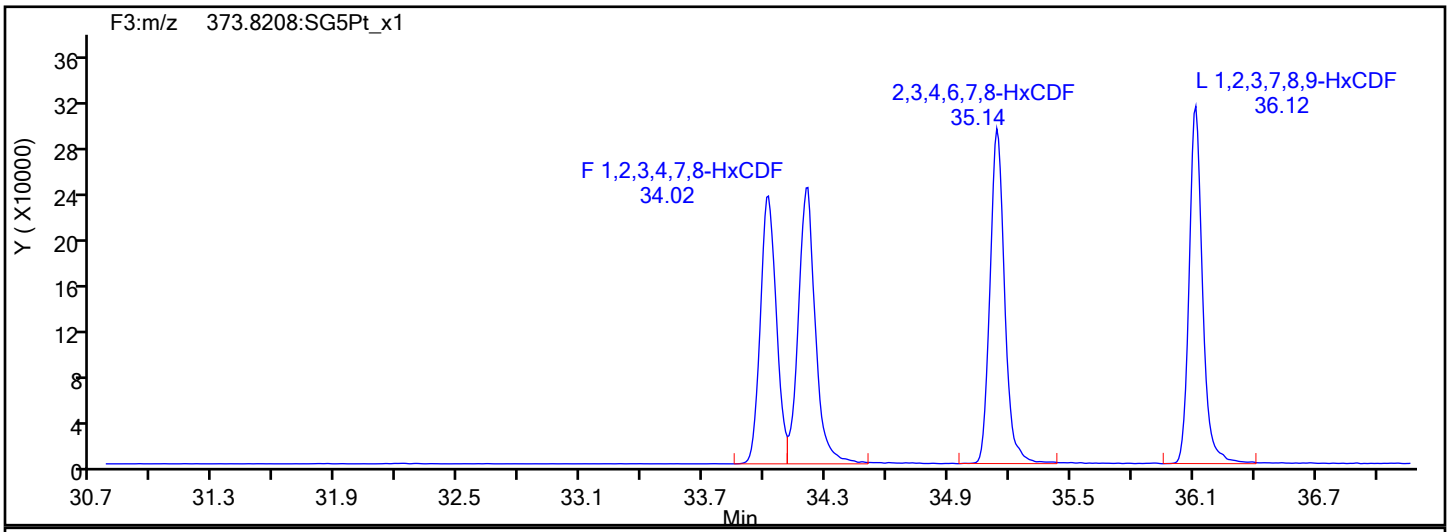


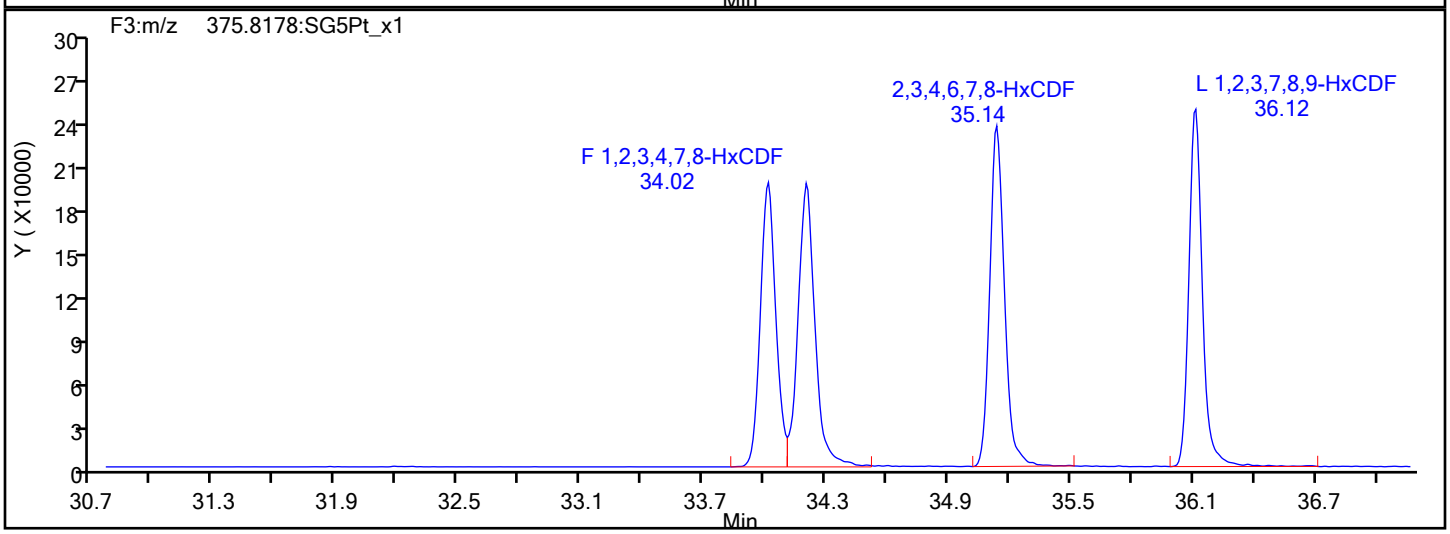


Eurofins Sacramento

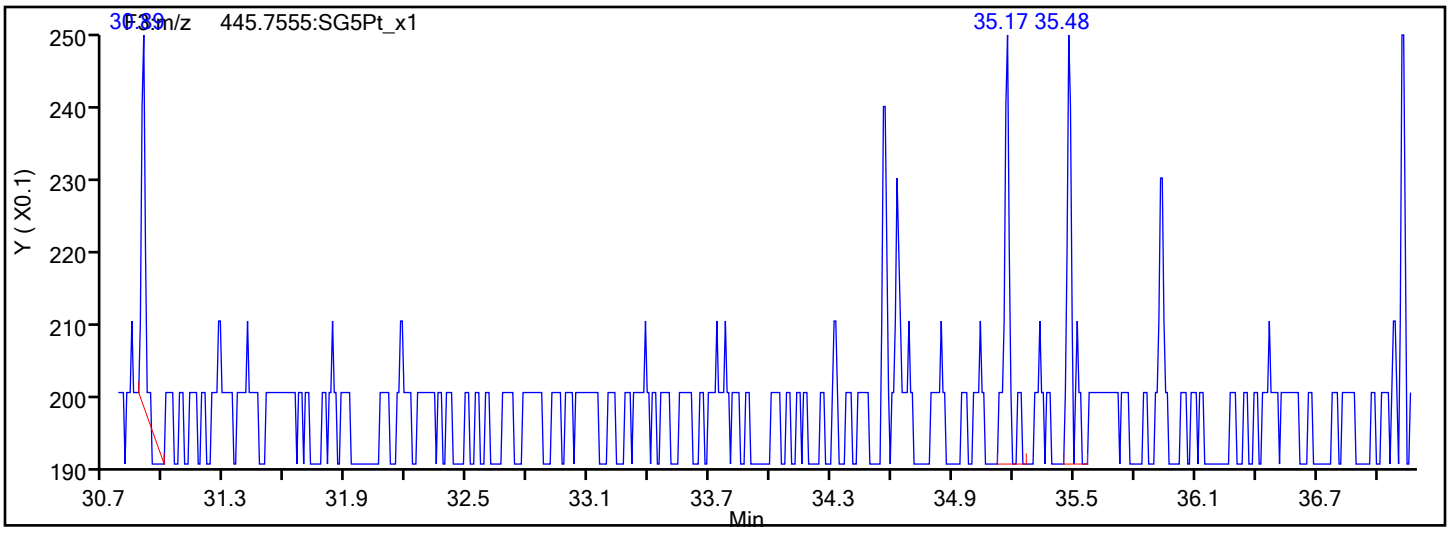
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d		
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



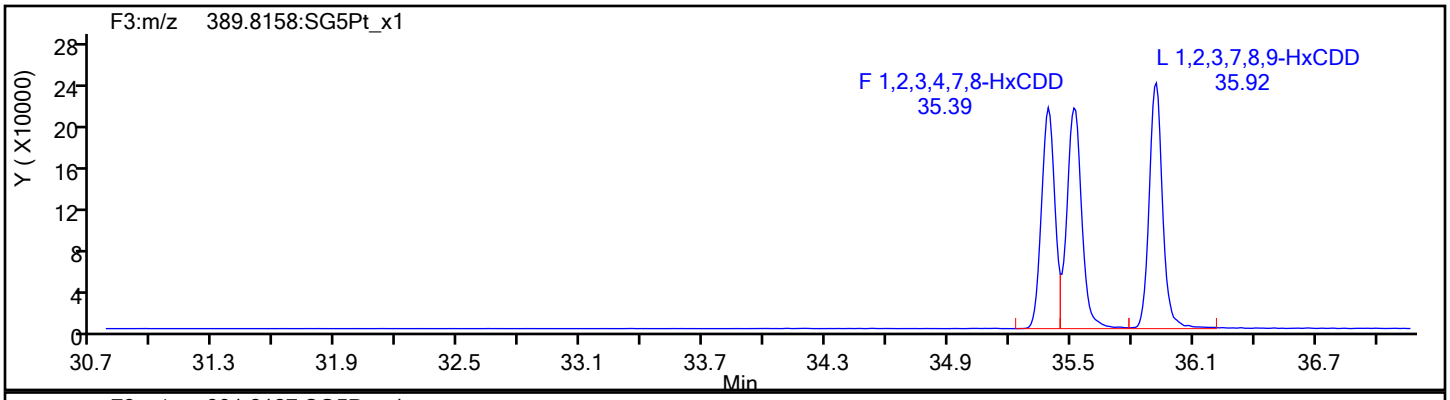
Report Date: 21-Jan-2022 08:06:08 Chrom Revision: 2.3 18-Jan-2022 20:25:40

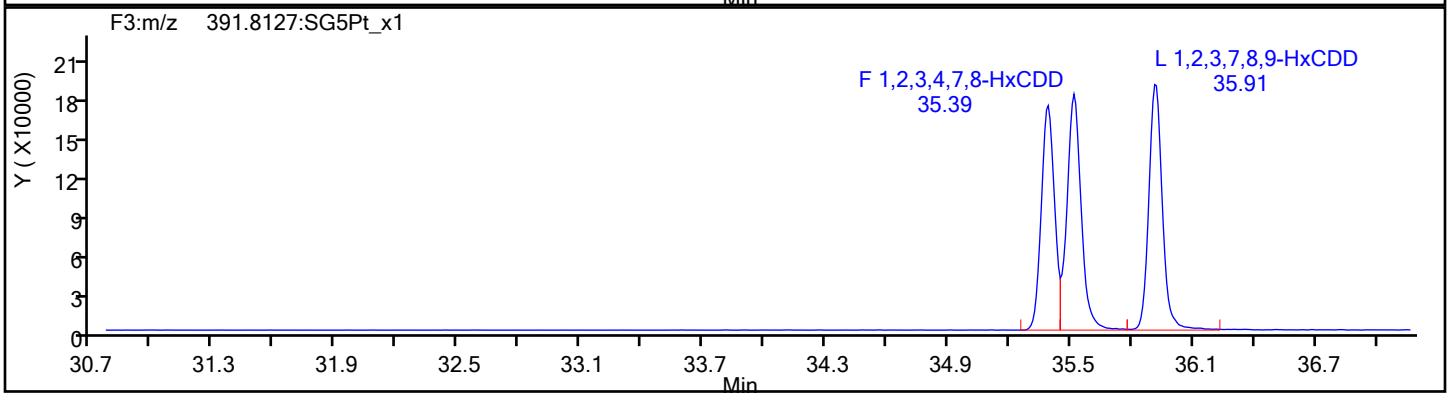
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d

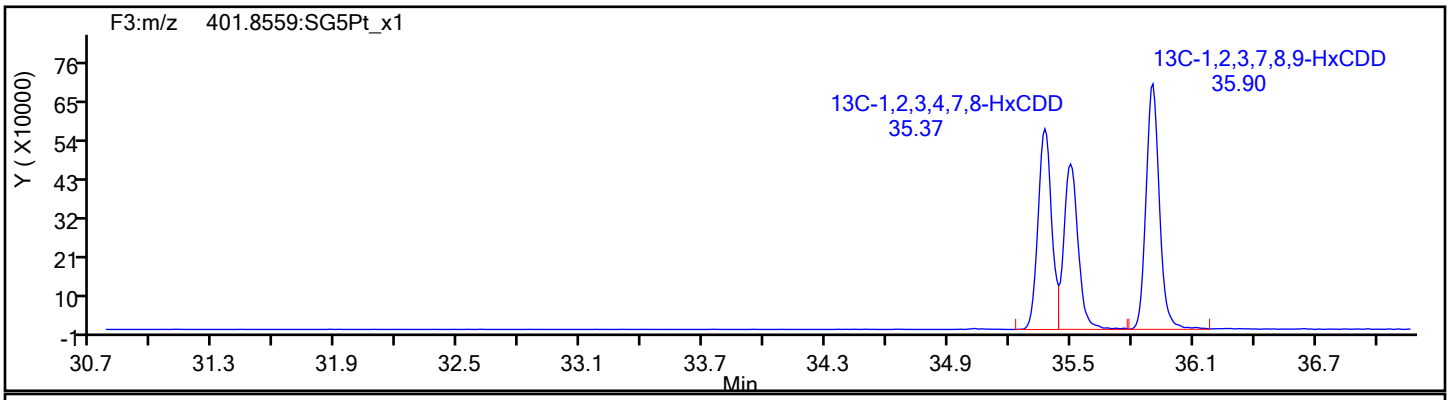
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

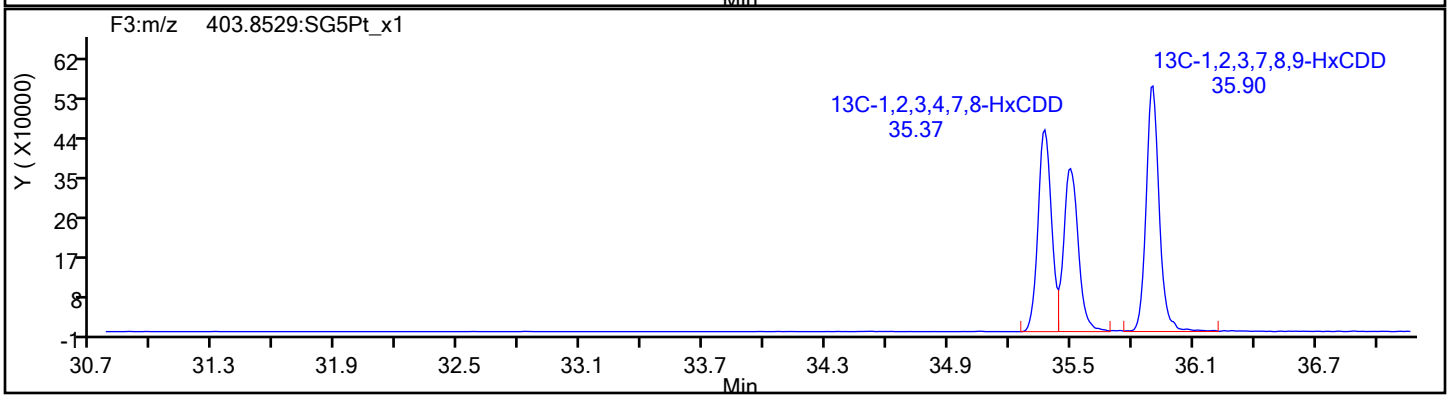
HxCDD





HxCDD Standards





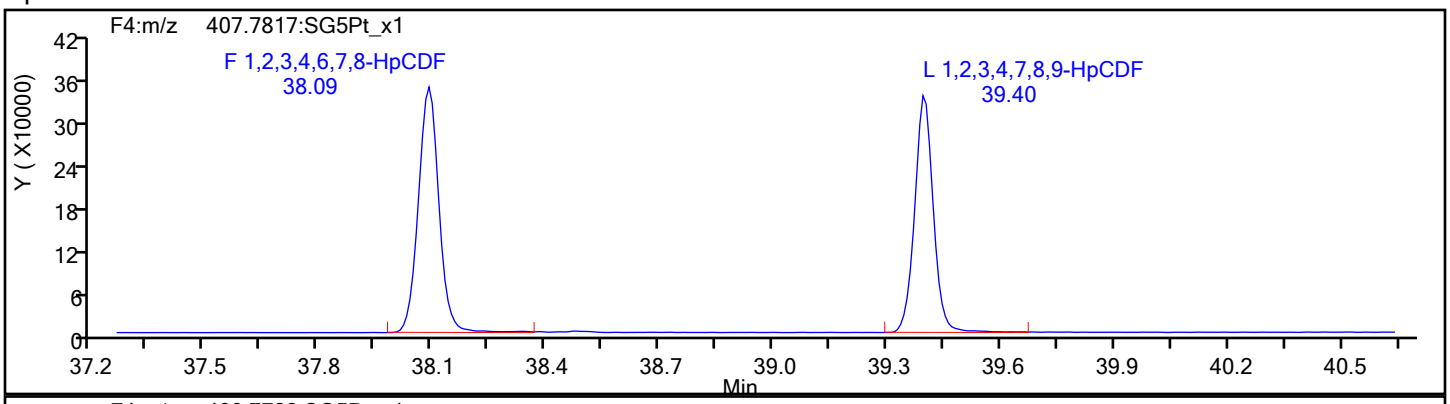
Report Date: 21-Jan-2022 08:06:08 Chrom Revision: 2.3 18-Jan-2022 20:25:40

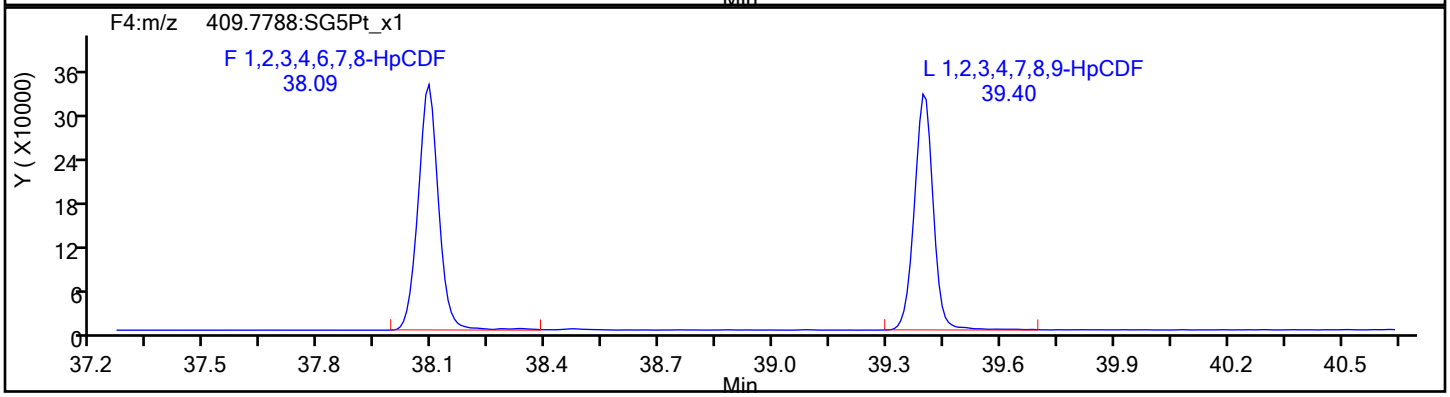
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d

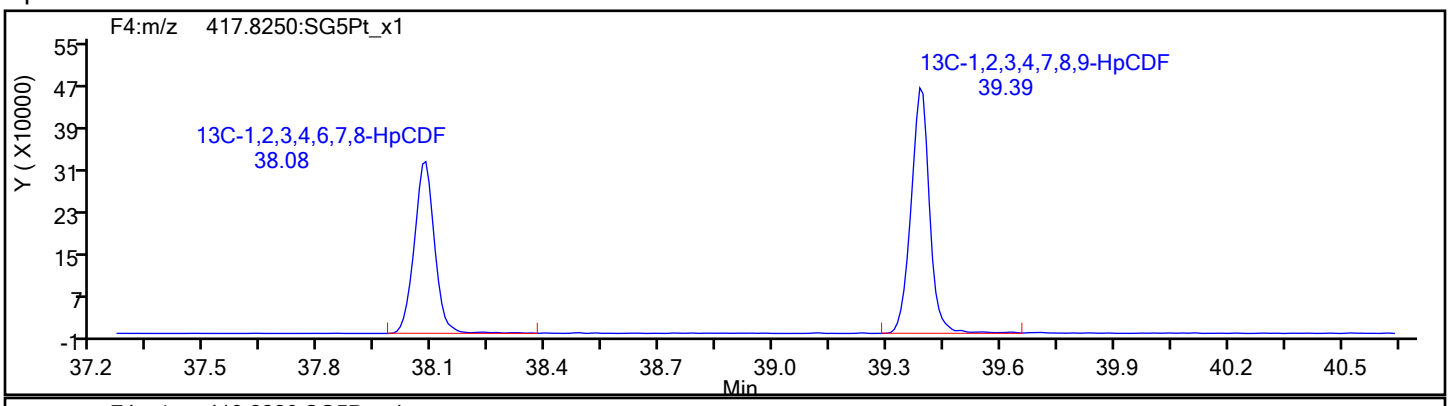
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

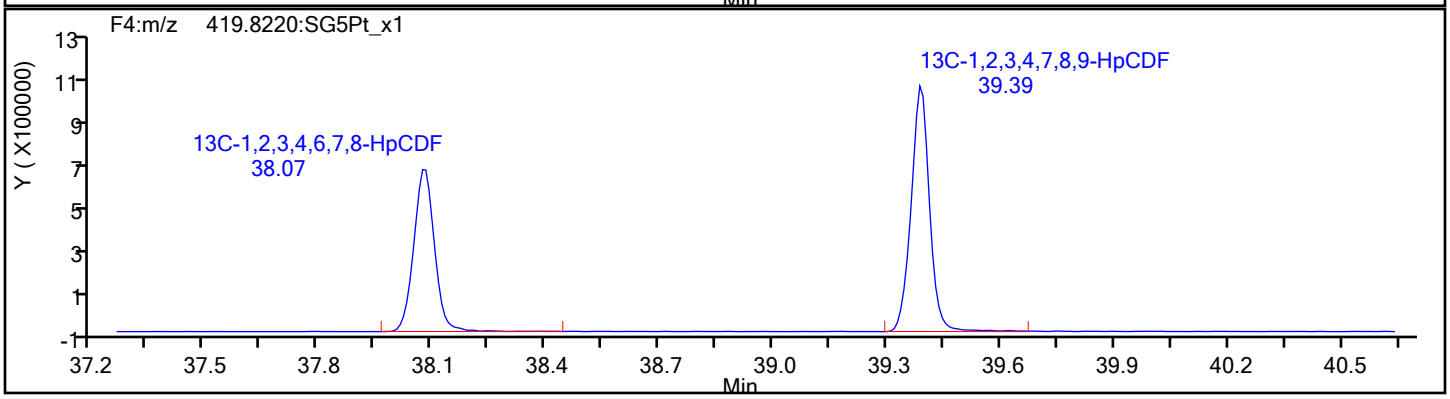
HpCDF





HpCDF Standards

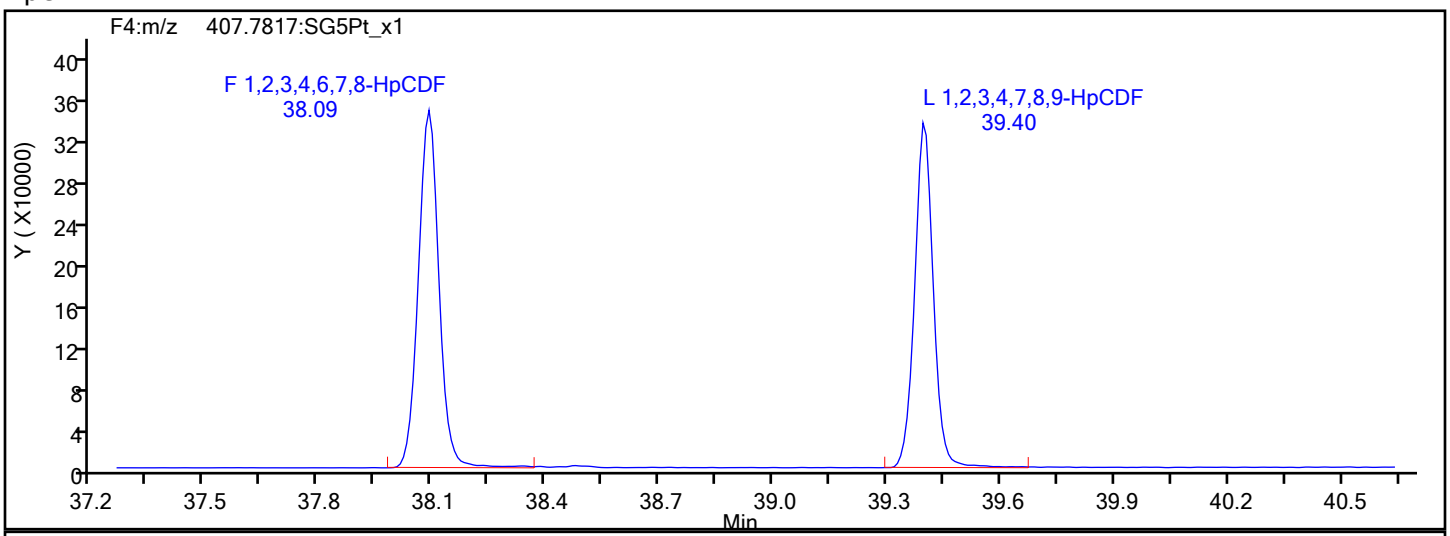


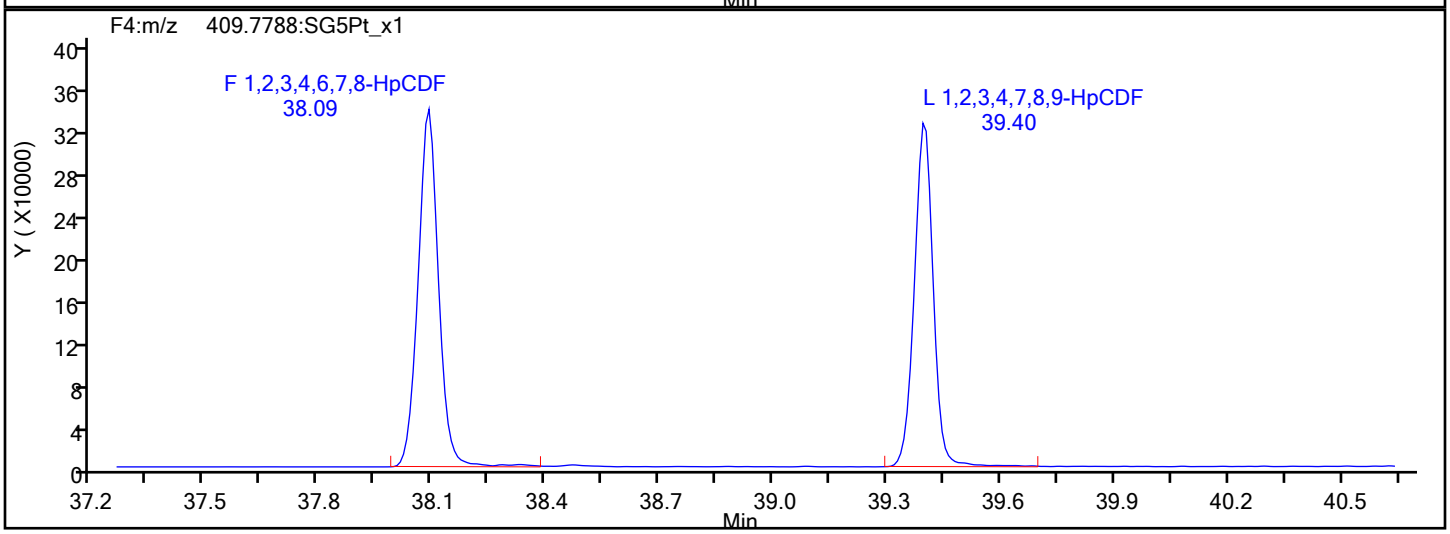


Eurofins Sacramento

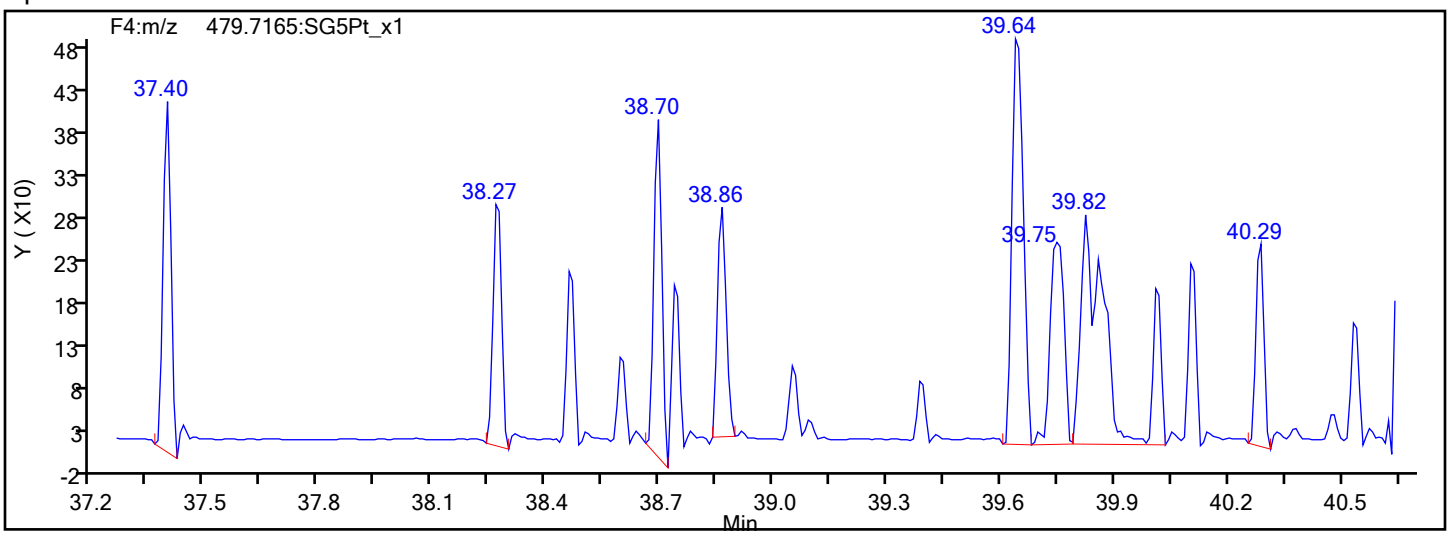
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d
Injection Date: 21-Jan-2022 01:01:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 13
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





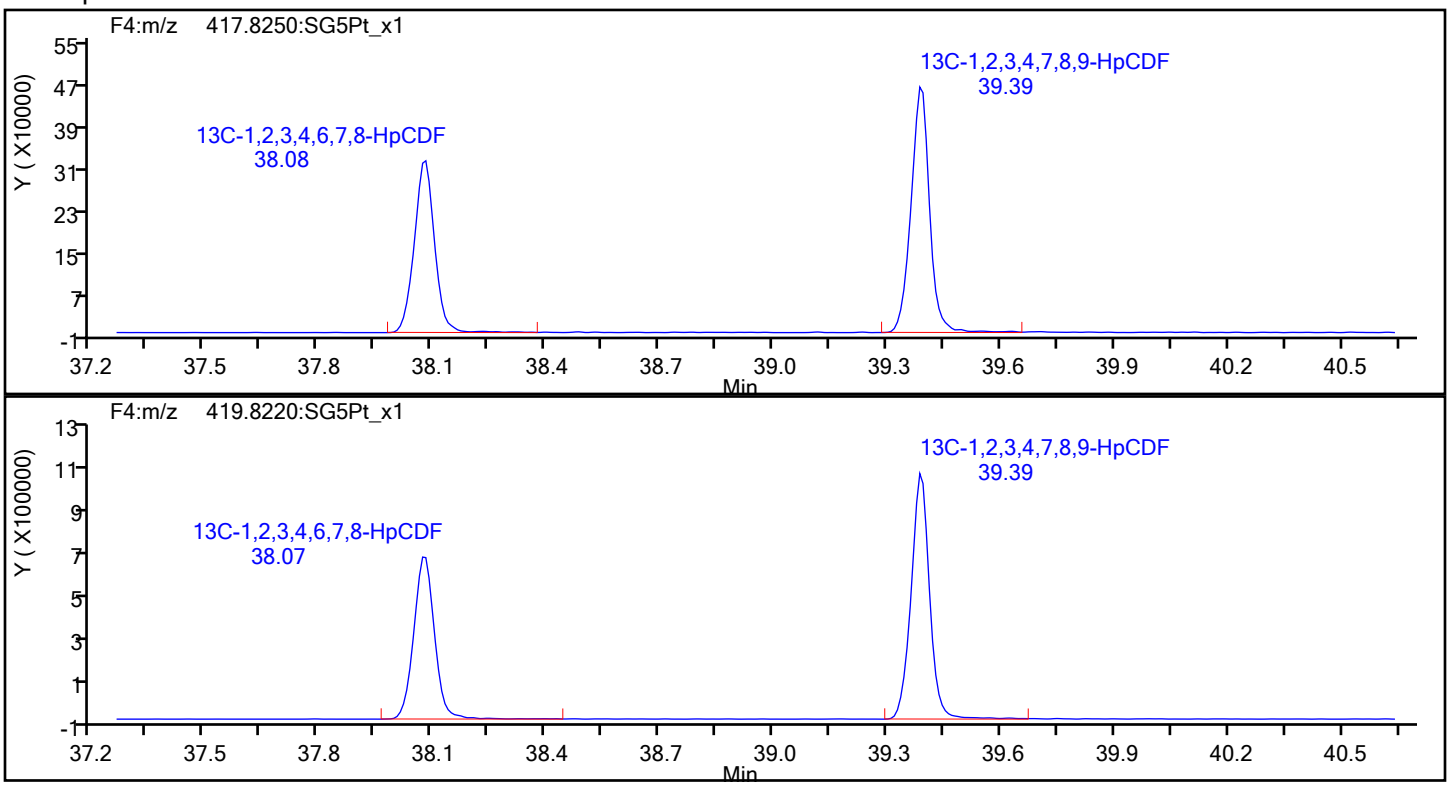
HpCDF Interference Mass



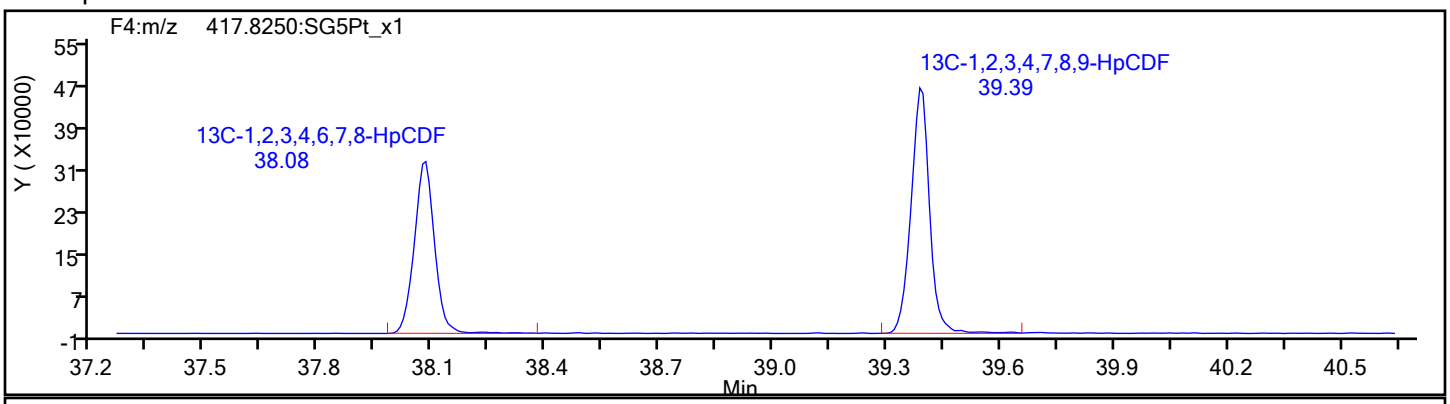
Eurofins Sacramento

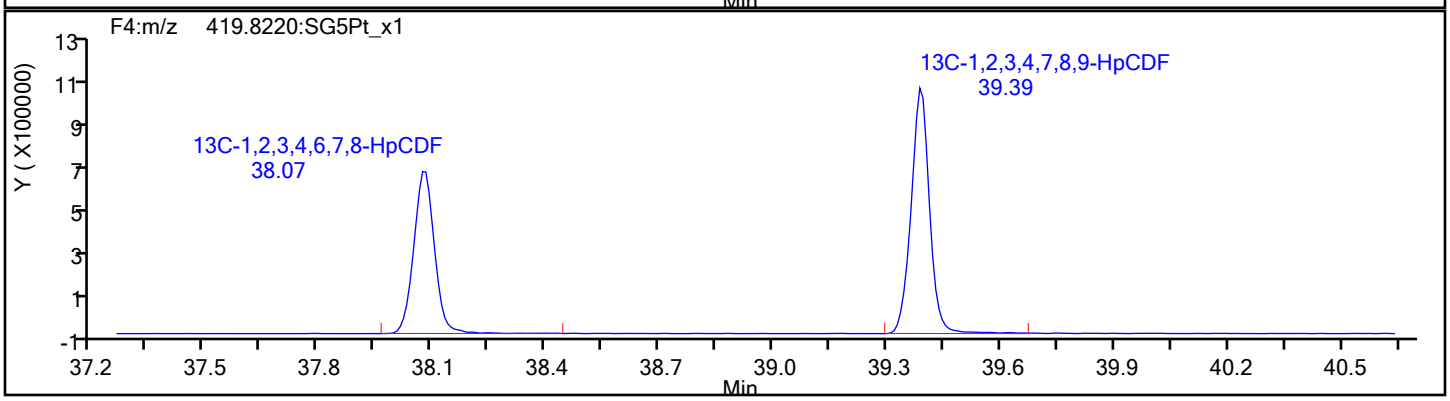
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d
Injection Date: 21-Jan-2022 01:01:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 13
Column Type: DB-5 Column Dia: 0.32 mm

13C-HpCDF



13C-HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d		
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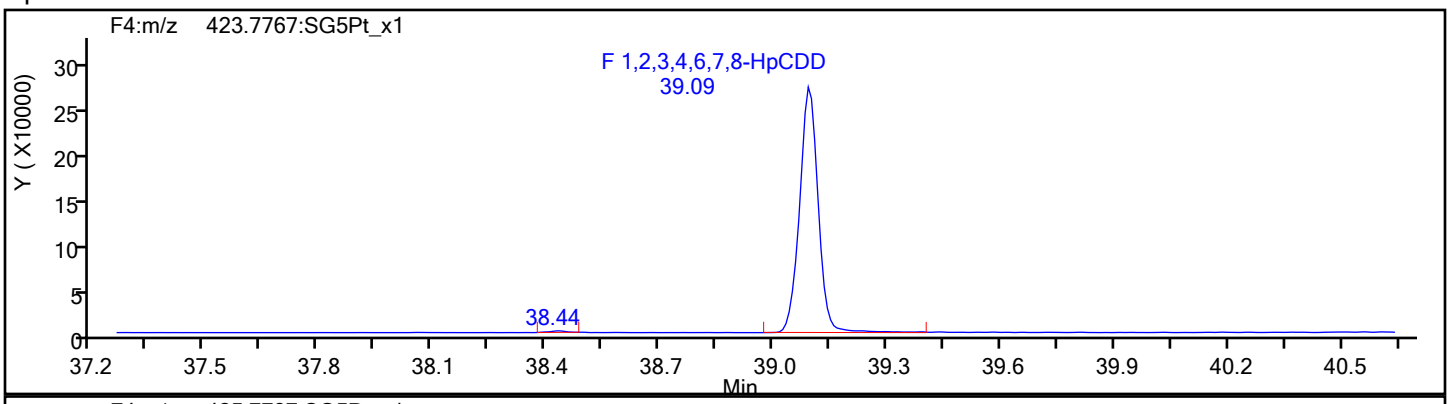
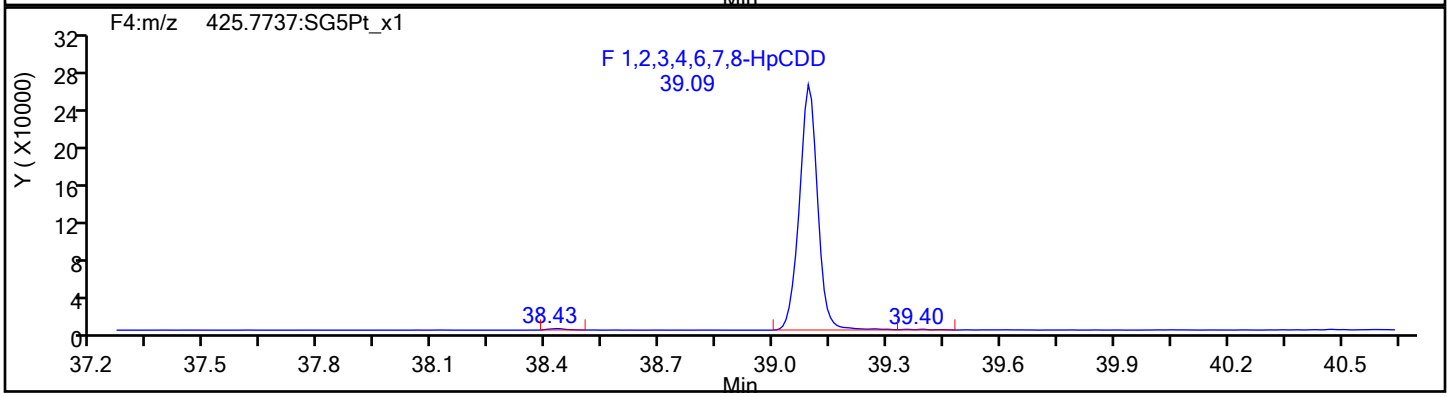
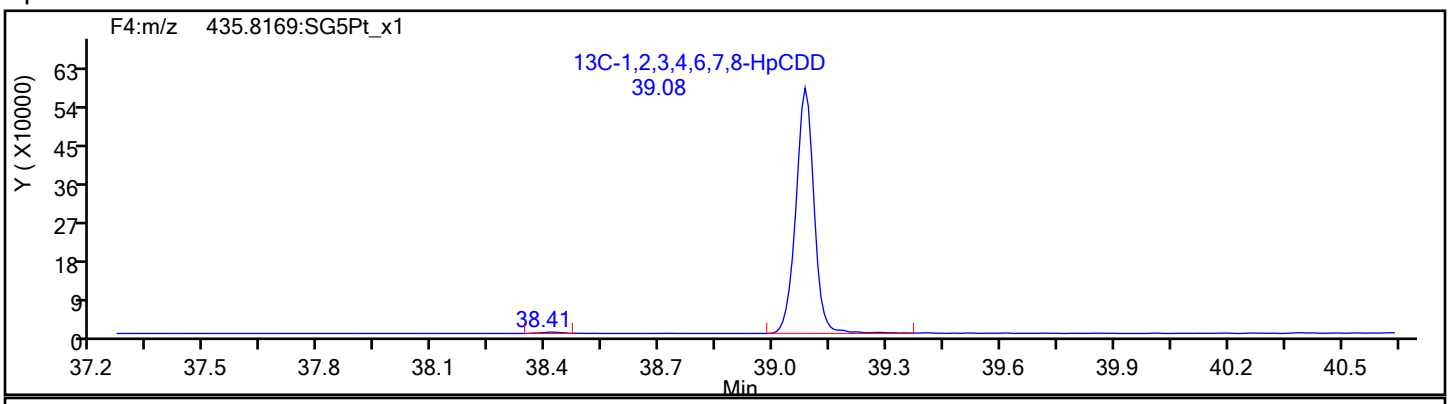
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

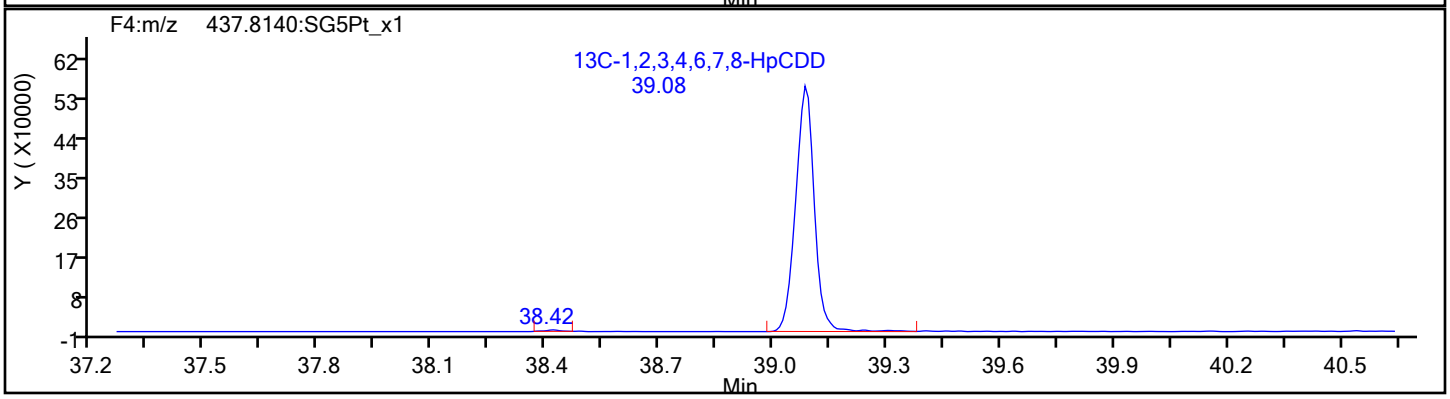
HpCDD





HpCDD Standards

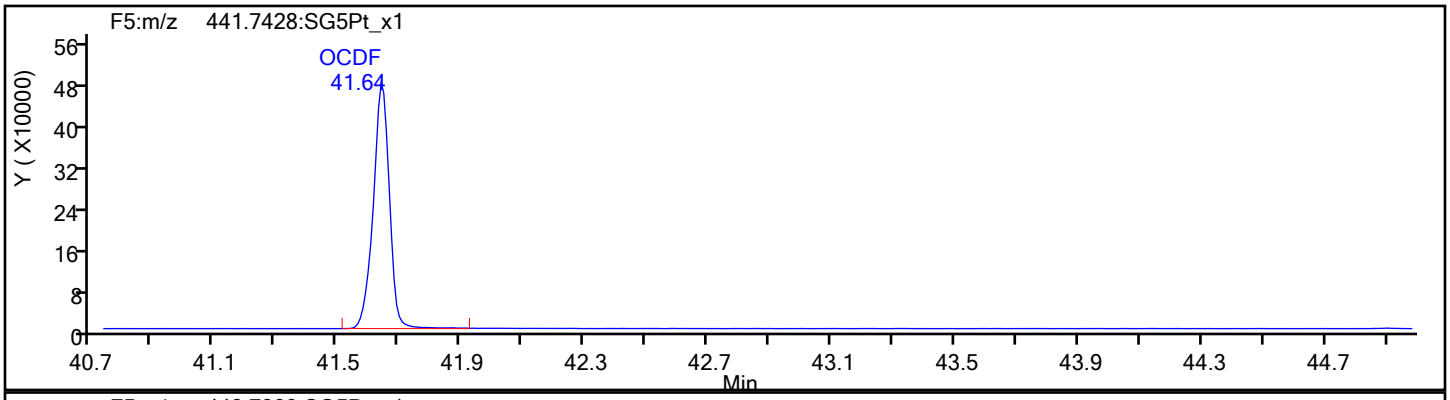


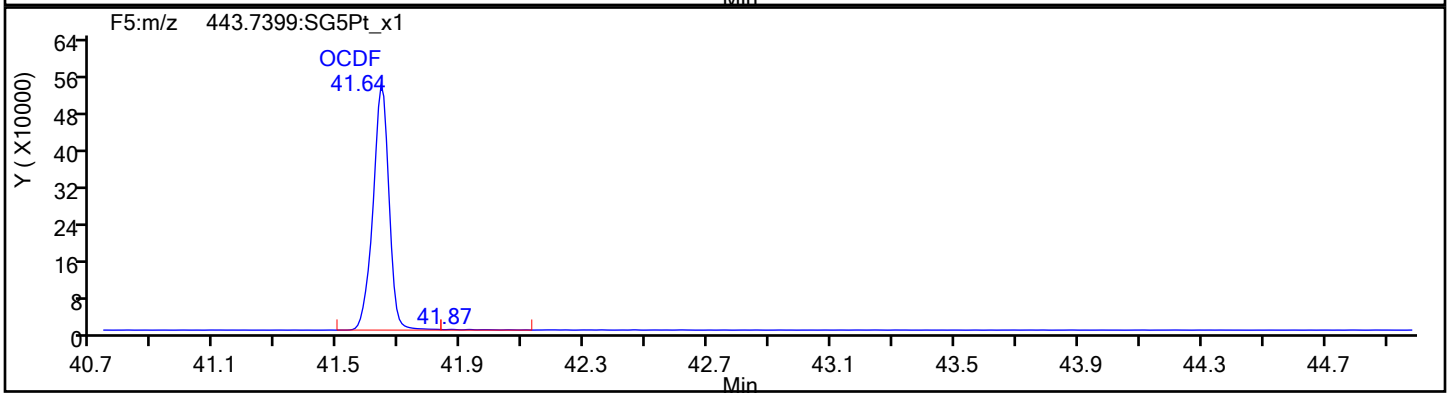


Eurofins Sacramento

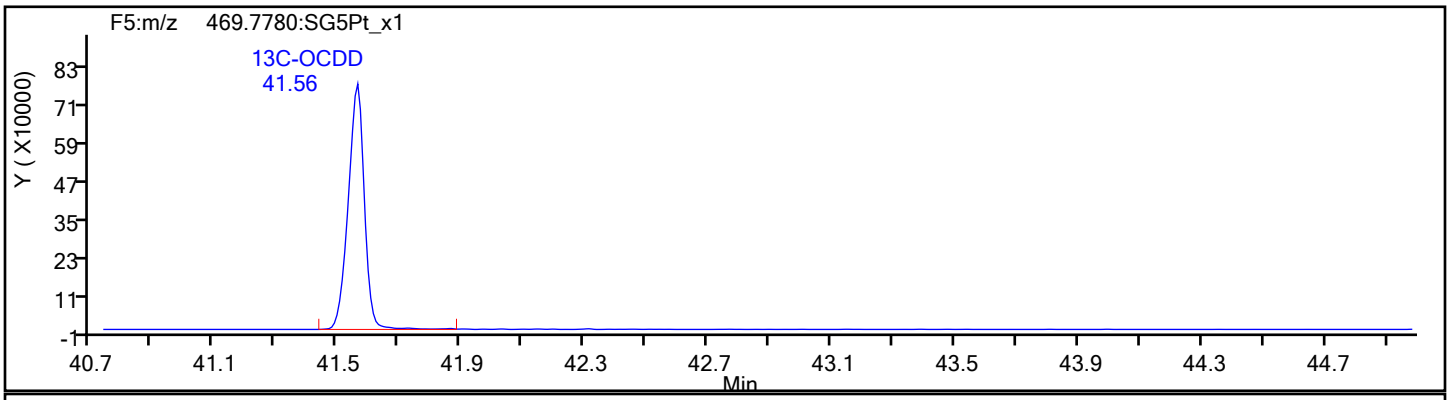
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d
Injection Date: 21-Jan-2022 01:01:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 13
Column Type: DB-5 Column Dia: 0.32 mm

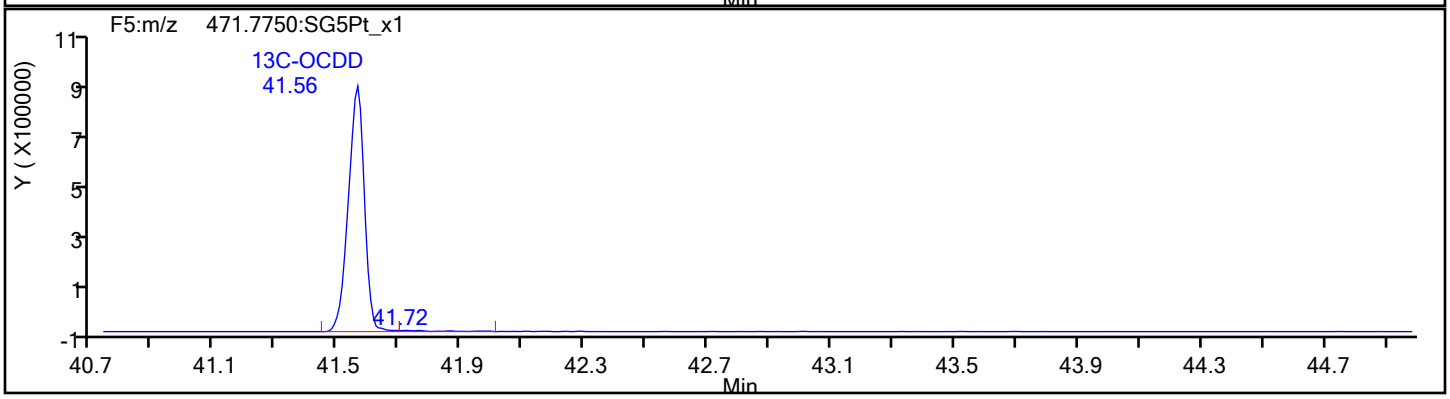
OCDF





OCDF Standards

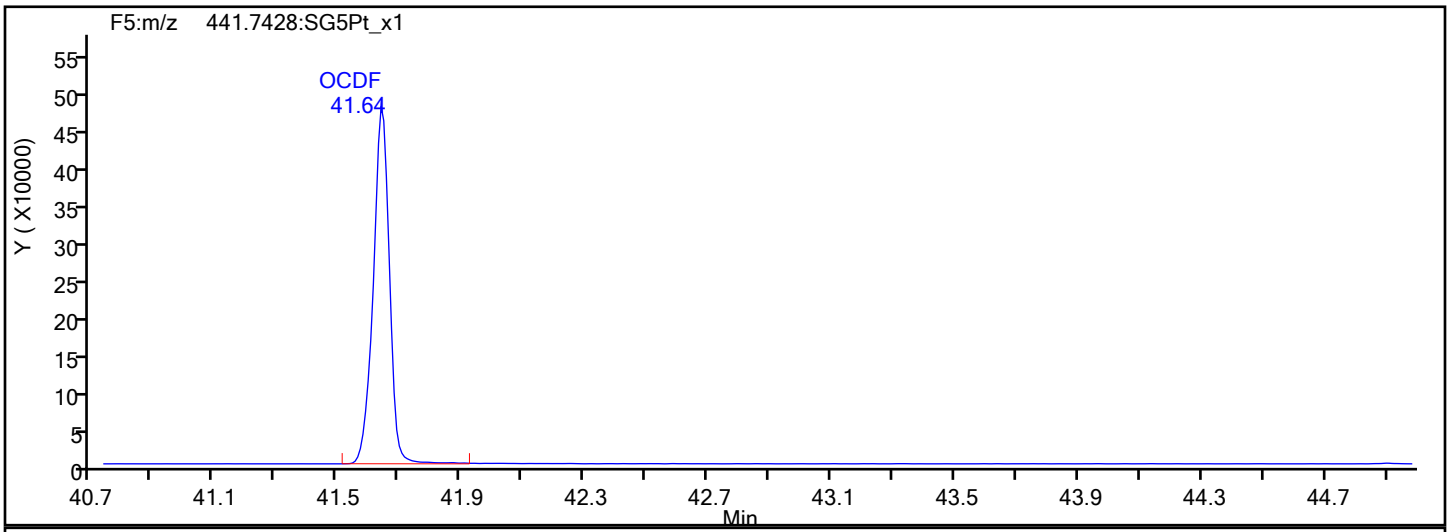


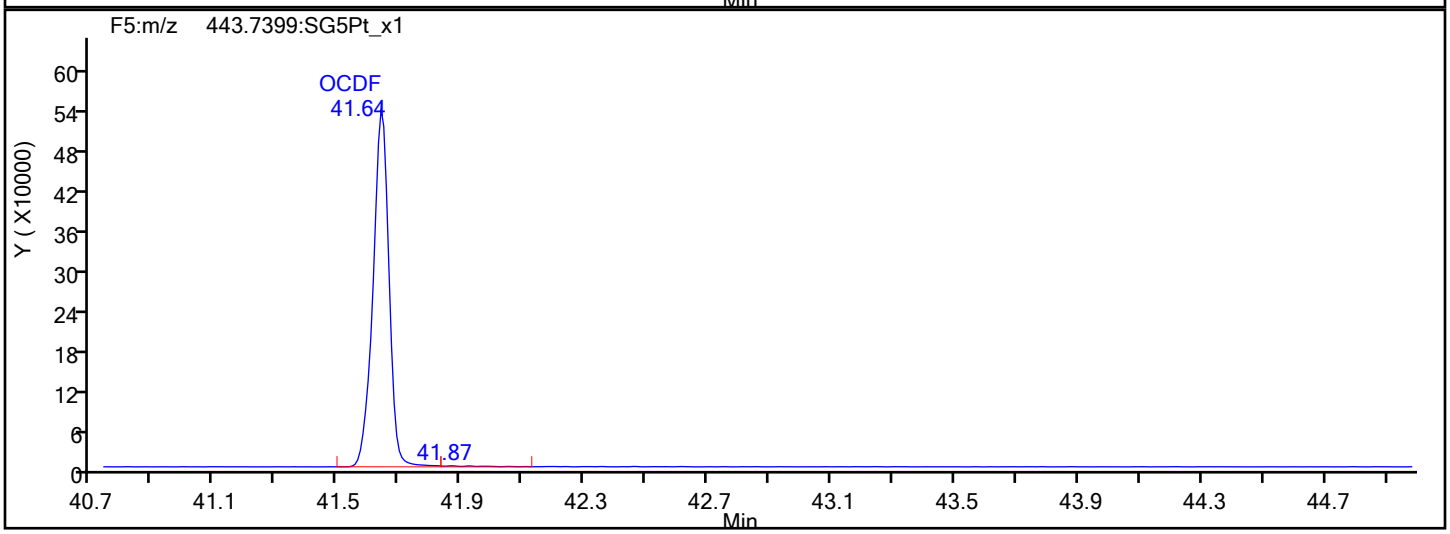


Eurofins Sacramento

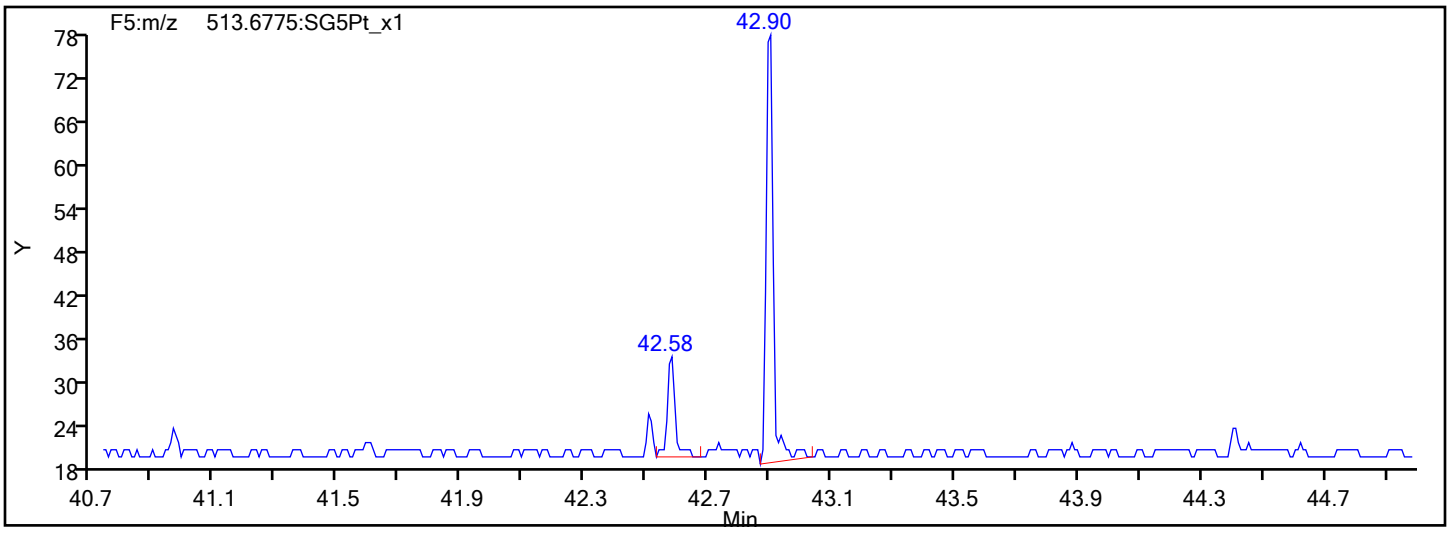
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d		
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

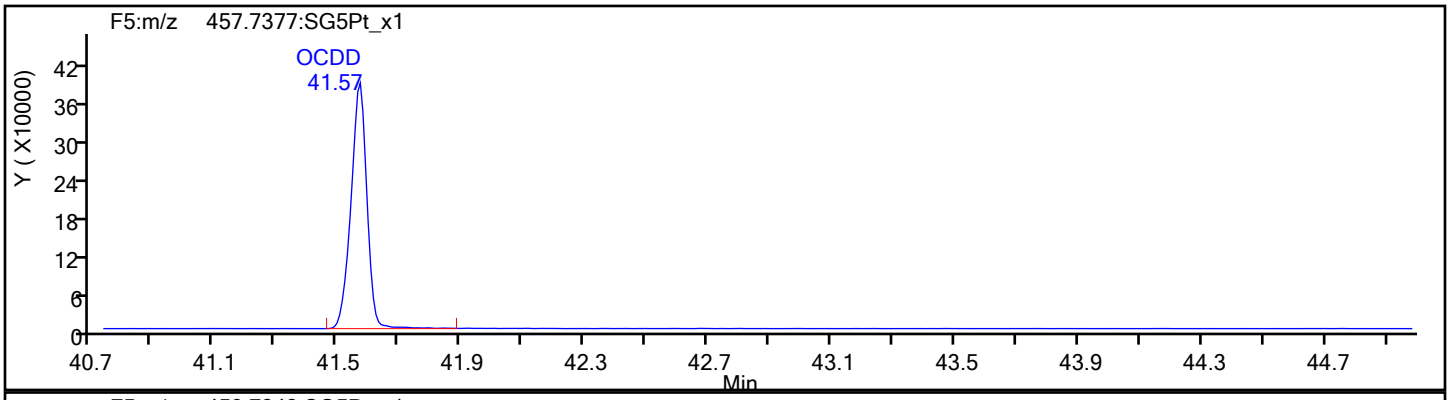


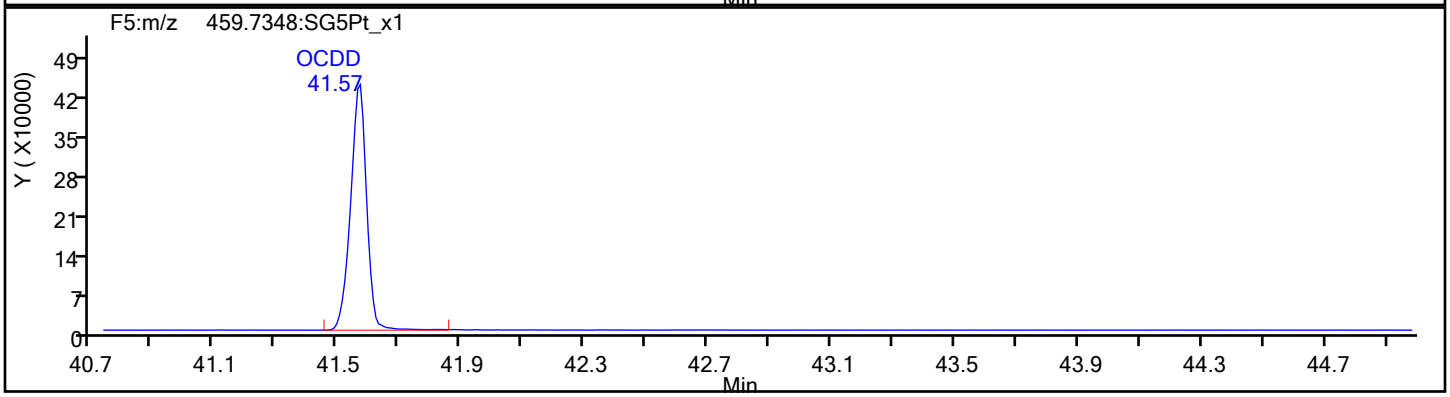
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d

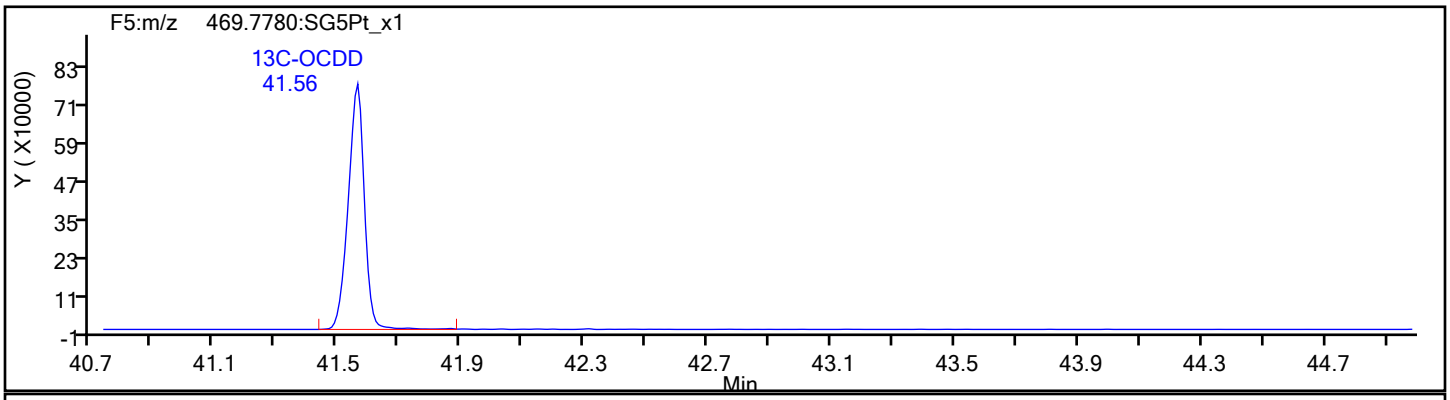
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

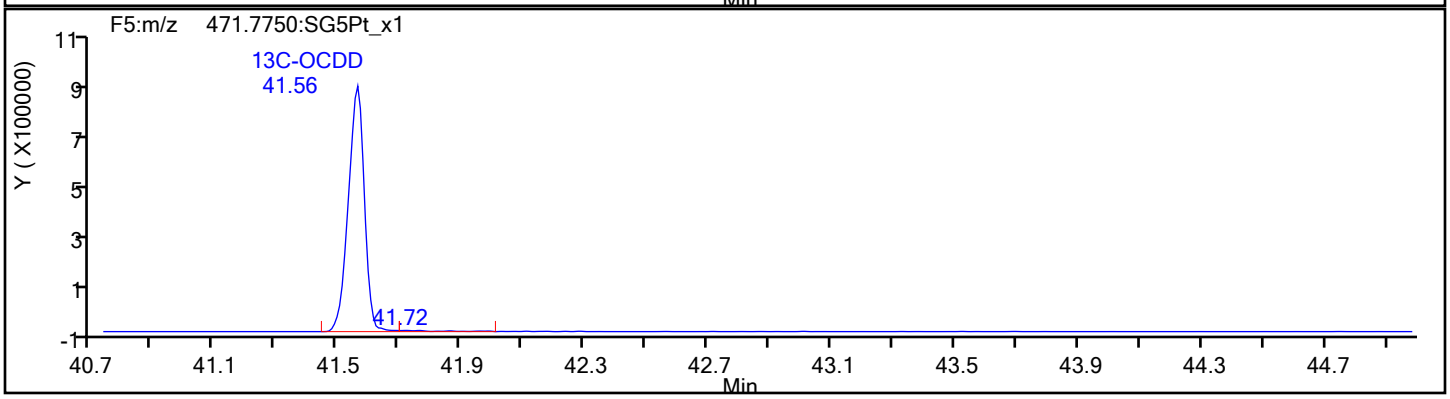
OCDD





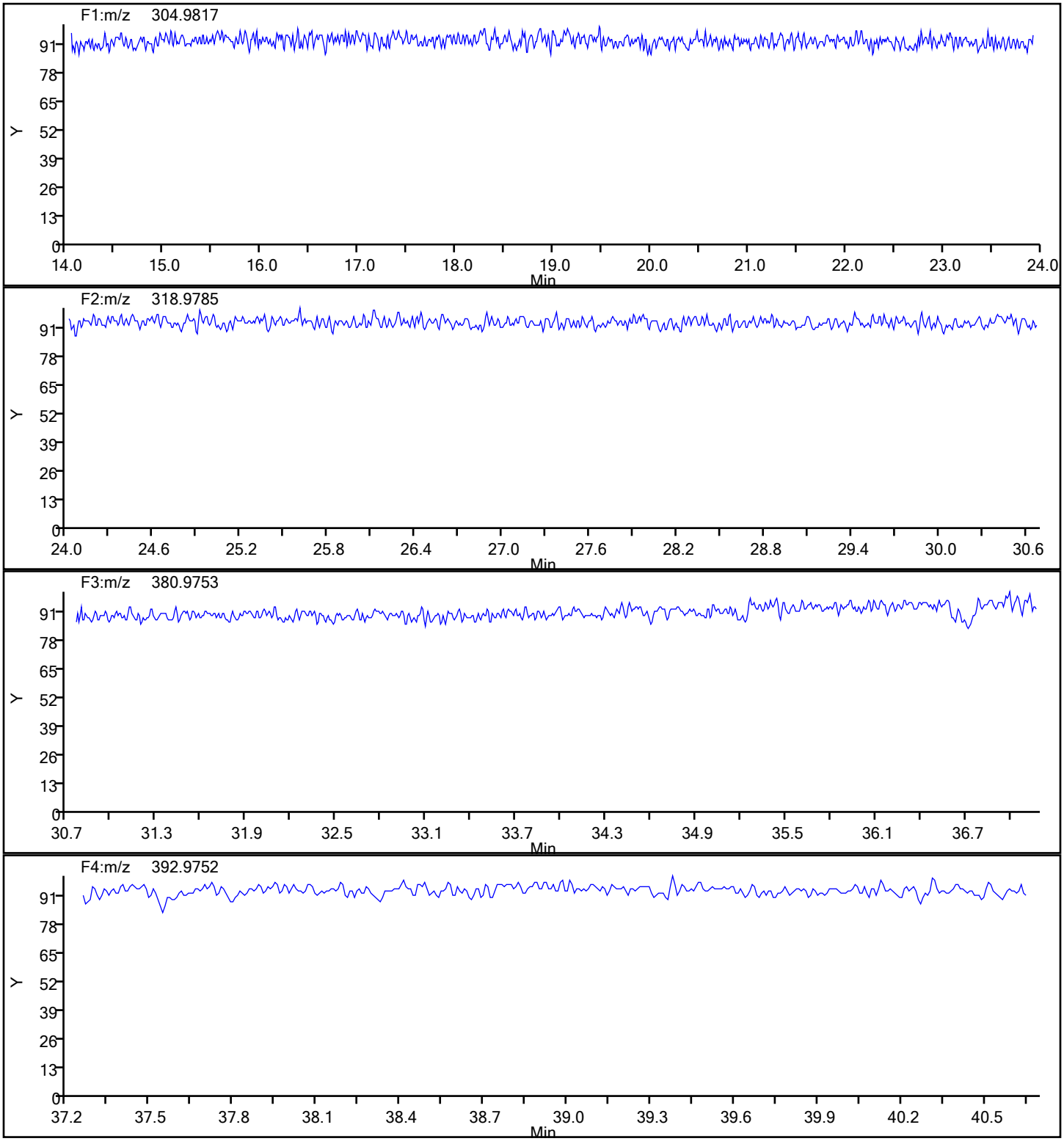
OCDD Standards





Eurofins Sacramento

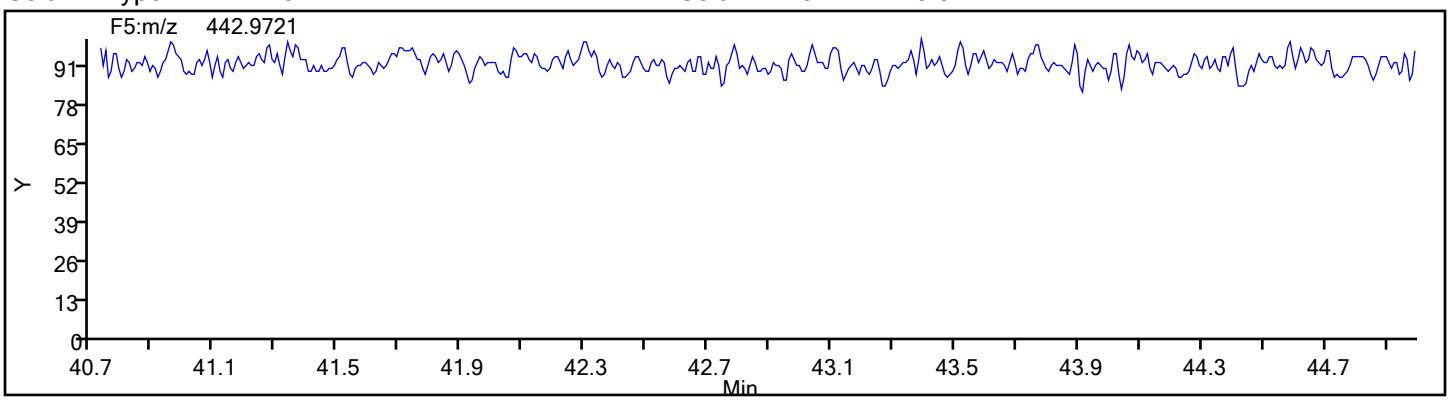
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d		
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 21-Jan-2022 08:06:08 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_14.d		
Injection Date:	21-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 13-Jan-2022 15:41:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 16:01:07 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:49:06

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	19.482	1555213	0.83	1.0164					0.00	
2,3,7,8-TCDF	19.525	3223544	0.79	1.0120	81.9	81.9	0.3895	0.3895		
A Non-2,3,7,8-sub-TCDF	19.070	34663	0.68	1.0120	0.8810	0.8810	0.3895	0.8810		
S Total TCDF					82.8	82.8	0.3895	0.3895		
D 13C-2,3,7,8-TCDD	20.788	1122237	0.83	0.7884					0.00	
2,3,7,8-TCDD	20.797	1217378	0.78	0.9906	43.8	43.8	0.2945	0.2945		
A Non-2,3,7,8-sub-TCDD	19.882						0.2945	0.2945		
S Total TCDD					43.8	43.8	0.2945	0.2945		
A F1 PeCDFs	23.796	32668	1.55	0.0000						RQ
A Non-2,3,7,8-sub-PeCDF	27.175						0.0	0.0		
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	27.560						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	34.398						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	34.845	12187	1.36	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	38.276	916835	1.02	1.4385						
1,2,3,4,7,8,9-HpCDF	39.557	719588	1.02	1.2202						
A Non-2,3,7,8-sub-HpCDF	38.916						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	39.253	575309	1.03	0.9767						
A Non-2,3,7,8-sub-HpCDD	38.925						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.471	1823288	0.77							
1,3,6,8-TCDD	17.009	1130557	0.79							
2,3,4,7-TCDF	19.525	3223544	0.79							
1,2,3,7-TCDD	20.608	985648	0.79							
1,2,3,9-TCDF	20.969	1457171	0.78							
1,2,3,9-TCDD	21.063	1357597	0.78							
1,2,8,9-TCDF	22.669	1358619	0.81							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	22.755	461519								
1,3,4,6,8-PeCDF	23.296	1471884	1.61							
1,2,3,8,9-PeCDD	25.349	940330	1.51							
1,2,4,7,9-PeCDD	29.770	875487	1.52							
1,2,3,8,9-PeCDF	29.914	1093533	1.52							
1,2,3,4,6,8-HxCDF	32.334	1163405	1.24							
1,2,4,6,7,9-HxCDD	33.581	834719	1.27							
1,2,3,4,6,7-HxCDD	36.108	756315	1.26							
1,2,3,4,8,9-HxCDF	36.462	970776	1.27							
1,2,3,4,6,7,9-HpCDD	38.596	684268	1.06							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 13-Jan-2022 15:41:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 16:01:07 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:49:06

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	19.482	19.482	0	1.000	707024	107557	751	1877	143		
317.9389	19.482	19.482	0	1.000	848189	141059	241	602	585	0.83(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.525	19.520	0	1.002	1424917	192869	431	1077	447		
305.8987	19.525	19.520	0	1.002	1798627	249937	549	1372	455	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	23.322	19.070	255	1.197	14069	2211	431	1077	5		
305.8987	23.296	19.070	253	1.196	20594	2929	549	1372	5	0.68(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.788	20.788	0	1.000	510569	70614	248	620	285		
333.9338	20.771	20.788	-1	1.000	611668	94860	60	150	1581	0.83(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.797	20.821	-1	1.000	535108	72892	251	627	290		
321.8936	20.806	20.821	-1	1.001	682270	94933	232	580	409	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	19.882						251	627			
321.8936	19.882						232	580			
A F1 PeCDFs											RQ
339.8597	23.468	23.796	-20	1.000	26906	3485	30	75	116		
341.8567	23.588	23.796	-12	1.000	11151	1794	80	200	22	2.41(1.32-1.78)	
339.8597	23.923	23.796	8	1.000	2573	505	30	75	17		
341.8567	23.966	23.796	10	1.000	12359	2120	80	200	27	0.21(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.175						137	342			
341.8567	27.175						139	347			

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.560						197	492			
357.8516	27.560						95	237			
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.398						196	490			
375.8178	34.398						154	385			
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.828	34.845	-1	1.000	7029	1269	148	370	9		
391.8127	34.837	34.845	0	1.000	5158	1015	129	322	8	1.36(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.276	38.299	-1	1.000	463487	116572	302	755	386		
409.7788	38.267	38.299	-2	1.000	453348	115770	290	725	399	1.02(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.557	39.584	-2	1.000	363536	96803	302	755	321		
409.7788	39.557	39.584	-2	1.000	356052	97483	290	725	336	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.916						302	755			
409.7788	38.916						290	725			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.253	39.277	-1	1.000	292090	76440	214	535	357		
425.7737	39.253	39.277	-1	1.000	283219	75876	212	530	358	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.925						214	535			
425.7737	38.925						212	530			
1,3,6,8-TCDF											
303.9016	15.471	15.471	0		791643	160803	431	1077	373		
305.8987	15.471	15.471	0		1031645	208074	549	1372	379	0.77(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	17.009	17.009	0		500705	88981	251	627	355		
321.8936	17.000	17.009	-1		629852	115318	232	580	497	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	19.525	19.525	0		1424917	192869	431	1077	447		
305.8987	19.525	19.525	0		1798627	249937	549	1372	455	0.79(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	20.608	20.608	0		435568	63061	251	627	251		
321.8936	20.599	20.608	-1		550080	82517	232	580	356	0.79(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	20.969	20.969	0		639137	88745	431	1077	206		
305.8987	20.969	20.969	0		818034	116107	549	1372	211	0.78(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	21.063	21.063	0		596135	76097	251	627	303		
321.8936	21.063	21.063	0		761462	101300	232	580	437	0.78(0.65-0.89)	
1,2,8,9-TCDF											
303.9016	22.669	22.669	0		607573	75660	431	1077	176		
305.8987	22.661	22.669	-1		751046	97291	549	1372	177	0.81(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	22.755	22.755	0		461519	59587	251	627	237		

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,3,4,6,8-PeCDF											
339.8597	23.296	23.296	0		907308	141460	30	75	4715		
341.8567	23.296	23.296	0		564576	85214	80	200	1065	1.61(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.349	25.349	0		565426	87245	197	492	443		
357.8516	25.349	25.349	0		374904	58295	95	237	614	1.51(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	29.770	29.770	0		527704	75341	197	492	382		
357.8516	29.770	29.770	0		347783	46524	95	237	490	1.52(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	29.914	29.914	0		659298	84623	137	342	618		
341.8567	29.905	29.914	-1		434235	56866	139	347	409	1.52(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	32.334	32.334	0		643968	82959	196	490	423		
375.8178	32.334	32.334	0		519437	68565	154	385	445	1.24(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8158	33.581	33.581	0		467777	76666	148	370	518		
391.8127	33.581	33.581	0		366942	62205	129	322	482	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8158	36.108	36.108	0		422134	90974	148	370	615		
391.8127	36.108	36.108	0		334181	71054	129	322	551	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	36.462	36.462	0		543265	121449	196	490	620		
375.8178	36.462	36.462	0		427511	98911	154	385	642	1.27(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7767	38.596	38.596	0		351447	94171	214	535	440		
425.7737	38.596	38.596	0		332821	90175	212	530	425	1.06(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 13-Jan-2022 15:41:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 558558 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 19.070

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.012	D 13C-2,3,7,8-TCDF	40.000	1555213	248616

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.012		40.000	1555213	248616

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
23.322	14069	2211	20594	2929	0.8810	0.68	
Signal Totals:							
	14069	2211	20594	2929			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	34663	5140				0.68	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8810 = (34663 * 40.000) / (1555213 * 1.012)

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 13-Jan-2022 15:41:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 558558 Lims Sample ID: 1

F1 PeCDFs, RT: 23.796

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976				
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.468	26906	3485	11151	1794		2.41	R
23.923	2573	505	12359	2120		0.21	R
Signal Totals:							
	29479	3990	23510	3914			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	52989	7904				1.25	RQ
	32668	5404					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (52989 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (32668 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 13-Jan-2022 15:41:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 558558 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 34.845

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829				
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
34.828	7029	1269	5158	1015		1.36	
Signal Totals:							
	7029	1269	5158	1015			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12187	2284				1.36	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (12187 * 0.0) / (0 * 0.000)

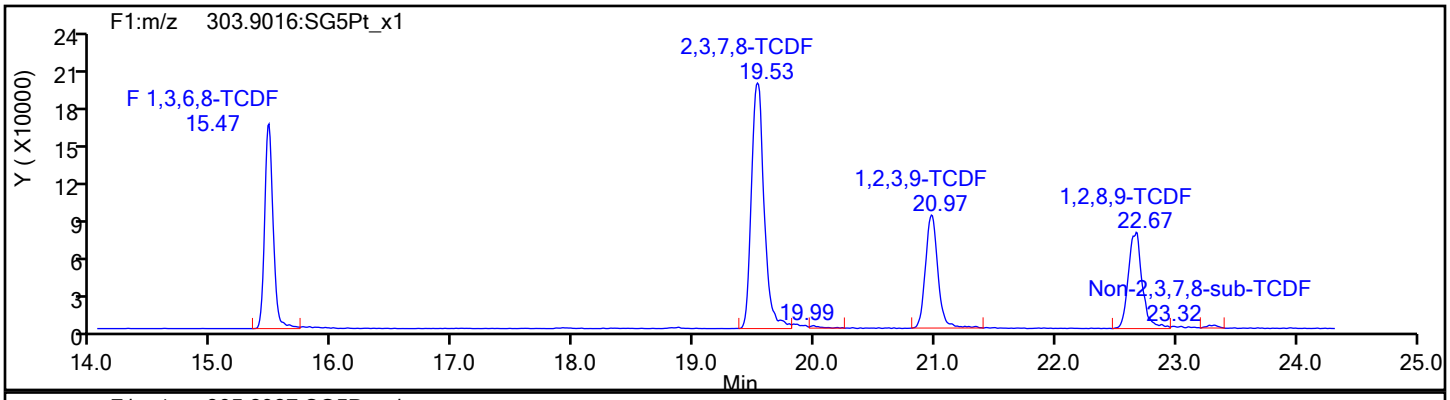
Report Date: 20-Jan-2022 16:01:09 Chrom Revision: 2.3 18-Jan-2022 20:25:40

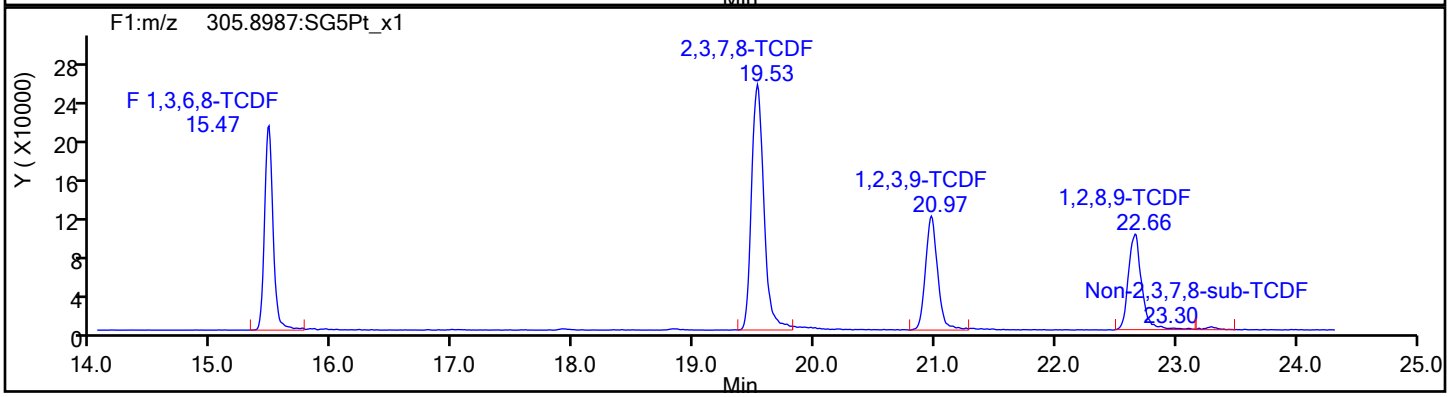
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

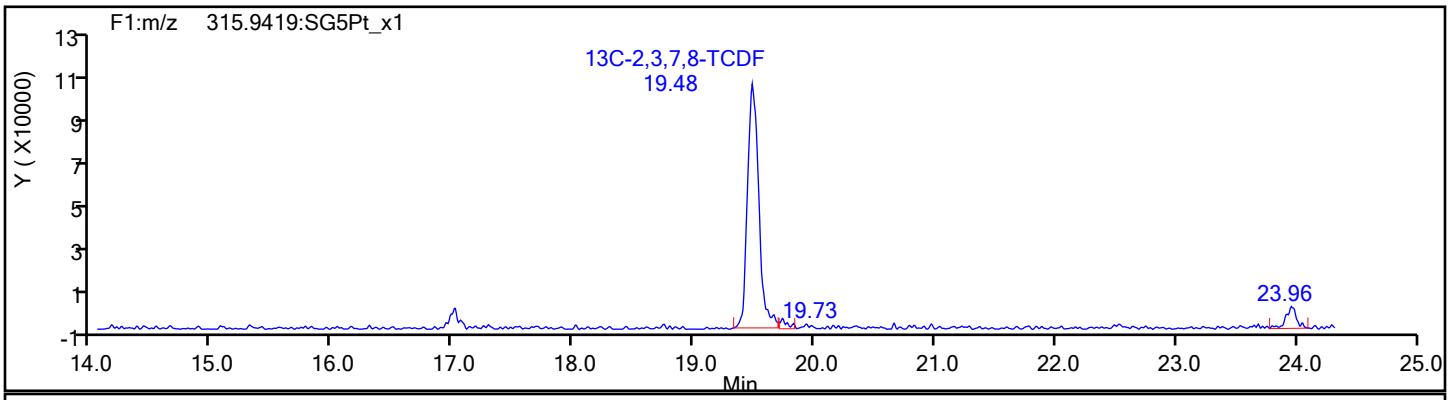
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

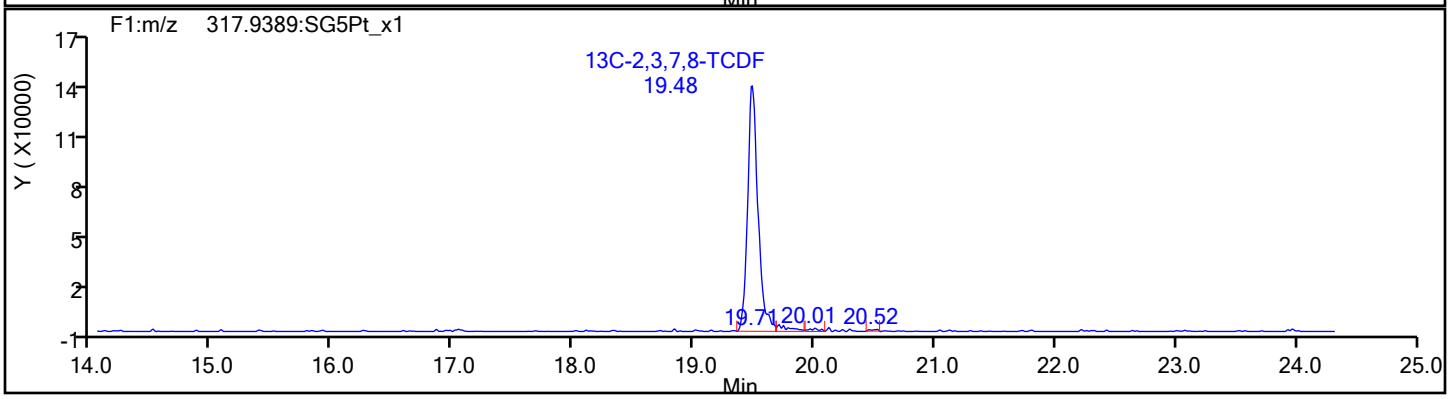
TCDF





TCDF Standards

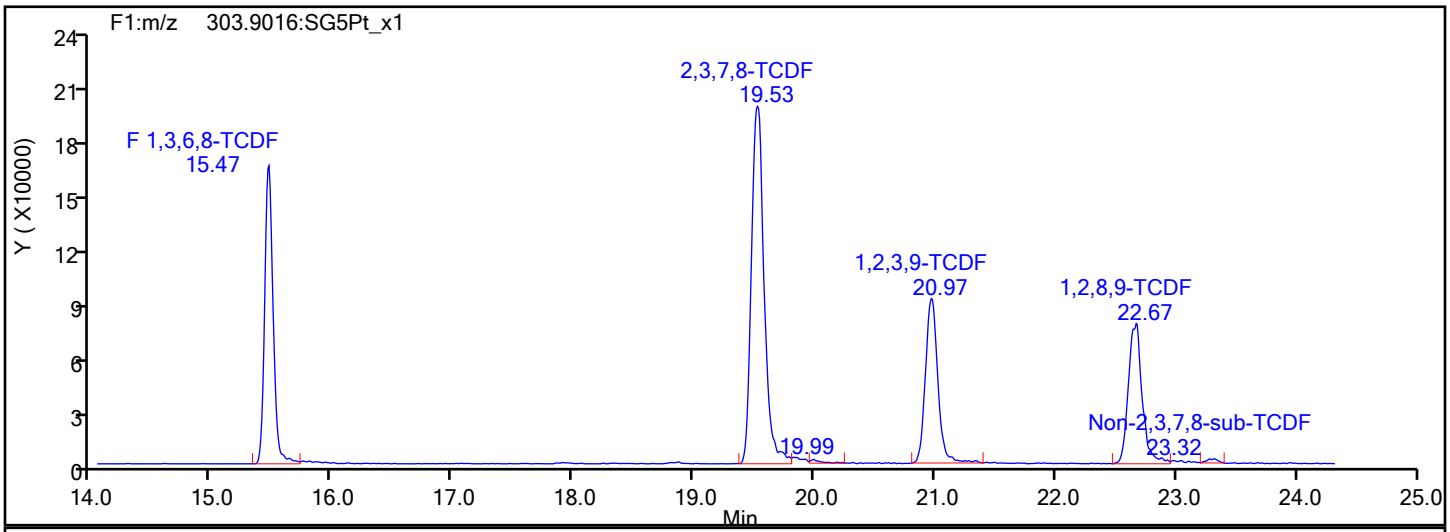


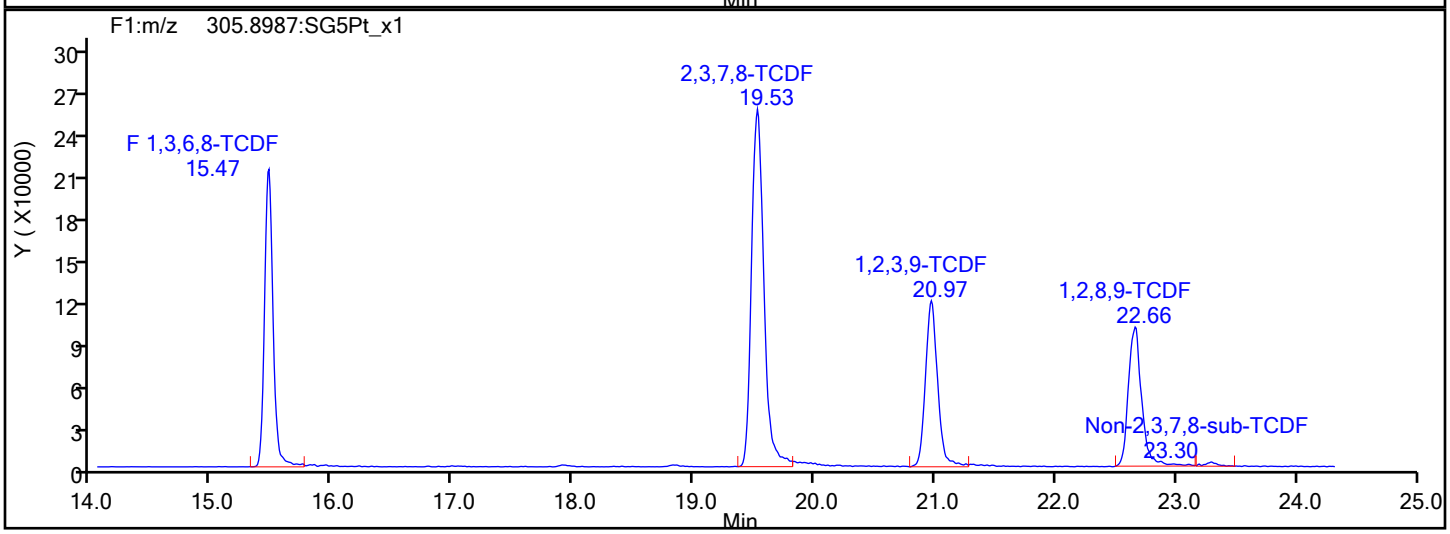


Eurofins Sacramento

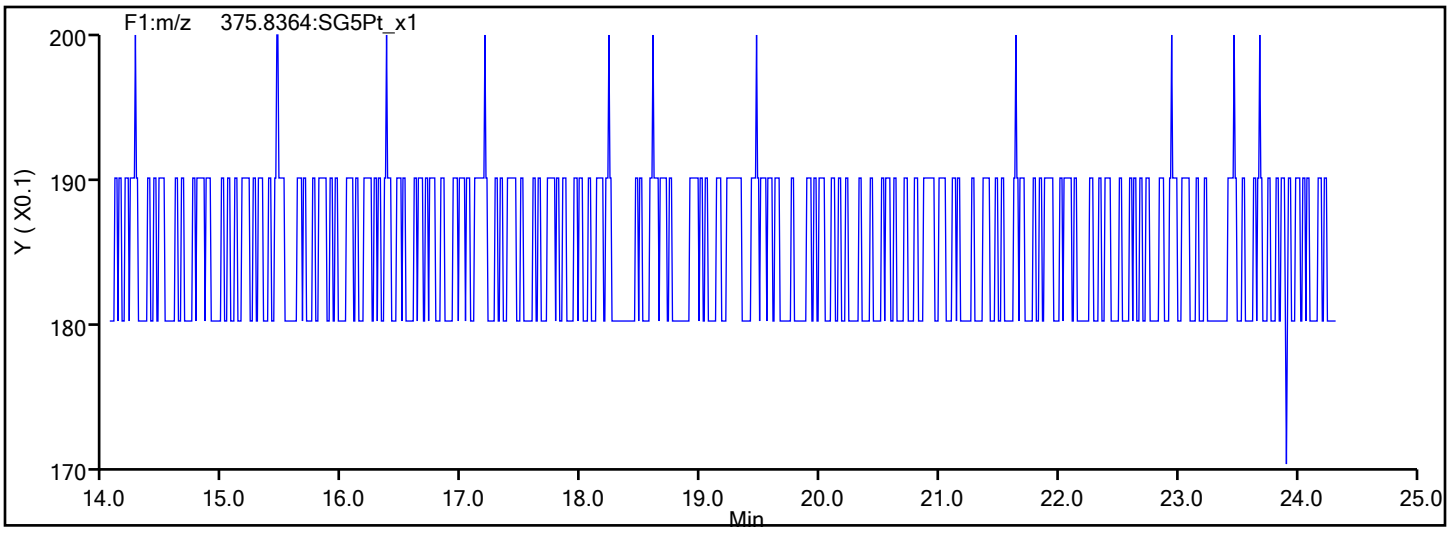
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



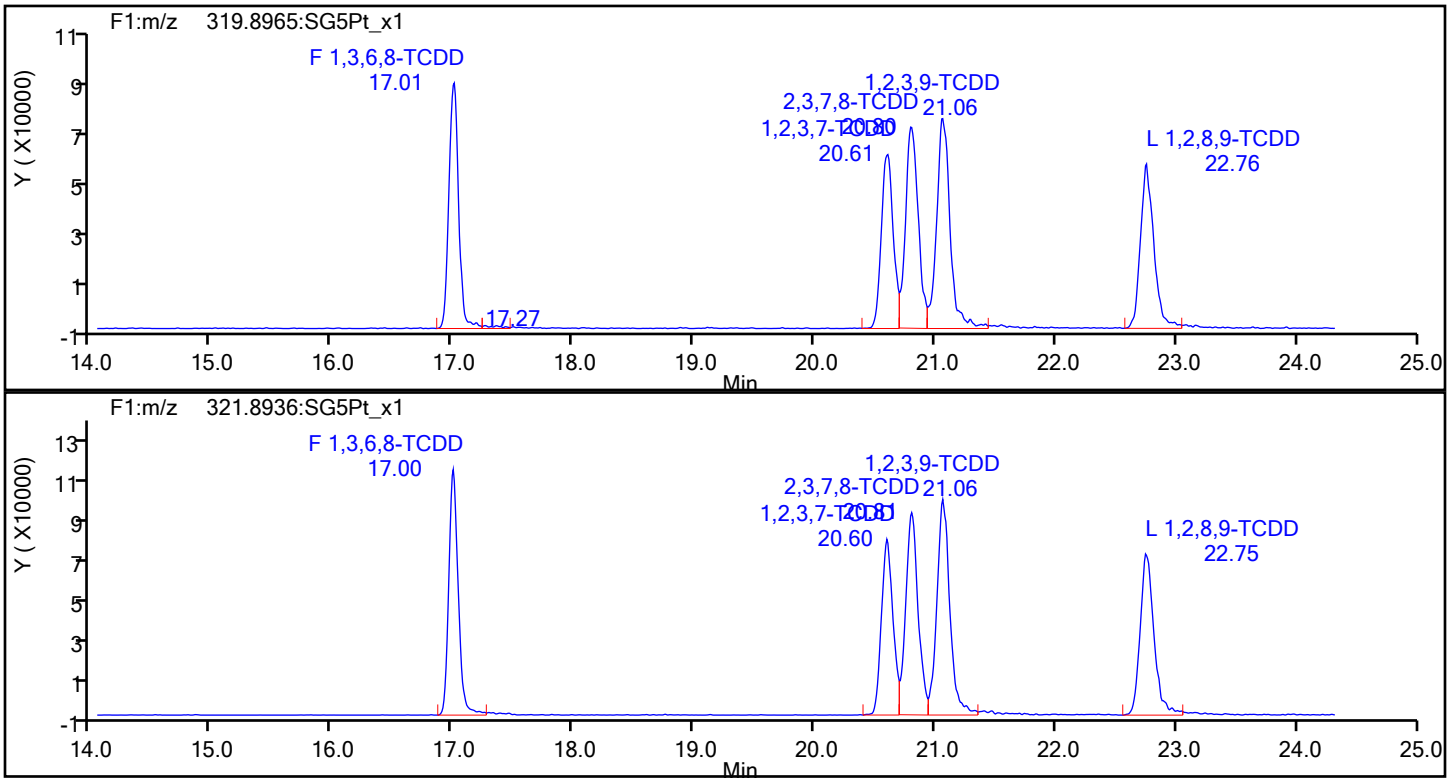
Report Date: 20-Jan-2022 16:01:09 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

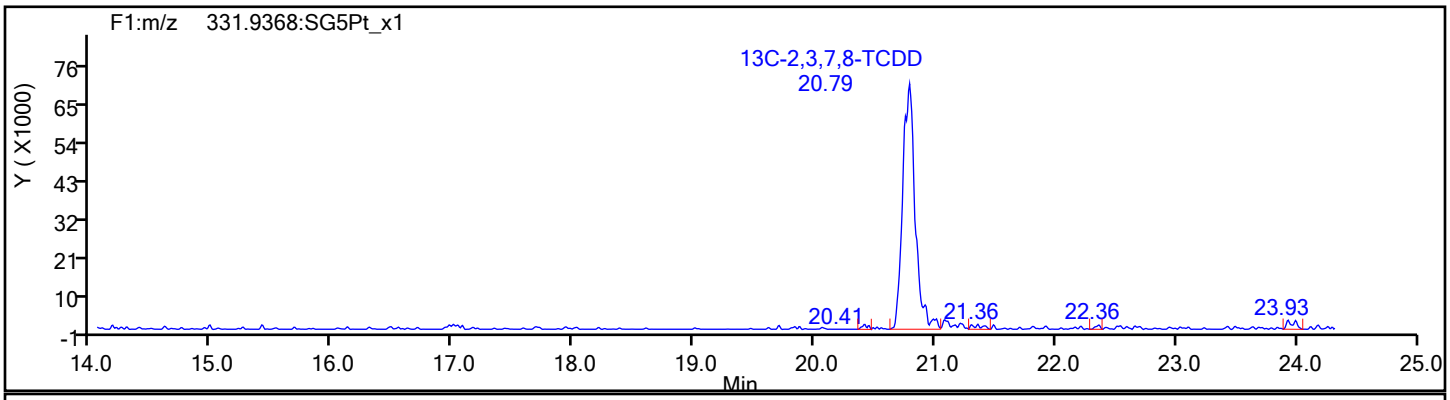
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

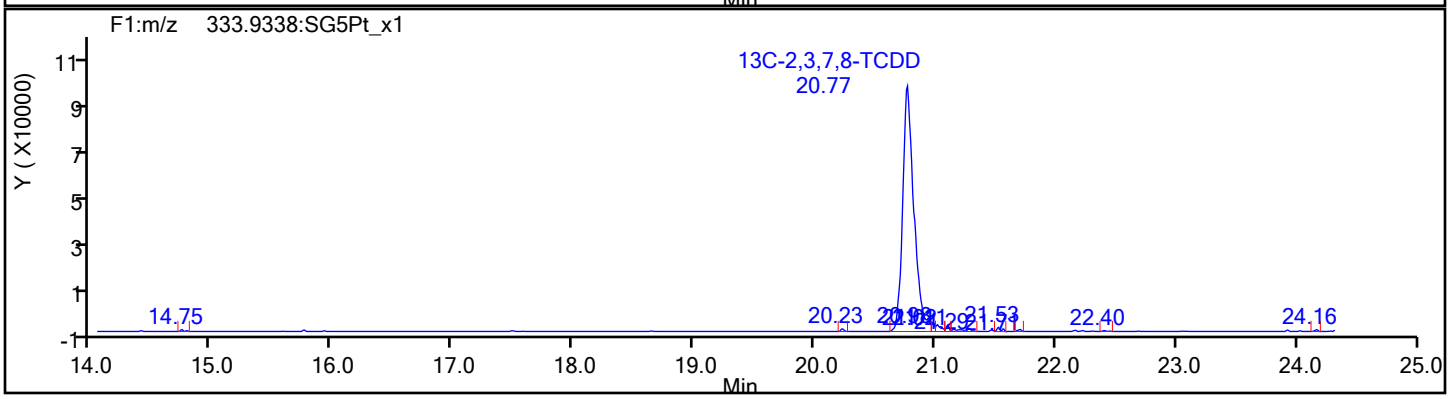
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD



TCDD Standards

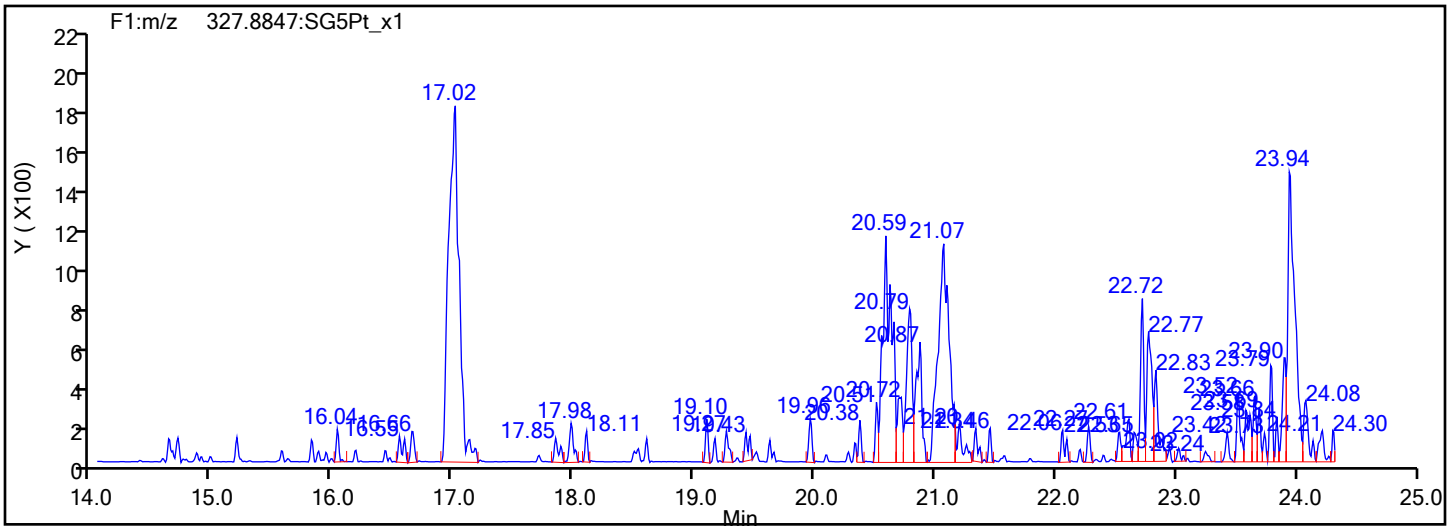




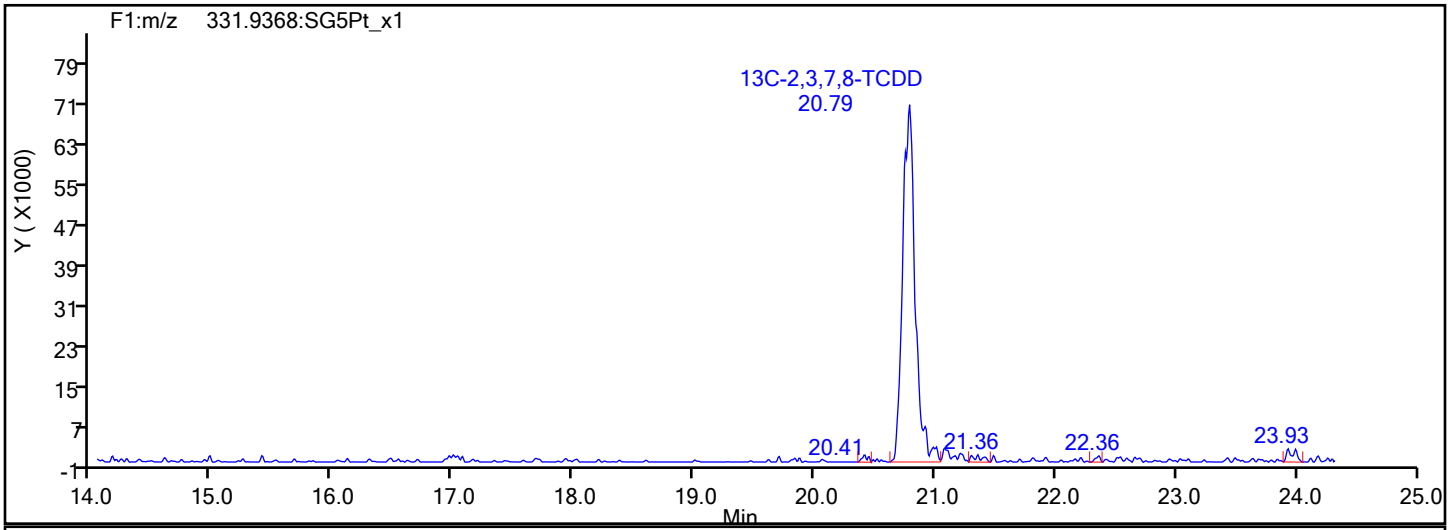
Eurofins Sacramento

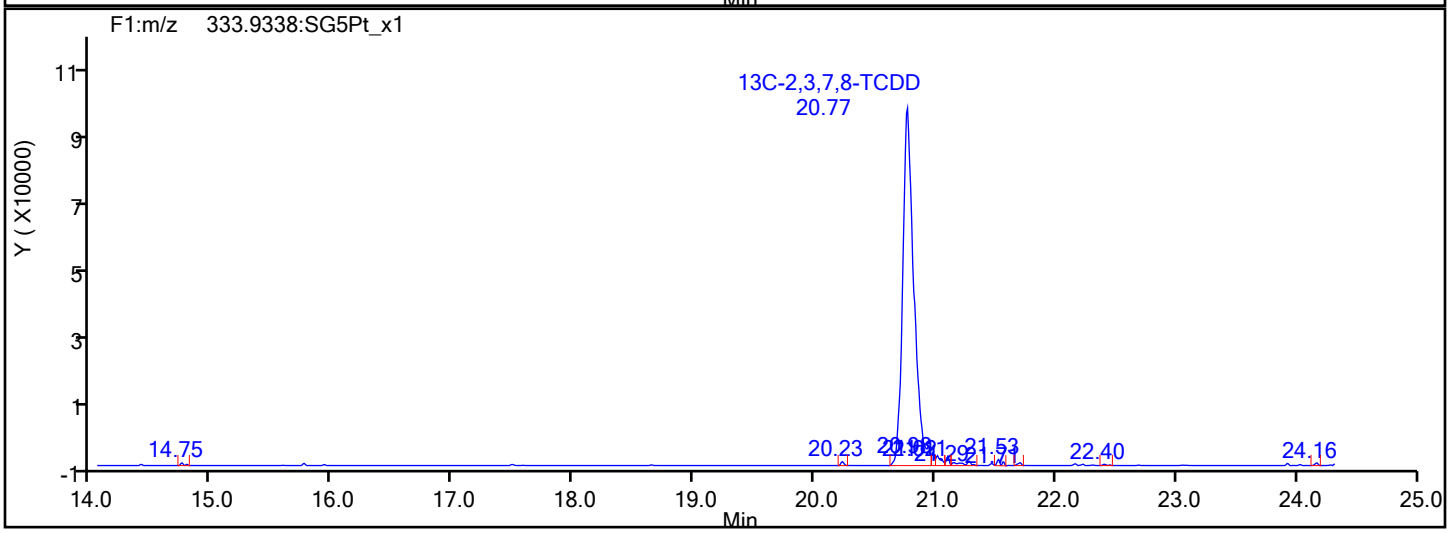
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d		
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





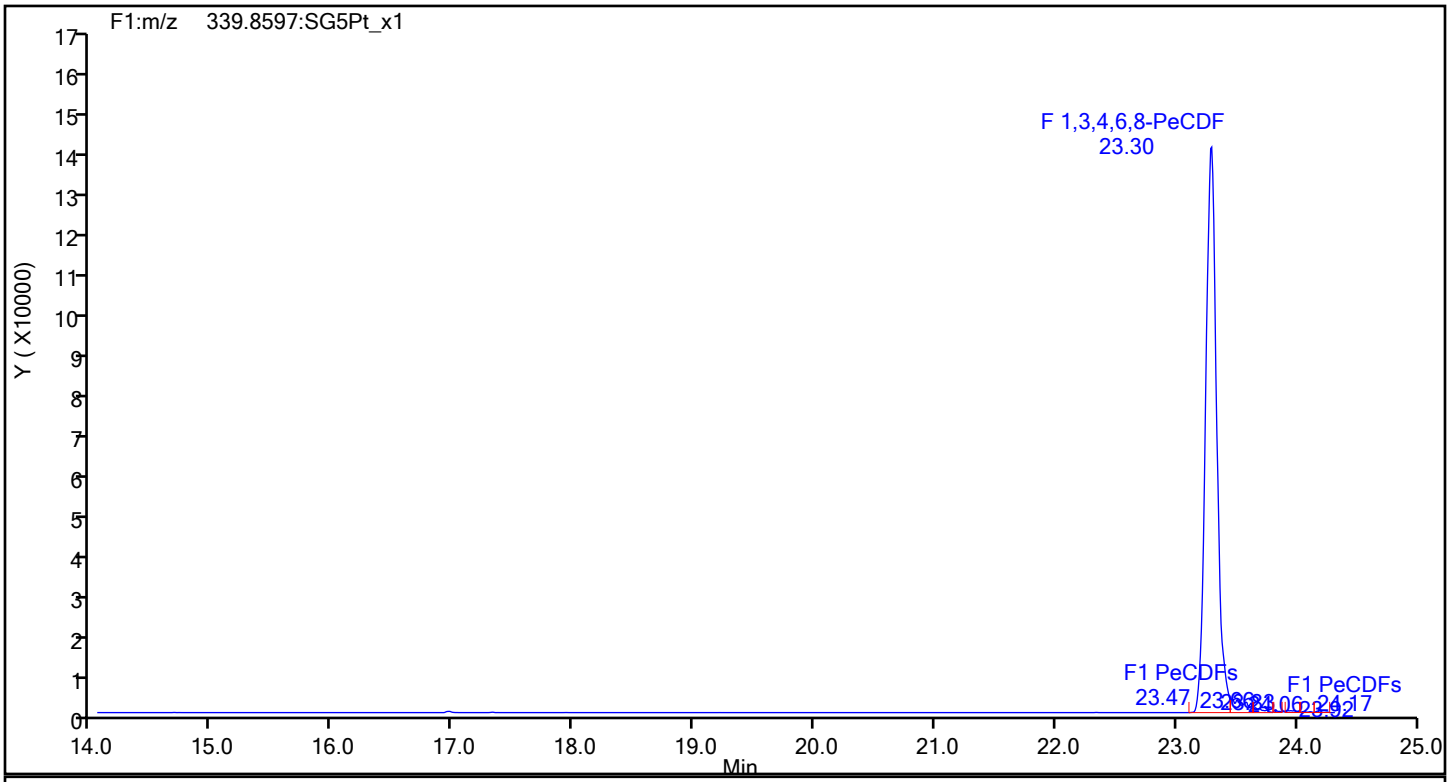
Report Date: 20-Jan-2022 16:01:09 Chrom Revision: 2.3 18-Jan-2022 20:25:40

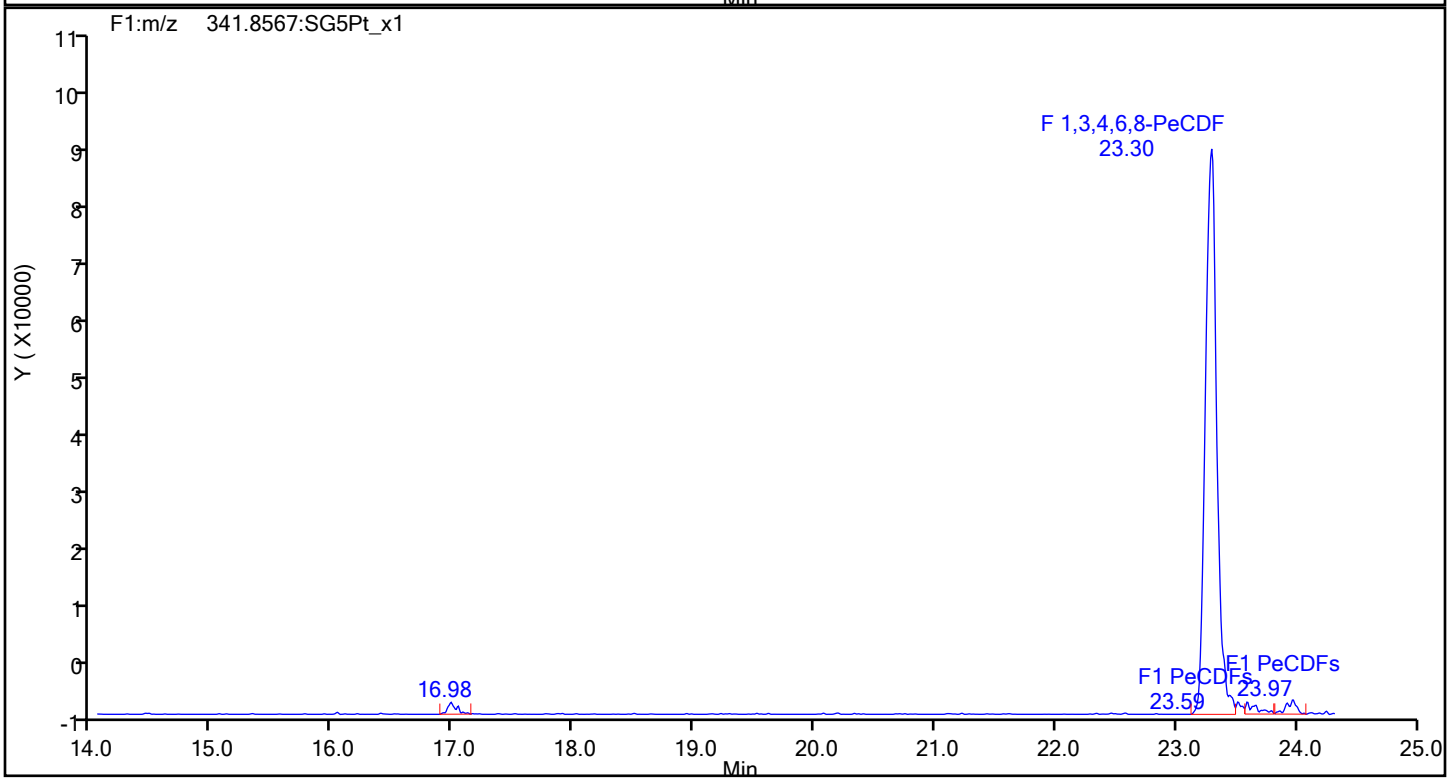
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

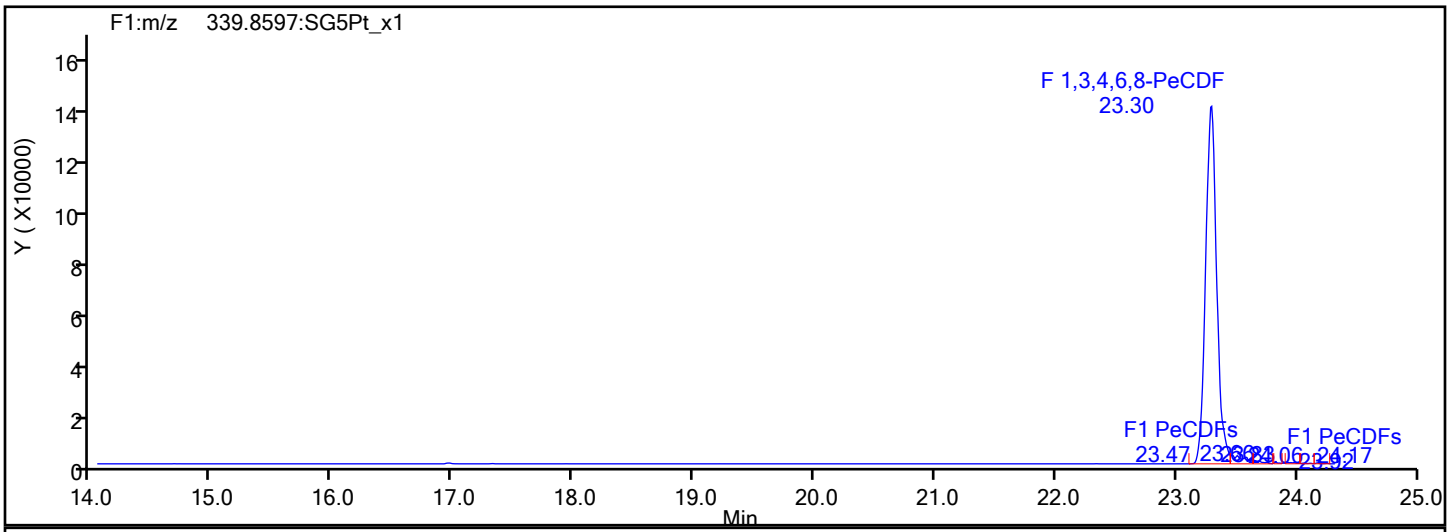


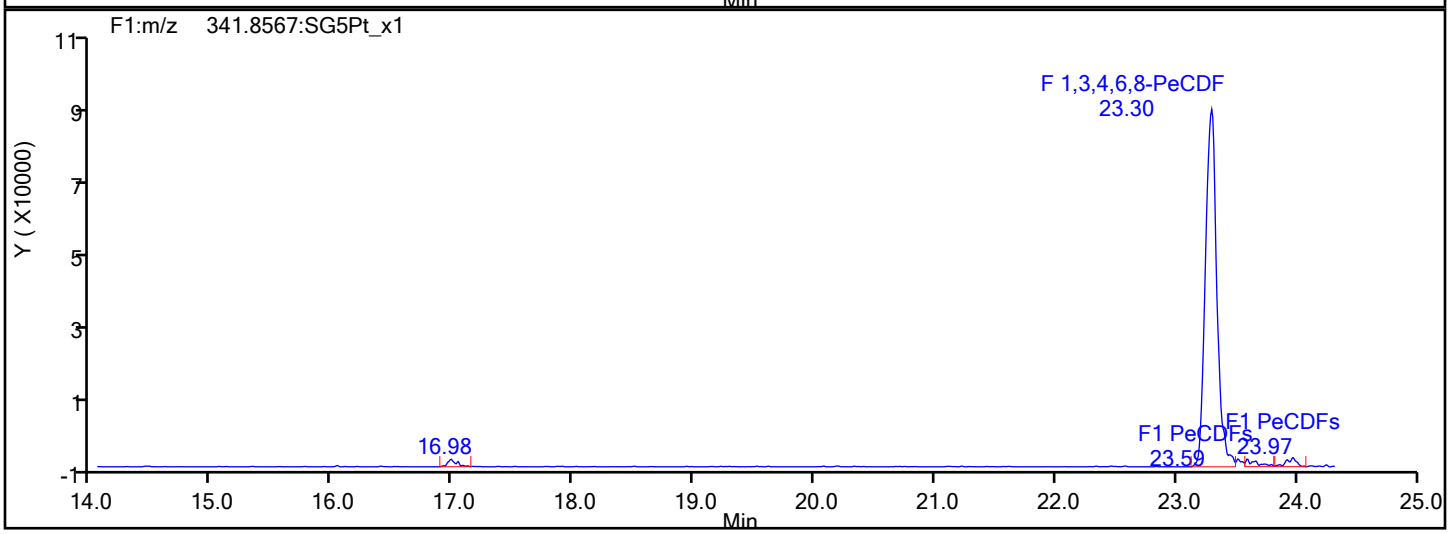


Eurofins Sacramento

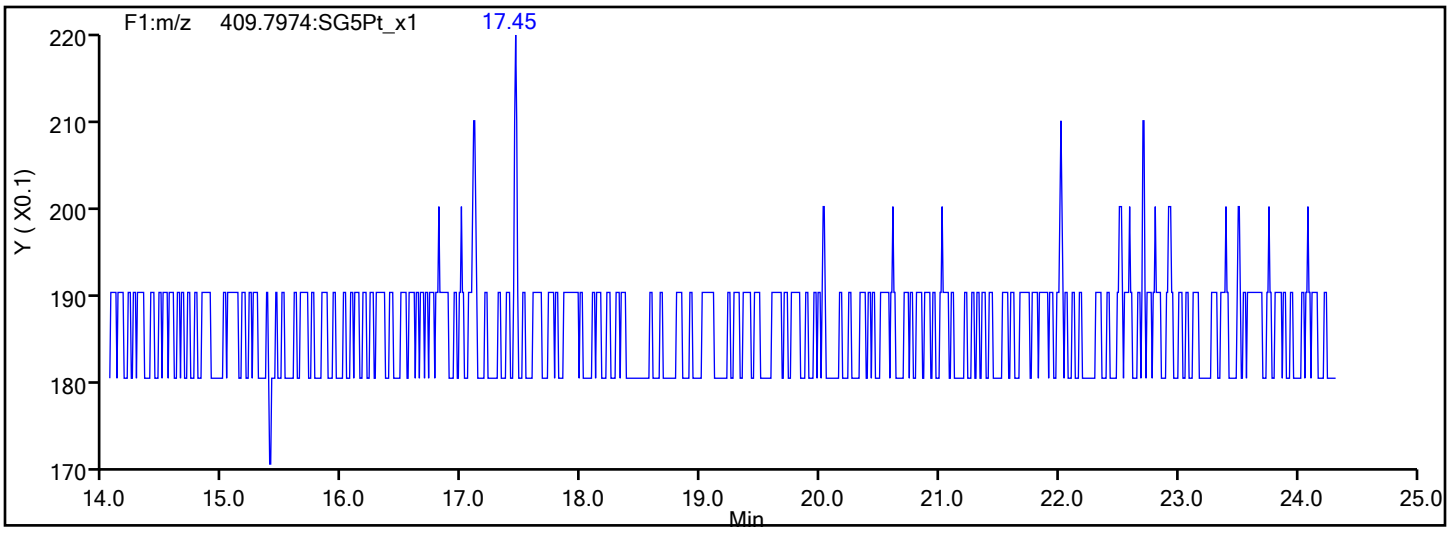
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d		
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





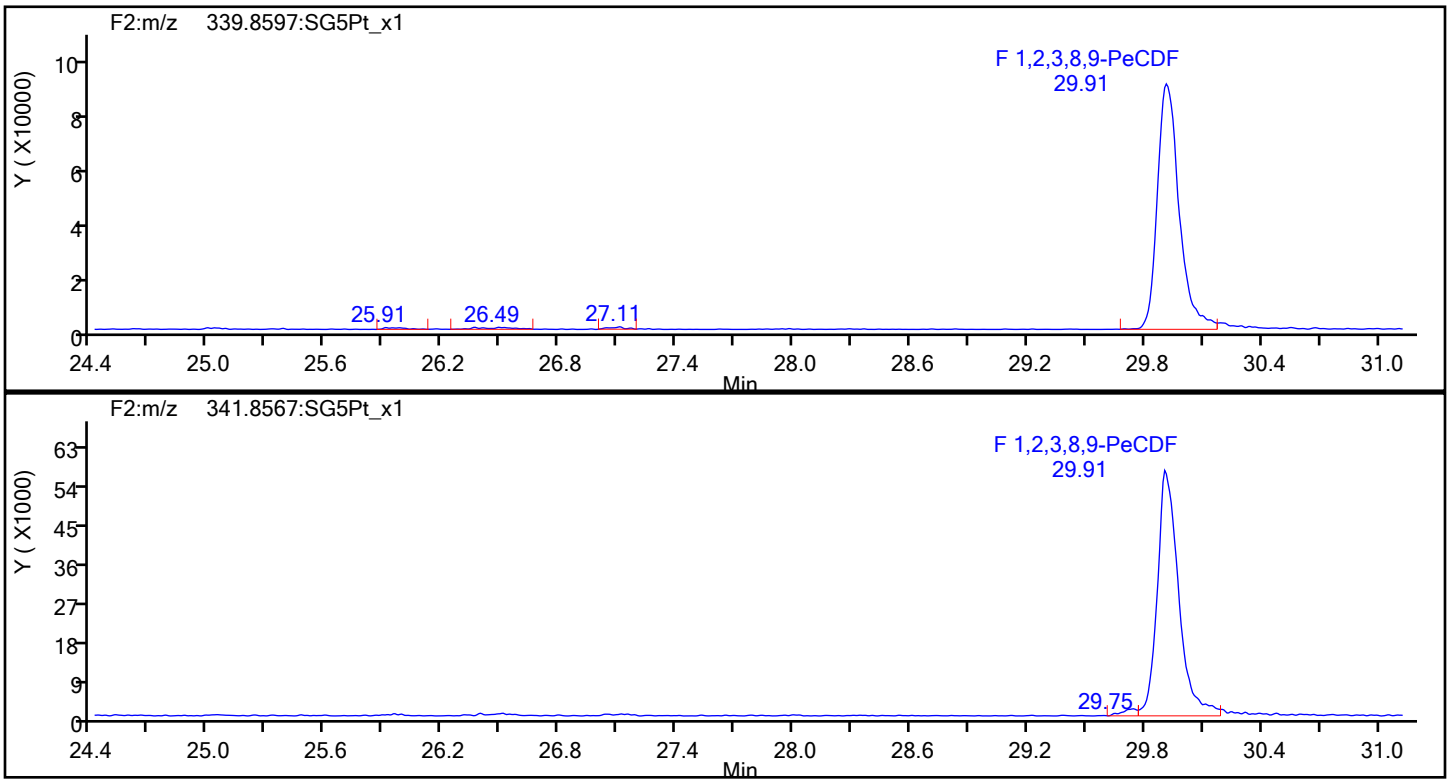
F1 PeCDFs Interference Mass



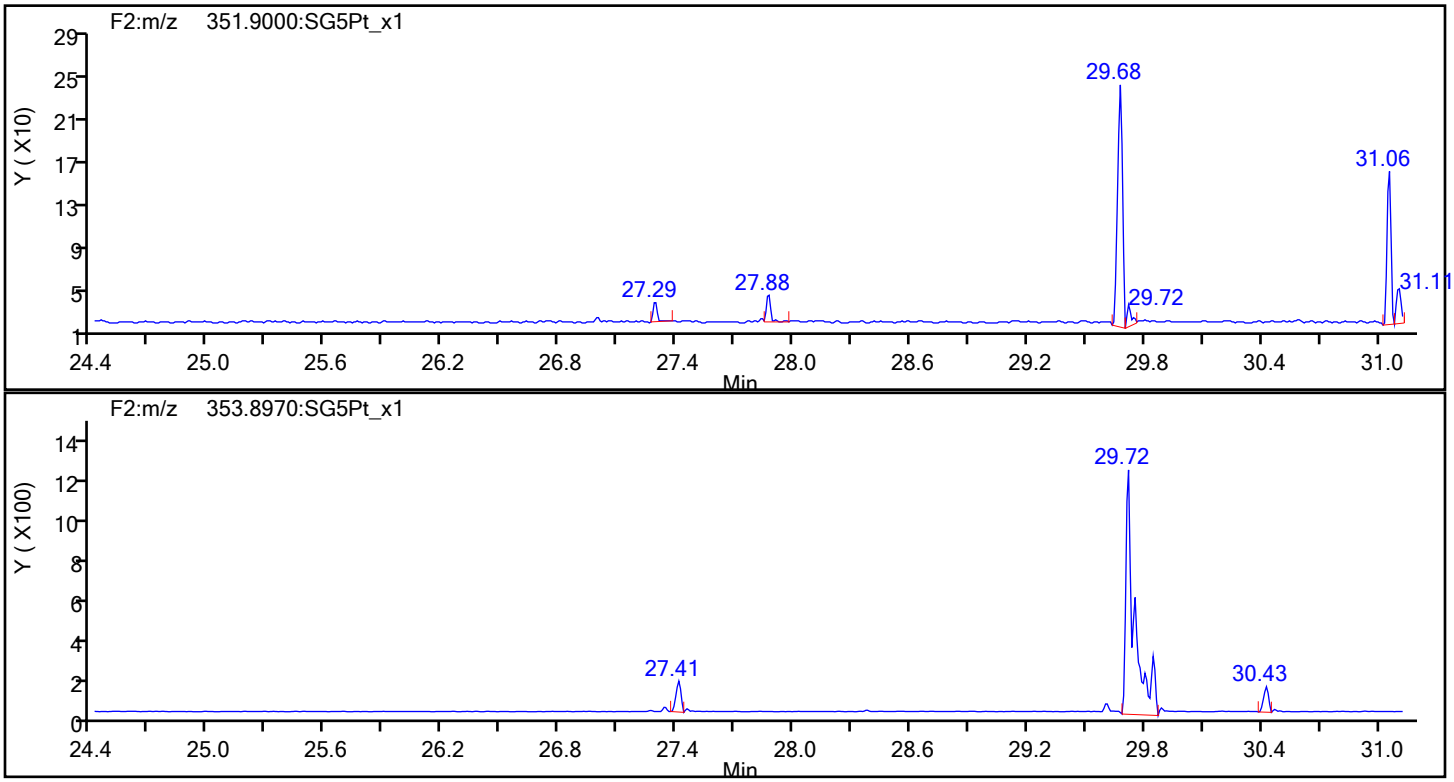
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



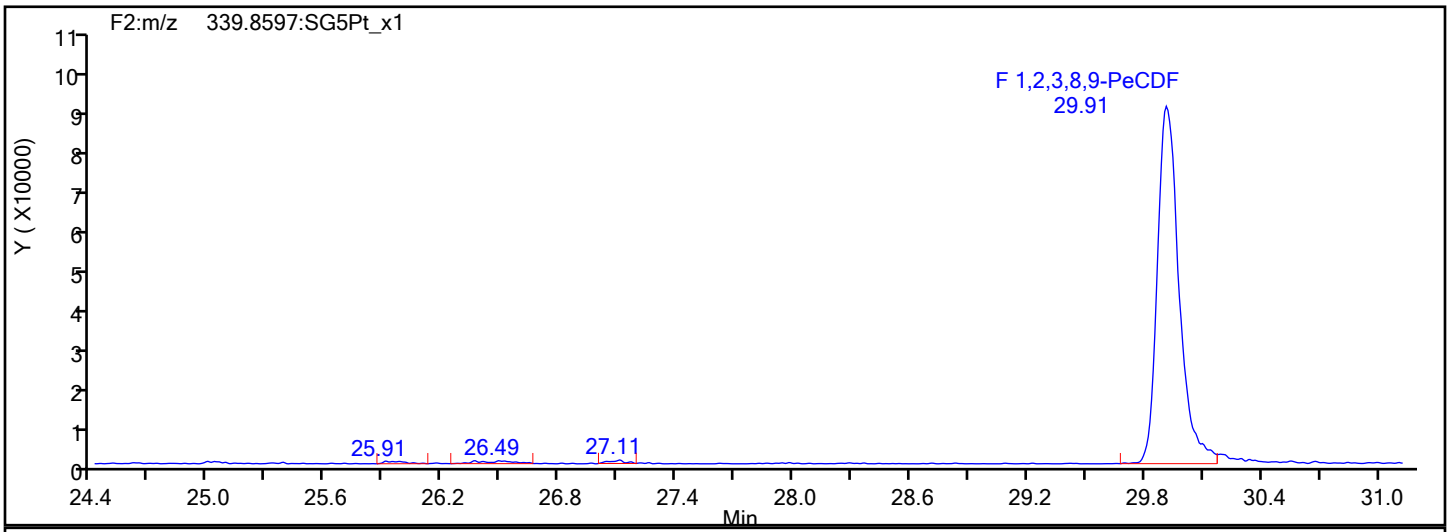
PeCDF Standards

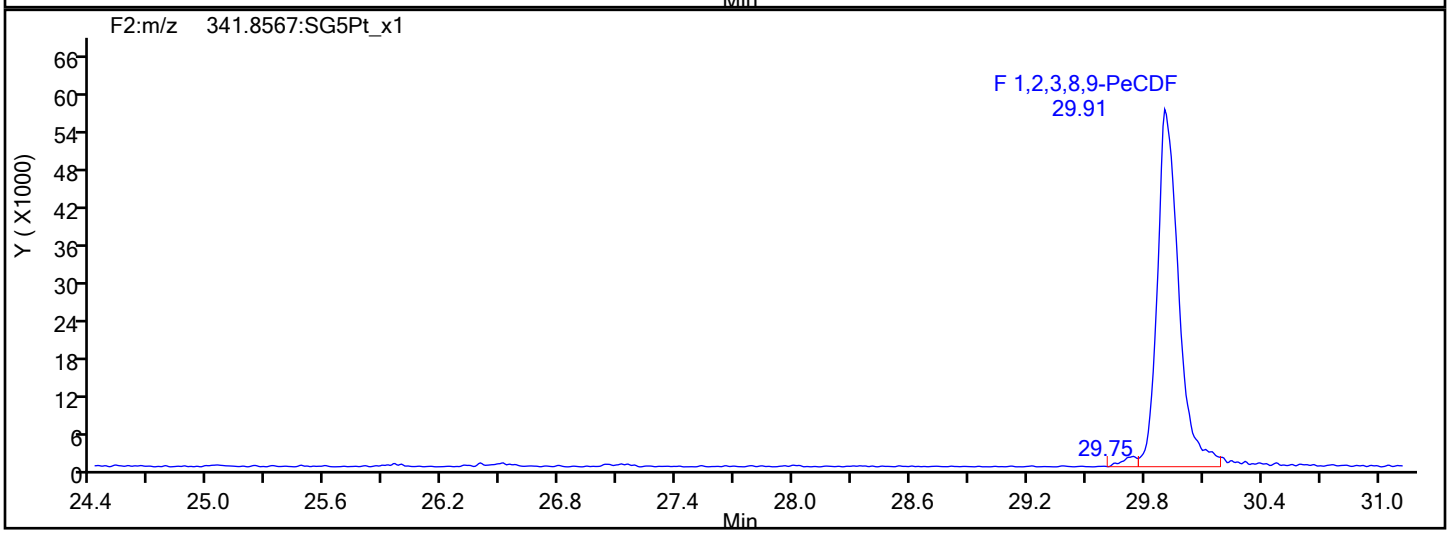


Eurofins Sacramento

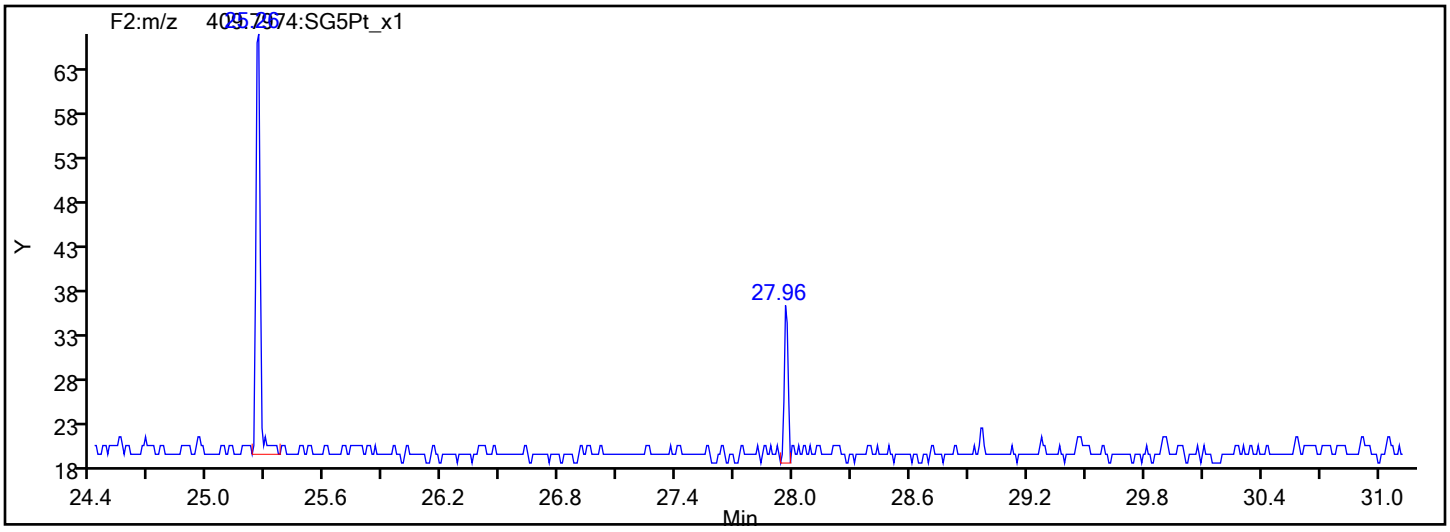
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d		
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



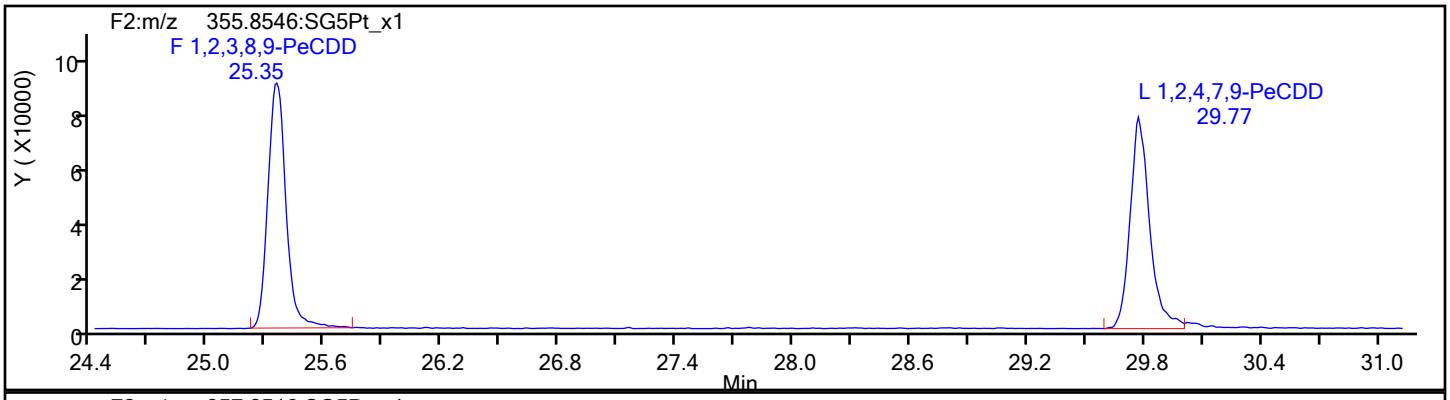
Report Date: 20-Jan-2022 16:01:10 Chrom Revision: 2.3 18-Jan-2022 20:25:40

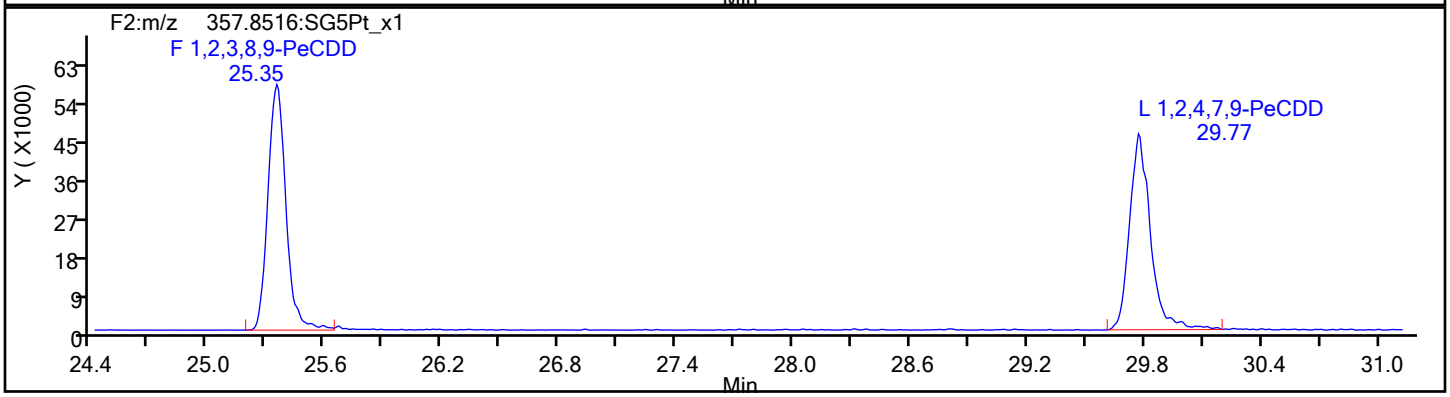
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

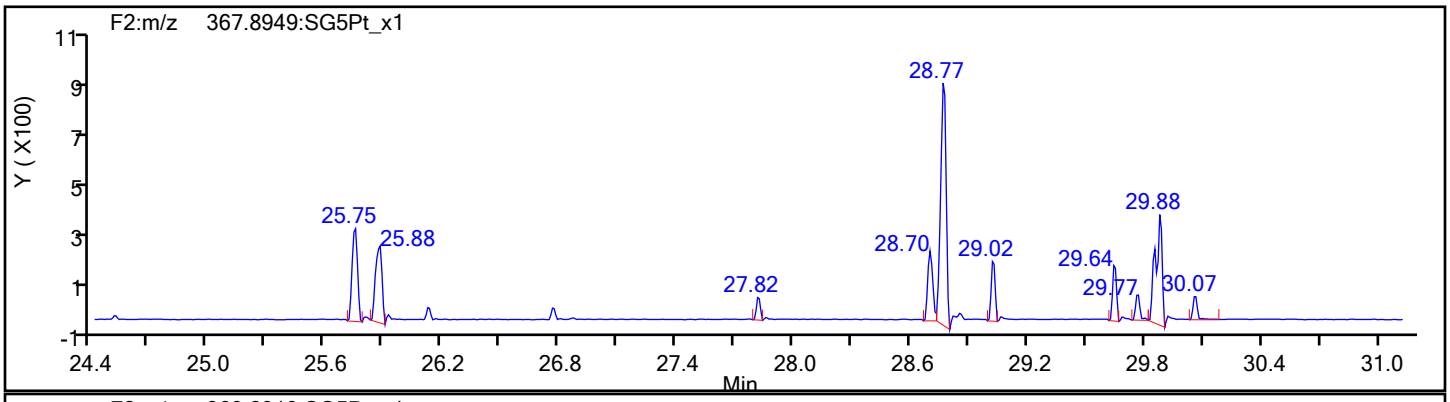
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

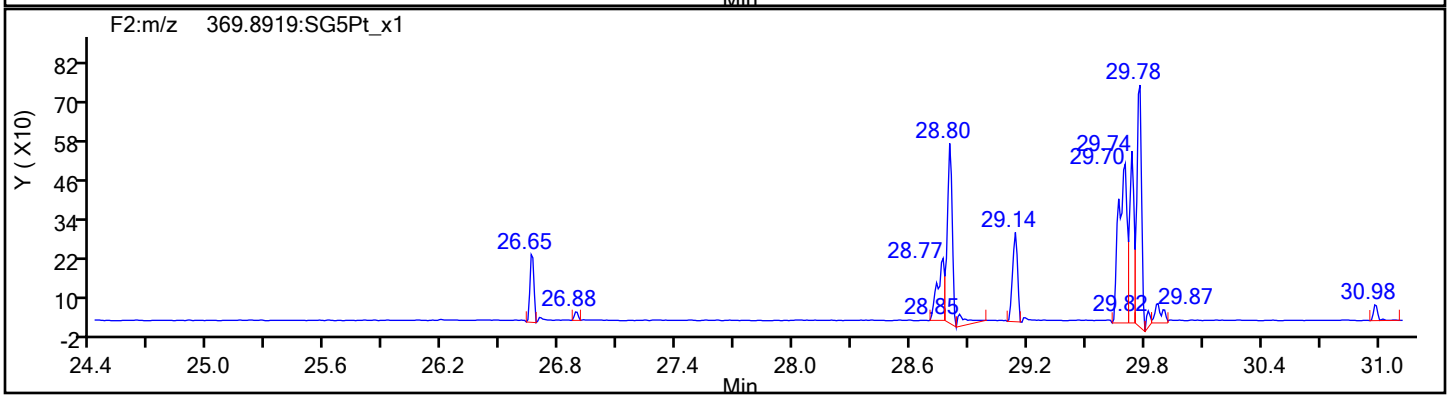
PeCDD





PeCDD Standards

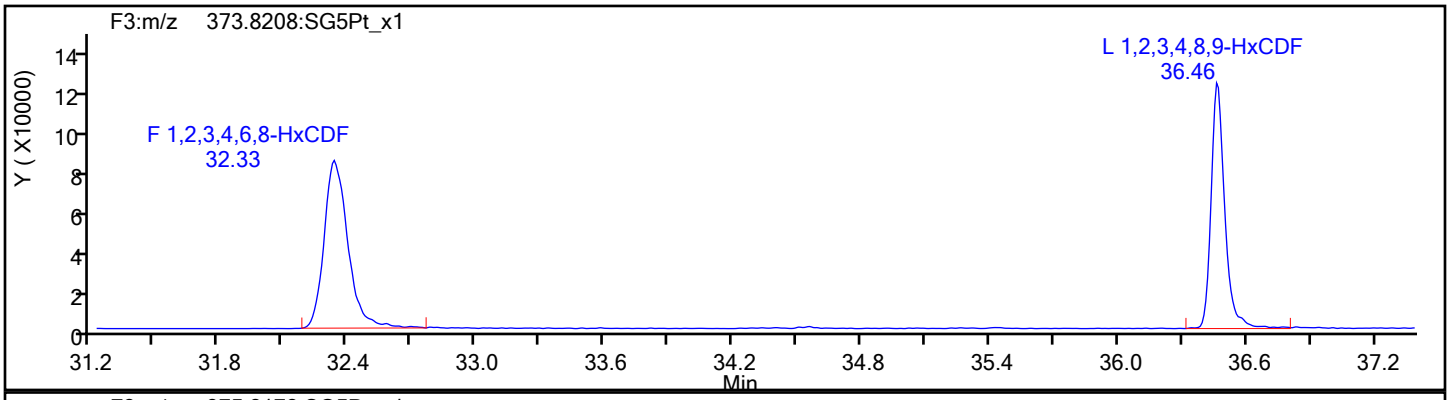


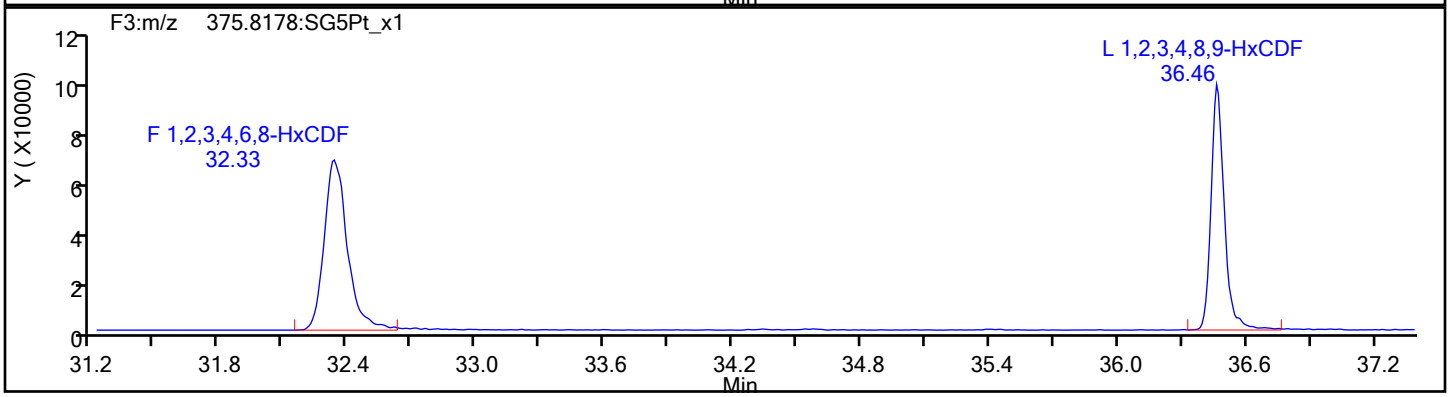


Eurofins Sacramento

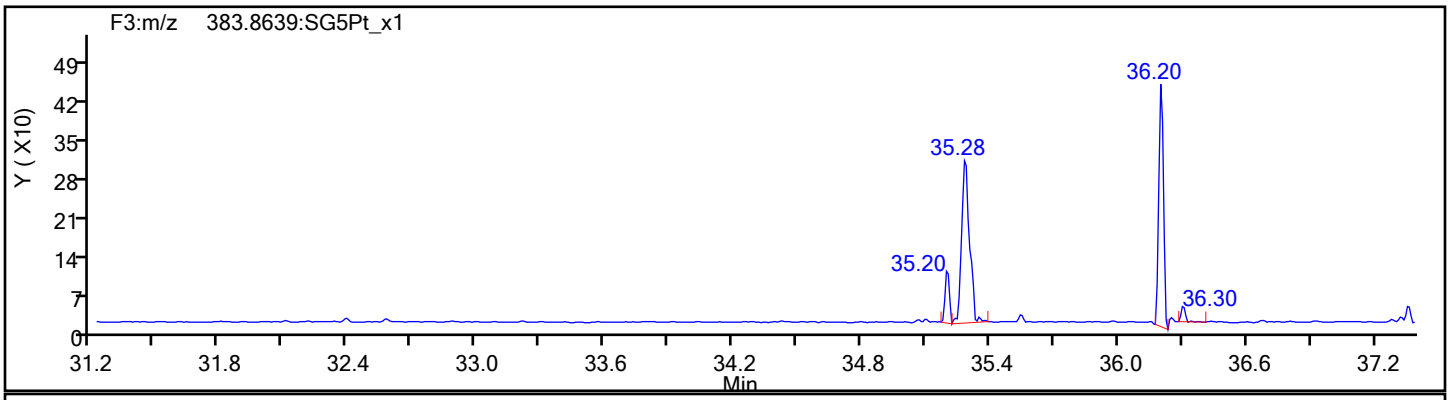
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

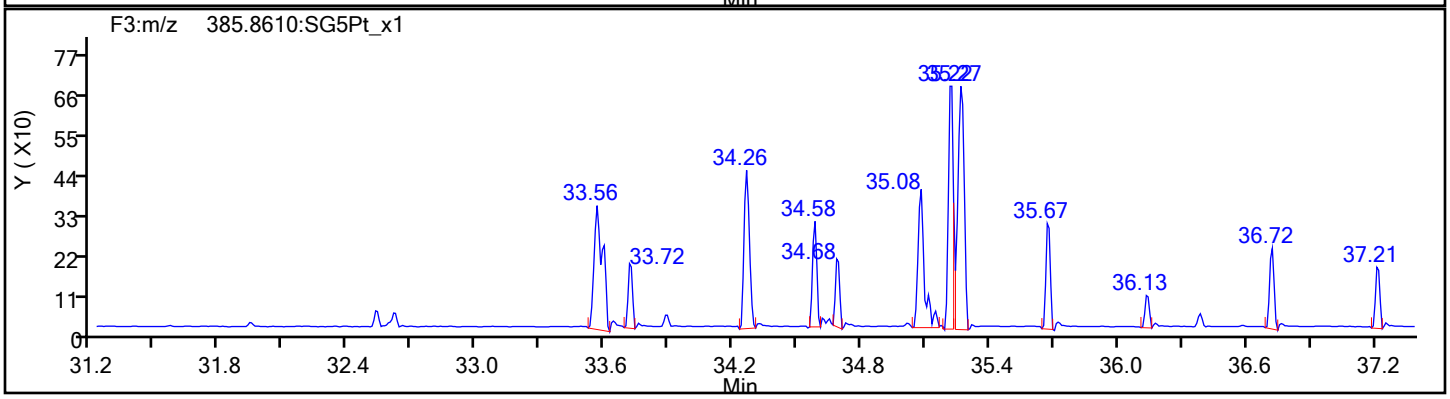
HxCDF





HxCDF Standards

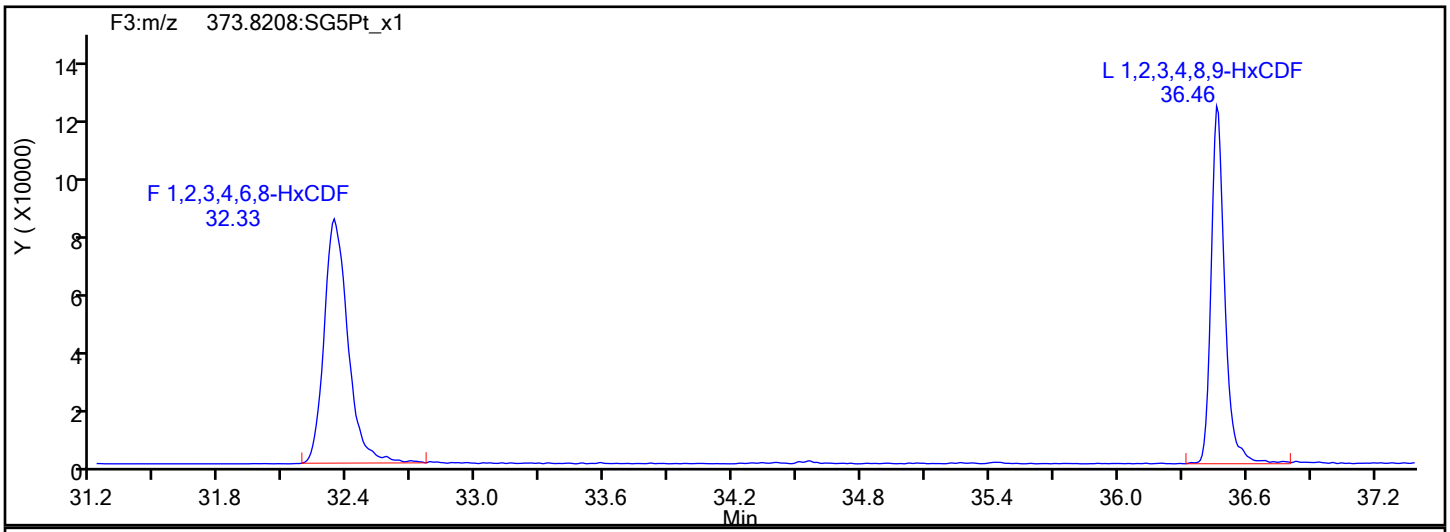


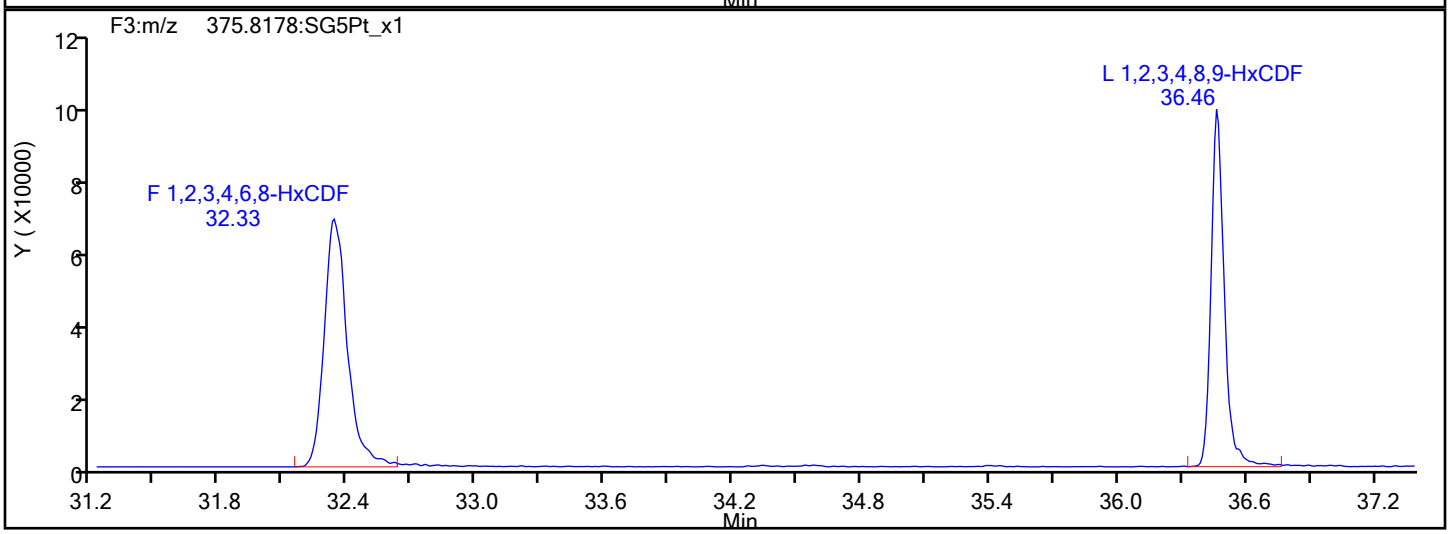


Eurofins Sacramento

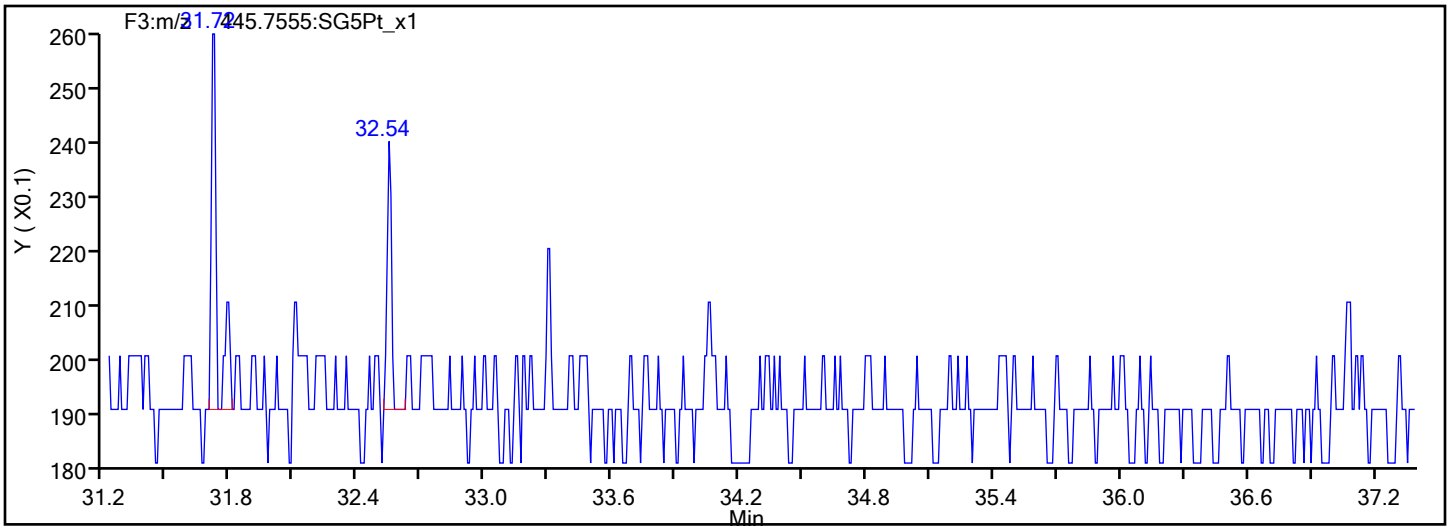
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d		
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



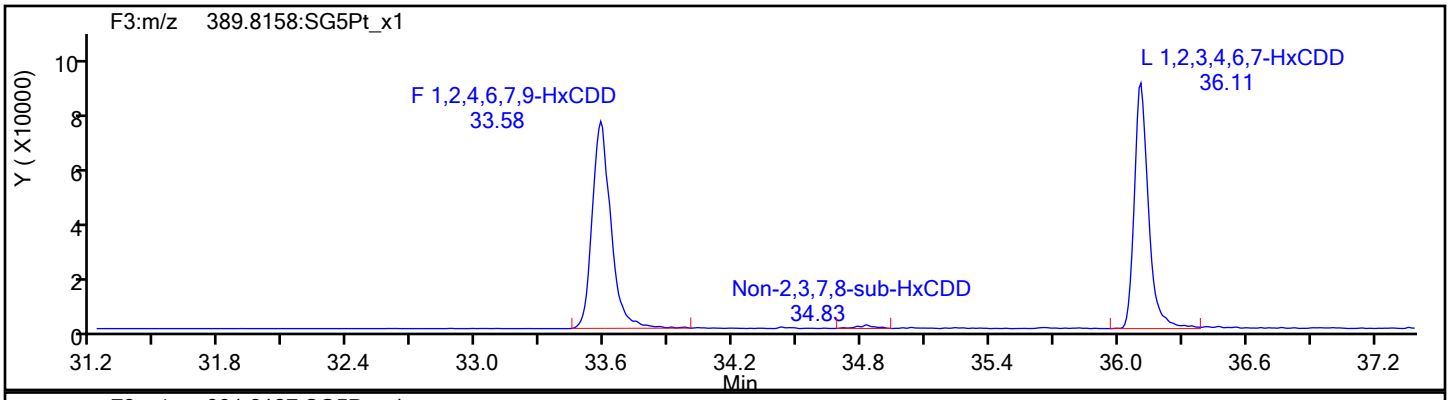
Report Date: 20-Jan-2022 16:01:10 Chrom Revision: 2.3 18-Jan-2022 20:25:40

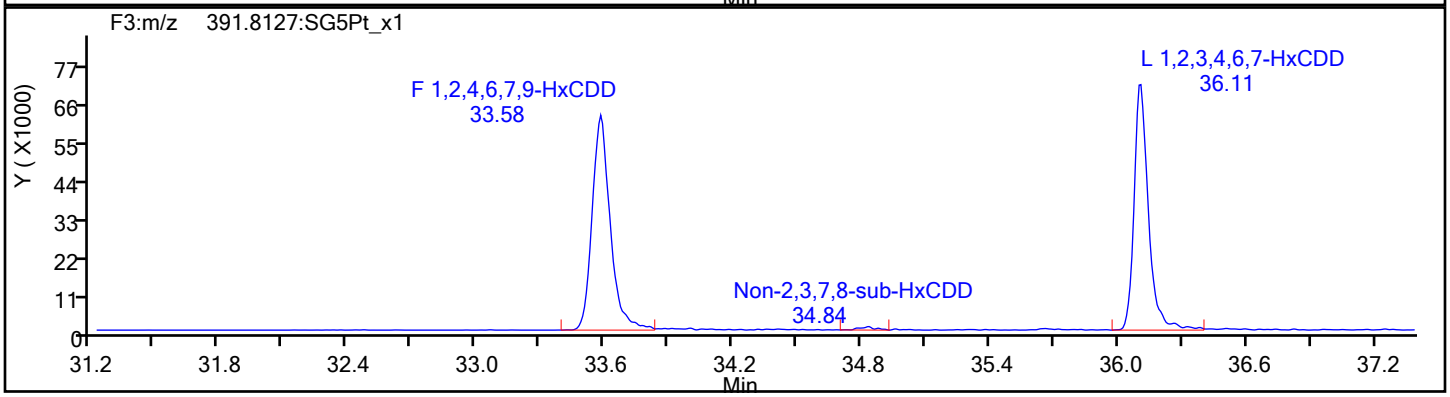
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

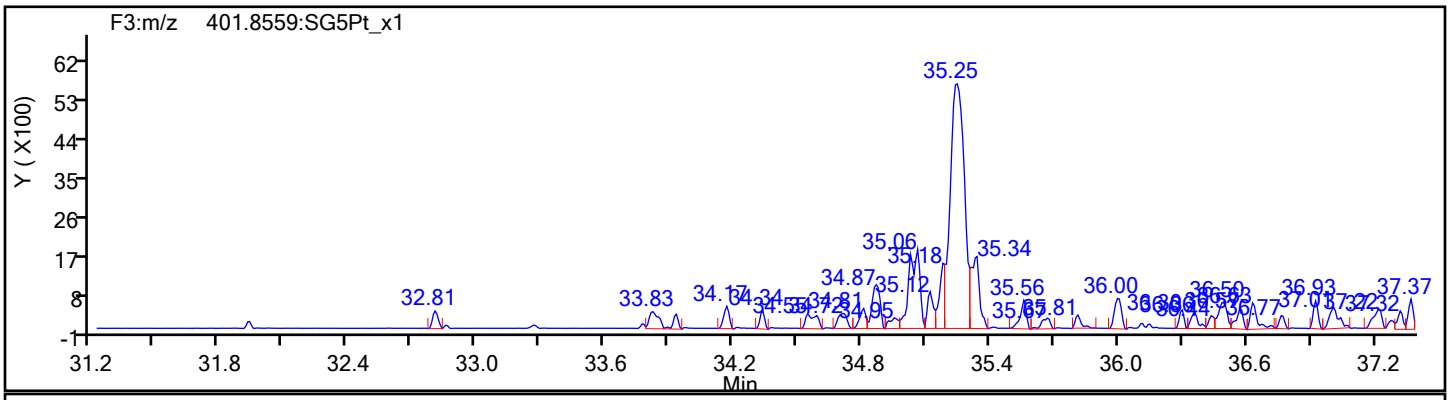
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

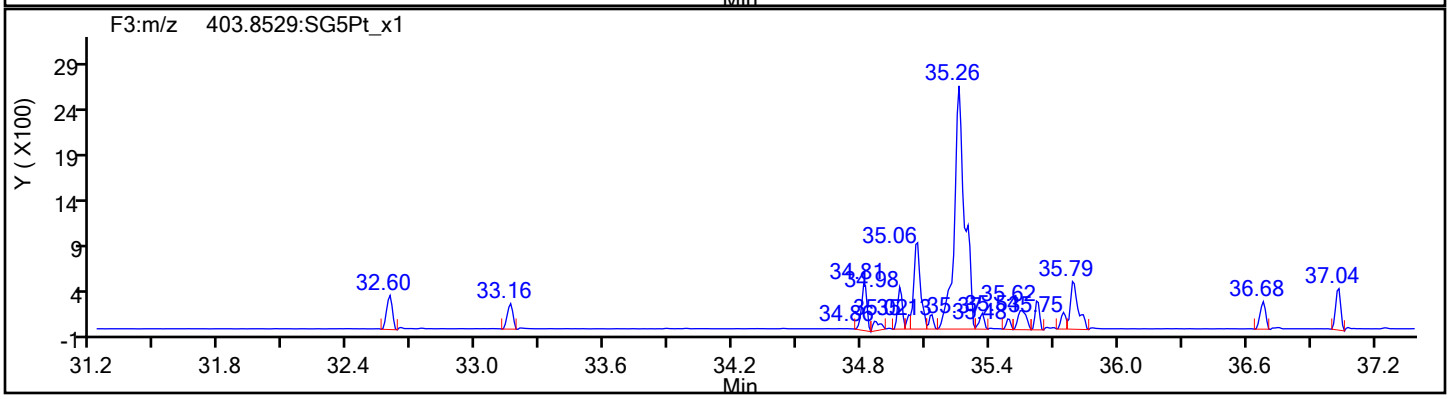
HxCDD





HxCDD Standards





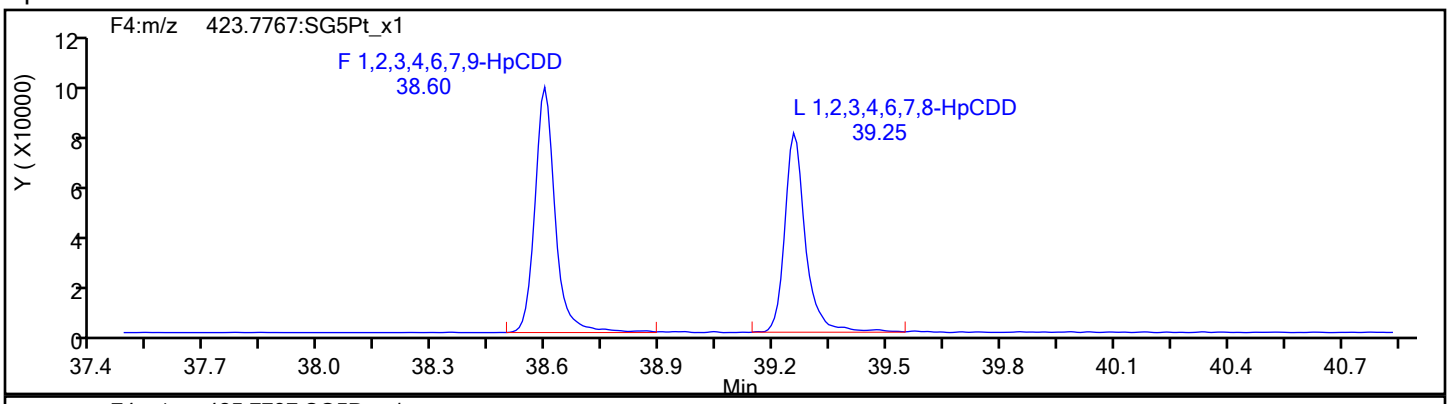
Report Date: 20-Jan-2022 16:01:10 Chrom Revision: 2.3 18-Jan-2022 20:25:40

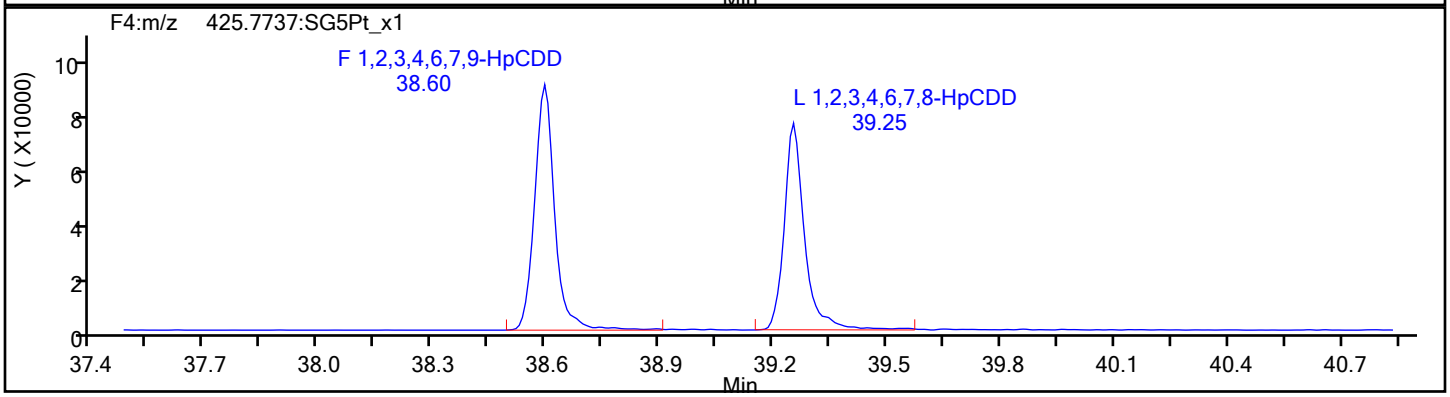
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

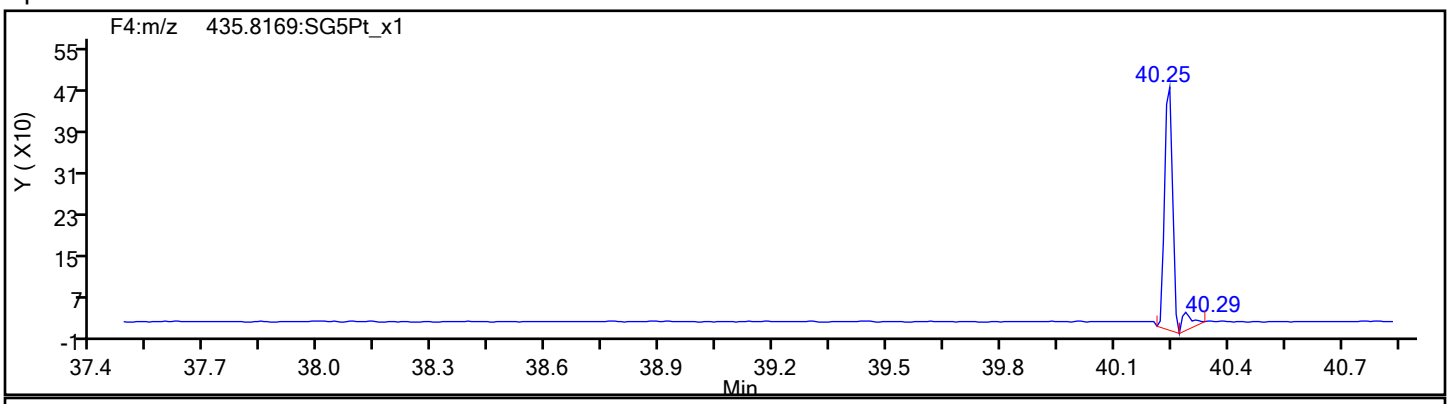
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

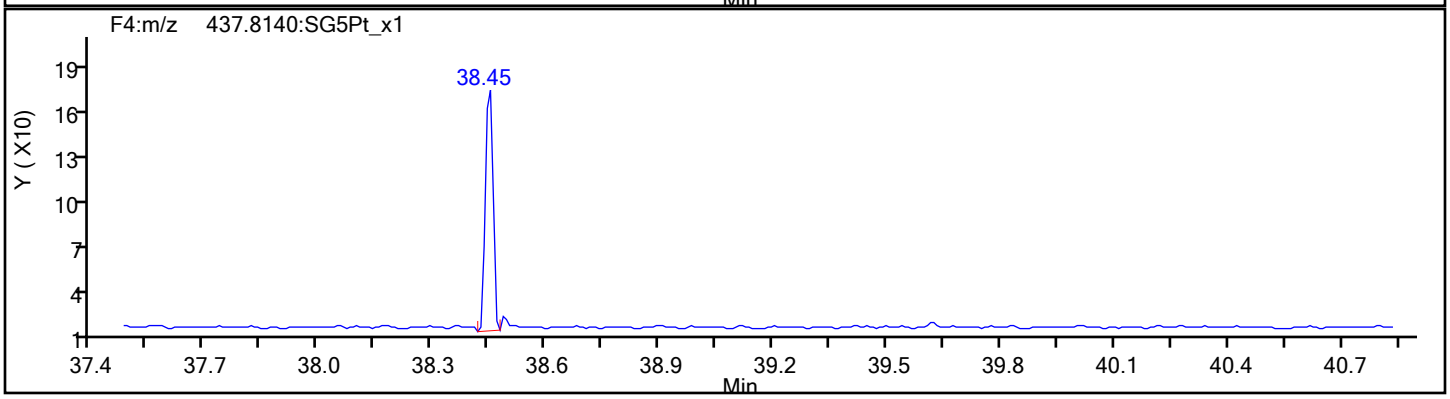
HpCDD





HpCDD Standards



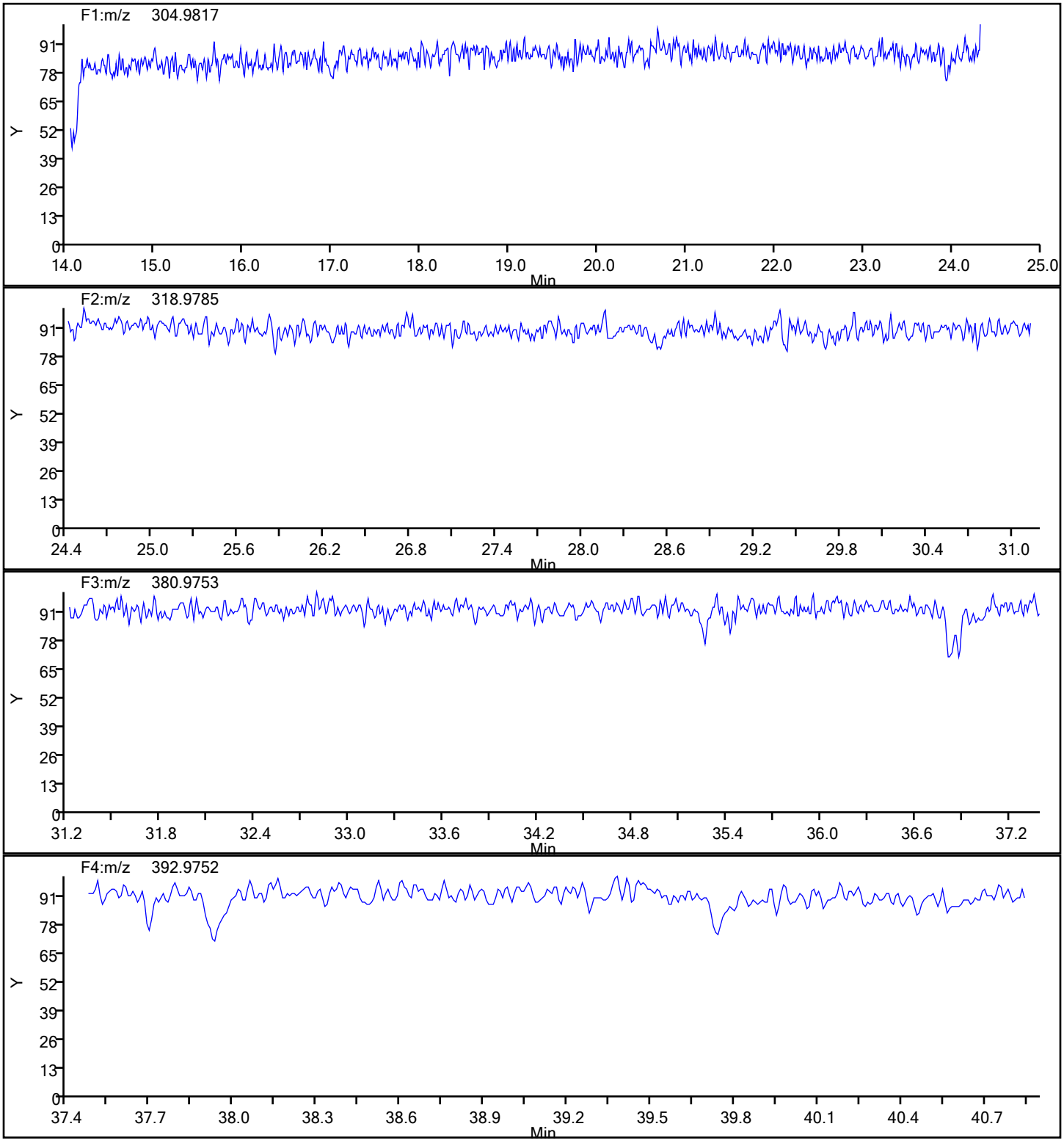


Report Date: 20-Jan-2022 16:01:10 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

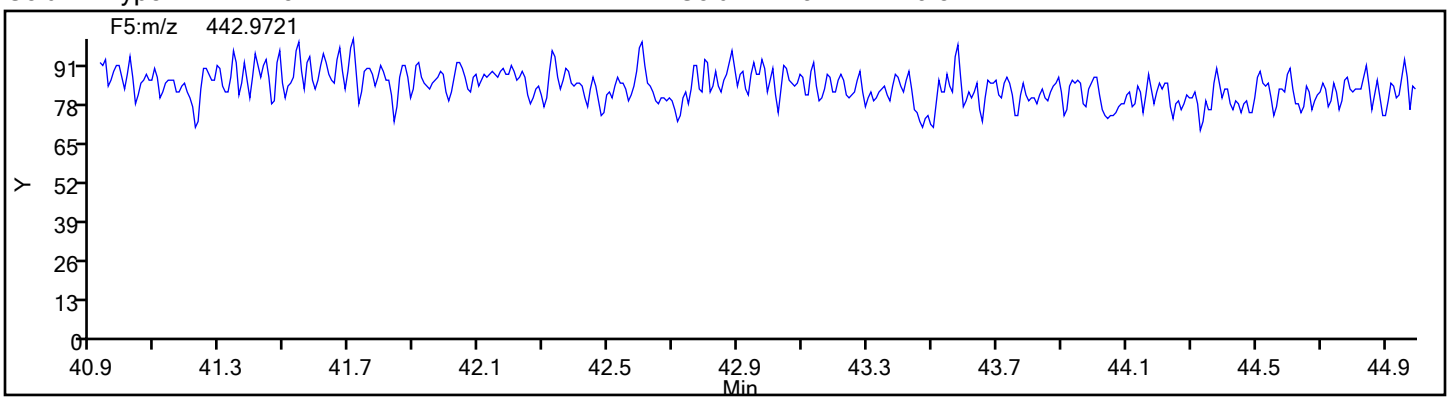
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 16:01:10 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d		
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 20-Jan-2022 16:16:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 20-Jan-2022 17:08:16

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	19.115	2301991	0.80	1.0164					0.00	
2,3,7,8-TCDF	19.149	4579466	0.77	1.0120	78.6	78.6	0.3900	0.3900		
A Non-2,3,7,8-sub-TCDF	18.694						0.3900	0.3900		
S Total TCDF					78.6	78.6	0.3900	0.3900		
D 13C-2,3,7,8-TCDD	20.377	1496016	0.84	0.7884					0.00	
2,3,7,8-TCDD	20.403	1730683	0.77	0.9906	46.7	46.7	0.3374	0.3374		
A Non-2,3,7,8-sub-TCDD	19.493						0.3374	0.3374		
S Total TCDD					46.7	46.7	0.3374	0.3374		
A F1 PeCDFs	23.390	5317	1.55	0.0000						RQ
A Non-2,3,7,8-sub-PeCDF	26.772	36029	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	27.199						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	34.083	6103	1.24	0.0000						RQ
S Total HxCDF										RQ
A Non-2,3,7,8-sub-HxCDD	34.580	25464	1.24	0.0000						RQ
S Total HxCDD										RQ
1,2,3,4,6,7,8-HpCDF	38.108	1708784	1.04	1.4385						
1,2,3,4,7,8,9-HpCDF	39.414	1507830	1.03	1.2202						
A Non-2,3,7,8-sub-HpCDF	38.761						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	39.111	1182158	1.07	0.9767						
A Non-2,3,7,8-sub-HpCDD	38.778						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.190	2611402	0.79							
1,3,6,8-TCDD	16.685	1742158	0.79							
2,3,4,7-TCDF	19.149	4579466	0.77							
1,2,3,7-TCDD	20.206	1407111	0.78							
1,2,3,9-TCDF	20.549	1996407	0.79							
1,2,3,9-TCDD	20.652	1806286	0.77							
1,2,8,9-TCDF	22.198	2069354	0.78							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	22.301	699611								
1,3,4,6,8-PeCDF	22.877	2162314	1.60							
1,2,3,8,9-PeCDD	25.031	1408099	1.55							
1,2,4,7,9-PeCDD	29.368	1288105	1.55							
1,2,3,8,9-PeCDF	29.503	1701429	1.51							
1,2,3,4,6,8-HxCDF	31.914	1774743	1.23							
1,2,4,6,7,9-HxCDD	33.262	1294789	1.26							
1,2,3,4,6,7-HxCDD	35.898	1305753	1.26							
1,2,3,4,8,9-HxCDF	36.251	1702848	1.27							
1,2,3,4,6,7,9-HpCDD	38.445	1323319	1.04							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 20-Jan-2022 16:16:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 20-Jan-2022 17:08:16

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	19.115	19.115	0	1.000	1020938	159599	995	2487	160		
317.9389	19.106	19.115	-1	1.000	1281053	194084	639	1597	304	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.149	19.149	0	1.002	1996017	286010	591	1477	484		
305.8987	19.140	19.149	-1	1.001	2583449	369566	805	2012	459	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.694						591	1477			
305.8987	18.694						805	2012			
13C-2,3,7,8-TCDD											
331.9368	20.377	20.377	0	1.000	681323	97696	388	970	252		
333.9338	20.377	20.377	0	1.000	814693	124543	56	140	2224	0.84(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.403	20.403	0	1.001	754625	107009	395	987	271		
321.8936	20.394	20.403	-1	1.001	976058	139088	348	870	400	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	19.493						395	987			
321.8936	19.493						348	870			
A F1 PeCDFs											RQ
339.8597	23.710	23.390	19	1.000	3232	653	45	112	15		
341.8567	23.701	23.390	19	1.000	4179	1050	100	250	11	0.77(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	25.620	26.772	-69	1.000	6983	1137	196	490	6		
341.8567	25.629	26.772	-68	1.000	2323	745	171	427	4	3.01(1.32-1.78)	
339.8597	26.176	26.772	-36	1.000	11348	1732	196	490	9		
341.8567	26.176	26.772	-36	1.000	7416	1124	171	427	7	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	26.740	26.772	-2	1.000	6933	916	196	490	5		
341.8567	26.732	26.772	-2	1.000	4409	756	171	427	4	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.199						255	637			
357.8516	27.199						137	342			
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	34.272	34.083	11	1.000	3379	1077	255	637	4		
375.8178	34.247	34.083	10	1.000	4402	751	181	452	4	0.77(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8158	34.567	34.580	-1	1.000	10197	1907	173	432	11		
391.8127	34.575	34.580	0	1.000	6540	1158	152	380	8	1.56(1.05-1.43)	
389.8158	35.443	34.580	52	1.000	6353	744	173	432	4		
391.8127	35.434	34.580	51	1.000	4462	844	152	380	6	1.42(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.108	38.108	0	1.000	872304	229049	397	992	577		
409.7788	38.108	38.108	0	1.000	836480	220486	329	822	670	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.414	39.414	0	1.000	765234	213792	397	992	539		
409.7788	39.414	39.414	0	1.000	742596	208202	329	822	633	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.761						397	992			
409.7788	38.761						329	822			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.111	39.111	0	1.000	610572	176585	258	645	684		
425.7737	39.111	39.111	0	1.000	571586	166021	234	585	709	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.778						258	645			
425.7737	38.778						234	585			
1,3,6,8-TCDF											
303.9016	15.190	15.190	0		1152895	240526	591	1477	407		
305.8987	15.190	15.190	0		1458507	311088	805	2012	386	0.79(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	16.685	16.685	0		766360	145817	395	987	369		
321.8936	16.685	16.685	0		975798	181711	348	870	522	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	19.149	19.149	0		1996017	286010	591	1477	484		
305.8987	19.140	19.149	-1		2583449	369566	805	2012	459	0.77(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	20.206	20.206	0		615501	94433	395	987	239		
321.8936	20.197	20.206	-1		791610	123445	348	870	355	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	20.549	20.549	0		881908	124552	591	1477	211		
305.8987	20.549	20.549	0		1114499	156225	805	2012	194	0.79(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	20.652	20.652	0		784457	107152	395	987	271		
321.8936	20.652	20.652	0		1021829	139038	348	870	400	0.77(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	22.198	22.198	0		910013	117514	591	1477	199		
305.8987	22.198	22.198	0		1159341	148863	805	2012	185	0.78(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	22.301	22.301	0		699611	91898	395	987	233		
1,3,4,6,8-PeCDF											
339.8597	22.877	22.877	0		1331508	162722	45	112	3616		
341.8567	22.860	22.877	-1		830806	103749	100	250	1037	1.60(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.031	25.031	0		854933	139927	255	637	549		
357.8516	25.031	25.031	0		553166	91432	137	342	667	1.55(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	29.368	29.368	0		783641	108452	255	637	425		
357.8516	29.368	29.368	0		504464	68611	137	342	501	1.55(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	29.503	29.503	0		1023847	142412	196	490	727		
341.8567	29.511	29.503	1		677582	90499	171	427	529	1.51(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	31.914	31.914	0		977966	121940	255	637	478		
375.8178	31.914	31.914	0		796777	98145	181	452	542	1.23(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8158	33.262	33.262	0		720751	113092	173	432	654		
391.8127	33.253	33.262	-1		574038	89598	152	380	589	1.26(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8158	35.898	35.898	0		728662	153609	173	432	888		
391.8127	35.889	35.898	-1		577091	119515	152	380	786	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	36.251	36.251	0		953709	208559	255	637	818		
375.8178	36.260	36.251	1		749139	165791	181	452	916	1.27(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7767	38.445	38.445	0		674360	183624	258	645	712		
425.7737	38.437	38.445	-1		648959	177498	234	585	759	1.04(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Lims ID: WDM
Client ID:
Inject. Date: 20-Jan-2022 16:16:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 2

F1 PeCDFs, RT: 23.390

Initial Calibration RRF

Target Compound	RRF
1,2,3,7,8-PeCDF	0.976
2,3,4,7,8-PeCDF	0.922

IsoDil Std Amount Added and Responses

Iso Dil Std Compound	Amount pg/ul	Area	Height

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.710	3232	653	4179	1050		0.77	R
Signal Totals:							
	3232	653	4179	1050			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7411	1703				0.77	RQ
	5317	1074					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (7411 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (5317 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Lims ID: WDM
Client ID:
Inject. Date: 20-Jan-2022 16:16:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 2

Non-2,3,7,8-sub-PeCDF, RT: 26.772

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976				
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
25.620	6983	1137	2323	745		3.01	R
26.176	11348	1732	7416	1124		1.53	
26.740	6933	916	4409	756		1.57	
Signal Totals:							
	25264	3785	14148	2625			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	39412	6410				1.79	RQ
	36029	6427					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (39412 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (36029 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Lims ID: WDM
Client ID:
Inject. Date: 20-Jan-2022 16:16:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 2

Non-2,3,7,8-sub-HxCDF, RT: 34.083

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883				
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
34.272	3379	1077	4402	751		0.77	R
Signal Totals:							
	3379	1077	4402	751			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7781	1828				0.77	RQ
	6103	1945					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (7781 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (6103 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Lims ID: WDM
Client ID:
Inject. Date: 20-Jan-2022 16:16:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 2

Non-2,3,7,8-sub-HxCDD, RT: 34.580

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829				
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
34.567	10197	1907	6540	1158		1.56	R
35.443	6353	744	4462	844		1.42	
Signal Totals:							
	16550	2651	11002	2002			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	27552	4653				1.50	RQ
	25464	4181					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (27552 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (25464 * 0.0) / (0 * 0.000)

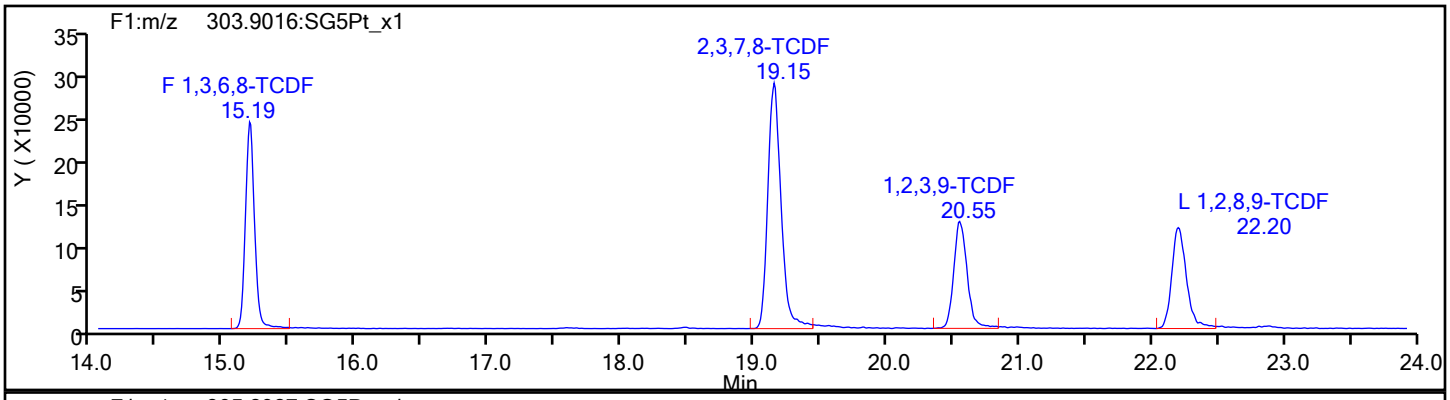
QC Flag Legend

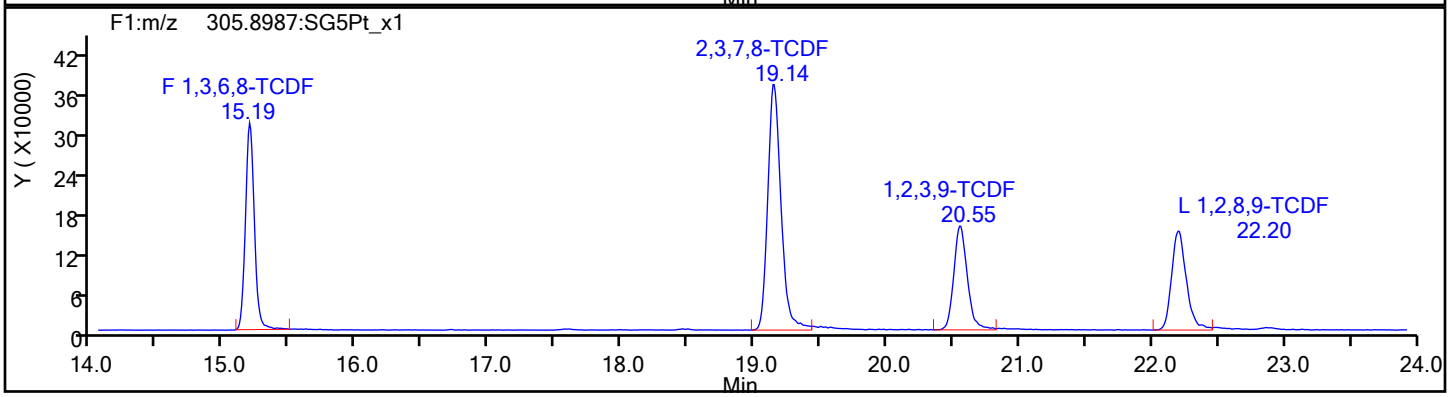
Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento

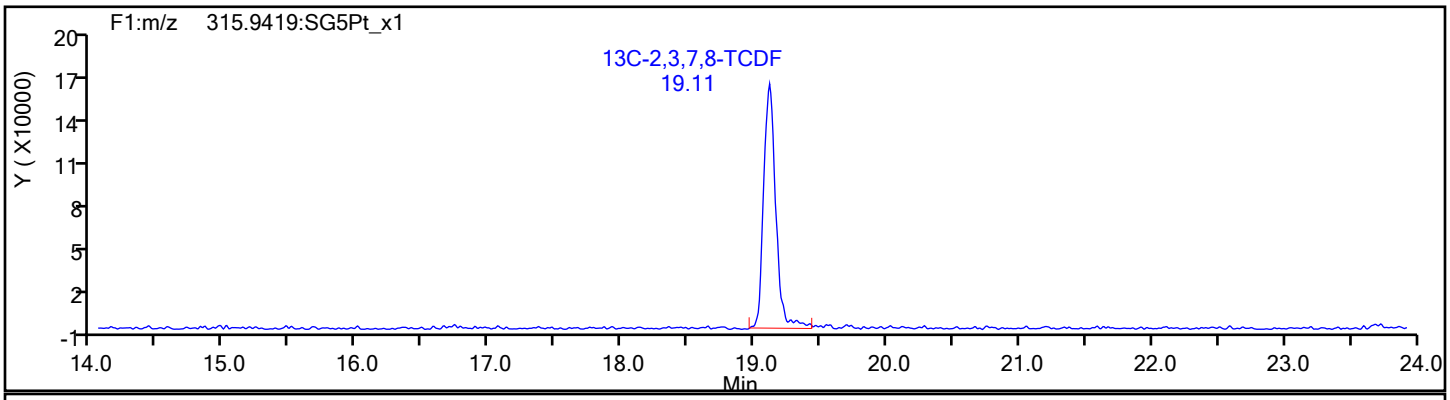
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Injection Date: 20-Jan-2022 16:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

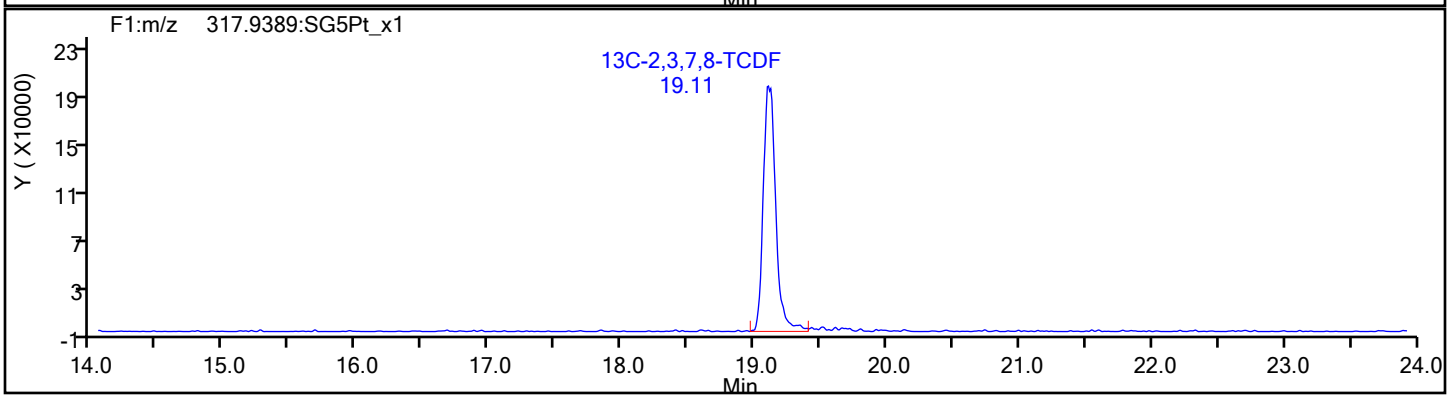
TCDF





TCDF Standards

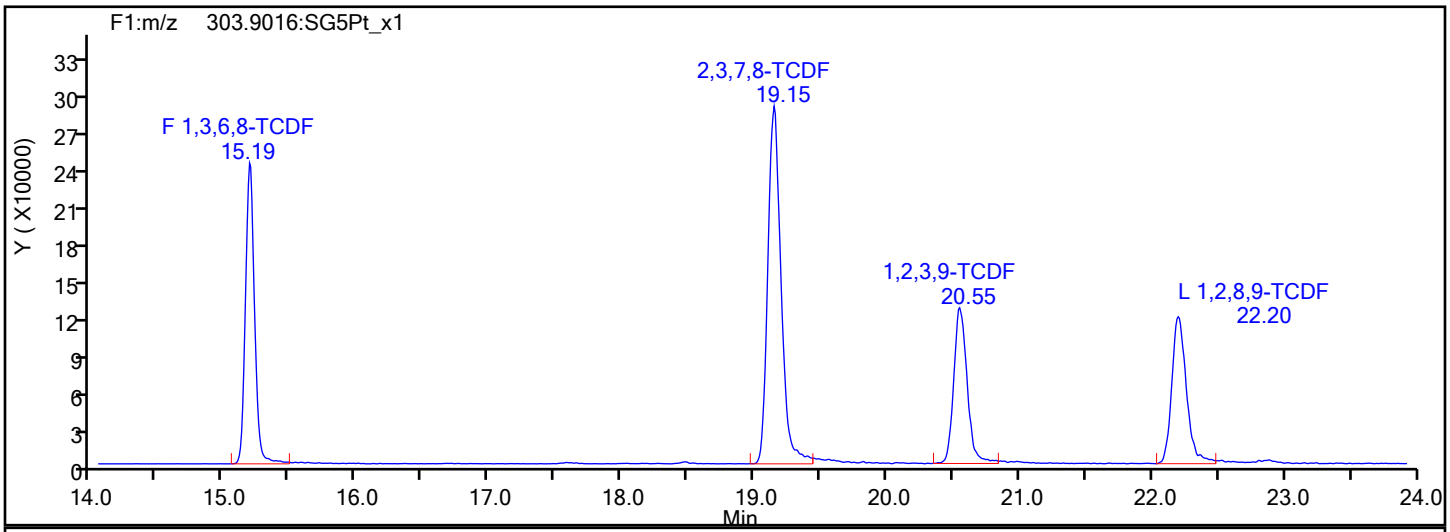


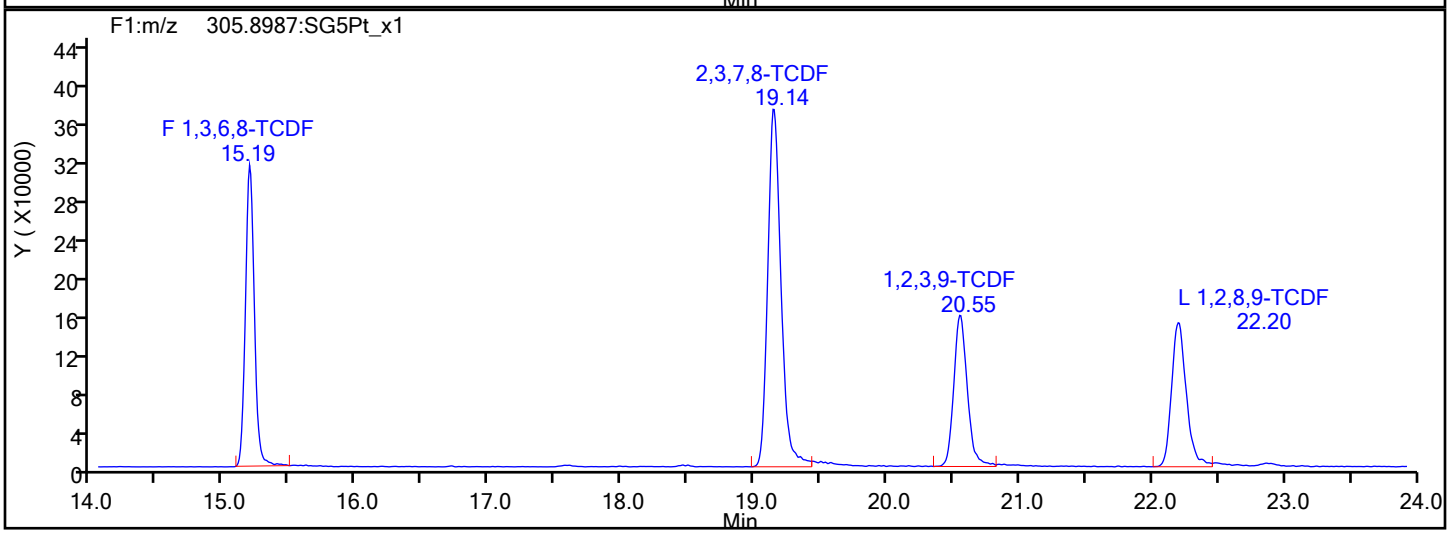


Eurofins Sacramento

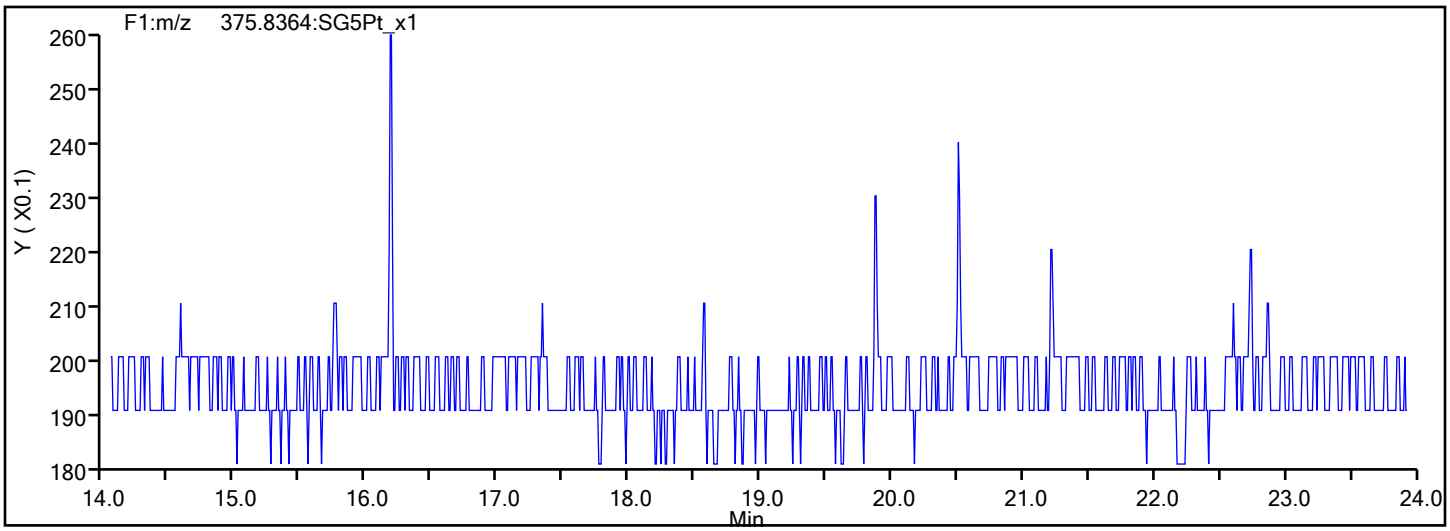
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Injection Date: 20-Jan-2022 16:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



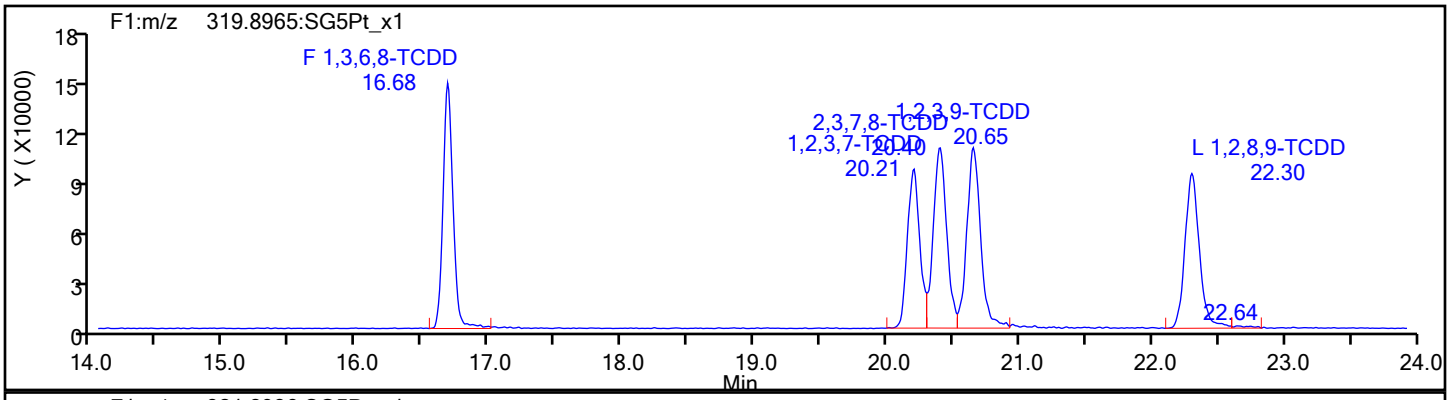
Report Date: 21-Jan-2022 08:05:37 Chrom Revision: 2.3 18-Jan-2022 20:25:40

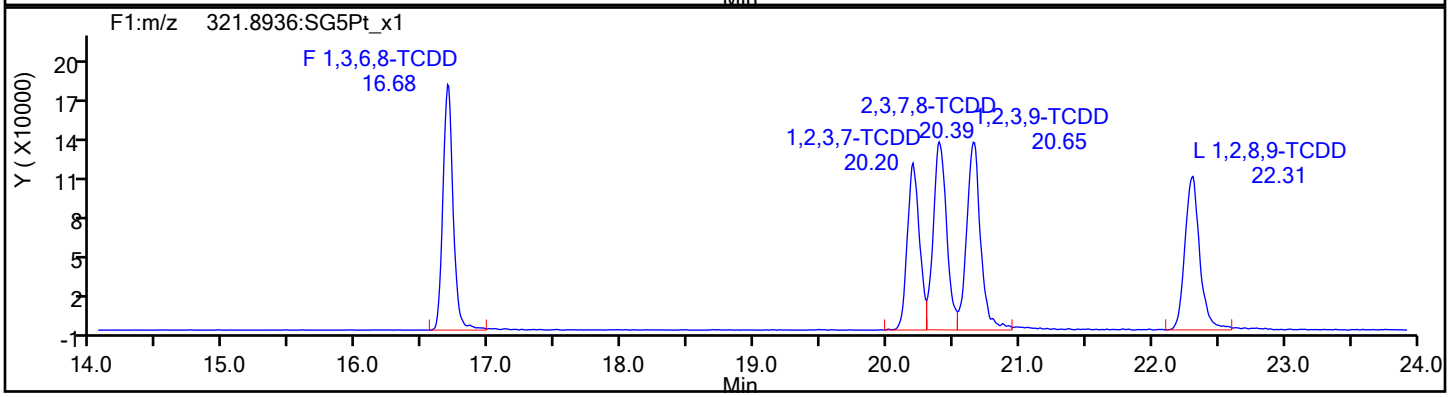
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d

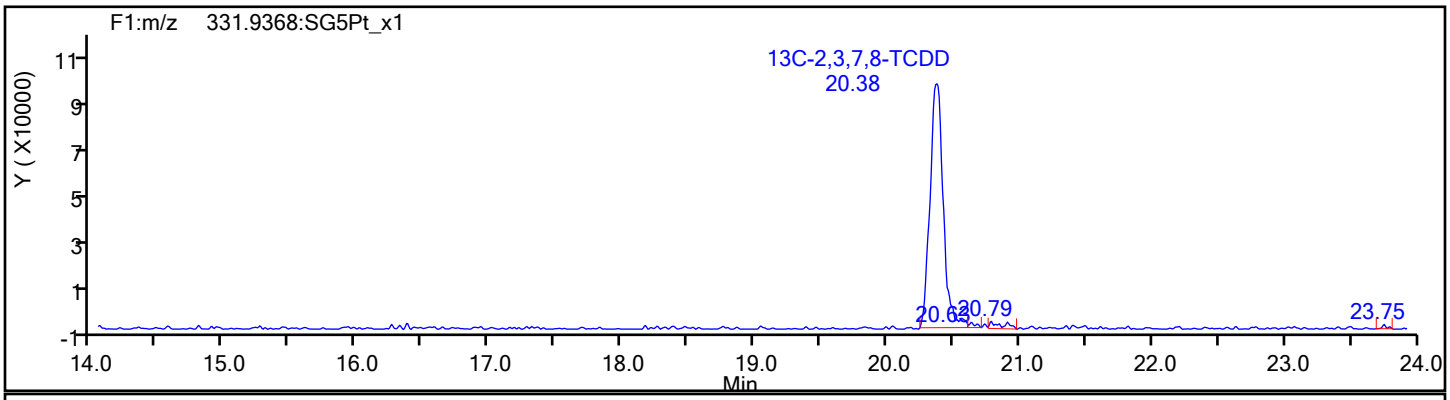
Injection Date:	20-Jan-2022 16:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

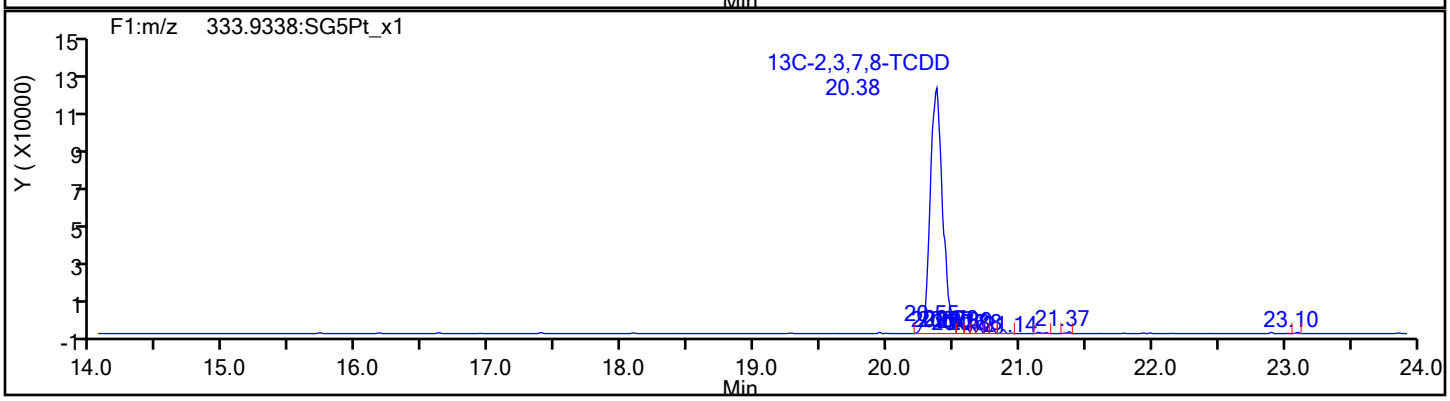
TCDD





TCDD Standards





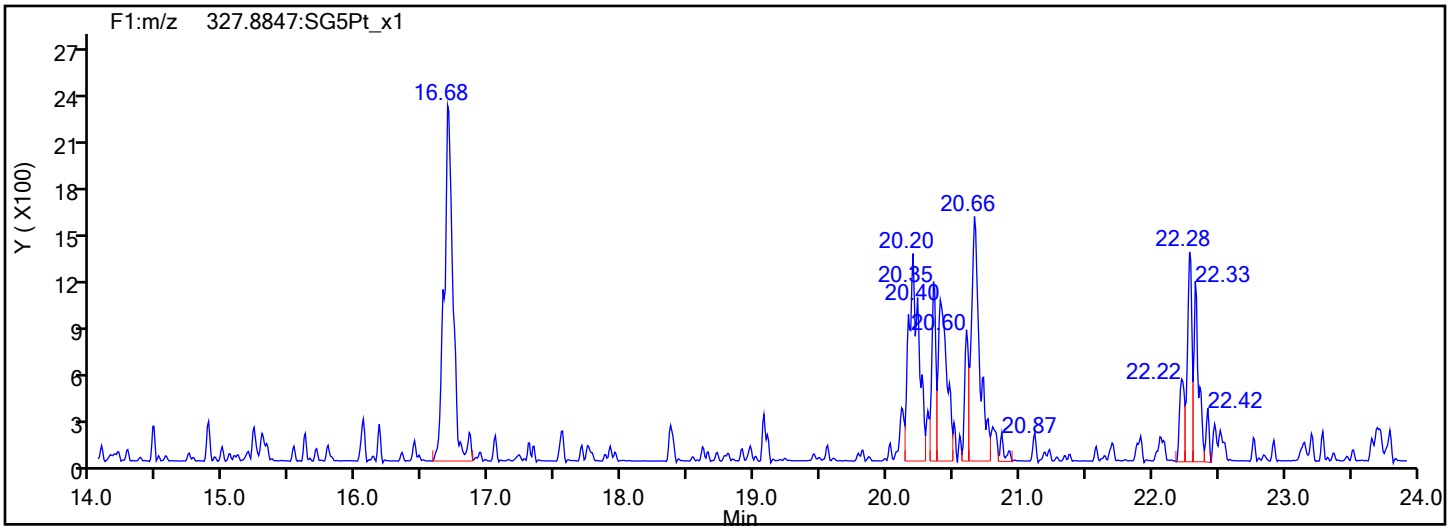
Report Date: 21-Jan-2022 08:05:37 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

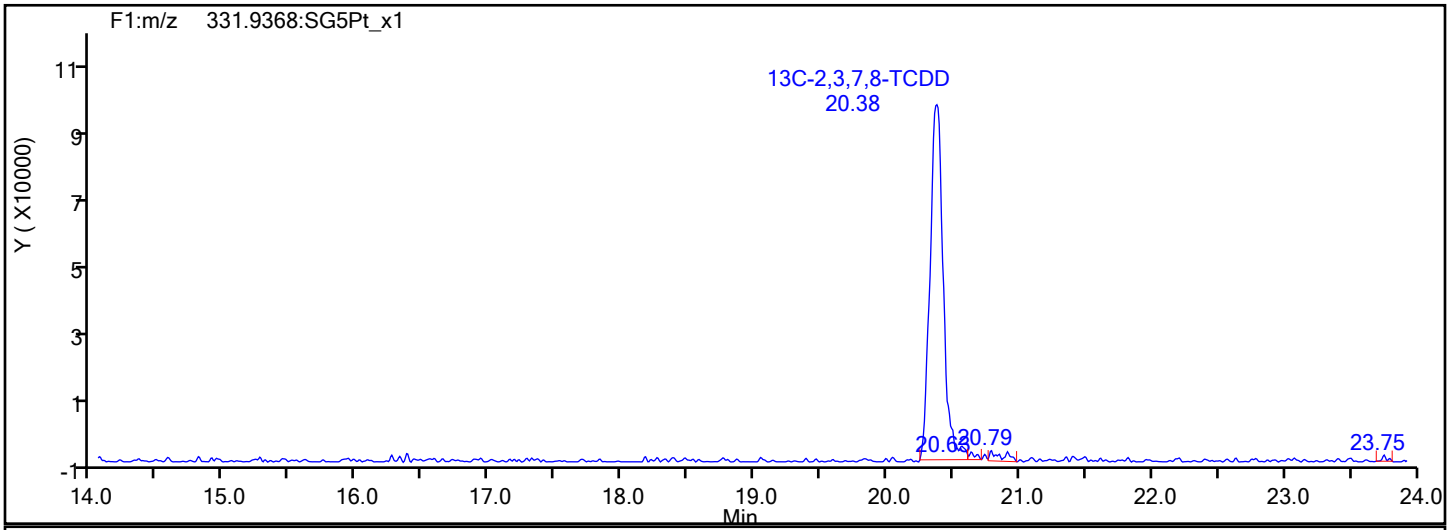
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d

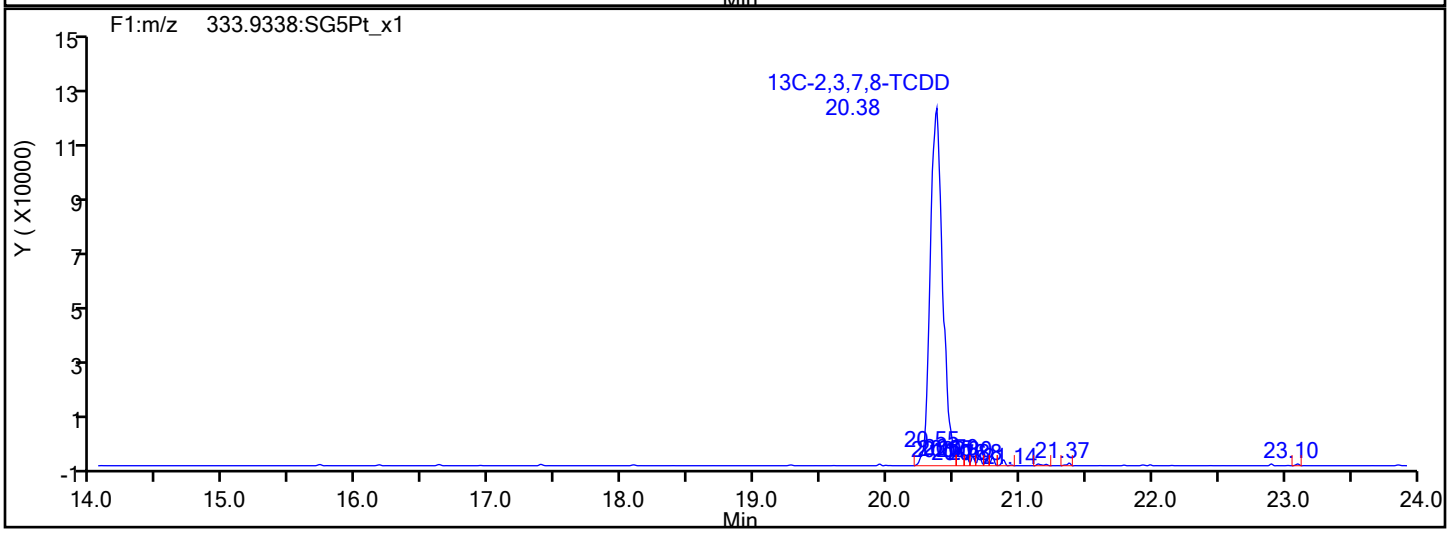
Injection Date:	20-Jan-2022 16:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





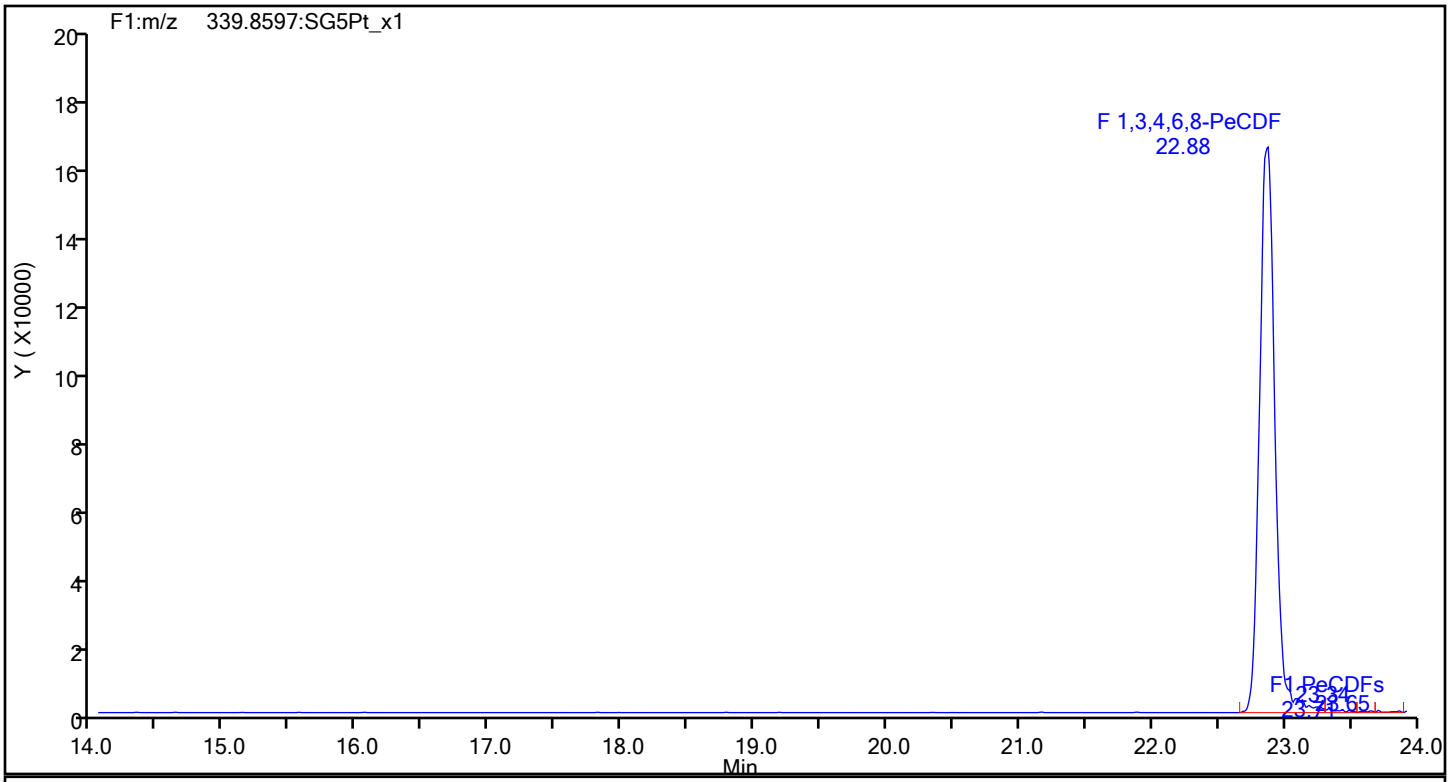
Report Date: 21-Jan-2022 08:05:37 Chrom Revision: 2.3 18-Jan-2022 20:25:40

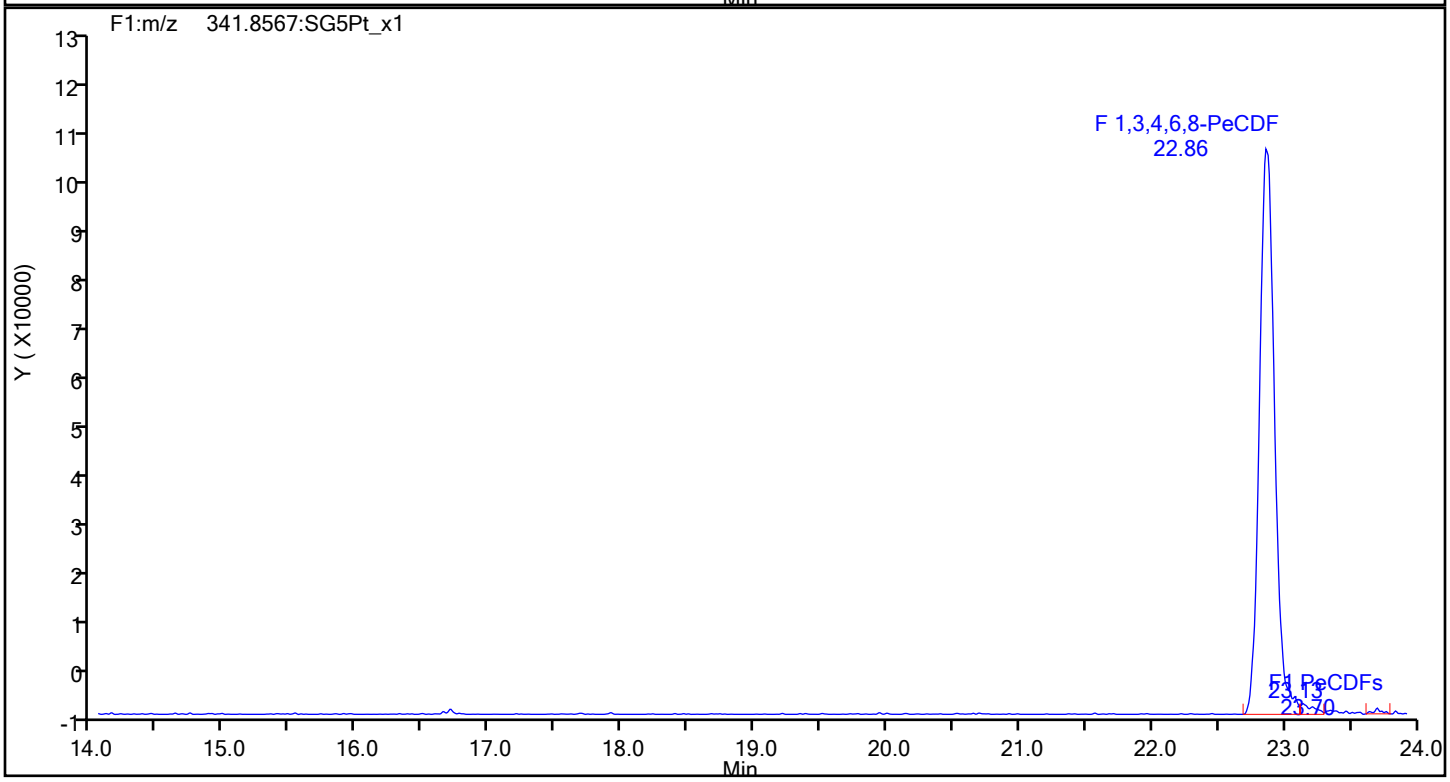
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d

Injection Date:	20-Jan-2022 16:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

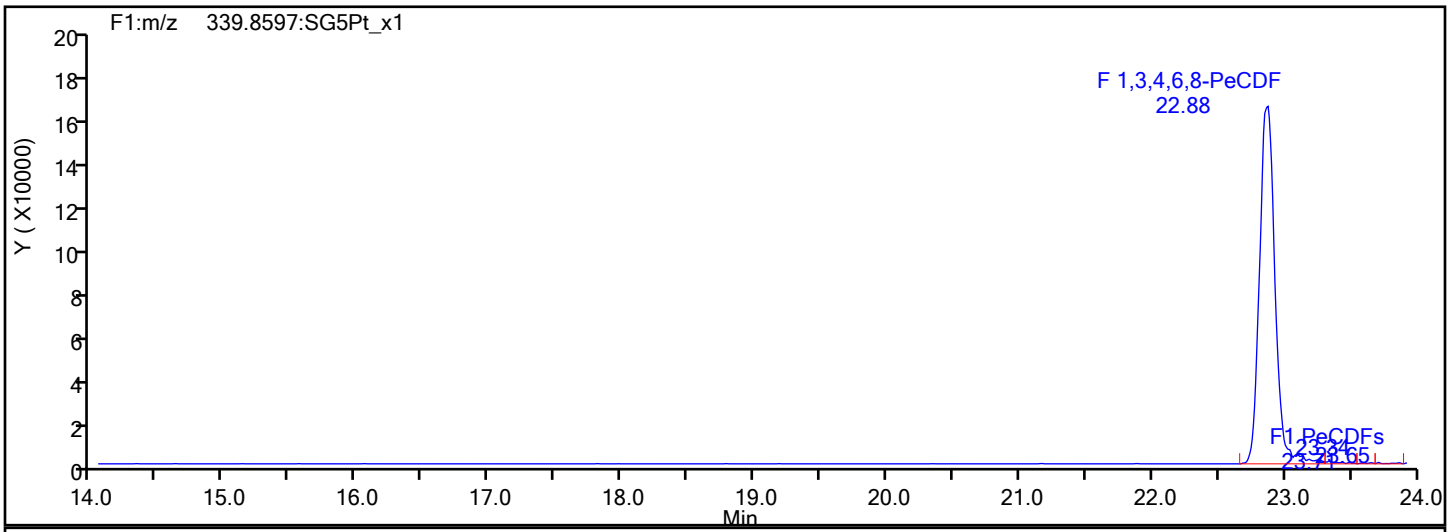


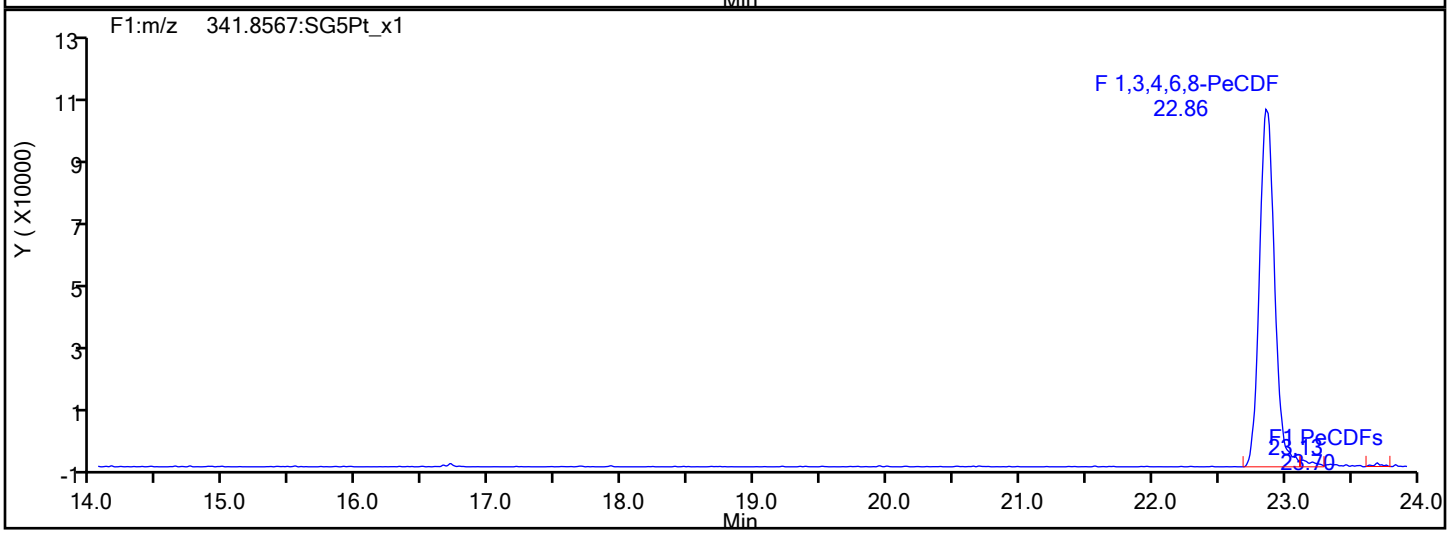


Eurofins Sacramento

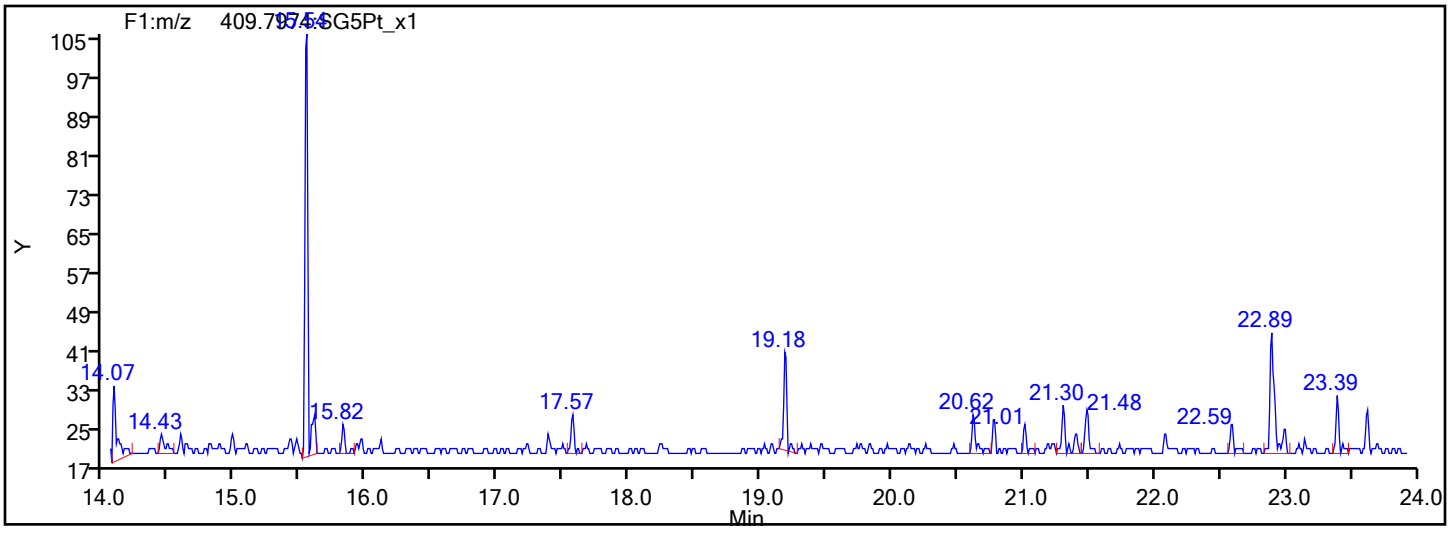
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d		
Injection Date:	20-Jan-2022 16:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





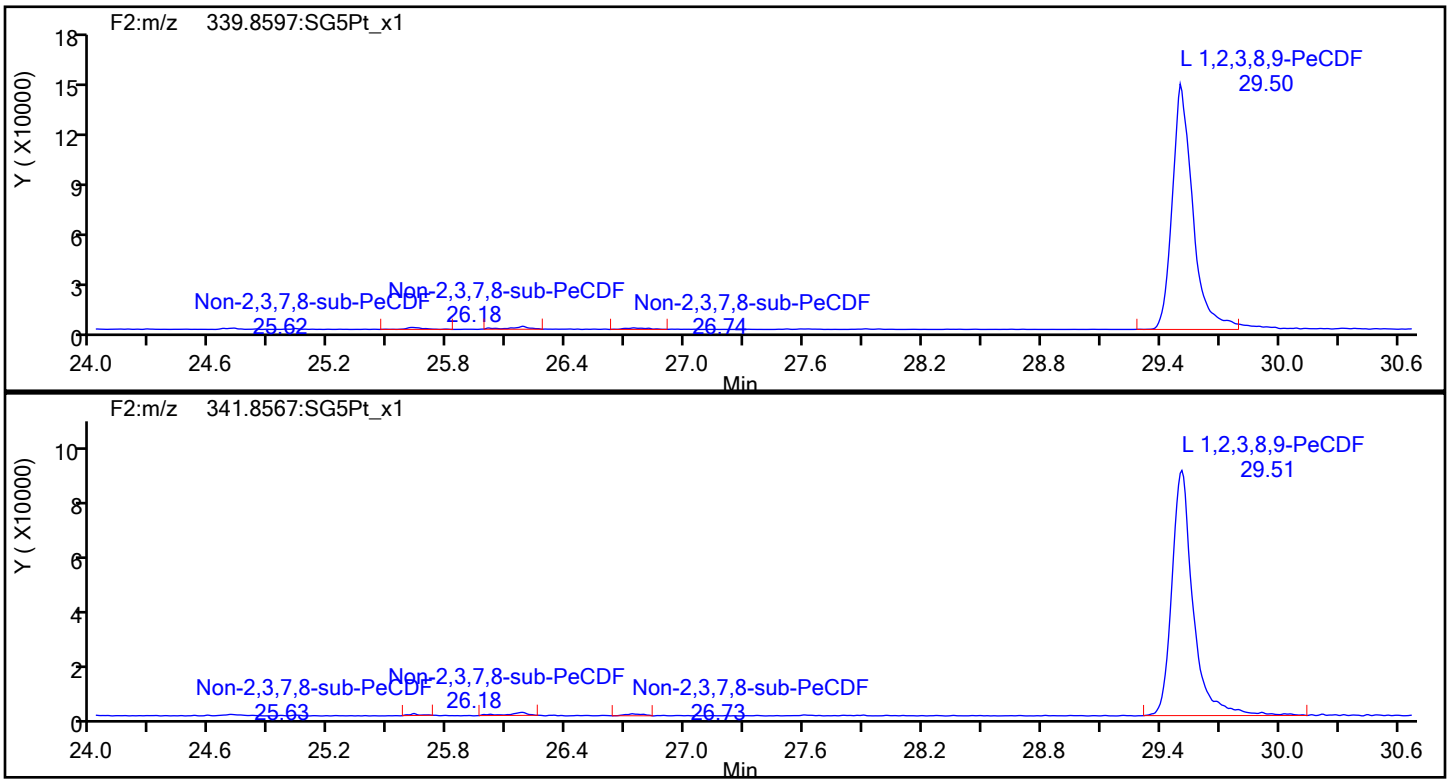
F1 PeCDFs Interference Mass



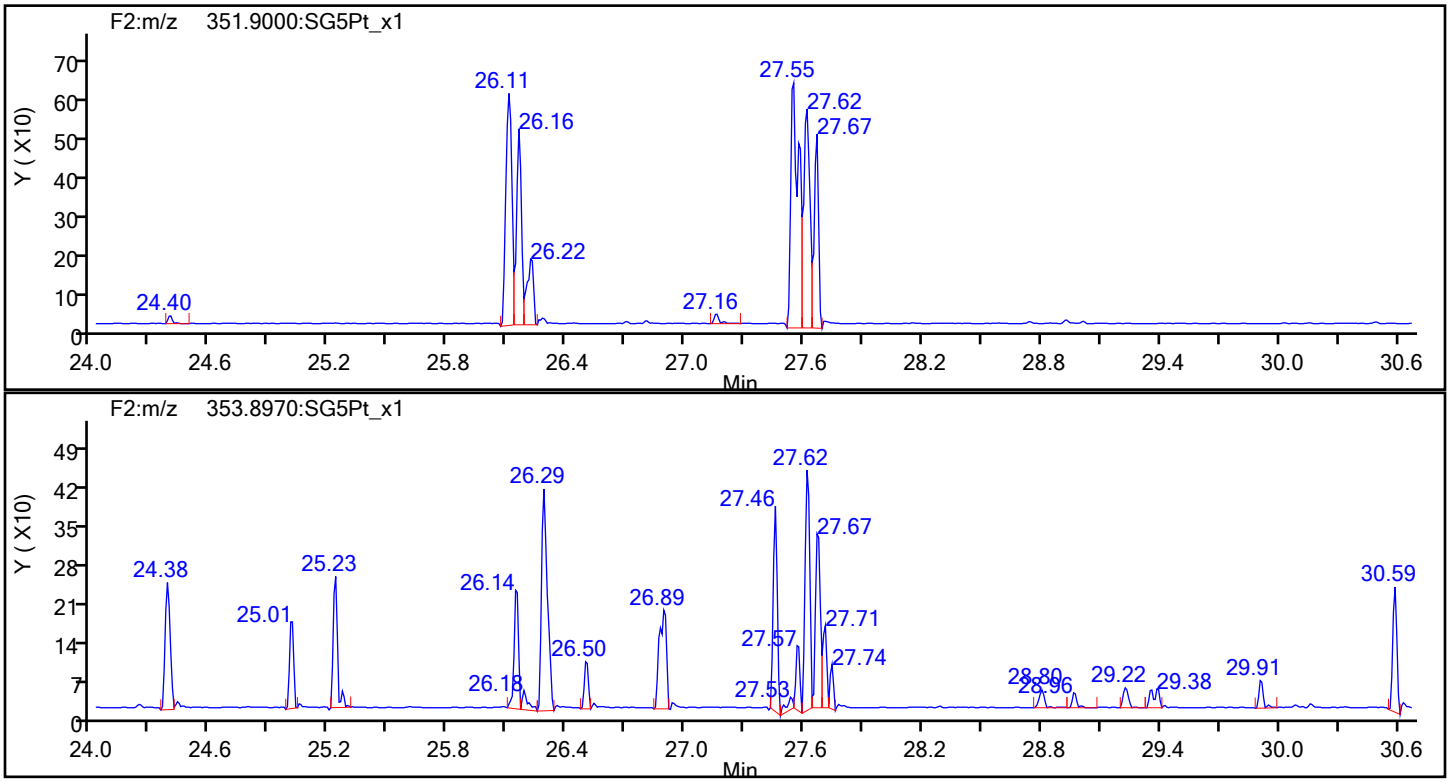
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Injection Date: 20-Jan-2022 16:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
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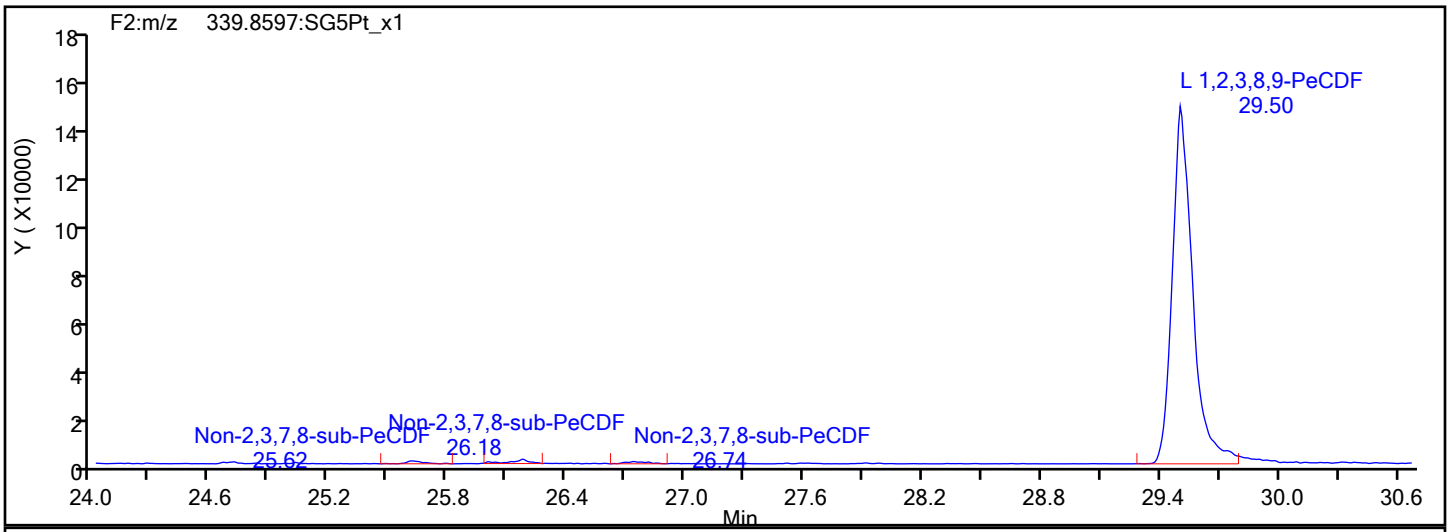
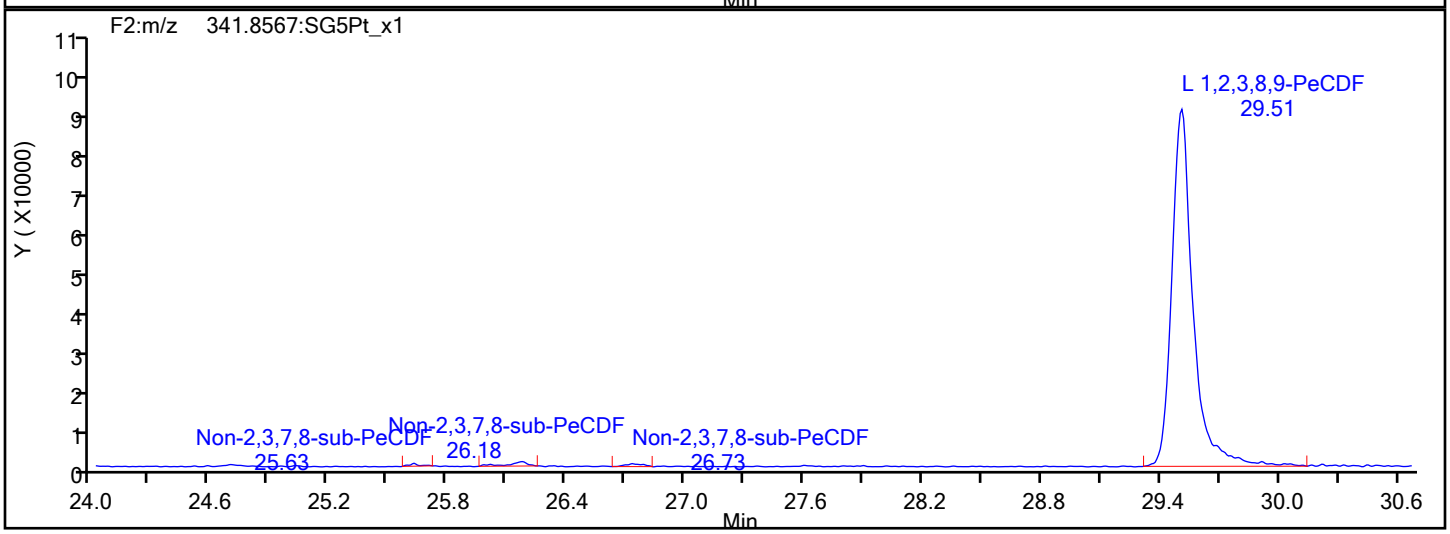
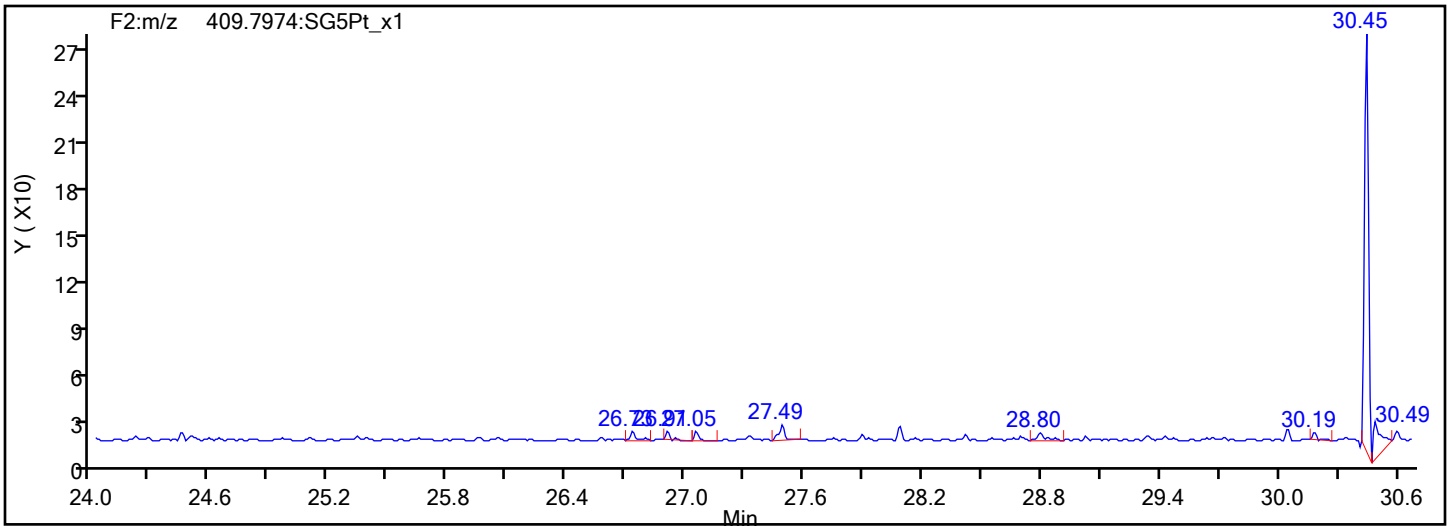
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF





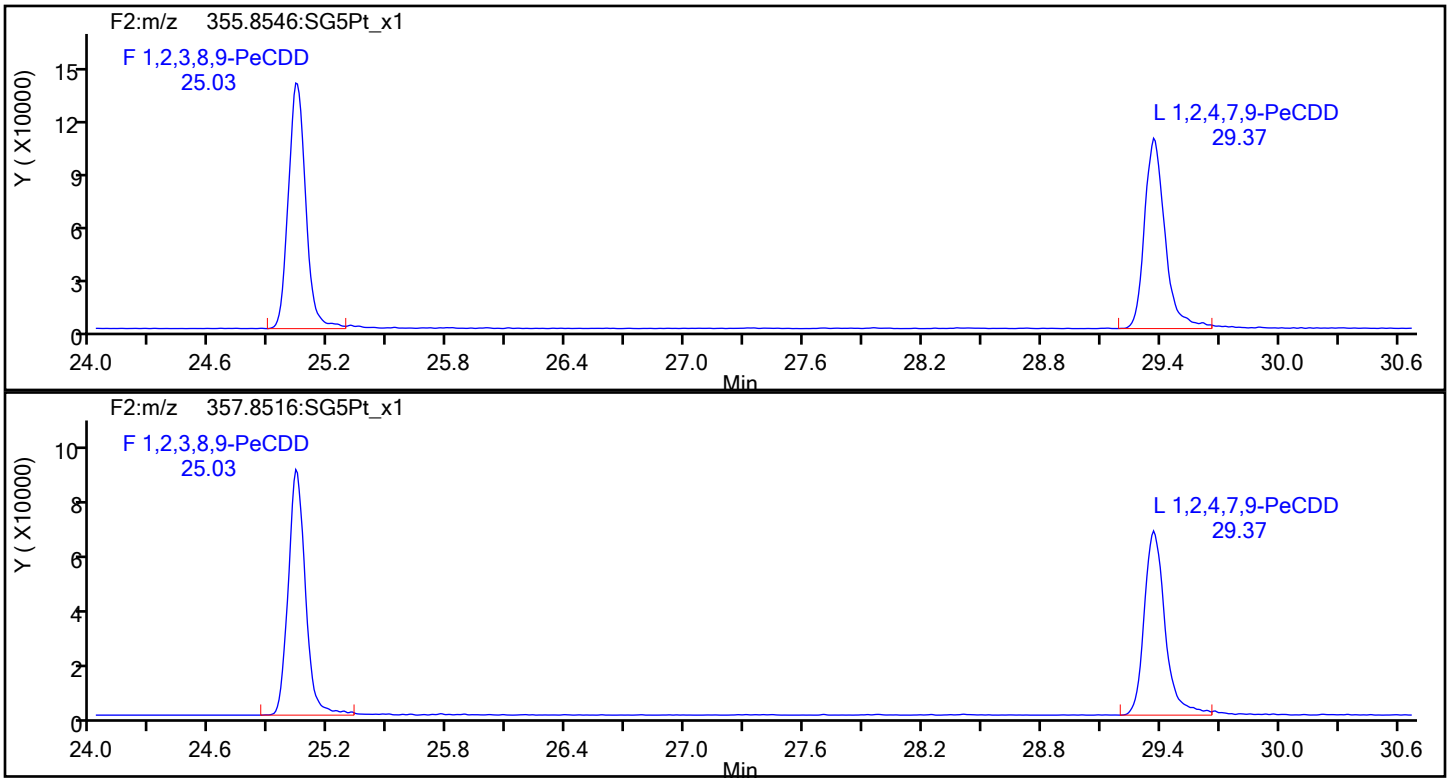
PeCDF Interference Mass



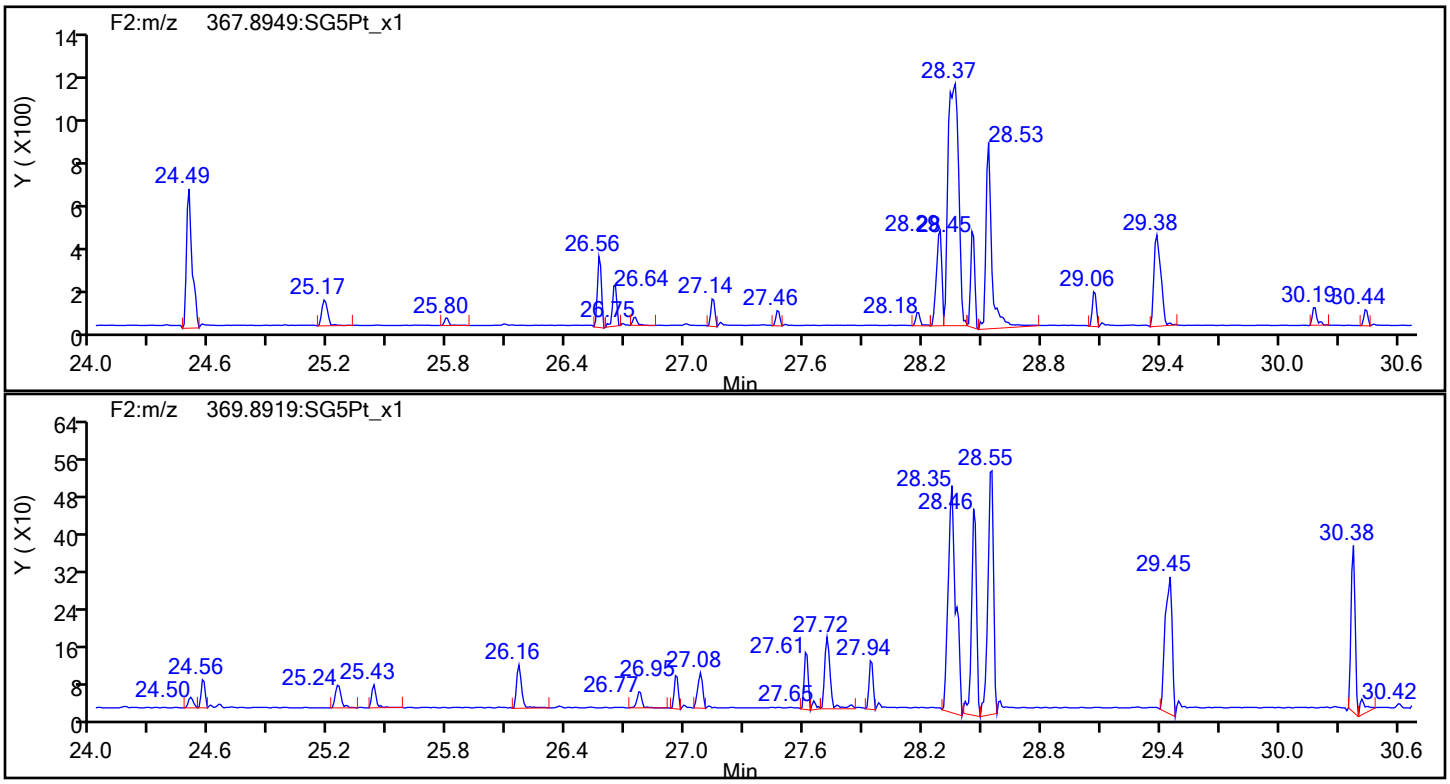
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Injection Date: 20-Jan-2022 16:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

PeCDD



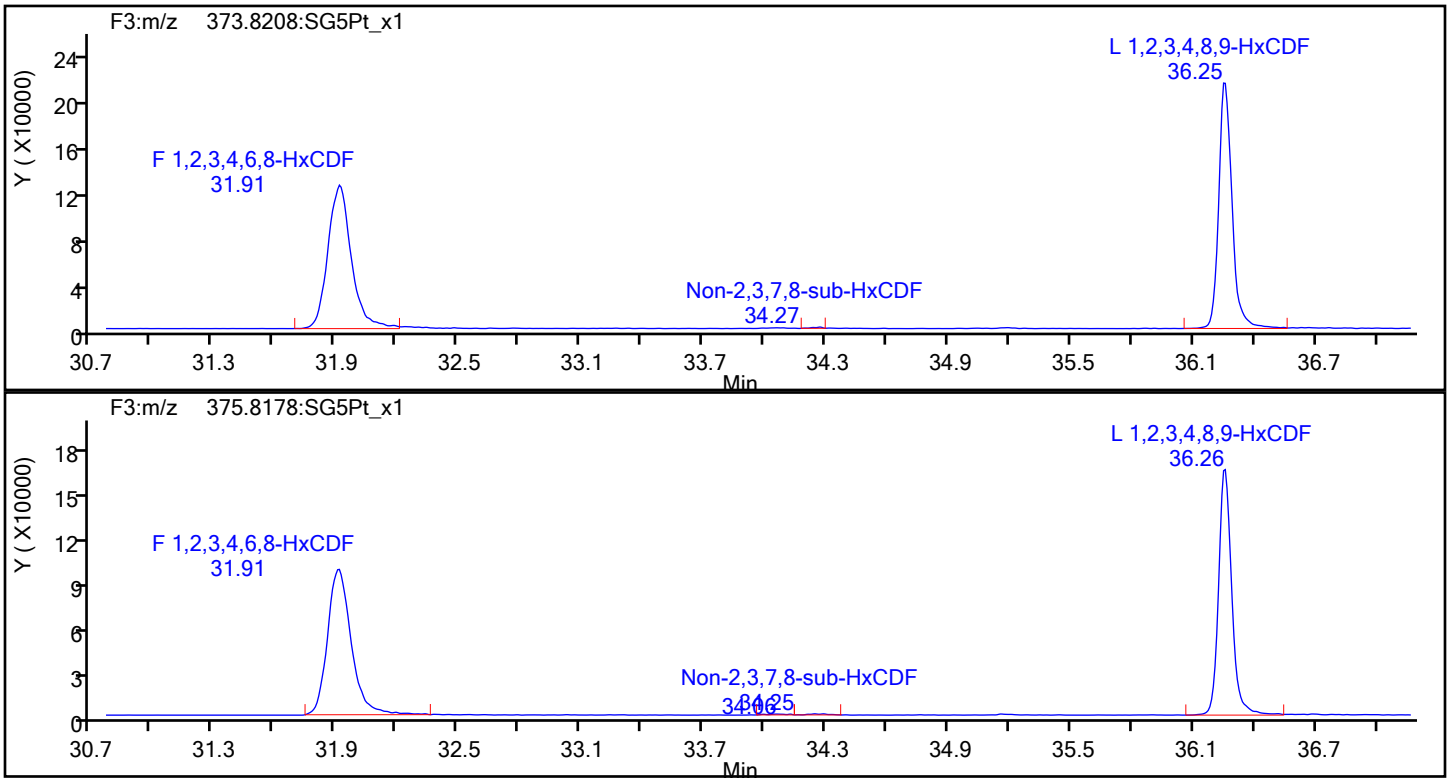
PeCDD Standards



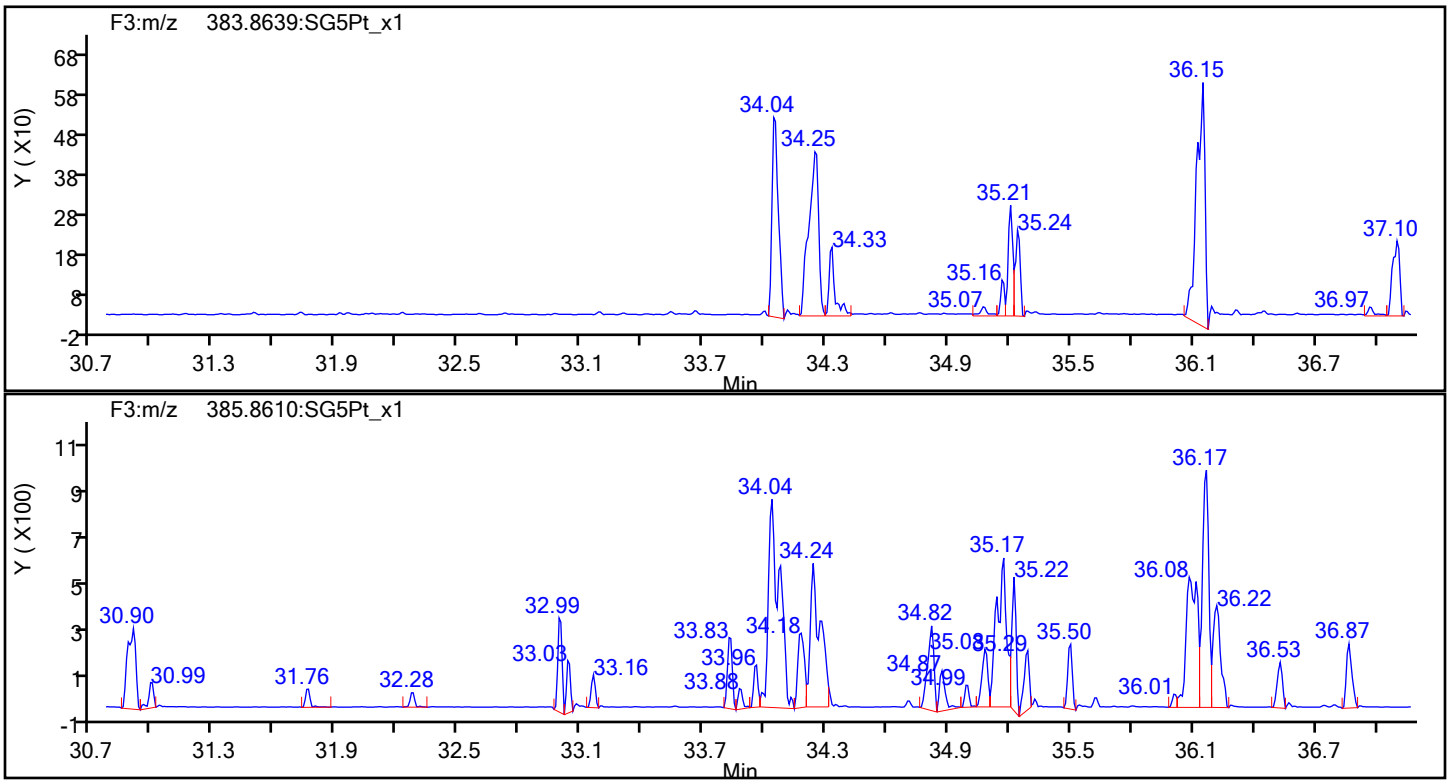
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Injection Date: 20-Jan-2022 16:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF



HxCDF Standards



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Injection Date: 20-Jan-2022 16:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
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Client ID:
Worklist#: 559474 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

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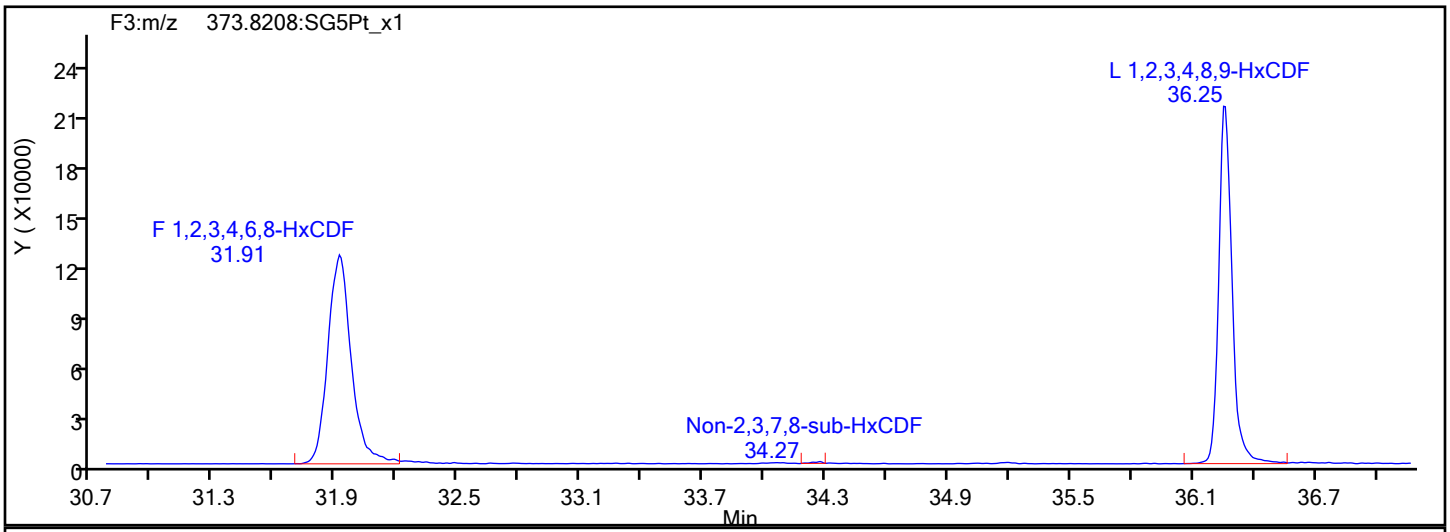
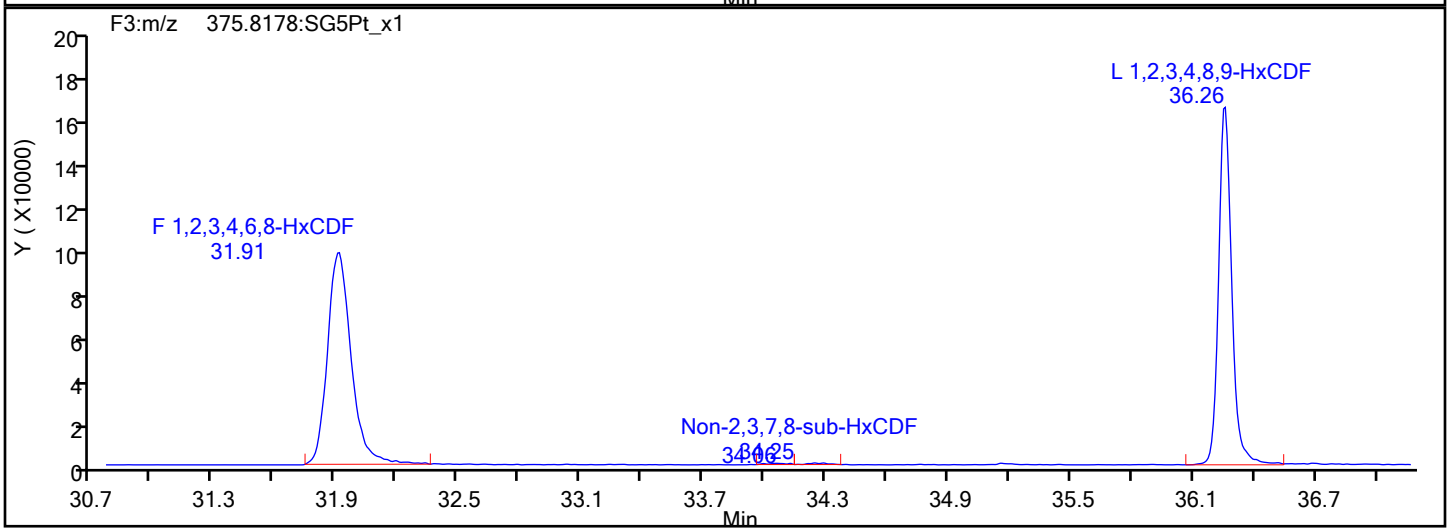
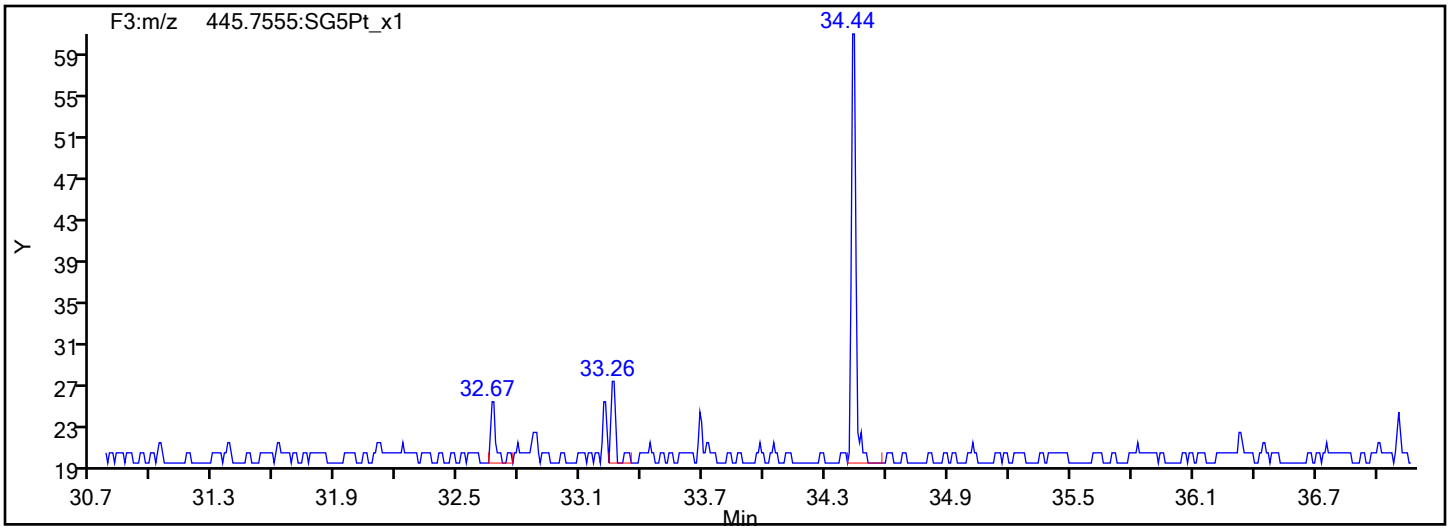




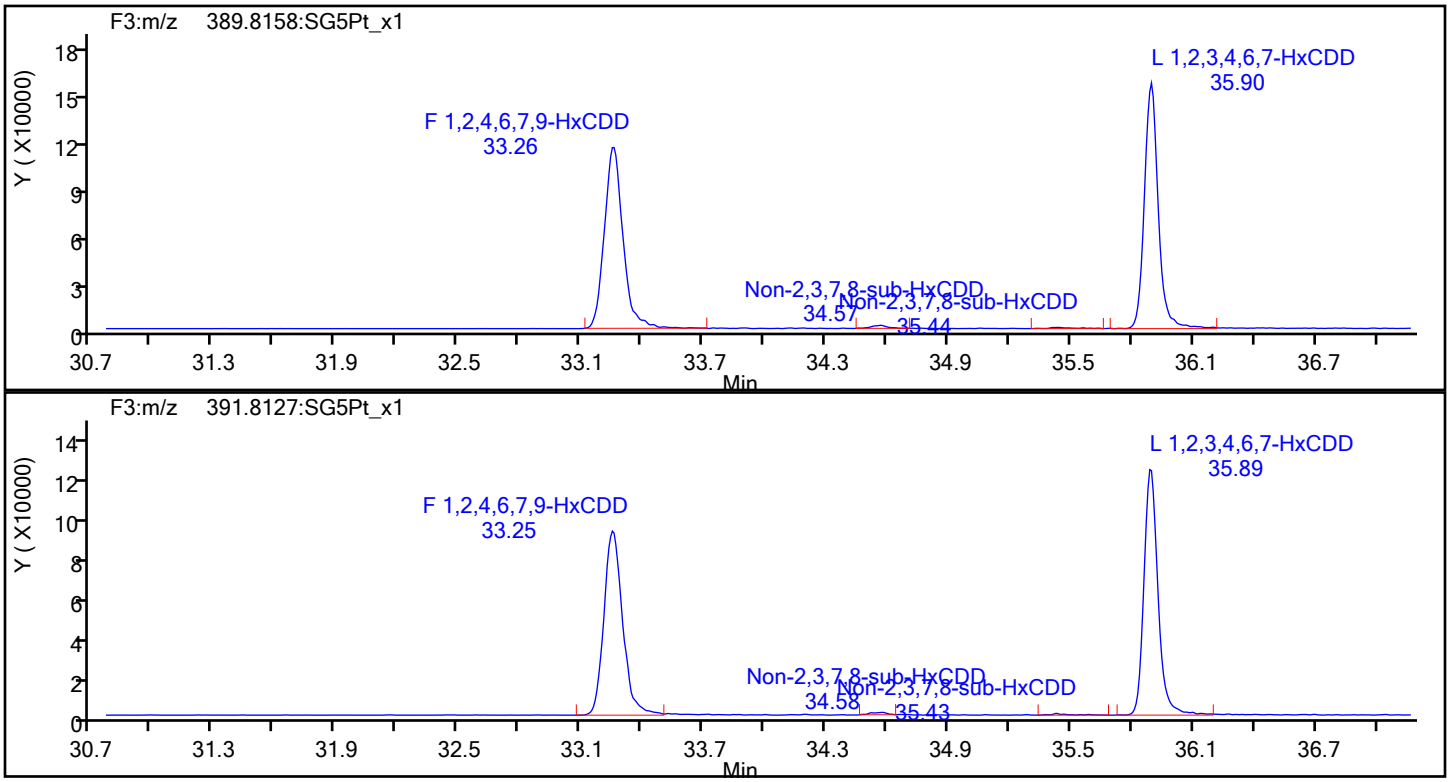
HxCDF Interference Mass



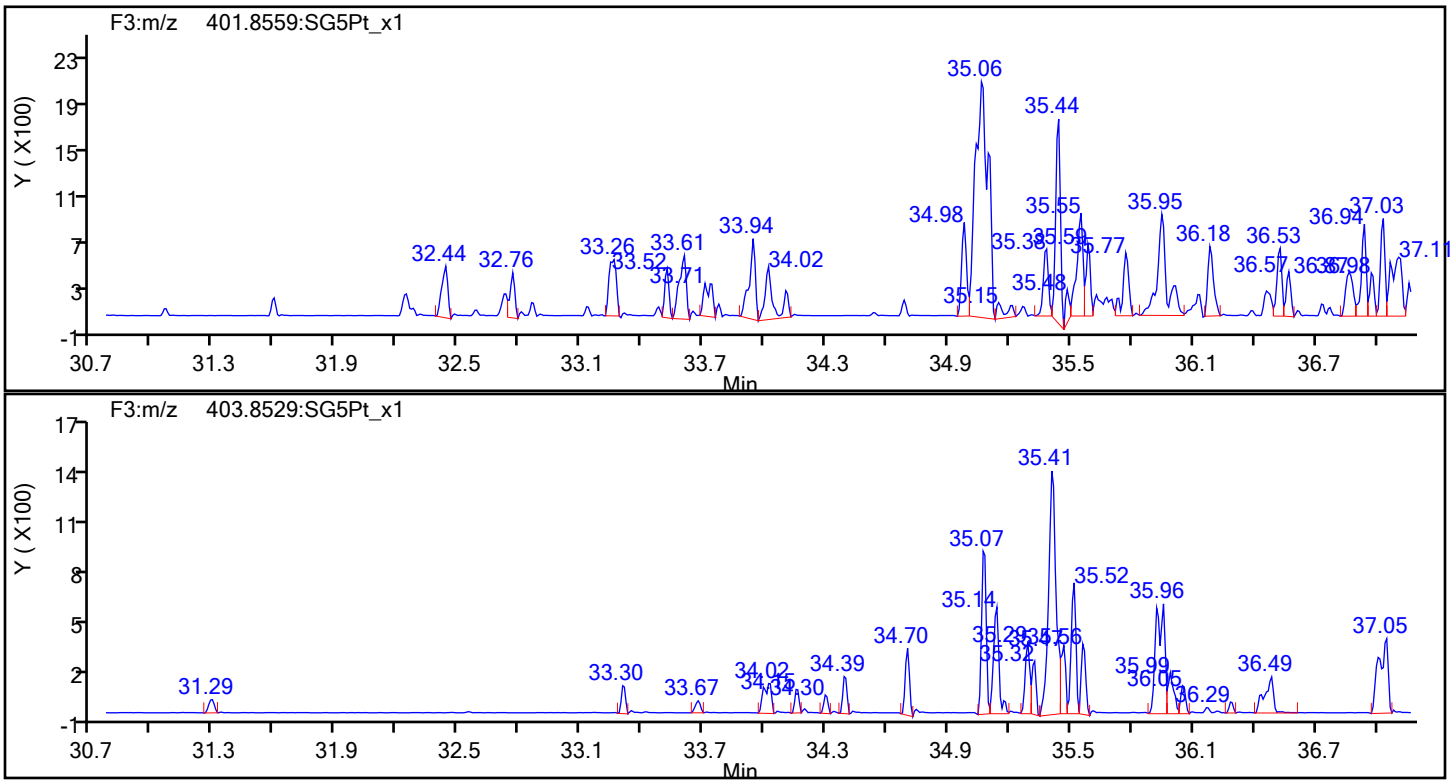
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Injection Date: 20-Jan-2022 16:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

HxCDD



HxCDD Standards



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d
Injection Date: 20-Jan-2022 16:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
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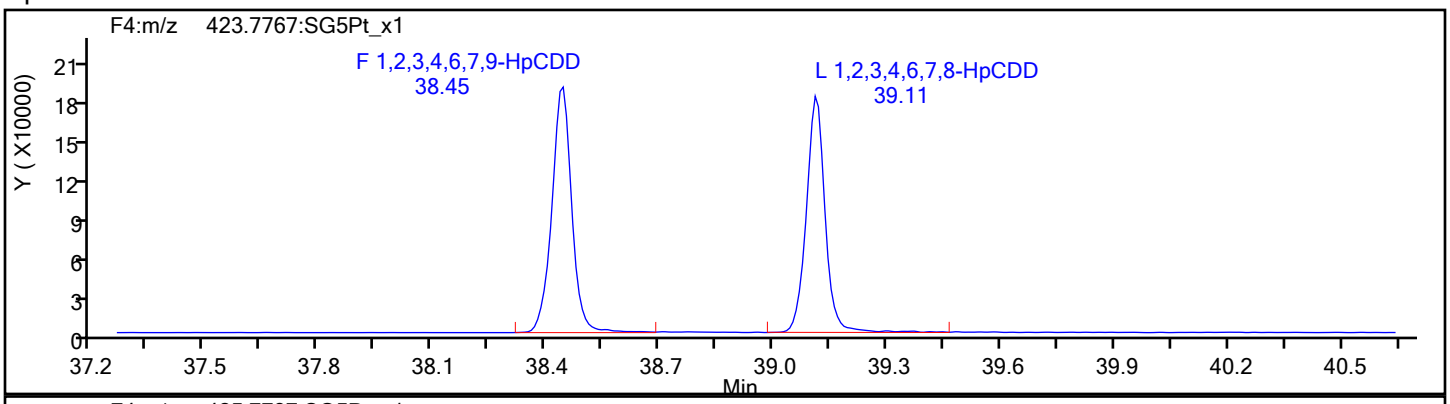
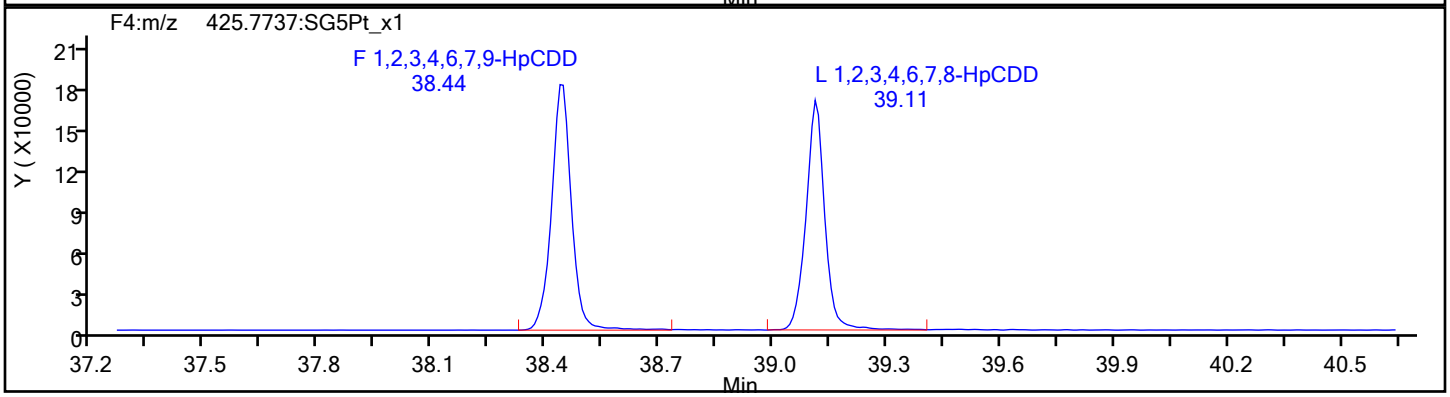
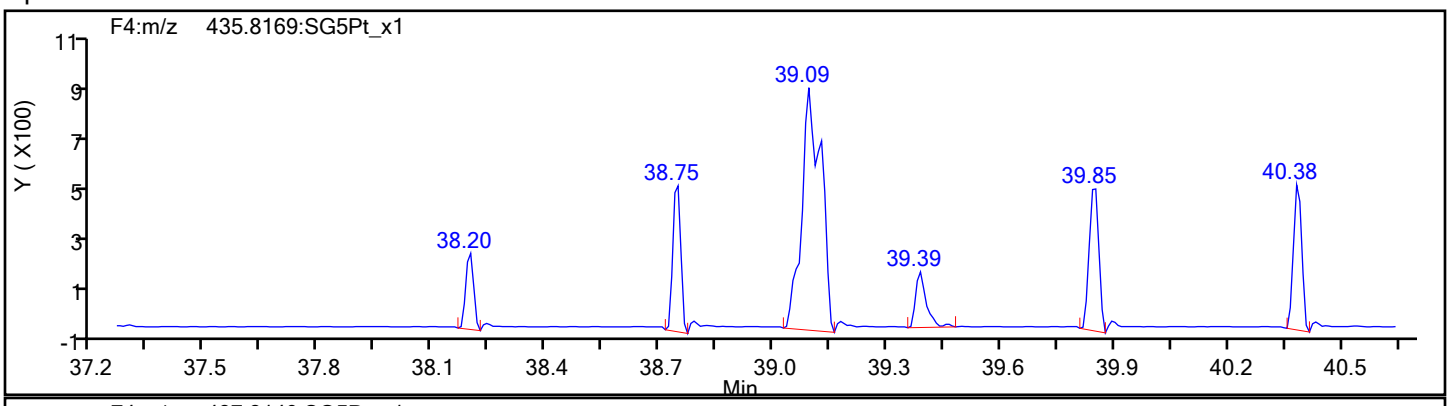
Client ID:
Worklist#: 559474 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

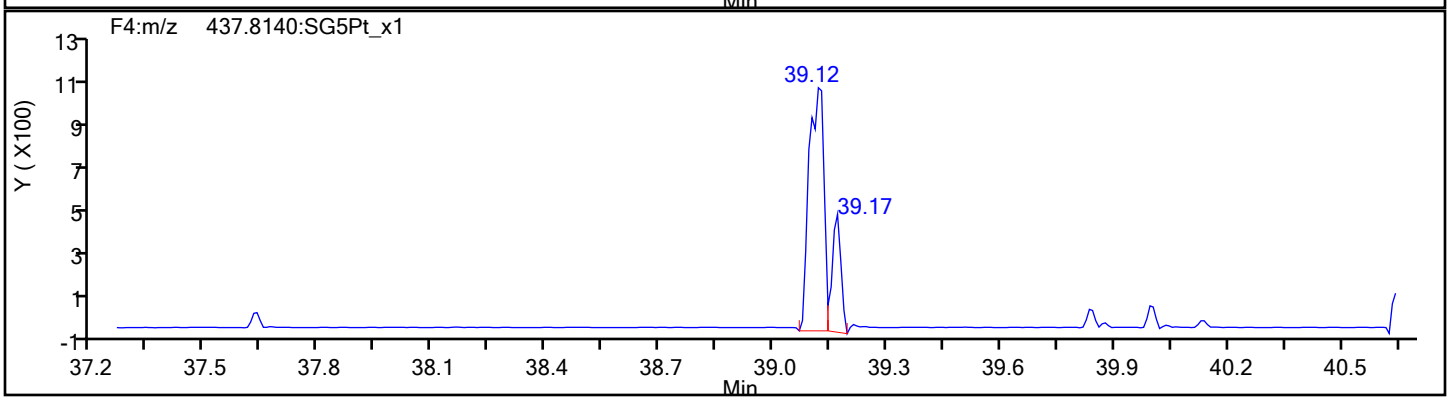
HpCDD





HpCDD Standards



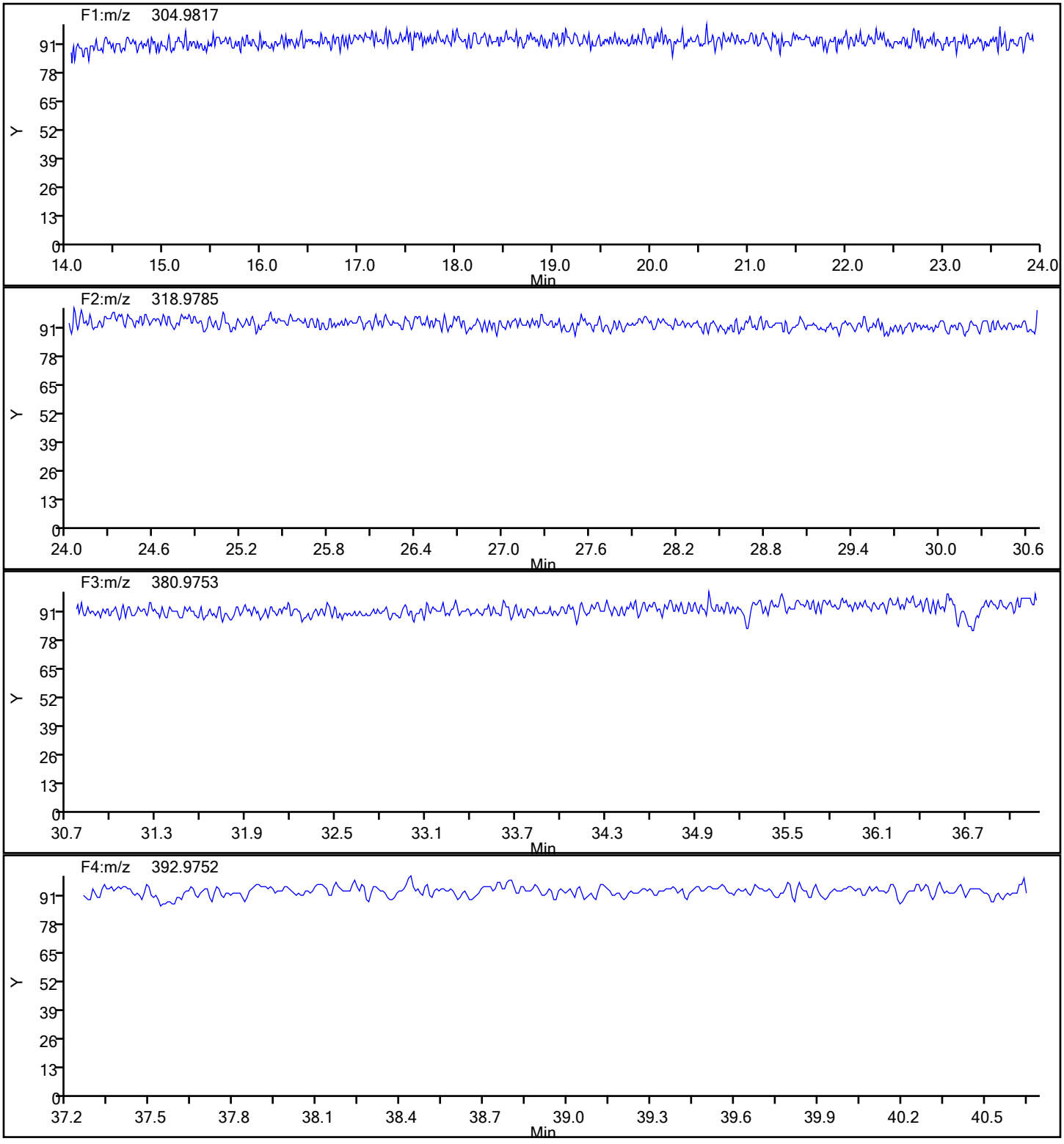


Report Date: 21-Jan-2022 08:05:38 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d

Injection Date:	20-Jan-2022 16:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 21-Jan-2022 08:05:38 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_3.d		
Injection Date:	20-Jan-2022 16:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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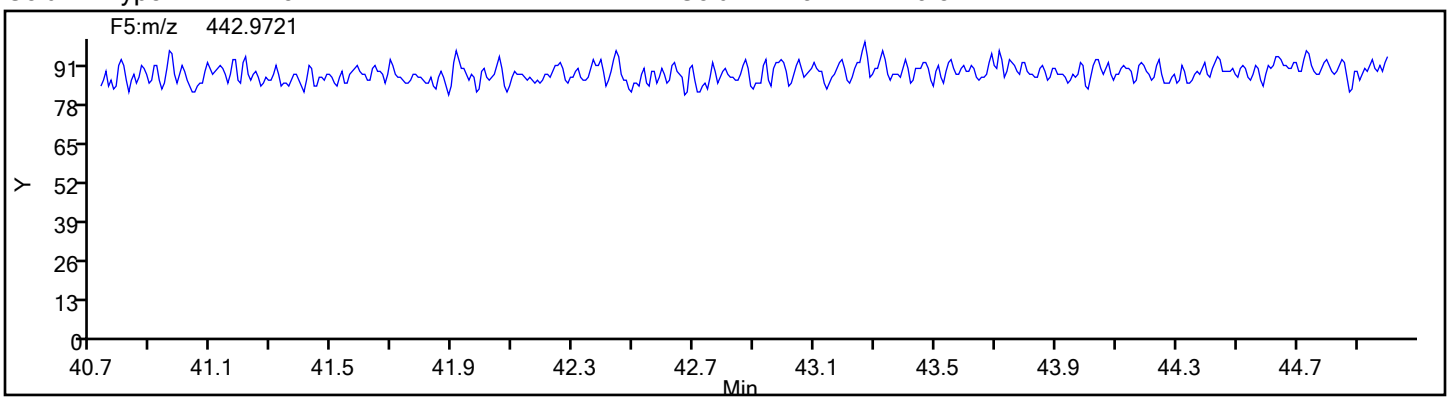
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80119-2

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-555858/1-A

Matrix: Water | Lab File ID: 20ja22dfs1_4.d

Analysis Method: 8290 | Date Collected:

Extract. Method: 8290 | Date Extracted: 01/04/2022 09:56

Sample wt/vol: 1000(mL) | Date Analyzed: 01/20/2022 17:03

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559474 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	0.99
51207-31-9	2,3,7,8-TCDF	ND		10	0.52
40321-76-4	1,2,3,7,8-PeCDD	ND		50	0.63
57117-41-6	1,2,3,7,8-PeCDF	ND		50	0.33
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.34
39227-28-6	1,2,3,4,7,8-HxCDD	2.391	J	50	0.22
57653-85-7	1,2,3,6,7,8-HxCDD	ND		50	0.20
19408-74-3	1,2,3,7,8,9-HxCDD	2.139	J	50	0.20
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	0.21
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	0.18
60851-34-5	2,3,4,6,7,8-HxCDF	ND		50	0.19
72918-21-9	1,2,3,7,8,9-HxCDF	ND		50	0.21
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.530	J	50	0.16
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.607	J	50	0.21
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.390	J	50	0.25
3268-87-9	OCDD	3.361	J	100	0.15
39001-02-0	OCDF	ND		100	0.50

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	89		40-135
89059-46-1	13C-2,3,7,8-TCDF	93		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	88		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	90		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	85		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	91		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	92		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	93		40-135
114423-97-1	13C-OCDD	106		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Lims ID: MB 320-555858/1-A
Client ID:
Sample Type: MB
Inject. Date: 20-Jan-2022 17:03:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-555858/1-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:52:22

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.985	7151604	0.79	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.075	6772292	0.80	1.0164	93.2	93.2	0.4184	0.4184	93.17	
2,3,7,8-TCDF	19.152						0.0258	0.0258		RQU
A Non-2,3,7,8-sub-TCDF	18.694						0.0258	0.0258		
S Total TCDF							0.0258	0.0258		
$ 37Cl4-2,3,7,8-TCDD	20.371	2180183		0.7911	38.5	38.5	0.0365	0.0365	96.33	
D 13C-2,3,7,8-TCDD	20.328	5043950	0.80	0.7884	89.5	89.5	0.3270	0.3270	89.46	
2,3,7,8-TCDD	20.403						0.0495	0.0495		
A Non-2,3,7,8-sub-TCDD	19.493						0.0495	0.0495		
S Total TCDD							0.0495	0.0495		
D 13C-1,2,3,7,8-PeCDF	26.127	5939917	1.60	0.9232	90.0	90.0	0.4344	0.4344	89.97	
1,2,3,7,8-PeCDF	26.140						0.0163	0.0163		
D 13C-2,3,4,7,8-PeCDF	27.551	7679644	1.58	1.1692	91.8	91.8	0.3430	0.3430	91.84	
2,3,4,7,8-PeCDF	27.572						0.0172	0.0172		
A F1 PeCDFs	23.390	184	1.55	0.9486	0.0714	0.003266	0.0103	0.0103		RQ
A Non-2,3,7,8-sub-PeCDF	26.772	202	1.55	0.9486	0.0604	0.003585	0.0167	0.0167		RQ
S Total PeCDF					0.1318	0.006851	0.0168	0.0168		RQ
D 13C-1,2,3,7,8-PeCDD	28.326	3547867	1.54	0.5606	88.5	88.5	0.2418	0.2418	88.49	
1,2,3,7,8-PeCDD	28.355						0.0314	0.0314		
A Non-2,3,7,8-sub-PeCDD	27.199						0.0314	0.0314		
S Total PeCDD							0.0314	0.0314		
D 13C-1,2,3,4,7,8-HxCDF	34.030	5668363	0.54	1.0566	90.9	90.9	0.3504	0.3504	90.92	
1,2,3,4,7,8-HxCDF	34.051						0.0106	0.0106		
D 13C-1,2,3,6,7,8-HxCDF	34.224	4532264	0.50	0.9686	79.3	79.3	0.3823	0.3823	79.30	
1,2,3,6,7,8-HxCDF	34.224						0.009103	0.009103		RQU
D 13C-2,3,4,6,7,8-HxCDF	35.151	4517967	0.52	0.9084	84.3	84.3	0.4076	0.4076	84.29	
2,3,4,6,7,8-HxCDF	35.176						0.009481	0.009481		U
D 13C-1,2,3,7,8,9-HxCDF	36.120	4072153	0.52	0.8248	83.7	83.7	0.4489	0.4489	83.68	
1,2,3,7,8,9-HxCDF	36.137						0.0103	0.0103		RQU
A Non-2,3,7,8-sub-HxCDF	34.083						0.009840	0.009840		
S Total HxCDF							0.0106	0.0106		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	35.926	5900501	1.24	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.404	4463965	1.23	1.0143	74.6	74.6	0.2128	0.2128	74.58	
1,2,3,4,7,8-HxCDD	35.437	4002	1.24	0.8294	0.1301	0.1195	0.0112	0.0112		RQM
D 13C-1,2,3,6,7,8-HxCDD	35.530	4036329	1.27	0.8027	85.2	85.2	0.2689	0.2689	85.22	
1,2,3,6,7,8-HxCDD	35.437						0.009861	0.009861		RQMU
1,2,3,7,8,9-HxCDD	35.934	3919	1.05	0.9076	0.1070	0.1070	0.0102	0.0102		M
A Non-2,3,7,8-sub-HxCDD	34.580	3838	1.24	0.8922	0.1385	0.1066	0.0104	0.0359		RQ
S Total HxCDD					0.3756	0.3331	0.0104	0.0104		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.094	3531301	0.46	0.6421	93.2	93.2	0.4363	0.4363	93.21	
1,2,3,4,6,7,8-HpCDF	38.127	4082	1.04	1.4385	0.0890	0.0804	0.0106	0.0106		RQM
$ 13C-1,2,3,4,7,8,9-HpCDF	39.408	4705272	0.45	1.1706	113.8	113.8	0.3276	0.3276	114	
1,2,3,4,7,8,9-HpCDF	39.416	5148	1.14	1.2202	0.1195	0.1195	0.0125	0.0125		
A Non-2,3,7,8-sub-HpCDF	38.761						0.0115	0.0115		
S Total HpCDF					0.2085	0.1998	0.0115	0.0115		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	39.104	3379265	1.09	0.6246	91.7	91.7	0.2682	0.2682	91.69	
1,2,3,4,6,7,8-HpCDD	39.113	4175	1.02	0.9767	0.1265	0.1265	0.008166	0.008166		M
A Non-2,3,7,8-sub-HpCDD	38.778	4155	1.04	0.9767	0.1739	0.1259	0.008166	0.1145		RQ
S Total HpCDD					0.3004	0.2524	0.008166	0.008166		RQ
D 13C-OCDD	41.575	5454526	0.90	0.4360	212.0	212.0	0.2209	0.2209	106	
OCDF	41.663						0.0248	0.0248		
OCDD	41.591	4739	0.85	1.0341	0.1680	0.1680	0.007588	0.007588		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Lims ID: MB 320-555858/1-A
Client ID:
Sample Type: MB
Inject. Date: 20-Jan-2022 17:03:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-555858/1-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:52:22

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	19.985	19.998	-1		3158375	496226	685	1712	724		
333.9338	19.985	19.998	-1		3993229	617709	464	1160	1331	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.075	19.115	-2	0.954	3012045	468391	1269	3172	369		
317.9389	19.075	19.115	-2	0.954	3760247	574022	626	1565	917	0.80(0.65-0.89)	
2,3,7,8-TCDF											RQU
303.9016	19.149						12	30			
305.8987	19.149						97	242			
A Non-2,3,7,8-sub-TCDF											
303.9016	18.694						12	30			
305.8987	18.694						97	242			
37Cl4-2,3,7,8-TCDD											
327.8847	20.371	20.367	0	1.019	2180183	307513	129	322	2384		
13C-2,3,7,8-TCDD											
331.9368	20.328	20.377	-3	1.017	2234840	316452	685	1712	462		
333.9338	20.346	20.377	-2	1.018	2809110	397875	464	1160	857	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.403						110	275			
321.8936	20.403						30	75			
A Non-2,3,7,8-sub-TCDD											
319.8965	19.493						110	275			
321.8936	19.493						30	75			
13C-1,2,3,7,8-PeCDF											
351.9000	26.127	26.115	1	1.307	3651586	634383	1042	2605	609		
353.8970	26.127	26.115	1	1.307	2288331	385729	745	1862	518	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.140						2	5			
341.8567	26.140						63	157			
13C-2,3,4,7,8-PeCDF											
351.9000	27.551	27.546	0	1.379	4702388	742443	1042	2605	713		
353.8970	27.551	27.546	0	1.379	2977256	469445	745	1862	630	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.572						2	5			
341.8567	27.572						63	157			
A F1 PeCDFs											RQ
339.8597	23.720	23.390	20	0.908	112	32	1	2	32		
341.8567	23.711	23.390	19	0.908	3909	707	39	97	18	0.03(1.32-1.78)	
	Empc Correction				72	20	39	97	1		
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	29.379	26.772	156	1.124	123	78	2	5	39		
341.8567	29.370	26.772	156	1.124	3281	516	63	157	8	0.04(1.32-1.78)	
	Empc Correction				79	50	63	157	1		
13C-1,2,3,7,8-PeCDD											
367.8949	28.326	28.330	0	1.417	2150959	344752	366	915	942		
369.8919	28.326	28.330	0	1.417	1396908	211629	238	595	889	1.54(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.355						66	165			
357.8516	28.355						4	10			
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.199						66	165			
357.8516	27.199						4	10			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.030	34.034	0	0.947	1984032	375062	689	1722	544		
385.8610	34.030	34.034	0	0.947	3684331	660707	1267	3167	521	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.051						33	82			
375.8178	34.051						6	15			
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.224	34.219	0	0.953	1514744	262783	689	1722	381		
385.8610	34.216	34.219	0	0.952	3017520	513084	1267	3167	405	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											RQU
373.8208	34.236						33	82			
375.8178	34.236						6	15			
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.151	35.154	0	0.978	1548124	316039	689	1722	459		
385.8610	35.151	35.154	0	0.978	2969843	612073	1267	3167	483	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											U
373.8208	35.171						33	82			
375.8178	35.171						6	15			
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.120	36.122	0	1.005	1392549	312528	689	1722	454		
385.8610	36.120	36.122	0	1.005	2679604	580959	1267	3167	459	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											RQU
373.8208	36.139						33	82			
375.8178	36.139						6	15			
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.083						33	82			
375.8178	34.083						6	15			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.926	35.929	0		3268242	730439	642	1605	1138		
403.8529	35.926	35.929	0		2632259	590227	498	1245	1185	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.404	35.407	0	0.985	2465560	564182	642	1605	879		
403.8529	35.404	35.407	0	0.985	1998405	462243	498	1245	928	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8158	35.437	35.423	1	0.997	2567	475	12	30	40		
	Empc Correction				2215	427	12	30	36		
391.8127	35.429	35.423	0	0.997	1787	345	20	50	17	1.44(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.530	35.533	0	0.989	2259680	477770	642	1605	744		
403.8529	35.530	35.533	0	0.989	1776649	385829	498	1245	775	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQMU
389.8158	35.550						12	30			
391.8127	35.550						20	50			
1,2,3,7,8,9-HxCDD											M
389.8158	35.934	35.946	-1	1.011	2007	370	12	30	31		M
391.8127	35.901	35.946	-3	1.010	1912	282	20	50	14	1.05(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											RQ
389.8158	33.340	34.580	-74	0.938	286	130	12	30	11		
391.8127	33.416	34.580	-70	0.940	321	102	20	50	5	0.89(1.05-1.43)	
	Empc Correction				230	104	20	50	5		
389.8158	34.047	34.580	-32	0.958	633	280	12	30	23		
391.8127	34.005	34.580	-34	0.957	1006	210	20	50	11	0.63(1.05-1.43)	
	Empc Correction				510	225	20	50	11		
389.8158	34.190	34.580	-23	0.962	939	230	12	30	19		
	Empc Correction				491	204	12	30	17		
391.8127	34.207	34.580	-22	0.963	396	165	20	50	8	2.37(1.05-1.43)	
389.8158	35.100	34.580	31	0.988	831	181	12	30	15		
	Empc Correction				715	306	12	30	26		
391.8127	35.075	34.580	30	0.987	577	247	20	50	12	1.44(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.094	38.096	0	1.060	1118924	319606	529	1322	604		
419.8220	38.102	38.096	0	1.061	2412377	645234	951	2377	678	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7817	38.127	38.108	1	1.001	2519	631	52	130	12		
	Empc Correction				2081	344	52	130	7		
409.7788	38.153	38.108	3	1.002	2001	331	7	17	47	1.26(0.88-1.20)	M

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.408	39.410	0	1.034	1467277	424159	529	1322	802		
419.8220	39.408	39.410	0	1.034	3237995	948634	951	2377	998	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.416	39.414	0	1.035	2738	636	52	130	12		
409.7788	39.425	39.414	1	1.035	2410	867	7	17	124	1.14(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.761						52	130			
409.7788	38.761						7	17			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.104	39.107	0	1.088	1760721	517331	479	1197	1080		
437.8140	39.104	39.107	0	1.088	1618544	485794	406	1015	1197	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7767	39.113	39.111	0	1.000	2107	609	26	65	23		M
425.7737	39.113	39.111	0	1.000	2068	641	6	15	107	1.02(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											RQ
423.7767	38.464	38.778	-19	0.984	3071	901	26	65	35		
	Empc Correction				1927	577	26	65	22		
425.7737	38.456	38.778	-19	0.983	1853	555	6	15	93	1.66(0.88-1.20)	
423.7767	38.557	38.778	-13	0.986	630	238	26	65	9		
	Empc Correction				191	88	26	65	3		
425.7737	38.574	38.778	-12	0.986	184	85	6	15	14	3.42(0.88-1.20)	
13C-OCDD											
469.7780	41.575	41.579	0	1.157	2584883	727165	233	582	3121		
471.7750	41.575	41.579	0	1.157	2869643	802171	276	690	2906	0.90(0.76-1.02)	
OCDF											
441.7428	41.663						15	37			
443.7399	41.663						82	205			
OCDD											
457.7377	41.591	41.587	0	1.000	2179	619	7	17	88		
459.7348	41.600	41.587	1	1.001	2560	651	17	42	38	0.85(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Lims ID: MB 320-555858/1-A
Client ID:
Inject. Date: 20-Jan-2022 17:03:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 3

Non-2,3,7,8-sub-TCDF, RT: 18.694

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.012	D 13C-2,3,7,8-TCDF	100.000	6772292	1042413

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
Signal Totals:							
	0	0	0	0			

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Lims ID: MB 320-555858/1-A
Client ID:
Inject. Date: 20-Jan-2022 17:03:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 3

F1 PeCDFs, RT: 23.390

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	5939917	1020112
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	5939917	1020112

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.720	112	32	3909	707	0.0714	0.03	RQ
23.720	112	32	72	20	0.003266		Empc Correction
Signal Totals:							
	112	32	72	20			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4021	739				0.03	RQ
	184	52					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0714 = (4021 * 100.000) / (5939917 * 0.949)
Empc Amount: 0.003266 = (184 * 100.000) / (5939917 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Lims ID: MB 320-555858/1-A
Client ID:
Inject. Date: 20-Jan-2022 17:03:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 3

Non-2,3,7,8-sub-PeCDF, RT: 26.772

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	5939917	1020112
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	5939917	1020112

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
29.379	123	78	3281	516	0.0604	0.04	RQ
29.379	123	78	79	50	0.003585		Empc Correction
Signal Totals:	123	78	79	50			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3404	594				0.04	RQ
	202	128					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0604 = (3404 * 100.000) / (5939917 * 0.949)
Empc Amount: 0.003585 = (202 * 100.000) / (5939917 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Lims ID: MB 320-555858/1-A
Client ID:
Inject. Date: 20-Jan-2022 17:03:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 3

Non-2,3,7,8-sub-HxCDF, RT: 34.083

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883	D 13C-1,2,3,4,7,8-HxCDF	100.000	5668363	1035769
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
Signal Totals:							
	0	0	0	0			

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Lims ID: MB 320-555858/1-A
Client ID:
Inject. Date: 20-Jan-2022 17:03:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 3

Non-2,3,7,8-sub-HxCDD, RT: 34.580

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829	D 13C-1,2,3,6,7,8-HxCDD	100.000	4036329	863599
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.892		100.000	4036329	863599

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.340	286	130	321	102	0.0169	0.89	RQ
33.340	286	130	230	104	0.0143		Empc Correction
34.047	633	280	1006	210	0.0455	0.63	RQ
34.047	633	280	510	225	0.0317		Empc Correction
34.190	939	230	396	165	0.0371	2.37	RQ
34.190	491	204	396	165	0.0246		Empc Correction
35.100	831	181	577	247	0.0391	1.44	RQ
35.100	715	306	577	247	0.0359		Empc Correction
Signal Totals:							
	2125	920	1713	741			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4989	1545				1.17	RQ
	3838	1661					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1385 = (4989 * 100.000) / (4036329 * 0.892)
Empc Amount: 0.1066 = (3838 * 100.000) / (4036329 * 0.892)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Lims ID: MB 320-555858/1-A
Client ID:
Inject. Date: 20-Jan-2022 17:03:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 3

Non-2,3,7,8-sub-HpCDD, RT: 38.778

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3379265	1003125

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3379265	1003125

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.464	3071	901	1853	555	0.1492	1.66	RQ
38.464	1927	577	1853	555	0.1145		Empc Correction
38.557	630	238	184	85	0.0247	3.42	RQ
38.557	191	88	184	85	0.0114		Empc Correction
Signal Totals:							
	2118	665	2037	640			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5738	1779				1.82	RQ
	4155	1305					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1739 = (5738 * 100.000) / (3379265 * 0.977)
Empc Amount: 0.1259 = (4155 * 100.000) / (3379265 * 0.977)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

Eurofins Sacramento

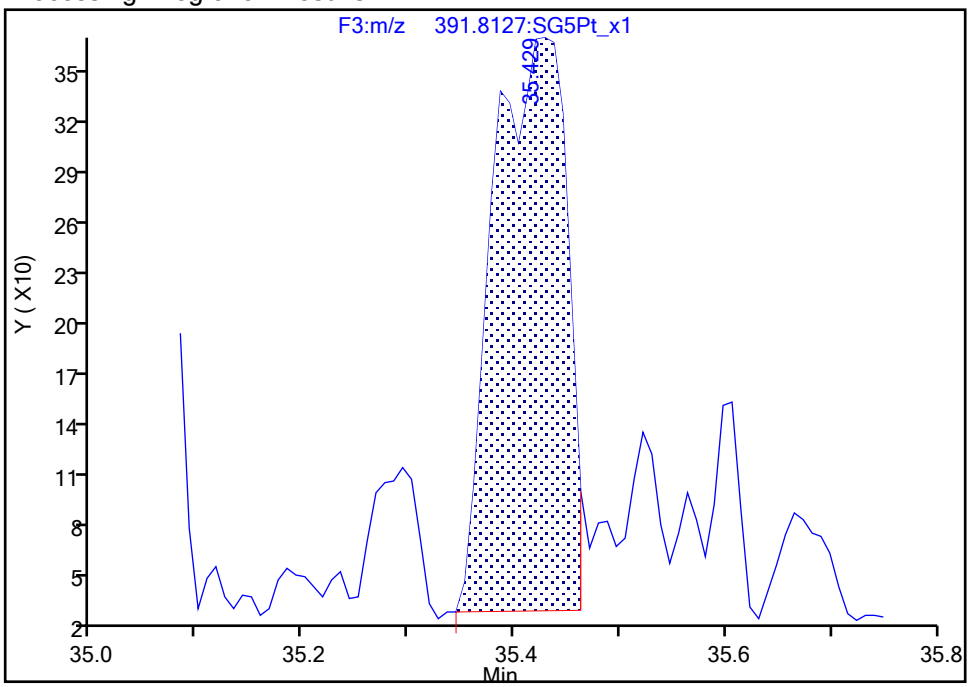
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Injection Date: 20-Jan-2022 17:03:00 Instrument ID: DFS 1
Lims ID: MB 320-555858/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

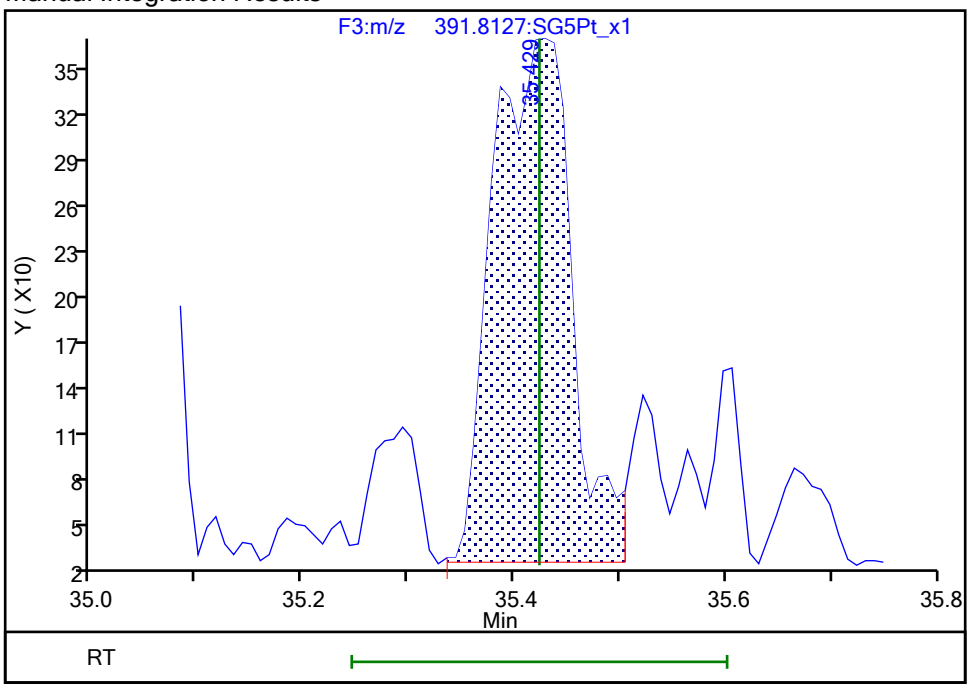
Processing Integration Results

RT: 35.43
Area: 1631
Amount: 0.125398
Amount Units: pg/ul



Manual Integration Results

RT: 35.43
Area: 1787
Amount: 0.130057
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:51:14
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

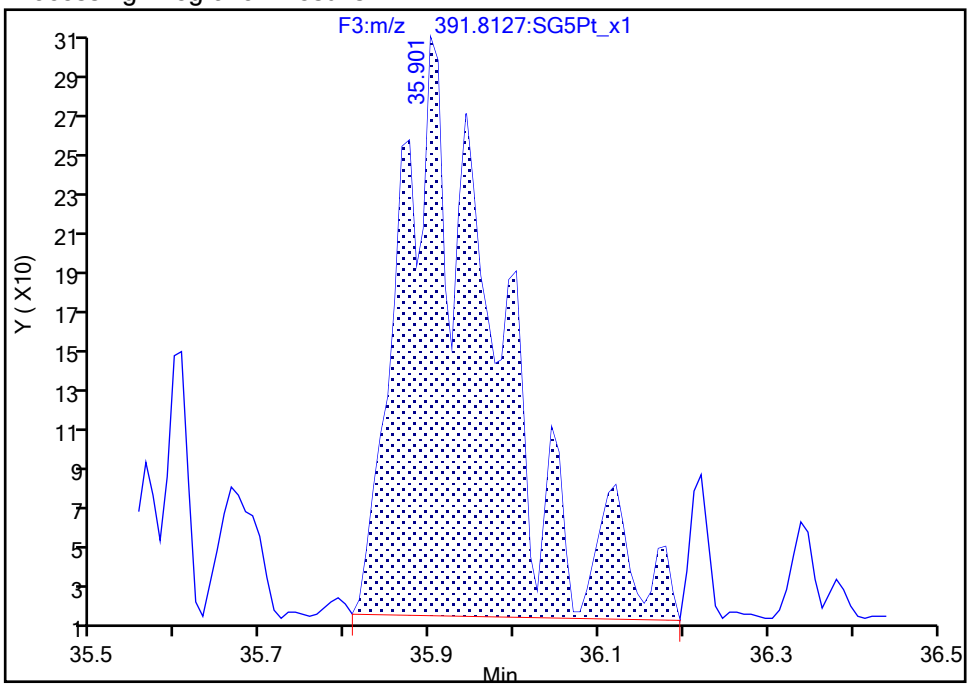
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Injection Date: 20-Jan-2022 17:03:00 Instrument ID: DFS 1
Lims ID: MB 320-555858/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

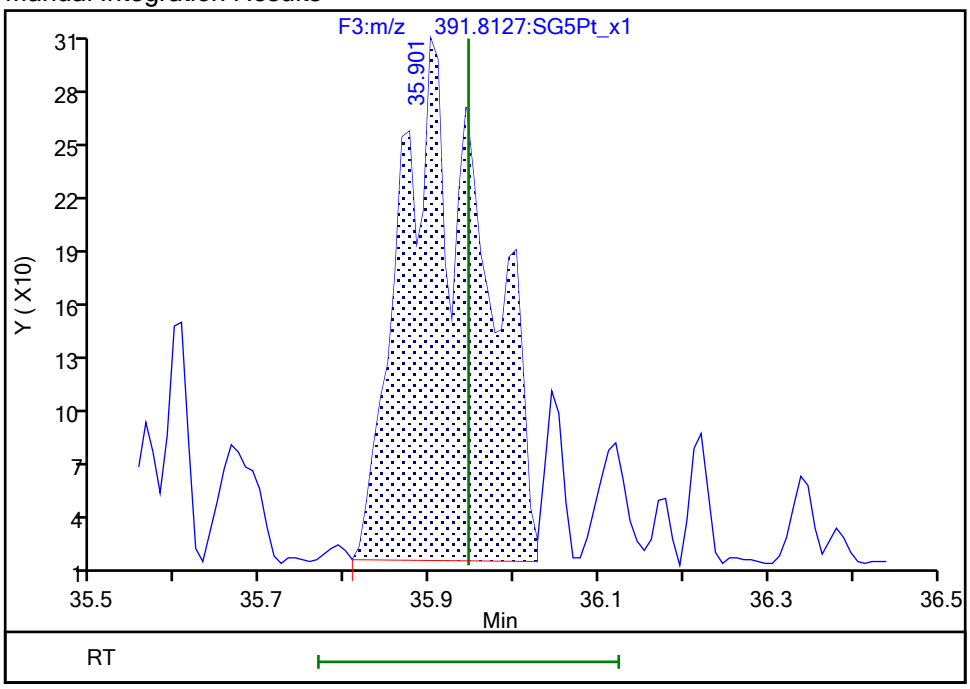
Processing Integration Results

RT: 35.90
Area: 2258
Amount: 0.104244
Amount Units: pg/ul



Manual Integration Results

RT: 35.90
Area: 1912
Amount: 0.106973
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:51:26
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins Sacramento

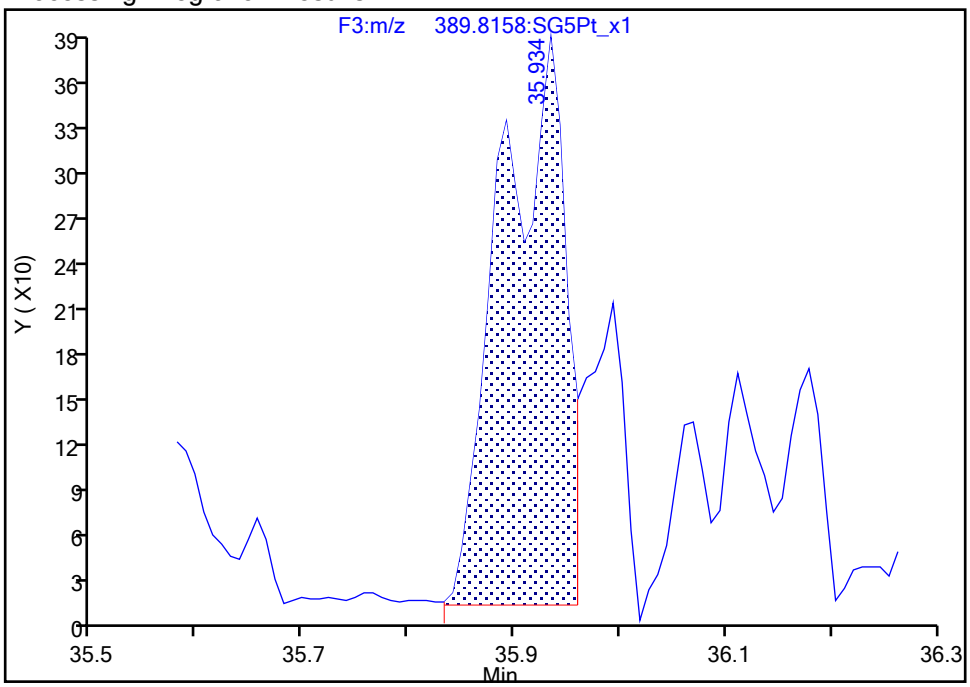
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Injection Date: 20-Jan-2022 17:03:00 Instrument ID: DFS 1
Lims ID: MB 320-555858/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

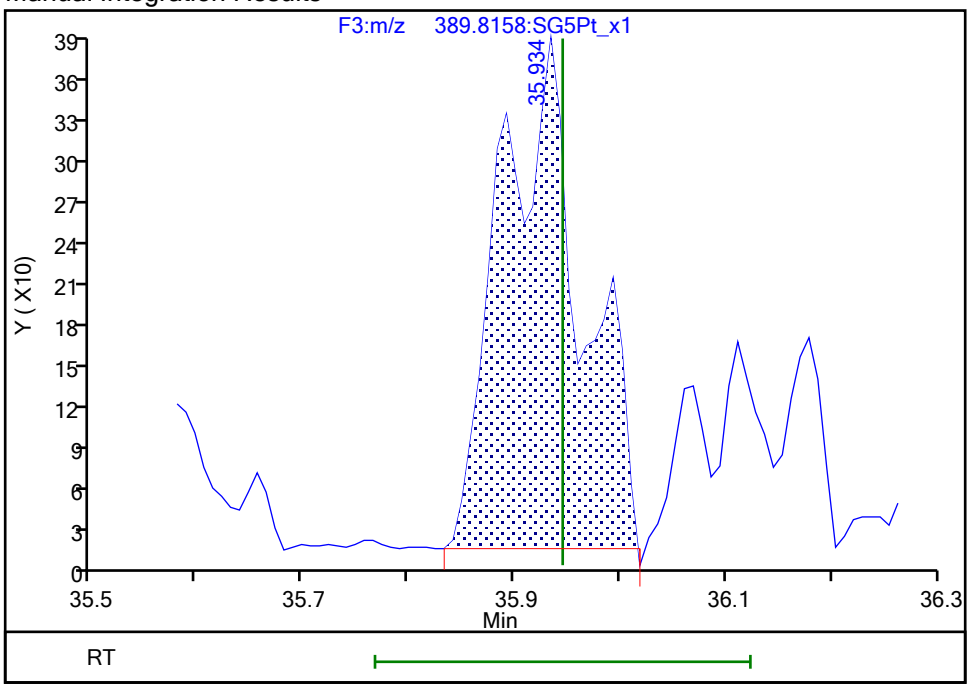
Processing Integration Results

RT: 35.93
Area: 1561
Amount: 0.104244
Amount Units: pg/ul



Manual Integration Results

RT: 35.93
Area: 2007
Amount: 0.106973
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:51:32
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

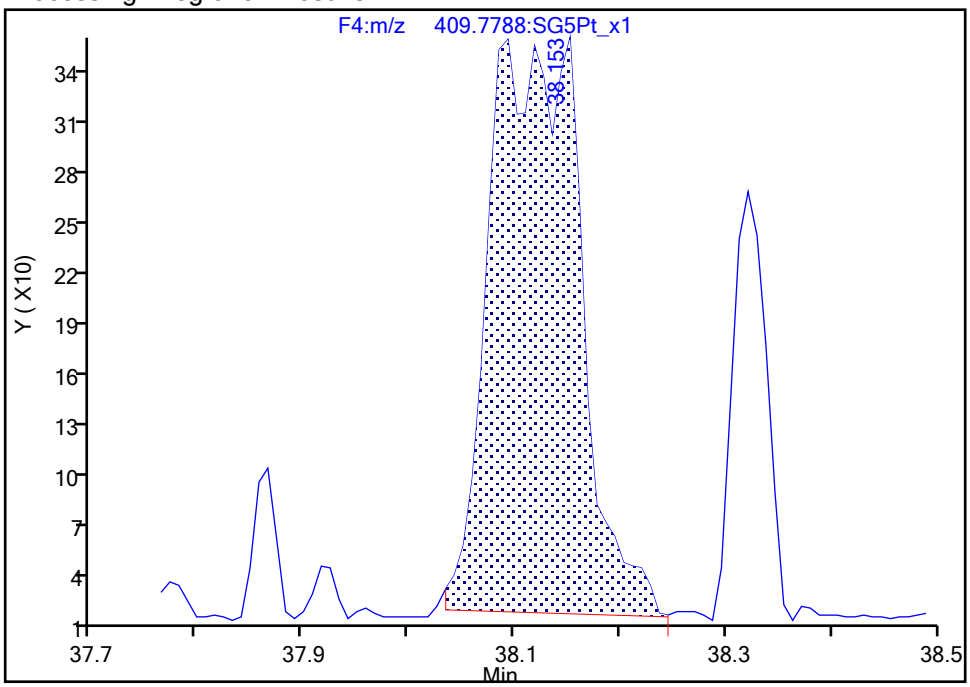
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Injection Date: 20-Jan-2022 17:03:00 Instrument ID: DFS 1
Lims ID: MB 320-555858/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

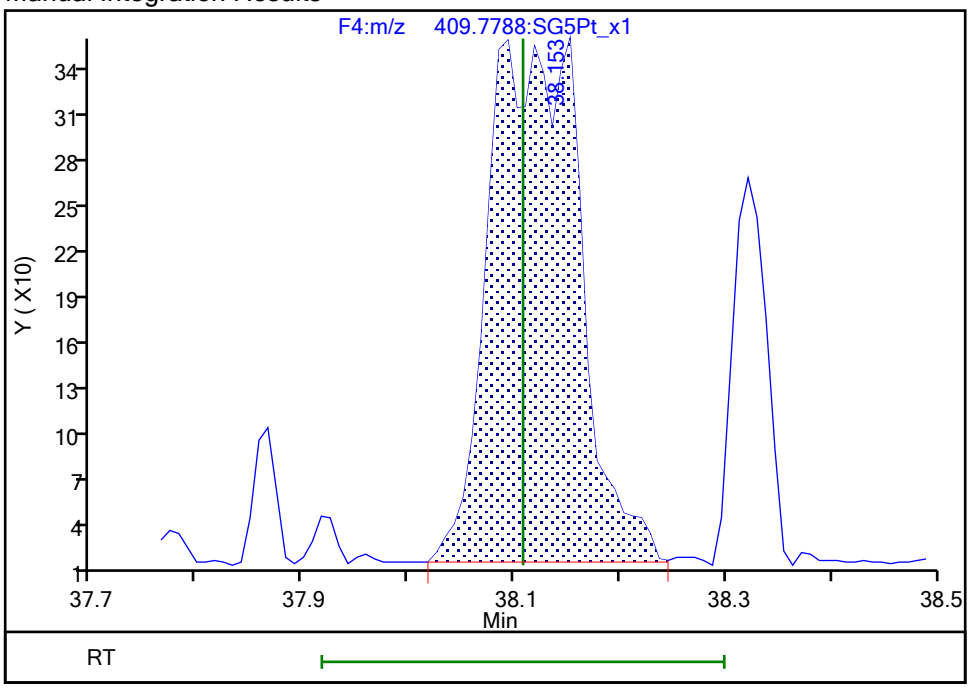
Processing Integration Results

RT: 38.15
Area: 1969
Amount: 0.088350
Amount Units: pg/ul



Manual Integration Results

RT: 38.15
Area: 2001
Amount: 0.088980
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:51:49
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Sacramento

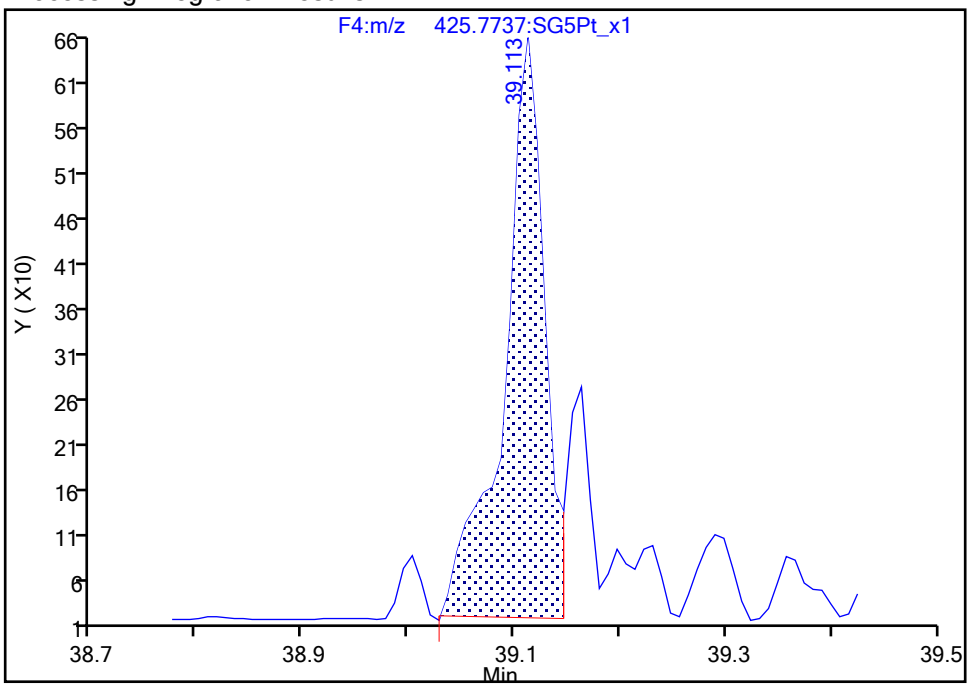
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Injection Date: 20-Jan-2022 17:03:00 Instrument ID: DFS 1
Lims ID: MB 320-555858/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

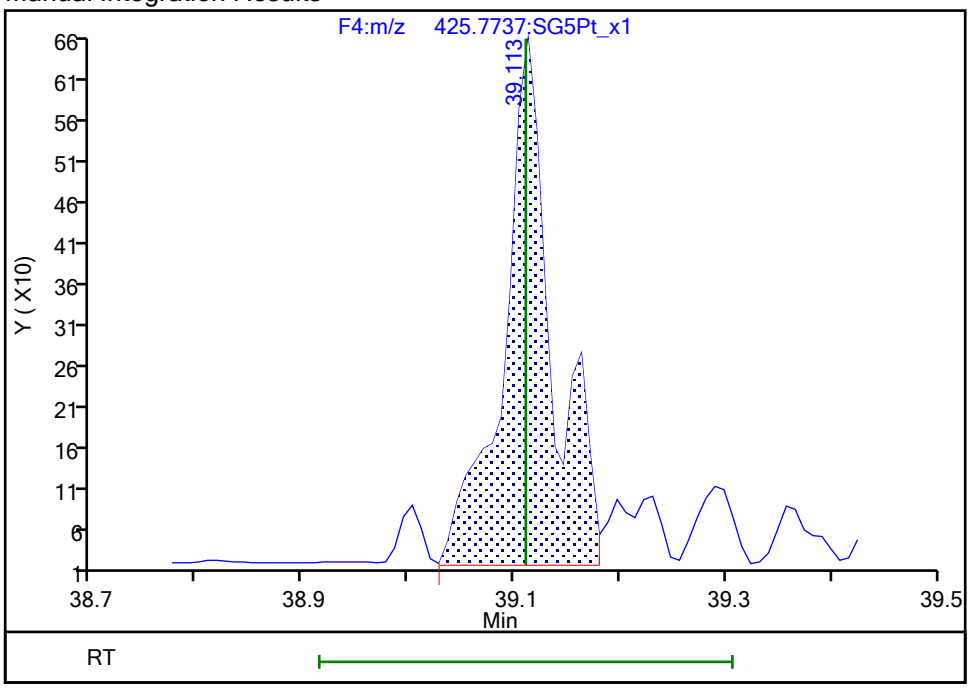
Processing Integration Results

RT: 39.11
Area: 1674
Amount: 0.119014
Amount Units: pg/ul



Manual Integration Results

RT: 39.11
Area: 2068
Amount: 0.126498
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:52:02
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

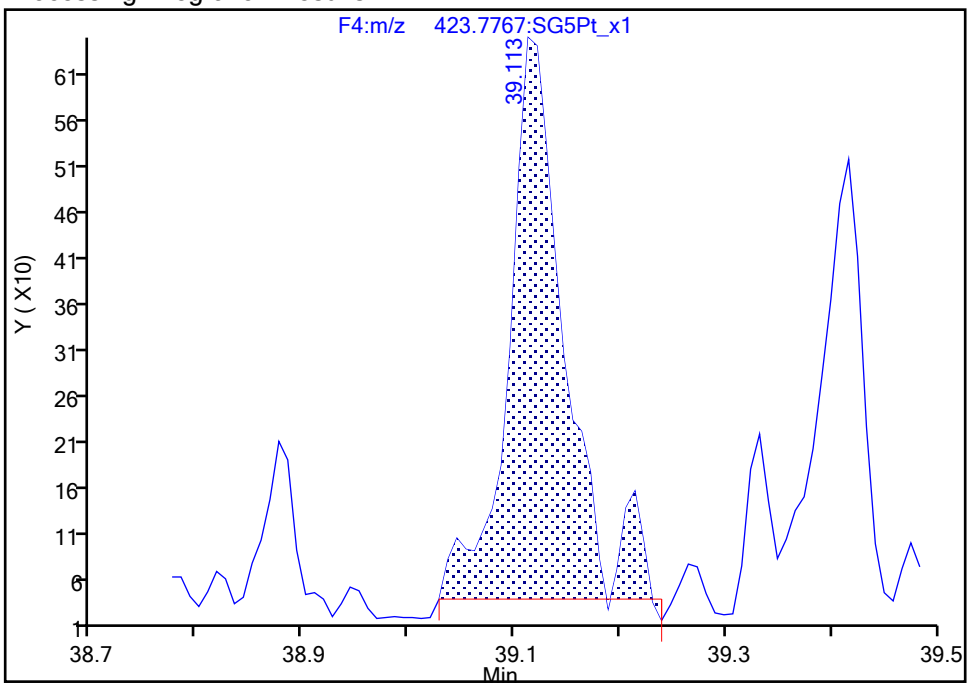
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Injection Date: 20-Jan-2022 17:03:00 Instrument ID: DFS 1
Lims ID: MB 320-555858/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

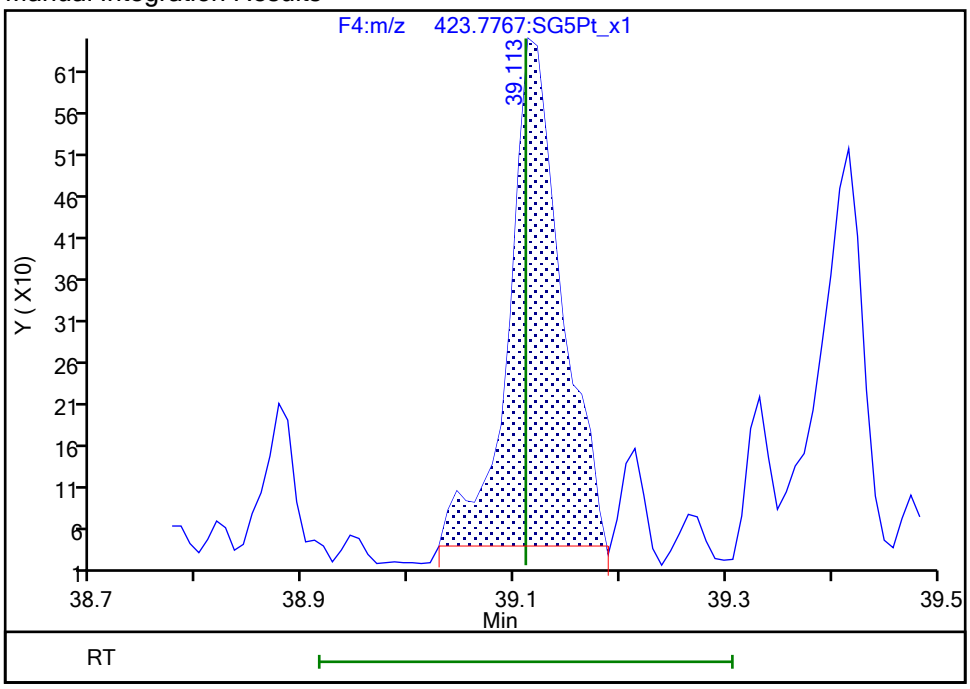
Processing Integration Results

RT: 39.11
Area: 2254
Amount: 0.119014
Amount Units: pg/ul



Manual Integration Results

RT: 39.11
Area: 2107
Amount: 0.126498
Amount Units: pg/ul



Reviewer: bilottag, 21-Jan-2022 07:52:08
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

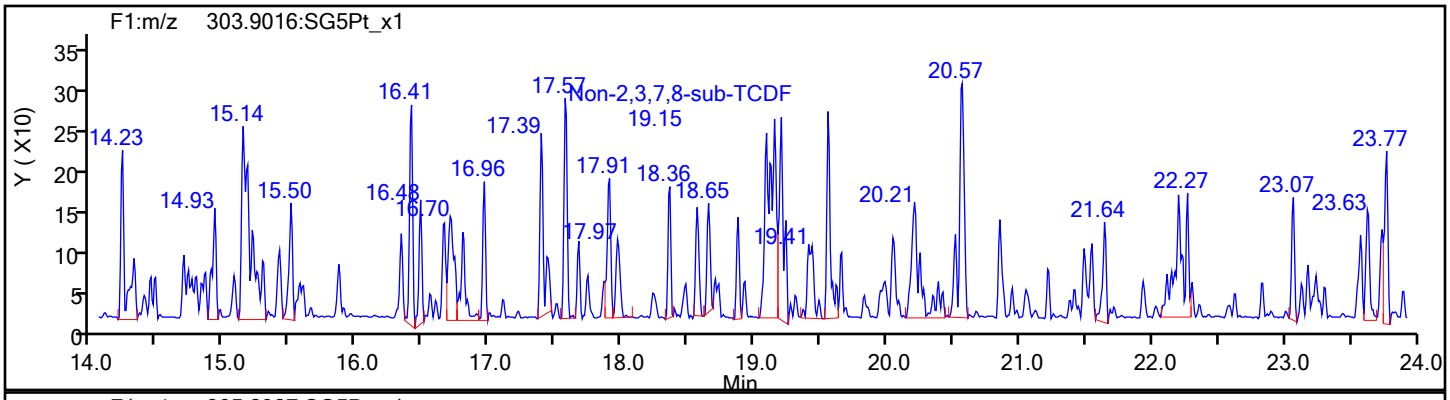
Report Date: 21-Jan-2022 08:05:39 Chrom Revision: 2.3 18-Jan-2022 20:25:40

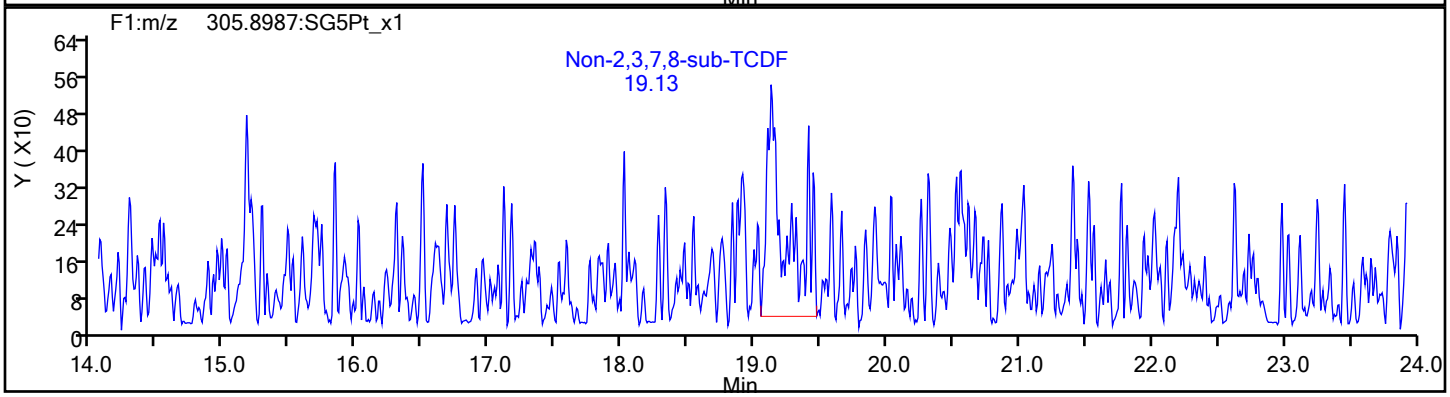
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d

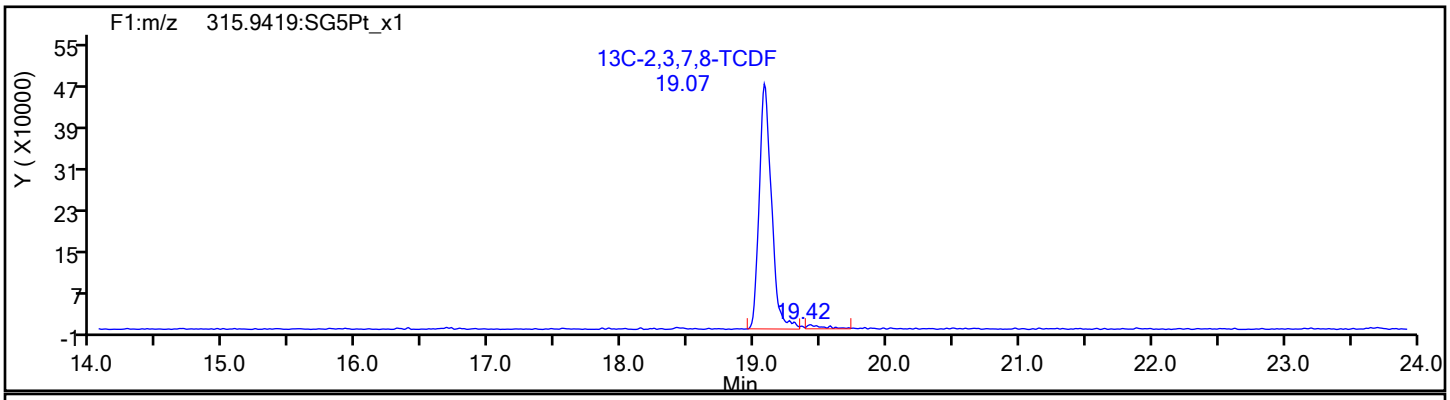
Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

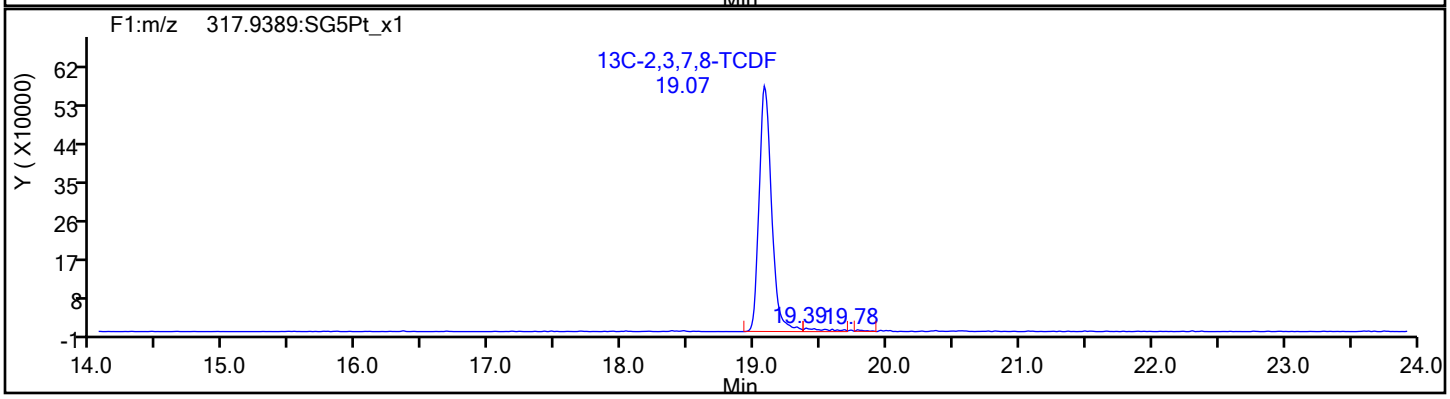
TCDF





TCDF Standards

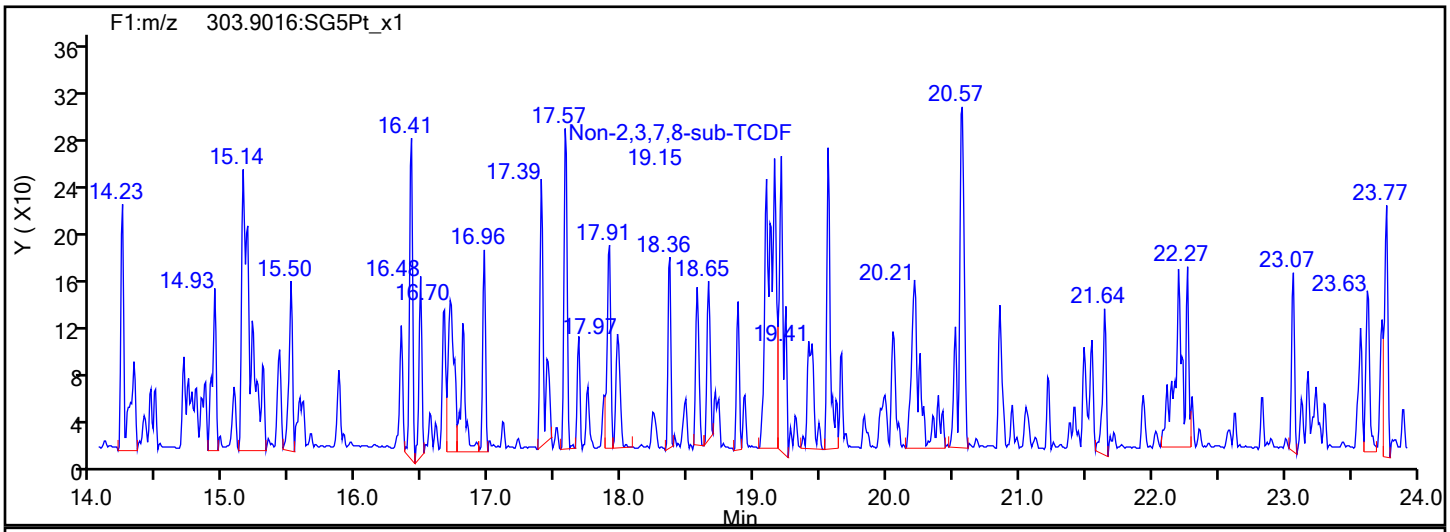


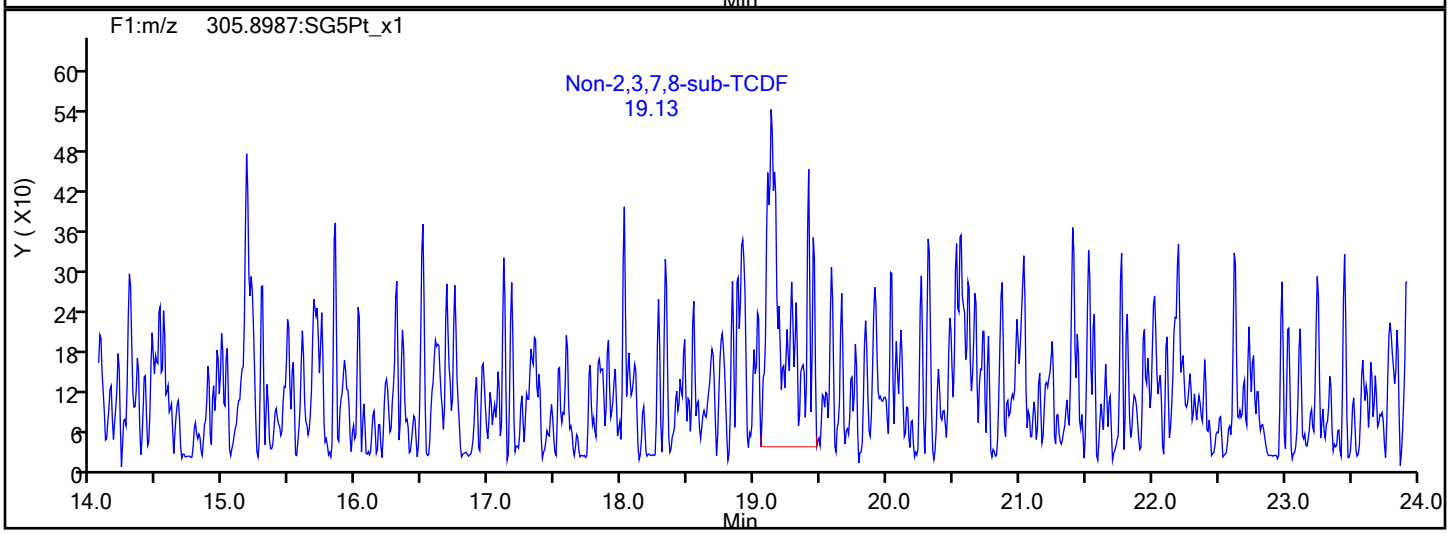


Eurofins Sacramento

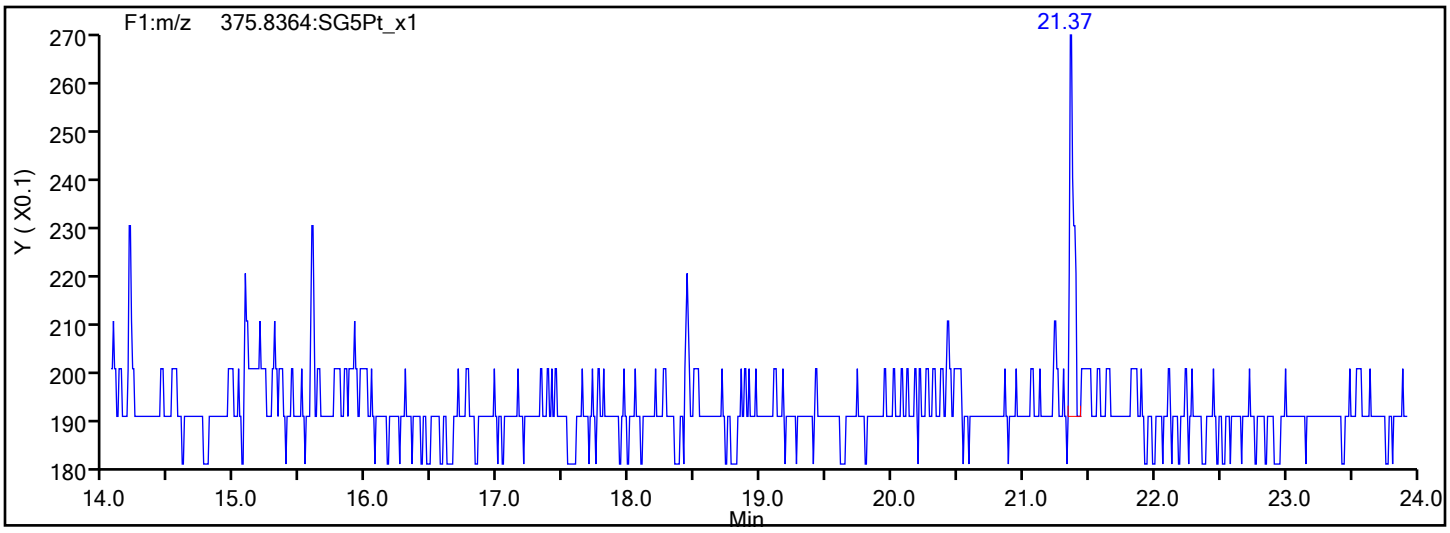
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d		
Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



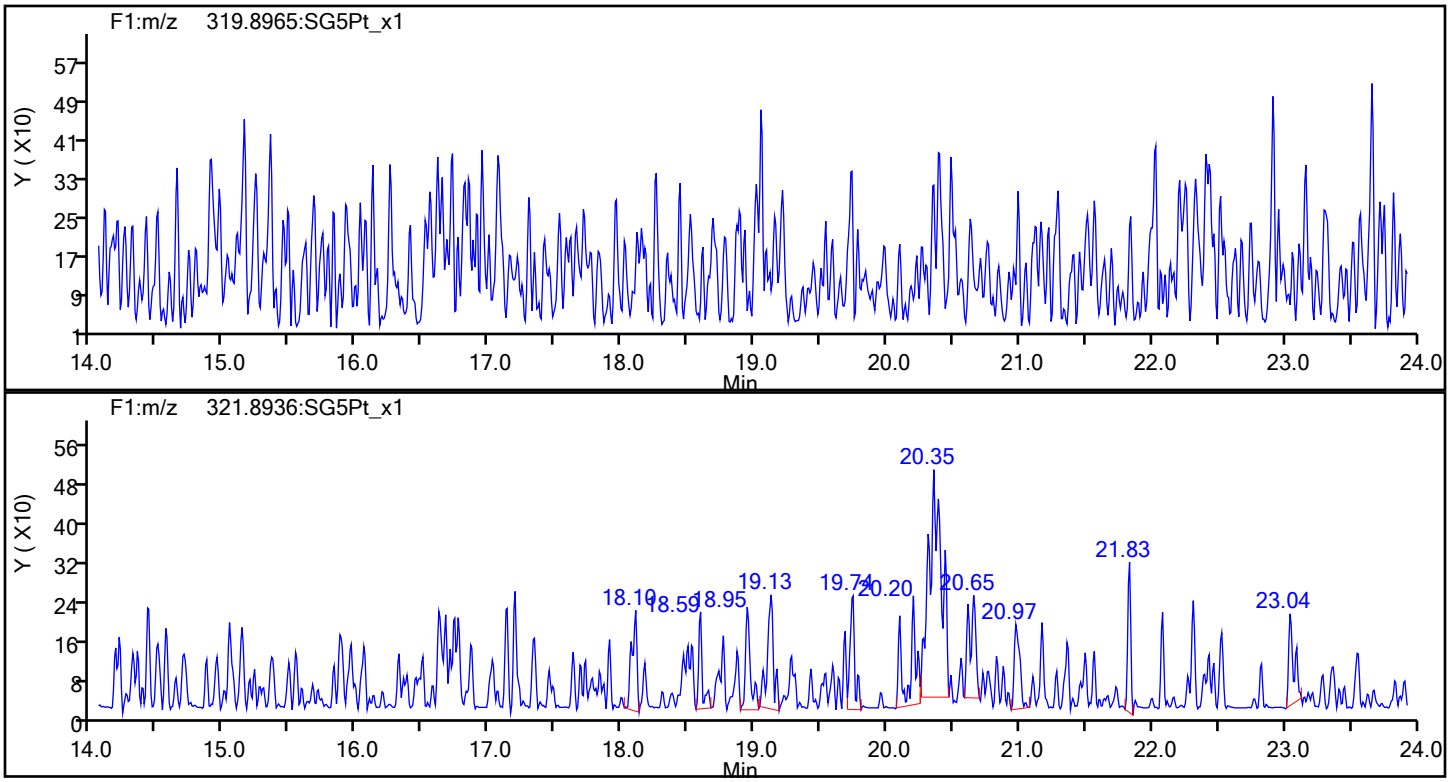
Report Date: 21-Jan-2022 08:05:39 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

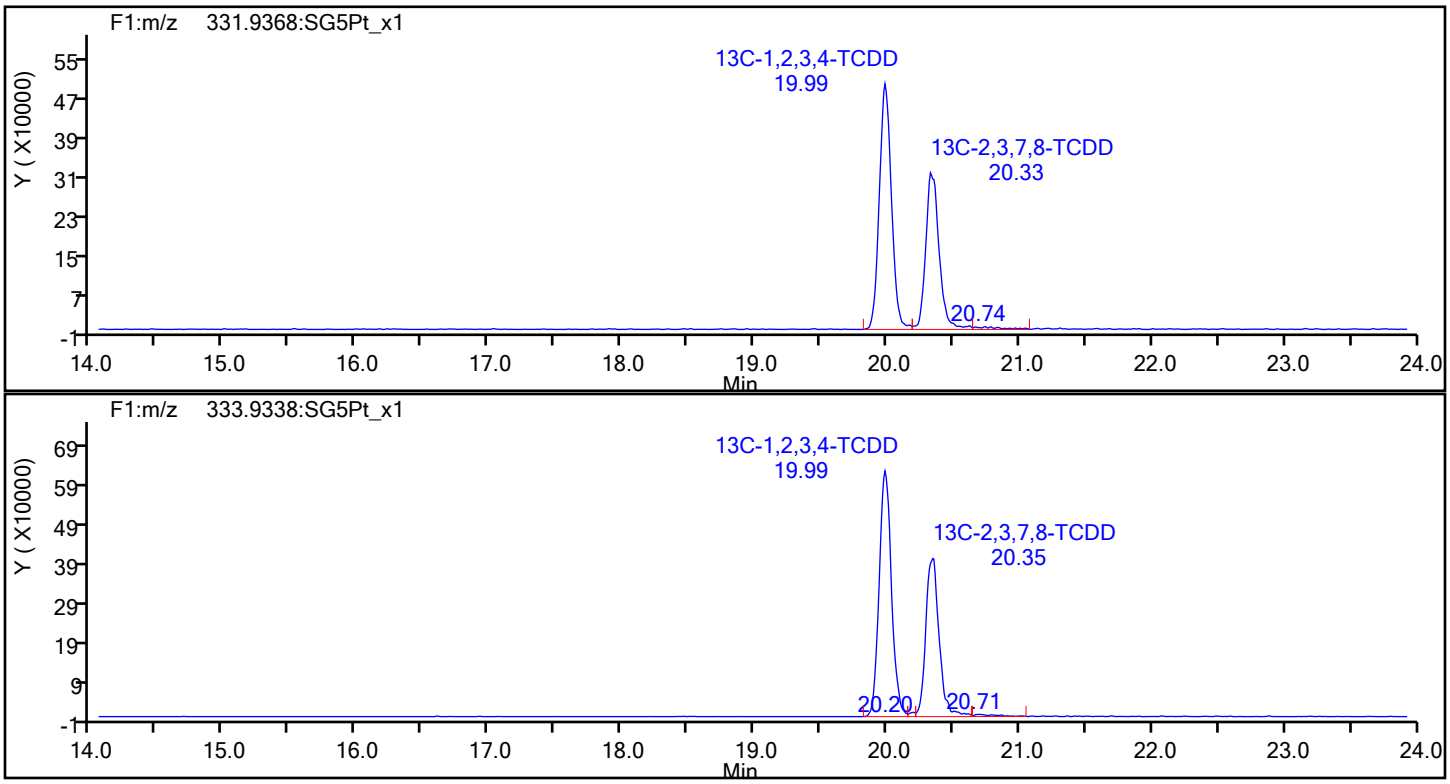
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d

Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD



TCDD Standards



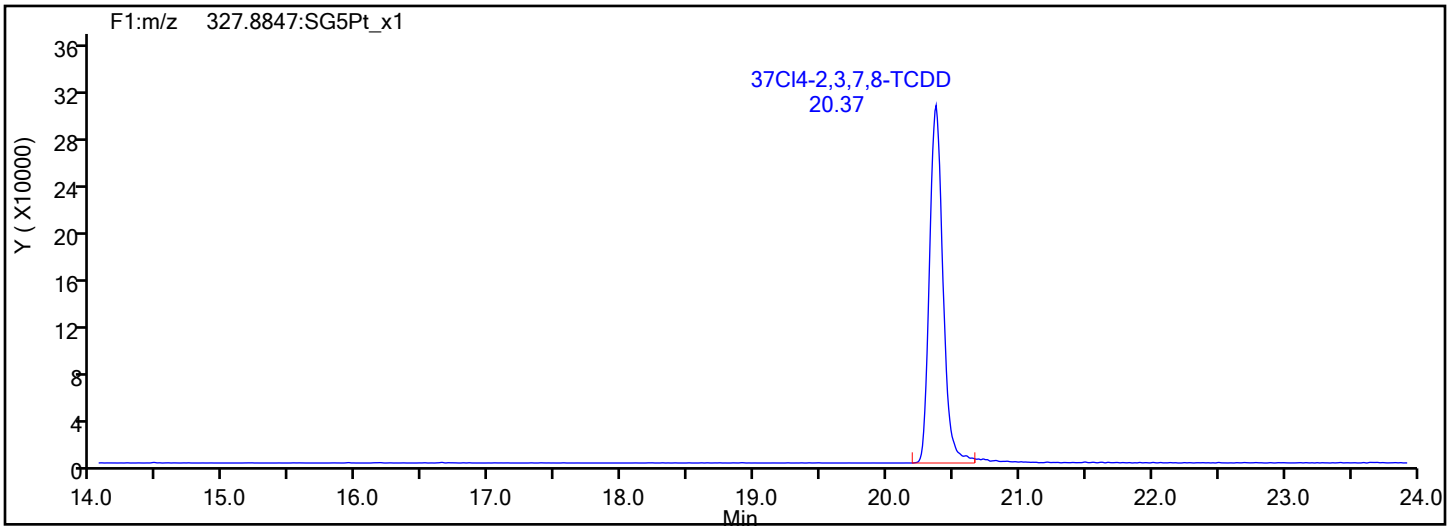
Report Date: 21-Jan-2022 08:05:39 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

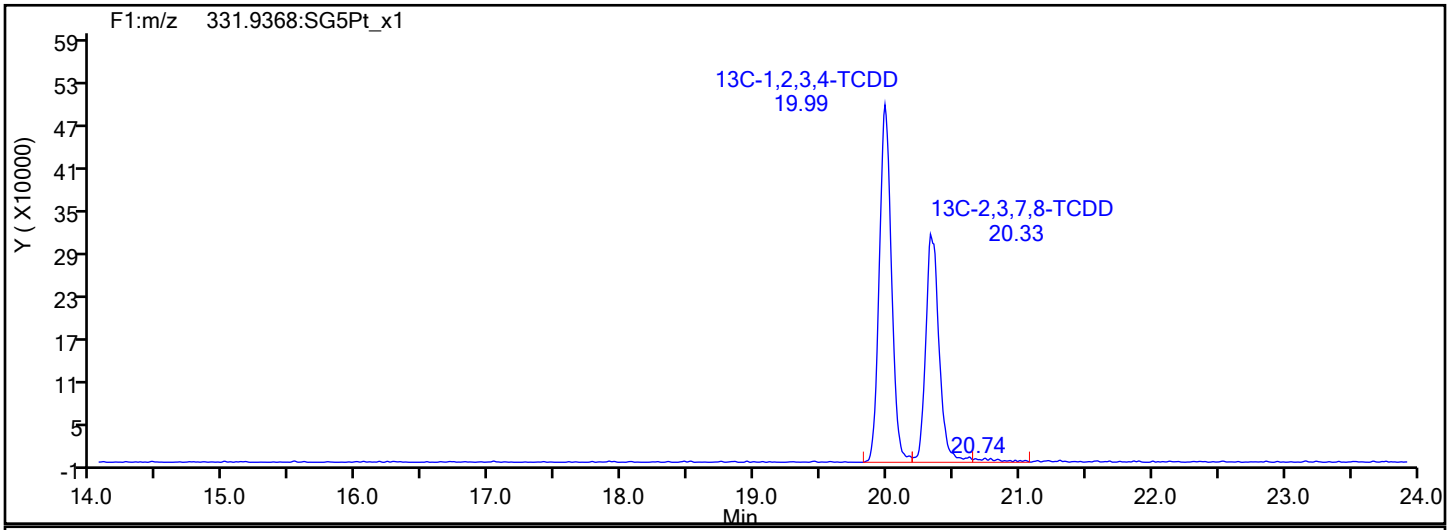
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d

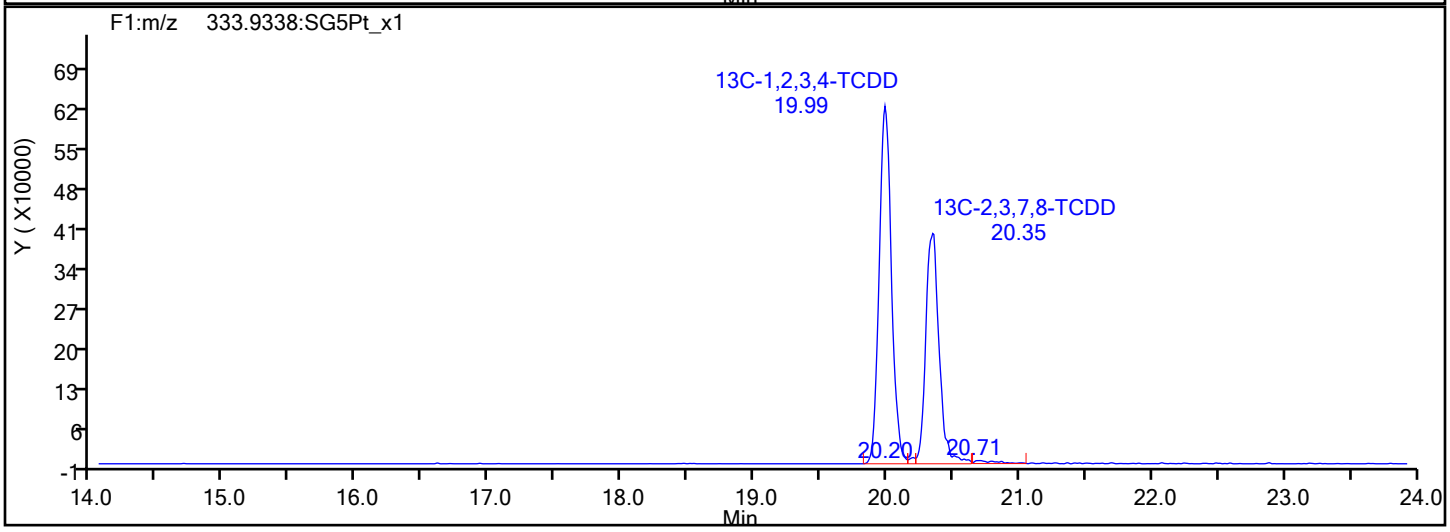
Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Eurofins Sacramento

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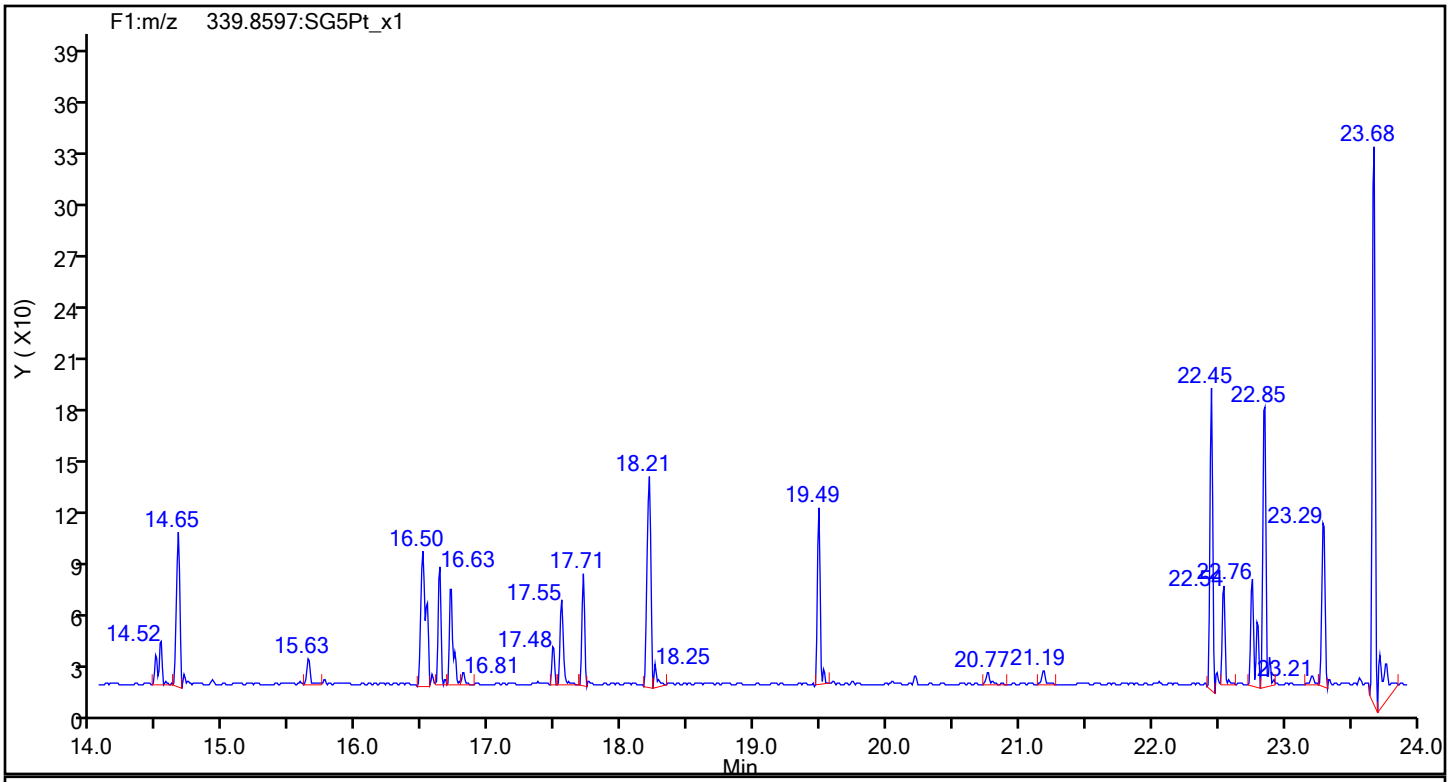
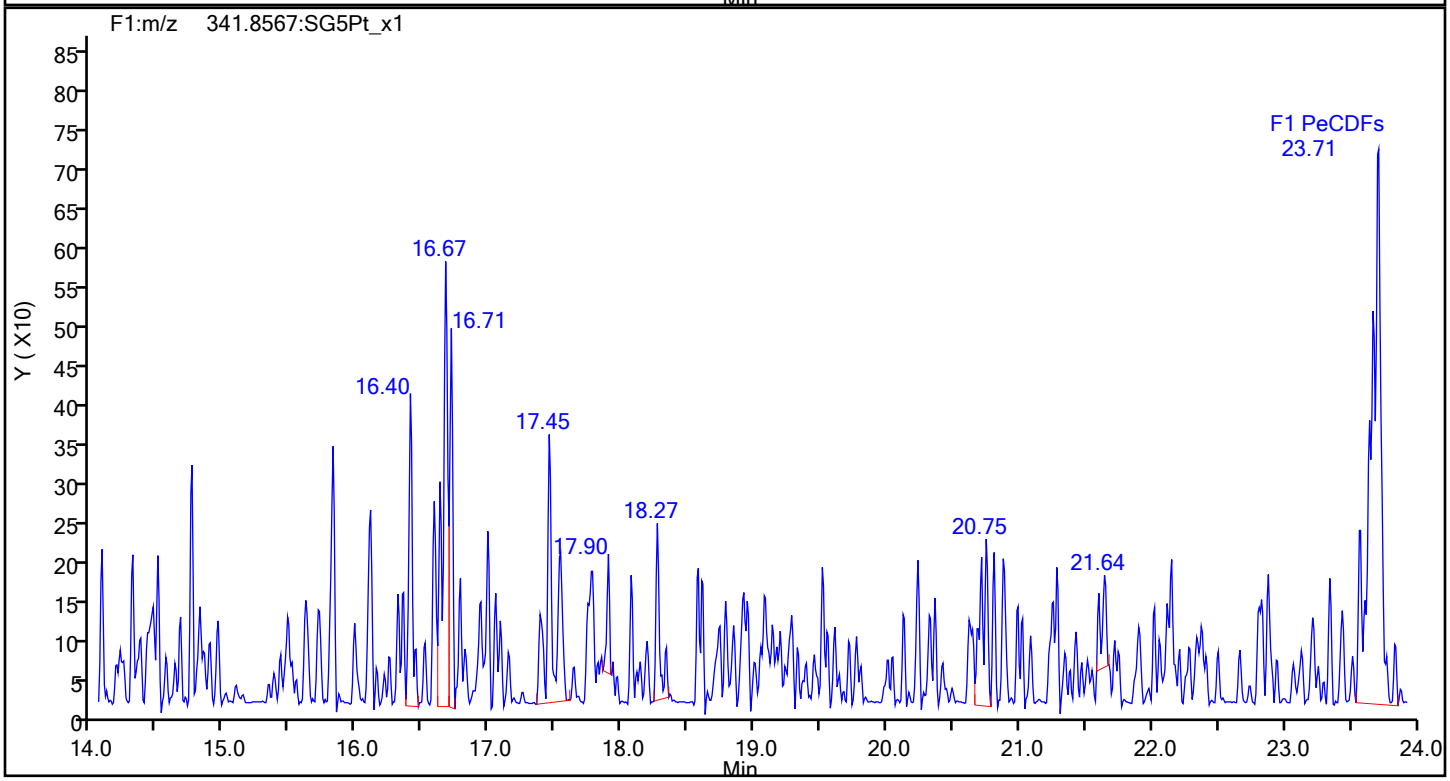
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs





Report Date: 21-Jan-2022 08:05:39 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Injection Date: 20-Jan-2022 17:03:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
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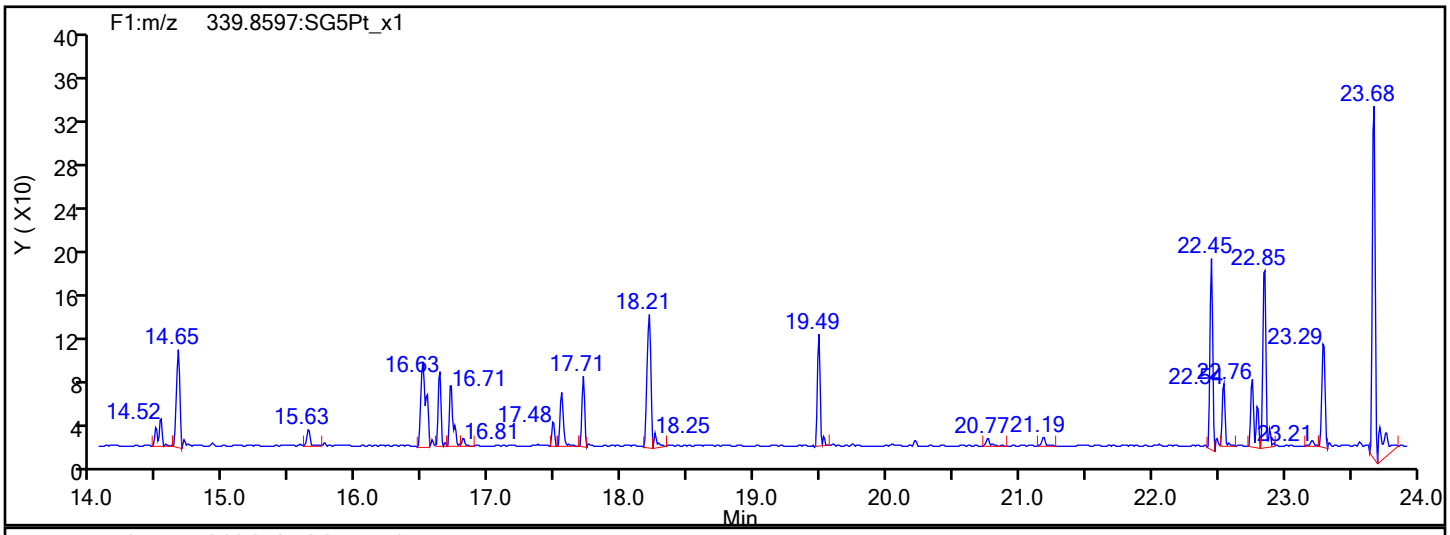
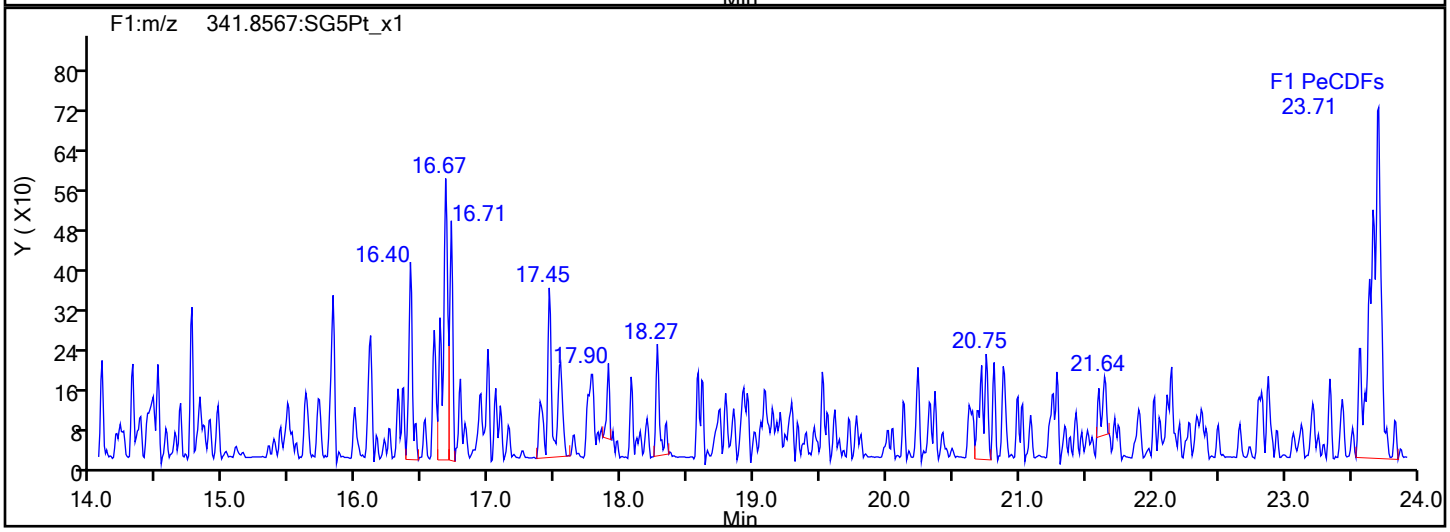
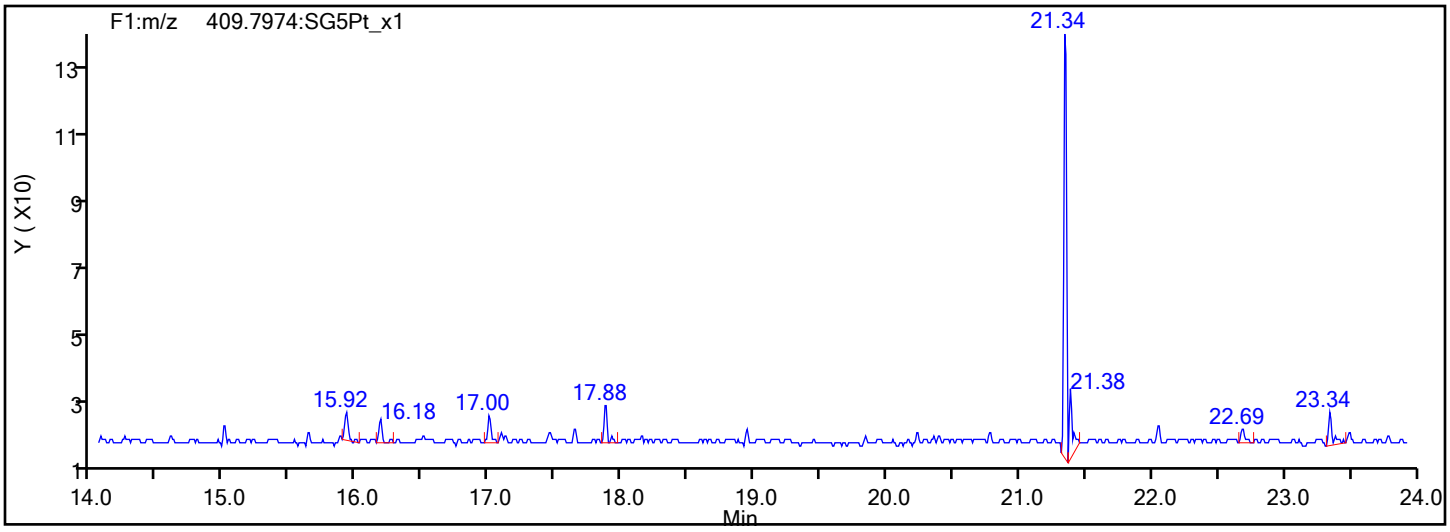




F1 PeCDFs Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d		
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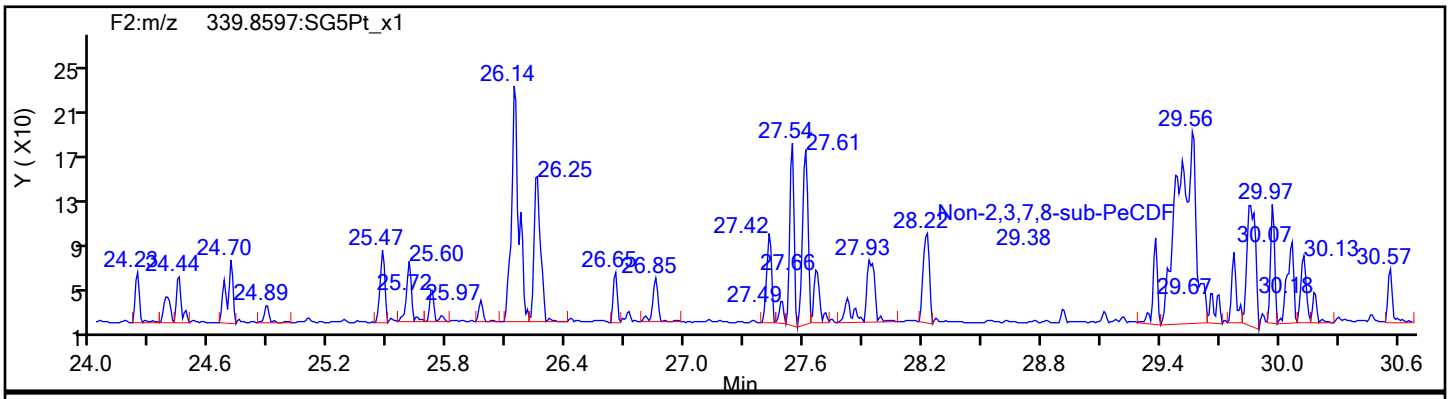
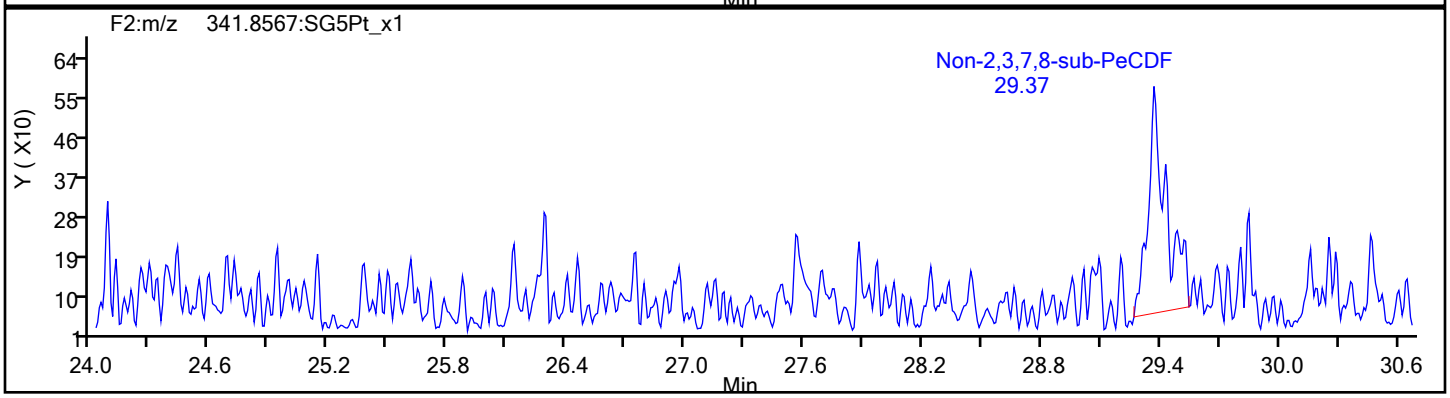
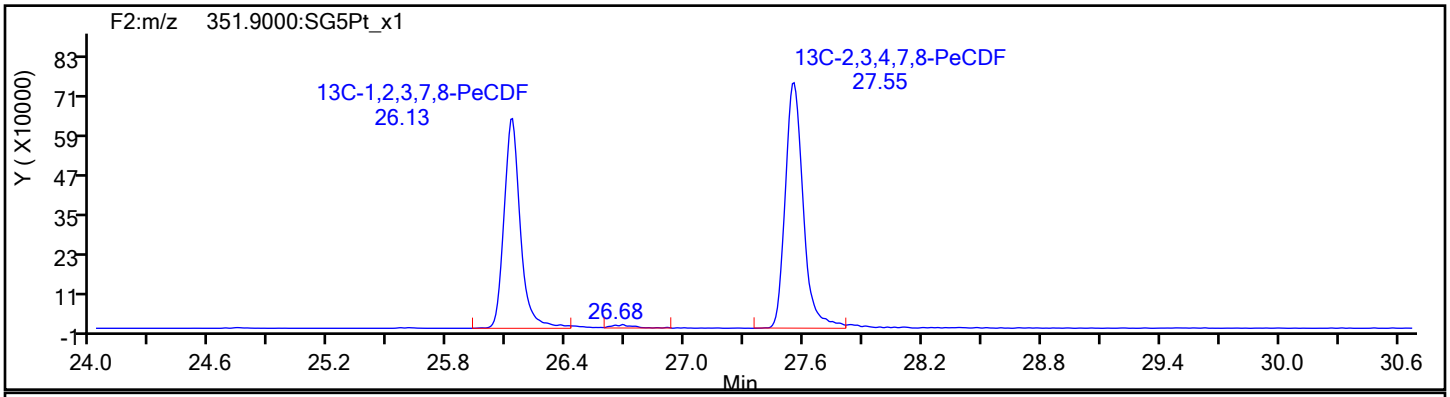
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

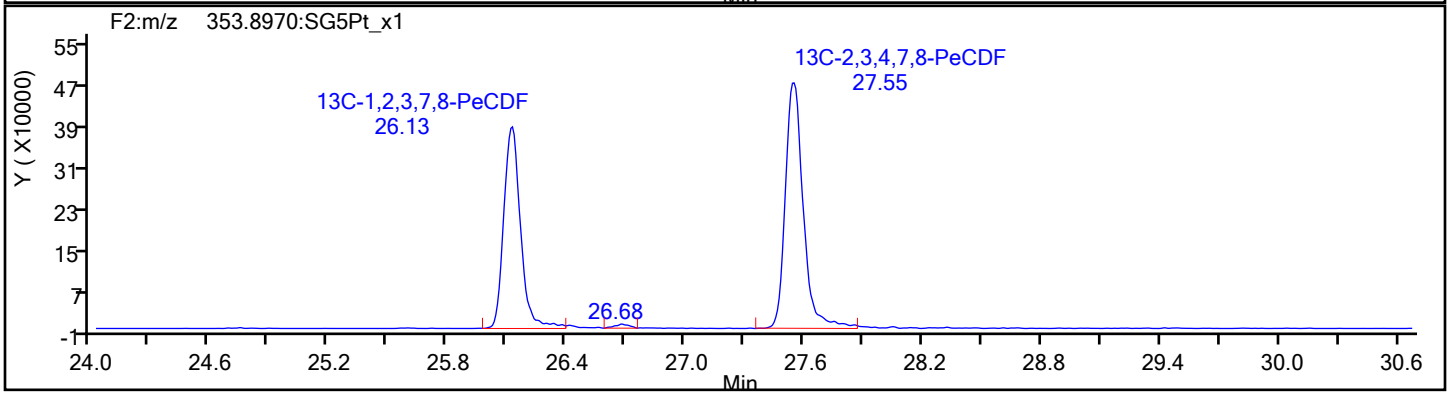
PeCDF





PeCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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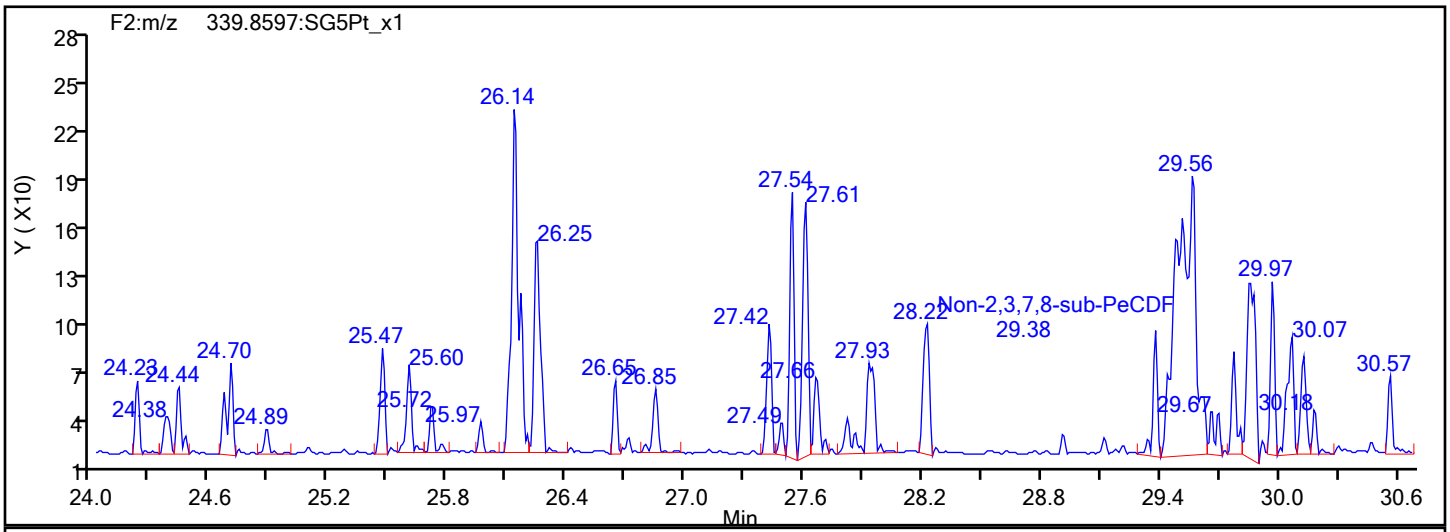
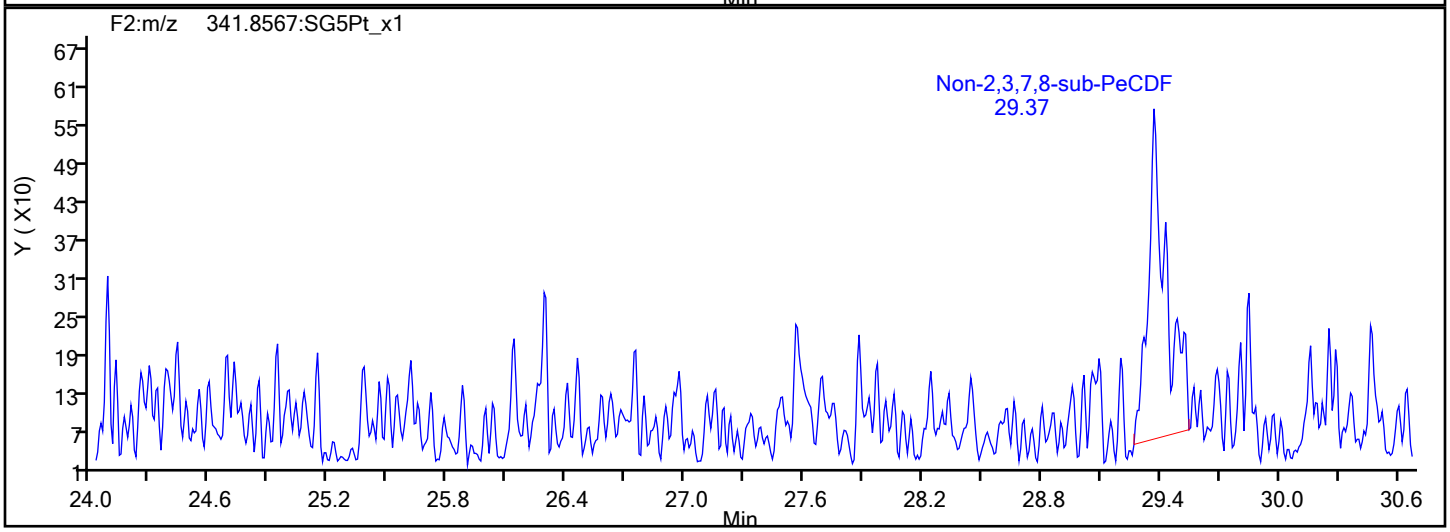
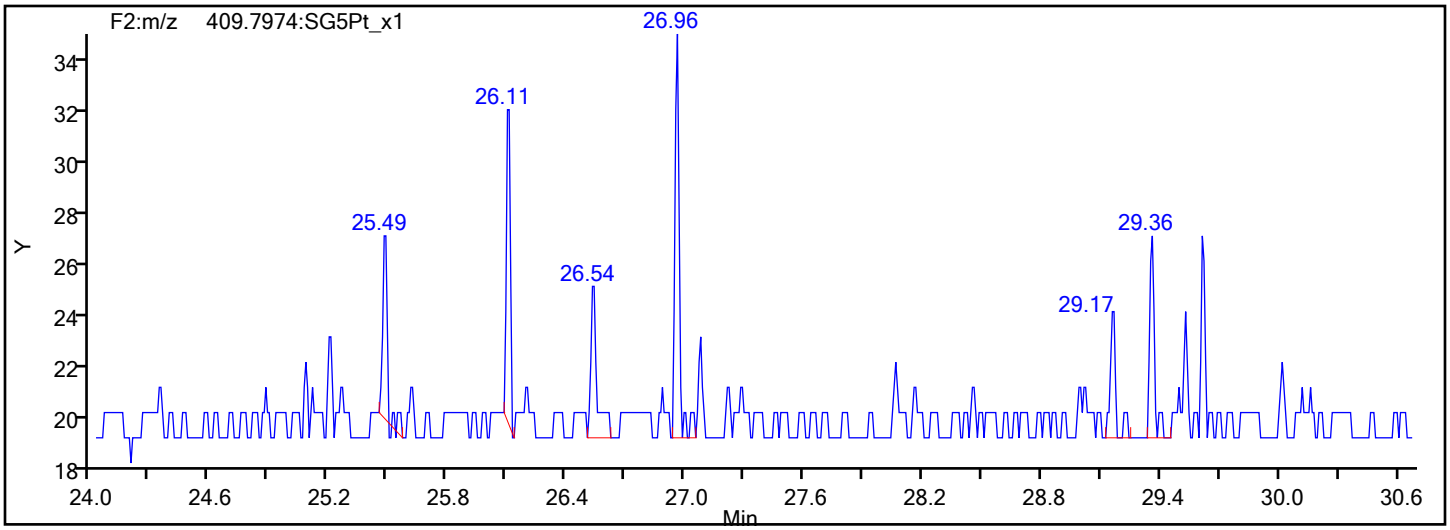
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



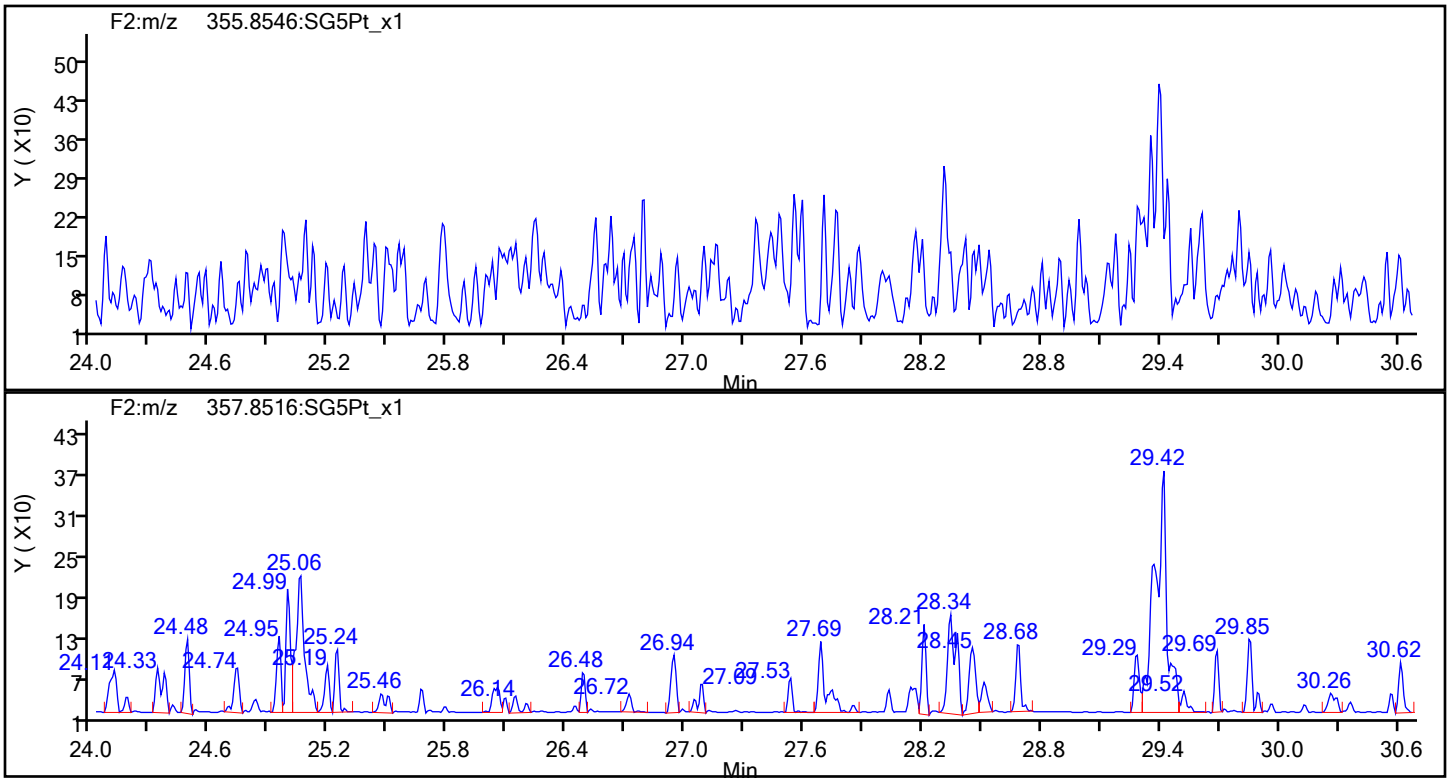
Report Date: 21-Jan-2022 08:05:39 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

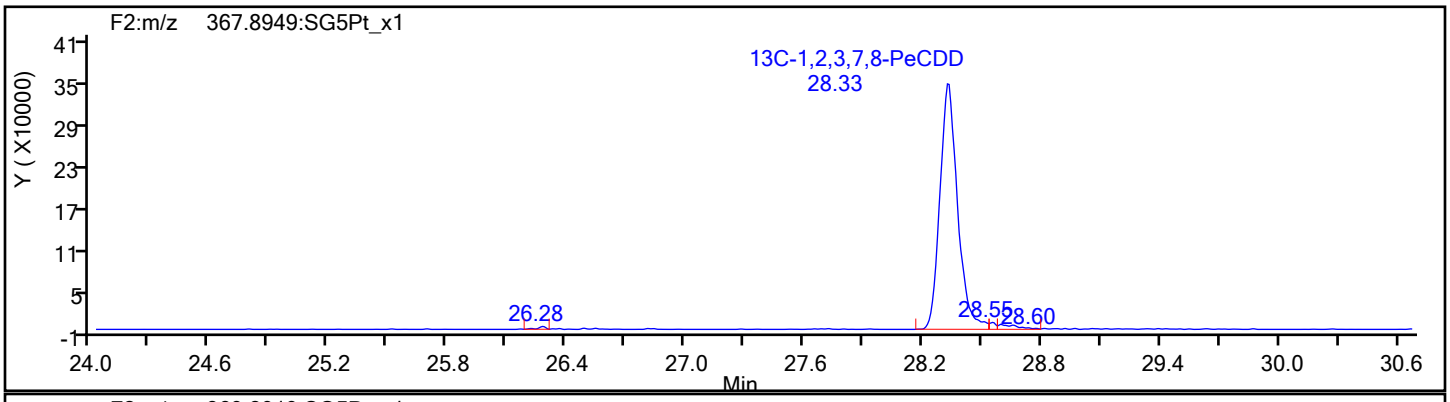
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d

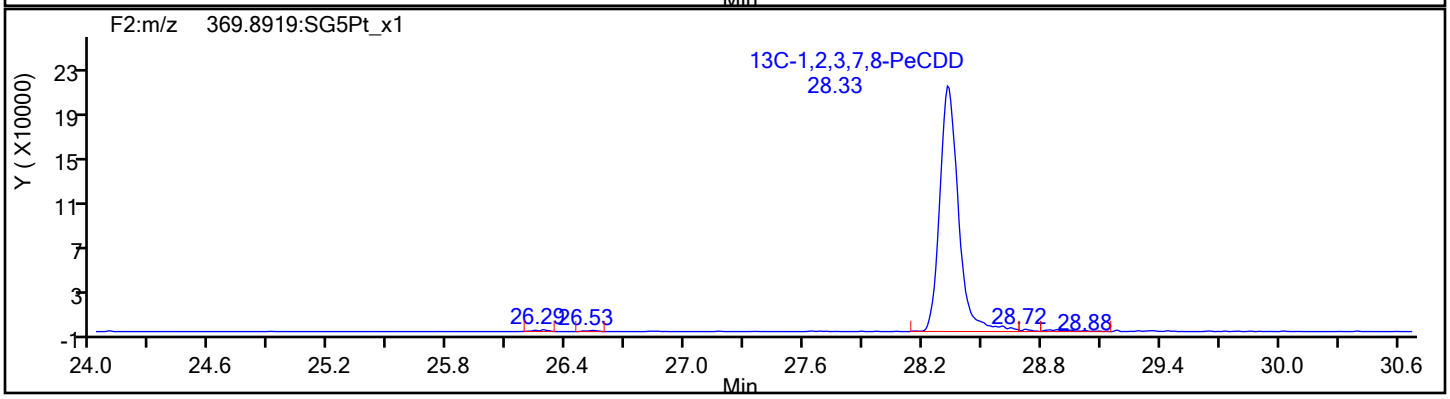
Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD



PeCDD Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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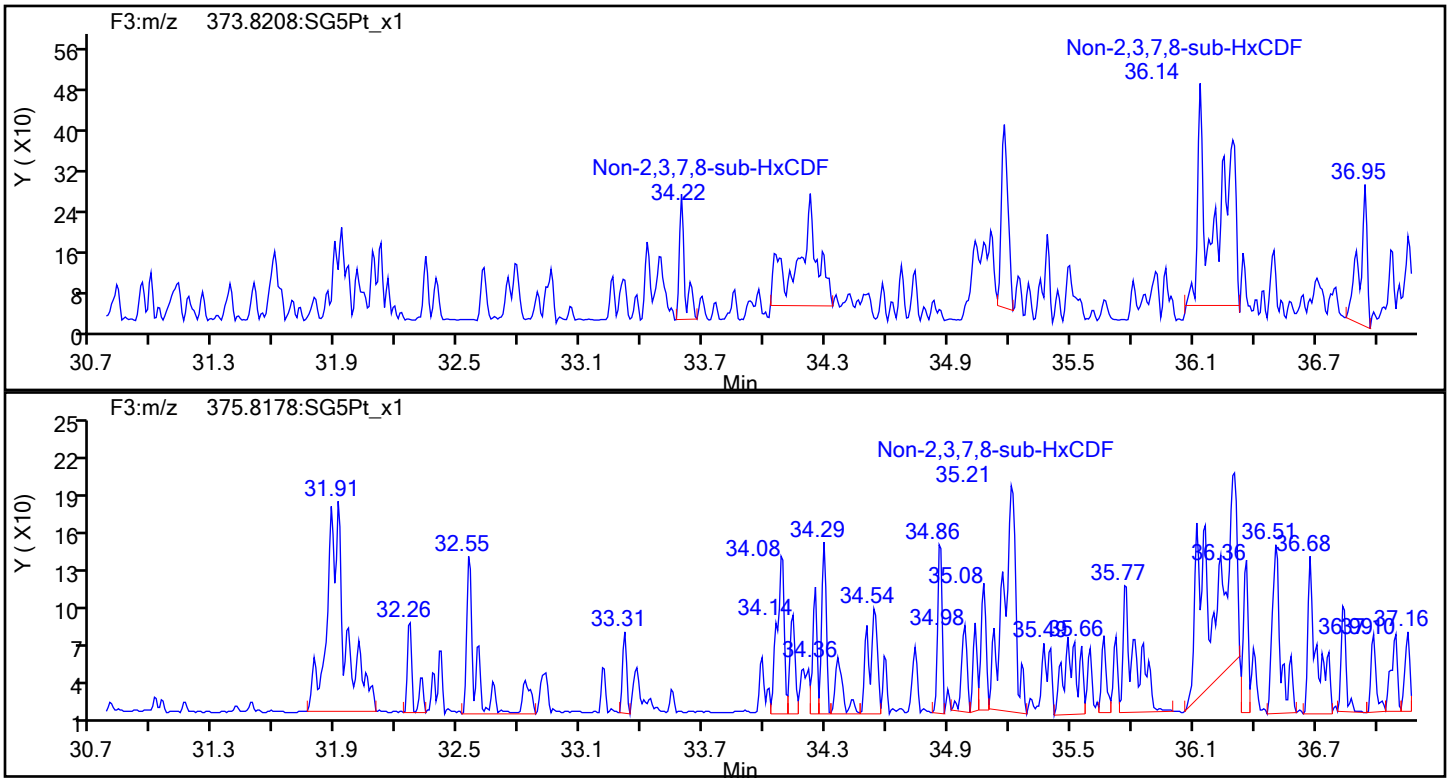
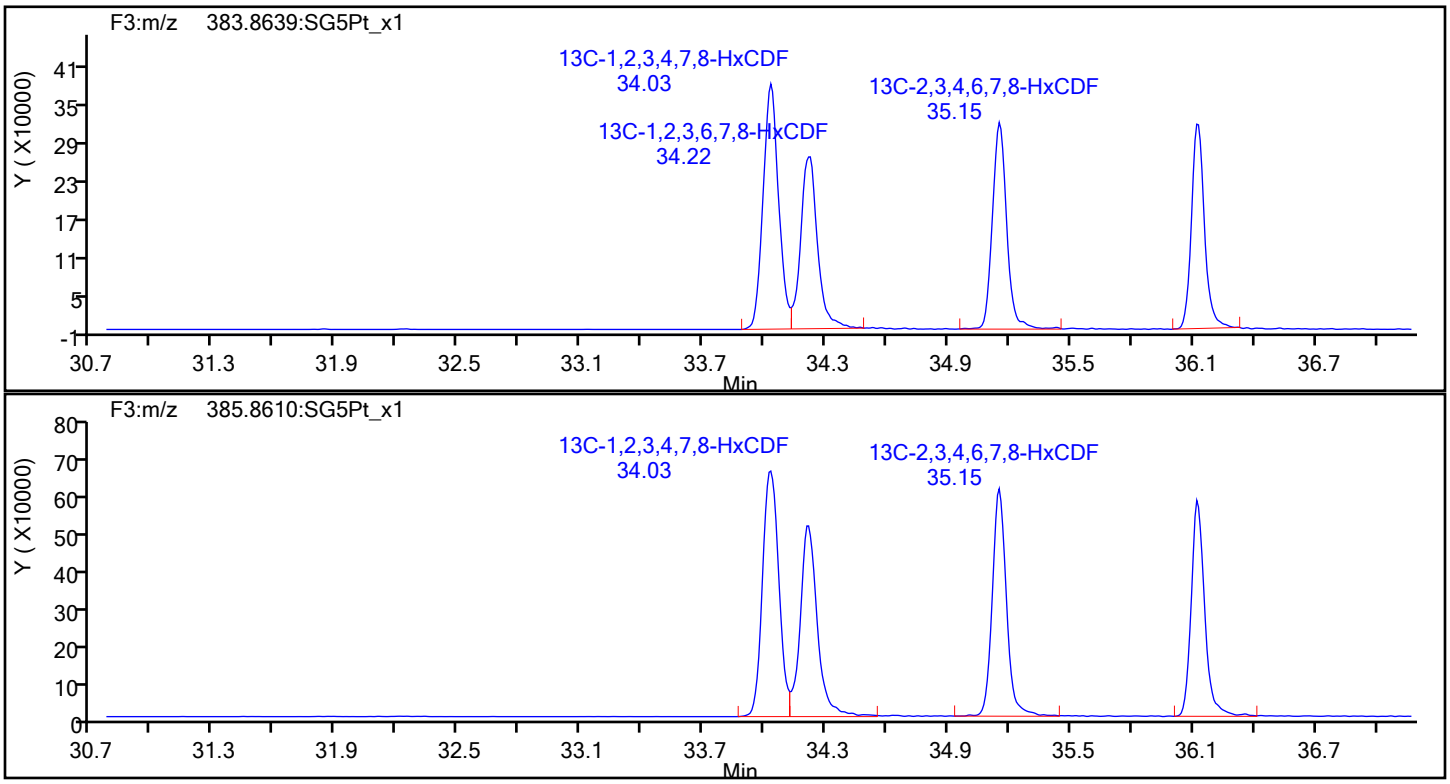
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



HxCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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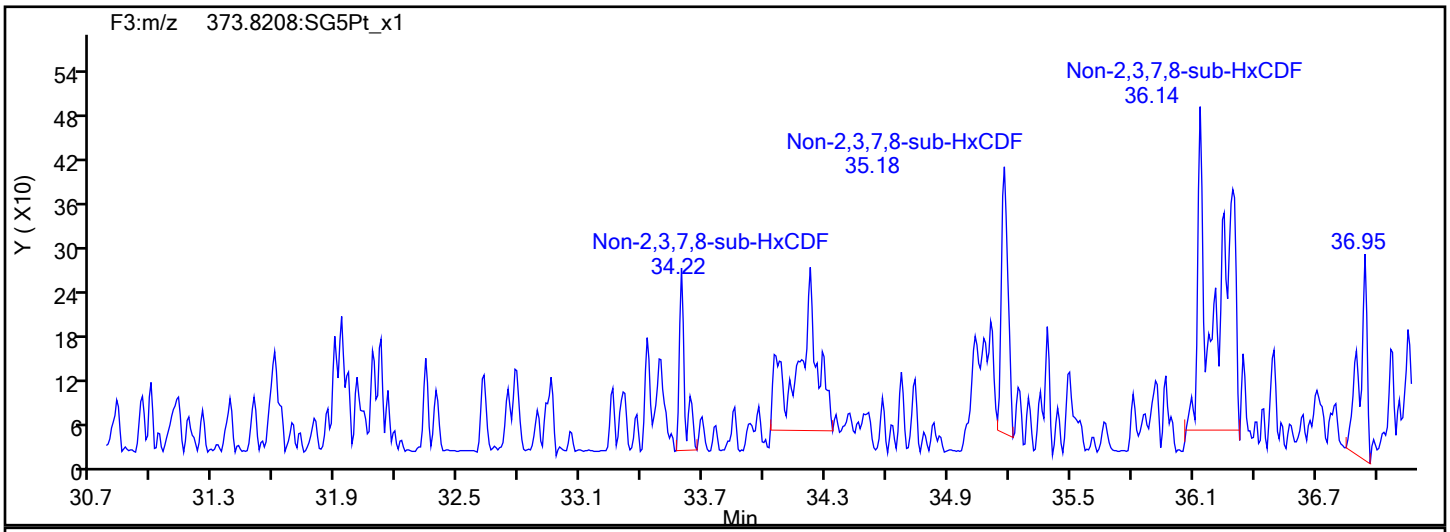
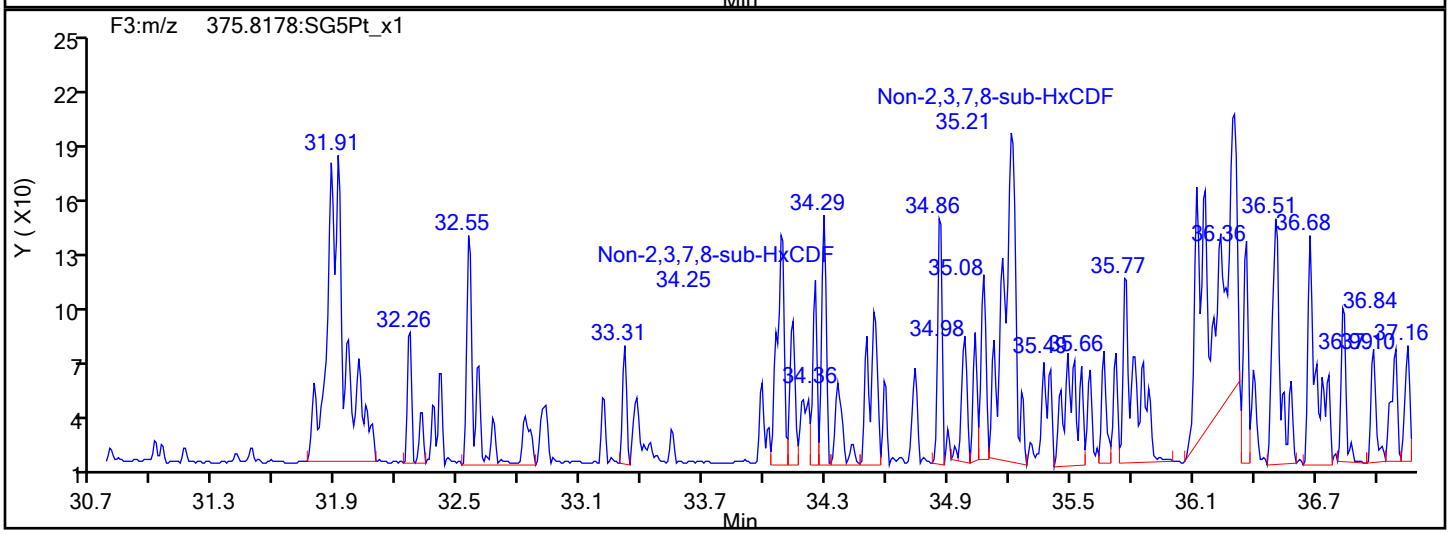
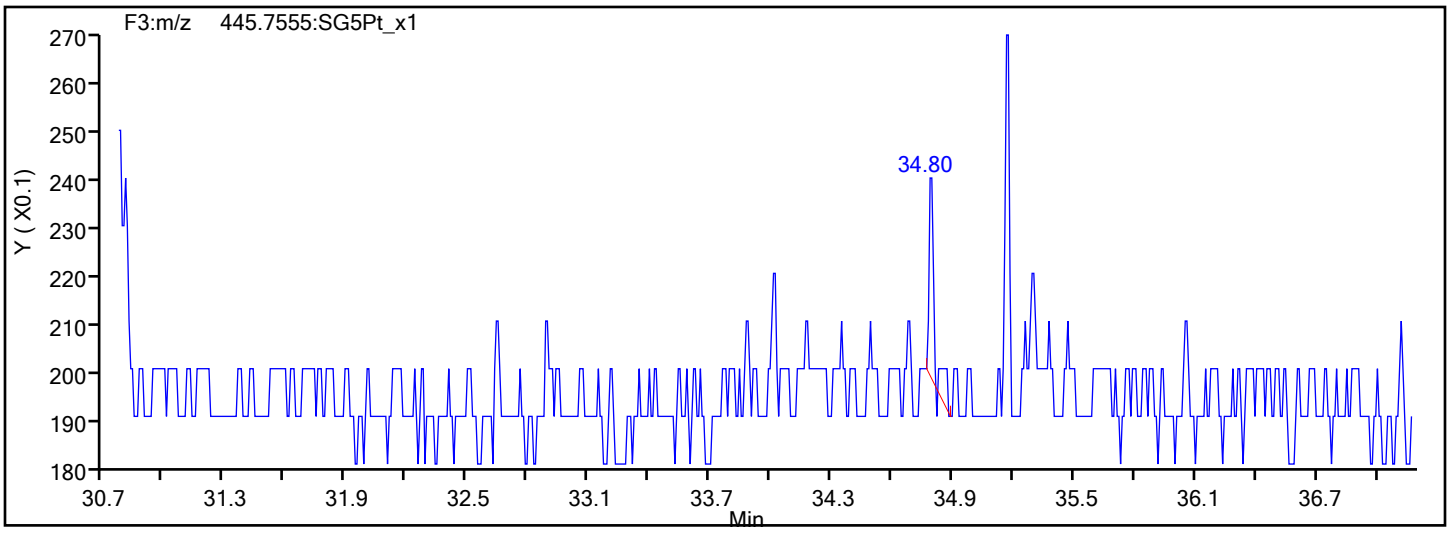
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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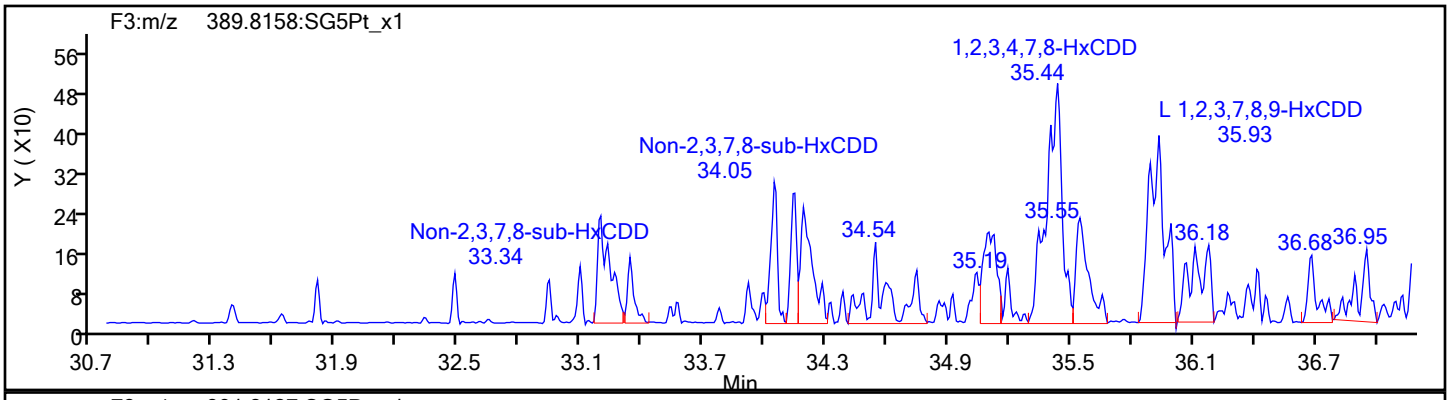
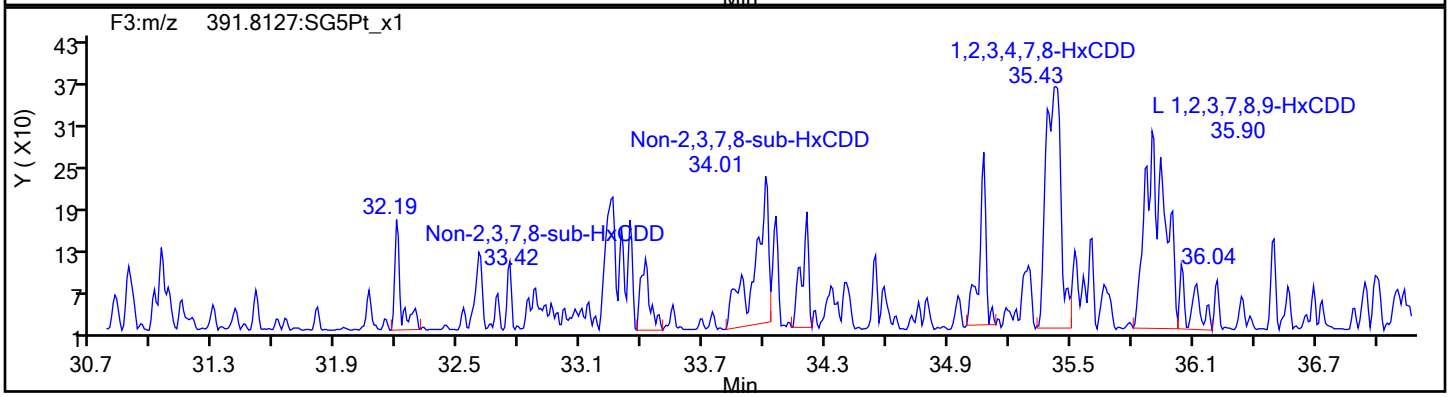
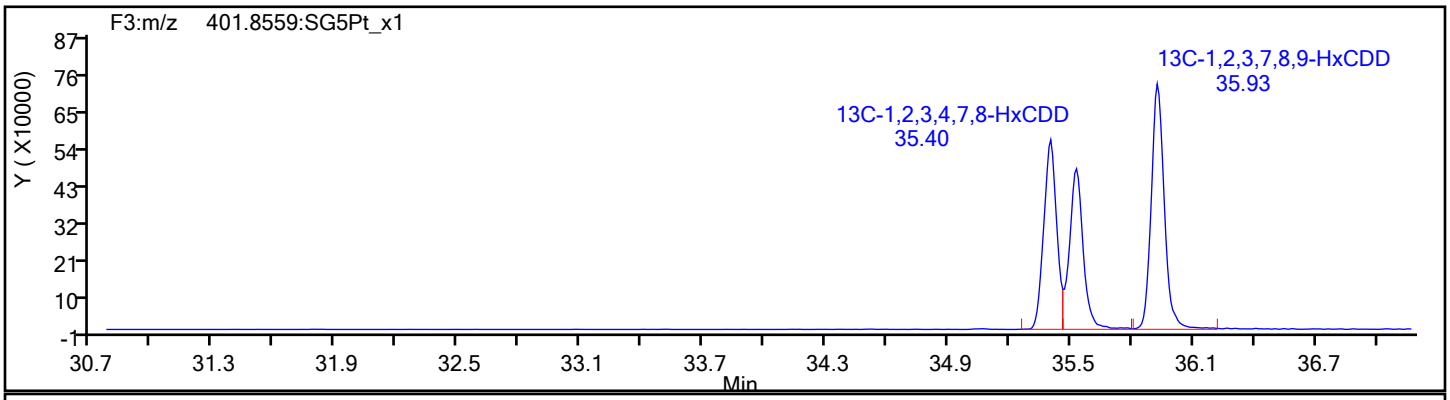
Column Type:	DB-5	Column Dia:	0.32 mm

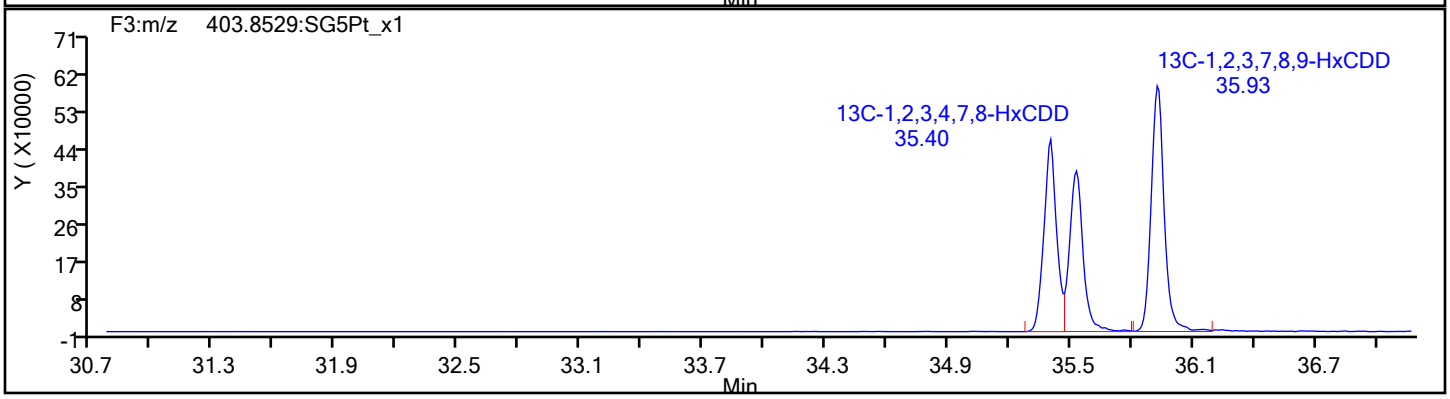
HxCDD





HxCDD Standards





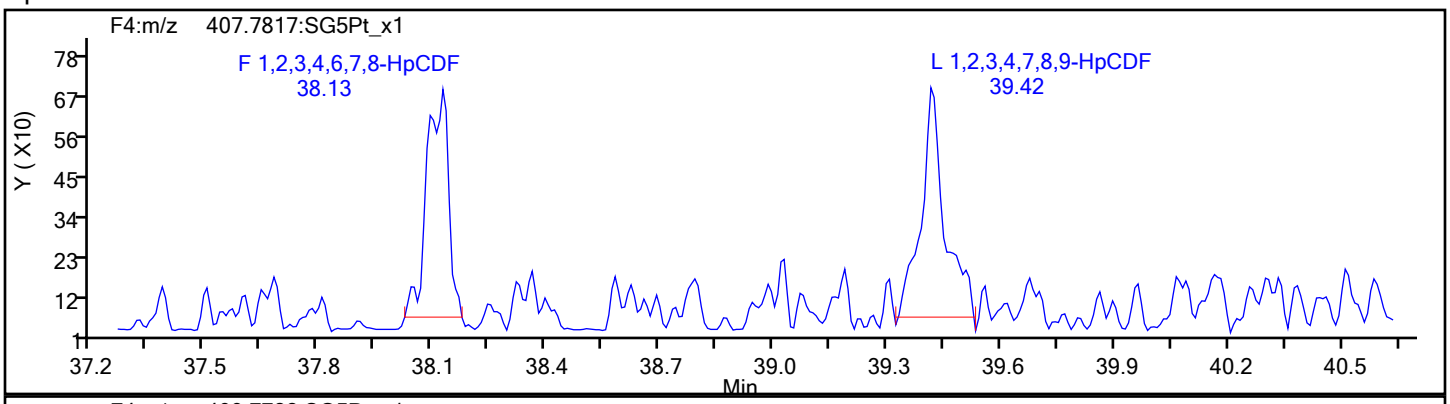
Report Date: 21-Jan-2022 08:05:40 Chrom Revision: 2.3 18-Jan-2022 20:25:40

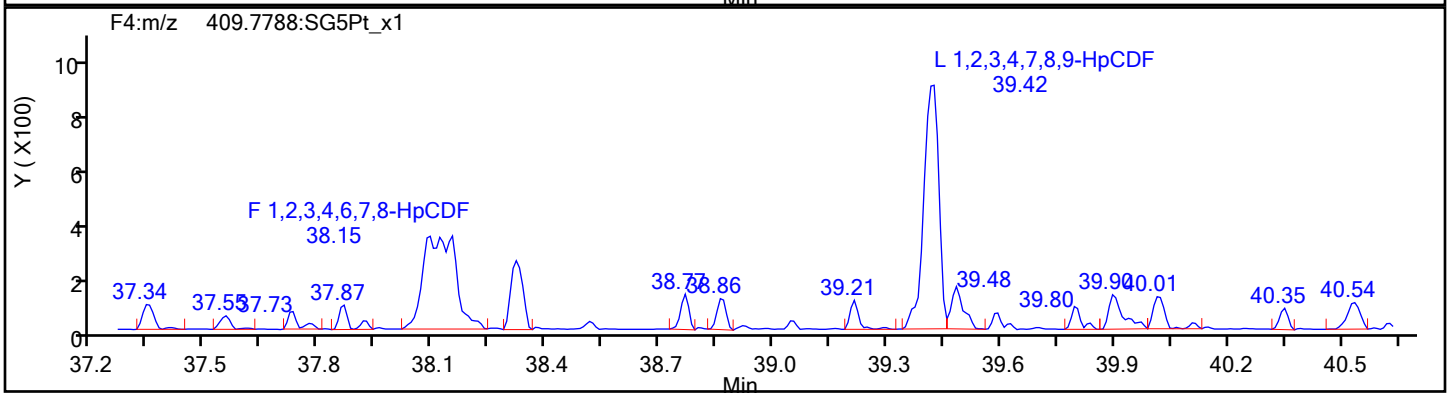
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d

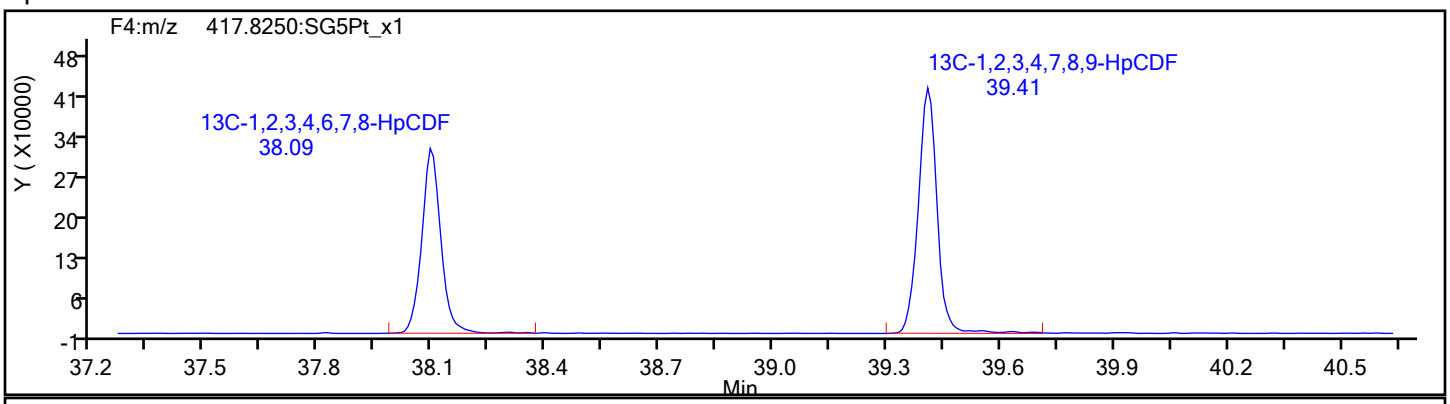
Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

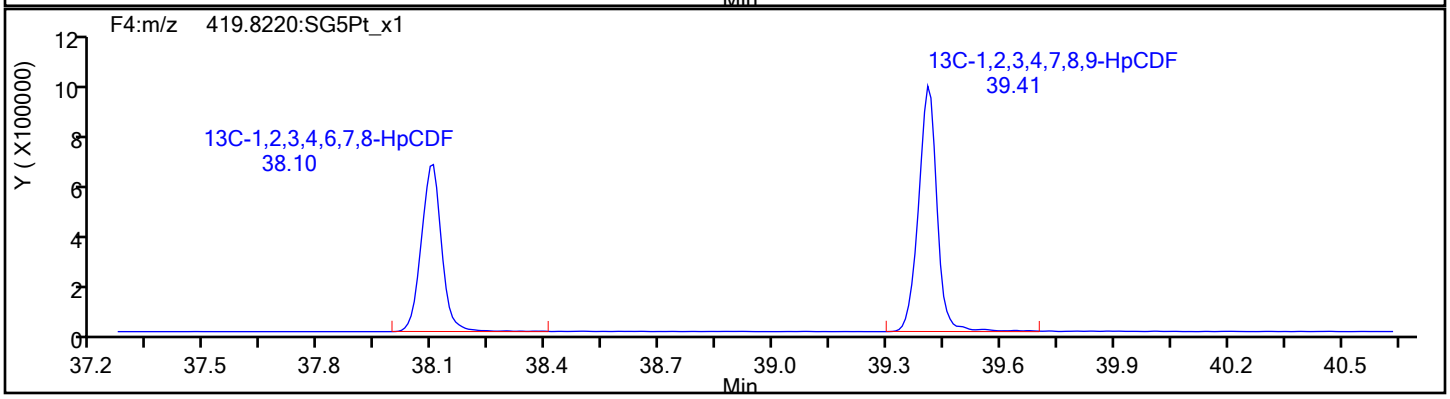
HpCDF





HpCDF Standards





Eurofins Sacramento

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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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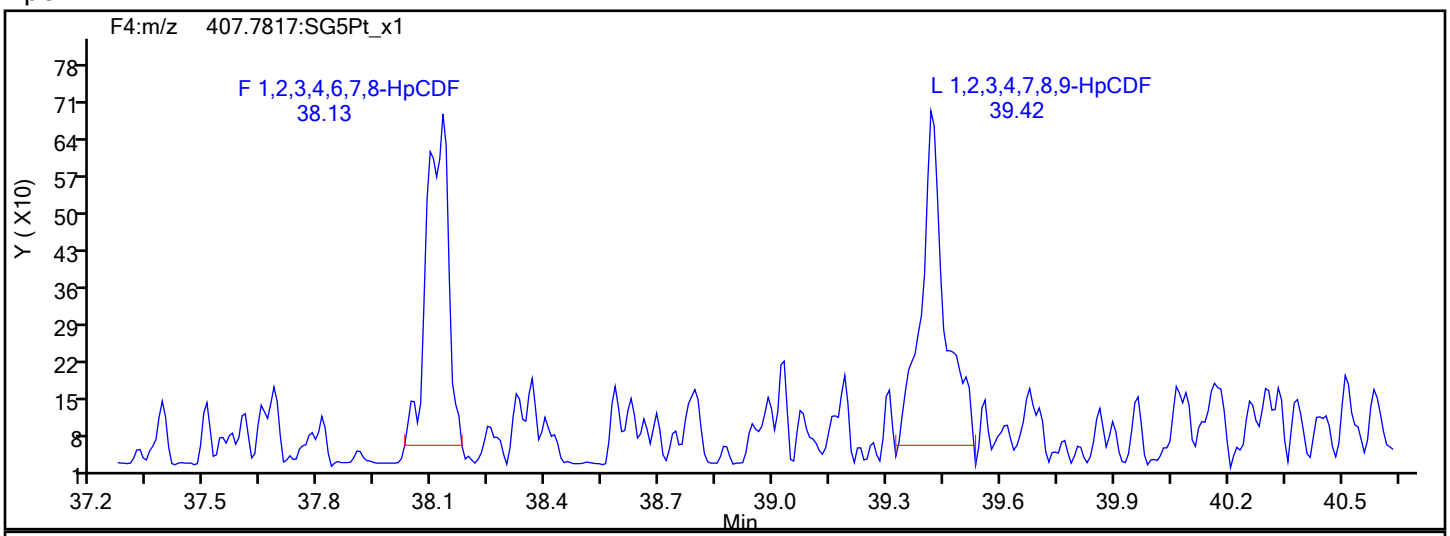
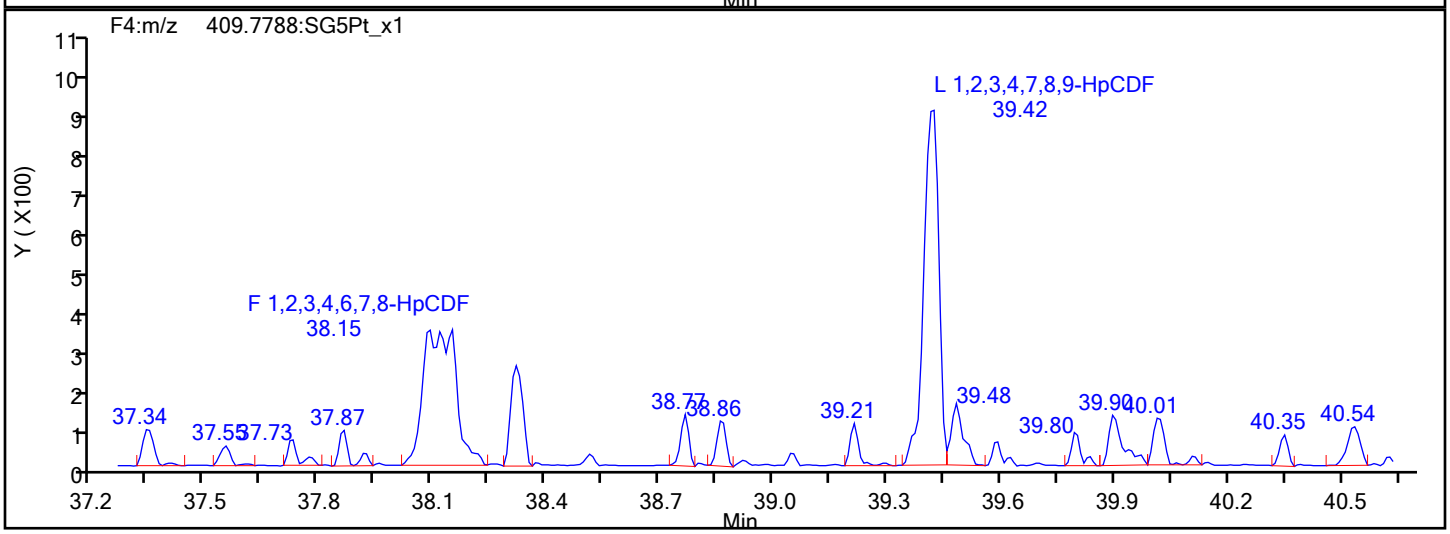
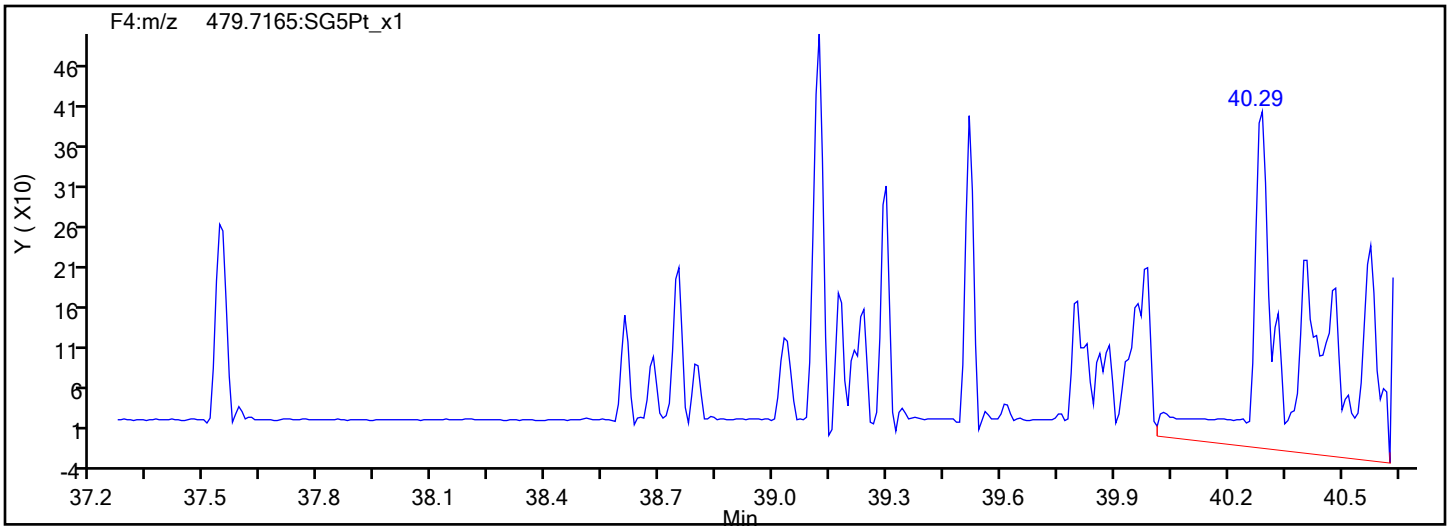
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





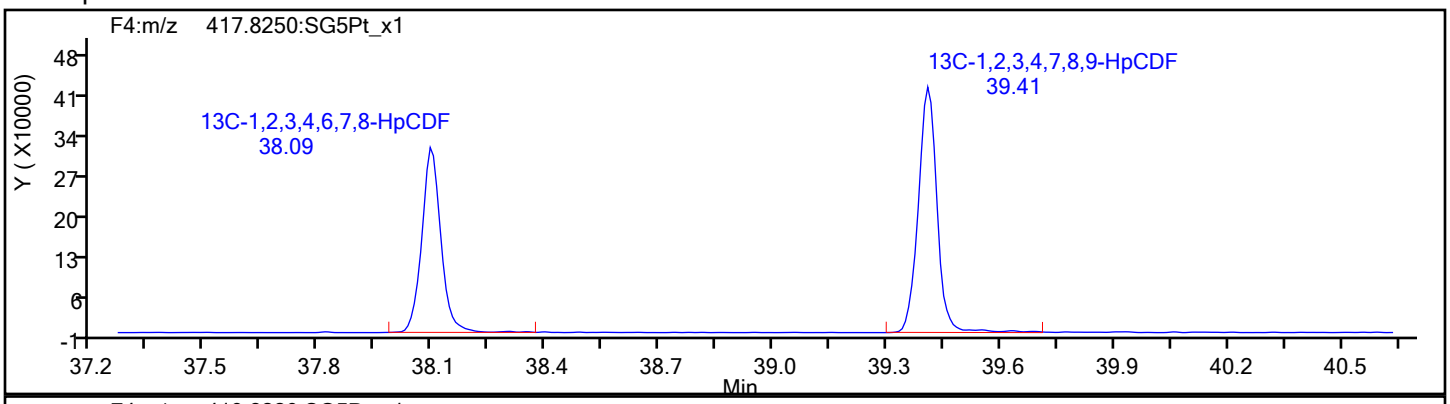
HpCDF Interference Mass

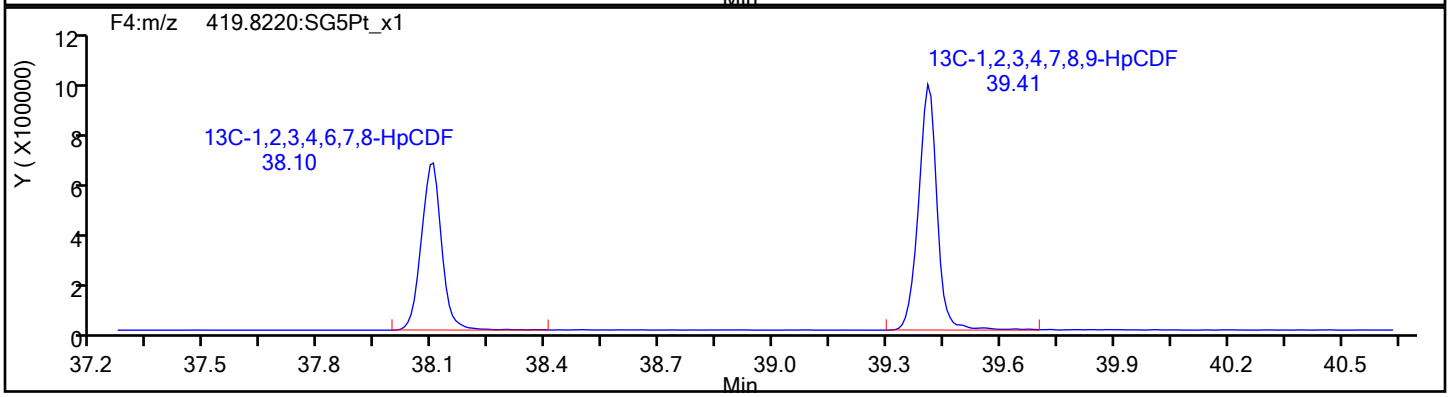


Eurofins Sacramento

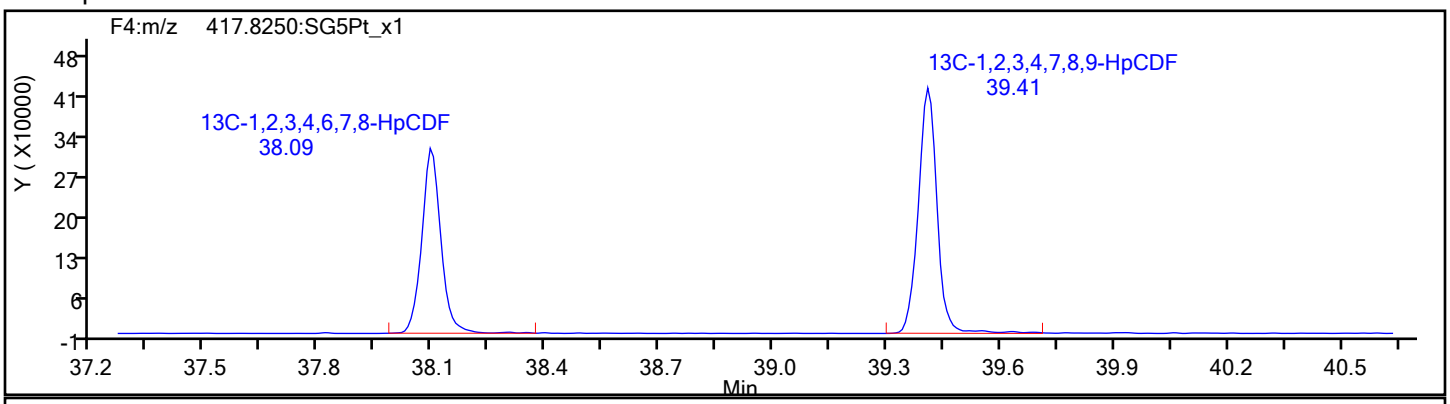
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d
Injection Date: 20-Jan-2022 17:03:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

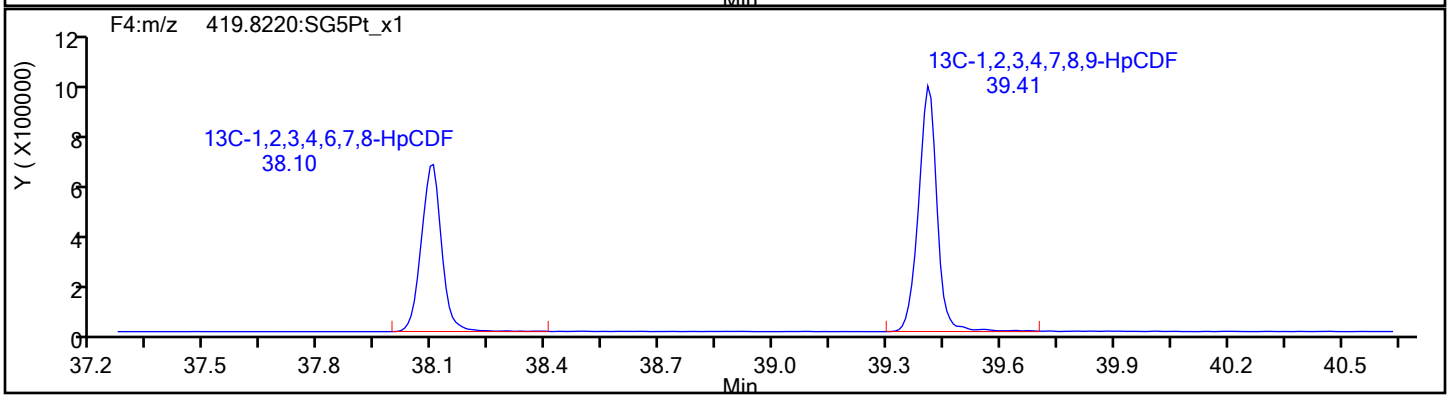
13C-HpCDF





13C-HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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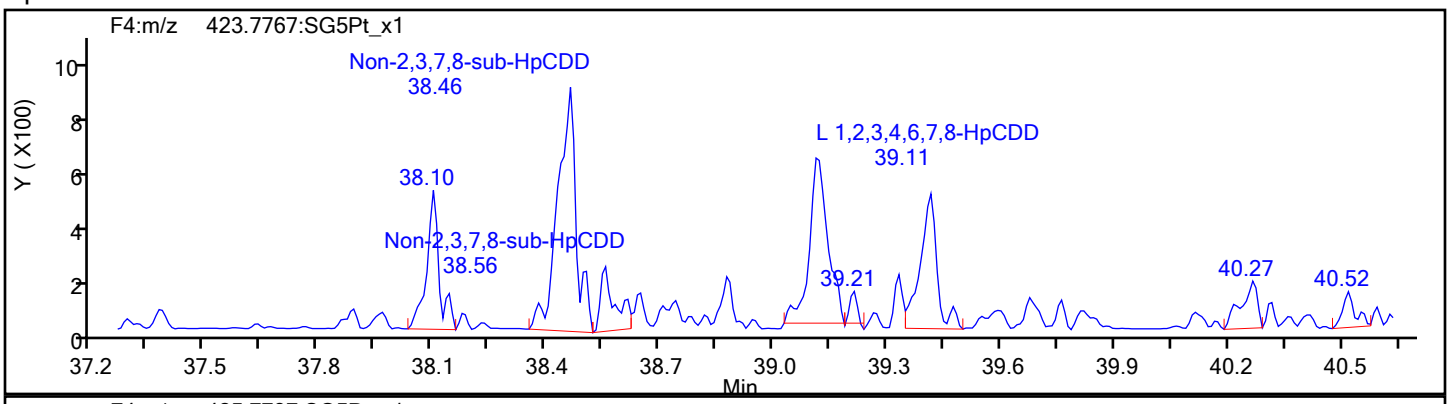
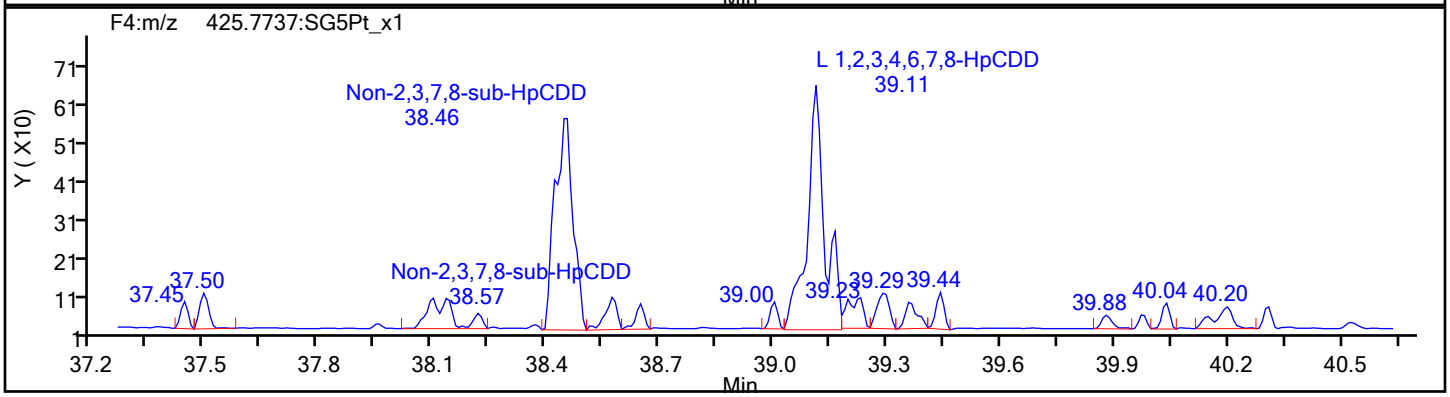
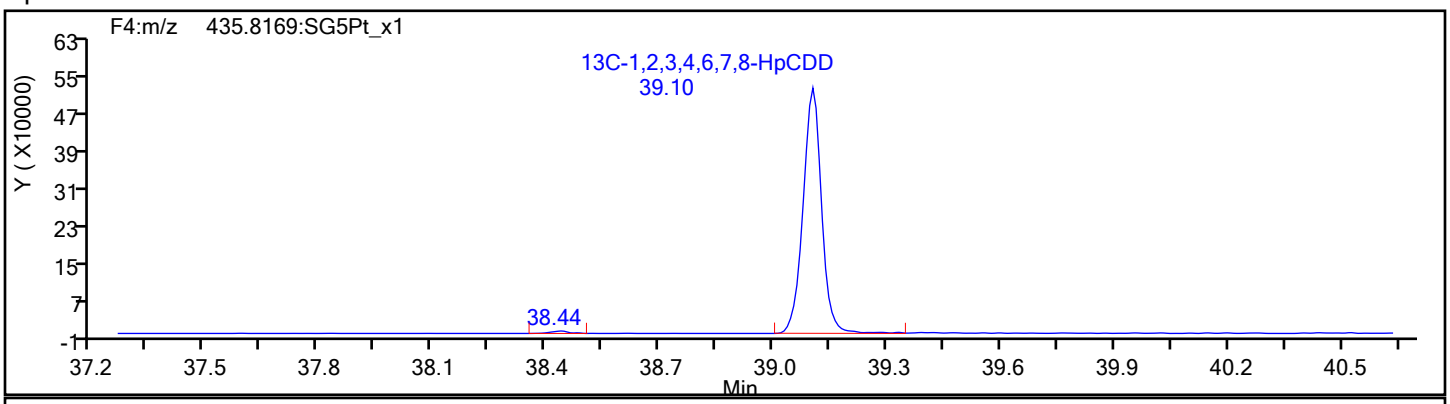
Column Type:	DB-5	Column Dia:	0.32 mm

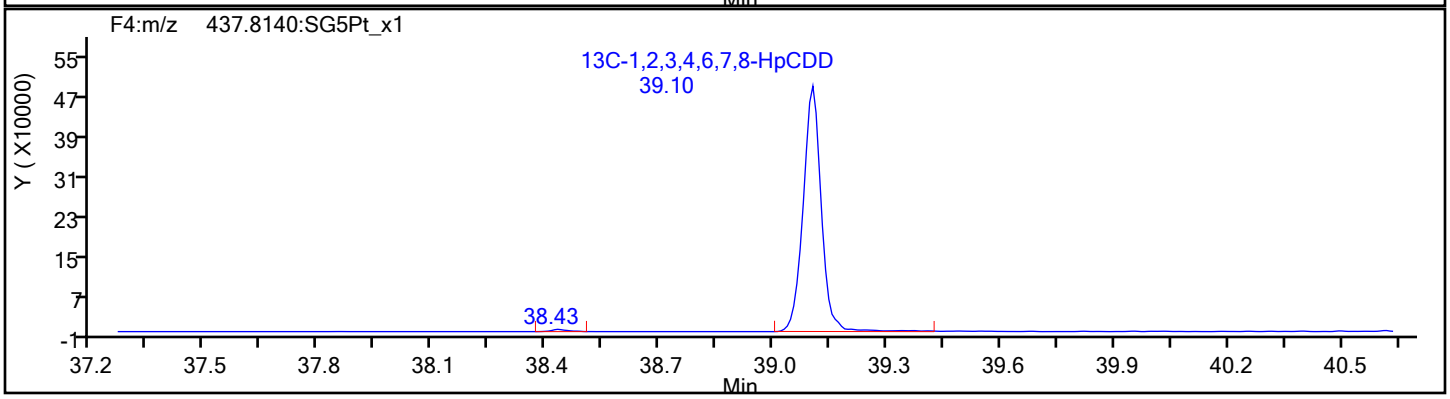
HpCDD





HpCDD Standards





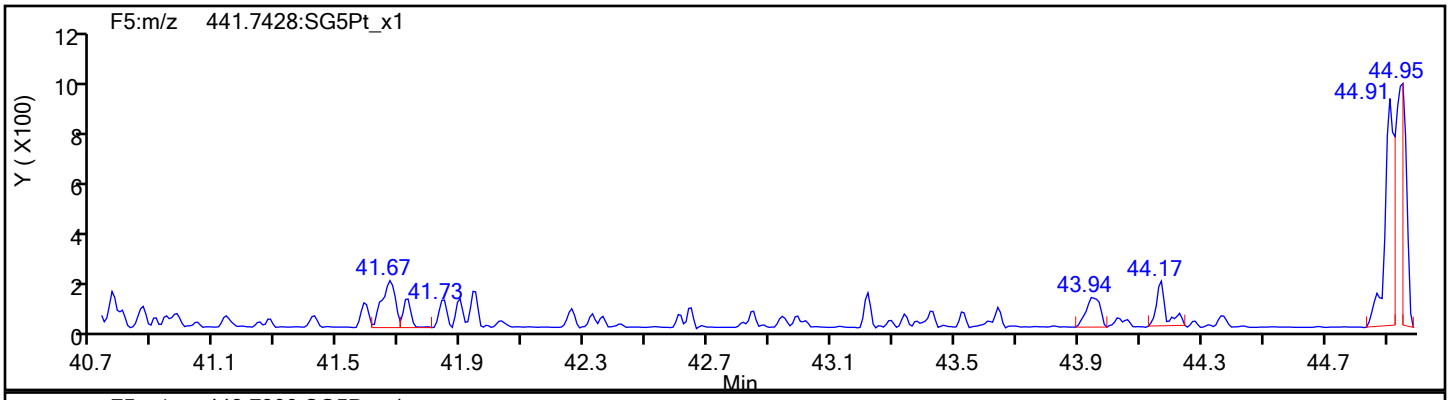
Report Date: 21-Jan-2022 08:05:40 Chrom Revision: 2.3 18-Jan-2022 20:25:40

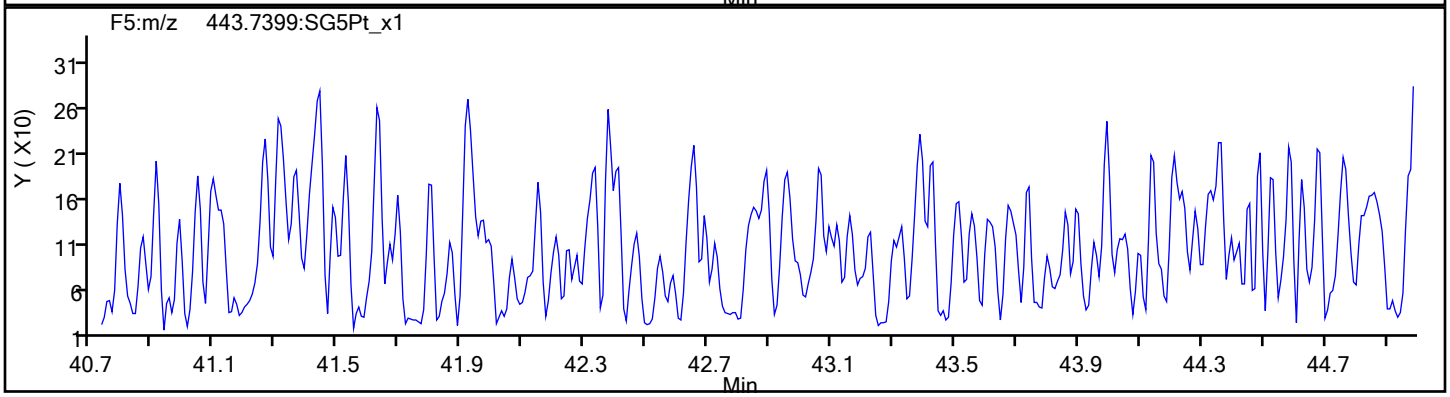
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d

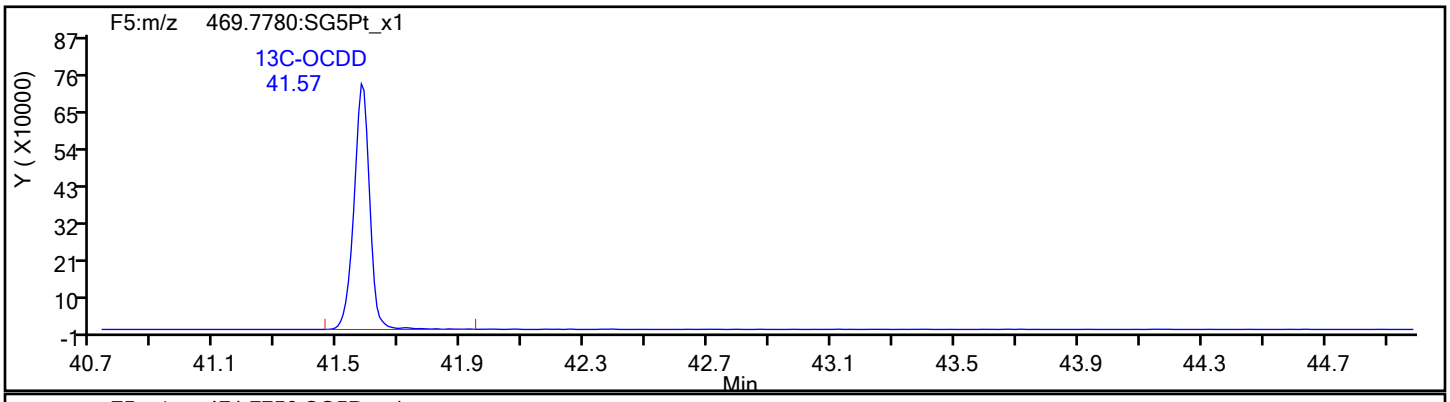
Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

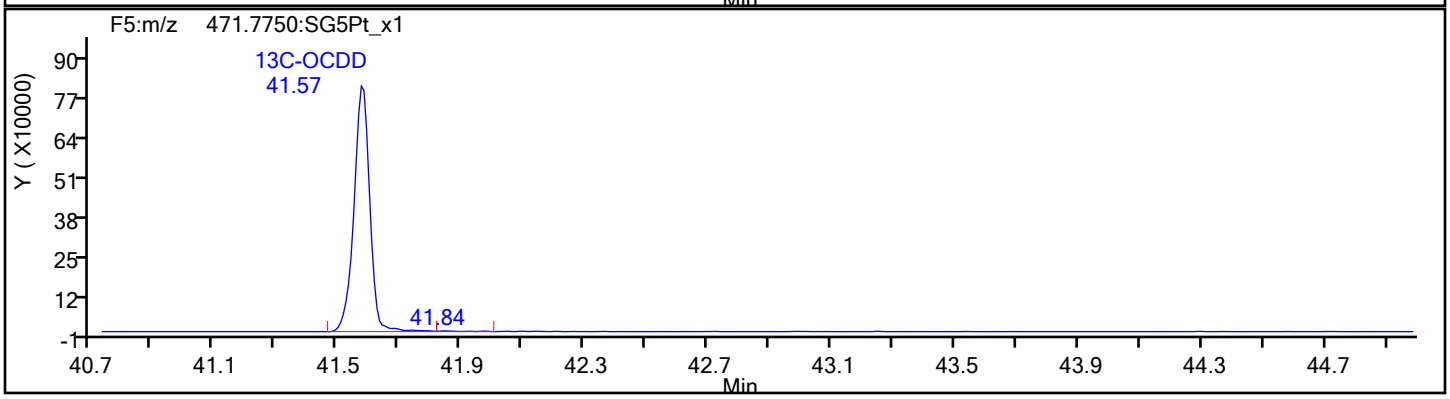
OCDF





OCDF Standards

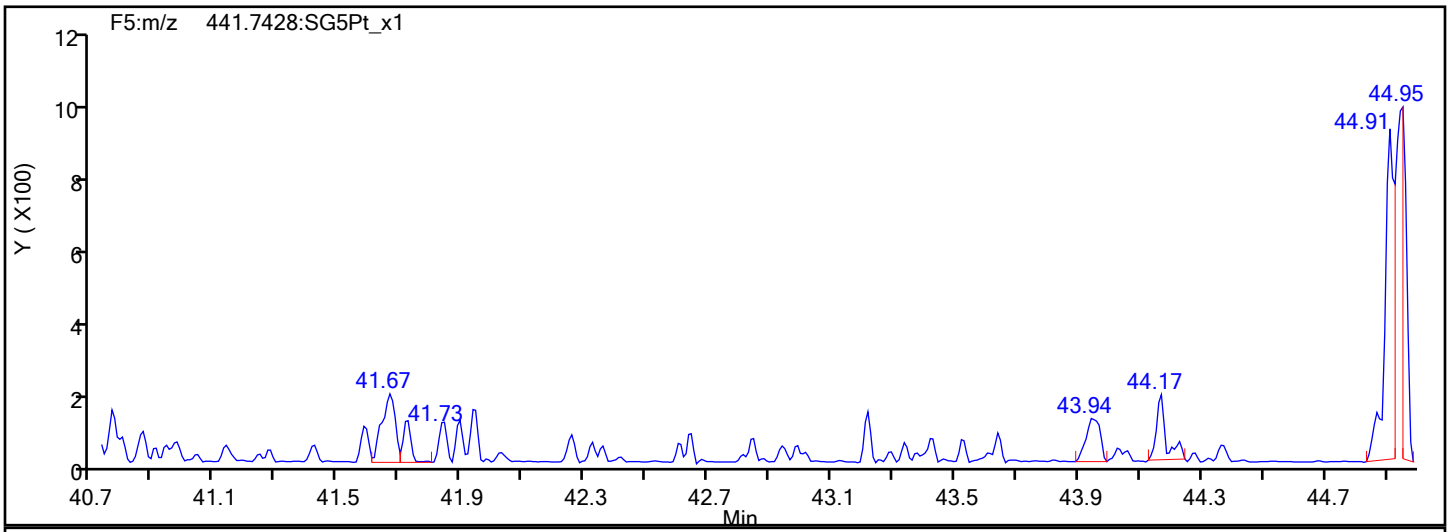


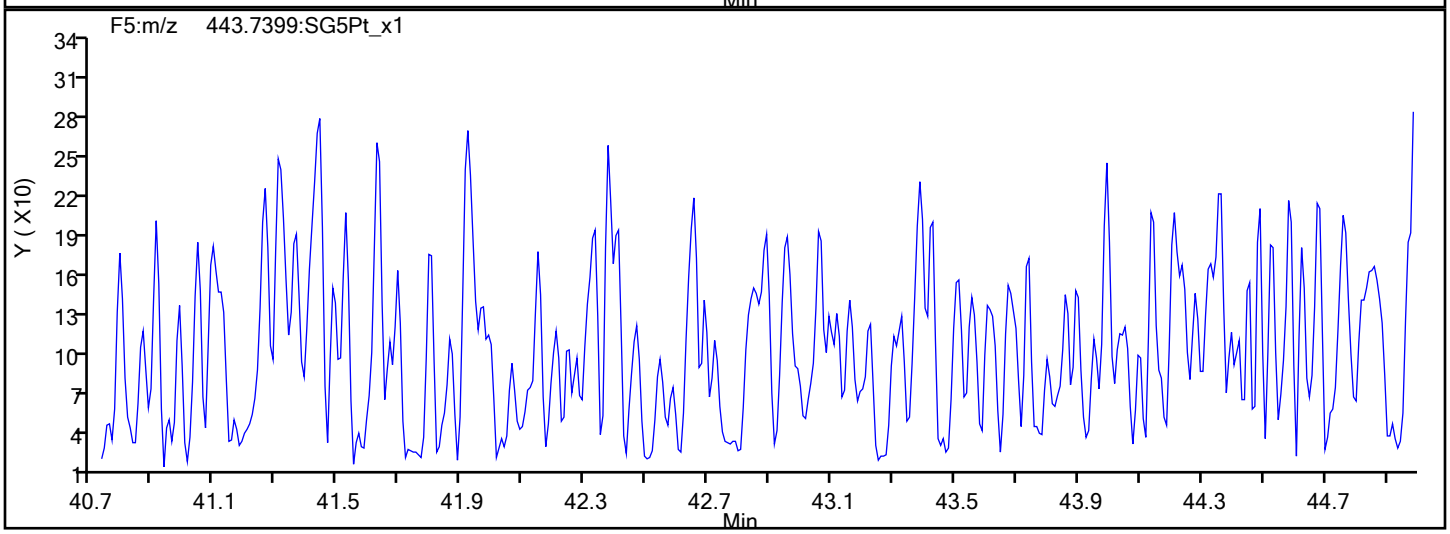


Eurofins Sacramento

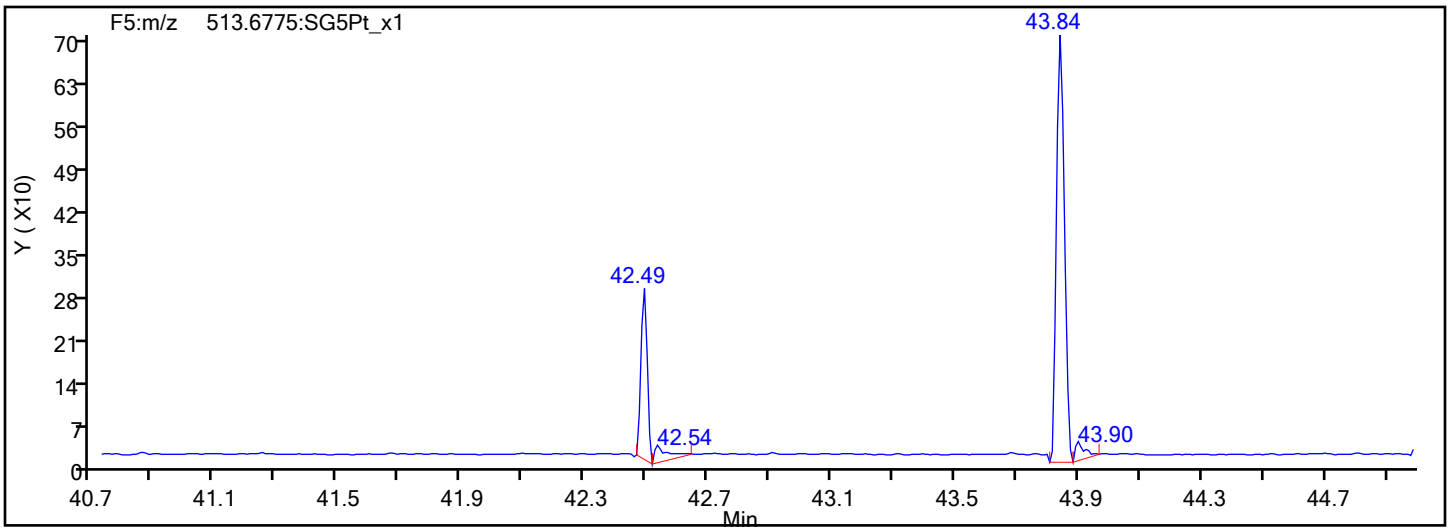
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d		
Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



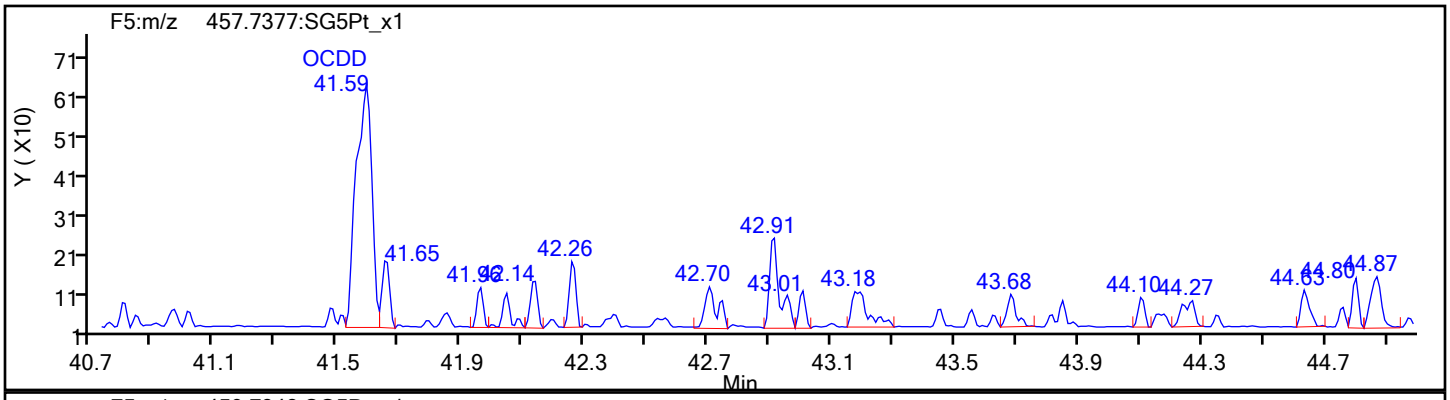
Report Date: 21-Jan-2022 08:05:40 Chrom Revision: 2.3 18-Jan-2022 20:25:40

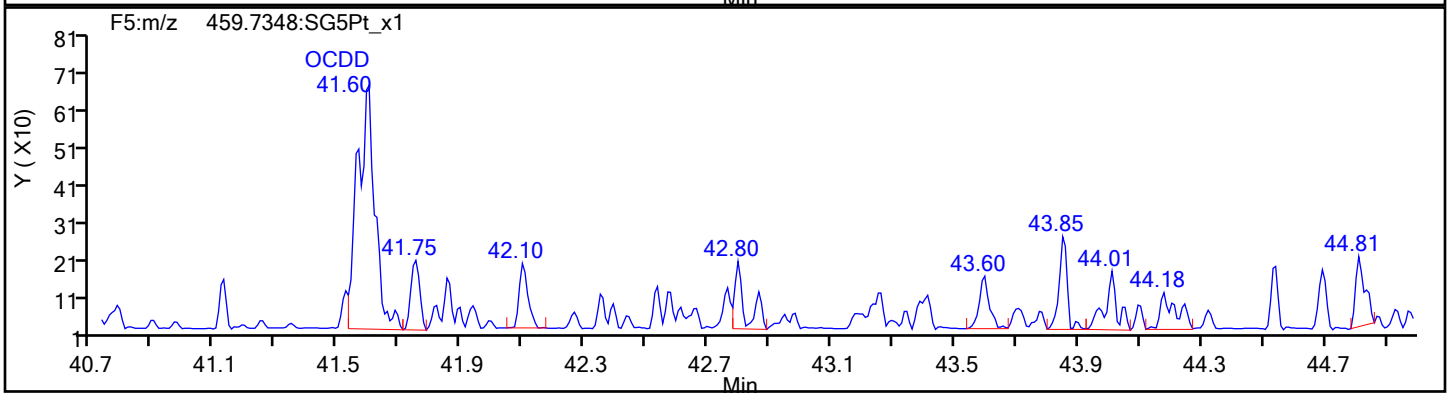
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d

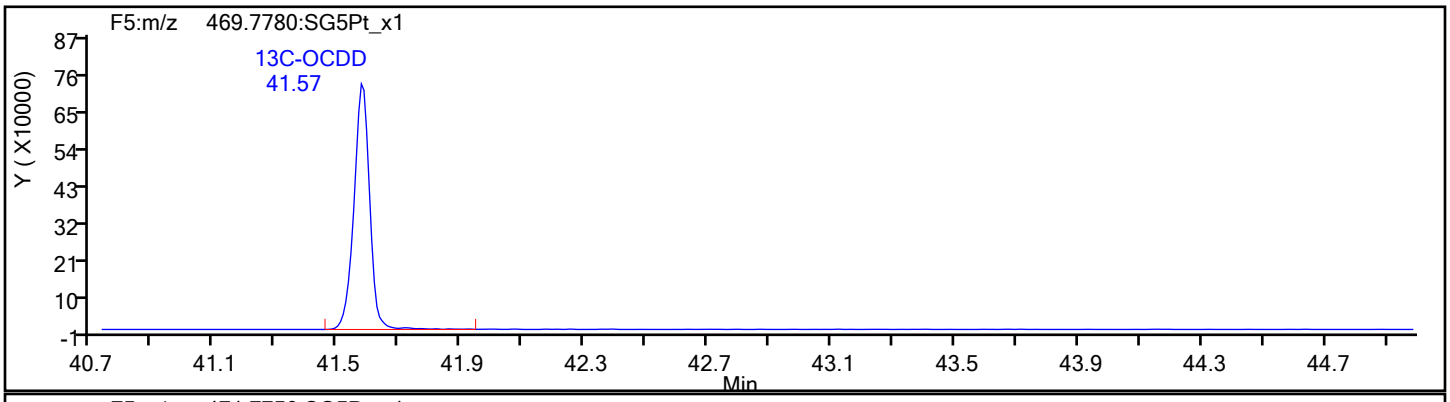
Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

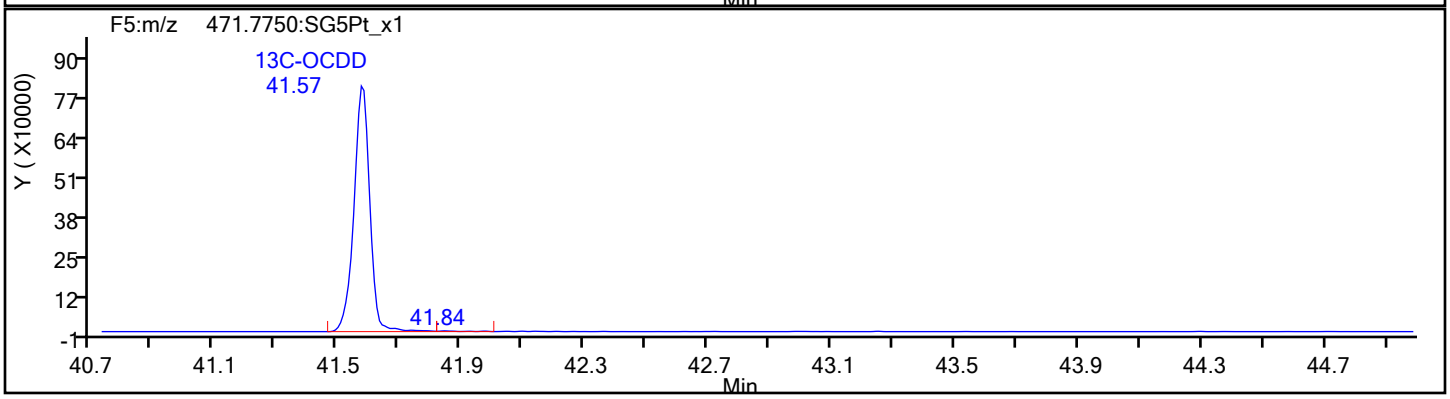
OCDD





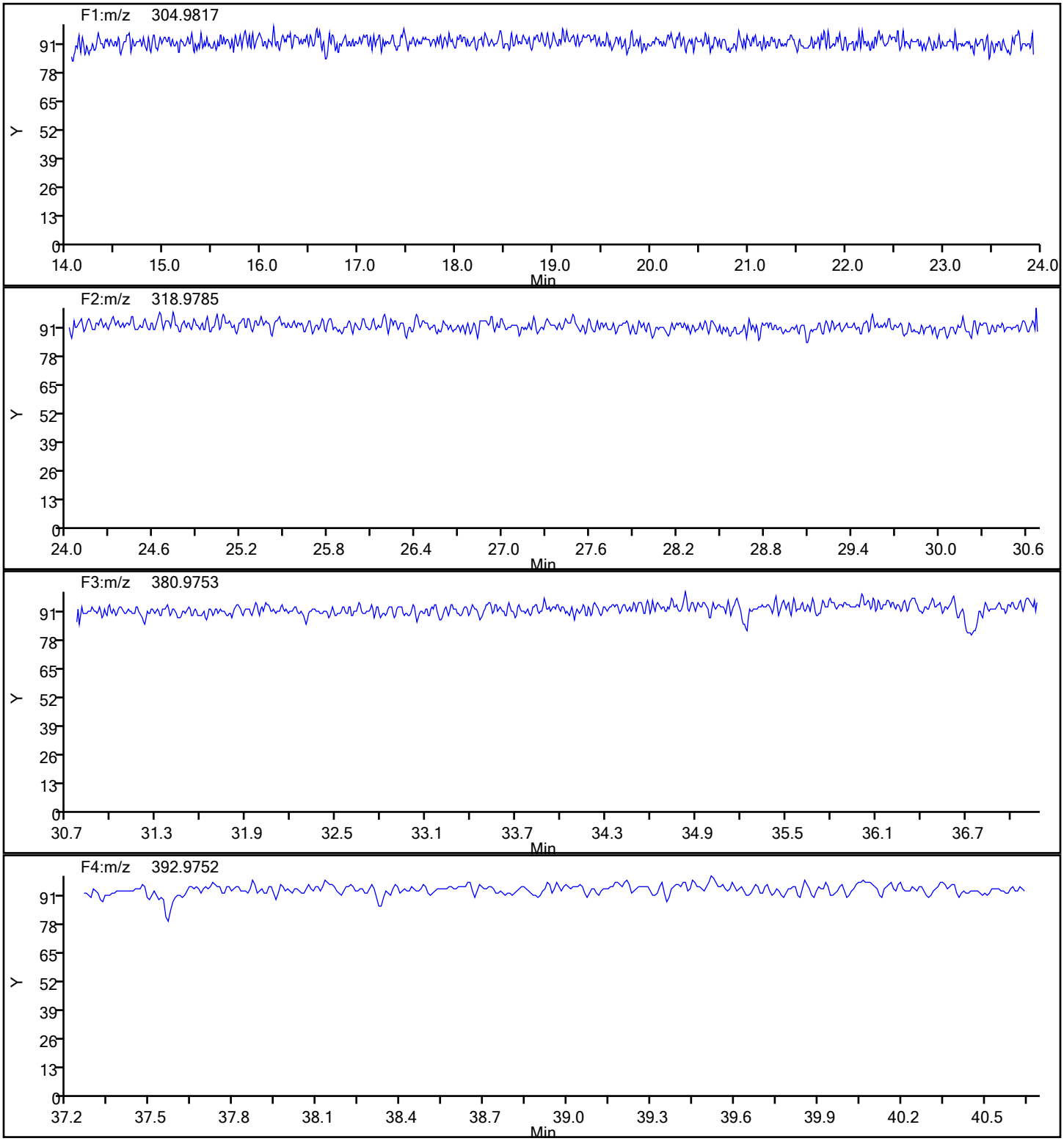
OCDD Standards





Eurofins Sacramento

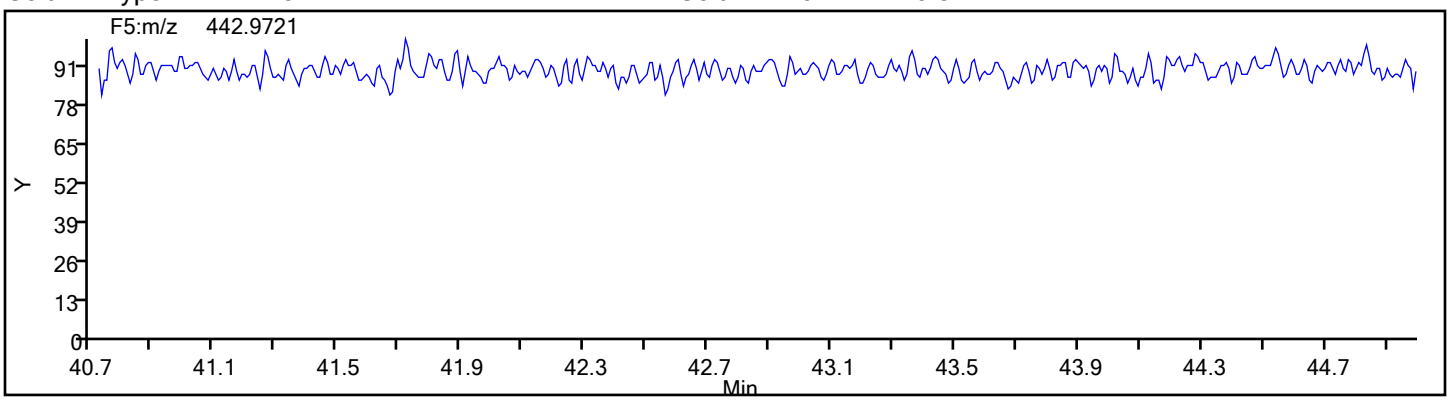
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d		
Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 21-Jan-2022 08:05:40 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_4.d		
Injection Date:	20-Jan-2022 17:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80119-2

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-555858/2-A

Matrix: Water | Lab File ID: 20ja22dfs1_5.d

Analysis Method: 8290 | Date Collected:

Extract. Method: 8290 | Date Extracted: 01/04/2022 09:56

Sample wt/vol: 1000(mL) | Date Analyzed: 01/20/2022 17:51

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559474 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	203.1		10	1.3
51207-31-9	2,3,7,8-TCDF	193.8		10	0.95
40321-76-4	1,2,3,7,8-PeCDD	1055		50	1.9
57117-41-6	1,2,3,7,8-PeCDF	1070		50	4.4
57117-31-4	2,3,4,7,8-PeCDF	1068		50	4.7
39227-28-6	1,2,3,4,7,8-HxCDD	1008		50	1.9
57653-85-7	1,2,3,6,7,8-HxCDD	992.4		50	1.7
19408-74-3	1,2,3,7,8,9-HxCDD	1049		50	1.7
70648-26-9	1,2,3,4,7,8-HxCDF	931.6		50	3.9
57117-44-9	1,2,3,6,7,8-HxCDF	889.7		50	3.3
60851-34-5	2,3,4,6,7,8-HxCDF	955.5		50	3.5
72918-21-9	1,2,3,7,8,9-HxCDF	939.2		50	3.8
35822-46-9	1,2,3,4,6,7,8-HpCDD	994.3		50	2.0
67562-39-4	1,2,3,4,6,7,8-HpCDF	947.6		50	3.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	1019		50	3.6
3268-87-9	OCDD	1764		100	1.5
39001-02-0	OCDF	1785		100	1.8

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	93		40-135
89059-46-1	13C-2,3,7,8-TCDF	98		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	95		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	94		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	90		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	95		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	101		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	100		40-135
114423-97-1	13C-OCDD	118		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d
Lims ID: LCS 320-555858/2-A
Client ID:
Sample Type: LCS
Inject. Date: 20-Jan-2022 17:51:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-555858/2-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:52:56

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.977	7307643	0.79	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.075	7308485	0.80	1.0164	98.4	98.4	0.4741	0.4741	98.40	
2,3,7,8-TCDF	19.092	716808	0.78	1.0120	9.692	9.692	0.0473	0.0473	96.92	
A Non-2,3,7,8-sub-TCDF	18.694						0.0473	0.0473		
S Total TCDF					9.692	9.692	0.0473	0.0473		
$ 37Cl4-2,3,7,8-TCDD	20.355	2249942		0.7911	38.9	38.9	0.0437	0.0437	97.29	
D 13C-2,3,7,8-TCDD	20.321	5379836	0.78	0.7884	93.4	93.4	0.3107	0.3107	93.38	
2,3,7,8-TCDD	20.355	541200	0.76	0.9906	10.2	10.2	0.0658	0.0658	102	
A Non-2,3,7,8-sub-TCDD	19.493						0.0658	0.0658		
S Total TCDD					10.2	10.2	0.0658	0.0658		
D 13C-1,2,3,7,8-PeCDF	26.104	6333668	1.58	0.9232	93.9	93.9	0.4926	0.4926	93.89	
1,2,3,7,8-PeCDF	26.129	3306502	1.54	0.9756	53.5	53.5	0.2197	0.2197	107	
D 13C-2,3,4,7,8-PeCDF	27.535	8244421	1.58	1.1692	96.5	96.5	0.3889	0.3889	96.49	
2,3,4,7,8-PeCDF	27.552	3117720	1.56	0.9215	53.4	53.4	0.2326	0.2326	107	
A F1 PeCDFs	23.390						0.0119	0.0119		
A Non-2,3,7,8-sub-PeCDF	26.772						0.2260	0.2260		
S Total PeCDF					106.9	106.9	0.2262	0.2262		
D 13C-1,2,3,7,8-PeCDD	28.319	3885689	1.60	0.5606	94.8	94.8	0.2679	0.2679	94.85	
1,2,3,7,8-PeCDD	28.336	2053899	1.58	1.0020	52.8	52.8	0.0963	0.0963	106	
A Non-2,3,7,8-sub-PeCDD	27.199	11252	1.50	1.0020	0.2890	0.2890	0.0963	0.2040	0.00	
S Total PeCDD					53.0	53.0	0.0963	0.0963		
D 13C-1,2,3,4,7,8-HxCDF	34.008	6258924	0.53	1.0566	95.5	95.5	0.2794	0.2794	95.49	
1,2,3,4,7,8-HxCDF	34.033	2575716	1.23	0.8835	46.6	46.6	0.1940	0.1940	93.16	
D 13C-1,2,3,6,7,8-HxCDF	34.201	5062156	0.53	0.9686	84.2	84.2	0.3048	0.3048	84.25	
1,2,3,6,7,8-HxCDF	34.218	2864451	1.23	1.0287	44.5	44.5	0.1666	0.1666	88.97	
D 13C-2,3,4,6,7,8-HxCDF	35.136	5026586	0.53	0.9084	89.2	89.2	0.3250	0.3250	89.20	
2,3,4,6,7,8-HxCDF	35.153	2953693	1.25	0.9878	47.8	47.8	0.1735	0.1735	95.55	
D 13C-1,2,3,7,8,9-HxCDF	36.104	4628435	0.53	0.8248	90.5	90.5	0.3580	0.3580	90.46	
1,2,3,7,8,9-HxCDF	36.121	2666119	1.25	0.9071	47.0	47.0	0.1889	0.1889	93.92	
A Non-2,3,7,8-sub-HxCDF	34.083						0.1800	0.1800		
S Total HxCDF					185.8	185.8	0.1807	0.1807		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	35.911	6203568	1.25	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.380	4833403	1.26	1.0143	76.8	76.8	0.1718	0.1718	76.81	
1,2,3,4,7,8-HxCDD	35.397	1865729	1.24	0.8294	50.4	50.4	0.0941	0.0941	101	
D 13C-1,2,3,6,7,8-HxCDD	35.515	4464124	1.24	0.8027	89.7	89.7	0.2171	0.2171	89.65	
1,2,3,6,7,8-HxCDD	35.532	2081052	1.23	0.9395	49.6	49.6	0.0830	0.0830	99.24	
1,2,3,7,8,9-HxCDD	35.928	2124448	1.24	0.9076	52.4	52.4	0.0859	0.0859	105	
A Non-2,3,7,8-sub-HxCDD	34.580						0.0874	0.0874		
S Total HxCDD					152.4	152.4	0.0877	0.0877		
D 13C-1,2,3,4,6,7,8-HpCDF	38.087	3980823	0.47	0.6421	99.9	99.9	0.3976	0.3976	99.94	
1,2,3,4,6,7,8-HpCDF	38.095	2713256	1.03	1.4385	47.4	47.4	0.1506	0.1506	94.76	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.393	5296927	0.45	1.1706	113.7	113.7	0.2670	0.2670	114	
1,2,3,4,7,8,9-HpCDF	39.401	2474509	1.04	1.2202	50.9	50.9	0.1776	0.1776	102	
A Non-2,3,7,8-sub-HpCDF	38.761						0.1630	0.1630		
S Total HpCDF					98.3	98.3	0.1641	0.1641		
D 13C-1,2,3,4,6,7,8-HpCDD	39.089	3898128	1.06	0.6246	100.6	100.6	0.2224	0.2224	101	
1,2,3,4,6,7,8-HpCDD	39.098	1892839	1.05	0.9767	49.7	49.7	0.0993	0.0993	99.43	
A Non-2,3,7,8-sub-HpCDD	38.778	13721	1.04	0.9767	0.4138	0.3604	0.0993	0.3604	0.00	RQ
S Total HpCDD					50.1	50.1	0.0993	0.0993		RQ
D 13C-OCDD	41.564	6394543	0.91	0.4360	236.4	236.4	0.2378	0.2378	118	
OCDF	41.648	3640208	0.89	1.2756	89.3	89.3	0.0892	0.0892	89.26	
OCDD	41.573	2915668	0.89	1.0341	88.2	88.2	0.0768	0.0768	88.18	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d
Lims ID: LCS 320-555858/2-A
Client ID:
Sample Type: LCS
Inject. Date: 20-Jan-2022 17:51:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-555858/2-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:52:56

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	19.977	19.998	-1		3217539	476791	701	1752	680		
333.9338	19.969	19.998	-2		4090104	599730	354	885	1694	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.075	19.115	-2	0.955	3237538	513302	1445	3612	355		
317.9389	19.075	19.115	-2	0.955	4070947	624342	630	1575	991	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.092	19.149	-3	1.001	313778	46067	70	175	658		
305.8987	19.092	19.149	-3	1.001	403030	59145	148	370	400	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.694						70	175			
305.8987	18.694						148	370			
37Cl4-2,3,7,8-TCDD											
327.8847	20.355	20.367	-1	1.019	2249942	324509	149	372	2178		
13C-2,3,7,8-TCDD											
331.9368	20.321	20.377	-3	1.017	2355304	349110	701	1752	498		
333.9338	20.329	20.377	-3	1.018	3024532	444322	354	885	1255	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.355	20.403	-3	1.002	233782	34609	150	375	231		
321.8936	20.364	20.403	-2	1.002	307418	44898	57	142	788	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	19.493						150	375			
321.8936	19.493						57	142			
13C-1,2,3,7,8-PeCDF											
351.9000	26.104	26.115	-1	1.307	3879712	682936	1172	2930	583		
353.8970	26.104	26.115	-1	1.307	2453956	423616	786	1965	539	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.129	26.140	-1	1.001	2006349	349103	541	1352	645		
341.8567	26.129	26.140	-1	1.001	1300153	220786	408	1020	541	1.54(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.535	27.546	-1	1.378	5054569	826683	1172	2930	705		
353.8970	27.527	27.546	-1	1.378	3189852	525883	786	1965	669	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.552	27.572	-1	1.055	1901987	302589	541	1352	559		
341.8567	27.552	27.572	-1	1.055	1215733	194254	408	1020	476	1.56(1.32-1.78)	
A F1 PeCDFs											
339.8597	23.390						7	17			
341.8567	23.390						43	107			
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.772						541	1352			
341.8567	26.772						408	1020			
13C-1,2,3,7,8-PeCDD											
367.8949	28.319	28.330	-1	1.418	2391553	357592	418	1045	855		
369.8919	28.310	28.330	-1	1.417	1494136	243607	229	572	1064	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.336	28.355	-1	1.001	1256544	190822	132	330	1446		
357.8516	28.336	28.355	-1	1.001	797355	121163	100	250	1212	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	29.010	27.199	108	1.024	1980	561	132	330	4		
357.8516	29.018	27.199	109	1.025	1329	375	100	250	4	1.49(1.32-1.78)	
355.8546	29.330	27.199	128	1.036	4776	632	132	330	5		
357.8516	29.389	27.199	131	1.038	3167	592	100	250	6	1.51(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.008	34.034	-2	0.947	2169355	426535	354	885	1205		
385.8610	34.008	34.034	-2	0.947	4089569	752235	1249	3122	602	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.033	34.051	-1	1.001	1420909	267087	385	962	694		
375.8178	34.033	34.051	-1	1.001	1154807	220096	423	1057	520	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.201	34.219	-1	0.952	1750180	310835	354	885	878		
385.8610	34.201	34.219	-1	0.952	3311976	580335	1249	3122	465	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.218	34.236	-1	1.006	1582381	278228	385	962	723		
375.8178	34.218	34.236	-1	1.006	1282070	224494	423	1057	531	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.136	35.154	-1	0.978	1750080	356283	354	885	1006		
385.8610	35.136	35.154	-1	0.978	3276506	682214	1249	3122	546	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.153	35.171	-1	1.034	1638389	347694	385	962	903		
375.8178	35.153	35.171	-1	1.034	1315304	286346	423	1057	677	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.104	36.122	-1	1.005	1595000	354183	354	885	1001		
385.8610	36.104	36.122	-1	1.005	3033435	674976	1249	3122	540	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	36.121	36.139	-1	1.062	1479374	317873	385	962	826		
375.8178	36.121	36.139	-1	1.062	1186745	257744	423	1057	609	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.083						385	962			
375.8178	34.083						423	1057			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.911	35.929	-1		3440818	754593	562	1405	1343		
403.8529	35.911	35.929	-1		2762750	602641	384	960	1569	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.380	35.407	-2	0.985	2697431	613040	562	1405	1091		
403.8529	35.380	35.407	-2	0.985	2135972	470335	384	960	1225	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.397	35.423	-2	0.997	1032854	235719	163	407	1446		
391.8127	35.397	35.423	-2	0.997	832875	183478	139	347	1320	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.515	35.533	-1	0.989	2475555	532249	562	1405	947		
403.8529	35.515	35.533	-1	0.989	1988569	435588	384	960	1134	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.532	35.550	-1	1.000	1146199	240564	163	407	1476		
391.8127	35.523	35.550	-2	1.000	934853	197853	139	347	1423	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	35.928	35.946	-1	1.012	1176386	256212	163	407	1572		
391.8127	35.928	35.946	-1	1.012	948062	208463	139	347	1500	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.580						163	407			
391.8127	34.580						139	347			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.087	38.096	-1	1.061	1269701	362802	559	1397	649		
419.8220	38.078	38.096	-1	1.060	2711122	745795	827	2067	902	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.095	38.108	-1	1.000	1379600	370826	510	1275	727		
409.7788	38.095	38.108	-1	1.000	1333656	363998	451	1127	807	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.393	39.410	-1	1.034	1653401	488098	559	1397	873		
419.8220	39.393	39.410	-1	1.034	3643526	1080258	827	2067	1306	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.401	39.414	-1	1.035	1260817	363777	510	1275	713		
409.7788	39.401	39.414	-1	1.035	1213692	357872	451	1127	794	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.761						510	1275			
409.7788	38.761						451	1127			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.089	39.107	-1	1.089	2001942	587523	398	995	1476		
437.8140	39.089	39.107	-1	1.089	1896186	543996	356	890	1528	1.06(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7767	39.098	39.111	-1	1.000	971386	281789	236	590	1194		
425.7737	39.098	39.111	-1	1.000	921453	270775	203	507	1334	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											RQ
423.7767	38.441	38.778	-20	0.983	9027	2317	236	590	10		
	Empc Correction				6995	1969	236	590	8		
425.7737	38.441	38.778	-20	0.983	6726	1894	203	507	9	1.34(0.88-1.20)	
13C-OCDD											
469.7780	41.564	41.579	-1	1.157	3041996	844056	273	682	3092		
471.7750	41.564	41.579	-1	1.157	3352547	949214	290	725	3273	0.91(0.76-1.02)	
OCDF											
441.7428	41.648	41.663	-1	1.002	1719178	490272	175	437	2802		
443.7399	41.648	41.663	-1	1.002	1921030	554176	233	582	2378	0.89(0.76-1.02)	
OCDD											
457.7377	41.573	41.587	-1	1.000	1375672	386110	126	315	3064		
459.7348	41.573	41.587	-1	1.000	1539996	433837	159	397	2729	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d
Lims ID: LCS 320-555858/2-A
Client ID:
Inject. Date: 20-Jan-2022 17:51:00 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 4

Non-2,3,7,8-sub-PeCDD, RT: 27.199

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.002	D 13C-1,2,3,7,8-PeCDD	100.000	3885689	601199

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.002		100.000	3885689	601199

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
29.010	1980	561	1329	375	0.0850	1.49	
29.330	4776	632	3167	592	0.2040	1.51	
Signal Totals:							
	6756	1193	4496	967			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11252	2160				1.50	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2890 = (11252 * 100.000) / (3885689 * 1.002)

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d
Lims ID: LCS 320-555858/2-A
Client ID:
Inject. Date: 20-Jan-2022 17:51:00 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 4

Non-2,3,7,8-sub-HpCDD, RT: 38.778

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3898128	1131519

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3898128	1131519

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.441	9027	2317	6726	1894	0.4138	1.34	RQ
38.441	6995	1969	6726	1894	0.3604		Empc Correction
Signal Totals:							
	6995	1969	6726	1894			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	15753	4211				1.34	RQ
	13721	3863					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4138 = (15753 * 100.000) / (3898128 * 0.977)
Empc Amount: 0.3604 = (13721 * 100.000) / (3898128 * 0.977)

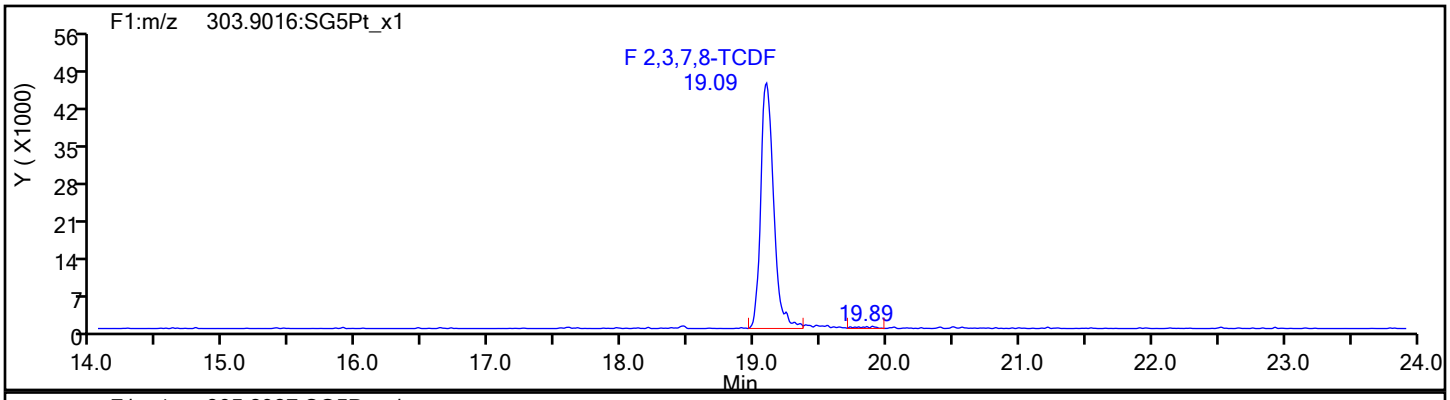
QC Flag Legend

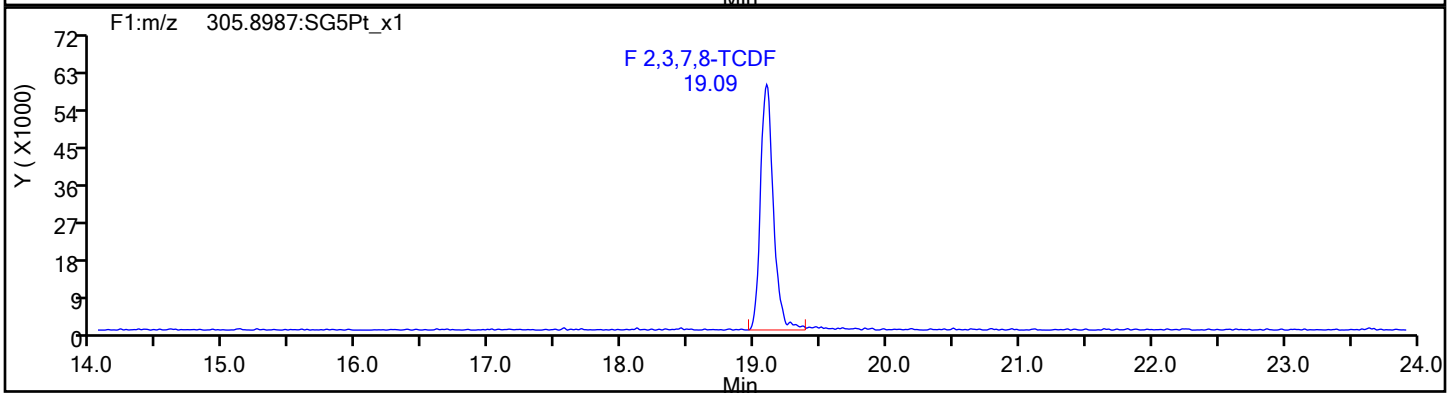
Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento

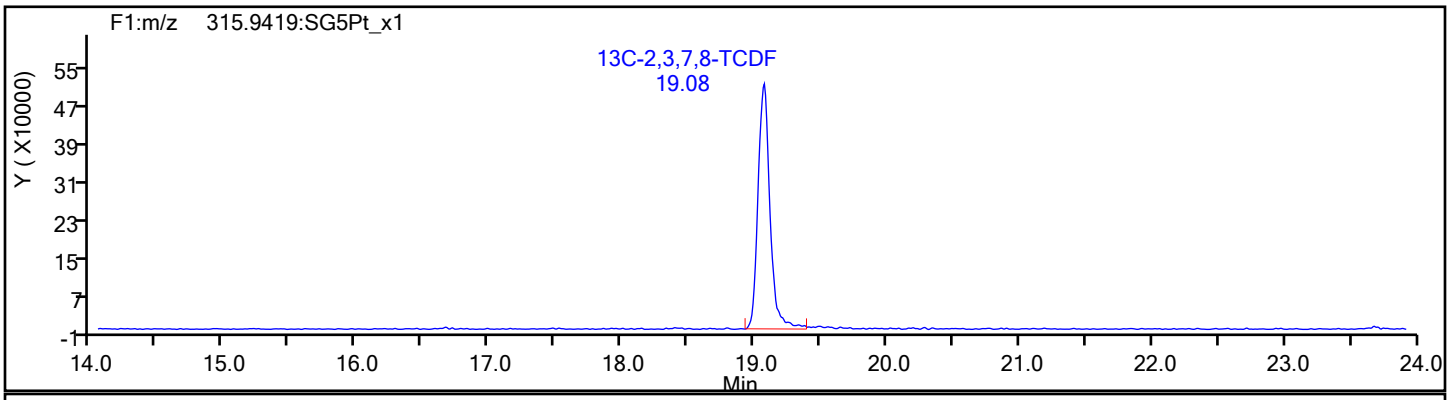
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d
Injection Date: 20-Jan-2022 17:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

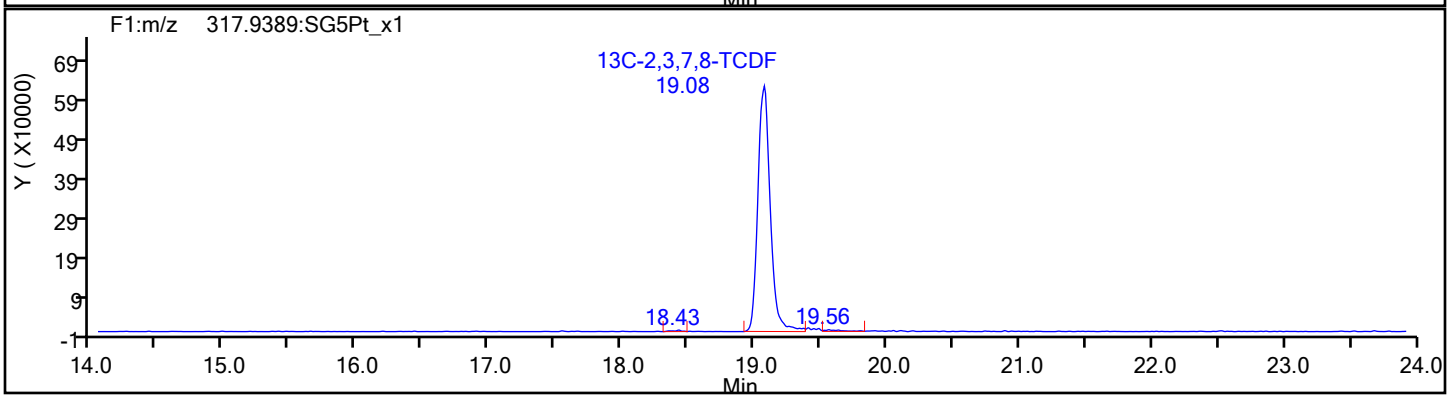
TCDF





TCDF Standards

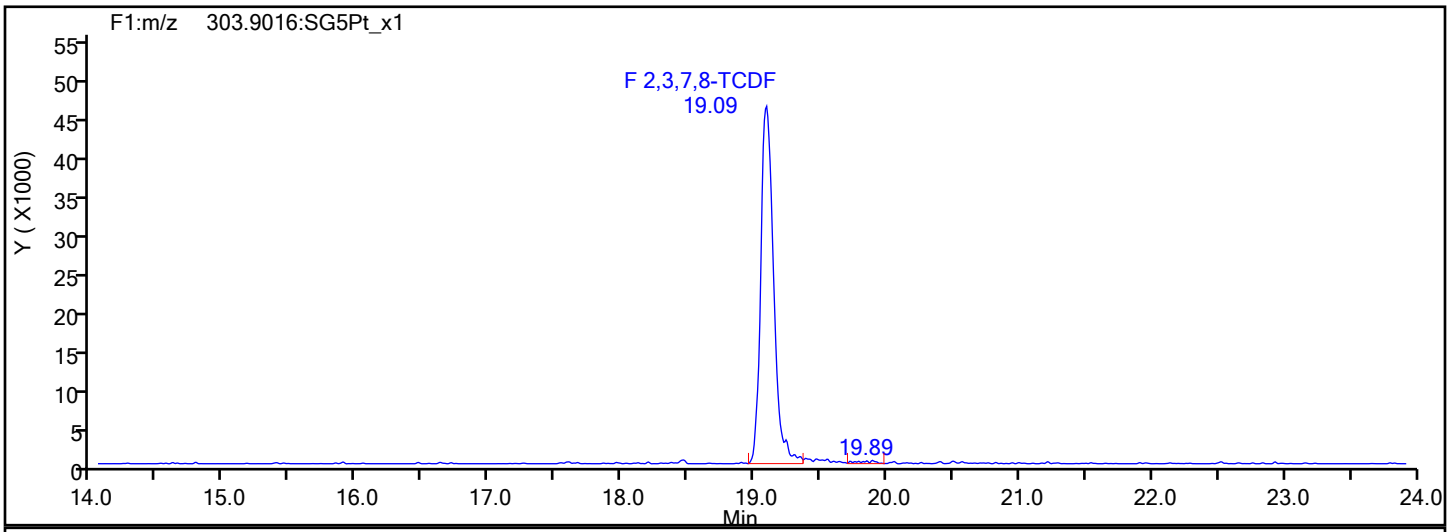


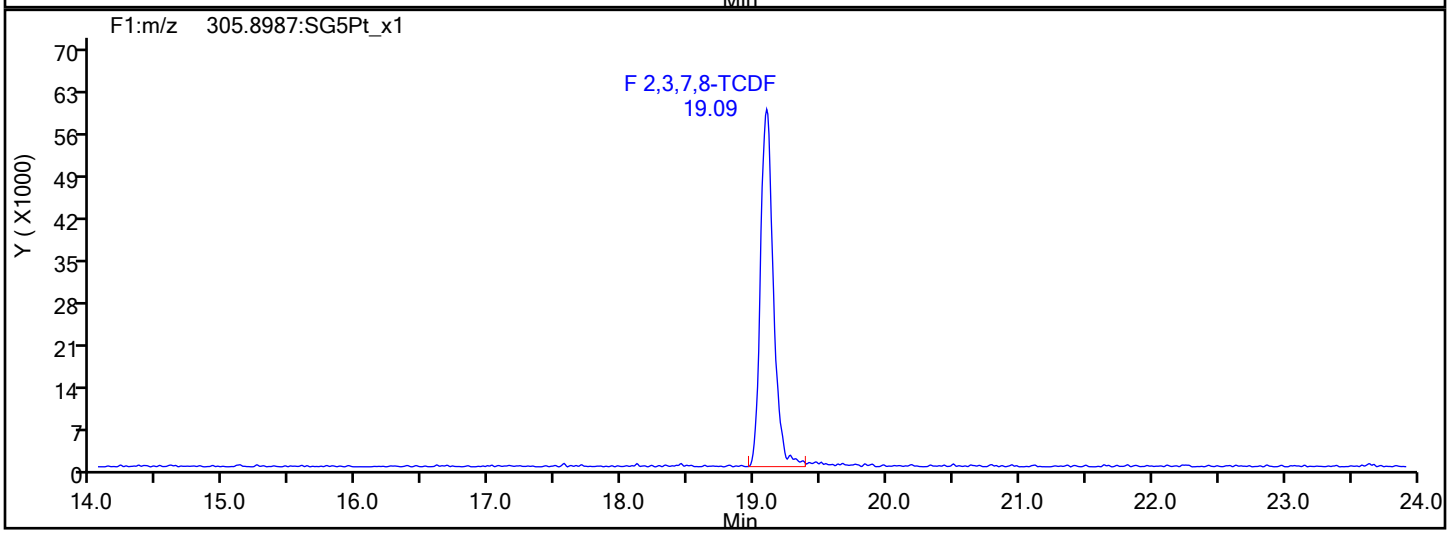


Eurofins Sacramento

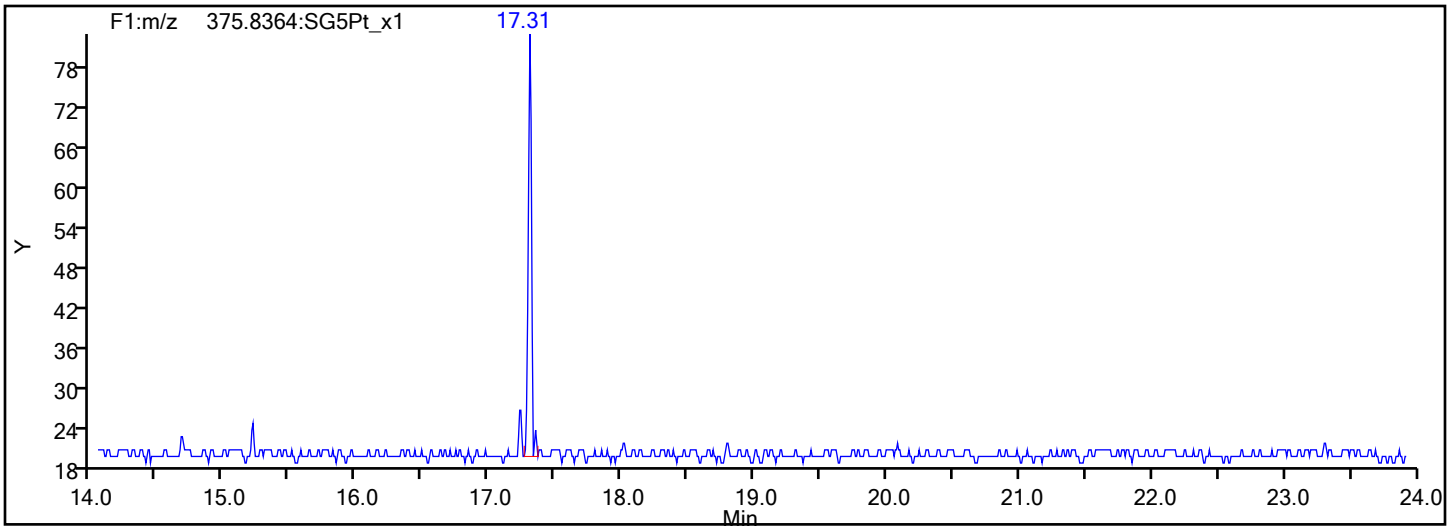
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d		
Injection Date:	20-Jan-2022 17:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





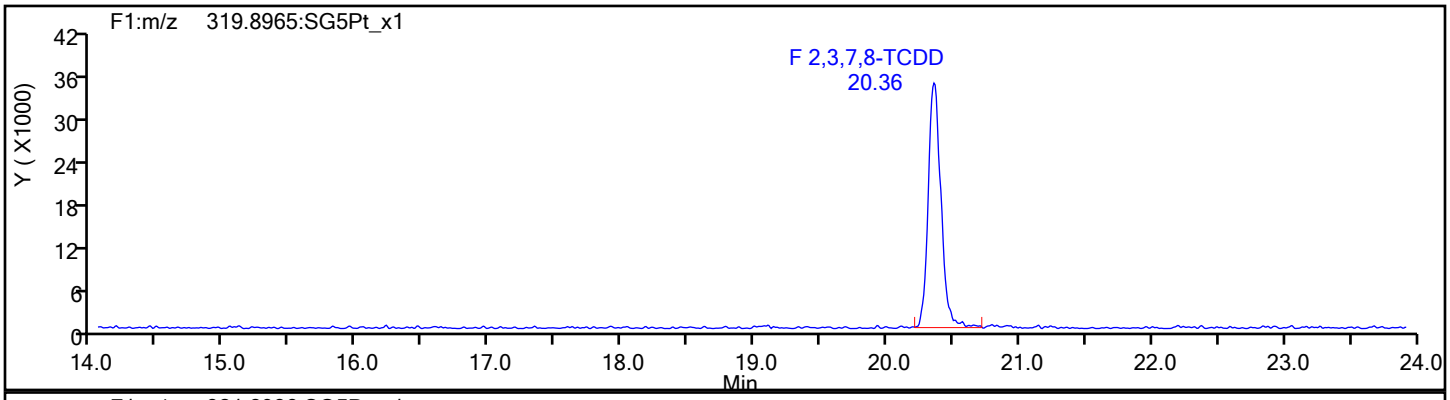
TCDF Interference Mass

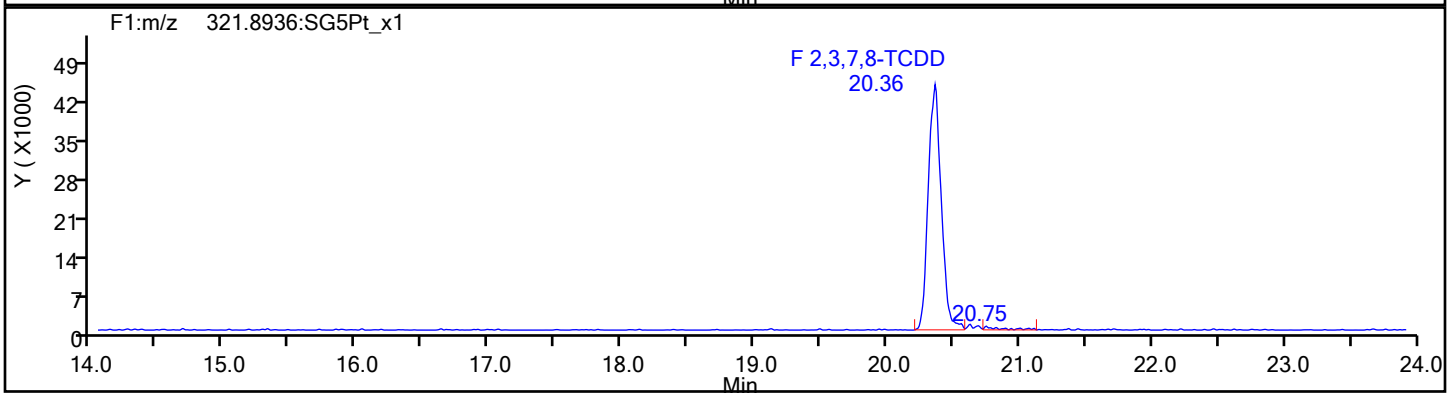


Eurofins Sacramento

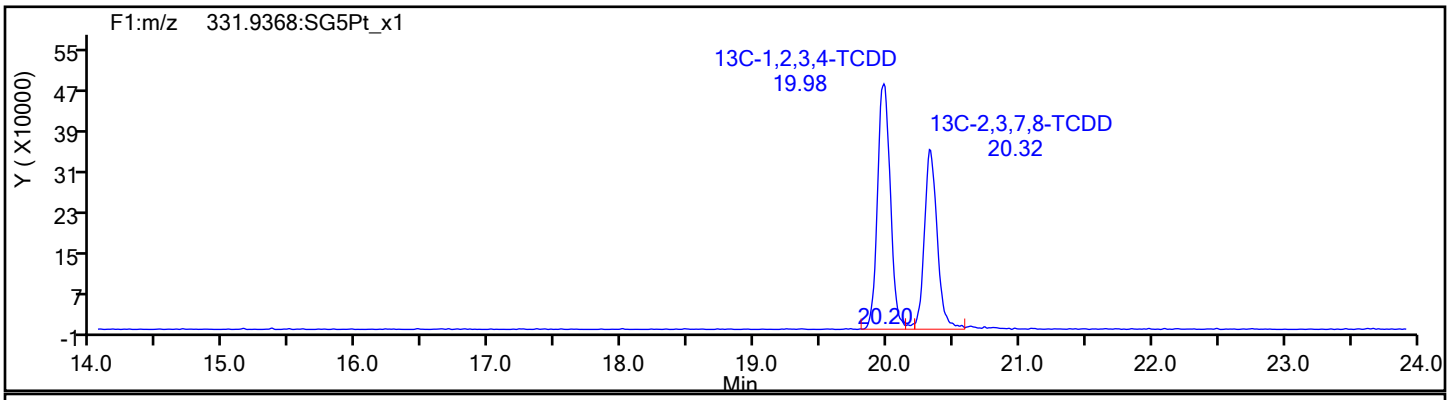
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d
Injection Date: 20-Jan-2022 17:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

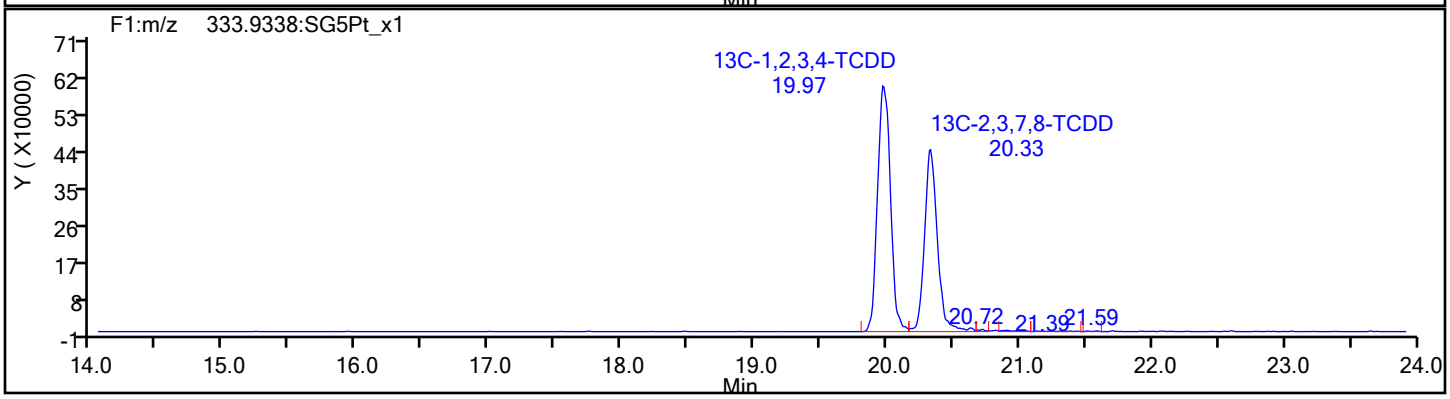
TCDD





TCDD Standards





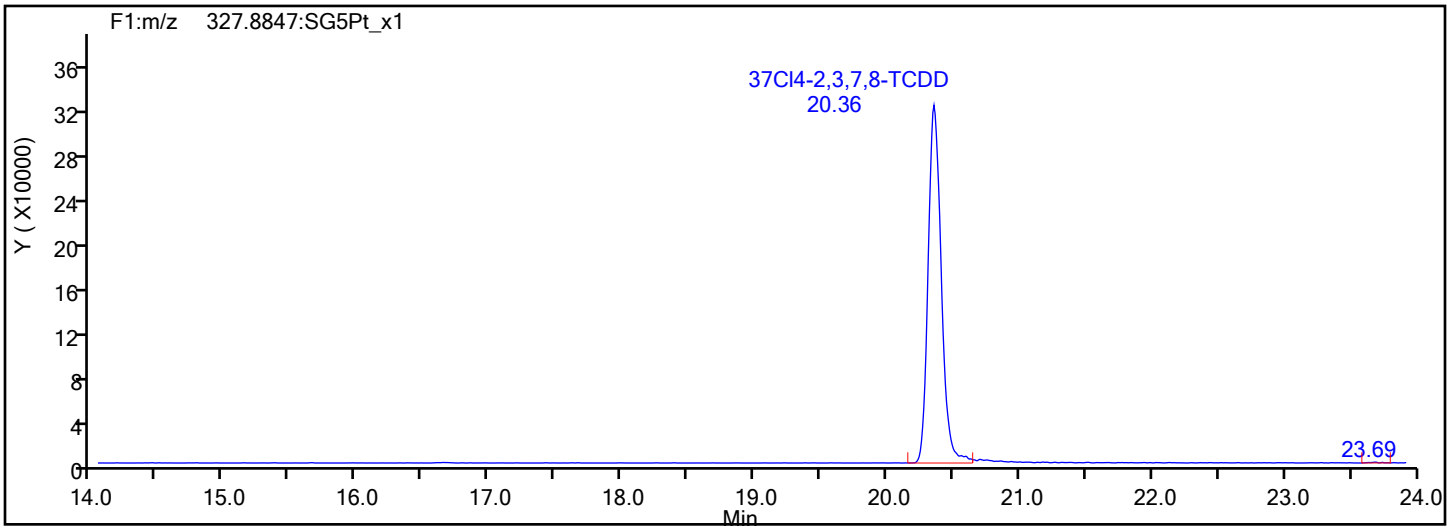
Report Date: 21-Jan-2022 08:05:41 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

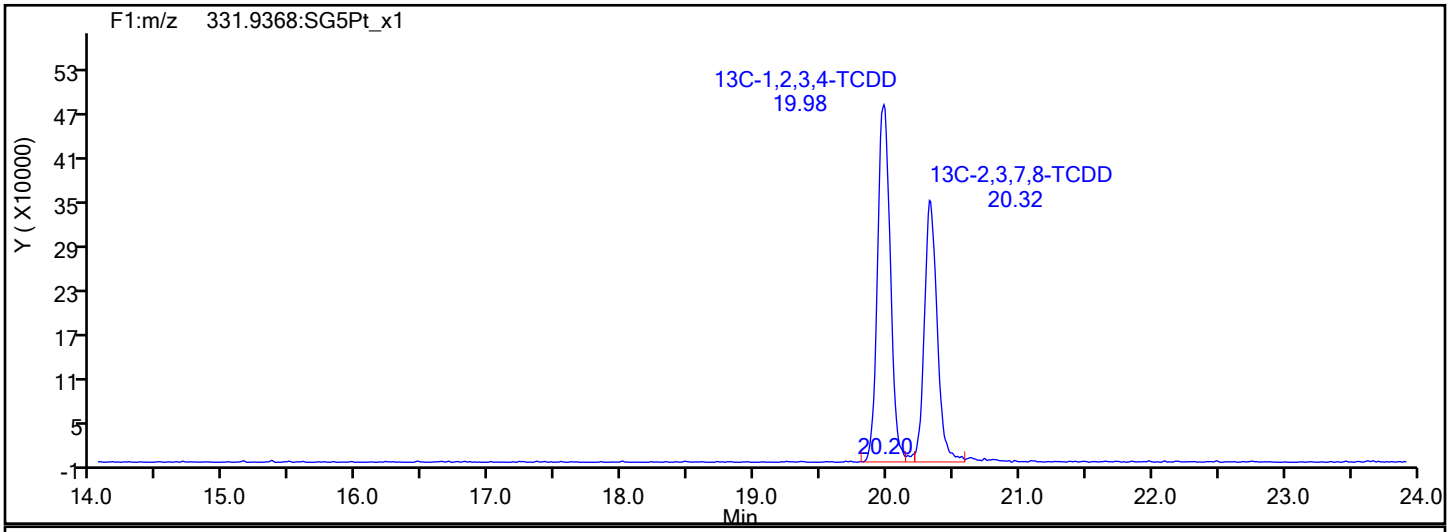
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d

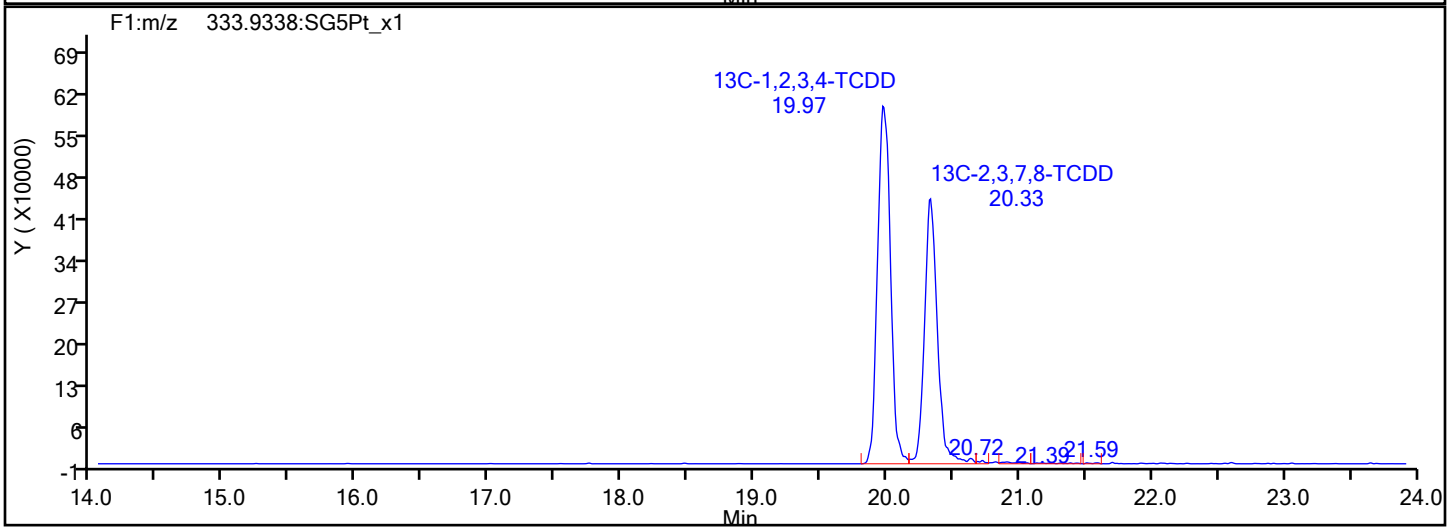
Injection Date:	20-Jan-2022 17:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





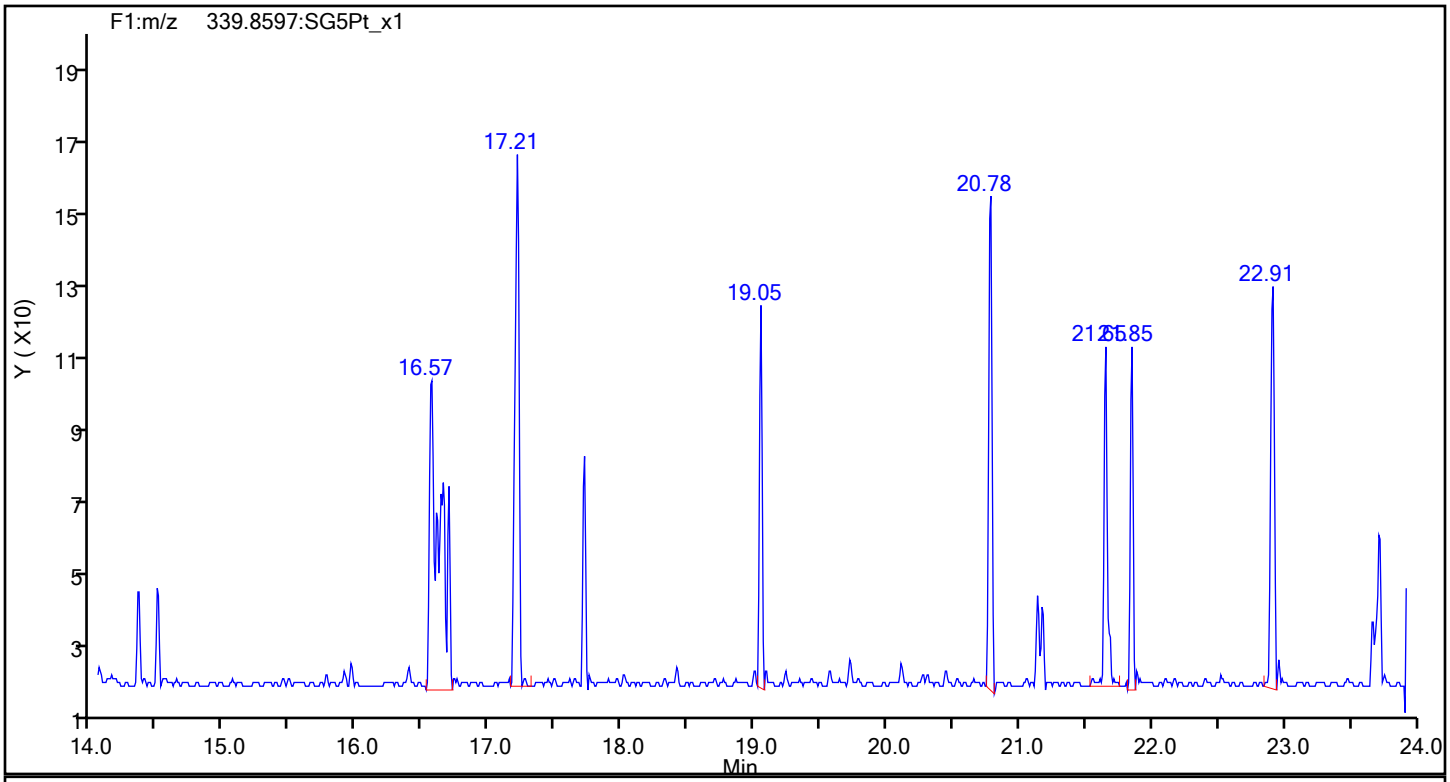
Report Date: 21-Jan-2022 08:05:42 Chrom Revision: 2.3 18-Jan-2022 20:25:40

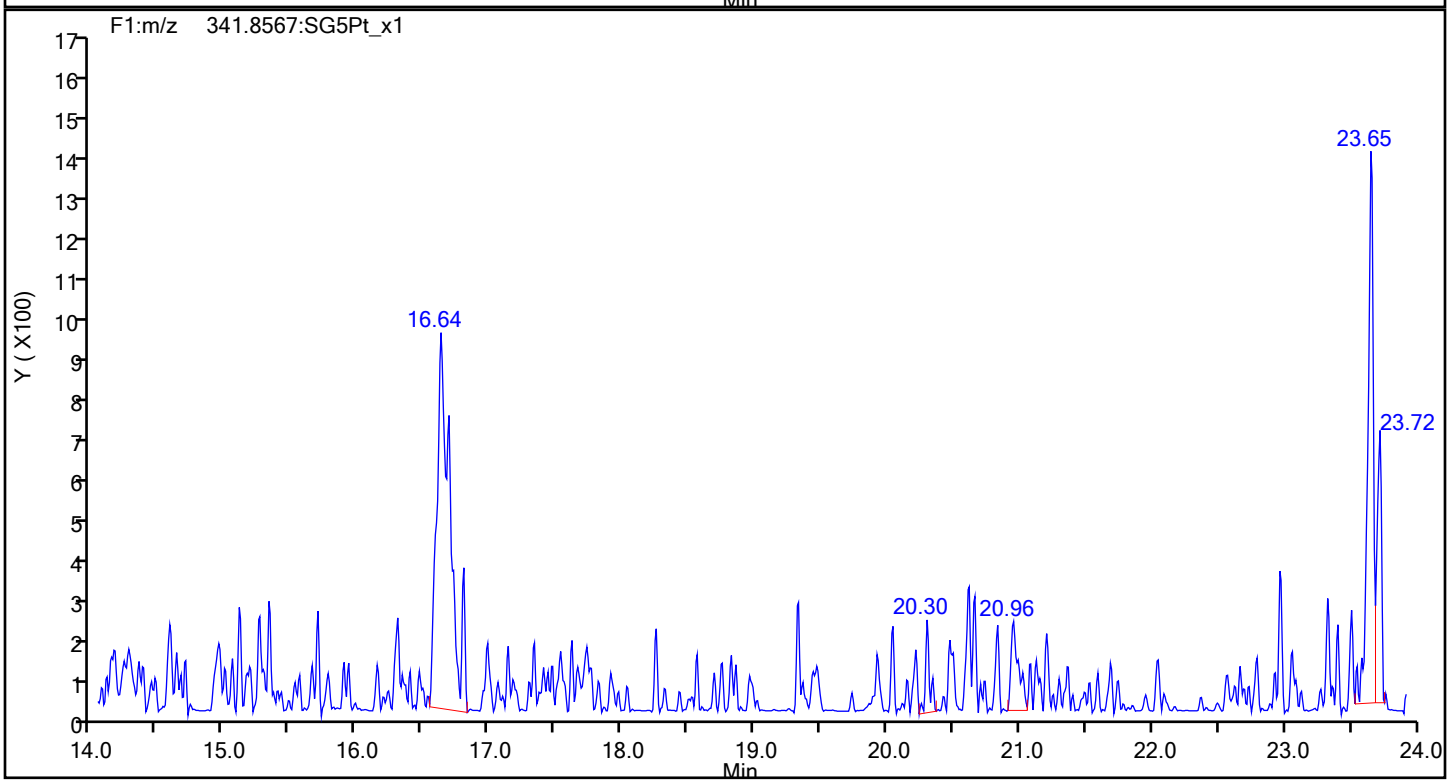
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d

Injection Date:	20-Jan-2022 17:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

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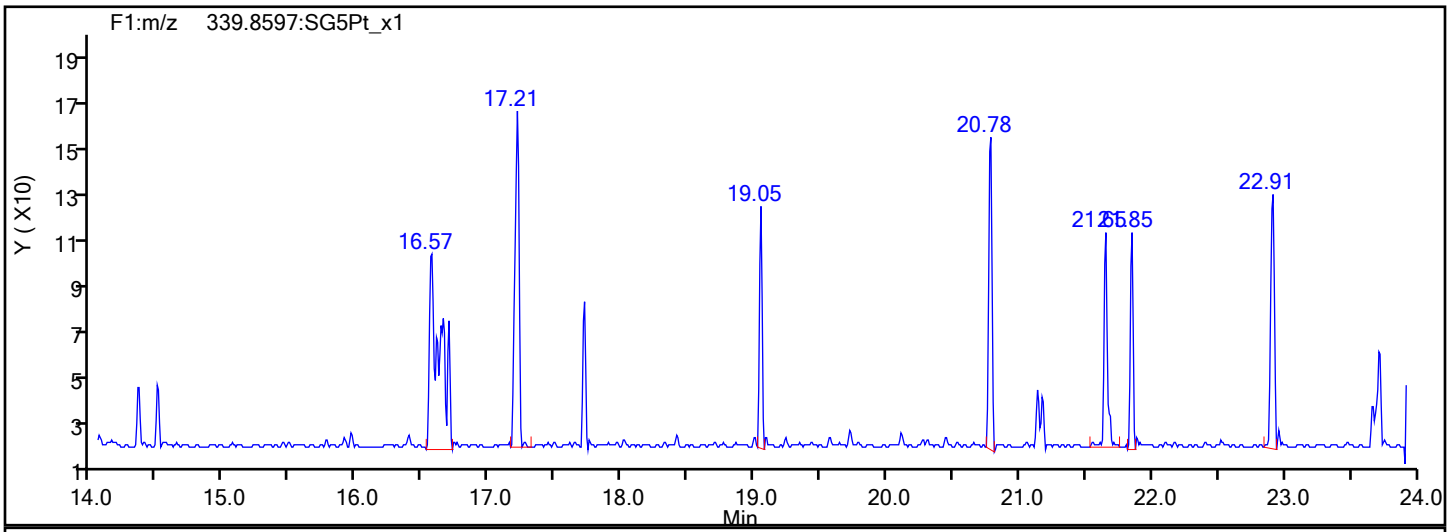
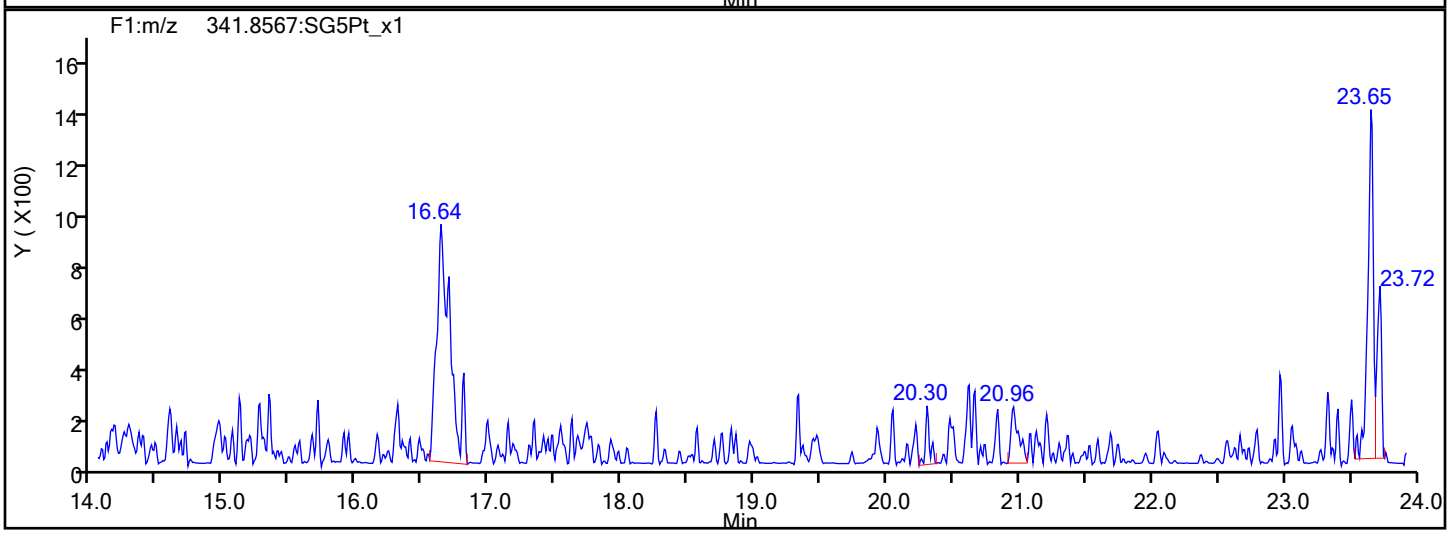
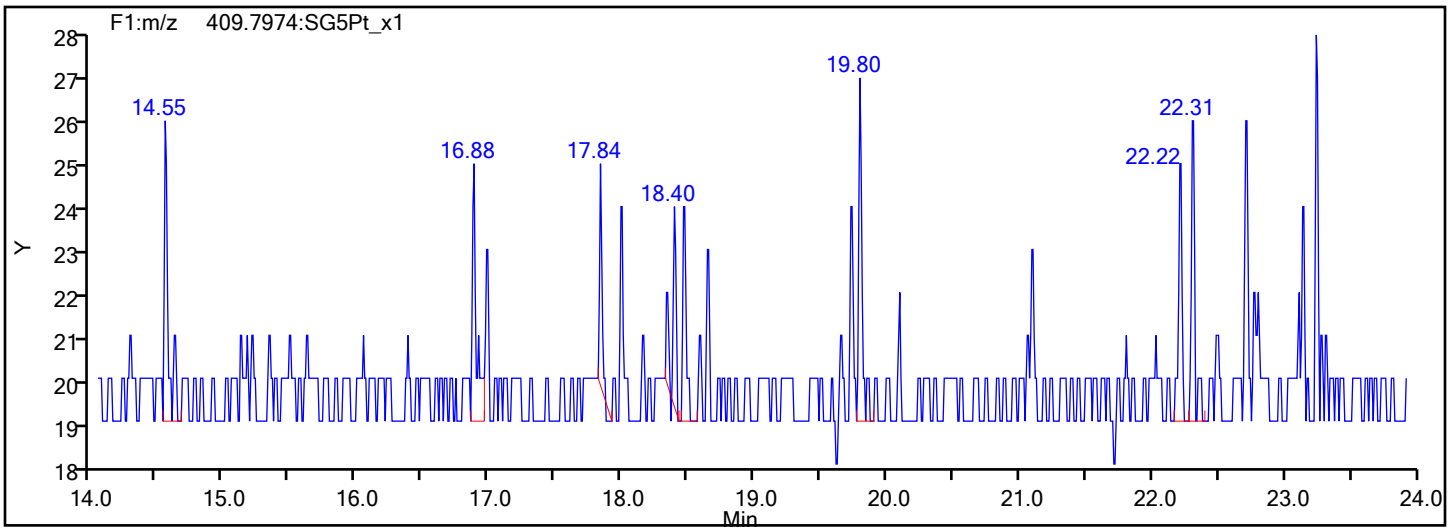
Client ID:
Worklist#: 559474 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

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Client ID:
Worklist#: 559474 Sample Line#: 4
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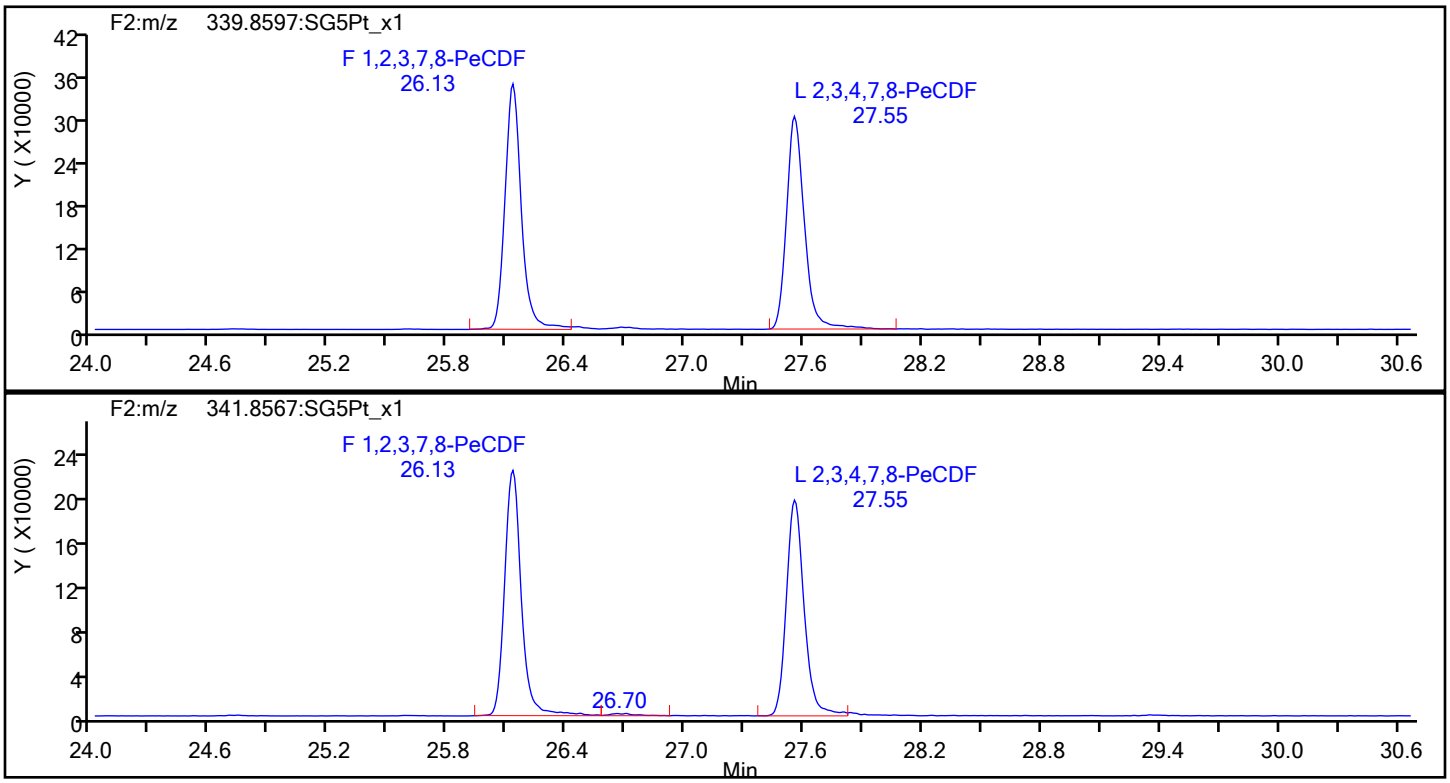
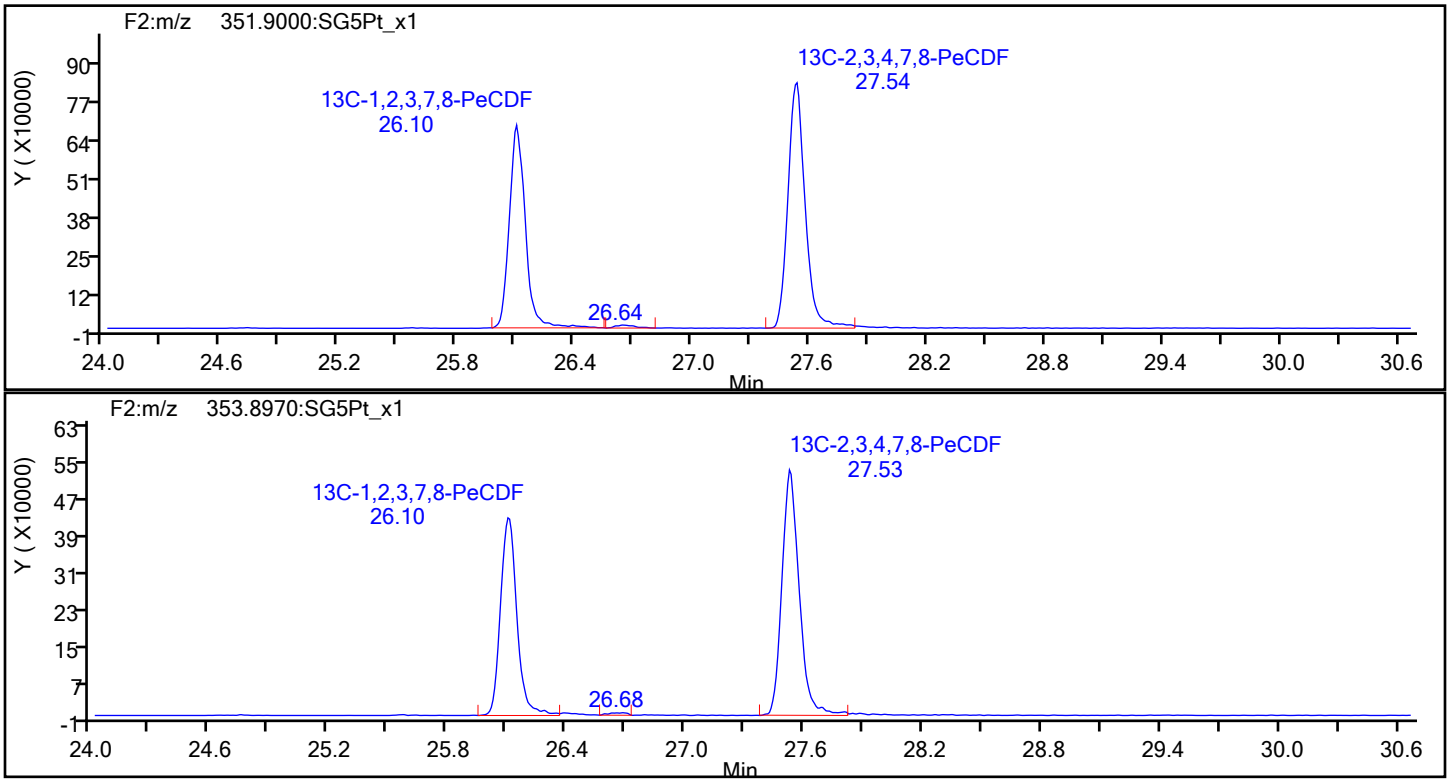


PeCDF Standards



Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

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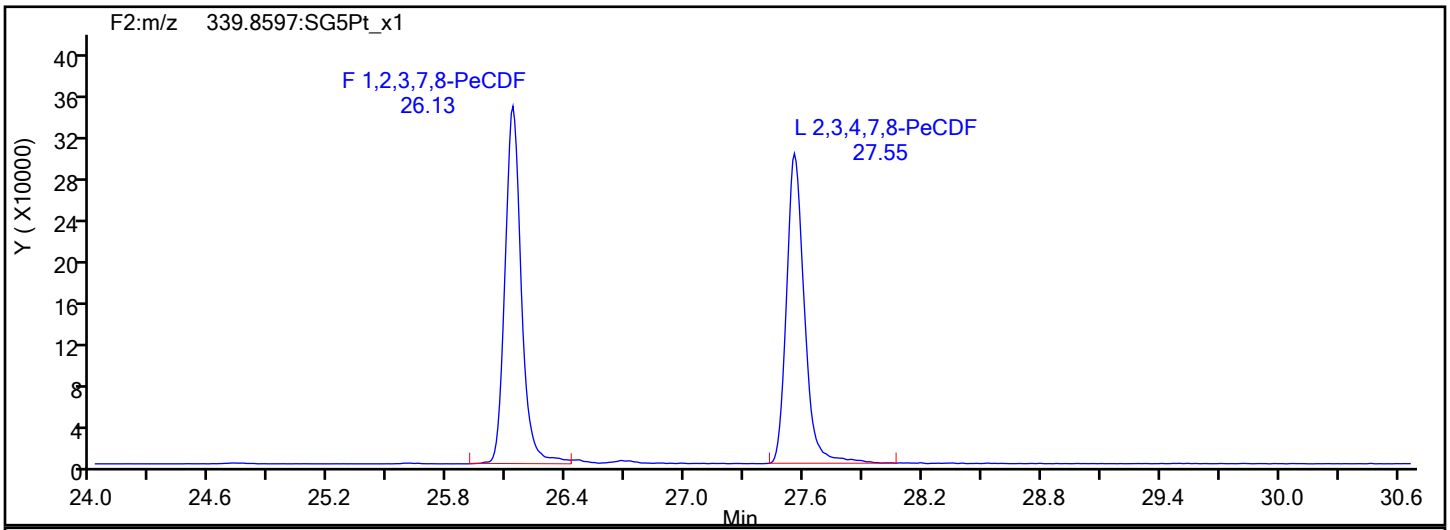
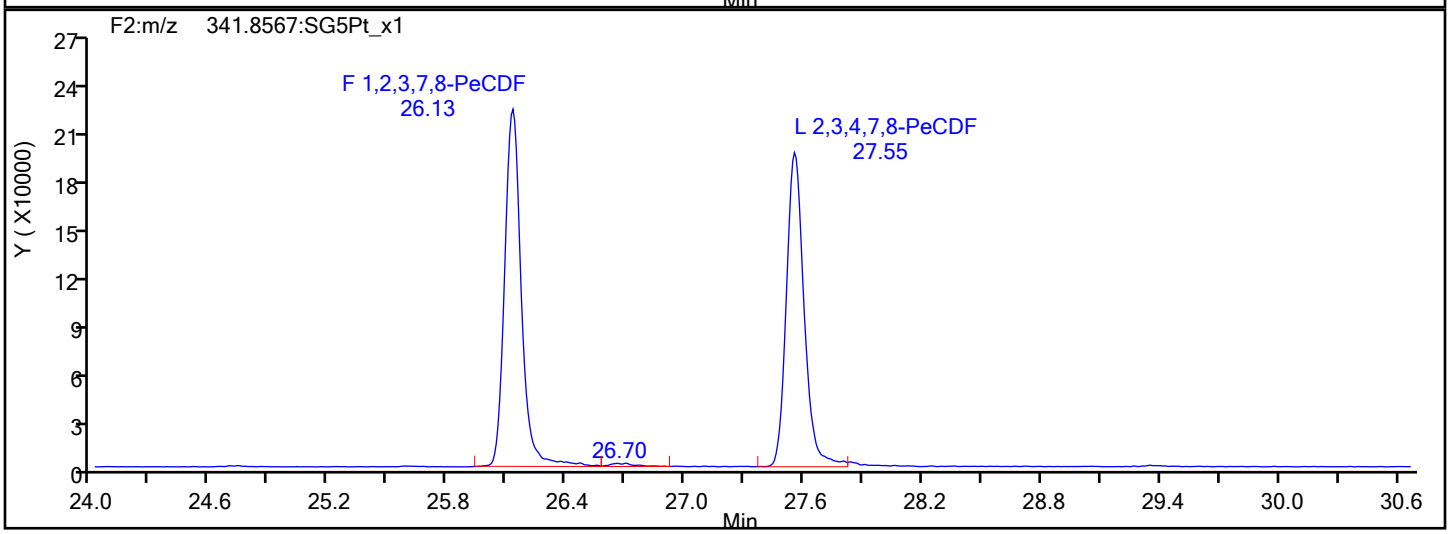
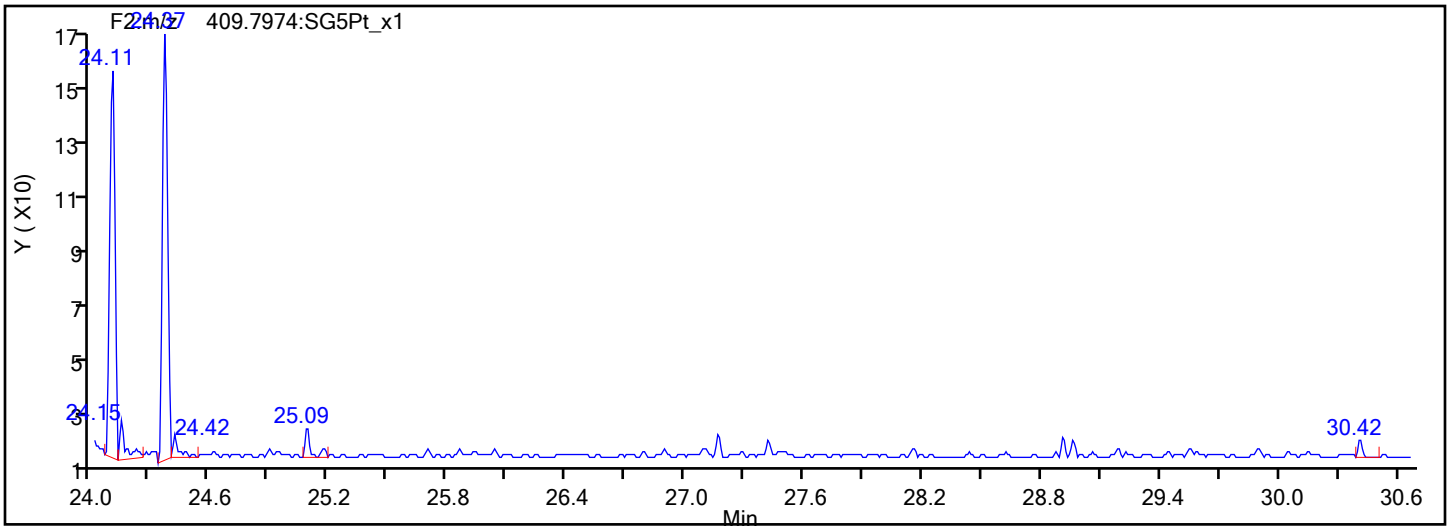




PeCDF Interference Mass



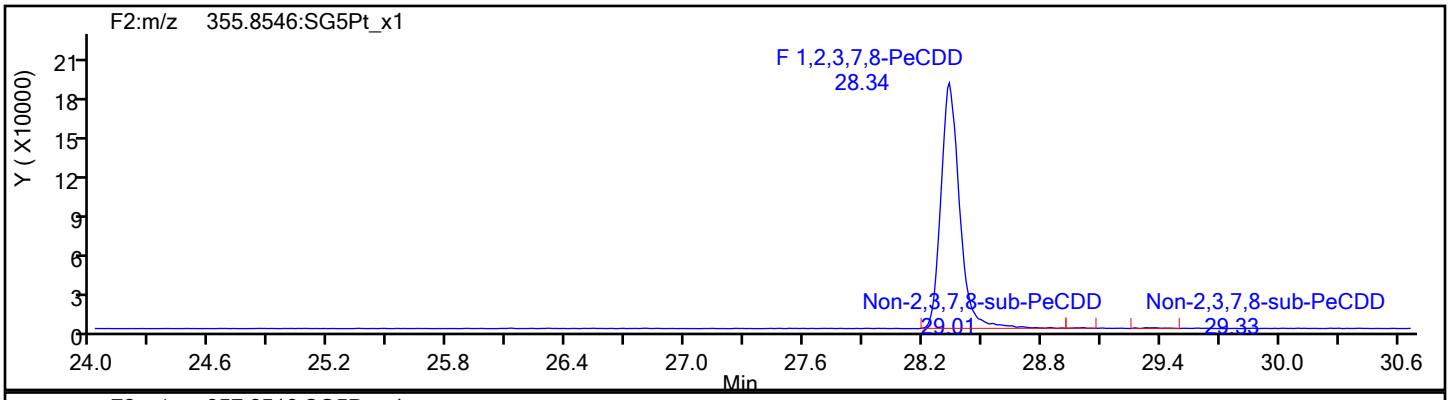
Report Date: 21-Jan-2022 08:05:42 Chrom Revision: 2.3 18-Jan-2022 20:25:40

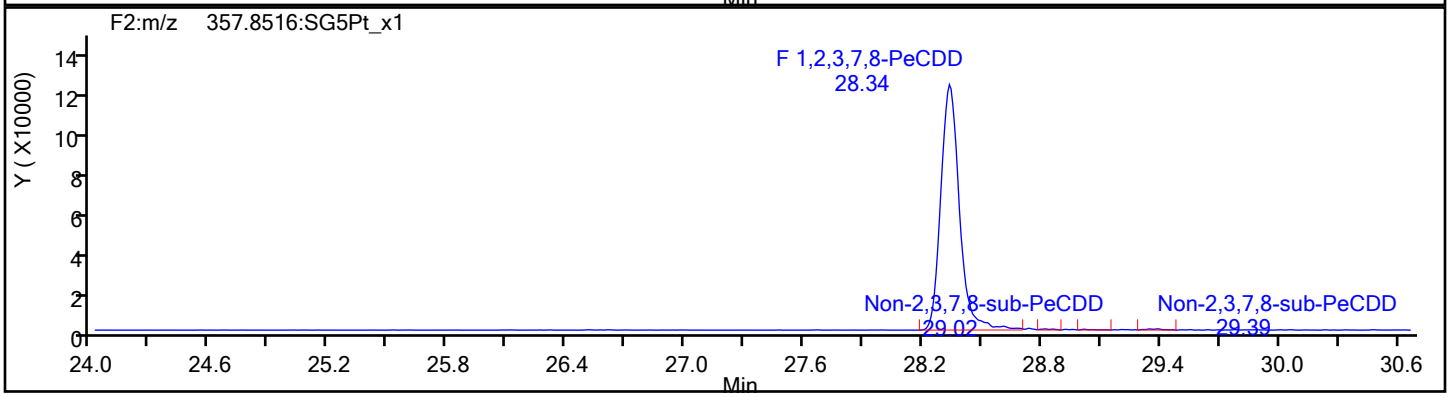
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d

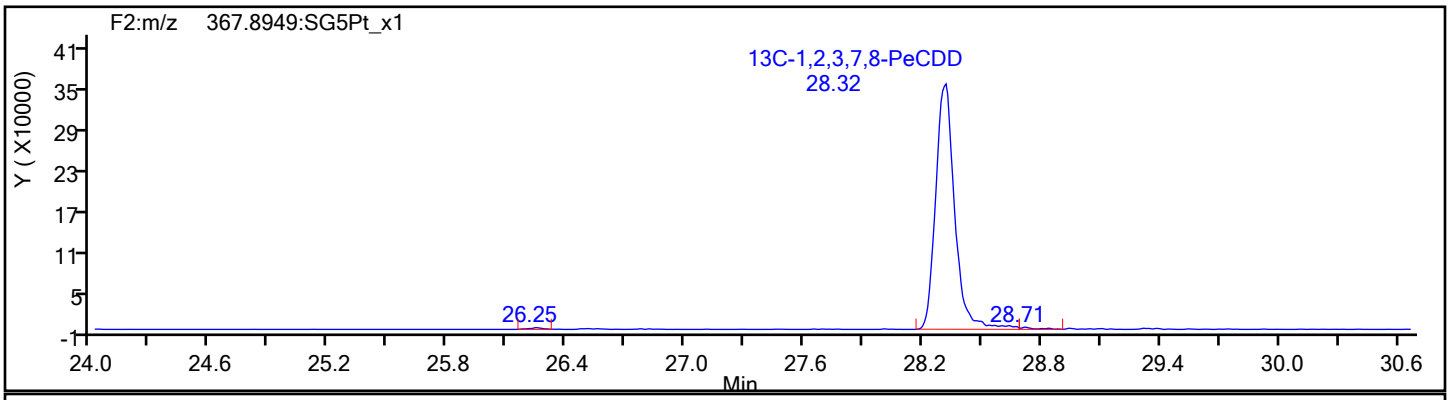
Injection Date:	20-Jan-2022 17:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

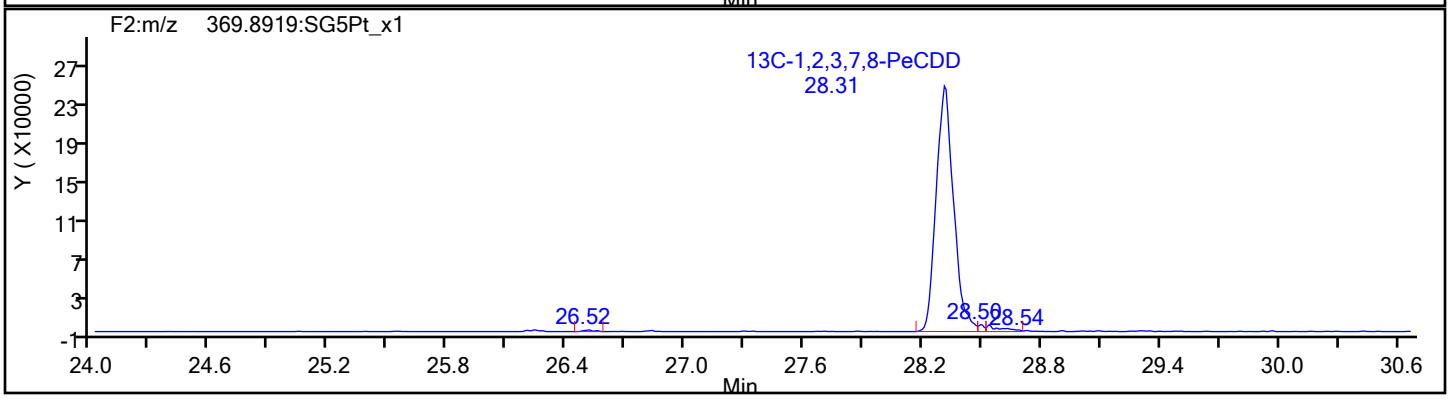
PeCDD





PeCDD Standards





Eurofins Sacramento

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Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

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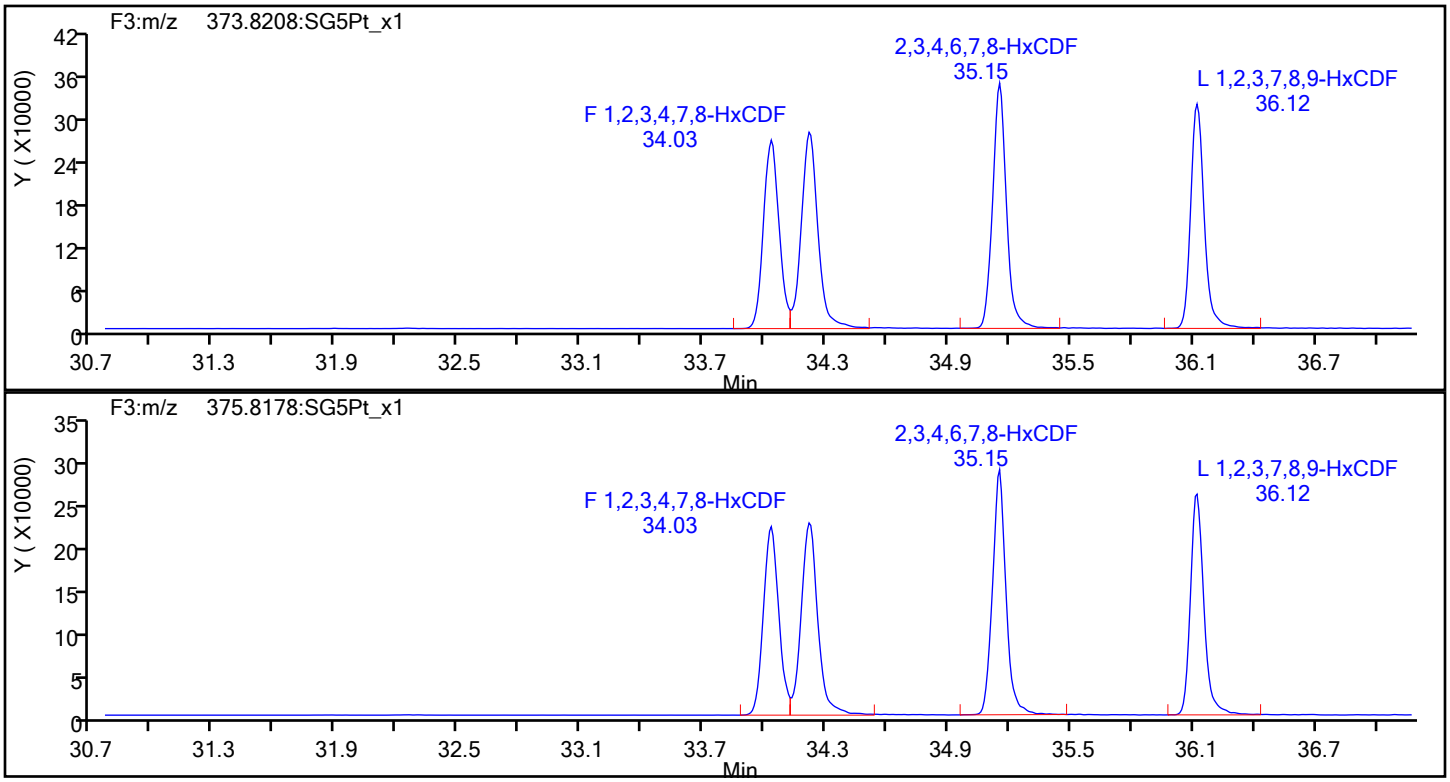
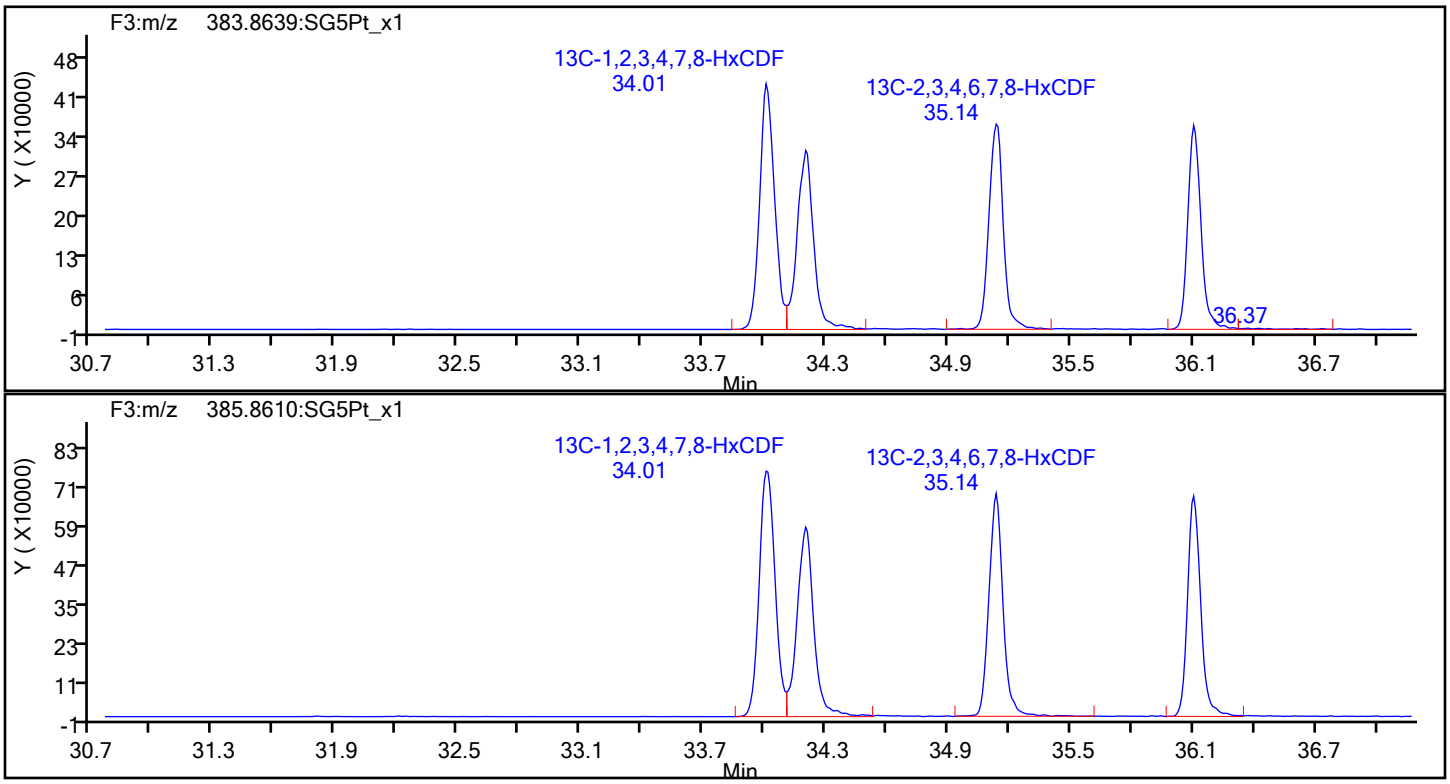


HxCDF Standards



Eurofins Sacramento

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Client ID:
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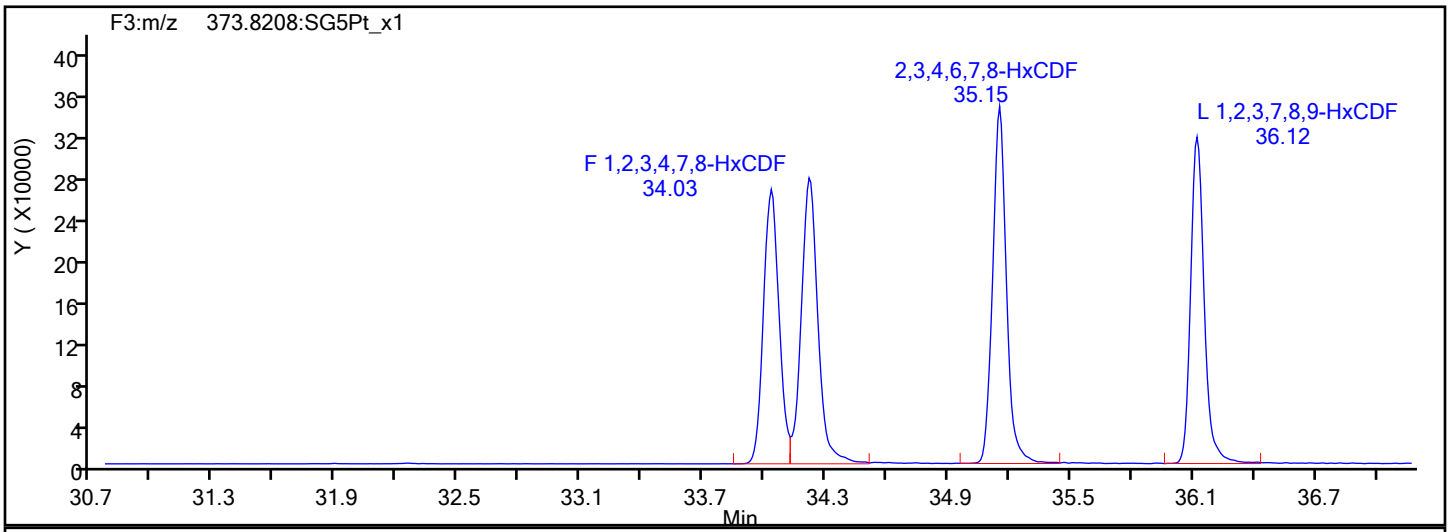
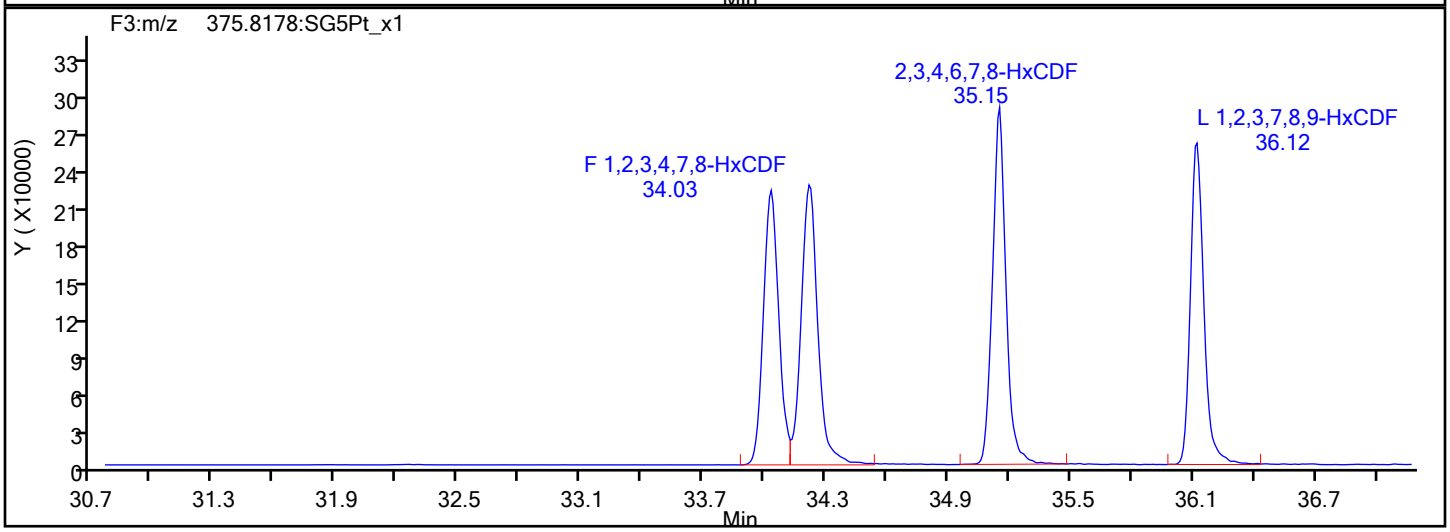
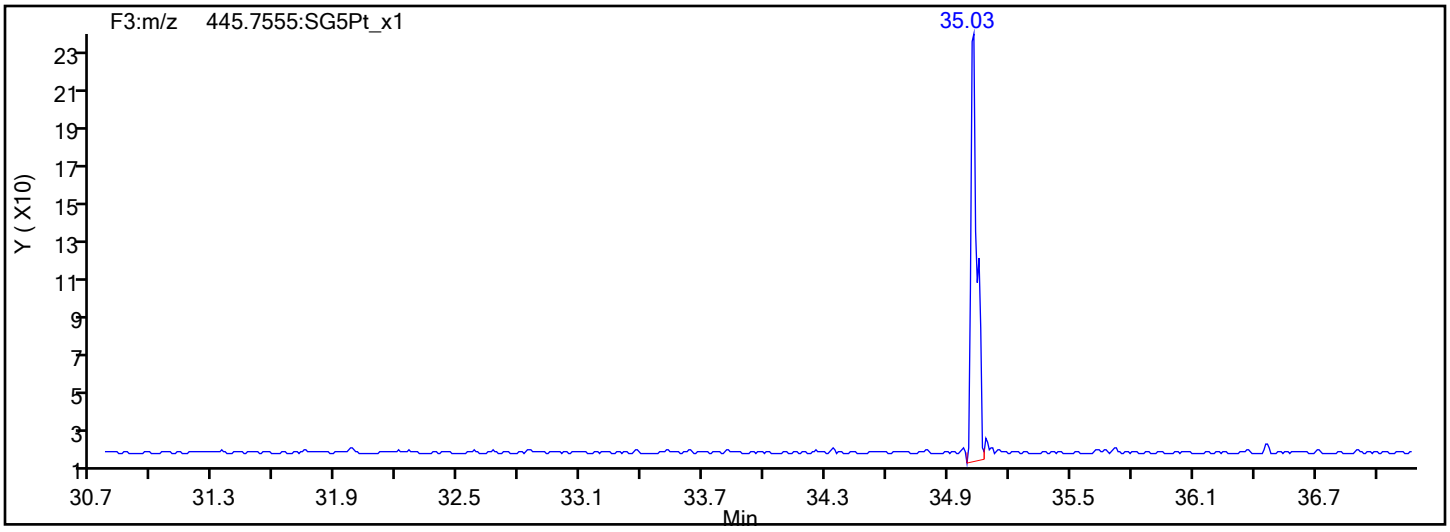




HxCDF Interference Mass



Eurofins Sacramento

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Client ID:
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Column Type: DB-5 Column Dia: 0.32 mm

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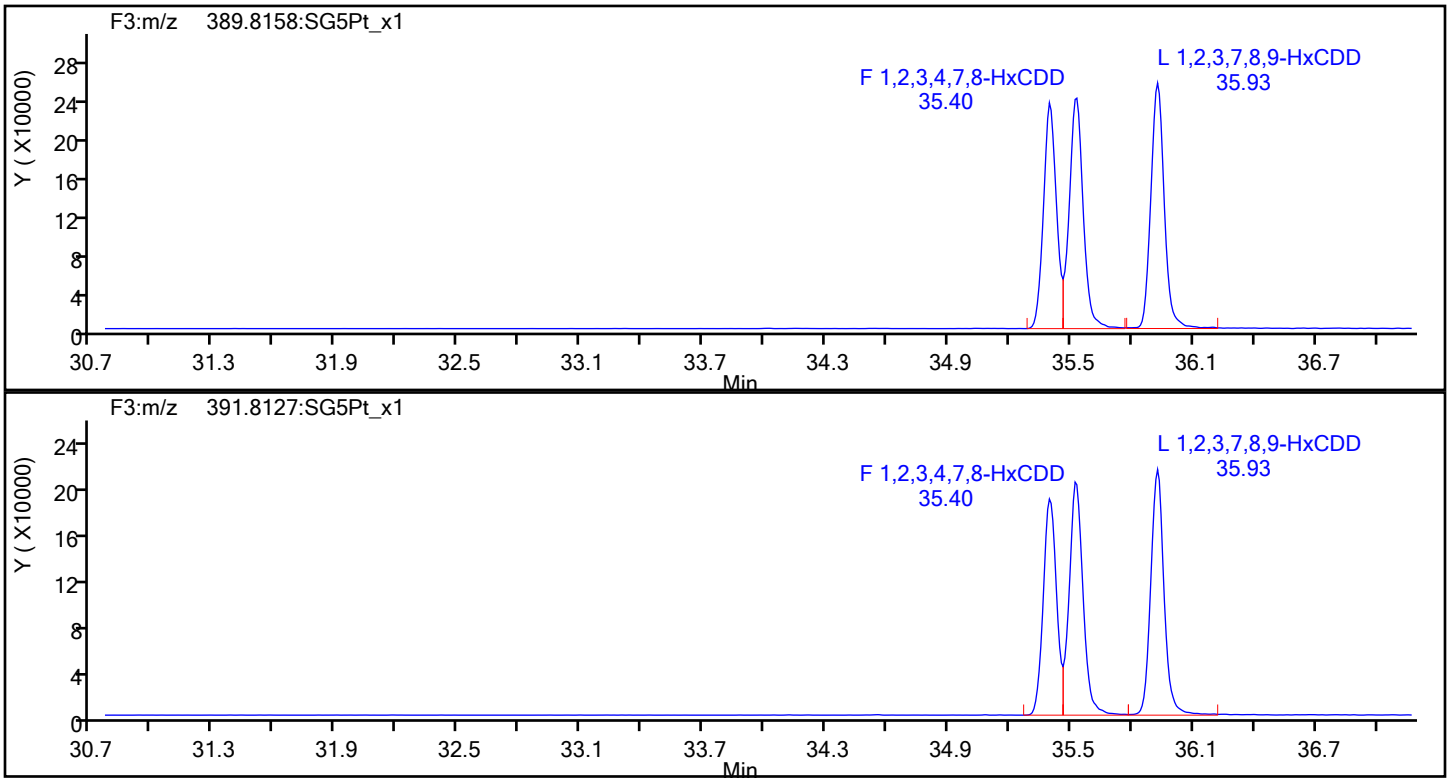
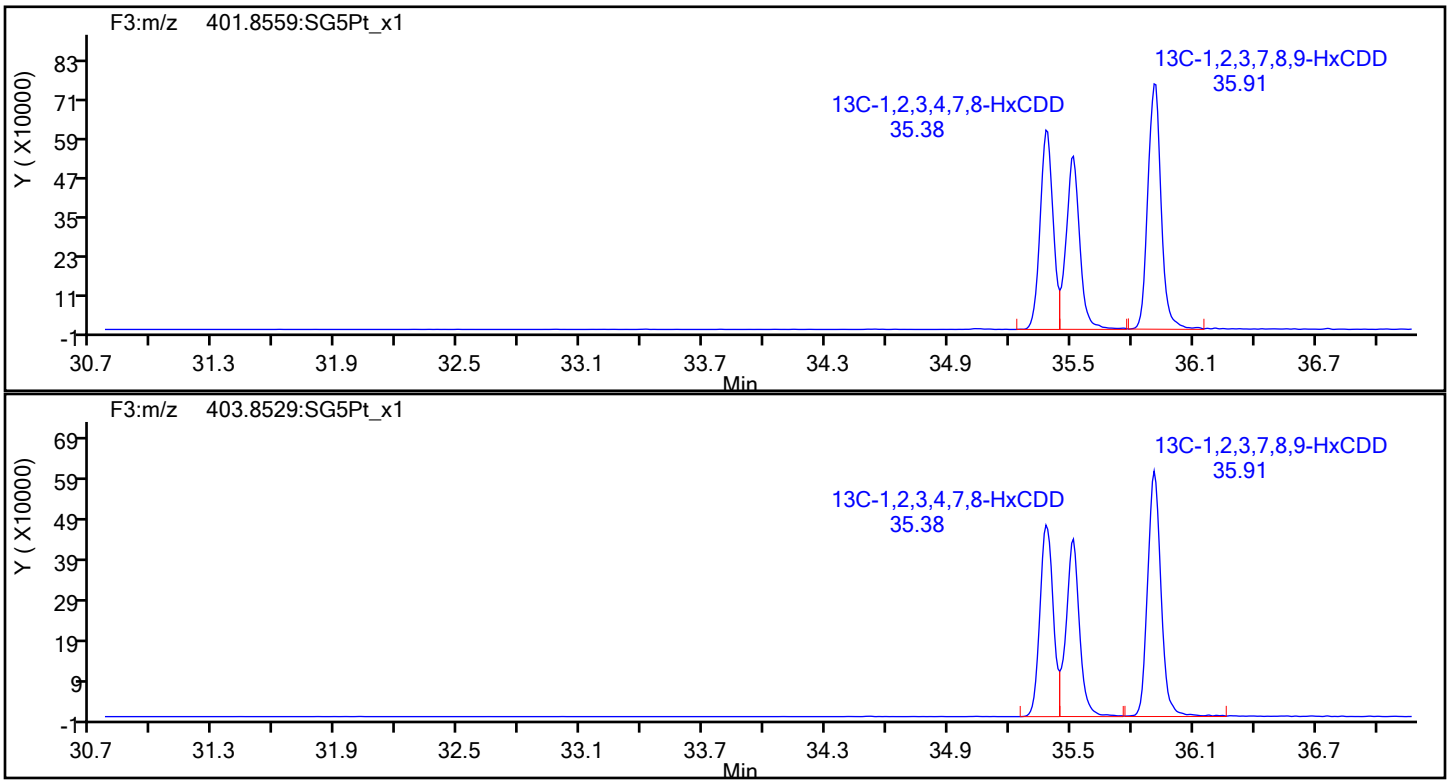


HxCDD Standards



Report Date: 21-Jan-2022 08:05:42 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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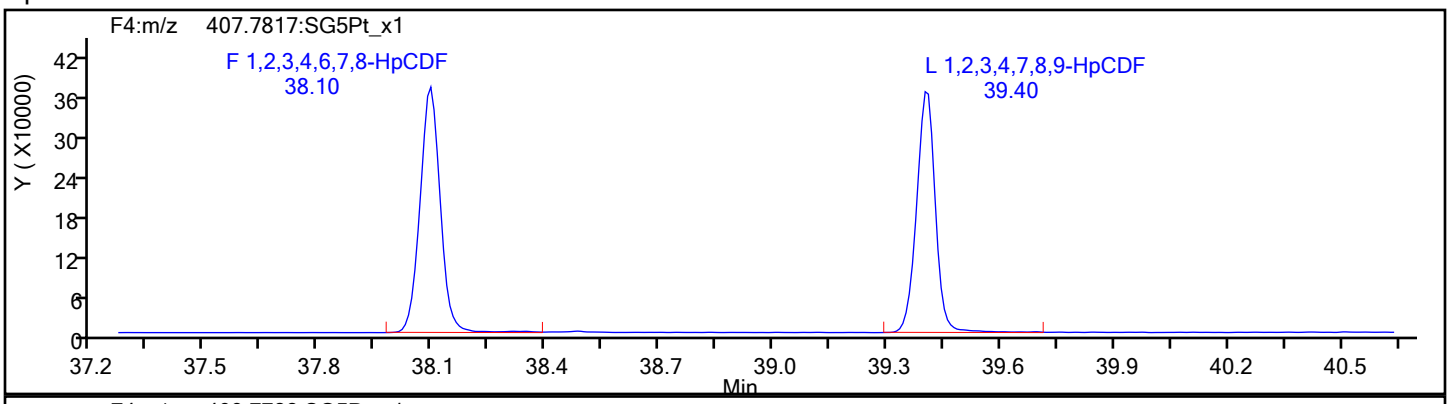
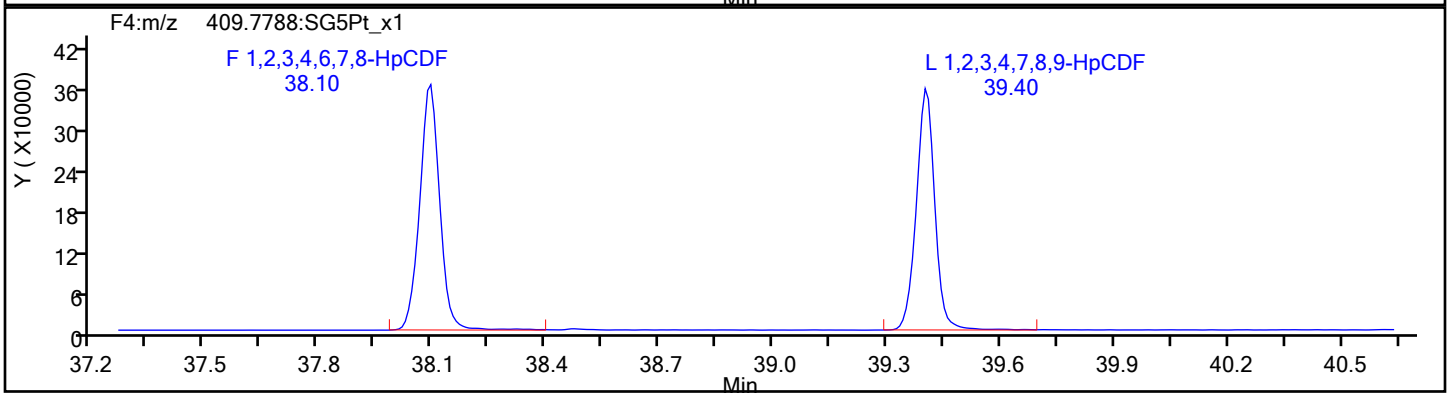
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





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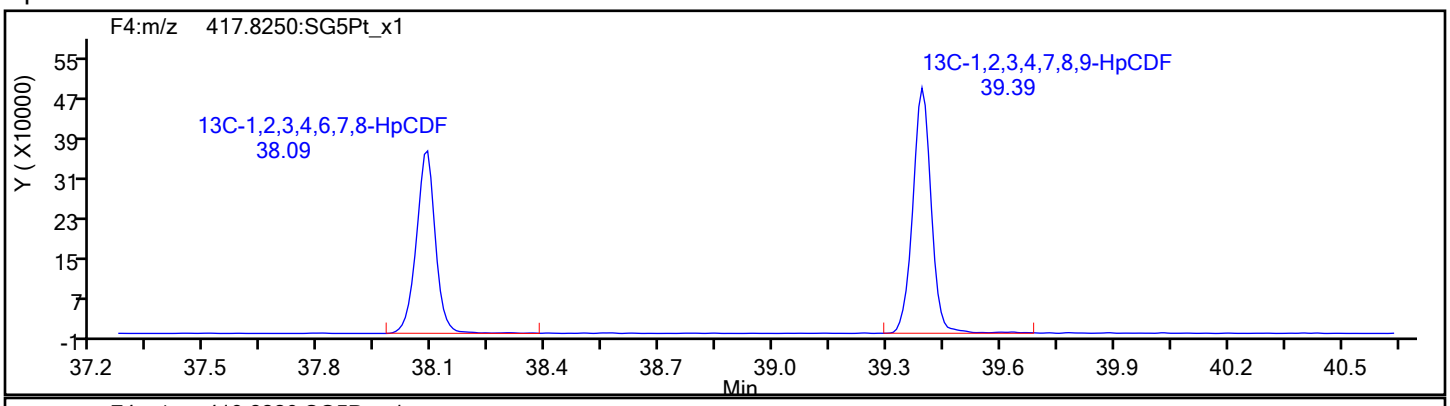

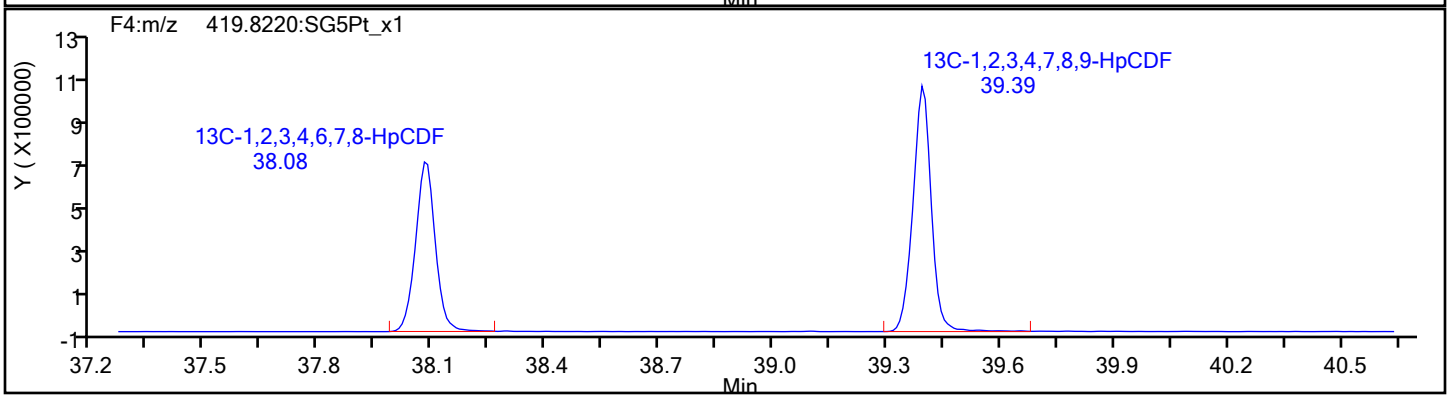

Eurofins Sacramento

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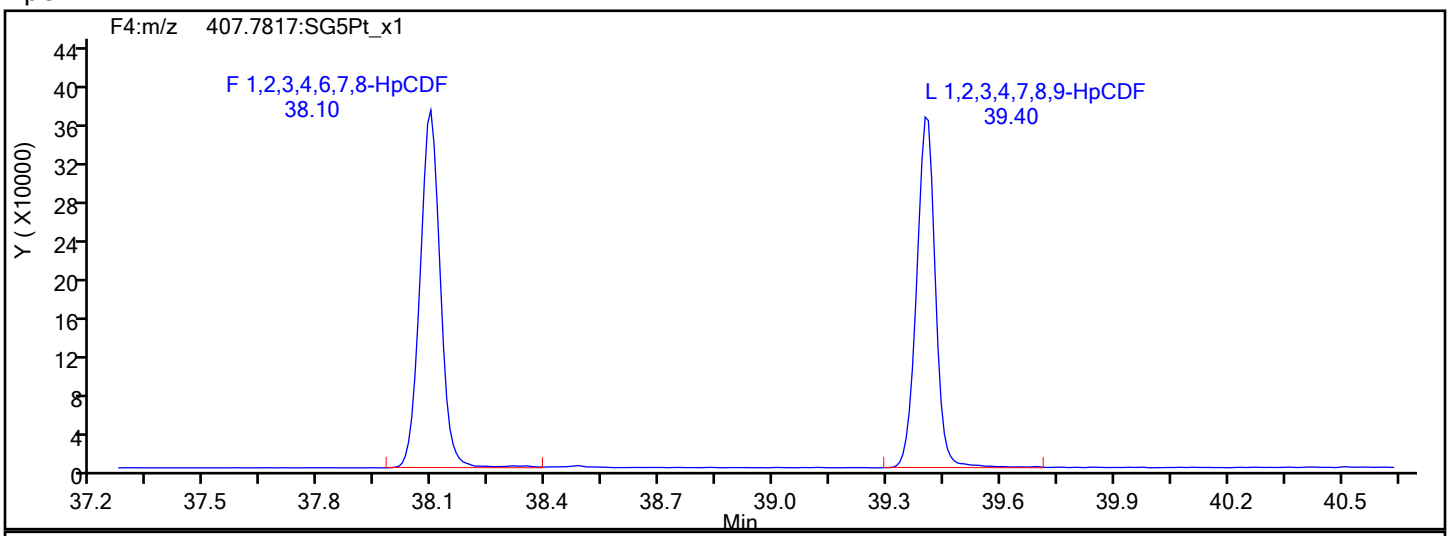
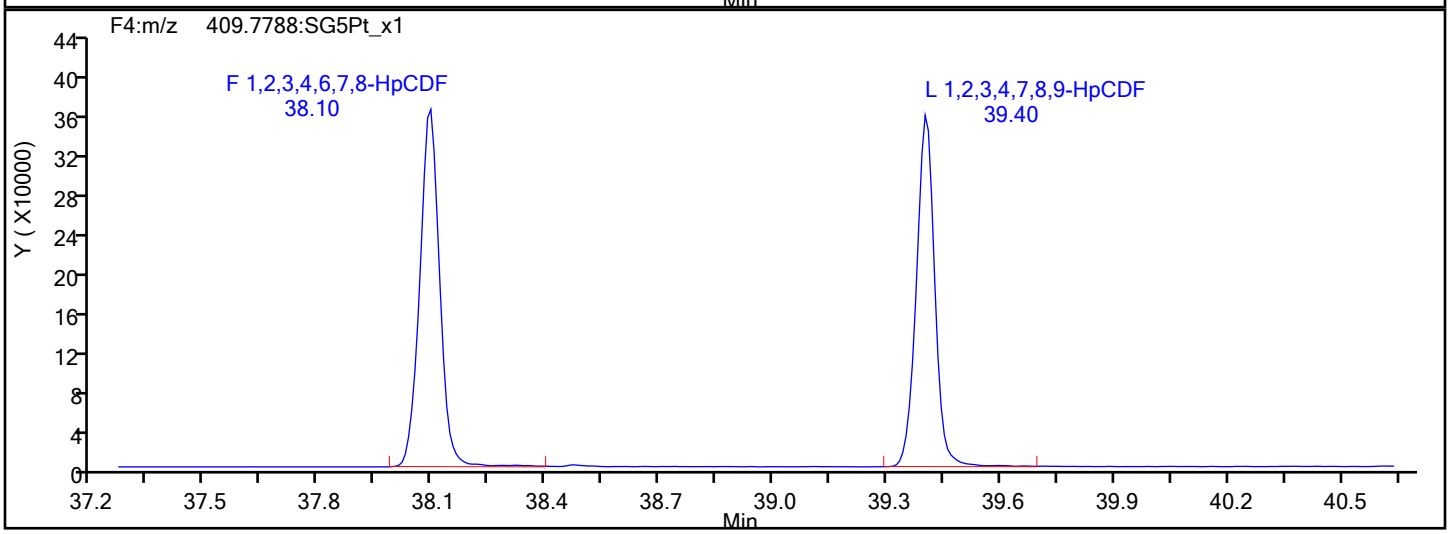
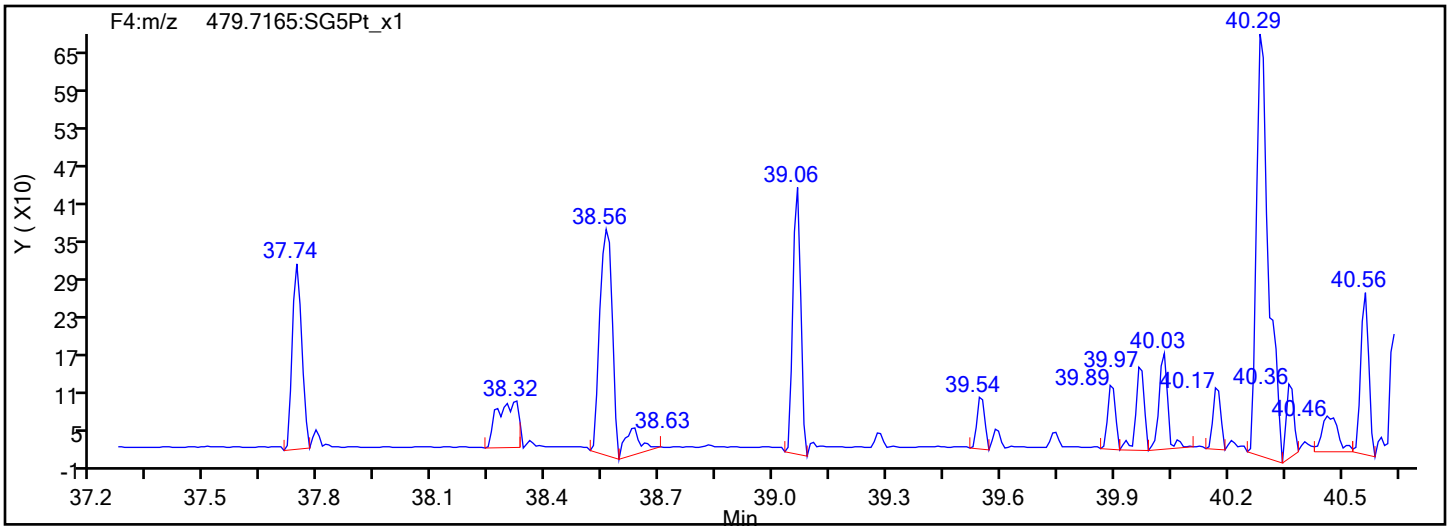
Worklist#: 559474 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

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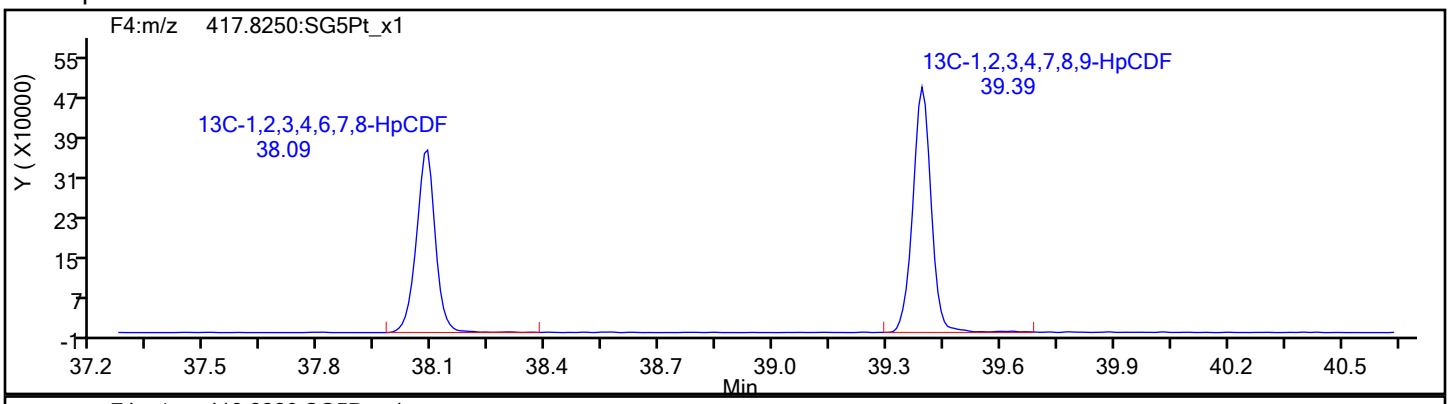
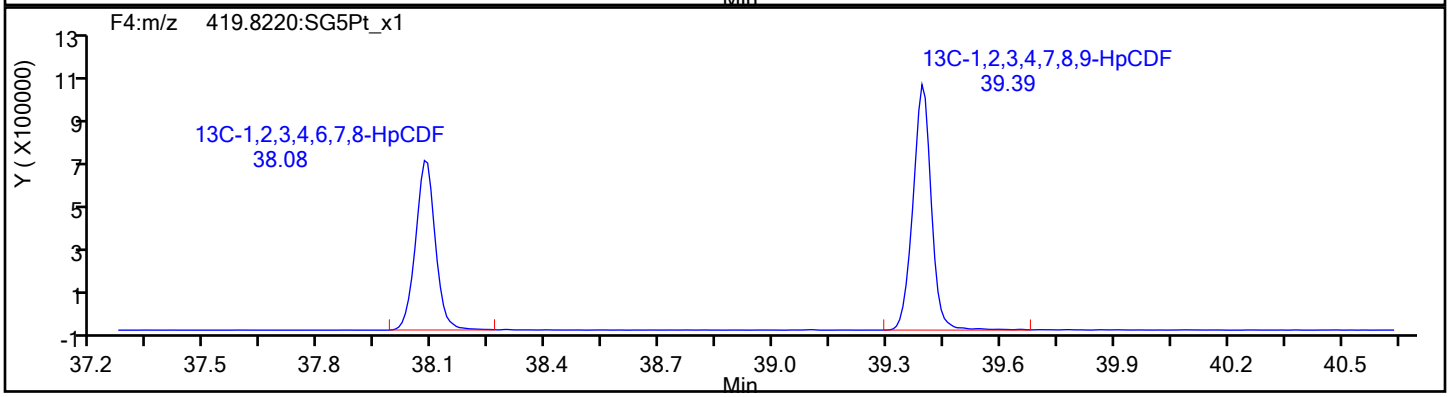
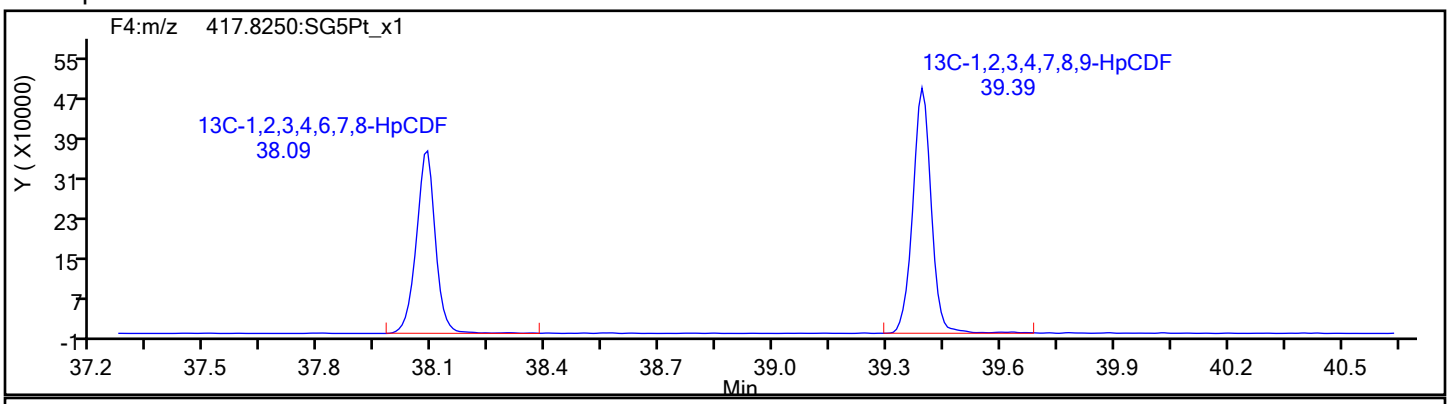
Client ID:
Worklist#: 559474 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

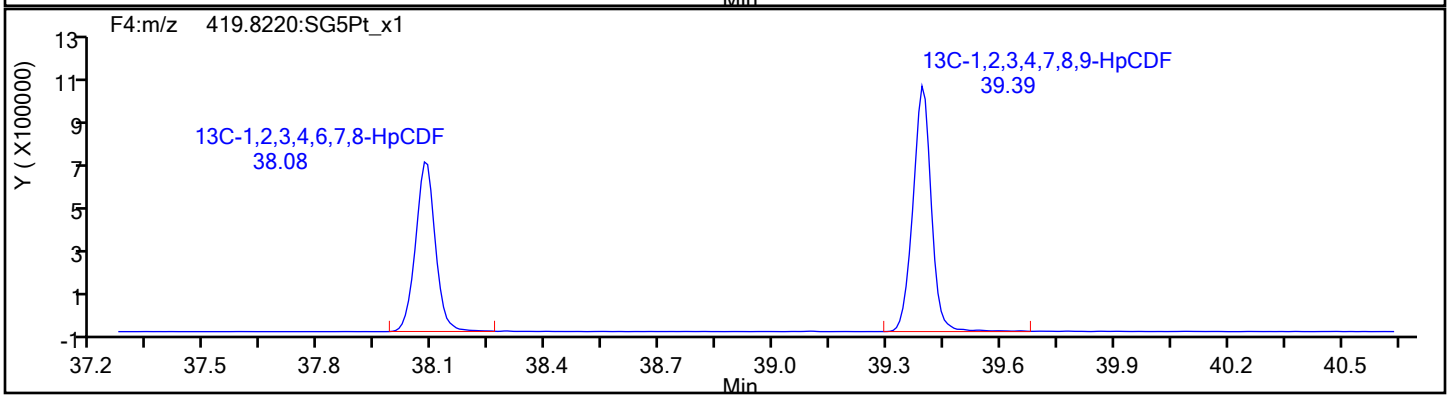
13C-HpCDF





13C-HpCDF Standards





Eurofins Sacramento

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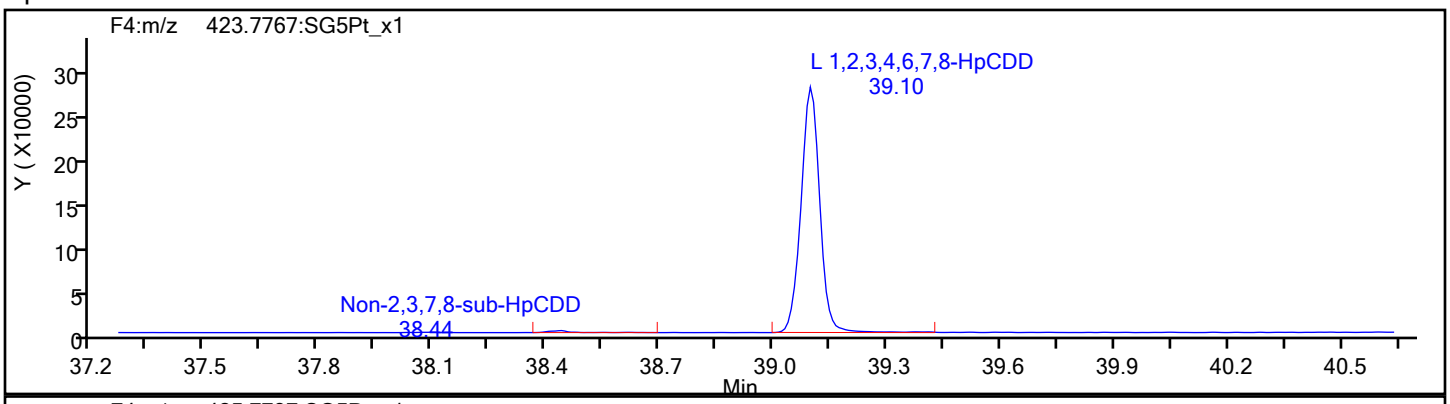
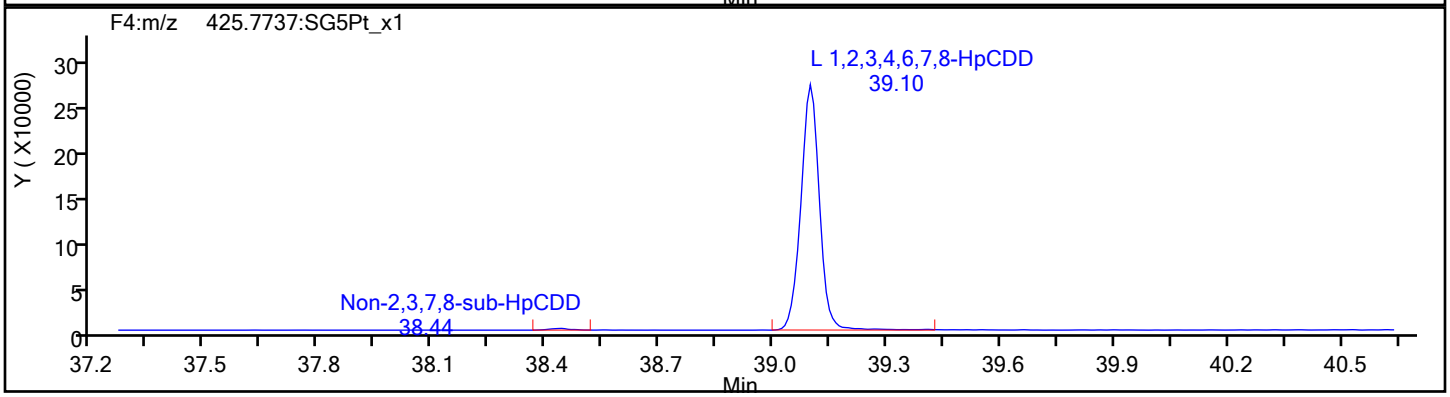
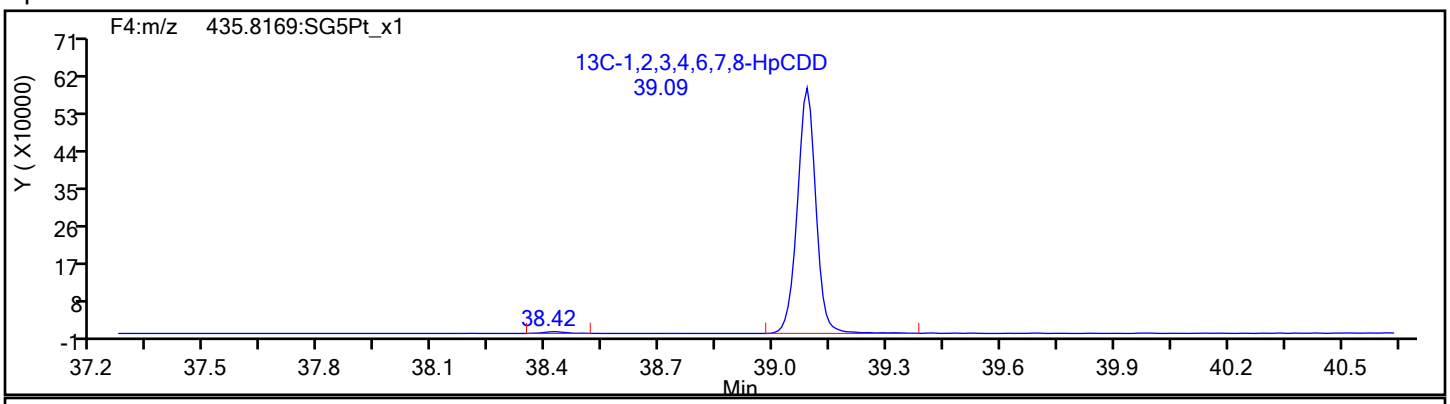
Column Type: DB-5 Column Dia: 0.32 mm

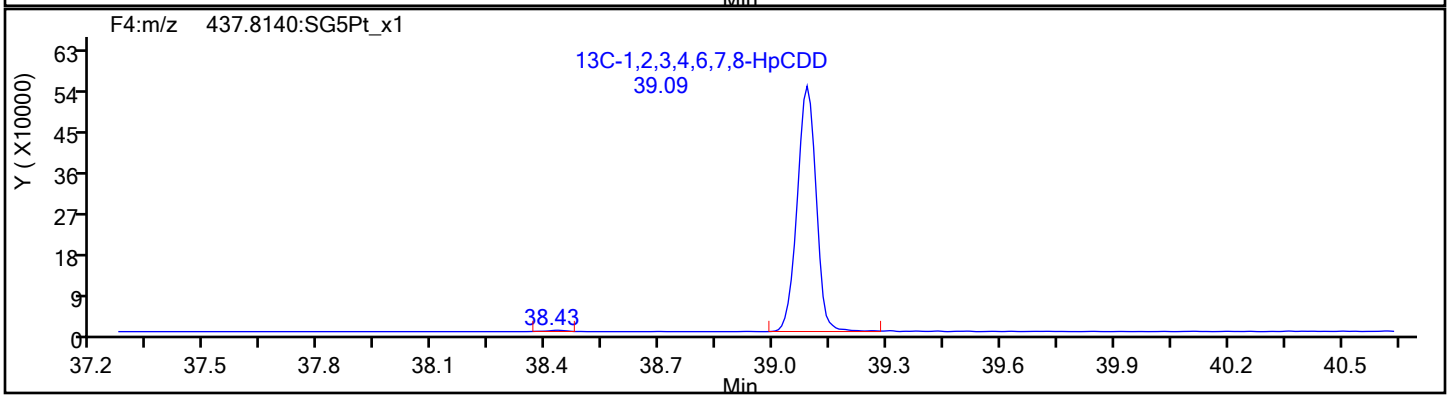
HpCDD





HpCDD Standards





Eurofins Sacramento

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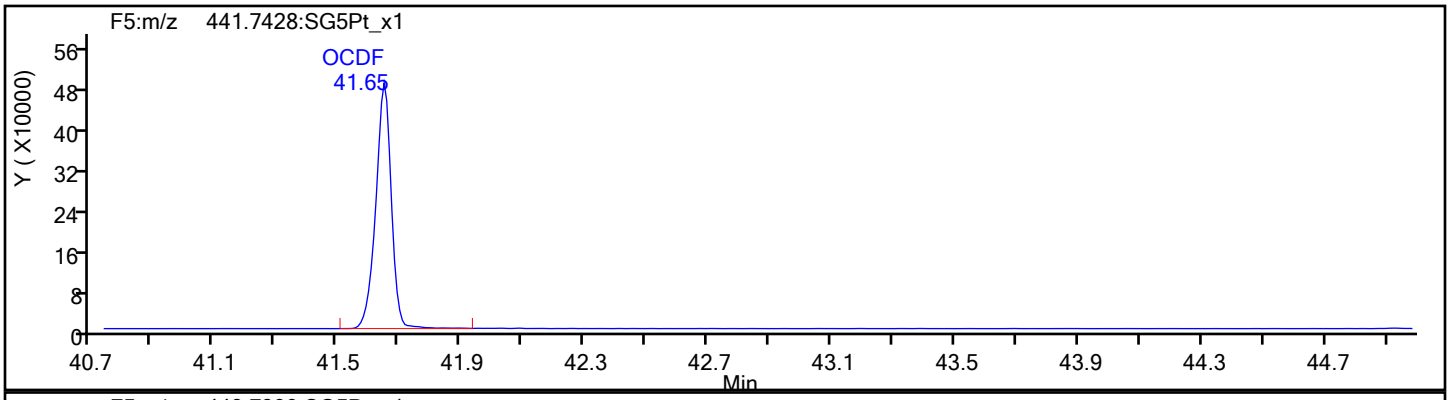
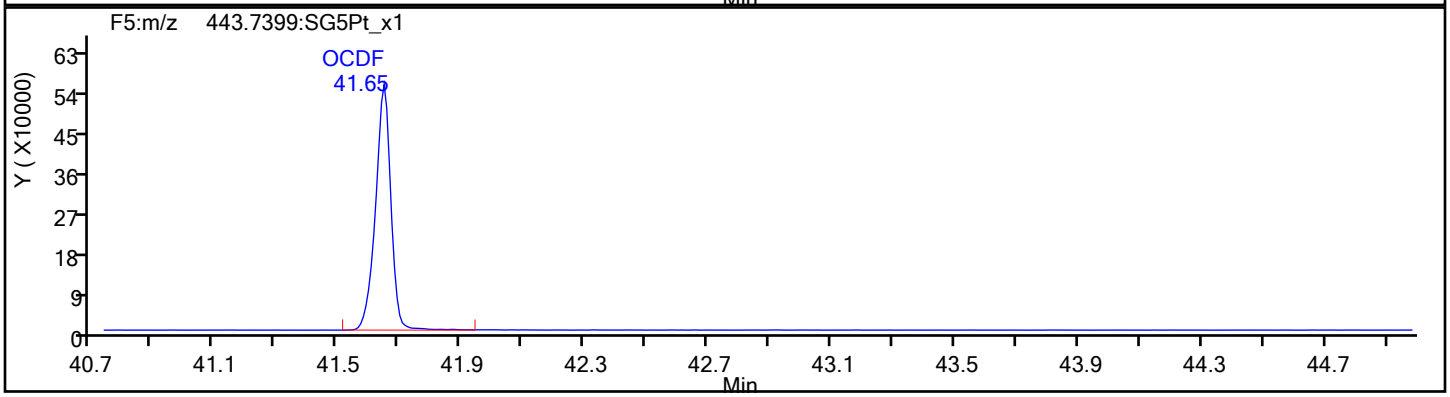
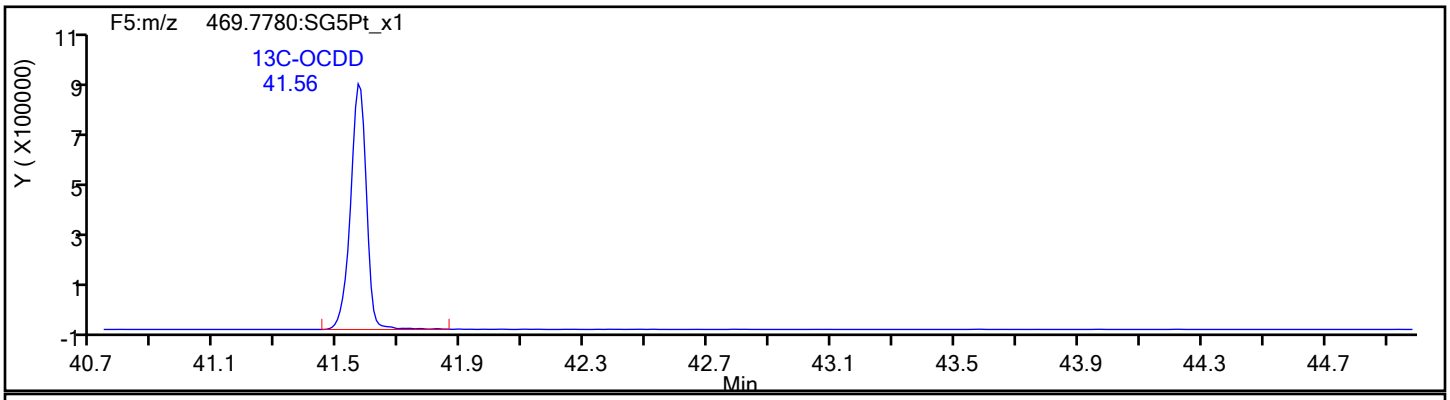
Worklist#: 559474 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

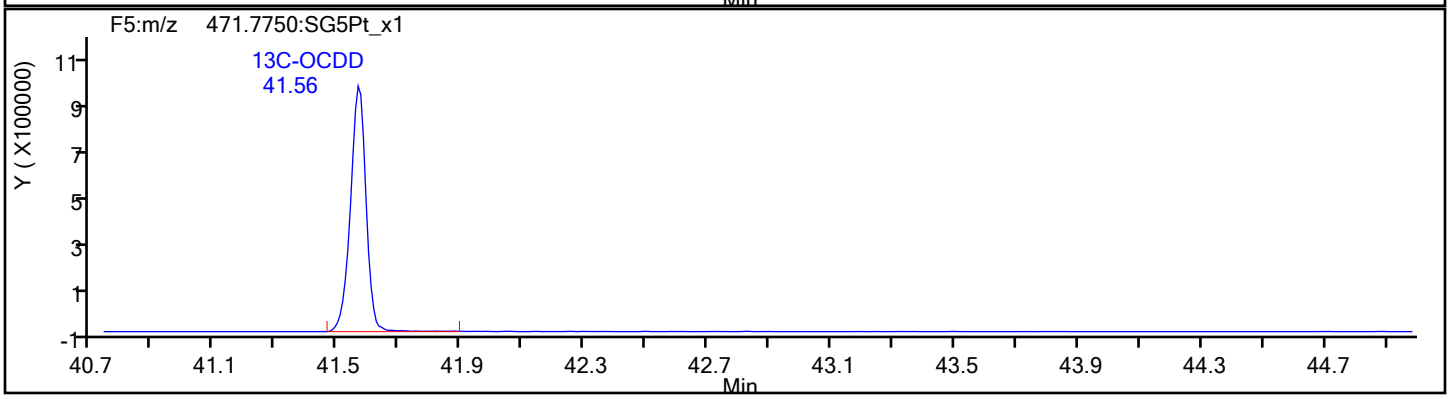
OCDF





OCDF Standards

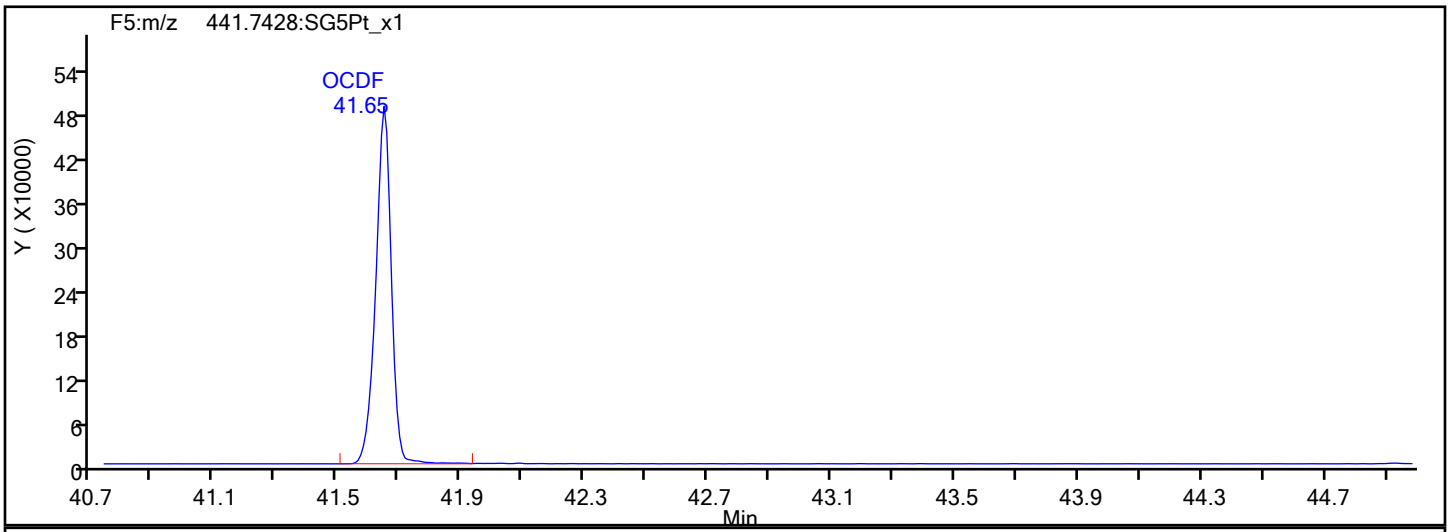


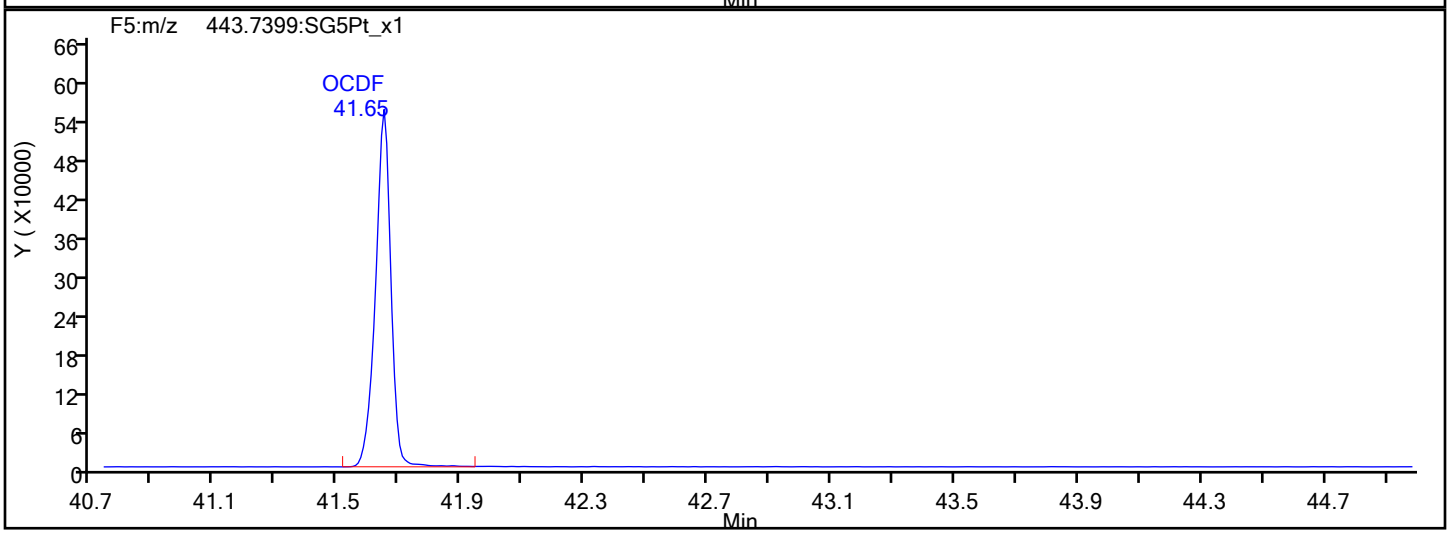


Eurofins Sacramento

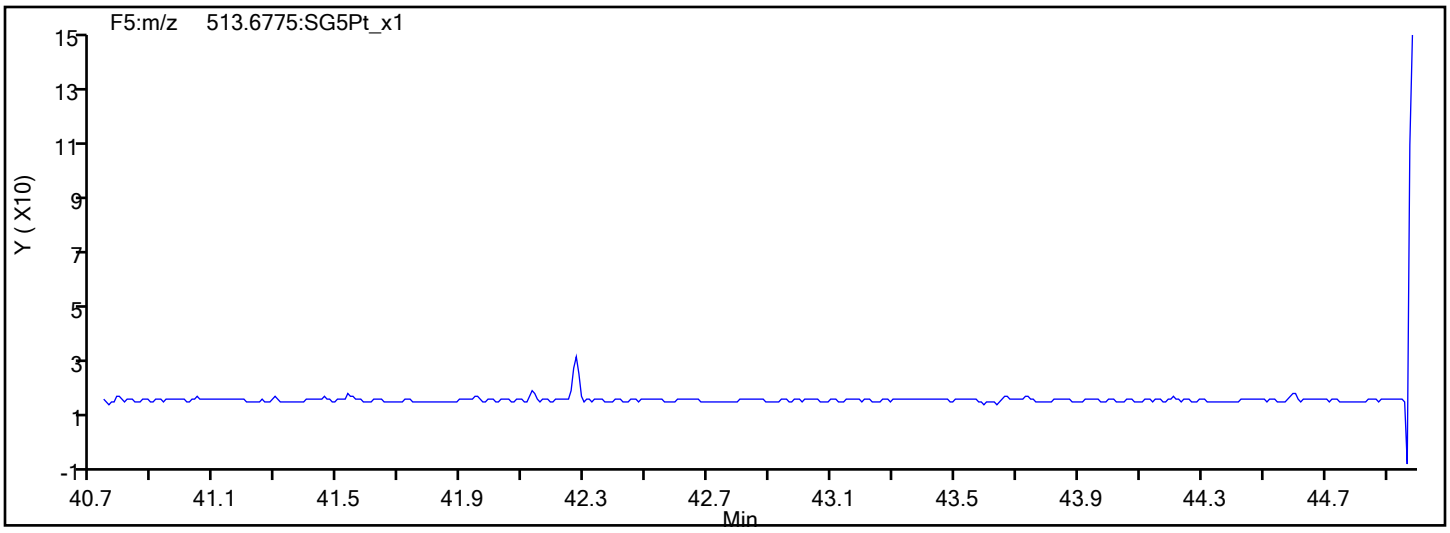
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d
Injection Date: 20-Jan-2022 17:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





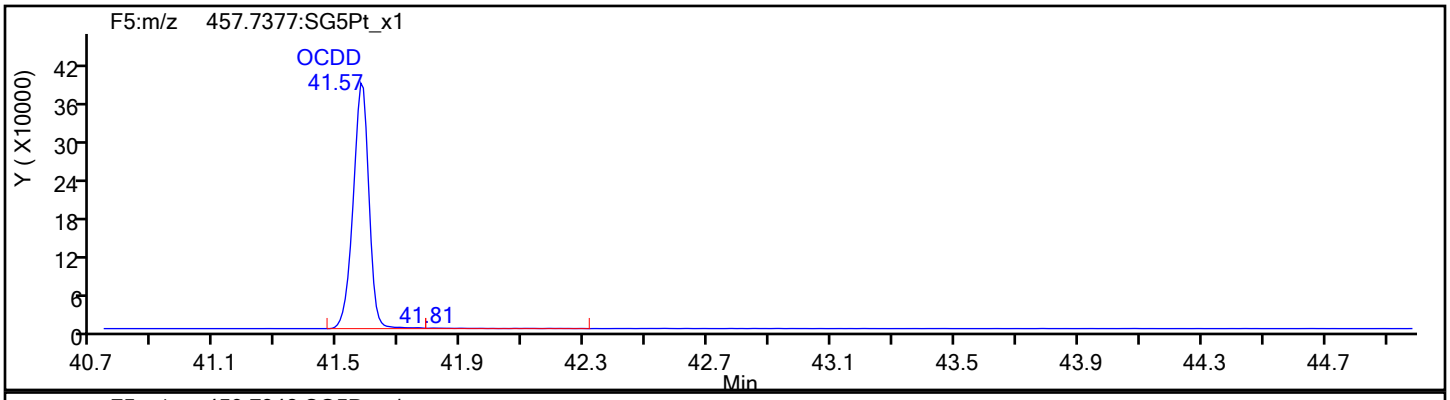
OCDF Interference Mass

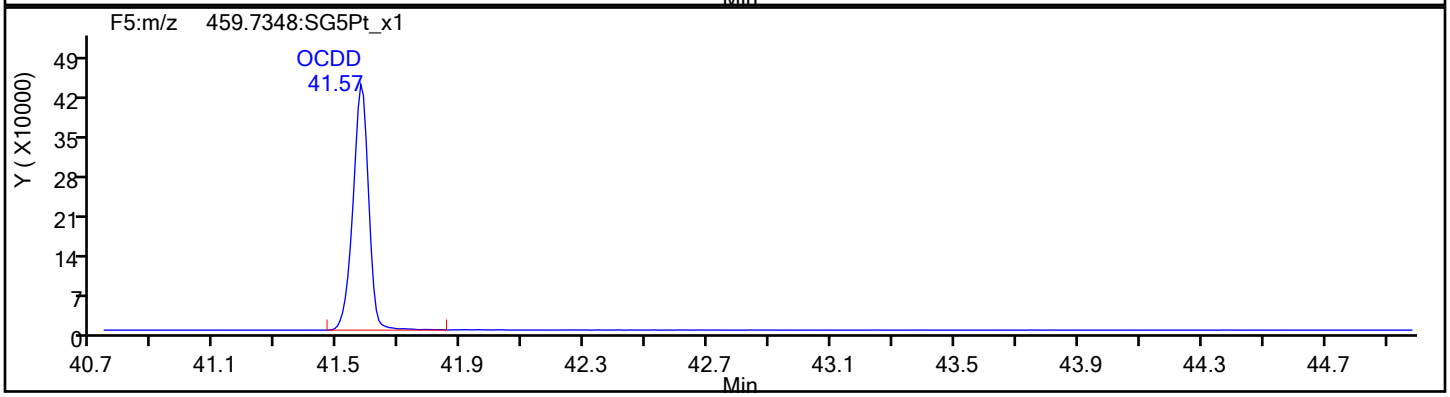


Eurofins Sacramento

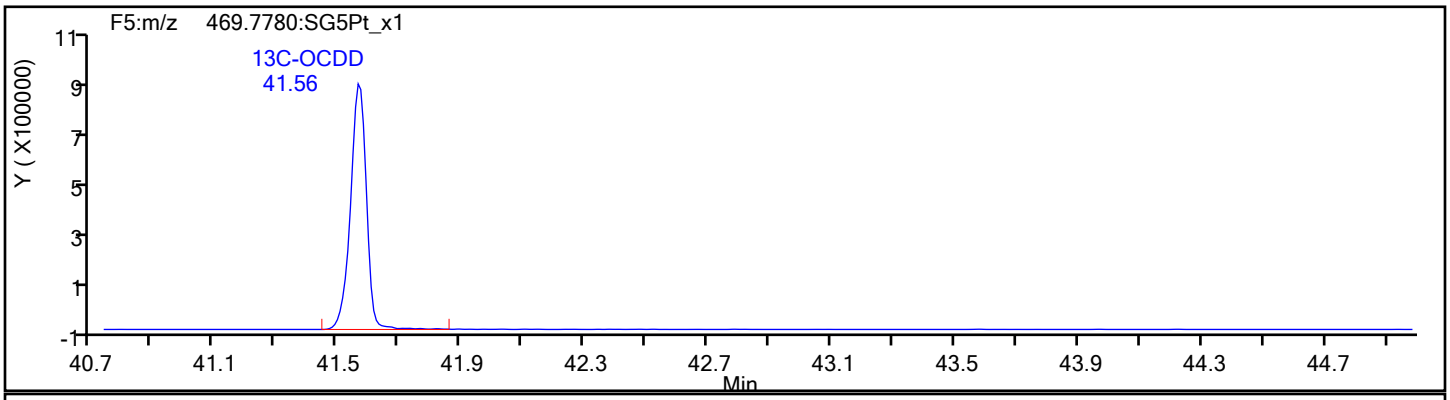
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d		
Injection Date:	20-Jan-2022 17:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

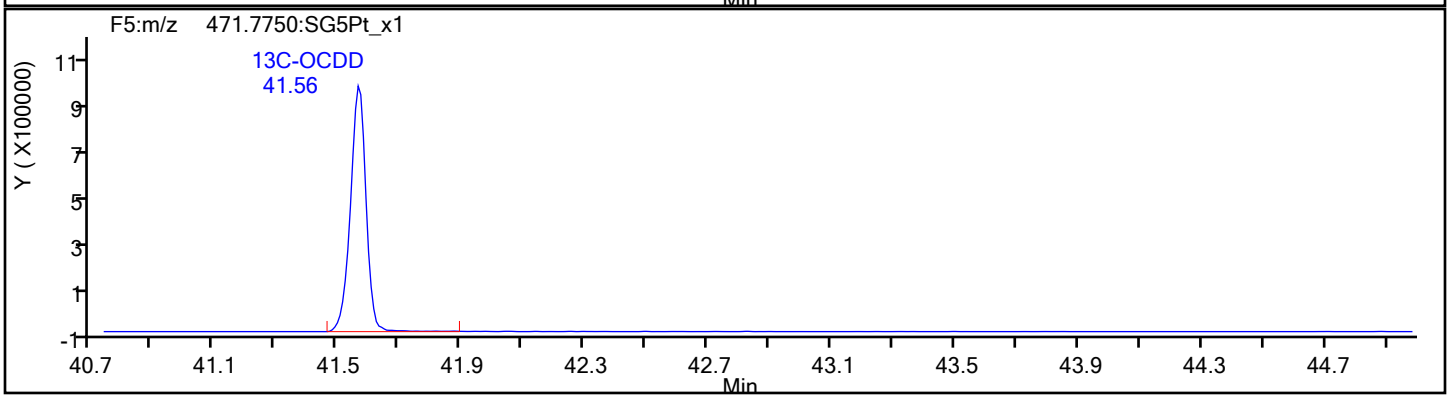
OCDD





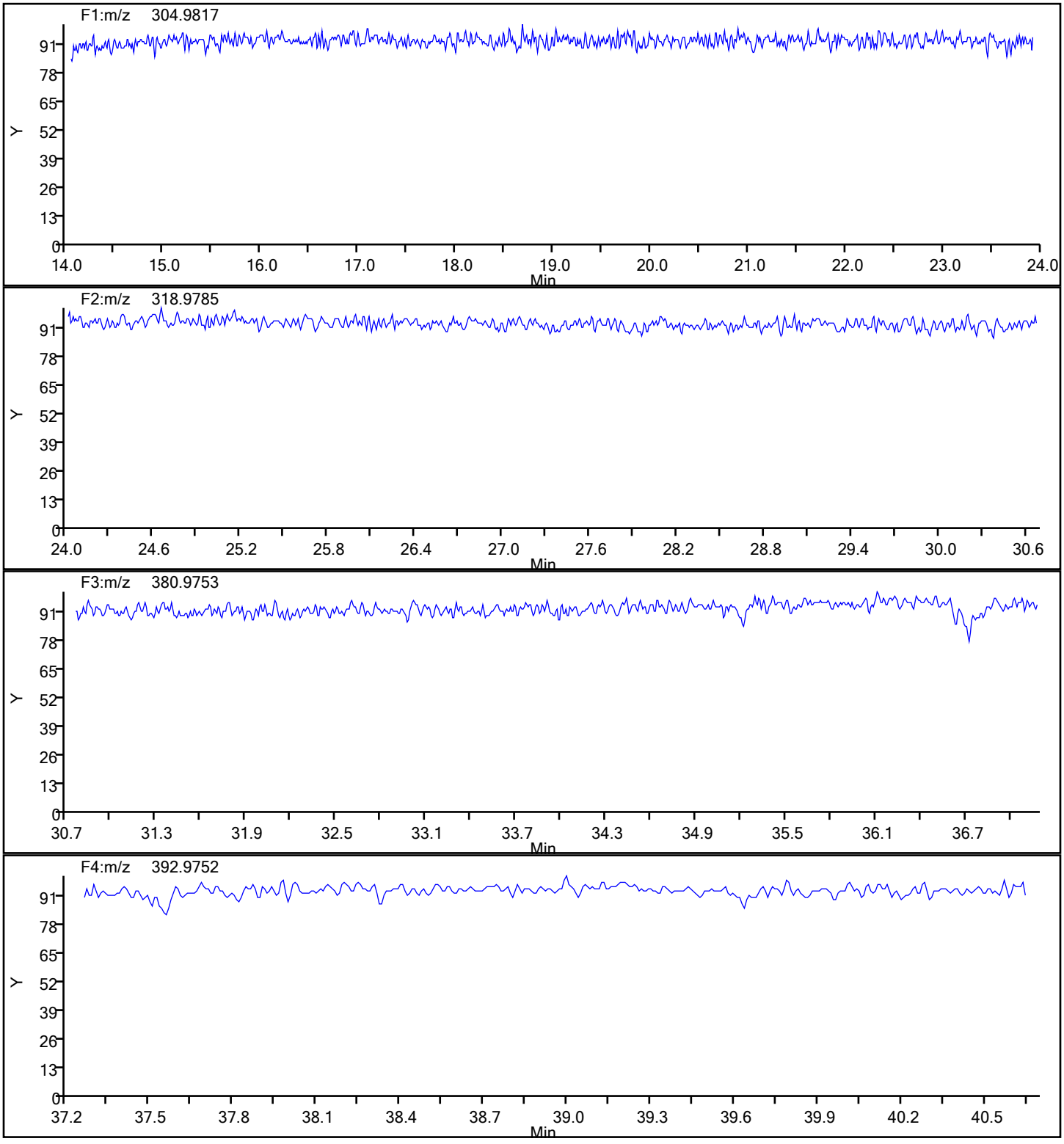
OCDD Standards





Eurofins Sacramento

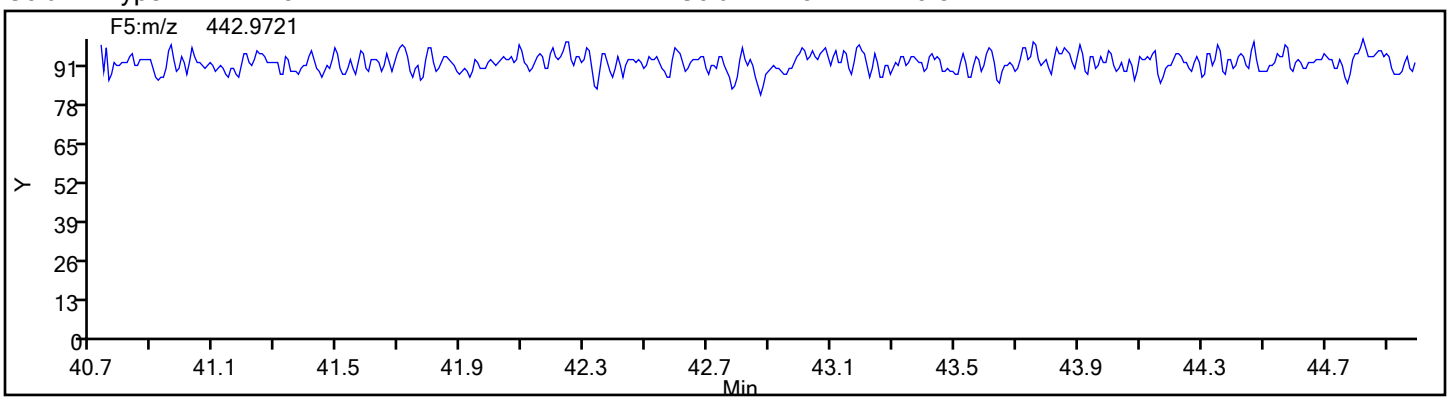
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d		
Injection Date:	20-Jan-2022 17:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 21-Jan-2022 08:05:43 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_5.d		
Injection Date:	20-Jan-2022 17:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80119-2

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 320-555858/3-A

Matrix: Water | Lab File ID: 20ja22dfs1_6.d

Analysis Method: 8290 | Date Collected:

Extract. Method: 8290 | Date Extracted: 01/04/2022 09:56

Sample wt/vol: 1000(mL) | Date Analyzed: 01/20/2022 18:38

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559474 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	200.6		10	1.5
51207-31-9	2,3,7,8-TCDF	203.3		10	0.77
40321-76-4	1,2,3,7,8-PeCDD	1064		50	1.6
57117-41-6	1,2,3,7,8-PeCDF	1092		50	4.2
57117-31-4	2,3,4,7,8-PeCDF	1068		50	4.4
39227-28-6	1,2,3,4,7,8-HxCDD	1035		50	1.9
57653-85-7	1,2,3,6,7,8-HxCDD	1022		50	1.7
19408-74-3	1,2,3,7,8,9-HxCDD	1124		50	1.7
70648-26-9	1,2,3,4,7,8-HxCDF	951.1		50	4.5
57117-44-9	1,2,3,6,7,8-HxCDF	892.5		50	3.9
60851-34-5	2,3,4,6,7,8-HxCDF	993.7		50	4.1
72918-21-9	1,2,3,7,8,9-HxCDF	976.8		50	4.4
35822-46-9	1,2,3,4,6,7,8-HpCDD	1030		50	1.9
67562-39-4	1,2,3,4,6,7,8-HpCDF	974.6		50	2.7
55673-89-7	1,2,3,4,7,8,9-HpCDF	1049		50	3.2
3268-87-9	OCDD	1859		100	1.4
39001-02-0	OCDF	1861		100	1.4

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	91		40-135
89059-46-1	13C-2,3,7,8-TCDF	94		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	95		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	92		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	84		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	91		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	96		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	97		40-135
114423-97-1	13C-OCDD	114		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d
Lims ID: LCSD 320-555858/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 20-Jan-2022 18:38:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcsd 320-555858/3-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:53:32

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.985	7575861	0.80	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.075	7263625	0.78	1.0164	94.3	94.3	0.3893	0.3893	94.33	
2,3,7,8-TCDF	19.101	747141	0.76	1.0120	10.2	10.2	0.0384	0.0384	102	
A Non-2,3,7,8-sub-TCDF	18.694	2372	0.77	1.0120	0.0461	0.0323	0.0384	0.0384	0.00	RQ
S Total TCDF					10.2	10.2	0.0384	0.0384		RQ
$ 37Cl4-2,3,7,8-TCDD	20.372	2289453		0.7911	38.2	38.2	0.0418	0.0418	95.50	
D 13C-2,3,7,8-TCDD	20.346	5462374	0.77	0.7884	91.5	91.5	0.2916	0.2916	91.45	
2,3,7,8-TCDD	20.380	542737	0.79	0.9906	10.0	10.0	0.0752	0.0752	100	
A Non-2,3,7,8-sub-TCDD	19.493						0.0752	0.0752		
S Total TCDD					10.0	10.0	0.0752	0.0752		
D 13C-1,2,3,7,8-PeCDF	26.129	6415578	1.55	0.9232	91.7	91.7	0.4425	0.4425	91.73	
1,2,3,7,8-PeCDF	26.146	3418748	1.60	0.9756	54.6	54.6	0.2087	0.2087	109	
D 13C-2,3,4,7,8-PeCDF	27.562	8320431	1.57	1.1692	93.9	93.9	0.3494	0.3494	93.94	
2,3,4,7,8-PeCDF	27.578	3158357	1.57	0.9215	53.4	53.4	0.2209	0.2209	107	
A F1 PeCDFs	23.390	607	1.55	0.9486	0.0658	0.0100	0.0124	0.0124	0.00	RQ
A Non-2,3,7,8-sub-PeCDF	26.772	28147	1.55	0.9486	0.4976	0.4625	0.2146	0.4625	0.00	RQ
S Total PeCDF					108.6	108.5	0.2148	0.2148		RQ
D 13C-1,2,3,7,8-PeCDD	28.345	4025889	1.61	0.5606	94.8	94.8	0.1768	0.1768	94.79	
1,2,3,7,8-PeCDD	28.370	2145393	1.62	1.0020	53.2	53.2	0.0785	0.0785	106	
A Non-2,3,7,8-sub-PeCDD	27.199						0.0785	0.0785		
S Total PeCDD					53.2	53.2	0.0785	0.0785		
D 13C-1,2,3,4,7,8-HxCDF	34.042	6165003	0.54	1.0566	90.8	90.8	0.2777	0.2777	90.83	
1,2,3,4,7,8-HxCDF	34.059	2590085	1.24	0.8835	47.6	47.6	0.2268	0.2268	95.11	
D 13C-1,2,3,6,7,8-HxCDF	34.228	4968583	0.53	0.9686	79.8	79.8	0.3029	0.3029	79.85	
1,2,3,6,7,8-HxCDF	34.253	2830258	1.22	1.0287	44.6	44.6	0.1947	0.1947	89.25	
D 13C-2,3,4,6,7,8-HxCDF	35.154	5040208	0.52	0.9084	86.4	86.4	0.3230	0.3230	86.37	
2,3,4,6,7,8-HxCDF	35.180	3025741	1.25	0.9878	49.7	49.7	0.2028	0.2028	99.37	
D 13C-1,2,3,7,8,9-HxCDF	36.132	4577495	0.50	0.8248	86.4	86.4	0.3557	0.3557	86.39	
1,2,3,7,8,9-HxCDF	36.149	2731262	1.25	0.9071	48.8	48.8	0.2209	0.2209	97.68	
A Non-2,3,7,8-sub-HxCDF	34.083						0.2105	0.2105		
S Total HxCDF					190.7	190.7	0.2113	0.2113		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	35.930	6424332	1.27	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.407	4852516	1.30	1.0143	74.5	74.5	0.1439	0.1439	74.47	
1,2,3,4,7,8-HxCDD	35.424	1856938	1.27	0.8294	51.7	51.7	0.0941	0.0941	103	
D 13C-1,2,3,6,7,8-HxCDD	35.542	4327481	1.25	0.8027	83.9	83.9	0.1819	0.1819	83.92	
1,2,3,6,7,8-HxCDD	35.550	2076498	1.27	0.9395	51.1	51.1	0.0831	0.0831	102	
1,2,3,7,8,9-HxCDD	35.955	2206672	1.24	0.9076	56.2	56.2	0.0860	0.0860	112	
A Non-2,3,7,8-sub-HxCDD	34.580						0.0875	0.0875		
S Total HxCDD					159.0	159.0	0.0877	0.0877		
D 13C-1,2,3,4,6,7,8-HpCDF	38.100	4001000	0.46	0.6421	97.0	97.0	0.3392	0.3392	96.99	
1,2,3,4,6,7,8-HpCDF	38.117	2804712	1.05	1.4385	48.7	48.7	0.1365	0.1365	97.46	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.405	5307954	0.47	1.1706	113.3	113.3	0.2384	0.2384	113	
1,2,3,4,7,8,9-HpCDF	39.422	2561085	1.04	1.2202	52.5	52.5	0.1609	0.1609	105	
A Non-2,3,7,8-sub-HpCDF	38.761						0.1477	0.1477		
S Total HpCDF					101.2	101.2	0.1487	0.1487		
D 13C-1,2,3,4,6,7,8-HpCDD	39.102	3864701	1.07	0.6246	96.3	96.3	0.2306	0.2306	96.31	
1,2,3,4,6,7,8-HpCDD	39.119	1944215	1.04	0.9767	51.5	51.5	0.0971	0.0971	103	
A Non-2,3,7,8-sub-HpCDD	38.778	10071	1.11	0.9767	0.2668	0.2668	0.0971	0.2668	0.00	
S Total HpCDD					51.8	51.8	0.0971	0.0971		
D 13C-OCDD	41.573	6377439	0.90	0.4360	227.7	227.7	0.1836	0.1836	114	
OCDF	41.657	3784384	0.91	1.2756	93.0	93.0	0.0702	0.0702	93.04	
OCDD	41.590	3065819	0.88	1.0341	93.0	93.0	0.0705	0.0705	92.97	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d
Lims ID: LCSD 320-555858/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 20-Jan-2022 18:38:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcsd 320-555858/3-a
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 21-Jan-2022 08:05:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1650

First Level Reviewer: bilottag Date: 21-Jan-2022 07:53:32

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	19.985	19.998	-1		3369936	521160	645	1612	808		
333.9338	19.985	19.998	-1		4205925	644448	427	1067	1509	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.075	19.115	-2	0.954	3173218	501873	1141	2852	440		
317.9389	19.075	19.115	-2	0.954	4090407	642435	704	1760	913	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.101	19.149	-3	1.001	321806	48751	53	132	920		
305.8987	19.101	19.149	-3	1.001	425335	64267	125	312	514	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	18.422	18.694	-16	0.966	1032	337	53	132	6		
305.8987	18.422	18.694	-16	0.966	2360	613	125	312	5	0.44(0.65-0.89)	
	Empc Correction				1340	437	125	312	3		
37Cl4-2,3,7,8-TCDD											
327.8847	20.372	20.367	0	1.019	2289453	319071	154	385	2072		
13C-2,3,7,8-TCDD											
331.9368	20.346	20.377	-2	1.018	2369129	352390	645	1612	546		
333.9338	20.346	20.377	-2	1.018	3093245	446755	427	1067	1046	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.380	20.403	-1	1.002	239262	34286	159	397	216		
321.8936	20.363	20.403	-2	1.001	303475	44117	79	197	558	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	19.493						159	397			
321.8936	19.493						79	197			
13C-1,2,3,7,8-PeCDF											
351.9000	26.129	26.115	1	1.307	3895882	655166	1133	2832	578		
353.8970	26.129	26.115	1	1.307	2519696	450879	772	1930	584	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.146	26.140	0	1.001	2103162	352959	504	1260	700		
341.8567	26.146	26.140	0	1.001	1315586	218829	397	992	551	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.562	27.546	1	1.379	5079146	804492	1133	2832	710		
353.8970	27.562	27.546	1	1.379	3241285	510800	772	1930	662	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.578	27.572	0	1.055	1928076	304107	504	1260	603		
341.8567	27.578	27.572	0	1.055	1230281	196249	397	992	494	1.57(1.32-1.78)	
A F1 PeCDFs											RQ
339.8597	23.686	23.390	18	0.907	369	165	1	2	165		
341.8567	23.712	23.390	19	0.907	3633	848	51	127	17	0.10(1.32-1.78)	
	Empc Correction				238	106	51	127	2		
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	26.694	26.772	-5	1.022	17109	2568	504	1260	5		
341.8567	26.702	26.772	-4	1.022	13173	1938	397	992	5	1.30(1.32-1.78)	
	Empc Correction				11038	1656	397	992	4		
13C-1,2,3,7,8-PeCDD											
367.8949	28.345	28.330	1	1.418	2485237	388234	328	820	1184		
369.8919	28.345	28.330	1	1.418	1540652	241068	134	335	1799	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.370	28.355	1	1.001	1327705	200247	133	332	1506		
357.8516	28.362	28.355	0	1.001	817688	121677	65	162	1872	1.62(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.199						133	332			
357.8516	27.199						65	162			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.042	34.034	1	0.947	2157422	430715	561	1402	768		
385.8610	34.042	34.034	1	0.947	4007581	772230	1213	3032	637	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.059	34.051	1	1.000	1431687	274427	554	1385	495		
375.8178	34.059	34.051	1	1.000	1158398	220684	410	1025	538	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.228	34.219	1	0.953	1713734	312129	561	1402	556		
385.8610	34.228	34.219	1	0.953	3254849	594907	1213	3032	490	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.253	34.236	1	1.006	1555497	286722	554	1385	518		
375.8178	34.245	34.236	1	1.006	1274761	235065	410	1025	573	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.154	35.154	0	0.978	1723896	362446	561	1402	646		
385.8610	35.163	35.154	1	0.979	3316312	741334	1213	3032	611	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.180	35.171	1	1.033	1678159	357438	554	1385	645		
375.8178	35.180	35.171	1	1.033	1347582	281827	410	1025	687	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.132	36.122	1	1.006	1535139	381498	561	1402	680		
385.8610	36.132	36.122	1	1.006	3042356	735777	1213	3032	607	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	36.149	36.139	1	1.062	1514737	350027	554	1385	632		
375.8178	36.140	36.139	0	1.062	1216525	285220	410	1025	696	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.083						554	1385			
375.8178	34.083						410	1025			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.930	35.929	0		3592445	850136	515	1287	1651		
403.8529	35.930	35.929	0		2831887	661576	368	920	1798	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.407	35.407	0	0.985	2738754	642813	515	1287	1248		
403.8529	35.407	35.407	0	0.985	2113762	498657	368	920	1355	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.424	35.423	0	0.997	1038853	239981	166	415	1446		
391.8127	35.424	35.423	0	0.997	818085	186265	134	335	1390	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.542	35.533	1	0.989	2400415	545509	515	1287	1059		
403.8529	35.534	35.533	0	0.989	1927066	415477	368	920	1129	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.550	35.550	0	1.000	1160946	250177	166	415	1507		
391.8127	35.550	35.550	0	1.000	915552	200239	134	335	1494	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	35.955	35.946	1	1.012	1220986	279514	166	415	1684		
391.8127	35.955	35.946	1	1.012	985686	224312	134	335	1674	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.580						166	415			
391.8127	34.580						134	335			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.100	38.096	0	1.060	1265634	378279	522	1305	725		
419.8220	38.100	38.096	0	1.060	2735366	801607	795	1987	1008	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.117	38.108	1	1.000	1437777	414354	485	1212	854		
409.7788	38.117	38.108	1	1.000	1366935	391397	442	1105	886	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.405	39.410	0	1.034	1692143	529382	522	1305	1014		
419.8220	39.405	39.410	0	1.034	3615811	1145627	795	1987	1441	0.47(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.422	39.414	0	1.035	1308594	412968	485	1212	851		
409.7788	39.414	39.414	0	1.034	1252491	396066	442	1105	896	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.761						485	1212			
409.7788	38.761						442	1105			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.102	39.107	0	1.088	1993793	641704	493	1232	1302		
437.8140	39.102	39.107	0	1.088	1870908	588438	378	945	1557	1.07(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7767	39.119	39.111	0	1.000	991546	316796	257	642	1233		
425.7737	39.110	39.111	0	1.000	952669	299588	210	525	1427	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.453	38.778	-19	0.983	5307	1509	257	642	6		
425.7737	38.445	38.778	-20	0.983	4764	1539	210	525	7	1.11(0.88-1.20)	
13C-OCDD											
469.7780	41.573	41.579	0	1.157	3026186	931855	239	597	3899		
471.7750	41.582	41.579	0	1.157	3351253	1044483	245	612	4263	0.90(0.76-1.02)	
OCDF											
441.7428	41.657	41.663	0	1.002	1804709	546870	144	360	3798		
443.7399	41.657	41.663	0	1.002	1979675	605653	210	525	2884	0.91(0.76-1.02)	
OCDD											
457.7377	41.590	41.587	0	1.000	1437668	447557	138	345	3243		
459.7348	41.590	41.587	0	1.000	1628151	496961	150	375	3313	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d
Lims ID: LCSD 320-555858/3-A
Client ID:
Inject. Date: 20-Jan-2022 18:38:00 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 5

Non-2,3,7,8-sub-TCDF, RT: 18.694

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.012	D 13C-2,3,7,8-TCDF	100.000	7263625	1144308

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.012		100.000	7263625	1144308

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.422	1032	337	2360	613	0.0461	0.44	RQ
18.422	1032	337	1340	437	0.0323		Empc Correction
Signal Totals:							
	1032	337	1340	437			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3392	950				0.44	RQ
	2372	774					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0461 = (3392 * 100.000) / (7263625 * 1.012)
Empc Amount: 0.0323 = (2372 * 100.000) / (7263625 * 1.012)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d
Lims ID: LCSD 320-555858/3-A
Client ID:
Inject. Date: 20-Jan-2022 18:38:00 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 5

F1 PeCDFs, RT: 23.390

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	6415578	1106045
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	6415578	1106045

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.686	369	165	3633	848	0.0658	0.10	RQ
23.686	369	165	238	106	0.0100		Empc Correction
Signal Totals:	369	165	238	106			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4002	1013				0.10	RQ
	607	271					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0658 = (4002 * 100.000) / (6415578 * 0.949)
Empc Amount: 0.0100 = (607 * 100.000) / (6415578 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d
Lims ID: LCSD 320-555858/3-A
Client ID:
Inject. Date: 20-Jan-2022 18:38:00 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 5

Non-2,3,7,8-sub-PeCDF, RT: 26.772

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	6415578	1106045
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	6415578	1106045

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
26.694	17109	2568	13173	1938	0.4976	1.30	RQ
26.694	17109	2568	11038	1656	0.4625		Empc Correction
Signal Totals:							
	17109	2568	11038	1656			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	30282	4506				1.30	RQ
	28147	4224					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4976 = (30282 * 100.000) / (6415578 * 0.949)
Empc Amount: 0.4625 = (28147 * 100.000) / (6415578 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d
Lims ID: LCSD 320-555858/3-A
Client ID:
Inject. Date: 20-Jan-2022 18:38:00 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559474 Lims Sample ID: 5

Non-2,3,7,8-sub-HpCDD, RT: 38.778

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3864701	1230142

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3864701	1230142

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.453	5307	1509	4764	1539	0.2668	1.11	
Signal Totals:							
	5307	1509	4764	1539			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10071	3048				1.11	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2668 = (10071 * 100.000) / (3864701 * 0.977)

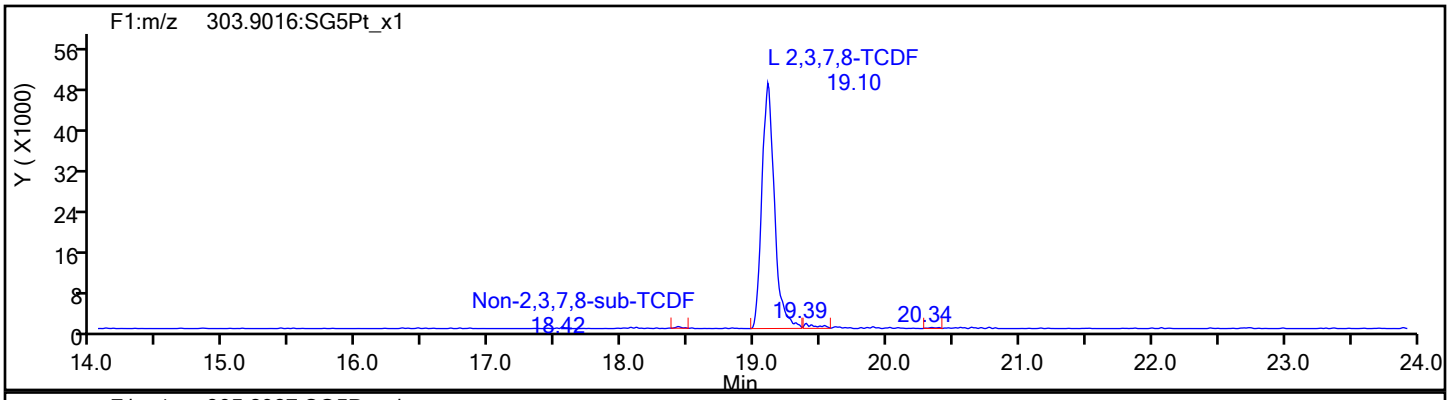
Report Date: 21-Jan-2022 08:05:43 Chrom Revision: 2.3 18-Jan-2022 20:25:40

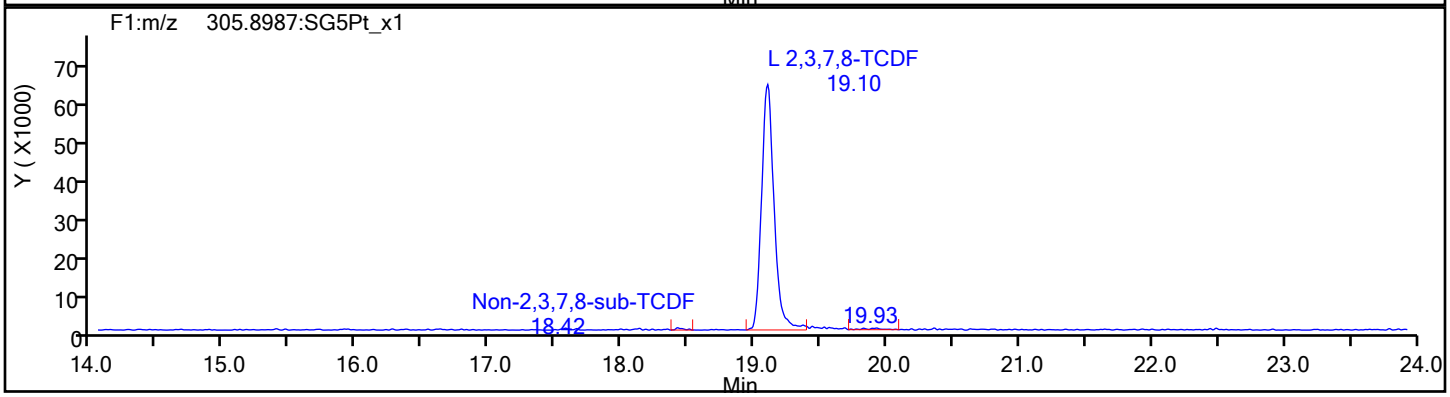
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d

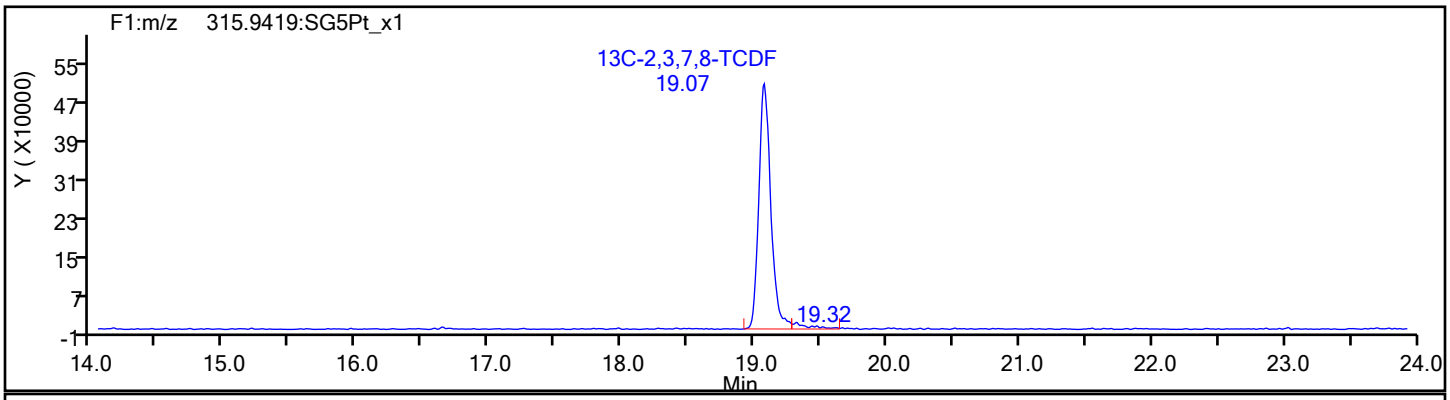
Injection Date:	20-Jan-2022 18:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

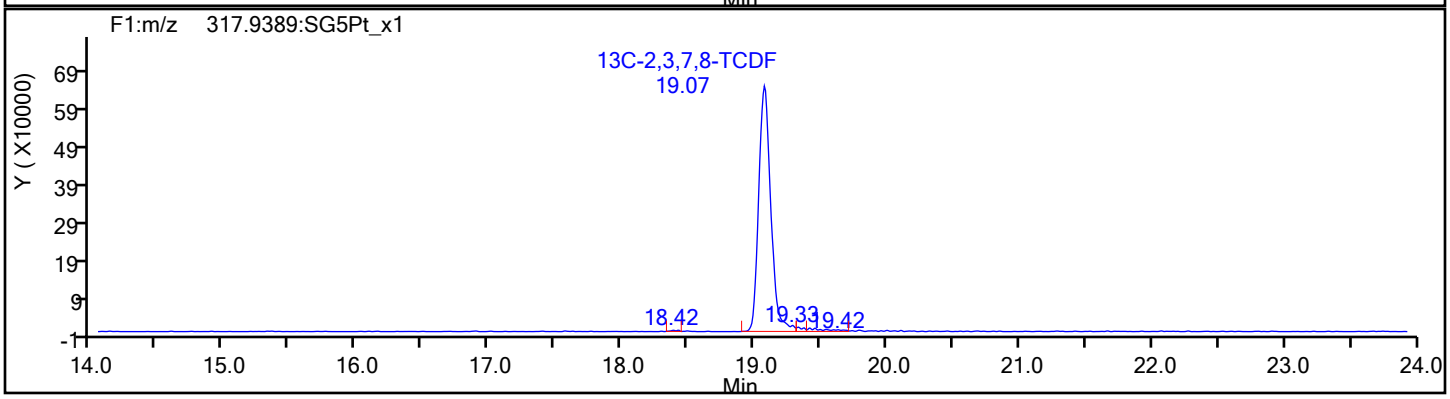
TCDF





TCDF Standards

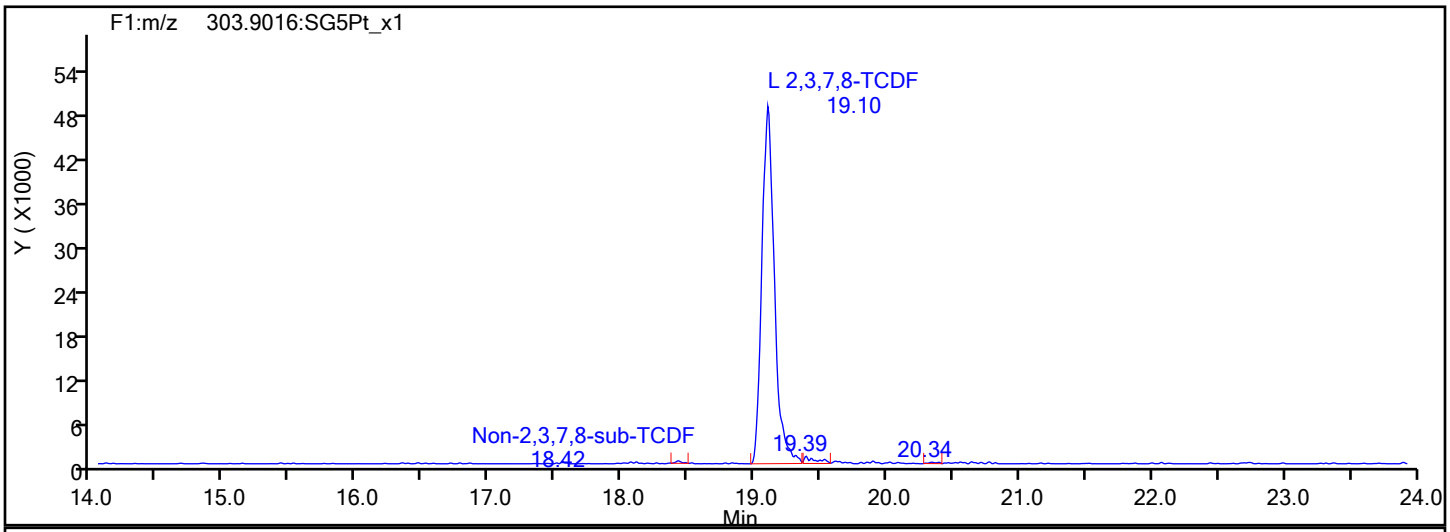


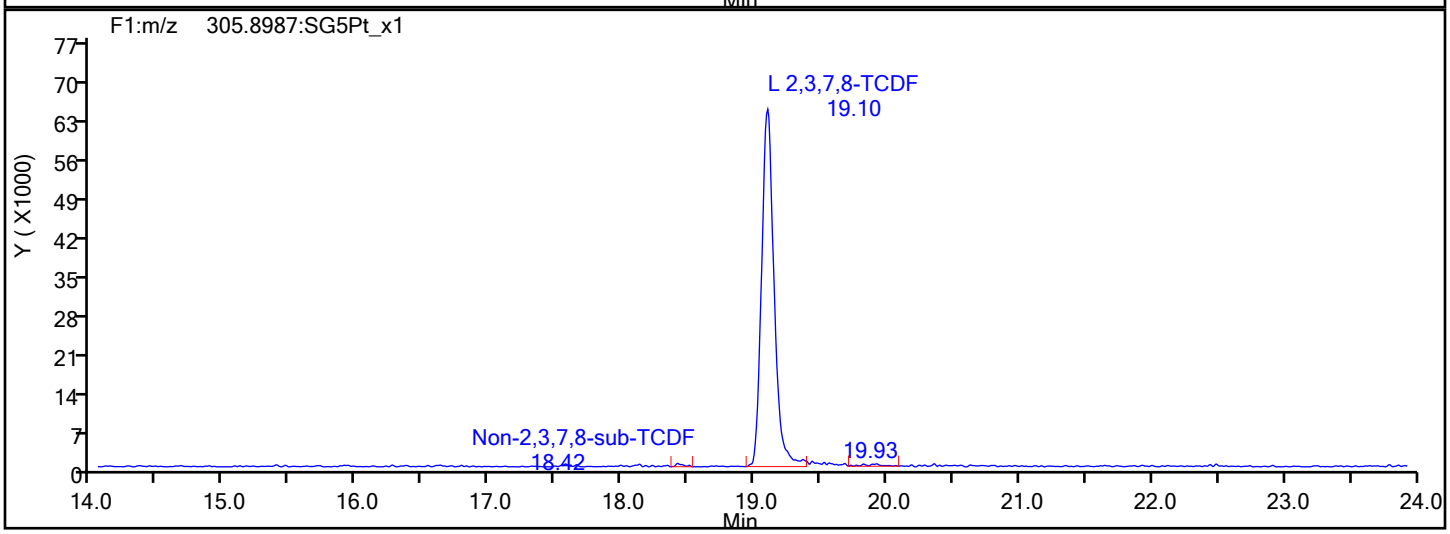


Eurofins Sacramento

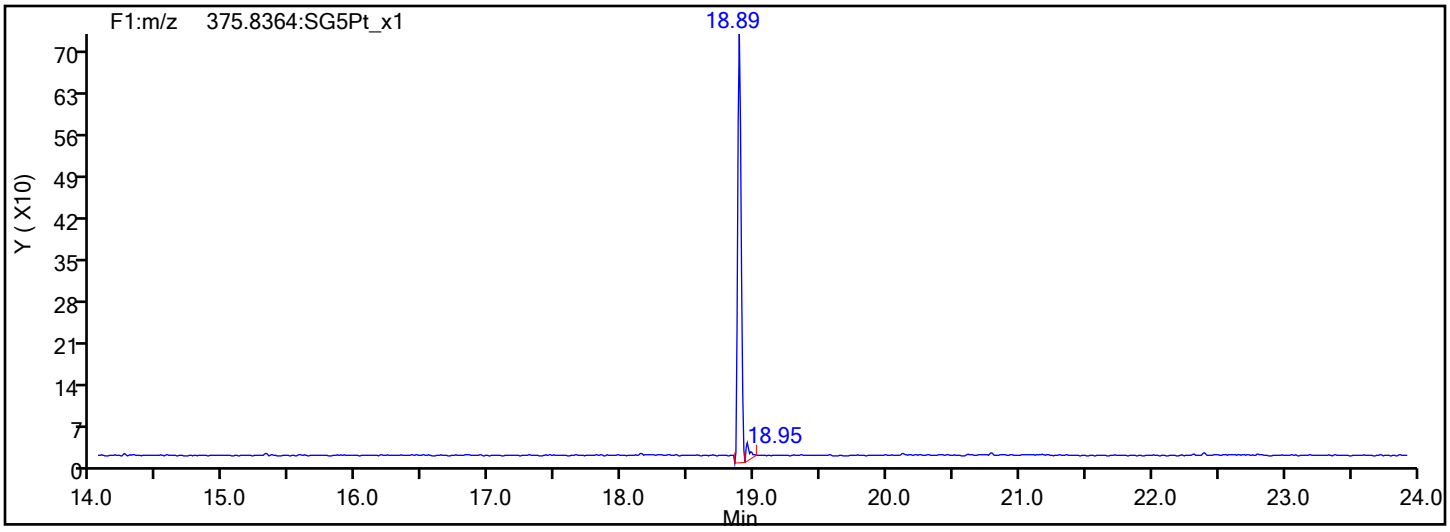
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d
Injection Date: 20-Jan-2022 18:38:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



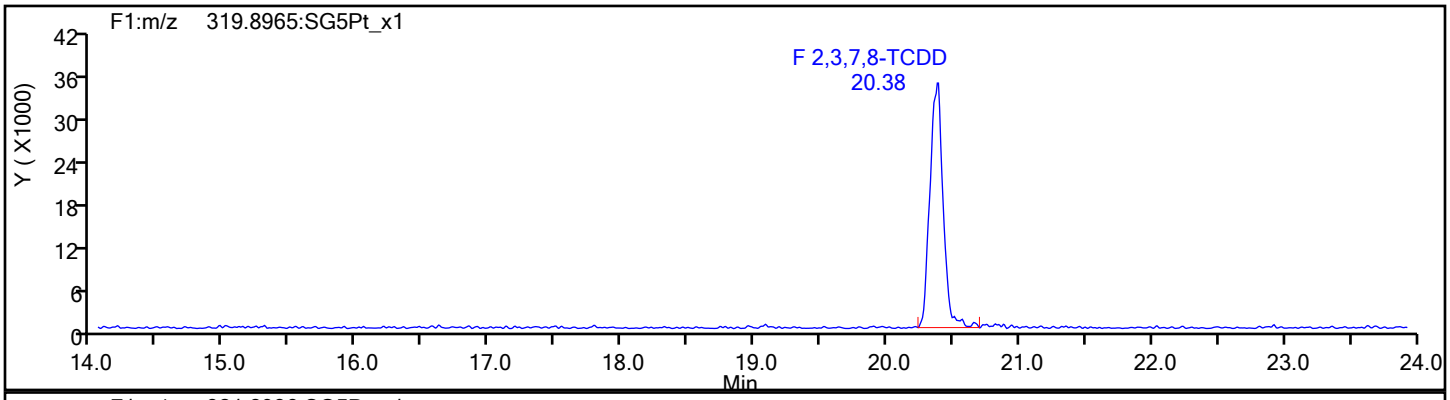
Report Date: 21-Jan-2022 08:05:44 Chrom Revision: 2.3 18-Jan-2022 20:25:40

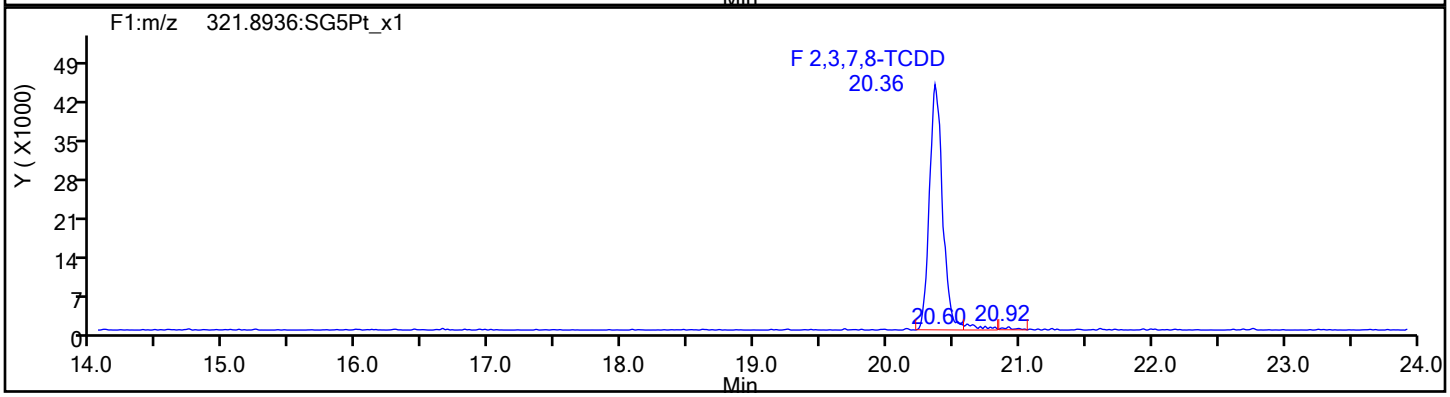
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d

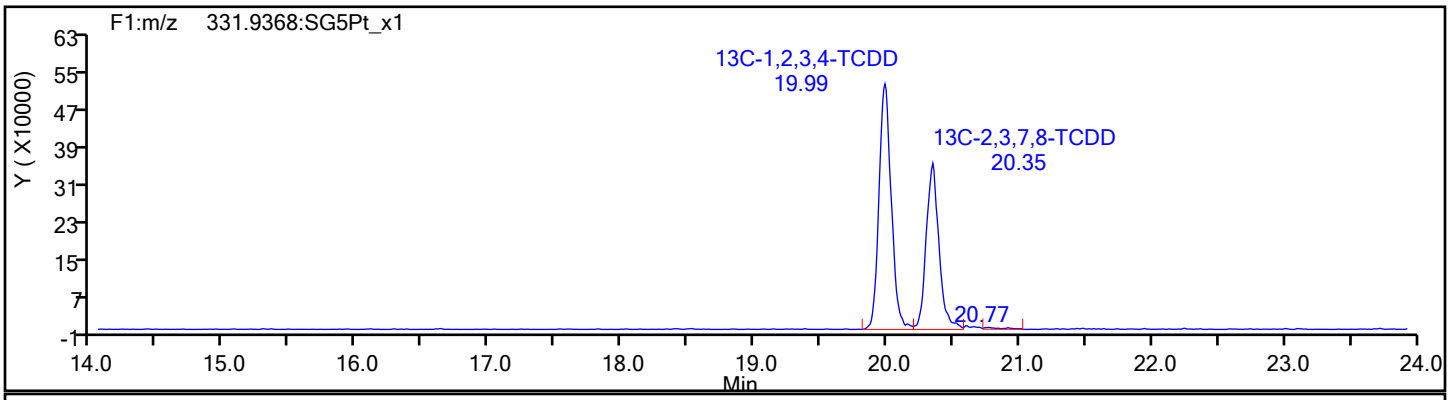
Injection Date:	20-Jan-2022 18:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

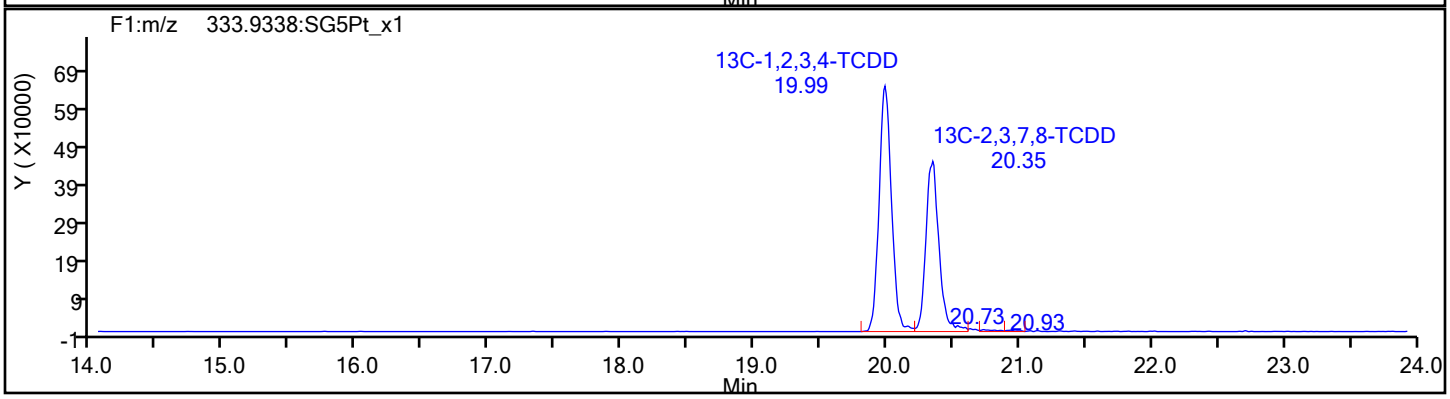
TCDD





TCDD Standards





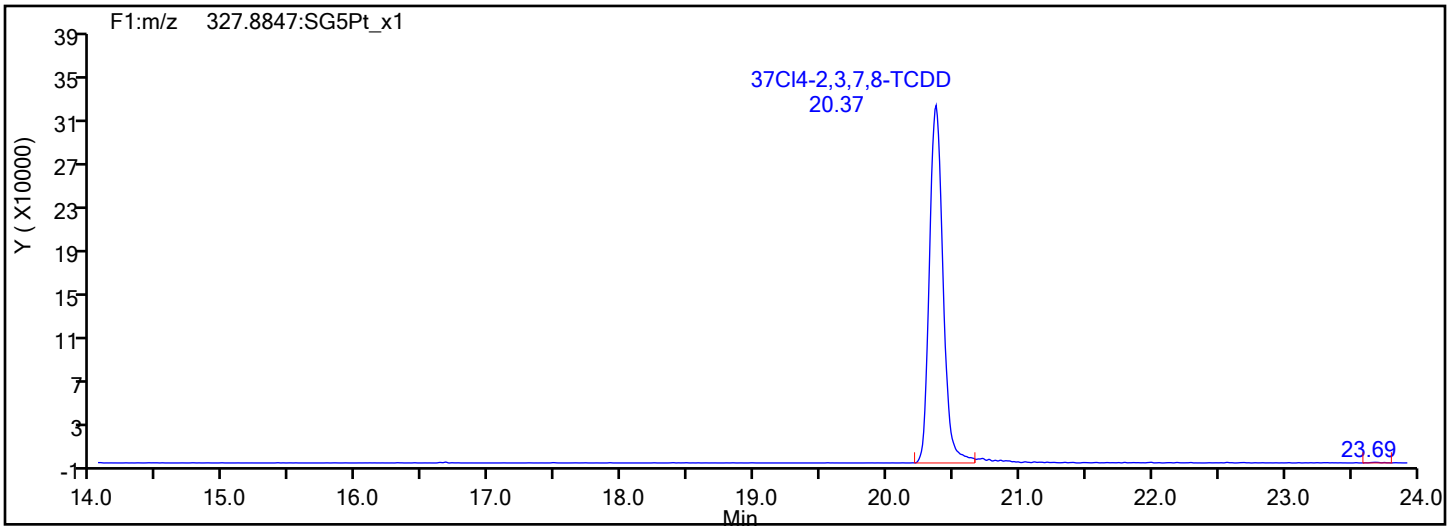
Report Date: 21-Jan-2022 08:05:44 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

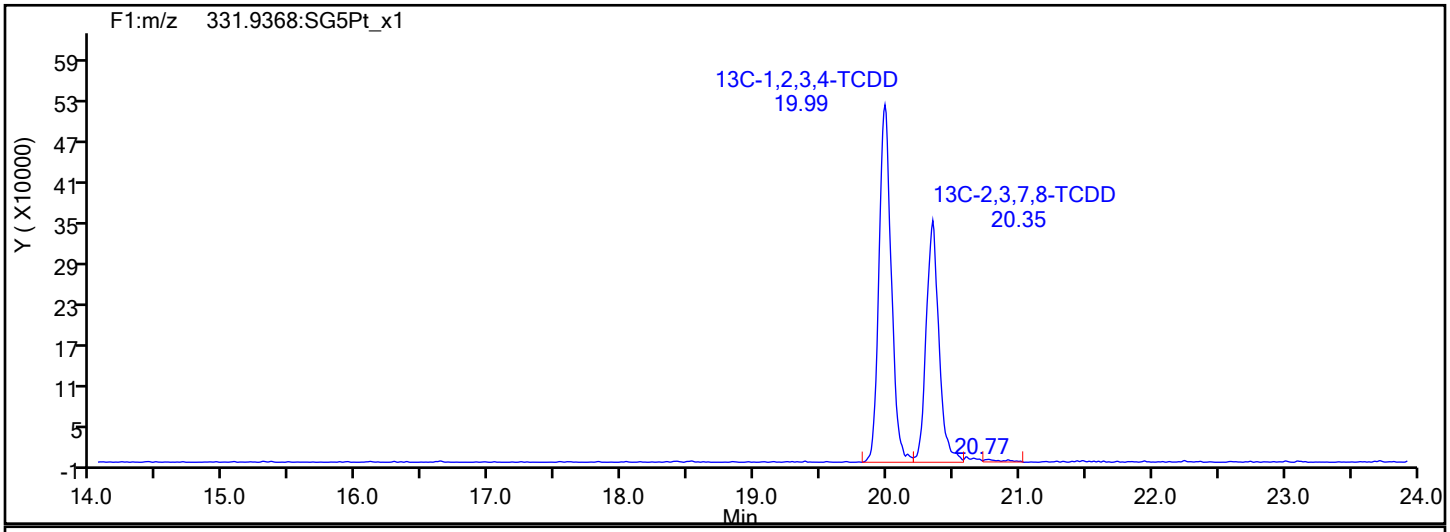
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d

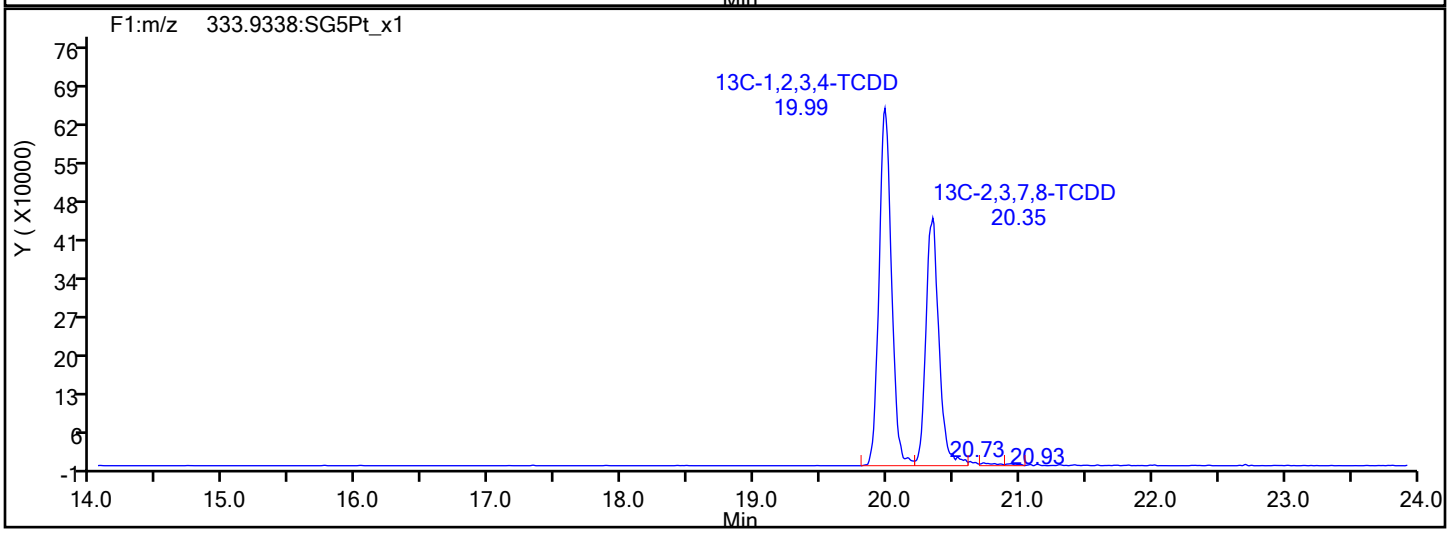
Injection Date:	20-Jan-2022 18:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





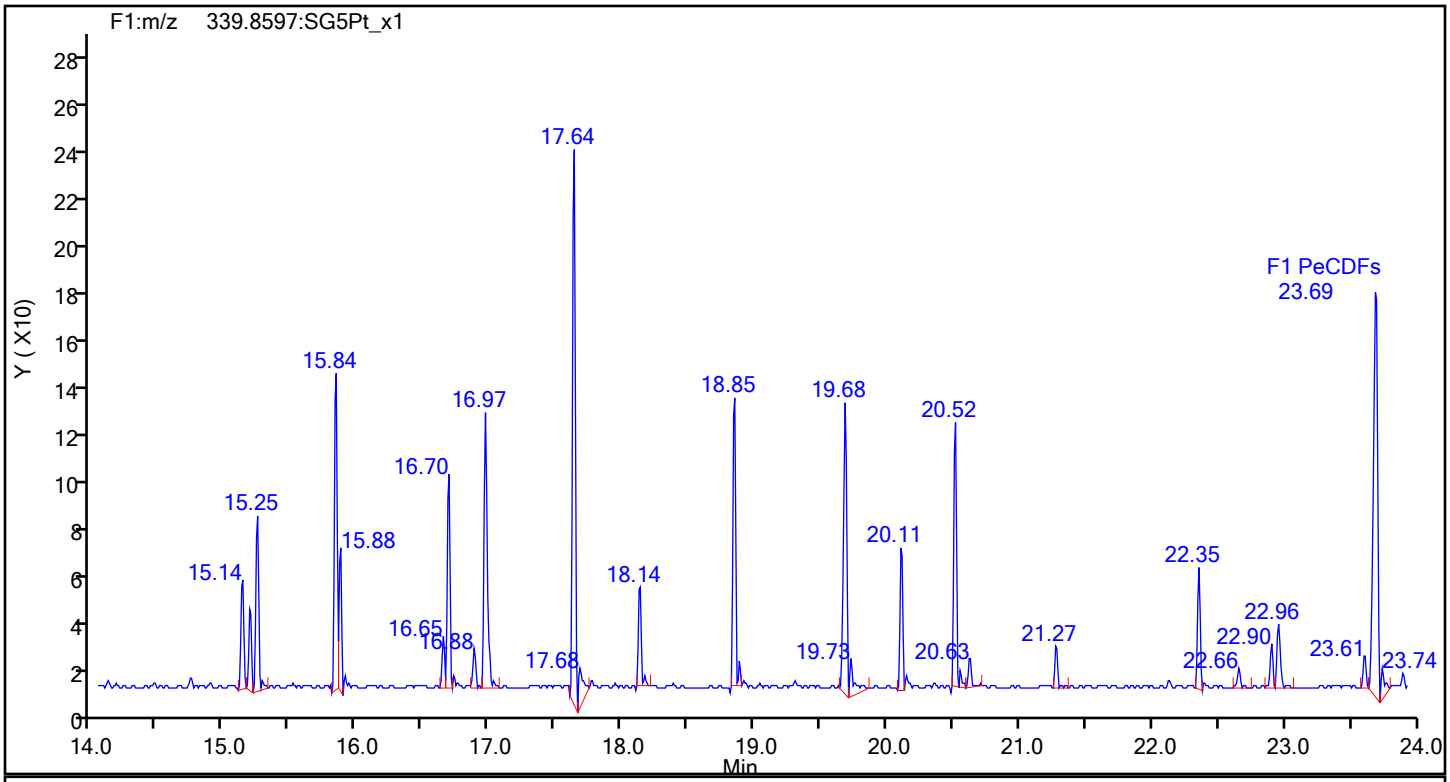
Report Date: 21-Jan-2022 08:05:44 Chrom Revision: 2.3 18-Jan-2022 20:25:40

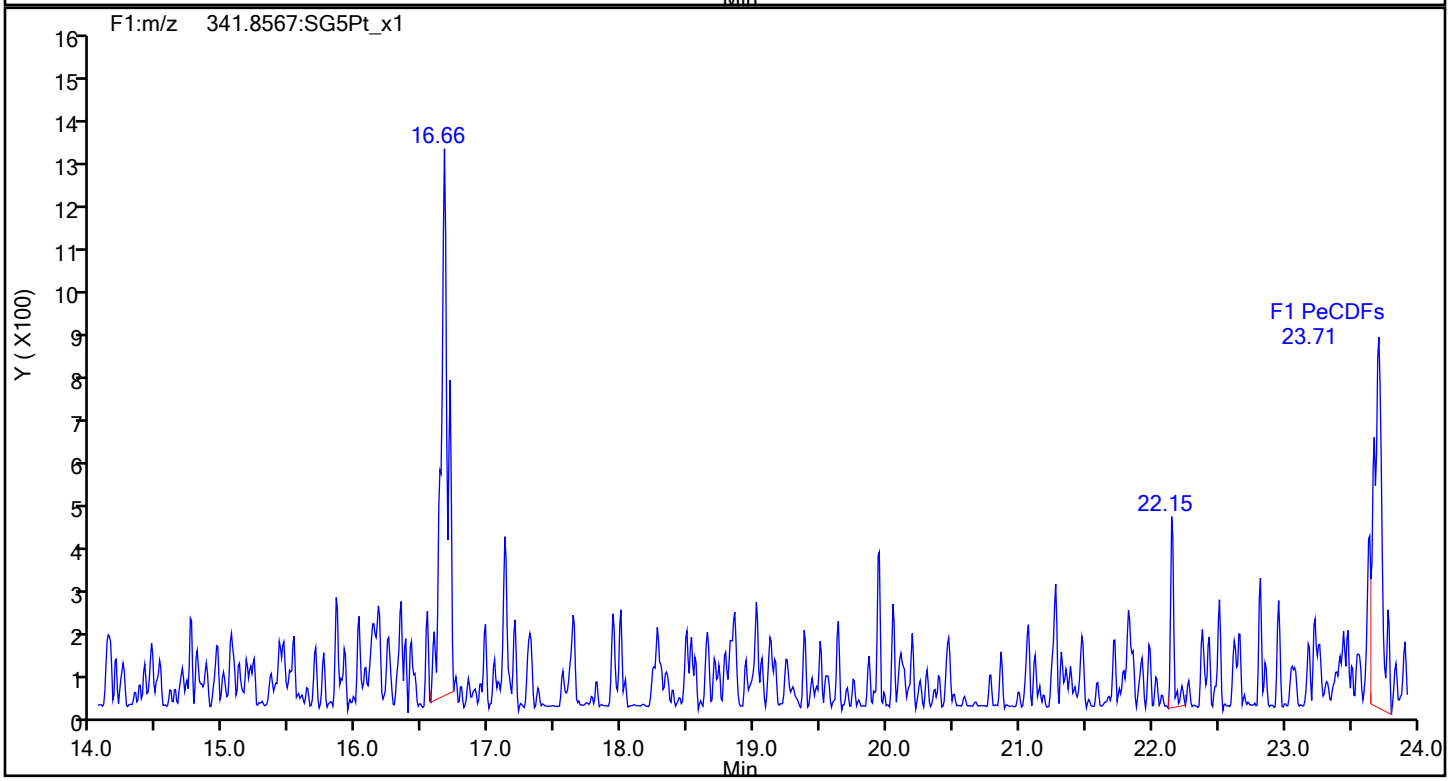
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d

Injection Date:	20-Jan-2022 18:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

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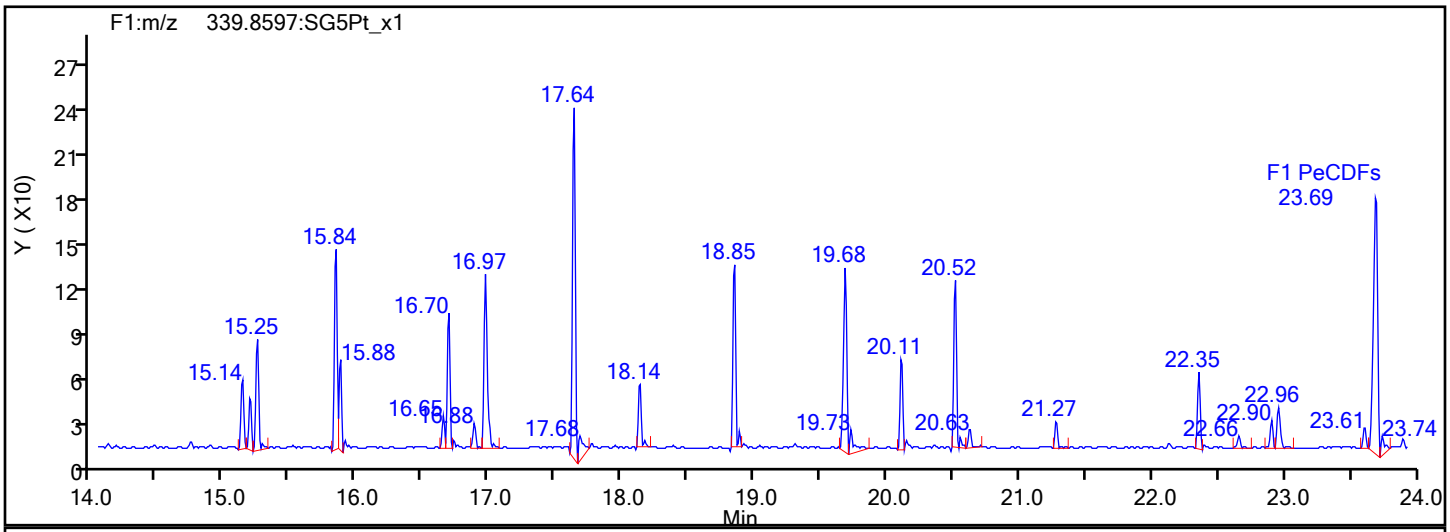
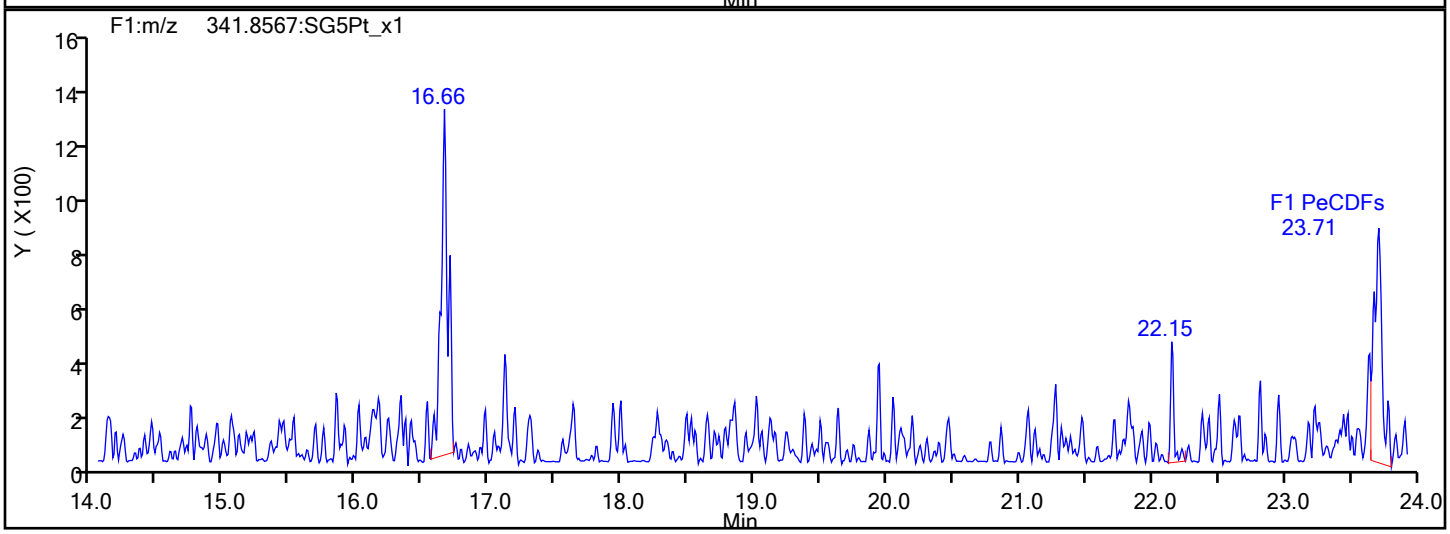
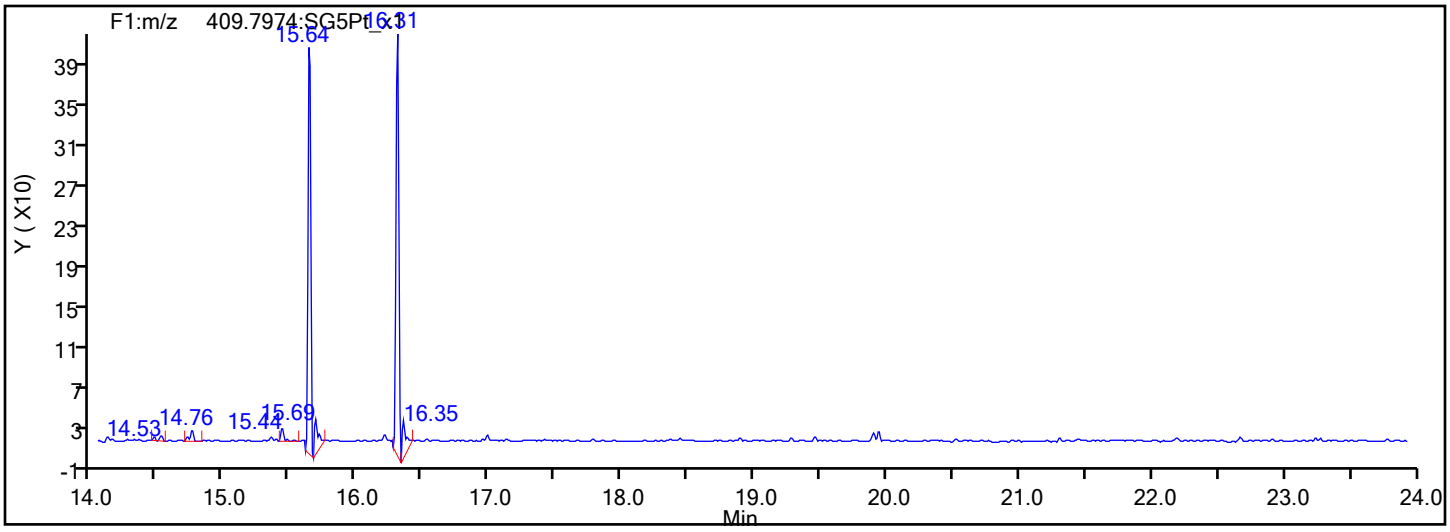
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

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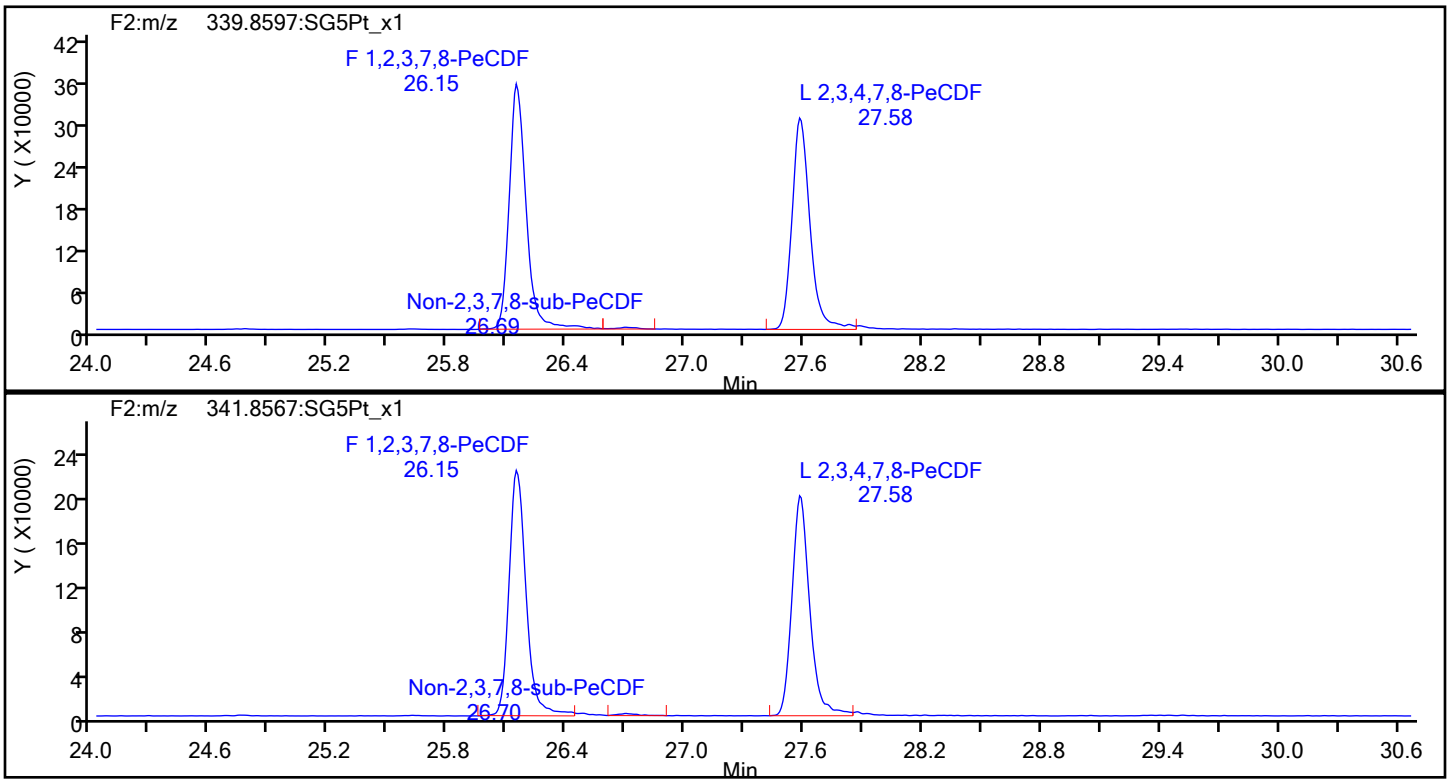
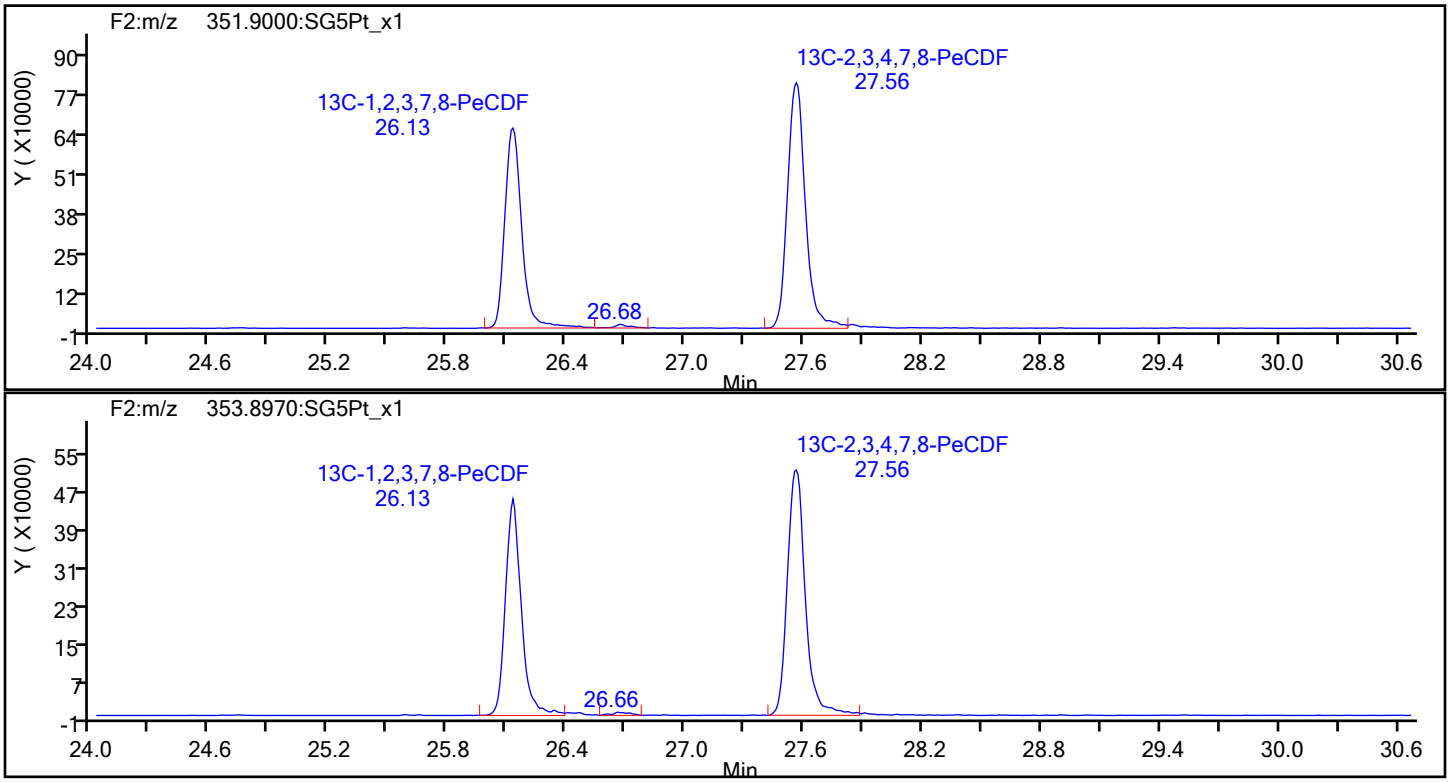


PeCDF Standards



Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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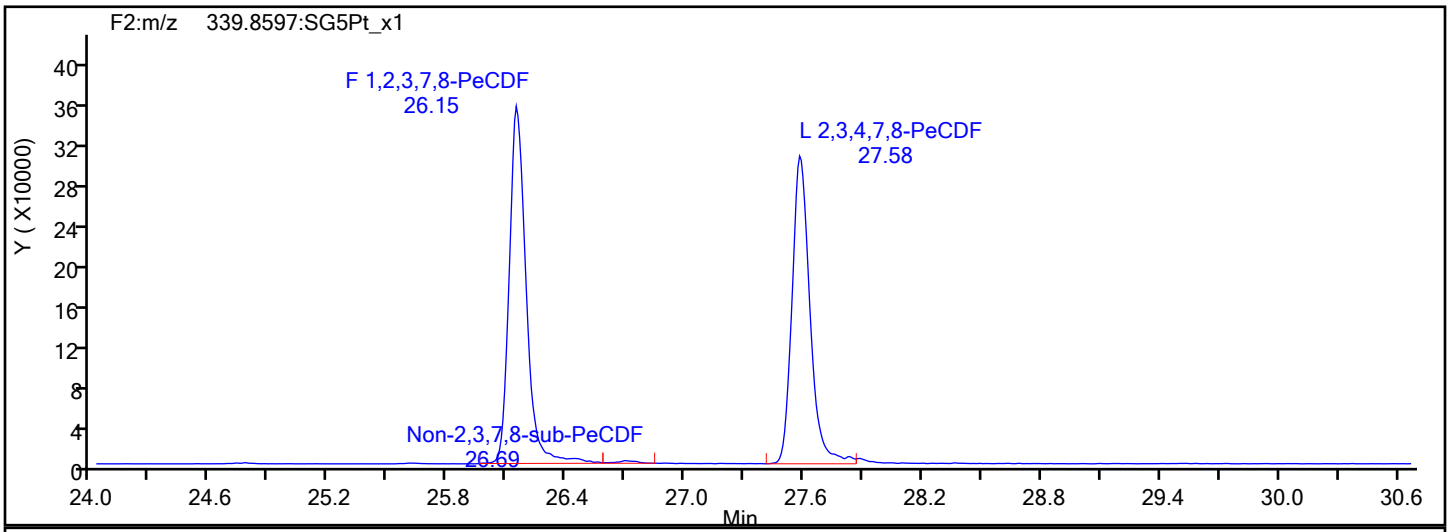
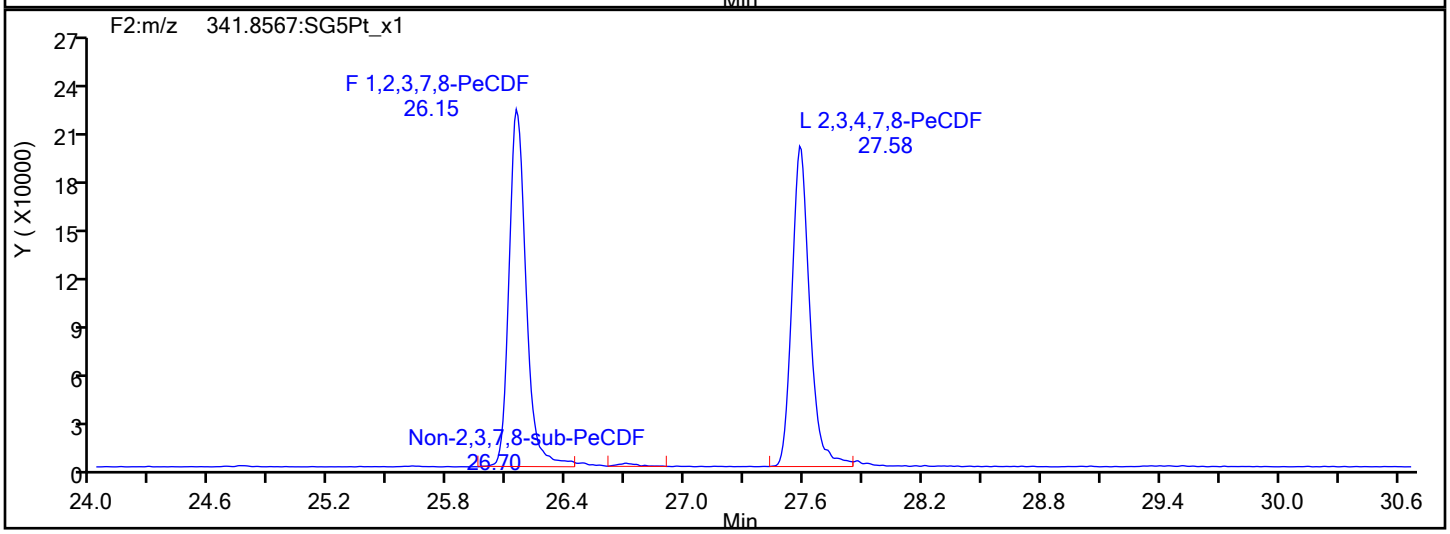
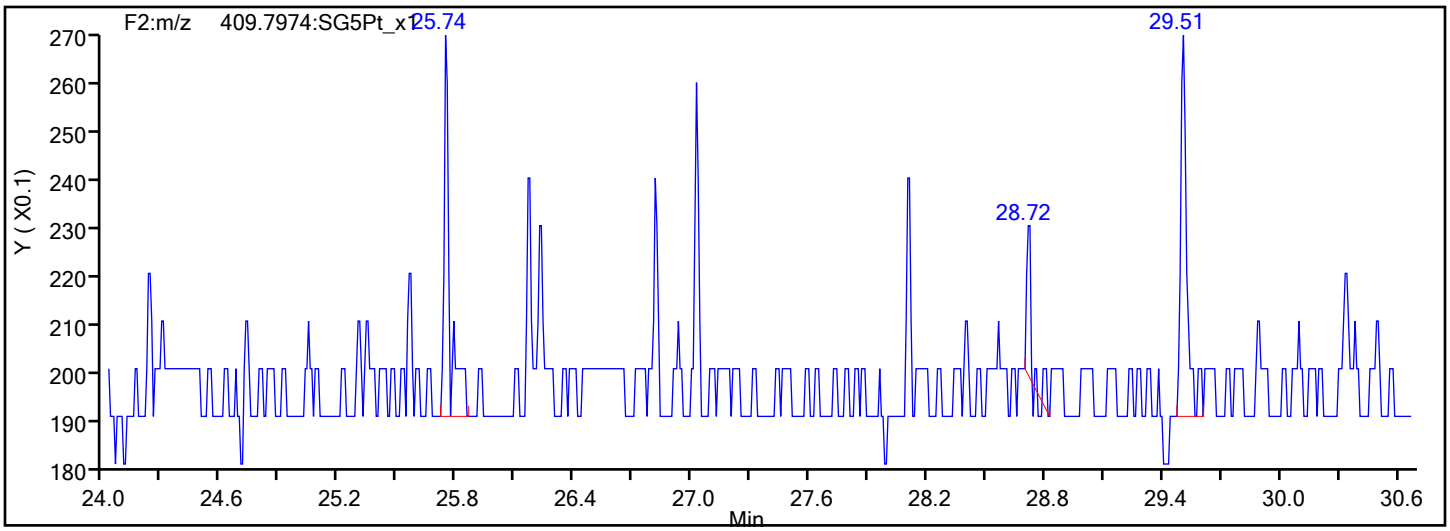




PeCDF Interference Mass



Report Date: 21-Jan-2022 08:05:44 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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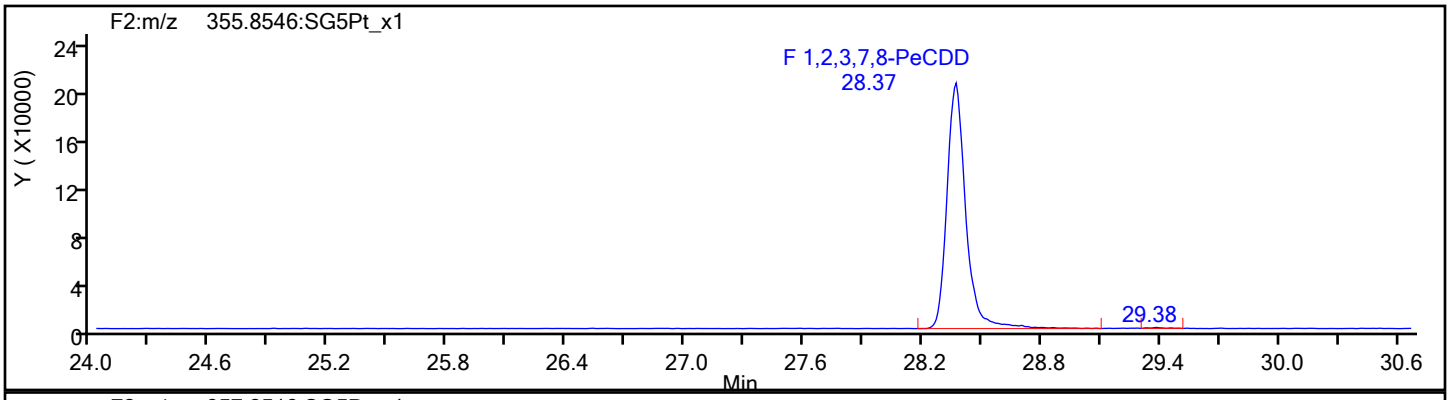
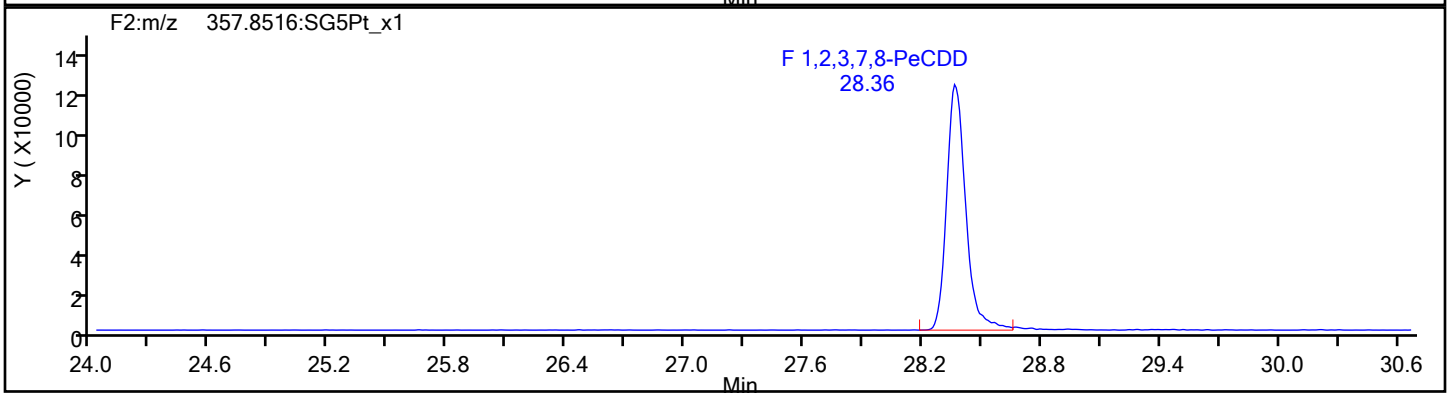
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD





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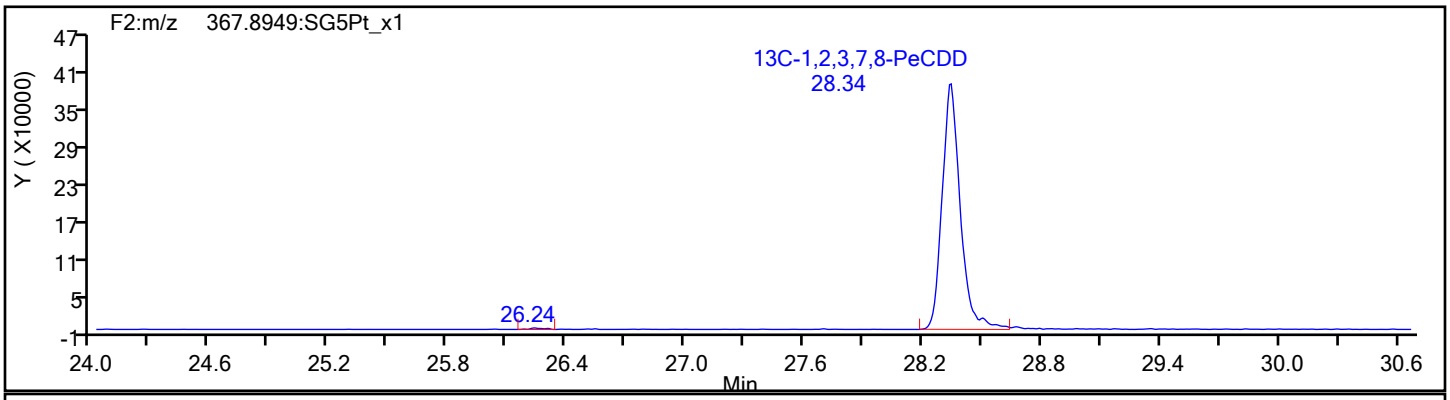

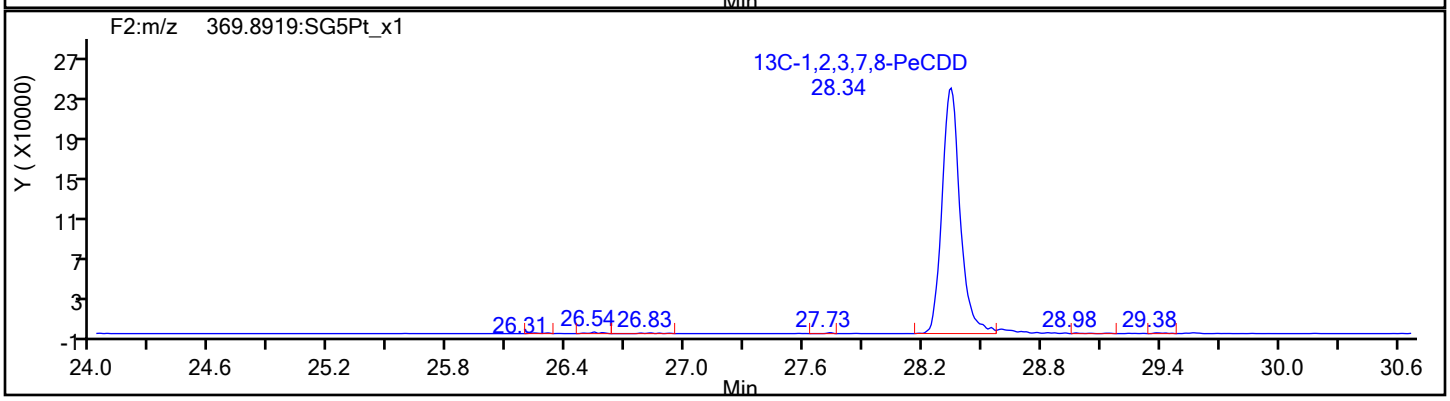

Eurofins Sacramento

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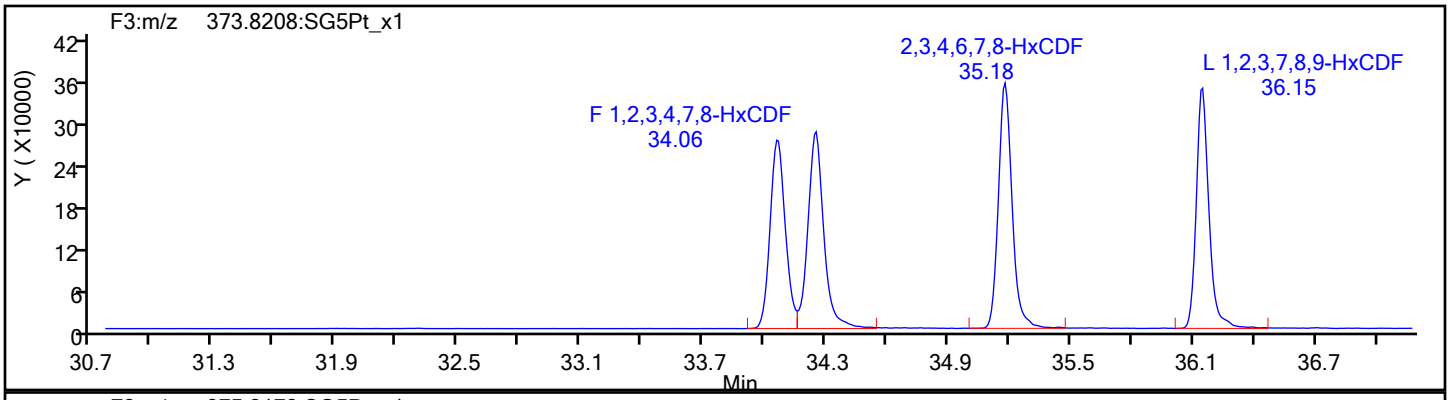
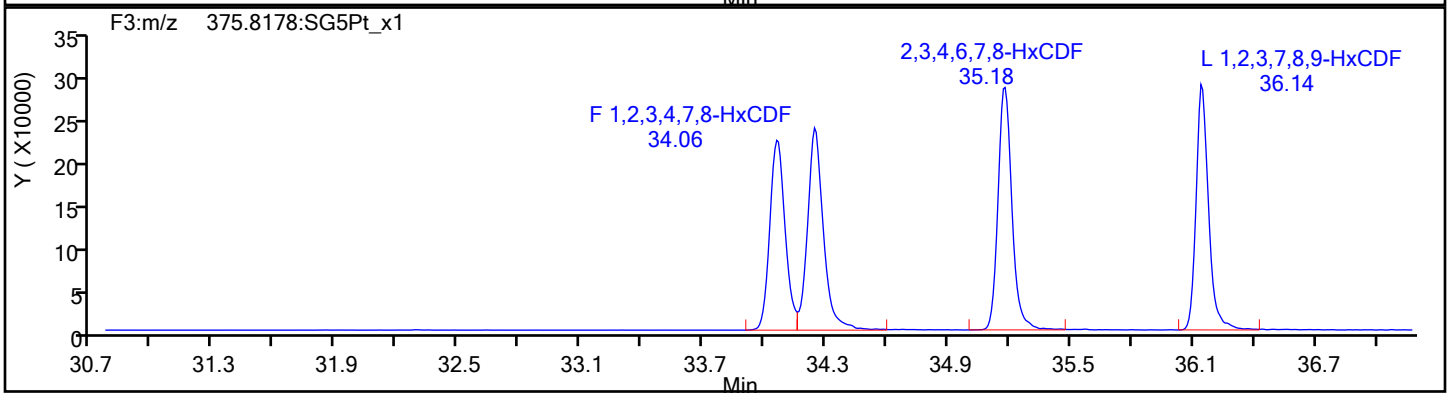
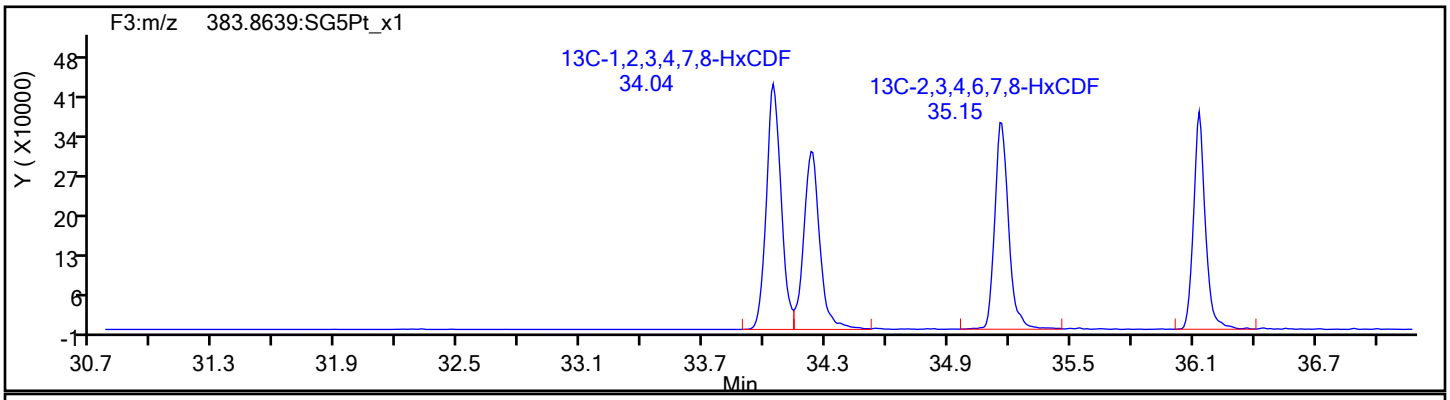
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

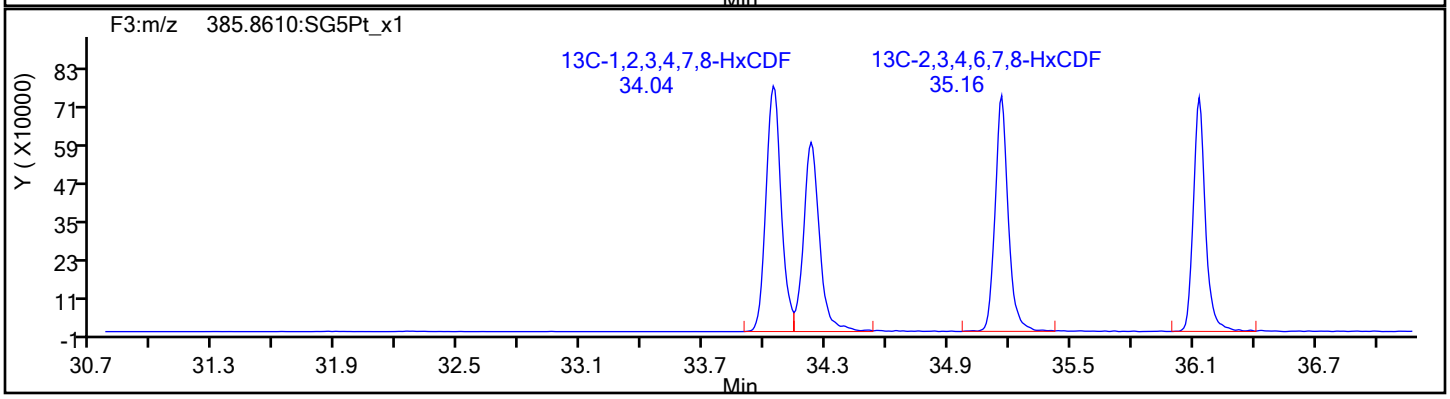
HxCDF





HxCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d		
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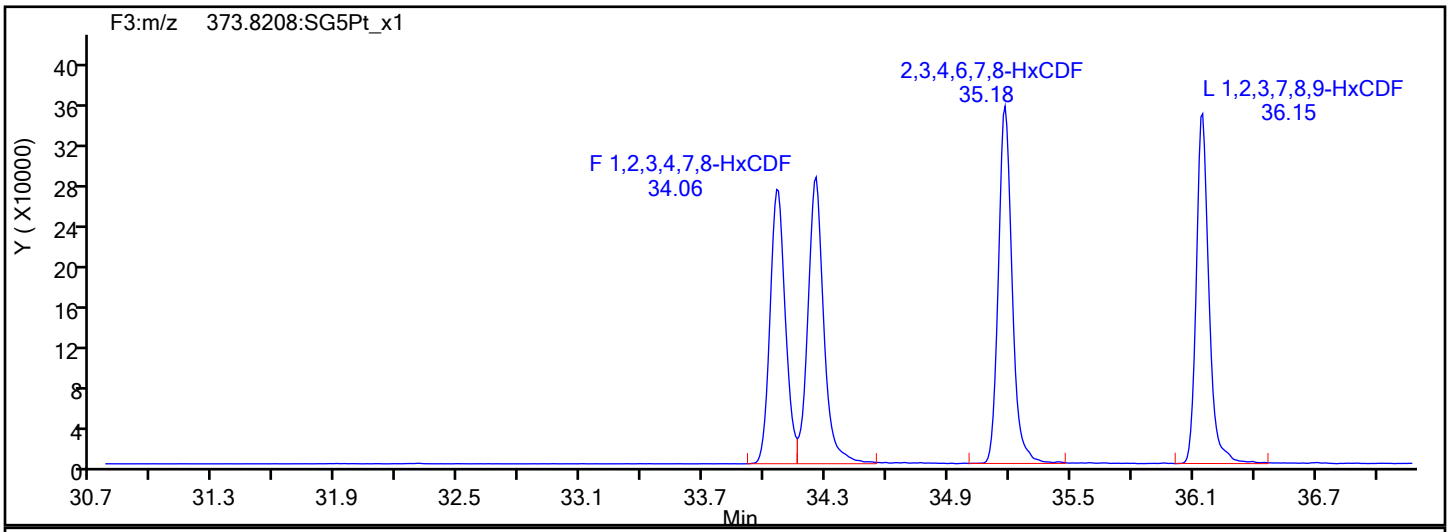
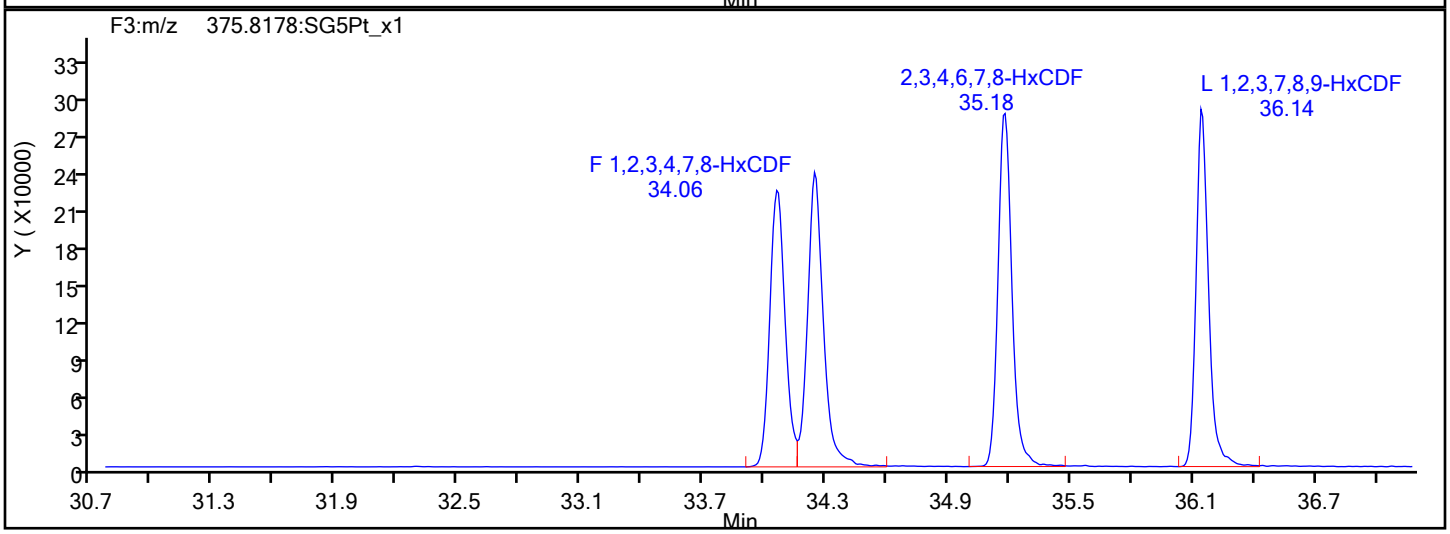
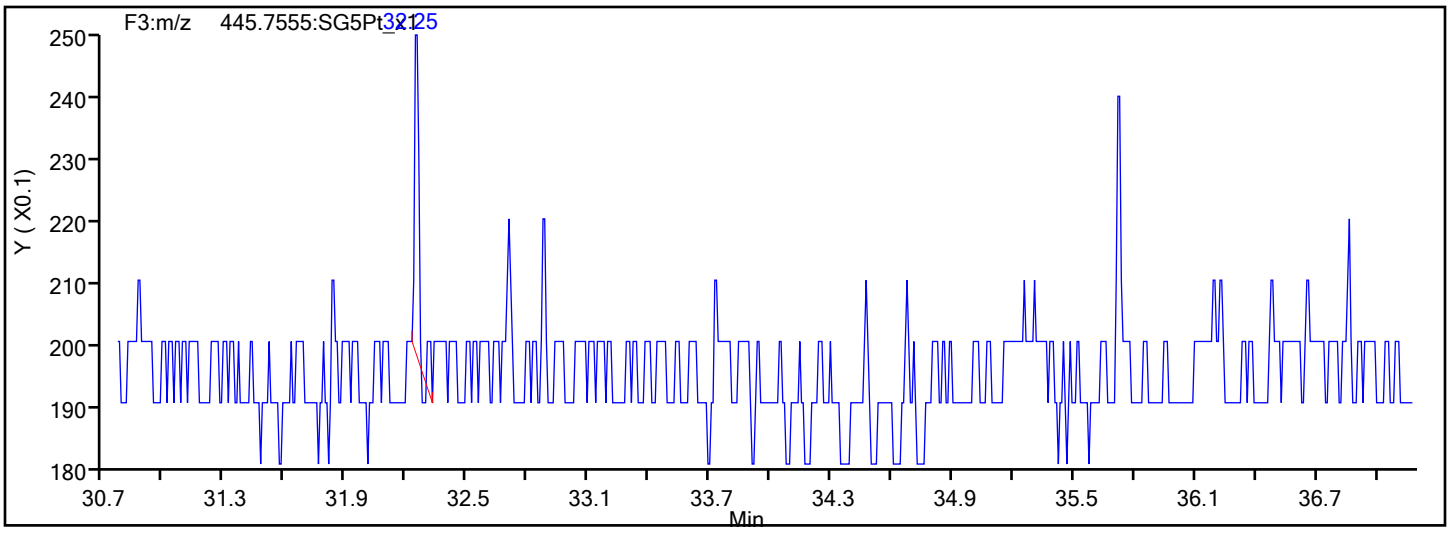
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



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Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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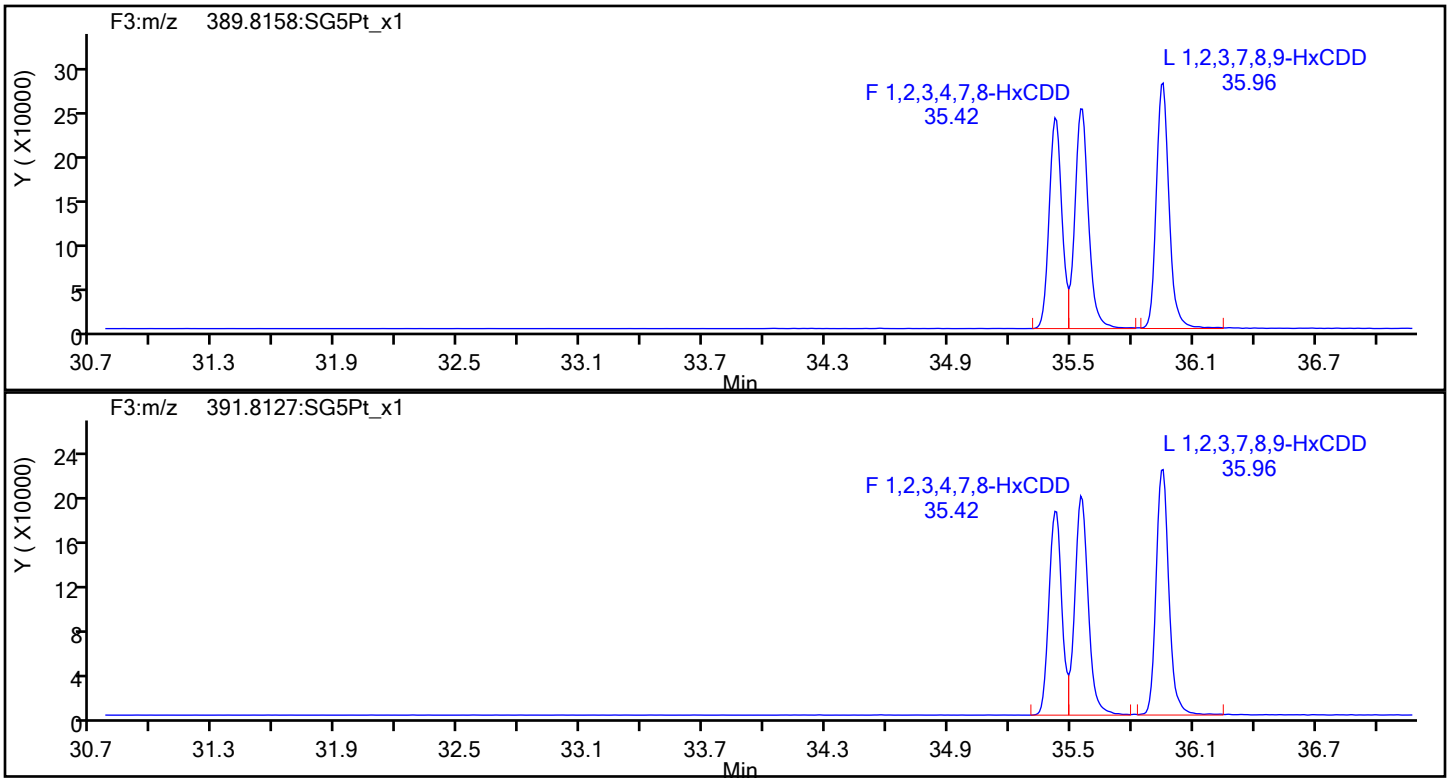
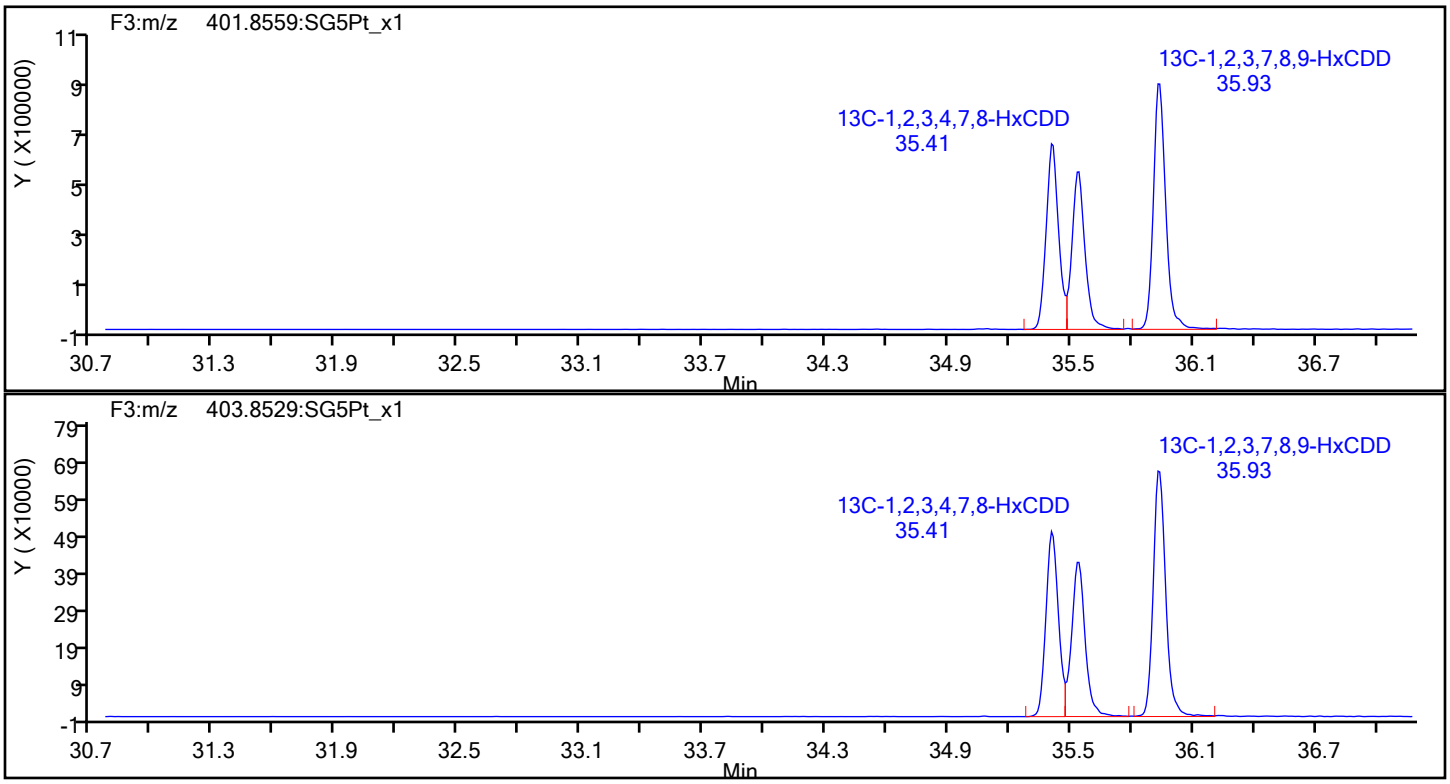
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD



HxCDD Standards



Eurofins Sacramento

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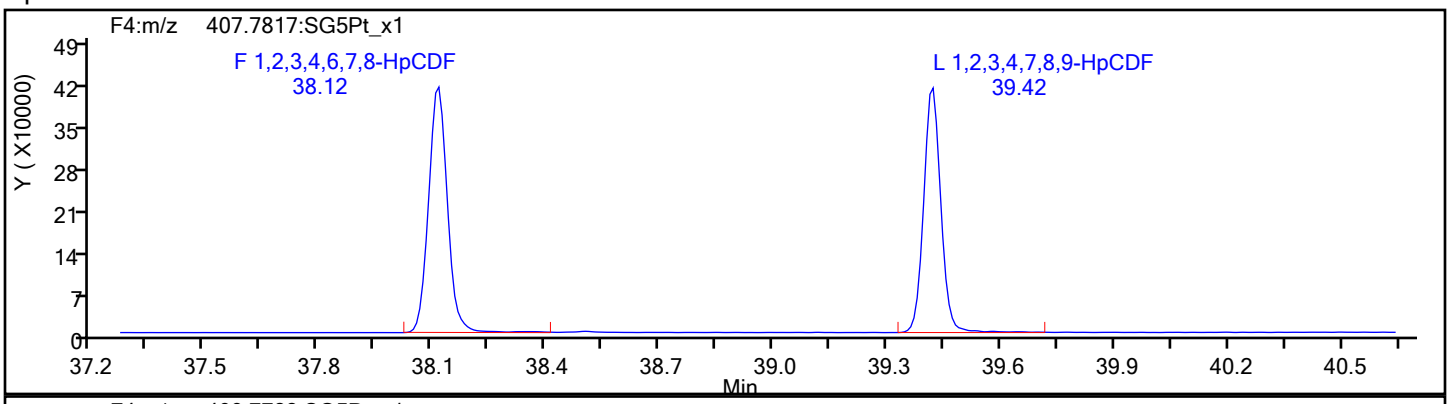
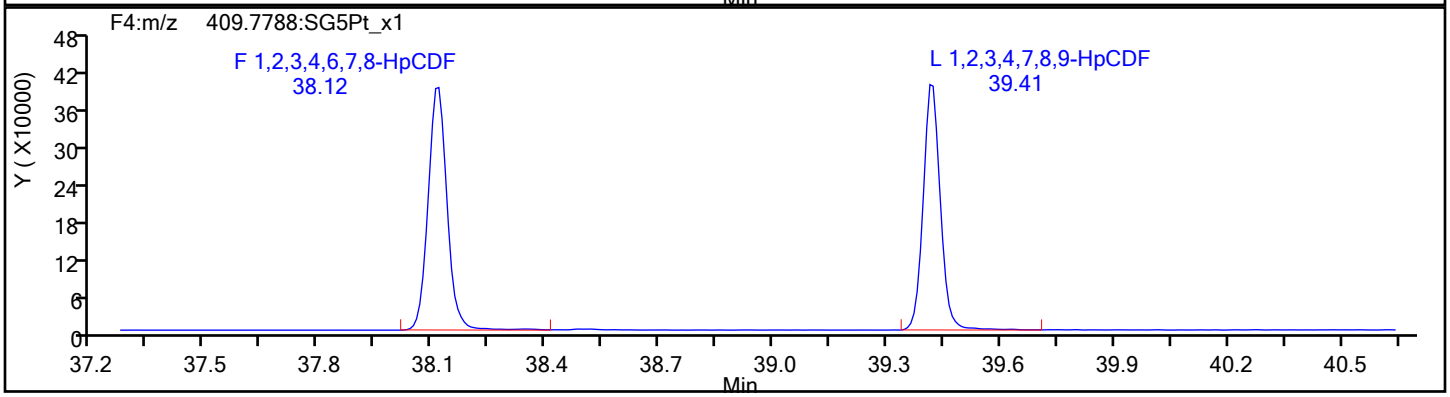
HpCDF





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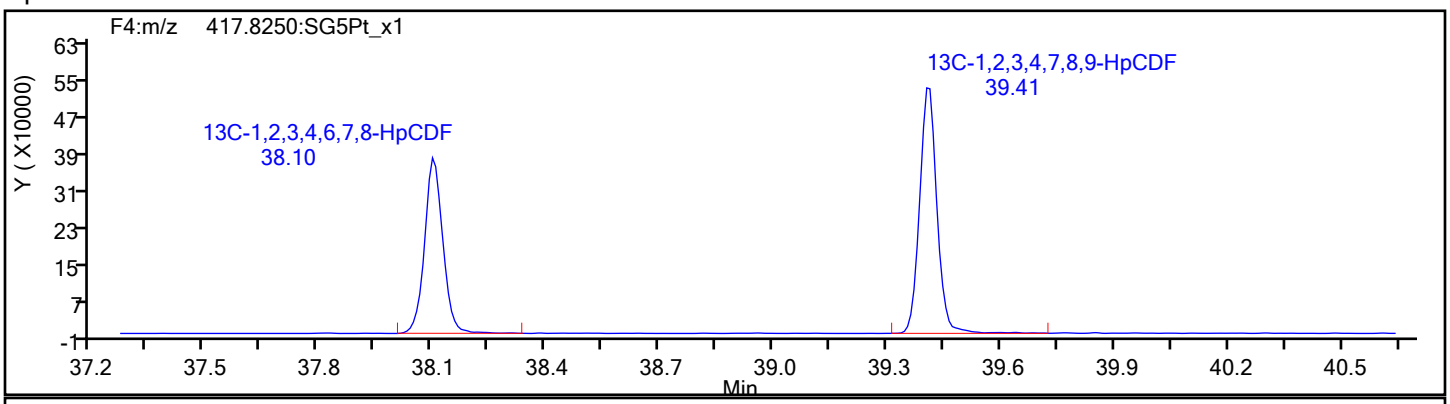

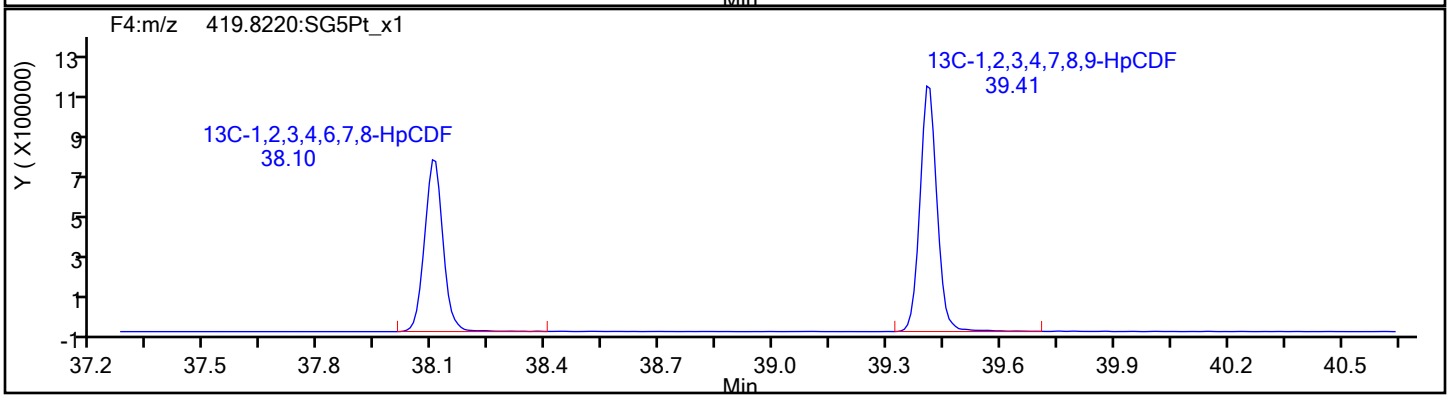

Eurofins Sacramento

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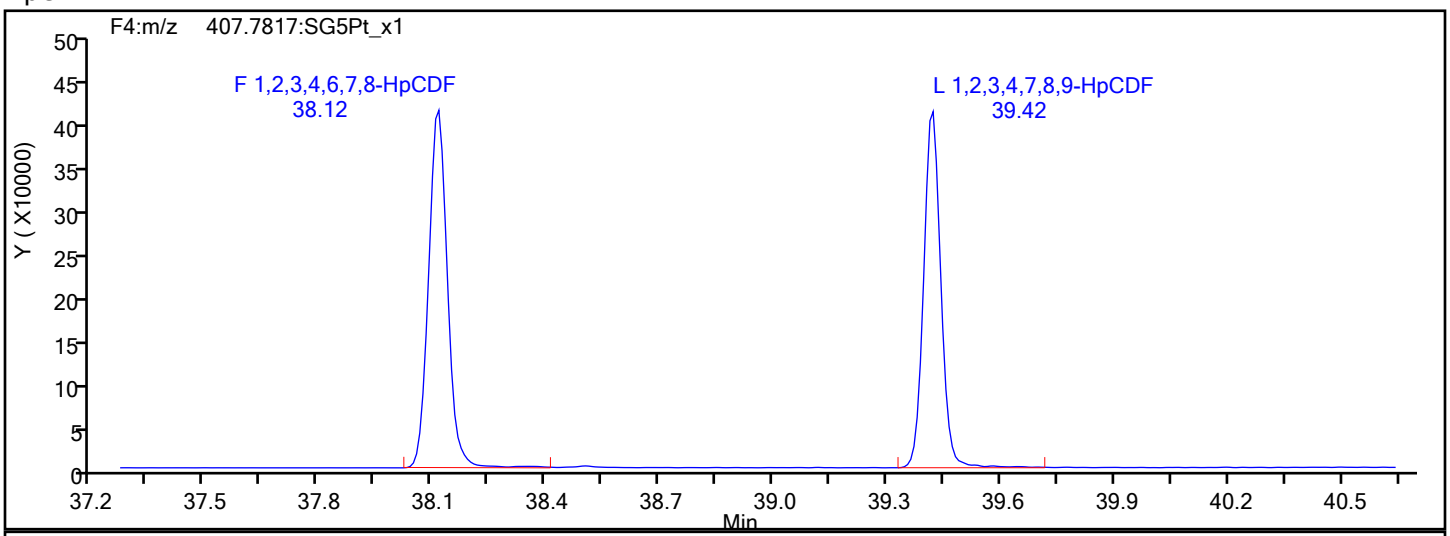
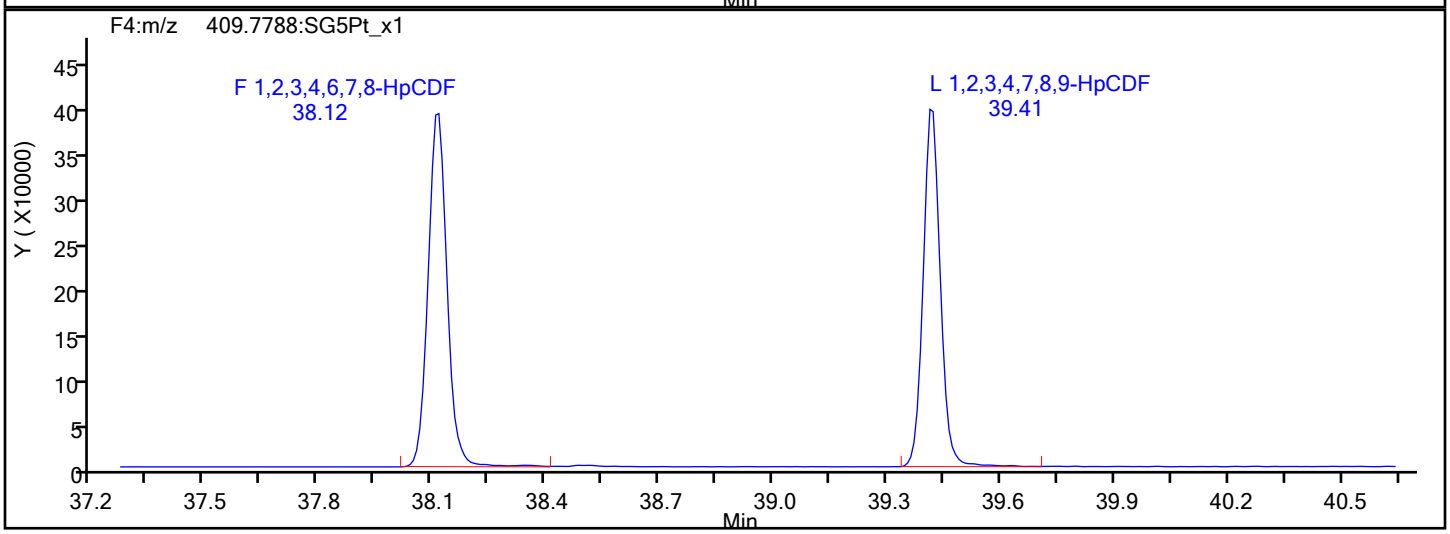
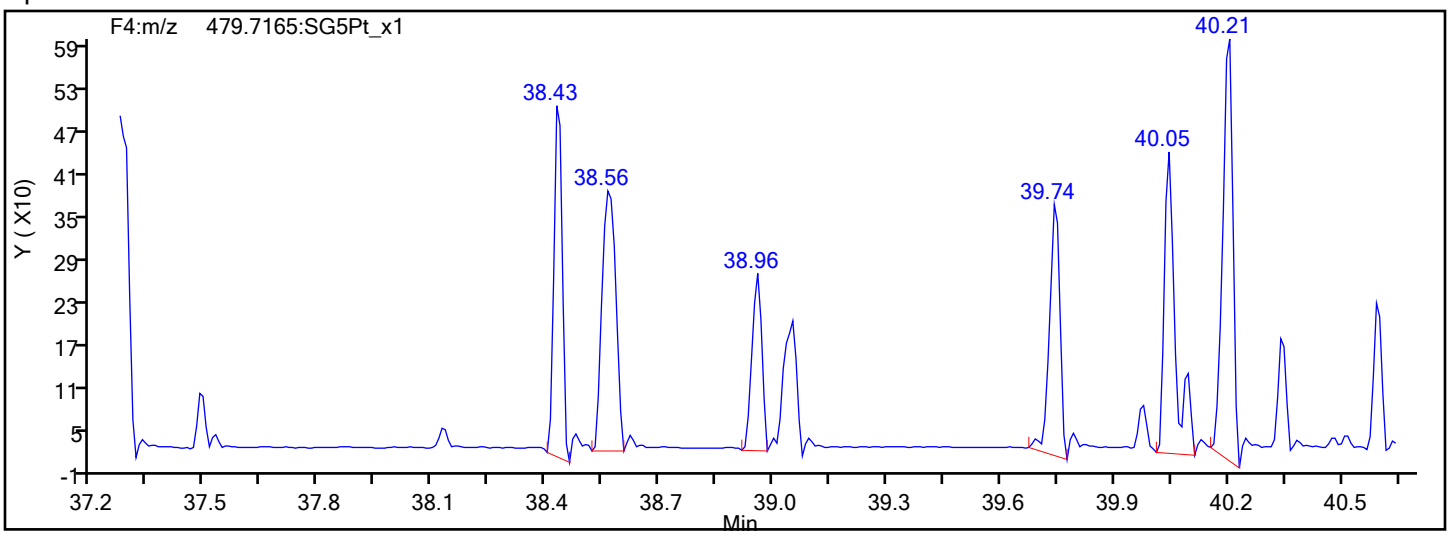
HpCDF





HpCDF Interference Mass



Eurofins Sacramento

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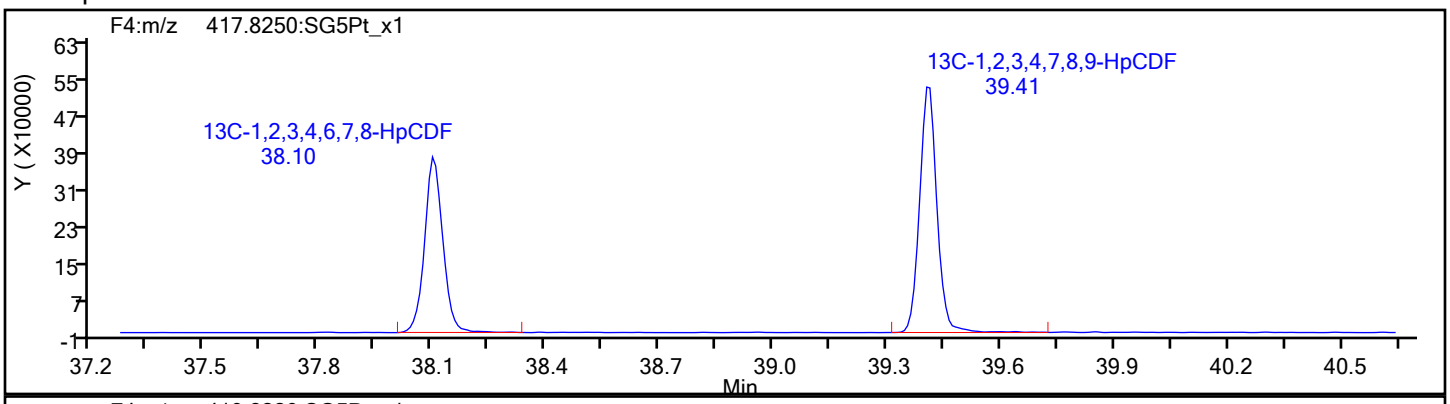
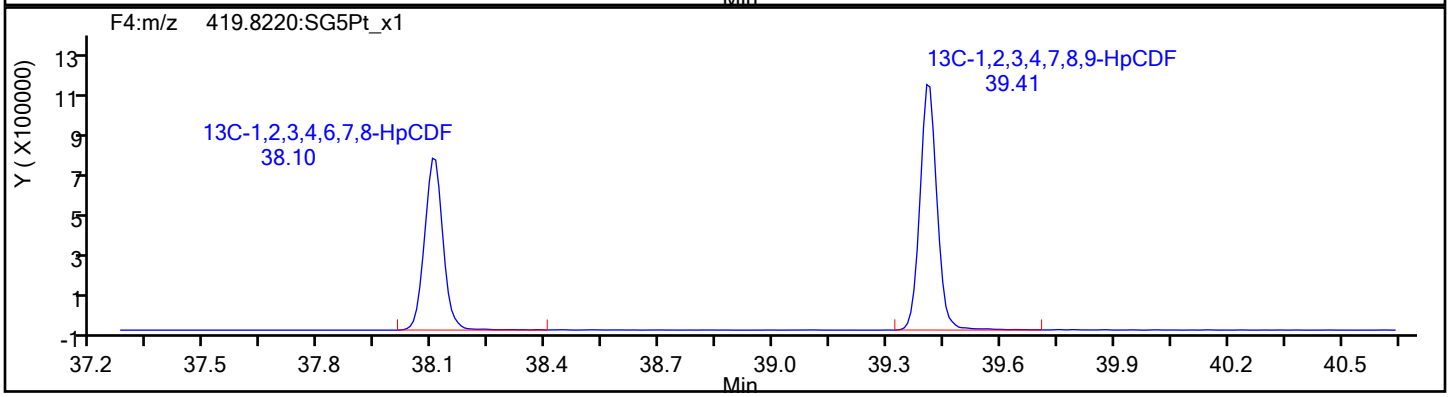
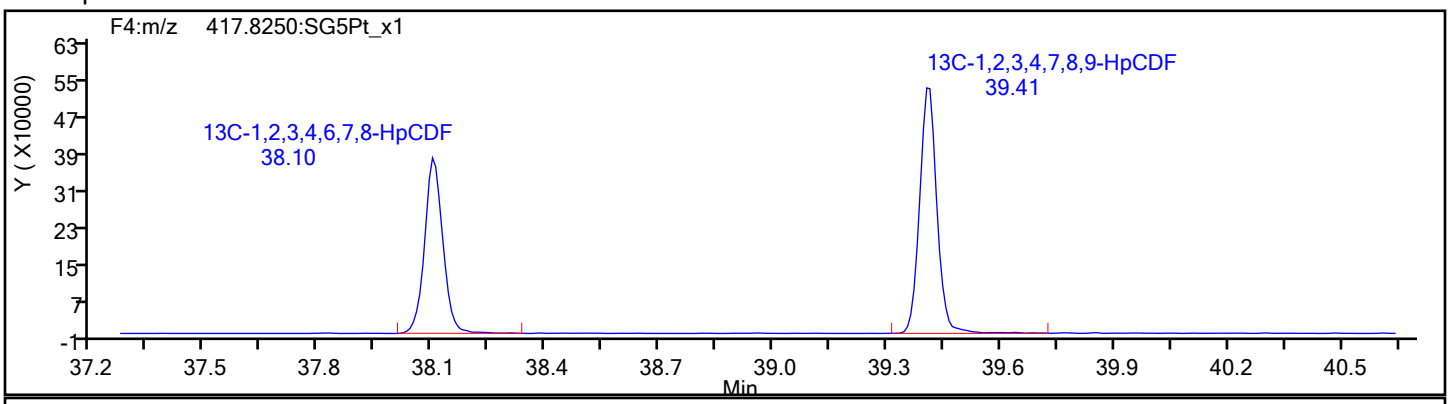
Column Type: DB-5 Column Dia: 0.32 mm

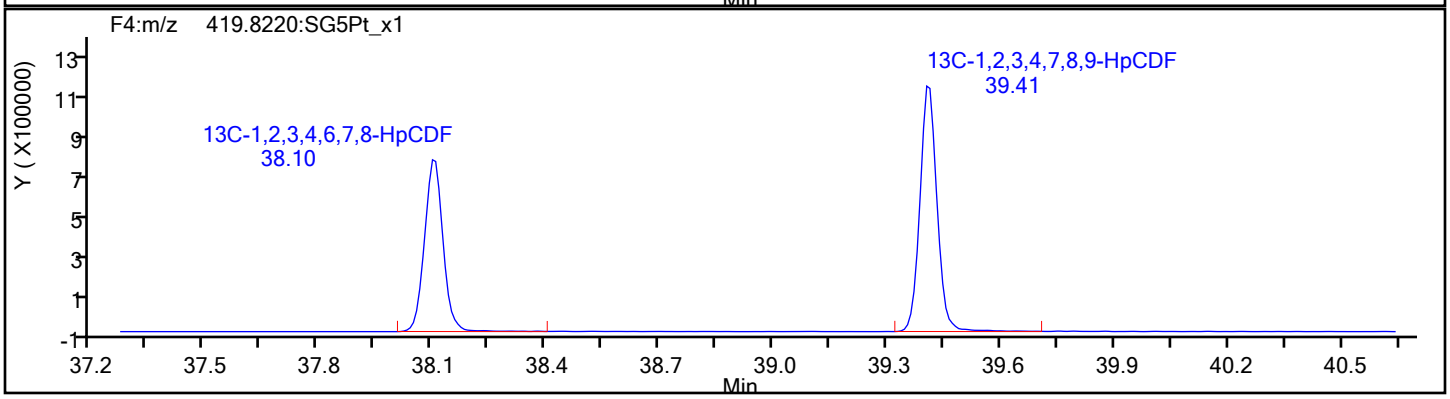
13C-HpCDF





13C-HpCDF Standards





Eurofins Sacramento

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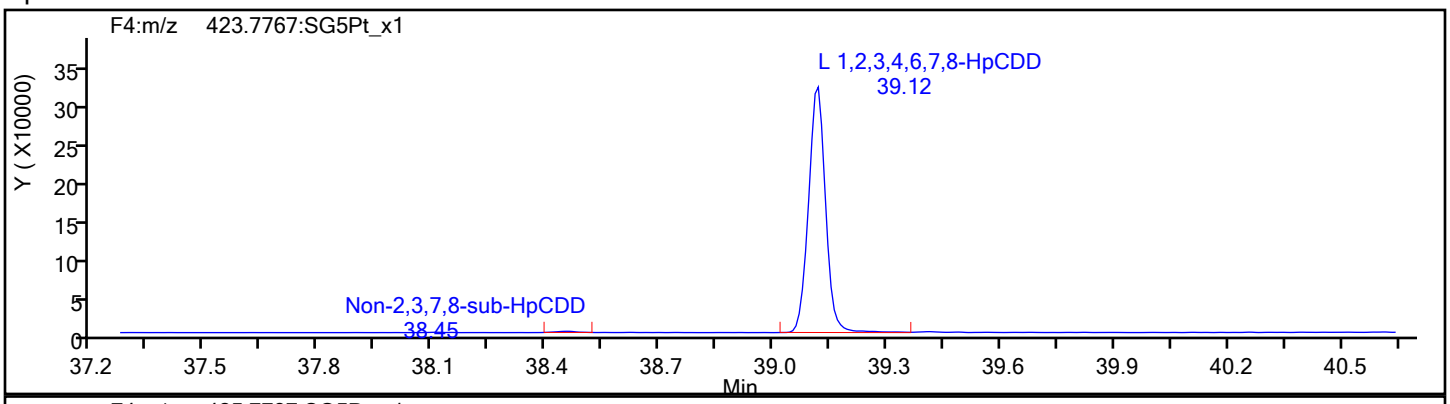
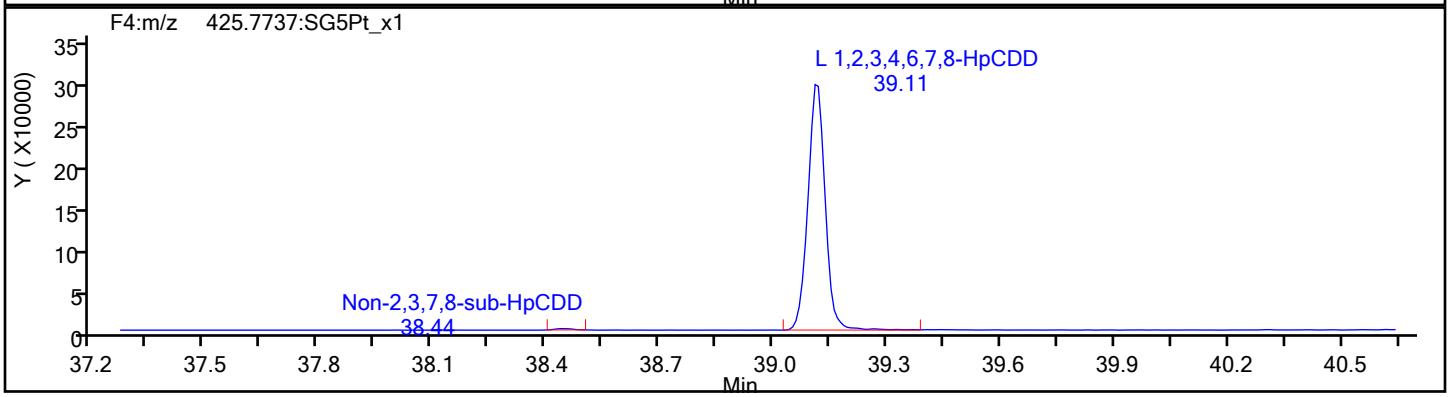
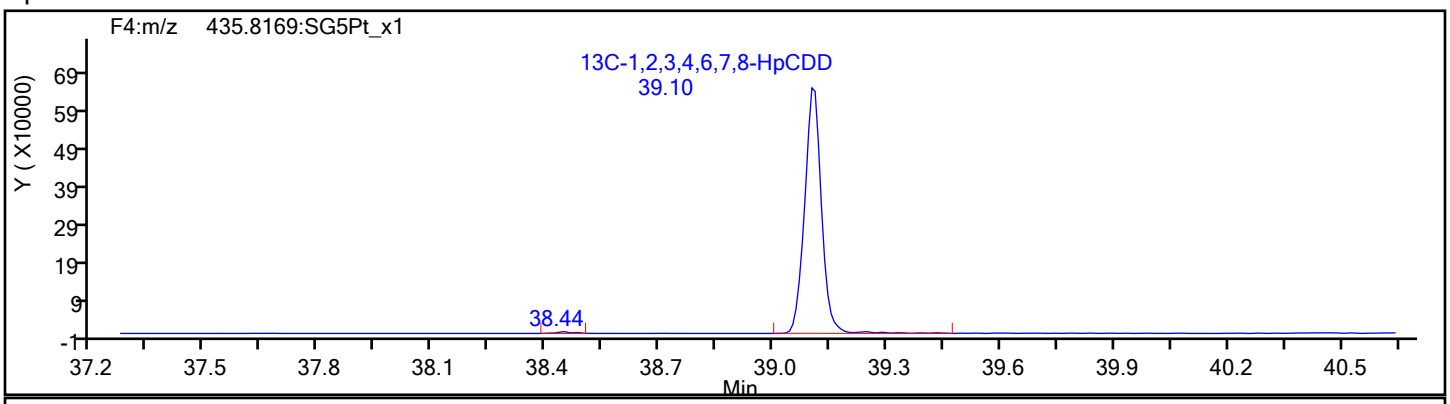
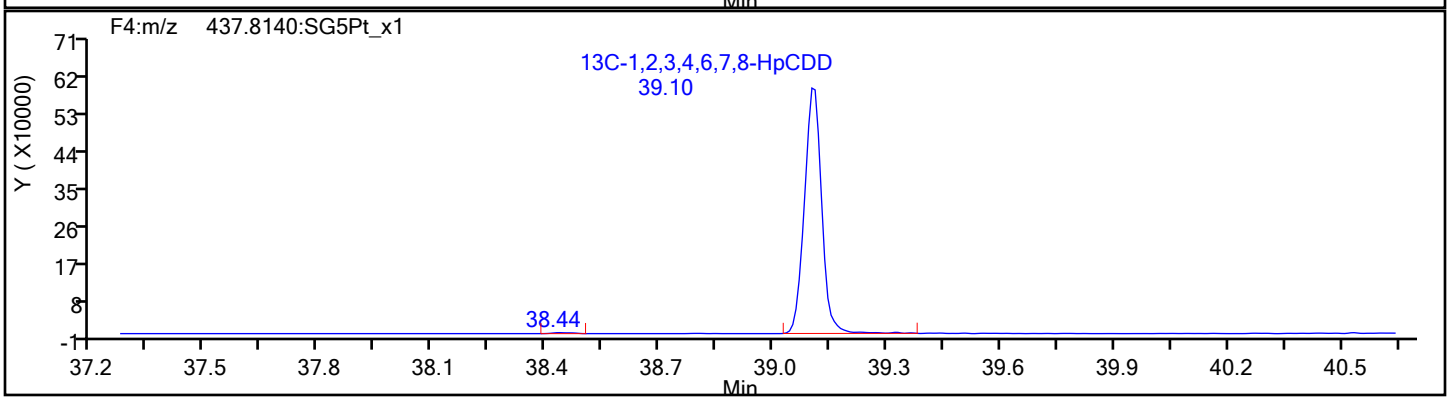
HpCDD





HpCDD Standards

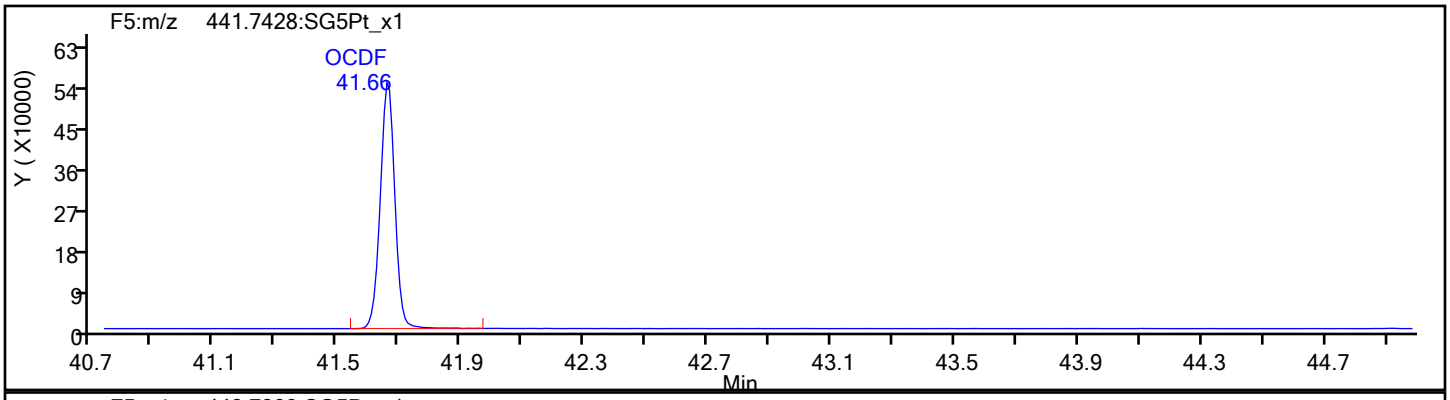


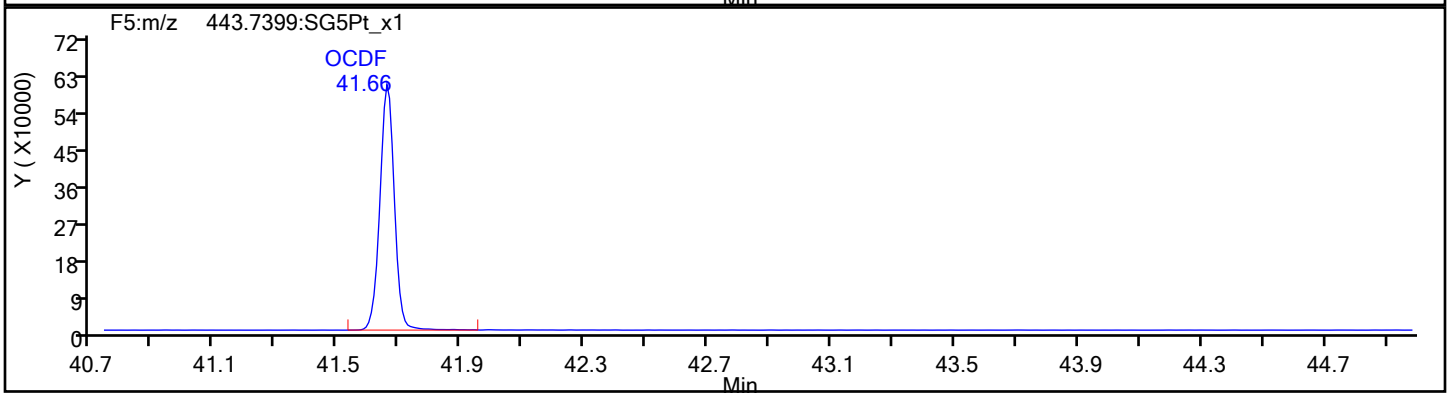


Eurofins Sacramento

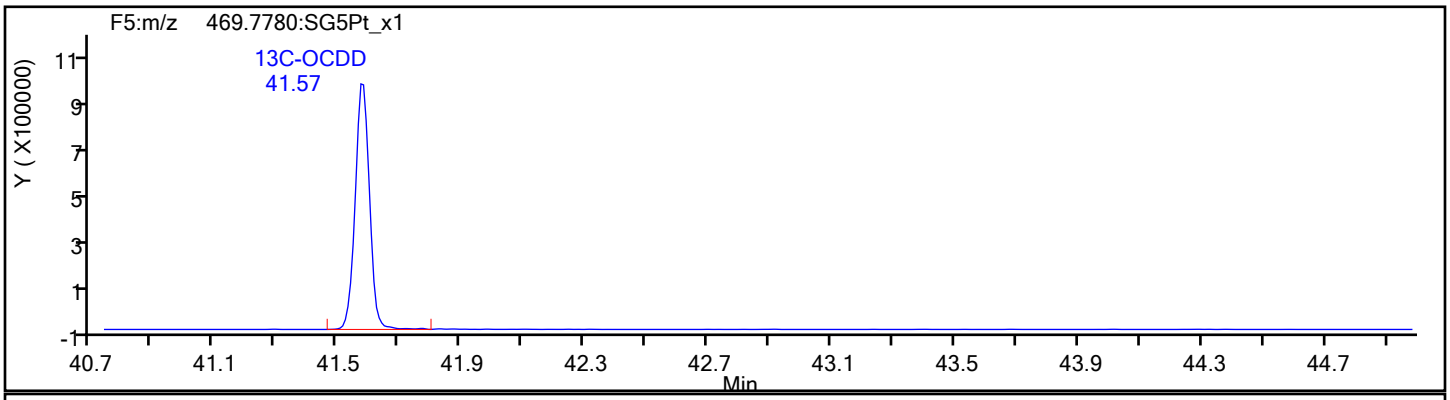
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d		
Injection Date:	20-Jan-2022 18:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

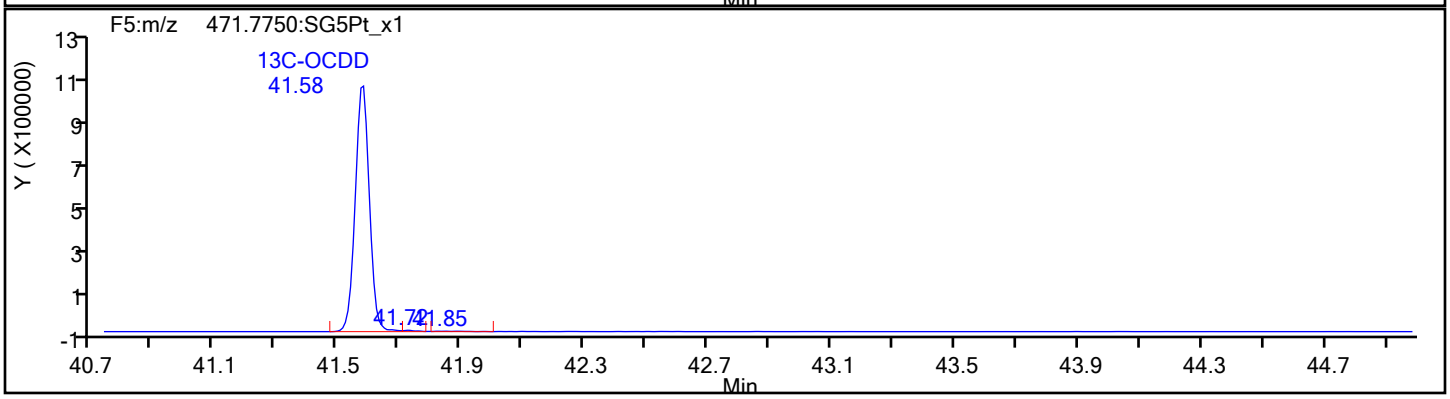
OCDF





OCDF Standards

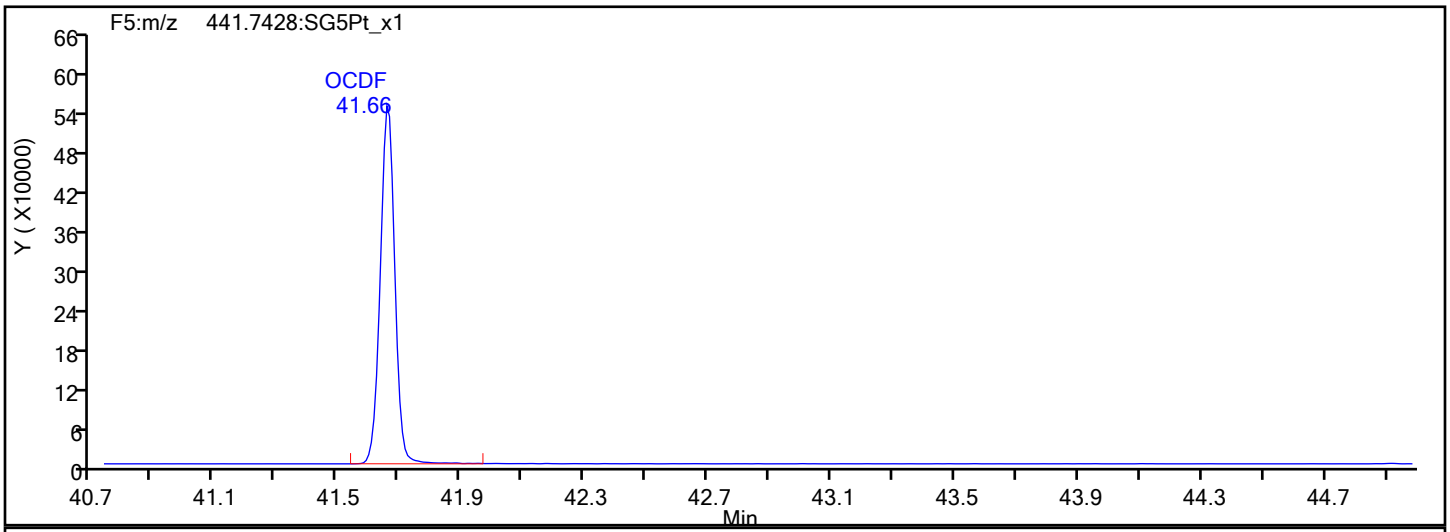


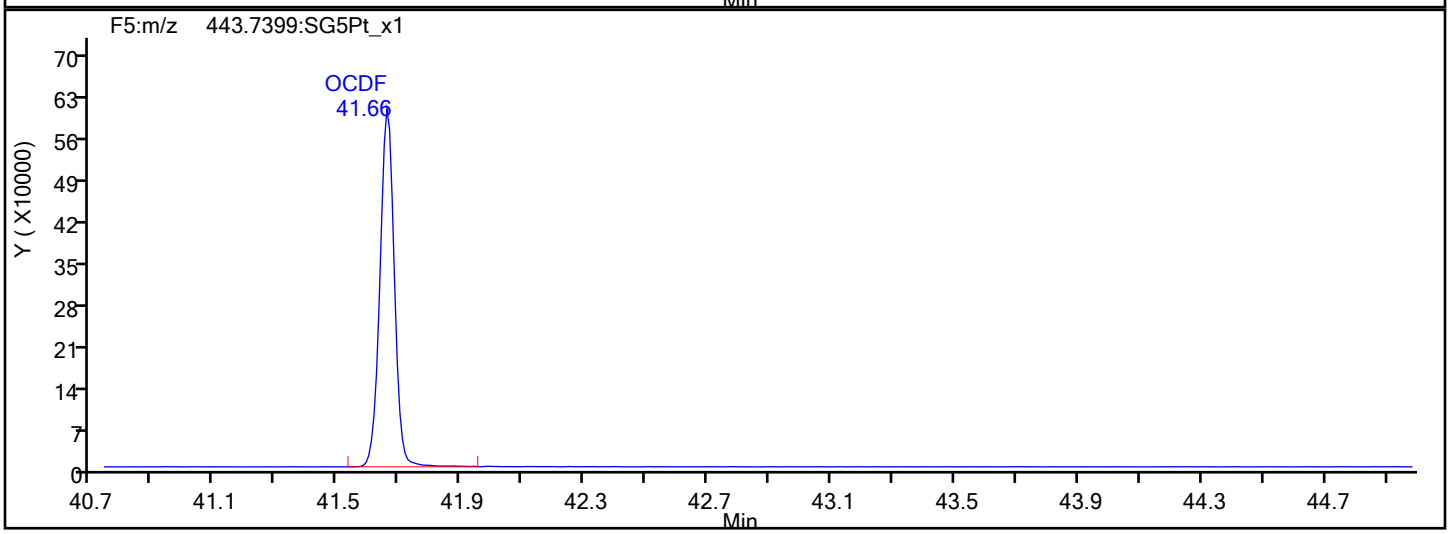


Eurofins Sacramento

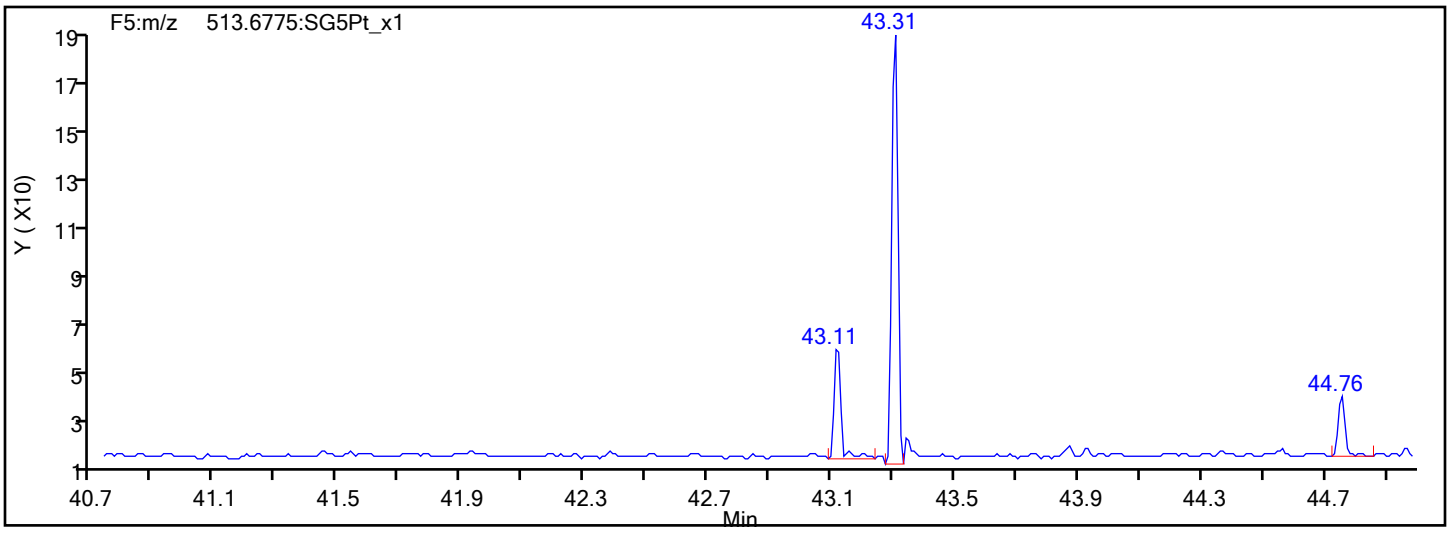
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d
Injection Date: 20-Jan-2022 18:38:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559474 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



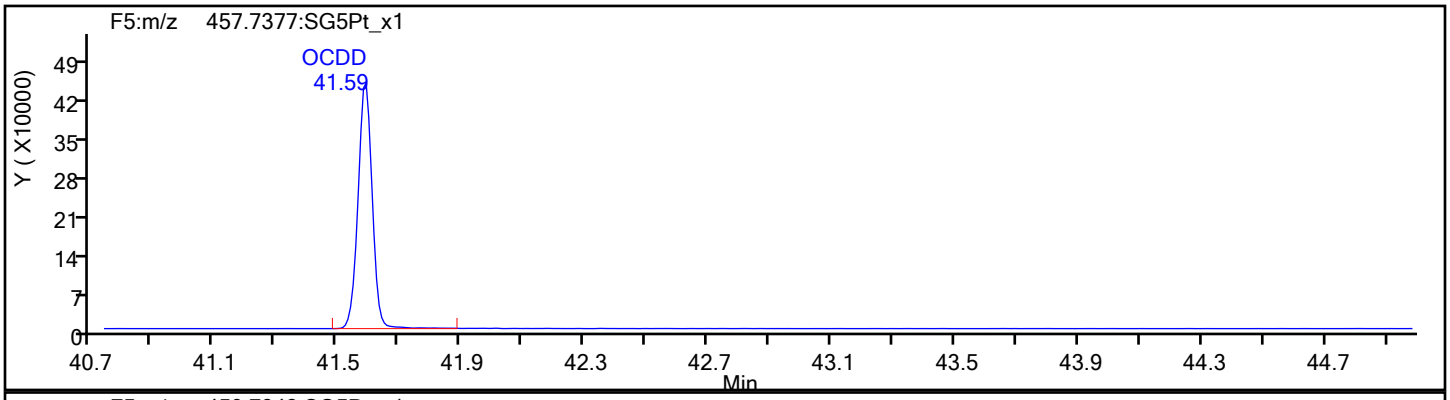
Report Date: 21-Jan-2022 08:05:45 Chrom Revision: 2.3 18-Jan-2022 20:25:40

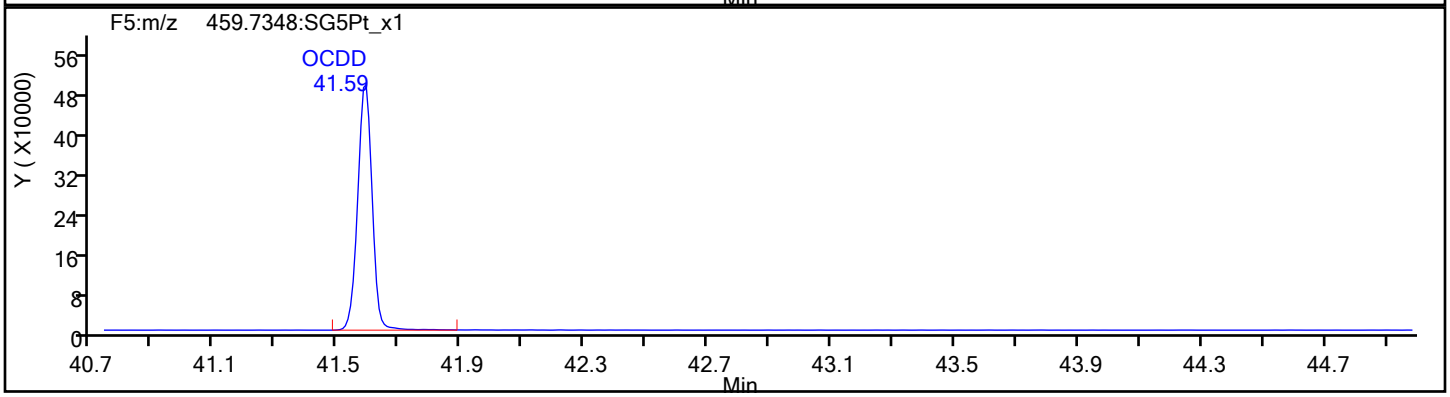
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d

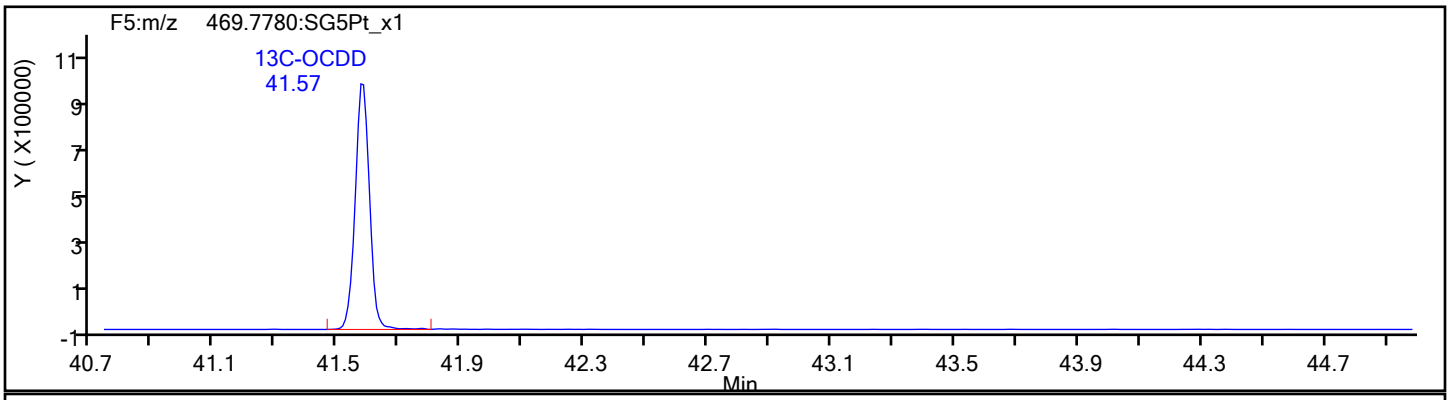
Injection Date:	20-Jan-2022 18:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

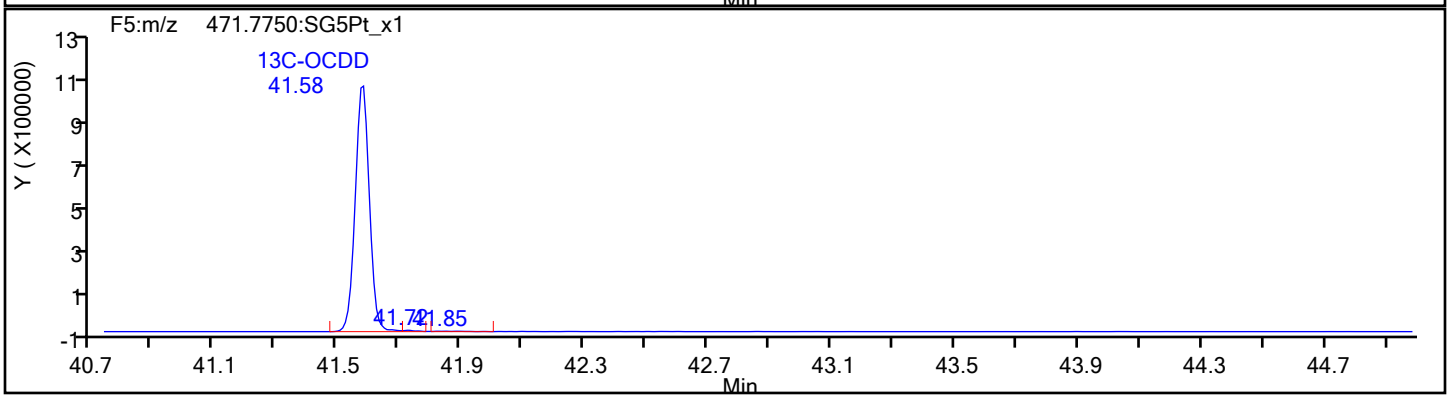
OCDD





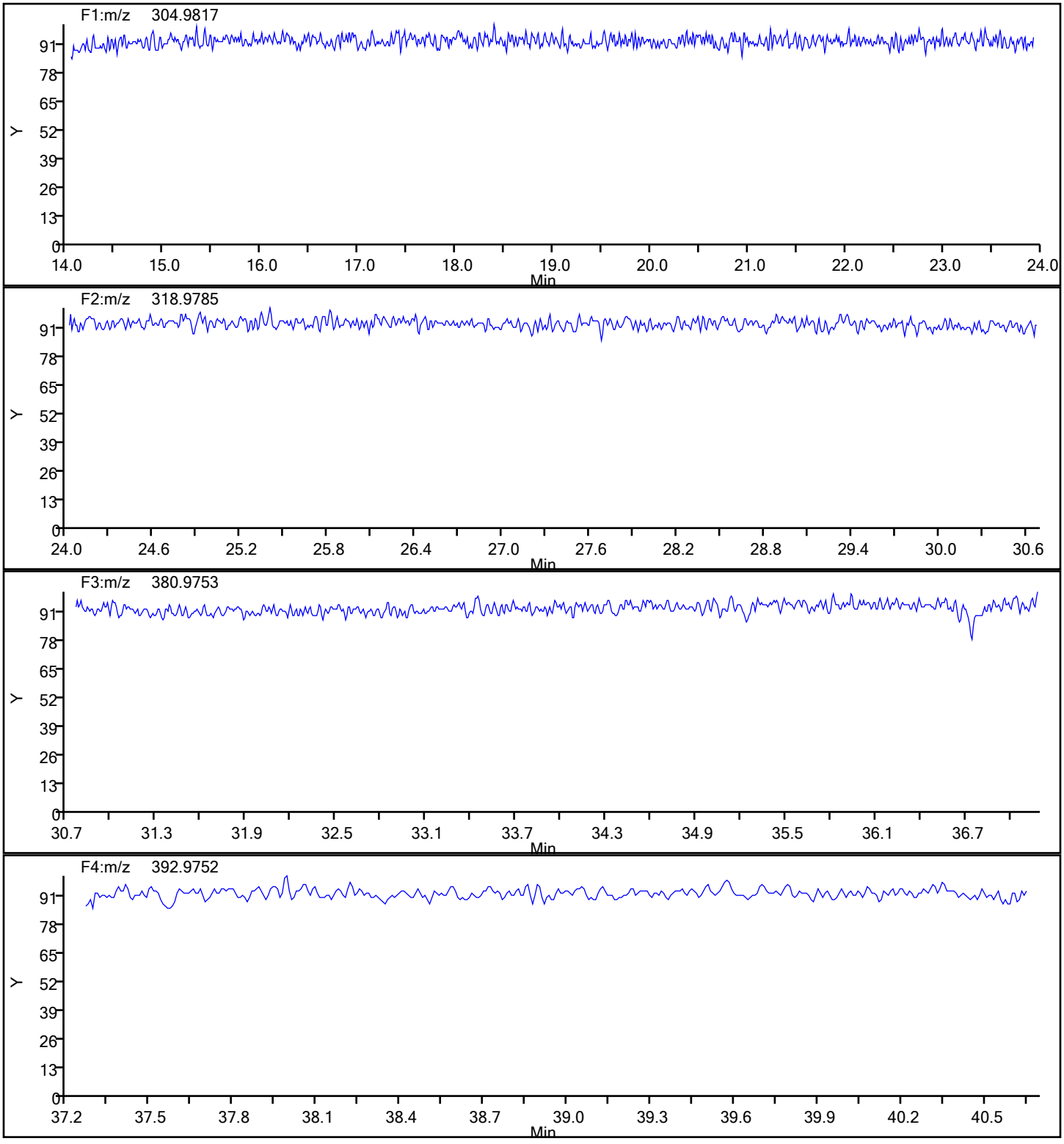
OCDD Standards





Eurofins Sacramento

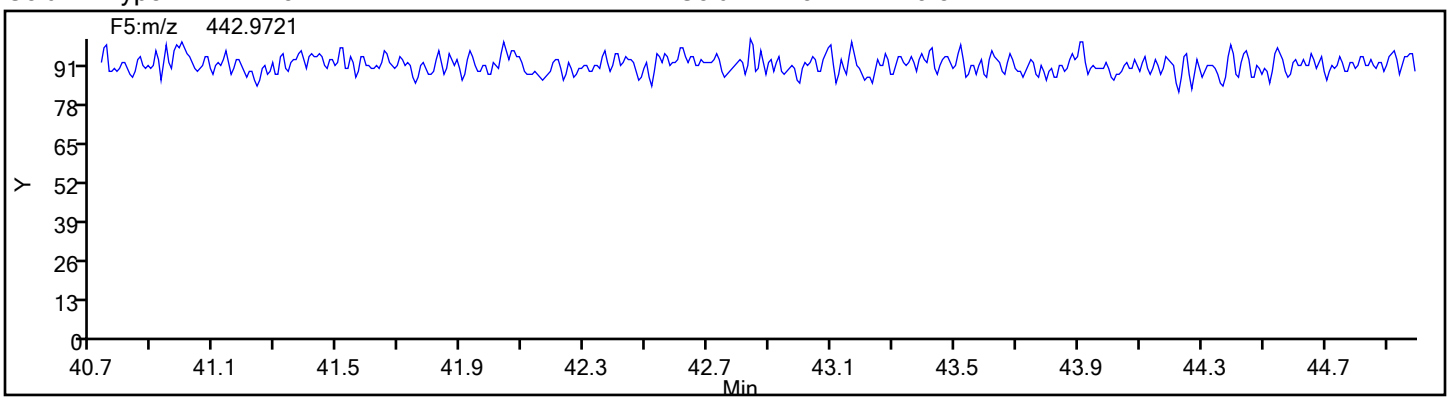
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d		
Injection Date:	20-Jan-2022 18:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 21-Jan-2022 08:05:45 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220120-134841.b\20ja22dfs1_6.d		
Injection Date:	20-Jan-2022 18:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559474	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Instrument ID: DFS 1 Start Date: 01/13/2022 15:41

Analysis Batch Number: 558558 End Date: 01/13/2022 22:21

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-558558/1		01/13/2022 15:41	1	13ja22dfs1_2.d	DB-5 0.32(mm)
IC 320-558558/3		01/13/2022 17:16	1	13ja22dfs1_4.d	DB-5 0.32(mm)
IC 320-558558/4		01/13/2022 18:04	1	13ja22dfs1_5.d	DB-5 0.32(mm)
IC 320-558558/5		01/13/2022 18:51	1	13ja22dfs1_6.d	DB-5 0.32(mm)
IC 320-558558/6		01/13/2022 19:39	1	13ja22dfs1_7.d	DB-5 0.32(mm)
IC 320-558558/7		01/13/2022 20:27	1	13ja22dfs1_8.d	DB-5 0.32(mm)
ICV 320-558558/9		01/13/2022 22:21	1	13ja22dfs1_11.d	DB-5 0.32(mm)

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Instrument ID: DFS 1 Start Date: 01/20/2022 15:20

Analysis Batch Number: 559474 End Date: 01/21/2022 01:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-559474/1		01/20/2022 15:20	1	20ja22dfs1_2.d	DB-5 0.32(mm)
WDM 320-559474/2		01/20/2022 16:16	1	20ja22dfs1_3.d	DB-5 0.32(mm)
MB 320-555858/1-A		01/20/2022 17:03	1	20ja22dfs1_4.d	DB-5 0.32(mm)
LCS 320-555858/2-A		01/20/2022 17:51	1	20ja22dfs1_5.d	DB-5 0.32(mm)
LCSD 320-555858/3-A		01/20/2022 18:38	1	20ja22dfs1_6.d	DB-5 0.32(mm)
570-80119-1	A2BMP0007S021	01/20/2022 19:26	1	20ja22dfs1_7.d	DB-5 0.32(mm)
570-80119-2	A2BMP0012S010	01/20/2022 20:14	1	20ja22dfs1_8.d	DB-5 0.32(mm)
570-80119-3	EVBMP0001S019	01/20/2022 21:02	1	20ja22dfs1_9.d	DB-5 0.32(mm)
570-80119-4	EVBMP0003S032	01/20/2022 21:50	1	20ja22dfs1_10.d	DB-5 0.32(mm)
ZZZZZ		01/20/2022 22:38	1		DB-5 0.32(mm)
ZZZZZ		01/20/2022 23:25	1		DB-5 0.32(mm)
ZZZZZ		01/21/2022 00:13	1		DB-5 0.32(mm)
CCV 320-559474/13		01/21/2022 01:01	1	20ja22dfs1_14.d	DB-5 0.32(mm)

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Batch Number: 555858 Batch Start Date: 01/04/22 09:56 Batch Analyst: Bento, Casey G

Batch Method: 8290 Batch End Date: 01/05/22 11:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ExtractionID	RotoVapID
MB 320-555858/1		8290, 8290				1000 mL	20.0 uL	8	4
LCS 320-555858/2		8290, 8290				1000 mL	20.0 uL	6	6
LCSD 320-555858/3		8290, 8290				1000 mL	20.0 uL	11	8
570-80119-F-1	A2BMP0007S021	8290, 8290	T	1535.5 g	511.60 g	1023.9 mL	20.0 uL	4	4
570-80119-E-2	A2BMP0012S010	8290, 8290	T	1563.1 g	512.57 g	1050.5 mL	20.0 uL	12	6
570-80119-F-3	EVBMP0001S019	8290, 8290	T	1566.7 g	513.28 g	1053.4 mL	20.0 uL	1	8
570-80119-F-4	EVBMP0003S032	8290, 8290	T	1564.6 g	520.65 g	1044 mL	20.0 uL	10	8

Lab Sample ID	Client Sample ID	Method Chain	Basis	RoundBottomID	HRDXNIDA 00492	HRDXNIS 00137	HRDXNSU 00262	HRDXNTA 00147	
MB 320-555858/1		8290, 8290		21	1 mL	20 uL	1 mL		
LCS 320-555858/2		8290, 8290		33	1 mL	20 uL	1 mL	50 uL	
LCSD 320-555858/3		8290, 8290		3	1 mL	20 uL	1 mL	50 uL	
570-80119-F-1	A2BMP0007S021	8290, 8290	T	4	1 mL	20 uL	1 mL		
570-80119-E-2	A2BMP0012S010	8290, 8290	T	34	1 mL	20 uL	1 mL		
570-80119-F-3	EVBMP0001S019	8290, 8290	T	36	1 mL	20 uL	1 mL		
570-80119-F-4	EVBMP0003S032	8290, 8290	T	14	1 mL	20 uL	1 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins Sacramento Job No.: 570-80119-2

SDG No.:

Batch Number: 555858 Batch Start Date: 01/04/22 09:56 Batch Analyst: Bento, Casey G

Batch Method: 8290 Batch End Date: 01/05/22 11:30

Batch Notes	
Balance ID	QA - 070
Hexane ID	Hexane_00308
MeCL2 ID	DCM_00430
Na2SO4 ID	Na2SO4_00140
Tetradecane ID	Tetradecane_00018
Sep Funnel Extractions (date and time)	CGB 1/4/22 10:50
Analyst ID - IDA Reagent Drop	CGB 1/4/22 HD05018 HRDXNIDA_00492 B-3/4 1.0 mL
Analyst ID - IDA Reagent Drop Witness	CB 1/4/22
Analyst ID - TA Reagent Drop	CGB 1/4/22 DB15270 HRDXNTA_00147 B-6/10 50.0 uL
Analyst ID - TA Reagent Drop Witness	CB 1/4/22
Analyst ID - SU Reagent Drop	TGL 01/05/22 HD05018 HRDXNSU_00262 B 2/4 1.0 mL
Analyst ID - SU Reagent Drop Witness	FC 01/05/22
Analyst ID - IS Reagent Drop	TGL 01/05/22 DB15270 HRDXNIS_00137 B 4/4 20.0 uL
Analyst ID - IS Reagent Drop Witness	GLB 01/05/22
DCM:Hexane ID	20% DH28_00204
65% DCM:Hexane ID	DH6535_00574
Alumina ID	Acid_Alumina_0023
Silica Gel ID	SilicaGel_00388
Acid Silica Gel ID	SA5644_00764
Dual Column C/U Analyst	TGL
Dual Column C/U Date	01/05/22
Storage Box ID	5

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

80119

Chain of Custody Record

COC Number: CALS12242101

JACOBS

12/27/2021 10 47 52 AM

Project Name	SSFL
Project	CJ042 Stormwater PO 148015891
Location	Santa Susana Field Lab
Project Number	D3377900
Task Order	42
PO Number	148015891
Turnaround Time	10 Days

Project Manager: Randy Dean

Sample Manager:

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200.8/245.1	200.8/245.1F	ASTMD4464	SM2540	SW8290/1613B
A2BMP0007S021	24-Dec-21 8 05	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4'C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						
A2BMP0012S010	24-Dec-21 7 50	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
Turbidity TSS				4'C	☐	1	☑	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						

570-80119 Chain of Custody

MS = Matrix Spike SD = Matrix Spike Duplicate

	Signatures	Date/Time
Sampled by	BRIAN BENSON	12/27/21 1120
Relinquished by		12/27/21 1120
Received by	Eydie Schwarz	12/27/21 1840
Relinquished by	Eydie Schwarz	12/27/21 1418
Received by		12/27/21 1418
		12/27/21 1735
		12/27/21 1735

Shipping Details

Shipment Method: FedEx

Airbill No:

Lab Name: Eurofins Calscience Lab

Lab Phone: (949) 870-8766

On Ice: yes / no Cooler Temp _____

2.2|3.1 SCS

ATTN:

Sample Custody and

Special Instructions:

Report Copy to
Mark Fesler
(530) 229-3273

80119

Chain of Custody Record

COC Number: CALS12242101

JACOBS

12/27/2021 10:47:52 AM

Project Name	SSFL
Project	CJ042 Stormwater PO 148015891
Location	Santa Susana Field Lab
Project Number	D3377900
Task Order	42
PO Number	148015891
Turnaround Time	10 Days
Project Manager	Randy Dean
Sample Manager	

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200.8/245.1	200.8/245.1F	ASTMD4464	SM2540	SW8290/1613B
EVBMP0001S019	24-Dec-21 8:30	N	Water									
Dioxins				4°C	☐	2	☐	☐	☐	☐	☐	☑
Turbidity TSS				4°C	☐	1	☑	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb Hg				4°C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4°C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4°C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		**6**						
EVBMP0003S032	24-Dec-21 7.20	N	Water									
Dioxins				4°C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4°C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4°C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb Hg				HNO3, 4°C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4°C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		**6**						

MS = Matrix Spike SD = Matrix Spike Duplicate

	Signatures	Date/Time
Sampled by	BRIAN BENSON	12/27/21 1120
Relinquished by	BRIAN BENSON	12/27/21 1120
Received by	Cindee Schwartz	12/27/21 1340
Relinquished by	Cindee Schwartz	12/27/21 1418
Received by		12/27/21 1418
		12/27/21 1735
		12/27/21 1735

Shipping Details

Shipment Method: FedEx

Airbill No:

Lab Name: Eurofins Calscience Lab

Lab Phone: (949) 870-8766

On Ice: yes / no **Cooler Temp** _____

ATTN:

Sample Custody and

Special Instructions:

Report Copy to
Mark Fesler
(530) 229-3273

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax. 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Thompson, Lori	Carrier Tracking No(s)	COC No: 570-147918 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Lori Thompson@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - California		Job #: 570-80119-2
Address: 880 Riverside Parkway	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #			
Email:	WO #:			
Project Name: NASA SSFL CJ042 Stormwater	Project #: 57006621			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290/8290_P_Sep 17 Isomers List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A2BMP0007S021 (570-80119-1)	12/24/21	08 05 Pacific		Water			X	2	
A2BMP0012S010 (570-80119-2)	12/24/21	07 50 Pacific		Water			X	2	
EVBMP0001S019 (570-80119-3)	12/24/21	08 30 Pacific		Water			X	2	
EVBMP0003S032 (570-80119-4)	12/24/21	07 20 Pacific		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification Unconfirmed	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/28/21 1502				
Relinquished by	Date/Time	Company	Received by	Date/Time.	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Thompson, Lori	Carrier Tracking No(s):	COC No: 570-147918.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Lori.Thompson@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - California		Job #: 570-80119-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/13/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605	PO #:			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #:			
Email:	Project #: 57006621			
Project Name: NASA SSFL CJ042 Stormwater	SSOW#:			
Site:				

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290/8290_P_Sep 17 Isomers List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A2BMP0007S021 (570-80119-1)	12/24/21	08:05 Pacific		Water			X	2	
A2BMP0012S010 (570-80119-2)	12/24/21	07:50 Pacific		Water			X	2	
EVBMP0001S019 (570-80119-3)	12/24/21	08:30 Pacific		Water			X	2	
EVBMP0003S032 (570-80119-4)	12/24/21	07:20 Pacific		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Calscience.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/28/21 1500		Alex Sotelo	12/29/21 10:30	EETSAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

ANALYTICAL REPORT

Job Number: 570-80421-1

Job Description: NASA SSFL CJ042 Stormwater

For:
Jacobs Engineering Group, Inc.
4121 Carmichael Rd #400
Montgomery, AL 36106

Attention: Mark Fesler

Approved for release.
Ritu Sedha
Project Manager I
1/24/2022 3:00 PM

Designee for
Lori Thompson, Project Manager I
7440 Lincoln Way, Garden Grove, CA, 92841
(714)895-5494
Lori.Thompson@eurofinset.com
01/24/2022

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Geotechnical

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

CASE NARRATIVE

Client: Jacobs Engineering Group, Inc.

Project: NASA SSFL CJ042 Stormwater

Report Number: 570-80421-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 12/30/2021 at 3:50 PM; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.0º C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2 degrees Celsius of the required temperature or method specified range. For samples with a specified temperature of 4 degrees Celsius, samples with a temperature ranging from just above freezing temperature of water to 6 degrees Celsius shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

DISSOLVED METALS (ICPMS)
Samples A2BMP0006S013 (570-80421-1), EVBMP0007S013 (570-80421-2), EVBMP0008S016 (570-80421-3) and EVBMP0009S014 (570-80421-4) were analyzed for dissolved metals (ICPMS) in accordance with EPA Method 200.8. The samples were analyzed on 01/03/2022.

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: A2BMP0006S013 (570-80421-1), EVBMP0007S013 (570-80421-2), EVBMP0008S016 (570-80421-3), EVBMP0009S014 (570-80421-4), (570-80421-B-1 MS) and (570-80421-B-1 MSD). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS (ICPMS)
Samples A2BMP0006S013 (570-80421-1), EVBMP0007S013 (570-80421-2), EVBMP0008S016 (570-80421-3) and EVBMP0009S014 (570-80421-4) were analyzed for Total Recoverable Metals (ICPMS) in accordance with EPA Method 200.8. The samples were prepared and analyzed on 01/14/2022.

Copper was detected in method blank MB 440-664464/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DISSOLVED MERCURY
Samples A2BMP0006S013 (570-80421-1), EVBMP0007S013 (570-80421-2), EVBMP0008S016 (570-80421-3) and EVBMP0009S014 (570-80421-4) were analyzed for dissolved mercury in accordance with EPA Method 245.1. The samples were prepared on 12/31/2021 and analyzed on 01/04/2022.

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: A2BMP0006S013 (570-80421-1), EVBMP0007S013 (570-80421-2), EVBMP0008S016 (570-80421-3), EVBMP0009S014 (570-80421-4), (570-80421-B-1 MS) and (570-80421-B-1 MSD). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY
Samples A2BMP0006S013 (570-80421-1), EVBMP0007S013 (570-80421-2), EVBMP0008S016 (570-80421-3) and EVBMP0009S014 (570-80421-4) were analyzed for total mercury in accordance with EPA Method 245.1. The samples were prepared on 01/13/2022 and analyzed on 01/14/2022.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL SUSPENDED SOLIDS
Samples A2BMP0006S013 (570-80421-1), EVBMP0007S013 (570-80421-2), EVBMP0008S016 (570-80421-3) and EVBMP0009S014 (570-80421-4) were analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 01/06/2022.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PARTICLE SIZE
Samples A2BMP0006S013 (570-80421-1), EVBMP0007S013 (570-80421-2), EVBMP0008S016 (570-80421-3) and EVBMP0009S014 (570-80421-4) were analyzed for Particle Size in accordance with ASTM D 4464. The samples were analyzed on 01/04/2022.

Method D4464: Insufficient particulate mass for analysis: EVBMP0007S013 (570-80421-2), EVBMP0008S016 (570-80421-3) and EVBMP0009S014 (570-80421-4).

Fine Sand (0.125 to 0.25mm) exceeded the RPD limit for the duplicate of sample 570-78855-5. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TURBIDITY
Samples EVBMP0008S016 (570-80421-3) and EVBMP0009S014 (570-80421-4) were analyzed for turbidity in accordance with SM 2130B. The samples were analyzed on 12/30/2021.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ORGANIC PREP
Method D4464: Insufficient particulate mass for analysis: EVBMP0007S013 (570-80421-2), EVBMP0008S016 (570-80421-3) and EVBMP0009S014 (570-80421-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Jacobs Engineering Group, Inc.
Project/Site: NASA SSFL CJ042 Stormwater

Job ID: 570-80421-1

Client Sample ID: A2BMP0006S013 — Lab Sample ID: 570-80421-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.32	B	2.00	0.500	ug/L	1		200.8	Total Recoverable
Lead	2.13		1.00	0.500	ug/L	1		200.8	Total Recoverable
Copper	3.67	H	1.00	0.610	ug/L	1		200.8	Dissolved
Lead	0.214	J H	1.00	0.190	ug/L	1		200.8	Dissolved
Total Suspended Solids	13.2		1.00	0.829	mg/L	1		SM 2540D	Total/NA
Clay (less than 0.00391 mm)	15.16		0.01	0.01	%	1		D4464	Total/NA
Silt (0.00391 to 0.0625mm)	84.84		0.01	0.01	%	1		D4464	Total/NA
Total Silt and Clay (0 to 0.0626mm)	100.00		0.01	0.01	%	1		D4464	Total/NA

Client Sample ID: EVBMP0007S013 — Lab Sample ID: 570-80421-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	23.6	B	2.00	0.500	ug/L	1		200.8	Total Recoverable
Lead	5.01		1.00	0.500	ug/L	1		200.8	Total Recoverable
Copper	4.91	H	1.00	0.610	ug/L	1		200.8	Dissolved
Lead	0.471	J H	1.00	0.190	ug/L	1		200.8	Dissolved
Total Suspended Solids	5.32		1.30	1.08	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EVBMP0008S016 — Lab Sample ID: 570-80421-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.60	B	2.00	0.500	ug/L	1		200.8	Total Recoverable
Lead	0.663	J	1.00	0.500	ug/L	1		200.8	Total Recoverable
Copper	2.29	H	1.00	0.610	ug/L	1		200.8	Dissolved
Turbidity	8.5		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Suspended Solids	7.97		1.27	1.05	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EVBMP0009S014 — Lab Sample ID: 570-80421-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.71	B	2.00	0.500	ug/L	1		200.8	Total Recoverable
Lead	0.581	J	1.00	0.500	ug/L	1		200.8	Total Recoverable
Copper	28.8	H	1.00	0.610	ug/L	1		200.8	Dissolved
Turbidity	5.8		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Suspended Solids	5.57		1.27	1.05	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: A2BMP0006S013 **Lab Sample ID: 570-80421-1**
Date Collected: 12/30/21 07:45 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.250	ug/L		01/14/22 06:33	01/14/22 13:36	1
Copper	**3.32**	**B**	2.00	0.500	ug/L		01/14/22 06:33	01/14/22 13:36	1
Lead	**2.13**		1.00	0.500	ug/L		01/14/22 06:33	01/14/22 13:36	1

Client Sample ID: EVBMP0007S013 **Lab Sample ID: 570-80421-2**
Date Collected: 12/30/21 08:30 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.250	ug/L		01/14/22 06:33	01/14/22 13:38	1
Copper	**23.6**	**B**	2.00	0.500	ug/L		01/14/22 06:33	01/14/22 13:38	1
Lead	**5.01**		1.00	0.500	ug/L		01/14/22 06:33	01/14/22 13:38	1

Client Sample ID: EVBMP0008S016 **Lab Sample ID: 570-80421-3**
Date Collected: 12/30/21 08:15 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.250	ug/L		01/14/22 06:33	01/14/22 13:40	1
Copper	**2.60**	**B**	2.00	0.500	ug/L		01/14/22 06:33	01/14/22 13:40	1
Lead	**0.663**	**J**	1.00	0.500	ug/L		01/14/22 06:33	01/14/22 13:40	1

Client Sample ID: EVBMP0009S014 **Lab Sample ID: 570-80421-4**
Date Collected: 12/30/21 08:50 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.250	ug/L		01/14/22 06:33	01/14/22 13:42	1
Copper	**3.71**	**B**	2.00	0.500	ug/L		01/14/22 06:33	01/14/22 13:42	1
Lead	**0.581**	**J**	1.00	0.500	ug/L		01/14/22 06:33	01/14/22 13:42	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: A2BMP0006S013 **Lab Sample ID: 570-80421-1**
Date Collected: 12/30/21 07:45 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			01/03/22 11:32	1
Copper	**3.67**	**H**	1.00	0.610	ug/L			01/03/22 11:32	1
Lead	**0.214**	**J H**	1.00	0.190	ug/L			01/03/22 11:32	1

Client Sample ID: EVBMP0007S013 **Lab Sample ID: 570-80421-2**
Date Collected: 12/30/21 08:30 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			01/03/22 11:41	1
Copper	**4.91**	**H**	1.00	0.610	ug/L			01/03/22 11:41	1
Lead	**0.471**	**J H**	1.00	0.190	ug/L			01/03/22 11:41	1

Client Sample ID: EVBMP0008S016 **Lab Sample ID: 570-80421-3**
Date Collected: 12/30/21 08:15 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			01/03/22 11:44	1
Copper	**2.29**	**H**	1.00	0.610	ug/L			01/03/22 11:44	1
Lead	ND	H	1.00	0.190	ug/L			01/03/22 11:44	1

Client Sample ID: EVBMP0009S014 **Lab Sample ID: 570-80421-4**
Date Collected: 12/30/21 08:50 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	H	1.00	0.980	ug/L			01/03/22 11:48	1
Copper	**28.8**	**H**	1.00	0.610	ug/L			01/03/22 11:48	1
Lead	ND	H	1.00	0.190	ug/L			01/03/22 11:48	1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: A2BMP0006S013 **Lab Sample ID: 570-80421-1**
Date Collected: 12/30/21 07:45 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		01/13/22 09:48	01/14/22 13:08	1

Client Sample ID: EVBMP0007S013 **Lab Sample ID: 570-80421-2**
Date Collected: 12/30/21 08:30 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		01/13/22 09:48	01/14/22 13:10	1

Client Sample ID: EVBMP0008S016 **Lab Sample ID: 570-80421-3**
Date Collected: 12/30/21 08:15 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		01/13/22 09:48	01/14/22 13:12	1

Client Sample ID: EVBMP0009S014 **Lab Sample ID: 570-80421-4**
Date Collected: 12/30/21 08:50 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		01/13/22 09:48	01/14/22 13:14	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: A2BMP0006S013 **Lab Sample ID: 570-80421-1**
Date Collected: 12/30/21 07:45 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.000248	0.000124	mg/L		12/31/21 08:30	01/04/22 12:11	1

Client Sample ID: EVBMP0007S013 **Lab Sample ID: 570-80421-2**
Date Collected: 12/30/21 08:30 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.000248	0.000124	mg/L		12/31/21 08:30	01/04/22 12:13	1

Client Sample ID: EVBMP0008S016 **Lab Sample ID: 570-80421-3**
Date Collected: 12/30/21 08:15 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.000248	0.000124	mg/L		12/31/21 08:30	01/04/22 12:18	1

Client Sample ID: EVBMP0009S014 **Lab Sample ID: 570-80421-4**
Date Collected: 12/30/21 08:50 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.000248	0.000124	mg/L		12/31/21 08:30	01/04/22 12:20	1

General Chemistry

Client Sample ID: A2BMP0006S013 **Lab Sample ID: 570-80421-1**
Date Collected: 12/30/21 07:45 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	13.2		1.00	0.829	mg/L			01/06/22 15:49	1

Client Sample ID: EVBMP0007S013 **Lab Sample ID: 570-80421-2**
Date Collected: 12/30/21 08:30 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	5.32		1.30	1.08	mg/L			01/06/22 15:49	1

Client Sample ID: EVBMP0008S016 **Lab Sample ID: 570-80421-3**
Date Collected: 12/30/21 08:15 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	8.5		0.05	0.05	NTU			12/30/21 18:45	1
Total Suspended Solids	7.97		1.27	1.05	mg/L			01/06/22 15:49	1

Client Sample ID: EVBMP0009S014 **Lab Sample ID: 570-80421-4**
Date Collected: 12/30/21 08:50 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	5.8		0.05	0.05	NTU			12/30/21 18:45	1
Total Suspended Solids	5.57		1.27	1.05	mg/L			01/06/22 15:49	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Client Sample ID: A2BMP0006S013 **Lab Sample ID: 570-80421-1**
Date Collected: 12/30/21 07:45 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	**15.16**		0.01	0.01	%			01/04/22 14:52	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 14:52	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 14:52	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 14:52	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 14:52	1
Silt (0.00391 to 0.0625mm)	**84.84**		0.01	0.01	%			01/04/22 14:52	1
Total Silt and Clay (0 to 0.0626mm)	**100.00**		0.01	0.01	%			01/04/22 14:52	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 14:52	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/04/22 14:52	1

Client Sample ID: EVBMP0007S013 **Lab Sample ID: 570-80421-2**
Date Collected: 12/30/21 08:30 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			01/04/22 15:06	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 15:06	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 15:06	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 15:06	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 15:06	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/04/22 15:06	1
Total Silt and Clay (0 to 0.0626mm)	ND		0.01	0.01	%			01/04/22 15:06	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 15:06	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/04/22 15:06	1

Client Sample ID: EVBMP0008S016 **Lab Sample ID: 570-80421-3**
Date Collected: 12/30/21 08:15 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			01/04/22 15:13	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 15:13	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 15:13	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 15:13	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 15:13	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/04/22 15:13	1
Total Silt and Clay (0 to 0.0626mm)	ND		0.01	0.01	%			01/04/22 15:13	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 15:13	1
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/04/22 15:13	1

Client Sample ID: EVBMP0009S014 **Lab Sample ID: 570-80421-4**
Date Collected: 12/30/21 08:50 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay (less than 0.00391 mm)	ND		0.01	0.01	%			01/04/22 15:19	1
Coarse Sand (0.5mm to 1mm)	ND		0.01	0.01	%			01/04/22 15:19	1
Fine Sand (0.125 to 0.25mm)	ND		0.01	0.01	%			01/04/22 15:19	1
Gravel (greater than 2 mm)	ND		0.01	0.01	%			01/04/22 15:19	1
Medium Sand (0.25 to 0.5 mm)	ND		0.01	0.01	%			01/04/22 15:19	1
Silt (0.00391 to 0.0625mm)	ND		0.01	0.01	%			01/04/22 15:19	1
Total Silt and Clay (0 to 0.0626mm)	ND		0.01	0.01	%			01/04/22 15:19	1
Very Coarse Sand (1 to 2mm)	ND		0.01	0.01	%			01/04/22 15:19	1

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering) (Continued)

Client Sample ID: EVBMP0009S014 **Lab Sample ID: 570-80421-4**
Date Collected: 12/30/21 08:50 **Matrix: Water**
Date Received: 12/30/21 15:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Very Fine Sand (0.0625 to 0.125 mm)	ND		0.01	0.01	%			01/04/22 15:19	1

PARTICLE SIZE SUMMARY

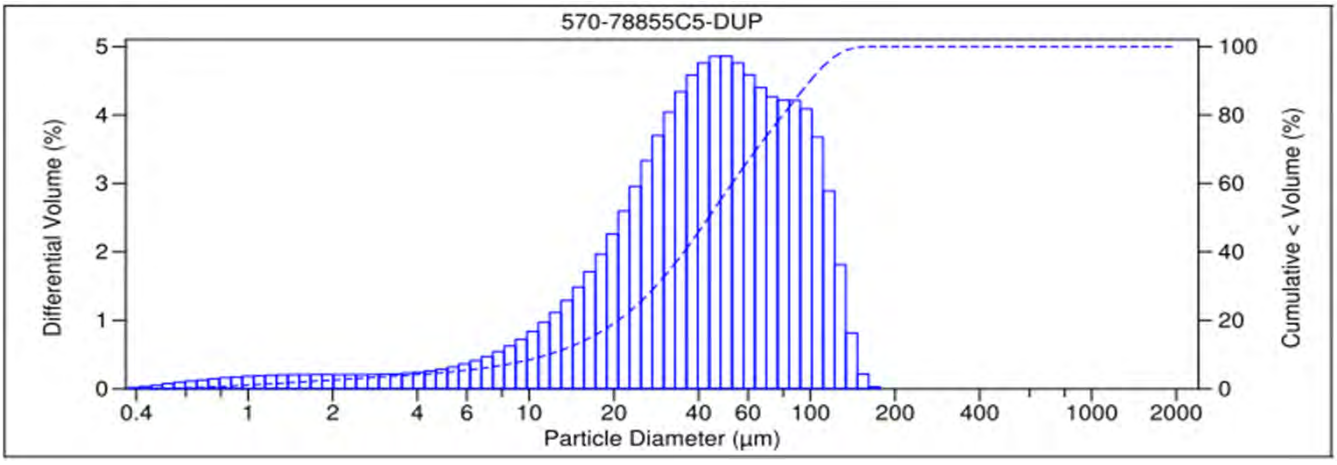
(ASTM D422 / D4464M)

Jacobs		Date Sampled:	12/14/21
		Date Received:	12/14/21
		Work Order No:	570-78855
		Date Analyzed:	01/04/22
		Method:	ASTM D4464M

Project: CJ042 Stormwater

Sample ID	Depth ft	Description	Mean Grain Size mm
EVBMP0003S031		Silt	0.050

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	2.39	28.99	64.50	4.12	68.62



V 3.0

PARTICLE SIZE SUMMARY

(ASTM D422 / D4464M)

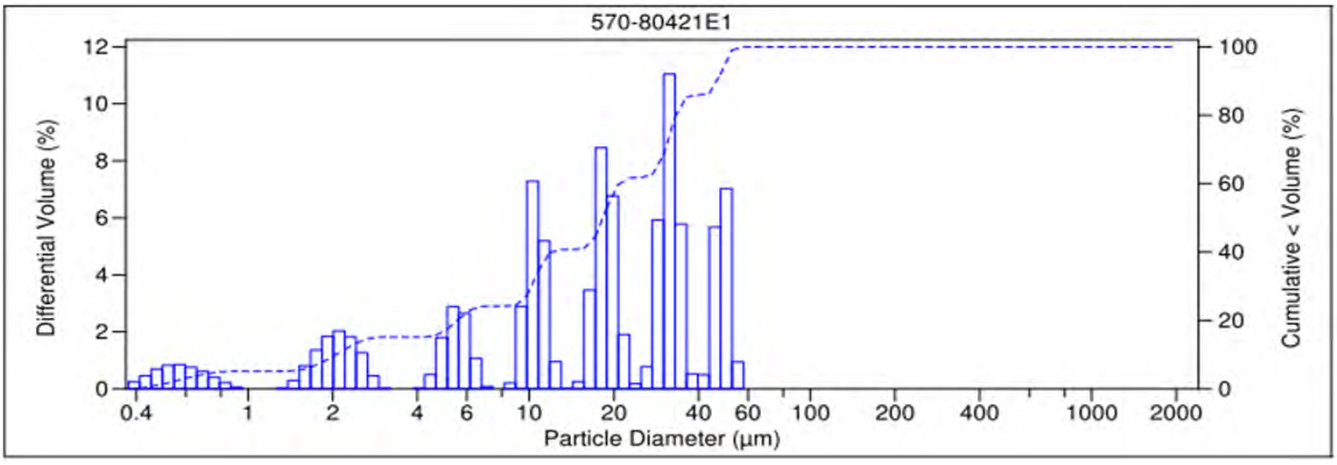
Jacobs

Date Sampled:	12/30/22
Date Received:	12/30/22
Work Order No:	570-80421
Date Analyzed:	01/04/22
Method:	ASTM D4464M

Project: CJ042 Stormwater

Sample ID	Depth ft	Description	Mean Grain Size mm
A2BMP0006S013		Silt	0.021

Particle Size Distribution, wt by percent								
Total Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt	Clay	Total Silt & Clay
0.00	0.00	0.00	0.00	0.00	0.00	84.84	15.16	100.00



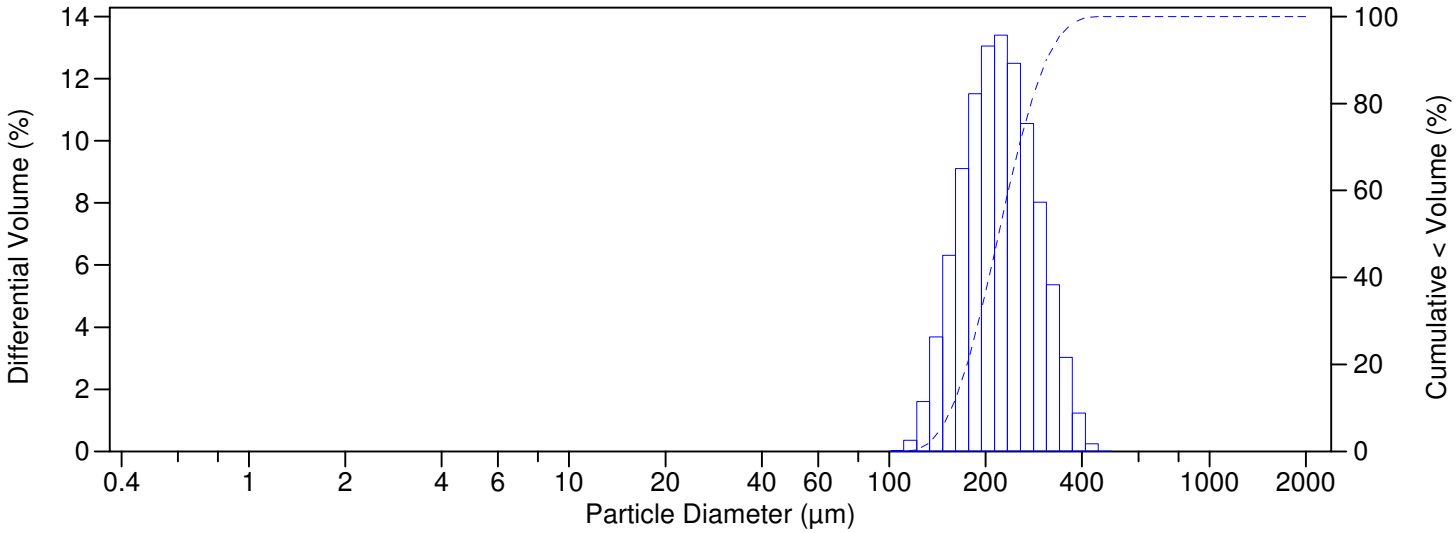
V 3.0

File name:	C:\LS13320\570-80421E2_ 4 Jan 2022_15.06.45.$ls 570-80421E2_ 4 Jan 2022_15.06.45.$ls		
File ID:	570-80421E2		
Sample ID:	570-80421E2		
Operator:	1106		
Run number:	13		
Comment 1:	ASTM D4464M , LPSA 1		
LS 13 320	Aqueous Liquid Module		
Start time:	15:05 4 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	-7%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00

File name:	C:\LS13320\570-80421E3_ 4 Jan 2022_15.13.40.$ls 570-80421E3_ 4 Jan 2022_15.13.40.$ls		
File ID:	570-80421E3		
Sample ID:	570-80421E3		
Operator:	1106		
Run number:	14		
Comment 1:	ASTM D4464M , LPSA 1		
LS 13 320	Aqueous Liquid Module		
Start time:	15:12 4 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	-4%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00

File name:	C:\LS13320\570-80421E4_ 4 Jan 2022_15.19.54.$ls 570-80421E4_ 4 Jan 2022_15.19.54.$ls		
File ID:	570-80421E4		
Sample ID:	570-80421E4		
Operator:	1106		
Run number:	15		
Comment 1:	ASTM D4464M , LPSA 1		
LS 13 320	Aqueous Liquid Module		
Start time:	15:18 4 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	-4%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00

File name:	C:\LS13320\STD SAND_ 4 Jan 2022_15.25.54.$ls STD SAND_ 4 Jan 2022_15.25.54.$ls		
File ID:	STD SAND		
Sample ID:	STD SAND		
Operator:	1106		
Run number:	16 Control Sample		
Comment 1:	ASTM D4464M , LPSA 1		
Comment 2:	1986955		
Optical model:	Fraunhofer.rf780d		
Residual:	7.74%		
LS 13 320	Aqueous Liquid Module		
Start time:	15:24 4 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	9%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00



Volume Statistics (Arithmetic) STD SAND_ 4 Jan 2022_15.25.54.$ls

Calculations from 0.375 µm to 2000 µm

Volume:	100%		
Mean:	227.4 µm	S.D.:	58.84 µm
Median:	220.0 µm	Variance:	3462 μm^2
Mean/Median ratio:	1.034	Skewness:	0.605 Right skewed
Mode:	223.4 µm	Kurtosis:	0.0083 Leptokurtic

d_{10}: 156.7 µm d_{50}: 220.0 µm d_{90}: 309.2 µm

Folk and Ward Statistics (Phi)

Mean:	2.18	Median:	2.18	Deviation:	0.38
Skewness:	-0.01	Kurtosis:	0.93		

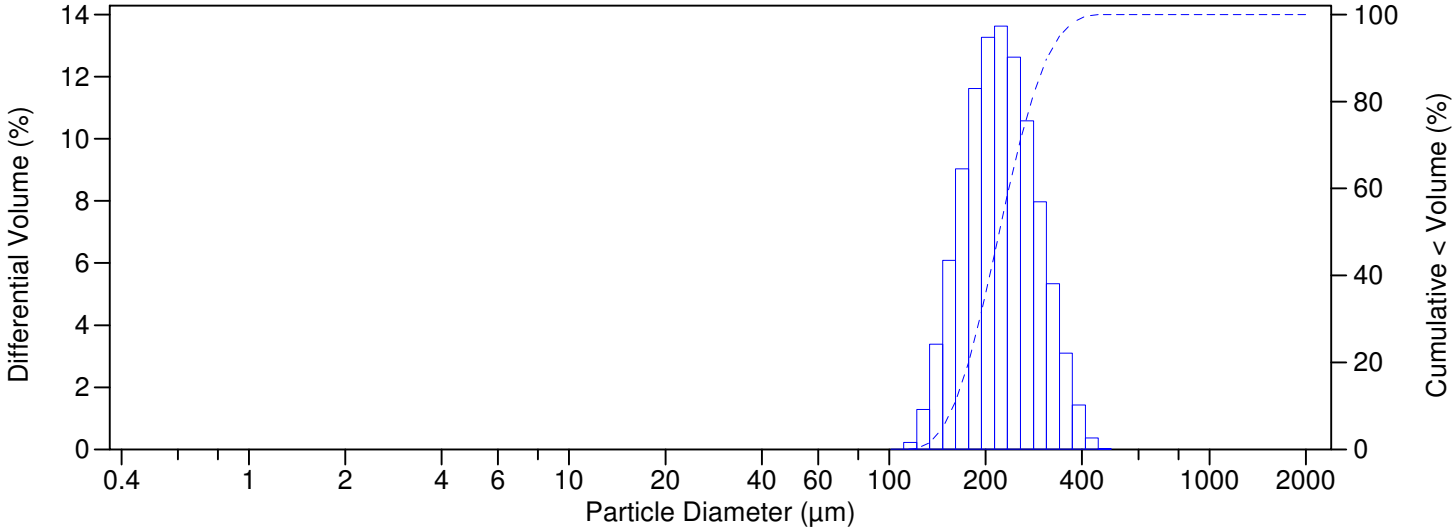
<5%	<16%	<25%	<40%	<50%	<75%	<84%	<95%
144.4 µm	168.1 µm	182.8 µm	205.0 µm	220.0 µm	265.2 µm	288.6 µm	337.2 µm

Particle Diameter µm	STD SAND_ 4 Jan 2022 _15.25.54 .$ls Volume %
0.04	0
0.4	0
1.95	0
3.91	0
62.5	0.81
125	66.9
250	32.3
500	0
1000	0
2000	

STD SAND_ 4 Jan 2022_15.25.54.$ls

Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %
0.375	0	24.95	0	1660	0
0.412	0	27.39	0	1822	0
0.452	0	30.07	0	2000	
0.496	0	33.01	0		
0.545	0	36.24	0		
0.598	0	39.78	0		
0.657	0	43.67	0		
0.721	0	47.94	0		
0.791	0	52.63	0		
0.869	0	57.77	0		
0.954	0	63.42	0		
1.047	0	69.62	0		
1.149	0	76.43	0		
1.261	0	83.90	0		
1.385	0	92.10	0		
1.520	0	101.1	0.020		
1.669	0	111.0	0.36		
1.832	0	121.8	1.60		
2.011	0	133.7	3.69		
2.208	0	146.8	6.31		
2.423	0	161.2	9.10		
2.660	0	176.9	11.5		
2.920	0	194.2	13.0		
3.206	0	213.2	13.4		
3.519	0	234.1	12.5		
3.863	0	256.9	10.6		
4.241	0	282.1	8.02		
4.656	0	309.6	5.36		
5.111	0	339.9	3.03		
5.611	0	373.1	1.24		
6.159	0	409.6	0.25		
6.761	0	449.7	0.011		
7.422	0	493.6	0		
8.148	0	541.9	0		
8.944	0	594.9	0		
9.819	0	653.0	0		
10.78	0	716.9	0		
11.83	0	786.9	0		
12.99	0	863.9	0		
14.26	0	948.3	0		
15.65	0	1041	0		
17.18	0	1143	0		
18.86	0	1255	0		
20.71	0	1377	0		
22.73	0	1512	0		

File name:	C:\LS13320\STD SAND_ 4 Jan 2022_16.02.56.$ls		
	STD SAND_ 4 Jan 2022_16.02.56.$ls		
File ID:	STD SAND		
Sample ID:	STD SAND		
Operator:	1106		
Run number:	18		
	Control Sample		
Comment 1:	ASTM D4464M , LPSA 1		
Comment 2:	1986955		
Optical model:	Fraunhofer.rf780d		
Residual:	8.94%		
LS 13 320	Aqueous Liquid Module		
Start time:	16:01 4 Jan 2022	Run length:	60 seconds
Pump speed:	49		
Obscuration:	10%		
Fluid:	Water		
Software:	6.01	Firmware:	4.00



Volume Statistics (Arithmetic) STD SAND_ 4 Jan 2022_16.02.56.$ls

Calculations from 0.375 µm to 2000 µm

Volume:	100%		
Mean:	229.0 µm	S.D.:	59.13 µm
Median:	221.0 µm	Variance:	3497 μm^2
Mean/Median ratio:	1.036	Skewness:	0.666 Right skewed
Mode:	223.4 µm	Kurtosis:	0.153 Leptokurtic

d_{10}: 158.8 µm d_{50}: 221.0 µm d_{90}: 311.2 µm

Folk and Ward Statistics (Phi)

Mean:	2.17	Median:	2.18	Deviation:	0.38
Skewness:	-0.02	Kurtosis:	0.93		

<5%	<16%	<25%	<40%	<50%	<75%	<84%	<95%
147.0 µm	169.9 µm	184.3 µm	206.2 µm	221.0 µm	266.0 µm	289.8 µm	339.5 µm

Particle Diameter µm	STD SAND_ 4 Jan 2022 _16.02.56 .$ls Volume %
0.04	0
0.4	0
1.95	0
3.91	0
62.5	0.58
125	66.8
250	32.7
500	0
1000	0
2000	

STD SAND_ 4 Jan 2022_16.02.56.$ls

Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %	Channel Diameter (Lower) µm	Diff. Volume %
0.375	0	24.95	0	1660	0
0.412	0	27.39	0	1822	0
0.452	0	30.07	0	2000	
0.496	0	33.01	0		
0.545	0	36.24	0		
0.598	0	39.78	0		
0.657	0	43.67	0		
0.721	0	47.94	0		
0.791	0	52.63	0		
0.869	0	57.77	0		
0.954	0	63.42	0		
1.047	0	69.62	0		
1.149	0	76.43	0		
1.261	0	83.90	0		
1.385	0	92.10	0		
1.520	0	101.1	0.0087		
1.669	0	111.0	0.23		
1.832	0	121.8	1.29		
2.011	0	133.7	3.38		
2.208	0	146.8	6.09		
2.423	0	161.2	9.04		
2.660	0	176.9	11.6		
2.920	0	194.2	13.3		
3.206	0	213.2	13.6		
3.519	0	234.1	12.6		
3.863	0	256.9	10.6		
4.241	0	282.1	7.97		
4.656	0	309.6	5.34		
5.111	0	339.9	3.10		
5.611	0	373.1	1.43		
6.159	0	409.6	0.37		
6.761	0	449.7	0.024		
7.422	0	493.6	0		
8.148	0	541.9	0		
8.944	0	594.9	0		
9.819	0	653.0	0		
10.78	0	716.9	0		
11.83	0	786.9	0		
12.99	0	863.9	0		
14.26	0	948.3	0		
15.65	0	1041	0		
17.18	0	1143	0		
18.86	0	1255	0		
20.71	0	1377	0		
22.73	0	1512	0		

Default Detection Limits

Client: Jacobs Engineering Group, Inc.
Project/Site: NASA SSFL CJ042 Stormwater

Job ID: 570-80421-1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Prep: 200.2

Analyte	RL	MDL	Units
Cadmium	1.00	0.250	ug/L
Copper	2.00	0.500	ug/L
Lead	1.00	0.500	ug/L

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	RL	MDL	Units
Cadmium	1.00	0.980	ug/L
Copper	1.00	0.610	ug/L
Lead	1.00	0.190	ug/L

Method: 245.1 - Mercury (CVAA)

Prep: 245.1

Analyte	RL	MDL	Units
Mercury	0.000248	0.000124	mg/L

Method: 245.1 - Mercury (CVAA) - Dissolved

Prep: 245.1

Analyte	RL	MDL	Units
Mercury	0.000248	0.000124	mg/L

General Chemistry

Analyte	RL	MDL	Units
Turbidity	0.05	0.05	NTU
Total Suspended Solids	1.00	0.829	mg/L

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Analyte	RL	MDL	Units
Clay (less than 0.00391 mm)	0.01	0.01	%
Coarse Sand (0.5mm to 1mm)	0.01	0.01	%
Fine Sand (0.125 to 0.25mm)	0.01	0.01	%
Gravel (greater than 2 mm)	0.01	0.01	%
Medium Sand (0.25 to 0.5 mm)	0.01	0.01	%
Silt (0.00391 to 0.0625mm)	0.01	0.01	%
Total Silt and Clay (0 to 0.0626mm)	0.01	0.01	%
Very Coarse Sand (1 to 2mm)	0.01	0.01	%
Very Fine Sand (0.0625 to 0.125 mm)	0.01	0.01	%

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-664464/1-A
Matrix: Water
Analysis Batch: 664495

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 664464

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.250	ug/L		01/14/22 06:33	01/14/22 13:03	1
Copper	0.8500	J	2.00	0.500	ug/L		01/14/22 06:33	01/14/22 13:03	1
Lead	ND		1.00	0.500	ug/L		01/14/22 06:33	01/14/22 13:03	1

Lab Sample ID: LCS 440-664464/2-A
Matrix: Water
Analysis Batch: 664495

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 664464

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	82.69		ug/L		103	85 - 115
Copper	80.0	81.56		ug/L		102	85 - 115
Lead	80.0	84.13		ug/L		105	85 - 115

Lab Sample ID: 570-80802-B-1-B MS
Matrix: Water
Analysis Batch: 664495

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 664464

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	86.04		ug/L		108	70 - 130
Copper	3.74	B	80.0	87.32		ug/L		104	70 - 130
Lead	9.10		80.0	96.75		ug/L		110	70 - 130

Lab Sample ID: 570-80802-B-1-C MSD
Matrix: Water
Analysis Batch: 664495

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 664464

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	78.32		ug/L		98	70 - 130	9	20
Copper	3.74	B	80.0	79.09		ug/L		94	70 - 130	10	20
Lead	9.10		80.0	88.62		ug/L		99	70 - 130	9	20

Lab Sample ID: MB 570-204924/1-A
Matrix: Water
Analysis Batch: 205113

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.00	0.980	ug/L			01/03/22 11:22	1
Copper	ND		1.00	0.610	ug/L			01/03/22 11:22	1
Lead	ND		1.00	0.190	ug/L			01/03/22 11:22	1

Lab Sample ID: LCS 570-204924/2-A
Matrix: Water
Analysis Batch: 205113

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	100	107.6		ug/L		108	80 - 120
Copper	100	101.1		ug/L		101	80 - 120
Lead	100	96.69		ug/L		97	80 - 120

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 570-204924/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 205113

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium			100	106.5		ug/L		107	80 - 120	1	20
Copper			100	101.2		ug/L		101	80 - 120	0	20
Lead			100	98.08		ug/L		98	80 - 120	1	20

Lab Sample ID: 570-80421-1 MS — **Client Sample ID: A2BMP0006S013**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 205113

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium	ND	H	100	101.6		ug/L		102	80 - 120		
Copper	3.67	H	100	111.3		ug/L		108	80 - 120		
Lead	0.214	J H	100	90.89		ug/L		91	80 - 120		

Lab Sample ID: 570-80421-1 MSD — **Client Sample ID: A2BMP0006S013**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 205113

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND	H	100	106.5		ug/L		106	80 - 120	5	20
Copper	3.67	H	100	115.7		ug/L		112	80 - 120	4	20
Lead	0.214	J H	100	95.80		ug/L		96	80 - 120	5	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-207222/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207348 — **Prep Batch: 207222**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		01/13/22 09:48	01/13/22 14:51	1

Lab Sample ID: LCS 570-207222/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207348 — **Prep Batch: 207222**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.0100	0.009461		mg/L		95	85 - 115		

Lab Sample ID: LCSD 570-207222/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207348 — **Prep Batch: 207222**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.0100	0.009288		mg/L		93	85 - 115	2	10

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-80119-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207348 — **Prep Batch: 207222**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.0100	0.009575		mg/L		96	70 - 130

Lab Sample ID: 570-80119-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207348 — **Prep Batch: 207222**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0100	0.009712		mg/L		97	70 - 130	1	10

Lab Sample ID: MB 570-204925/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 205387 — **Prep Batch: 204929**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000248	0.000124	mg/L		12/31/21 08:30	01/04/22 12:02	1

Lab Sample ID: LCS 570-204925/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 205387 — **Prep Batch: 204929**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0100	0.009505		mg/L		95	85 - 115

Lab Sample ID: LCSD 570-204925/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 205387 — **Prep Batch: 204929**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0100	0.009420		mg/L		94	85 - 115	1	10

Lab Sample ID: 570-80421-2 MS — **Client Sample ID: EVBMP0007S013**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 205387 — **Prep Batch: 204929**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	H	0.0100	0.009979		mg/L		100	70 - 130

Lab Sample ID: 570-80421-2 MSD — **Client Sample ID: EVBMP0007S013**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 205387 — **Prep Batch: 204929**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	H	0.0100	0.009631		mg/L		96	70 - 130	4	10

Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-204844/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204844

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	1000	1000		NTU		99.4	99.0 - 101.0

Lab Sample ID: LCSSRM 570-204844/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204844

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	10.0	10		NTU		101.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-204844/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204844

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

Lab Sample ID: 570-80391-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 204844

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	0.75		0.80		NTU		5	25

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-206005/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206005

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.00	0.829	mg/L			01/06/22 15:47	1

Lab Sample ID: LCS 570-206005/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206005

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	98.00		mg/L		98	77 - 116

Lab Sample ID: LCSD 570-206005/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206005

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	97.00		mg/L		97	77 - 116	1	10

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 570-80506-A-2 DU **Client Sample ID: Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 206005

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	786			810.0		mg/L				3	10

Method: D4464 - Particle Size Distribution of Catalytic Material (Laser light scattering)

Lab Sample ID: 570-78855-C-5 DU **Client Sample ID: Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 205446

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay (less than 0.00391 mm)	4.52			4.12		%				9	20
Coarse Sand (0.5mm to 1mm)	ND			ND		%				NC	20
Fine Sand (0.125 to 0.25mm)	10.48			2.39	F3	%				126	20
Gravel (greater than 2 mm)	ND			ND		%				NC	20
Medium Sand (0.25 to 0.5 mm)	ND			ND		%				NC	20
Silt (0.00391 to 0.0625mm)	56.05			64.50		%				14	20
Total Silt and Clay (0 to 0.0626mm)	60.57			68.62		%				12	20
Very Coarse Sand (1 to 2mm)	ND			ND		%				NC	20
Very Fine Sand (0.0625 to 0.125 mm)	28.95			28.99		%				0.1	20

Metals

Filtration Batch: 204924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Dissolved	Water	Filtration	
570-80421-2	EVBMP0007S013	Dissolved	Water	Filtration	
570-80421-3	EVBMP0008S016	Dissolved	Water	Filtration	
570-80421-4	EVBMP0009S014	Dissolved	Water	Filtration	
MB 570-204924/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-204924/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-204924/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80421-1 MS	A2BMP0006S013	Dissolved	Water	Filtration	
570-80421-1 MSD	A2BMP0006S013	Dissolved	Water	Filtration	

Filtration Batch: 204925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Dissolved	Water	Filtration	
570-80421-2	EVBMP0007S013	Dissolved	Water	Filtration	
570-80421-3	EVBMP0008S016	Dissolved	Water	Filtration	
570-80421-4	EVBMP0009S014	Dissolved	Water	Filtration	
MB 570-204925/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-204925/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-204925/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-80421-2 MS	EVBMP0007S013	Dissolved	Water	Filtration	
570-80421-2 MSD	EVBMP0007S013	Dissolved	Water	Filtration	

Prep Batch: 204929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Dissolved	Water	245.1	204925
570-80421-2	EVBMP0007S013	Dissolved	Water	245.1	204925
570-80421-3	EVBMP0008S016	Dissolved	Water	245.1	204925
570-80421-4	EVBMP0009S014	Dissolved	Water	245.1	204925
MB 570-204925/1-B	Method Blank	Dissolved	Water	245.1	204925
LCS 570-204925/2-B	Lab Control Sample	Dissolved	Water	245.1	204925
LCSD 570-204925/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	204925
570-80421-2 MS	EVBMP0007S013	Dissolved	Water	245.1	204925
570-80421-2 MSD	EVBMP0007S013	Dissolved	Water	245.1	204925

Analysis Batch: 205113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Dissolved	Water	200.8	204924
570-80421-2	EVBMP0007S013	Dissolved	Water	200.8	204924
570-80421-3	EVBMP0008S016	Dissolved	Water	200.8	204924
570-80421-4	EVBMP0009S014	Dissolved	Water	200.8	204924
MB 570-204924/1-A	Method Blank	Dissolved	Water	200.8	204924
LCS 570-204924/2-A	Lab Control Sample	Dissolved	Water	200.8	204924
LCSD 570-204924/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	204924
570-80421-1 MS	A2BMP0006S013	Dissolved	Water	200.8	204924
570-80421-1 MSD	A2BMP0006S013	Dissolved	Water	200.8	204924

Analysis Batch: 205387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Dissolved	Water	245.1	204929
570-80421-2	EVBMP0007S013	Dissolved	Water	245.1	204929
570-80421-3	EVBMP0008S016	Dissolved	Water	245.1	204929

Metals (Continued)

Analysis Batch: 205387 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-4	EVBMP0009S014	Dissolved	Water	245.1	204929
MB 570-204925/1-B	Method Blank	Dissolved	Water	245.1	204929
LCS 570-204925/2-B	Lab Control Sample	Dissolved	Water	245.1	204929
LCSD 570-204925/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	204929
570-80421-2 MS	EVBMP0007S013	Dissolved	Water	245.1	204929
570-80421-2 MSD	EVBMP0007S013	Dissolved	Water	245.1	204929

Prep Batch: 207222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Total/NA	Water	245.1	
570-80421-2	EVBMP0007S013	Total/NA	Water	245.1	
570-80421-3	EVBMP0008S016	Total/NA	Water	245.1	
570-80421-4	EVBMP0009S014	Total/NA	Water	245.1	
MB 570-207222/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-207222/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-207222/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-80119-A-1-C MS	Matrix Spike	Total/NA	Water	245.1	
570-80119-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 207348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-207222/1-A	Method Blank	Total/NA	Water	245.1	207222
LCS 570-207222/2-A	Lab Control Sample	Total/NA	Water	245.1	207222
LCSD 570-207222/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	207222
570-80119-A-1-C MS	Matrix Spike	Total/NA	Water	245.1	207222
570-80119-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	207222

Analysis Batch: 207561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Total/NA	Water	245.1	207222
570-80421-2	EVBMP0007S013	Total/NA	Water	245.1	207222
570-80421-3	EVBMP0008S016	Total/NA	Water	245.1	207222
570-80421-4	EVBMP0009S014	Total/NA	Water	245.1	207222

Prep Batch: 664464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Total Recoverable	Water	200.2	
570-80421-2	EVBMP0007S013	Total Recoverable	Water	200.2	
570-80421-3	EVBMP0008S016	Total Recoverable	Water	200.2	
570-80421-4	EVBMP0009S014	Total Recoverable	Water	200.2	
MB 440-664464/1-A	Method Blank	Total Recoverable	Water	200.2	
LCS 440-664464/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
570-80802-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
570-80802-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Analysis Batch: 664495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Total Recoverable	Water	200.8	664464
570-80421-2	EVBMP0007S013	Total Recoverable	Water	200.8	664464
570-80421-3	EVBMP0008S016	Total Recoverable	Water	200.8	664464
570-80421-4	EVBMP0009S014	Total Recoverable	Water	200.8	664464

Metals (Continued)

Analysis Batch: 664495 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-664464/1-A	Method Blank	Total Recoverable	Water	200.8	664464
LCS 440-664464/2-A	Lab Control Sample	Total Recoverable	Water	200.8	664464
570-80802-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	664464
570-80802-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	664464

General Chemistry

Analysis Batch: 204844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-3	EVBMP0008S016	Total/NA	Water	SM 2130B	
570-80421-4	EVBMP0009S014	Total/NA	Water	SM 2130B	
LCSSRM 570-204844/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-204844/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-204844/3	Lab Control Sample	Total/NA	Water	SM 2130B	
570-80391-D-1 DU	Duplicate	Total/NA	Water	SM 2130B	

Analysis Batch: 206005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Total/NA	Water	SM 2540D	
570-80421-2	EVBMP0007S013	Total/NA	Water	SM 2540D	
570-80421-3	EVBMP0008S016	Total/NA	Water	SM 2540D	
570-80421-4	EVBMP0009S014	Total/NA	Water	SM 2540D	
MB 570-206005/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-206005/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-206005/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-80506-A-2 DU	Duplicate	Total/NA	Water	SM 2540D	

Geotechnical

Analysis Batch: 205446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-80421-1	A2BMP0006S013	Total/NA	Water	D4464	
570-80421-2	EVBMP0007S013	Total/NA	Water	D4464	
570-80421-3	EVBMP0008S016	Total/NA	Water	D4464	
570-80421-4	EVBMP0009S014	Total/NA	Water	D4464	
LCS 570-205446/16	Lab Control Sample	Total/NA	Water	D4464	
LCSD 570-205446/18	Lab Control Sample Dup	Total/NA	Water	D4464	
570-78855-C-5 DU	Duplicate	Total/NA	Water	D4464	

Client Sample ID: A2BMP0006S013 — Lab Sample ID: 570-80421-1

Date Collected: 12/30/21 07:45 — **Matrix: Water**
Date Received: 12/30/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	204924	12/30/21 18:36	UIAS	ECL 1
Dissolved	Analysis	200.8		1			205113	01/03/22 11:32	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.2			25 mL	25 mL	664464	01/14/22 06:33		IRV 2
Total Recoverable	Analysis	200.8		1			664495	01/14/22 13:36	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	204925	12/30/21 18:36	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	204929	12/31/21 08:30	WL8G	ECL 1
Dissolved	Analysis	245.1		1			205387	01/04/22 12:11	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207222	01/13/22 09:48	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207561	01/14/22 13:08	VWJ7	ECL 4
	Instrument ID: HG9									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	206005	01/06/22 15:49	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 14:52	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: EVBMP0007S013 — Lab Sample ID: 570-80421-2

Date Collected: 12/30/21 08:30 — **Matrix: Water**
Date Received: 12/30/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	204924	12/30/21 18:36	UIAS	ECL 1
Dissolved	Analysis	200.8		1			205113	01/03/22 11:41	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.2			25 mL	25 mL	664464	01/14/22 06:33		IRV 2
Total Recoverable	Analysis	200.8		1			664495	01/14/22 13:38	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	204925	12/30/21 18:36	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	204929	12/31/21 08:30	WL8G	ECL 1
Dissolved	Analysis	245.1		1			205387	01/04/22 12:13	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207222	01/13/22 09:48	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207561	01/14/22 13:10	VWJ7	ECL 4
	Instrument ID: HG9									
Total/NA	Analysis	SM 2540D		1	770 mL	1000 mL	206005	01/06/22 15:49	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 15:06	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: EVBMP0008S016 — Lab Sample ID: 570-80421-3

Date Collected: 12/30/21 08:15 — **Matrix: Water**
Date Received: 12/30/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	204924	12/30/21 18:36	UIAS	ECL 1
Dissolved	Analysis	200.8		1			205113	01/03/22 11:44	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.2			25 mL	25 mL	664464	01/14/22 06:33		IRV 2
Total Recoverable	Analysis	200.8		1			664495	01/14/22 13:40	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	204925	12/30/21 18:36	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	204929	12/31/21 08:30	WL8G	ECL 1
Dissolved	Analysis	245.1		1			205387	01/04/22 12:18	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207222	01/13/22 09:48	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207561	01/14/22 13:12	VWJ7	ECL 4
	Instrument ID: HG9									
Total/NA	Analysis	SM 2130B		1			204844	12/30/21 18:45	ZE7V	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	790 mL	1000 mL	206005	01/06/22 15:49	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 15:13	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Client Sample ID: EVBMP0009S014 — Lab Sample ID: 570-80421-4

Date Collected: 12/30/21 08:50 — **Matrix: Water**
Date Received: 12/30/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	204924	12/30/21 18:36	UIAS	ECL 1
Dissolved	Analysis	200.8		1			205113	01/03/22 11:48	UFLE	ECL 1
	Instrument ID: ICPMS05									
Total Recoverable	Prep	200.2			25 mL	25 mL	664464	01/14/22 06:33		IRV 2
Total Recoverable	Analysis	200.8		1			664495	01/14/22 13:42	Y2WS	IRV 2
	Instrument ID: ICPMS6									
Dissolved	Filtration	Filtration			50 mL	50 mL	204925	12/30/21 18:36	UIAS	ECL 1
Dissolved	Prep	245.1			50 mL	100 mL	204929	12/31/21 08:30	WL8G	ECL 1
Dissolved	Analysis	245.1		1			205387	01/04/22 12:20	VWJ7	ECL 1
	Instrument ID: HG7									
Total/NA	Prep	245.1			50 mL	100 mL	207222	01/13/22 09:48	VWJ7	ECL 1
Total/NA	Analysis	245.1		1			207561	01/14/22 13:14	VWJ7	ECL 4
	Instrument ID: HG9									
Total/NA	Analysis	SM 2130B		1			204844	12/30/21 18:45	ZE7V	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	790 mL	1000 mL	206005	01/06/22 15:49	VWM4	ECL 1
	Instrument ID: NOEQUIP									
Total/NA	Analysis	D4464		1			205446	01/04/22 15:19	C4LT	ECL 1
	Instrument ID: NOEQUIP									

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Accreditation/Certification Summary

Client: Jacobs Engineering Group, Inc. Job ID: 570-80421-1
Project/Site: NASA SSFL CJ042 Stormwater

Laboratory: Eurofins Calscience

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2944	09-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8		Water	Cadmium
200.8		Water	Copper
200.8		Water	Lead
245.1	245.1	Water	Mercury
D4464		Water	Clay (less than 0.00391 mm)
D4464		Water	Coarse Sand (0.5mm to 1mm)
D4464		Water	Fine Sand (0.125 to 0.25mm)
D4464		Water	Gravel (greater than 2 mm)
D4464		Water	Medium Sand (0.25 to 0.5 mm)
D4464		Water	Silt (0.00391 to 0.0625mm)
D4464		Water	Total Silt and Clay (0 to 0.0626mm)
D4464		Water	Very Coarse Sand (1 to 2mm)
D4464		Water	Very Fine Sand (0.0625 to 0.125 mm)
SM 2130B		Water	Turbidity

Laboratory: Eurofins Calscience Tustin

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2706	06-30-22

Method Summary

Client: Jacobs Engineering Group, Inc. Job ID: 570-80421-1
Project/Site: NASA SSFL CJ042 Stormwater

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	ECL 1
200.8	Metals (ICP/MS)	EPA	IRV 2
245.1	Mercury (CVAA)	EPA	ECL 1
SM 2130B	Turbidity	SM	ECL 1
SM 2540D	Solids, Total Suspended (TSS)	SM	ECL 1
D4464	Particle Size Distribution of Catalytic Material (Laser light scattering)	ASTM	ECL 1
200.2	Preparation, Total Recoverable Metals	EPA	IRV 2
245.1	Preparation, Mercury	EPA	ECL 1
Filtration	Sample Filtration	None	ECL 1

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494
IRV 2 = Eurofins Calscience Tustin Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (949)261-1022

Sample Summary

Client: Jacobs Engineering Group, Inc.
Project/Site: NASA SSFL CJ042 Stormwater

Job ID: 570-80421-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-80421-1	A2BMP0006S013	Water	12/30/21 07:45	12/30/21 15:50
570-80421-2	EVBMP0007S013	Water	12/30/21 08:30	12/30/21 15:50
570-80421-3	EVBMP0008S016	Water	12/30/21 08:15	12/30/21 15:50
570-80421-4	EVBMP0009S014	Water	12/30/21 08:50	12/30/21 15:50

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HG_1ppm ICV_00036	01/30/22	01/03/22	DI Water, Lot n/a	100 mL	MT-Hg-CS_00005	0.1 mL	Mercury	1 mg/L
.MT-Hg-CS_00005	11/30/22	High Purity Standards, Lot 2107432-50			(Purchased Reagent)		Mercury	1000 ug/mL
HG_1ppm STD_00040	12/31/21	11/30/21	DI Water, Lot n/a	100 mL	Hg 100ppm 1st_00001	1 mL	Mercury	1 mg/L
.Hg 100ppm 1st_00001	01/30/25	AccuStandard, Lot 220015025			(Purchased Reagent)		Mercury	100 ug/mL
HG_1ppm STD_00041	01/31/22	12/31/21	DI Water, Lot n/a	100 mL	Hg 100ppm 1st_00001	1 mL	Mercury	1 mg/L
.Hg 100ppm 1st_00001	01/30/25	AccuStandard, Lot 220015025			(Purchased Reagent)		Mercury	100 ug/mL
Hg_H2SO4_00010	06/29/22	Fisher, Lot 3120011			(Purchased Reagent)		Sulfuric acid	98 mg/L
Hg_K2S2O3_00006	02/22/22	02/22/21	DI Water, Lot N/A	10 L	HG_7440K2S2O8_00001	500 g	Potassium persulfate	4950000 mg/L
.HG_7440K2S2O8_00001	02/27/22	AcrosOrganic, Lot A0379062			(Purchased Reagent)		Potassium persulfate	99 g/g
Hg_KMnO4_00006	07/28/22	07/30/21	DI Water, Lot N/A	10 L	HG_7471_KMNO4_00002	500 g	Potassium Permanganate	5000000 mg/L
.HG_7471_KMNO4_00002	08/22/23	VWR, Lot 0277-C094			(Purchased Reagent)		Potassium Permanganate	100 g/g
Hg_NaCl-NH2OH_00018	07/06/22	07/07/21	DI Water, Lot N/A	10 L	HG_7470 NH3OH_00006	500 g	Hydroxylamine hydrochloride	0.00495 L
					HG_7470_NaCl_00003	10 Kg	Sodium Chloride	99000 L
.HG_7470 NH3OH_00006	03/20/25	FISHER, Lot 200072			(Purchased Reagent)		Hydroxylamine hydrochloride	99 g
.HG_7470_NaCl_00003	10/06/25	Fisher, Lot 196616			(Purchased Reagent)		Sodium Chloride	99 g/g
MI_Fine Sand_00006	06/13/23	10/06/21		1295 g	MI_WashedSand_00002	1295 g	Fine Sand (0.125 to 0.25mm)	100 %
							Medium Sand (0.25 to 0.5 mm)	100 %
.MI_WashedSand_00002	06/19/25	Fisher, Lot 204834A			(Purchased Reagent)		Fine Sand (0.125 to 0.25mm)	100 %
							Medium Sand (0.25 to 0.5 mm)	100 %
MT_1:1HNO3_00008	04/28/22	06/14/21	DI Water, Lot di water	2500 mL	MT_HNO3 Con_00020	1250 mL	Nitric acid	0.0035 %
.MT_HNO3 Con_00020	04/28/22	Fisher Chemical, Lot 1120120			(Purchased Reagent)		Nitric acid	70 mL
MT_HNO3 Con_00022	05/27/22	Fisher Chemical, Lot 1120050			(Purchased Reagent)		Nitric acid	70 mL
MT_HNO3 Con_00028	06/09/23	Fisher Chemical, Lot 1121051			(Purchased Reagent)		Nitric acid	70 mL
MT_ICP_Spike1_00012	04/30/22	08/02/21	DI Water, Lot 101320	1000 mL	MT-As-SpS_00001	10 mL	As	100 ug/mL
					MT-Be-SpS_00001	10 mL	Be	100 ug/mL
					MT-Ca-SpS_00001	10 mL	Ca	100 ug/mL
					MT-Cd-SpS_00001	10 mL	Cadmium	100 ug/mL
					MT-Co-SpS_00001	10 mL	Co	100 ug/mL
					MT-Cr-SpS_00001	10 mL	Cr	100 ug/mL
					MT-Fe-SpS_00001	10 mL	Fe	100 ug/mL
					MT-Mg-SpS_00001	10 mL	Mg	100 ug/mL
					MT-Mn-SpS_00001	10 mL	Mn	100 ug/mL
					MT-Ni-SpS_00001	10 mL	Ni	100 ug/mL
					MT-P-SpS_00001	10 mL	P	100 ug/mL
					MT-Pb-SpS_00001	10 mL	Lead	100 ug/mL
					MT-Sb-SpS_00001	10 mL	Sb	100 ug/mL
					MT-Se-SpS_00001	10 mL	Se	100 ug/mL
					MT-Sr-SpS_00001	10 mL	Sr	100 ug/mL
					MT-Ti-SpS_00001	10 mL	Ti	100 ug/mL
					MT-Tl-SpS_00001	10 mL	Tl	100 ug/mL
					MT-V-SpS_00001	10 mL	V	100 ug/mL
					MT-Zn-SpS_00001	10 mL	Zn	100 ug/mL
					MT_ICP_Cu_SpS_00003	10 mL	Copper	100 ug/mL
					MT_ICP_Mo_SpS_00003	10 mL	Mo	100.14 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MT_ICP_Sn_SpS_00004	10 mL	Sn	100.06 ug/mL
.MT-As-SpS_00001	04/30/23	AccuStandard, Lot 218045118			(Purchased Reagent)		As	10000 ug/mL
.MT-Be-SpS_00001	02/28/23	Ultra, Lot CP-0170			(Purchased Reagent)		Be	10000 ug/mL
.MT-Ca-SpS_00001	04/30/23	Ultra, Lot CP-0877			(Purchased Reagent)		Ca	10000 ug/mL
.MT-Cd-SpS_00001	02/28/23	Ultra, Lot CP-0156			(Purchased Reagent)		Cadmium	10000 ug/mL
.MT-Co-SpS_00001	05/31/23	Ultra, Lot CP-2011			(Purchased Reagent)		Co	10000 ug/mL
.MT-Cr-SpS_00001	05/31/23	Ultra, Lot CP-1768			(Purchased Reagent)		Cr	10000 ug/mL
.MT-Fe-SpS_00001	08/31/24	Ultra, Lot CR-3137			(Purchased Reagent)		Fe	10000 ug/mL
.MT-Mg-SpS_00001	09/30/22	Ultra, Lot CM-4445			(Purchased Reagent)		Mg	10000 ug/mL
.MT-Mn-SpS_00001	01/31/24	Ultra, Lot M00334A			(Purchased Reagent)		Mn	10000 ug/mL
.MT-Ni-SpS_00001	02/28/23	Ultra, Lot CP-0006			(Purchased Reagent)		Ni	10000 ug/mL
.MT-P-SpS_00001	09/10/23	Ultra, Lot CP-4381			(Purchased Reagent)		P	10000 ug/mL
.MT-Pb-SpS_00001	07/31/22	Ultra, Lot CM-3300			(Purchased Reagent)		Lead	10000 ug/mL
.MT-Sb-SpS_00001	06/30/23	Ultra, Lot CP-2412			(Purchased Reagent)		Sb	10000 ug/mL
.MT-Se-SpS_00001	11/30/22	Ultra, Lot CM-5316			(Purchased Reagent)		Se	10000 ug/mL
.MT-Sr-SpS_00001	09/30/22	Ultra, Lot CM-4363			(Purchased Reagent)		Sr	10000 ug/mL
.MT-Ti-SpS_00001	04/30/22	Ultra, Lot CM-1138			(Purchased Reagent)		Ti	10000 ug/mL
.MT-Tl-SpS_00001	05/31/23	Ultra, Lot CP-2010			(Purchased Reagent)		Tl	10000 ug/mL
.MT-V-SpS_00001	08/31/23	Ultra, Lot CP-3591			(Purchased Reagent)		V	10000 ug/mL
.MT-Zn-SpS_00001	02/28/23	Ultra, Lot CP-0155			(Purchased Reagent)		Zn	10000 ug/mL
.MT_ICP_Cu_SpS_00003	03/31/26	Agilent, Lot CT-0623			(Purchased Reagent)		Copper	10000 ug/mL
.MT_ICP_Mo_SpS_00003	02/28/26	Agilent, Lot CS-6398			(Purchased Reagent)		Mo	10014 ug/mL
.MT_ICP_Sn_SpS_00004	11/30/26	Agilent, Lot CT-0014			(Purchased Reagent)		Sn	10006 ug/mL
MT_ICP_Spike2_00015	01/31/23	09/01/21	HNO3, Lot 092220	1000 mL	MT-Na-SpS_00004	100 mL	Na	1000 ug/mL
					MT_ICP_Ag_SpS_00004	50 mL	Ag	50 ug/mL
					MT_ICP_Al_SpS_00003	10 mL	Al	100 ug/mL
					MT_ICP_B_SpS_00003	10 mL	B	100 ug/mL
					MT_ICP_Ba_SpS_00002	10 mL	Ba	100 ug/mL
					MT_ICP_K_SpS_00001	100 mL	K	1000 ug/mL
					MT_ICP_Si_SpS_00009	10 mL	Si	100 ug/mL
							SiO2	214 ug/mL
.MT-Na-SpS_00004	12/30/26	Agilent, Lot 0006505205			(Purchased Reagent)		Na	10000 ug/mL
.MT_ICP_Ag_SpS_00004	09/30/23	Ultra, Lot CP-4409			(Purchased Reagent)		Ag	1000 ug/mL
.MT_ICP_Al_SpS_00003	09/30/23	Ultra, Lot CS-5087			(Purchased Reagent)		Al	10000 ug/mL
.MT_ICP_B_SpS_00003	04/30/25	Ultra, Lot CS-1374			(Purchased Reagent)		B	10000 ug/mL
.MT_ICP_Ba_SpS_00002	01/31/23	Ultra Scientific, Lot CM-6544			(Purchased Reagent)		Ba	10000 ug/mL
.MT_ICP_K_SpS_00001	04/30/24	Ultra, Lot CR-0917			(Purchased Reagent)		K	10000 ug/mL
.MT_ICP_Si_SpS_00009	06/30/26	Agilent, Lot 0006468201			(Purchased Reagent)		Si	10000 ug/mL
							SiO2	21400 ug/mL
MT_MS_CCV_00011	09/30/22	01/03/22	1% HNO3, Lot DIWATER	1000 mL	MT_MS_IC_00015	500 mL	Cadmium	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
.MT_MS_IC_00015	09/30/22	12/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00006	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
..MT_MS_ICS2_00006	11/30/22	SPEX, Lot CL3-144MJY			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Lead	100 mg/L
MT_MS_IC_00015	09/30/22	12/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00006	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
.MT_MS_ICS2_00006	11/30/22		SPEX, Lot CL3-144MJY		(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_ICS_A_00006	04/30/22	04/14/21	1% HNO3, Lot DIWATER	500 mL	MT_MS_INT_A_00005	5 mL	Al	10 mg/L
							Ca	30 mg/L
							Fe	25 mg/L
							K	10 mg/L
							Mg	10 mg/L
							Mo	0.2 mg/L
							Na	25 mg/L
							Ti	0.2 mg/L
.MT_MS_INT_A_00005	04/30/22		Spex, Lot CL51-063CRY		(Purchased Reagent)		Al	1000 mg/L
							Ca	3000 mg/L
							Fe	2500 mg/L
							K	1000 mg/L
							Mg	1000 mg/L
							Mo	20 mg/L
							Na	2500 mg/L
							Ti	20 mg/L
MT_MS_ICS_AB_00008	02/26/22	11/01/21	1% HNO3, Lot DIWAATER	500 mL	MT_MS_INT_A_00005	5 mL	Al	10 mg/L
							Ca	30 mg/L
							Fe	25 mg/L
							K	10 mg/L
							Mg	10 mg/L
							Mo	0.2 mg/L
							Na	25 mg/L
							Ti	0.2 mg/L
					MT_MS_Int_B_00006	0.5 mL	Ag	0.005 mg/L
							As	0.01 mg/L
							Cadmium	0.01 mg/L
							Co	0.02 mg/L
							Copper	0.02 mg/L
							Cr	0.02 mg/L
							Mn	0.02 mg/L
							Ni	0.02 mg/L
							Se	0.01 mg/L
							V	0.02 mg/L
							Zn	0.01 mg/L
.MT_MS_INT_A_00005	04/30/22		Spex, Lot CL51-063CRY		(Purchased Reagent)		Al	1000 mg/L
							Ca	3000 mg/L
							Fe	2500 mg/L
							K	1000 mg/L
							Mg	1000 mg/L

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Mo	20 mg/L
							Na	2500 mg/L
							Ti	20 mg/L
.MT_MS_Int_B_00006	10/28/22	Spex, Lot CL3-075SGY			(Purchased Reagent)		Ag	5 mg/L
							As	10 mg/L
							Cadmium	10 mg/L
							Co	20 mg/L
							Copper	20 mg/L
							Cr	20 mg/L
							Mn	20 mg/L
							Ni	20 mg/L
							Se	10 mg/L
							V	20 mg/L
							Zn	10 mg/L
MT_MS_ICV1_00007	04/30/22	08/02/21	1% Nitric Acid, Lot DIWATER	2000 mL	MT_ICP_Spike1_00012	2 mL	Cadmium	0.1 ug/mL
							Lead	0.1 ug/mL
							Copper	0.1 ug/mL
.MT_ICP_Spike1_00012	04/30/22	08/02/21	DI Water, Lot 101320	1000 mL	MT-Cd-SpS_00001	10 mL	Cadmium	100 ug/mL
					MT-Pb-SpS_00001	10 mL	Lead	100 ug/mL
					MT_ICP_Cu_SpS_00003	10 mL	Copper	100 ug/mL
..MT-Cd-SpS_00001	02/28/23	Ultra, Lot CP-0156			(Purchased Reagent)		Cadmium	10000 ug/mL
..MT-Pb-SpS_00001	07/31/22	Ultra, Lot CM-3300			(Purchased Reagent)		Lead	10000 ug/mL
..MT_ICP_Cu_SpS_00003	03/31/26	Agilent, Lot CT-0623			(Purchased Reagent)		Copper	10000 ug/mL
MT_MS_LL_00011	03/12/22	01/03/22	1% HNO3, Lot DIWATER	100 mL	MT_MS_CCV_00011	1 mL	Cadmium	0.001 mg/L
							Copper	0.001 mg/L
							Lead	0.001 mg/L
.MT_MS_CCV_00011	09/30/22	01/03/22	1% HNO3, Lot DIWATER	1000 mL	MT_MS_IC_00015	500 mL	Cadmium	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
..MT_MS_IC_00015	09/30/22	12/30/21	1% HNO3, Lot -	2000 mL	MT_MS_ICS2_00006	4 mL	Cadmium	0.2 mg/L
							Copper	0.2 mg/L
							Lead	0.2 mg/L
...MT_MS_ICS2_00006	11/30/22	SPEX, Lot CL3-144MJY			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MT_MS_SPIKE_3_00002	12/31/22	07/09/19	2% Nitric Acid, Lot DIWATER	1000 mL	MT_MS_Ca10000_00001	100 mL	Ca	1000 mg/L
					MT_MS_Fe10000_00001	100 mL	Fe	1000 mg/L
					MT_MS_Mg10000_00001	100 mL	Mg	1000 mg/L
.MT_MS_Ca10000_00001	09/30/24	Ultra, Lot CR-3808			(Purchased Reagent)		Ca	10000 mg/L
.MT_MS_Fe10000_00001	08/31/24	Ultra, Lot ICP-126-L			(Purchased Reagent)		Fe	10000 mg/L
.MT_MS_Mg10000_00001	04/20/23	Ultra, Lot ICP-112-L			(Purchased Reagent)		Mg	10000 mg/L
WC_TSS_STD_00029	05/05/22	11/05/21	DI Water, Lot NA	10 L	WC_TSS_STK_00006	1 g	Total Suspended Solids	100 mg/L
.WC_TSS_STK_00006	11/05/26	SIGMA, Lot SLCB7764			(Purchased Reagent)		Total Suspended Solids	1 g/g
WC_TUR_STD_00017	02/28/23	PROCAL, Lot 210292/210274			(Purchased Reagent)		Turbidity	0.02 NTU

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WC_TUR_STD_00018	02/28/23		PROCAL, Lot 210292/210250		(Purchased Reagent)		Turbidity	10 NTU
WC_TUR_STD_00019	02/28/23		PROCAL, Lot 210292/210221		(Purchased Reagent)		Turbidity	1000 NTU
WC_TUR_STD_00022	07/31/22		HACH, Lot A0196		(Purchased Reagent)		Turbidity	4000 NTU

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ME 1:1 HCl_00124	07/07/22	01/07/22	Di Water, Lot N/A	1000 mL	ME HCl_00819	500 mL	Hydrogen Chloride	17.5 %
.ME HCl_00819	12/20/22		Fisher, Lot 4121060		(Purchased Reagent)		Hydrogen Chloride	35 %
ME 1:1 HNO3_00421	06/17/22	12/20/21	Di Water, Lot N/A	2000 mL	ME HNO3_00724	1000 mL	Nitric acid	34.5 %
.ME HNO3_00724	12/20/22		Fisher, Lot 1121070		(Purchased Reagent)		Nitric acid	69 %
ME ICPMS ICV_00242	04/08/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	CECSRBTH 2ND_00005	1 mL	Ce	10 mg/L
							Cs	10 mg/L
							Rb	10 mg/L
					ME AL 2nd_00003	0.1 mL	Al	10 mg/L
					ME CA 2nd_00006	5 mL	Ca	500 mg/L
					ME FE 2nd_00005	1 mL	Fe	100 mg/L
					ME ICPMS CAL_00064	10 mL	As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Cadmium	10 mg/L
							Co	10 mg/L
							Copper	10 mg/L
							Cr	10 mg/L
							Lead	10 mg/L
							Li	10 mg/L
							Mn	10 mg/L
							Mo	10 mg/L
							Ni	10 mg/L
							Sb	10 mg/L
							Se	10 mg/L
							Si	100 mg/L
							Sn	10 mg/L
							Sr	10 mg/L
							Ti	10 mg/L
							Tl	10 mg/L
							V	10 mg/L
					ME K 2nd_00004	2.5 mL	K	250 mg/L
					ME MG 2nd_00004	2.5 mL	Mg	250 mg/L
					ME NA 2nd_00003	2.5 mL	Na	250 mg/L
					ME SILVER 2nd_00003	1 mL	Ag	10 mg/L
					ME U 2nd_00004	1 mL	U	10 mg/L
					ME ZINC 2nd_00005	1 mL	Zn	10 mg/L
.CECSRBTH 2ND_00005	06/15/23		CPI International, Lot 10117286-4		(Purchased Reagent)		Ce	1000 ug/mL
							Cs	1000 ug/mL
							Rb	1000 ug/mL
.ME AL 2nd_00003	04/08/22		CPI International, Lot 1092831		(Purchased Reagent)		Al	10000 ug/mL
.ME CA 2nd_00006	06/03/23		CPI International, Lot 711512117B-1		(Purchased Reagent)		Ca	10000 ug/mL
.ME FE 2nd_00005	06/03/23		CPI International, Lot 711512117A-1		(Purchased Reagent)		Fe	10000 ug/mL
.ME ICPMS CAL_00064	08/11/22		CPI International, Lot 1072834-1		(Purchased Reagent)		As	100 mg/L
							Ba	100 mg/L
							Be	100 mg/L
							Cadmium	100 mg/L
							Co	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Copper	100 mg/L
							Cr	100 mg/L
							Lead	100 mg/L
							Li	100 mg/L
							Mn	100 mg/L
							Mo	100 mg/L
							Ni	100 mg/L
							Sb	100 mg/L
							Se	100 mg/L
							Si	1000 mg/L
							Sn	100 mg/L
							Sr	100 mg/L
							Ti	100 mg/L
							Tl	100 mg/L
							V	100 mg/L
.ME K 2nd 00004	08/11/22	CPI International, Lot 711332679A-1			(Purchased Reagent)		K	10000 ug/mL
.ME MG 2nd 00004	08/11/22	CPI International, Lot 711384061-1			(Purchased Reagent)		Mg	10000 ug/mL
.ME NA 2nd 00003	08/11/22	CPI International, Lot 711320484-1			(Purchased Reagent)		Na	10000 ug/mL
.ME SILVER 2nd 00003	05/04/23	CPI International, Lot 711445023-1			(Purchased Reagent)		Ag	1000 ug/mL
.ME U 2nd 00004	06/03/23	CPI International, Lot 711412616-2			(Purchased Reagent)		U	1000 ug/mL
.ME ZINC 2nd 00005	05/04/23	CPI International, Lot 711400668-1			(Purchased Reagent)		Zn	1000 ug/mL
MEICPMS CCV 00841	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	250 mL	ME ICPMS CAL 00069	1.25 mL	Cadmium	50 ug/L
							Copper	50 ug/L
							Lead	50 ug/L
.ME ICPMS CAL 00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL 00063	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
..ME ICPMS CAL 00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MEICPMS CRI1 00845	08/15/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00018	0.1 mL	Cadmium	1 ug/L
							Copper	1 ug/L
							Lead	1 ug/L
.ME_CRI_30_00018	08/15/22	CPI International, Lot 10106962-2			(Purchased Reagent)		Cadmium	1 ug/mL
							Copper	1 ug/mL
							Lead	1 ug/mL
MEICPMS CRI2 00848	08/15/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME_CRI_30_00018	0.2 mL	Cadmium	2 ug/L
							Copper	2 ug/L
							Lead	2 ug/L
.ME_CRI_30_00018	08/15/22	CPI International, Lot 10106962-2			(Purchased Reagent)		Cadmium	1 ug/mL
							Copper	1 ug/mL
							Lead	1 ug/mL
MEICPMS ICSA 00919	03/15/23	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS LLIC 00032	10 mL	Al	100000 ug/L
							Fe	100000 ug/L
							Mo	2000 ug/L
.ME ICPMS LLIC 00032	03/15/23	CPI International, Lot 1136841-1			(Purchased Reagent)		Al	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fe	1000 ug/mL
							Mo	20 ug/mL
MEICPMS ICSAB_00845	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS CAL_00069	0.2 mL	Ce	20 ug/L
							Cs	20 ug/L
							Rb	20 ug/L
							Ag	20 ug/L
							Al	100020 ug/L
							Fe	100200 ug/L
							U	20 ug/L
							Zn	20 ug/L
							As	20 ug/L
							Ba	20 ug/L
							Be	20 ug/L
							Cadmium	20 ug/L
							Co	20 ug/L
							Copper	20 ug/L
							Cr	20 ug/L
							Lead	20 ug/L
							Mn	20 ug/L
							Mo	2020 ug/L
							Ni	20 ug/L
							Sb	20 ug/L
							Se	20 ug/L
							Sn	20 ug/L
							Tl	20 ug/L
							V	20 ug/L
					ME ICPMS LLIC_00032	10 mL	Al	100020 ug/L
							Fe	100200 ug/L
							Mo	2020 ug/L
.ME ICPMS CAL_00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	CECSRBTH 1ST_00005	1 mL	Ce	10 mg/L
							Cs	10 mg/L
							Rb	10 mg/L
					ICPMS STD AG_00004	1 mL	Ag	10 mg/L
					ICPMS STD AL_00004	0.1 mL	Al	10 mg/L
					ICPMS STD FE_00003	1 mL	Fe	100 mg/L
					ICPMS STD U_00004	1 mL	U	10 mg/L
					ICPMS STD ZN_00005	1 mL	Zn	10 mg/L
					ME ICPMS CAL_00063	10 mL	As	10 mg/L
							Ba	10 mg/L
							Be	10 mg/L
							Cadmium	10 mg/L
							Co	10 mg/L
							Copper	10 mg/L
							Cr	10 mg/L
							Lead	10 mg/L
							Mn	10 mg/L
							Mo	10 mg/L

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ni	10 mg/L
							Sb	10 mg/L
							Se	10 mg/L
							Sn	10 mg/L
							Tl	10 mg/L
							V	10 mg/L
..CECSRBTH 1ST_00005	06/15/23	CPI International, Lot 10117286-3			(Purchased Reagent)		Ce	1000 ug/mL
							Cs	1000 ug/mL
							Rb	1000 ug/mL
..ICPMS STD AG_00004	03/30/23	CPI International, Lot 1106123-34			(Purchased Reagent)		Ag	1000 ug/mL
..ICPMS STD AL_00004	01/22/23	CPI International, Lot 1077245-28			(Purchased Reagent)		Al	10000 ug/mL
..ICPMS STD FE_00003	01/22/23	CPI International, Lot 1034257-61			(Purchased Reagent)		Fe	10000 ug/mL
..ICPMS STD U_00004	08/11/22	CPI International, Lot 1062807-9			(Purchased Reagent)		U	1000 ug/mL
..ICPMS STD ZN_00005	01/22/23	CPI International, Lot 1095528-11			(Purchased Reagent)		Zn	1000 ug/mL
..ME ICPMS CAL_00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		As	100 mg/L
							Ba	100 mg/L
							Be	100 mg/L
							Cadmium	100 mg/L
							Co	100 mg/L
							Copper	100 mg/L
							Cr	100 mg/L
							Lead	100 mg/L
							Mn	100 mg/L
							Mo	100 mg/L
							Ni	100 mg/L
							Sb	100 mg/L
							Se	100 mg/L
							Sn	100 mg/L
							Tl	100 mg/L
							V	100 mg/L
.ME ICPMS LLIC_00032	03/15/23	CPI International, Lot 1136841-1			(Purchased Reagent)		Al	1000 ug/mL
							Fe	1000 ug/mL
							Mo	20 ug/mL
MEICPMS ICV_00850	04/08/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS ICV_00242	250 uL	Cadmium	25 ug/L
							Copper	25 ug/L
							Lead	25 ug/L
.ME ICPMS ICV_00242	04/08/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL_00064	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
..ME ICPMS CAL_00064	08/11/22	CPI International, Lot 1072834-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MEICPMS STD1_00852	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS STD3_00968	2 mL	Cadmium	0.2 ug/L
							Copper	0.2 ug/L
							Lead	0.2 ug/L
.MEICPMS STD3_00968	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS STD4_00846	10 mL	Cadmium	10 ug/L
							Copper	10 ug/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Lead	10 ug/L
..MEICPMS STD4_00846	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS CAL_00069	1 mL	Cadmium	100 ug/L
							Copper	100 ug/L
							Lead	100 ug/L
...ME ICPMS CAL_00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL_00063	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
....ME ICPMS CAL_00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MEICPMS STD2_00729	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS STD3_00968	10 mL	Cadmium	1 ug/L
							Copper	1 ug/L
							Lead	1 ug/L
.MEICPMS STD3_00968	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS STD4_00846	10 mL	Cadmium	10 ug/L
							Copper	10 ug/L
							Lead	10 ug/L
..MEICPMS STD4_00846	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS CAL_00069	1 mL	Cadmium	100 ug/L
							Copper	100 ug/L
							Lead	100 ug/L
...ME ICPMS CAL_00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL_00063	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
....ME ICPMS CAL_00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MEICPMS STD3_00968	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	MEICPMS STD4_00846	10 mL	Cadmium	10 ug/L
							Copper	10 ug/L
							Lead	10 ug/L
.MEICPMS STD4_00846	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS CAL_00069	1 mL	Cadmium	100 ug/L
							Copper	100 ug/L
							Lead	100 ug/L
..ME ICPMS CAL_00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL_00063	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
...ME ICPMS CAL_00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
MEICPMS STD4_00846	08/11/22	01/14/22	1%HNO3/0.5%HCl, Lot N/A	100 mL	ME ICPMS CAL_00069	1 mL	Cadmium	100 ug/L
							Copper	100 ug/L
							Lead	100 ug/L
.ME ICPMS CAL_00069	08/11/22	12/27/21	1% HNO3, Lot 0000244827	100 mL	ME ICPMS CAL_00063	10 mL	Cadmium	10 mg/L
							Copper	10 mg/L
							Lead	10 mg/L
..ME ICPMS CAL_00063	08/11/22	CPI International, Lot 1114917-1			(Purchased Reagent)		Cadmium	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L

Reagent

HG_7471_KMNO4_00002

Certificate of Analysis

Potassium Permanganate

Material: **0277**

Grade: **ACS GRADE**

Batch Number: **20H0456701**

Chemical Formula: KMnO4
Molecular Weight: 158.03
CAS #: 7722-64-7
Appearance:

Dark solid.

Manufacture Date: 02/29/2020
Reassay Date: 02/29/2024

Storage: Room Temperature

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Chloride & Chlorate	<= 0.005 %	<=0.005 %	PASS
Insolubles	<= 0.2 %	0.1 %	PASS
Purity	>= 99.0 %	99.4 %	PASS
Sulfate	<= 0.02 %	<=0.02 %	PASS

Spec Set: 0277ACS

Internal ID #: 647

Signature

We certify that this batch conforms to the specifications listed.

This document has been electronically produced and is valid without a signature.

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.

Reagent

MT-Hg-CS_00005

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Product Description: Mercury

Product Number:	**100033-1-50**
Lot Number:	**2107432-50**
Matrix:	2% HNO3
Density:	1.014 g/mL ± 0.002 g/mL @ 22.0°C ± 0.3°C

Certified Value:

Element	µg/mL	SRM ID
Hg	1000 ± 6	3133

The Certified value is based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Uncertified Values:

Trace Metal Impurity Scan: The data reported are based upon a scan of this specific lot via ICP-OES/ICP-MS analysis. The values are reported in µg/L.

Ag	7	Cu	<0.02	La	<0.02	Pt	<2	Te	<0.02
Al	<0.3	Dy	<0.02	Li	<0.02	Rb	<0.02	Th	<0.02
As	na	Er	<0.02	Lu	<0.02	Re	<0.02	Ti	<0.02
Au	<0.02	Eu	<0.02	Mg	<0.1	Rh	<0.02	Tl	<0.02
B	<1	Fe	<1	Mn	<0.5	Ru	<0.02	Tm	<0.02
Ba	<0.02	Ga	<0.02	Mo	<0.02	Sb	<0.02	U	<0.05
Be	<0.02	Gd	<0.02	Na	<3	Sc	<3	V	<0.05
Bi	<0.02	Ge	<0.02	Nb	<0.02	Se	<0.1	W	<0.02
Ca	<1	Hf	<0.02	Nd	<0.02	Si	<5	Y	<0.02
Cd	<0.02	Hg	M	Ni	<0.6	Sm	<0.02	Yb	<0.02
Ce	<0.02	Ho	<0.02	Os	<2	Sn	<0.5	Zn	<0.02
Co	<0.05	In	<0.02	Pb	<0.05	Sr	<0.02	Zr	<0.02
Cr	<0.05	Ir	<0.02	Pd	<0.02	Ta	<0.02		
Cs	na	K	<1	Pr	<0.02	Tb	<0.02		

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for eighteen months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: May 2021

Expiration Date: November 30, 2022

Certificate Issue Date: April 26, 2021

Moven Mutuvari

Moven Mutuvari, Ph. D, VP Manufacturing

Reagent

MT-Na-SpS_00004

Agilent

Certificate of Analysis
ISO 17034

Product Number: ICP-111
Lot Number: 0006505205

Lot Issue Date: 25-Nov 2019
Expiration Date: 31-Dec 2026

Product Name: Sodium ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO 17034 and under Agilent's ISO 9001 registered quality system. The neat materials used for this product have been verified by Agilent's ISO 17025 laboratory and under Agilent's ISO 17034 accreditation. The analyte concentrations were verified by Agilent's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Calculated Value	Traceability & Method
sodium	sodium nitrate	RM10629	99.999%	10008± 20 µg/mL	NIST SRM 3152a; ICP-OES

Solvent: 2% nitric acid in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 1.0329 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*	Al	<0.005 ND	*	Ga	<0.005 ND	n	Nb		n	S			
*	Sb	<0.005 ND	n	Ge		n	Os		n	Ta			
*	As	<0.005 ND	n	Au		*	Pd	<0.005 ND	n	Te			
*	Ba	<0.005 ND	n	Hf		*	P	<0.005 ND	n	Tb			
*	Be	<0.005 ND	n	Ho		*	Pt	<0.005 ND	*	Tl	<0.005 ND		
*	Bi	<0.005 ND	*	In	<0.005 ND	*	K	<0.005 ND	n	Th			
*	B	<0.005 ND	n	Ir		n	Pr		n	Tm			
*	Cd	<0.005 ND	*	Fe	<0.04 D	n	Re		*	Sn	<0.005 ND		
n	Cs		*	La	<0.005 ND	n	Rh		*	Ti	<0.005 ND		
*	Ca	<0.3 D	*	Pb	<0.005 ND	n	Rb		n	W			
n	Ce		*	Li	<0.005 ND	n	Ru		n	U			
*	Cr	<0.005 ND	n	Lu		n	Sm		*	V	<0.005 ND		
*	Co	<0.005 ND	*	Mg	<0.04 D	n	Sc		n	Yb			
*	Cu	<0.005 ND	*	Mn	<0.005 ND	*	Se	<0.005 ND	n	Y			
n	Dy		*	Hg	<0.005 ND	*	Si	<0.005 ND	*	Zn	<0.005 ND		
*	Er	<0.005 ND	*	Mo	<0.005 ND	*	Ag	<0.005 ND	n	Zr			
*	Eu	<0.005 ND	n	Nd		s	Na						
*	Gd	<0.005 ND	*	Ni	<0.005 ND	*	Sr	<0.005 ND					

* - element checked; i - spectral interference; n – element not checked; D – element detected; ND – element not detected; s - standard element

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED TESTING LABORATORY
ISO 17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Reagent

MT_ICP_Si_SpS_00009

Agilent

Certificate of Analysis
ISO Guide 34

Product Number: ICP-114
Lot Number: 0006468201

Lot Issue Date: 23-May 2019
Expiration Date: 30-Jun 2026

Product Name: Silicon ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under Agilent's ISO 9001 registered quality system. The neat materials used for this product have been verified by Agilent's ISO 17025 laboratory and under Agilent's ISO Guide 34 accreditation. The analyte concentrations were verified by Agilent's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Analyte Concentration	Traceability & Method
silicon	ammonium hexafluorosilicate	RM11386	99.999	10002 ± 20 µg/mL	NIST SRM 3150; ICP-OES

Solvent: 2% nitric acid and trace hydrofluoric acid in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 1.0448 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*	Al	<0.005 D	*	Ga	<0.005 ND	n	Nb		n	S	
*	Sb	<0.005 ND	n	Ge		n	Os		n	Ta	
*	As	<0.005 ND	n	Au		*	Pd	<0.005 ND	n	Te	
*	Ba	<0.005 ND	n	Hf		*	P	<0.005 ND	n	Tb	
*	Be	<0.005 ND	n	Ho		*	Pt	<0.005 ND	*	Tl	<0.005 ND
*	Bi	<0.005 ND	*	In	<0.005 ND	*	K	<0.005 ND	n	Th	
*	B	<0.005 ND	n	Ir		n	Pr		n	Tm	
*	Cd	<0.005 ND	*	Fe	<0.005 ND	n	Re		*	Sn	<0.005 ND
n	Cs		*	La	<0.005 ND	n	Rh		*	Ti	<0.005 D
*	Ca	<0.005 D	*	Pb	<0.005 ND	n	Rb		n	W	
n	Ce		n	Li		n	Ru		n	U	
*	Cr	<0.005 ND	n	Lu		n	Sm		*	V	<0.005 ND
*	Co	<0.005 ND	*	Mg	<0.005 ND	n	Sc		n	Yb	
*	Cu	<0.005 ND	*	Mn	<0.005 ND	*	Se	<0.005 ND	n	Y	
n	Dy		*	Hg	<0.005 ND	s	Si		*	Zn	<0.005 ND
*	Er	<0.005 ND	*	Mo	<0.005 ND	*	Ag	<0.005 ND	n	Zr	
*	Eu	<0.005 ND	n	Nd		*	Na	<0.005 ND			
*	Gd	<0.005 ND	*	Ni	<0.005 ND	*	Sr	<0.005 ND			

* - element checked; I - spectral interference; n – element not checked; D – element detected; ND – element not detected; s - standard element

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

Page 1 of 2

ANAB ACCREDITED TESTING LABORATORY
ISO17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Reagent

MT_MS_INT_A_00005

1517491

ID: M1_MS_INT_A_00005
Exp:04/30/22 Prod:UFLE Opn:04/14/21
Interferents A

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: CL-INT-A1 **Lot No.** CL51-063CRY
Description: Interferents A
Matrix: 5% HNO_3 / tr HF

This **CLARITAS PPT®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations. See side 2 for details of certification.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Certified	Uncertainty	SRM	Analyte	Labeled	Certified	Uncertainty	SRM
Cl^-	21215 µg/mL	21437 µg/mL	±110 µg/mL	3182*	K	1000 µg/mL	1001 µg/mL	±5 µg/mL	3141a*
Ca	3000 µg/mL	3011 µg/mL	±20 µg/mL	3109a*	Mg	1000 µg/mL	999 µg/mL	±5 µg/mL	3131a*
Fe	2500 µg/mL	2512 µg/mL	±10 µg/mL	3126a*	P	1000 µg/mL	998 µg/mL	±5 µg/mL	3139a*
Na	2500 µg/mL	2489 µg/mL	±10 µg/mL	3152a*	S	1000 µg/mL	997 µg/mL	±5 µg/mL	3154*
C	2000 µg/mL	1975 µg/mL	±10 µg/mL	0312A†	Mo	20 µg/mL	20.0 µg/mL	±0.1 µg/mL	3134*
Al	1000 µg/mL	1000 µg/mL	±5 µg/mL	3101a*	Ti	20 µg/mL	19.9 µg/mL	±0.1 µg/mL	3162a*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# CL1-119YJ, CL51-020CR

Trace Metallic Impurities in the Actual Solution via ICP-MS Analysis:

Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L
Ag	2	Cr	10	Hg	<4	Ni	10	Sc	<5	Tl	40
As	<6	Cs	<4	Ho	<0.1	Pb	100	Se	<30	Tm	<0.2
Au	<0.9	Cu	4	In	1	Pd	<1	Si	1000	U	<0.3
B	50	Dy	<0.3	Ir	<0.4	Pr	<0.2	Sm	<0.4	V	2
Ba	20	Er	<0.3	La	2	Pt	10	Sn	<2	W	<2
Be	<0.8	Eu	<0.2	Li	<2	Rb	40	Sr	<50	Y	<1
Bi	0.1	Ga	<2	Lu	<0.2	Re	<0.7	Ta	<0.4	Yb	<0.2
Cd	4	Gd	<0.4	Mn	8	Rh	<0.4	Tb	<0.07	Zn	20
Ce	4	Ge	<10	Nb	<0.4	Ru	<0.9	Te	<6	Zr	6
Co	5	Hf	<0.7	Nd	<0.3	Sb	7	Th	<0.6		

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±0.5% of the certified value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. No measured concentration of any individual component exceeds ±2% of the labeled value. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: APR - - 2021 Certifying Officer: Katherine Cullinan, QC Manager

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WC_TUR_STD_00017

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ProCal

Turbidity Calibration Standards

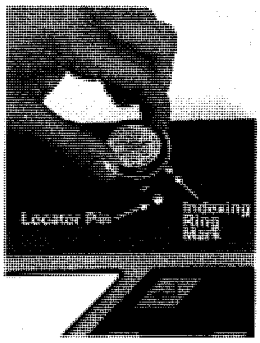
CERTIFICATE OF COMPLIANCE

Calibration Set# **39957** **Kit Lot# 210292**

TEST PERFORMED: An HF laboratory turbidimeter was used to measure the standards listed below. This instrument was calibrated on standards that are traceable to the Stock Primary Standard Formazin Suspension as specified in the 22nd Edition of Standard Methods, Section 2130 B, part 3b and EN-ISO 7027:1999(E) Section 6.2

Value	Variation	Value	Variation	Value	Variation
0.02 NTU	± 0.02 NTU	10.0 NTU	± 1%	1000 NTU	±1%
Lot 210274		Lot 210250		Lot 210221	
Exp. Date: FEB 2023		Exp. Date: FEB 2023		Exp. Date: FEB 2023	

HF scientific *ProCal* turbidity standards are produced with HF Scientific's styrene divinylbenzene co-polymer microspheres approved as Primary Calibration Standards in compliance with USEPA Method 180.1.** Also Certified as Alternative Use Secondary Standards Equivalent to Freshly Prepared Formazin Suspensions Ref EN-ISO 7027: 1999(E)Section 6.2.4 Water Quality - Determination of Turbidity.



**Standard Methods for the Examination of Water and Wastewater, 22nd Edition 2012 Section 2130 Turbidity
**EPA Guidance Manual for Compliance with the Interim Enhanced Surface Treatment Rule: Turbidity Provisions. EPA 815-R-99-010 April 1999 Section 3.4.5 Calibration Standards

The USEPA & HF scientific recommend that cuvettes used for instrument calibration or sample measurement be indexed. Indexing the cuvette will achieve the greatest accuracy, and account for normal scratches and aberrations in cuvette glass when calibrating.
Standards and standard kits purchased from HF scientific are supplied with indexing rings.

The following steps allow repeatable indexing of calibration standards.

THIS PROCEDURE REPLACES PREVIOUS INDEXING INSTRUCTIONS:

1. With the instrument in AUTO or normal reading mode insert the standard.
2. Slowly rotate the standard, inside the optical well, one complete revolution (360°). While rotating the standard slowly, observe the measured turbidity and locate the position of the cuvette having the lowest reading.
3. With the calibration standard positioned at the location having the lowest turbidity reading, install the Indexing Ring over the cap on the standard so that the pointer of the **INDEXING RING FACES DIRECTLY FORWARD, TOWARD THE OPERATOR.**
4. Repeat this procedure for all standards in the kit.

When using the standards in the future, **ALWAYS INSERT THE STANDARD SO THAT THE POINTER OF THE INDEXING RING FACES FORWARD.** Slowly rotate the standard back and forth about 5° to find the lowest point. The standard is now indexed and ready for use. Follow the calibration instructions in the owner's manual that accompanied the instrument.

Note: *ProCal* Standard values above 1000 NTU/FNU should be gently agitated prior to use in order to remix any settled particles. The latest version of owner's manuals may be downloaded from HF scientific's website: www.hfscientific.com.

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ProCal

Turbidity Calibration Standards

CERTIFICATE OF COMPLIANCE

Calibration Set# **39957** **Kit Lot# 210292**

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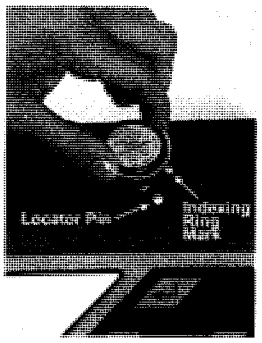
Lot 210274		Lot 210250		Lot 210221	
Exp. Date: FEB 2023		Exp. Date: FEB 2023		Exp. Date: FEB 2023	

HF scientific *ProCal* turbidity standards are produced with HF Scientific's styrene divinylbenzene co-polymer microspheres approved as Primary Calibration Standards in compliance with USEPA Method 180.1.** Also Certified as Alternative Use Secondary Standards Equivalent to Freshly Prepared Formazin Suspensions Ref EN-ISO 7027: 1999(E)Section 6.2.4 Water Quality - Determination of Turbidity.



**Standard Methods for the Examination of Water and Wastewater, 22nd Edition 2012 Section 2130 Turbidity
**EPA Guidance Manual for Compliance with the Interim Enhanced Surface Treatment Rule: Turbidity Provisions. EPA 815-R-99-010 April 1999 Section 3.4.5 Calibration Standards

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ProCal

Turbidity Calibration Standards

CERTIFICATE OF COMPLIANCE

Calibration Set# **39957** **Kit Lot# 210292**

TEST PERFORMED: An HF laboratory turbidimeter was used to measure the standards listed below. This instrument was calibrated on standards that are traceable to the Stock Primary Standard Formazin Suspension as specified in the 22nd Edition of Standard Methods, Section 2130 B, part 3b and EN-ISO 7027:1999(E) Section 6.2

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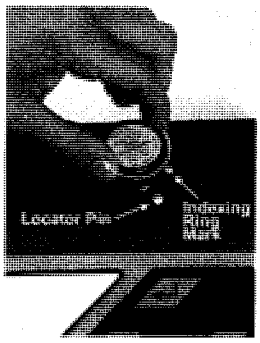
Lot 210274		Lot 210250		Lot 210221	
Exp. Date: FEB 2023		Exp. Date: FEB 2023		Exp. Date: FEB 2023	

HF scientific *ProCal* turbidity standards are produced with HF Scientific's styrene divinylbenzene co-polymer microspheres approved as Primary Calibration Standards in compliance with USEPA Method 180.1.** Also Certified as Alternative Use Secondary Standards Equivalent to Freshly Prepared Formazin Suspensions Ref EN-ISO 7027: 1999(E)Section 6.2.4 Water Quality - Determination of Turbidity.



**Standard Methods for the Examination of Water and Wastewater, 22nd Edition 2012 Section 2130 Turbidity
**EPA Guidance Manual for Compliance with the Interim Enhanced Surface Treatment Rule: Turbidity Provisions. EPA 815-R-99-010 April 1999 Section 3.4.5 Calibration Standards

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Reagent

CECSRBTH 1ST_00005

6805535

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CM-JUL20-IRV1

Custom Standard

Lot #: 10117286-3

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Ce	1000 ± 5 µg/mL	Cs	999.9 ± 5.0 µg/mL	Rb	1000 ± 5 µg/mL

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Ce	1096136	Cs	1136357	Rb	1143624

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized the appropriate high-purity acid(s) as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 15, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br^-	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl^-	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F^-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

CECSRBTH 2ND_00005

6805540

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CM-JUL20-IRV1-SS

Custom Standard

Lot #: 10117286-4

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Ce	1000 ± 5 µg/mL	Cs	1000 ± 5 µg/mL	Rb	999.4 ± 5.0 µg/mL

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Ce	AT18-132CEX	Cs	AS18-156CSY	Rb	2132011

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized the appropriate high-purity acid(s) as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

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The Netherlands

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

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Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br^-	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl^-	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F^-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

ICPMS STD AG_00004

6805554

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Silver (Ag) – 1000 µg/mL

Matrix: 5% HNO_3

Product #: TA-1000511

Product Lot #: 1106123-34

Source Material Lot #: X24E070

Element	Certified Concentration & Uncertainty
Ag	1009 ± 5 µg/mL (w/v)
	1001 ± 4 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #160729**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	MAJOR	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	0.5	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	0.9	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	1	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

September 30, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ICPMS STD AL_00004

6690103

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M11

SE Std Aluminum (Al) – 10,000 µg/mL

Product Lot #: 1077245-28

Matrix: 5% HNO_3

Source Material Lot #: ALZ082018A1

Element	Certified Concentration & Uncertainty
Al	10,010 ± 50 µg/mL (w/v)
	9402 ± 48 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure aluminum nitrate [$Al(NO_3)_3$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a, lot #140903**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tl	<5
Al	MAJOR	Co	<10	Ge	<5	Mg	76	Pd	<5	Si	<1000	Tm	<2
As	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	U	<5
Au	<5	Cr	24	Hg	<5	Mo	<5	Pt	<5	Sn	<5	V	<10
B	<50	Cu	<10	Ho	<2	Na	830	Rb	<5	Sr	120	W	<5
Ba	<10	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Y	<5
Be	<5	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5	Yb	<2
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10	Zn	<20
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Th	<5	Zr	<5
Cd	<5	Ga	265	Li	<20	P	<1000	Sc	<50	Ti	<20		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

July 22, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ICPMS STD FE_00003

669 0102

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M261

SE Std Iron (Fe) – 10,000 µg/mL

Product Lot #: 1034257-61

Matrix: 5% HNO_3

Source Material Lot #: FEZ0120149A1

Element	Certified Concentration & Uncertainty
Fe	10,000 ± 30 µg/mL (w/v)
	9636 ± 28 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure iron nitrate nonahydrate [$Fe(NO_3)_3 9H_2O$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a, lot #140812**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	21	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	31	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	MAJOR	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

July 22, 2021

Certification Date

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM
Ag	3151	-
Al	3101a	-
As	3103a	3103a
Au	3121	-
B	3107	3107
Ba	3104a	-
Be	3105a	3105a
Bi	3106	3106
Br^-	3184	-
Ca	3109a	3109a
Cd	3108	-
Ce	3110	3110
Cl^-	3182	1818a
Co	3113	3113
Cr	3112a	-
Cs	3111a	-
Cu	3114	-
Dy	3115a	-
Er	3116a	-
Eu	3117a	-
F^-	3183	-
Fe	3126a	-
Ga	3119a	-
Gd	3118a	-
Ge	3120a	-

Analyte	Aq. SRM	MO SRM
Hf	3122	-
Hg	3133	3133
Ho	3123a	-
In	3124a	3124a
K	3141a	3141a
La	3127a	3127a
Li	3129a	3129a
Lu	3130a	-
Mg	3131a	3131a
Mn	3132	3132
Mo	3134	3134
Na	3152a	-
Nb	3137	-
Nd	3135a	-
Ni	3136	-
NO_3^-	3185	-
P	3139a	3139a
Pb	3128	-
Pd	3138	-
PO_4^{-3}	3186	-
Pr	3142a	-
Pt	3140	3140
Rb	3145a	-
Re	3143	-
Rh	3144	3144

Analyte	Aq. SRM	MO SRM
S	3154	2770
Sb	3102a	3102a
Sc	3148a	3148a
Se	3149	3149
Si	3150	-
Sm	3147a	-
Sn	3161a	-
SO_4^{-2}	3181	-
Sr	3153a	3153a
Ta	3155	-
Tb	3157a	-
Te	3156	-
Th	-	-
Ti	3162a	3162a
Tl	3158	3158
Tm	3160a	-
U	3164	-
V	3165	-
W	3163	3163
Y	3167a	3167a
Yb	3166a	-
Zn	3168a	3168a
Zr	3169	3169

Reagent

ICPMS STD U_00004

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Uranium (U) – 1000 µg/mL

Matrix: 5% HNO_3

Product #: TA-1000641

Product Lot #: 1062807-9

Source Material Lot #: AP18-81UX

Element	Certified Concentration & Uncertainty
U	997.0 ± 3.0 µg/mL (w/v)
	988.0 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% Uranyl (VI) Nitrate Hexahydrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 10M64-1D, lot# 1733101**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	2	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	3	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	3	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	95
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This RM was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ICPMS STD ZN_00005

CPI INTERNATIONAL

690105

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000681

SE Std Zinc (Zn) – 1000 µg/mL

Lot #: 1095528-11

Matrix: 5% HNO_3

Source Material Lot #: L17Y005/Y28D045

Element	Certified Concentration & Uncertainty
Zn	998 ± 2 µg/mL (w/v)
	989 ± 2 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	3	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	3	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	MAJOR
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

July 22, 2021

Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br^-	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl^-	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F^-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

ME AL 2nd_00003

6445685
ID: ME AL 2nd_00003
Exp:03/08/22 Prpd:KE Opn:12/17/20
1000 ppm ALUMINUM 2nd Sou

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Aluminum (Al) – 10,000 µg/mL

Matrix: 10% HNO_3

Product #: TA-10M11-SS

Product Lot #: 1092831

Source Material Lot #: AP18-72ALX

Element	Certified Concentration & Uncertainty
Al	9978 ± 50 µg/mL (w/v)
	9188 ± 50 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using high purity aluminum (Al) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/mL)

Ag	0.002	Co	<0.001	Ge	<0.001	Mg	0.01	Pd	0.02	Si	0.2	V	<0.001
Al	Major	Cr	0.01	Hf	<0.001	Mn	0.001	Pr	<0.001	Sm	<0.001	W	<0.001
As	<0.001	Cs	<0.001	Hg	0.001	Mo	<0.001	Pt	<0.001	Sn	0.001	Y	<0.001
Au	<0.001	Cu	0.003	Ho	<0.001	Na	0.1	Rb	<0.001	Sr	<0.001	Yb	<0.001
B	0.007	Dy	<0.001	In	<0.001	Nb	<0.001	Re	<0.001	Ta	<0.001	Zn	0.02
Ba	0.003	Er	<0.001	Ir	<0.001	Nd	<0.001	Rh	<0.001	Tb	<0.001		
Bi	<0.001	Eu	<0.001	K	<0.2	Ni	0.004	Ru	<0.001	Te	0.002		
Ca	2	Fe	0.01	La	<0.001	Os	Nd	Sb	<0.001	Ti	<0.001		
Cd	<0.001	Ga	<0.001	Li	0.004	P	<0.3	Sc	<0.001	Tl	<0.001		
Ce	0.001	Gd	<0.001	Lu	<0.001	Pb	<0.001	Se	<0.008	Tm	<0.001		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 8, 2020
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Europe
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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME CA 2nd_00006

6805543

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M91-SS

SE Std Calcium (Ca) – 10,000 µg/mL

Product Lot #: 711512117B-1

Matrix: 4% HNO_3

Source Material Lot #: BB19-08CAX

Element	Certified Concentration & Uncertainty
Ca	10,005 ± 50 µg/mL (w/v)
	9483 ± 50 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using high purity calcium carbonate ($CaCO_3$) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3109a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/mL)

Ag	<0.001	Co	0.003	Ge	<0.001	Mg	0.009	Pd	<0.001	Si	0.6	V	<0.001
Al	0.02	Cr	<0.008	Hf	<0.001	Mn	0.005	Pr	<0.001	Sm	<0.001	W	<0.001
As	<0.004	Cs	0.002	Hg	<0.001	Mo	0.003	Pt	<0.001	Sn	<0.001	Y	<0.001
Au	<0.001	Cu	<0.006	Ho	<0.001	Na	<0.1	Rb	<0.002	Sr	0.07	Yb	0.002
B	<0.04	Dy	<0.001	In	<0.001	Nb	<0.001	Re	<0.001	Ta	<0.001	Zn	0.04
Ba	0.01	Er	<0.001	Ir	<0.001	Nd	<0.001	Rh	<0.001	Tb	<0.001		
Bi	<0.01	Eu	<0.001	K	<1	Ni	<0.006	Ru	<0.001	Te	<0.003		
Ca	Major	Fe	0.04	La	<0.001	Os	Nd	Sb	<0.001	Ti	<0.001		
Cd	<0.001	Ga	<0.001	Li	<0.007	P	<0.4	Sc	0.003	Tl	<0.001		
Ce	0.002	Gd	0.004	Lu	<0.001	Pb	0.006	Se	<0.02	Tm	<0.001		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 3, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

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    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME FE 2nd_00005

6805542

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M261-SS

SE Std Iron (Fe) – 10,000 µg/mL

Product Lot #: 711512117A-1

Matrix: 10% HNO_3

Source Material Lot #: AS18-178FEX

Element	Certified Concentration & Uncertainty
Fe	9992 ± 50 µg/mL (w/v)
	9338 ± 50 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using high purity Iron (Fe) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/mL)

Ag	<0.001	Co	0.04	Ge	<0.03	Mg	<0.003	Pd	0.009	Si	<0.2	V	<0.001
Al	0.007	Cr	0.006	Hf	<0.001	Mn	0.1	Pr	<0.001	Sm	<0.001	W	<0.001
As	<0.01	Cs	<0.001	Hg	<0.002	Mo	0.006	Pt	<0.001	Sn	<0.001	Y	<0.001
Au	<0.006	Cu	0.03	Ho	<0.001	Na	0.02	Rb	<0.001	Sr	<0.001	Yb	<0.001
B	0.01	Dy	<0.001	In	<0.001	Nb	<0.001	Re	<0.001	Ta	<0.001	Zn	0.03
Ba	<0.001	Er	<0.001	Ir	<0.001	Nd	<0.001	Rh	<0.001	Tb	<0.001		
Bi	<0.001	Eu	<0.001	K	0.05	Ni	0.02	Ru	<0.001	Te	<0.001		
Ca	0.08	Fe	Major	La	<0.001	Os	Nd	Sb	0.01	Ti	<0.001		
Cd	<0.001	Ga	<0.002	Li	<0.001	P	<0.3	Sc	<0.002	Tl	<0.002		
Ce	<0.001	Gd	<0.001	Lu	<0.001	Pb	<0.003	Se	<0.04	Tm	<0.001		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 3, 2021
Certification Date

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

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- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME HCl_00819

ThermoFisher SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based on the intended use of the end project. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	**A508**	**Mfg. Date**	06/30/2021
Lot Number	**4121060**	**Sample Id**	N/A
Product Description	Hydrochloric Acid (TRACEMETAL GRADE)		
Chemical Origin	Inorganic		
BSE/TSE Comment:	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Country Origin	Canada

Result Name	Units	Specifications	Test Value
Expiry date	mm/dd/yyyy	3 yrs	06/30/2024
Assay (HCl, w/w)	% by w/w	34 - 37 %	35%
Color	APHA	<= 10	< 7
Aluminum (Al)	ppb	<= 1	< 0.5
Antimony (Sb)	ppb	<= 0.5	< 0.1
Arsenic (As)	ppb	<= 0.5	< 0.1
Barium (Ba)	ppb	<= 0.1	< 0.1
Beryllium (Be)	ppb	<= 0.1	< 0.1
Bismuth (Bi)	ppb	<= 0.1	< 0.1
Boron (B)	ppb	<= 1	< 0.5
Cadmium (Cd)	ppb	<= 0.1	< 0.1
Calcium (Ca)	ppb	<= 1	< 1
Cerium (Ce)	ppb	<= 0.1	< 0.1
Cesium (Cs)	ppb	<= 0.1	< 0.1
Chromium (Cr)	ppb	<= 0.5	< 0.1
Cobalt (Co)	ppb	<= 0.1	< 0.1
Copper (Cu)	ppb	<= 0.5	< 0.2
Dysprosium (Dy)	ppb	<= 0.1	< 0.1
Erbium (Er)	ppb	<= 0.1	< 0.1
Europium (Eu)	ppb	<= 0.1	< 0.1
Gadolinium (Gd)	ppb	<= 0.1	< 0.1
Gallium (Ga)	ppb	<= 0.1	< 0.1
Gold (Au)	ppb	<= 0.5	< 0.1
Hafnium (Hf)	ppb	<= 0.1	< 0.1
Holmium (Ho)	ppb	<= 0.1	< 0.1
Indium (In)	ppb	<= 0.1	< 0.1
Iron (Fe)	ppb	<= 1	< 0.5
Lanthanum (La)	ppb	<= 0.1	< 0.1
Lead (Pb)	ppb	<= 0.1	< 0.1
Lithium (Li)	ppb	<= 0.1	< 0.1

Lutetium (Lu)	ppb	<= 0.1	< 0.1
Magnesium (Mg)	ppb	<= 0.5	< 0.5
Manganese (Mn)	ppb	<= 0.1	< 0.1
Mercury (Hg)	ppb	<= 0.1	< 0.02
Molybdenum (Mo)	ppb	<= 0.1	< 0.1
Neodymium (Nd)	ppb	<= 0.1	< 0.1
Nickel (Ni)	ppb	<= 0.5	< 0.2
Niobium (Nb)	ppb	<= 0.1	< 0.1
Palladium (Pd)	ppb	Information Only	< 0.5
Platinum (Pt)	ppb	Information Only	< 0.5
Potassium (K)	ppb	<= 1	< 0.1
Praseodymium (Pr)	ppb	<= 0.1	< 0.1
Rhenium (Re)	ppb	<= 0.1	< 0.1
Rhodium (Rh)	ppb	<= 0.1	< 0.1
Rubidium (Rb)	ppb	<= 0.1	< 0.1
Ruthenium (Ru)	ppb	<= 0.1	< 0.1
Samarium (Sm)	ppb	<= 0.1	< 0.1
Scandium (Sc)	ppb	<= 0.1	< 0.1
Selenium (Se)	ppb	<= 1	< 0.2
Silver (Ag)	ppb	<= 1	< 0.1
Sodium (Na)	ppb	<= 1	< 0.5
Strontium (Sr)	ppb	<= 0.1	< 0.1
Tantalum (Ta)	ppb	Information Only	< 1
Tellurium (Te)	ppb	<= 0.1	< 0.1
Terbium (Tb)	ppb	<= 0.1	< 0.1
Thallium (Tl)	ppb	<= 0.1	< 0.1
Thorium (Th)	ppb	<= 0.1	< 0.1
Thulium (Tm)	ppb	<= 0.1	< 0.1
Tin (Sn)	ppb	<= 0.5	< 0.1
Titanium (Ti)	ppb	<= 0.5	< 0.1
Tungsten (W)	ppb	<= 0.1	< 0.1
Uranium (U)	ppb	<= 0.1	< 0.1
Vanadium (V)	ppb	<= 0.5	< 0.1
Ytterbium (Yb)	ppb	<= 0.1	< 0.1
Yttrium (Y)	ppb	<= 0.1	< 0.1
Zinc (Zn)	ppb	<= 1	< 0.5
Zirconium (Zr)	ppb	<= 0.1	< 0.1
Bromide (Br^-)	ppm	<= 10	< 10
Free Chlorine (Cl_2)	ppm	<= 0.5	< 0.5
Total Phosphorus (P)	ppm	<= 0.01	< 0.01
Total Sulfur (S)	ppm	<= 0.3	< 0.3

Julian Burton

Julian Burton - Quality Control Manager - Bridgewater

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Reagent

ME HNO3_00724

ThermoFisher
SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
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201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based on the intended use of the end project. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	**A509**	**Mfg. Date**	07/30/2021
Lot Number	**1121070**	**Sample Id**	N/A
Product Description	Nitric Acid (TRACEMETAL GRADE)		
Chemical Origin	Inorganic		
BSE/TSE Comment:	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Country Origin	Canada

Result Name	Units	Specifications	Test Value
Expiry Date	mm/dd/yyyy	2 yrs	07/30/2023
Assay (HNO_3, w/w)	% by w/w	67 - 70%	69%
Color	APHA	<= 10	< 7
Aluminum (Al)	ppb	<= 1	< 0.5
Antimony (Sb)	ppb	<= 0.5	< 0.1
Arsenic (As)	ppb	<= 0.5	< 0.1
Barium (Ba)	ppb	<= 0.1	< 0.1
Beryllium (Be)	ppb	<= 0.1	< 0.1
Bismuth (Bi)	ppb	<= 0.1	< 0.1
Boron (B)	ppb	<= 1	< 0.5
Cadmium (Cd)	ppb	<= 0.5	< 0.1
Calcium (Ca)	ppb	<= 1	< 1
Cerium (Ce)	ppb	<= 0.1	< 0.1
Cesium (Cs)	ppb	<= 0.1	< 0.1
Chromium (Cr)	ppb	<= 1	< 0.5
Cobalt (Co)	ppb	<= 0.5	< 0.1
Copper (Cu)	ppb	<= 0.5	< 0.1
Dysprosium (Dy)	ppb	<= 0.1	< 0.1
Erbium (Er)	ppb	<= 0.1	< 0.1
Europium (Eu)	ppb	<= 0.1	< 0.1
Gadolinium (Gd)	ppb	<= 0.1	< 0.1
Gallium (Ga)	ppb	<= 0.1	< 0.1
Germanium (Ge)	ppb	<= 0.1	< 0.1
Gold (Au)	ppb	<= 0.1	< 0.1
Hafnium (Hf)	ppb	<= 0.1	< 0.1
Holmium (Ho)	ppb	<= 0.1	< 0.1
Indium (In)	ppb	<= 0.1	< 0.1
Iron (Fe)	ppb	<= 1	< 0.5
Lanthanum (La)	ppb	<= 0.1	< 0.1
Lead (Pb)	ppb	<= 0.1	< 0.1

Lithium (Li)	ppb	<= 0.1	< 0.1
Lutetium (Lu)	ppb	<= 0.1	< 0.1
Magnesium (Mg)	ppb	<= 1	< 0.2
Manganese (Mn)	ppb	<= 0.1	< 0.1
Mercury (Hg)	ppb	<= 0.1	< 0.02
Molybdenum (Mo)	ppb	<= 0.1	< 0.1
Neodymium (Nd)	ppb	<= 0.1	< 0.1
Nickel (Ni)	ppb	<= 0.5	< 0.5
Niobium (Nb)	ppb	<= 0.1	< 0.1
Palladium (Pd)	ppb	<= 0.5	< 0.1
Platinum (Pt)	ppb	<= 0.5	< 0.1
Potassium (K)	ppb	<= 1	< 0.1
Praseodymium (Pr)	ppb	<= 0.1	< 0.1
Rhenium (Re)	ppb	<= 0.1	< 0.1
Rhodium (Rh)	ppb	<= 0.5	< 0.1
Rubidium (Rb)	ppb	<= 0.1	< 0.1
Ruthenium (Ru)	ppb	<= 0.5	< 0.1
Samarium (Sm)	ppb	<= 0.1	< 0.1
Scandium (Sc)	ppb	<= 0.1	< 0.1
Selenium (Se)	ppb	<= 1	< 0.2
Silver (Ag)	ppb	<= 0.1	< 0.1
Sodium (Na)	ppb	<= 1	< 0.5
Strontium (Sr)	ppb	<= 0.1	< 0.1
Tantalum (Ta)	ppb	Information Only	< 0.1
Tellurium (Te)	ppb	<= 0.1	< 0.1
Terbium (Tb)	ppb	<= 0.1	< 0.1
Thallium (Tl)	ppb	<= 0.1	< 0.1
Thorium (Th)	ppb	<= 0.1	< 0.1
Thulium (Tm)	ppb	<= 0.1	< 0.1
Tin (Sn)	ppb	<= 0.5	< 0.1
Titanium (Ti)	ppb	<= 0.5	< 0.1
Tungsten (W)	ppb	<= 0.1	< 0.1
Uranium (U)	ppb	<= 0.1	< 0.1
Vanadium (V)	ppb	<= 0.5	< 0.1
Ytterbium (Yb)	ppb	<= 0.1	< 0.1
Yttrium (Y)	ppb	<= 0.1	< 0.1
Zinc (Zn)	ppb	<= 0.5	< 0.5
Zirconium (Zr)	ppb	<= 0.1	< 0.1
Chloride (Cl^-)	ppm	<= 0.2	< 0.2
Total Phosphorus (P)	ppm	<= 0.01	< 0.01
Total Sulfur (S)	ppm	<= 0.3	< 0.3

Julian Burton

Julian Burton - Quality Control Manager - Bridgewater

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Reagent

ME ICPMS CAL_00063

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CAL1

ICP ICPMS CAL Mix # 1

Lot #: 1114917-1

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	100.1 ± 0.5 mg/L	Li	101.2 ± 0.5 mg/L	Si	1000 ± 5 mg/L
Ba	100.2 ± 0.5 mg/L	Mn	100.1 ± 0.5 mg/L	Sn	100.8 ± 0.5 mg/L
Be	100.1 ± 0.5 mg/L	Mo	100.3 ± 0.5 mg/L	Sr	100.1 ± 0.5 mg/L
Cd	100.0 ± 0.5 mg/L	Ni	100.3 ± 0.5 mg/L	Ti	100.1 ± 0.5 mg/L
Co	100.0 ± 0.5 mg/L	Pb	100.4 ± 0.5 mg/L	Tl	100.6 ± 0.5 mg/L
Cr	100.1 ± 0.5 mg/L	Sb	100.1 ± 0.5 mg/L	V	100.3 ± 0.5 mg/L
Cu	100.0 ± 0.5 mg/L	Se	100.1 ± 0.5 mg/L		

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
As	981756	Li	1062674	Si	1004988
Ba	150283R	Mn	985851	Sn	1025087
Be	989234	Mo	175215	Sr	1065634
Cd	983033	Ni	752769	Ti	983035
Co	979870	Pb	1035677	Tl	1011878
Cr	880115	Sb	978317	V	1035777
Cu	1063159	Se	929078		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM
Ag	3151	-
Al	3101a	-
As	3103a	3103a
Au	3121	-
B	3107	3107
Ba	3104a	-
Be	3105a	3105a
Bi	3106	3106
Br	3184	-
Ca	3109a	3109a
Cd	3108	-
Ce	3110	3110
Cl	3182	1818a
Co	3113	3113
Cr	3112a	-
Cs	3111a	-
Cu	3114	-
Dy	3115a	-
Er	3116a	-
Eu	3117a	-
F-	3183	-
Fe	3126a	-
Ga	3119a	-
Gd	3118a	-
Ge	3120a	-

Analyte	Aq. SRM	MO SRM
Hf	3122	-
Hg	3133	3133
Ho	3123a	-
In	3124a	3124a
K	3141a	3141a
La	3127a	3127a
Li	3129a	3129a
Lu	3130a	-
Mg	3131a	3131a
Mn	3132	3132
Mo	3134	3134
Na	3152a	-
Nb	3137	-
Nd	3135a	-
Ni	3136	-
NO_3-	3185	-
P	3139a	3139a
Pb	3128	-
Pd	3138	-
PO_4^{-3}	3186	-
Pr	3142a	-
Pt	3140	3140
Rb	3145a	-
Re	3143	-
Rh	3144	3144

Analyte	Aq. SRM	MO SRM
S	3154	2770
Sb	3102a	3102a
Sc	3148a	3148a
Se	3149	3149
Si	3150	-
Sm	3147a	-
Sn	3161a	-
SO_4^{-2}	3181	-
Sr	3153a	3153a
Ta	3155	-
Tb	3157a	-
Te	3156	-
Th	-	-
Ti	3162a	3162a
Tl	3158	3158
Tm	3160a	-
U	3164	-
V	3165	-
W	3163	3163
Y	3167a	3167a
Yb	3166a	-
Zn	3168a	3168a
Zr	3169	3169

Reagent

ME ICPMS CAL_00064

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CAL1-SS

ICP ICPMS CAL Mix # 1

Lot #: 1072834-1

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	100.0 ± 0.5 mg/L	Li	100.0 ± 0.5 mg/L	Si	1000 ± 5 mg/L
Ba	100.0 ± 0.5 mg/L	Mn	99.99 ± 0.50 mg/L	Sn	100.1 ± 0.5 mg/L
Be	100.0 ± 0.5 mg/L	Mo	100.0 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Cd	100.1 ± 0.5 mg/L	Ni	99.97 ± 0.50 mg/L	Ti	100.0 ± 0.5 mg/L
Co	100.1 ± 0.5 mg/L	Pb	100.0 ± 0.5 mg/L	Tl	100.0 ± 0.5 mg/L
Cr	100.1 ± 0.5 mg/L	Sb	100.1 ± 0.5 mg/L	V	100.0 ± 0.5 mg/L
Cu	100.0 ± 0.5 mg/L	Se	100.0 ± 0.5 mg/L		

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
As	AK17-170ASX	Li	AY18-54LIX	Si	AQ18-71SIX
Ba	AN17-150BAX	Mn	AO18-58MNX	Sn	AH18-50SNX
Be	AP18-28BEX	Mo	1820642	Sr	AO17-188SRX
Cd	AO18-22CDX	Ni	AP17-177NIX	Ti	1913720
Co	AO17-137COX	Pb	AP17-160PBX	Tl	1822147
Cr	AK18-8CRX	Sb	1916107	V	AM18-32VX
Cu	AR18-44CUX	Se	AM18-23SEX		

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM
Ag	3151	-
Al	3101a	-
As	3103a	3103a
Au	3121	-
B	3107	3107
Ba	3104a	-
Be	3105a	3105a
Bi	3106	3106
Br	3184	-
Ca	3109a	3109a
Cd	3108	-
Ce	3110	3110
Cl	3182	1818a
Co	3113	3113
Cr	3112a	-
Cs	3111a	-
Cu	3114	-
Dy	3115a	-
Er	3116a	-
Eu	3117a	-
F-	3183	-
Fe	3126a	-
Ga	3119a	-
Gd	3118a	-
Ge	3120a	-

Analyte	Aq. SRM	MO SRM
Hf	3122	-
Hg	3133	3133
Ho	3123a	-
In	3124a	3124a
K	3141a	3141a
La	3127a	3127a
Li	3129a	3129a
Lu	3130a	-
Mg	3131a	3131a
Mn	3132	3132
Mo	3134	3134
Na	3152a	-
Nb	3137	-
Nd	3135a	-
Ni	3136	-
NO_3^-	3185	-
P	3139a	3139a
Pb	3128	-
Pd	3138	-
PO_4^{-3}	3186	-
Pr	3142a	-
Pt	3140	3140
Rb	3145a	-
Re	3143	-
Rh	3144	3144

Analyte	Aq. SRM	MO SRM
S	3154	2770
Sb	3102a	3102a
Sc	3148a	3148a
Se	3149	3149
Si	3150	-
Sm	3147a	-
Sn	3161a	-
SO_4^{-2}	3181	-
Sr	3153a	3153a
Ta	3155	-
Tb	3157a	-
Te	3156	-
Th	-	-
Ti	3162a	3162a
Tl	3158	3158
Tm	3160a	-
U	3164	-
V	3165	-
W	3163	3163
Y	3167a	3167a
Yb	3166a	-
Zn	3168a	3168a
Zr	3169	3169

Reagent

ME ICPMS LLIC_00032

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-ICPMS-ICSA

ICPMS ICSA Mix

Lot #: 1136841-1

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	1000 ± 5 mg/L	Fe	1000 ± 5 mg/L	Na	1000 ± 5 mg/L
C	2000 ± 10 mg/L	K	1000 ± 5 mg/L	P	1000 ± 5 mg/L
Ca	1000 ± 5 mg/L	Mg	1000 ± 5 mg/L	S	1000 ± 5 mg/L
Cl	9998 ± 50 mg/L	Mo	20.00 ± 0.10 mg/L	Ti	19.99 ± 0.10 mg/L

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Al	1077624	Fe	1114543	Na	1122654
C	P12G045	K	1073557	P	1107349
Ca	1121798	Mg	1013351	S	1051383
Cl	203610	Mo	1120495	Ti	1010581

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Trace Concentrations (µg/L)

Ag	3	Co	3	Ge	2	Lu	<0.2	P	MAJOR	Sb	2	Te	<1
Al	MAJOR	Cs	1	Hf	<0.2	Mg	MAJOR	Pb	2	Sc	<5	Ti	MAJOR
As	<2	Cr	6	Hg	<0.5	Mn	4	Pd	<0.5	Se	<2	Tl	2
Au	<0.5	Cu	5	Ho	<0.2	Mo	MAJOR	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	MAJOR	Pt	<0.5	Sm	<0.2	V	<1
Ba	14	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	9	Sn	3	W	2
Bi	0.7	Eu	<0.2	K	MAJOR	Nd	<0.2	Re	0.5	Sr	26	Y	8
Ca	MAJOR	Fe	MAJOR	La	0.8	Ni	3	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	3	Ga	39	Li	4	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	8
Ce	<0.2	Gd	0.3										

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Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

September 13, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
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- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

Reagent

ME K 2nd_00004

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M411-SS

SE Std Potassium (K) – 10,000 µg/mL

Product Lot #: 711332679A-1

Matrix: 1% HNO_3

Source Material Lot #: 2001639-500

Element	Certified Concentration & Uncertainty
K	10,000 ± 30 µg/mL (w/v)
	9814 ± 30 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using pure a single-element concentrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.1	Co	<0.3	Ge	<0.1	Mn	<0.3	Pt	<0.1	Sn	<3	Y	<0.1
Al	<0.3	Cr	<0.3	Hf	<0.1	Mo	<0.1	Rb	100	Sr	<0.1	Yb	<0.1
As	<0.3	Cs	<0.1	Ho	<0.1	Na	90	Re	<0.1	Ta	<0.1	Zn	<0.1
Au	<0.1	Cu	<0.1	In	<0.1	Nb	<0.1	Rh	<0.1	Tb	<0.1		
B	<5	Dy	<0.1	Ir	<0.1	Nd	<0.1	Ru	<0.1	Te	<0.1		
Ba	<0.1	Er	<0.1	K	Major	Ni	<0.1	Sb	<0.1	Ti	<0.1		
Bi	<0.1	Eu	<0.1	La	<0.1	Os	<0.1	Sc	<0.1	Tl	<0.1		
Ca	<5	Fe	<5	Li	<0.1	Pb	<0.3	Se	<0.5	Tm	<0.1		
Cd	<0.1	Ga	<0.1	Lu	<0.1	Pd	<0.1	Si	<10	V	<0.3		
Ce	<0.1	Gd	<0.1	Mg	<0.5	Pr	<0.1	Sm	<0.1	W	<0.1		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

February 11, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME MG 2nd_00004

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M311-SS

SE Std Magnesium (Mg) – 10,000 µg/mL

Product Lot #: 711384061-1

Matrix: 4% HNO_3

Source Material Lot #: 1934612-500

Element	Certified Concentration & Uncertainty
Mg	10,000 ± 30 µg/mL (w/v)
	9497 ± 30 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using a single-element concentrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3131a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.1	Co	<0.3	Ge	<0.1	Mn	6	Pt	<0.1	Sn	<3	Y	<0.1
Al	<0.3	Cr	<0.3	Hf	<0.1	Mo	<0.1	Rb	<0.1	Sr	<0.1	Yb	<0.1
As	<0.3	Cs	<0.1	Ho	<0.1	Na	<5	Re	<0.1	Ta	<0.1	Zn	<1
Au	<0.1	Cu	<0.1	In	<0.1	Nb	<0.1	Rh	<0.1	Tb	<0.1		
B	<5	Dy	<0.1	Ir	<0.1	Nd	<0.1	Ru	<0.1	Te	<0.1		
Ba	<0.1	Er	<0.1	K	<5	Ni	<0.1	Sb	<0.1	Ti	<0.1		
Bi	<0.1	Eu	<0.1	La	<0.1	Os	<0.1	Sc	<0.1	Tl	<0.1		
Ca	<5	Fe	<10	Li	<0.1	Pb	21	Se	<0.5	Tm	<0.1		
Cd	<0.1	Ga	4	Lu	<0.1	Pd	<0.1	Si	<50	V	<0.3		
Ce	<0.1	Gd	<0.1	Mg	Major	Pr	<0.1	Sm	<0.1	W	<0.1		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

February 11, 2021
Certification Date

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The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME NA 2nd_00003

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M521-SS

SE Std Sodium (Na) – 10,000 µg/mL

Product Lot #: 711320484-1

Matrix: 1% HNO_3

Source Material Lot #: 1921232-500

Element	Certified Concentration & Uncertainty
Na	10,000 ± 30 µg/mL (w/v)
	9709 ± 30 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using pure sodium carbonate (Na_2CO_3) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.1	Co	<0.3	Ge	<0.1	Mn	<0.3	Pt	<0.1	Sn	<3	Y	<0.1
Al	<5	Cr	<0.3	Hf	<0.1	Mo	<0.1	Rb	<0.1	Sr	9	Yb	<0.1
As	<0.3	Cs	<0.1	Ho	<0.1	Na	Major	Re	<0.1	Ta	<0.1	Zn	<10
Au	<0.1	Cu	<2	In	<0.1	Nb	<0.1	Rh	<0.1	Tb	<0.1		
B	36	Dy	<0.1	Ir	<0.1	Nd	<0.1	Ru	<0.1	Te	<0.1		
Ba	19	Er	<0.1	K	<20	Ni	<0.1	Sb	<0.1	Ti	<0.1		
Bi	<0.1	Eu	<0.1	La	<0.1	Os	<0.1	Sc	<0.1	Tl	<0.1		
Ca	<5	Fe	<5	Li	<2	Pb	<0.3	Se	<0.5	Tm	<0.1		
Cd	<0.1	Ga	<0.1	Lu	<0.1	Pd	<0.1	Si	<20	V	<0.3		
Ce	<0.1	Gd	<0.1	Mg	<3	Pr	<0.1	Sm	<0.1	W	<3		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **12 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME SILVER 2nd_00003

6805541

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Silver (Ag) – 1000 µg/mL

Matrix: 2% HNO_3

Product #: TA-1000511-SS

Product Lot #: 711445023-1

Source Material Lot #: 25-57AGX

Element	Certified Concentration & Uncertainty
Ag	1001 ± 5 µg/mL (w/v)
	991.1 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using pure silver nitrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/mL)

Ag	MAJOR	Co	<0.001	Ge	<0.001	Mg	0.001	Pd	0.02	Si	<0.1	V	<0.001
Al	0.005	Cr	<0.001	Hf	<0.001	Mn	<0.001	Pr	<0.001	Sm	<0.001	W	<0.001
As	<0.001	Cs	<0.001	Hg	<0.001	Mo	0.004	Pt	<0.001	Sn	0.002	Y	<0.001
Au	<0.001	Cu	<0.001	Ho	<0.001	Na	0.02	Rb	<0.001	Sr	<0.001	Yb	<0.001
B	0.001	Dy	<0.001	In	<0.001	Nb	<0.001	Re	<0.001	Ta	<0.001	Zn	0.09
Ba	0.001	Er	<0.001	Ir	<0.001	Nd	<0.001	Rh	0.01	Tb	<0.001		
Bi	<0.001	Eu	<0.001	K	0.006	Ni	<0.001	Ru	<0.001	Te	<0.002		
Ca	0.02	Fe	0.004	La	<0.001	Os	nd	Sb	<0.001	Ti	<0.001		
Cd	<0.001	Ga	<0.001	Li	<0.001	P	<0.1	Sc	<0.001	Tl	<0.005		
Ce	<0.001	Gd	<0.001	Lu	<0.001	Pb	<0.001	Se	<0.006	Tm	<0.001		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

November 4, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME U 2nd_00004

6805545

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Uranium (U) – 1000 µg/mL

Matrix: 2% HNO_3

Product #: TA-1000641-SS

Product Lot #: 711412616-2

Source Material Lot #: 1916841-500

Element	Certified Concentration & Uncertainty
U	1000 ± 3 µg/mL (w/v)
	983.3 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or fumace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using a single-element concentrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3164**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.02	Co	<0.05	Ge	<0.02	Mn	4	Pt	<0.02	Sn	<0.5	Y	<0.5
Al	160	Cr	<1	Hf	<0.02	Mo	115	Rb	<0.02	Sr	3	Yb	<0.02
As	8	Cs	<0.02	Ho	<0.02	Na	110	Re	<0.02	Ta	<0.02	Zn	15
Au	<0.02	Cu	11	In	<0.02	Nb	<0.02	Rh	<0.02	Tb	<0.02		
B	<1	Dy	<0.02	Ir	<0.02	Nd	<0.02	Ru	<0.02	Te	29		
Ba	2	Er	<0.02	K	19	Ni	35	Sb	<0.02	Ti	<0.02		
Bi	<0.02	Eu	<0.02	La	<0.02	Os	<0.02	Sc	<1	Tl	<0.02		
Ca	240	Fe	45	Li	<0.02	Pb	15	Se	<0.1	Tm	<0.02		
Cd	<0.7	Ga	<0.02	Lu	<0.02	Pd	<0.02	Si	<5	V	2		
Ce	<0.02	Gd	<0.02	Mg	12	Pr	<0.02	Sm	<0.02	W	<0.02		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 3, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME ZINC 2nd_00005

6805544

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Zinc (Zn) – 1000 µg/mL

Matrix: 2% HNO_3

Product #: TA-1000681-SS

Product Lot #: 711400668-1

Source Material Lot #: 2007052-500

Element	Certified Concentration & Uncertainty
Zn	1000 ± 3 µg/mL (w/v)
	988.1 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using pure zinc (Zn) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.02	Co	<0.05	Ge	<0.02	Mg	<0.5	Pd	<0.02	Si	<5	V	<0.05
Al	<0.5	Cr	<0.05	Hf	<0.02	Mn	<0.05	Pr	<0.02	Sm	<0.02	W	<0.02
As	<0.05	Cs	<0.02	Hg	nd	Mo	<0.02	Pt	<0.02	Sn	<0.5	Y	<0.02
Au	<0.02	Cu	<0.02	Ho	<0.02	Na	<3	Rb	<0.02	Sr	<0.02	Yb	<0.02
B	<1	Dy	<0.02	In	<0.02	Nb	<0.02	Re	<0.02	Ta	<0.02	Zn	Major
Ba	<0.02	Er	<0.02	Ir	<0.02	Nd	<0.02	Rh	<0.02	Tb	<0.02		
Bi	<0.02	Eu	<0.02	K	<1	Ni	<0.2	Ru	<0.02	Te	<0.1		
Ca	<1	Fe	<1	La	<0.02	Os	<0.02	Sb	<0.02	Ti	<0.02		
Cd	<0.5	Ga	<0.02	Li	<0.02	P	nd	Sc	<0.02	Tl	<0.02		
Ce	<0.02	Gd	<0.02	Lu	<0.02	Pb	3	Se	<0.1	Tm	<0.02		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

November 4, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

Further Information: Please contact CPI International for further information about this material.

Quality Certifications: This material was prepared under a quality management system that is registered/accredited to the following:

- ISO 17034 Accredited: Reference Materials Producer, A2LA Certificate No. 2848.02 – General Requirements for the Competence of Reference Material Producers
    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

Reagent

ME_CRI_30_00018

6601214

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-CM-NOV19-IRV1-250

ICPMS Check Standard

Lot #: 10106962-2

Matrix: 2% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Ag	1.001 ± 0.005 µg/mL	Cs	505.0 ± 2.5 µg/L	Sb	1.005 ± 0.005 µg/mL
Al	9.996 ± 0.050 µg/mL	Cu	1.005 ± 0.005 µg/mL	Se	987.0 ± 4.9 µg/L
As	1.006 ± 0.005 µg/mL	Fe	20.00 ± 0.10 µg/mL	Sn	10.00 ± 0.05 µg/mL
B	1.003 ± 0.005 µg/mL	K	100.0 ± 0.5 µg/mL	Sr	1.000 ± 0.005 µg/mL
Ba	1.005 ± 0.005 µg/mL	Mg	99.97 ± 0.50 µg/mL	Th	502.0 ± 2.5 µg/L
Be	497.0 ± 2.5 µg/L	Mn	999.0 ± 5.0 µg/L	Ti	997.0 ± 5.0 µg/L
Ca	500.0 ± 2.5 µg/mL	Mo	1.010 ± 0.005 µg/mL	Tl	995.0 ± 5.0 µg/L
Cd	1.004 ± 0.005 µg/mL	Na	99.97 ± 0.50 µg/mL	U	1.007 ± 0.005 µg/mL
Ce	1.002 ± 0.005 µg/mL	Ni	996.0 ± 5.0 µg/L	V	1.000 ± 0.005 µg/mL
Co	999.0 ± 5.0 µg/L	Pb	999.0 ± 5.0 µg/L	Zr	995.0 ± 5.0 µg/L
Cr	1.005 ± 0.005 µg/mL	Rb	503.0 ± 2.5 µg/L	Zn	9.999 ± 0.050 µg/mL

Source Material Lot # Chart

Element	Source Material Lot #	Element	Source Material Lot #	Element	Source Material Lot #
Ag	1026960	Cs	1084153	Sb	1045232
Al	1063015	Cu	1074805	Se	1063158
As	1034904	Fe	1046975	Sn	977645
B	1024903	K	1053109	Sr	998106
Ba	994634	Mg	1013353	Th	1029141
Be	1072683	Mn	1063019	Ti	987438R
Ca	1072921	Mo	987189	Tl	148983
Cd	1080470	Na	1055526	U	1032239
Ce	1045447	Ni	1049780	V	1055682
Co	1024904	Pb	1046594	Zr	1097984
Cr	1011874	Rb	1009740	Zn	1095528

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see final page)**. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized the appropriate high-purity acid(s) as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see final page)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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The Netherlands

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Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 11, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO 17034 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with internal procedures for the assessment of homogeneity and stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 7, July 24, 2019

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    - ISO 17034 references additional requirements specified in ISO Guide 31 and ISO Guide 35
- ISO/IEC 17025 Accredited: Chemical Testing, A2LA Certificate No. 2848.01 – General Requirements for the Competence of Testing and Calibration Laboratories
- ISO 9001 Certified: Quality Management Systems, Certificate Registration No. 56 100 19560101 – Requirements *(Registrar: TUV NORD)*

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM	Analyte	Aq. SRM	MO SRM
Ag	3151	-	Hf	3122	-	S	3154	2770
Al	3101a	-	Hg	3133	3133	Sb	3102a	3102a
As	3103a	3103a	Ho	3123a	-	Sc	3148a	3148a
Au	3121	-	In	3124a	3124a	Se	3149	3149
B	3107	3107	K	3141a	3141a	Si	3150	-
Ba	3104a	-	La	3127a	3127a	Sm	3147a	-
Be	3105a	3105a	Li	3129a	3129a	Sn	3161a	-
Bi	3106	3106	Lu	3130a	-	SO_4^{-2}	3181	-
Br	3184	-	Mg	3131a	3131a	Sr	3153a	3153a
Ca	3109a	3109a	Mn	3132	3132	Ta	3155	-
Cd	3108	-	Mo	3134	3134	Tb	3157a	-
Ce	3110	3110	Na	3152a	-	Te	3156	-
Cl	3182	1818a	Nb	3137	-	Th	-	-
Co	3113	3113	Nd	3135a	-	Ti	3162a	3162a
Cr	3112a	-	Ni	3136	-	Tl	3158	3158
Cs	3111a	-	NO_3^-	3185	-	Tm	3160a	-
Cu	3114	-	P	3139a	3139a	U	3164	-
Dy	3115a	-	Pb	3128	-	V	3165	-
Er	3116a	-	Pd	3138	-	W	3163	3163
Eu	3117a	-	PO_4^{-3}	3186	-	Y	3167a	3167a
F-	3183	-	Pr	3142a	-	Yb	3166a	-
Fe	3126a	-	Pt	3140	3140	Zn	3168a	3168a
Ga	3119a	-	Rb	3145a	-	Zr	3169	3169
Gd	3118a	-	Re	3143	-			
Ge	3120a	-	Rh	3144	3144			

METALS

COVER PAGE
METALS

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0006S013	570-80421-1
EVBMP0007S013	570-80421-2
EVBMP0008S016	570-80421-3
EVBMP0009S014	570-80421-4

Comments:

COVER PAGE
METALS

Lab Name: Eurofins Calscience Tustin Job Number: 570-80421-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0006S013	570-80421-1
EVBMP0007S013	570-80421-2
EVBMP0008S016	570-80421-3
EVBMP0009S014	570-80421-4

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: A2BMP0006S013 Lab Sample ID: 570-80421-1

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 07:45

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: A2BMP0006S013 Lab Sample ID: 570-80421-1

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 07:45

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	3.67	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	0.214	1.00	0.190	ug/L	J	H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L		H	1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EVBMP0007S013 Lab Sample ID: 570-80421-2

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:30

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: EVBMP0007S013 Lab Sample ID: 570-80421-2

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:30

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	4.91	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	0.471	1.00	0.190	ug/L	J	H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L		H	1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EVBMP0008S016 Lab Sample ID: 570-80421-3

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:15

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: EVBMP0008S016 Lab Sample ID: 570-80421-3

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:15

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	2.29	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	ND	1.00	0.190	ug/L		H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L		H	1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EVBMP0009S014 Lab Sample ID: 570-80421-4

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:50

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L			1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: EVBMP0009S014 Lab Sample ID: 570-80421-4

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:50

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.980	ug/L		H	1	200.8
7440-50-8	Copper	28.8	1.00	0.610	ug/L		H	1	200.8
7439-92-1	Lead	ND	1.00	0.190	ug/L		H	1	200.8
7439-97-6	Mercury	ND	0.000248	0.000124	mg/L		H	1	245.1

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: A2BMP0006S013 Lab Sample ID: 570-80421-1

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 07:45

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.250	ug/L			1	200.8
7440-50-8	Copper	3.32	2.00	0.500	ug/L		B	1	200.8
7439-92-1	Lead	2.13	1.00	0.500	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: EVBMP0007S013 Lab Sample ID: 570-80421-2

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:30

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.250	ug/L			1	200.8
7440-50-8	Copper	23.6	2.00	0.500	ug/L		B	1	200.8
7439-92-1	Lead	5.01	1.00	0.500	ug/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: EVBMP0008S016 Lab Sample ID: 570-80421-3

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:15

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.250	ug/L			1	200.8
7440-50-8	Copper	2.60	2.00	0.500	ug/L		B	1	200.8
7439-92-1	Lead	0.663	1.00	0.500	ug/L	J		1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: EVBMP0009S014 Lab Sample ID: 570-80421-4

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:50

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	ND	1.00	0.250	ug/L			1	200.8
7440-50-8	Copper	3.71	2.00	0.500	ug/L		B	1	200.8
7439-92-1	Lead	0.581	1.00	0.500	ug/L	J		1	200.8

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

ICV Source: MT_MS_ICV1_00007 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00011

Analyte	ICV 570-205113/3 01/03/2022 09:19				CCV 570-205113/27 01/03/2022 10:44				CCV 570-205113/40 01/03/2022 11:51			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	103.4		100	103	102.4		100	102	100.7		100	101
Copper	105.1		100	105	104.8		100	105	108.2		100	108
Lead	97.61		100	98	97.21		100	97	96.42		100	96

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

ICV Source: MT_MS_ICV1_00007 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00011

Analyte	CCV 570-205113/57 01/03/2022 13:04				CCV 570-205113/69 01/03/2022 13:45				CCV 570-205113/72 01/03/2022 13:58			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	103.0		100	103	103.8		100	104	104.6		100	105
Copper	103.9		100	104	103.8		100	104	102.7		100	103
Lead	96.67		100	97	100.7		100	101	96.84		100	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

ICV Source: MT_MS_LL_00011 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00011

Analyte	ICVL 570-205113/11 01/03/2022 09:48				CCV 570-205113/27 01/03/2022 10:44				CCV 570-205113/40 01/03/2022 11:51			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	0.9810	J	1.00	98	102.4		100	102	100.7		100	101
Copper	0.9961	J	1.00	100	104.8		100	105	108.2		100	108
Lead	0.9645	J	1.00	96	97.21		100	97	96.42		100	96

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

ICV Source: MT_MS_LL_00011 Concentration Units: ug/L

CCV Source: MT_MS_CCV_00011

Analyte	CCV 570-205113/57 01/03/2022 13:04				CCV 570-205113/69 01/03/2022 13:45				CCV 570-205113/72 01/03/2022 13:58			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	103.0		100	103	103.8		100	104	104.6		100	105
Copper	103.9		100	104	103.8		100	104	102.7		100	103
Lead	96.67		100	97	100.7		100	101	96.84		100	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

ICV Source: HG_1ppm ICV_00036 Concentration Units: ug/L

CCV Source: HG_1ppm STD_00041

Analyte	ICV 570-205327/7-A 01/04/2022 11:33				CCV 570-205327/9-A 01/04/2022 11:38				CCV 570-205327/9-A 01/04/2022 12:07			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	9.961		10.0	100	4.004		4.00	100	3.986		4.00	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

ICV Source: HG_1ppm ICV_00036 Concentration Units: ug/L

CCV Source: HG_1ppm STD_00041

Analyte	CCV 570-205327/9-A 01/04/2022 12:22											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	3.872		4.00	97								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

ICV Source: HG_1ppm ICV_00036 Concentration Units: ug/L

CCV Source: HG_1ppm STD_00041

Analyte	ICV 570-207215/7-A 01/13/2022 14:00				CCV 570-207215/9-A 01/13/2022 14:11				CCV 570-207215/9-A 01/13/2022 15:08			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	9.847		10.0	98	4.033		4.00	101	3.615		4.00	90

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

ICV Source: HG_1ppm ICV_00036 Concentration Units: ug/L

CCV Source: HG_1ppm STD_00041

Analyte	ICV 570-207441/7-A 01/14/2022 12:56				CCV 570-207441/9-A 01/14/2022 13:01				CCV 570-207441/9-A 01/14/2022 13:27			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	10.42		10.0	104	4.006		4.00	100	3.712		4.00	93

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

ICV Source: MEICPMS ICV_00850 Concentration Units: ug/L

CCV Source: MEICPMS CCV_00841

Analyte	ICV 440-664495/8 01/14/2022 09:18				CCV 440-664495/49 01/14/2022 12:58				CCV 440-664495/61 01/14/2022 13:23			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	25.31		25.0	101	50.43		50.0	101	49.98		50.0	100
Copper	25.64		25.0	103	50.55		50.0	101	50.08		50.0	100
Lead	25.94		25.0	104	50.54		50.0	101	50.66		50.0	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

ICV Source: MEICPMS ICV_00850 Concentration Units: ug/L

CCV Source: MEICPMS CCV_00841

Analyte	CCV 440-664495/72 01/14/2022 13:46											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Cadmium	52.08		50.0	104								
Copper	50.73		50.0	101								
Lead	51.43		50.0	103								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Method: 245.1 Instrument ID: HG7

Lab Sample ID: CRA 570-205327/11-A Concentration Units: ug/L

CRQL Check Standard Source: HG_1ppm STD_00041

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.2087	J	104	65-135

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Method: 245.1 Instrument ID: HG9

Lab Sample ID: CRA 570-207215/11-A Concentration Units: ug/L

CRQL Check Standard Source: HG_1ppm STD_00041

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.1623	J	81	65-135

Lab Sample ID: CRA 570-207441/11-A Concentration Units: ug/L

CRQL Check Standard Source: HG_1ppm STD_00041

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.2126	J	106	65-135

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Method: 200.8 Instrument ID: ICPMS6

Lab Sample ID: CRI 440-664495/10 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS CRI1_00845

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Cadmium	1.00	1.071		107	50-150
Copper	1.00	1.140	J	114	50-150
Lead	1.00	1.062		106	50-150

Lab Sample ID: CRI 440-664495/11 Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS CRI2_00848

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Cadmium	2.00	2.123		106	50-150
Copper	2.00	2.285		114	50-150
Lead	2.00	2.191		110	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 570-205113/5 01/03/2022 09:26		CCB 570-205113/29 01/03/2022 10:50		CCB 570-205113/41 01/03/2022 11:54		CCB 570-205113/58 01/03/2022 13:10	
		Found	C	Found	C	Found	C	Found	C
Cadmium	1.00	ND		ND		ND		ND	
Copper	1.00	ND		ND		ND		ND	
Lead	1.00	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 570-205113/70 01/03/2022 13:52		CCB 570-205113/73 01/03/2022 14:04					
		Found	C	Found	C	Found	C	Found	C
Cadmium	1.00	ND		ND					
Copper	1.00	ND		ND					
Lead	1.00	ND		ND					

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 570-205327/8-A 01/04/2022 11:34		CCB 570-205327/10-A 01/04/2022 11:40		CCB 570-205327/10-A 01/04/2022 12:09		CCB 570-205327/10-A 01/04/2022 12:24	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.248	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 570-207215/8-A 01/13/2022 14:01		CCB 570-207215/10-A 01/13/2022 14:13		CCB 570-207215/10-A 01/13/2022 15:10			
		Found	C	Found	C	Found	C	Found	C
Mercury	0.248	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 570-207441/8-A 01/14/2022 12:58		CCB 570-207441/10-A 01/14/2022 13:03		CCB 570-207441/10-A 01/14/2022 13:29			
		Found	C	Found	C	Found	C	Found	C
Mercury	0.248	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 440-664495/9 01/14/2022 09:21		CCB 440-664495/50 01/14/2022 13:00		CCB 440-664495/62 01/14/2022 13:25		CCB 440-664495/73 01/14/2022 13:48	
		Found	C	Found	C	Found	C	Found	C
Cadmium	1.00	ND		ND		ND		ND	
Copper	2.00	ND		ND		ND		ND	
Lead	1.00	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 570-204924/1-A

Instrument Code: ICPMS05 Batch No.: 205113

CAS No.	Analyte	Concentration	C	Q	Method
7440-43-9	Cadmium	ND			200.8
7440-50-8	Copper	ND			200.8
7439-92-1	Lead	ND			200.8

3-IN
METHOD BLANK
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 570-204925/1-B

Instrument Code: HG7 Batch No.: 205387

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			245.1

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 570-207222/1-A

Instrument Code: HG9 Batch No.: 207348

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			245.1

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 440-664464/1-A

Instrument Code: ICPMS6 Batch No.: 664495

CAS No.	Analyte	Concentration	C	Q	Method
7440-43-9	Cadmium	ND			200.8
7440-50-8	Copper	0.8500	J		200.8
7439-92-1	Lead	ND			200.8

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Lab Sample ID: ICSA 570-205113/8 Instrument ID: ICPMS05

Lab File ID: 220103e1_ical.rep ICS Source: MT_MS_ICS_A_00006

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Cadmium		**-0.0445**	
Copper		**0.486**	
Lead		**0.0579**	
Aluminum	*10000*	*10077*	*101*
Antimony		*0.0776*	
Arsenic		*0.0971*	
Barium		*0.216*	
Beryllium		*-0.0011*	
Boron		*2.48*	
Calcium	*30000*	*28283*	*94*
Chromium		*0.186*	
Cobalt		*0.0154*	
Iron	*25000*	*23956*	*96*
Magnesium	*10000*	*9984*	*100*
Manganese		*0.308*	
Molybdenum	*200*	*208*	*104*
Nickel		*0.187*	
Potassium	*10000*	*10106*	*101*
Selenium		*-0.0777*	
Silver		*0.0305*	
Sodium	*25000*	*25605*	*102*
Strontium		*0.423*	
Thallium		*0.0157*	
Tin		*0.0179*	
Titanium	*200*	*204*	*102*
Vanadium		*0.0101*	
Zinc		*0.678*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Lab Sample ID: ICSAB 570-205113/9 Instrument ID: ICPMS05

Lab File ID: 220103e1_ical.rep ICS Source: MT_MS_ICS_AB_00008

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Cadmium	**10.0**	**10.1**	**101**
Copper	**20.0**	**19.5**	**97**
Lead		**0.0343**	
Aluminum	*10000*	*10228*	*102*
Antimony		*0.0640*	
Arsenic	*10.0*	*10.6*	*106*
Barium		*0.188*	
Beryllium		*-0.0013*	
Boron		*2.48*	
Calcium	*30000*	*29322*	*98*
Chromium	*20.0*	*19.3*	*97*
Cobalt	*20.0*	*19.8*	*99*
Iron	*25000*	*24642*	*99*
Magnesium	*10000*	*10064*	*101*
Manganese	*20.0*	*19.8*	*99*
Molybdenum	*200*	*210*	*105*
Nickel	*20.0*	*20.2*	*101*
Potassium	*10000*	*10159*	*102*
Selenium	*10.0*	*9.90*	*99*
Silver	*5.00*	*4.71*	*94*
Sodium	*25000*	*25574*	*102*
Strontium		*0.416*	
Thallium		*0.0010*	
Tin		*-0.105*	
Titanium	*200*	*208*	*104*
Vanadium	*20.0*	*20.4*	*102*
Zinc	*10.0*	*10.3*	*103*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Lab Sample ID: ICSA 440-664495/12 Instrument ID: ICPMS6

Lab File ID: 012ICSA.d ICS Source: MEICPMS ICSA_00919

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Cadmium		**0.174**	
Copper		**0.237**	
Lead		**0.197**	
Aluminum	*100000*	*97282*	*97*
Antimony		*0.0710*	
Arsenic		*0.0420*	
Barium		*1.80*	
Beryllium		*-0.0300*	
Cerium		*0.0300*	
Cesium		*0.0240*	
Chromium		*0.702*	
Cobalt		*0.315*	
Iron	*100000*	*99325*	*99*
Manganese		*0.326*	
Molybdenum	*2000*	*2153*	*108*
Nickel		*0.374*	
Rubidium		*0.951*	
Selenium		*0.0500*	
Silver		*0.395*	
Thallium		*0.0020*	
Tin		*0.373*	
Total Heavy Metals		*0.702*	
Uranium		*0.0210*	
Vanadium		*0.0080*	
Zinc		*1.01*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Lab Sample ID: ICSAB 440-664495/13 Instrument ID: ICPMS6

Lab File ID: 013ICSB.d ICS Source: MEICPMS ICSAB_00845

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Cadmium	**20.0**	**20.7**	**103**
Copper	**20.0**	**19.9**	**99**
Lead	**20.0**	**20.1**	**101**
Aluminum	*100000*	*99738*	*100*
Antimony	*20.0*	*22.7*	*113*
Arsenic	*20.0*	*21.0*	*105*
Barium	*20.0*	*23.7*	*119*
Beryllium	*20.0*	*20.3*	*102*
Cerium	*20.0*	*22.0*	*110*
Cesium	*20.0*	*21.5*	*108*
Chromium	*20.0*	*21.3*	*106*
Cobalt	*20.0*	*20.4*	*102*
Iron	*100000*	*101665*	*101*
Manganese	*20.0*	*21.0*	*105*
Molybdenum	*2020*	*2191*	*108*
Nickel	*20.0*	*19.8*	*99*
Rubidium	*20.0*	*22.5*	*112*
Selenium	*20.0*	*20.4*	*102*
Silver	*20.0*	*21.0*	*105*
Thallium	*20.0*	*19.7*	*98*
Tin	*20.0*	*22.7*	*113*
Total Heavy Metals	*120*	*123*	*102*
Uranium	*20.0*	*21.0*	*105*
Vanadium	*20.0*	*21.1*	*106*
Zinc	*20.0*	*20.7*	*104*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: A2BMP0006S013 MS
Lab ID: 570-80421-1 MS
Lab Name: Eurofins Calscience
Job No.: 570-80421-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Cadmium	101.6		ND		100	102	80-120		200.8
Copper	111.3		3.67		100	108	80-120		200.8
Lead	90.89		0.214	J	100	91	80-120		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: EVBMP0007S013 MS
Lab ID: 570-80421-2 MS
Lab Name: Eurofins Calscience
Job No.: 570-80421-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	0.009979		ND		0.0100	100	70-130		245.1

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: _____ Lab ID: 570-80119-A-1-C MS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.: _____

Matrix: Water Concentration Units: mg/L

% Solids: _____

Analyte	SSR C		Sample Result (SR) C		Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	0.009575		ND		0.0100	96	70-130		245.1

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: A2BMP0006S013 MSD | Lab ID: 570-80421-1 MSD

Lab Name: Eurofins Calscience | Job No.: 570-80421-1

SDG No.:

Matrix: Water | Concentration Units: ug/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Cadmium	106.5		100	106	80-120	5	20		200.8
Copper	115.7		100	112	80-120	4	20		200.8
Lead	95.80		100	96	80-120	5	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: EVBMP0007S013 MSD
Lab ID: 570-80421-2 MSD
Lab Name: Eurofins Calscience
Job No.: 570-80421-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.009631		0.0100	96	70-130	4	10		245.1

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: _____ Lab ID: 570-80119-A-1-D MSD

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.: _____

Matrix: Water Concentration Units: mg/L

% Solids: _____

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.009712		0.0100	97	70-130	1	10		245.1

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 570-80802-B-1-B MS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Cadmium	86.04		ND		80.0	108	70-130		200.8
Copper	87.32		3.74		80.0	104	70-130		200.8
Lead	96.75		9.10		80.0	110	70-130		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 570-80802-B-1-C MSD

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Cadmium	78.32		80.0	98	70-130	9	20		200.8
Copper	79.09		80.0	94	70-130	10	20		200.8
Lead	88.62		80.0	99	70-130	9	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS - DISSOLVED

Lab ID: LCS 570-204924/2-A

Lab Name: Eurofins Calscience Job No.: 570-80421-1

Sample Matrix: Water LCS Source: MT_ICP_Spike1_00012

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Cadmium	100	107.6		108	80	120		200.8
Copper	100	101.1		101	80	120		200.8
Lead	100	96.69		97	80	120		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS - DISSOLVED

Lab ID: LCSD 570-204924/3-A

Lab Name: Eurofins Calscience Job No.: 570-80421-1

Sample Matrix: Water LCS Source: MT_ICP_Spike1_00012

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Cadmium	106.5		100	107	80-120	1	20		200.8
Copper	101.2		100	101	80-120	0	20		200.8
Lead	98.08		100	98	80-120	1	20		200.8

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS - DISSOLVED

Lab ID: LCS 570-204925/2-B

Lab Name: Eurofins Calscience Job No.: 570-80421-1

Sample Matrix: Water LCS Source: HG_1ppm STD_00040

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.0100	0.009505		95	85	115		245.1

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS - DISSOLVED

Lab ID: LCSD 570-204925/3-B

Lab Name: Eurofins Calscience Job No.: 570-80421-1

Sample Matrix: Water LCS Source: HG_1ppm STD_00040

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.009420		0.0100	94	85-115	1	10		245.1

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 570-207222/2-A

Lab Name: Eurofins Calscience Job No.: 570-80421-1

Sample Matrix: Water LCS Source: HG_1ppm STD_00041

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.0100	0.009461		95	85	115		245.1

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS

Lab ID: LCSD 570-207222/3-A

Lab Name: Eurofins Calscience Job No.: 570-80421-1

Sample Matrix: Water LCS Source: HG_1ppm STD_00041

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.009288		0.0100	93	85-115	2	10		245.1

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 440-664464/2-A

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

Sample Matrix: Water LCS Source: ME ICPMS ICV_00242

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Cadmium	80.0	82.69		103	85	115		200.8
Copper	80.0	81.56		102	85	115		200.8
Lead	80.0	84.13		105	85	115		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: ICPMS05

Method: 200.8 MDL Date: 02/19/2021 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Cadmium	111	0.001	0.00098
Copper	65	0.001	0.00061
Lead	207	0.001	0.00019

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: ICPMS05

Method: 200.8 XMDL Date: 02/19/2021 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Cadmium	111	1	0.9785
Copper	65	1	0.6066
Lead	207	1	0.1929

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: HG9

Method: 245.1 MDL Date: 05/26/2020 11:11

Prep Method: 245.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Mercury		0.000248	0.000124

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: HG9

Method: 245.1 XMDL Date: 05/26/2020 11:12

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.124	0.062

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: HG7

Method: 245.1 MDL Date: 05/26/2020 11:11

Prep Method: 245.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Mercury		0.000248	0.000124

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: HG7

Method: 245.1 XMDL Date: 05/26/2020 11:12

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.124	0.062

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins Calscience Tustin Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: ICPMS6

Method: 200.8 MDL Date: 05/13/2019 10:08

Prep Method: 200.2

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Cadmium	114	1	0.25
Copper		2	0.5
Lead	208	1	0.5

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins Calscience Tustin Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: ICPMS6

Method: 200.8 XMDL Date: 05/13/2019 10:08

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Cadmium	114	1	0.25
Copper		2	0.5
Lead	208	1	0.5

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Calscience Job No: 570-80421-1

SDG No.:

Instrument ID: ICPMS05 Date: 09/01/2021 00:00

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Cadmium		900	200.8
Copper		900	200.8
Lead		1500	200.8

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Calscience Job No: 570-80421-1

SDG No.:

Instrument ID: HG7 Date: 04/17/2017 05:54

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Mercury		10	245.1

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Calscience Tustin Job No: 570-80421-1

SDG No.:

Instrument ID: ICPMS6 Date: 09/19/2021 00:00

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Cadmium		4500	200.8
Copper		1800	200.8
Lead		4500	200.8

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Prep Method: 245.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 570-204925/1-B	12/31/2021 08:30	204929		50	100
LCS 570-204925/2-B	12/31/2021 08:30	204929		50	100
LCSD 570-204925/3-B	12/31/2021 08:30	204929		50	100
570-80421-1	12/31/2021 08:30	204929		50	100
570-80421-2	12/31/2021 08:30	204929		50	100
570-80421-2 MS	12/31/2021 08:30	204929		50	100
570-80421-2 MSD	12/31/2021 08:30	204929		50	100
570-80421-3	12/31/2021 08:30	204929		50	100
570-80421-4	12/31/2021 08:30	204929		50	100

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Prep Method: 245.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 570-207222/1-A	01/13/2022 09:48	207222		50	100
LCS 570-207222/2-A	01/13/2022 09:48	207222		50	100
LCSD 570-207222/3-A	01/13/2022 09:48	207222		50	100
570-80119-A-1-C MS	01/13/2022 09:48	207222		50	100
570-80119-A-1-D MSD	01/13/2022 09:48	207222		50	100
570-80421-1	01/13/2022 09:48	207222		50	100
570-80421-2	01/13/2022 09:48	207222		50	100
570-80421-3	01/13/2022 09:48	207222		50	100
570-80421-4	01/13/2022 09:48	207222		50	100

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Prep Method: 200.2

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 440-664464/1-A	01/14/2022 06:33	664464		25	25
LCS 440-664464/2-A	01/14/2022 06:33	664464		25	25
570-80802-B-1-B MS	01/14/2022 06:33	664464		25	25
570-80802-B-1-C MSD	01/14/2022 06:33	664464		25	25
570-80421-1	01/14/2022 06:33	664464		25	25
570-80421-2	01/14/2022 06:33	664464		25	25
570-80421-3	01/14/2022 06:33	664464		25	25
570-80421-4	01/14/2022 06:33	664464		25	25

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/03/2022 09:13 End Date: 01/03/2022 22:54

Lab Sample Id	D/F	Type	Time	Analytes																									
				Cd	Cu	Pb																							
ICIS 570-205113/1	1		09:13	X	X	X																							
IC 570-205113/2	1		09:16	X	X	X																							
ICV 570-205113/3	1		09:19	X	X	X																							
ICV 570-205113/4	1		09:22	X	X	X																							
ICB 570-205113/5	1		09:26	X	X	X																							
CCV 570-205113/6			09:29																										
CCB 570-205113/7			09:32																										
ICSA 570-205113/8	1		09:35	X	X	X																							
ICSAB 570-205113/9	1		09:38	X	X	X																							
CCB 570-205113/10			09:45																										
ICVL 570-205113/11	1		09:48	X	X	X																							
ZZZZZZ			09:51																										
ZZZZZZ			09:54																										
CCV 570-205113/14			09:57																										
CCB 570-205113/15			10:01																										
ZZZZZZ			10:09																										
ZZZZZZ			10:12																										
ZZZZZZ			10:15																										
ZZZZZZ			10:18																										
ZZZZZZ			10:21																										
ZZZZZZ			10:25																										
ZZZZZZ			10:28																										
ZZZZZZ			10:31																										
ZZZZZZ			10:34																										
ZZZZZZ			10:37																										
ZZZZZZ			10:40																										
CCV 570-205113/27	1		10:44	X	X	X																							
CCB 570-205113/28			10:47																										
CCB 570-205113/29	1		10:50	X	X	X																							
ZZZZZZ			11:19																										
MB 570-204924/1-A	1	D	11:22	X	X	X																							
ZZZZZZ			11:25																										
ZZZZZZ			11:29																										
570-80421-1	1	D	11:32	X	X	X																							
570-80421-1 MS	1	D	11:35	X	X	X																							
570-80421-1 MSD	1	D	11:38	X	X	X																							
570-80421-2	1	D	11:41	X	X	X																							
570-80421-3	1	D	11:44	X	X	X																							
570-80421-4	1	D	11:48	X	X	X																							
CCV 570-205113/40	1		11:51	X	X	X																							
CCB 570-205113/41	1		11:54	X	X	X																							
ZZZZZZ			11:59																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/03/2022 09:13 End Date: 01/03/2022 22:54

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
CCB 570-205113/43			12:02																											
ICIS 570-205113/44			12:20	X	X	X																								
IC 570-205113/45	1		12:23	X	X	X																								
CCV 570-205113/46			12:26																											
CCB 570-205113/47			12:32																											
ZZZZZZ			12:36																											
ZZZZZZ			12:39																											
ZZZZZZ			12:42																											
ZZZZZZ			12:45																											
ZZZZZZ			12:48																											
ZZZZZZ			12:51																											
ZZZZZZ			12:55																											
ZZZZZZ			12:58																											
ZZZZZZ			13:01																											
CCV 570-205113/57	1		13:04	X	X	X																								
CCB 570-205113/58	1		13:10	X	X	X																								
ZZZZZZ			13:14																											
ZZZZZZ			13:17																											
ZZZZZZ			13:20																											
ZZZZZZ			13:23																											
ZZZZZZ			13:26																											
ZZZZZZ			13:29																											
ZZZZZZ			13:33																											
ZZZZZZ			13:36																											
ZZZZZZ			13:39																											
LCS 570-204924/2-A	1	D	13:42	X	X	X																								
CCV 570-205113/69	1		13:45	X	X	X																								
CCB 570-205113/70	1		13:52	X	X	X																								
LCSD 570-204924/3-A	1	D	13:55	X	X	X																								
CCV 570-205113/72	1		13:58	X	X	X																								
CCB 570-205113/73	1		14:04	X	X	X																								
ZZZZZZ			14:13																											
ZZZZZZ			14:16																											
ZZZZZZ			14:19																											
ZZZZZZ			14:23																											
ZZZZZZ			14:26																											
ZZZZZZ			14:29																											
ZZZZZZ			14:32																											
ZZZZZZ			14:35																											
ZZZZZZ			14:38																											
ZZZZZZ			14:42																											
CCV 570-205113/84			14:45																											

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/03/2022 09:13 End Date: 01/03/2022 22:54

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
CCB 570-205113/85			14:51																											
ICIS 570-205113/86			15:09	X	X	X																								
IC 570-205113/87			15:10	X	X	X																								
CCV 570-205113/88			15:12																											
CCB 570-205113/89			15:13																											
CCB 570-205113/90			15:15																											
ZZZZZZ			15:16																											
ZZZZZZ			15:18																											
ZZZZZZ			15:19																											
ZZZZZZ			15:21																											
ZZZZZZ			15:22																											
ZZZZZZ			15:24																											
ZZZZZZ			15:26																											
ZZZZZZ			15:27																											
ZZZZZZ			15:29																											
ZZZZZZ			15:30																											
CCV 570-205113/101			15:32																											
CCB 570-205113/102			15:35																											
ZZZZZZ			15:36																											
ZZZZZZ			15:38																											
ZZZZZZ			15:40																											
ZZZZZZ			15:41																											
ZZZZZZ			15:43																											
ZZZZZZ			15:44																											
ZZZZZZ			15:46																											
ZZZZZZ			15:47																											
ZZZZZZ			15:49																											
ZZZZZZ			15:50																											
ZZZZZZ			15:52																											
CCV 570-205113/114			15:53																											
CCB 570-205113/115			15:55																											
ZZZZZZ			15:58																											
ZZZZZZ			15:59																											
ZZZZZZ			16:01																											
ZZZZZZ			16:03																											
CCV 570-205113/120			16:04																											
CCB 570-205113/121			16:06																											
ICIS 570-205113/122			16:15	X	X	X																								
IC 570-205113/123			16:18	X	X	X																								
CCV 570-205113/124			16:21																											
CCB 570-205113/125			16:24																											
ZZZZZZ			16:27																											

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/03/2022 09:13 End Date: 01/03/2022 22:54

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
ZZZZZZ			16:31																											
ZZZZZZ			16:34																											
ZZZZZZ			16:37																											
ZZZZZZ			16:41																											
ZZZZZZ			16:44																											
CCV 570-205113/132			16:47																											
CCB 570-205113/133			16:50																											
ICIS 570-205113/134			16:58	X	X	X																								
IC 570-205113/135			17:01	X	X	X																								
CCV 570-205113/136			17:04																											
CCB 570-205113/137			17:07																											
CCB 570-205113/138			17:11																											
ZZZZZZ			17:14																											
ZZZZZZ			17:17																											
ZZZZZZ			17:20																											
ZZZZZZ			17:23																											
ZZZZZZ			17:27																											
ZZZZZZ			17:30																											
ZZZZZZ			17:33																											
ZZZZZZ			17:36																											
ZZZZZZ			17:39																											
CCV 570-205113/148			17:42																											
CCB 570-205113/149			17:46																											
CCB 570-205113/150			17:49																											
ZZZZZZ			17:52																											
ZZZZZZ			17:55																											
ZZZZZZ			17:58																											
ZZZZZZ			18:01																											
ZZZZZZ			18:05																											
ZZZZZZ			18:08																											
ZZZZZZ			18:11																											
ZZZZZZ			18:14																											
ZZZZZZ			18:17																											
ZZZZZZ			18:20																											
CCV 570-205113/161			18:24																											
CCB 570-205113/162			18:27																											
CCB 570-205113/163			18:30																											
ICIS 570-205113/164			18:33	X	X	X																								
IC 570-205113/165			18:36	X	X	X																								
CCV 570-205113/166			18:40																											
CCB 570-205113/167			18:43																											
CCB 570-205113/168			18:46																											

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/03/2022 09:13 End Date: 01/03/2022 22:54

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
ZZZZZZ			18:49																											
ZZZZZZ			18:52																											
ZZZZZZ			18:56																											
ZZZZZZ			18:59																											
ZZZZZZ			19:02																											
ZZZZZZ			19:05																											
ZZZZZZ			19:08																											
ZZZZZZ			19:11																											
ZZZZZZ			19:15																											
ZZZZZZ			19:18																											
CCV 570-205113/179			19:21																											
CCB 570-205113/180			19:24																											
CCB 570-205113/181			19:27																											
ZZZZZZ			19:30																											
ZZZZZZ			19:34																											
ZZZZZZ			19:37																											
ZZZZZZ			19:40																											
ZZZZZZ			19:43																											
ZZZZZZ			19:46																											
ZZZZZZ			19:49																											
ZZZZZZ			19:53																											
ZZZZZZ			19:56																											
ZZZZZZ			19:59																											
CCV 570-205113/192			20:02																											
CCB 570-205113/193			20:05																											
CCB 570-205113/194			20:09																											
ICIS 570-205113/195			20:12	X	X	X																								
IC 570-205113/196			20:15	X	X	X																								
CCV 570-205113/197			20:18																											
CCB 570-205113/198			20:21																											
CCB 570-205113/199			20:25																											
ZZZZZZ			20:28																											
ZZZZZZ			20:31																											
ZZZZZZ			20:34																											
ZZZZZZ			20:37																											
ZZZZZZ			20:40																											
ZZZZZZ			20:44																											
ZZZZZZ			20:47																											
ZZZZZZ			20:50																											
ZZZZZZ			20:53																											
ZZZZZZ			20:56																											
CCV 570-205113/210			20:59																											

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: ICPMS05 Analysis Method: 200.8

Start Date: 01/03/2022 09:13 End Date: 01/03/2022 22:54

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
CCB 570-205113/211			21:03																											
CCB 570-205113/212			21:06																											
ZZZZZZ			21:09																											
ZZZZZZ			21:12																											
ZZZZZZ			21:15																											
ZZZZZZ			21:18																											
ZZZZZZ			21:22																											
ZZZZZZ			21:25																											
ZZZZZZ			21:28																											
ZZZZZZ			21:31																											
ZZZZZZ			21:34																											
ZZZZZZ			21:38																											
CCV 570-205113/223			21:41																											
CCB 570-205113/224			21:44																											
CCB 570-205113/225			21:47																											
ICIS 570-205113/226			21:50	X	X	X																								
IC 570-205113/227			21:53	X	X	X																								
CCV 570-205113/228			21:57																											
CCB 570-205113/229			22:00																											
CCB 570-205113/230			22:03																											
ZZZZZZ			22:06																											
ZZZZZZ			22:09																											
ZZZZZZ			22:13																											
ZZZZZZ			22:16																											
ZZZZZZ			22:19																											
ZZZZZZ			22:22																											
ZZZZZZ			22:25																											
ZZZZZZ			22:28																											
ZZZZZZ			22:32																											
ZZZZZZ			22:35																											
CCV 570-205113/241			22:38																											
CCB 570-205113/242			22:41																											
ZZZZZZ			22:44																											
ZZZZZZ			22:47																											
ZZZZZZ			22:51																											
CCB 570-205113/246			22:54																											

Prep Types:
D = Dissolved

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: HG7 Analysis Method: 245.1

Start Date: 01/04/2022 11:10 End Date: 01/04/2022 15:48

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ICIS 570-205327/1-A			11:10	X																								
IC 570-205327/2-A			11:12	X																								
IC 570-205327/3-A			11:14	X																								
IC 570-205327/4-A			11:16	X																								
IC 570-205327/5-A			11:17	X																								
IC 570-205327/6-A			11:19	X																								
ICV 570-205327/7-A	1		11:33	X																								
ICB 570-205327/8-A	1		11:34	X																								
CRA 570-205327/11-A	1		11:36	X																								
CCV 570-205327/9-A	1		11:38	X																								
CCB 570-205327/10-A	1		11:40	X																								
ZZZZZZ			11:49																									
ZZZZZZ			11:51																									
ZZZZZZ			11:52																									
ZZZZZZ			11:54																									
ZZZZZZ			11:56																									
ZZZZZZ			11:58																									
ZZZZZZ			12:00																									
MB 570-204925/1-B	1	D	12:02	X																								
LCS 570-204925/2-B	1	D	12:03	X																								
LCSD 570-204925/3-B	1	D	12:05	X																								
CCV 570-205327/9-A	1		12:07	X																								
CCB 570-205327/10-A	1		12:09	X																								
570-80421-1	1	D	12:11	X																								
570-80421-2	1	D	12:13	X																								
570-80421-2 MS	1	D	12:14	X																								
570-80421-2 MSD	1	D	12:16	X																								
570-80421-3	1	D	12:18	X																								
570-80421-4	1	D	12:20	X																								
CCV 570-205327/9-A	1		12:22	X																								
CCB 570-205327/10-A	1		12:24	X																								
ZZZZZZ			13:00																									
ZZZZZZ			13:02																									
ZZZZZZ			13:04																									
ZZZZZZ			13:06																									
ZZZZZZ			13:07																									
ZZZZZZ			13:09																									
ZZZZZZ			13:11																									
ZZZZZZ			13:13																									
ZZZZZZ			13:15																									
ZZZZZZ			13:17																									
CCV 570-205327/9-A			13:18																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: HG7 Analysis Method: 245.1

Start Date: 01/04/2022 11:10 End Date: 01/04/2022 15:48

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
CCB 570-205327/10-A			13:20																									
ZZZZZZ			13:22																									
ZZZZZZ			13:24																									
ZZZZZZ			13:26																									
ZZZZZZ			13:28																									
ZZZZZZ			13:30																									
CCV 570-205327/9-A			13:31																									
CCB 570-205327/10-A			13:33																									
ZZZZZZ			15:35																									
ZZZZZZ			15:37																									
ZZZZZZ			15:39																									
ZZZZZZ			15:40																									
ZZZZZZ			15:42																									
ZZZZZZ			15:44																									
CCV 570-205327/9-A			15:46																									
CCB 570-205327/10-A			15:48																									

Prep Types:
D = Dissolved

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: HG9 Analysis Method: 245.1

Start Date: 01/13/2022 13:33 End Date: 01/13/2022 15:10

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ICIS 570-207215/1-A			13:33	X																								
IC 570-207215/2-A			13:35	X																								
IC 570-207215/3-A			13:37	X																								
IC 570-207215/4-A			13:39	X																								
IC 570-207215/5-A			13:40	X																								
IC 570-207215/6-A			13:42	X																								
ICV 570-207215/7-A	1		14:00	X																								
ICB 570-207215/8-A	1		14:01	X																								
CRA 570-207215/11-A	1		14:09	X																								
CCV 570-207215/9-A	1		14:11	X																								
CCB 570-207215/10-A	1		14:13	X																								
MB 570-207222/1-A	1	T	14:51	X																								
LCS 570-207222/2-A	1	T	14:53	X																								
LCSD 570-207222/3-A	1	T	14:55	X																								
ZZZZZZ			14:57																									
570-80119-A-1-C MS	1	T	14:59	X																								
570-80119-A-1-D MSD	1	T	15:01	X																								
ZZZZZZ			15:03																									
ZZZZZZ			15:04																									
ZZZZZZ			15:06																									
CCV 570-207215/9-A	1		15:08	X																								
CCB 570-207215/10-A	1		15:10	X																								

Prep Types:
T = Total/NA

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: HG9 Analysis Method: 245.1

Start Date: 01/14/2022 12:43 End Date: 01/14/2022 13:47

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ICIS 570-207441/1-A			12:43	X																								
IC 570-207441/2-A			12:45	X																								
IC 570-207441/3-A			12:47	X																								
IC 570-207441/4-A			12:48	X																								
IC 570-207441/5-A			12:50	X																								
IC 570-207441/6-A			12:52	X																								
ICV 570-207441/7-A	1		12:56	X																								
ICB 570-207441/8-A	1		12:58	X																								
CRA 570-207441/11-A	1		12:59	X																								
CCV 570-207441/9-A	1		13:01	X																								
CCB 570-207441/10-A	1		13:03	X																								
570-80421-1	1	T	13:08	X																								
570-80421-2	1	T	13:10	X																								
570-80421-3	1	T	13:12	X																								
570-80421-4	1	T	13:14	X																								
ZZZZZZ			13:16																									
ZZZZZZ			13:18																									
ZZZZZZ			13:19																									
ZZZZZZ			13:21																									
ZZZZZZ			13:23																									
ZZZZZZ			13:25																									
CCV 570-207441/9-A	1		13:27	X																								
CCB 570-207441/10-A	1		13:29	X																								
ZZZZZZ			13:31																									
ZZZZZZ			13:33																									
ZZZZZZ			13:34																									
ZZZZZZ			13:36																									
ZZZZZZ			13:38																									
ZZZZZZ			13:40																									
ZZZZZZ			13:42																									
ZZZZZZ			13:44																									
CCV 570-207441/9-A			13:46																									
CCB 570-207441/10-A			13:47																									

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Instrument ID: ICPMS6 Analysis Method: 200.8

Start Date: 01/14/2022 09:04 End Date: 01/14/2022 13:48

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
RINSE 440-664495/1			09:04																											
RINSE 440-664495/2			09:06																											
STD0 440-664495/3 IC	1		09:08	X	X	X																								
STD1 440-664495/4 IC	1		09:10	X	X	X																								
STD2 440-664495/5 IC	1		09:12	X	X	X																								
STD3 440-664495/6 IC	1		09:14	X	X	X																								
STD4 440-664495/7 IC	1		09:16	X	X	X																								
ICV 440-664495/8	1		09:18	X	X	X																								
ICB 440-664495/9	1		09:21	X	X	X																								
CRI 440-664495/10	1		09:23	X	X	X																								
CRI 440-664495/11	1		09:25	X	X	X																								
ICSA 440-664495/12	1		09:28	X	X	X																								
ICSAB 440-664495/13	1		09:30	X	X	X																								
RINSE 440-664495/14			09:32																											
RINSE 440-664495/15			09:34																											
RINSE 440-664495/16			09:37																											
CCV 440-664495/17			11:50																											
CCB 440-664495/18			11:52																											
ZZZZZZ			11:55																											
ZZZZZZ			11:57																											
ZZZZZZ			11:59																											
ZZZZZZ			12:01																											
ZZZZZZ			12:03																											
ZZZZZZ			12:05																											
ZZZZZZ			12:07																											
ZZZZZZ			12:09																											
ZZZZZZ			12:11																											
CCV 440-664495/28			12:13																											
CCB 440-664495/29			12:15																											
ZZZZZZ			12:19																											
ZZZZZZ			12:21																											
ZZZZZZ			12:23																											
ZZZZZZ			12:25																											
ZZZZZZ			12:27																											
ZZZZZZ			12:29																											
ZZZZZZ			12:32																											
ZZZZZZ			12:34																											
ZZZZZZ			12:36																											
CCV 440-664495/39			12:38																											
CCB 440-664495/40			12:40																											
ZZZZZZ			12:42																											
ZZZZZZ			12:44																											

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Instrument ID: ICPMS6 Analysis Method: 200.8

Start Date: 01/14/2022 09:04 End Date: 01/14/2022 13:48

Lab Sample Id	D/F	Type	Time	Analytes																										
				Cd	Cu	Pb																								
ZZZZZZ			12:46																											
ZZZZZZ			12:48																											
ZZZZZZ			12:50																											
ZZZZZZ			12:52																											
ZZZZZZ			12:54																											
ZZZZZZ			12:56																											
CCV 440-664495/49	1		12:58	X	X	X																								
CCB 440-664495/50	1		13:00	X	X	X																								
MB 440-664464/1-A	1	R	13:03	X	X	X																								
LCS 440-664464/2-A	1	R	13:05	X	X	X																								
ZZZZZZ			13:07																											
ZZZZZZ			13:09																											
ZZZZZZ			13:11																											
ZZZZZZ			13:13																											
570-80802-B-1-B MS	1	R	13:15	X	X	X																								
570-80802-B-1-C MSD	1	R	13:17	X	X	X																								
ZZZZZZ			13:19																											
ZZZZZZ			13:21																											
CCV 440-664495/61	1		13:23	X	X	X																								
CCB 440-664495/62	1		13:25	X	X	X																								
ZZZZZZ			13:27																											
ZZZZZZ			13:29																											
ZZZZZZ			13:31																											
ZZZZZZ			13:34																											
570-80421-1	1	R	13:36	X	X	X																								
570-80421-2	1	R	13:38	X	X	X																								
570-80421-3	1	R	13:40	X	X	X																								
570-80421-4	1	R	13:42	X	X	X																								
ZZZZZZ			13:44																											
CCV 440-664495/72	1		13:46	X	X	X																								
CCB 440-664495/73	1		13:48	X	X	X																								

Prep Types:
R = Total Recoverable

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.: Analysis Batch No.: 205113

ICP-MS Instrument ID: ICPMS05 Start Date: 01/03/2022 End Date: 01/03/2022

Lab Sample ID	Time	Internal Standards %RI For:									
		Element	Q	Element Sc	Q	Element Ga	Q	Element Ga	Q	Element In	Q
ICIS 570-205113/1	09:13										
IC 570-205113/2	09:16										
ICV 570-205113/3	09:19			98						100	
ICV 570-205113/4	09:22			98						100	
ICB 570-205113/5	09:26			99						101	
ICSA 570-205113/8	09:35			103						97	
ICSAB 570-205113/9	09:38			102						95	
ICVL 570-205113/11	09:48			100						98	
CCV 570-205113/27	10:44			92						98	
CCB 570-205113/29	10:50			90						101	
MB 570-204924/1-A	11:22			84						96	
570-80421-1	11:32			90						99	
570-80421-1 MS	11:35			89						97	
570-80421-1 MSD	11:38			91						97	
570-80421-2	11:41			92						98	
570-80421-3	11:44			91						99	
570-80421-4	11:48			92						97	
CCV 570-205113/40	11:51			88						100	
CCB 570-205113/41	11:54			88						99	
IC 570-205113/45	12:23										
CCV 570-205113/57	13:04			98						102	
CCB 570-205113/58	13:10			101						103	
LCS 570-204924/2-A	13:42			101						102	
CCV 570-205113/69	13:45			100						102	
CCB 570-205113/70	13:52			102						102	
LCSD 570-204924/3-A	13:55			97						101	
CCV 570-205113/72	13:58			100						101	
CCB 570-205113/73	14:04			99						102	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.: Analysis Batch No.: 205113

ICP-MS Instrument ID: ICPMS05 Start Date: 01/03/2022 End Date: 01/03/2022

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Tb	Q	Element Ho	Q	Element Bi	Q	Element	Q	Element	Q
ICIS 570-205113/1	09:13										
IC 570-205113/2	09:16										
ICV 570-205113/3	09:19	103									
ICV 570-205113/4	09:22	100									
ICB 570-205113/5	09:26	101									
ICSA 570-205113/8	09:35	99									
ICSAB 570-205113/9	09:38	102									
ICVL 570-205113/11	09:48	100									
CCV 570-205113/27	10:44	100									
CCB 570-205113/29	10:50	99									
MB 570-204924/1-A	11:22	95									
570-80421-1	11:32	97									
570-80421-1 MS	11:35	99									
570-80421-1 MSD	11:38	98									
570-80421-2	11:41	98									
570-80421-3	11:44	98									
570-80421-4	11:48	99									
CCV 570-205113/40	11:51	98									
CCB 570-205113/41	11:54	97									
IC 570-205113/45	12:23										
CCV 570-205113/57	13:04	100									
CCB 570-205113/58	13:10	101									
LCS 570-204924/2-A	13:42	100									
CCV 570-205113/69	13:45	100									
CCB 570-205113/70	13:52	100									
LCSD 570-204924/3-A	13:55	98									
CCV 570-205113/72	13:58	100									
CCB 570-205113/73	14:04	101									

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.: Analysis Batch No.: 664495

ICP-MS Instrument ID: ICPMS6 Start Date: 01/14/2022 End Date: 01/14/2022

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45	Q	Element Ge	Q	Element In-115	Q	Element Tb-159	Q	Element	Q
STD0 440-664495/3 IC	09:08	100		100		100		100			
STD1 440-664495/4 IC	09:10	100		100		101		100			
STD2 440-664495/5 IC	09:12	100		100		100		100			
STD3 440-664495/6 IC	09:14	101		100		102		101			
STD4 440-664495/7 IC	09:16	101		100		102		101			
ICV 440-664495/8	09:18	99		100		101		100			
ICB 440-664495/9	09:21	97		98		98		99			
CRI 440-664495/10	09:23	97		98		99		99			
CRI 440-664495/11	09:25	98		97		100		100			
ICSA 440-664495/12	09:28	99		96		94		100			
ICSAB 440-664495/13	09:30	99		97		95		101			
CCV 440-664495/49	12:58	103		102		105		104			
CCB 440-664495/50	13:00	99		100		103		102			
MB 440-664464/1-A	13:03	104		103		107		105			
LCS 440-664464/2-A	13:05	104		103		107		107			
570-80802-B-1-B MS	13:15	114		109		108		108			
570-80802-B-1-C MSD	13:17	113		110		108		108			
CCV 440-664495/61	13:23	104		102		105		103			
CCB 440-664495/62	13:25	101		100		103		103			
570-80421-1	13:36	107		104		106		104			
570-80421-2	13:38	105		102		104		103			
570-80421-3	13:40	103		100		103		102			
570-80421-4	13:42	102		100		104		103			
CCV 440-664495/72	13:46	99		97		98		98			
CCB 440-664495/73	13:48	97		96		95		97			

15A-IN
ICP-MS INTERNAL STANDARDS RELATIONS
METALS

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.: Analysis Batch No.: 664495

ICP-MS Instrument ID: ICPMS6 Start Date: 01/14/2022 End Date: 01/14/2022

Analyte	Mass	Internal Standard Used:				
		Element In-115 115	Element Tb-159 159	Element Sc-45 45	Element Ge 72	Element
Cadmium	111	X				
Copper	65			X		
Lead	208		X			
Aluminum	27			X		
Antimony	121	X				
Arsenic	75				X	
Barium	137	X				
Beryllium	9			X		
Cerium	140	X				
Cesium	133	X				
Chromium	52			X		
Cobalt	59			X		
Iron	56			X		
Manganese	55			X		
Molybdenum	95	X				
Nickel	60			X		
Rubidium	85	X				
Selenium	78				X	
Silver	107	X				
Thallium	205		X			
Tin	118	X				
Total Heavy Metals						
Uranium	238		X			
Vanadium	51			X		
Zinc	66				X	
Internal Standard Name on Instrument		In-115 (IS)	Tb-159 (IS)	Sc-45 (IS)	Ge (IS)	

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 204924 Batch Start Date: 12/30/21 18:36 Batch Analyst: Semenova, Irina

Batch Method: Filtration Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	Final pH	MT_1:1HNO3 00008	MT_ICP_Spike1 00012
MB 570-204924/1		Filtration, 200.8		50 mL	50 mL		<2 SU	1 mL	
LCS 570-204924/2		Filtration, 200.8		50 mL	50 mL		<2 SU	1 mL	50 uL
LCSD 570-204924/3		Filtration, 200.8		50 mL	50 mL		<2 SU	1 mL	50 uL
570-80421-B-1	A2BMP0006S013	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80421-B-1 MS	A2BMP0006S013	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	50 uL
570-80421-B-1 MSD	A2BMP0006S013	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	50 uL
570-80421-B-2	EVBMP0007S013	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80421-B-3	EVBMP0008S016	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80421-B-4	EVBMP0009S014	Filtration, 200.8	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_ICP_Spike2 00015	MT_MS_SPIKE_3 00002				
MB 570-204924/1		Filtration, 200.8							
LCS 570-204924/2		Filtration, 200.8		50 uL	0.25 mL				
LCSD 570-204924/3		Filtration, 200.8		50 uL	0.25 mL				
570-80421-B-1	A2BMP0006S013	Filtration, 200.8	D						
570-80421-B-1 MS	A2BMP0006S013	Filtration, 200.8	D	50 uL	0.25 mL				
570-80421-B-1 MSD	A2BMP0006S013	Filtration, 200.8	D	50 uL	0.25 mL				
570-80421-B-2	EVBMP0007S013	Filtration, 200.8	D						
570-80421-B-3	EVBMP0008S016	Filtration, 200.8	D						
570-80421-B-4	EVBMP0009S014	Filtration, 200.8	D						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 204924 Batch Start Date: 12/30/21 18:36 Batch Analyst: Semenova, Irina

Batch Method: Filtration Batch End Date:

Batch Notes	
Pipette/Syringe/Dispenser ID	p-116,p-069,d-030
Filter ID	r8na47060
Nitric Acid ID	See Reagent Additions Worksheet

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 205113 Batch Start Date: 01/03/22 09:13 Batch Analyst: Lee, Francis

Batch Method: 200.8 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_MS_BLK_1 00005	MT_MS_CCV 00011	MT_MS_IC 00015	MT_MS_ICS_A 00006	MT_MS_ICS_AB 00008	MT_MS_ICV1 00007
ICIS 570-205113/1		200.8		# mL					
IC 570-205113/2		200.8				# mL			
ICV 570-205113/3		200.8							# mL
ICV 570-205113/4		200.8							
ICB 570-205113/5		200.8		# mL					
ICSA 570-205113/8		200.8					# mL		
ICSAB 570-205113/9		200.8						# mL	
ICVL 570-205113/11		200.8							
CCV 570-205113/27		200.8			# mL				
CCB 570-205113/29		200.8		# mL					
CCV 570-205113/40		200.8			# mL				
CCB 570-205113/41		200.8		# mL					
IC 570-205113/45		200.8				# mL			
CCV 570-205113/57		200.8			# mL				
CCB 570-205113/58		200.8		# mL					
CCV 570-205113/69		200.8			# mL				
CCB 570-205113/70		200.8		# mL					
CCV 570-205113/72		200.8			# mL				
CCB 570-205113/73		200.8		# mL					

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_MS_ICV2 00008	MT_MS_LL 00011				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 205113 Batch Start Date: 01/03/22 09:13 Batch Analyst: Lee, Francis

Batch Method: 200.8 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_MS_ICV2 00008	MT_MS_LL 00011				
ICIS 570-205113/1		200.8							
IC 570-205113/2		200.8							
ICV 570-205113/3		200.8							
ICV 570-205113/4		200.8		# mL					
ICB 570-205113/5		200.8							
ICSA 570-205113/8		200.8							
ICSAB 570-205113/9		200.8							
ICVL 570-205113/11		200.8			# mL				
CCV 570-205113/27		200.8							
CCB 570-205113/29		200.8							
CCV 570-205113/40		200.8							
CCB 570-205113/41		200.8							
IC 570-205113/45		200.8							
CCV 570-205113/57		200.8							
CCB 570-205113/58		200.8							
CCV 570-205113/69		200.8							
CCB 570-205113/70		200.8							
CCV 570-205113/72		200.8							
CCB 570-205113/73		200.8							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 205113 Batch Start Date: 01/03/22 09:13 Batch Analyst: Lee, Francis

Batch Method: 200.8 Batch End Date:

Batch Notes	
Pipette/Syringe/Dispenser ID	MP-062/P-007/MP-
Analyst ID - Aliquot Step	UFLE
Internal Standard ID#	2099615
Carrier Lot Number	23530

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 204925 Batch Start Date: 12/30/21 18:36 Batch Analyst: Semenova, Irina

Batch Method: Filtration Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	Final pH	MT_1:1HNO3 00008	
MB 570-204925/1		Filtration, 245.1, 245.1		50 mL	50 mL		<2 SU	1 mL	
LCS 570-204925/2		Filtration, 245.1, 245.1		50 mL	50 mL		<2 SU	1 mL	
LCSD 570-204925/3		Filtration, 245.1, 245.1		50 mL	50 mL		<2 SU	1 mL	
570-80421-B-1	A2BMP0006S013	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80421-B-2	EVBMP0007S013	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80421-B-2 MS	EVBMP0007S013	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80421-B-2 MSD	EVBMP0007S013	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80421-B-3	EVBMP0008S016	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	
570-80421-B-4	EVBMP0009S014	Filtration, 245.1, 245.1	D	50 mL	50 mL	>2 SU	<2 SU	1 mL	

Batch Notes	
Pipette/Syringe/Dispenser ID	p-116,p-069,d-030
Filter ID	r8na47060
Nitric Acid ID	See Reagent Additions Worksheet

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 204929 Batch Start Date: 12/31/21 08:30 Batch Analyst: Rolin, Randy

Batch Method: 245.1 Batch End Date: 12/31/21 10:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	HG_1ppm STD 00040	Hg_H2SO4 00010	Hg_K2S2O3 00006
MB 570-204925/1-A		245.1, 245.1		<2	50 mL	100 mL		2.5 mL	4 mL
LCS 570-204925/2-A		245.1, 245.1		<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
LCSD 570-204925/3-A		245.1, 245.1		<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80421-B-1-D	A2BMP0006S013	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL
570-80421-B-2-B	EVBMP0007S013	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL
570-80421-B-2-C MS	EVBMP0007S013	245.1, 245.1	D	<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80421-B-2-D MSD	EVBMP0007S013	245.1, 245.1	D	<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80421-B-3-B	EVBMP0008S016	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL
570-80421-B-4-B	EVBMP0009S014	245.1, 245.1	D	<2	50 mL	100 mL		2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00028			
MB 570-204925/1-A		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
LCS 570-204925/2-A		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
LCSD 570-204925/3-A		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
570-80421-B-1-D	A2BMP0006S013	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-80421-B-2-B	EVBMP0007S013	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-80421-B-2-C MS	EVBMP0007S013	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-80421-B-2-D MSD	EVBMP0007S013	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-80421-B-3-B	EVBMP0008S016	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			
570-80421-B-4-B	EVBMP0009S014	245.1, 245.1	D	7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 204929 Batch Start Date: 12/31/21 08:30 Batch Analyst: Rolin, Randy

Batch Method: 245.1 Batch End Date: 12/31/21 10:40

Batch Notes	
Digestion Tube/Cup ID	mld300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	1220
Sufficient Volume for Batch QC	yes
Nitric Acid ID	reagent addition worksheet
Sulfuric Acid Lot Number	reagent addition worksheet
Potassium Permanganate ID	reagent addition worksheet
Potassium Persulfate ID	reagent addition worksheet
Digestion Unit ID	Block 17
Thermometer ID	Y22-12
Temperature - Uncorrected - Start	96 Degrees C
Temperature - Corrected - Start	97 Degrees C
Digestion Start Time	12/31/2021 08:30
Digestion End Time	12/31/2021 10:30
Temperature - Uncorrected - End	96 Degrees C
Temperature - Corrected - End	97 Degrees C
Hydroxylamine ID	reagent addition worksheet

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 205327 Batch Start Date: 01/04/22 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 01/04/22 10:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	HG_1ppm ICV 00036	HG_1ppm STD 00041	Hg_H2SO4 00010	Hg_K2S2O3 00006
ICV 570-205327/7		7470A, 245.1		50 mL	100 mL	500 uL		2.5 mL	4 mL
ICB 570-205327/8		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CCV 570-205327/9		7470A, 245.1		50 mL	100 mL		200 uL	2.5 mL	4 mL
CCB 570-205327/10		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CRA 570-205327/11		7470A, 245.1		50 mL	100 mL		10 uL	2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00022			
ICV 570-205327/7		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
ICB 570-205327/8		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCV 570-205327/9		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCB 570-205327/10		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CRA 570-205327/11		7470A, 245.1		7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 205327 Batch Start Date: 01/04/22 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 01/04/22 10:45

Batch Notes	
Digestion Tube/Cup ID	mld0300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	6214
Sufficient Volume for Batch QC	yes
Nitric Acid ID	891458
Sulfuric Acid ID	1127963
Potassium Permanganate ID	548814
Potassium Persulfate ID	1381067
Digestion Unit ID	16
Thermometer ID	Y22-11
Temperature - Uncorrected - Start	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion Start Time	08:45
Digestion End Time	10:45
Temperature - Uncorrected - End	99 Degrees C
Temperature - Corrected - End	99 Degrees C
Hydroxylamine ID	1611140

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 207215 Batch Start Date: 01/13/22 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 01/13/22 10:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	HG_1ppm ICV 00036	HG_1ppm STD 00041	Hg_H2SO4 00010	Hg_K2S2O3 00006
ICV 570-207215/7		7470A, 245.1		50 mL	100 mL	500 uL		2.5 mL	4 mL
ICB 570-207215/8		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CCV 570-207215/9		7470A, 245.1		50 mL	100 mL		200 uL	2.5 mL	4 mL
CCB 570-207215/10		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CRA 570-207215/11		7470A, 245.1		50 mL	100 mL		10 uL	2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00022			
ICV 570-207215/7		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
ICB 570-207215/8		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCV 570-207215/9		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCB 570-207215/10		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CRA 570-207215/11		7470A, 245.1		7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 207215 Batch Start Date: 01/13/22 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 01/13/22 10:45

Batch Notes	
Digestion Tube/Cup ID	mld0300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	6214
Sufficient Volume for Batch QC	yes
Nitric Acid ID	891458
Sulfuric Acid ID	1127963
Potassium Permanganate ID	548814
Potassium Persulfate ID	1381067
Digestion Unit ID	16
Thermometer ID	Y22-11
Temperature - Uncorrected - Start	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion Start Time	08:45
Digestion End Time	10:45
Temperature - Uncorrected - End	99 Degrees C
Temperature - Corrected - End	99 Degrees C
Hydroxylamine ID	1611140

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 207222 Batch Start Date: 01/13/22 09:48 Batch Analyst: Cruz, Ariana

Batch Method: 245.1 Batch End Date: 01/13/22 11:53

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	HG_1ppm STD 00041	Hg_H2SO4 00010	Hg_K2S2O3 00006
MB 570-207222/1		245.1, 245.1		<2	50 mL	100 mL		2.5 mL	4 mL
LCS 570-207222/2		245.1, 245.1		<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
LCSD 570-207222/3		245.1, 245.1		<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80119-A-1 MS		245.1, 245.1	T	<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80119-A-1 MSD		245.1, 245.1	T	<2	50 mL	100 mL	500 uL	2.5 mL	4 mL
570-80421-A-1	A2BMP0006S013	245.1, 245.1	T	<2	50 mL	100 mL		2.5 mL	4 mL
570-80421-A-2	EVBMP0007S013	245.1, 245.1	T	<2	50 mL	100 mL		2.5 mL	4 mL
570-80421-A-3	EVBMP0008S016	245.1, 245.1	T	<2	50 mL	100 mL		2.5 mL	4 mL
570-80421-A-4	EVBMP0009S014	245.1, 245.1	T	<2	50 mL	100 mL		2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00028			
MB 570-207222/1		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
LCS 570-207222/2		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
LCSD 570-207222/3		245.1, 245.1		7.5 mL	3 mL	1.25 mL			
570-80119-A-1 MS		245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			
570-80119-A-1 MSD		245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			
570-80421-A-1	A2BMP0006S013	245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			
570-80421-A-2	EVBMP0007S013	245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			
570-80421-A-3	EVBMP0008S016	245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			
570-80421-A-4	EVBMP0009S014	245.1, 245.1	T	7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 207222 Batch Start Date: 01/13/22 09:48 Batch Analyst: Cruz, Ariana

Batch Method: 245.1 Batch End Date: 01/13/22 11:53

Batch Notes	
Digestion Tube/Cup ID	mld300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	6214
Sufficient Volume for Batch QC	yes
Nitric Acid ID	reagent addition worksheet
Sulfuric Acid Lot Number	reagent addition worksheet
Potassium Permanganate ID	reagent addition worksheet
Potassium Persulfate ID	reagent addition worksheet
Digestion Unit ID	Block 17
Thermometer ID	Y22-12
Temperature - Uncorrected - Start	96 Degrees C
Temperature - Corrected - Start	97 Degrees C
Digestion Start Time	01/13/2022 09:48
Digestion End Time	01/13/2022 11:48
Temperature - Uncorrected - End	96 Degrees C
Temperature - Corrected - End	97 Degrees C
Hydroxylamine ID	reagent addition worksheet

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 207441 Batch Start Date: 01/14/22 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 01/14/22 10:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	HG_1ppm ICV 00036	HG_1ppm STD 00041	Hg_H2SO4 00010	Hg_K2S2O3 00006
ICV 570-207441/7		7470A, 245.1		50 mL	100 mL	500 uL		2.5 mL	4 mL
ICB 570-207441/8		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CCV 570-207441/9		7470A, 245.1		50 mL	100 mL		200 uL	2.5 mL	4 mL
CCB 570-207441/10		7470A, 245.1		50 mL	100 mL			2.5 mL	4 mL
CRA 570-207441/11		7470A, 245.1		50 mL	100 mL		10 uL	2.5 mL	4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	Hg_KMnO4 00006	Hg_NaCl-NH2OH 00018	MT_HNO3 Con 00028			
ICV 570-207441/7		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
ICB 570-207441/8		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCV 570-207441/9		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CCB 570-207441/10		7470A, 245.1		7.5 mL	3 mL	1.25 mL			
CRA 570-207441/11		7470A, 245.1		7.5 mL	3 mL	1.25 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 207441 Batch Start Date: 01/14/22 08:45 Batch Analyst: Cruz, Ariana

Batch Method: 7470A Batch End Date: 01/14/22 10:45

Batch Notes	
Digestion Tube/Cup ID	mld0300000016
Pipette/Syringe/Dispenser ID	Pipette:MP-59/MP-010 Dispenser:D-063/D-084/D-073/D-047/D-048
Analyst ID - Spike Analyst	6214
Sufficient Volume for Batch QC	yes
Nitric Acid ID	891458
Sulfuric Acid ID	1127963
Potassium Permanganate ID	548814
Potassium Persulfate ID	1381067
Digestion Unit ID	16
Thermometer ID	Y22-11
Temperature - Uncorrected - Start	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion Start Time	08:45
Digestion End Time	10:45
Temperature - Uncorrected - End	99 Degrees C
Temperature - Corrected - End	99 Degrees C
Hydroxylamine ID	1611140

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Calscience Tustin Job No.: 570-80421-1

SDG No.:

Batch Number: 664464 Batch Start Date: 01/14/22 06:33 Batch Analyst: Rolin, Randy

Batch Method: 200.2 Batch End Date: 01/14/22 10:33

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ME 1:1 HCl 00124	ME 1:1 HNO3 00421	ME ICPMS ICV 00242
MB 440-664464/1		200.2, 200.8			25 mL	25 mL	0.25 mL	0.5 mL	
LCS 440-664464/2		200.2, 200.8			25 mL	25 mL	0.25 mL	0.5 mL	0.2 mL
570-80802-B-1 MS		200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	0.2 mL
570-80802-B-1 MSD		200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	0.2 mL
570-80421-A-1	A2BMP0006S013	200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	
570-80421-A-2	EVBMP0007S013	200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	
570-80421-A-3	EVBMP0008S016	200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	
570-80421-A-4	EVBMP0009S014	200.2, 200.8	R	<2	25 mL	25 mL	0.25 mL	0.5 mL	

Batch Notes	
Digestion Tube/Cup ID	2108282
Hot Block ID	6
Hood ID	12
Lot # of Nitric Acid	6803471
Uncorrected Temperature	93 Celsius
Oven, Bath or Block Temperature 1	93 Celsius
Thermometer ID	P-125 CF=0
Uncorrected Temperature 2	94 Celsius
Oven, Bath or Block Temperature 2	94 Celsius
Pipette ID	MET100
First Start time	06:33
First End time	10:33
Batch Comment	HCl#6816164 pH#230418 MB A7

Basis	Basis Description
R	Total Recoverable

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Monday, January 03, 2022 09:13:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICIS-1479530.038
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		77879.527		ppb	1.752		
9	**Be**		54.445		ppb	9.352		
10	**B**		1942.354		ppb	4.810		
27	**Al**		16840.931		ppb	3.911		
43	**Ca-2**		163.334		ppb	11.590		
49	**Ti**		326.670		ppb	5.400		
52	**Cr**		20772.873		ppb	1.879		
55	**Mn**		2443.543		ppb	4.645		
57	**Fe**		17906.773		ppb	1.361		
45	**Sc-IS**	>	2721227.995		ppb	0.605		
66	**Zn**		1050.039		ppb	9.369		
86	**Sr**		57.263		ppb	65.629		
65	**Cu**		371.116		ppb	1.372		
69	**Ga-IS**		898488.779		ppb	1.084		
95	**Mo**		590.012		ppb	7.643		
115	**In-IS**	>	454314.565		ppb	1.076		
111	**Cd**		50.983		ppb	26.529		
118	**Sn**		3533.770		ppb	1.518		
121	**Sb**		475.563		ppb	5.261		
135	**Ba**		76.667		ppb	7.531		
165	**Ho-IS**		614218.035		ppb	2.466		
159	**Tb-IS**	>	601934.155		ppb	1.183		
207	**Pb**		1151.129		ppb	7.863		
203	**Tl**		394.450		ppb	14.791		
209	**Bi-IS**		351953.547		ppb	2.625		
51	**V**		5.556		ppb	69.282		
59	**Co**		42.222		ppb	35.599		
60	**Ni**		140.001		ppb	18.898		
75	**As**		242.527		ppb	7.282		
71	**Ga-ISK**		94220.812		ppb	0.590		
82	**Se-2**		-0.873		ppb	1175.754		
107	**Ag-1**		404.450		ppb	6.075		
115	**In-ISK**	>	125430.764		ppb	1.494		
45	**Sc-ISK**		241579.157		ppb	1.584		
23	**Na**		8619.268		ppb	3.051		
39	**K**		38178.729		ppb	0.819		
24	**Mg**		550.011		ppb	15.981		
159	**Tb-ISK**	>	254330.905		ppb	1.346		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Monday, January 03, 2022 09:16:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\IC-2235387.039
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		77128.820		ppb	2.076		77879.527
9	**Be**		520602.409	**200.000000**	ppb	1.721	2.871	54.445
10	**B**		365292.690	**500.000000**	ppb	2.076	0.709	1942.354
27	**Al**		3320994.308	**200.000000**	ppb	1.738	0.758	16840.931
43	**Ca-2**		385596.009	**10200.000000**	ppb	2.017	0.672	163.334
49	**Ti**		238017.616	**200.000000**	ppb	0.639	0.923	326.670
52	**Cr**		3438434.095	**200.000000**	ppb	2.841	1.654	20772.873
55	**Mn**		5151834.725	**200.000000**	ppb	0.892	0.665	2443.543
57	**Fe**		5710663.029	**10200.000000**	ppb	1.675	2.549	17906.773
45	**Sc-IS**	>	2695126.033		ppb	1.483		2721227.995
66	**Zn**		553653.136	**200.000000**	ppb	2.077	3.505	1050.039
86	**Sr**		515898.226	**200.000000**	ppb	0.456	1.890	57.263
65	**Cu**		848166.161	**200.000000**	ppb	1.938	2.795	371.116
69	**Ga-IS**		990682.694		ppb	2.716		898488.779
95	**Mo**		570862.876	**200.000000**	ppb	0.699	0.862	590.012
115	**In-IS**	>	451436.006		ppb	1.010		454314.565
111	**Cd**		682315.797	**200.000000**	ppb	0.689	0.563	50.983
118	**Sn**		1994104.268	**200.000000**	ppb	2.958	2.952	3533.770
121	**Sb**		2189436.055	**200.000000**	ppb	1.445	1.681	475.563
135	**Ba**		540077.779	**200.000000**	ppb	0.844	1.431	76.667
165	**Ho-IS**		613134.155		ppb	0.914		614218.035
159	**Tb-IS**	>	604159.400		ppb	1.043		601934.155
207	**Pb**		8239980.057	**200.000000**	ppb	1.078	1.624	1151.129
203	**Tl**		2770015.968	**200.000000**	ppb	0.661	0.385	394.450
209	**Bi-IS**		337128.535		ppb	1.103		351953.547
51	**V**		51865.160	**200.000000**	ppb	3.339	4.686	5.556
59	**Co**		177619.579	**200.000000**	ppb	3.874	5.322	42.222
60	**Ni**		333144.375	**200.000000**	ppb	0.939	2.031	140.001
75	**As**		111763.153	**200.000000**	ppb	1.105	1.775	242.527
71	**Ga-ISK**		92724.450		ppb	1.669		94220.812
82	**Se-2**		11474.770	**200.000000**	ppb	1.641	1.029	-0.873
107	**Ag-1**		1188432.383	**200.000000**	ppb	1.086	0.739	404.450
115	**In-ISK**	>	123057.276		ppb	1.532		125430.764
45	**Sc-ISK**		243072.431		ppb	2.466		241579.157
23	**Na**		3806424.826	**10200.000000**	ppb	2.141	1.847	8619.268
39	**K**		7191395.418	**10200.000000**	ppb	2.467	2.289	38178.729
24	**Mg**		3276494.683	**10200.000000**	ppb	2.269	1.897	550.011
159	**Tb-ISK**	>	257344.600		ppb	0.515		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICV-1800319
Autosampler Position: 206
Sample Date/Time: Monday, January 03, 2022 09:19:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICV-1800319.040
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		77955.549		ppb	2.623		77879.527
9	**Be**		264337.770	**102.457813**	ppb	0.936	1.333	54.445
10	**B**		4672.987	**3.843625**	ppb	3.069	6.223	1942.354
27	**Al**		16550.584	**0.001543**	ppb	1.846	1519.675	16840.931
43	**Ca-2**		197399.830	**5267.858950**	ppb	1.994	1.332	163.334
49	**Ti**		119070.969	**100.845749**	ppb	2.035	2.741	326.670
52	**Cr**		1710869.929	**99.857869**	ppb	2.213	2.888	20772.873
55	**Mn**		2593554.560	**101.570299**	ppb	0.903	1.627	2443.543
57	**Fe**		2952920.466	**5307.508739**	ppb	2.326	3.014	17906.773
45	**Sc-IS**	>	2670456.278		ppb	0.723		2721227.995
66	**Zn**		288142.570	**104.835139**	ppb	0.774	0.077	1050.039
86	**Sr**		253002.815	**98.954630**	ppb	1.659	0.945	57.263
65	**Cu**		441791.189	**105.080289**	ppb	1.981	2.244	371.116
69	**Ga-IS**		890563.827		ppb	0.743		898488.779
95	**Mo**		293125.927	**103.531344**	ppb	2.674	2.234	590.012
115	**In-IS**	>	456212.271		ppb	0.992		454314.565
111	**Cd**		356658.465	**103.439620**	ppb	1.361	1.046	50.983
118	**Sn**		1005573.654	**99.620422**	ppb	0.756	0.270	3533.770
121	**Sb**		1064182.115	**96.171197**	ppb	0.882	1.341	475.563
135	**Ba**		265.558	**0.069008**	ppb	16.189	21.353	76.667
165	**Ho-IS**		609784.966		ppb	0.681		614218.035
159	**Tb-IS**	>	616979.045		ppb	2.225		601934.155
207	**Pb**		4106282.227	**97.607506**	ppb	0.231	2.343	1151.129
203	**Tl**		1315377.221	**92.995671**	ppb	1.809	1.695	394.450
209	**Bi-IS**		344500.273		ppb	1.208		351953.547
51	**V**		26829.616	**100.749799**	ppb	0.696	1.097	5.556
59	**Co**		89173.053	**97.768842**	ppb	1.633	2.621	42.222
60	**Ni**		172899.317	**101.060982**	ppb	2.492	1.558	140.001
75	**As**		57457.772	**99.961206**	ppb	2.960	3.330	242.527
71	**Ga-ISK**		93557.787		ppb	3.200		94220.812
82	**Se-2**		5756.288	**97.781383**	ppb	2.416	3.555	-0.873
107	**Ag-1**		1438.962	**0.169312**	ppb	9.363	14.026	404.450
115	**In-ISK**	>	126305.413		ppb	1.155		125430.764
45	**Sc-ISK**		246595.897		ppb	1.260		241579.157
23	**Na**		9756.665	**2.349483**	ppb	2.564	28.361	8619.268
39	**K**		45367.481	**8.542015**	ppb	0.657	5.525	38178.729
24	**Mg**		1658646.977	**5077.867986**	ppb	0.734	0.652	550.011
159	**Tb-ISK**	>	261650.390		ppb	0.102		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICV-1896925
Autosampler Position: 213
Sample Date/Time: Monday, January 03, 2022 09:22:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICV-1896925.041
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		75379.465		ppb	0.631		77879.527
9	**Be**		137.778	**0.032493**	ppb	14.583	21.596	54.445
10	**B**		73906.312	**99.714513**	ppb	2.431	1.147	1942.354
27	**Al**		1736607.759	**104.803008**	ppb	1.083	1.293	16840.931
43	**Ca-2**		235.002	**1.986205**	ppb	9.750	35.389	163.334
49	**Ti**		411.117	**0.075351**	ppb	18.743	78.872	326.670
52	**Cr**		22070.371	**0.096089**	ppb	1.468	4.101	20772.873
55	**Mn**		2855.841	**0.017618**	ppb	4.457	18.276	2443.543
57	**Fe**		19231.829	**2.907261**	ppb	1.928	12.442	17906.773
45	**Sc-IS**	>	2677545.700		ppb	1.552		2721227.995
66	**Zn**		2052.370	**0.371205**	ppb	3.900	7.768	1050.039
86	**Sr**		151.809	**0.037148**	ppb	25.322	38.436	57.263
65	**Cu**		657.793	**0.069436**	ppb	8.855	18.848	371.116
69	**Ga-IS**		950089.872		ppb	2.939		898488.779
95	**Mo**		1804.559	**0.432383**	ppb	3.806	7.691	590.012
115	**In-IS**	>	455657.578		ppb	0.445		454314.565
111	**Cd**		180.656	**0.037599**	ppb	13.936	18.898	50.983
118	**Sn**		9701.072	**0.612918**	ppb	2.134	4.062	3533.770
121	**Sb**		1530.082	**0.095293**	ppb	7.792	10.692	475.563
135	**Ba**		296018.857	**108.585280**	ppb	0.340	0.586	76.667
165	**Ho-IS**		598225.772		ppb	0.709		614218.035
159	**Tb-IS**	>	603533.061		ppb	0.486		601934.155
207	**Pb**		2547.867	**0.033866**	ppb	2.682	5.190	1151.129
203	**Tl**		1190.050	**0.057446**	ppb	6.418	10.053	394.450
209	**Bi-IS**		351405.144		ppb	0.613		351953.547
51	**V**		18.889	**0.050524**	ppb	36.735	50.985	5.556
59	**Co**		68.889	**0.029628**	ppb	10.073	24.552	42.222
60	**Ni**		277.780	**0.081567**	ppb	10.889	21.181	140.001
75	**As**		332.724	**0.160242**	ppb	2.791	11.034	242.527
71	**Ga-ISK**		97475.877		ppb	0.643		94220.812
82	**Se-2**		6.489	**0.126673**	ppb	65.136	58.044	-0.873
107	**Ag-1**		326615.074	**54.011802**	ppb	2.362	1.753	404.450
115	**In-ISK**	>	125107.178		ppb	1.285		125430.764
45	**Sc-ISK**		246008.368		ppb	1.846		241579.157
23	**Na**		381121.521	**1010.922254**	ppb	1.946	2.196	8619.268
39	**K**		742549.078	**1014.746999**	ppb	1.854	0.734	38178.729
24	**Mg**		1335.063	**2.468827**	ppb	7.740	14.303	550.011
159	**Tb-ISK**	>	254711.669		ppb	1.509		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 09:26:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICB-1479530.042
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		75948.018		ppb	0.463		77879.527
9	**Be**		70.000	**0.006298**	ppb	41.513	183.512	54.445
10	**B**		2079.040	**0.218764**	ppb	3.369	55.006	1942.354
27	**Al**		18972.925	**0.140821**	ppb	0.933	20.548	16840.931
43	**Ca-2**		185.001	**0.624801**	ppb	4.681	47.249	163.334
49	**Ti**		334.448	**0.009835**	ppb	11.335	351.524	326.670
52	**Cr**		21944.624	**0.082292**	ppb	1.970	35.699	20772.873
55	**Mn**		2347.971	**-0.002682**	ppb	4.477	119.830	2443.543
57	**Fe**		17624.198	**-0.145101**	ppb	0.707	461.800	17906.773
45	**Sc-IS**	>	2691196.417		ppb	1.719		2721227.995
66	**Zn**		1081.152	**0.015319**	ppb	7.567	168.533	1050.039
86	**Sr**		58.936	**0.000960**	ppb	52.264	1276.057	57.263
65	**Cu**		342.226	**-0.005749**	ppb	9.949	162.633	371.116
69	**Ga-IS**		893288.565		ppb	2.669		898488.779
95	**Mo**		712.240	**0.045559**	ppb	10.809	67.919	590.012
115	**In-IS**	>	460410.016		ppb	2.095		454314.565
111	**Cd**		107.394	**0.015985**	ppb	17.221	30.943	50.983
118	**Sn**		5249.854	**0.164709**	ppb	2.635	14.589	3533.770
121	**Sb**		778.910	**0.026539**	ppb	8.616	17.084	475.563
135	**Ba**		181.112	**0.037503**	ppb	16.599	27.957	76.667
165	**Ho-IS**		604012.087		ppb	0.939		614218.035
159	**Tb-IS**	>	609424.634		ppb	1.407		601934.155
207	**Pb**		1467.808	**0.007276**	ppb	1.478	4.068	1151.129
203	**Tl**		658.904	**0.018597**	ppb	5.457	15.893	394.450
209	**Bi-IS**		352455.656		ppb	1.653		351953.547
51	**V**		15.556	**0.037920**	ppb	12.372	17.892	5.556
59	**Co**		41.111	**-0.001162**	ppb	16.878	623.514	42.222
60	**Ni**		158.890	**0.011308**	ppb	6.409	40.572	140.001
75	**As**		274.887	**0.057972**	ppb	7.607	58.403	242.527
71	**Ga-ISK**		94764.534		ppb	2.698		94220.812
82	**Se-2**		1.489	**0.040429**	ppb	545.315	347.416	-0.873
107	**Ag-1**		1004.480	**0.099625**	ppb	5.986	12.578	404.450
115	**In-ISK**	>	125132.519		ppb	1.725		125430.764
45	**Sc-ISK**		247407.604		ppb	1.454		241579.157
23	**Na**		8550.893	**-0.457078**	ppb	2.365	141.694	8619.268
39	**K**		39492.290	**1.227165**	ppb	0.331	42.003	38178.729
24	**Mg**		595.012	**0.119700**	ppb	5.248	79.613	550.011
159	**Tb-ISK**	>	257358.883		ppb	0.677		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 09:29:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.043
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		74541.776		ppb	1.476		77879.527
9	**Be**		257955.284	**100.914151**	ppb	1.861	0.754	54.445
10	**B**		182331.878	**252.997141**	ppb	1.301	2.258	1942.354
27	**Al**		1599411.553	**97.615812**	ppb	0.699	0.526	16840.931
43	**Ca-2**		189577.946	**5107.454893**	ppb	0.368	1.496	163.334
49	**Ti**		115963.232	**99.123002**	ppb	0.953	0.603	326.670
52	**Cr**		1634312.758	**96.247102**	ppb	1.019	2.138	20772.873
55	**Mn**		2532182.524	**100.095871**	ppb	0.536	0.736	2443.543
57	**Fe**		2827175.231	**5127.686726**	ppb	1.028	0.757	17906.773
45	**Sc-IS**	>	2645562.740		ppb	1.133		2721227.995
66	**Zn**		282238.576	**103.657482**	ppb	0.324	1.087	1050.039
86	**Sr**		248245.578	**98.019630**	ppb	2.442	2.659	57.263
65	**Cu**		427348.150	**102.605395**	ppb	1.016	1.766	371.116
69	**Ga-IS**		919066.761		ppb	0.690		898488.779
95	**Mo**		278565.756	**99.332208**	ppb	1.625	2.753	590.012
115	**In-IS**	>	451036.569		ppb	1.114		454314.565
111	**Cd**		348650.655	**102.274880**	ppb	1.503	0.728	50.983
118	**Sn**		972419.356	**97.421779**	ppb	2.524	1.421	3533.770
121	**Sb**		1048156.860	**95.802668**	ppb	1.370	0.634	475.563
135	**Ba**		268495.310	**99.507984**	ppb	0.798	1.869	76.667
165	**Ho-IS**		591796.186		ppb	0.778		614218.035
159	**Tb-IS**	>	589160.593		ppb	0.830		601934.155
207	**Pb**		4084712.349	**101.644901**	ppb	1.518	1.226	1151.129
203	**Tl**		1304106.242	**96.544947**	ppb	1.169	1.634	394.450
209	**Bi-IS**		340308.049		ppb	0.880		351953.547
51	**V**		26102.729	**100.309493**	ppb	3.046	2.282	5.556
59	**Co**		88756.025	**99.579318**	ppb	1.669	0.615	42.222
60	**Ni**		166572.525	**99.661529**	ppb	2.389	2.223	140.001
75	**As**		56482.758	**100.562548**	ppb	1.902	1.053	242.527
71	**Ga-ISK**		92850.878		ppb	2.356		94220.812
82	**Se-2**		5820.679	**101.175797**	ppb	1.871	1.793	-0.873
107	**Ag-1**		601496.083	**100.903475**	ppb	1.079	0.326	404.450
115	**In-ISK**	>	123402.236		ppb	1.051		125430.764
45	**Sc-ISK**		239441.579		ppb	1.986		241579.157
23	**Na**		1836898.239	**5020.057388**	ppb	3.321	2.357	8619.268
39	**K**		3582869.256	**5168.880407**	ppb	0.497	0.549	38178.729
24	**Mg**		1588086.524	**5054.301793**	ppb	0.879	1.449	550.011
159	**Tb-ISK**	>	251707.596		ppb	0.995		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 09:32:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.044
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		74253.621		ppb	1.632		77879.527
9	**Be**		85.556	**0.013262**	ppb	17.995	45.061	54.445
10	**B**		2161.275	**0.428566**	ppb	2.248	12.448	1942.354
27	**Al**		18541.694	**0.151087**	ppb	1.548	4.770	16840.931
43	**Ca-2**		181.668	**0.689283**	ppb	11.459	78.628	163.334
49	**Ti**		285.558	**-0.023691**	ppb	2.696	34.868	326.670
52	**Cr**		20804.026	**0.055263**	ppb	0.449	31.680	20772.873
55	**Mn**		2581.344	**0.009694**	ppb	0.860	3.890	2443.543
57	**Fe**		18723.374	**2.922461**	ppb	1.392	25.351	17906.773
45	**Sc-IS**	>	2605935.379		ppb	0.935		2721227.995
66	**Zn**		1132.267	**0.047331**	ppb	6.206	50.436	1050.039
86	**Sr**		92.446	**0.015129**	ppb	26.992	67.913	57.263
65	**Cu**		446.674	**0.022257**	ppb	3.878	16.665	371.116
69	**Ga-IS**		873701.512		ppb	0.357		898488.779
95	**Mo**		1803.447	**0.449279**	ppb	2.934	5.345	590.012
115	**In-IS**	>	446039.483		ppb	1.647		454314.565
111	**Cd**		129.547	**0.023583**	ppb	2.639	3.223	50.983
118	**Sn**		8995.055	**0.562252**	ppb	3.066	7.058	3533.770
121	**Sb**		1023.370	**0.051521**	ppb	4.919	11.949	475.563
135	**Ba**		146.667	**0.026730**	ppb	9.907	18.415	76.667
165	**Ho-IS**		600338.066		ppb	1.250		614218.035
159	**Tb-IS**	>	596057.913		ppb	0.705		601934.155
207	**Pb**		2000.055	**0.021161**	ppb	6.207	14.109	1151.129
203	**Tl**		678.905	**0.021085**	ppb	11.644	26.379	394.450
209	**Bi-IS**		350299.832		ppb	1.102		351953.547
51	**V**		13.333	**0.029704**	ppb	43.301	74.839	5.556
59	**Co**		57.778	**0.017318**	ppb	18.546	64.846	42.222
60	**Ni**		171.112	**0.018648**	ppb	4.499	20.908	140.001
75	**As**		284.976	**0.076962**	ppb	11.374	84.654	242.527
71	**Ga-ISK**		94711.859		ppb	1.486		94220.812
82	**Se-2**		5.526	**0.110463**	ppb	82.046	71.883	-0.873
107	**Ag-1**		1094.487	**0.114570**	ppb	7.014	11.101	404.450
115	**In-ISK**	>	125023.875		ppb	1.656		125430.764
45	**Sc-ISK**		248004.762		ppb	2.009		241579.157
23	**Na**		9031.188	**0.674523**	ppb	2.272	101.494	8619.268
39	**K**		42641.324	**5.319859**	ppb	0.522	12.288	38178.729
24	**Mg**		883.361	**1.000025**	ppb	5.946	17.441	550.011
159	**Tb-ISK**	>	259054.433		ppb	0.569		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICSA-1517520
Autosampler Position: 202
Sample Date/Time: Monday, January 03, 2022 09:35:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICSA-1517520.045
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		73985.595		ppb	2.167		77879.527
9	**Be**		53.333	**-0.001100**	ppb	28.641	513.879	54.445
10	**B**		3888.307	**2.478687**	ppb	2.383	2.529	1942.354
27	**Al**		173785819.078	**10077.404214**	ppb	1.759	1.799	16840.931
43	**Ca-2**		1115719.717	**28283.004389**	ppb	3.293	2.649	163.334
49	**Ti**		253879.794	**204.396361**	ppb	1.667	2.142	326.670
52	**Cr**		24780.364	**0.186164**	ppb	1.002	29.762	20772.873
55	**Mn**		10794.085	**0.308021**	ppb	5.610	9.973	2443.543
57	**Fe**		13971426.116	**23955.954544**	ppb	1.767	3.643	17906.773
45	**Sc-IS**	>	2814070.776		ppb	3.542		2721227.995
66	**Zn**		3041.435	**0.677874**	ppb	4.316	5.858	1050.039
86	**Sr**		1197.373	**0.422865**	ppb	3.591	4.944	57.263
65	**Cu**		2530.224	**0.485939**	ppb	5.054	9.748	371.116
69	**Ga-IS**		877821.459		ppb	0.767		898488.779
95	**Mo**		619193.290	**207.885980**	ppb	2.826	3.856	590.012
115	**In-IS**	>	441878.809		ppb	0.816		454314.565
111	**Cd**		-99.144	**-0.044509**	ppb	24.160	15.731	50.983
118	**Sn**		3611.570	**0.017852**	ppb	7.969	157.154	3533.770
121	**Sb**		1293.392	**0.077557**	ppb	1.031	2.319	475.563
135	**Ba**		644.459	**0.215574**	ppb	4.149	3.787	76.667
165	**Ho-IS**		610728.438		ppb	0.662		614218.035
159	**Tb-IS**	>	609253.550		ppb	1.585		601934.155
207	**Pb**		3572.401	**0.057898**	ppb	7.325	8.786	1151.129
203	**Tl**		618.902	**0.015727**	ppb	3.586	8.769	394.450
209	**Bi-IS**		332109.514		ppb	2.254		351953.547
51	**V**		7.778	**0.010057**	ppb	98.974	307.262	5.556
59	**Co**		53.333	**0.015369**	ppb	12.500	50.872	42.222
60	**Ni**		434.451	**0.186837**	ppb	6.249	8.305	140.001
75	**As**		282.965	**0.097114**	ppb	17.487	92.829	242.527
71	**Ga-ISK**		91259.533		ppb	2.058		94220.812
82	**Se-2**		-5.146	**-0.077687**	ppb	70.106	83.387	-0.873
107	**Ag-1**		560.011	**0.030539**	ppb	1.575	3.531	404.450
115	**In-ISK**	>	119179.734		ppb	0.550		125430.764
45	**Sc-ISK**		246132.420		ppb	1.173		241579.157
23	**Na**		9351125.186	**25605.379182**	ppb	1.586	3.118	8619.268
39	**K**		6982840.905	**10105.560453**	ppb	1.272	2.745	38178.729
24	**Mg**		3143467.082	**9983.870066**	ppb	1.620	1.889	550.011
159	**Tb-ISK**	>	252280.460		ppb	1.592		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICSAB-2059235
Autosampler Position: 203
Sample Date/Time: Monday, January 03, 2022 09:38:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICSAB-2059235.046
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		74336.264		ppb	1.443		77879.527
9	**Be**		52.222	**-0.001263**	ppb	19.500	304.142	54.445
10	**B**		3841.628	**2.477160**	ppb	1.006	1.828	1942.354
27	**Al**		174331182.145	**10227.832994**	ppb	1.241	1.642	16840.931
43	**Ca-2**		1143305.998	**29322.284838**	ppb	3.563	2.982	163.334
49	**Ti**		255272.805	**207.922113**	ppb	0.469	0.887	326.670
52	**Cr**		361827.534	**19.321853**	ppb	1.229	1.127	20772.873
55	**Mn**		528255.284	**19.793812**	ppb	0.497	1.126	2443.543
57	**Fe**		14209756.146	**24642.107524**	ppb	0.932	0.367	17906.773
45	**Sc-IS**	>	2780369.169		ppb	0.655		2721227.995
66	**Zn**		30381.162	**10.279116**	ppb	0.948	1.530	1050.039
86	**Sr**		1165.698	**0.416070**	ppb	7.426	7.973	57.263
65	**Cu**		85667.208	**19.499428**	ppb	0.489	0.784	371.116
69	**Ga-IS**		868435.791		ppb	2.088		898488.779
95	**Mo**		619147.042	**210.269168**	ppb	0.452	1.100	590.012
115	**In-IS**	>	429747.907		ppb	2.036		454314.565
111	**Cd**		32849.471	**10.099315**	ppb	2.969	1.245	50.983
118	**Sn**		2343.526	**-0.105423**	ppb	4.456	10.156	3533.770
121	**Sb**		1116.710	**0.063993**	ppb	3.284	3.550	475.563
135	**Ba**		555.566	**0.188022**	ppb	2.498	4.672	76.667
165	**Ho-IS**		600911.612		ppb	3.193		614218.035
159	**Tb-IS**	>	591201.427		ppb	0.955		601934.155
207	**Pb**		2512.310	**0.034275**	ppb	4.421	8.001	1151.129
203	**Tl**		401.117	**0.001029**	ppb	13.253	397.698	394.450
209	**Bi-IS**		325645.216		ppb	2.075		351953.547
51	**V**		5200.947	**20.411815**	ppb	3.341	2.559	5.556
59	**Co**		17282.672	**19.783503**	ppb	1.514	1.490	42.222
60	**Ni**		33153.985	**20.211732**	ppb	0.916	1.787	140.001
75	**As**		6032.325	**10.597565**	ppb	2.444	1.871	242.527
71	**Ga-ISK**		92034.404		ppb	0.514		94220.812
82	**Se-2**		556.548	**9.903617**	ppb	4.966	5.522	-0.873
107	**Ag-1**		27831.533	**4.708442**	ppb	1.468	0.649	404.450
115	**In-ISK**	>	120728.871		ppb	0.872		125430.764
45	**Sc-ISK**		245139.892		ppb	0.693		241579.157
23	**Na**		9559285.951	**25573.778988**	ppb	0.272	1.269	8619.268
39	**K**		7185237.401	**10159.038574**	ppb	1.998	1.443	38178.729
24	**Mg**		3243056.121	**10064.146177**	ppb	2.620	2.053	550.011
159	**Tb-ISK**	>	258153.794		ppb	1.035		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 09:45:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.048
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		78125.307		ppb	1.727		77879.527
9	**Be**		15.556	**-0.014883**	ppb	44.607	17.262	54.445
10	**B**		1717.881	**-0.337162**	ppb	2.964	23.865	1942.354
27	**Al**		41416.375	**1.439516**	ppb	4.808	7.444	16840.931
43	**Ca-2**		293.336	**3.306462**	ppb	14.497	33.901	163.334
49	**Ti**		305.559	**-0.021121**	ppb	14.650	168.519	326.670
52	**Cr**		21906.788	**0.048737**	ppb	1.849	60.707	20772.873
55	**Mn**		1586.755	**-0.033762**	ppb	7.496	14.147	2443.543
57	**Fe**		19235.165	**1.897649**	ppb	1.541	26.393	17906.773
45	**Sc-IS**	>	2758348.995		ppb	0.533		2721227.995
66	**Zn**		1132.267	**0.023980**	ppb	2.398	31.648	1050.039
86	**Sr**		22.457	**-0.013528**	ppb	175.505	110.223	57.263
65	**Cu**		334.448	**-0.009618**	ppb	3.045	23.024	371.116
69	**Ga-IS**		925567.752		ppb	0.941		898488.779
95	**Mo**		1105.599	**0.174010**	ppb	8.270	19.089	590.012
115	**In-IS**	>	446058.856		ppb	1.444		454314.565
111	**Cd**		18.789	**-0.009303**	ppb	62.542	36.839	50.983
118	**Sn**		2124.602	**-0.136695**	ppb	1.458	4.612	3533.770
121	**Sb**		248.891	**-0.020156**	ppb	2.046	3.054	475.563
135	**Ba**		60.000	**-0.005721**	ppb	11.111	43.913	76.667
165	**Ho-IS**		618262.322		ppb	2.391		614218.035
159	**Tb-IS**	>	608978.667		ppb	0.952		601934.155
207	**Pb**		605.561	**-0.013454**	ppb	11.603	13.374	1151.129
203	**Tl**		321.115	**-0.005591**	ppb	6.912	25.138	394.450
209	**Bi-IS**		350232.361		ppb	2.047		351953.547
51	**V**		3.333	**-0.008476**	ppb	100.000	148.231	5.556
59	**Co**		36.667	**-0.006329**	ppb	36.364	233.340	42.222
60	**Ni**		84.445	**-0.033008**	ppb	13.863	20.870	140.001
75	**As**		281.557	**0.065842**	ppb	6.713	49.705	242.527
71	**Ga-ISK**		95681.593		ppb	0.888		94220.812
82	**Se-2**		1.877	**0.047048**	ppb	230.758	156.458	-0.873
107	**Ag-1**		322.226	**-0.013903**	ppb	17.134	63.652	404.450
115	**In-ISK**	>	126144.329		ppb	0.422		125430.764
45	**Sc-ISK**		249718.129		ppb	0.423		241579.157
23	**Na**		11184.378	**6.003379**	ppb	2.231	13.407	8619.268
39	**K**		38428.286	**-1.410497**	ppb	0.903	29.811	38178.729
24	**Mg**		1083.374	**1.571133**	ppb	4.714	9.236	550.011
159	**Tb-ISK**	>	262720.470		ppb	0.520		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICVL-2237328
Autosampler Position: 205
Sample Date/Time: Monday, January 03, 2022 09:48:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICVL-2237328.049
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		77469.490		ppb	0.604		77879.527
9	**Be**		2526.890	**0.942956**	ppb	1.715	0.515	54.445
10	**B**		36920.985	**47.799053**	ppb	0.933	0.305	1942.354
27	**Al**		845241.002	**49.789738**	ppb	1.050	1.193	16840.931
43	**Ca-2**		2075.151	**50.258861**	ppb	5.558	6.482	163.334
49	**Ti**		1422.293	**0.915526**	ppb	5.578	5.793	326.670
52	**Cr**		38711.283	**1.045836**	ppb	2.091	6.612	20772.873
55	**Mn**		26885.286	**0.942717**	ppb	2.582	2.419	2443.543
57	**Fe**		46396.353	**50.745911**	ppb	2.134	1.789	17906.773
45	**Sc-IS**	>	2714433.966		ppb	1.215		2721227.995
66	**Zn**		14593.010	**4.865199**	ppb	2.991	2.067	1050.039
86	**Sr**		2546.523	**0.958507**	ppb	5.633	6.582	57.263
65	**Cu**		4624.082	**0.996149**	ppb	1.794	1.209	371.116
69	**Ga-IS**		907993.108		ppb	2.179		898488.779
95	**Mo**		3481.537	**1.008112**	ppb	7.132	10.098	590.012
115	**In-IS**	>	446620.062		ppb	0.991		454314.565
111	**Cd**		3360.864	**0.980963**	ppb	0.828	0.189	50.983
118	**Sn**		11807.970	**0.846526**	ppb	1.720	3.608	3533.770
121	**Sb**		10195.861	**0.898579**	ppb	2.207	3.309	475.563
135	**Ba**		2640.244	**0.959970**	ppb	3.283	2.348	76.667
165	**Ho-IS**		603059.037		ppb	2.364		614218.035
159	**Tb-IS**	>	598781.659		ppb	1.816		601934.155
207	**Pb**		40520.191	**0.964514**	ppb	0.622	1.531	1151.129
203	**Tl**		13271.719	**0.938795**	ppb	1.797	3.726	394.450
209	**Bi-IS**		353043.717		ppb	0.663		351953.547
51	**V**		235.558	**0.872100**	ppb	13.375	13.520	5.556
59	**Co**		982.256	**1.041272**	ppb	3.738	4.513	42.222
60	**Ni**		1752.330	**0.952481**	ppb	4.889	4.693	140.001
75	**As**		810.867	**1.003753**	ppb	1.090	2.394	242.527
71	**Ga-ISK**		96365.076		ppb	1.353		94220.812
82	**Se-2**		55.208	**0.962242**	ppb	25.919	25.963	-0.873
107	**Ag-1**		5704.473	**0.878031**	ppb	4.165	5.087	404.450
115	**In-ISK**	>	125091.040		ppb	0.596		125430.764
45	**Sc-ISK**		248809.097		ppb	2.788		241579.157
23	**Na**		29513.790	**56.439642**	ppb	0.571	1.725	8619.268
39	**K**		72013.283	**48.368031**	ppb	0.918	1.619	38178.729
24	**Mg**		17113.579	**51.956518**	ppb	1.450	2.363	550.011
159	**Tb-ISK**	>	255466.359		ppb	1.631		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-204723_2-A
Autosampler Position: 101
Sample Date/Time: Monday, January 03, 2022 09:51:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCS 570-204723_2-A.050
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		72213.180		ppb	1.033		77879.527
9	**Be**		284829.548	**111.929375**	ppb	1.324	1.473	54.445
10	**B**		70137.402	**96.125204**	ppb	2.867	3.678	1942.354
27	**Al**		1652060.034	**101.309817**	ppb	0.661	0.931	16840.931
43	**Ca-2**		190111.639	**5144.101387**	ppb	0.433	1.175	163.334
49	**Ti**		125231.056	**107.530798**	ppb	1.734	1.016	326.670
52	**Cr**		1798654.498	**106.502996**	ppb	1.029	1.013	20772.873
55	**Mn**		2689950.531	**106.800264**	ppb	1.813	1.628	2443.543
57	**Fe**		2852195.195	**5195.982561**	ppb	1.856	1.523	17906.773
45	**Sc-IS**	>	2633988.722		ppb	0.791		2721227.995
66	**Zn**		324474.852	**119.741697**	ppb	0.876	0.266	1050.039
86	**Sr**		261513.881	**103.708687**	ppb	1.663	1.772	57.263
65	**Cu**		454250.151	**109.540912**	ppb	0.335	0.678	371.116
69	**Ga-IS**		919567.015		ppb	0.919		898488.779
95	**Mo**		302969.917	**108.514827**	ppb	2.139	2.556	590.012
115	**In-IS**	>	439781.200		ppb	0.490		454314.565
111	**Cd**		390134.950	**117.372708**	ppb	1.667	1.173	50.983
118	**Sn**		1000724.135	**102.854948**	ppb	0.558	0.640	3533.770
121	**Sb**		1105593.456	**103.642522**	ppb	0.634	0.164	475.563
135	**Ba**		274517.165	**104.328609**	ppb	1.168	0.714	76.667
165	**Ho-IS**		589072.384		ppb	0.615		614218.035
159	**Tb-IS**	>	587831.858		ppb	0.758		601934.155
207	**Pb**		4314555.289	**107.613412**	ppb	0.119	0.806	1151.129
203	**Tl**		1377556.419	**102.212645**	ppb	2.575	2.735	394.450
209	**Bi-IS**		336399.531		ppb	1.277		351953.547
51	**V**		28459.441	**111.973894**	ppb	2.345	2.153	5.556
59	**Co**		93813.723	**107.759122**	ppb	1.195	0.688	42.222
60	**Ni**		184051.881	**112.789535**	ppb	2.560	4.254	140.001
75	**As**		64063.186	**116.842604**	ppb	0.990	1.006	242.527
71	**Ga-ISK**		93992.704		ppb	1.739		94220.812
82	**Se-2**		6629.408	**117.994103**	ppb	2.313	3.554	-0.873
107	**Ag-1**		314063.467	**53.898180**	ppb	2.086	0.272	404.450
115	**In-ISK**	>	120552.688		ppb	1.861		125430.764
45	**Sc-ISK**		243185.774		ppb	0.497		241579.157
23	**Na**		366239.196	**1003.236373**	ppb	1.511	0.822	8619.268
39	**K**		708663.273	**999.835401**	ppb	1.198	2.368	38178.729
24	**Mg**		1673175.536	**5435.993386**	ppb	1.207	1.188	550.011
159	**Tb-ISK**	>	246570.542		ppb	1.160		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-204723_3-A
Autosampler Position: 102
Sample Date/Time: Monday, January 03, 2022 09:54:38
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCSD 570-204723_3-A.051
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		73641.634		ppb	2.703		77879.527
9	**Be**		285102.453	**112.426290**	ppb	2.550	2.409	54.445
10	**B**		70495.800	**96.975241**	ppb	2.429	3.161	1942.354
27	**Al**		1639974.815	**100.935701**	ppb	1.638	2.895	16840.931
43	**Ca-2**		191723.058	**5205.634759**	ppb	1.157	0.702	163.334
49	**Ti**		125128.035	**107.822539**	ppb	2.390	2.061	326.670
52	**Cr**		1779059.550	**105.681603**	ppb	3.332	2.181	20772.873
55	**Mn**		2651019.462	**105.610751**	ppb	2.389	1.185	2443.543
57	**Fe**		2820620.223	**5156.595702**	ppb	0.524	0.967	17906.773
45	**Sc-IS**	>	2624849.455		ppb	1.268		2721227.995
66	**Zn**		318039.500	**117.784879**	ppb	1.446	2.088	1050.039
86	**Sr**		257107.741	**102.336204**	ppb	1.761	2.883	57.263
65	**Cu**		441425.097	**106.832226**	ppb	1.606	2.502	371.116
69	**Ga-IS**		926552.801		ppb	1.601		898488.779
95	**Mo**		297688.766	**106.999785**	ppb	1.022	2.051	590.012
115	**In-IS**	>	431215.428		ppb	2.120		454314.565
111	**Cd**		378912.050	**116.280130**	ppb	1.227	0.964	50.983
118	**Sn**		985937.425	**103.356025**	ppb	1.612	0.510	3533.770
121	**Sb**		1094879.158	**104.681705**	ppb	1.876	0.384	475.563
135	**Ba**		272047.306	**105.462567**	ppb	1.304	1.384	76.667
165	**Ho-IS**		586327.467		ppb	0.780		614218.035
159	**Tb-IS**	>	583708.685		ppb	0.459		601934.155
207	**Pb**		4295469.722	**107.892548**	ppb	0.376	0.817	1151.129
203	**Tl**		1368426.745	**102.244137**	ppb	1.750	1.335	394.450
209	**Bi-IS**		332867.990		ppb	0.819		351953.547
51	**V**		28088.712	**110.647114**	ppb	2.787	3.999	5.556
59	**Co**		93744.359	**107.789110**	ppb	0.595	1.835	42.222
60	**Ni**		182907.041	**112.177804**	ppb	1.740	3.537	140.001
75	**As**		61895.230	**112.967533**	ppb	1.465	0.573	242.527
71	**Ga-ISK**		91871.167		ppb	1.362		94220.812
82	**Se-2**		6540.369	**116.527603**	ppb	1.898	3.872	-0.873
107	**Ag-1**		320713.708	**55.096099**	ppb	1.195	0.806	404.450
115	**In-ISK**	>	120447.951		ppb	1.981		125430.764
45	**Sc-ISK**		242669.340		ppb	0.599		241579.157
23	**Na**		363503.893	**1003.726015**	ppb	1.420	1.750	8619.268
39	**K**		701099.617	**996.681866**	ppb	1.003	0.308	38178.729
24	**Mg**		1657894.878	**5428.882004**	ppb	1.196	0.829	550.011
159	**Tb-ISK**	>	244626.775		ppb	0.750		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 09:57:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.052
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		72040.172		ppb	2.851		77879.527
9	**Be**		245990.775	**98.818877**	ppb	2.632	1.194	54.445
10	**B**		173105.859	**246.587369**	ppb	0.805	1.401	1942.354
27	**Al**		1589395.516	**99.643945**	ppb	0.718	1.192	16840.931
43	**Ca-2**		183280.404	**5069.585783**	ppb	2.605	1.101	163.334
49	**Ti**		112877.606	**99.080706**	ppb	1.648	0.658	326.670
52	**Cr**		1614306.611	**97.634508**	ppb	1.499	1.113	20772.873
55	**Mn**		2515391.873	**102.121012**	ppb	1.215	1.916	2443.543
57	**Fe**		2800148.426	**5216.591945**	ppb	0.399	1.544	17906.773
45	**Sc-IS**	>	2576208.144		ppb	1.540		2721227.995
66	**Zn**		278548.348	**105.061948**	ppb	2.577	2.631	1050.039
86	**Sr**		246582.495	**99.977326**	ppb	1.835	1.114	57.263
65	**Cu**		417204.236	**102.881333**	ppb	1.560	2.778	371.116
69	**Ga-IS**		910022.494		ppb	0.141		898488.779
95	**Mo**		275585.387	**100.923362**	ppb	1.531	2.776	590.012
115	**In-IS**	>	434887.840		ppb	1.201		454314.565
111	**Cd**		334199.823	**101.680904**	ppb	0.863	0.472	50.983
118	**Sn**		950880.482	**98.817470**	ppb	1.161	0.334	3533.770
121	**Sb**		1029563.673	**97.597522**	ppb	1.518	0.621	475.563
135	**Ba**		260811.935	**100.232994**	ppb	1.705	0.711	76.667
165	**Ho-IS**		576819.174		ppb	2.748		614218.035
159	**Tb-IS**	>	581340.324		ppb	2.431		601934.155
207	**Pb**		3912081.830	**98.678251**	ppb	2.193	2.265	1151.129
203	**Tl**		1282973.643	**96.264938**	ppb	1.706	1.091	394.450
209	**Bi-IS**		328233.693		ppb	0.806		351953.547
51	**V**		26089.378	**102.390126**	ppb	3.695	3.776	5.556
59	**Co**		88971.920	**101.956207**	ppb	2.994	3.797	42.222
60	**Ni**		165584.178	**101.182487**	ppb	1.083	2.562	140.001
75	**As**		56442.819	**102.611239**	ppb	2.300	0.329	242.527
71	**Ga-ISK**		92291.770		ppb	2.880		94220.812
82	**Se-2**		5847.369	**103.808799**	ppb	0.681	2.705	-0.873
107	**Ag-1**		587933.028	**100.693881**	ppb	2.362	0.129	404.450
115	**In-ISK**	>	120872.247		ppb	2.456		125430.764
45	**Sc-ISK**		244338.084		ppb	2.283		241579.157
23	**Na**		1885568.826	**5177.115522**	ppb	3.305	4.092	8619.268
39	**K**		3578428.291	**5184.906863**	ppb	2.431	3.330	38178.729
24	**Mg**		1610176.592	**5145.977317**	ppb	3.101	3.399	550.011
159	**Tb-ISK**	>	250675.131		ppb	1.354		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 10:01:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.053
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		73811.332		ppb	1.492		77879.527
9	**Be**		106.667	**0.022385**	ppb	16.238	30.956	54.445
10	**B**		2240.176	**0.595088**	ppb	7.525	38.402	1942.354
27	**Al**		19498.633	**0.231962**	ppb	1.299	4.120	16840.931
43	**Ca-2**		158.334	**0.131496**	ppb	9.648	376.170	163.334
49	**Ti**		320.004	**0.011033**	ppb	14.471	370.666	326.670
52	**Cr**		19733.621	**0.011008**	ppb	0.948	217.064	20772.873
55	**Mn**		2541.337	**0.009794**	ppb	4.530	28.671	2443.543
57	**Fe**		18060.298	**2.269336**	ppb	0.450	30.429	17906.773
45	**Sc-IS**	>	2562217.278		ppb	1.874		2721227.995
66	**Zn**		1222.275	**0.088989**	ppb	2.118	13.787	1050.039
86	**Sr**		64.093	**0.004353**	ppb	78.727	486.542	57.263
65	**Cu**		427.784	**0.019322**	ppb	13.968	68.422	371.116
69	**Ga-IS**		856069.089		ppb	1.851		898488.779
95	**Mo**		2202.392	**0.607203**	ppb	4.938	4.495	590.012
115	**In-IS**	>	427802.658		ppb	1.171		454314.565
111	**Cd**		155.376	**0.033286**	ppb	18.926	28.840	50.983
118	**Sn**		12723.445	**0.996186**	ppb	3.033	4.011	3533.770
121	**Sb**		2625.797	**0.209998**	ppb	0.986	1.694	475.563
135	**Ba**		145.556	**0.028770**	ppb	21.645	44.837	76.667
165	**Ho-IS**		590819.050		ppb	0.657		614218.035
159	**Tb-IS**	>	584925.719		ppb	0.115		601934.155
207	**Pb**		2353.411	**0.030954**	ppb	9.167	17.245	1151.129
203	**Tl**		805.579	**0.031489**	ppb	13.436	25.403	394.450
209	**Bi-IS**		340386.825		ppb	2.460		351953.547
51	**V**		12.222	**0.026843**	ppb	56.773	98.585	5.556
59	**Co**		68.889	**0.032613**	ppb	2.794	10.269	42.222
60	**Ni**		157.779	**0.014284**	ppb	15.997	107.097	140.001
75	**As**		286.456	**0.098144**	ppb	3.639	23.151	242.527
71	**Ga-ISK**		91320.984		ppb	1.262		94220.812
82	**Se-2**		6.544	**0.131027**	ppb	53.774	47.364	-0.873
107	**Ag-1**		1085.597	**0.119965**	ppb	5.392	10.200	404.450
115	**In-ISK**	>	120475.037		ppb	1.617		125430.764
45	**Sc-ISK**		235425.361		ppb	1.335		241579.157
23	**Na**		9314.703	**2.479141**	ppb	1.183	14.869	8619.268
39	**K**		41302.960	**5.894372**	ppb	1.167	13.213	38178.729
24	**Mg**		1156.714	**1.998041**	ppb	16.655	31.905	550.011
159	**Tb-ISK**	>	248553.643		ppb	0.454		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Monday, January 03, 2022 10:09:16
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\blk.054
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		76305.696		ppb	4.106		77879.527
9	**Be**		42.222	**-0.003638**	ppb	40.513	186.315	54.445
10	**B**		1707.880	**-0.166987**	ppb	2.937	70.665	1942.354
27	**Al**		21426.057	**0.358363**	ppb	1.253	2.459	16840.931
43	**Ca-2**		165.001	**0.316348**	ppb	16.872	220.568	163.334
49	**Ti**		294.448	**-0.010724**	ppb	11.783	304.814	326.670
52	**Cr**		20194.266	**0.042666**	ppb	1.829	64.289	20772.873
55	**Mn**		2205.726	**-0.003597**	ppb	1.943	94.192	2443.543
57	**Fe**		16575.166	**-0.447816**	ppb	1.065	117.473	17906.773
45	**Sc-IS**	>	2555315.833		ppb	1.855		2721227.995
66	**Zn**		1526.748	**0.206396**	ppb	1.155	2.726	1050.039
86	**Sr**		34.630	**-0.007645**	ppb	168.669	311.856	57.263
65	**Cu**		377.783	**0.007468**	ppb	15.594	215.116	371.116
69	**Ga-IS**		841387.524		ppb	1.149		898488.779
95	**Mo**		352.227	**-0.074698**	ppb	6.301	8.566	590.012
115	**In-IS**	>	433593.293		ppb	2.450		454314.565
111	**Cd**		32.594	**-0.004871**	ppb	17.795	40.745	50.983
118	**Sn**		5617.772	**0.235363**	ppb	3.982	14.850	3533.770
121	**Sb**		732.241	**0.026513**	ppb	7.513	21.351	475.563
135	**Ba**		125.556	**0.020280**	ppb	12.262	33.506	76.667
165	**Ho-IS**		582404.253		ppb	0.978		614218.035
159	**Tb-IS**	>	580405.010		ppb	1.889		601934.155
207	**Pb**		897.788	**-0.005341**	ppb	7.135	36.230	1151.129
203	**Tl**		303.337	**-0.005802**	ppb	11.630	42.056	394.450
209	**Bi-IS**		337738.975		ppb	2.001		351953.547
51	**V**		6.667	**0.004919**	ppb	86.603	463.866	5.556
59	**Co**		20.000	**-0.024038**	ppb	33.333	32.106	42.222
60	**Ni**		136.667	**-0.000365**	ppb	2.439	161.013	140.001
75	**As**		275.114	**0.066716**	ppb	6.732	37.669	242.527
71	**Ga-ISK**		94655.901		ppb	0.763		94220.812
82	**Se-2**		7.539	**0.148197**	ppb	123.424	109.832	-0.873
107	**Ag-1**		187.779	**-0.035117**	ppb	10.700	11.246	404.450
115	**In-ISK**	>	122980.210		ppb	1.838		125430.764
45	**Sc-ISK**		243152.113		ppb	1.420		241579.157
23	**Na**		8694.313	**0.503774**	ppb	3.234	211.783	8619.268
39	**K**		37149.351	**-0.816829**	ppb	0.284	111.959	38178.729
24	**Mg**		341.671	**-0.643315**	ppb	11.738	19.281	550.011
159	**Tb-ISK**	>	251237.567		ppb	1.396		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-204919_1-A
Autosampler Position: 103
Sample Date/Time: Monday, January 03, 2022 10:12:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\MB 570-204919_1-A.055
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		73851.585		ppb	2.418		77879.527
9	**Be**		21.111	**-0.012127**	ppb	39.736	27.837	54.445
10	**B**		1561.197	**-0.368397**	ppb	6.003	25.764	1942.354
27	**Al**		15069.612	**-0.041364**	ppb	1.420	43.640	16840.931
43	**Ca-2**		116.667	**-0.998855**	ppb	8.921	36.366	163.334
49	**Ti**		313.337	**0.007831**	ppb	2.815	201.510	326.670
52	**Cr**		20345.593	**0.059814**	ppb	2.196	49.205	20772.873
55	**Mn**		1167.826	**-0.045864**	ppb	4.100	2.916	2443.543
57	**Fe**		15727.542	**-1.853755**	ppb	0.614	56.462	17906.773
45	**Sc-IS**	>	2539874.858		ppb	2.898		2721227.995
66	**Zn**		2077.929	**0.421858**	ppb	0.808	4.747	1050.039
86	**Sr**		7.963	**-0.018859**	ppb	461.671	78.831	57.263
65	**Cu**		245.558	**-0.025054**	ppb	12.317	37.175	371.116
69	**Ga-IS**		859099.409		ppb	1.778		898488.779
95	**Mo**		160.001	**-0.145350**	ppb	7.217	3.179	590.012
115	**In-IS**	>	415704.164		ppb	0.334		454314.565
111	**Cd**		35.220	**-0.003637**	ppb	5.395	17.540	50.983
118	**Sn**		2585.790	**-0.070683**	ppb	4.112	15.291	3533.770
121	**Sb**		310.003	**-0.012429**	ppb	19.355	47.064	475.563
135	**Ba**		44.445	**-0.010326**	ppb	30.311	53.008	76.667
165	**Ho-IS**		574603.228		ppb	0.978		614218.035
159	**Tb-IS**	>	572125.460		ppb	0.888		601934.155
207	**Pb**		612.227	**-0.012351**	ppb	7.022	8.932	1151.129
203	**Tl**		218.891	**-0.011892**	ppb	4.396	7.426	394.450
209	**Bi-IS**		331907.901		ppb	1.927		351953.547
51	**V**		2.222	**-0.012116**	ppb	173.205	127.154	5.556
59	**Co**		16.667	**-0.027471**	ppb	20.000	14.883	42.222
60	**Ni**		76.667	**-0.035489**	ppb	11.503	17.369	140.001
75	**As**		248.752	**0.028226**	ppb	7.408	131.029	242.527
71	**Ga-ISK**		91619.544		ppb	1.062		94220.812
82	**Se-2**		8.565	**0.165956**	ppb	115.626	104.326	-0.873
107	**Ag-1**		145.556	**-0.041788**	ppb	10.823	7.432	404.450
115	**In-ISK**	>	120727.112		ppb	1.625		125430.764
45	**Sc-ISK**		239762.261		ppb	1.588		241579.157
23	**Na**		8107.301	**-0.526840**	ppb	2.243	126.013	8619.268
39	**K**		36430.838	**-0.465424**	ppb	0.436	58.426	38178.729
24	**Mg**		135.001	**-1.290946**	ppb	9.799	3.302	550.011
159	**Tb-ISK**	>	244758.993		ppb	0.658		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-204919_2-A
Autosampler Position: 104
Sample Date/Time: Monday, January 03, 2022 10:15:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCS 570-204919_2-A.056
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		73969.911		ppb	0.977		77879.527
9	**Be**		283695.017	**113.949314**	ppb	2.739	1.383	54.445
10	**B**		69422.772	**97.270036**	ppb	2.179	0.315	1942.354
27	**Al**		1631796.787	**102.327268**	ppb	1.779	2.937	16840.931
43	**Ca-2**		190827.796	**5278.911967**	ppb	0.790	1.506	163.334
49	**Ti**		123103.721	**108.072354**	ppb	0.963	1.041	326.670
52	**Cr**		1788147.739	**108.266178**	ppb	0.937	1.242	20772.873
55	**Mn**		2687185.484	**109.086894**	ppb	0.627	1.838	2443.543
57	**Fe**		2790406.675	**5197.694412**	ppb	0.311	1.912	17906.773
45	**Sc-IS**	>	2576763.124		ppb	1.958		2721227.995
66	**Zn**		315124.829	**118.883362**	ppb	1.417	1.071	1050.039
86	**Sr**		267552.097	**108.483640**	ppb	2.343	2.982	57.263
65	**Cu**		447832.802	**110.412616**	ppb	1.177	1.995	371.116
69	**Ga-IS**		912293.159		ppb	1.434		898488.779
95	**Mo**		298764.631	**109.398214**	ppb	1.764	2.207	590.012
115	**In-IS**	>	434453.828		ppb	1.619		454314.565
111	**Cd**		381829.402	**116.292922**	ppb	1.139	0.485	50.983
118	**Sn**		988529.150	**102.855919**	ppb	0.782	0.905	3533.770
121	**Sb**		1087852.145	**103.237731**	ppb	1.042	0.821	475.563
135	**Ba**		268371.008	**103.248887**	ppb	1.416	0.672	76.667
165	**Ho-IS**		578191.703		ppb	2.052		614218.035
159	**Tb-IS**	>	574982.936		ppb	0.153		601934.155
207	**Pb**		4303606.032	**109.734684**	ppb	0.616	0.481	1151.129
203	**Tl**		1380029.871	**104.680872**	ppb	1.845	1.888	394.450
209	**Bi-IS**		331567.925		ppb	1.934		351953.547
51	**V**		28286.884	**112.901646**	ppb	3.101	5.422	5.556
59	**Co**		93327.350	**108.755993**	ppb	2.812	5.480	42.222
60	**Ni**		181299.245	**112.603169**	ppb	2.613	3.389	140.001
75	**As**		62511.699	**115.601562**	ppb	0.181	2.652	242.527
71	**Ga-ISK**		91396.091		ppb	3.342		94220.812
82	**Se-2**		6637.093	**119.792280**	ppb	1.784	4.523	-0.873
107	**Ag-1**		309984.232	**53.952202**	ppb	1.525	3.301	404.450
115	**In-ISK**	>	118935.127		ppb	2.748		125430.764
45	**Sc-ISK**		239025.284		ppb	4.129		241579.157
23	**Na**		364556.572	**990.258872**	ppb	2.560	1.514	8619.268
39	**K**		712473.471	**997.031042**	ppb	1.090	2.311	38178.729
24	**Mg**		1712353.292	**5518.121014**	ppb	2.494	1.495	550.011
159	**Tb-ISK**	>	248627.617		ppb	3.156		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-204919_3-A
Autosampler Position: 105
Sample Date/Time: Monday, January 03, 2022 10:18:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCSD 570-204919_3-A.057
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		73497.476		ppb	0.723		77879.527
9	**Be**		284886.246	**116.908612**	ppb	1.381	0.341	54.445
10	**B**		70669.958	**101.276805**	ppb	1.747	2.102	1942.354
27	**Al**		1638230.540	**104.945602**	ppb	1.814	1.301	16840.931
43	**Ca-2**		190638.899	**5387.526460**	ppb	1.957	2.478	163.334
49	**Ti**		122920.053	**110.228760**	ppb	2.134	1.106	326.670
52	**Cr**		1764104.343	**109.108049**	ppb	2.035	1.115	20772.873
55	**Mn**		2697945.126	**111.875286**	ppb	0.734	0.812	2443.543
57	**Fe**		2838732.216	**5402.177312**	ppb	0.836	0.520	17906.773
45	**Sc-IS**	>	2522231.865		ppb	1.304		2721227.995
66	**Zn**		319789.600	**123.265314**	ppb	2.123	2.429	1050.039
86	**Sr**		255901.359	**105.983992**	ppb	0.690	0.947	57.263
65	**Cu**		448039.007	**112.842664**	ppb	1.064	1.736	371.116
69	**Ga-IS**		900085.981		ppb	1.109		898488.779
95	**Mo**		292082.455	**109.260100**	ppb	2.482	3.055	590.012
115	**In-IS**	>	423490.936		ppb	1.925		454314.565
111	**Cd**		375724.899	**117.379118**	ppb	2.702	0.902	50.983
118	**Sn**		986903.696	**105.353690**	ppb	1.348	0.986	3533.770
121	**Sb**		1081695.942	**105.318115**	ppb	1.119	1.252	475.563
135	**Ba**		270579.712	**106.803079**	ppb	1.017	0.910	76.667
165	**Ho-IS**		579310.618		ppb	1.828		614218.035
159	**Tb-IS**	>	573366.799		ppb	0.604		601934.155
207	**Pb**		4279772.440	**109.439003**	ppb	0.322	0.923	1151.129
203	**Tl**		1348893.782	**102.606605**	ppb	1.042	0.904	394.450
209	**Bi-IS**		331238.750		ppb	1.222		351953.547
51	**V**		26865.268	**106.699568**	ppb	4.258	3.813	5.556
59	**Co**		91719.327	**106.350570**	ppb	3.784	3.362	42.222
60	**Ni**		180867.842	**111.849698**	ppb	1.056	0.851	140.001
75	**As**		62827.225	**115.671586**	ppb	1.861	1.418	242.527
71	**Ga-ISK**		92046.769		ppb	1.872		94220.812
82	**Se-2**		6587.374	**118.325689**	ppb	2.915	2.464	-0.873
107	**Ag-1**		314756.507	**54.541900**	ppb	0.720	1.013	404.450
115	**In-ISK**	>	119400.545		ppb	0.456		125430.764
45	**Sc-ISK**		238117.253		ppb	1.454		241579.157
23	**Na**		354378.382	**968.942814**	ppb	0.662	1.754	8619.268
39	**K**		694294.049	**977.081272**	ppb	0.715	0.498	38178.729
24	**Mg**		1664658.485	**5401.673073**	ppb	1.115	0.186	550.011
159	**Tb-ISK**	>	246862.148		ppb	1.051		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293636-H-1-A sd @5
Autosampler Position: 106
Sample Date/Time: Monday, January 03, 2022 10:21:58
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293636-H-1-A sd @5.058
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		77669.456		ppb	0.153		77879.527
9	**Be**		106.667	**0.020953**	ppb	10.825	23.175	54.445
10	**B**		13188.309	**15.795527**	ppb	2.092	2.373	1942.354
27	**Al**		35117.790	**1.150812**	ppb	2.073	5.356	16840.931
43	**Ca-2**		724729.695	**19487.346149**	ppb	1.069	1.305	163.334
49	**Ti**		908.918	**0.505196**	ppb	4.979	9.140	326.670
52	**Cr**		31304.266	**0.657803**	ppb	1.412	5.109	20772.873
55	**Mn**		703548.178	**27.672818**	ppb	2.085	1.969	2443.543
57	**Fe**		54241.694	**66.971200**	ppb	1.882	2.508	17906.773
45	**Sc-IS**	>	2652258.305		ppb	1.432		2721227.995
66	**Zn**		18775.670	**6.527252**	ppb	2.747	3.118	1050.039
86	**Sr**		625511.703	**246.376766**	ppb	1.297	0.308	57.263
65	**Cu**		2103.488	**0.417578**	ppb	1.258	3.269	371.116
69	**Ga-IS**		849135.028		ppb	2.892		898488.779
95	**Mo**		4006.117	**1.222858**	ppb	1.540	2.567	590.012
115	**In-IS**	>	424882.654		ppb	2.497		454314.565
111	**Cd**		164.922	**0.036399**	ppb	17.191	21.016	50.983
118	**Sn**		11257.767	**0.849534**	ppb	0.514	4.081	3533.770
121	**Sb**		3811.620	**0.327069**	ppb	2.073	4.734	475.563
135	**Ba**		32210.726	**12.648191**	ppb	1.898	1.409	76.667
165	**Ho-IS**		581084.505		ppb	1.093		614218.035
159	**Tb-IS**	>	578489.206		ppb	0.159		601934.155
207	**Pb**		4368.032	**0.082688**	ppb	1.107	1.693	1151.129
203	**Tl**		943.364	**0.042556**	ppb	1.619	2.972	394.450
209	**Bi-IS**		320592.547		ppb	1.778		351953.547
51	**V**		47.778	**0.169352**	ppb	14.523	15.294	5.556
59	**Co**		78.889	**0.045296**	ppb	6.454	15.437	42.222
60	**Ni**		616.680	**0.300849**	ppb	6.554	9.846	140.001
75	**As**		537.288	**0.570505**	ppb	4.610	10.230	242.527
71	**Ga-ISK**		89553.170		ppb	1.082		94220.812
82	**Se-2**		18.169	**0.341624**	ppb	88.483	83.810	-0.873
107	**Ag-1**		637.792	**0.044279**	ppb	2.357	5.522	404.450
115	**In-ISK**	>	118948.993		ppb	1.236		125430.764
45	**Sc-ISK**		244422.820		ppb	2.235		241579.157
23	**Na**		6531274.912	**18081.836246**	ppb	1.192	0.065	8619.268
39	**K**		776567.457	**1087.965809**	ppb	0.245	1.192	38178.729
24	**Mg**		1895949.540	**6092.162430**	ppb	1.775	2.568	550.011
159	**Tb-ISK**	>	249346.128		ppb	1.234		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293636-H-1-A
Autosampler Position: 107
Sample Date/Time: Monday, January 03, 2022 10:25:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293636-H-1-A.059
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		85926.540		ppb	0.683		77879.527
9	**Be**		76.667	**0.007476**	ppb	30.435	108.834	54.445
10	**B**		61624.896	**78.859093**	ppb	2.215	3.323	1942.354
27	**Al**		142643.963	**7.287015**	ppb	2.718	2.841	16840.931
43	**Ca-2**		3784890.283	**96249.228424**	ppb	1.890	1.566	163.334
49	**Ti**		3190.357	**2.309239**	ppb	4.898	7.760	326.670
52	**Cr**		54872.972	**1.881885**	ppb	1.168	1.510	20772.873
55	**Mn**		3643571.376	**135.884740**	ppb	1.175	0.821	2443.543
57	**Fe**		191712.395	**298.240552**	ppb	1.325	1.131	17906.773
45	**Sc-IS**	>	2804967.314		ppb	1.984		2721227.995
66	**Zn**		76480.959	**26.216771**	ppb	2.883	3.396	1050.039
86	**Sr**		3278722.063	**1221.838154**	ppb	2.033	4.049	57.263
65	**Cu**		7897.740	**1.703141**	ppb	3.488	3.127	371.116
69	**Ga-IS**		838426.896		ppb	1.548		898488.779
95	**Mo**		13853.388	**4.466633**	ppb	3.998	6.307	590.012
115	**In-IS**	>	410314.383		ppb	1.646		454314.565
111	**Cd**		122.020	**0.024569**	ppb	13.924	24.931	50.983
118	**Sn**		8239.047	**0.557611**	ppb	5.855	7.501	3533.770
121	**Sb**		2580.233	**0.216176**	ppb	2.492	1.780	475.563
135	**Ba**		165939.311	**67.599669**	ppb	0.393	2.029	76.667
165	**Ho-IS**		573637.068		ppb	0.024		614218.035
159	**Tb-IS**	>	574577.218		ppb	0.445		601934.155
207	**Pb**		4659.181	**0.090865**	ppb	4.045	5.036	1151.129
203	**Tl**		396.672	**0.001538**	ppb	11.914	239.332	394.450
209	**Bi-IS**		294679.543		ppb	1.001		351953.547
51	**V**		151.112	**0.607039**	ppb	5.551	7.299	5.556
59	**Co**		164.445	**0.152983**	ppb	8.192	12.638	42.222
60	**Ni**		2186.835	**1.330849**	ppb	8.455	6.519	140.001
75	**As**		1585.068	**2.635176**	ppb	4.593	4.792	242.527
71	**Ga-ISK**		88622.934		ppb	0.457		94220.812
82	**Se-2**		51.203	**0.976121**	ppb	19.967	19.513	-0.873
107	**Ag-1**		377.783	**0.001771**	ppb	2.221	193.808	404.450
115	**In-ISK**	>	114240.973		ppb	2.791		125430.764
45	**Sc-ISK**		248456.786		ppb	1.670		241579.157
23	**Na**		34288890.415	**96689.140051**	ppb	1.235	0.892	8619.268
39	**K**		3971786.249	**5891.966909**	ppb	2.360	0.984	38178.729
24	**Mg**		10088145.290	**32981.732851**	ppb	1.919	0.714	550.011
159	**Tb-ISK**	>	245073.183		ppb	1.389		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293636-H-1-B MS
Autosampler Position: 108
Sample Date/Time: Monday, January 03, 2022 10:28:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293636-H-1-B MS.060
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		84883.688		ppb	1.339		77879.527
9	**Be**		268670.163	**98.924322**	ppb	1.921	1.450	54.445
10	**B**		127082.880	**165.018873**	ppb	1.876	1.342	1942.354
27	**Al**		1727674.993	**99.252561**	ppb	1.318	0.847	16840.931
43	**Ca-2**		3891502.613	**98736.738350**	ppb	2.023	1.461	163.334
49	**Ti**		121119.096	**97.434377**	ppb	1.111	1.112	326.670
52	**Cr**		1633214.166	**90.438638**	ppb	0.690	0.198	20772.873
55	**Mn**		6091940.899	**226.746062**	ppb	1.672	1.203	2443.543
57	**Fe**		2774271.269	**4732.713780**	ppb	3.351	2.812	17906.773
45	**Sc-IS**	>	2810902.020		ppb	0.564		2721227.995
66	**Zn**		332471.487	**114.956362**	ppb	1.440	1.371	1050.039
86	**Sr**		3487069.249	**1296.102470**	ppb	0.938	1.384	57.263
65	**Cu**		411688.406	**93.007407**	ppb	2.132	1.572	371.116
69	**Ga-IS**		894747.024		ppb	1.410		898488.779
95	**Mo**		280172.229	**93.997682**	ppb	1.537	1.362	590.012
115	**In-IS**	>	413019.037		ppb	1.800		454314.565
111	**Cd**		320412.918	**102.653399**	ppb	1.379	1.050	50.983
118	**Sn**		890108.123	**97.398349**	ppb	1.433	0.389	3533.770
121	**Sb**		999269.039	**99.754386**	ppb	1.048	0.997	475.563
135	**Ba**		417445.938	**168.971753**	ppb	0.686	1.156	76.667
165	**Ho-IS**		572468.926		ppb	0.969		614218.035
159	**Tb-IS**	>	567958.403		ppb	0.837		601934.155
207	**Pb**		3533148.561	**91.207754**	ppb	0.991	1.757	1151.129
203	**Tl**		1181242.002	**90.716195**	ppb	1.217	2.045	394.450
209	**Bi-IS**		296326.366		ppb	0.848		351953.547
51	**V**		25876.757	**109.170032**	ppb	2.316	1.602	5.556
59	**Co**		82704.298	**101.881369**	ppb	1.449	2.271	42.222
60	**Ni**		158430.433	**104.083026**	ppb	1.342	2.677	140.001
75	**As**		58352.391	**114.162400**	ppb	1.797	3.938	242.527
71	**Ga-ISK**		87147.238		ppb	0.813		94220.812
82	**Se-2**		5901.755	**112.623986**	ppb	1.881	2.452	-0.873
107	**Ag-1**		209129.134	**38.478108**	ppb	2.538	3.273	404.450
115	**In-ISK**	>	112455.012		ppb	3.544		125430.764
45	**Sc-ISK**		249644.635		ppb	0.384		241579.157
23	**Na**		34150012.616	**97879.611899**	ppb	3.345	2.892	8619.268
39	**K**		4665961.099	**7047.031399**	ppb	2.129	1.309	38178.729
24	**Mg**		11089887.110	**36854.158598**	ppb	3.055	2.356	550.011
159	**Tb-ISK**	>	241086.704		ppb	0.844		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293636-H-1-C MSD
Autosampler Position: 109
Sample Date/Time: Monday, January 03, 2022 10:31:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293636-H-1-C MSD.061
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		84268.966		ppb	1.585		77879.527
9	**Be**		274628.130	**99.799081**	ppb	1.099	2.600	54.445
10	**B**		131281.646	**168.292778**	ppb	1.363	2.518	1942.354
27	**Al**		1751960.727	**99.337468**	ppb	1.374	2.953	16840.931
43	**Ca-2**		3966835.626	**99307.164382**	ppb	2.500	1.746	163.334
49	**Ti**		124567.529	**98.880705**	ppb	1.851	1.774	326.670
52	**Cr**		1657727.302	**90.564854**	ppb	2.553	1.248	20772.873
55	**Mn**		6103582.150	**224.109608**	ppb	3.086	1.137	2443.543
57	**Fe**		2818966.344	**4746.017841**	ppb	1.608	2.121	17906.773
45	**Sc-IS**	>	2849956.498		ppb	3.647		2721227.995
66	**Zn**		336633.588	**114.877749**	ppb	0.805	2.803	1050.039
86	**Sr**		3536511.983	**1297.195479**	ppb	1.984	3.007	57.263
65	**Cu**		419532.505	**93.550193**	ppb	0.838	2.805	371.116
69	**Ga-IS**		893016.946		ppb	2.144		898488.779
95	**Mo**		285523.290	**94.533280**	ppb	1.508	2.319	590.012
115	**In-IS**	>	418092.788		ppb	1.043		454314.565
111	**Cd**		327319.177	**103.588574**	ppb	0.725	0.683	50.983
118	**Sn**		924251.550	**99.918319**	ppb	1.105	1.459	3533.770
121	**Sb**		1023418.152	**100.925089**	ppb	1.355	1.918	475.563
135	**Ba**		427224.165	**170.827754**	ppb	1.698	2.291	76.667
165	**Ho-IS**		569424.312		ppb	1.097		614218.035
159	**Tb-IS**	>	569949.010		ppb	1.057		601934.155
207	**Pb**		3581381.435	**92.121301**	ppb	1.599	1.148	1151.129
203	**Tl**		1183846.299	**90.585678**	ppb	1.531	0.609	394.450
209	**Bi-IS**		292011.015		ppb	0.631		351953.547
51	**V**		26966.544	**112.722287**	ppb	1.769	1.917	5.556
59	**Co**		86595.049	**105.675174**	ppb	1.762	1.952	42.222
60	**Ni**		162445.850	**105.692724**	ppb	3.640	2.860	140.001
75	**As**		60332.257	**116.897313**	ppb	0.865	0.223	242.527
71	**Ga-ISK**		88759.382		ppb	1.717		94220.812
82	**Se-2**		6137.835	**116.028991**	ppb	1.066	1.066	-0.873
107	**Ag-1**		215448.335	**39.269295**	ppb	1.708	2.072	404.450
115	**In-ISK**	>	113465.628		ppb	0.802		125430.764
45	**Sc-ISK**		248164.015		ppb	1.735		241579.157
23	**Na**		34456736.076	**97439.474151**	ppb	2.030	1.331	8619.268
39	**K**		4751193.451	**7079.983142**	ppb	2.079	1.066	38178.729
24	**Mg**		11517997.595	**37765.310359**	ppb	2.663	1.824	550.011
159	**Tb-ISK**	>	244396.266		ppb	2.421		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293636-H-1-A PDS
Autosampler Position: 110
Sample Date/Time: Monday, January 03, 2022 10:34:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293636-H-1-A PDS.062
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		83047.499		ppb	2.970		77879.527
9	**Be**		283275.458	**103.613787**	ppb	3.506	2.226	54.445
10	**B**		130135.807	**167.934862**	ppb	2.278	1.361	1942.354
27	**Al**		1839945.775	**105.079523**	ppb	1.367	0.113	16840.931
43	**Ca-2**		3883623.090	**97921.951921**	ppb	0.666	1.991	163.334
49	**Ti**		129004.552	**103.109947**	ppb	2.554	1.192	326.670
52	**Cr**		1763128.010	**97.086671**	ppb	1.610	0.415	20772.873
55	**Mn**		6110965.628	**225.968003**	ppb	2.667	1.527	2443.543
57	**Fe**		3069589.536	**5207.002839**	ppb	0.736	1.634	17906.773
45	**Sc-IS**	>	2829234.262		ppb	1.450		2721227.995
66	**Zn**		342103.425	**117.538108**	ppb	0.673	0.932	1050.039
86	**Sr**		3475320.786	**1283.329796**	ppb	1.350	0.506	57.263
65	**Cu**		413127.449	**92.743380**	ppb	0.522	1.248	371.116
69	**Ga-IS**		899174.148		ppb	1.295		898488.779
95	**Mo**		303019.007	**101.017615**	ppb	2.441	1.797	590.012
115	**In-IS**	>	423256.038		ppb	1.655		454314.565
111	**Cd**		347840.153	**108.738224**	ppb	1.695	0.681	50.983
118	**Sn**		1006305.401	**107.468680**	ppb	2.764	1.148	3533.770
121	**Sb**		1078666.232	**105.066342**	ppb	1.797	0.463	475.563
135	**Ba**		444767.915	**175.638859**	ppb	2.437	0.794	76.667
165	**Ho-IS**		571295.165		ppb	2.252		614218.035
159	**Tb-IS**	>	571592.851		ppb	1.664		601934.155
207	**Pb**		3933107.734	**100.892810**	ppb	0.673	1.152	1151.129
203	**Tl**		1252020.132	**95.538372**	ppb	1.327	1.146	394.450
209	**Bi-IS**		296229.125		ppb	1.495		351953.547
51	**V**		29718.664	**122.392962**	ppb	1.766	4.208	5.556
59	**Co**		93545.379	**112.443876**	ppb	2.252	3.485	42.222
60	**Ni**		174292.616	**111.705023**	ppb	2.005	2.520	140.001
75	**As**		63206.660	**120.627147**	ppb	0.879	1.808	242.527
71	**Ga-ISK**		90153.600		ppb	1.180		94220.812
82	**Se-2**		6092.828	**113.442473**	ppb	1.454	2.641	-0.873
107	**Ag-1**		266701.213	**47.883123**	ppb	1.266	1.324	404.450
115	**In-ISK**	>	115241.862		ppb	2.467		125430.764
45	**Sc-ISK**		252101.518		ppb	2.614		241579.157
23	**Na**		33412993.481	**93195.871833**	ppb	2.685	2.233	8619.268
39	**K**		4593952.752	**6749.609531**	ppb	3.476	3.036	38178.729
24	**Mg**		11411295.053	**36907.919248**	ppb	0.849	0.348	550.011
159	**Tb-ISK**	>	247735.623		ppb	0.504		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293636-H-2-A
Autosampler Position: 111
Sample Date/Time: Monday, January 03, 2022 10:37:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293636-H-2-A.063
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		84472.429		ppb	2.291		77879.527
9	**Be**		170.001	**0.041507**	ppb	7.070	9.303	54.445
10	**B**		63328.991	**80.428944**	ppb	2.154	2.798	1942.354
27	**Al**		148150.220	**7.538989**	ppb	2.516	3.533	16840.931
43	**Ca-2**		3777620.959	**95285.811967**	ppb	2.128	1.598	163.334
49	**Ti**		3703.813	**2.698749**	ppb	1.667	3.256	326.670
52	**Cr**		56451.331	**1.945425**	ppb	1.395	3.759	20772.873
55	**Mn**		2620804.304	**96.930149**	ppb	1.331	1.610	2443.543
57	**Fe**		206907.957	**321.571924**	ppb	1.887	2.909	17906.773
45	**Sc-IS**	>	2827587.224		ppb	1.305		2721227.995
66	**Zn**		74619.992	**25.360004**	ppb	2.146	2.736	1050.039
86	**Sr**		3308135.011	**1222.466354**	ppb	0.917	1.905	57.263
65	**Cu**		10151.384	**2.196050**	ppb	1.993	3.415	371.116
69	**Ga-IS**		846944.562		ppb	1.261		898488.779
95	**Mo**		12341.997	**3.921371**	ppb	2.079	3.278	590.012
115	**In-IS**	>	430000.653		ppb	0.459		454314.565
111	**Cd**		184.083	**0.041801**	ppb	5.655	7.653	50.983
118	**Sn**		11213.291	**0.830056**	ppb	3.314	5.144	3533.770
121	**Sb**		4068.357	**0.347069**	ppb	2.548	3.149	475.563
135	**Ba**		171277.384	**66.566286**	ppb	1.076	1.298	76.667
165	**Ho-IS**		575158.921		ppb	0.571		614218.035
159	**Tb-IS**	>	568397.274		ppb	1.357		601934.155
207	**Pb**		41396.751	**1.040162**	ppb	0.808	1.799	1151.129
203	**Tl**		825.579	**0.034762**	ppb	5.482	8.318	394.450
209	**Bi-IS**		297289.457		ppb	0.997		351953.547
51	**V**		213.335	**0.839751**	ppb	10.938	13.237	5.556
59	**Co**		223.335	**0.216233**	ppb	9.079	11.832	42.222
60	**Ni**		2106.822	**1.239716**	ppb	4.828	5.088	140.001
75	**As**		1567.152	**2.510046**	ppb	3.930	4.317	242.527
71	**Ga-ISK**		91630.709		ppb	0.460		94220.812
82	**Se-2**		66.547	**1.223531**	ppb	27.988	26.391	-0.873
107	**Ag-1**		1190.050	**0.142531**	ppb	9.236	12.969	404.450
115	**In-ISK**	>	117757.520		ppb	1.939		125430.764
45	**Sc-ISK**		257077.249		ppb	1.474		241579.157
23	**Na**		34032725.767	**94756.869149**	ppb	2.915	1.744	8619.268
39	**K**		4025877.912	**5897.993560**	ppb	2.596	1.575	38178.729
24	**Mg**		10144721.858	**32752.882183**	ppb	2.272	1.038	550.011
159	**Tb-ISK**	>	248159.762		ppb	1.310		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293636-H-3-A
Autosampler Position: 112
Sample Date/Time: Monday, January 03, 2022 10:40:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293636-H-3-A.064
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		80835.890		ppb	1.860		77879.527
9	**Be**		71.111	**0.005561**	ppb	10.825	56.808	54.445
10	**B**		61859.202	**79.166657**	ppb	0.827	2.048	1942.354
27	**Al**		128545.597	**6.466630**	ppb	2.186	0.982	16840.931
43	**Ca-2**		3773057.733	**95943.850199**	ppb	2.137	0.784	163.334
49	**Ti**		3824.957	**2.819749**	ppb	4.642	4.262	326.670
52	**Cr**		33664.065	**0.689460**	ppb	1.003	5.415	20772.873
55	**Mn**		2163198.941	**80.637049**	ppb	1.803	1.056	2443.543
57	**Fe**		203458.847	**318.485921**	ppb	1.623	1.792	17906.773
45	**Sc-IS**	>	2805200.048		ppb	2.820		2721227.995
66	**Zn**		50694.237	**17.251111**	ppb	0.952	1.889	1050.039
86	**Sr**		3341708.557	**1245.319973**	ppb	0.565	3.328	57.263
65	**Cu**		5917.892	**1.254934**	ppb	0.830	2.778	371.116
69	**Ga-IS**		833808.327		ppb	0.635		898488.779
95	**Mo**		11415.672	**3.641871**	ppb	2.447	1.921	590.012
115	**In-IS**	>	429595.600		ppb	1.290		454314.565
111	**Cd**		98.250	**0.015405**	ppb	7.247	12.842	50.983
118	**Sn**		6268.042	**0.308999**	ppb	1.535	2.836	3533.770
121	**Sb**		1890.125	**0.138320**	ppb	0.706	2.451	475.563
135	**Ba**		173426.359	**67.474579**	ppb	0.614	1.875	76.667
165	**Ho-IS**		571407.035		ppb	0.280		614218.035
159	**Tb-IS**	>	572692.662		ppb	1.324		601934.155
207	**Pb**		7655.245	**0.168020**	ppb	2.967	4.144	1151.129
203	**Tl**		467.785	**0.007070**	ppb	10.136	55.074	394.450
209	**Bi-IS**		291115.482		ppb	1.298		351953.547
51	**V**		173.334	**0.673446**	ppb	16.431	17.019	5.556
59	**Co**		176.668	**0.160038**	ppb	13.606	17.543	42.222
60	**Ni**		2613.573	**1.548523**	ppb	5.458	5.858	140.001
75	**As**		1365.496	**2.117996**	ppb	6.027	7.452	242.527
71	**Ga-ISK**		89899.803		ppb	1.528		94220.812
82	**Se-2**		49.177	**0.905712**	ppb	8.260	8.388	-0.873
107	**Ag-1**		800.023	**0.073161**	ppb	8.323	15.941	404.450
115	**In-ISK**	>	118413.459		ppb	0.266		125430.764
45	**Sc-ISK**		252839.722		ppb	2.287		241579.157
23	**Na**		33186060.583	**91805.324785**	ppb	0.888	1.433	8619.268
39	**K**		4036863.455	**5875.593175**	ppb	1.417	1.716	38178.729
24	**Mg**		10130966.537	**32496.682844**	ppb	0.667	1.245	550.011
159	**Tb-ISK**	>	249817.570		ppb	1.171		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 10:44:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.065
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68898.131		ppb	3.877		77879.527
9	**Be**		253720.937	**105.292655**	ppb	2.616	1.014	54.445
10	**B**		178895.597	**263.408119**	ppb	1.724	1.128	1942.354
27	**Al**		1513516.753	**97.993879**	ppb	1.960	1.038	16840.931
43	**Ca-2**		179465.639	**5128.217730**	ppb	2.324	0.506	163.334
49	**Ti**		111353.770	**100.947818**	ppb	3.526	1.014	326.670
52	**Cr**		1582564.295	**98.893527**	ppb	2.686	2.568	20772.873
55	**Mn**		2442128.129	**102.426746**	ppb	1.301	2.213	2443.543
57	**Fe**		2663158.830	**5124.154946**	ppb	1.911	1.518	17906.773
45	**Sc-IS**	>	2494259.084		ppb	2.809		2721227.995
66	**Zn**		274218.213	**106.861017**	ppb	1.268	2.027	1050.039
86	**Sr**		249531.885	**104.559304**	ppb	2.739	4.215	57.263
65	**Cu**		411519.582	**104.798664**	ppb	2.357	0.751	371.116
69	**Ga-IS**		869258.681		ppb	1.627		898488.779
95	**Mo**		264427.781	**100.083572**	ppb	2.143	4.919	590.012
115	**In-IS**	>	442896.652		ppb	2.402		454314.565
111	**Cd**		342568.190	**102.356369**	ppb	1.499	1.242	50.983
118	**Sn**		978963.232	**99.910219**	ppb	1.722	0.685	3533.770
121	**Sb**		1065747.183	**99.231222**	ppb	0.614	1.778	475.563
135	**Ba**		273136.689	**103.099136**	ppb	1.301	1.680	76.667
165	**Ho-IS**		578282.527		ppb	0.689		614218.035
159	**Tb-IS**	>	585657.767		ppb	1.568		601934.155
207	**Pb**		3882572.152	**97.206500**	ppb	2.123	2.587	1151.129
203	**Tl**		1281240.053	**95.428942**	ppb	0.487	1.700	394.450
209	**Bi-IS**		328464.406		ppb	2.234		351953.547
51	**V**		28060.881	**105.518786**	ppb	2.871	2.643	5.556
59	**Co**		96739.833	**106.206242**	ppb	1.587	1.544	42.222
60	**Ni**		169200.700	**99.050155**	ppb	1.481	1.252	140.001
75	**As**		58271.924	**101.520188**	ppb	1.445	1.220	242.527
71	**Ga-ISK**		94668.401		ppb	3.166		94220.812
82	**Se-2**		6200.539	**105.455553**	ppb	2.187	2.296	-0.873
107	**Ag-1**		616732.352	**101.233745**	ppb	1.623	1.841	404.450
115	**In-ISK**	>	126118.963		ppb	0.300		125430.764
45	**Sc-ISK**		248757.117		ppb	0.224		241579.157
23	**Na**		1874299.657	**5082.647210**	ppb	2.070	1.739	8619.268
39	**K**		3734113.754	**5346.129186**	ppb	0.725	0.376	38178.729
24	**Mg**		1637676.238	**5170.397128**	ppb	1.973	1.673	550.011
159	**Tb-ISK**	>	253713.151		ppb	0.355		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 10:47:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.066
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68991.794		ppb	2.017		77879.527
9	**Be**		72.222	**0.009783**	ppb	25.420	69.499	54.445
10	**B**		2109.045	**0.556280**	ppb	3.557	7.389	1942.354
27	**Al**		17174.652	**0.138399**	ppb	1.245	16.548	16840.931
43	**Ca-2**		798.356	**19.060836**	ppb	3.775	6.700	163.334
49	**Ti**		398.894	**0.098384**	ppb	9.205	35.303	326.670
52	**Cr**		20776.209	**0.138707**	ppb	1.039	20.101	20772.873
55	**Mn**		2641.356	**0.019139**	ppb	7.945	28.965	2443.543
57	**Fe**		19909.427	**7.601958**	ppb	2.861	4.513	17906.773
45	**Sc-IS**	>	2441491.228		ppb	2.980		2721227.995
66	**Zn**		1463.408	**0.208270**	ppb	3.952	9.087	1050.039
86	**Sr**		706.362	**0.280303**	ppb	2.689	1.041	57.263
65	**Cu**		548.899	**0.056457**	ppb	5.610	21.321	371.116
69	**Ga-IS**		843643.296		ppb	3.560		898488.779
95	**Mo**		2127.937	**0.620233**	ppb	8.768	14.400	590.012
115	**In-IS**	>	459674.239		ppb	2.558		454314.565
111	**Cd**		124.421	**0.020889**	ppb	21.906	34.206	50.983
118	**Sn**		10993.119	**0.732849**	ppb	2.563	7.667	3533.770
121	**Sb**		1678.988	**0.107603**	ppb	2.927	7.374	475.563
135	**Ba**		186.668	**0.039583**	ppb	13.482	20.049	76.667
165	**Ho-IS**		580810.025		ppb	0.877		614218.035
159	**Tb-IS**	>	584508.466		ppb	0.762		601934.155
207	**Pb**		2126.727	**0.025314**	ppb	1.881	4.014	1151.129
203	**Tl**		821.135	**0.032723**	ppb	6.917	14.434	394.450
209	**Bi-IS**		331815.153		ppb	1.084		351953.547
51	**V**		11.111	**0.020357**	ppb	17.321	30.851	5.556
59	**Co**		48.889	**0.006536**	ppb	10.415	60.833	42.222
60	**Ni**		138.890	**-0.001819**	ppb	24.040	1028.023	140.001
75	**As**		321.836	**0.132513**	ppb	2.893	27.834	242.527
71	**Ga-ISK**		95941.091		ppb	0.475		94220.812
82	**Se-2**		5.877	**0.114119**	ppb	0.657	3.750	-0.873
107	**Ag-1**		2139.050	**0.281116**	ppb	8.864	6.743	404.450
115	**In-ISK**	>	127201.667		ppb	3.586		125430.764
45	**Sc-ISK**		242766.882		ppb	1.724		241579.157
23	**Na**		20624.885	**32.303061**	ppb	2.725	4.045	8619.268
39	**K**		42095.265	**5.302596**	ppb	0.750	6.663	38178.729
24	**Mg**		4272.307	**11.655541**	ppb	6.298	8.189	550.011
159	**Tb-ISK**	>	255804.035		ppb	0.854		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 10:50:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.067
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69119.056		ppb	1.560		77879.527
9	**Be**		44.445	**-0.002004**	ppb	8.660	81.712	54.445
10	**B**		1770.110	**0.022502**	ppb	4.278	577.122	1942.354
27	**Al**		15900.180	**0.044982**	ppb	2.374	43.190	16840.931
43	**Ca-2**		408.339	**7.560007**	ppb	6.744	10.206	163.334
49	**Ti**		374.449	**0.073077**	ppb	3.126	17.888	326.670
52	**Cr**		20317.772	**0.098978**	ppb	0.746	10.715	20772.873
55	**Mn**		1997.918	**-0.008969**	ppb	5.677	51.205	2443.543
57	**Fe**		18137.063	**3.832505**	ppb	1.241	6.830	17906.773
45	**Sc-IS**	>	2459474.370		ppb	0.656		2721227.995
66	**Zn**		1078.930	**0.051437**	ppb	3.912	27.136	1050.039
86	**Sr**		359.143	**0.130573**	ppb	9.802	11.409	57.263
65	**Cu**		426.673	**0.023571**	ppb	3.580	13.722	371.116
69	**Ga-IS**		830735.328		ppb	2.326		898488.779
95	**Mo**		696.684	**0.062887**	ppb	6.750	31.569	590.012
115	**In-IS**	>	458218.030		ppb	2.322		454314.565
111	**Cd**		57.426	**0.001673**	ppb	26.948	241.596	50.983
118	**Sn**		5678.907	**0.209604**	ppb	3.596	12.690	3533.770
121	**Sb**		966.699	**0.043871**	ppb	4.973	10.966	475.563
135	**Ba**		111.112	**0.012192**	ppb	25.160	75.295	76.667
165	**Ho-IS**		585369.686		ppb	1.998		614218.035
159	**Tb-IS**	>	584645.941		ppb	1.337		601934.155
207	**Pb**		1283.356	**0.004158**	ppb	2.712	31.507	1151.129
203	**Tl**		560.011	**0.013218**	ppb	6.708	23.613	394.450
209	**Bi-IS**		327485.973		ppb	1.314		351953.547
51	**V**		4.444	**-0.004206**	ppb	43.301	166.908	5.556
59	**Co**		34.444	**-0.008397**	ppb	20.145	95.570	42.222
60	**Ni**		118.889	**-0.012315**	ppb	20.283	106.916	140.001
75	**As**		302.836	**0.107934**	ppb	2.879	10.629	242.527
71	**Ga-ISK**		95119.254		ppb	3.809		94220.812
82	**Se-2**		3.875	**0.081362**	ppb	24.702	19.621	-0.873
107	**Ag-1**		1146.713	**0.123085**	ppb	10.200	13.628	404.450
115	**In-ISK**	>	124997.625		ppb	1.826		125430.764
45	**Sc-ISK**		243011.143		ppb	2.040		241579.157
23	**Na**		13808.341	**14.318772**	ppb	2.899	9.948	8619.268
39	**K**		39763.047	**2.604036**	ppb	1.456	27.160	38178.729
24	**Mg**		1901.794	**4.294299**	ppb	7.241	11.097	550.011
159	**Tb-ISK**	>	252930.895		ppb	0.901		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Monday, January 03, 2022 11:19:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\blk.068
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68314.062		ppb	0.412		77879.527
9	**Be**		14.444	**-0.014473**	ppb	74.182	32.085	54.445
10	**B**		1300.059	**-0.634217**	ppb	5.825	20.373	1942.354
27	**Al**		19548.366	**0.321504**	ppb	0.704	4.915	16840.931
43	**Ca-2**		160.001	**0.483993**	ppb	8.268	87.390	163.334
49	**Ti**		494.453	**0.195930**	ppb	2.552	9.761	326.670
52	**Cr**		21522.874	**0.212676**	ppb	2.411	6.434	20772.873
55	**Mn**		1962.357	**-0.008282**	ppb	6.043	55.127	2443.543
57	**Fe**		19935.014	**8.399997**	ppb	1.835	6.421	17906.773
45	**Sc-IS**	>	2396063.431		ppb	1.719		2721227.995
66	**Zn**		1586.755	**0.269615**	ppb	3.282	8.989	1050.039
86	**Sr**		31.845	**-0.008078**	ppb	66.784	115.309	57.263
65	**Cu**		395.561	**0.018247**	ppb	7.167	39.650	371.116
69	**Ga-IS**		815880.500		ppb	2.026		898488.779
95	**Mo**		873.360	**0.139737**	ppb	5.163	15.295	590.012
115	**In-IS**	>	447907.447		ppb	1.727		454314.565
111	**Cd**		11.499	**-0.011452**	ppb	0.824	0.466	50.983
118	**Sn**		11636.960	**0.825834**	ppb	0.488	2.742	3533.770
121	**Sb**		1392.290	**0.085033**	ppb	5.030	7.226	475.563
135	**Ba**		145.556	**0.026196**	ppb	11.297	26.704	76.667
165	**Ho-IS**		569836.454		ppb	0.729		614218.035
159	**Tb-IS**	>	569919.909		ppb	0.918		601934.155
207	**Pb**		584.449	**-0.013002**	ppb	3.622	5.201	1151.129
203	**Tl**		157.779	**-0.016497**	ppb	19.170	14.650	394.450
209	**Bi-IS**		313514.006		ppb	0.467		351953.547
51	**V**		1.111	**-0.016787**	ppb	173.205	43.580	5.556
59	**Co**		16.667	**-0.027769**	ppb	60.000	41.534	42.222
60	**Ni**		102.223	**-0.021054**	ppb	16.086	49.718	140.001
75	**As**		277.231	**0.070268**	ppb	9.685	70.434	242.527
71	**Ga-ISK**		93623.590		ppb	1.139		94220.812
82	**Se-2**		-0.810	**0.000536**	ppb	435.258	11393.810	-0.873
107	**Ag-1**		888.917	**0.082970**	ppb	14.113	28.160	404.450
115	**In-ISK**	>	123134.439		ppb	1.448		125430.764
45	**Sc-ISK**		238595.586		ppb	2.363		241579.157
23	**Na**		7797.129	**-0.958229**	ppb	3.060	74.656	8619.268
39	**K**		37973.737	**3.002334**	ppb	0.275	3.367	38178.729
24	**Mg**		236.669	**-0.942526**	ppb	15.997	13.233	550.011
159	**Tb-ISK**	>	239892.787		ppb	0.444		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-204924_1-A
Autosampler Position: 113
Sample Date/Time: Monday, January 03, 2022 11:22:44
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\MB 570-204924_1-A.069
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66583.744		ppb	2.141		77879.527
9	**Be**		6.667	**-0.017708**	ppb	0.000	0.247	54.445
10	**B**		1128.934	**-0.823688**	ppb	6.363	16.581	1942.354
27	**Al**		9452.794	**-0.338204**	ppb	2.011	5.646	16840.931
43	**Ca-2**		121.667	**-0.509565**	ppb	20.272	139.956	163.334
49	**Ti**		423.340	**0.145606**	ppb	3.937	9.527	326.670
52	**Cr**		20835.183	**0.226503**	ppb	0.904	3.796	20772.873
55	**Mn**		997.813	**-0.048536**	ppb	7.058	6.060	2443.543
57	**Fe**		17350.536	**4.687594**	ppb	3.028	13.026	17906.773
45	**Sc-IS**	>	2297357.555		ppb	1.460		2721227.995
66	**Zn**		1702.324	**0.346172**	ppb	4.527	7.782	1050.039
86	**Sr**		17.376	**-0.014100**	ppb	330.798	185.923	57.263
65	**Cu**		274.447	**-0.010650**	ppb	12.987	102.893	371.116
69	**Ga-IS**		790187.837		ppb	3.136		898488.779
95	**Mo**		170.001	**-0.134889**	ppb	13.585	7.680	590.012
115	**In-IS**	>	438088.638		ppb	0.888		454314.565
111	**Cd**		8.532	**-0.012268**	ppb	44.832	9.582	50.983
118	**Sn**		3081.444	**-0.033808**	ppb	5.297	45.215	3533.770
121	**Sb**		337.782	**-0.011366**	ppb	5.064	15.624	475.563
135	**Ba**		33.333	**-0.015493**	ppb	26.458	21.743	76.667
165	**Ho-IS**		554498.498		ppb	1.707		614218.035
159	**Tb-IS**	>	553969.058		ppb	1.429		601934.155
207	**Pb**		415.558	**-0.017047**	ppb	10.950	6.833	1151.129
203	**Tl**		178.890	**-0.014470**	ppb	22.998	23.545	394.450
209	**Bi-IS**		316717.128		ppb	1.214		351953.547
51	**V**		2.222	**-0.012459**	ppb	173.205	118.884	5.556
59	**Co**		6.667	**-0.038833**	ppb	132.288	26.855	42.222
60	**Ni**		84.445	**-0.030899**	ppb	33.572	60.602	140.001
75	**As**		239.996	**0.008760**	ppb	5.446	329.769	242.527
71	**Ga-ISK**		90741.726		ppb	0.345		94220.812
82	**Se-2**		-1.813	**-0.017372**	ppb	250.922	454.673	-0.873
107	**Ag-1**		391.116	**-0.000179**	ppb	4.290	2155.961	404.450
115	**In-ISK**	>	121724.012		ppb	3.011		125430.764
45	**Sc-ISK**		233108.023		ppb	1.855		241579.157
23	**Na**		7416.926	**-2.287035**	ppb	3.189	34.022	8619.268
39	**K**		36908.729	**0.752795**	ppb	0.239	52.556	38178.729
24	**Mg**		93.334	**-1.424500**	ppb	6.186	1.435	550.011
159	**Tb-ISK**	>	242563.351		ppb	0.662		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-204924_2-A
Autosampler Position: 114
Sample Date/Time: Monday, January 03, 2022 11:25:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCS 570-204924_2-A.070
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66163.980		ppb	0.649		77879.527
9	**Be**		284205.664	**126.987521**	ppb	2.221	2.224	54.445
10	**B**		67755.935	**105.814058**	ppb	2.736	1.886	1942.354
27	**Al**		1487033.041	**103.720881**	ppb	0.642	2.147	16840.931
43	**Ca-2**		176093.874	**5417.389257**	ppb	1.700	1.170	163.334
49	**Ti**		113402.924	**110.714801**	ppb	2.261	0.762	326.670
52	**Cr**		1665226.752	**112.187966**	ppb	0.752	1.949	20772.873
55	**Mn**		2445333.981	**110.409401**	ppb	1.708	2.564	2443.543
57	**Fe**		2608268.196	**5402.696950**	ppb	3.430	1.948	17906.773
45	**Sc-IS**	>	2317023.540		ppb	2.525		2721227.995
66	**Zn**		306488.034	**128.632398**	ppb	1.893	1.945	1050.039
86	**Sr**		256435.865	**115.670990**	ppb	0.903	3.383	57.263
65	**Cu**		441608.250	**121.082497**	ppb	2.707	2.286	371.116
69	**Ga-IS**		844371.915		ppb	1.214		898488.779
95	**Mo**		280951.517	**114.463336**	ppb	1.008	3.506	590.012
115	**In-IS**	>	453666.491		ppb	1.474		454314.565
111	**Cd**		389212.300	**113.528010**	ppb	0.799	1.369	50.983
118	**Sn**		1032743.093	**102.900861**	ppb	1.049	0.569	3533.770
121	**Sb**		1145452.881	**104.102905**	ppb	0.837	1.149	475.563
135	**Ba**		283081.670	**104.309599**	ppb	0.216	1.642	76.667
165	**Ho-IS**		564916.989		ppb	1.574		614218.035
159	**Tb-IS**	>	570989.827		ppb	0.464		601934.155
207	**Pb**		4119650.599	**105.778357**	ppb	0.473	0.251	1151.129
203	**Tl**		1323111.903	**101.062080**	ppb	1.331	1.042	394.450
209	**Bi-IS**		319803.320		ppb	0.246		351953.547
51	**V**		29756.517	**115.303859**	ppb	1.110	1.521	5.556
59	**Co**		101151.301	**114.424637**	ppb	0.782	0.591	42.222
60	**Ni**		184305.912	**111.175533**	ppb	1.538	0.888	140.001
75	**As**		65631.824	**117.879817**	ppb	1.542	0.982	242.527
71	**Ga-ISK**		90877.239		ppb	3.342		94220.812
82	**Se-2**		6931.515	**121.462711**	ppb	0.545	0.437	-0.873
107	**Ag-1**		323140.161	**54.616768**	ppb	1.834	1.154	404.450
115	**In-ISK**	>	122403.678		ppb	0.689		125430.764
45	**Sc-ISK**		235037.236		ppb	2.247		241579.157
23	**Na**		327405.521	**900.982729**	ppb	2.250	3.189	8619.268
39	**K**		682360.913	**967.683612**	ppb	0.142	0.976	38178.729
24	**Mg**		1597642.963	**5226.756097**	ppb	0.727	0.476	550.011
159	**Tb-ISK**	>	244857.413		ppb	1.036		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-204924_3-A
Autosampler Position: 115
Sample Date/Time: Monday, January 03, 2022 11:29:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCSD 570-204924_3-A.071
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64759.815		ppb	1.726		77879.527
9	**Be**		272993.691	**123.082136**	ppb	3.613	2.225	54.445
10	**B**		66599.505	**104.933137**	ppb	4.176	2.619	1942.354
27	**Al**		1453918.630	**102.324789**	ppb	1.466	0.952	16840.931
43	**Ca-2**		168538.594	**5234.133191**	ppb	1.922	2.802	163.334
49	**Ti**		111846.188	**110.222926**	ppb	1.452	0.743	326.670
52	**Cr**		1632448.234	**110.975540**	ppb	1.554	1.034	20772.873
55	**Mn**		2414447.598	**110.023459**	ppb	0.879	1.516	2443.543
57	**Fe**		2552913.669	**5338.884264**	ppb	0.613	1.815	17906.773
45	**Sc-IS**	>	2295415.125		ppb	1.917		2721227.995
66	**Zn**		296475.618	**125.578615**	ppb	1.994	1.855	1050.039
86	**Sr**		254483.810	**115.815485**	ppb	2.234	1.979	57.263
65	**Cu**		431178.759	**119.326839**	ppb	2.085	1.705	371.116
69	**Ga-IS**		845589.584		ppb	2.065		898488.779
95	**Mo**		279005.430	**114.703852**	ppb	1.799	2.763	590.012
115	**In-IS**	>	440878.011		ppb	0.367		454314.565
111	**Cd**		384269.231	**115.322932**	ppb	1.888	1.731	50.983
118	**Sn**		1031399.706	**105.750634**	ppb	1.222	0.869	3533.770
121	**Sb**		1130355.253	**105.701439**	ppb	0.863	0.769	475.563
135	**Ba**		275829.024	**104.568048**	ppb	1.730	1.643	76.667
165	**Ho-IS**		567468.271		ppb	1.455		614218.035
159	**Tb-IS**	>	566594.621		ppb	0.762		601934.155
207	**Pb**		4083322.579	**105.664808**	ppb	0.853	1.377	1151.129
203	**Tl**		1298535.313	**99.956519**	ppb	0.750	0.520	394.450
209	**Bi-IS**		318068.622		ppb	0.560		351953.547
51	**V**		29730.913	**118.520266**	ppb	1.957	2.574	5.556
59	**Co**		98950.485	**115.166827**	ppb	1.965	2.850	42.222
60	**Ni**		176950.303	**109.808009**	ppb	0.727	0.636	140.001
75	**As**		64250.830	**118.713311**	ppb	1.702	0.860	242.527
71	**Ga-ISK**		89809.249		ppb	1.744		94220.812
82	**Se-2**		6800.478	**122.564627**	ppb	3.747	2.867	-0.873
107	**Ag-1**		317352.922	**55.184230**	ppb	0.348	0.768	404.450
115	**In-ISK**	>	118988.162		ppb	0.898		125430.764
45	**Sc-ISK**		227497.203		ppb	0.866		241579.157
23	**Na**		317532.245	**870.065141**	ppb	1.376	1.253	8619.268
39	**K**		664459.180	**937.617643**	ppb	1.022	1.155	38178.729
24	**Mg**		1526626.675	**4978.152365**	ppb	1.701	1.443	550.011
159	**Tb-ISK**	>	245643.299		ppb	0.582		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80421-B-1-A
Autosampler Position: 116
Sample Date/Time: Monday, January 03, 2022 11:32:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80421-B-1-A.072
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69965.358		ppb	0.446		77879.527
9	**Be**		152.223	**0.044089**	ppb	8.290	16.202	54.445
10	**B**		25139.889	**35.620114**	ppb	2.593	0.244	1942.354
27	**Al**		552836.130	**36.020900**	ppb	0.555	2.704	16840.931
43	**Ca-2**		267902.701	**7839.234872**	ppb	2.055	0.768	163.334
49	**Ti**		985.590	**0.645194**	ppb	2.539	3.039	326.670
52	**Cr**		28273.509	**0.626824**	ppb	1.047	5.361	20772.873
55	**Mn**		41812.217	**1.703248**	ppb	1.203	3.517	2443.543
57	**Fe**		47613.673	**62.637170**	ppb	1.607	5.769	17906.773
45	**Sc-IS**	>	2436568.019		ppb	2.815		2721227.995
66	**Zn**		12815.747	**4.753926**	ppb	1.570	1.916	1050.039
86	**Sr**		85740.146	**36.775453**	ppb	2.131	4.930	57.263
65	**Cu**		14383.905	**3.668525**	ppb	1.192	3.965	371.116
69	**Ga-IS**		800711.795		ppb	0.479		898488.779
95	**Mo**		3300.382	**1.076634**	ppb	4.431	7.809	590.012
115	**In-IS**	>	449095.609		ppb	1.065		454314.565
111	**Cd**		289.739	**0.070528**	ppb	1.958	2.366	50.983
118	**Sn**		17738.793	**1.438871**	ppb	3.444	4.550	3533.770
121	**Sb**		6872.767	**0.587931**	ppb	4.955	4.779	475.563
135	**Ba**		30746.386	**11.418615**	ppb	0.877	1.390	76.667
165	**Ho-IS**		574214.873		ppb	1.069		614218.035
159	**Tb-IS**	>	581800.165		ppb	0.825		601934.155
207	**Pb**		9597.897	**0.213864**	ppb	3.287	3.240	1151.129
203	**Tl**		1017.814	**0.047750**	ppb	3.440	6.745	394.450
209	**Bi-IS**		319351.372		ppb	1.002		351953.547
51	**V**		251.113	**0.941346**	ppb	10.647	10.951	5.556
59	**Co**		166.668	**0.139801**	ppb	15.621	20.293	42.222
60	**Ni**		2550.228	**1.439631**	ppb	3.276	2.790	140.001
75	**As**		650.045	**0.732463**	ppb	7.198	12.553	242.527
71	**Ga-ISK**		92490.687		ppb	1.054		94220.812
82	**Se-2**		22.518	**0.405608**	ppb	28.611	28.354	-0.873
107	**Ag-1**		890.028	**0.082154**	ppb	3.689	7.203	404.450
115	**In-ISK**	>	123791.111		ppb	0.758		125430.764
45	**Sc-ISK**		236183.900		ppb	2.573		241579.157
23	**Na**		1233154.309	**3438.698686**	ppb	3.247	2.952	8619.268
39	**K**		1540938.105	**2241.765971**	ppb	2.293	1.391	38178.729
24	**Mg**		702577.501	**2285.193609**	ppb	2.289	2.469	550.011
159	**Tb-ISK**	>	246207.303		ppb	1.837		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80421-B-1-B MS
Autosampler Position: 117
Sample Date/Time: Monday, January 03, 2022 11:35:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80421-B-1-B MS.073
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70017.896		ppb	2.312		77879.527
9	**Be**		250378.570	**107.021598**	ppb	1.085	1.543	54.445
10	**B**		86029.379	**129.126255**	ppb	0.712	2.096	1942.354
27	**Al**		2016482.897	**134.795054**	ppb	2.947	0.962	16840.931
43	**Ca-2**		420489.929	**12377.548313**	ppb	3.985	2.712	163.334
49	**Ti**		104082.348	**97.188380**	ppb	2.190	2.128	326.670
52	**Cr**		1450518.351	**93.275846**	ppb	1.665	1.904	20772.873
55	**Mn**		2202089.937	**95.093997**	ppb	1.322	1.768	2443.543
57	**Fe**		2382906.999	**4719.802737**	ppb	1.158	2.505	17906.773
45	**Sc-IS**	>	2422075.880		ppb	2.488		2721227.995
66	**Zn**		275560.268	**110.593298**	ppb	2.767	3.244	1050.039
86	**Sr**		314292.693	**135.575422**	ppb	1.908	1.937	57.263
65	**Cu**		424133.438	**111.261994**	ppb	1.143	2.268	371.116
69	**Ga-IS**		851100.494		ppb	1.851		898488.779
95	**Mo**		243151.761	**94.717100**	ppb	2.776	3.806	590.012
115	**In-IS**	>	441431.592		ppb	0.676		454314.565
111	**Cd**		338823.616	**101.555340**	ppb	0.995	0.470	50.983
118	**Sn**		839956.596	**85.945811**	ppb	2.018	1.516	3533.770
121	**Sb**		1002027.983	**93.578829**	ppb	1.610	1.445	475.563
135	**Ba**		291523.389	**110.384107**	ppb	0.441	0.689	76.667
165	**Ho-IS**		569649.876		ppb	1.730		614218.035
159	**Tb-IS**	>	571454.430		ppb	0.278		601934.155
207	**Pb**		3542657.872	**90.886312**	ppb	0.809	0.985	1151.129
203	**Tl**		1166196.414	**89.002206**	ppb	0.735	0.697	394.450
209	**Bi-IS**		310534.142		ppb	2.016		351953.547
51	**V**		26363.207	**102.469324**	ppb	2.983	3.896	5.556
59	**Co**		88386.229	**100.302936**	ppb	4.173	5.192	42.222
60	**Ni**		162048.360	**98.063598**	ppb	0.411	3.122	140.001
75	**As**		57934.457	**104.337066**	ppb	1.162	2.716	242.527
71	**Ga-ISK**		90758.511		ppb	0.851		94220.812
82	**Se-2**		6247.554	**109.796586**	ppb	1.680	1.296	-0.873
107	**Ag-1**		228340.864	**38.686674**	ppb	1.943	0.936	404.450
115	**In-ISK**	>	122076.247		ppb	2.853		125430.764
45	**Sc-ISK**		238070.187		ppb	2.241		241579.157
23	**Na**		1534698.580	**4190.831081**	ppb	0.271	2.304	8619.268
39	**K**		2386281.110	**3423.747703**	ppb	0.587	1.909	38178.729
24	**Mg**		2262106.636	**7197.990512**	ppb	1.325	1.004	550.011
159	**Tb-ISK**	>	251795.614		ppb	2.091		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80421-B-1-C MSD
Autosampler Position: 118
Sample Date/Time: Monday, January 03, 2022 11:38:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80421-B-1-C MSD.074
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70607.432		ppb	1.856		77879.527
9	**Be**		271334.125	**112.874996**	ppb	3.084	2.852	54.445
10	**B**		94914.551	**138.829902**	ppb	3.719	3.537	1942.354
27	**Al**		2144687.078	**139.611403**	ppb	1.569	1.584	16840.931
43	**Ca-2**		444406.483	**12735.920633**	ppb	2.734	2.621	163.334
49	**Ti**		112511.464	**102.266716**	ppb	2.209	1.963	326.670
52	**Cr**		1597961.195	**100.095613**	ppb	2.236	2.014	20772.873
55	**Mn**		2380515.655	**100.051599**	ppb	2.654	2.406	2443.543
57	**Fe**		2542566.840	**4901.897219**	ppb	2.224	1.991	17906.773
45	**Sc-IS**	>	2487975.278		ppb	0.255		2721227.995
66	**Zn**		294169.357	**114.912010**	ppb	1.366	1.119	1050.039
86	**Sr**		325112.163	**136.500710**	ppb	1.052	1.195	57.263
65	**Cu**		453182.132	**115.696709**	ppb	1.253	1.075	371.116
69	**Ga-IS**		850928.624		ppb	0.806		898488.779
95	**Mo**		255441.566	**96.829800**	ppb	1.329	1.170	590.012
115	**In-IS**	>	441843.064		ppb	1.660		454314.565
111	**Cd**		355573.905	**106.477717**	ppb	1.784	0.450	50.983
118	**Sn**		890116.757	**91.025751**	ppb	0.970	0.799	3533.770
121	**Sb**		1062555.059	**99.151052**	ppb	1.285	1.311	475.563
135	**Ba**		308499.313	**116.704884**	ppb	1.597	0.731	76.667
165	**Ho-IS**		568179.249		ppb	0.915		614218.035
159	**Tb-IS**	>	578217.777		ppb	0.704		601934.155
207	**Pb**		3778544.028	**95.797389**	ppb	2.350	1.683	1151.129
203	**Tl**		1231437.151	**92.884370**	ppb	0.705	0.628	394.450
209	**Bi-IS**		314142.898		ppb	2.014		351953.547
51	**V**		28212.280	**108.232503**	ppb	1.684	1.661	5.556
59	**Co**		93443.660	**104.655487**	ppb	2.792	2.755	42.222
60	**Ni**		171007.444	**102.131242**	ppb	0.375	0.306	140.001
75	**As**		59594.694	**105.940299**	ppb	1.747	1.842	242.527
71	**Ga-ISK**		90417.491		ppb	1.357		94220.812
82	**Se-2**		6500.667	**112.787090**	ppb	1.650	1.673	-0.873
107	**Ag-1**		241892.966	**40.465338**	ppb	0.264	0.358	404.450
115	**In-ISK**	>	123625.484		ppb	0.133		125430.764
45	**Sc-ISK**		241780.226		ppb	1.412		241579.157
23	**Na**		1568947.599	**4333.817932**	ppb	2.470	2.148	8619.268
39	**K**		2429414.200	**3527.173068**	ppb	1.448	1.112	38178.729
24	**Mg**		2327989.400	**7493.673970**	ppb	0.874	0.783	550.011
159	**Tb-ISK**	>	248876.513		ppb	0.354		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80421-B-2-A
Autosampler Position: 119
Sample Date/Time: Monday, January 03, 2022 11:41:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80421-B-2-A.075
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		73335.542		ppb	1.007		77879.527
9	**Be**		156.668	**0.044374**	ppb	7.370	11.686	54.445
10	**B**		25924.622	**35.922842**	ppb	2.463	2.121	1942.354
27	**Al**		256908.399	**15.803050**	ppb	1.296	0.718	16840.931
43	**Ca-2**		425344.793	**12167.339008**	ppb	1.157	1.522	163.334
49	**Ti**		1082.263	**0.712718**	ppb	8.034	12.051	326.670
52	**Cr**		28197.803	**0.580215**	ppb	0.876	1.191	20772.873
55	**Mn**		77907.463	**3.177434**	ppb	1.897	1.755	2443.543
57	**Fe**		54826.148	**74.413559**	ppb	2.140	2.143	17906.773
45	**Sc-IS**	>	2492665.754		ppb	0.728		2721227.995
66	**Zn**		30207.464	**11.440936**	ppb	1.490	1.852	1050.039
86	**Sr**		114227.440	**47.854491**	ppb	0.555	0.178	57.263
65	**Cu**		19604.555	**4.912802**	ppb	0.952	0.993	371.116
69	**Ga-IS**		830898.885		ppb	0.379		898488.779
95	**Mo**		4906.399	**1.655694**	ppb	3.486	4.550	590.012
115	**In-IS**	>	445451.531		ppb	2.054		454314.565
111	**Cd**		236.365	**0.055358**	ppb	3.865	3.335	50.983
118	**Sn**		15739.781	**1.250169**	ppb	2.481	3.739	3533.770
121	**Sb**		4624.082	**0.385021**	ppb	2.515	2.713	475.563
135	**Ba**		52740.511	**19.771058**	ppb	0.559	1.898	76.667
165	**Ho-IS**		575853.338		ppb	1.071		614218.035
159	**Tb-IS**	>	571990.602		ppb	2.440		601934.155
207	**Pb**		19458.509	**0.470849**	ppb	2.362	0.467	1151.129
203	**Tl**		984.478	**0.046444**	ppb	6.917	7.385	394.450
209	**Bi-IS**		322523.856		ppb	1.314		351953.547
51	**V**		260.002	**0.970083**	ppb	10.257	8.229	5.556
59	**Co**		147.779	**0.118088**	ppb	10.660	14.789	42.222
60	**Ni**		3618.236	**2.068728**	ppb	3.144	2.882	140.001
75	**As**		1891.013	**2.934204**	ppb	5.692	9.058	242.527
71	**Ga-ISK**		92670.769		ppb	1.650		94220.812
82	**Se-2**		34.513	**0.610806**	ppb	21.503	21.152	-0.873
107	**Ag-1**		1128.934	**0.121426**	ppb	1.486	4.683	404.450
115	**In-ISK**	>	124296.224		ppb	2.231		125430.764
45	**Sc-ISK**		237875.689		ppb	1.892		241579.157
23	**Na**		1692603.109	**4660.681732**	ppb	0.885	1.932	8619.268
39	**K**		1768397.568	**2543.917216**	ppb	0.928	3.493	38178.729
24	**Mg**		927490.107	**2974.093217**	ppb	0.984	2.526	550.011
159	**Tb-ISK**	>	249844.047		ppb	2.492		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80421-B-3-A
Autosampler Position: 120
Sample Date/Time: Monday, January 03, 2022 11:44:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80421-B-3-A.076
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70565.067		ppb	3.026		77879.527
9	**Be**		90.000	**0.016837**	ppb	6.415	14.965	54.445
10	**B**		21857.823	**30.015682**	ppb	1.619	0.327	1942.354
27	**Al**		266598.212	**16.512040**	ppb	2.403	0.896	16840.931
43	**Ca-2**		301702.853	**8666.890442**	ppb	1.169	0.788	163.334
49	**Ti**		857.804	**0.511694**	ppb	2.140	4.570	326.670
52	**Cr**		27134.646	**0.520266**	ppb	2.530	3.605	20772.873
55	**Mn**		61254.405	**2.489320**	ppb	1.833	0.517	2443.543
57	**Fe**		49170.068	**63.870599**	ppb	2.612	1.751	17906.773
45	**Sc-IS**	>	2481951.060		ppb	1.907		2721227.995
66	**Zn**		10025.743	**3.561567**	ppb	4.051	2.494	1050.039
86	**Sr**		83487.395	**35.122834**	ppb	1.766	0.973	57.263
65	**Cu**		9279.680	**2.290953**	ppb	1.505	3.465	371.116
69	**Ga-IS**		820826.310		ppb	2.642		898488.779
95	**Mo**		2331.302	**0.683416**	ppb	6.020	9.482	590.012
115	**In-IS**	>	448385.883		ppb	2.064		454314.565
111	**Cd**		129.549	**0.023419**	ppb	5.400	11.886	50.983
118	**Sn**		7483.073	**0.404177**	ppb	4.317	7.341	3533.770
121	**Sb**		3139.234	**0.245702**	ppb	0.987	3.519	475.563
135	**Ba**		32727.447	**12.177643**	ppb	0.760	1.995	76.667
165	**Ho-IS**		574925.837		ppb	2.007		614218.035
159	**Tb-IS**	>	576785.320		ppb	1.028		601934.155
207	**Pb**		6738.405	**0.143313**	ppb	2.151	3.617	1151.129
203	**Tl**		687.794	**0.023407**	ppb	9.149	18.125	394.450
209	**Bi-IS**		320515.732		ppb	0.498		351953.547
51	**V**		284.447	**1.071409**	ppb	10.825	10.935	5.556
59	**Co**		140.001	**0.110384**	ppb	2.381	3.053	42.222
60	**Ni**		2022.366	**1.127601**	ppb	6.482	7.225	140.001
75	**As**		2086.133	**3.300214**	ppb	1.459	1.455	242.527
71	**Ga-ISK**		92785.039		ppb	3.563		94220.812
82	**Se-2**		26.885	**0.481640**	ppb	25.862	24.893	-0.873
107	**Ag-1**		466.674	**0.011477**	ppb	1.237	9.604	404.450
115	**In-ISK**	>	123508.348		ppb	0.257		125430.764
45	**Sc-ISK**		239033.680		ppb	1.908		241579.157
23	**Na**		1442271.754	**3957.987645**	ppb	3.893	3.212	8619.268
39	**K**		1639638.680	**2348.088262**	ppb	2.887	1.952	38178.729
24	**Mg**		564487.243	**1804.844758**	ppb	2.402	1.497	550.011
159	**Tb-ISK**	>	250357.534		ppb	1.065		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80421-B-4-A
Autosampler Position: 121
Sample Date/Time: Monday, January 03, 2022 11:48:05
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80421-B-4-A.077
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70684.677		ppb	4.524		77879.527
9	**Be**		81.111	**0.012953**	ppb	13.211	38.277	54.445
10	**B**		22207.249	**30.330692**	ppb	1.347	1.558	1942.354
27	**Al**		221083.017	**13.432308**	ppb	1.971	2.751	16840.931
43	**Ca-2**		344271.832	**9826.512061**	ppb	2.162	0.567	163.334
49	**Ti**		887.805	**0.534016**	ppb	5.000	8.426	326.670
52	**Cr**		32314.304	**0.836552**	ppb	2.900	5.648	20772.873
55	**Mn**		58125.834	**2.341668**	ppb	2.401	0.629	2443.543
57	**Fe**		54235.031	**73.046645**	ppb	2.798	0.652	17906.773
45	**Sc-IS**	>	2497929.113		ppb	2.358		2721227.995
66	**Zn**		10327.065	**3.656611**	ppb	0.764	2.949	1050.039
86	**Sr**		89381.791	**37.370987**	ppb	1.634	2.167	57.263
65	**Cu**		113610.058	**28.826824**	ppb	1.774	0.582	371.116
69	**Ga-IS**		819449.050		ppb	0.757		898488.779
95	**Mo**		2197.947	**0.627283**	ppb	2.602	6.216	590.012
115	**In-IS**	>	442021.689		ppb	1.195		454314.565
111	**Cd**		119.829	**0.021026**	ppb	13.064	22.412	50.983
118	**Sn**		7740.987	**0.441639**	ppb	2.591	5.761	3533.770
121	**Sb**		2991.425	**0.236005**	ppb	5.016	6.472	475.563
135	**Ba**		41833.385	**15.795630**	ppb	0.607	1.192	76.667
165	**Ho-IS**		578559.017		ppb	0.755		614218.035
159	**Tb-IS**	>	576120.937		ppb	1.333		601934.155
207	**Pb**		6532.814	**0.138289**	ppb	2.585	4.327	1151.129
203	**Tl**		502.231	**0.009438**	ppb	4.802	16.851	394.450
209	**Bi-IS**		317650.856		ppb	1.218		351953.547
51	**V**		226.668	**0.842901**	ppb	15.354	13.944	5.556
59	**Co**		103.334	**0.068555**	ppb	3.226	1.686	42.222
60	**Ni**		2134.604	**1.187544**	ppb	2.778	4.314	140.001
75	**As**		1782.740	**2.740692**	ppb	0.646	3.549	242.527
71	**Ga-ISK**		93072.203		ppb	0.331		94220.812
82	**Se-2**		13.515	**0.248620**	ppb	15.510	16.163	-0.873
107	**Ag-1**		337.782	**-0.010495**	ppb	3.988	10.325	404.450
115	**In-ISK**	>	124261.066		ppb	2.715		125430.764
45	**Sc-ISK**		242940.812		ppb	1.490		241579.157
23	**Na**		1348169.753	**3692.025905**	ppb	2.682	1.055	8619.268
39	**K**		1744236.495	**2497.361701**	ppb	1.904	0.714	38178.729
24	**Mg**		739551.998	**2361.440629**	ppb	1.362	0.788	550.011
159	**Tb-ISK**	>	250795.613		ppb	2.143		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 11:51:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.078
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68421.238		ppb	0.240		77879.527
9	**Be**		254462.985	**110.092425**	ppb	0.415	2.339	54.445
10	**B**		178719.981	**274.359735**	ppb	1.241	1.045	1942.354
27	**Al**		1478431.534	**99.823802**	ppb	1.772	3.913	16840.931
43	**Ca-2**		173212.346	**5158.464072**	ppb	1.917	0.652	163.334
49	**Ti**		106631.058	**100.762322**	ppb	2.282	0.801	326.670
52	**Cr**		1535626.685	**100.006171**	ppb	2.125	0.396	20772.873
55	**Mn**		2351121.997	**102.753989**	ppb	1.780	1.727	2443.543
57	**Fe**		2598919.745	**5212.336156**	ppb	1.938	2.322	17906.773
45	**Sc-IS**	>	2393154.262		ppb	2.204		2721227.995
66	**Zn**		269719.111	**109.546726**	ppb	0.613	1.690	1050.039
86	**Sr**		243279.813	**106.208198**	ppb	1.463	2.061	57.263
65	**Cu**		407493.547	**108.183972**	ppb	0.641	2.235	371.116
69	**Ga-IS**		849679.065		ppb	1.557		898488.779
95	**Mo**		257447.775	**101.485449**	ppb	2.493	2.581	590.012
115	**In-IS**	>	452324.464		ppb	2.081		454314.565
111	**Cd**		344408.692	**100.746050**	ppb	1.960	0.198	50.983
118	**Sn**		967433.372	**96.664144**	ppb	1.819	1.496	3533.770
121	**Sb**		1054301.844	**96.097020**	ppb	1.666	0.622	475.563
135	**Ba**		266874.162	**98.636308**	ppb	0.375	1.803	76.667
165	**Ho-IS**		564033.654		ppb	1.303		614218.035
159	**Tb-IS**	>	571694.813		ppb	1.238		601934.155
207	**Pb**		3759436.582	**96.424092**	ppb	3.028	3.588	1151.129
203	**Tl**		1235141.138	**94.240247**	ppb	1.767	2.486	394.450
209	**Bi-IS**		317501.518		ppb	2.023		351953.547
51	**V**		27658.984	**105.203419**	ppb	2.545	3.392	5.556
59	**Co**		95206.258	**105.713193**	ppb	1.739	2.455	42.222
60	**Ni**		168780.083	**99.922594**	ppb	0.466	0.637	140.001
75	**As**		59740.545	**105.280190**	ppb	1.388	2.114	242.527
71	**Ga-ISK**		94038.577		ppb	1.962		94220.812
82	**Se-2**		6023.504	**103.609001**	ppb	0.959	1.918	-0.873
107	**Ag-1**		614056.373	**101.922378**	ppb	1.674	0.743	404.450
115	**In-ISK**	>	124714.694		ppb	0.950		125430.764
45	**Sc-ISK**		240763.012		ppb	0.338		241579.157
23	**Na**		1781750.166	**4919.999416**	ppb	0.235	1.253	8619.268
39	**K**		3569771.108	**5202.995872**	ppb	2.671	2.473	38178.729
24	**Mg**		1586771.529	**5101.447469**	ppb	2.465	2.095	550.011
159	**Tb-ISK**	>	249158.961		ppb	1.389		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 11:54:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.079
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66931.986		ppb	0.290		77879.527
9	**Be**		85.556	**0.016128**	ppb	25.350	54.337	54.445
10	**B**		1870.123	**0.243218**	ppb	5.768	46.487	1942.354
27	**Al**		17061.183	**0.150964**	ppb	1.076	6.305	16840.931
43	**Ca-2**		240.002	**2.845273**	ppb	17.800	40.927	163.334
49	**Ti**		402.228	**0.108408**	ppb	7.700	31.851	326.670
52	**Cr**		19910.533	**0.105549**	ppb	0.806	18.464	20772.873
55	**Mn**		2025.700	**-0.005638**	ppb	6.818	77.611	2443.543
57	**Fe**		19908.321	**8.318313**	ppb	3.976	23.049	17906.773
45	**Sc-IS**	>	2398435.523		ppb	1.846		2721227.995
66	**Zn**		1285.614	**0.146138**	ppb	6.187	15.446	1050.039
86	**Sr**		59.087	**0.003733**	ppb	11.851	73.685	57.263
65	**Cu**		455.563	**0.033969**	ppb	8.821	26.268	371.116
69	**Ga-IS**		805147.770		ppb	1.380		898488.779
95	**Mo**		3801.617	**1.293905**	ppb	2.957	5.263	590.012
115	**In-IS**	>	450326.984		ppb	1.190		454314.565
111	**Cd**		100.906	**0.014801**	ppb	2.124	3.272	50.983
118	**Sn**		14143.669	**1.072032**	ppb	3.044	5.067	3533.770
121	**Sb**		1592.311	**0.102734**	ppb	8.039	12.579	475.563
135	**Ba**		143.334	**0.025027**	ppb	20.274	43.989	76.667
165	**Ho-IS**		579194.918		ppb	0.526		614218.035
159	**Tb-IS**	>	576330.212		ppb	1.318		601934.155
207	**Pb**		1816.711	**0.018205**	ppb	4.682	15.015	1151.129
203	**Tl**		596.679	**0.016579**	ppb	2.435	5.890	394.450
209	**Bi-IS**		322612.261		ppb	0.876		351953.547
51	**V**		24.444	**0.072173**	ppb	15.746	19.632	5.556
59	**Co**		71.111	**0.032531**	ppb	17.747	42.119	42.222
60	**Ni**		121.112	**-0.010533**	ppb	6.926	42.958	140.001
75	**As**		313.324	**0.129241**	ppb	11.756	50.347	242.527
71	**Ga-ISK**		93335.131		ppb	2.363		94220.812
82	**Se-2**		7.560	**0.145245**	ppb	30.491	27.237	-0.873
107	**Ag-1**		1462.298	**0.176636**	ppb	11.160	14.181	404.450
115	**In-ISK**	>	124363.810		ppb	0.843		125430.764
45	**Sc-ISK**		239499.908		ppb	0.880		241579.157
23	**Na**		8952.807	**1.558179**	ppb	3.686	67.364	8619.268
39	**K**		41482.371	**6.359171**	ppb	1.473	10.351	38178.729
24	**Mg**		963.366	**1.387442**	ppb	13.459	33.371	550.011
159	**Tb-ISK**	>	247761.171		ppb	1.852		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message
Mo	95	
Sn	118	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Monday, January 03, 2022 11:59:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\blk.080
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67648.769		ppb	2.850		77879.527
9	**Be**		58.889	**0.005157**	ppb	11.783	49.611	54.445
10	**B**		1534.527	**-0.230482**	ppb	5.536	37.669	1942.354
27	**Al**		19622.139	**0.350320**	ppb	2.384	3.613	16840.931
43	**Ca-2**		230.002	**2.700340**	ppb	11.503	34.909	163.334
49	**Ti**		380.005	**0.093384**	ppb	14.360	50.556	326.670
52	**Cr**		20265.480	**0.153951**	ppb	2.300	9.042	20772.873
55	**Mn**		2302.408	**0.008374**	ppb	3.856	26.119	2443.543
57	**Fe**		17624.201	**4.381662**	ppb	1.874	7.798	17906.773
45	**Sc-IS**	>	2353813.342		ppb	2.107		2721227.995
66	**Zn**		1603.424	**0.288095**	ppb	6.262	14.543	1050.039
86	**Sr**		90.198	**0.018150**	ppb	35.361	80.550	57.263
65	**Cu**		487.786	**0.045194**	ppb	6.350	24.763	371.116
69	**Ga-IS**		793660.217		ppb	1.189		898488.779
95	**Mo**		1156.714	**0.259702**	ppb	1.441	5.210	590.012
115	**In-IS**	>	447930.859		ppb	1.335		454314.565
111	**Cd**		78.682	**0.008368**	ppb	14.903	37.906	50.983
118	**Sn**		7398.582	**0.396479**	ppb	0.626	3.438	3533.770
121	**Sb**		1004.480	**0.049309**	ppb	3.066	4.263	475.563
135	**Ba**		205.557	**0.048663**	ppb	21.595	36.361	76.667
165	**Ho-IS**		563211.257		ppb	2.283		614218.035
159	**Tb-IS**	>	564289.393		ppb	2.324		601934.155
207	**Pb**		1247.800	**0.004362**	ppb	6.765	34.420	1151.129
203	**Tl**		384.450	**0.001183**	ppb	12.025	346.478	394.450
209	**Bi-IS**		319317.372		ppb	1.165		351953.547
51	**V**		7.778	**0.008556**	ppb	65.465	227.152	5.556
59	**Co**		42.222	**0.000135**	ppb	19.868	6761.864	42.222
60	**Ni**		121.112	**-0.010889**	ppb	13.853	90.777	140.001
75	**As**		304.747	**0.111492**	ppb	12.730	63.381	242.527
71	**Ga-ISK**		92650.633		ppb	1.552		94220.812
82	**Se-2**		8.218	**0.155835**	ppb	35.401	31.832	-0.873
107	**Ag-1**		677.794	**0.045517**	ppb	11.485	28.142	404.450
115	**In-ISK**	>	125002.928		ppb	0.493		125430.764
45	**Sc-ISK**		236983.177		ppb	1.718		241579.157
23	**Na**		8787.703	**1.140876**	ppb	1.903	28.190	8619.268
39	**K**		40247.748	**4.649816**	ppb	2.369	29.722	38178.729
24	**Mg**		721.685	**0.606120**	ppb	0.400	3.497	550.011
159	**Tb-ISK**	>	247245.929		ppb	0.596		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 12:02:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\cel\cel methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.081
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67606.286		ppb	1.548		77879.527
9	**Be**		28.889	**-0.007944**	ppb	33.309	56.447	54.445
10	**B**		1410.070	**-0.424393**	ppb	4.799	11.116	1942.354
27	**Al**		16431.112	**0.130577**	ppb	1.354	20.736	16840.931
43	**Ca-2**		138.334	**-0.079532**	ppb	27.606	1516.664	163.334
49	**Ti**		387.783	**0.102689**	ppb	9.963	47.296	326.670
52	**Cr**		20060.743	**0.142153**	ppb	1.237	32.366	20772.873
55	**Mn**		1506.746	**-0.026965**	ppb	5.268	5.054	2443.543
57	**Fe**		16915.569	**2.997698**	ppb	2.489	68.191	17906.773
45	**Sc-IS**	>	2352193.158		ppb	3.513		2721227.995
66	**Zn**		1217.830	**0.128965**	ppb	1.650	14.094	1050.039
86	**Sr**		16.277	**-0.014645**	ppb	172.624	87.336	57.263
65	**Cu**		283.336	**-0.009916**	ppb	8.151	88.325	371.116
69	**Ga-IS**		804376.265		ppb	1.430		898488.779
95	**Mo**		538.899	**0.012153**	ppb	12.000	257.263	590.012
115	**In-IS**	>	442022.958		ppb	0.766		454314.565
111	**Cd**		43.313	**-0.001874**	ppb	16.318	117.407	50.983
118	**Sn**		5011.991	**0.161443**	ppb	2.679	6.298	3533.770
121	**Sb**		631.125	**0.015754**	ppb	12.413	49.258	475.563
135	**Ba**		72.222	**-0.000909**	ppb	13.324	382.890	76.667
165	**Ho-IS**		563166.558		ppb	1.587		614218.035
159	**Tb-IS**	>	566144.796		ppb	1.824		601934.155
207	**Pb**		735.563	**-0.008991**	ppb	6.803	13.958	1151.129
203	**Tl**		213.335	**-0.012162**	ppb	8.119	8.656	394.450
209	**Bi-IS**		322172.716		ppb	2.531		351953.547
51	**V**		3.333	**-0.008417**	ppb	100.000	150.465	5.556
59	**Co**		17.778	**-0.026969**	ppb	47.186	34.825	42.222
60	**Ni**		76.667	**-0.037427**	ppb	28.511	33.397	140.001
75	**As**		282.950	**0.070900**	ppb	16.795	122.347	242.527
71	**Ga-ISK**		93573.295		ppb	1.705		94220.812
82	**Se-2**		3.192	**0.069189**	ppb	96.503	75.402	-0.873
107	**Ag-1**		433.340	**0.004704**	ppb	2.774	56.447	404.450
115	**In-ISK**	>	125578.344		ppb	0.987		125430.764
45	**Sc-ISK**		235885.200		ppb	1.659		241579.157
23	**Na**		8043.931	**-0.999458**	ppb	1.182	27.185	8619.268
39	**K**		38883.960	**2.482187**	ppb	0.784	70.653	38178.729
24	**Mg**		416.673	**-0.387978**	ppb	10.889	31.285	550.011
159	**Tb-ISK**	>	247979.206		ppb	2.361		254330.905

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Monday, January 03, 2022 12:20:09
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICIS-1479530.083
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68679.144		ppb	0.764		
9	**Be**		16.667		ppb	69.282		
10	**B**		1236.720		ppb	9.105		
27	**Al**		13372.590		ppb	1.009		
43	**Ca-2**		136.667		ppb	2.112		
49	**Ti**		413.339		ppb	2.134		
52	**Cr**		20974.275		ppb	0.800		
55	**Mn**		1671.209		ppb	1.169		
57	**Fe**		17538.538		ppb	1.018		
45	**Sc-IS**	>	2369245.366		ppb	1.875		
66	**Zn**		1193.383		ppb	3.489		
86	**Sr**		13.581		ppb	363.086		
65	**Cu**		298.892		ppb	17.325		
69	**Ga-IS**		817865.814		ppb	0.925		
95	**Mo**		265.558		ppb	7.247		
115	**In-IS**	>	442524.934		ppb	1.882		
111	**Cd**		13.887		ppb	55.289		
118	**Sn**		5424.364		ppb	4.350		
121	**Sb**		513.343		ppb	11.266		
135	**Ba**		46.667		ppb	12.372		
165	**Ho-IS**		561678.367		ppb	0.825		
159	**Tb-IS**	>	561575.178		ppb	0.402		
207	**Pb**		550.004		ppb	10.014		
203	**Tl**		124.445		ppb	18.233		
209	**Bi-IS**		315646.847		ppb	0.298		
51	**V**		2.222		ppb	173.205		
59	**Co**		24.444		ppb	51.626		
60	**Ni**		83.334		ppb	24.980		
75	**As**		292.419		ppb	2.773		
71	**Ga-ISK**		93458.128		ppb	2.068		
82	**Se-2**		-0.480		ppb	1280.728		
107	**Ag-1**		327.782		ppb	5.017		
115	**In-ISK**	>	124454.460		ppb	1.417		
45	**Sc-ISK**		236538.032		ppb	3.325		
23	**Na**		7610.362		ppb	4.118		
39	**K**		38106.316		ppb	1.216		
24	**Mg**		185.001		ppb	26.619		
159	**Tb-ISK**	>	250321.823		ppb	1.680		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Monday, January 03, 2022 12:23:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\IC-2235387.084
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65306.713		ppb	0.408		68679.144
9	**Be**		490916.154	**200.000000**	ppb	0.809	0.928	16.667
10	**B**		343683.267	**500.000000**	ppb	3.792	4.386	1236.720
27	**Al**		2898824.761	**200.000000**	ppb	1.162	0.816	13372.590
43	**Ca-2**		333881.018	**10200.000000**	ppb	2.068	2.270	136.667
49	**Ti**		210526.577	**200.000000**	ppb	0.254	0.845	413.339
52	**Cr**		3045278.357	**200.000000**	ppb	0.898	1.609	20974.275
55	**Mn**		4571625.548	**200.000000**	ppb	0.944	0.730	1671.209
57	**Fe**		5042747.986	**10200.000000**	ppb	1.088	1.780	17538.538
45	**Sc-IS**	>	2338130.682		ppb	0.708		2369245.366
66	**Zn**		500565.342	**200.000000**	ppb	1.334	1.201	1193.383
86	**Sr**		472344.885	**200.000000**	ppb	1.955	2.433	13.581
65	**Cu**		789069.887	**200.000000**	ppb	0.961	1.010	298.892
69	**Ga-IS**		886801.375		ppb	1.793		817865.814
95	**Mo**		515562.666	**200.000000**	ppb	1.343	2.042	265.558
115	**In-IS**	>	449996.657		ppb	0.743		442524.934
111	**Cd**		671079.533	**200.000000**	ppb	0.624	0.597	13.887
118	**Sn**		1942219.635	**200.000000**	ppb	0.694	0.577	5424.364
121	**Sb**		2152134.940	**200.000000**	ppb	0.766	1.386	513.343
135	**Ba**		542241.758	**200.000000**	ppb	1.470	0.778	46.667
165	**Ho-IS**		563264.087		ppb	3.090		561678.367
159	**Tb-IS**	>	569049.348		ppb	2.893		561575.178
207	**Pb**		7501131.116	**200.000000**	ppb	0.519	2.393	550.004
203	**Tl**		2540187.001	**200.000000**	ppb	2.657	0.612	124.445
209	**Bi-IS**		305885.904		ppb	1.023		315646.847
51	**V**		55391.629	**200.000000**	ppb	0.726	1.441	2.222
59	**Co**		188640.866	**200.000000**	ppb	1.621	2.682	24.444
60	**Ni**		325200.866	**200.000000**	ppb	2.123	0.458	83.334
75	**As**		113310.499	**200.000000**	ppb	0.496	1.324	292.419
71	**Ga-ISK**		89099.302		ppb	2.215		93458.128
82	**Se-2**		11450.134	**200.000000**	ppb	0.302	1.928	-0.480
107	**Ag-1**		1184052.905	**200.000000**	ppb	0.459	1.711	327.782
115	**In-ISK**	>	120058.375		ppb	1.822		124454.460
45	**Sc-ISK**		234195.198		ppb	0.534		236538.032
23	**Na**		3499077.627	**10200.000000**	ppb	0.489	1.809	7610.362
39	**K**		6940301.143	**10200.000000**	ppb	1.633	1.298	38106.316
24	**Mg**		3121055.724	**10200.000000**	ppb	1.241	1.386	185.001
159	**Tb-ISK**	>	244681.384		ppb	1.774		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 12:26:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.085
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64942.848		ppb	1.120		68679.144
9	**Be**		245219.457	**100.750641**	ppb	1.919	0.654	16.667
10	**B**		172966.606	**252.878285**	ppb	1.874	1.431	1236.720
27	**Al**		1425286.383	**98.746922**	ppb	1.096	2.778	13372.590
43	**Ca-2**		169926.387	**5234.222020**	ppb	1.035	1.729	136.667
49	**Ti**		103794.730	**99.242068**	ppb	2.361	0.684	413.339
52	**Cr**		1495856.738	**98.384276**	ppb	2.208	1.529	20974.275
55	**Mn**		2330604.542	**102.809435**	ppb	1.432	1.731	1671.209
57	**Fe**		2588905.709	**5265.034868**	ppb	1.144	2.044	17538.538
45	**Sc-IS**	>	2318554.210		ppb	2.503		2369245.366
66	**Zn**		264047.981	**106.202123**	ppb	0.711	1.876	1193.383
86	**Sr**		238408.170	**101.840673**	ppb	0.660	3.130	13.581
65	**Cu**		404368.048	**103.378381**	ppb	1.165	3.473	298.892
69	**Ga-IS**		842664.944		ppb	0.659		817865.814
95	**Mo**		255241.169	**99.828975**	ppb	0.665	2.430	265.558
115	**In-IS**	>	448882.395		ppb	2.039		442524.934
111	**Cd**		341478.571	**102.043393**	ppb	0.328	1.787	13.887
118	**Sn**		970334.313	**99.896346**	ppb	1.128	1.112	5424.364
121	**Sb**		1052029.343	**98.006187**	ppb	1.276	2.468	513.343
135	**Ba**		270136.143	**99.904133**	ppb	1.623	2.460	46.667
165	**Ho-IS**		562953.760		ppb	0.795		561678.367
159	**Tb-IS**	>	571405.209		ppb	0.854		561575.178
207	**Pb**		3676685.781	**97.568604**	ppb	1.747	0.891	550.004
203	**Tl**		1240129.328	**97.227033**	ppb	1.049	0.361	124.445
209	**Bi-IS**		312161.021		ppb	2.834		315646.847
51	**V**		28165.516	**99.796782**	ppb	0.468	0.906	2.222
59	**Co**		94529.563	**98.321821**	ppb	1.734	0.838	24.444
60	**Ni**		164876.408	**99.510518**	ppb	2.593	3.040	83.334
75	**As**		57956.026	**100.138822**	ppb	1.616	1.602	292.419
71	**Ga-ISK**		91400.357		ppb	0.688		93458.128
82	**Se-2**		6026.471	**103.317169**	ppb	2.746	3.634	-0.480
107	**Ag-1**		609050.389	**100.919934**	ppb	1.454	0.585	327.782
115	**In-ISK**	>	122324.290		ppb	0.897		124454.460
45	**Sc-ISK**		233081.703		ppb	0.831		236538.032
23	**Na**		1721438.142	**4949.960531**	ppb	2.068	2.513	7610.362
39	**K**		3534701.874	**5108.823652**	ppb	1.234	0.970	38106.316
24	**Mg**		1536019.265	**4961.944716**	ppb	2.371	0.916	185.001
159	**Tb-ISK**	>	247474.085		ppb	1.482		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 12:32:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.087
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66834.914		ppb	2.150		68679.144
9	**Be**		85.556	**0.028305**	ppb	25.049	30.661	16.667
10	**B**		1676.765	**0.677148**	ppb	3.961	9.670	1236.720
27	**Al**		15829.432	**0.187900**	ppb	0.994	13.439	13372.590
43	**Ca-2**		141.667	**0.219083**	ppb	26.490	497.077	136.667
49	**Ti**		402.228	**-0.003523**	ppb	8.384	935.536	413.339
52	**Cr**		19121.678	**-0.097994**	ppb	0.875	29.621	20974.275
55	**Mn**		1842.341	**0.008845**	ppb	0.836	15.509	1671.209
57	**Fe**		16813.228	**-0.840449**	ppb	3.082	122.832	17538.538
45	**Sc-IS**	>	2327093.741		ppb	1.543		2369245.366
66	**Zn**		1087.819	**-0.034233**	ppb	8.456	89.908	1193.383
86	**Sr**		69.661	**0.024024**	ppb	40.960	51.800	13.581
65	**Cu**		362.227	**0.017497**	ppb	2.316	12.260	298.892
69	**Ga-IS**		806653.908		ppb	0.667		817865.814
95	**Mo**		1007.814	**0.291610**	ppb	9.085	14.007	265.558
115	**In-IS**	>	451155.426		ppb	0.377		442524.934
111	**Cd**		77.884	**0.018942**	ppb	18.463	22.515	13.887
118	**Sn**		6374.757	**0.087053**	ppb	3.732	30.593	5424.364
121	**Sb**		767.798	**0.022672**	ppb	7.165	23.314	513.343
135	**Ba**		142.223	**0.034819**	ppb	4.879	6.822	46.667
165	**Ho-IS**		567823.990		ppb	2.220		561678.367
159	**Tb-IS**	>	573307.287		ppb	1.647		561575.178
207	**Pb**		1457.807	**0.023727**	ppb	4.890	9.353	550.004
203	**Tl**		475.563	**0.027253**	ppb	6.283	9.687	124.445
209	**Bi-IS**		318738.451		ppb	1.836		315646.847
51	**V**		6.667	**0.015185**	ppb	50.000	73.875	2.222
59	**Co**		48.889	**0.024606**	ppb	3.936	10.175	24.444
60	**Ni**		123.334	**0.023289**	ppb	21.452	71.626	83.334
75	**As**		279.215	**-0.026219**	ppb	13.256	245.975	292.419
71	**Ga-ISK**		92103.854		ppb	2.483		93458.128
82	**Se-2**		5.565	**0.101165**	ppb	120.242	109.992	-0.480
107	**Ag-1**		634.459	**0.049097**	ppb	6.268	11.290	327.782
115	**In-ISK**	>	125488.015		ppb	1.396		124454.460
45	**Sc-ISK**		233460.116		ppb	1.180		236538.032
23	**Na**		8447.498	**2.396266**	ppb	2.754	37.952	7610.362
39	**K**		41232.761	**4.514427**	ppb	1.439	7.155	38106.316
24	**Mg**		853.359	**2.134205**	ppb	15.857	19.756	185.001
159	**Tb-ISK**	>	250320.919		ppb	1.123		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205037_1-A
Autosampler Position: 131
Sample Date/Time: Monday, January 03, 2022 12:36:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\MB 570-205037_1-A.088
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63697.254		ppb	0.865		68679.144
9	**Be**		52.222	**0.015598**	ppb	14.741	21.999	16.667
10	**B**		1408.958	**0.372735**	ppb	3.151	19.585	1236.720
27	**Al**		9953.467	**-0.192196**	ppb	2.001	2.564	13372.590
43	**Ca-2**		100.000	**-0.914238**	ppb	22.913	85.460	136.667
49	**Ti**		306.670	**-0.082439**	ppb	16.449	61.372	413.339
52	**Cr**		17995.773	**-0.122207**	ppb	0.849	19.782	20974.275
55	**Mn**		1240.054	**-0.015351**	ppb	2.845	2.181	1671.209
57	**Fe**		15768.699	**-1.597661**	ppb	1.134	67.142	17538.538
45	**Sc-IS**	>	2232765.046		ppb	2.409		2369245.366
66	**Zn**		1418.960	**0.123746**	ppb	6.717	35.257	1193.383
86	**Sr**		41.908	**0.012893**	ppb	9.133	10.629	13.581
65	**Cu**		293.336	**0.003239**	ppb	10.100	294.676	298.892
69	**Ga-IS**		780998.415		ppb	1.337		817865.814
95	**Mo**		374.449	**0.050312**	ppb	8.917	19.838	265.558
115	**In-IS**	>	436780.868		ppb	1.602		442524.934
111	**Cd**		71.436	**0.017748**	ppb	15.089	19.625	13.887
118	**Sn**		2872.511	**-0.264013**	ppb	3.091	2.865	5424.364
121	**Sb**		354.449	**-0.014557**	ppb	10.570	26.101	513.343
135	**Ba**		65.556	**0.007333**	ppb	38.164	126.264	46.667
165	**Ho-IS**		555602.329		ppb	2.466		561678.367
159	**Tb-IS**	>	556641.380		ppb	0.901		561575.178
207	**Pb**		960.012	**0.011303**	ppb	4.541	10.140	550.004
203	**Tl**		306.670	**0.014755**	ppb	12.815	21.289	124.445
209	**Bi-IS**		314920.101		ppb	0.854		315646.847
51	**V**		4.444	**0.008211**	ppb	43.301	80.747	2.222
59	**Co**		30.000	**0.006810**	ppb	22.222	108.270	24.444
60	**Ni**		147.779	**0.041216**	ppb	16.318	34.008	83.334
75	**As**		300.592	**0.031627**	ppb	5.793	71.226	292.419
71	**Ga-ISK**		89396.641		ppb	1.133		93458.128
82	**Se-2**		-2.172	**-0.029063**	ppb	280.901	367.489	-0.480
107	**Ag-1**		375.560	**0.009958**	ppb	4.002	35.347	327.782
115	**In-ISK**	>	120258.799		ppb	1.602		124454.460
45	**Sc-ISK**		225625.764		ppb	1.320		236538.032
23	**Na**		8155.662	**2.411990**	ppb	3.153	38.367	7610.362
39	**K**		39833.237	**4.598155**	ppb	0.888	12.668	38106.316
24	**Mg**		420.006	**0.799656**	ppb	3.571	5.785	185.001
159	**Tb-ISK**	>	241495.512		ppb	0.794		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205037_2-A
Autosampler Position: 132
Sample Date/Time: Monday, January 03, 2022 12:39:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCS 570-205037_2-A.089
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65286.659		ppb	1.995		68679.144
9	**Be**		269176.086	**111.601132**	ppb	3.101	1.922	16.667
10	**B**		68831.048	**100.475564**	ppb	2.549	0.717	1236.720
27	**Al**		1528106.253	**106.893983**	ppb	1.339	1.088	13372.590
43	**Ca-2**		183438.954	**5701.787522**	ppb	2.247	1.335	136.667
49	**Ti**		112028.819	**108.134945**	ppb	2.333	0.624	413.339
52	**Cr**		1629053.439	**108.283467**	ppb	0.675	1.662	20974.275
55	**Mn**		2410520.429	**107.304673**	ppb	1.699	0.870	1671.209
57	**Fe**		2757954.340	**5662.561021**	ppb	1.929	2.036	17538.538
45	**Sc-IS**	>	2297366.507		ppb	2.333		2369245.366
66	**Zn**		291733.315	**118.469429**	ppb	0.985	1.928	1193.383
86	**Sr**		247218.634	**106.529511**	ppb	2.478	1.642	13.581
65	**Cu**		427058.189	**110.148904**	ppb	1.690	1.758	298.892
69	**Ga-IS**		855476.065		ppb	0.704		817865.814
95	**Mo**		271444.838	**107.131910**	ppb	1.167	1.305	265.558
115	**In-IS**	>	445645.850		ppb	1.395		442524.934
111	**Cd**		381160.650	**114.715323**	ppb	0.151	1.300	13.887
118	**Sn**		1042269.201	**108.101842**	ppb	2.558	1.214	5424.364
121	**Sb**		1129194.425	**105.930271**	ppb	1.832	0.932	513.343
135	**Ba**		296009.169	**110.240936**	ppb	1.638	0.765	46.667
165	**Ho-IS**		565163.776		ppb	2.229		561678.367
159	**Tb-IS**	>	574067.563		ppb	0.721		561575.178
207	**Pb**		4072386.697	**107.577956**	ppb	0.285	0.588	550.004
203	**Tl**		1298023.064	**101.293068**	ppb	1.261	0.654	124.445
209	**Bi-IS**		313263.048		ppb	0.530		315646.847
51	**V**		29733.151	**107.678117**	ppb	3.004	2.541	2.222
59	**Co**		98658.484	**104.913227**	ppb	2.056	2.664	24.444
60	**Ni**		178494.393	**110.121665**	ppb	2.990	3.230	83.334
75	**As**		63939.678	**113.016825**	ppb	1.841	3.096	292.419
71	**Ga-ISK**		91338.935		ppb	2.159		93458.128
82	**Se-2**		6591.388	**115.494425**	ppb	1.055	1.760	-0.480
107	**Ag-1**		330223.525	**55.908582**	ppb	1.380	0.287	327.782
115	**In-ISK**	>	119672.415		ppb	1.327		124454.460
45	**Sc-ISK**		230265.928		ppb	2.107		236538.032
23	**Na**		336003.498	**968.894704**	ppb	2.277	1.795	7610.362
39	**K**		704932.884	**996.301284**	ppb	3.958	3.714	38106.316
24	**Mg**		1646375.874	**5429.861856**	ppb	4.971	4.377	185.001
159	**Tb-ISK**	>	242380.993		ppb	0.823		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205037_3-A
Autosampler Position: 133
Sample Date/Time: Monday, January 03, 2022 12:42:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCSD 570-205037_3-A.090
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65278.818		ppb	1.106		68679.144
9	**Be**		272149.986	**111.751078**	ppb	3.577	1.320	16.667
10	**B**		71371.392	**103.224208**	ppb	4.296	2.330	1236.720
27	**Al**		1545668.647	**107.091610**	ppb	2.178	0.753	13372.590
43	**Ca-2**		184838.635	**5691.213939**	ppb	2.616	2.083	136.667
49	**Ti**		112889.863	**107.960880**	ppb	0.797	1.455	413.339
52	**Cr**		1640911.844	**108.044805**	ppb	1.865	2.708	20974.275
55	**Mn**		2415870.195	**106.542999**	ppb	1.823	2.349	1671.209
57	**Fe**		2794309.426	**5685.129907**	ppb	1.313	3.478	17538.538
45	**Sc-IS**	>	2319216.606		ppb	2.254		2369245.366
66	**Zn**		286434.333	**115.200196**	ppb	0.936	1.314	1193.383
86	**Sr**		249831.540	**106.654019**	ppb	2.788	2.897	13.581
65	**Cu**		428599.167	**109.525842**	ppb	0.912	2.684	298.892
69	**Ga-IS**		836956.427		ppb	0.920		817865.814
95	**Mo**		276003.403	**107.946829**	ppb	1.640	3.836	265.558
115	**In-IS**	>	443674.701		ppb	1.602		442524.934
111	**Cd**		381476.933	**115.309751**	ppb	1.422	0.492	13.887
118	**Sn**		1050483.059	**109.464869**	ppb	1.152	1.073	5424.364
121	**Sb**		1134816.745	**106.934292**	ppb	1.907	1.207	513.343
135	**Ba**		292337.415	**109.373002**	ppb	2.289	2.636	46.667
165	**Ho-IS**		553718.785		ppb	0.889		561678.367
159	**Tb-IS**	>	561798.531		ppb	0.841		561575.178
207	**Pb**		4045579.308	**109.207276**	ppb	0.632	1.178	550.004
203	**Tl**		1308025.855	**104.310145**	ppb	1.016	1.303	124.445
209	**Bi-IS**		313460.955		ppb	2.579		315646.847
51	**V**		29497.089	**105.485689**	ppb	0.764	1.276	2.222
59	**Co**		98971.705	**103.926532**	ppb	1.487	2.848	24.444
60	**Ni**		179673.204	**109.455947**	ppb	2.264	2.998	83.334
75	**As**		64165.833	**112.016648**	ppb	3.474	5.372	292.419
71	**Ga-ISK**		90144.926		ppb	3.964		93458.128
82	**Se-2**		6630.753	**114.717395**	ppb	3.953	4.282	-0.480
107	**Ag-1**		333747.532	**55.782035**	ppb	2.651	0.712	327.782
115	**In-ISK**	>	121213.314		ppb	1.978		124454.460
45	**Sc-ISK**		231378.206		ppb	2.243		236538.032
23	**Na**		336692.084	**958.954287**	ppb	3.006	2.540	7610.362
39	**K**		703045.365	**981.009594**	ppb	1.092	1.494	38106.316
24	**Mg**		1647050.549	**5366.935265**	ppb	2.374	1.180	185.001
159	**Tb-ISK**	>	245348.616		ppb	1.628		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80463-C-1-A
Autosampler Position: 134
Sample Date/Time: Monday, January 03, 2022 12:45:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80463-C-1-A.091
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66417.489		ppb	3.406		68679.144
9	**Be**		126.667	**0.043351**	ppb	27.475	30.766	16.667
10	**B**		71189.242	**99.198440**	ppb	2.667	0.492	1236.720
27	**Al**		380821.998	**24.730057**	ppb	3.598	1.439	13372.590
43	**Ca-2**		215356.135	**6393.263353**	ppb	0.607	1.773	136.667
49	**Ti**		1002.258	**0.538025**	ppb	8.204	10.408	413.339
52	**Cr**		239037.396	**13.990327**	ppb	2.473	0.896	20974.275
55	**Mn**		337231.005	**14.269703**	ppb	2.432	0.768	1671.209
57	**Fe**		120167.877	**201.887078**	ppb	2.041	1.200	17538.538
45	**Sc-IS**	>	2406008.315		ppb	2.198		2369245.366
66	**Zn**		1723569.556	**670.520113**	ppb	0.354	2.015	1193.383
86	**Sr**		101014.306	**41.556227**	ppb	3.683	2.942	13.581
65	**Cu**		48332.748	**11.835574**	ppb	1.532	0.745	298.892
69	**Ga-IS**		797961.474		ppb	2.834		817865.814
95	**Mo**		18621.022	**6.921318**	ppb	2.558	1.842	265.558
115	**In-IS**	>	441653.673		ppb	2.141		442524.934
111	**Cd**		882.037	**0.263641**	ppb	2.321	1.485	13.887
118	**Sn**		12265.266	**0.721641**	ppb	3.083	8.318	5424.364
121	**Sb**		8064.499	**0.715312**	ppb	2.588	2.588	513.343
135	**Ba**		21540.676	**8.082944**	ppb	1.924	3.890	46.667
165	**Ho-IS**		575673.134		ppb	1.180		561678.367
159	**Tb-IS**	>	572397.157		ppb	0.904		561575.178
207	**Pb**		58213.990	**1.527703**	ppb	2.503	2.723	550.004
203	**Tl**		691.128	**0.044188**	ppb	8.387	11.020	124.445
209	**Bi-IS**		315407.425		ppb	1.044		315646.847
51	**V**		225.557	**0.793593**	ppb	17.877	18.533	2.222
59	**Co**		397.783	**0.389572**	ppb	8.722	8.864	24.444
60	**Ni**		3341.502	**1.972354**	ppb	1.868	3.361	83.334
75	**As**		703.952	**0.725658**	ppb	4.909	8.548	292.419
71	**Ga-ISK**		90226.347		ppb	2.230		93458.128
82	**Se-2**		10.471	**0.188315**	ppb	140.215	132.834	-0.480
107	**Ag-1**		798.911	**0.079186**	ppb	8.180	11.169	327.782
115	**In-ISK**	>	122107.616		ppb	1.742		124454.460
45	**Sc-ISK**		234857.262		ppb	1.417		236538.032
23	**Na**		4191535.436	**11999.418679**	ppb	0.675	2.359	7610.362
39	**K**		4182794.978	**6012.677129**	ppb	0.700	1.204	38106.316
24	**Mg**		174062.358	**557.891922**	ppb	0.614	1.185	185.001
159	**Tb-ISK**	>	249247.337		ppb	1.804		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80463-C-1-B MS
Autosampler Position: 135
Sample Date/Time: Monday, January 03, 2022 12:48:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80463-C-1-B MS.092
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67390.906		ppb	3.151		68679.144
9	**Be**		258220.892	**101.427373**	ppb	1.375	1.961	16.667
10	**B**		132742.951	**185.034924**	ppb	2.167	1.990	1236.720
27	**Al**		1795134.916	**119.033083**	ppb	2.187	1.560	13372.590
43	**Ca-2**		386079.001	**11372.927556**	ppb	2.163	2.890	136.667
49	**Ti**		106217.866	**97.085823**	ppb	0.493	0.811	413.339
52	**Cr**		1741263.562	**109.631834**	ppb	0.815	0.218	20974.275
55	**Mn**		2598673.905	**109.571675**	ppb	2.024	1.674	1671.209
57	**Fe**		2719471.397	**5286.115704**	ppb	0.780	0.843	17538.538
45	**Sc-IS**	>	2425155.124		ppb	0.728		2369245.366
66	**Zn**		1954654.761	**754.310236**	ppb	0.905	1.590	1193.383
86	**Sr**		324547.036	**132.482608**	ppb	0.883	1.391	13.581
65	**Cu**		452695.712	**110.588641**	ppb	1.017	0.716	298.892
69	**Ga-IS**		861576.392		ppb	0.489		817865.814
95	**Mo**		264690.893	**98.935286**	ppb	0.959	0.704	265.558
115	**In-IS**	>	446708.561		ppb	1.333		442524.934
111	**Cd**		358256.493	**107.547290**	ppb	1.861	0.537	13.887
118	**Sn**		940736.878	**97.282366**	ppb	2.525	1.237	5424.364
121	**Sb**		1052605.434	**98.516509**	ppb	1.136	1.354	513.343
135	**Ba**		292138.462	**108.538251**	ppb	1.630	0.395	46.667
165	**Ho-IS**		566182.560		ppb	2.097		561678.367
159	**Tb-IS**	>	579011.758		ppb	1.658		561575.178
207	**Pb**		3658051.340	**95.825688**	ppb	0.488	2.116	550.004
203	**Tl**		1181536.949	**91.437225**	ppb	2.117	2.903	124.445
209	**Bi-IS**		312086.586		ppb	0.445		315646.847
51	**V**		27967.364	**100.170995**	ppb	2.836	4.762	2.222
59	**Co**		92199.992	**96.941076**	ppb	2.091	4.047	24.444
60	**Ni**		167862.696	**102.366817**	ppb	0.363	1.601	83.334
75	**As**		60312.258	**105.304125**	ppb	2.068	0.388	292.419
71	**Ga-ISK**		88225.046		ppb	2.619		93458.128
82	**Se-2**		6403.945	**110.946031**	ppb	2.312	3.993	-0.480
107	**Ag-1**		303222.415	**50.756158**	ppb	1.382	3.169	327.782
115	**In-ISK**	>	121078.935		ppb	1.969		124454.460
45	**Sc-ISK**		234790.829		ppb	1.899		236538.032
23	**Na**		4464157.188	**13041.923216**	ppb	1.052	2.821	7610.362
39	**K**		4736486.128	**6957.631175**	ppb	2.756	4.331	38106.316
24	**Mg**		1739663.251	**5694.832278**	ppb	1.557	2.340	185.001
159	**Tb-ISK**	>	244288.765		ppb	1.809		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80463-C-1-C MSD
Autosampler Position: 136
Sample Date/Time: Monday, January 03, 2022 12:51:51
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80463-C-1-C MSD.093
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66786.908		ppb	2.057		68679.144
9	**Be**		264854.448	**103.761342**	ppb	3.384	2.730	16.667
10	**B**		138912.282	**193.249352**	ppb	1.945	1.943	1236.720
27	**Al**		1830139.686	**121.096117**	ppb	0.684	1.738	13372.590
43	**Ca-2**		391072.568	**11491.698331**	ppb	1.021	1.828	136.667
49	**Ti**		108437.782	**98.887219**	ppb	0.400	1.441	413.339
52	**Cr**		1766982.493	**111.000244**	ppb	0.978	0.854	20974.275
55	**Mn**		2648865.530	**111.406518**	ppb	2.253	0.662	1671.209
57	**Fe**		2810001.109	**5448.994670**	ppb	2.450	0.947	17538.538
45	**Sc-IS**	>	2431215.147		ppb	1.654		2369245.366
66	**Zn**		1982693.435	**763.036205**	ppb	3.638	2.246	1193.383
86	**Sr**		333689.695	**135.868210**	ppb	1.698	0.506	13.581
65	**Cu**		460118.675	**112.116145**	ppb	2.506	1.307	298.892
69	**Ga-IS**		857300.183		ppb	2.822		817865.814
95	**Mo**		271757.188	**101.337494**	ppb	0.578	1.081	265.558
115	**In-IS**	>	452498.786		ppb	1.124		442524.934
111	**Cd**		362812.920	**107.521677**	ppb	1.924	1.066	13.887
118	**Sn**		972652.214	**99.312046**	ppb	1.894	0.791	5424.364
121	**Sb**		1086014.443	**100.336500**	ppb	1.060	0.220	513.343
135	**Ba**		295796.862	**108.496123**	ppb	1.297	1.032	46.667
165	**Ho-IS**		563311.507		ppb	0.259		561678.367
159	**Tb-IS**	>	566968.561		ppb	1.222		561575.178
207	**Pb**		3731133.166	**99.801729**	ppb	0.445	1.062	550.004
203	**Tl**		1194362.991	**94.372053**	ppb	1.357	0.556	124.445
209	**Bi-IS**		313566.468		ppb	2.491		315646.847
51	**V**		28146.601	**99.882802**	ppb	2.453	3.418	2.222
59	**Co**		92440.366	**96.303805**	ppb	1.137	2.565	24.444
60	**Ni**		171781.907	**103.823216**	ppb	3.481	3.840	83.334
75	**As**		62401.967	**108.017037**	ppb	2.104	2.674	292.419
71	**Ga-ISK**		91200.442		ppb	3.642		93458.128
82	**Se-2**		6535.394	**112.201910**	ppb	2.008	3.442	-0.480
107	**Ag-1**		309503.851	**51.342076**	ppb	1.310	2.795	327.782
115	**In-ISK**	>	122165.225		ppb	1.647		124454.460
45	**Sc-ISK**		238604.019		ppb	3.093		236538.032
23	**Na**		4477375.648	**12791.032526**	ppb	1.931	1.920	7610.362
39	**K**		4764354.527	**6842.067073**	ppb	0.922	0.776	38106.316
24	**Mg**		1757080.393	**5625.229609**	ppb	1.333	0.764	185.001
159	**Tb-ISK**	>	249732.018		ppb	0.916		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79559-B-2-A
Autosampler Position: 146
Sample Date/Time: Monday, January 03, 2022 12:55:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79559-B-2-A.094
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64805.578		ppb	1.758		68679.144
9	**Be**		318.892	**0.120129**	ppb	11.274	9.731	16.667
10	**B**		28938.174	**39.508677**	ppb	1.669	0.687	1236.720
27	**Al**		7556529.677	**511.008053**	ppb	1.771	0.445	13372.590
43	**Ca-2**		116995.538	**3490.775507**	ppb	1.587	0.624	136.667
49	**Ti**		12809.075	**11.527827**	ppb	2.156	0.369	413.339
52	**Cr**		41041.112	**1.283612**	ppb	2.309	0.826	20974.275
55	**Mn**		2776258.087	**118.696348**	ppb	1.067	0.912	1671.209
57	**Fe**		314513.736	**588.818190**	ppb	1.309	0.854	17538.538
45	**Sc-IS**	>	2392178.571		ppb	1.987		2369245.366
66	**Zn**		47227.957	**18.015398**	ppb	1.939	0.244	1193.383
86	**Sr**		57618.216	**23.847371**	ppb	0.876	2.831	13.581
65	**Cu**		31126.105	**7.638997**	ppb	2.125	0.742	298.892
69	**Ga-IS**		777299.845		ppb	0.817		817865.814
95	**Mo**		6112.423	**2.218790**	ppb	7.562	9.278	265.558
115	**In-IS**	>	442031.906		ppb	2.662		442524.934
111	**Cd**		490.506	**0.144713**	ppb	2.265	4.476	13.887
118	**Sn**		16661.936	**1.183076**	ppb	2.093	5.873	5424.364
121	**Sb**		5997.926	**0.519402**	ppb	2.519	4.866	513.343
135	**Ba**		48756.397	**18.300107**	ppb	0.826	2.635	46.667
165	**Ho-IS**		573503.890		ppb	2.078		561678.367
159	**Tb-IS**	>	578357.066		ppb	3.425		561575.178
207	**Pb**		65757.553	**1.710862**	ppb	0.703	3.462	550.004
203	**Tl**		1052.261	**0.071513**	ppb	7.645	5.141	124.445
209	**Bi-IS**		306076.754		ppb	1.342		315646.847
51	**V**		1186.716	**4.225620**	ppb	2.767	2.276	2.222
59	**Co**		1244.499	**1.278563**	ppb	2.643	2.120	24.444
60	**Ni**		1702.324	**0.985650**	ppb	4.924	5.852	83.334
75	**As**		699.545	**0.723851**	ppb	4.479	7.125	292.419
71	**Ga-ISK**		90530.439		ppb	1.606		93458.128
82	**Se-2**		25.870	**0.454830**	ppb	20.156	20.402	-0.480
107	**Ag-1**		1880.124	**0.260379**	ppb	4.827	5.135	327.782
115	**In-ISK**	>	121494.879		ppb	0.687		124454.460
45	**Sc-ISK**		236995.290		ppb	0.736		236538.032
23	**Na**		7203953.010	**20495.578669**	ppb	3.640	3.289	7610.362
39	**K**		13528408.650	**19431.811134**	ppb	4.204	2.836	38106.316
24	**Mg**		370185.898	**1178.784636**	ppb	3.723	1.920	185.001
159	**Tb-ISK**	>	250925.695		ppb	1.840		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79559-B-2-B MS @5
Autosampler Position: 147
Sample Date/Time: Monday, January 03, 2022 12:58:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79559-B-2-B MS @5.095
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63143.720		ppb	1.913		68679.144
9	**Be**		46651.606	**19.233090**	ppb	0.477	1.131	16.667
10	**B**		17708.751	**24.384584**	ppb	2.356	2.224	1236.720
27	**Al**		1599648.220	**111.322735**	ppb	0.636	1.567	13372.590
43	**Ca-2**		53665.623	**1655.950749**	ppb	1.325	0.259	136.667
49	**Ti**		20098.578	**18.975356**	ppb	2.326	2.069	413.339
52	**Cr**		292632.425	**18.217347**	ppb	0.623	0.578	20974.275
55	**Mn**		917247.483	**40.560543**	ppb	1.055	0.040	1671.209
57	**Fe**		526035.988	**1045.429226**	ppb	2.124	1.069	17538.538
45	**Sc-IS**	>	2309907.264		ppb	1.091		2369245.366
66	**Zn**		64613.586	**25.721270**	ppb	1.299	0.473	1193.383
86	**Sr**		52598.872	**22.537430**	ppb	0.684	0.674	13.581
65	**Cu**		82784.782	**21.170877**	ppb	1.839	0.785	298.892
69	**Ga-IS**		794222.112		ppb	0.610		817865.814
95	**Mo**		34109.565	**13.299523**	ppb	1.078	2.157	265.558
115	**In-IS**	>	453820.560		ppb	2.619		442524.934
111	**Cd**		68829.705	**20.340754**	ppb	1.360	1.354	13.887
118	**Sn**		106068.436	**10.287677**	ppb	4.682	2.216	5424.364
121	**Sb**		199645.507	**18.356085**	ppb	1.267	1.390	513.343
135	**Ba**		61660.585	**22.540457**	ppb	1.622	1.088	46.667
165	**Ho-IS**		568314.568		ppb	0.983		561678.367
159	**Tb-IS**	>	570924.967		ppb	1.774		561575.178
207	**Pb**		709814.256	**18.846595**	ppb	0.739	2.438	550.004
203	**Tl**		230395.234	**18.074435**	ppb	0.200	1.888	124.445
209	**Bi-IS**		316596.894		ppb	2.667		315646.847
51	**V**		5415.471	**19.036657**	ppb	2.982	4.029	2.222
59	**Co**		18008.017	**18.574872**	ppb	3.173	5.027	24.444
60	**Ni**		31635.008	**18.910574**	ppb	2.878	4.488	83.334
75	**As**		11616.908	**19.518305**	ppb	0.532	1.945	292.419
71	**Ga-ISK**		90162.544		ppb	1.149		93458.128
82	**Se-2**		1234.271	**20.988781**	ppb	3.984	1.720	-0.480
107	**Ag-1**		56644.316	**9.265048**	ppb	1.438	1.545	327.782
115	**In-ISK**	>	123302.960		ppb	2.308		124454.460
45	**Sc-ISK**		231950.470		ppb	1.752		236538.032
23	**Na**		1323975.331	**3781.264506**	ppb	1.246	0.714	7610.362
39	**K**		2685174.184	**3847.373538**	ppb	0.321	1.979	38106.316
24	**Mg**		341316.039	**1096.456067**	ppb	0.688	1.279	185.001
159	**Tb-ISK**	>	248815.315		ppb	1.956		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79559-B-2-C MSD @5
Autosampler Position: 148
Sample Date/Time: Monday, January 03, 2022 13:01:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79559-B-2-C MSD @5.096
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64121.390		ppb	1.763		68679.144
9	**Be**		45420.982	**18.842673**	ppb	0.370	1.383	16.667
10	**B**		17317.158	**23.964962**	ppb	1.386	0.569	1236.720
27	**Al**		1577161.493	**110.440987**	ppb	1.413	2.452	13372.590
43	**Ca-2**		51526.098	**1599.751291**	ppb	1.184	0.896	136.667
49	**Ti**		19455.464	**18.472902**	ppb	1.717	1.550	413.339
52	**Cr**		279425.959	**17.447306**	ppb	2.095	0.389	20974.275
55	**Mn**		886594.790	**39.441051**	ppb	2.570	0.853	1671.209
57	**Fe**		511355.589	**1021.745145**	ppb	2.437	0.720	17538.538
45	**Sc-IS**	>	2295755.274		ppb	1.756		2369245.366
66	**Zn**		61763.260	**24.720599**	ppb	1.959	1.043	1193.383
86	**Sr**		52294.435	**22.552285**	ppb	1.473	3.116	13.581
65	**Cu**		79333.062	**20.417030**	ppb	1.994	2.979	298.892
69	**Ga-IS**		797463.053		ppb	2.273		817865.814
95	**Mo**		32985.827	**12.936601**	ppb	2.100	1.741	265.558
115	**In-IS**	>	445633.941		ppb	0.832		442524.934
111	**Cd**		66978.819	**20.152890**	ppb	0.783	0.228	13.887
118	**Sn**		103541.836	**10.227548**	ppb	2.707	2.733	5424.364
121	**Sb**		192527.996	**18.021521**	ppb	2.292	2.059	513.343
135	**Ba**		59095.321	**21.994864**	ppb	1.145	0.387	46.667
165	**Ho-IS**		570019.125		ppb	0.766		561678.367
159	**Tb-IS**	>	569021.433		ppb	1.374		561575.178
207	**Pb**		674321.026	**17.960123**	ppb	0.911	1.414	550.004
203	**Tl**		218225.494	**17.175675**	ppb	1.470	2.343	124.445
209	**Bi-IS**		311988.093		ppb	2.563		315646.847
51	**V**		5224.290	**18.319505**	ppb	4.367	4.855	2.222
59	**Co**		17297.167	**17.794451**	ppb	7.082	7.616	24.444
60	**Ni**		31288.682	**18.652701**	ppb	2.159	2.636	83.334
75	**As**		11104.297	**18.588609**	ppb	1.160	1.642	292.419
71	**Ga-ISK**		90847.997		ppb	1.544		93458.128
82	**Se-2**		1218.248	**20.674515**	ppb	2.304	1.528	-0.480
107	**Ag-1**		55987.291	**9.135488**	ppb	1.576	1.878	327.782
115	**In-ISK**	>	123575.693		ppb	0.919		124454.460
45	**Sc-ISK**		230389.821		ppb	1.388		236538.032
23	**Na**		1307427.677	**3766.122283**	ppb	0.558	1.232	7610.362
39	**K**		2619269.916	**3783.487980**	ppb	1.195	0.229	38106.316
24	**Mg**		337231.460	**1092.481583**	ppb	1.820	1.183	185.001
159	**Tb-ISK**	>	246684.461		ppb	1.087		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 13:04:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.097
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65031.092		ppb	2.829		68679.144
9	**Be**		245274.558	**100.448543**	ppb	4.231	3.410	16.667
10	**B**		169532.918	**247.013338**	ppb	3.214	2.321	1236.720
27	**Al**		1451306.870	**100.223648**	ppb	1.706	1.372	13372.590
43	**Ca-2**		166132.339	**5100.232229**	ppb	2.021	0.434	136.667
49	**Ti**		105591.108	**100.658434**	ppb	1.879	1.108	413.339
52	**Cr**		1501647.900	**98.457554**	ppb	2.386	1.812	20974.275
55	**Mn**		2310026.977	**101.562510**	ppb	2.504	1.227	1671.209
57	**Fe**		2579476.581	**5228.396531**	ppb	1.791	1.230	17538.538
45	**Sc-IS**	>	2325742.096		ppb	2.223		2369245.366
66	**Zn**		268147.789	**107.540727**	ppb	0.894	3.154	1193.383
86	**Sr**		239305.595	**101.902891**	ppb	0.930	3.178	13.581
65	**Cu**		407805.870	**103.920237**	ppb	1.059	2.991	298.892
69	**Ga-IS**		855286.835		ppb	0.324		817865.814
95	**Mo**		254800.116	**99.355485**	ppb	0.885	3.135	265.558
115	**In-IS**	>	453352.244		ppb	0.552		442524.934
111	**Cd**		348215.558	**103.003271**	ppb	1.462	1.055	13.887
118	**Sn**		997992.176	**101.728124**	ppb	0.801	0.805	5424.364
121	**Sb**		1073016.266	**98.949218**	ppb	0.815	0.910	513.343
135	**Ba**		272630.273	**99.806595**	ppb	0.662	0.127	46.667
165	**Ho-IS**		574727.647		ppb	0.593		561678.367
159	**Tb-IS**	>	575488.931		ppb	0.967		561575.178
207	**Pb**		3668422.198	**96.670591**	ppb	0.263	1.184	550.004
203	**Tl**		1223805.738	**95.271072**	ppb	0.923	1.103	124.445
209	**Bi-IS**		315533.288		ppb	0.421		315646.847
51	**V**		27651.181	**98.952422**	ppb	1.009	2.003	2.222
59	**Co**		95672.649	**100.515815**	ppb	0.989	2.093	24.444
60	**Ni**		166866.691	**101.712237**	ppb	0.480	1.814	83.334
75	**As**		58279.255	**101.697237**	ppb	2.668	2.344	292.419
71	**Ga-ISK**		90673.627		ppb	2.417		93458.128
82	**Se-2**		5968.751	**103.354221**	ppb	2.318	3.874	-0.480
107	**Ag-1**		611645.226	**102.386735**	ppb	0.561	2.851	327.782
115	**In-ISK**	>	121142.453		ppb	2.266		124454.460
45	**Sc-ISK**		236376.276		ppb	0.765		236538.032
23	**Na**		1705300.259	**4869.296025**	ppb	1.049	0.934	7610.362
39	**K**		3575542.564	**5133.009689**	ppb	1.690	1.966	38106.316
24	**Mg**		1534416.530	**4923.733447**	ppb	0.995	1.296	185.001
159	**Tb-ISK**	>	249162.092		ppb	0.336		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 13:10:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.099
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66647.462		ppb	3.624		68679.144
9	**Be**		51.111	**0.013773**	ppb	45.807	70.684	16.667
10	**B**		1647.873	**0.573030**	ppb	7.614	25.050	1236.720
27	**Al**		16513.878	**0.206287**	ppb	2.814	6.129	13372.590
43	**Ca-2**		145.001	**0.238200**	ppb	39.768	744.571	136.667
49	**Ti**		448.896	**0.030441**	ppb	7.940	117.830	413.339
52	**Cr**		19891.618	**-0.079488**	ppb	1.294	70.023	20974.275
55	**Mn**		2160.164	**0.020485**	ppb	4.851	29.539	1671.209
57	**Fe**		17693.175	**0.059827**	ppb	1.970	2153.072	17538.538
45	**Sc-IS**	>	2387613.413		ppb	3.110		2369245.366
66	**Zn**		1114.488	**-0.034728**	ppb	5.026	28.269	1193.383
86	**Sr**		42.957	**0.011881**	ppb	80.719	114.965	13.581
65	**Cu**		368.894	**0.016965**	ppb	7.019	51.081	298.892
69	**Ga-IS**		811690.219		ppb	0.890		817865.814
95	**Mo**		1050.039	**0.297649**	ppb	2.222	5.562	265.558
115	**In-IS**	>	456065.225		ppb	2.045		442524.934
111	**Cd**		80.017	**0.019355**	ppb	15.787	20.626	13.887
118	**Sn**		11515.756	**0.604628**	ppb	4.207	11.585	5424.364
121	**Sb**		1356.731	**0.075964**	ppb	7.277	13.066	513.343
135	**Ba**		128.889	**0.029493**	ppb	17.220	29.573	46.667
165	**Ho-IS**		575901.358		ppb	1.397		561678.367
159	**Tb-IS**	>	575752.394		ppb	1.491		561575.178
207	**Pb**		1211.132	**0.017060**	ppb	1.933	6.203	550.004
203	**Tl**		346.671	**0.017026**	ppb	11.539	16.229	124.445
209	**Bi-IS**		321717.205		ppb	1.504		315646.847
51	**V**		6.667	**0.015455**	ppb	50.000	76.469	2.222
59	**Co**		26.667	**0.002118**	ppb	12.500	160.996	24.444
60	**Ni**		128.889	**0.026651**	ppb	7.901	25.695	83.334
75	**As**		293.836	**-0.000283**	ppb	3.634	8102.304	292.419
71	**Ga-ISK**		93432.360		ppb	1.440		93458.128
82	**Se-2**		-1.151	**-0.011772**	ppb	349.436	571.719	-0.480
107	**Ag-1**		794.467	**0.075337**	ppb	7.344	13.175	327.782
115	**In-ISK**	>	125171.107		ppb	1.530		124454.460
45	**Sc-ISK**		239380.094		ppb	0.607		236538.032
23	**Na**		8655.955	**2.850994**	ppb	0.936	15.272	7610.362
39	**K**		42364.970	**5.807300**	ppb	2.376	16.229	38106.316
24	**Mg**		506.676	**1.018106**	ppb	12.180	18.513	185.001
159	**Tb-ISK**	>	251713.694		ppb	0.968		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293519-I-4-A
Autosampler Position: 137
Sample Date/Time: Monday, January 03, 2022 13:14:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293519-I-4-A.100
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63794.377		ppb	1.851		68679.144
9	**Be**		53.333	**0.015590**	ppb	33.072	46.689	16.667
10	**B**		3092.557	**2.857843**	ppb	3.550	7.873	1236.720
27	**Al**		1405642.237	**99.219175**	ppb	1.310	3.981	13372.590
43	**Ca-2**		44124.713	**1381.917922**	ppb	1.201	4.061	136.667
49	**Ti**		3667.138	**3.198316**	ppb	3.560	4.809	413.339
52	**Cr**		28389.293	**0.560233**	ppb	1.004	9.380	20974.275
55	**Mn**		160854.062	**7.161521**	ppb	1.869	3.255	1671.209
57	**Fe**		67175.372	**104.989452**	ppb	1.591	5.113	17538.538
45	**Sc-IS**	>	2276877.004		ppb	3.593		2369245.366
66	**Zn**		123372.687	**50.301731**	ppb	0.872	2.936	1193.383
86	**Sr**		11383.668	**4.946546**	ppb	1.885	2.729	13.581
65	**Cu**		35956.325	**9.294835**	ppb	2.610	4.316	298.892
69	**Ga-IS**		786585.439		ppb	1.120		817865.814
95	**Mo**		678.905	**0.169753**	ppb	10.558	22.333	265.558
115	**In-IS**	>	446389.320		ppb	3.044		442524.934
111	**Cd**		1727.568	**0.515127**	ppb	5.004	5.927	13.887
118	**Sn**		4290.645	**-0.122701**	ppb	2.837	14.387	5424.364
121	**Sb**		2430.207	**0.179092**	ppb	5.157	2.729	513.343
135	**Ba**		14357.212	**5.324223**	ppb	1.450	2.947	46.667
165	**Ho-IS**		552000.052		ppb	1.722		561678.367
159	**Tb-IS**	>	556544.635		ppb	2.463		561575.178
207	**Pb**		203439.926	**5.530845**	ppb	0.860	1.990	550.004
203	**Tl**		287.781	**0.013237**	ppb	8.538	14.062	124.445
209	**Bi-IS**		317356.792		ppb	2.645		315646.847
51	**V**		302.225	**1.064506**	ppb	3.545	2.235	2.222
59	**Co**		125.556	**0.105516**	ppb	17.068	18.011	24.444
60	**Ni**		947.809	**0.523447**	ppb	9.133	9.345	83.334
75	**As**		377.458	**0.157437**	ppb	1.100	9.205	292.419
71	**Ga-ISK**		91500.070		ppb	3.203		93458.128
82	**Se-2**		4.534	**0.088029**	ppb	166.340	148.492	-0.480
107	**Ag-1**		376.672	**0.008959**	ppb	17.677	104.673	327.782
115	**In-ISK**	>	122163.713		ppb	2.555		124454.460
45	**Sc-ISK**		233534.550		ppb	0.758		236538.032
23	**Na**		279060.967	**788.354851**	ppb	0.465	1.063	7610.362
39	**K**		163995.988	**185.789286**	ppb	0.868	1.184	38106.316
24	**Mg**		44412.265	**143.659459**	ppb	0.828	1.044	185.001
159	**Tb-ISK**	>	246201.651		ppb	1.326		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293519-I-5-A
Autosampler Position: 138
Sample Date/Time: Monday, January 03, 2022 13:17:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293519-I-5-A.101
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65346.939		ppb	2.130		68679.144
9	**Be**		41.111	**0.009787**	ppb	12.385	21.053	16.667
10	**B**		5303.207	**5.838170**	ppb	2.822	3.611	1236.720
27	**Al**		1498808.669	**101.333200**	ppb	2.293	2.106	13372.590
43	**Ca-2**		98540.401	**2960.096713**	ppb	1.413	1.492	136.667
49	**Ti**		3821.623	**3.191919**	ppb	4.718	5.107	413.339
52	**Cr**		28870.256	**0.510318**	ppb	1.074	3.594	20974.275
55	**Mn**		182453.584	**7.787110**	ppb	1.969	1.761	1671.209
57	**Fe**		72400.814	**109.501871**	ppb	1.678	2.013	17538.538
45	**Sc-IS**	>	2375421.756		ppb	0.232		2369245.366
66	**Zn**		101539.633	**39.554658**	ppb	1.455	1.244	1193.383
86	**Sr**		54873.536	**22.862488**	ppb	1.104	0.875	13.581
65	**Cu**		29793.278	**7.360530**	ppb	3.157	3.013	298.892
69	**Ga-IS**		805683.446		ppb	2.263		817865.814
95	**Mo**		686.683	**0.160590**	ppb	9.363	15.163	265.558
115	**In-IS**	>	455108.220		ppb	1.682		442524.934
111	**Cd**		236.338	**0.065489**	ppb	11.436	13.025	13.887
118	**Sn**		3910.535	**-0.170216**	ppb	1.256	6.083	5424.364
121	**Sb**		2581.344	**0.188774**	ppb	1.417	3.224	513.343
135	**Ba**		18934.764	**6.889520**	ppb	1.357	1.495	46.667
165	**Ho-IS**		568324.985		ppb	0.994		561678.367
159	**Tb-IS**	>	567655.610		ppb	0.840		561575.178
207	**Pb**		40913.675	**1.078294**	ppb	1.691	1.703	550.004
203	**Tl**		303.337	**0.014008**	ppb	5.036	7.159	124.445
209	**Bi-IS**		318372.274		ppb	1.329		315646.847
51	**V**		365.560	**1.258469**	ppb	2.786	1.687	2.222
59	**Co**		144.445	**0.121766**	ppb	14.836	16.509	24.444
60	**Ni**		914.474	**0.490604**	ppb	10.319	12.024	83.334
75	**As**		542.009	**0.420920**	ppb	4.052	7.177	292.419
71	**Ga-ISK**		92276.036		ppb	2.088		93458.128
82	**Se-2**		5.502	**0.099320**	ppb	111.328	102.149	-0.480
107	**Ag-1**		301.114	**-0.004572**	ppb	8.948	106.281	327.782
115	**In-ISK**	>	125125.130		ppb	1.593		124454.460
45	**Sc-ISK**		237221.712		ppb	2.087		236538.032
23	**Na**		563485.170	**1603.643108**	ppb	1.716	2.314	7610.362
39	**K**		357368.176	**466.404433**	ppb	0.700	0.976	38106.316
24	**Mg**		100044.287	**322.234717**	ppb	2.934	2.237	185.001
159	**Tb-ISK**	>	247779.877		ppb	1.191		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293519-I-6-A
Autosampler Position: 139
Sample Date/Time: Monday, January 03, 2022 13:20:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293519-I-6-A.102
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67464.550		ppb	2.555		68679.144
9	**Be**		26.667	**0.003807**	ppb	81.968	228.777	16.667
10	**B**		15980.047	**20.751699**	ppb	2.152	3.150	1236.720
27	**Al**		1013921.346	**66.960572**	ppb	0.838	0.875	13372.590
43	**Ca-2**		447479.113	**13204.889562**	ppb	1.096	1.601	136.667
49	**Ti**		3873.859	**3.172979**	ppb	1.513	1.534	413.339
52	**Cr**		37289.718	**1.013037**	ppb	0.851	4.431	20974.275
55	**Mn**		535898.168	**22.577863**	ppb	2.101	1.259	1671.209
57	**Fe**		211597.328	**379.570062**	ppb	2.556	0.917	17538.538
45	**Sc-IS**	>	2421010.677		ppb	1.709		2369245.366
66	**Zn**		207003.590	**79.614812**	ppb	1.305	2.663	1193.383
86	**Sr**		178498.156	**72.977699**	ppb	2.341	0.781	13.581
65	**Cu**		27558.796	**6.672955**	ppb	3.089	1.955	298.892
69	**Ga-IS**		812002.567		ppb	0.793		817865.814
95	**Mo**		2918.077	**0.993031**	ppb	7.318	9.743	265.558
115	**In-IS**	>	449064.400		ppb	1.450		442524.934
111	**Cd**		1025.021	**0.301718**	ppb	9.026	7.885	13.887
118	**Sn**		3743.824	**-0.182022**	ppb	4.326	11.740	5424.364
121	**Sb**		4440.690	**0.365129**	ppb	0.688	1.283	513.343
135	**Ba**		55091.664	**20.343343**	ppb	3.468	2.084	46.667
165	**Ho-IS**		569647.762		ppb	3.324		561678.367
159	**Tb-IS**	>	572957.158		ppb	1.718		561575.178
207	**Pb**		22163.351	**0.571899**	ppb	1.132	1.536	550.004
203	**Tl**		496.675	**0.028904**	ppb	5.242	6.003	124.445
209	**Bi-IS**		314364.692		ppb	0.738		315646.847
51	**V**		546.677	**1.922330**	ppb	6.424	5.884	2.222
59	**Co**		194.446	**0.176569**	ppb	9.898	10.747	24.444
60	**Ni**		1486.744	**0.845201**	ppb	0.448	0.838	83.334
75	**As**		740.052	**0.781833**	ppb	6.688	11.466	292.419
71	**Ga-ISK**		92265.965		ppb	2.021		93458.128
82	**Se-2**		7.179	**0.130515**	ppb	58.262	54.391	-0.480
107	**Ag-1**		218.891	**-0.017218**	ppb	15.996	35.089	327.782
115	**In-ISK**	>	122740.178		ppb	0.734		124454.460
45	**Sc-ISK**		241658.249		ppb	1.566		236538.032
23	**Na**		4158117.441	**11801.180677**	ppb	2.312	1.385	7610.362
39	**K**		1239970.526	**1728.442111**	ppb	2.642	1.575	38106.316
24	**Mg**		328505.662	**1044.495072**	ppb	2.513	1.494	185.001
159	**Tb-ISK**	>	251318.212		ppb	1.153		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293519-I-10-A
Autosampler Position: 140
Sample Date/Time: Monday, January 03, 2022 13:23:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293519-I-10-A.103
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69475.254		ppb	2.299		68679.144
9	**Be**		22.222	**0.002167**	ppb	22.913	96.684	16.667
10	**B**		6273.600	**7.182156**	ppb	2.180	1.285	1236.720
27	**Al**		408070.783	**26.771489**	ppb	2.638	2.572	13372.590
43	**Ca-2**		200000.879	**5977.967411**	ppb	2.560	0.524	136.667
49	**Ti**		1376.733	**0.894785**	ppb	4.256	7.200	413.339
52	**Cr**		33196.308	**0.780114**	ppb	1.403	4.497	20974.275
55	**Mn**		33206.333	**1.350617**	ppb	1.688	2.802	1671.209
57	**Fe**		63758.675	**91.531205**	ppb	2.179	1.828	17538.538
45	**Sc-IS**	>	2389215.694		ppb	3.053		2369245.366
66	**Zn**		184751.475	**71.970279**	ppb	0.779	2.264	1193.383
86	**Sr**		36461.918	**15.112340**	ppb	1.566	3.706	13.581
65	**Cu**		53449.863	**13.188828**	ppb	2.981	1.437	298.892
69	**Ga-IS**		813833.292		ppb	0.656		817865.814
95	**Mo**		888.917	**0.236689**	ppb	9.430	17.257	265.558
115	**In-IS**	>	455572.516		ppb	0.836		442524.934
111	**Cd**		762.598	**0.220300**	ppb	6.800	7.049	13.887
118	**Sn**		3441.526	**-0.218527**	ppb	3.402	6.137	5424.364
121	**Sb**		5827.855	**0.486540**	ppb	0.894	0.630	513.343
135	**Ba**		8128.981	**2.943907**	ppb	4.125	3.304	46.667
165	**Ho-IS**		564119.588		ppb	0.840		561678.367
159	**Tb-IS**	>	566202.665		ppb	0.546		561575.178
207	**Pb**		9341.201	**0.235370**	ppb	0.539	0.953	550.004
203	**Tl**		171.112	**0.003605**	ppb	13.260	47.634	124.445
209	**Bi-IS**		322630.545		ppb	2.435		315646.847
51	**V**		325.559	**1.122999**	ppb	10.358	10.715	2.222
59	**Co**		92.223	**0.069072**	ppb	30.741	42.029	24.444
60	**Ni**		1127.822	**0.617849**	ppb	5.323	5.569	83.334
75	**As**		792.666	**0.849940**	ppb	5.628	9.379	292.419
71	**Ga-ISK**		93376.442		ppb	1.467		93458.128
82	**Se-2**		9.190	**0.162741**	ppb	127.321	121.233	-0.480
107	**Ag-1**		192.224	**-0.022176**	ppb	8.195	12.047	327.782
115	**In-ISK**	>	124820.979		ppb	0.364		124454.460
45	**Sc-ISK**		239028.413		ppb	2.556		236538.032
23	**Na**		534434.893	**1511.121289**	ppb	3.267	2.301	7610.362
39	**K**		717823.284	**986.480607**	ppb	3.561	2.781	38106.316
24	**Mg**		153665.765	**492.575322**	ppb	2.689	1.769	185.001
159	**Tb-ISK**	>	249122.883		ppb	1.026		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293519-I-15-A
Autosampler Position: 141
Sample Date/Time: Monday, January 03, 2022 13:26:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293519-I-15-A.104
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68171.185		ppb	1.587		68679.144
9	**Be**		27.778	**0.004447**	ppb	42.143	107.936	16.667
10	**B**		2215.728	**1.388874**	ppb	6.272	8.938	1236.720
27	**Al**		597853.732	**39.725944**	ppb	2.795	0.996	13372.590
43	**Ca-2**		13287.865	**393.924781**	ppb	7.210	5.194	136.667
49	**Ti**		1736.773	**1.232406**	ppb	7.861	8.768	413.339
52	**Cr**		27324.999	**0.403947**	ppb	1.219	8.733	20974.275
55	**Mn**		71733.003	**3.007373**	ppb	1.416	0.939	1671.209
57	**Fe**		41097.921	**46.707802**	ppb	0.343	3.534	17538.538
45	**Sc-IS**	>	2383835.969		ppb	2.337		2369245.366
66	**Zn**		70036.857	**27.041538**	ppb	1.892	0.592	1193.383
86	**Sr**		4801.632	**1.988970**	ppb	0.523	2.091	13.581
65	**Cu**		29121.884	**7.168950**	ppb	2.112	2.211	298.892
69	**Ga-IS**		814571.199		ppb	1.848		817865.814
95	**Mo**		406.673	**0.053384**	ppb	13.192	43.057	265.558
115	**In-IS**	>	450837.211		ppb	1.457		442524.934
111	**Cd**		771.389	**0.224991**	ppb	14.834	13.667	13.887
118	**Sn**		2321.300	**-0.330227**	ppb	4.581	4.206	5424.364
121	**Sb**		1701.212	**0.109333**	ppb	2.185	3.857	513.343
135	**Ba**		7335.217	**2.683545**	ppb	2.143	2.322	46.667
165	**Ho-IS**		557029.782		ppb	1.157		561678.367
159	**Tb-IS**	>	564962.558		ppb	1.780		561575.178
207	**Pb**		206798.963	**5.537481**	ppb	0.897	1.369	550.004
203	**Tl**		151.112	**0.002074**	ppb	30.987	184.992	124.445
209	**Bi-IS**		319026.393		ppb	0.865		315646.847
51	**V**		240.002	**0.836134**	ppb	5.008	4.964	2.222
59	**Co**		72.222	**0.049568**	ppb	2.665	3.705	24.444
60	**Ni**		717.796	**0.380665**	ppb	6.305	7.399	83.334
75	**As**		336.067	**0.080251**	ppb	16.330	120.399	292.419
71	**Ga-ISK**		93307.110		ppb	1.593		93458.128
82	**Se-2**		-0.852	**-0.006665**	ppb	580.599	1260.156	-0.480
107	**Ag-1**		185.557	**-0.022871**	ppb	16.300	22.284	327.782
115	**In-ISK**	>	123268.179		ppb	0.454		124454.460
45	**Sc-ISK**		241937.246		ppb	1.272		236538.032
23	**Na**		123826.137	**335.860856**	ppb	1.946	1.227	7610.362
39	**K**		112350.063	**109.123180**	ppb	0.414	2.397	38106.316
24	**Mg**		22344.131	**71.609202**	ppb	1.866	1.418	185.001
159	**Tb-ISK**	>	247458.416		ppb	1.307		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293519-D-16-A
Autosampler Position: 142
Sample Date/Time: Monday, January 03, 2022 13:29:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293519-D-16-A.105
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68475.963		ppb	1.341		68679.144
9	**Be**		66.667	**0.019692**	ppb	25.981	35.286	16.667
10	**B**		13200.543	**16.929429**	ppb	2.635	1.877	1236.720
27	**Al**		3760474.253	**252.225927**	ppb	0.572	1.752	13372.590
43	**Ca-2**		188987.025	**5604.806851**	ppb	1.466	1.394	136.667
49	**Ti**		10789.630	**9.583968**	ppb	1.991	0.729	413.339
52	**Cr**		46051.931	**1.588418**	ppb	3.036	5.392	20974.275
55	**Mn**		454473.616	**19.243260**	ppb	2.153	2.080	1671.209
57	**Fe**		158621.526	**277.481791**	ppb	1.884	1.060	17538.538
45	**Sc-IS**	>	2407923.891		ppb	2.058		2369245.366
66	**Zn**		267828.045	**103.680424**	ppb	2.141	0.282	1193.383
86	**Sr**		59836.773	**24.597911**	ppb	1.092	0.993	13.581
65	**Cu**		103322.479	**25.361286**	ppb	2.719	0.675	298.892
69	**Ga-IS**		814766.163		ppb	1.821		817865.814
95	**Mo**		4013.898	**1.410451**	ppb	4.200	2.385	265.558
115	**In-IS**	>	446724.275		ppb	1.421		442524.934
111	**Cd**		1359.414	**0.403921**	ppb	4.533	4.533	13.887
118	**Sn**		2809.165	**-0.277302**	ppb	2.259	3.755	5424.364
121	**Sb**		7411.924	**0.645416**	ppb	3.437	3.142	513.343
135	**Ba**		48769.778	**18.105338**	ppb	1.030	0.418	46.667
165	**Ho-IS**		574589.214		ppb	0.878		561678.367
159	**Tb-IS**	>	579324.861		ppb	1.519		561575.178
207	**Pb**		276772.281	**7.232094**	ppb	1.606	2.233	550.004
203	**Tl**		335.560	**0.016040**	ppb	5.471	11.188	124.445
209	**Bi-IS**		316062.684		ppb	0.806		315646.847
51	**V**		1357.842	**4.763237**	ppb	3.992	4.654	2.222
59	**Co**		413.339	**0.401259**	ppb	7.168	7.019	24.444
60	**Ni**		4109.480	**2.410447**	ppb	2.132	1.974	83.334
75	**As**		846.872	**0.958616**	ppb	3.966	5.008	292.419
71	**Ga-ISK**		94552.103		ppb	3.345		93458.128
82	**Se-2**		19.234	**0.335675**	ppb	60.029	58.869	-0.480
107	**Ag-1**		148.890	**-0.028967**	ppb	21.974	17.853	327.782
115	**In-ISK**	>	123383.638		ppb	0.759		124454.460
45	**Sc-ISK**		240433.631		ppb	2.058		236538.032
23	**Na**		1806200.689	**5147.030871**	ppb	0.278	1.250	7610.362
39	**K**		1103008.966	**1541.689166**	ppb	0.881	1.125	38106.316
24	**Mg**		209004.726	**668.537443**	ppb	1.610	0.256	185.001
159	**Tb-ISK**	>	249756.651		ppb	1.518		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293519-D-17-A
Autosampler Position: 143
Sample Date/Time: Monday, January 03, 2022 13:33:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293519-D-17-A.106
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68912.537		ppb	2.285		68679.144
9	**Be**		31.111	**0.005329**	ppb	30.930	65.446	16.667
10	**B**		18089.225	**23.412454**	ppb	1.395	2.773	1236.720
27	**Al**		1011831.437	**65.995584**	ppb	1.564	2.614	13372.590
43	**Ca-2**		577958.924	**16848.222617**	ppb	1.236	2.494	136.667
49	**Ti**		3519.322	**2.808215**	ppb	1.425	3.754	413.339
52	**Cr**		42854.192	**1.334631**	ppb	1.621	4.254	20974.275
55	**Mn**		156661.072	**6.468635**	ppb	1.302	1.860	1671.209
57	**Fe**		127725.272	**212.219756**	ppb	2.099	3.974	17538.538
45	**Sc-IS**	>	2451731.504		ppb	3.071		2369245.366
66	**Zn**		223805.808	**85.079390**	ppb	2.583	4.742	1193.383
86	**Sr**		112610.290	**45.509274**	ppb	1.877	4.893	13.581
65	**Cu**		140460.660	**33.912820**	ppb	2.009	3.906	298.892
69	**Ga-IS**		821532.972		ppb	2.633		817865.814
95	**Mo**		6230.250	**2.207030**	ppb	6.076	8.329	265.558
115	**In-IS**	>	449512.954		ppb	1.200		442524.934
111	**Cd**		923.614	**0.271524**	ppb	10.604	11.579	13.887
118	**Sn**		3044.770	**-0.254738**	ppb	5.918	8.248	5424.364
121	**Sb**		12388.705	**1.104541**	ppb	2.245	3.618	513.343
135	**Ba**		64369.152	**23.755677**	ppb	1.257	1.944	46.667
165	**Ho-IS**		580799.683		ppb	0.927		561678.367
159	**Tb-IS**	>	580223.265		ppb	3.728		561575.178
207	**Pb**		26083.719	**0.667708**	ppb	1.630	4.832	550.004
203	**Tl**		275.558	**0.011413**	ppb	9.160	23.334	124.445
209	**Bi-IS**		312948.743		ppb	1.187		315646.847
51	**V**		1077.818	**3.756384**	ppb	4.724	5.004	2.222
59	**Co**		153.334	**0.132272**	ppb	13.223	16.127	24.444
60	**Ni**		3607.122	**2.096846**	ppb	2.965	2.801	83.334
75	**As**		1626.708	**2.284825**	ppb	1.828	2.661	292.419
71	**Ga-ISK**		93030.840		ppb	0.955		93458.128
82	**Se-2**		16.526	**0.287491**	ppb	40.170	39.402	-0.480
107	**Ag-1**		170.001	**-0.025646**	ppb	21.835	23.340	327.782
115	**In-ISK**	>	124121.001		ppb	0.382		124454.460
45	**Sc-ISK**		242771.299		ppb	1.488		236538.032
23	**Na**		2169230.932	**6181.413760**	ppb	2.072	3.070	7610.362
39	**K**		1980055.068	**2809.069235**	ppb	0.413	1.577	38106.316
24	**Mg**		282423.301	**903.041578**	ppb	1.808	2.818	185.001
159	**Tb-ISK**	>	249959.355		ppb	1.180		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293519-D-18-A
Autosampler Position: 144
Sample Date/Time: Monday, January 03, 2022 13:36:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293519-D-18-A.107
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69691.822		ppb	1.339		68679.144
9	**Be**		103.334	**0.033658**	ppb	38.032	44.529	16.667
10	**B**		13991.294	**17.835125**	ppb	1.446	1.616	1236.720
27	**Al**		3514584.502	**233.061833**	ppb	1.670	2.005	13372.590
43	**Ca-2**		249510.472	**7319.274391**	ppb	1.668	0.886	136.667
49	**Ti**		9716.639	**8.493078**	ppb	3.129	2.269	413.339
52	**Cr**		43739.086	**1.409916**	ppb	1.245	6.207	20974.275
55	**Mn**		419986.653	**17.584855**	ppb	0.809	2.475	1671.209
57	**Fe**		158877.587	**274.590222**	ppb	1.385	2.121	17538.538
45	**Sc-IS**	>	2434733.004		ppb	2.224		2369245.366
66	**Zn**		330474.379	**126.629936**	ppb	2.186	0.513	1193.383
86	**Sr**		79930.481	**32.500486**	ppb	2.436	2.694	13.581
65	**Cu**		104768.346	**25.440564**	ppb	0.892	1.338	298.892
69	**Ga-IS**		814041.495		ppb	2.288		817865.814
95	**Mo**		6591.521	**2.354482**	ppb	3.329	1.185	265.558
115	**In-IS**	>	452821.613		ppb	1.411		442524.934
111	**Cd**		1325.110	**0.388305**	ppb	4.995	5.303	13.887
118	**Sn**		2906.962	**-0.271233**	ppb	0.910	2.473	5424.364
121	**Sb**		8718.216	**0.756778**	ppb	1.921	1.601	513.343
135	**Ba**		45850.129	**16.791577**	ppb	0.630	0.780	46.667
165	**Ho-IS**		580480.290		ppb	0.827		561678.367
159	**Tb-IS**	>	579361.113		ppb	1.147		561575.178
207	**Pb**		219709.720	**5.736934**	ppb	1.218	1.168	550.004
203	**Tl**		394.450	**0.020560**	ppb	8.632	11.185	124.445
209	**Bi-IS**		323935.965		ppb	2.153		315646.847
51	**V**		1232.276	**4.336682**	ppb	8.366	9.970	2.222
59	**Co**		456.674	**0.447173**	ppb	3.345	2.382	24.444
60	**Ni**		4775.244	**2.818257**	ppb	4.818	6.707	83.334
75	**As**		876.214	**1.012698**	ppb	6.172	7.888	292.419
71	**Ga-ISK**		95039.581		ppb	1.499		93458.128
82	**Se-2**		14.526	**0.254983**	ppb	22.139	20.122	-0.480
107	**Ag-1**		162.223	**-0.026683**	ppb	22.541	22.653	327.782
115	**In-ISK**	>	123082.211		ppb	1.811		124454.460
45	**Sc-ISK**		248602.276		ppb	0.590		236538.032
23	**Na**		2388702.957	**6761.777794**	ppb	2.083	1.264	7610.362
39	**K**		1149953.017	**1596.881200**	ppb	2.470	1.187	38106.316
24	**Mg**		228571.281	**725.658095**	ppb	2.164	0.811	185.001
159	**Tb-ISK**	>	251639.201		ppb	1.369		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293519-D-19-A
Autosampler Position: 145
Sample Date/Time: Monday, January 03, 2022 13:39:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293519-D-19-A.108
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70848.594		ppb	1.013		68679.144
9	**Be**		51.111	**0.013115**	ppb	43.424	66.928	16.667
10	**B**		15789.872	**20.101808**	ppb	8.272	6.460	1236.720
27	**Al**		3968154.307	**260.536206**	ppb	0.170	2.513	13372.590
43	**Ca-2**		219479.499	**6368.391975**	ppb	3.517	0.918	136.667
49	**Ti**		11123.220	**9.671353**	ppb	2.910	0.685	413.339
52	**Cr**		44785.647	**1.446484**	ppb	0.125	5.175	20974.275
55	**Mn**		440398.772	**18.242726**	ppb	2.366	0.728	1671.209
57	**Fe**		167599.846	**288.125565**	ppb	1.837	0.869	17538.538
45	**Sc-IS**	>	2460646.989		ppb	2.618		2369245.366
66	**Zn**		266556.336	**100.989327**	ppb	1.296	1.349	1193.383
86	**Sr**		69339.155	**27.912627**	ppb	2.240	4.697	13.581
65	**Cu**		99418.081	**23.887683**	ppb	0.637	2.428	298.892
69	**Ga-IS**		820687.116		ppb	1.140		817865.814
95	**Mo**		4913.067	**1.711030**	ppb	0.514	3.280	265.558
115	**In-IS**	>	451835.825		ppb	1.183		442524.934
111	**Cd**		1164.175	**0.341268**	ppb	5.031	4.321	13.887
118	**Sn**		2377.976	**-0.325054**	ppb	4.349	3.065	5424.364
121	**Sb**		8160.108	**0.706822**	ppb	2.109	1.397	513.343
135	**Ba**		45505.704	**16.700478**	ppb	1.387	0.724	46.667
165	**Ho-IS**		574886.643		ppb	1.062		561678.367
159	**Tb-IS**	>	586203.568		ppb	0.711		561575.178
207	**Pb**		246339.395	**6.358637**	ppb	0.426	0.312	550.004
203	**Tl**		236.669	**0.008175**	ppb	17.648	40.426	124.445
209	**Bi-IS**		325678.508		ppb	1.006		315646.847
51	**V**		1254.500	**4.356900**	ppb	5.250	6.456	2.222
59	**Co**		355.560	**0.338086**	ppb	4.811	5.206	24.444
60	**Ni**		3973.886	**2.304818**	ppb	3.251	1.729	83.334
75	**As**		998.183	**1.200720**	ppb	7.531	8.109	292.419
71	**Ga-ISK**		92849.707		ppb	1.707		93458.128
82	**Se-2**		5.171	**0.094624**	ppb	99.416	91.157	-0.480
107	**Ag-1**		98.889	**-0.037319**	ppb	21.671	9.364	327.782
115	**In-ISK**	>	124651.263		ppb	1.960		124454.460
45	**Sc-ISK**		243290.345		ppb	2.153		236538.032
23	**Na**		2286685.709	**6514.920662**	ppb	1.340	0.464	7610.362
39	**K**		1650085.485	**2331.019425**	ppb	2.190	1.370	38106.316
24	**Mg**		261178.000	**834.764004**	ppb	1.745	1.042	185.001
159	**Tb-ISK**	>	249989.792		ppb	0.878		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-204924_2-A
Autosampler Position: 114
Sample Date/Time: Monday, January 03, 2022 13:42:37
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCS 570-204924_2-A.109
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67424.330		ppb	1.889		68679.144
9	**Be**		258702.117	**103.480784**	ppb	2.144	1.007	16.667
10	**B**		63277.647	**88.915719**	ppb	1.989	0.854	1236.720
27	**Al**		1378933.097	**92.938787**	ppb	1.120	1.208	13372.590
43	**Ca-2**		161696.937	**4847.687334**	ppb	2.286	0.341	136.667
49	**Ti**		106020.948	**98.696092**	ppb	1.944	0.689	413.339
52	**Cr**		1526973.290	**97.774106**	ppb	2.028	1.775	20974.275
55	**Mn**		2289208.974	**98.311713**	ppb	0.899	1.291	1671.209
57	**Fe**		2470824.792	**4888.368469**	ppb	2.249	0.373	17538.538
45	**Sc-IS**	>	2381365.413		ppb	2.191		2369245.366
66	**Zn**		285515.294	**111.825433**	ppb	1.395	2.140	1193.383
86	**Sr**		226830.345	**94.286795**	ppb	2.656	1.200	13.581
65	**Cu**		406336.768	**101.081513**	ppb	2.495	1.038	298.892
69	**Ga-IS**		872771.011		ppb	2.137		817865.814
95	**Mo**		244030.253	**92.902227**	ppb	1.473	1.842	265.558
115	**In-IS**	>	450878.467		ppb	1.392		442524.934
111	**Cd**		361734.740	**107.590431**	ppb	1.636	0.494	13.887
118	**Sn**		938173.712	**96.116231**	ppb	2.242	0.994	5424.364
121	**Sb**		1044140.223	**96.806677**	ppb	2.181	1.053	513.343
135	**Ba**		260178.839	**95.763902**	ppb	2.504	1.484	46.667
165	**Ho-IS**		564862.787		ppb	1.619		561678.367
159	**Tb-IS**	>	570557.438		ppb	2.187		561575.178
207	**Pb**		3637653.876	**96.694722**	ppb	1.592	1.400	550.004
203	**Tl**		1188445.081	**93.323899**	ppb	1.464	0.771	124.445
209	**Bi-IS**		316897.534		ppb	0.781		315646.847
51	**V**		28065.330	**97.576741**	ppb	2.409	3.364	2.222
59	**Co**		93402.280	**95.338144**	ppb	2.794	3.749	24.444
60	**Ni**		167848.123	**99.379078**	ppb	0.877	0.719	83.334
75	**As**		60713.841	**102.931513**	ppb	1.160	0.818	292.419
71	**Ga-ISK**		93179.598		ppb	1.308		93458.128
82	**Se-2**		6379.333	**107.272449**	ppb	1.767	1.335	-0.480
107	**Ag-1**		298916.361	**48.571328**	ppb	1.305	1.779	327.782
115	**In-ISK**	>	124682.972		ppb	0.956		124454.460
45	**Sc-ISK**		243248.152		ppb	1.367		236538.032
23	**Na**		315415.985	**883.449905**	ppb	1.127	2.183	7610.362
39	**K**		655876.213	**897.066211**	ppb	1.194	1.601	38106.316
24	**Mg**		1497589.778	**4807.326312**	ppb	1.958	1.351	185.001
159	**Tb-ISK**	>	249107.517		ppb	2.724		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 13:45:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.110
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67979.145		ppb	1.003		68679.144
9	**Be**		254169.277	**102.257240**	ppb	1.577	0.700	16.667
10	**B**		178019.002	**254.893011**	ppb	0.611	1.723	1236.720
27	**Al**		1490165.923	**101.079658**	ppb	2.017	0.707	13372.590
43	**Ca-2**		173424.871	**5231.797472**	ppb	1.794	3.363	136.667
49	**Ti**		107102.360	**100.277683**	ppb	2.424	1.120	413.339
52	**Cr**		1531822.940	**98.663818**	ppb	0.931	0.899	20974.275
55	**Mn**		2375115.797	**102.597362**	ppb	0.718	1.850	1671.209
57	**Fe**		2659054.386	**5294.910119**	ppb	0.547	1.055	17538.538
45	**Sc-IS**	>	2367571.475		ppb	1.566		2369245.366
66	**Zn**		271631.954	**106.971944**	ppb	1.736	1.909	1193.383
86	**Sr**		240448.374	**100.523672**	ppb	2.770	1.529	13.581
65	**Cu**		414870.859	**103.830796**	ppb	1.382	2.424	298.892
69	**Ga-IS**		862367.061		ppb	1.647		817865.814
95	**Mo**		258978.805	**99.159598**	ppb	1.199	0.727	265.558
115	**In-IS**	>	449635.846		ppb	2.376		442524.934
111	**Cd**		348002.189	**103.802813**	ppb	1.808	0.571	13.887
118	**Sn**		1004253.728	**103.238648**	ppb	1.538	1.502	5424.364
121	**Sb**		1078155.560	**100.259801**	ppb	1.400	1.035	513.343
135	**Ba**		275651.864	**101.743939**	ppb	2.608	0.259	46.667
165	**Ho-IS**		569709.362		ppb	0.777		561678.367
159	**Tb-IS**	>	577457.355		ppb	1.110		561575.178
207	**Pb**		3833973.759	**100.698860**	ppb	1.361	2.396	550.004
203	**Tl**		1251749.408	**97.100169**	ppb	2.593	1.556	124.445
209	**Bi-IS**		319456.802		ppb	0.213		315646.847
51	**V**		28816.821	**99.219228**	ppb	2.009	2.357	2.222
59	**Co**		98744.594	**99.812076**	ppb	1.602	1.889	24.444
60	**Ni**		172785.563	**101.317090**	ppb	1.942	0.915	83.334
75	**As**		60478.133	**101.557848**	ppb	1.463	2.239	292.419
71	**Ga-ISK**		93932.274		ppb	1.154		93458.128
82	**Se-2**		6198.530	**103.230711**	ppb	2.158	1.247	-0.480
107	**Ag-1**		620544.622	**99.926414**	ppb	0.410	1.288	327.782
115	**In-ISK**	>	125886.870		ppb	1.116		124454.460
45	**Sc-ISK**		242367.674		ppb	0.890		236538.032
23	**Na**		1790594.176	**5098.264521**	ppb	0.825	1.324	7610.362
39	**K**		3645815.878	**5218.365891**	ppb	1.528	1.390	38106.316
24	**Mg**		1594249.401	**5099.478780**	ppb	1.432	0.369	185.001
159	**Tb-ISK**	>	249948.545		ppb	1.303		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 13:52:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.112
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68488.419		ppb	4.219		68679.144
9	**Be**		73.334	**0.022241**	ppb	9.091	11.983	16.667
10	**B**		1548.973	**0.409365**	ppb	9.480	53.716	1236.720
27	**Al**		16632.011	**0.201988**	ppb	1.333	11.219	13372.590
43	**Ca-2**		173.334	**1.009543**	ppb	25.203	127.911	136.667
49	**Ti**		362.227	**-0.054314**	ppb	1.916	10.072	413.339
52	**Cr**		19548.924	**-0.116658**	ppb	1.402	8.040	20974.275
55	**Mn**		1849.009	**0.006200**	ppb	5.422	67.268	1671.209
57	**Fe**		16948.943	**-1.812569**	ppb	2.848	39.810	17538.538
45	**Sc-IS**	>	2413930.206		ppb	0.698		2369245.366
66	**Zn**		1064.484	**-0.058798**	ppb	4.648	28.528	1193.383
86	**Sr**		76.416	**0.025591**	ppb	69.996	85.296	13.581
65	**Cu**		318.892	**0.003537**	ppb	8.890	200.002	298.892
69	**Ga-IS**		805528.957		ppb	2.948		817865.814
95	**Mo**		914.474	**0.242086**	ppb	2.372	4.206	265.558
115	**In-IS**	>	452503.315		ppb	2.131		442524.934
111	**Cd**		71.413	**0.017005**	ppb	20.406	27.034	13.887
118	**Sn**		7451.945	**0.196259**	ppb	4.178	23.719	5424.364
121	**Sb**		1261.167	**0.068153**	ppb	5.114	11.679	513.343
135	**Ba**		111.112	**0.023369**	ppb	18.083	35.176	46.667
165	**Ho-IS**		573924.276		ppb	0.793		561678.367
159	**Tb-IS**	>	574732.476		ppb	1.919		561575.178
207	**Pb**		1220.020	**0.017321**	ppb	6.896	9.221	550.004
203	**Tl**		341.115	**0.016652**	ppb	15.212	23.661	124.445
209	**Bi-IS**		324567.183		ppb	1.378		315646.847
51	**V**		4.444	**0.007389**	ppb	43.301	86.906	2.222
59	**Co**		37.778	**0.012755**	ppb	43.526	126.433	24.444
60	**Ni**		126.667	**0.024227**	ppb	6.963	25.703	83.334
75	**As**		266.310	**-0.053835**	ppb	1.185	18.919	292.419
71	**Ga-ISK**		94597.818		ppb	2.080		93458.128
82	**Se-2**		9.565	**0.166113**	ppb	43.567	41.551	-0.480
107	**Ag-1**		581.123	**0.039401**	ppb	7.172	20.004	327.782
115	**In-ISK**	>	127072.135		ppb	1.443		124454.460
45	**Sc-ISK**		242804.241		ppb	1.861		236538.032
23	**Na**		8329.094	**1.970082**	ppb	1.468	35.864	7610.362
39	**K**		41542.547	**4.739897**	ppb	1.571	12.104	38106.316
24	**Mg**		583.345	**1.266736**	ppb	6.875	11.942	185.001
159	**Tb-ISK**	>	251260.678		ppb	1.499		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-204924_3-A
Autosampler Position: 115
Sample Date/Time: Monday, January 03, 2022 13:55:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCSD 570-204924_3-A.113
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66427.453		ppb	1.893		68679.144
9	**Be**		253200.401	**104.792253**	ppb	3.516	0.780	16.667
10	**B**		60079.596	**87.290430**	ppb	4.800	1.561	1236.720
27	**Al**		1334482.310	**93.106288**	ppb	2.276	3.384	13372.590
43	**Ca-2**		154540.268	**4794.599544**	ppb	3.130	1.381	136.667
49	**Ti**		103621.320	**99.828494**	ppb	2.863	1.354	413.339
52	**Cr**		1505766.513	**99.767796**	ppb	3.945	0.718	20974.275
55	**Mn**		2236152.118	**99.384435**	ppb	2.225	1.964	1671.209
57	**Fe**		2380648.042	**4875.763369**	ppb	1.723	2.415	17538.538
45	**Sc-IS**	>	2301886.908		ppb	4.175		2369245.366
66	**Zn**		276615.166	**112.162232**	ppb	1.804	3.892	1193.383
86	**Sr**		223926.782	**96.398500**	ppb	0.391	3.803	13.581
65	**Cu**		392947.454	**101.202165**	ppb	1.655	2.802	298.892
69	**Ga-IS**		848648.381		ppb	0.615		817865.814
95	**Mo**		241156.529	**95.094897**	ppb	1.533	5.200	265.558
115	**In-IS**	>	444992.070		ppb	1.306		442524.934
111	**Cd**		353398.572	**106.503881**	ppb	1.313	0.486	13.887
118	**Sn**		921643.354	**95.669365**	ppb	2.252	1.147	5424.364
121	**Sb**		1027912.281	**96.570758**	ppb	1.856	1.590	513.343
135	**Ba**		257233.937	**95.933516**	ppb	3.657	3.125	46.667
165	**Ho-IS**		566038.302		ppb	4.155		561678.367
159	**Tb-IS**	>	559806.763		ppb	2.894		561575.178
207	**Pb**		3619011.666	**98.078989**	ppb	0.854	2.541	550.004
203	**Tl**		1193642.142	**95.500793**	ppb	4.083	1.284	124.445
209	**Bi-IS**		313861.586		ppb	0.734		315646.847
51	**V**		27945.095	**100.082299**	ppb	2.556	2.911	2.222
59	**Co**		93219.937	**98.011893**	ppb	2.352	2.642	24.444
60	**Ni**		168197.730	**102.598239**	ppb	0.615	0.829	83.334
75	**As**		58839.325	**102.767308**	ppb	1.160	0.961	292.419
71	**Ga-ISK**		92945.878		ppb	1.602		93458.128
82	**Se-2**		6234.200	**108.006622**	ppb	1.881	2.069	-0.480
107	**Ag-1**		294263.598	**49.256478**	ppb	1.553	1.172	327.782
115	**In-ISK**	>	121023.508		ppb	0.388		124454.460
45	**Sc-ISK**		237093.599		ppb	0.887		236538.032
23	**Na**		303732.624	**859.936074**	ppb	2.242	2.072	7610.362
39	**K**		638869.681	**883.070789**	ppb	1.597	0.659	38106.316
24	**Mg**		1451543.963	**4713.987969**	ppb	1.091	0.998	185.001
159	**Tb-ISK**	>	246193.442		ppb	1.120		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 13:58:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.114
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65684.066		ppb	2.737		68679.144
9	**Be**		251216.074	**101.300366**	ppb	2.556	2.114	16.667
10	**B**		173227.398	**248.562319**	ppb	1.338	2.261	1236.720
27	**Al**		1450974.704	**98.629521**	ppb	1.647	0.727	13372.590
43	**Ca-2**		167472.875	**5061.808160**	ppb	2.080	1.109	136.667
49	**Ti**		105774.619	**99.269909**	ppb	1.067	0.519	413.339
52	**Cr**		1512138.272	**97.600762**	ppb	2.099	1.803	20974.275
55	**Mn**		2360308.767	**102.171432**	ppb	1.745	0.367	1671.209
57	**Fe**		2601047.602	**5189.799958**	ppb	2.142	0.951	17538.538
45	**Sc-IS**	>	2362120.139		ppb	1.405		2369245.366
66	**Zn**		267402.625	**105.522907**	ppb	2.436	1.138	1193.383
86	**Sr**		235896.883	**98.864931**	ppb	0.609	0.791	13.581
65	**Cu**		409498.814	**102.689118**	ppb	2.643	1.327	298.892
69	**Ga-IS**		845363.519		ppb	2.821		817865.814
95	**Mo**		257194.568	**98.710608**	ppb	0.209	1.366	265.558
115	**In-IS**	>	447381.641		ppb	0.679		442524.934
111	**Cd**		348918.144	**104.597217**	ppb	0.622	1.293	13.887
118	**Sn**		997754.376	**103.071333**	ppb	0.859	1.170	5424.364
121	**Sb**		1076778.337	**100.625117**	ppb	0.324	0.999	513.343
135	**Ba**		273929.588	**101.618733**	ppb	1.610	1.166	46.667
165	**Ho-IS**		562083.192		ppb	1.165		561678.367
159	**Tb-IS**	>	571799.804		ppb	2.085		561575.178
207	**Pb**		3651055.869	**96.843161**	ppb	1.132	1.466	550.004
203	**Tl**		1238793.672	**97.088211**	ppb	0.823	2.495	124.445
209	**Bi-IS**		309001.773		ppb	2.370		315646.847
51	**V**		28491.738	**102.464562**	ppb	3.324	2.803	2.222
59	**Co**		96408.808	**101.793065**	ppb	2.596	2.200	24.444
60	**Ni**		166951.030	**102.281617**	ppb	0.828	1.367	83.334
75	**As**		59582.881	**104.523711**	ppb	1.137	0.672	292.419
71	**Ga-ISK**		91895.741		ppb	0.663		93458.128
82	**Se-2**		6094.513	**106.033294**	ppb	2.539	2.038	-0.480
107	**Ag-1**		618553.478	**104.047499**	ppb	1.343	0.991	327.782
115	**In-ISK**	>	120502.228		ppb	0.541		124454.460
45	**Sc-ISK**		237386.057		ppb	2.923		236538.032
23	**Na**		1762849.967	**5026.224951**	ppb	4.485	3.136	7610.362
39	**K**		3589314.947	**5145.829293**	ppb	1.519	0.328	38106.316
24	**Mg**		1583707.594	**5074.318191**	ppb	2.715	1.169	185.001
159	**Tb-ISK**	>	249503.037		ppb	1.724		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 14:04:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.116
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		68145.572		ppb	2.918		68679.144
9	**Be**		54.445	**0.015381**	ppb	25.490	33.189	16.667
10	**B**		1586.755	**0.532060**	ppb	3.381	4.616	1236.720
27	**Al**		15935.886	**0.188963**	ppb	2.068	12.029	13372.590
43	**Ca-2**		155.001	**0.620616**	ppb	11.631	105.533	136.667
49	**Ti**		346.671	**-0.058751**	ppb	6.934	30.043	413.339
52	**Cr**		19266.329	**-0.096098**	ppb	3.891	33.537	20974.275
55	**Mn**		1791.223	**0.006134**	ppb	2.608	6.817	1671.209
57	**Fe**		17218.149	**-0.203904**	ppb	1.171	444.209	17538.538
45	**Sc-IS**	>	2340386.407		ppb	2.317		2369245.366
66	**Zn**		1054.483	**-0.049673**	ppb	1.316	13.177	1193.383
86	**Sr**		51.347	**0.016207**	ppb	46.936	65.539	13.581
65	**Cu**		357.782	**0.015736**	ppb	11.037	51.420	298.892
69	**Ga-IS**		791588.053		ppb	1.599		817865.814
95	**Mo**		967.811	**0.273711**	ppb	0.994	4.422	265.558
115	**In-IS**	>	449278.200		ppb	1.688		442524.934
111	**Cd**		83.523	**0.020759**	ppb	18.853	24.080	13.887
118	**Sn**		7809.914	**0.238657**	ppb	3.825	18.264	5424.364
121	**Sb**		1267.834	**0.069601**	ppb	6.312	13.014	513.343
135	**Ba**		112.223	**0.024025**	ppb	20.863	37.613	46.667
165	**Ho-IS**		557988.337		ppb	2.137		561678.367
159	**Tb-IS**	>	568321.497		ppb	0.979		561575.178
207	**Pb**		1207.798	**0.017374**	ppb	5.658	9.751	550.004
203	**Tl**		363.338	**0.018703**	ppb	21.691	32.588	124.445
209	**Bi-IS**		314617.508		ppb	1.886		315646.847
51	**V**		11.111	**0.031344**	ppb	86.603	107.998	2.222
59	**Co**		43.333	**0.019663**	ppb	33.530	74.323	24.444
60	**Ni**		104.445	**0.013116**	ppb	7.370	34.984	83.334
75	**As**		279.753	**-0.017291**	ppb	13.357	360.039	292.419
71	**Ga-ISK**		90271.139		ppb	2.912		93458.128
82	**Se-2**		-1.808	**-0.022643**	ppb	179.312	242.904	-0.480
107	**Ag-1**		548.899	**0.036889**	ppb	1.264	4.933	327.782
115	**In-ISK**	>	123286.872		ppb	0.858		124454.460
45	**Sc-ISK**		234355.647		ppb	3.121		236538.032
23	**Na**		8414.145	**2.161929**	ppb	2.170	33.838	7610.362
39	**K**		40890.661	**3.685502**	ppb	0.514	7.560	38106.316
24	**Mg**		646.681	**1.463345**	ppb	9.028	13.120	185.001
159	**Tb-ISK**	>	251760.512		ppb	0.980		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205131_1-A
Autosampler Position: 333
Sample Date/Time: Monday, January 03, 2022 14:13:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\MB 570-205131_1-A.118
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62870.317		ppb	2.446		68679.144
9	**Be**		22.222	**0.002743**	ppb	17.321	66.475	16.667
10	**B**		1248.944	**0.116491**	ppb	4.138	87.353	1236.720
27	**Al**		9891.424	**-0.200897**	ppb	1.535	13.557	13372.590
43	**Ca-2**		108.334	**-0.683164**	ppb	14.100	58.413	136.667
49	**Ti**		305.559	**-0.086069**	ppb	10.483	27.146	413.339
52	**Cr**		18676.648	**-0.082689**	ppb	1.993	70.969	20974.275
55	**Mn**		1115.599	**-0.021331**	ppb	2.506	12.354	1671.209
57	**Fe**		15430.552	**-2.518921**	ppb	1.375	53.156	17538.538
45	**Sc-IS**	>	2247221.379		ppb	2.791		2369245.366
66	**Zn**		1462.297	**0.138548**	ppb	5.200	34.602	1193.383
86	**Sr**		25.242	**0.005515**	ppb	81.716	169.551	13.581
65	**Cu**		245.558	**-0.009945**	ppb	10.888	78.318	298.892
69	**Ga-IS**		776267.133		ppb	1.272		817865.814
95	**Mo**		254.447	**0.000832**	ppb	13.635	1324.617	265.558
115	**In-IS**	>	441782.025		ppb	1.416		442524.934
111	**Cd**		32.799	**0.005771**	ppb	44.385	77.964	13.887
118	**Sn**		3284.823	**-0.224184**	ppb	4.226	4.338	5424.364
121	**Sb**		401.117	**-0.010551**	ppb	9.116	31.467	513.343
135	**Ba**		48.889	**0.000849**	ppb	28.386	608.422	46.667
165	**Ho-IS**		544652.983		ppb	1.371		561678.367
159	**Tb-IS**	>	556531.624		ppb	0.863		561575.178
207	**Pb**		591.116	**0.001255**	ppb	9.707	124.354	550.004
203	**Tl**		170.001	**0.003761**	ppb	14.804	54.443	124.445
209	**Bi-IS**		309846.798		ppb	2.681		315646.847
51	**V**		3.333	**0.003956**	ppb	100.000	293.813	2.222
59	**Co**		8.889	**-0.015809**	ppb	21.651	12.573	24.444
60	**Ni**		110.000	**0.016512**	ppb	12.121	47.110	83.334
75	**As**		267.937	**-0.036719**	ppb	3.331	53.509	292.419
71	**Ga-ISK**		89419.031		ppb	1.680		93458.128
82	**Se-2**		4.877	**0.091227**	ppb	161.050	146.662	-0.480
107	**Ag-1**		258.891	**-0.010757**	ppb	14.124	56.994	327.782
115	**In-ISK**	>	123123.828		ppb	0.923		124454.460
45	**Sc-ISK**		226840.419		ppb	1.578		236538.032
23	**Na**		7727.090	**1.107155**	ppb	2.980	45.679	7610.362
39	**K**		39093.424	**3.413450**	ppb	1.330	20.068	38106.316
24	**Mg**		143.334	**-0.117195**	ppb	8.779	32.157	185.001
159	**Tb-ISK**	>	241810.791		ppb	0.852		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205131_2-A
Autosampler Position: 334
Sample Date/Time: Monday, January 03, 2022 14:16:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCS 570-205131_2-A.119
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65729.853		ppb	3.104		68679.144
9	**Be**		233890.287	**96.247780**	ppb	0.691	2.247	16.667
10	**B**		71295.252	**103.350757**	ppb	0.992	2.622	1236.720
27	**Al**		1515771.135	**105.198662**	ppb	0.937	1.691	13372.590
43	**Ca-2**		165511.771	**5104.594759**	ppb	1.619	1.679	136.667
49	**Ti**		96541.955	**92.397609**	ppb	2.845	1.165	413.339
52	**Cr**		1401003.252	**92.185017**	ppb	2.012	1.510	20974.275
55	**Mn**		2114329.730	**93.372442**	ppb	1.947	0.675	1671.209
57	**Fe**		2531937.642	**5155.725626**	ppb	0.414	2.390	17538.538
45	**Sc-IS**	>	2315510.772		ppb	2.547		2369245.366
66	**Zn**		249525.189	**100.452657**	ppb	1.709	1.105	1193.383
86	**Sr**		212217.511	**90.752900**	ppb	1.216	2.122	13.581
65	**Cu**		374947.030	**95.962111**	ppb	0.944	2.599	298.892
69	**Ga-IS**		848508.657		ppb	0.816		817865.814
95	**Mo**		233999.814	**91.643731**	ppb	0.543	2.992	265.558
115	**In-IS**	>	449098.437		ppb	1.669		442524.934
111	**Cd**		328221.269	**98.016243**	ppb	1.476	1.055	13.887
118	**Sn**		906592.349	**93.253864**	ppb	0.363	1.508	5424.364
121	**Sb**		978460.757	**91.092699**	ppb	1.202	1.784	513.343
135	**Ba**		293431.951	**108.456581**	ppb	0.773	1.438	46.667
165	**Ho-IS**		560128.855		ppb	0.278		561678.367
159	**Tb-IS**	>	563538.875		ppb	1.153		561575.178
207	**Pb**		3442511.283	**92.638861**	ppb	0.921	1.127	550.004
203	**Tl**		1109716.297	**88.218940**	ppb	0.853	0.352	124.445
209	**Bi-IS**		316383.136		ppb	1.129		315646.847
51	**V**		26483.425	**91.755026**	ppb	2.610	4.783	2.222
59	**Co**		87809.182	**89.287569**	ppb	2.832	3.958	24.444
60	**Ni**		157976.579	**93.168457**	ppb	1.468	0.990	83.334
75	**As**		55029.040	**92.902709**	ppb	0.208	2.167	292.419
71	**Ga-ISK**		91495.429		ppb	1.267		93458.128
82	**Se-2**		5699.680	**95.490611**	ppb	0.658	1.944	-0.480
107	**Ag-1**		344426.208	**55.739889**	ppb	3.074	0.845	327.782
115	**In-ISK**	>	125183.507		ppb	2.331		124454.460
45	**Sc-ISK**		236183.462		ppb	1.798		236538.032
23	**Na**		340592.118	**962.212276**	ppb	3.487	1.781	7610.362
39	**K**		711808.901	**985.471084**	ppb	2.204	1.807	38106.316
24	**Mg**		1526118.244	**4933.823669**	ppb	1.224	0.996	185.001
159	**Tb-ISK**	>	247335.392		ppb	2.162		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205131_3-A
Autosampler Position: 335
Sample Date/Time: Monday, January 03, 2022 14:19:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCSD 570-205131_3-A.120
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65431.853		ppb	3.570		68679.144
9	**Be**		235909.636	**98.264939**	ppb	2.884	2.851	16.667
10	**B**		68997.428	**101.214005**	ppb	2.945	3.516	1236.720
27	**Al**		1525039.089	**107.161384**	ppb	1.014	0.975	13372.590
43	**Ca-2**		164055.267	**5121.736267**	ppb	2.266	1.438	136.667
49	**Ti**		96698.389	**93.726571**	ppb	0.047	1.510	413.339
52	**Cr**		1401821.669	**93.417735**	ppb	1.027	2.359	20974.275
55	**Mn**		2090365.984	**93.481973**	ppb	0.787	2.333	1671.209
57	**Fe**		2481262.382	**5114.317442**	ppb	0.818	1.871	17538.538
45	**Sc-IS**	>	2286893.497		ppb	1.544		2369245.366
66	**Zn**		252076.071	**102.751150**	ppb	1.721	1.656	1193.383
86	**Sr**		213329.195	**92.358072**	ppb	0.331	1.851	13.581
65	**Cu**		373252.246	**96.702512**	ppb	0.652	1.883	298.892
69	**Ga-IS**		832117.448		ppb	1.676		817865.814
95	**Mo**		237469.213	**94.158139**	ppb	2.275	3.821	265.558
115	**In-IS**	>	447002.129		ppb	1.573		442524.934
111	**Cd**		331120.704	**99.349746**	ppb	0.658	0.915	13.887
118	**Sn**		902601.724	**93.267419**	ppb	1.318	0.696	5424.364
121	**Sb**		972379.836	**90.952508**	ppb	1.330	2.077	513.343
135	**Ba**		293548.010	**109.011214**	ppb	1.592	2.265	46.667
165	**Ho-IS**		562818.373		ppb	0.580		561678.367
159	**Tb-IS**	>	568341.752		ppb	0.466		561575.178
207	**Pb**		3414256.017	**91.100421**	ppb	1.887	2.152	550.004
203	**Tl**		1124449.030	**88.638011**	ppb	1.850	2.242	124.445
209	**Bi-IS**		315330.683		ppb	1.797		315646.847
51	**V**		26436.669	**93.691032**	ppb	2.251	3.352	2.222
59	**Co**		86890.148	**90.394371**	ppb	1.435	2.360	24.444
60	**Ni**		154925.354	**93.481867**	ppb	4.108	3.487	83.334
75	**As**		54786.704	**94.623819**	ppb	2.597	1.413	292.419
71	**Ga-ISK**		90610.020		ppb	3.552		93458.128
82	**Se-2**		5665.318	**97.114575**	ppb	0.796	1.325	-0.480
107	**Ag-1**		336094.660	**55.672735**	ppb	1.210	1.307	327.782
115	**In-ISK**	>	122322.914		ppb	1.224		124454.460
45	**Sc-ISK**		233311.284		ppb	4.607		236538.032
23	**Na**		341626.617	**960.824389**	ppb	2.575	2.626	7610.362
39	**K**		709758.388	**977.602486**	ppb	2.220	2.114	38106.316
24	**Mg**		1509871.906	**4858.143826**	ppb	2.350	2.163	185.001
159	**Tb-ISK**	>	248474.970		ppb	0.533		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80153-E-1-A
Autosampler Position: 336
Sample Date/Time: Monday, January 03, 2022 14:23:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80153-E-1-A.121
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		72967.044		ppb	2.217		68679.144
9	**Be**		116.667	**0.037297**	ppb	8.571	12.304	16.667
10	**B**		40026.045	**52.240522**	ppb	3.690	4.192	1236.720
27	**Al**		16197.178	**0.123214**	ppb	1.427	13.473	13372.590
43	**Ca-2**		1210937.309	**34213.827753**	ppb	2.646	3.309	136.667
49	**Ti**		2295.740	**1.632789**	ppb	1.671	4.923	413.339
52	**Cr**		88270.903	**4.025847**	ppb	2.819	0.201	20974.275
55	**Mn**		44442.400	**1.725451**	ppb	3.121	1.184	1671.209
57	**Fe**		89011.017	**131.855124**	ppb	2.661	1.766	17538.538
45	**Sc-IS**	>	2529652.485		ppb	2.684		2369245.366
66	**Zn**		18814.604	**6.495611**	ppb	0.510	2.348	1193.383
86	**Sr**		440322.925	**172.398520**	ppb	1.053	3.035	13.581
65	**Cu**		1817.893	**0.351590**	ppb	2.843	6.031	298.892
69	**Ga-IS**		807129.999		ppb	0.811		817865.814
95	**Mo**		1697.879	**0.507509**	ppb	4.130	5.228	265.558
115	**In-IS**	>	428669.787		ppb	0.580		442524.934
111	**Cd**		136.435	**0.038518**	ppb	27.621	31.269	13.887
118	**Sn**		4739.675	**-0.055794**	ppb	1.075	12.764	5424.364
121	**Sb**		3450.417	**0.288110**	ppb	4.148	4.328	513.343
135	**Ba**		16348.243	**6.312828**	ppb	2.856	2.530	46.667
165	**Ho-IS**		560128.643		ppb	1.179		561678.367
159	**Tb-IS**	>	561370.613		ppb	0.180		561575.178
207	**Pb**		3769.082	**0.086974**	ppb	1.739	1.948	550.004
203	**Tl**		901.140	**0.061993**	ppb	5.183	6.045	124.445
209	**Bi-IS**		307048.348		ppb	1.272		315646.847
51	**V**		160.001	**0.569635**	ppb	17.800	19.750	2.222
59	**Co**		68.889	**0.047971**	ppb	15.554	25.587	24.444
60	**Ni**		710.018	**0.386275**	ppb	3.286	3.552	83.334
75	**As**		441.304	**0.280419**	ppb	4.855	19.231	292.419
71	**Ga-ISK**		90920.648		ppb	0.847		93458.128
82	**Se-2**		150.188	**2.621213**	ppb	14.320	12.778	-0.480
107	**Ag-1**		751.131	**0.073149**	ppb	2.277	1.908	327.782
115	**In-ISK**	>	120368.084		ppb	2.310		124454.460
45	**Sc-ISK**		240042.740		ppb	2.142		236538.032
23	**Na**		6638521.968	**19332.826016**	ppb	1.863	0.882	7610.362
39	**K**		665673.292	**926.888513**	ppb	0.726	1.451	38106.316
24	**Mg**		2747890.036	**8964.047301**	ppb	2.701	2.603	185.001
159	**Tb-ISK**	>	245101.532		ppb	0.986		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80153-E-1-A
Autosampler Position: 337
Sample Date/Time: Monday, January 03, 2022 14:26:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80153-E-1-A.122
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		80528.634		ppb	2.309		68679.144
9	**Be**		55.556	**0.012417**	ppb	12.490	18.977	16.667
10	**B**		197013.021	**241.084928**	ppb	4.257	2.491	1236.720
27	**Al**		45635.505	**1.757975**	ppb	3.616	6.585	13372.590
43	**Ca-2**		6701534.096	**172994.634357**	ppb	2.476	1.300	136.667
49	**Ti**		8641.503	**6.560107**	ppb	2.845	2.682	413.339
52	**Cr**		353266.087	**18.365077**	ppb	1.238	1.496	20974.275
55	**Mn**		219606.185	**8.048397**	ppb	0.270	2.072	1671.209
57	**Fe**		318276.205	**510.759760**	ppb	1.969	3.943	17538.538
45	**Sc-IS**	>	2767882.119		ppb	1.803		2369245.366
66	**Zn**		77603.559	**25.785110**	ppb	1.074	1.143	1193.383
86	**Sr**		2304844.945	**824.599425**	ppb	1.101	2.734	13.581
65	**Cu**		5895.661	**1.188095**	ppb	1.672	1.660	298.892
69	**Ga-IS**		794910.101		ppb	1.456		817865.814
95	**Mo**		4965.308	**1.525874**	ppb	2.851	1.168	265.558
115	**In-IS**	>	402245.041		ppb	0.470		442524.934
111	**Cd**		128.462	**0.038631**	ppb	11.001	12.479	13.887
118	**Sn**		4599.629	**-0.038231**	ppb	0.274	7.385	5424.364
121	**Sb**		5334.330	**0.506232**	ppb	4.098	5.004	513.343
135	**Ba**		78854.875	**32.526377**	ppb	2.098	2.538	46.667
165	**Ho-IS**		561898.533		ppb	0.095		561678.367
159	**Tb-IS**	>	556733.625		ppb	0.782		561575.178
207	**Pb**		3002.345	**0.066937**	ppb	1.008	1.221	550.004
203	**Tl**		440.007	**0.025495**	ppb	11.439	16.617	124.445
209	**Bi-IS**		278858.981		ppb	1.244		315646.847
51	**V**		830.024	**3.192413**	ppb	1.448	3.203	2.222
59	**Co**		165.557	**0.162606**	ppb	11.089	14.592	24.444
60	**Ni**		2892.516	**1.848698**	ppb	6.956	4.812	83.334
75	**As**		634.723	**0.697975**	ppb	10.675	13.818	292.419
71	**Ga-ISK**		87857.201		ppb	2.246		93458.128
82	**Se-2**		705.224	**13.156743**	ppb	1.138	1.712	-0.480
107	**Ag-1**		362.227	**0.011716**	ppb	20.584	100.534	327.782
115	**In-ISK**	>	112474.422		ppb	2.519		124454.460
45	**Sc-ISK**		249917.154		ppb	2.871		236538.032
23	**Na**		37221661.367	**111103.629010**	ppb	2.622	2.084	7610.362
39	**K**		3451069.708	**5157.103160**	ppb	2.645	2.116	38106.316
24	**Mg**		14443533.978	**48250.208434**	ppb	1.405	1.017	185.001
159	**Tb-ISK**	>	239354.628		ppb	0.935		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80153-E-1-B MS
Autosampler Position: 338
Sample Date/Time: Monday, January 03, 2022 14:29:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80153-E-1-B MS.123
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		76314.461		ppb	2.040		68679.144
9	**Be**		217481.933	**76.480188**	ppb	0.992	1.575	16.667
10	**B**		251603.794	**315.200787**	ppb	2.375	0.644	1236.720
27	**Al**		1524524.878	**90.280887**	ppb	2.259	0.629	13372.590
43	**Ca-2**		6403465.281	**168893.631137**	ppb	2.320	0.691	136.667
49	**Ti**		106986.931	**87.514725**	ppb	1.071	1.333	413.339
52	**Cr**		1659891.393	**93.374215**	ppb	1.322	1.785	20974.275
55	**Mn**		2191470.551	**82.721775**	ppb	0.713	1.682	1671.209
57	**Fe**		2717232.609	**4726.203452**	ppb	0.685	2.671	17538.538
45	**Sc-IS**	>	2709134.802		ppb	2.313		2369245.366
66	**Zn**		281482.857	**96.844133**	ppb	0.760	1.550	1193.383
86	**Sr**		2454817.421	**897.307123**	ppb	0.537	2.162	13.581
65	**Cu**		308973.272	**67.553301**	ppb	2.253	2.584	298.892
69	**Ga-IS**		845693.547		ppb	0.310		817865.814
95	**Mo**		210429.735	**70.415687**	ppb	1.141	3.378	265.558
115	**In-IS**	>	418101.577		ppb	1.966		442524.934
111	**Cd**		274033.555	**87.901167**	ppb	1.582	0.680	13.887
118	**Sn**		752290.665	**83.051068**	ppb	1.279	0.705	5424.364
121	**Sb**		883127.792	**88.318616**	ppb	0.444	1.817	513.343
135	**Ba**		338607.189	**134.445661**	ppb	0.787	1.719	46.667
165	**Ho-IS**		549877.591		ppb	0.529		561678.367
159	**Tb-IS**	>	556272.882		ppb	0.808		561575.178
207	**Pb**		2878383.982	**78.469250**	ppb	1.518	2.017	550.004
203	**Tl**		956004.895	**76.997933**	ppb	1.364	2.176	124.445
209	**Bi-IS**		276276.443		ppb	1.742		315646.847
51	**V**		25995.868	**97.957176**	ppb	3.058	2.184	2.222
59	**Co**		77089.715	**85.295882**	ppb	1.979	2.397	24.444
60	**Ni**		135701.814	**87.104688**	ppb	2.817	2.865	83.334
75	**As**		54934.277	**100.951324**	ppb	2.132	0.624	292.419
71	**Ga-ISK**		88947.281		ppb	2.593		93458.128
82	**Se-2**		6150.519	**112.115782**	ppb	2.307	0.315	-0.480
107	**Ag-1**		254367.581	**44.802624**	ppb	2.246	1.796	327.782
115	**In-ISK**	>	115017.213		ppb	2.177		124454.460
45	**Sc-ISK**		252411.635		ppb	2.944		236538.032
23	**Na**		35879207.955	**106061.210461**	ppb	1.505	1.364	7610.362
39	**K**		4056811.835	**6012.806981**	ppb	1.812	1.726	38106.316
24	**Mg**		15667910.588	**51812.251830**	ppb	3.850	1.746	185.001
159	**Tb-ISK**	>	241744.337		ppb	2.381		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80153-E-1-C MSD
Autosampler Position: 339
Sample Date/Time: Monday, January 03, 2022 14:32:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80153-E-1-C MSD.124
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		76421.738		ppb	2.659		68679.144
9	**Be**		216131.841	**77.392049**	ppb	1.601	0.812	16.667
10	**B**		247831.935	**316.150446**	ppb	4.573	3.606	1236.720
27	**Al**		1506957.367	**90.894614**	ppb	1.296	0.329	13372.590
43	**Ca-2**		6336396.482	**170217.378774**	ppb	1.154	0.897	136.667
49	**Ti**		102766.118	**85.591275**	ppb	1.185	0.223	413.339
52	**Cr**		1626892.238	**93.197547**	ppb	0.165	1.438	20974.275
55	**Mn**		2146698.820	**82.511862**	ppb	0.780	0.519	1671.209
57	**Fe**		2642334.072	**4678.595943**	ppb	1.474	0.322	17538.538
45	**Sc-IS**	>	2659965.366		ppb	1.266		2369245.366
66	**Zn**		276808.325	**96.982170**	ppb	0.453	1.083	1193.383
86	**Sr**		2446813.711	**910.667762**	ppb	1.041	1.039	13.581
65	**Cu**		311008.045	**69.245779**	ppb	0.958	1.166	298.892
69	**Ga-IS**		819852.033		ppb	2.235		817865.814
95	**Mo**		213021.216	**72.572656**	ppb	1.684	1.973	265.558
115	**In-IS**	>	431160.065		ppb	1.925		442524.934
111	**Cd**		279305.664	**86.878039**	ppb	1.516	0.439	13.887
118	**Sn**		767339.288	**82.144003**	ppb	2.083	2.190	5424.364
121	**Sb**		883365.455	**85.663624**	ppb	1.542	2.264	513.343
135	**Ba**		342510.294	**131.866856**	ppb	1.679	1.812	46.667
165	**Ho-IS**		555379.981		ppb	0.524		561678.367
159	**Tb-IS**	>	570200.430		ppb	0.598		561575.178
207	**Pb**		2894606.851	**76.978378**	ppb	0.453	0.407	550.004
203	**Tl**		948036.838	**74.484040**	ppb	2.164	2.254	124.445
209	**Bi-IS**		274759.378		ppb	0.674		315646.847
51	**V**		25818.867	**94.785867**	ppb	0.678	2.632	2.222
59	**Co**		78156.562	**84.220772**	ppb	1.058	1.811	24.444
60	**Ni**		136550.706	**85.387039**	ppb	1.412	3.364	83.334
75	**As**		55475.546	**99.298093**	ppb	2.068	2.491	292.419
71	**Ga-ISK**		89710.812		ppb	0.839		93458.128
82	**Se-2**		6155.515	**109.344625**	ppb	4.386	5.674	-0.480
107	**Ag-1**		264373.016	**45.352961**	ppb	1.368	1.247	327.782
115	**In-ISK**	>	118094.766		ppb	1.940		124454.460
45	**Sc-ISK**		253973.443		ppb	1.142		236538.032
23	**Na**		34875960.390	**102339.435444**	ppb	1.870	3.023	7610.362
39	**K**		4079349.279	**6001.474256**	ppb	1.820	2.723	38106.316
24	**Mg**		15245230.842	**50059.813868**	ppb	1.140	2.041	185.001
159	**Tb-ISK**	>	243543.282		ppb	1.202		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80153-E-1-A
Autosampler Position: 340
Sample Date/Time: Monday, January 03, 2022 14:35:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80153-E-1-A.125
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		74592.196		ppb	3.794		68679.144
9	**Be**		237377.039	**85.138781**	ppb	4.166	1.847	16.667
10	**B**		251334.146	**321.196749**	ppb	5.026	2.763	1236.720
27	**Al**		1648305.660	**99.715871**	ppb	1.179	1.335	13372.590
43	**Ca-2**		6281704.104	**169105.002408**	ppb	0.905	1.724	136.667
49	**Ti**		112845.164	**94.208817**	ppb	1.979	0.759	413.339
52	**Cr**		1763419.095	**101.324842**	ppb	1.844	0.832	20974.275
55	**Mn**		2328410.537	**89.675937**	ppb	2.580	1.941	1671.209
57	**Fe**		2869782.788	**5094.010565**	ppb	2.495	0.062	17538.538
45	**Sc-IS**	>	2655006.351		ppb	2.519		2369245.366
66	**Zn**		294972.721	**103.573142**	ppb	1.952	0.796	1193.383
86	**Sr**		2542089.797	**948.343979**	ppb	0.660	3.131	13.581
65	**Cu**		344250.393	**76.802999**	ppb	1.807	0.865	298.892
69	**Ga-IS**		826165.064		ppb	0.616		817865.814
95	**Mo**		240918.978	**82.277195**	ppb	0.627	2.968	265.558
115	**In-IS**	>	434116.736		ppb	0.846		442524.934
111	**Cd**		311838.539	**96.340774**	ppb	0.852	1.646	13.887
118	**Sn**		874495.897	**93.041969**	ppb	0.947	0.867	5424.364
121	**Sb**		990699.858	**95.412005**	ppb	1.665	2.192	513.343
135	**Ba**		374834.628	**143.325746**	ppb	1.564	2.197	46.667
165	**Ho-IS**		560144.187		ppb	0.718		561678.367
159	**Tb-IS**	>	562431.692		ppb	0.902		561575.178
207	**Pb**		3199697.493	**86.272302**	ppb	0.104	0.810	550.004
203	**Tl**		1063093.413	**84.687710**	ppb	1.517	2.332	124.445
209	**Bi-IS**		275590.660		ppb	0.341		315646.847
51	**V**		28772.285	**105.370098**	ppb	1.741	2.206	2.222
59	**Co**		88069.544	**94.682746**	ppb	1.082	1.344	24.444
60	**Ni**		152314.409	**95.002051**	ppb	1.054	1.123	83.334
75	**As**		61410.973	**109.711974**	ppb	1.346	1.068	292.419
71	**Ga-ISK**		89477.127		ppb	0.670		93458.128
82	**Se-2**		6859.495	**121.519443**	ppb	0.575	0.911	-0.480
107	**Ag-1**		295280.005	**50.548028**	ppb	1.845	2.263	327.782
115	**In-ISK**	>	118353.145		ppb	0.493		124454.460
45	**Sc-ISK**		255638.600		ppb	1.807		236538.032
23	**Na**		34551904.193	**99469.833226**	ppb	0.914	1.009	7610.362
39	**K**		4171773.476	**6021.763695**	ppb	1.553	1.490	38106.316
24	**Mg**		15594544.623	**50245.208395**	ppb	1.623	2.070	185.001
159	**Tb-ISK**	>	248186.724		ppb	0.727		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80153-E-2-A
Autosampler Position: 341
Sample Date/Time: Monday, January 03, 2022 14:38:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80153-E-2-A.126
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66810.378		ppb	2.629		68679.144
9	**Be**		113.334	**0.038582**	ppb	7.782	6.947	16.667
10	**B**		3079.221	**2.629922**	ppb	1.686	0.364	1236.720
27	**Al**		97543.149	**5.719938**	ppb	3.496	2.931	13372.590
43	**Ca-2**		5394.357	**157.547156**	ppb	8.637	7.028	136.667
49	**Ti**		792.244	**0.351911**	ppb	14.431	30.467	413.339
52	**Cr**		45968.287	**1.614877**	ppb	0.813	2.804	20974.275
55	**Mn**		14380.571	**0.545482**	ppb	2.799	2.356	1671.209
57	**Fe**		32665.088	**29.940465**	ppb	1.781	2.986	17538.538
45	**Sc-IS**	>	2382385.860		ppb	1.900		2369245.366
66	**Zn**		8873.867	**3.017918**	ppb	1.989	4.482	1193.383
86	**Sr**		1899.202	**0.782920**	ppb	8.513	6.962	13.581
65	**Cu**		11423.455	**2.768366**	ppb	0.725	1.559	298.892
69	**Ga-IS**		787794.942		ppb	2.133		817865.814
95	**Mo**		2711.368	**0.931008**	ppb	1.890	0.738	265.558
115	**In-IS**	>	463428.986		ppb	2.269		442524.934
111	**Cd**		180.974	**0.048147**	ppb	4.860	3.293	13.887
118	**Sn**		18823.510	**1.318820**	ppb	2.733	5.946	5424.364
121	**Sb**		3573.781	**0.274221**	ppb	3.429	5.804	513.343
135	**Ba**		1227.831	**0.422638**	ppb	7.195	8.739	46.667
165	**Ho-IS**		574517.613		ppb	1.555		561678.367
159	**Tb-IS**	>	577926.087		ppb	1.300		561575.178
207	**Pb**		5358.177	**0.125748**	ppb	2.420	1.389	550.004
203	**Tl**		856.692	**0.056457**	ppb	8.770	9.181	124.445
209	**Bi-IS**		322898.056		ppb	1.770		315646.847
51	**V**		27.778	**0.086376**	ppb	6.928	8.610	2.222
59	**Co**		62.222	**0.036931**	ppb	11.152	20.594	24.444
60	**Ni**		625.569	**0.311881**	ppb	12.387	15.626	83.334
75	**As**		354.603	**0.088777**	ppb	15.656	96.695	292.419
71	**Ga-ISK**		95779.036		ppb	2.600		93458.128
82	**Se-2**		8.185	**0.141928**	ppb	61.954	58.609	-0.480
107	**Ag-1**		5292.094	**0.785244**	ppb	6.803	7.539	327.782
115	**In-ISK**	>	127994.309		ppb	1.357		124454.460
45	**Sc-ISK**		245548.596		ppb	2.305		236538.032
23	**Na**		95333.722	**253.775242**	ppb	0.836	0.921	7610.362
39	**K**		50892.729	**19.371197**	ppb	1.598	7.683	38106.316
24	**Mg**		15601.864	**49.864053**	ppb	5.312	5.763	185.001
159	**Tb-ISK**	>	247290.669		ppb	0.424		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79944-D-1-A @5
Autosampler Position: 342
Sample Date/Time: Monday, January 03, 2022 14:42:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79944-D-1-A @5.127
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		70283.708		ppb	3.341		68679.144
9	**Be**		78.889	**0.022826**	ppb	10.634	15.774	16.667
10	**B**		2011696.975	**2690.401265**	ppb	7.737	5.357	1236.720
27	**Al**		38734.456	**1.548761**	ppb	2.027	1.046	13372.590
43	**Ca-2**		449522.630	**12602.788433**	ppb	1.748	1.512	136.667
49	**Ti**		1633.427	**1.038291**	ppb	5.102	6.295	413.339
52	**Cr**		69723.151	**2.861419**	ppb	2.764	2.406	20974.275
55	**Mn**		66774.683	**2.609779**	ppb	3.083	3.406	1671.209
57	**Fe**		62190.642	**80.708706**	ppb	1.154	2.451	17538.538
45	**Sc-IS**	>	2548369.632		ppb	2.600		2369245.366
66	**Zn**		7845.489	**2.410933**	ppb	3.189	1.221	1193.383
86	**Sr**		448810.905	**174.382876**	ppb	1.393	1.491	13.581
65	**Cu**		6956.139	**1.543193**	ppb	3.642	1.441	298.892
69	**Ga-IS**		801926.259		ppb	1.673		817865.814
95	**Mo**		13652.083	**4.758703**	ppb	4.049	2.448	265.558
115	**In-IS**	>	452005.018		ppb	1.775		442524.934
111	**Cd**		389.115	**0.111328**	ppb	10.133	11.438	13.887
118	**Sn**		10312.611	**0.490615**	ppb	1.689	0.242	5424.364
121	**Sb**		3632.685	**0.287562**	ppb	4.675	4.114	513.343
135	**Ba**		80269.411	**29.464827**	ppb	2.414	2.545	46.667
165	**Ho-IS**		572663.016		ppb	0.872		561678.367
159	**Tb-IS**	>	583668.746		ppb	2.319		561575.178
207	**Pb**		54262.359	**1.395658**	ppb	0.906	2.566	550.004
203	**Tl**		676.683	**0.042082**	ppb	8.962	13.241	124.445
209	**Bi-IS**		293527.580		ppb	1.564		315646.847
51	**V**		163.334	**0.556690**	ppb	6.122	5.156	2.222
59	**Co**		377.783	**0.358954**	ppb	16.609	19.025	24.444
60	**Ni**		13817.797	**8.092860**	ppb	3.950	5.120	83.334
75	**As**		4152.564	**6.539595**	ppb	5.793	7.553	292.419
71	**Ga-ISK**		92873.188		ppb	1.652		93458.128
82	**Se-2**		1134.567	**18.985118**	ppb	2.068	3.650	-0.480
107	**Ag-1**		367.783	**0.006054**	ppb	4.562	30.820	327.782
115	**In-ISK**	>	125390.888		ppb	1.614		124454.460
45	**Sc-ISK**		246339.094		ppb	0.306		236538.032
23	**Na**		25131388.087	**70712.163092**	ppb	0.238	1.192	7610.362
39	**K**		1592918.844	**2212.787835**	ppb	1.757	1.292	38106.316
24	**Mg**		2384387.494	**7508.422266**	ppb	0.204	1.290	185.001
159	**Tb-ISK**	>	253927.063		ppb	1.109		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 14:45:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.128
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63296.826		ppb	5.111		68679.144
9	**Be**		250694.309	**100.491225**	ppb	4.318	1.530	16.667
10	**B**		183095.072	**261.323409**	ppb	2.046	0.983	1236.720
27	**Al**		1459504.569	**98.673907**	ppb	1.598	1.406	13372.590
43	**Ca-2**		173200.609	**5206.350041**	ppb	2.168	0.878	136.667
49	**Ti**		108011.351	**100.813345**	ppb	2.097	0.922	413.339
52	**Cr**		1553467.671	**99.741260**	ppb	2.730	1.820	20974.275
55	**Mn**		2368373.489	**101.965531**	ppb	1.778	1.227	1671.209
57	**Fe**		2666819.550	**5293.791744**	ppb	1.771	2.383	17538.538
45	**Sc-IS**	>	2375627.636		ppb	3.009		2369245.366
66	**Zn**		270540.942	**106.192998**	ppb	2.473	2.154	1193.383
86	**Sr**		249342.677	**103.941970**	ppb	2.442	3.116	13.581
65	**Cu**		417113.390	**104.055471**	ppb	2.633	3.081	298.892
69	**Ga-IS**		850182.982		ppb	0.219		817865.814
95	**Mo**		267438.340	**102.119191**	ppb	1.688	3.815	265.558
115	**In-IS**	>	465151.949		ppb	1.741		442524.934
111	**Cd**		363008.038	**104.667214**	ppb	0.966	0.801	13.887
118	**Sn**		1038313.763	**103.169422**	ppb	1.887	1.776	5424.364
121	**Sb**		1112596.107	**99.998748**	ppb	2.284	1.779	513.343
135	**Ba**		287853.171	**102.712807**	ppb	2.197	1.840	46.667
165	**Ho-IS**		570626.704		ppb	1.249		561678.367
159	**Tb-IS**	>	581634.242		ppb	0.192		561575.178
207	**Pb**		3886457.892	**101.330156**	ppb	2.592	2.745	550.004
203	**Tl**		1266808.751	**97.573946**	ppb	0.767	0.940	124.445
209	**Bi-IS**		317861.844		ppb	0.436		315646.847
51	**V**		30097.230	**104.133951**	ppb	1.316	2.140	2.222
59	**Co**		101753.433	**103.358755**	ppb	2.195	2.810	24.444
60	**Ni**		171808.331	**101.238070**	ppb	1.967	1.732	83.334
75	**As**		61723.339	**104.142546**	ppb	1.725	0.336	292.419
71	**Ga-ISK**		95895.323		ppb	2.150		93458.128
82	**Se-2**		6368.625	**106.578260**	ppb	2.482	1.924	-0.480
107	**Ag-1**		618331.940	**100.056561**	ppb	0.665	1.867	327.782
115	**In-ISK**	>	125284.305		ppb	1.394		124454.460
45	**Sc-ISK**		244027.047		ppb	1.873		236538.032
23	**Na**		1787502.140	**5021.853585**	ppb	2.041	3.417	7610.362
39	**K**		3725087.989	**5261.241260**	ppb	3.178	3.631	38106.316
24	**Mg**		1575014.681	**4971.071063**	ppb	0.899	1.889	185.001
159	**Tb-ISK**	>	253355.893		ppb	1.550		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 14:51:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.130
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63216.230		ppb	0.491		68679.144
9	**Be**		52.222	**0.014511**	ppb	35.155	49.852	16.667
10	**B**		3147.014	**2.810371**	ppb	3.867	4.784	1236.720
27	**Al**		16079.712	**0.199592**	ppb	0.926	6.387	13372.590
43	**Ca-2**		296.670	**4.940181**	ppb	7.017	11.595	136.667
49	**Ti**		434.451	**0.024644**	ppb	16.408	255.761	413.339
52	**Cr**		21110.035	**0.026818**	ppb	2.119	84.156	20974.275
55	**Mn**		1667.875	**0.000804**	ppb	2.229	230.675	1671.209
57	**Fe**		19300.814	**4.030243**	ppb	2.738	17.138	17538.538
45	**Sc-IS**	>	2338721.467		ppb	1.221		2369245.366
66	**Zn**		1161.158	**-0.006752**	ppb	5.780	384.988	1193.383
86	**Sr**		152.996	**0.059106**	ppb	2.887	4.396	13.581
65	**Cu**		473.341	**0.045201**	ppb	7.617	20.050	298.892
69	**Ga-IS**		795962.311		ppb	1.558		817865.814
95	**Mo**		1093.375	**0.322575**	ppb	2.605	4.109	265.558
115	**In-IS**	>	469974.831		ppb	0.251		442524.934
111	**Cd**		73.260	**0.016690**	ppb	23.411	29.069	13.887
118	**Sn**		9051.760	**0.325426**	ppb	4.830	13.567	5424.364
121	**Sb**		1324.506	**0.069372**	ppb	7.485	13.120	513.343
135	**Ba**		106.667	**0.020181**	ppb	20.492	38.612	46.667
165	**Ho-IS**		580019.581		ppb	0.491		561678.367
159	**Tb-IS**	>	587488.854		ppb	0.099		561575.178
207	**Pb**		1082.238	**0.013086**	ppb	9.410	20.282	550.004
203	**Tl**		298.892	**0.012868**	ppb	17.072	30.355	124.445
209	**Bi-IS**		320345.685		ppb	1.360		315646.847
51	**V**		6.667	**0.014709**	ppb	50.000	73.416	2.222
59	**Co**		46.667	**0.021848**	ppb	44.607	99.517	24.444
60	**Ni**		115.556	**0.017264**	ppb	14.519	47.014	83.334
75	**As**		314.558	**0.024487**	ppb	7.171	162.517	292.419
71	**Ga-ISK**		95403.164		ppb	2.254		93458.128
82	**Se-2**		4.192	**0.075486**	ppb	179.193	160.203	-0.480
107	**Ag-1**		923.363	**0.093109**	ppb	9.714	11.922	327.782
115	**In-ISK**	>	127680.489		ppb	2.680		124454.460
45	**Sc-ISK**		241004.104		ppb	1.796		236538.032
23	**Na**		12657.275	**13.758782**	ppb	2.943	8.668	7610.362
39	**K**		41026.606	**3.149070**	ppb	0.648	19.303	38106.316
24	**Mg**		1405.069	**3.814320**	ppb	5.650	5.066	185.001
159	**Tb-ISK**	>	254942.374		ppb	1.457		250321.823

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Monday, January 03, 2022 15:09:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICIS-1479530.132
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62845.721		ppb	1.093		
9	**Be**		10.000		ppb	33.333		
10	**B**		1590.088		ppb	0.555		
27	**Al**		13170.068		ppb	0.797		
43	**Ca-2**		176.668		ppb	5.892		
49	**Ti**		423.340		ppb	9.283		
52	**Cr**		20988.745		ppb	2.188		
55	**Mn**		1616.758		ppb	4.320		
57	**Fe**		19123.905		ppb	1.535		
45	**Sc-IS**	>	2282784.855		ppb	1.587		
66	**Zn**		1222.275		ppb	2.118		
86	**Sr**		11.309		ppb	307.250		
65	**Cu**		420.006		ppb	4.828		
69	**Ga-IS**		790588.707		ppb	1.701		
95	**Mo**		182.223		ppb	25.237		
115	**In-IS**	>	458046.001		ppb	1.941		
111	**Cd**		24.062		ppb	34.893		
118	**Sn**		3823.858		ppb	19.466		
121	**Sb**		453.341		ppb	22.532		
135	**Ba**		52.222		ppb	22.416		
165	**Ho-IS**		556845.506		ppb	1.916		
159	**Tb-IS**	>	570297.931		ppb	0.949		
207	**Pb**		467.781		ppb	12.121		
203	**Tl**		104.445		ppb	24.790		
209	**Bi-IS**		304922.245		ppb	0.903		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Monday, January 03, 2022 15:10:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\IC-2235387.133
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62306.732		ppb	2.160		62845.721
9	**Be**		491548.427	**200.000000**	ppb	2.981	2.522	10.000
10	**B**		340109.612	**500.000000**	ppb	1.809	2.413	1590.088
27	**Al**		2887955.441	**200.000000**	ppb	0.650	0.366	13170.068
43	**Ca-2**		326692.070	**10200.000000**	ppb	1.436	1.168	176.668
49	**Ti**		204568.967	**200.000000**	ppb	1.582	0.650	423.340
52	**Cr**		2989820.841	**200.000000**	ppb	1.253	1.085	20988.745
55	**Mn**		4345442.649	**200.000000**	ppb	1.398	0.436	1616.758
57	**Fe**		4946056.566	**10200.000000**	ppb	0.823	1.410	19123.905
45	**Sc-IS**	>	2243184.348		ppb	1.012		2282784.855
66	**Zn**		493223.542	**200.000000**	ppb	0.703	1.388	1222.275
86	**Sr**		498678.571	**200.000000**	ppb	2.149	1.408	11.309
65	**Cu**		798567.506	**200.000000**	ppb	0.934	1.846	420.006
69	**Ga-IS**		870733.459		ppb	0.768		790588.707
95	**Mo**		555071.206	**200.000000**	ppb	2.793	1.774	182.223
115	**In-IS**	>	448036.515		ppb	1.378		458046.001
111	**Cd**		687307.800	**200.000000**	ppb	1.663	0.853	24.062
118	**Sn**		1970301.982	**200.000000**	ppb	0.524	1.411	3823.858
121	**Sb**		2161772.948	**200.000000**	ppb	0.213	1.190	453.341
135	**Ba**		549234.648	**200.000000**	ppb	0.506	0.883	52.222
165	**Ho-IS**		558615.238		ppb	1.612		556845.506
159	**Tb-IS**	>	573291.895		ppb	2.303		570297.931
207	**Pb**		7256815.275	**200.000000**	ppb	0.400	2.206	467.781
203	**Tl**		2456768.504	**200.000000**	ppb	0.556	1.845	104.445
209	**Bi-IS**		292437.694		ppb	1.405		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 15:12:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.134
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60363.948		ppb	1.407		62845.721
9	**Be**		238355.610	**100.504999**	ppb	1.416	2.134	10.000
10	**B**		165971.027	**251.627636**	ppb	1.987	0.018	1590.088
27	**Al**		1394303.119	**99.611270**	ppb	1.363	2.033	13170.068
43	**Ca-2**		161386.688	**5218.179562**	ppb	1.875	1.114	176.668
49	**Ti**		100044.692	**101.150945**	ppb	1.411	0.981	423.340
52	**Cr**		1436380.903	**98.880412**	ppb	0.242	2.232	20988.745
55	**Mn**		2208661.934	**105.323749**	ppb	0.532	2.479	1616.758
57	**Fe**		2506816.832	**5339.394830**	ppb	0.991	2.978	19123.905
45	**Sc-IS**	>	2165084.341		ppb	1.998		2282784.855
66	**Zn**		260251.403	**109.135431**	ppb	0.071	1.934	1222.275
86	**Sr**		246347.965	**102.407236**	ppb	2.743	3.894	11.309
65	**Cu**		409170.495	**106.165482**	ppb	1.855	3.814	420.006
69	**Ga-IS**		811752.495		ppb	1.774		790588.707
95	**Mo**		271889.432	**101.528938**	ppb	2.356	3.993	182.223
115	**In-IS**	>	449625.459		ppb	1.457		458046.001
111	**Cd**		349680.073	**101.397965**	ppb	2.414	2.419	24.062
118	**Sn**		995960.817	**100.555226**	ppb	0.322	1.671	3823.858
121	**Sb**		1061671.046	**97.865081**	ppb	1.171	2.416	453.341
135	**Ba**		276706.609	**100.411838**	ppb	1.229	2.582	52.222
165	**Ho-IS**		564075.557		ppb	0.730		556845.506
159	**Tb-IS**	>	573527.602		ppb	0.702		570297.931
207	**Pb**		3625099.487	**99.825194**	ppb	1.404	0.823	467.781
203	**Tl**		1177623.428	**95.792185**	ppb	1.786	1.107	104.445
209	**Bi-IS**		303391.553		ppb	1.462		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 15:13:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.135
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60919.621		ppb	0.770		62845.721
9	**Be**		131.112	**0.050982**	ppb	20.392	23.081	10.000
10	**B**		2410.203	**1.355589**	ppb	1.438	6.549	1590.088
27	**Al**		16785.189	**0.301298**	ppb	0.274	3.995	13170.068
43	**Ca-2**		205.002	**1.158653**	ppb	24.022	131.381	176.668
49	**Ti**		363.338	**-0.041221**	ppb	1.835	22.424	423.340
52	**Cr**		18855.771	**-0.082131**	ppb	1.611	39.437	20988.745
55	**Mn**		2399.091	**0.040560**	ppb	5.807	18.657	1616.758
57	**Fe**		18212.715	**-0.102841**	ppb	1.487	762.761	19123.905
45	**Sc-IS**	>	2179997.191		ppb	1.065		2282784.855
66	**Zn**		1338.952	**0.071893**	ppb	3.389	29.559	1222.275
86	**Sr**		127.926	**0.048089**	ppb	68.214	73.624	11.309
65	**Cu**		554.455	**0.039634**	ppb	8.446	34.295	420.006
69	**Ga-IS**		766609.522		ppb	0.964		790588.707
95	**Mo**		1390.068	**0.450848**	ppb	13.436	14.713	182.223
115	**In-IS**	>	452787.953		ppb	2.022		458046.001
111	**Cd**		171.526	**0.042510**	ppb	7.627	6.959	24.062
118	**Sn**		6600.418	**0.283571**	ppb	6.819	13.293	3823.858
121	**Sb**		921.141	**0.043219**	ppb	9.926	15.798	453.341
135	**Ba**		204.446	**0.055102**	ppb	4.981	7.892	52.222
165	**Ho-IS**		561719.051		ppb	2.056		556845.506
159	**Tb-IS**	>	569659.498		ppb	1.871		570297.931
207	**Pb**		2226.732	**0.048807**	ppb	0.686	3.214	467.781
203	**Tl**		722.241	**0.050666**	ppb	5.862	8.872	104.445
209	**Bi-IS**		306122.042		ppb	1.129		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 15:15:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.136
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61638.309		ppb	2.705		62845.721
9	**Be**		81.111	**0.029714**	ppb	16.609	18.442	10.000
10	**B**		2113.490	**0.881743**	ppb	4.655	16.418	1590.088
27	**Al**		15549.460	**0.204995**	ppb	2.125	9.386	13170.068
43	**Ca-2**		165.001	**-0.159392**	ppb	24.052	780.230	176.668
49	**Ti**		358.893	**-0.048214**	ppb	7.565	58.311	423.340
52	**Cr**		18856.891	**-0.091361**	ppb	3.359	45.357	20988.745
55	**Mn**		1834.562	**0.013158**	ppb	4.385	26.509	1616.758
57	**Fe**		17242.629	**-2.430434**	ppb	3.278	43.150	19123.905
45	**Sc-IS**	>	2195223.335		ppb	0.398		2282784.855
66	**Zn**		1101.154	**-0.030811**	ppb	2.645	42.677	1222.275
86	**Sr**		31.720	**0.008492**	ppb	158.432	241.426	11.309
65	**Cu**		464.452	**0.015494**	ppb	3.540	24.105	420.006
69	**Ga-IS**		772192.134		ppb	1.429		790588.707
95	**Mo**		525.565	**0.129085**	ppb	7.567	11.917	182.223
115	**In-IS**	>	447971.105		ppb	0.937		458046.001
111	**Cd**		113.341	**0.026128**	ppb	10.332	12.364	24.062
118	**Sn**		3767.166	**0.002678**	ppb	9.691	1307.612	3823.858
121	**Sb**		646.681	**0.018793**	ppb	7.217	20.166	453.341
135	**Ba**		166.668	**0.042103**	ppb	10.392	15.022	52.222
165	**Ho-IS**		553507.454		ppb	0.856		556845.506
159	**Tb-IS**	>	572225.829		ppb	0.715		570297.931
207	**Pb**		1574.479	**0.030512**	ppb	2.544	4.525	467.781
203	**Tl**		467.786	**0.029581**	ppb	16.928	21.329	104.445
209	**Bi-IS**		307130.307		ppb	1.635		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205045_1-A
Autosampler Position: 149
Sample Date/Time: Monday, January 03, 2022 15:16:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\MB 570-205045_1-A.137
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58904.559		ppb	2.060		62845.721
9	**Be**		73.334	**0.027581**	ppb	27.649	32.088	10.000
10	**B**		1684.544	**0.323436**	ppb	4.772	35.702	1590.088
27	**Al**		9179.282	**-0.224731**	ppb	0.668	7.704	13170.068
43	**Ca-2**		136.667	**-0.914625**	ppb	16.898	76.930	176.668
49	**Ti**		278.892	**-0.118470**	ppb	18.100	44.906	423.340
52	**Cr**		18035.825	**-0.104164**	ppb	1.962	31.006	20988.745
55	**Mn**		1402.291	**-0.004834**	ppb	8.925	133.905	1616.758
57	**Fe**		15887.720	**-4.104187**	ppb	1.691	28.489	19123.905
45	**Sc-IS**	>	2121088.751		ppb	2.049		2282784.855
66	**Zn**		1394.513	**0.111319**	ppb	2.771	14.205	1222.275
86	**Sr**		62.433	**0.022064**	ppb	10.246	14.491	11.309
65	**Cu**		412.228	**0.005875**	ppb	5.850	123.758	420.006
69	**Ga-IS**		738661.877		ppb	3.032		790588.707
95	**Mo**		273.336	**0.039644**	ppb	8.537	21.530	182.223
115	**In-IS**	>	440870.197		ppb	0.879		458046.001
111	**Cd**		97.204	**0.021896**	ppb	1.936	1.468	24.062
118	**Sn**		2010.142	**-0.172491**	ppb	9.246	12.153	3823.858
121	**Sb**		365.560	**-0.006652**	ppb	1.898	12.928	453.341
135	**Ba**		91.111	**0.015177**	ppb	34.579	78.664	52.222
165	**Ho-IS**		550821.356		ppb	3.093		556845.506
159	**Tb-IS**	>	561145.969		ppb	1.579		570297.931
207	**Pb**		1213.354	**0.021216**	ppb	4.539	9.373	467.781
203	**Tl**		410.006	**0.025582**	ppb	8.251	13.167	104.445
209	**Bi-IS**		306935.662		ppb	0.447		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205045_2-A
Autosampler Position: 150
Sample Date/Time: Monday, January 03, 2022 15:18:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCS 570-205045_2-A.138
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60606.081		ppb	1.400		62845.721
9	**Be**		263688.300	**111.712827**	ppb	1.342	2.874	10.000
10	**B**		66697.567	**100.248402**	ppb	0.877	2.963	1590.088
27	**Al**		1479254.066	**106.229852**	ppb	0.275	1.883	13170.068
43	**Ca-2**		176319.764	**5728.930574**	ppb	0.111	1.964	176.668
49	**Ti**		106234.711	**107.926926**	ppb	1.516	0.515	423.340
52	**Cr**		1553307.471	**107.525992**	ppb	0.902	1.204	20988.745
55	**Mn**		2297283.714	**110.052926**	ppb	1.069	2.458	1616.758
57	**Fe**		2683439.019	**5743.964958**	ppb	1.212	2.252	19123.905
45	**Sc-IS**	>	2155184.215		ppb	2.029		2282784.855
66	**Zn**		270788.225	**114.087995**	ppb	0.769	1.280	1222.275
86	**Sr**		259889.720	**108.536187**	ppb	1.270	3.166	11.309
65	**Cu**		431770.079	**112.531287**	ppb	0.499	2.519	420.006
69	**Ga-IS**		822714.097		ppb	0.554		790588.707
95	**Mo**		294835.498	**110.611254**	ppb	1.967	3.870	182.223
115	**In-IS**	>	450434.457		ppb	1.029		458046.001
111	**Cd**		388177.299	**112.356898**	ppb	0.599	0.772	24.062
118	**Sn**		1075549.345	**108.409309**	ppb	1.353	1.072	3823.858
121	**Sb**		1151376.925	**105.933506**	ppb	1.715	2.175	453.341
135	**Ba**		300639.268	**108.894585**	ppb	2.203	3.014	52.222
165	**Ho-IS**		559399.274		ppb	0.820		556845.506
159	**Tb-IS**	>	562602.877		ppb	1.045		570297.931
207	**Pb**		4026495.321	**113.044331**	ppb	0.544	1.151	467.781
203	**Tl**		1266472.909	**105.027048**	ppb	1.247	0.869	104.445
209	**Bi-IS**		309871.349		ppb	0.380		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205045_3-A
Autosampler Position: 151
Sample Date/Time: Monday, January 03, 2022 15:19:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCSD 570-205045_3-A.139
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60184.289		ppb	0.561		62845.721
9	**Be**		264208.052	**112.526945**	ppb	1.888	2.182	10.000
10	**B**		67571.686	**102.129760**	ppb	1.771	1.267	1590.088
27	**Al**		1497130.518	**108.106638**	ppb	1.353	1.397	13170.068
43	**Ca-2**		175957.083	**5747.892251**	ppb	1.092	1.369	176.668
49	**Ti**		108244.175	**110.580559**	ppb	1.715	0.870	423.340
52	**Cr**		1566554.918	**109.055040**	ppb	0.391	0.497	20988.745
55	**Mn**		2302282.840	**110.883168**	ppb	0.290	1.027	1616.758
57	**Fe**		2704989.870	**5821.326634**	ppb	1.622	0.918	19123.905
45	**Sc-IS**	>	2143198.437		ppb	0.884		2282784.855
66	**Zn**		271447.816	**114.980081**	ppb	2.341	1.486	1222.275
86	**Sr**		263339.156	**110.556050**	ppb	0.812	1.623	11.309
65	**Cu**		431711.253	**113.099451**	ppb	2.141	1.315	420.006
69	**Ga-IS**		820422.816		ppb	2.135		790588.707
95	**Mo**		295531.035	**111.444011**	ppb	2.288	2.557	182.223
115	**In-IS**	>	448444.079		ppb	0.670		458046.001
111	**Cd**		388459.810	**112.923775**	ppb	2.472	1.810	24.062
118	**Sn**		1066248.816	**107.946525**	ppb	0.804	0.605	3823.858
121	**Sb**		1148143.680	**106.098483**	ppb	0.236	0.763	453.341
135	**Ba**		302639.423	**110.097960**	ppb	1.818	2.445	52.222
165	**Ho-IS**		567374.406		ppb	1.331		556845.506
159	**Tb-IS**	>	578093.588		ppb	1.717		570297.931
207	**Pb**		4025862.215	**110.004982**	ppb	0.770	1.346	467.781
203	**Tl**		1272204.972	**102.687808**	ppb	0.551	1.168	104.445
209	**Bi-IS**		308257.038		ppb	0.634		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78777-C-1-A
Autosampler Position: 152
Sample Date/Time: Monday, January 03, 2022 15:21:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78777-C-1-A.140
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62140.449		ppb	2.022		62845.721
9	**Be**		533.343	**0.214136**	ppb	5.340	8.864	10.000
10	**B**		12229.678	**15.824965**	ppb	1.706	4.604	1590.088
27	**Al**		34538220.821	**2410.908592**	ppb	0.912	2.991	13170.068
43	**Ca-2**		233175.353	**7302.528616**	ppb	3.000	0.813	176.668
49	**Ti**		12518.819	**11.898010**	ppb	2.722	0.854	423.340
52	**Cr**		56724.648	**2.446049**	ppb	2.013	5.109	20988.745
55	**Mn**		4247864.519	**196.226386**	ppb	1.415	2.139	1616.758
57	**Fe**		861900.024	**1752.190512**	ppb	1.402	3.612	19123.905
45	**Sc-IS**	>	2236112.828		ppb	3.460		2282784.855
66	**Zn**		363990.290	**148.037937**	ppb	1.157	3.500	1222.275
86	**Sr**		123031.495	**49.536590**	ppb	0.772	3.422	11.309
65	**Cu**		75821.798	**18.970751**	ppb	0.675	3.933	420.006
69	**Ga-IS**		796970.608		ppb	1.239		790588.707
95	**Mo**		1512.302	**0.482101**	ppb	5.401	2.557	182.223
115	**In-IS**	>	447399.848		ppb	0.870		458046.001
111	**Cd**		830.182	**0.235131**	ppb	3.223	4.131	24.062
118	**Sn**		5754.496	**0.205479**	ppb	7.450	19.336	3823.858
121	**Sb**		8595.920	**0.755429**	ppb	2.221	1.982	453.341
135	**Ba**		168849.936	**61.558903**	ppb	1.563	1.866	52.222
165	**Ho-IS**		571488.832		ppb	2.428		556845.506
159	**Tb-IS**	>	579361.366		ppb	1.776		570297.931
207	**Pb**		818914.590	**22.318175**	ppb	2.479	2.933	467.781
203	**Tl**		816.690	**0.057294**	ppb	6.867	9.843	104.445
209	**Bi-IS**		306370.062		ppb	1.984		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78777-C-1-B MS
Autosampler Position: 153
Sample Date/Time: Monday, January 03, 2022 15:22:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78777-C-1-B MS.141
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62036.662		ppb	1.911		62845.721
9	**Be**		245357.017	**98.872522**	ppb	1.137	3.497	10.000
10	**B**		72305.946	**103.420963**	ppb	2.717	3.617	1590.088
27	**Al**		35781222.683	**2463.326558**	ppb	1.188	1.330	13170.068
43	**Ca-2**		235553.440	**7279.092253**	ppb	2.291	2.016	176.668
49	**Ti**		109152.144	**105.462695**	ppb	1.569	1.806	423.340
52	**Cr**		1471139.013	**96.723972**	ppb	0.817	2.058	20988.745
55	**Mn**		6427864.130	**292.997559**	ppb	1.163	2.851	1616.758
57	**Fe**		910634.787	**1827.306169**	ppb	1.702	1.993	19123.905
45	**Sc-IS**	>	2266233.920		ppb	2.362		2282784.855
66	**Zn**		629376.860	**252.817859**	ppb	0.784	2.532	1222.275
86	**Sr**		358058.873	**142.172977**	ppb	2.552	2.456	11.309
65	**Cu**		479271.346	**118.806121**	ppb	2.088	3.363	420.006
69	**Ga-IS**		878821.930		ppb	0.510		790588.707
95	**Mo**		254886.527	**90.894585**	ppb	1.948	1.660	182.223
115	**In-IS**	>	448050.267		ppb	1.820		458046.001
111	**Cd**		353507.733	**102.865067**	ppb	1.551	0.406	24.062
118	**Sn**		917208.070	**92.884294**	ppb	2.298	1.222	3823.858
121	**Sb**		1047137.517	**96.855683**	ppb	0.771	1.102	453.341
135	**Ba**		438599.505	**159.704876**	ppb	1.172	0.764	52.222
165	**Ho-IS**		563523.711		ppb	1.063		556845.506
159	**Tb-IS**	>	579384.038		ppb	1.597		570297.931
207	**Pb**		4502682.386	**122.762667**	ppb	0.420	1.447	467.781
203	**Tl**		1133617.218	**91.299449**	ppb	0.662	1.659	104.445
209	**Bi-IS**		306650.748		ppb	0.424		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78777-C-1-C MSD
Autosampler Position: 154
Sample Date/Time: Monday, January 03, 2022 15:24:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78777-C-1-C MSD.142
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62638.261		ppb	3.722		62845.721
9	**Be**		248218.438	**98.519936**	ppb	2.030	1.068	10.000
10	**B**		72946.890	**102.788131**	ppb	0.896	1.557	1590.088
27	**Al**		36487991.601	**2475.220909**	ppb	0.969	0.120	13170.068
43	**Ca-2**		237791.285	**7242.116258**	ppb	1.314	2.298	176.668
49	**Ti**		113586.538	**108.165183**	ppb	1.770	2.554	423.340
52	**Cr**		1501435.136	**97.281950**	ppb	1.138	2.141	20988.745
55	**Mn**		6425149.174	**288.576662**	ppb	2.554	3.338	1616.758
57	**Fe**		913607.179	**1806.117183**	ppb	2.062	2.474	19123.905
45	**Sc-IS**	>	2299443.206		ppb	0.971		2282784.855
66	**Zn**		630148.438	**249.388985**	ppb	1.276	1.698	1222.275
86	**Sr**		364981.017	**142.830808**	ppb	1.961	2.924	11.309
65	**Cu**		482323.069	**117.791230**	ppb	1.733	1.892	420.006
69	**Ga-IS**		867887.629		ppb	1.349		790588.707
95	**Mo**		264771.111	**93.050556**	ppb	0.244	1.212	182.223
115	**In-IS**	>	450750.544		ppb	2.739		458046.001
111	**Cd**		365866.371	**105.854953**	ppb	1.131	1.947	24.062
118	**Sn**		939707.896	**94.621827**	ppb	1.678	1.355	3823.858
121	**Sb**		1066713.757	**98.105569**	ppb	0.347	2.381	453.341
135	**Ba**		445379.474	**161.270069**	ppb	0.086	2.764	52.222
165	**Ho-IS**		571018.635		ppb	0.303		556845.506
159	**Tb-IS**	>	587709.279		ppb	2.256		570297.931
207	**Pb**		4572272.550	**122.925266**	ppb	0.854	2.770	467.781
203	**Tl**		1149215.344	**91.287433**	ppb	1.966	4.235	104.445
209	**Bi-IS**		309297.322		ppb	1.469		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78777-C-2-A
Autosampler Position: 155
Sample Date/Time: Monday, January 03, 2022 15:26:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78777-C-2-A.143
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61902.794		ppb	2.936		62845.721
9	**Be**		232.224	**0.091099**	ppb	12.038	13.374	10.000
10	**B**		10361.534	**13.081961**	ppb	0.967	1.609	1590.088
27	**Al**		9212134.190	**643.582616**	ppb	1.226	0.847	13170.068
43	**Ca-2**		148050.052	**4645.519873**	ppb	1.899	0.964	176.668
49	**Ti**		9644.367	**9.094067**	ppb	2.229	1.323	423.340
52	**Cr**		40362.516	**1.345407**	ppb	2.375	6.198	20988.745
55	**Mn**		1178350.587	**54.491949**	ppb	1.054	0.745	1616.758
57	**Fe**		376378.234	**744.717716**	ppb	0.650	1.779	19123.905
45	**Sc-IS**	>	2230634.639		ppb	1.789		2282784.855
66	**Zn**		284122.136	**115.662992**	ppb	0.821	1.579	1222.275
86	**Sr**		67666.652	**27.292969**	ppb	1.379	1.845	11.309
65	**Cu**		59721.264	**14.950209**	ppb	1.767	3.595	420.006
69	**Ga-IS**		789496.322		ppb	1.715		790588.707
95	**Mo**		2122.380	**0.704292**	ppb	7.496	6.303	182.223
115	**In-IS**	>	456792.157		ppb	0.545		458046.001
111	**Cd**		597.778	**0.163783**	ppb	8.689	9.187	24.062
118	**Sn**		9764.490	**0.593456**	ppb	13.854	22.605	3823.858
121	**Sb**		9772.233	**0.845779**	ppb	3.884	3.846	453.341
135	**Ba**		102281.608	**36.511486**	ppb	1.974	1.516	52.222
165	**Ho-IS**		559697.090		ppb	1.905		556845.506
159	**Tb-IS**	>	577022.220		ppb	0.912		570297.931
207	**Pb**		339222.240	**9.273412**	ppb	0.692	0.661	467.781
203	**Tl**		833.358	**0.058841**	ppb	1.442	0.938	104.445
209	**Bi-IS**		308066.886		ppb	1.724		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78769-A-1-A
Autosampler Position: 156
Sample Date/Time: Monday, January 03, 2022 15:27:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78769-A-1-A.144
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62062.393		ppb	3.292		62845.721
9	**Be**		148.890	**0.057310**	ppb	14.218	14.640	10.000
10	**B**		20276.603	**28.009182**	ppb	1.059	1.851	1590.088
27	**Al**		8372599.593	**588.772290**	ppb	1.449	1.713	13170.068
43	**Ca-2**		185155.859	**5849.896921**	ppb	2.134	1.492	176.668
49	**Ti**		16863.281	**16.318552**	ppb	0.450	0.690	423.340
52	**Cr**		55609.146	**2.402815**	ppb	1.268	1.083	20988.745
55	**Mn**		939618.576	**43.725987**	ppb	0.908	0.279	1616.758
57	**Fe**		439826.454	**882.791695**	ppb	1.244	0.680	19123.905
45	**Sc-IS**	>	2215703.887		ppb	0.648		2282784.855
66	**Zn**		685330.613	**281.535152**	ppb	0.531	1.183	1222.275
86	**Sr**		124599.289	**50.593027**	ppb	0.759	1.187	11.309
65	**Cu**		122784.322	**31.041855**	ppb	0.947	0.887	420.006
69	**Ga-IS**		803570.084		ppb	1.827		790588.707
95	**Mo**		4182.835	**1.461968**	ppb	1.848	1.884	182.223
115	**In-IS**	>	456146.471		ppb	0.547		458046.001
111	**Cd**		1302.388	**0.365305**	ppb	8.342	7.975	24.062
118	**Sn**		6985.044	**0.317478**	ppb	5.522	13.364	3823.858
121	**Sb**		27163.579	**2.427688**	ppb	0.320	0.876	453.341
135	**Ba**		122085.006	**43.648391**	ppb	0.322	0.345	52.222
165	**Ho-IS**		571071.142		ppb	0.864		556845.506
159	**Tb-IS**	>	578699.567		ppb	1.694		570297.931
207	**Pb**		471546.431	**12.857952**	ppb	1.829	0.390	467.781
203	**Tl**		754.464	**0.052304**	ppb	1.020	3.185	104.445
209	**Bi-IS**		309197.496		ppb	1.588		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78761-A-1-A
Autosampler Position: 157
Sample Date/Time: Monday, January 03, 2022 15:29:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78761-A-1-A.145
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62633.692		ppb	1.550		62845.721
9	**Be**		167.779	**0.064618**	ppb	11.297	12.219	10.000
10	**B**		20519.181	**28.140564**	ppb	3.321	3.121	1590.088
27	**Al**		11295094.265	**788.651758**	ppb	2.310	1.889	13170.068
43	**Ca-2**		221897.087	**6960.193862**	ppb	1.790	1.430	176.668
49	**Ti**		15867.698	**15.214638**	ppb	1.602	1.678	423.340
52	**Cr**		58029.850	**2.538867**	ppb	0.839	1.822	20988.745
55	**Mn**		1236363.793	**57.129343**	ppb	2.368	1.808	1616.758
57	**Fe**		531312.412	**1066.257021**	ppb	2.019	1.606	19123.905
45	**Sc-IS**	>	2232210.066		ppb	0.688		2282784.855
66	**Zn**		709222.003	**289.199999**	ppb	1.109	1.183	1222.275
86	**Sr**		546967.098	**220.469064**	ppb	1.583	1.914	11.309
65	**Cu**		115642.866	**29.013058**	ppb	0.846	0.377	420.006
69	**Ga-IS**		816623.304		ppb	1.571		790588.707
95	**Mo**		2779.159	**0.942281**	ppb	3.257	3.835	182.223
115	**In-IS**	>	456611.984		ppb	0.636		458046.001
111	**Cd**		939.751	**0.261442**	ppb	6.371	6.090	24.062
118	**Sn**		5282.088	**0.146637**	ppb	3.913	12.310	3823.858
121	**Sb**		15924.427	**1.404767**	ppb	0.962	1.298	453.341
135	**Ba**		151561.970	**54.136972**	ppb	0.288	0.578	52.222
165	**Ho-IS**		566726.758		ppb	1.058		556845.506
159	**Tb-IS**	>	579639.176		ppb	1.388		570297.931
207	**Pb**		723300.586	**19.698040**	ppb	1.281	0.213	467.781
203	**Tl**		551.122	**0.035787**	ppb	9.797	10.513	104.445
209	**Bi-IS**		312419.801		ppb	1.562		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78765-A-1-A
Autosampler Position: 158
Sample Date/Time: Monday, January 03, 2022 15:30:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78765-A-1-A.146
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62308.966		ppb	2.204		62845.721
9	**Be**		95.556	**0.034789**	ppb	19.213	23.051	10.000
10	**B**		20145.307	**27.309512**	ppb	1.292	3.726	1590.088
27	**Al**		6746527.215	**466.313509**	ppb	1.043	3.254	13170.068
43	**Ca-2**		164997.412	**5124.797044**	ppb	0.774	2.083	176.668
49	**Ti**		14048.017	**13.287322**	ppb	2.273	0.909	423.340
52	**Cr**		49500.062	**1.929138**	ppb	1.099	2.656	20988.745
55	**Mn**		778713.271	**35.608186**	ppb	2.319	2.033	1616.758
57	**Fe**		376076.896	**735.781941**	ppb	1.795	1.074	19123.905
45	**Sc-IS**	>	2254436.119		ppb	2.501		2282784.855
66	**Zn**		631788.818	**255.167336**	ppb	1.786	3.766	1222.275
86	**Sr**		213602.968	**85.275697**	ppb	1.239	2.689	11.309
65	**Cu**		99080.238	**24.603079**	ppb	1.571	1.894	420.006
69	**Ga-IS**		801990.467		ppb	2.399		790588.707
95	**Mo**		3869.413	**1.324043**	ppb	1.649	3.651	182.223
115	**In-IS**	>	448905.727		ppb	0.597		458046.001
111	**Cd**		893.014	**0.252516**	ppb	0.866	0.606	24.062
118	**Sn**		6333.633	**0.262437**	ppb	8.875	21.483	3823.858
121	**Sb**		27307.188	**2.480651**	ppb	1.260	0.887	453.341
135	**Ba**		118567.796	**43.074075**	ppb	0.558	0.185	52.222
165	**Ho-IS**		568823.218		ppb	2.408		556845.506
159	**Tb-IS**	>	579574.100		ppb	1.237		570297.931
207	**Pb**		367868.010	**10.012792**	ppb	1.711	0.893	467.781
203	**Tl**		516.676	**0.033059**	ppb	1.707	3.458	104.445
209	**Bi-IS**		308971.086		ppb	0.553		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 15:32:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.147
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61454.239		ppb	3.687		62845.721
9	**Be**		245016.660	**101.975932**	ppb	2.893	2.100	10.000
10	**B**		169826.827	**254.266821**	ppb	0.519	1.444	1590.088
27	**Al**		1414490.452	**99.757922**	ppb	1.971	1.781	13170.068
43	**Ca-2**		164126.054	**5238.765715**	ppb	2.195	0.259	176.668
49	**Ti**		101387.473	**101.196455**	ppb	1.799	0.392	423.340
52	**Cr**		1458679.414	**99.127299**	ppb	1.538	1.860	20988.745
55	**Mn**		2230171.200	**104.979295**	ppb	0.820	1.466	1616.758
57	**Fe**		2521782.421	**5301.510557**	ppb	0.655	1.478	19123.905
45	**Sc-IS**	>	2192994.464		ppb	1.934		2282784.855
66	**Zn**		261009.697	**108.039939**	ppb	1.146	0.982	1222.275
86	**Sr**		247967.891	**101.754086**	ppb	0.578	1.977	11.309
65	**Cu**		408851.775	**104.695794**	ppb	1.021	1.546	420.006
69	**Ga-IS**		812665.517		ppb	1.965		790588.707
95	**Mo**		272465.056	**100.438037**	ppb	1.054	2.961	182.223
115	**In-IS**	>	444186.893		ppb	0.430		458046.001
111	**Cd**		344818.484	**101.208228**	ppb	1.701	1.866	24.062
118	**Sn**		976985.403	**99.827670**	ppb	0.821	0.512	3823.858
121	**Sb**		1053346.800	**98.265378**	ppb	0.799	0.730	453.341
135	**Ba**		273855.730	**100.572142**	ppb	1.087	1.329	52.222
165	**Ho-IS**		564973.170		ppb	0.542		556845.506
159	**Tb-IS**	>	574107.752		ppb	1.298		570297.931
207	**Pb**		3668916.774	**100.943493**	ppb	0.603	1.384	467.781
203	**Tl**		1204461.917	**97.887333**	ppb	0.695	0.801	104.445
209	**Bi-IS**		306806.623		ppb	1.367		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 15:35:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.149
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60377.366		ppb	2.300		62845.721
9	**Be**		63.333	**0.022177**	ppb	21.053	24.459	10.000
10	**B**		1691.211	**0.230475**	ppb	2.108	29.113	1590.088
27	**Al**		19212.578	**0.457729**	ppb	1.026	2.684	13170.068
43	**Ca-2**		185.001	**0.450689**	ppb	17.723	233.422	176.668
49	**Ti**		416.673	**0.007332**	ppb	7.632	458.585	423.340
52	**Cr**		21114.482	**0.055856**	ppb	0.922	13.132	20988.745
55	**Mn**		2160.164	**0.027901**	ppb	6.173	21.327	1616.758
57	**Fe**		17985.761	**-1.071538**	ppb	1.400	30.216	19123.905
45	**Sc-IS**	>	2207674.580		ppb	0.545		2282784.855
66	**Zn**		1288.947	**0.044250**	ppb	4.916	65.694	1222.275
86	**Sr**		155.780	**0.059005**	ppb	12.386	12.756	11.309
65	**Cu**		438.896	**0.008324**	ppb	1.581	16.463	420.006
69	**Ga-IS**		774171.480		ppb	1.886		790588.707
95	**Mo**		436.673	**0.095347**	ppb	9.924	15.902	182.223
115	**In-IS**	>	454241.804		ppb	0.225		458046.001
111	**Cd**		82.417	**0.016806**	ppb	3.952	5.320	24.062
118	**Sn**		3778.281	**-0.001431**	ppb	10.990	2865.118	3823.858
121	**Sb**		651.126	**0.018388**	ppb	9.472	30.033	453.341
135	**Ba**		148.890	**0.034881**	ppb	5.634	8.969	52.222
165	**Ho-IS**		558889.001		ppb	1.010		556845.506
159	**Tb-IS**	>	571270.536		ppb	1.747		570297.931
207	**Pb**		1357.803	**0.024576**	ppb	4.502	4.296	467.781
203	**Tl**		323.337	**0.017853**	ppb	7.434	9.312	104.445
209	**Bi-IS**		307763.720		ppb	1.630		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78771-A-1-A
Autosampler Position: 159
Sample Date/Time: Monday, January 03, 2022 15:36:56
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78771-A-1-A.150
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60833.794		ppb	3.391		62845.721
9	**Be**		114.445	**0.043762**	ppb	16.562	17.297	10.000
10	**B**		24063.585	**34.168159**	ppb	1.291	1.861	1590.088
27	**Al**		10216789.834	**728.587906**	ppb	0.501	0.643	13170.068
43	**Ca-2**		230569.403	**7387.121733**	ppb	1.537	1.077	176.668
49	**Ti**		17235.951	**16.924709**	ppb	2.379	2.567	423.340
52	**Cr**		53655.035	**2.320761**	ppb	1.694	4.135	20988.745
55	**Mn**		1239885.990	**58.520599**	ppb	1.182	0.386	1616.758
57	**Fe**		524626.587	**1075.748807**	ppb	2.839	3.012	19123.905
45	**Sc-IS**	>	2185520.137		ppb	0.908		2282784.855
66	**Zn**		799459.556	**333.023595**	ppb	1.761	1.394	1222.275
86	**Sr**		245001.137	**100.861471**	ppb	0.911	1.300	11.309
65	**Cu**		123870.600	**31.751142**	ppb	3.035	2.937	420.006
69	**Ga-IS**		779517.778		ppb	1.943		790588.707
95	**Mo**		3423.744	**1.202197**	ppb	2.593	2.637	182.223
115	**In-IS**	>	446892.559		ppb	1.808		458046.001
111	**Cd**		1229.530	**0.352126**	ppb	4.594	6.461	24.062
118	**Sn**		6701.572	**0.302844**	ppb	2.362	2.422	3823.858
121	**Sb**		36376.263	**3.333569**	ppb	1.665	1.314	453.341
135	**Ba**		147495.571	**53.825618**	ppb	2.370	0.694	52.222
165	**Ho-IS**		560692.167		ppb	2.441		556845.506
159	**Tb-IS**	>	578568.778		ppb	1.657		570297.931
207	**Pb**		500295.916	**13.646770**	ppb	1.390	1.026	467.781
203	**Tl**		481.119	**0.030247**	ppb	5.382	5.690	104.445
209	**Bi-IS**		302228.362		ppb	2.716		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78771-A-2-A
Autosampler Position: 160
Sample Date/Time: Monday, January 03, 2022 15:38:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78771-A-2-A.151
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61301.245		ppb	0.444		62845.721
9	**Be**		121.112	**0.046161**	ppb	13.577	13.763	10.000
10	**B**		23290.086	**32.729697**	ppb	1.982	3.072	1590.088
27	**Al**		9855807.902	**697.470385**	ppb	0.923	1.503	13170.068
43	**Ca-2**		219891.219	**6991.298676**	ppb	1.177	1.310	176.668
49	**Ti**		16846.597	**16.402028**	ppb	1.988	1.136	423.340
52	**Cr**		54093.370	**2.322665**	ppb	2.393	5.234	20988.745
55	**Mn**		1177812.542	**55.170500**	ppb	1.422	2.283	1616.758
57	**Fe**		516940.575	**1051.175292**	ppb	2.143	3.070	19123.905
45	**Sc-IS**	>	2202330.660		ppb	0.903		2282784.855
66	**Zn**		776289.696	**320.894726**	ppb	1.882	1.801	1222.275
86	**Sr**		243240.863	**99.384576**	ppb	2.754	3.486	11.309
65	**Cu**		121167.294	**30.821825**	ppb	1.279	2.135	420.006
69	**Ga-IS**		792036.392		ppb	1.607		790588.707
95	**Mo**		3488.204	**1.216308**	ppb	2.121	2.720	182.223
115	**In-IS**	>	449072.678		ppb	2.048		458046.001
111	**Cd**		1164.945	**0.331111**	ppb	10.597	9.299	24.062
118	**Sn**		6244.700	**0.253097**	ppb	4.966	9.945	3823.858
121	**Sb**		35175.476	**3.206718**	ppb	0.673	1.450	453.341
135	**Ba**		143056.186	**51.958284**	ppb	1.746	0.951	52.222
165	**Ho-IS**		566869.794		ppb	1.528		556845.506
159	**Tb-IS**	>	576956.186		ppb	1.928		570297.931
207	**Pb**		493423.428	**13.497913**	ppb	1.042	1.321	467.781
203	**Tl**		454.452	**0.028191**	ppb	5.929	5.563	104.445
209	**Bi-IS**		309893.805		ppb	2.034		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78771-A-3-A
Autosampler Position: 301
Sample Date/Time: Monday, January 03, 2022 15:40:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78771-A-3-A.152
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58987.152		ppb	2.854		62845.721
9	**Be**		32.222	**0.009572**	ppb	26.034	33.948	10.000
10	**B**		1592.311	**0.136140**	ppb	1.227	60.521	1590.088
27	**Al**		13976.168	**0.109820**	ppb	1.540	21.101	13170.068
43	**Ca-2**		296.670	**4.216886**	ppb	15.293	37.406	176.668
49	**Ti**		386.672	**-0.014113**	ppb	2.986	34.676	423.340
52	**Cr**		21540.677	**0.118744**	ppb	2.045	53.726	20988.745
55	**Mn**		1598.978	**0.003374**	ppb	2.648	109.076	1616.758
57	**Fe**		16866.622	**-2.610437**	ppb	2.510	65.505	19123.905
45	**Sc-IS**	>	2159713.567		ppb	2.307		2282784.855
66	**Zn**		1393.401	**0.100306**	ppb	4.025	28.602	1222.275
86	**Sr**		77.276	**0.027965**	ppb	71.488	83.051	11.309
65	**Cu**		726.685	**0.085755**	ppb	5.963	13.853	420.006
69	**Ga-IS**		746792.799		ppb	0.655		790588.707
95	**Mo**		163.334	**-0.003329**	ppb	32.844	616.065	182.223
115	**In-IS**	>	444309.894		ppb	1.140		458046.001
111	**Cd**		35.213	**0.003469**	ppb	23.507	67.549	24.062
118	**Sn**		1130.045	**-0.264436**	ppb	7.670	3.544	3823.858
121	**Sb**		291.114	**-0.013883**	ppb	11.696	21.200	453.341
135	**Ba**		97.778	**0.017258**	ppb	19.385	38.429	52.222
165	**Ho-IS**		549473.768		ppb	1.484		556845.506
159	**Tb-IS**	>	561600.417		ppb	1.232		570297.931
207	**Pb**		1000.013	**0.015184**	ppb	4.842	11.239	467.781
203	**Tl**		153.334	**0.004208**	ppb	12.104	40.239	104.445
209	**Bi-IS**		301428.097		ppb	2.452		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78775-B-1-A
Autosampler Position: 302
Sample Date/Time: Monday, January 03, 2022 15:41:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78775-B-1-A.153
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62076.832		ppb	1.799		62845.721
9	**Be**		133.334	**0.050554**	ppb	11.456	12.283	10.000
10	**B**		15842.114	**21.218713**	ppb	1.473	1.801	1590.088
27	**Al**		12787164.320	**893.592772**	ppb	0.867	0.474	13170.068
43	**Ca-2**		246894.687	**7749.073102**	ppb	2.865	1.687	176.668
49	**Ti**		15041.253	**14.407684**	ppb	3.264	2.037	423.340
52	**Cr**		48740.795	**1.912433**	ppb	1.396	3.307	20988.745
55	**Mn**		1827696.641	**84.553528**	ppb	1.342	1.515	1616.758
57	**Fe**		552592.510	**1111.531023**	ppb	1.267	2.526	19123.905
45	**Sc-IS**	>	2230786.811		ppb	1.291		2282784.855
66	**Zn**		340152.271	**138.524640**	ppb	2.320	1.134	1222.275
86	**Sr**		150516.225	**60.697611**	ppb	3.159	2.527	11.309
65	**Cu**		81870.602	**20.526214**	ppb	0.725	1.837	420.006
69	**Ga-IS**		792527.013		ppb	1.857		790588.707
95	**Mo**		923.363	**0.270330**	ppb	5.054	7.786	182.223
115	**In-IS**	>	453498.502		ppb	2.236		458046.001
111	**Cd**		675.855	**0.187504**	ppb	4.576	4.939	24.062
118	**Sn**		1920.130	**-0.187655**	ppb	10.088	8.197	3823.858
121	**Sb**		9771.121	**0.852051**	ppb	3.197	1.285	453.341
135	**Ba**		154965.988	**55.747081**	ppb	0.540	1.811	52.222
165	**Ho-IS**		574575.332		ppb	0.873		556845.506
159	**Tb-IS**	>	587657.248		ppb	0.869		570297.931
207	**Pb**		527372.211	**14.163847**	ppb	1.073	1.823	467.781
203	**Tl**		372.227	**0.021020**	ppb	9.824	14.547	104.445
209	**Bi-IS**		308424.105		ppb	1.123		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78774-D-1-A
Autosampler Position: 303
Sample Date/Time: Monday, January 03, 2022 15:43:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78774-D-1-A.154
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61184.126		ppb	2.400		62845.721
9	**Be**		250.002	**0.097270**	ppb	10.583	12.547	10.000
10	**B**		16125.766	**21.386304**	ppb	2.257	4.972	1590.088
27	**Al**		31199850.336	**2157.807395**	ppb	0.381	2.231	13170.068
43	**Ca-2**		266835.718	**8284.856302**	ppb	0.629	1.884	176.668
49	**Ti**		31444.578	**30.225153**	ppb	2.014	1.117	423.340
52	**Cr**		78358.829	**3.858894**	ppb	2.192	1.132	20988.745
55	**Mn**		2434584.358	**111.394733**	ppb	1.839	1.094	1616.758
57	**Fe**		1049052.086	**2120.218407**	ppb	2.256	0.162	19123.905
45	**Sc-IS**	>	2256047.351		ppb	2.278		2282784.855
66	**Zn**		428129.998	**172.579870**	ppb	1.089	2.005	1222.275
86	**Sr**		121367.997	**48.410885**	ppb	2.746	3.297	11.309
65	**Cu**		93339.537	**23.152712**	ppb	1.492	1.215	420.006
69	**Ga-IS**		794954.581		ppb	1.102		790588.707
95	**Mo**		722.241	**0.194029**	ppb	12.710	14.653	182.223
115	**In-IS**	>	452329.863		ppb	1.945		458046.001
111	**Cd**		669.610	**0.186211**	ppb	0.312	2.179	24.062
118	**Sn**		1650.096	**-0.214088**	ppb	5.901	4.993	3823.858
121	**Sb**		5943.460	**0.503908**	ppb	5.038	6.389	453.341
135	**Ba**		167933.539	**60.572144**	ppb	0.637	2.412	52.222
165	**Ho-IS**		578984.678		ppb	0.788		556845.506
159	**Tb-IS**	>	583838.355		ppb	0.570		570297.931
207	**Pb**		401676.794	**10.854592**	ppb	0.543	0.548	467.781
203	**Tl**		434.451	**0.026181**	ppb	22.056	29.315	104.445
209	**Bi-IS**		303733.408		ppb	1.839		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78774-D-2-A
Autosampler Position: 304
Sample Date/Time: Monday, January 03, 2022 15:44:40
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78774-D-2-A.155
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63315.566		ppb	1.046		62845.721
9	**Be**		375.561	**0.146893**	ppb	11.985	11.802	10.000
10	**B**		16990.104	**22.476624**	ppb	3.111	3.269	1590.088
27	**Al**		39276539.203	**2698.195107**	ppb	0.675	1.241	13170.068
43	**Ca-2**		303764.940	**9369.923468**	ppb	2.213	3.126	176.668
49	**Ti**		40865.037	**39.145626**	ppb	1.155	2.220	423.340
52	**Cr**		89177.478	**4.544738**	ppb	0.378	1.481	20988.745
55	**Mn**		3086905.176	**140.323610**	ppb	1.253	0.285	1616.758
57	**Fe**		1320932.799	**2662.126862**	ppb	0.988	0.909	19123.905
45	**Sc-IS**	>	2270942.298		ppb	1.463		2282784.855
66	**Zn**		590992.345	**236.821988**	ppb	0.101	1.564	1222.275
86	**Sr**		143696.374	**56.931634**	ppb	0.602	1.026	11.309
65	**Cu**		113078.012	**27.884013**	ppb	0.866	1.000	420.006
69	**Ga-IS**		828490.635		ppb	0.528		790588.707
95	**Mo**		675.572	**0.175889**	ppb	8.494	10.332	182.223
115	**In-IS**	>	457435.543		ppb	0.751		458046.001
111	**Cd**		868.608	**0.240735**	ppb	4.592	4.836	24.062
118	**Sn**		1688.989	**-0.212133**	ppb	3.880	2.828	3823.858
121	**Sb**		5902.331	**0.493841**	ppb	2.374	2.080	453.341
135	**Ba**		212246.211	**75.683046**	ppb	0.545	0.223	52.222
165	**Ho-IS**		575968.369		ppb	1.843		556845.506
159	**Tb-IS**	>	583399.104		ppb	0.913		570297.931
207	**Pb**		512637.660	**13.868247**	ppb	1.016	1.720	467.781
203	**Tl**		516.676	**0.032771**	ppb	5.624	6.388	104.445
209	**Bi-IS**		305607.606		ppb	0.184		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78774-D-2-B MS
Autosampler Position: 305
Sample Date/Time: Monday, January 03, 2022 15:46:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78774-D-2-B MS.156
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63109.096		ppb	0.845		62845.721
9	**Be**		257174.204	**102.698886**	ppb	0.171	0.876	10.000
10	**B**		79383.300	**112.738246**	ppb	1.097	0.837	1590.088
27	**Al**		40009717.069	**2730.387375**	ppb	2.342	1.916	13170.068
43	**Ca-2**		305684.315	**9365.954122**	ppb	0.692	0.077	176.668
49	**Ti**		141046.284	**135.204753**	ppb	1.317	1.287	423.340
52	**Cr**		1549694.938	**101.051333**	ppb	1.133	0.949	20988.745
55	**Mn**		5136566.854	**232.037896**	ppb	1.279	1.488	1616.758
57	**Fe**		1357433.958	**2718.657923**	ppb	0.636	0.342	19123.905
45	**Sc-IS**	>	2285720.878		ppb	0.720		2282784.855
66	**Zn**		854230.580	**340.273540**	ppb	1.877	2.177	1222.275
86	**Sr**		376645.703	**148.266294**	ppb	1.402	2.029	11.309
65	**Cu**		520415.872	**127.855078**	ppb	1.760	1.252	420.006
69	**Ga-IS**		896384.770		ppb	1.346		790588.707
95	**Mo**		268883.700	**95.062802**	ppb	1.048	1.542	182.223
115	**In-IS**	>	452150.329		ppb	0.122		458046.001
111	**Cd**		365178.422	**105.293507**	ppb	1.117	1.067	24.062
118	**Sn**		965136.334	**96.869017**	ppb	1.426	1.362	3823.858
121	**Sb**		1059201.197	**97.070240**	ppb	0.784	0.728	453.341
135	**Ba**		488313.233	**176.181394**	ppb	2.028	2.015	52.222
165	**Ho-IS**		579521.326		ppb	0.766		556845.506
159	**Tb-IS**	>	584498.955		ppb	0.505		570297.931
207	**Pb**		4281377.771	**115.695562**	ppb	1.203	1.667	467.781
203	**Tl**		1169853.912	**93.382154**	ppb	1.612	1.885	104.445
209	**Bi-IS**		309391.616		ppb	1.564		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78774-D-2-C MSD
Autosampler Position: 306
Sample Date/Time: Monday, January 03, 2022 15:47:45
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78774-D-2-C MSD.157
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62063.432		ppb	1.501		62845.721
9	**Be**		256342.137	**102.553395**	ppb	3.255	1.714	10.000
10	**B**		79786.653	**113.583577**	ppb	1.237	2.366	1590.088
27	**Al**		39744461.983	**2718.086232**	ppb	1.547	1.249	13170.068
43	**Ca-2**		307385.951	**9438.822944**	ppb	1.939	2.439	176.668
49	**Ti**		139218.794	**133.705645**	ppb	2.937	1.807	423.340
52	**Cr**		1529093.236	**99.900412**	ppb	2.734	2.587	20988.745
55	**Mn**		5204400.685	**235.584452**	ppb	3.227	3.042	1616.758
57	**Fe**		1352758.236	**2714.920621**	ppb	1.611	1.436	19123.905
45	**Sc-IS**	>	2281084.110		ppb	1.656		2282784.855
66	**Zn**		833707.901	**332.848515**	ppb	1.548	2.999	1222.275
86	**Sr**		382748.266	**150.975500**	ppb	0.867	0.895	11.309
65	**Cu**		509492.326	**125.458188**	ppb	1.706	2.701	420.006
69	**Ga-IS**		871656.671		ppb	0.457		790588.707
95	**Mo**		269481.303	**95.482358**	ppb	0.278	1.903	182.223
115	**In-IS**	>	453623.038		ppb	0.696		458046.001
111	**Cd**		368865.137	**106.007320**	ppb	1.623	0.968	24.062
118	**Sn**		971268.205	**97.170982**	ppb	0.499	0.396	3823.858
121	**Sb**		1086239.727	**99.224766**	ppb	1.097	0.557	453.341
135	**Ba**		488639.755	**175.730602**	ppb	0.251	0.444	52.222
165	**Ho-IS**		574395.952		ppb	1.442		556845.506
159	**Tb-IS**	>	579394.217		ppb	1.939		570297.931
207	**Pb**		4246662.375	**115.781016**	ppb	0.813	1.316	467.781
203	**Tl**		1177005.539	**94.792525**	ppb	1.679	2.005	104.445
209	**Bi-IS**		307015.530		ppb	2.701		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78774-B-3-A
Autosampler Position: 307
Sample Date/Time: Monday, January 03, 2022 15:49:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78774-B-3-A.158
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59782.694		ppb	3.275		62845.721
9	**Be**		76.667	**0.028744**	ppb	0.000	1.445	10.000
10	**B**		2929.190	**2.231455**	ppb	4.111	6.733	1590.088
27	**Al**		31751.016	**1.419211**	ppb	6.673	12.880	13170.068
43	**Ca-2**		480.008	**10.324316**	ppb	8.527	14.563	176.668
49	**Ti**		503.342	**0.110196**	ppb	4.136	25.277	423.340
52	**Cr**		22997.385	**0.236577**	ppb	0.182	7.529	20988.745
55	**Mn**		3318.164	**0.087289**	ppb	6.848	14.689	1616.758
57	**Fe**		17324.944	**-1.260274**	ppb	0.337	31.560	19123.905
45	**Sc-IS**	>	2137478.563		ppb	1.275		2282784.855
66	**Zn**		1817.894	**0.287277**	ppb	3.393	8.993	1222.275
86	**Sr**		227.417	**0.091490**	ppb	26.478	28.931	11.309
65	**Cu**		758.909	**0.096286**	ppb	9.311	21.314	420.006
69	**Ga-IS**		748488.464		ppb	1.849		790588.707
95	**Mo**		1401.180	**0.465158**	ppb	9.636	9.569	182.223
115	**In-IS**	>	442478.852		ppb	0.933		458046.001
111	**Cd**		130.391	**0.031586**	ppb	5.006	7.211	24.062
118	**Sn**		7070.642	**0.347749**	ppb	5.795	12.478	3823.858
121	**Sb**		2022.365	**0.148461**	ppb	3.168	4.493	453.341
135	**Ba**		302.226	**0.092770**	ppb	27.024	32.208	52.222
165	**Ho-IS**		556980.761		ppb	0.782		556845.506
159	**Tb-IS**	>	567514.936		ppb	1.068		570297.931
207	**Pb**		2181.175	**0.047744**	ppb	7.730	9.375	467.781
203	**Tl**		556.678	**0.037211**	ppb	11.931	14.250	104.445
209	**Bi-IS**		308927.230		ppb	2.714		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78790-B-1-A
Autosampler Position: 308
Sample Date/Time: Monday, January 03, 2022 15:50:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78790-B-1-A.159
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62865.886		ppb	3.100		62845.721
9	**Be**		122.223	**0.046633**	ppb	24.747	26.866	10.000
10	**B**		28930.415	**41.173620**	ppb	4.507	4.545	1590.088
27	**Al**		8261819.884	**584.064674**	ppb	0.772	1.025	13170.068
43	**Ca-2**		265725.974	**8442.703019**	ppb	2.120	1.561	176.668
49	**Ti**		12584.435	**12.138344**	ppb	3.951	3.178	423.340
52	**Cr**		57362.727	**2.543257**	ppb	1.297	1.244	20988.745
55	**Mn**		906076.981	**42.387156**	ppb	2.455	2.217	1616.758
57	**Fe**		455072.710	**919.853275**	ppb	0.905	0.800	19123.905
45	**Sc-IS**	>	2204013.502		ppb	1.095		2282784.855
66	**Zn**		956955.827	**395.405291**	ppb	0.548	0.955	1222.275
86	**Sr**		150662.867	**61.506977**	ppb	1.764	2.413	11.309
65	**Cu**		163857.908	**41.681786**	ppb	1.821	1.729	420.006
69	**Ga-IS**		791100.097		ppb	1.032		790588.707
95	**Mo**		6890.552	**2.463375**	ppb	3.585	3.332	182.223
115	**In-IS**	>	450415.304		ppb	1.380		458046.001
111	**Cd**		1792.311	**0.511967**	ppb	5.780	5.763	24.062
118	**Sn**		8113.423	**0.440407**	ppb	7.526	14.213	3823.858
121	**Sb**		20671.612	**1.861807**	ppb	0.307	1.672	453.341
135	**Ba**		126345.173	**45.754339**	ppb	0.978	2.016	52.222
165	**Ho-IS**		571953.824		ppb	0.259		556845.506
159	**Tb-IS**	>	579261.917		ppb	0.408		570297.931
207	**Pb**		412988.143	**11.248739**	ppb	0.737	0.525	467.781
203	**Tl**		598.901	**0.039686**	ppb	8.111	9.382	104.445
209	**Bi-IS**		313887.058		ppb	1.638		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78793-B-1-A
Autosampler Position: 309
Sample Date/Time: Monday, January 03, 2022 15:52:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78793-B-1-A.160
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67377.421		ppb	1.230		62845.721
9	**Be**		161.112	**0.059189**	ppb	15.802	14.971	10.000
10	**B**		85969.024	**120.299889**	ppb	0.946	2.720	1590.088
27	**Al**		10643498.132	**714.221808**	ppb	2.416	3.881	13170.068
43	**Ca-2**		640103.832	**19306.120881**	ppb	0.919	2.711	176.668
49	**Ti**		11176.593	**10.167128**	ppb	1.482	2.943	423.340
52	**Cr**		79554.233	**3.785450**	ppb	0.545	2.693	20988.745
55	**Mn**		2336044.472	**103.785553**	ppb	1.098	1.429	1616.758
57	**Fe**		580590.679	**1121.563015**	ppb	1.155	1.614	19123.905
45	**Sc-IS**	>	2323665.397		ppb	2.542		2282784.855
66	**Zn**		649174.496	**254.292840**	ppb	1.100	1.427	1222.275
86	**Sr**		588585.101	**227.958543**	ppb	1.543	2.101	11.309
65	**Cu**		152234.744	**36.732730**	ppb	1.533	2.877	420.006
69	**Ga-IS**		750872.113		ppb	0.805		790588.707
95	**Mo**		8665.965	**2.953603**	ppb	4.568	6.406	182.223
115	**In-IS**	>	437202.660		ppb	1.391		458046.001
111	**Cd**		1825.254	**0.537400**	ppb	3.188	2.165	24.062
118	**Sn**		4953.083	**0.135772**	ppb	6.524	23.490	3823.858
121	**Sb**		28403.767	**2.652774**	ppb	1.124	2.509	453.341
135	**Ba**		144998.880	**54.096849**	ppb	1.159	1.669	52.222
165	**Ho-IS**		565527.140		ppb	0.975		556845.506
159	**Tb-IS**	>	580178.412		ppb	0.845		570297.931
207	**Pb**		465219.456	**12.653661**	ppb	2.407	2.565	467.781
203	**Tl**		375.561	**0.021644**	ppb	9.491	12.131	104.445
209	**Bi-IS**		274004.053		ppb	0.984		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 15:53:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.161
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60063.795		ppb	1.287		62845.721
9	**Be**		243894.384	**101.975921**	ppb	0.603	1.910	10.000
10	**B**		169228.908	**254.443461**	ppb	1.923	1.248	1590.088
27	**Al**		1399174.728	**99.109177**	ppb	0.517	1.292	13170.068
43	**Ca-2**		164267.831	**5266.028587**	ppb	2.723	1.360	176.668
49	**Ti**		99975.330	**100.220258**	ppb	1.558	0.244	423.340
52	**Cr**		1435663.140	**97.958487**	ppb	2.106	1.125	20988.745
55	**Mn**		2210475.244	**104.485969**	ppb	2.231	0.961	1616.758
57	**Fe**		2491639.465	**5259.550290**	ppb	2.488	1.274	19123.905
45	**Sc-IS**	>	2183443.437		ppb	1.800		2282784.855
66	**Zn**		261758.624	**108.843870**	ppb	0.610	2.247	1222.275
86	**Sr**		253336.294	**104.405541**	ppb	1.322	2.006	11.309
65	**Cu**		408500.472	**105.070926**	ppb	0.311	1.992	420.006
69	**Ga-IS**		827248.238		ppb	0.476		790588.707
95	**Mo**		279155.853	**103.327528**	ppb	1.346	1.288	182.223
115	**In-IS**	>	448969.975		ppb	0.075		458046.001
111	**Cd**		351551.232	**102.082030**	ppb	0.985	0.915	24.062
118	**Sn**		990436.820	**100.125008**	ppb	2.077	2.020	3823.858
121	**Sb**		1068915.173	**98.654065**	ppb	2.583	2.511	453.341
135	**Ba**		277564.619	**100.844716**	ppb	2.079	2.006	52.222
165	**Ho-IS**		563648.943		ppb	0.402		556845.506
159	**Tb-IS**	>	575006.513		ppb	0.787		570297.931
207	**Pb**		3575179.225	**98.201616**	ppb	0.713	0.678	467.781
203	**Tl**		1193851.226	**96.872207**	ppb	0.435	1.042	104.445
209	**Bi-IS**		298834.919		ppb	1.694		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 15:55:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.162
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59862.995		ppb	2.560		62845.721
9	**Be**		72.222	**0.025874**	ppb	19.215	23.028	10.000
10	**B**		1955.689	**0.625050**	ppb	2.413	12.582	1590.088
27	**Al**		22781.832	**0.708982**	ppb	3.491	8.824	13170.068
43	**Ca-2**		286.670	**3.665773**	ppb	26.124	64.464	176.668
49	**Ti**		452.229	**0.042718**	ppb	11.824	136.441	423.340
52	**Cr**		21283.622	**0.066397**	ppb	1.215	31.175	20988.745
55	**Mn**		2921.411	**0.063482**	ppb	8.846	20.398	1616.758
57	**Fe**		20663.831	**4.540277**	ppb	2.835	37.163	19123.905
45	**Sc-IS**	>	2209402.179		ppb	1.148		2282784.855
66	**Zn**		1561.197	**0.156329**	ppb	4.704	23.401	1222.275
86	**Sr**		166.279	**0.063299**	ppb	43.720	46.928	11.309
65	**Cu**		642.237	**0.059974**	ppb	12.330	33.659	420.006
69	**Ga-IS**		779483.943		ppb	2.179		790588.707
95	**Mo**		1226.720	**0.384185**	ppb	10.444	11.156	182.223
115	**In-IS**	>	455977.338		ppb	0.976		458046.001
111	**Cd**		96.313	**0.020720**	ppb	23.309	31.729	24.062
118	**Sn**		6065.735	**0.225538**	ppb	5.998	13.622	3823.858
121	**Sb**		965.589	**0.046713**	ppb	12.060	21.298	453.341
135	**Ba**		203.335	**0.054189**	ppb	7.146	10.875	52.222
165	**Ho-IS**		574041.989		ppb	1.368		556845.506
159	**Tb-IS**	>	576526.832		ppb	0.508		570297.931
207	**Pb**		1671.151	**0.032844**	ppb	8.732	12.856	467.781
203	**Tl**		477.786	**0.030139**	ppb	11.867	15.846	104.445
209	**Bi-IS**		310210.213		ppb	1.587		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78793-A-2-A
Autosampler Position: 310
Sample Date/Time: Monday, January 03, 2022 15:58:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78793-A-2-A.163
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69362.482		ppb	2.218		62845.721
9	**Be**		190.001	**0.073323**	ppb	8.040	8.469	10.000
10	**B**		125684.049	**183.289282**	ppb	2.674	1.603	1590.088
27	**Al**		12456632.797	**865.824420**	ppb	2.032	2.677	13170.068
43	**Ca-2**		877497.531	**27405.774933**	ppb	2.530	1.448	176.668
49	**Ti**		19451.012	**18.653437**	ppb	0.971	2.247	423.340
52	**Cr**		91931.523	**4.804134**	ppb	0.539	1.729	20988.745
55	**Mn**		2700710.173	**124.280826**	ppb	1.931	0.970	1616.758
57	**Fe**		689075.547	**1387.712134**	ppb	1.551	2.022	19123.905
45	**Sc-IS**	>	2243005.322		ppb	1.239		2282784.855
66	**Zn**		649422.919	**263.473875**	ppb	2.130	0.942	1222.275
86	**Sr**		889855.099	**356.912976**	ppb	3.391	2.856	11.309
65	**Cu**		158728.117	**39.669364**	ppb	1.072	0.174	420.006
69	**Ga-IS**		719264.256		ppb	3.112		790588.707
95	**Mo**		10643.966	**3.773865**	ppb	3.110	4.298	182.223
115	**In-IS**	>	427675.940		ppb	1.032		458046.001
111	**Cd**		1809.987	**0.545045**	ppb	1.955	2.976	24.062
118	**Sn**		4291.756	**0.076931**	ppb	3.297	22.968	3823.858
121	**Sb**		21994.700	**2.091227**	ppb	1.773	2.560	453.341
135	**Ba**		161829.573	**61.719043**	ppb	2.412	2.439	52.222
165	**Ho-IS**		556262.302		ppb	0.625		556845.506
159	**Tb-IS**	>	560850.406		ppb	1.650		570297.931
207	**Pb**		470954.854	**13.251994**	ppb	1.033	0.678	467.781
203	**Tl**		425.562	**0.026851**	ppb	4.975	5.154	104.445
209	**Bi-IS**		260406.496		ppb	0.737		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78793-A-3-A
Autosampler Position: 311
Sample Date/Time: Monday, January 03, 2022 15:59:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78793-A-3-A.164
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69427.211		ppb	1.537		62845.721
9	**Be**		193.335	**0.071827**	ppb	5.172	5.689	10.000
10	**B**		113410.633	**159.100730**	ppb	0.845	0.616	1590.088
27	**Al**		13855238.802	**928.006036**	ppb	0.607	0.682	13170.068
43	**Ca-2**		819809.593	**24676.435834**	ppb	1.356	1.354	176.668
49	**Ti**		18934.764	**17.470485**	ppb	1.518	1.385	423.340
52	**Cr**		93538.565	**4.683067**	ppb	0.066	0.446	20988.745
55	**Mn**		2782369.243	**123.392708**	ppb	1.560	1.312	1616.758
57	**Fe**		726259.184	**1409.984738**	ppb	0.606	0.826	19123.905
45	**Sc-IS**	>	2327496.549		ppb	0.284		2282784.855
66	**Zn**		716705.334	**280.265450**	ppb	1.501	1.458	1222.275
86	**Sr**		797462.824	**308.263565**	ppb	0.541	0.466	11.309
65	**Cu**		166731.839	**40.157862**	ppb	0.941	0.961	420.006
69	**Ga-IS**		752207.652		ppb	1.305		790588.707
95	**Mo**		9927.893	**3.384540**	ppb	0.603	0.372	182.223
115	**In-IS**	>	428910.698		ppb	0.575		458046.001
111	**Cd**		2354.905	**0.709080**	ppb	4.577	5.001	24.062
118	**Sn**		4376.227	**0.084586**	ppb	4.472	27.159	3823.858
121	**Sb**		27692.372	**2.635520**	ppb	1.136	1.217	453.341
135	**Ba**		165256.265	**62.840299**	ppb	2.427	2.136	52.222
165	**Ho-IS**		563950.810		ppb	1.940		556845.506
159	**Tb-IS**	>	566820.408		ppb	1.659		570297.931
207	**Pb**		576086.260	**16.045713**	ppb	1.175	2.696	467.781
203	**Tl**		323.337	**0.018108**	ppb	11.709	19.320	104.445
209	**Bi-IS**		265166.117		ppb	0.263		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78789-B-1-A
Autosampler Position: 312
Sample Date/Time: Monday, January 03, 2022 16:01:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78789-B-1-A.165
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64606.956		ppb	2.913		62845.721
9	**Be**		188.890	**0.071923**	ppb	7.132	9.367	10.000
10	**B**		32445.736	**44.952283**	ppb	4.210	1.873	1590.088
27	**Al**		11662264.685	**799.520951**	ppb	2.441	0.279	13170.068
43	**Ca-2**		308650.342	**9506.878010**	ppb	2.811	0.494	176.668
49	**Ti**		12279.722	**11.462717**	ppb	2.328	1.231	423.340
52	**Cr**		63493.017	**2.832530**	ppb	1.039	4.912	20988.745
55	**Mn**		1842270.376	**83.649334**	ppb	1.269	2.713	1616.758
57	**Fe**		556553.045	**1098.184724**	ppb	0.103	2.492	19123.905
45	**Sc-IS**	>	2273573.977		ppb	2.430		2282784.855
66	**Zn**		732709.861	**293.375333**	ppb	1.833	0.906	1222.275
86	**Sr**		280306.859	**110.981425**	ppb	1.056	3.386	11.309
65	**Cu**		143839.499	**35.460306**	ppb	1.408	1.334	420.006
69	**Ga-IS**		788144.476		ppb	1.678		790588.707
95	**Mo**		5207.616	**1.788952**	ppb	2.672	5.001	182.223
115	**In-IS**	>	455722.285		ppb	1.290		458046.001
111	**Cd**		1950.310	**0.551139**	ppb	1.405	1.103	24.062
118	**Sn**		3425.967	**-0.037920**	ppb	4.084	25.213	3823.858
121	**Sb**		20098.573	**1.787410**	ppb	0.247	1.120	453.341
135	**Ba**		147305.615	**52.719676**	ppb	0.971	0.636	52.222
165	**Ho-IS**		577563.737		ppb	1.652		556845.506
159	**Tb-IS**	>	588137.334		ppb	1.853		570297.931
207	**Pb**		526015.862	**14.118144**	ppb	1.685	2.707	467.781
203	**Tl**		462.230	**0.028137**	ppb	3.002	5.046	104.445
209	**Bi-IS**		314991.493		ppb	2.234		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78783-B-1-A
Autosampler Position: 313
Sample Date/Time: Monday, January 03, 2022 16:03:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78783-B-1-A.166
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62480.805		ppb	1.641		62845.721
9	**Be**		66.667	**0.023008**	ppb	22.913	27.987	10.000
10	**B**		14965.616	**19.657973**	ppb	2.439	1.553	1590.088
27	**Al**		5723624.479	**394.890175**	ppb	1.058	1.403	13170.068
43	**Ca-2**		131629.060	**4081.133870**	ppb	3.259	2.206	176.668
49	**Ti**		9823.377	**9.157885**	ppb	2.176	1.248	423.340
52	**Cr**		40563.064	**1.326652**	ppb	0.783	0.607	20988.745
55	**Mn**		728726.942	**33.280368**	ppb	0.648	1.013	1616.758
57	**Fe**		281051.120	**539.419478**	ppb	0.653	1.392	19123.905
45	**Sc-IS**	>	2256727.650		ppb	1.076		2282784.855
66	**Zn**		342759.999	**138.008013**	ppb	0.681	1.721	1222.275
86	**Sr**		64705.181	**25.791709**	ppb	1.602	0.768	11.309
65	**Cu**		67082.697	**16.605336**	ppb	0.843	1.868	420.006
69	**Ga-IS**		779810.141		ppb	1.228		790588.707
95	**Mo**		1014.481	**0.299122**	ppb	5.770	8.270	182.223
115	**In-IS**	>	454034.306		ppb	1.138		458046.001
111	**Cd**		557.881	**0.153335**	ppb	7.023	7.068	24.062
118	**Sn**		2509.110	**-0.128475**	ppb	5.581	12.558	3823.858
121	**Sb**		8647.061	**0.748478**	ppb	1.129	0.254	453.341
135	**Ba**		79302.880	**28.477447**	ppb	1.706	1.093	52.222
165	**Ho-IS**		564678.761		ppb	1.485		556845.506
159	**Tb-IS**	>	577220.941		ppb	0.765		570297.931
207	**Pb**		227559.594	**6.214193**	ppb	1.391	0.949	467.781
203	**Tl**		456.674	**0.028375**	ppb	2.529	4.125	104.445
209	**Bi-IS**		310826.627		ppb	1.428		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 16:04:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.167
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63549.960		ppb	1.897		62845.721
9	**Be**		251091.359	**103.594890**	ppb	2.061	2.119	10.000
10	**B**		175284.830	**260.155812**	ppb	2.570	2.594	1590.088
27	**Al**		1427518.467	**99.789660**	ppb	1.253	1.274	13170.068
43	**Ca-2**		165337.994	**5231.644709**	ppb	0.889	1.004	176.668
49	**Ti**		101710.877	**100.628735**	ppb	1.864	1.794	423.340
52	**Cr**		1475756.670	**99.401002**	ppb	1.222	1.142	20988.745
55	**Mn**		2229980.852	**104.037014**	ppb	1.227	1.283	1616.758
57	**Fe**		2534478.968	**5280.656009**	ppb	0.837	0.897	19123.905
45	**Sc-IS**	>	2212284.494		ppb	0.196		2282784.855
66	**Zn**		265260.146	**108.834472**	ppb	2.750	2.813	1222.275
86	**Sr**		259398.515	**105.489246**	ppb	1.650	1.486	11.309
65	**Cu**		413910.929	**105.052788**	ppb	3.071	3.204	420.006
69	**Ga-IS**		821692.619		ppb	2.877		790588.707
95	**Mo**		285836.301	**104.410460**	ppb	1.798	1.746	182.223
115	**In-IS**	>	454211.461		ppb	0.444		458046.001
111	**Cd**		354912.369	**101.866423**	ppb	2.010	1.745	24.062
118	**Sn**		997858.902	**99.711832**	ppb	0.805	0.921	3823.858
121	**Sb**		1066206.155	**97.270928**	ppb	1.124	1.276	453.341
135	**Ba**		277864.148	**99.790866**	ppb	0.758	0.914	52.222
165	**Ho-IS**		572306.525		ppb	0.453		556845.506
159	**Tb-IS**	>	575477.935		ppb	0.398		570297.931
207	**Pb**		3670714.122	**100.744381**	ppb	0.756	1.120	467.781
203	**Tl**		1212552.551	**98.305127**	ppb	0.566	0.656	104.445
209	**Bi-IS**		306294.652		ppb	1.283		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 16:06:07
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.168
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63593.523		ppb	2.731		62845.721
9	**Be**		75.556	**0.026682**	ppb	29.375	35.140	10.000
10	**B**		1994.584	**0.625651**	ppb	5.624	24.561	1590.088
27	**Al**		20890.932	**0.547018**	ppb	1.333	2.912	13170.068
43	**Ca-2**		285.003	**3.448034**	ppb	13.245	35.269	176.668
49	**Ti**		477.786	**0.058940**	ppb	6.704	63.815	423.340
52	**Cr**		20632.673	**-0.005255**	ppb	2.415	468.279	20988.745
55	**Mn**		2876.956	**0.058770**	ppb	1.520	2.770	1616.758
57	**Fe**		20256.575	**2.864140**	ppb	1.095	29.798	19123.905
45	**Sc-IS**	>	2252529.494		ppb	1.397		2282784.855
66	**Zn**		1662.319	**0.184730**	ppb	2.617	9.952	1222.275
86	**Sr**		232.461	**0.088573**	ppb	41.019	43.980	11.309
65	**Cu**		774.466	**0.089660**	ppb	10.807	20.329	420.006
69	**Ga-IS**		778392.425		ppb	2.384		790588.707
95	**Mo**		1100.043	**0.331047**	ppb	19.188	24.330	182.223
115	**In-IS**	>	462921.408		ppb	1.479		458046.001
111	**Cd**		79.912	**0.015623**	ppb	17.818	23.731	24.062
118	**Sn**		5179.836	**0.130092**	ppb	11.561	50.881	3823.858
121	**Sb**		664.460	**0.018495**	ppb	4.024	15.959	453.341
135	**Ba**		160.001	**0.037769**	ppb	5.512	6.226	52.222
165	**Ho-IS**		569299.284		ppb	3.208		556845.506
159	**Tb-IS**	>	578967.915		ppb	2.431		570297.931
207	**Pb**		1534.478	**0.028950**	ppb	4.203	9.227	467.781
203	**Tl**		476.675	**0.029946**	ppb	9.790	15.672	104.445
209	**Bi-IS**		316669.885		ppb	1.866		304922.245

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Monday, January 03, 2022 16:15:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICIS-1479530.169
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62401.567		ppb	1.502		
9	**Be**		15.556		ppb	89.214		
10	**B**		1198.939		ppb	3.317		
27	**Al**		13418.634		ppb	2.174		
43	**Ca-2**		178.334		ppb	6.475		
49	**Ti**		434.451		ppb	6.202		
52	**Cr**		20760.630		ppb	0.614		
55	**Mn**		1901.238		ppb	1.471		
57	**Fe**		18973.703		ppb	0.610		
45	**Sc-IS**	>	2189503.461		ppb	1.180		
66	**Zn**		1124.489		ppb	9.940		
86	**Sr**		42.470		ppb	41.009		
65	**Cu**		444.451		ppb	3.700		
69	**Ga-IS**		761709.265		ppb	1.788		
95	**Mo**		415.562		ppb	10.920		
115	**In-IS**	>	467016.078		ppb	0.927		
111	**Cd**		19.127		ppb	60.032		
118	**Sn**		9458.691		ppb	4.877		
121	**Sb**		704.462		ppb	2.891		
135	**Ba**		65.556		ppb	45.574		
165	**Ho-IS**		567092.476		ppb	0.524		
159	**Tb-IS**	>	570672.610		ppb	1.633		
207	**Pb**		617.783		ppb	7.580		
203	**Tl**		152.223		ppb	15.381		
209	**Bi-IS**		315687.693		ppb	2.201		
51	**V**		4.444		ppb	86.603		
59	**Co**		25.556		ppb	58.816		
60	**Ni**		72.222		ppb	13.324		
75	**As**		312.614		ppb	4.361		
71	**Ga-ISK**		91641.970		ppb	2.063		
82	**Se-2**		0.862		ppb	508.088		
107	**Ag-1**		326.670		ppb	13.265		
115	**In-ISK**	>	126458.944		ppb	1.776		
45	**Sc-ISK**		228753.447		ppb	2.828		
23	**Na**		11522.981		ppb	2.927		
39	**K**		38393.747		ppb	0.627		
24	**Mg**		320.004		ppb	24.557		
159	**Tb-ISK**	>	250470.976		ppb	1.469		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Monday, January 03, 2022 16:18:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\IC-2235387.170
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58408.082		ppb	2.089		62401.567
9	**Be**		461856.833	**200.000000**	ppb	1.299	1.432	15.556
10	**B**		320610.389	**500.000000**	ppb	2.555	1.238	1198.939
27	**Al**		2721124.139	**200.000000**	ppb	0.553	2.132	13418.634
43	**Ca-2**		311332.968	**10200.000000**	ppb	1.321	2.239	178.334
49	**Ti**		196052.018	**200.000000**	ppb	2.016	0.734	434.451
52	**Cr**		2923912.129	**200.000000**	ppb	1.568	1.115	20760.630
55	**Mn**		4261118.714	**200.000000**	ppb	2.354	1.012	1901.238
57	**Fe**		4803147.293	**10200.000000**	ppb	1.028	2.105	18973.703
45	**Sc-IS**	>	2170204.479		ppb	2.594		2189503.461
66	**Zn**		490158.168	**200.000000**	ppb	1.416	2.193	1124.489
86	**Sr**		496119.872	**200.000000**	ppb	0.706	1.921	42.470
65	**Cu**		787282.041	**200.000000**	ppb	1.380	1.924	444.451
69	**Ga-IS**		865436.495		ppb	2.444		761709.265
95	**Mo**		541666.037	**200.000000**	ppb	0.619	2.307	415.562
115	**In-IS**	>	452787.729		ppb	0.294		467016.078
111	**Cd**		687035.834	**200.000000**	ppb	0.108	0.353	19.127
118	**Sn**		2061612.889	**200.000000**	ppb	3.801	4.002	9458.691
121	**Sb**		2242736.977	**200.000000**	ppb	1.414	1.645	704.462
135	**Ba**		568254.134	**200.000000**	ppb	2.282	2.502	65.556
165	**Ho-IS**		569717.511		ppb	1.496		567092.476
159	**Tb-IS**	>	582771.462		ppb	3.869		570672.610
207	**Pb**		7424589.993	**200.000000**	ppb	0.316	3.686	617.783
203	**Tl**		2550950.678	**200.000000**	ppb	0.632	3.678	152.223
209	**Bi-IS**		304443.151		ppb	0.325		315687.693
51	**V**		57908.300	**200.000000**	ppb	2.731	3.491	4.444
59	**Co**		196785.068	**200.000000**	ppb	1.047	1.773	25.556
60	**Ni**		321977.773	**200.000000**	ppb	1.939	1.707	72.222
75	**As**		115823.748	**200.000000**	ppb	2.933	2.449	312.614
71	**Ga-ISK**		88737.373		ppb	4.707		91641.970
82	**Se-2**		11377.711	**200.000000**	ppb	1.735	1.144	0.862
107	**Ag-1**		1216378.883	**200.000000**	ppb	1.126	0.723	326.670
115	**In-ISK**	>	119998.353		ppb	0.785		126458.944
45	**Sc-ISK**		229508.126		ppb	1.682		228753.447
23	**Na**		3240549.970	**10200.000000**	ppb	0.596	1.376	11522.981
39	**K**		6776947.375	**10200.000000**	ppb	1.039	0.146	38393.747
24	**Mg**		2968357.630	**10200.000000**	ppb	0.653	0.354	320.004
159	**Tb-ISK**	>	250135.667		ppb	0.960		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 16:21:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.171
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59394.369		ppb	2.353		62401.567
9	**Be**		232743.545	**100.361191**	ppb	3.840	2.985	15.556
10	**B**		160337.893	**248.104594**	ppb	3.914	2.856	1198.939
27	**Al**		1368116.519	**99.647048**	ppb	1.521	1.160	13418.634
43	**Ca-2**		155806.838	**5080.545335**	ppb	1.514	0.866	178.334
49	**Ti**		98330.737	**99.681637**	ppb	2.607	0.719	434.451
52	**Cr**		1425641.213	**96.401779**	ppb	1.333	1.264	20760.630
55	**Mn**		2180761.001	**101.929653**	ppb	0.354	1.701	1901.238
57	**Fe**		2479790.027	**5225.784814**	ppb	0.488	2.108	18973.703
45	**Sc-IS**	>	2178690.302		ppb	2.011		2189503.461
66	**Zn**		246982.687	**100.131259**	ppb	1.727	0.866	1124.489
86	**Sr**		248432.994	**99.713888**	ppb	2.715	1.336	42.470
65	**Cu**		392140.005	**99.160093**	ppb	1.516	1.588	444.451
69	**Ga-IS**		811003.739		ppb	3.052		761709.265
95	**Mo**		277878.831	**102.088374**	ppb	2.585	1.648	415.562
115	**In-IS**	>	462933.572		ppb	0.847		467016.078
111	**Cd**		347085.274	**98.820496**	ppb	0.887	0.097	19.127
118	**Sn**		1028517.471	**97.127477**	ppb	1.087	0.377	9458.691
121	**Sb**		1086625.420	**94.741636**	ppb	1.621	1.152	704.462
135	**Ba**		285257.445	**98.183370**	ppb	2.233	2.135	65.556
165	**Ho-IS**		580028.141		ppb	2.313		567092.476
159	**Tb-IS**	>	590600.332		ppb	2.204		570672.610
207	**Pb**		3696681.476	**98.196966**	ppb	0.644	2.754	617.783
203	**Tl**		1237488.023	**95.657879**	ppb	2.408	2.614	152.223
209	**Bi-IS**		313627.055		ppb	1.719		315687.693
51	**V**		28896.977	**96.348459**	ppb	1.228	3.457	4.444
59	**Co**		98059.884	**96.188541**	ppb	1.331	1.929	25.556
60	**Ni**		166528.499	**99.833607**	ppb	1.679	1.896	72.222
75	**As**		58863.304	**97.880322**	ppb	0.520	2.492	312.614
71	**Ga-ISK**		92495.184		ppb	1.527		91641.970
82	**Se-2**		5666.640	**96.130548**	ppb	2.872	1.602	0.862
107	**Ag-1**		626418.811	**99.395231**	ppb	1.800	1.548	326.670
115	**In-ISK**	>	124336.944		ppb	2.464		126458.944
45	**Sc-ISK**		230946.899		ppb	2.306		228753.447
23	**Na**		1574117.130	**4951.348338**	ppb	1.254	0.989	11522.981
39	**K**		3431139.308	**5152.032364**	ppb	1.127	0.859	38393.747
24	**Mg**		1436244.318	**4950.221842**	ppb	1.296	0.991	320.004
159	**Tb-ISK**	>	249342.534		ppb	0.351		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 16:24:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.172
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59298.497		ppb	3.922		62401.567
9	**Be**		101.111	**0.037267**	ppb	13.324	14.881	15.556
10	**B**		2077.929	**1.406455**	ppb	4.601	10.044	1198.939
27	**Al**		17537.095	**0.318413**	ppb	2.228	6.038	13418.634
43	**Ca-2**		200.001	**0.789507**	ppb	4.330	31.590	178.334
49	**Ti**		396.672	**-0.033130**	ppb	12.549	146.624	434.451
52	**Cr**		18579.855	**-0.132023**	ppb	1.964	13.535	20760.630
55	**Mn**		2542.449	**0.031431**	ppb	7.842	30.606	1901.238
57	**Fe**		18362.906	**-0.772311**	ppb	0.365	22.545	18973.703
45	**Sc-IS**	>	2160698.209		ppb	0.756		2189503.461
66	**Zn**		1468.965	**0.147689**	ppb	4.653	22.044	1124.489
86	**Sr**		135.754	**0.038050**	ppb	21.661	32.284	42.470
65	**Cu**		595.568	**0.040028**	ppb	6.140	20.910	444.451
69	**Ga-IS**		753009.573		ppb	2.340		761709.265
95	**Mo**		2329.079	**0.711934**	ppb	3.111	3.695	415.562
115	**In-IS**	>	460281.626		ppb	0.887		467016.078
111	**Cd**		201.777	**0.052419**	ppb	9.237	11.189	19.127
118	**Sn**		11165.473	**0.176759**	ppb	0.835	9.143	9458.691
121	**Sb**		1416.737	**0.063429**	ppb	4.082	9.734	704.462
135	**Ba**		192.224	**0.044107**	ppb	20.977	30.443	65.556
165	**Ho-IS**		568021.903		ppb	1.935		567092.476
159	**Tb-IS**	>	578505.489		ppb	0.379		570672.610
207	**Pb**		2498.976	**0.050768**	ppb	9.367	12.285	617.783
203	**Tl**		795.578	**0.050584**	ppb	12.390	14.935	152.223
209	**Bi-IS**		314166.997		ppb	2.271		315687.693
51	**V**		26.667	**0.071510**	ppb	21.651	24.469	4.444
59	**Co**		77.778	**0.049312**	ppb	47.208	70.559	25.556
60	**Ni**		335.560	**0.152945**	ppb	17.500	24.045	72.222
75	**As**		370.354	**0.086362**	ppb	7.298	40.609	312.614
71	**Ga-ISK**		89349.718		ppb	1.804		91641.970
82	**Se-2**		10.513	**0.157985**	ppb	46.784	50.283	0.862
107	**Ag-1**		1606.758	**0.196263**	ppb	8.987	9.739	326.670
115	**In-ISK**	>	128178.070		ppb	1.478		126458.944
45	**Sc-ISK**		223484.105		ppb	2.486		228753.447
23	**Na**		11818.221	**1.253144**	ppb	1.527	52.514	11522.981
39	**K**		44358.765	**9.593571**	ppb	0.764	3.698	38393.747
24	**Mg**		1230.053	**3.159627**	ppb	1.076	1.652	320.004
159	**Tb-ISK**	>	248334.544		ppb	0.418		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293478-A-3-C @20
Autosampler Position: 335
Sample Date/Time: Monday, January 03, 2022 16:27:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293478-A-3-C @20.173
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69572.411		ppb	2.641		62401.567
9	**Be**		148.890	**0.047595**	ppb	30.479	34.241	15.556
10	**B**		2352.416	**1.241731**	ppb	0.327	2.541	1198.939
27	**Al**		2603850.728	**160.992174**	ppb	2.186	3.130	13418.634
43	**Ca-2**		4455.696	**117.158416**	ppb	5.866	5.015	178.334
49	**Ti**		138539.729	**118.855865**	ppb	1.474	0.776	434.451
52	**Cr**		114698.680	**5.237649**	ppb	1.498	2.479	20760.630
55	**Mn**		114216.103	**4.428334**	ppb	2.724	1.691	1901.238
57	**Fe**		43175.175	**37.422012**	ppb	2.653	3.744	18973.703
45	**Sc-IS**	>	2576431.927		ppb	1.336		2189503.461
66	**Zn**		46588.080	**15.588904**	ppb	1.776	1.860	1124.489
86	**Sr**		3878.705	**1.300218**	ppb	4.855	5.683	42.470
65	**Cu**		1591.200	**0.228720**	ppb	1.228	3.841	444.451
69	**Ga-IS**		840160.873		ppb	2.431		761709.265
95	**Mo**		1118.933	**0.195901**	ppb	4.770	6.476	415.562
115	**In-IS**	>	503199.893		ppb	2.170		467016.078
111	**Cd**		215.430	**0.051032**	ppb	3.875	3.459	19.127
118	**Sn**		12749.021	**0.224939**	ppb	2.163	21.663	9458.691
121	**Sb**		804.467	**0.003719**	ppb	15.182	276.502	704.462
135	**Ba**		31798.690	**10.050246**	ppb	1.496	1.279	65.556
165	**Ho-IS**		606796.567		ppb	1.014		567092.476
159	**Tb-IS**	>	617573.383		ppb	1.281		570672.610
207	**Pb**		249091.073	**6.310080**	ppb	0.659	1.551	617.783
203	**Tl**		4532.942	**0.322968**	ppb	2.183	3.229	152.223
209	**Bi-IS**		334354.809		ppb	1.596		315687.693
51	**V**		2354926.852	**7380.311858**	ppb	0.396	3.043	4.444
59	**Co**		71.111	**0.040944**	ppb	21.651	35.093	25.556
60	**Ni**		1945.688	**1.054688**	ppb	1.396	4.286	72.222
75	**As**		8370.004	**12.637997**	ppb	1.644	3.821	312.614
71	**Ga-ISK**		99924.925		ppb	0.287		91641.970
82	**Se-2**		16.502	**0.247820**	ppb	31.199	31.677	0.862
107	**Ag-1**		1563.420	**0.181822**	ppb	14.654	16.219	326.670
115	**In-ISK**	>	132304.113		ppb	2.899		126458.944
45	**Sc-ISK**		261171.722		ppb	4.129		228753.447
23	**Na**		183021.964	**509.288720**	ppb	2.177	3.326	11522.981
39	**K**		217480.114	**252.611630**	ppb	2.231	2.363	38393.747
24	**Mg**		17602.513	**55.969936**	ppb	3.354	1.358	320.004
159	**Tb-ISK**	>	265104.036		ppb	2.301		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 440-293478-A-4-E @20
Autosampler Position: 336
Sample Date/Time: Monday, January 03, 2022 16:31:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\440-293478-A-4-E @20.174
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		71482.920		ppb	2.572		62401.567
9	**Be**		201.113	**0.063063**	ppb	0.957	1.846	15.556
10	**B**		6958.363	**6.861126**	ppb	4.104	4.249	1198.939
27	**Al**		35585127.625	**2103.321075**	ppb	0.418	1.258	13418.634
43	**Ca-2**		306946.672	**8049.150016**	ppb	1.962	0.789	178.334
49	**Ti**		19990.646	**15.925345**	ppb	1.498	0.234	434.451
52	**Cr**		113281.984	**4.830840**	ppb	2.364	2.337	20760.630
55	**Mn**		1385102.544	**52.000143**	ppb	0.655	1.503	1901.238
57	**Fe**		781497.848	**1294.066643**	ppb	1.590	2.867	18973.703
45	**Sc-IS**	>	2709913.565		ppb	1.281		2189503.461
66	**Zn**		547401.448	**178.747649**	ppb	2.848	1.788	1124.489
86	**Sr**		432703.538	**139.621274**	ppb	3.161	1.922	42.470
65	**Cu**		32266.409	**6.454686**	ppb	2.112	2.225	444.451
69	**Ga-IS**		901658.700		ppb	3.857		761709.265
95	**Mo**		5349.894	**1.429704**	ppb	6.773	6.151	415.562
115	**In-IS**	>	504499.522		ppb	1.855		467016.078
111	**Cd**		399.882	**0.098967**	ppb	11.687	10.621	19.127
118	**Sn**		10774.062	**0.048755**	ppb	0.898	19.375	9458.691
121	**Sb**		1959.024	**0.096089**	ppb	8.171	15.966	704.462
135	**Ba**		224975.884	**71.048483**	ppb	1.978	0.816	65.556
165	**Ho-IS**		608897.307		ppb	0.796		567092.476
159	**Tb-IS**	>	614040.880		ppb	0.984		570672.610
207	**Pb**		106519.388	**2.704259**	ppb	1.026	1.986	617.783
203	**Tl**		636.681	**0.035179**	ppb	8.178	11.987	152.223
209	**Bi-IS**		335173.345		ppb	1.139		315687.693
51	**V**		8697.092	**26.699901**	ppb	2.050	4.675	4.444
59	**Co**		920.030	**0.806939**	ppb	3.456	5.023	25.556
60	**Ni**		6065.733	**3.307348**	ppb	2.607	2.250	72.222
75	**As**		7943.390	**11.713985**	ppb	4.164	4.938	312.614
71	**Ga-ISK**		102744.932		ppb	2.130		91641.970
82	**Se-2**		54.468	**0.840617**	ppb	20.186	23.873	0.862
107	**Ag-1**		922.252	**0.083501**	ppb	14.870	19.612	326.670
115	**In-ISK**	>	135031.405		ppb	3.060		126458.944
45	**Sc-ISK**		270651.130		ppb	1.241		228753.447
23	**Na**		64120.266	**153.653801**	ppb	1.515	1.130	11522.981
39	**K**		79812.331	**55.310542**	ppb	0.312	2.565	38393.747
24	**Mg**		1030170.709	**3320.107575**	ppb	1.429	0.419	320.004
159	**Tb-ISK**	>	266627.384		ppb	1.202		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message
Sc-IS	45	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Monday, January 03, 2022 16:34:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\blk.175
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59876.414		ppb	3.180		62401.567
9	**Be**		25.556	**0.004387**	ppb	32.825	84.827	15.556
10	**B**		1332.285	**0.220908**	ppb	10.078	92.704	1198.939
27	**Al**		21833.339	**0.626898**	ppb	0.945	3.314	13418.634
43	**Ca-2**		218.335	**1.345872**	ppb	8.670	42.656	178.334
49	**Ti**		552.233	**0.123373**	ppb	9.358	44.584	434.451
52	**Cr**		21868.948	**0.086040**	ppb	0.280	19.074	20760.630
55	**Mn**		2321.300	**0.020279**	ppb	3.177	12.279	1901.238
57	**Fe**		18566.502	**-0.588458**	ppb	0.727	64.194	18973.703
45	**Sc-IS**	>	2174536.904		ppb	0.983		2189503.461
66	**Zn**		1662.319	**0.222665**	ppb	0.926	5.847	1124.489
86	**Sr**		128.002	**0.034590**	ppb	22.819	35.368	42.470
65	**Cu**		388.894	**-0.013328**	ppb	19.173	140.400	444.451
69	**Ga-IS**		740973.557		ppb	2.284		761709.265
95	**Mo**		350.004	**-0.023107**	ppb	6.245	35.544	415.562
115	**In-IS**	>	462789.685		ppb	1.258		467016.078
111	**Cd**		28.154	**0.002616**	ppb	38.172	116.867	19.127
118	**Sn**		3262.595	**-0.582425**	ppb	4.895	3.069	9458.691
121	**Sb**		393.339	**-0.026605**	ppb	7.388	8.810	704.462
135	**Ba**		154.445	**0.030770**	ppb	19.344	32.376	65.556
165	**Ho-IS**		558946.467		ppb	0.789		567092.476
159	**Tb-IS**	>	573244.900		ppb	1.110		570672.610
207	**Pb**		1106.684	**0.013314**	ppb	7.421	18.677	617.783
203	**Tl**		603.346	**0.035897**	ppb	7.182	10.991	152.223
209	**Bi-IS**		307217.423		ppb	1.161		315687.693
51	**V**		307.781	**1.016079**	ppb	11.273	12.221	4.444
59	**Co**		21.111	**-0.003907**	ppb	50.756	265.139	25.556
60	**Ni**		203.335	**0.079771**	ppb	23.126	34.942	72.222
75	**As**		268.583	**-0.062843**	ppb	4.822	39.109	312.614
71	**Ga-ISK**		90061.925		ppb	1.418		91641.970
82	**Se-2**		2.523	**0.028280**	ppb	150.204	226.429	0.862
107	**Ag-1**		186.668	**-0.021213**	ppb	14.286	20.899	326.670
115	**In-ISK**	>	123824.395		ppb	0.889		126458.944
45	**Sc-ISK**		229175.886		ppb	0.550		228753.447
23	**Na**		9186.287	**-7.008941**	ppb	2.047	6.593	11522.981
39	**K**		39239.385	**2.021036**	ppb	1.878	50.236	38393.747
24	**Mg**		521.676	**0.714598**	ppb	2.214	5.722	320.004
159	**Tb-ISK**	>	247370.034		ppb	0.490		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-204722_1-A
Autosampler Position: 459
Sample Date/Time: Monday, January 03, 2022 16:37:55
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\MB 570-204722_1-A.176
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59738.034		ppb	2.676		62401.567
9	**Be**		16.667	**0.000430**	ppb	34.641	589.693	15.556
10	**B**		1377.844	**0.258776**	ppb	3.433	26.484	1198.939
27	**Al**		23206.838	**0.701372**	ppb	1.756	2.539	13418.634
43	**Ca-2**		225.002	**1.450883**	ppb	11.111	54.912	178.334
49	**Ti**		463.341	**0.025461**	ppb	7.914	164.021	434.451
52	**Cr**		21374.872	**0.029032**	ppb	1.860	29.527	20760.630
55	**Mn**		2290.184	**0.017152**	ppb	2.526	6.911	1901.238
57	**Fe**		17959.060	**-2.470763**	ppb	0.899	30.746	18973.703
45	**Sc-IS**	>	2208954.614		ppb	1.427		2189503.461
66	**Zn**		1603.423	**0.188227**	ppb	4.296	10.973	1124.489
86	**Sr**		25.041	**-0.006908**	ppb	163.874	236.822	42.470
65	**Cu**		301.114	**-0.036767**	ppb	3.196	6.303	444.451
69	**Ga-IS**		762676.386		ppb	3.309		761709.265
95	**Mo**		264.447	**-0.056114**	ppb	8.943	16.862	415.562
115	**In-IS**	>	461446.714		ppb	2.047		467016.078
111	**Cd**		30.556	**0.003367**	ppb	38.404	104.687	19.127
118	**Sn**		3802.729	**-0.529922**	ppb	2.762	2.050	9458.691
121	**Sb**		355.560	**-0.029799**	ppb	10.987	11.392	704.462
135	**Ba**		71.111	**0.002185**	ppb	7.160	72.418	65.556
165	**Ho-IS**		567526.722		ppb	2.142		567092.476
159	**Tb-IS**	>	569675.534		ppb	1.817		570672.610
207	**Pb**		876.677	**0.007150**	ppb	7.857	23.815	617.783
203	**Tl**		480.008	**0.026298**	ppb	2.406	4.717	152.223
209	**Bi-IS**		313903.733		ppb	1.048		315687.693
51	**V**		172.223	**0.550760**	ppb	12.292	11.619	4.444
59	**Co**		34.444	**0.008915**	ppb	47.738	189.864	25.556
60	**Ni**		435.562	**0.215328**	ppb	10.832	16.046	72.222
75	**As**		299.861	**-0.019992**	ppb	11.436	264.497	312.614
71	**Ga-ISK**		91872.262		ppb	0.806		91641.970
82	**Se-2**		2.211	**0.021872**	ppb	187.683	314.674	0.862
107	**Ag-1**		150.001	**-0.027561**	ppb	13.878	9.999	326.670
115	**In-ISK**	>	126181.193		ppb	2.411		126458.944
45	**Sc-ISK**		234238.472		ppb	1.759		228753.447
23	**Na**		8859.414	**-8.700361**	ppb	2.157	7.919	11522.981
39	**K**		37908.013	**-1.347323**	ppb	1.401	73.509	38393.747
24	**Mg**		343.338	**0.066927**	ppb	18.325	312.662	320.004
159	**Tb-ISK**	>	253189.992		ppb	0.360		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-204722_2-A
Autosampler Position: 333
Sample Date/Time: Monday, January 03, 2022 16:41:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCS 570-204722_2-A.177
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59316.259		ppb	2.106		62401.567
9	**Be**		219924.457	**96.319798**	ppb	0.981	0.794	15.556
10	**B**		64739.760	**100.638338**	ppb	2.587	1.167	1198.939
27	**Al**		1419183.747	**105.014567**	ppb	1.694	0.280	13418.634
43	**Ca-2**		154452.570	**5114.142935**	ppb	2.855	2.177	178.334
49	**Ti**		91391.571	**94.058744**	ppb	2.953	1.613	434.451
52	**Cr**		1335850.171	**91.632997**	ppb	3.600	1.892	20760.630
55	**Mn**		1910194.846	**90.621354**	ppb	3.510	1.760	1901.238
57	**Fe**		2409338.811	**5154.386553**	ppb	1.481	0.261	18973.703
45	**Sc-IS**	>	2145364.649		ppb	1.735		2189503.461
66	**Zn**		241125.049	**99.263468**	ppb	1.879	0.242	1124.489
86	**Sr**		218596.486	**89.103073**	ppb	2.041	0.957	42.470
65	**Cu**		367935.819	**94.463253**	ppb	1.993	0.259	444.451
69	**Ga-IS**		810076.640		ppb	1.204		761709.265
95	**Mo**		247593.838	**92.380119**	ppb	0.273	1.886	415.562
115	**In-IS**	>	459938.687		ppb	1.110		467016.078
111	**Cd**		331785.242	**95.083815**	ppb	0.991	1.060	19.127
118	**Sn**		921856.628	**87.537343**	ppb	1.640	1.462	9458.691
121	**Sb**		994331.438	**87.259112**	ppb	0.657	0.521	704.462
135	**Ba**		300027.970	**103.944190**	ppb	0.777	0.776	65.556
165	**Ho-IS**		559971.695		ppb	1.790		567092.476
159	**Tb-IS**	>	569284.696		ppb	1.236		570672.610
207	**Pb**		3405529.876	**93.827442**	ppb	0.821	2.045	617.783
203	**Tl**		1106719.931	**88.737342**	ppb	1.060	0.698	152.223
209	**Bi-IS**		310794.649		ppb	1.096		315687.693
51	**V**		26906.429	**89.613493**	ppb	1.320	2.557	4.444
59	**Co**		90198.349	**88.389632**	ppb	1.631	1.501	25.556
60	**Ni**		152947.785	**91.628506**	ppb	1.012	2.981	72.222
75	**As**		55171.166	**91.643610**	ppb	1.850	3.896	312.614
71	**Ga-ISK**		89908.758		ppb	1.691		91641.970
82	**Se-2**		5589.303	**94.746765**	ppb	1.893	1.327	0.862
107	**Ag-1**		343187.767	**54.391455**	ppb	0.305	1.986	326.670
115	**In-ISK**	>	124438.815		ppb	1.982		126458.944
45	**Sc-ISK**		226995.927		ppb	0.467		228753.447
23	**Na**		313882.852	**970.975822**	ppb	1.291	1.441	11522.981
39	**K**		689230.539	**1001.973081**	ppb	1.551	1.799	38393.747
24	**Mg**		1427124.542	**4981.907351**	ppb	2.473	2.496	320.004
159	**Tb-ISK**	>	246194.030		ppb	0.782		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-204722_3-A
Autosampler Position: 334
Sample Date/Time: Monday, January 03, 2022 16:44:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCSD 570-204722_3-A.178
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58418.097		ppb	1.017		62401.567
9	**Be**		216984.152	**99.425707**	ppb	2.927	3.522	15.556
10	**B**		61424.067	**99.888516**	ppb	2.939	2.965	1198.939
27	**Al**		1390907.085	**107.753503**	ppb	1.003	3.950	13418.634
43	**Ca-2**		148716.826	**5154.832945**	ppb	1.277	4.352	178.334
49	**Ti**		89637.089	**96.551216**	ppb	2.124	3.019	434.451
52	**Cr**		1308479.571	**94.002252**	ppb	1.072	3.949	20760.630
55	**Mn**		1869851.082	**92.828024**	ppb	2.959	3.067	1901.238
57	**Fe**		2352189.220	**5268.599527**	ppb	1.252	4.512	18973.703
45	**Sc-IS**	>	2052333.258		ppb	5.027		2189503.461
66	**Zn**		237893.327	**102.540343**	ppb	0.493	4.428	1124.489
86	**Sr**		217538.075	**92.862404**	ppb	0.910	5.504	42.470
65	**Cu**		355926.043	**95.675992**	ppb	0.225	4.673	444.451
69	**Ga-IS**		797597.791		ppb	1.830		761709.265
95	**Mo**		244772.044	**95.637209**	ppb	2.212	6.150	415.562
115	**In-IS**	>	453637.906		ppb	1.600		467016.078
111	**Cd**		333824.793	**96.994037**	ppb	1.506	0.351	19.127
118	**Sn**		932016.297	**89.763952**	ppb	0.933	1.560	9458.691
121	**Sb**		1000289.298	**88.995573**	ppb	2.439	1.457	704.462
135	**Ba**		297452.021	**104.489531**	ppb	1.645	1.799	65.556
165	**Ho-IS**		554916.173		ppb	2.395		567092.476
159	**Tb-IS**	>	558861.410		ppb	1.679		570672.610
207	**Pb**		3372963.635	**94.655867**	ppb	1.292	1.209	617.783
203	**Tl**		1107978.984	**90.489689**	ppb	2.698	1.874	152.223
209	**Bi-IS**		307602.575		ppb	1.699		315687.693
51	**V**		25773.239	**86.447966**	ppb	2.646	3.358	4.444
59	**Co**		86494.439	**85.369490**	ppb	1.716	2.291	25.556
60	**Ni**		152181.888	**91.793092**	ppb	0.973	0.775	72.222
75	**As**		55685.288	**93.129745**	ppb	1.355	1.551	312.614
71	**Ga-ISK**		89416.749		ppb	0.625		91641.970
82	**Se-2**		5737.362	**97.956915**	ppb	1.407	1.667	0.862
107	**Ag-1**		345314.688	**55.112018**	ppb	1.977	2.079	326.670
115	**In-ISK**	>	123548.729		ppb	1.062		126458.944
45	**Sc-ISK**		225293.949		ppb	1.406		228753.447
23	**Na**		307244.249	**948.227533**	ppb	1.427	0.585	11522.981
39	**K**		664935.560	**963.209807**	ppb	0.656	1.435	38393.747
24	**Mg**		1385718.539	**4830.387920**	ppb	1.109	0.421	320.004
159	**Tb-ISK**	>	246539.938		ppb	0.865		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 16:47:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.179
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58610.024		ppb	2.242		62401.567
9	**Be**		231432.151	**101.407033**	ppb	1.724	0.259	15.556
10	**B**		161713.946	**254.306856**	ppb	2.783	1.336	1198.939
27	**Al**		1324973.289	**98.036797**	ppb	1.225	0.246	13418.634
43	**Ca-2**		155085.742	**5138.262907**	ppb	1.637	1.020	178.334
49	**Ti**		96052.973	**98.951367**	ppb	1.149	0.849	434.451
52	**Cr**		1391006.687	**95.545087**	ppb	2.148	0.725	20760.630
55	**Mn**		2140677.829	**101.653594**	ppb	0.664	0.805	1901.238
57	**Fe**		2413070.123	**5165.909743**	ppb	2.022	2.395	18973.703
45	**Sc-IS**	>	2144129.371		ppb	1.469		2189503.461
66	**Zn**		246210.377	**101.439370**	ppb	1.054	1.648	1124.489
86	**Sr**		235742.004	**96.159444**	ppb	0.577	1.154	42.470
65	**Cu**		392319.352	**100.810880**	ppb	2.396	3.059	444.451
69	**Ga-IS**		795759.536		ppb	1.625		761709.265
95	**Mo**		263521.946	**98.381580**	ppb	1.361	1.946	415.562
115	**In-IS**	>	456737.921		ppb	1.334		467016.078
111	**Cd**		337349.959	**97.351448**	ppb	1.365	0.031	19.127
118	**Sn**		1010272.423	**96.702202**	ppb	0.937	1.051	9458.691
121	**Sb**		1067126.765	**94.311757**	ppb	0.565	0.798	704.462
135	**Ba**		278710.378	**97.235512**	ppb	0.690	0.644	65.556
165	**Ho-IS**		567645.561		ppb	2.426		567092.476
159	**Tb-IS**	>	579049.973		ppb	1.142		570672.610
207	**Pb**		3645568.717	**98.744393**	ppb	0.609	1.750	617.783
203	**Tl**		1233234.803	**97.220375**	ppb	0.667	1.296	152.223
209	**Bi-IS**		308558.937		ppb	0.271		315687.693
51	**V**		28000.749	**95.034106**	ppb	0.899	2.431	4.444
59	**Co**		95912.087	**95.822466**	ppb	1.980	4.141	25.556
60	**Ni**		163385.847	**99.738280**	ppb	1.668	2.762	72.222
75	**As**		58243.158	**98.612601**	ppb	1.304	3.016	312.614
71	**Ga-ISK**		89613.569		ppb	1.531		91641.970
82	**Se-2**		5825.370	**100.669043**	ppb	2.066	3.814	0.862
107	**Ag-1**		609291.254	**98.443887**	ppb	0.709	2.049	326.670
115	**In-ISK**	>	122119.198		ppb	2.195		126458.944
45	**Sc-ISK**		224770.248		ppb	1.432		228753.447
23	**Na**		1579598.410	**4937.489781**	ppb	1.679	2.017	11522.981
39	**K**		3324780.911	**4958.750041**	ppb	1.572	1.449	38393.747
24	**Mg**		1425204.553	**4880.964824**	ppb	3.496	3.155	320.004
159	**Tb-ISK**	>	250923.186		ppb	0.365		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 16:50:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.180
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56553.955		ppb	1.254		62401.567
9	**Be**		103.334	**0.040665**	ppb	20.145	28.164	15.556
10	**B**		1707.880	**0.955006**	ppb	2.707	14.231	1198.939
27	**Al**		16783.857	**0.322176**	ppb	2.352	7.402	13418.634
43	**Ca-2**		218.335	**1.747522**	ppb	5.763	35.787	178.334
49	**Ti**		392.228	**-0.017645**	ppb	16.791	419.827	434.451
52	**Cr**		18070.313	**-0.106810**	ppb	1.877	48.569	20760.630
55	**Mn**		2436.875	**0.031849**	ppb	4.965	3.849	1901.238
57	**Fe**		17108.020	**-1.708232**	ppb	2.398	40.850	18973.703
45	**Sc-IS**	>	2063119.600		ppb	4.149		2189503.461
66	**Zn**		1404.514	**0.148859**	ppb	2.470	15.358	1124.489
86	**Sr**		131.310	**0.038833**	ppb	23.130	34.730	42.470
65	**Cu**		505.565	**0.023674**	ppb	8.780	74.800	444.451
69	**Ga-IS**		739678.379		ppb	1.693		761709.265
95	**Mo**		1856.787	**0.570893**	ppb	3.863	10.160	415.562
115	**In-IS**	>	458070.353		ppb	2.248		467016.078
111	**Cd**		159.435	**0.040478**	ppb	9.554	10.617	19.127
118	**Sn**		11284.459	**0.193403**	ppb	3.581	18.524	9458.691
121	**Sb**		2452.433	**0.155348**	ppb	1.454	1.959	704.462
135	**Ba**		208.890	**0.050394**	ppb	11.544	18.533	65.556
165	**Ho-IS**		553744.816		ppb	0.207		567092.476
159	**Tb-IS**	>	565591.884		ppb	1.605		570672.610
207	**Pb**		2357.853	**0.048403**	ppb	3.073	3.021	617.783
203	**Tl**		845.581	**0.056083**	ppb	2.171	3.205	152.223
209	**Bi-IS**		301738.359		ppb	1.714		315687.693
51	**V**		27.778	**0.078608**	ppb	6.928	6.887	4.444
59	**Co**		56.667	**0.031057**	ppb	35.294	60.239	25.556
60	**Ni**		294.448	**0.135696**	ppb	22.764	32.196	72.222
75	**As**		331.663	**0.045243**	ppb	10.967	160.179	312.614
71	**Ga-ISK**		90534.881		ppb	0.976		91641.970
82	**Se-2**		4.205	**0.058183**	ppb	109.938	136.426	0.862
107	**Ag-1**		1315.616	**0.159086**	ppb	7.087	6.521	326.670
115	**In-ISK**	>	123510.672		ppb	2.218		126458.944
45	**Sc-ISK**		226832.734		ppb	2.076		228753.447
23	**Na**		9196.293	**-6.897308**	ppb	2.026	12.183	11522.981
39	**K**		41314.104	**5.373206**	ppb	1.166	35.325	38393.747
24	**Mg**		1048.372	**2.554646**	ppb	1.377	3.764	320.004
159	**Tb-ISK**	>	246781.198		ppb	2.055		250470.976

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Monday, January 03, 2022 16:58:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICIS-1479530.182
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56971.193		ppb	2.342		
9	**Be**		25.556		ppb	19.924		
10	**B**		1241.165		ppb	7.254		
27	**Al**		11753.168		ppb	2.258		
43	**Ca-2**		135.001		ppb	35.717		
49	**Ti**		361.116		ppb	2.323		
52	**Cr**		17683.164		ppb	2.418		
55	**Mn**		1491.189		ppb	6.457		
57	**Fe**		15837.669		ppb	3.257		
45	**Sc-IS**	>	2041027.886		ppb	5.430		
66	**Zn**		1278.946		ppb	3.843		
86	**Sr**		33.531		ppb	123.018		
65	**Cu**		302.225		ppb	11.320		
69	**Ga-IS**		739803.285		ppb	1.640		
95	**Mo**		297.781		ppb	5.634		
115	**In-IS**	>	445326.092		ppb	0.547		
111	**Cd**		36.041		ppb	0.098		
118	**Sn**		3730.487		ppb	0.967		
121	**Sb**		683.350		ppb	2.126		
135	**Ba**		72.222		ppb	16.209		
165	**Ho-IS**		556649.193		ppb	0.656		
159	**Tb-IS**	>	564024.873		ppb	0.863		
207	**Pb**		753.341		ppb	3.097		
203	**Tl**		255.558		ppb	13.576		
209	**Bi-IS**		307032.186		ppb	0.614		
51	**V**		5.556		ppb	91.652		
59	**Co**		18.889		ppb	44.411		
60	**Ni**		136.667		ppb	4.225		
75	**As**		311.688		ppb	4.874		
71	**Ga-ISK**		88894.714		ppb	2.380		
82	**Se-2**		4.560		ppb	121.482		
107	**Ag-1**		292.225		ppb	13.172		
115	**In-ISK**	>	124413.519		ppb	2.139		
45	**Sc-ISK**		218272.187		ppb	2.477		
23	**Na**		8379.125		ppb	3.435		
39	**K**		39441.040		ppb	0.799		
24	**Mg**		253.336		ppb	15.953		
159	**Tb-ISK**	>	243209.053		ppb	1.374		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Monday, January 03, 2022 17:01:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\IC-2235387.183
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58111.404		ppb	3.880		56971.193
9	**Be**		456541.428	**200.000000**	ppb	4.095	0.462	25.556
10	**B**		312395.935	**500.000000**	ppb	2.719	1.673	1241.165
27	**Al**		2662178.272	**200.000000**	ppb	1.014	3.487	11753.168
43	**Ca-2**		306766.143	**10200.000000**	ppb	1.906	2.688	135.001
49	**Ti**		193467.892	**200.000000**	ppb	3.591	1.740	361.116
52	**Cr**		2836030.601	**200.000000**	ppb	1.890	3.624	17683.164
55	**Mn**		4154123.393	**200.000000**	ppb	0.979	3.462	1491.189
57	**Fe**		4728894.172	**10200.000000**	ppb	0.998	3.472	15837.669
45	**Sc-IS**	>	2089540.311		ppb	4.376		2041027.886
66	**Zn**		470834.295	**200.000000**	ppb	1.502	2.898	1278.946
86	**Sr**		473830.871	**200.000000**	ppb	0.770	3.845	33.531
65	**Cu**		754075.052	**200.000000**	ppb	0.531	4.046	302.225
69	**Ga-IS**		839604.799		ppb	1.659		739803.285
95	**Mo**		530691.557	**200.000000**	ppb	1.134	5.019	297.781
115	**In-IS**	>	451527.948		ppb	0.581		445326.092
111	**Cd**		683694.278	**200.000000**	ppb	0.573	1.147	36.041
118	**Sn**		2007168.387	**200.000000**	ppb	4.001	4.152	3730.487
121	**Sb**		2214799.860	**200.000000**	ppb	0.775	1.029	683.350
135	**Ba**		557864.186	**200.000000**	ppb	0.719	0.508	72.222
165	**Ho-IS**		558626.424		ppb	0.686		556649.193
159	**Tb-IS**	>	564577.015		ppb	2.620		564024.873
207	**Pb**		7342782.475	**200.000000**	ppb	0.459	2.888	753.341
203	**Tl**		2527738.102	**200.000000**	ppb	0.914	2.321	255.558
209	**Bi-IS**		296050.702		ppb	0.733		307032.186
51	**V**		56504.861	**200.000000**	ppb	0.303	1.803	5.556
59	**Co**		189721.675	**200.000000**	ppb	1.497	3.482	18.889
60	**Ni**		318421.184	**200.000000**	ppb	2.624	0.759	136.667
75	**As**		114549.503	**200.000000**	ppb	2.516	0.713	311.688
71	**Ga-ISK**		86787.416		ppb	2.919		88894.714
82	**Se-2**		11250.314	**200.000000**	ppb	1.281	2.517	4.560
107	**Ag-1**		1203473.727	**200.000000**	ppb	1.660	1.482	292.225
115	**In-ISK**	>	118548.004		ppb	1.996		124413.519
45	**Sc-ISK**		223748.146		ppb	3.939		218272.187
23	**Na**		3130783.970	**10200.000000**	ppb	1.048	1.293	8379.125
39	**K**		6582785.542	**10200.000000**	ppb	0.721	0.207	39441.040
24	**Mg**		2913221.609	**10200.000000**	ppb	1.427	1.196	253.336
159	**Tb-ISK**	>	245279.790		ppb	0.516		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 17:04:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.184
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58154.921		ppb	3.988		56971.193
9	**Be**		227343.294	**98.351333**	ppb	2.643	1.034	25.556
10	**B**		158099.540	**248.752878**	ppb	3.297	1.260	1241.165
27	**Al**		1313471.112	**96.913883**	ppb	1.636	1.545	11753.168
43	**Ca-2**		154676.371	**5073.881460**	ppb	1.808	0.258	135.001
49	**Ti**		97501.656	**99.338553**	ppb	1.622	0.456	361.116
52	**Cr**		1395874.783	**96.504135**	ppb	0.388	2.025	17683.164
55	**Mn**		2119619.386	**100.697657**	ppb	1.313	3.048	1491.189
57	**Fe**		2405476.398	**5104.221352**	ppb	0.823	2.884	15837.669
45	**Sc-IS**	>	2115512.097		ppb	2.068		2041027.886
66	**Zn**		240666.230	**100.619989**	ppb	1.742	0.875	1278.946
86	**Sr**		235541.575	**98.117473**	ppb	0.999	2.672	33.531
65	**Cu**		388504.704	**101.651635**	ppb	1.326	2.804	302.225
69	**Ga-IS**		792981.084		ppb	0.944		739803.285
95	**Mo**		266214.249	**98.921832**	ppb	0.433	1.903	297.781
115	**In-IS**	>	453929.744		ppb	1.745		445326.092
111	**Cd**		343629.379	**99.990251**	ppb	1.185	1.235	36.041
118	**Sn**		990473.692	**97.978140**	ppb	2.077	1.536	3730.487
121	**Sb**		1067242.355	**95.842244**	ppb	0.796	1.354	683.350
135	**Ba**		278593.763	**99.347735**	ppb	0.938	1.071	72.222
165	**Ho-IS**		563221.164		ppb	1.715		556649.193
159	**Tb-IS**	>	569271.729		ppb	1.090		564024.873
207	**Pb**		3613603.219	**97.555990**	ppb	1.083	0.514	753.341
203	**Tl**		1217475.546	**95.488431**	ppb	2.044	1.790	255.558
209	**Bi-IS**		303803.116		ppb	0.558		307032.186
51	**V**		27657.873	**95.499158**	ppb	2.837	3.096	5.556
59	**Co**		95231.969	**97.910131**	ppb	1.516	1.755	18.889
60	**Ni**		158051.749	**96.836482**	ppb	0.652	0.827	136.667
75	**As**		56868.966	**96.627938**	ppb	1.669	1.757	311.688
71	**Ga-ISK**		87784.536		ppb	2.277		88894.714
82	**Se-2**		5639.964	**97.773083**	ppb	1.114	1.526	4.560
107	**Ag-1**		611726.748	**99.163793**	ppb	0.870	0.443	292.225
115	**In-ISK**	>	121488.191		ppb	0.439		124413.519
45	**Sc-ISK**		217819.321		ppb	1.325		218272.187
23	**Na**		1540439.705	**4918.269730**	ppb	1.334	0.847	8379.125
39	**K**		3312680.632	**5013.448134**	ppb	1.881	1.077	39441.040
24	**Mg**		1398818.300	**4813.189824**	ppb	1.342	0.519	253.336
159	**Tb-ISK**	>	249555.626		ppb	0.852		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 17:07:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.185
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56598.617		ppb	2.672		56971.193
9	**Be**		122.223	**0.043591**	ppb	21.184	23.263	25.556
10	**B**		1867.900	**1.058971**	ppb	5.979	23.224	1241.165
27	**Al**		16857.944	**0.404754**	ppb	2.068	5.869	11753.168
43	**Ca-2**		203.335	**2.365121**	ppb	23.242	63.671	135.001
49	**Ti**		402.228	**0.046798**	ppb	4.995	14.807	361.116
52	**Cr**		17967.961	**0.031760**	ppb	1.395	117.211	17683.164
55	**Mn**		2572.454	**0.054217**	ppb	5.614	6.988	1491.189
57	**Fe**		17311.607	**3.574000**	ppb	4.332	40.383	15837.669
45	**Sc-IS**	>	2025212.055		ppb	3.825		2041027.886
66	**Zn**		1513.414	**0.107583**	ppb	4.288	25.174	1278.946
86	**Sr**		107.414	**0.032054**	ppb	21.108	24.801	33.531
65	**Cu**		511.120	**0.057752**	ppb	4.439	4.333	302.225
69	**Ga-IS**		735275.086		ppb	2.581		739803.285
95	**Mo**		1827.895	**0.596784**	ppb	4.208	9.388	297.781
115	**In-IS**	>	453056.979		ppb	1.424		445326.092
111	**Cd**		181.718	**0.042267**	ppb	7.689	8.381	36.041
118	**Sn**		10319.282	**0.649217**	ppb	2.024	3.993	3730.487
121	**Sb**		1535.638	**0.075666**	ppb	2.590	4.705	683.350
135	**Ba**		210.002	**0.048809**	ppb	4.200	7.658	72.222
165	**Ho-IS**		560767.622		ppb	0.223		556649.193
159	**Tb-IS**	>	569431.584		ppb	0.317		564024.873
207	**Pb**		2384.521	**0.043842**	ppb	7.703	11.430	753.341
203	**Tl**		842.247	**0.045814**	ppb	9.714	13.812	255.558
209	**Bi-IS**		310201.778		ppb	0.571		307032.186
51	**V**		22.222	**0.057074**	ppb	31.225	42.745	5.556
59	**Co**		70.000	**0.051905**	ppb	28.966	38.441	18.889
60	**Ni**		310.003	**0.105613**	ppb	8.802	16.001	136.667
75	**As**		365.057	**0.094853**	ppb	6.389	39.752	311.688
71	**Ga-ISK**		89308.420		ppb	2.653		88894.714
82	**Se-2**		2.513	**-0.034396**	ppb	140.984	174.981	4.560
107	**Ag-1**		1430.072	**0.182231**	ppb	11.815	13.669	292.225
115	**In-ISK**	>	123225.476		ppb	0.931		124413.519
45	**Sc-ISK**		220908.598		ppb	1.770		218272.187
23	**Na**		9631.581	**3.509596**	ppb	2.700	27.844	8379.125
39	**K**		44583.918	**6.720518**	ppb	1.586	20.024	39441.040
24	**Mg**		1128.378	**3.010942**	ppb	12.419	15.490	253.336
159	**Tb-ISK**	>	248052.377		ppb	0.464		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 17:11:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.186
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58258.576		ppb	1.803		56971.193
9	**Be**		77.778	**0.022143**	ppb	10.786	17.338	25.556
10	**B**		1574.532	**0.452941**	ppb	9.215	53.235	1241.165
27	**Al**		17656.242	**0.404964**	ppb	2.392	3.550	11753.168
43	**Ca-2**		170.001	**0.979750**	ppb	20.588	120.122	135.001
49	**Ti**		320.004	**-0.056564**	ppb	15.345	80.231	361.116
52	**Cr**		17846.699	**-0.036238**	ppb	1.957	20.926	17683.164
55	**Mn**		2235.731	**0.032599**	ppb	2.685	9.181	1491.189
57	**Fe**		16518.437	**0.147519**	ppb	2.460	263.080	15837.669
45	**Sc-IS**	>	2119638.642		ppb	1.396		2041027.886
66	**Zn**		1254.500	**-0.030705**	ppb	3.114	76.791	1278.946
86	**Sr**		110.798	**0.031595**	ppb	12.315	18.451	33.531
65	**Cu**		368.894	**0.014424**	ppb	8.396	61.447	302.225
69	**Ga-IS**		745768.020		ppb	1.805		739803.285
95	**Mo**		766.687	**0.169843**	ppb	6.997	12.081	297.781
115	**In-IS**	>	451491.064		ppb	0.538		445326.092
111	**Cd**		113.946	**0.022653**	ppb	24.852	36.869	36.041
118	**Sn**		5746.713	**0.196126**	ppb	4.596	13.282	3730.487
121	**Sb**		895.584	**0.018334**	ppb	5.216	25.269	683.350
135	**Ba**		113.334	**0.014365**	ppb	16.376	44.983	72.222
165	**Ho-IS**		558968.268		ppb	1.911		556649.193
159	**Tb-IS**	>	566058.350		ppb	0.692		564024.873
207	**Pb**		1593.369	**0.022750**	ppb	8.266	16.664	753.341
203	**Tl**		534.454	**0.021943**	ppb	7.283	15.078	255.558
209	**Bi-IS**		307898.300		ppb	0.581		307032.186
51	**V**		12.222	**0.022520**	ppb	15.746	30.183	5.556
59	**Co**		42.222	**0.023403**	ppb	31.906	57.422	18.889
60	**Ni**		304.448	**0.100575**	ppb	9.182	18.237	136.667
75	**As**		332.094	**0.034202**	ppb	3.379	69.007	311.688
71	**Ga-ISK**		87858.239		ppb	0.793		88894.714
82	**Se-2**		5.190	**0.011048**	ppb	66.864	539.935	4.560
107	**Ag-1**		645.570	**0.055866**	ppb	16.462	28.390	292.225
115	**In-ISK**	>	124407.784		ppb	0.933		124413.519
45	**Sc-ISK**		222682.259		ppb	1.041		218272.187
23	**Na**		8866.084	**1.209281**	ppb	0.396	31.065	8379.125
39	**K**		41326.365	**2.077461**	ppb	1.514	9.566	39441.040
24	**Mg**		616.680	**1.255278**	ppb	8.282	16.580	253.336
159	**Tb-ISK**	>	246574.055		ppb	1.487		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205048_1-A
Autosampler Position: 314
Sample Date/Time: Monday, January 03, 2022 17:14:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\MB 570-205048_1-A.187
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		54658.820		ppb	1.156		56971.193
9	**Be**		47.778	**0.010752**	ppb	4.028	14.597	25.556
10	**B**		1307.838	**0.191304**	ppb	8.566	138.752	1241.165
27	**Al**		8522.875	**-0.225620**	ppb	1.000	12.293	11753.168
43	**Ca-2**		115.000	**-0.559538**	ppb	19.924	118.563	135.001
49	**Ti**		310.003	**-0.042115**	ppb	10.753	101.473	361.116
52	**Cr**		17062.411	**-0.001291**	ppb	2.807	1816.118	17683.164
55	**Mn**		1286.725	**-0.007903**	ppb	6.641	21.352	1491.189
57	**Fe**		15105.760	**-0.405706**	ppb	0.761	420.179	15837.669
45	**Sc-IS**	>	1972474.180		ppb	4.658		2041027.886
66	**Zn**		1405.625	**0.076466**	ppb	4.792	5.582	1278.946
86	**Sr**		30.210	**-0.000624**	ppb	92.877	2053.649	33.531
65	**Cu**		281.114	**-0.003078**	ppb	15.791	395.157	302.225
69	**Ga-IS**		703812.769		ppb	1.446		739803.285
95	**Mo**		354.449	**0.026884**	ppb	2.367	35.283	297.781
115	**In-IS**	>	435685.135		ppb	2.392		445326.092
111	**Cd**		80.367	**0.013661**	ppb	38.543	68.368	36.041
118	**Sn**		2294.629	**-0.140025**	ppb	2.433	7.825	3730.487
121	**Sb**		408.895	**-0.024255**	ppb	6.119	13.432	683.350
135	**Ba**		65.556	**-0.001769**	ppb	31.068	458.250	72.222
165	**Ho-IS**		542305.398		ppb	0.851		556649.193
159	**Tb-IS**	>	542212.860		ppb	1.442		564024.873
207	**Pb**		990.013	**0.007568**	ppb	10.801	45.003	753.341
203	**Tl**		352.227	**0.008773**	ppb	6.301	19.553	255.558
209	**Bi-IS**		308082.202		ppb	2.349		307032.186
51	**V**		16.667	**0.040391**	ppb	34.641	54.113	5.556
59	**Co**		26.667	**0.009048**	ppb	21.651	65.660	18.889
60	**Ni**		123.334	**-0.004465**	ppb	4.681	118.629	136.667
75	**As**		288.860	**-0.015526**	ppb	1.149	36.730	311.688
71	**Ga-ISK**		86811.875		ppb	0.915		88894.714
82	**Se-2**		0.885	**-0.062015**	ppb	686.208	173.430	4.560
107	**Ag-1**		303.337	**0.003914**	ppb	14.286	156.777	292.225
115	**In-ISK**	>	118869.333		ppb	2.165		124413.519
45	**Sc-ISK**		213931.826		ppb	2.735		218272.187
23	**Na**		8564.235	**1.054394**	ppb	3.340	55.799	8379.125
39	**K**		40089.507	**2.028300**	ppb	0.695	30.803	39441.040
24	**Mg**		363.338	**0.408593**	ppb	11.123	34.028	253.336
159	**Tb-ISK**	>	239403.686		ppb	1.663		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205048_2-A
Autosampler Position: 315
Sample Date/Time: Monday, January 03, 2022 17:17:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCS 570-205048_2-A.188
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		55995.083		ppb	0.483		56971.193
9	**Be**		248368.387	**110.523512**	ppb	1.119	5.441	25.556
10	**B**		61941.798	**99.005617**	ppb	1.601	4.602	1241.165
27	**Al**		1381085.180	**104.792025**	ppb	1.938	2.947	11753.168
43	**Ca-2**		164680.663	**5552.500817**	ppb	1.988	3.116	135.001
49	**Ti**		102088.013	**106.939840**	ppb	2.021	3.734	361.116
52	**Cr**		1495357.318	**106.363345**	ppb	2.627	3.846	17683.164
55	**Mn**		2218019.016	**108.250210**	ppb	2.605	2.896	1491.189
57	**Fe**		2573234.196	**5613.345959**	ppb	1.709	3.046	15837.669
45	**Sc-IS**	>	2060094.351		ppb	4.520		2041027.886
66	**Zn**		277288.675	**119.285906**	ppb	0.728	3.956	1278.946
86	**Sr**		246542.686	**105.621977**	ppb	1.505	6.129	33.531
65	**Cu**		414480.150	**111.489603**	ppb	0.183	4.625	302.225
69	**Ga-IS**		789785.764		ppb	0.429		739803.285
95	**Mo**		278789.831	**106.577294**	ppb	2.760	6.969	297.781
115	**In-IS**	>	456807.307		ppb	0.641		445326.092
111	**Cd**		389113.972	**112.502426**	ppb	0.539	0.258	36.041
118	**Sn**		1049688.745	**103.202552**	ppb	0.567	1.125	3730.487
121	**Sb**		1149475.592	**102.571413**	ppb	1.683	1.953	683.350
135	**Ba**		299875.854	**106.254458**	ppb	0.445	0.246	72.222
165	**Ho-IS**		555038.228		ppb	1.404		556649.193
159	**Tb-IS**	>	559814.073		ppb	0.925		564024.873
207	**Pb**		4006631.268	**110.002714**	ppb	0.460	1.149	753.341
203	**Tl**		1270628.885	**101.359277**	ppb	1.898	2.825	255.558
209	**Bi-IS**		309043.689		ppb	0.241		307032.186
51	**V**		30038.239	**104.346791**	ppb	3.487	2.602	5.556
59	**Co**		101191.755	**104.672693**	ppb	2.787	1.775	18.889
60	**Ni**		172543.525	**106.391323**	ppb	0.342	1.321	136.667
75	**As**		63168.439	**108.062319**	ppb	2.000	1.825	311.688
71	**Ga-ISK**		87989.057		ppb	1.239		88894.714
82	**Se-2**		6362.943	**111.003913**	ppb	1.269	1.194	4.560
107	**Ag-1**		334565.014	**54.553794**	ppb	1.342	1.102	292.225
115	**In-ISK**	>	120734.535		ppb	1.028		124413.519
45	**Sc-ISK**		222796.551		ppb	1.951		218272.187
23	**Na**		304497.835	**966.044362**	ppb	1.039	1.089	8379.125
39	**K**		659940.102	**965.556377**	ppb	2.139	0.689	39441.040
24	**Mg**		1520815.139	**5317.043143**	ppb	3.861	2.249	253.336
159	**Tb-ISK**	>	245562.251		ppb	1.652		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205048_3-A
Autosampler Position: 316
Sample Date/Time: Monday, January 03, 2022 17:20:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCSD 570-205048_3-A.189
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56505.993		ppb	1.520		56971.193
9	**Be**		248325.325	**111.921737**	ppb	0.730	3.643	25.556
10	**B**		63753.110	**103.302431**	ppb	2.513	3.427	1241.165
27	**Al**		1394121.147	**107.209810**	ppb	1.558	2.578	11753.168
43	**Ca-2**		164465.095	**5617.618585**	ppb	2.761	2.245	135.001
49	**Ti**		102947.617	**109.219023**	ppb	3.091	0.868	361.116
52	**Cr**		1508237.471	**108.669045**	ppb	3.498	0.948	17683.164
55	**Mn**		2237905.318	**110.642887**	ppb	3.028	1.054	1491.189
57	**Fe**		2648798.319	**5852.671075**	ppb	3.857	0.537	15837.669
45	**Sc-IS**	>	2032623.814		ppb	3.921		2041027.886
66	**Zn**		277243.728	**120.789373**	ppb	2.994	2.361	1278.946
86	**Sr**		240976.025	**104.507943**	ppb	1.409	2.553	33.531
65	**Cu**		419851.329	**114.382641**	ppb	1.631	2.864	302.225
69	**Ga-IS**		785936.842		ppb	2.167		739803.285
95	**Mo**		280768.462	**108.641346**	ppb	1.941	2.992	297.781
115	**In-IS**	>	450853.163		ppb	1.525		445326.092
111	**Cd**		387647.574	**113.567928**	ppb	0.779	0.955	36.041
118	**Sn**		1065140.807	**106.118010**	ppb	0.866	0.727	3730.487
121	**Sb**		1156432.370	**104.562084**	ppb	0.561	1.032	683.350
135	**Ba**		304295.727	**109.260934**	ppb	0.801	1.712	72.222
165	**Ho-IS**		558672.896		ppb	0.923		556649.193
159	**Tb-IS**	>	564869.296		ppb	0.677		564024.873
207	**Pb**		4035517.412	**109.801696**	ppb	1.090	1.420	753.341
203	**Tl**		1267661.612	**100.210603**	ppb	1.791	2.439	255.558
209	**Bi-IS**		306726.498		ppb	2.006		307032.186
51	**V**		29738.732	**103.056406**	ppb	3.963	3.952	5.556
59	**Co**		99079.304	**102.236221**	ppb	3.255	3.215	18.889
60	**Ni**		173992.117	**107.000614**	ppb	1.054	0.972	136.667
75	**As**		63490.570	**108.336950**	ppb	1.816	1.903	311.688
71	**Ga-ISK**		87353.016		ppb	2.309		88894.714
82	**Se-2**		6675.093	**116.152608**	ppb	1.322	1.369	4.560
107	**Ag-1**		336970.459	**54.804671**	ppb	2.386	2.352	292.225
115	**In-ISK**	>	121043.938		ppb	0.086		124413.519
45	**Sc-ISK**		219759.641		ppb	0.423		218272.187
23	**Na**		305323.468	**975.216434**	ppb	2.962	2.889	8379.125
39	**K**		670813.390	**989.419481**	ppb	1.996	1.830	39441.040
24	**Mg**		1520398.642	**5351.886564**	ppb	2.169	1.915	253.336
159	**Tb-ISK**	>	243947.239		ppb	0.310		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78777-B-2-A
Autosampler Position: 317
Sample Date/Time: Monday, January 03, 2022 17:23:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78777-B-2-A.190
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58343.344		ppb	0.737		56971.193
9	**Be**		108.889	**0.035539**	ppb	15.101	19.693	25.556
10	**B**		9448.681	**12.914791**	ppb	3.018	2.190	1241.165
27	**Al**		300204.760	**21.399202**	ppb	1.123	0.960	11753.168
43	**Ca-2**		106119.672	**3471.270476**	ppb	3.483	2.458	135.001
49	**Ti**		1163.381	**0.804913**	ppb	4.786	8.683	361.116
52	**Cr**		27173.601	**0.615255**	ppb	1.431	1.562	17683.164
55	**Mn**		167643.632	**7.875912**	ppb	1.581	0.935	1491.189
57	**Fe**		36045.435	**41.746578**	ppb	2.419	2.646	15837.669
45	**Sc-IS**	>	2120202.573		ppb	1.276		2041027.886
66	**Zn**		83751.514	**34.574679**	ppb	1.981	2.172	1278.946
86	**Sr**		45025.262	**18.695017**	ppb	2.403	1.597	33.531
65	**Cu**		18645.499	**4.787591**	ppb	2.602	1.625	302.225
69	**Ga-IS**		733196.333		ppb	3.199		739803.285
95	**Mo**		3055.883	**1.019056**	ppb	4.546	4.155	297.781
115	**In-IS**	>	456449.628		ppb	1.878		445326.092
111	**Cd**		232.474	**0.056658**	ppb	7.257	10.818	36.041
118	**Sn**		12705.648	**0.877235**	ppb	1.103	1.464	3730.487
121	**Sb**		8680.414	**0.713293**	ppb	1.049	2.930	683.350
135	**Ba**		15922.204	**5.621362**	ppb	2.064	1.274	72.222
165	**Ho-IS**		559541.136		ppb	0.616		556649.193
159	**Tb-IS**	>	568129.499		ppb	1.527		564024.873
207	**Pb**		17394.152	**0.450190**	ppb	2.400	3.196	753.341
203	**Tl**		813.357	**0.043741**	ppb	9.017	14.596	255.558
209	**Bi-IS**		309457.057		ppb	0.778		307032.186
51	**V**		303.337	**1.037330**	ppb	10.483	11.624	5.556
59	**Co**		161.112	**0.147801**	ppb	8.614	8.002	18.889
60	**Ni**		1175.604	**0.644736**	ppb	5.501	7.561	136.667
75	**As**		595.748	**0.505342**	ppb	2.150	4.884	311.688
71	**Ga-ISK**		87865.025		ppb	2.234		88894.714
82	**Se-2**		6.846	**0.042438**	ppb	91.121	258.508	4.560
107	**Ag-1**		826.691	**0.088745**	ppb	4.754	5.419	292.225
115	**In-ISK**	>	120603.484		ppb	1.484		124413.519
45	**Sc-ISK**		217842.686		ppb	3.009		218272.187
23	**Na**		456488.172	**1480.900343**	ppb	2.479	2.937	8379.125
39	**K**		1201374.153	**1832.527280**	ppb	2.686	3.055	39441.040
24	**Mg**		131191.312	**463.780553**	ppb	0.440	0.271	253.336
159	**Tb-ISK**	>	242488.076		ppb	0.588		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78777-B-2-B MS
Autosampler Position: 318
Sample Date/Time: Monday, January 03, 2022 17:27:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78777-B-2-B MS.191
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58289.931		ppb	4.251		56971.193
9	**Be**		232823.474	**105.127966**	ppb	3.569	1.723	25.556
10	**B**		65143.947	**105.792063**	ppb	4.493	0.364	1241.165
27	**Al**		1531031.496	**118.147450**	ppb	1.615	3.105	11753.168
43	**Ca-2**		245308.496	**8400.192357**	ppb	3.749	1.022	135.001
49	**Ti**		94561.953	**100.626317**	ppb	0.889	3.709	361.116
52	**Cr**		1363212.007	**98.448892**	ppb	0.445	4.175	17683.164
55	**Mn**		2167606.988	**107.495174**	ppb	2.137	3.309	1491.189
57	**Fe**		2292256.271	**5078.152483**	ppb	1.932	4.179	15837.669
45	**Sc-IS**	>	2027733.066		ppb	4.598		2041027.886
66	**Zn**		330493.824	**144.563116**	ppb	0.853	3.975	1278.946
86	**Sr**		264807.290	**115.139410**	ppb	2.000	2.737	33.531
65	**Cu**		392350.583	**107.204174**	ppb	0.656	4.152	302.225
69	**Ga-IS**		780500.735		ppb	0.776		739803.285
95	**Mo**		249329.730	**96.789506**	ppb	1.962	5.627	297.781
115	**In-IS**	>	448886.550		ppb	1.214		445326.092
111	**Cd**		352926.179	**103.836091**	ppb	1.650	0.703	36.041
118	**Sn**		916904.164	**91.694299**	ppb	1.302	0.959	3730.487
121	**Sb**		1039367.435	**94.375515**	ppb	2.003	1.788	683.350
135	**Ba**		289158.933	**104.263492**	ppb	1.911	1.455	72.222
165	**Ho-IS**		558644.252		ppb	2.455		556649.193
159	**Tb-IS**	>	568447.475		ppb	2.022		564024.873
207	**Pb**		3535729.332	**95.612707**	ppb	0.366	1.713	753.341
203	**Tl**		1164282.015	**91.428906**	ppb	3.549	1.551	255.558
209	**Bi-IS**		302645.689		ppb	0.860		307032.186
51	**V**		27178.054	**94.259537**	ppb	1.443	1.808	5.556
59	**Co**		89307.195	**92.242861**	ppb	1.140	2.703	18.889
60	**Ni**		157549.713	**96.952668**	ppb	1.646	0.955	136.667
75	**As**		58260.736	**99.442323**	ppb	2.160	1.690	311.688
71	**Ga-ISK**		87868.451		ppb	2.996		88894.714
82	**Se-2**		6023.462	**104.890086**	ppb	1.535	1.663	4.560
107	**Ag-1**		308313.012	**50.182602**	ppb	1.411	1.903	292.225
115	**In-ISK**	>	120975.437		ppb	2.594		124413.519
45	**Sc-ISK**		221993.891		ppb	1.042		218272.187
23	**Na**		732194.127	**2382.418156**	ppb	1.899	1.497	8379.125
39	**K**		1750076.787	**2686.957973**	ppb	1.573	1.080	39441.040
24	**Mg**		1465519.117	**5170.109284**	ppb	2.737	2.817	253.336
159	**Tb-ISK**	>	243428.640		ppb	1.052		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78777-B-2-C MSD
Autosampler Position: 319
Sample Date/Time: Monday, January 03, 2022 17:30:12
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78777-B-2-C MSD.192
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56818.368		ppb	2.472		56971.193
9	**Be**		232002.239	**104.389522**	ppb	1.289	5.967	25.556
10	**B**		66075.861	**106.956432**	ppb	2.627	5.768	1241.165
27	**Al**		1558951.530	**119.909914**	ppb	1.624	7.686	11753.168
43	**Ca-2**		253354.470	**8639.927105**	ppb	2.555	4.226	135.001
49	**Ti**		93583.366	**99.210317**	ppb	1.786	7.411	361.116
52	**Cr**		1378959.190	**99.204218**	ppb	1.775	7.277	17683.164
55	**Mn**		2189146.308	**108.155819**	ppb	2.028	6.854	1491.189
57	**Fe**		2303853.594	**5080.618359**	ppb	1.896	5.420	15837.669
45	**Sc-IS**	>	2039292.139		ppb	6.487		2041027.886
66	**Zn**		335838.021	**146.234900**	ppb	1.748	5.453	1278.946
86	**Sr**		265828.844	**115.210253**	ppb	0.949	7.557	33.531
65	**Cu**		397844.378	**108.186181**	ppb	2.232	5.195	302.225
69	**Ga-IS**		779782.293		ppb	2.610		739803.285
95	**Mo**		252340.467	**97.502978**	ppb	1.225	6.249	297.781
115	**In-IS**	>	447888.067		ppb	3.139		445326.092
111	**Cd**		354667.646	**104.633746**	ppb	1.248	2.460	36.041
118	**Sn**		963869.654	**96.679721**	ppb	1.017	2.928	3730.487
121	**Sb**		1059843.150	**96.500531**	ppb	0.835	2.662	683.350
135	**Ba**		287392.044	**103.922248**	ppb	0.435	3.015	72.222
165	**Ho-IS**		543856.755		ppb	2.276		556649.193
159	**Tb-IS**	>	551033.344		ppb	3.733		564024.873
207	**Pb**		3604943.907	**100.671516**	ppb	1.284	5.124	753.341
203	**Tl**		1167710.497	**94.737818**	ppb	1.903	5.346	255.558
209	**Bi-IS**		299743.988		ppb	2.103		307032.186
51	**V**		28281.300	**97.882412**	ppb	0.151	1.746	5.556
59	**Co**		93958.016	**96.814117**	ppb	1.487	0.517	18.889
60	**Ni**		159513.487	**97.976391**	ppb	1.267	2.721	136.667
75	**As**		59041.073	**100.562533**	ppb	2.157	1.561	311.688
71	**Ga-ISK**		88369.159		ppb	0.938		88894.714
82	**Se-2**		6204.197	**107.826663**	ppb	2.767	3.669	4.560
107	**Ag-1**		307586.154	**49.960025**	ppb	0.681	2.008	292.225
115	**In-ISK**	>	121221.167		ppb	1.811		124413.519
45	**Sc-ISK**		221386.878		ppb	1.332		218272.187
23	**Na**		726774.790	**2368.953286**	ppb	1.618	2.979	8379.125
39	**K**		1754571.827	**2698.905918**	ppb	1.960	2.940	39441.040
24	**Mg**		1462037.272	**5166.614617**	ppb	1.518	2.552	253.336
159	**Tb-ISK**	>	243049.005		ppb	1.306		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78781-C-1-A
Autosampler Position: 320
Sample Date/Time: Monday, January 03, 2022 17:33:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78781-C-1-A.193
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		57493.356		ppb	3.931		56971.193
9	**Be**		122.223	**0.041180**	ppb	4.166	3.475	25.556
10	**B**		11293.358	**15.793651**	ppb	4.816	3.962	1241.165
27	**Al**		575506.580	**41.764705**	ppb	2.096	1.992	11753.168
43	**Ca-2**		117620.743	**3840.065046**	ppb	2.390	1.153	135.001
49	**Ti**		2106.822	**1.761861**	ppb	4.456	3.602	361.116
52	**Cr**		28173.331	**0.680540**	ppb	3.463	5.703	17683.164
55	**Mn**		161160.810	**7.552727**	ppb	1.805	1.742	1491.189
57	**Fe**		42917.730	**56.196277**	ppb	2.449	2.337	15837.669
45	**Sc-IS**	>	2124740.877		ppb	1.530		2041027.886
66	**Zn**		143016.018	**59.296019**	ppb	2.824	1.593	1278.946
86	**Sr**		49945.486	**20.703495**	ppb	1.975	3.467	33.531
65	**Cu**		20109.700	**5.159760**	ppb	0.552	1.037	302.225
69	**Ga-IS**		733198.325		ppb	1.518		739803.285
95	**Mo**		3362.618	**1.130782**	ppb	1.488	3.283	297.781
115	**In-IS**	>	450842.661		ppb	0.348		445326.092
111	**Cd**		237.385	**0.058876**	ppb	14.073	16.908	36.041
118	**Sn**		16076.822	**1.229750**	ppb	2.110	2.768	3730.487
121	**Sb**		8703.765	**0.724766**	ppb	4.139	4.303	683.350
135	**Ba**		16793.200	**6.004047**	ppb	1.658	1.367	72.222
165	**Ho-IS**		563946.842		ppb	1.753		556649.193
159	**Tb-IS**	>	569171.346		ppb	1.193		564024.873
207	**Pb**		13244.603	**0.337106**	ppb	3.622	2.721	753.341
203	**Tl**		797.800	**0.042382**	ppb	2.782	5.900	255.558
209	**Bi-IS**		307540.672		ppb	0.339		307032.186
51	**V**		254.447	**0.863602**	ppb	7.215	5.853	5.556
59	**Co**		294.448	**0.285644**	ppb	11.452	13.975	18.889
60	**Ni**		1658.985	**0.940490**	ppb	2.544	3.759	136.667
75	**As**		564.696	**0.449851**	ppb	3.586	11.692	311.688
71	**Ga-ISK**		88776.111		ppb	0.823		88894.714
82	**Se-2**		12.158	**0.135069**	ppb	87.447	139.227	4.560
107	**Ag-1**		1091.153	**0.131305**	ppb	10.235	10.885	292.225
115	**In-ISK**	>	120931.098		ppb	2.206		124413.519
45	**Sc-ISK**		220087.312		ppb	2.089		218272.187
23	**Na**		715753.600	**2317.634466**	ppb	1.038	2.614	8379.125
39	**K**		1113396.132	**1679.195375**	ppb	1.162	3.456	39441.040
24	**Mg**		161971.376	**568.049543**	ppb	0.227	2.997	253.336
159	**Tb-ISK**	>	244648.812		ppb	2.809		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78769-E-1-A
Autosampler Position: 321
Sample Date/Time: Monday, January 03, 2022 17:36:32
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78769-E-1-A.194
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		57541.211		ppb	0.713		56971.193
9	**Be**		81.111	**0.024038**	ppb	24.080	31.328	25.556
10	**B**		8549.226	**11.727981**	ppb	3.684	4.085	1241.165
27	**Al**		1120940.493	**83.862671**	ppb	1.553	3.797	11753.168
43	**Ca-2**		30272.090	**1003.581176**	ppb	4.820	0.516	135.001
49	**Ti**		7376.378	**7.307003**	ppb	15.283	19.620	361.116
52	**Cr**		26956.530	**0.632793**	ppb	2.423	6.190	17683.164
55	**Mn**		148456.832	**7.087428**	ppb	3.297	2.345	1491.189
57	**Fe**		87021.088	**153.620356**	ppb	3.228	4.340	15837.669
45	**Sc-IS**	>	2085226.096		ppb	4.329		2041027.886
66	**Zn**		246500.265	**104.649927**	ppb	2.188	2.919	1278.946
86	**Sr**		16010.380	**6.753499**	ppb	3.367	2.549	33.531
65	**Cu**		38403.834	**10.119077**	ppb	4.223	2.245	302.225
69	**Ga-IS**		762210.383		ppb	2.397		739803.285
95	**Mo**		1819.005	**0.571917**	ppb	3.101	2.984	297.781
115	**In-IS**	>	454987.134		ppb	2.306		445326.092
111	**Cd**		245.071	**0.060399**	ppb	9.832	9.535	36.041
118	**Sn**		12375.362	**0.848632**	ppb	3.393	4.925	3730.487
121	**Sb**		10527.212	**0.881405**	ppb	2.277	3.419	683.350
135	**Ba**		98445.867	**35.011621**	ppb	1.466	1.877	72.222
165	**Ho-IS**		560174.078		ppb	1.880		556649.193
159	**Tb-IS**	>	565704.157		ppb	1.118		564024.873
207	**Pb**		27453.634	**0.725412**	ppb	3.513	3.119	753.341
203	**Tl**		430.006	**0.013713**	ppb	2.795	7.140	255.558
209	**Bi-IS**		305254.796		ppb	2.472		307032.186
51	**V**		136.667	**0.445953**	ppb	32.995	34.889	5.556
59	**Co**		167.779	**0.150683**	ppb	3.035	4.195	18.889
60	**Ni**		3185.911	**1.838964**	ppb	2.656	2.983	136.667
75	**As**		417.920	**0.181390**	ppb	17.515	64.626	311.688
71	**Ga-ISK**		90039.542		ppb	0.960		88894.714
82	**Se-2**		9.179	**0.080564**	ppb	155.432	302.183	4.560
107	**Ag-1**		491.120	**0.032028**	ppb	16.095	39.384	292.225
115	**In-ISK**	>	123569.273		ppb	0.791		124413.519
45	**Sc-ISK**		226804.061		ppb	0.714		218272.187
23	**Na**		292317.128	**929.953275**	ppb	0.352	1.888	8379.125
39	**K**		274980.219	**367.819216**	ppb	0.609	1.308	39441.040
24	**Mg**		50209.765	**175.376465**	ppb	1.716	0.850	253.336
159	**Tb-ISK**	>	244652.194		ppb	1.712		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78761-E-1-A
Autosampler Position: 322
Sample Date/Time: Monday, January 03, 2022 17:39:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78761-E-1-A.195
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60673.039		ppb	1.706		56971.193
9	**Be**		44.445	**0.007305**	ppb	58.256	148.078	25.556
10	**B**		45331.836	**68.221865**	ppb	2.325	1.855	1241.165
27	**Al**		1461355.799	**105.417704**	ppb	0.650	1.545	11753.168
43	**Ca-2**		174049.393	**5577.273337**	ppb	2.818	1.519	135.001
49	**Ti**		5372.133	**4.979053**	ppb	13.134	12.843	361.116
52	**Cr**		37732.002	**1.297894**	ppb	2.162	2.407	17683.164
55	**Mn**		353945.570	**16.359025**	ppb	2.045	1.289	1491.189
57	**Fe**		91267.317	**155.368438**	ppb	1.419	1.273	15837.669
45	**Sc-IS**	>	2165433.442		ppb	1.312		2041027.886
66	**Zn**		355436.514	**145.431421**	ppb	0.895	1.531	1278.946
86	**Sr**		405402.712	**164.931392**	ppb	2.171	1.569	33.531
65	**Cu**		50627.336	**12.865586**	ppb	1.106	0.763	302.225
69	**Ga-IS**		829692.522		ppb	2.112		739803.285
95	**Mo**		4215.067	**1.417367**	ppb	3.351	5.055	297.781
115	**In-IS**	>	452097.632		ppb	1.471		445326.092
111	**Cd**		295.596	**0.075712**	ppb	5.687	7.549	36.041
118	**Sn**		7684.289	**0.388693**	ppb	1.300	4.640	3730.487
121	**Sb**		9597.668	**0.803355**	ppb	1.235	1.801	683.350
135	**Ba**		375655.471	**134.501220**	ppb	1.220	0.344	72.222
165	**Ho-IS**		551533.730		ppb	1.190		556649.193
159	**Tb-IS**	>	556111.943		ppb	1.299		564024.873
207	**Pb**		64983.114	**1.775688**	ppb	1.900	1.399	753.341
203	**Tl**		364.449	**0.009014**	ppb	19.062	59.694	255.558
209	**Bi-IS**		306287.730		ppb	1.064		307032.186
51	**V**		391.117	**1.335995**	ppb	12.419	11.958	5.556
59	**Co**		336.671	**0.328756**	ppb	11.673	13.679	18.889
60	**Ni**		4508.491	**2.694307**	ppb	6.122	7.935	136.667
75	**As**		622.557	**0.546982**	ppb	5.746	9.974	311.688
71	**Ga-ISK**		87454.653		ppb	0.241		88894.714
82	**Se-2**		28.198	**0.412296**	ppb	36.970	42.266	4.560
107	**Ag-1**		306.670	**0.003651**	ppb	4.981	83.433	292.225
115	**In-ISK**	>	121079.750		ppb	1.614		124413.519
45	**Sc-ISK**		221546.965		ppb	0.694		218272.187
23	**Na**		1485012.936	**4842.589433**	ppb	2.629	1.557	8379.125
39	**K**		1202586.920	**1820.243083**	ppb	2.552	2.049	39441.040
24	**Mg**		189239.394	**664.451502**	ppb	3.320	3.249	253.336
159	**Tb-ISK**	>	244295.337		ppb	1.323		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 17:42:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.196
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58722.687		ppb	1.583		56971.193
9	**Be**		228935.852	**96.672608**	ppb	1.988	1.017	25.556
10	**B**		159526.746	**244.995451**	ppb	5.990	5.853	1241.165
27	**Al**		1317636.394	**94.868622**	ppb	1.897	1.811	11753.168
43	**Ca-2**		156193.252	**5000.091403**	ppb	3.508	2.507	135.001
49	**Ti**		97501.657	**96.947267**	ppb	1.629	0.953	361.116
52	**Cr**		1405162.483	**94.770951**	ppb	1.793	0.672	17683.164
55	**Mn**		2178066.081	**100.953689**	ppb	2.105	0.935	1491.189
57	**Fe**		2400716.453	**4968.690228**	ppb	2.938	1.632	15837.669
45	**Sc-IS**	>	2167536.995		ppb	2.069		2041027.886
66	**Zn**		243108.903	**99.217499**	ppb	0.268	2.223	1278.946
86	**Sr**		233920.235	**95.072285**	ppb	2.641	1.878	33.531
65	**Cu**		385519.793	**98.424538**	ppb	1.212	0.895	302.225
69	**Ga-IS**		796952.268		ppb	1.864		739803.285
95	**Mo**		260160.222	**94.327550**	ppb	1.728	0.600	297.781
115	**In-IS**	>	445153.265		ppb	1.564		445326.092
111	**Cd**		338391.216	**100.387982**	ppb	2.576	1.269	36.041
118	**Sn**		991729.961	**100.047064**	ppb	1.294	1.047	3730.487
121	**Sb**		1073061.713	**98.248179**	ppb	1.974	0.412	683.350
135	**Ba**		276550.065	**100.541844**	ppb	2.576	1.017	72.222
165	**Ho-IS**		562978.231		ppb	2.980		556649.193
159	**Tb-IS**	>	563661.375		ppb	2.132		564024.873
207	**Pb**		3646643.516	**99.458487**	ppb	0.898	2.370	753.341
203	**Tl**		1209821.347	**95.867895**	ppb	0.988	2.762	255.558
209	**Bi-IS**		302343.693		ppb	0.185		307032.186
51	**V**		26924.239	**93.701460**	ppb	0.984	0.134	5.556
59	**Co**		93407.735	**96.797156**	ppb	1.043	0.499	18.889
60	**Ni**		160219.092	**98.954472**	ppb	1.240	1.679	136.667
75	**As**		57105.782	**97.818982**	ppb	1.234	1.948	311.688
71	**Ga-ISK**		88137.854		ppb	2.724		88894.714
82	**Se-2**		5813.721	**101.598137**	ppb	0.495	1.573	4.560
107	**Ag-1**		602047.847	**98.382734**	ppb	0.448	1.428	292.225
115	**In-ISK**	>	120528.300		ppb	1.082		124413.519
45	**Sc-ISK**		221120.567		ppb	1.292		218272.187
23	**Na**		1555714.844	**5011.502031**	ppb	1.970	1.348	8379.125
39	**K**		3312195.183	**5058.279225**	ppb	0.248	0.785	39441.040
24	**Mg**		1409405.012	**4893.517134**	ppb	1.464	2.373	253.336
159	**Tb-ISK**	>	247360.639		ppb	0.975		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 17:46:04
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.197
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59093.299		ppb	5.209		56971.193
9	**Be**		76.667	**0.021405**	ppb	31.353	41.213	25.556
10	**B**		1726.771	**0.700689**	ppb	4.054	6.401	1241.165
27	**Al**		17038.161	**0.362940**	ppb	3.201	7.762	11753.168
43	**Ca-2**		213.335	**2.395533**	ppb	16.955	38.769	135.001
49	**Ti**		346.671	**-0.026762**	ppb	12.611	204.114	361.116
52	**Cr**		18204.928	**-0.006388**	ppb	1.786	891.875	17683.164
55	**Mn**		2227.952	**0.032425**	ppb	6.746	8.853	1491.189
57	**Fe**		17074.642	**1.483663**	ppb	0.407	126.126	15837.669
45	**Sc-IS**	>	2114979.299		ppb	5.378		2041027.886
66	**Zn**		1450.074	**0.052974**	ppb	3.650	33.936	1278.946
86	**Sr**		136.291	**0.041966**	ppb	44.886	55.729	33.531
65	**Cu**		451.118	**0.036064**	ppb	6.705	5.658	302.225
69	**Ga-IS**		745717.063		ppb	1.915		739803.285
95	**Mo**		1791.224	**0.553546**	ppb	4.002	10.651	297.781
115	**In-IS**	>	453180.381		ppb	0.573		445326.092
111	**Cd**		109.572	**0.021240**	ppb	13.806	20.502	36.041
118	**Sn**		10374.881	**0.654405**	ppb	3.907	6.567	3730.487
121	**Sb**		1646.762	**0.085594**	ppb	5.252	8.082	683.350
135	**Ba**		191.112	**0.042017**	ppb	35.072	57.115	72.222
165	**Ho-IS**		560085.233		ppb	1.437		556649.193
159	**Tb-IS**	>	566404.847		ppb	0.484		564024.873
207	**Pb**		1633.370	**0.023790**	ppb	5.442	9.231	753.341
203	**Tl**		452.230	**0.015405**	ppb	16.054	36.005	255.558
209	**Bi-IS**		309425.641		ppb	1.514		307032.186
51	**V**		13.333	**0.027276**	ppb	25.000	38.562	5.556
59	**Co**		51.111	**0.033922**	ppb	29.408	48.218	18.889
60	**Ni**		263.336	**0.080062**	ppb	12.658	25.892	136.667
75	**As**		342.801	**0.066746**	ppb	7.552	51.575	311.688
71	**Ga-ISK**		89021.058		ppb	2.434		88894.714
82	**Se-2**		1.849	**-0.046533**	ppb	482.296	332.291	4.560
107	**Ag-1**		1263.389	**0.159079**	ppb	6.901	7.874	292.225
115	**In-ISK**	>	121194.467		ppb	2.352		124413.519
45	**Sc-ISK**		218187.780		ppb	2.827		218272.187
23	**Na**		9323.043	**3.487223**	ppb	2.563	33.566	8379.125
39	**K**		41872.404	**4.618388**	ppb	2.055	35.055	39441.040
24	**Mg**		748.353	**1.779071**	ppb	6.172	8.086	253.336
159	**Tb-ISK**	>	240335.067		ppb	1.504		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 17:49:15
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.198
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59480.260		ppb	1.720		56971.193
9	**Be**		45.556	**0.007884**	ppb	8.449	22.880	25.556
10	**B**		1483.410	**0.266541**	ppb	4.101	16.698	1241.165
27	**Al**		17688.612	**0.385443**	ppb	1.301	12.741	11753.168
43	**Ca-2**		163.334	**0.660746**	ppb	12.745	92.996	135.001
49	**Ti**		354.449	**-0.027000**	ppb	2.367	64.430	361.116
52	**Cr**		18280.584	**-0.027752**	ppb	2.837	139.278	17683.164
55	**Mn**		1787.890	**0.009925**	ppb	2.177	34.633	1491.189
57	**Fe**		16303.746	**-0.909228**	ppb	2.234	20.465	15837.669
45	**Sc-IS**	>	2157189.304		ppb	2.617		2041027.886
66	**Zn**		1340.063	**-0.004529**	ppb	1.084	378.216	1278.946
86	**Sr**		79.100	**0.017751**	ppb	22.349	36.688	33.531
65	**Cu**		334.448	**0.003790**	ppb	7.481	112.631	302.225
69	**Ga-IS**		746091.810		ppb	1.455		739803.285
95	**Mo**		758.909	**0.162326**	ppb	4.081	11.244	297.781
115	**In-IS**	>	462975.417		ppb	2.072		445326.092
111	**Cd**		55.073	**0.005004**	ppb	20.897	62.181	36.041
118	**Sn**		6555.949	**0.261086**	ppb	2.723	11.496	3730.487
121	**Sb**		1070.040	**0.031671**	ppb	3.115	4.906	683.350
135	**Ba**		105.556	**0.010756**	ppb	17.392	67.588	72.222
165	**Ho-IS**		577181.029		ppb	1.686		556649.193
159	**Tb-IS**	>	577983.908		ppb	1.298		564024.873
207	**Pb**		958.901	**0.004967**	ppb	3.813	13.996	753.341
203	**Tl**		291.114	**0.002262**	ppb	4.628	49.645	255.558
209	**Bi-IS**		312414.363		ppb	1.871		307032.186
51	**V**		5.556	**0.000157**	ppb	34.641	4111.787	5.556
59	**Co**		32.222	**0.013806**	ppb	47.781	115.617	18.889
60	**Ni**		300.003	**0.099702**	ppb	9.687	18.591	136.667
75	**As**		325.059	**0.027938**	ppb	3.837	87.551	311.688
71	**Ga-ISK**		88573.756		ppb	1.027		88894.714
82	**Se-2**		6.552	**0.035557**	ppb	98.943	313.267	4.560
107	**Ag-1**		450.007	**0.025819**	ppb	23.704	68.240	292.225
115	**In-ISK**	>	123160.506		ppb	1.202		124413.519
45	**Sc-ISK**		220497.769		ppb	1.463		218272.187
23	**Na**		8682.639	**0.660558**	ppb	2.799	83.510	8379.125
39	**K**		41217.157	**2.037716**	ppb	1.159	62.359	39441.040
24	**Mg**		456.674	**0.700407**	ppb	14.581	35.125	253.336
159	**Tb-ISK**	>	246102.498		ppb	0.891		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78765-E-1-A
Autosampler Position: 323
Sample Date/Time: Monday, January 03, 2022 17:52:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78765-E-1-A.199
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59494.752		ppb	1.196		56971.193
9	**Be**		48.889	**0.009386**	ppb	32.222	69.900	25.556
10	**B**		41072.302	**62.286172**	ppb	1.670	0.680	1241.165
27	**Al**		2433033.220	**177.962309**	ppb	1.164	1.451	11753.168
43	**Ca-2**		214718.302	**6955.177933**	ppb	0.560	1.002	135.001
49	**Ti**		7119.564	**6.812812**	ppb	10.269	12.324	361.116
52	**Cr**		36574.552	**1.244988**	ppb	2.170	3.074	17683.164
55	**Mn**		423468.271	**19.796201**	ppb	2.468	2.966	1491.189
57	**Fe**		121736.526	**221.637626**	ppb	1.008	2.366	15837.669
45	**Sc-IS**	>	2143028.363		ppb	1.539		2041027.886
66	**Zn**		877833.696	**363.738263**	ppb	2.361	2.045	1278.946
86	**Sr**		177671.638	**73.039391**	ppb	3.004	3.114	33.531
65	**Cu**		51745.786	**13.289999**	ppb	1.607	1.160	302.225
69	**Ga-IS**		798961.883		ppb	1.264		739803.285
95	**Mo**		4642.978	**1.589626**	ppb	4.712	4.236	297.781
115	**In-IS**	>	450465.764		ppb	0.829		445326.092
111	**Cd**		519.148	**0.141605**	ppb	7.457	8.890	36.041
118	**Sn**		7255.176	**0.348432**	ppb	2.963	6.689	3730.487
121	**Sb**		17793.297	**1.548404**	ppb	1.116	0.309	683.350
135	**Ba**		276856.717	**99.487452**	ppb	2.195	2.714	72.222
165	**Ho-IS**		555132.528		ppb	1.193		556649.193
159	**Tb-IS**	>	566908.483		ppb	1.230		564024.873
207	**Pb**		118912.382	**3.203895**	ppb	1.371	1.263	753.341
203	**Tl**		366.671	**0.008653**	ppb	3.636	12.817	255.558
209	**Bi-IS**		304310.505		ppb	0.870		307032.186
51	**V**		547.788	**1.883927**	ppb	3.352	2.399	5.556
59	**Co**		376.672	**0.370506**	ppb	6.912	6.159	18.889
60	**Ni**		3986.112	**2.377494**	ppb	2.539	3.555	136.667
75	**As**		732.359	**0.738621**	ppb	2.130	3.773	311.688
71	**Ga-ISK**		87933.291		ppb	2.977		88894.714
82	**Se-2**		24.510	**0.349633**	ppb	45.056	54.127	4.560
107	**Ag-1**		235.558	**-0.007823**	ppb	9.207	49.975	292.225
115	**In-ISK**	>	120770.721		ppb	1.032		124413.519
45	**Sc-ISK**		222717.464		ppb	1.736		218272.187
23	**Na**		1474083.221	**4818.058764**	ppb	1.785	1.081	8379.125
39	**K**		1265133.070	**1922.475090**	ppb	3.487	2.851	39441.040
24	**Mg**		210530.688	**740.925321**	ppb	2.676	2.123	253.336
159	**Tb-ISK**	>	243746.784		ppb	1.414		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78771-E-1-A
Autosampler Position: 324
Sample Date/Time: Monday, January 03, 2022 17:55:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78771-E-1-A.200
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59476.913		ppb	1.735		56971.193
9	**Be**		35.556	**0.003849**	ppb	19.516	70.667	25.556
10	**B**		44034.449	**67.658619**	ppb	2.121	3.433	1241.165
27	**Al**		426210.582	**30.743844**	ppb	4.083	3.421	11753.168
43	**Ca-2**		168992.308	**5533.735995**	ppb	2.169	5.312	135.001
49	**Ti**		2252.414	**1.907052**	ppb	34.405	38.437	361.116
52	**Cr**		32462.404	**0.984889**	ppb	1.697	8.621	17683.164
55	**Mn**		346161.038	**16.346653**	ppb	1.510	4.893	1491.189
57	**Fe**		52926.773	**77.745524**	ppb	1.830	6.435	15837.669
45	**Sc-IS**	>	2123010.802		ppb	5.366		2041027.886
66	**Zn**		373378.859	**156.133818**	ppb	0.732	5.164	1278.946
86	**Sr**		180959.160	**75.218252**	ppb	0.658	4.992	33.531
65	**Cu**		44546.018	**11.558892**	ppb	1.273	5.329	302.225
69	**Ga-IS**		796610.579		ppb	0.990		739803.285
95	**Mo**		4861.939	**1.690244**	ppb	3.493	6.412	297.781
115	**In-IS**	>	452132.746		ppb	2.632		445326.092
111	**Cd**		233.125	**0.057307**	ppb	14.782	15.402	36.041
118	**Sn**		5505.505	**0.171646**	ppb	1.664	12.933	3730.487
121	**Sb**		22775.922	**1.992644**	ppb	1.587	2.475	683.350
135	**Ba**		235032.625	**84.154278**	ppb	2.078	2.216	72.222
165	**Ho-IS**		557247.509		ppb	0.758		556649.193
159	**Tb-IS**	>	571959.659		ppb	1.797		564024.873
207	**Pb**		28289.780	**0.739788**	ppb	2.716	2.267	753.341
203	**Tl**		274.447	**0.001193**	ppb	5.477	91.175	255.558
209	**Bi-IS**		305864.655		ppb	1.584		307032.186
51	**V**		526.676	**1.781373**	ppb	6.608	5.539	5.556
59	**Co**		223.335	**0.208252**	ppb	12.752	13.000	18.889
60	**Ni**		3653.801	**2.136331**	ppb	2.399	1.451	136.667
75	**As**		770.720	**0.783633**	ppb	3.900	6.135	311.688
71	**Ga-ISK**		89081.465		ppb	2.777		88894.714
82	**Se-2**		25.549	**0.362409**	ppb	49.060	59.609	4.560
107	**Ag-1**		201.113	**-0.013969**	ppb	12.217	29.613	292.225
115	**In-ISK**	>	122703.444		ppb	1.370		124413.519
45	**Sc-ISK**		228778.476		ppb	0.509		218272.187
23	**Na**		2011844.452	**6496.590825**	ppb	2.869	2.057	8379.125
39	**K**		1364328.028	**2049.211120**	ppb	3.284	2.168	39441.040
24	**Mg**		246589.189	**856.401008**	ppb	2.477	2.533	253.336
159	**Tb-ISK**	>	247065.089		ppb	1.465		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78775-C-1-A
Autosampler Position: 325
Sample Date/Time: Monday, January 03, 2022 17:58:47
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78775-C-1-A.201
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61109.336		ppb	1.672		56971.193
9	**Be**		32.222	**0.002562**	ppb	33.254	196.077	25.556
10	**B**		51181.922	**78.780931**	ppb	8.117	3.729	1241.165
27	**Al**		695294.787	**50.776982**	ppb	0.914	6.281	11753.168
43	**Ca-2**		157972.154	**5168.364221**	ppb	1.827	3.817	135.001
49	**Ti**		5167.668	**4.952054**	ppb	32.802	40.481	361.116
52	**Cr**		30794.275	**0.867435**	ppb	2.054	9.818	17683.164
55	**Mn**		211116.144	**9.929792**	ppb	3.086	3.200	1491.189
57	**Fe**		48952.639	**69.238567**	ppb	1.931	6.992	15837.669
45	**Sc-IS**	>	2124050.138		ppb	5.560		2041027.886
66	**Zn**		201104.862	**83.849152**	ppb	1.964	6.908	1278.946
86	**Sr**		90463.591	**37.562249**	ppb	1.896	3.751	33.531
65	**Cu**		27585.515	**7.116804**	ppb	3.207	2.752	302.225
69	**Ga-IS**		845070.997		ppb	1.614		739803.285
95	**Mo**		2063.483	**0.652021**	ppb	4.532	11.012	297.781
115	**In-IS**	>	443190.001		ppb	0.784		445326.092
111	**Cd**		95.667	**0.017794**	ppb	34.935	55.075	36.041
118	**Sn**		3173.687	**-0.054702**	ppb	6.477	42.380	3730.487
121	**Sb**		6319.176	**0.518912**	ppb	2.954	2.783	683.350
135	**Ba**		421393.897	**153.890279**	ppb	3.456	2.730	72.222
165	**Ho-IS**		567676.847		ppb	1.138		556649.193
159	**Tb-IS**	>	563406.877		ppb	2.981		564024.873
207	**Pb**		30613.904	**0.814912**	ppb	2.140	1.645	753.341
203	**Tl**		264.447	**0.000702**	ppb	11.438	284.420	255.558
209	**Bi-IS**		309593.294		ppb	0.775		307032.186
51	**V**		351.115	**1.180273**	ppb	1.450	1.397	5.556
59	**Co**		118.889	**0.101855**	ppb	26.941	31.605	18.889
60	**Ni**		1686.766	**0.940884**	ppb	3.377	3.290	136.667
75	**As**		632.983	**0.549274**	ppb	3.411	6.242	311.688
71	**Ga-ISK**		87397.994		ppb	4.473		88894.714
82	**Se-2**		12.862	**0.143053**	ppb	71.685	110.259	4.560
107	**Ag-1**		145.556	**-0.022928**	ppb	12.613	13.247	292.225
115	**In-ISK**	>	122857.758		ppb	0.372		124413.519
45	**Sc-ISK**		221513.993		ppb	2.870		218272.187
23	**Na**		1507417.546	**4860.303482**	ppb	3.507	1.331	8379.125
39	**K**		1333355.663	**2002.001173**	ppb	1.259	1.522	39441.040
24	**Mg**		223424.414	**775.843963**	ppb	2.690	1.835	253.336
159	**Tb-ISK**	>	247062.833		ppb	2.319		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78774-E-1-A
Autosampler Position: 326
Sample Date/Time: Monday, January 03, 2022 18:01:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78774-E-1-A.202
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61141.799		ppb	3.818		56971.193
9	**Be**		36.667	**0.004013**	ppb	32.778	134.333	25.556
10	**B**		15768.699	**22.258940**	ppb	0.956	2.662	1241.165
27	**Al**		1121024.177	**80.158981**	ppb	2.560	2.424	11753.168
43	**Ca-2**		161100.018	**5131.882392**	ppb	1.171	1.060	135.001
49	**Ti**		4006.120	**3.596754**	ppb	8.555	9.716	361.116
52	**Cr**		30413.452	**0.785017**	ppb	0.526	3.746	17683.164
55	**Mn**		176216.138	**8.057806**	ppb	2.429	0.872	1491.189
57	**Fe**		57505.527	**84.204606**	ppb	1.537	1.654	15837.669
45	**Sc-IS**	>	2178663.449		ppb	1.925		2041027.886
66	**Zn**		45031.985	**17.825582**	ppb	1.451	0.510	1278.946
86	**Sr**		67257.531	**27.185190**	ppb	1.821	0.135	33.531
65	**Cu**		23654.014	**5.930894**	ppb	1.355	0.781	302.225
69	**Ga-IS**		760142.909		ppb	1.358		739803.285
95	**Mo**		1608.980	**0.466359**	ppb	9.141	11.313	297.781
115	**In-IS**	>	448386.111		ppb	1.877		445326.092
111	**Cd**		109.955	**0.021745**	ppb	19.072	30.125	36.041
118	**Sn**		2788.050	**-0.097202**	ppb	5.502	18.163	3730.487
121	**Sb**		7911.079	**0.657103**	ppb	0.849	1.143	683.350
135	**Ba**		16776.526	**6.034437**	ppb	4.693	5.931	72.222
165	**Ho-IS**		553553.594		ppb	0.819		556649.193
159	**Tb-IS**	>	559827.881		ppb	1.547		564024.873
207	**Pb**		10653.763	**0.272093**	ppb	1.947	3.576	753.341
203	**Tl**		215.557	**-0.003043**	ppb	4.464	18.010	255.558
209	**Bi-IS**		306848.524		ppb	1.192		307032.186
51	**V**		388.894	**1.312550**	ppb	8.671	7.997	5.556
59	**Co**		121.112	**0.104581**	ppb	15.650	18.892	18.889
60	**Ni**		1213.385	**0.656140**	ppb	7.063	8.170	136.667
75	**As**		806.019	**0.845526**	ppb	7.468	11.935	311.688
71	**Ga-ISK**		90408.688		ppb	3.057		88894.714
82	**Se-2**		8.515	**0.069617**	ppb	94.296	198.386	4.560
107	**Ag-1**		134.445	**-0.024668**	ppb	10.020	7.992	292.225
115	**In-ISK**	>	122504.011		ppb	0.927		124413.519
45	**Sc-ISK**		228958.986		ppb	2.918		218272.187
23	**Na**		1639773.555	**5305.312504**	ppb	4.037	2.110	8379.125
39	**K**		1724076.005	**2614.682086**	ppb	1.518	0.480	39441.040
24	**Mg**		207548.694	**722.931834**	ppb	1.511	1.470	253.336
159	**Tb-ISK**	>	246304.362		ppb	1.977		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78790-A-1-A
Autosampler Position: 327
Sample Date/Time: Monday, January 03, 2022 18:05:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78790-A-1-A.203
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63729.695		ppb	2.958		56971.193
9	**Be**		18.889	**-0.003613**	ppb	20.377	38.955	25.556
10	**B**		36945.501	**54.424763**	ppb	1.854	3.660	1241.165
27	**Al**		290622.289	**19.933890**	ppb	1.126	1.212	11753.168
43	**Ca-2**		205920.685	**6505.050391**	ppb	2.320	0.713	135.001
49	**Ti**		1203.384	**0.802261**	ppb	6.244	8.892	361.116
52	**Cr**		35827.121	**1.132114**	ppb	3.151	3.107	17683.164
55	**Mn**		318699.590	**14.508954**	ppb	2.686	0.866	1491.189
57	**Fe**		49574.842	**66.860143**	ppb	3.840	2.493	15837.669
45	**Sc-IS**	>	2197138.911		ppb	2.297		2041027.886
66	**Zn**		379392.272	**153.064803**	ppb	1.173	2.793	1278.946
86	**Sr**		109908.914	**44.057868**	ppb	2.552	0.321	33.531
65	**Cu**		60791.317	**15.241703**	ppb	1.677	0.904	302.225
69	**Ga-IS**		774133.119		ppb	1.712		739803.285
95	**Mo**		6857.203	**2.341260**	ppb	4.346	4.639	297.781
115	**In-IS**	>	450740.038		ppb	2.215		445326.092
111	**Cd**		287.825	**0.073657**	ppb	2.708	2.048	36.041
118	**Sn**		3455.975	**-0.031964**	ppb	6.053	62.402	3730.487
121	**Sb**		12124.036	**1.034324**	ppb	3.744	2.476	683.350
135	**Ba**		158092.435	**56.758779**	ppb	2.143	0.412	72.222
165	**Ho-IS**		556343.810		ppb	1.723		556649.193
159	**Tb-IS**	>	563734.334		ppb	1.265		564024.873
207	**Pb**		18558.045	**0.485540**	ppb	0.359	0.953	753.341
203	**Tl**		252.224	**-0.000265**	ppb	17.599	1281.672	255.558
209	**Bi-IS**		304199.283		ppb	0.866		307032.186
51	**V**		762.243	**2.586008**	ppb	9.009	7.751	5.556
59	**Co**		444.451	**0.433394**	ppb	6.062	4.970	18.889
60	**Ni**		5369.898	**3.178957**	ppb	2.612	2.668	136.667
75	**As**		785.399	**0.808047**	ppb	7.116	9.850	311.688
71	**Ga-ISK**		89140.631		ppb	1.665		88894.714
82	**Se-2**		24.823	**0.348255**	ppb	30.405	36.101	4.560
107	**Ag-1**		141.112	**-0.023591**	ppb	19.239	19.162	292.225
115	**In-ISK**	>	122688.917		ppb	1.382		124413.519
45	**Sc-ISK**		228038.538		ppb	2.381		218272.187
23	**Na**		2795728.383	**9109.855120**	ppb	1.176	0.825	8379.125
39	**K**		1714699.910	**2612.543091**	ppb	1.271	1.438	39441.040
24	**Mg**		301917.944	**1056.738508**	ppb	2.089	0.725	253.336
159	**Tb-ISK**	>	245164.735		ppb	1.393		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78790-A-1-B MS
Autosampler Position: 328
Sample Date/Time: Monday, January 03, 2022 18:08:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78790-A-1-B MS.204
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60744.430		ppb	0.544		56971.193
9	**Be**		238141.235	**99.562441**	ppb	2.019	1.538	25.556
10	**B**		92958.222	**140.480258**	ppb	2.162	1.662	1241.165
27	**Al**		1579107.202	**112.727088**	ppb	2.242	1.916	11753.168
43	**Ca-2**		350258.095	**11108.279298**	ppb	2.145	1.831	135.001
49	**Ti**		95802.494	**94.303338**	ppb	2.289	2.264	361.116
52	**Cr**		1390259.462	**92.811760**	ppb	1.029	0.563	17683.164
55	**Mn**		2375115.797	**109.003281**	ppb	1.838	1.342	1491.189
57	**Fe**		2332302.332	**4778.407280**	ppb	1.944	1.574	15837.669
45	**Sc-IS**	>	2189055.896		ppb	0.520		2041027.886
66	**Zn**		621052.034	**251.763723**	ppb	2.172	2.528	1278.946
86	**Sr**		332977.308	**134.006371**	ppb	1.864	1.938	33.531
65	**Cu**		439790.881	**111.172119**	ppb	1.998	1.819	302.225
69	**Ga-IS**		829950.499		ppb	1.547		739803.285
95	**Mo**		245626.086	**88.175459**	ppb	1.312	1.807	297.781
115	**In-IS**	>	447987.847		ppb	1.978		445326.092
111	**Cd**		354430.883	**104.513356**	ppb	0.715	1.768	36.041
118	**Sn**		915049.023	**91.709570**	ppb	0.363	1.604	3730.487
121	**Sb**		1062138.452	**96.652600**	ppb	0.674	1.326	683.350
135	**Ba**		431071.023	**155.775512**	ppb	1.182	0.897	72.222
165	**Ho-IS**		560445.830		ppb	0.858		556649.193
159	**Tb-IS**	>	566723.396		ppb	1.123		564024.873
207	**Pb**		3508249.353	**95.140758**	ppb	0.718	0.821	753.341
203	**Tl**		1145027.917	**90.218656**	ppb	1.304	1.966	255.558
209	**Bi-IS**		303609.093		ppb	0.700		307032.186
51	**V**		28085.364	**97.151820**	ppb	1.755	1.775	5.556
59	**Co**		90812.182	**93.537025**	ppb	0.801	0.814	18.889
60	**Ni**		164065.658	**100.710918**	ppb	0.742	0.717	136.667
75	**As**		58880.478	**100.251023**	ppb	0.697	0.728	311.688
71	**Ga-ISK**		88802.933		ppb	0.301		88894.714
82	**Se-2**		6127.170	**106.420784**	ppb	4.341	4.361	4.560
107	**Ag-1**		291622.115	**47.338260**	ppb	0.762	0.785	292.225
115	**In-ISK**	>	121261.234		ppb	0.028		124413.519
45	**Sc-ISK**		226627.955		ppb	0.645		218272.187
23	**Na**		2958967.973	**9601.810063**	ppb	2.614	5.473	8379.125
39	**K**		2375834.955	**3626.394110**	ppb	0.797	3.655	39441.040
24	**Mg**		1684070.151	**5869.041326**	ppb	1.991	1.693	253.336
159	**Tb-ISK**	>	246473.236		ppb	2.952		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78790-A-1-C MSD
Autosampler Position: 329
Sample Date/Time: Monday, January 03, 2022 18:11:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78790-A-1-C MSD.205
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61394.999		ppb	1.557		56971.193
9	**Be**		241567.315	**99.680529**	ppb	2.619	1.046	25.556
10	**B**		94404.376	**140.809148**	ppb	2.640	0.168	1241.165
27	**Al**		1615605.875	**113.851257**	ppb	1.979	1.141	11753.168
43	**Ca-2**		359501.192	**11254.728014**	ppb	1.471	1.107	135.001
49	**Ti**		99235.874	**96.410004**	ppb	2.758	0.457	361.116
52	**Cr**		1430318.225	**94.263714**	ppb	2.303	0.839	17683.164
55	**Mn**		2440495.148	**110.529499**	ppb	3.319	0.837	1491.189
57	**Fe**		2398991.982	**4851.541873**	ppb	2.436	0.410	15837.669
45	**Sc-IS**	>	2218084.930		ppb	2.549		2041027.886
66	**Zn**		635369.525	**254.199008**	ppb	3.862	3.124	1278.946
86	**Sr**		329803.414	**131.025094**	ppb	1.182	1.762	33.531
65	**Cu**		444862.922	**111.018849**	ppb	2.387	2.948	302.225
69	**Ga-IS**		826215.372		ppb	3.622		739803.285
95	**Mo**		251009.796	**88.944445**	ppb	1.792	1.860	297.781
115	**In-IS**	>	449187.946		ppb	1.105		445326.092
111	**Cd**		352937.361	**103.770303**	ppb	1.548	0.770	36.041
118	**Sn**		941113.222	**94.061480**	ppb	0.846	0.273	3730.487
121	**Sb**		1082630.784	**98.241055**	ppb	1.317	1.174	683.350
135	**Ba**		430932.699	**155.294369**	ppb	1.372	1.020	72.222
165	**Ho-IS**		563766.181		ppb	0.953		556649.193
159	**Tb-IS**	>	574638.638		ppb	1.856		564024.873
207	**Pb**		3569888.855	**95.490140**	ppb	0.548	1.344	753.341
203	**Tl**		1165832.726	**90.600197**	ppb	0.291	1.589	255.558
209	**Bi-IS**		305859.916		ppb	1.260		307032.186
51	**V**		28090.931	**97.659588**	ppb	1.862	2.072	5.556
59	**Co**		90865.888	**94.059837**	ppb	1.531	1.462	18.889
60	**Ni**		166021.443	**102.433700**	ppb	1.156	2.129	136.667
75	**As**		60436.558	**103.437479**	ppb	0.899	1.619	311.688
71	**Ga-ISK**		88883.463		ppb	1.356		88894.714
82	**Se-2**		6310.596	**110.161237**	ppb	0.717	1.290	4.560
107	**Ag-1**		298141.569	**48.637746**	ppb	1.378	0.801	292.225
115	**In-ISK**	>	120666.264		ppb	1.451		124413.519
45	**Sc-ISK**		225867.329		ppb	1.366		218272.187
23	**Na**		3045583.675	**9831.352465**	ppb	3.249	2.769	8379.125
39	**K**		2377507.059	**3610.951439**	ppb	1.818	1.296	39441.040
24	**Mg**		1694648.385	**5879.380838**	ppb	3.090	2.544	253.336
159	**Tb-ISK**	>	247498.916		ppb	0.571		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78793-A-1-A
Autosampler Position: 330
Sample Date/Time: Monday, January 03, 2022 18:14:38
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78793-A-1-A.206
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		73195.935		ppb	0.779		56971.193
9	**Be**		103.334	**0.027511**	ppb	21.153	31.360	25.556
10	**B**		106968.075	**145.678496**	ppb	2.777	4.083	1241.165
27	**Al**		445064.616	**27.933021**	ppb	0.391	1.160	11753.168
43	**Ca-2**		676235.895	**19314.837907**	ppb	1.996	1.988	135.001
49	**Ti**		4564.062	**3.679082**	ppb	0.193	1.379	361.116
52	**Cr**		56538.329	**2.162226**	ppb	0.646	2.617	17683.164
55	**Mn**		1015246.351	**41.908900**	ppb	1.752	1.424	1491.189
57	**Fe**		113159.811	**175.270814**	ppb	1.494	3.251	15837.669
45	**Sc-IS**	>	2431322.563		ppb	1.450		2041027.886
66	**Zn**		146808.601	**53.136359**	ppb	2.593	1.332	1278.946
86	**Sr**		657499.089	**238.258144**	ppb	1.901	1.599	33.531
65	**Cu**		51808.222	**11.720540**	ppb	0.789	2.129	302.225
69	**Ga-IS**		749049.656		ppb	2.410		739803.285
95	**Mo**		20189.818	**6.418480**	ppb	2.393	1.316	297.781
115	**In-IS**	>	440085.270		ppb	0.353		445326.092
111	**Cd**		489.834	**0.136334**	ppb	8.143	8.883	36.041
118	**Sn**		23546.068	**2.033974**	ppb	3.082	3.461	3730.487
121	**Sb**		31075.988	**2.817374**	ppb	1.025	0.710	683.350
135	**Ba**		59750.287	**21.954617**	ppb	2.154	2.127	72.222
165	**Ho-IS**		569369.277		ppb	1.344		556649.193
159	**Tb-IS**	>	569857.060		ppb	1.348		564024.873
207	**Pb**		33749.957	**0.890038**	ppb	1.068	2.327	753.341
203	**Tl**		613.347	**0.027777**	ppb	16.953	27.611	255.558
209	**Bi-IS**		268035.667		ppb	0.713		307032.186
51	**V**		1320.061	**4.750669**	ppb	3.154	3.435	5.556
59	**Co**		576.678	**0.601567**	ppb	12.598	13.280	18.889
60	**Ni**		6508.150	**4.093778**	ppb	3.808	4.410	136.667
75	**As**		1224.375	**1.668554**	ppb	4.358	6.457	311.688
71	**Ga-ISK**		85156.438		ppb	1.757		88894.714
82	**Se-2**		199.874	**3.550432**	ppb	0.498	0.703	4.560
107	**Ag-1**		1726.771	**0.246744**	ppb	6.937	8.591	292.225
115	**In-ISK**	>	116127.864		ppb	0.563		124413.519
45	**Sc-ISK**		235845.587		ppb	1.465		218272.187
23	**Na**		76431249.646	**254996.270137**	ppb	0.946	1.853	8379.125
39	**K**		8635014.446	**13687.044938**	ppb	0.638	1.332	39441.040
24	**Mg**		8297454.818	**29673.448860**	ppb	0.903	0.971	253.336
159	**Tb-ISK**	>	240166.784		ppb	1.043		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78789-A-1-A
Autosampler Position: 331
Sample Date/Time: Monday, January 03, 2022 18:17:48
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78789-A-1-A.207
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		69016.440		ppb	3.392		56971.193
9	**Be**		97.778	**0.026557**	ppb	3.936	3.217	25.556
10	**B**		74847.868	**104.701094**	ppb	2.495	2.048	1241.165
27	**Al**		951520.818	**62.796300**	ppb	0.755	2.211	11753.168
43	**Ca-2**		269196.172	**7940.978920**	ppb	1.053	1.844	135.001
49	**Ti**		2472.436	**1.890432**	ppb	1.620	2.753	361.116
52	**Cr**		42096.412	**1.366019**	ppb	2.921	2.380	17683.164
55	**Mn**		650917.934	**27.732884**	ppb	1.574	1.076	1491.189
57	**Fe**		78378.882	**115.413648**	ppb	0.936	1.062	15837.669
45	**Sc-IS**	>	2353580.608		ppb	1.712		2041027.886
66	**Zn**		604927.765	**228.052290**	ppb	1.644	2.056	1278.946
86	**Sr**		220147.838	**82.414763**	ppb	0.258	1.815	33.531
65	**Cu**		66771.238	**15.632208**	ppb	0.469	2.049	302.225
69	**Ga-IS**		879273.886		ppb	0.390		739803.285
95	**Mo**		10681.776	**3.458811**	ppb	4.803	6.777	297.781
115	**In-IS**	>	455204.357		ppb	1.835		445326.092
111	**Cd**		670.918	**0.184074**	ppb	1.970	3.897	36.041
118	**Sn**		9987.937	**0.611526**	ppb	2.901	4.707	3730.487
121	**Sb**		15091.301	**1.290042**	ppb	1.504	3.226	683.350
135	**Ba**		461561.697	**164.152375**	ppb	1.059	1.147	72.222
165	**Ho-IS**		574873.116		ppb	1.766		556649.193
159	**Tb-IS**	>	580178.921		ppb	1.172		564024.873
207	**Pb**		60718.851	**1.588214**	ppb	1.025	0.154	753.341
203	**Tl**		582.234	**0.024554**	ppb	9.483	15.236	255.558
209	**Bi-IS**		311210.186		ppb	1.030		307032.186
51	**V**		1006.702	**3.347962**	ppb	8.660	6.698	5.556
59	**Co**		548.899	**0.527876**	ppb	5.643	3.820	18.889
60	**Ni**		6073.513	**3.528973**	ppb	0.876	1.883	136.667
75	**As**		1125.439	**1.343867**	ppb	5.772	7.894	311.688
71	**Ga-ISK**		95009.444		ppb	2.280		88894.714
82	**Se-2**		28.169	**0.396949**	ppb	28.604	34.292	4.560
107	**Ag-1**		417.784	**0.019385**	ppb	10.625	33.909	292.225
115	**In-ISK**	>	125334.674		ppb	2.083		124413.519
45	**Sc-ISK**		243060.817		ppb	1.948		218272.187
23	**Na**		3474691.847	**11026.799051**	ppb	1.776	1.973	8379.125
39	**K**		2298369.796	**3427.446207**	ppb	1.179	1.516	39441.040
24	**Mg**		391396.950	**1333.782570**	ppb	2.806	2.681	253.336
159	**Tb-ISK**	>	251867.679		ppb	0.865		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-78783-A-1-A
Autosampler Position: 332
Sample Date/Time: Monday, January 03, 2022 18:20:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-78783-A-1-A.208
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		66056.826		ppb	1.063		56971.193
9	**Be**		43.333	**0.005758**	ppb	27.735	89.699	25.556
10	**B**		12456.543	**16.012311**	ppb	3.193	2.467	1241.165
27	**Al**		320646.655	**20.910478**	ppb	3.003	3.631	11753.168
43	**Ca-2**		91759.010	**2746.795868**	ppb	3.678	1.255	135.001
49	**Ti**		1203.384	**0.742121**	ppb	1.662	5.887	361.116
52	**Cr**		31422.298	**0.727336**	ppb	0.468	6.101	17683.164
55	**Mn**		153297.133	**6.583411**	ppb	1.573	2.401	1491.189
57	**Fe**		35086.382	**33.405029**	ppb	2.251	4.781	15837.669
45	**Sc-IS**	>	2315985.190		ppb	2.680		2041027.886
66	**Zn**		126900.025	**48.192405**	ppb	0.217	2.489	1278.946
86	**Sr**		42206.643	**16.051780**	ppb	1.877	3.838	33.531
65	**Cu**		27411.836	**6.474501**	ppb	1.882	2.462	302.225
69	**Ga-IS**		769340.829		ppb	1.678		739803.285
95	**Mo**		1534.527	**0.406344**	ppb	5.003	3.483	297.781
115	**In-IS**	>	452710.763		ppb	1.058		445326.092
111	**Cd**		172.334	**0.039562**	ppb	17.634	21.712	36.041
118	**Sn**		5219.843	**0.142297**	ppb	3.504	16.745	3730.487
121	**Sb**		6652.660	**0.536738**	ppb	1.832	1.102	683.350
135	**Ba**		17812.209	**6.344294**	ppb	0.779	1.459	72.222
165	**Ho-IS**		564954.526		ppb	0.285		556649.193
159	**Tb-IS**	>	567640.251		ppb	1.349		564024.873
207	**Pb**		15932.346	**0.411050**	ppb	2.151	3.645	753.341
203	**Tl**		336.671	**0.006272**	ppb	6.931	34.709	255.558
209	**Bi-IS**		314322.108		ppb	1.747		307032.186
51	**V**		288.892	**0.977141**	ppb	13.274	14.453	5.556
59	**Co**		138.890	**0.123558**	ppb	18.330	21.578	18.889
60	**Ni**		1665.653	**0.937414**	ppb	7.250	9.405	136.667
75	**As**		684.568	**0.645923**	ppb	5.286	7.946	311.688
71	**Ga-ISK**		93786.876		ppb	1.096		88894.714
82	**Se-2**		10.534	**0.103625**	ppb	48.688	82.145	4.560
107	**Ag-1**		250.002	**-0.005848**	ppb	4.000	26.233	292.225
115	**In-ISK**	>	121850.131		ppb	2.360		124413.519
45	**Sc-ISK**		236430.506		ppb	0.817		218272.187
23	**Na**		706135.031	**2250.228076**	ppb	1.473	2.340	8379.125
39	**K**		1695281.985	**2547.558161**	ppb	1.782	2.230	39441.040
24	**Mg**		121271.202	**418.484038**	ppb	3.022	4.013	253.336
159	**Tb-ISK**	>	248426.233		ppb	0.999		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 18:24:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.209
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61562.390		ppb	1.773		56971.193
9	**Be**		238961.051	**95.242288**	ppb	1.092	2.893	25.556
10	**B**		166567.921	**241.342366**	ppb	2.008	1.272	1241.165
27	**Al**		1405309.496	**95.476488**	ppb	1.776	1.777	11753.168
43	**Ca-2**		164458.248	**4968.376193**	ppb	2.446	2.308	135.001
49	**Ti**		103127.847	**96.723031**	ppb	3.391	0.707	361.116
52	**Cr**		1468889.992	**93.441736**	ppb	2.943	0.489	17683.164
55	**Mn**		2301611.615	**100.647667**	ppb	2.628	0.469	1491.189
57	**Fe**		2591507.543	**5061.827998**	ppb	2.259	1.162	15837.669
45	**Sc-IS**	>	2297545.532		ppb	2.959		2041027.886
66	**Zn**		251733.084	**96.924587**	ppb	0.728	2.281	1278.946
86	**Sr**		238041.326	**91.296794**	ppb	1.682	1.760	33.531
65	**Cu**		401387.962	**96.715507**	ppb	1.161	2.944	302.225
69	**Ga-IS**		826545.505		ppb	2.880		739803.285
95	**Mo**		259790.685	**88.865896**	ppb	2.408	1.332	297.781
115	**In-IS**	>	448048.129		ppb	3.035		445326.092
111	**Cd**		341834.502	**100.780765**	ppb	2.268	1.117	36.041
118	**Sn**		989071.286	**99.145014**	ppb	2.198	1.361	3730.487
121	**Sb**		1073957.558	**97.721188**	ppb	2.388	1.861	683.350
135	**Ba**		277689.489	**100.340040**	ppb	2.405	2.085	72.222
165	**Ho-IS**		570204.250		ppb	0.911		556649.193
159	**Tb-IS**	>	582288.608		ppb	1.005		564024.873
207	**Pb**		3660477.125	**96.618579**	ppb	0.654	1.299	753.341
203	**Tl**		1224024.830	**93.864940**	ppb	1.868	2.359	255.558
209	**Bi-IS**		308476.432		ppb	1.322		307032.186
51	**V**		28950.424	**97.950750**	ppb	2.085	2.587	5.556
59	**Co**		97051.908	**97.773475**	ppb	1.040	1.699	18.889
60	**Ni**		164088.196	**98.512292**	ppb	1.226	1.565	136.667
75	**As**		58055.829	**96.661183**	ppb	1.921	2.331	311.688
71	**Ga-ISK**		91356.866		ppb	2.581		88894.714
82	**Se-2**		5821.055	**98.885020**	ppb	2.465	2.990	4.560
107	**Ag-1**		612149.406	**97.232833**	ppb	0.473	0.363	292.225
115	**In-ISK**	>	123988.281		ppb	0.668		124413.519
45	**Sc-ISK**		235245.677		ppb	1.023		218272.187
23	**Na**		1706131.444	**5445.707031**	ppb	0.739	2.198	8379.125
39	**K**		3567155.074	**5397.867780**	ppb	1.532	0.334	39441.040
24	**Mg**		1538428.544	**5288.578604**	ppb	0.955	0.880	253.336
159	**Tb-ISK**	>	249821.802		ppb	1.579		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message
Mo	95	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 18:27:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.210
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62611.453		ppb	3.346		56971.193
9	**Be**		66.667	**0.015454**	ppb	13.229	25.266	25.556
10	**B**		1872.346	**0.723298**	ppb	9.321	25.212	1241.165
27	**Al**		18161.208	**0.352857**	ppb	2.551	4.253	11753.168
43	**Ca-2**		220.002	**2.121250**	ppb	12.026	27.046	135.001
49	**Ti**		401.117	**-0.000904**	ppb	8.199	2660.531	361.116
52	**Cr**		19011.534	**-0.042960**	ppb	2.058	49.576	17683.164
55	**Mn**		2491.329	**0.036826**	ppb	3.743	2.197	1491.189
57	**Fe**		17559.677	**-0.113177**	ppb	1.969	566.985	15837.669
45	**Sc-IS**	>	2271139.227		ppb	3.461		2041027.886
66	**Zn**		1620.092	**0.077349**	ppb	5.835	47.299	1278.946
86	**Sr**		101.834	**0.024842**	ppb	24.504	33.127	33.531
65	**Cu**		557.789	**0.053897**	ppb	7.303	10.696	302.225
69	**Ga-IS**		774004.535		ppb	2.013		739803.285
95	**Mo**		1957.912	**0.563930**	ppb	1.108	3.470	297.781
115	**In-IS**	>	456098.225		ppb	0.930		445326.092
111	**Cd**		89.222	**0.015148**	ppb	14.968	25.574	36.041
118	**Sn**		10686.219	**0.678688**	ppb	2.688	5.376	3730.487
121	**Sb**		1472.298	**0.069097**	ppb	3.361	7.690	683.350
135	**Ba**		168.890	**0.033722**	ppb	9.327	17.842	72.222
165	**Ho-IS**		562916.602		ppb	0.611		556649.193
159	**Tb-IS**	>	571120.240		ppb	1.216		564024.873
207	**Pb**		1492.254	**0.019628**	ppb	5.762	10.909	753.341
203	**Tl**		463.341	**0.016016**	ppb	10.376	25.246	255.558
209	**Bi-IS**		314387.084		ppb	2.027		307032.186
51	**V**		12.222	**0.022939**	ppb	31.492	55.784	5.556
59	**Co**		36.667	**0.018254**	ppb	31.492	62.443	18.889
60	**Ni**		265.558	**0.079457**	ppb	16.716	37.232	136.667
75	**As**		343.734	**0.060505**	ppb	7.787	69.395	311.688
71	**Ga-ISK**		92557.790		ppb	1.162		88894.714
82	**Se-2**		6.849	**0.040950**	ppb	139.770	400.918	4.560
107	**Ag-1**		1375.622	**0.174172**	ppb	7.190	7.318	292.225
115	**In-ISK**	>	122880.165		ppb	1.501		124413.519
45	**Sc-ISK**		227713.876		ppb	0.376		218272.187
23	**Na**		17232.054	**28.036676**	ppb	0.970	1.370	8379.125
39	**K**		46222.440	**9.217699**	ppb	0.973	8.425	39441.040
24	**Mg**		1150.047	**3.086920**	ppb	12.010	15.877	253.336
159	**Tb-ISK**	>	248142.574		ppb	0.317		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 18:30:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.211
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63660.432		ppb	1.278		56971.193
9	**Be**		36.667	**0.003386**	ppb	0.000	5.113	25.556
10	**B**		1485.633	**0.164429**	ppb	5.119	65.966	1241.165
27	**Al**		19001.636	**0.416702**	ppb	2.859	5.361	11753.168
43	**Ca-2**		158.334	**0.273552**	ppb	7.947	160.907	135.001
49	**Ti**		374.449	**-0.024397**	ppb	6.060	93.479	361.116
52	**Cr**		19013.762	**-0.037746**	ppb	2.740	52.398	17683.164
55	**Mn**		2114.601	**0.020556**	ppb	6.511	26.349	1491.189
57	**Fe**		17036.828	**-1.006470**	ppb	3.463	133.356	15837.669
45	**Sc-IS**	>	2260827.340		ppb	1.173		2041027.886
66	**Zn**		1468.965	**0.020389**	ppb	6.141	147.645	1278.946
86	**Sr**		66.852	**0.011506**	ppb	38.727	84.605	33.531
65	**Cu**		440.007	**0.025734**	ppb	8.605	32.806	302.225
69	**Ga-IS**		773328.297		ppb	1.543		739803.285
95	**Mo**		758.909	**0.149476**	ppb	7.983	15.811	297.781
115	**In-IS**	>	456918.304		ppb	1.595		445326.092
111	**Cd**		60.629	**0.006828**	ppb	15.929	39.376	36.041
118	**Sn**		6492.587	**0.262809**	ppb	3.061	3.987	3730.487
121	**Sb**		933.364	**0.020791**	ppb	8.422	38.290	683.350
135	**Ba**		105.556	**0.011186**	ppb	9.648	37.411	72.222
165	**Ho-IS**		568372.555		ppb	1.112		556649.193
159	**Tb-IS**	>	570051.482		ppb	0.759		564024.873
207	**Pb**		968.901	**0.005601**	ppb	4.274	22.968	753.341
203	**Tl**		295.559	**0.002919**	ppb	8.465	66.668	255.558
209	**Bi-IS**		319257.533		ppb	2.789		307032.186
51	**V**		10.000	**0.014535**	ppb	88.192	198.387	5.556
59	**Co**		26.667	**0.007832**	ppb	64.952	227.945	18.889
60	**Ni**		282.225	**0.086671**	ppb	24.813	51.537	136.667
75	**As**		283.796	**-0.049550**	ppb	6.435	47.488	311.688
71	**Ga-ISK**		93607.964		ppb	1.688		88894.714
82	**Se-2**		9.567	**0.084003**	ppb	6.200	14.778	4.560
107	**Ag-1**		564.456	**0.042528**	ppb	6.896	10.776	292.225
115	**In-ISK**	>	125159.994		ppb	1.754		124413.519
45	**Sc-ISK**		233538.266		ppb	3.481		218272.187
23	**Na**		13935.131	**18.143563**	ppb	3.014	10.025	8379.125
39	**K**		42798.461	**5.031691**	ppb	0.860	20.393	39441.040
24	**Mg**		676.683	**1.484922**	ppb	8.564	12.260	253.336
159	**Tb-ISK**	>	244125.013		ppb	0.949		243209.053

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Monday, January 03, 2022 18:33:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICIS-1479530.212
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62246.450		ppb	1.573		
9	**Be**		27.778		ppb	60.399		
10	**B**		1356.731		ppb	4.590		
27	**Al**		12198.876		ppb	2.878		
43	**Ca-2**		130.001		ppb	29.038		
49	**Ti**		337.782		ppb	7.001		
52	**Cr**		18224.951		ppb	0.530		
55	**Mn**		1710.103		ppb	6.374		
57	**Fe**		16091.280		ppb	1.036		
45	**Sc-IS**	>	2195473.971		ppb	2.051		
66	**Zn**		1410.070		ppb	2.633		
86	**Sr**		54.118		ppb	29.069		
65	**Cu**		336.671		ppb	10.049		
69	**Ga-IS**		753325.837		ppb	1.058		
95	**Mo**		374.449		ppb	10.318		
115	**In-IS**	>	450587.841		ppb	0.856		
111	**Cd**		30.325		ppb	49.357		
118	**Sn**		3623.793		ppb	2.239		
121	**Sb**		564.456		ppb	10.959		
135	**Ba**		102.223		ppb	16.413		
165	**Ho-IS**		551751.151		ppb	0.560		
159	**Tb-IS**	>	560063.515		ppb	0.880		
207	**Pb**		780.008		ppb	4.462		
203	**Tl**		203.335		ppb	9.128		
209	**Bi-IS**		310590.700		ppb	1.764		
51	**V**		1.111		ppb	173.205		
59	**Co**		14.444		ppb	96.077		
60	**Ni**		103.334		ppb	5.587		
75	**As**		308.110		ppb	11.116		
71	**Ga-ISK**		92164.209		ppb	2.127		
82	**Se-2**		1.856		ppb	623.832		
107	**Ag-1**		303.337		ppb	3.962		
115	**In-ISK**	>	122411.300		ppb	2.258		
45	**Sc-ISK**		232308.164		ppb	0.927		
23	**Na**		11846.578		ppb	2.036		
39	**K**		41476.795		ppb	0.983		
24	**Mg**		360.005		ppb	7.733		
159	**Tb-ISK**	>	246858.044		ppb	0.929		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Monday, January 03, 2022 18:36:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\IC-2235387.213
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60106.201		ppb	1.548		62246.450
9	**Be**		469248.993	**200.000000**	ppb	0.299	1.458	27.778
10	**B**		318677.261	**500.000000**	ppb	2.981	4.725	1356.731
27	**Al**		2761275.634	**200.000000**	ppb	1.761	2.690	12198.876
43	**Ca-2**		317305.725	**10200.000000**	ppb	1.525	1.400	130.001
49	**Ti**		198016.857	**200.000000**	ppb	2.578	1.049	337.782
52	**Cr**		2942284.438	**200.000000**	ppb	1.542	0.395	18224.951
55	**Mn**		4364427.305	**200.000000**	ppb	1.783	0.596	1710.103
57	**Fe**		4875807.043	**10200.000000**	ppb	2.845	1.297	16091.280
45	**Sc-IS**	>	2212436.666		ppb	1.768		2195473.971
66	**Zn**		480469.291	**200.000000**	ppb	2.476	0.849	1410.070
86	**Sr**		469256.219	**200.000000**	ppb	2.439	1.804	54.118
65	**Cu**		770768.053	**200.000000**	ppb	2.124	0.363	336.671
69	**Ga-IS**		842733.818		ppb	1.233		753325.837
95	**Mo**		513204.817	**200.000000**	ppb	3.174	3.251	374.449
115	**In-IS**	>	442600.863		ppb	0.760		450587.841
111	**Cd**		674188.678	**200.000000**	ppb	2.084	1.413	30.325
118	**Sn**		1961924.639	**200.000000**	ppb	1.218	0.477	3623.793
121	**Sb**		2218290.510	**200.000000**	ppb	1.041	0.296	564.456
135	**Ba**		543786.267	**200.000000**	ppb	1.273	0.535	102.223
165	**Ho-IS**		556120.986		ppb	1.188		551751.151
159	**Tb-IS**	>	558110.420		ppb	0.919		560063.515
207	**Pb**		7369450.111	**200.000000**	ppb	1.676	1.018	780.008
203	**Tl**		2538202.788	**200.000000**	ppb	1.355	0.439	203.335
209	**Bi-IS**		293931.333		ppb	1.599		310590.700
51	**V**		56724.666	**200.000000**	ppb	2.536	0.504	1.111
59	**Co**		191809.444	**200.000000**	ppb	2.043	0.833	14.444
60	**Ni**		322017.596	**200.000000**	ppb	2.954	3.789	103.334
75	**As**		115299.103	**200.000000**	ppb	1.432	2.294	308.110
71	**Ga-ISK**		89819.328		ppb	1.963		92164.209
82	**Se-2**		11376.369	**200.000000**	ppb	1.371	2.295	1.856
107	**Ag-1**		1170562.807	**200.000000**	ppb	3.339	0.722	303.337
115	**In-ISK**	>	120275.374		ppb	2.752		122411.300
45	**Sc-ISK**		228120.799		ppb	2.103		232308.164
23	**Na**		3305358.810	**10200.000000**	ppb	1.646	2.154	11846.578
39	**K**		6808843.208	**10200.000000**	ppb	0.888	2.409	41476.795
24	**Mg**		3017871.689	**10200.000000**	ppb	1.714	2.290	360.005
159	**Tb-ISK**	>	244324.582		ppb	1.541		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 18:40:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.214
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59513.711		ppb	0.558		62246.450
9	**Be**		229374.820	**97.381574**	ppb	1.472	3.469	27.778
10	**B**		159358.888	**247.966073**	ppb	3.043	5.309	1356.731
27	**Al**		1345004.207	**96.549942**	ppb	2.532	2.717	12198.876
43	**Ca-2**		157063.938	**5028.557709**	ppb	2.061	4.314	130.001
49	**Ti**		100308.756	**100.745171**	ppb	1.401	1.231	337.782
52	**Cr**		1429179.948	**96.105080**	ppb	2.113	1.825	18224.951
55	**Mn**		2220383.332	**101.332542**	ppb	1.675	3.398	1710.103
57	**Fe**		2465661.462	**5122.680444**	ppb	1.304	3.276	16091.280
45	**Sc-IS**	>	2221656.495		ppb	2.200		2195473.971
66	**Zn**		247512.828	**102.337210**	ppb	1.664	1.623	1410.070
86	**Sr**		234344.286	**99.471004**	ppb	2.191	2.379	54.118
65	**Cu**		389085.710	**100.547974**	ppb	1.273	3.257	336.671
69	**Ga-IS**		819492.913		ppb	0.899		753325.837
95	**Mo**		253891.030	**98.498004**	ppb	1.510	3.628	374.449
115	**In-IS**	>	449026.009		ppb	0.702		450587.841
111	**Cd**		338915.010	**99.102525**	ppb	1.290	1.030	30.325
118	**Sn**		977799.062	**98.065562**	ppb	2.447	2.150	3623.793
121	**Sb**		1052966.101	**93.553675**	ppb	1.642	1.739	564.456
135	**Ba**		274854.818	**99.626977**	ppb	1.480	1.329	102.223
165	**Ho-IS**		564162.784		ppb	1.147		551751.151
159	**Tb-IS**	>	572215.773		ppb	0.988		560063.515
207	**Pb**		3660078.866	**96.871584**	ppb	1.822	1.186	780.008
203	**Tl**		1212458.583	**93.174611**	ppb	2.427	2.134	203.335
209	**Bi-IS**		304161.869		ppb	0.961		310590.700
51	**V**		27555.457	**96.061538**	ppb	3.160	4.480	1.111
59	**Co**		92272.621	**95.104321**	ppb	1.150	2.770	14.444
60	**Ni**		162708.189	**99.841315**	ppb	1.724	3.190	103.334
75	**As**		57467.428	**98.244640**	ppb	1.427	2.310	308.110
71	**Ga-ISK**		88744.965		ppb	3.054		92164.209
82	**Se-2**		5737.653	**99.665601**	ppb	0.112	1.728	1.856
107	**Ag-1**		606770.125	**102.460647**	ppb	1.131	0.786	303.337
115	**In-ISK**	>	121687.653		ppb	1.642		122411.300
45	**Sc-ISK**		232226.885		ppb	1.038		232308.164
23	**Na**		1619845.950	**4907.340533**	ppb	0.573	1.930	11846.578
39	**K**		3401706.682	**4989.816042**	ppb	0.548	1.534	41476.795
24	**Mg**		1449242.010	**4826.808881**	ppb	2.745	3.646	360.005
159	**Tb-ISK**	>	247932.575		ppb	1.418		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 18:43:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.215
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59466.857		ppb	1.124		62246.450
9	**Be**		106.667	**0.034905**	ppb	28.125	41.311	27.778
10	**B**		1954.578	**0.998447**	ppb	3.834	2.516	1356.731
27	**Al**		17429.632	**0.404133**	ppb	2.757	0.941	12198.876
43	**Ca-2**		193.335	**2.147193**	ppb	10.452	24.395	130.001
49	**Ti**		337.782	**0.006021**	ppb	5.435	442.603	337.782
52	**Cr**		18082.556	**0.010791**	ppb	3.132	401.386	18224.951
55	**Mn**		2789.161	**0.052013**	ppb	3.685	12.229	1710.103
57	**Fe**		17300.470	**3.170591**	ppb	1.170	35.700	16091.280
45	**Sc-IS**	>	2160546.037		ppb	3.034		2195473.971
66	**Zn**		1471.187	**0.037484**	ppb	11.217	237.029	1410.070
86	**Sr**		164.145	**0.048826**	ppb	26.745	43.157	54.118
65	**Cu**		506.676	**0.046849**	ppb	8.900	31.353	336.671
69	**Ga-IS**		746508.302		ppb	1.455		753325.837
95	**Mo**		2032.367	**0.665778**	ppb	5.515	10.231	374.449
115	**In-IS**	>	453102.215		ppb	0.506		450587.841
111	**Cd**		190.178	**0.046245**	ppb	24.037	28.118	30.325
118	**Sn**		10712.908	**0.705359**	ppb	3.890	6.639	3623.793
121	**Sb**		1511.191	**0.083122**	ppb	1.418	1.859	564.456
135	**Ba**		201.113	**0.035323**	ppb	10.656	21.472	102.223
165	**Ho-IS**		559325.411		ppb	2.685		551751.151
159	**Tb-IS**	>	567971.553		ppb	1.137		560063.515
207	**Pb**		2395.634	**0.042794**	ppb	6.313	9.087	780.008
203	**Tl**		787.800	**0.045030**	ppb	3.287	3.347	203.335
209	**Bi-IS**		313612.000		ppb	1.293		310590.700
51	**V**		27.778	**0.091471**	ppb	24.980	27.140	1.111
59	**Co**		54.445	**0.040300**	ppb	43.003	57.703	14.444
60	**Ni**		337.782	**0.140514**	ppb	13.863	19.256	103.334
75	**As**		333.058	**0.035103**	ppb	13.486	190.091	308.110
71	**Ga-ISK**		90216.222		ppb	1.323		92164.209
82	**Se-2**		13.190	**0.198971**	ppb	128.793	151.733	1.856
107	**Ag-1**		1438.961	**0.188078**	ppb	3.975	9.101	303.337
115	**In-ISK**	>	123948.486		ppb	3.310		122411.300
45	**Sc-ISK**		226618.555		ppb	2.609		232308.164
23	**Na**		11759.843	**-0.597336**	ppb	3.712	258.771	11846.578
39	**K**		45397.587	**5.218564**	ppb	1.667	29.649	41476.795
24	**Mg**		1170.048	**2.674192**	ppb	9.857	15.029	360.005
159	**Tb-ISK**	>	249197.439		ppb	0.788		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 18:46:28
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.216
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59280.586		ppb	2.852		62246.450
9	**Be**		55.556	**0.012153**	ppb	18.330	38.874	27.778
10	**B**		1502.301	**0.250364**	ppb	1.222	24.536	1356.731
27	**Al**		18298.379	**0.457771**	ppb	0.845	3.491	12198.876
43	**Ca-2**		175.001	**1.518662**	ppb	24.908	98.719	130.001
49	**Ti**		373.338	**0.039269**	ppb	2.679	24.834	337.782
52	**Cr**		17977.972	**-0.007103**	ppb	0.533	255.934	18224.951
55	**Mn**		2000.141	**0.014096**	ppb	9.550	58.630	1710.103
57	**Fe**		16154.686	**0.403399**	ppb	1.580	64.258	16091.280
45	**Sc-IS**	>	2178412.812		ppb	1.828		2195473.971
66	**Zn**		1321.172	**-0.033143**	ppb	5.074	71.479	1410.070
86	**Sr**		90.248	**0.015782**	ppb	10.913	22.484	54.118
65	**Cu**		384.450	**0.013268**	ppb	13.936	103.877	336.671
69	**Ga-IS**		761335.069		ppb	0.268		753325.837
95	**Mo**		888.917	**0.204767**	ppb	5.105	5.686	374.449
115	**In-IS**	>	450048.338		ppb	2.392		450587.841
111	**Cd**		79.245	**0.014236**	ppb	30.402	48.039	30.325
118	**Sn**		6451.458	**0.284486**	ppb	3.410	6.513	3623.793
121	**Sb**		850.025	**0.025306**	ppb	9.222	20.093	564.456
135	**Ba**		122.223	**0.007230**	ppb	12.298	64.275	102.223
165	**Ho-IS**		566027.097		ppb	0.638		551751.151
159	**Tb-IS**	>	577700.955		ppb	1.927		560063.515
207	**Pb**		1370.025	**0.014819**	ppb	3.824	4.938	780.008
203	**Tl**		377.783	**0.012733**	ppb	20.205	41.510	203.335
209	**Bi-IS**		314628.556		ppb	1.485		310590.700
51	**V**		15.556	**0.049099**	ppb	32.733	35.992	1.111
59	**Co**		53.333	**0.038723**	ppb	28.641	38.675	14.444
60	**Ni**		283.336	**0.106506**	ppb	10.457	16.262	103.334
75	**As**		289.096	**-0.041917**	ppb	9.946	114.766	308.110
71	**Ga-ISK**		90862.618		ppb	2.596		92164.209
82	**Se-2**		7.557	**0.095886**	ppb	20.078	26.355	1.856
107	**Ag-1**		605.568	**0.048836**	ppb	3.866	9.444	303.337
115	**In-ISK**	>	124796.107		ppb	0.770		122411.300
45	**Sc-ISK**		224915.875		ppb	1.516		232308.164
23	**Na**		10502.194	**-4.499901**	ppb	2.215	8.815	11846.578
39	**K**		42758.349	**1.166312**	ppb	1.599	90.142	41476.795
24	**Mg**		631.681	**0.884410**	ppb	2.997	8.851	360.005
159	**Tb-ISK**	>	249813.242		ppb	2.070		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79021-C-1-A
Autosampler Position: 337
Sample Date/Time: Monday, January 03, 2022 18:49:40
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79021-C-1-A.217
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63355.800		ppb	2.688		62246.450
9	**Be**		96.667	**0.028211**	ppb	15.031	16.198	27.778
10	**B**		44891.600	**66.979958**	ppb	3.731	5.727	1356.731
27	**Al**		3461140.389	**245.227728**	ppb	0.969	3.246	12198.876
43	**Ca-2**		498702.816	**15663.363020**	ppb	3.251	0.841	130.001
49	**Ti**		14402.045	**13.818484**	ppb	26.703	23.563	337.782
52	**Cr**		37373.268	**1.243171**	ppb	0.403	7.095	18224.951
55	**Mn**		945480.564	**42.297160**	ppb	0.585	3.368	1710.103
57	**Fe**		236557.931	**451.640984**	ppb	2.777	5.899	16091.280
45	**Sc-IS**	>	2264667.444		ppb	3.474		2195473.971
66	**Zn**		56083.233	**22.293164**	ppb	1.973	2.407	1410.070
86	**Sr**		281478.532	**117.274618**	ppb	0.795	3.196	54.118
65	**Cu**		20106.362	**5.015729**	ppb	0.835	3.913	336.671
69	**Ga-IS**		769189.862		ppb	1.719		753325.837
95	**Mo**		3942.766	**1.355702**	ppb	1.903	3.176	374.449
115	**In-IS**	>	445634.383		ppb	1.298		450587.841
111	**Cd**		299.501	**0.079473**	ppb	11.357	13.467	30.325
118	**Sn**		397269.187	**39.931612**	ppb	1.797	0.859	3623.793
121	**Sb**		7401.919	**0.612929**	ppb	3.344	2.890	564.456
135	**Ba**		49802.234	**18.158706**	ppb	1.872	1.141	102.223
165	**Ho-IS**		563672.469		ppb	1.525		551751.151
159	**Tb-IS**	>	565905.232		ppb	1.123		560063.515
207	**Pb**		48771.102	**1.284476**	ppb	2.749	2.650	780.008
203	**Tl**		520.010	**0.024456**	ppb	14.491	24.227	203.335
209	**Bi-IS**		301156.950		ppb	0.887		310590.700
51	**V**		686.683	**2.455210**	ppb	3.183	1.927	1.111
59	**Co**		467.786	**0.481251**	ppb	13.338	14.929	14.444
60	**Ni**		3387.069	**2.073985**	ppb	4.901	5.232	103.334
75	**As**		990.937	**1.223074**	ppb	6.121	6.876	308.110
71	**Ga-ISK**		89003.073		ppb	0.862		92164.209
82	**Se-2**		37.187	**0.631069**	ppb	30.684	31.313	1.856
107	**Ag-1**		293.336	**0.000054**	ppb	17.751	17455.311	303.337
115	**In-ISK**	>	118399.234		ppb	1.463		122411.300
45	**Sc-ISK**		228328.736		ppb	2.487		232308.164
23	**Na**		4808856.733	**14747.664238**	ppb	2.833	2.371	11846.578
39	**K**		3520138.388	**5204.781670**	ppb	1.739	1.864	41476.795
24	**Mg**		1150384.868	**3859.112672**	ppb	1.455	0.673	360.005
159	**Tb-ISK**	>	246067.886		ppb	0.790		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79021-C-2-A
Autosampler Position: 338
Sample Date/Time: Monday, January 03, 2022 18:52:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79021-C-2-A.218
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64877.106		ppb	3.561		62246.450
9	**Be**		60.000	**0.012685**	ppb	11.111	22.523	27.778
10	**B**		47224.631	**69.411816**	ppb	2.686	2.155	1356.731
27	**Al**		2248286.353	**156.446992**	ppb	3.260	2.066	12198.876
43	**Ca-2**		517519.131	**16010.848483**	ppb	0.739	1.105	130.001
49	**Ti**		5507.730	**5.016766**	ppb	4.600	3.476	337.782
52	**Cr**		35583.159	**1.085974**	ppb	1.841	3.724	18224.951
55	**Mn**		976033.260	**42.975673**	ppb	1.821	0.483	1710.103
57	**Fe**		188950.462	**347.661182**	ppb	1.578	1.650	16091.280
45	**Sc-IS**	>	2299147.813		ppb	1.348		2195473.971
66	**Zn**		135031.941	**53.660799**	ppb	1.536	1.068	1410.070
86	**Sr**		281946.349	**115.618304**	ppb	2.921	2.302	54.118
65	**Cu**		19467.703	**4.775053**	ppb	1.819	0.480	336.671
69	**Ga-IS**		776405.725		ppb	0.976		753325.837
95	**Mo**		3781.613	**1.271782**	ppb	6.456	6.912	374.449
115	**In-IS**	>	440990.223		ppb	1.008		450587.841
111	**Cd**		303.173	**0.081403**	ppb	14.495	15.658	30.325
118	**Sn**		1256533.385	**128.432299**	ppb	1.904	1.592	3623.793
121	**Sb**		7393.024	**0.619171**	ppb	2.123	2.166	564.456
135	**Ba**		50230.379	**18.510782**	ppb	0.731	1.680	102.223
165	**Ho-IS**		556339.115		ppb	2.119		551751.151
159	**Tb-IS**	>	559205.617		ppb	1.103		560063.515
207	**Pb**		52816.640	**1.409747**	ppb	0.612	0.703	780.008
203	**Tl**		408.895	**0.016161**	ppb	14.499	26.671	203.335
209	**Bi-IS**		301942.332		ppb	1.276		310590.700
51	**V**		645.570	**2.293753**	ppb	2.844	1.133	1.111
59	**Co**		464.452	**0.474398**	ppb	4.385	6.074	14.444
60	**Ni**		3468.199	**2.111519**	ppb	1.159	0.684	103.334
75	**As**		947.577	**1.136267**	ppb	5.244	5.355	308.110
71	**Ga-ISK**		89928.919		ppb	2.165		92164.209
82	**Se-2**		40.192	**0.678987**	ppb	29.133	28.667	1.856
107	**Ag-1**		182.223	**-0.019512**	ppb	14.209	22.131	303.337
115	**In-ISK**	>	119134.207		ppb	1.711		122411.300
45	**Sc-ISK**		233855.856		ppb	2.248		232308.164
23	**Na**		4960737.084	**15197.328684**	ppb	0.778	1.056	11846.578
39	**K**		3676695.862	**5432.123732**	ppb	1.440	1.323	41476.795
24	**Mg**		1185359.041	**3971.042644**	ppb	2.956	1.732	360.005
159	**Tb-ISK**	>	246386.232		ppb	1.589		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79027-J-1-A
Autosampler Position: 339
Sample Date/Time: Monday, January 03, 2022 18:56:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79027-J-1-A.219
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67175.396		ppb	2.193		62246.450
9	**Be**		34.444	**0.002022**	ppb	20.145	135.942	27.778
10	**B**		28990.534	**41.251419**	ppb	4.369	3.335	1356.731
27	**Al**		1557775.205	**106.847704**	ppb	2.613	2.053	12198.876
43	**Ca-2**		416496.345	**12731.401150**	ppb	1.124	0.112	130.001
49	**Ti**		4801.918	**4.276510**	ppb	1.474	2.400	337.782
52	**Cr**		37977.099	**1.213675**	ppb	2.455	2.688	18224.951
55	**Mn**		312121.624	**13.526328**	ppb	2.127	1.074	1710.103
57	**Fe**		133240.738	**231.961754**	ppb	1.011	2.089	16091.280
45	**Sc-IS**	>	2326628.274		ppb	1.196		2195473.971
66	**Zn**		118972.375	**46.641238**	ppb	2.040	1.331	1410.070
86	**Sr**		204895.676	**83.032068**	ppb	1.278	1.401	54.118
65	**Cu**		25980.280	**6.325086**	ppb	2.615	1.820	336.671
69	**Ga-IS**		783978.252		ppb	1.558		753325.837
95	**Mo**		6912.784	**2.416377**	ppb	1.603	1.932	374.449
115	**In-IS**	>	442638.007		ppb	2.123		450587.841
111	**Cd**		257.708	**0.067741**	ppb	9.716	13.323	30.325
118	**Sn**		79352.014	**7.741488**	ppb	1.067	1.688	3623.793
121	**Sb**		13703.236	**1.185939**	ppb	1.045	1.630	564.456
135	**Ba**		53174.347	**19.525393**	ppb	1.359	1.280	102.223
165	**Ho-IS**		561247.477		ppb	1.513		551751.151
159	**Tb-IS**	>	562609.616		ppb	0.909		560063.515
207	**Pb**		59062.852	**1.569255**	ppb	0.600	0.614	780.008
203	**Tl**		343.337	**0.010874**	ppb	0.000	2.253	203.335
209	**Bi-IS**		310392.552		ppb	0.680		310590.700
51	**V**		911.140	**3.182743**	ppb	4.913	6.017	1.111
59	**Co**		245.558	**0.239255**	ppb	9.039	10.832	14.444
60	**Ni**		3891.641	**2.333001**	ppb	3.080	2.485	103.334
75	**As**		984.730	**1.171646**	ppb	3.408	6.253	308.110
71	**Ga-ISK**		89223.357		ppb	1.483		92164.209
82	**Se-2**		13.820	**0.208146**	ppb	52.077	59.766	1.856
107	**Ag-1**		147.779	**-0.025940**	ppb	23.478	21.484	303.337
115	**In-ISK**	>	121305.214		ppb	1.178		122411.300
45	**Sc-ISK**		232666.758		ppb	2.403		232308.164
23	**Na**		3398307.857	**10506.327584**	ppb	2.424	2.681	11846.578
39	**K**		2352398.531	**3488.678896**	ppb	3.387	2.638	41476.795
24	**Mg**		702768.096	**2378.418590**	ppb	0.681	1.043	360.005
159	**Tb-ISK**	>	243887.121		ppb	1.338		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79027-H-2-A
Autosampler Position: 340
Sample Date/Time: Monday, January 03, 2022 18:59:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79027-H-2-A.220
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64056.629		ppb	0.598		62246.450
9	**Be**		40.000	**0.004085**	ppb	14.434	62.663	27.778
10	**B**		29243.238	**41.049228**	ppb	1.569	1.780	1356.731
27	**Al**		2819124.307	**191.543594**	ppb	3.033	4.710	12198.876
43	**Ca-2**		413310.950	**12463.422963**	ppb	1.287	1.582	130.001
49	**Ti**		9738.881	**8.906548**	ppb	5.549	7.560	337.782
52	**Cr**		40447.203	**1.339554**	ppb	2.550	6.989	18224.951
55	**Mn**		305280.330	**13.047630**	ppb	1.860	0.330	1710.103
57	**Fe**		164413.017	**289.741312**	ppb	4.421	5.256	16091.280
45	**Sc-IS**	>	2358835.016		ppb	2.033		2195473.971
66	**Zn**		114643.773	**44.307960**	ppb	1.203	0.935	1410.070
86	**Sr**		202115.045	**80.790058**	ppb	1.389	0.981	54.118
65	**Cu**		26040.379	**6.254094**	ppb	0.585	1.827	336.671
69	**Ga-IS**		785858.269		ppb	0.728		753325.837
95	**Mo**		6797.173	**2.338983**	ppb	2.416	1.739	374.449
115	**In-IS**	>	439110.144		ppb	1.843		450587.841
111	**Cd**		193.505	**0.049048**	ppb	7.061	8.928	30.325
118	**Sn**		67243.550	**6.557498**	ppb	3.198	1.586	3623.793
121	**Sb**		14328.295	**1.252542**	ppb	1.811	1.541	564.456
135	**Ba**		54949.935	**20.340045**	ppb	1.263	1.028	102.223
165	**Ho-IS**		560175.701		ppb	1.606		551751.151
159	**Tb-IS**	>	571926.306		ppb	1.384		560063.515
207	**Pb**		55552.017	**1.450327**	ppb	1.986	1.527	780.008
203	**Tl**		321.115	**0.008740**	ppb	11.196	33.361	203.335
209	**Bi-IS**		307429.886		ppb	1.491		310590.700
51	**V**		955.588	**3.351680**	ppb	8.991	8.734	1.111
59	**Co**		232.224	**0.226383**	ppb	4.614	4.867	14.444
60	**Ni**		3931.654	**2.368252**	ppb	7.335	6.835	103.334
75	**As**		981.163	**1.172846**	ppb	7.102	10.274	308.110
71	**Ga-ISK**		89720.892		ppb	1.272		92164.209
82	**Se-2**		23.841	**0.385409**	ppb	4.147	5.010	1.856
107	**Ag-1**		151.112	**-0.025235**	ppb	17.134	16.673	303.337
115	**In-ISK**	>	120747.747		ppb	0.774		122411.300
45	**Sc-ISK**		233100.117		ppb	1.854		232308.164
23	**Na**		3387260.487	**10417.858319**	ppb	1.399	1.061	11846.578
39	**K**		2389562.389	**3526.681332**	ppb	2.271	1.603	41476.795
24	**Mg**		700841.570	**2359.652380**	ppb	1.831	1.315	360.005
159	**Tb-ISK**	>	245136.967		ppb	1.484		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79027-C-4-A
Autosampler Position: 341
Sample Date/Time: Monday, January 03, 2022 19:02:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79027-C-4-A.221
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62433.985		ppb	2.881		62246.450
9	**Be**		37.778	**0.003488**	ppb	13.478	64.636	27.778
10	**B**		1877.901	**0.675698**	ppb	1.947	7.026	1356.731
27	**Al**		886723.673	**60.793919**	ppb	1.939	0.327	12198.876
43	**Ca-2**		17587.496	**536.625683**	ppb	3.606	2.312	130.001
49	**Ti**		3823.845	**3.356858**	ppb	3.596	4.306	337.782
52	**Cr**		28338.081	**0.598292**	ppb	1.001	8.368	18224.951
55	**Mn**		12779.050	**0.481279**	ppb	3.141	2.519	1710.103
57	**Fe**		35283.525	**36.806079**	ppb	1.485	1.718	16091.280
45	**Sc-IS**	>	2313138.680		ppb	1.726		2195473.971
66	**Zn**		3009.206	**0.609038**	ppb	3.643	9.940	1410.070
86	**Sr**		3574.575	**1.434047**	ppb	2.807	2.055	54.118
65	**Cu**		5781.170	**1.347610**	ppb	0.832	1.443	336.671
69	**Ga-IS**		772453.444		ppb	2.682		753325.837
95	**Mo**		274.447	**-0.044788**	ppb	14.490	33.045	374.449
115	**In-IS**	>	445888.670		ppb	1.470		450587.841
111	**Cd**		12.757	**-0.005081**	ppb	77.923	57.127	30.325
118	**Sn**		26333.341	**2.306232**	ppb	11.252	12.927	3623.793
121	**Sb**		1584.533	**0.091785**	ppb	6.760	8.672	564.456
135	**Ba**		7225.163	**2.600502**	ppb	4.989	3.666	102.223
165	**Ho-IS**		550083.769		ppb	1.144		551751.151
159	**Tb-IS**	>	556587.936		ppb	0.598		560063.515
207	**Pb**		5951.608	**0.140891**	ppb	0.064	0.616	780.008
203	**Tl**		127.778	**-0.005873**	ppb	10.861	17.995	203.335
209	**Bi-IS**		314410.451		ppb	1.412		310590.700
51	**V**		26.667	**0.089338**	ppb	0.000	1.101	1.111
59	**Co**		25.556	**0.011660**	ppb	32.825	76.390	14.444
60	**Ni**		115.556	**0.008094**	ppb	12.010	108.254	103.334
75	**As**		369.710	**0.110597**	ppb	11.817	66.155	308.110
71	**Ga-ISK**		91696.733		ppb	1.622		92164.209
82	**Se-2**		0.502	**-0.024235**	ppb	1506.373	546.574	1.856
107	**Ag-1**		154.445	**-0.024772**	ppb	4.493	5.557	303.337
115	**In-ISK**	>	121357.847		ppb	1.050		122411.300
45	**Sc-ISK**		231145.262		ppb	1.528		232308.164
23	**Na**		372961.116	**1108.403991**	ppb	3.435	3.167	11846.578
39	**K**		71265.105	**44.588708**	ppb	1.108	1.673	41476.795
24	**Mg**		14113.636	**46.089816**	ppb	1.758	3.016	360.005
159	**Tb-ISK**	>	246481.037		ppb	1.219		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79024-G-1-A
Autosampler Position: 342
Sample Date/Time: Monday, January 03, 2022 19:05:31
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79024-G-1-A.222
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63965.292		ppb	4.424		62246.450
9	**Be**		46.667	**0.007114**	ppb	25.754	74.429	27.778
10	**B**		29942.465	**42.828008**	ppb	1.843	1.240	1356.731
27	**Al**		2495804.793	**172.233358**	ppb	3.010	0.543	12198.876
43	**Ca-2**		321972.002	**9871.930799**	ppb	1.839	1.393	130.001
49	**Ti**		5985.699	**5.432383**	ppb	2.159	0.414	337.782
52	**Cr**		39211.527	**1.302742**	ppb	1.578	5.259	18224.951
55	**Mn**		477833.926	**20.812309**	ppb	2.807	0.546	1710.103
57	**Fe**		175865.115	**318.077213**	ppb	2.222	0.344	16091.280
45	**Sc-IS**	>	2319717.878		ppb	2.535		2195473.971
66	**Zn**		124898.330	**49.148264**	ppb	2.772	2.108	1410.070
86	**Sr**		165213.104	**67.165727**	ppb	3.298	3.918	54.118
65	**Cu**		39798.707	**9.768104**	ppb	1.901	1.856	336.671
69	**Ga-IS**		779561.154		ppb	2.513		753325.837
95	**Mo**		5369.898	**1.850124**	ppb	2.188	0.433	374.449
115	**In-IS**	>	436425.252		ppb	1.100		450587.841
111	**Cd**		377.617	**0.104699**	ppb	10.975	10.721	30.325
118	**Sn**		39176.984	**3.694821**	ppb	1.135	2.441	3623.793
121	**Sb**		12109.580	**1.057788**	ppb	4.036	4.933	564.456
135	**Ba**		46864.572	**17.446620**	ppb	3.126	2.799	102.223
165	**Ho-IS**		566775.786		ppb	1.833		551751.151
159	**Tb-IS**	>	563732.744		ppb	1.002		560063.515
207	**Pb**		102653.538	**2.737341**	ppb	1.897	1.361	780.008
203	**Tl**		293.336	**0.006919**	ppb	4.097	13.499	203.335
209	**Bi-IS**		317634.813		ppb	0.938		310590.700
51	**V**		800.022	**2.801833**	ppb	4.640	4.180	1.111
59	**Co**		368.894	**0.367822**	ppb	3.652	3.649	14.444
60	**Ni**		4410.681	**2.661640**	ppb	3.035	2.636	103.334
75	**As**		1046.390	**1.283778**	ppb	4.978	7.654	308.110
71	**Ga-ISK**		92365.778		ppb	4.287		92164.209
82	**Se-2**		23.200	**0.374033**	ppb	56.369	61.420	1.856
107	**Ag-1**		101.111	**-0.033744**	ppb	30.632	15.697	303.337
115	**In-ISK**	>	120901.481		ppb	0.473		122411.300
45	**Sc-ISK**		233241.164		ppb	1.580		232308.164
23	**Na**		2460948.680	**7626.301313**	ppb	1.507	0.486	11846.578
39	**K**		2511311.334	**3743.472373**	ppb	2.614	2.695	41476.795
24	**Mg**		531998.992	**1806.940022**	ppb	1.220	1.177	360.005
159	**Tb-ISK**	>	242971.062		ppb	1.397		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79024-F-2-A
Autosampler Position: 343
Sample Date/Time: Monday, January 03, 2022 19:08:42
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79024-F-2-A.223
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65826.929		ppb	2.460		62246.450
9	**Be**		47.778	**0.007293**	ppb	40.280	106.666	27.778
10	**B**		30964.656	**43.857222**	ppb	3.184	2.559	1356.731
27	**Al**		2296305.015	**156.700763**	ppb	2.076	1.079	12198.876
43	**Ca-2**		327742.603	**9941.295448**	ppb	1.709	2.195	130.001
49	**Ti**		5508.843	**4.913073**	ppb	6.998	6.370	337.782
52	**Cr**		39834.406	**1.314250**	ppb	3.936	5.604	18224.951
55	**Mn**		454633.380	**19.583219**	ppb	3.882	2.812	1710.103
57	**Fe**		168049.569	**298.810220**	ppb	1.999	1.123	16091.280
45	**Sc-IS**	>	2344674.075		ppb	1.074		2195473.971
66	**Zn**		129497.837	**50.424040**	ppb	2.350	1.802	1410.070
86	**Sr**		166063.042	**66.764323**	ppb	2.413	1.572	54.118
65	**Cu**		33265.364	**8.060218**	ppb	2.140	1.203	336.671
69	**Ga-IS**		785487.580		ppb	0.727		753325.837
95	**Mo**		5441.040	**1.854377**	ppb	7.602	7.475	374.449
115	**In-IS**	>	444696.309		ppb	2.373		450587.841
111	**Cd**		358.579	**0.096823**	ppb	16.112	14.925	30.325
118	**Sn**		55705.082	**5.300494**	ppb	1.646	2.732	3623.793
121	**Sb**		12422.068	**1.064929**	ppb	3.016	1.463	564.456
135	**Ba**		46690.653	**17.057849**	ppb	2.518	0.428	102.223
165	**Ho-IS**		564137.464		ppb	1.206		551751.151
159	**Tb-IS**	>	569948.381		ppb	0.520		560063.515
207	**Pb**		98440.827	**2.595360**	ppb	0.538	0.083	780.008
203	**Tl**		271.114	**0.004953**	ppb	5.679	23.527	203.335
209	**Bi-IS**		311388.483		ppb	1.093		310590.700
51	**V**		740.019	**2.585836**	ppb	1.560	2.856	1.111
59	**Co**		344.449	**0.342375**	ppb	12.887	15.691	14.444
60	**Ni**		4498.486	**2.710299**	ppb	1.446	3.726	103.334
75	**As**		998.992	**1.196158**	ppb	4.658	2.487	308.110
71	**Ga-ISK**		90074.208		ppb	1.077		92164.209
82	**Se-2**		13.846	**0.211923**	ppb	62.112	72.689	1.856
107	**Ag-1**		92.223	**-0.035273**	ppb	11.042	5.910	303.337
115	**In-ISK**	>	121257.115		ppb	3.777		122411.300
45	**Sc-ISK**		234532.026		ppb	3.349		232308.164
23	**Na**		2520179.858	**7718.958162**	ppb	3.455	2.167	11846.578
39	**K**		2555729.966	**3765.135144**	ppb	3.664	2.425	41476.795
24	**Mg**		534958.230	**1795.821253**	ppb	3.085	2.385	360.005
159	**Tb-ISK**	>	245800.830		ppb	1.308		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79024-C-3-A
Autosampler Position: 344
Sample Date/Time: Monday, January 03, 2022 19:11:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79024-C-3-A.224
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62622.576		ppb	2.666		62246.450
9	**Be**		28.889	**-0.000230**	ppb	17.625	859.675	27.778
10	**B**		1792.335	**0.530411**	ppb	4.008	14.095	1356.731
27	**Al**		913060.045	**62.249478**	ppb	3.490	2.384	12198.876
43	**Ca-2**		18533.686	**562.527665**	ppb	2.343	2.190	130.001
49	**Ti**		4276.196	**3.769827**	ppb	2.686	2.164	337.782
52	**Cr**		28817.928	**0.618530**	ppb	0.971	6.526	18224.951
55	**Mn**		14925.580	**0.571524**	ppb	4.206	3.607	1710.103
57	**Fe**		38905.127	**43.627057**	ppb	0.427	1.418	16091.280
45	**Sc-IS**	>	2326592.469		ppb	1.208		2195473.971
66	**Zn**		1335.618	**-0.063175**	ppb	6.558	47.218	1410.070
86	**Sr**		3741.216	**1.493341**	ppb	4.336	4.569	54.118
65	**Cu**		7911.081	**1.864740**	ppb	3.462	2.909	336.671
69	**Ga-IS**		774025.177		ppb	0.521		753325.837
95	**Mo**		261.114	**-0.050449**	ppb	18.426	32.894	374.449
115	**In-IS**	>	440071.414		ppb	0.769		450587.841
111	**Cd**		15.007	**-0.004356**	ppb	33.808	34.893	30.325
118	**Sn**		24058.081	**2.108097**	ppb	6.822	8.452	3623.793
121	**Sb**		1616.758	**0.096687**	ppb	5.490	9.491	564.456
135	**Ba**		7216.268	**2.633327**	ppb	3.275	3.835	102.223
165	**Ho-IS**		559769.925		ppb	0.707		551751.151
159	**Tb-IS**	>	569998.422		ppb	0.852		560063.515
207	**Pb**		5808.235	**0.133292**	ppb	2.171	3.494	780.008
203	**Tl**		111.112	**-0.007391**	ppb	6.245	8.025	203.335
209	**Bi-IS**		307344.531		ppb	1.104		310590.700
51	**V**		30.000	**0.101122**	ppb	33.333	33.296	1.111
59	**Co**		30.000	**0.016243**	ppb	66.667	124.285	14.444
60	**Ni**		143.334	**0.025705**	ppb	15.250	54.670	103.334
75	**As**		340.985	**0.064235**	ppb	2.046	10.344	308.110
71	**Ga-ISK**		90036.185		ppb	0.905		92164.209
82	**Se-2**		-1.453	**-0.056170**	ppb	329.304	150.598	1.856
107	**Ag-1**		104.445	**-0.033107**	ppb	22.416	13.145	303.337
115	**In-ISK**	>	120757.293		ppb	2.822		122411.300
45	**Sc-ISK**		229934.576		ppb	0.327		232308.164
23	**Na**		369297.652	**1115.559717**	ppb	0.876	1.090	11846.578
39	**K**		70391.897	**44.982421**	ppb	0.861	1.420	41476.795
24	**Mg**		13546.421	**44.908063**	ppb	2.056	0.950	360.005
159	**Tb-ISK**	>	242571.718		ppb	1.460		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Monday, January 03, 2022 19:15:02
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\blk.225
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63267.714		ppb	3.994		62246.450
9	**Be**		10.000	**-0.007772**	ppb	0.000	1.769	27.778
10	**B**		1347.841	**-0.083766**	ppb	4.021	70.195	1356.731
27	**Al**		17936.930	**0.377614**	ppb	3.527	0.860	12198.876
43	**Ca-2**		193.335	**1.858281**	ppb	19.063	66.391	130.001
49	**Ti**		424.451	**0.075508**	ppb	12.769	86.140	337.782
52	**Cr**		20615.980	**0.118863**	ppb	1.928	18.354	18224.951
55	**Mn**		1668.988	**-0.004593**	ppb	14.082	170.814	1710.103
57	**Fe**		15308.207	**-2.718542**	ppb	4.068	9.990	16091.280
45	**Sc-IS**	>	2269590.653		ppb	3.370		2195473.971
66	**Zn**		1628.982	**0.069970**	ppb	5.279	50.726	1410.070
86	**Sr**		55.766	**-0.000223**	ppb	78.272	8138.463	54.118
65	**Cu**		358.893	**0.002954**	ppb	6.971	311.930	336.671
69	**Ga-IS**		774465.871		ppb	1.682		753325.837
95	**Mo**		215.557	**-0.064786**	ppb	19.884	28.897	374.449
115	**In-IS**	>	444408.829		ppb	1.865		450587.841
111	**Cd**		11.770	**-0.005346**	ppb	32.228	22.269	30.325
118	**Sn**		2805.831	**-0.077958**	ppb	3.449	19.285	3623.793
121	**Sb**		288.892	**-0.024060**	ppb	3.709	2.182	564.456
135	**Ba**		84.445	**-0.006039**	ppb	12.059	52.596	102.223
165	**Ho-IS**		554121.324		ppb	0.437		551751.151
159	**Tb-IS**	>	556875.067		ppb	2.504		560063.515
207	**Pb**		522.226	**-0.006879**	ppb	2.878	10.936	780.008
203	**Tl**		100.000	**-0.008062**	ppb	23.333	23.542	203.335
209	**Bi-IS**		315518.738		ppb	1.057		310590.700
51	**V**		0.000	**-0.003849**	ppb		0.000	1.111
59	**Co**		11.111	**-0.003331**	ppb	69.282	238.844	14.444
60	**Ni**		183.335	**0.049718**	ppb	15.535	37.375	103.334
75	**As**		284.157	**-0.037643**	ppb	7.334	91.426	308.110
71	**Ga-ISK**		90334.774		ppb	1.805		92164.209
82	**Se-2**		-1.141	**-0.052507**	ppb	304.200	114.536	1.856
107	**Ag-1**		137.778	**-0.027690**	ppb	18.792	14.343	303.337
115	**In-ISK**	>	121586.134		ppb	1.688		122411.300
45	**Sc-ISK**		229902.029		ppb	1.307		232308.164
23	**Na**		9981.820	**-5.473225**	ppb	2.040	6.996	11846.578
39	**K**		39677.247	**-2.210092**	ppb	0.667	26.602	41476.795
24	**Mg**		418.339	**0.206656**	ppb	7.684	55.832	360.005
159	**Tb-ISK**	>	244907.537		ppb	0.807		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Monday, January 03, 2022 19:18:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\blk.226
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63952.850		ppb	1.469		62246.450
9	**Be**		11.111	**-0.007256**	ppb	17.321	10.830	27.778
10	**B**		1217.830	**-0.259519**	ppb	1.234	5.098	1356.731
27	**Al**		17049.512	**0.330191**	ppb	3.962	13.089	12198.876
43	**Ca-2**		196.668	**2.026425**	ppb	14.457	41.976	130.001
49	**Ti**		452.229	**0.107679**	ppb	10.741	48.847	337.782
52	**Cr**		20647.132	**0.138313**	ppb	0.481	14.363	18224.951
55	**Mn**		1617.870	**-0.005797**	ppb	12.269	148.613	1710.103
57	**Fe**		14767.629	**-3.430605**	ppb	0.554	4.875	16091.280
45	**Sc-IS**	>	2240767.499		ppb	0.936		2195473.971
66	**Zn**		1516.748	**0.032086**	ppb	8.923	177.303	1410.070
86	**Sr**		34.617	**-0.008655**	ppb	109.190	183.291	54.118
65	**Cu**		293.336	**-0.012875**	ppb	4.953	31.377	336.671
69	**Ga-IS**		764198.402		ppb	3.228		753325.837
95	**Mo**		137.778	**-0.094033**	ppb	24.830	14.412	374.449
115	**In-IS**	>	437676.373		ppb	1.692		450587.841
111	**Cd**		17.488	**-0.003584**	ppb	11.398	18.723	30.325
118	**Sn**		2242.399	**-0.131827**	ppb	5.134	10.971	3623.793
121	**Sb**		263.336	**-0.025933**	ppb	18.387	18.520	564.456
135	**Ba**		77.778	**-0.008023**	ppb	27.885	99.982	102.223
165	**Ho-IS**		554230.172		ppb	1.509		551751.151
159	**Tb-IS**	>	555840.152		ppb	1.652		560063.515
207	**Pb**		450.003	**-0.008835**	ppb	13.477	18.275	780.008
203	**Tl**		95.556	**-0.008398**	ppb	17.901	16.744	203.335
209	**Bi-IS**		310849.703		ppb	4.355		310590.700
51	**V**		0.000	**-0.003849**	ppb		0.000	1.111
59	**Co**		7.778	**-0.006801**	ppb	49.487	57.049	14.444
60	**Ni**		178.890	**0.046955**	ppb	15.516	32.244	103.334
75	**As**		259.994	**-0.078048**	ppb	3.870	21.325	308.110
71	**Ga-ISK**		88455.341		ppb	2.484		92164.209
82	**Se-2**		2.869	**0.017306**	ppb	210.464	612.472	1.856
107	**Ag-1**		112.223	**-0.031906**	ppb	4.537	3.692	303.337
115	**In-ISK**	>	121292.810		ppb	2.162		122411.300
45	**Sc-ISK**		226517.551		ppb	1.503		232308.164
23	**Na**		8831.064	**-8.863664**	ppb	2.818	10.804	11846.578
39	**K**		38821.568	**-3.156422**	ppb	0.695	27.763	41476.795
24	**Mg**		246.669	**-0.367206**	ppb	13.189	31.497	360.005
159	**Tb-ISK**	>	243499.788		ppb	0.859		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 19:21:24
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.227
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62092.440		ppb	1.201		62246.450
9	**Be**		232421.384	**98.887000**	ppb	1.792	1.479	27.778
10	**B**		162156.240	**252.859845**	ppb	0.413	1.568	1356.731
27	**Al**		1376762.191	**99.111336**	ppb	0.147	2.055	12198.876
43	**Ca-2**		157485.137	**5051.847992**	ppb	1.747	0.426	130.001
49	**Ti**		100857.044	**101.555711**	ppb	1.446	1.598	337.782
52	**Cr**		1431899.907	**96.538959**	ppb	1.609	1.641	18224.951
55	**Mn**		2242794.243	**102.579898**	ppb	1.257	0.749	1710.103
57	**Fe**		2460003.985	**5121.732011**	ppb	1.895	0.821	16091.280
45	**Sc-IS**	>	2216008.231		ppb	1.901		2195473.971
66	**Zn**		246204.634	**102.054440**	ppb	0.679	1.293	1410.070
86	**Sr**		229686.839	**97.711245**	ppb	3.007	1.323	54.118
65	**Cu**		388966.891	**100.725204**	ppb	2.151	0.565	336.671
69	**Ga-IS**		801445.180		ppb	1.507		753325.837
95	**Mo**		248685.074	**96.658184**	ppb	3.182	1.591	374.449
115	**In-IS**	>	439109.556		ppb	2.134		450587.841
111	**Cd**		333040.332	**99.592420**	ppb	2.043	1.408	30.325
118	**Sn**		960993.051	**98.545133**	ppb	3.763	2.181	3623.793
121	**Sb**		1042043.005	**94.678562**	ppb	1.965	1.150	564.456
135	**Ba**		266767.119	**98.883778**	ppb	1.772	0.369	102.223
165	**Ho-IS**		553868.419		ppb	0.360		551751.151
159	**Tb-IS**	>	553320.118		ppb	0.558		560063.515
207	**Pb**		3643784.688	**99.741118**	ppb	1.157	1.450	780.008
203	**Tl**		1223471.360	**97.237894**	ppb	0.768	1.274	203.335
209	**Bi-IS**		304266.490		ppb	1.381		310590.700
51	**V**		27856.033	**97.984311**	ppb	2.601	4.462	1.111
59	**Co**		92143.005	**95.837802**	ppb	2.592	4.458	14.444
60	**Ni**		163915.490	**101.466236**	ppb	2.746	3.413	103.334
75	**As**		56912.900	**98.164092**	ppb	1.050	2.280	308.110
71	**Ga-ISK**		90006.007		ppb	1.177		92164.209
82	**Se-2**		5747.351	**100.706411**	ppb	3.214	2.962	1.856
107	**Ag-1**		599345.995	**102.137223**	ppb	2.808	4.007	303.337
115	**In-ISK**	>	120618.862		ppb	1.917		122411.300
45	**Sc-ISK**		234404.131		ppb	0.474		232308.164
23	**Na**		1686865.309	**5124.788877**	ppb	3.309	4.492	11846.578
39	**K**		3539043.951	**5204.844857**	ppb	2.492	1.369	41476.795
24	**Mg**		1501762.438	**5011.914778**	ppb	2.055	1.063	360.005
159	**Tb-ISK**	>	247355.990		ppb	1.285		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 19:24:35
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.228
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61792.253		ppb	1.173		62246.450
9	**Be**		67.778	**0.016934**	ppb	10.238	17.003	27.778
10	**B**		1616.758	**0.392715**	ppb	3.120	30.079	1356.731
27	**Al**		17763.375	**0.396981**	ppb	2.578	3.170	12198.876
43	**Ca-2**		175.001	**1.428436**	ppb	27.256	112.562	130.001
49	**Ti**		384.450	**0.044126**	ppb	16.043	136.724	337.782
52	**Cr**		18821.282	**0.030345**	ppb	1.938	20.463	18224.951
55	**Mn**		1980.137	**0.011715**	ppb	2.208	7.208	1710.103
57	**Fe**		15877.712	**-0.733059**	ppb	2.852	66.124	16091.280
45	**Sc-IS**	>	2213761.457		ppb	1.596		2195473.971
66	**Zn**		1454.519	**0.013422**	ppb	5.106	157.465	1410.070
86	**Sr**		80.211	**0.010927**	ppb	29.140	91.993	54.118
65	**Cu**		396.672	**0.014756**	ppb	11.368	70.296	336.671
69	**Ga-IS**		759261.353		ppb	1.700		753325.837
95	**Mo**		1494.523	**0.435614**	ppb	4.373	7.656	374.449
115	**In-IS**	>	443939.047		ppb	1.997		450587.841
111	**Cd**		94.640	**0.019171**	ppb	7.239	11.631	30.325
118	**Sn**		7961.108	**0.447596**	ppb	2.850	8.845	3623.793
121	**Sb**		896.695	**0.030604**	ppb	3.917	6.025	564.456
135	**Ba**		111.112	**0.003904**	ppb	24.434	267.616	102.223
165	**Ho-IS**		561616.744		ppb	0.363		551751.151
159	**Tb-IS**	>	560383.716		ppb	2.077		560063.515
207	**Pb**		1376.693	**0.016121**	ppb	4.769	10.460	780.008
203	**Tl**		445.563	**0.019070**	ppb	12.164	26.214	203.335
209	**Bi-IS**		310726.640		ppb	1.313		310590.700
51	**V**		14.444	**0.046654**	ppb	70.501	76.892	1.111
59	**Co**		37.778	**0.024173**	ppb	66.226	106.633	14.444
60	**Ni**		266.669	**0.100798**	ppb	5.449	7.343	103.334
75	**As**		335.343	**0.051006**	ppb	9.553	116.874	308.110
71	**Ga-ISK**		88087.433		ppb	1.105		92164.209
82	**Se-2**		11.539	**0.167697**	ppb	93.392	110.210	1.856
107	**Ag-1**		1198.939	**0.151915**	ppb	7.905	11.140	303.337
115	**In-ISK**	>	121531.473		ppb	1.054		122411.300
45	**Sc-ISK**		228004.085		ppb	0.899		232308.164
23	**Na**		9346.391	**-7.363852**	ppb	2.661	12.649	11846.578
39	**K**		42020.602	**1.459581**	ppb	0.947	63.680	41476.795
24	**Mg**		778.355	**1.426945**	ppb	8.769	17.003	360.005
159	**Tb-ISK**	>	244341.928		ppb	0.557		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 19:27:46
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.229
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60982.222		ppb	3.691		62246.450
9	**Be**		32.222	**0.001762**	ppb	39.165	304.153	27.778
10	**B**		1286.725	**-0.132606**	ppb	1.187	18.714	1356.731
27	**Al**		18511.662	**0.448414**	ppb	3.424	10.132	12198.876
43	**Ca-2**		175.001	**1.398633**	ppb	8.571	34.577	130.001
49	**Ti**		372.227	**0.031126**	ppb	7.183	86.748	337.782
52	**Cr**		18748.974	**0.022504**	ppb	3.897	220.889	18224.951
55	**Mn**		1786.778	**0.002673**	ppb	2.119	65.346	1710.103
57	**Fe**		15298.192	**-2.018630**	ppb	3.104	49.083	16091.280
45	**Sc-IS**	>	2218845.790		ppb	0.048		2195473.971
66	**Zn**		1306.727	**-0.049281**	ppb	4.419	48.275	1410.070
86	**Sr**		62.495	**0.003317**	ppb	16.236	130.358	54.118
65	**Cu**		351.115	**0.002813**	ppb	12.925	418.251	336.671
69	**Ga-IS**		768470.325		ppb	2.152		753325.837
95	**Mo**		502.231	**0.048126**	ppb	15.285	61.845	374.449
115	**In-IS**	>	445474.612		ppb	1.093		450587.841
111	**Cd**		35.612	**0.001673**	ppb	15.782	106.354	30.325
118	**Sn**		4527.384	**0.095901**	ppb	2.283	12.378	3623.793
121	**Sb**		527.788	**-0.002702**	ppb	7.266	132.125	564.456
135	**Ba**		73.334	**-0.010127**	ppb	19.813	52.819	102.223
165	**Ho-IS**		562031.427		ppb	1.806		551751.151
159	**Tb-IS**	>	563234.190		ppb	0.440		560063.515
207	**Pb**		843.343	**0.001580**	ppb	7.320	98.806	780.008
203	**Tl**		208.890	**0.000343**	ppb	13.383	633.651	203.335
209	**Bi-IS**		315251.387		ppb	2.034		310590.700
51	**V**		8.889	**0.027085**	ppb	43.301	48.164	1.111
59	**Co**		24.444	**0.010400**	ppb	20.830	48.072	14.444
60	**Ni**		268.891	**0.102337**	ppb	8.795	15.620	103.334
75	**As**		335.714	**0.051991**	ppb	14.377	169.703	308.110
71	**Ga-ISK**		90538.436		ppb	3.392		92164.209
82	**Se-2**		5.864	**0.070036**	ppb	102.984	151.039	1.856
107	**Ag-1**		424.451	**0.020917**	ppb	9.068	34.395	303.337
115	**In-ISK**	>	121508.790		ppb	1.011		122411.300
45	**Sc-ISK**		222307.960		ppb	2.053		232308.164
23	**Na**		8595.920	**-9.678265**	ppb	2.713	6.629	11846.578
39	**K**		40790.380	**-0.357615**	ppb	1.206	385.100	41476.795
24	**Mg**		388.339	**0.109005**	ppb	10.721	130.668	360.005
159	**Tb-ISK**	>	244222.006		ppb	1.034		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: MB 570-205141_1-A
Autosampler Position: 345
Sample Date/Time: Monday, January 03, 2022 19:30:58
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\MB 570-205141_1-A.230
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59580.658		ppb	0.740		62246.450
9	**Be**		24.444	**-0.001237**	ppb	41.660	356.279	27.778
10	**B**		1091.153	**-0.388396**	ppb	1.444	14.689	1356.731
27	**Al**		9871.410	**-0.156910**	ppb	1.395	10.278	12198.876
43	**Ca-2**		146.667	**0.626665**	ppb	28.590	217.487	130.001
49	**Ti**		323.337	**-0.008548**	ppb	12.499	483.549	337.782
52	**Cr**		17971.299	**0.005689**	ppb	1.848	23.583	18224.951
55	**Mn**		1191.161	**-0.022963**	ppb	8.093	17.408	1710.103
57	**Fe**		14121.422	**-3.608338**	ppb	1.878	0.250	16091.280
45	**Sc-IS**	>	2155175.263		ppb	1.907		2195473.971
66	**Zn**		1441.184	**0.024230**	ppb	4.984	87.861	1410.070
86	**Sr**		25.728	**-0.011948**	ppb	72.349	68.101	54.118
65	**Cu**		290.003	**-0.010760**	ppb	11.085	81.833	336.671
69	**Ga-IS**		729183.532		ppb	2.441		753325.837
95	**Mo**		186.668	**-0.072219**	ppb	22.799	25.524	374.449
115	**In-IS**	>	440170.758		ppb	1.101		450587.841
111	**Cd**		27.386	**-0.000708**	ppb	67.336	769.663	30.325
118	**Sn**		1903.460	**-0.167983**	ppb	4.819	6.812	3623.793
121	**Sb**		256.669	**-0.026720**	ppb	6.748	6.373	564.456
135	**Ba**		47.778	**-0.019292**	ppb	40.280	36.242	102.223
165	**Ho-IS**		551453.759		ppb	0.980		551751.151
159	**Tb-IS**	>	557314.093		ppb	0.116		560063.515
207	**Pb**		640.006	**-0.003702**	ppb	9.215	43.147	780.008
203	**Tl**		164.445	**-0.002990**	ppb	9.362	40.695	203.335
209	**Bi-IS**		306800.684		ppb	0.812		310590.700
51	**V**		6.667	**0.019662**	ppb	100.000	119.305	1.111
59	**Co**		25.556	**0.011666**	ppb	49.382	113.201	14.444
60	**Ni**		123.334	**0.012999**	ppb	11.781	75.366	103.334
75	**As**		283.823	**-0.036922**	ppb	8.550	106.348	308.110
71	**Ga-ISK**		87451.300		ppb	0.341		92164.209
82	**Se-2**		-4.146	**-0.104493**	ppb	72.452	50.865	1.856
107	**Ag-1**		247.780	**-0.008905**	ppb	4.110	26.178	303.337
115	**In-ISK**	>	121243.674		ppb	1.660		122411.300
45	**Sc-ISK**		219391.580		ppb	2.840		232308.164
23	**Na**		8400.803	**-9.891454**	ppb	0.485	3.405	11846.578
39	**K**		40487.298	**0.085931**	ppb	1.345	49.218	41476.795
24	**Mg**		235.002	**-0.397635**	ppb	6.383	13.575	360.005
159	**Tb-ISK**	>	240633.277		ppb	1.284		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCS 570-205141_2-A
Autosampler Position: 346
Sample Date/Time: Monday, January 03, 2022 19:34:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCS 570-205141_2-A.231
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58605.576		ppb	2.635		62246.450
9	**Be**		255040.369	**118.144934**	ppb	3.385	0.819	27.778
10	**B**		61032.356	**102.373552**	ppb	2.116	2.106	1356.731
27	**Al**		1352438.369	**106.088752**	ppb	1.608	1.946	12198.876
43	**Ca-2**		158260.298	**5531.274124**	ppb	1.729	3.094	130.001
49	**Ti**		104965.417	**115.159335**	ppb	1.949	2.189	337.782
52	**Cr**		1537754.690	**113.120501**	ppb	2.649	2.305	18224.951
55	**Mn**		2286253.579	**113.886375**	ppb	2.695	2.006	1710.103
57	**Fe**		2470713.861	**5606.458203**	ppb	1.642	2.027	16091.280
45	**Sc-IS**	>	2035263.800		ppb	3.512		2195473.971
66	**Zn**		285462.832	**129.088973**	ppb	0.475	3.922	1410.070
86	**Sr**		243317.554	**112.794826**	ppb	0.685	2.864	54.118
65	**Cu**		412909.459	**116.484232**	ppb	2.059	2.039	336.671
69	**Ga-IS**		785272.263		ppb	0.950		753325.837
95	**Mo**		268186.205	**113.622828**	ppb	0.597	3.316	374.449
115	**In-IS**	>	440685.598		ppb	1.649		450587.841
111	**Cd**		385333.087	**114.826338**	ppb	1.017	1.603	30.325
118	**Sn**		1015947.015	**103.845684**	ppb	1.606	0.474	3623.793
121	**Sb**		1133441.835	**102.617204**	ppb	1.447	0.966	564.456
135	**Ba**		282800.892	**104.456481**	ppb	1.211	0.966	102.223
165	**Ho-IS**		547366.186		ppb	0.671		551751.151
159	**Tb-IS**	>	556753.642		ppb	1.668		560063.515
207	**Pb**		4060115.717	**110.476915**	ppb	0.609	2.206	780.008
203	**Tl**		1278819.340	**101.012518**	ppb	1.277	0.861	203.335
209	**Bi-IS**		304369.514		ppb	0.851		310590.700
51	**V**		30010.381	**107.937037**	ppb	1.335	1.613	1.111
59	**Co**		99967.447	**106.317237**	ppb	0.476	1.145	14.444
60	**Ni**		174992.191	**110.792948**	ppb	1.958	1.645	103.334
75	**As**		63448.886	**112.025980**	ppb	2.006	3.157	308.110
71	**Ga-ISK**		87114.829		ppb	1.103		92164.209
82	**Se-2**		6646.426	**119.152115**	ppb	1.249	1.998	1.856
107	**Ag-1**		316917.006	**55.197862**	ppb	2.491	1.248	303.337
115	**In-ISK**	>	117910.082		ppb	1.449		122411.300
45	**Sc-ISK**		220917.702		ppb	1.953		232308.164
23	**Na**		300316.027	**903.961090**	ppb	1.650	1.914	11846.578
39	**K**		642249.592	**916.696879**	ppb	4.008	4.582	41476.795
24	**Mg**		1472057.203	**5029.351912**	ppb	2.552	2.662	360.005
159	**Tb-ISK**	>	241651.580		ppb	1.267		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: LCSD 570-205141_3-A
Autosampler Position: 347
Sample Date/Time: Monday, January 03, 2022 19:37:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\LCSD 570-205141_3-A.232
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58032.104		ppb	1.886		62246.450
9	**Be**		254688.463	**114.949938**	ppb	3.230	1.315	27.778
10	**B**		60747.786	**99.246101**	ppb	1.143	3.680	1356.731
27	**Al**		1336337.628	**102.118621**	ppb	1.399	3.332	12198.876
43	**Ca-2**		156758.833	**5339.762428**	ppb	1.496	4.661	130.001
49	**Ti**		105571.027	**112.833061**	ppb	2.471	2.644	337.782
52	**Cr**		1526670.590	**109.415841**	ppb	2.059	3.856	18224.951
55	**Mn**		2287305.499	**111.087322**	ppb	2.956	5.369	1710.103
57	**Fe**		2437525.348	**5390.334810**	ppb	3.782	5.719	16091.280
45	**Sc-IS**	>	2089588.370		ppb	4.396		2195473.971
66	**Zn**		285400.437	**125.613407**	ppb	4.242	2.722	1410.070
86	**Sr**		238723.887	**107.825229**	ppb	1.482	3.629	54.118
65	**Cu**		413703.607	**113.720729**	ppb	2.380	3.325	336.671
69	**Ga-IS**		784666.765		ppb	3.022		753325.837
95	**Mo**		265075.976	**109.339955**	ppb	3.087	1.413	374.449
115	**In-IS**	>	433679.486		ppb	2.703		450587.841
111	**Cd**		383206.128	**116.027126**	ppb	2.506	0.718	30.325
118	**Sn**		1009465.698	**104.868844**	ppb	1.955	1.088	3623.793
121	**Sb**		1124741.510	**103.501510**	ppb	1.261	1.877	564.456
135	**Ba**		277029.009	**104.011847**	ppb	2.334	3.203	102.223
165	**Ho-IS**		543808.433		ppb	1.919		551751.151
159	**Tb-IS**	>	548093.886		ppb	1.152		560063.515
207	**Pb**		4009891.842	**110.811068**	ppb	0.820	0.552	780.008
203	**Tl**		1286101.063	**103.194763**	ppb	0.702	1.243	203.335
209	**Bi-IS**		306068.722		ppb	1.183		310590.700
51	**V**		29233.226	**106.390211**	ppb	2.510	3.077	1.111
59	**Co**		96266.642	**103.591426**	ppb	1.419	2.002	14.444
60	**Ni**		170610.583	**109.292789**	ppb	1.048	0.510	103.334
75	**As**		64068.414	**114.444968**	ppb	2.818	2.906	308.110
71	**Ga-ISK**		85386.643		ppb	0.066		92164.209
82	**Se-2**		6660.444	**120.805963**	ppb	1.081	1.466	1.856
107	**Ag-1**		317285.148	**55.920937**	ppb	1.328	0.766	303.337
115	**In-ISK**	>	116529.036		ppb	0.606		122411.300
45	**Sc-ISK**		216034.248		ppb	2.753		232308.164
23	**Na**		298518.547	**908.803145**	ppb	3.014	1.658	11846.578
39	**K**		639433.206	**923.515639**	ppb	0.574	1.214	41476.795
24	**Mg**		1438231.581	**4969.340783**	ppb	2.454	1.601	360.005
159	**Tb-ISK**	>	238920.951		ppb	1.452		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80338-A-1-A
Autosampler Position: 348
Sample Date/Time: Monday, January 03, 2022 19:40:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80338-A-1-A.233
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58326.827		ppb	5.299		62246.450
9	**Be**		116.667	**0.039091**	ppb	15.119	18.158	27.778
10	**B**		10253.697	**14.410919**	ppb	8.666	5.820	1356.731
27	**Al**		1060736.103	**78.353978**	ppb	3.047	0.812	12198.876
43	**Ca-2**		151036.886	**4982.859990**	ppb	4.354	1.133	130.001
49	**Ti**		2426.873	**2.178908**	ppb	3.580	4.879	337.782
52	**Cr**		31539.230	**0.960416**	ppb	1.907	5.728	18224.951
55	**Mn**		122450.651	**5.686952**	ppb	3.031	1.187	1710.103
57	**Fe**		73695.172	**124.930508**	ppb	1.292	3.334	16091.280
45	**Sc-IS**	>	2154369.647		ppb	3.749		2195473.971
66	**Zn**		169106.496	**71.949138**	ppb	2.404	2.375	1410.070
86	**Sr**		54838.428	**23.991371**	ppb	2.258	1.796	54.118
65	**Cu**		39970.289	**10.574863**	ppb	1.277	2.582	336.671
69	**Ga-IS**		739783.169		ppb	2.502		753325.837
95	**Mo**		3995.003	**1.454801**	ppb	2.918	6.446	374.449
115	**In-IS**	>	442166.393		ppb	2.772		450587.841
111	**Cd**		569.400	**0.160241**	ppb	6.802	6.350	30.325
118	**Sn**		17140.279	**1.389511**	ppb	2.085	4.140	3623.793
121	**Sb**		11022.030	**0.945135**	ppb	2.342	1.716	564.456
135	**Ba**		33870.119	**12.435927**	ppb	2.394	0.390	102.223
165	**Ho-IS**		546134.638		ppb	3.702		551751.151
159	**Tb-IS**	>	559888.028		ppb	1.584		560063.515
207	**Pb**		108431.478	**2.912615**	ppb	1.911	0.643	780.008
203	**Tl**		711.129	**0.039845**	ppb	10.057	11.795	203.335
209	**Bi-IS**		313907.962		ppb	2.171		310590.700
51	**V**		916.696	**3.305801**	ppb	3.232	3.030	1.111
59	**Co**		175.557	**0.172686**	ppb	14.251	15.684	14.444
60	**Ni**		3657.135	**2.262952**	ppb	1.196	2.120	103.334
75	**As**		734.040	**0.781006**	ppb	6.128	11.603	308.110
71	**Ga-ISK**		86928.120		ppb	0.089		92164.209
82	**Se-2**		24.875	**0.415908**	ppb	14.574	16.298	1.856
107	**Ag-1**		785.577	**0.086549**	ppb	7.499	11.649	303.337
115	**In-ISK**	>	117454.021		ppb	1.175		122411.300
45	**Sc-ISK**		217126.593		ppb	1.015		232308.164
23	**Na**		884443.190	**2717.427937**	ppb	1.767	1.783	11846.578
39	**K**		546240.818	**765.718265**	ppb	1.375	1.037	41476.795
24	**Mg**		184119.478	**624.413350**	ppb	2.724	1.756	360.005
159	**Tb-ISK**	>	243005.049		ppb	1.602		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80338-A-1-B MS
Autosampler Position: 349
Sample Date/Time: Monday, January 03, 2022 19:43:38
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80338-A-1-B MS.234
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59224.744		ppb	1.143		62246.450
9	**Be**		201978.136	**87.821963**	ppb	1.876	1.854	27.778
10	**B**		68060.728	**107.238743**	ppb	2.973	3.700	1356.731
27	**Al**		2400917.287	**177.293775**	ppb	1.575	0.367	12198.876
43	**Ca-2**		298940.824	**9805.355595**	ppb	1.431	1.869	130.001
49	**Ti**		83902.409	**86.280473**	ppb	2.183	1.794	337.782
52	**Cr**		1191235.413	**81.889760**	ppb	0.902	1.257	18224.951
55	**Mn**		1799642.941	**84.110907**	ppb	0.640	1.397	1710.103
57	**Fe**		2456877.750	**5229.606425**	ppb	0.584	2.329	16091.280
45	**Sc-IS**	>	2168414.221		ppb	1.917		2195473.971
66	**Zn**		379606.921	**161.131674**	ppb	1.379	0.596	1410.070
86	**Sr**		237458.296	**103.267791**	ppb	0.713	1.571	54.118
65	**Cu**		357083.592	**94.506056**	ppb	1.055	0.961	336.671
69	**Ga-IS**		794081.914		ppb	0.081		753325.837
95	**Mo**		206237.112	**81.921691**	ppb	1.475	1.913	374.449
115	**In-IS**	>	444217.487		ppb	0.700		450587.841
111	**Cd**		297717.800	**87.993533**	ppb	1.773	1.102	30.325
118	**Sn**		788050.069	**79.823716**	ppb	1.263	0.567	3623.793
121	**Sb**		883793.947	**79.360410**	ppb	1.901	1.409	564.456
135	**Ba**		299749.240	**109.831976**	ppb	1.547	1.556	102.223
165	**Ho-IS**		558596.782		ppb	2.422		551751.151
159	**Tb-IS**	>	558093.757		ppb	0.390		560063.515
207	**Pb**		3086580.664	**83.759979**	ppb	0.274	0.121	780.008
203	**Tl**		969289.918	**76.371264**	ppb	1.983	2.014	203.335
209	**Bi-IS**		312353.495		ppb	0.682		310590.700
51	**V**		23356.870	**82.209446**	ppb	3.267	5.965	1.111
59	**Co**		74740.809	**77.801998**	ppb	4.366	7.110	14.444
60	**Ni**		134838.020	**83.469208**	ppb	2.290	2.690	103.334
75	**As**		49199.287	**84.813355**	ppb	0.417	2.488	308.110
71	**Ga-ISK**		86515.660		ppb	1.376		92164.209
82	**Se-2**		5044.767	**88.443998**	ppb	3.376	4.572	1.856
107	**Ag-1**		292692.789	**49.854016**	ppb	3.630	3.927	303.337
115	**In-ISK**	>	120609.163		ppb	2.871		122411.300
45	**Sc-ISK**		219618.403		ppb	2.907		232308.164
23	**Na**		1138674.976	**3562.578360**	ppb	3.372	2.687	11846.578
39	**K**		1125755.341	**1669.578835**	ppb	2.093	0.987	41476.795
24	**Mg**		1567448.033	**5405.423615**	ppb	2.941	0.923	360.005
159	**Tb-ISK**	>	239376.245		ppb	2.328		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80338-A-1-C MSD
Autosampler Position: 350
Sample Date/Time: Monday, January 03, 2022 19:46:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80338-A-1-C MSD.235
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58712.664		ppb	2.194		62246.450
9	**Be**		201094.805	**87.965163**	ppb	4.096	1.645	27.778
10	**B**		66638.476	**105.604651**	ppb	2.798	0.063	1356.731
27	**Al**		2403745.783	**178.655059**	ppb	2.041	0.823	12198.876
43	**Ca-2**		297049.424	**9802.267066**	ppb	3.785	1.600	130.001
49	**Ti**		82223.872	**85.077367**	ppb	3.063	0.508	337.782
52	**Cr**		1179848.446	**81.610786**	ppb	2.502	0.356	18224.951
55	**Mn**		1788422.793	**84.100059**	ppb	3.024	0.489	1710.103
57	**Fe**		2427612.158	**5199.274291**	ppb	2.057	1.136	16091.280
45	**Sc-IS**	>	2154727.699		ppb	2.812		2195473.971
66	**Zn**		381608.190	**163.018797**	ppb	2.370	0.440	1410.070
86	**Sr**		233240.394	**102.097332**	ppb	0.987	2.135	54.118
65	**Cu**		355804.400	**94.791579**	ppb	0.908	2.138	336.671
69	**Ga-IS**		810040.089		ppb	2.304		753325.837
95	**Mo**		204176.573	**81.634252**	ppb	0.830	1.993	374.449
115	**In-IS**	>	437010.027		ppb	3.297		450587.841
111	**Cd**		293714.522	**88.257300**	ppb	2.768	0.738	30.325
118	**Sn**		792659.256	**81.653036**	ppb	2.545	2.402	3623.793
121	**Sb**		893073.867	**81.574085**	ppb	2.013	3.592	564.456
135	**Ba**		303347.558	**113.042857**	ppb	2.953	3.711	102.223
165	**Ho-IS**		558122.909		ppb	0.736		551751.151
159	**Tb-IS**	>	564457.223		ppb	2.408		560063.515
207	**Pb**		3070523.126	**82.396297**	ppb	1.610	1.082	780.008
203	**Tl**		973541.587	**75.841322**	ppb	2.690	1.267	203.335
209	**Bi-IS**		305994.143		ppb	2.863		310590.700
51	**V**		23568.317	**84.297260**	ppb	1.594	3.400	1.111
59	**Co**		75952.532	**80.292053**	ppb	1.917	0.560	14.444
60	**Ni**		136430.599	**85.882620**	ppb	0.402	2.475	103.334
75	**As**		49492.785	**86.760768**	ppb	1.422	2.919	308.110
71	**Ga-ISK**		86465.493		ppb	3.118		92164.209
82	**Se-2**		5184.476	**92.407133**	ppb	3.933	4.684	1.856
107	**Ag-1**		299323.891	**51.823108**	ppb	2.893	0.982	303.337
115	**In-ISK**	>	118610.045		ppb	2.209		122411.300
45	**Sc-ISK**		219141.721		ppb	3.681		232308.164
23	**Na**		1133109.479	**3480.840770**	ppb	2.799	3.145	11846.578
39	**K**		1119907.328	**1629.562703**	ppb	1.067	0.825	41476.795
24	**Mg**		1589119.696	**5382.468562**	ppb	1.243	1.495	360.005
159	**Tb-ISK**	>	243752.724		ppb	0.900		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79021-B-1-A
Autosampler Position: 351
Sample Date/Time: Monday, January 03, 2022 19:49:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79021-B-1-A.236
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63544.369		ppb	1.573		62246.450
9	**Be**		628.903	**0.244491**	ppb	9.807	8.611	27.778
10	**B**		46584.728	**68.099160**	ppb	1.291	0.917	1356.731
27	**Al**		19753666.996	**1375.111615**	ppb	0.380	1.566	12198.876
43	**Ca-2**		645940.742	**19885.283215**	ppb	2.393	2.132	130.001
49	**Ti**		10036.860	**9.378116**	ppb	3.177	1.574	337.782
52	**Cr**		55707.336	**2.392017**	ppb	2.425	1.594	18224.951
55	**Mn**		8307996.330	**364.615207**	ppb	1.662	1.073	1710.103
57	**Fe**		1460366.827	**2901.424670**	ppb	1.818	1.415	16091.280
45	**Sc-IS**	>	2310641.270		ppb	1.812		2195473.971
66	**Zn**		212071.398	**84.205362**	ppb	0.268	1.640	1410.070
86	**Sr**		355616.908	**145.156816**	ppb	2.098	3.097	54.118
65	**Cu**		92052.427	**22.791482**	ppb	2.626	0.885	336.671
69	**Ga-IS**		796220.124		ppb	2.648		753325.837
95	**Mo**		3343.725	**1.101815**	ppb	2.797	4.611	374.449
115	**In-IS**	>	429667.222		ppb	2.311		450587.841
111	**Cd**		1846.432	**0.555329**	ppb	4.079	2.102	30.325
118	**Sn**		11797.095	**0.877545**	ppb	3.568	3.820	3623.793
121	**Sb**		12317.535	**1.094056**	ppb	3.656	1.586	564.456
135	**Ba**		208494.998	**78.985594**	ppb	1.097	1.241	102.223
165	**Ho-IS**		554514.270		ppb	1.534		551751.151
159	**Tb-IS**	>	565476.022		ppb	1.933		560063.515
207	**Pb**		570532.742	**15.262728**	ppb	2.142	0.545	780.008
203	**Tl**		822.246	**0.047892**	ppb	13.239	15.067	203.335
209	**Bi-IS**		300764.503		ppb	1.207		310590.700
51	**V**		2385.755	**8.553678**	ppb	3.107	3.570	1.111
59	**Co**		3522.657	**3.720124**	ppb	5.055	3.915	14.444
60	**Ni**		11970.572	**7.498206**	ppb	2.910	2.194	103.334
75	**As**		1496.830	**2.121234**	ppb	1.277	2.810	308.110
71	**Ga-ISK**		86835.445		ppb	2.494		92164.209
82	**Se-2**		36.117	**0.614384**	ppb	14.251	16.200	1.856
107	**Ag-1**		1584.533	**0.224317**	ppb	10.973	11.943	303.337
115	**In-ISK**	>	118241.217		ppb	1.282		122411.300
45	**Sc-ISK**		223771.302		ppb	1.042		232308.164
23	**Na**		4642738.349	**14304.264474**	ppb	0.282	2.484	11846.578
39	**K**		3664874.267	**5445.365597**	ppb	1.890	1.621	41476.795
24	**Mg**		1441671.536	**4858.723952**	ppb	1.969	2.567	360.005
159	**Tb-ISK**	>	245018.695		ppb	2.262		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79021-B-2-A
Autosampler Position: 352
Sample Date/Time: Monday, January 03, 2022 19:53:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79021-B-2-A.237
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62868.032		ppb	0.471		62246.450
9	**Be**		526.676	**0.197509**	ppb	7.931	9.112	27.778
10	**B**		45394.236	**64.526964**	ppb	1.113	1.094	1356.731
27	**Al**		20241899.697	**1372.629211**	ppb	1.282	2.662	12198.876
43	**Ca-2**		647375.634	**19408.568402**	ppb	2.481	0.604	130.001
49	**Ti**		10142.491	**9.225940**	ppb	3.350	2.454	337.782
52	**Cr**		56103.341	**2.322721**	ppb	2.820	3.445	18224.951
55	**Mn**		8485350.091	**362.676405**	ppb	2.651	1.240	1710.103
57	**Fe**		1460222.069	**2824.642402**	ppb	2.089	0.766	16091.280
45	**Sc-IS**	>	2372351.464		ppb	2.055		2195473.971
66	**Zn**		211896.874	**81.941265**	ppb	1.614	2.806	1410.070
86	**Sr**		363875.247	**144.699686**	ppb	3.996	5.252	54.118
65	**Cu**		92653.944	**22.349412**	ppb	0.475	1.768	336.671
69	**Ga-IS**		806112.853		ppb	2.956		753325.837
95	**Mo**		2336.859	**0.703940**	ppb	8.876	13.228	374.449
115	**In-IS**	>	438773.527		ppb	2.052		450587.841
111	**Cd**		1757.424	**0.517384**	ppb	5.546	6.544	30.325
118	**Sn**		6134.651	**0.268568**	ppb	2.260	5.821	3623.793
121	**Sb**		10638.406	**0.917775**	ppb	2.303	1.123	564.456
135	**Ba**		211026.096	**78.288411**	ppb	0.368	1.707	102.223
165	**Ho-IS**		561043.821		ppb	0.457		551751.151
159	**Tb-IS**	>	570157.698		ppb	1.400		560063.515
207	**Pb**		567414.248	**15.056286**	ppb	0.577	1.267	780.008
203	**Tl**		588.901	**0.029446**	ppb	17.912	27.374	203.335
209	**Bi-IS**		300743.037		ppb	1.378		310590.700
51	**V**		2329.079	**8.326232**	ppb	1.659	0.861	1.111
59	**Co**		3558.221	**3.748802**	ppb	1.700	1.465	14.444
60	**Ni**		11978.353	**7.483480**	ppb	0.911	1.004	103.334
75	**As**		1536.294	**2.182852**	ppb	3.385	3.094	308.110
71	**Ga-ISK**		88118.850		ppb	2.745		92164.209
82	**Se-2**		44.471	**0.761065**	ppb	7.882	8.516	1.856
107	**Ag-1**		755.576	**0.080136**	ppb	7.334	13.550	303.337
115	**In-ISK**	>	118561.796		ppb	1.039		122411.300
45	**Sc-ISK**		230035.163		ppb	0.961		232308.164
23	**Na**		4911485.724	**14849.895181**	ppb	2.407	3.794	11846.578
39	**K**		3829828.220	**5585.122358**	ppb	0.976	1.081	41476.795
24	**Mg**		1524567.659	**5040.181687**	ppb	2.452	1.187	360.005
159	**Tb-ISK**	>	249697.641		ppb	1.538		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79027-I-1-A
Autosampler Position: 353
Sample Date/Time: Monday, January 03, 2022 19:56:20
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79027-I-1-A.238
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62883.754		ppb	3.290		62246.450
9	**Be**		144.445	**0.045566**	ppb	20.812	25.739	27.778
10	**B**		29151.951	**40.733003**	ppb	2.713	1.161	1356.731
27	**Al**		6320981.890	**428.722351**	ppb	0.636	1.933	12198.876
43	**Ca-2**		504590.191	**15154.385946**	ppb	1.777	0.773	130.001
49	**Ti**		8036.705	**7.254376**	ppb	2.433	3.326	337.782
52	**Cr**		46541.274	**1.717680**	ppb	2.365	2.085	18224.951
55	**Mn**		1576829.103	**67.455414**	ppb	1.523	0.808	1710.103
57	**Fe**		380168.773	**711.631279**	ppb	0.350	1.488	16091.280
45	**Sc-IS**	>	2368189.114		ppb	1.667		2195473.971
66	**Zn**		293660.062	**113.981946**	ppb	1.194	2.471	1410.070
86	**Sr**		232092.221	**92.442740**	ppb	2.499	4.183	54.118
65	**Cu**		72930.159	**17.604490**	ppb	1.564	2.745	336.671
69	**Ga-IS**		791368.130		ppb	1.746		753325.837
95	**Mo**		4511.824	**1.497249**	ppb	2.244	4.324	374.449
115	**In-IS**	>	439797.221		ppb	0.807		450587.841
111	**Cd**		824.994	**0.237482**	ppb	1.161	0.613	30.325
118	**Sn**		5399.910	**0.191405**	ppb	3.817	9.365	3623.793
121	**Sb**		16064.585	**1.408130**	ppb	1.657	2.313	564.456
135	**Ba**		105485.810	**39.015737**	ppb	0.637	0.183	102.223
165	**Ho-IS**		569307.162		ppb	1.486		551751.151
159	**Tb-IS**	>	565049.425		ppb	1.857		560063.515
207	**Pb**		244701.605	**6.539313**	ppb	2.134	1.256	780.008
203	**Tl**		403.339	**0.015401**	ppb	9.203	15.248	203.335
209	**Bi-IS**		306210.523		ppb	1.014		310590.700
51	**V**		1355.620	**4.767776**	ppb	4.332	2.183	1.111
59	**Co**		790.022	**0.808224**	ppb	10.136	10.927	14.444
60	**Ni**		6667.114	**4.069829**	ppb	5.333	3.158	103.334
75	**As**		1211.516	**1.574807**	ppb	9.929	10.246	308.110
71	**Ga-ISK**		88512.283		ppb	1.414		92164.209
82	**Se-2**		22.203	**0.356661**	ppb	22.651	22.664	1.856
107	**Ag-1**		422.229	**0.021003**	ppb	14.671	42.585	303.337
115	**In-ISK**	>	120438.371		ppb	2.192		122411.300
45	**Sc-ISK**		233049.131		ppb	1.452		232308.164
23	**Na**		3379655.674	**10351.836925**	ppb	0.858	0.911	11846.578
39	**K**		2471126.900	**3634.612074**	ppb	0.570	1.845	41476.795
24	**Mg**		774809.374	**2598.516589**	ppb	0.847	1.991	360.005
159	**Tb-ISK**	>	246146.059		ppb	1.381		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79027-G-2-A
Autosampler Position: 354
Sample Date/Time: Monday, January 03, 2022 19:59:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79027-G-2-A.239
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		64315.574		ppb	1.059		62246.450
9	**Be**		118.889	**0.036062**	ppb	7.056	11.509	27.778
10	**B**		28104.298	**39.726900**	ppb	2.748	1.270	1356.731
27	**Al**		6199595.977	**425.804303**	ppb	2.407	0.784	12198.876
43	**Ca-2**		495479.873	**15071.567751**	ppb	2.654	0.997	130.001
49	**Ti**		7536.434	**6.871447**	ppb	4.404	4.030	337.782
52	**Cr**		46053.019	**1.725115**	ppb	1.967	3.905	18224.951
55	**Mn**		1569064.675	**68.000385**	ppb	0.358	1.364	1710.103
57	**Fe**		371927.380	**704.876811**	ppb	0.928	1.265	16091.280
45	**Sc-IS**	>	2337933.753		ppb	1.686		2195473.971
66	**Zn**		288273.246	**113.324257**	ppb	1.484	1.946	1410.070
86	**Sr**		230097.282	**92.788234**	ppb	2.053	0.655	54.118
65	**Cu**		72112.667	**17.630709**	ppb	0.683	1.535	336.671
69	**Ga-IS**		784672.055		ppb	0.573		753325.837
95	**Mo**		4100.589	**1.366129**	ppb	4.556	4.855	374.449
115	**In-IS**	>	435946.557		ppb	2.443		450587.841
111	**Cd**		802.523	**0.233159**	ppb	4.616	7.206	30.325
118	**Sn**		5952.352	**0.254075**	ppb	2.986	11.868	3623.793
121	**Sb**		14829.917	**1.307985**	ppb	1.707	0.759	564.456
135	**Ba**		102278.184	**38.172798**	ppb	1.062	1.854	102.223
165	**Ho-IS**		556982.435		ppb	1.723		551751.151
159	**Tb-IS**	>	552861.465		ppb	1.785		560063.515
207	**Pb**		227873.384	**6.223260**	ppb	1.211	0.904	780.008
203	**Tl**		367.783	**0.013308**	ppb	3.663	11.690	203.335
209	**Bi-IS**		303108.530		ppb	0.081		310590.700
51	**V**		1340.063	**4.696003**	ppb	5.700	3.492	1.111
59	**Co**		803.356	**0.820027**	ppb	10.324	12.178	14.444
60	**Ni**		6826.075	**4.157264**	ppb	1.479	2.721	103.334
75	**As**		1165.705	**1.490845**	ppb	2.587	2.713	308.110
71	**Ga-ISK**		89935.682		ppb	2.757		92164.209
82	**Se-2**		22.869	**0.367800**	ppb	20.098	21.605	1.856
107	**Ag-1**		280.003	**-0.003325**	ppb	4.124	26.066	303.337
115	**In-ISK**	>	120851.207		ppb	2.303		122411.300
45	**Sc-ISK**		231793.265		ppb	1.055		232308.164
23	**Na**		3223397.158	**9761.293707**	ppb	2.350	1.366	11846.578
39	**K**		2377030.599	**3454.169582**	ppb	1.420	0.429	41476.795
24	**Mg**		760921.278	**2523.026841**	ppb	4.349	3.556	360.005
159	**Tb-ISK**	>	248877.325		ppb	1.026		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 20:02:41
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.240
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62000.985		ppb	2.710		62246.450
9	**Be**		231648.833	**95.335899**	ppb	1.404	0.775	27.778
10	**B**		161756.205	**243.927073**	ppb	0.674	1.978	1356.731
27	**Al**		1412140.660	**98.322122**	ppb	0.680	1.584	12198.876
43	**Ca-2**		162493.999	**5043.479476**	ppb	1.111	2.482	130.001
49	**Ti**		102532.280	**99.851213**	ppb	1.928	0.819	337.782
52	**Cr**		1482376.656	**96.675157**	ppb	1.309	0.990	18224.951
55	**Mn**		2320616.308	**102.663046**	ppb	1.892	0.524	1710.103
57	**Fe**		2554759.156	**5146.067056**	ppb	1.687	2.046	16091.280
45	**Sc-IS**	>	2290957.383		ppb	2.185		2195473.971
66	**Zn**		252022.756	**101.045975**	ppb	1.350	1.717	1410.070
86	**Sr**		234060.631	**96.363368**	ppb	1.342	2.941	54.118
65	**Cu**		396100.272	**99.266439**	ppb	1.399	3.435	336.671
69	**Ga-IS**		811033.903		ppb	2.080		753325.837
95	**Mo**		249156.471	**93.709483**	ppb	1.381	2.490	374.449
115	**In-IS**	>	450066.948		ppb	1.000		450587.841
111	**Cd**		339735.942	**99.114831**	ppb	0.970	0.662	30.325
118	**Sn**		998398.553	**99.912540**	ppb	0.597	0.437	3623.793
121	**Sb**		1066051.548	**94.500981**	ppb	0.805	1.216	564.456
135	**Ba**		272915.744	**98.700525**	ppb	1.007	1.329	102.223
165	**Ho-IS**		565165.266		ppb	0.826		551751.151
159	**Tb-IS**	>	573435.418		ppb	0.950		560063.515
207	**Pb**		3731211.372	**98.552653**	ppb	0.419	0.880	780.008
203	**Tl**		1240803.285	**95.158384**	ppb	0.305	1.164	203.335
209	**Bi-IS**		308618.194		ppb	1.047		310590.700
51	**V**		28491.719	**99.012601**	ppb	0.867	0.743	1.111
59	**Co**		96606.665	**99.270975**	ppb	0.463	0.549	14.444
60	**Ni**		163867.947	**100.247455**	ppb	1.446	1.606	103.334
75	**As**		57953.916	**98.791529**	ppb	3.003	3.118	308.110
71	**Ga-ISK**		91442.973		ppb	2.618		92164.209
82	**Se-2**		5654.659	**97.938224**	ppb	1.666	1.755	1.856
107	**Ag-1**		603763.356	**101.669959**	ppb	1.645	1.825	303.337
115	**In-ISK**	>	122020.291		ppb	0.184		122411.300
45	**Sc-ISK**		234358.143		ppb	1.651		232308.164
23	**Na**		1700819.975	**5156.490546**	ppb	1.274	0.569	11846.578
39	**K**		3583642.379	**5262.656039**	ppb	1.639	1.831	41476.795
24	**Mg**		1537519.666	**5122.658898**	ppb	0.739	0.427	360.005
159	**Tb-ISK**	>	247785.175		ppb	0.722		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 20:05:52
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.241
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61728.673		ppb	2.125		62246.450
9	**Be**		54.445	**0.010745**	ppb	23.179	51.378	27.778
10	**B**		1767.887	**0.561401**	ppb	3.112	12.425	1356.731
27	**Al**		20197.270	**0.538233**	ppb	1.560	1.093	12198.876
43	**Ca-2**		313.337	**5.604936**	ppb	10.862	17.215	130.001
49	**Ti**		392.228	**0.042762**	ppb	7.327	74.804	337.782
52	**Cr**		19036.018	**0.013096**	ppb	3.488	201.150	18224.951
55	**Mn**		2908.074	**0.050947**	ppb	5.680	11.826	1710.103
57	**Fe**		17350.541	**1.482002**	ppb	3.898	108.998	16091.280
45	**Sc-IS**	>	2269080.430		ppb	1.399		2195473.971
66	**Zn**		1505.635	**0.019682**	ppb	1.297	29.105	1410.070
86	**Sr**		111.947	**0.023270**	ppb	7.026	12.804	54.118
65	**Cu**		432.229	**0.021391**	ppb	4.519	30.061	336.671
69	**Ga-IS**		777210.593		ppb	1.767		753325.837
95	**Mo**		1696.767	**0.498037**	ppb	2.854	3.739	374.449
115	**In-IS**	>	439125.116		ppb	0.296		450587.841
111	**Cd**		96.437	**0.020007**	ppb	14.978	21.878	30.325
118	**Sn**		9764.448	**0.641584**	ppb	1.531	2.287	3623.793
121	**Sb**		1544.528	**0.090381**	ppb	6.975	10.591	564.456
135	**Ba**		138.890	**0.014549**	ppb	12.080	41.851	102.223
165	**Ho-IS**		566021.206		ppb	1.353		551751.151
159	**Tb-IS**	>	565831.605		ppb	0.364		560063.515
207	**Pb**		1614.480	**0.022123**	ppb	5.034	9.352	780.008
203	**Tl**		448.896	**0.018922**	ppb	3.001	4.932	203.335
209	**Bi-IS**		318227.764		ppb	0.869		310590.700
51	**V**		20.000	**0.066338**	ppb	57.735	63.805	1.111
59	**Co**		30.000	**0.016227**	ppb	29.397	61.563	14.444
60	**Ni**		251.113	**0.090783**	ppb	6.273	11.882	103.334
75	**As**		328.220	**0.036549**	ppb	2.782	57.558	308.110
71	**Ga-ISK**		89435.783		ppb	1.339		92164.209
82	**Se-2**		8.552	**0.117942**	ppb	74.554	97.920	1.856
107	**Ag-1**		1203.384	**0.151968**	ppb	4.192	7.092	303.337
115	**In-ISK**	>	122005.381		ppb	3.405		122411.300
45	**Sc-ISK**		227595.464		ppb	1.072		232308.164
23	**Na**		10865.805	**-2.777106**	ppb	5.100	71.400	11846.578
39	**K**		44764.482	**5.343775**	ppb	1.622	25.969	41476.795
24	**Mg**		1088.375	**2.461578**	ppb	6.912	11.301	360.005
159	**Tb-ISK**	>	245265.748		ppb	1.305		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 20:09:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.242
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61817.931		ppb	1.674		62246.450
9	**Be**		36.667	**0.003218**	ppb	18.182	78.226	27.778
10	**B**		1362.287	**-0.068998**	ppb	3.566	162.884	1356.731
27	**Al**		20238.994	**0.535515**	ppb	0.667	7.794	12198.876
43	**Ca-2**		255.002	**3.778571**	ppb	19.312	46.086	130.001
49	**Ti**		346.671	**-0.004228**	ppb	12.048	840.618	337.782
52	**Cr**		19208.461	**0.019792**	ppb	0.617	195.276	18224.951
55	**Mn**		2244.621	**0.020811**	ppb	6.591	18.945	1710.103
57	**Fe**		16281.496	**-0.840277**	ppb	1.190	156.254	16091.280
45	**Sc-IS**	>	2279320.706		ppb	2.781		2195473.971
66	**Zn**		1368.955	**-0.037223**	ppb	9.564	183.267	1410.070
86	**Sr**		113.645	**0.024015**	ppb	34.436	72.523	54.118
65	**Cu**		377.783	**0.007293**	ppb	9.918	155.340	336.671
69	**Ga-IS**		779549.125		ppb	1.000		753325.837
95	**Mo**		723.352	**0.126738**	ppb	2.304	5.849	374.449
115	**In-IS**	>	450431.978		ppb	0.367		450587.841
111	**Cd**		40.703	**0.003039**	ppb	37.014	145.919	30.325
118	**Sn**		6213.575	**0.260032**	ppb	4.540	11.035	3623.793
121	**Sb**		1044.483	**0.042548**	ppb	6.338	13.332	564.456
135	**Ba**		101.111	**-0.000389**	ppb	6.863	640.570	102.223
165	**Ho-IS**		564150.684		ppb	0.754		551751.151
159	**Tb-IS**	>	568682.915		ppb	0.709		560063.515
207	**Pb**		1028.903	**0.006316**	ppb	4.166	20.999	780.008
203	**Tl**		280.003	**0.005677**	ppb	10.911	38.856	203.335
209	**Bi-IS**		315294.740		ppb	0.169		310590.700
51	**V**		8.889	**0.027097**	ppb	57.282	66.874	1.111
59	**Co**		33.333	**0.019258**	ppb	20.000	32.272	14.444
60	**Ni**		278.892	**0.107236**	ppb	6.796	13.945	103.334
75	**As**		287.082	**-0.036104**	ppb	13.849	185.260	308.110
71	**Ga-ISK**		89867.407		ppb	1.967		92164.209
82	**Se-2**		1.195	**-0.011190**	ppb	259.170	473.668	1.856
107	**Ag-1**		516.676	**0.035682**	ppb	11.193	22.680	303.337
115	**In-ISK**	>	122466.662		ppb	2.022		122411.300
45	**Sc-ISK**		228650.243		ppb	2.036		232308.164
23	**Na**		9486.484	**-7.318365**	ppb	2.911	12.389	11846.578
39	**K**		41997.198	**0.590599**	ppb	0.561	101.988	41476.795
24	**Mg**		510.009	**0.496992**	ppb	9.950	35.083	360.005
159	**Tb-ISK**	>	247601.374		ppb	0.776		246858.044

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Monday, January 03, 2022 20:12:16
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICIS-1479530.243
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61305.756		ppb	2.371		
9	**Be**		27.778		ppb	36.661		
10	**B**		1171.159		ppb	4.575		
27	**Al**		13148.721		ppb	3.861		
43	**Ca-2**		171.668		ppb	35.234		
49	**Ti**		352.227		ppb	8.268		
52	**Cr**		18370.694		ppb	1.081		
55	**Mn**		1734.551		ppb	11.555		
57	**Fe**		15215.888		ppb	4.515		
45	**Sc-IS**	>	2209858.695		ppb	3.002		
66	**Zn**		1366.732		ppb	8.885		
86	**Sr**		46.365		ppb	77.765		
65	**Cu**		327.782		ppb	10.585		
69	**Ga-IS**		745677.421		ppb	1.386		
95	**Mo**		366.671		ppb	8.672		
115	**In-IS**	>	438944.157		ppb	1.744		
111	**Cd**		35.897		ppb	40.515		
118	**Sn**		3734.933		ppb	3.545		
121	**Sb**		596.679		ppb	2.435		
135	**Ba**		87.778		ppb	19.114		
165	**Ho-IS**		550644.897		ppb	1.218		
159	**Tb-IS**	>	553134.954		ppb	1.157		
207	**Pb**		816.676		ppb	6.123		
203	**Tl**		162.223		ppb	9.711		
209	**Bi-IS**		311169.990		ppb	2.026		
51	**V**		4.444		ppb	43.301		
59	**Co**		26.667		ppb	12.500		
60	**Ni**		95.556		ppb	26.643		
75	**As**		323.540		ppb	8.707		
71	**Ga-ISK**		88321.085		ppb	0.929		
82	**Se-2**		8.916		ppb	49.088		
107	**Ag-1**		336.671		ppb	13.719		
115	**In-ISK**	>	120842.967		ppb	1.949		
45	**Sc-ISK**		222862.453		ppb	2.776		
23	**Na**		8889.433		ppb	2.628		
39	**K**		41046.664		ppb	0.668		
24	**Mg**		456.674		ppb	6.226		
159	**Tb-ISK**	>	241518.853		ppb	1.668		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Monday, January 03, 2022 20:15:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\IC-2235387.244
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58491.854		ppb	4.060		61305.756
9	**Be**		454310.832	**200.000000**	ppb	2.179	0.064	27.778
10	**B**		315950.989	**500.000000**	ppb	2.974	1.342	1171.159
27	**Al**		2753224.286	**200.000000**	ppb	2.099	0.632	13148.721
43	**Ca-2**		313258.202	**10200.000000**	ppb	1.988	1.130	171.668
49	**Ti**		198986.628	**200.000000**	ppb	2.006	0.714	352.227
52	**Cr**		2928086.769	**200.000000**	ppb	1.011	1.273	18370.694
55	**Mn**		4393720.781	**200.000000**	ppb	1.586	0.797	1734.551
57	**Fe**		4890429.754	**10200.000000**	ppb	1.257	1.390	15215.888
45	**Sc-IS**	>	2179540.675		ppb	2.117		2209858.695
66	**Zn**		479326.876	**200.000000**	ppb	1.710	0.754	1366.732
86	**Sr**		450704.855	**200.000000**	ppb	2.284	4.172	46.365
65	**Cu**		761509.154	**200.000000**	ppb	1.557	2.599	327.782
69	**Ga-IS**		841114.678		ppb	0.891		745677.421
95	**Mo**		502395.699	**200.000000**	ppb	2.389	4.298	366.671
115	**In-IS**	>	435254.266		ppb	1.446		438944.157
111	**Cd**		663863.819	**200.000000**	ppb	0.109	1.452	35.897
118	**Sn**		1965503.180	**200.000000**	ppb	0.734	0.780	3734.933
121	**Sb**		2208581.022	**200.000000**	ppb	1.256	1.021	596.679
135	**Ba**		543606.108	**200.000000**	ppb	1.173	1.455	87.778
165	**Ho-IS**		552615.961		ppb	1.456		550644.897
159	**Tb-IS**	>	560543.187		ppb	1.090		553134.954
207	**Pb**		7445640.746	**200.000000**	ppb	0.546	0.642	816.676
203	**Tl**		2528200.179	**200.000000**	ppb	2.182	1.125	162.223
209	**Bi-IS**		296292.214		ppb	0.330		311169.990
51	**V**		54474.781	**200.000000**	ppb	0.837	2.407	4.444
59	**Co**		184246.267	**200.000000**	ppb	1.562	3.459	26.667
60	**Ni**		315088.234	**200.000000**	ppb	3.290	4.929	95.556
75	**As**		114475.576	**200.000000**	ppb	1.432	3.771	323.540
71	**Ga-ISK**		87829.247		ppb	2.182		88321.085
82	**Se-2**		11064.817	**200.000000**	ppb	2.141	4.478	8.916
107	**Ag-1**		1167891.872	**200.000000**	ppb	1.760	1.265	336.671
115	**In-ISK**	>	117527.910		ppb	2.307		120842.967
45	**Sc-ISK**		224172.112		ppb	1.558		222862.453
23	**Na**		3388100.135	**10200.000000**	ppb	2.348	2.145	8889.433
39	**K**		6860282.878	**10200.000000**	ppb	1.344	0.413	41046.664
24	**Mg**		3045803.023	**10200.000000**	ppb	1.906	0.952	456.674
159	**Tb-ISK**	>	244039.574		ppb	0.959		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 20:18:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.245
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58903.610		ppb	4.985		61305.756
9	**Be**		227340.229	**99.201516**	ppb	3.111	0.836	27.778
10	**B**		159823.690	**249.889697**	ppb	1.812	1.557	1171.159
27	**Al**		1363718.116	**97.733957**	ppb	2.137	1.297	13148.721
43	**Ca-2**		156917.295	**5064.533418**	ppb	1.863	3.376	171.668
49	**Ti**		100064.982	**99.526080**	ppb	2.904	1.444	352.227
52	**Cr**		1432319.720	**96.361837**	ppb	0.578	2.062	18370.694
55	**Mn**		2215294.041	**99.954465**	ppb	0.367	2.118	1734.551
57	**Fe**		2454245.662	**5059.554450**	ppb	1.821	2.561	15215.888
45	**Sc-IS**	>	2198490.556		ppb	2.309		2209858.695
66	**Zn**		243581.703	**100.480850**	ppb	1.750	0.639	1366.732
86	**Sr**		232042.410	**102.045241**	ppb	0.904	2.089	46.365
65	**Cu**		389272.855	**101.302081**	ppb	1.185	1.181	327.782
69	**Ga-IS**		797255.160		ppb	1.864		745677.421
95	**Mo**		253261.970	**99.868726**	ppb	0.699	3.008	366.671
115	**In-IS**	>	440130.777		ppb	1.450		438944.157
111	**Cd**		335258.945	**99.870242**	ppb	0.881	0.748	35.897
118	**Sn**		997366.069	**100.174987**	ppb	1.282	1.347	3734.933
121	**Sb**		1054232.335	**94.385795**	ppb	1.640	1.909	596.679
135	**Ba**		273338.178	**99.439168**	ppb	1.082	1.807	87.778
165	**Ho-IS**		560186.839		ppb	1.416		550644.897
159	**Tb-IS**	>	564149.173		ppb	0.280		553134.954
207	**Pb**		3707108.828	**98.935136**	ppb	4.721	5.008	816.676
203	**Tl**		1226429.436	**96.401704**	ppb	0.427	0.672	162.223
209	**Bi-IS**		306239.847		ppb	2.325		311169.990
51	**V**		27518.732	**101.301115**	ppb	4.151	5.406	4.444
59	**Co**		93170.745	**101.380036**	ppb	2.519	4.157	26.667
60	**Ni**		159928.106	**101.715592**	ppb	1.410	3.043	95.556
75	**As**		56077.247	**97.903534**	ppb	0.845	1.600	323.540
71	**Ga-ISK**		86739.203		ppb	0.490		88321.085
82	**Se-2**		5622.686	**101.780268**	ppb	1.303	2.935	8.916
107	**Ag-1**		588930.551	**101.082052**	ppb	2.329	2.265	336.671
115	**In-ISK**	>	117224.463		ppb	1.623		120842.967
45	**Sc-ISK**		223949.619		ppb	1.039		222862.453
23	**Na**		1599252.345	**4831.470419**	ppb	1.092	1.736	8889.433
39	**K**		3402470.816	**5060.494596**	ppb	0.844	1.435	41046.664
24	**Mg**		1443092.944	**4863.147943**	ppb	0.791	0.826	456.674
159	**Tb-ISK**	>	242491.476		ppb	0.646		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 20:21:50
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.246
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58816.555		ppb	4.595		61305.756
9	**Be**		123.334	**0.041964**	ppb	7.151	13.133	27.778
10	**B**		1901.238	**1.163771**	ppb	2.718	2.505	1171.159
27	**Al**		17622.202	**0.330446**	ppb	2.947	2.653	13148.721
43	**Ca-2**		241.669	**2.289139**	ppb	11.395	29.656	171.668
49	**Ti**		371.116	**0.021785**	ppb	4.245	126.830	352.227
52	**Cr**		18110.368	**-0.009025**	ppb	2.916	470.636	18370.694
55	**Mn**		2804.720	**0.048971**	ppb	4.282	13.744	1734.551
57	**Fe**		16114.640	**2.100040**	ppb	0.885	61.312	15215.888
45	**Sc-IS**	>	2195482.923		ppb	3.346		2209858.695
66	**Zn**		1413.403	**0.022775**	ppb	6.333	92.965	1366.732
86	**Sr**		134.107	**0.038431**	ppb	32.781	45.205	46.365
65	**Cu**		418.895	**0.024251**	ppb	14.243	60.238	327.782
69	**Ga-IS**		734741.805		ppb	3.355		745677.421
95	**Mo**		2054.592	**0.668217**	ppb	2.793	1.088	366.671
115	**In-IS**	>	436838.637		ppb	0.725		438944.157
111	**Cd**		176.798	**0.042366**	ppb	13.422	17.467	35.897
118	**Sn**		10279.259	**0.666695**	ppb	4.967	8.455	3734.933
121	**Sb**		1451.185	**0.077401**	ppb	3.846	7.574	596.679
135	**Ba**		200.001	**0.041257**	ppb	13.017	22.068	87.778
165	**Ho-IS**		553841.022		ppb	1.490		550644.897
159	**Tb-IS**	>	557533.847		ppb	0.685		553134.954
207	**Pb**		2482.305	**0.044818**	ppb	4.096	6.675	816.676
203	**Tl**		783.355	**0.049304**	ppb	8.543	10.677	162.223
209	**Bi-IS**		311574.921		ppb	1.477		311169.990
51	**V**		16.667	**0.043429**	ppb	52.915	70.974	4.444
59	**Co**		73.334	**0.049158**	ppb	24.052	34.893	26.667
60	**Ni**		282.225	**0.115532**	ppb	2.972	7.051	95.556
75	**As**		370.779	**0.081511**	ppb	5.731	48.944	323.540
71	**Ga-ISK**		89578.882		ppb	0.969		88321.085
82	**Se-2**		9.536	**0.011566**	ppb	30.390	461.819	8.916
107	**Ag-1**		1510.080	**0.195686**	ppb	8.604	9.743	336.671
115	**In-ISK**	>	120676.237		ppb	1.743		120842.967
45	**Sc-ISK**		221469.097		ppb	3.218		222862.453
23	**Na**		10010.173	**2.990449**	ppb	0.757	25.872	8889.433
39	**K**		45792.165	**6.192950**	ppb	0.489	15.373	41046.664
24	**Mg**		1121.711	**2.199979**	ppb	7.751	15.691	456.674
159	**Tb-ISK**	>	245029.314		ppb	1.857		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 20:25:01
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.247
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		57877.014		ppb	1.126		61305.756
9	**Be**		60.000	**0.014202**	ppb	24.216	46.889	27.778
10	**B**		1377.845	**0.335627**	ppb	8.583	46.888	1171.159
27	**Al**		18085.780	**0.363148**	ppb	2.614	1.892	13148.721
43	**Ca-2**		173.334	**0.078159**	ppb	14.519	895.020	171.668
49	**Ti**		334.448	**-0.015811**	ppb	9.782	187.074	352.227
52	**Cr**		18168.217	**-0.006339**	ppb	2.392	91.561	18370.694
55	**Mn**		2087.931	**0.016337**	ppb	10.336	48.348	1734.551
57	**Fe**		15284.841	**0.334690**	ppb	2.033	128.477	15215.888
45	**Sc-IS**	>	2196601.834		ppb	2.085		2209858.695
66	**Zn**		1225.608	**-0.055232**	ppb	5.149	40.805	1366.732
86	**Sr**		94.693	**0.021230**	ppb	49.961	95.760	46.365
65	**Cu**		407.784	**0.021140**	ppb	17.462	76.454	327.782
69	**Ga-IS**		746134.763		ppb	1.667		745677.421
95	**Mo**		841.136	**0.188452**	ppb	10.899	20.134	366.671
115	**In-IS**	>	445459.220		ppb	1.561		438944.157
111	**Cd**		101.567	**0.019173**	ppb	11.534	17.910	35.897
118	**Sn**		6072.403	**0.227276**	ppb	4.860	11.977	3734.933
121	**Sb**		995.590	**0.034559**	ppb	5.212	15.599	596.679
135	**Ba**		137.778	**0.017545**	ppb	10.910	33.148	87.778
165	**Ho-IS**		554645.977		ppb	0.906		550644.897
159	**Tb-IS**	>	564273.127		ppb	0.723		553134.954
207	**Pb**		1388.917	**0.014829**	ppb	2.463	4.339	816.676
203	**Tl**		391.116	**0.017724**	ppb	7.249	11.286	162.223
209	**Bi-IS**		308933.646		ppb	0.645		311169.990
51	**V**		15.556	**0.039071**	ppb	86.603	122.502	4.444
59	**Co**		34.445	**0.007856**	ppb	78.222	360.575	26.667
60	**Ni**		324.448	**0.138570**	ppb	10.393	13.963	95.556
75	**As**		304.595	**-0.038928**	ppb	5.446	77.326	323.540
71	**Ga-ISK**		87929.857		ppb	2.108		88321.085
82	**Se-2**		2.869	**-0.106821**	ppb	92.565	43.214	8.916
107	**Ag-1**		576.678	**0.038739**	ppb	3.059	8.714	336.671
115	**In-ISK**	>	122439.389		ppb	0.651		120842.967
45	**Sc-ISK**		220106.594		ppb	2.295		222862.453
23	**Na**		9142.935	**0.403667**	ppb	7.350	526.916	8889.433
39	**K**		42314.799	**1.058912**	ppb	0.267	34.916	41046.664
24	**Mg**		623.347	**0.536233**	ppb	11.240	44.919	456.674
159	**Tb-ISK**	>	244810.573		ppb	0.855		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79024-F-1-A
Autosampler Position: 355
Sample Date/Time: Monday, January 03, 2022 20:28:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79024-F-1-A.248
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59838.424		ppb	1.916		61305.756
9	**Be**		184.446	**0.067449**	ppb	4.174	6.487	27.778
10	**B**		29446.987	**43.951083**	ppb	1.020	2.072	1171.159
27	**Al**		8159102.047	**581.895638**	ppb	0.591	0.946	13148.721
43	**Ca-2**		340000.444	**10833.177566**	ppb	2.782	1.546	171.668
49	**Ti**		8161.221	**7.691546**	ppb	3.198	2.730	352.227
52	**Cr**		46195.700	**1.861931**	ppb	1.895	3.227	18370.694
55	**Mn**		1390218.190	**61.875508**	ppb	2.555	2.321	1734.551
57	**Fe**		435963.658	**861.160799**	ppb	1.809	1.796	15215.888
45	**Sc-IS**	>	2227000.415		ppb	1.294		2209858.695
66	**Zn**		258579.556	**105.324078**	ppb	1.467	1.308	1366.732
86	**Sr**		187599.903	**81.417311**	ppb	2.403	2.086	46.365
65	**Cu**		77857.162	**19.934231**	ppb	1.261	2.516	327.782
69	**Ga-IS**		745267.422		ppb	3.551		745677.421
95	**Mo**		3463.753	**1.205834**	ppb	1.202	1.770	366.671
115	**In-IS**	>	437317.469		ppb	0.653		438944.157
111	**Cd**		1174.997	**0.341685**	ppb	8.003	8.830	35.897
118	**Sn**		5049.782	**0.134882**	ppb	3.214	14.306	3734.933
121	**Sb**		13372.924	**1.152074**	ppb	1.822	2.532	596.679
135	**Ba**		96265.569	**35.220767**	ppb	2.036	1.969	87.778
165	**Ho-IS**		554635.918		ppb	2.139		550644.897
159	**Tb-IS**	>	558120.792		ppb	1.559		553134.954
207	**Pb**		350672.831	**9.441202**	ppb	0.874	2.425	816.676
203	**Tl**		394.450	**0.018349**	ppb	12.544	21.880	162.223
209	**Bi-IS**		301201.316		ppb	1.156		311169.990
51	**V**		1188.938	**4.412816**	ppb	4.255	3.495	4.444
59	**Co**		1023.370	**1.099535**	ppb	3.141	4.918	26.667
60	**Ni**		7136.227	**4.537386**	ppb	2.874	3.024	95.556
75	**As**		1241.001	**1.655636**	ppb	3.117	6.481	323.540
71	**Ga-ISK**		85949.200		ppb	4.261		88321.085
82	**Se-2**		18.534	**0.184268**	ppb	27.225	53.512	8.916
107	**Ag-1**		276.669	**-0.007958**	ppb	4.174	34.149	336.671
115	**In-ISK**	>	115799.807		ppb	1.883		120842.967
45	**Sc-ISK**		214833.584		ppb	1.596		222862.453
23	**Na**		2305613.777	**6979.431572**	ppb	1.983	2.378	8889.433
39	**K**		2460986.399	**3644.067333**	ppb	1.462	1.724	41046.664
24	**Mg**		588625.443	**1983.323728**	ppb	0.371	0.761	456.674
159	**Tb-ISK**	>	242418.891		ppb	0.393		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79024-E-2-A
Autosampler Position: 356
Sample Date/Time: Monday, January 03, 2022 20:31:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79024-E-2-A.249
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59897.531		ppb	0.350		61305.756
9	**Be**		137.778	**0.046847**	ppb	6.984	8.189	27.778
10	**B**		29294.479	**43.356450**	ppb	3.863	2.945	1171.159
27	**Al**		8097096.141	**573.124355**	ppb	1.246	1.628	13148.721
43	**Ca-2**		344700.552	**10900.875125**	ppb	2.352	1.260	171.668
49	**Ti**		9142.926	**8.591059**	ppb	2.327	1.506	352.227
52	**Cr**		47099.746	**1.898722**	ppb	1.232	0.135	18370.694
55	**Mn**		1357051.523	**59.942192**	ppb	1.696	1.298	1734.551
57	**Fe**		434951.292	**852.327624**	ppb	1.828	1.067	15215.888
45	**Sc-IS**	>	2243882.548		ppb	1.295		2209858.695
66	**Zn**		258683.521	**104.575547**	ppb	1.184	1.640	1366.732
86	**Sr**		190857.960	**82.219338**	ppb	0.812	1.820	46.365
65	**Cu**		77876.162	**19.786758**	ppb	1.466	2.071	327.782
69	**Ga-IS**		766451.203		ppb	1.601		745677.421
95	**Mo**		3497.095	**1.208565**	ppb	4.103	4.744	366.671
115	**In-IS**	>	435807.692		ppb	0.398		438944.157
111	**Cd**		1134.924	**0.330738**	ppb	3.619	3.827	35.897
118	**Sn**		4813.033	**0.112472**	ppb	2.396	9.862	3734.933
121	**Sb**		13014.818	**1.123787**	ppb	2.744	3.078	596.679
135	**Ba**		93259.159	**34.239410**	ppb	3.073	3.244	87.778
165	**Ho-IS**		558254.129		ppb	1.240		550644.897
159	**Tb-IS**	>	563139.918		ppb	2.005		553134.954
207	**Pb**		343653.201	**9.167670**	ppb	1.458	0.938	816.676
203	**Tl**		333.337	**0.013254**	ppb	1.732	6.271	162.223
209	**Bi-IS**		307095.030		ppb	2.736		311169.990
51	**V**		1185.605	**4.303931**	ppb	2.536	0.758	4.444
59	**Co**		943.365	**0.987718**	ppb	4.858	3.046	26.667
60	**Ni**		6640.432	**4.124514**	ppb	1.054	1.126	95.556
75	**As**		1141.258	**1.433601**	ppb	1.451	4.530	323.540
71	**Ga-ISK**		86113.238		ppb	1.348		88321.085
82	**Se-2**		14.856	**0.112936**	ppb	110.534	261.967	8.916
107	**Ag-1**		215.557	**-0.019489**	ppb	14.859	24.296	336.671
115	**In-ISK**	>	118386.317		ppb	1.884		120842.967
45	**Sc-ISK**		218012.124		ppb	0.885		222862.453
23	**Na**		2332674.437	**6981.600138**	ppb	0.422	0.878	8889.433
39	**K**		2445200.299	**3578.709295**	ppb	0.668	0.402	41046.664
24	**Mg**		572794.331	**1908.327997**	ppb	2.178	2.697	456.674
159	**Tb-ISK**	>	245181.477		ppb	0.645		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80336-D-1-A
Autosampler Position: 357
Sample Date/Time: Monday, January 03, 2022 20:34:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80336-D-1-A.250
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61508.826		ppb	1.745		61305.756
9	**Be**		37.778	**0.003148**	ppb	75.043	370.968	27.778
10	**B**		14296.061	**18.788777**	ppb	6.852	4.113	1171.159
27	**Al**		70232.798	**3.710882**	ppb	4.632	2.179	13148.721
43	**Ca-2**		1880149.054	**55668.237023**	ppb	2.648	1.201	171.668
49	**Ti**		940.031	**0.510870**	ppb	5.003	9.573	352.227
52	**Cr**		533751.236	**32.092680**	ppb	3.156	1.770	18370.694
55	**Mn**		7942.209	**0.250898**	ppb	3.843	5.368	1734.551
57	**Fe**		118548.799	**194.090478**	ppb	1.350	2.931	15215.888
45	**Sc-IS**	>	2398095.374		ppb	3.049		2209858.695
66	**Zn**		1751.219	**0.102187**	ppb	2.864	21.085	1366.732
86	**Sr**		776172.518	**313.126871**	ppb	0.967	3.946	46.365
65	**Cu**		1403.402	**0.250321**	ppb	0.950	4.174	327.782
69	**Ga-IS**		767460.952		ppb	2.254		745677.421
95	**Mo**		5949.018	**2.009394**	ppb	4.058	4.407	366.671
115	**In-IS**	>	428816.570		ppb	0.470		438944.157
111	**Cd**		28.618	**-0.001961**	ppb	48.273	216.790	35.897
118	**Sn**		1618.981	**-0.210018**	ppb	0.429	0.640	3734.933
121	**Sb**		853.359	**0.024850**	ppb	7.064	21.013	596.679
135	**Ba**		160233.811	**59.806693**	ppb	1.850	1.400	87.778
165	**Ho-IS**		554121.426		ppb	0.580		550644.897
159	**Tb-IS**	>	554810.530		ppb	1.287		553134.954
207	**Pb**		2528.976	**0.046416**	ppb	0.499	2.505	816.676
203	**Tl**		294.448	**0.010552**	ppb	10.519	26.152	162.223
209	**Bi-IS**		293646.646		ppb	1.548		311169.990
51	**V**		1206.718	**4.520886**	ppb	5.064	4.580	4.444
59	**Co**		22.222	**-0.003483**	ppb	17.321	110.129	26.667
60	**Ni**		343.337	**0.164264**	ppb	0.971	3.885	95.556
75	**As**		1081.315	**1.386650**	ppb	7.919	8.161	323.540
71	**Ga-ISK**		83393.816		ppb	0.555		88321.085
82	**Se-2**		38.856	**0.561918**	ppb	14.318	16.669	8.916
107	**Ag-1**		156.668	**-0.028587**	ppb	7.671	7.719	336.671
115	**In-ISK**	>	114748.097		ppb	2.456		120842.967
45	**Sc-ISK**		215447.004		ppb	1.014		222862.453
23	**Na**		4635925.204	**14241.075186**	ppb	0.683	1.636	8889.433
39	**K**		1330453.120	**1967.068817**	ppb	1.023	1.077	41046.664
24	**Mg**		4127782.095	**14091.483071**	ppb	2.822	0.835	456.674
159	**Tb-ISK**	>	239396.417		ppb	2.045		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80336-D-1-B MS
Autosampler Position: 358
Sample Date/Time: Monday, January 03, 2022 20:37:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80336-D-1-B MS.251
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58844.306		ppb	1.888		61305.756
9	**Be**		207422.387	**83.426906**	ppb	2.729	1.100	27.778
10	**B**		70743.734	**100.840437**	ppb	3.132	1.748	1171.159
27	**Al**		1364746.084	**90.074612**	ppb	2.222	1.544	13148.721
43	**Ca-2**		1973590.594	**58755.151719**	ppb	1.902	2.353	171.668
49	**Ti**		89255.914	**81.755798**	ppb	3.065	1.309	352.227
52	**Cr**		1778783.701	**110.456229**	ppb	1.618	0.791	18370.694
55	**Mn**		1800063.926	**74.817189**	ppb	2.249	0.959	1734.551
57	**Fe**		2569926.438	**4880.824807**	ppb	2.082	0.664	15215.888
45	**Sc-IS**	>	2385151.809		ppb	1.800		2209858.695
66	**Zn**		219550.341	**83.375742**	ppb	2.274	1.230	1366.732
86	**Sr**		958838.893	**388.617682**	ppb	1.747	0.558	46.365
65	**Cu**		321706.777	**77.139517**	ppb	1.192	0.776	327.782
69	**Ga-IS**		807025.158		ppb	1.122		745677.421
95	**Mo**		211008.011	**76.627100**	ppb	3.264	2.787	366.671
115	**In-IS**	>	431784.035		ppb	1.843		438944.157
111	**Cd**		302392.901	**91.799605**	ppb	3.157	1.316	35.897
118	**Sn**		784834.085	**80.271253**	ppb	1.948	0.619	3734.933
121	**Sb**		919448.558	**83.897382**	ppb	1.975	1.113	596.679
135	**Ba**		428210.893	**158.805763**	ppb	1.735	1.650	87.778
165	**Ho-IS**		553160.711		ppb	1.360		550644.897
159	**Tb-IS**	>	564445.447		ppb	0.861		553134.954
207	**Pb**		3014511.171	**80.403842**	ppb	0.860	1.570	816.676
203	**Tl**		995155.390	**78.185025**	ppb	1.681	2.166	162.223
209	**Bi-IS**		289809.410		ppb	1.463		311169.990
51	**V**		24782.593	**92.508727**	ppb	1.671	2.753	4.444
59	**Co**		75623.057	**83.436447**	ppb	2.645	3.196	26.667
60	**Ni**		132628.495	**85.536460**	ppb	1.746	2.416	95.556
75	**As**		51779.731	**91.665147**	ppb	0.790	2.237	323.540
71	**Ga-ISK**		84481.391		ppb	2.542		88321.085
82	**Se-2**		5275.507	**96.864319**	ppb	3.385	4.706	8.916
107	**Ag-1**		277335.401	**48.259036**	ppb	1.455	2.533	336.671
115	**In-ISK**	>	115570.488		ppb	1.419		120842.967
45	**Sc-ISK**		225929.203		ppb	0.324		222862.453
23	**Na**		5068355.983	**15608.268070**	ppb	1.781	2.277	8889.433
39	**K**		1926082.153	**2882.420169**	ppb	0.762	1.262	41046.664
24	**Mg**		5573658.905	**19074.670110**	ppb	2.584	1.703	456.674
159	**Tb-ISK**	>	238814.391		ppb	1.036		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80336-D-1-C MSD
Autosampler Position: 359
Sample Date/Time: Monday, January 03, 2022 20:40:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80336-D-1-C MSD.252
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58730.548		ppb	2.976		61305.756
9	**Be**		205557.313	**83.066727**	ppb	1.044	1.892	27.778
10	**B**		70477.890	**100.965014**	ppb	1.430	3.538	1171.159
27	**Al**		1337012.116	**88.619785**	ppb	2.182	1.519	13148.721
43	**Ca-2**		1959222.931	**58576.993174**	ppb	1.784	0.815	171.668
49	**Ti**		88292.022	**81.251756**	ppb	1.081	1.406	352.227
52	**Cr**		1723246.786	**107.457873**	ppb	1.095	1.434	18370.694
55	**Mn**		1759961.644	**73.492516**	ppb	0.380	2.028	1734.551
57	**Fe**		2542839.125	**4852.591514**	ppb	1.078	3.129	15215.888
45	**Sc-IS**	>	2374822.020		ppb	2.345		2209858.695
66	**Zn**		214109.345	**81.694441**	ppb	1.048	3.313	1366.732
86	**Sr**		945765.710	**385.117643**	ppb	0.395	2.327	46.365
65	**Cu**		317114.530	**76.388650**	ppb	0.879	2.373	327.782
69	**Ga-IS**		802774.903		ppb	1.299		745677.421
95	**Mo**		209640.649	**76.468409**	ppb	1.723	0.764	366.671
115	**In-IS**	>	428107.267		ppb	1.416		438944.157
111	**Cd**		290024.290	**88.818777**	ppb	1.035	0.606	35.897
118	**Sn**		781220.676	**80.585371**	ppb	1.982	0.611	3734.933
121	**Sb**		905517.291	**83.328837**	ppb	1.992	0.577	596.679
135	**Ba**		418530.718	**156.536344**	ppb	1.211	0.522	87.778
165	**Ho-IS**		550482.335		ppb	1.332		550644.897
159	**Tb-IS**	>	556672.787		ppb	1.064		553134.954
207	**Pb**		2966061.191	**80.224788**	ppb	1.626	2.687	816.676
203	**Tl**		990459.505	**78.906854**	ppb	1.810	2.496	162.223
209	**Bi-IS**		286939.336		ppb	1.988		311169.990
51	**V**		24089.183	**90.855320**	ppb	1.061	0.931	4.444
59	**Co**		74941.633	**83.548619**	ppb	1.341	1.223	26.667
60	**Ni**		132112.595	**86.095695**	ppb	1.422	1.292	95.556
75	**As**		51275.100	**91.718570**	ppb	0.812	0.807	323.540
71	**Ga-ISK**		83334.616		ppb	1.529		88321.085
82	**Se-2**		5204.816	**96.543215**	ppb	0.903	0.979	8.916
107	**Ag-1**		271904.594	**47.807004**	ppb	1.227	1.246	336.671
115	**In-ISK**	>	114353.870		ppb	0.156		120842.967
45	**Sc-ISK**		223232.007		ppb	1.567		222862.453
23	**Na**		4909710.468	**15047.988214**	ppb	2.495	3.142	8889.433
39	**K**		1888056.310	**2810.788604**	ppb	1.003	1.954	41046.664
24	**Mg**		5434384.679	**18510.904039**	ppb	1.543	0.442	456.674
159	**Tb-ISK**	>	239953.290		ppb	1.209		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80336-A-2-A
Autosampler Position: 360
Sample Date/Time: Monday, January 03, 2022 20:44:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80336-A-2-A.253
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60661.890		ppb	2.003		61305.756
9	**Be**		74.445	**0.018031**	ppb	29.813	52.610	27.778
10	**B**		14828.804	**19.700404**	ppb	0.563	2.584	1171.159
27	**Al**		27278.695	**0.873145**	ppb	2.186	1.813	13148.721
43	**Ca-2**		1857671.815	**55305.422366**	ppb	2.030	0.730	171.668
49	**Ti**		740.019	**0.330969**	ppb	9.776	18.771	352.227
52	**Cr**		35752.477	**1.000253**	ppb	2.403	0.536	18370.694
55	**Mn**		4748.568	**0.119618**	ppb	5.408	5.093	1734.551
57	**Fe**		115908.419	**190.211855**	ppb	1.814	0.650	15215.888
45	**Sc-IS**	>	2384811.660		ppb	2.300		2209858.695
66	**Zn**		3030.322	**0.595062**	ppb	4.111	8.708	1366.732
86	**Sr**		776845.328	**314.893855**	ppb	2.290	0.446	46.365
65	**Cu**		3055.884	**0.648042**	ppb	8.299	6.825	327.782
69	**Ga-IS**		749240.492		ppb	2.608		745677.421
95	**Mo**		2066.816	**0.608613**	ppb	2.917	6.082	366.671
115	**In-IS**	>	427184.896		ppb	0.962		438944.157
111	**Cd**		133.438	**0.030199**	ppb	14.704	18.608	35.897
118	**Sn**		13338.446	**1.007953**	ppb	0.052	1.345	3734.933
121	**Sb**		1648.984	**0.098580**	ppb	3.035	3.945	596.679
135	**Ba**		161206.771	**60.402324**	ppb	1.196	0.649	87.778
165	**Ho-IS**		547070.627		ppb	1.403		550644.897
159	**Tb-IS**	>	555228.002		ppb	0.951		553134.954
207	**Pb**		9332.304	**0.230902**	ppb	3.210	4.106	816.676
203	**Tl**		617.791	**0.036333**	ppb	3.511	3.552	162.223
209	**Bi-IS**		290529.118		ppb	0.916		311169.990
51	**V**		71.111	**0.251378**	ppb	28.255	30.379	4.444
59	**Co**		36.667	**0.012546**	ppb	24.052	76.840	26.667
60	**Ni**		402.228	**0.202298**	ppb	11.191	14.870	95.556
75	**As**		1582.287	**2.285086**	ppb	7.144	9.523	323.540
71	**Ga-ISK**		85198.893		ppb	1.398		88321.085
82	**Se-2**		26.539	**0.335080**	ppb	41.493	61.749	8.916
107	**Ag-1**		1020.037	**0.122767**	ppb	11.241	17.004	336.671
115	**In-ISK**	>	114842.342		ppb	0.640		120842.967
45	**Sc-ISK**		221533.794		ppb	1.933		222862.453
23	**Na**		4801179.950	**14512.652755**	ppb	2.664	1.523	8889.433
39	**K**		1372550.494	**1998.220630**	ppb	1.606	1.867	41046.664
24	**Mg**		4198968.116	**14113.103511**	ppb	1.563	2.507	456.674
159	**Tb-ISK**	>	243228.799		ppb	1.579		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80336-A-3-A
Autosampler Position: 401
Sample Date/Time: Monday, January 03, 2022 20:47:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80336-A-3-A.254
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60301.518		ppb	2.931		61305.756
9	**Be**		60.000	**0.012105**	ppb	24.216	47.148	27.778
10	**B**		14433.957	**19.159130**	ppb	1.956	1.503	1171.159
27	**Al**		20784.447	**0.442577**	ppb	2.196	6.636	13148.721
43	**Ca-2**		1845333.306	**55040.257921**	ppb	1.427	1.003	171.668
49	**Ti**		956.699	**0.532300**	ppb	3.769	6.466	352.227
52	**Cr**		38252.278	**1.161748**	ppb	2.566	4.097	18370.694
55	**Mn**		2161.275	**0.012203**	ppb	4.129	25.450	1734.551
57	**Fe**		108589.174	**176.585138**	ppb	3.049	2.899	15215.888
45	**Sc-IS**	>	2380219.648		ppb	0.798		2209858.695
66	**Zn**		1701.213	**0.087761**	ppb	7.888	57.668	1366.732
86	**Sr**		770869.094	**313.047986**	ppb	2.215	1.428	46.365
65	**Cu**		1261.167	**0.218474**	ppb	2.567	4.596	327.782
69	**Ga-IS**		751736.069		ppb	2.514		745677.421
95	**Mo**		4458.474	**1.481408**	ppb	2.834	2.681	366.671
115	**In-IS**	>	424794.835		ppb	0.822		438944.157
111	**Cd**		86.193	**0.015842**	ppb	34.784	57.112	35.897
118	**Sn**		6099.080	**0.259521**	ppb	1.669	3.960	3734.933
121	**Sb**		1111.154	**0.049539**	ppb	4.494	9.656	596.679
135	**Ba**		163366.086	**61.568253**	ppb	3.217	3.912	87.778
165	**Ho-IS**		552710.319		ppb	1.294		550644.897
159	**Tb-IS**	>	552641.575		ppb	0.881		553134.954
207	**Pb**		2152.287	**0.036420**	ppb	3.718	6.685	816.676
203	**Tl**		422.229	**0.020868**	ppb	10.484	16.248	162.223
209	**Bi-IS**		292375.468		ppb	1.642		311169.990
51	**V**		394.450	**1.481860**	ppb	14.887	16.384	4.444
59	**Co**		30.000	**0.005563**	ppb	22.222	142.861	26.667
60	**Ni**		320.004	**0.150738**	ppb	3.608	2.967	95.556
75	**As**		1186.764	**1.595405**	ppb	3.975	4.698	323.540
71	**Ga-ISK**		85841.582		ppb	0.430		88321.085
82	**Se-2**		54.885	**0.868380**	ppb	3.128	4.501	8.916
107	**Ag-1**		387.783	**0.012520**	ppb	7.705	40.373	336.671
115	**In-ISK**	>	113774.368		ppb	1.530		120842.967
45	**Sc-ISK**		225639.021		ppb	2.979		222862.453
23	**Na**		4916835.482	**15197.614014**	ppb	1.233	2.062	8889.433
39	**K**		1372768.370	**2044.509676**	ppb	0.992	2.093	41046.664
24	**Mg**		4225369.665	**14517.410453**	ppb	1.336	2.333	456.674
159	**Tb-ISK**	>	237933.262		ppb	1.239		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80336-A-4-A
Autosampler Position: 402
Sample Date/Time: Monday, January 03, 2022 20:50:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80336-A-4-A.255
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59500.370		ppb	2.484		61305.756
9	**Be**		44.445	**0.005975**	ppb	24.109	75.433	27.778
10	**B**		14597.458	**19.504479**	ppb	2.644	1.755	1171.159
27	**Al**		23185.144	**0.610645**	ppb	3.029	3.678	13148.721
43	**Ca-2**		1870310.439	**56066.435714**	ppb	2.124	0.446	171.668
49	**Ti**		941.142	**0.523104**	ppb	9.353	17.573	352.227
52	**Cr**		37886.847	**1.151179**	ppb	1.502	2.533	18370.694
55	**Mn**		2898.072	**0.043565**	ppb	1.827	5.843	1734.551
57	**Fe**		109593.215	**179.624091**	ppb	0.358	1.643	15215.888
45	**Sc-IS**	>	2368224.919		ppb	1.767		2209858.695
66	**Zn**		2096.821	**0.243386**	ppb	2.293	3.391	1366.732
86	**Sr**		775792.223	**316.705193**	ppb	0.847	1.108	46.365
65	**Cu**		1902.349	**0.374882**	ppb	5.995	6.473	327.782
69	**Ga-IS**		756004.486		ppb	1.177		745677.421
95	**Mo**		780.021	**0.141752**	ppb	9.661	18.289	366.671
115	**In-IS**	>	426445.304		ppb	1.177		438944.157
111	**Cd**		57.251	**0.006877**	ppb	3.086	4.969	35.897
118	**Sn**		4071.692	**0.046268**	ppb	5.061	54.764	3734.933
121	**Sb**		1025.592	**0.041227**	ppb	0.677	1.784	596.679
135	**Ba**		159461.759	**59.860160**	ppb	0.926	1.895	87.778
165	**Ho-IS**		543870.784		ppb	0.585		550644.897
159	**Tb-IS**	>	547547.785		ppb	1.020		553134.954
207	**Pb**		4793.647	**0.109622**	ppb	1.840	3.453	816.676
203	**Tl**		347.782	**0.015157**	ppb	3.874	5.335	162.223
209	**Bi-IS**		286131.794		ppb	1.190		311169.990
51	**V**		158.890	**0.584057**	ppb	17.469	17.568	4.444
59	**Co**		23.333	**-0.002107**	ppb	42.857	527.941	26.667
60	**Ni**		280.003	**0.123881**	ppb	13.521	20.119	95.556
75	**As**		1160.327	**1.539819**	ppb	3.321	4.761	323.540
71	**Ga-ISK**		83456.410		ppb	0.886		88321.085
82	**Se-2**		51.851	**0.807991**	ppb	16.492	19.853	8.916
107	**Ag-1**		250.002	**-0.011979**	ppb	28.222	105.720	336.671
115	**In-ISK**	>	114209.046		ppb	0.483		120842.967
45	**Sc-ISK**		219564.473		ppb	0.611		222862.453
23	**Na**		4785946.334	**14859.975794**	ppb	2.266	0.936	8889.433
39	**K**		1352123.428	**2022.307634**	ppb	2.106	0.851	41046.664
24	**Mg**		4138261.126	**14283.484776**	ppb	1.651	0.625	456.674
159	**Tb-ISK**	>	236798.672		ppb	1.335		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80336-A-5-A
Autosampler Position: 403
Sample Date/Time: Monday, January 03, 2022 20:53:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80336-A-5-A.256
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59700.129		ppb	3.298		61305.756
9	**Be**		25.556	**-0.001720**	ppb	45.807	276.263	27.778
10	**B**		14060.249	**18.708905**	ppb	0.537	1.117	1171.159
27	**Al**		22244.645	**0.546998**	ppb	2.325	8.091	13148.721
43	**Ca-2**		1825817.319	**54688.240079**	ppb	3.887	2.560	171.668
49	**Ti**		956.699	**0.536224**	ppb	4.878	8.176	352.227
52	**Cr**		70438.844	**3.206551**	ppb	2.250	1.418	18370.694
55	**Mn**		1825.672	**-0.001459**	ppb	6.085	272.759	1734.551
57	**Fe**		111074.817	**182.284243**	ppb	2.834	1.996	15215.888
45	**Sc-IS**	>	2369710.833		ppb	1.348		2209858.695
66	**Zn**		1810.115	**0.132687**	ppb	2.124	14.313	1366.732
86	**Sr**		778682.413	**317.662720**	ppb	2.160	2.086	46.365
65	**Cu**		1422.293	**0.258835**	ppb	3.649	6.443	327.782
69	**Ga-IS**		741252.804		ppb	1.122		745677.421
95	**Mo**		5857.868	**2.001020**	ppb	2.711	2.108	366.671
115	**In-IS**	>	420653.524		ppb	1.283		438944.157
111	**Cd**		35.476	**0.000326**	ppb	11.193	338.862	35.897
118	**Sn**		3214.806	**-0.038385**	ppb	3.119	32.336	3734.933
121	**Sb**		880.027	**0.028862**	ppb	4.608	9.674	596.679
135	**Ba**		160919.140	**61.232465**	ppb	1.388	0.910	87.778
165	**Ho-IS**		540725.885		ppb	0.661		550644.897
159	**Tb-IS**	>	548057.092		ppb	2.211		553134.954
207	**Pb**		1854.493	**0.028737**	ppb	2.099	5.541	816.676
203	**Tl**		302.225	**0.011460**	ppb	8.424	19.077	162.223
209	**Bi-IS**		289651.424		ppb	0.337		311169.990
51	**V**		986.701	**3.610387**	ppb	1.756	0.910	4.444
59	**Co**		11.111	**-0.016066**	ppb	17.321	13.174	26.667
60	**Ni**		396.672	**0.193109**	ppb	2.911	4.707	95.556
75	**As**		1092.518	**1.363828**	ppb	6.170	7.225	323.540
71	**Ga-ISK**		85690.752		ppb	2.089		88321.085
82	**Se-2**		45.836	**0.671901**	ppb	34.399	42.129	8.916
107	**Ag-1**		183.335	**-0.024639**	ppb	25.194	32.175	336.671
115	**In-ISK**	>	117384.868		ppb	2.015		120842.967
45	**Sc-ISK**		224992.359		ppb	0.164		222862.453
23	**Na**		4805114.301	**14598.645803**	ppb	0.693	1.295	8889.433
39	**K**		1357346.932	**1985.335947**	ppb	1.964	2.096	41046.664
24	**Mg**		4089511.960	**13811.489277**	ppb	0.451	1.431	456.674
159	**Tb-ISK**	>	242049.769		ppb	1.757		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80117-A-1-A
Autosampler Position: 404
Sample Date/Time: Monday, January 03, 2022 20:56:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80117-A-1-A.257
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59995.881		ppb	4.416		61305.756
9	**Be**		36.667	**0.004475**	ppb	41.660	142.749	27.778
10	**B**		8306.859	**11.765351**	ppb	0.811	5.819	1171.159
27	**Al**		2126000.583	**158.872787**	ppb	2.343	3.147	13148.721
43	**Ca-2**		85748.258	**2873.478321**	ppb	0.923	4.948	171.668
49	**Ti**		4455.141	**4.266694**	ppb	5.677	3.793	352.227
52	**Cr**		36385.196	**1.331576**	ppb	3.125	10.594	18370.694
55	**Mn**		477703.992	**22.345641**	ppb	1.794	5.896	1734.551
57	**Fe**		210529.249	**422.452768**	ppb	3.887	6.468	15215.888
45	**Sc-IS**	>	2118456.887		ppb	5.395		2209858.695
66	**Zn**		945344.783	**406.904824**	ppb	2.877	4.255	1366.732
86	**Sr**		35370.856	**16.150645**	ppb	1.351	5.306	46.365
65	**Cu**		60842.681	**16.374861**	ppb	2.612	3.031	327.782
69	**Ga-IS**		739865.422		ppb	2.908		745677.421
95	**Mo**		1021.148	**0.275973**	ppb	8.196	19.377	366.671
115	**In-IS**	>	443587.351		ppb	1.713		438944.157
111	**Cd**		716.763	**0.201215**	ppb	7.139	8.069	35.897
118	**Sn**		3757.161	**-0.001624**	ppb	2.708	820.751	3734.933
121	**Sb**		31398.918	**2.737194**	ppb	1.558	1.451	596.679
135	**Ba**		65609.206	**23.659820**	ppb	0.515	1.992	87.778
165	**Ho-IS**		543195.692		ppb	0.396		550644.897
159	**Tb-IS**	>	558739.327		ppb	0.266		553134.954
207	**Pb**		107038.021	**2.862469**	ppb	0.637	0.862	816.676
203	**Tl**		271.114	**0.008511**	ppb	3.952	9.345	162.223
209	**Bi-IS**		306412.945		ppb	1.668		311169.990
51	**V**		576.678	**2.083556**	ppb	8.554	8.187	4.444
59	**Co**		358.894	**0.359560**	ppb	19.042	22.880	26.667
60	**Ni**		2663.582	**1.617942**	ppb	1.476	1.930	95.556
75	**As**		485.555	**0.291778**	ppb	10.097	25.103	323.540
71	**Ga-ISK**		87445.831		ppb	2.620		88321.085
82	**Se-2**		6.518	**-0.039624**	ppb	31.881	98.018	8.916
107	**Ag-1**		156.668	**-0.029444**	ppb	3.685	4.979	336.671
115	**In-ISK**	>	118483.636		ppb	2.558		120842.967
45	**Sc-ISK**		220556.093		ppb	3.010		222862.453
23	**Na**		1265099.748	**3849.712397**	ppb	4.503	4.855	8889.433
39	**K**		699290.654	**999.937305**	ppb	4.442	5.075	41046.664
24	**Mg**		131113.018	**444.304810**	ppb	4.386	4.718	456.674
159	**Tb-ISK**	>	240410.724		ppb	0.480		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 20:59:54
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.258
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56304.096		ppb	1.873		61305.756
9	**Be**		222522.202	**106.050543**	ppb	1.652	3.657	27.778
10	**B**		150623.537	**257.127448**	ppb	2.428	2.926	1171.159
27	**Al**		1275965.205	**99.814134**	ppb	3.429	2.113	13148.721
43	**Ca-2**		148085.474	**5216.400133**	ppb	2.179	3.245	171.668
49	**Ti**		95767.839	**104.010714**	ppb	2.497	2.991	352.227
52	**Cr**		1380367.111	**101.435566**	ppb	2.459	3.649	18370.694
55	**Mn**		2083606.422	**102.626440**	ppb	3.933	4.936	1734.551
57	**Fe**		2381474.982	**5363.125584**	ppb	0.975	4.369	15215.888
45	**Sc-IS**	>	2015843.446		ppb	5.417		2209858.695
66	**Zn**		237583.852	**107.103459**	ppb	0.822	4.979	1366.732
86	**Sr**		231153.911	**111.050468**	ppb	1.275	5.543	46.365
65	**Cu**		376377.822	**106.919382**	ppb	2.480	2.987	327.782
69	**Ga-IS**		771531.701		ppb	1.821		745677.421
95	**Mo**		250522.057	**107.891926**	ppb	0.650	4.945	366.671
115	**In-IS**	>	437102.446		ppb	2.814		438944.157
111	**Cd**		329523.736	**98.824317**	ppb	3.467	0.800	35.897
118	**Sn**		965554.602	**97.650653**	ppb	1.964	0.884	3734.933
121	**Sb**		1042182.199	**93.970603**	ppb	1.310	1.568	596.679
135	**Ba**		270862.608	**99.261463**	ppb	0.160	2.919	87.778
165	**Ho-IS**		558183.106		ppb	1.536		550644.897
159	**Tb-IS**	>	560134.831		ppb	1.402		553134.954
207	**Pb**		3615064.087	**97.186560**	ppb	1.800	3.031	816.676
203	**Tl**		1206292.154	**95.517011**	ppb	1.028	2.300	162.223
209	**Bi-IS**		300894.394		ppb	2.014		311169.990
51	**V**		26250.767	**96.233928**	ppb	1.531	1.598	4.444
59	**Co**		89762.257	**97.288561**	ppb	1.167	2.606	26.667
60	**Ni**		157833.138	**99.963111**	ppb	2.887	1.449	95.556
75	**As**		56056.368	**97.494794**	ppb	1.170	1.307	323.540
71	**Ga-ISK**		85710.840		ppb	1.586		88321.085
82	**Se-2**		5494.890	**99.076390**	ppb	0.430	1.534	8.916
107	**Ag-1**		590536.389	**100.989165**	ppb	0.390	1.670	336.671
115	**In-ISK**	>	117661.463		ppb	1.469		120842.967
45	**Sc-ISK**		214078.116		ppb	2.096		222862.453
23	**Na**		1501584.352	**4541.646960**	ppb	1.213	1.165	8889.433
39	**K**		3299843.189	**4913.557025**	ppb	2.478	2.445	41046.664
24	**Mg**		1366152.549	**4610.672997**	ppb	2.125	1.484	456.674
159	**Tb-ISK**	>	242120.086		ppb	1.280		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message
Sr	86	
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 21:03:06
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.259
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56214.849		ppb	1.571		61305.756
9	**Be**		77.778	**0.024278**	ppb	8.921	15.641	27.778
10	**B**		1430.072	**0.572546**	ppb	7.401	27.248	1171.159
27	**Al**		17666.617	**0.419637**	ppb	6.787	17.194	13148.721
43	**Ca-2**		473.341	**10.771012**	ppb	18.965	23.638	171.668
49	**Ti**		357.782	**0.032018**	ppb	4.201	36.722	352.227
52	**Cr**		18463.040	**0.099950**	ppb	2.589	34.309	18370.694
55	**Mn**		1997.918	**0.018565**	ppb	5.725	31.866	1734.551
57	**Fe**		15854.348	**3.788299**	ppb	0.242	40.403	15215.888
45	**Sc-IS**	>	2057285.670		ppb	4.443		2209858.695
66	**Zn**		1500.079	**0.101387**	ppb	4.914	31.965	1366.732
86	**Sr**		129.050	**0.041702**	ppb	71.902	113.743	46.365
65	**Cu**		415.562	**0.031211**	ppb	9.400	52.561	327.782
69	**Ga-IS**		723162.044		ppb	1.759		745677.421
95	**Mo**		1548.973	**0.511067**	ppb	4.306	11.247	366.671
115	**In-IS**	>	442096.340		ppb	2.012		438944.157
111	**Cd**		100.081	**0.018915**	ppb	15.400	21.550	35.897
118	**Sn**		8383.571	**0.464351**	ppb	2.345	7.960	3734.933
121	**Sb**		1001.146	**0.035658**	ppb	4.471	6.591	596.679
135	**Ba**		144.445	**0.020199**	ppb	17.010	39.638	87.778
165	**Ho-IS**		554011.561		ppb	0.295		550644.897
159	**Tb-IS**	>	558990.100		ppb	2.593		553134.954
207	**Pb**		1458.918	**0.017113**	ppb	4.289	15.516	816.676
203	**Tl**		387.783	**0.017815**	ppb	9.192	19.797	162.223
209	**Bi-IS**		307284.231		ppb	0.766		311169.990
51	**V**		11.111	**0.024735**	ppb	45.826	75.543	4.444
59	**Co**		36.667	**0.011422**	ppb	9.091	34.531	26.667
60	**Ni**		234.446	**0.088884**	ppb	4.104	7.489	95.556
75	**As**		297.736	**-0.032760**	ppb	1.726	49.833	323.540
71	**Ga-ISK**		84602.069		ppb	2.103		88321.085
82	**Se-2**		4.547	**-0.074959**	ppb	33.812	37.833	8.916
107	**Ag-1**		1097.820	**0.130812**	ppb	2.154	4.545	336.671
115	**In-ISK**	>	118275.798		ppb	1.750		120842.967
45	**Sc-ISK**		210047.373		ppb	0.121		222862.453
23	**Na**		9778.347	**2.436058**	ppb	2.360	35.735	8889.433
39	**K**		40610.985	**-1.235032**	ppb	1.625	43.558	41046.664
24	**Mg**		1528.415	**3.581328**	ppb	7.909	12.393	456.674
159	**Tb-ISK**	>	243800.883		ppb	0.956		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 21:06:17
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.260
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		55880.203		ppb	1.426		61305.756
9	**Be**		36.667	**0.005118**	ppb	48.105	173.326	27.778
10	**B**		1130.045	**0.054523**	ppb	7.445	216.024	1171.159
27	**Al**		17425.290	**0.393302**	ppb	1.655	12.692	13148.721
43	**Ca-2**		278.336	**4.029376**	ppb	14.958	33.945	171.668
49	**Ti**		367.783	**0.040044**	ppb	4.087	23.543	352.227
52	**Cr**		18362.911	**0.084119**	ppb	2.670	60.687	18370.694
55	**Mn**		1690.100	**0.003139**	ppb	2.170	41.849	1734.551
57	**Fe**		15312.654	**2.335117**	ppb	3.575	42.535	15215.888
45	**Sc-IS**	>	2070393.215		ppb	3.219		2209858.695
66	**Zn**		1356.731	**0.034394**	ppb	4.511	123.655	1366.732
86	**Sr**		109.725	**0.031380**	ppb	38.112	67.939	46.365
65	**Cu**		321.115	**0.003964**	ppb	12.471	291.236	327.782
69	**Ga-IS**		721106.369		ppb	3.163		745677.421
95	**Mo**		587.790	**0.103221**	ppb	13.376	39.724	366.671
115	**In-IS**	>	444006.462		ppb	1.287		438944.157
111	**Cd**		60.988	**0.007256**	ppb	22.012	51.270	35.897
118	**Sn**		5287.645	**0.150925**	ppb	1.491	7.289	3734.933
121	**Sb**		584.456	**-0.001662**	ppb	6.411	239.112	596.679
135	**Ba**		104.445	**0.005625**	ppb	12.898	81.211	87.778
165	**Ho-IS**		550639.802		ppb	1.568		550644.897
159	**Tb-IS**	>	558238.878		ppb	2.108		553134.954
207	**Pb**		884.455	**0.001638**	ppb	6.661	109.481	816.676
203	**Tl**		243.335	**0.006335**	ppb	2.373	12.389	162.223
209	**Bi-IS**		307447.908		ppb	2.604		311169.990
51	**V**		6.667	**0.007642**	ppb	50.000	156.882	4.444
59	**Co**		21.111	**-0.006221**	ppb	9.116	31.821	26.667
60	**Ni**		287.781	**0.115723**	ppb	6.787	9.074	95.556
75	**As**		302.623	**-0.044299**	ppb	13.355	142.926	323.540
71	**Ga-ISK**		86351.336		ppb	1.363		88321.085
82	**Se-2**		-2.490	**-0.201288**	ppb	502.862	107.376	8.916
107	**Ag-1**		450.007	**0.017739**	ppb	10.371	47.963	336.671
115	**In-ISK**	>	122817.653		ppb	1.160		120842.967
45	**Sc-ISK**		215517.971		ppb	0.403		222862.453
23	**Na**		8634.275	**-1.289501**	ppb	0.672	22.694	8889.433
39	**K**		39960.259	**-2.817642**	ppb	1.013	12.870	41046.664
24	**Mg**		781.688	**1.048566**	ppb	12.243	30.199	456.674
159	**Tb-ISK**	>	246309.963		ppb	0.566		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80118-A-1-A
Autosampler Position: 405
Sample Date/Time: Monday, January 03, 2022 21:09:29
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80118-A-1-A.261
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		57922.831		ppb	3.328		61305.756
9	**Be**		90.000	**0.030989**	ppb	19.245	33.160	27.778
10	**B**		5020.883	**6.767111**	ppb	3.143	6.351	1171.159
27	**Al**		8717455.149	**685.240012**	ppb	1.488	4.008	13148.721
43	**Ca-2**		159359.241	**5591.910290**	ppb	2.390	3.402	171.668
49	**Ti**		19583.426	**20.897537**	ppb	3.750	1.832	352.227
52	**Cr**		50718.860	**2.510404**	ppb	4.019	2.531	18370.694
55	**Mn**		711932.392	**34.881586**	ppb	1.910	4.006	1734.551
57	**Fe**		490505.534	**1075.362604**	ppb	2.107	4.967	15215.888
45	**Sc-IS**	>	2023920.996		ppb	5.601		2209858.695
66	**Zn**		2613483.594	**1179.319930**	ppb	2.152	5.760	1366.732
86	**Sr**		45264.880	**21.644142**	ppb	1.723	5.682	46.365
65	**Cu**		88226.211	**24.923657**	ppb	3.077	6.496	327.782
69	**Ga-IS**		732685.175		ppb	1.801		745677.421
95	**Mo**		1108.932	**0.331946**	ppb	4.869	6.877	366.671
115	**In-IS**	>	435303.067		ppb	2.118		438944.157
111	**Cd**		1745.556	**0.515095**	ppb	2.118	1.607	35.897
118	**Sn**		3040.324	**-0.067622**	ppb	5.041	21.729	3734.933
121	**Sb**		8860.526	**0.748889**	ppb	2.409	1.571	596.679
135	**Ba**		176586.077	**64.935217**	ppb	1.970	0.476	87.778
165	**Ho-IS**		543424.762		ppb	1.038		550644.897
159	**Tb-IS**	>	557963.556		ppb	1.955		553134.954
207	**Pb**		289665.788	**7.797111**	ppb	0.337	2.022	816.676
203	**Tl**		424.451	**0.020760**	ppb	12.022	20.828	162.223
209	**Bi-IS**		300993.890		ppb	1.538		311169.990
51	**V**		1067.818	**3.893866**	ppb	5.356	6.880	4.444
59	**Co**		736.686	**0.767871**	ppb	8.633	6.643	26.667
60	**Ni**		4030.569	**2.491469**	ppb	1.945	3.838	95.556
75	**As**		619.502	**0.530229**	ppb	2.143	1.161	323.540
71	**Ga-ISK**		84675.942		ppb	3.270		88321.085
82	**Se-2**		15.213	**0.114976**	ppb	61.063	141.367	8.916
107	**Ag-1**		212.224	**-0.019929**	ppb	16.647	26.125	336.671
115	**In-ISK**	>	117913.037		ppb	2.263		120842.967
45	**Sc-ISK**		211205.706		ppb	1.806		222862.453
23	**Na**		1036633.669	**3152.283805**	ppb	0.615	1.165	8889.433
39	**K**		838114.349	**1211.974032**	ppb	1.140	2.458	41046.664
24	**Mg**		173246.799	**588.259500**	ppb	3.733	4.871	456.674
159	**Tb-ISK**	>	240204.881		ppb	1.444		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80118-A-2-A
Autosampler Position: 406
Sample Date/Time: Monday, January 03, 2022 21:12:39
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80118-A-2-A.262
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		71816.799		ppb	2.374		61305.756
9	**Be**		13.333	**-0.006129**	ppb	66.144	64.519	27.778
10	**B**		46981.611	**73.810733**	ppb	2.764	1.014	1171.159
27	**Al**		279426.674	**19.724173**	ppb	4.967	4.332	13148.721
43	**Ca-2**		116543.508	**3844.059513**	ppb	1.335	2.230	171.668
49	**Ti**		3488.209	**3.202343**	ppb	13.176	10.985	352.227
52	**Cr**		29018.334	**0.776924**	ppb	1.188	6.424	18370.694
55	**Mn**		63987.524	**2.875657**	ppb	3.170	2.655	1734.551
57	**Fe**		55202.075	**85.648929**	ppb	3.151	2.175	15215.888
45	**Sc-IS**	>	2150636.959		ppb	3.482		2209858.695
66	**Zn**		15671.926	**6.084945**	ppb	1.185	2.696	1366.732
86	**Sr**		52737.805	**23.691264**	ppb	3.772	3.043	46.365
65	**Cu**		11400.103	**2.951767**	ppb	1.543	3.231	327.782
69	**Ga-IS**		718075.076		ppb	0.609		745677.421
95	**Mo**		228.891	**-0.051449**	ppb	6.882	17.392	366.671
115	**In-IS**	>	443306.425		ppb	1.238		438944.157
111	**Cd**		67.297	**0.009207**	ppb	25.375	56.775	35.897
118	**Sn**		1847.897	**-0.192541**	ppb	4.875	5.194	3734.933
121	**Sb**		13383.108	**1.134998**	ppb	20.487	20.250	596.679
135	**Ba**		8002.241	**2.859343**	ppb	1.072	2.269	87.778
165	**Ho-IS**		544930.791		ppb	2.205		550644.897
159	**Tb-IS**	>	559367.886		ppb	1.416		553134.954
207	**Pb**		8445.429	**0.205117**	ppb	1.452	0.683	816.676
203	**Tl**		234.446	**0.005580**	ppb	2.172	2.519	162.223
209	**Bi-IS**		300111.812		ppb	0.212		311169.990
51	**V**		34.444	**0.111336**	ppb	24.354	28.074	4.444
59	**Co**		604.457	**0.632627**	ppb	10.439	12.195	26.667
60	**Ni**		6329.181	**3.983308**	ppb	4.135	4.289	95.556
75	**As**		331.935	**0.034125**	ppb	10.900	193.289	323.540
71	**Ga-ISK**		85243.620		ppb	1.729		88321.085
82	**Se-2**		8.872	**0.008274**	ppb	107.883	2125.867	8.916
107	**Ag-1**		196.668	**-0.022180**	ppb	14.481	22.400	336.671
115	**In-ISK**	>	116827.797		ppb	4.002		120842.967
45	**Sc-ISK**		214612.852		ppb	2.380		222862.453
23	**Na**		4074668.412	**12442.135868**	ppb	2.545	1.278	8889.433
39	**K**		1742273.881	**2579.919186**	ppb	3.041	1.235	41046.664
24	**Mg**		1075698.341	**3650.784747**	ppb	3.218	1.144	456.674
159	**Tb-ISK**	>	240721.888		ppb	2.282		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80316-B-1-A @5
Autosampler Position: 407
Sample Date/Time: Monday, January 03, 2022 21:15:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80316-B-1-A @5.263
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		67811.687		ppb	1.053		61305.756
9	**Be**		14.444	**-0.005841**	ppb	26.647	29.467	27.778
10	**B**		118248.713	**181.450954**	ppb	2.628	1.583	1171.159
27	**Al**		574566.176	**39.977731**	ppb	1.741	1.603	13148.721
43	**Ca-2**		719710.214	**22874.841243**	ppb	1.619	1.146	171.668
49	**Ti**		2089.042	**1.703519**	ppb	5.666	7.713	352.227
52	**Cr**		31390.006	**0.860230**	ppb	0.958	4.584	18370.694
55	**Mn**		1353515.751	**60.060654**	ppb	2.198	0.958	1734.551
57	**Fe**		74989.639	**121.704014**	ppb	0.234	1.730	15215.888
45	**Sc-IS**	>	2233436.393		ppb	1.344		2209858.695
66	**Zn**		22688.015	**8.698359**	ppb	3.371	2.505	1366.732
86	**Sr**		694238.312	**300.475215**	ppb	1.793	1.037	46.365
65	**Cu**		2544.671	**0.567364**	ppb	1.338	0.230	327.782
69	**Ga-IS**		725995.371		ppb	2.110		745677.421
95	**Mo**		8070.060	**2.991216**	ppb	4.673	4.287	366.671
115	**In-IS**	>	430934.243		ppb	1.190		438944.157
111	**Cd**		35.275	**-0.000005**	ppb	30.94966	66.766	35.897
118	**Sn**		1262.278	**-0.247538**	ppb	3.038	2.065	3734.933
121	**Sb**		3231.477	**0.242058**	ppb	1.511	2.144	596.679
135	**Ba**		128081.631	**47.568176**	ppb	0.758	0.470	87.778
165	**Ho-IS**		551279.372		ppb	0.927		550644.897
159	**Tb-IS**	>	555852.318		ppb	0.582		553134.954
207	**Pb**		8314.261	**0.202981**	ppb	2.849	2.564	816.676
203	**Tl**		128.889	**-0.002719**	ppb	15.154	58.476	162.223
209	**Bi-IS**		285239.780		ppb	1.205		311169.990
51	**V**		160.001	**0.594360**	ppb	11.600	11.659	4.444
59	**Co**		593.346	**0.641059**	ppb	0.973	1.808	26.667
60	**Ni**		5993.480	**3.893736**	ppb	2.545	2.890	95.556
75	**As**		2021.611	**3.127125**	ppb	6.655	7.343	323.540
71	**Ga-ISK**		83346.889		ppb	1.038		88321.085
82	**Se-2**		80.896	**1.363553**	ppb	11.116	12.799	8.916
107	**Ag-1**		130.001	**-0.032935**	ppb	4.441	3.610	336.671
115	**In-ISK**	>	113085.606		ppb	0.812		120842.967
45	**Sc-ISK**		216272.889		ppb	1.736		222862.453
23	**Na**		20148040.479	**61182.375864**	ppb	0.592	0.975	8889.433
39	**K**		2596013.287	**3846.044493**	ppb	1.386	0.423	41046.664
24	**Mg**		2420503.181	**8157.763184**	ppb	1.384	0.566	456.674
159	**Tb-ISK**	>	242490.197		ppb	0.992		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80319-B-1-A @5
Autosampler Position: 408
Sample Date/Time: Monday, January 03, 2022 21:18:58
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80319-B-1-A @5.264
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61782.228		ppb	1.864		61305.756
9	**Be**		16.667	**-0.004786**	ppb	91.652	140.560	27.778
10	**B**		49581.495	**75.310507**	ppb	2.872	0.876	1171.159
27	**Al**		47573.108	**2.454764**	ppb	2.296	0.643	13148.721
43	**Ca-2**		151172.579	**4819.201737**	ppb	2.234	1.796	171.668
49	**Ti**		1168.937	**0.802227**	ppb	8.581	9.564	352.227
52	**Cr**		38141.963	**1.323575**	ppb	0.576	5.550	18370.694
55	**Mn**		348721.084	**15.478349**	ppb	2.520	2.246	1734.551
57	**Fe**		215757.314	**410.787599**	ppb	1.482	1.508	15215.888
45	**Sc-IS**	>	2224986.375		ppb	2.374		2209858.695
66	**Zn**		328213.144	**134.000925**	ppb	0.547	2.226	1366.732
86	**Sr**		113098.656	**49.136329**	ppb	1.987	2.897	46.365
65	**Cu**		8448.053	**2.089977**	ppb	1.343	3.629	327.782
69	**Ga-IS**		739181.730		ppb	1.482		745677.421
95	**Mo**		784.466	**0.161996**	ppb	9.157	17.210	366.671
115	**In-IS**	>	442818.612		ppb	1.378		438944.157
111	**Cd**		33.908	**-0.000663**	ppb	46.237	707.352	35.897
118	**Sn**		1592.311	**-0.217990**	ppb	1.585	0.669	3734.933
121	**Sb**		1476.743	**0.077877**	ppb	2.291	2.476	596.679
135	**Ba**		7778.784	**2.781783**	ppb	1.467	2.595	87.778
165	**Ho-IS**		564011.585		ppb	1.240		550644.897
159	**Tb-IS**	>	566752.122		ppb	2.045		553134.954
207	**Pb**		1543.366	**0.018792**	ppb	2.405	8.703	816.676
203	**Tl**		87.778	**-0.006120**	ppb	20.915	25.193	162.223
209	**Bi-IS**		300120.005		ppb	1.119		311169.990
51	**V**		33.333	**0.106698**	ppb	10.000	12.355	4.444
59	**Co**		336.671	**0.337344**	ppb	16.209	16.727	26.667
60	**Ni**		2450.211	**1.497817**	ppb	5.345	5.851	95.556
75	**As**		1278.844	**1.692286**	ppb	21.754	29.254	323.540
71	**Ga-ISK**		85023.468		ppb	2.362		88321.085
82	**Se-2**		6123.495	**110.684829**	ppb	2.367	2.920	8.916
107	**Ag-1**		102.223	**-0.038555**	ppb	13.576	6.078	336.671
115	**In-ISK**	>	117385.823		ppb	0.763		120842.967
45	**Sc-ISK**		220983.882		ppb	0.575		222862.453
23	**Na**		14062870.616	**42480.903672**	ppb	1.278	0.996	8889.433
39	**K**		981587.947	**1408.361447**	ppb	0.531	0.114	41046.664
24	**Mg**		620362.585	**2079.294357**	ppb	0.950	0.673	456.674
159	**Tb-ISK**	>	243699.069		ppb	0.435		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80240-B-1-A
Autosampler Position: 409
Sample Date/Time: Monday, January 03, 2022 21:22:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80240-B-1-A.265
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		103686.087		ppb	1.533		61305.756
9	**Be**		25.556	**0.003165**	ppb	27.152	128.238	27.778
10	**B**		952432.436	**2046.979539**	ppb	1.611	2.362	1171.159
27	**Al**		93231.152	**8.269107**	ppb	3.547	4.780	13148.721
43	**Ca-2**		7589121.212	**334744.785136**	ppb	1.305	0.407	171.668
49	**Ti**		16521.780	**22.179676**	ppb	3.829	4.670	352.227
52	**Cr**		59732.512	**4.313829**	ppb	3.733	5.491	18370.694
55	**Mn**		497928.054	**30.623267**	ppb	0.560	1.149	1734.551
57	**Fe**		433185.372	**1195.785497**	ppb	0.639	2.371	15215.888
45	**Sc-IS**	>	1609757.432		ppb	1.665		2209858.695
66	**Zn**		149594.755	**84.200587**	ppb	0.749	2.237	1366.732
86	**Sr**		6003239.582	**3606.026863**	ppb	1.642	2.583	46.365
65	**Cu**		132640.864	**47.100397**	ppb	1.962	2.999	327.782
69	**Ga-IS**		414903.569		ppb	0.871		745677.421
95	**Mo**		19801.493	**10.533160**	ppb	1.370	2.597	366.671
115	**In-IS**	>	237125.606		ppb	0.013		438944.157
111	**Cd**		140.640	**0.067042**	ppb	14.130	16.381	35.897
118	**Sn**		3023.654	**0.188232**	ppb	5.076	15.240	3734.933
121	**Sb**		4975.311	**0.773582**	ppb	2.601	2.789	596.679
135	**Ba**		62852.423	**42.416385**	ppb	1.375	1.383	87.778
165	**Ho-IS**		308000.633		ppb	2.505		550644.897
159	**Tb-IS**	>	325611.654		ppb	1.360		553134.954
207	**Pb**		2031.167	**0.071764**	ppb	6.858	10.698	816.676
203	**Tl**		208.890	**0.015481**	ppb	12.898	26.311	162.223
209	**Bi-IS**		101793.613		ppb	0.663		311169.990
51	**V**		662.238	**4.850682**	ppb	6.374	8.537	4.444
59	**Co**		86.667	**0.160077**	ppb	6.662	9.394	26.667
60	**Ni**		4289.533	**5.382620**	ppb	4.041	2.038	95.556
75	**As**		771.474	**2.154164**	ppb	22.575	29.172	323.540
71	**Ga-ISK**		45747.652		ppb	3.923		88321.085
82	**Se-2**		2227.421	**80.374120**	ppb	2.219	1.952	8.916
107	**Ag-1**		784.466	**0.212383**	ppb	8.395	8.190	336.671
115	**In-ISK**	>	58770.321		ppb	2.094		120842.967
45	**Sc-ISK**		148816.365		ppb	4.005		222862.453
23	**Na**		S	**S**	ppb	S	S	8889.433
39	**K**		98336405.809	**252312.371536**	ppb	3.669	1.541	41046.664
24	**Mg**		153082847.774	**879625.933149**	ppb	4.099	1.584	456.674
159	**Tb-ISK**	>	142228.877		ppb	2.811		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message
In-IS	115	
Tb-IS	159	
In-ISK	115	
Tb-ISK	159	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80445-A-1-A @5
Autosampler Position: 410
Sample Date/Time: Monday, January 03, 2022 21:25:18
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80445-A-1-A @5.266
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		71249.487		ppb	1.582		61305.756
9	**Be**		15.556	**-0.005821**	ppb	101.268	107.810	27.778
10	**B**		118075.420	**168.639838**	ppb	4.234	1.654	1171.159
27	**Al**		634775.394	**41.193488**	ppb	1.383	3.046	13148.721
43	**Ca-2**		649965.234	**19244.796723**	ppb	3.272	1.862	171.668
49	**Ti**		1855.676	**1.350035**	ppb	1.395	5.000	352.227
52	**Cr**		33967.040	**0.876612**	ppb	3.855	3.424	18370.694
55	**Mn**		1339338.414	**55.380737**	ppb	1.259	1.431	1734.551
57	**Fe**		69500.901	**100.811452**	ppb	1.515	1.672	15215.888
45	**Sc-IS**	>	2397298.709		ppb	2.632		2209858.695
66	**Zn**		31330.991	**11.358201**	ppb	1.484	2.460	1366.732
86	**Sr**		664259.553	**267.905476**	ppb	1.743	1.529	46.365
65	**Cu**		11268.901	**2.604333**	ppb	6.845	4.594	327.782
69	**Ga-IS**		782805.650		ppb	0.322		745677.421
95	**Mo**		7576.454	**2.598312**	ppb	3.136	0.536	366.671
115	**In-IS**	>	469845.598		ppb	2.186		438944.157
111	**Cd**		29.645	**-0.002489**	ppb	34.534	109.045	35.897
118	**Sn**		1173.382	**-0.266641**	ppb	3.445	2.336	3734.933
121	**Sb**		3238.145	**0.218132**	ppb	2.783	2.774	596.679
135	**Ba**		129969.720	**44.274263**	ppb	1.262	0.990	87.778
165	**Ho-IS**		566817.957		ppb	0.994		550644.897
159	**Tb-IS**	>	583385.969		ppb	0.556		553134.954
207	**Pb**		14433.954	**0.350327**	ppb	0.740	0.482	816.676
203	**Tl**		140.001	**-0.002365**	ppb	6.299	27.148	162.223
209	**Bi-IS**		284498.664		ppb	1.438		311169.990
51	**V**		208.890	**0.672391**	ppb	19.952	21.356	4.444
59	**Co**		680.016	**0.633511**	ppb	3.891	4.416	26.667
60	**Ni**		5388.794	**3.007044**	ppb	0.733	1.786	95.556
75	**As**		1832.940	**2.325671**	ppb	6.150	6.727	323.540
71	**Ga-ISK**		97323.830		ppb	2.190		88321.085
82	**Se-2**		-64.573	**-1.202487**	ppb	29.822	25.643	8.916
107	**Ag-1**		97.778	**-0.041070**	ppb	25.587	9.360	336.671
115	**In-ISK**	>	131088.424		ppb	1.172		120842.967
45	**Sc-ISK**		260191.461		ppb	0.405		222862.453
23	**Na**		21092068.861	**58032.289575**	ppb	0.436	0.904	8889.433
39	**K**		2776627.482	**3725.829218**	ppb	1.442	2.036	41046.664
24	**Mg**		2465032.688	**7528.340633**	ppb	1.414	1.979	456.674
159	**Tb-ISK**	>	267619.499		ppb	0.573		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80444-A-1-A @5
Autosampler Position: 411
Sample Date/Time: Monday, January 03, 2022 21:28:27
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80444-A-1-A @5.267
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		61095.923		ppb	0.364		61305.756
9	**Be**		8.889	**-0.008303**	ppb	21.651	8.964	27.778
10	**B**		58052.230	**86.986461**	ppb	3.046	1.878	1171.159
27	**Al**		79960.824	**4.676736**	ppb	0.236	2.683	13148.721
43	**Ca-2**		160589.386	**5034.324780**	ppb	1.597	1.307	171.668
49	**Ti**		1026.704	**0.645798**	ppb	5.744	7.415	352.227
52	**Cr**		41446.727	**1.498272**	ppb	2.399	0.086	18370.694
55	**Mn**		532596.624	**23.278925**	ppb	3.041	0.991	1734.551
57	**Fe**		757143.088	**1494.170622**	ppb	2.859	1.811	15215.888
45	**Sc-IS**	>	2262796.624		ppb	2.433		2209858.695
66	**Zn**		517130.887	**207.849457**	ppb	2.248	0.431	1366.732
86	**Sr**		125447.680	**53.592214**	ppb	1.860	2.704	46.365
65	**Cu**		15414.984	**3.815031**	ppb	3.035	1.508	327.782
69	**Ga-IS**		741238.035		ppb	0.820		745677.421
95	**Mo**		948.921	**0.220520**	ppb	8.636	18.106	366.671
115	**In-IS**	>	464812.913		ppb	1.658		438944.157
111	**Cd**		30.230	**-0.002215**	ppb	23.085	81.927	35.897
118	**Sn**		1899.015	**-0.196181**	ppb	3.486	4.428	3734.933
121	**Sb**		1683.433	**0.089192**	ppb	3.093	4.263	596.679
135	**Ba**		11300.025	**3.861063**	ppb	2.660	1.640	87.778
165	**Ho-IS**		568959.510		ppb	2.027		550644.897
159	**Tb-IS**	>	593688.020		ppb	0.899		553134.954
207	**Pb**		2292.295	**0.035923**	ppb	3.697	7.390	816.676
203	**Tl**		78.889	**-0.007115**	ppb	14.839	12.071	162.223
209	**Bi-IS**		294567.647		ppb	1.710		311169.990
51	**V**		74.445	**0.232769**	ppb	16.952	19.174	4.444
59	**Co**		458.896	**0.424589**	ppb	12.631	13.803	26.667
60	**Ni**		3045.880	**1.697469**	ppb	2.190	1.647	95.556
75	**As**		1558.881	**1.923359**	ppb	35.259	43.554	323.540
71	**Ga-ISK**		95760.013		ppb	2.532		88321.085
82	**Se-2**		7189.292	**117.980257**	ppb	1.182	2.466	8.916
107	**Ag-1**		76.667	**-0.044129**	ppb	13.044	4.000	336.671
115	**In-ISK**	>	129330.456		ppb	2.082		120842.967
45	**Sc-ISK**		246025.475		ppb	2.119		222862.453
23	**Na**		15362885.813	**43497.358534**	ppb	1.200	0.456	8889.433
39	**K**		1138122.652	**1535.886688**	ppb	1.073	0.325	41046.664
24	**Mg**		725162.109	**2278.184399**	ppb	1.931	1.439	456.674
159	**Tb-ISK**	>	260008.925		ppb	0.812		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Monday, January 03, 2022 21:31:38
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\blk.268
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56434.638		ppb	2.697		61305.756
9	**Be**		3.333	**-0.010583**	ppb	100.000	14.089	27.778
10	**B**		2341.303	**2.005968**	ppb	2.680	7.600	1171.159
27	**Al**		16068.037	**0.264301**	ppb	3.133	14.963	13148.721
43	**Ca-2**		900.029	**24.714599**	ppb	10.643	10.125	171.668
49	**Ti**		428.895	**0.097766**	ppb	8.974	64.961	352.227
52	**Cr**		20919.753	**0.239587**	ppb	1.559	21.708	18370.694
55	**Mn**		2051.258	**0.018587**	ppb	2.219	24.048	1734.551
57	**Fe**		28509.532	**30.216421**	ppb	0.803	8.984	15215.888
45	**Sc-IS**	>	2112852.802		ppb	4.986		2209858.695
66	**Zn**		2133.493	**0.356894**	ppb	5.185	4.854	1366.732
86	**Sr**		862.729	**0.375514**	ppb	6.603	10.570	46.365
65	**Cu**		2789.163	**0.671294**	ppb	11.019	11.773	327.782
69	**Ga-IS**		724394.503		ppb	1.099		745677.421
95	**Mo**		388.894	**0.016238**	ppb	5.707	98.863	366.671
115	**In-IS**	>	468913.288		ppb	0.556		438944.157
111	**Cd**		8.072	**-0.008461**	ppb	48.258	13.062	35.897
118	**Sn**		2497.996	**-0.141184**	ppb	2.404	3.299	3734.933
121	**Sb**		318.892	**-0.026775**	ppb	3.957	4.520	596.679
135	**Ba**		114.445	**0.007067**	ppb	23.362	129.362	87.778
165	**Ho-IS**		569552.887		ppb	1.770		550644.897
159	**Tb-IS**	>	595155.569		ppb	2.412		553134.954
207	**Pb**		596.671	**-0.007133**	ppb	1.478	3.516	816.676
203	**Tl**		154.445	**-0.001481**	ppb	6.938	73.170	162.223
209	**Bi-IS**		307673.720		ppb	1.088		311169.990
51	**V**		5.556	**0.003131**	ppb	69.282	436.300	4.444
59	**Co**		5.556	**-0.022647**	ppb	69.282	16.219	26.667
60	**Ni**		167.779	**0.039047**	ppb	5.000	10.511	95.556
75	**As**		302.457	**-0.061932**	ppb	13.769	130.569	323.540
71	**Ga-ISK**		90609.952		ppb	3.002		88321.085
82	**Se-2**		24.856	**0.259290**	ppb	29.055	51.063	8.916
107	**Ag-1**		65.556	**-0.045710**	ppb	15.534	4.152	336.671
115	**In-ISK**	>	127653.346		ppb	2.716		120842.967
45	**Sc-ISK**		226031.238		ppb	1.971		222862.453
23	**Na**		296114.920	**830.544842**	ppb	7.926	8.696	8889.433
39	**K**		54301.957	**15.884668**	ppb	2.949	16.506	41046.664
24	**Mg**		23041.942	**72.504617**	ppb	5.784	6.382	456.674
159	**Tb-ISK**	>	254419.769		ppb	1.264		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Monday, January 03, 2022 21:34:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\blk.269
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		54134.617		ppb	1.697		61305.756
9	**Be**		7.778	**-0.008336**	ppb	24.744	11.721	27.778
10	**B**		1926.797	**1.483788**	ppb	6.927	11.616	1171.159
27	**Al**		15767.702	**0.302227**	ppb	2.987	11.836	13148.721
43	**Ca-2**		541.677	**13.619900**	ppb	6.928	7.499	171.668
49	**Ti**		406.672	**0.093882**	ppb	6.709	3.887	352.227
52	**Cr**		20733.926	**0.303133**	ppb	1.111	33.171	18370.694
55	**Mn**		2244.622	**0.032730**	ppb	9.507	13.213	1734.551
57	**Fe**		21940.171	**18.456904**	ppb	1.584	15.044	15215.888
45	**Sc-IS**	>	2010885.595		ppb	5.879		2209858.695
66	**Zn**		1894.570	**0.298469**	ppb	4.494	28.984	1366.732
86	**Sr**		532.846	**0.236034**	ppb	4.622	2.427	46.365
65	**Cu**		1951.245	**0.470801**	ppb	5.436	2.766	327.782
69	**Ga-IS**		705438.086		ppb	0.497		745677.421
95	**Mo**		212.224	**-0.051962**	ppb	7.423	22.799	366.671
115	**In-IS**	>	465275.475		ppb	1.371		438944.157
111	**Cd**		15.110	**-0.006459**	ppb	12.672	9.171	35.897
118	**Sn**		2189.057	**-0.168742**	ppb	7.712	9.945	3734.933
121	**Sb**		296.670	**-0.028454**	ppb	1.946	0.567	596.679
135	**Ba**		92.223	**-0.000345**	ppb	28.075	2482.920	87.778
165	**Ho-IS**		556438.631		ppb	1.774		550644.897
159	**Tb-IS**	>	577839.495		ppb	2.535		553134.954
207	**Pb**		622.228	**-0.006020**	ppb	3.402	2.674	816.676
203	**Tl**		306.670	**0.010522**	ppb	4.738	4.881	162.223
209	**Bi-IS**		307119.515		ppb	2.290		311169.990
51	**V**		5.556	**0.003650**	ppb	91.652	495.243	4.444
59	**Co**		12.222	**-0.015495**	ppb	41.660	35.002	26.667
60	**Ni**		150.001	**0.031499**	ppb	17.356	49.069	95.556
75	**As**		296.591	**-0.057650**	ppb	7.239	45.822	323.540
71	**Ga-ISK**		91463.050		ppb	2.047		88321.085
82	**Se-2**		9.867	**0.013375**	ppb	26.682	365.335	8.916
107	**Ag-1**		90.000	**-0.041465**	ppb	23.130	7.506	336.671
115	**In-ISK**	>	123639.161		ppb	2.047		120842.967
45	**Sc-ISK**		224074.252		ppb	2.295		222862.453
23	**Na**		152573.758	**417.897419**	ppb	5.577	5.190	8889.433
39	**K**		45068.760	**3.118908**	ppb	0.680	23.559	41046.664
24	**Mg**		10700.684	**33.085982**	ppb	6.340	5.849	456.674
159	**Tb-ISK**	>	252504.773		ppb	0.842		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Monday, January 03, 2022 21:38:00
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\blk.270
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		54415.683		ppb	1.742		61305.756
9	**Be**		11.111	**-0.006723**	ppb	45.826	38.696	27.778
10	**B**		1601.201	**0.911894**	ppb	1.272	14.011	1171.159
27	**Al**		15419.985	**0.268553**	ppb	0.875	16.361	13148.721
43	**Ca-2**		408.339	**8.851321**	ppb	11.638	20.910	171.668
49	**Ti**		402.228	**0.087865**	ppb	7.700	50.279	352.227
52	**Cr**		20490.241	**0.275293**	ppb	1.247	23.323	18370.694
55	**Mn**		2243.510	**0.032359**	ppb	2.612	10.897	1734.551
57	**Fe**		20896.384	**15.804228**	ppb	0.839	11.871	15215.888
45	**Sc-IS**	>	2020929.732		ppb	4.442		2209858.695
66	**Zn**		1728.994	**0.216199**	ppb	4.917	8.162	1366.732
86	**Sr**		304.098	**0.124780**	ppb	14.196	11.207	46.365
65	**Cu**		1523.415	**0.346479**	ppb	6.698	4.686	327.782
69	**Ga-IS**		699203.415		ppb	3.696		745677.421
95	**Mo**		164.445	**-0.073345**	ppb	3.096	1.574	366.671
115	**In-IS**	>	463019.631		ppb	1.626		438944.157
111	**Cd**		16.321	**-0.006110**	ppb	89.067	67.176	35.897
118	**Sn**		1959.023	**-0.189691**	ppb	4.633	6.082	3734.933
121	**Sb**		275.558	**-0.030105**	ppb	9.079	8.084	596.679
135	**Ba**		93.334	**0.000259**	ppb	37.287	4625.671	87.778
165	**Ho-IS**		560058.409		ppb	0.314		550644.897
159	**Tb-IS**	>	576430.991		ppb	1.401		553134.954
207	**Pb**		606.672	**-0.006387**	ppb	5.576	12.370	816.676
203	**Tl**		326.670	**0.012114**	ppb	7.358	12.658	162.223
209	**Bi-IS**		302656.380		ppb	1.731		311169.990
51	**V**		2.222	**-0.008151**	ppb	86.603	82.015	4.444
59	**Co**		10.000	**-0.017853**	ppb	57.735	33.676	26.667
60	**Ni**		188.890	**0.054090**	ppb	6.197	16.314	95.556
75	**As**		335.784	**0.003183**	ppb	4.887	787.215	323.540
71	**Ga-ISK**		88911.620		ppb	3.609		88321.085
82	**Se-2**		10.867	**0.026548**	ppb	74.160	504.683	8.916
107	**Ag-1**		68.889	**-0.044925**	ppb	21.819	5.916	336.671
115	**In-ISK**	>	124701.293		ppb	2.114		120842.967
45	**Sc-ISK**		224100.097		ppb	2.071		222862.453
23	**Na**		97473.189	**255.814205**	ppb	2.307	0.813	8889.433
39	**K**		41084.549	**-2.926403**	ppb	0.284	42.651	41046.664
24	**Mg**		6644.879	**19.858219**	ppb	1.817	0.148	456.674
159	**Tb-ISK**	>	253773.335		ppb	1.812		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 21:41:11
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.271
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		53617.113		ppb	1.611		61305.756
9	**Be**		228027.771	**111.201510**	ppb	0.797	1.137	27.778
10	**B**		153584.564	**268.432776**	ppb	1.030	1.404	1171.159
27	**Al**		1259590.613	**100.873975**	ppb	2.664	1.288	13148.721
43	**Ca-2**		144313.617	**5202.752008**	ppb	0.684	1.491	171.668
49	**Ti**		95412.203	**106.043041**	ppb	3.058	1.666	352.227
52	**Cr**		1379926.658	**103.785792**	ppb	2.295	1.046	18370.694
55	**Mn**		2006619.144	**101.110726**	ppb	4.108	2.970	1734.551
57	**Fe**		2328944.151	**5364.808119**	ppb	1.741	0.336	15215.888
45	**Sc-IS**	>	1967617.716		ppb	1.421		2209858.695
66	**Zn**		234344.755	**108.040017**	ppb	2.006	0.607	1366.732
86	**Sr**		252124.470	**123.866443**	ppb	2.267	2.447	46.365
65	**Cu**		388006.233	**112.795354**	ppb	3.069	1.910	327.782
69	**Ga-IS**		755816.254		ppb	2.808		745677.421
95	**Mo**		289240.151	**127.434967**	ppb	1.238	1.758	366.671
115	**In-IS**	>	464417.964		ppb	1.217		438944.157
111	**Cd**		352478.927	**99.503074**	ppb	1.454	0.886	35.897
118	**Sn**		1020821.365	**97.165770**	ppb	0.774	1.989	3734.933
121	**Sb**		1085791.411	**92.127370**	ppb	0.734	1.591	596.679
135	**Ba**		294347.233	**101.477865**	ppb	0.983	1.489	87.778
165	**Ho-IS**		562196.362		ppb	1.137		550644.897
159	**Tb-IS**	>	583470.296		ppb	0.376		553134.954
207	**Pb**		3605039.332	**93.014448**	ppb	1.265	1.107	816.676
203	**Tl**		1198921.507	**91.113670**	ppb	1.870	1.493	162.223
209	**Bi-IS**		297830.929		ppb	1.679		311169.990
51	**V**		29121.891	**102.260526**	ppb	2.829	2.816	4.444
59	**Co**		98613.763	**102.359427**	ppb	2.366	2.283	26.667
60	**Ni**		163560.035	**99.260698**	ppb	1.613	2.735	95.556
75	**As**		58389.309	**97.280075**	ppb	1.170	2.103	323.540
71	**Ga-ISK**		87685.045		ppb	2.349		88321.085
82	**Se-2**		5725.338	**98.876472**	ppb	3.238	3.358	8.916
107	**Ag-1**		633403.513	**103.747163**	ppb	0.758	0.736	336.671
115	**In-ISK**	>	122838.684		ppb	1.486		120842.967
45	**Sc-ISK**		221639.988		ppb	2.195		222862.453
23	**Na**		1526590.583	**4389.593752**	ppb	2.435	1.150	8889.433
39	**K**		3306181.002	**4678.022759**	ppb	2.987	1.658	41046.664
24	**Mg**		1375996.054	**4415.629151**	ppb	3.414	2.047	456.674
159	**Tb-ISK**	>	254590.146		ppb	1.388		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message
Be	9	
Sr	86	
Cu	65	
Mo	95	
Na	23	
Mg	24	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 21:44:22
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.272
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		55115.018		ppb	1.504		61305.756
9	**Be**		66.667	**0.021546**	ppb	32.787	49.052	27.778
10	**B**		1717.881	**1.298476**	ppb	6.522	14.825	1171.159
27	**Al**		16500.859	**0.436638**	ppb	1.301	5.579	13148.721
43	**Ca-2**		221.668	**2.759415**	ppb	23.907	67.837	171.668
49	**Ti**		367.783	**0.075319**	ppb	4.992	20.296	352.227
52	**Cr**		17682.049	**0.150267**	ppb	1.318	1.967	18370.694
55	**Mn**		2560.229	**0.055994**	ppb	1.066	4.675	1734.551
57	**Fe**		18493.074	**13.033621**	ppb	0.683	2.475	15215.888
45	**Sc-IS**	>	1897973.975		ppb	1.404		2209858.695
66	**Zn**		1594.534	**0.201965**	ppb	3.885	9.730	1366.732
86	**Sr**		131.373	**0.046658**	ppb	14.437	21.235	46.365
65	**Cu**		1495.634	**0.366235**	ppb	1.122	0.437	327.782
69	**Ga-IS**		709130.968		ppb	1.105		745677.421
95	**Mo**		1414.515	**0.502991**	ppb	3.251	5.762	366.671
115	**In-IS**	>	469709.955		ppb	1.859		438944.157
111	**Cd**		103.697	**0.018169**	ppb	19.375	28.471	35.897
118	**Sn**		7271.853	**0.309249**	ppb	5.062	9.004	3734.933
121	**Sb**		887.805	**0.020935**	ppb	6.242	22.181	596.679
135	**Ba**		121.112	**0.009162**	ppb	22.416	93.713	87.778
165	**Ho-IS**		565627.316		ppb	1.903		550644.897
159	**Tb-IS**	>	586504.413		ppb	1.396		553134.954
207	**Pb**		1404.471	**0.013813**	ppb	5.698	11.506	816.676
203	**Tl**		610.013	**0.033136**	ppb	3.583	6.386	162.223
209	**Bi-IS**		310486.504		ppb	2.070		311169.990
51	**V**		12.222	**0.026612**	ppb	62.984	100.758	4.444
59	**Co**		43.333	**0.016322**	ppb	23.077	63.114	26.667
60	**Ni**		264.447	**0.099663**	ppb	10.496	16.670	95.556
75	**As**		366.312	**0.055312**	ppb	6.679	69.408	323.540
71	**Ga-ISK**		88507.804		ppb	1.262		88321.085
82	**Se-2**		11.520	**0.040433**	ppb	57.767	284.077	8.916
107	**Ag-1**		1252.278	**0.146771**	ppb	13.989	19.987	336.671
115	**In-ISK**	>	124319.162		ppb	0.503		120842.967
45	**Sc-ISK**		221315.427		ppb	2.921		222862.453
23	**Na**		49589.302	**118.740514**	ppb	2.942	1.628	8889.433
39	**K**		40488.408	**-3.004488**	ppb	0.825	45.539	41046.664
24	**Mg**		2366.865	**6.170748**	ppb	13.070	14.186	456.674
159	**Tb-ISK**	>	250420.877		ppb	1.694		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 21:47:33
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.273
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		54287.437		ppb	2.382		61305.756
9	**Be**		30.000	**0.002594**	ppb	29.397	192.022	27.778
10	**B**		1511.191	**0.810053**	ppb	5.547	27.500	1171.159
27	**Al**		17069.191	**0.425560**	ppb	0.210	16.155	13148.721
43	**Ca-2**		208.335	**1.928711**	ppb	12.316	29.565	171.668
49	**Ti**		336.671	**0.021043**	ppb	20.792	274.856	352.227
52	**Cr**		18148.190	**0.127539**	ppb	2.113	34.494	18370.694
55	**Mn**		2382.421	**0.041544**	ppb	1.436	12.482	1734.551
57	**Fe**		17741.009	**9.474850**	ppb	0.654	20.215	15215.888
45	**Sc-IS**	>	1982439.434		ppb	5.236		2209858.695
66	**Zn**		1358.954	**0.062027**	ppb	4.287	58.670	1366.732
86	**Sr**		75.192	**0.015557**	ppb	76.480	164.941	46.365
65	**Cu**		1183.383	**0.257899**	ppb	7.903	14.777	327.782
69	**Ga-IS**		692261.348		ppb	1.988		745677.421
95	**Mo**		471.119	**0.062391**	ppb	3.897	10.626	366.671
115	**In-IS**	>	466125.585		ppb	1.333		438944.157
111	**Cd**		62.344	**0.006791**	ppb	18.460	45.058	35.897
118	**Sn**		3922.761	**-0.003995**	ppb	4.036	477.960	3734.933
121	**Sb**		550.011	**-0.007099**	ppb	10.087	58.992	596.679
135	**Ba**		90.000	**-0.001096**	ppb	22.529	641.026	87.778
165	**Ho-IS**		568770.694		ppb	1.882		550644.897
159	**Tb-IS**	>	589120.548		ppb	2.047		553134.954
207	**Pb**		951.123	**0.002103**	ppb	5.972	91.848	816.676
203	**Tl**		422.229	**0.018864**	ppb	18.181	34.303	162.223
209	**Bi-IS**		305968.592		ppb	0.507		311169.990
51	**V**		7.778	**0.010305**	ppb	49.487	123.439	4.444
59	**Co**		31.111	**0.002924**	ppb	22.304	229.221	26.667
60	**Ni**		283.336	**0.107032**	ppb	9.338	18.202	95.556
75	**As**		333.267	**-0.012830**	ppb	10.875	493.337	323.540
71	**Ga-ISK**		88232.939		ppb	3.246		88321.085
82	**Se-2**		3.531	**-0.098508**	ppb	237.607	142.444	8.916
107	**Ag-1**		493.342	**0.021870**	ppb	11.723	45.773	336.671
115	**In-ISK**	>	127541.561		ppb	2.559		120842.967
45	**Sc-ISK**		222667.993		ppb	2.147		222862.453
23	**Na**		37403.912	**82.474977**	ppb	1.702	1.778	8889.433
39	**K**		39146.901	**-5.199682**	ppb	1.048	14.736	41046.664
24	**Mg**		1241.721	**2.490492**	ppb	11.292	17.731	456.674
159	**Tb-ISK**	>	251419.143		ppb	0.502		241518.853

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICIS-1479530
Autosampler Position: 207
Sample Date/Time: Monday, January 03, 2022 21:50:46
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICIS-1479530.274
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		53686.318		ppb	3.318		
9	**Be**		28.889		ppb	43.684		
10	**B**		1191.161		ppb	1.777		
27	**Al**		11171.702		ppb	2.501		
43	**Ca-2**		150.001		ppb	29.627		
49	**Ti**		306.670		ppb	14.214		
52	**Cr**		17905.664		ppb	2.746		
55	**Mn**		1961.246		ppb	4.268		
57	**Fe**		17535.204		ppb	2.292		
45	**Sc-IS**	>	1906712.784		ppb	3.655		
66	**Zn**		1403.402		ppb	5.028		
86	**Sr**		49.623		ppb	94.032		
65	**Cu**		1114.488		ppb	2.265		
69	**Ga-IS**		680340.122		ppb	1.833		
95	**Mo**		206.668		ppb	13.202		
115	**In-IS**	>	460487.518		ppb	3.658		
111	**Cd**		50.677		ppb	10.102		
118	**Sn**		2329.079		ppb	1.375		
121	**Sb**		310.003		ppb	4.928		
135	**Ba**		90.000		ppb	23.130		
165	**Ho-IS**		555815.818		ppb	1.616		
159	**Tb-IS**	>	569250.350		ppb	0.643		
207	**Pb**		820.010		ppb	9.189		
203	**Tl**		314.448		ppb	14.854		
209	**Bi-IS**		306830.563		ppb	1.531		
51	**V**		2.222		ppb	173.205		
59	**Co**		17.778		ppb	47.186		
60	**Ni**		97.778		ppb	5.207		
75	**As**		356.838		ppb	10.426		
71	**Ga-ISK**		85044.751		ppb	2.883		
82	**Se-2**		6.200		ppb	130.333		
107	**Ag-1**		236.669		ppb	11.000		
115	**In-ISK**	>	122087.000		ppb	1.343		
45	**Sc-ISK**		211787.383		ppb	3.523		
23	**Na**		29128.004		ppb	1.625		
39	**K**		37752.044		ppb	1.234		
24	**Mg**		688.350		ppb	4.726		
159	**Tb-ISK**	>	248259.260		ppb	0.479		

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: IC-2235387
Autosampler Position: 204
Sample Date/Time: Monday, January 03, 2022 21:53:57
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\IC-2235387.275
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		52224.221		ppb	2.774		53686.318
9	**Be**		445419.269	**200.000000**	ppb	4.684	1.821	28.889
10	**B**		306313.445	**500.000000**	ppb	5.052	3.913	1191.161
27	**Al**		2526305.194	**200.000000**	ppb	2.201	3.471	11171.702
43	**Ca-2**		290386.681	**10200.000000**	ppb	2.973	3.205	150.001
49	**Ti**		187360.116	**200.000000**	ppb	2.729	2.386	306.670
52	**Cr**		2771299.351	**200.000000**	ppb	2.043	4.715	17905.664
55	**Mn**		3965509.076	**200.000000**	ppb	1.832	3.590	1961.246
57	**Fe**		4488617.809	**10200.000000**	ppb	3.683	2.207	17535.204
45	**Sc-IS**	>	1992563.756		ppb	5.052		1906712.784
66	**Zn**		455328.552	**200.000000**	ppb	1.857	3.149	1403.402
86	**Sr**		488272.312	**200.000000**	ppb	1.938	3.132	49.623
65	**Cu**		749580.035	**200.000000**	ppb	3.779	1.362	1114.488
69	**Ga-IS**		808210.717		ppb	0.761		680340.122
95	**Mo**		569920.675	**200.000000**	ppb	0.564	4.956	206.668
115	**In-IS**	>	455679.959		ppb	2.205		460487.518
111	**Cd**		676904.570	**200.000000**	ppb	0.871	1.997	50.677
118	**Sn**		2081451.736	**200.000000**	ppb	4.137	1.963	2329.079
121	**Sb**		2236184.562	**200.000000**	ppb	0.500	1.756	310.003
135	**Ba**		583851.618	**200.000000**	ppb	2.636	1.423	90.000
165	**Ho-IS**		565306.307		ppb	0.881		555815.818
159	**Tb-IS**	>	571336.710		ppb	0.578		569250.350
207	**Pb**		7260596.123	**200.000000**	ppb	1.534	1.504	820.010
203	**Tl**		2519311.991	**200.000000**	ppb	0.872	0.711	314.448
209	**Bi-IS**		291936.351		ppb	2.656		306830.563
51	**V**		60272.473	**200.000000**	ppb	2.140	1.002	2.222
59	**Co**		204198.086	**200.000000**	ppb	1.309	0.921	17.778
60	**Ni**		320547.600	**200.000000**	ppb	0.696	1.297	97.778
75	**As**		115103.318	**200.000000**	ppb	0.912	1.995	356.838
71	**Ga-ISK**		87844.878		ppb	1.911		85044.751
82	**Se-2**		11535.176	**200.000000**	ppb	2.200	3.637	6.200
107	**Ag-1**		1251923.978	**200.000000**	ppb	2.737	1.394	236.669
115	**In-ISK**	>	120960.066		ppb	1.987		122087.000
45	**Sc-ISK**		217671.678		ppb	1.741		211787.383
23	**Na**		2987420.050	**10200.000000**	ppb	1.555	1.507	29128.004
39	**K**		6524270.894	**10200.000000**	ppb	1.179	0.995	37752.044
24	**Mg**		2798398.455	**10200.000000**	ppb	0.931	1.586	688.350
159	**Tb-ISK**	>	250537.917		ppb	0.794		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 21:57:08
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.276
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		52422.690		ppb	1.534		53686.318
9	**Be**		225356.164	**104.952040**	ppb	1.770	0.974	28.889
10	**B**		158104.521	**266.552888**	ppb	4.390	1.889	1191.161
27	**Al**		1248367.888	**102.002993**	ppb	0.833	2.862	11171.702
43	**Ca-2**		144561.861	**5258.679259**	ppb	4.017	1.316	150.001
49	**Ti**		92081.374	**101.752278**	ppb	0.631	2.200	306.670
52	**Cr**		1340952.960	**99.593258**	ppb	1.103	1.796	17905.664
55	**Mn**		1979904.060	**103.379381**	ppb	4.815	2.521	1961.246
57	**Fe**		2290188.923	**5375.702233**	ppb	2.808	0.440	17535.204
45	**Sc-IS**	>	1920907.727		ppb	2.707		1906712.784
66	**Zn**		232405.526	**105.494220**	ppb	1.680	1.045	1403.402
86	**Sr**		246806.787	**104.802481**	ppb	0.993	3.179	49.623
65	**Cu**		382042.797	**105.537860**	ppb	3.471	1.571	1114.488
69	**Ga-IS**		754362.463		ppb	1.605		680340.122
95	**Mo**		289260.473	**105.149941**	ppb	1.044	3.523	206.668
115	**In-IS**	>	454697.459		ppb	1.761		460487.518
111	**Cd**		344869.050	**102.076625**	ppb	2.150	0.428	50.677
118	**Sn**		1010766.139	**97.253177**	ppb	1.474	1.217	2329.079
121	**Sb**		1063783.101	**95.331307**	ppb	1.161	2.257	310.003
135	**Ba**		289376.172	**99.358798**	ppb	1.180	2.893	90.000
165	**Ho-IS**		563982.351		ppb	1.627		555815.818
159	**Tb-IS**	>	577825.080		ppb	1.641		569250.350
207	**Pb**		3613589.153	**98.436754**	ppb	0.937	2.534	820.010
203	**Tl**		1203780.268	**94.502455**	ppb	1.547	2.738	314.448
209	**Bi-IS**		301274.983		ppb	0.961		306830.563
51	**V**		28166.631	**92.310043**	ppb	1.084	3.316	2.222
59	**Co**		97122.638	**93.906382**	ppb	3.553	3.504	17.778
60	**Ni**		161410.188	**99.429987**	ppb	1.377	3.705	97.778
75	**As**		57437.961	**98.228581**	ppb	0.250	2.578	356.838
71	**Ga-ISK**		86428.464		ppb	1.298		85044.751
82	**Se-2**		5717.682	**97.782338**	ppb	1.935	1.344	6.200
107	**Ag-1**		633639.093	**99.922745**	ppb	2.355	1.318	236.669
115	**In-ISK**	>	122531.865		ppb	2.520		122087.000
45	**Sc-ISK**		214849.249		ppb	1.174		211787.383
23	**Na**		1455032.608	**4857.318373**	ppb	1.168	1.473	29128.004
39	**K**		3247702.313	**4987.163995**	ppb	2.493	1.974	37752.044
24	**Mg**		1344190.600	**4840.312117**	ppb	1.713	1.344	688.350
159	**Tb-ISK**	>	253506.232		ppb	0.632		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 22:00:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.277
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		53679.572		ppb	1.710		53686.318
9	**Be**		117.778	**0.041565**	ppb	13.961	18.530	28.889
10	**B**		2060.149	**1.479253**	ppb	1.682	6.000	1191.161
27	**Al**		16448.136	**0.434508**	ppb	3.060	7.655	11171.702
43	**Ca-2**		193.335	**1.563635**	ppb	35.303	158.241	150.001
49	**Ti**		332.226	**0.027639**	ppb	1.159	26.933	306.670
52	**Cr**		17092.445	**-0.064976**	ppb	2.248	36.774	17905.664
55	**Mn**		2838.061	**0.045751**	ppb	7.261	20.990	1961.246
57	**Fe**		16966.745	**-1.464000**	ppb	3.665	75.074	17535.204
45	**Sc-IS**	>	1911555.590		ppb	0.939		1906712.784
66	**Zn**		1477.854	**0.032536**	ppb	0.939	13.413	1403.402
86	**Sr**		88.438	**0.016397**	ppb	50.256	114.041	49.623
65	**Cu**		1192.272	**0.020887**	ppb	0.582	16.066	1114.488
69	**Ga-IS**		677365.843		ppb	3.499		680340.122
95	**Mo**		1799.003	**0.581613**	ppb	6.977	8.095	206.668
115	**In-IS**	>	460500.256		ppb	1.176		460487.518
111	**Cd**		164.001	**0.033215**	ppb	23.748	35.955	50.677
118	**Sn**		9096.229	**0.644432**	ppb	1.065	2.572	2329.079
121	**Sb**		1327.840	**0.090074**	ppb	3.343	4.348	310.003
135	**Ba**		184.446	**0.031963**	ppb	13.564	24.281	90.000
165	**Ho-IS**		560312.708		ppb	1.396		555815.818
159	**Tb-IS**	>	573572.258		ppb	1.729		569250.350
207	**Pb**		2210.068	**0.037995**	ppb	1.341	4.820	820.010
203	**Tl**		800.022	**0.038224**	ppb	2.205	4.355	314.448
209	**Bi-IS**		310872.180		ppb	1.627		306830.563
51	**V**		24.444	**0.069870**	ppb	34.317	37.380	2.222
59	**Co**		88.889	**0.065657**	ppb	2.165	2.746	17.778
60	**Ni**		288.892	**0.111258**	ppb	4.804	8.291	97.778
75	**As**		352.232	**-0.031756**	ppb	9.904	171.821	356.838
71	**Ga-ISK**		86460.903		ppb	1.701		85044.751
82	**Se-2**		5.174	**-0.021706**	ppb	213.520	835.685	6.200
107	**Ag-1**		1617.870	**0.208624**	ppb	10.922	12.200	236.669
115	**In-ISK**	>	127018.721		ppb	0.587		122087.000
45	**Sc-ISK**		214494.077		ppb	1.545		211787.383
23	**Na**		24357.419	**-16.974795**	ppb	1.940	11.228	29128.004
39	**K**		40812.667	**4.567554**	ppb	1.319	15.880	37752.044
24	**Mg**		1196.717	**1.849314**	ppb	8.768	19.402	688.350
159	**Tb-ISK**	>	249373.779		ppb	0.636		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 22:03:30
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.278
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		53812.338		ppb	3.123		53686.318
9	**Be**		65.556	**0.016800**	ppb	7.767	13.081	28.889
10	**B**		1572.309	**0.618068**	ppb	4.459	19.114	1191.161
27	**Al**		17182.328	**0.480861**	ppb	1.198	4.762	11171.702
43	**Ca-2**		236.669	**3.065249**	ppb	6.099	13.673	150.001
49	**Ti**		295.559	**-0.016941**	ppb	7.509	99.037	306.670
52	**Cr**		17401.708	**-0.055341**	ppb	2.570	13.016	17905.664
55	**Mn**		2524.668	**0.027985**	ppb	0.762	7.424	1961.246
57	**Fe**		16502.861	**-2.956845**	ppb	1.079	31.659	17535.204
45	**Sc-IS**	>	1931741.068		ppb	2.329		1906712.784
66	**Zn**		1360.065	**-0.029008**	ppb	12.746	220.001	1403.402
86	**Sr**		203.059	**0.064367**	ppb	12.312	13.436	49.623
65	**Cu**		984.478	**-0.039635**	ppb	5.639	48.321	1114.488
69	**Ga-IS**		696130.264		ppb	1.624		680340.122
95	**Mo**		740.019	**0.192092**	ppb	13.986	20.894	206.668
115	**In-IS**	>	460969.649		ppb	1.312		460487.518
111	**Cd**		121.780	**0.020751**	ppb	2.661	4.795	50.677
118	**Sn**		5173.160	**0.270485**	ppb	3.750	8.999	2329.079
121	**Sb**		846.692	**0.047451**	ppb	5.554	10.457	310.003
135	**Ba**		135.556	**0.015491**	ppb	22.040	69.734	90.000
165	**Ho-IS**		566178.645		ppb	0.798		555815.818
159	**Tb-IS**	>	577607.426		ppb	1.546		569250.350
207	**Pb**		1476.696	**0.017550**	ppb	6.107	11.010	820.010
203	**Tl**		585.568	**0.020898**	ppb	8.825	16.403	314.448
209	**Bi-IS**		305217.465		ppb	1.188		306830.563
51	**V**		15.556	**0.043017**	ppb	32.733	39.236	2.222
59	**Co**		40.000	**0.020831**	ppb	8.333	14.436	17.778
60	**Ni**		347.782	**0.150600**	ppb	3.081	5.335	97.778
75	**As**		333.024	**-0.051935**	ppb	3.828	30.865	356.838
71	**Ga-ISK**		90011.683		ppb	2.440		85044.751
82	**Se-2**		4.213	**-0.034475**	ppb	181.379	372.848	6.200
107	**Ag-1**		673.349	**0.067086**	ppb	7.733	10.147	236.669
115	**In-ISK**	>	124413.157		ppb	1.599		122087.000
45	**Sc-ISK**		217140.942		ppb	2.909		211787.383
23	**Na**		40900.136	**37.102776**	ppb	1.090	6.179	29128.004
39	**K**		41978.257	**4.893571**	ppb	1.103	6.100	37752.044
24	**Mg**		3026.987	**8.303483**	ppb	2.736	4.857	688.350
159	**Tb-ISK**	>	255207.574		ppb	1.085		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80449-E-1-A
Autosampler Position: 412
Sample Date/Time: Monday, January 03, 2022 22:06:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80449-E-1-A.279
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59105.384		ppb	2.011		53686.318
9	**Be**		182.223	**0.060812**	ppb	7.393	12.177	28.889
10	**B**		89111.583	**130.438838**	ppb	1.977	0.807	1191.161
27	**Al**		7400351.941	**532.708445**	ppb	1.314	1.732	11171.702
43	**Ca-2**		1113294.395	**35464.938089**	ppb	2.771	0.517	150.001
49	**Ti**		8871.644	**8.264971**	ppb	2.935	5.057	306.670
52	**Cr**		52714.860	**2.114483**	ppb	0.439	4.590	17905.664
55	**Mn**		2978667.587	**136.143514**	ppb	1.930	1.105	1961.246
57	**Fe**		304743.489	**588.896049**	ppb	1.858	0.970	17535.204
45	**Sc-IS**	>	2196002.097		ppb	2.774		1906712.784
66	**Zn**		243849.487	**96.772936**	ppb	1.617	1.236	1403.402
86	**Sr**		848742.461	**315.196685**	ppb	1.730	1.401	49.623
65	**Cu**		60250.153	**14.294873**	ppb	2.016	1.742	1114.488
69	**Ga-IS**		711948.686		ppb	0.756		680340.122
95	**Mo**		34380.209	**10.863119**	ppb	0.326	2.833	206.668
115	**In-IS**	>	444880.312		ppb	0.773		460487.518
111	**Cd**		612.262	**0.170404**	ppb	6.550	6.527	50.677
118	**Sn**		2187.945	**-0.006121**	ppb	0.616	35.914	2329.079
121	**Sb**		147804.283	**13.510534**	ppb	2.323	1.844	310.003
135	**Ba**		86677.763	**30.385820**	ppb	1.632	1.128	90.000
165	**Ho-IS**		549000.364		ppb	0.539		555815.818
159	**Tb-IS**	>	567975.320		ppb	0.365		569250.350
207	**Pb**		1393133.205	**38.584285**	ppb	0.500	0.771	820.010
203	**Tl**		351.115	**0.002979**	ppb	9.221	83.446	314.448
209	**Bi-IS**		280072.321		ppb	1.115		306830.563
51	**V**		1525.637	**5.271684**	ppb	3.485	2.715	2.222
59	**Co**		787.800	**0.787126**	ppb	6.722	5.910	17.778
60	**Ni**		4967.533	**3.171857**	ppb	6.578	6.313	97.778
75	**As**		1318.170	**1.779884**	ppb	7.183	10.113	356.838
71	**Ga-ISK**		84042.107		ppb	2.053		85044.751
82	**Se-2**		240.827	**4.249622**	ppb	10.421	10.977	6.200
107	**Ag-1**		357.782	**0.022103**	ppb	14.017	35.204	236.669
115	**In-ISK**	>	115986.448		ppb	1.017		122087.000
45	**Sc-ISK**		218737.156		ppb	2.752		211787.383
23	**Na**		29570799.645	**103789.089326**	ppb	3.570	3.802	29128.004
39	**K**		938561.562	**1443.849322**	ppb	3.507	3.765	37752.044
24	**Mg**		2178185.150	**8087.553757**	ppb	3.115	3.074	688.350
159	**Tb-ISK**	>	245912.521		ppb	0.457		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80451-C-1-A
Autosampler Position: 413
Sample Date/Time: Monday, January 03, 2022 22:09:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80451-C-1-A.280
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56695.659		ppb	2.450		53686.318
9	**Be**		31.111	**-0.000120**	ppb	26.964	2618.474	28.889
10	**B**		4166.164	**4.567851**	ppb	4.553	7.247	1191.161
27	**Al**		1338682.862	**102.137755**	ppb	2.752	6.705	11171.702
43	**Ca-2**		36799.017	**1245.225660**	ppb	2.196	2.554	150.001
49	**Ti**		4175.082	**3.961909**	ppb	25.867	25.806	306.670
52	**Cr**		27733.562	**0.590908**	ppb	0.730	12.861	17905.664
55	**Mn**		166122.103	**8.002500**	ppb	3.316	4.140	1961.246
57	**Fe**		80698.790	**136.505225**	ppb	5.093	9.603	17535.204
45	**Sc-IS**	>	2060071.677		ppb	4.526		1906712.784
66	**Zn**		192551.811	**81.441089**	ppb	2.678	4.968	1403.402
86	**Sr**		22002.263	**8.695718**	ppb	4.445	5.143	49.623
65	**Cu**		12588.880	**2.944206**	ppb	2.494	3.711	1114.488
69	**Ga-IS**		715598.646		ppb	3.792		680340.122
95	**Mo**		4001.674	**1.280957**	ppb	7.697	6.618	206.668
115	**In-IS**	>	462980.751		ppb	1.814		460487.518
111	**Cd**		216.043	**0.048034**	ppb	19.386	26.048	50.677
118	**Sn**		2135.716	**-0.019353**	ppb	8.249	97.363	2329.079
121	**Sb**		2862.509	**0.224595**	ppb	0.905	2.939	310.003
135	**Ba**		32412.295	**10.899631**	ppb	2.199	1.839	90.000
165	**Ho-IS**		551884.961		ppb	1.348		555815.818
159	**Tb-IS**	>	568756.954		ppb	2.298		569250.350
207	**Pb**		43515.822	**1.181770**	ppb	1.316	1.184	820.010
203	**Tl**		357.782	**0.003459**	ppb	11.797	88.329	314.448
209	**Bi-IS**		302888.687		ppb	1.211		306830.563
51	**V**		227.780	**0.730778**	ppb	16.053	15.078	2.222
59	**Co**		133.334	**0.110198**	ppb	20.463	22.130	17.778
60	**Ni**		930.030	**0.507613**	ppb	7.754	10.848	97.778
75	**As**		430.065	**0.116377**	ppb	3.269	7.927	356.838
71	**Ga-ISK**		90779.879		ppb	2.668		85044.751
82	**Se-2**		1.830	**-0.075121**	ppb	145.216	60.475	6.200
107	**Ag-1**		216.668	**-0.003656**	ppb	8.566	59.144	236.669
115	**In-ISK**	>	123744.286		ppb	2.218		122087.000
45	**Sc-ISK**		224749.147		ppb	2.235		211787.383
23	**Na**		595362.208	**1926.987162**	ppb	1.213	2.349	29128.004
39	**K**		311748.376	**424.417321**	ppb	0.978	1.475	37752.044
24	**Mg**		77402.577	**276.200862**	ppb	2.931	2.288	688.350
159	**Tb-ISK**	>	253624.608		ppb	1.570		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79287-I-1-A
Autosampler Position: 414
Sample Date/Time: Monday, January 03, 2022 22:13:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79287-I-1-A.281
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		65402.808		ppb	3.219		53686.318
9	**Be**		17.778	**-0.006789**	ppb	57.282	55.918	28.889
10	**B**		90979.915	**125.079641**	ppb	0.915	2.074	1191.161
27	**Al**		10984.223	**-0.183449**	ppb	2.772	5.945	11171.702
43	**Ca-2**		847169.224	**25361.154034**	ppb	1.453	0.368	150.001
49	**Ti**		697.795	**0.293624**	ppb	4.174	11.382	306.670
52	**Cr**		92333.131	**4.354616**	ppb	2.738	2.426	17905.664
55	**Mn**		13078705.306	**561.915860**	ppb	3.621	2.274	1961.246
57	**Fe**		91068.467	**135.267698**	ppb	3.461	2.216	17535.204
45	**Sc-IS**	>	2336734.280		ppb	1.786		1906712.784
66	**Zn**		2709.146	**0.371597**	ppb	2.594	9.359	1403.402
86	**Sr**		1249368.599	**435.963003**	ppb	1.577	0.704	49.623
65	**Cu**		2185.723	**0.186838**	ppb	3.432	10.076	1114.488
69	**Ga-IS**		876343.425		ppb	1.785		680340.122
95	**Mo**		9567.647	**2.784489**	ppb	0.761	2.559	206.668
115	**In-IS**	>	449875.064		ppb	1.222		460487.518
111	**Cd**		54.353	**0.001417**	ppb	25.786	280.452	50.677
118	**Sn**		5506.617	**0.315013**	ppb	1.091	3.699	2329.079
121	**Sb**		2001.251	**0.153913**	ppb	3.659	5.696	310.003
135	**Ba**		736598.024	**255.573348**	ppb	2.090	1.068	90.000
165	**Ho-IS**		558691.378		ppb	0.925		555815.818
159	**Tb-IS**	>	569897.322		ppb	0.033		569250.350
207	**Pb**		796.675	**-0.000670**	ppb	9.081	298.455	820.010
203	**Tl**		124.445	**-0.015152**	ppb	20.458	13.379	314.448
209	**Bi-IS**		286173.689		ppb	1.090		306830.563
51	**V**		68.889	**0.217786**	ppb	2.794	2.271	2.222
59	**Co**		387.783	**0.356784**	ppb	5.593	6.031	17.778
60	**Ni**		6719.358	**4.067837**	ppb	2.526	0.591	97.778
75	**As**		874.249	**0.884634**	ppb	3.483	7.962	356.838
71	**Ga-ISK**		88006.969		ppb	1.709		85044.751
82	**Se-2**		68.849	**1.069016**	ppb	3.850	3.739	6.200
107	**Ag-1**		135.556	**-0.016105**	ppb	11.088	17.110	236.669
115	**In-ISK**	>	122846.788		ppb	1.983		122087.000
45	**Sc-ISK**		236575.600		ppb	3.648		211787.383
23	**Na**		24552294.770	**85042.473543**	ppb	3.667	1.766	29128.004
39	**K**		3219546.241	**5033.193310**	ppb	2.377	1.760	37752.044
24	**Mg**		4674833.407	**17136.878098**	ppb	3.953	2.204	688.350
159	**Tb-ISK**	>	249062.195		ppb	1.892		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-79572-B-1-A
Autosampler Position: 415
Sample Date/Time: Monday, January 03, 2022 22:16:13
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-79572-B-1-A.282
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58365.687		ppb	2.065		53686.318
9	**Be**		45.556	**0.005920**	ppb	16.898	41.496	28.889
10	**B**		14574.105	**20.813787**	ppb	4.097	6.325	1191.161
27	**Al**		2693265.422	**203.959363**	ppb	1.283	5.536	11171.702
43	**Ca-2**		91457.009	**3066.825338**	ppb	3.131	3.473	150.001
49	**Ti**		6664.888	**6.476110**	ppb	1.877	5.867	306.670
52	**Cr**		39016.585	**1.350028**	ppb	3.548	5.787	17905.664
55	**Mn**		517787.509	**24.886076**	ppb	2.672	6.029	1961.246
57	**Fe**		208686.196	**413.864883**	ppb	2.799	6.418	17535.204
45	**Sc-IS**	>	2084539.135		ppb	4.814		1906712.784
66	**Zn**		777597.585	**326.946634**	ppb	2.012	4.170	1403.402
86	**Sr**		44326.940	**17.338916**	ppb	1.474	3.871	49.623
65	**Cu**		53646.120	**13.401508**	ppb	1.975	3.775	1114.488
69	**Ga-IS**		748993.517		ppb	1.469		680340.122
95	**Mo**		2904.740	**0.899315**	ppb	4.205	7.763	206.668
115	**In-IS**	>	459501.584		ppb	0.231		460487.518
111	**Cd**		1029.493	**0.286781**	ppb	6.659	7.056	50.677
118	**Sn**		6152.437	**0.365284**	ppb	3.632	5.608	2329.079
121	**Sb**		14611.914	**1.268413**	ppb	1.292	1.385	310.003
135	**Ba**		78279.488	**26.565917**	ppb	1.869	2.011	90.000
165	**Ho-IS**		562380.810		ppb	0.863		555815.818
159	**Tb-IS**	>	575730.652		ppb	1.588		569250.350
207	**Pb**		132375.598	**3.596380**	ppb	1.354	0.239	820.010
203	**Tl**		263.336	**-0.004314**	ppb	4.385	15.206	314.448
209	**Bi-IS**		307819.008		ppb	1.057		306830.563
51	**V**		673.349	**2.184345**	ppb	1.485	2.668	2.222
59	**Co**		515.565	**0.477960**	ppb	1.346	1.304	17.778
60	**Ni**		6581.517	**3.967717**	ppb	3.450	3.984	97.778
75	**As**		1057.726	**1.192221**	ppb	3.931	7.954	356.838
71	**Ga-ISK**		91699.027		ppb	2.357		85044.751
82	**Se-2**		16.221	**0.171630**	ppb	47.158	79.264	6.200
107	**Ag-1**		171.112	**-0.010629**	ppb	4.055	16.653	236.669
115	**In-ISK**	>	123367.683		ppb	2.619		122087.000
45	**Sc-ISK**		228211.872		ppb	3.273		211787.383
23	**Na**		817670.839	**2728.118117**	ppb	2.606	2.524	29128.004
39	**K**		720878.888	**1077.770305**	ppb	0.595	0.762	37752.044
24	**Mg**		133548.343	**486.064572**	ppb	2.920	2.915	688.350
159	**Tb-ISK**	>	249648.491		ppb	0.485		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80464-E-1-A
Autosampler Position: 416
Sample Date/Time: Monday, January 03, 2022 22:19:23
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80464-E-1-A.283
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56994.653		ppb	3.137		53686.318
9	**Be**		22.222	**-0.004204**	ppb	45.826	98.340	28.889
10	**B**		3932.775	**4.015545**	ppb	17.769	24.278	1191.161
27	**Al**		1008927.239	**74.530626**	ppb	1.539	0.056	11171.702
43	**Ca-2**		50169.614	**1652.929395**	ppb	1.068	0.595	150.001
49	**Ti**		4717.458	**4.410507**	ppb	15.665	18.314	306.670
52	**Cr**		37903.592	**1.230787**	ppb	3.513	4.804	17905.664
55	**Mn**		162657.906	**7.614408**	ppb	2.770	2.374	1961.246
57	**Fe**		189057.882	**364.033373**	ppb	2.843	1.752	17535.204
45	**Sc-IS**	>	2116666.813		ppb	1.586		1906712.784
66	**Zn**		118549.914	**48.482045**	ppb	1.288	0.706	1403.402
86	**Sr**		19874.706	**7.635758**	ppb	0.855	0.892	49.623
65	**Cu**		21136.751	**5.002987**	ppb	3.744	2.754	1114.488
69	**Ga-IS**		716670.764		ppb	0.803		680340.122
95	**Mo**		645.570	**0.137162**	ppb	8.022	10.063	206.668
115	**In-IS**	>	459471.398		ppb	1.869		460487.518
111	**Cd**		1696.523	**0.482335**	ppb	1.770	2.768	50.677
118	**Sn**		4580.735	**0.215623**	ppb	3.029	9.821	2329.079
121	**Sb**		3088.112	**0.246428**	ppb	3.655	3.054	310.003
135	**Ba**		16505.106	**5.575195**	ppb	5.739	4.070	90.000
165	**Ho-IS**		556967.133		ppb	2.412		555815.818
159	**Tb-IS**	>	566906.684		ppb	2.915		569250.350
207	**Pb**		88582.708	**2.437101**	ppb	2.578	1.609	820.010
203	**Tl**		296.670	**-0.001328**	ppb	9.795	158.546	314.448
209	**Bi-IS**		308600.245		ppb	1.440		306830.563
51	**V**		272.225	**0.867022**	ppb	12.978	11.204	2.222
59	**Co**		193.335	**0.166254**	ppb	7.515	7.665	17.778
60	**Ni**		2213.505	**1.278627**	ppb	1.975	2.847	97.778
75	**As**		667.246	**0.509346**	ppb	11.799	21.731	356.838
71	**Ga-ISK**		88413.932		ppb	1.962		85044.751
82	**Se-2**		13.859	**0.125225**	ppb	38.234	67.950	6.200
107	**Ag-1**		182.223	**-0.009231**	ppb	7.393	25.164	236.669
115	**In-ISK**	>	124802.566		ppb	2.075		122087.000
45	**Sc-ISK**		220735.838		ppb	1.433		211787.383
23	**Na**		416267.033	**1345.241237**	ppb	1.648	1.017	29128.004
39	**K**		571290.813	**845.615246**	ppb	2.332	2.873	37752.044
24	**Mg**		50763.387	**183.966619**	ppb	1.896	0.217	688.350
159	**Tb-ISK**	>	248607.034		ppb	1.892		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80341-A-1-A
Autosampler Position: 417
Sample Date/Time: Monday, January 03, 2022 22:22:34
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80341-A-1-A.284
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		74374.277		ppb	2.249		53686.318
9	**Be**		8.889	**-0.010191**	ppb	78.062	26.301	28.889
10	**B**		148839.613	**202.176294**	ppb	3.103	0.662	1191.161
27	**Al**		227193.316	**14.190457**	ppb	3.341	1.807	11171.702
43	**Ca-2**		2556507.176	**75210.701103**	ppb	0.472	2.029	150.001
49	**Ti**		5726.705	**4.783132**	ppb	4.872	4.854	306.670
52	**Cr**		51518.318	**1.773394**	ppb	2.390	1.587	17905.664
55	**Mn**		162770.128	**6.769412**	ppb	2.256	1.747	1961.246
57	**Fe**		182172.096	**306.255860**	ppb	1.378	1.334	17535.204
45	**Sc-IS**	>	2378859.052		ppb	2.523		1906712.784
66	**Zn**		29389.089	**10.195051**	ppb	0.724	2.732	1403.402
86	**Sr**		1935044.585	**663.348695**	ppb	1.675	0.845	49.623
65	**Cu**		36133.430	**7.775190**	ppb	2.083	2.279	1114.488
69	**Ga-IS**		758967.043		ppb	1.300		680340.122
95	**Mo**		22042.549	**6.397447**	ppb	0.725	2.191	206.668
115	**In-IS**	>	436965.315		ppb	1.261		460487.518
111	**Cd**		219.269	**0.052722**	ppb	9.926	12.218	50.677
118	**Sn**		11161.026	**0.898397**	ppb	1.774	3.553	2329.079
121	**Sb**		14492.904	**1.324175**	ppb	0.987	0.491	310.003
135	**Ba**		243766.809	**87.063810**	ppb	1.154	0.560	90.000
165	**Ho-IS**		562250.365		ppb	2.020		555815.818
159	**Tb-IS**	>	570324.382		ppb	0.849		569250.350
207	**Pb**		27796.024	**0.744455**	ppb	0.841	0.906	820.010
203	**Tl**		164.445	**-0.011969**	ppb	11.877	13.948	314.448
209	**Bi-IS**		270676.089		ppb	1.355		306830.563
51	**V**		2229.063	**7.688935**	ppb	4.586	2.635	2.222
59	**Co**		94.445	**0.079033**	ppb	13.362	16.149	17.778
60	**Ni**		3449.306	**2.179650**	ppb	4.712	3.976	97.778
75	**As**		1525.355	**2.152738**	ppb	4.481	8.274	356.838
71	**Ga-ISK**		81455.024		ppb	2.891		85044.751
82	**Se-2**		139.542	**2.412455**	ppb	4.236	4.598	6.200
107	**Ag-1**		151.112	**-0.012326**	ppb	14.688	30.411	236.669
115	**In-ISK**	>	116214.696		ppb	2.057		122087.000
45	**Sc-ISK**		221728.423		ppb	2.914		211787.383
23	**Na**		40164903.931	**143562.304681**	ppb	2.588	2.036	29128.004
39	**K**		2738223.030	**4406.935954**	ppb	2.964	2.733	37752.044
24	**Mg**		9942114.511	**37597.398801**	ppb	1.777	1.728	688.350
159	**Tb-ISK**	>	241509.032		ppb	0.583		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80307-A-1-A
Autosampler Position: 418
Sample Date/Time: Monday, January 03, 2022 22:25:43
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80307-A-1-A.285
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58062.332		ppb	4.132		53686.318
9	**Be**		181.112	**0.060113**	ppb	22.491	26.619	28.889
10	**B**		8035.594	**9.896312**	ppb	2.824	1.253	1191.161
27	**Al**		24725603.402	**1780.643072**	ppb	1.765	2.061	11171.702
43	**Ca-2**		127807.652	**4064.040976**	ppb	1.974	1.068	150.001
49	**Ti**		17446.214	**16.557491**	ppb	4.107	2.843	306.670
52	**Cr**		174322.807	**10.112188**	ppb	1.232	0.959	17905.664
55	**Mn**		1380311.213	**62.997217**	ppb	0.254	1.872	1961.246
57	**Fe**		663217.640	**1329.914598**	ppb	0.892	1.584	17535.204
45	**Sc-IS**	>	2197416.401		ppb	1.966		1906712.784
66	**Zn**		1510916.960	**602.412215**	ppb	2.546	0.889	1403.402
86	**Sr**		62565.151	**23.200062**	ppb	2.345	2.869	49.623
65	**Cu**		242500.228	**58.428974**	ppb	1.811	0.993	1114.488
69	**Ga-IS**		790184.511		ppb	0.929		680340.122
95	**Mo**		3090.334	**0.906576**	ppb	1.567	1.963	206.668
115	**In-IS**	>	459894.365		ppb	1.124		460487.518
111	**Cd**		2625.975	**0.754051**	ppb	5.229	6.131	50.677
118	**Sn**		3873.859	**0.147590**	ppb	0.765	2.960	2329.079
121	**Sb**		16391.624	**1.425263**	ppb	2.326	3.193	310.003
135	**Ba**		237855.118	**80.716279**	ppb	1.332	1.297	90.000
165	**Ho-IS**		576545.409		ppb	1.370		555815.818
159	**Tb-IS**	>	584641.230		ppb	0.450		569250.350
207	**Pb**		755759.912	**20.324414**	ppb	0.999	1.286	820.010
203	**Tl**		428.895	**0.008215**	ppb	7.222	27.962	314.448
209	**Bi-IS**		312660.060		ppb	0.562		306830.563
51	**V**		1530.082	**4.871358**	ppb	8.608	10.122	2.222
59	**Co**		1582.310	**1.470914**	ppb	2.330	3.661	17.778
60	**Ni**		11890.503	**7.063759**	ppb	1.343	2.506	97.778
75	**As**		919.261	**0.921251**	ppb	5.826	8.428	356.838
71	**Ga-ISK**		91009.047		ppb	1.977		85044.751
82	**Se-2**		10.161	**0.065399**	ppb	80.216	211.764	6.200
107	**Ag-1**		228.891	**-0.002374**	ppb	9.697	133.373	236.669
115	**In-ISK**	>	126037.343		ppb	3.087		122087.000
45	**Sc-ISK**		230138.013		ppb	1.330		211787.383
23	**Na**		999219.287	**3334.345389**	ppb	1.962	2.292	29128.004
39	**K**		931006.116	**1399.949503**	ppb	1.297	1.454	37752.044
24	**Mg**		267797.815	**970.789725**	ppb	2.570	1.483	688.350
159	**Tb-ISK**	>	251312.110		ppb	2.450		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80307-A-2-A
Autosampler Position: 419
Sample Date/Time: Monday, January 03, 2022 22:28:53
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80307-A-2-A.286
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58287.577		ppb	1.583		53686.318
9	**Be**		37.778	**0.002036**	ppb	5.094	21.190	28.889
10	**B**		8495.864	**10.759506**	ppb	5.245	5.854	1191.161
27	**Al**		5331173.879	**388.476037**	ppb	3.561	1.341	11171.702
43	**Ca-2**		167837.056	**5415.036246**	ppb	1.856	2.398	150.001
49	**Ti**		13141.602	**12.566631**	ppb	3.571	1.300	306.670
52	**Cr**		35990.861	**1.043325**	ppb	2.933	1.311	17905.664
55	**Mn**		536585.278	**24.768930**	ppb	1.533	0.845	1961.246
57	**Fe**		226349.157	**432.991161**	ppb	0.738	1.962	17535.204
45	**Sc-IS**	>	2166919.356		ppb	2.356		1906712.784
66	**Zn**		370376.603	**149.316647**	ppb	0.626	1.848	1403.402
86	**Sr**		73422.847	**27.610314**	ppb	2.545	2.034	49.623
65	**Cu**		45700.773	**10.916218**	ppb	1.590	1.721	1114.488
69	**Ga-IS**		744214.147		ppb	1.059		680340.122
95	**Mo**		2152.384	**0.618105**	ppb	2.777	3.232	206.668
115	**In-IS**	>	463106.510		ppb	2.830		460487.518
111	**Cd**		491.044	**0.127859**	ppb	7.610	6.745	50.677
118	**Sn**		2579.122	**0.022574**	ppb	0.538	36.227	2329.079
121	**Sb**		5469.936	**0.453938**	ppb	2.880	2.051	310.003
135	**Ba**		71657.071	**24.132516**	ppb	1.511	1.587	90.000
165	**Ho-IS**		567692.172		ppb	0.368		555815.818
159	**Tb-IS**	>	584345.684		ppb	1.021		569250.350
207	**Pb**		182951.094	**4.905336**	ppb	1.781	1.698	820.010
203	**Tl**		348.893	**0.002030**	ppb	12.469	167.155	314.448
209	**Bi-IS**		312814.548		ppb	0.734		306830.563
51	**V**		1475.632	**4.816830**	ppb	2.940	2.073	2.222
59	**Co**		471.119	**0.438039**	ppb	8.170	10.703	17.778
60	**Ni**		3972.775	**2.381804**	ppb	3.965	3.319	97.778
75	**As**		1871.885	**2.596751**	ppb	7.551	8.554	356.838
71	**Ga-ISK**		88451.960		ppb	2.167		85044.751
82	**Se-2**		8.822	**0.045954**	ppb	82.044	276.877	6.200
107	**Ag-1**		121.112	**-0.018459**	ppb	21.378	19.490	236.669
115	**In-ISK**	>	122782.784		ppb	2.341		122087.000
45	**Sc-ISK**		224644.313		ppb	2.474		211787.383
23	**Na**		1274233.437	**4267.253593**	ppb	1.835	0.857	29128.004
39	**K**		629753.539	**924.806351**	ppb	2.780	2.865	37752.044
24	**Mg**		188474.194	**680.597384**	ppb	2.976	2.269	688.350
159	**Tb-ISK**	>	251974.337		ppb	1.296		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: 570-80452-C-2-A
Autosampler Position: 420
Sample Date/Time: Monday, January 03, 2022 22:32:03
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\570-80452-C-2-A.287
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59694.568		ppb	3.613		53686.318
9	**Be**		62.222	**0.011803**	ppb	21.651	42.625	28.889
10	**B**		21551.826	**30.069333**	ppb	4.899	3.271	1191.161
27	**Al**		10365137.240	**748.278659**	ppb	1.613	0.387	11171.702
43	**Ca-2**		269586.142	**8606.447575**	ppb	2.737	2.090	150.001
49	**Ti**		9078.441	**8.481294**	ppb	2.976	1.622	306.670
52	**Cr**		50094.368	**1.948921**	ppb	2.053	1.390	17905.664
55	**Mn**		940530.799	**43.023466**	ppb	2.167	1.001	1961.246
57	**Fe**		426444.165	**843.026947**	ppb	2.073	1.964	17535.204
45	**Sc-IS**	>	2190192.710		ppb	1.813		1906712.784
66	**Zn**		947771.642	**378.919062**	ppb	1.938	0.977	1403.402
86	**Sr**		140671.729	**52.352173**	ppb	1.889	1.138	49.623
65	**Cu**		141266.356	**34.019438**	ppb	2.163	1.533	1114.488
69	**Ga-IS**		731494.085		ppb	1.117		680340.122
95	**Mo**		7427.488	**2.292605**	ppb	4.070	3.863	206.668
115	**In-IS**	>	463104.930		ppb	1.341		460487.518
111	**Cd**		995.549	**0.274740**	ppb	5.685	7.339	50.677
118	**Sn**		2882.513	**0.051234**	ppb	3.272	22.992	2329.079
121	**Sb**		10695.113	**0.913777**	ppb	0.672	1.508	310.003
135	**Ba**		90179.391	**30.367498**	ppb	2.304	0.975	90.000
165	**Ho-IS**		569094.283		ppb	0.610		555815.818
159	**Tb-IS**	>	578229.329		ppb	0.692		569250.350
207	**Pb**		215596.481	**5.846400**	ppb	0.985	1.656	820.010
203	**Tl**		236.669	**-0.006486**	ppb	9.859	29.410	314.448
209	**Bi-IS**		304821.520		ppb	1.464		306830.563
51	**V**		1096.709	**3.551241**	ppb	5.059	4.304	2.222
59	**Co**		883.361	**0.829093**	ppb	2.849	3.686	17.778
60	**Ni**		5770.054	**3.461521**	ppb	2.705	3.274	97.778
75	**As**		1024.103	**1.129793**	ppb	6.551	11.081	356.838
71	**Ga-ISK**		89011.006		ppb	2.549		85044.751
82	**Se-2**		23.190	**0.286107**	ppb	54.979	74.665	6.200
107	**Ag-1**		135.556	**-0.016311**	ppb	33.022	42.021	236.669
115	**In-ISK**	>	123675.823		ppb	0.831		122087.000
45	**Sc-ISK**		224408.102		ppb	1.829		211787.383
23	**Na**		2716765.474	**9219.827908**	ppb	0.295	1.173	29128.004
39	**K**		2562679.086	**3949.782138**	ppb	0.789	0.792	37752.044
24	**Mg**		419255.109	**1518.112611**	ppb	2.234	1.825	688.350
159	**Tb-ISK**	>	251821.032		ppb	1.374		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: blk
Autosampler Position: 7
Sample Date/Time: Monday, January 03, 2022 22:35:14
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\blk.288
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58779.667		ppb	3.524		53686.318
9	**Be**		13.333	**-0.007909**	ppb	86.603	62.916	28.889
10	**B**		1392.290	**0.090980**	ppb	8.050	176.620	1191.161
27	**Al**		20409.918	**0.586963**	ppb	4.027	7.352	11171.702
43	**Ca-2**		298.336	**4.264621**	ppb	12.579	23.160	150.001
49	**Ti**		426.673	**0.083147**	ppb	7.695	30.527	306.670
52	**Cr**		21626.361	**0.108209**	ppb	1.998	20.615	17905.664
55	**Mn**		2194.613	**0.000042**	ppb	1.522	4499.460	1961.246
57	**Fe**		20317.772	**1.502686**	ppb	1.013	56.161	17535.204
45	**Sc-IS**	>	2133423.628		ppb	2.994		1906712.784
66	**Zn**		1885.680	**0.129955**	ppb	5.479	34.232	1403.402
86	**Sr**		141.872	**0.033180**	ppb	13.828	27.028	49.623
65	**Cu**		613.347	**-0.158084**	ppb	5.648	4.721	1114.488
69	**Ga-IS**		725514.868		ppb	1.116		680340.122
95	**Mo**		494.453	**0.086311**	ppb	4.489	11.810	206.668
115	**In-IS**	>	462447.822		ppb	3.779		460487.518
111	**Cd**		10.073	**-0.011892**	ppb	19.311	3.817	50.677
118	**Sn**		2067.928	**-0.025616**	ppb	2.561	17.603	2329.079
121	**Sb**		267.780	**-0.003827**	ppb	3.803	22.611	310.003
135	**Ba**		153.334	**0.021363**	ppb	5.752	21.849	90.000
165	**Ho-IS**		563615.348		ppb	0.196		555815.818
159	**Tb-IS**	>	587194.647		ppb	1.070		569250.350
207	**Pb**		830.009	**-0.000411**	ppb	10.504	611.874	820.010
203	**Tl**		130.001	**-0.015009**	ppb	13.568	9.481	314.448
209	**Bi-IS**		313251.787		ppb	0.836		306830.563
51	**V**		8.889	**0.021263**	ppb	114.564	153.967	2.222
59	**Co**		12.222	**-0.005714**	ppb	41.660	84.149	17.778
60	**Ni**		195.557	**0.057191**	ppb	14.497	29.519	97.778
75	**As**		326.229	**-0.067890**	ppb	5.899	49.299	356.838
71	**Ga-ISK**		88745.937		ppb	1.162		85044.751
82	**Se-2**		4.534	**-0.030257**	ppb	155.644	390.734	6.200
107	**Ag-1**		90.000	**-0.023604**	ppb	6.415	3.601	236.669
115	**In-ISK**	>	125449.684		ppb	0.746		122087.000
45	**Sc-ISK**		220489.616		ppb	3.147		211787.383
23	**Na**		13930.129	**-53.446146**	ppb	4.101	3.318	29128.004
39	**K**		37998.250	**-0.293226**	ppb	1.136	420.502	37752.044
24	**Mg**		875.027	**0.649259**	ppb	5.451	23.677	688.350
159	**Tb-ISK**	>	251140.403		ppb	0.970		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCV-2237327
Autosampler Position: 3
Sample Date/Time: Monday, January 03, 2022 22:38:25
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCV-2237327.289
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		56941.138		ppb	3.748		53686.318
9	**Be**		238914.789	**100.261610**	ppb	3.193	1.408	28.889
10	**B**		163488.604	**248.349007**	ppb	3.257	1.711	1191.161
27	**Al**		1324032.323	**97.428392**	ppb	2.156	1.013	11171.702
43	**Ca-2**		155434.618	**5098.087603**	ppb	2.176	1.946	150.001
49	**Ti**		97571.007	**97.140698**	ppb	1.493	1.034	306.670
52	**Cr**		1401436.532	**93.714902**	ppb	1.818	0.369	17905.664
55	**Mn**		2146698.820	**101.065785**	ppb	2.365	1.611	1961.246
57	**Fe**		2415238.318	**5107.931142**	ppb	2.485	1.074	17535.204
45	**Sc-IS**	>	2131123.147		ppb	2.145		1906712.784
66	**Zn**		241097.634	**98.607735**	ppb	1.151	1.974	1403.402
86	**Sr**		252276.868	**96.511589**	ppb	1.848	1.100	49.623
65	**Cu**		389936.969	**97.095085**	ppb	0.719	1.443	1114.488
69	**Ga-IS**		775654.627		ppb	1.096		680340.122
95	**Mo**		280789.667	**91.945933**	ppb	1.412	0.824	206.668
115	**In-IS**	>	470530.994		ppb	1.026		460487.518
111	**Cd**		354628.096	**101.449468**	ppb	0.709	1.725	50.677
118	**Sn**		1031387.867	**95.895444**	ppb	1.590	2.030	2329.079
121	**Sb**		1098455.993	**95.117229**	ppb	1.239	2.146	310.003
135	**Ba**		292699.349	**97.091053**	ppb	0.693	1.179	90.000
165	**Ho-IS**		581263.194		ppb	0.635		555815.818
159	**Tb-IS**	>	587727.385		ppb	0.419		569250.350
207	**Pb**		3675525.802	**98.411387**	ppb	0.752	0.911	820.010
203	**Tl**		1257352.588	**97.017906**	ppb	1.437	1.078	314.448
209	**Bi-IS**		309980.344		ppb	0.389		306830.563
51	**V**		29481.503	**94.420028**	ppb	1.046	1.269	2.222
59	**Co**		99798.593	**94.335303**	ppb	2.127	2.697	17.778
60	**Ni**		166244.651	**100.056735**	ppb	3.370	2.810	97.778
75	**As**		59544.175	**99.517087**	ppb	2.320	1.254	356.838
71	**Ga-ISK**		89786.047		ppb	4.225		85044.751
82	**Se-2**		5953.426	**99.534773**	ppb	1.781	1.722	6.200
107	**Ag-1**		631651.704	**97.389233**	ppb	0.698	1.489	236.669
115	**In-ISK**	>	125339.112		ppb	2.115		122087.000
45	**Sc-ISK**		228526.812		ppb	3.224		211787.383
23	**Na**		1559903.025	**5168.494055**	ppb	2.556	1.922	29128.004
39	**K**		3489752.844	**5316.966154**	ppb	1.841	1.279	37752.044
24	**Mg**		1462185.428	**5218.256612**	ppb	4.198	2.172	688.350
159	**Tb-ISK**	>	255733.373		ppb	2.162		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 1
Sample Date/Time: Monday, January 03, 2022 22:41:36
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.290
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		58317.692		ppb	1.252		53686.318
9	**Be**		41.111	**0.004072**	ppb	20.405	69.521	28.889
10	**B**		1736.772	**0.695029**	ppb	3.460	23.829	1191.161
27	**Al**		18297.714	**0.469861**	ppb	2.115	18.212	11171.702
43	**Ca-2**		196.668	**1.115526**	ppb	7.767	19.766	150.001
49	**Ti**		378.894	**0.047592**	ppb	6.603	99.038	306.670
52	**Cr**		19033.784	**-0.030373**	ppb	1.265	238.166	17905.664
55	**Mn**		2306.853	**0.008642**	ppb	6.113	142.094	1961.246
57	**Fe**		18338.432	**-1.585637**	ppb	1.708	157.794	17535.204
45	**Sc-IS**	>	2077355.119		ppb	5.591		1906712.784
66	**Zn**		1528.971	**0.000297**	ppb	9.356	17645.089	1403.402
86	**Sr**		119.687	**0.025760**	ppb	34.398	59.976	49.623
65	**Cu**		617.791	**-0.152659**	ppb	3.252	3.000	1114.488
69	**Ga-IS**		726167.172		ppb	1.877		680340.122
95	**Mo**		1568.975	**0.453805**	ppb	5.418	12.638	206.668
115	**In-IS**	>	465771.708		ppb	1.603		460487.518
111	**Cd**		93.372	**0.012178**	ppb	3.667	9.577	50.677
118	**Sn**		7576.454	**0.491429**	ppb	1.981	0.937	2329.079
121	**Sb**		860.026	**0.047833**	ppb	2.421	5.547	310.003
135	**Ba**		122.223	**0.010448**	ppb	11.022	42.144	90.000
165	**Ho-IS**		567855.856		ppb	1.060		555815.818
159	**Tb-IS**	>	574372.502		ppb	0.341		569250.350
207	**Pb**		1313.357	**0.013321**	ppb	8.596	23.778	820.010
203	**Tl**		413.339	**0.007578**	ppb	12.177	50.955	314.448
209	**Bi-IS**		315032.704		ppb	2.530		306830.563
51	**V**		10.000	**0.024219**	ppb	66.667	84.928	2.222
59	**Co**		45.556	**0.025570**	ppb	34.579	57.438	17.778
60	**Ni**		266.669	**0.099194**	ppb	6.960	10.023	97.778
75	**As**		357.143	**-0.018539**	ppb	3.374	166.444	356.838
71	**Ga-ISK**		90319.229		ppb	2.997		85044.751
82	**Se-2**		3.158	**-0.053134**	ppb	287.127	281.041	6.200
107	**Ag-1**		1380.067	**0.174125**	ppb	6.318	7.177	236.669
115	**In-ISK**	>	126068.522		ppb	2.348		122087.000
45	**Sc-ISK**		227597.833		ppb	1.440		211787.383
23	**Na**		11704.793	**-61.478106**	ppb	0.719	1.973	29128.004
39	**K**		39412.069	**1.323036**	ppb	0.432	96.581	37752.044
24	**Mg**		758.353	**0.201361**	ppb	5.036	101.433	688.350
159	**Tb-ISK**	>	253662.460		ppb	2.457		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICS A-1517520
Autosampler Position: 202
Sample Date/Time: Monday, January 03, 2022 22:44:49
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICSA-1517520.291
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		63219.677		ppb	3.285		53686.318
9	**Be**		33.333	**-0.001268**	ppb	50.000	495.735	28.889
10	**B**		3363.730	**2.460707**	ppb	3.000	2.619	1191.161
27	**Al**		158167116.640	**10264.039697**	ppb	1.047	1.966	11171.702
43	**Ca-2**		1018528.358	**29203.414342**	ppb	2.230	1.286	150.001
49	**Ti**		233785.197	**203.703339**	ppb	0.104	1.617	306.670
52	**Cr**		23345.728	**0.026112**	ppb	0.772	120.668	17905.664
55	**Mn**		9893.425	**0.304009**	ppb	0.575	1.450	1961.246
57	**Fe**		12982961.066	**24143.143504**	ppb	0.730	1.567	17535.204
45	**Sc-IS**	>	2439665.165		ppb	1.562		1906712.784
66	**Zn**		3664.915	**0.672234**	ppb	1.867	4.616	1403.402
86	**Sr**		1157.382	**0.365424**	ppb	10.382	10.065	49.623
65	**Cu**		2622.463	**0.261016**	ppb	1.786	1.287	1114.488
69	**Ga-IS**		772226.832		ppb	3.477		680340.122
95	**Mo**		577264.386	**165.180772**	ppb	1.202	1.434	206.668
115	**In-IS**	>	455418.710		ppb	0.675		460487.518
111	**Cd**		142.254	**0.027222**	ppb	81.320	125.045	50.677
118	**Sn**		3442.638	**0.109646**	ppb	4.893	13.690	2329.079
121	**Sb**		1283.391	**0.087391**	ppb	3.931	4.530	310.003
135	**Ba**		750.020	**0.226505**	ppb	9.808	10.510	90.000
165	**Ho-IS**		574847.837		ppb	1.341		555815.818
159	**Tb-IS**	>	588545.652		ppb	0.471		569250.350
207	**Pb**		2660.096	**0.048453**	ppb	6.403	8.734	820.010
203	**Tl**		282.225	**-0.003306**	ppb	4.472	28.337	314.448
209	**Bi-IS**		302095.348		ppb	0.900		306830.563
51	**V**		15.556	**0.043915**	ppb	12.372	14.038	2.222
59	**Co**		80.000	**0.060490**	ppb	26.021	33.060	17.778
60	**Ni**		440.007	**0.212037**	ppb	7.306	8.911	97.778
75	**As**		304.552	**-0.088980**	ppb	24.499	147.044	356.838
71	**Ga-ISK**		89161.902		ppb	2.067		85044.751
82	**Se-2**		7.893	**0.029398**	ppb	45.571	211.525	6.200
107	**Ag-1**		746.686	**0.080964**	ppb	15.568	22.768	236.669
115	**In-ISK**	>	121862.468		ppb	0.398		122087.000
45	**Sc-ISK**		234774.112		ppb	2.317		211787.383
23	**Na**		8348489.365	**28364.795565**	ppb	1.867	1.922	29128.004
39	**K**		6928425.609	**10714.823004**	ppb	0.642	1.733	37752.044
24	**Mg**		2988117.360	**10768.459803**	ppb	1.569	0.305	688.350
159	**Tb-ISK**	>	253380.230		ppb	1.339		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message
Sc-IS	45	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: ICS AB-2059235
Autosampler Position: 203
Sample Date/Time: Monday, January 03, 2022 22:47:59
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\ICSAB-2059235.292
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		62703.983		ppb	0.765		53686.318
9	**Be**		30.000	**-0.002655**	ppb	11.111	56.267	28.889
10	**B**		3385.957	**2.442104**	ppb	2.948	9.563	1191.161
27	**Al**		164854221.748	**10576.215857**	ppb	1.117	2.734	11171.702
43	**Ca-2**		1038799.888	**29440.600645**	ppb	2.537	1.206	150.001
49	**Ti**		244235.072	**210.330780**	ppb	2.007	0.787	306.670
52	**Cr**		346601.731	**18.945732**	ppb	1.734	1.499	17905.664
55	**Mn**		487971.766	**19.753245**	ppb	2.459	1.919	1961.246
57	**Fe**		13324527.440	**24489.137487**	ppb	2.599	1.676	17535.204
45	**Sc-IS**	>	2468443.563		ppb	2.707		1906712.784
66	**Zn**		30092.777	**10.049956**	ppb	1.387	1.484	1403.402
86	**Sr**		1238.439	**0.388055**	ppb	8.635	9.564	49.623
65	**Cu**		84666.835	**17.950953**	ppb	0.904	1.964	1114.488
69	**Ga-IS**		785475.506		ppb	1.059		680340.122
95	**Mo**		594019.494	**168.072687**	ppb	2.901	4.291	206.668
115	**In-IS**	>	459985.093		ppb	1.873		460487.518
111	**Cd**		36397.656	**10.639226**	ppb	1.304	2.364	50.677
118	**Sn**		2636.910	**0.029724**	ppb	4.178	46.388	2329.079
121	**Sb**		1204.495	**0.079335**	ppb	3.927	7.210	310.003
135	**Ba**		733.352	**0.218504**	ppb	2.362	4.618	90.000
165	**Ho-IS**		571211.673		ppb	1.782		555815.818
159	**Tb-IS**	>	583757.755		ppb	1.519		569250.350
207	**Pb**		1848.937	**0.027205**	ppb	6.186	13.089	820.010
203	**Tl**		266.669	**-0.004316**	ppb	9.922	53.866	314.448
209	**Bi-IS**		304583.951		ppb	0.659		306830.563
51	**V**		6229.136	**20.435140**	ppb	1.500	0.170	2.222
59	**Co**		20553.665	**19.895330**	ppb	0.871	2.059	17.778
60	**Ni**		34306.711	**21.110235**	ppb	2.086	0.764	97.778
75	**As**		6655.532	**10.854593**	ppb	2.373	2.723	356.838
71	**Ga-ISK**		89534.205		ppb	1.856		85044.751
82	**Se-2**		583.223	**9.893936**	ppb	3.640	2.688	6.200
107	**Ag-1**		29970.303	**4.698654**	ppb	2.120	1.344	236.669
115	**In-ISK**	>	122307.611		ppb	1.390		122087.000
45	**Sc-ISK**		234414.766		ppb	1.980		211787.383
23	**Na**		8862917.781	**30017.465322**	ppb	4.443	3.215	29128.004
39	**K**		7174521.552	**11061.464088**	ppb	2.373	1.552	37752.044
24	**Mg**		3195084.596	**11478.629985**	ppb	2.836	1.867	688.350
159	**Tb-ISK**	>	254150.358		ppb	1.234		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message
Sc-IS	45	
Na	23	

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: b
Autosampler Position: 2
Sample Date/Time: Monday, January 03, 2022 22:51:10
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\b.293
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		59772.584		ppb	1.596		53686.318
9	**Be**		22.222	**-0.004674**	ppb	31.225	63.462	28.889
10	**B**		1380.067	**-0.034948**	ppb	2.452	163.185	1191.161
27	**Al**		76623.416	**4.472094**	ppb	3.239	6.363	11171.702
43	**Ca-2**		530.010	**10.993155**	ppb	10.715	16.078	150.001
49	**Ti**		522.232	**0.152645**	ppb	8.306	31.257	306.670
52	**Cr**		18487.513	**-0.168557**	ppb	1.828	13.507	17905.664
55	**Mn**		3144.791	**0.037258**	ppb	2.857	16.717	1961.246
57	**Fe**		21945.736	**2.575736**	ppb	1.719	30.580	17535.204
45	**Sc-IS**	>	2248250.778		ppb	2.536		1906712.784
66	**Zn**		1809.004	**0.060936**	ppb	5.933	91.846	1403.402
86	**Sr**		75.280	**0.005933**	ppb	36.549	155.660	49.623
65	**Cu**		878.916	**-0.102779**	ppb	4.681	14.474	1114.488
69	**Ga-IS**		758123.813		ppb	2.456		680340.122
95	**Mo**		2376.865	**0.662738**	ppb	3.375	3.619	206.668
115	**In-IS**	>	470417.023		ppb	0.273		460487.518
111	**Cd**		50.564	**-0.000339**	ppb	24.642	1065.841	50.677
118	**Sn**		2085.708	**-0.027347**	ppb	6.585	48.251	2329.079
121	**Sb**		365.560	**0.004236**	ppb	16.970	127.131	310.003
135	**Ba**		238.891	**0.048755**	ppb	13.408	21.503	90.000
165	**Ho-IS**		574839.499		ppb	2.463		555815.818
159	**Tb-IS**	>	585178.388		ppb	1.874		569250.350
207	**Pb**		875.566	**0.000888**	ppb	4.071	136.920	820.010
203	**Tl**		267.780	**-0.004275**	ppb	8.743	50.324	314.448
209	**Bi-IS**		315910.481		ppb	0.800		306830.563
51	**V**		12.222	**0.032593**	ppb	15.746	20.676	2.222
59	**Co**		20.000	**0.001884**	ppb	44.096	435.459	17.778
60	**Ni**		108.889	**0.006277**	ppb	8.837	86.395	97.778
75	**As**		355.394	**-0.007422**	ppb	4.599	472.242	356.838
71	**Ga-ISK**		91435.063		ppb	1.605		85044.751
82	**Se-2**		6.539	**0.005282**	ppb	62.188	1324.310	6.200
107	**Ag-1**		593.346	**0.055546**	ppb	12.650	18.305	236.669
115	**In-ISK**	>	123142.283		ppb	2.020		122087.000
45	**Sc-ISK**		228445.302		ppb	2.921		211787.383
23	**Na**		20107.482	**-32.099030**	ppb	2.849	6.250	29128.004
39	**K**		44897.116	**10.619315**	ppb	1.348	11.355	37752.044
24	**Mg**		2133.493	**5.235222**	ppb	8.188	11.534	688.350
159	**Tb-ISK**	>	250811.381		ppb	1.031		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message

Quantitative Analysis - Summary Report

Cumulative Autodilution Factor: 1
Operator Name: ECSINSTICPMS05
Sample ID: CCB-1479530
Autosampler Position: 9
Sample Date/Time: Monday, January 03, 2022 22:54:21
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\CEL\CEL methods\1-epa 200.8_6020.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\CCB-1479530.294
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Diluted to Volume (mL):
Aliquot Volume (mL):
Instrument Name: ICP-MS-05 US26INS00175

Summary

Mass	Analyte	Interr	Meas. Intens. Mean	Conc. Mean	Report Unit	Meas. Intens. RSD	Conc. RSD	Blank Intensity
6	**Li-IS**		60994.446		ppb	2.803		53686.318
9	**Be**		13.333	**-0.008292**	ppb	50.000	30.870	28.889
10	**B**		1270.057	**-0.205171**	ppb	5.269	71.870	1191.161
27	**Al**		46947.475	**2.357328**	ppb	4.963	7.901	11171.702
43	**Ca-2**		298.336	**3.719189**	ppb	4.838	11.936	150.001
49	**Ti**		416.673	**0.050071**	ppb	4.233	59.865	306.670
52	**Cr**		18585.416	**-0.170270**	ppb	1.258	14.582	17905.664
55	**Mn**		2295.740	**-0.001475**	ppb	5.305	252.625	1961.246
57	**Fe**		19295.253	**-3.053831**	ppb	3.253	29.154	17535.204
45	**Sc-IS**	>	2263942.389		ppb	3.289		1906712.784
66	**Zn**		1524.526	**-0.054627**	ppb	1.656	30.151	1403.402
86	**Sr**		21.296	**-0.013561**	ppb	47.134	25.890	49.623
65	**Cu**		507.787	**-0.191668**	ppb	1.367	1.341	1114.488
69	**Ga-IS**		765662.262		ppb	2.385		680340.122
95	**Mo**		1237.831	**0.305993**	ppb	4.968	2.178	206.668
115	**In-IS**	>	472481.829		ppb	0.856		460487.518
111	**Cd**		19.623	**-0.009210**	ppb	51.294	31.695	50.677
118	**Sn**		2561.341	**0.015890**	ppb	3.534	40.716	2329.079
121	**Sb**		327.782	**0.000838**	ppb	5.017	168.918	310.003
135	**Ba**		67.778	**-0.008119**	ppb	11.358	30.941	90.000
165	**Ho-IS**		577646.640		ppb	1.941		555815.818
159	**Tb-IS**	>	586722.629		ppb	2.393		569250.350
207	**Pb**		567.782	**-0.007423**	ppb	6.025	16.634	820.010
203	**Tl**		173.334	**-0.011673**	ppb	12.611	12.171	314.448
209	**Bi-IS**		321788.694		ppb	1.363		306830.563
51	**V**		1.111	**-0.003743**	ppb	173.205	164.893	2.222
59	**Co**		15.556	**-0.002645**	ppb	32.733	173.090	17.778
60	**Ni**		247.780	**0.088203**	ppb	7.409	13.263	97.778
75	**As**		325.398	**-0.071589**	ppb	6.886	30.230	356.838
71	**Ga-ISK**		93069.975		ppb	0.720		85044.751
82	**Se-2**		-0.797	**-0.117785**	ppb	808.329	89.719	6.200
107	**Ag-1**		314.448	**0.010706**	ppb	17.430	66.581	236.669
115	**In-ISK**	>	125872.635		ppb	2.920		122087.000
45	**Sc-ISK**		230948.811		ppb	1.586		211787.383
23	**Na**		13986.845	**-53.720635**	ppb	1.410	1.945	29128.004
39	**K**		40395.925	**2.839261**	ppb	0.815	47.257	37752.044
24	**Mg**		885.028	**0.652209**	ppb	8.323	34.286	688.350
159	**Tb-ISK**	>	253675.415		ppb	1.375		248259.260

QC Out of Limits

Analyte	Mass	Out of Limits Message
Na	23	

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Monday, January 03, 2022 08:01:15
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\STD Performance Check.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\2022\220103E1\STD Performance Check.004
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	5464.2	5464.212	108.945	2.0	Standard
	In	114.9	77681.3	77681.332	234.403	0.3	Standard
	U	238.1	85222.7	85222.714	232.193	0.3	Standard
⌈	CeO	155.9	1354.5	0.018	0.000	2.1	Standard
| >	Ce	139.9	74806.4	74806.417	280.156	0.4	Standard
⌊	Ce++	70.0	834.8	0.011	0.000	3.1	Standard
	Bkgd	220.0	0.7	0.717	0.151	21.1	Standard

Current Conditions File Data

Current Value	Description
1.02	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-10.75	Deflector Voltage
1600.00	ICP RF Power
-1737.00	Analog Stage Voltage
1350.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-16.00	Cell Rod Offset STD [CRO]
12.00	Discriminator Threshold
-6.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
1.02	DRC Mode NEB
-9.00	DRC Mode QRO
-2.00	DRC Mode CRO
-5.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
200.00	Axial Field Voltage
-10.00	KED Mode CRO
-12.00	KED Mode QRO
-8.00	KED Mode Cell Entrance Voltage
-29.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
4.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

Instrument Tuning Report

Instrument Name: ICP-MS-05 US26INS00175
Analyst Name: ECSINSTICPMS05
Sample Date/Time: Monday, January 03, 2022 07:54:17
File Name: Default.tun
File Path: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Li	7.016	6.975	1231	2061	0.725	
Mg	23.985	23.975	4628	2060	0.676	
In	114.904	114.875	22857	2028	0.686	
U	238.050	238.025	47569	1975	0.665	

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220104G1.sifx
Batch ID:
Results Data Set: 220104G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: EPA 7470A+7471A-Hg-7 **Method Last Saved: 1/4/2022 11:10:34 AM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-205327/1-A **Date Collected: 1/4/2022 11:10:36 AM**
Analyst: **Data Type: Original**

Replicate Data: ICIS 570-205327/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0000	-0.0003	0.0000	11:11:29 AM	Yes
2		[0.00]	0.0000	0.0001	0.0000	11:12:04 AM	Yes
Mean:		[0.00]	0.0000				
SD:		0.0000	0.0000				
%RSD:		0.00%	52.74				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: IC 570-205327/2-A **Date Collected: 1/4/2022 11:12:25 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-205327/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0004	0.0025	0.0005	11:13:18 AM	Yes
2		[0.100]	0.0004	0.0023	0.0004	11:13:53 AM	Yes
Mean:		[0.100]	0.0004				
SD:		0.00000	0.0000				
%RSD:		0.00%	6.12				

Standard number 1 applied. [0.100]
Correlation Coef.: 1.000000 Slope: 0.00428 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: IC 570-205327/3-A **Date Collected: 1/4/2022 11:14:14 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-205327/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0052	0.0286	0.0052	11:15:08 AM	Yes
2		[1.000]	0.0049	0.0276	0.0050	11:15:42 AM	Yes
Mean:		[1.000]	0.0050				
SD:		0.00000	0.0002				
%RSD:		0.00%	3.13				

Standard number 2 applied. [1.000]
Correlation Coef.: 1.000000 Slope: 0.00513 Intercept: -0.00009

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: IC 570-205327/4-A **Date Collected: 1/4/2022 11:16:04 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-205327/4-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0103	0.0581	0.0103	11:16:58 AM	Yes
2		[2.000]	0.0099	0.0550	0.0099	11:17:33 AM	Yes
Mean:		[2.000]	0.0101				
SD:		0.00000	0.0003				
%RSD:		0.00%	3.20				

Standard number 3 applied. [2.000]
Correlation Coef.: 0.999988 Slope: 0.00511 Intercept: -0.00008

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: IC 570-205327/5-A **Date Collected: 1/4/2022 11:17:55 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-205327/5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.0263	0.1473	0.0263	11:18:49 AM	Yes
2		[5.000]	0.0257	0.1481	0.0257	11:19:24 AM	Yes
Mean:		[5.000]	0.0260				
SD:		0.00000	0.0004				
%RSD:		0.00%	1.52				

Standard number 4 applied. [5.000]
Correlation Coef.: 0.999938 Slope: 0.00515 Intercept: -0.00009

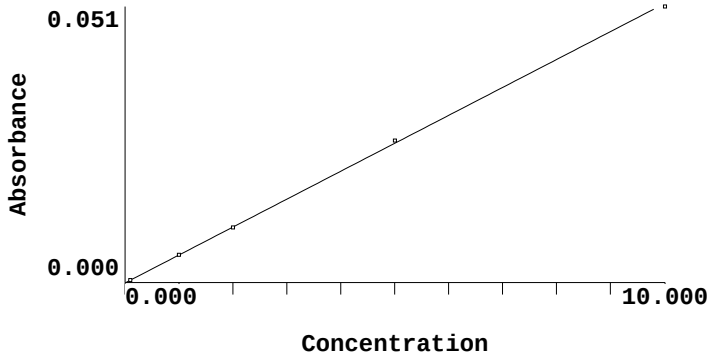
==========

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: IC 570-205327/6-A **Date Collected: 1/4/2022 11:19:46 AM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-205327/6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.000]	0.0504	0.2880	0.0504	11:20:39 AM	Yes
2		[10.000]	0.0508	0.2911	0.0509	11:21:14 AM	Yes
Mean:		[10.000]	0.0506				
SD:		0.00000	0.0003				
%RSD:		0.00%	0.63				

Standard number 5 applied. [10.000]
Correlation Coef.: 0.999931 Slope: 0.00513 Intercept: -0.00008



Calibration data for Hg 253.7 **Equation: Weighted Linear**

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
ICIS 570-205327/1-A	0.0000	0	0.0165	0.00	52.74
IC 570-205327/2-A	0.0004	0.100	0.1000	0.00	6.12
IC 570-205327/3-A	0.0050	1.000	1.0012	0.00	3.13
IC 570-205327/4-A	0.0101	2.000	1.9843	0.00	3.20
IC 570-205327/5-A	0.0260	5.000	5.0888	0.00	1.52
IC 570-205327/6-A	0.0506	10.000	9.8885	0.00	0.63

Correlation Coef.: 0.999931 Slope: 0.00513 Intercept: -0.00008

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220104G1.sifx
Batch ID:
Results Data Set: 220104G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: EPA 7470A+7471A-Hg-7 **Method Last Saved: 1/4/2022 11:10:34 AM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 7**
Sample ID: ICV 570-205327/7-A **Date Collected: 1/4/2022 11:33:02 AM**
Analyst: **Data Type: Original**

Replicate Data: ICV 570-205327/7-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.90	0.0250	0.1431	0.0250	11:33:56 AM	Yes
2	0.0051	5.06	0.0259	0.1460	0.0259	11:34:30 AM	Yes
Mean:	0.0050	4.98	0.0254				
SD:	0.00012	0.118	0.0006				
%RSD:	2.37%	2.37%	2.37				

QC value within limits for Hg 253.7 Recovery = 99.61%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: ICB 570-205327/8-A **Date Collected: 1/4/2022 11:34:51 AM**
Analyst: **Data Type: Original**

Replicate Data: ICB 570-205327/8-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0177	0.0000	-0.0012	0.0000	11:35:44 AM	Yes
2	0.0000	0.0115	-0.0000	-0.0030	-0.0000	11:36:19 AM	Yes
Mean:	0.0000	0.0146	-0.0000				
SD:	0.00000	0.00442	0.0000				
%RSD:	30.25%	30.25%	228.26				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 8**
Sample ID: CRA 570-205327/11-A **Date Collected: 1/4/2022 11:36:40 AM**
Analyst: **Data Type: Original**

Replicate Data: CRA 570-205327/11-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0968	0.0004	0.0008	0.0004	11:37:33 AM	Yes
2	0.0001	0.112	0.0005	0.0015	0.0005	11:38:08 AM	Yes
Mean:	0.0001	0.104	0.0005				
SD:	0.00001	0.0107	0.0001				
%RSD:	10.23%	10.23%	12.16				

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: CCV 570-205327/9-A **Date Collected: 1/4/2022 11:38:29 AM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-205327/9-A **Analyte: Hg 253.7**

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak

#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.0020	2.00	0.0101	0.0562	0.0102	11:39:24 AM	Yes
2	0.0020	2.01	0.0102	0.0587	0.0102	11:39:59 AM	Yes
Mean:	0.0020	2.00	0.0102				
SD:	0.00001	0.008	0.0000				
%RSD:	0.39%	0.39%	0.39				

QC value within limits for Hg 253.7 Recovery = 100.10%
All analyte(s) passed QC.

==========

Sequence No.: 5 **Autosampler Location: 1**
Sample ID: CCB 570-205327/10-A **Date Collected: 1/4/2022 11:40:21 AM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-205327/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0223	0.0000	-0.0012	0.0001	11:41:14 AM	Yes
2	0.0000	0.0201	0.0000	-0.0012	0.0000	11:41:48 AM	Yes
Mean:	0.0000	0.0212	0.0000				
SD:	0.00000	0.00151	0.0000				
%RSD:	7.10%	7.10%	32.20				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220104G1.sifx
Batch ID:
Results Data Set: 220104G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: EPA 7470A+7471A-Hg-7 **Method Last Saved: 1/4/2022 11:49:06 AM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 9**
Sample ID: MB 570-205166/1-A **Date Collected: 1/4/2022 11:49:13 AM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-205166/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0153	-0.0000	-0.0007	0.0000	11:50:07 AM	Yes
2	0.0000	0.0178	0.0000	-0.0006	0.0000	11:50:42 AM	Yes
Mean:	0.0000	0.0165	-0.0000				
SD:	0.00000	0.00179	0.0000				
%RSD:	10.81%	10.81%	>999.9%				

==========

Sequence No.: 2 **Autosampler Location: 10**
Sample ID: LCS 570-205166/2-A **Date Collected: 1/4/2022 11:51:04 AM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-205166/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	5.01	0.0256	0.1488	0.0256	11:51:58 AM	Yes
2	0.0049	4.94	0.0252	0.1450	0.0252	11:52:32 AM	Yes
Mean:	0.0050	4.97	0.0254				
SD:	0.00005	0.050	0.0003				
%RSD:	1.01%	1.01%	1.01				

==========

Sequence No.: 3 **Autosampler Location: 11**
Sample ID: LCSD 570-205166/3-A **Date Collected: 1/4/2022 11:52:54 AM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-205166/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.91	0.0251	0.1433	0.0251	11:53:49 AM	Yes
2	0.0049	4.91	0.0251	0.1446	0.0251	11:54:24 AM	Yes
Mean:	0.0049	4.91	0.0251				
SD:	0.00000	0.001	0.0000				
%RSD:	0.01%	0.01%	0.01				

==========

Sequence No.: 4 **Autosampler Location: 12**
Sample ID: 570-79913-A-1-A **Date Collected: 1/4/2022 11:54:46 AM**
Analyst: **Data Type: Original**

Replicate Data: 570-79913-A-1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0184	0.0000	-0.0004	0.0000	11:55:40 AM	Yes
2	0.0000	0.0166	0.0000	-0.0007	0.0000	11:56:15 AM	Yes
Mean:	0.0000	0.0175	0.0000				

SD:	0.00000	0.00126	0.0000
%RSD:	7.23%	7.23%	131.52

Sequence No.: 5 **Autosampler Location: 13**
Sample ID: 570-79913-A-1-B MS **Date Collected: 1/4/2022 11:56:38 AM**
Analyst: **Data Type: Original**

Replicate Data: 570-79913-A-1-B MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0051	5.10	0.0261	0.1495	0.0261	11:57:33 AM	Yes
2	0.0050	5.01	0.0256	0.1472	0.0256	11:58:07 AM	Yes
Mean:	0.0051	5.05	0.0258				
SD:	0.00006	0.062	0.0003				
%RSD:	1.24%	1.24%	1.24				

Sequence No.: 6 **Autosampler Location: 14**
Sample ID: 570-79913-A-1-C MSD **Date Collected: 1/4/2022 11:58:30 AM**
Analyst: **Data Type: Original**

Replicate Data: 570-79913-A-1-C MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	4.97	0.0254	0.1464	0.0254	11:59:23 AM	Yes
2	0.0050	5.04	0.0258	0.1508	0.0258	11:59:58 AM	Yes
Mean:	0.0050	5.01	0.0256				
SD:	0.00005	0.049	0.0002				
%RSD:	0.97%	0.97%	0.98				

Sequence No.: 7 **Autosampler Location: 15**
Sample ID: 570-79911-A-1-A **Date Collected: 1/4/2022 12:00:19 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79911-A-1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0194	0.0000	-0.0004	0.0000	12:01:12 PM	Yes
2	0.0000	0.0215	0.0000	-0.0003	0.0000	12:01:47 PM	Yes
Mean:	0.0000	0.0204	0.0000				
SD:	0.00000	0.00151	0.0000				
%RSD:	7.40%	7.40%	38.82				

Sequence No.: 8 **Autosampler Location: 16**
Sample ID: MB 570-204925/1-B **Date Collected: 1/4/2022 12:02:08 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-204925/1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0154	-0.0000	-0.0007	0.0000	12:03:02 PM	Yes
2	0.0000	0.0149	-0.0000	-0.0007	0.0000	12:03:37 PM	Yes
Mean:	0.0000	0.0152	-0.0000				
SD:	0.00000	0.00035	0.0000				
%RSD:	2.29%	2.29%	25.54				

Sequence No.: 9 **Autosampler Location: 17**
Sample ID: LCS 570-204925/2-B **Date Collected: 1/4/2022 12:03:58 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-204925/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0047	4.71	0.0240	0.1370	0.0241	12:04:51 PM	Yes
2	0.0048	4.80	0.0245	0.1396	0.0245	12:05:26 PM	Yes
Mean:	0.0048	4.75	0.0243				

SD: 0.00007 0.066 0.0003
%RSD: 1.40% 1.40% 1.40

==========

Sequence No.: 10 **Autosampler Location: 18**
Sample ID: LCSD 570-204925/3-B **Date Collected: 1/4/2022 12:05:47 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-204925/3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0047	4.75	0.0242	0.1388	0.0243	12:06:41 PM	Yes
2	0.0047	4.67	0.0239	0.1408	0.0239	12:07:15 PM	Yes
Mean:	0.0047	4.71	0.0241				
SD:	0.00005	0.050	0.0003				
%RSD:	1.06%	1.06%	1.06				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-205327/9-A **Date Collected: 1/4/2022 12:07:37 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-205327/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0020	2.04	0.0104	0.0583	0.0104	12:08:31 PM	Yes
2	0.0019	1.94	0.0099	0.0571	0.0099	12:09:06 PM	Yes
Mean:	0.0020	1.99	0.0101				
SD:	0.00007	0.069	0.0004				
%RSD:	3.48%	3.48%	3.51				

QC value within limits for Hg 253.7 Recovery = 99.65%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-205327/10-A **Date Collected: 1/4/2022 12:09:28 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-205327/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0228	0.0000	-0.0001	0.0001	12:10:21 PM	Yes
2	0.0000	0.0263	0.0000	-0.0002	0.0001	12:10:56 PM	Yes
Mean:	0.0000	0.0245	0.0000				
SD:	0.00000	0.00248	0.0000				
%RSD:	10.10%	10.10%	30.99				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 19**
Sample ID: 570-80421-B-1-E **Date Collected: 1/4/2022 12:11:17 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80421-B-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0286	0.0001	0.0003	0.0001	12:12:10 PM	Yes
2	0.0000	0.0209	0.0000	-0.0003	0.0000	12:12:45 PM	Yes
Mean:	0.0000	0.0248	0.0000				
SD:	0.00001	0.00540	0.0000				
%RSD:	21.81%	21.81%	65.64				

==========

Sequence No.: 14 **Autosampler Location: 20**
Sample ID: 570-80421-B-2-E **Date Collected: 1/4/2022 12:13:06 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80421-B-2-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored

#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.0000	0.0237	0.0000	-0.0001	0.0001	12:14:00 PM	Yes
2	0.0000	0.0306	0.0001	0.0003	0.0001	12:14:35 PM	Yes
Mean:	0.0000	0.0272	0.0001				
SD:	0.00000	0.00489	0.0000				
%RSD:	18.03%	18.03%	46.10				

Sequence No.: 15 **Autosampler Location: 21**
Sample ID: 570-80421-B-2-F MS **Date Collected: 1/4/2022 12:14:57 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80421-B-2-F MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	4.95	0.0253	0.1455	0.0253	12:15:51 PM	Yes
2	0.0050	5.03	0.0257	0.1454	0.0257	12:16:25 PM	Yes
Mean:	0.0050	4.99	0.0255				
SD:	0.00005	0.054	0.0003				
%RSD:	1.08%	1.08%	1.09				

Sequence No.: 16 **Autosampler Location: 22**
Sample ID: 570-80421-B-2-G MSD **Date Collected: 1/4/2022 12:16:47 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80421-B-2-G MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0048	4.84	0.0247	0.1427	0.0248	12:17:42 PM	Yes
2	0.0048	4.79	0.0245	0.1397	0.0245	12:18:16 PM	Yes
Mean:	0.0048	4.82	0.0246				
SD:	0.00004	0.035	0.0002				
%RSD:	0.73%	0.73%	0.73				

Sequence No.: 17 **Autosampler Location: 23**
Sample ID: 570-80421-B-3-C **Date Collected: 1/4/2022 12:18:38 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80421-B-3-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0207	0.0000	-0.0005	0.0000	12:19:32 PM	Yes
2	0.0000	0.0291	0.0001	-0.0001	0.0001	12:20:07 PM	Yes
Mean:	0.0000	0.0249	0.0000				
SD:	0.00001	0.00592	0.0000				
%RSD:	23.80%	23.80%	70.97				

Sequence No.: 18 **Autosampler Location: 24**
Sample ID: 570-80421-B-4-C **Date Collected: 1/4/2022 12:20:29 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80421-B-4-C **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0189	0.0000	-0.0003	0.0000	12:21:24 PM	Yes
2	0.0000	0.0246	0.0000	0.0000	0.0001	12:21:58 PM	Yes
Mean:	0.0000	0.0217	0.0000				
SD:	0.00000	0.00408	0.0000				
%RSD:	18.77%	18.77%	78.37				

Sequence No.: 19 **Autosampler Location: 4**
Sample ID: CCV 570-205327/9-A **Date Collected: 1/4/2022 12:22:21 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-205327/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored

#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.0020	1.96	0.0100	0.0565	0.0100	12:23:15 PM	Yes
2	0.0019	1.91	0.0097	0.0559	0.0097	12:23:50 PM	Yes
Mean:	0.0019	1.94	0.0098				
SD:	0.00004	0.037	0.0002				
%RSD:	1.90%	1.90%	1.92				

QC value within limits for Hg 253.7 Recovery = 96.80%
All analyte(s) passed QC.

==========

Sequence No.: 20 **Autosampler Location: 1**
Sample ID: CCB 570-205327/10-A **Date Collected: 1/4/2022 12:24:12 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-205327/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0346	0.0001	0.0006	0.0001	12:25:05 PM	Yes
2	0.0000	0.0193	0.0000	-0.0006	0.0000	12:25:40 PM	Yes
Mean:	0.0000	0.0270	0.0001				
SD:	0.00001	0.01087	0.0001				
%RSD:	40.34%	40.34%	104.34				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220104G1.sifx
Batch ID:
Results Data Set: 220104G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

Sequence No.: 1 **Autosampler Location: 25**
Sample ID: MB 570-205170/1-A **Date Collected: 1/4/2022 1:00:35 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-205170/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0297	0.0001	0.0010	0.0001	1:01:30 PM	Yes
2	0.0000	0.0274	0.0001	0.0008	0.0001	1:02:05 PM	Yes
Mean:	0.0000	0.0286	0.0001				
SD:	0.00000	0.00164	0.0000				
%RSD:	5.75%	5.75%	13.65				

Sequence No.: 2 **Autosampler Location: 26**
Sample ID: LCS 570-205170/2-A **Date Collected: 1/4/2022 1:02:27 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-205170/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	5.04	0.0258	0.1451	0.0258	1:03:21 PM	Yes
2	0.0052	5.16	0.0263	0.1484	0.0264	1:03:55 PM	Yes
Mean:	0.0051	5.10	0.0261				
SD:	0.00008	0.079	0.0004				
%RSD:	1.55%	1.55%	1.55				

Sequence No.: 3 **Autosampler Location: 27**
Sample ID: LCSD 570-205170/3-A **Date Collected: 1/4/2022 1:04:17 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-205170/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.20	0.0266	0.1470	0.0266	1:05:10 PM	Yes
2	0.0053	5.27	0.0269	0.1515	0.0270	1:05:45 PM	Yes
Mean:	0.0052	5.23	0.0267				
SD:	0.00005	0.051	0.0003				
%RSD:	0.98%	0.98%	0.98				

Sequence No.: 4 **Autosampler Location: 28**
Sample ID: 570-79830-J-1-A **Date Collected: 1/4/2022 1:06:06 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79830-J-1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0354	0.0001	0.0007	0.0001	1:07:00 PM	Yes
2	0.0000	0.0321	0.0001	0.0011	0.0001	1:07:34 PM	Yes
Mean:	0.0000	0.0337	0.0001				
SD:	0.00000	0.00238	0.0000				
%RSD:	7.04%	7.04%	13.81				

Sequence No.: 5 **Autosampler Location: 29**

Sample ID: 570-79830-J-1-B MS **Date Collected: 1/4/2022 1:07:56 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79830-J-1-B MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0054	5.44	0.0278	0.1550	0.0278	1:08:50 PM	Yes
2	0.0052	5.16	0.0264	0.1492	0.0264	1:09:24 PM	Yes
Mean:	0.0053	5.30	0.0271				
SD:	0.00020	0.199	0.0010				
%RSD:	3.76%	3.76%	3.77				

Sequence No.: 6 **Autosampler Location: 30**
Sample ID: 570-79830-J-1-C MSD **Date Collected: 1/4/2022 1:09:46 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79830-J-1-C MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0051	5.12	0.0261	0.1471	0.0262	1:10:39 PM	Yes
2	0.0052	5.16	0.0264	0.1479	0.0264	1:11:14 PM	Yes
Mean:	0.0051	5.14	0.0263				
SD:	0.00003	0.030	0.0002				
%RSD:	0.58%	0.58%	0.58				

Sequence No.: 7 **Autosampler Location: 31**
Sample ID: 570-79830-J-2-A **Date Collected: 1/4/2022 1:11:35 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79830-J-2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0339	0.0001	0.0008	0.0001	1:12:29 PM	Yes
2	0.0000	0.0417	0.0001	0.0015	0.0002	1:13:04 PM	Yes
Mean:	0.0000	0.0378	0.0001				
SD:	0.00001	0.00551	0.0000				
%RSD:	14.59%	14.59%	25.93				

Sequence No.: 8 **Autosampler Location: 32**
Sample ID: 570-79830-J-3-A **Date Collected: 1/4/2022 1:13:25 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79830-J-3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0487	0.0002	0.0017	0.0002	1:14:19 PM	Yes
2	0.0000	0.0473	0.0002	0.0013	0.0002	1:14:53 PM	Yes
Mean:	0.0000	0.0480	0.0002				
SD:	0.00000	0.00097	0.0000				
%RSD:	2.02%	2.02%	3.09				

Sequence No.: 9 **Autosampler Location: 33**
Sample ID: 570-79830-I-5-A **Date Collected: 1/4/2022 1:15:15 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79830-I-5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.147	0.0007	0.0051	0.0007	1:16:09 PM	Yes
2	0.0001	0.141	0.0006	0.0045	0.0007	1:16:44 PM	Yes
Mean:	0.0001	0.144	0.0007				
SD:	0.00000	0.0045	0.0000				
%RSD:	3.14%	3.14%	3.55				

Sequence No.: 10 **Autosampler Location: 34**

Sample ID: 570-79830-I-6-A **Date Collected: 1/4/2022 1:17:05 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79830-I-6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0018	1.75	0.0089	0.0495	0.0089	1:18:00 PM	Yes
2	0.0017	1.70	0.0086	0.0478	0.0086	1:18:34 PM	Yes
Mean:	0.0017	1.72	0.0088				
SD:	0.00004	0.037	0.0002				
%RSD:	2.16%	2.16%	2.18				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-205327/9-A **Date Collected: 1/4/2022 1:18:56 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-205327/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0021	2.06	0.0105	0.0597	0.0105	1:19:51 PM	Yes
2	0.0020	2.01	0.0102	0.0589	0.0102	1:20:25 PM	Yes
Mean:	0.0020	2.04	0.0104				
SD:	0.00004	0.038	0.0002				
%RSD:	1.84%	1.84%	1.86				

QC value within limits for Hg 253.7 Recovery = 101.87%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-205327/10-A **Date Collected: 1/4/2022 1:20:47 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-205327/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0307	0.0001	0.0004	0.0001	1:21:41 PM	Yes
2	0.0000	0.0319	0.0001	0.0007	0.0001	1:22:15 PM	Yes
Mean:	0.0000	0.0313	0.0001				
SD:	0.00000	0.00082	0.0000				
%RSD:	2.61%	2.61%	5.53				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 35**
Sample ID: 570-79830-I-7-A **Date Collected: 1/4/2022 1:22:36 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79830-I-7-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0219	0.0000	0.0002	0.0001	1:23:31 PM	Yes
2	0.0000	0.0268	0.0001	0.0003	0.0001	1:24:05 PM	Yes
Mean:	0.0000	0.0244	0.0000				
SD:	0.00000	0.00349	0.0000				
%RSD:	14.30%	14.30%	44.45				

==========

Sequence No.: 14 **Autosampler Location: 36**
Sample ID: 570-79146-B-1-B **Date Collected: 1/4/2022 1:24:27 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79146-B-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0240	0.0000	0.0003	0.0001	1:25:22 PM	Yes
2	0.0000	0.0239	0.0000	0.0001	0.0001	1:25:57 PM	Yes
Mean:	0.0000	0.0239	0.0000				
SD:	0.00000	0.00010	0.0000				

%RSD: 0.43% 0.43% 1.39

Sequence No.: 15 **Autosampler Location: 37**
Sample ID: 570-80063-R-16-A **Date Collected: 1/4/2022 1:26:19 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80063-R-16-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0201	0.0000	0.0000	0.0000	1:27:14 PM	Yes
2	0.0000	0.0284	0.0001	0.0005	0.0001	1:27:49 PM	Yes
Mean:	0.0000	0.0242	0.0000				
SD:	0.00001	0.00585	0.0000				
%RSD:	24.17%	24.17%	76.17				

Sequence No.: 16 **Autosampler Location: 38**
Sample ID: 570-80063-R-15-A **Date Collected: 1/4/2022 1:28:11 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80063-R-15-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0210	0.0000	-0.0001	0.0000	1:29:05 PM	Yes
2	0.0000	0.0245	0.0000	0.0001	0.0001	1:29:40 PM	Yes
Mean:	0.0000	0.0228	0.0000				
SD:	0.00000	0.00244	0.0000				
%RSD:	10.70%	10.70%	39.12				

Sequence No.: 17 **Autosampler Location: 39**
Sample ID: 570-80062-A-2-B **Date Collected: 1/4/2022 1:30:02 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80062-A-2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0227	0.0000	0.0003	0.0001	1:30:56 PM	Yes
2	0.0000	0.0267	0.0001	0.0001	0.0001	1:31:30 PM	Yes
Mean:	0.0000	0.0247	0.0000				
SD:	0.00000	0.00279	0.0000				
%RSD:	11.30%	11.30%	34.20				

Sequence No.: 18 **Autosampler Location: 4**
Sample ID: CCV 570-205327/9-A **Date Collected: 1/4/2022 1:31:52 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-205327/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0021	2.06	0.0105	0.0597	0.0105	1:32:46 PM	Yes
2	0.0021	2.09	0.0106	0.0596	0.0107	1:33:21 PM	Yes
Mean:	0.0021	2.08	0.0106				
SD:	0.00002	0.024	0.0001				
%RSD:	1.18%	1.18%	1.19				

QC value within limits for Hg 253.7 Recovery = 103.82%
All analyte(s) passed QC.

Sequence No.: 19 **Autosampler Location: 1**
Sample ID: CCB 570-205327/10-A **Date Collected: 1/4/2022 1:33:43 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-205327/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0202	0.0000	-0.0003	0.0000	1:34:36 PM	Yes
2	0.0000	0.0222	0.0000	0.0001	0.0001	1:35:11 PM	Yes

```
Mean:  0.0000      0.0212    0.0000
SD:    0.00000     0.00142   0.0000
%RSD:  6.69%       6.69%     30.53
   QC value within limits for Hg 253.7  Recovery = Not calculated
All analyte(s) passed QC.
```

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220104G1.sifx
Batch ID:
Results Data Set: 220104G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 40**
Sample ID: 570-79944-D-1-B **Date Collected: 1/4/2022 3:34:51 PM**
Analyst: **Data Type: Original**
User canceled analysis.

==========

Analysis Begun

Logged In Analyst: ECSINSTHG7 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, S/N B050-9560 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220104G1.sifx
Batch ID:
Results Data Set: 220104G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 40**
Sample ID: 570-79944-D-1-B **Date Collected: 1/4/2022 3:35:23 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79944-D-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0769	0.0003	0.0019	0.0003	3:36:17 PM	Yes
2	0.0001	0.0792	0.0003	0.0020	0.0003	3:36:52 PM	Yes
Mean:	0.0001	0.0780	0.0003				
SD:	0.00000	0.00161	0.0000				
%RSD:	2.06%	2.06%	2.61				

==========

Sequence No.: 2 **Autosampler Location: 41**
Sample ID: 570-80157-D-1-B **Date Collected: 1/4/2022 3:37:13 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80157-D-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0201	0.0000	0.0000	0.0000	3:38:07 PM	Yes
2	0.0000	0.0312	0.0001	0.0010	0.0001	3:38:42 PM	Yes
Mean:	0.0000	0.0256	0.0000				
SD:	0.00001	0.00784	0.0000				
%RSD:	30.59%	30.59%	86.15				

==========

Sequence No.: 3 **Autosampler Location: 42**
Sample ID: 570-80158-A-2-B **Date Collected: 1/4/2022 3:39:03 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80158-A-2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0405	0.0001	0.0015	0.0001	3:39:57 PM	Yes
2	0.0000	0.0348	0.0001	0.0010	0.0001	3:40:32 PM	Yes
Mean:	0.0000	0.0376	0.0001				
SD:	0.00000	0.00404	0.0000				
%RSD:	10.73%	10.73%	19.13				

==========

Sequence No.: 4 **Autosampler Location: 43**
Sample ID: 570-79182-I-1-B **Date Collected: 1/4/2022 3:40:53 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79182-I-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0337	0.0001	0.0011	0.0001	3:41:47 PM	Yes
2	0.0000	0.0293	0.0001	0.0007	0.0001	3:42:22 PM	Yes
Mean:	0.0000	0.0315	0.0001				
SD:	0.00000	0.00312	0.0000				
%RSD:	9.89%	9.89%	20.81				

==========

Sequence No.: 5 **Autosampler Location: 44**

Sample ID: 570-79181-I-1-B **Date Collected: 1/4/2022 3:42:44 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79181-I-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0247	0.0000	0.0003	0.0001	3:43:38 PM	Yes
2	0.0000	0.0240	0.0000	0.0003	0.0001	3:44:12 PM	Yes
Mean:	0.0000	0.0244	0.0000				
SD:	0.00000	0.00050	0.0000				
%RSD:	2.07%	2.07%	6.44				

==========

Sequence No.: 6 **Autosampler Location: 45**
Sample ID: 570-79287-L-1-A **Date Collected: 1/4/2022 3:44:34 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79287-L-1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0257	0.0000	0.0002	0.0001	3:45:28 PM	Yes
2	0.0000	0.0216	0.0000	-0.0001	0.0000	3:46:03 PM	Yes
Mean:	0.0000	0.0237	0.0000				
SD:	0.00000	0.00288	0.0000				
%RSD:	12.18%	12.18%	40.46				

==========

Sequence No.: 7 **Autosampler Location: 4**
Sample ID: CCV 570-205327/9-A **Date Collected: 1/4/2022 3:46:24 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-205327/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0022	2.15	0.0109	0.0623	0.0110	3:47:19 PM	Yes
2	0.0021	2.14	0.0109	0.0613	0.0109	3:47:54 PM	Yes
Mean:	0.0021	2.15	0.0109				
SD:	0.00001	0.011	0.0001				
%RSD:	0.50%	0.50%	0.50				

QC value within limits for Hg 253.7 Recovery = 107.25%
All analyte(s) passed QC.

==========

Sequence No.: 8 **Autosampler Location: 1**
Sample ID: CCB 570-205327/10-A **Date Collected: 1/4/2022 3:48:16 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-205327/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0279	0.0001	0.0003	0.0001	3:49:09 PM	Yes
2	0.0000	0.0248	0.0000	0.0000	0.0001	3:49:43 PM	Yes
Mean:	0.0000	0.0264	0.0001				
SD:	0.00000	0.00215	0.0000				
%RSD:	8.17%	8.17%	21.89				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg **Method Last Saved: 1/13/2022 12:30:51 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-207215/1-A **Date Collected: 1/13/2022 12:30:58 PM**
Analyst: **Data Type: Original**

Replicate Data: ICIS 570-207215/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0006	0.0035	0.0006	12:31:54 PM	Yes
2		[0.00]	0.0007	0.0048	0.0007	12:32:30 PM	Yes
Mean:		[0.00]	0.0006				
SD:		0.0000	0.0001				
%RSD:		0.00%	9.82%				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: IC 570-207215/2-A **Date Collected: 1/13/2022 12:32:49 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0018	0.0116	0.0024	12:33:42 PM	Yes
2		[0.100]	0.0018	0.0118	0.0024	12:34:18 PM	Yes
Mean:		[0.100]	0.0018				
SD:		0.00000	0.0000				
%RSD:		0.00%	1.21%				

Standard number 1 applied. [0.100]
Correlation Coef.: 1.000000 Slope: 0.01793 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: IC 570-207215/3-A **Date Collected: 1/13/2022 12:34:37 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0174	0.0869	0.0180	12:35:30 PM	Yes
2		[1.000]	0.0175	0.0894	0.0181	12:36:07 PM	Yes
Mean:		[1.000]	0.0174				
SD:		0.00000	0.0001				
%RSD:		0.00%	0.34%				

Standard number 2 applied. [1.000]
Correlation Coef.: 1.000000 Slope: 0.01738 Intercept: 0.00005

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: IC 570-207215/4-A **Date Collected: 1/13/2022 12:36:26 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/4-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0341	0.1665	0.0347	12:37:20 PM	Yes
2		[2.000]	0.0340	0.1660	0.0347	12:37:57 PM	Yes
Mean:		[2.000]	0.0340				
SD:		0.00000	0.0000				
%RSD:		0.00%	0.10%				

Standard number 3 applied. [2.000]
Correlation Coef.: 0.999930 Slope: 0.01717 Intercept: 0.00008

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: IC 570-207215/5-A **Date Collected: 1/13/2022 12:38:17 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.1135	0.5532	0.1141	12:39:12 PM	Yes
2		[5.000]	0.1114	0.5417	0.1121	12:39:48 PM	Yes
Mean:		[5.000]	0.1124				
SD:		0.00000	0.0015				
%RSD:		0.00%	1.30%				

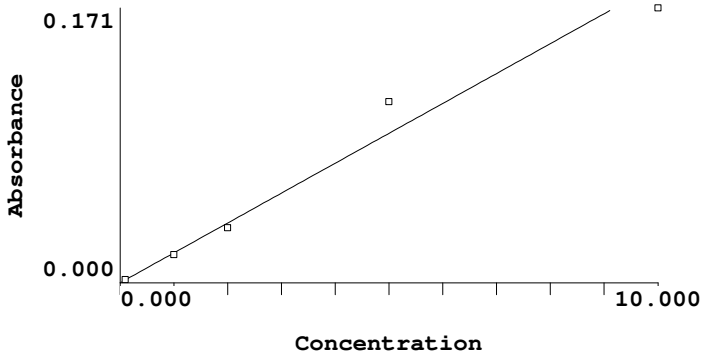
Standard number 4 applied. [5.000]
Correlation Coef.: 0.990797 Slope: 0.01912 Intercept: -0.00014

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: IC 570-207215/6-A **Date Collected: 1/13/2022 12:40:09 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.000]	0.1706	0.8394	0.1712	12:41:02 PM	Yes
2		[10.000]	0.1708	0.8366	0.1714	12:41:38 PM	Yes
Mean:		[10.000]	0.1707				
SD:		0.00000	0.0002				
%RSD:		0.00%	0.09%				

Standard number 5 applied. [10.000]
Correlation Coef.: 0.991655 Slope: 0.01857 Intercept: -0.00008



Calibration data for Hg 253.7 **Equation: Weighted Linear**

ID	Mean Signal (Abs)	Entered Conc. µg/L	Calculated Conc. µg/L	Standard Deviation	%RSD
ICIS 570-207215/1-A	0.0000	0	0.0041	0.00	9.82
IC 570-207215/2-A	0.0018	0.100	0.1006	0.00	1.21
IC 570-207215/3-A	0.0174	1.000	0.9431	0.00	0.34
IC 570-207215/4-A	0.0340	2.000	1.8377	0.00	0.10
IC 570-207215/5-A	0.1124	5.000	6.0602	0.00	1.30
IC 570-207215/6-A	0.1707	10.000	9.1967	0.00	0.09

Correlation Coef.: 0.991655 Slope: 0.01857 Intercept: -0.00008

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg **Method Last Saved: 1/13/2022 1:03:43 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-207215/1-A **Date Collected: 1/13/2022 1:03:51 PM**
Analyst: **Data Type: Original**

Replicate Data: ICIS 570-207215/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0006	0.0032	0.0006	1:04:45 PM	Yes
2		[0.00]	0.0005	0.0019	0.0005	1:05:20 PM	Yes
Mean:		[0.00]	0.0006				
SD:		0.0000	0.0000				
%RSD:		0.00%	4.58%				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: IC 570-207215/2-A **Date Collected: 1/13/2022 1:05:39 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0018	0.0133	0.0023	1:06:33 PM	Yes
2		[0.100]	0.0018	0.0126	0.0023	1:07:09 PM	Yes
Mean:		[0.100]	0.0018				
SD:		0.00000	0.0000				
%RSD:		0.00%	0.33%				

Standard number 1 applied. [0.100]
Correlation Coef.: 1.000000 Slope: 0.01773 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: IC 570-207215/3-A **Date Collected: 1/13/2022 1:07:29 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0155	0.0910	0.0160	1:08:22 PM	Yes
2		[1.000]	0.0157	0.0901	0.0163	1:08:58 PM	Yes
Mean:		[1.000]	0.0156				
SD:		0.00000	0.0002				
%RSD:		0.00%	1.19%				

Standard number 2 applied. [1.000]
Correlation Coef.: 1.000000 Slope: 0.01535 Intercept: 0.00024

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: IC 570-207215/4-A **Date Collected: 1/13/2022 1:09:18 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/4-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0305	0.1772	0.0311	1:10:12 PM	Yes
2		[2.000]	0.0301	0.1726	0.0306	1:10:48 PM	Yes
Mean:		[2.000]	0.0303				
SD:		0.00000	0.0003				
%RSD:		0.00%	1.12%				

Standard number 3 applied. [2.000]
Correlation Coef.: 0.999938 Slope: 0.01517 Intercept: 0.00026

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: IC 570-207215/5-A **Date Collected: 1/13/2022 1:11:09 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.0922	0.5282	0.0927	1:12:03 PM	Yes
2		[5.000]	0.0970	0.5392	0.0976	1:12:39 PM	Yes
Mean:		[5.000]	0.0946				
SD:		0.00000	0.0034				
%RSD:		0.00%	3.61%				

Standard number 4 applied. [5.000]
Correlation Coef.: 0.994011 Slope: 0.01654 Intercept: 0.00011

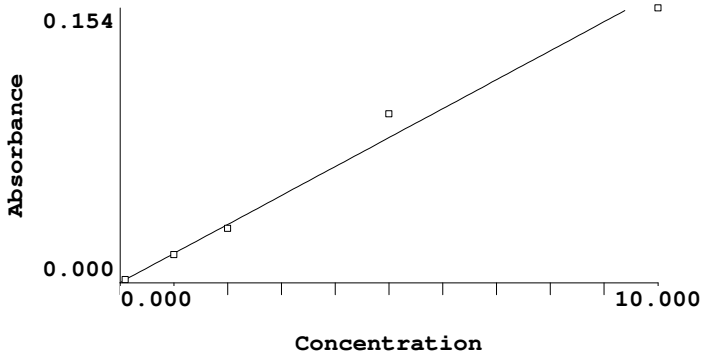
==========

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: IC 570-207215/6-A **Date Collected: 1/13/2022 1:13:00 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.000]	0.1544	0.8889	0.1550	1:13:53 PM	Yes
2		[10.000]	0.1534	0.8729	0.1540	1:14:29 PM	Yes
Mean:		[10.000]	0.1539				
SD:		0.00000	0.0007				
%RSD:		0.00%	0.47%				

Standard number 5 applied. [10.000]
Correlation Coef.: 0.994941 Slope: 0.01622 Intercept: 0.00014



Calibration data for Hg 253.7 **Equation: Weighted Linear**

ID	Mean Signal (Abs)	Entered Conc. µg/L	Calculated Conc. µg/L	Standard Deviation	%RSD
ICIS 570-207215/1-A	0.0000	0	-0.0087	0.00	4.58
IC 570-207215/2-A	0.0018	0.100	0.1006	0.00	0.33
IC 570-207215/3-A	0.0156	1.000	0.9524	0.00	1.19
IC 570-207215/4-A	0.0303	2.000	1.8593	0.00	1.12
IC 570-207215/5-A	0.0946	5.000	5.8219	0.00	3.61
IC 570-207215/6-A	0.1539	10.000	9.4803	0.00	0.47

Correlation Coef.: 0.994941 Slope: 0.01622 Intercept: 0.00014

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-207215/1-A **Date Collected: 1/13/2022 1:33:34 PM**
Analyst: **Data Type: Original**

Replicate Data: ICIS 570-207215/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0000	-0.0042	0.0000	1:34:28 PM	Yes
2		[0.00]	-0.0000	-0.0018	-0.0000	1:35:04 PM	Yes
Mean:		[0.00]	-0.0000				
SD:		0.0000	0.0000				
%RSD:		0.00%	449.23%				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: IC 570-207215/2-A **Date Collected: 1/13/2022 1:35:23 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0014	0.0089	0.0014	1:36:16 PM	Yes
2		[0.100]	0.0017	0.0110	0.0017	1:36:53 PM	Yes
Mean:		[0.100]	0.0015				
SD:		0.00000	0.0002				
%RSD:		0.00%	10.95%				

Standard number 1 applied. [0.100]
Correlation Coef.: 1.000000 Slope: 0.01550 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: IC 570-207215/3-A **Date Collected: 1/13/2022 1:37:12 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0114	0.0810	0.0114	1:38:06 PM	Yes
2		[1.000]	0.0107	0.0740	0.0107	1:38:42 PM	Yes
Mean:		[1.000]	0.0111				
SD:		0.00000	0.0005				
%RSD:		0.00%	4.87%				

Standard number 2 applied. [1.000]
Correlation Coef.: 1.000000 Slope: 0.01057 Intercept: 0.00049

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: IC 570-207215/4-A **Date Collected: 1/13/2022 1:39:02 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/4-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0212	0.1521	0.0212	1:39:56 PM	Yes
2		[2.000]	0.0216	0.1508	0.0216	1:40:32 PM	Yes

Mean:		[2.000]	0.0214				
SD:		0.00000	0.0003				
%RSD:		0.00%	1.25%				

Standard number 3 applied. [2.000]
Correlation Coef.: 0.999981 Slope: 0.01050 Intercept: 0.00050

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: IC 570-207215/5-A **Date Collected: 1/13/2022 1:40:58 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.0471	0.3359	0.0471	1:41:53 PM	Yes
2		[5.000]	0.0485	0.3381	0.0485	1:42:29 PM	Yes
Mean:		[5.000]	0.0478				
SD:		0.00000	0.0010				
%RSD:		0.00%	2.06%				

Standard number 4 applied. [5.000]
Correlation Coef.: 0.998702 Slope: 0.01012 Intercept: 0.00054

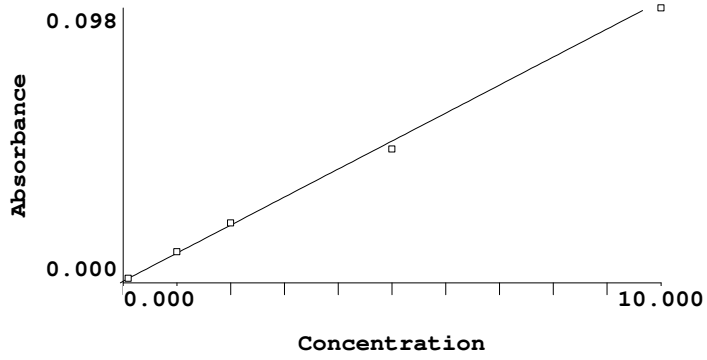
==========

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: IC 570-207215/6-A **Date Collected: 1/13/2022 1:42:49 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207215/6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.000]	0.0995	0.7178	0.0995	1:43:42 PM	Yes
2		[10.000]	0.0972	0.6947	0.0972	1:44:18 PM	Yes
Mean:		[10.000]	0.0984				
SD:		0.00000	0.0016				
%RSD:		0.00%	1.67%				

Standard number 5 applied. [10.000]
Correlation Coef.: 0.998920 Slope: 0.01003 Intercept: 0.00055



Calibration data for Hg 253.7 **Equation: Weighted Linear**

ID	Mean Signal (Abs)	Entered Conc. µg/L	Calculated Conc. µg/L	Standard Deviation	%RSD
ICIS 570-207215/1-A	0.0000	0	-0.0551	0.00	449.23
IC 570-207215/2-A	0.0015	0.100	0.0995	0.00	10.95
IC 570-207215/3-A	0.0111	1.000	1.0484	0.00	4.87
IC 570-207215/4-A	0.0214	2.000	2.0785	0.00	1.25
IC 570-207215/5-A	0.0478	5.000	4.7116	0.00	2.06
IC 570-207215/6-A	0.0984	10.000	9.7544	0.00	1.67

Correlation Coef.: 0.998920 Slope: 0.01003 Intercept: 0.00055

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg* **Method Last Saved: 1/13/2022 1:03:43 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 7**
Sample ID: ICV 570-207215/7-A **Date Collected: 1/13/2022 1:49:02 PM**
Analyst: **Data Type: Original**

Replicate Data: ICV 570-207215/7-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0044	4.43	0.0450	0.3263	0.0450	1:49:55 PM	Yes
2	0.0043	4.26	0.0432	0.3098	0.0432	1:50:32 PM	Yes
Mean:	0.0043	4.34	0.0441				
SD:	0.00012	0.124	0.0012				
%RSD:	2.86%	2.86%	2.83%				

QC value less than the lower limit for Hg 253.7 Recovery = 86.89%
QC Failed. Continue with analysis.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: ICB 570-207215/8-A **Date Collected: 1/13/2022 1:50:52 PM**
Analyst: **Data Type: Original**

Replicate Data: ICB 570-207215/8-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0539	0.0000	-0.0007	0.0000	1:51:46 PM	Yes
2	-0.0001	-0.0542	0.0000	-0.0010	0.0000	1:52:22 PM	Yes
Mean:	-0.0001	-0.0540	0.0000				
SD:	0.00000	0.00024	0.0000				
%RSD:	0.44%	0.44%	22.80%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 8**
Sample ID: CRA 570-207215/11-A **Date Collected: 1/13/2022 1:52:42 PM**
Analyst: **Data Type: Original**

Replicate Data: CRA 570-207215/11-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0753	0.0013	0.0087	0.0013	1:53:36 PM	Yes
2	0.0001	0.0711	0.0013	0.0085	0.0013	1:54:13 PM	Yes
Mean:	0.0001	0.0732	0.0013				
SD:	0.00000	0.00296	0.0000				
%RSD:	4.05%	4.05%	2.31%				

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 1:54:33 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.88	0.0194	0.1397	0.0194	1:55:28 PM	Yes
2	0.0018	1.82	0.0188	0.1382	0.0188	1:56:05 PM	Yes
Mean:	0.0018	1.85	0.0191				
SD:	0.00004	0.041	0.0004				
%RSD:	2.23%	2.23%	2.16%				

QC value within limits for Hg 253.7 Recovery = 92.39%
All analyte(s) passed QC.

==========

Sequence No.: 5 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 1:56:27 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0340	0.0002	0.0021	0.0002	1:57:20 PM	Yes
2	-0.0001	-0.0553	-0.0000	-0.0012	-0.0000	1:57:57 PM	Yes
Mean:	-0.0000	-0.0447	0.0001				
SD:	0.00002	0.01508	0.0002				
%RSD:	33.76%	33.76%	144.52%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 7**
Sample ID: ICV 570-207215/7-A **Date Collected: 1/13/2022 2:00:06 PM**
Analyst: **Data Type: Original**

Replicate Data: ICV 570-207215/7-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.95	0.0501	0.3516	0.0501	2:00:59 PM	Yes
2	0.0049	4.90	0.0497	0.3464	0.0497	2:01:35 PM	Yes
Mean:	0.0049	4.92	0.0499				
SD:	0.00003	0.031	0.0003				
%RSD:	0.63%	0.63%	0.62%				

QC value within limits for Hg 253.7 Recovery = 98.47%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: ICB 570-207215/8-A **Date Collected: 1/13/2022 2:01:55 PM**
Analyst: **Data Type: Original**

Replicate Data: ICB 570-207215/8-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0533	0.0000	-0.0005	0.0000	2:02:49 PM	Yes
2	-0.0001	-0.0558	-0.0000	-0.0014	-0.0000	2:03:26 PM	Yes
Mean:	-0.0001	-0.0546	0.0000				
SD:	0.00000	0.00178	0.0000				
%RSD:	3.25%	3.25%	335.94%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 8**
Sample ID: CRA 570-207215/11-A **Date Collected: 1/13/2022 2:03:46 PM**
Analyst: **Data Type: Original**

Replicate Data: CRA 570-207215/11-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0643	0.0012	0.0077	0.0012	2:04:40 PM	Yes
2	0.0001	0.0537	0.0011	0.0069	0.0011	2:05:17 PM	Yes
Mean:	0.0001	0.0590	0.0011				
SD:	0.00001	0.00746	0.0001				
%RSD:	12.64%	12.64%	6.54%				

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 2:05:37 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0018	1.85	0.0191	0.1362	0.0191	2:06:32 PM	Yes
2	0.0018	1.83	0.0189	0.1315	0.0189	2:07:08 PM	Yes
Mean:	0.0018	1.84	0.0190				

SD: 0.00002 0.016 0.0002
%RSD: 0.87% 0.87% 0.84%
QC value within limits for Hg 253.7 Recovery = 91.87%
All analyte(s) passed QC.

==========

Sequence No.: 5 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 2:07:35 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0551	0.0000	-0.0022	-0.0000	2:08:29 PM	Yes
2	-0.0001	-0.0522	0.0000	-0.0014	0.0000	2:09:06 PM	Yes
Mean:	-0.0001	-0.0536	0.0000				
SD:	0.00000	0.00201	0.0000				
%RSD:	3.75%	3.75%	139.10%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg **Method Last Saved: 1/13/2022 2:09:30 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 8**
Sample ID: CRA 570-207215/11-A **Date Collected: 1/13/2022 2:09:36 PM**
Analyst: **Data Type: Original**

Replicate Data: CRA 570-207215/11-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0805	0.0014	0.0086	0.0014	2:10:31 PM	Yes
2	0.0001	0.0818	0.0014	0.0076	0.0014	2:11:07 PM	Yes
Mean:	0.0001	0.0812	0.0014				
SD:	0.00000	0.00087	0.0000				
%RSD:	1.08%	1.08%	0.64%				

==========

Sequence No.: 2 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 2:11:28 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0021	2.06	0.0212	0.1432	0.0212	2:12:23 PM	Yes
2	0.0020	1.97	0.0203	0.1367	0.0203	2:13:00 PM	Yes
Mean:	0.0020	2.02	0.0208				
SD:	0.00006	0.065	0.0006				
%RSD:	3.21%	3.21%	3.13%				

QC value within limits for Hg 253.7 Recovery = 100.83%
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 2:13:22 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0551	0.0000	-0.0012	-0.0000	2:14:16 PM	Yes
2	-0.0000	-0.0442	0.0001	-0.0002	0.0001	2:14:53 PM	Yes
Mean:	-0.0000	-0.0496	0.0001				
SD:	0.00001	0.00766	0.0001				
%RSD:	15.44%	15.44%	140.79%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: MB 570-207222/1-A **Date Collected: 1/13/2022 2:28:13 PM**
Analyst: **Data Type: Original**
User canceled analysis.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: MB 570-207222/1-A **Date Collected: 1/13/2022 2:28:43 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-207222/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0523	0.0000	-0.0007	0.0000	2:29:37 PM	Yes
2	0.0000	0.0330	0.0009	0.0050	0.0009	2:30:13 PM	Yes
Mean:	-0.0000	-0.0096	0.0005				
SD:	0.00006	0.06034	0.0006				
%RSD:	626.14%	626.14%	132.75%				

==========

Sequence No.: 2 **Autosampler Location: 12**
Sample ID: LCS 570-207222/2-A **Date Collected: 1/13/2022 2:30:33 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-207222/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0464	0.0001	0.0007	0.0001	2:31:28 PM	Yes
2	-0.0001	-0.0545	0.0000	-0.0008	0.0000	2:32:05 PM	Yes
Mean:	-0.0001	-0.0505	0.0000				
SD:	0.00001	0.00569	0.0001				
%RSD:	11.27%	11.27%	123.18%				

==========

Sequence No.: 3 **Autosampler Location: 13**
Sample ID: LCSD 570-207222/3-A **Date Collected: 1/13/2022 2:32:25 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-207222/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0474	0.0001	0.0009	0.0001	2:33:19 PM	Yes
2	-0.0000	-0.0453	0.0001	0.0005	0.0001	2:33:55 PM	Yes
Mean:	-0.0000	-0.0464	0.0001				
SD:	0.00000	0.00146	0.0000				
%RSD:	3.15%	3.15%	16.73%				

==========

Sequence No.: 4 **Autosampler Location: 14**
Sample ID: 570-80119-A-1-B **Date Collected: 1/13/2022 2:34:16 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0515	0.0000	0.0000	0.0000	2:35:10 PM	Yes
2	-0.0001	-0.0528	0.0000	-0.0001	0.0000	2:35:47 PM	Yes
Mean:	-0.0001	-0.0522	0.0000				
SD:	0.00000	0.00088	0.0000				
%RSD:	1.68%	1.68%	29.86%				

==========

Sequence No.: 5 **Autosampler Location: 15**
Sample ID: 570-80119-A-1-C MS **Date Collected: 1/13/2022 2:36:08 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-C MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0515	0.0000	-0.0001	0.0000	2:37:02 PM	Yes
2	-0.0001	-0.0510	0.0000	0.0003	0.0000	2:37:39 PM	Yes
Mean:	-0.0001	-0.0512	0.0000				
SD:	0.00000	0.00037	0.0000				
%RSD:	0.72%	0.72%	9.58%				

Sequence No.: 6 **Autosampler Location: 16**
Sample ID: 570-80119-A-1-D MSD **Date Collected: 1/13/2022 2:37:59 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-D MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0443	0.0001	0.0010	0.0001	2:38:53 PM	Yes
2	-0.0000	-0.0481	0.0001	-0.0001	0.0001	2:39:29 PM	Yes
Mean:	-0.0000	-0.0462	0.0001				
SD:	0.00000	0.00265	0.0000				
%RSD:	5.74%	5.74%	29.92%				

Sequence No.: 7 **Autosampler Location: 17**
Sample ID: 570-80119-A-2-B **Date Collected: 1/13/2022 2:39:49 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0496	0.0001	-0.0006	0.0001	2:40:44 PM	Yes
2	-0.0000	-0.0474	0.0001	0.0005	0.0001	2:41:20 PM	Yes
Mean:	-0.0000	-0.0485	0.0001				
SD:	0.00000	0.00152	0.0000				
%RSD:	3.12%	3.12%	23.07%				

Sequence No.: 8 **Autosampler Location: 18**
Sample ID: 570-80119-A-3-B **Date Collected: 1/13/2022 2:41:41 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0524	0.0000	-0.0009	0.0000	2:42:35 PM	Yes
2	-0.0000	-0.0117	0.0004	0.0031	0.0004	2:43:12 PM	Yes
Mean:	-0.0000	-0.0320	0.0002				
SD:	0.00003	0.02882	0.0003				
%RSD:	89.95%	89.95%	124.98%				

Sequence No.: 9 **Autosampler Location: 19**
Sample ID: 570-80119-A-4-B **Date Collected: 1/13/2022 2:43:33 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-4-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0535	0.0000	-0.0019	0.0000	2:44:28 PM	Yes
2	-0.0001	-0.0542	0.0000	-0.0005	0.0000	2:45:04 PM	Yes
Mean:	-0.0001	-0.0539	0.0000				
SD:	0.00000	0.00044	0.0000				
%RSD:	0.82%	0.82%	35.86%				

==========

Sequence No.: 10 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 2:45:25 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.94	0.0200	0.1392	0.0200	2:46:21 PM	Yes
2	0.0019	1.95	0.0201	0.1381	0.0201	2:46:57 PM	Yes
Mean:	0.0019	1.94	0.0201				
SD:	0.00001	0.007	0.0001				
%RSD:	0.34%	0.34%	0.33%				

QC value within limits for Hg 253.7 Recovery = 97.25%
All analyte(s) passed QC.

==========

Sequence No.: 11 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 2:47:18 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0524	0.0000	-0.0001	0.0000	2:48:12 PM	Yes
2	-0.0001	-0.0514	0.0000	-0.0004	0.0000	2:48:49 PM	Yes
Mean:	-0.0001	-0.0519	0.0000				
SD:	0.00000	0.00070	0.0000				
%RSD:	1.35%	1.35%	21.76%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: MB 570-207222/1-A **Date Collected: 1/13/2022 2:50:53 PM**
Analyst: **Data Type: Original**
User canceled analysis.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: MB 570-207222/1-A **Date Collected: 1/13/2022 2:51:25 PM**
Analyst: **Data Type: Original**
User canceled analysis.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: MB 570-207222/1-A **Date Collected: 1/13/2022 2:51:57 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 570-207222/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0184	0.0004	0.0021	0.0004	2:52:51 PM	Yes
2	-0.0000	-0.0152	0.0004	0.0025	0.0004	2:53:28 PM	Yes
Mean:	-0.0000	-0.0168	0.0004				
SD:	0.00000	0.00224	0.0000				
%RSD:	13.34%	13.34%	5.86%				

==========

Sequence No.: 2 **Autosampler Location: 12**
Sample ID: LCS 570-207222/2-A **Date Collected: 1/13/2022 2:53:48 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 570-207222/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0048	4.76	0.0483	0.3313	0.0483	2:54:42 PM	Yes
2	0.0047	4.70	0.0477	0.3249	0.0477	2:55:18 PM	Yes
Mean:	0.0047	4.73	0.0480				
SD:	0.00004	0.040	0.0004				
%RSD:	0.84%	0.84%	0.83%				

==========

Sequence No.: 3 **Autosampler Location: 13**
Sample ID: LCSD 570-207222/3-A **Date Collected: 1/13/2022 2:55:39 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 570-207222/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0046	4.65	0.0472	0.3245	0.0472	2:56:33 PM	Yes
2	0.0046	4.64	0.0471	0.3218	0.0471	2:57:10 PM	Yes
Mean:	0.0046	4.64	0.0471				
SD:	0.00001	0.008	0.0001				
%RSD:	0.18%	0.18%	0.18%				

==========

Sequence No.: 4 **Autosampler Location: 14**
Sample ID: 570-80119-A-1-B **Date Collected: 1/13/2022 2:57:30 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0210	0.0003	0.0016	0.0003	2:58:25 PM	Yes
2	-0.0000	-0.0238	0.0003	0.0013	0.0003	2:59:01 PM	Yes
Mean:	-0.0000	-0.0224	0.0003				
SD:	0.00000	0.00200	0.0000				
%RSD:	8.94%	8.94%	6.13%				

==========

Sequence No.: 5 **Autosampler Location: 15**
Sample ID: 570-80119-A-1-C MS **Date Collected: 1/13/2022 2:59:22 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-C MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0047	4.74	0.0481	0.3328	0.0481	3:00:17 PM	Yes
2	0.0048	4.84	0.0490	0.3366	0.0490	3:00:53 PM	Yes
Mean:	0.0048	4.79	0.0486				
SD:	0.00007	0.069	0.0007				
%RSD:	1.45%	1.45%	1.43%				

Sequence No.: 6 **Autosampler Location: 16**
Sample ID: 570-80119-A-1-D MSD **Date Collected: 1/13/2022 3:01:13 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-1-D MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0048	4.77	0.0484	0.3372	0.0484	3:02:08 PM	Yes
2	0.0049	4.94	0.0501	0.3425	0.0501	3:02:44 PM	Yes
Mean:	0.0049	4.86	0.0492				
SD:	0.00012	0.117	0.0012				
%RSD:	2.41%	2.41%	2.38%				

Sequence No.: 7 **Autosampler Location: 17**
Sample ID: 570-80119-A-2-B **Date Collected: 1/13/2022 3:03:05 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0229	0.0003	0.0018	0.0003	3:04:00 PM	Yes
2	-0.0000	-0.0178	0.0004	0.0024	0.0004	3:04:36 PM	Yes
Mean:	-0.0000	-0.0204	0.0003				
SD:	0.00000	0.00356	0.0000				
%RSD:	17.47%	17.47%	10.24%				

Sequence No.: 8 **Autosampler Location: 18**
Sample ID: 570-80119-A-3-B **Date Collected: 1/13/2022 3:04:57 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0036	0.0005	0.0032	0.0005	3:05:51 PM	Yes
2	-0.0000	-0.0097	0.0005	0.0032	0.0005	3:06:27 PM	Yes
Mean:	-0.0000	-0.0067	0.0005				
SD:	0.00000	0.00432	0.0000				
%RSD:	64.70%	64.70%	8.92%				

Sequence No.: 9 **Autosampler Location: 19**
Sample ID: 570-80119-A-4-B **Date Collected: 1/13/2022 3:06:48 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80119-A-4-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0182	0.0004	0.0024	0.0004	3:07:43 PM	Yes
2	-0.0000	-0.0196	0.0004	0.0022	0.0004	3:08:19 PM	Yes
Mean:	-0.0000	-0.0189	0.0004				
SD:	0.00000	0.00096	0.0000				
%RSD:	5.07%	5.07%	2.65%				

Sequence No.: 10 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 3:08:40 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0018	1.83	0.0189	0.1340	0.0189	3:09:36 PM	Yes
2	0.0018	1.78	0.0184	0.1289	0.0184	3:10:12 PM	Yes
Mean:	0.0018	1.81	0.0187				
SD:	0.00004	0.035	0.0004				
%RSD:	1.95%	1.95%	1.89%				

QC value within limits for Hg 253.7 Recovery = 90.38%
All analyte(s) passed QC.

Sequence No.: 11 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 3:10:34 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0510	0.0000	0.0000	0.0000	3:11:28 PM	Yes
2	-0.0001	-0.0548	0.0000	-0.0005	0.0000	3:12:04 PM	Yes
Mean:	-0.0001	-0.0529	0.0000				
SD:	0.00000	0.00262	0.0000				
%RSD:	4.95%	4.95%	119.51%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg **Method Last Saved: 1/13/2022 5:07:14 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 20**
Sample ID: MB 440-664267/1-B **Date Collected: 1/13/2022 5:07:18 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 440-664267/1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0078	0.0006	0.0079	0.0006	5:08:12 PM	Yes
2	-0.0000	-0.0169	0.0004	0.0029	0.0004	5:08:49 PM	Yes
Mean:	-0.0000	-0.0046	0.0005				
SD:	0.00002	0.01746	0.0002				
%RSD:	380.03%	380.03%	34.58%				

==========

Sequence No.: 2 **Autosampler Location: 21**
Sample ID: LCS 440-664267/2-B **Date Collected: 1/13/2022 5:09:10 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 440-664267/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0068	6.76	0.0683	0.4746	0.0683	5:10:05 PM	Yes
2	0.0068	6.82	0.0689	0.4758	0.0689	5:10:42 PM	Yes
Mean:	0.0068	6.79	0.0686				
SD:	0.00004	0.041	0.0004				
%RSD:	0.61%	0.61%	0.60%				

==========

Sequence No.: 3 **Autosampler Location: 22**
Sample ID: LCSD 440-664267/3-D **Date Collected: 1/13/2022 5:11:04 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 440-664267/3-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0068	6.84	0.0692	0.4805	0.0692	5:12:00 PM	Yes
2	0.0069	6.90	0.0697	0.4814	0.0697	5:12:36 PM	Yes
Mean:	0.0069	6.87	0.0695				
SD:	0.00004	0.039	0.0004				
%RSD:	0.57%	0.57%	0.57%				

==========

Sequence No.: 4 **Autosampler Location: 23**
Sample ID: 440-293211-A-1-J **Date Collected: 1/13/2022 5:12:58 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-J **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0416	0.0001	-0.0004	0.0001	5:13:53 PM	Yes
2	-0.0000	-0.0260	0.0003	0.0016	0.0003	5:14:30 PM	Yes

Mean:	-0.0000	-0.0338	0.0002
SD:	0.00001	0.01102	0.0001
%RSD:	32.66%	32.66%	51.67%

Sequence No.: 5 **Autosampler Location: 24**
Sample ID: 440-293211-A-1-K MS **Date Collected: 1/13/2022 5:14:51 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-K MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0068	6.78	0.0685	0.4759	0.0685	5:15:45 PM	Yes
2	0.0071	7.13	0.0720	0.4970	0.0720	5:16:22 PM	Yes
Mean:	0.0070	6.96	0.0703				
SD:	0.00025	0.247	0.0025				
%RSD:	3.55%	3.55%	3.52%				

Sequence No.: 6 **Autosampler Location: 25**
Sample ID: 440-293211-A-1-L MSD **Date Collected: 1/13/2022 5:16:42 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-L MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0068	6.75	0.0682	0.4747	0.0682	5:17:37 PM	Yes
2	0.0068	6.81	0.0688	0.4697	0.0688	5:18:13 PM	Yes
Mean:	0.0068	6.78	0.0685				
SD:	0.00004	0.040	0.0004				
%RSD:	0.60%	0.60%	0.59%				

Sequence No.: 7 **Autosampler Location: 26**
Sample ID: 440-293211-A-2-H **Date Collected: 1/13/2022 5:18:34 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-2-H **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0380	0.0002	0.0005	0.0002	5:19:28 PM	Yes
2	-0.0000	-0.0432	0.0001	-0.0004	0.0001	5:20:04 PM	Yes
Mean:	-0.0000	-0.0406	0.0001				
SD:	0.00000	0.00370	0.0000				
%RSD:	9.11%	9.11%	25.49%				

Sequence No.: 8 **Autosampler Location: 27**
Sample ID: 440-293261-A-1-E **Date Collected: 1/13/2022 5:20:25 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293261-A-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0219	0.0003	0.0026	0.0003	5:21:19 PM	Yes
2	-0.0000	-0.0261	0.0003	0.0021	0.0003	5:21:56 PM	Yes
Mean:	-0.0000	-0.0240	0.0003				
SD:	0.00000	0.00299	0.0000				
%RSD:	12.45%	12.45%	9.61%				

Sequence No.: 9 **Autosampler Location: 28**
Sample ID: 440-293728-A-1-E **Date Collected: 1/13/2022 5:22:17 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293728-A-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0393	0.0002	0.0002	0.0002	5:23:12 PM	Yes

2	-0.0000	-0.0268	0.0003	0.0003	0.0003	5:23:49 PM	Yes
Mean:	-0.0000	-0.0331	0.0002				
SD:	0.00001	0.00883	0.0001				
%RSD:	26.70%	26.70%	40.08%				

==========

Sequence No.: 10 **Autosampler Location: 29**
Sample ID: 570-79933-A-1-O **Date Collected: 1/13/2022 5:24:09 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79933-A-1-O **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0361	0.0002	0.0014	0.0002	5:25:04 PM	Yes
2	-0.0000	-0.0304	0.0002	0.0018	0.0002	5:25:40 PM	Yes
Mean:	-0.0000	-0.0332	0.0002				
SD:	0.00000	0.00397	0.0000				
%RSD:	11.93%	11.93%	18.16%				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 5:26:01 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0024	2.44	0.0250	0.1744	0.0250	5:26:56 PM	Yes
2	0.0024	2.39	0.0245	0.1694	0.0245	5:27:33 PM	Yes
Mean:	0.0024	2.42	0.0248				
SD:	0.00004	0.036	0.0004				
%RSD:	1.48%	1.48%	1.45%				

QC value greater than the upper limit for Hg 253.7 Recovery = 120.80%
QC Failed. Continue with analysis.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 5:27:54 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0254	0.0003	0.0015	0.0003	5:28:47 PM	Yes

User canceled analysis.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 20**
Sample ID: MB 440-664267/1-B **Date Collected: 1/13/2022 5:29:22 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 440-664267/1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0369	0.0002	0.0011	0.0002	5:30:17 PM	Yes
2	-0.0000	-0.0382	0.0002	0.0008	0.0002	5:30:54 PM	Yes
Mean:	-0.0000	-0.0375	0.0002				
SD:	0.00000	0.00088	0.0000				
%RSD:	2.35%	2.35%	5.03%				

==========

Sequence No.: 2 **Autosampler Location: 21**
Sample ID: LCS 440-664267/2-B **Date Collected: 1/13/2022 5:31:16 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 440-664267/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0045	4.52	0.0459	0.3638	0.0459	5:32:11 PM	Yes
2	0.0045	4.46	0.0453	0.3575	0.0453	5:32:48 PM	Yes
Mean:	0.0045	4.49	0.0456				
SD:	0.00004	0.041	0.0004				
%RSD:	0.92%	0.92%	0.91%				

==========

Sequence No.: 3 **Autosampler Location: 22**
Sample ID: LCSD 440-664267/3-D **Date Collected: 1/13/2022 5:33:09 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 440-664267/3-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0044	4.43	0.0450	0.3587	0.0450	5:34:04 PM	Yes
2	0.0043	4.29	0.0435	0.3422	0.0435	5:34:41 PM	Yes
Mean:	0.0044	4.36	0.0443				
SD:	0.00010	0.103	0.0010				
%RSD:	2.36%	2.36%	2.33%				

==========

Sequence No.: 4 **Autosampler Location: 23**
Sample ID: 440-293211-A-1-J **Date Collected: 1/13/2022 5:35:03 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-J **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0512	0.0000	-0.0010	0.0000	5:35:57 PM	Yes
2	-0.0000	-0.0367	0.0002	0.0005	0.0002	5:36:34 PM	Yes
Mean:	-0.0000	-0.0439	0.0001				
SD:	0.00001	0.01021	0.0001				
%RSD:	23.24%	23.24%	91.63%				

==========

Sequence No.: 5 **Autosampler Location: 24**
Sample ID: 440-293211-A-1-K MS **Date Collected: 1/13/2022 5:36:54 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-K MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0045	4.53	0.0460	0.3647	0.0460	5:37:50 PM	Yes
2	0.0044	4.43	0.0449	0.3518	0.0449	5:38:26 PM	Yes
Mean:	0.0045	4.48	0.0455				
SD:	0.00007	0.074	0.0007				
%RSD:	1.66%	1.66%	1.64%				

Sequence No.: 6 **Autosampler Location: 25**
Sample ID: 440-293211-A-1-L MSD **Date Collected: 1/13/2022 5:38:46 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-L MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0044	4.37	0.0443	0.3528	0.0443	5:39:41 PM	Yes
2	0.0040	3.96	0.0402	0.3163	0.0402	5:40:17 PM	Yes
Mean:	0.0042	4.16	0.0423				
SD:	0.00029	0.288	0.0029				
%RSD:	6.93%	6.93%	6.84%				

Sequence No.: 7 **Autosampler Location: 26**
Sample ID: 440-293211-A-2-H **Date Collected: 1/13/2022 5:40:38 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-2-H **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0560	-0.0000	-0.0012	-0.0000	5:41:33 PM	Yes
2	-0.0001	-0.0511	0.0000	-0.0008	0.0000	5:42:09 PM	Yes
Mean:	-0.0001	-0.0536	0.0000				
SD:	0.00000	0.00348	0.0000				
%RSD:	6.49%	6.49%	230.57%				

Sequence No.: 8 **Autosampler Location: 27**
Sample ID: 440-293261-A-1-E **Date Collected: 1/13/2022 5:42:30 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293261-A-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0408	0.0001	0.0006	0.0001	5:43:24 PM	Yes
2	-0.0000	-0.0432	0.0001	0.0004	0.0001	5:44:00 PM	Yes
Mean:	-0.0000	-0.0420	0.0001				
SD:	0.00000	0.00169	0.0000				
%RSD:	4.04%	4.04%	12.92%				

Sequence No.: 9 **Autosampler Location: 28**
Sample ID: 440-293728-A-1-E **Date Collected: 1/13/2022 5:44:21 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293728-A-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0505	0.0000	-0.0002	0.0000	5:45:15 PM	Yes
2	-0.0000	-0.0347	0.0002	0.0004	0.0002	5:45:52 PM	Yes
Mean:	-0.0000	-0.0426	0.0001				
SD:	0.00001	0.01124	0.0001				
%RSD:	26.37%	26.37%	89.94%				

==========

Sequence No.: 10 **Autosampler Location: 29**
Sample ID: 570-79933-A-1-O **Date Collected: 1/13/2022 5:46:12 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79933-A-1-O **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0001	-0.0533	0.0000	-0.0007	0.0000	5:47:07 PM	Yes
2	-0.0001	-0.0546	0.0000	-0.0014	0.0000	5:47:43 PM	Yes
Mean:	-0.0001	-0.0540	0.0000				
SD:	0.00000	0.00094	0.0000				
%RSD:	1.74%	1.74%	83.36%				

==========

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 5:48:04 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0015	1.46	0.0151	0.1211	0.0151	5:48:59 PM	Yes
2	0.0015	1.49	0.0155	0.1222	0.0155	5:49:35 PM	Yes
Mean:	0.0015	1.47	0.0153				
SD:	0.00002	0.023	0.0002				
%RSD:	1.55%	1.55%	1.50%				

QC value less than the lower limit for Hg 253.7 Recovery = 73.59%
QC Failed. Continue with analysis.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 5:49:57 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0394	0.0002	0.0003	0.0002	5:50:51 PM	Yes
2	-0.0000	-0.0431	0.0001	-0.0003	0.0001	5:51:27 PM	Yes
Mean:	-0.0000	-0.0413	0.0001				
SD:	0.00000	0.00258	0.0000				
%RSD:	6.26%	6.26%	18.67%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 30**
Sample ID: 570-80204-A-1-R **Date Collected: 1/13/2022 5:51:48 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80204-A-1-R **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.0594	0.0011	0.0143	0.0011	5:52:43 PM	Yes
2	-0.0000	-0.0279	0.0003	0.0012	0.0003	5:53:19 PM	Yes
Mean:	0.0000	0.0158	0.0007				
SD:	0.00006	0.06173	0.0006				
%RSD:	390.93%	390.93%	87.09%				

==========

Sequence No.: 14 **Autosampler Location: 31**
Sample ID: 570-80205-A-1-P **Date Collected: 1/13/2022 5:53:41 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80205-A-1-P **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0004	0.356	0.0041	0.0322	0.0041	5:54:36 PM	Yes

2	0.0003	0.337	0.0039	0.0298	0.0039	5:55:18 PM	Yes
Mean:	0.0003	0.347	0.0040				
SD:	0.00001	0.0133	0.0001				
%RSD:	3.84%	3.84%	3.32%				

Sequence No.: 15 **Autosampler Location: 32**
Sample ID: 570-80205-A-2-N **Date Collected: 1/13/2022 5:55:39 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80205-A-2-N **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0421	0.0001	0.0003	0.0001	5:56:34 PM	Yes
2	-0.0000	-0.0457	0.0001	0.0004	0.0001	5:57:11 PM	Yes
Mean:	-0.0000	-0.0439	0.0001				
SD:	0.00000	0.00253	0.0000				
%RSD:	5.75%	5.75%	22.64%				

Sequence No.: 16 **Autosampler Location: 33**
Sample ID: 570-80972-F-1-B **Date Collected: 1/13/2022 5:57:32 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80972-F-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0394	0.0002	-0.0004	0.0002	5:58:28 PM	Yes
2	-0.0001	-0.0542	0.0000	-0.0010	0.0000	5:59:04 PM	Yes
Mean:	-0.0000	-0.0468	0.0001				
SD:	0.00001	0.01048	0.0001				
%RSD:	22.38%	22.38%	126.92%				

Sequence No.: 17 **Autosampler Location: 25**
Sample ID: 440-293211-A-1-L MSD **Date Collected: 1/13/2022 5:59:25 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-L MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0035	3.49	0.0356	0.2891	0.0356	6:00:20 PM	Yes
2	0.0032	3.24	0.0330	0.2621	0.0330	6:00:57 PM	Yes
Mean:	0.0034	3.37	0.0343				
SD:	0.00018	0.180	0.0018				
%RSD:	5.35%	5.35%	5.26%				

Sequence No.: 18 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 6:01:18 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0013	1.27	0.0133	0.1048	0.0132	6:02:13 PM	Yes
2	0.0012	1.25	0.0131	0.1022	0.0131	6:02:49 PM	Yes
Mean:	0.0013	1.26	0.0132				
SD:	0.00001	0.013	0.0001				
%RSD:	1.01%	1.01%	0.97%				

QC value less than the lower limit for Hg 253.7 Recovery = 62.88%
QC Failed. Continue with analysis.

Sequence No.: 19 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 6:03:11 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0424	0.0001	0.0006	0.0001	6:04:05 PM	Yes
2	-0.0001	-0.0581	-0.0000	-0.0026	-0.0000	6:04:41 PM	Yes
Mean:	-0.0001	-0.0502	0.0000				
SD:	0.00001	0.01108	0.0001				
%RSD:	22.05%	22.05%	228.48%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 6:17:46 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0023	2.26	0.0232	0.1427	0.0232	6:18:42 PM	Yes
2	0.0022	2.24	0.0230	0.1412	0.0230	6:19:18 PM	Yes
Mean:	0.0022	2.25	0.0231				
SD:	0.00001	0.014	0.0001				
%RSD:	0.61%	0.61%	0.59%				

QC value within limits for Hg 253.7 Recovery = 112.30%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 6:19:40 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0327	0.0002	0.0004	0.0002	6:20:33 PM	Yes
2	-0.0000	-0.0205	0.0003	0.0014	0.0003	6:21:11 PM	Yes
Mean:	-0.0000	-0.0266	0.0003				
SD:	0.00001	0.00866	0.0001				
%RSD:	32.58%	32.58%	30.38%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220113G1.sifx
Batch ID:
Results Data Set: 220113G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 21**
Sample ID: LCS 440-664267/2-B **Date Collected: 1/13/2022 6:21:44 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 440-664267/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0050	4.98	0.0504	0.3006	0.0504	6:22:39 PM	Yes
2	0.0050	4.97	0.0504	0.2988	0.0504	6:23:16 PM	Yes
Mean:	0.0050	4.97	0.0504				
SD:	0.00000	0.001	0.0000				
%RSD:	0.02%	0.02%	0.02%				

==========

Sequence No.: 2 **Autosampler Location: 22**
Sample ID: LCSD 440-664267/3-D **Date Collected: 1/13/2022 6:23:37 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 440-664267/3-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0053	5.29	0.0536	0.3349	0.0536	6:24:33 PM	Yes
2	0.0051	5.14	0.0521	0.3178	0.0521	6:25:09 PM	Yes
Mean:	0.0052	5.21	0.0528				
SD:	0.00011	0.106	0.0011				
%RSD:	2.04%	2.04%	2.02%				

==========

Sequence No.: 3 **Autosampler Location: 4**
Sample ID: CCV 570-207215/9-A **Date Collected: 1/13/2022 6:25:31 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207215/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0023	2.28	0.0234	0.1421	0.0234	6:26:26 PM	Yes
2	0.0022	2.19	0.0225	0.1376	0.0225	6:27:03 PM	Yes
Mean:	0.0022	2.23	0.0229				
SD:	0.00007	0.065	0.0007				
%RSD:	2.93%	2.93%	2.86%				

QC value within limits for Hg 253.7 Recovery = 111.60%
All analyte(s) passed QC.

==========

Sequence No.: 4 **Autosampler Location: 1**
Sample ID: CCB 570-207215/10-A **Date Collected: 1/13/2022 6:27:24 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207215/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0203	0.0003	0.0021	0.0003	6:28:18 PM	Yes
2	-0.0000	-0.0192	0.0004	0.0022	0.0004	6:28:54 PM	Yes
Mean:	-0.0000	-0.0197	0.0004				
SD:	0.00000	0.00078	0.0000				
%RSD:	3.93%	3.93%	2.19%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220114G1.sifx
Batch ID:
Results Data Set: 220114G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg **Method Last Saved: 1/14/2022 12:42:52 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: ICIS 570-207441/1-A **Date Collected: 1/14/2022 12:43:28 PM**
Analyst: **Data Type: Original**

Replicate Data: ICIS 570-207441/1-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0003	0.0004	0.0003	12:44:23 PM	Yes
2		[0.00]	0.0003	0.0004	0.0003	12:44:59 PM	Yes
Mean:		[0.00]	0.0003				
SD:		0.0000	0.0000				
%RSD:		0.00%	5.59%				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: IC 570-207441/2-A **Date Collected: 1/14/2022 12:45:19 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207441/2-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0013	0.0036	0.0016	12:46:12 PM	Yes
2		[0.100]	0.0013	0.0051	0.0016	12:46:48 PM	Yes
Mean:		[0.100]	0.0013				
SD:		0.00000	0.0000				
%RSD:		0.00%	2.16%				

Standard number 1 applied. [0.100]
Correlation Coef.: 1.000000 Slope: 0.01296 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: IC 570-207441/3-A **Date Collected: 1/14/2022 12:47:08 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207441/3-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0143	0.0622	0.0145	12:48:02 PM	Yes
2		[1.000]	0.0141	0.0614	0.0144	12:48:38 PM	Yes
Mean:		[1.000]	0.0142				
SD:		0.00000	0.0001				
%RSD:		0.00%	0.61%				

Standard number 2 applied. [1.000]
Correlation Coef.: 1.000000 Slope: 0.01433 Intercept: -0.00014

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: IC 570-207441/4-A **Date Collected: 1/14/2022 12:48:58 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207441/4-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0292	0.1257	0.0295	12:49:52 PM	Yes
2		[2.000]	0.0295	0.1247	0.0297	12:50:29 PM	Yes
Mean:		[2.000]	0.0293				
SD:		0.00000	0.0002				
%RSD:		0.00%	0.62%				

Standard number 3 applied. [2.000]
Correlation Coef.: 0.999890 Slope: 0.01456 Intercept: -0.00016

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: IC 570-207441/5-A **Date Collected: 1/14/2022 12:50:49 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207441/5-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.0737	0.3158	0.0739	12:51:44 PM	Yes
2		[5.000]	0.0727	0.3116	0.0729	12:52:20 PM	Yes
Mean:		[5.000]	0.0732				
SD:		0.00000	0.0007				
%RSD:		0.00%	0.97%				

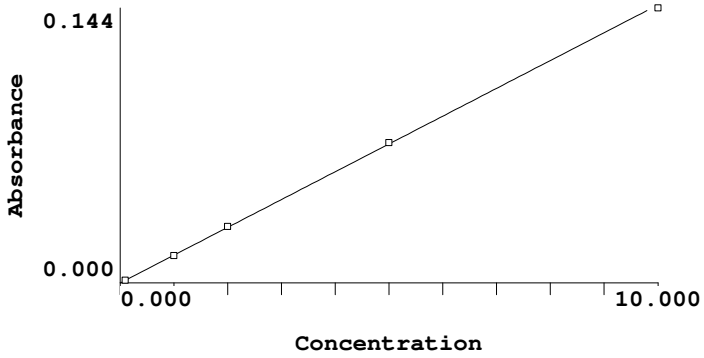
Standard number 4 applied. [5.000]
Correlation Coef.: 0.999923 Slope: 0.01460 Intercept: -0.00016

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: IC 570-207441/6-A **Date Collected: 1/14/2022 12:52:40 PM**
Analyst: **Data Type: Original**

Replicate Data: IC 570-207441/6-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.000]	0.1443	0.6199	0.1446	12:53:33 PM	Yes
2		[10.000]	0.1431	0.6128	0.1433	12:54:09 PM	Yes
Mean:		[10.000]	0.1437				
SD:		0.00000	0.0009				
%RSD:		0.00%	0.63%				

Standard number 5 applied. [10.000]
Correlation Coef.: 0.999923 Slope: 0.01454 Intercept: -0.00016



Calibration data for Hg 253.7 **Equation: Weighted Linear**

ID	Mean Signal (Abs)	Entered Conc. µg/L	Calculated Conc. µg/L	Standard Deviation	%RSD
ICIS 570-207441/1-A	0.0000	0	0.0109	0.00	5.59
IC 570-207441/2-A	0.0013	0.100	0.1001	0.00	2.16
IC 570-207441/3-A	0.0142	1.000	0.9870	0.00	0.61
IC 570-207441/4-A	0.0293	2.000	2.0289	0.00	0.62
IC 570-207441/5-A	0.0732	5.000	5.0427	0.00	0.97
IC 570-207441/6-A	0.1437	10.000	9.8947	0.00	0.63

Correlation Coef.: 0.999923 Slope: 0.01454 Intercept: -0.00016

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220114G1.sifx
Batch ID:
Results Data Set: 220114G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

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Method Loaded
Method Name: 7471 Hg* **Method Last Saved: 1/14/2022 12:42:52 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 7**
Sample ID: ICV 570-207441/7-A **Date Collected: 1/14/2022 12:56:19 PM**
Analyst: **Data Type: Original**

Replicate Data: ICV 570-207441/7-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0052	5.23	0.0758	0.3256	0.0761	12:57:12 PM	Yes
2	0.0052	5.20	0.0754	0.3265	0.0757	12:57:48 PM	Yes
Mean:	0.0052	5.21	0.0756				
SD:	0.00002	0.021	0.0003				
%RSD:	0.40%	0.40%	0.40%				

QC value within limits for Hg 253.7 Recovery = 104.22%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: ICB 570-207441/8-A **Date Collected: 1/14/2022 12:58:09 PM**
Analyst: **Data Type: Original**

Replicate Data: ICB 570-207441/8-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0189	0.0001	0.0025	0.0004	12:59:02 PM	Yes
2	0.0000	0.0150	0.0001	0.0009	0.0003	12:59:39 PM	Yes
Mean:	0.0000	0.0169	0.0001				
SD:	0.00000	0.00276	0.0000				
%RSD:	16.27%	16.27%	45.64%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 8**
Sample ID: CRA 570-207441/11-A **Date Collected: 1/14/2022 12:59:59 PM**
Analyst: **Data Type: Original**

Replicate Data: CRA 570-207441/11-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0001	0.108	0.0014	0.0069	0.0017	1:00:53 PM	Yes
2	0.0001	0.105	0.0014	0.0062	0.0016	1:01:30 PM	Yes
Mean:	0.0001	0.106	0.0014				
SD:	0.00000	0.0019	0.0000				
%RSD:	1.79%	1.79%	2.00%				

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: CCV 570-207441/9-A **Date Collected: 1/14/2022 1:01:50 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207441/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0020	2.02	0.0292	0.1254	0.0294	1:02:45 PM	Yes
2	0.0020	1.99	0.0288	0.1226	0.0290	1:03:22 PM	Yes
Mean:	0.0020	2.00	0.0290				
SD:	0.00002	0.020	0.0003				
%RSD:	0.98%	0.98%	0.98%				

QC value within limits for Hg 253.7 Recovery = 100.14%
All analyte(s) passed QC.

==========

Sequence No.: 5 **Autosampler Location: 1**
Sample ID: CCB 570-207441/10-A **Date Collected: 1/14/2022 1:03:43 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207441/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0089	-0.0000	-0.0004	0.0002	1:04:36 PM	Yes
2	0.0000	0.0167	0.0001	0.0012	0.0004	1:05:13 PM	Yes
Mean:	0.0000	0.0128	0.0000				
SD:	0.00001	0.00547	0.0001				
%RSD:	42.75%	42.75%	288.46%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: fims **Technique: AA FIMS-MHS**
Spectrometer: FIMS-400, P/N B050-9560 **Autosampler: S23**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 220114G1.sifx
Batch ID:
Results Data Set: 220114G1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: 7471 Hg **Method Last Saved: 1/14/2022 1:08:22 PM**
Method Description:

==========

Sequence No.: 1 **Autosampler Location: 11**
Sample ID: 570-80421-A-1-B **Date Collected: 1/14/2022 1:08:43 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80421-A-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0124	0.0000	0.0003	0.0003	1:09:38 PM	Yes
2	0.0000	0.0169	0.0001	0.0005	0.0004	1:10:15 PM	Yes
Mean:	0.0000	0.0147	0.0001				
SD:	0.00000	0.00316	0.0000				
%RSD:	21.54%	21.54%	83.67%				

==========

Sequence No.: 2 **Autosampler Location: 12**
Sample ID: 570-80421-A-2-B **Date Collected: 1/14/2022 1:10:35 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80421-A-2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0106	-0.0000	-0.0007	0.0003	1:11:30 PM	Yes
2	0.0000	0.0117	0.0000	-0.0007	0.0003	1:12:06 PM	Yes
Mean:	0.0000	0.0112	0.0000				
SD:	0.00000	0.00083	0.0000				
%RSD:	7.41%	7.41%	325.52%				

==========

Sequence No.: 3 **Autosampler Location: 13**
Sample ID: 570-80421-A-3-B **Date Collected: 1/14/2022 1:12:27 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80421-A-3-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0113	0.0000	-0.0001	0.0003	1:13:22 PM	Yes
2	0.0000	0.0018	-0.0001	-0.0006	0.0001	1:13:58 PM	Yes
Mean:	0.0000	0.0065	-0.0001				
SD:	0.00001	0.00672	0.0001				
%RSD:	103.17%	103.17%	153.14%				

==========

Sequence No.: 4 **Autosampler Location: 14**
Sample ID: 570-80421-A-4-B **Date Collected: 1/14/2022 1:14:19 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80421-A-4-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0117	0.0000	-0.0001	0.0003	1:15:13 PM	Yes
2	0.0000	0.0118	0.0000	0.0002	0.0003	1:15:50 PM	Yes

Mean:	0.0000	0.0117	0.0000
SD:	0.00000	0.00011	0.0000
%RSD:	0.93%	0.93%	13.03%

Sequence No.: 5 **Autosampler Location: 15**
Sample ID: MB 440-664267/1-B **Date Collected: 1/14/2022 1:16:11 PM**
Analyst: **Data Type: Original**

Replicate Data: MB 440-664267/1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0089	-0.0000	-0.0005	0.0002	1:17:06 PM	Yes
2	0.0000	0.0278	0.0002	0.0051	0.0005	1:17:42 PM	Yes
Mean:	0.0000	0.0184	0.0001				
SD:	0.00001	0.01343	0.0002				
%RSD:	73.18%	73.18%	180.26%				

Sequence No.: 6 **Autosampler Location: 16**
Sample ID: LCS 440-664267/2-B **Date Collected: 1/14/2022 1:18:02 PM**
Analyst: **Data Type: Original**

Replicate Data: LCS 440-664267/2-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0044	4.42	0.0641	0.2753	0.0644	1:18:57 PM	Yes
2	0.0045	4.48	0.0650	0.2766	0.0653	1:19:33 PM	Yes
Mean:	0.0045	4.45	0.0645				
SD:	0.00004	0.044	0.0006				
%RSD:	0.98%	0.98%	0.99%				

Sequence No.: 7 **Autosampler Location: 17**
Sample ID: LCSD 440-664267/3-D **Date Collected: 1/14/2022 1:19:54 PM**
Analyst: **Data Type: Original**

Replicate Data: LCSD 440-664267/3-D **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0044	4.43	0.0643	0.2746	0.0646	1:20:48 PM	Yes
2	0.0044	4.42	0.0641	0.2716	0.0643	1:21:25 PM	Yes
Mean:	0.0044	4.42	0.0642				
SD:	0.00001	0.011	0.0002				
%RSD:	0.24%	0.24%	0.24%				

Sequence No.: 8 **Autosampler Location: 18**
Sample ID: 440-293211-A-1-J **Date Collected: 1/14/2022 1:21:46 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-J **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0025	-0.0001	-0.0008	0.0002	1:22:41 PM	Yes
2	0.0000	0.0100	-0.0000	-0.0000	0.0003	1:23:17 PM	Yes
Mean:	0.0000	0.0062	-0.0001				
SD:	0.00001	0.00526	0.0001				
%RSD:	84.33%	84.33%	112.97%				

Sequence No.: 9 **Autosampler Location: 19**
Sample ID: 440-293211-A-1-K MS **Date Collected: 1/14/2022 1:23:38 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-K MS **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0049	4.93	0.0715	0.3042	0.0718	1:24:33 PM	Yes

2	0.0049	4.92	0.0714	0.3041	0.0717	1:25:10 PM	Yes
Mean:	0.0049	4.93	0.0714				
SD:	0.00000	0.003	0.0000				
%RSD:	0.07%	0.07%	0.07%				

Sequence No.: 10 **Autosampler Location: 20**
Sample ID: 440-293211-A-1-L MSD **Date Collected: 1/14/2022 1:25:31 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-1-L MSD **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0050	-0.0002	-0.0014	0.0000	1:26:26 PM	Yes
2	0.0031	3.15	0.0456	0.1560	0.0459	1:27:02 PM	Yes
Mean:	0.0016	1.57	0.0227				
SD:	0.00223	2.229	0.0324				
%RSD:	141.87%	141.87%	142.86%				

Sequence No.: 11 **Autosampler Location: 4**
Sample ID: CCV 570-207441/9-A **Date Collected: 1/14/2022 1:27:24 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207441/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0019	1.85	0.0268	0.1145	0.0270	1:28:19 PM	Yes
2	0.0019	1.86	0.0269	0.1149	0.0272	1:28:56 PM	Yes
Mean:	0.0019	1.86	0.0268				
SD:	0.00001	0.007	0.0001				
%RSD:	0.37%	0.37%	0.37%				

QC value within limits for Hg 253.7 Recovery = 92.79%
All analyte(s) passed QC.

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB 570-207441/10-A **Date Collected: 1/14/2022 1:29:17 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207441/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0121	0.0000	0.0003	0.0003	1:30:11 PM	Yes
2	0.0000	0.0189	0.0001	0.0019	0.0004	1:30:48 PM	Yes
Mean:	0.0000	0.0155	0.0001				
SD:	0.00000	0.00478	0.0001				
%RSD:	30.89%	30.89%	104.37%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 13 **Autosampler Location: 21**
Sample ID: 440-293211-A-2-H **Date Collected: 1/14/2022 1:31:08 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293211-A-2-H **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0066	-0.0001	-0.0000	0.0002	1:32:04 PM	Yes
2	0.0000	0.0108	-0.0000	0.0021	0.0003	1:32:40 PM	Yes
Mean:	0.0000	0.0087	-0.0000				
SD:	0.00000	0.00304	0.0000				
%RSD:	34.91%	34.91%	137.83%				

Sequence No.: 14 **Autosampler Location: 22**
Sample ID: 440-293261-A-1-E **Date Collected: 1/14/2022 1:33:02 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293261-A-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0375	0.0004	0.0091	0.0007	1:33:58 PM	Yes
2	0.0000	0.0112	0.0000	0.0010	0.0003	1:34:35 PM	Yes
Mean:	0.0000	0.0243	0.0002				
SD:	0.00002	0.01854	0.0003				
%RSD:	76.16%	76.16%	137.95%				

==========

Sequence No.: 15 **Autosampler Location: 23**
Sample ID: 440-293728-A-1-E **Date Collected: 1/14/2022 1:34:56 PM**
Analyst: **Data Type: Original**

Replicate Data: 440-293728-A-1-E **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0005	-0.0002	-0.0009	0.0001	1:35:51 PM	Yes
2	0.0000	0.0130	0.0000	-0.0023	0.0003	1:36:27 PM	Yes
Mean:	0.0000	0.0068	-0.0001				
SD:	0.00001	0.00885	0.0001				
%RSD:	130.34%	130.34%	215.21%				

==========

Sequence No.: 16 **Autosampler Location: 24**
Sample ID: 570-79933-A-1-O **Date Collected: 1/14/2022 1:36:48 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-79933-A-1-O **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0038	-0.0001	0.0002	0.0002	1:37:42 PM	Yes
2	0.0000	0.0052	-0.0001	0.0004	0.0002	1:38:19 PM	Yes
Mean:	0.0000	0.0045	-0.0001				
SD:	0.00000	0.00097	0.0000				
%RSD:	21.42%	21.42%	15.10%				

==========

Sequence No.: 17 **Autosampler Location: 25**
Sample ID: 570-80204-A-1-R **Date Collected: 1/14/2022 1:38:39 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80204-A-1-R **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0369	0.0004	0.0016	0.0007	1:39:33 PM	Yes
2	0.0000	0.0439	0.0005	0.0028	0.0008	1:40:10 PM	Yes
Mean:	0.0000	0.0404	0.0004				
SD:	0.00000	0.00496	0.0001				
%RSD:	12.26%	12.26%	16.78%				

==========

Sequence No.: 18 **Autosampler Location: 26**
Sample ID: 570-80205-A-1-P **Date Collected: 1/14/2022 1:40:30 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80205-A-1-P **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0006	0.561	0.0080	0.0340	0.0083	1:41:25 PM	Yes
2	0.0006	0.568	0.0081	0.0349	0.0084	1:42:02 PM	Yes
Mean:	0.0006	0.564	0.0080				
SD:	0.00000	0.0049	0.0001				
%RSD:	0.87%	0.87%	0.89%				

==========

Sequence No.: 19 **Autosampler Location: 27**
Sample ID: 570-80205-A-2-N **Date Collected: 1/14/2022 1:42:22 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80205-A-2-N **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0043	-0.0001	0.0000	0.0002	1:43:17 PM	Yes
2	0.0000	0.0040	-0.0001	-0.0010	0.0002	1:43:54 PM	Yes
Mean:	0.0000	0.0041	-0.0001				
SD:	0.00000	0.00017	0.0000				
%RSD:	4.23%	4.23%	2.59%				

==========

Sequence No.: 20 **Autosampler Location: 28**
Sample ID: 570-80972-F-1-B **Date Collected: 1/14/2022 1:44:14 PM**
Analyst: **Data Type: Original**

Replicate Data: 570-80972-F-1-B **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000	-0.0076	-0.0003	-0.0011	0.0000	1:45:09 PM	Yes
2	-0.0000	-0.0063	-0.0003	-0.0005	0.0000	1:45:45 PM	Yes
Mean:	-0.0000	-0.0070	-0.0003				
SD:	0.00000	0.00090	0.0000				
%RSD:	12.89%	12.89%	5.03%				

==========

Sequence No.: 21 **Autosampler Location: 4**
Sample ID: CCV 570-207441/9-A **Date Collected: 1/14/2022 1:46:06 PM**
Analyst: **Data Type: Original**

Replicate Data: CCV 570-207441/9-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0021	2.14	0.0309	0.1334	0.0312	1:47:01 PM	Yes
2	0.0021	2.12	0.0307	0.1333	0.0310	1:47:38 PM	Yes
Mean:	0.0021	2.13	0.0308				
SD:	0.00001	0.010	0.0002				
%RSD:	0.49%	0.49%	0.49%				

QC value within limits for Hg 253.7 Recovery = 106.47%
All analyte(s) passed QC.

==========

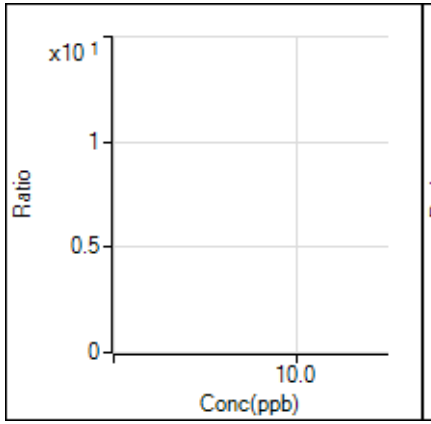
Sequence No.: 22 **Autosampler Location: 1**
Sample ID: CCB 570-207441/10-A **Date Collected: 1/14/2022 1:47:59 PM**
Analyst: **Data Type: Original**

Replicate Data: CCB 570-207441/10-A **Analyte: Hg 253.7**

Repl #	SampleConc mg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0000	0.0089	-0.0000	-0.0006	0.0002	1:48:53 PM	Yes
2	0.0000	0.0064	-0.0001	0.0003	0.0002	1:49:29 PM	Yes
Mean:	0.0000	0.0077	-0.0000				
SD:	0.00000	0.00180	0.0000				
%RSD:	23.50%	23.50%	55.76%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Tune Mode	Mass	Name	ISTD	R	a	b (blank)	DL	BEC	Units
He	6	Li	45 Sc-45 (IS) [He]						ppb
He	7	Li	45 Sc-45 (IS) [He]						ppb
He	9	Be	45 Sc-45 (IS) [He]	0.999984376	0.000204148	8.51E-06	0.082063125	0.041666578	ppb
He	23	Na	45 Sc-45 (IS) [He]	0.99999986	0.00279339	0.047154613	1.527352559	16.88078523	ppb
He	24	Mg	45 Sc-45 (IS) [He]	0.999999695	0.001411705	0.000494065	0.266482052	0.349977503	ppb
He	27	Al	45 Sc-45 (IS) [He]	0.999999656	0.000502339	0.000383959	0.368091975	0.764343049	ppb
He	39	K	45 Sc-45 (IS) [He]	0.999999819	0.001405575	0.093640164	1.569722126	66.62055801	ppb
He	44	Ca	45 Sc-45 (IS) [He]	0.999998744	8.00E-05	0.000412958	3.277168736	5.161503929	ppb
He	51	V	45 Sc-45 (IS) [He]	0.999999809	0.021672084	0.000696142	0.01813874	0.032121586	ppb
He	52	Cr	45 Sc-45 (IS) [He]	0.99999995	0.027381378	0.000874103	0.025038401	0.031923261	ppb
He	53	[V]	45 Sc-45 (IS) [He]						ppb
He	55	Mn	45 Sc-45 (IS) [He]	0.9999995	0.013852581	0.000526108	0.028614835	0.037979034	ppb
He	56	Fe	45 Sc-45 (IS) [He]	0.999993269	0.021398518	0.03334727	0.201000182	1.558391544	ppb
He	59	Co	45 Sc-45 (IS) [He]	0.999999216	0.050167965	0.000113397	0.003036682	0.002260354	ppb
He	60	Ni	45 Sc-45 (IS) [He]	0.999998643	0.013832825	0.000275375	0.003150765	0.019907366	ppb
He	65	Cu	45 Sc-45 (IS) [He]	0.999999636	0.019953639	0.000923683	0.033268416	0.046291476	ppb
He	66	Zn	72 Ge (IS) [He]	0.999958203	0.006224914	0.004147167	0.103296156	0.666220757	ppb
He	75	As	72 Ge (IS) [He]	0.999999669	0.004065134	7.43E-05	0.017087569	0.018279312	ppb
He	77	[Se]	72 Ge (IS) [He]						ppb
He	78	Se	72 Ge (IS) [He]	0.999998249	0.000255172	0.000443742	0.27292114	1.73899437	ppb
He	83	[Se]	72 Ge (IS) [He]						ppb
He	85	Rb	115 In-115 (IS) [He]	0.999999976	0.001574215	7.72E-07	0.002549715	0.000490693	ppb
He	88	Sr	115 In-115 (IS) [He]	0.999999141	0.00207685	9.95E-06	0.005224771	0.004789539	ppb
He	95	Mo	115 In-115 (IS) [He]	0.999999627	0.002036465	1.07E-05	0.002063057	0.005252059	ppb
He	98	[Mo]	115 In-115 (IS) [He]	0.999998197	0.003502133	7.60E-06	0.004033294	0.002169576	ppb
He	99	[Mo]	115 In-115 (IS) [He]						ppb
He	106	[Cd]	115 In-115 (IS) [He]						ppb
He	107	Ag	115 In-115 (IS) [He]	0.999999821	0.007499843	1.76E-05	0.001468016	0.002344441	ppb
He	108	[Cd]	115 In-115 (IS) [He]						ppb
He	111	Cd	115 In-115 (IS) [He]	0.999999266	0.000974356	9.16E-07	0.003213441	0.000940157	ppb
He	118	Sn	115 In-115 (IS) [He]	0.999985148	0.002098254	9.16E-05	0.011750634	0.043631871	ppb
He	121	Sb	115 In-115 (IS) [He]	0.999999245	0.002381221	3.81E-05	0.016121115	0.016007565	ppb
He	133	Cs	115 In-115 (IS) [He]	0.999999232	0.005482492	7.72E-07	0.000732112	0.000140895	ppb
He	137	Ba	115 In-115 (IS) [He]	0.999998284	0.000987832	3.82E-06	0.004062123	0.003868526	ppb
He	140	Ce	115 In-115 (IS) [He]	0.999998887	0.015104899	0.000102284	0.002877882	0.006771557	ppb
He	205	Tl	159 Tb-159 (IS) [He]	0.999998688	0.004473341	1.46E-05	0.001589382	0.003260199	ppb
He	206	[Pb]	159 Tb-159 (IS) [He]	0.999999967	0.001430096	1.01E-05	0.000858337	0.007080883	ppb
He	207	[Pb]	159 Tb-159 (IS) [He]	0.99999939	0.001261085	8.91E-06	0.009479981	0.007064532	ppb
He	208	Pb	159 Tb-159 (IS) [He]	0.999999972	0.005729732	3.88E-05	0.001591422	0.006768032	ppb
He	232	Th	159 Tb-159 (IS) [He]	0.999950589	4.22E-05	0.000161033	0.874654675	3.815146048	ppb
He	238	U	159 Tb-159 (IS) [He]	0.999996	0.005517214	2.23E-06	0.001212674	0.000404629	ppb
He	45	Sc-45 (IS)							ug/l
He	72	Ge (IS)							ug/l
He	115	In-115 (IS)							ug/l
He	159	Tb-159 (IS)							ug/l



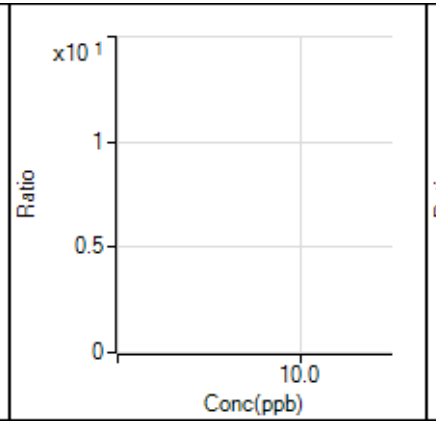
6 Li [He] / ISTD: 45 Sc-45 (IS)

y =

R

DL

BEC



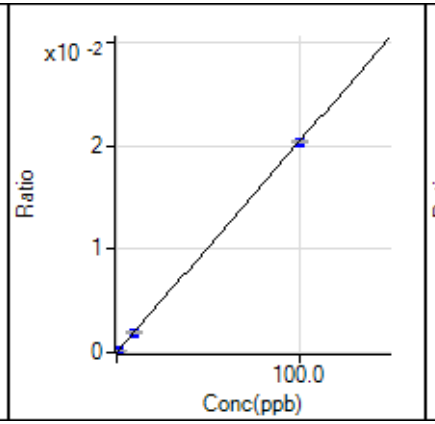
7 Li [He] / ISTD: 45 Sc-45 (IS)

y =

R

DL

BEC



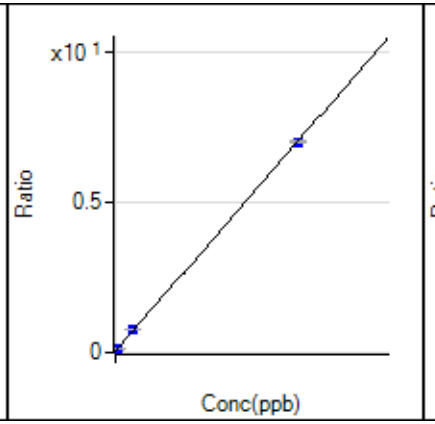
9 Be [He] / ISTD: 45 Sc-45 (IS)

y = 2.041E-4 x + 8.506E-6

R 1.0000

DL 0.08206

BEC 0.04167



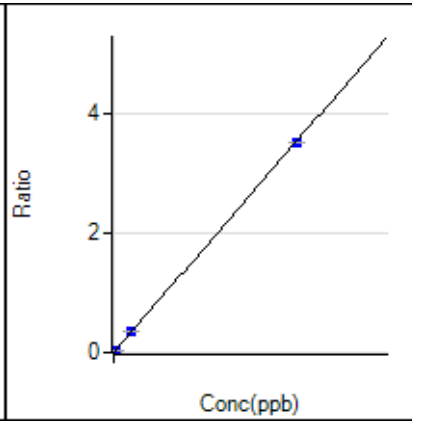
23 Na [He] / ISTD: 45 Sc-45 (IS)

y = 2.793E-3 x + 4.715E-2

R 1.0000

DL 1.527

BEC 16.88



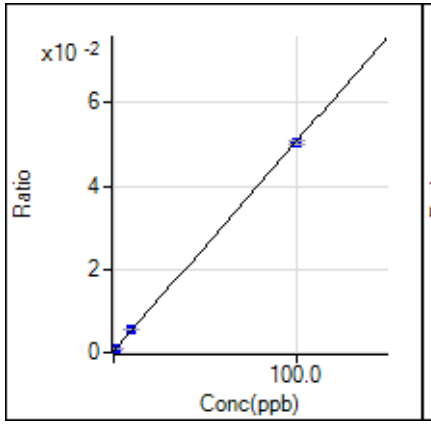
24 Mg [He] / ISTD: 45 Sc-45 (IS)

y = 1.412E-3 x + 4.941E-4

R 1.0000

DL 0.2665

BEC 0.35



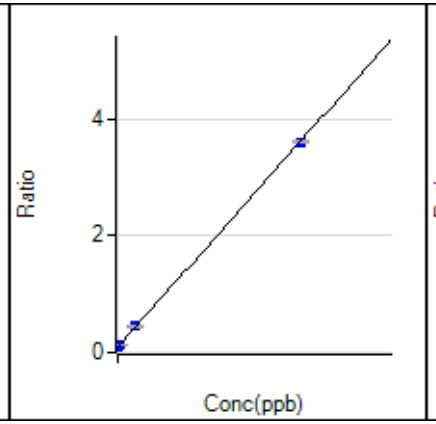
27 Al [He] / ISTD: 45 Sc-45 (IS)

y = 5.023E-4 x + 3.840E-4

R 1.0000

DL 0.3681

BEC 0.7643



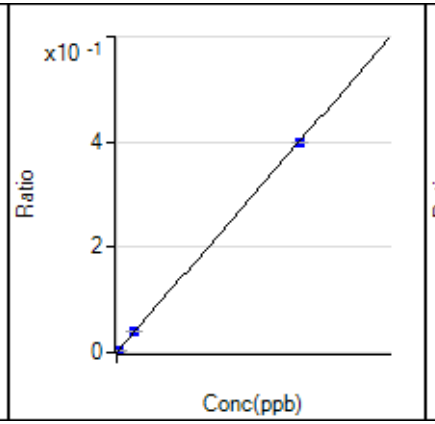
39 K [He] / ISTD: 45 Sc-45 (IS)

y = 1.406E-3 x + 9.364E-2

R 1.0000

DL 1.57

BEC 66.62



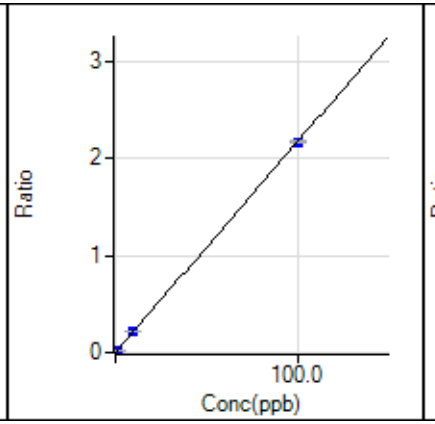
44 Ca [He] / ISTD: 45 Sc-45 (IS)

y = 8.001E-5 x + 4.130E-4

R 1.0000

DL 3.277

BEC 5.162



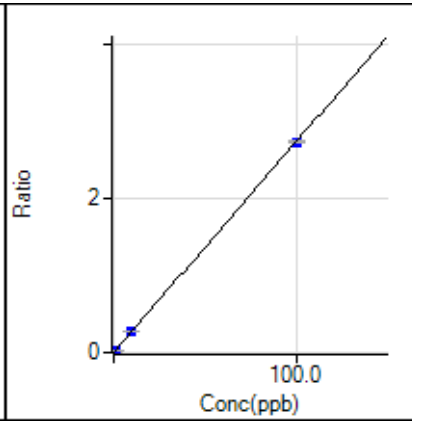
51 V [He] / ISTD: 45 Sc-45 (IS)

y = 2.167E-2 x + 6.961E-4

R 1.0000

DL 0.01814

BEC 0.03212



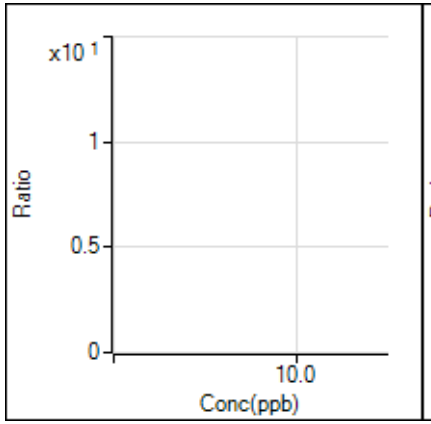
52 Cr [He] / ISTD: 45 Sc-45 (IS)

y = 2.738E-2 x + 8.741E-4

R 1.0000

DL 0.02504

BEC 0.03192



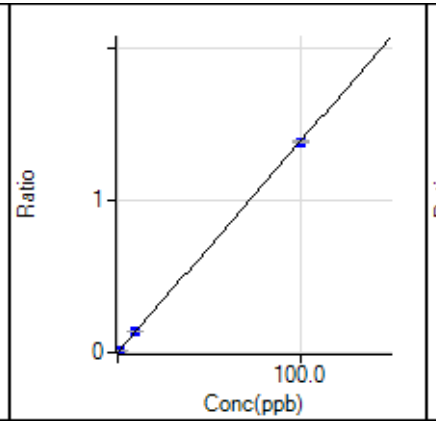
53 [V] [He] / ISTD: 45 Sc-45 (IS)

y =

R

DL

BEC



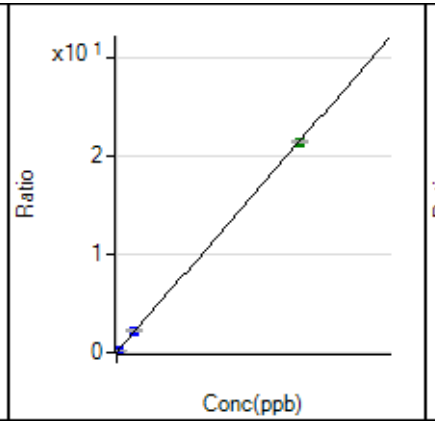
55 Mn [He] / ISTD: 45 Sc-45 (IS)

y = 1.385E-2 x + 5.261E-4

R 1.0000

DL 0.02861

BEC 0.03798



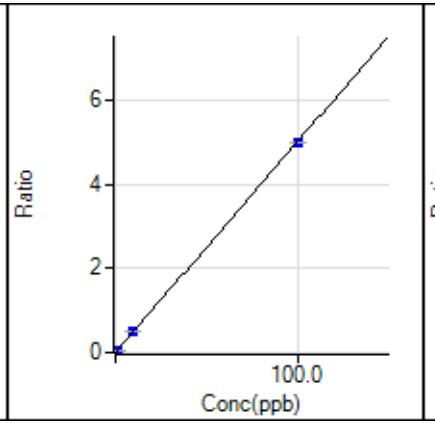
56 Fe [He] / ISTD: 45 Sc-45 (IS)

y = 2.140E-2 x + 3.335E-2

R 1.0000

DL 0.201

BEC 1.558



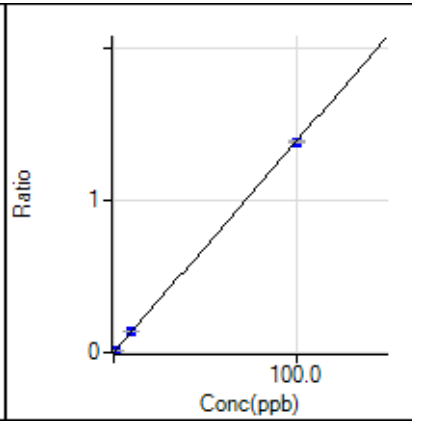
59 Co [He] / ISTD: 45 Sc-45 (IS)

y = 5.017E-2 x + 1.134E-4

R 1.0000

DL 0.003037

BEC 0.00226



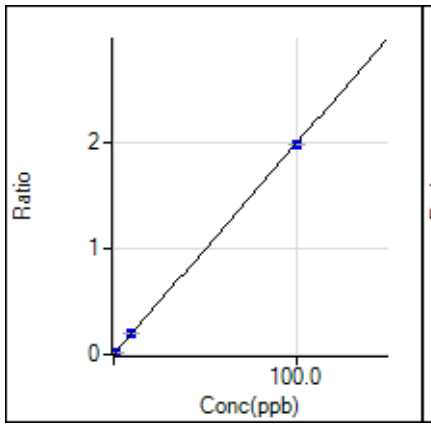
60 Ni [He] / ISTD: 45 Sc-45 (IS)

y = 1.383E-2 x + 2.754E-4

R 1.0000

DL 0.003151

BEC 0.01991



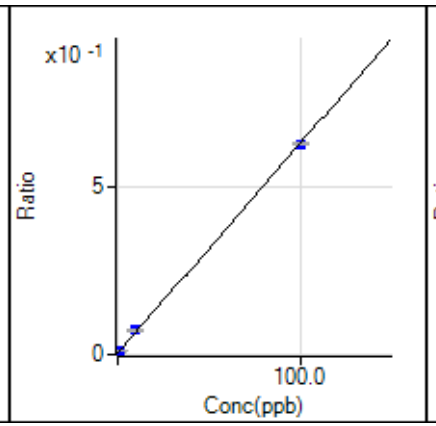
65 Cu [He] / ISTD: 45 Sc-45 (IS)

y = 1.995E-2 x + 9.237E-4

R 1.0000

DL 0.03327

BEC 0.04629



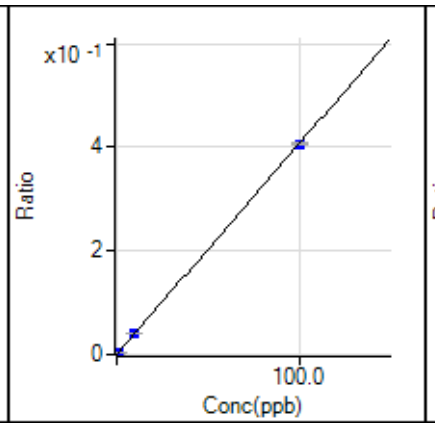
66 Zn [He] / ISTD: 72 Ge (IS)

y = 6.225E-3 x + 4.147E-3

R 1.0000

DL 0.1033

BEC 0.6662



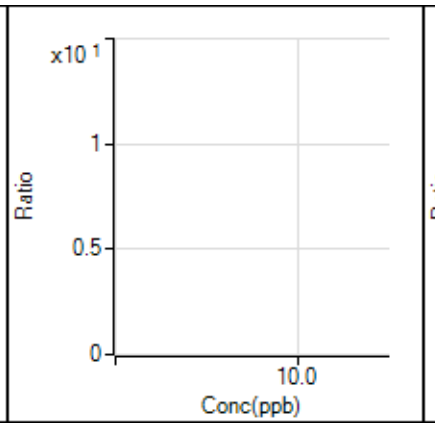
75 As [He] / ISTD: 72 Ge (IS)

y = 4.065E-3 x + 7.431E-5

R 1.0000

DL 0.01709

BEC 0.01828



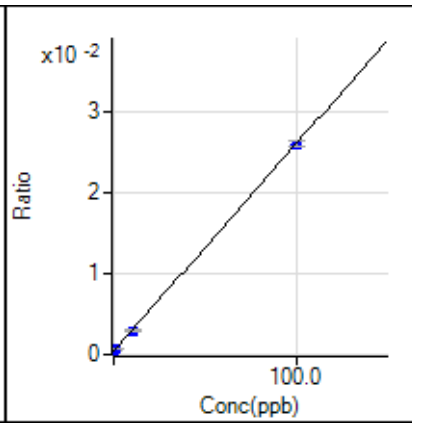
77 [Se] [He] / ISTD: 72 Ge (IS)

y =

R

DL

BEC



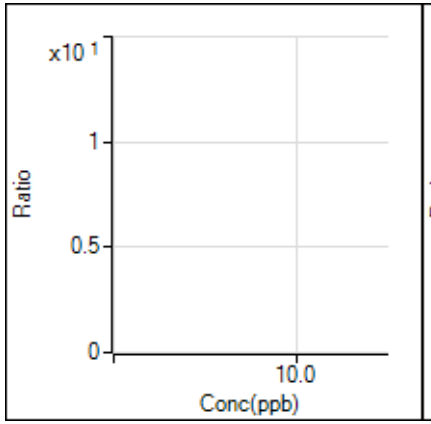
78 Se [He] / ISTD: 72 Ge (IS)

y = 2.552E-4 x + 4.437E-4

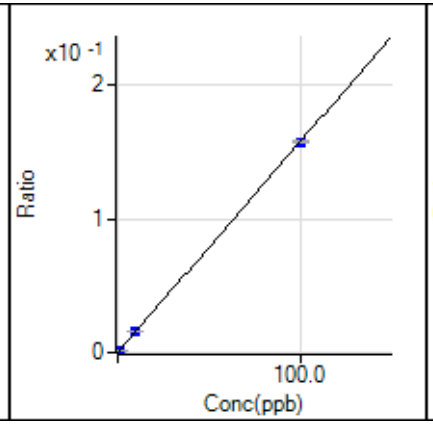
R 1.0000

DL 0.2729

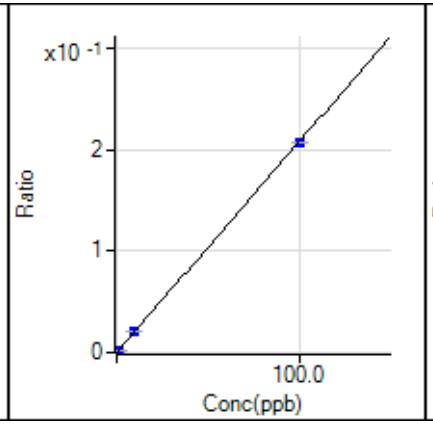
BEC 1.739



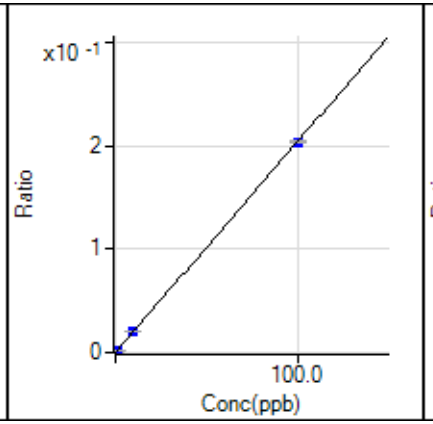
83 [Se] [He] / ISTD: 72 Ge (IS)
y =
R
DL
BEC



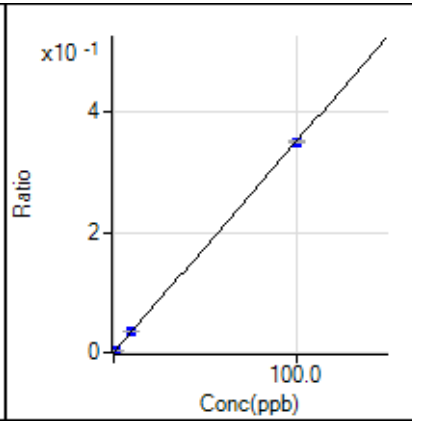
85 Rb [He] / ISTD: 115 In-115 (IS)
y = 1.574E-3 x + 7.725E-7
R 1.0000
DL 0.00255
BEC 0.0004907



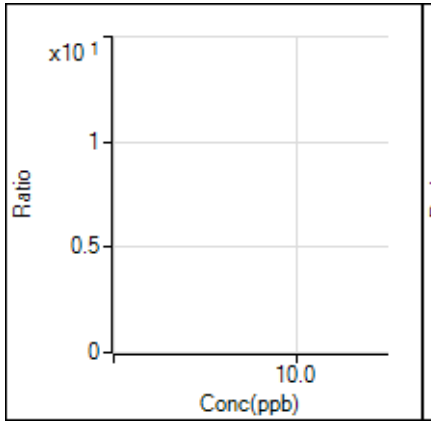
88 Sr [He] / ISTD: 115 In-115 (IS)
y = 2.077E-3 x + 9.947E-6
R 1.0000
DL 0.005225
BEC 0.00479



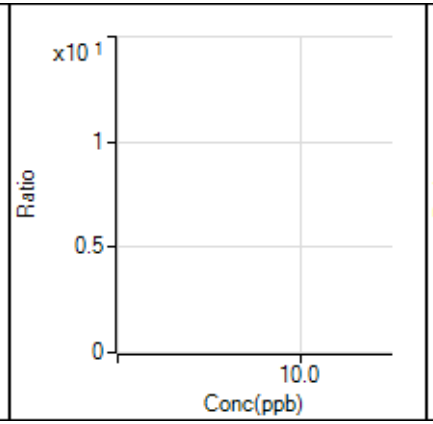
95 Mo [He] / ISTD: 115 In-115 (IS)
y = 2.036E-3 x + 1.070E-5
R 1.0000
DL 0.002063
BEC 0.005252



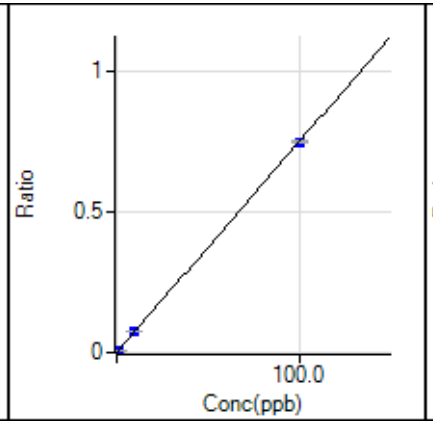
98 [Mo] [He] / ISTD: 115 In-115 (IS)
y = 3.502E-3 x + 7.598E-6
R 1.0000
DL 0.004033
BEC 0.00217



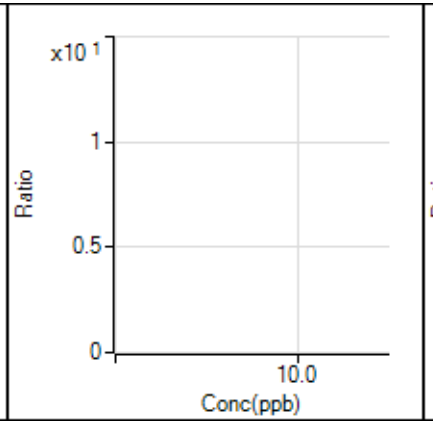
99 [Mo] [He] / ISTD: 115 In-115 (IS)
y =
R
DL
BEC



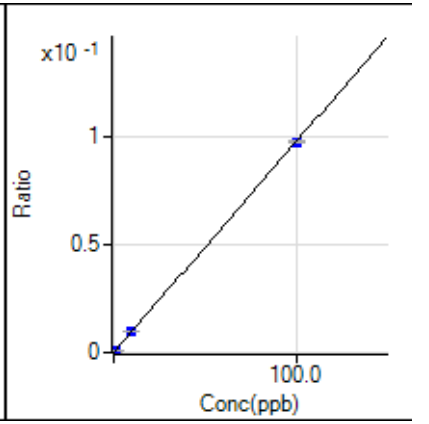
106 [Cd] [He] / ISTD: 115 In-115 (IS)
y =
R
DL
BEC



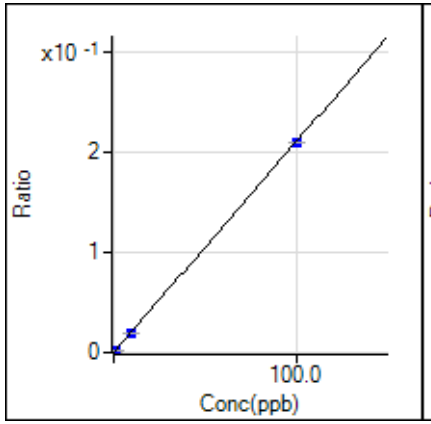
107 Ag [He] / ISTD: 115 In-115 (IS)
y = 7.500E-3 x + 1.758E-5
R 1.0000
DL 0.001468
BEC 0.002344



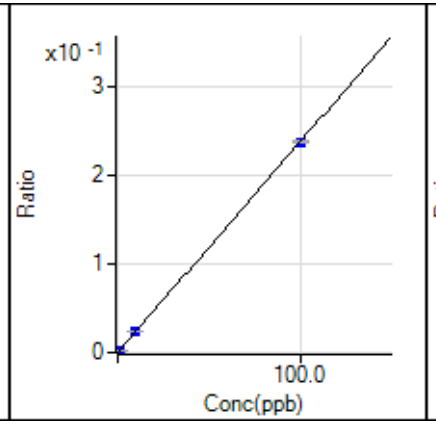
108 [Cd] [He] / ISTD: 115 In-115 (IS)
y =
R
DL
BEC



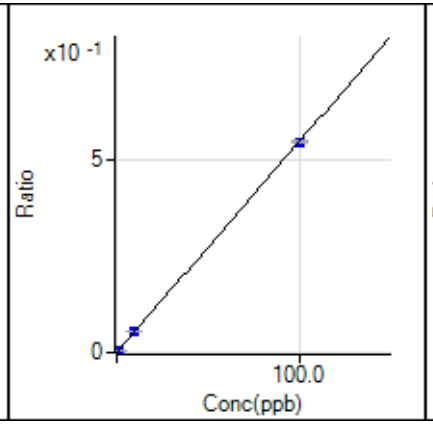
111 Cd [He] / ISTD: 115 In-115 (IS)
y = 9.744E-4 x + 9.160E-7
R 1.0000
DL 0.003213
BEC 0.0009402



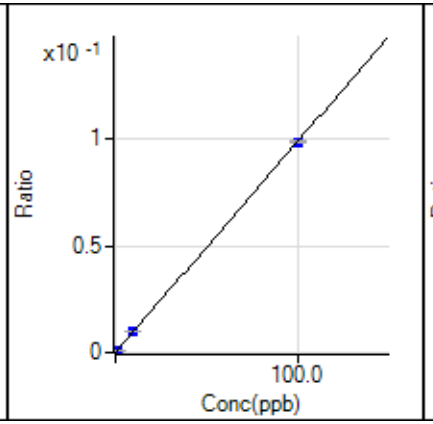
118 Sn [He] / ISTD: 115 In-115 (IS)
y = 2.098E-3 x + 9.155E-5
R 1.0000
DL 0.01175
BEC 0.04363



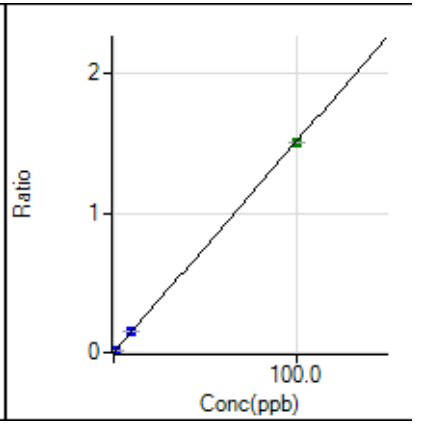
121 Sb [He] / ISTD: 115 In-115 (IS)
y = 2.381E-3 x + 3.812E-5
R 1.0000
DL 0.01612
BEC 0.01601



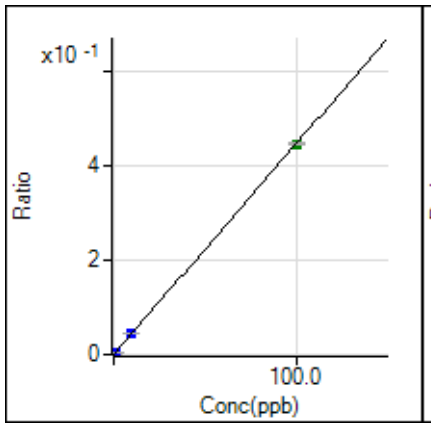
133 Cs [He] / ISTD: 115 In-115 (IS)
y = 5.482E-3 x + 7.725E-7
R 1.0000
DL 0.0007321
BEC 0.0001409



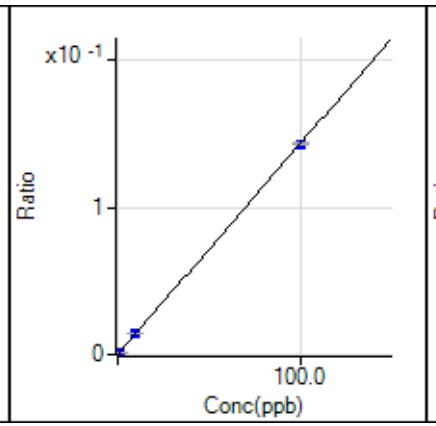
137 Ba [He] / ISTD: 115 In-115 (IS)
y = 9.878E-4 x + 3.821E-6
R 1.0000
DL 0.004062
BEC 0.003869



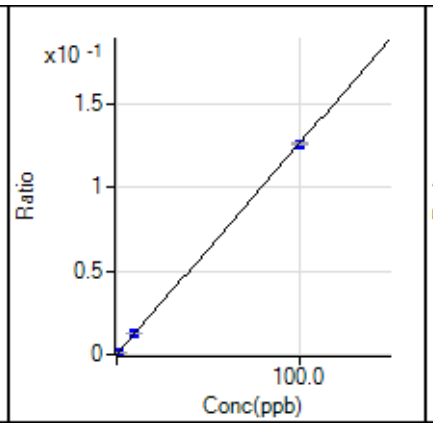
140 Ce [He] / ISTD: 115 In-115 (IS)
y = 1.510E-2 x + 1.023E-4
R 1.0000
DL 0.002878
BEC 0.006772



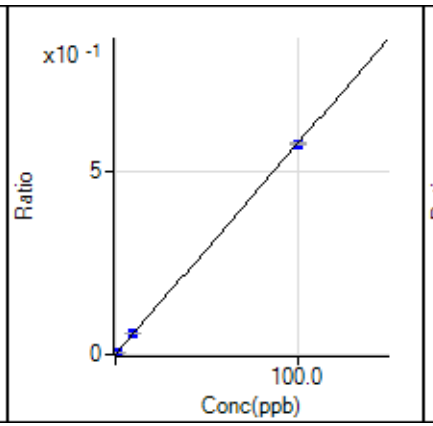
205 Tl [He] / ISTD: 159 Tb-159 (IS)
y = 4.473E-3 x + 1.458E-5
R 1.0000
DL 0.001589
BEC 0.00326



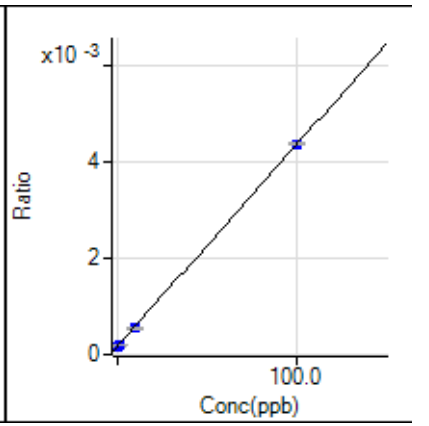
206 [Pb] [He] / ISTD: 159 Tb-159 (IS)
y = 1.430E-3 x + 1.013E-5
R 1.0000
DL 0.0008583
BEC 0.007081



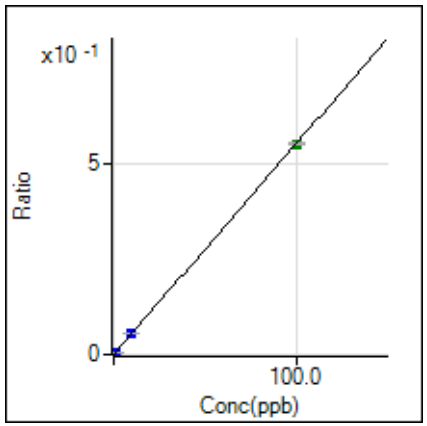
207 [Pb] [He] / ISTD: 159 Tb-159 (IS)
y = 1.261E-3 x + 8.909E-6
R 1.0000
DL 0.00948
BEC 0.007065



208 Pb [He] / ISTD: 159 Tb-159 (IS)
y = 5.730E-3 x + 3.878E-5
R 1.0000
DL 0.001591
BEC 0.006768



232 Th [He] / ISTD: 159 Tb-159 (IS)
y = 4.221E-5 x + 1.610E-4
R 1.0000
DL 0.8747
BEC 3.815



238 U [He] / ISTD: 159 Tb-159 (IS)

y = 5.517E-3 x + 2.232E-6

R	1.0000
DL	0.001213
BEC	0.0004046

Sample Report

Sample Name	RINSE
File Name	001SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:04:15
Sample Type	Sample
Total Dilution	1.0000
Comment	—
Location	1

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag

Sample Report

Sample Name	RINSE
File Name	002SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:06:18
Sample Type	Sample
Total Dilution	1.0000
Comment	—
Location	1

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag

Calibration Blank Report

Sample Name	STD0-6818296
File Name	003CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:08:22
Sample Type	CalBlk
Total Dilution	1.0000
Comment	—
Location	1101

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	He	1.17	65.5
Na	23	45	He	6470.26	3.4
Mg	24	45	He	67.78	25.2
Al	27	45	He	52.67	15.8
K	39	45	He	12847.61	0.5
Ca	44	45	He	56.67	21.2
V	51	45	He	95.56	19.2
Cr	52	45	He	120.00	26.5
Mn	55	45	He	72.22	25.4
Fe	56	45	He	4575.40	4.3
Co	59	45	He	15.55	44.6
Ni	60	45	He	37.78	5.1
Cu	65	45	He	126.67	23.7
Zn	66	72	He	538.90	5.0
As	75	72	He	9.67	31.6
Se	78	72	He	57.67	5.3
Rb	85	115	He	1.11	173.2
Sr	88	115	He	14.44	35.3
Mo	95	115	He	15.56	12.4
Ag	107	115	He	25.56	19.9
Cd	111	115	He	1.33	114.6
Sn	118	115	He	133.33	10.0
Sb	121	115	He	55.56	34.1
Cs	133	115	He	1.11	173.2
Ba	137	115	He	5.56	34.7
Ce	140	115	He	148.89	14.4
Tl	205	159	He	65.56	15.5
Pb	208	159	He	174.44	7.7
U	238	159	He	10.00	100.0

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Sc-45 (IS)	45	He	137203.93	0.4
Ge (IS)	72	He	129955.32	0.7
In-115 (IS)	115	He	1455481.42	1.1
Tb-159 (IS)	159	He	4498680.38	0.8

Calibration Standard Report

Sample Name	STD1-6818295
File Name	004CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:10:24
Sample Type	CalStd
Total Dilution	1.0000
Comment	--
ISTD Ref FileName	003CALB.d
Location	1102

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	He	5.00	26.5
Na	23	45	He	8585.73	0.5
Mg	24	45	He	1078.93	5.0
Al	27	45	He	63.33	4.8
K	39	45	He	13879.63	1.3
Ca	44	45	He	165.56	9.5
V	51	45	He	738.91	6.3
Cr	52	45	He	918.92	2.4
Mn	55	45	He	445.57	1.1
Fe	56	45	He	10486.97	1.6
Co	59	45	He	1492.30	7.3
Ni	60	45	He	390.01	6.0
Cu	65	45	He	685.57	1.0
Zn	66	72	He	867.81	0.6
As	75	72	He	119.33	13.8
Se	78	72	He	65.67	13.1
Rb	85	115	He	444.46	4.6
Sr	88	115	He	613.35	4.3
Mo	95	115	He	656.69	14.8
Ag	107	115	He	2193.51	1.4
Cd	111	115	He	276.33	5.9
Sn	118	115	He	690.02	7.0
Sb	121	115	He	702.24	4.3
Cs	133	115	He	1625.66	5.3
Ba	137	115	He	281.12	5.6
Ce	140	115	He	4594.10	2.0
Tl	205	159	He	4053.95	3.0
[Pb]	206	159	He	1333.40	4.7
Pb	208	159	He	5432.68	2.3
U	238	159	He	4897.65	5.4

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	137439.65	0.1	137203.93	100.17	60	120	
Ge (IS)	72	He	130277.17	1.0	129955.32	100.25	60	120	
In-115 (IS)	115	He	1473556.16	0.4	1455481.42	101.24	60	120	
Tb-159 (IS)	159	He	4513182.18	0.7	4498680.38	100.32	60	120	

Calibration Standard Report

Sample Name	STD2-6818294
File Name	005CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:12:28
Sample Type	CalStd
Total Dilution	1.0000
Comment	--
ISTD Ref FileName	003CALB.d
Location	1103

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	He	28.33	13.2
Na	23	45	He	15847.00	1.0
Mg	24	45	He	4857.45	1.6
Al	27	45	He	123.33	11.5
K	39	45	He	17713.56	0.9
Ca	44	45	He	596.68	11.3
V	51	45	He	3003.64	4.9
Cr	52	45	He	3881.63	2.7
Mn	55	45	He	1954.58	2.2
Fe	56	45	He	34199.49	2.1
Co	59	45	He	6846.02	2.1
Ni	60	45	He	1930.13	5.7
Cu	65	45	He	2790.27	2.8
Zn	66	72	He	1678.99	4.1
As	75	72	He	522.34	1.2
Se	78	72	He	87.00	4.0
Rb	85	115	He	2234.62	2.9
Sr	88	115	He	3051.44	2.5
Mo	95	115	He	3052.55	1.1
Ag	107	115	He	10841.82	1.2
Cd	111	115	He	1385.73	3.2
Sn	118	115	He	2994.77	3.8
Sb	121	115	He	3411.53	4.6
Cs	133	115	He	7818.82	2.1
Ba	137	115	He	1421.19	3.9
Ce	140	115	He	21999.10	1.0
Tl	205	159	He	19694.10	1.2
[Pb]	206	159	He	6413.74	0.4
Pb	208	159	He	25340.46	0.9
U	238	159	He	23517.45	2.5

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	137698.87	1.0	137203.93	100.36	60	120	
Ge (IS)	72	He	129663.03	1.1	129955.32	99.78	60	120	
In-115 (IS)	115	He	1457639.11	1.1	1455481.42	100.15	60	120	
Tb-159 (IS)	159	He	4494198.85	0.5	4498680.38	99.9	60	120	

Calibration Standard Report

Sample Name	STD3-6818293
File Name	006CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:14:31
Sample Type	CalStd
Total Dilution	1.0000
Comment	--
ISTD Ref FileName	003CALB.d
Location	1104

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	He	266.50	5.3
Na	23	45	He	103155.87	1.5
Mg	24	45	He	49099.42	0.5
Al	27	45	He	749.35	1.8
K	39	45	He	61674.05	1.1
Ca	44	45	He	5486.56	2.1
V	51	45	He	29831.36	1.4
Cr	52	45	He	38010.57	1.7
Mn	55	45	He	19361.24	3.9
Fe	56	45	He	310418.52	1.6
Co	59	45	He	70055.14	0.6
Ni	60	45	He	19414.65	1.9
Cu	65	45	He	27843.44	1.8
Zn	66	72	He	9464.12	3.7
As	75	72	He	5338.96	0.6
Se	78	72	He	384.68	3.6
Rb	85	115	He	23272.65	2.1
Sr	88	115	He	30352.08	2.0
Mo	95	115	He	29934.66	1.1
Ag	107	115	He	110316.77	0.8
Cd	111	115	He	14237.90	2.1
Sn	118	115	He	29455.32	0.8
Sb	121	115	He	34830.49	2.2
Cs	133	115	He	80113.48	1.9
Ba	137	115	He	14346.07	1.5
Ce	140	115	He	220362.08	1.2
Tl	205	159	He	198905.74	0.7
[Pb]	206	159	He	64814.12	0.5
Pb	208	159	He	258832.05	0.6
U	238	159	He	242135.13	0.8

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	137939.54	1.2	137203.93	100.54	60	120	
Ge (IS)	72	He	130218.94	1.0	129955.32	100.2	60	120	
In-115 (IS)	115	He	1479788.65	0.8	1455481.42	101.67	60	120	
Tb-159 (IS)	159	He	4519692.60	1.0	4498680.38	100.47	60	120	

Calibration Standard Report

Sample Name	STD4-6818292
File Name	007CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:16:34
Sample Type	CalStd
Total Dilution	1.0000
Comment	--
ISTD Ref FileName	003CALB.d
Location	1105

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	He	2841.26	0.7
Na	23	45	He	977528.16	0.9
Mg	24	45	He	490751.53	0.7
Al	27	45	He	7037.61	1.8
K	39	45	He	501580.71	1.1
Ca	44	45	He	55688.40	0.6
V	51	45	He	301447.86	0.9
Cr	52	45	He	380828.65	0.9
Mn	55	45	He	192663.42	0.9
Fe	56	45	He	2978891.20	1.2
Co	59	45	He	697477.39	0.6
Ni	60	45	He	192344.76	0.8
Cu	65	45	He	277548.34	0.5
Zn	66	72	He	81624.66	1.5
As	75	72	He	53013.34	1.5
Se	78	72	He	3385.39	1.9
Rb	85	115	He	232676.36	0.9
Sr	88	115	He	307019.57	0.8
Mo	95	115	He	301041.36	1.4
Ag	107	115	He	1108573.25	0.4
Cd	111	115	He	144029.67	0.4
Sn	118	115	He	310443.20	1.1
Sb	121	115	He	352062.41	1.3
Cs	133	115	He	810406.29	0.2
Ba	137	115	He	146035.32	0.4
Ce	140	115	He	2233060.54	1.0
Tl	205	159	He	2041578.67	0.7
[Pb]	206	159	He	652567.08	0.4
Pb	208	159	He	2614651.89	0.5
U	238	159	He	2518225.95	0.5

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	139041.62	0.5	137203.93	101.34	60	120	
Ge (IS)	72	He	130392.47	0.5	129955.32	100.34	60	120	
In-115 (IS)	115	He	1478033.23	0.8	1455481.42	101.55	60	120	
Tb-159 (IS)	159	He	4563051.07	0.9	4498680.38	101.43	60	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV-6818291
File Name	008_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:18:38
Sample Type	ICV
Total Dilution	1.0000
Comment	—
Location	1106

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	25.351	ppb	2.2	706.52	25	101.4	90	110	
Al	27	45	He	25.046	ppb	1.7	1767.44	25	100.18	90	110	
V	51	45	He	25.426	ppb	0.7	75204.05	25	101.7	90	110	
Cr	52	45	He	26.049	ppb	0.3	97342.89	25	104.2	90	110	
Mn	55	45	He	25.550	ppb	0.4	48314.22	25	102.2	90	110	
Fe	56	45	He	267.202	ppb	0.2	783911.39	250	106.88	90	110	
Co	59	45	He	26.015	ppb	0.3	177913.84	25	104.06	90	110	
Ni	60	45	He	25.842	ppb	1.0	48765.90	25	103.37	90	110	
Cu	65	45	He	25.644	ppb	0.5	69875.02	25	102.58	90	110	
Zn	66	72	He	24.910	ppb	1.2	20587.39	25	99.64	90	110	
As	75	72	He	25.397	ppb	1.7	13360.27	25	101.59	90	110	
Se	78	72	He	24.050	ppb	1.0	851.03	25	96.2	90	110	
Rb	85	115	He	25.000	ppb	0.7	57789.32	25	100	90	110	
Sr	88	115	He	25.189	ppb	0.9	76829.48	25	100.76	90	110	
Mo	95	115	He	25.844	ppb	0.5	77290.66	25	103.38	90	110	
Ag	107	115	He	24.950	ppb	0.4	274765.32	25	99.8	90	110	
Cd	111	115	He	25.311	ppb	0.5	36213.18	25	101.24	90	110	
Sn	118	115	He	25.535	ppb	0.6	78807.48	25	102.14	90	110	
Sb	121	115	He	26.561	ppb	0.1	92923.82	25	106.24	90	110	
Cs	133	115	He	25.505	ppb	1.1	205296.83	25	102.02	90	110	
Ba	137	115	He	25.527	ppb	1.0	37028.64	25	102.11	90	110	
Ce	140	115	He	25.220	ppb	0.4	559482.60	25	100.88	90	110	
Tl	205	159	He	25.511	ppb	0.7	515220.45	25	102.04	90	110	
Pb	208	159	He	25.943	ppb	0.3	671193.70	25	103.77	90	110	
U	238	159	He	25.631	ppb	0.7	638369.73	25	102.52	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	136308.43	1.2	137203.93	99.35	60	120	
Ge (IS)	72	He	129313.24	0.9	129955.32	99.51	60	120	
In-115 (IS)	115	He	1468313.12	1.3	1455481.42	100.88	60	120	
Tb-159 (IS)	159	He	4514174.27	0.5	4498680.38	100.34	60	120	

Initial Calibration Blank (ICB) Report

Sample Name	ICB-6818296
File Name	009_ICB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:21:04
Sample Type	ICB
Total Dilution	1.0000
Comment	—
Location	1101

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.005	ppb	N/A	1.00	0.05	
Al	27	45	He	-0.255	ppb	N/A	34.00	1	
V	51	45	He	0.000	ppb	N/A	91.11	0.1	
Cr	52	45	He	0.010	ppb	42.8	153.34	0.1	
Mn	55	45	He	0.001	ppb	1312.7	71.11	0.1	
Fe	56	45	He	0.769	ppb	19.8	6619.26	100	
Co	59	45	He	0.001	ppb	86.0	21.11	0.1	
Ni	60	45	He	0.008	ppb	74.4	51.11	0.1	
Cu	65	45	He	0.007	ppb	139.8	142.22	0.1	
Zn	66	72	He	0.000	ppb	N/A	525.57	0.5	
As	75	72	He	0.004	ppb	264.1	11.33	0.1	
Se	78	72	He	0.230	ppb	199.4	63.67	0.1	>DL*3
Rb	85	115	He	0.004	ppb	37.9	10.00	0.1	
Sr	88	115	He	0.000	ppb	360.6	15.56	0.1	
Mo	95	115	He	0.050	ppb	1.9	160.00	0.1	
Ag	107	115	He	0.007	ppb	27.5	103.33	0.1	
Cd	111	115	He	0.001	ppb	142.4	3.33	0.1	
Sn	118	115	He	0.320	ppb	16.7	1083.38	1	
Sb	121	115	He	0.153	ppb	14.8	572.24	0.2	
Cs	133	115	He	0.004	ppb	38.2	28.89	0.1	
Ba	137	115	He	0.010	ppb	79.9	18.89	0.1	
Ce	140	115	He	0.001	ppb	77.6	167.78	0.1	
Tl	205	159	He	0.005	ppb	38.5	157.78	0.1	
Pb	208	159	He	0.007	ppb	37.7	350.00	0.1	
U	238	159	He	0.060	ppb	11.4	1476.78	0.1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	132936.91	0.6	137203.93	96.89	60	120	
Ge (IS)	72	He	126795.49	0.6	129955.32	97.57	60	120	
In-115 (IS)	115	He	1421618.79	0.5	1455481.42	97.67	60	120	
Tb-159 (IS)	159	He	4442185.66	0.7	4498680.38	98.74	60	120	

Reporting Limit Check (1.0x)

Sample Name	CRI-6818299
File Name	010RL_1.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:23:08
Sample Type	RL_1
Total Dilution	1.0000
Comment	--
Location	1301

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Be	9	45	He	0.474	ppb	11.5	14.00	0.5	94.8	50	150	
Al	27	45	He	10.138	ppb	8.0	728.69	10	101.38	50	150	
V	51	45	He	1.057	ppb	4.0	3139.23	1	105.7	50	150	
Cr	52	45	He	1.035	ppb	2.1	3888.29	1	103.5	50	150	
Mn	55	45	He	1.031	ppb	4.7	1970.14	1	103.1	50	150	
Fe	56	45	He	22.281	ppb	0.7	67869.41	20	111.4	50	150	
Co	59	45	He	1.063	ppb	3.4	7110.59	1	106.3	50	150	
Ni	60	45	He	1.069	ppb	4.4	2004.59	1	106.9	50	150	
Cu	65	45	He	1.140	ppb	3.8	3149.23	1	114	50	150	
Zn	66	72	He	10.432	ppb	1.1	8751.44	10	104.32	50	150	
As	75	72	He	1.064	ppb	4.0	557.01	1	106.4	50	150	
Se	78	72	He	1.181	ppb	22.9	94.33	1	118.1	50	150	
Rb	85	115	He	0.519	ppb	3.0	1176.72	0.5	103.8	50	150	
Sr	88	115	He	1.056	ppb	1.5	3170.36	1	105.6	50	150	
Mo	95	115	He	1.050	ppb	2.4	3093.67	1	105	50	150	
Ag	107	115	He	1.007	ppb	1.4	10895.20	1	100.7	50	150	
Cd	111	115	He	1.071	ppb	2.5	1502.41	1	107.1	50	150	
Sn	118	115	He	10.121	ppb	1.9	30692.29	10	101.21	50	150	
Sb	121	115	He	1.200	ppb	6.4	4165.07	1	120	50	150	
Cs	133	115	He	0.531	ppb	0.9	4190.63	0.5	106.2	50	150	
Ba	137	115	He	1.057	ppb	4.2	1507.87	1	105.7	50	150	
Ce	140	115	He	1.035	ppb	1.0	22652.32	1	103.5	50	150	
Tl	205	159	He	1.021	ppb	1.5	20469.68	1	102.1	50	150	
Pb	208	159	He	1.062	ppb	2.3	27344.15	1	106.2	50	150	
U	238	159	He	1.046	ppb	1.1	25791.68	1	104.6	50	150	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133047.87	0.3	137203.93	96.97	60	120	
Ge (IS)	72	He	126667.73	1.1	129955.32	97.47	60	120	
In-115 (IS)	115	He	1439139.56	0.9	1455481.42	98.88	60	120	
Tb-159 (IS)	159	He	4466138.99	0.2	4498680.38	99.28	60	120	

Reporting Limit Check (CRI 2.0x)

Sample Name	CRI-6818300
File Name	011RL_2.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:25:11
Sample Type	RL_2
Total Dilution	1.0000
Comment	—
Location	1302

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Be	9	45	He	0.950	ppb	10.4	27.17	1	95	50	150	
Al	27	45	He	20.978	ppb	4.2	1465.41	20	104.89	50	150	
V	51	45	He	2.168	ppb	2.0	6396.92	2	108.4	50	150	
Cr	52	45	He	2.194	ppb	2.0	8178.89	2	109.7	50	150	
Mn	55	45	He	2.153	ppb	4.1	4072.79	2	107.65	50	150	
Fe	56	45	He	45.403	ppb	0.8	134820.06	40	113.51	50	150	
Co	59	45	He	2.152	ppb	2.2	14500.30	2	107.6	50	150	
Ni	60	45	He	2.193	ppb	4.9	4107.24	2	109.65	50	150	
Cu	65	45	He	2.285	ppb	0.8	6240.20	2	114.25	50	150	
Zn	66	72	He	21.176	ppb	1.9	17209.86	20	105.88	50	150	
As	75	72	He	2.107	ppb	5.1	1093.71	2	105.35	50	150	
Se	78	72	He	1.842	ppb	8.0	115.67	2	92.1	50	150	
Rb	85	115	He	1.048	ppb	3.0	2400.20	1	104.8	50	150	
Sr	88	115	He	2.123	ppb	0.9	6422.53	2	106.15	50	150	
Mo	95	115	He	2.225	ppb	0.8	6600.39	2	111.25	50	150	
Ag	107	115	He	2.115	ppb	0.5	23087.05	2	105.75	50	150	
Cd	111	115	He	2.123	ppb	1.2	3008.65	2	106.15	50	150	
Sn	118	115	He	20.721	ppb	0.3	63333.57	20	103.6	50	150	
Sb	121	115	He	2.371	ppb	1.1	8262.38	2	118.55	50	150	
Cs	133	115	He	1.064	ppb	1.2	8478.08	1	106.4	50	150	
Ba	137	115	He	2.142	ppb	2.4	3081.46	2	107.1	50	150	
Ce	140	115	He	2.109	ppb	0.5	46454.86	2	105.45	50	150	
Tl	205	159	He	2.128	ppb	0.4	42804.13	2	106.4	50	150	
Pb	208	159	He	2.191	ppb	1.9	56536.70	2	109.55	50	150	
U	238	159	He	2.192	ppb	1.2	54296.10	2	109.6	50	150	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	134162.07	0.3	137203.93	97.78	60	120	
Ge (IS)	72	He	126590.60	1.0	129955.32	97.41	60	120	
In-115 (IS)	115	He	1453591.89	0.9	1455481.42	99.87	60	120	
Tb-159 (IS)	159	He	4489300.65	0.2	4498680.38	99.79	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name ICSA-6818303

File Name 012ICSA.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 09:28:44

Sample Type ICSA

Total Dilution 1.0000

Comment ---

Location 1201

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Be	9	45	He	-0.030	ppb	N/A	0.33	-0.5	100	100	
Al	27	45	He	97281.973	ppb	0.5	6607256.33	-100000	120	120	
V	51	45	He	0.008	ppb	73.3	117.78	-2	100	100	
Cr	52	45	He	0.702	ppb	3.3	2716.92	-2	100	100	
Mn	55	45	He	0.326	ppb	6.5	682.24	-2	100	100	
Fe	56	45	He	99324.859	ppb	0.4	287369535.25	-100000	120	120	
Co	59	45	He	0.315	ppb	2.2	2151.28	-2	100	100	
Ni	60	45	He	0.374	ppb	10.7	736.69	-2	100	100	
Cu	65	45	He	0.237	ppb	4.8	765.58	-2	100	100	
Zn	66	72	He	1.005	ppb	5.2	1291.17	-20	100	100	
As	75	72	He	0.042	ppb	36.7	30.33	-2	100	100	
Se	78	72	He	0.050	ppb	215.8	56.67	-2	100	100	
Rb	85	115	He	0.951	ppb	4.9	2040.15	-2	100	100	
Sr	88	115	He	2.744	ppb	4.2	7778.73	-2	100	100	>2x RL
Mo	95	115	He	2152.623	ppb	1.3	5974625.74	-2000	120	120	
Ag	107	115	He	0.395	ppb	1.7	4061.70	-2	100	100	
Cd	111	115	He	0.174	ppb	7.6	231.67	-2	100	100	
Sn	118	115	He	0.373	ppb	4.7	1192.28	-20	100	100	
Sb	121	115	He	0.071	ppb	8.9	283.34	-2	100	100	
Cs	133	115	He	0.024	ppb	13.9	181.12	-2	100	100	
Ba	137	115	He	1.799	ppb	5.2	2427.99	-2	100	100	
Ce	140	115	He	0.030	ppb	7.9	762.25	-2	100	100	
Tl	205	159	He	0.002	ppb	55.1	104.45	-2	100	100	
Pb	208	159	He	0.197	ppb	1.0	5254.88	-2	100	100	
U	238	159	He	0.021	ppb	18.9	543.35	-2	100	100	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135206.49	0.6	137203.93	98.54	60	120	
Ge (IS)	72	He	124123.43	0.8	129955.32	95.51	60	120	
In-115 (IS)	115	He	1362998.16	0.8	1455481.42	93.65	60	120	
Tb-159 (IS)	159	He	4498335.52	0.3	4498680.38	99.99	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB-6818304
File Name	013ICSB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:30:49
Sample Type	ICSB
Total Dilution	1.0000
Comment	—
Location	1202

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Be	9	45	He	20.348	ppb	6.0	566.18	20	80	120	
Al	27	45	He	99737.826	ppb	0.6	6815332.50	100000	80	120	
V	51	45	He	21.110	ppb	0.4	62328.82	20	80	120	
Cr	52	45	He	21.272	ppb	0.7	79346.24	20	80	120	
Mn	55	45	He	20.952	ppb	1.0	39553.46	20	80	120	
Fe	56	45	He	101665.404	ppb	0.7	295927632.69	100200	80	120	
Co	59	45	He	20.427	ppb	0.9	139413.31	20	80	120	
Ni	60	45	He	19.833	ppb	1.1	37358.14	20	80	120	
Cu	65	45	He	19.851	ppb	0.3	54008.22	20	80	120	
Zn	66	72	He	20.724	ppb	0.2	16800.50	20	80	120	
As	75	72	He	20.966	ppb	2.1	10761.18	20	80	120	
Se	78	72	He	20.441	ppb	7.7	713.69	20	80	120	
Rb	85	115	He	22.469	ppb	0.8	49111.81	20	80	120	
Sr	88	115	He	24.393	ppb	0.7	70353.26	20	80	120	> +/- 10%
Mo	95	115	He	2191.296	ppb	0.8	6195981.42	2020	80	120	
Ag	107	115	He	21.043	ppb	0.4	219156.11	20	80	120	
Cd	111	115	He	20.693	ppb	0.5	27996.63	20	80	120	
Sn	118	115	He	22.684	ppb	1.3	66211.87	20	80	120	
Sb	121	115	He	22.658	ppb	1.3	74962.05	20	80	120	
Cs	133	115	He	21.515	ppb	0.5	163779.38	20	80	120	
Ba	137	115	He	23.733	ppb	1.2	32556.80	20	80	120	
Ce	140	115	He	21.952	ppb	0.6	460524.70	20	80	120	
Tl	205	159	He	19.679	ppb	0.5	400935.18	20	80	120	
Pb	208	159	He	20.144	ppb	0.3	525765.24	20	80	120	
U	238	159	He	20.972	ppb	0.7	526906.31	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	136031.81	1.0	137203.93	99.15	60	120	
Ge (IS)	72	He	126176.05	1.3	129955.32	97.09	60	120	
In-115 (IS)	115	He	1388505.38	0.8	1455481.42	95.4	60	120	
Tb-159 (IS)	159	He	4553783.02	0.3	4498680.38	101.22	60	120	

Sample Report

Sample Name	RINSE
File Name	014SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:32:56
Sample Type	Sample
Total Dilution	1.0000
Comment	—
Location	4

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.017	ppb	N/A	0.67	5000	
Al	27	45	He	4.717	ppb	30.4	368.67	5000	
V	51	45	He	0.018	ppb	6.8	145.55	5000	
Cr	52	45	He	0.014	ppb	24.2	166.67	5000	
Mn	55	45	He	0.005	ppb	264.2	78.89	5000	
Fe	56	45	He	21.346	ppb	2.1	65637.58	50000	
Co	59	45	He	0.002	ppb	136.8	30.00	4000	
Ni	60	45	He	0.016	ppb	30.0	66.67	2000	
Cu	65	45	He	0.015	ppb	29.9	163.33	2000	
Zn	66	72	He	0.094	ppb	68.8	606.68	5000	
As	75	72	He	0.003	ppb	359.1	11.00	5000	
Se	78	72	He	-0.079	ppb	N/A	54.33	5000	
Rb	85	115	He	0.005	ppb	98.6	13.33	5000	
Sr	88	115	He	0.003	ppb	18.2	24.44	5000	
Mo	95	115	He	1.269	ppb	8.8	3810.51	3000	
Ag	107	115	He	0.005	ppb	39.0	84.45	100	
Cd	111	115	He	0.001	ppb	59.3	3.00	5000	
Sn	118	115	He	0.097	ppb	46.8	431.12	5000	
Sb	121	115	He	0.017	ppb	18.5	116.67	5000	
Cs	133	115	He	0.001	ppb	28.2	7.78	5000	
Ba	137	115	He	0.014	ppb	26.4	25.56	5000	
Ce	140	115	He	0.000	ppb	N/A	146.67	5000	
Tl	205	159	He	0.012	ppb	10.8	311.12	5000	
Pb	208	159	He	0.004	ppb	40.7	287.78	4000	
U	238	159	He	0.011	ppb	6.2	286.68	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133924.35	0.2	137203.93	97.61	60	120	
Ge (IS)	72	He	128280.18	1.3	129955.32	98.71	60	120	
In-115 (IS)	115	He	1468311.34	0.8	1455481.42	100.88	60	120	
Tb-159 (IS)	159	He	4539013.29	0.7	4498680.38	100.9	60	120	

Sample Report

Sample Name	RINSE
File Name	015SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:34:58
Sample Type	Sample
Total Dilution	1.0000
Comment	—
Location	4

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.001	ppb	772.1	1.17	5000	
Al	27	45	He	1.214	ppb	17.9	132.00	5000	
V	51	45	He	0.018	ppb	34.0	144.44	5000	
Cr	52	45	He	0.012	ppb	70.0	161.11	5000	
Mn	55	45	He	0.007	ppb	63.2	83.33	5000	
Fe	56	45	He	8.002	ppb	7.2	27156.49	50000	
Co	59	45	He	0.001	ppb	106.8	23.33	4000	
Ni	60	45	He	0.012	ppb	38.3	57.78	2000	
Cu	65	45	He	0.019	ppb	72.6	173.34	2000	
Zn	66	72	He	0.048	ppb	23.7	565.57	5000	
As	75	72	He	-0.003	ppb	N/A	8.00	5000	
Se	78	72	He	-0.200	ppb	N/A	50.00	5000	
Rb	85	115	He	0.002	ppb	120.9	6.67	5000	
Sr	88	115	He	0.002	ppb	200.6	21.11	5000	
Mo	95	115	He	0.350	ppb	11.6	1043.38	3000	
Ag	107	115	He	0.001	ppb	80.1	34.45	100	
Cd	111	115	He	0.000	ppb	148.6	2.00	5000	
Sn	118	115	He	0.085	ppb	20.0	390.01	5000	
Sb	121	115	He	0.004	ppb	95.0	68.89	5000	
Cs	133	115	He	0.000	ppb	58.8	4.44	5000	
Ba	137	115	He	0.009	ppb	56.5	17.78	5000	
Ce	140	115	He	0.001	ppb	86.6	166.67	5000	
Tl	205	159	He	0.003	ppb	66.1	131.11	5000	
Pb	208	159	He	0.002	ppb	48.0	231.11	4000	
U	238	159	He	0.004	ppb	55.1	120.00	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	132765.20	0.6	137203.93	96.76	60	120	
Ge (IS)	72	He	127279.57	0.3	129955.32	97.94	60	120	
In-115 (IS)	115	He	1443419.33	1.3	1455481.42	99.17	60	120	
Tb-159 (IS)	159	He	4526348.43	0.3	4498680.38	100.62	60	120	

Sample Report

Sample Name	RINSE
File Name	016SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:37:01
Sample Type	Sample
Total Dilution	1.0000
Comment	—
Location	4

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.029	ppb	N/A	0.33	5000	
Al	27	45	He	0.762	ppb	20.2	100.67	5000	
V	51	45	He	0.015	ppb	49.6	133.34	5000	
Cr	52	45	He	0.017	ppb	32.7	175.56	5000	
Mn	55	45	He	0.007	ppb	103.6	81.11	5000	
Fe	56	45	He	4.579	ppb	11.9	17239.85	50000	
Co	59	45	He	0.001	ppb	81.8	21.11	4000	
Ni	60	45	He	0.008	ppb	126.4	51.11	2000	
Cu	65	45	He	0.002	ppb	383.4	126.66	2000	
Zn	66	72	He	0.061	ppb	81.5	570.01	5000	
As	75	72	He	-0.008	ppb	N/A	5.33	5000	
Se	78	72	He	-0.027	ppb	N/A	55.00	5000	
Rb	85	115	He	0.002	ppb	43.0	5.56	5000	
Sr	88	115	He	0.001	ppb	360.5	16.67	5000	
Mo	95	115	He	0.186	ppb	3.2	555.57	3000	
Ag	107	115	He	0.001	ppb	25.1	40.00	100	
Cd	111	115	He	0.000	ppb	N/A	1.00	5000	
Sn	118	115	He	0.079	ppb	28.5	366.68	5000	
Sb	121	115	He	0.004	ppb	181.2	66.67	5000	
Cs	133	115	He	0.000	ppb	153.6	4.44	5000	
Ba	137	115	He	0.010	ppb	52.5	18.89	5000	
Ce	140	115	He	0.001	ppb	57.9	161.11	5000	
Tl	205	159	He	0.001	ppb	72.7	95.56	5000	
Pb	208	159	He	0.001	ppb	18.2	201.11	4000	
U	238	159	He	0.003	ppb	74.8	73.33	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	131291.66	0.2	137203.93	95.69	60	120	
Ge (IS)	72	He	125966.31	0.5	129955.32	96.93	60	120	
In-115 (IS)	115	He	1429572.59	1.4	1455481.42	98.22	60	120	
Tb-159 (IS)	159	He	4496759.13	0.4	4498680.38	99.96	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6818298

File Name 017_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 09:39:04

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	51.795	ppb	1.3	1394.23	50	103.59	90	110	
Al	27	45	He	51.377	ppb	4.0	3451.73	50	102.75	90	110	
V	51	45	He	51.516	ppb	0.8	147187.57	50	103.03	90	110	
Cr	52	45	He	51.869	ppb	0.5	187235.46	50	103.74	90	110	
Mn	55	45	He	51.764	ppb	0.2	94542.75	50	103.53	90	110	
Fe	56	45	He	523.655	ppb	0.7	1480757.20	500	104.73	90	110	
Co	59	45	He	52.015	ppb	0.0	343813.81	50	104.03	90	110	
Ni	60	45	He	52.128	ppb	1.0	95032.25	50	104.26	90	110	
Cu	65	45	He	52.515	ppb	0.3	138175.74	50	105.03	90	110	
Zn	66	72	He	51.047	ppb	1.6	40586.57	50	102.09	90	110	
As	75	72	He	50.832	ppb	0.6	26064.20	50	101.66	90	110	
Se	78	72	He	50.055	ppb	1.1	1666.43	50	100.11	90	110	
Rb	85	115	He	49.931	ppb	1.1	114582.63	50	99.86	90	110	
Sr	88	115	He	49.965	ppb	0.6	151294.24	50	99.93	90	110	
Mo	95	115	He	50.740	ppb	0.8	150650.19	50	101.48	90	110	
Ag	107	115	He	51.162	ppb	1.1	559373.81	50	102.32	90	110	
Cd	111	115	He	51.013	ppb	1.1	72458.23	50	102.03	90	110	
Sn	118	115	He	51.274	ppb	0.9	156978.42	50	102.55	90	110	
Sb	121	115	He	51.230	ppb	1.2	177889.55	50	102.46	90	110	
Cs	133	115	He	50.687	ppb	1.5	405079.33	50	101.37	90	110	
Ba	137	115	He	50.843	ppb	1.1	73220.77	50	101.69	90	110	
Ce	140	115	He	51.065	ppb	1.2	1124548.81	50	102.13	90	110	
Tl	205	159	He	50.468	ppb	0.4	1025038.71	50	100.94	90	110	
Pb	208	159	He	51.213	ppb	0.6	1332390.66	50	102.43	90	110	
U	238	159	He	50.580	ppb	1.1	1266910.53	50	101.16	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	131749.20	1.0	137203.93	96.02	60	120	
Ge (IS)	72	He	126086.20	0.5	129955.32	97.02	60	120	
In-115 (IS)	115	He	1457922.63	1.6	1455481.42	100.17	60	120	
Tb-159 (IS)	159	He	4540160.52	0.8	4498680.38	100.92	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 018_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 09:41:07

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.023	ppb	N/A	0.50	0.5	
Al	27	45	He	0.246	ppb	113.9	65.33	10	
V	51	45	He	0.028	ppb	67.2	167.78	1	
Cr	52	45	He	0.007	ppb	61.0	137.78	1	
Mn	55	45	He	0.019	ppb	69.7	101.11	1	
Fe	56	45	He	2.778	ppb	14.8	11949.19	20	
Co	59	45	He	0.002	ppb	94.1	30.00	1	
Ni	60	45	He	0.006	ppb	209.7	45.55	1	
Cu	65	45	He	0.006	ppb	167.2	134.44	1	
Zn	66	72	He	0.179	ppb	61.7	648.91	5	
As	75	72	He	0.006	ppb	96.7	12.33	1	
Se	78	72	He	-0.108	ppb	N/A	51.33	1	
Rb	85	115	He	0.009	ppb	45.6	22.22	1	
Sr	88	115	He	0.004	ppb	14.9	25.56	1	
Mo	95	115	He	0.139	ppb	24.0	417.79	1	
Ag	107	115	He	0.010	ppb	54.5	126.67	1	
Cd	111	115	He	0.003	ppb	56.3	6.00	1	
Sn	118	115	He	0.371	ppb	32.7	1236.84	10	
Sb	121	115	He	0.131	ppb	20.0	498.90	1	
Cs	133	115	He	0.005	ppb	75.4	43.33	1	
Ba	137	115	He	0.014	ppb	62.7	24.44	1	
Ce	140	115	He	0.002	ppb	54.4	191.11	1	
Tl	205	159	He	0.005	ppb	55.0	162.22	1	
Pb	208	159	He	0.011	ppb	10.3	457.78	1	
U	238	159	He	0.065	ppb	6.9	1613.46	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	128777.32	0.3	137203.93	93.86	60	120	
Ge (IS)	72	He	123265.31	0.4	129955.32	94.85	60	120	
In-115 (IS)	115	He	1423183.90	1.2	1455481.42	97.78	60	120	
Tb-159 (IS)	159	He	4487263.02	0.6	4498680.38	99.75	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664427/1-a
File Name	019_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:43:31
Sample Type	MB
Total Dilution	1.0000
Comment	CAM 200.8 440-664427 BH
Location	3505

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.042	ppb	N/A	0.00	0.5	
Al	27	45	He	0.043	ppb	503.2	57.33	10	
V	51	45	He	-0.018	ppb	N/A	44.44	1	
Cr	52	45	He	0.007	ppb	56.7	151.11	1	
Mn	55	45	He	0.269	ppb	8.3	601.13	1	
Fe	56	45	He	-0.075	ppb	N/A	4491.80	20	
Co	59	45	He	0.001	ppb	254.0	20.00	1	
Ni	60	45	He	0.042	ppb	39.6	122.22	1	
Cu	65	45	He	0.084	ppb	12.7	366.67	1	
Zn	66	72	He	0.390	ppb	23.6	928.92	5	
As	75	72	He	-0.006	ppb	N/A	7.33	1	
Se	78	72	He	-0.128	ppb	N/A	58.00	1	
Rb	85	115	He	0.008	ppb	48.5	21.11	1	
Sr	88	115	He	0.007	ppb	37.2	40.00	1	
Mo	95	115	He	0.786	ppb	7.1	2640.25	1	
Ag	107	115	He	-0.001	ppb	N/A	21.11	1	
Cd	111	115	He	0.001	ppb	0.1	3.00	1	
Sn	118	115	He	0.008	ppb	80.3	177.78	10	
Sb	121	115	He	0.012	ppb	56.2	107.78	1	
Cs	133	115	He	0.001	ppb	51.7	11.11	1	
Ba	137	115	He	0.014	ppb	81.2	28.89	1	
Ce	140	115	He	0.000	ppb	N/A	155.56	1	
Tl	205	159	He	0.001	ppb	47.5	106.67	1	
Pb	208	159	He	0.006	ppb	10.6	378.89	1	
U	238	159	He	0.002	ppb	24.3	73.33	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	141498.17	1.1	137203.93	103.13	60	120	
Ge (IS)	72	He	141196.97	0.6	129955.32	108.65	60	120	
In-115 (IS)	115	He	1639498.79	0.0	1455481.42	112.64	60	120	
Tb-159 (IS)	159	He	5137412.99	0.8	4498680.38	114.2	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	lcs 440-664427/2-a
File Name	020_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:45:35
Sample Type	LCS
Total Dilution	1.0000
Comment	CAM 200.8 440-664427 BH
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**IRVINSTIC** **PMS6**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	79.154	ppb	1.9	2512.37	80	98.94	85	115	
Al	27	45	He	81.703	ppb	1.6	6438.68	80	102.13	85	115	
V	51	45	He	77.718	ppb	0.2	261881.32	80	97.15	85	115	
Cr	52	45	He	70.929	ppb	0.9	301989.34	80	88.66	85	115	
Mn	55	45	He	80.877	ppb	0.7	174211.03	80	101.1	85	115	
Fe	56	45	He	667.454	ppb	0.9	2225013.52	800	83.43	85	115	> +/- 10%
Co	59	45	He	80.589	ppb	0.5	628376.19	80	100.74	85	115	
Ni	60	45	He	79.625	ppb	0.5	171227.46	80	99.53	85	115	
Cu	65	45	He	66.715	ppb	0.9	207045.02	80	83.39	85	115	> +/- 10%
Zn	66	72	He	79.120	ppb	0.5	73436.30	80	98.9	85	115	
As	75	72	He	79.198	ppb	0.8	47614.71	80	99	85	115	
Se	78	72	He	79.935	ppb	1.7	3081.66	80	99.92	85	115	
Rb	85	115	He	79.392	ppb	0.5	213710.11	80	99.24	85	115	
Sr	88	115	He	77.771	ppb	1.4	276202.74	80	97.21	85	115	
Mo	95	115	He	77.345	ppb	1.0	269351.20	80	96.68	85	115	
Ag	107	115	He	78.129	ppb	0.7	1001969.89	80	97.66	85	115	
Cd	111	115	He	77.795	ppb	1.7	129613.48	80	97.24	85	115	
Sn	118	115	He	75.951	ppb	1.8	272656.56	80	94.94	85	115	
Sb	121	115	He	81.240	ppb	1.7	330849.38	80	101.55	85	115	
Cs	133	115	He	82.098	ppb	0.9	769644.64	80	102.62	85	115	
Ba	137	115	He	77.391	ppb	1.9	130730.11	80	96.74	85	115	
Ce	140	115	He	47.237	ppb	2.1	1220219.91	80	59.05	85	115	> +/- 10%
Tl	205	159	He	81.727	ppb	0.7	1972096.17	80	102.16	85	115	
[Pb]	206	159	He	58.899	ppb	2.7	454484.57	80	73.62	85	115	> +/- 10%
[Pb]	207	159	He	56.543	ppb	2.3	384732.95	80	70.68	85	115	> +/- 10%
Pb	208	159	He	57.890	ppb	2.3	1789669.67	80	72.36	85	115	> +/- 10%
U	238	159	He	56.730	ppb	1.3	1688302.84	80	70.91	85	115	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	155420.23	1.3	137203.93	113.28	60	120	
Ge (IS)	72	He	147856.63	0.7	129955.32	113.77	60	120	
In-115 (IS)	115	He	1709936.11	0.1	1455481.42	117.48	60	120	
Tb-159 (IS)	159	He	5394294.37	1.0	4498680.38	119.91	60	120	

Sample Report

Sample Name	570-79714-d-1-a
File Name	021SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:47:38
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664427 BH
Location	3507

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	1.839	ppb	7.3	57.83	5000	
Al	27	45	He	9327.885	ppb	0.5	705383.35	5000	>LDR
V	51	45	He	0.201	ppb	7.4	760.03	5000	
Cr	52	45	He	4.295	ppb	0.9	17832.68	5000	
Mn	55	45	He	853.720	ppb	0.6	1780201.67	5000	
Fe	56	45	He	64.780	ppb	1.4	213632.60	50000	
Co	59	45	He	36.191	ppb	0.7	273318.92	4000	
Ni	60	45	He	536.333	ppb	0.5	1116728.88	2000	
Cu	65	45	He	3.197	ppb	1.4	9744.30	2000	
Zn	66	72	He	1104.399	ppb	0.9	982307.84	5000	
As	75	72	He	0.337	ppb	4.5	206.33	5000	
Se	78	72	He	5.253	ppb	7.3	255.00	5000	
Rb	85	115	He	16.570	ppb	0.9	42520.45	5000	
Sr	88	115	He	953.634	ppb	0.8	3228126.61	5000	
Mo	95	115	He	0.598	ppb	1.7	2003.48	3000	
Ag	107	115	He	0.029	ppb	20.2	376.68	100	
Cd	111	115	He	51.230	ppb	1.3	81351.56	5000	
Sn	118	115	He	0.479	ppb	10.2	1784.56	5000	
Sb	121	115	He	0.273	ppb	4.9	1123.39	5000	
Cs	133	115	He	0.038	ppb	2.0	340.01	5000	
Ba	137	115	He	50.666	ppb	0.6	81586.63	5000	
Ce	140	115	He	16.214	ppb	0.4	399355.92	5000	
Tl	205	159	He	0.097	ppb	4.2	2352.44	5000	
Pb	208	159	He	0.254	ppb	8.5	7809.82	4000	
U	238	159	He	2.335	ppb	2.8	67287.79	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	150529.27	2.7	137203.93	109.71	60	120	
Ge (IS)	72	He	142823.33	3.0	129955.32	109.9	60	120	
In-115 (IS)	115	He	1630024.92	2.7	1455481.42	111.99	60	120	
Tb-159 (IS)	159	He	5224962.85	1.9	4498680.38	116.14	60	120	

Sample Report

Sample Name	570-79714-d-1-b ms
File Name	022SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:49:41
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664427 BH
Location	3508

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	85.491	ppb	0.8	2436.52	5000	
Al	27	45	He	4522.023	ppb	0.4	317050.95	5000	>LDR
V	51	45	He	82.778	ppb	1.1	250499.03	5000	
Cr	52	45	He	83.239	ppb	0.6	318211.14	5000	
Mn	55	45	He	483.316	ppb	0.4	934346.39	5000	
Fe	56	45	He	782.048	ppb	0.3	2339894.56	50000	
Co	59	45	He	100.070	ppb	0.4	700626.78	4000	
Ni	60	45	He	341.061	ppb	0.3	658416.64	2000	
Cu	65	45	He	82.146	ppb	0.1	228869.02	2000	
Zn	66	72	He	613.177	ppb	0.8	512693.37	5000	
As	75	72	He	82.007	ppb	1.9	44744.69	5000	
Se	78	72	He	84.702	ppb	1.7	2959.63	5000	
Rb	85	115	He	87.024	ppb	0.5	213316.53	5000	
Sr	88	115	He	516.042	ppb	1.2	1668976.70	5000	
Mo	95	115	He	81.984	ppb	0.8	259990.20	3000	
Ag	107	115	He	48.339	ppb	34.7	562565.59	100	
Cd	111	115	He	105.410	ppb	0.6	159915.72	5000	
Sn	118	115	He	74.041	ppb	2.3	242114.54	5000	
Sb	121	115	He	84.568	ppb	0.9	313629.76	5000	
Cs	133	115	He	82.606	ppb	0.4	705115.46	5000	
Ba	137	115	He	106.784	ppb	0.6	164252.87	5000	
Ce	140	115	He	86.168	ppb	1.8	2027173.67	5000	
Tl	205	159	He	81.429	ppb	0.7	1834460.97	5000	
Pb	208	159	He	80.228	ppb	0.6	2315615.83	4000	
U	238	159	He	74.948	ppb	0.8	2082848.56	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	139546.70	3.2	137203.93	101.71	60	120	
Ge (IS)	72	He	134157.53	2.5	129955.32	103.23	60	120	
In-115 (IS)	115	He	1556980.79	2.3	1455481.42	106.97	60	120	
Tb-159 (IS)	159	He	5036488.69	2.4	4498680.38	111.95	60	120	

Sample Report

Sample Name 570-79714-d-1-c msd

File Name 023SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 09:51:44

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664427 BH

Location 3509

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	87.362	ppb	2.3	2349.68	5000	
Al	27	45	He	4500.706	ppb	0.6	297826.86	5000	>LDR
V	51	45	He	83.505	ppb	0.9	238454.67	5000	
Cr	52	45	He	84.681	ppb	0.9	305502.48	5000	
Mn	55	45	He	483.077	ppb	0.6	881422.88	5000	
Fe	56	45	He	804.167	ppb	0.5	2270836.92	50000	
Co	59	45	He	100.532	ppb	0.5	664284.36	4000	
Ni	60	45	He	341.139	ppb	0.8	621565.76	2000	
Cu	65	45	He	83.797	ppb	1.3	220358.13	2000	
Zn	66	72	He	608.741	ppb	0.7	482765.19	5000	
As	75	72	He	82.279	ppb	0.1	42573.33	5000	
Se	78	72	He	82.550	ppb	1.6	2737.25	5000	
Rb	85	115	He	87.692	ppb	0.9	205053.05	5000	
Sr	88	115	He	514.874	ppb	0.8	1588429.52	5000	
Mo	95	115	He	83.033	ppb	1.0	251193.47	3000	
Ag	107	115	He	41.998	ppb	12.8	467157.00	100	
Cd	111	115	He	106.749	ppb	1.1	154495.28	5000	
Sn	118	115	He	76.443	ppb	1.4	238424.55	5000	
Sb	121	115	He	86.468	ppb	1.0	305911.00	5000	
Cs	133	115	He	84.100	ppb	0.8	684893.67	5000	
Ba	137	115	He	109.209	ppb	1.0	160250.31	5000	
Ce	140	115	He	87.919	ppb	1.8	1973088.67	5000	
Tl	205	159	He	82.962	ppb	0.5	1812122.08	5000	
Pb	208	159	He	81.720	ppb	0.5	2286565.78	4000	
U	238	159	He	77.201	ppb	0.9	2079871.01	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	131704.27	1.0	137203.93	95.99	60	120	
Ge (IS)	72	He	127255.91	1.0	129955.32	97.92	60	120	
In-115 (IS)	115	He	1485566.22	2.0	1455481.42	102.07	60	120	
Tb-159 (IS)	159	He	4882824.81	1.0	4498680.38	108.54	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	lcs 440-664427/2-a
File Name	024_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 09:53:50
Sample Type	LCS
Total Dilution	1.0000
Comment	CAM 200.8 440-664427 BH
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**IRVINSTIC** **PMS6**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	86.761	ppb	1.9	1992.29	80	108.45	85	115	
Al	27	45	He	83.941	ppb	1.7	4784.75	80	104.93	85	115	
V	51	45	He	82.790	ppb	0.5	201808.71	80	103.49	85	115	
Cr	52	45	He	84.149	ppb	0.8	259145.94	80	105.19	85	115	
Mn	55	45	He	84.044	ppb	1.0	130948.36	80	105.06	85	115	
Fe	56	45	He	850.129	ppb	0.6	2049017.90	800	106.27	85	115	
Co	59	45	He	84.238	ppb	1.0	475123.47	80	105.3	85	115	
Ni	60	45	He	84.010	ppb	0.8	130681.33	80	105.01	85	115	
Cu	65	45	He	83.577	ppb	0.8	187595.75	80	104.47	85	115	
Zn	66	72	He	81.777	ppb	1.2	55726.74	80	102.22	85	115	
As	75	72	He	81.187	ppb	0.3	35844.21	80	101.48	85	115	
Se	78	72	He	81.104	ppb	1.8	2295.51	80	101.38	85	115	
Rb	85	115	He	78.103	ppb	0.9	157096.22	80	97.63	85	115	
Sr	88	115	He	79.076	ppb	1.2	209848.09	80	98.84	85	115	
Mo	95	115	He	83.299	ppb	1.1	216758.90	80	104.12	85	115	
Ag	107	115	He	81.664	ppb	0.9	782579.87	80	102.08	85	115	
Cd	111	115	He	83.614	ppb	1.0	104097.39	80	104.52	85	115	
Sn	118	115	He	87.994	ppb	0.1	236028.81	80	109.99	85	115	
Sb	121	115	He	84.918	ppb	0.8	258415.52	80	106.15	85	115	
Cs	133	115	He	82.547	ppb	0.9	578244.11	80	103.18	85	115	
Ba	137	115	He	82.899	ppb	1.1	104636.53	80	103.62	85	115	
Ce	140	115	He	83.284	ppb	0.8	1607509.17	80	104.1	85	115	
Tl	205	159	He	82.505	ppb	0.6	1530328.48	80	103.13	85	115	
[Pb]	206	159	He	86.105	ppb	0.5	510595.79	80	107.63	85	115	
[Pb]	207	159	He	82.600	ppb	0.5	431932.42	80	103.25	85	115	
Pb	208	159	He	84.381	ppb	0.5	2004749.01	80	105.48	85	115	
U	238	159	He	86.438	ppb	0.5	1977361.74	80	108.05	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	112435.79	1.4	137203.93	81.95	60	120	
Ge (IS)	72	He	108582.34	0.7	129955.32	83.55	60	120	
In-115 (IS)	115	He	1277724.33	0.3	1455481.42	87.79	60	120	
Tb-159 (IS)	159	He	4146268.17	0.7	4498680.38	92.17	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6818298

File Name 025_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 09:59:00

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	54.809	ppb	1.8	1259.72	50	109.62	90	110	
Al	27	45	He	50.808	ppb	1.7	2914.95	50	101.62	90	110	
V	51	45	He	52.612	ppb	1.3	128360.49	50	105.22	90	110	
Cr	52	45	He	53.300	ppb	0.6	164287.74	50	106.6	90	110	
Mn	55	45	He	53.498	ppb	0.8	83440.63	50	107	90	110	
Fe	56	45	He	539.919	ppb	0.6	1303653.25	500	107.98	90	110	
Co	59	45	He	53.878	ppb	0.0	304115.92	50	107.76	90	110	
Ni	60	45	He	53.651	ppb	0.9	83528.53	50	107.3	90	110	
Cu	65	45	He	54.525	ppb	0.5	122506.83	50	109.05	90	110	
Zn	66	72	He	52.660	ppb	1.5	36527.37	50	105.32	90	110	
As	75	72	He	50.940	ppb	0.5	22793.90	50	101.88	90	110	
Se	78	72	He	50.560	ppb	1.6	1468.41	50	101.12	90	110	
Rb	85	115	He	49.995	ppb	1.2	100856.46	50	99.99	90	110	
Sr	88	115	He	50.547	ppb	0.3	134536.36	50	101.09	90	110	
Mo	95	115	He	51.965	ppb	1.3	135625.67	50	103.93	90	110	
Ag	107	115	He	53.456	ppb	0.3	513763.97	50	106.91	90	110	
Cd	111	115	He	52.973	ppb	1.1	66143.66	50	105.95	90	110	
Sn	118	115	He	53.750	ppb	1.3	144642.24	50	107.5	90	110	
Sb	121	115	He	53.194	ppb	0.7	162366.20	50	106.39	90	110	
Cs	133	115	He	52.092	ppb	0.5	365976.32	50	104.18	90	110	
Ba	137	115	He	52.860	ppb	1.2	66918.20	50	105.72	90	110	
Ce	140	115	He	53.763	ppb	0.2	1040759.44	50	107.53	90	110	
Tl	205	159	He	52.019	ppb	1.0	971311.91	50	104.04	90	110	
Pb	208	159	He	52.611	ppb	0.3	1258415.17	50	105.22	90	110	
U	238	159	He	52.525	ppb	1.3	1209543.34	50	105.05	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	112507.51	1.0	137203.93	82	60	120	
Ge (IS)	72	He	110035.90	0.6	129955.32	84.67	60	120	
In-115 (IS)	115	He	1281433.03	0.4	1455481.42	88.04	60	120	
Tb-159 (IS)	159	He	4174105.25	0.8	4498680.38	92.79	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 026_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 10:01:04

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.012	ppb	N/A	0.67	0.5	
Al	27	45	He	-0.013	ppb	N/A	41.33	10	
V	51	45	He	0.048	ppb	3.4	191.11	1	
Cr	52	45	He	0.019	ppb	51.5	151.11	1	
Mn	55	45	He	0.001	ppb	1090.4	58.89	1	
Fe	56	45	He	2.501	ppb	19.3	9501.92	20	
Co	59	45	He	0.003	ppb	77.7	30.00	1	
Ni	60	45	He	0.020	ppb	62.7	60.00	1	
Cu	65	45	He	0.033	ppb	29.2	173.33	1	
Zn	66	72	He	0.095	ppb	24.5	507.79	5	
As	75	72	He	0.022	ppb	76.0	17.67	1	
Se	78	72	He	0.269	ppb	179.7	55.00	1	
Rb	85	115	He	0.006	ppb	71.6	13.33	1	
Sr	88	115	He	0.007	ppb	98.7	30.00	1	
Mo	95	115	He	0.090	ppb	13.8	242.23	1	
Ag	107	115	He	0.131	ppb	23.7	1250.07	1	
Cd	111	115	He	0.004	ppb	33.7	5.67	1	
Sn	118	115	He	0.664	ppb	14.9	1862.35	10	
Sb	121	115	He	0.247	ppb	2.0	785.58	1	
Cs	133	115	He	0.005	ppb	48.3	35.55	1	
Ba	137	115	He	0.028	ppb	24.9	40.00	1	
Ce	140	115	He	0.006	ppb	16.9	233.34	1	
Tl	205	159	He	0.008	ppb	15.6	214.45	1	
Pb	208	159	He	0.016	ppb	6.8	531.11	1	
U	238	159	He	0.093	ppb	9.0	2106.87	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	109510.53	1.5	137203.93	79.82	60	120	
Ge (IS)	72	He	107158.78	1.1	129955.32	82.46	60	120	
In-115 (IS)	115	He	1254130.98	0.3	1455481.42	86.17	60	120	
Tb-159 (IS)	159	He	4091621.64	0.2	4498680.38	90.95	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664249/1-d@10
File Name	027_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:06:39
Sample Type	MB
Total Dilution	1.0000
Comment	AG TCLP 440-664323 BH
Location	3410

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.018	ppb	N/A	0.50	0.5	
Al	27	45	He	2.008	ppb	7.7	144.00	10	
V	51	45	He	0.123	ppb	12.3	346.67	1	
Cr	52	45	He	0.249	ppb	8.5	795.58	1	
Mn	55	45	He	0.227	ppb	8.4	380.01	1	
Fe	56	45	He	4.512	ppb	9.9	13422.62	20	
Co	59	45	He	0.007	ppb	11.0	46.67	1	
Ni	60	45	He	0.194	ppb	13.7	305.56	1	
Cu	65	45	He	0.123	ppb	11.4	350.01	1	
Zn	66	72	He	1.019	ppb	6.2	1051.15	5	
As	75	72	He	0.023	ppb	38.1	17.00	1	
Se	78	72	He	0.177	ppb	57.1	49.00	1	
Rb	85	115	He	0.004	ppb	87.5	8.89	1	
Sr	88	115	He	0.040	ppb	33.8	111.11	1	
Mo	95	115	He	0.040	ppb	63.1	110.00	1	
Ag	107	115	He	0.127	ppb	31.3	1153.39	1	
Cd	111	115	He	0.067	ppb	10.8	78.67	1	
Sn	118	115	He	0.453	ppb	6.1	1237.84	10	
Sb	121	115	He	0.183	ppb	18.9	562.24	1	
Cs	133	115	He	0.002	ppb	53.3	13.33	1	
Ba	137	115	He	0.075	ppb	33.3	92.22	1	
Ce	140	115	He	0.002	ppb	40.8	160.01	1	
Tl	205	159	He	0.002	ppb	34.2	88.89	1	
Pb	208	159	He	0.093	ppb	2.9	2235.64	1	
U	238	159	He	0.036	ppb	23.8	783.37	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	103396.27	1.3	137203.93	75.36	60	120	
Ge (IS)	72	He	100230.34	0.6	129955.32	77.13	60	120	
In-115 (IS)	115	He	1188111.57	0.5	1455481.42	81.63	60	120	
Tb-159 (IS)	159	He	3901723.46	0.3	4498680.38	86.73	60	120	

Sample Report

Sample Name	lcs 440-664249/2-d@10
File Name	028SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:08:53
Sample Type	Sample
Total Dilution	1.0000
Comment	AG TCLP 440-664323 BH
Location	3411

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	25.825	ppb	2.1	542.68	5000	
Al	27	45	He	27.064	ppb	4.9	1436.74	5000	
V	51	45	He	24.721	ppb	2.7	55112.39	5000	
Cr	52	45	He	25.404	ppb	1.9	71563.58	5000	
Mn	55	45	He	25.122	ppb	1.3	35815.39	5000	
Fe	56	45	He	30.746	ppb	2.4	71020.43	50000	
Co	59	45	He	25.662	ppb	2.7	132274.55	4000	
Ni	60	45	He	25.794	ppb	2.7	36685.41	2000	
Cu	65	45	He	26.341	ppb	2.7	54092.96	2000	
Zn	66	72	He	24.553	ppb	2.5	15870.59	5000	
As	75	72	He	23.846	ppb	2.2	9808.53	5000	
Se	78	72	He	22.898	ppb	0.6	635.68	5000	
Rb	85	115	He	0.008	ppb	22.4	16.67	5000	
Sr	88	115	He	23.075	ppb	2.9	57372.42	5000	
Mo	95	115	He	24.174	ppb	2.5	58940.08	3000	
Ag	107	115	He	11.988	ppb	2.0	107639.33	100	
Cd	111	115	He	24.660	ppb	2.8	28758.77	5000	
Sn	118	115	He	25.470	ppb	2.2	64079.09	5000	
Sb	121	115	He	25.923	ppb	1.8	73934.52	5000	
Cs	133	115	He	0.002	ppb	100.7	11.11	5000	
Ba	137	115	He	24.373	ppb	2.8	28823.31	5000	
Ce	140	115	He	0.001	ppb	115.9	143.33	5000	
Tl	205	159	He	24.130	ppb	1.9	422948.33	5000	
Pb	208	159	He	24.955	ppb	1.8	560332.09	4000	
U	238	159	He	0.017	ppb	14.8	386.68	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	102772.00	2.2	137203.93	74.9	60	120	
Ge (IS)	72	He	101115.19	1.1	129955.32	77.81	60	120	
In-115 (IS)	115	He	1197225.80	1.8	1455481.42	82.26	60	120	
Tb-159 (IS)	159	He	3918222.35	1.2	4498680.38	87.1	60	120	

Sample Report

Sample Name	440-293456-a-1-h@10
File Name	029SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:10:56
Sample Type	Sample
Total Dilution	1.0000
Comment	AG TCLP 440-664323 BH
Location	3412

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.042	ppb	N/A	0.00	5000	
Al	27	45	He	1.441	ppb	13.0	116.67	5000	
V	51	45	He	0.650	ppb	7.3	1556.75	5000	
Cr	52	45	He	0.142	ppb	12.5	502.23	5000	
Mn	55	45	He	0.054	ppb	23.6	134.44	5000	
Fe	56	45	He	1.733	ppb	13.0	7418.51	50000	
Co	59	45	He	0.004	ppb	22.2	34.44	4000	
Ni	60	45	He	0.051	ppb	24.5	103.33	2000	
Cu	65	45	He	0.313	ppb	5.7	755.58	2000	
Zn	66	72	He	2.345	ppb	10.1	1897.91	5000	
As	75	72	He	0.031	ppb	18.4	20.33	5000	
Se	78	72	He	0.003	ppb	5089.9	45.00	5000	
Rb	85	115	He	0.031	ppb	13.4	61.11	5000	
Sr	88	115	He	7.580	ppb	2.5	19225.80	5000	
Mo	95	115	He	2.128	ppb	4.4	5300.99	3000	
Ag	107	115	He	0.032	ppb	33.4	317.78	100	
Cd	111	115	He	0.002	ppb	52.8	3.00	5000	
Sn	118	115	He	0.368	ppb	7.1	1053.38	5000	
Sb	121	115	He	0.098	ppb	7.8	331.12	5000	
Cs	133	115	He	0.003	ppb	50.4	21.11	5000	
Ba	137	115	He	1.193	ppb	9.0	1443.41	5000	
Ce	140	115	He	0.000	ppb	510.3	128.89	5000	
Tl	205	159	He	0.016	ppb	18.8	342.23	5000	
Pb	208	159	He	0.272	ppb	1.9	6408.40	4000	
U	238	159	He	0.015	ppb	20.3	333.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	105298.98	0.3	137203.93	76.75	60	120	
Ge (IS)	72	He	101216.94	0.8	129955.32	77.89	60	120	
In-115 (IS)	115	He	1220530.53	0.6	1455481.42	83.86	60	120	
Tb-159 (IS)	159	He	4009458.04	0.3	4498680.38	89.13	60	120	

Sample Report

Sample Name	440-293456-a-1-i ms@10
File Name	030SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:13:00
Sample Type	Sample
Total Dilution	1.0000
Comment	AG TCLP 440-664323 BH
Location	3501

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	24.179	ppb	3.0	521.68	5000	
Al	27	45	He	23.605	ppb	6.4	1291.39	5000	
V	51	45	He	23.544	ppb	0.2	53904.68	5000	
Cr	52	45	He	23.197	ppb	1.1	67102.41	5000	
Mn	55	45	He	23.191	ppb	0.7	33946.67	5000	
Fe	56	45	He	25.318	ppb	1.0	60674.90	50000	
Co	59	45	He	23.780	ppb	0.6	125869.58	4000	
Ni	60	45	He	23.621	ppb	1.1	34500.24	2000	
Cu	65	45	He	24.199	ppb	1.1	51039.23	2000	
Zn	66	72	He	23.341	ppb	0.5	15336.70	5000	
As	75	72	He	22.398	ppb	2.1	9351.25	5000	
Se	78	72	He	22.424	ppb	7.1	632.68	5000	
Rb	85	115	He	0.036	ppb	21.4	70.00	5000	
Sr	88	115	He	29.626	ppb	0.8	75175.46	5000	
Mo	95	115	He	24.591	ppb	1.4	61190.36	3000	
Ag	107	115	He	11.116	ppb	0.4	101866.22	100	
Cd	111	115	He	22.923	ppb	0.6	27285.97	5000	
Sn	118	115	He	23.170	ppb	0.9	59504.25	5000	
Sb	121	115	He	23.910	ppb	0.2	69598.92	5000	
Cs	133	115	He	0.006	ppb	26.8	38.89	5000	
Ba	137	115	He	24.198	ppb	1.2	29206.27	5000	
Ce	140	115	He	0.000	ppb	N/A	123.33	5000	
Tl	205	159	He	22.525	ppb	0.7	402978.78	5000	
Pb	208	159	He	23.425	ppb	0.2	536863.12	4000	
U	238	159	He	0.012	ppb	20.4	283.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	105498.15	0.3	137203.93	76.89	60	120	
Ge (IS)	72	He	102625.16	0.4	129955.32	78.97	60	120	
In-115 (IS)	115	He	1221632.71	0.4	1455481.42	83.93	60	120	
Tb-159 (IS)	159	He	3998709.28	0.5	4498680.38	88.89	60	120	

Sample Report

Sample Name	440-293456-a-1-j msd@10
File Name	031SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:15:04
Sample Type	Sample
Total Dilution	1.0000
Comment	AG TCLP 440-664323 BH
Location	3502

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	23.084	ppb	1.8	500.51	5000	
Al	27	45	He	21.725	ppb	4.1	1197.38	5000	
V	51	45	He	21.908	ppb	0.6	50407.31	5000	
Cr	52	45	He	21.888	ppb	0.8	63626.49	5000	
Mn	55	45	He	21.887	ppb	1.5	32198.45	5000	
Fe	56	45	He	162.337	ppb	3.3	371836.43	50000	
Co	59	45	He	22.015	ppb	0.2	117091.26	4000	
Ni	60	45	He	22.256	ppb	0.8	32666.24	2000	
Cu	65	45	He	22.452	ppb	0.6	47587.92	2000	
Zn	66	72	He	21.750	ppb	1.4	14367.97	5000	
As	75	72	He	20.870	ppb	0.7	8742.88	5000	
Se	78	72	He	20.313	ppb	1.1	579.34	5000	
Rb	85	115	He	0.034	ppb	13.6	66.67	5000	
Sr	88	115	He	27.586	ppb	1.0	70160.13	5000	
Mo	95	115	He	23.163	ppb	1.0	57768.81	3000	
Ag	107	115	He	10.200	ppb	1.3	93686.77	100	
Cd	111	115	He	21.150	ppb	1.1	25233.30	5000	
Sn	118	115	He	21.284	ppb	1.2	54792.67	5000	
Sb	121	115	He	22.387	ppb	0.4	65317.02	5000	
Cs	133	115	He	0.005	ppb	37.4	32.22	5000	
Ba	137	115	He	22.501	ppb	1.5	27219.10	5000	
Ce	140	115	He	0.000	ppb	353.3	132.22	5000	
Tl	205	159	He	21.037	ppb	0.6	378533.33	5000	
Pb	208	159	He	21.785	ppb	0.6	502178.00	4000	
U	238	159	He	0.010	ppb	26.6	233.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	106008.23	0.7	137203.93	77.26	60	120	
Ge (IS)	72	He	102959.69	0.7	129955.32	79.23	60	120	
In-115 (IS)	115	He	1224376.81	0.3	1455481.42	84.12	60	120	
Tb-159 (IS)	159	He	4021827.06	0.7	4498680.38	89.4	60	120	

Sample Report

Sample Name 440-293456-a-1-hPDS@10

File Name 032SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 10:17:08

Sample Type Sample

Total Dilution 1.0000

Comment AG TCLP 440-664323 BH

Location 3503

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	89.374	ppb	0.6	1883.45	5000	
Al	27	45	He	84.081	ppb	1.1	4397.97	5000	
V	51	45	He	84.693	ppb	1.2	189439.17	5000	
Cr	52	45	He	84.657	ppb	0.6	239250.88	5000	
Mn	55	45	He	84.643	ppb	1.1	121025.05	5000	
Fe	56	45	He	854.800	ppb	0.4	1890655.76	50000	
Co	59	45	He	85.458	ppb	0.7	442331.80	4000	
Ni	60	45	He	85.534	ppb	0.2	122105.15	2000	
Cu	65	45	He	86.599	ppb	0.4	178380.41	2000	
Zn	66	72	He	83.693	ppb	2.1	52825.29	5000	
As	75	72	He	80.686	ppb	1.4	33003.42	5000	
Se	78	72	He	80.583	ppb	1.5	2113.15	5000	
Rb	85	115	He	78.375	ppb	1.2	147671.26	5000	
Sr	88	115	He	86.599	ppb	0.4	215275.14	5000	
Mo	95	115	He	85.478	ppb	0.4	208357.79	3000	
Ag	107	115	He	82.111	ppb	0.3	737091.34	100	
Cd	111	115	He	83.468	ppb	0.5	97341.41	5000	
Sn	118	115	He	86.032	ppb	0.4	216166.77	5000	
Sb	121	115	He	84.525	ppb	0.2	240945.55	5000	
Cs	133	115	He	82.944	ppb	0.3	544271.66	5000	
Ba	137	115	He	85.537	ppb	0.6	101136.18	5000	
Ce	140	115	He	86.078	ppb	0.7	1556323.83	5000	
Tl	205	159	He	83.109	ppb	0.1	1476983.93	5000	
Pb	208	159	He	84.346	ppb	0.2	1920073.02	4000	
U	238	159	He	86.340	ppb	0.8	1892400.70	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	103177.97	1.3	137203.93	75.2	60	120	
Ge (IS)	72	He	100602.77	0.6	129955.32	77.41	60	120	
In-115 (IS)	115	He	1196884.45	0.1	1455481.42	82.23	60	120	
Tb-159 (IS)	159	He	3972651.65	0.3	4498680.38	88.31	60	120	

Sample Report

Sample Name	440-293456-a-1-hSD@50
File Name	033SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:19:11
Sample Type	Sample
Total Dilution	1.0000
Comment	AG TCLP 440-664323 BH
Location	3504

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.004	ppb	554.9	1.00	5000	
Al	27	45	He	0.863	ppb	6.7	87.33	5000	
V	51	45	He	0.160	ppb	6.1	445.56	5000	
Cr	52	45	He	0.046	ppb	8.0	228.89	5000	
Mn	55	45	He	0.019	ppb	53.0	84.44	5000	
Fe	56	45	He	1.154	ppb	13.6	6200.18	50000	
Co	59	45	He	0.005	ppb	18.9	40.00	4000	
Ni	60	45	He	0.015	ppb	60.0	51.11	2000	
Cu	65	45	He	0.084	ppb	25.7	277.78	2000	
Zn	66	72	He	0.507	ppb	6.8	761.14	5000	
As	75	72	He	0.022	ppb	47.7	17.00	5000	
Se	78	72	He	0.041	ppb	480.8	47.33	5000	
Rb	85	115	He	0.012	ppb	35.9	24.44	5000	
Sr	88	115	He	1.499	ppb	2.0	3889.42	5000	
Mo	95	115	He	0.477	ppb	9.6	1222.28	3000	
Ag	107	115	He	0.014	ppb	29.5	151.11	100	
Cd	111	115	He	0.003	ppb	36.3	5.33	5000	
Sn	118	115	He	0.373	ppb	9.5	1088.94	5000	
Sb	121	115	He	0.177	ppb	6.2	571.12	5000	
Cs	133	115	He	0.007	ppb	48.5	45.56	5000	
Ba	137	115	He	0.279	ppb	2.1	347.78	5000	
Ce	140	115	He	0.006	ppb	49.4	234.45	5000	
Tl	205	159	He	0.010	ppb	30.9	251.11	5000	
Pb	208	159	He	0.068	ppb	4.0	1755.61	4000	
U	238	159	He	0.090	ppb	4.6	2040.19	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	106822.74	1.2	137203.93	77.86	60	120	
Ge (IS)	72	He	104226.07	0.4	129955.32	80.2	60	120	
In-115 (IS)	115	He	1245021.25	0.2	1455481.42	85.54	60	120	
Tb-159 (IS)	159	He	4109832.48	0.2	4498680.38	91.36	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6818298

File Name 034_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 10:21:14

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	57.103	ppb	1.8	1257.22	50	114.21	90	110	> +/- 10%
Al	27	45	He	50.821	ppb	2.3	2792.93	50	101.64	90	110	
V	51	45	He	52.044	ppb	1.0	121633.87	50	104.09	90	110	
Cr	52	45	He	52.781	ppb	0.9	155855.10	50	105.56	90	110	
Mn	55	45	He	52.808	ppb	1.1	78896.46	50	105.62	90	110	
Fe	56	45	He	549.625	ppb	1.1	1271174.22	500	109.93	90	110	
Co	59	45	He	53.406	ppb	0.5	288771.15	50	106.81	90	110	
Ni	60	45	He	52.986	ppb	0.8	79022.32	50	105.97	90	110	
Cu	65	45	He	54.133	ppb	0.5	116512.14	50	108.27	90	110	
Zn	66	72	He	52.312	ppb	1.4	34559.44	50	104.62	90	110	
As	75	72	He	50.585	ppb	0.4	21557.08	50	101.17	90	110	
Se	78	72	He	50.524	ppb	3.2	1397.40	50	101.05	90	110	
Rb	85	115	He	48.915	ppb	0.1	96548.31	50	97.83	90	110	
Sr	88	115	He	49.293	ppb	0.6	128365.56	50	98.59	90	110	
Mo	95	115	He	51.258	ppb	0.1	130892.34	50	102.52	90	110	
Ag	107	115	He	52.809	ppb	0.4	496592.22	50	105.62	90	110	
Cd	111	115	He	52.237	ppb	0.6	63819.75	50	104.47	90	110	
Sn	118	115	He	52.294	ppb	0.4	137689.16	50	104.59	90	110	
Sb	121	115	He	52.382	ppb	0.9	156433.96	50	104.76	90	110	
Cs	133	115	He	51.780	ppb	1.1	355913.05	50	103.56	90	110	
Ba	137	115	He	52.655	ppb	0.7	65218.34	50	105.31	90	110	
Ce	140	115	He	53.758	ppb	0.2	1018241.77	50	107.52	90	110	
Tl	205	159	He	52.402	ppb	0.3	969474.06	50	104.8	90	110	
Pb	208	159	He	52.983	ppb	0.3	1255611.65	50	105.97	90	110	
U	238	159	He	52.369	ppb	0.5	1194882.95	50	104.74	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	107773.73	0.4	137203.93	78.55	60	120	
Ge (IS)	72	He	104793.25	0.6	129955.32	80.64	60	120	
In-115 (IS)	115	He	1253813.98	0.9	1455481.42	86.14	60	120	
Tb-159 (IS)	159	He	4135512.75	0.2	4498680.38	91.93	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 035_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 10:23:18

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.002	ppb	N/A	0.83	0.5	
Al	27	45	He	0.415	ppb	38.4	61.33	10	
V	51	45	He	0.042	ppb	33.5	165.56	1	
Cr	52	45	He	0.005	ppb	108.4	104.44	1	
Mn	55	45	He	0.005	ppb	159.9	61.11	1	
Fe	56	45	He	1.259	ppb	12.3	6243.53	20	
Co	59	45	He	0.005	ppb	46.1	38.89	1	
Ni	60	45	He	0.015	ppb	108.1	50.00	1	
Cu	65	45	He	0.019	ppb	64.8	134.45	1	
Zn	66	72	He	0.094	ppb	127.8	483.34	5	
As	75	72	He	0.011	ppb	44.6	12.00	1	
Se	78	72	He	0.205	ppb	108.6	50.67	1	
Rb	85	115	He	0.004	ppb	28.6	7.78	1	
Sr	88	115	He	0.006	ppb	81.0	27.78	1	
Mo	95	115	He	0.082	ppb	7.7	217.78	1	
Ag	107	115	He	0.011	ppb	25.2	118.89	1	
Cd	111	115	He	0.003	ppb	42.7	4.67	1	
Sn	118	115	He	0.470	ppb	10.3	1314.51	10	
Sb	121	115	He	0.166	ppb	14.7	527.79	1	
Cs	133	115	He	0.006	ppb	30.9	38.89	1	
Ba	137	115	He	0.024	ppb	12.1	33.33	1	
Ce	140	115	He	0.004	ppb	69.4	202.22	1	
Tl	205	159	He	0.008	ppb	20.9	204.45	1	
Pb	208	159	He	0.013	ppb	12.4	470.01	1	
U	238	159	He	0.101	ppb	4.5	2260.24	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	103558.20	0.4	137203.93	75.48	60	120	
Ge (IS)	72	He	102153.28	0.7	129955.32	78.61	60	120	
In-115 (IS)	115	He	1219404.03	0.4	1455481.42	83.78	60	120	
Tb-159 (IS)	159	He	4056287.20	0.2	4498680.38	90.17	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664401/1-a
File Name	036_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:25:21
Sample Type	MB
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4408

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.019	ppb	N/A	0.50	0.5	
Al	27	45	He	10.581	ppb	10.2	625.35	10	MB Main CR1 Failed
V	51	45	He	0.026	ppb	20.9	138.89	1	
Cr	52	45	He	0.439	ppb	3.2	1413.40	1	
Mn	55	45	He	5.947	ppb	2.8	9094.97	1	MB Main CR1 Failed
Fe	56	45	He	22.768	ppb	0.8	57107.87	20	MB Main CR1 Failed
Co	59	45	He	0.009	ppb	12.2	60.00	1	
Ni	60	45	He	0.643	ppb	4.0	1005.59	1	
Cu	65	45	He	0.221	ppb	2.8	585.57	1	
Zn	66	72	He	0.898	ppb	7.1	1045.60	5	
As	75	72	He	-0.002	ppb	N/A	7.00	1	
Se	78	72	He	-0.231	ppb	N/A	41.33	1	
Rb	85	115	He	0.018	ppb	47.1	36.67	1	
Sr	88	115	He	0.046	ppb	12.7	135.56	1	
Mo	95	115	He	0.938	ppb	5.5	2445.77	1	
Ag	107	115	He	0.000	ppb	159.8	25.56	1	
Cd	111	115	He	0.003	ppb	60.5	5.33	1	
Sn	118	115	He	0.402	ppb	5.3	1190.05	10	
Sb	121	115	He	0.044	ppb	25.1	182.22	1	
Cs	133	115	He	0.002	ppb	36.5	16.67	1	
Ba	137	115	He	0.054	ppb	7.4	72.22	1	
Ce	140	115	He	0.003	ppb	25.1	185.56	1	
Tl	205	159	He	0.010	ppb	11.2	244.45	1	
Pb	208	159	He	0.050	ppb	6.4	1360.03	1	
U	238	159	He	0.022	ppb	11.2	523.35	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	109707.50	0.4	137203.93	79.96	60	120	
Ge (IS)	72	He	107389.37	1.0	129955.32	82.64	60	120	
In-115 (IS)	115	He	1273158.97	0.6	1455481.42	87.47	60	120	
Tb-159 (IS)	159	He	4180675.53	0.5	4498680.38	92.93	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	lcs 440-664401/2-a
File Name	037_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:27:25
Sample Type	LCS
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**IRVINSTIC** **PMS6**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	33.520	ppb	1.4	754.85	80	41.9	85	115	> +/- 10%
Al	27	45	He	47.947	ppb	1.5	2695.57	80	59.93	85	115	> +/- 10%
V	51	45	He	30.919	ppb	0.0	73895.64	80	38.65	85	115	> +/- 10%
Cr	52	45	He	31.924	ppb	0.6	96390.04	80	39.9	85	115	> +/- 10%
Mn	55	45	He	40.573	ppb	0.6	61973.29	80	50.72	85	115	> +/- 10%
Fe	56	45	He	333.257	ppb	0.2	789267.68	800	41.66	85	115	> +/- 10%
Co	59	45	He	32.542	ppb	0.6	179863.32	80	40.68	85	115	> +/- 10%
Ni	60	45	He	33.317	ppb	1.5	50795.77	80	41.65	85	115	> +/- 10%
Cu	65	45	He	32.694	ppb	0.7	71964.70	80	40.87	85	115	> +/- 10%
Zn	66	72	He	32.038	ppb	1.5	22051.66	80	40.05	85	115	> +/- 10%
As	75	72	He	29.908	ppb	0.6	13177.77	80	37.39	85	115	> +/- 10%
Se	78	72	He	29.566	ppb	2.2	865.36	80	36.96	85	115	> +/- 10%
Rb	85	115	He	29.498	ppb	0.7	59195.90	80	36.87	85	115	> +/- 10%
Sr	88	115	He	30.121	ppb	0.6	79757.97	80	37.65	85	115	> +/- 10%
Mo	95	115	He	32.250	ppb	1.0	83735.41	80	40.31	85	115	> +/- 10%
Ag	107	115	He	31.113	ppb	0.1	297474.32	80	38.89	85	115	> +/- 10%
Cd	111	115	He	31.824	ppb	0.3	39528.03	80	39.78	85	115	> +/- 10%
Sn	118	115	He	28.375	ppb	1.0	76015.94	80	35.47	85	115	> +/- 10%
Sb	121	115	He	32.673	ppb	1.8	99229.42	80	40.84	85	115	> +/- 10%
Cs	133	115	He	31.801	ppb	0.7	222255.42	80	39.75	85	115	> +/- 10%
Ba	137	115	He	32.270	ppb	0.8	40639.41	80	40.34	85	115	> +/- 10%
Ce	140	115	He	32.139	ppb	0.5	618966.29	80	40.17	85	115	> +/- 10%
Tl	205	159	He	31.747	ppb	0.6	595820.46	80	39.68	85	115	> +/- 10%
[Pb]	206	159	He	33.116	ppb	0.5	198711.73	80	41.4	85	115	> +/- 10%
[Pb]	207	159	He	31.569	ppb	0.3	167046.10	80	39.46	85	115	> +/- 10%
Pb	208	159	He	32.465	ppb	0.4	780498.50	80	40.58	85	115	> +/- 10%
U	238	159	He	31.610	ppb	0.6	731595.35	80	39.51	85	115	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	110162.82	1.1	137203.93	80.29	60	120	
Ge (IS)	72	He	108322.62	0.7	129955.32	83.35	60	120	
In-115 (IS)	115	He	1274752.17	0.4	1455481.42	87.58	60	120	
Tb-159 (IS)	159	He	4195048.17	0.8	4498680.38	93.25	60	120	

Sample Report

Sample Name	440-292950-c-1-a
File Name	038SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:29:28
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4410

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.034	ppb	N/A	0.17	5000	
Al	27	45	He	93.632	ppb	3.4	5105.52	5000	
V	51	45	He	0.678	ppb	5.3	1657.88	5000	
Cr	52	45	He	0.606	ppb	2.1	1880.13	5000	
Mn	55	45	He	12.150	ppb	2.7	18179.78	5000	
Fe	56	45	He	124.416	ppb	2.4	290259.05	50000	
Co	59	45	He	0.145	ppb	4.4	794.47	4000	
Ni	60	45	He	1.771	ppb	8.0	2665.81	2000	
Cu	65	45	He	3.581	ppb	6.4	7790.93	2000	
Zn	66	72	He	14.722	ppb	2.1	10261.32	5000	
As	75	72	He	0.508	ppb	12.3	229.00	5000	
Se	78	72	He	-0.203	ppb	N/A	42.00	5000	
Rb	85	115	He	0.637	ppb	5.5	1268.95	5000	
Sr	88	115	He	32.845	ppb	1.2	86210.37	5000	
Mo	95	115	He	2.523	ppb	1.4	6507.01	3000	
Ag	107	115	He	0.060	ppb	18.2	591.13	100	
Cd	111	115	He	0.042	ppb	9.3	53.33	5000	
Sn	118	115	He	0.707	ppb	15.3	1991.26	5000	
Sb	121	115	He	0.423	ppb	4.6	1321.18	5000	
Cs	133	115	He	0.012	ppb	20.7	81.11	5000	
Ba	137	115	He	5.075	ppb	4.1	6339.21	5000	
Ce	140	115	He	0.149	ppb	2.8	2966.99	5000	
Tl	205	159	He	0.011	ppb	11.4	271.11	5000	
Pb	208	159	He	1.282	ppb	0.4	30622.35	4000	
U	238	159	He	0.191	ppb	8.4	4380.78	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	107703.34	1.7	137203.93	78.5	60	120	
Ge (IS)	72	He	107119.72	0.4	129955.32	82.43	60	120	
In-115 (IS)	115	He	1263667.22	0.3	1455481.42	86.82	60	120	
Tb-159 (IS)	159	He	4147133.87	0.3	4498680.38	92.19	60	120	

Sample Report

Sample Name	440-292950-c-1-b ms
File Name	039SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:31:31
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4411

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	90.662	ppb	1.1	2025.30	5000	
Al	27	45	He	185.173	ppb	1.1	10216.04	5000	
V	51	45	He	84.164	ppb	0.7	199551.71	5000	
Cr	52	45	He	85.995	ppb	0.5	257615.16	5000	
Mn	55	45	He	97.230	ppb	0.6	147361.96	5000	
Fe	56	45	He	956.389	ppb	0.1	2241898.31	50000	
Co	59	45	He	85.879	ppb	0.5	471191.93	4000	
Ni	60	45	He	86.389	ppb	1.3	130715.98	2000	
Cu	65	45	He	89.908	ppb	0.3	196302.59	2000	
Zn	66	72	He	96.901	ppb	0.6	64802.73	5000	
As	75	72	He	81.941	ppb	1.1	35548.85	5000	
Se	78	72	He	81.789	ppb	1.3	2274.18	5000	
Rb	85	115	He	79.121	ppb	0.9	158782.84	5000	
Sr	88	115	He	112.637	ppb	0.9	298227.39	5000	
Mo	95	115	He	84.193	ppb	1.9	218585.43	3000	
Ag	107	115	He	81.857	ppb	0.5	782646.36	100	
Cd	111	115	He	84.109	ppb	0.8	104474.02	5000	
Sn	118	115	He	79.108	ppb	2.3	211716.35	5000	
Sb	121	115	He	90.691	ppb	1.1	275347.82	5000	
Cs	133	115	He	84.349	ppb	0.6	589525.34	5000	
Ba	137	115	He	90.500	ppb	1.0	113972.24	5000	
Ce	140	115	He	85.151	ppb	1.5	1639776.98	5000	
Tl	205	159	He	84.494	ppb	0.4	1585459.42	5000	
Pb	208	159	He	87.794	ppb	1.1	2110142.57	4000	
U	238	159	He	87.527	ppb	1.3	2025540.85	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	109367.34	1.2	137203.93	79.71	60	120	
Ge (IS)	72	He	106695.52	0.6	129955.32	82.1	60	120	
In-115 (IS)	115	He	1274818.08	0.3	1455481.42	87.59	60	120	
Tb-159 (IS)	159	He	4194550.39	0.3	4498680.38	93.24	60	120	

Sample Report

Sample Name	440-292950-c-1-c msd
File Name	040SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:33:35
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4412

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	89.352	ppb	2.7	1973.79	5000	
Al	27	45	He	210.378	ppb	1.0	11470.92	5000	
V	51	45	He	84.545	ppb	0.3	198228.01	5000	
Cr	52	45	He	86.007	ppb	0.5	254788.94	5000	
Mn	55	45	He	96.636	ppb	0.2	144829.30	5000	
Fe	56	45	He	986.701	ppb	0.3	2287072.76	50000	
Co	59	45	He	85.591	ppb	0.2	464387.71	4000	
Ni	60	45	He	86.935	ppb	0.4	130085.11	2000	
Cu	65	45	He	90.178	ppb	0.4	194697.72	2000	
Zn	66	72	He	96.155	ppb	0.6	64765.93	5000	
As	75	72	He	79.933	ppb	1.2	34925.40	5000	
Se	78	72	He	78.577	ppb	4.6	2202.50	5000	
Rb	85	115	He	78.346	ppb	1.0	156222.97	5000	
Sr	88	115	He	111.332	ppb	0.4	292889.81	5000	
Mo	95	115	He	85.246	ppb	1.3	219907.97	3000	
Ag	107	115	He	82.207	ppb	0.3	780970.02	100	
Cd	111	115	He	83.621	ppb	0.9	103204.83	5000	
Sn	118	115	He	78.617	ppb	0.2	209063.06	5000	
Sb	121	115	He	90.717	ppb	0.5	273668.77	5000	
Cs	133	115	He	83.368	ppb	0.6	578944.93	5000	
Ba	137	115	He	90.029	ppb	0.2	112652.99	5000	
Ce	140	115	He	84.420	ppb	1.1	1615322.54	5000	
Tl	205	159	He	83.741	ppb	0.7	1570753.31	5000	
Pb	208	159	He	86.939	ppb	1.0	2088849.07	4000	
U	238	159	He	86.455	ppb	0.9	2000035.18	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	108147.53	0.9	137203.93	78.82	60	120	
Ge (IS)	72	He	107458.56	0.3	129955.32	82.69	60	120	
In-115 (IS)	115	He	1266661.29	0.1	1455481.42	87.03	60	120	
Tb-159 (IS)	159	He	4192993.31	0.2	4498680.38	93.2	60	120	

Sample Report

Sample Name 440-292973-d-1-a

File Name 041SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 10:35:39

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 664401 BH

Location 4501

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.011	ppb	N/A	0.67	5000	
Al	27	45	He	170.782	ppb	2.2	9217.41	5000	
V	51	45	He	1.174	ppb	1.6	2796.93	5000	
Cr	52	45	He	0.541	ppb	5.0	1678.99	5000	
Mn	55	45	He	18.779	ppb	1.5	27883.31	5000	
Fe	56	45	He	201.264	ppb	1.0	464251.11	50000	
Co	59	45	He	0.215	ppb	4.0	1166.72	4000	
Ni	60	45	He	1.845	ppb	3.9	2759.16	2000	
Cu	65	45	He	9.204	ppb	1.5	19746.25	2000	
Zn	66	72	He	92.573	ppb	0.8	61455.49	5000	
As	75	72	He	0.321	ppb	15.2	146.00	5000	
Se	78	72	He	0.075	ppb	318.8	49.00	5000	
Rb	85	115	He	0.582	ppb	4.5	1150.05	5000	
Sr	88	115	He	9.463	ppb	1.4	24662.71	5000	
Mo	95	115	He	1.993	ppb	3.1	5104.24	3000	
Ag	107	115	He	0.024	ppb	4.5	244.45	100	
Cd	111	115	He	0.036	ppb	22.6	44.67	5000	
Sn	118	115	He	1.083	ppb	9.1	2964.76	5000	
Sb	121	115	He	2.570	ppb	2.8	7723.20	5000	
Cs	133	115	He	0.026	ppb	4.1	177.78	5000	
Ba	137	115	He	17.832	ppb	1.6	22096.98	5000	
Ce	140	115	He	0.192	ppb	2.1	3770.52	5000	
Tl	205	159	He	0.017	ppb	8.3	378.89	5000	
Pb	208	159	He	0.746	ppb	2.9	17810.16	4000	
U	238	159	He	0.197	ppb	6.0	4490.83	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	106972.56	0.9	137203.93	77.97	60	120	
Ge (IS)	72	He	105885.36	0.5	129955.32	81.48	60	120	
In-115 (IS)	115	He	1254192.20	0.4	1455481.42	86.17	60	120	
Tb-159 (IS)	159	He	4130695.95	1.1	4498680.38	91.82	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	lcs 440-664401/2-a
File Name	042_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:38:03
Sample Type	LCS
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**IRVINSTIC** **PMS6**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	90.090	ppb	2.2	1909.78	80	112.61	85	115	
Al	27	45	He	79.900	ppb	3.9	4206.58	80	99.88	85	115	
V	51	45	He	81.831	ppb	1.2	184151.03	80	102.29	85	115	
Cr	52	45	He	84.194	ppb	1.1	239387.44	80	105.24	85	115	
Mn	55	45	He	84.135	ppb	1.2	121029.40	80	105.17	85	115	
Fe	56	45	He	836.123	ppb	0.9	1860658.54	800	104.52	85	115	
Co	59	45	He	84.163	ppb	1.4	438275.55	80	105.2	85	115	
Ni	60	45	He	83.321	ppb	2.4	119654.74	80	104.15	85	115	
Cu	65	45	He	83.902	ppb	1.0	173867.50	80	104.88	85	115	
Zn	66	72	He	80.119	ppb	0.8	51305.68	80	100.15	85	115	
As	75	72	He	79.493	ppb	0.2	32975.36	80	99.37	85	115	
Se	78	72	He	78.258	ppb	1.9	2082.48	80	97.82	85	115	
Rb	85	115	He	75.784	ppb	0.6	146129.47	80	94.73	85	115	
Sr	88	115	He	77.047	ppb	0.8	196012.69	80	96.31	85	115	
Mo	95	115	He	81.225	ppb	0.8	202621.70	80	101.53	85	115	
Ag	107	115	He	80.588	ppb	0.5	740337.04	80	100.74	85	115	
Cd	111	115	He	82.694	ppb	1.2	98694.08	80	103.37	85	115	
Sn	118	115	He	84.237	ppb	0.5	216610.16	80	105.3	85	115	
Sb	121	115	He	84.489	ppb	1.1	246477.96	80	105.61	85	115	
Cs	133	115	He	82.084	ppb	0.4	551225.52	80	102.61	85	115	
Ba	137	115	He	83.781	ppb	1.2	101378.99	80	104.73	85	115	
Ce	140	115	He	83.433	ppb	0.4	1543776.12	80	104.29	85	115	
Tl	205	159	He	82.991	ppb	0.2	1510343.45	80	103.74	85	115	
[Pb]	206	159	He	86.324	ppb	0.1	502258.92	80	107.9	85	115	
[Pb]	207	159	He	82.181	ppb	0.6	421643.86	80	102.73	85	115	
Pb	208	159	He	84.582	ppb	0.2	1971682.05	80	105.73	85	115	
U	238	159	He	86.084	ppb	0.9	1932120.18	80	107.6	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	103802.19	0.9	137203.93	75.66	60	120	
Ge (IS)	72	He	102021.26	0.7	129955.32	78.5	60	120	
In-115 (IS)	115	He	1224869.81	0.2	1455481.42	84.16	60	120	
Tb-159 (IS)	159	He	4068114.42	0.2	4498680.38	90.43	60	120	

Sample Report

Sample Name	440-292973-d-1-b ms
File Name	043SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:40:07
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4502

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	92.990	ppb	0.2	2014.30	5000	
Al	27	45	He	279.999	ppb	1.6	14958.55	5000	
V	51	45	He	84.616	ppb	0.6	194567.30	5000	
Cr	52	45	He	85.830	ppb	0.5	249345.17	5000	
Mn	55	45	He	99.849	ppb	0.2	146753.87	5000	
Fe	56	45	He	1039.869	ppb	0.8	2363539.98	50000	
Co	59	45	He	86.207	ppb	0.9	458703.59	4000	
Ni	60	45	He	86.846	ppb	0.8	127443.01	2000	
Cu	65	45	He	95.288	ppb	0.7	201755.62	2000	
Zn	66	72	He	175.944	ppb	1.5	114512.75	5000	
As	75	72	He	80.976	ppb	0.5	34296.63	5000	
Se	78	72	He	80.259	ppb	3.8	2179.49	5000	
Rb	85	115	He	78.212	ppb	0.3	153443.15	5000	
Sr	88	115	He	89.083	ppb	0.2	230584.97	5000	
Mo	95	115	He	83.317	ppb	0.6	211470.17	3000	
Ag	107	115	He	81.857	ppb	0.2	765115.02	100	
Cd	111	115	He	84.084	ppb	1.2	102103.89	5000	
Sn	118	115	He	80.397	ppb	1.2	210351.27	5000	
Sb	121	115	He	91.339	ppb	0.6	271106.49	5000	
Cs	133	115	He	83.902	ppb	0.2	573271.84	5000	
Ba	137	115	He	103.535	ppb	1.2	127466.34	5000	
Ce	140	115	He	85.049	ppb	1.1	1601137.75	5000	
Tl	205	159	He	84.606	ppb	0.3	1560496.36	5000	
Pb	208	159	He	87.075	ppb	0.4	2057196.64	4000	
U	238	159	He	87.171	ppb	0.6	1982947.37	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	106059.63	0.3	137203.93	77.3	60	120	
Ge (IS)	72	He	104167.03	0.8	129955.32	80.16	60	120	
In-115 (IS)	115	He	1246259.40	0.1	1455481.42	85.63	60	120	
Tb-159 (IS)	159	He	4123024.70	0.2	4498680.38	91.65	60	120	

Sample Report

Sample Name	440-292973-d-1-c msd
File Name	044SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:42:11
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4503

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	89.366	ppb	1.0	1956.62	5000	
Al	27	45	He	296.932	ppb	1.5	16030.93	5000	
V	51	45	He	83.361	ppb	0.4	193738.88	5000	
Cr	52	45	He	84.711	ppb	1.1	248740.20	5000	
Mn	55	45	He	99.769	ppb	1.3	148210.48	5000	
Fe	56	45	He	1043.259	ppb	1.0	2396691.71	50000	
Co	59	45	He	84.515	ppb	0.7	454526.60	4000	
Ni	60	45	He	86.055	ppb	0.9	127635.71	2000	
Cu	65	45	He	94.337	ppb	0.7	201882.33	2000	
Zn	66	72	He	177.319	ppb	1.2	116045.53	5000	
As	75	72	He	79.880	ppb	0.9	34019.66	5000	
Se	78	72	He	79.613	ppb	3.6	2174.16	5000	
Rb	85	115	He	76.842	ppb	0.7	151002.11	5000	
Sr	88	115	He	89.068	ppb	0.8	230922.73	5000	
Mo	95	115	He	84.260	ppb	1.2	214209.94	3000	
Ag	107	115	He	81.359	ppb	0.7	761698.60	100	
Cd	111	115	He	82.761	ppb	0.9	100660.66	5000	
Sn	118	115	He	80.263	ppb	1.1	210341.13	5000	
Sb	121	115	He	91.571	ppb	0.8	272237.44	5000	
Cs	133	115	He	82.847	ppb	0.3	566988.15	5000	
Ba	137	115	He	104.477	ppb	0.4	128835.19	5000	
Ce	140	115	He	83.815	ppb	1.2	1580472.26	5000	
Tl	205	159	He	82.973	ppb	0.4	1536864.90	5000	
Pb	208	159	He	85.922	ppb	0.3	2038556.70	4000	
U	238	159	He	85.915	ppb	0.7	1962639.82	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	107199.57	0.6	137203.93	78.13	60	120	
Ge (IS)	72	He	104745.30	0.7	129955.32	80.6	60	120	
In-115 (IS)	115	He	1248295.53	0.3	1455481.42	85.77	60	120	
Tb-159 (IS)	159	He	4140447.61	0.1	4498680.38	92.04	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6818298

File Name 045_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 10:44:14

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	56.379	ppb	2.6	1172.04	50	112.76	90	110	> +/- 10%
Al	27	45	He	53.050	ppb	5.3	2750.92	50	106.1	90	110	
V	51	45	He	52.184	ppb	0.9	115146.15	50	104.37	90	110	
Cr	52	45	He	52.970	ppb	0.3	147674.77	50	105.94	90	110	
Mn	55	45	He	53.238	ppb	1.1	75094.06	50	106.48	90	110	
Fe	56	45	He	560.497	ppb	0.4	1223813.35	500	112.1	90	110	> +/- 10%
Co	59	45	He	53.686	ppb	0.8	274065.80	50	107.37	90	110	
Ni	60	45	He	53.551	ppb	0.4	75402.93	50	107.1	90	110	
Cu	65	45	He	54.509	ppb	0.4	110766.00	50	109.02	90	110	
Zn	66	72	He	51.705	ppb	0.9	32915.78	50	103.41	90	110	
As	75	72	He	50.095	ppb	0.8	20567.36	50	100.19	90	110	
Se	78	72	He	52.094	ppb	4.3	1386.73	50	104.19	90	110	
Rb	85	115	He	48.071	ppb	0.9	92027.73	50	96.14	90	110	
Sr	88	115	He	48.545	ppb	0.7	122619.87	50	97.09	90	110	
Mo	95	115	He	51.088	ppb	0.7	126533.75	50	102.18	90	110	
Ag	107	115	He	52.415	ppb	1.0	478069.17	50	104.83	90	110	
Cd	111	115	He	52.118	ppb	0.4	61757.29	50	104.24	90	110	
Sn	118	115	He	53.793	ppb	1.2	137375.98	50	107.59	90	110	
Sb	121	115	He	53.167	ppb	0.4	154009.53	50	106.33	90	110	
Cs	133	115	He	51.494	ppb	0.7	343326.26	50	102.99	90	110	
Ba	137	115	He	52.109	ppb	1.2	62602.18	50	104.22	90	110	
Ce	140	115	He	53.831	ppb	1.0	988942.98	50	107.66	90	110	
Tl	205	159	He	52.863	ppb	0.4	953002.36	50	105.73	90	110	
Pb	208	159	He	53.606	ppb	0.6	1237907.37	50	107.21	90	110	
U	238	159	He	53.076	ppb	1.0	1180066.13	50	106.15	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	101755.20	0.5	137203.93	74.16	60	120	
Ge (IS)	72	He	100964.07	0.5	129955.32	77.69	60	120	
In-115 (IS)	115	He	1216115.61	0.4	1455481.42	83.55	60	120	
Tb-159 (IS)	159	He	4029849.70	0.4	4498680.38	89.58	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 046_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 10:46:17

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.018	ppb	N/A	0.50	0.5	
Al	27	45	He	-0.067	ppb	N/A	35.33	10	
V	51	45	He	0.030	ppb	27.4	136.67	1	
Cr	52	45	He	0.020	ppb	18.0	142.22	1	
Mn	55	45	He	-0.003	ppb	N/A	48.89	1	
Fe	56	45	He	1.906	ppb	12.8	7474.09	20	
Co	59	45	He	0.005	ppb	23.2	34.44	1	
Ni	60	45	He	0.009	ppb	47.3	40.00	1	
Cu	65	45	He	0.043	ppb	9.2	178.89	1	
Zn	66	72	He	0.140	ppb	30.8	496.68	5	
As	75	72	He	0.017	ppb	78.4	14.33	1	
Se	78	72	He	-0.075	ppb	N/A	42.00	1	
Rb	85	115	He	0.010	ppb	57.0	18.89	1	
Sr	88	115	He	0.001	ppb	801.3	13.33	1	
Mo	95	115	He	0.122	ppb	17.1	306.67	1	
Ag	107	115	He	0.019	ppb	13.3	188.89	1	
Cd	111	115	He	0.005	ppb	37.2	6.67	1	
Sn	118	115	He	0.784	ppb	13.6	2061.27	10	
Sb	121	115	He	0.294	ppb	8.4	875.59	1	
Cs	133	115	He	0.005	ppb	9.5	36.67	1	
Ba	137	115	He	0.027	ppb	10.8	36.67	1	
Ce	140	115	He	0.005	ppb	12.7	216.67	1	
Tl	205	159	He	0.011	ppb	22.8	258.89	1	
Pb	208	159	He	0.019	ppb	6.0	581.12	1	
U	238	159	He	0.111	ppb	3.9	2460.28	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	100802.41	0.7	137203.93	73.47	60	120	
Ge (IS)	72	He	99016.82	0.5	129955.32	76.19	60	120	
In-115 (IS)	115	He	1187060.58	0.4	1455481.42	81.56	60	120	
Tb-159 (IS)	159	He	3993585.81	0.3	4498680.38	88.77	60	120	

Sample Report

Sample Name	440-292973-d-2-a
File Name	047SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:50:20
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4504

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.011	ppb	N/A	0.67	5000	
Al	27	45	He	102.179	ppb	1.9	5504.99	5000	
V	51	45	He	1.021	ppb	1.6	2429.10	5000	
Cr	52	45	He	0.606	ppb	5.2	1860.13	5000	
Mn	55	45	He	19.684	ppb	0.7	29084.39	5000	
Fe	56	45	He	205.785	ppb	0.5	472331.35	50000	
Co	59	45	He	0.333	ppb	2.8	1791.23	4000	
Ni	60	45	He	2.681	ppb	0.9	3977.20	2000	
Cu	65	45	He	8.726	ppb	1.6	18634.86	2000	
Zn	66	72	He	180.466	ppb	0.5	118343.21	5000	
As	75	72	He	0.322	ppb	7.5	145.33	5000	
Se	78	72	He	0.078	ppb	319.3	48.67	5000	
Rb	85	115	He	0.652	ppb	8.7	1280.06	5000	
Sr	88	115	He	11.770	ppb	0.7	30475.62	5000	
Mo	95	115	He	1.614	ppb	4.4	4108.37	3000	
Ag	107	115	He	0.008	ppb	23.5	101.11	100	
Cd	111	115	He	0.042	ppb	15.8	52.67	5000	
Sn	118	115	He	0.416	ppb	7.2	1202.28	5000	
Sb	121	115	He	9.079	ppb	1.1	26990.62	5000	
Cs	133	115	He	0.016	ppb	15.5	107.78	5000	
Ba	137	115	He	41.830	ppb	0.8	51500.67	5000	
Ce	140	115	He	0.128	ppb	1.1	2542.46	5000	
Tl	205	159	He	0.010	ppb	18.1	250.00	5000	
Pb	208	159	He	0.523	ppb	0.4	12532.30	4000	
U	238	159	He	0.056	ppb	12.2	1293.42	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	106456.76	0.2	137203.93	77.59	60	120	
Ge (IS)	72	He	104959.97	0.8	129955.32	80.77	60	120	
In-115 (IS)	115	He	1246235.27	0.5	1455481.42	85.62	60	120	
Tb-159 (IS)	159	He	4128389.14	0.4	4498680.38	91.77	60	120	

Sample Report

Sample Name	440-292973-d-3-a
File Name	048SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:52:24
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4505

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.005	ppb	509.7	1.00	5000	
Al	27	45	He	377.862	ppb	1.6	20164.41	5000	
V	51	45	He	2.960	ppb	2.9	6874.91	5000	
Cr	52	45	He	1.162	ppb	4.7	3467.07	5000	
Mn	55	45	He	29.018	ppb	1.5	42672.97	5000	
Fe	56	45	He	491.690	ppb	0.6	1118996.41	50000	
Co	59	45	He	0.350	ppb	2.7	1873.46	4000	
Ni	60	45	He	2.040	ppb	3.3	3021.43	2000	
Cu	65	45	He	7.812	ppb	1.4	16624.75	2000	
Zn	66	72	He	51.734	ppb	0.2	34044.96	5000	
As	75	72	He	0.504	ppb	8.7	221.67	5000	
Se	78	72	He	-0.388	ppb	N/A	36.00	5000	
Rb	85	115	He	0.874	ppb	4.0	1699.00	5000	
Sr	88	115	He	26.587	ppb	1.1	68195.57	5000	
Mo	95	115	He	1.880	ppb	2.2	4741.90	3000	
Ag	107	115	He	0.009	ppb	25.6	107.78	100	
Cd	111	115	He	0.050	ppb	17.6	61.33	5000	
Sn	118	115	He	0.472	ppb	3.4	1336.74	5000	
Sb	121	115	He	2.033	ppb	2.1	6025.72	5000	
Cs	133	115	He	0.052	ppb	10.5	354.45	5000	
Ba	137	115	He	11.750	ppb	3.1	14336.32	5000	
Ce	140	115	He	0.418	ppb	1.3	7931.11	5000	
Tl	205	159	He	0.013	ppb	15.7	295.56	5000	
Pb	208	159	He	1.457	ppb	0.8	34341.40	4000	
U	238	159	He	0.118	ppb	6.2	2686.98	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	106018.23	0.1	137203.93	77.27	60	120	
Ge (IS)	72	He	104372.84	0.1	129955.32	80.31	60	120	
In-115 (IS)	115	He	1234850.06	0.4	1455481.42	84.84	60	120	
Tb-159 (IS)	159	He	4095410.95	0.9	4498680.38	91.04	60	120	

Sample Report

Sample Name	440-293043-a-1-a
File Name	049SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 10:54:27
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4506

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.059	ppb	90.0	2.17	5000	
Al	27	45	He	2250.235	ppb	0.7	118842.91	5000	
V	51	45	He	6.456	ppb	0.9	14778.31	5000	
Cr	52	45	He	6.247	ppb	1.7	18068.51	5000	
Mn	55	45	He	95.933	ppb	1.1	139722.01	5000	
Fe	56	45	He	3528.060	ppb	0.9	7937983.30	50000	
Co	59	45	He	2.643	ppb	3.0	13949.77	4000	
Ni	60	45	He	10.777	ppb	1.8	15695.93	2000	
Cu	65	45	He	30.228	ppb	0.6	63488.09	2000	
Zn	66	72	He	3998.918	ppb	1.4	2562568.44	5000	
As	75	72	He	1.061	ppb	6.7	451.34	5000	
Se	78	72	He	0.064	ppb	312.4	47.33	5000	
Rb	85	115	He	6.133	ppb	1.1	11806.94	5000	
Sr	88	115	He	50.451	ppb	0.6	128124.82	5000	
Mo	95	115	He	6.029	ppb	0.9	15024.32	3000	
Ag	107	115	He	0.200	ppb	8.5	1855.68	100	
Cd	111	115	He	1.084	ppb	2.8	1292.06	5000	
Sn	118	115	He	0.983	ppb	7.1	2634.70	5000	
Sb	121	115	He	4.576	ppb	1.0	13369.52	5000	
Cs	133	115	He	0.199	ppb	6.6	1332.29	5000	
Ba	137	115	He	100.133	ppb	0.8	120945.15	5000	
Ce	140	115	He	3.608	ppb	1.3	66757.59	5000	
Tl	205	159	He	0.044	ppb	2.5	868.92	5000	
Pb	208	159	He	16.759	ppb	0.1	393888.62	4000	
U	238	159	He	0.275	ppb	5.1	6224.88	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	105101.79	0.5	137203.93	76.6	60	120	
Ge (IS)	72	He	102932.92	0.7	129955.32	79.21	60	120	
In-115 (IS)	115	He	1222707.55	0.4	1455481.42	84.01	60	120	
Tb-159 (IS)	159	He	4100227.20	0.5	4498680.38	91.14	60	120	

Sample Report

Sample Name 440-293043-a-2-a

File Name 050SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 10:56:31

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 664401 BH

Location 4507

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.020	ppb	130.5	1.33	5000	
Al	27	45	He	1408.110	ppb	1.3	74713.23	5000	
V	51	45	He	3.856	ppb	1.4	8894.85	5000	
Cr	52	45	He	4.723	ppb	1.6	13744.02	5000	
Mn	55	45	He	50.865	ppb	0.7	74440.96	5000	
Fe	56	45	He	2292.272	ppb	1.0	5181699.38	50000	
Co	59	45	He	1.125	ppb	2.6	5968.97	4000	
Ni	60	45	He	6.110	ppb	1.3	8951.56	2000	
Cu	65	45	He	27.721	ppb	0.9	58491.48	2000	
Zn	66	72	He	3429.266	ppb	0.4	2197478.45	5000	
As	75	72	He	0.614	ppb	7.9	264.33	5000	
Se	78	72	He	0.089	ppb	111.0	48.00	5000	
Rb	85	115	He	3.155	ppb	2.7	6106.85	5000	
Sr	88	115	He	33.675	ppb	0.7	85981.36	5000	
Mo	95	115	He	4.476	ppb	3.2	11218.73	3000	
Ag	107	115	He	0.086	ppb	6.0	810.03	100	
Cd	111	115	He	0.682	ppb	3.7	818.36	5000	
Sn	118	115	He	1.092	ppb	5.6	2928.09	5000	
Sb	121	115	He	2.998	ppb	1.8	8821.60	5000	
Cs	133	115	He	0.144	ppb	6.2	971.15	5000	
Ba	137	115	He	58.390	ppb	0.7	70904.82	5000	
Ce	140	115	He	2.038	ppb	1.1	37966.73	5000	
Tl	205	159	He	0.030	ppb	9.5	603.35	5000	
Pb	208	159	He	16.322	ppb	0.5	384704.96	4000	
U	238	159	He	0.438	ppb	3.6	9953.81	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	105573.00	0.9	137203.93	76.95	60	120	
Ge (IS)	72	He	102921.61	0.2	129955.32	79.2	60	120	
In-115 (IS)	115	He	1229226.40	0.2	1455481.42	84.45	60	120	
Tb-159 (IS)	159	He	4111919.42	0.0	4498680.38	91.4	60	120	

Sample Report

Sample Name 440-293043-a-3-a

File Name 051SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 10:58:34

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 664401 BH

Location 4508

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.081	ppb	58.4	2.67	5000	
Al	27	45	He	2599.556	ppb	1.2	138596.73	5000	
V	51	45	He	8.123	ppb	1.7	18752.69	5000	
Cr	52	45	He	8.421	ppb	2.8	24555.30	5000	
Mn	55	45	He	110.061	ppb	0.7	161827.14	5000	
Fe	56	45	He	4714.842	ppb	1.4	10708327.35	50000	
Co	59	45	He	2.557	ppb	0.6	13625.06	4000	
Ni	60	45	He	9.244	ppb	2.1	13596.11	2000	
Cu	65	45	He	68.548	ppb	0.8	145227.55	2000	
Zn	66	72	He	2630.597	ppb	1.1	1708038.44	5000	
As	75	72	He	1.255	ppb	2.5	539.68	5000	
Se	78	72	He	0.303	ppb	45.6	54.33	5000	
Rb	85	115	He	6.102	ppb	3.3	11931.48	5000	
Sr	88	115	He	67.494	ppb	0.9	174115.94	5000	
Mo	95	115	He	3.803	ppb	0.6	9632.07	3000	
Ag	107	115	He	0.050	ppb	2.9	490.01	100	
Cd	111	115	He	0.609	ppb	2.0	737.69	5000	
Sn	118	115	He	1.130	ppb	2.9	3058.12	5000	
Sb	121	115	He	3.352	ppb	3.4	9960.10	5000	
Cs	133	115	He	0.204	ppb	3.9	1390.07	5000	
Ba	137	115	He	108.637	ppb	0.7	133294.17	5000	
Ce	140	115	He	4.654	ppb	1.3	87442.38	5000	
Tl	205	159	He	0.042	ppb	7.1	850.03	5000	
Pb	208	159	He	20.115	ppb	0.7	479630.58	4000	
U	238	159	He	1.155	ppb	1.9	26513.04	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	106108.84	0.7	137203.93	77.34	60	120	
Ge (IS)	72	He	104284.26	0.6	129955.32	80.25	60	120	
In-115 (IS)	115	He	1242050.29	0.2	1455481.42	85.34	60	120	
Tb-159 (IS)	159	He	4160206.08	0.2	4498680.38	92.48	60	120	

Sample Report

Sample Name	440-293043-a-6-a
File Name	052SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:00:43
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4509

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.103	ppb	49.7	3.17	5000	
Al	27	45	He	3782.808	ppb	0.8	203562.65	5000	
V	51	45	He	10.481	ppb	0.7	24401.73	5000	
Cr	52	45	He	10.537	ppb	1.8	30992.58	5000	
Mn	55	45	He	116.474	ppb	0.8	172862.08	5000	
Fe	56	45	He	5713.572	ppb	1.1	13097945.87	50000	
Co	59	45	He	3.294	ppb	1.2	17713.70	4000	
Ni	60	45	He	11.280	ppb	2.0	16739.26	2000	
Cu	65	45	He	55.446	ppb	1.4	118587.94	2000	
Zn	66	72	He	849.070	ppb	1.6	553212.90	5000	
As	75	72	He	2.128	ppb	2.3	912.70	5000	
Se	78	72	He	0.282	ppb	145.7	54.00	5000	
Rb	85	115	He	9.450	ppb	0.8	18560.48	5000	
Sr	88	115	He	53.255	ppb	0.6	137992.02	5000	
Mo	95	115	He	4.398	ppb	2.7	11185.39	3000	
Ag	107	115	He	0.291	ppb	9.6	2743.60	100	
Cd	111	115	He	3.401	ppb	0.5	4134.92	5000	
Sn	118	115	He	0.881	ppb	4.6	2421.33	5000	
Sb	121	115	He	3.274	ppb	0.8	9774.44	5000	
Cs	133	115	He	0.331	ppb	3.5	2264.64	5000	
Ba	137	115	He	94.778	ppb	0.5	116809.08	5000	
Ce	140	115	He	4.895	ppb	0.8	92367.28	5000	
Tl	205	159	He	0.055	ppb	7.6	1075.60	5000	
Pb	208	159	He	38.630	ppb	0.4	921310.11	4000	
U	238	159	He	0.309	ppb	2.0	7112.01	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	107108.03	1.0	137203.93	78.06	60	120	
Ge (IS)	72	He	104596.45	0.9	129955.32	80.49	60	120	
In-115 (IS)	115	He	1247556.87	0.6	1455481.42	85.71	60	120	
Tb-159 (IS)	159	He	4161741.36	0.3	4498680.38	92.51	60	120	

Sample Report

Sample Name 440-292996-a-1-a

File Name 053SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 11:02:51

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 664401 BH

Location 4510

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.026	ppb	N/A	0.33	5000	
Al	27	45	He	76.374	ppb	3.3	4075.88	5000	
V	51	45	He	0.518	ppb	14.7	1253.39	5000	
Cr	52	45	He	0.262	ppb	5.3	846.70	5000	
Mn	55	45	He	9.604	ppb	1.4	14049.86	5000	
Fe	56	45	He	67.840	ppb	1.3	156216.36	50000	
Co	59	45	He	0.111	ppb	2.6	596.68	4000	
Ni	60	45	He	1.872	ppb	2.0	2753.60	2000	
Cu	65	45	He	5.199	ppb	1.5	11010.71	2000	
Zn	66	72	He	215.136	ppb	1.4	140130.65	5000	
As	75	72	He	0.115	ppb	12.9	56.33	5000	
Se	78	72	He	0.126	ppb	118.3	49.67	5000	
Rb	85	115	He	0.177	ppb	1.0	346.67	5000	
Sr	88	115	He	7.885	ppb	0.6	20378.43	5000	
Mo	95	115	He	2.356	ppb	2.2	5981.24	3000	
Ag	107	115	He	0.002	ppb	8.9	44.44	100	
Cd	111	115	He	0.046	ppb	15.8	56.33	5000	
Sn	118	115	He	0.208	ppb	5.1	657.80	5000	
Sb	121	115	He	0.528	ppb	4.6	1612.32	5000	
Cs	133	115	He	0.003	ppb	30.2	20.00	5000	
Ba	137	115	He	6.268	ppb	1.5	7705.43	5000	
Ce	140	115	He	0.053	ppb	4.0	1131.16	5000	
Tl	205	159	He	0.004	ppb	22.8	140.00	5000	
Pb	208	159	He	0.621	ppb	0.9	14787.62	4000	
U	238	159	He	0.012	ppb	29.6	283.34	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	105200.49	0.8	137203.93	76.67	60	120	
Ge (IS)	72	He	104325.84	1.2	129955.32	80.28	60	120	
In-115 (IS)	115	He	1243642.41	0.2	1455481.42	85.45	60	120	
Tb-159 (IS)	159	He	4111651.37	0.3	4498680.38	91.4	60	120	

Sample Report

Sample Name 440-292997-a-1-a

File Name 054SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 11:05:00

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 664401 BH

Location 4511

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.026	ppb	N/A	0.33	5000	
Al	27	45	He	41.500	ppb	2.2	2259.50	5000	
V	51	45	He	0.494	ppb	6.2	1213.39	5000	
Cr	52	45	He	0.237	ppb	12.9	784.47	5000	
Mn	55	45	He	12.015	ppb	2.5	17769.29	5000	
Fe	56	45	He	39.700	ppb	0.8	93952.49	50000	
Co	59	45	He	0.085	ppb	2.7	464.46	4000	
Ni	60	45	He	1.219	ppb	3.2	1824.56	2000	
Cu	65	45	He	3.728	ppb	0.9	8015.49	2000	
Zn	66	72	He	148.553	ppb	0.9	98212.45	5000	
As	75	72	He	0.100	ppb	13.8	51.00	5000	
Se	78	72	He	0.225	ppb	98.0	53.00	5000	
Rb	85	115	He	0.131	ppb	1.4	260.00	5000	
Sr	88	115	He	6.345	ppb	2.4	16551.46	5000	
Mo	95	115	He	1.380	ppb	2.7	3539.33	3000	
Ag	107	115	He	0.002	ppb	75.7	38.89	100	
Cd	111	115	He	0.027	ppb	5.6	34.00	5000	
Sn	118	115	He	0.141	ppb	24.6	485.57	5000	
Sb	121	115	He	0.443	ppb	0.8	1372.29	5000	
Cs	133	115	He	0.003	ppb	51.9	23.33	5000	
Ba	137	115	He	4.243	ppb	3.2	5265.44	5000	
Ce	140	115	He	0.033	ppb	12.1	745.58	5000	
Tl	205	159	He	0.004	ppb	3.4	143.33	5000	
Pb	208	159	He	0.280	ppb	2.4	6797.37	4000	
U	238	159	He	0.009	ppb	21.4	206.67	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	106419.76	0.3	137203.93	77.56	60	120	
Ge (IS)	72	He	105734.17	0.6	129955.32	81.36	60	120	
In-115 (IS)	115	He	1255043.15	0.5	1455481.42	86.23	60	120	
Tb-159 (IS)	159	He	4137919.14	0.7	4498680.38	91.98	60	120	

Sample Report

Sample Name 570-80070-a-1-a

File Name 055SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 11:07:09

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 664401 BH

Location 4512

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.009	ppb	N/A	0.83	5000	
Al	27	45	He	42.604	ppb	5.3	2760.92	5000	
V	51	45	He	2.394	ppb	2.9	6667.04	5000	
Cr	52	45	He	1.301	ppb	0.6	4631.84	5000	
Mn	55	45	He	1034.143	ppb	0.6	1817262.84	5000	
Fe	56	45	He	147.159	ppb	0.9	403661.36	50000	
Co	59	45	He	0.229	ppb	2.3	1473.41	4000	
Ni	60	45	He	1.378	ppb	2.1	2452.44	2000	
Cu	65	45	He	2.672	ppb	2.1	6877.15	2000	
Zn	66	72	He	12.911	ppb	3.1	9867.71	5000	
As	75	72	He	14.141	ppb	2.9	6724.18	5000	
Se	78	72	He	8.200	ppb	2.1	296.33	5000	
Rb	85	115	He	1.916	ppb	0.9	3869.41	5000	
Sr	88	115	He	1021.534	ppb	0.5	2720458.92	5000	
Mo	95	115	He	2.817	ppb	1.5	7369.64	3000	
Ag	107	115	He	0.011	ppb	83.4	125.57	100	
Cd	111	115	He	0.029	ppb	11.9	37.00	5000	
Sn	118	115	He	0.536	ppb	1.1	1558.98	5000	
Sb	121	115	He	0.604	ppb	6.0	1892.36	5000	
Cs	133	115	He	0.051	ppb	13.5	356.67	5000	
Ba	137	115	He	225.644	ppb	1.0	285789.37	5000	
Ce	140	115	He	0.012	ppb	25.5	366.67	5000	
Tl	205	159	He	0.005	ppb	8.4	157.78	5000	
Pb	208	159	He	0.123	ppb	3.9	3140.16	4000	
U	238	159	He	1.332	ppb	2.2	30955.99	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	126850.85	2.8	137203.93	92.45	60	120	
Ge (IS)	72	He	116817.94	2.9	129955.32	89.89	60	120	
In-115 (IS)	115	He	1282269.83	1.7	1455481.42	88.1	60	120	
Tb-159 (IS)	159	He	4211520.80	1.0	4498680.38	93.62	60	120	

Sample Report

Sample Name	570-80073-b-1-a
File Name	056SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:09:15
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	3512

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.023	ppb	N/A	0.50	5000	
Al	27	45	He	133.729	ppb	0.3	8813.85	5000	
V	51	45	He	0.565	ppb	2.0	1687.88	5000	
Cr	52	45	He	0.578	ppb	3.0	2180.17	5000	
Mn	55	45	He	10.728	ppb	1.0	19454.70	5000	
Fe	56	45	He	242.201	ppb	0.4	680500.84	50000	
Co	59	45	He	0.101	ppb	3.4	674.46	4000	
Ni	60	45	He	1.080	ppb	6.3	1984.58	2000	
Cu	65	45	He	2.526	ppb	1.6	6697.07	2000	
Zn	66	72	He	120.650	ppb	1.2	92800.90	5000	
As	75	72	He	0.128	ppb	6.1	73.00	5000	
Se	78	72	He	-0.060	ppb	N/A	52.67	5000	
Rb	85	115	He	0.344	ppb	3.0	750.02	5000	
Sr	88	115	He	5.668	ppb	2.7	16304.53	5000	
Mo	95	115	He	1.695	ppb	3.8	4791.91	3000	
Ag	107	115	He	0.007	ppb	19.5	92.22	100	
Cd	111	115	He	0.041	ppb	7.6	56.00	5000	
Sn	118	115	He	0.206	ppb	17.0	724.47	5000	
Sb	121	115	He	0.490	ppb	8.8	1667.88	5000	
Cs	133	115	He	0.015	ppb	11.6	117.78	5000	
Ba	137	115	He	7.371	ppb	1.2	10081.36	5000	
Ce	140	115	He	0.156	ppb	2.2	3398.20	5000	
Tl	205	159	He	0.004	ppb	5.5	132.22	5000	
Pb	208	159	He	1.113	ppb	2.0	27932.42	4000	
U	238	159	He	0.038	ppb	8.9	926.72	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	130459.23	1.0	137203.93	95.08	60	120	
Ge (IS)	72	He	122881.15	0.7	129955.32	94.56	60	120	
In-115 (IS)	115	He	1383779.33	0.3	1455481.42	95.07	60	120	
Tb-159 (IS)	159	He	4355321.08	0.1	4498680.38	96.81	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6818298

File Name 057_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 11:11:18

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	54.636	ppb	0.8	1377.23	50	109.27	90	110	
Al	27	45	He	51.272	ppb	1.9	3225.01	50	102.54	90	110	
V	51	45	He	51.553	ppb	0.2	137935.34	50	103.11	90	110	
Cr	52	45	He	52.140	ppb	1.3	176260.98	50	104.28	90	110	
Mn	55	45	He	52.390	ppb	0.9	89609.77	50	104.78	90	110	
Fe	56	45	He	524.412	ppb	0.9	1388687.44	500	104.88	90	110	
Co	59	45	He	51.889	ppb	0.6	321199.75	50	103.78	90	110	
Ni	60	45	He	51.661	ppb	0.7	88202.47	50	103.32	90	110	
Cu	65	45	He	51.581	ppb	1.3	127100.94	50	103.16	90	110	
Zn	66	72	He	52.497	ppb	0.6	38303.96	50	104.99	90	110	
As	75	72	He	51.062	ppb	0.3	24034.15	50	102.12	90	110	
Se	78	72	He	51.266	ppb	3.9	1565.42	50	102.53	90	110	
Rb	85	115	He	51.272	ppb	0.4	107659.20	50	102.54	90	110	
Sr	88	115	He	51.505	ppb	0.5	142688.25	50	103.01	90	110	
Mo	95	115	He	51.559	ppb	0.3	140062.12	50	103.12	90	110	
Ag	107	115	He	52.428	ppb	0.5	524479.41	50	104.86	90	110	
Cd	111	115	He	52.135	ppb	0.2	67757.95	50	104.27	90	110	
Sn	118	115	He	52.453	ppb	1.2	146931.52	50	104.91	90	110	
Sb	121	115	He	52.443	ppb	0.6	166622.48	50	104.89	90	110	
Cs	133	115	He	51.579	ppb	0.3	377178.67	50	103.16	90	110	
Ba	137	115	He	51.719	ppb	0.8	68150.63	50	103.44	90	110	
Ce	140	115	He	52.772	ppb	0.4	1063348.05	50	105.54	90	110	
Tl	205	159	He	51.621	ppb	0.6	976845.90	50	103.24	90	110	
Pb	208	159	He	52.262	ppb	0.2	1266809.09	50	104.52	90	110	
U	238	159	He	51.558	ppb	0.2	1203246.20	50	103.12	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	123380.00	0.6	137203.93	89.92	60	120	
Ge (IS)	72	He	115745.27	1.0	129955.32	89.07	60	120	
In-115 (IS)	115	He	1333824.52	0.8	1455481.42	91.64	60	120	
Tb-159 (IS)	159	He	4229924.00	0.4	4498680.38	94.03	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 058_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 11:13:21

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.006	ppb	N/A	0.83	0.5	
Al	27	45	He	-0.045	ppb	N/A	42.00	10	
V	51	45	He	0.036	ppb	18.1	171.11	1	
Cr	52	45	He	0.009	ppb	144.2	130.00	1	
Mn	55	45	He	0.012	ppb	36.5	81.11	1	
Fe	56	45	He	1.768	ppb	12.9	8272.28	20	
Co	59	45	He	0.002	ppb	15.9	24.44	1	
Ni	60	45	He	0.012	ppb	37.4	51.11	1	
Cu	65	45	He	0.020	ppb	23.7	154.45	1	
Zn	66	72	He	0.172	ppb	66.4	585.57	5	
As	75	72	He	0.012	ppb	78.5	14.00	1	
Se	78	72	He	0.402	ppb	61.4	61.33	1	
Rb	85	115	He	0.006	ppb	90.5	12.22	1	
Sr	88	115	He	0.005	ppb	63.7	26.67	1	
Mo	95	115	He	0.072	ppb	12.1	201.11	1	
Ag	107	115	He	0.012	ppb	37.0	140.00	1	
Cd	111	115	He	0.003	ppb	66.1	4.33	1	
Sn	118	115	He	0.391	ppb	14.5	1171.16	10	
Sb	121	115	He	0.302	ppb	5.7	973.37	1	
Cs	133	115	He	0.004	ppb	50.2	32.22	1	
Ba	137	115	He	0.022	ppb	42.5	33.33	1	
Ce	140	115	He	0.004	ppb	42.7	213.34	1	
Tl	205	159	He	0.007	ppb	17.3	188.89	1	
Pb	208	159	He	0.010	ppb	9.0	392.22	1	
U	238	159	He	0.071	ppb	15.7	1626.79	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	116214.70	0.7	137203.93	84.7	60	120	
Ge (IS)	72	He	112244.43	0.7	129955.32	86.37	60	120	
In-115 (IS)	115	He	1284793.26	0.2	1455481.42	88.27	60	120	
Tb-159 (IS)	159	He	4157468.16	0.1	4498680.38	92.42	60	120	

Sample Report

Sample Name 440-293043-a-1-a

File Name 059SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 11:17:39

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 664401 BH

Location 4506

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.035	ppb	124.5	1.83	5000	
Al	27	45	He	2255.008	ppb	0.2	132820.69	5000	
V	51	45	He	6.574	ppb	0.6	16781.49	5000	
Cr	52	45	He	6.070	ppb	1.3	19583.71	5000	
Mn	55	45	He	95.448	ppb	0.4	155038.43	5000	
Fe	56	45	He	3504.924	ppb	0.1	8794854.65	50000	
Co	59	45	He	2.645	ppb	1.6	15568.00	4000	
Ni	60	45	He	10.895	ppb	1.6	17697.02	2000	
Cu	65	45	He	29.583	ppb	0.4	69295.75	2000	
Zn	66	72	He	4025.787	ppb	0.6	2822678.92	5000	
As	75	72	He	1.044	ppb	5.2	486.34	5000	
Se	78	72	He	0.535	ppb	56.4	65.33	5000	
Rb	85	115	He	6.349	ppb	1.5	12996.83	5000	
Sr	88	115	He	52.346	ppb	0.3	141377.84	5000	
Mo	95	115	He	6.083	ppb	1.2	16121.03	3000	
Ag	107	115	He	0.199	ppb	12.9	1966.81	100	
Cd	111	115	He	1.096	ppb	1.6	1390.07	5000	
Sn	118	115	He	0.904	ppb	4.0	2586.91	5000	
Sb	121	115	He	4.610	ppb	2.4	14322.66	5000	
Cs	133	115	He	0.209	ppb	7.8	1493.42	5000	
Ba	137	115	He	99.047	ppb	0.6	127233.40	5000	
Ce	140	115	He	3.529	ppb	0.7	69450.28	5000	
Tl	205	159	He	0.039	ppb	5.3	811.14	5000	
Pb	208	159	He	16.518	ppb	0.6	402337.02	4000	
U	238	159	He	0.269	ppb	5.0	6324.91	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	117212.24	0.6	137203.93	85.43	60	120	
Ge (IS)	72	He	112615.99	0.4	129955.32	86.66	60	120	
In-115 (IS)	115	He	1300334.88	0.4	1455481.42	89.34	60	120	
Tb-159 (IS)	159	He	4249439.83	0.3	4498680.38	94.46	60	120	

Sample Report

Sample Name	440-293043-a-2-a
File Name	060SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:19:46
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4507

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.020	ppb	N/A	0.50	5000	
Al	27	45	He	1399.484	ppb	0.7	81285.26	5000	
V	51	45	He	3.801	ppb	1.0	9598.61	5000	
Cr	52	45	He	4.607	ppb	1.0	14677.10	5000	
Mn	55	45	He	51.283	ppb	0.7	82154.75	5000	
Fe	56	45	He	2296.776	ppb	0.9	5683384.63	50000	
Co	59	45	He	1.094	ppb	1.4	6358.02	4000	
Ni	60	45	He	6.183	ppb	2.0	9915.51	2000	
Cu	65	45	He	27.679	ppb	0.6	63930.03	2000	
Zn	66	72	He	3423.649	ppb	1.9	2379989.14	5000	
As	75	72	He	0.655	ppb	6.3	305.33	5000	
Se	78	72	He	0.157	ppb	132.5	54.00	5000	
Rb	85	115	He	3.171	ppb	1.3	6501.44	5000	
Sr	88	115	He	33.946	ppb	1.7	91812.53	5000	
Mo	95	115	He	4.560	ppb	0.2	12104.99	3000	
Ag	107	115	He	0.091	ppb	5.7	908.92	100	
Cd	111	115	He	0.660	ppb	1.0	839.03	5000	
Sn	118	115	He	0.970	ppb	3.8	2770.28	5000	
Sb	121	115	He	3.047	ppb	2.8	9497.59	5000	
Cs	133	115	He	0.144	ppb	5.2	1027.82	5000	
Ba	137	115	He	58.255	ppb	1.0	74940.67	5000	
Ce	140	115	He	2.002	ppb	0.5	39509.77	5000	
Tl	205	159	He	0.025	ppb	2.1	534.46	5000	
Pb	208	159	He	16.030	ppb	1.0	389761.01	4000	
U	238	159	He	0.438	ppb	4.9	10257.39	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	115559.84	0.2	137203.93	84.22	60	120	
Ge (IS)	72	He	111666.78	1.1	129955.32	85.93	60	120	
In-115 (IS)	115	He	1302135.94	0.6	1455481.42	89.46	60	120	
Tb-159 (IS)	159	He	4241691.08	0.4	4498680.38	94.29	60	120	

Sample Report

Sample Name	440-293043-a-3-a
File Name	061SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:21:50
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4508

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.021	ppb	97.7	1.50	5000	
Al	27	45	He	2569.731	ppb	0.8	150207.34	5000	
V	51	45	He	8.099	ppb	1.1	20499.35	5000	
Cr	52	45	He	8.376	ppb	1.2	26781.25	5000	
Mn	55	45	He	109.204	ppb	0.7	176034.68	5000	
Fe	56	45	He	4665.076	ppb	0.7	11616211.76	50000	
Co	59	45	He	2.471	ppb	1.2	14431.33	4000	
Ni	60	45	He	9.217	ppb	3.6	14863.99	2000	
Cu	65	45	He	66.827	ppb	0.3	155221.31	2000	
Zn	66	72	He	2617.055	ppb	1.2	1836955.69	5000	
As	75	72	He	1.224	ppb	3.8	569.34	5000	
Se	78	72	He	0.508	ppb	35.6	64.67	5000	
Rb	85	115	He	6.178	ppb	2.4	12696.56	5000	
Sr	88	115	He	68.789	ppb	0.8	186498.58	5000	
Mo	95	115	He	3.714	ppb	1.2	9886.68	3000	
Ag	107	115	He	0.049	ppb	6.3	498.90	100	
Cd	111	115	He	0.614	ppb	2.5	782.69	5000	
Sn	118	115	He	1.061	ppb	2.1	3026.99	5000	
Sb	121	115	He	3.353	ppb	2.2	10472.70	5000	
Cs	133	115	He	0.208	ppb	5.0	1488.97	5000	
Ba	137	115	He	107.372	ppb	0.4	138455.64	5000	
Ce	140	115	He	4.547	ppb	0.6	89794.54	5000	
Tl	205	159	He	0.042	ppb	7.8	871.14	5000	
Pb	208	159	He	19.846	ppb	0.7	485630.83	4000	
U	238	159	He	1.100	ppb	2.0	25915.19	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	116324.39	0.3	137203.93	84.78	60	120	
Ge (IS)	72	He	112734.50	0.8	129955.32	86.75	60	120	
In-115 (IS)	115	He	1305344.67	0.5	1455481.42	89.68	60	120	
Tb-159 (IS)	159	He	4269115.11	0.3	4498680.38	94.9	60	120	

Sample Report

Sample Name	440-293043-a-6-a
File Name	062SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:23:53
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4509

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.028	ppb	154.1	1.67	5000	
Al	27	45	He	3753.930	ppb	0.3	219829.48	5000	
V	51	45	He	10.349	ppb	0.7	26220.31	5000	
Cr	52	45	He	10.573	ppb	1.2	33843.00	5000	
Mn	55	45	He	115.506	ppb	1.1	186540.40	5000	
Fe	56	45	He	5656.542	ppb	0.8	14111168.88	50000	
Co	59	45	He	3.162	ppb	0.7	18501.32	4000	
Ni	60	45	He	11.273	ppb	3.4	18203.17	2000	
Cu	65	45	He	54.617	ppb	1.0	127121.11	2000	
Zn	66	72	He	853.743	ppb	0.4	595959.04	5000	
As	75	72	He	2.222	ppb	0.8	1020.37	5000	
Se	78	72	He	0.488	ppb	13.9	63.67	5000	
Rb	85	115	He	9.847	ppb	0.4	20258.25	5000	
Sr	88	115	He	53.921	ppb	0.9	146344.29	5000	
Mo	95	115	He	4.354	ppb	1.1	11601.25	3000	
Ag	107	115	He	0.287	ppb	13.1	2833.62	100	
Cd	111	115	He	3.333	ppb	0.8	4245.28	5000	
Sn	118	115	He	0.809	ppb	7.6	2337.98	5000	
Sb	121	115	He	3.229	ppb	1.5	10097.99	5000	
Cs	133	115	He	0.319	ppb	3.6	2284.64	5000	
Ba	137	115	He	93.436	ppb	0.7	120612.31	5000	
Ce	140	115	He	4.819	ppb	1.0	95254.77	5000	
Tl	205	159	He	0.057	ppb	3.4	1151.16	5000	
Pb	208	159	He	38.091	ppb	0.3	930759.76	4000	
U	238	159	He	0.308	ppb	5.2	7265.39	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	116552.93	1.0	137203.93	84.95	60	120	
Ge (IS)	72	He	112050.83	0.2	129955.32	86.22	60	120	
In-115 (IS)	115	He	1306730.42	0.6	1455481.42	89.78	60	120	
Tb-159 (IS)	159	He	4263876.22	0.3	4498680.38	94.78	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6818298

File Name 063_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 11:25:56

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	55.157	ppb	2.3	1223.72	50	110.31	90	110	> +/- 10%
Al	27	45	He	52.062	ppb	2.1	2882.27	50	104.12	90	110	
V	51	45	He	52.413	ppb	1.0	123442.52	50	104.83	90	110	
Cr	52	45	He	53.052	ppb	1.8	157849.76	50	106.1	90	110	
Mn	55	45	He	53.020	ppb	0.9	79823.46	50	106.04	90	110	
Fe	56	45	He	545.641	ppb	1.2	1271679.95	500	109.13	90	110	
Co	59	45	He	53.416	ppb	1.2	291037.50	50	106.83	90	110	
Ni	60	45	He	53.671	ppb	1.1	80657.48	50	107.34	90	110	
Cu	65	45	He	54.206	ppb	1.3	117563.56	50	108.41	90	110	
Zn	66	72	He	52.214	ppb	1.5	35147.47	50	104.43	90	110	
As	75	72	He	50.485	ppb	0.2	21920.60	50	100.97	90	110	
Se	78	72	He	49.856	ppb	2.5	1405.73	50	99.71	90	110	
Rb	85	115	He	49.359	ppb	1.4	98382.40	50	98.72	90	110	
Sr	88	115	He	49.347	ppb	0.6	129774.43	50	98.69	90	110	
Mo	95	115	He	51.238	ppb	0.7	132130.04	50	102.48	90	110	
Ag	107	115	He	52.768	ppb	0.6	501097.58	50	105.54	90	110	
Cd	111	115	He	52.587	ppb	0.4	64876.67	50	105.17	90	110	
Sn	118	115	He	53.426	ppb	0.8	142052.60	50	106.85	90	110	
Sb	121	115	He	52.463	ppb	0.5	158221.97	50	104.93	90	110	
Cs	133	115	He	51.814	ppb	0.6	359669.60	50	103.63	90	110	
Ba	137	115	He	52.730	ppb	0.3	65955.92	50	105.46	90	110	
Ce	140	115	He	53.531	ppb	0.4	1023896.66	50	107.06	90	110	
Tl	205	159	He	51.884	ppb	0.7	960340.86	50	103.77	90	110	
Pb	208	159	He	52.607	ppb	0.6	1247304.36	50	105.21	90	110	
U	238	159	He	52.446	ppb	1.1	1197224.41	50	104.89	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	108610.64	1.2	137203.93	79.16	60	120	
Ge (IS)	72	He	106772.66	0.3	129955.32	82.16	60	120	
In-115 (IS)	115	He	1266134.68	0.2	1455481.42	86.99	60	120	
Tb-159 (IS)	159	He	4137503.31	0.3	4498680.38	91.97	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 064_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 11:27:59

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.019	ppb	N/A	0.50	0.5	
Al	27	45	He	0.091	ppb	189.7	46.00	10	
V	51	45	He	0.005	ppb	160.6	86.67	1	
Cr	52	45	He	0.016	ppb	29.0	141.11	1	
Mn	55	45	He	0.002	ppb	314.7	60.00	1	
Fe	56	45	He	3.357	ppb	16.1	11253.11	20	
Co	59	45	He	0.002	ppb	56.5	21.11	1	
Ni	60	45	He	0.003	ppb	267.4	34.45	1	
Cu	65	45	He	0.025	ppb	59.3	153.33	1	
Zn	66	72	He	0.260	ppb	51.6	604.46	5	
As	75	72	He	0.012	ppb	21.4	13.00	1	
Se	78	72	He	0.066	ppb	507.4	48.33	1	
Rb	85	115	He	0.009	ppb	11.0	18.89	1	
Sr	88	115	He	0.002	ppb	152.5	16.67	1	
Mo	95	115	He	0.069	ppb	6.8	186.67	1	
Ag	107	115	He	0.009	ppb	50.1	107.78	1	
Cd	111	115	He	0.003	ppb	47.4	4.33	1	
Sn	118	115	He	0.317	ppb	4.4	936.71	10	
Sb	121	115	He	0.243	ppb	9.4	764.47	1	
Cs	133	115	He	0.005	ppb	32.1	34.45	1	
Ba	137	115	He	0.032	ppb	48.2	43.33	1	
Ce	140	115	He	0.003	ppb	91.1	185.56	1	
Tl	205	159	He	0.005	ppb	19.3	154.45	1	
Pb	208	159	He	0.011	ppb	8.8	420.00	1	
U	238	159	He	0.057	ppb	6.5	1290.09	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	107040.84	1.0	137203.93	78.02	60	120	
Ge (IS)	72	He	104945.44	0.9	129955.32	80.76	60	120	
In-115 (IS)	115	He	1238223.40	0.3	1455481.42	85.07	60	120	
Tb-159 (IS)	159	He	4070620.67	0.3	4498680.38	90.48	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664390/1-a@20
File Name	065_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:33:44
Sample Type	MB
Total Dilution	1.0000
Comment	CAM SOIL 440-664390 BH
Location	2202

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.005	ppb	1238.5	1.00	0.5	
Al	27	45	He	1.129	ppb	14.1	100.67	10	
V	51	45	He	0.025	ppb	52.0	131.11	1	
Cr	52	45	He	0.048	ppb	14.9	232.22	1	
Mn	55	45	He	0.039	ppb	33.1	112.22	1	
Fe	56	45	He	4.127	ppb	4.3	12869.94	20	
Co	59	45	He	0.002	ppb	89.6	23.33	1	
Ni	60	45	He	0.050	ppb	14.3	102.22	1	
Cu	65	45	He	0.097	ppb	12.4	303.34	1	
Zn	66	72	He	0.380	ppb	28.0	668.91	5	
As	75	72	He	-0.001	ppb	N/A	7.33	1	
Se	78	72	He	0.016	ppb	1119.9	46.00	1	
Rb	85	115	He	0.005	ppb	37.6	11.11	1	
Sr	88	115	He	0.019	ppb	15.1	58.89	1	
Mo	95	115	He	0.034	ppb	16.7	97.78	1	
Ag	107	115	He	0.003	ppb	6.9	51.11	1	
Cd	111	115	He	0.002	ppb	51.8	3.33	1	
Sn	118	115	He	1.311	ppb	6.9	3459.32	10	
Sb	121	115	He	0.115	ppb	13.7	380.01	1	
Cs	133	115	He	0.001	ppb	74.7	7.78	1	
Ba	137	115	He	0.049	ppb	37.2	63.33	1	
Ce	140	115	He	0.001	ppb	305.8	135.56	1	
Tl	205	159	He	0.001	ppb	43.8	74.45	1	
Pb	208	159	He	0.013	ppb	10.7	453.34	1	
U	238	159	He	0.010	ppb	24.6	236.67	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	105778.85	0.9	137203.93	77.1	60	120	
Ge (IS)	72	He	102738.38	0.8	129955.32	79.06	60	120	
In-115 (IS)	115	He	1216862.31	0.4	1455481.42	83.61	60	120	
Tb-159 (IS)	159	He	3996374.98	0.4	4498680.38	88.83	60	120	

Sample Report

Sample Name	lcs 440-664390/2-a@20
File Name	066SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:35:48
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664390 BH
Location	2203

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	104.047	ppb	1.2	2289.00	5000	
Al	27	45	He	97.198	ppb	2.9	5300.92	5000	
V	51	45	He	97.101	ppb	0.4	226773.61	5000	
Cr	52	45	He	99.359	ppb	0.6	293170.20	5000	
Mn	55	45	He	99.287	ppb	1.0	148223.77	5000	
Fe	56	45	He	108.840	ppb	0.5	254489.04	50000	
Co	59	45	He	100.863	ppb	0.3	545106.35	4000	
Ni	60	45	He	101.194	ppb	0.6	150825.99	2000	
Cu	65	45	He	102.123	ppb	0.5	219612.16	2000	
Zn	66	72	He	102.885	ppb	0.6	67266.83	5000	
As	75	72	He	95.441	ppb	0.9	40494.95	5000	
Se	78	72	He	92.422	ppb	2.0	2507.55	5000	
Rb	85	115	He	0.013	ppb	8.3	25.56	5000	
Sr	88	115	He	93.256	ppb	1.1	239038.65	5000	
Mo	95	115	He	95.158	ppb	1.2	239171.29	3000	
Ag	107	115	He	47.800	ppb	0.8	442455.59	100	
Cd	111	115	He	98.694	ppb	0.7	118682.75	5000	
Sn	118	115	He	99.360	ppb	0.8	257411.10	5000	
Sb	121	115	He	100.597	ppb	0.5	295683.12	5000	
Cs	133	115	He	0.002	ppb	42.9	16.67	5000	
Ba	137	115	He	98.414	ppb	0.7	119984.87	5000	
Ce	140	115	He	0.004	ppb	18.9	202.23	5000	
Tl	205	159	He	97.969	ppb	0.8	1772493.75	5000	
Pb	208	159	He	98.900	ppb	0.0	2291953.99	4000	
U	238	159	He	0.008	ppb	27.6	176.67	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	107725.64	0.6	137203.93	78.51	60	120	
Ge (IS)	72	He	104355.00	0.5	129955.32	80.3	60	120	
In-115 (IS)	115	He	1234181.09	0.5	1455481.42	84.8	60	120	
Tb-159 (IS)	159	He	4044338.31	0.1	4498680.38	89.9	60	120	

Sample Report

Sample Name	570-80764-b-5-c@20
File Name	067SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:37:51
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664390 BH
Location	2204

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.408	ppb	45.5	10.17	5000	
Al	27	45	He	10021.083	ppb	0.2	557424.42	5000	>LDR
V	51	45	He	30.630	ppb	0.5	73576.21	5000	
Cr	52	45	He	17.467	ppb	0.3	53051.93	5000	
Mn	55	45	He	299.987	ppb	0.2	460177.60	5000	
Fe	56	45	He	23775.012	ppb	0.2	56333917.76	50000	
Co	59	45	He	6.928	ppb	1.4	38498.68	4000	
Ni	60	45	He	14.197	ppb	0.5	21774.54	2000	
Cu	65	45	He	17.298	ppb	0.9	38319.55	2000	
Zn	66	72	He	55.234	ppb	0.6	36349.23	5000	
As	75	72	He	5.318	ppb	1.1	2265.84	5000	
Se	78	72	He	2.338	ppb	9.1	108.67	5000	
Rb	85	115	He	22.832	ppb	1.6	44496.21	5000	
Sr	88	115	He	39.912	ppb	0.4	102625.64	5000	
Mo	95	115	He	1.000	ppb	4.0	2533.56	3000	
Ag	107	115	He	0.038	ppb	5.9	376.68	100	
Cd	111	115	He	0.155	ppb	13.1	188.00	5000	
Sn	118	115	He	2.272	ppb	2.1	6015.71	5000	
Sb	121	115	He	0.402	ppb	10.3	1231.17	5000	
Cs	133	115	He	1.074	ppb	1.6	7289.65	5000	
Ba	137	115	He	77.298	ppb	0.9	94529.29	5000	
Ce	140	115	He	75.308	ppb	0.2	1408294.25	5000	
Tl	205	159	He	0.211	ppb	6.9	3945.03	5000	
Pb	208	159	He	6.643	ppb	0.9	156673.42	4000	
U	238	159	He	1.379	ppb	1.9	31286.75	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	110723.42	0.5	137203.93	80.7	60	120	
Ge (IS)	72	He	104457.73	0.2	129955.32	80.38	60	120	
In-115 (IS)	115	He	1237922.07	0.1	1455481.42	85.05	60	120	
Tb-159 (IS)	159	He	4112130.25	0.1	4498680.38	91.41	60	120	

Sample Report

Sample Name	570-80764-b-5-d ms@20
File Name	068SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:39:55
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664390 BH
Location	2205

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	104.952	ppb	0.2	2395.01	5000	
Al	27	45	He	13710.727	ppb	0.4	769625.35	5000	>LDR
V	51	45	He	140.236	ppb	0.4	339670.95	5000	
Cr	52	45	He	125.257	ppb	0.5	383323.17	5000	
Mn	55	45	He	429.203	ppb	0.1	664404.84	5000	
Fe	56	45	He	23673.039	ppb	0.4	56606268.86	50000	
Co	59	45	He	110.465	ppb	0.5	619235.63	4000	
Ni	60	45	He	118.817	ppb	0.8	183677.86	2000	
Cu	65	45	He	120.344	ppb	0.1	268421.15	2000	
Zn	66	72	He	147.184	ppb	0.7	99050.15	5000	
As	75	72	He	101.306	ppb	0.9	44328.71	5000	
Se	78	72	He	95.699	ppb	0.3	2675.91	5000	
Rb	85	115	He	25.016	ppb	0.9	49068.19	5000	
Sr	88	115	He	149.179	ppb	0.4	386045.02	5000	
Mo	95	115	He	98.287	ppb	0.8	249409.59	3000	
Ag	107	115	He	49.063	ppb	0.5	458497.50	100	
Cd	111	115	He	102.493	ppb	0.5	124429.56	5000	
Sn	118	115	He	100.392	ppb	0.4	262576.48	5000	
Sb	121	115	He	47.777	ppb	0.7	141801.20	5000	
Cs	133	115	He	1.494	ppb	1.0	10208.10	5000	
Ba	137	115	He	191.413	ppb	0.4	235598.58	5000	
Ce	140	115	He	50.613	ppb	1.0	952661.32	5000	
Tl	205	159	He	100.821	ppb	0.2	1856347.84	5000	
Pb	208	159	He	108.260	ppb	0.1	2553243.53	4000	
U	238	159	He	1.091	ppb	3.0	24783.15	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	111738.45	0.4	137203.93	81.44	60	120	
Ge (IS)	72	He	107624.30	0.5	129955.32	82.82	60	120	
In-115 (IS)	115	He	1245986.57	0.3	1455481.42	85.61	60	120	
Tb-159 (IS)	159	He	4115872.20	0.2	4498680.38	91.49	60	120	

Sample Report

Sample Name	570-80764-b-5-e msd@20
File Name	069SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:41:58
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664390 BH
Location	2206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	102.180	ppb	2.8	2392.02	5000	
Al	27	45	He	14241.569	ppb	1.3	820005.42	5000	>LDR
V	51	45	He	142.055	ppb	1.1	352939.19	5000	
Cr	52	45	He	125.956	ppb	1.3	395385.71	5000	
Mn	55	45	He	448.529	ppb	0.9	712207.16	5000	
Fe	56	45	He	24403.152	ppb	0.9	59855937.62	50000	
Co	59	45	He	109.181	ppb	1.1	627806.87	4000	
Ni	60	45	He	118.084	ppb	1.1	187249.33	2000	
Cu	65	45	He	118.855	ppb	1.4	271921.87	2000	
Zn	66	72	He	151.961	ppb	0.4	102773.68	5000	
As	75	72	He	102.167	ppb	0.4	44934.17	5000	
Se	78	72	He	97.100	ppb	1.5	2728.25	5000	
Rb	85	115	He	27.282	ppb	1.3	54508.08	5000	
Sr	88	115	He	144.933	ppb	0.2	382030.53	5000	
Mo	95	115	He	97.094	ppb	0.2	250959.70	3000	
Ag	107	115	He	48.247	ppb	0.6	459258.00	100	
Cd	111	115	He	101.192	ppb	0.6	125133.45	5000	
Sn	118	115	He	99.282	ppb	0.0	264503.44	5000	
Sb	121	115	He	42.363	ppb	0.8	128072.24	5000	
Cs	133	115	He	1.482	ppb	1.9	10313.74	5000	
Ba	137	115	He	193.883	ppb	0.7	243073.65	5000	
Ce	140	115	He	41.119	ppb	0.5	788384.26	5000	
Tl	205	159	He	99.915	ppb	0.7	1859171.10	5000	
Pb	208	159	He	107.172	ppb	0.4	2554373.69	4000	
U	238	159	He	0.997	ppb	3.0	22883.06	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	114624.08	1.0	137203.93	83.54	60	120	
Ge (IS)	72	He	108172.70	0.4	129955.32	83.24	60	120	
In-115 (IS)	115	He	1269146.88	0.4	1455481.42	87.2	60	120	
Tb-159 (IS)	159	He	4159547.75	0.5	4498680.38	92.46	60	120	

Sample Report

Sample Name	570-80764-b-5-cPDS@20
File Name	070SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:44:01
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664390 BH
Location	2207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	102.857	ppb	1.5	2407.52	5000	
Al	27	45	He	9974.091	ppb	0.5	574274.25	5000	>LDR
V	51	45	He	130.237	ppb	0.4	323564.80	5000	
Cr	52	45	He	118.176	ppb	0.5	370951.39	5000	
Mn	55	45	He	398.983	ppb	0.8	633488.90	5000	
Fe	56	45	He	24649.542	ppb	0.6	60455410.93	50000	
Co	59	45	He	108.207	ppb	0.4	622172.27	4000	
Ni	60	45	He	115.176	ppb	0.2	182630.09	2000	
Cu	65	45	He	120.387	ppb	0.5	275414.27	2000	
Zn	66	72	He	152.966	ppb	0.8	104457.33	5000	
As	75	72	He	105.266	ppb	0.6	46748.34	5000	
Se	78	72	He	101.943	ppb	0.9	2889.95	5000	
Rb	85	115	He	120.967	ppb	0.8	242355.20	5000	
Sr	88	115	He	138.831	ppb	1.2	366959.43	5000	
Mo	95	115	He	103.702	ppb	0.8	268786.08	3000	
Ag	107	115	He	103.610	ppb	1.1	988955.10	100	>LDR
Cd	111	115	He	102.385	ppb	0.8	126963.03	5000	
Sn	118	115	He	109.024	ppb	1.2	291248.97	5000	
Sb	121	115	He	104.337	ppb	1.3	316235.74	5000	
Cs	133	115	He	103.455	ppb	0.6	721866.88	5000	
Ba	137	115	He	180.426	ppb	1.1	226833.22	5000	
Ce	140	115	He	180.200	ppb	0.9	3464225.98	5000	
Tl	205	159	He	102.404	ppb	0.2	1910344.30	5000	
Pb	208	159	He	108.043	ppb	0.1	2581708.44	4000	
U	238	159	He	106.238	ppb	0.6	2444279.23	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	114610.40	0.6	137203.93	83.53	60	120	
Ge (IS)	72	He	109230.01	0.7	129955.32	84.05	60	120	
In-115 (IS)	115	He	1272740.83	0.9	1455481.42	87.44	60	120	
Tb-159 (IS)	159	He	4170121.36	0.1	4498680.38	92.7	60	120	

Sample Report

Sample Name	570-80764-b-5-cSD@100
File Name	071SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:46:04
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM SOIL 440-664390 BH
Location	2208

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.088	ppb	42.1	3.00	5000	
Al	27	45	He	2033.944	ppb	1.3	115922.30	5000	
V	51	45	He	6.247	ppb	2.7	15432.30	5000	
Cr	52	45	He	3.621	ppb	2.4	11343.13	5000	
Mn	55	45	He	61.735	ppb	1.6	97048.30	5000	
Fe	56	45	He	4849.074	ppb	1.4	11771848.14	50000	
Co	59	45	He	1.421	ppb	2.6	8099.97	4000	
Ni	60	45	He	2.994	ppb	3.5	4727.42	2000	
Cu	65	45	He	3.515	ppb	2.7	8061.08	2000	
Zn	66	72	He	11.088	ppb	2.9	8111.11	5000	
As	75	72	He	1.095	ppb	2.3	501.68	5000	
Se	78	72	He	0.583	ppb	28.8	65.67	5000	
Rb	85	115	He	4.534	ppb	1.7	9279.60	5000	
Sr	88	115	He	8.036	ppb	0.6	21711.41	5000	
Mo	95	115	He	0.294	ppb	3.2	793.36	3000	
Ag	107	115	He	0.020	ppb	15.7	220.01	100	
Cd	111	115	He	0.028	ppb	20.2	36.33	5000	
Sn	118	115	He	0.710	ppb	2.5	2055.71	5000	
Sb	121	115	He	0.303	ppb	7.3	987.82	5000	
Cs	133	115	He	0.221	ppb	3.3	1576.76	5000	
Ba	137	115	He	15.260	ppb	1.1	19603.38	5000	
Ce	140	115	He	14.618	ppb	0.9	287211.85	5000	
Tl	205	159	He	0.055	ppb	10.4	1104.49	5000	
Pb	208	159	He	1.342	ppb	1.6	32527.85	4000	
U	238	159	He	0.316	ppb	4.2	7348.81	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	113421.69	0.9	137203.93	82.67	60	120	
Ge (IS)	72	He	110872.04	1.1	129955.32	85.32	60	120	
In-115 (IS)	115	He	1300135.77	0.3	1455481.42	89.33	60	120	
Tb-159 (IS)	159	He	4209491.36	0.1	4498680.38	93.57	60	120	

Sample Report

Sample Name 440-293027-b-1-g@20

File Name 072SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 11:48:08

Sample Type Sample

Total Dilution 1.0000

Comment CAM SOIL 440-664390 BH

Location 2209

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.691	ppb	27.8	17.83	5000	
Al	27	45	He	23627.392	ppb	0.6	1413550.71	5000	>LDR
V	51	45	He	70.561	ppb	0.7	182202.32	5000	
Cr	52	45	He	65.665	ppb	0.1	214234.07	5000	
Mn	55	45	He	639.340	ppb	0.4	1054819.30	5000	
Fe	56	45	He	37327.339	ppb	0.6	95129289.55	50000	
Co	59	45	He	16.139	ppb	1.2	96437.35	4000	
Ni	60	45	He	35.632	ppb	0.5	58732.01	2000	
Cu	65	45	He	78.661	ppb	0.4	187038.97	2000	
Zn	66	72	He	169.522	ppb	0.6	119039.54	5000	
As	75	72	He	10.747	ppb	1.9	4916.81	5000	
Se	78	72	He	2.061	ppb	17.3	109.00	5000	
Rb	85	115	He	38.311	ppb	1.3	77704.65	5000	
Sr	88	115	He	91.112	ppb	0.7	243822.88	5000	
Mo	95	115	He	1.217	ppb	1.3	3207.03	3000	
Ag	107	115	He	0.262	ppb	2.1	2552.46	100	
Cd	111	115	He	0.310	ppb	6.4	390.68	5000	
Sn	118	115	He	2.855	ppb	2.0	7836.60	5000	
Sb	121	115	He	0.738	ppb	5.8	2311.31	5000	
Cs	133	115	He	1.677	ppb	0.4	11849.36	5000	
Ba	137	115	He	242.572	ppb	0.9	308742.84	5000	
Ce	140	115	He	36.581	ppb	0.7	712070.49	5000	
Tl	205	159	He	0.246	ppb	2.3	4685.26	5000	
Pb	208	159	He	146.539	ppb	0.1	3530767.43	4000	
U	238	159	He	1.025	ppb	2.2	23801.32	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	119094.43	0.4	137203.93	86.8	60	120	
Ge (IS)	72	He	112367.41	0.7	129955.32	86.47	60	120	
In-115 (IS)	115	He	1288509.49	0.9	1455481.42	88.53	60	120	
Tb-159 (IS)	159	He	4204972.75	0.3	4498680.38	93.47	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV-6818298
File Name	073_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:50:11
Sample Type	CCV
Total Dilution	1.0000
Comment	—
Location	1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	53.237	ppb	3.7	1261.22	50	106.47	90	110	
Al	27	45	He	53.027	ppb	5.8	3135.66	50	106.05	90	110	
V	51	45	He	52.698	ppb	0.8	132543.58	50	105.4	90	110	
Cr	52	45	He	53.358	ppb	0.1	169569.40	50	106.72	90	110	
Mn	55	45	He	53.284	ppb	0.4	85680.69	50	106.57	90	110	
Fe	56	45	He	548.011	ppb	0.1	1364074.67	500	109.6	90	110	
Co	59	45	He	53.945	ppb	0.3	313916.88	50	107.89	90	110	
Ni	60	45	He	53.701	ppb	0.6	86199.94	50	107.4	90	110	
Cu	65	45	He	54.491	ppb	0.5	126229.21	50	108.98	90	110	
Zn	66	72	He	51.728	ppb	0.5	37150.02	50	103.46	90	110	
As	75	72	He	50.726	ppb	0.8	23495.97	50	101.45	90	110	
Se	78	72	He	51.169	ppb	0.1	1537.75	50	102.34	90	110	
Rb	85	115	He	50.413	ppb	1.4	105003.61	50	100.83	90	110	
Sr	88	115	He	50.666	ppb	1.1	139236.95	50	101.33	90	110	
Mo	95	115	He	51.975	ppb	1.4	140057.74	50	103.95	90	110	
Ag	107	115	He	52.833	ppb	0.5	524284.51	50	105.67	90	110	
Cd	111	115	He	52.354	ppb	1.2	67494.75	50	104.71	90	110	
Sn	118	115	He	53.783	ppb	0.6	149430.09	50	107.57	90	110	
Sb	121	115	He	52.543	ppb	1.6	165594.12	50	105.09	90	110	
Cs	133	115	He	52.187	ppb	1.1	378551.93	50	104.37	90	110	
Ba	137	115	He	52.762	ppb	1.3	68965.49	50	105.52	90	110	
Ce	140	115	He	53.179	ppb	0.9	1062941.73	50	106.36	90	110	
Tl	205	159	He	51.427	ppb	0.5	979138.12	50	102.85	90	110	
Pb	208	159	He	52.054	ppb	0.5	1269498.76	50	104.11	90	110	
U	238	159	He	51.872	ppb	0.5	1217991.62	50	103.74	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	115994.14	1.6	137203.93	84.54	60	120	
Ge (IS)	72	He	113902.33	0.7	129955.32	87.65	60	120	
In-115 (IS)	115	He	1323067.40	0.4	1455481.42	90.9	60	120	
Tb-159 (IS)	159	He	4255878.58	0.3	4498680.38	94.6	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 074_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 11:52:14

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.020	ppb	N/A	0.50	0.5	
Al	27	45	He	0.167	ppb	158.6	52.67	10	
V	51	45	He	0.000	ppb	1415.1	78.89	1	
Cr	52	45	He	0.016	ppb	23.3	148.89	1	
Mn	55	45	He	0.003	ppb	352.2	64.44	1	
Fe	56	45	He	4.374	ppb	11.6	14292.34	20	
Co	59	45	He	0.003	ppb	20.6	30.00	1	
Ni	60	45	He	0.004	ppb	172.2	37.78	1	
Cu	65	45	He	0.025	ppb	60.4	160.00	1	
Zn	66	72	He	0.138	ppb	47.9	548.90	5	
As	75	72	He	0.008	ppb	57.1	11.67	1	
Se	78	72	He	0.261	ppb	66.7	56.00	1	
Rb	85	115	He	0.007	ppb	14.3	14.44	1	
Sr	88	115	He	0.007	ppb	21.0	31.11	1	
Mo	95	115	He	0.065	ppb	19.9	183.34	1	
Ag	107	115	He	0.009	ppb	47.0	111.11	1	
Cd	111	115	He	0.002	ppb	60.5	4.00	1	
Sn	118	115	He	0.333	ppb	18.8	1010.04	10	
Sb	121	115	He	0.150	ppb	15.1	505.57	1	
Cs	133	115	He	0.004	ppb	16.3	31.11	1	
Ba	137	115	He	0.027	ppb	31.7	38.89	1	
Ce	140	115	He	0.006	ppb	47.9	243.34	1	
Tl	205	159	He	0.010	ppb	19.3	251.11	1	
Pb	208	159	He	0.023	ppb	1.2	698.90	1	
U	238	159	He	0.052	ppb	13.5	1206.74	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	112631.64	0.8	137203.93	82.09	60	120	
Ge (IS)	72	He	109757.25	1.2	129955.32	84.46	60	120	
In-115 (IS)	115	He	1278518.58	0.6	1455481.42	87.84	60	120	
Tb-159 (IS)	159	He	4137787.06	0.3	4498680.38	91.98	60	120	

Method Blank (MB) Report

Sample Name	mb 440-663919/1-a
File Name	075_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:55:00
Sample Type	MB
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2210

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.027	ppb	N/A	0.33	0.5	
Al	27	45	He	1.794	ppb	20.5	142.00	10	
V	51	45	He	0.001	ppb	555.8	80.00	1	
Cr	52	45	He	0.031	ppb	8.7	188.89	1	
Mn	55	45	He	0.603	ppb	12.1	980.04	1	
Fe	56	45	He	9.587	ppb	5.6	26307.19	20	
Co	59	45	He	0.002	ppb	67.7	22.22	1	
Ni	60	45	He	0.017	ppb	90.9	56.67	1	
Cu	65	45	He	0.107	ppb	12.3	336.67	1	
Zn	66	72	He	0.308	ppb	9.9	660.02	5	
As	75	72	He	0.001	ppb	227.9	8.33	1	
Se	78	72	He	-0.058	ppb	N/A	46.67	1	
Rb	85	115	He	0.006	ppb	45.2	12.22	1	
Sr	88	115	He	0.033	ppb	20.6	100.00	1	
Mo	95	115	He	0.046	ppb	14.8	132.22	1	
Ag	107	115	He	0.005	ppb	28.2	73.33	1	
Cd	111	115	He	0.000	ppb	340.0	1.33	1	
Sn	118	115	He	0.209	ppb	0.9	673.35	10	
Sb	121	115	He	0.088	ppb	30.3	315.56	1	
Cs	133	115	He	0.002	ppb	64.0	17.78	1	
Ba	137	115	He	0.052	ppb	27.1	70.00	1	
Ce	140	115	He	0.001	ppb	51.8	145.56	1	
Tl	205	159	He	0.004	ppb	16.2	142.22	1	
Pb	208	159	He	0.016	ppb	3.5	544.45	1	
U	238	159	He	0.010	ppb	36.4	233.34	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	110348.52	1.6	137203.93	80.43	60	120	
Ge (IS)	72	He	108795.85	1.2	129955.32	83.72	60	120	
In-115 (IS)	115	He	1269988.45	0.7	1455481.42	87.26	60	120	
Tb-159 (IS)	159	He	4133180.39	0.8	4498680.38	91.88	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	lcs 440-663919/2-a
File Name	076_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:57:04
Sample Type	LCS
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**IRVINSTIC** **PMS6**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	84.358	ppb	1.3	1915.62	80	105.45	85	115	
Al	27	45	He	81.175	ppb	1.0	4576.02	80	101.47	85	115	
V	51	45	He	81.968	ppb	0.1	197576.45	80	102.46	85	115	
Cr	52	45	He	85.670	ppb	0.5	260903.36	80	107.09	85	115	
Mn	55	45	He	83.598	ppb	0.4	128806.94	80	104.5	85	115	
Fe	56	45	He	898.883	ppb	0.6	2142261.37	800	112.36	85	115	
Co	59	45	He	84.417	ppb	0.5	470869.93	80	105.52	85	115	
Ni	60	45	He	83.959	ppb	0.1	129152.83	80	104.95	85	115	
Cu	65	45	He	84.001	ppb	0.4	186456.20	80	105	85	115	
Zn	66	72	He	77.988	ppb	1.0	53543.40	80	97.48	85	115	
As	75	72	He	79.550	ppb	0.8	35371.43	80	99.44	85	115	
Se	78	72	He	78.174	ppb	1.7	2229.84	80	97.72	85	115	
Rb	85	115	He	77.253	ppb	0.6	155747.71	80	96.57	85	115	
Sr	88	115	He	78.644	ppb	0.7	209187.36	80	98.3	85	115	
Mo	95	115	He	81.944	ppb	0.6	213726.32	80	102.43	85	115	
Ag	107	115	He	80.511	ppb	0.8	773310.79	80	100.64	85	115	
Cd	111	115	He	82.185	ppb	0.5	102553.96	80	102.73	85	115	
Sn	118	115	He	83.023	ppb	0.7	223213.72	80	103.78	85	115	
Sb	121	115	He	91.550	ppb	0.4	279235.76	80	114.44	85	115	
Cs	133	115	He	81.707	ppb	0.2	573685.60	80	102.13	85	115	
Ba	137	115	He	82.146	ppb	0.4	103925.85	80	102.68	85	115	
Ce	140	115	He	82.969	ppb	1.1	1605106.05	80	103.71	85	115	
Tl	205	159	He	80.156	ppb	0.2	1505136.81	80	100.2	85	115	
[Pb]	206	159	He	83.494	ppb	0.5	501235.19	80	104.37	85	115	
[Pb]	207	159	He	79.907	ppb	0.2	423016.21	80	99.88	85	115	
Pb	208	159	He	81.992	ppb	0.3	1972089.96	80	102.49	85	115	
U	238	159	He	83.775	ppb	0.5	1940142.78	80	104.72	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	111178.75	0.8	137203.93	81.03	60	120	
Ge (IS)	72	He	109356.78	0.4	129955.32	84.15	60	120	
In-115 (IS)	115	He	1280667.14	0.1	1455481.42	87.99	60	120	
Tb-159 (IS)	159	He	4197499.97	0.5	4498680.38	93.31	60	120	

Sample Report

Sample Name	570-79105-h-9-a@5
File Name	077SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 11:59:07
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2212

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.006	ppb	N/A	0.83	5000	
Al	27	45	He	10.395	ppb	4.8	641.35	5000	
V	51	45	He	0.881	ppb	4.4	2263.51	5000	
Cr	52	45	He	1.081	ppb	4.9	3485.97	5000	
Mn	55	45	He	427.952	ppb	1.3	678304.99	5000	
Fe	56	45	He	377.890	ppb	1.1	928973.96	50000	
Co	59	45	He	0.111	ppb	2.9	650.02	4000	
Ni	60	45	He	0.301	ppb	10.4	507.79	2000	
Cu	65	45	He	1.511	ppb	3.5	3553.77	2000	
Zn	66	72	He	13.755	ppb	1.3	10016.69	5000	
As	75	72	He	0.722	ppb	6.2	335.67	5000	
Se	78	72	He	0.263	ppb	26.6	57.00	5000	
Rb	85	115	He	0.126	ppb	11.7	255.56	5000	
Sr	88	115	He	293.074	ppb	0.2	780138.16	5000	
Mo	95	115	He	3.772	ppb	1.6	9858.88	3000	
Ag	107	115	He	0.016	ppb	17.4	174.45	100	
Cd	111	115	He	0.012	ppb	15.8	15.67	5000	
Sn	118	115	He	0.499	ppb	10.8	1460.08	5000	
Sb	121	115	He	0.253	ppb	2.8	822.25	5000	
Cs	133	115	He	0.015	ppb	3.1	103.33	5000	
Ba	137	115	He	20.119	ppb	1.2	25478.12	5000	
Ce	140	115	He	0.076	ppb	5.5	1604.54	5000	
Tl	205	159	He	0.017	ppb	15.4	387.79	5000	
Pb	208	159	He	0.403	ppb	0.4	9885.90	4000	
U	238	159	He	1.054	ppb	1.8	24459.20	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	114416.93	0.8	137203.93	83.39	60	120	
Ge (IS)	72	He	111584.97	0.3	129955.32	85.86	60	120	
In-115 (IS)	115	He	1281688.19	0.2	1455481.42	88.06	60	120	
Tb-159 (IS)	159	He	4205994.83	0.5	4498680.38	93.49	60	120	

Sample Report

Sample Name	570-79105-g-9-a ms@5
File Name	078SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:01:10
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2301

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	18.380	ppb	3.0	438.18	5000	
Al	27	45	He	24.514	ppb	2.5	1479.41	5000	
V	51	45	He	19.035	ppb	0.7	48138.93	5000	
Cr	52	45	He	18.255	ppb	0.7	58334.32	5000	
Mn	55	45	He	467.065	ppb	0.1	753798.60	5000	
Fe	56	45	He	525.003	ppb	0.1	1312640.54	50000	
Co	59	45	He	18.143	ppb	0.4	106045.31	4000	
Ni	60	45	He	18.001	ppb	0.2	29039.99	2000	
Cu	65	45	He	18.644	ppb	0.5	43445.54	2000	
Zn	66	72	He	25.341	ppb	1.1	18236.61	5000	
As	75	72	He	18.327	ppb	0.7	8400.02	5000	
Se	78	72	He	17.275	ppb	7.3	546.68	5000	
Rb	85	115	He	17.867	ppb	1.0	35998.93	5000	
Sr	88	115	He	332.316	ppb	0.4	883375.87	5000	
Mo	95	115	He	22.511	ppb	0.6	58690.23	3000	
Ag	107	115	He	17.542	ppb	0.7	168405.14	100	
Cd	111	115	He	17.966	ppb	1.1	22406.40	5000	
Sn	118	115	He	18.267	ppb	1.8	49176.04	5000	
Sb	121	115	He	20.650	ppb	0.5	62984.56	5000	
Cs	133	115	He	18.250	ppb	0.5	128067.11	5000	
Ba	137	115	He	39.403	ppb	0.3	49824.77	5000	
Ce	140	115	He	18.397	ppb	0.9	355796.17	5000	
Tl	205	159	He	17.403	ppb	0.2	323909.59	5000	
Pb	208	159	He	18.193	ppb	0.4	433815.17	4000	
U	238	159	He	19.229	ppb	0.7	441351.40	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	116496.88	0.8	137203.93	84.91	60	120	
Ge (IS)	72	He	112641.72	0.7	129955.32	86.68	60	120	
In-115 (IS)	115	He	1279925.22	0.6	1455481.42	87.94	60	120	
Tb-159 (IS)	159	He	4160043.45	0.3	4498680.38	92.47	60	120	

Sample Report

Sample Name	570-79105-f-9-a msd@5
File Name	079SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:03:13
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2302

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	16.923	ppb	2.5	409.18	5000	
Al	27	45	He	22.836	ppb	3.5	1400.73	5000	
V	51	45	He	17.799	ppb	0.4	45664.67	5000	
Cr	52	45	He	17.269	ppb	1.7	55971.10	5000	
Mn	55	45	He	422.827	ppb	1.1	692124.44	5000	
Fe	56	45	He	490.982	ppb	1.1	1245303.60	50000	
Co	59	45	He	17.111	ppb	1.1	101443.02	4000	
Ni	60	45	He	16.918	ppb	1.9	27681.91	2000	
Cu	65	45	He	18.038	ppb	0.7	42637.72	2000	
Zn	66	72	He	23.158	ppb	1.6	16790.45	5000	
As	75	72	He	17.339	ppb	0.3	7988.12	5000	
Se	78	72	He	16.088	ppb	3.8	515.01	5000	
Rb	85	115	He	16.499	ppb	2.0	33711.39	5000	
Sr	88	115	He	300.754	ppb	0.9	810727.87	5000	
Mo	95	115	He	20.891	ppb	0.5	55233.71	3000	
Ag	107	115	He	16.398	ppb	1.5	159646.17	100	
Cd	111	115	He	16.732	ppb	1.6	21161.23	5000	
Sn	118	115	He	17.005	ppb	1.6	46429.26	5000	
Sb	121	115	He	19.151	ppb	1.2	59238.97	5000	
Cs	133	115	He	17.001	ppb	0.6	120980.58	5000	
Ba	137	115	He	35.989	ppb	1.3	46147.04	5000	
Ce	140	115	He	17.222	ppb	1.4	337766.04	5000	
Tl	205	159	He	16.382	ppb	0.6	308486.98	5000	
Pb	208	159	He	17.082	ppb	0.5	412107.93	4000	
U	238	159	He	17.985	ppb	0.5	417639.46	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	118163.86	1.1	137203.93	86.12	60	120	
Ge (IS)	72	He	113212.65	0.2	129955.32	87.12	60	120	
In-115 (IS)	115	He	1297960.35	0.4	1455481.42	89.18	60	120	
Tb-159 (IS)	159	He	4208810.67	0.1	4498680.38	93.56	60	120	

Sample Report

Sample Name	570-79105-h-9-b pds@5
File Name	080SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:05:16
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2303

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	18.500	ppb	2.1	457.51	5000	
Al	27	45	He	22.477	ppb	4.6	1410.73	5000	
V	51	45	He	18.528	ppb	1.8	48623.88	5000	
Cr	52	45	He	17.912	ppb	2.1	59391.72	5000	
Mn	55	45	He	443.908	ppb	0.9	743427.17	5000	
Fe	56	45	He	498.179	ppb	1.2	1292659.08	50000	
Co	59	45	He	17.640	ppb	1.0	106997.87	4000	
Ni	60	45	He	17.391	ppb	1.7	29111.25	2000	
Cu	65	45	He	18.394	ppb	2.9	44467.49	2000	
Zn	66	72	He	24.008	ppb	2.4	17819.43	5000	
As	75	72	He	17.772	ppb	1.6	8391.01	5000	
Se	78	72	He	16.662	ppb	6.0	544.68	5000	
Rb	85	115	He	17.194	ppb	1.5	35796.24	5000	
Sr	88	115	He	315.599	ppb	0.6	866792.31	5000	
Mo	95	115	He	21.669	ppb	0.9	58367.86	3000	
Ag	107	115	He	16.949	ppb	0.6	168122.67	100	
Cd	111	115	He	17.458	ppb	1.0	22494.20	5000	
Sn	118	115	He	17.948	ppb	0.4	49928.51	5000	
Sb	121	115	He	18.510	ppb	1.1	58334.15	5000	
Cs	133	115	He	17.600	ppb	0.9	127606.18	5000	
Ba	137	115	He	37.533	ppb	0.5	49038.78	5000	
Ce	140	115	He	17.759	ppb	1.4	354850.57	5000	
Tl	205	159	He	16.795	ppb	0.7	322467.61	5000	
Pb	208	159	He	17.541	ppb	0.8	431491.89	4000	
U	238	159	He	18.526	ppb	1.2	438611.97	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	120900.68	2.1	137203.93	88.12	60	120	
Ge (IS)	72	He	116047.46	1.9	129955.32	89.3	60	120	
In-115 (IS)	115	He	1322495.98	1.7	1455481.42	90.86	60	120	
Tb-159 (IS)	159	He	4291669.55	1.6	4498680.38	95.4	60	120	

Sample Report

Sample Name	570-79105-h-9-aSD@25
File Name	081SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:07:19
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2304

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.014	ppb	N/A	0.67	5000	
Al	27	45	He	1.898	ppb	17.6	159.33	5000	
V	51	45	He	0.197	ppb	2.0	592.24	5000	
Cr	52	45	He	0.212	ppb	0.7	796.69	5000	
Mn	55	45	He	84.370	ppb	0.7	139362.14	5000	
Fe	56	45	He	75.315	ppb	0.4	196062.69	50000	
Co	59	45	He	0.023	ppb	20.2	151.11	4000	
Ni	60	45	He	0.070	ppb	20.3	148.89	2000	
Cu	65	45	He	0.303	ppb	12.0	831.14	2000	
Zn	66	72	He	2.703	ppb	1.6	2434.65	5000	
As	75	72	He	0.136	ppb	10.9	73.00	5000	
Se	78	72	He	0.094	ppb	487.2	54.33	5000	
Rb	85	115	He	0.021	ppb	8.3	45.55	5000	
Sr	88	115	He	56.440	ppb	0.8	157121.77	5000	
Mo	95	115	He	0.739	ppb	2.8	2031.26	3000	
Ag	107	115	He	0.007	ppb	22.2	94.45	100	
Cd	111	115	He	0.002	ppb	145.0	3.33	5000	
Sn	118	115	He	0.254	ppb	10.3	836.69	5000	
Sb	121	115	He	0.155	ppb	8.8	546.68	5000	
Cs	133	115	He	0.003	ppb	36.0	24.44	5000	
Ba	137	115	He	3.849	ppb	1.4	5100.93	5000	
Ce	140	115	He	0.014	ppb	10.1	423.34	5000	
Tl	205	159	He	0.005	ppb	20.2	168.89	5000	
Pb	208	159	He	0.078	ppb	1.5	2108.96	4000	
U	238	159	He	0.219	ppb	3.7	5237.76	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	119188.34	0.5	137203.93	86.87	60	120	
Ge (IS)	72	He	116096.44	0.5	129955.32	89.34	60	120	
In-115 (IS)	115	He	1340330.41	0.3	1455481.42	92.09	60	120	
Tb-159 (IS)	159	He	4336338.99	0.2	4498680.38	96.39	60	120	

Sample Report

Sample Name	570-79153-h-2-a@5
File Name	082SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:09:22
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2305

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.016	ppb	N/A	0.67	5000	
Al	27	45	He	1.472	ppb	34.8	143.33	5000	
V	51	45	He	0.104	ppb	20.7	375.56	5000	
Cr	52	45	He	0.055	ppb	4.1	303.34	5000	
Mn	55	45	He	287.924	ppb	0.9	508390.86	5000	
Fe	56	45	He	627.890	ppb	0.8	1716620.49	50000	
Co	59	45	He	0.008	ppb	8.5	63.33	4000	
Ni	60	45	He	0.075	ppb	12.0	167.78	2000	
Cu	65	45	He	0.069	ppb	11.2	293.34	2000	
Zn	66	72	He	2.191	ppb	3.9	2160.17	5000	
As	75	72	He	4.920	ppb	1.9	2438.54	5000	
Se	78	72	He	-0.071	ppb	N/A	51.67	5000	
Rb	85	115	He	0.473	ppb	3.4	1012.26	5000	
Sr	88	115	He	648.017	ppb	0.3	1826386.32	5000	
Mo	95	115	He	0.371	ppb	4.0	1041.15	3000	
Ag	107	115	He	0.005	ppb	58.9	73.33	100	
Cd	111	115	He	0.001	ppb	79.1	2.67	5000	
Sn	118	115	He	0.164	ppb	20.4	592.24	5000	
Sb	121	115	He	0.058	ppb	19.1	238.89	5000	
Cs	133	115	He	0.004	ppb	33.4	28.89	5000	
Ba	137	115	He	10.721	ppb	2.4	14374.99	5000	
Ce	140	115	He	0.011	ppb	18.2	362.23	5000	
Tl	205	159	He	0.003	ppb	39.5	126.67	5000	
Pb	208	159	He	0.011	ppb	10.8	450.00	4000	
U	238	159	He	0.527	ppb	6.7	12736.23	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	127457.59	1.8	137203.93	92.9	60	120	
Ge (IS)	72	He	121484.52	1.6	129955.32	93.48	60	120	
In-115 (IS)	115	He	1357084.36	1.2	1455481.42	93.24	60	120	
Tb-159 (IS)	159	He	4374774.13	1.0	4498680.38	97.25	60	120	

Sample Report

Sample Name	570-79153-g-5-a@5
File Name	083SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:11:26
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2306

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.022	ppb	50.7	1.67	5000	
Al	27	45	He	405.067	ppb	1.0	26149.30	5000	
V	51	45	He	14.425	ppb	1.2	40189.41	5000	
Cr	52	45	He	1.548	ppb	0.5	5547.71	5000	
Mn	55	45	He	51.701	ppb	1.0	91931.29	5000	
Fe	56	45	He	410.440	ppb	1.4	1130854.85	50000	
Co	59	45	He	0.396	ppb	2.5	2563.56	4000	
Ni	60	45	He	1.215	ppb	1.0	2191.28	2000	
Cu	65	45	He	0.765	ppb	5.6	2077.93	2000	
Zn	66	72	He	4.184	ppb	4.8	3646.02	5000	
As	75	72	He	6.986	ppb	1.3	3437.73	5000	
Se	78	72	He	0.521	ppb	45.0	69.67	5000	
Rb	85	115	He	1.833	ppb	7.3	3852.74	5000	
Sr	88	115	He	166.252	ppb	1.3	460800.05	5000	
Mo	95	115	He	233.989	ppb	1.4	635943.25	3000	
Ag	107	115	He	0.006	ppb	8.7	83.33	100	
Cd	111	115	He	0.034	ppb	17.3	45.33	5000	
Sn	118	115	He	0.150	ppb	18.4	541.12	5000	
Sb	121	115	He	0.128	ppb	4.5	458.90	5000	
Cs	133	115	He	0.038	ppb	7.4	276.67	5000	
Ba	137	115	He	13.334	ppb	1.4	17581.88	5000	
Ce	140	115	He	0.753	ppb	3.0	15310.43	5000	
Tl	205	159	He	0.007	ppb	13.7	187.78	5000	
Pb	208	159	He	0.224	ppb	3.4	5670.49	4000	
U	238	159	He	66.188	ppb	2.9	1564238.88	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	128260.83	0.9	137203.93	93.48	60	120	
Ge (IS)	72	He	120731.52	0.9	129955.32	92.9	60	120	
In-115 (IS)	115	He	1334476.88	0.9	1455481.42	91.69	60	120	
Tb-159 (IS)	159	He	4283199.97	1.3	4498680.38	95.21	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV-6818298
File Name	084_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:13:29
Sample Type	CCV
Total Dilution	1.0000
Comment	—
Location	1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	53.927	ppb	2.4	1343.89	50	107.85	90	110	
Al	27	45	He	53.017	ppb	0.6	3295.70	50	106.03	90	110	
V	51	45	He	52.139	ppb	0.8	137933.16	50	104.28	90	110	
Cr	52	45	He	52.988	ppb	0.5	177106.40	50	105.98	90	110	
Mn	55	45	He	52.722	ppb	0.6	89154.89	50	105.44	90	110	
Fe	56	45	He	532.544	ppb	0.8	1394217.17	500	106.51	90	110	
Co	59	45	He	52.918	ppb	0.8	323864.01	50	105.84	90	110	
Ni	60	45	He	52.375	ppb	1.2	88408.07	50	104.75	90	110	
Cu	65	45	He	53.246	ppb	0.5	129723.09	50	106.49	90	110	
Zn	66	72	He	51.288	ppb	1.7	38208.17	50	102.58	90	110	
As	75	72	He	50.451	ppb	1.5	24236.81	50	100.9	90	110	
Se	78	72	He	52.445	ppb	3.5	1633.09	50	104.89	90	110	
Rb	85	115	He	50.720	ppb	1.2	108484.97	50	101.44	90	110	
Sr	88	115	He	50.720	ppb	0.9	143134.52	50	101.44	90	110	
Mo	95	115	He	51.922	ppb	0.9	143677.64	50	103.84	90	110	
Ag	107	115	He	52.321	ppb	0.6	533175.57	50	104.64	90	110	
Cd	111	115	He	51.959	ppb	0.3	68787.69	50	103.92	90	110	
Sn	118	115	He	52.038	ppb	1.6	148474.88	50	104.08	90	110	
Sb	121	115	He	51.937	ppb	1.0	168085.52	50	103.87	90	110	
Cs	133	115	He	51.503	ppb	0.2	383646.79	50	103.01	90	110	
Ba	137	115	He	51.902	ppb	0.9	69666.65	50	103.8	90	110	
Ce	140	115	He	52.533	ppb	0.9	1078269.16	50	105.07	90	110	
Tl	205	159	He	51.070	ppb	0.5	983296.73	50	102.14	90	110	
Pb	208	159	He	51.761	ppb	0.2	1276609.13	50	103.52	90	110	
U	238	159	He	51.235	ppb	0.8	1216618.94	50	102.47	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	121991.37	1.1	137203.93	88.91	60	120	
Ge (IS)	72	He	118143.59	1.0	129955.32	90.91	60	120	
In-115 (IS)	115	He	1358704.42	0.3	1455481.42	93.35	60	120	
Tb-159 (IS)	159	He	4303912.05	0.2	4498680.38	95.67	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 085_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 12:15:32

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.028	ppb	N/A	0.33	0.5	
Al	27	45	He	-0.017	ppb	N/A	44.67	10	
V	51	45	He	0.076	ppb	6.9	277.78	1	
Cr	52	45	He	0.006	ppb	89.6	123.33	1	
Mn	55	45	He	0.015	ppb	88.2	87.78	1	
Fe	56	45	He	1.754	ppb	12.5	8435.72	20	
Co	59	45	He	0.003	ppb	119.3	28.89	1	
Ni	60	45	He	0.008	ppb	23.9	46.67	1	
Cu	65	45	He	0.029	ppb	44.3	177.78	1	
Zn	66	72	He	0.119	ppb	56.2	564.46	5	
As	75	72	He	0.009	ppb	58.0	13.00	1	
Se	78	72	He	0.150	ppb	26.4	55.67	1	
Rb	85	115	He	0.009	ppb	42.9	18.89	1	
Sr	88	115	He	0.008	ppb	44.9	34.44	1	
Mo	95	115	He	0.112	ppb	6.0	317.78	1	
Ag	107	115	He	0.010	ppb	13.4	123.33	1	
Cd	111	115	He	0.003	ppb	13.8	5.33	1	
Sn	118	115	He	0.392	ppb	6.8	1213.39	10	
Sb	121	115	He	0.157	ppb	10.6	545.57	1	
Cs	133	115	He	0.003	ppb	59.4	22.22	1	
Ba	137	115	He	0.021	ppb	28.6	32.22	1	
Ce	140	115	He	0.004	ppb	14.2	212.23	1	
Tl	205	159	He	0.009	ppb	9.5	227.78	1	
Pb	208	159	He	0.010	ppb	13.1	416.67	1	
U	238	159	He	0.094	ppb	3.7	2220.22	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	119016.01	0.0	137203.93	86.74	60	120	
Ge (IS)	72	He	115460.67	1.1	129955.32	88.85	60	120	
In-115 (IS)	115	He	1328014.84	0.3	1455481.42	91.24	60	120	
Tb-159 (IS)	159	He	4265018.72	0.5	4498680.38	94.81	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664401/1-a
File Name	086_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:17:36
Sample Type	MB
Total Dilution	1.0000
Comment	CAM 200.8 664401 BH
Location	4408

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.015	ppb	N/A	0.67	0.5	
Al	27	45	He	4.718	ppb	2.7	334.00	10	
V	51	45	He	0.038	ppb	6.2	184.45	1	
Cr	52	45	He	0.196	ppb	9.1	756.69	1	
Mn	55	45	He	2.631	ppb	3.8	4484.01	1	MB Main CR1 Failed
Fe	56	45	He	10.465	ppb	3.7	31196.41	20	
Co	59	45	He	0.004	ppb	45.4	35.56	1	
Ni	60	45	He	0.270	ppb	12.1	486.68	1	
Cu	65	45	He	0.102	ppb	10.2	357.79	1	
Zn	66	72	He	0.356	ppb	10.4	741.13	5	
As	75	72	He	-0.003	ppb	N/A	7.33	1	
Se	78	72	He	0.077	ppb	182.6	54.00	1	
Rb	85	115	He	0.008	ppb	21.0	18.89	1	
Sr	88	115	He	0.023	ppb	22.3	76.67	1	
Mo	95	115	He	0.448	ppb	9.7	1245.61	1	
Ag	107	115	He	0.001	ppb	44.3	38.89	1	
Cd	111	115	He	0.000	ppb	1563.1	1.33	1	
Sn	118	115	He	0.252	ppb	3.9	837.81	10	
Sb	121	115	He	0.040	ppb	39.6	181.11	1	
Cs	133	115	He	0.002	ppb	11.0	18.89	1	
Ba	137	115	He	0.025	ppb	28.3	38.89	1	
Ce	140	115	He	0.001	ppb	94.1	157.78	1	
Tl	205	159	He	0.004	ppb	32.2	143.33	1	
Pb	208	159	He	0.022	ppb	11.8	713.34	1	
U	238	159	He	0.024	ppb	18.1	576.69	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	121276.72	0.9	137203.93	88.39	60	120	
Ge (IS)	72	He	116487.49	0.7	129955.32	89.64	60	120	
In-115 (IS)	115	He	1349882.45	0.7	1455481.42	92.74	60	120	
Tb-159 (IS)	159	He	4336991.91	0.3	4498680.38	96.41	60	120	

Sample Report

Sample Name	570-79157-g-8-a@5
File Name	087SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:19:39
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2307

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.035	ppb	N/A	0.17	5000	
Al	27	45	He	5.768	ppb	8.9	400.68	5000	
V	51	45	He	0.260	ppb	9.1	773.35	5000	
Cr	52	45	He	0.757	ppb	0.7	2636.91	5000	
Mn	55	45	He	96.672	ppb	0.6	163456.61	5000	
Fe	56	45	He	867.748	ppb	0.4	2269816.58	50000	
Co	59	45	He	0.072	ppb	8.3	453.34	4000	
Ni	60	45	He	0.239	ppb	6.4	437.79	2000	
Cu	65	45	He	0.239	ppb	2.4	695.57	2000	
Zn	66	72	He	1.120	ppb	7.8	1293.39	5000	
As	75	72	He	1.996	ppb	5.6	952.03	5000	
Se	78	72	He	0.260	ppb	101.6	59.33	5000	
Rb	85	115	He	0.171	ppb	7.0	351.12	5000	
Sr	88	115	He	275.623	ppb	0.7	746170.48	5000	
Mo	95	115	He	1.119	ppb	2.9	2984.76	3000	
Ag	107	115	He	0.005	ppb	3.3	75.56	100	
Cd	111	115	He	0.003	ppb	14.6	5.33	5000	
Sn	118	115	He	0.165	ppb	10.9	570.01	5000	
Sb	121	115	He	0.053	ppb	22.3	213.33	5000	
Cs	133	115	He	0.006	ppb	23.7	41.11	5000	
Ba	137	115	He	38.247	ppb	0.9	49252.89	5000	
Ce	140	115	He	0.034	ppb	4.6	794.47	5000	
Tl	205	159	He	0.004	ppb	52.5	133.33	5000	
Pb	208	159	He	0.030	ppb	6.9	888.91	4000	
U	238	159	He	0.206	ppb	4.5	4834.30	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	122017.12	1.4	137203.93	88.93	60	120	
Ge (IS)	72	He	116288.04	0.5	129955.32	89.48	60	120	
In-115 (IS)	115	He	1303458.92	0.9	1455481.42	89.56	60	120	
Tb-159 (IS)	159	He	4253551.50	1.1	4498680.38	94.55	60	120	

Sample Report

Sample Name	570-79157-g-9-a@5
File Name	088SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:21:42
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2308

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.010	ppb	N/A	0.83	5000	
Al	27	45	He	58.330	ppb	1.4	3764.46	5000	
V	51	45	He	1.588	ppb	1.6	4452.90	5000	
Cr	52	45	He	1.108	ppb	0.8	3958.31	5000	
Mn	55	45	He	15.828	ppb	0.6	27872.16	5000	
Fe	56	45	He	402.448	ppb	0.2	1096341.34	50000	
Co	59	45	He	0.176	ppb	5.1	1135.60	4000	
Ni	60	45	He	0.593	ppb	10.4	1074.49	2000	
Cu	65	45	He	1.571	ppb	2.8	4091.69	2000	
Zn	66	72	He	7.820	ppb	3.1	6318.01	5000	
As	75	72	He	0.752	ppb	3.3	374.34	5000	
Se	78	72	He	0.161	ppb	86.7	58.00	5000	
Rb	85	115	He	0.452	ppb	11.7	951.15	5000	
Sr	88	115	He	200.686	ppb	0.5	556915.06	5000	
Mo	95	115	He	0.396	ppb	5.3	1092.27	3000	
Ag	107	115	He	0.005	ppb	50.6	70.00	100	
Cd	111	115	He	0.008	ppb	42.5	12.00	5000	
Sn	118	115	He	0.147	ppb	11.3	533.34	5000	
Sb	121	115	He	0.053	ppb	10.0	221.11	5000	
Cs	133	115	He	0.007	ppb	7.8	52.22	5000	
Ba	137	115	He	30.772	ppb	1.3	40621.67	5000	
Ce	140	115	He	0.072	ppb	9.1	1593.43	5000	
Tl	205	159	He	0.004	ppb	13.3	136.67	5000	
Pb	208	159	He	0.151	ppb	1.6	3925.80	4000	
U	238	159	He	0.079	ppb	10.7	1910.17	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	126815.57	0.3	137203.93	92.43	60	120	
Ge (IS)	72	He	119593.67	0.4	129955.32	92.03	60	120	
In-115 (IS)	115	He	1336155.55	0.3	1455481.42	91.8	60	120	
Tb-159 (IS)	159	He	4341087.88	0.4	4498680.38	96.5	60	120	

Sample Report

Sample Name	570-79157-g-10-a@5
File Name	089SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:23:45
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2309

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.023	ppb	N/A	0.50	5000	
Al	27	45	He	19.236	ppb	27.8	1304.27	5000	
V	51	45	He	0.937	ppb	3.3	2724.70	5000	
Cr	52	45	He	1.231	ppb	4.9	4485.12	5000	
Mn	55	45	He	88.437	ppb	0.7	158995.45	5000	
Fe	56	45	He	702.682	ppb	0.6	1954984.37	50000	
Co	59	45	He	0.067	ppb	16.4	448.90	4000	
Ni	60	45	He	0.284	ppb	5.3	544.46	2000	
Cu	65	45	He	0.699	ppb	3.2	1930.13	2000	
Zn	66	72	He	11.549	ppb	1.2	9275.11	5000	
As	75	72	He	1.243	ppb	7.7	625.68	5000	
Se	78	72	He	0.017	ppb	912.2	54.67	5000	
Rb	85	115	He	0.422	ppb	1.0	902.25	5000	
Sr	88	115	He	264.938	ppb	0.6	746897.94	5000	
Mo	95	115	He	0.162	ppb	4.6	461.12	3000	
Ag	107	115	He	0.003	ppb	26.4	56.67	100	
Cd	111	115	He	0.007	ppb	22.2	10.67	5000	
Sn	118	115	He	0.107	ppb	16.0	427.79	5000	
Sb	121	115	He	0.174	ppb	11.6	614.46	5000	
Cs	133	115	He	0.005	ppb	38.9	35.55	5000	
Ba	137	115	He	57.368	ppb	1.5	76928.85	5000	
Ce	140	115	He	0.045	ppb	7.3	1057.82	5000	
Tl	205	159	He	0.001	ppb	39.9	81.11	5000	
Pb	208	159	He	0.060	ppb	3.9	1688.94	4000	
U	238	159	He	0.019	ppb	11.5	463.35	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	129730.98	0.4	137203.93	94.55	60	120	
Ge (IS)	72	He	121978.21	0.6	129955.32	93.86	60	120	
In-115 (IS)	115	He	1357380.11	0.3	1455481.42	93.26	60	120	
Tb-159 (IS)	159	He	4410793.44	0.6	4498680.38	98.05	60	120	

Sample Report

Sample Name	570-79316-j-3-a@5
File Name	090SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:25:48
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2310

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.017	ppb	N/A	0.67	5000	
Al	27	45	He	8.694	ppb	6.5	636.02	5000	
V	51	45	He	2.330	ppb	1.9	6852.68	5000	
Cr	52	45	He	0.534	ppb	6.5	2074.60	5000	
Mn	55	45	He	489.965	ppb	0.3	908657.29	5000	
Fe	56	45	He	1536.724	ppb	0.5	4406466.22	50000	
Co	59	45	He	0.271	ppb	2.3	1832.35	4000	
Ni	60	45	He	1.132	ppb	0.8	2133.49	2000	
Cu	65	45	He	1.508	ppb	1.1	4151.70	2000	
Zn	66	72	He	2.629	ppb	3.1	2554.67	5000	
As	75	72	He	10.982	ppb	1.8	5569.70	5000	
Se	78	72	He	1.292	ppb	4.8	96.33	5000	
Rb	85	115	He	0.448	ppb	5.9	965.59	5000	
Sr	88	115	He	771.682	ppb	0.2	2192572.00	5000	
Mo	95	115	He	27.847	ppb	0.7	77595.45	3000	
Ag	107	115	He	0.014	ppb	16.1	165.56	100	
Cd	111	115	He	0.022	ppb	20.6	30.67	5000	
Sn	118	115	He	0.114	ppb	13.2	452.23	5000	
Sb	121	115	He	0.058	ppb	4.7	240.00	5000	
Cs	133	115	He	0.006	ppb	44.9	44.45	5000	
Ba	137	115	He	8.535	ppb	2.4	11539.11	5000	
Ce	140	115	He	0.103	ppb	3.8	2264.63	5000	
Tl	205	159	He	0.002	ppb	53.7	111.11	5000	
Pb	208	159	He	0.092	ppb	4.6	2518.99	4000	
U	238	159	He	10.910	ppb	0.2	267106.15	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133866.15	0.3	137203.93	97.57	60	120	
Ge (IS)	72	He	124569.31	1.1	129955.32	95.86	60	120	
In-115 (IS)	115	He	1368062.61	0.6	1455481.42	93.99	60	120	
Tb-159 (IS)	159	He	4437124.55	0.7	4498680.38	98.63	60	120	

Sample Report

Sample Name	570-79316-i-4-a@5
File Name	091SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:27:53
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2311

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.017	ppb	N/A	0.67	5000	
Al	27	45	He	20.418	ppb	2.4	1429.41	5000	
V	51	45	He	0.575	ppb	3.7	1766.78	5000	
Cr	52	45	He	0.383	ppb	3.4	1525.64	5000	
Mn	55	45	He	206.405	ppb	0.6	384141.06	5000	
Fe	56	45	He	505.942	ppb	0.4	1458724.46	50000	
Co	59	45	He	0.048	ppb	15.1	337.78	4000	
Ni	60	45	He	0.271	ppb	9.1	541.13	2000	
Cu	65	45	He	0.737	ppb	4.0	2100.16	2000	
Zn	66	72	He	1.134	ppb	5.6	1417.85	5000	
As	75	72	He	6.384	ppb	1.5	3294.03	5000	
Se	78	72	He	0.223	ppb	43.1	63.33	5000	
Rb	85	115	He	0.504	ppb	7.6	1096.72	5000	
Sr	88	115	He	188.685	ppb	1.2	541316.82	5000	
Mo	95	115	He	22.063	ppb	1.2	62079.46	3000	
Ag	107	115	He	0.015	ppb	16.3	183.34	100	
Cd	111	115	He	0.015	ppb	13.3	22.00	5000	
Sn	118	115	He	0.089	ppb	29.5	384.45	5000	
Sb	121	115	He	0.048	ppb	13.3	210.01	5000	
Cs	133	115	He	0.006	ppb	26.6	48.89	5000	
Ba	137	115	He	21.529	ppb	2.6	29382.21	5000	
Ce	140	115	He	0.094	ppb	4.8	2101.28	5000	
Tl	205	159	He	0.001	ppb	37.7	92.22	5000	
Pb	208	159	He	0.181	ppb	2.2	4765.91	4000	
U	238	159	He	1.339	ppb	1.4	32663.21	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	134324.23	0.5	137203.93	97.9	60	120	
Ge (IS)	72	He	126565.72	0.9	129955.32	97.39	60	120	
In-115 (IS)	115	He	1381397.82	0.6	1455481.42	94.91	60	120	
Tb-159 (IS)	159	He	4419396.49	0.3	4498680.38	98.24	60	120	

Sample Report

Sample Name	570-79653-g-10-a@5
File Name	092SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:29:56
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2312

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.035	ppb	N/A	0.17	5000	
Al	27	45	He	29.435	ppb	2.2	1984.80	5000	
V	51	45	He	17.987	ppb	0.5	51091.83	5000	
Cr	52	45	He	4.913	ppb	1.0	17713.64	5000	
Mn	55	45	He	21.037	ppb	1.0	38196.71	5000	
Fe	56	45	He	76.980	ppb	0.4	219878.62	50000	
Co	59	45	He	0.414	ppb	5.6	2732.48	4000	
Ni	60	45	He	19.632	ppb	1.9	35567.18	2000	
Cu	65	45	He	0.567	ppb	5.5	1601.21	2000	
Zn	66	72	He	1.416	ppb	5.5	1585.65	5000	
As	75	72	He	2.104	ppb	4.3	1055.04	5000	
Se	78	72	He	0.569	ppb	38.0	72.00	5000	
Rb	85	115	He	0.097	ppb	9.1	206.67	5000	
Sr	88	115	He	598.183	ppb	0.4	1678073.30	5000	
Mo	95	115	He	9.782	ppb	1.3	26923.37	3000	
Ag	107	115	He	0.040	ppb	5.3	427.79	100	
Cd	111	115	He	0.033	ppb	33.7	44.67	5000	
Sn	118	115	He	0.089	ppb	11.7	374.45	5000	
Sb	121	115	He	0.110	ppb	7.7	404.45	5000	
Cs	133	115	He	0.003	ppb	38.7	23.33	5000	
Ba	137	115	He	20.993	ppb	0.8	28015.03	5000	
Ce	140	115	He	0.017	ppb	9.9	493.35	5000	
Tl	205	159	He	0.003	ppb	33.8	113.33	5000	
Pb	208	159	He	0.076	ppb	3.8	2055.63	4000	
U	238	159	He	11.852	ppb	0.5	285068.49	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	130832.30	0.5	137203.93	95.36	60	120	
Ge (IS)	72	He	122334.55	1.0	129955.32	94.14	60	120	
In-115 (IS)	115	He	1350692.46	1.0	1455481.42	92.8	60	120	
Tb-159 (IS)	159	He	4359109.13	1.4	4498680.38	96.9	60	120	

Sample Report

Sample Name	570-79654-g-7-a@5
File Name	093SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:32:00
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2401

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.011	ppb	N/A	0.83	5000	
Al	27	45	He	35.043	ppb	3.5	2374.19	5000	
V	51	45	He	1.704	ppb	2.1	4966.39	5000	
Cr	52	45	He	0.942	ppb	3.4	3518.20	5000	
Mn	55	45	He	389.076	ppb	0.3	711386.38	5000	
Fe	56	45	He	369.575	ppb	0.2	1048113.60	50000	
Co	59	45	He	0.090	ppb	5.4	607.79	4000	
Ni	60	45	He	0.581	ppb	3.7	1097.82	2000	
Cu	65	45	He	1.203	ppb	2.8	3289.26	2000	
Zn	66	72	He	5.655	ppb	4.0	4877.48	5000	
As	75	72	He	0.562	ppb	2.1	292.67	5000	
Se	78	72	He	0.232	ppb	77.5	62.33	5000	
Rb	85	115	He	0.266	ppb	5.9	573.35	5000	
Sr	88	115	He	294.492	ppb	0.6	837479.76	5000	
Mo	95	115	He	2.694	ppb	1.8	7526.38	3000	
Ag	107	115	He	0.002	ppb	29.4	46.67	100	
Cd	111	115	He	0.013	ppb	10.7	18.00	5000	
Sn	118	115	He	0.280	ppb	2.3	931.15	5000	
Sb	121	115	He	0.033	ppb	4.6	158.89	5000	
Cs	133	115	He	0.004	ppb	17.7	28.89	5000	
Ba	137	115	He	7.678	ppb	2.4	10389.35	5000	
Ce	140	115	He	0.381	ppb	1.9	8016.71	5000	
Tl	205	159	He	0.002	ppb	49.0	103.33	5000	
Pb	208	159	He	0.218	ppb	4.1	5612.71	4000	
U	238	159	He	0.476	ppb	3.8	11481.73	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	131975.31	0.7	137203.93	96.19	60	120	
Ge (IS)	72	He	123977.91	0.9	129955.32	95.4	60	120	
In-115 (IS)	115	He	1369316.68	0.9	1455481.42	94.08	60	120	
Tb-159 (IS)	159	He	4365701.21	0.8	4498680.38	97.04	60	120	

Sample Report

Sample Name	570-79837-h-9-a@5
File Name	094SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:34:03
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2402

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.005	ppb	N/A	1.00	5000	
Al	27	45	He	40.077	ppb	4.7	2718.26	5000	
V	51	45	He	0.426	ppb	10.2	1315.62	5000	
Cr	52	45	He	0.240	ppb	4.4	986.70	5000	
Mn	55	45	He	139.300	ppb	0.4	255718.12	5000	
Fe	56	45	He	505.596	ppb	2.5	1437778.41	50000	
Co	59	45	He	0.107	ppb	4.7	727.80	4000	
Ni	60	45	He	0.364	ppb	14.3	703.35	2000	
Cu	65	45	He	0.270	ppb	2.6	835.58	2000	
Zn	66	72	He	1.108	ppb	3.4	1365.63	5000	
As	75	72	He	3.318	ppb	3.7	1676.76	5000	
Se	78	72	He	0.205	ppb	117.5	61.33	5000	
Rb	85	115	He	0.241	ppb	3.4	516.68	5000	
Sr	88	115	He	227.921	ppb	0.5	642207.09	5000	
Mo	95	115	He	36.731	ppb	0.7	101501.19	3000	
Ag	107	115	He	0.003	ppb	58.8	50.00	100	
Cd	111	115	He	0.029	ppb	24.8	40.00	5000	
Sn	118	115	He	0.092	ppb	9.1	385.56	5000	
Sb	121	115	He	0.049	ppb	13.0	208.89	5000	
Cs	133	115	He	0.005	ppb	16.9	36.66	5000	
Ba	137	115	He	17.101	ppb	1.3	22924.99	5000	
Ce	140	115	He	0.117	ppb	7.4	2545.80	5000	
Tl	205	159	He	0.002	ppb	90.4	106.67	5000	
Pb	208	159	He	0.055	ppb	5.7	1548.93	4000	
U	238	159	He	5.803	ppb	1.5	139968.63	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	132482.87	0.3	137203.93	96.56	60	120	
Ge (IS)	72	He	123642.60	0.4	129955.32	95.14	60	120	
In-115 (IS)	115	He	1356694.37	1.0	1455481.42	93.21	60	120	
Tb-159 (IS)	159	He	4371028.16	0.6	4498680.38	97.16	60	120	

Sample Report

Sample Name	570-79837-h-10-a@5
File Name	095SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:36:06
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2403

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.024	ppb	N/A	0.50	5000	
Al	27	45	He	166.054	ppb	0.7	11434.90	5000	
V	51	45	He	1.317	ppb	0.9	3990.54	5000	
Cr	52	45	He	0.581	ppb	1.3	2289.07	5000	
Mn	55	45	He	52.682	ppb	0.5	99654.97	5000	
Fe	56	45	He	393.042	ppb	0.4	1152201.10	50000	
Co	59	45	He	0.355	ppb	3.4	2445.77	4000	
Ni	60	45	He	0.950	ppb	6.4	1830.12	2000	
Cu	65	45	He	0.234	ppb	6.3	762.25	2000	
Zn	66	72	He	3.484	ppb	1.6	3234.81	5000	
As	75	72	He	1.140	ppb	6.9	589.68	5000	
Se	78	72	He	0.337	ppb	51.4	66.33	5000	
Rb	85	115	He	0.798	ppb	2.1	1712.33	5000	
Sr	88	115	He	849.691	ppb	0.5	2403102.54	5000	
Mo	95	115	He	18.631	ppb	1.1	51682.11	3000	
Ag	107	115	He	0.002	ppb	66.0	48.89	100	
Cd	111	115	He	0.014	ppb	21.7	19.67	5000	
Sn	118	115	He	0.101	ppb	4.8	412.23	5000	
Sb	121	115	He	0.043	ppb	34.6	191.11	5000	
Cs	133	115	He	0.014	ppb	8.2	108.89	5000	
Ba	137	115	He	14.626	ppb	1.9	19679.03	5000	
Ce	140	115	He	0.196	ppb	2.2	4166.18	5000	
Tl	205	159	He	0.003	ppb	48.0	116.67	5000	
Pb	208	159	He	0.068	ppb	5.4	1866.73	4000	
U	238	159	He	26.079	ppb	0.8	624377.95	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	136454.11	0.3	137203.93	99.45	60	120	
Ge (IS)	72	He	125229.05	0.5	129955.32	96.36	60	120	
In-115 (IS)	115	He	1361772.41	0.7	1455481.42	93.56	60	120	
Tb-159 (IS)	159	He	4339248.72	0.5	4498680.38	96.46	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV-6818298
File Name	096_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:38:12
Sample Type	CCV
Total Dilution	1.0000
Comment	—
Location	1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	53.525	ppb	1.0	1430.73	50	107.05	90	110	
Al	27	45	He	53.941	ppb	1.4	3595.76	50	107.88	90	110	
V	51	45	He	51.601	ppb	0.4	146400.91	50	103.2	90	110	
Cr	52	45	He	52.063	ppb	0.2	186634.24	50	104.13	90	110	
Mn	55	45	He	51.894	ppb	0.4	94120.01	50	103.79	90	110	
Fe	56	45	He	527.365	ppb	0.2	1480830.74	500	105.47	90	110	
Co	59	45	He	51.550	ppb	0.2	338387.56	50	103.1	90	110	
Ni	60	45	He	51.580	ppb	0.3	93385.43	50	103.16	90	110	
Cu	65	45	He	51.854	ppb	0.6	135488.47	50	103.71	90	110	
Zn	66	72	He	51.822	ppb	1.5	40294.73	50	103.64	90	110	
As	75	72	He	50.716	ppb	1.6	25435.46	50	101.43	90	110	
Se	78	72	He	52.245	ppb	0.8	1698.77	50	104.49	90	110	
Rb	85	115	He	51.732	ppb	0.5	113456.03	50	103.46	90	110	
Sr	88	115	He	51.769	ppb	0.8	149800.22	50	103.54	90	110	
Mo	95	115	He	51.801	ppb	0.9	146981.69	50	103.6	90	110	
Ag	107	115	He	52.285	ppb	0.4	546320.41	50	104.57	90	110	
Cd	111	115	He	52.148	ppb	0.8	70788.53	50	104.3	90	110	
Sn	118	115	He	51.895	ppb	1.0	151827.53	50	103.79	90	110	
Sb	121	115	He	51.832	ppb	0.5	172001.86	50	103.66	90	110	
Cs	133	115	He	51.508	ppb	0.3	393410.33	50	103.02	90	110	
Ba	137	115	He	51.606	ppb	0.5	71025.55	50	103.21	90	110	
Ce	140	115	He	52.150	ppb	0.5	1097566.31	50	104.3	90	110	
Tl	205	159	He	50.981	ppb	0.5	999073.81	50	101.96	90	110	
Pb	208	159	He	51.733	ppb	0.6	1298683.14	50	103.47	90	110	
U	238	159	He	50.723	ppb	0.8	1225921.23	50	101.45	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	130837.81	1.7	137203.93	95.36	60	120	
Ge (IS)	72	He	123317.84	1.0	129955.32	94.89	60	120	
In-115 (IS)	115	He	1393145.29	0.3	1455481.42	95.72	60	120	
Tb-159 (IS)	159	He	4380669.41	0.5	4498680.38	97.38	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 097_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 12:40:16

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.029	ppb	N/A	0.33	0.5	
Al	27	45	He	-0.064	ppb	N/A	45.33	10	
V	51	45	He	0.086	ppb	1.0	330.01	1	
Cr	52	45	He	0.008	ppb	137.6	141.11	1	
Mn	55	45	He	-0.008	ppb	N/A	53.33	1	
Fe	56	45	He	1.614	ppb	15.0	8748.11	20	
Co	59	45	He	0.003	ppb	120.4	35.56	1	
Ni	60	45	He	0.012	ppb	57.7	56.67	1	
Cu	65	45	He	0.021	ppb	55.8	173.34	1	
Zn	66	72	He	0.007	ppb	953.2	513.35	5	
As	75	72	He	0.015	ppb	54.3	16.67	1	
Se	78	72	He	-0.012	ppb	N/A	54.00	1	
Rb	85	115	He	0.002	ppb	113.1	5.56	1	
Sr	88	115	He	0.013	ppb	0.5	50.00	1	
Mo	95	115	He	0.066	ppb	16.3	201.11	1	
Ag	107	115	He	0.010	ppb	28.9	122.22	1	
Cd	111	115	He	0.002	ppb	104.2	4.33	1	
Sn	118	115	He	0.355	ppb	11.1	1151.16	10	
Sb	121	115	He	0.156	ppb	12.6	562.23	1	
Cs	133	115	He	0.005	ppb	30.6	40.00	1	
Ba	137	115	He	0.034	ppb	51.2	51.11	1	
Ce	140	115	He	0.004	ppb	46.4	223.34	1	
Tl	205	159	He	0.007	ppb	14.1	205.56	1	
Pb	208	159	He	0.008	ppb	14.8	372.23	1	
U	238	159	He	0.085	ppb	5.7	2060.19	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	128896.06	0.7	137203.93	93.94	60	120	
Ge (IS)	72	He	122520.37	0.5	129955.32	94.28	60	120	
In-115 (IS)	115	He	1375879.27	0.4	1455481.42	94.53	60	120	
Tb-159 (IS)	159	He	4394382.33	0.8	4498680.38	97.68	60	120	

Sample Report

Sample Name	570-79837-g-11-a@5
File Name	098SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:42:20
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2404

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.006	ppb	N/A	1.00	5000	
Al	27	45	He	5.046	ppb	9.8	401.34	5000	
V	51	45	He	0.658	ppb	5.2	2056.82	5000	
Cr	52	45	He	0.394	ppb	2.7	1604.54	5000	
Mn	55	45	He	436.323	ppb	0.2	831087.63	5000	
Fe	56	45	He	3176.992	ppb	0.2	9351512.13	50000	
Co	59	45	He	0.087	ppb	14.0	616.69	4000	
Ni	60	45	He	0.487	ppb	5.2	963.37	2000	
Cu	65	45	He	0.367	ppb	2.3	1134.49	2000	
Zn	66	72	He	2.466	ppb	4.4	2353.53	5000	
As	75	72	He	3.058	ppb	0.9	1509.75	5000	
Se	78	72	He	0.663	ppb	31.7	74.00	5000	
Rb	85	115	He	0.310	ppb	5.2	627.79	5000	
Sr	88	115	He	3968.423	ppb	0.2	10568615.14	5000	
Mo	95	115	He	3.747	ppb	1.2	9797.73	3000	
Ag	107	115	He	0.010	ppb	23.2	122.22	100	
Cd	111	115	He	0.088	ppb	19.5	111.67	5000	
Sn	118	115	He	0.236	ppb	4.4	753.36	5000	
Sb	121	115	He	0.150	ppb	7.0	507.79	5000	
Cs	133	115	He	0.007	ppb	14.2	51.11	5000	
Ba	137	115	He	199.497	ppb	0.8	252715.07	5000	
Ce	140	115	He	0.102	ppb	2.1	2097.94	5000	
Tl	205	159	He	0.002	ppb	51.1	101.11	5000	
Pb	208	159	He	0.093	ppb	6.3	2353.42	4000	
U	238	159	He	0.334	ppb	1.0	7622.28	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	137489.87	0.4	137203.93	100.21	60	120	
Ge (IS)	72	He	120713.78	0.3	129955.32	92.89	60	120	
In-115 (IS)	115	He	1282319.74	0.4	1455481.42	88.1	60	120	
Tb-159 (IS)	159	He	4130189.14	0.9	4498680.38	91.81	60	120	

Sample Report

Sample Name	570-79837-h-12-a@5
File Name	099SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:44:25
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2405

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.042	ppb	N/A	0.00	5000	
Al	27	45	He	18.424	ppb	2.3	1391.40	5000	
V	51	45	He	1.180	ppb	5.5	3791.60	5000	
Cr	52	45	He	0.587	ppb	0.6	2446.88	5000	
Mn	55	45	He	206.381	ppb	0.2	412755.73	5000	
Fe	56	45	He	884.377	ppb	1.1	2736521.49	50000	
Co	59	45	He	0.221	ppb	6.3	1620.10	4000	
Ni	60	45	He	0.672	ppb	3.3	1382.29	2000	
Cu	65	45	He	0.568	ppb	1.8	1769.00	2000	
Zn	66	72	He	4.469	ppb	2.3	4102.79	5000	
As	75	72	He	0.318	ppb	3.9	175.33	5000	
Se	78	72	He	0.042	ppb	297.6	58.33	5000	
Rb	85	115	He	0.473	ppb	5.1	1007.82	5000	
Sr	88	115	He	696.069	ppb	0.8	1956752.07	5000	
Mo	95	115	He	0.957	ppb	1.8	2653.58	3000	
Ag	107	115	He	0.008	ppb	32.9	101.11	100	
Cd	111	115	He	0.008	ppb	36.5	12.33	5000	
Sn	118	115	He	0.127	ppb	16.3	484.46	5000	
Sb	121	115	He	0.058	ppb	15.3	238.89	5000	
Cs	133	115	He	0.005	ppb	13.8	37.78	5000	
Ba	137	115	He	128.982	ppb	1.3	172464.96	5000	
Ce	140	115	He	0.081	ppb	8.0	1799.01	5000	
Tl	205	159	He	0.001	ppb	46.8	87.78	5000	
Pb	208	159	He	0.054	ppb	2.1	1505.60	4000	
U	238	159	He	0.137	ppb	7.3	3260.45	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	144348.78	0.1	137203.93	105.21	60	120	
Ge (IS)	72	He	128356.28	0.3	129955.32	98.77	60	120	
In-115 (IS)	115	He	1353549.73	0.1	1455481.42	93	60	120	
Tb-159 (IS)	159	He	4295258.58	0.1	4498680.38	95.48	60	120	

Sample Report

Sample Name 570-79837-g-16-a@5

File Name 100SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 12:46:30

Sample Type Sample

Total Dilution 1.0000

Comment CSRB 6020 440-663919 BH

Location 2406

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.002	ppb	N/A	1.17	5000	
Al	27	45	He	930.499	ppb	0.8	67379.22	5000	
V	51	45	He	11.927	ppb	1.7	37332.20	5000	
Cr	52	45	He	4.437	ppb	0.6	17622.43	5000	
Mn	55	45	He	515.278	ppb	0.9	1028157.98	5000	
Fe	56	45	He	9250.666	ppb	1.2	28515204.42	50000	
Co	59	45	He	1.046	ppb	3.2	7573.04	4000	
Ni	60	45	He	3.753	ppb	1.3	7516.35	2000	
Cu	65	45	He	3.853	ppb	2.0	11206.43	2000	
Zn	66	72	He	10.792	ppb	1.5	9315.12	5000	
As	75	72	He	5.314	ppb	2.5	2830.27	5000	
Se	78	72	He	0.731	ppb	19.4	82.33	5000	
Rb	85	115	He	1.917	ppb	1.6	4309.54	5000	
Sr	88	115	He	332.172	ppb	2.1	984980.03	5000	
Mo	95	115	He	28.388	ppb	3.2	82547.69	3000	
Ag	107	115	He	0.007	ppb	15.1	97.78	100	
Cd	111	115	He	0.466	ppb	1.6	649.02	5000	
Sn	118	115	He	1.014	ppb	1.8	3167.03	5000	
Sb	121	115	He	0.165	ppb	4.9	614.46	5000	
Cs	133	115	He	0.051	ppb	3.5	397.79	5000	
Ba	137	115	He	12.881	ppb	0.6	18174.88	5000	
Ce	140	115	He	3.266	ppb	2.1	70571.32	5000	
Tl	205	159	He	0.017	ppb	3.4	407.79	5000	
Pb	208	159	He	1.353	ppb	1.2	35003.03	4000	
U	238	159	He	2.445	ppb	0.9	60623.00	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	144023.63	1.1	137203.93	104.97	60	120	
Ge (IS)	72	He	130589.76	1.0	129955.32	100.49	60	120	
In-115 (IS)	115	He	1427996.18	1.6	1455481.42	98.11	60	120	
Tb-159 (IS)	159	He	4493430.10	0.1	4498680.38	99.88	60	120	

Sample Report

Sample Name	570-80249-h-4-a@5
File Name	101SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:48:34
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2407

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.008	ppb	N/A	1.00	5000	
Al	27	45	He	8.456	ppb	6.6	669.35	5000	
V	51	45	He	4.792	ppb	1.2	15114.18	5000	
Cr	52	45	He	5.287	ppb	0.8	21051.19	5000	
Mn	55	45	He	85.032	ppb	0.7	170337.93	5000	
Fe	56	45	He	76.985	ppb	1.0	242930.17	50000	
Co	59	45	He	0.055	ppb	16.1	418.90	4000	
Ni	60	45	He	0.488	ppb	4.5	1014.49	2000	
Cu	65	45	He	0.448	ppb	1.1	1425.63	2000	
Zn	66	72	He	1.748	ppb	5.7	2003.48	5000	
As	75	72	He	0.207	ppb	6.3	122.33	5000	
Se	78	72	He	0.132	ppb	131.5	63.67	5000	
Rb	85	115	He	0.260	ppb	6.0	610.01	5000	
Sr	88	115	He	304.497	ppb	1.2	941239.27	5000	
Mo	95	115	He	0.592	ppb	3.3	1809.01	3000	
Ag	107	115	He	0.006	ppb	22.1	87.78	100	
Cd	111	115	He	0.004	ppb	10.7	6.67	5000	
Sn	118	115	He	0.089	ppb	6.8	415.56	5000	
Sb	121	115	He	0.030	ppb	37.7	163.33	5000	
Cs	133	115	He	0.004	ppb	20.1	30.00	5000	
Ba	137	115	He	21.651	ppb	0.4	31837.40	5000	
Ce	140	115	He	0.205	ppb	1.2	4754.14	5000	
Tl	205	159	He	0.001	ppb	25.4	90.00	5000	
Pb	208	159	He	0.069	ppb	5.5	1986.74	4000	
U	238	159	He	0.271	ppb	1.8	6841.85	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	144543.15	0.7	137203.93	105.35	60	120	
Ge (IS)	72	He	133350.14	0.5	129955.32	102.61	60	120	
In-115 (IS)	115	He	1488361.00	0.2	1455481.42	102.26	60	120	
Tb-159 (IS)	159	He	4560965.24	0.8	4498680.38	101.38	60	120	

Sample Report

Sample Name	570-80249-h-9-a@5
File Name	102SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:50:40
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2408

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.042	ppb	N/A	0.00	5000	
Al	27	45	He	61.917	ppb	2.6	4524.67	5000	
V	51	45	He	1.971	ppb	3.0	6241.30	5000	
Cr	52	45	He	0.797	ppb	2.9	3260.36	5000	
Mn	55	45	He	276.372	ppb	1.1	550299.14	5000	
Fe	56	45	He	1314.090	ppb	1.1	4046078.45	50000	
Co	59	45	He	0.144	ppb	3.2	1051.15	4000	
Ni	60	45	He	0.640	ppb	4.4	1311.17	2000	
Cu	65	45	He	1.561	ppb	3.0	4608.51	2000	
Zn	66	72	He	5.483	ppb	2.6	4999.75	5000	
As	75	72	He	1.518	ppb	2.3	815.69	5000	
Se	78	72	He	-0.148	ppb	N/A	53.00	5000	
Rb	85	115	He	0.414	ppb	3.2	965.59	5000	
Sr	88	115	He	480.872	ppb	0.6	1478217.69	5000	
Mo	95	115	He	0.896	ppb	4.4	2715.82	3000	
Ag	107	115	He	0.009	ppb	34.7	130.00	100	
Cd	111	115	He	0.029	ppb	9.2	43.67	5000	
Sn	118	115	He	0.078	ppb	21.8	376.67	5000	
Sb	121	115	He	0.044	ppb	16.0	210.00	5000	
Cs	133	115	He	0.007	ppb	28.0	56.66	5000	
Ba	137	115	He	48.892	ppb	0.6	71491.10	5000	
Ce	140	115	He	0.112	ppb	2.2	2652.48	5000	
Tl	205	159	He	0.002	ppb	47.3	103.33	5000	
Pb	208	159	He	0.585	ppb	0.6	15482.36	4000	
U	238	159	He	0.411	ppb	1.4	10360.80	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	143718.54	0.9	137203.93	104.75	60	120	
Ge (IS)	72	He	130606.61	0.6	129955.32	100.5	60	120	
In-115 (IS)	115	He	1480118.70	0.8	1455481.42	101.69	60	120	
Tb-159 (IS)	159	He	4565729.68	0.3	4498680.38	101.49	60	120	

Sample Report

Sample Name 570-80164-i-12-a@5

File Name 103SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 12:52:43

Sample Type Sample

Total Dilution 1.0000

Comment CSRB 6020 440-663919 BH

Location 2409

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.008	ppb	195.6	1.50	5000	
Al	27	45	He	12.528	ppb	4.9	978.70	5000	
V	51	45	He	9.899	ppb	2.8	31535.86	5000	
Cr	52	45	He	2.182	ppb	1.4	8884.83	5000	
Mn	55	45	He	343.787	ppb	1.3	697884.52	5000	
Fe	56	45	He	4193.597	ppb	1.4	13153504.48	50000	
Co	59	45	He	0.137	ppb	5.9	1023.37	4000	
Ni	60	45	He	2.527	ppb	1.3	5163.12	2000	
Cu	65	45	He	2.095	ppb	3.0	6261.33	2000	
Zn	66	72	He	4.214	ppb	4.6	4078.35	5000	
As	75	72	He	2.716	ppb	2.8	1492.41	5000	
Se	78	72	He	0.275	ppb	32.9	69.00	5000	
Rb	85	115	He	0.259	ppb	4.7	612.24	5000	
Sr	88	115	He	620.929	ppb	0.8	1931574.71	5000	
Mo	95	115	He	1.414	ppb	0.4	4329.55	3000	
Ag	107	115	He	0.003	ppb	21.7	58.89	100	
Cd	111	115	He	0.046	ppb	22.6	69.00	5000	
Sn	118	115	He	0.161	ppb	10.7	642.24	5000	
Sb	121	115	He	0.043	ppb	10.9	208.89	5000	
Cs	133	115	He	0.004	ppb	9.7	36.67	5000	
Ba	137	115	He	113.247	ppb	1.2	167563.69	5000	
Ce	140	115	He	0.373	ppb	1.3	8598.17	5000	
Tl	205	159	He	0.001	ppb	18.5	87.78	5000	
Pb	208	159	He	0.163	ppb	3.5	4491.42	4000	
U	238	159	He	0.274	ppb	3.7	7021.94	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	146538.08	1.0	137203.93	106.8	60	120	
Ge (IS)	72	He	134252.63	0.1	129955.32	103.31	60	120	
In-115 (IS)	115	He	1497848.21	0.3	1455481.42	102.91	60	120	
Tb-159 (IS)	159	He	4631218.43	0.3	4498680.38	102.95	60	120	

Sample Report

Sample Name	570-80164-i-13-a@5
File Name	104SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 12:54:46
Sample Type	Sample
Total Dilution	1.0000
Comment	CSRB 6020 440-663919 BH
Location	2410

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.003	ppb	N/A	1.17	5000	
Al	27	45	He	47.743	ppb	2.3	3601.76	5000	
V	51	45	He	11.266	ppb	1.4	36195.02	5000	
Cr	52	45	He	2.122	ppb	1.3	8716.96	5000	
Mn	55	45	He	400.532	ppb	0.3	820256.08	5000	
Fe	56	45	He	1584.535	ppb	0.2	5017080.22	50000	
Co	59	45	He	0.127	ppb	8.9	955.59	4000	
Ni	60	45	He	1.022	ppb	2.4	2131.27	2000	
Cu	65	45	He	2.185	ppb	0.9	6581.46	2000	
Zn	66	72	He	4.116	ppb	4.0	4057.23	5000	
As	75	72	He	3.425	ppb	0.4	1907.79	5000	
Se	78	72	He	0.484	ppb	51.5	77.33	5000	
Rb	85	115	He	0.411	ppb	7.1	980.04	5000	
Sr	88	115	He	352.666	ppb	0.4	1108370.34	5000	
Mo	95	115	He	2.834	ppb	1.6	8750.40	3000	
Ag	107	115	He	0.024	ppb	16.7	301.12	100	
Cd	111	115	He	0.151	ppb	7.0	224.33	5000	
Sn	118	115	He	0.118	ppb	17.3	513.35	5000	
Sb	121	115	He	0.069	ppb	20.2	304.45	5000	
Cs	133	115	He	0.006	ppb	28.2	53.33	5000	
Ba	137	115	He	19.323	ppb	1.7	28892.33	5000	
Ce	140	115	He	0.306	ppb	2.9	7138.48	5000	
Tl	205	159	He	0.002	ppb	30.8	107.78	5000	
Pb	208	159	He	0.326	ppb	2.2	8914.52	4000	
U	238	159	He	0.426	ppb	1.2	10994.66	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	147822.67	0.4	137203.93	107.74	60	120	
Ge (IS)	72	He	136306.32	0.7	129955.32	104.89	60	120	
In-115 (IS)	115	He	1513259.78	0.5	1455481.42	103.97	60	120	
Tb-159 (IS)	159	He	4677066.48	0.6	4498680.38	103.97	60	120	

Sample Report

Sample Name 570-80164-j-14-a@5

File Name 105SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 12:56:49

Sample Type Sample

Total Dilution 1.0000

Comment CSRB 6020 440-663919 BH

Location 2411

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.025	ppb	1.7	2.00	5000	
Al	27	45	He	18.352	ppb	2.6	1414.07	5000	
V	51	45	He	17.187	ppb	1.5	54960.71	5000	
Cr	52	45	He	11.657	ppb	1.7	47136.93	5000	
Mn	55	45	He	790.034	ppb	1.1	1611793.16	5000	
Fe	56	45	He	3751.898	ppb	1.2	11828545.36	50000	
Co	59	45	He	0.100	ppb	5.2	752.24	4000	
Ni	60	45	He	1.770	ppb	2.7	3646.01	2000	
Cu	65	45	He	0.350	ppb	2.9	1163.39	2000	
Zn	66	72	He	5.018	ppb	3.6	4827.46	5000	
As	75	72	He	1.272	ppb	7.0	715.69	5000	
Se	78	72	He	0.398	ppb	113.6	74.33	5000	
Rb	85	115	He	0.339	ppb	11.0	811.14	5000	
Sr	88	115	He	351.084	ppb	1.1	1107374.85	5000	
Mo	95	115	He	1.043	ppb	2.7	3243.71	3000	
Ag	107	115	He	0.002	ppb	80.9	47.78	100	
Cd	111	115	He	0.009	ppb	28.1	14.00	5000	
Sn	118	115	He	0.079	ppb	21.9	390.01	5000	
Sb	121	115	He	0.061	ppb	22.2	276.67	5000	
Cs	133	115	He	0.008	ppb	13.0	65.56	5000	
Ba	137	115	He	17.561	ppb	1.3	26351.95	5000	
Ce	140	115	He	0.530	ppb	1.9	12315.34	5000	
Tl	205	159	He	0.001	ppb	158.1	80.00	5000	
Pb	208	159	He	0.040	ppb	12.4	1256.70	4000	
U	238	159	He	0.468	ppb	0.7	12205.75	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	147273.14	0.6	137203.93	107.34	60	120	
Ge (IS)	72	He	136433.24	0.8	129955.32	104.98	60	120	
In-115 (IS)	115	He	1518721.51	0.5	1455481.42	104.34	60	120	
Tb-159 (IS)	159	He	4721253.29	0.2	4498680.38	104.95	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6818298

File Name 106_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 12:58:52

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	52.886	ppb	1.7	1524.24	50	105.77	90	110	
Al	27	45	He	53.690	ppb	2.5	3858.49	50	107.38	90	110	
V	51	45	He	50.845	ppb	0.8	155552.46	50	101.69	90	110	
Cr	52	45	He	50.957	ppb	1.5	196964.11	50	101.91	90	110	
Mn	55	45	He	51.724	ppb	1.4	101160.35	50	103.45	90	110	
Fe	56	45	He	522.734	ppb	1.1	1582759.28	500	104.55	90	110	
Co	59	45	He	50.644	ppb	1.3	358445.94	50	101.29	90	110	
Ni	60	45	He	50.520	ppb	1.2	98631.76	50	101.04	90	110	
Cu	65	45	He	50.545	ppb	1.1	142410.24	50	101.09	90	110	
Zn	66	72	He	51.203	ppb	0.6	42733.64	50	102.41	90	110	
As	75	72	He	49.919	ppb	0.6	26866.60	50	99.84	90	110	
Se	78	72	He	51.013	ppb	2.4	1781.77	50	102.03	90	110	
Rb	85	115	He	50.138	ppb	0.4	121010.36	50	100.28	90	110	
Sr	88	115	He	50.016	ppb	1.1	159277.61	50	100.03	90	110	
Mo	95	115	He	49.657	ppb	1.3	155059.58	50	99.31	90	110	
Ag	107	115	He	50.170	ppb	0.7	576914.40	50	100.34	90	110	
Cd	111	115	He	50.430	ppb	1.2	75336.96	50	100.86	90	110	
Sn	118	115	He	50.661	ppb	0.9	163118.14	50	101.32	90	110	
Sb	121	115	He	50.156	ppb	1.1	183172.87	50	100.31	90	110	
Cs	133	115	He	49.951	ppb	0.7	419867.66	50	99.9	90	110	
Ba	137	115	He	50.268	ppb	0.6	76137.99	50	100.54	90	110	
Ce	140	115	He	50.243	ppb	1.2	1163723.42	50	100.49	90	110	
Tl	205	159	He	50.012	ppb	0.5	1047962.98	50	100.02	90	110	
Pb	208	159	He	50.541	ppb	0.6	1356613.40	50	101.08	90	110	
U	238	159	He	49.450	ppb	0.7	1277905.74	50	98.9	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	141076.41	1.0	137203.93	102.82	60	120	
Ge (IS)	72	He	132343.69	1.2	129955.32	101.84	60	120	
In-115 (IS)	115	He	1533168.52	0.2	1455481.42	105.34	60	120	
Tb-159 (IS)	159	He	4684031.76	0.6	4498680.38	104.12	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 107_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 13:00:56

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.024	ppb	N/A	0.50	0.5	
Al	27	45	He	-0.071	ppb	N/A	47.33	10	
V	51	45	He	0.018	ppb	70.1	146.67	1	
Cr	52	45	He	0.008	ppb	34.7	147.78	1	
Mn	55	45	He	0.010	ppb	118.6	91.11	1	
Fe	56	45	He	2.015	ppb	13.1	10386.92	20	
Co	59	45	He	0.003	ppb	17.9	33.33	1	
Ni	60	45	He	0.010	ppb	79.4	56.67	1	
Cu	65	45	He	0.024	ppb	29.8	190.00	1	
Zn	66	72	He	0.073	ppb	44.4	596.68	5	
As	75	72	He	0.002	ppb	535.3	10.67	1	
Se	78	72	He	0.074	ppb	74.6	60.00	1	
Rb	85	115	He	0.009	ppb	54.0	23.33	1	
Sr	88	115	He	0.015	ppb	7.1	60.00	1	
Mo	95	115	He	0.058	ppb	4.1	191.11	1	
Ag	107	115	He	0.010	ppb	36.2	141.11	1	
Cd	111	115	He	0.001	ppb	117.4	2.67	1	
Sn	118	115	He	0.322	ppb	15.0	1145.61	10	
Sb	121	115	He	0.150	ppb	15.0	588.91	1	
Cs	133	115	He	0.005	ppb	26.6	41.11	1	
Ba	137	115	He	0.023	ppb	28.9	40.00	1	
Ce	140	115	He	0.002	ppb	57.3	200.00	1	
Tl	205	159	He	0.005	ppb	42.3	171.11	1	
Pb	208	159	He	0.007	ppb	22.9	361.11	1	
U	238	159	He	0.069	ppb	7.2	1753.48	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135839.88	0.4	137203.93	99.01	60	120	
Ge (IS)	72	He	129676.22	0.6	129955.32	99.79	60	120	
In-115 (IS)	115	He	1493900.85	0.2	1455481.42	102.64	60	120	
Tb-159 (IS)	159	He	4586638.85	0.4	4498680.38	101.96	60	120	

Method Blank (MB) Report

Sample Name	mb 440-664464/1-a
File Name	108_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:03:00
Sample Type	MB
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3101

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.030	ppb	N/A	0.33	0.5	
Al	27	45	He	3.419	ppb	8.8	298.67	10	
V	51	45	He	-0.004	ppb	N/A	85.56	1	
Cr	52	45	He	0.032	ppb	10.3	247.78	1	
Mn	55	45	He	1.023	ppb	2.2	2089.05	1	MB Main CR1 Failed
Fe	56	45	He	6.701	ppb	3.4	25123.03	20	
Co	59	45	He	0.004	ppb	22.5	47.78	1	
Ni	60	45	He	0.105	ppb	6.4	245.56	1	
Cu	65	45	He	0.850	ppb	4.5	2542.45	1	
Zn	66	72	He	1.144	ppb	11.5	1506.75	5	
As	75	72	He	-0.007	ppb	N/A	6.33	1	
Se	78	72	He	-0.254	ppb	N/A	50.67	1	
Rb	85	115	He	0.010	ppb	47.4	26.67	1	
Sr	88	115	He	0.088	ppb	7.3	297.78	1	
Mo	95	115	He	0.209	ppb	1.9	678.91	1	
Ag	107	115	He	0.001	ppb	61.1	38.89	1	
Cd	111	115	He	0.003	ppb	29.3	5.33	1	
Sn	118	115	He	0.096	ppb	17.2	455.57	10	
Sb	121	115	He	0.031	ppb	4.3	175.56	1	
Cs	133	115	He	0.001	ppb	17.2	12.22	1	
Ba	137	115	He	0.066	ppb	14.9	107.78	1	
Ce	140	115	He	0.001	ppb	16.8	183.34	1	
Tl	205	159	He	0.008	ppb	0.9	230.00	1	
Pb	208	159	He	0.015	ppb	13.5	582.23	1	
U	238	159	He	0.014	ppb	5.6	383.34	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	142166.55	1.1	137203.93	103.62	60	120	
Ge (IS)	72	He	133701.02	0.4	129955.32	102.88	60	120	
In-115 (IS)	115	He	1553183.66	0.5	1455481.42	106.71	60	120	
Tb-159 (IS)	159	He	4739018.98	0.6	4498680.38	105.34	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	lcs 440-664464/2-a
File Name	109_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:05:04
Sample Type	LCS
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
ISTD Ref FileName	003CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**IRVINSTIC** **PMS6**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	86.416	ppb	1.5	2515.87	80	108.02	85	115	
Al	27	45	He	90.857	ppb	1.8	6560.73	80	113.57	85	115	
V	51	45	He	82.665	ppb	0.1	255450.06	80	103.33	85	115	
Cr	52	45	He	84.455	ppb	0.1	329729.99	80	105.57	85	115	
Mn	55	45	He	86.274	ppb	0.6	170414.85	80	107.84	85	115	
Fe	56	45	He	849.695	ppb	0.3	2596332.54	800	106.21	85	115	
Co	59	45	He	83.614	ppb	0.5	597875.13	80	104.52	85	115	
Ni	60	45	He	83.098	ppb	0.5	163884.33	80	103.87	85	115	
Cu	65	45	He	81.560	ppb	0.9	232088.34	80	101.95	85	115	
Zn	66	72	He	86.726	ppb	1.2	72757.50	80	108.41	85	115	
As	75	72	He	82.381	ppb	1.2	44798.44	80	102.98	85	115	
Se	78	72	He	84.323	ppb	2.6	2936.96	80	105.4	85	115	
Rb	85	115	He	81.760	ppb	0.7	201156.05	80	102.2	85	115	
Sr	88	115	He	82.191	ppb	0.5	266794.61	80	102.74	85	115	
Mo	95	115	He	81.292	ppb	0.8	258750.51	80	101.62	85	115	
Ag	107	115	He	79.815	ppb	0.2	935557.64	80	99.77	85	115	
Cd	111	115	He	82.689	ppb	0.4	125920.15	80	103.36	85	115	
Sn	118	115	He	78.508	ppb	0.7	257597.93	80	98.14	85	115	
Sb	121	115	He	85.058	ppb	1.2	316624.37	80	106.32	85	115	
Cs	133	115	He	83.453	ppb	0.3	715073.18	80	104.32	85	115	
Ba	137	115	He	82.771	ppb	0.4	127790.48	80	103.46	85	115	
Ce	140	115	He	82.503	ppb	1.1	1947892.91	80	103.13	85	115	
Tl	205	159	He	84.397	ppb	0.9	1810033.40	80	105.5	85	115	
[Pb]	206	159	He	86.100	ppb	0.4	590353.72	80	107.62	85	115	
[Pb]	207	159	He	82.193	ppb	0.3	496965.05	80	102.74	85	115	
Pb	208	159	He	84.131	ppb	0.2	2311174.80	80	105.16	85	115	
U	238	159	He	84.505	ppb	1.2	2235185.23	80	105.63	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	142532.09	1.1	137203.93	103.88	60	120	
Ge (IS)	72	He	133743.57	0.4	129955.32	102.92	60	120	
In-115 (IS)	115	He	1562879.06	0.7	1455481.42	107.38	60	120	
Tb-159 (IS)	159	He	4794109.95	0.3	4498680.38	106.57	60	120	

Sample Report

Sample Name	570-80800-b-1-a
File Name	110SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:07:08
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3103

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.014	ppb	N/A	0.83	5000	
Al	27	45	He	23.781	ppb	2.7	1810.78	5000	
V	51	45	He	0.598	ppb	4.1	2006.81	5000	
Cr	52	45	He	3.339	ppb	2.6	13556.05	5000	
Mn	55	45	He	126.903	ppb	0.4	258302.07	5000	
Fe	56	45	He	2581.981	ppb	0.5	8120569.12	50000	
Co	59	45	He	2.395	ppb	1.8	17663.64	4000	
Ni	60	45	He	8.597	ppb	0.4	17509.04	2000	
Cu	65	45	He	7.700	ppb	0.7	22703.73	2000	
Zn	66	72	He	691.955	ppb	1.2	583930.76	5000	
As	75	72	He	2.885	ppb	5.7	1597.76	5000	
Se	78	72	He	581.107	ppb	1.1	20143.49	5000	
Rb	85	115	He	6.420	ppb	1.1	15221.14	5000	
Sr	88	115	He	277.606	ppb	0.4	868270.28	5000	
Mo	95	115	He	2.638	ppb	2.2	8104.48	3000	
Ag	107	115	He	0.021	ppb	12.4	260.00	100	
Cd	111	115	He	0.029	ppb	22.6	43.33	5000	
Sn	118	115	He	1.074	ppb	9.3	3533.78	5000	
Sb	121	115	He	0.967	ppb	4.4	3527.11	5000	
Cs	133	115	He	0.073	ppb	13.3	602.24	5000	
Ba	137	115	He	17.644	ppb	1.7	26250.58	5000	
Ce	140	115	He	0.037	ppb	7.9	985.60	5000	
Tl	205	159	He	0.023	ppb	17.7	558.90	5000	
Pb	208	159	He	0.199	ppb	1.8	5568.25	4000	
U	238	159	He	0.849	ppb	3.2	22095.05	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	146895.88	1.5	137203.93	107.06	60	120	
Ge (IS)	72	He	135457.93	2.1	129955.32	104.23	60	120	
In-115 (IS)	115	He	1506003.57	1.1	1455481.42	103.47	60	120	
Tb-159 (IS)	159	He	4717827.87	0.3	4498680.38	104.87	60	120	

Sample Report

Sample Name 570-80800-b-1-b ms

File Name 111SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 13:09:14

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664464 BH

Location 3104

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	85.588	ppb	0.5	2668.73	5000	
Al	27	45	He	108.440	ppb	1.8	8374.93	5000	
V	51	45	He	83.849	ppb	0.4	277524.65	5000	
Cr	52	45	He	85.759	ppb	0.2	358615.30	5000	
Mn	55	45	He	208.086	ppb	0.3	440135.19	5000	
Fe	56	45	He	3392.947	ppb	0.3	11089000.12	50000	
Co	59	45	He	82.928	ppb	0.5	635141.41	4000	
Ni	60	45	He	86.095	ppb	0.9	181855.09	2000	
Cu	65	45	He	84.869	ppb	0.3	258666.68	2000	
Zn	66	72	He	769.835	ppb	0.7	668918.06	5000	
As	75	72	He	86.931	ppb	0.6	49295.75	5000	
Se	78	72	He	662.867	ppb	1.7	23651.27	5000	
Rb	85	115	He	92.988	ppb	0.6	223856.90	5000	
Sr	88	115	He	367.113	ppb	0.1	1165996.97	5000	
Mo	95	115	He	89.221	ppb	0.0	277878.34	3000	
Ag	107	115	He	77.571	ppb	0.3	889708.44	100	
Cd	111	115	He	81.026	ppb	0.2	120735.36	5000	
Sn	118	115	He	71.489	ppb	0.4	229537.17	5000	
Sb	121	115	He	90.830	ppb	0.6	330816.10	5000	
Cs	133	115	He	85.305	ppb	0.4	715215.02	5000	
Ba	137	115	He	102.571	ppb	0.1	154957.19	5000	
Ce	140	115	He	84.125	ppb	0.2	1943412.35	5000	
Tl	205	159	He	81.684	ppb	0.2	1743669.86	5000	
Pb	208	159	He	81.155	ppb	0.2	2219021.96	4000	
U	238	159	He	86.887	ppb	0.1	2287477.83	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	152662.83	0.2	137203.93	111.27	60	120	
Ge (IS)	72	He	139467.22	0.3	129955.32	107.32	60	120	
In-115 (IS)	115	He	1529276.96	0.6	1455481.42	105.07	60	120	
Tb-159 (IS)	159	He	4771752.87	0.7	4498680.38	106.07	60	120	

Sample Report

Sample Name	570-80800-b-1-c msd
File Name	112SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:11:19
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3105

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	85.793	ppb	1.9	2664.06	5000	
Al	27	45	He	113.488	ppb	3.4	8725.13	5000	
V	51	45	He	84.760	ppb	0.4	279372.15	5000	
Cr	52	45	He	86.525	ppb	0.5	360316.56	5000	
Mn	55	45	He	213.452	ppb	0.3	449608.54	5000	
Fe	56	45	He	3512.985	ppb	0.8	11433565.66	50000	
Co	59	45	He	83.434	ppb	1.1	636369.80	4000	
Ni	60	45	He	87.162	ppb	0.3	183341.49	2000	
Cu	65	45	He	85.651	ppb	0.3	259964.74	2000	
Zn	66	72	He	801.772	ppb	0.5	688037.91	5000	
As	75	72	He	87.786	ppb	0.8	49166.02	5000	
Se	78	72	He	689.940	ppb	0.2	24310.97	5000	
Rb	85	115	He	94.641	ppb	0.5	224724.22	5000	
Sr	88	115	He	379.976	ppb	0.4	1190356.69	5000	
Mo	95	115	He	90.152	ppb	0.6	276941.42	3000	
Ag	107	115	He	78.427	ppb	0.2	887234.17	100	
Cd	111	115	He	82.030	ppb	0.6	120560.27	5000	
Sn	118	115	He	72.654	ppb	0.6	230086.89	5000	
Sb	121	115	He	92.099	ppb	0.4	330857.63	5000	
Cs	133	115	He	85.949	ppb	0.6	710768.72	5000	
Ba	137	115	He	104.570	ppb	0.4	155817.68	5000	
Ce	140	115	He	85.104	ppb	1.4	1939178.11	5000	
Tl	205	159	He	82.381	ppb	0.6	1728221.32	5000	
Pb	208	159	He	82.588	ppb	1.0	2219267.50	4000	
U	238	159	He	88.955	ppb	1.1	2301521.32	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	152028.90	0.2	137203.93	110.81	60	120	
Ge (IS)	72	He	137740.55	0.5	129955.32	105.99	60	120	
In-115 (IS)	115	He	1508371.82	0.2	1455481.42	103.63	60	120	
Tb-159 (IS)	159	He	4689439.68	0.1	4498680.38	104.24	60	120	

Sample Report

Sample Name	570-80802-b-1-a
File Name	113SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:13:25
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3106

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.045	ppb	91.7	2.67	5000	
Al	27	45	He	903.158	ppb	0.4	68721.67	5000	
V	51	45	He	4.579	ppb	3.1	15123.08	5000	
Cr	52	45	He	1.891	ppb	4.0	7969.90	5000	
Mn	55	45	He	148.458	ppb	0.5	311324.51	5000	
Fe	56	45	He	845.290	ppb	0.3	2742540.52	50000	
Co	59	45	He	2.830	ppb	1.1	21501.95	4000	
Ni	60	45	He	10.147	ppb	1.8	21282.75	2000	
Cu	65	45	He	3.737	ppb	0.6	11425.48	2000	
Zn	66	72	He	88.562	ppb	0.5	76854.21	5000	
As	75	72	He	8.751	ppb	0.8	4932.48	5000	
Se	78	72	He	5.284	ppb	6.5	248.00	5000	
Rb	85	115	He	7.758	ppb	1.0	18578.27	5000	
Sr	88	115	He	794.008	ppb	0.5	2508488.16	5000	
Mo	95	115	He	16.214	ppb	0.8	50244.86	3000	
Ag	107	115	He	0.021	ppb	12.9	262.23	100	
Cd	111	115	He	0.067	ppb	7.6	100.67	5000	
Sn	118	115	He	0.626	ppb	8.6	2135.73	5000	
Sb	121	115	He	1.270	ppb	2.5	4656.33	5000	
Cs	133	115	He	0.191	ppb	1.0	1595.65	5000	
Ba	137	115	He	131.659	ppb	0.9	197849.16	5000	
Ce	140	115	He	1.689	ppb	1.6	38969.48	5000	
Tl	205	159	He	0.014	ppb	34.8	356.67	5000	
Pb	208	159	He	9.097	ppb	0.7	243459.64	4000	
U	238	159	He	0.902	ppb	1.2	23250.36	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	151343.18	0.6	137203.93	110.31	60	120	
Ge (IS)	72	He	138368.62	0.7	129955.32	106.47	60	120	
In-115 (IS)	115	He	1521153.23	0.6	1455481.42	104.51	60	120	
Tb-159 (IS)	159	He	4667388.57	0.6	4498680.38	103.75	60	120	

Sample Report

Sample Name 570-80802-b-1-b ms

File Name 114SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 13:15:28

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664464 BH

Location 3107

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	91.953	ppb	0.5	2945.11	5000	
Al	27	45	He	1528.322	ppb	1.2	120447.67	5000	
V	51	45	He	93.393	ppb	0.4	317515.77	5000	
Cr	52	45	He	89.645	ppb	0.4	385070.07	5000	
Mn	55	45	He	259.847	ppb	0.4	564560.90	5000	
Fe	56	45	He	2185.309	ppb	0.2	7338635.26	50000	
Co	59	45	He	88.180	ppb	0.1	693774.89	4000	
Ni	60	45	He	93.637	ppb	0.3	203167.43	2000	
Cu	65	45	He	87.318	ppb	0.4	273379.86	2000	
Zn	66	72	He	181.803	ppb	0.1	161211.76	5000	
As	75	72	He	98.679	ppb	1.0	56947.96	5000	
Se	78	72	He	95.834	ppb	2.1	3533.42	5000	
Rb	85	115	He	100.790	ppb	1.0	249192.47	5000	
Sr	88	115	He	986.921	ppb	0.8	3219175.63	5000	
Mo	95	115	He	109.349	ppb	0.3	349747.74	3000	
Ag	107	115	He	81.509	ppb	0.4	960108.68	100	
Cd	111	115	He	86.038	ppb	0.1	131661.00	5000	
Sn	118	115	He	69.380	ppb	1.0	228778.78	5000	
Sb	121	115	He	95.980	ppb	0.5	359000.70	5000	
Cs	133	115	He	89.718	ppb	0.3	772516.12	5000	
Ba	137	115	He	241.855	ppb	0.7	375229.39	5000	
Ce	140	115	He	90.791	ppb	0.4	2153996.86	5000	
Tl	205	159	He	87.440	ppb	0.5	1905615.27	5000	
Pb	208	159	He	96.752	ppb	0.5	2700848.85	4000	
U	238	159	He	91.536	ppb	0.8	2460357.00	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	156825.61	1.6	137203.93	114.3	60	120	
Ge (IS)	72	He	141929.10	1.1	129955.32	109.21	60	120	
In-115 (IS)	115	He	1570524.89	0.6	1455481.42	107.9	60	120	
Tb-159 (IS)	159	He	4871567.44	0.7	4498680.38	108.29	60	120	

Sample Report

Sample Name	570-80802-b-1-c msd
File Name	115SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:17:34
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3108

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	83.452	ppb	0.9	2650.72	5000	
Al	27	45	He	1244.057	ppb	1.2	97246.72	5000	
V	51	45	He	85.569	ppb	0.4	288512.10	5000	
Cr	52	45	He	82.620	ppb	0.6	351958.84	5000	
Mn	55	45	He	242.491	ppb	0.7	522476.24	5000	
Fe	56	45	He	1850.222	ppb	0.6	6162468.92	50000	
Co	59	45	He	80.833	ppb	0.8	630682.75	4000	
Ni	60	45	He	86.459	ppb	0.5	186041.86	2000	
Cu	65	45	He	79.092	ppb	0.3	245577.64	2000	
Zn	66	72	He	171.375	ppb	0.6	152441.83	5000	
As	75	72	He	90.360	ppb	0.9	52296.83	5000	
Se	78	72	He	83.621	ppb	1.2	3100.32	5000	
Rb	85	115	He	91.409	ppb	1.1	225051.27	5000	
Sr	88	115	He	935.098	ppb	0.5	3037465.22	5000	
Mo	95	115	He	101.567	ppb	0.1	323514.27	3000	
Ag	107	115	He	74.956	ppb	0.4	879250.35	100	
Cd	111	115	He	78.324	ppb	0.5	119362.20	5000	
Sn	118	115	He	68.570	ppb	0.7	225169.95	5000	
Sb	121	115	He	89.641	ppb	0.7	333906.13	5000	
Cs	133	115	He	81.872	ppb	0.3	702027.96	5000	
Ba	137	115	He	225.103	ppb	0.6	347787.55	5000	
Ce	140	115	He	82.548	ppb	0.6	1950351.45	5000	
Tl	205	159	He	79.363	ppb	0.7	1721364.45	5000	
Pb	208	159	He	88.623	ppb	1.0	2462167.32	4000	
U	238	159	He	84.534	ppb	1.9	2261262.31	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	155518.86	0.7	137203.93	113.35	60	120	
Ge (IS)	72	He	142341.77	0.3	129955.32	109.53	60	120	
In-115 (IS)	115	He	1564023.29	0.6	1455481.42	107.46	60	120	
Tb-159 (IS)	159	He	4848496.33	0.4	4498680.38	107.78	60	120	

Sample Report

Sample Name	570-80838-e-2-a
File Name	116SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:19:37
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3109

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.004	ppb	N/A	1.17	5000	
Al	27	45	He	11.522	ppb	1.4	930.70	5000	
V	51	45	He	9.301	ppb	1.8	30502.67	5000	
Cr	52	45	He	0.468	ppb	3.5	2062.38	5000	
Mn	55	45	He	1.531	ppb	2.8	3278.15	5000	
Fe	56	45	He	14.664	ppb	2.4	52342.99	50000	
Co	59	45	He	0.025	ppb	8.5	208.89	4000	
Ni	60	45	He	0.195	ppb	13.9	447.79	2000	
Cu	65	45	He	0.148	ppb	7.6	585.57	2000	
Zn	66	72	He	1.005	ppb	11.5	1451.19	5000	
As	75	72	He	0.447	ppb	6.1	264.00	5000	
Se	78	72	He	0.199	ppb	26.1	69.00	5000	
Rb	85	115	He	0.078	ppb	6.7	194.45	5000	
Sr	88	115	He	519.857	ppb	0.4	1703362.54	5000	
Mo	95	115	He	5.695	ppb	0.7	18313.58	3000	
Ag	107	115	He	0.010	ppb	27.2	146.67	100	
Cd	111	115	He	0.016	ppb	45.9	25.33	5000	
Sn	118	115	He	0.415	ppb	15.7	1516.76	5000	
Sb	121	115	He	0.210	ppb	2.6	850.03	5000	
Cs	133	115	He	0.009	ppb	20.5	82.22	5000	
Ba	137	115	He	42.066	ppb	0.2	65561.97	5000	
Ce	140	115	He	0.010	ppb	7.9	404.45	5000	
Tl	205	159	He	0.012	ppb	11.4	332.23	5000	
Pb	208	159	He	0.032	ppb	20.8	1071.13	4000	
U	238	159	He	7.310	ppb	0.8	196081.84	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	150796.73	0.8	137203.93	109.91	60	120	
Ge (IS)	72	He	139558.25	0.9	129955.32	107.39	60	120	
In-115 (IS)	115	He	1577633.38	0.7	1455481.42	108.39	60	120	
Tb-159 (IS)	159	He	4861457.86	0.4	4498680.38	108.06	60	120	

Sample Report

Sample Name	570-80838-e-3-a
File Name	117SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:21:40
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3110

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.025	ppb	N/A	0.50	5000	
Al	27	45	He	17.846	ppb	3.8	1350.73	5000	
V	51	45	He	9.141	ppb	1.5	28723.66	5000	
Cr	52	45	He	0.340	ppb	2.6	1471.19	5000	
Mn	55	45	He	1.836	ppb	1.5	3751.59	5000	
Fe	56	45	He	10.458	ppb	3.1	37153.06	50000	
Co	59	45	He	0.037	ppb	7.7	283.34	4000	
Ni	60	45	He	0.690	ppb	1.7	1417.85	2000	
Cu	65	45	He	0.239	ppb	5.2	823.36	2000	
Zn	66	72	He	11.677	ppb	2.6	10180.13	5000	
As	75	72	He	0.443	ppb	3.4	248.33	5000	
Se	78	72	He	0.214	ppb	100.4	66.00	5000	
Rb	85	115	He	0.086	ppb	6.2	205.56	5000	
Sr	88	115	He	506.239	ppb	0.0	1595300.88	5000	
Mo	95	115	He	6.765	ppb	1.5	20919.24	3000	
Ag	107	115	He	0.004	ppb	13.9	77.78	100	
Cd	111	115	He	0.010	ppb	30.1	16.67	5000	
Sn	118	115	He	0.294	ppb	18.5	1074.49	5000	
Sb	121	115	He	0.201	ppb	12.1	785.58	5000	
Cs	133	115	He	0.005	ppb	25.3	38.89	5000	
Ba	137	115	He	41.667	ppb	0.4	62459.23	5000	
Ce	140	115	He	0.006	ppb	11.9	287.78	5000	
Tl	205	159	He	0.010	ppb	10.2	271.12	5000	
Pb	208	159	He	0.063	ppb	4.3	1863.39	4000	
U	238	159	He	7.152	ppb	1.1	183770.70	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	144482.28	0.1	137203.93	105.3	60	120	
Ge (IS)	72	He	132485.87	0.4	129955.32	101.95	60	120	
In-115 (IS)	115	He	1517320.18	0.6	1455481.42	104.25	60	120	
Tb-159 (IS)	159	He	4656955.23	0.3	4498680.38	103.52	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6818298

File Name 118_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 13:23:43

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	53.734	ppb	1.8	1562.58	50	107.47	90	110	
Al	27	45	He	54.280	ppb	3.8	3935.84	50	108.56	90	110	
V	51	45	He	50.391	ppb	0.4	155545.76	50	100.78	90	110	
Cr	52	45	He	50.710	ppb	0.0	197762.95	50	101.42	90	110	
Mn	55	45	He	51.359	ppb	0.5	101341.52	50	102.72	90	110	
Fe	56	45	He	520.419	ppb	0.6	1589889.55	500	104.08	90	110	
Co	59	45	He	50.460	ppb	0.7	360353.30	50	100.92	90	110	
Ni	60	45	He	49.876	ppb	0.7	98245.94	50	99.75	90	110	
Cu	65	45	He	50.082	ppb	0.4	142376.55	50	100.16	90	110	
Zn	66	72	He	51.119	ppb	1.5	42813.86	50	102.24	90	110	
As	75	72	He	49.510	ppb	0.8	26741.72	50	99.02	90	110	
Se	78	72	He	51.818	ppb	1.4	1815.11	50	103.64	90	110	
Rb	85	115	He	49.880	ppb	0.6	120113.39	50	99.76	90	110	
Sr	88	115	He	50.107	ppb	1.0	159198.81	50	100.21	90	110	
Mo	95	115	He	49.826	ppb	0.5	155231.28	50	99.65	90	110	
Ag	107	115	He	50.074	ppb	0.5	574498.69	50	100.15	90	110	
Cd	111	115	He	49.980	ppb	0.6	74493.35	50	99.96	90	110	
Sn	118	115	He	50.247	ppb	1.3	161430.98	50	100.49	90	110	
Sb	121	115	He	50.146	ppb	0.7	182711.54	50	100.29	90	110	
Cs	133	115	He	49.676	ppb	0.2	416620.52	50	99.35	90	110	
Ba	137	115	He	49.787	ppb	0.4	75237.78	50	99.57	90	110	
Ce	140	115	He	49.924	ppb	0.4	1153685.37	50	99.85	90	110	
Tl	205	159	He	49.906	ppb	0.5	1037230.96	50	99.81	90	110	
Pb	208	159	He	50.664	ppb	0.3	1348829.55	50	101.33	90	110	
U	238	159	He	49.544	ppb	0.4	1269936.13	50	99.09	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	142338.25	0.7	137203.93	103.74	60	120	
Ge (IS)	72	He	132816.65	0.4	129955.32	102.2	60	120	
In-115 (IS)	115	He	1529714.99	0.9	1455481.42	105.1	60	120	
Tb-159 (IS)	159	He	4645877.32	0.4	4498680.38	103.27	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 119_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 13:25:47

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	-0.024	ppb	N/A	0.50	0.5	
Al	27	45	He	0.008	ppb	1746.3	54.00	10	
V	51	45	He	0.059	ppb	18.8	275.56	1	
Cr	52	45	He	0.009	ppb	60.5	155.56	1	
Mn	55	45	He	0.007	ppb	23.5	86.67	1	
Fe	56	45	He	1.816	ppb	14.2	10047.81	20	
Co	59	45	He	0.006	ppb	3.4	61.11	1	
Ni	60	45	He	0.010	ppb	72.9	57.78	1	
Cu	65	45	He	0.025	ppb	43.9	196.67	1	
Zn	66	72	He	0.044	ppb	74.6	576.68	5	
As	75	72	He	0.014	ppb	28.2	17.33	1	
Se	78	72	He	0.356	ppb	20.9	69.67	1	
Rb	85	115	He	0.008	ppb	9.6	21.11	1	
Sr	88	115	He	0.010	ppb	34.8	44.44	1	
Mo	95	115	He	0.082	ppb	21.8	265.56	1	
Ag	107	115	He	0.013	ppb	27.9	174.45	1	
Cd	111	115	He	0.002	ppb	102.8	4.33	1	
Sn	118	115	He	0.443	ppb	19.2	1527.87	10	
Sb	121	115	He	0.507	ppb	3.1	1863.47	1	
Cs	133	115	He	0.008	ppb	35.3	66.67	1	
Ba	137	115	He	0.026	ppb	46.8	44.44	1	
Ce	140	115	He	0.002	ppb	39.1	205.56	1	
Tl	205	159	He	0.005	ppb	9.3	180.00	1	
Pb	208	159	He	0.009	ppb	18.0	427.78	1	
U	238	159	He	0.094	ppb	9.3	2400.26	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	139119.87	0.6	137203.93	101.4	60	120	
Ge (IS)	72	He	130343.18	0.9	129955.32	100.3	60	120	
In-115 (IS)	115	He	1497336.08	0.6	1455481.42	102.88	60	120	
Tb-159 (IS)	159	He	4611671.76	0.4	4498680.38	102.51	60	120	

Sample Report

Sample Name	570-80926-a-1-a
File Name	120SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:27:50
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3111

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.009	ppb	N/A	1.00	5000	
Al	27	45	He	19.684	ppb	3.1	1548.75	5000	
V	51	45	He	0.584	ppb	3.8	2014.59	5000	
Cr	52	45	He	2.582	ppb	2.8	10791.64	5000	
Mn	55	45	He	127.451	ppb	1.3	266311.67	5000	
Fe	56	45	He	2036.690	ppb	1.0	6577057.66	50000	
Co	59	45	He	2.722	ppb	1.5	20609.56	4000	
Ni	60	45	He	9.971	ppb	0.5	20843.23	2000	
Cu	65	45	He	7.128	ppb	2.1	21586.54	2000	
Zn	66	72	He	865.834	ppb	0.4	747070.70	5000	
As	75	72	He	2.419	ppb	1.5	1372.40	5000	
Se	78	72	He	513.400	ppb	0.4	18206.03	5000	
Rb	85	115	He	7.377	ppb	0.7	17887.44	5000	
Sr	88	115	He	312.138	ppb	0.6	998421.11	5000	
Mo	95	115	He	3.080	ppb	1.0	9675.42	3000	
Ag	107	115	He	0.010	ppb	21.1	140.00	100	
Cd	111	115	He	0.024	ppb	19.4	37.00	5000	
Sn	118	115	He	0.274	ppb	16.4	1026.71	5000	
Sb	121	115	He	0.814	ppb	3.2	3042.55	5000	
Cs	133	115	He	0.075	ppb	3.0	634.46	5000	
Ba	137	115	He	17.362	ppb	1.1	26419.85	5000	
Ce	140	115	He	0.019	ppb	7.7	604.46	5000	
Tl	205	159	He	0.011	ppb	14.8	300.01	5000	
Pb	208	159	He	0.149	ppb	4.0	4345.85	4000	
U	238	159	He	0.618	ppb	2.4	16560.51	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	150805.81	1.0	137203.93	109.91	60	120	
Ge (IS)	72	He	138502.95	0.2	129955.32	106.58	60	120	
In-115 (IS)	115	He	1540136.57	0.2	1455481.42	105.82	60	120	
Tb-159 (IS)	159	He	4854994.11	0.4	4498680.38	107.92	60	120	

Sample Report

Sample Name 570-80928-a-1-a

File Name 121SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 13:29:56

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664464 BH

Location 3112

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.007	ppb	230.3	1.50	5000	
Al	27	45	He	514.538	ppb	0.8	39054.25	5000	
V	51	45	He	4.031	ppb	1.4	13284.70	5000	
Cr	52	45	He	1.395	ppb	1.5	5895.61	5000	
Mn	55	45	He	215.098	ppb	0.8	449631.23	5000	
Fe	56	45	He	440.267	ppb	0.4	1426425.78	50000	
Co	59	45	He	3.015	ppb	1.0	22836.08	4000	
Ni	60	45	He	11.856	ppb	1.3	24783.59	2000	
Cu	65	45	He	2.599	ppb	0.6	7963.24	2000	
Zn	66	72	He	67.630	ppb	0.5	58336.50	5000	
As	75	72	He	8.486	ppb	0.1	4743.75	5000	
Se	78	72	He	5.296	ppb	10.1	246.33	5000	
Rb	85	115	He	8.237	ppb	1.4	19836.58	5000	
Sr	88	115	He	832.114	ppb	0.7	2643565.31	5000	
Mo	95	115	He	19.462	ppb	1.8	60642.53	3000	
Ag	107	115	He	0.005	ppb	20.7	87.78	100	
Cd	111	115	He	0.038	ppb	8.7	58.33	5000	
Sn	118	115	He	0.175	ppb	20.3	701.13	5000	
Sb	121	115	He	1.230	ppb	2.8	4537.39	5000	
Cs	133	115	He	0.181	ppb	2.9	1518.98	5000	
Ba	137	115	He	128.894	ppb	0.9	194772.48	5000	
Ce	140	115	He	1.018	ppb	0.1	23673.97	5000	
Tl	205	159	He	0.005	ppb	19.1	184.45	5000	
Pb	208	159	He	7.122	ppb	0.8	196002.32	4000	
U	238	159	He	0.665	ppb	2.8	17608.47	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	150875.39	0.4	137203.93	109.96	60	120	
Ge (IS)	72	He	137217.90	0.1	129955.32	105.59	60	120	
In-115 (IS)	115	He	1529676.57	0.1	1455481.42	105.1	60	120	
Tb-159 (IS)	159	He	4798718.28	0.3	4498680.38	106.67	60	120	

Sample Report

Sample Name	570-81340-b-1-a
File Name	122SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:31:59
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3201

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.011	ppb	330.7	1.50	5000	
Al	27	45	He	395.438	ppb	1.0	28022.52	5000	
V	51	45	He	3.133	ppb	3.6	9657.53	5000	
Cr	52	45	He	1.076	ppb	4.6	4271.73	5000	
Mn	55	45	He	248.186	ppb	0.2	484133.18	5000	
Fe	56	45	He	497.520	ppb	0.2	1503634.94	50000	
Co	59	45	He	4.261	ppb	0.4	30114.24	4000	
Ni	60	45	He	14.331	ppb	1.8	27950.16	2000	
Cu	65	45	He	3.034	ppb	0.7	8652.52	2000	
Zn	66	72	He	49.351	ppb	0.9	39436.90	5000	
As	75	72	He	11.799	ppb	1.9	6084.57	5000	
Se	78	72	He	5.193	ppb	9.9	224.00	5000	
Rb	85	115	He	15.827	ppb	1.1	33623.42	5000	
Sr	88	115	He	1640.366	ppb	0.2	4597455.24	5000	
Mo	95	115	He	34.153	ppb	0.8	93872.09	3000	
Ag	107	115	He	0.006	ppb	28.9	81.11	100	
Cd	111	115	He	0.018	ppb	19.4	25.00	5000	
Sn	118	115	He	0.302	ppb	12.8	980.04	5000	
Sb	121	115	He	2.151	ppb	3.2	6961.70	5000	
Cs	133	115	He	0.310	ppb	7.1	2293.53	5000	
Ba	137	115	He	200.212	ppb	0.7	266901.83	5000	
Ce	140	115	He	0.237	ppb	3.0	4967.56	5000	
Tl	205	159	He	0.007	ppb	20.2	197.78	5000	
Pb	208	159	He	0.507	ppb	1.9	12833.54	4000	
U	238	159	He	1.567	ppb	0.6	37686.62	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	140796.20	0.1	137203.93	102.62	60	120	
Ge (IS)	72	He	126664.22	0.4	129955.32	97.47	60	120	
In-115 (IS)	115	He	1349490.10	0.3	1455481.42	92.72	60	120	
Tb-159 (IS)	159	He	4357539.83	0.6	4498680.38	96.86	60	120	

Sample Report

Sample Name	570-81341-b-1-a
File Name	123SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:34:05
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3202

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.021	ppb	196.8	2.00	5000	
Al	27	45	He	24.077	ppb	2.5	1950.13	5000	
V	51	45	He	0.650	ppb	4.6	2311.30	5000	
Cr	52	45	He	3.064	ppb	2.7	13248.03	5000	
Mn	55	45	He	111.612	ppb	0.5	241683.83	5000	
Fe	56	45	He	2322.138	ppb	0.4	7770041.36	50000	
Co	59	45	He	3.471	ppb	2.5	27228.86	4000	
Ni	60	45	He	13.612	ppb	1.0	29464.19	2000	
Cu	65	45	He	7.523	ppb	0.3	23601.74	2000	
Zn	66	72	He	626.860	ppb	1.0	546766.19	5000	
As	75	72	He	1.833	ppb	1.4	1053.37	5000	
Se	78	72	He	221.081	ppb	1.4	7958.12	5000	
Rb	85	115	He	11.598	ppb	1.8	28153.25	5000	
Sr	88	115	He	479.330	ppb	0.5	1535041.26	5000	
Mo	95	115	He	4.134	ppb	1.4	12996.86	3000	
Ag	107	115	He	0.010	ppb	27.6	143.33	100	
Cd	111	115	He	0.051	ppb	6.9	78.00	5000	
Sn	118	115	He	0.249	ppb	8.3	947.81	5000	
Sb	121	115	He	1.303	ppb	2.5	4843.05	5000	
Cs	133	115	He	0.120	ppb	5.2	1016.71	5000	
Ba	137	115	He	24.775	ppb	1.0	37743.83	5000	
Ce	140	115	He	0.024	ppb	9.5	707.80	5000	
Tl	205	159	He	0.038	ppb	5.1	896.70	5000	
Pb	208	159	He	0.161	ppb	3.6	4648.11	4000	
U	238	159	He	0.956	ppb	1.7	25441.01	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	156262.94	0.6	137203.93	113.89	60	120	
Ge (IS)	72	He	139975.21	0.7	129955.32	107.71	60	120	
In-115 (IS)	115	He	1541958.35	0.4	1455481.42	105.94	60	120	
Tb-159 (IS)	159	He	4822128.00	0.1	4498680.38	107.19	60	120	

Sample Report

Sample Name	570-80421-a-1-a
File Name	124SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:36:11
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3203

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	0.053	ppb	127.0	2.83	5000	
Al	27	45	He	694.778	ppb	1.2	51355.15	5000	
V	51	45	He	2.547	ppb	1.6	8215.58	5000	
Cr	52	45	He	1.387	ppb	2.8	5712.20	5000	
Mn	55	45	He	25.733	ppb	0.3	52470.02	5000	
Fe	56	45	He	852.921	ppb	1.0	2687438.37	50000	
Co	59	45	He	0.486	ppb	3.9	3598.22	4000	
Ni	60	45	He	2.443	ppb	1.6	5006.41	2000	
Cu	65	45	He	3.321	ppb	2.0	9875.49	2000	
Zn	66	72	He	20.991	ppb	0.9	18186.57	5000	
As	75	72	He	0.800	ppb	5.1	448.68	5000	
Se	78	72	He	0.432	ppb	49.1	74.67	5000	
Rb	85	115	He	2.716	ppb	2.0	6580.37	5000	
Sr	88	115	He	31.043	ppb	0.5	99223.16	5000	
Mo	95	115	He	0.567	ppb	2.6	1793.45	3000	
Ag	107	115	He	0.041	ppb	1.9	501.12	100	
Cd	111	115	He	0.058	ppb	9.6	87.67	5000	
Sn	118	115	He	0.100	ppb	19.3	462.23	5000	
Sb	121	115	He	0.206	ppb	6.2	813.36	5000	
Cs	133	115	He	0.210	ppb	4.3	1775.67	5000	
Ba	137	115	He	18.165	ppb	1.6	27618.69	5000	
Ce	140	115	He	2.666	ppb	1.1	62120.36	5000	
Tl	205	159	He	0.017	ppb	9.1	420.01	5000	
Pb	208	159	He	2.127	ppb	0.7	57392.42	4000	
U	238	159	He	0.183	ppb	4.4	4760.92	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	146974.64	0.7	137203.93	107.12	60	120	
Ge (IS)	72	He	134912.15	1.3	129955.32	103.81	60	120	
In-115 (IS)	115	He	1538781.19	0.4	1455481.42	105.72	60	120	
Tb-159 (IS)	159	He	4695444.68	0.7	4498680.38	104.37	60	120	

Sample Report

Sample Name	570-80421-a-2-a
File Name	125SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:38:14
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3204

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.008	ppb	N/A	1.00	5000	
Al	27	45	He	156.320	ppb	1.1	11323.50	5000	
V	51	45	He	1.171	ppb	3.6	3741.59	5000	
Cr	52	45	He	0.665	ppb	1.5	2736.93	5000	
Mn	55	45	He	8.672	ppb	1.8	17316.56	5000	
Fe	56	45	He	230.688	ppb	1.1	713151.59	50000	
Co	59	45	He	0.168	ppb	4.1	1223.39	4000	
Ni	60	45	He	9.987	ppb	0.9	19866.37	2000	
Cu	65	45	He	23.565	ppb	1.2	67604.79	2000	
Zn	66	72	He	56.606	ppb	0.5	47015.10	5000	
As	75	72	He	2.795	ppb	3.7	1507.75	5000	
Se	78	72	He	0.481	ppb	35.8	74.67	5000	
Rb	85	115	He	0.702	ppb	5.9	1675.66	5000	
Sr	88	115	He	45.894	ppb	0.4	144469.53	5000	
Mo	95	115	He	0.780	ppb	4.2	2423.55	3000	
Ag	107	115	He	0.018	ppb	13.4	231.11	100	
Cd	111	115	He	0.033	ppb	18.7	50.67	5000	
Sn	118	115	He	0.138	ppb	22.9	577.79	5000	
Sb	121	115	He	0.264	ppb	2.1	1012.26	5000	
Cs	133	115	He	0.017	ppb	3.9	142.22	5000	
Ba	137	115	He	20.721	ppb	1.7	31030.10	5000	
Ce	140	115	He	0.803	ppb	0.4	18540.92	5000	
Tl	205	159	He	0.004	ppb	21.7	141.11	5000	
Pb	208	159	He	5.014	ppb	0.6	132727.93	4000	
U	238	159	He	0.137	ppb	7.5	3490.52	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	143507.73	1.2	137203.93	104.59	60	120	
Ge (IS)	72	He	131877.66	1.2	129955.32	101.48	60	120	
In-115 (IS)	115	He	1515590.94	1.0	1455481.42	104.13	60	120	
Tb-159 (IS)	159	He	4613911.48	0.9	4498680.38	102.56	60	120	

Sample Report

Sample Name 570-80421-a-3-a

File Name 126SMPL.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 13:40:22

Sample Type Sample

Total Dilution 1.0000

Comment CAM 200.8 440-664464 BH

Location 3205

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.013	ppb	N/A	0.83	5000	
Al	27	45	He	258.463	ppb	2.5	18406.90	5000	
V	51	45	He	1.419	ppb	0.4	4444.00	5000	
Cr	52	45	He	0.765	ppb	3.6	3083.66	5000	
Mn	55	45	He	10.530	ppb	1.2	20690.74	5000	
Fe	56	45	He	292.877	ppb	0.5	890520.59	50000	
Co	59	45	He	0.187	ppb	1.2	1344.51	4000	
Ni	60	45	He	1.536	ppb	2.6	3041.43	2000	
Cu	65	45	He	2.603	ppb	2.0	7471.87	2000	
Zn	66	72	He	14.216	ppb	1.1	12063.74	5000	
As	75	72	He	3.157	ppb	2.4	1681.10	5000	
Se	78	72	He	0.528	ppb	35.2	75.33	5000	
Rb	85	115	He	1.129	ppb	1.8	2662.48	5000	
Sr	88	115	He	38.133	ppb	0.8	118620.00	5000	
Mo	95	115	He	0.944	ppb	4.1	2893.63	3000	
Ag	107	115	He	0.027	ppb	9.0	326.67	100	
Cd	111	115	He	0.023	ppb	12.0	35.33	5000	
Sn	118	115	He	0.065	ppb	35.2	342.23	5000	
Sb	121	115	He	0.268	ppb	6.5	1012.26	5000	
Cs	133	115	He	0.031	ppb	7.6	258.89	5000	
Ba	137	115	He	18.798	ppb	2.1	27814.66	5000	
Ce	140	115	He	1.719	ppb	1.7	39028.50	5000	
Tl	205	159	He	0.007	ppb	2.1	216.67	5000	
Pb	208	159	He	0.663	ppb	0.4	17540.03	4000	
U	238	159	He	0.188	ppb	4.3	4750.92	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	141338.90	1.1	137203.93	103.01	60	120	
Ge (IS)	72	He	130219.91	1.0	129955.32	100.2	60	120	
In-115 (IS)	115	He	1497586.69	0.6	1455481.42	102.89	60	120	
Tb-159 (IS)	159	He	4567773.29	0.6	4498680.38	101.54	60	120	

Sample Report

Sample Name	570-80421-a-4-a
File Name	127SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:42:31
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.007	ppb	N/A	1.00	5000	
Al	27	45	He	153.664	ppb	1.1	10879.22	5000	
V	51	45	He	1.163	ppb	2.0	3631.56	5000	
Cr	52	45	He	0.456	ppb	0.7	1872.35	5000	
Mn	55	45	He	8.591	ppb	2.1	16761.49	5000	
Fe	56	45	He	234.268	ppb	2.1	707702.89	50000	
Co	59	45	He	0.167	ppb	6.0	1190.05	4000	
Ni	60	45	He	1.417	ppb	2.3	2786.94	2000	
Cu	65	45	He	3.706	ppb	3.9	10498.14	2000	
Zn	66	72	He	4.752	ppb	3.1	4399.56	5000	
As	75	72	He	2.715	ppb	1.5	1449.07	5000	
Se	78	72	He	0.497	ppb	69.5	74.33	5000	
Rb	85	115	He	0.787	ppb	5.6	1869.02	5000	
Sr	88	115	He	38.831	ppb	0.4	121600.58	5000	
Mo	95	115	He	0.751	ppb	5.8	2322.41	3000	
Ag	107	115	He	0.014	ppb	6.2	183.34	100	
Cd	111	115	He	0.026	ppb	44.3	40.00	5000	
Sn	118	115	He	0.128	ppb	44.3	542.26	5000	
Sb	121	115	He	0.266	ppb	4.6	1011.15	5000	
Cs	133	115	He	0.015	ppb	9.3	123.33	5000	
Ba	137	115	He	17.747	ppb	0.8	26436.53	5000	
Ce	140	115	He	0.780	ppb	1.3	17924.56	5000	
Tl	205	159	He	0.002	ppb	32.6	98.89	5000	
Pb	208	159	He	0.581	ppb	1.0	15579.08	4000	
U	238	159	He	0.134	ppb	3.3	3427.17	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	140241.14	0.8	137203.93	102.21	60	120	
Ge (IS)	72	He	130429.45	1.3	129955.32	100.36	60	120	
In-115 (IS)	115	He	1507633.07	0.6	1455481.42	103.58	60	120	
Tb-159 (IS)	159	He	4624573.71	0.8	4498680.38	102.8	60	120	

Sample Report

Sample Name	570-81228-a-1-b
File Name	128SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114-1LL.b
Acq Time	2022-01-14 13:44:34
Sample Type	Sample
Total Dilution	1.0000
Comment	CAM 200.8 440-664464 BH
Location	3207

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Be	9	45	He	-0.024	ppb	N/A	0.50	5000	
Al	27	45	He	14.016	ppb	8.3	1029.37	5000	
V	51	45	He	0.363	ppb	7.9	1187.83	5000	
Cr	52	45	He	0.296	ppb	5.7	1244.50	5000	
Mn	55	45	He	5.742	ppb	1.4	11101.87	5000	
Fe	56	45	He	14.782	ppb	0.3	48483.60	50000	
Co	59	45	He	0.051	ppb	0.9	367.79	4000	
Ni	60	45	He	0.910	ppb	2.7	1783.45	2000	
Cu	65	45	He	1.379	ppb	2.3	3942.75	2000	
Zn	66	72	He	1.243	ppb	5.2	1552.31	5000	
As	75	72	He	0.195	ppb	16.2	113.00	5000	
Se	78	72	He	0.022	ppb	774.5	58.67	5000	
Rb	85	115	He	0.560	ppb	3.8	1323.40	5000	
Sr	88	115	He	141.966	ppb	0.7	442616.27	5000	
Mo	95	115	He	0.796	ppb	3.9	2450.22	3000	
Ag	107	115	He	0.000	ppb	N/A	24.44	100	
Cd	111	115	He	0.011	ppb	25.2	17.33	5000	
Sn	118	115	He	0.037	ppb	28.1	254.45	5000	
Sb	121	115	He	0.365	ppb	5.9	1362.29	5000	
Cs	133	115	He	0.002	ppb	30.1	20.00	5000	
Ba	137	115	He	16.291	ppb	0.5	24163.63	5000	
Ce	140	115	He	0.008	ppb	6.7	336.67	5000	
Tl	205	159	He	0.002	ppb	55.1	101.11	5000	
Pb	208	159	He	0.007	ppb	12.1	365.56	4000	
U	238	159	He	0.018	ppb	27.3	456.69	5000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	138654.65	0.2	137203.93	101.06	60	120	
Ge (IS)	72	He	130599.77	0.4	129955.32	100.5	60	120	
In-115 (IS)	115	He	1501118.34	0.5	1455481.42	103.14	60	120	
Tb-159 (IS)	159	He	4625237.59	0.6	4498680.38	102.81	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name CCV-6818298

File Name 129_CCV.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 13:46:37

Sample Type CCV

Total Dilution 1.0000

Comment —

Location 1206

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	45	He	55.499	ppb	0.4	1541.75	50	111	90	110	> +/- 10%
Al	27	45	He	54.842	ppb	4.7	3798.47	50	109.68	90	110	
V	51	45	He	51.638	ppb	0.4	152265.24	50	103.28	90	110	
Cr	52	45	He	51.357	ppb	0.9	191334.43	50	102.71	90	110	
Mn	55	45	He	52.337	ppb	1.1	98656.19	50	104.67	90	110	
Fe	56	45	He	527.717	ppb	1.1	1540040.98	500	105.54	90	110	
Co	59	45	He	51.221	ppb	0.7	349427.95	50	102.44	90	110	
Ni	60	45	He	50.719	ppb	0.4	95436.91	50	101.44	90	110	
Cu	65	45	He	50.730	ppb	1.2	137766.44	50	101.46	90	110	
Zn	66	72	He	52.613	ppb	0.3	41812.12	50	105.23	90	110	
As	75	72	He	50.687	ppb	0.9	25986.05	50	101.37	90	110	
Se	78	72	He	53.482	ppb	4.2	1776.44	50	106.96	90	110	
Rb	85	115	He	52.232	ppb	2.2	117137.68	50	104.46	90	110	
Sr	88	115	He	52.166	ppb	2.7	154346.26	50	104.33	90	110	
Mo	95	115	He	51.651	ppb	1.9	149863.37	50	103.3	90	110	
Ag	107	115	He	52.160	ppb	2.3	557307.98	50	104.32	90	110	
Cd	111	115	He	52.075	ppb	2.3	72285.07	50	104.15	90	110	
Sn	118	115	He	52.322	ppb	2.3	156527.67	50	104.64	90	110	
Sb	121	115	He	52.215	ppb	2.3	177178.74	50	104.43	90	110	
Cs	133	115	He	51.593	ppb	1.9	402968.87	50	103.19	90	110	
Ba	137	115	He	51.801	ppb	3.1	72894.73	50	103.6	90	110	
Ce	140	115	He	51.904	ppb	2.0	1117057.39	50	103.81	90	110	
Tl	205	159	He	50.649	ppb	0.2	1001038.29	50	101.3	90	110	
Pb	208	159	He	51.434	ppb	0.1	1302160.96	50	102.87	90	110	
U	238	159	He	50.362	ppb	0.4	1227594.77	50	100.72	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	135975.59	0.3	137203.93	99.1	60	120	
Ge (IS)	72	He	126069.44	0.3	129955.32	97.01	60	120	
In-115 (IS)	115	He	1424920.64	1.6	1455481.42	97.9	60	120	
Tb-159 (IS)	159	He	4417963.99	0.3	4498680.38	98.21	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name CCB-6818296

File Name 130_CCB.d

Data Path Name D:\Agilent\ICPMH\1\DATA\220114-1LL.b

Acq Time 2022-01-14 13:48:41

Sample Type CCB

Total Dilution 1.0000

Comment —

Location 1207

QC Analyte Table

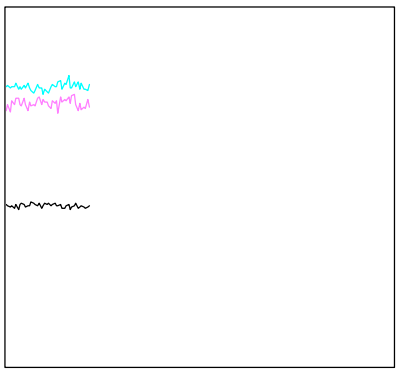
Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	45	He	0.007	ppb	386.3	1.33	0.5	
Al	27	45	He	-0.068	ppb	N/A	46.67	10	
V	51	45	He	0.046	ppb	18.0	224.45	1	
Cr	52	45	He	0.006	ppb	75.0	137.78	1	
Mn	55	45	He	0.014	ppb	83.8	95.56	1	
Fe	56	45	He	1.667	ppb	10.6	9206.16	20	
Co	59	45	He	0.003	ppb	60.9	37.78	1	
Ni	60	45	He	0.010	ppb	41.5	55.56	1	
Cu	65	45	He	0.020	ppb	75.1	176.67	1	
Zn	66	72	He	0.120	ppb	55.9	611.13	5	
As	75	72	He	0.007	ppb	140.9	13.00	1	
Se	78	72	He	0.302	ppb	122.5	65.00	1	
Rb	85	115	He	0.009	ppb	8.9	21.11	1	
Sr	88	115	He	0.005	ppb	36.8	27.78	1	
Mo	95	115	He	0.062	ppb	15.2	190.00	1	
Ag	107	115	He	0.010	ppb	12.5	133.33	1	
Cd	111	115	He	0.001	ppb	99.8	3.00	1	
Sn	118	115	He	0.368	ppb	13.8	1195.61	10	
Sb	121	115	He	0.559	ppb	1.6	1894.58	1	
Cs	133	115	He	0.006	ppb	22.0	48.89	1	
Ba	137	115	He	0.025	ppb	50.2	38.89	1	
Ce	140	115	He	0.005	ppb	39.3	244.45	1	
Tl	205	159	He	0.003	ppb	33.7	130.00	1	
Pb	208	159	He	0.009	ppb	13.0	392.23	1	
U	238	159	He	0.083	ppb	5.3	2010.19	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc-45 (IS)	45	He	133379.56	0.5	137203.93	97.21	60	120	
Ge (IS)	72	He	124837.21	0.8	129955.32	96.06	60	120	
In-115 (IS)	115	He	1383820.26	0.7	1455481.42	95.08	60	120	
Tb-159 (IS)	159	He	4383202.33	0.4	4498680.38	97.43	60	120	

Current Signal

[He]



Mass	Range	Count	Avg. Count	RSD [%]
59	10000	7891	7808.6	1.31
89	10000	7227	7346.8	1.76
205	50000	22403	22442.9	1.11
70/140	1	0.841 %	0.780 %	8.73
156/140	1	0.203 %	0.225 %	16.16
51	20	3	5.0	45.02
56	5000	2757	2698.9	1.80
75	20	2	0.4	169.45
78	20	6	5.4	45.69
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1500	W	Nebulizer Pump	0.10	rps
RF Matching	1.80	V	S/C Temp	2	℃
Smpl Depth	8.0	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.80	L/min	Makeup/Dilution Gas	0.25	L/min
Option Gas	0.0	%			

Lenses Parameters

Extract 1	0.0	V	Cell Entrance	-40	V
Extract 2	-175.0	V	Cell Exit	-68	V
Omega Bias	-75	V	Deflect	4.0	V
Omega Lens	9.9	V	Plate Bias	-60	V

Cell Parameters

Use Gas	Yes		OctP RF	200	V
He Flow	4.5	mL/min	Energy Discrimination	5.0	V
OctP Bias	-18.0	V			

Qpole Parameters

Mass Gain	125	Axis Offset	0.05	
Mass Offset	125	QP Bias	-13.0	V
Axis Gain	0.9997			

Torch Axis Parameters

Torch H	0.3	mm	Torch V	-0.4	mm

EM Parameters

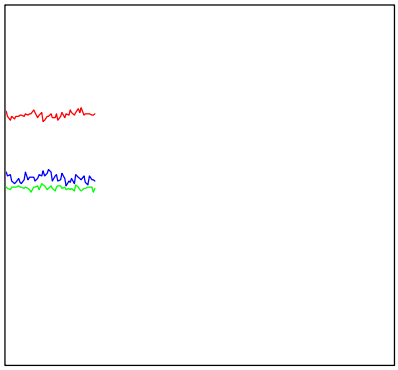
Discriminator	4.3	mV	Pulse HV	896	V
Analog HV	2117	V			

Meters

Analyzer Press	1.12E-4	Pa	Inlet Temp	29.8	℃	Forward Power	1499	W
Internal Temp	38.1	℃	Reflected Power	5	W			

Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
7	20000	10258	10407.2	2.07
65	1000	648	630.7	3.40
89	100000	69893	69642.8	1.16
205	100000	49028	49228.1	1.08
156/140	1	0.504 %	0.532 %	7.12
70/140	1	0.634 %	0.650 %	5.80
9	20	2	1.6	76.93
10	100	48	69.4	14.69
11	500	324	326.7	5.56
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1500	W	Nebulizer Pump	0.10	rps
RF Matching	1.80	V	S/C Temp	2	℃
Smpl Depth	8.0	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.80	L/min	Makeup/Dilution Gas	0.25	L/min
Option Gas	0.0	%			

Lenses Parameters

Extract 1	0.0	V	Cell Entrance	-38	V
Extract 2	-175.0	V	Cell Exit	-58	V
Omega Bias	-75	V	Deflect	17.2	V
Omega Lens	9.9	V	Plate Bias	-50	V

Cell Parameters

Use Gas	No		OctP RF	200	V
He Flow	0.0	mL/min	Energy Discrimination	5.0	V
OctP Bias	-8.0	V			

Qpole Parameters

Mass Gain	125	Axis Offset	0.05	
Mass Offset	125	QP Bias	-3.0	V
Axis Gain	0.9998			

Torch Axis Parameters

Torch H	0.3	mm	Torch V	-0.4	mm

EM Parameters

Discriminator	4.3	mV	Pulse HV	896	V
Analog HV	2117	V			

Meters

Analyzer Press	5.92E-5	Pa	Inlet Temp	29.8	℃	Forward Power	1500	W
Internal Temp	38.2	℃	Reflected Power	5	W			

US EPA Tune Check Sample Report

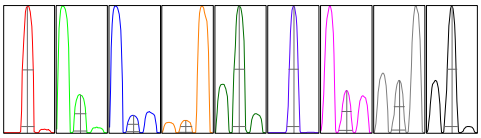
Batch Folder D:\Agilent\ICPMH\1\DATA\6_template_210510_3.b
Report Comment
Instrument Name G8403A JP16211410

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	1756	0.77	5.00	
24	11915	0.47	5.00	
25	1623	0.39	5.00	
26	1974	0.84	5.00	
59	21670	0.20	5.00	
115	42431	0.38	5.00	
206	10214	0.64	5.00	
207	8898	0.62	5.00	
208	21434	0.90	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	1745	1752	1746	1759	1778
24	11823	11900	11954	11955	11944
25	1620	1613	1628	1627	1625
26	1954	1959	1981	1979	1995
59	21650	21621	21730	21655	21696
115	42671	42444	42455	42362	42223
206	10297	10258	10216	10153	10146
207	8940	8905	8946	8888	8809
208	21664	21605	21382	21232	21287

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	2857	8.90	8.9 - 9.1		0.781	0.900	
24	18787	23.95	23.9 - 24.1		0.792	0.900	
25	2584	24.95	24.9 - 25.1		0.802	0.900	
26	3117	25.90	25.9 - 26.1		0.820	0.900	
59	35622	58.95	58.9 - 59.1		0.786	0.900	
115	77659	115.05	114.9 - 115.1		0.738	0.900	
206	18471	206.05	205.9 - 206.1		0.806	0.900	
207	16153	207.05	206.9 - 207.1		0.798	0.900	
208	39172	208.05	207.9 - 208.1		0.810	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 212.5 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1500	W	Carrier Gas	0.80	L/min	S/C Temp	2	℃
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas	
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.25	L/min

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	9.9	V	Deflect	17.2	V
Extract 2	-175.0	V	Cell Entrance	-38	V	Plate Bias	-50	V
Omega Bias	-75	V	Cell Exit	-58	V			

Cell Parameters

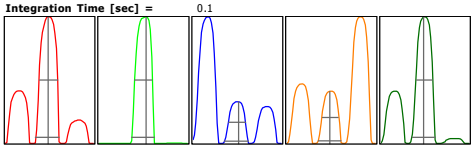
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	No		OctP Bias	-8.0	V	Energy Discrimination	5.0	V
He Flow	0.0	mL/min	OctP RF	200	V			

[He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)
59	4620	0.45	5.00
115	6017	0.49	5.00
206	4219	0.52	5.00
207	3709	0.84	5.00
208	8961	0.83	5.00

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
59	4647	4627	4611	4591	4624
115	6037	5991	6043	5978	6034
206	4238	4240	4219	4215	4185
207	3747	3734	3702	3686	3674
208	9079	8929	8965	8956	8876

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
59	7816	59.000	58.9 - 59.1		0.773	0.900	
115	10793	115.100	114.9 - 115.1		0.735	0.900	
206	7811	206.050	205.9 - 206.1		0.777	0.900	
207	6861	207.000	206.9 - 207.1		0.749	0.900	
208	16616	208.000	207.9 - 208.1		0.766	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 123.4 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1500	W	Carrier Gas	0.80	L/min	S/C Temp	2	℃
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas	
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.25	L/min

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	9.9	V	Deflect	4.0	V
Extract 2	-175.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-75	V	Cell Exit	-68	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	Yes		OctP Bias	-18.0	V	Energy Discrimination	5.0	V
He Flow	4.5	mL/min	OctP RF	200	V			

P/A Factor Tuning Report

========== Current Sample ==========
Sample Name: RINSE
Data File: 001SMPL.d
Acquired: 2022-01-14 09:04:15

========= Detector Parameters and P/A Factors =========
Discriminator: 4.3 mV
AnalogHV: 2117 V
PulseHV: 896 V

Acquired: 2022-01-14 07:53:42

Mass[u]	Element	P/A Factor
9		0.101642
24		0.107358
27		0.112190
45		0.117237
51		0.119793
52		0.124526
55		0.129805
59		0.131538
60		0.137105
65		0.141815
66		0.138268
72		0.135843
95		0.133139
96		0.133788
98		0.135386
100		0.135310
101		0.137266
102		0.138913
104		0.141585
115		0.148790
118		0.147054
121		0.145669
138		0.149012
193		0.160961
205		0.164323
208		0.163687
209		0.164768
232		0.163271
238		0.162829

Created: 2022-01-14 09:09:34

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0006S013	570-80421-1
EVBMP0007S013	570-80421-2
EVBMP0008S016	570-80421-3
EVBMP0009S014	570-80421-4

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: A2BMP0006S013 Lab Sample ID: 570-80421-1

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 07:45

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Suspended Solids	13.2	1.00	0.829	mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EVBMP0007S013 Lab Sample ID: 570-80421-2

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:30

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Suspended Solids	5.32	1.30	1.08	mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EVBMP0008S016 Lab Sample ID: 570-80421-3

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:15

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Turbidity	8.5	0.05	0.05	NTU			1	SM 2130B
	Total Suspended Solids	7.97	1.27	1.05	mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EVBMP0009S014 Lab Sample ID: 570-80421-4

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:50

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Turbidity	5.8	0.05	0.05	NTU			1	SM 2130B
	Total Suspended Solids	5.57	1.27	1.05	mg/L			1	SM 2540D

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Analyst: ZE7V Batch Start Date: 12/30/2021

Reporting Units: NTU Analytical Batch No.: 204844

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
4	CCV	18:05	Turbidity	95	100	97	95-105		WC_TUR_STD_00022
7	CCV	18:05	Turbidity	100	100	98	95-105		WC_TUR_STD_00022
11	CCV	18:05	Turbidity	100	100	100	95-105		WC_TUR_STD_00022
17	CCV	18:45	Turbidity	100	100	100	95-105		WC_TUR_STD_00022

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 206005 Date: 01/06/2022 15:47							
SM 2540D	MB 570-206005/1	Total Suspended Solids	ND		mg/L	1.00	1

FORM III-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 204844	Date: 12/30/2021 18:05							
SM 2130B		570-80391-D-1	Turbidity	0.75	NTU			
SM 2130B		570-80391-D-1 DU	Turbidity	0.80	NTU	5	25	
Batch ID: 206005	Date: 01/06/2022 15:49							
SM 2540D		570-80506-A-2	Total Suspended Solids	786	mg/L			
SM 2540D		570-80506-A-2 DU	Total Suspended Solids	810.0	mg/L	3	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 206005	Date: 01/06/2022 15:47										
						LCS Source: WC_TSS_STD_00029					
SM 2540D	LCS 570-206005/2	Total Suspended Solids	98.00		mg/L	100	98	77-116	1	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 206005	Date: 01/06/2022 15:47										
						LCSD Source: WC_TSS_STD_00029					
SM 2540D	LCSD 570-206005/3	Total Suspended Solids	97.00		mg/L	100	97	77-116	1	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LCS-CERTIFIED REFERENCE MATERIAL
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 204844	Date: 12/30/2021 18:05										
						LCS Source: WC_TUR_STD_00019					
SM 2130B	LCSSRM 570-204844/1	Turbidity	1000		NTU	1000	99.4	99.0-10 1.0			
Batch ID: 204844	Date: 12/30/2021 18:05										
						LCS Source: WC_TUR_STD_00018					
SM 2130B	LCSSRM 570-204844/2	Turbidity	10		NTU	10.0	101.0	99.0-10 1.0			
Batch ID: 204844	Date: 12/30/2021 18:05										
						LCS Source: WC_TUR_STD_00017					
SM 2130B	LCSSRM 570-204844/3	Turbidity	ND		NTU	0.0200	100.0	0.0-200 .0			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2130B MDL Date: 05/10/2018 00:00

Analyte	Wavelength/ Mass	RL (NTU)	MDL (NTU)
Turbidity		0.05	0.04392

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2130B XMDL Date: 05/10/2018 00:00

Analyte	Wavelength/ Mass	XRL (NTU)	XMDL (NTU)
Turbidity		0.05	0.04391639

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540D MDL Date: 03/22/2018 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Suspended Solids		1	0.82873

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540D XMDL Date: 03/22/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Suspended Solids		1	0.82873

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2130B

Start Date: 12/30/2021 18:05 End Date: 12/30/2021 18:45

Lab Sample Id	D/F	Type	Time	Analytes																								
				Turb																								
LCSSRM 570-204844/1	1	T	18:05	X																								
LCSSRM 570-204844/2	1	T	18:05	X																								
LCSSRM 570-204844/3	1	T	18:05	X																								
CCV 570-204844/4	1		18:05	X																								
ZZZZZZ			18:05																									
570-80391-D-1 DU	1	T	18:05	X																								
CCV 570-204844/7	1		18:05	X																								
ZZZZZZ			18:05																									
ZZZZZZ			18:05																									
ZZZZZZ			18:05																									
CCV 570-204844/11	1		18:05	X																								
ZZZZZZ			18:45																									
ZZZZZZ			18:45																									
ZZZZZZ			18:45																									
570-80421-3	1	T	18:45	X																								
570-80421-4	1	T	18:45	X																								
CCV 570-204844/17	1		18:45	X																								
ZZZZZZ			18:45																									
ZZZZZZ			18:45																									
ZZZZZZ			18:45																									
ZZZZZZ			18:45																									

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2540D

Start Date: 01/06/2022 15:47 End Date: 01/06/2022 15:49

Lab Sample Id	D/F	Type	Time	Analytes																								
				TSS																								
MB 570-206005/1	1	T	15:47	X																								
LCS 570-206005/2	1	T	15:47	X																								
LCSD 570-206005/3	1	T	15:47	X																								
ZZZZZZ			15:49																									
570-80506-A-2 DU	1	T	15:49	X																								
ZZZZZZ			15:49																									
ZZZZZZ			15:49																									
570-80421-1	1	T	15:49	X																								
570-80421-2	1	T	15:49	X																								
570-80421-3	1	T	15:49	X																								
570-80421-4	1	T	15:49	X																								
ZZZZZZ			15:49																									
ZZZZZZ			15:49																									
ZZZZZZ			15:49																									
ZZZZZZ			15:49																									
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ZZZZZZ			15:49																									
ZZZZZZ			15:49																									
ZZZZZZ			15:49																									

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 204844 Batch Start Date: 12/30/21 18:05 Batch Analyst: Luong, Kate

Batch Method: SM 2130B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	WC_TUR_STD 00017	WC_TUR_STD 00018	WC_TUR_STD 00019	WC_TUR_STD 00022	AnalysisComment
LCSSRM 570-204844/1		SM 2130B		30 mL			30 mL		
LCSSRM 570-204844/2		SM 2130B		30 mL		30 mL			
LCSSRM 570-204844/3		SM 2130B		30 mL	30 mL				
CCV 570-204844/4		SM 2130B		30 mL				0.75 mL	
570-80391-D-1 DU		SM 2130B	T	30 mL					
CCV 570-204844/7		SM 2130B		30 mL				0.75 mL	
CCV 570-204844/11		SM 2130B		30 mL				0.75 mL	s-01-12302021
570-80421-F-3	EVBMP0008S016	SM 2130B	T	30 mL					
570-80421-F-4	EVBMP0009S014	SM 2130B	T	30 mL					
CCV 570-204844/17		SM 2130B		30 mL				0.75 mL	

Batch Notes	
Instrument ID	TUR04
Pipette/Syringe/Dispenser ID	p-121
Calibration Date	12/28/21

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 206005 Batch Start Date: 01/06/22 15:47 Batch Analyst: Torres, Brianna

Batch Method: SM 2540D Batch End Date: 01/07/22 10:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	CrucibleID	TareWeight	InitialAmount	Weight1	Weight2	WeightOne%Diff
MB 570-206005/1		SM 2540D		A1460670	0.4265 g	1000 mL	0.4268 g	0.4268 g	PASS <0.5mg
LCS 570-206005/2		SM 2540D		A1460669	0.4240 g	100 mL	0.4338 g	0.4338 g	PASS <0.5mg
LCSD 570-206005/3		SM 2540D		A1460668	0.4252 g	100 mL	0.4349 g	0.4349 g	PASS <0.5mg
570-80506-A-2 DU		SM 2540D	T	A1460666	0.4236 g	50 mL	0.4641 g	0.4641 g	PASS <0.5mg
570-80421-E-1	A2BMP0006S013	SM 2540D	T	A1460663	0.4238 g	1000 mL	0.4370 g	0.4370 g	PASS <0.5mg
570-80421-E-2	EVBMP0007S013	SM 2540D	T	A1460662	0.4244 g	770 mL	0.4285 g	0.4285 g	PASS <0.5mg
570-80421-E-3	EVBMP0008S016	SM 2540D	T	A1460661	0.4295 g	790 mL	0.4359 g	0.4358 g	PASS <0.5mg
570-80421-E-4	EVBMP0009S014	SM 2540D	T	A1460660	0.4231 g	790 mL	0.4275 g	0.4275 g	PASS <0.5mg

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue	Residue2	FinalAmount	ResDishWt	DishWeight	WC_TSS_STD 00029
MB 570-206005/1		SM 2540D		0.0003 g	0.0003 g	1000 mL	0.4268 g	0.4265 g	
LCS 570-206005/2		SM 2540D		0.0098 g	0.0098 g	1000 mL	0.4338 g	0.424 g	100 mL
LCSD 570-206005/3		SM 2540D		0.0097 g	0.0097 g	1000 mL	0.4349 g	0.4252 g	100 mL
570-80506-A-2 DU		SM 2540D	T	0.0405 g	0.0405 g	1000 mL	0.4641 g	0.4236 g	
570-80421-E-1	A2BMP0006S013	SM 2540D	T	0.0132 g	0.0132 g	1000 mL	0.437 g	0.4238 g	
570-80421-E-2	EVBMP0007S013	SM 2540D	T	0.0041 g	0.0041 g	1000 mL	0.4285 g	0.4244 g	
570-80421-E-3	EVBMP0008S016	SM 2540D	T	0.0064 g	0.0063 g	1000 mL	0.4358 g	0.4295 g	
570-80421-E-4	EVBMP0009S014	SM 2540D	T	0.0044 g	0.0044 g	1000 mL	0.4275 g	0.4231 g	

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment					
MB 570-206005/1		SM 2540D							
LCS 570-206005/2		SM 2540D							
LCSD 570-206005/3		SM 2540D							
570-80506-A-2 DU		SM 2540D	T						
570-80421-E-1	A2BMP0006S013	SM 2540D	T						
570-80421-E-2	EVBMP0007S013	SM 2540D	T	limited sample					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 206005 Batch Start Date: 01/06/22 15:47 Batch Analyst: Torres, Brianna

Batch Method: SM 2540D Batch End Date: 01/07/22 10:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment					
570-80421-E-3	EVBMP0008S016	SM 2540D	T	limited sample					
570-80421-E-4	EVBMP0009S014	SM 2540D	T	limited sample					

Batch Notes	
Perform Calculation (0=No, 1=Yes)	1
Nominal Amount Used	1000 g
Filter ID	1221995
Balance ID	87
Oven ID	IO07
Thermometer ID	Y21-18
Date/Time - In	01/06/2022 18:42
Temperature - Start - Uncorrected	99 Celsius
Temperature - Start - Corrected	103 Celsius
Date/Time - Out	01/07/2022 06:45
Temperature - End - Uncorrected	99 Celsius
Temperature - End - Corrected	103 Celsius
Date/Time - In - CW (WT2)	01/07/2022 08:50
Temperature - Start-CW(WT2) -Uncorrected	99 Celsius
Temperature - Start - CW (WT2) - Correct	103 Celsius
Date/Time - Out - CW (WT2)	01/07/2022 10:20
Temperature - End-CW(WT2) -Uncorrected	99 Celsius
Temperature - End - CW (WT2) - Correct	103 Celsius
Date/Time - In - CW (WT3)	12/03/2021 11:45

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

General Chemistry Raw Data Report

Job ID: 570-80421-1

Batch: 204844
Method: SM 2130B
Building :ECL1 (Lincoln)

Analyst Initials: ZE7V
Instrument: NONE

Lab Sample ID: LCSSRM 570-204844/1 — **Analysis Date: Dec 30, 2021 18:05**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	994	NTU	30 mL

Lab Sample ID: LCSSRM 570-204844/2 — **Analysis Date: Dec 30, 2021 18:05**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	10.1	NTU	30 mL

Lab Sample ID: LCSSRM 570-204844/3 — **Analysis Date: Dec 30, 2021 18:05**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	0.02	NTU	30 mL

Lab Sample ID: CCV 570-204844/4 — **Analysis Date: Dec 30, 2021 18:05**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	97.2	NTU	30 mL

Lab Sample ID: 570-80391-D-1 DU — **Analysis Date: Dec 30, 2021 18:05**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	0.80	NTU	30 mL

Lab Sample ID: CCV 570-204844/7 — **Analysis Date: Dec 30, 2021 18:05**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	97.6	NTU	30 mL

Lab Sample ID: CCV 570-204844/11 — **Analysis Date: Dec 30, 2021 18:05**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	100	NTU	30 mL

Lab Sample ID: 570-80421-F-3 — **Analysis Date: Dec 30, 2021 18:45**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	8.47	NTU	30 mL

Lab Sample ID: 570-80421-F-4 — **Analysis Date: Dec 30, 2021 18:45**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	5.83	NTU	30 mL

Lab Sample ID: CCV 570-204844/17 — **Analysis Date: Dec 30, 2021 18:45**

Analyte	Detector	Dilution	Raw Result	Unit	Final Amount
Turbidity	None	1	100	NTU	30 mL

General Chemistry Raw Data Report

Job ID: 570-80421-1

Batch: 206005
Method: SM 2540D
Building :ECL1 (Lincoln)

Analyst Initials: VWM4
Instrument: NONE

Lab Sample ID: MB 570-206005/1

Analysis Date: Jan 06, 2022 15:47

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	0.300000000000022	mg/L	1000 mL	1000 mL

Lab Sample ID: LCS 570-206005/2

Analysis Date: Jan 06, 2022 15:47

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	9.80000000000003	mg/L	100 mL	1000 mL

Lab Sample ID: LCSD 570-206005/3

Analysis Date: Jan 06, 2022 15:47

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	9.69999999999999	mg/L	100 mL	1000 mL

Lab Sample ID: 570-80506-A-2 DU

Analysis Date: Jan 06, 2022 15:49

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	40.5	mg/L	50 mL	1000 mL

Lab Sample ID: 570-80421-E-1

Analysis Date: Jan 06, 2022 15:49

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	13.2	mg/L	1000 mL	1000 mL

Lab Sample ID: 570-80421-E-2

Analysis Date: Jan 06, 2022 15:49

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	4.09999999999999	mg/L	770 mL	1000 mL

Lab Sample ID: 570-80421-E-3

Analysis Date: Jan 06, 2022 15:49

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	6.30000000000003	mg/L	790 mL	1000 mL

Lab Sample ID: 570-80421-E-4

Analysis Date: Jan 06, 2022 15:49

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Total Suspended Solids	None	1	4.40000000000002	mg/L	790 mL	1000 mL

BALANCE CALIBRATION CHECK LOG

Eurofins Calscience

Date performed: 01/06/22 Initials: UAPD

ID	Class 2 Weight (g)	Reading (g)	Acceptance Range	Pass? (circle one)	Comment (If not passed, note removal or corrective action)
83	1	0.99	0.98 - 1.02	(Y) N	IO Lab
	100	100.0	98.00 - 102.00	(Y) N	
62	0.002	NOT IN USE	0.0015 - 0.0025	Y N	IO Lab
	1		0.9990 - 1.0010	Y N	
	100		99.9000 - 100.1000	Y N	
11	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	100.00	98.00 - 102.00	(Y) N	
55	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	100.00	98.00 - 102.00	(Y) N	
	500	500.00	490.00 - 510.00	(Y) N	
86	1	0.99	0.98 - 1.02	(Y) N	IO Lab
	100	99.99	98.00 - 102.00	(Y) N	
	500	500.00	490.00 - 510.00	(Y) N	
71	0.002	0.0019	0.0015 - 0.0025	(Y) N	BOD Room
	1	0.9991	0.9990 - 1.0010	(Y) N	
	100	99.9997	99.9000 - 100.1000	(Y) N	
63	0.1	NOT IN USE	0.08 - 0.12	Y N	BOD Room
	100		98.00 - 102.00	Y N	
73	0.1	0.0021	0.08 - 0.12	(Y) N	Oil & Grease Room 0.10
	1	1.0001	0.98 - 1.02	(Y) N	1.00
	100	100.0001	98.00 - 102.00	(Y) N	100.00
87	0.002		0.0015 - 0.0025	Y N	Solids Room
	1		0.9990 - 1.0010	Y N	
	100		99.9000 - 100.1000	Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

Comments:

WT SET ID USED: 2 mg	75055	**COMMENT:**
WT SET ID USED: 10 mg - 100 g	69065	
WT SET ID USED: 500 g	64886	

BALANCE CALIBRATION CHECK LOG

Eurofins Calscience

Date performed: 01/07/22 Initials: VARD

ID	Class 2 Weight (g)	Reading (g)	Acceptance Range	Pass? (circle one)	Comment (If not passed, note removal or corrective action)
83	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	100.00	98.00 - 102.00	(Y) N	
62	0.002	TUSTIN	0.0015 - 0.0025	Y N	IO Lab
	1		0.9990 - 1.0010	Y N	
	100		99.9000 - 100.1000	Y N	
11	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	100.00	98.00 - 102.00	(Y) N	
55	1	0.99	0.98 - 1.02	(Y) N	IO Lab
	100	100.00	98.00 - 102.00	(Y) N	
	500	499.98	490.00 - 510.00	(Y) N	
86	1	1.00	0.98 - 1.02	(Y) N	IO Lab
	100	99.99	98.00 - 102.00	(Y) N	
	500	499.99	490.00 - 510.00	(Y) N	
71	0.002	0.0018	0.0015 - 0.0025	(Y) N	BOD Room
	1	1.0001	0.9990 - 1.0010	(Y) N	
	100	100.0002	99.9000 - 100.1000	(Y) N	
63	0.1	NOT IN	0.08 - 0.12	Y N	BOD Room
	100	USE	98.00 - 102.00	Y N	
73	0.1	0.10	0.08 - 0.12	(Y) N	Oil & Grease Room
	1	1.00	0.98 - 1.02	(Y) N	
	100	100.00	98.00 - 102.00	(Y) N	
87	0.002	0.0019	0.0015 - 0.0025	(Y) N	Solids Room
	1	99.9998	0.9990 - 1.0010	(Y) N	
	100	99.9996	99.9000 - 100.1000	(Y) N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

Comments:

WT SET ID USED: 2 mg	25055	**COMMENT:**
WT SET ID USED: 10 mg - 100 g	69065	
WT SET ID USED: 500 g	64886	

COVER PAGE
GEOTECHNICAL

Lab Name: Eurofins Calscience Job Number: 570-80421-1

SDG No.:

Project: NASA SSFL CJ042 Stormwater

Client Sample ID	Lab Sample ID
A2BMP0006S013	570-80421-1
EVBMP0007S013	570-80421-2
EVBMP0008S016	570-80421-3
EVBMP0009S014	570-80421-4

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: A2BMP0006S013 Lab Sample ID: 570-80421-1

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 07:45

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	15.16	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	84.84	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	100.00	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	ND	0.01	0.01	%			1	D4464

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: EVBMP0007S013 Lab Sample ID: 570-80421-2

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:30

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	ND	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	ND	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	ND	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	ND	0.01	0.01	%			1	D4464

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: EVBMP0008S016 Lab Sample ID: 570-80421-3

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:15

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	ND	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	ND	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	ND	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	ND	0.01	0.01	%			1	D4464

1B-IN
INORGANIC ANALYSIS DATA SHEET
GEOTECHNICAL

Client Sample ID: EVBMP0009S014 Lab Sample ID: 570-80421-4

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG ID.:

Matrix: Water Date Sampled: 12/30/2021 08:50

Reporting Basis: WET Date Received: 12/30/2021 15:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Clay (less than 0.00391 mm)	ND	0.01	0.01	%			1	D4464
	Coarse Sand (0.5mm to 1mm)	ND	0.01	0.01	%			1	D4464
	Fine Sand (0.125 to 0.25mm)	ND	0.01	0.01	%			1	D4464
	Gravel (greater than 2 mm)	ND	0.01	0.01	%			1	D4464
	Medium Sand (0.25 to 0.5 mm)	ND	0.01	0.01	%			1	D4464
	Silt (0.00391 to 0.0625mm)	ND	0.01	0.01	%			1	D4464
	Total Silt and Clay (0 to 0.0626mm)	ND	0.01	0.01	%			1	D4464
	Very Coarse Sand (1 to 2mm)	ND	0.01	0.01	%			1	D4464
	Very Fine Sand (0.0625 to 0.125 mm)	ND	0.01	0.01	%			1	D4464

6-IN
DUPLICATE
GEOTECHNICAL

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 205446 Date: 01/04/2022 15:32								
D4464		570-78855-C-5	Clay (less than 0.00391 mm)	4.52	%			
D4464		570-78855-C-5 DU	Clay (less than 0.00391 mm)	4.12	%	9	20	
D4464		570-78855-C-5	Coarse Sand (0.5mm to 1mm)	ND	%			
D4464		570-78855-C-5 DU	Coarse Sand (0.5mm to 1mm)	ND	%	NC	20	
D4464		570-78855-C-5	Fine Sand (0.125 to 0.25mm)	10.48	%			
D4464		570-78855-C-5 DU	Fine Sand (0.125 to 0.25mm)	2.39	%	126	20	F3
D4464		570-78855-C-5	Gravel (greater than 2 mm)	ND	%			
D4464		570-78855-C-5 DU	Gravel (greater than 2 mm)	ND	%	NC	20	
D4464		570-78855-C-5	Medium Sand (0.25 to 0.5 mm)	ND	%			
D4464		570-78855-C-5 DU	Medium Sand (0.25 to 0.5 mm)	ND	%	NC	20	
D4464		570-78855-C-5	Silt (0.00391 to 0.0625mm)	56.05	%			
D4464		570-78855-C-5 DU	Silt (0.00391 to 0.0625mm)	64.50	%	14	20	
D4464		570-78855-C-5	Total Silt and Clay (0 to 0.0626mm)	60.57	%			
D4464		570-78855-C-5 DU	Total Silt and Clay (0 to 0.0626mm)	68.62	%	12	20	
D4464		570-78855-C-5	Very Coarse Sand (1 to 2mm)	ND	%			
D4464		570-78855-C-5 DU	Very Coarse Sand (1 to 2mm)	ND	%	NC	20	
D4464		570-78855-C-5	Very Fine Sand (0.0625 to 0.125 mm)	28.95	%			
D4464		570-78855-C-5 DU	Very Fine Sand (0.0625 to 0.125 mm)	28.99	%	0.1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

GEOTECHNICAL BATCH WORKSHEET

Lab Name: Eurofins Calscience Job No.: 570-80421-1

SDG No.:

Batch Number: 205446 Batch Start Date: 01/04/22 13:27 Batch Analyst: Stratford, Jordan

Batch Method: D4464 Batch End Date: 01/04/22 16:02

Lab Sample ID	Client Sample ID	Method Chain	Basis	MI_Fine Sand 00006					
CCV 570-205446/1		D4464		# g					
CCV 570-205446/12		D4464		# g					
LCS 570-205446/16		D4464		# g					
LCSD 570-205446/18		D4464		# g					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

80421

Chain of Custody Record

COC Number: CALS12302101

JACOBS

12/30/2021 10 44 27 AM

Project Name	SSFL	Project Manager	Randy Dean
Project	CJ042 Stormwater PO 148015891	Sample Manager	
Location	Santa Susana Field Lab		
Project Number	D3377900		
Task Order	42		
PO Number	148015891		
Turnaround Time	10 Days		

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200 8/245.1	200.8/245 1F	ASTMD4464	SM2540	SW8290/1613B
(1) A2BMP0006S013	30-Dec-21 7 45	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4'C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						
(2) EVBMP0007S013	30-Dec-21 8 30	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4'C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						

570-80421 Chain of Custody

MS = Matrix Spike SD = Matrix Spike Duplicate

	Signatures	Date/Time
Sampled by	BRYAN BENSON	12/30/21 1140
Relinquished by	BRYAN BENSON	12/30/21 1140
Received by		12/30/21 1230
Relinquished by		12/30/21 1550
Received by		12/30/21 1550

Shipping Details

Shipment Method: FedEx

Airbill No:

Lab Name: Eurofins Calscience Lab

Lab Phone: (949) 870-8766

On Ice: yes / no Cooler Temp _____

ATTN:

Sample Custody and

Special Instructions:

2.0/2.9
1.8/2.7
2.1/2.9
1 6/2.5
SCS

Report Copy to
Mark Fesler
(530) 229-3273

2.1/30, 1 9/2.8 SCS

Chain of Custody Record

COC Number: CALS12302101

JACOBS

12/30/2021 10 44 28 AM

Project Name	SSFL	**Project Manager**	
Project	CJ042 Stormwater PO 148015891	Randy Dean	
Location	Santa Susana Field Lab	**Sample Manager**	
Project Number	D3377900		
Task Order	42		
PO Number	148015891		
Turnaround Time	10 Days		

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200.8/245.1	200.8/245.1F	ASTMD4464	SM2540	SW8290/1613B
(3) **EVBMP0008S016**	30-Dec-21 8 15	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
Turbidity TSS				4'C	☐	1	☑	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		**6**						
(4) **EVBMP0009S014**	30-Dec-21 8 50	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
Turbidity TSS				4'C	☐	1	☑	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		**6**						

MS = Matrix Spike **SD = Matrix Spike Duplicate**

	Signatures	Date/Time
Sampled by	BRYAN BENSON	12/30/21 1140
Relinquished by	BRYAN BENSON	12/30/21 1140
Received by	EA	12/30/21 1230
Relinquished by		12/30/21 1550
Received by		12/30/21 1550

Shipping Details

Shipment Method: FedEx

Airbill No:

Lab Name: Eurofins Calscience Lab

Lab Phone: (949) 870-8766

On Ice: yes / no **Cooler Temp** _____

ATTN:

Sample Custody and

Special Instructions:

Report Copy to
Mark Fesler
(530) 229-3273

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Thompson, Lori	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Lori.Thompson@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State - California		Job #: 570-80421-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/19/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA SSFL CJ042 Stormwater	Project #: 57006621			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290/8290_P_Sep 17 Isomers List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A2BMP0006S013 (570-80421-1)	12/30/21	07:45 Pacific		Water			X	2	
EVBMP0007S013 (570-80421-2)	12/30/21	08:30 Pacific		Water			X	2	
EVBMP0008S016 (570-80421-3)	12/30/21	08:15 Pacific		Water			X	2	
EVBMP0009S014 (570-80421-4)	12/30/21	08:50 Pacific		Water			X	2	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time: 1/3/21 1730	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove CA 92841
Phone 714-895-5494 Fax 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Thompson Lori	Carrier Tracking No(s)	COC No: 570-149913 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Lori Thompson@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - California		Job #: 570-80421-1
Address: 2841 Dow Avenue ,	Due Date Requested: 1/12/2022			
City: Tustin	TAT Requested (days):			
State, Zip: CA 92780				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #			
Project Name: NASA SSFL CJ042 Stormwater	Project #: 57006621			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F MeOH	R Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	246.1/246.1_Prep Mercury	200.8/200.2 (MOD) Cd/Cu/Pb	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
A2BMP0006S013 (570-80421-1)	12/30/21	07 45 Pacific		Water			X	X	1	
EVBMP0007S013 (570-80421-2)	12/30/21	08 30 Pacific		Water			X	X	1	
EVBMP0008S016 (570-80421-3)	12/30/21	08 15 Pacific		Water			X	X	1	
EVBMP0009S014 (570-80421-4)	12/30/21	08 50 Pacific		Water			X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements: IR-89 29/29

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/8/22	EC			
2		Date/Time:	Company	Received by: Olga Oinelas	Date/Time: 1/10/22 900	Company: FAT
3		Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver 06/08/2021

01/24/2022

Login Sample Receipt Checklist

Client: Jacobs Engineering Group, Inc. Job Number: 570-80421-1

Login Number: 80421 **List Source: Eurofins Calscience**
List Number: 1
Creator: Thompson, Lori

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Jacobs Engineering Group, Inc. Job Number: 570-80421-1

Login Number: 80421 **List Source: Eurofins Calscience Tustin**
List Number: 3 **List Creation: 01/10/22 11:45 AM**
Creator: Ornelas, Olga

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 570-80421-2

Job Description: NASA SSFL CJ042 Stormwater

For:
Jacobs Engineering Group, Inc.
4121 Carmichael Rd #400
Montgomery, AL 36106

Attention: Mark Fesler

Approved for release.
Lori Thompson
Project Manager I
1/25/2022 7:40 AM

Lori Thompson, Project Manager I
7440 Lincoln Way, Garden Grove, CA, 92841
(714)895-5494
Lori.Thompson@eurofinset.com
01/25/2022

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Job Narrative
570-80421-2

Comments
No additional comments.

Receipt
The samples were received on 12/30/2021 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.0º C.

Dioxin
Method 8290: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-556608 and analytical batch 320-559800 recovered outside control limits for the following analytes: 1,2,3,4,7,8,9-HpCDF, 1,2,3,7,8,9-HxCDF and 2,3,4,6,7,8-HxCDF. The analyte recoveries in the LCS and LCSD were within limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method 8290

Dioxins and Furans (HRGC/HRMS) by Method 8290

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	PeCDF #	PeCDD #	HxCDF #	HxDD #	HpCDF #	HpCDD #
A2BMP0006S013	570-80421-1	91	89	89	89	90	89	95	92
EVBMP0007S013	570-80421-2	95	92	94	95	93	94	100	98
EVBMP0008S016	570-80421-3	88	87	89	90	88	88	95	94
EVBMP0009S014	570-80421-4	91	90	91	92	94	93	99	96
	MB 320-556608/1-A	95	89	91	92	92	90	95	92
	LCS 320-556608/2-A	93	92	92	93	92	89	97	94
	LCSD 320-556608/3-A	50	50	46	48	42	43	45	46

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	40-135
TCDD = 13C-2,3,7,8-TCDD	40-135
PeCDF = 13C-1,2,3,7,8-PeCDF	40-135
PeCDD = 13C-1,2,3,7,8-PeCDD	40-135
HxCDF = 13C-1,2,3,4,7,8-HxCDF	40-135
HxDD = 13C-1,2,3,6,7,8-HxCDD	40-135
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	40-135
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	40-135

Column to be used to flag recovery values

FORM II 8290

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	OCDD #
A2BMP0006S013	570-80421-1	102
EVBMP0007S013	570-80421-2	109
EVBMP0008S016	570-80421-3	102
EVBMP0009S014	570-80421-4	108
	MB 320-556608/1-A	103
	LCS 320-556608/2-A	102
	LCSD 320-556608/3-A	50

	QC LIMITS
OCDD = 13C-OCDD	40-135

Column to be used to flag recovery values

FORM II 8290

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Matrix: Water Level: Low Lab File ID: 20ja22dfs1_44.d

Lab ID: LCS 320-556608/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	183.0	91	72-128	
2,3,7,8-TCDF	200	174.5	87	67-135	
1,2,3,7,8-PeCDD	1000	956.3	96	71-135	
1,2,3,7,8-PeCDF	1000	947.1	95	70-133	
2,3,4,7,8-PeCDF	1000	945.3	95	69-135	
1,2,3,4,7,8-HxCDD	1000	854.6	85	67-130	
1,2,3,6,7,8-HxCDD	1000	908.2	91	61-144	
1,2,3,7,8,9-HxCDD	1000	921.6	92	61-140	
1,2,3,4,7,8-HxCDF	1000	817.5	82	69-140	
1,2,3,6,7,8-HxCDF	1000	798.2	80	62-155	
2,3,4,6,7,8-HxCDF	1000	867.1	87	70-146	
1,2,3,7,8,9-HxCDF	1000	821.3	82	71-142	
1,2,3,4,6,7,8-HpCDD	1000	898.4	90	71-134	
1,2,3,4,6,7,8-HpCDF	1000	849.0	85	68-137	
1,2,3,4,7,8,9-HpCDF	1000	832.8	83	74-134	
OCDD	2000	1651	83	72-134	
OCDF	2000	1587	79	65-143	
13C-2,3,7,8-TCDD	2000	1838	92	40-135	
13C-2,3,7,8-TCDF	2000	1863	93	40-135	
13C-1,2,3,7,8-PeCDD	2000	1855	93	40-135	
13C-1,2,3,7,8-PeCDF	2000	1844	92	40-135	
13C-1,2,3,6,7,8-HxCDD	2000	1785	89	40-135	
13C-1,2,3,4,7,8-HxCDF	2000	1848	92	40-135	
13C-1,2,3,4,6,7,8-HpCDD	2000	1883	94	40-135	
13C-1,2,3,4,6,7,8-HpCDF	2000	1943	97	40-135	
13C-OCDD	4000	4063	102	40-135	

Column to be used to flag recovery and RPD values

FORM III 8290

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Matrix: Water Level: Low Lab File ID: 20ja22dfs1_45.d

Lab ID: LCSD 320-556608/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	195.8	98	7	20	72-128	
2,3,7,8-TCDF	200	195.9	98	12	20	67-135	
1,2,3,7,8-PeCDD	1000	1072	107	11	20	71-135	
1,2,3,7,8-PeCDF	1000	1089	109	14	20	70-133	
2,3,4,7,8-PeCDF	1000	1011	101	7	20	69-135	
1,2,3,4,7,8-HxCDD	1000	916.7	92	7	20	67-130	
1,2,3,6,7,8-HxCDD	1000	987.8	99	8	20	61-144	
1,2,3,7,8,9-HxCDD	1000	1095	109	17	20	61-140	
1,2,3,4,7,8-HxCDF	1000	946.0	95	15	20	69-140	
1,2,3,6,7,8-HxCDF	1000	954.4	95	18	20	62-155	
2,3,4,6,7,8-HxCDF	1000	1105	110	24	20	70-146	*1
1,2,3,7,8,9-HxCDF	1000	1062	106	26	20	71-142	*1
1,2,3,4,6,7,8-HpCDD	1000	1027	103	13	20	71-134	
1,2,3,4,6,7,8-HpCDF	1000	991.2	99	15	20	68-137	
1,2,3,4,7,8,9-HpCDF	1000	1032	103	21	20	74-134	*1
OCDD	2000	1913	96	15	20	72-134	
OCDF	2000	1867	93	16	20	65-143	
13C-2,3,7,8-TCDD	2000	1000	50			40-135	
13C-2,3,7,8-TCDF	2000	1007	50			40-135	
13C-1,2,3,7,8-PeCDD	2000	953.2	48			40-135	
13C-1,2,3,7,8-PeCDF	2000	929.5	46			40-135	
13C-1,2,3,6,7,8-HxCDD	2000	865.1	43			40-135	
13C-1,2,3,4,7,8-HxCDF	2000	831.1	42			40-135	
13C-1,2,3,4,6,7,8-HpCDD	2000	916.4	46			40-135	
13C-1,2,3,4,6,7,8-HpCDF	2000	893.3	45			40-135	
13C-OCDD	4000	1987	50			40-135	

Column to be used to flag recovery and RPD values

FORM III 8290

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Lab File ID: 20ja22dfs1_43.d Lab Sample ID: MB 320-556608/1-A

Matrix: Water Date Extracted: 01/07/2022 08:44

Instrument ID: DFS 1 Date Analyzed: 01/21/2022 22:38

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-556608/2-A	20ja22dfs1_44.d	01/21/2022 23:26
	LCSD 320-556608/3-A	20ja22dfs1_45.d	01/22/2022 00:14
A2BMP0006S013	570-80421-1	20ja22dfs1_46.d	01/22/2022 01:01
EVBMP0007S013	570-80421-2	20ja22dfs1_47.d	01/22/2022 01:49
EVBMP0008S016	570-80421-3	20ja22dfs1_48.d	01/22/2022 02:37
EVBMP0009S014	570-80421-4	20ja22dfs1_49.d	01/22/2022 03:25

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80421-2

SDG No.:

Client Sample ID: A2BMP0006S013 | Lab Sample ID: 570-80421-1

Matrix: Water | Lab File ID: 20ja22dfs1_46.d

Analysis Method: 8290 | Date Collected: 12/30/2021 07:45

Extract. Method: 8290 | Date Extracted: 01/07/2022 08:44

Sample wt/vol: 1047.4(mL) | Date Analyzed: 01/22/2022 01:01

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559800 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.5	0.78
51207-31-9	2,3,7,8-TCDF	ND		9.5	0.36
40321-76-4	1,2,3,7,8-PeCDD	ND		48	0.70
57117-41-6	1,2,3,7,8-PeCDF	ND		48	0.40
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.42
39227-28-6	1,2,3,4,7,8-HxCDD	2.5	J q B	48	0.27
57653-85-7	1,2,3,6,7,8-HxCDD	2.9	J B	48	0.24
19408-74-3	1,2,3,7,8,9-HxCDD	2.5	J B	48	0.24
70648-26-9	1,2,3,4,7,8-HxCDF	ND		48	0.25
57117-44-9	1,2,3,6,7,8-HxCDF	ND		48	0.21
60851-34-5	2,3,4,6,7,8-HxCDF	ND	*1	48	0.22
72918-21-9	1,2,3,7,8,9-HxCDF	1.4	J q B *1	48	0.24
35822-46-9	1,2,3,4,6,7,8-HpCDD	29	J B	48	0.38
67562-39-4	1,2,3,4,6,7,8-HpCDF	4.9	J q B	48	0.27
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.3	J B *1	48	0.32
3268-87-9	OCDD	220	B	95	0.54
39001-02-0	OCDF	12	J q B	95	0.41

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	89		40-135
89059-46-1	13C-2,3,7,8-TCDF	91		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	89		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	89		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	89		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	90		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	92		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	95		40-135
114423-97-1	13C-OCDD	102		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d
Lims ID: 570-80421-D-1-A
Client ID: A2BMP0006S013
Sample Type: Client
Inject. Date: 22-Jan-2022 01:01:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80421-D-1-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:35:32 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 11:31:13

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.945	7333546	0.80	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.044	6751658	0.79	1.0164	90.6	90.6	0.3488	0.3488	90.58	
2,3,7,8-TCDF	19.061						0.0188	0.0188		
A Non-2,3,7,8-sub-TCDF	18.680						0.0188	0.0188		
S Total TCDF							0.0188	0.0188		
D 13C-2,3,7,8-TCDD	20.298	5161630	0.79	0.7884	89.3	89.3	0.2662	0.2662	89.27	
2,3,7,8-TCDD	20.341						0.0410	0.0410		
A Non-2,3,7,8-sub-TCDD	19.478						0.0410	0.0410		
S Total TCDD							0.0410	0.0410		
D 13C-1,2,3,7,8-PeCDF	26.084	6045975	1.56	0.9232	89.3	89.3	0.4202	0.4202	89.30	
1,2,3,7,8-PeCDF	26.107						0.0209	0.0209		
2,3,4,7,8-PeCDF	27.531						0.0221	0.0221		
A F1 PeCDFs	23.375						0.0131	0.0183		RQU
A Non-2,3,7,8-sub-PeCDF	26.760						0.0215	0.0215		
S Total PeCDF							0.0221	0.0221		
D 13C-1,2,3,7,8-PeCDD	28.282	3658376	1.56	0.5606	89.0	89.0	0.2463	0.2463	88.98	
1,2,3,7,8-PeCDD	28.314						0.0364	0.0364		
A Non-2,3,7,8-sub-PeCDD	27.170						0.0364	0.0548		RQU
S Total PeCDD							0.0548	0.0548		
D 13C-1,2,3,4,7,8-HxCDF	33.994	5701602	0.53	1.0566	90.5	90.5	0.2454	0.2454	90.46	
1,2,3,4,7,8-HxCDF	34.019						0.0129	0.0129		
1,2,3,6,7,8-HxCDF	34.255						0.0111	0.0111		U
2,3,4,6,7,8-HxCDF	35.055						0.0115	0.0115		RQMU
1,2,3,7,8,9-HxCDF	36.100	3847	1.24	0.9071	0.0854	0.0744	0.0125	0.0125		RQM
A Non-2,3,7,8-sub-HxCDF	34.051						0.0120	0.0444		RQU
S Total HxCDF					0.0854	0.0744	0.0120	0.0120		RQ
* 13C-1,2,3,7,8,9-HxCDD	35.897	5965437	1.26	2.5E+04	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.409	4632	1.24	0.8294	0.1543	0.1316	0.0140	0.0140		RQ
D 13C-1,2,3,6,7,8-HxCDD	35.501	4244906	1.29	0.8027	88.7	88.7	0.2597	0.2597	88.65	
1,2,3,6,7,8-HxCDD	35.527	6038	1.28	0.9395	0.1514	0.1514	0.0123	0.0123		
1,2,3,7,8,9-HxCDD	35.906	4983	1.10	0.9076	0.1293	0.1293	0.0128	0.0128		M
A Non-2,3,7,8-sub-HxCDD	34.547	4636	1.24	0.8922	0.1479	0.1224	0.0130	0.1224		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDD					0.5830	0.5347	0.0130	0.0130		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.074	3619874	0.44	0.6421	94.5	94.5	0.3994	0.3994	94.51	
1,2,3,4,6,7,8-HpCDF	38.091	13319	1.04	1.4385	0.2874	0.2558	0.0140	0.0140		RQ
1,2,3,4,7,8,9-HpCDF	39.421	2981	0.98	1.2202	0.0675	0.0675	0.0165	0.0165		
A Non-2,3,7,8-sub-HpCDF	38.751	19922	0.88	1.3293	0.4140	0.4140	0.0152	0.4140		
S Total HpCDF					0.7689	0.7373	0.0153	0.0153		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	39.084	3425182	1.10	0.6246	91.9	91.9	0.2498	0.2498	91.92	
1,2,3,4,6,7,8-HpCDD	39.092	51188	1.03	0.9767	1.530	1.530	0.0198	0.0198		
A Non-2,3,7,8-sub-HpCDD	38.763	44279	0.98	0.9767	1.324	1.324	0.0198	1.324		M
S Total HpCDD					2.854	2.854	0.0198	0.0198		
D 13C-OCDD	41.555	5304706	0.89	0.4360	204.0	204.0	0.2672	0.2672	102	
OCDF	41.639	20489	0.89	1.2756	0.6530	0.6056	0.0214	0.0214		RQ
OCDD	41.564	319994	0.88	1.0341	11.7	11.7	0.0280	0.0280		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d
Lims ID: 570-80421-D-1-A
Client ID: A2BMP0006S013
Sample Type: Client
Inject. Date: 22-Jan-2022 01:01:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80421-D-1-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:35:32 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 11:31:13

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	19.945	19.937	1		3264858	515904	652	1630	791		
333.9338	19.945	19.937	1		4068688	622711	304	760	2048	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.044	19.035	1	0.955	2978435	459673	1177	2942	391		
317.9389	19.044	19.035	1	0.955	3773223	604536	438	1095	1380	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.061						10	25			
305.8987	19.061						71	177			
A Non-2,3,7,8-sub-TCDF											
303.9016	18.680						10	25			
305.8987	18.680						71	177			
13C-2,3,7,8-TCDD											
331.9368	20.298	20.306	-1	1.018	2284054	338718	652	1630	520		
333.9338	20.298	20.306	-1	1.018	2877576	411489	304	760	1354	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.341						106	265			
321.8936	20.341						16	40			
A Non-2,3,7,8-sub-TCDD											
319.8965	19.478						106	265			
321.8936	19.478						16	40			
13C-1,2,3,7,8-PeCDF											
351.9000	26.084	26.081	0	1.308	3684718	609837	1084	2710	563		
353.8970	26.084	26.081	0	1.308	2361257	394700	683	1707	578	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.107						4	10			
341.8567	26.107						78	195			

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.531						4	10			
341.8567	27.531						78	195			
A F1 PeCDFs											U
339.8597	22.823	23.375	-33	0.875	640	248	1	2	248		
341.8567	22.849	23.375	-31	0.876	642	230	49	122	5	1.00(1.32-1.78)	
	Empc Correction				412	160	49	122	3		
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.760						4	10			
341.8567	26.760						78	195			
13C-1,2,3,7,8-PeCDD											
367.8949	28.282	28.289	0	1.418	2229514	340654	299	747	1139		
369.8919	28.282	28.289	0	1.418	1428862	207300	330	825	628	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.314						72	180			
357.8516	28.314						8	20			
A Non-2,3,7,8-sub-PeCDD											U
355.8546	27.170	27.170	0	0.961	2564	640	72	180			
	Empc Correction				1994	740	72	180	0		
357.8516	27.170	27.170	0	0.961	1287	478	8	20		1.99(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	33.994	34.002	0	0.947	1973644	361201	393	982	919		
385.8610	33.994	34.002	0	0.947	3727958	693312	898	2245	772	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.019						40	100			
375.8178	34.019						8	20			
1,2,3,6,7,8-HxCDF											U
373.8208	34.204						40	100			
375.8178	34.204						8	20			
2,3,4,6,7,8-HxCDF											RQMU
373.8208	35.147						40	100			
375.8178	35.147						8	20			
1,2,3,7,8,9-HxCDF											RQM
373.8208	36.100	36.116	-1	1.062	2130	379	40	100	9		M
375.8178	36.091	36.116	-1	1.062	2289	429	8	20	54	0.93(1.05-1.43)	M
	Empc Correction				1717	305	8	20	38		
A Non-2,3,7,8-sub-HxCDF											U
373.8208	32.226	34.051	-109	0.948	2451	477	40	100	12		
	Empc Correction				755	381	40	100	10		
375.8178	32.226	34.051	-109	0.948	609	308	8	20	39	4.02(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.897	35.906	0		3329327	687525	655	1637	1050		
403.8529	35.897	35.906	0		2636110	557308	383	957	1455	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8158	35.409	35.392	1	0.997	3365	722	18	45	40		
	Empc Correction				2564	648	18	45	36		
391.8127	35.400	35.392	1	0.997	2068	523	23	57	23	1.63(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.501	35.501	0	0.989	2388131	489819	655	1637	748		
403.8529	35.501	35.501	0	0.989	1856775	391036	383	957	1021	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.527	35.518	1	1.001	3394	644	18	45	36		
391.8127	35.518	35.518	0	1.000	2644	734	23	57	32	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8158	35.906	35.922	-1	1.011	2605	592	18	45	33		M
391.8127	35.914	35.922	0	1.012	2378	445	23	57	19	1.10(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8158	34.508	34.547	-2	0.972	3533	583	18	45	32		
	Empc Correction				2566	555	18	45	31		
391.8127	34.491	34.547	-3	0.972	2070	448	23	57	19	1.71(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.074	38.081	0	1.061	1109518	295459	384	960	769		
419.8220	38.074	38.081	0	1.061	2510356	656364	893	2232	735	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7817	38.091	38.089	0	1.000	8436	2233	60	150	37		
	Empc Correction				6790	2011	60	150	34		
409.7788	38.099	38.089	1	1.001	6529	1934	17	42	114	1.29(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.421	39.403	1	1.035	1474	402	60	150	7		
409.7788	39.404	39.403	0	1.035	1507	451	17	42	27	0.98(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.478	38.751	-16	1.011	9350	2385	60	150	40		
409.7788	38.469	38.751	-17	1.010	10572	2759	17	42	162	0.88(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.084	39.083	0	1.089	1792236	523570	419	1047	1250		
437.8140	39.084	39.083	0	1.089	1632946	471516	358	895	1317	1.10(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.092	39.091	0	1.000	25915	7887	46	115	171		
425.7737	39.092	39.091	0	1.000	25273	7476	31	77	241	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7767	38.436	38.763	-20	0.983	21895	5636	46	115	123		M
425.7737	38.427	38.763	-20	0.983	22384	7027	31	77	227	0.98(0.88-1.20)	
13C-OCDD											
469.7780	41.555	41.563	0	1.158	2501032	724384	310	775	2337		
471.7750	41.555	41.563	0	1.158	2803674	828440	270	675	3068	0.89(0.76-1.02)	
OCDF											RQ
441.7428	41.639	41.639	0	1.002	11250	2957	12	30	246		
	Empc Correction				9648	2714	12	30	226		
443.7399	41.639	41.639	0	1.002	10841	3050	73	182	42	1.04(0.76-1.02)	
OCDD											
457.7377	41.564	41.571	0	1.000	150208	43552	32	80	1361		
459.7348	41.564	41.571	0	1.000	169786	51301	58	145	885	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d
Lims ID: 570-80421-D-1-A
Client ID: A2BMP0006S013
Inject. Date: 22-Jan-2022 01:01:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 6

F1 PeCDFs, RT: 23.375

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	6045975	1004537
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	6045975	1004537

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.823	640	248	642	230	0.0224	1.00	RQ
22.823	640	248	412	160	0.0183		Empc Correction
23.639	148	95	2409	572	0.0446	0.06	RQ
23.639	148	95	95	61	0.004237		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d
Lims ID: 570-80421-D-1-A
Client ID: A2BMP0006S013
Inject. Date: 22-Jan-2022 01:01:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 6

Non-2,3,7,8-sub-PeCDD, RT: 27.170

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.002	D 13C-1,2,3,7,8-PeCDD	100.000	3658376	547954

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.002		100.000	3658376	547954

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
27.482	997	312	499	231	0.0408	2.00	RQ
27.482	773	358	499	231	0.0347		Empc Correction
29.360	1567	328	788	247	0.0642	1.99	RQ
29.360	1221	382	788	247	0.0548		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d
Lims ID: 570-80421-D-1-A
Client ID: A2BMP0006S013
Inject. Date: 22-Jan-2022 01:01:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 6

Non-2,3,7,8-sub-HxCDF, RT: 34.051

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883	D 13C-1,2,3,4,7,8-HxCDF	100.000	5701602	1054513
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.952		100.000	5701602	1054513

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
32.226	2451	477	609	308	0.0564	4.02	RQ
32.226	755	381	609	308	0.0251		Empc Correction
33.295	1283	519	1128	336	0.0444	1.14	
35.055	1178	357	340	166	0.0280	3.46	RQ
35.055	421	205	340	166	0.0140		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d
Lims ID: 570-80421-D-1-A
Client ID: A2BMP0006S013
Inject. Date: 22-Jan-2022 01:01:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 6

Non-2,3,7,8-sub-HxCDD, RT: 34.547

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829	D 13C-1,2,3,6,7,8-HxCDD	100.000	4244906	880855
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.892		100.000	4244906	880855

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
34.508	3533	583	2070	448	0.1479	1.71	RQ
34.508	2566	555	2070	448	0.1224		Empc Correction
Signal Totals:							
	2566	555	2070	448			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5603	1031				1.71	RQ
	4636	1003					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1479 = (5603 * 100.000) / (4244906 * 0.892)
Empc Amount: 0.1224 = (4636 * 100.000) / (4244906 * 0.892)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d
Lims ID: 570-80421-D-1-A
Client ID: A2BMP0006S013
Inject. Date: 22-Jan-2022 01:01:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 6

Non-2,3,7,8-sub-HpCDF, RT: 38.751

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.439	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	3619874	951823
1,2,3,4,7,8,9-HpCDF	1.220				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.329		100.000	3619874	951823

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.478	9350	2385	10572	2759	0.4140	0.88	
Signal Totals:							
	9350	2385	10572	2759			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	19922	5144				0.88	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4140 = (19922 * 100.000) / (3619874 * 1.329)

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d
Lims ID: 570-80421-D-1-A
Client ID: A2BMP0006S013
Inject. Date: 22-Jan-2022 01:01:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 6

Non-2,3,7,8-sub-HpCDD, RT: 38.763

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3425182	995086

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3425182	995086

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.436	21895	5636	22384	7027	1.32	0.98	M
Signal Totals:							
	21895	5636	22384	7027			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	44279	12663				0.98	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.324 = (44279 * 100.000) / (3425182 * 0.977)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins Sacramento

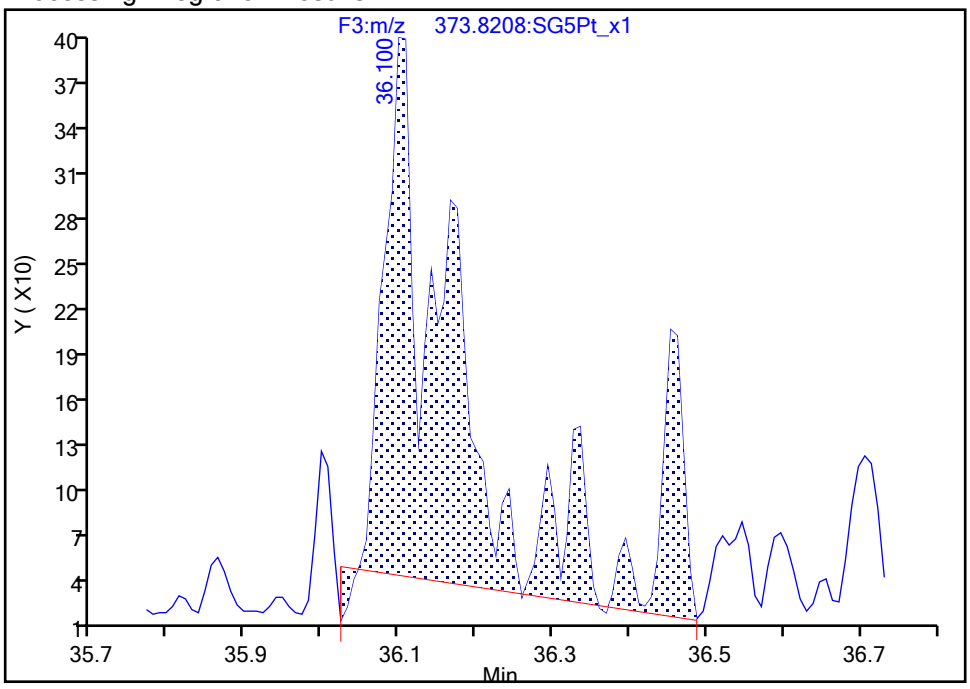
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d				
Injection Date:	22-Jan-2022 01:01:00	Instrument ID:	DFS 1		
Lims ID:	570-80421-D-1-A	Lab Sample ID:	320-80421-1		
Client ID:	A2BMP0006S013				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

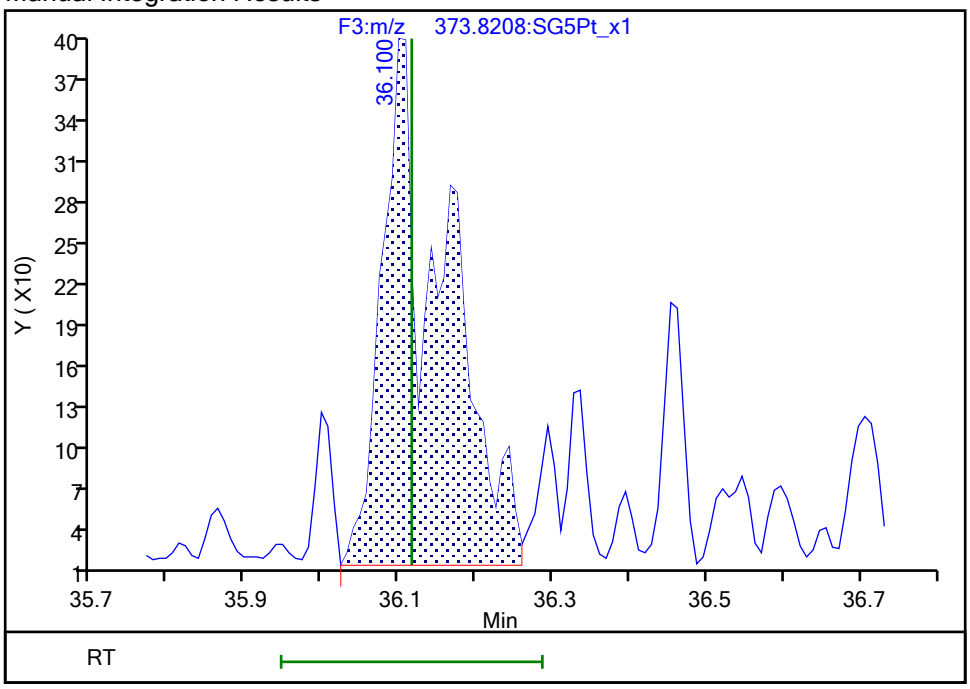
Processing Integration Results

RT: 36.10
Area: 2448
Amount: 0.085755
Amount Units: pg/ul



Manual Integration Results

RT: 36.10
Area: 2130
Amount: 0.085446
Amount Units: pg/ul



Reviewer: bilottag, 24-Jan-2022 10:26:35

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Sacramento

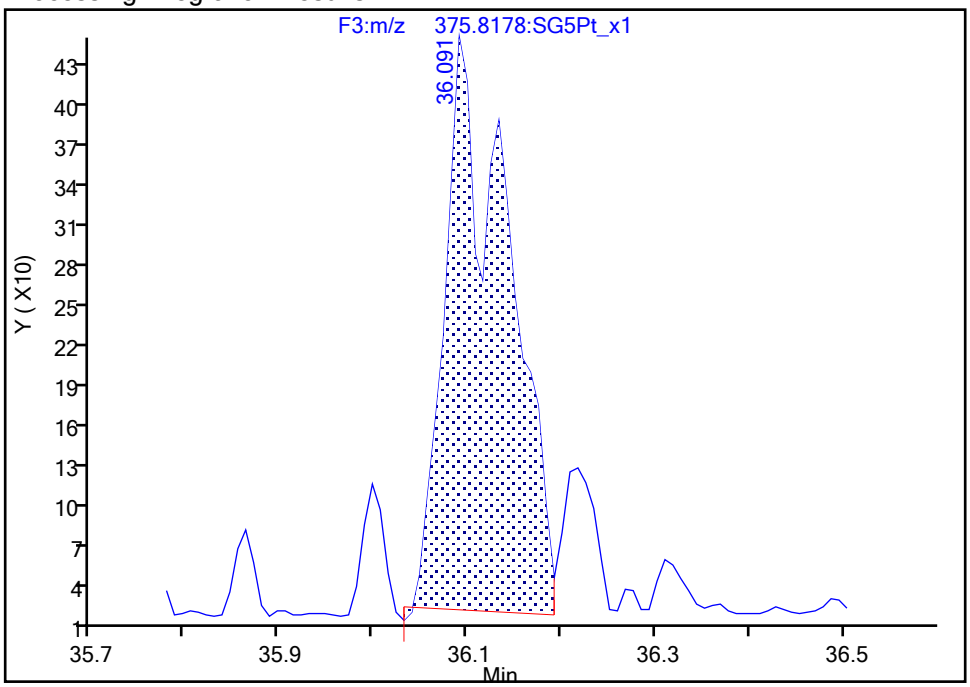
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d				
Injection Date:	22-Jan-2022 01:01:00	Instrument ID:	DFS 1		
Lims ID:	570-80421-D-1-A	Lab Sample ID:	320-80421-1		
Client ID:	A2BMP0006S013				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

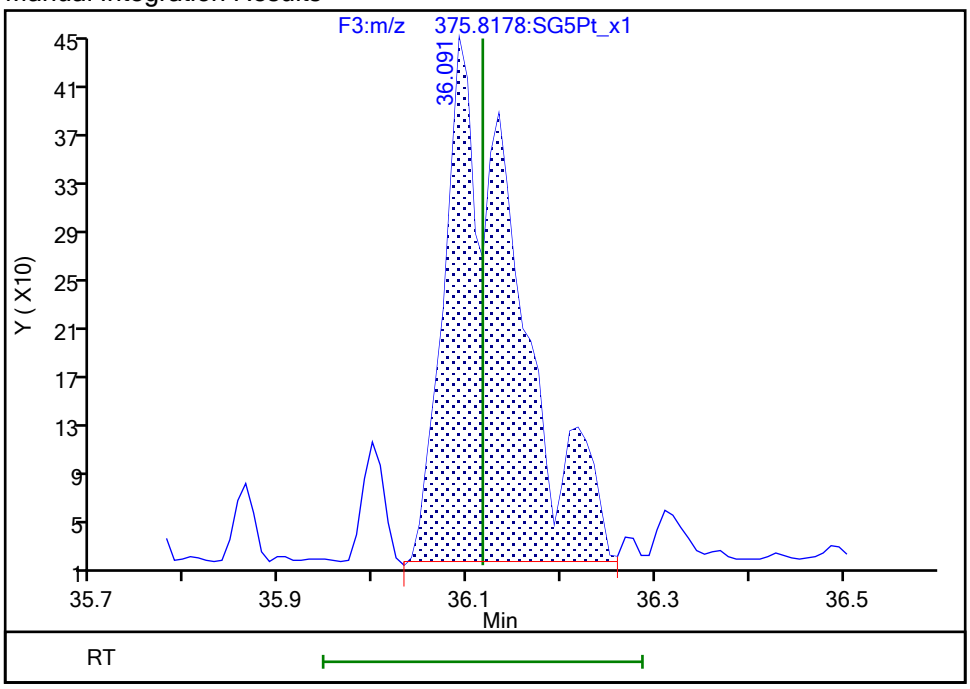
Processing Integration Results

RT: 36.09
Area: 1987
Amount: 0.085755
Amount Units: pg/ul



Manual Integration Results

RT: 36.09
Area: 2289
Amount: 0.085446
Amount Units: pg/ul



Reviewer: bilottag, 24-Jan-2022 10:26:43
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

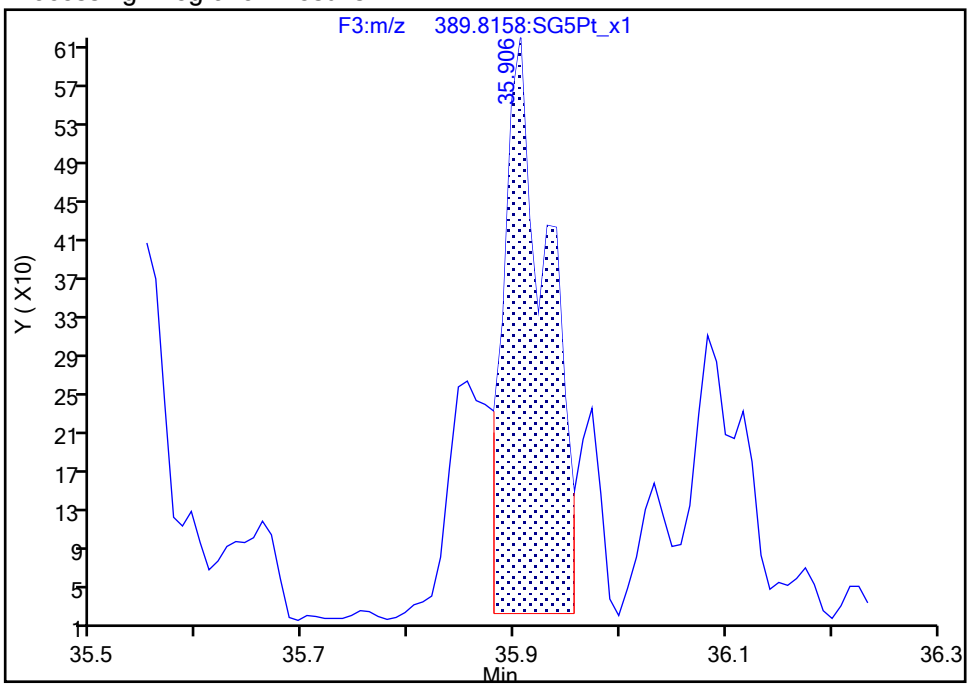
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d				
Injection Date:	22-Jan-2022 01:01:00	Instrument ID:	DFS 1		
Lims ID:	570-80421-D-1-A	Lab Sample ID:	320-80421-1		
Client ID:	A2BMP0006S013				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

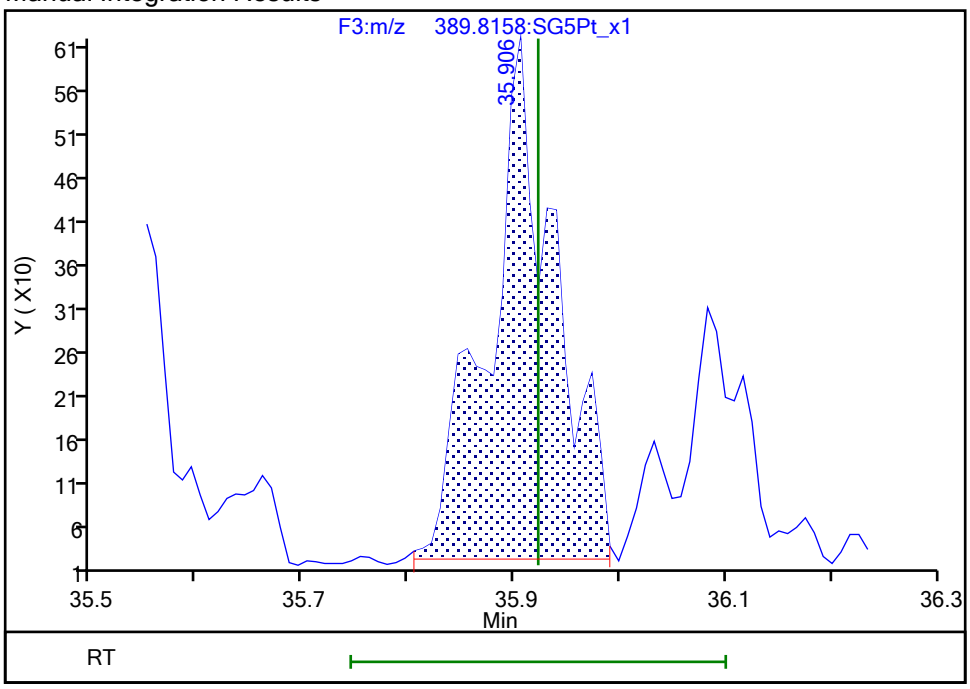
Processing Integration Results

RT: 35.91
Area: 1677
Amount: 0.105247
Amount Units: pg/ul



Manual Integration Results

RT: 35.91
Area: 2605
Amount: 0.129333
Amount Units: pg/ul



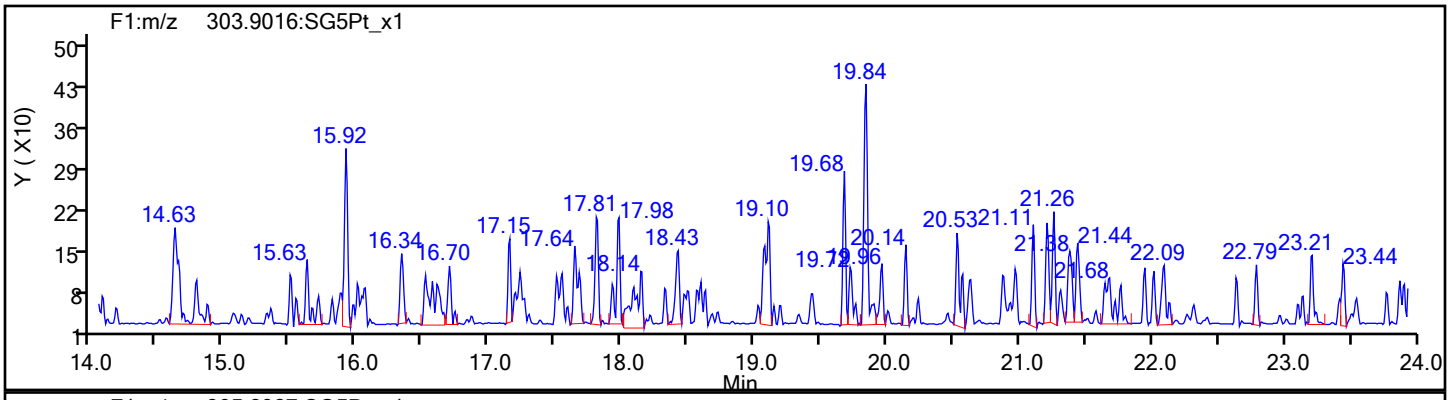
Reviewer: dadunj, 25-Jan-2022 08:35:19

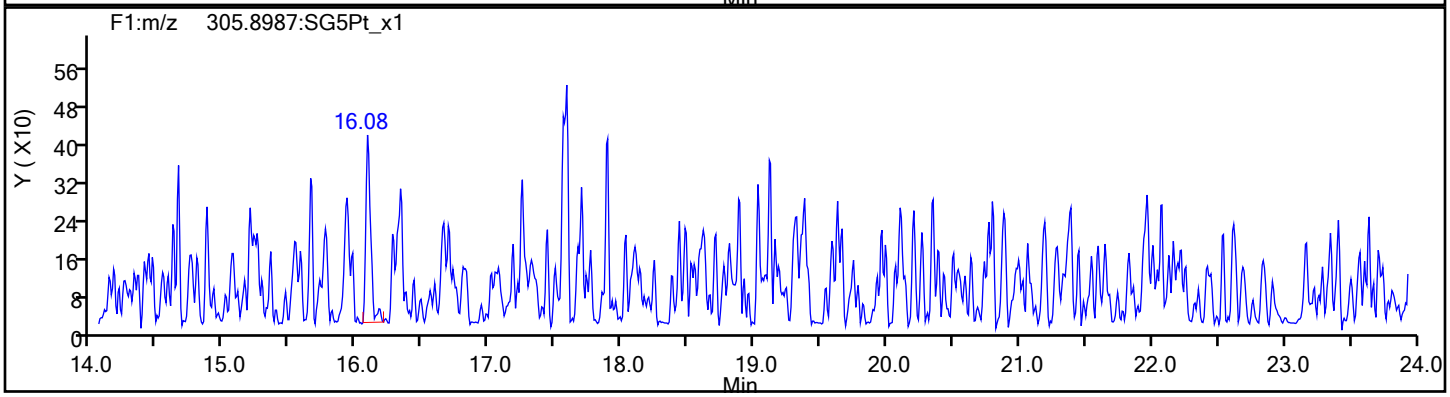
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins Sacramento

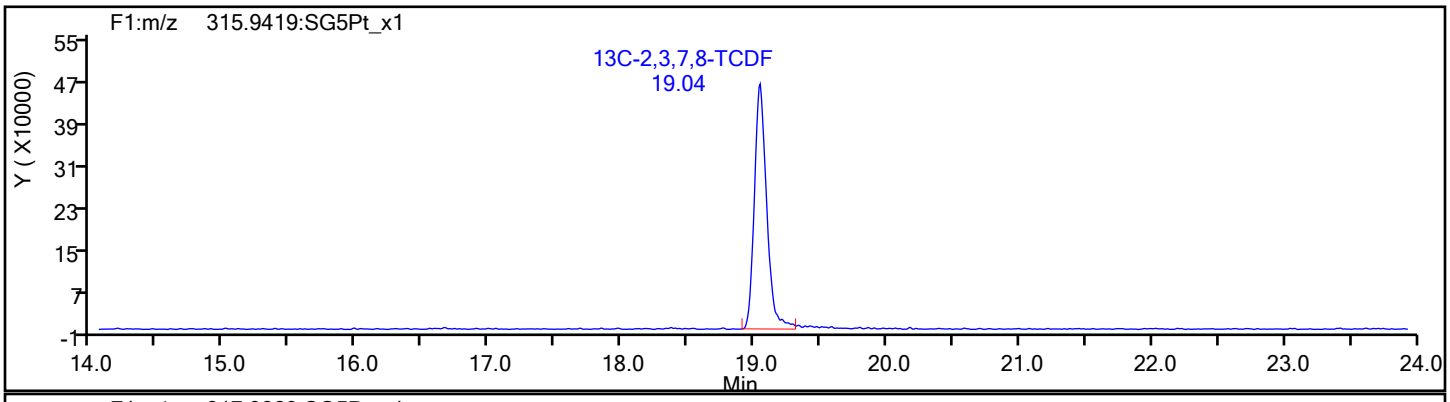
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d
Injection Date: 22-Jan-2022 01:01:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: A2BMP0006S013
Worklist#: 559800 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

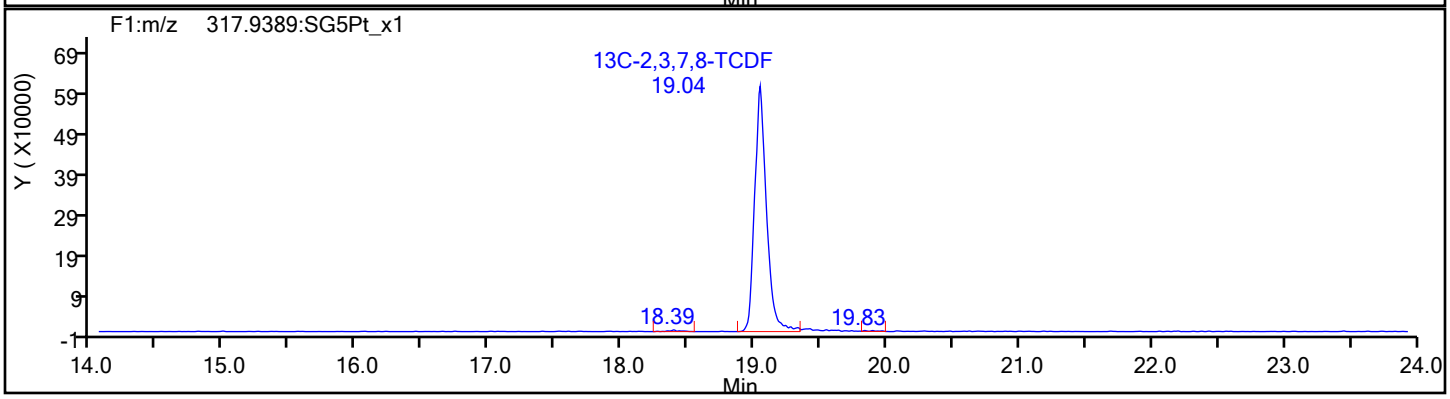
TCDF





TCDF Standards

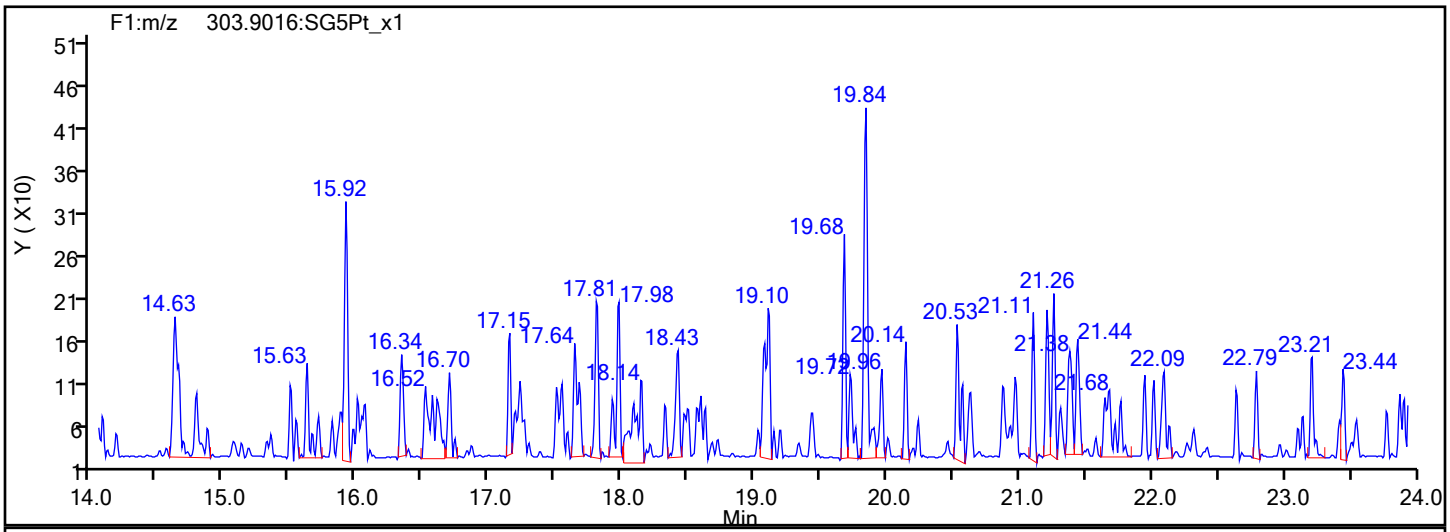


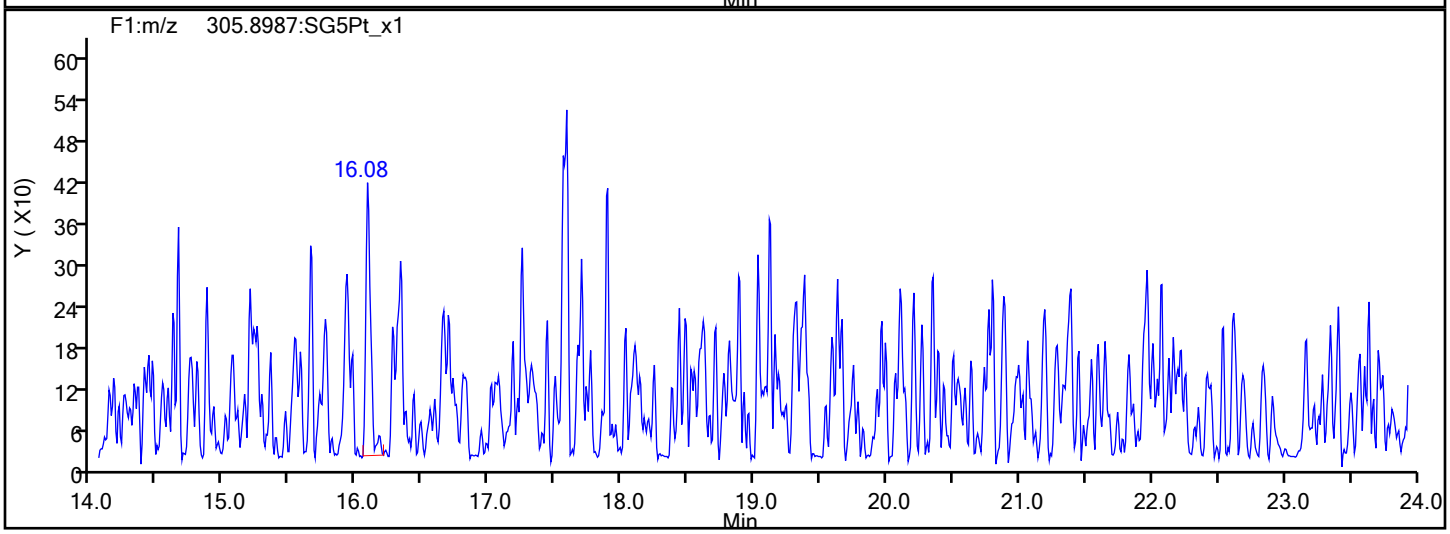


Eurofins Sacramento

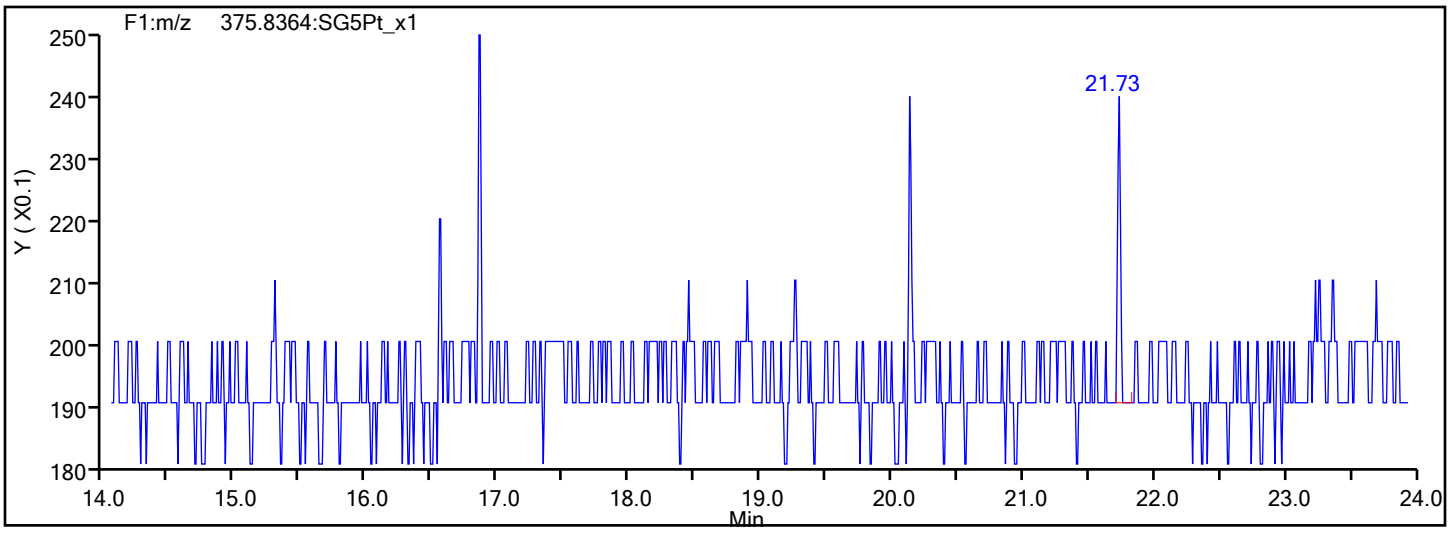
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





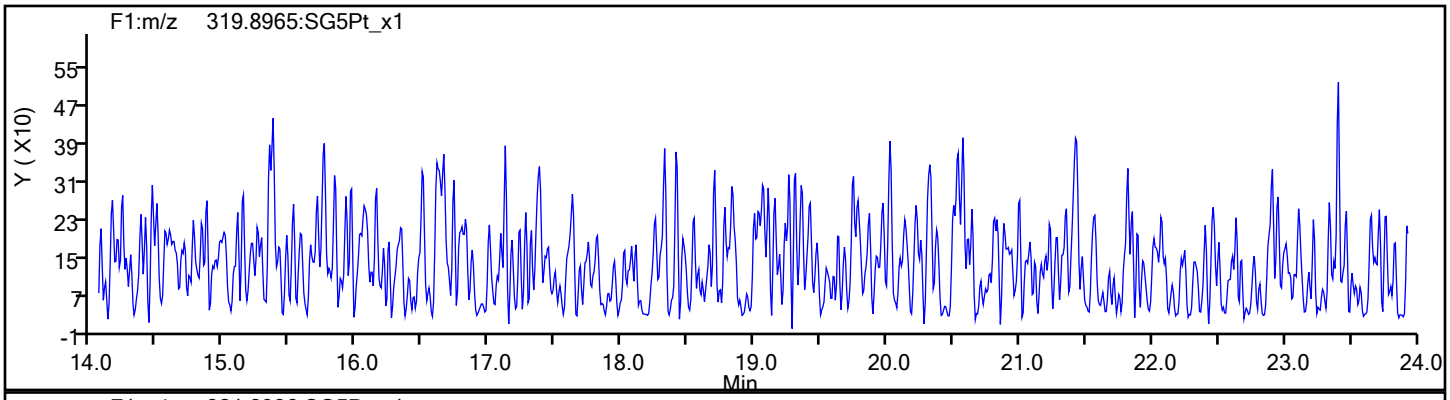
TCDF Interference Mass

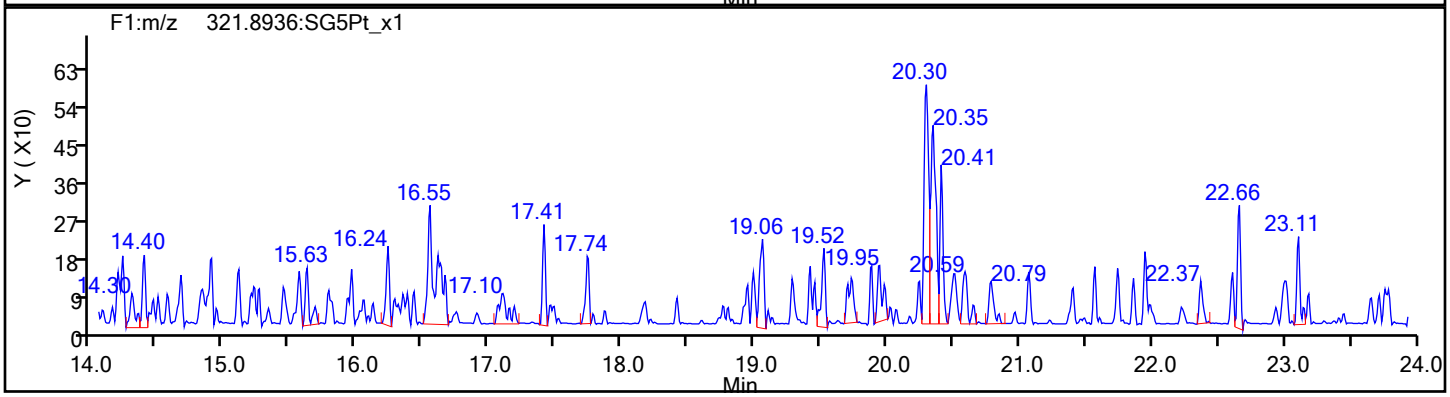


Eurofins Sacramento

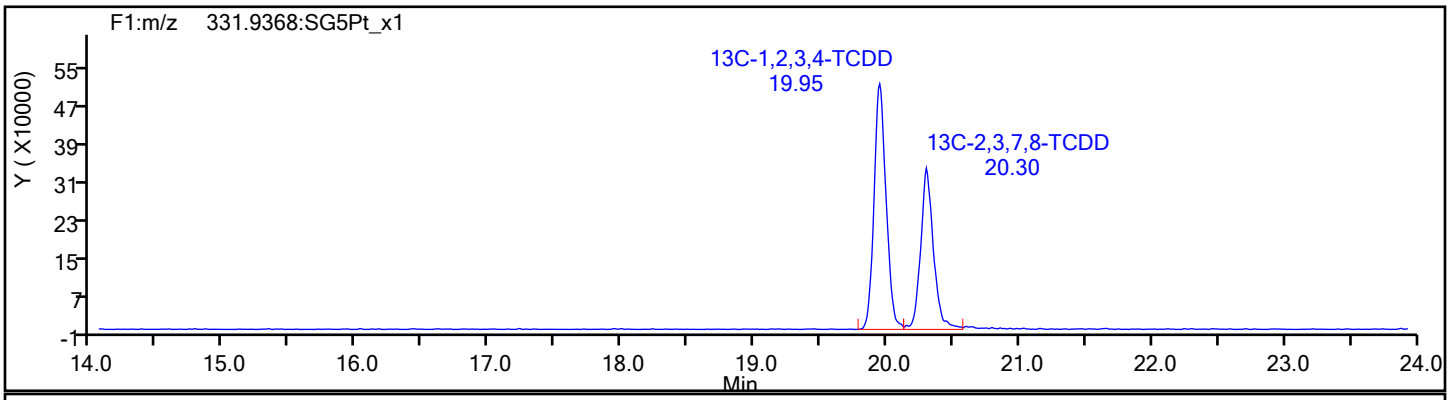
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

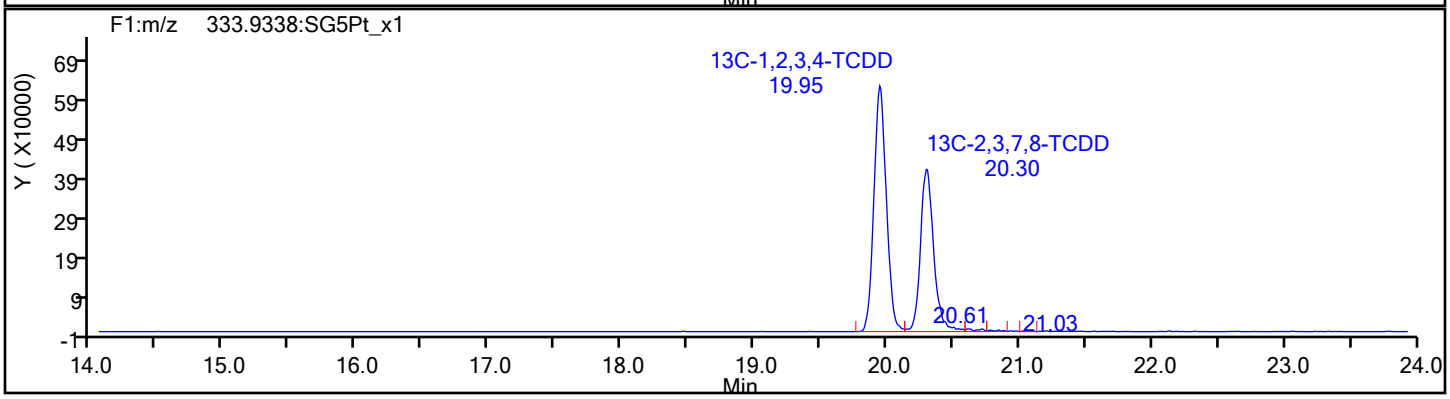
TCDD





TCDD Standards





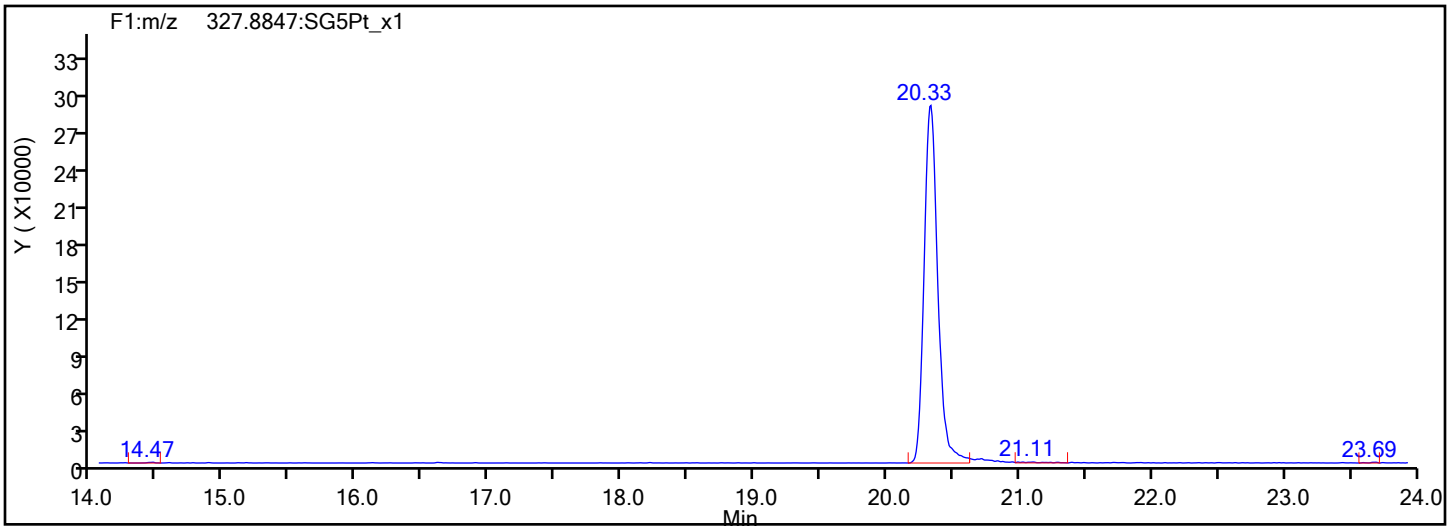
Report Date: 25-Jan-2022 08:35:33 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

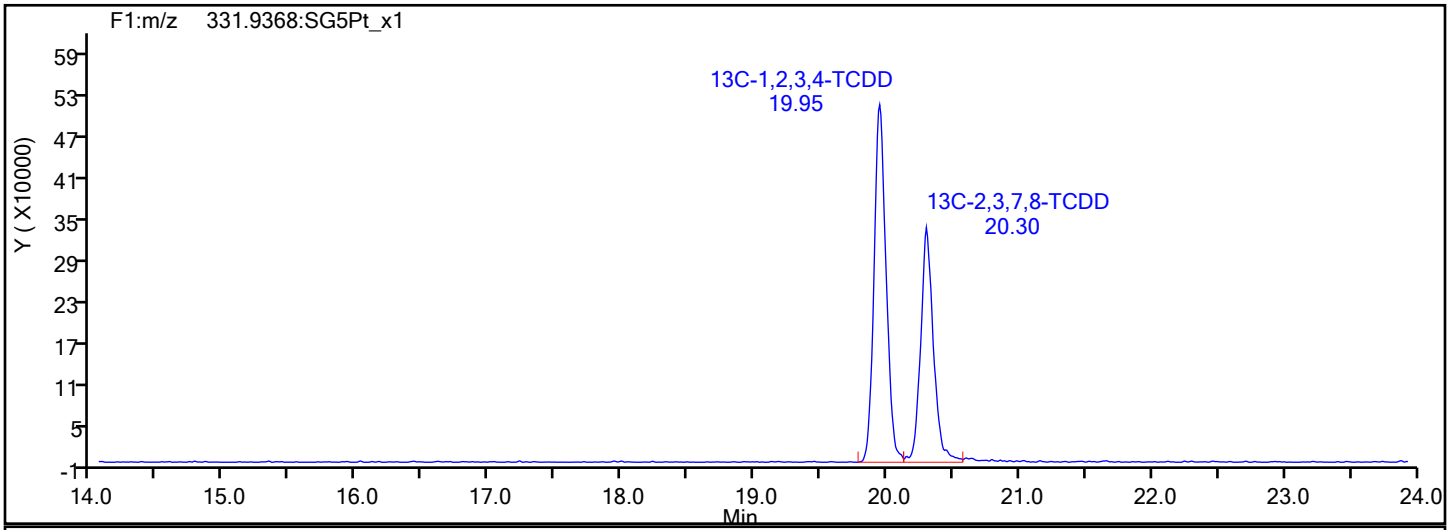
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d

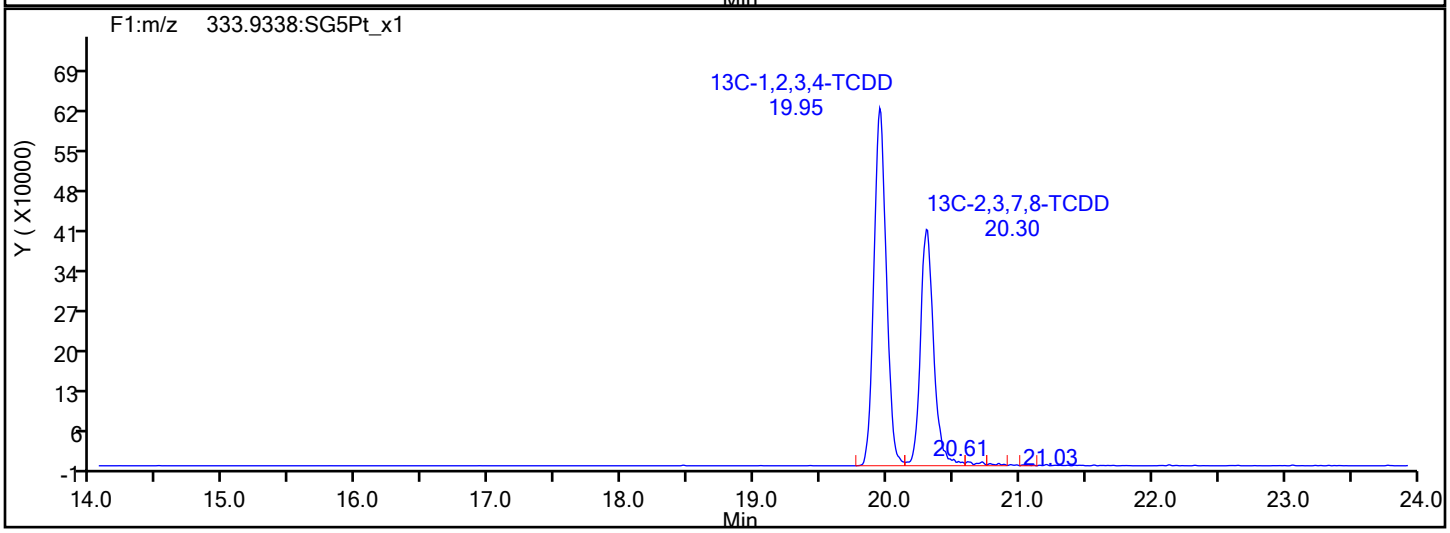
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



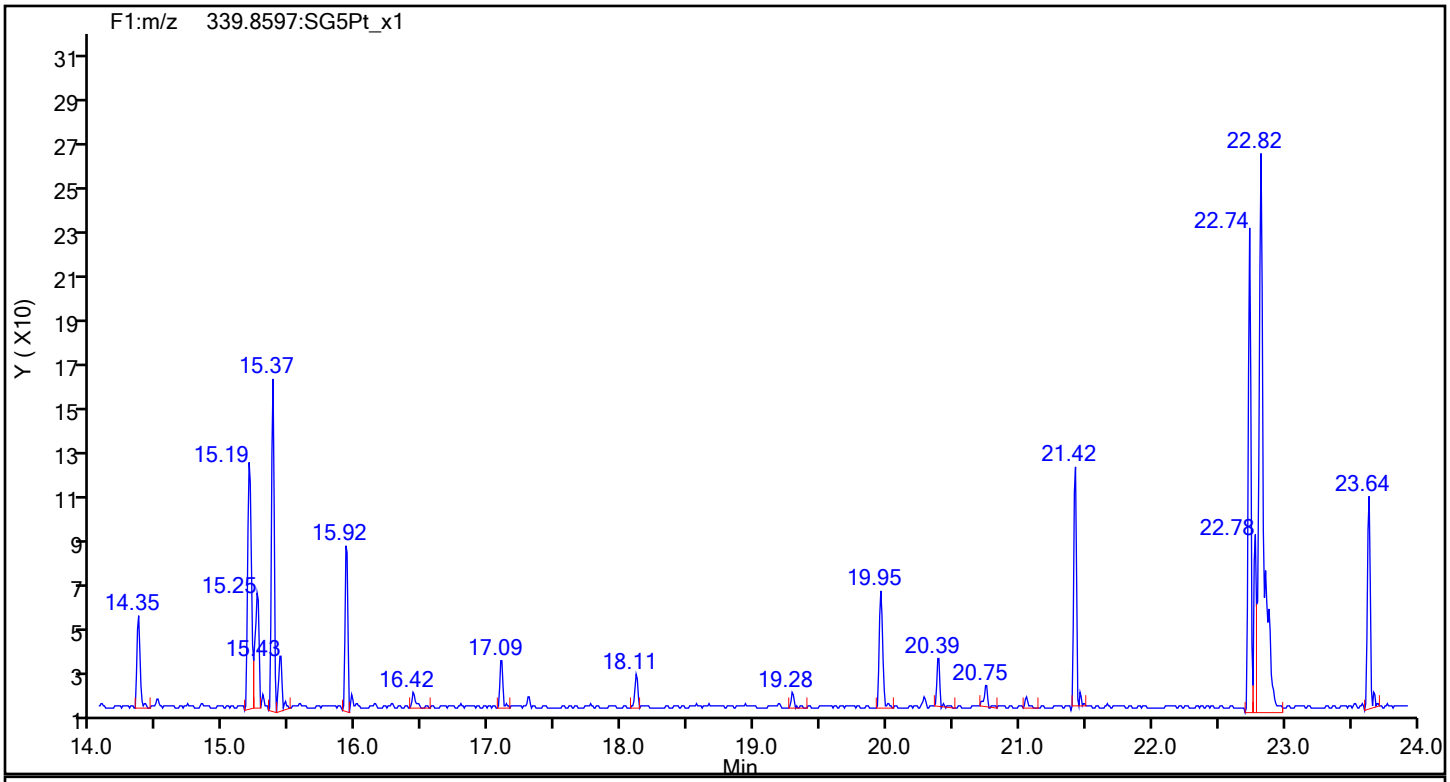


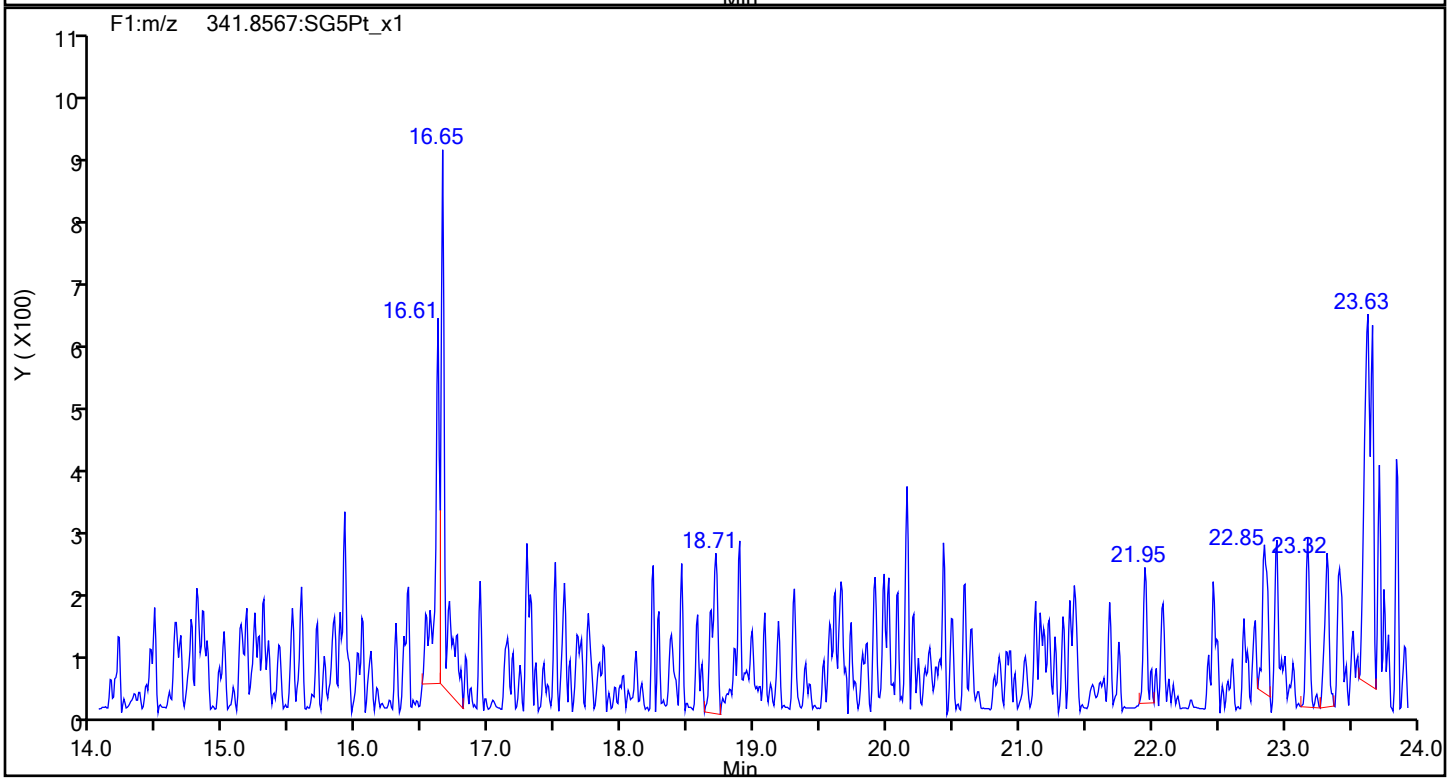
Report Date: 25-Jan-2022 08:35:33 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

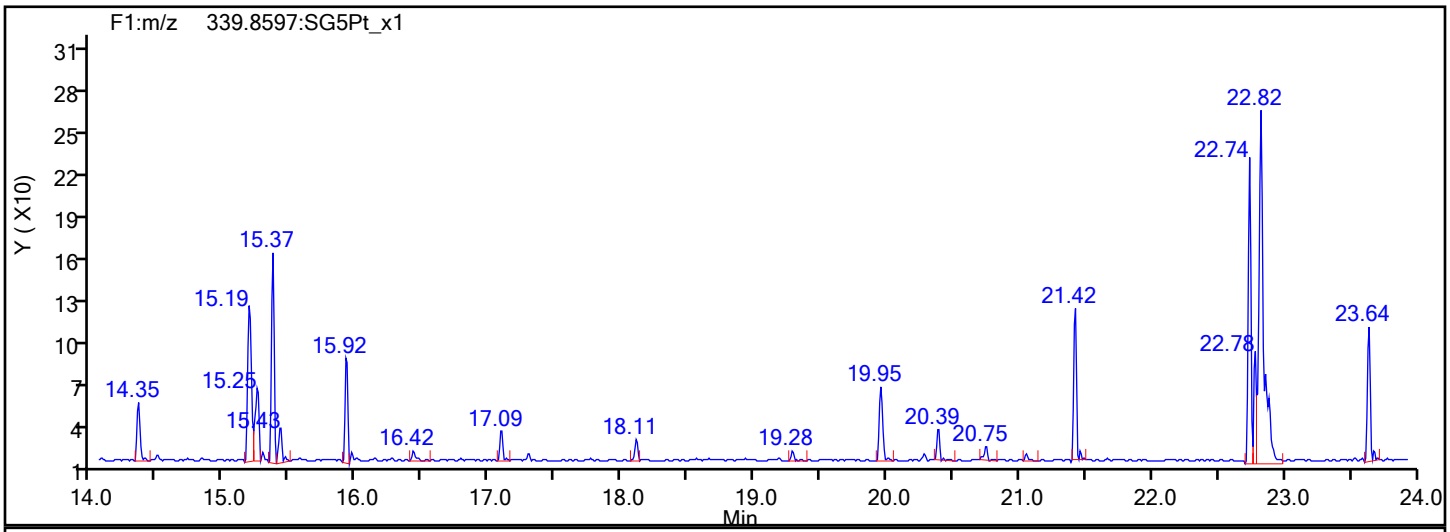


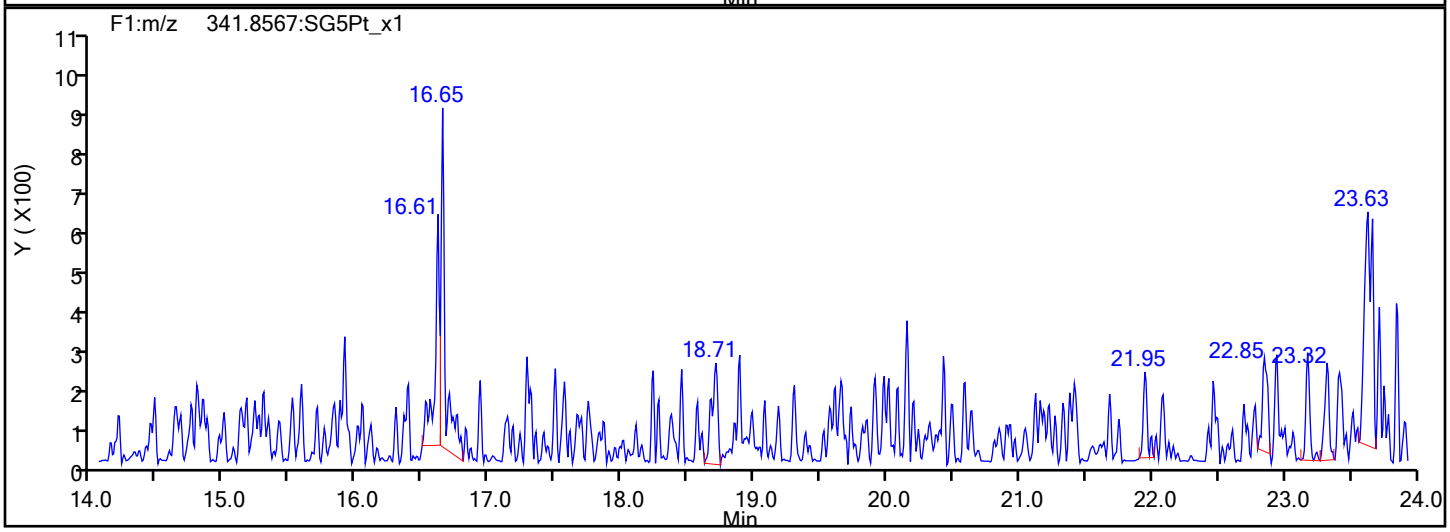


Eurofins Sacramento

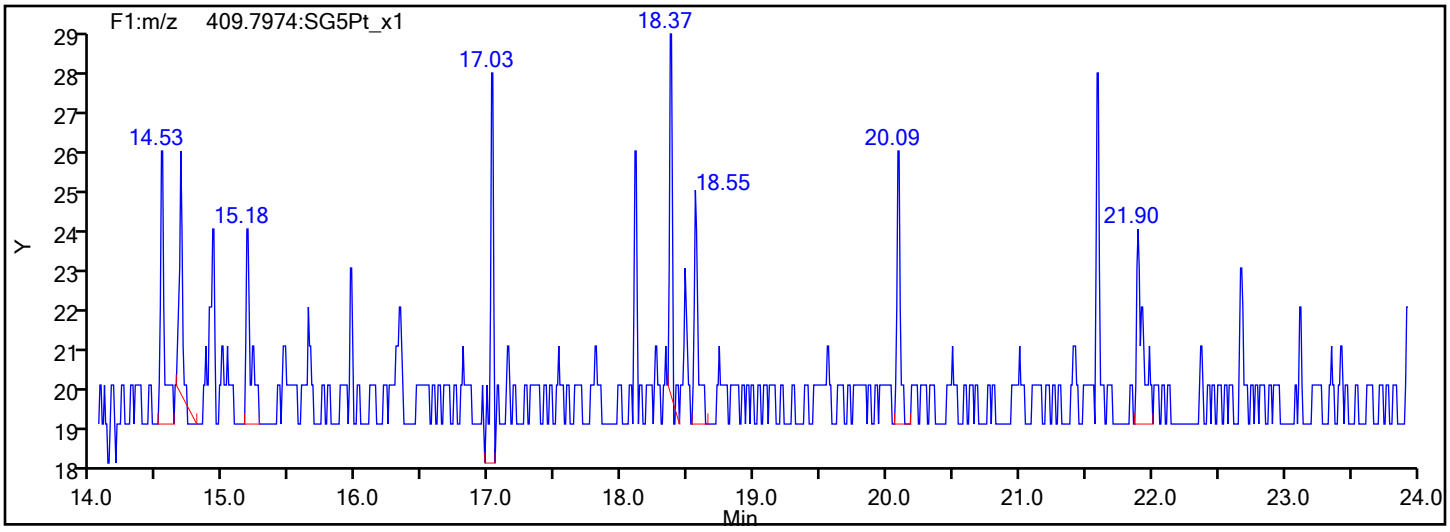
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
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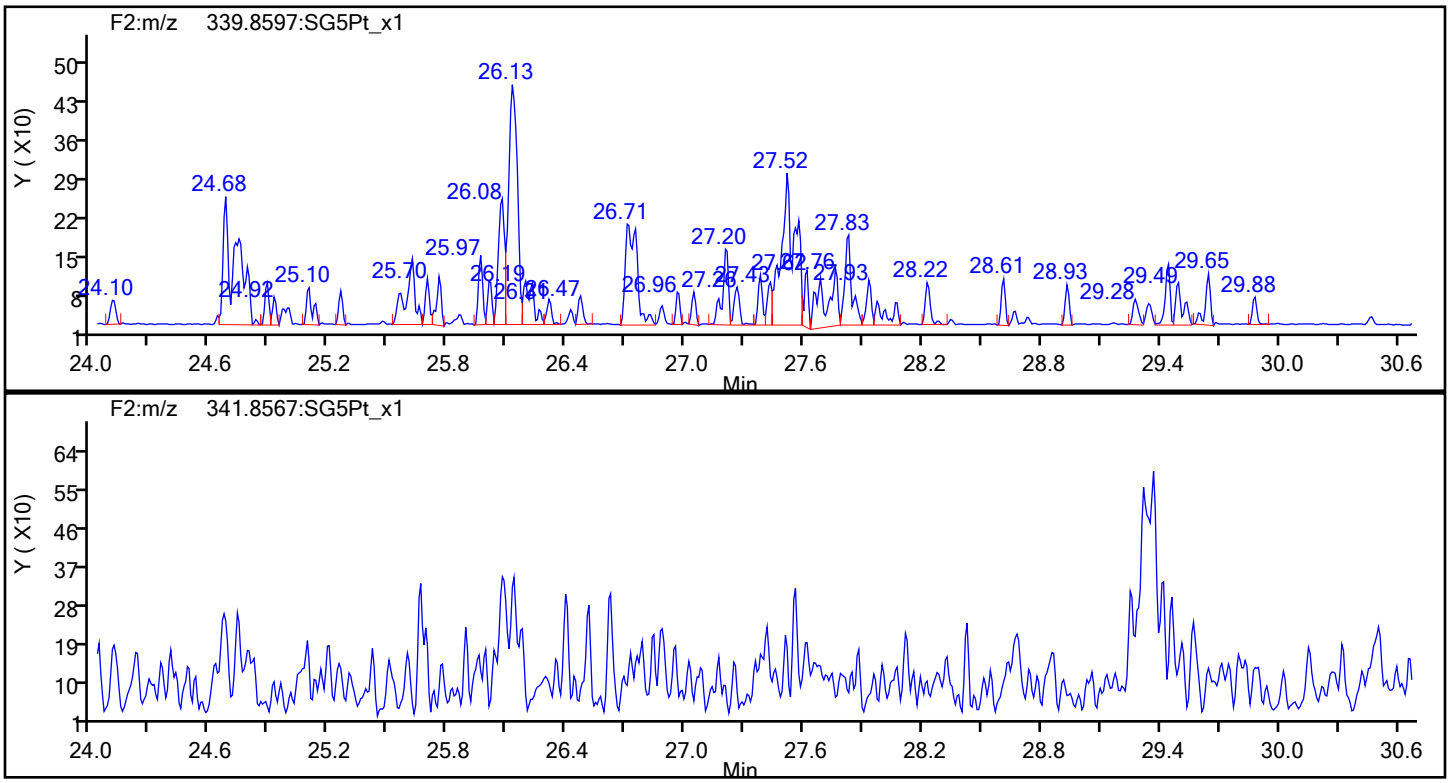
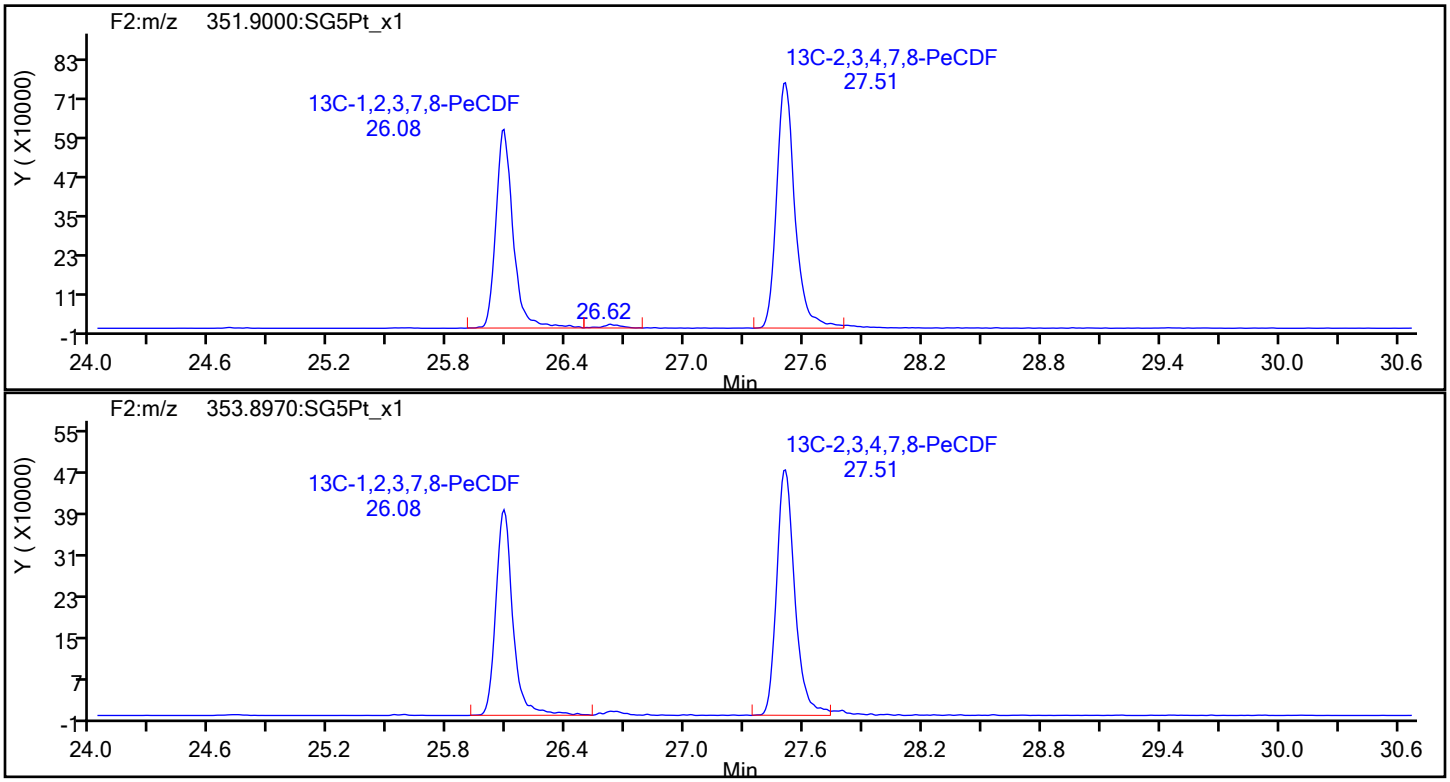
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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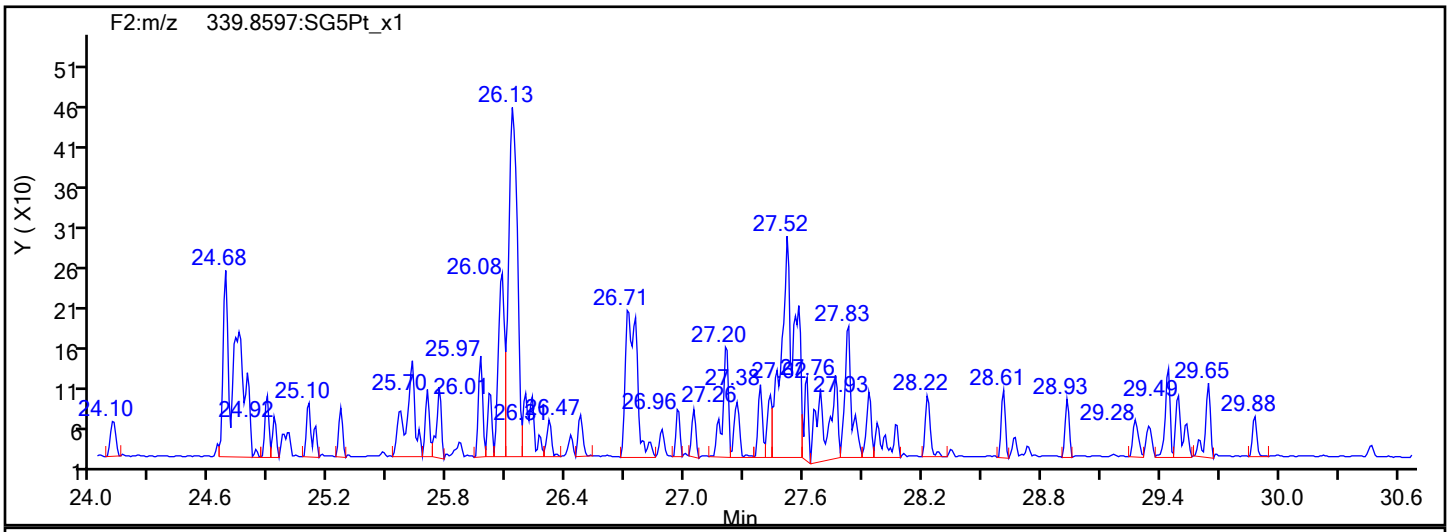
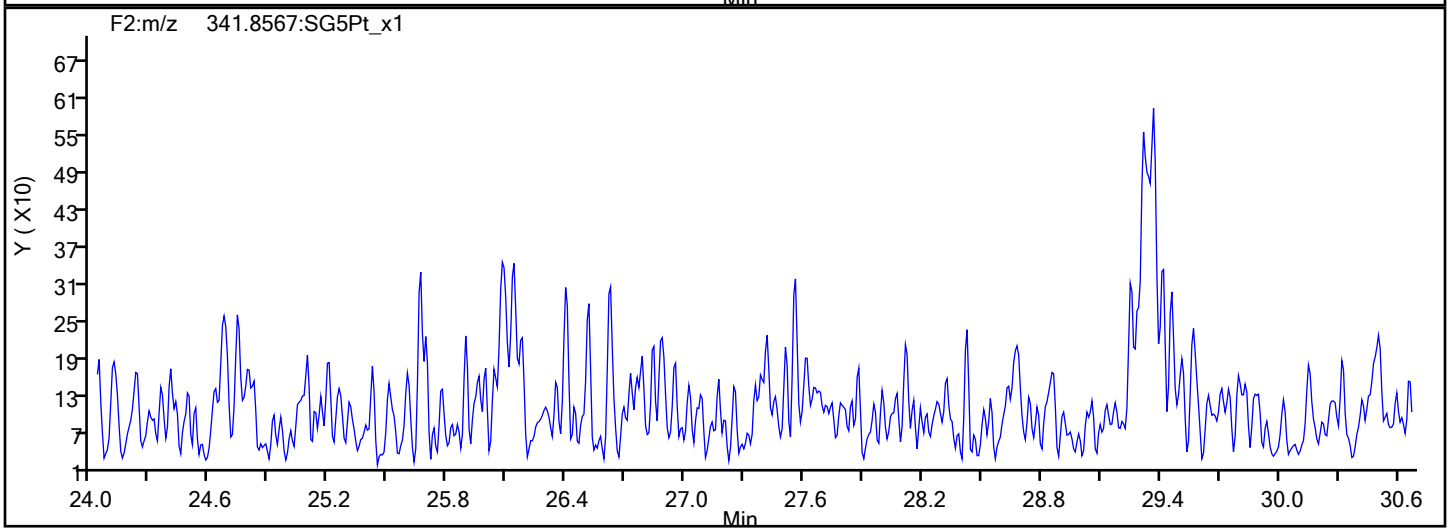
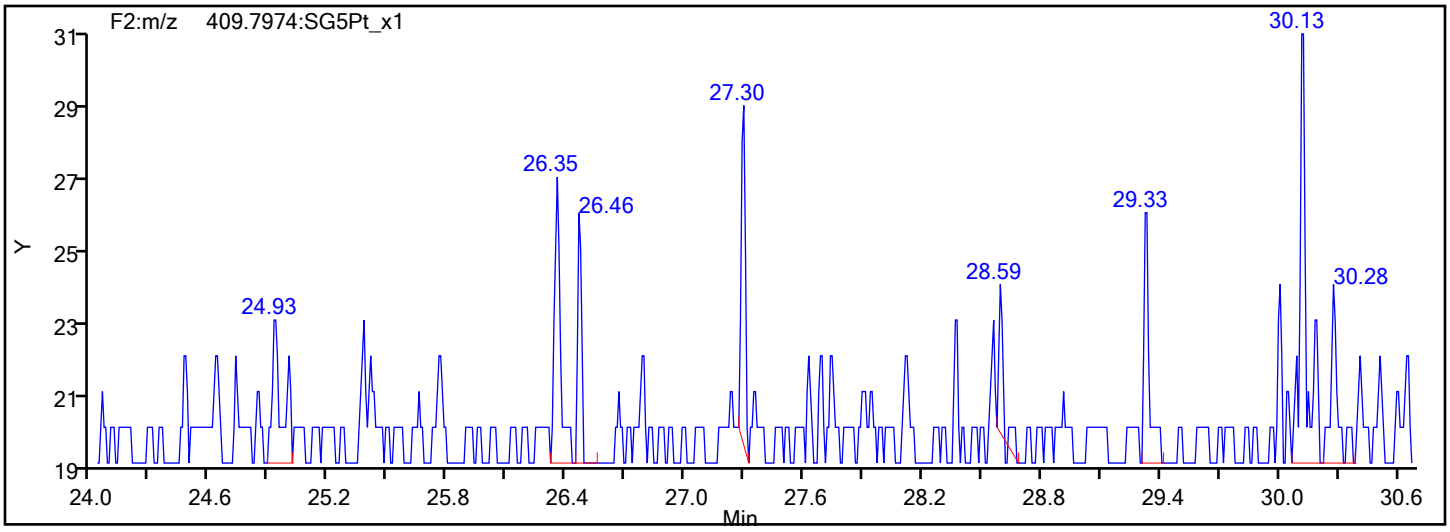
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass

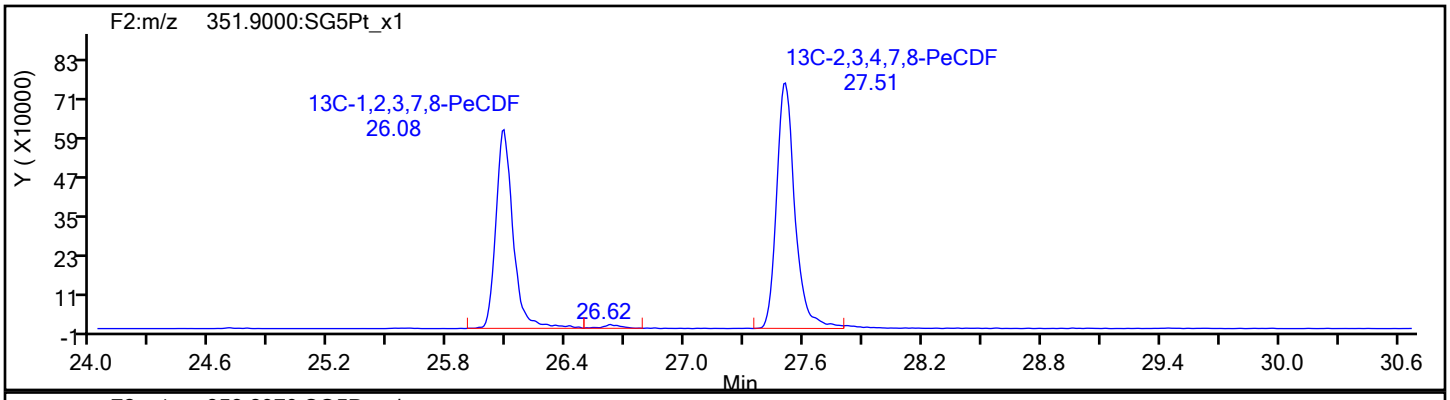


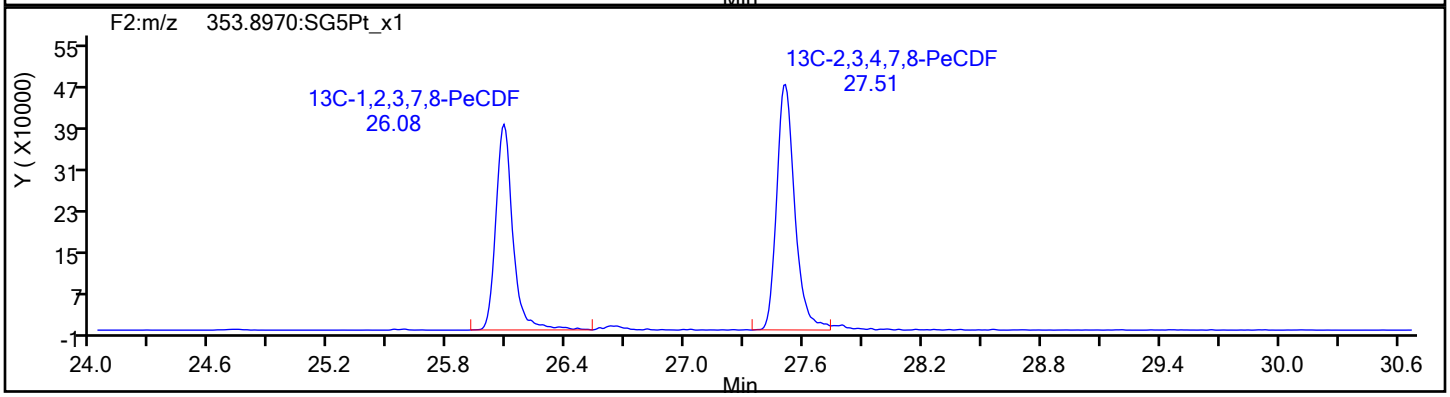
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d

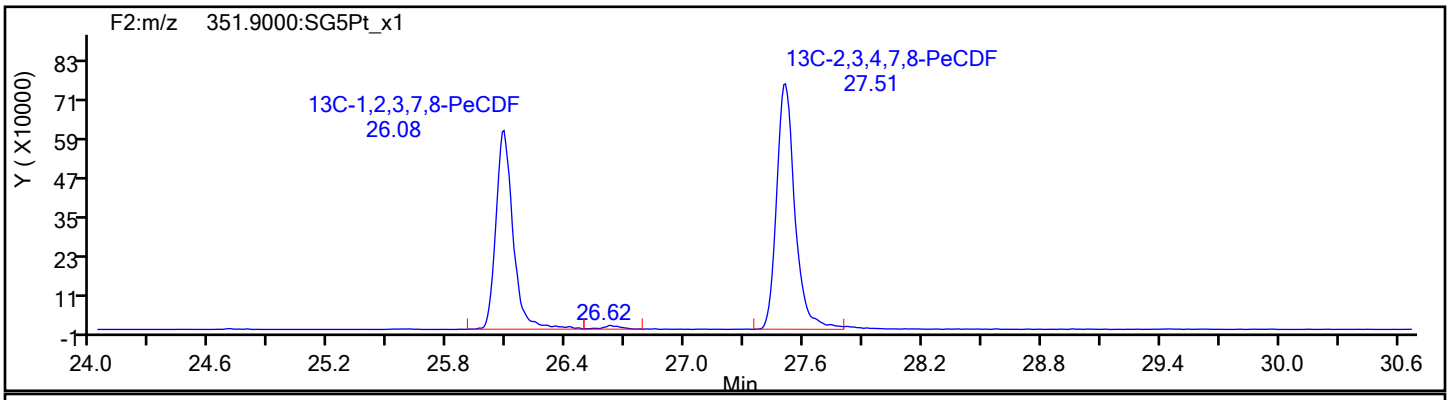
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

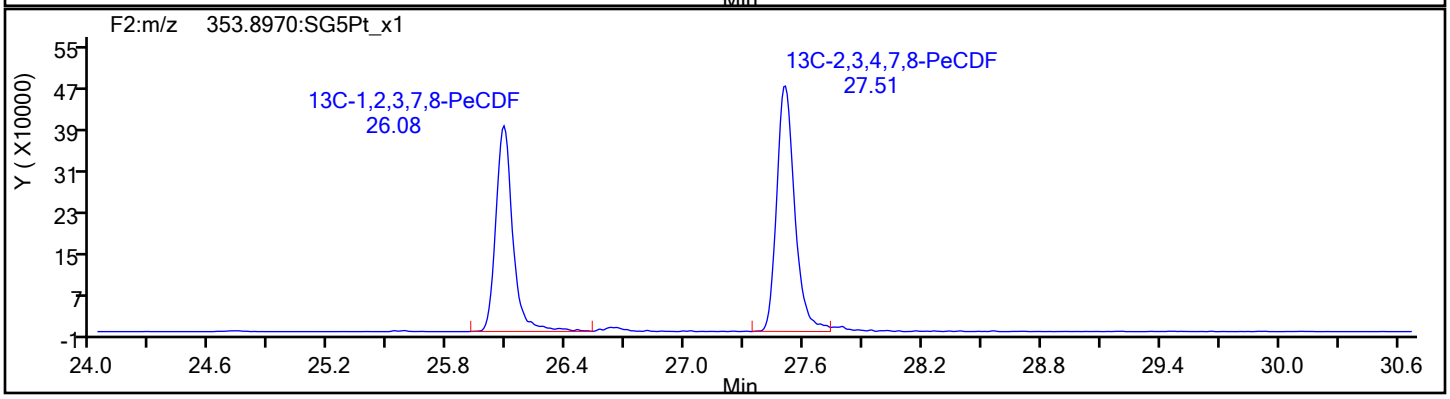
13C-PeCDF





13C-PeCDF Standards





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d
Injection Date: 22-Jan-2022 01:01:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: A2BMP0006S013
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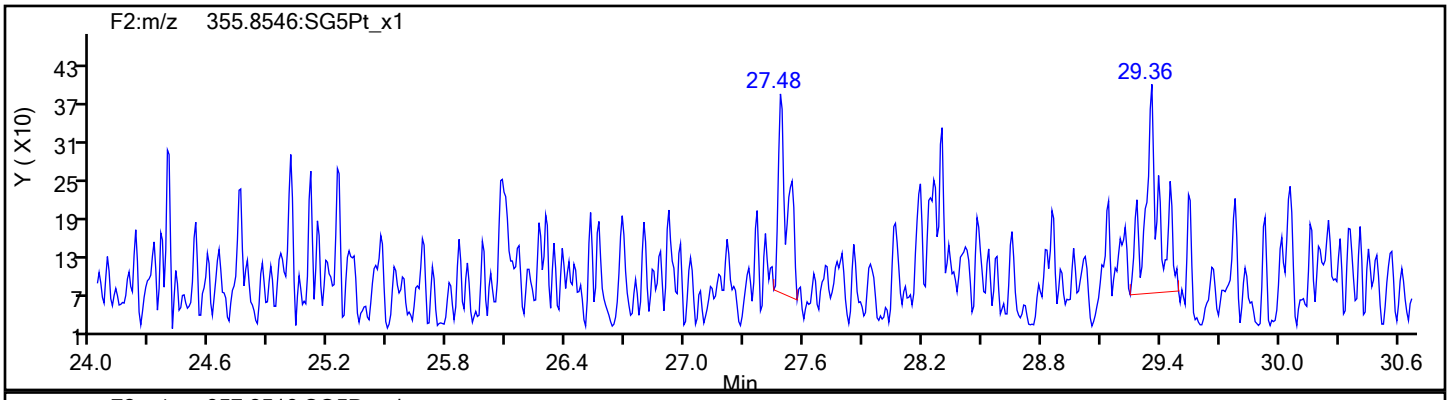
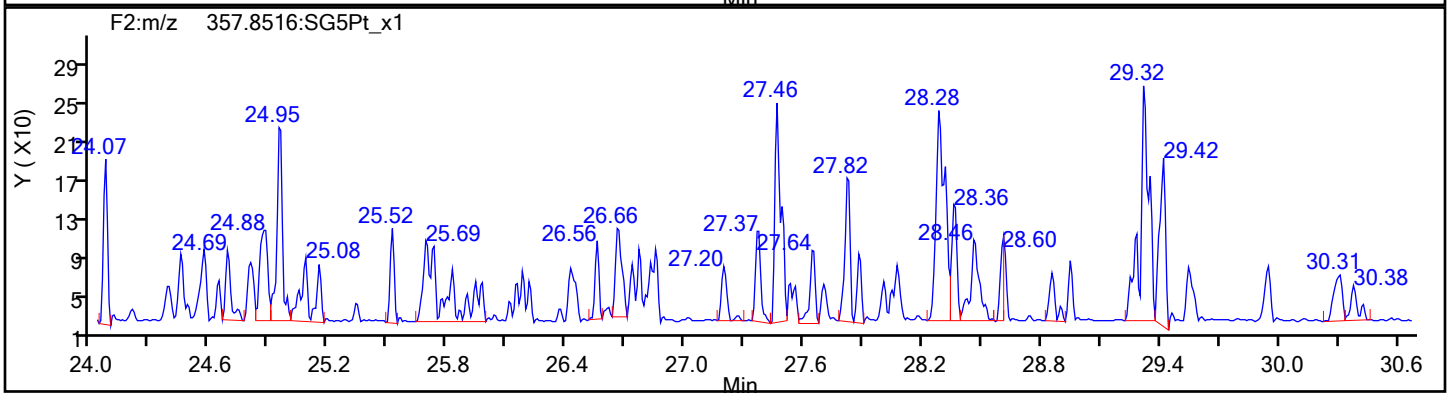
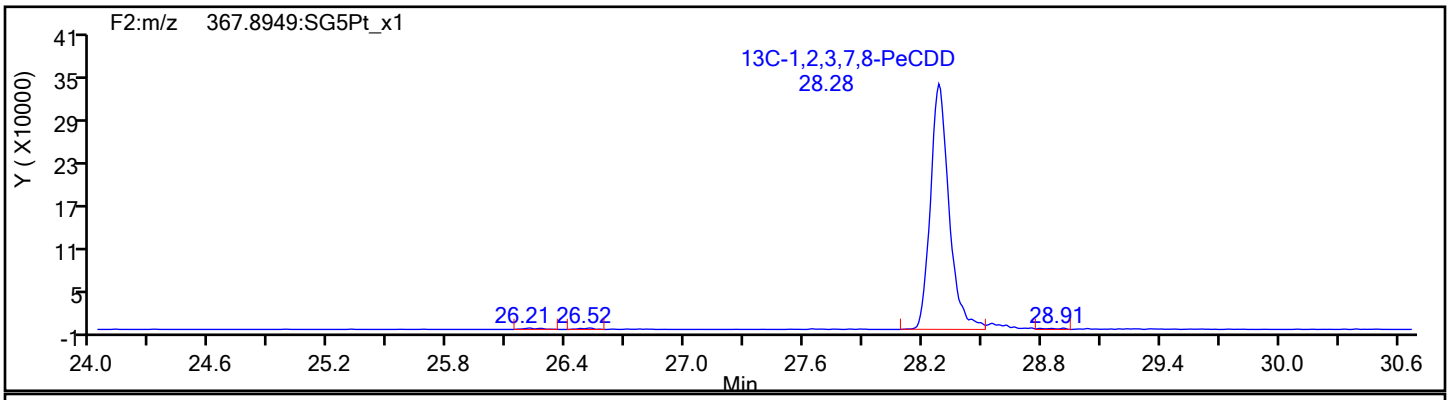
Column Type: DB-5 Column Dia: 0.32 mm

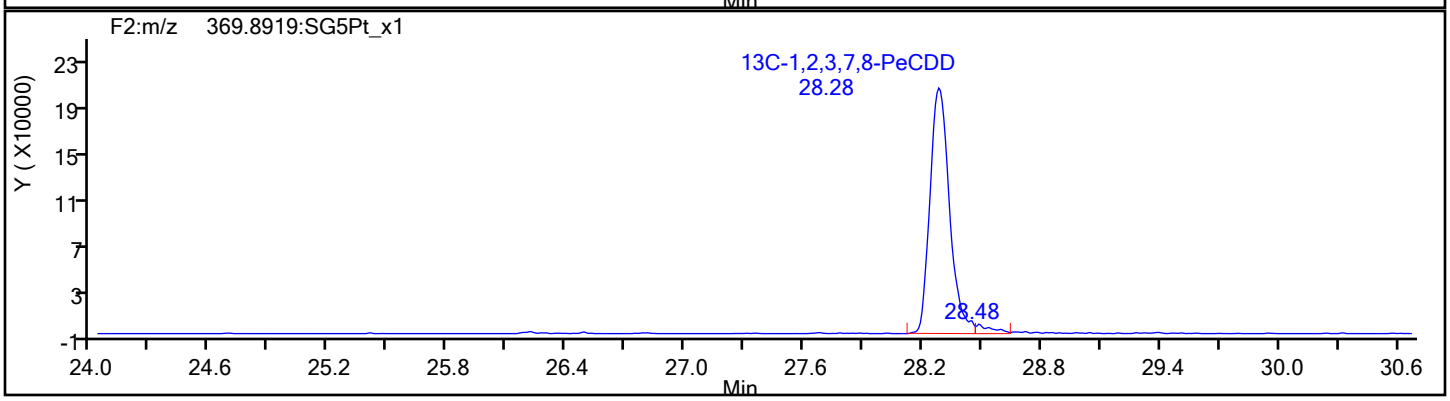
PeCDD





PeCDD Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
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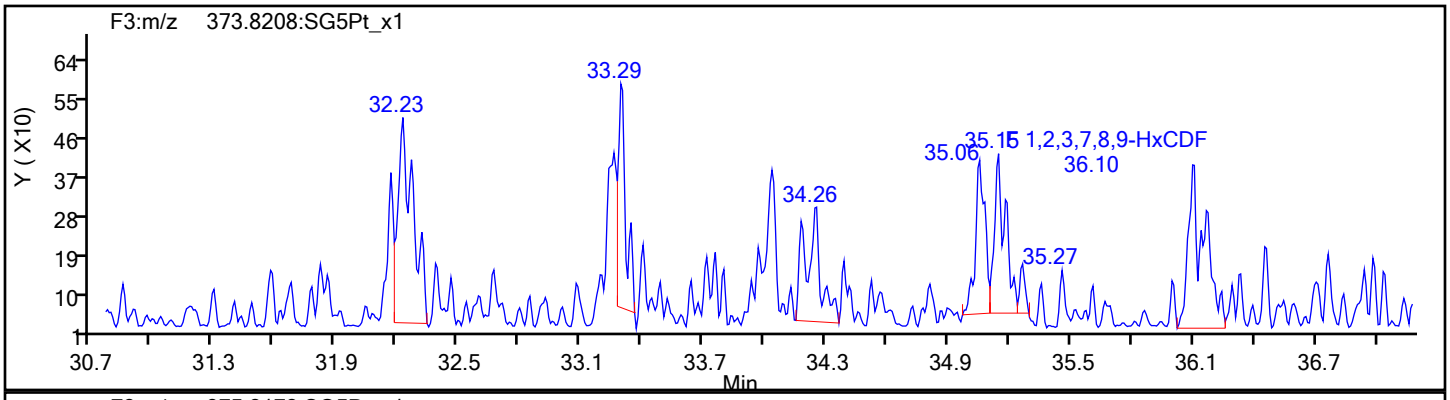
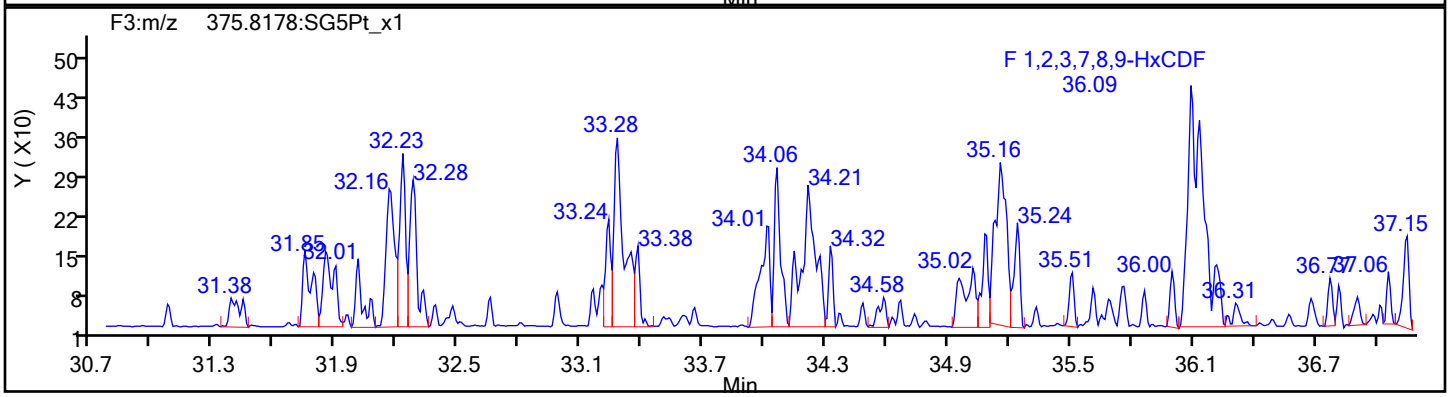
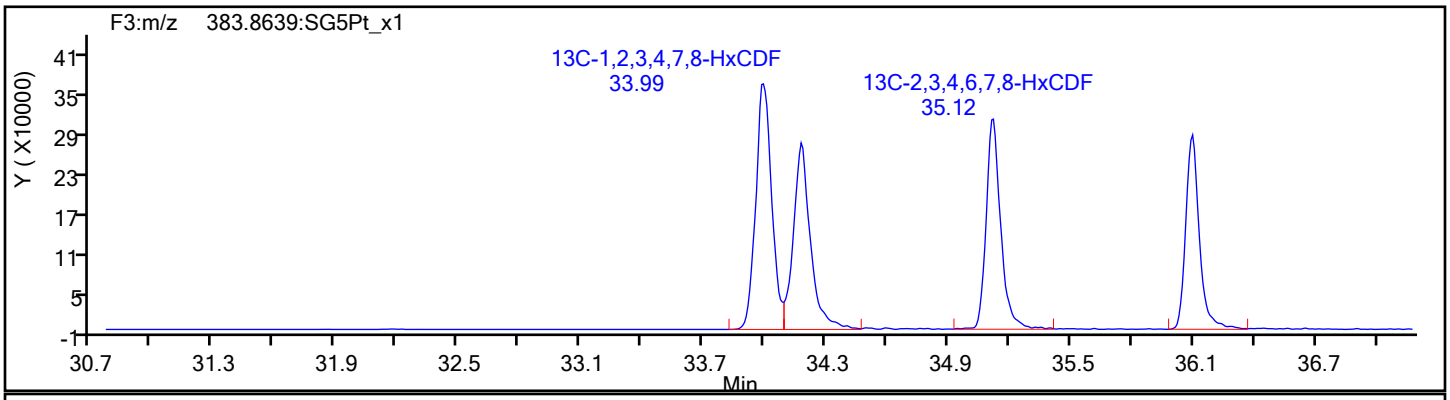
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

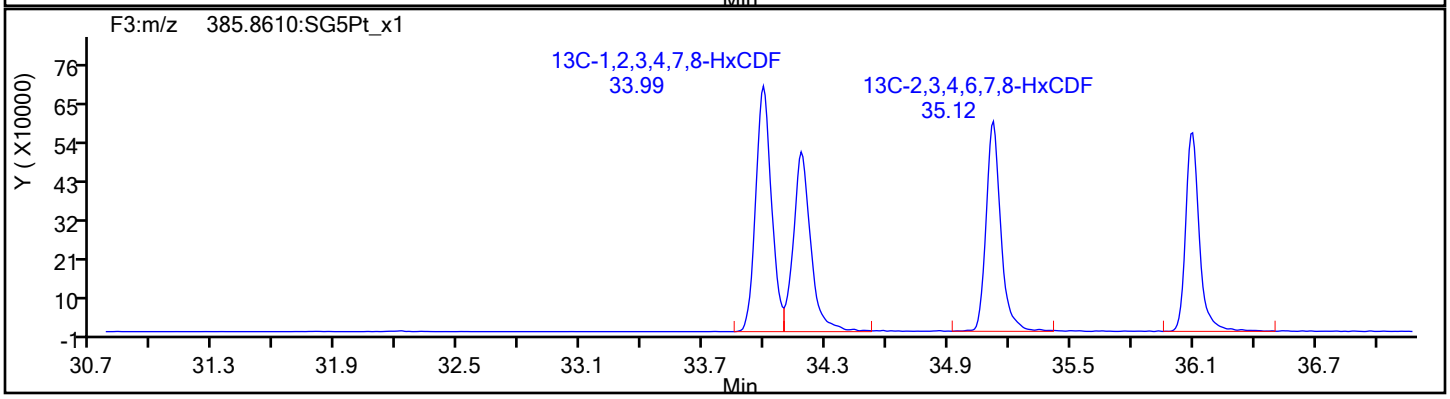
HxCDF





HxCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
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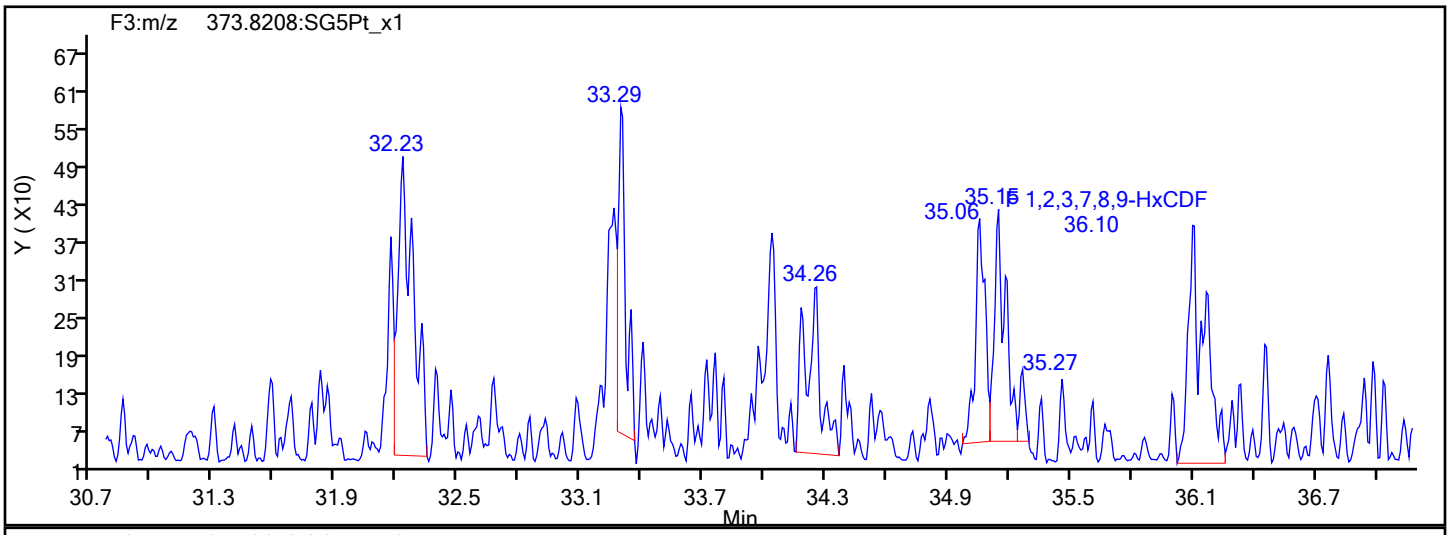
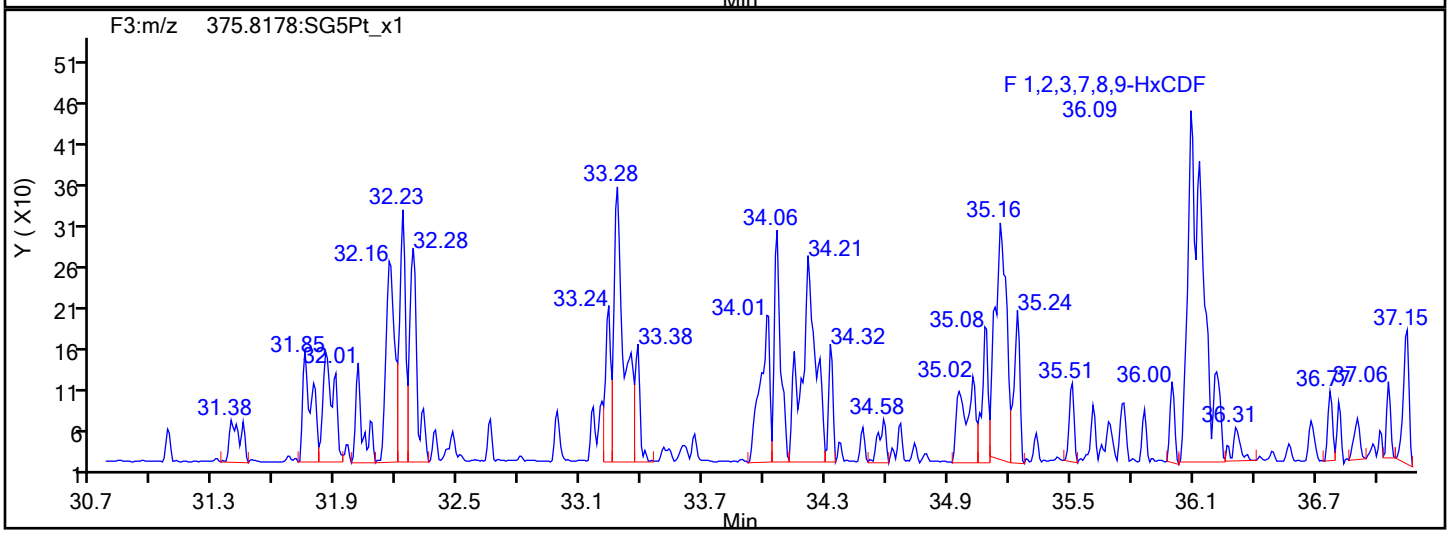
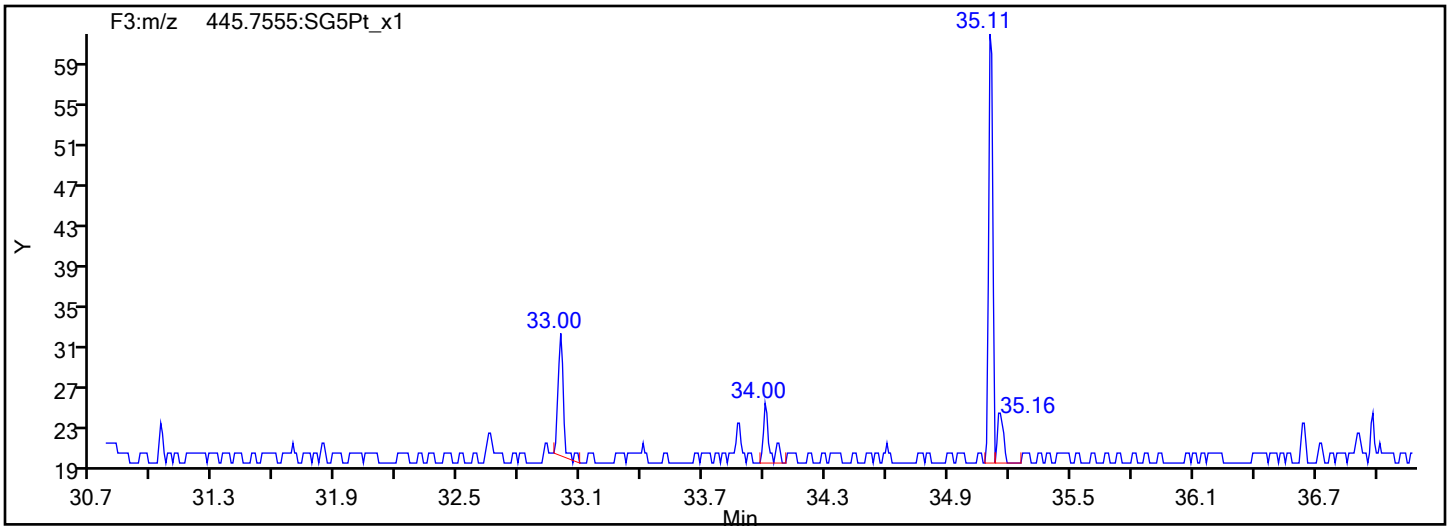
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



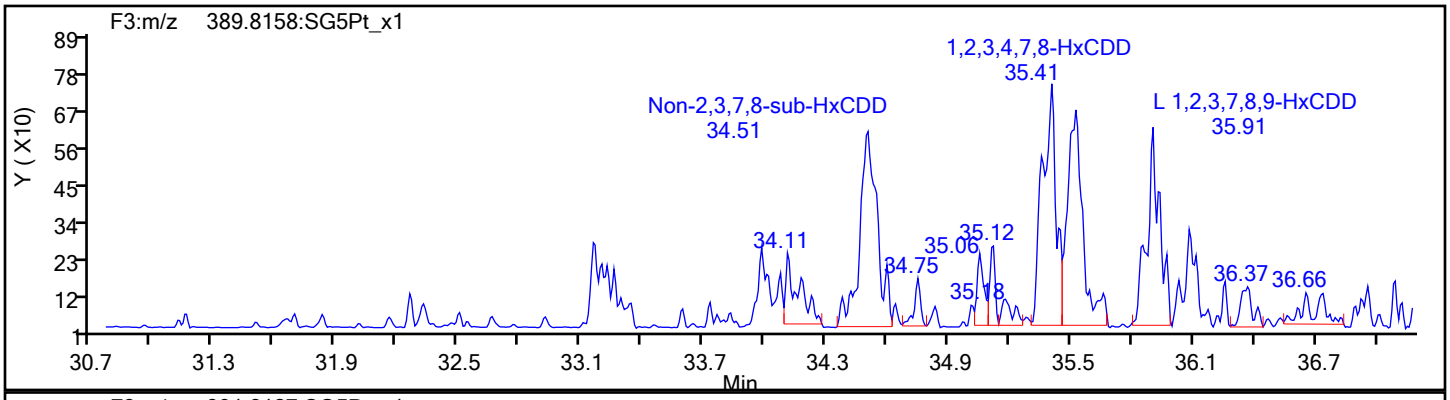
Report Date: 25-Jan-2022 08:35:33 Chrom Revision: 2.3 18-Jan-2022 20:25:40

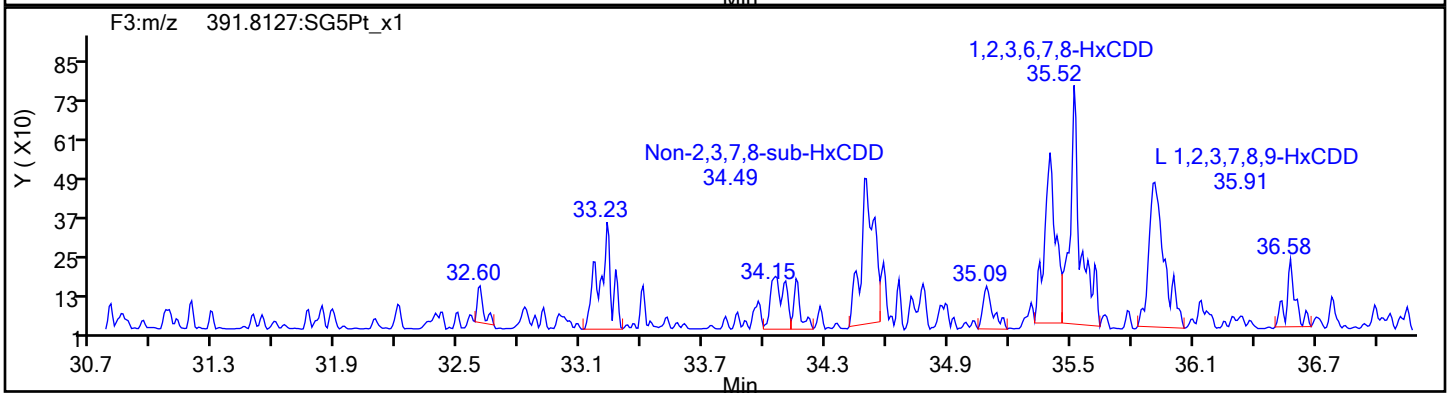
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d

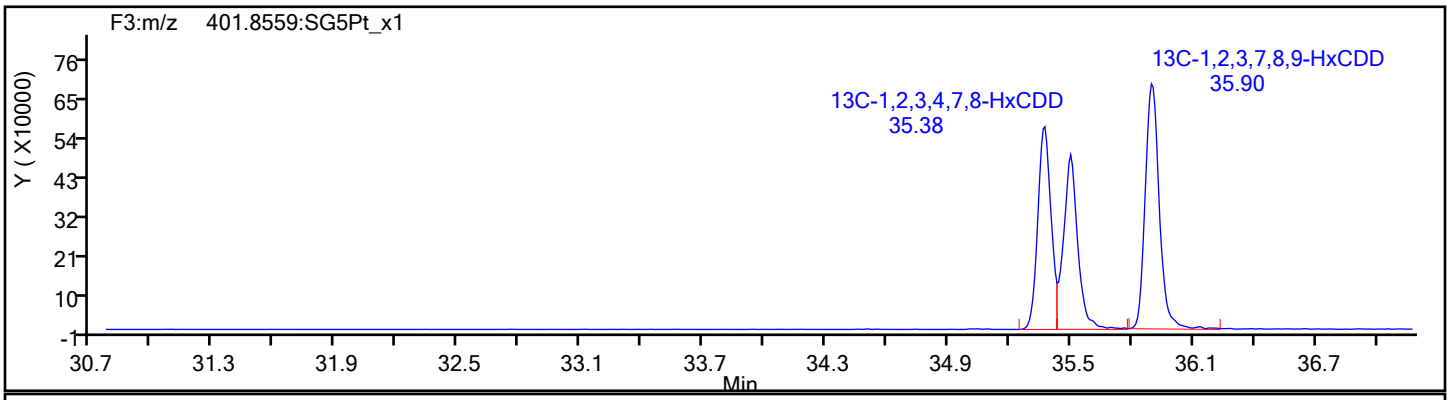
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

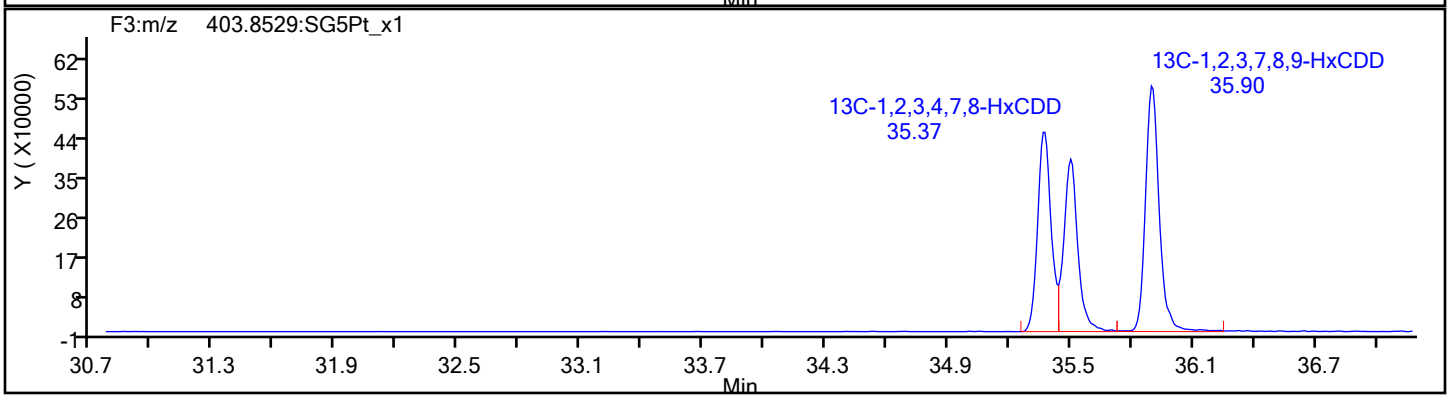
HxCDD





HxCDD Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
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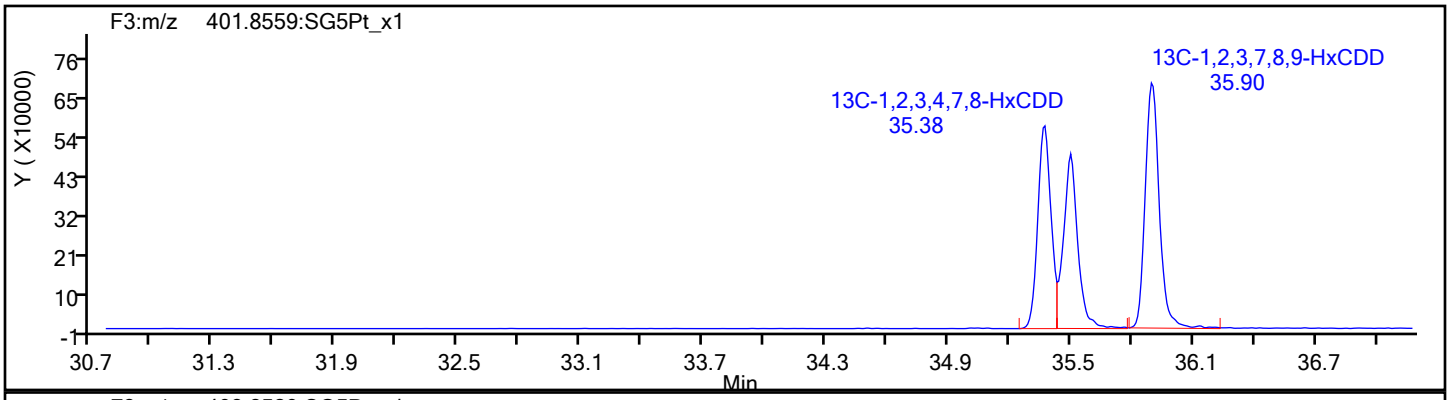
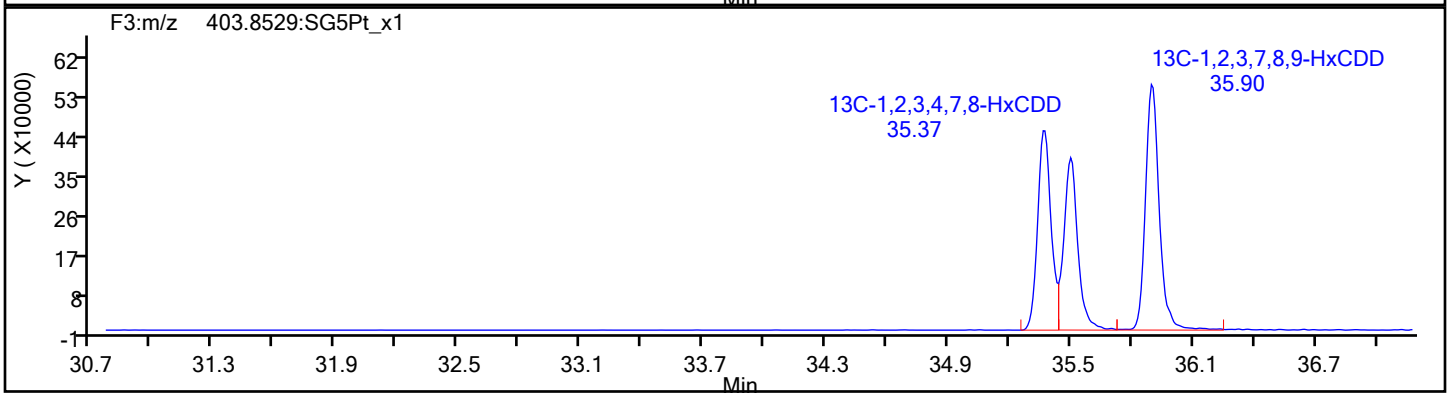
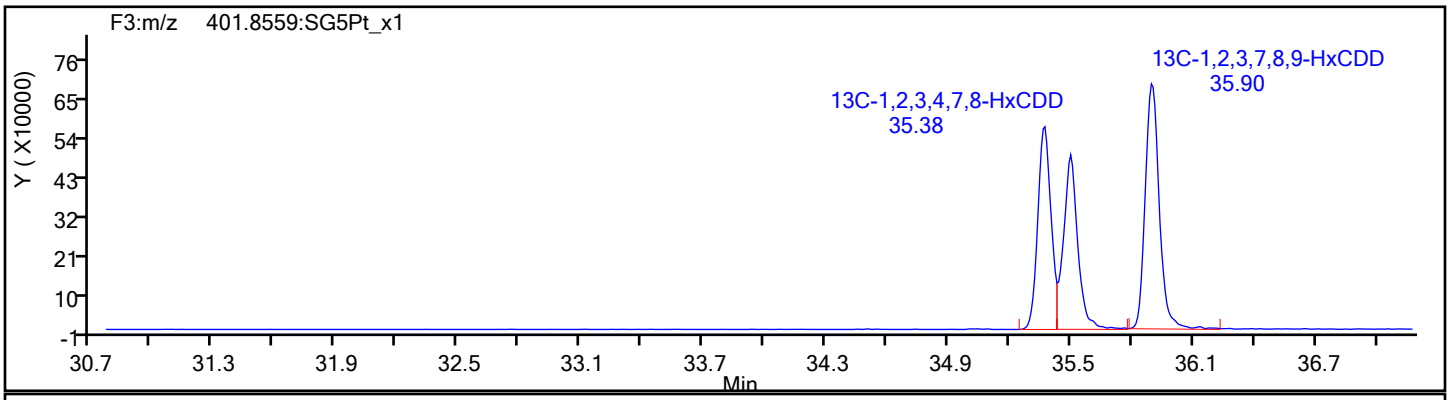
Column Type:	DB-5	Column Dia:	0.32 mm

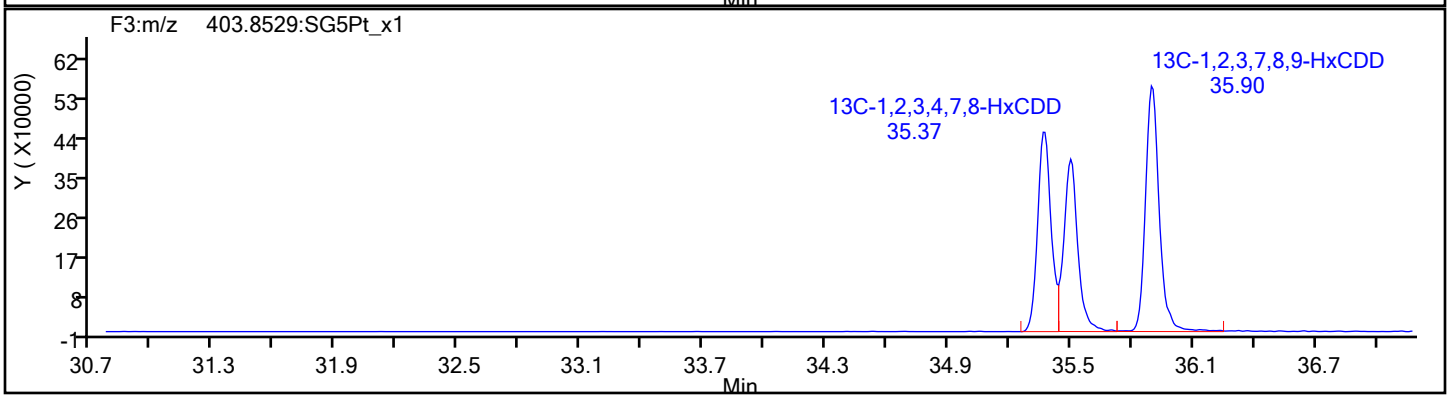
13C-HxCDD





13C-HxCDD Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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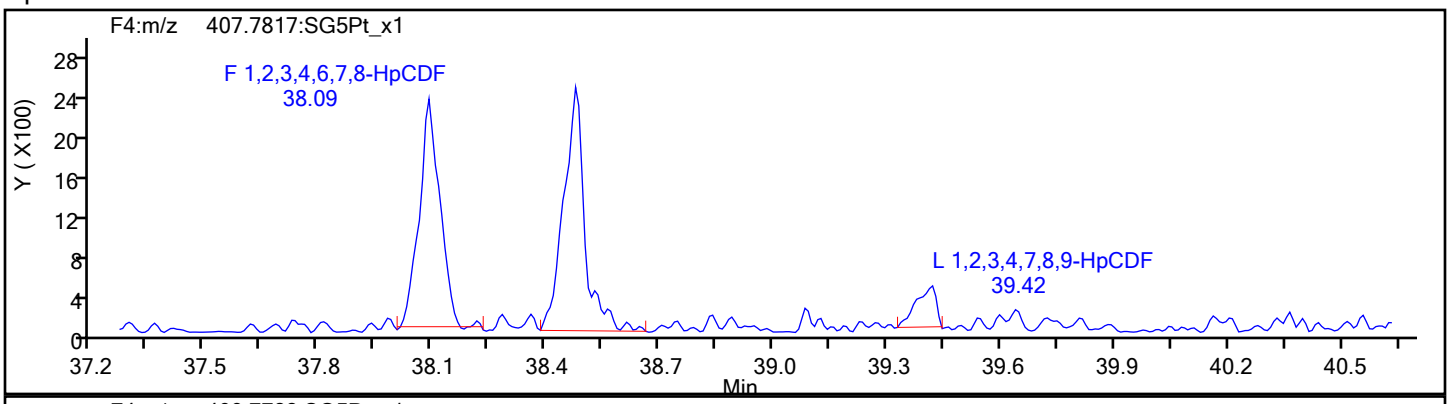
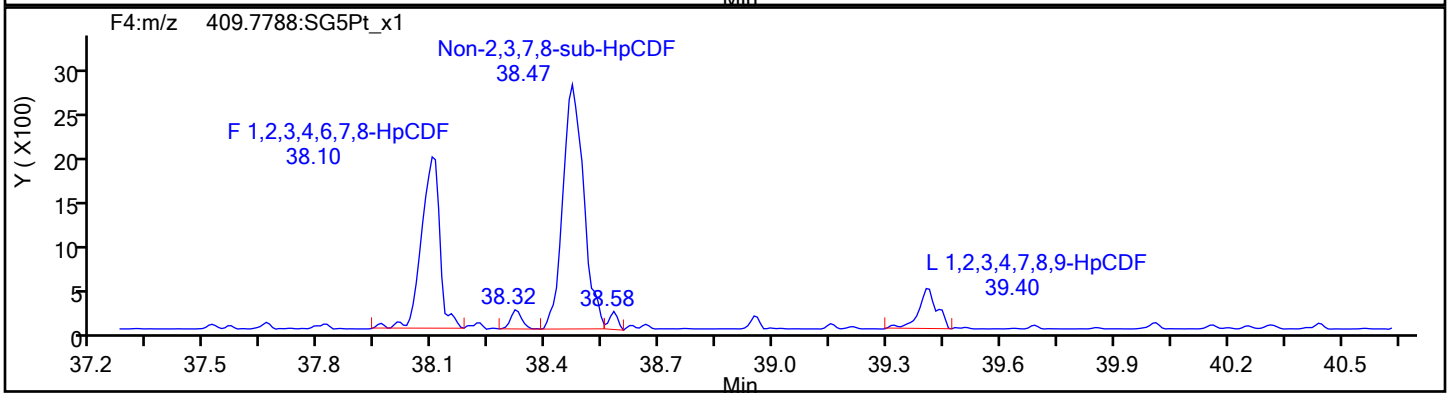
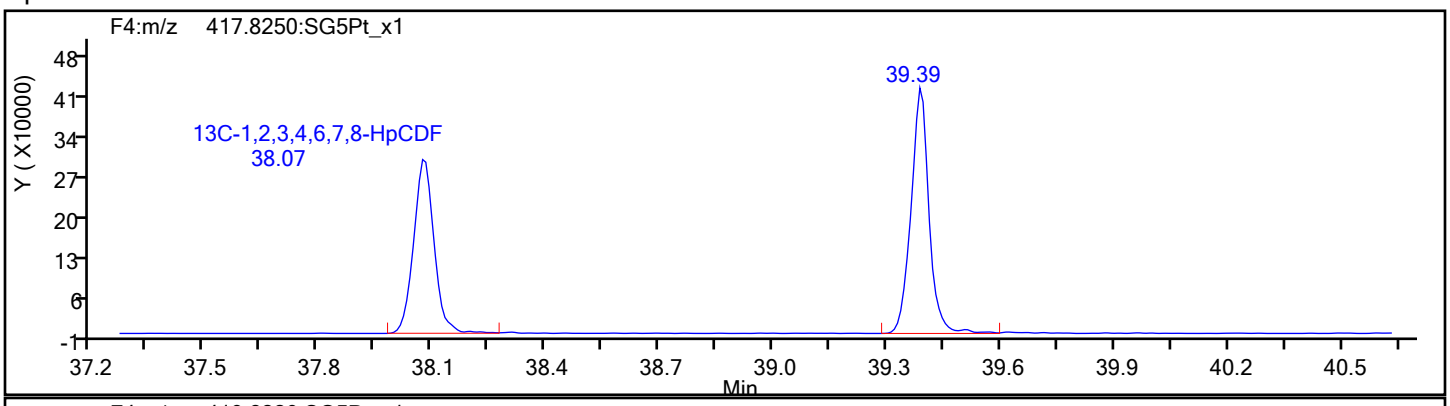
Column Type:	DB-5	Column Dia:	0.32 mm

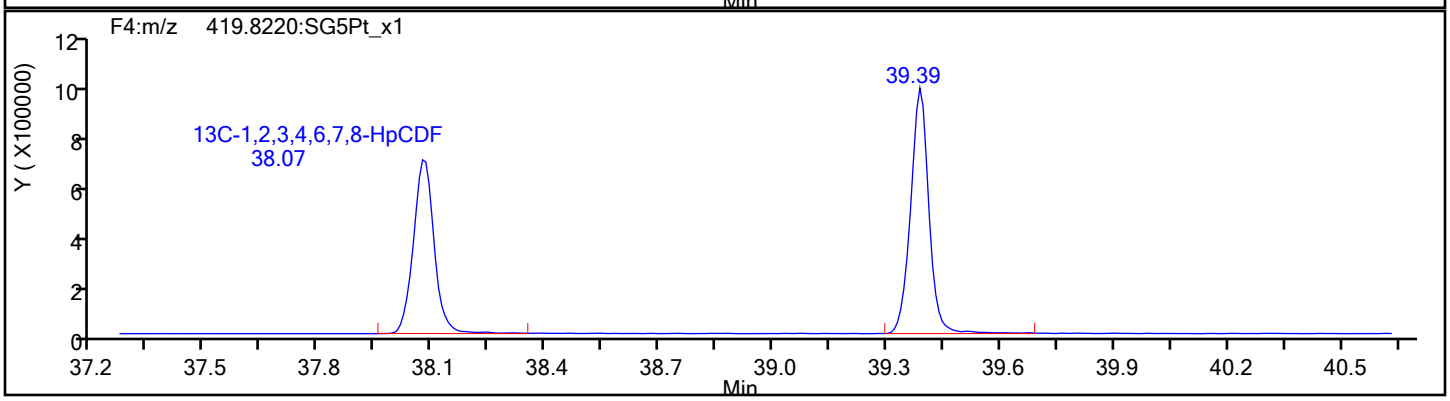
HpCDF





HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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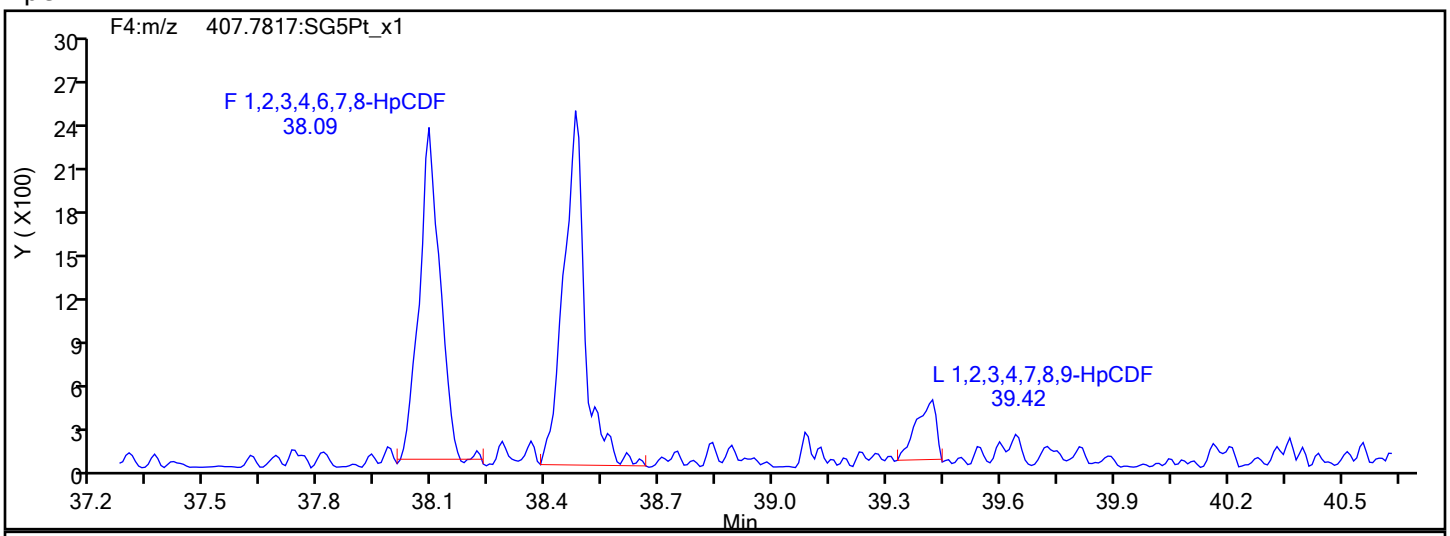
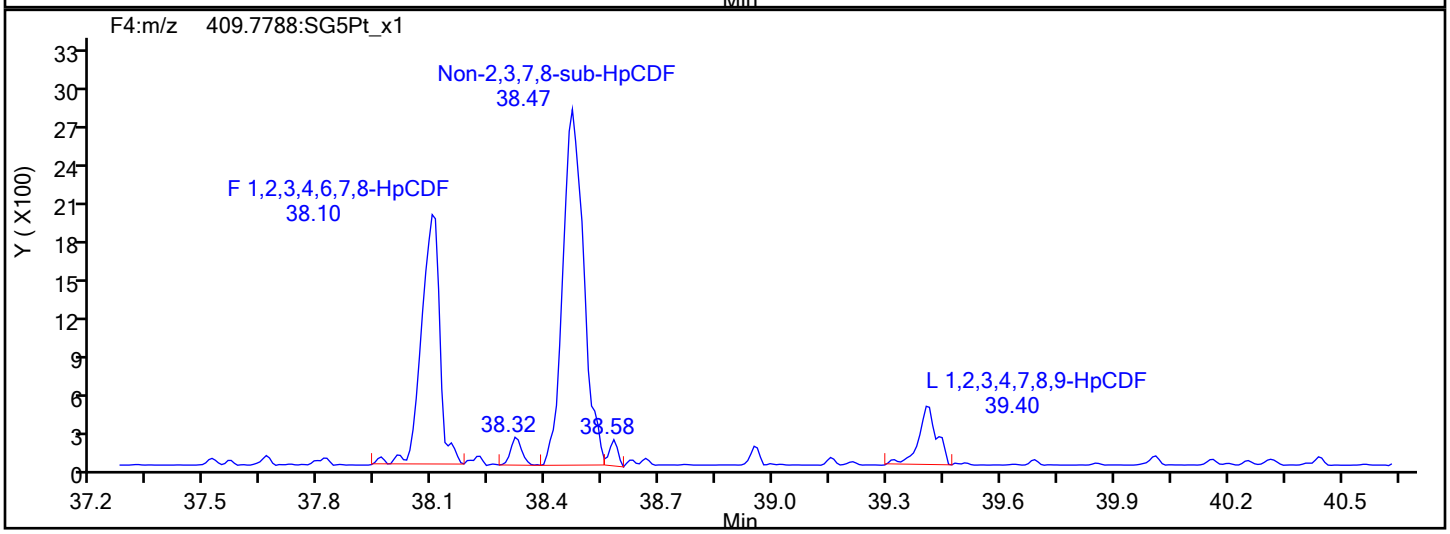
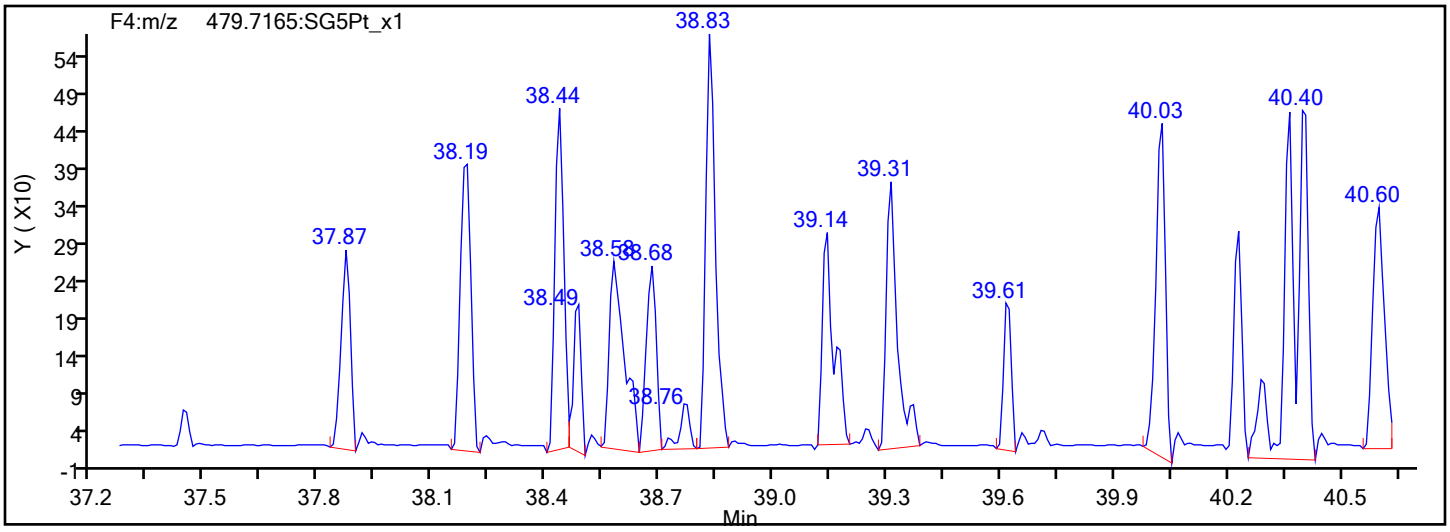
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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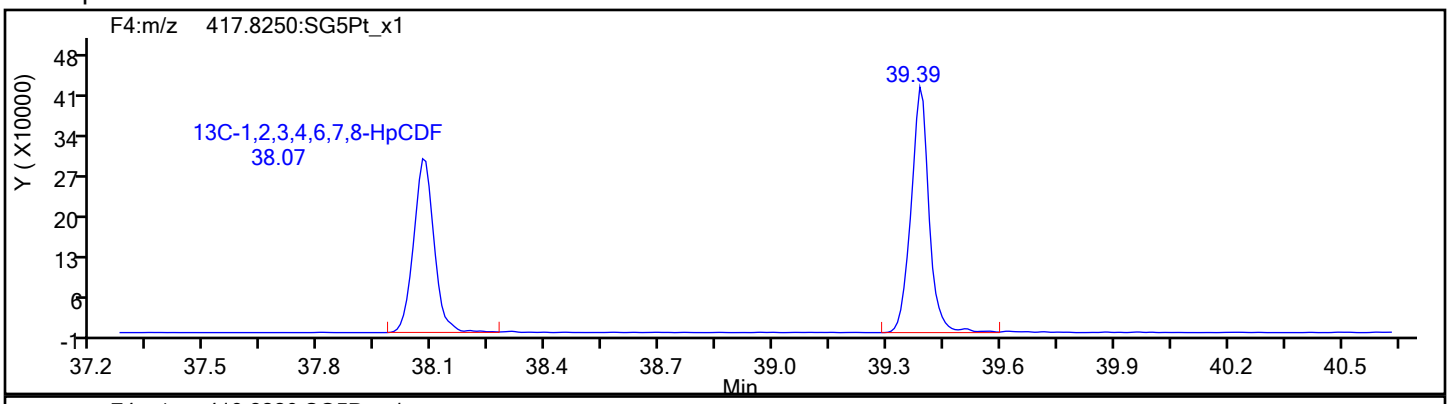
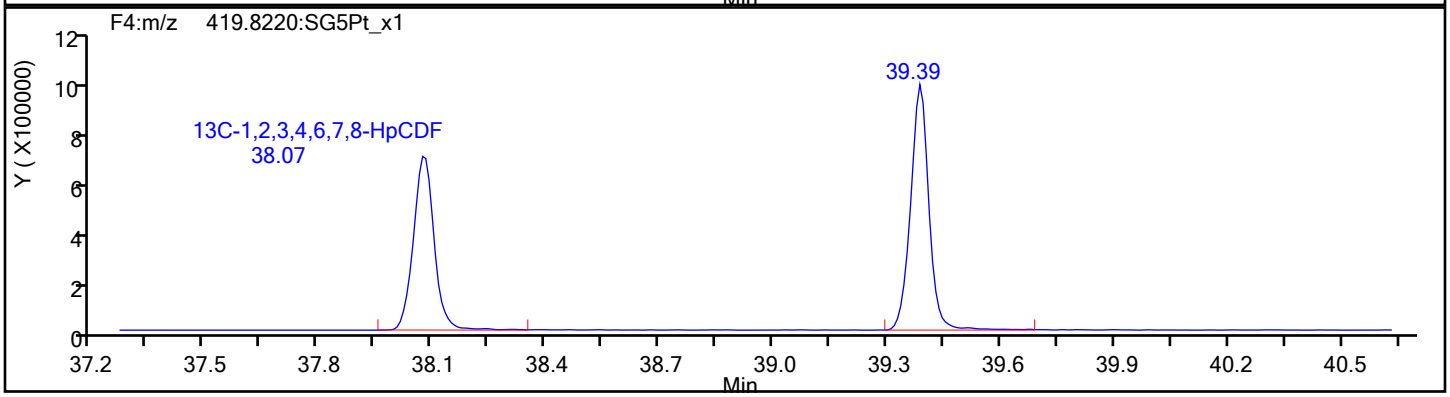
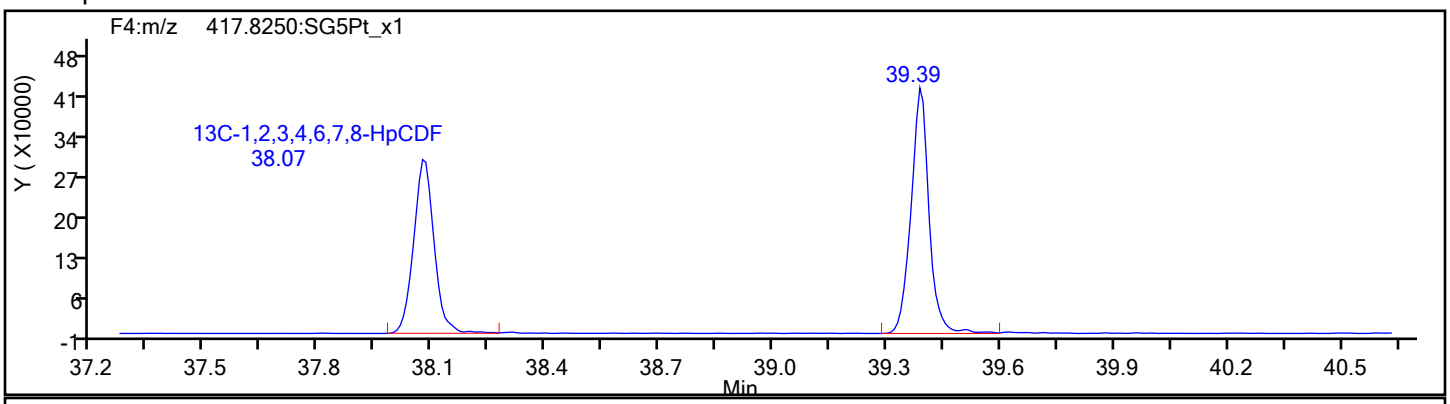
Column Type:	DB-5	Column Dia:	0.32 mm

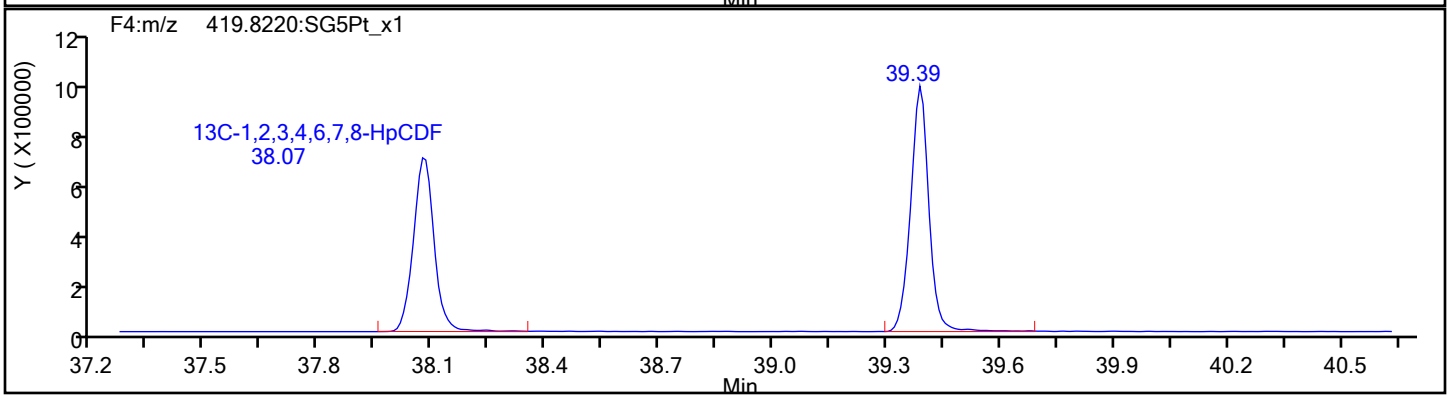
13C-HpCDF





13C-HpCDF Standards



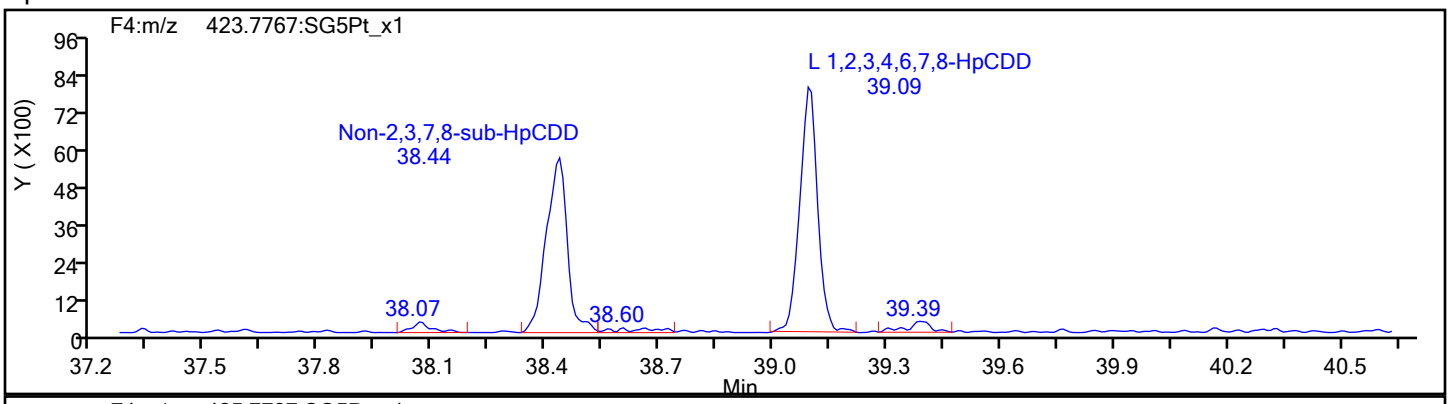


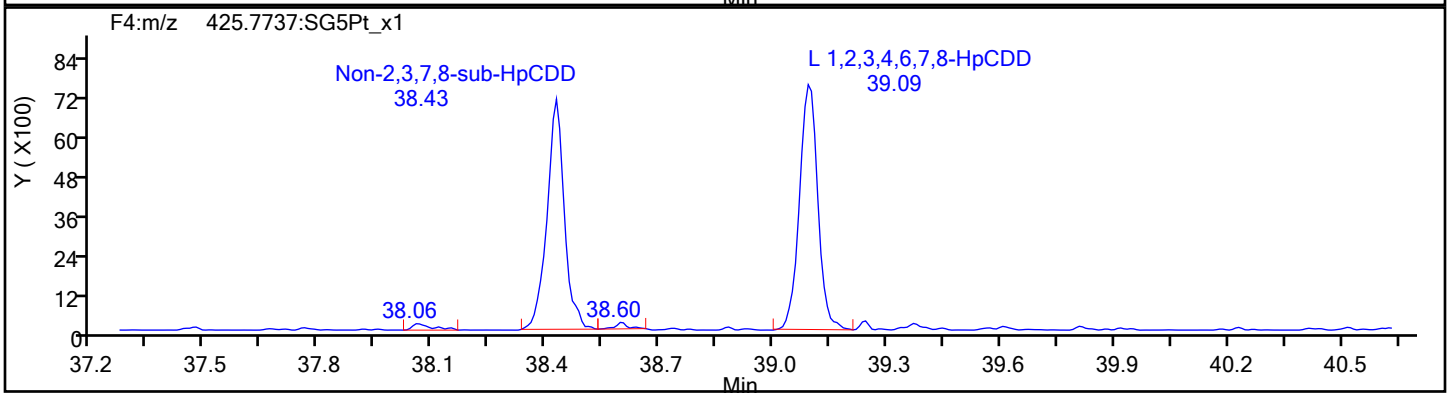
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d

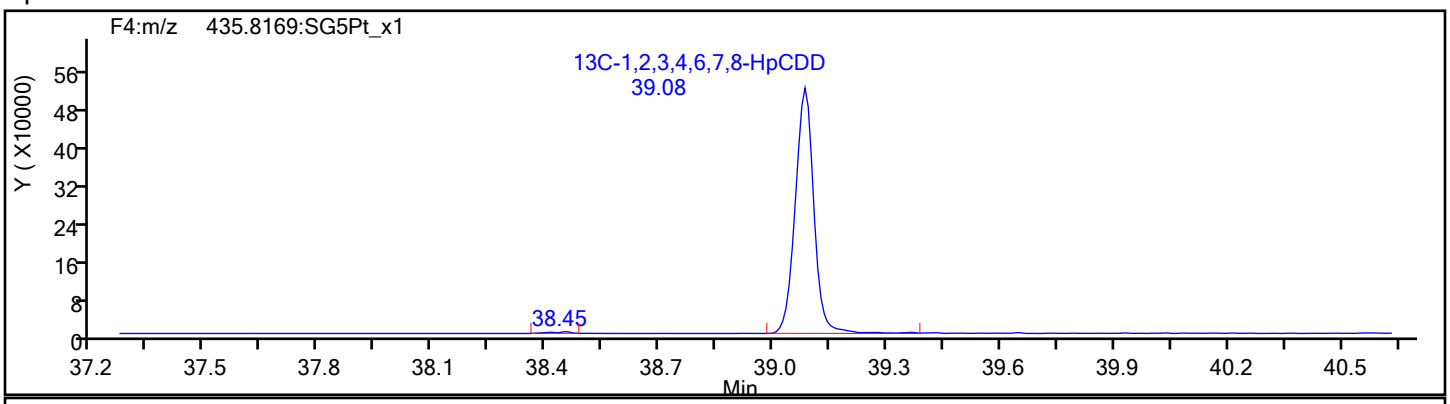
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

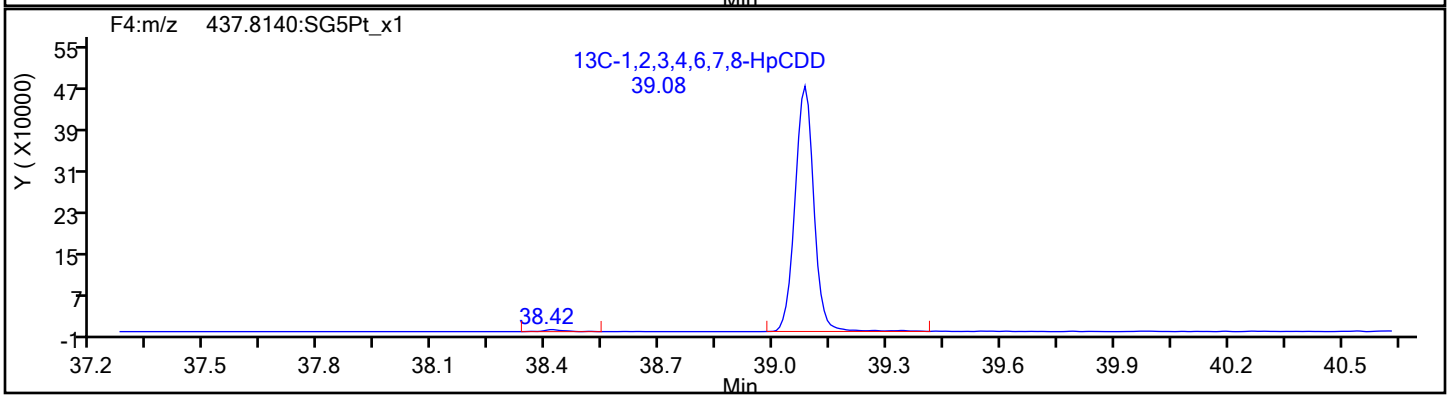
HpCDD





HpCDD Standards

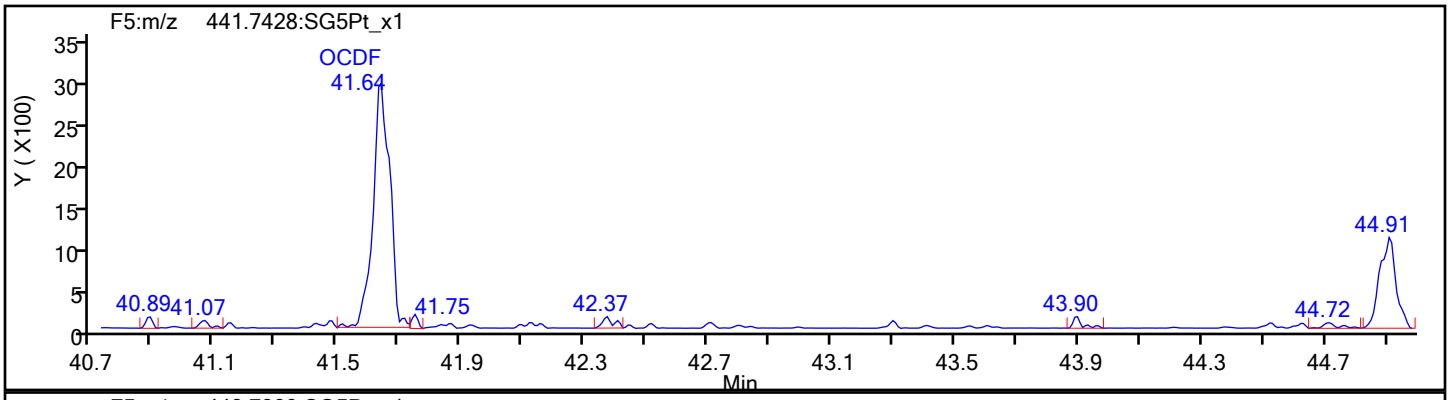


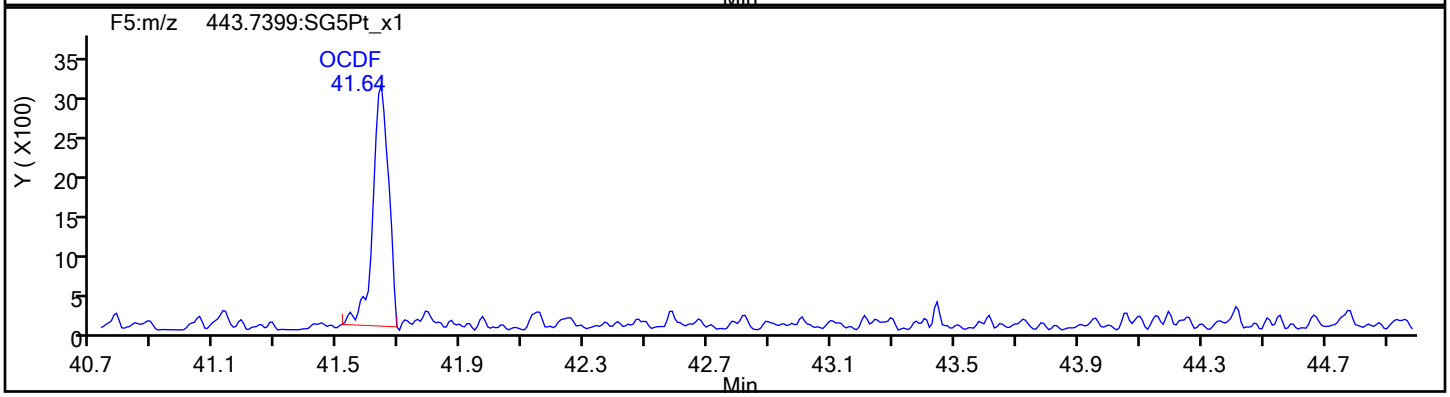


Eurofins Sacramento

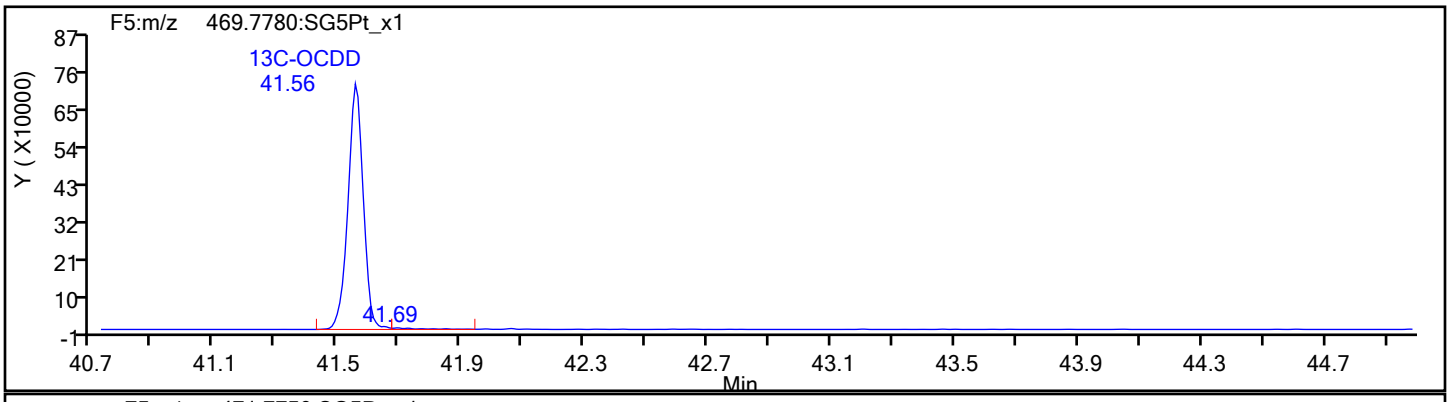
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

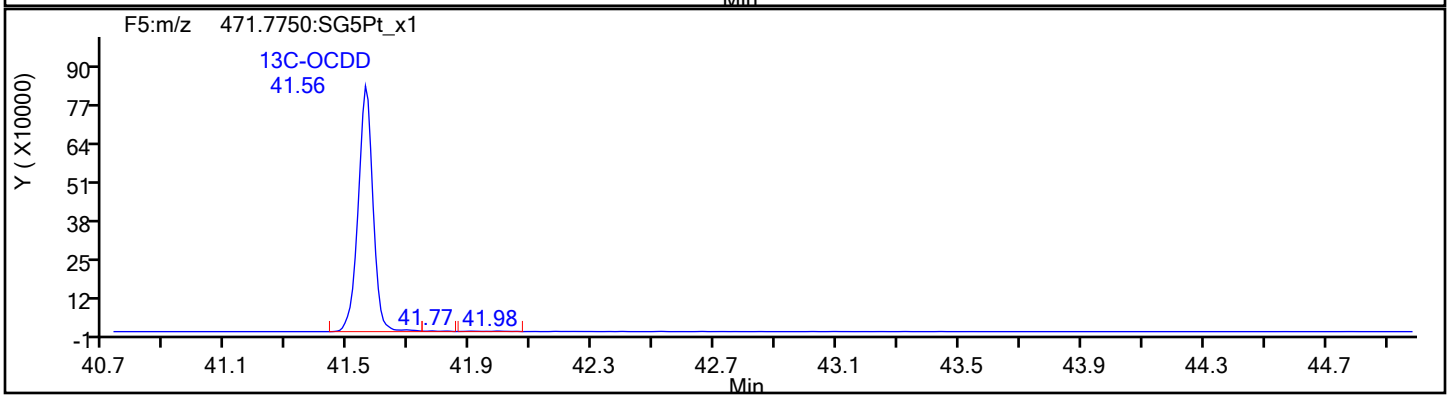
OCDF





OCDF Standards

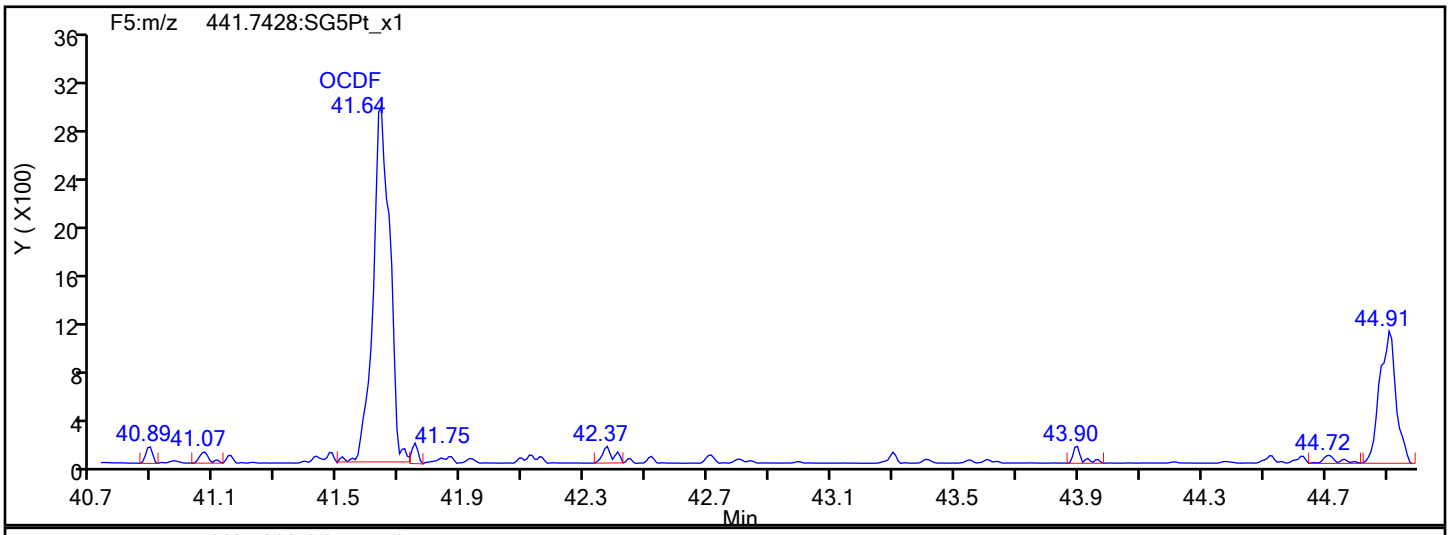


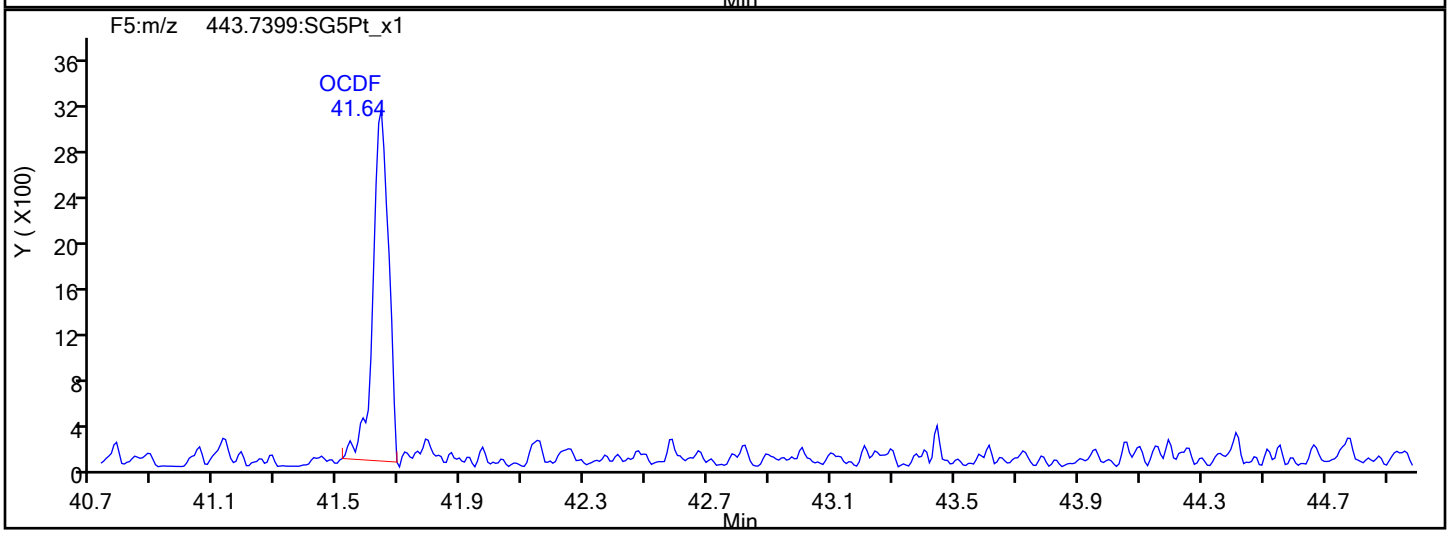


Eurofins Sacramento

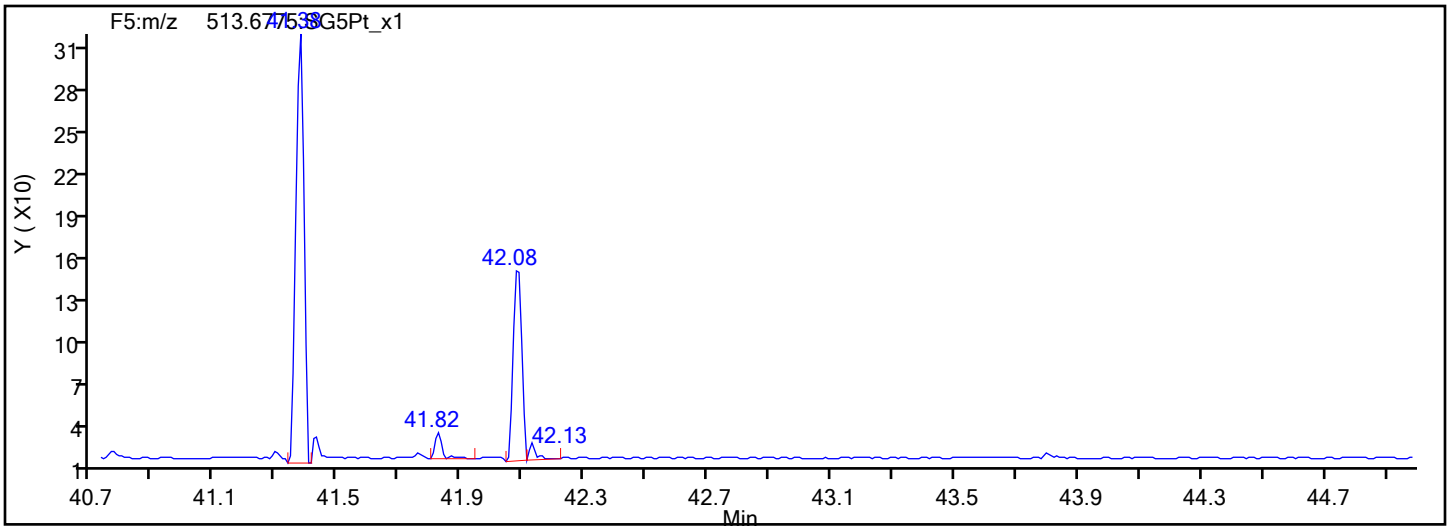
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



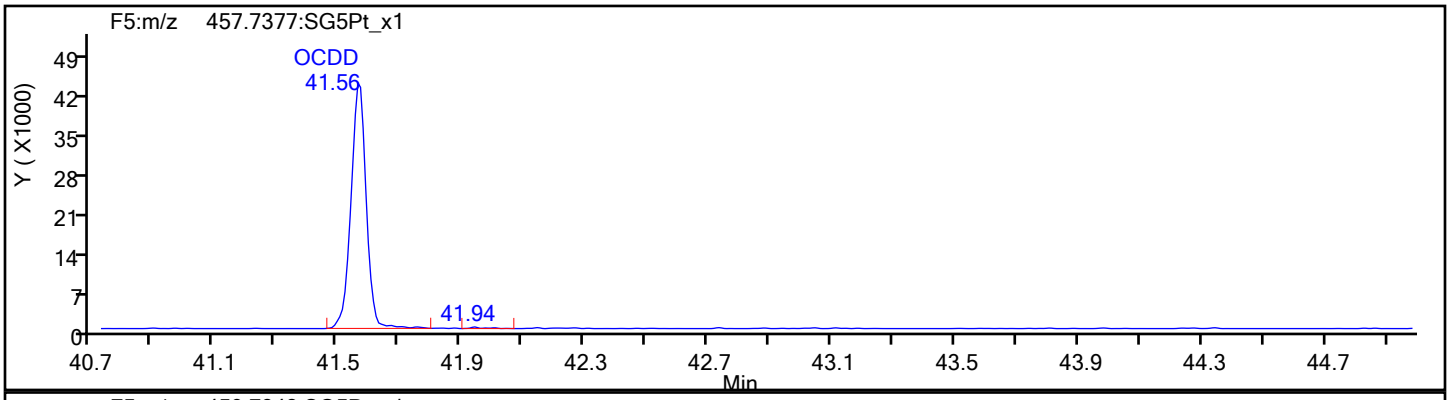
Report Date: 25-Jan-2022 08:35:34 Chrom Revision: 2.3 18-Jan-2022 20:25:40

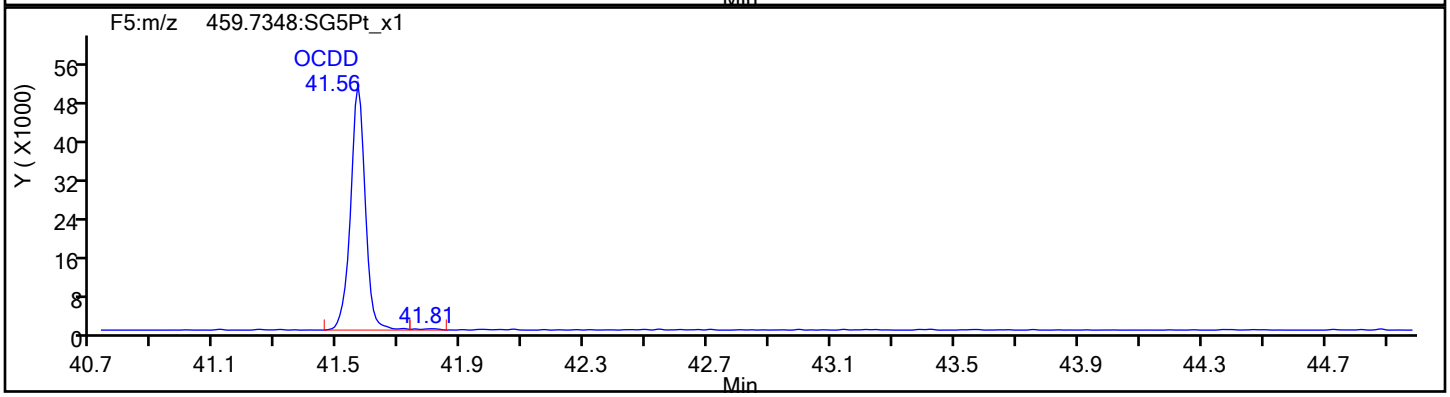
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d

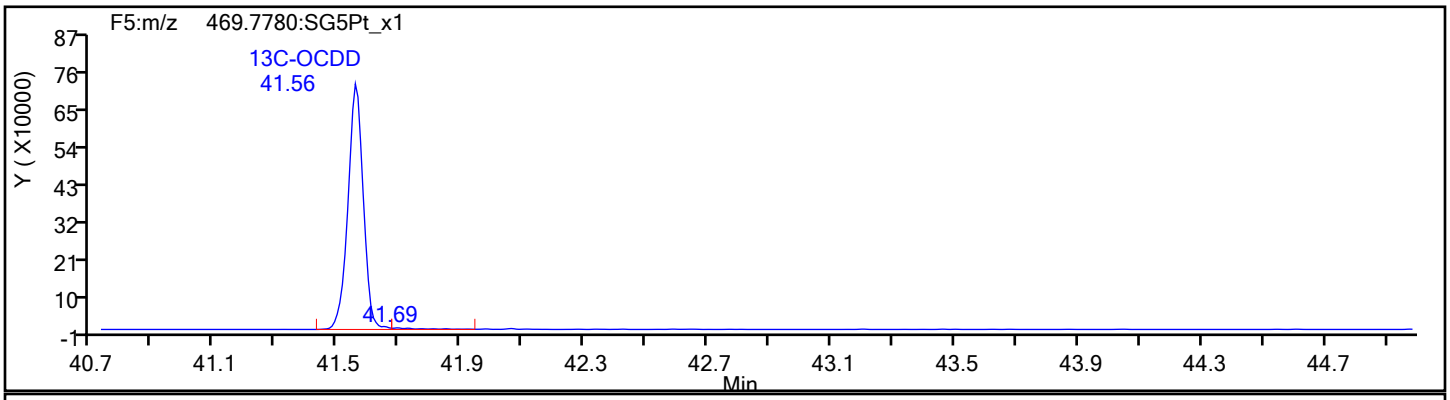
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

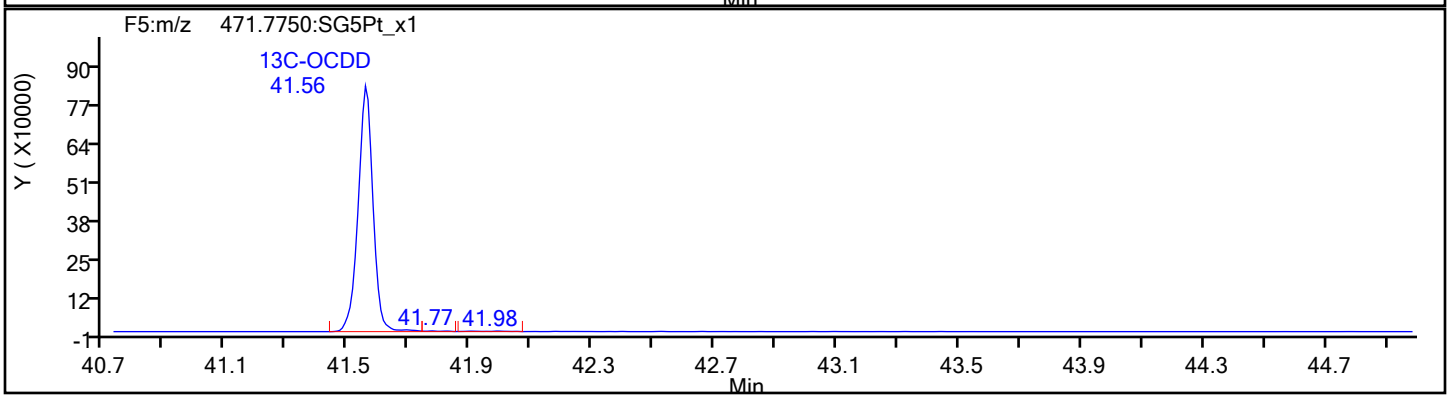
OCDD





OCDD Standards

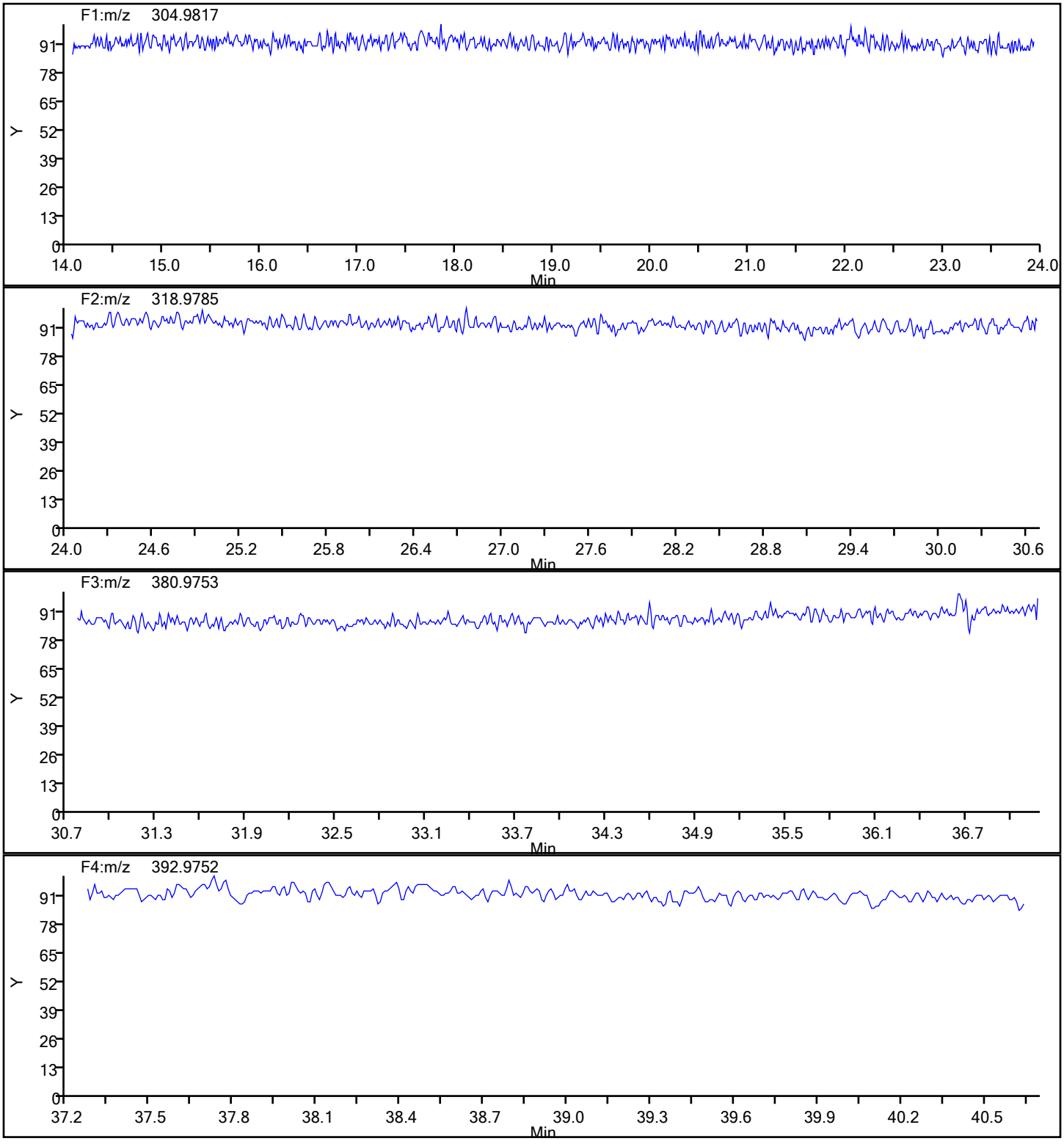




Report Date: 25-Jan-2022 08:35:34 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

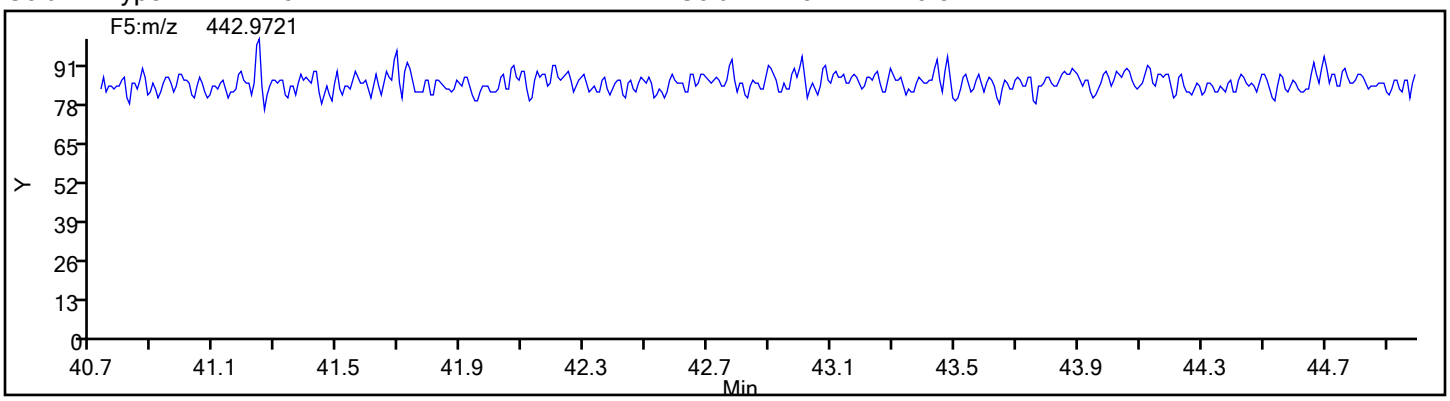
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 25-Jan-2022 08:35:34 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_46.d		
Injection Date:	22-Jan-2022 01:01:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	A2BMP0006S013		
Worklist#:	559800	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80421-2

SDG No.:

Client Sample ID: EVBMP0007S013 | Lab Sample ID: 570-80421-2

Matrix: Water | Lab File ID: 20ja22dfs1_47.d

Analysis Method: 8290 | Date Collected: 12/30/2021 08:30

Extract. Method: 8290 | Date Extracted: 01/07/2022 08:44

Sample wt/vol: 987.8(mL) | Date Analyzed: 01/22/2022 01:49

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559800 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	0.90
51207-31-9	2,3,7,8-TCDF	ND		10	0.31
40321-76-4	1,2,3,7,8-PeCDD	ND		51	0.52
57117-41-6	1,2,3,7,8-PeCDF	ND		51	0.39
57117-31-4	2,3,4,7,8-PeCDF	ND		51	0.41
39227-28-6	1,2,3,4,7,8-HxCDD	2.5	J B	51	0.14
57653-85-7	1,2,3,6,7,8-HxCDD	ND		51	0.13
19408-74-3	1,2,3,7,8,9-HxCDD	ND		51	0.13
70648-26-9	1,2,3,4,7,8-HxCDF	ND		51	0.21
57117-44-9	1,2,3,6,7,8-HxCDF	ND		51	0.18
60851-34-5	2,3,4,6,7,8-HxCDF	ND	*1	51	0.19
72918-21-9	1,2,3,7,8,9-HxCDF	1.2	J B *1	51	0.21
35822-46-9	1,2,3,4,6,7,8-HpCDD	3.4	J q B	51	0.20
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.3	J B	51	0.16
55673-89-7	1,2,3,4,7,8,9-HpCDF	0.42	J q B *1	51	0.19
3268-87-9	OCDD	33	J B	100	0.28
39001-02-0	OCDF	2.7	J B	100	0.38

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	92		40-135
89059-46-1	13C-2,3,7,8-TCDF	95		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	95		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	94		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	94		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	93		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	98		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	100		40-135
114423-97-1	13C-OCDD	109		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d
Lims ID: 570-80421-C-2-A
Client ID: EVBMP0007S013
Sample Type: Client
Inject. Date: 22-Jan-2022 01:49:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80421-C-2-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:37:58 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: dadunj Date: 25-Jan-2022 08:37:58

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.955	7507787	0.82	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.044	7259160	0.79	1.0164	95.1	95.1	0.4214	0.4214	95.13	
2,3,7,8-TCDF	19.053						0.0151	0.0151		RQU
A Non-2,3,7,8-sub-TCDF	18.680						0.0151	0.0151		U
S Total TCDF							0.0151	0.0151		
D 13C-2,3,7,8-TCDD	20.290	5472583	0.79	0.7884	92.5	92.5	0.2806	0.2806	92.46	
2,3,7,8-TCDD	20.341						0.0446	0.0446		
A Non-2,3,7,8-sub-TCDD	19.478						0.0446	0.0446		
S Total TCDD							0.0446	0.0446		
D 13C-1,2,3,7,8-PeCDF	26.082	6516979	1.58	0.9232	94.0	94.0	0.5032	0.5032	94.03	
1,2,3,7,8-PeCDF	26.107						0.0193	0.0193		
2,3,4,7,8-PeCDF	27.531						0.0205	0.0205		
A F1 PeCDFs	23.375						0.009220	0.009220		RQU
A Non-2,3,7,8-sub-PeCDF	26.760						0.0199	0.0199		
S Total PeCDF							0.0205	0.0205		
D 13C-1,2,3,7,8-PeCDD	28.288	4009578	1.58	0.5606	95.3	95.3	0.2535	0.2535	95.26	
1,2,3,7,8-PeCDD	28.314						0.0259	0.0259		
A Non-2,3,7,8-sub-PeCDD	27.170						0.0259	0.0259		
S Total PeCDD							0.0259	0.0259		
D 13C-1,2,3,4,7,8-HxCDF	34.000	5982833	0.53	1.0566	92.8	92.8	0.2353	0.2353	92.84	
1,2,3,4,7,8-HxCDF	34.019						0.0105	0.0105		
1,2,3,6,7,8-HxCDF	34.244						0.009042	0.009042		RQU
2,3,4,6,7,8-HxCDF	35.120						0.009417	0.009417		RQU
1,2,3,7,8,9-HxCDF	36.122	3108	1.42	0.9071	0.0573	0.0573	0.0103	0.0103		M
A Non-2,3,7,8-sub-HxCDF	34.051						0.009773	0.009773		U
S Total HxCDF					0.0573	0.0573	0.009810	0.009810		
* 13C-1,2,3,7,8,9-HxCDD	35.903	6099079	1.26	2.5E+04	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.398	4780	1.31	0.8294	0.1253	0.1253	0.007076	0.007076		
D 13C-1,2,3,6,7,8-HxCDD	35.499	4599688	1.26	0.8027	94.0	94.0	0.2342	0.2342	93.96	
1,2,3,6,7,8-HxCDD	35.398						0.006247	0.006247		U
1,2,3,7,8,9-HxCDD	35.920						0.006466	0.006466		RQMU
A Non-2,3,7,8-sub-HxCDD	34.547						0.006579	0.0198		RQU

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDD					0.1253	0.1253	0.006597	0.006597		
D 13C-1,2,3,4,6,7,8-HpCDF	38.071	3919232	0.46	0.6421	100.1	100.1	0.4793	0.4793	100	
1,2,3,4,6,7,8-HpCDF	38.088	3559	0.94	1.4385	0.0631	0.0631	0.008134	0.008134		M
1,2,3,4,7,8,9-HpCDF	39.419	992	1.04	1.2202	0.0301	0.0207	0.009589	0.009589		RQ
A Non-2,3,7,8-sub-HpCDF	38.751	3130	1.19	1.3293	0.0601	0.0601	0.008802	0.0601		
S Total HpCDF					0.1533	0.1439	0.008861	0.008861		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	39.082	3727503	1.03	0.6246	97.8	97.8	0.2780	0.2780	97.85	
1,2,3,4,6,7,8-HpCDD	39.082	6082	1.04	0.9767	0.1828	0.1671	0.009691	0.009691		RQ
A Non-2,3,7,8-sub-HpCDD	38.763	10819	1.04	0.9767	0.3321	0.2972	0.009691	0.2972		RQ
S Total HpCDD					0.5148	0.4642	0.009691	0.009691		RQ
D 13C-OCDD	41.553	5817234	0.88	0.4360	218.8	218.8	0.2925	0.2925	109	
OCDF	41.637	4934	0.78	1.2756	0.1330	0.1330	0.0188	0.0188		
OCDD	41.561	49592	0.82	1.0341	1.649	1.649	0.0138	0.0138		M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d
Lims ID: 570-80421-C-2-A
Client ID: EVBMP0007S013
Sample Type: Client
Inject. Date: 22-Jan-2022 01:49:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80421-C-2-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:37:58 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: dadunj Date: 25-Jan-2022 08:37:58

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	19.955	19.937	1		3389324	512632	644	1610	796		
333.9338	19.955	19.937	1		4118463	627309	365	912	1719	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.044	19.035	1	0.954	3200078	489952	1267	3167	387		
317.9389	19.044	19.035	1	0.954	4059082	620524	686	1715	905	0.79(0.65-0.89)	
2,3,7,8-TCDF											RQU
303.9016	19.061						4	10			
305.8987	19.061						64	160			
A Non-2,3,7,8-sub-TCDF											U
303.9016	18.680						4	10			
305.8987	18.680						64	160			
13C-2,3,7,8-TCDD											
331.9368	20.290	20.306	-1	1.017	2415984	336607	644	1610	523		
333.9338	20.307	20.306	0	1.018	3056599	426567	365	912	1169	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.341						117	292			
321.8936	20.341						18	45			
A Non-2,3,7,8-sub-TCDD											
319.8965	19.478						117	292			
321.8936	19.478						18	45			
13C-1,2,3,7,8-PeCDF											
351.9000	26.082	26.081	0	1.307	3992909	661508	1220	3050	542		
353.8970	26.091	26.081	1	1.307	2524070	424677	898	2245	473	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.107						5	12			
341.8567	26.107						77	192			

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.531						5	12			
341.8567	27.531						77	192			
A F1 PeCDFs											U
339.8597	23.375	23.375	0	0.896	264	180	1	2			
341.8567	23.375	23.375	0	0.896	2784	579	37	92		0.09(1.32-1.78)	
	Empc Correction				170	116	37	92	0		
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.760						5	12			
341.8567	26.760						77	192			
13C-1,2,3,7,8-PeCDD											
367.8949	28.288	28.289	0	1.418	2453585	369100	455	1137	811		
369.8919	28.297	28.289	0	1.418	1555993	235304	193	482	1219	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.314						58	145			
357.8516	28.314						5	12			
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.170						58	145			
357.8516	27.170						5	12			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.000	34.002	0	0.947	2060771	388216	418	1045	929		
385.8610	33.991	34.002	-1	0.947	3922062	708365	886	2215	800	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.019						37	92			
375.8178	34.019						4	10			
1,2,3,6,7,8-HxCDF											RQU
373.8208	34.204						37	92			
375.8178	34.204						4	10			
2,3,4,6,7,8-HxCDF											RQU
373.8208	35.147						37	92			
375.8178	35.147						4	10			
1,2,3,7,8,9-HxCDF											M
373.8208	36.122	36.116	0	1.062	1822	513	37	92	14		M
375.8178	36.114	36.116	0	1.062	1286	293	4	10	73	1.42(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											U
373.8208	34.051						37	92			
375.8178	34.051						4	10			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.903	35.906	0		3403718	728344	570	1425	1278		
403.8529	35.895	35.906	-1		2695361	582748	416	1040	1401	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.398	35.392	0	0.997	2714	613	10	25	61		
391.8127	35.373	35.392	-1	0.996	2066	515	12	30	43	1.31(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.499	35.501	0	0.989	2561707	518672	570	1425	910		
403.8529	35.499	35.501	0	0.989	2037981	418436	416	1040	1006	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											U
389.8158	35.518						10	25			
391.8127	35.518						12	30			
1,2,3,7,8,9-HxCDD											RQMU
389.8158	35.922						10	25			
391.8127	35.922						12	30			
A Non-2,3,7,8-sub-HxCDD											U
389.8158	33.200	34.547	-81	0.935	240	104	10	25	10		
391.8127	33.217	34.547	-80	0.936	309	173	12	30	14	0.78(1.05-1.43)	
	Empc Correction				193	83	12	30	7		
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.071	38.081	-1	1.060	1239592	343600	556	1390	618		
419.8220	38.079	38.081	0	1.061	2679640	724745	1058	2645	685	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7817	38.088	38.089	0	1.000	1720	510	45	112	11		M
409.7788	38.096	38.089	0	1.001	1839	621	5	12	124	0.94(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											RQ
407.7817	39.419	39.403	1	1.035	506	221	45	112	5		
409.7788	39.402	39.403	0	1.035	935	184	5	12	37	0.54(0.88-1.20)	
	Empc Correction				486	212	5	12	42		
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.484	38.751	-16	1.011	1702	536	45	112	12		
409.7788	38.475	38.751	-17	1.011	1428	445	5	12	89	1.19(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.082	39.083	0	1.089	1893158	570088	494	1235	1154		
437.8140	39.082	39.083	0	1.089	1834345	560363	417	1042	1344	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RQ
423.7767	39.082	39.091	-1	1.000	3101	1064	32	80	33		
425.7737	39.090	39.091	0	1.000	3553	1291	11	27	117	0.87(0.88-1.20)	
	Empc Correction				2981	1023	11	27	93		
A Non-2,3,7,8-sub-HpCDD											RQ
423.7767	38.425	38.763	-20	0.983	5516	1607	32	80	50		
425.7737	38.433	38.763	-20	0.983	6573	1519	11	27	138	0.84(0.88-1.20)	
	Empc Correction				5303	1545	11	27	140		
13C-OCDD											
469.7780	41.553	41.563	-1	1.157	2729907	794694	305	762	2606		
471.7750	41.553	41.563	-1	1.157	3087327	912922	364	910	2508	0.88(0.76-1.02)	
OCDF											
441.7428	41.637	41.639	0	1.002	2167	727	15	37	48		
443.7399	41.645	41.639	0	1.002	2767	849	67	167	13	0.78(0.76-1.02)	
OCDD											M
457.7377	41.561	41.571	-1	1.000	22303	7285	16	40	455		M
459.7348	41.561	41.571	-1	1.000	27289	8131	33	82	246	0.82(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d
Lims ID: 570-80421-C-2-A
Client ID: EVBMP0007S013
Inject. Date: 22-Jan-2022 01:49:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 7

Non-2,3,7,8-sub-TCDF, RT: 18.680

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.012	D 13C-2,3,7,8-TCDF	100.000	7259160	1110476

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.012		100.000	7259160	1110476

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d
Lims ID: 570-80421-C-2-A
Client ID: EVBMP0007S013
Inject. Date: 22-Jan-2022 01:49:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 7

F1 PeCDFs, RT: 23.375

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	6516979	1086185
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	6516979	1086185

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.665	264	180	2784	579	0.0493	0.09	RQ
23.665	264	180	170	116	0.007021		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d
Lims ID: 570-80421-C-2-A
Client ID: EVBMP0007S013
Inject. Date: 22-Jan-2022 01:49:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 7

Non-2,3,7,8-sub-HxCDF, RT: 34.051

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883	D 13C-1,2,3,4,7,8-HxCDF	100.000	5982833	1096581
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.952		100.000	5982833	1096581

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d
Lims ID: 570-80421-C-2-A
Client ID: EVBMP0007S013
Inject. Date: 22-Jan-2022 01:49:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 7

Non-2,3,7,8-sub-HxCDD, RT: 34.547

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829	D 13C-1,2,3,6,7,8-HxCDD	100.000	4599688	937108
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.892		100.000	4599688	937108

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.200	240	104	309	173	0.0134	0.78	RQ
33.200	240	104	193	83	0.0106		Empc Correction
33.461	181	104	236	115	0.0102	0.77	RQ
33.461	181	104	145	83	0.007944		Empc Correction
34.017	553	222	363	79	0.0223	1.52	RQ
34.017	450	97	363	79	0.0198		Empc Correction
34.126	693	159	271	141	0.0235	2.56	RQ
34.126	336	174	271	141	0.0148		Empc Correction
34.177	1072	339	304	157	0.0335	3.53	RQ
34.177	376	194	304	157	0.0166		Empc Correction
34.472	279	173	812	173	0.0266	0.34	RQ
34.472	279	173	224	139	0.0123		Empc Correction
35.583	336	90	216	150	0.0135	1.56	RQ
35.583	267	186	216	150	0.0118		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d
Lims ID: 570-80421-C-2-A
Client ID: EVBMP0007S013
Inject. Date: 22-Jan-2022 01:49:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 7

Non-2,3,7,8-sub-HpCDF, RT: 38.751

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.439	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	3919232	1068345
1,2,3,4,7,8,9-HpCDF	1.220				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.329		100.000	3919232	1068345

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.484	1702	536	1428	445	0.0601	1.19	
Signal Totals:							
	1702	536	1428	445			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3130	981				1.19	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0601 = (3130 * 100.000) / (3919232 * 1.329)

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d
Lims ID: 570-80421-C-2-A
Client ID: EVBMP0007S013
Inject. Date: 22-Jan-2022 01:49:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 7

Non-2,3,7,8-sub-HpCDD, RT: 38.763

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3727503	1130451

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3727503	1130451

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.425	5516	1607	6573	1519	0.3321	0.84	RQ
38.425	5516	1607	5303	1545	0.2972		Empc Correction
Signal Totals:							
	5516	1607	5303	1545			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12089	3126				0.84	RQ
	10819	3152					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3321 = (12089 * 100.000) / (3727503 * 0.977)
Empc Amount: 0.2972 = (10819 * 100.000) / (3727503 * 0.977)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

Eurofins Sacramento

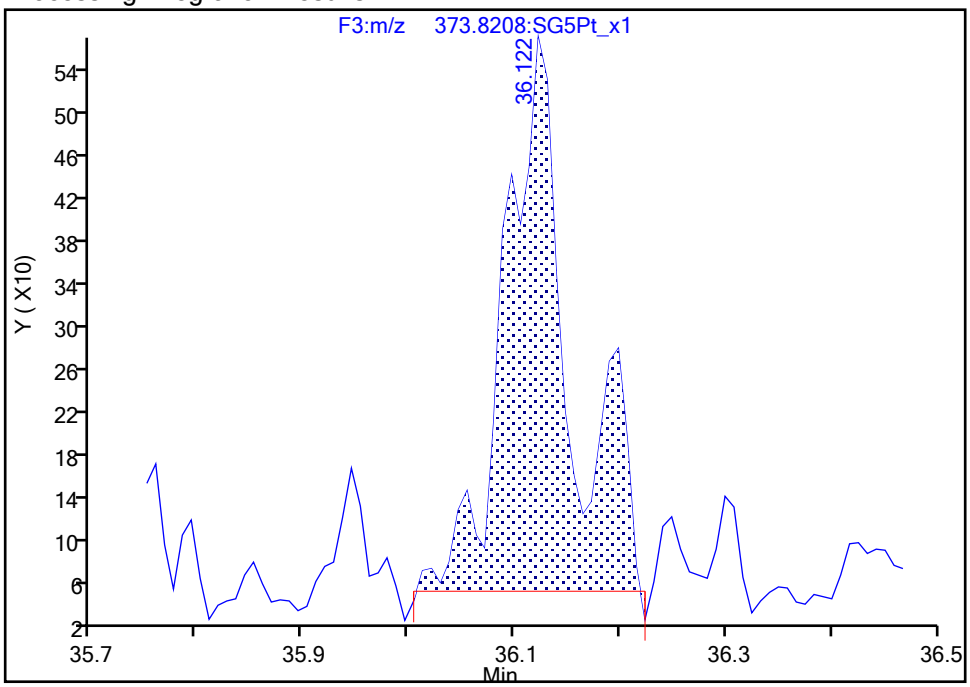
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d				
Injection Date:	22-Jan-2022 01:49:00	Instrument ID:	DFS 1		
Lims ID:	570-80421-C-2-A	Lab Sample ID:	320-80421-2		
Client ID:	EVBMP0007S013				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3(33.08 :38.50)		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

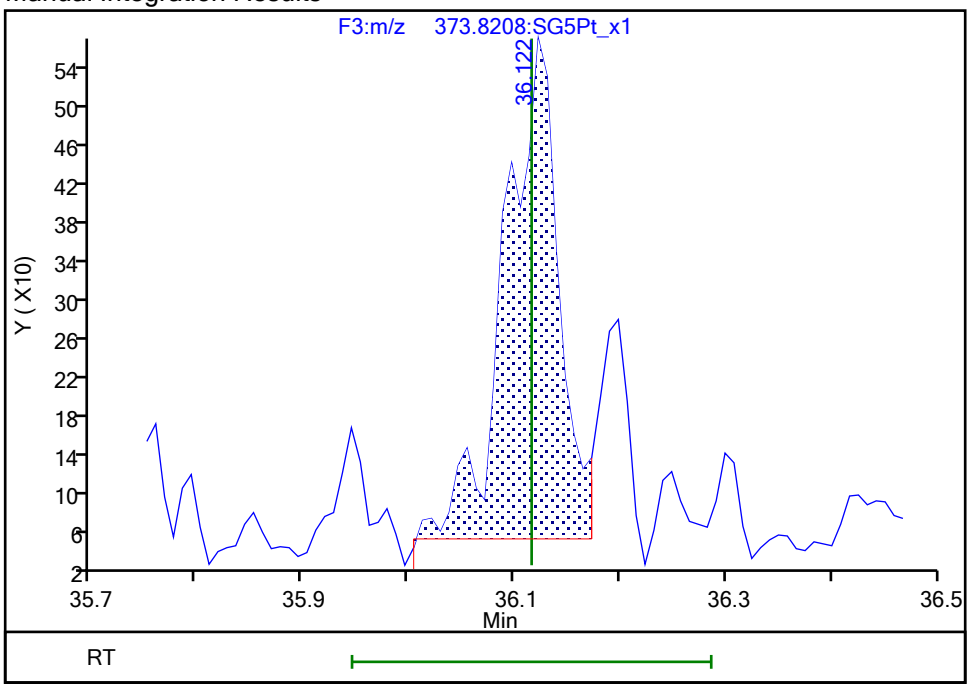
Processing Integration Results

RT: 36.12
Area: 2215
Amount: 0.064513
Amount Units: pg/ul



Manual Integration Results

RT: 36.12
Area: 1822
Amount: 0.057271
Amount Units: pg/ul



Reviewer: dadunj, 25-Jan-2022 08:37:09

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Sacramento

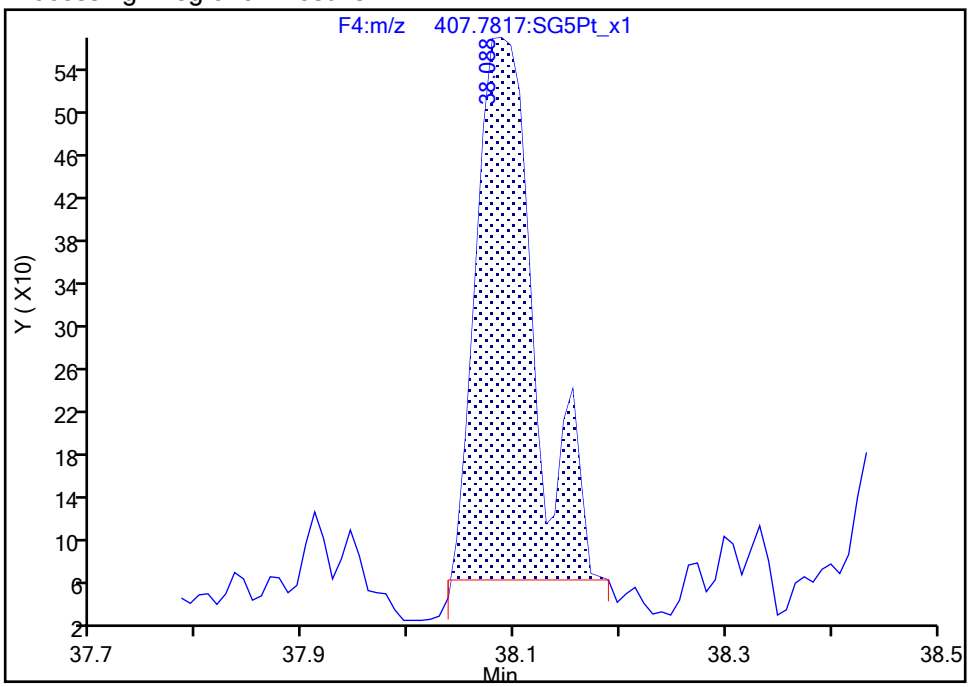
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d				
Injection Date:	22-Jan-2022 01:49:00	Instrument ID:	DFS 1		
Lims ID:	570-80421-C-2-A	Lab Sample ID:	320-80421-2		
Client ID:	EVBMP0007S013				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

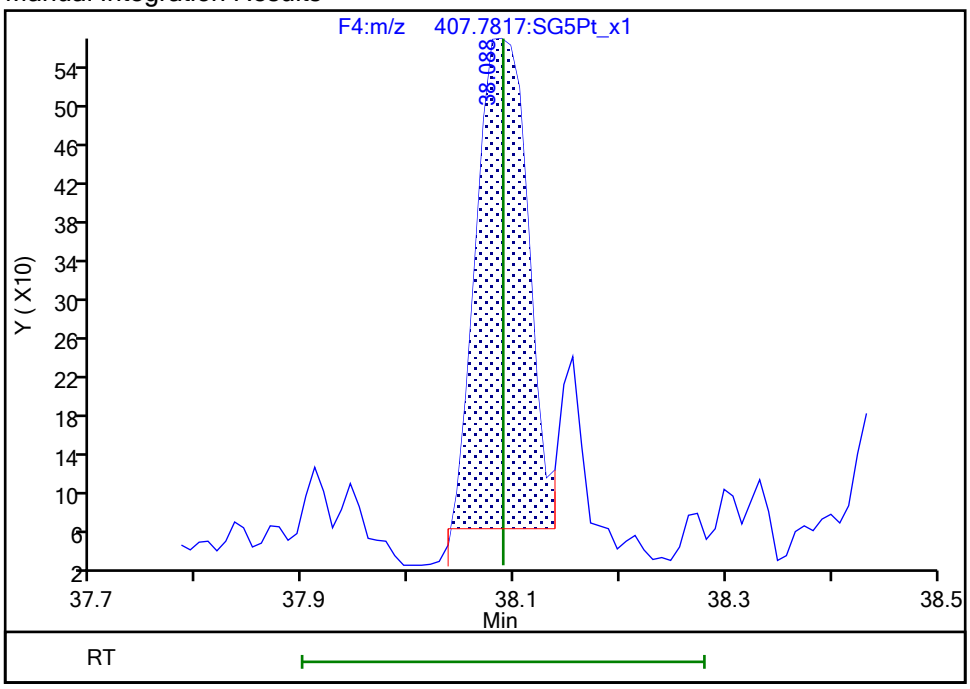
Processing Integration Results

RT: 38.09
Area: 1951
Amount: 0.067225
Amount Units: pg/ul



Manual Integration Results

RT: 38.09
Area: 1720
Amount: 0.063127
Amount Units: pg/ul



Reviewer: dadunj, 25-Jan-2022 08:36:28
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Sacramento

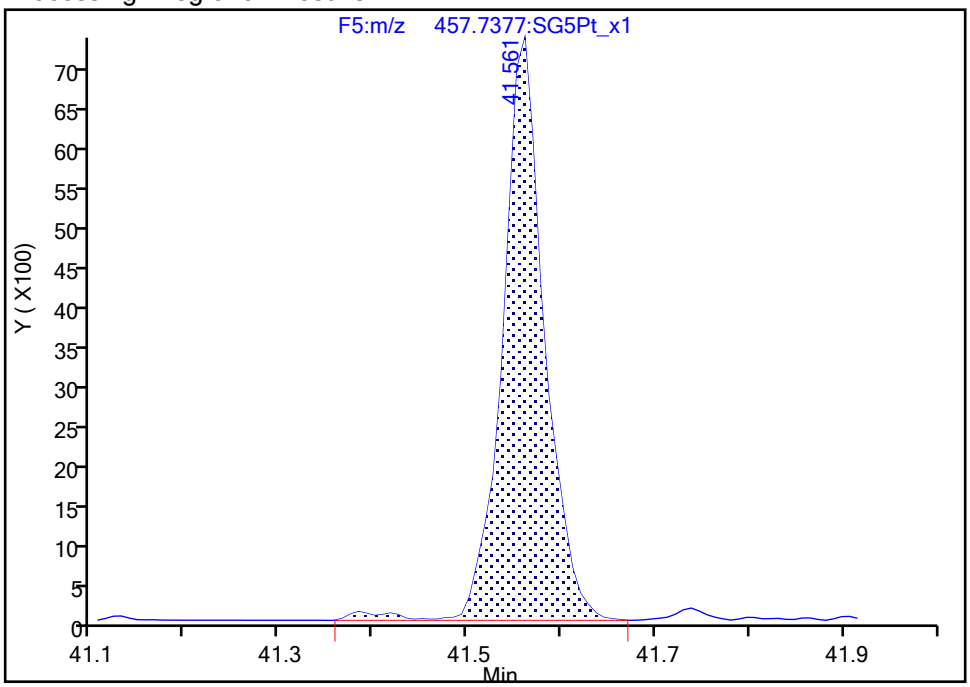
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d				
Injection Date:	22-Jan-2022 01:49:00	Instrument ID:	DFS 1		
Lims ID:	570-80421-C-2-A	Lab Sample ID:	320-80421-2		
Client ID:	EVBMP0007S013				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5(41.08 :46.00)		

OCDD, CAS: 3268-87-9

Signal: 1

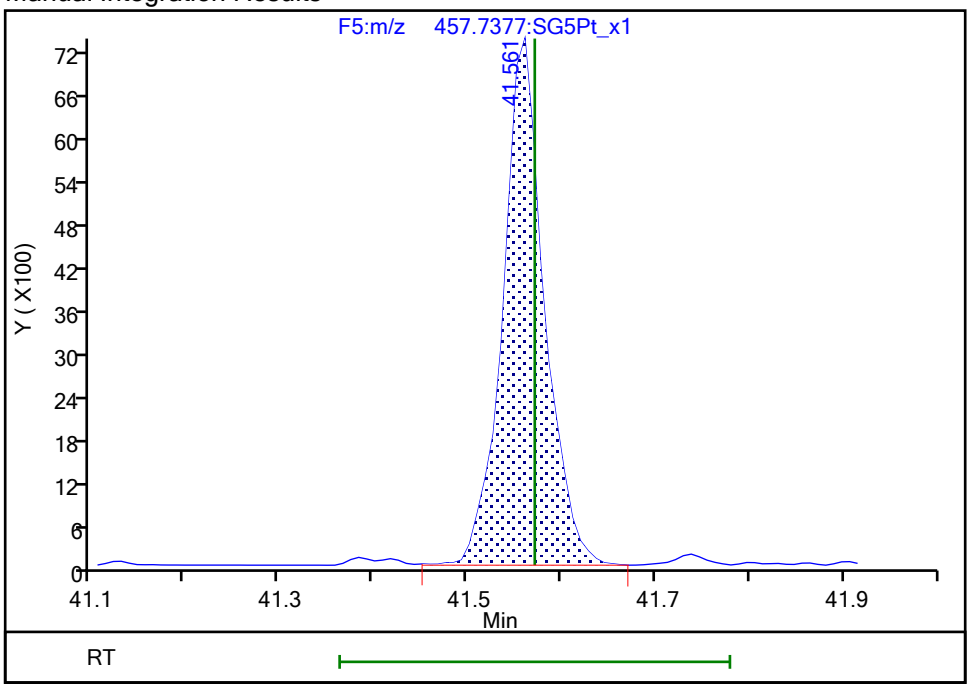
Processing Integration Results

RT: 41.56
Area: 22622
Amount: 1.659333
Amount Units: pg/ul



Manual Integration Results

RT: 41.56
Area: 22303
Amount: 1.648728
Amount Units: pg/ul



Reviewer: dadunj, 25-Jan-2022 08:36:40

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0007S013		
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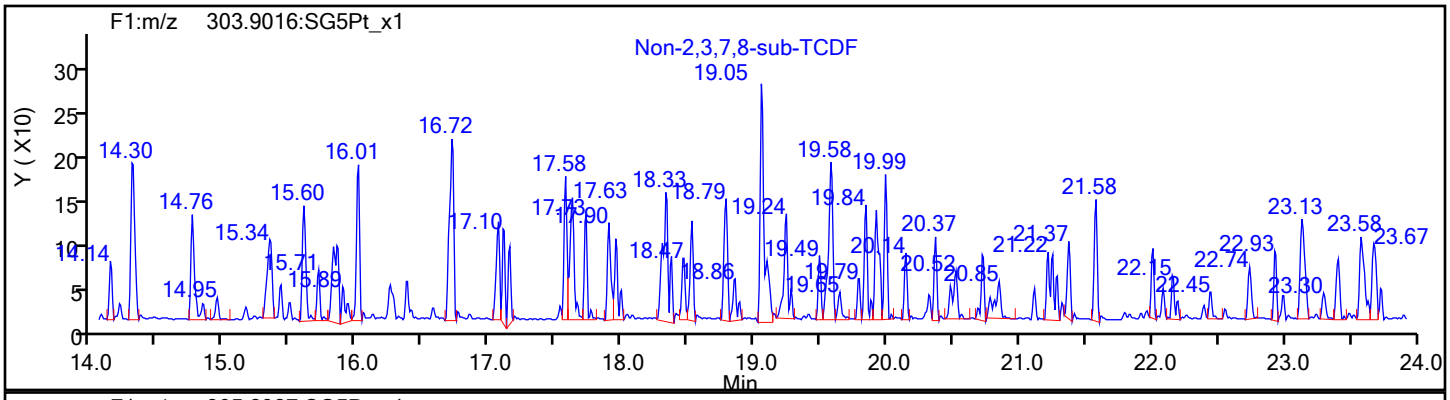
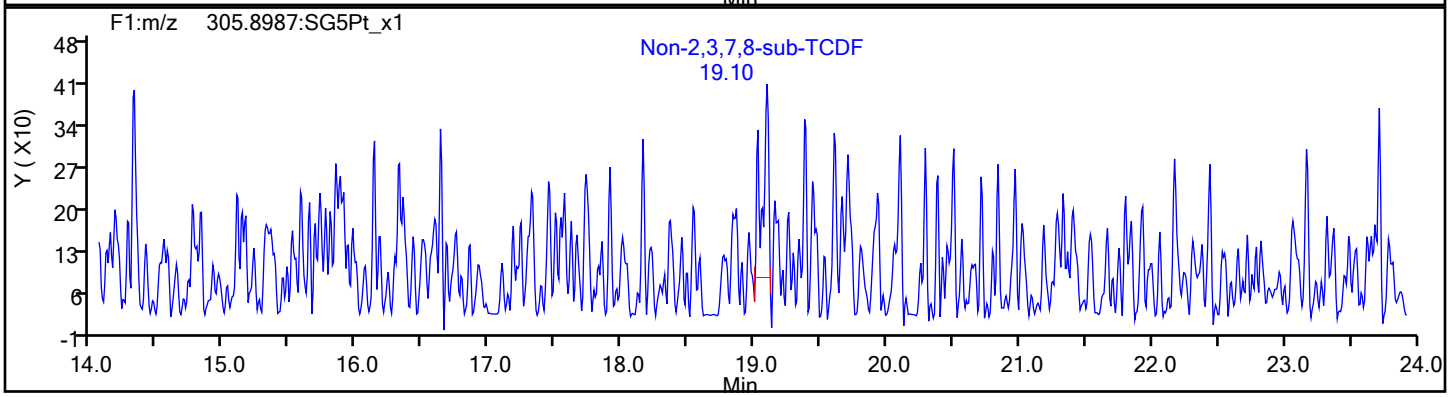
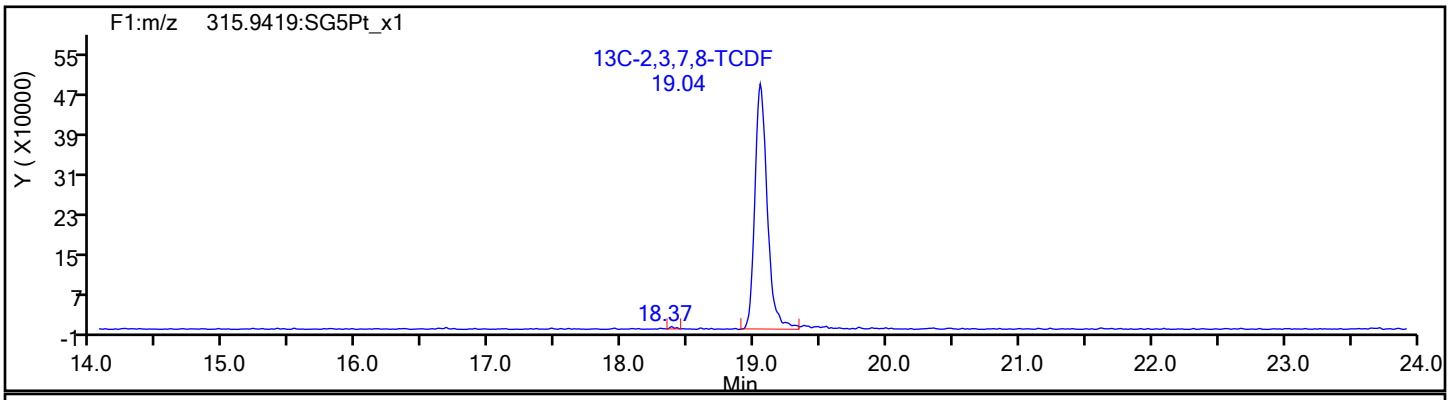
Column Type:	DB-5	Column Dia:	0.32 mm

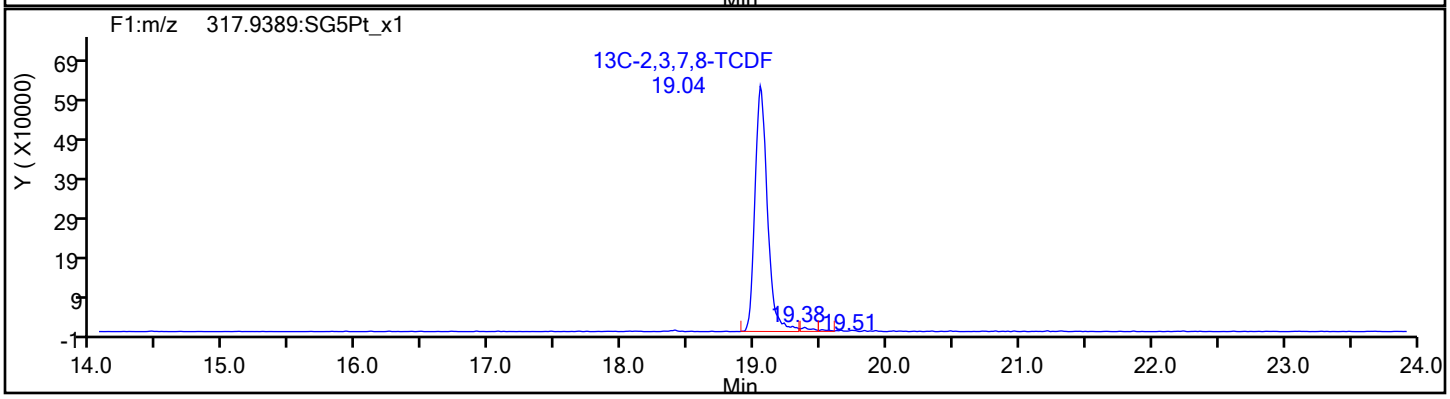
TCDF





TCDF Standards





Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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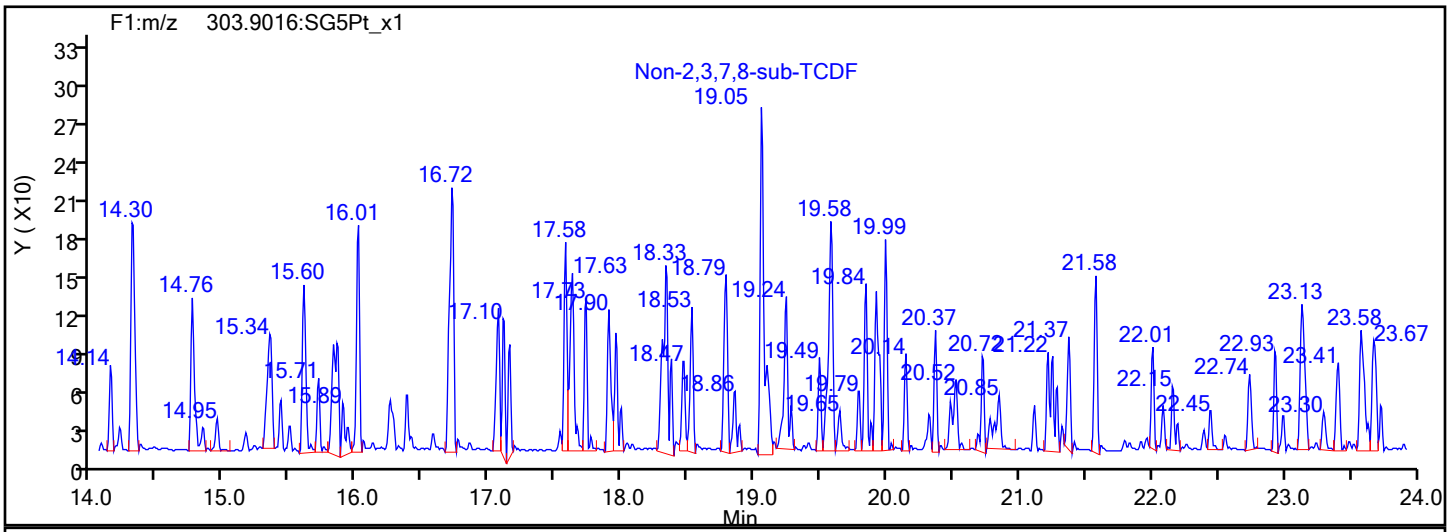
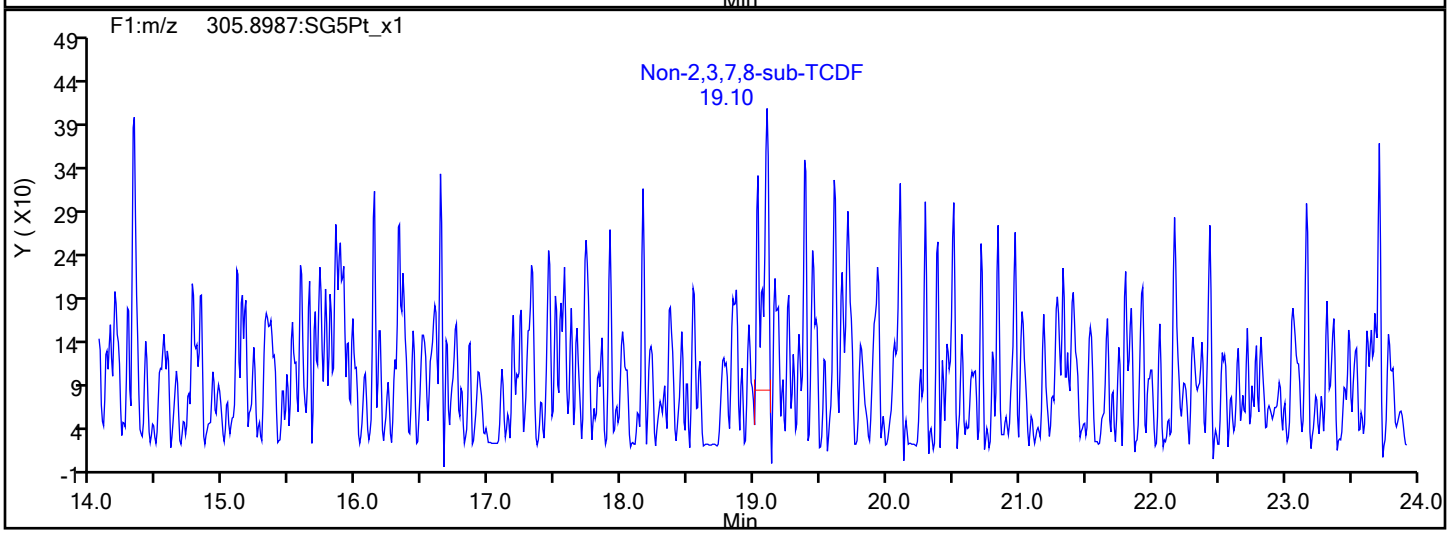
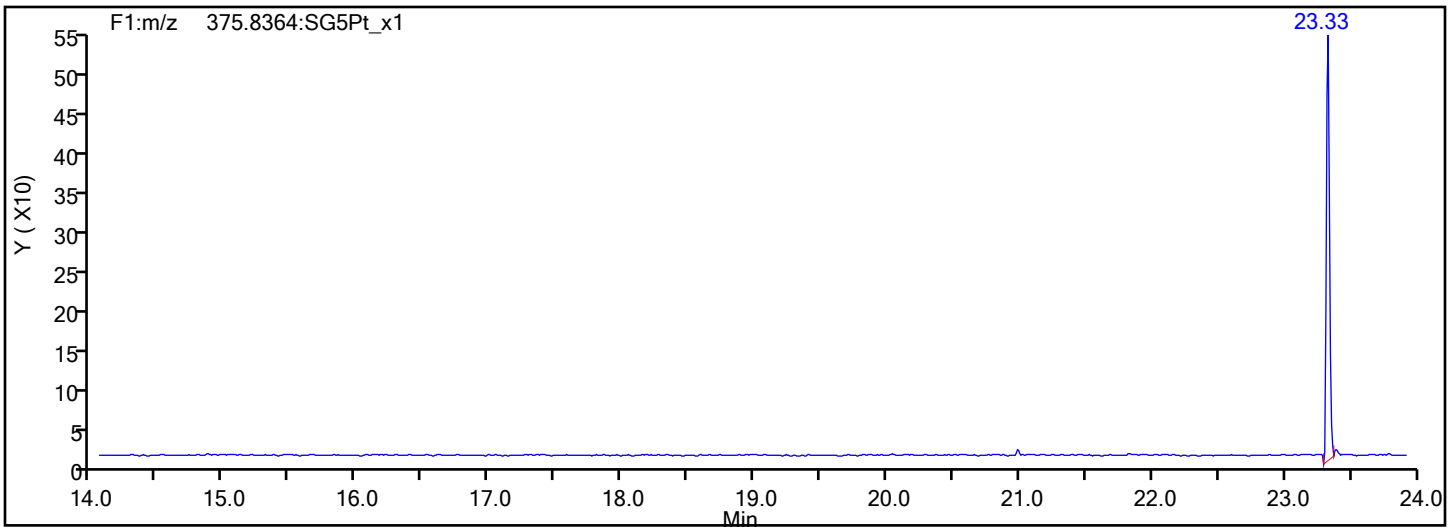
TCDF





TCDF Interference Mass



Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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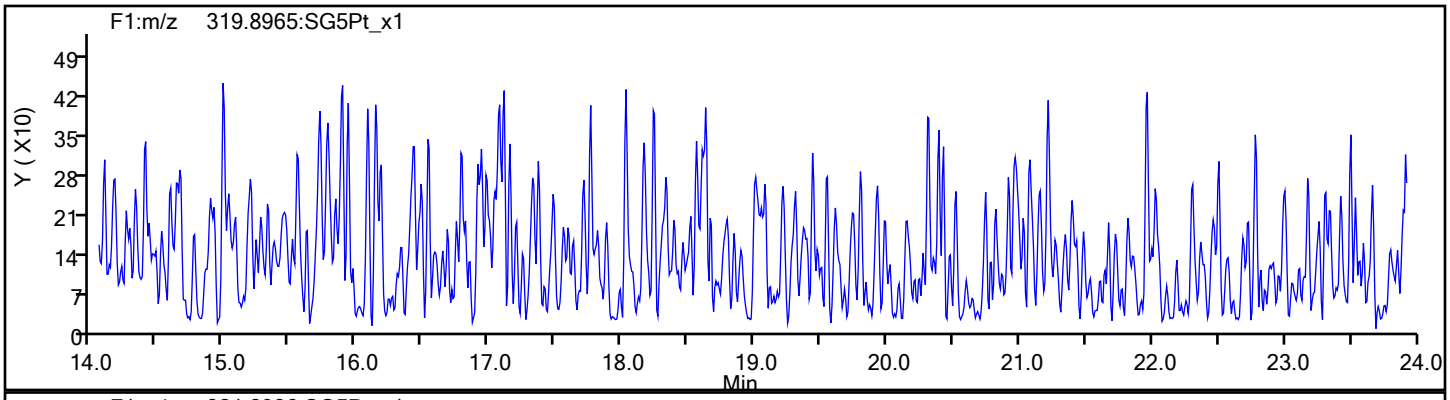
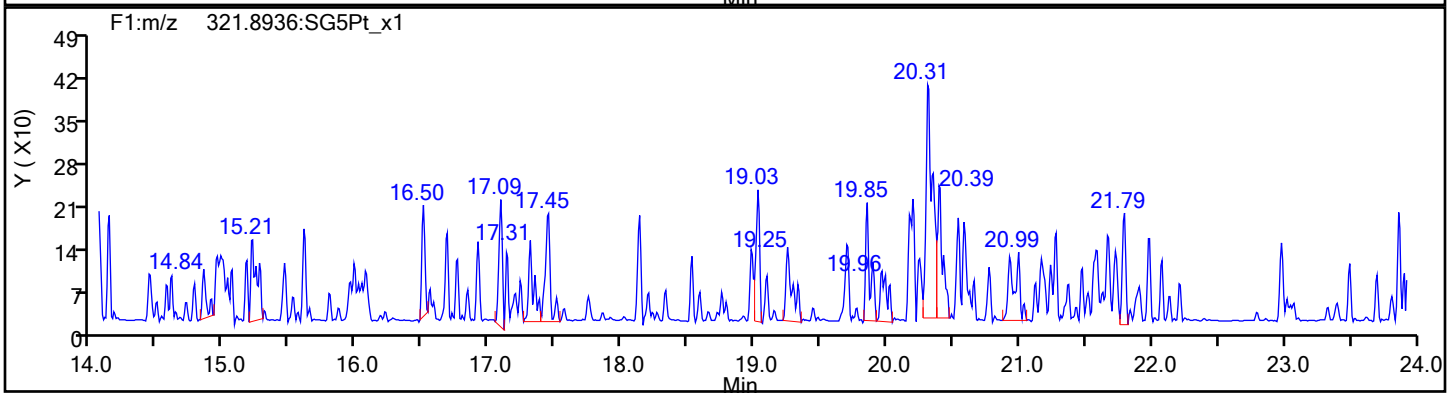
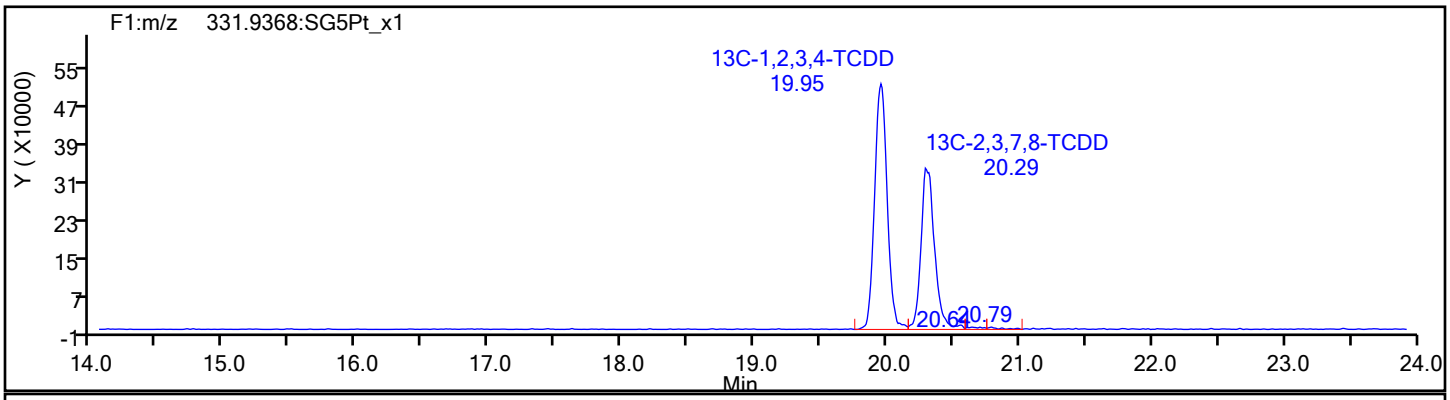
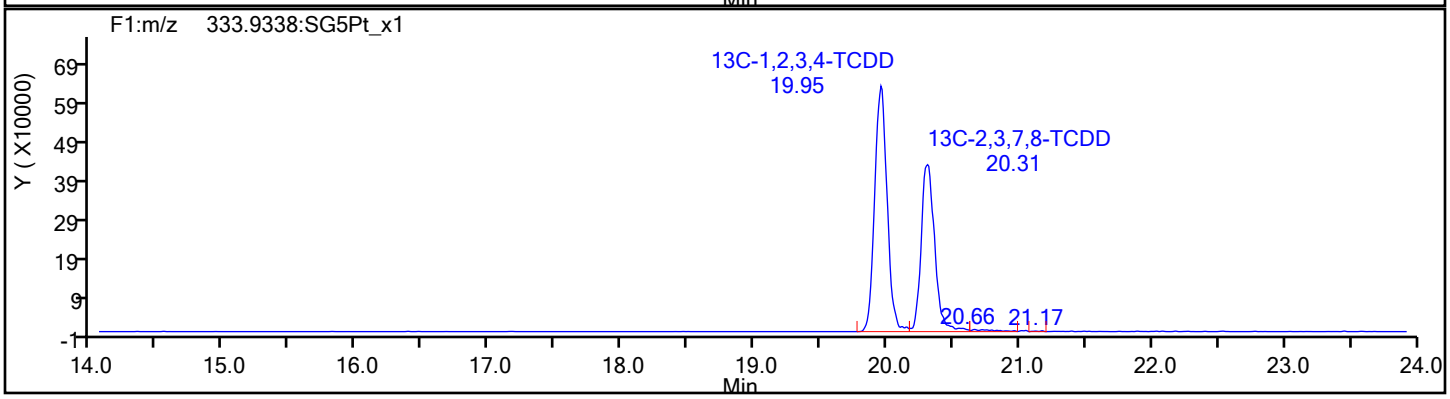




TCDD Standards





Report Date: 25-Jan-2022 08:37:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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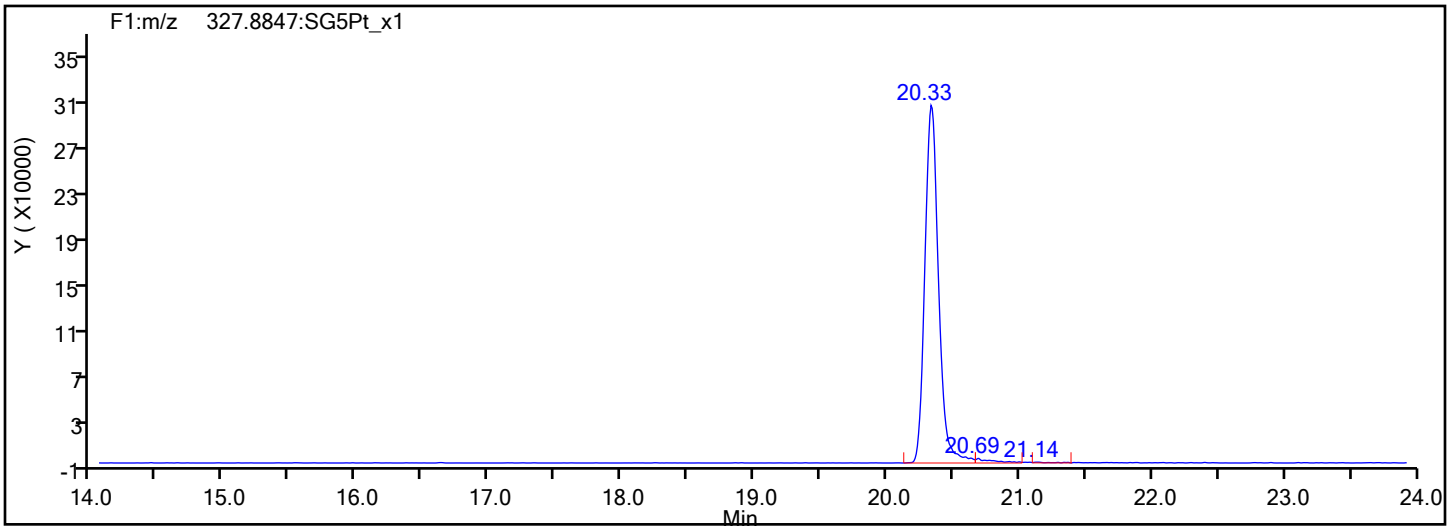
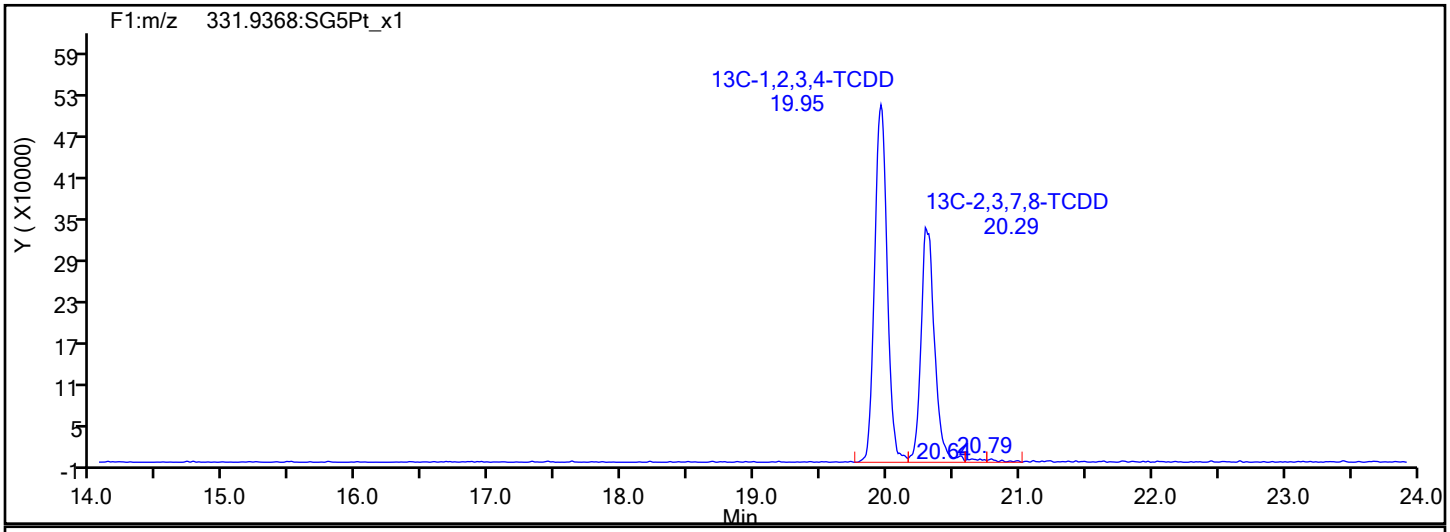
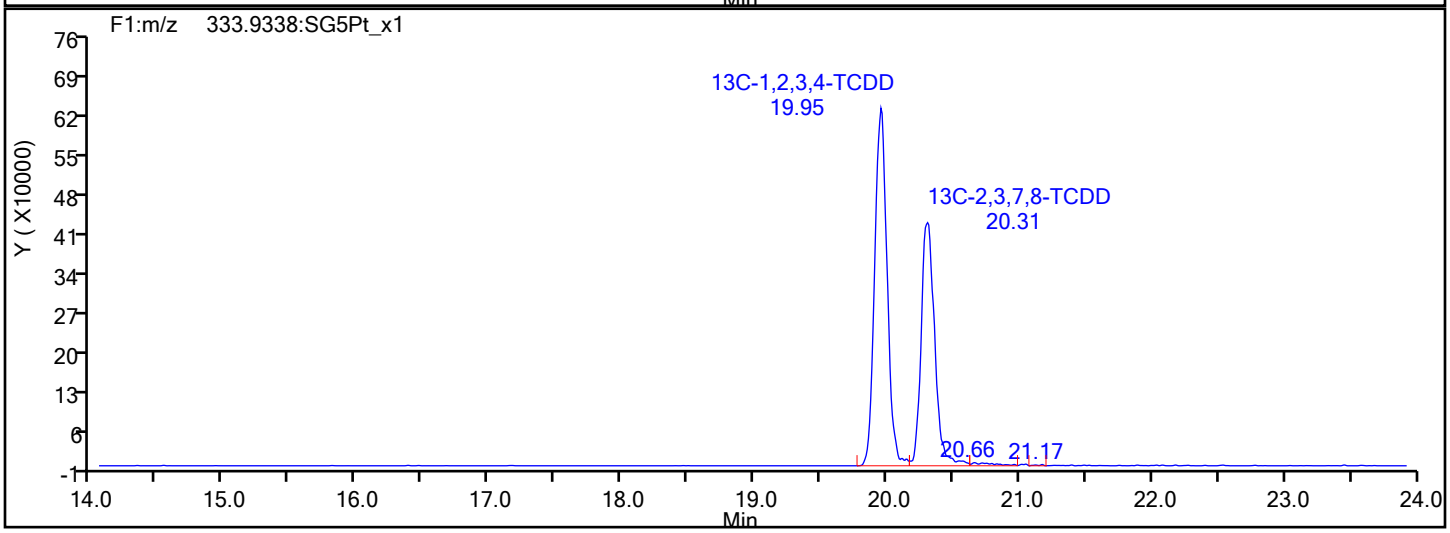
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 25-Jan-2022 08:37:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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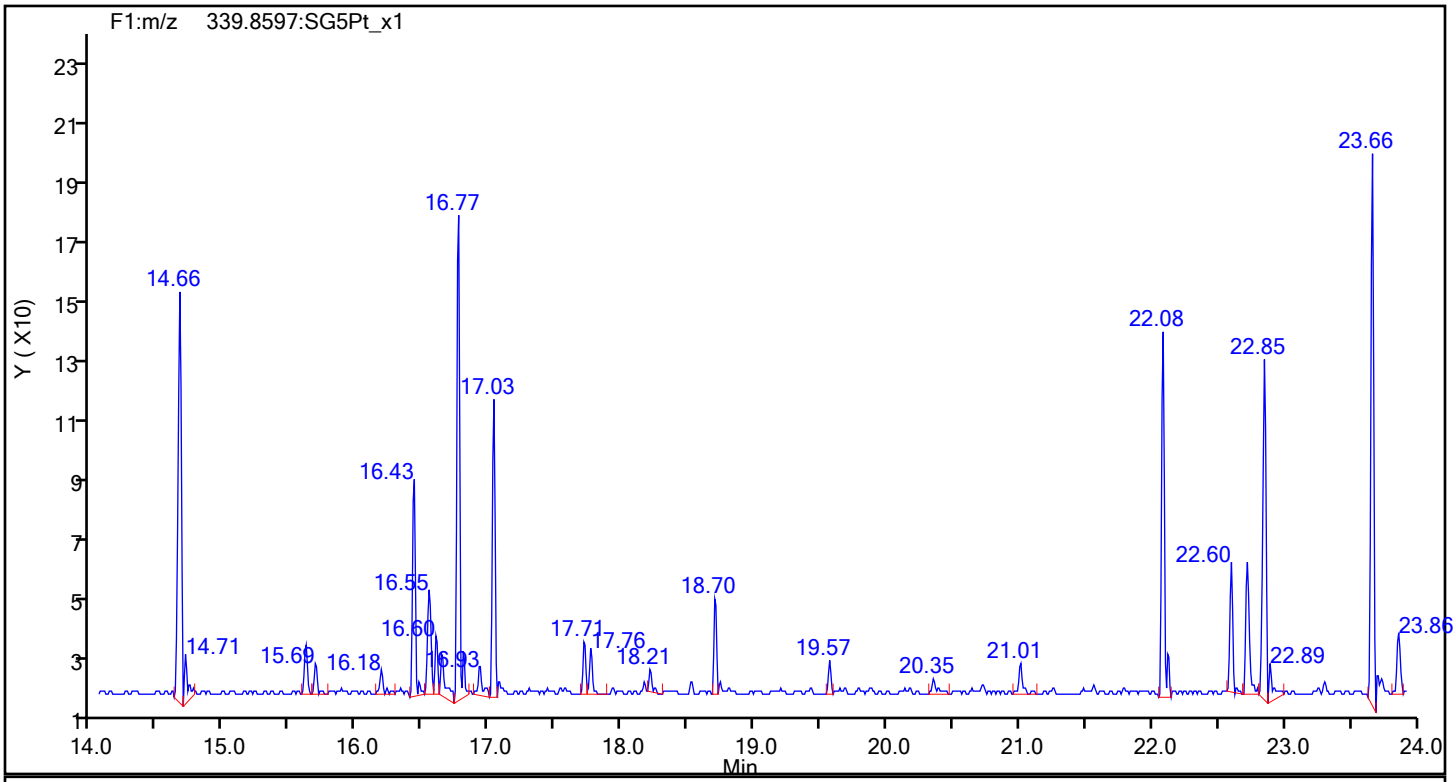
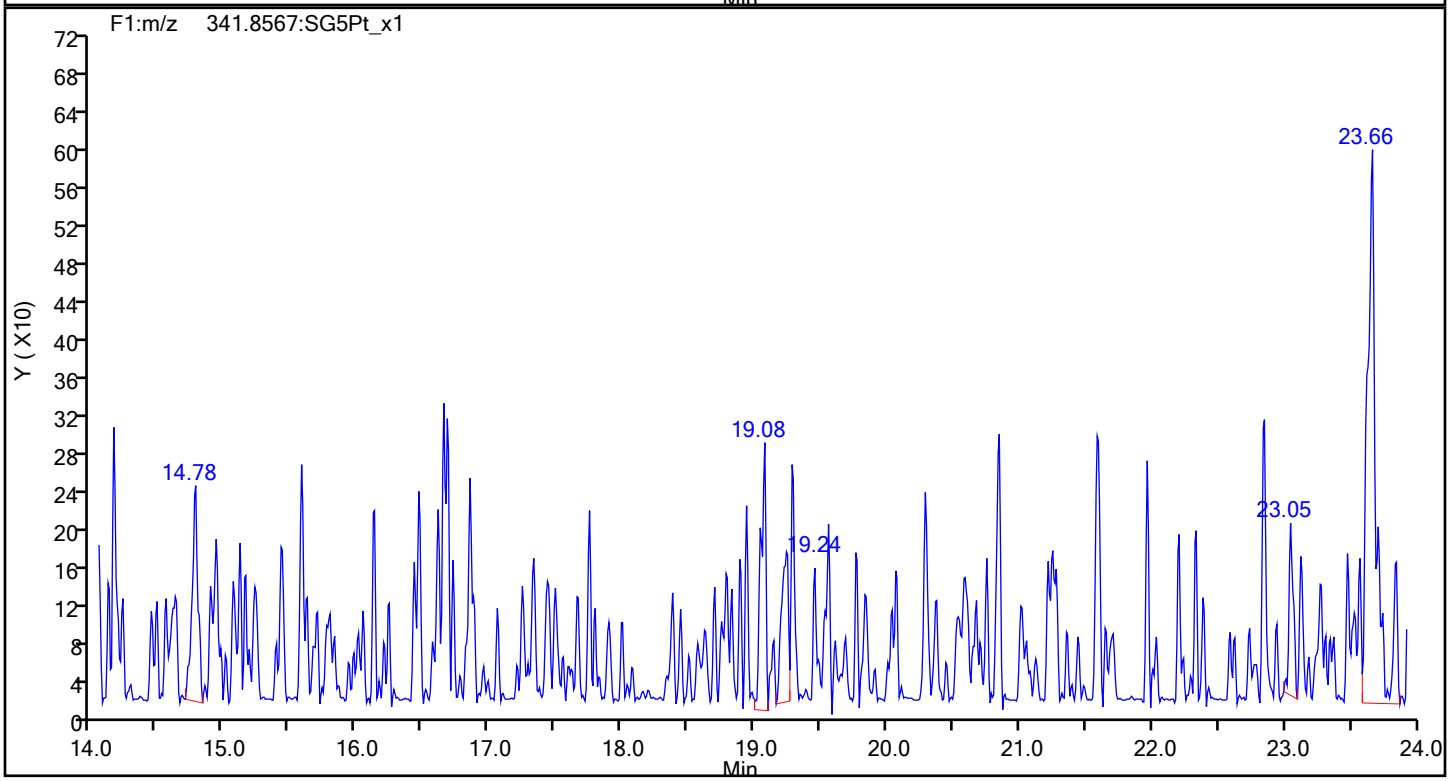
F1 PeCDFs





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d		
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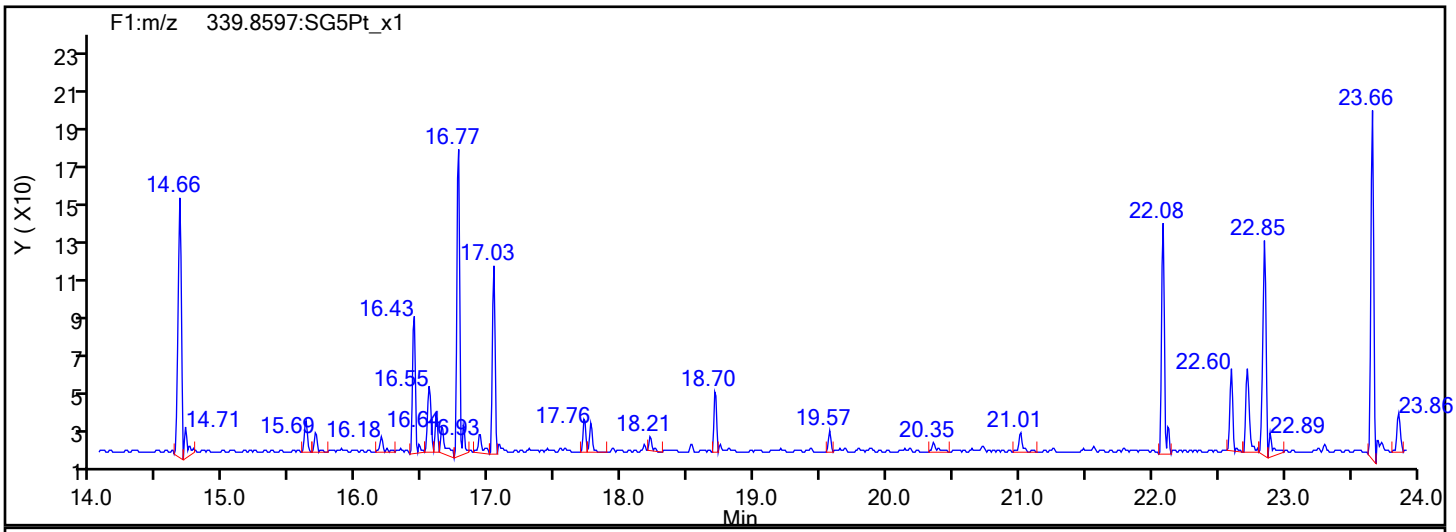
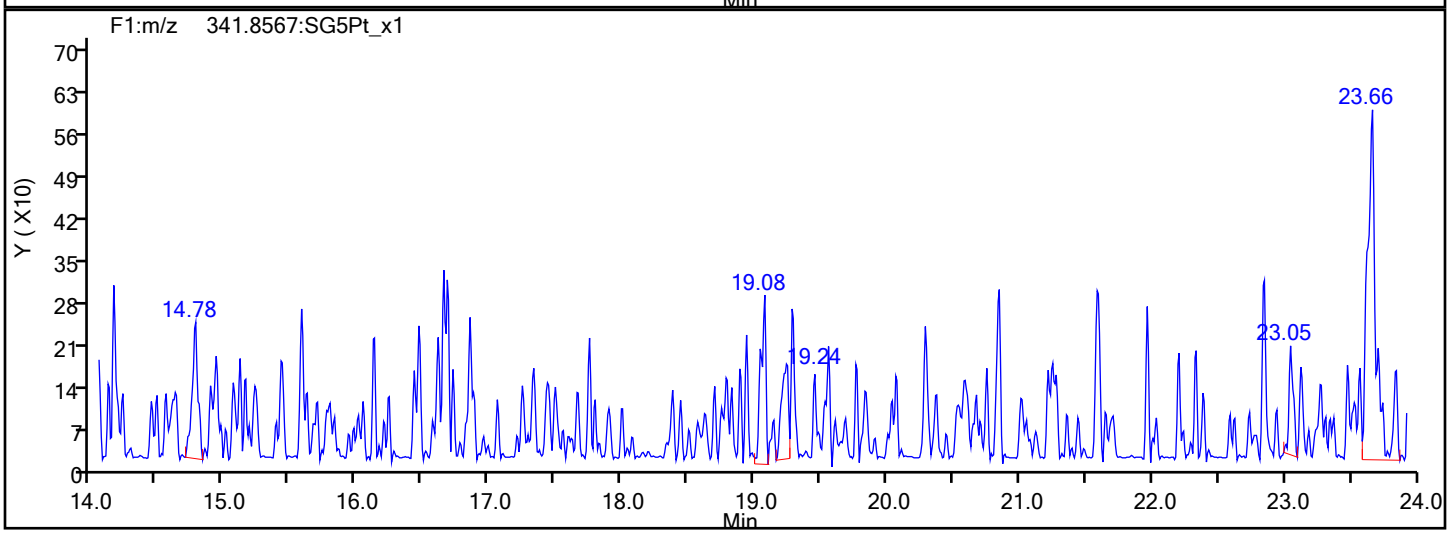
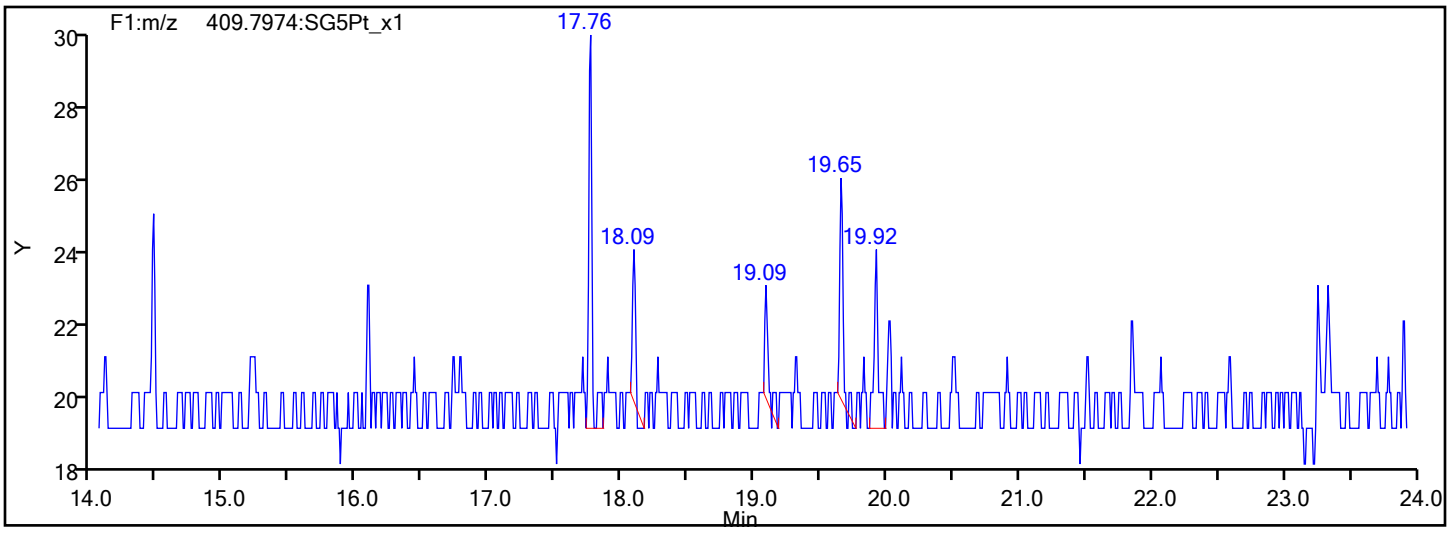




F1 PeCDFs Interference Mass



Eurofins Sacramento

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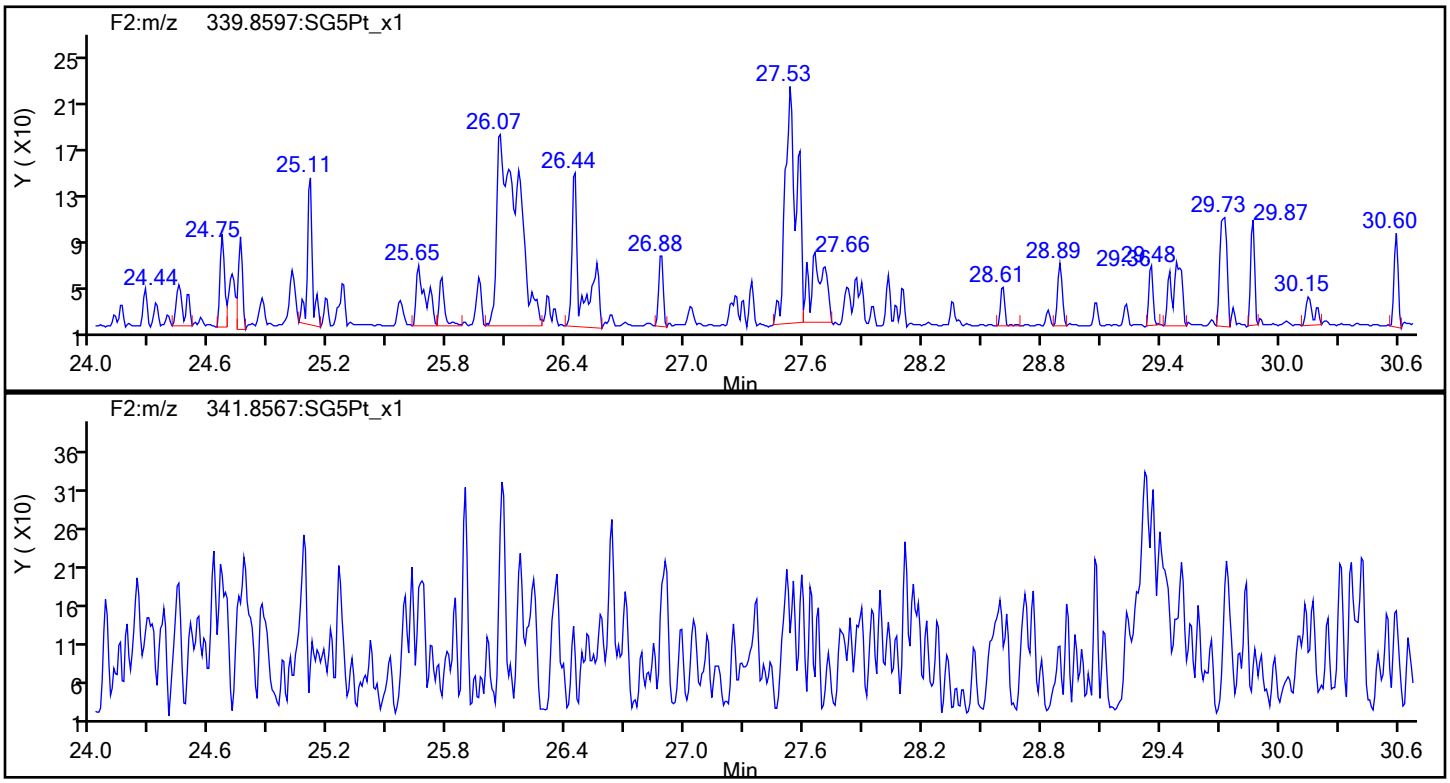
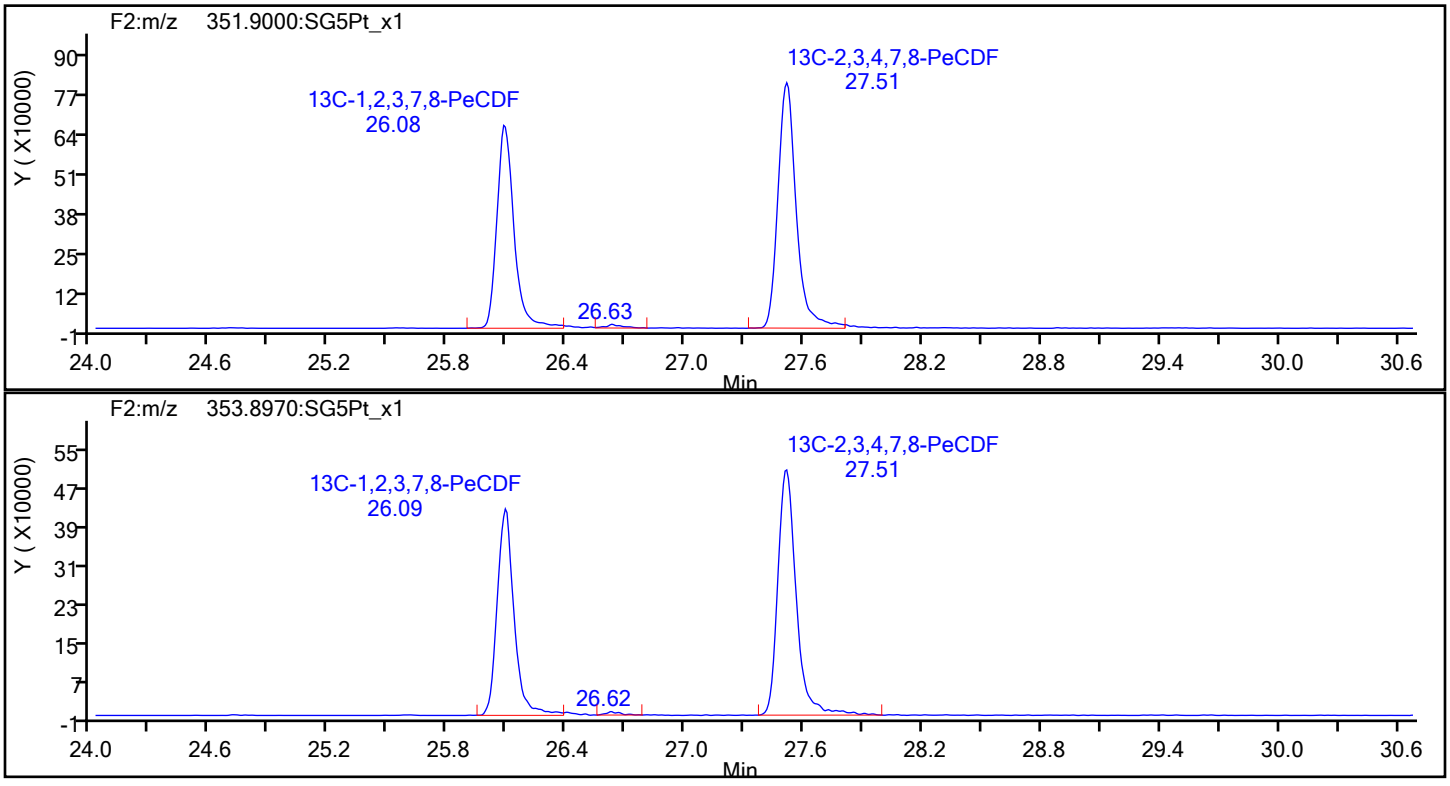
PeCDF



PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d		
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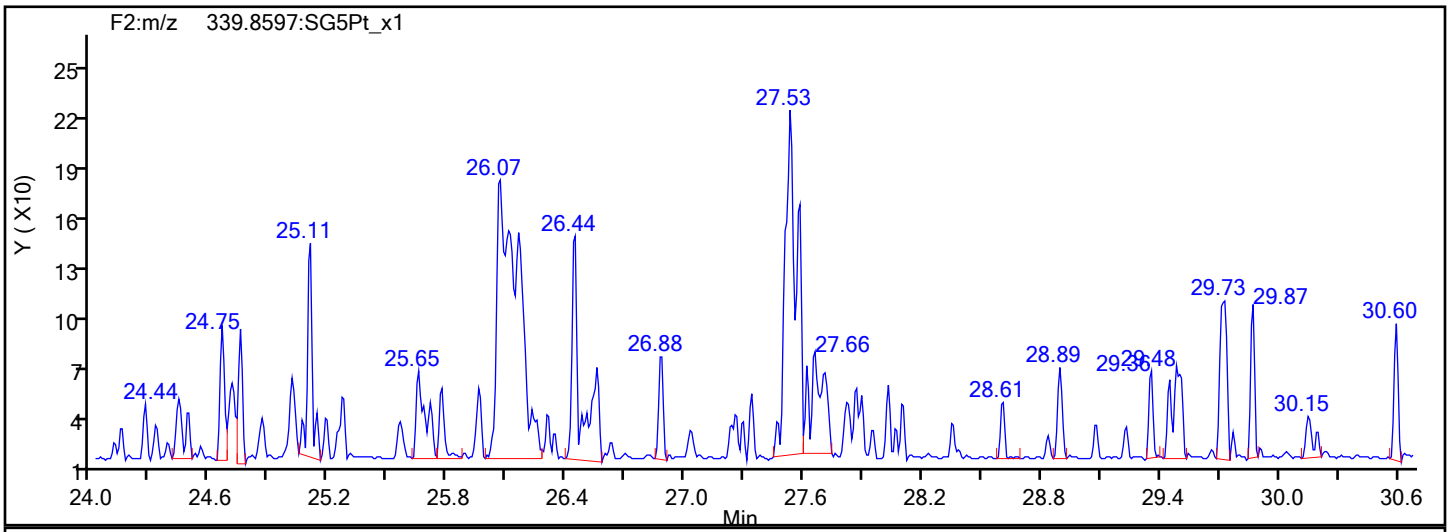
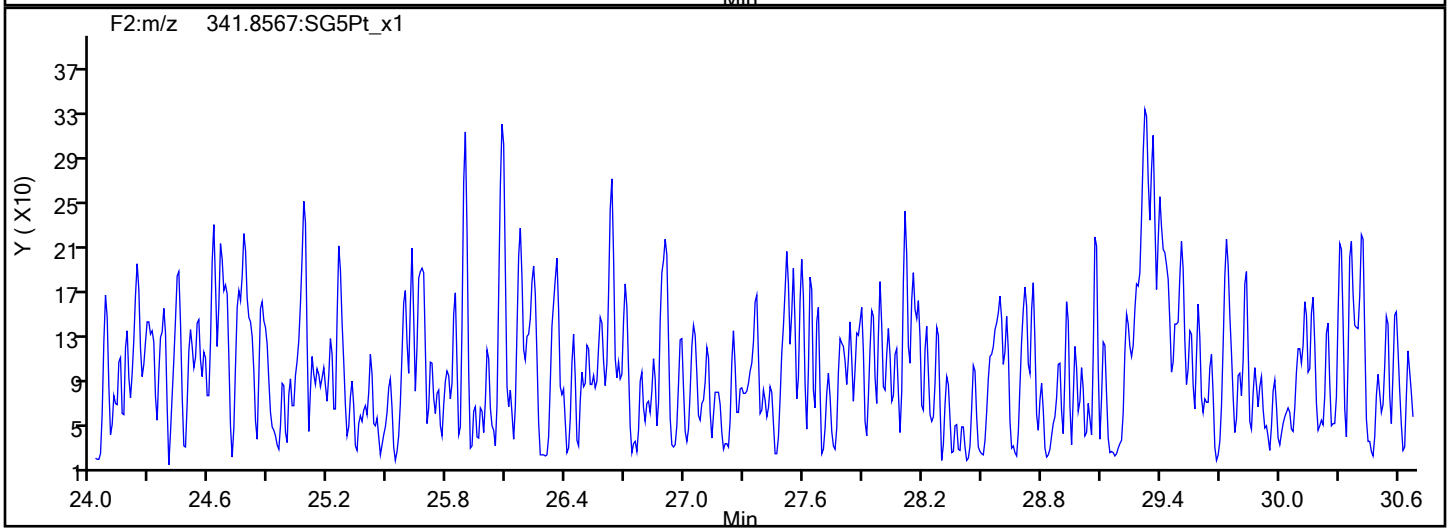
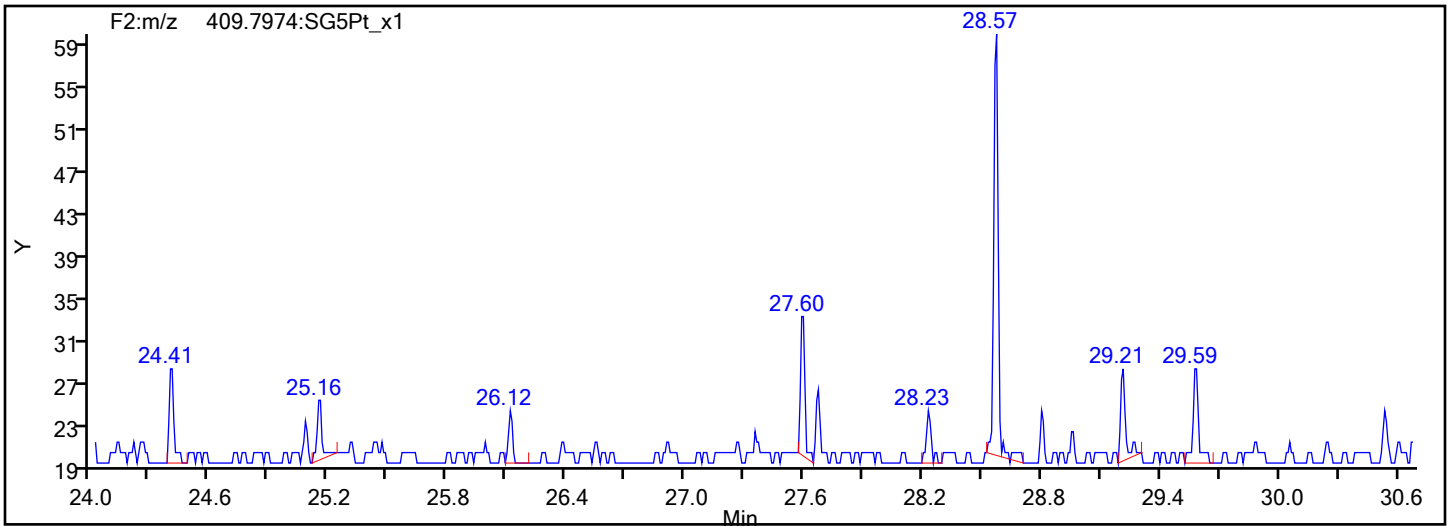




PeCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d		
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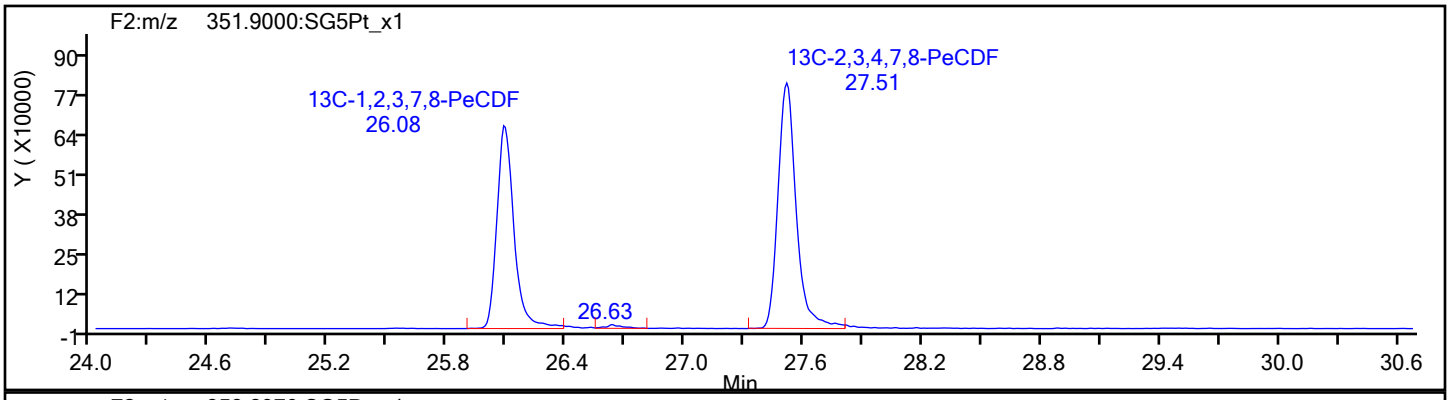
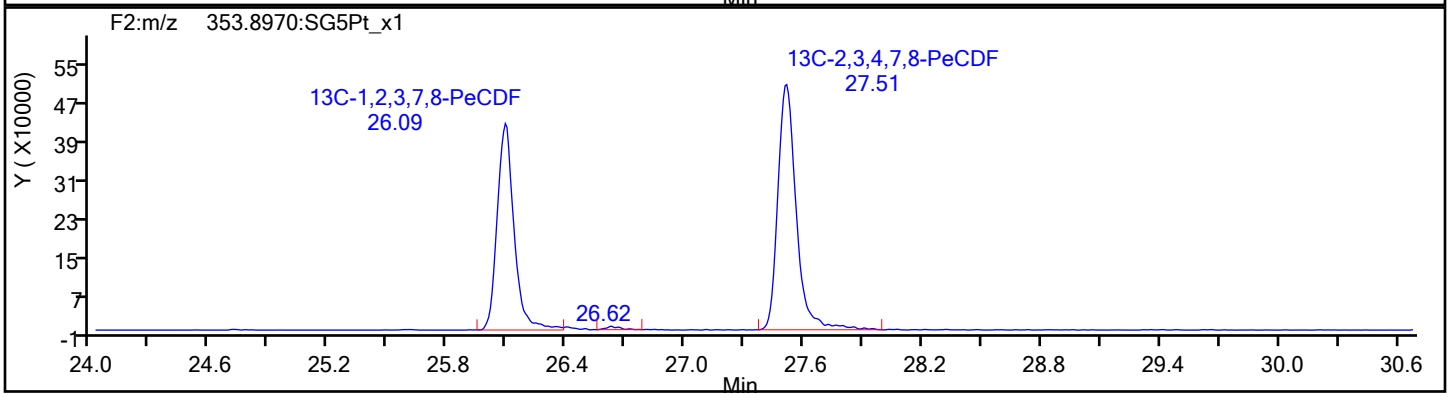
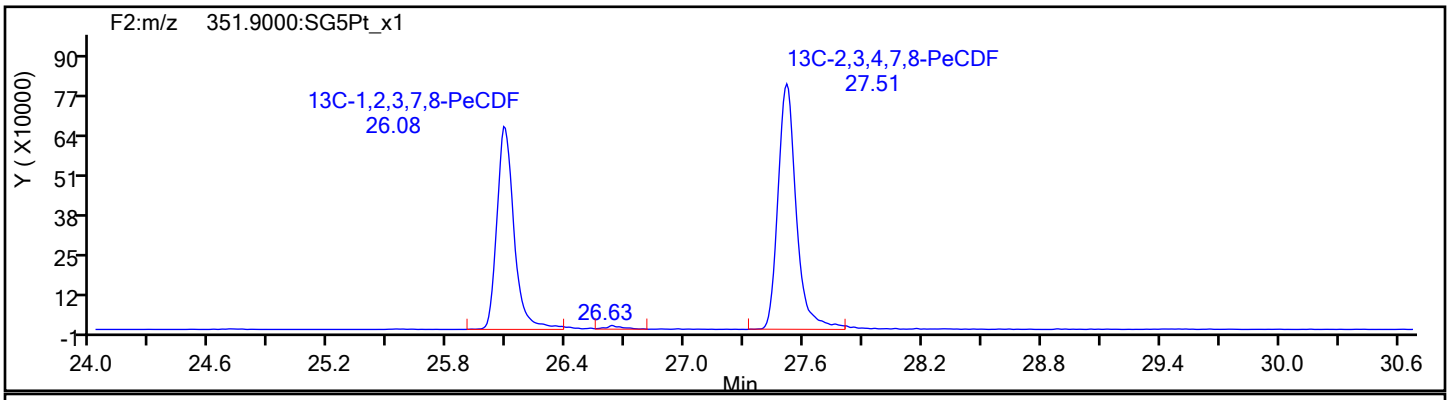
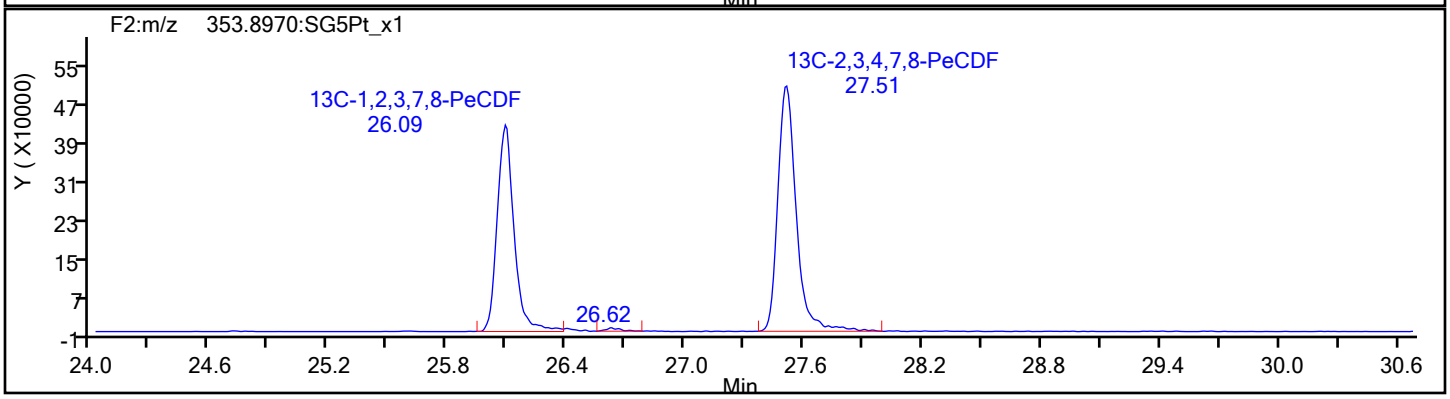
13C-PeCDF





13C-PeCDF Standards





Report Date: 25-Jan-2022 08:37:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d

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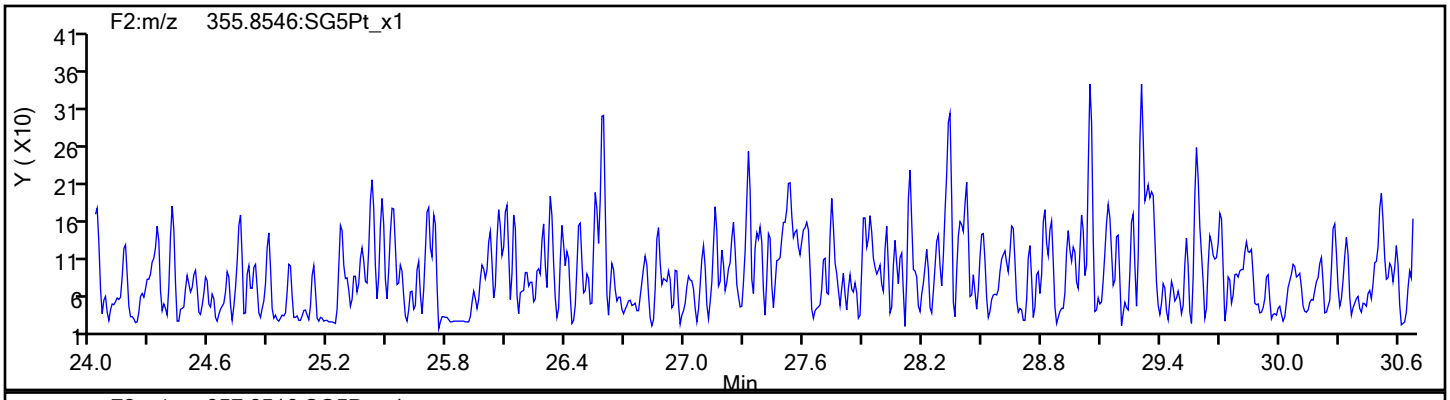
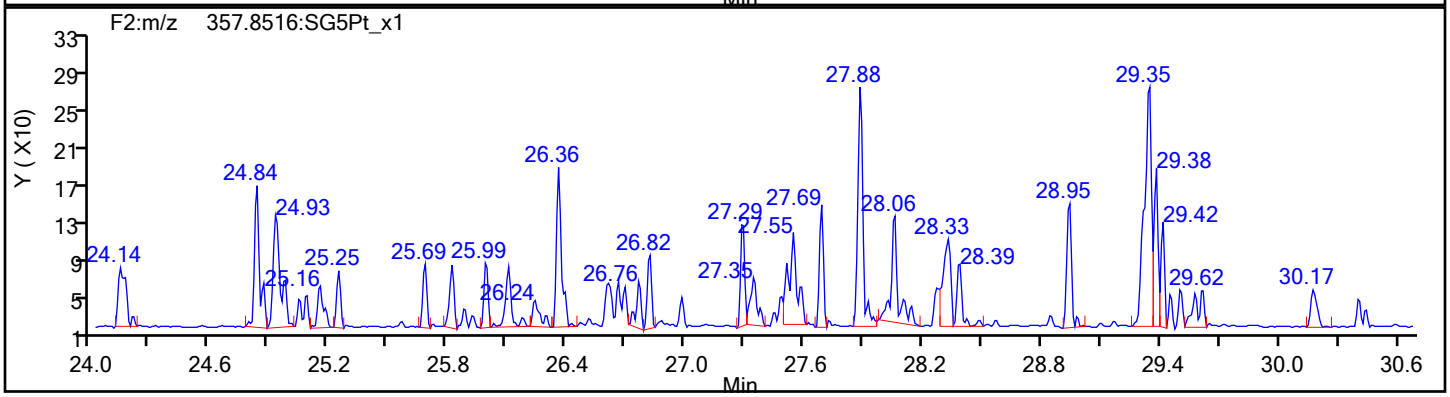
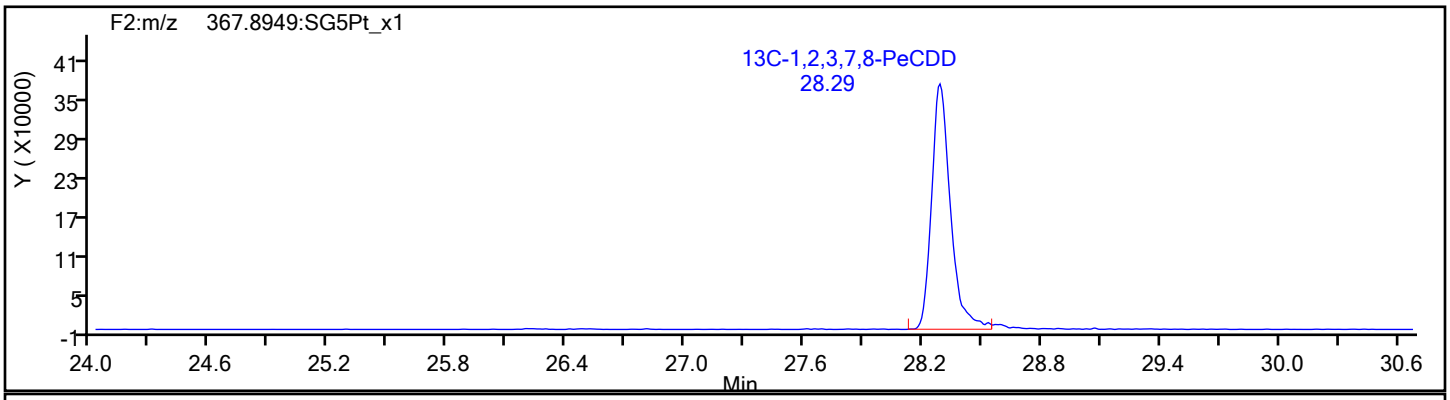
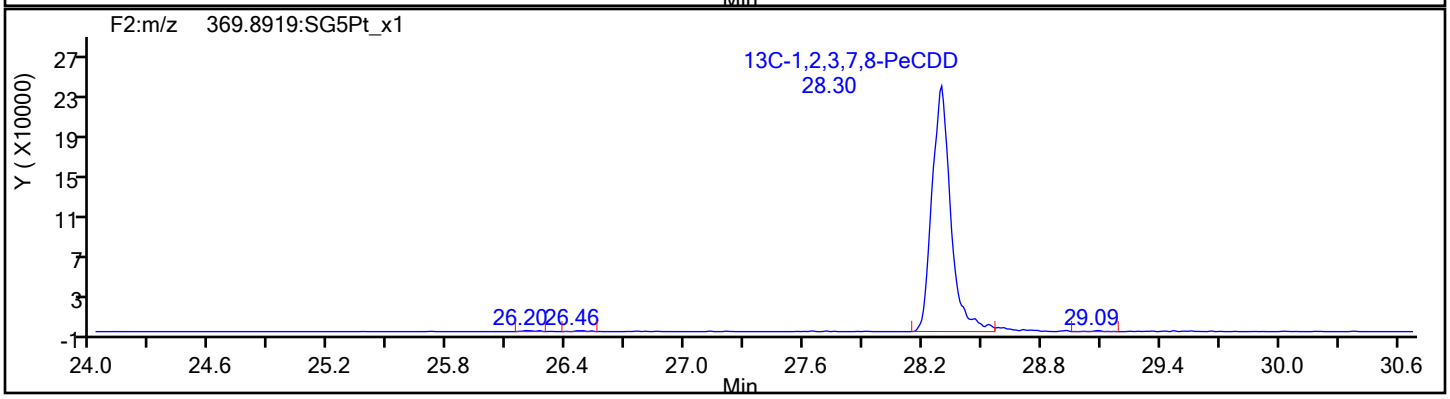
PeCDD





PeCDD Standards





Report Date: 25-Jan-2022 08:37:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d

Injection Date:	22-Jan-2022 01:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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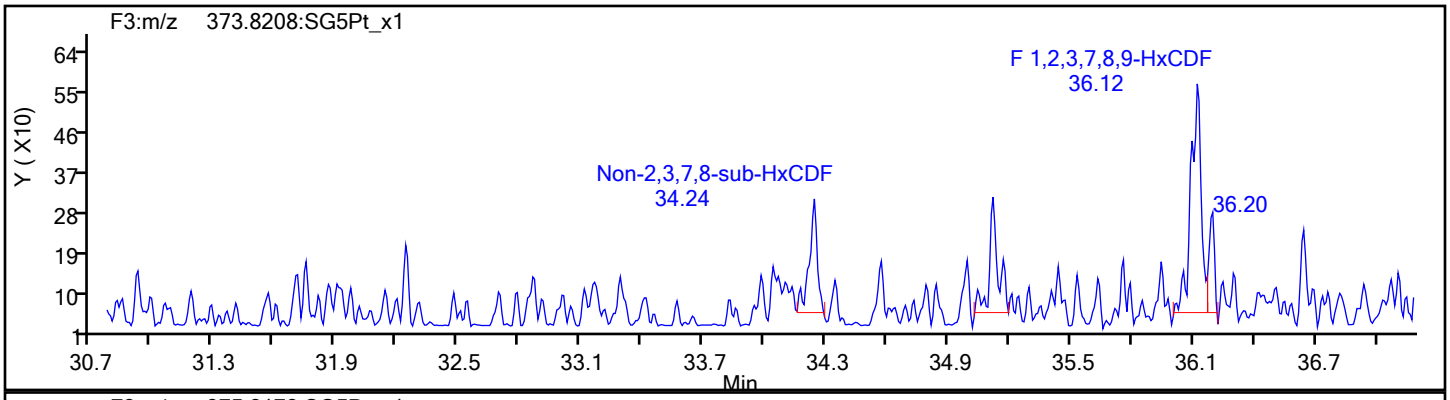
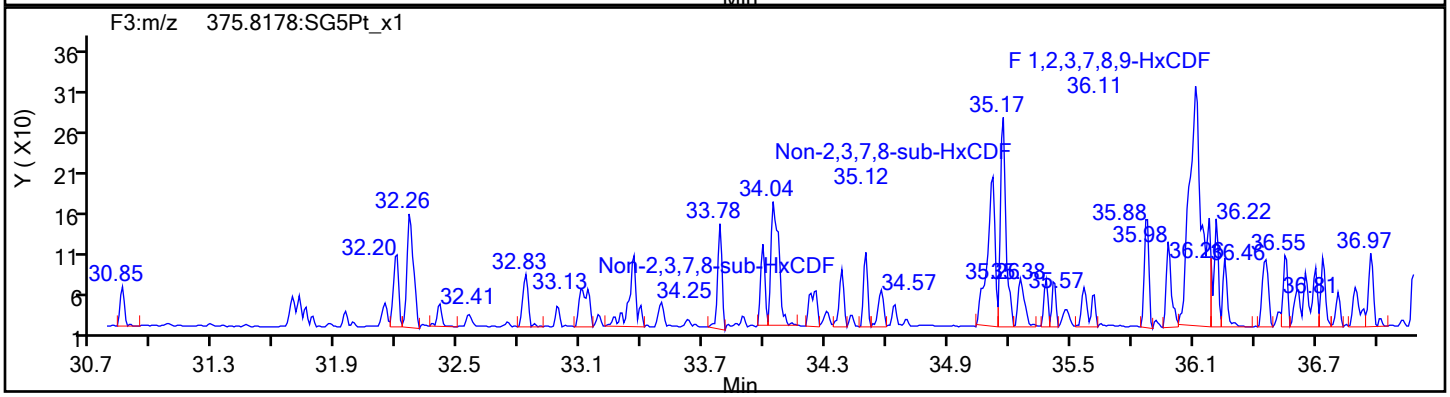
HxCDF





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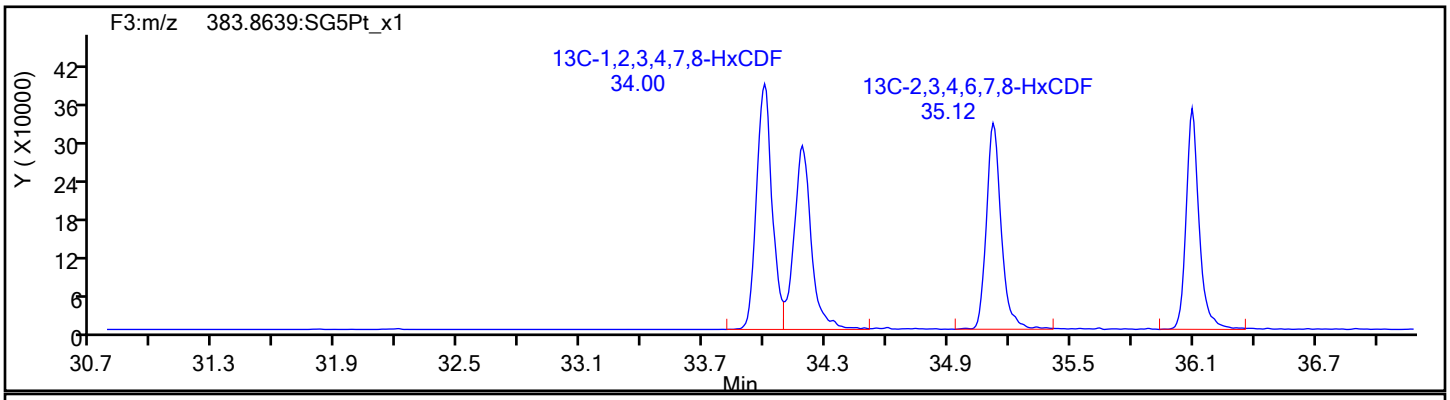

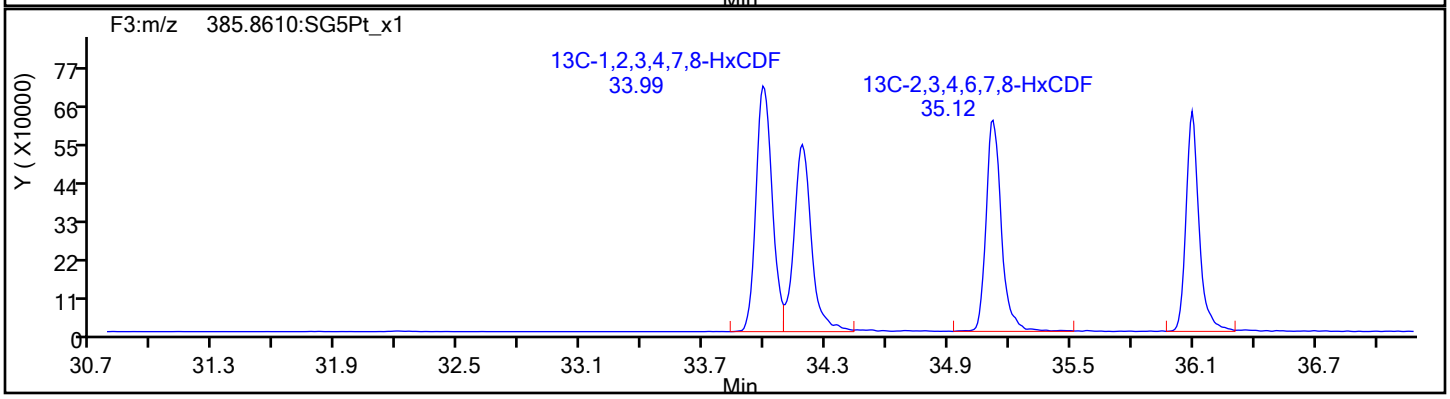

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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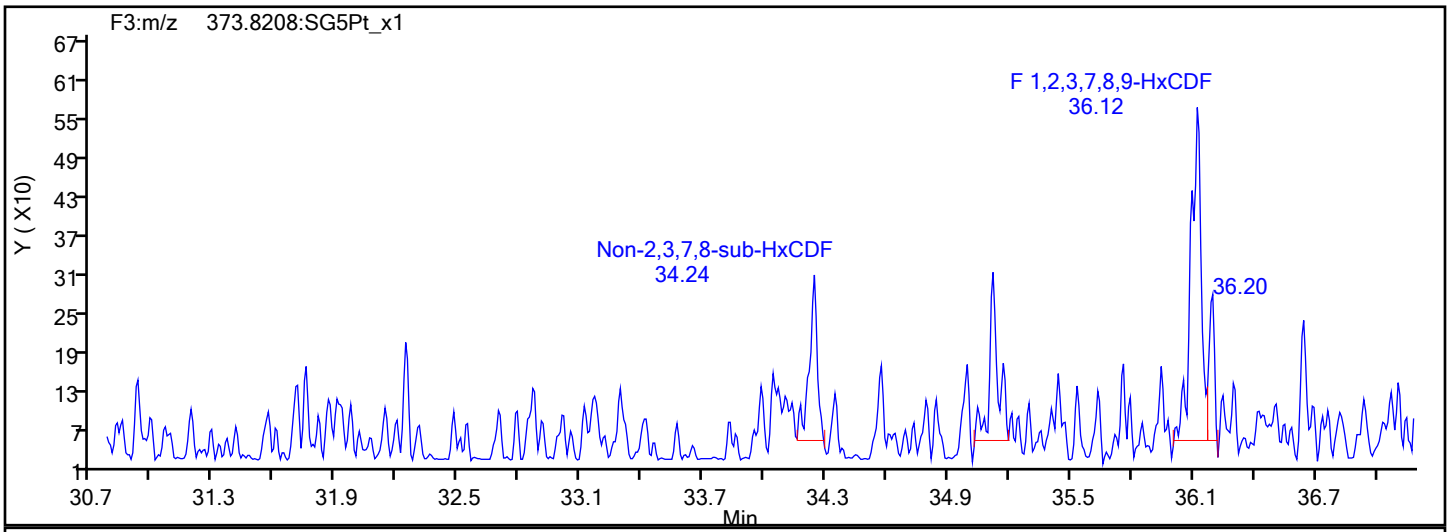
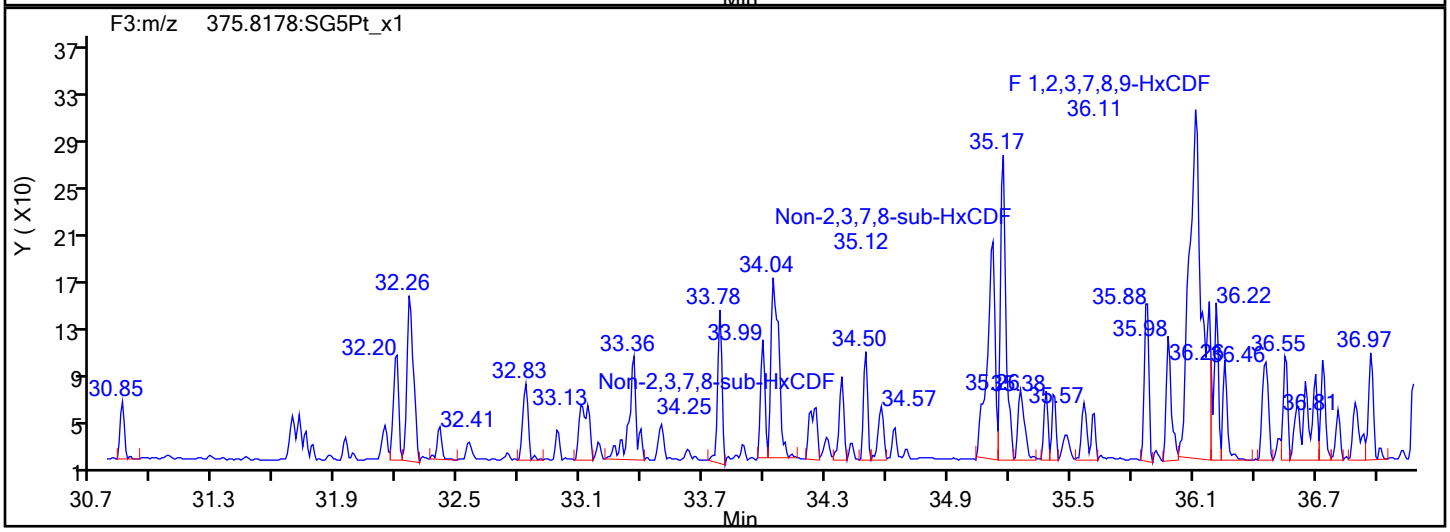
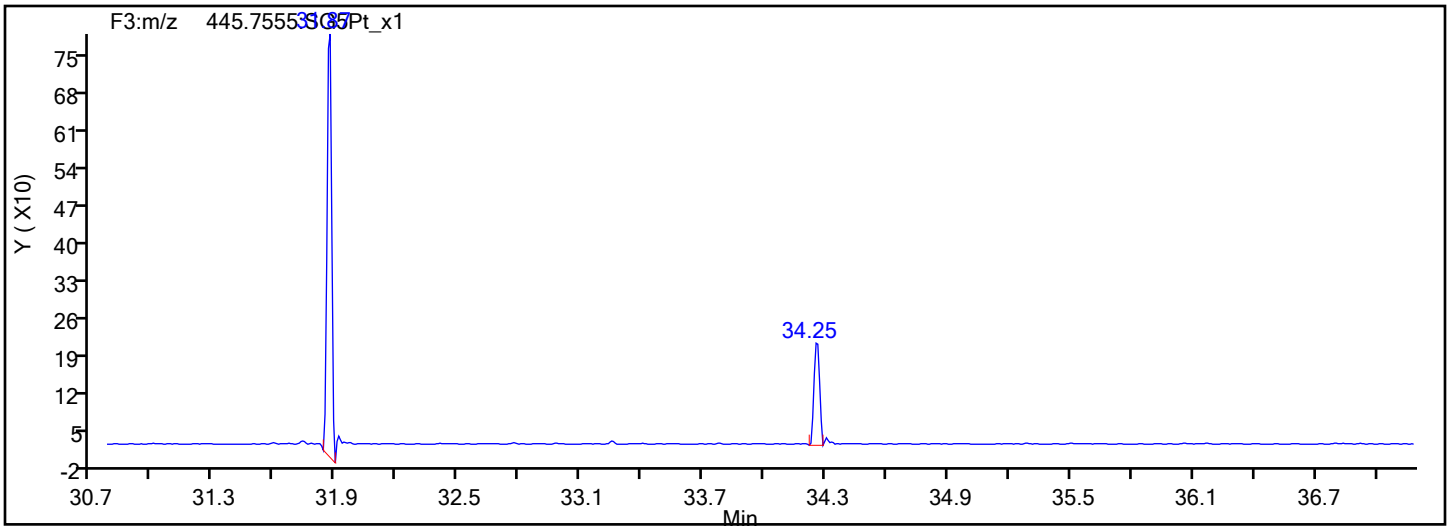
HxCDF





HxCDF Interference Mass



Report Date: 25-Jan-2022 08:37:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d

Injection Date:	22-Jan-2022 01:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0007S013		
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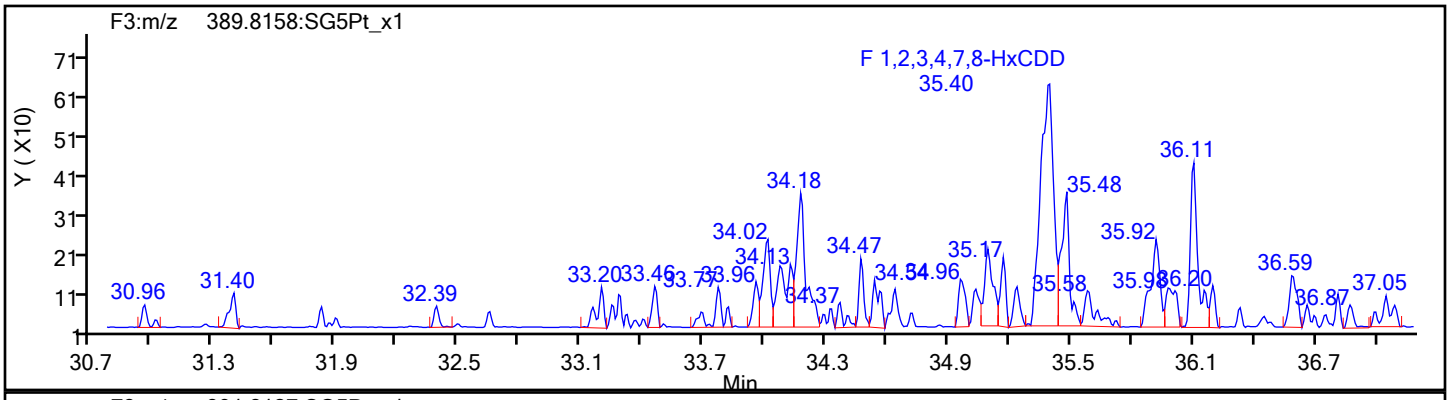
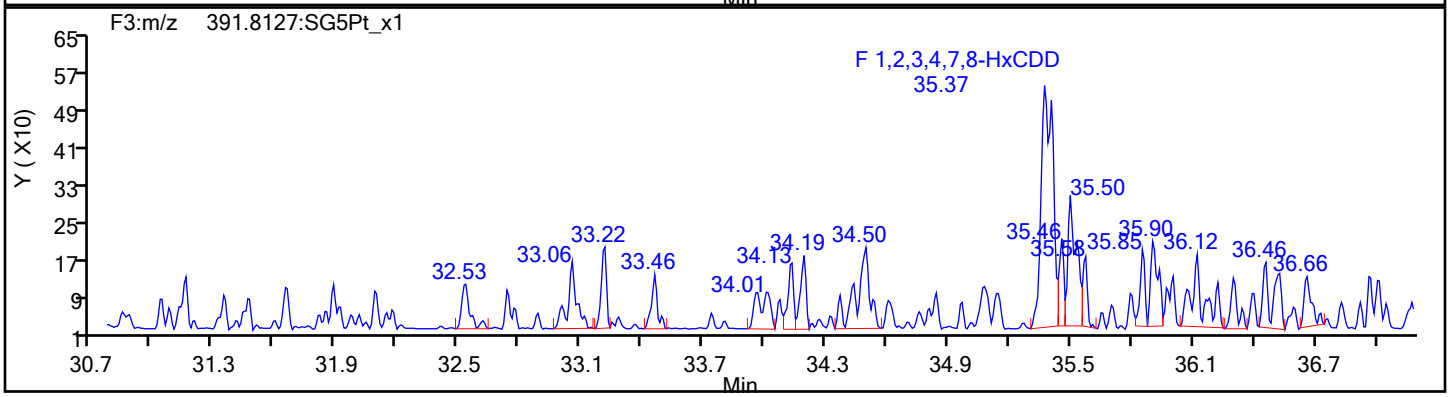
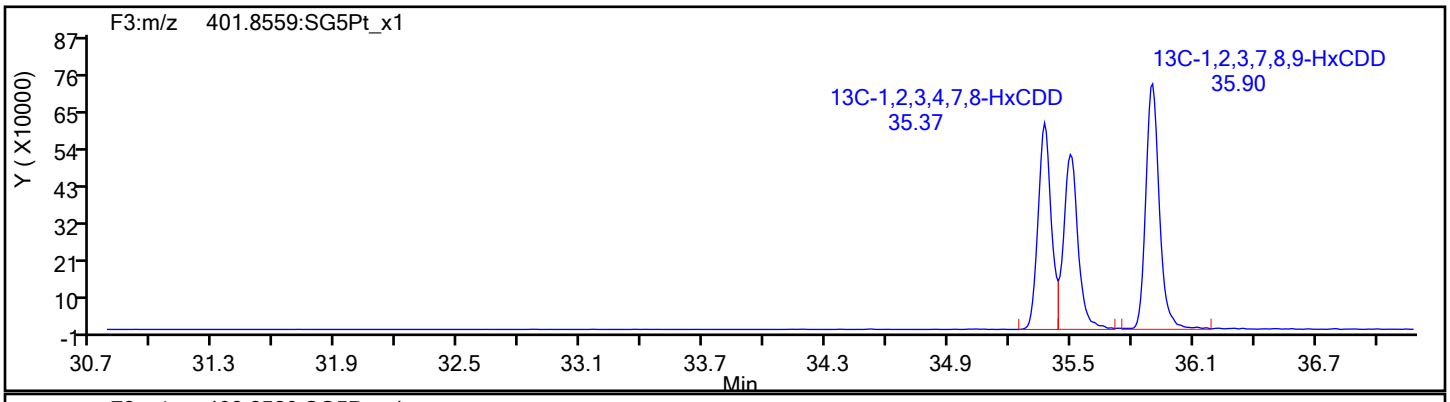
Column Type:	DB-5	Column Dia:	0.32 mm

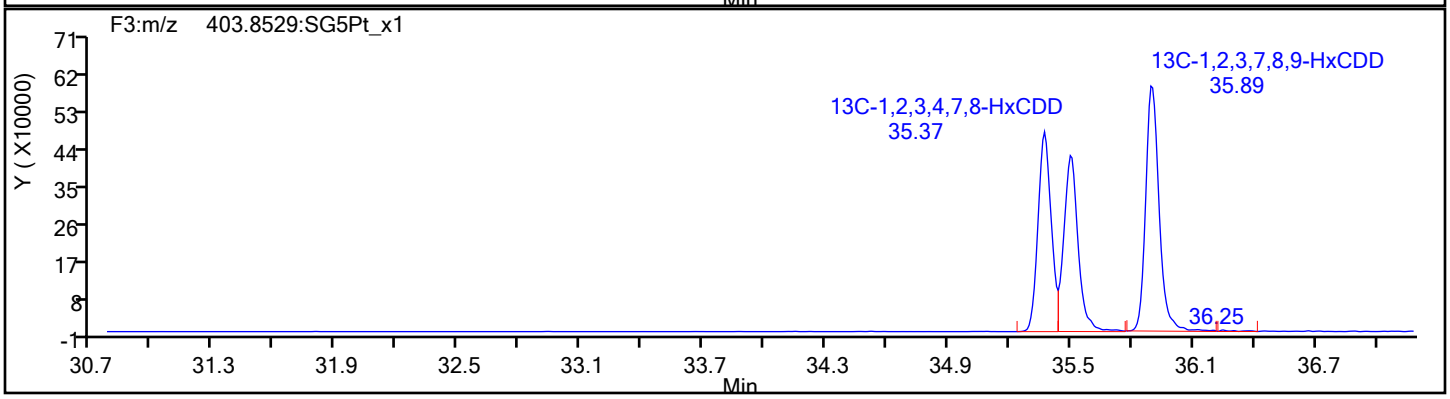
HxCDD





HxCDD Standards





Eurofins Sacramento

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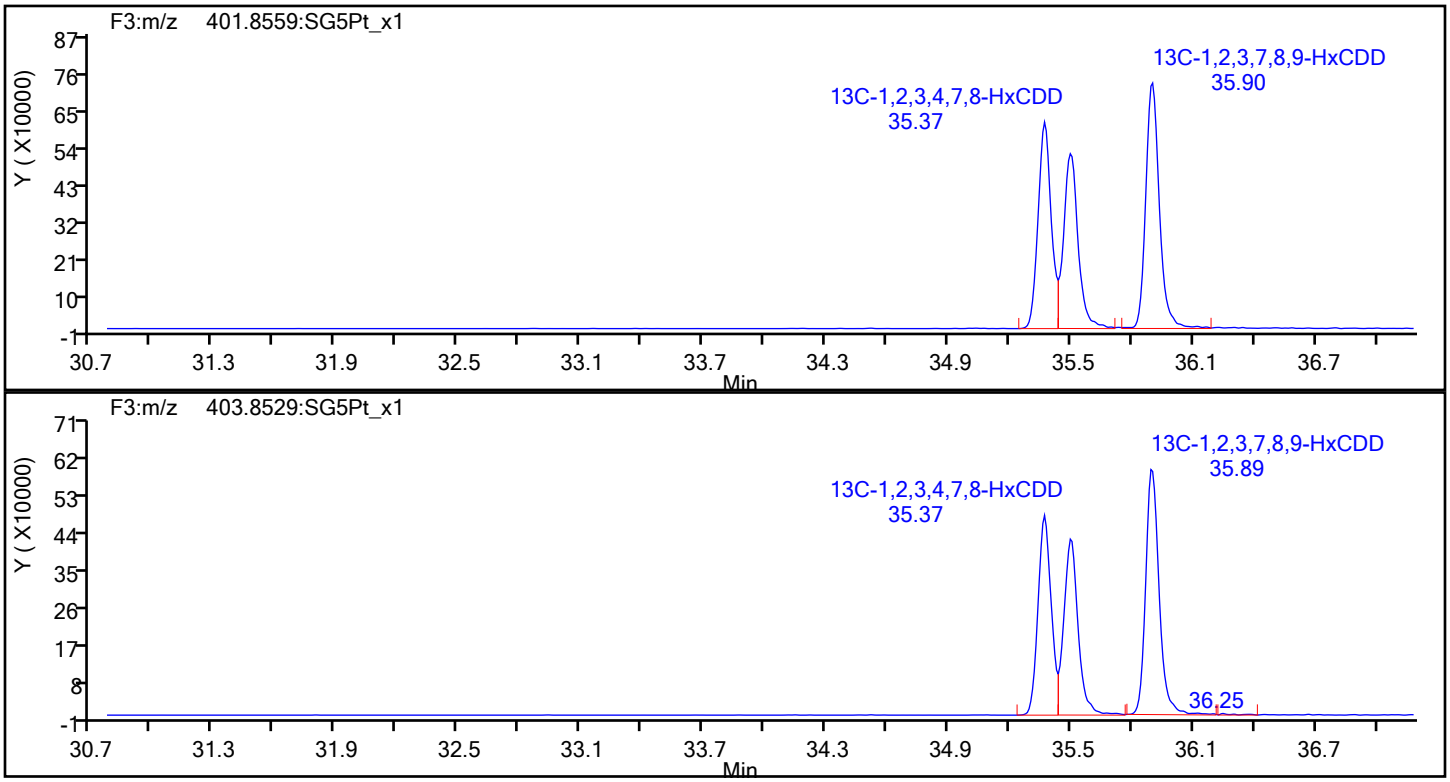
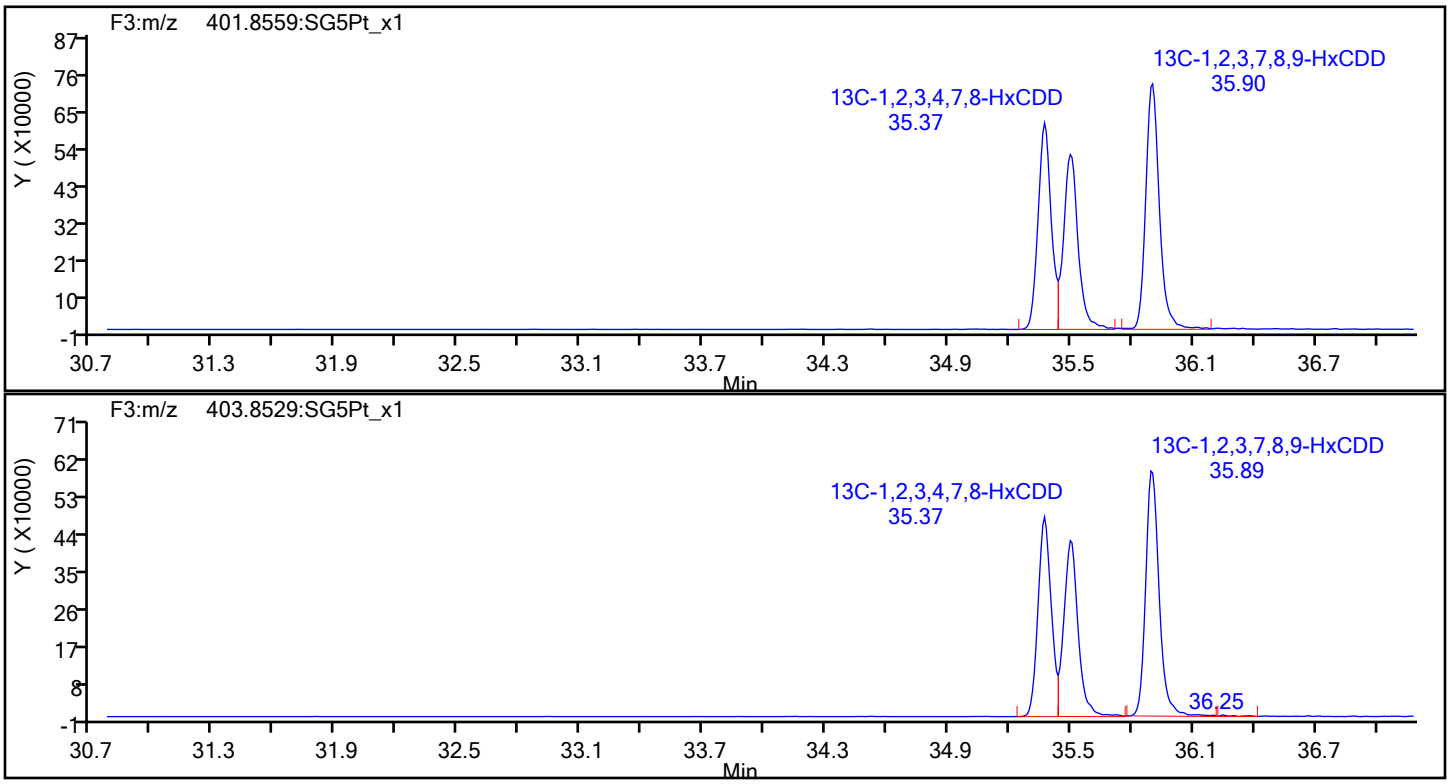
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0007S013		
Worklist#:	559800	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

13C-HxCDD



13C-HxCDD Standards



Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0007S013		
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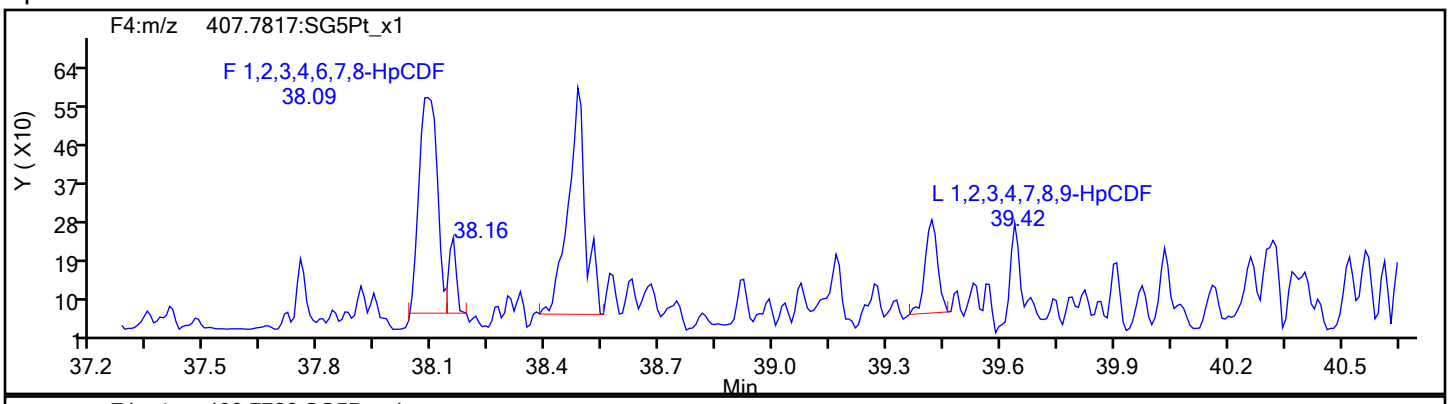
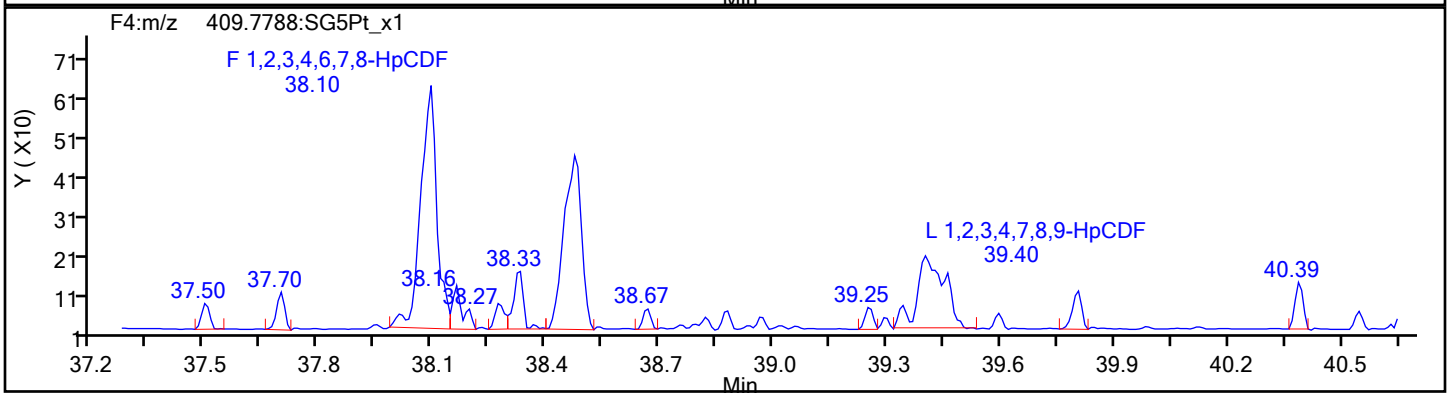
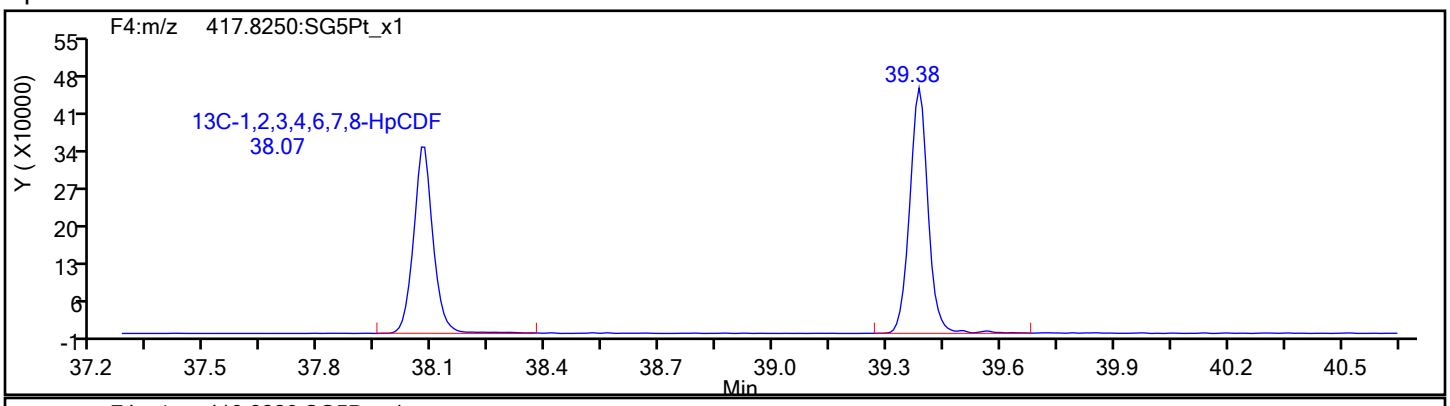
Column Type:	DB-5	Column Dia:	0.32 mm

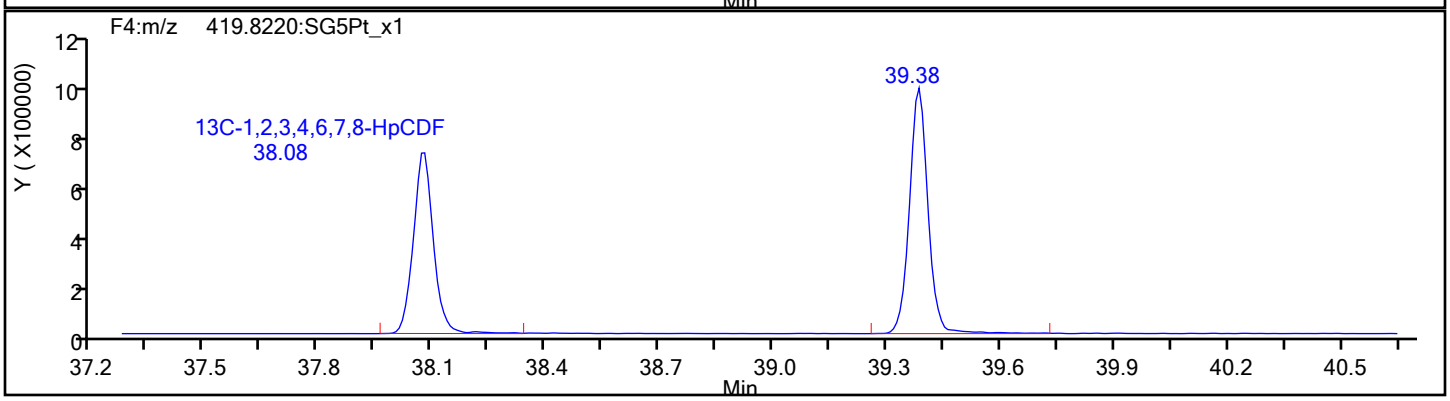
HpCDF





HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d		
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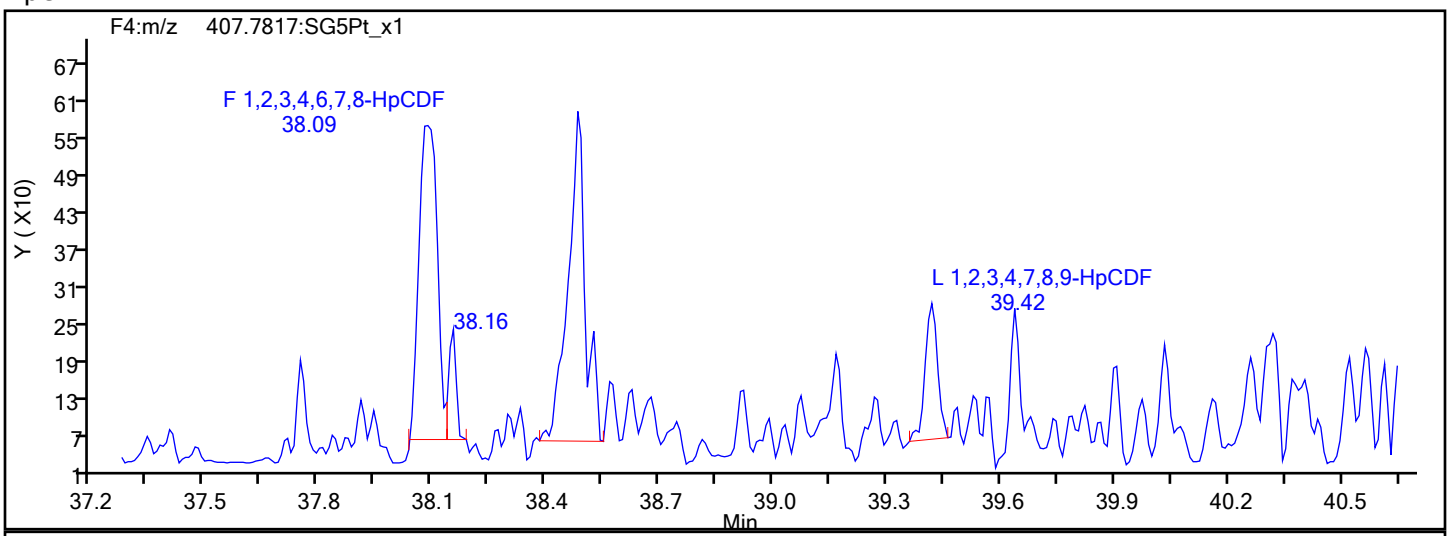
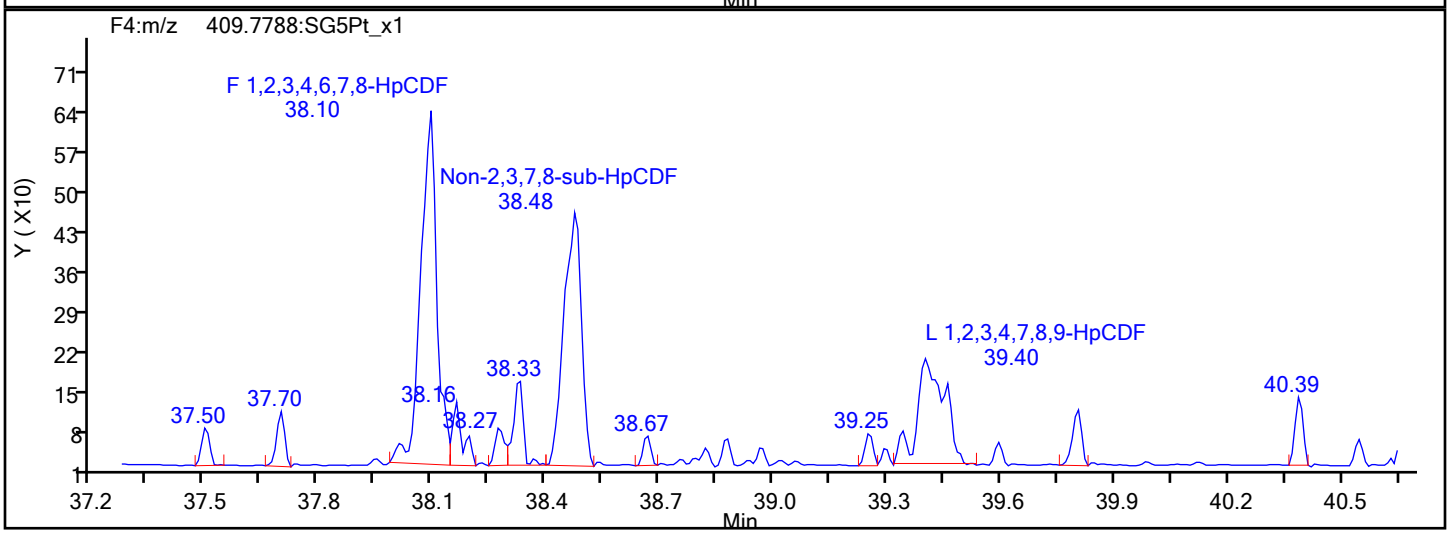
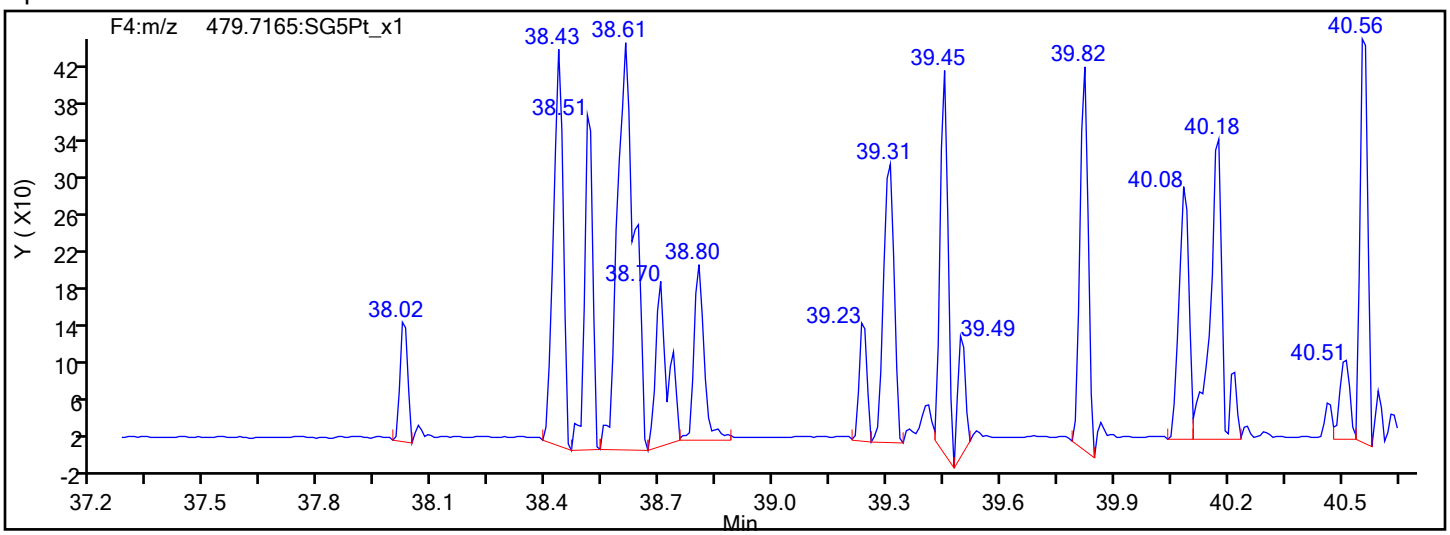
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0007S013		
Worklist#:	559800	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0007S013		
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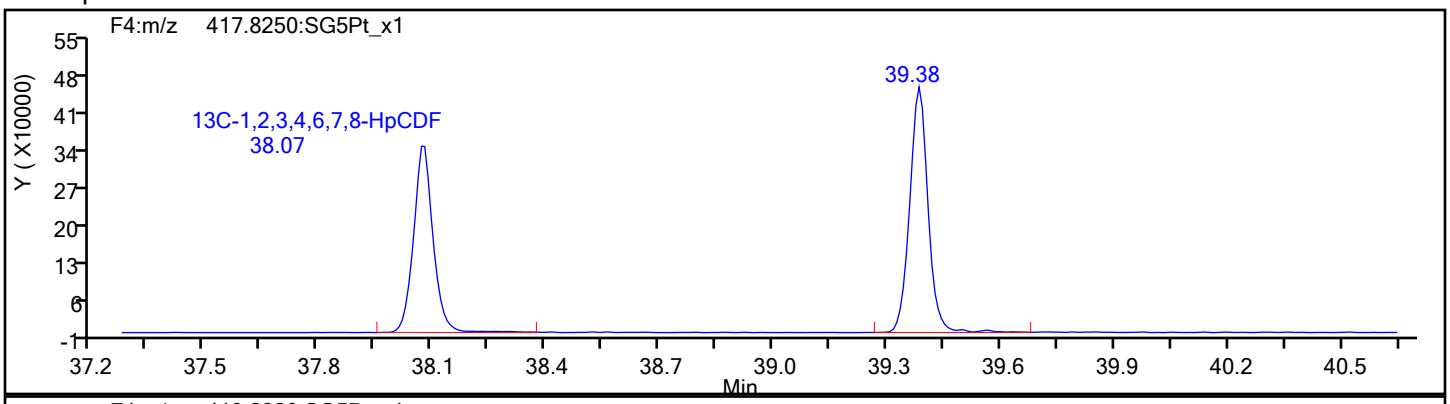
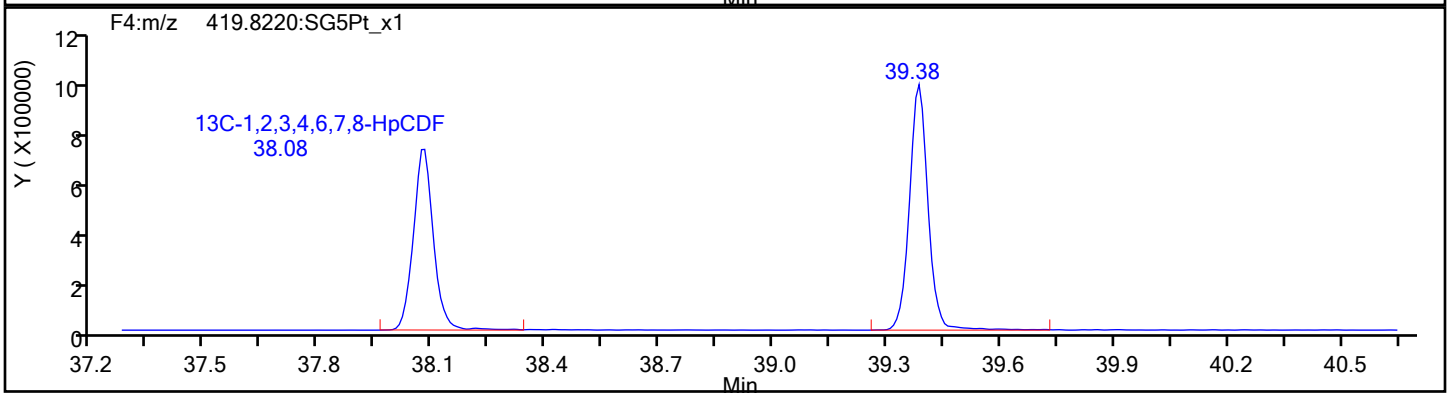
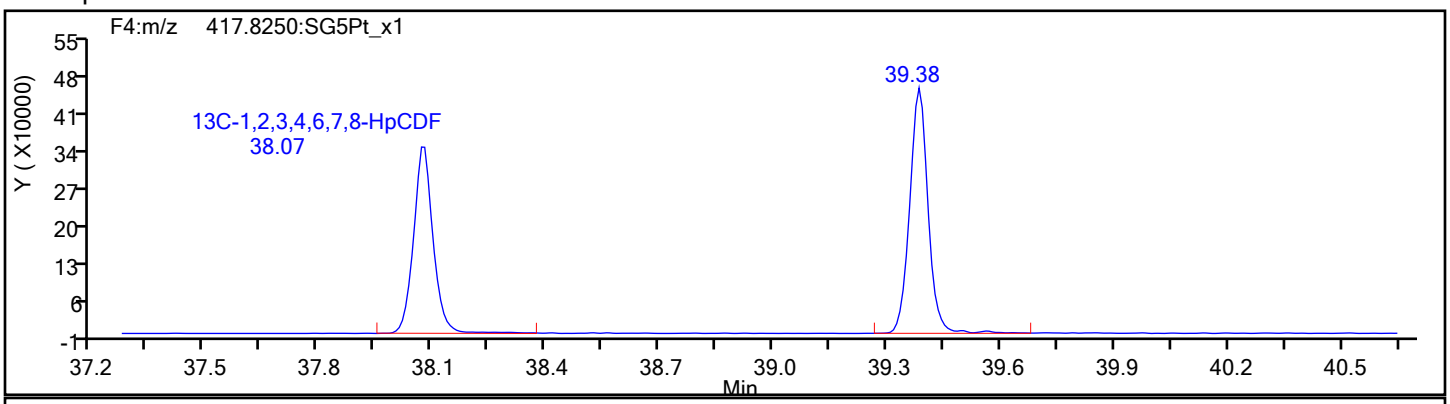
Column Type:	DB-5	Column Dia:	0.32 mm

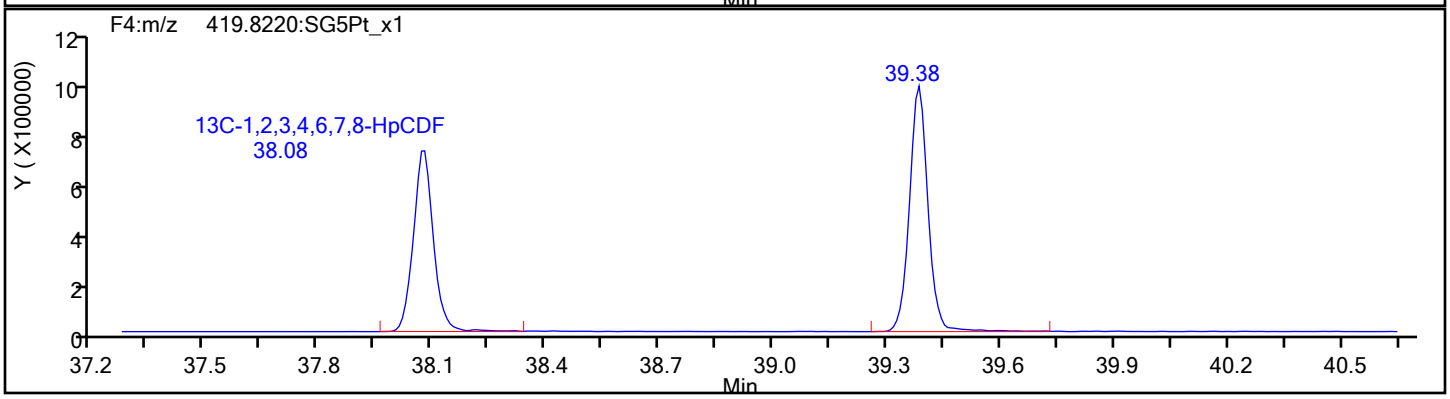
13C-HpCDF





13C-HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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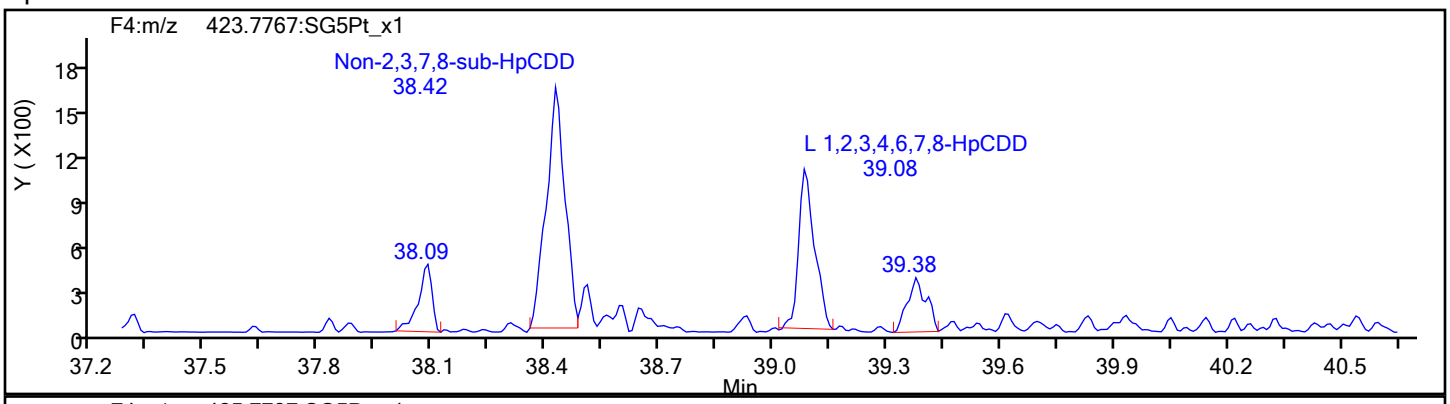
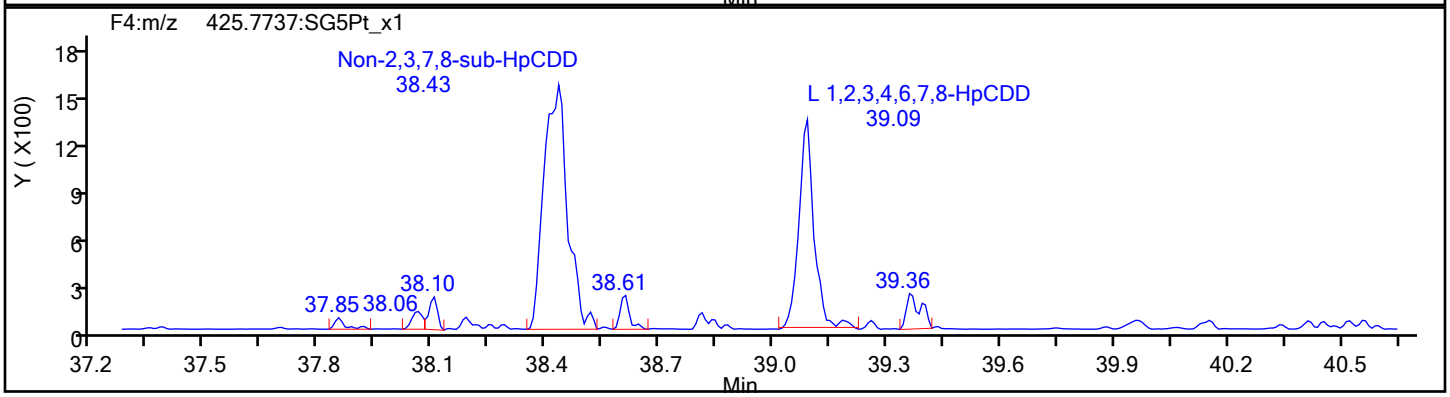
HpCDD





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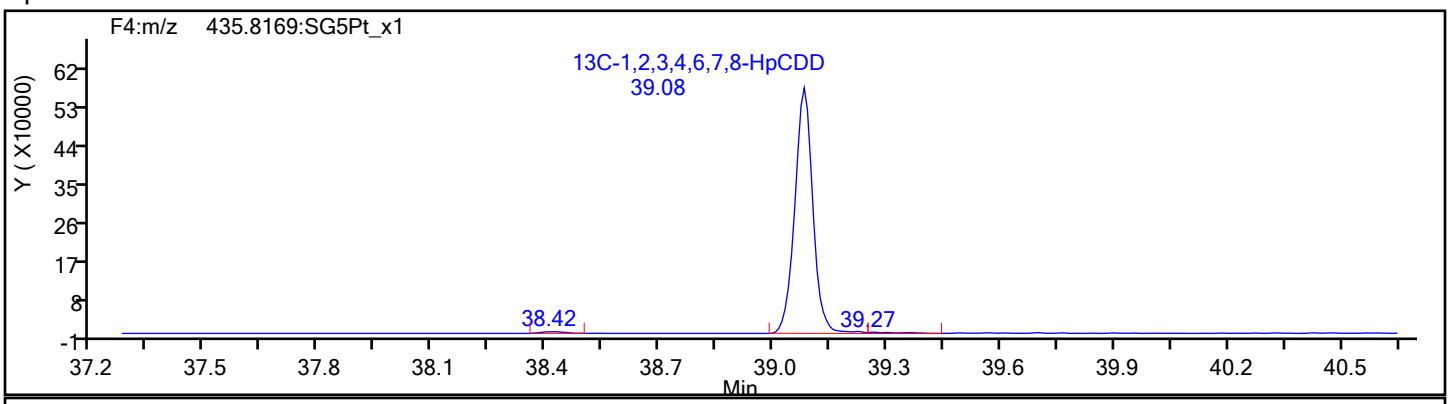
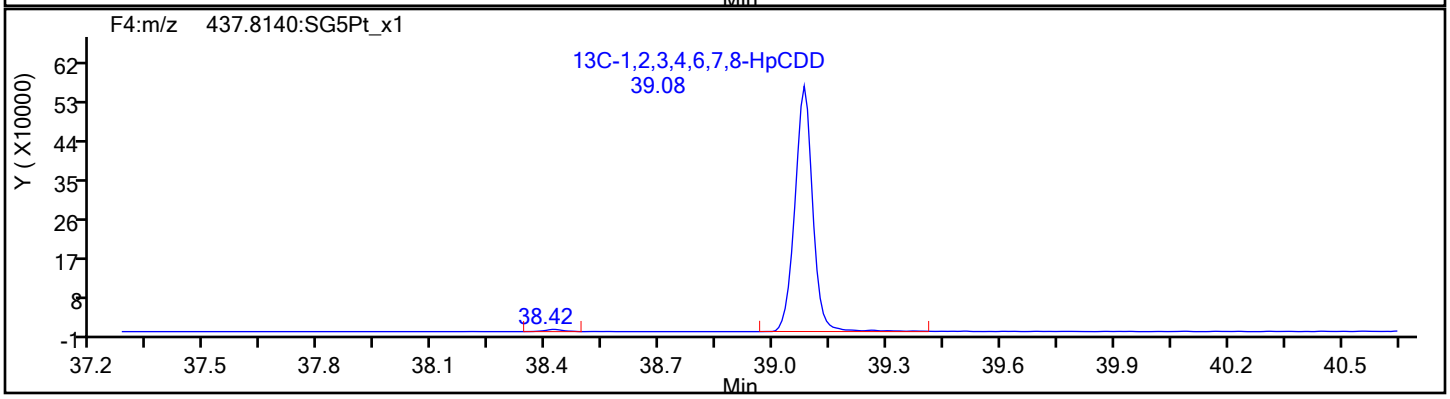




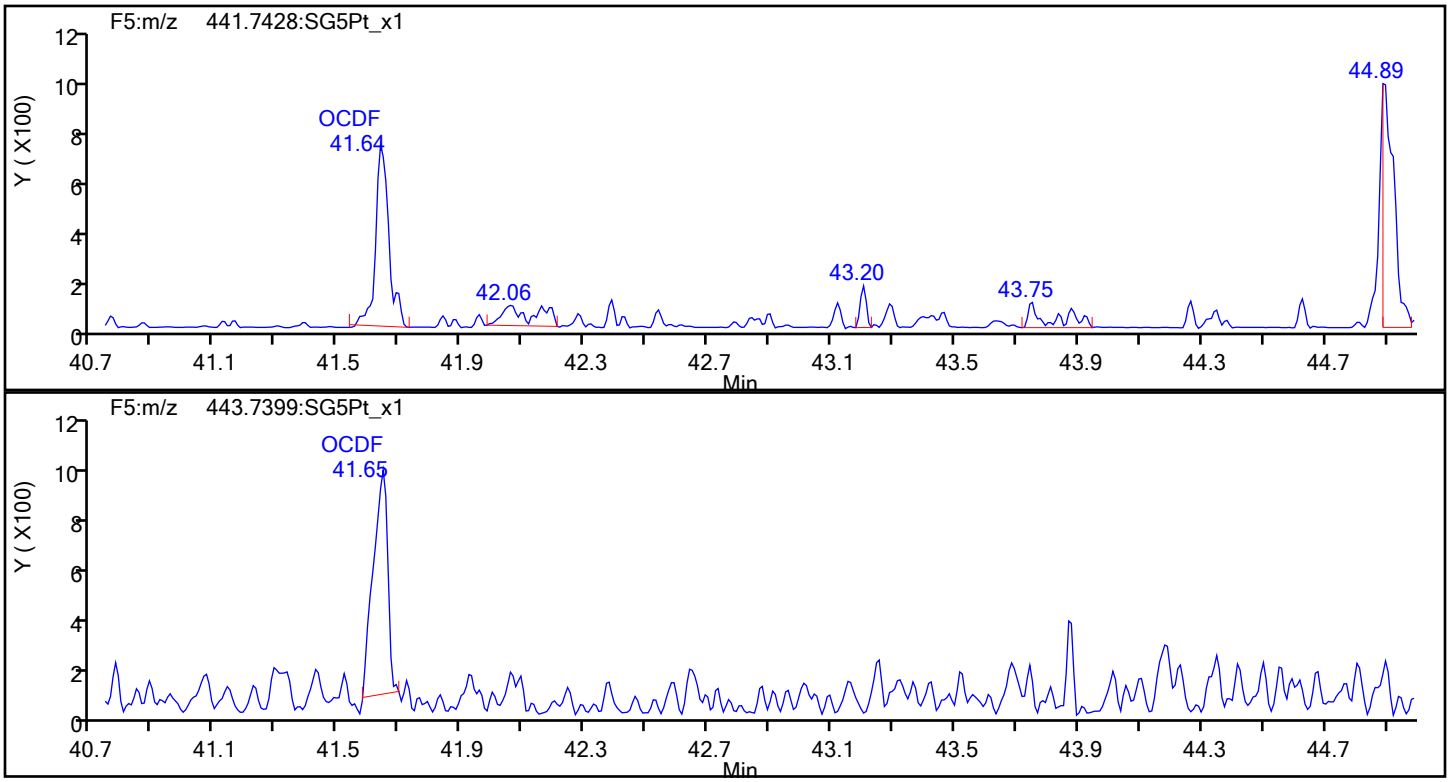
Report Date: 25-Jan-2022 08:38:00 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

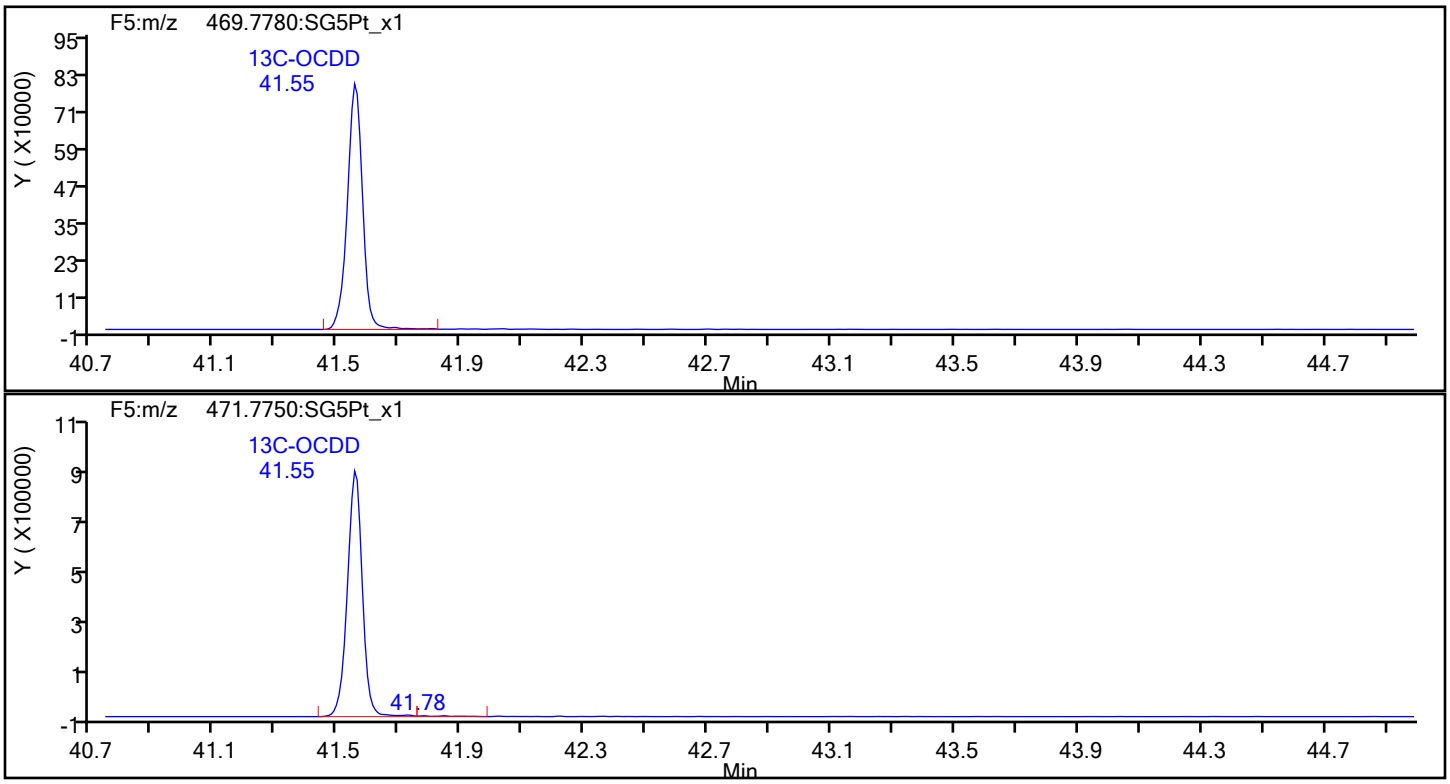
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d

Injection Date:	22-Jan-2022 01:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0007S013		
Worklist#:	559800	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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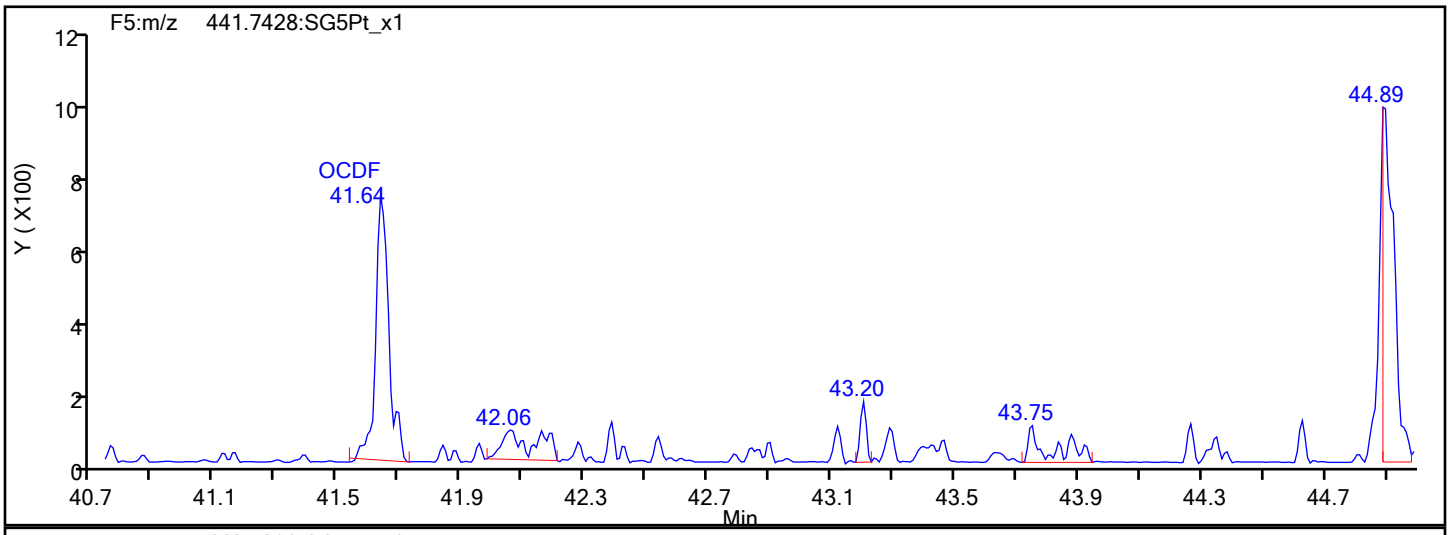
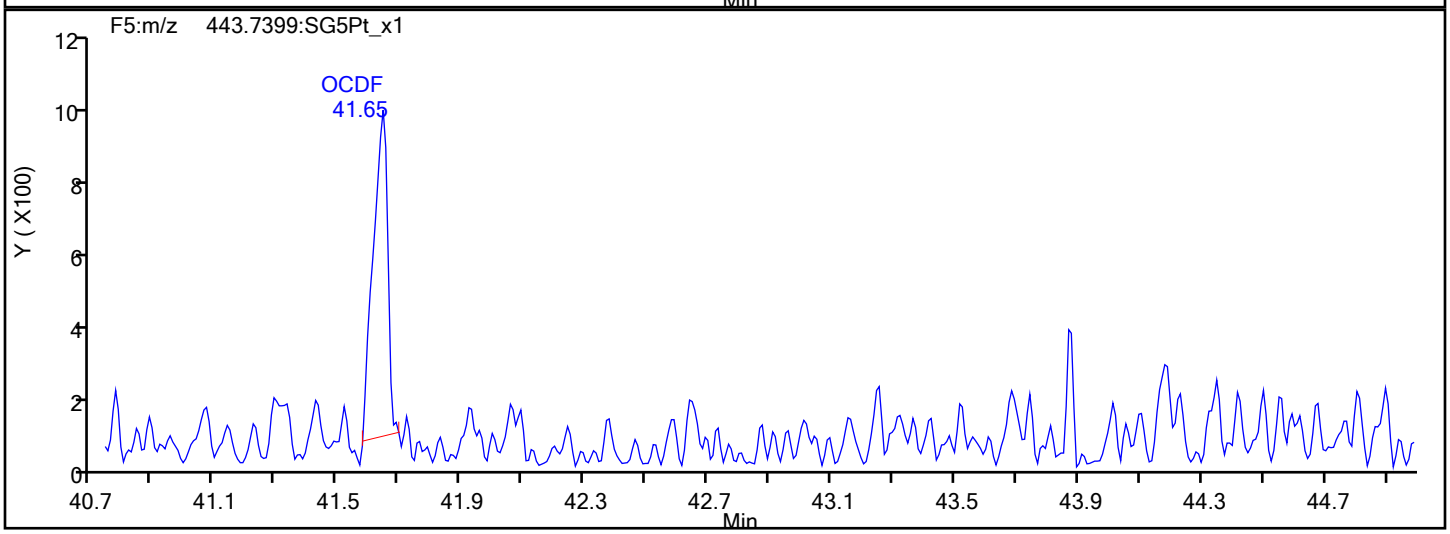
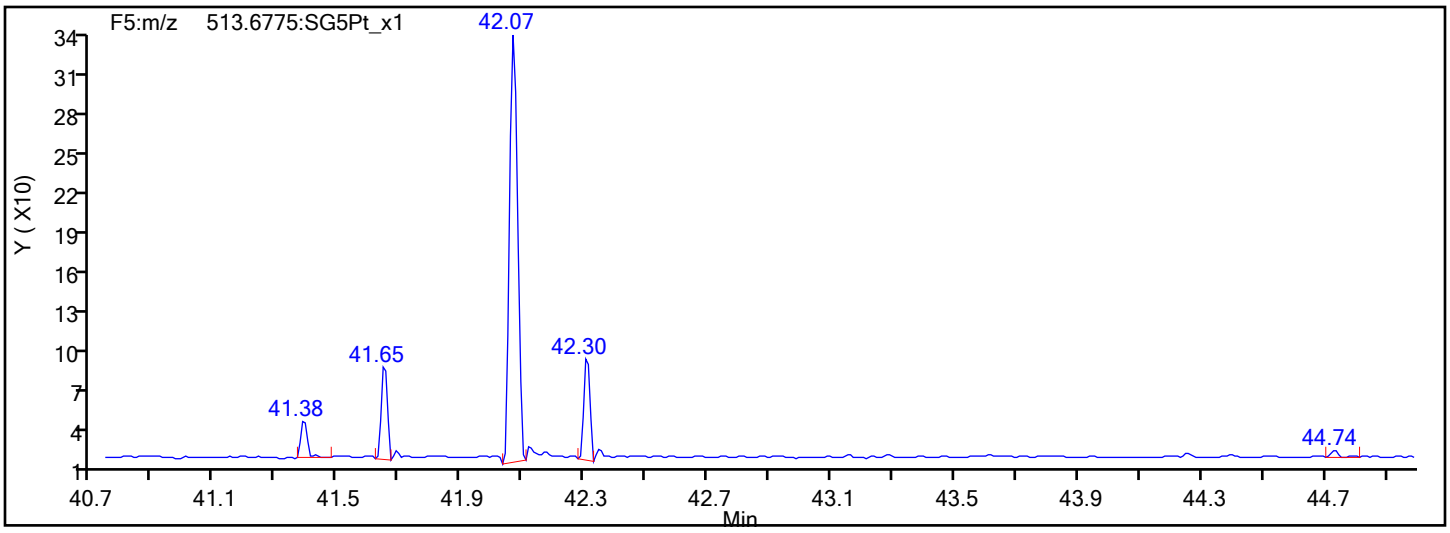
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



Report Date: 25-Jan-2022 08:38:00 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d

Injection Date:	22-Jan-2022 01:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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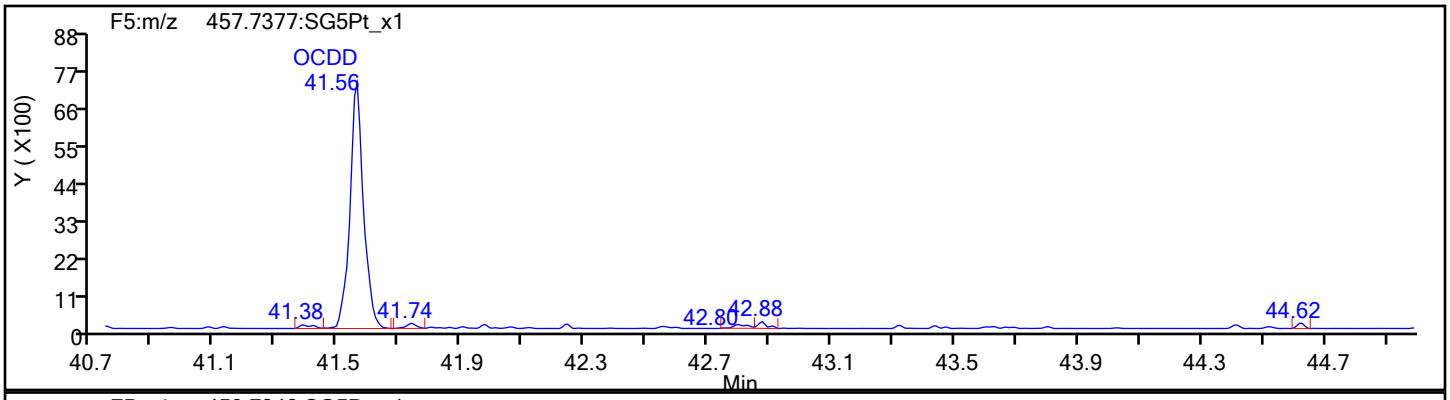
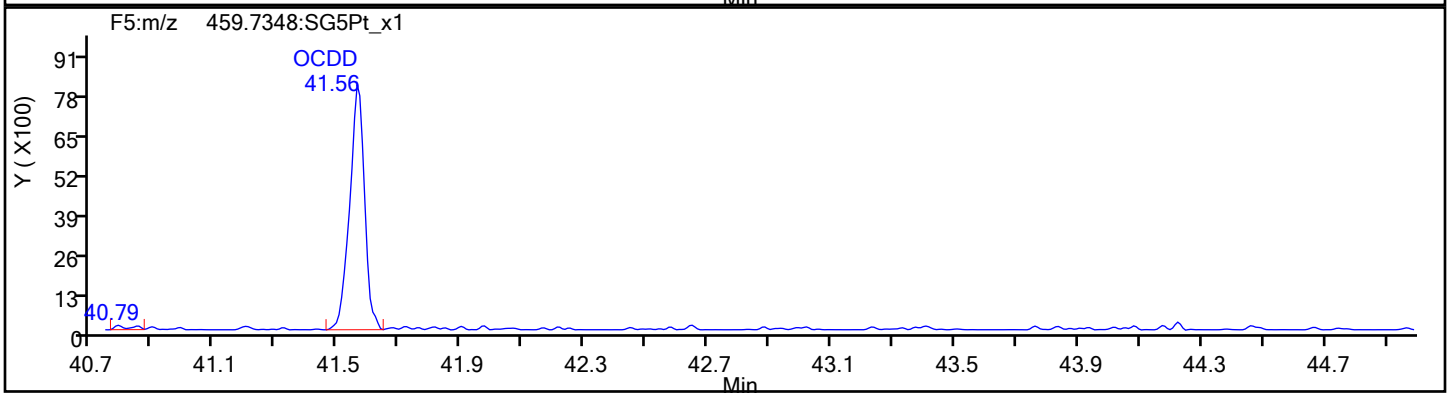
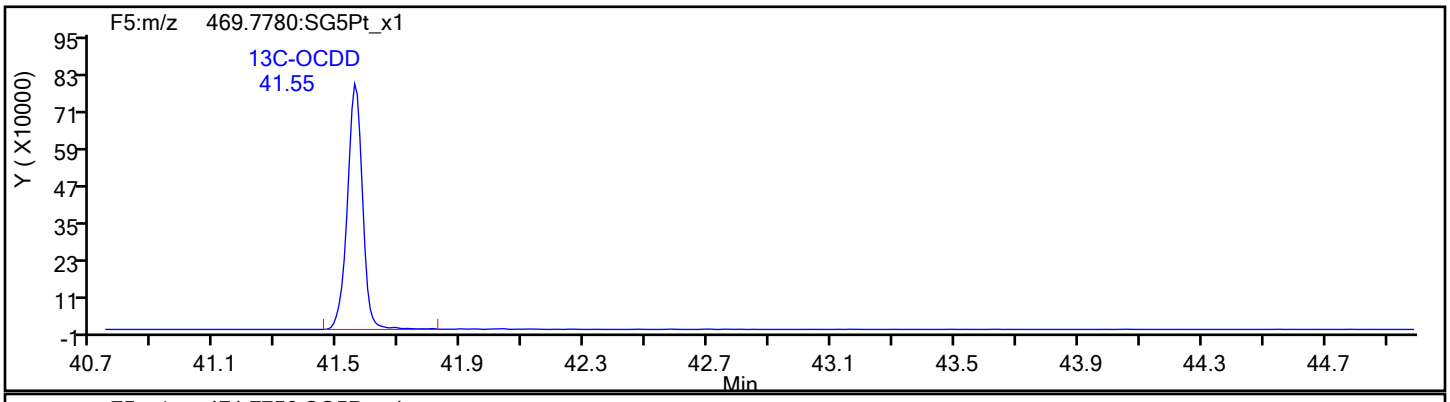
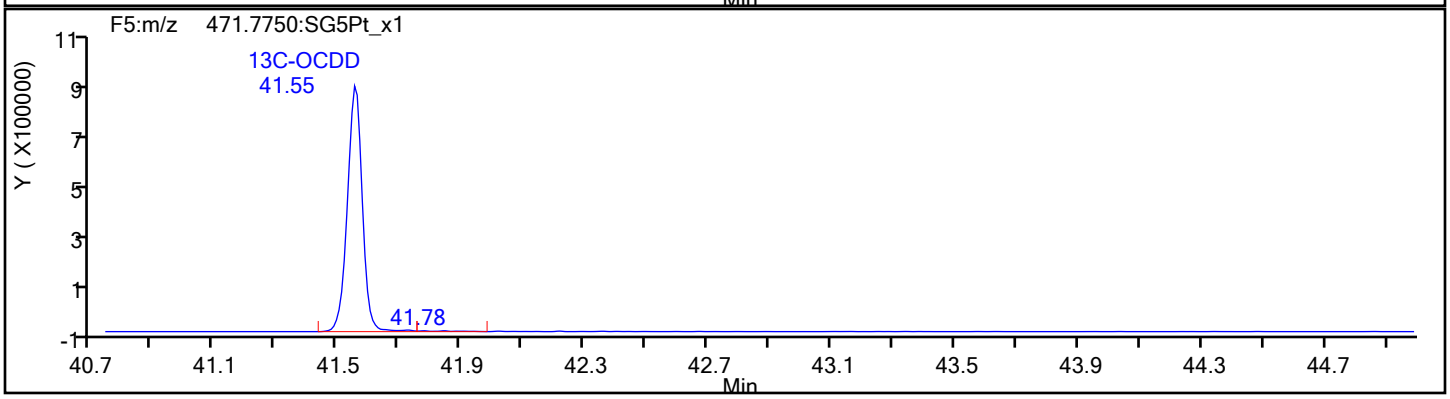




OCDD Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_47.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0007S013		
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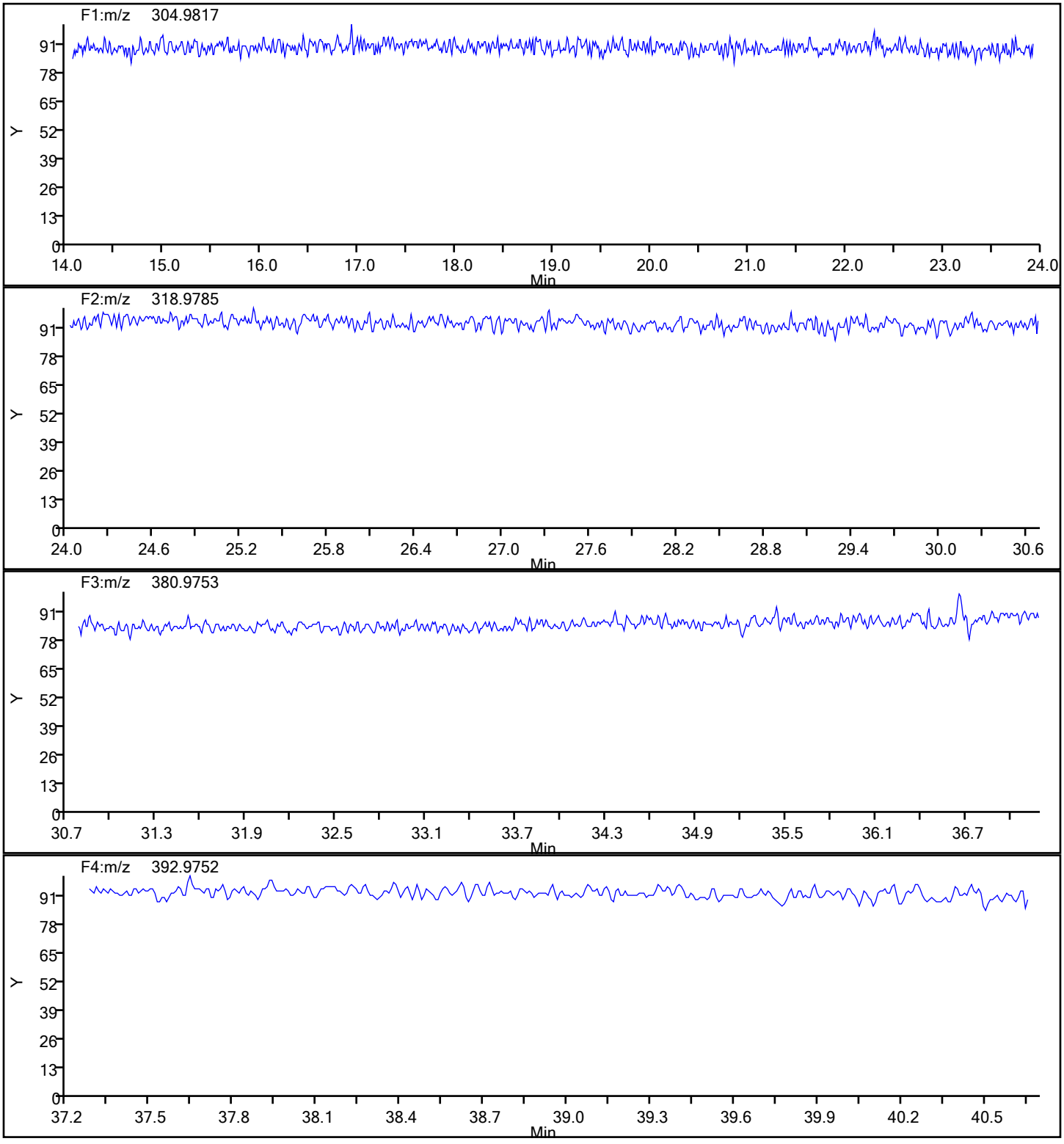

Report Date: 25-Jan-2022 08:38:00 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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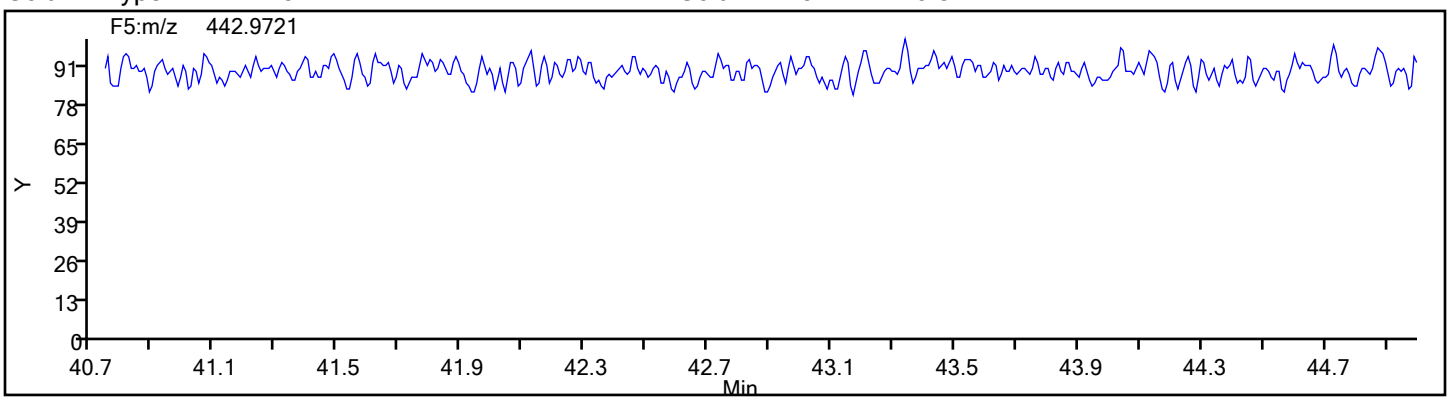


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80421-2

SDG No.:

Client Sample ID: EVBMP0008S016 | Lab Sample ID: 570-80421-3

Matrix: Water | Lab File ID: 20ja22dfs1_48.d

Analysis Method: 8290 | Date Collected: 12/30/2021 08:15

Extract. Method: 8290 | Date Extracted: 01/07/2022 08:44

Sample wt/vol: 1042.8(mL) | Date Analyzed: 01/22/2022 02:37

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559800 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.6	0.78
51207-31-9	2,3,7,8-TCDF	ND		9.6	0.39
40321-76-4	1,2,3,7,8-PeCDD	ND		48	0.64
57117-41-6	1,2,3,7,8-PeCDF	ND		48	0.39
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.42
39227-28-6	1,2,3,4,7,8-HxCDD	ND		48	0.21
57653-85-7	1,2,3,6,7,8-HxCDD	ND		48	0.19
19408-74-3	1,2,3,7,8,9-HxCDD	ND		48	0.19
70648-26-9	1,2,3,4,7,8-HxCDF	ND		48	0.20
57117-44-9	1,2,3,6,7,8-HxCDF	ND		48	0.17
60851-34-5	2,3,4,6,7,8-HxCDF	ND	*1	48	0.18
72918-21-9	1,2,3,7,8,9-HxCDF	ND	*1	48	0.20
35822-46-9	1,2,3,4,6,7,8-HpCDD	3.4	J q B	48	0.19
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.4	J q B	48	0.20
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND	*1	48	0.23
3268-87-9	OCDD	37	J B	96	0.36
39001-02-0	OCDF	3.7	J B	96	0.35

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	87		40-135
89059-46-1	13C-2,3,7,8-TCDF	88		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	90		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	89		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	88		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	88		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	94		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	95		40-135
114423-97-1	13C-OCDD	102		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d
Lims ID: 570-80421-D-3-A
Client ID: EVBMP0008S016
Sample Type: Client
Inject. Date: 22-Jan-2022 02:37:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80421-D-3-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:39:35 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 08:46:31

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.969	7297703	0.80	3.5E+04	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.058	6544980	0.77	1.0164	88.2	88.2	0.3258	0.3258	88.24	
2,3,7,8-TCDF	19.061						0.0204	0.0204		
A Non-2,3,7,8-sub-TCDF	18.680						0.0204	0.0204		
S Total TCDF							0.0204	0.0204		
D 13C-2,3,7,8-TCDD	20.321	5018083	0.83	0.7884	87.2	87.2	0.2720	0.2720	87.22	
2,3,7,8-TCDD	20.341						0.0409	0.0409		
A Non-2,3,7,8-sub-TCDD	19.478						0.0409	0.0409		
S Total TCDD							0.0409	0.0409		
D 13C-1,2,3,7,8-PeCDF	26.097	5981819	1.57	0.9232	88.8	88.8	0.4318	0.4318	88.79	
1,2,3,7,8-PeCDF	26.107						0.0205	0.0205		
2,3,4,7,8-PeCDF	27.531						0.0217	0.0217		
A F1 PeCDFs	23.375						0.0120	0.0120		RQU
A Non-2,3,7,8-sub-PeCDF	26.760						0.0211	0.0211		
S Total PeCDF							0.0217	0.0217		
D 13C-1,2,3,7,8-PeCDD	28.303	3661660	1.57	0.5606	89.5	89.5	0.1733	0.1733	89.50	
1,2,3,7,8-PeCDD	28.314						0.0335	0.0335		
A Non-2,3,7,8-sub-PeCDD	27.170						0.0335	0.0470		U
S Total PeCDD							0.0470	0.0470		
D 13C-1,2,3,4,7,8-HxCDF	34.007	5567703	0.53	1.0566	88.2	88.2	0.2596	0.2596	88.23	
1,2,3,4,7,8-HxCDF	34.019						0.0105	0.0105		
1,2,3,6,7,8-HxCDF	34.204						0.009056	0.009056		
2,3,4,6,7,8-HxCDF	35.147						0.009432	0.009432		
1,2,3,7,8,9-HxCDF	36.205						0.0103	0.0103		U
A Non-2,3,7,8-sub-HxCDF	34.051						0.009789	0.009789		RQU
S Total HxCDF							0.0105	0.0105		
* 13C-1,2,3,7,8,9-HxCDD	35.910	5972703	1.24	2.5E+04	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.397						0.0111	0.0111		RQU
D 13C-1,2,3,6,7,8-HxCDD	35.515	4235327	1.26	0.8027	88.3	88.3	0.2304	0.2304	88.35	
1,2,3,6,7,8-HxCDD	35.397						0.009790	0.009790		RQU
1,2,3,7,8,9-HxCDD	35.902						0.0101	0.0101		RQU
A Non-2,3,7,8-sub-HxCDD	34.547						0.0103	0.0331		RQU

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDD							0.0331	0.0331		
D 13C-1,2,3,4,6,7,8-HpCDF	38.086	3640582	0.45	0.6421	94.9	94.9	0.4672	0.4672	94.93	
1,2,3,4,6,7,8-HpCDF	38.086	3713	1.04	1.4385	0.0820	0.0709	0.0104	0.0104		RQM
1,2,3,4,7,8,9-HpCDF	39.403						0.0122	0.0122		
A Non-2,3,7,8-sub-HpCDF	38.751	2660	1.04	1.3293	0.0634	0.0550	0.0112	0.0550		RQ
S Total HpCDF					0.1455	0.1259	0.0113	0.0113		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	39.088	3525074	1.06	0.6246	94.5	94.5	0.2410	0.2410	94.49	
1,2,3,4,6,7,8-HpCDD	39.088	6186	1.04	0.9767	0.2166	0.1797	0.009896	0.009896		RQ
A Non-2,3,7,8-sub-HpCDD	38.763	8918	1.04	0.9767	0.3148	0.2590	0.009896	0.2590		RQ
S Total HpCDD					0.5314	0.4387	0.009896	0.009896		RQ
D 13C-OCDD	41.559	5295158	0.90	0.4360	203.3	203.3	0.2382	0.2382	102	
OCDF	41.660	6553	0.77	1.2756	0.1940	0.1940	0.0185	0.0185		M
OCDD	41.576	52925	0.82	1.0341	1.933	1.933	0.0190	0.0190		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d
Lims ID: 570-80421-D-3-A
Client ID: EVBMP0008S016
Sample Type: Client
Inject. Date: 22-Jan-2022 02:37:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80421-D-3-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:39:35 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 08:46:31

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	19.969	19.937	2		3254533	490290	633	1582	775		a
333.9338	19.969	19.937	2		4043170	633538	331	827	1914	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.058	19.035	1	0.954	2841758	438848	976	2440	450		
317.9389	19.058	19.035	1	0.954	3703222	556461	513	1282	1085	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.061						5	12			
305.8987	19.061						77	192			
A Non-2,3,7,8-sub-TCDF											
303.9016	18.680						5	12			
305.8987	18.680						77	192			
13C-2,3,7,8-TCDD											
331.9368	20.321	20.306	1	1.018	2276523	319104	633	1582	504		
333.9338	20.321	20.306	1	1.018	2741560	408493	331	827	1234	0.83(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.341						106	265			
321.8936	20.341						12	30			
A Non-2,3,7,8-sub-TCDD											
319.8965	19.478						106	265			
321.8936	19.478						12	30			
13C-1,2,3,7,8-PeCDF											
351.9000	26.097	26.081	1	1.307	3655103	589486	1114	2785	529		
353.8970	26.105	26.081	1	1.307	2326716	393711	678	1695	581	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.107						4	10			
341.8567	26.107						75	187			

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.531						4	10			
341.8567	27.531						75	187			
A F1 PeCDFs											U
339.8597	23.375	23.375	0	0.896	236	93	1	2			
341.8567	23.375	23.375	0	0.896	2898	648	44	110		0.08(1.32-1.78)	
	Empc Correction				152	60	44	110	0		
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.760						4	10			
341.8567	26.760						75	187			
13C-1,2,3,7,8-PeCDD											
367.8949	28.303	28.289	1	1.417	2236170	320878	246	615	1304		
369.8919	28.294	28.289	0	1.417	1425490	206193	191	477	1080	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.314						66	165			
357.8516	28.314						5	12			
A Non-2,3,7,8-sub-PeCDD											U
355.8546	27.170	27.170	0	0.960	1105	363	66	165			
357.8516	27.170	27.170	0	0.960	621	237	5	12		1.78(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.007	34.002	0	0.947	1933987	351785	646	1615	545		
385.8610	33.999	34.002	0	0.947	3633716	635680	830	2075	766	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.019						33	82			
375.8178	34.019						4	10			
1,2,3,6,7,8-HxCDF											
373.8208	34.204						33	82			
375.8178	34.204						4	10			
2,3,4,6,7,8-HxCDF											
373.8208	35.147						33	82			
375.8178	35.147						4	10			
1,2,3,7,8,9-HxCDF											U
373.8208	36.116						33	82			
375.8178	36.116						4	10			
A Non-2,3,7,8-sub-HxCDF											U
373.8208	32.247	34.051	-108	0.948	519	184	33	82	6		
	Empc Correction				114	58	33	82	2		
375.8178	32.255	34.051	-108	0.948	92	47	4	10	12	5.64(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.910	35.906	0		3307467	746729	597	1492	1251		
403.8529	35.910	35.906	0		2665236	598368	398	995	1503	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQU
389.8158	35.392						15	37			
391.8127	35.392						17	42			
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.515	35.501	1	0.989	2358918	474270	597	1492	794		
403.8529	35.515	35.501	1	0.989	1876409	395552	398	995	994	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											RQU
389.8158	35.518						15	37			
391.8127	35.518						17	42			
1,2,3,7,8,9-HxCDD											RQU
389.8158	35.922						15	37			
391.8127	35.922						17	42			
A Non-2,3,7,8-sub-HxCDD											U
389.8158	33.957	34.547	-35	0.956	1019	193	15	37	13		
	Empc Correction				691	280	15	37	19		
391.8127	34.041	34.547	-30	0.959	558	226	17	42	13	1.83(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.086	38.081	0	1.061	1131700	296415	571	1427	519		
419.8220	38.086	38.081	0	1.061	2508882	654159	1043	2607	627	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7817	38.086	38.089	0	1.000	1893	511	48	120	11		M
409.7788	38.095	38.089	0	1.000	2403	566	9	22	63	0.79(0.88-1.20)	
	Empc Correction				1820	491	9	22	55		
1,2,3,4,7,8,9-HpCDF											
407.7817	39.403						48	120			
409.7788	39.403						9	22			
A Non-2,3,7,8-sub-HpCDF											RQ
407.7817	38.473	38.751	-17	1.010	1766	516	48	120	11		
	Empc Correction				1356	372	48	120	8		
409.7788	38.482	38.751	-16	1.010	1304	358	9	22	40	1.35(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.088	39.083	0	1.088	1814344	548252	437	1092	1255		
437.8140	39.088	39.083	0	1.088	1710730	507117	373	932	1360	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RQ
423.7767	39.088	39.091	0	1.000	3154	867	32	80	27		
425.7737	39.096	39.091	0	1.000	4303	1338	9	22	149	0.73(0.88-1.20)	
	Empc Correction				3032	833	9	22	93		
A Non-2,3,7,8-sub-HpCDD											RQ
423.7767	38.431	38.763	-20	0.983	6467	1842	32	80	58		
	Empc Correction				4546	1607	32	80	50		
425.7737	38.423	38.763	-20	0.983	4372	1546	9	22	172	1.48(0.88-1.20)	
13C-OCDD											
469.7780	41.559	41.563	0	1.157	2512813	724013	274	685	2642		
471.7750	41.567	41.563	0	1.158	2782345	801513	285	712	2812	0.90(0.76-1.02)	
OCDF											M
441.7428	41.660	41.639	1	1.002	2849	906	12	30	76		
443.7399	41.643	41.639	0	1.002	3704	1295	60	150	22	0.77(0.76-1.02)	M
OCDD											
457.7377	41.576	41.571	0	1.000	23860	6907	27	67	256		
459.7348	41.567	41.571	0	1.000	29065	8821	33	82	267	0.82(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d
Lims ID: 570-80421-D-3-A
Client ID: EVBMP0008S016
Inject. Date: 22-Jan-2022 02:37:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 8

F1 PeCDFs, RT: 23.375

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	5981819	983197
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	5981819	983197

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.696	236	93	2898	648	0.0552	0.08	RQ
23.696	236	93	152	60	0.006838		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d
Lims ID: 570-80421-D-3-A
Client ID: EVBMP0008S016
Inject. Date: 22-Jan-2022 02:37:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 8

Non-2,3,7,8-sub-PeCDD, RT: 27.170

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.002	D 13C-1,2,3,7,8-PeCDD	100.000	3661660	527071

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.002		100.000	3661660	527071

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
29.364	1105	363	621	237	0.0470	1.78	

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d
Lims ID: 570-80421-D-3-A
Client ID: EVBMP0008S016
Inject. Date: 22-Jan-2022 02:37:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDF, RT: 34.051

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883	D 13C-1,2,3,4,7,8-HxCDF	100.000	5567703	987465
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.952		100.000	5567703	987465

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
32.247	519	184	92	47	0.0115	5.64	RQ
32.247	114	58	92	47	0.003887		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d
Lims ID: 570-80421-D-3-A
Client ID: EVBMP0008S016
Inject. Date: 22-Jan-2022 02:37:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDD, RT: 34.547

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829	D 13C-1,2,3,6,7,8-HxCDD	100.000	4235327	869822
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.892		100.000	4235327	869822

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.957	1019	193	558	226	0.0417	1.83	RQ
33.957	691	280	558	226	0.0331		Empc Correction
34.125	745	357	472	209	0.0322	1.58	RQ
34.125	585	259	472	209	0.0280		Empc Correction
34.201	594	163	184	114	0.0206	3.23	RQ
34.201	228	141	184	114	0.0109		Empc Correction
34.538	268	87	802	173	0.0283	0.33	RQ
34.538	268	87	216	70	0.0128		Empc Correction
35.093	1009	256	258	95	0.0335	3.91	RQ
35.093	319	117	258	95	0.0153		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d
Lims ID: 570-80421-D-3-A
Client ID: EVBMP0008S016
Inject. Date: 22-Jan-2022 02:37:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDF, RT: 38.751

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.439	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	3640582	950574
1,2,3,4,7,8,9-HpCDF	1.220				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.329		100.000	3640582	950574

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.473	1766	516	1304	358	0.0634	1.35	RQ
38.473	1356	372	1304	358	0.0550		Empc Correction
Signal Totals:							
	1356	372	1304	358			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3070	874				1.35	RQ
	2660	730					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0634 = (3070 * 100.000) / (3640582 * 1.329)
Empc Amount: 0.0550 = (2660 * 100.000) / (3640582 * 1.329)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d
Lims ID: 570-80421-D-3-A
Client ID: EVBMP0008S016
Inject. Date: 22-Jan-2022 02:37:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDD, RT: 38.763

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3525074	1055369

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3525074	1055369

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.431	6467	1842	4372	1546	0.3148	1.48	RQ
38.431	4546	1607	4372	1546	0.2590		Empc Correction
Signal Totals:							
	4546	1607	4372	1546			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10839	3388				1.48	RQ
	8918	3153					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3148 = (10839 * 100.000) / (3525074 * 0.977)
Empc Amount: 0.2590 = (8918 * 100.000) / (3525074 * 0.977)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

Eurofins Sacramento

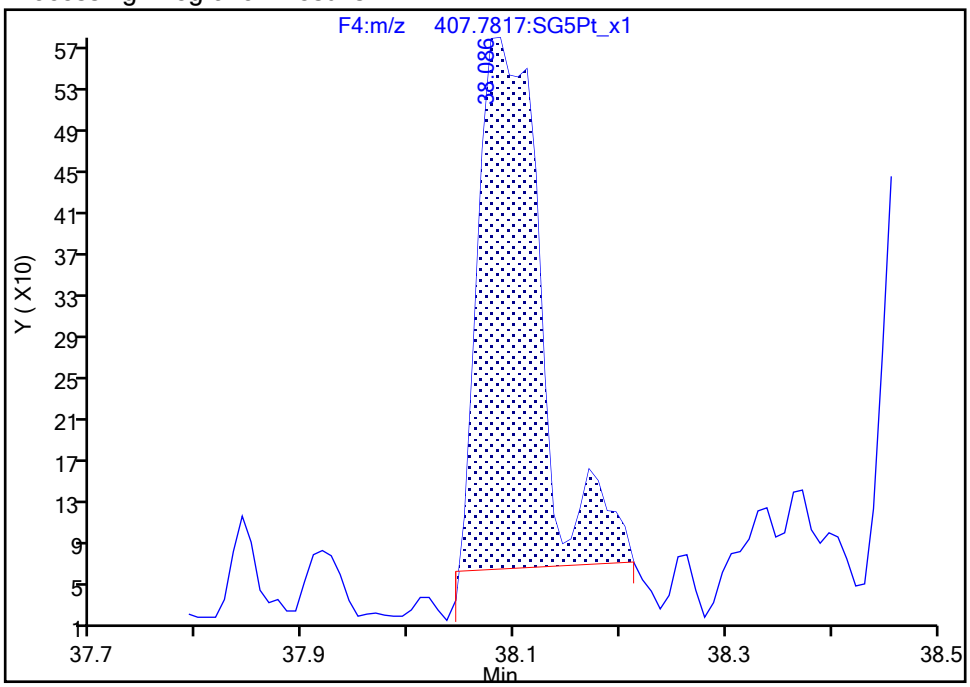
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d				
Injection Date:	22-Jan-2022 02:37:00	Instrument ID:	DFS 1		
Lims ID:	570-80421-D-3-A	Lab Sample ID:	320-80421-3		
Client ID:	EVBMP0008S016				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

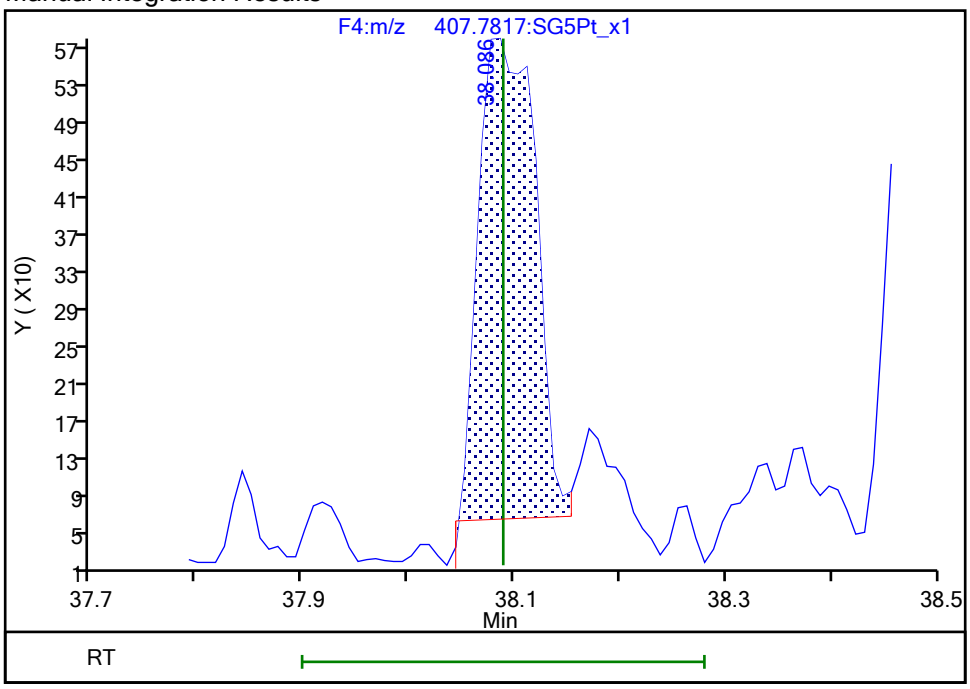
Processing Integration Results

RT: 38.09
Area: 2078
Amount: 0.085565
Amount Units: pg/ul



Manual Integration Results

RT: 38.09
Area: 1893
Amount: 0.082032
Amount Units: pg/ul



Reviewer: dadunj, 25-Jan-2022 08:38:53

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Sacramento

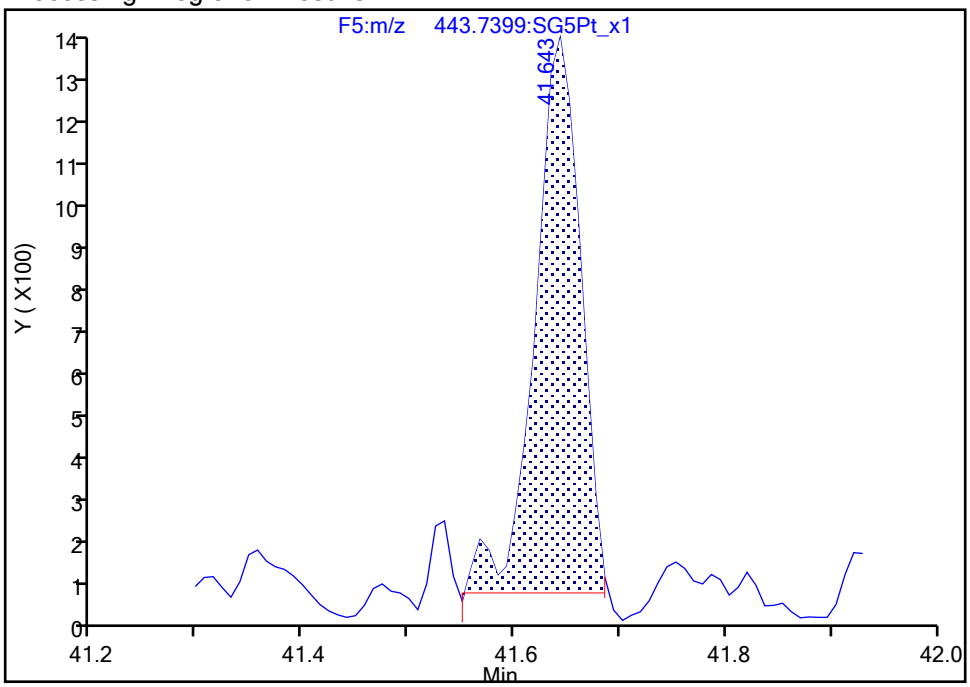
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d				
Injection Date:	22-Jan-2022 02:37:00	Instrument ID:	DFS 1		
Lims ID:	570-80421-D-3-A	Lab Sample ID:	320-80421-3		
Client ID:	EVBMP0008S016				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5(41.08 :46.00)		

OCDF, CAS: 39001-02-0

Signal: 2

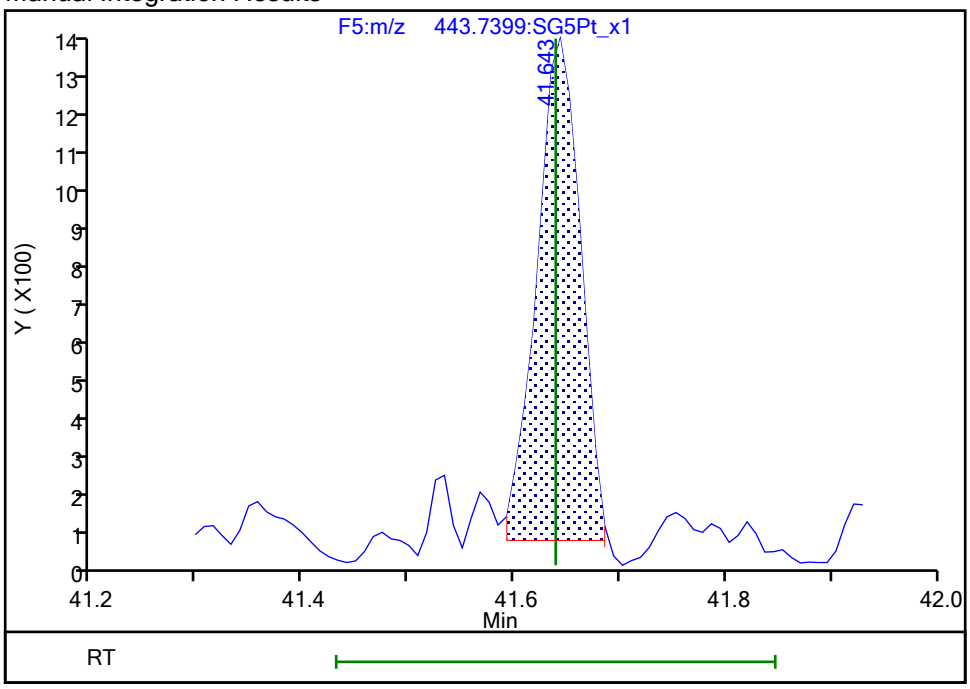
Processing Integration Results

RT: 41.64
Area: 3878
Amount: 0.199192
Amount Units: pg/ul



Manual Integration Results

RT: 41.64
Area: 3704
Amount: 0.194040
Amount Units: pg/ul

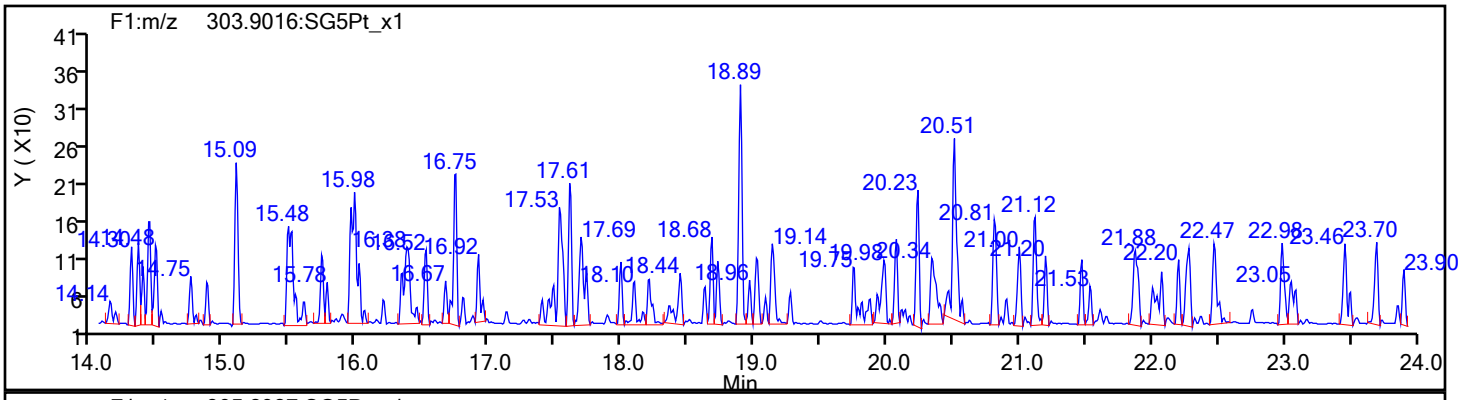


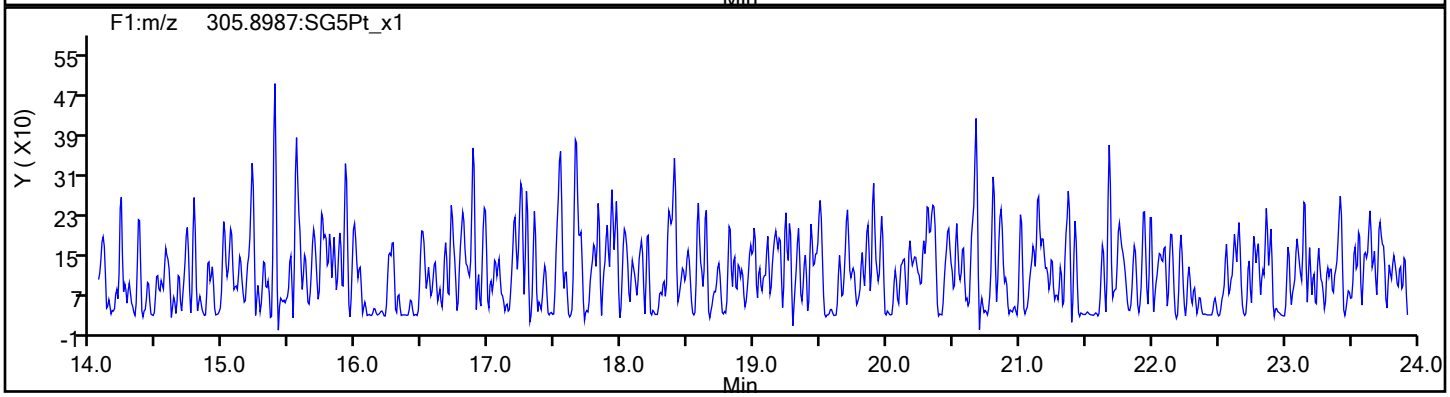
Reviewer: dadunj, 25-Jan-2022 08:39:07
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Eurofins Sacramento

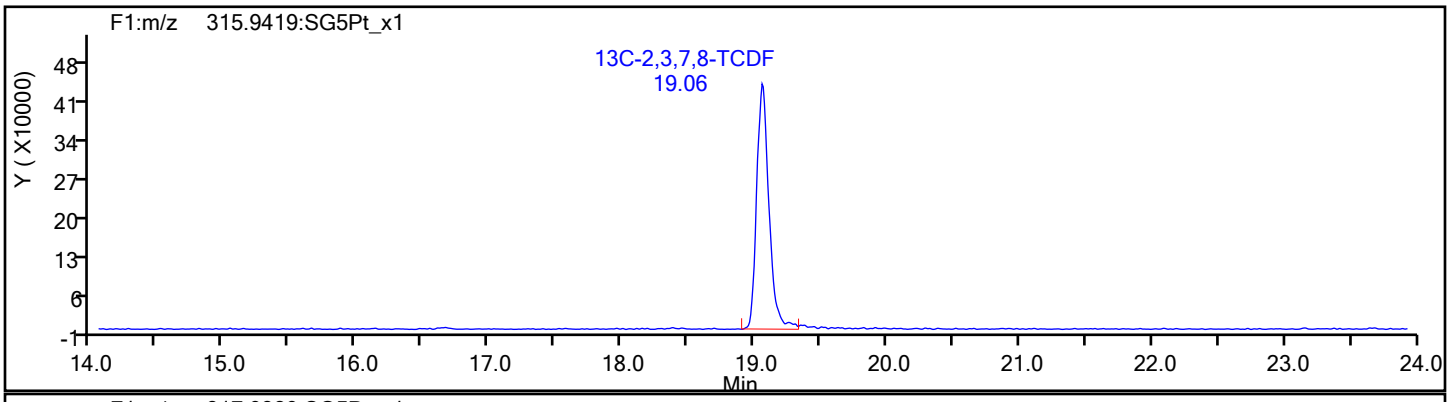
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d		
Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

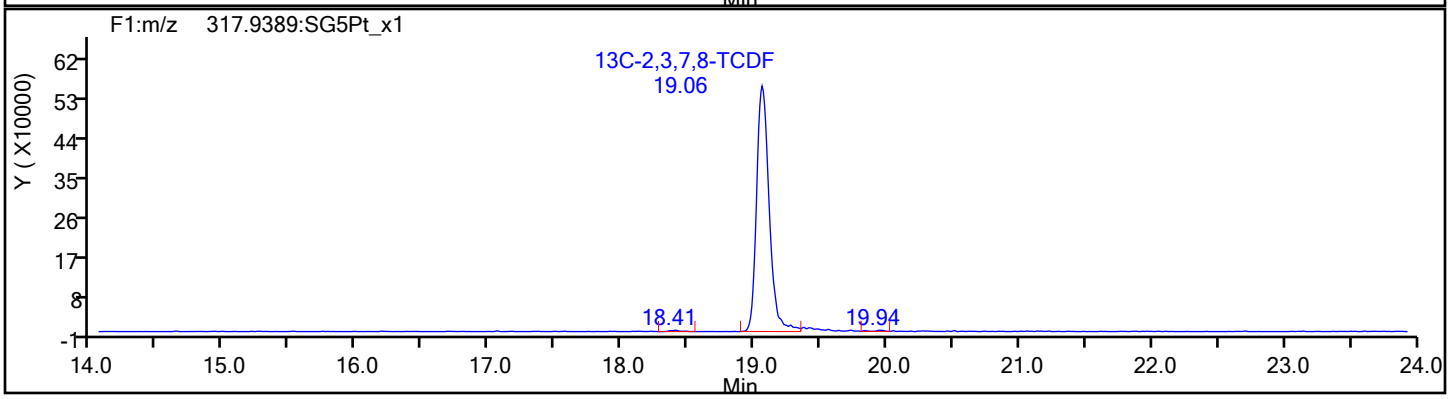
TCDF





TCDF Standards

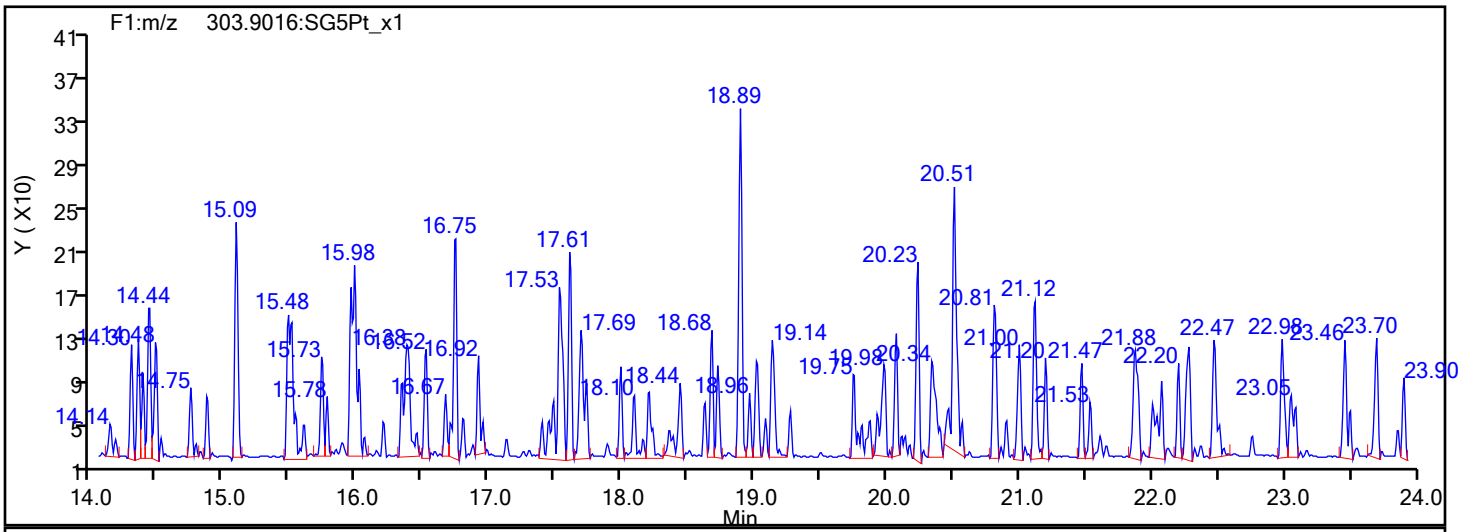


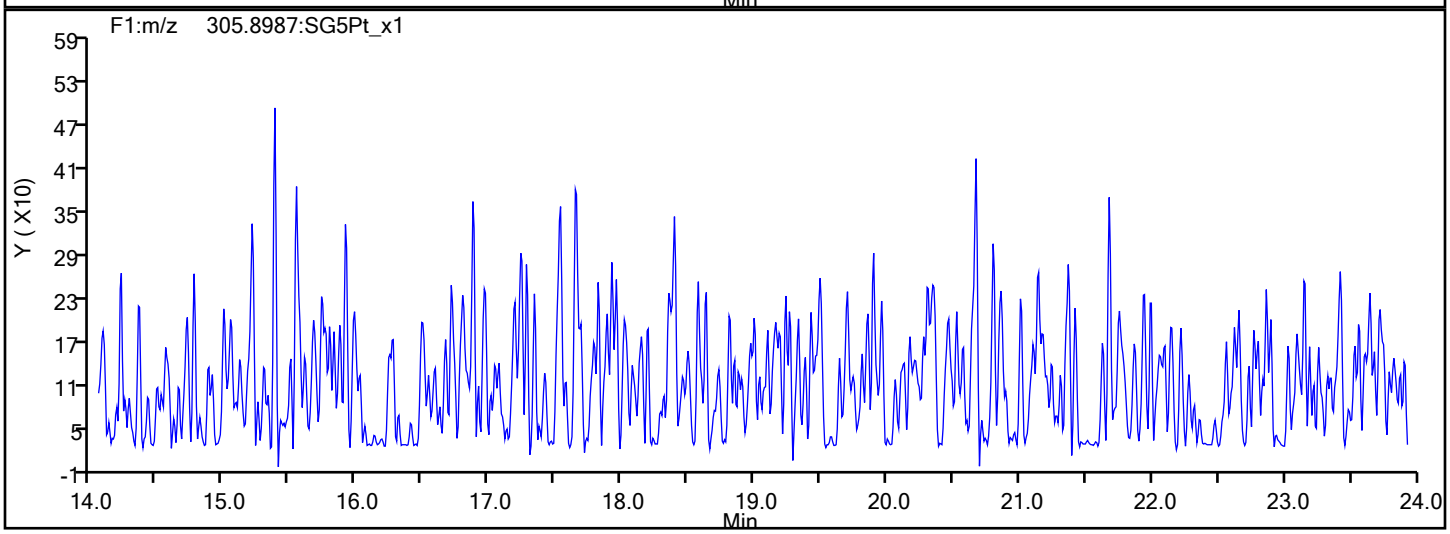


Eurofins Sacramento

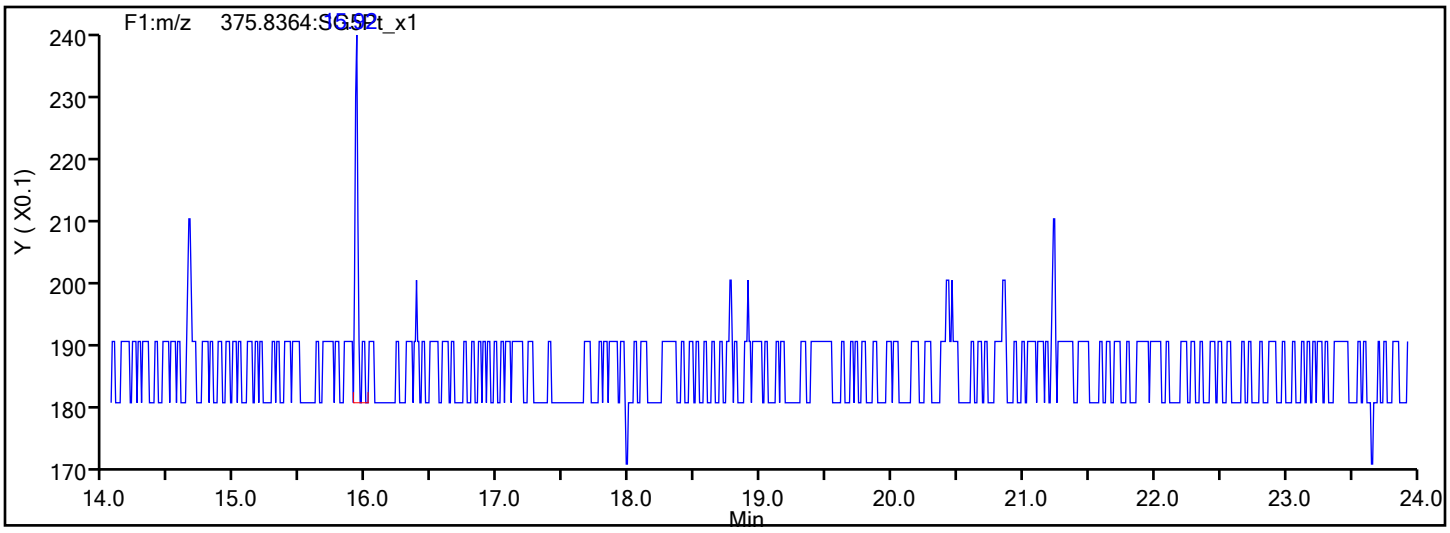
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d		
Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



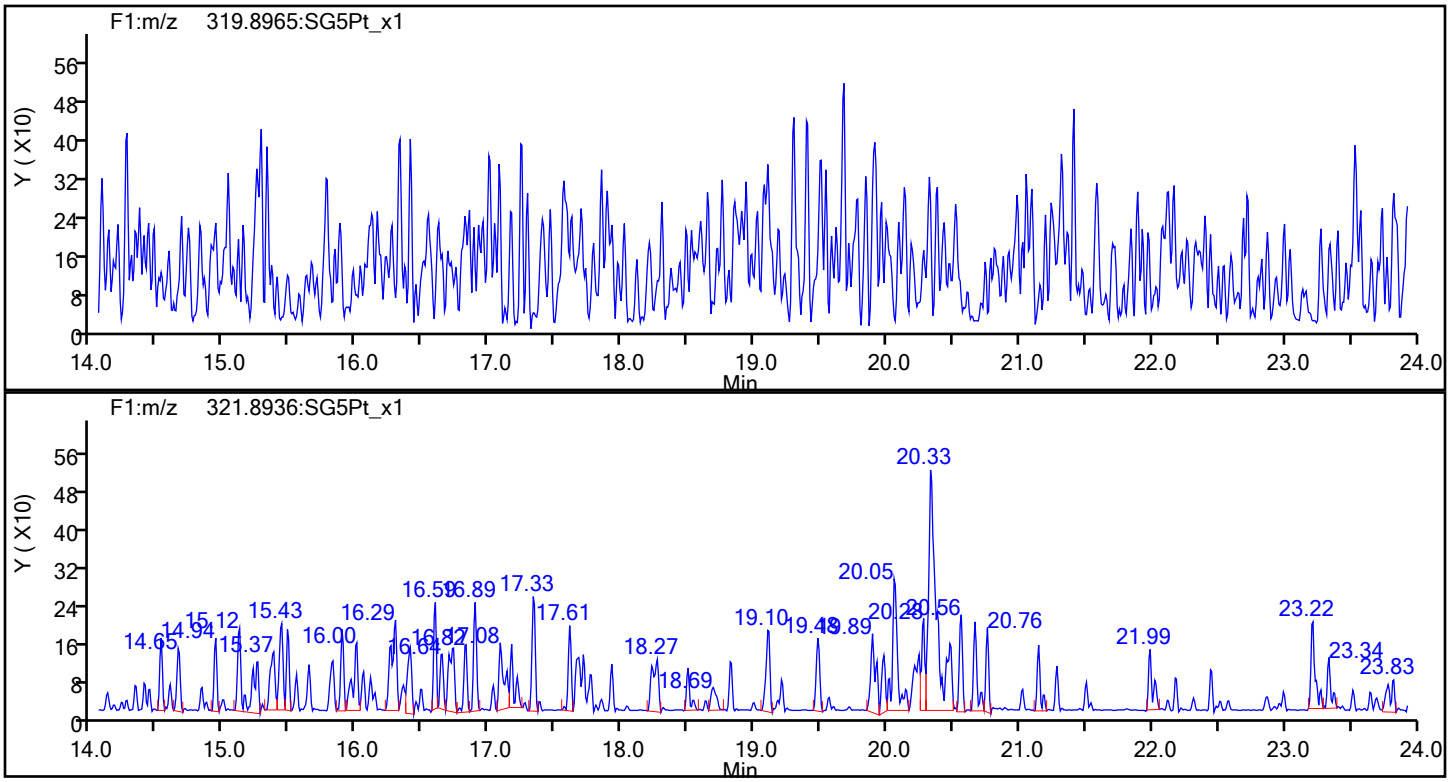
Report Date: 25-Jan-2022 08:39:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

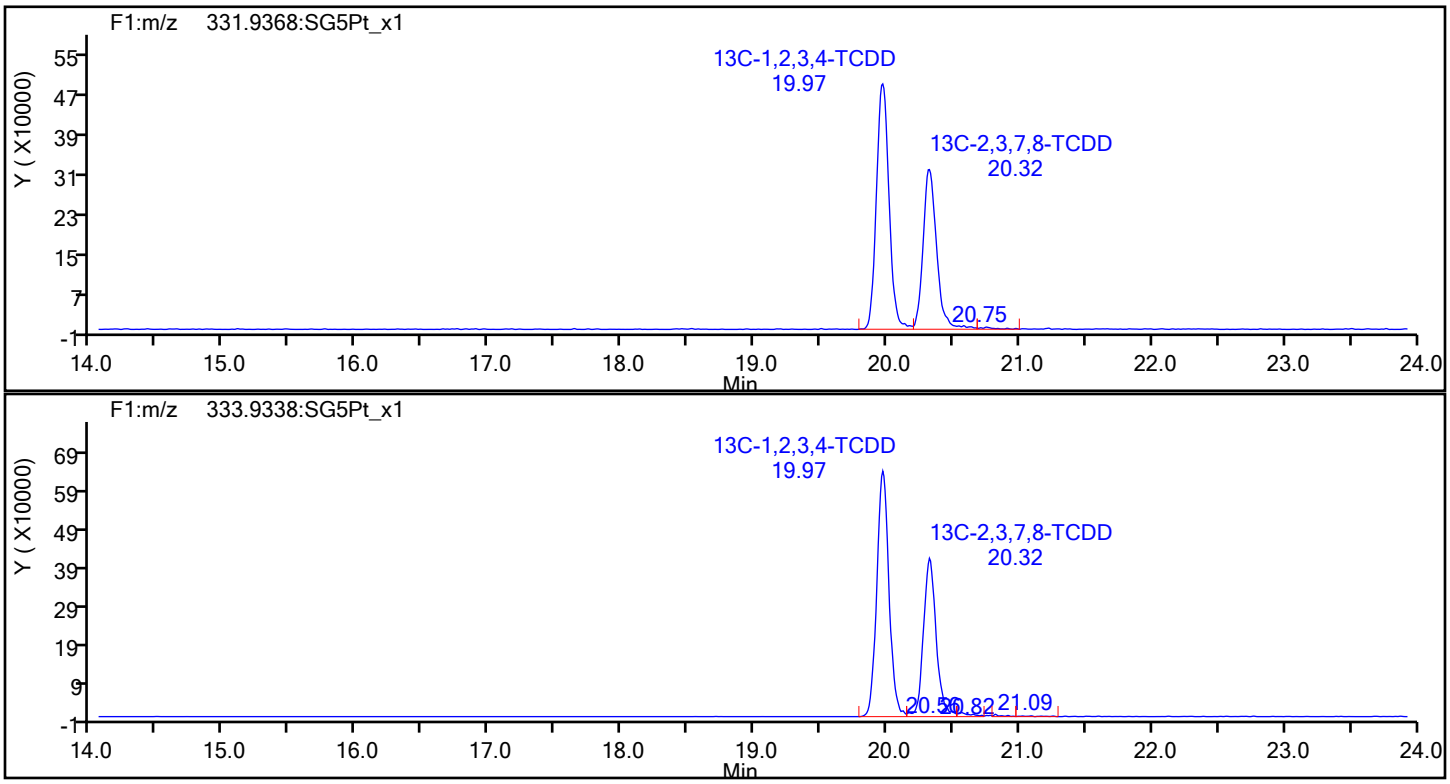
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d

Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD



TCDD Standards



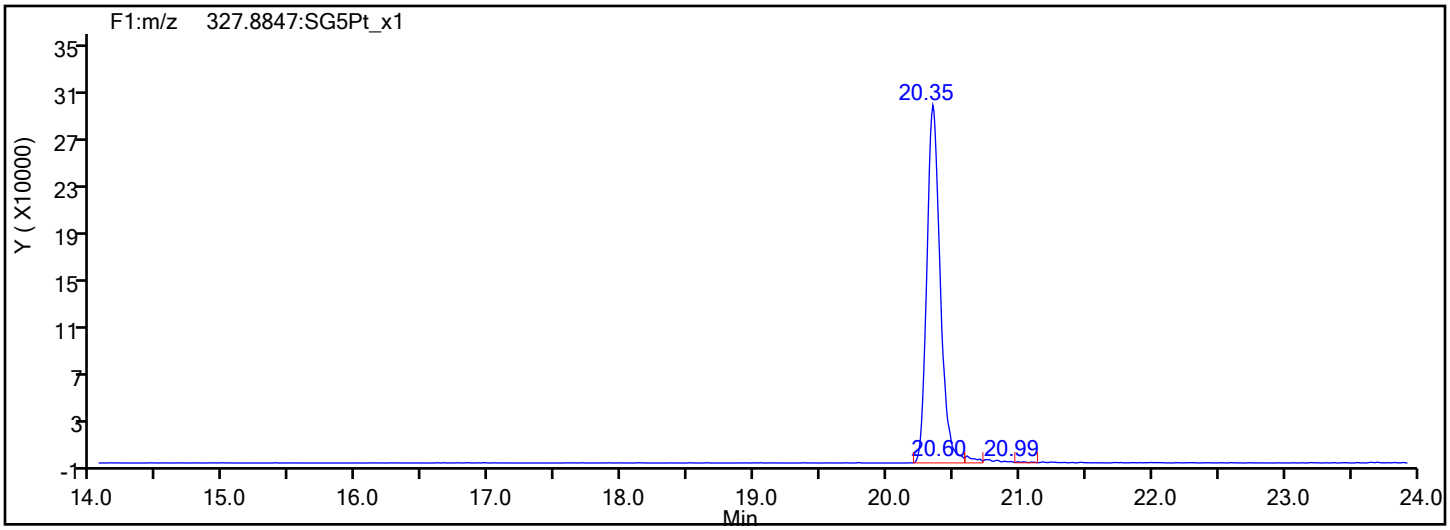
Report Date: 25-Jan-2022 08:39:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

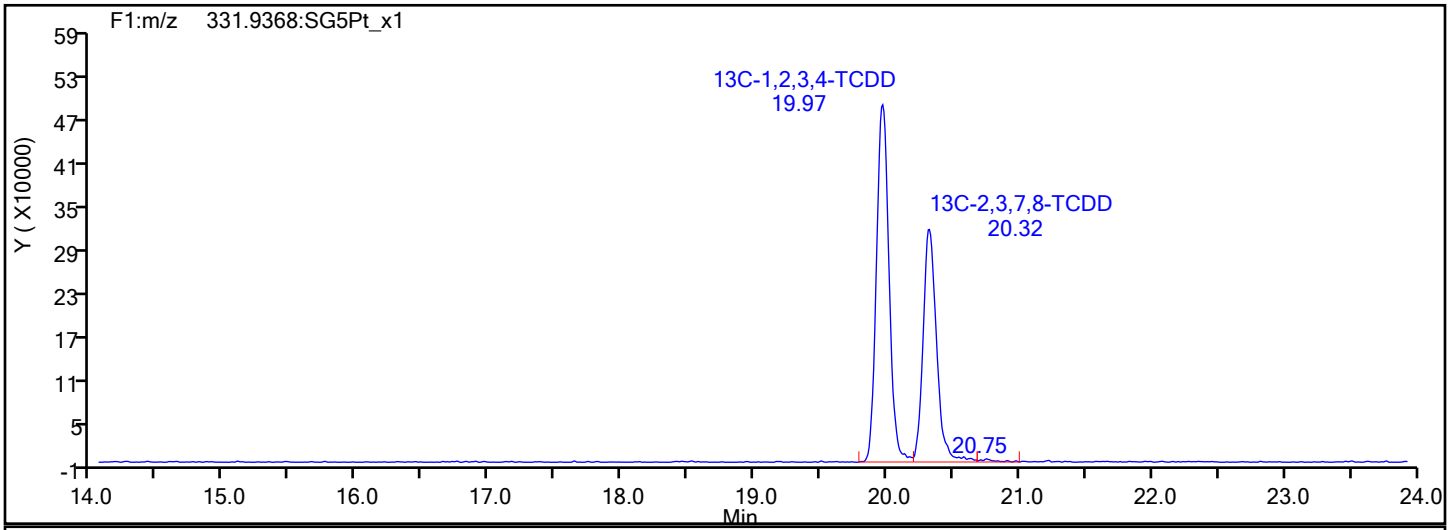
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d

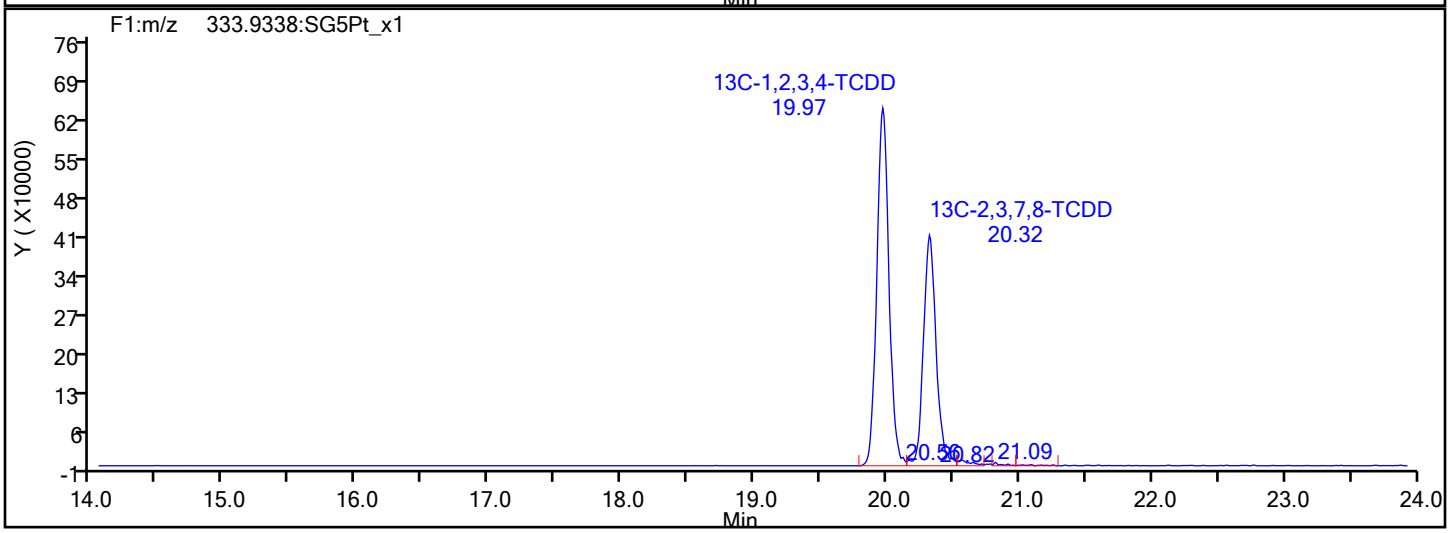
Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





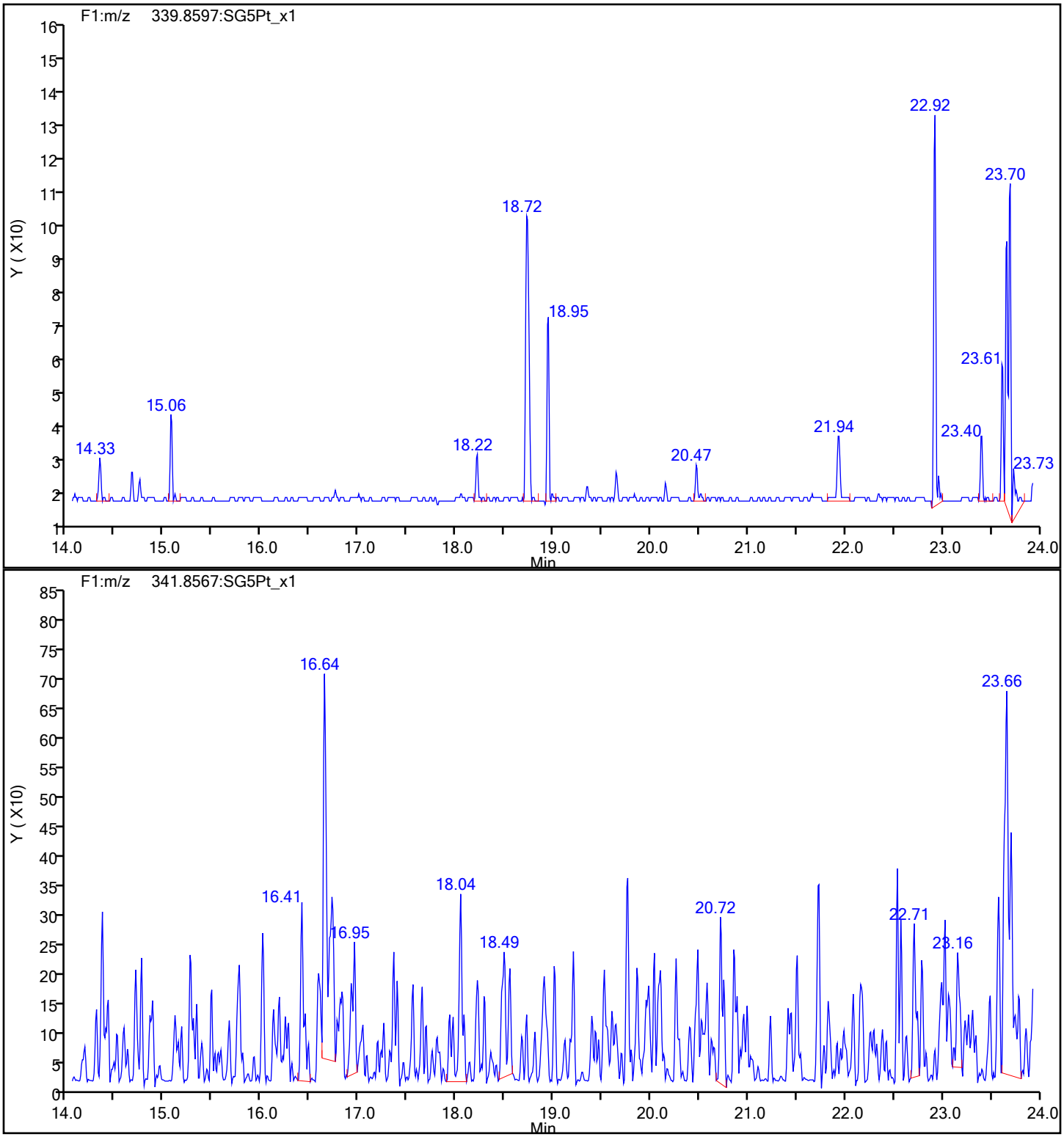
Report Date: 25-Jan-2022 08:39:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d

Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d		
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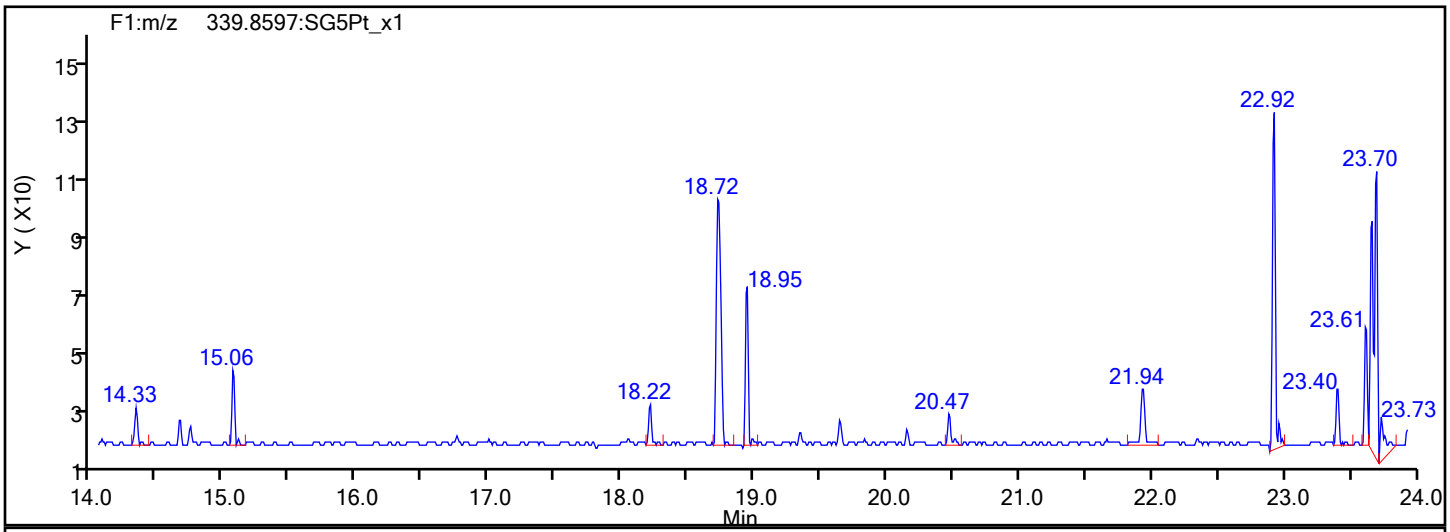
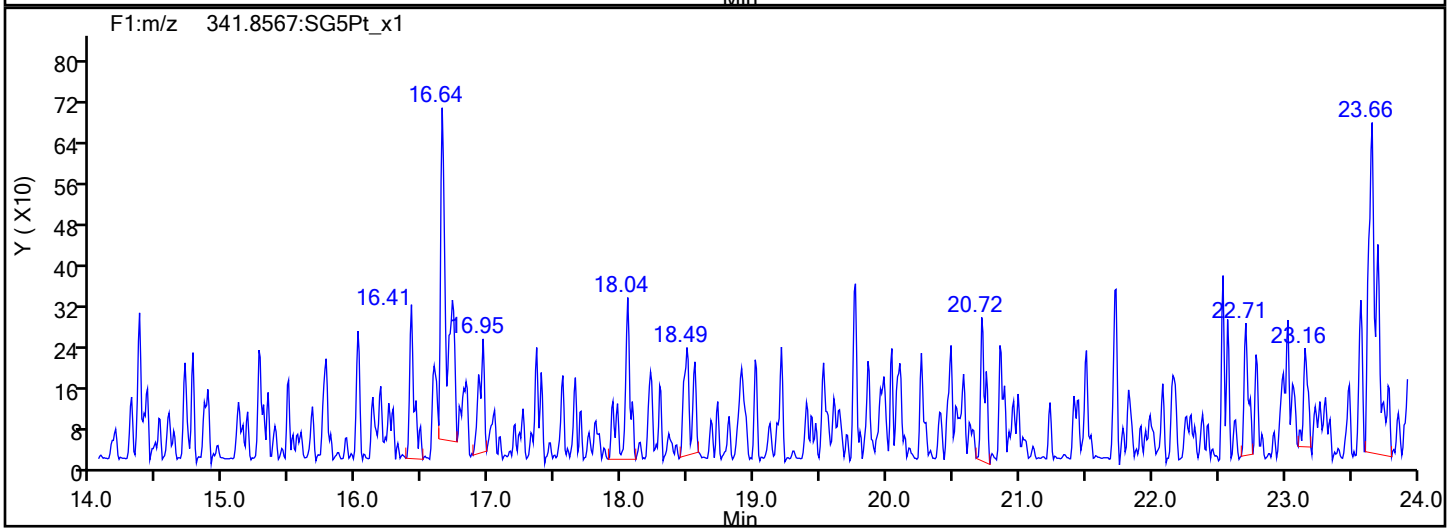
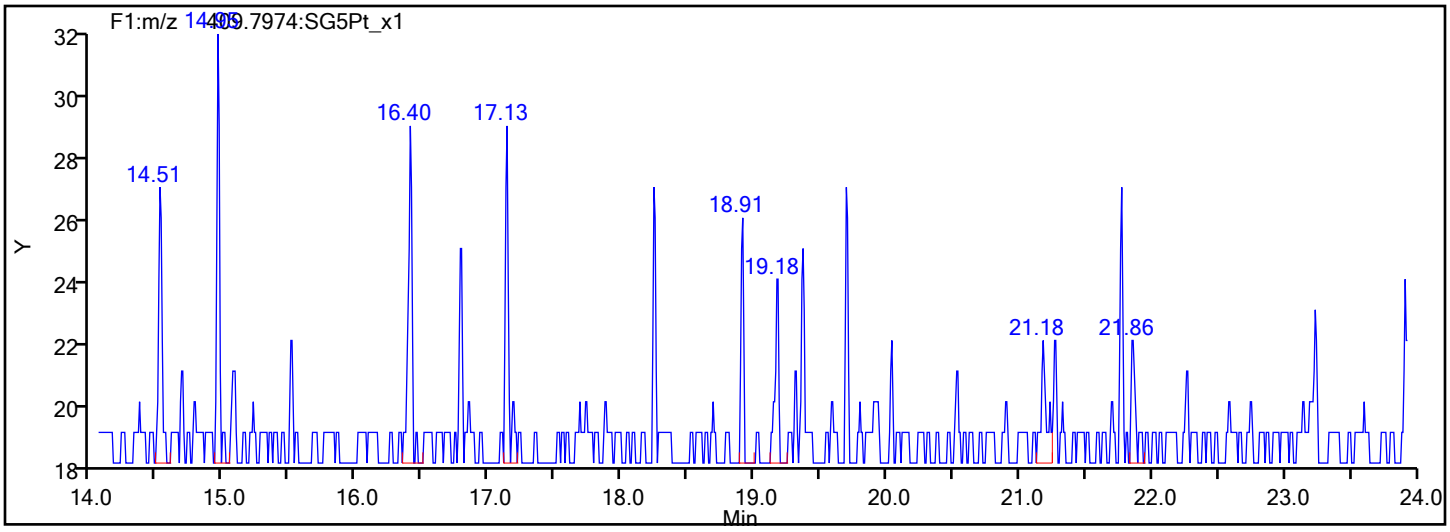
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





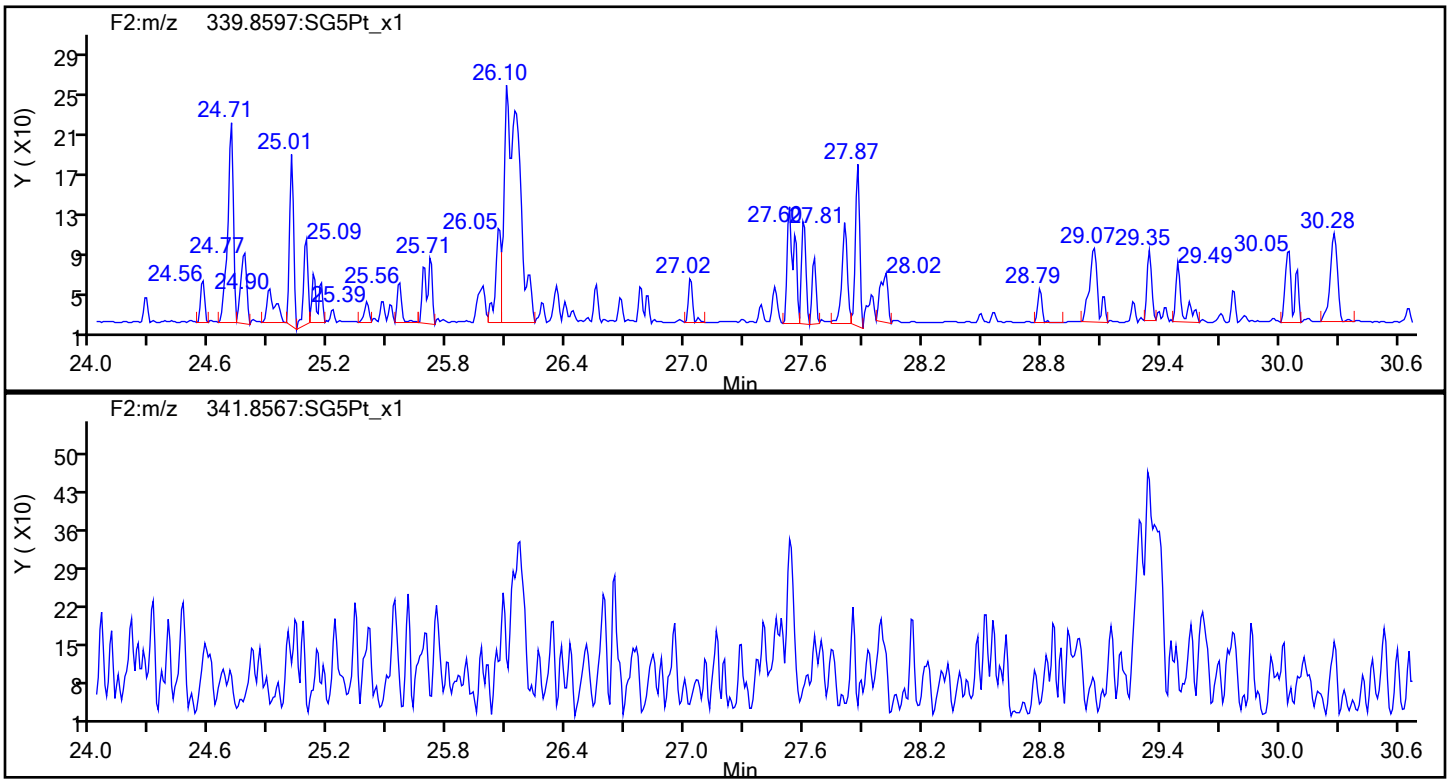
F1 PeCDFs Interference Mass



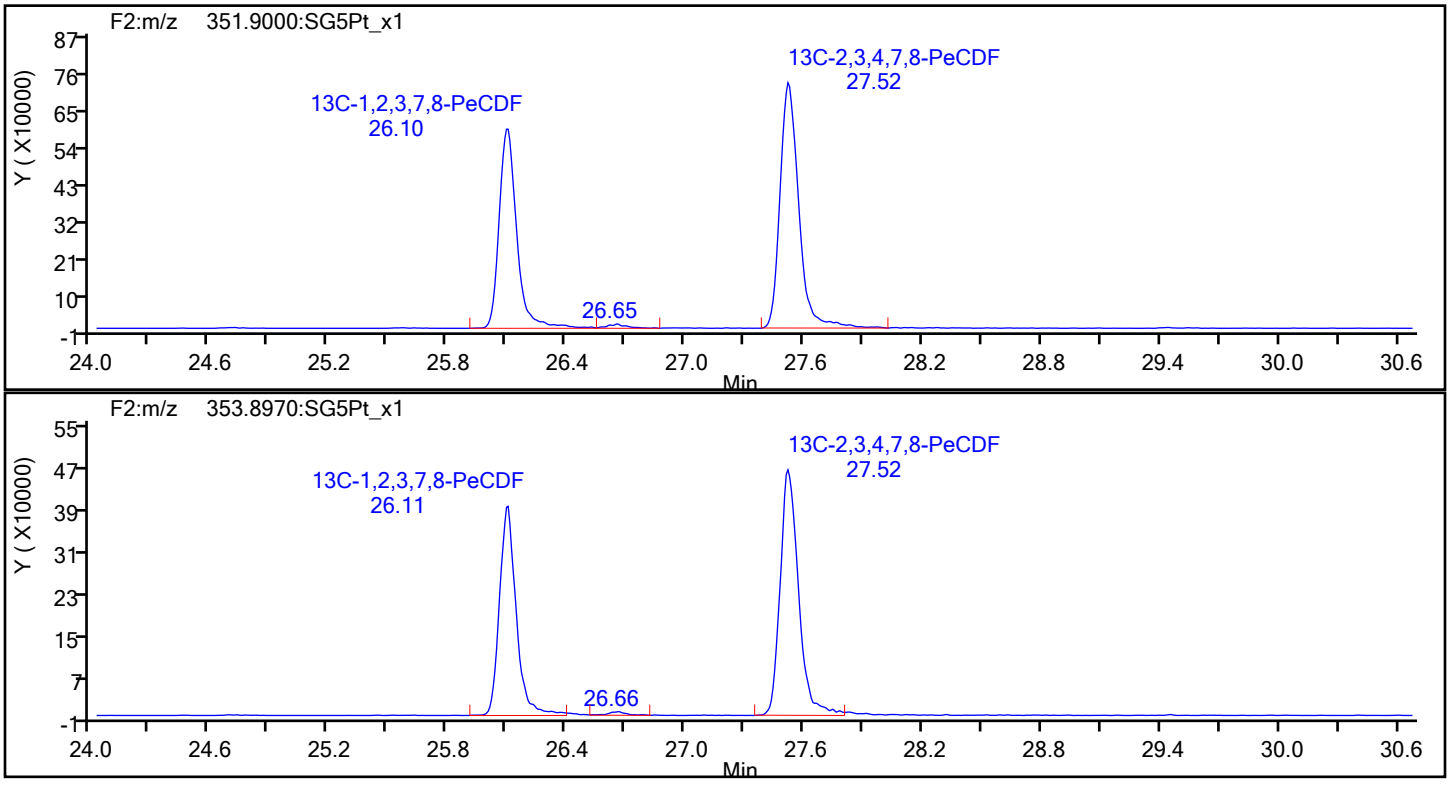
Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d		
Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



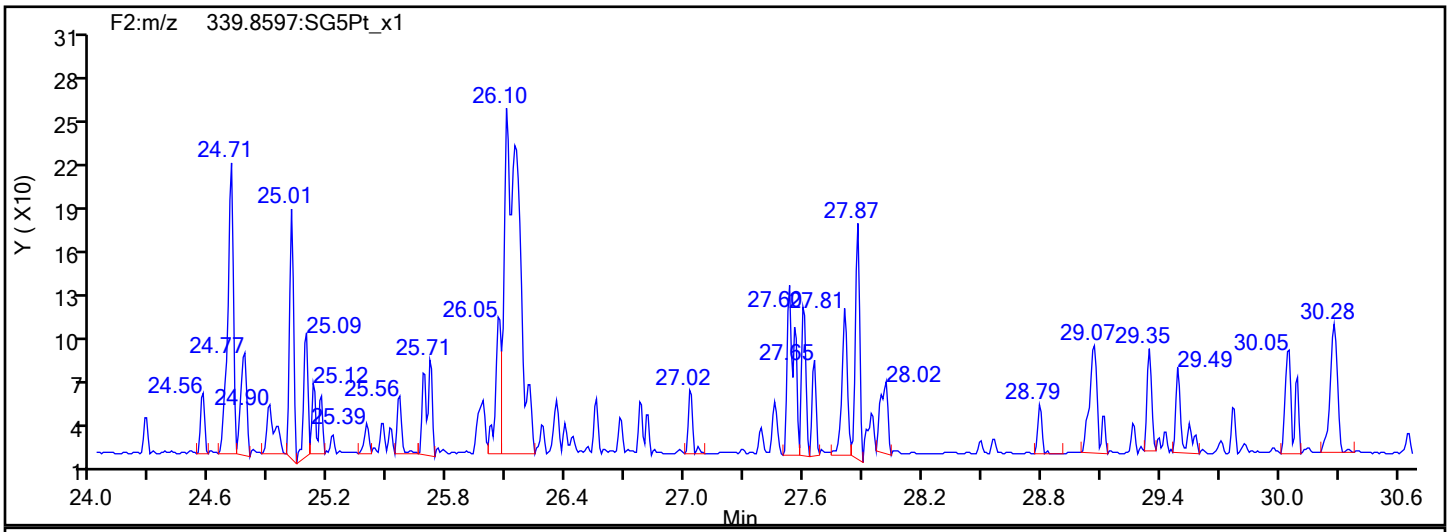
PeCDF Standards

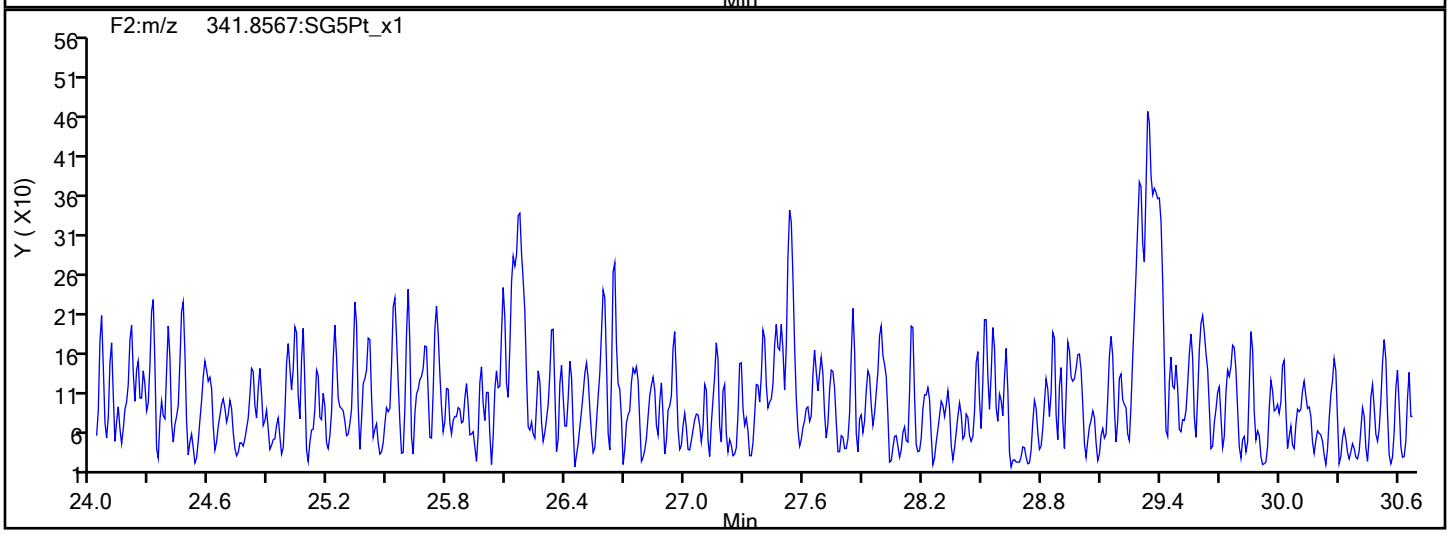


Eurofins Sacramento

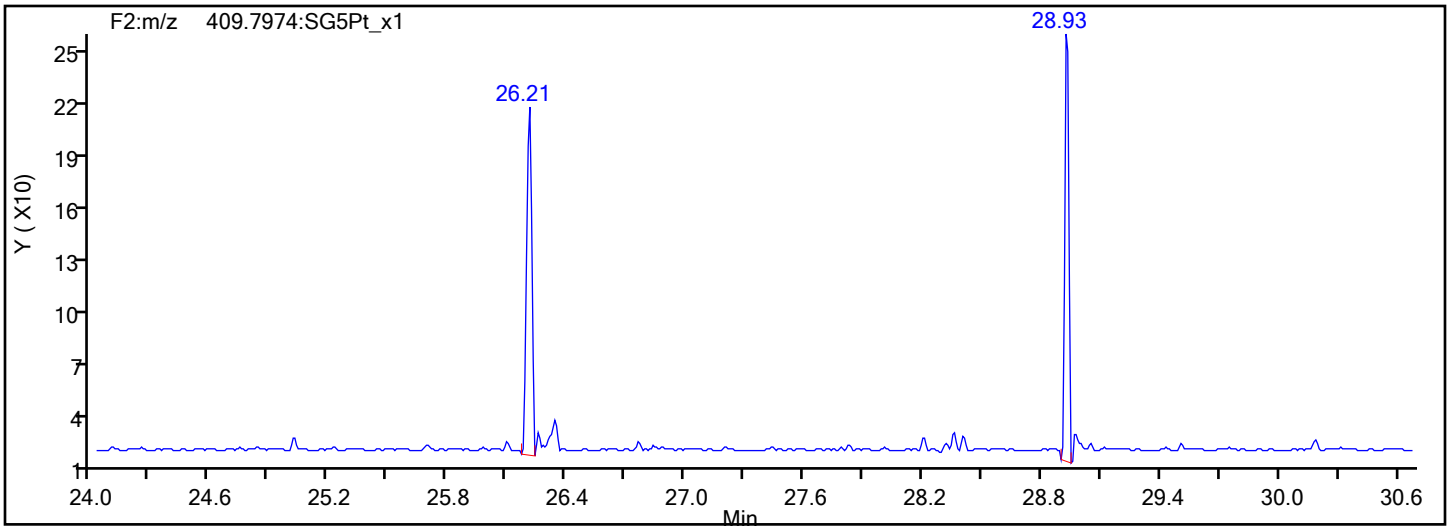
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d		
Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





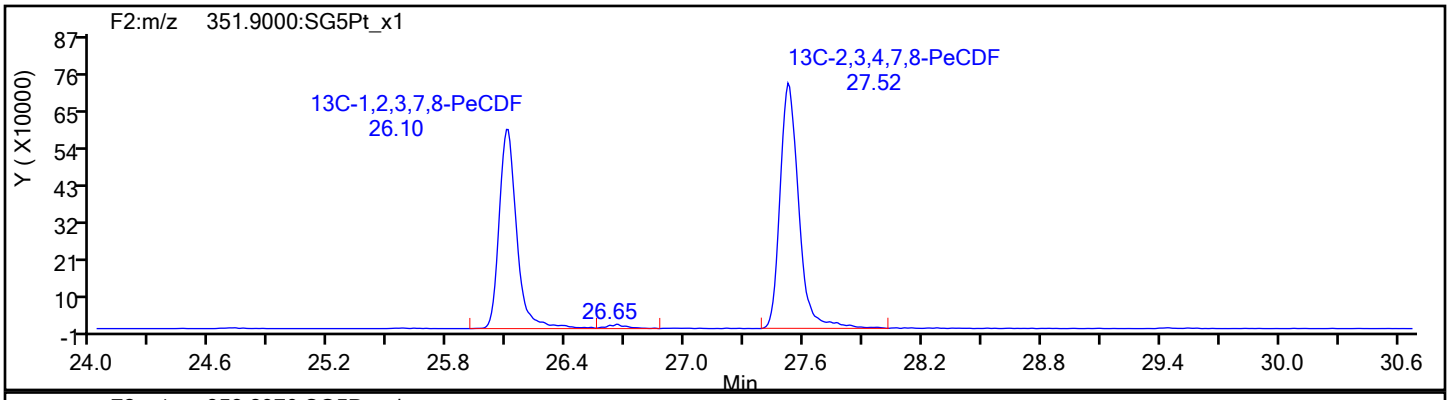
PeCDF Interference Mass

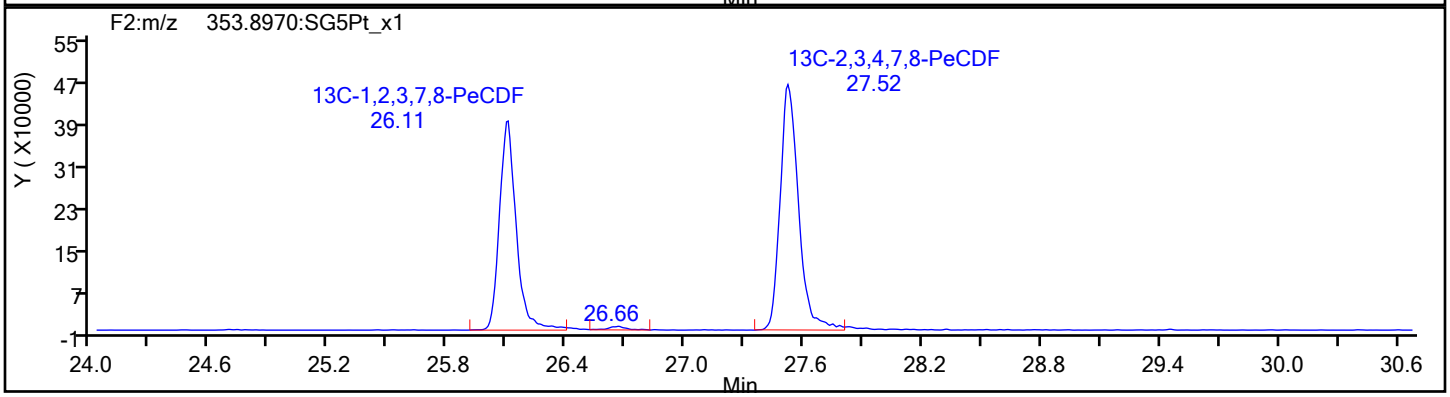


Eurofins Sacramento

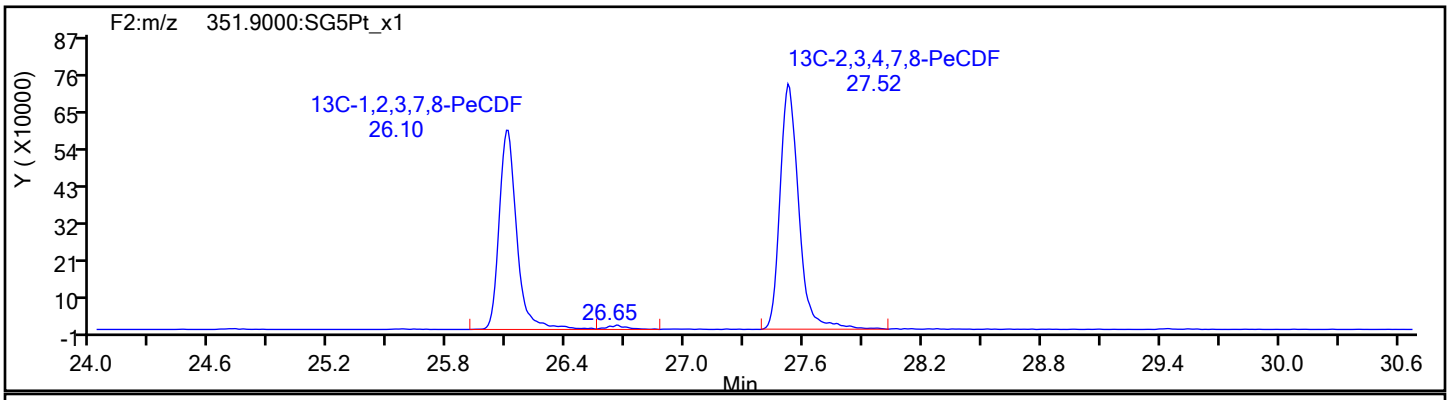
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d		
Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

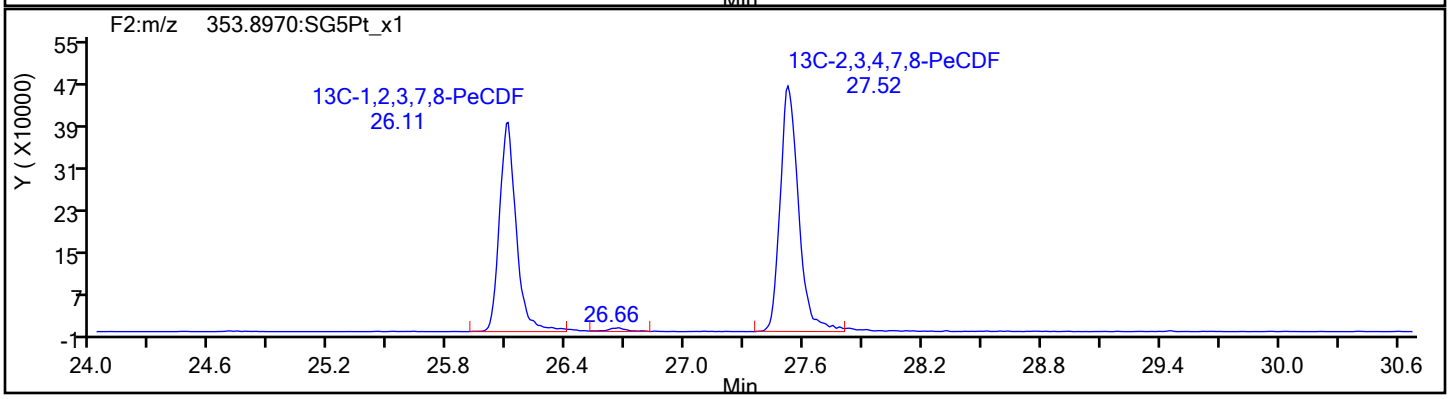
13C-PeCDF





13C-PeCDF Standards

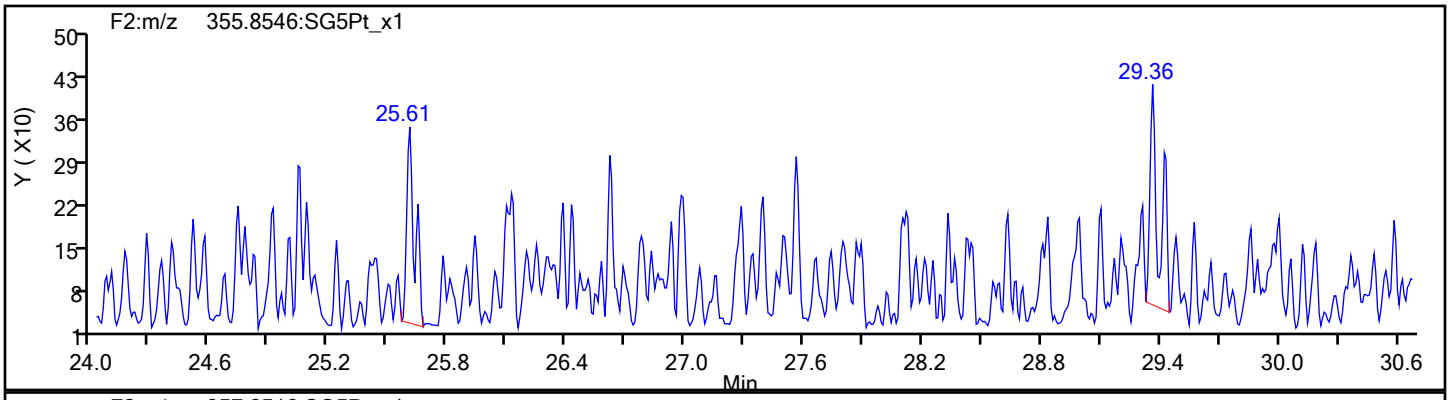


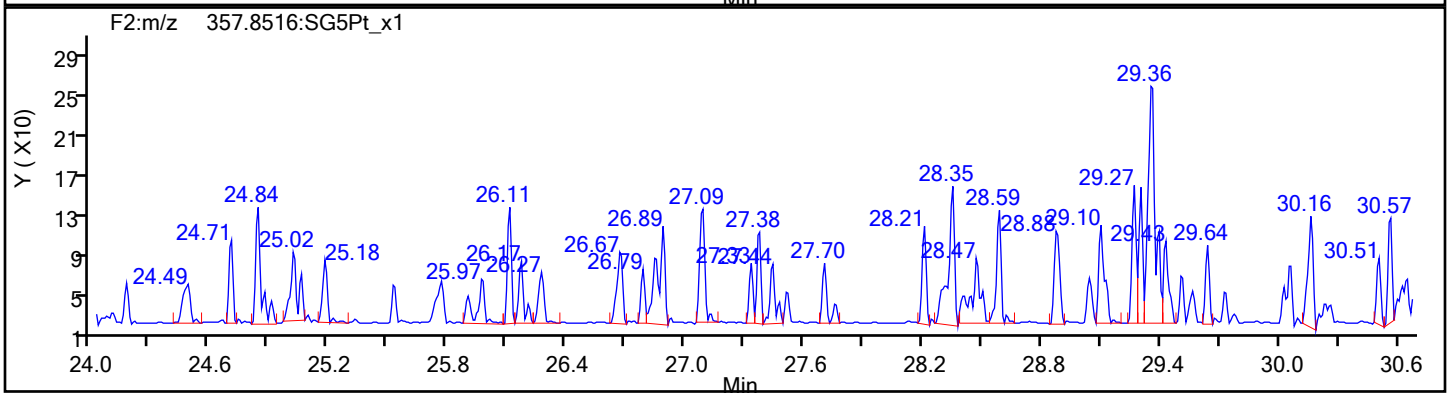


Eurofins Sacramento

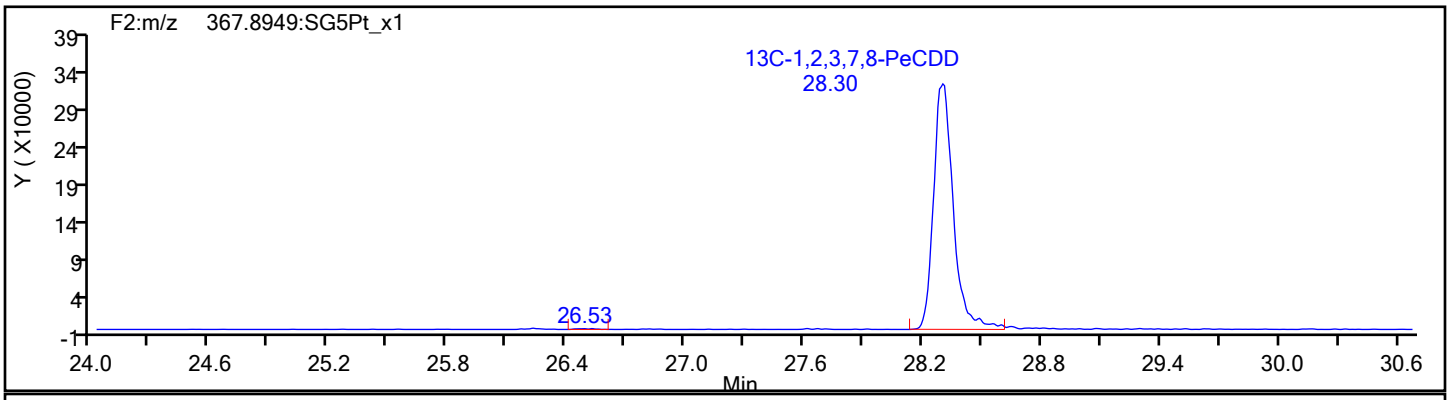
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d		
Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

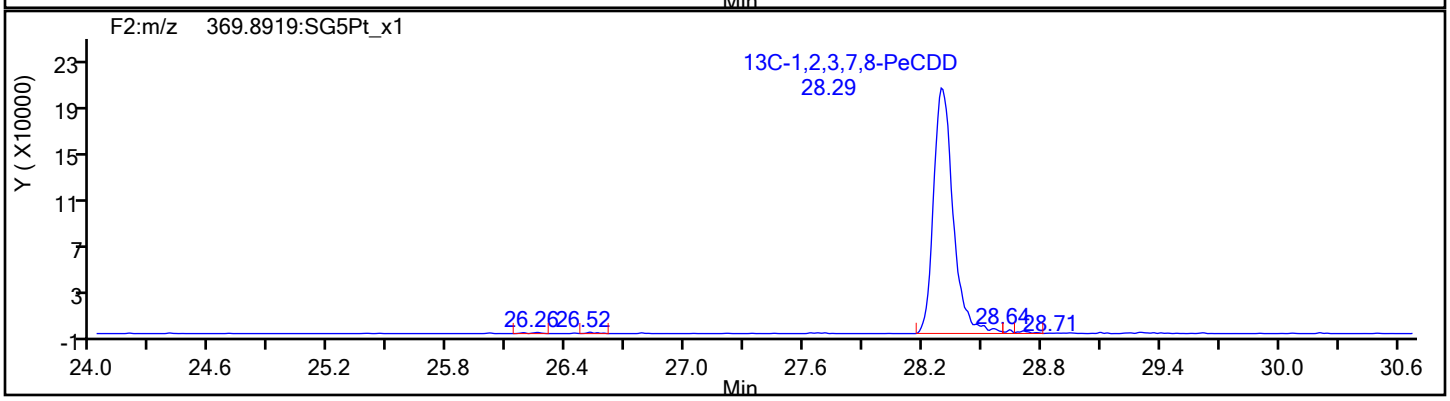
PeCDD





PeCDD Standards





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d
Injection Date: 22-Jan-2022 02:37:00 Injection Vol: 1.0 ul
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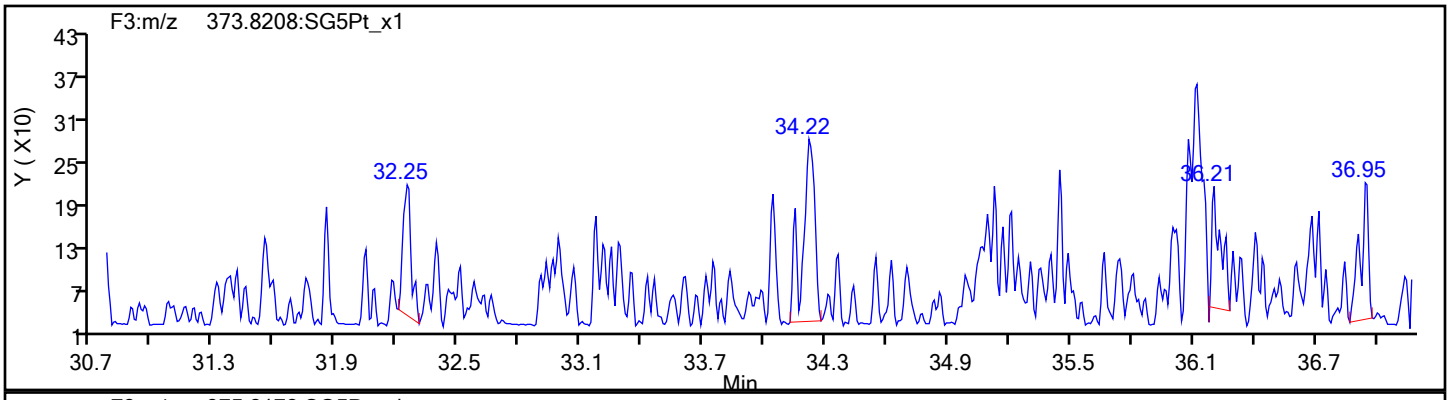
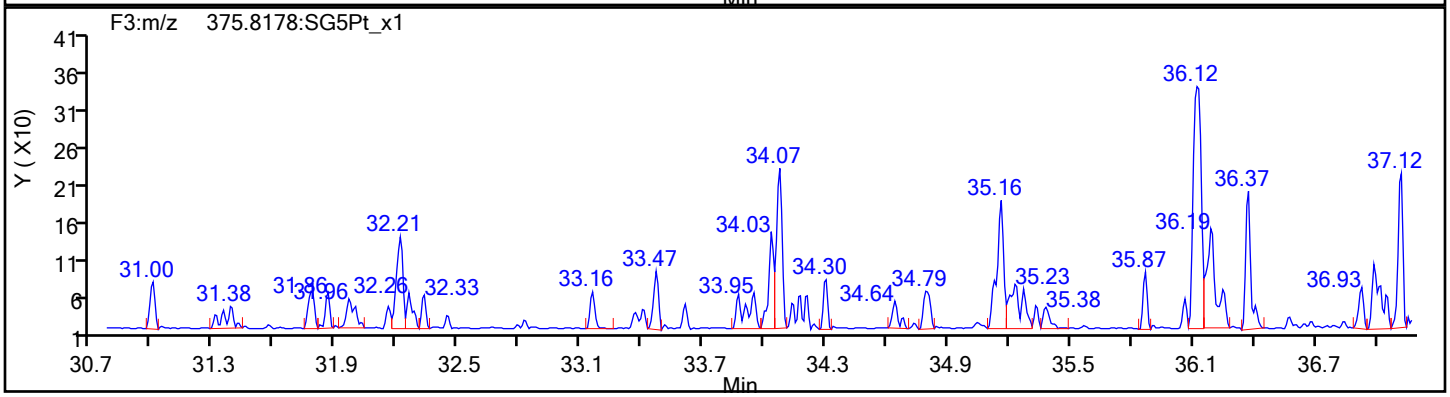
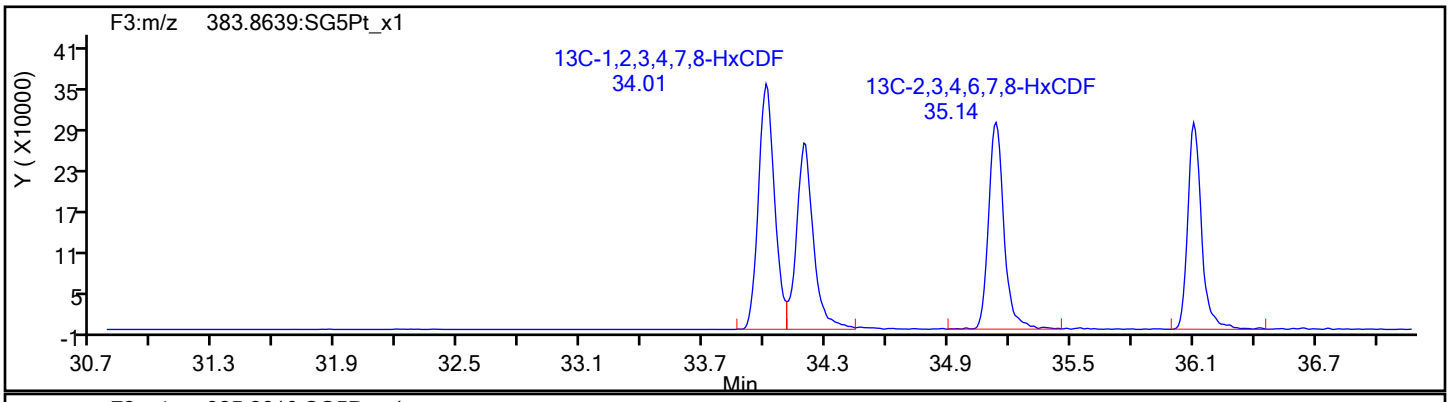
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: EVBMP0008S016
Worklist#: 559800 Sample Line#: 8
Column Type: DB-5 Column Dia: 0.32 mm

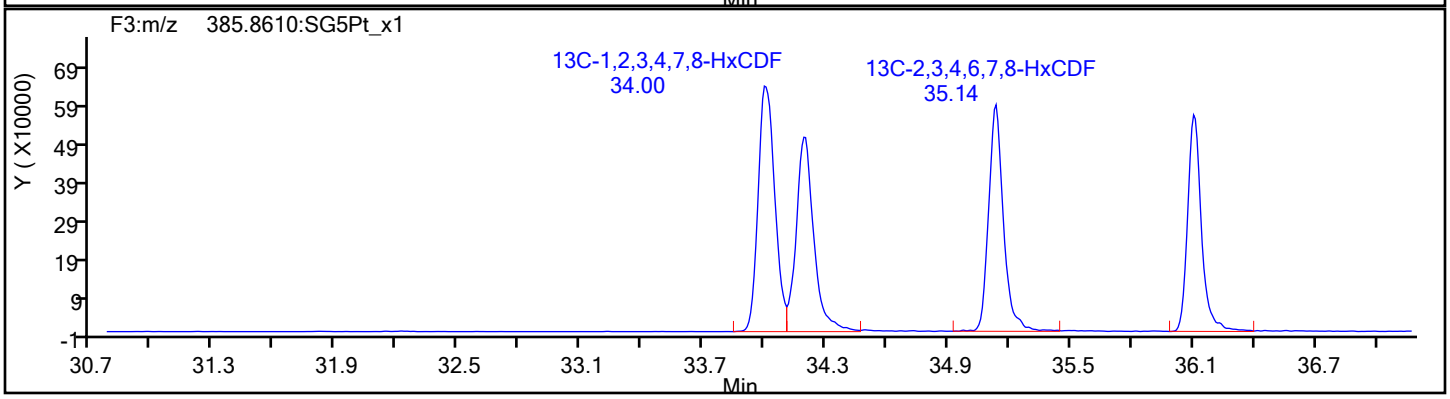
HxCDF





HxCDF Standards





Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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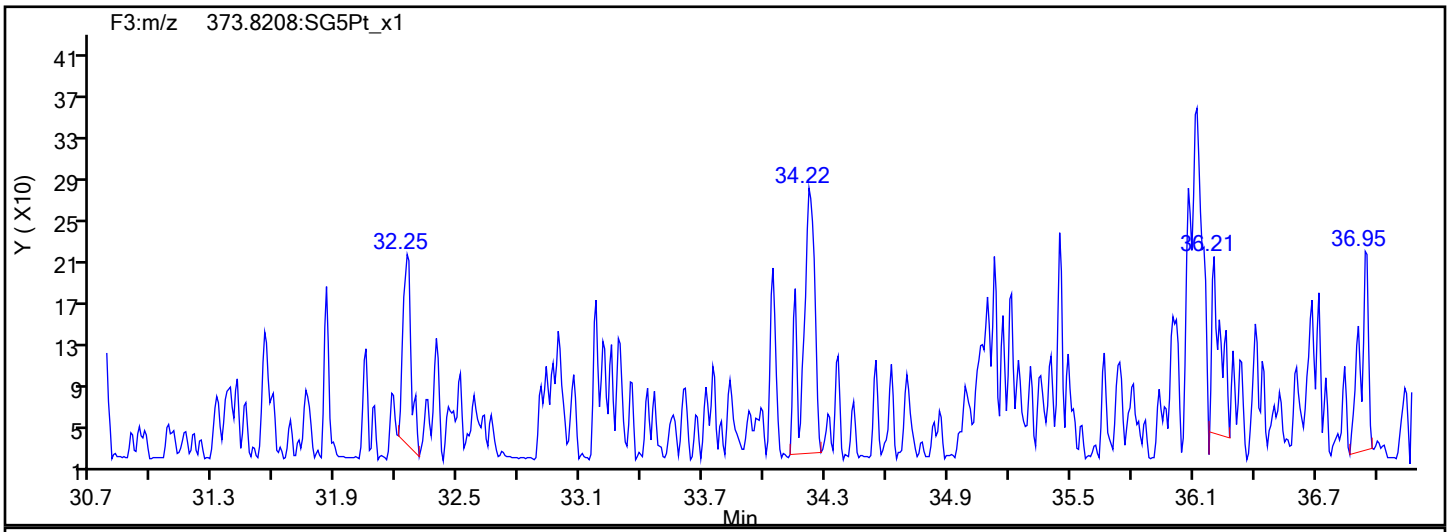
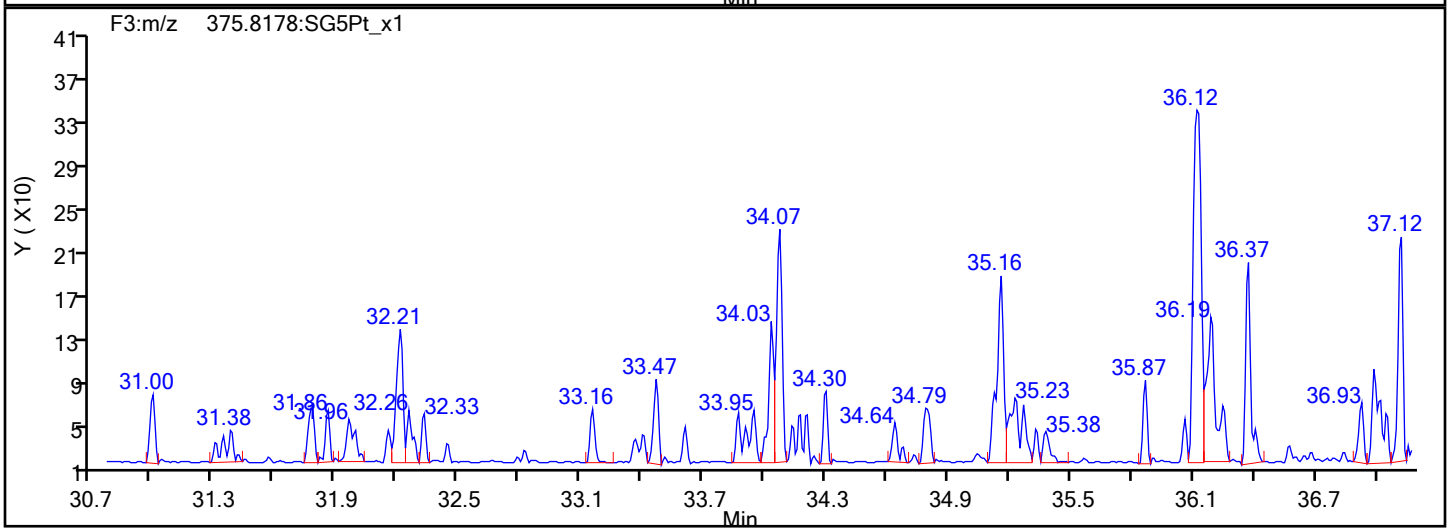
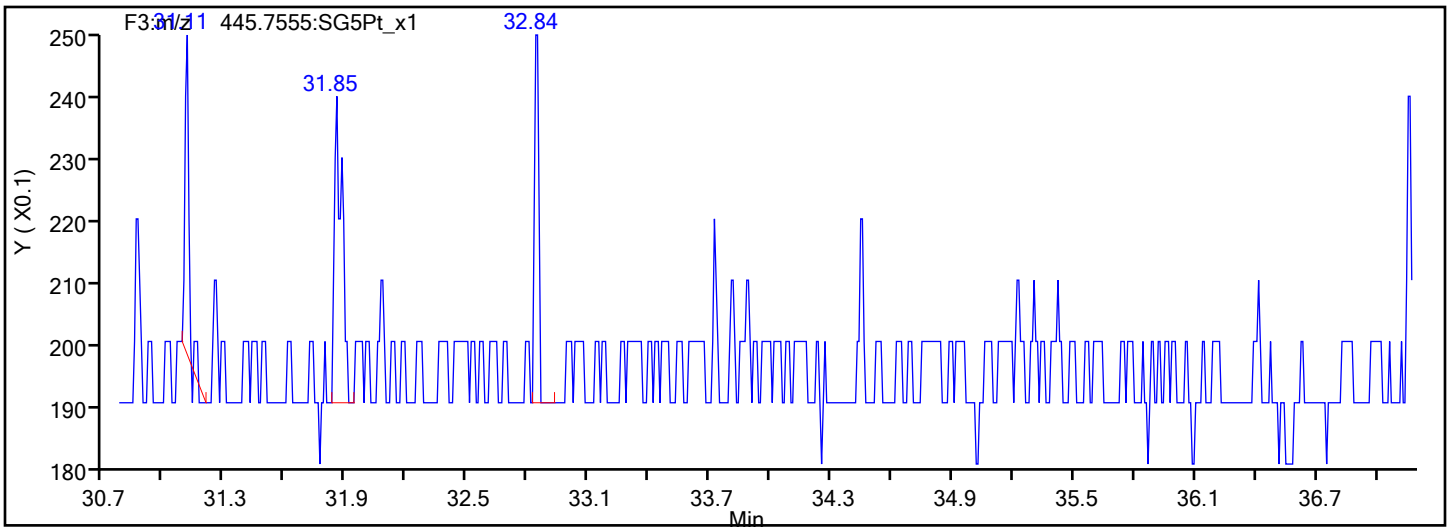




HxCDF Interference Mass



Report Date: 25-Jan-2022 08:39:37 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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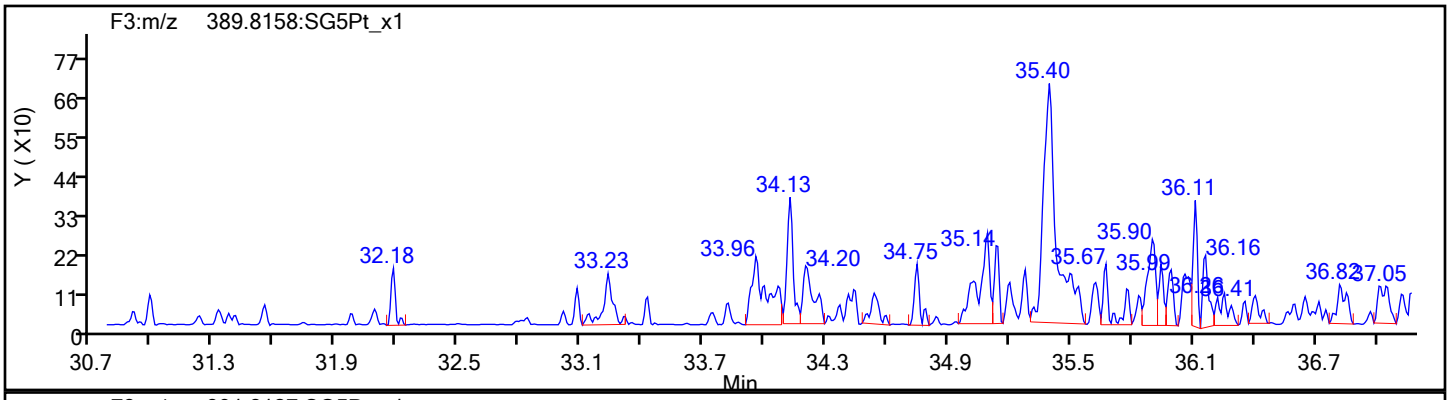
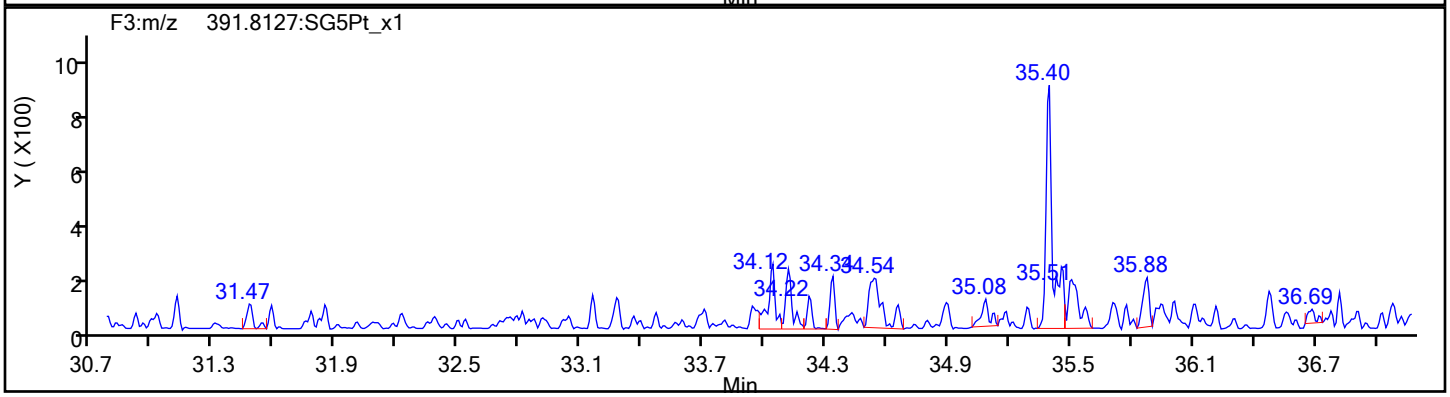
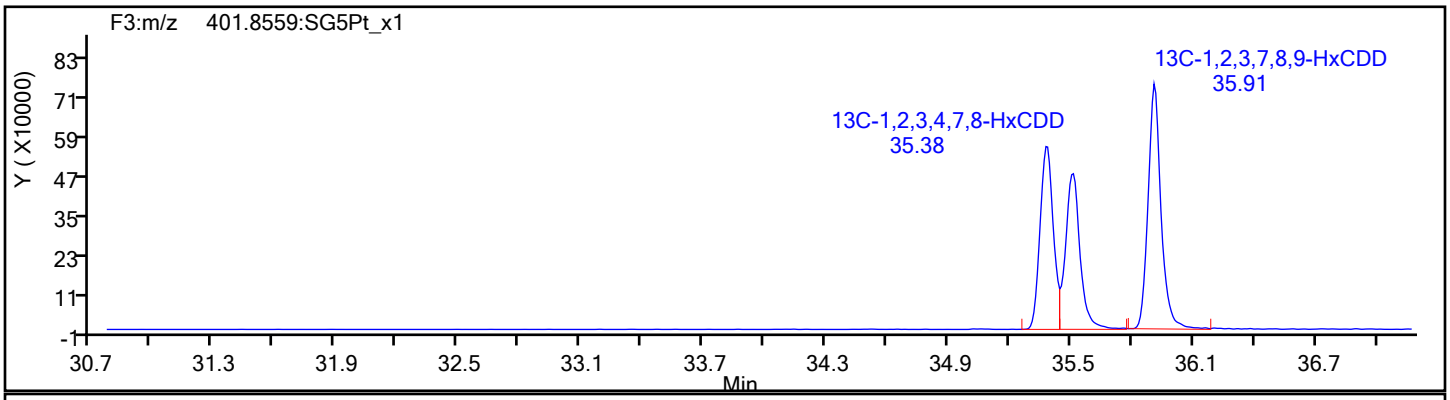
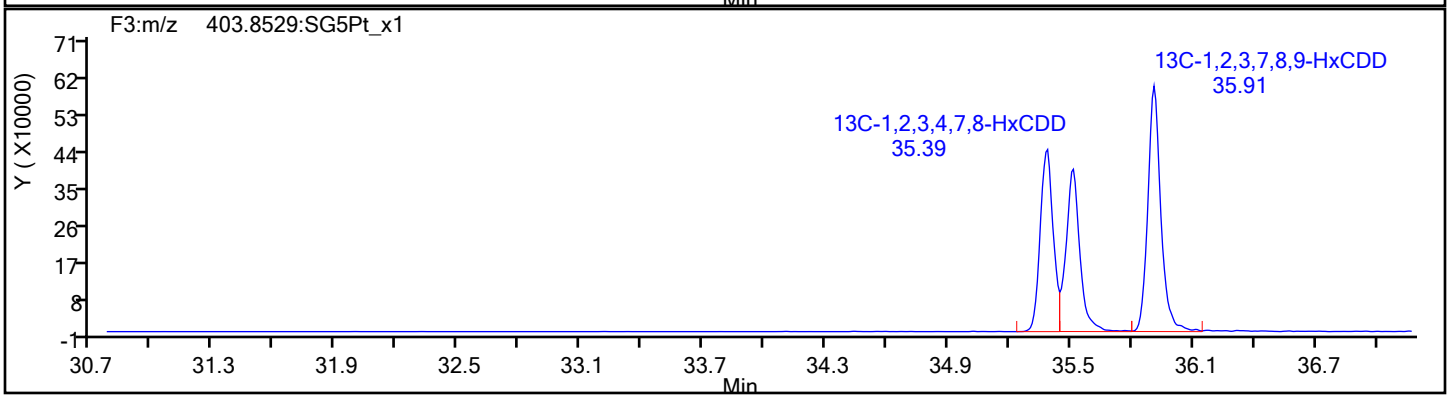




HxCDD Standards





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Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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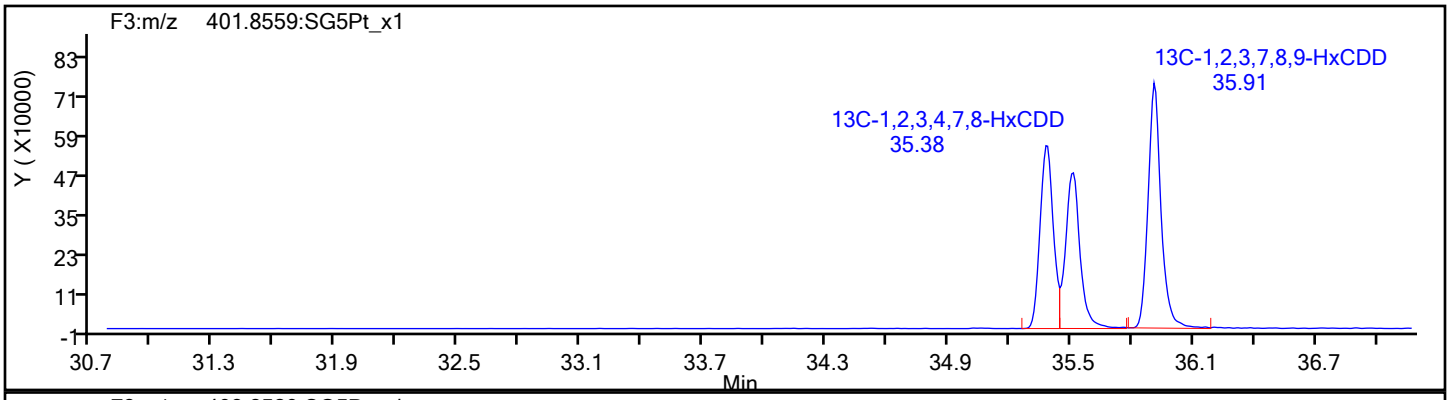
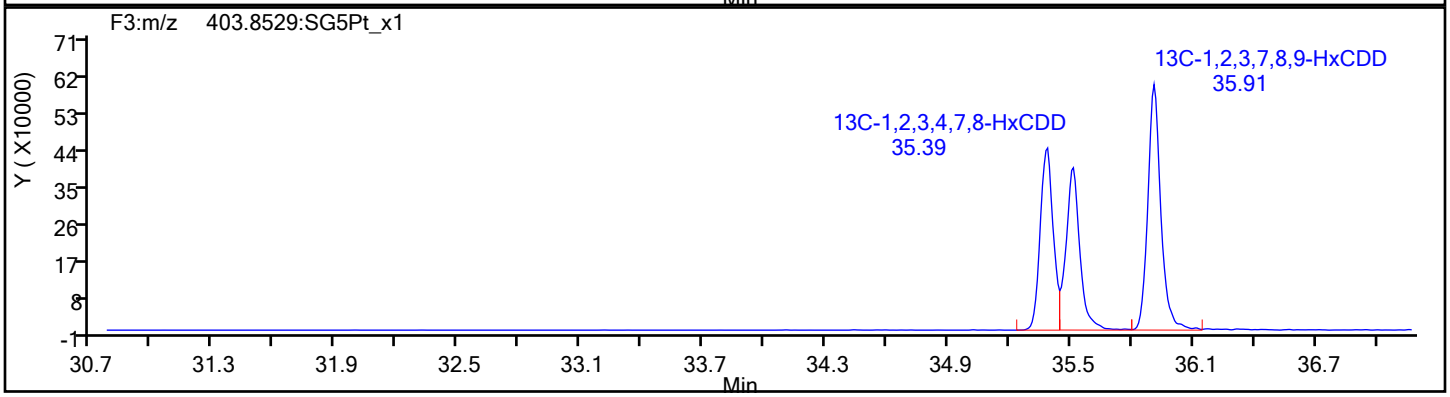
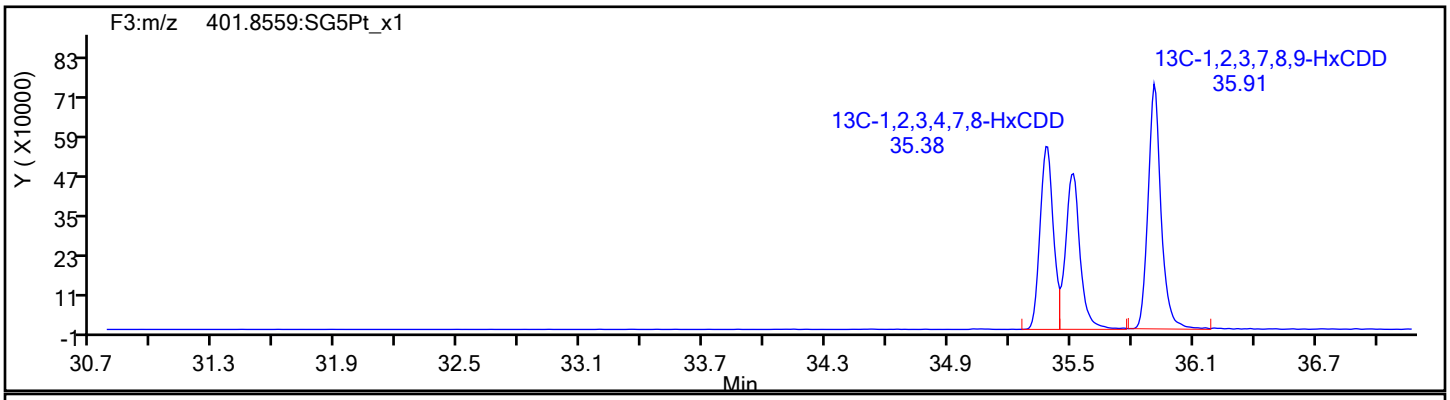
Column Type:	DB-5	Column Dia:	0.32 mm

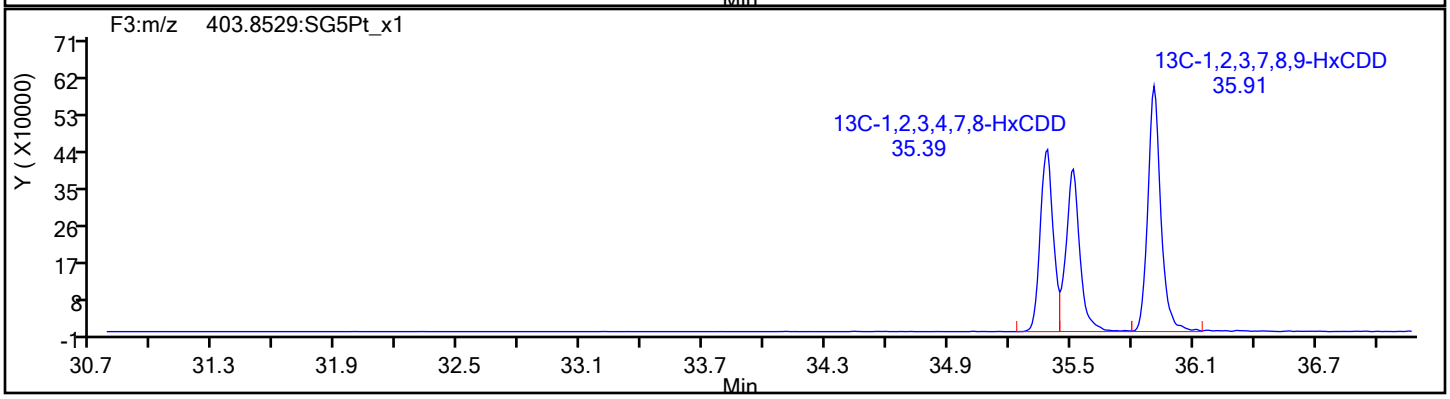
13C-HxCDD





13C-HxCDD Standards





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Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d

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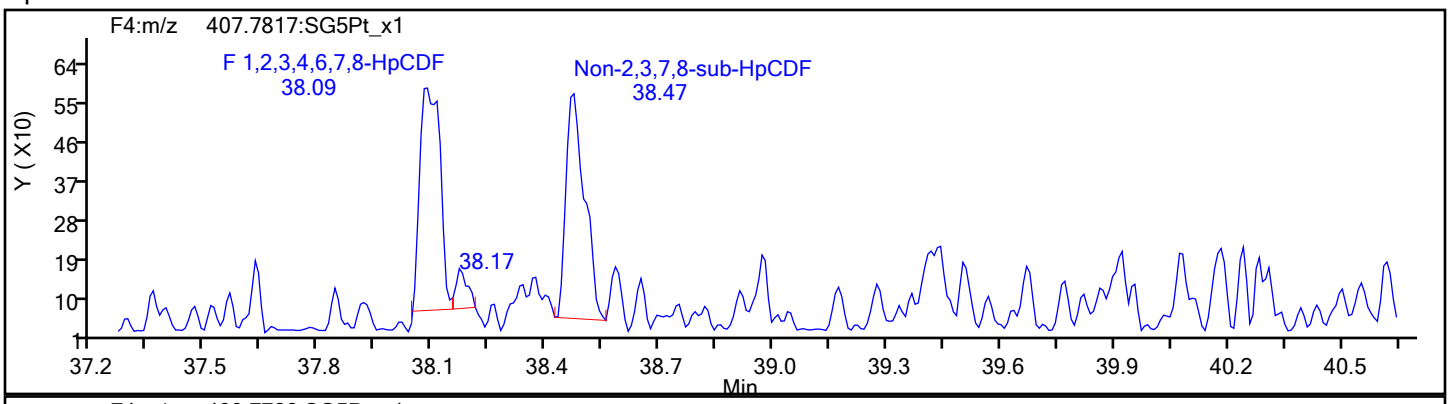
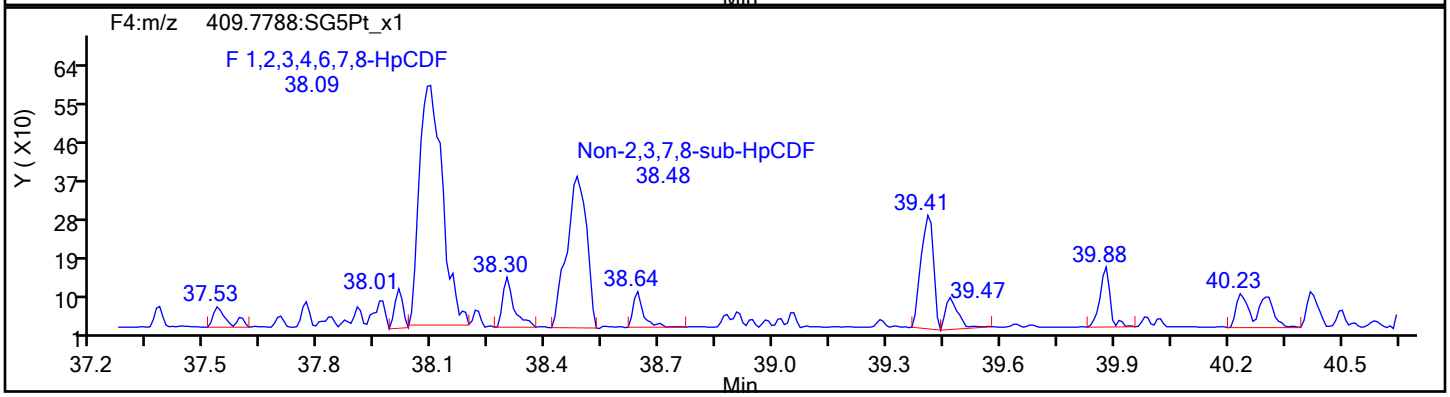
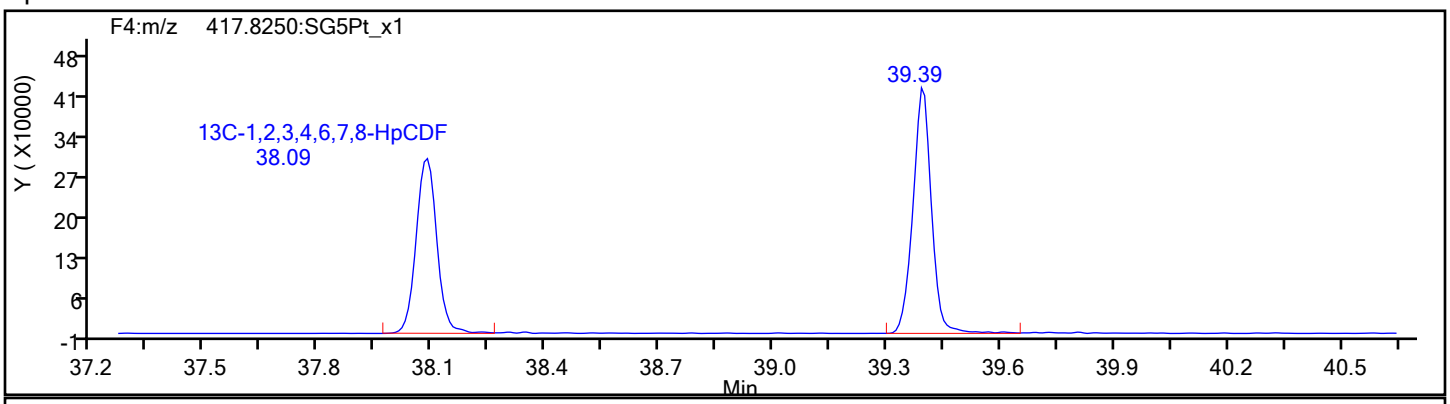
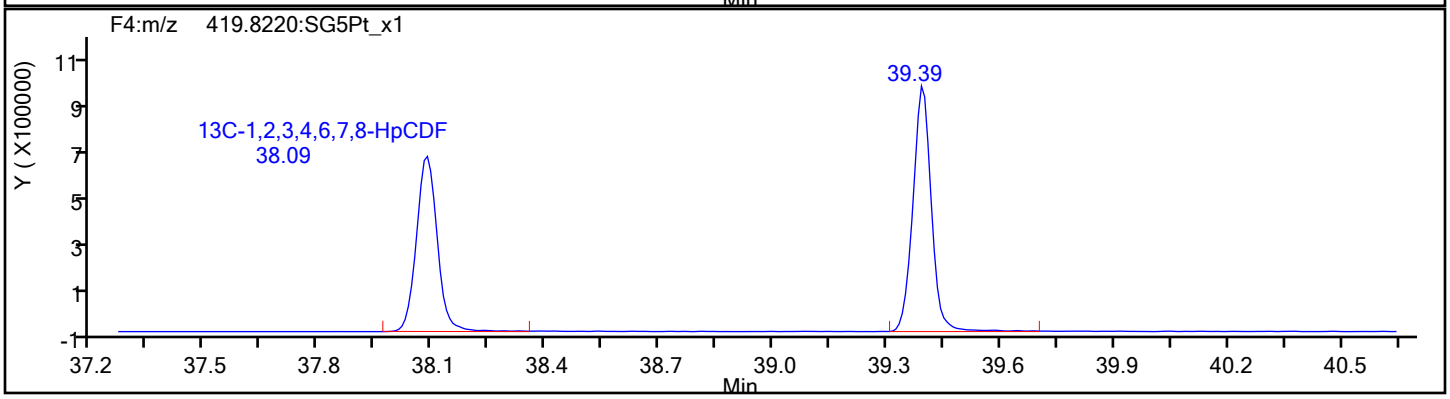
HpCDF





HpCDF Standards





Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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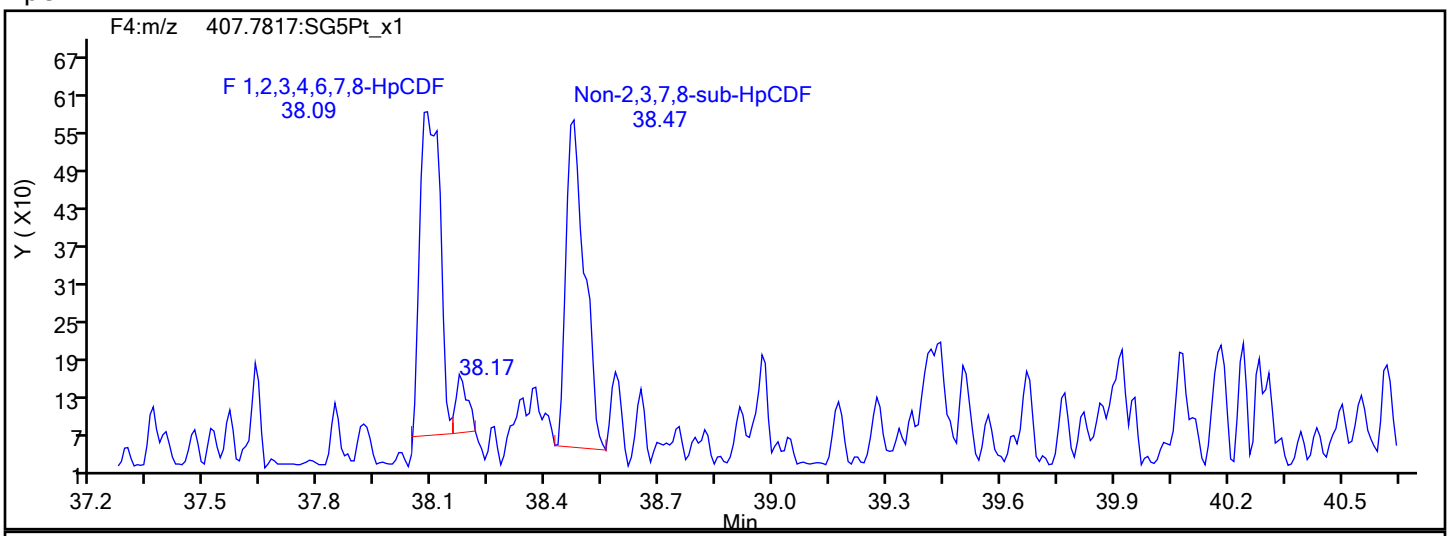
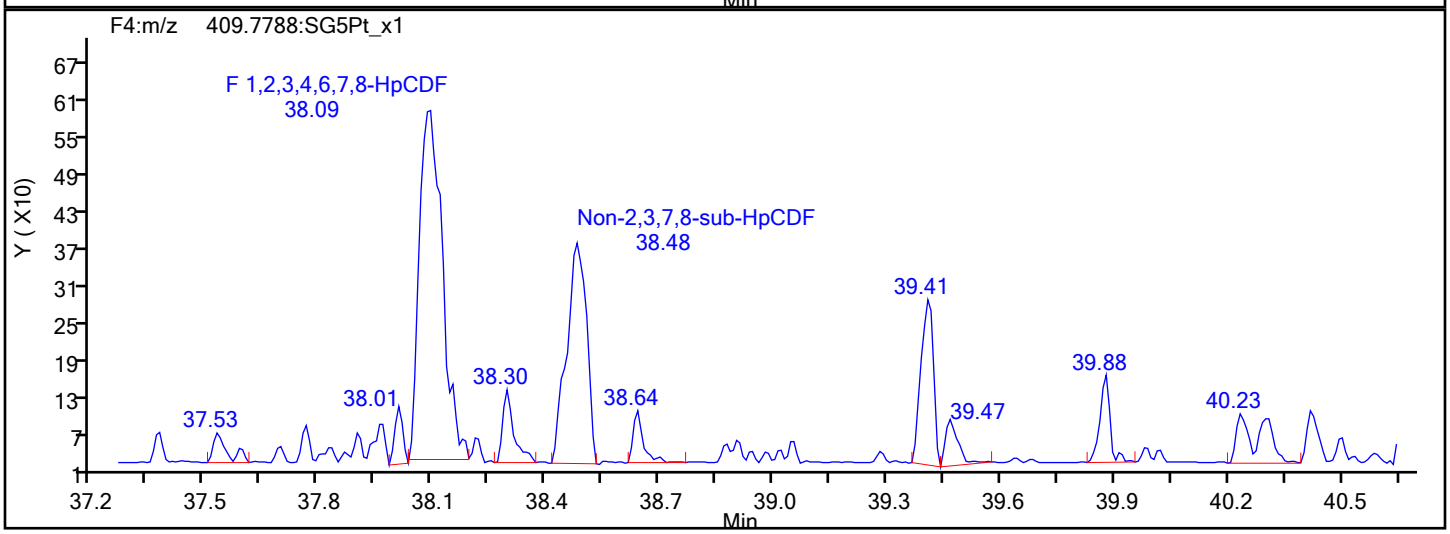
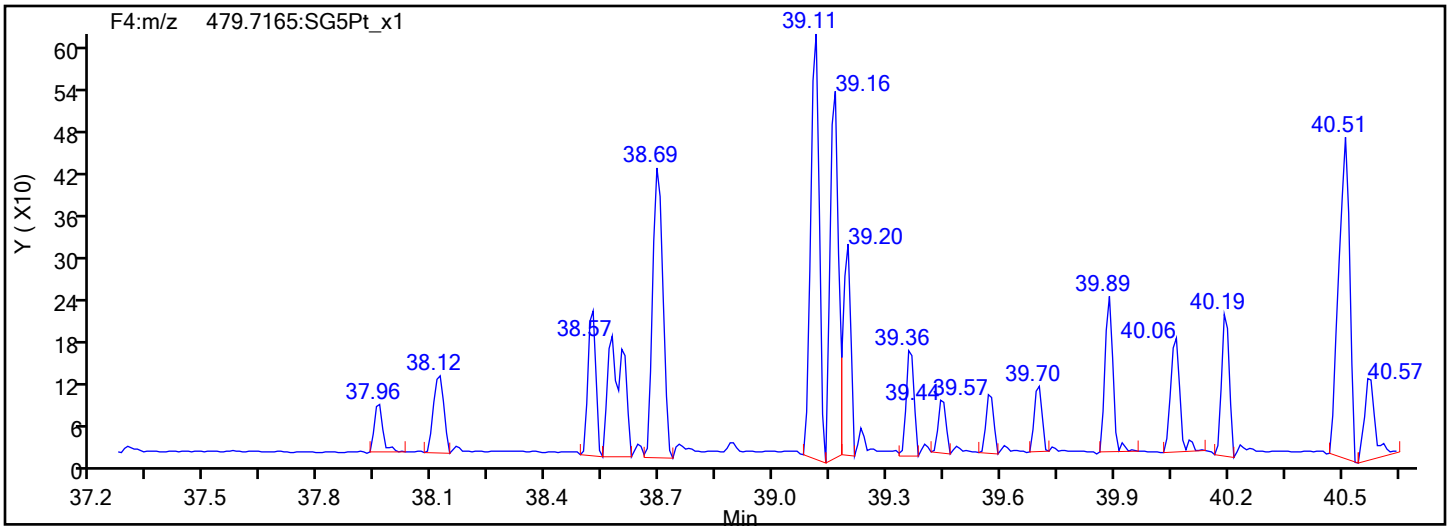
HpCDF





HpCDF Interference Mass



Eurofins Sacramento

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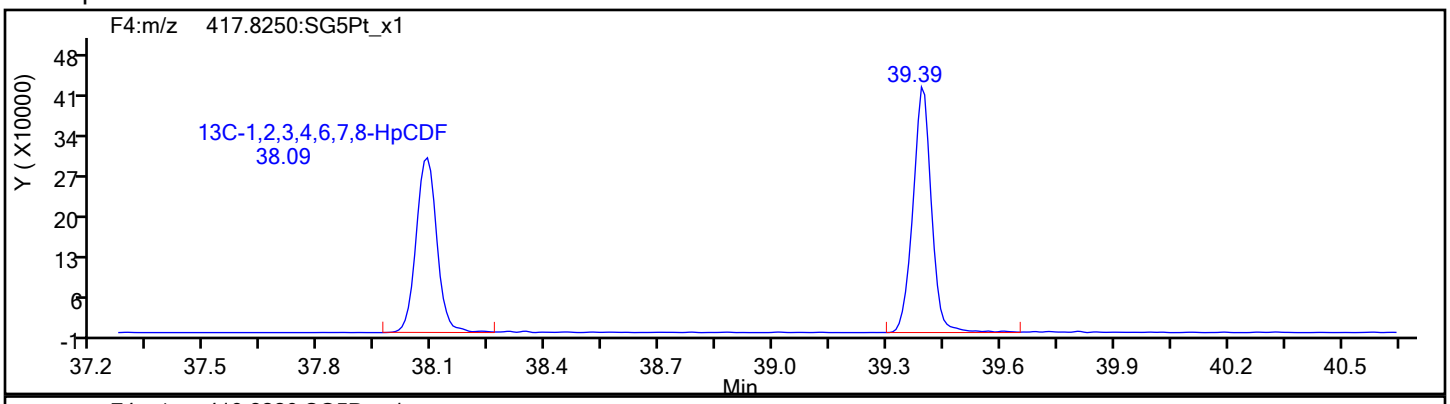
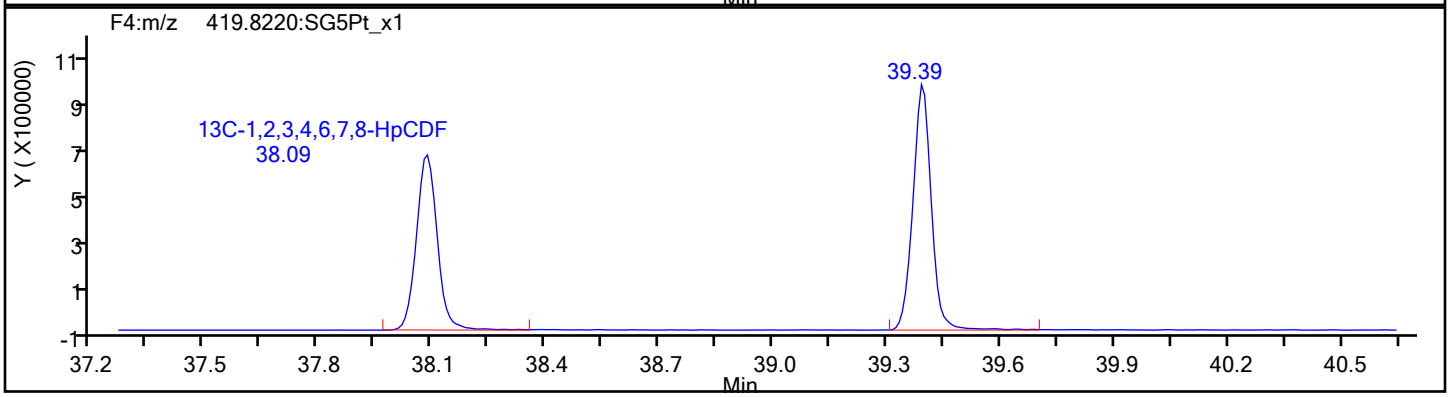
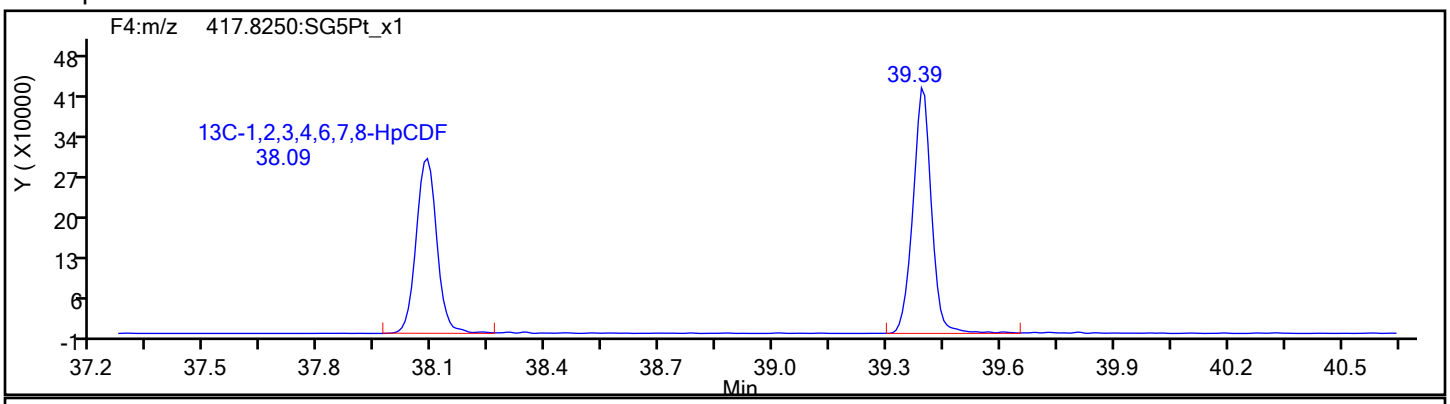
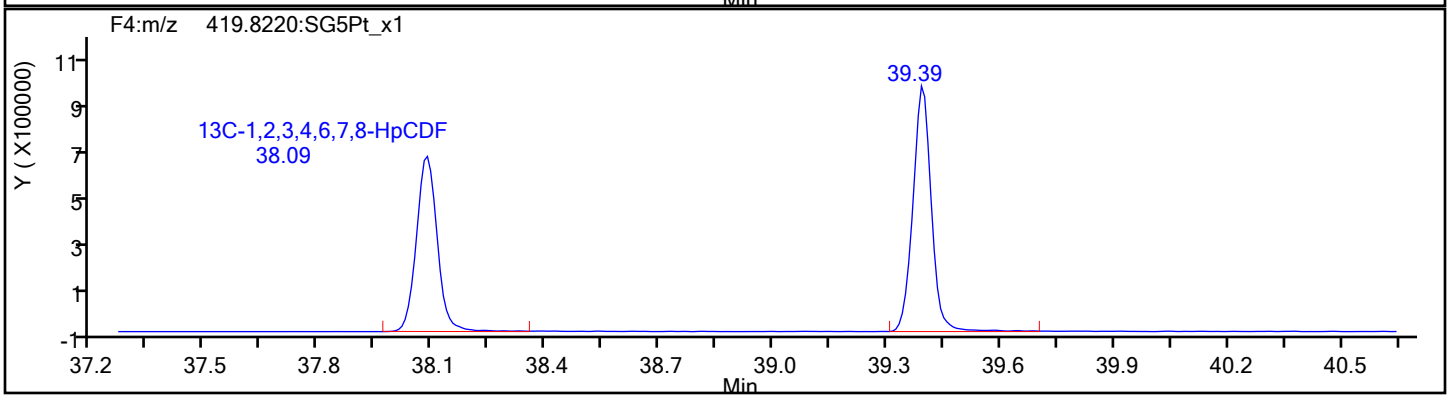
13C-HpCDF





13C-HpCDF Standards





Eurofins Sacramento

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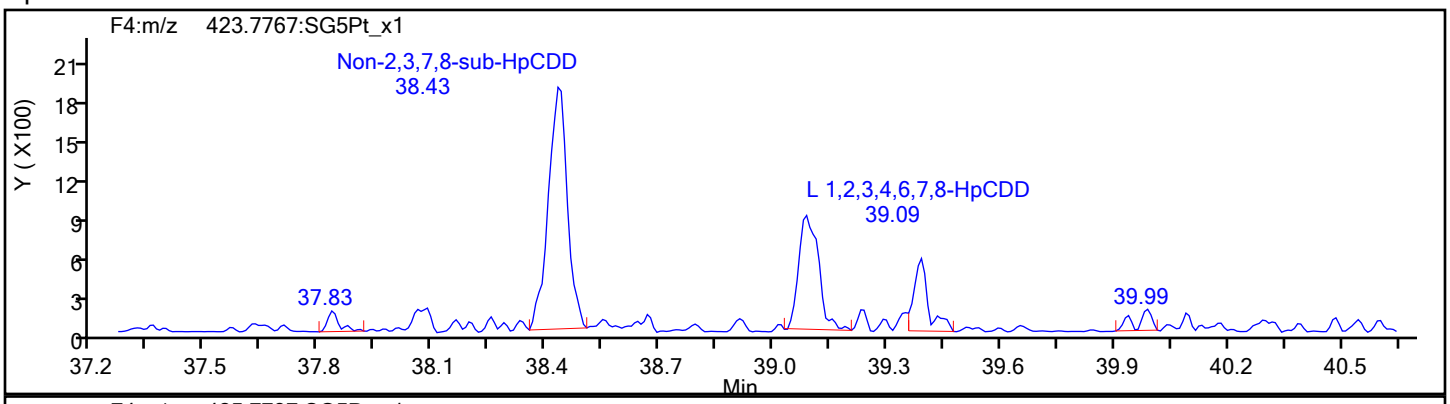
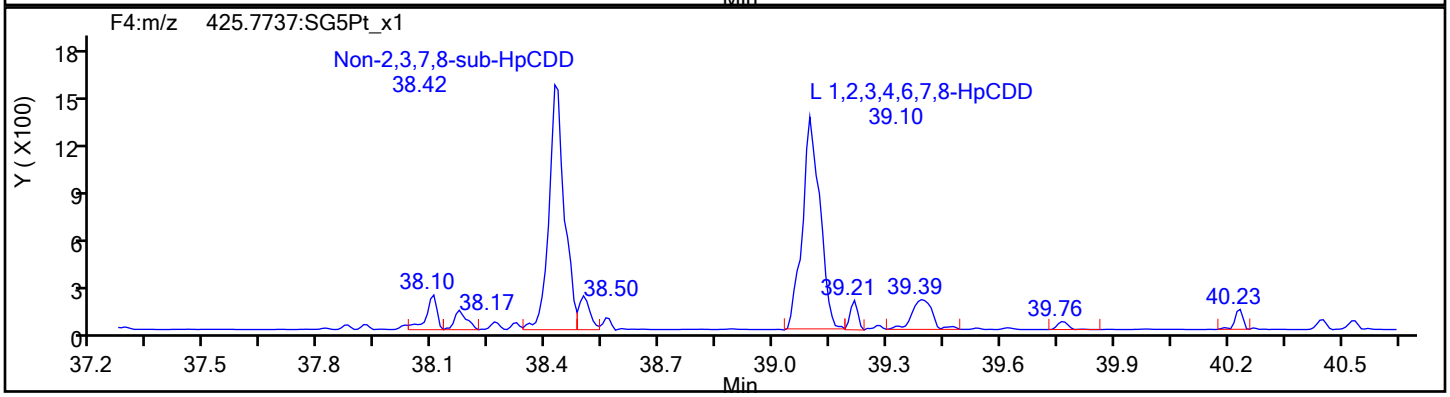
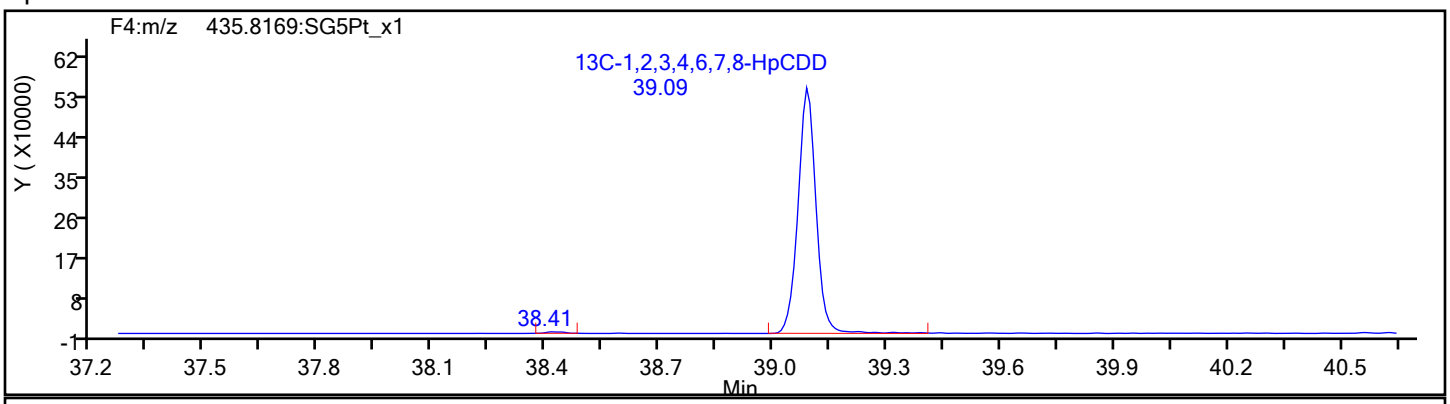
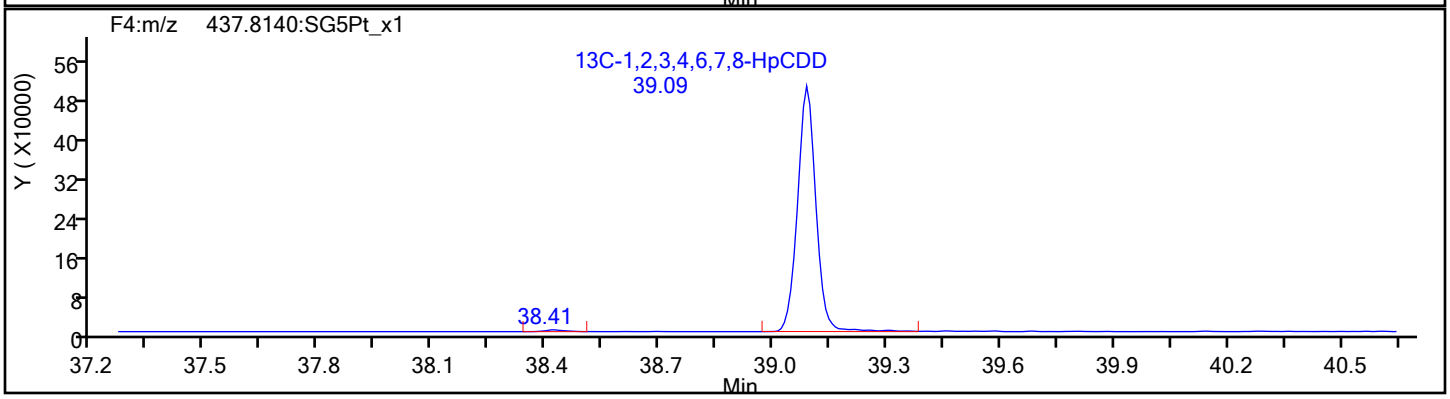
HpCDD





HpCDD Standards





Eurofins Sacramento

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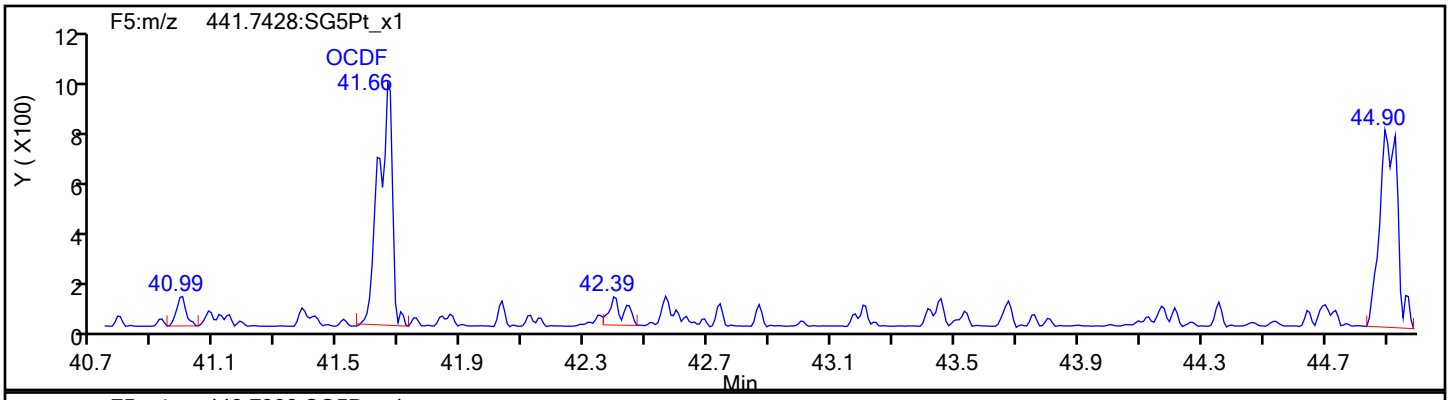
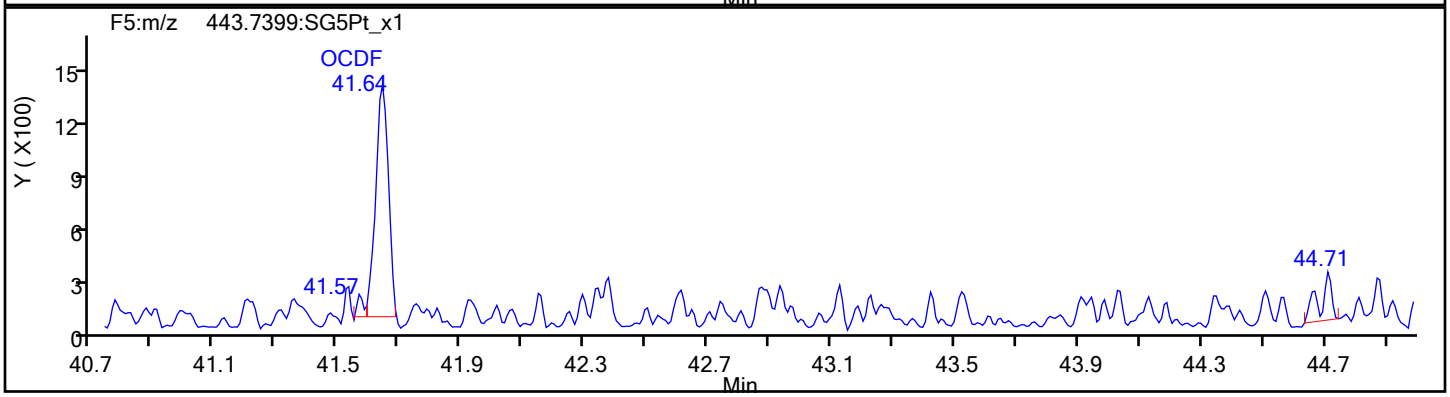
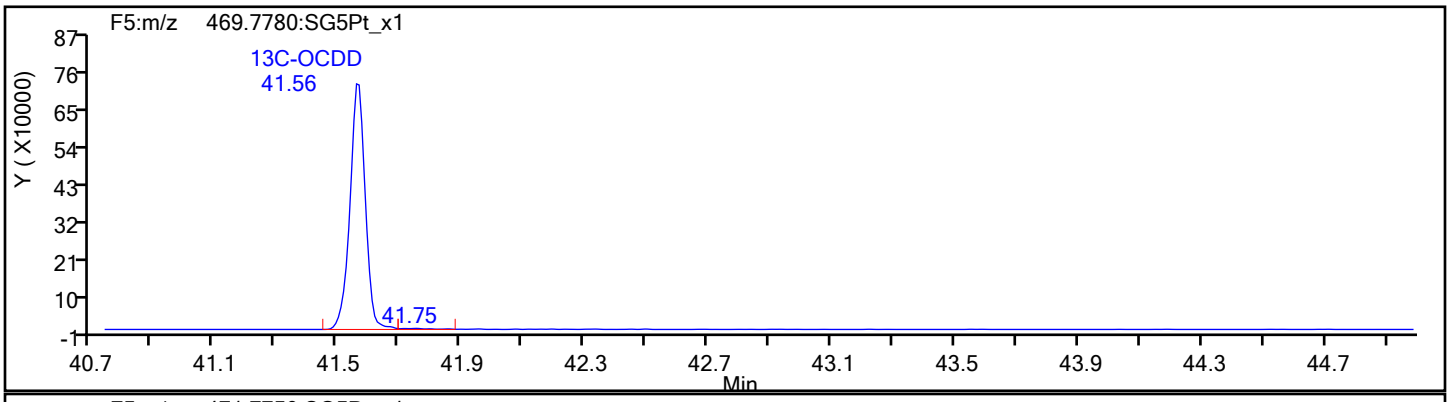
Column Type:	DB-5	Column Dia:	0.32 mm

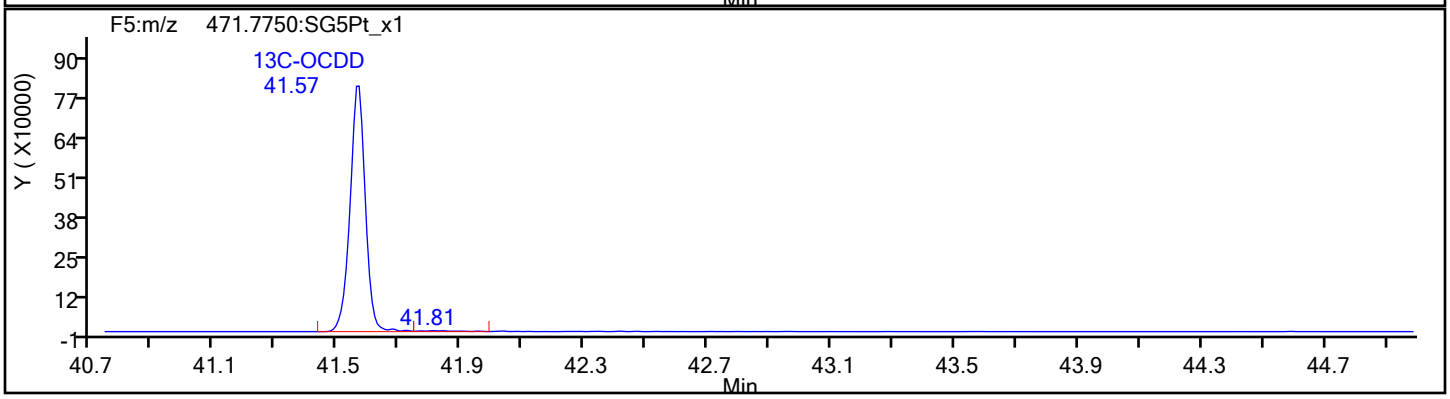
OCDF





OCDF Standards





Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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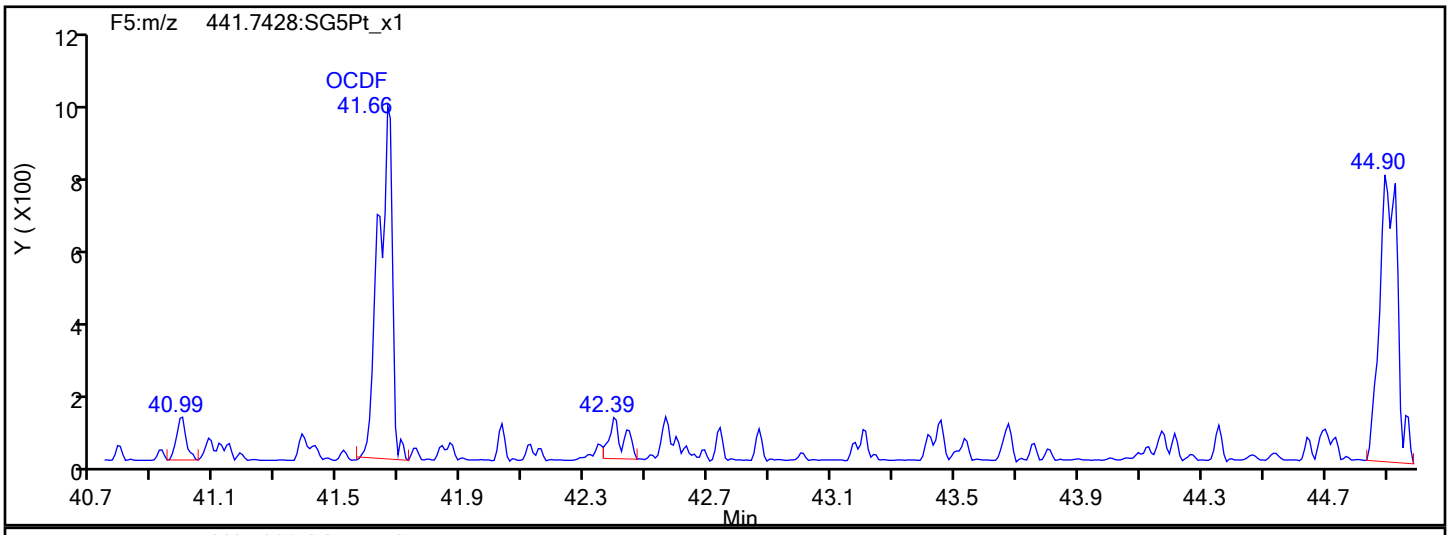
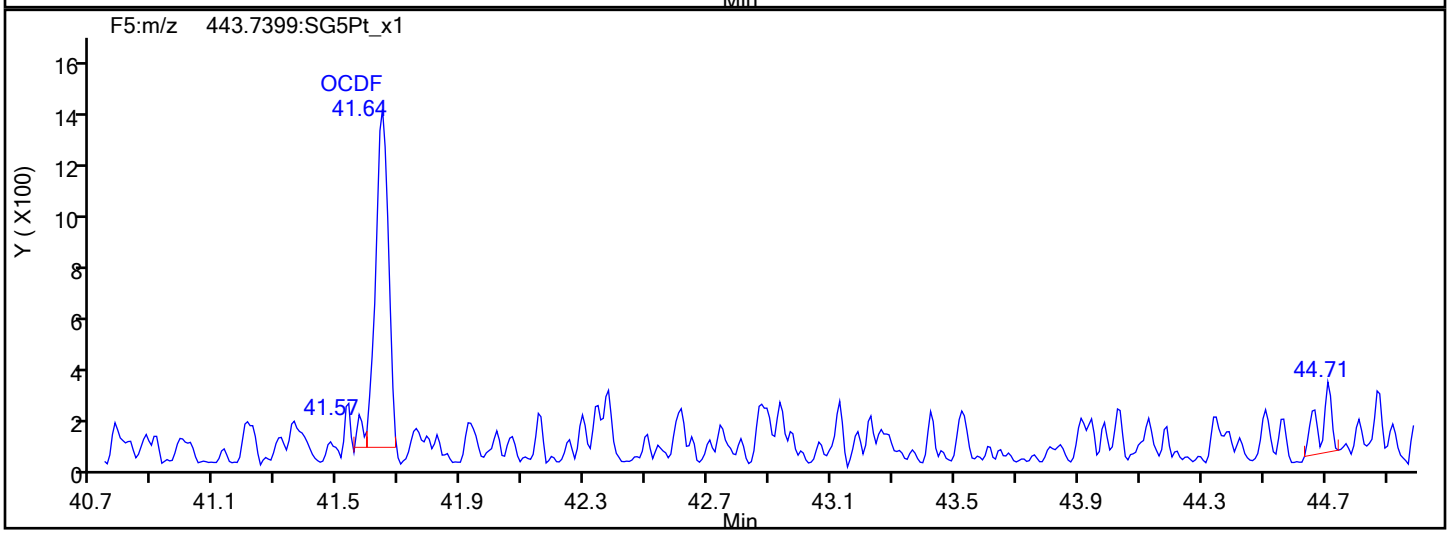
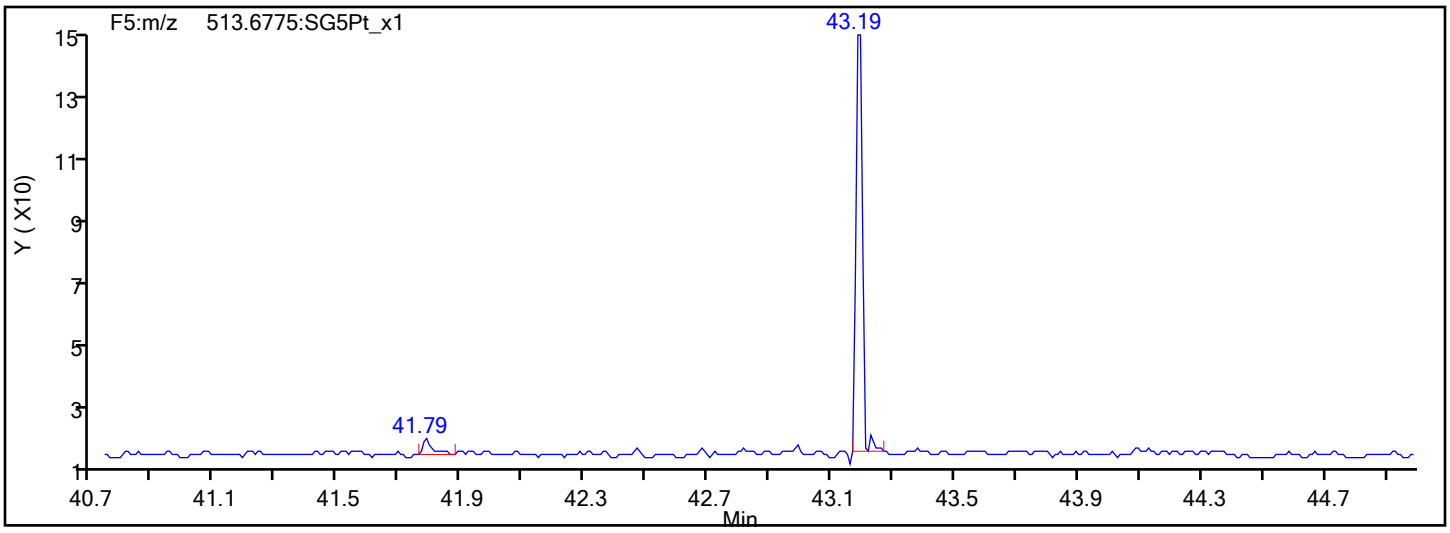
OCDF





OCDF Interference Mass



Eurofins Sacramento

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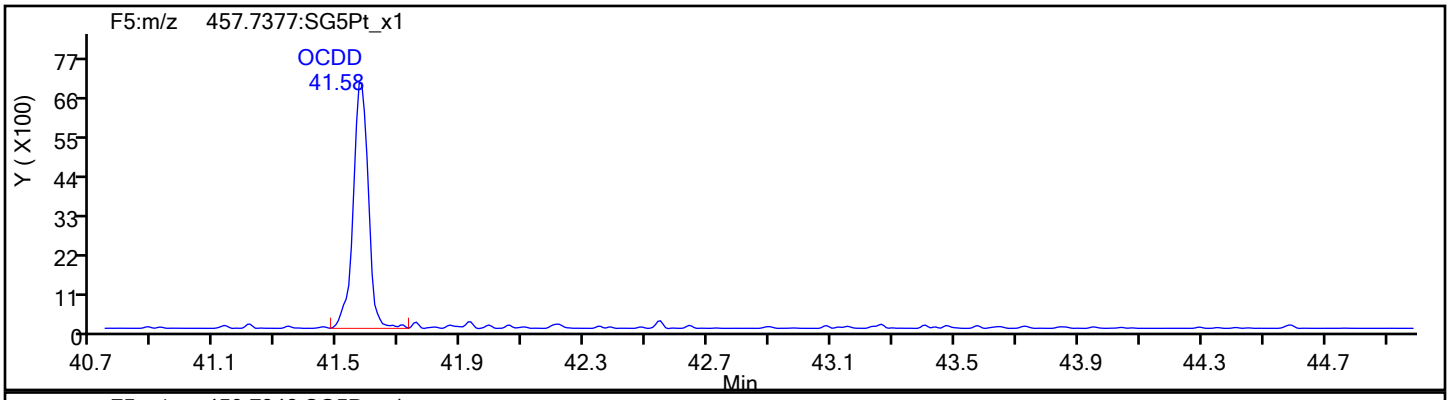
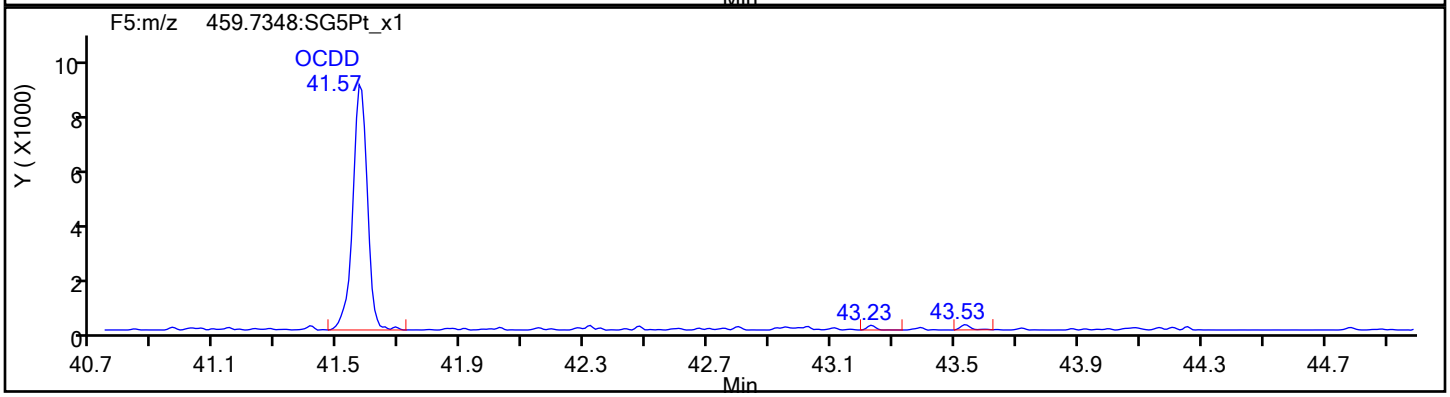
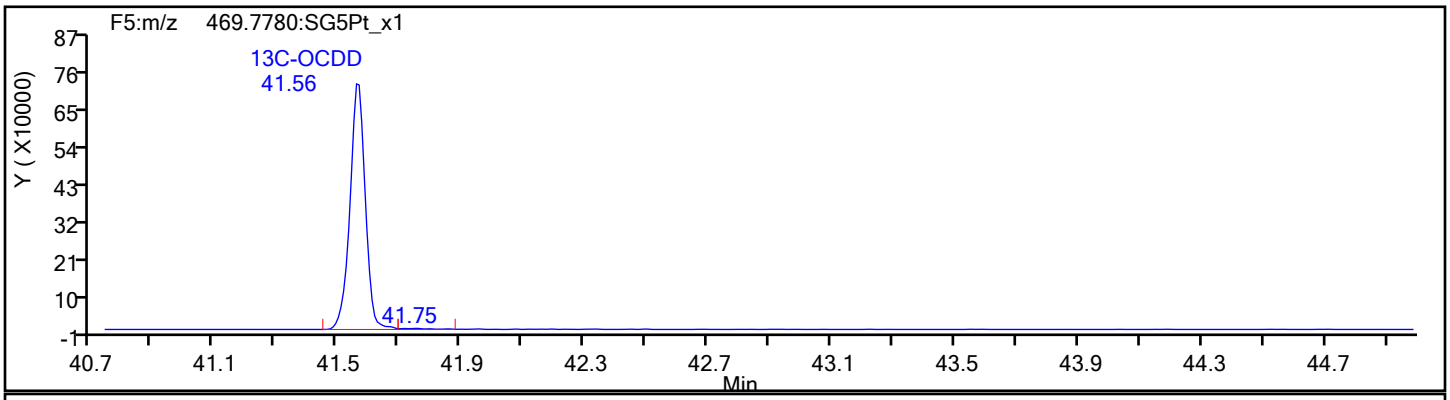
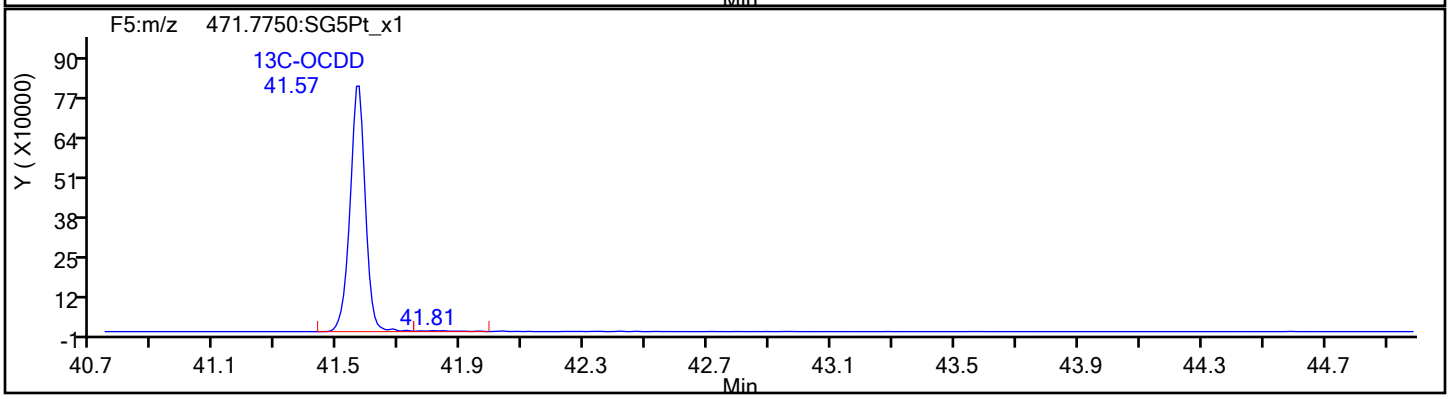
OCDD





OCDD Standards

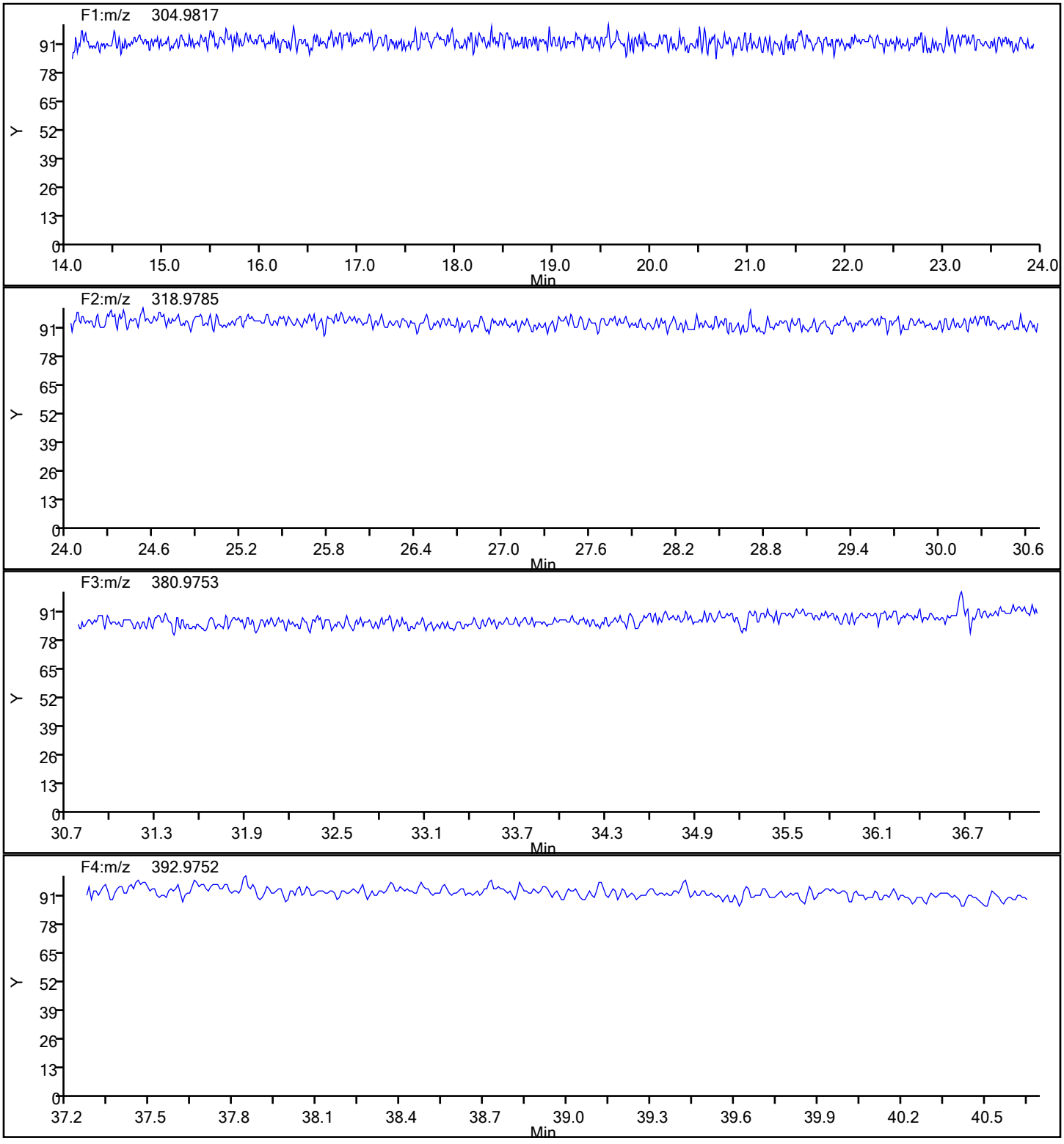




Report Date: 25-Jan-2022 08:39:37 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

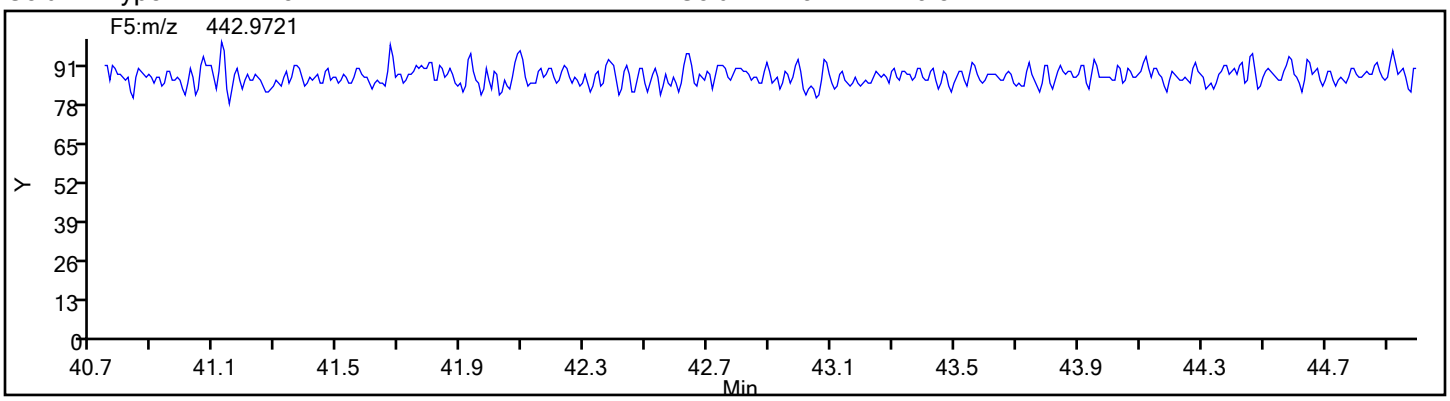
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d		
Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 25-Jan-2022 08:39:37 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_48.d		
Injection Date:	22-Jan-2022 02:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0008S016		
Worklist#:	559800	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80421-2

SDG No.:

Client Sample ID: EVBMP0009S014 | Lab Sample ID: 570-80421-4

Matrix: Water | Lab File ID: 20ja22dfs1_49.d

Analysis Method: 8290 | Date Collected: 12/30/2021 08:50

Extract. Method: 8290 | Date Extracted: 01/07/2022 08:44

Sample wt/vol: 1028.3(mL) | Date Analyzed: 01/22/2022 03:25

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559800 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.7	0.82
51207-31-9	2,3,7,8-TCDF	ND		9.7	0.36
40321-76-4	1,2,3,7,8-PeCDD	ND		49	0.61
57117-41-6	1,2,3,7,8-PeCDF	ND		49	0.32
57117-31-4	2,3,4,7,8-PeCDF	ND		49	0.34
39227-28-6	1,2,3,4,7,8-HxCDD	ND		49	0.23
57653-85-7	1,2,3,6,7,8-HxCDD	ND		49	0.20
19408-74-3	1,2,3,7,8,9-HxCDD	ND		49	0.21
70648-26-9	1,2,3,4,7,8-HxCDF	ND		49	0.19
57117-44-9	1,2,3,6,7,8-HxCDF	ND		49	0.16
60851-34-5	2,3,4,6,7,8-HxCDF	ND	*1	49	0.17
72918-21-9	1,2,3,7,8,9-HxCDF	ND	*1	49	0.18
35822-46-9	1,2,3,4,6,7,8-HpCDD	3.8	J q B	49	0.14
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.2	J q B	49	0.14
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND	*1	49	0.17
3268-87-9	OCDD	36	J B	97	0.34
39001-02-0	OCDF	3.5	J q B	97	0.36

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	90		40-135
89059-46-1	13C-2,3,7,8-TCDF	91		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	92		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	91		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	93		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	94		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	96		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	99		40-135
114423-97-1	13C-OCDD	108		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Lims ID: 570-80421-D-4-A
Client ID: EVBMP0009S014
Sample Type: Client
Inject. Date: 22-Jan-2022 03:25:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80421-D-4-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:41:31 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 08:46:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.978	7086645	0.79	3.5E+04	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.076	6540589	0.77	1.0164	90.8	90.8	0.3393	0.3393	90.81	
2,3,7,8-TCDF	19.061						0.0186	0.0186		
A Non-2,3,7,8-sub-TCDF	18.680						0.0186	0.0186		
S Total TCDF							0.0186	0.0186		
D 13C-2,3,7,8-TCDD	20.330	5046553	0.80	0.7884	90.3	90.3	0.3066	0.3066	90.32	
2,3,7,8-TCDD	20.341						0.0421	0.0421		
A Non-2,3,7,8-sub-TCDD	19.478						0.0421	0.0421		
S Total TCDD							0.0421	0.0421		
D 13C-1,2,3,7,8-PeCDF	26.114	5925426	1.57	0.9232	90.6	90.6	0.4684	0.4684	90.57	
1,2,3,7,8-PeCDF	26.107						0.0164	0.0164		
2,3,4,7,8-PeCDF	27.531						0.0174	0.0174		
A F1 PeCDFs	23.375						0.009894	0.009894		RQU
A Non-2,3,7,8-sub-PeCDF	26.760						0.0169	0.0169		RQU
S Total PeCDF							0.0174	0.0174		
D 13C-1,2,3,7,8-PeCDD	28.312	3635699	1.57	0.5606	91.5	91.5	0.2177	0.2177	91.51	
1,2,3,7,8-PeCDD	28.314						0.0315	0.0315		
A Non-2,3,7,8-sub-PeCDD	27.170						0.0315	0.0315		
S Total PeCDD							0.0315	0.0315		
D 13C-1,2,3,4,7,8-HxCDF	34.017	5579107	0.52	1.0566	94.5	94.5	0.2413	0.2413	94.47	
1,2,3,4,7,8-HxCDF	34.019						0.009717	0.009717		
1,2,3,6,7,8-HxCDF	34.204						0.008345	0.008345		
2,3,4,6,7,8-HxCDF	35.147						0.008691	0.008691		
1,2,3,7,8,9-HxCDF	36.123						0.009464	0.009464		U
A Non-2,3,7,8-sub-HxCDF	34.051						0.009020	0.0164		RQU
S Total HxCDF							0.0164	0.0164		
* 13C-1,2,3,7,8,9-HxCDD	35.912	5589243	1.25	2.5E+04	100.0	100.0				
1,2,3,4,7,8-HxCDD	35.365						0.0117	0.0117		RQU
D 13C-1,2,3,6,7,8-HxCDD	35.517	4161011	1.25	0.8027	92.8	92.8	0.2431	0.2431	92.75	
1,2,3,6,7,8-HxCDD	35.365						0.0104	0.0104		RQU
1,2,3,7,8,9-HxCDD	35.955						0.0107	0.0107		RQU
A Non-2,3,7,8-sub-HxCDD	34.547						0.0109	0.0283		RQU

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDD							0.0283	0.0283		
D 13C-1,2,3,4,6,7,8-HpCDF	38.087	3551124	0.46	0.6421	99.0	99.0	0.4534	0.4534	98.95	
1,2,3,4,6,7,8-HpCDF	38.112	3138	1.04	1.4385	0.0708	0.0614	0.007396	0.007396		RQ
1,2,3,4,7,8,9-HpCDF	39.403						0.008719	0.008719		
A Non-2,3,7,8-sub-HpCDF	38.751	2095	1.04	1.3293	0.0637	0.0444	0.008003	0.0444		RQ
S Total HpCDF					0.1345	0.1058	0.008058	0.008058		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	39.098	3351726	1.04	0.6246	96.0	96.0	0.2766	0.2766	96.01	
1,2,3,4,6,7,8-HpCDD	39.114	6468	1.04	0.9767	0.2283	0.1976	0.007229	0.007229		RQM
A Non-2,3,7,8-sub-HpCDD	38.763	11640	1.15	0.9767	0.3556	0.3556	0.007229	0.3556		M
S Total HpCDD					0.5838	0.5532	0.007229	0.007229		RQ
D 13C-OCDD	41.568	5249346	0.89	0.4360	215.4	215.4	0.2487	0.2487	108	
OCDF	41.652	6057	0.89	1.2756	0.1944	0.1809	0.0186	0.0186		RQM
OCDD	41.576	50687	0.85	1.0341	1.867	1.867	0.0175	0.0175		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Lims ID: 570-80421-D-4-A
Client ID: EVBMP0009S014
Sample Type: Client
Inject. Date: 22-Jan-2022 03:25:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 570-80421-D-4-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:41:31 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 08:46:45

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	19.978	19.937	2		3121516	481408	674	1685	714		a
333.9338	19.978	19.937	2		3965129	592092	364	910	1627	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.076	19.035	2	0.955	2838553	452170	1042	2605	434		
317.9389	19.076	19.035	2	0.955	3702036	543626	439	1097	1238	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.061						9	22			
305.8987	19.061						66	165			
A Non-2,3,7,8-sub-TCDF											
303.9016	18.680						9	22			
305.8987	18.680						66	165			
13C-2,3,7,8-TCDD											
331.9368	20.330	20.306	1	1.018	2244731	311688	674	1685	462		
333.9338	20.330	20.306	1	1.018	2801822	400652	364	910	1101	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.341						99	247			
321.8936	20.341						20	50			
A Non-2,3,7,8-sub-TCDD											
319.8965	19.478						99	247			
321.8936	19.478						20	50			
13C-1,2,3,7,8-PeCDF											
351.9000	26.114	26.081	2	1.307	3621788	598462	1178	2945	508		
353.8970	26.105	26.081	1	1.307	2303638	381809	679	1697	562	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.107						1	2			
341.8567	26.107						62	155			

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.531						1	2			
341.8567	27.531						62	155			
A F1 PeCDFs											U
339.8597	23.375	23.375	0	0.895	192	103	1	2			
341.8567	23.375	23.375	0	0.895	932	485	36	90		0.21(1.32-1.78)	
	Empc Correction				123	66	36	90	0		
A Non-2,3,7,8-sub-PeCDF											U
339.8597	26.760	26.760	0	1.025	192	133	1	2			
341.8567	26.760	26.760	0	1.025	3194	673	62	155		0.06(1.32-1.78)	
	Empc Correction				123	85	62	155	0		
13C-1,2,3,7,8-PeCDD											
367.8949	28.312	28.289	1	1.417	2222718	329575	329	822	1002		
369.8919	28.312	28.289	1	1.417	1412981	208292	195	487	1068	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.314						63	157			
357.8516	28.314						5	12			
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.170						63	157			
357.8516	27.170						5	12			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.017	34.002	1	0.947	1904964	346079	438	1095	790		
385.8610	34.017	34.002	1	0.947	3674143	667363	846	2115	789	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.019						30	75			
375.8178	34.019						5	12			
1,2,3,6,7,8-HxCDF											
373.8208	34.204						30	75			
375.8178	34.204						5	12			
2,3,4,6,7,8-HxCDF											
373.8208	35.147						30	75			
375.8178	35.147						5	12			
1,2,3,7,8,9-HxCDF											U
373.8208	36.116						30	75			
375.8178	36.116						5	12			
A Non-2,3,7,8-sub-HxCDF											U
373.8208	33.310	34.051	-44	0.979	615	115	30	75	4		
	Empc Correction				483	256	30	75	9		
375.8178	33.251	34.051	-48	0.977	390	207	5	12	41	1.58(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.912	35.906	0		3102709	695659	531	1327	1310		
403.8529	35.912	35.906	0		2486534	563335	452	1130	1246	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQU
389.8158	35.392						12	30			
391.8127	35.392						21	52			

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.517	35.501	1	0.989	2310676	459201	531	1327	865		
403.8529	35.517	35.501	1	0.989	1850335	383708	452	1130	849	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8158	35.518						12	30			
391.8127	35.518						21	52			
1,2,3,7,8,9-HxCDD											RQU
389.8158	35.922						12	30			
391.8127	35.922						21	52			
A Non-2,3,7,8-sub-HxCDD											U
389.8158	33.259	34.547	-77	0.936	629	125	12	30	10		
	Empc Correction				535	188	12	30	16		
391.8127	33.234	34.547	-79	0.936	432	152	21	52	7	1.46(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.087	38.081	0	1.061	1115908	286659	556	1390	516		
419.8220	38.087	38.081	0	1.061	2435216	653279	910	2275	718	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7817	38.112	38.089	1	1.001	1600	443	35	87	13		
409.7788	38.104	38.089	1	1.000	2017	517	5	12	103	0.79(0.88-1.20)	
	Empc Correction				1538	425	5	12	85		
1,2,3,4,7,8,9-HpCDF											
407.7817	39.403						35	87			
409.7788	39.403						5	12			
A Non-2,3,7,8-sub-HpCDF											RQ
407.7817	38.483	38.751	-16	1.010	1978	403	35	87	12		
	Empc Correction				1068	341	35	87	10		
409.7788	38.491	38.751	-16	1.011	1027	328	5	12	66	1.93(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.098	39.083	1	1.089	1707045	500911	431	1077	1162		
437.8140	39.098	39.083	1	1.089	1644681	490491	439	1097	1117	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RQM
423.7767	39.114	39.091	1	1.000	4301	1359	21	52	65		M
	Empc Correction				3297	971	21	52	46		
425.7737	39.114	39.091	1	1.000	3171	934	7	17	133	1.36(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7767	38.441	38.763	-19	0.983	6226	1510	21	52	72		M
425.7737	38.449	38.763	-19	0.983	5414	1454	7	17	208	1.15(0.88-1.20)	
13C-OCDD											
469.7780	41.568	41.563	0	1.157	2470017	757954	266	665	2849		
471.7750	41.568	41.563	0	1.157	2779329	841597	280	700	3006	0.89(0.76-1.02)	
OCDF											RQM
441.7428	41.652	41.639	1	1.002	3302	982	15	37	65		M
	Empc Correction				2852	924	15	37	62		
443.7399	41.644	41.639	0	1.002	3205	1039	61	152	17	1.03(0.76-1.02)	
OCDD											
457.7377	41.576	41.571	0	1.000	23255	6840	23	57	297		
459.7348	41.576	41.571	0	1.000	27432	8018	35	87	229	0.85(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Lims ID: 570-80421-D-4-A
Client ID: EVBMP0009S014
Inject. Date: 22-Jan-2022 03:25:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 9

F1 PeCDFs, RT: 23.375

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	5925426	980271
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	5925426	980271

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.731	192	103	932	485	0.0200	0.21	RQ
23.731	192	103	123	66	0.005604		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Lims ID: 570-80421-D-4-A
Client ID: EVBMP0009S014
Inject. Date: 22-Jan-2022 03:25:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 9

Non-2,3,7,8-sub-PeCDF, RT: 26.760

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	5925426	980271
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	5925426	980271

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
29.374	192	133	3194	673	0.0602	0.06	RQ
29.374	192	133	123	85	0.005604		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Lims ID: 570-80421-D-4-A
Client ID: EVBMP0009S014
Inject. Date: 22-Jan-2022 03:25:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDF, RT: 34.051

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883	D 13C-1,2,3,4,7,8-HxCDF	100.000	5579107	1013442
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.952		100.000	5579107	1013442

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
33.310	615	115	390	207	0.0189	1.58	RQ
33.310	483	256	390	207	0.0164		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Lims ID: 570-80421-D-4-A
Client ID: EVBMP0009S014
Inject. Date: 22-Jan-2022 03:25:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDD, RT: 34.547

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829	D 13C-1,2,3,6,7,8-HxCDD	100.000	4161011	842909
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.892		100.000	4161011	842909

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.259	629	125	432	152	0.0286	1.46	RQ
33.259	535	188	432	152	0.0260		Empc Correction
35.365	582	249	1127	578	0.0460	0.52	RQ
35.365	582	249	469	200	0.0283		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Lims ID: 570-80421-D-4-A
Client ID: EVBMP0009S014
Inject. Date: 22-Jan-2022 03:25:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDF, RT: 38.751

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.439	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	3551124	939938
1,2,3,4,7,8,9-HpCDF	1.220				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.329		100.000	3551124	939938

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.483	1978	403	1027	328	0.0637	1.93	RQ
38.483	1068	341	1027	328	0.0444		Empc Correction
Signal Totals:							
	1068	341	1027	328			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3005	731				1.93	RQ
	2095	669					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0637 = (3005 * 100.000) / (3551124 * 1.329)
Empc Amount: 0.0444 = (2095 * 100.000) / (3551124 * 1.329)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Lims ID: 570-80421-D-4-A
Client ID: EVBMP0009S014
Inject. Date: 22-Jan-2022 03:25:00 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDD, RT: 38.763

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3351726	991402

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3351726	991402

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.441	6226	1510	5414	1454	0.3556	1.15	M
Signal Totals:							
	6226	1510	5414	1454			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11640	2964				1.15	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3556 = (11640 * 100.000) / (3351726 * 0.977)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins Sacramento

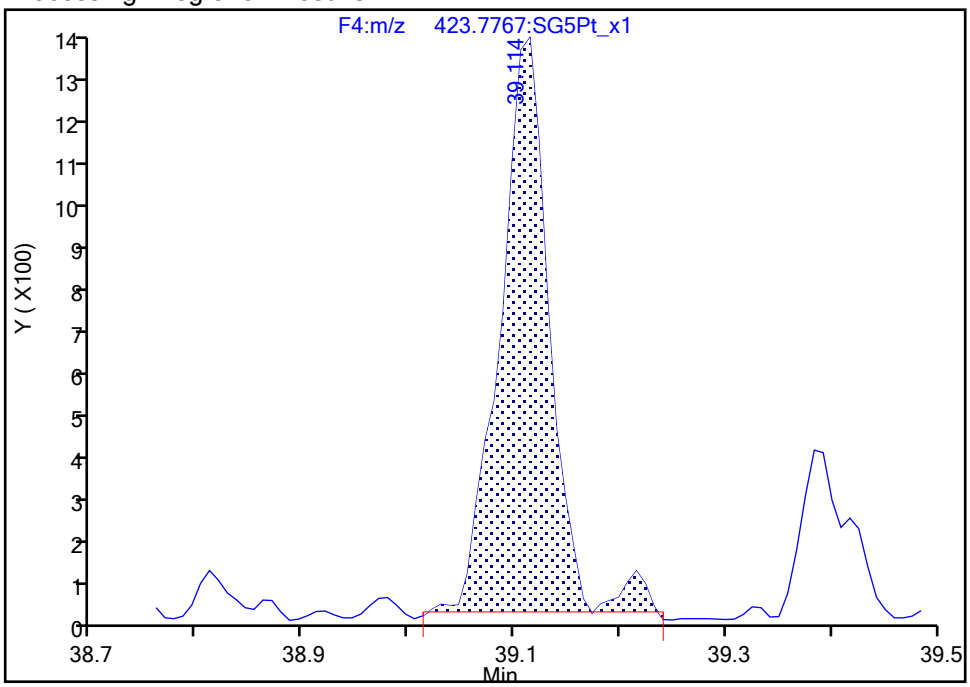
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d				
Injection Date:	22-Jan-2022 03:25:00	Instrument ID:	DFS 1		
Lims ID:	570-80421-D-4-A	Lab Sample ID:	320-80421-4		
Client ID:	EVBMP0009S014				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4(38.58 :41.00)		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

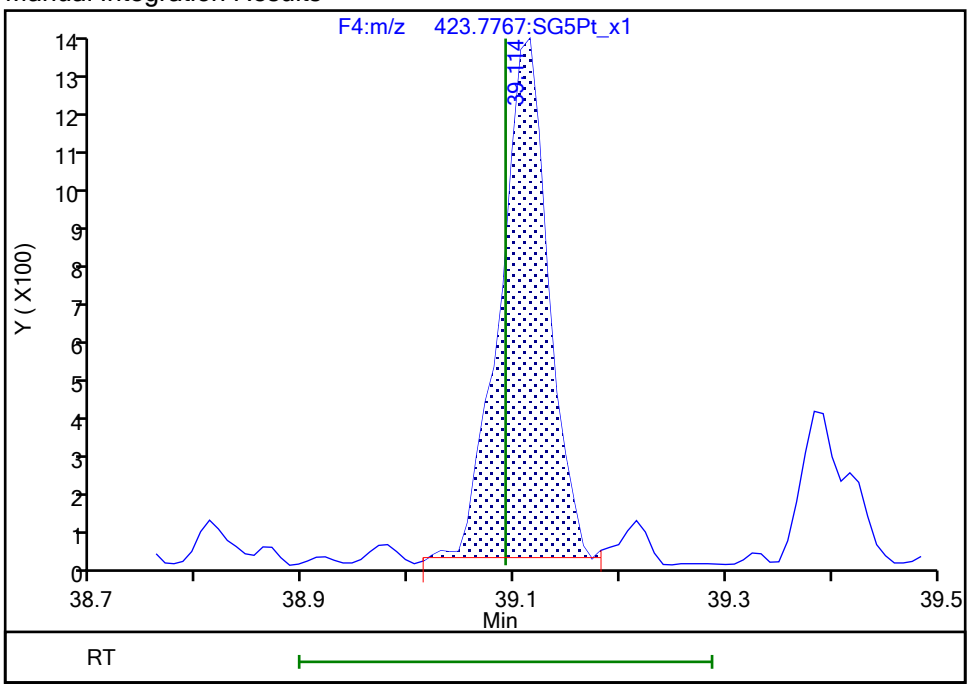
Processing Integration Results

RT: 39.11
Area: 4456
Amount: 0.232989
Amount Units: pg/ul



Manual Integration Results

RT: 39.11
Area: 4301
Amount: 0.228254
Amount Units: pg/ul



Reviewer: dadunj, 25-Jan-2022 08:40:27

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Sacramento

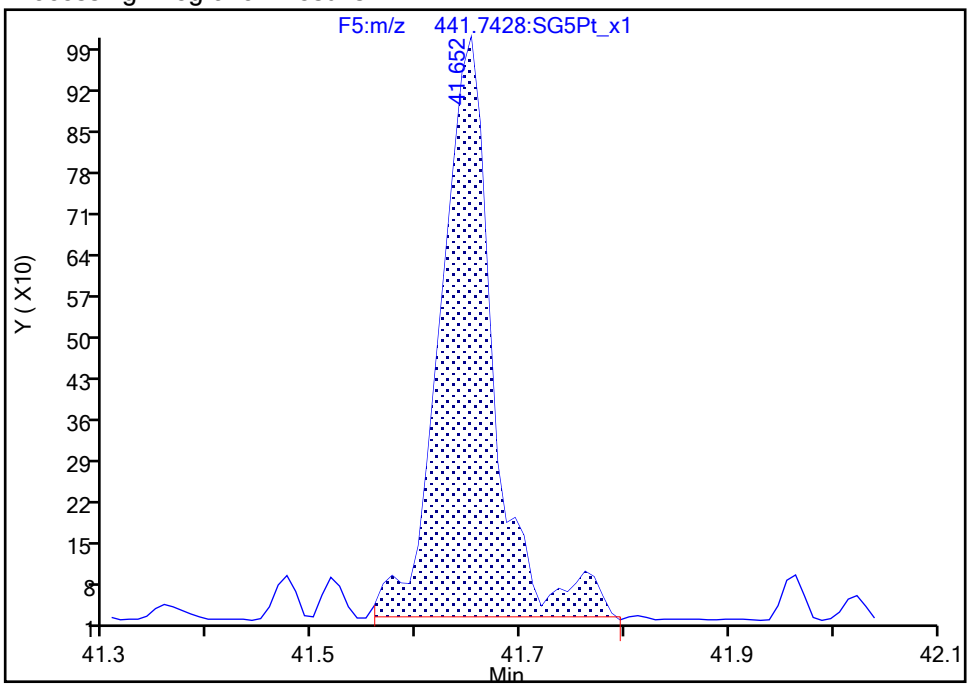
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d				
Injection Date:	22-Jan-2022 03:25:00	Instrument ID:	DFS 1		
Lims ID:	570-80421-D-4-A	Lab Sample ID:	320-80421-4		
Client ID:	EVBMP0009S014				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5(41.08 :46.00)		

OCDF, CAS: 39001-02-0

Signal: 1

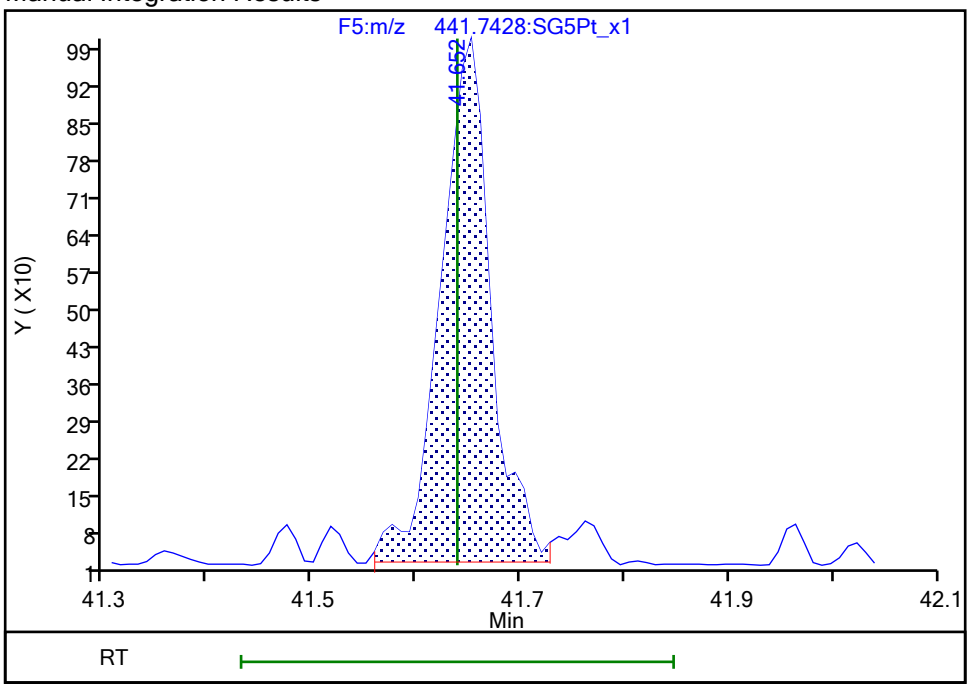
Processing Integration Results

RT: 41.65
Area: 3479
Amount: 0.199646
Amount Units: pg/ul



Manual Integration Results

RT: 41.65
Area: 3302
Amount: 0.194359
Amount Units: pg/ul



Reviewer: dadunj, 25-Jan-2022 08:40:43

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

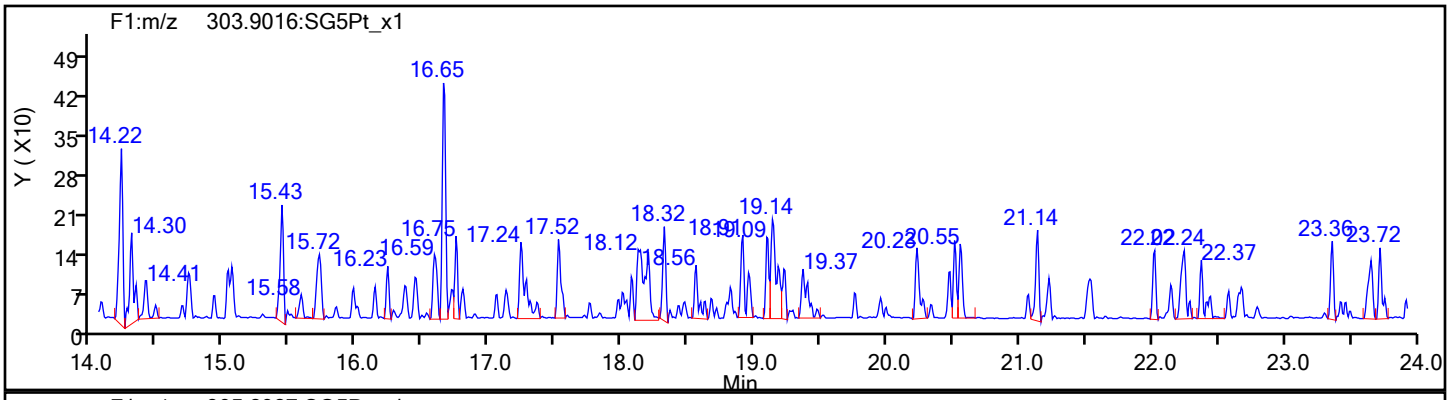
Report Date: 25-Jan-2022 08:41:32 Chrom Revision: 2.3 18-Jan-2022 20:25:40

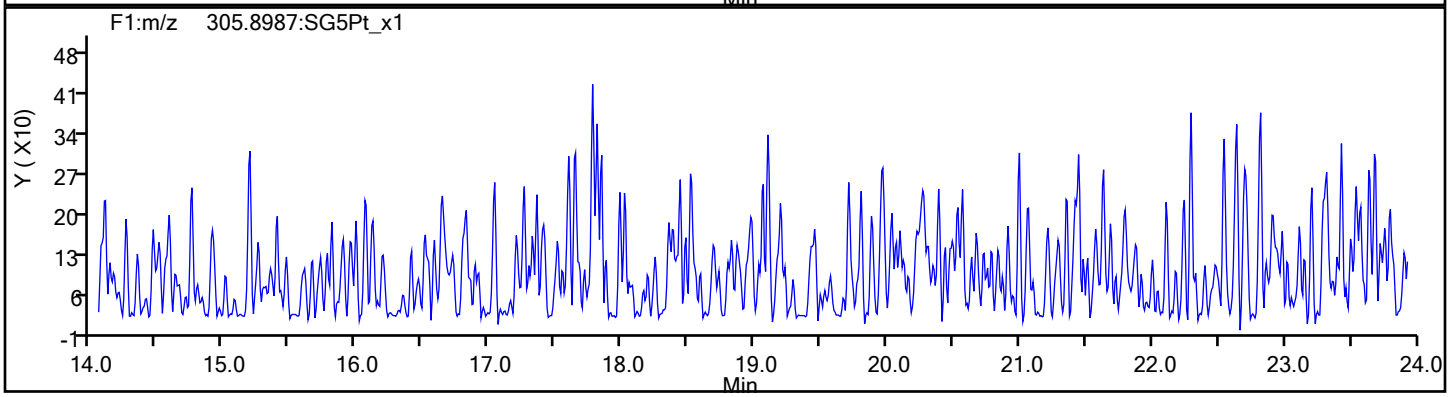
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d

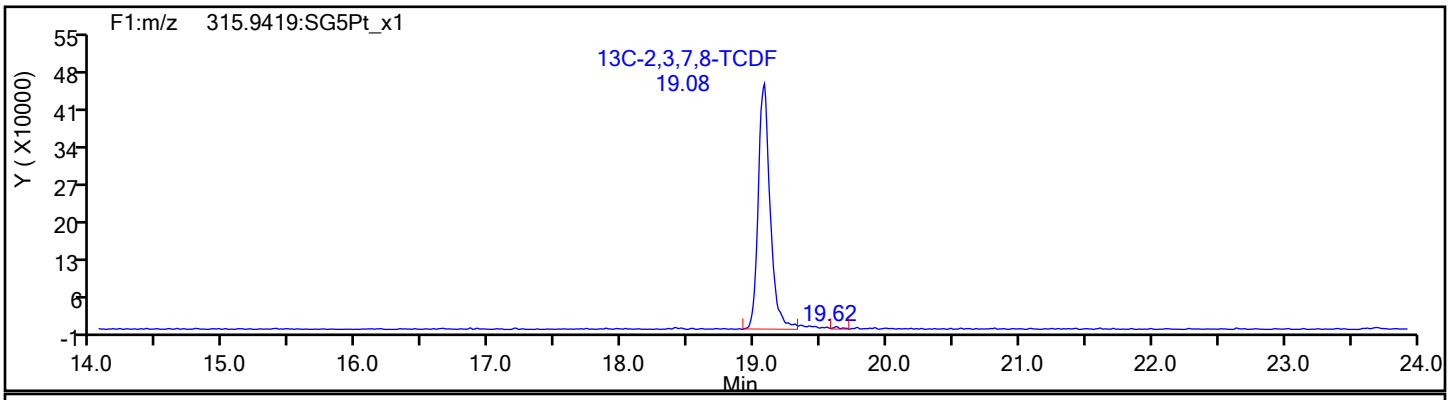
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

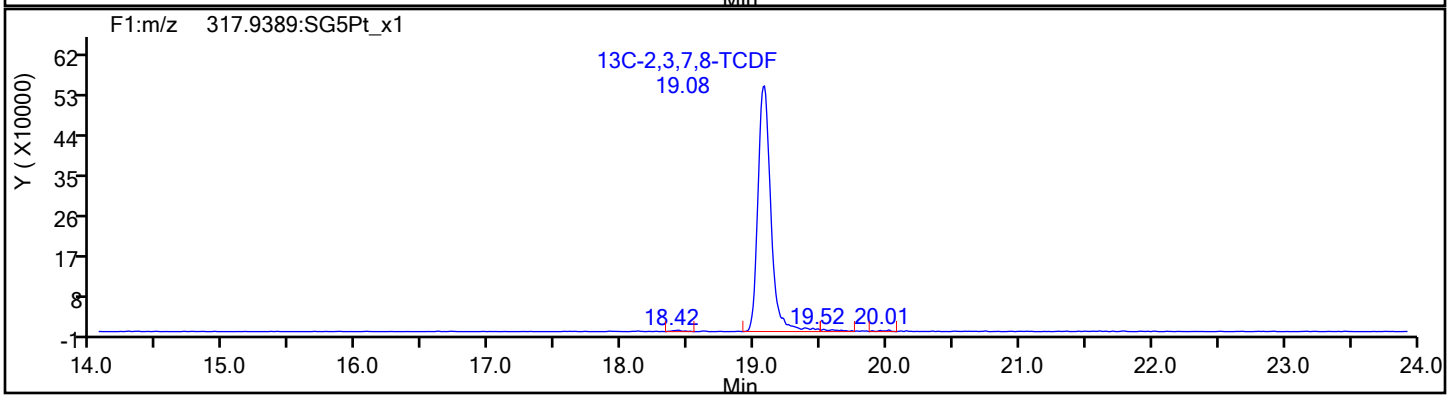
TCDF





TCDF Standards

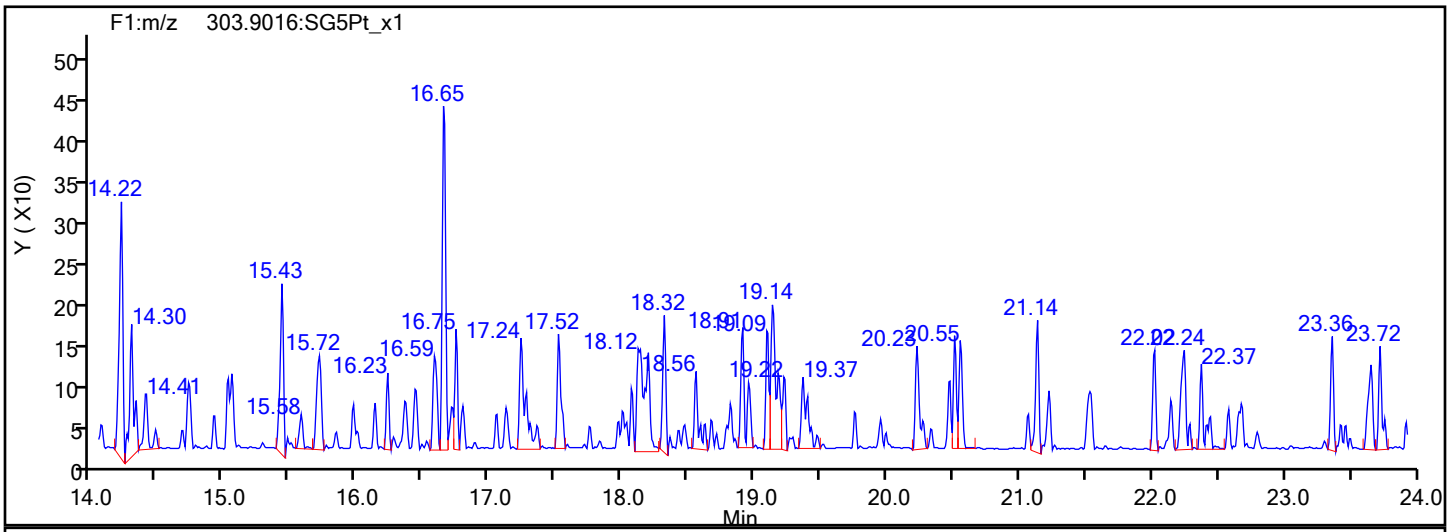


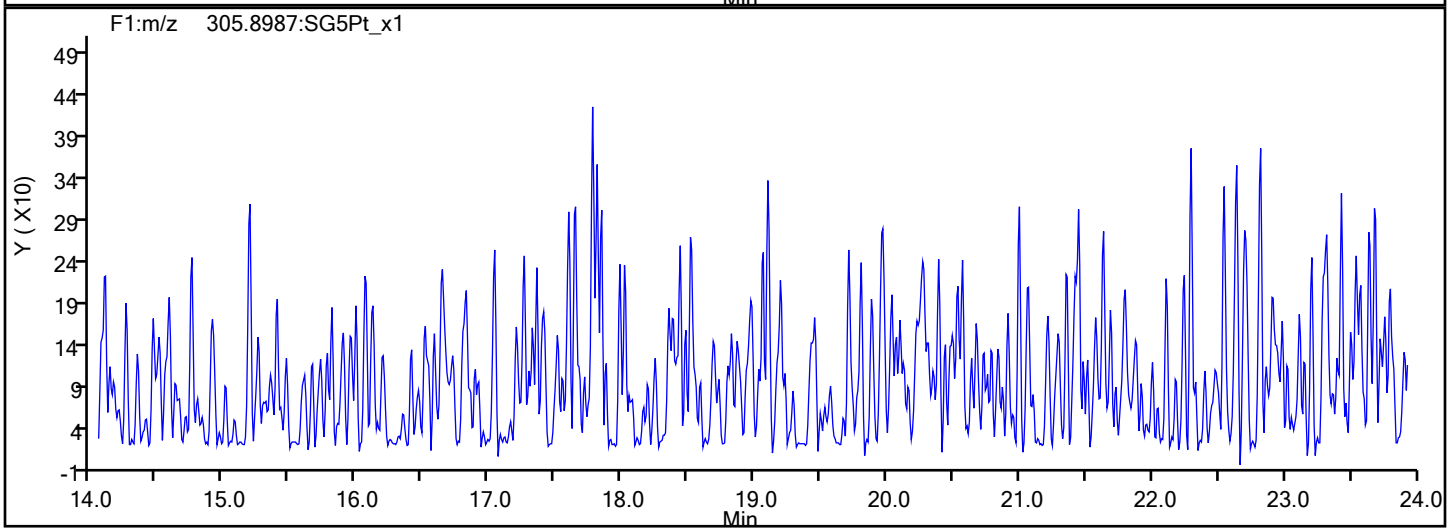


Eurofins Sacramento

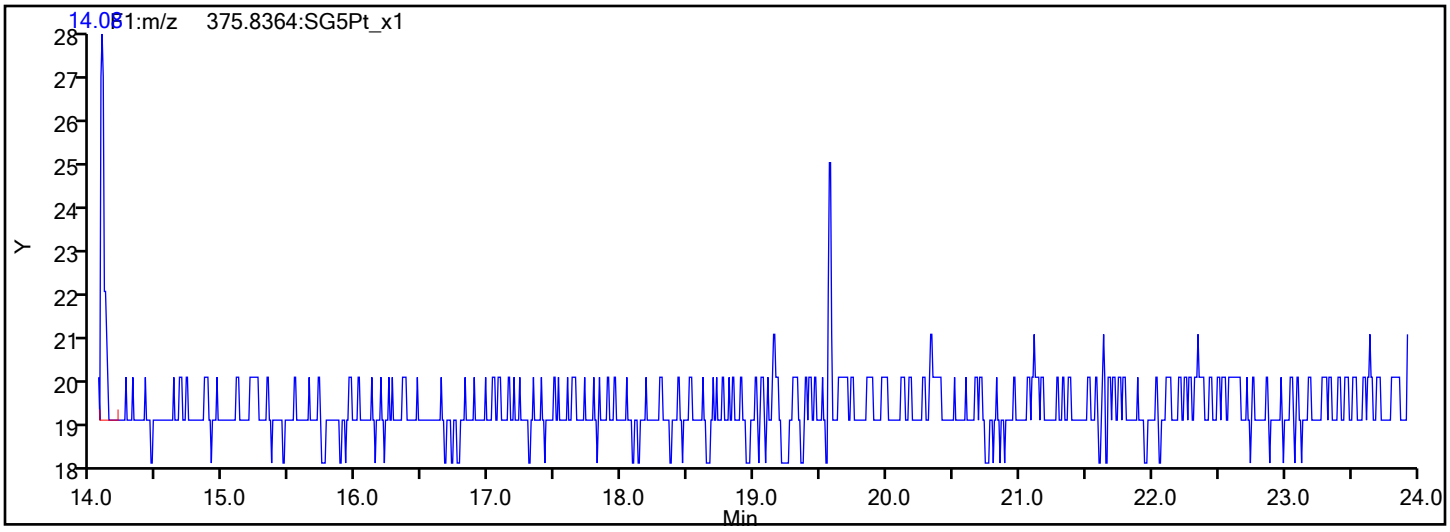
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





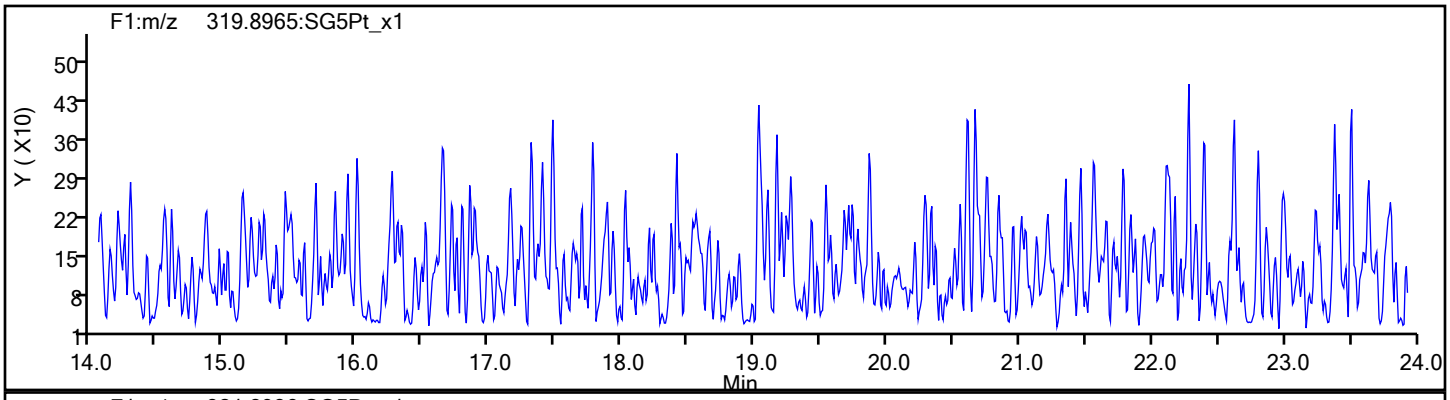
TCDF Interference Mass

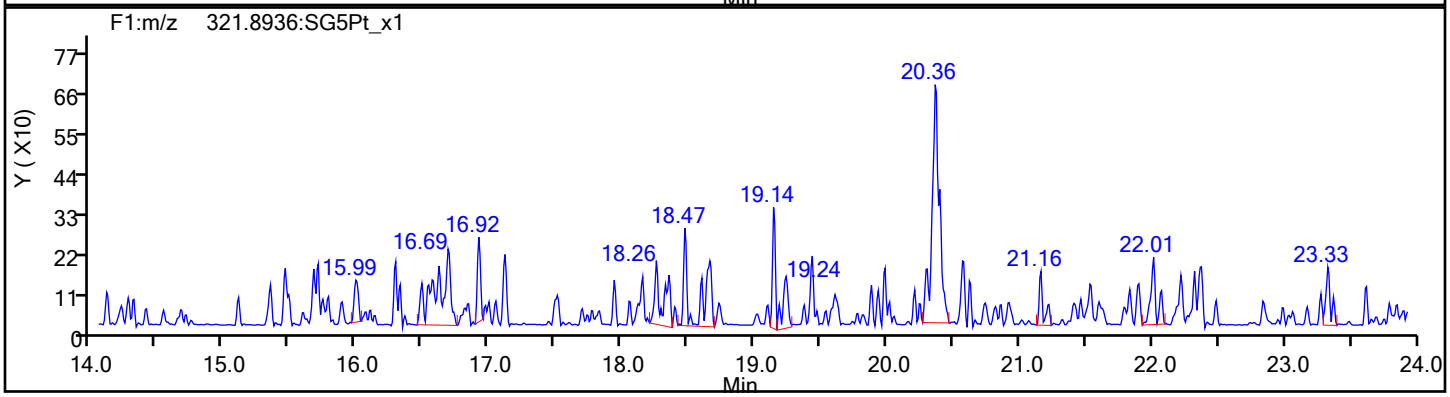


Eurofins Sacramento

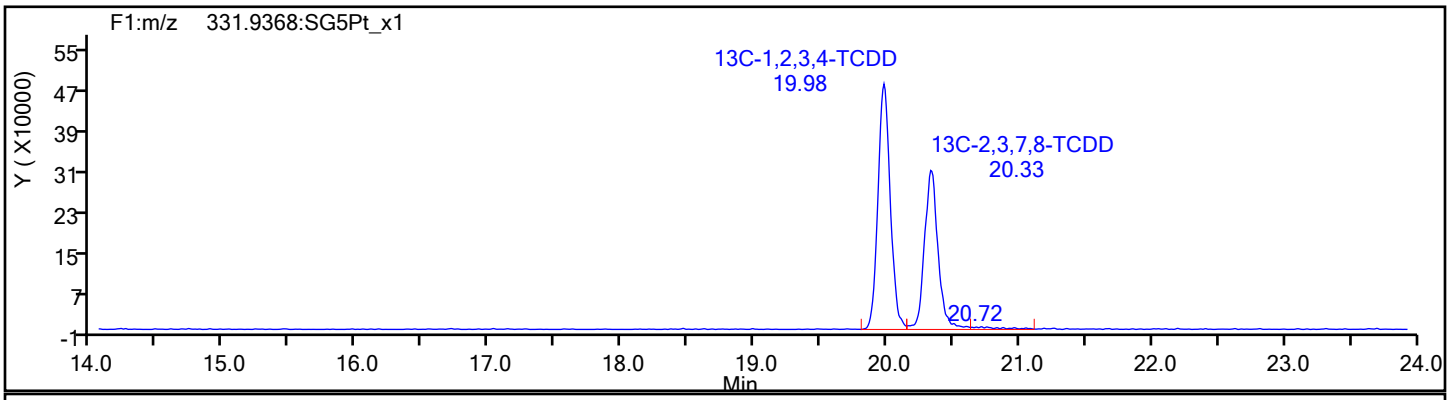
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

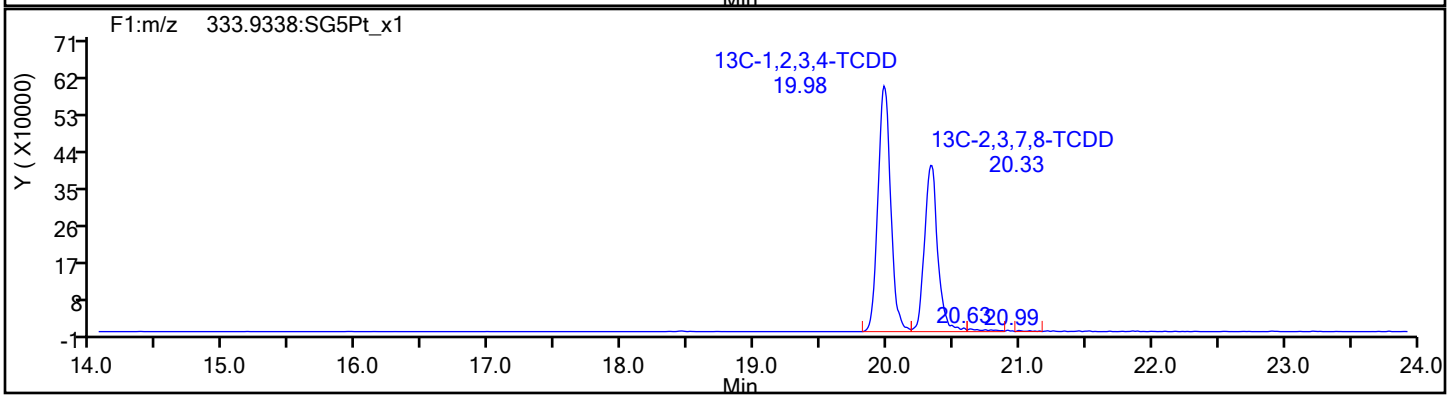
TCDD





TCDD Standards





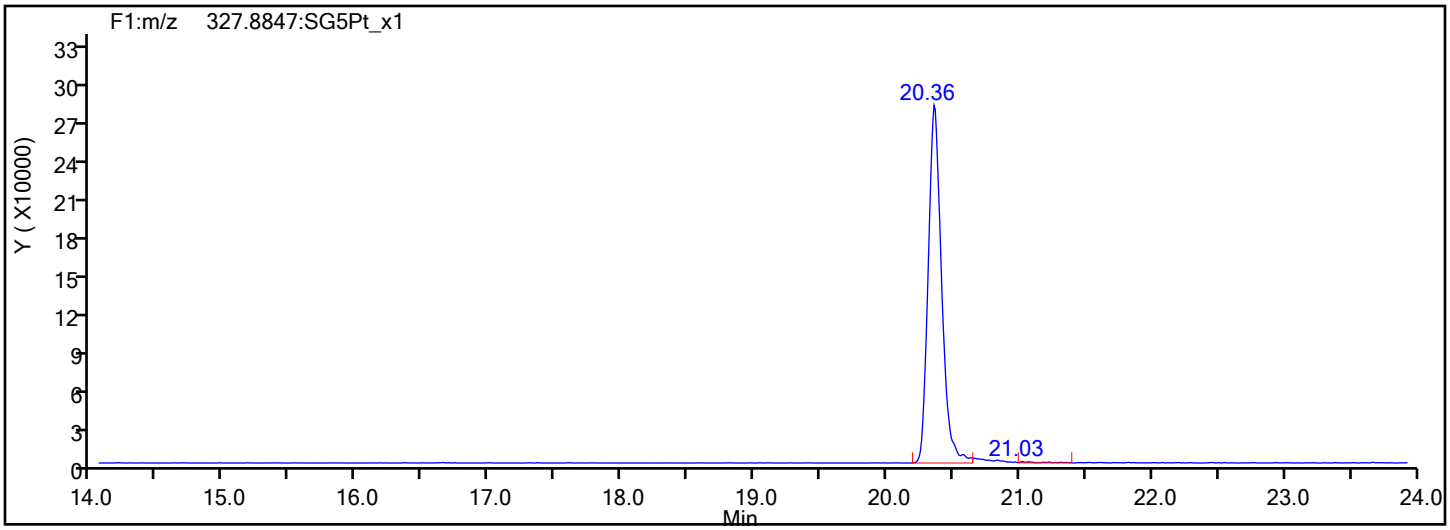
Report Date: 25-Jan-2022 08:41:32 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

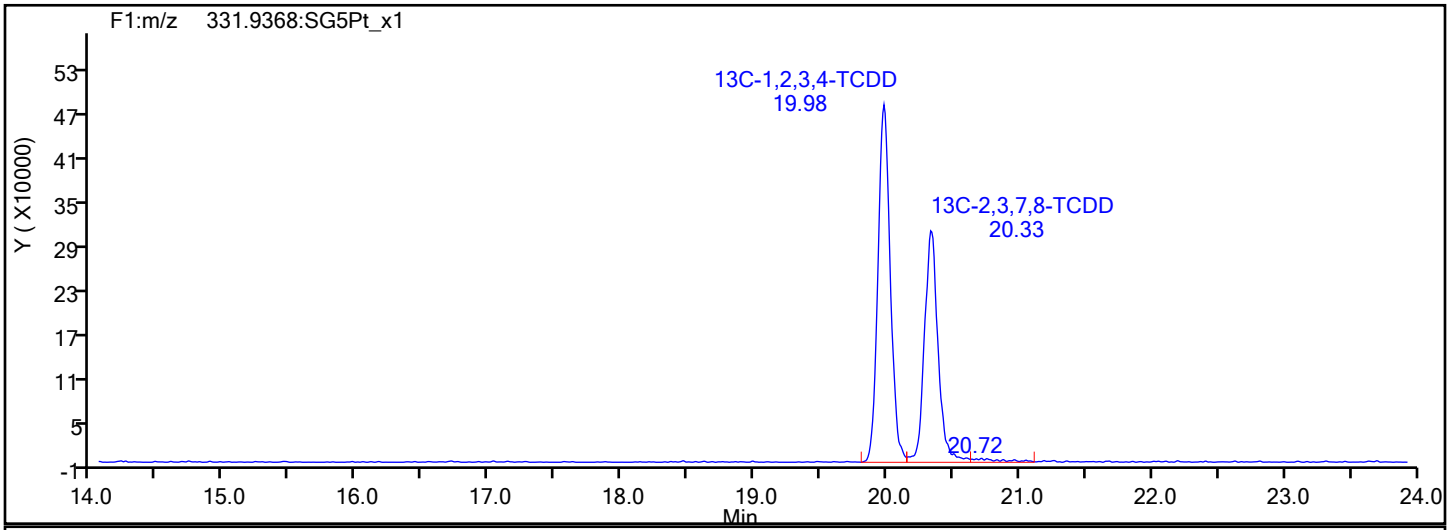
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d

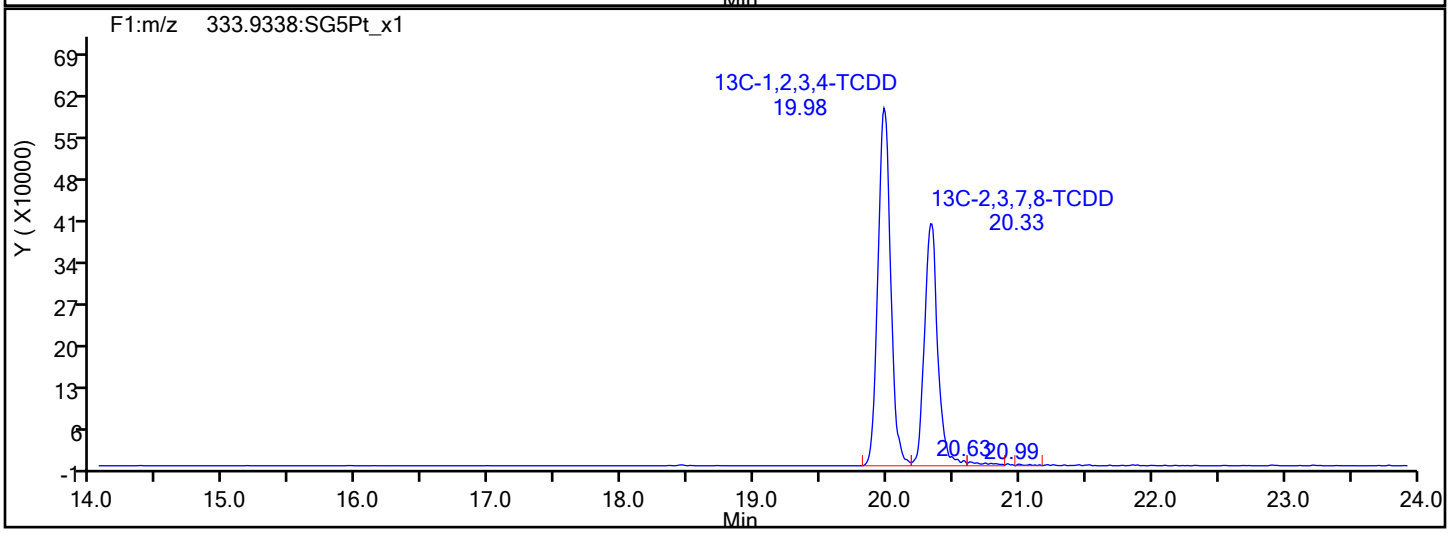
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





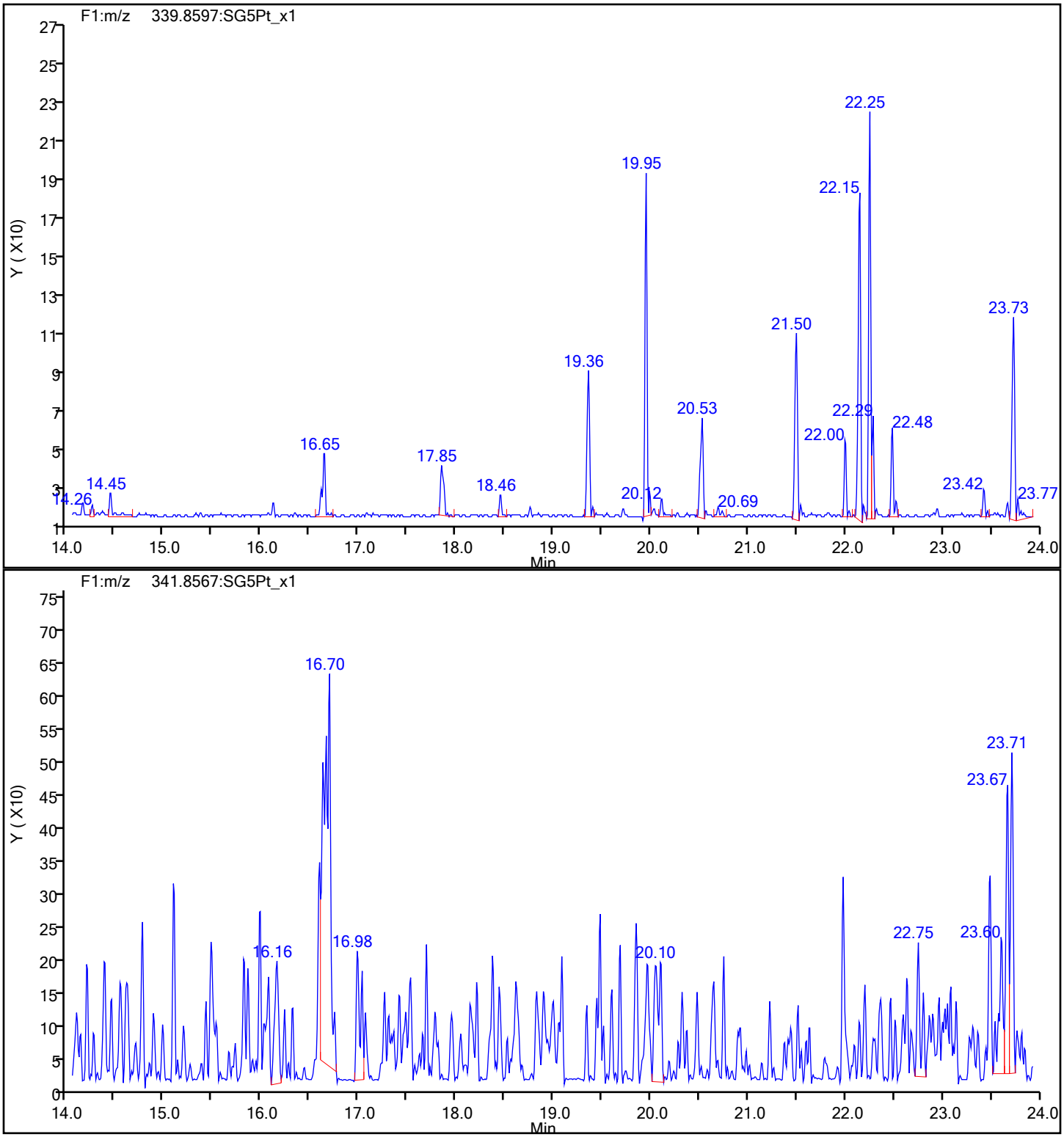
Report Date: 25-Jan-2022 08:41:32 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d

Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

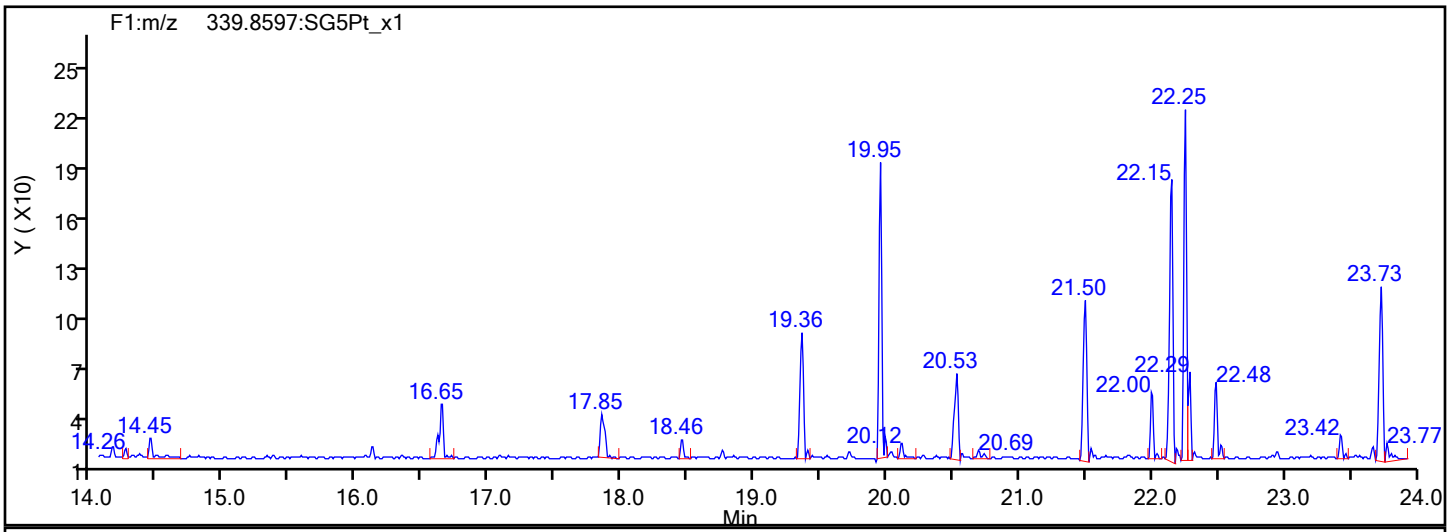
F1 PeCDFs

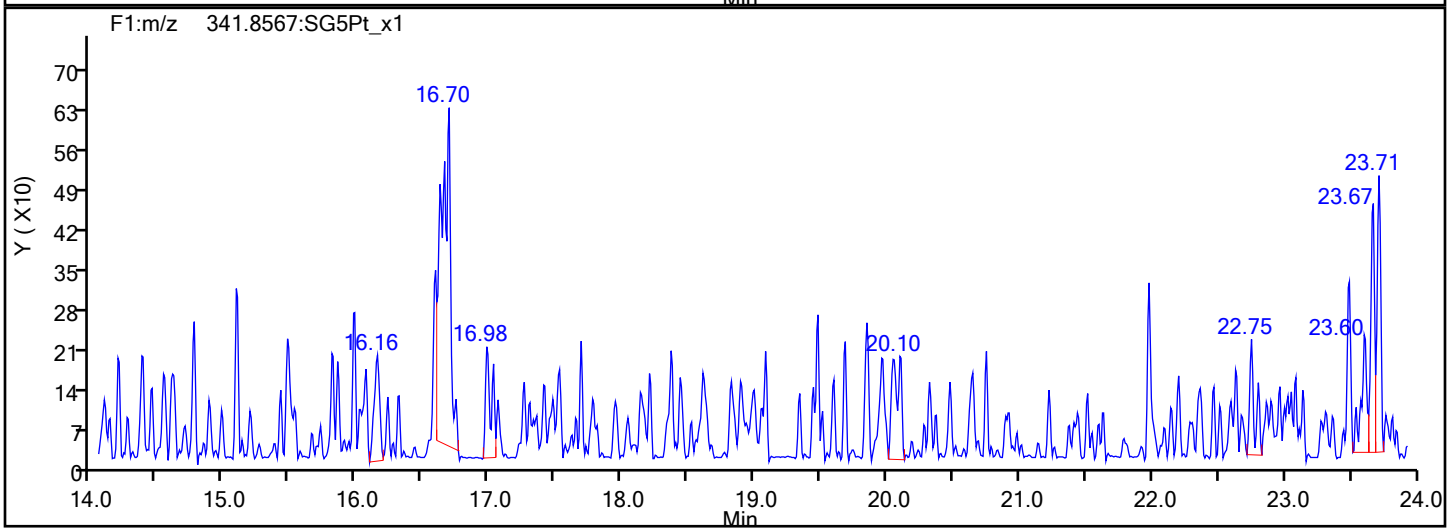


Eurofins Sacramento

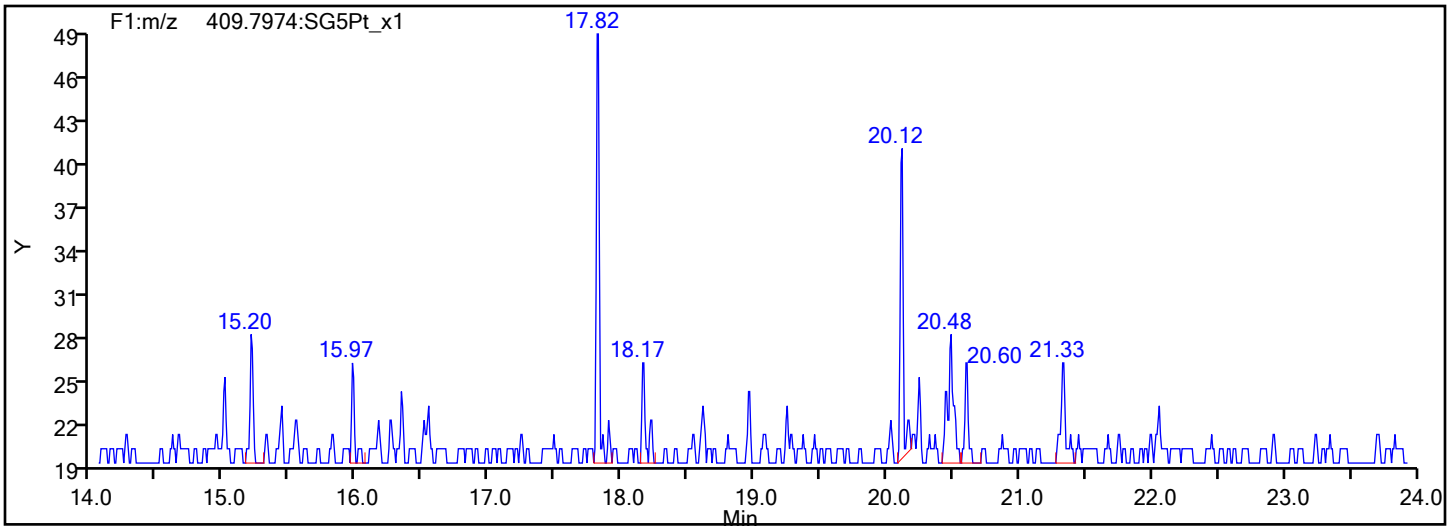
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





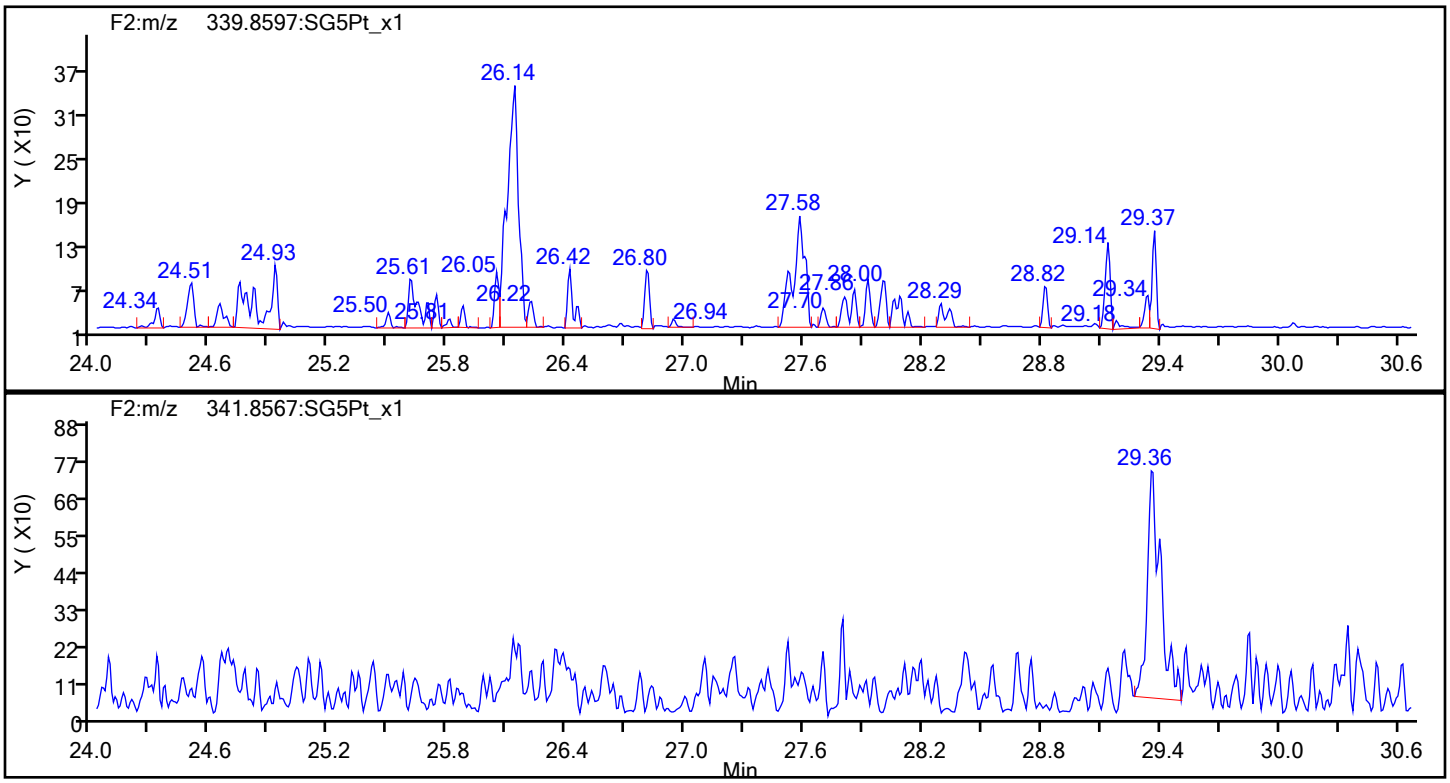
F1 PeCDFs Interference Mass



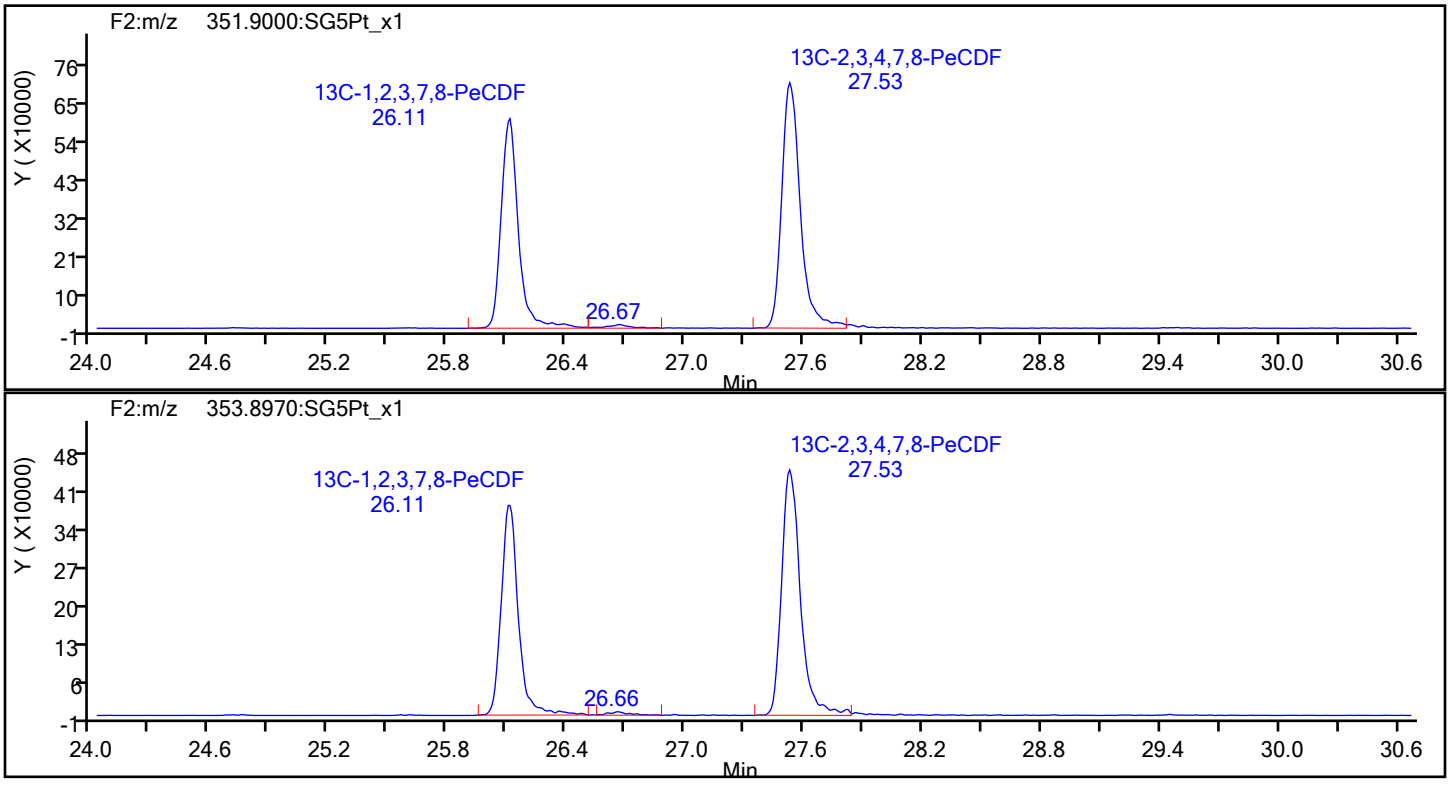
Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



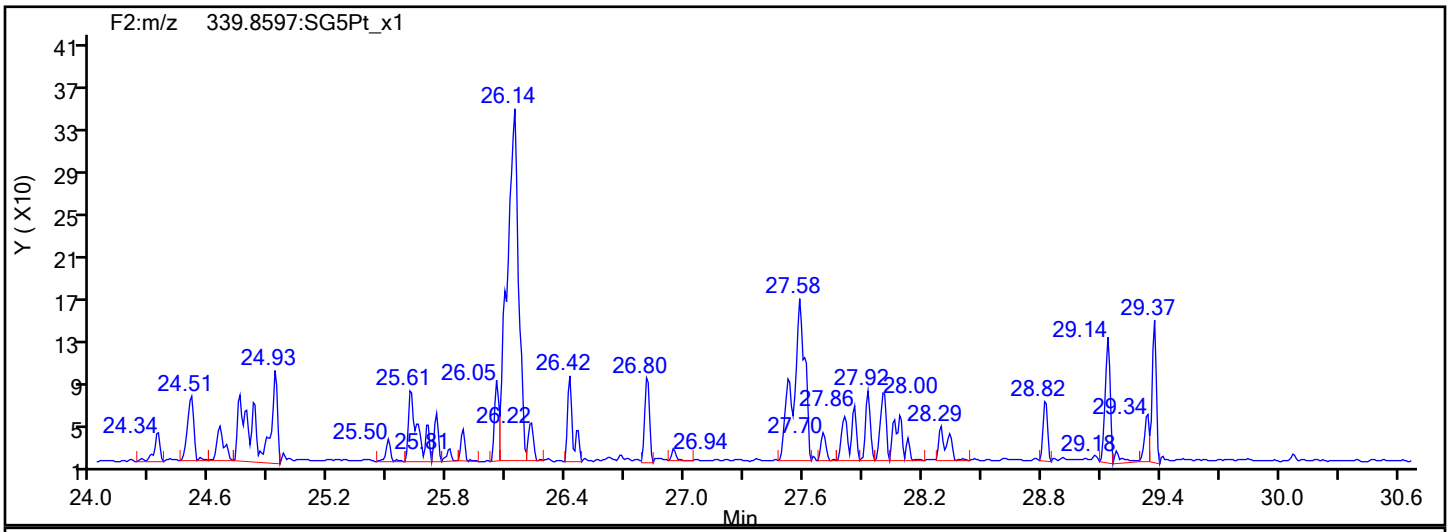
PeCDF Standards

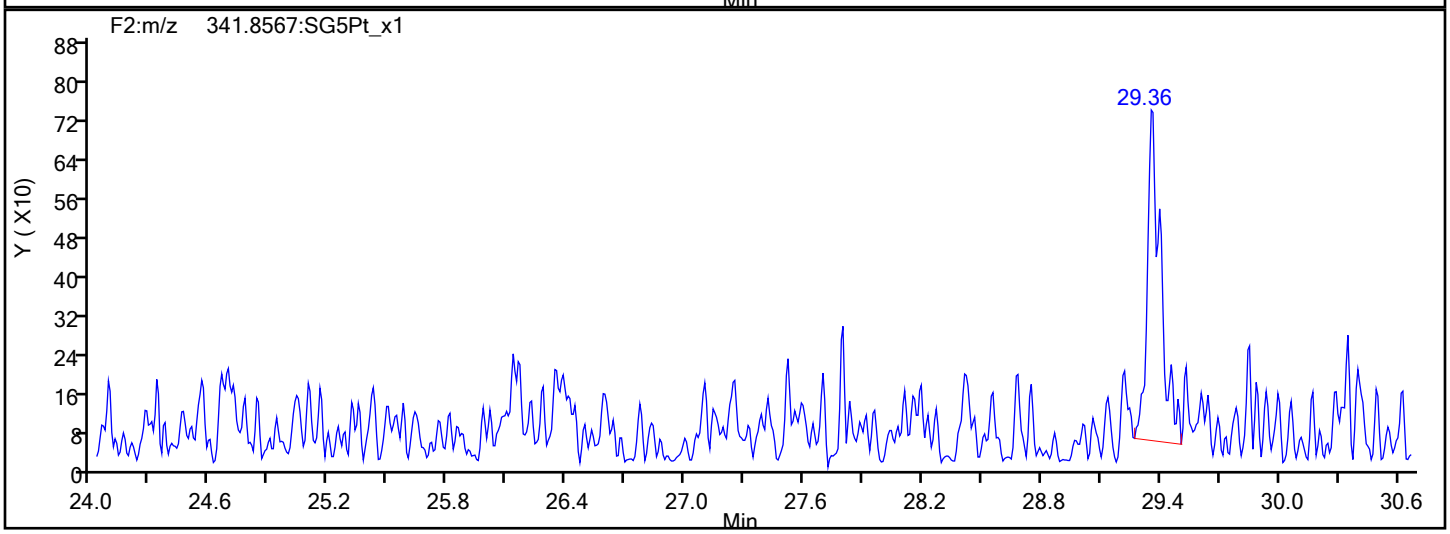


Eurofins Sacramento

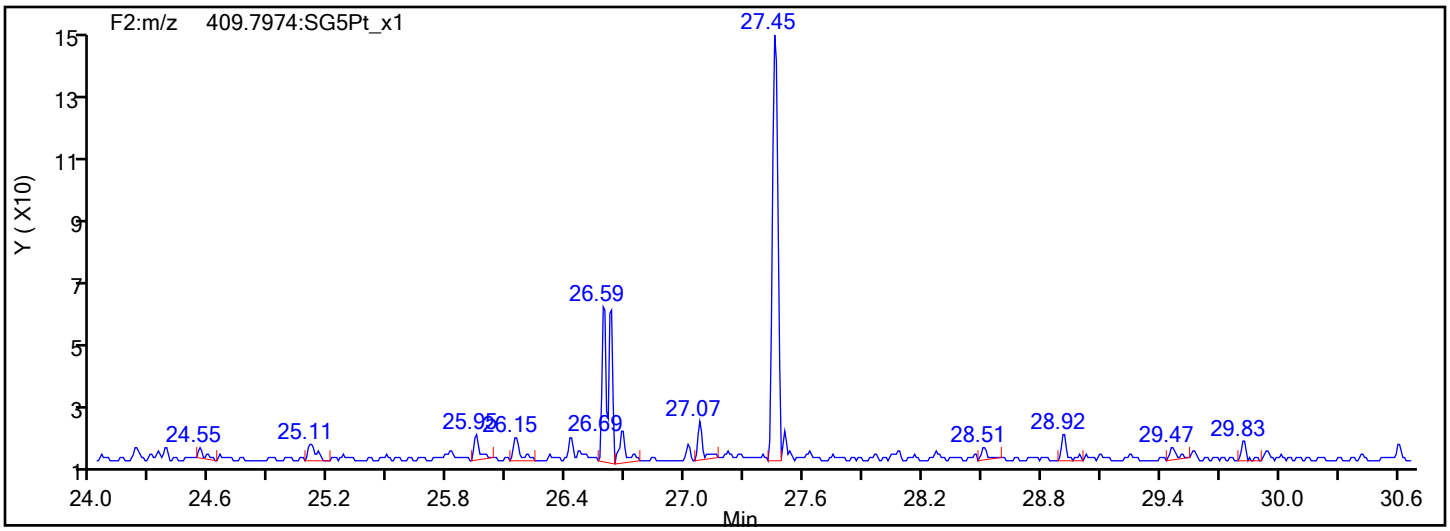
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
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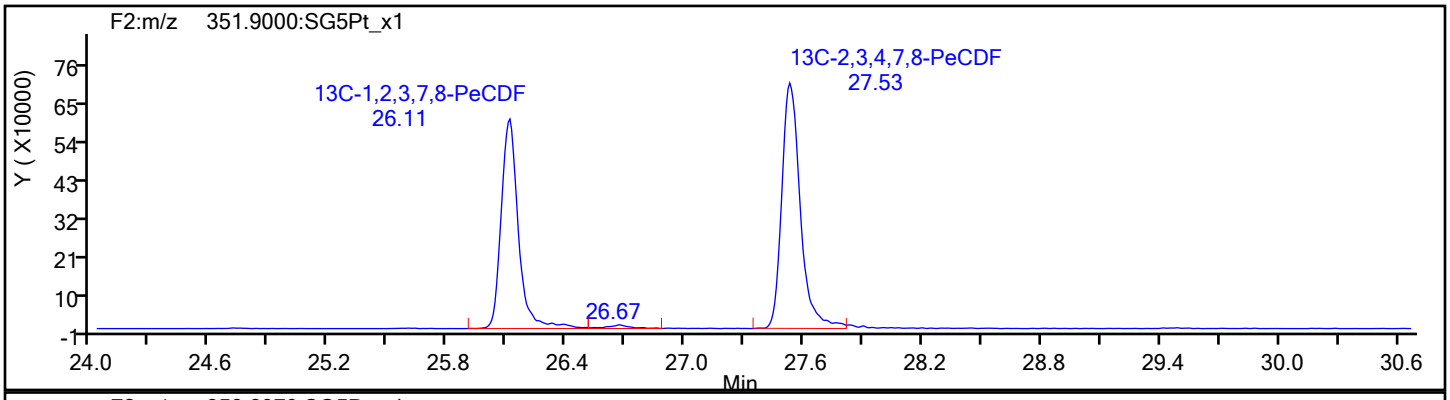
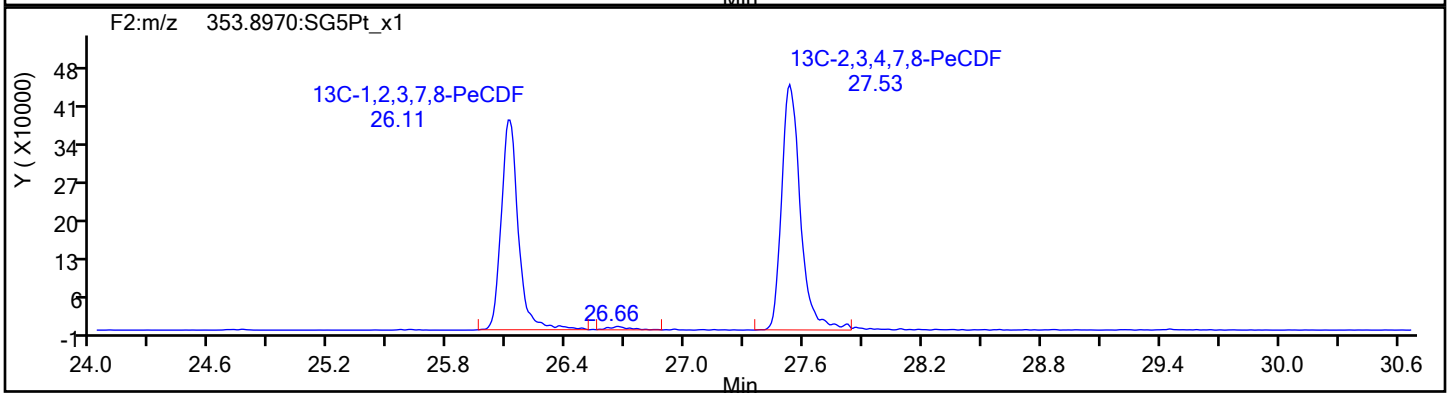
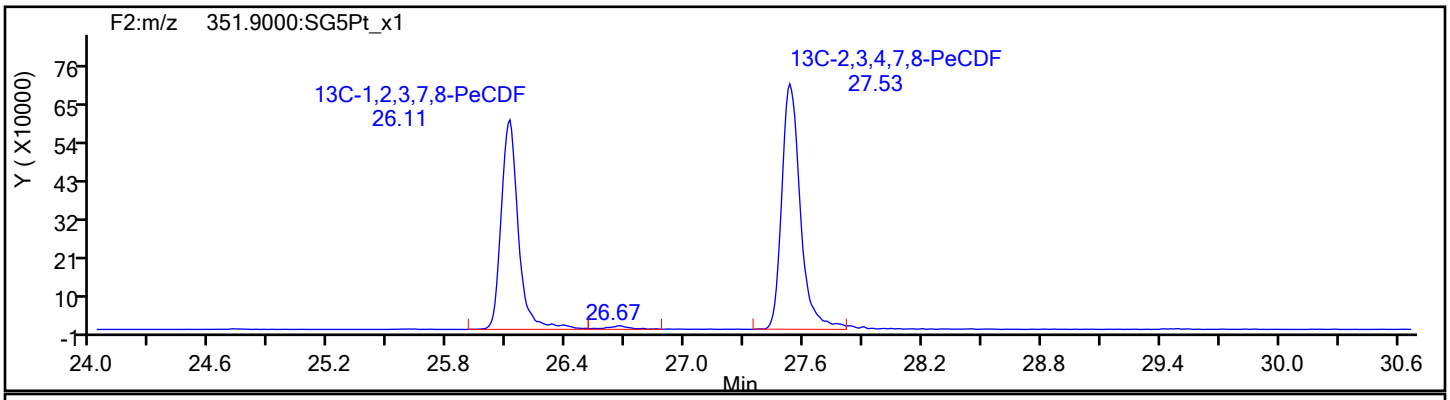
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

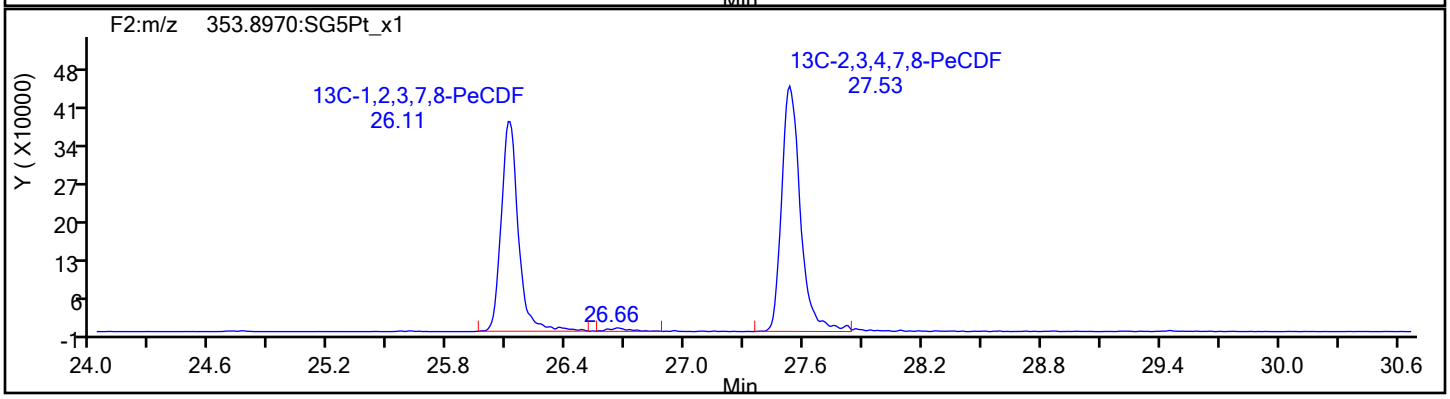
13C-PeCDF





13C-PeCDF Standards





Report Date: 25-Jan-2022 08:41:33 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d

Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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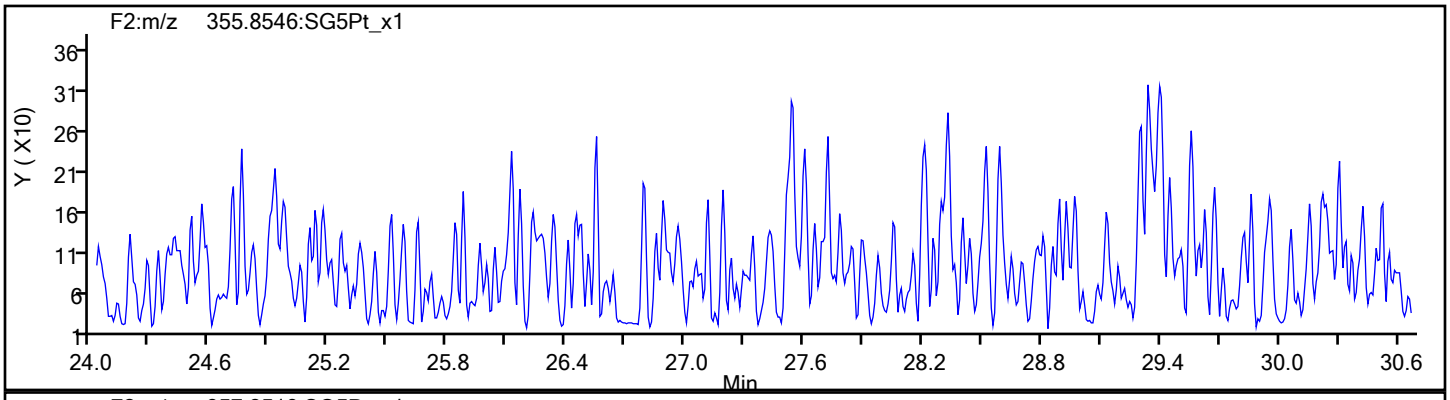
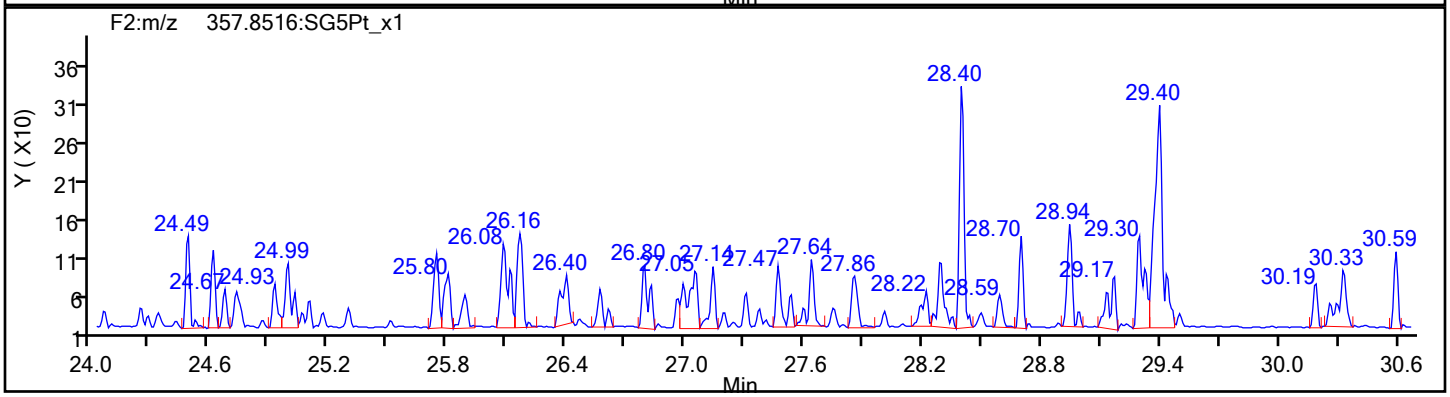
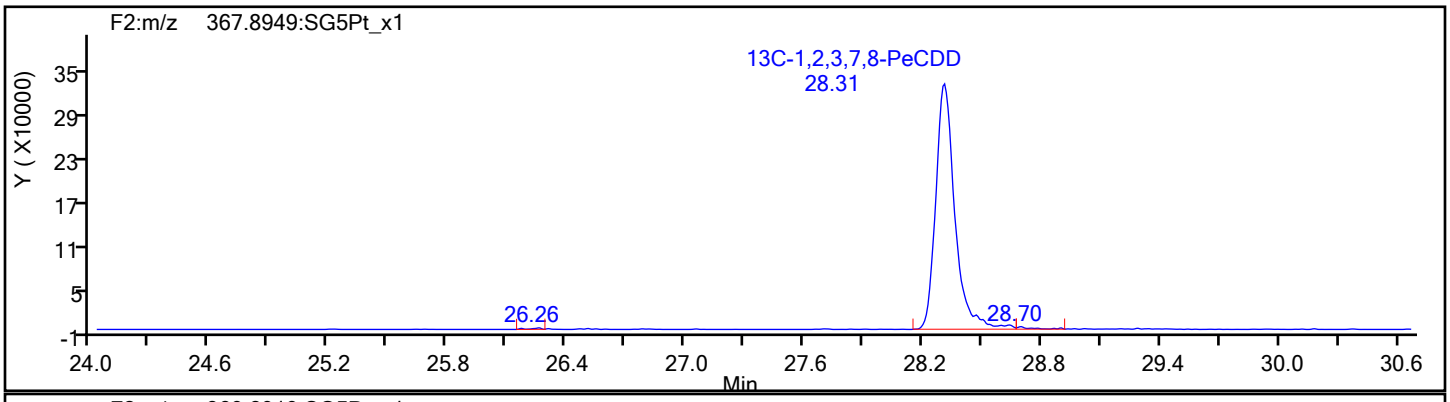
Column Type:	DB-5	Column Dia:	0.32 mm

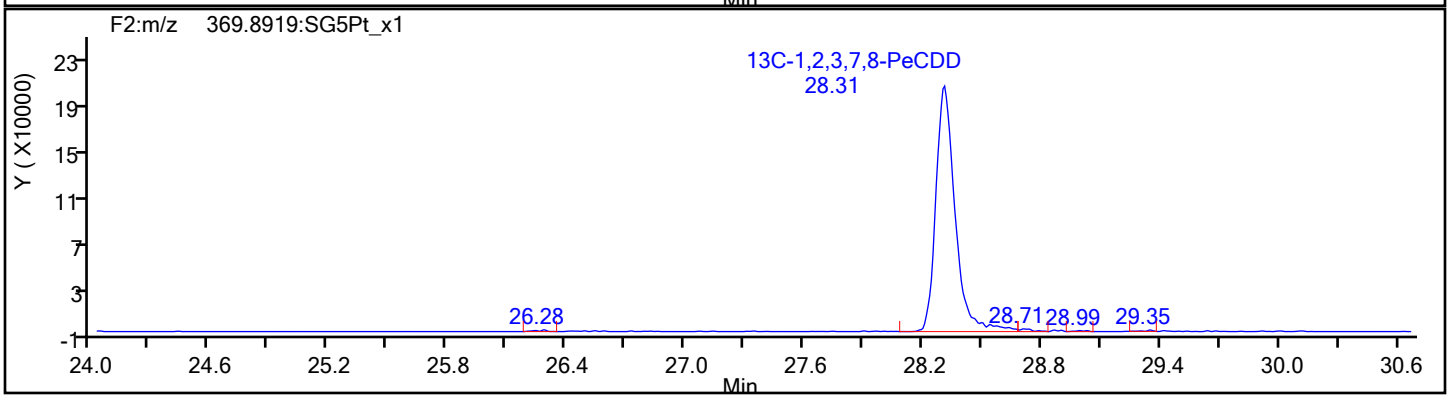
PeCDD





PeCDD Standards





Report Date: 25-Jan-2022 08:41:33 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d

Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
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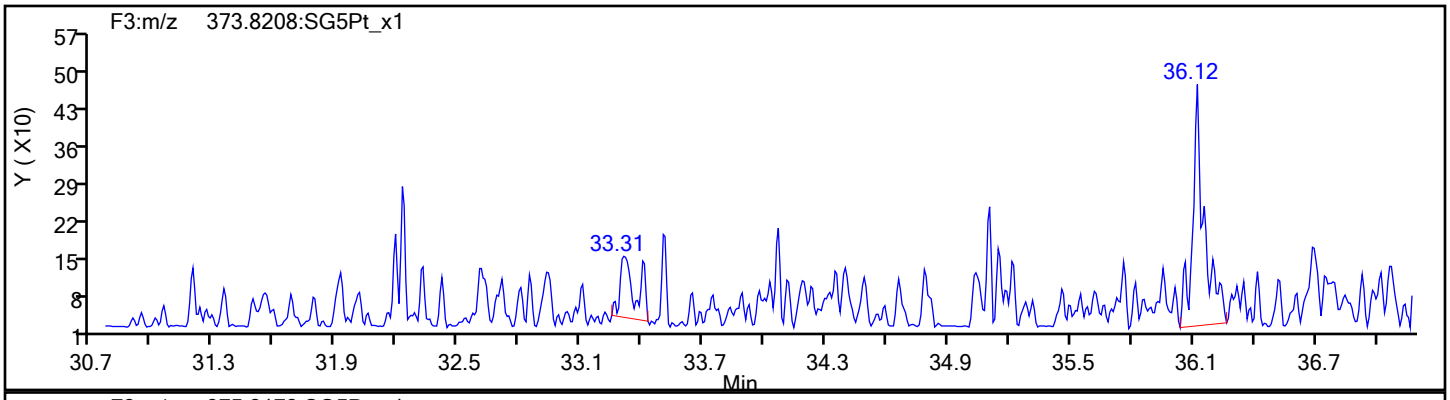
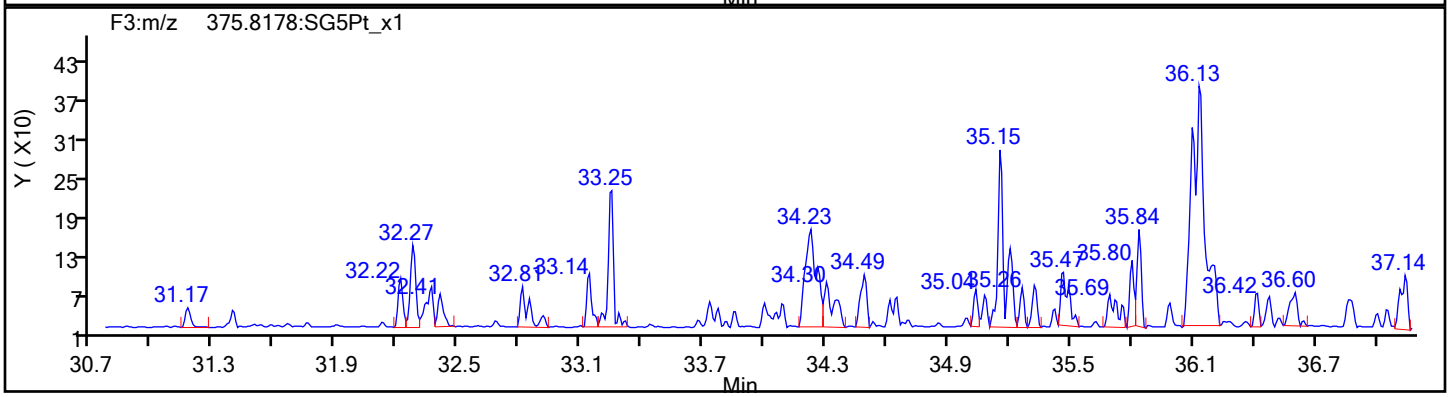
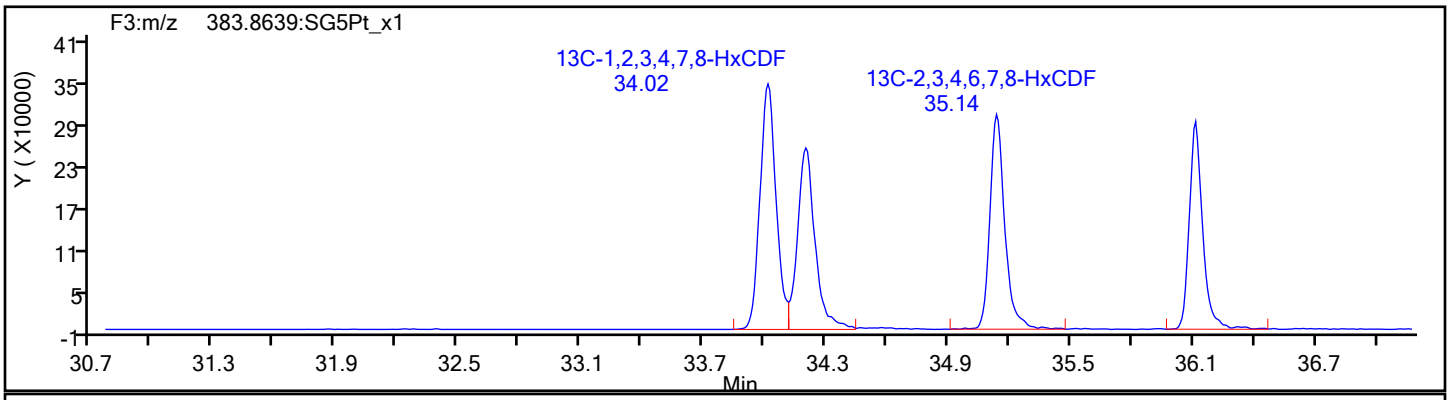
Column Type:	DB-5	Column Dia:	0.32 mm

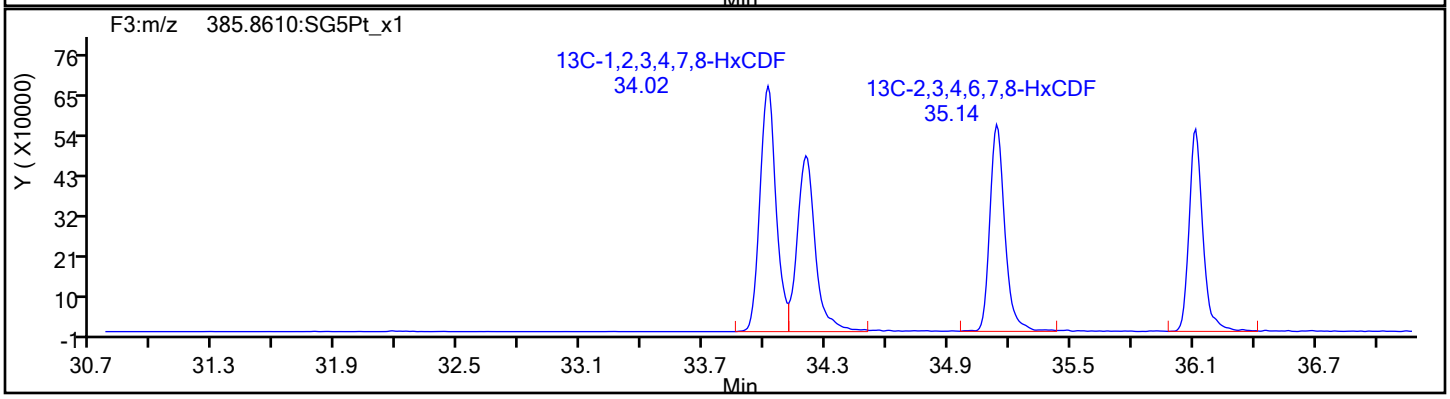
HxCDF





HxCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
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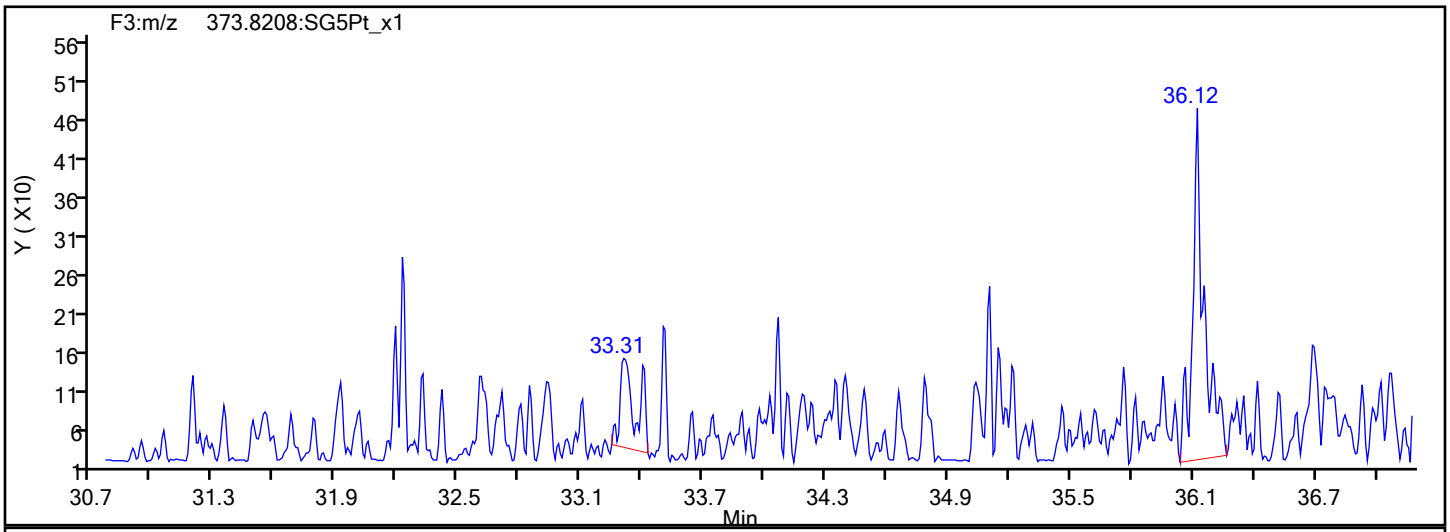
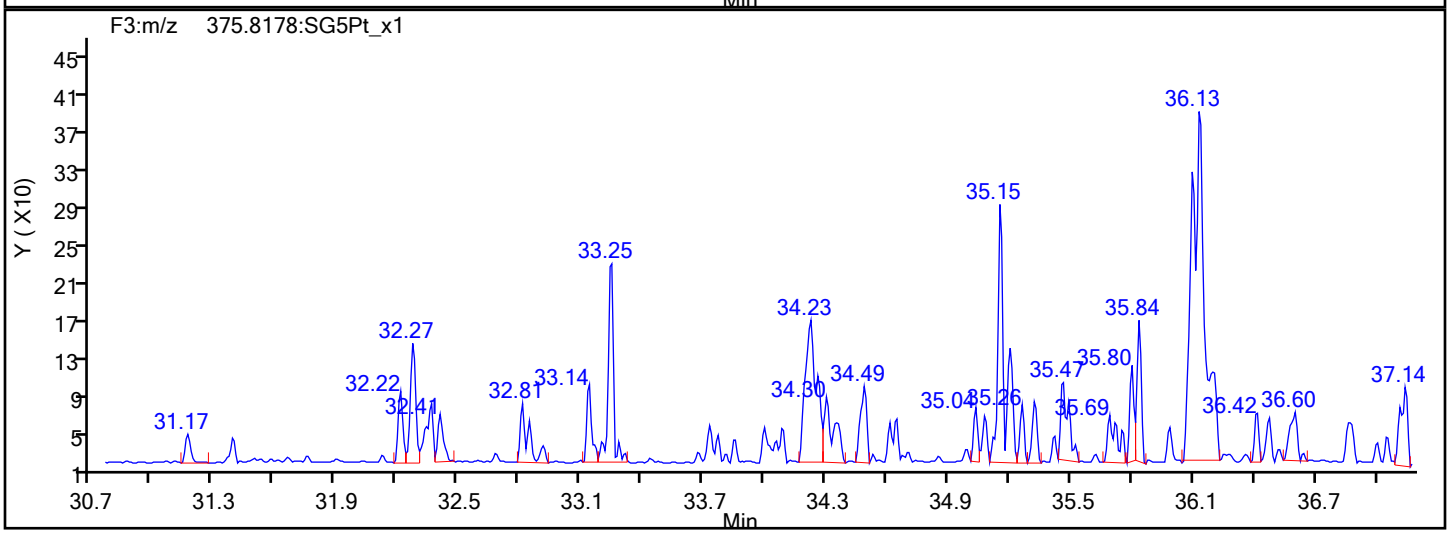
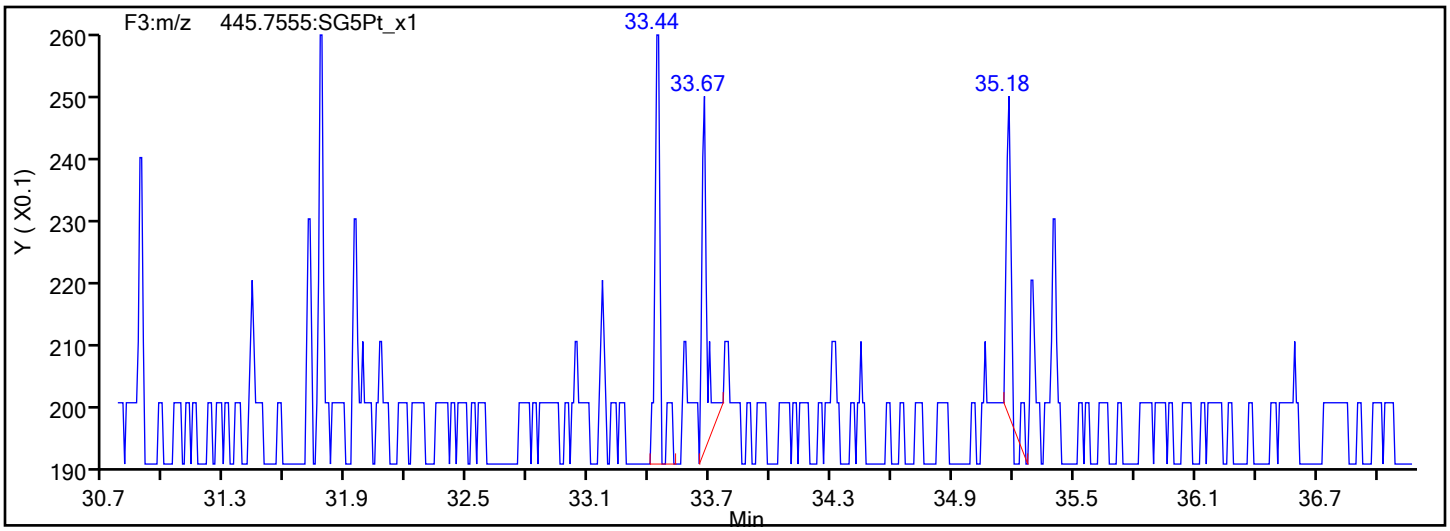
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Injection Date: 22-Jan-2022 03:25:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: EVBMP0009S014
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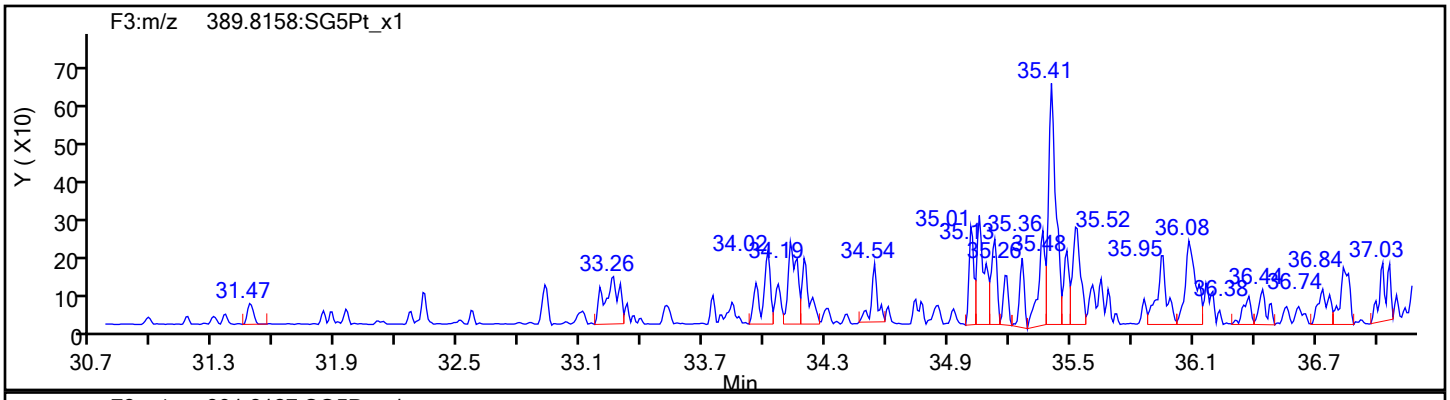
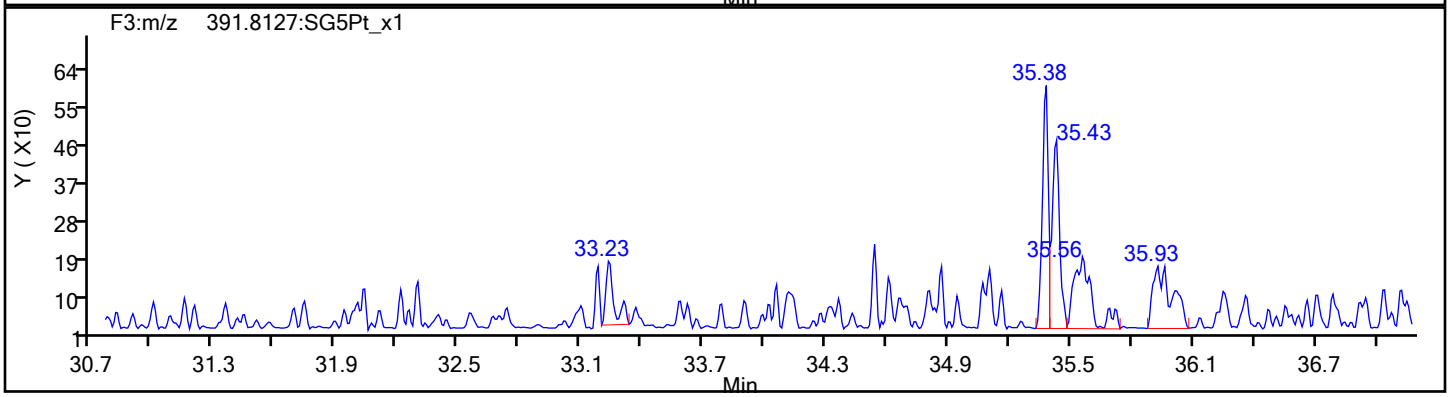
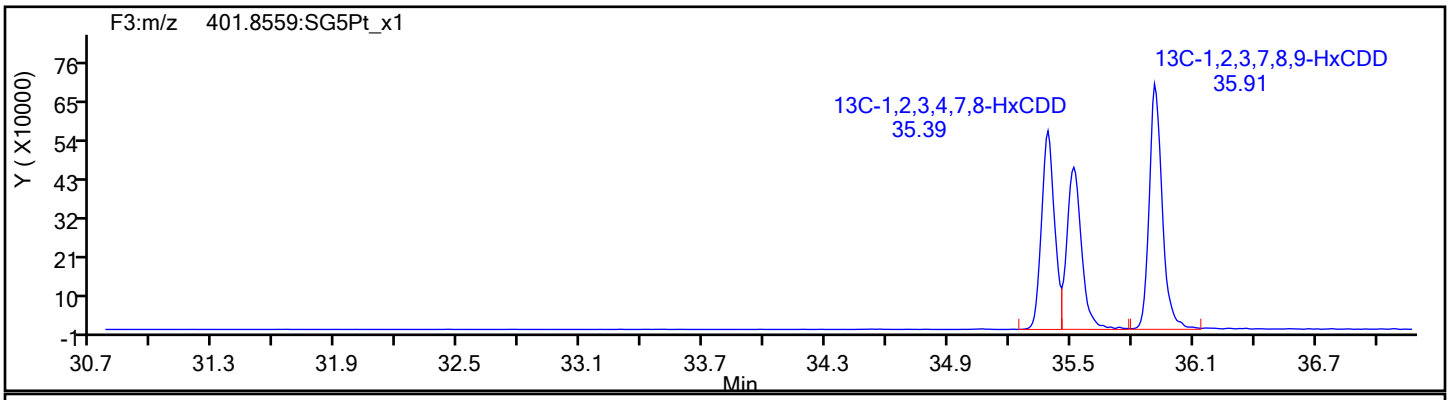
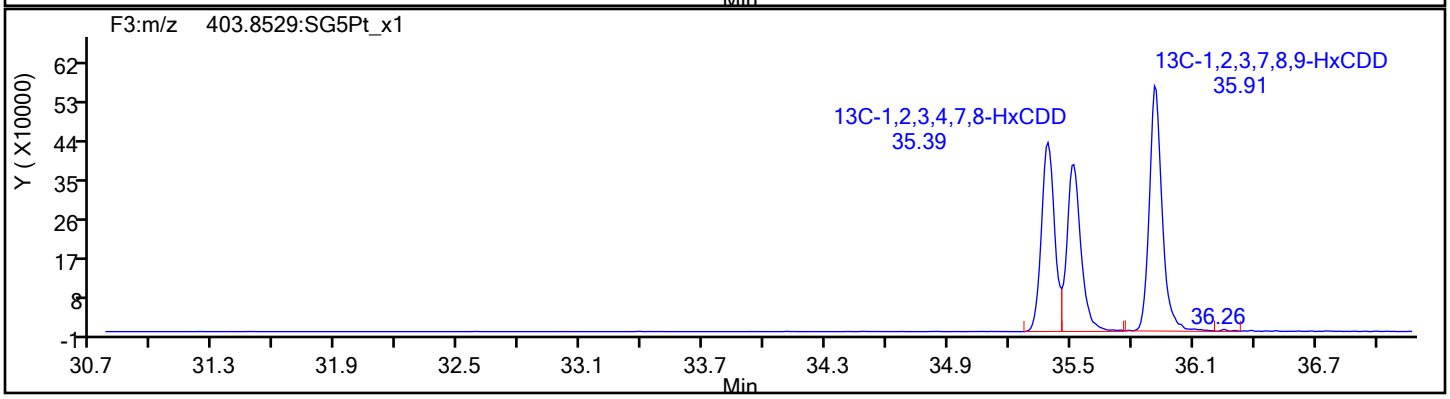
HxCDD





HxCDD Standards

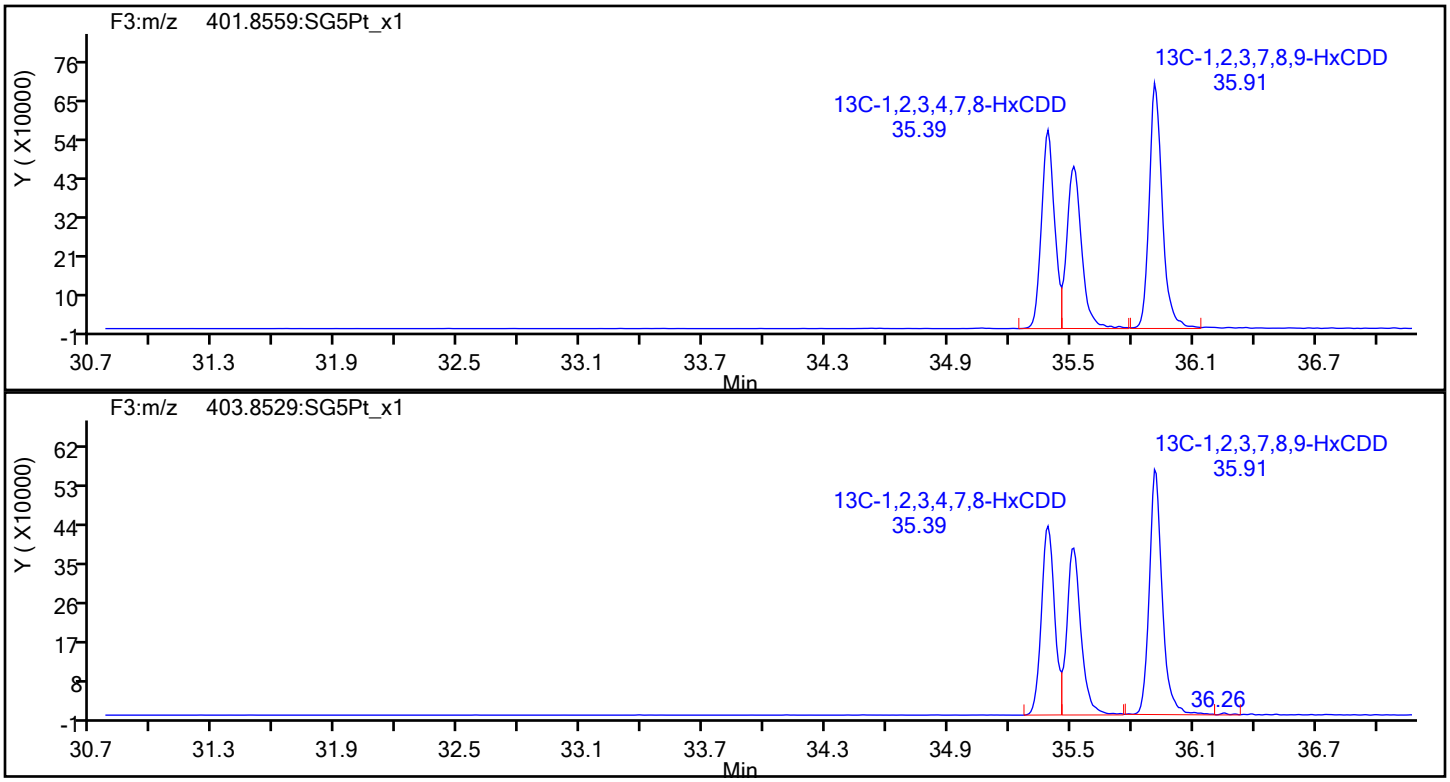




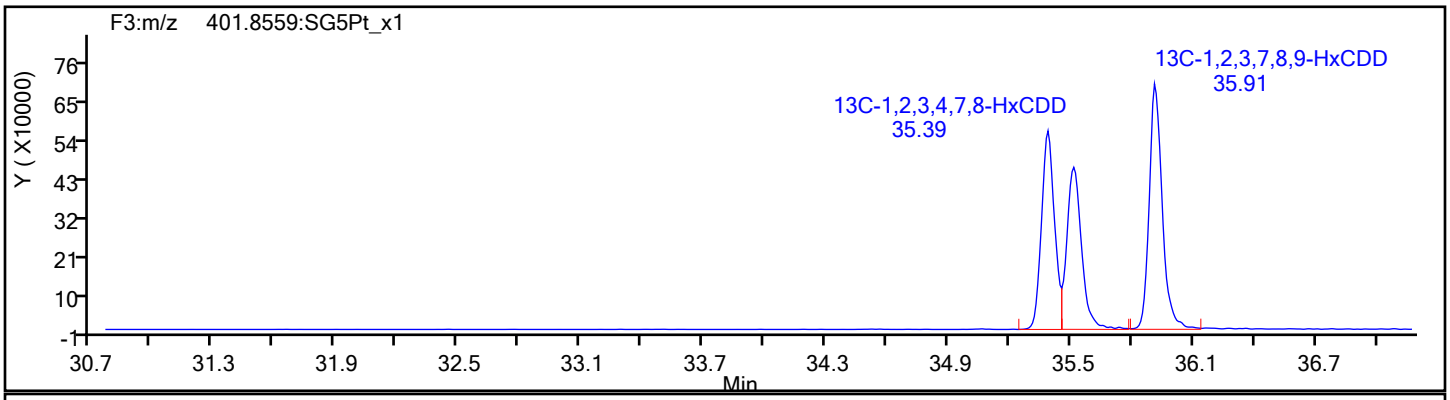
Eurofins Sacramento

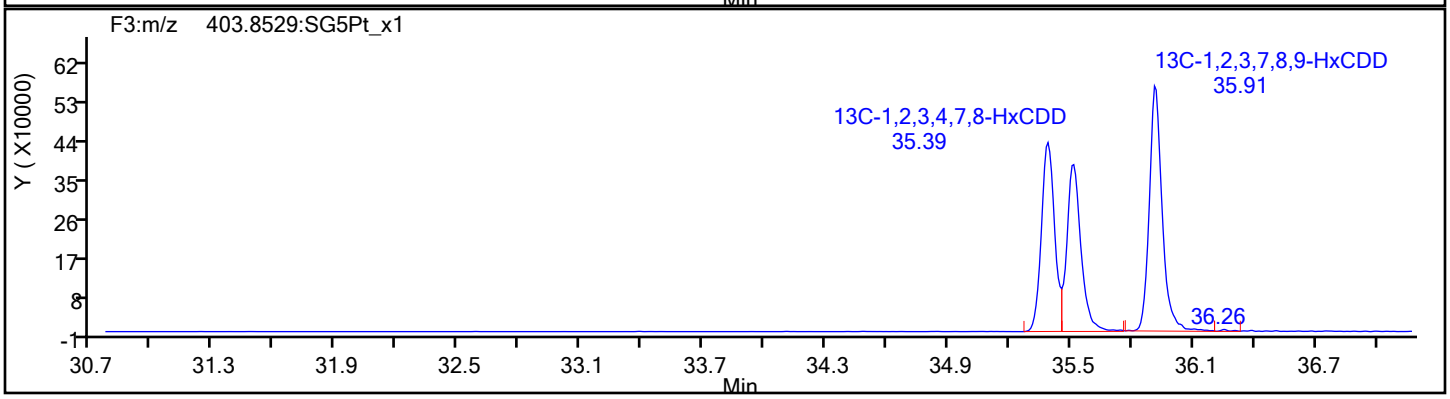
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Injection Date: 22-Jan-2022 03:25:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: EVBMP0009S014
Worklist#: 559800 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

13C-HxCDD



13C-HxCDD Standards





Report Date: 25-Jan-2022 08:41:33 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d

Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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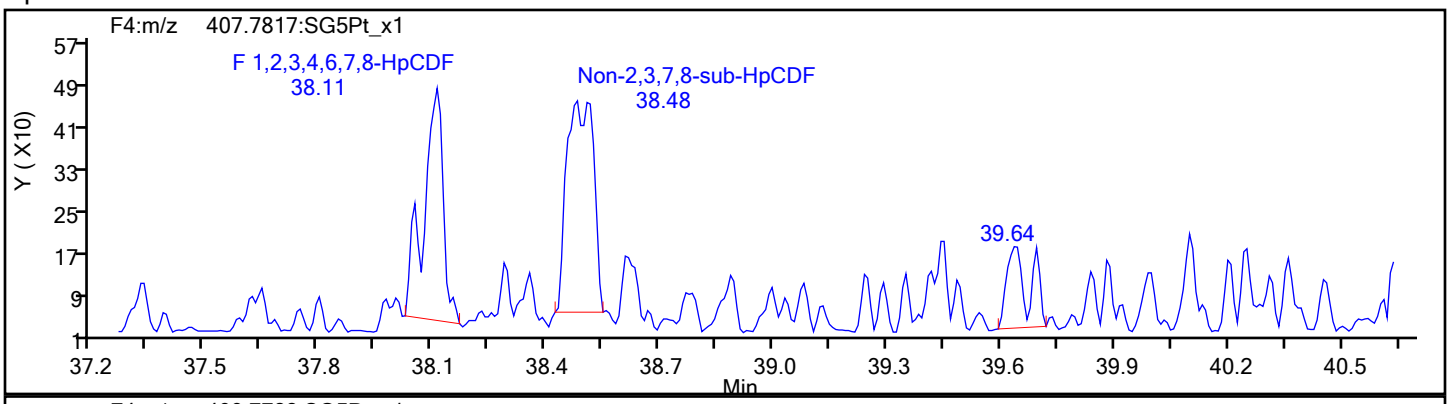
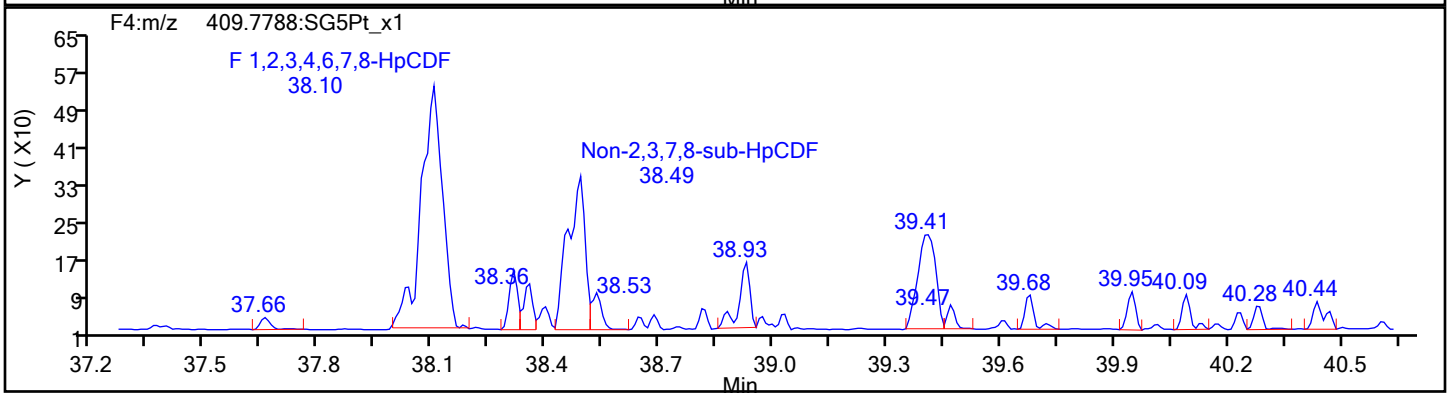
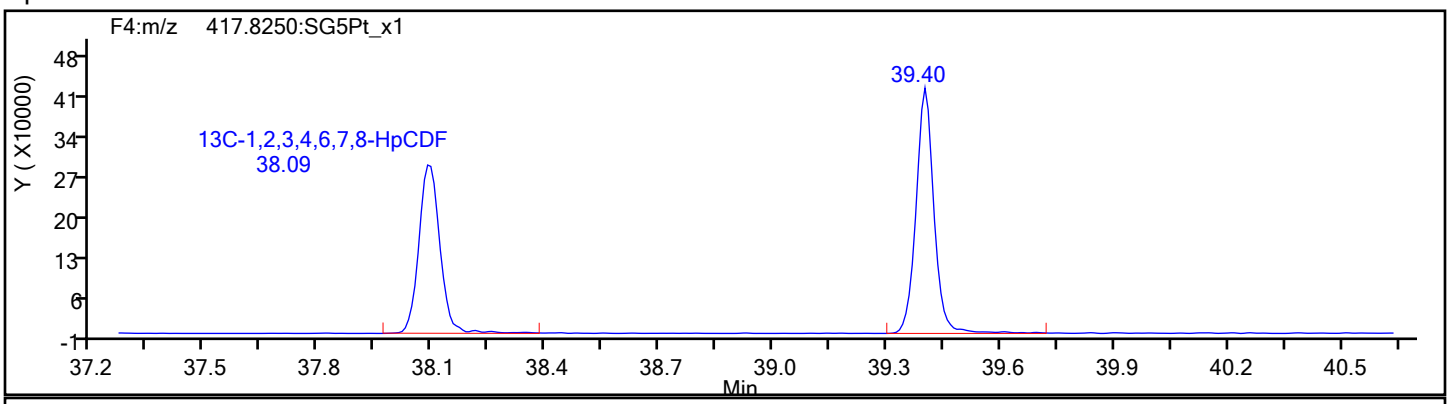
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

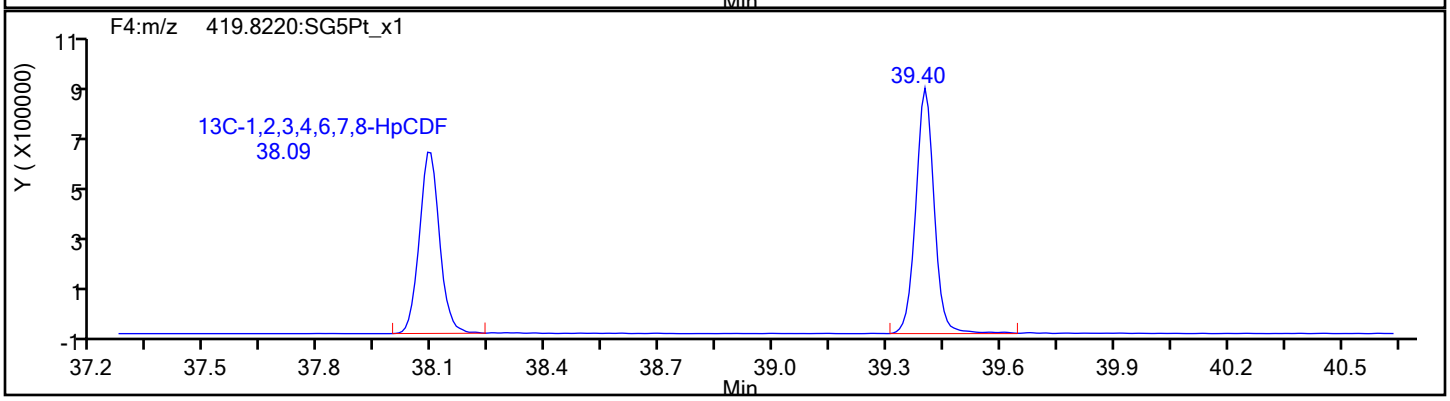
HpCDF





HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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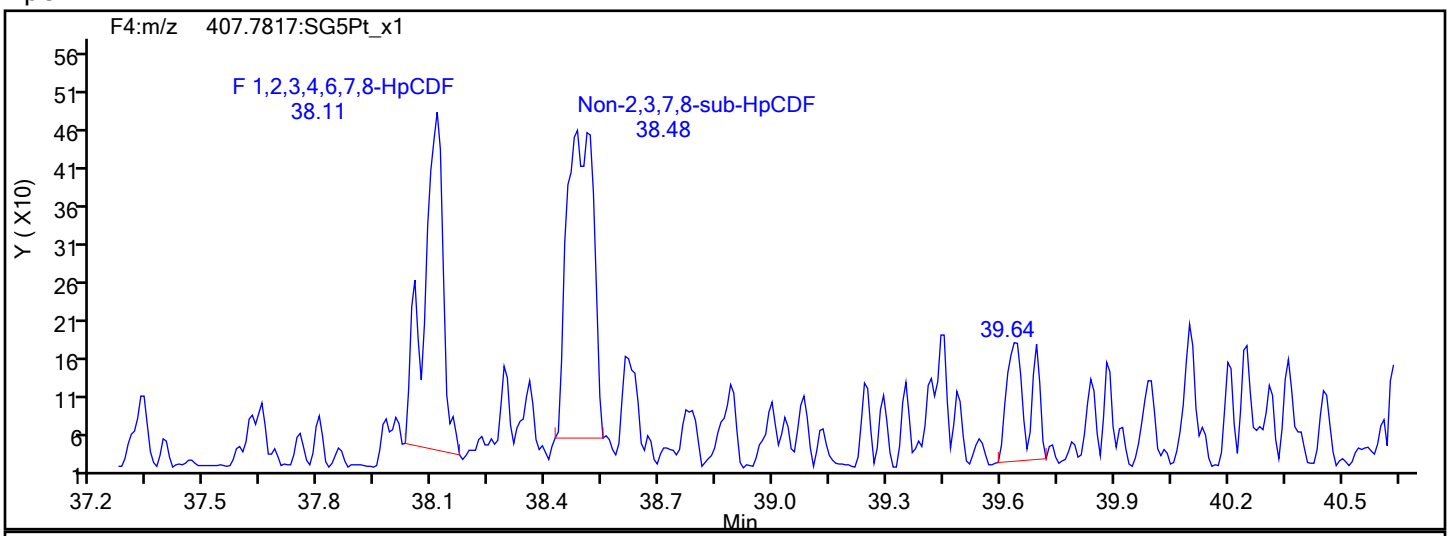
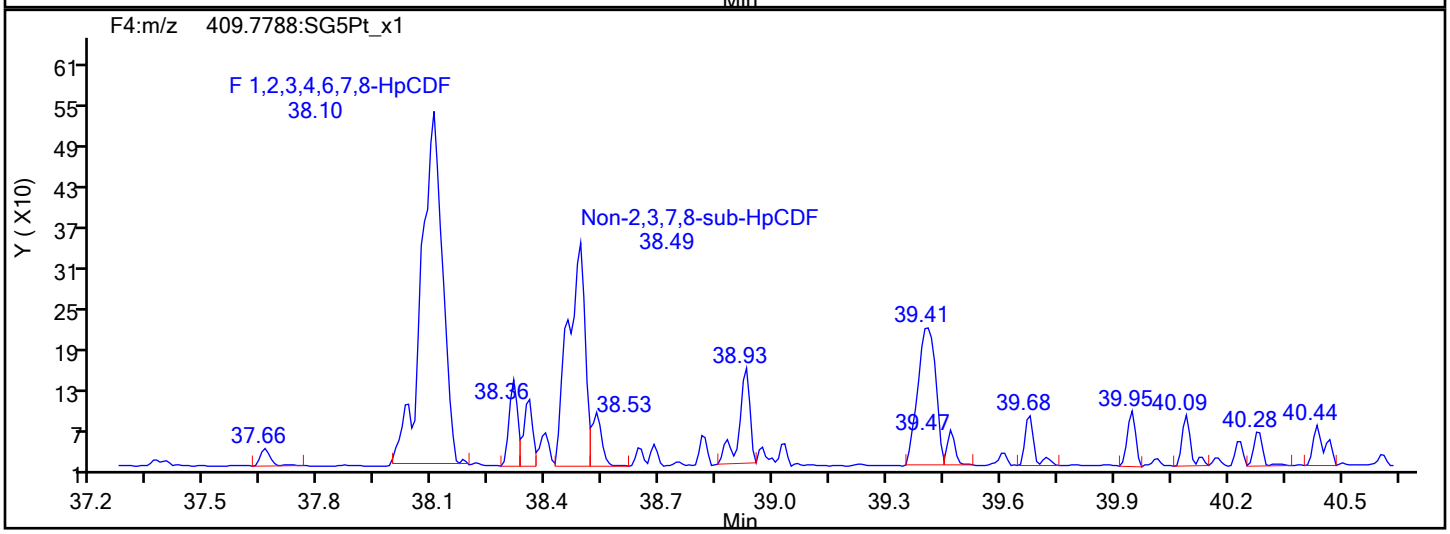
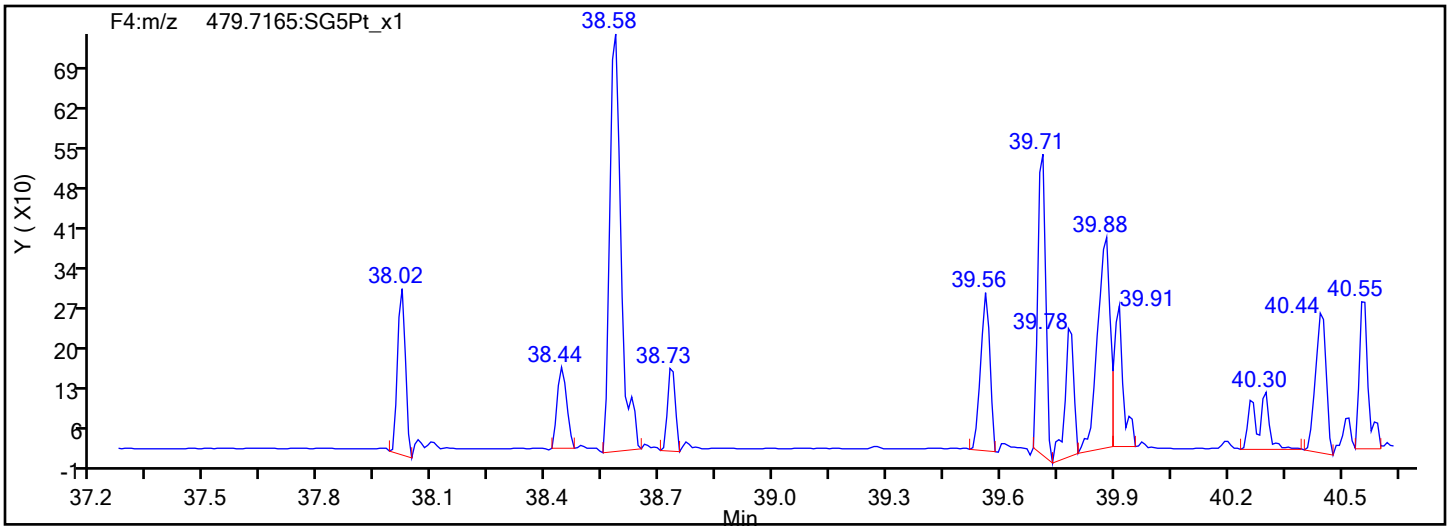
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
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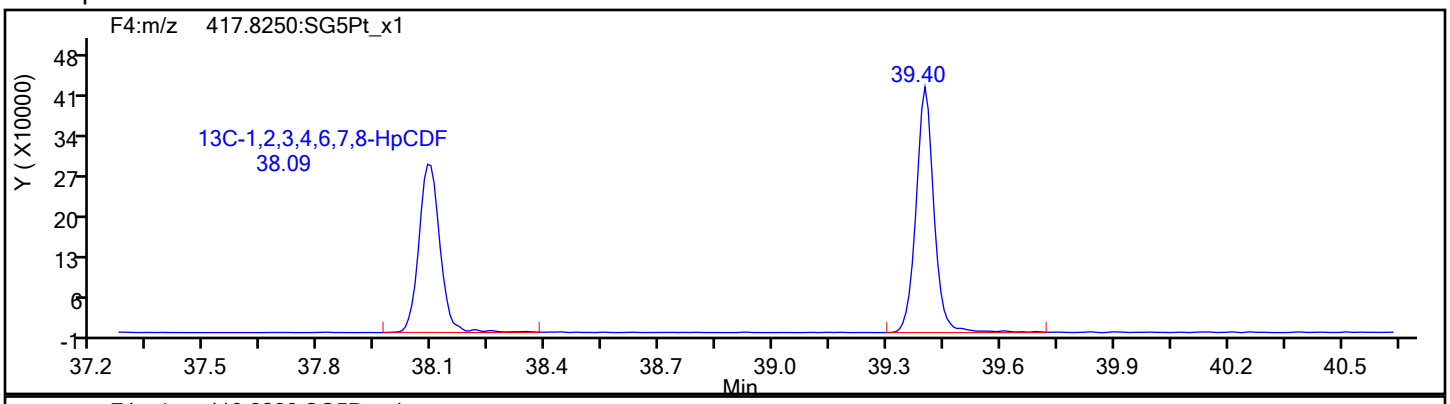
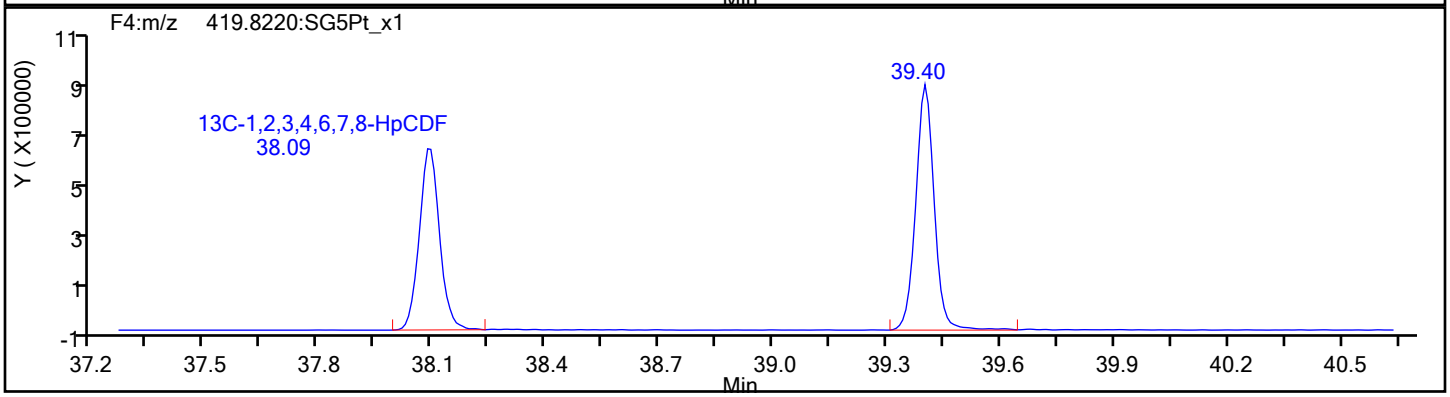
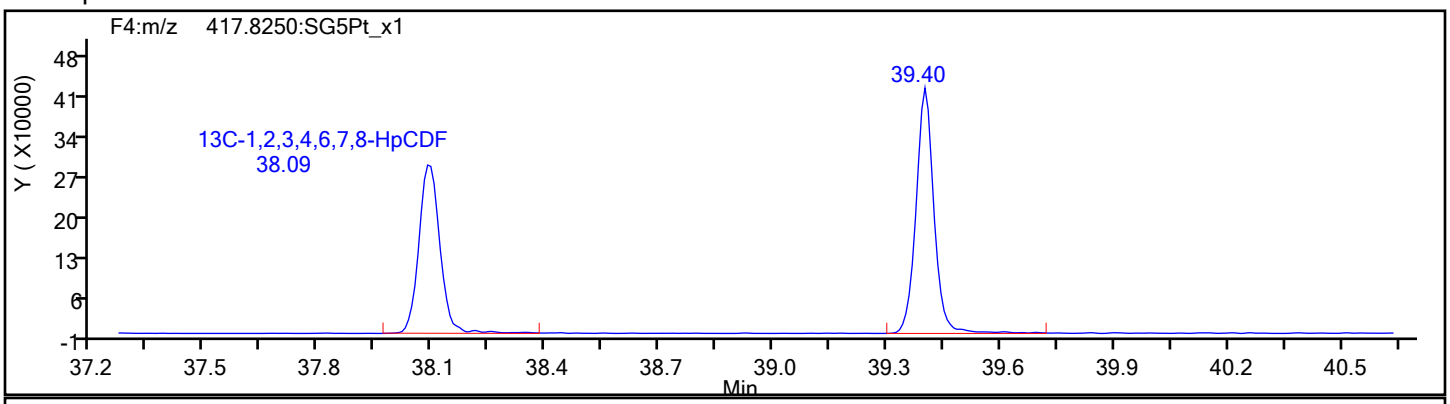
Column Type:	DB-5	Column Dia:	0.32 mm

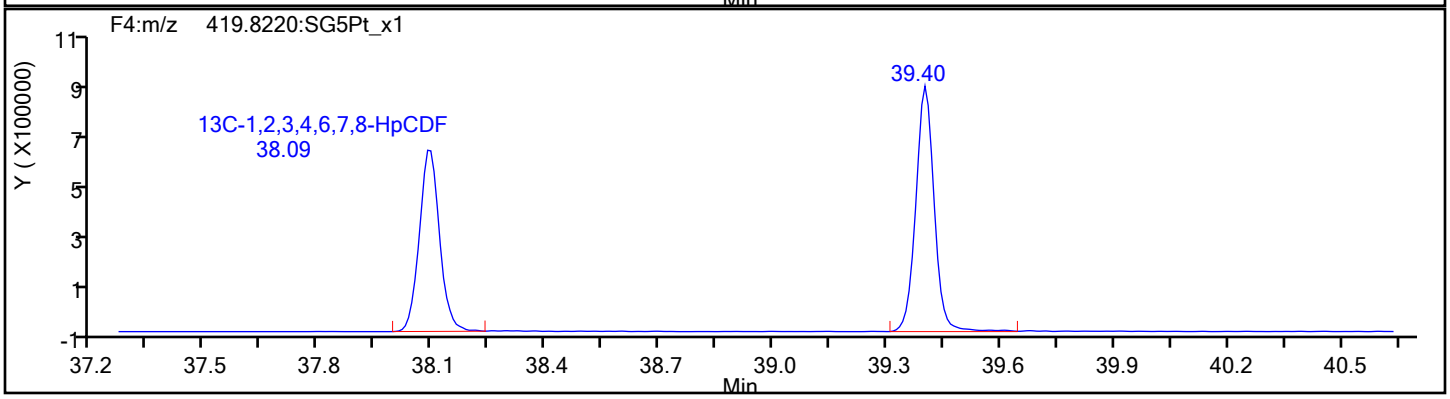
13C-HpCDF





13C-HpCDF Standards





Report Date: 25-Jan-2022 08:41:33 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d

Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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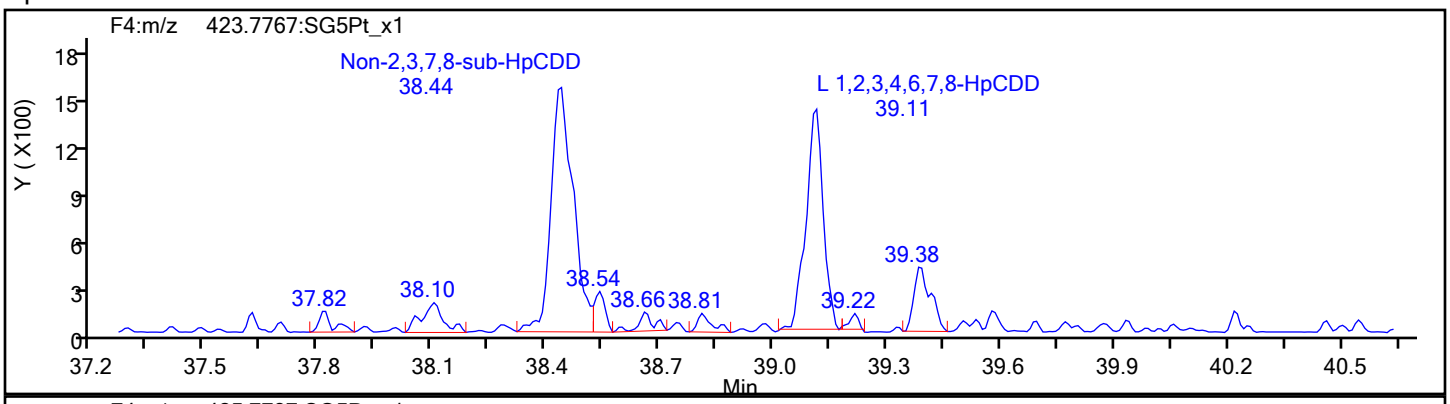
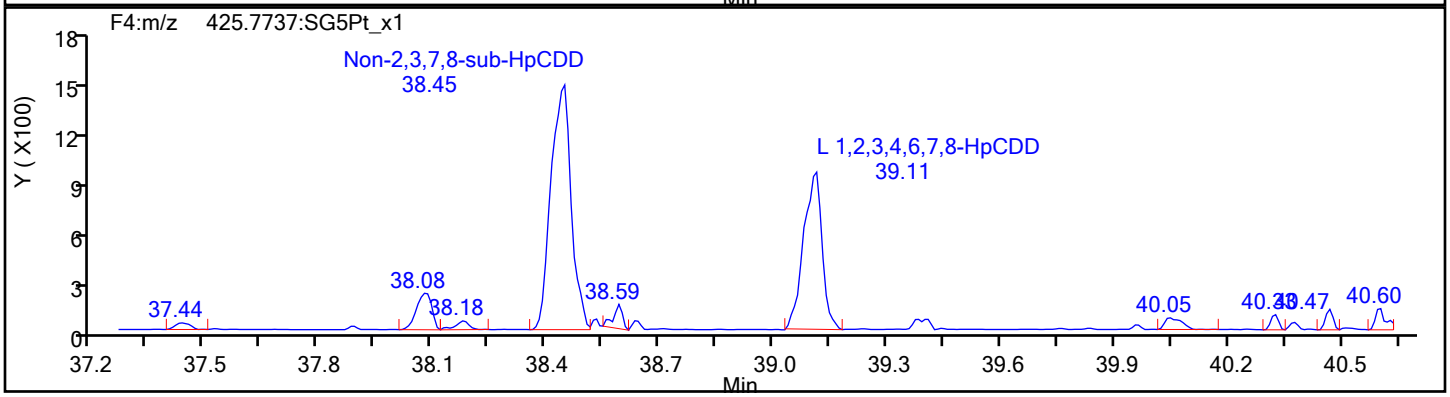
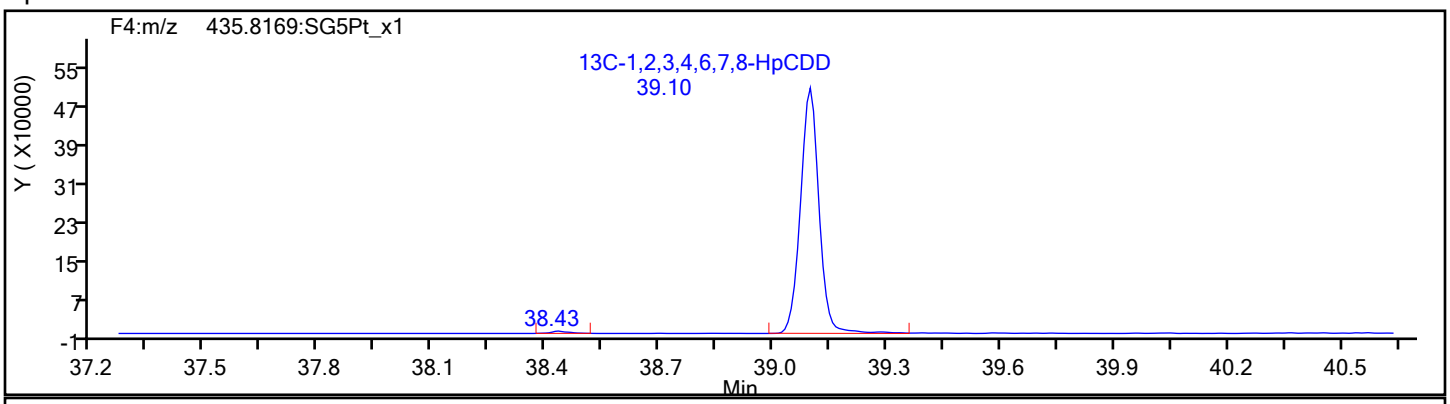
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

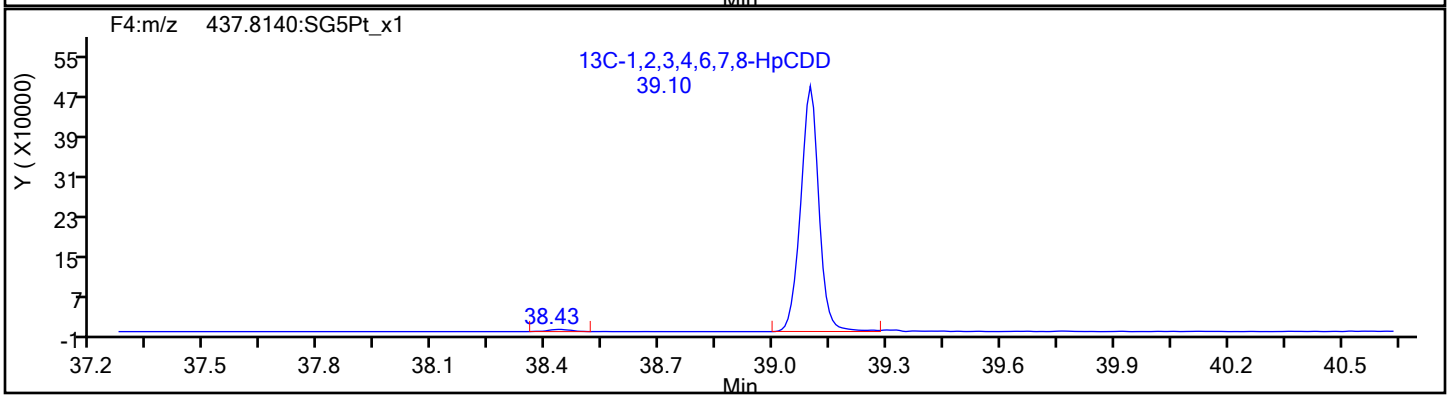
HpCDD





HpCDD Standards





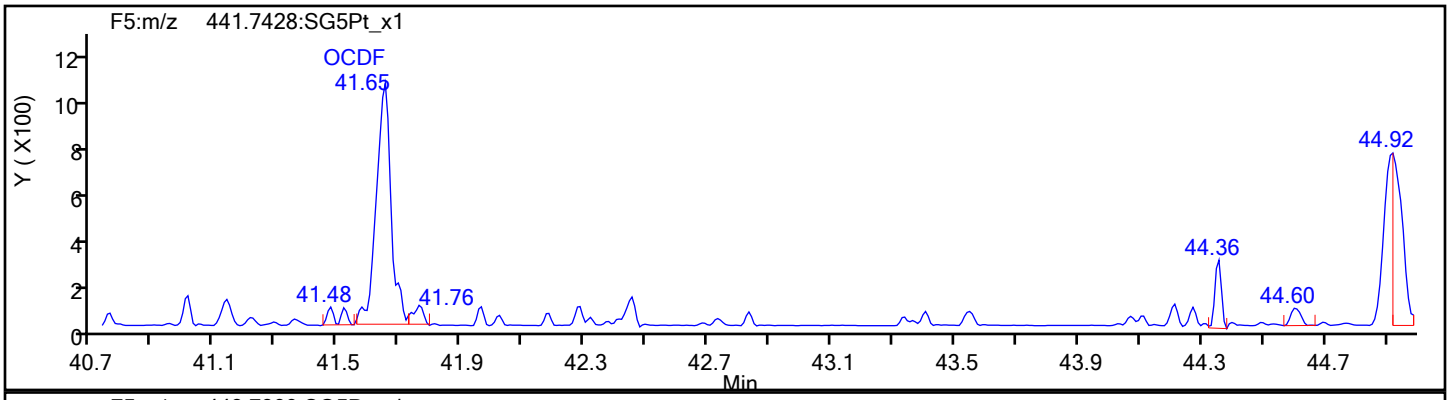
Report Date: 25-Jan-2022 08:41:33 Chrom Revision: 2.3 18-Jan-2022 20:25:40

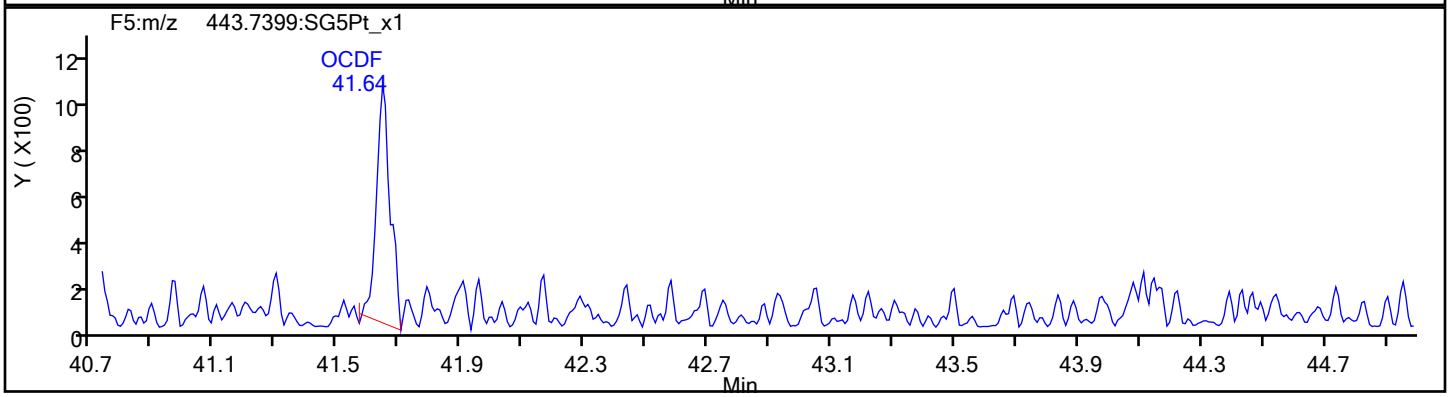
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d

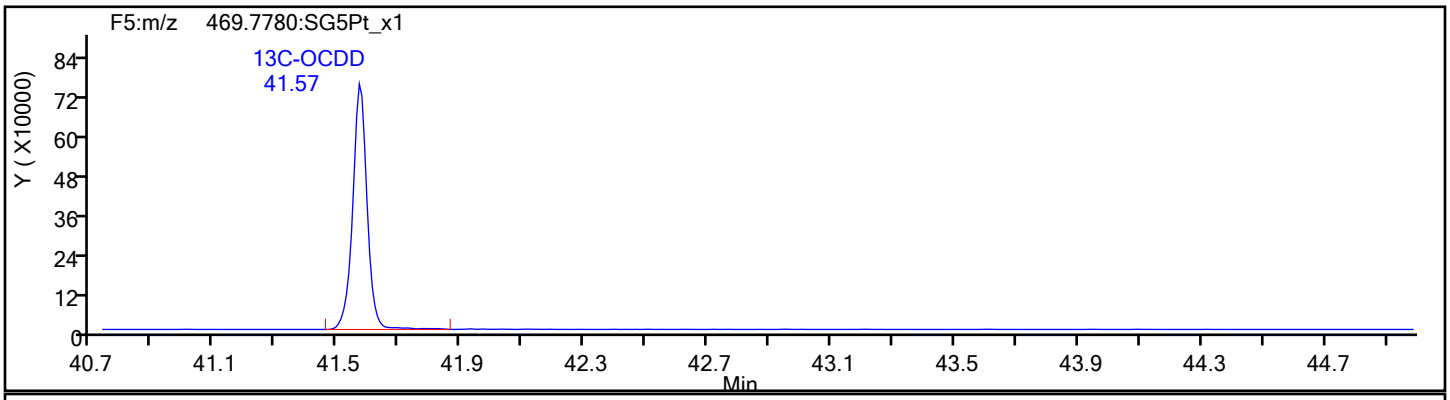
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

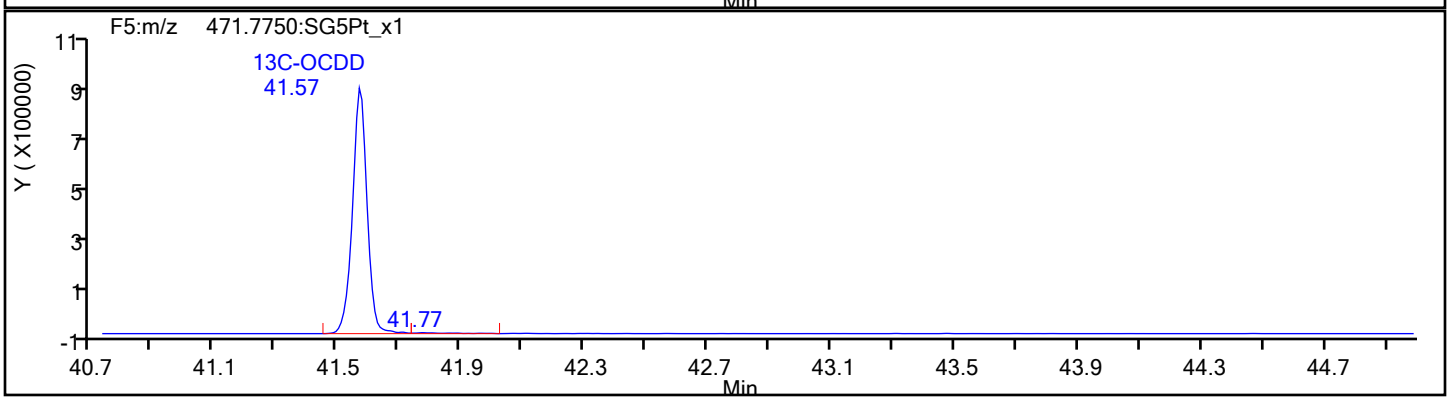
OCDF





OCDF Standards

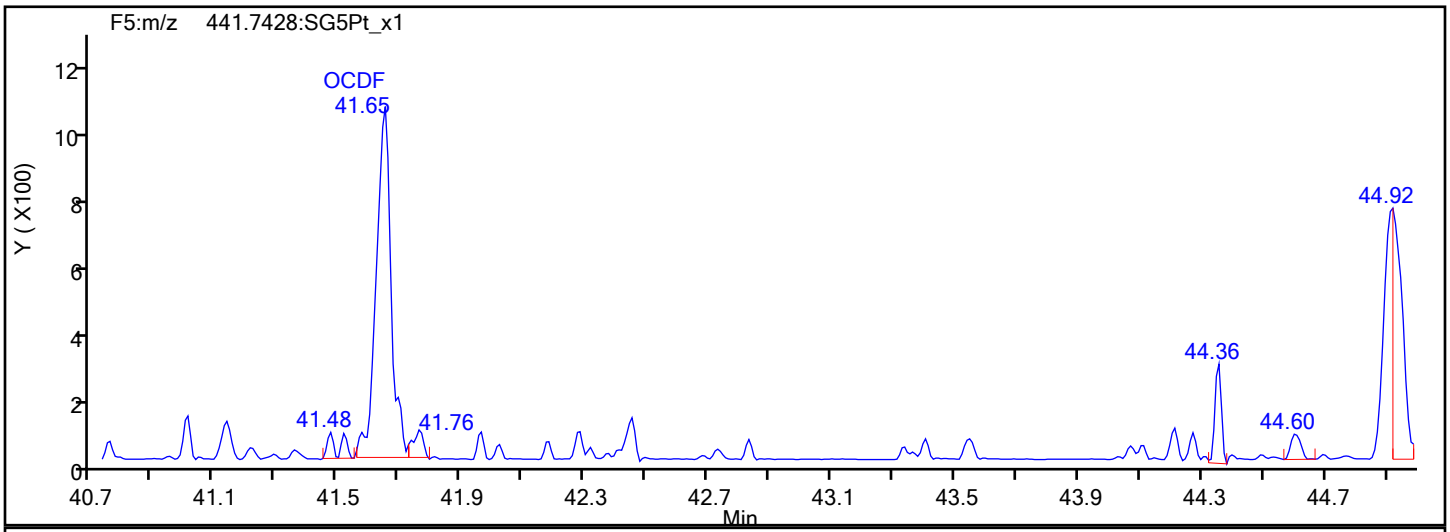


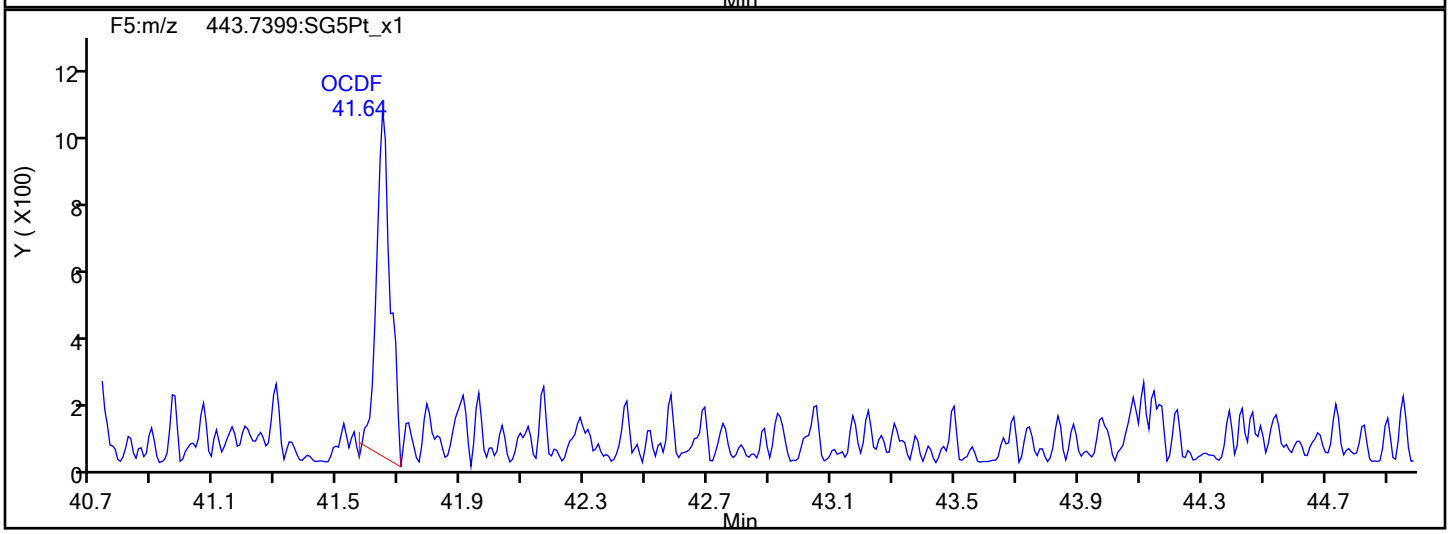


Eurofins Sacramento

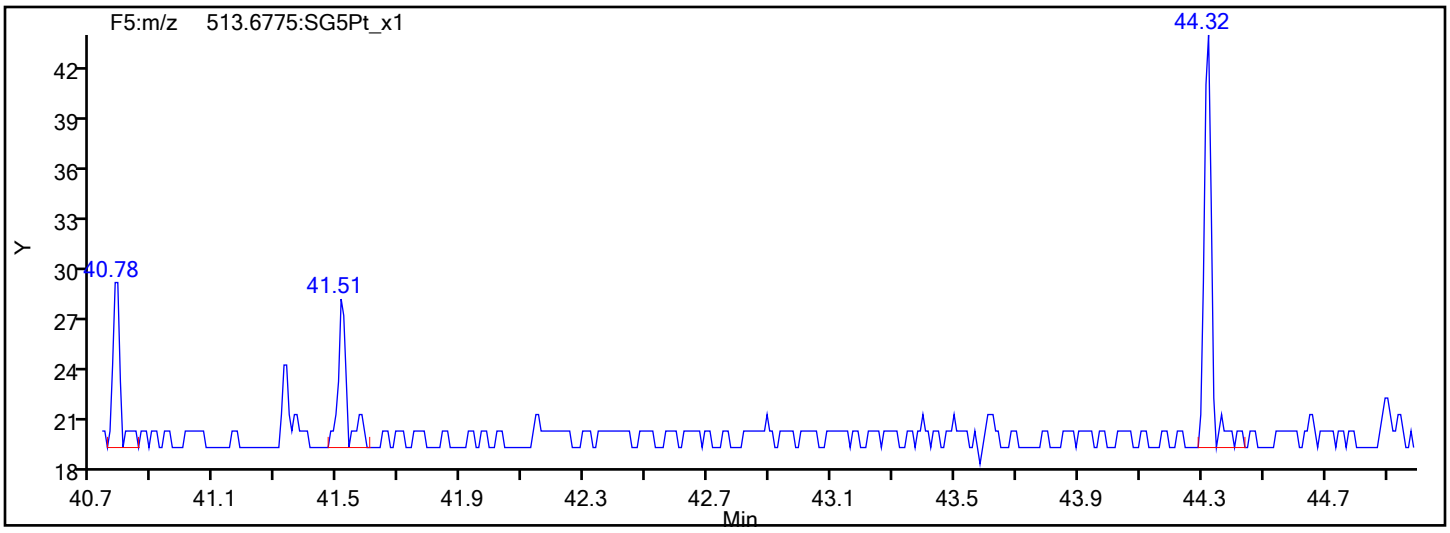
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





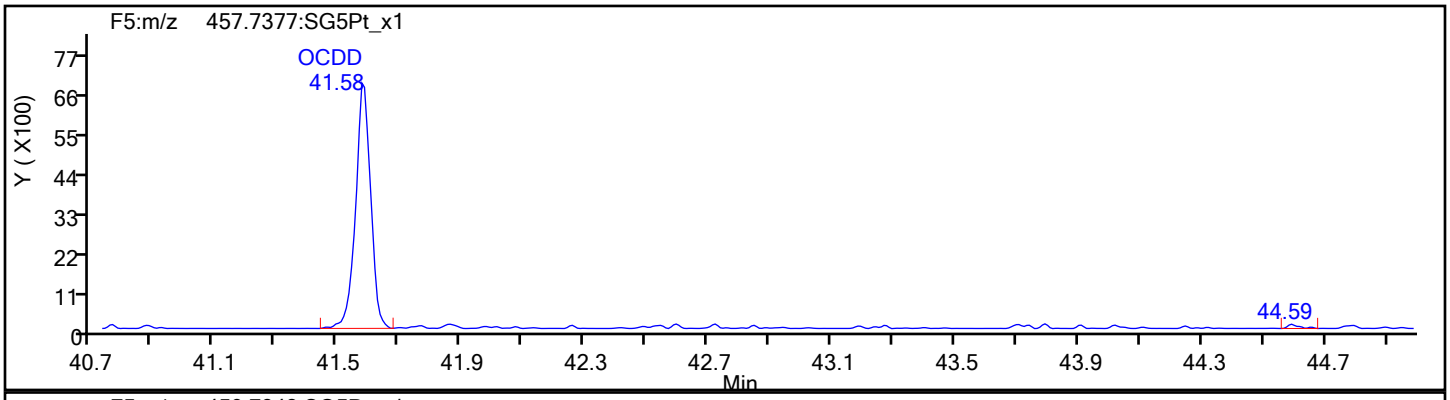
OCDF Interference Mass

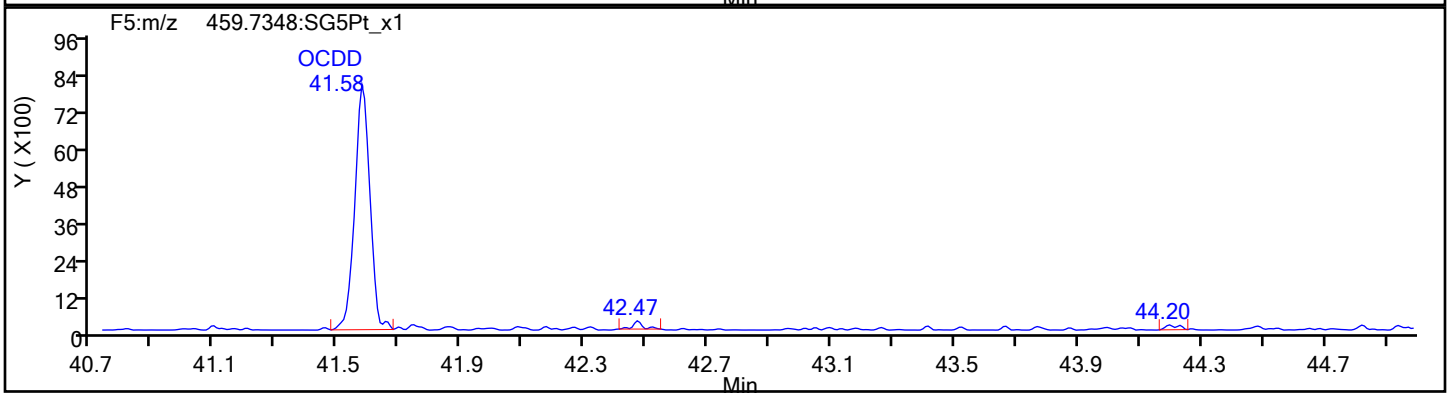


Eurofins Sacramento

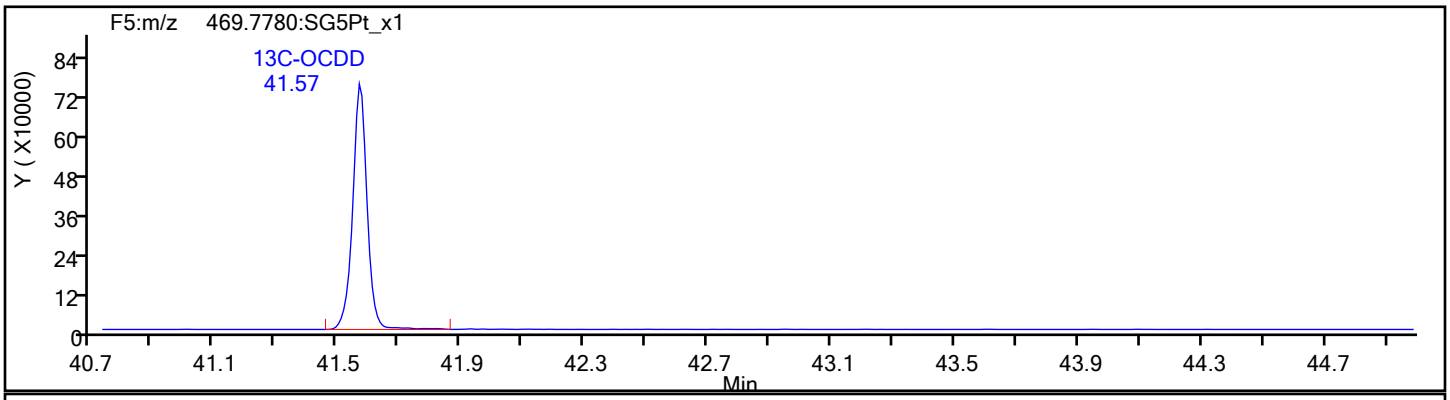
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d
Injection Date: 22-Jan-2022 03:25:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID: EVBMP0009S014
Worklist#: 559800 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

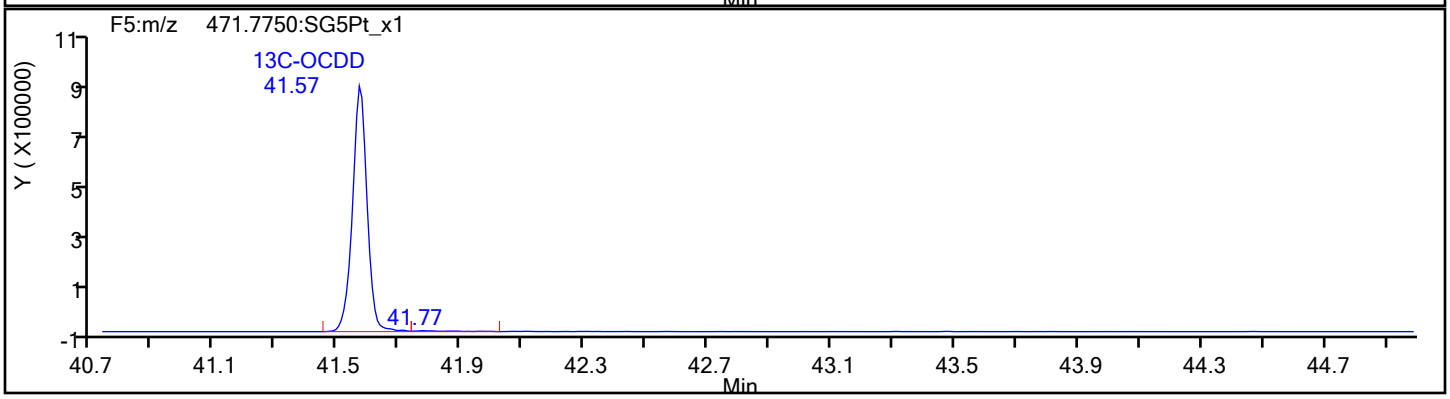
OCDD





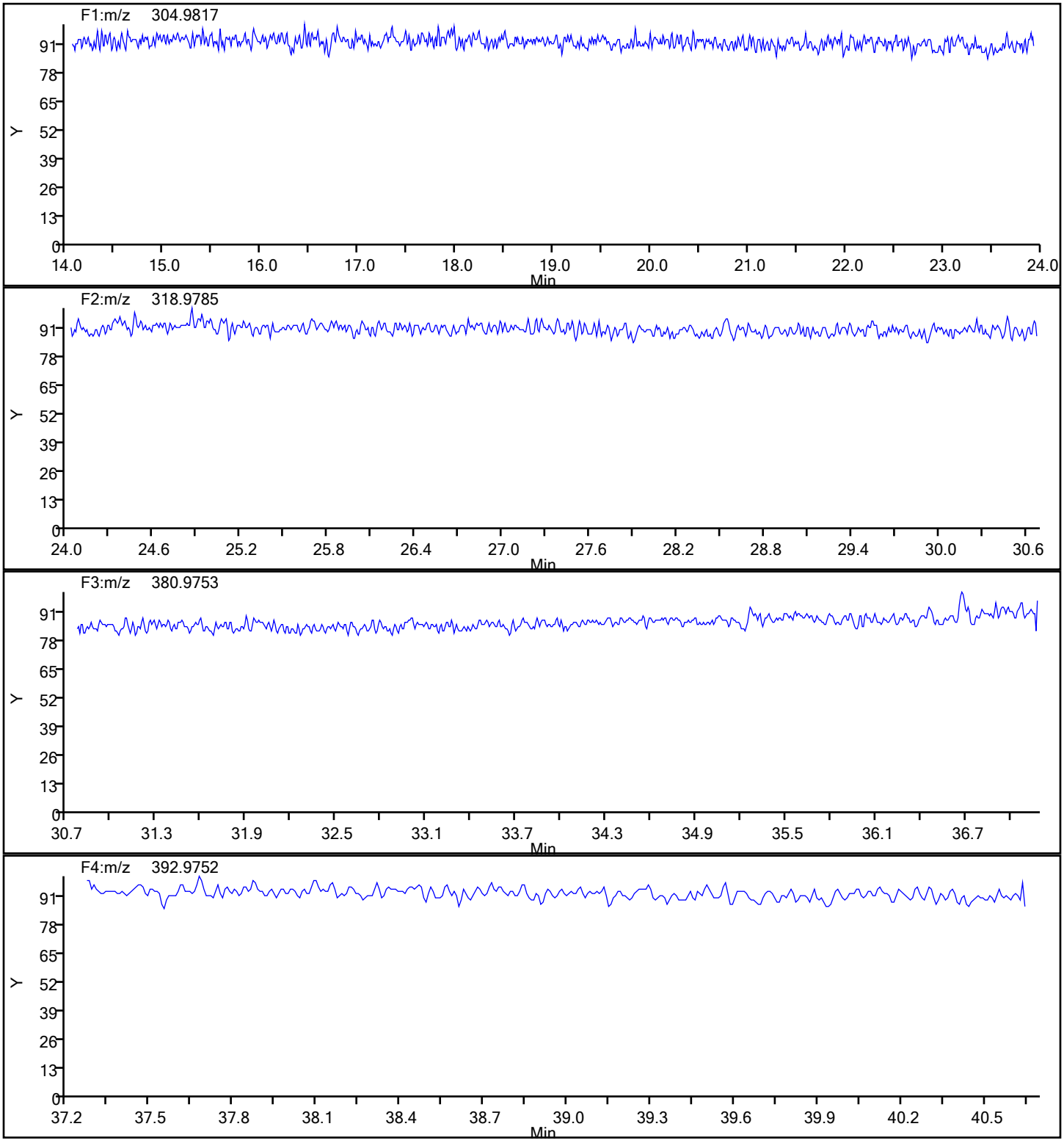
OCDD Standards





Eurofins Sacramento

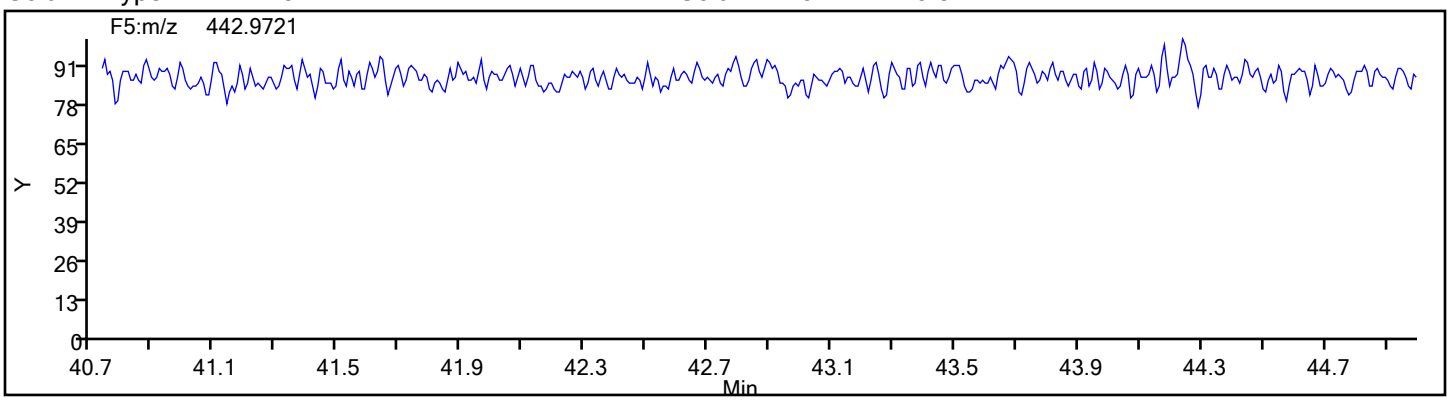
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 25-Jan-2022 08:41:33 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_49.d		
Injection Date:	22-Jan-2022 03:25:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:	EVBMP0009S014		
Worklist#:	559800	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Sacramento Job No.: 570-80421-2 Analy Batch No.: 558558

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/13/2022 17:16 Calibration End Date: 01/13/2022 20:27 Calibration ID: 58916

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-558558/3	13ja22dfs1_4.d
Level 2	IC 320-558558/4	13ja22dfs1_5.d
Level 3	IC 320-558558/5	13ja22dfs1_6.d
Level 4	IC 320-558558/6	13ja22dfs1_7.d
Level 5	IC 320-558558/7	13ja22dfs1_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	0.9718	1.0676	1.0015	1.0317	0.9873	AveID		1.0120				3.8		20.0			
2,3,7,8-TCDD	1.0566	1.0972	0.9703	0.9155	0.9135	AveID		0.9906				8.4		20.0			
1,2,3,7,8-PeCDF	1.0041	1.0605	0.8952	0.9839	0.9344	AveID		0.9756				6.5		20.0			
2,3,4,7,8-PeCDF	0.9219	1.0035	0.8569	0.9426	0.8828	AveID		0.9215				6.1		20.0			
1,2,3,7,8-PeCDD	1.0437	1.0604	0.9503	1.0192	0.9364	AveID		1.0020				5.6		20.0			
1,2,3,4,7,8-HxCDF	0.9213	0.9287	0.8073	0.9089	0.8512	AveID		0.8835				5.9		20.0			
1,2,3,6,7,8-HxCDF	1.0333	1.1457	0.9146	1.0407	1.0094	AveID		1.0287				8.0		20.0			
2,3,4,6,7,8-HxCDF	1.0231	1.0745	0.8798	1.0210	0.9406	AveID		0.9878				7.8		20.0			
1,2,3,4,7,8-HxCDD	0.8757	0.8832	0.7977	0.8239	0.7665	AveID		0.8294				6.0		20.0			
1,2,3,6,7,8-HxCDD	0.9647	1.0229	0.9195	0.9273	0.8628	AveID		0.9395				6.3		20.0			
1,2,3,7,8,9-HxCDD	0.9662	0.9465	0.8811	0.9128	0.8315	AveID		0.9076				5.9		20.0			
1,2,3,7,8,9-HxCDF	1.0435	1.0075	0.8356	0.8757	0.7731	AveID		0.9071				12.7		20.0			
1,2,3,4,6,7,8-HpCDF	1.5390	1.5275	1.3888	1.4106	1.3266	AveID		1.4385				6.4		20.0			
1,2,3,4,6,7,8-HpCDD	0.9639	1.1041	0.9135	0.9754	0.9266	AveID		0.9767				7.7		20.0			
1,2,3,4,7,8,9-HpCDF	1.2890	1.3489	1.1831	1.2043	1.0757	AveID		1.2202				8.6		20.0			
OCDD	1.0466	1.1404	0.9877	1.0450	0.9509	AveID		1.0341				6.9		20.0			
OCDF	1.2527	1.3369	1.2388	1.3129	1.2364	AveID		1.2756				3.6		20.0			
13C-2,3,7,8-TCDF	1.0230	1.0479	0.9868	1.0181	1.0061	Ave		1.0164				2.2		30.0			
13C-2,3,7,8-TCDD	0.8021	0.7726	0.7312	0.8218	0.8143	Ave		0.7884				4.7		30.0			
13C-1,2,3,7,8-PeCDF	0.9088	0.9083	0.9046	0.9398	0.9544	Ave		0.9232				2.4		30.0			
13C-2,3,4,7,8-PeCDF	1.0418	1.0506	1.0889	1.1063	1.1088	Ave		1.0793				2.9		30.0			
13C-1,2,3,7,8-PeCDD	0.5397	0.5534	0.5339	0.5727	0.6033	Ave		0.5606				5.0		30.0			
13C-1,2,3,4,7,8-HxCDF	0.9820	1.0445	1.0960	1.0881	1.0722	Ave		1.0566				4.4		30.0			
13C-1,2,3,6,7,8-HxCDF	0.9347	0.9392	0.9625	0.9875	1.0190	Ave		0.9686				3.6		30.0			
13C-2,3,4,6,7,8-HxCDF	0.8390	0.8914	0.9229	0.9484	0.9403	Ave		0.9084				4.9		30.0			
13C-1,2,3,4,7,8-HxCDD	0.7798	0.7980	0.8329	0.8344	0.8217	Ave		0.8133				2.9		30.0			
13C-1,2,3,6,7,8-HxCDD	0.7715	0.7789	0.7775	0.8420	0.8434	Ave		0.8027				4.6		30.0			
13C-1,2,3,7,8,9-HxCDF	0.8318	0.8330	0.8529	0.8244	0.7817	Ave		0.8248				3.2		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Sacramento Job No.: 570-80421-2 Analy Batch No.: 558558

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/13/2022 17:16 Calibration End Date: 01/13/2022 20:27 Calibration ID: 58916

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
13C-1,2,3,4,6,7,8-HpCDF	0.5993	0.6242	0.6256	0.7038	0.6575	Ave		0.6421				6.3		30.0			
13C-1,2,3,4,6,7,8-HpCDD	0.5976	0.6080	0.6246	0.6834	0.6094	Ave		0.6246				5.5		30.0			
13C-1,2,3,4,7,8,9-HpCDF	1.1620	1.2078	1.2502	1.1435	1.0894	AveID		1.1706				5.3					
13C-OCDD	0.4190	0.4344	0.4300	0.4830	0.4136	Ave		0.4360				6.3		30.0			
37Cl4-2,3,7,8-TCDD	0.7293	0.8297	0.7974	0.7901	0.8091	Ave		0.7911				4.8		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Sacramento Job No.: 570-80421-2 Analy Batch No.: 558558

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/13/2022 17:16 Calibration End Date: 01/13/2022 20:27 Calibration ID: 58916

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-558558/3	13ja22dfs1_4.d
Level 2	IC 320-558558/4	13ja22dfs1_5.d
Level 3	IC 320-558558/5	13ja22dfs1_6.d
Level 4	IC 320-558558/6	13ja22dfs1_7.d
Level 5	IC 320-558558/7	13ja22dfs1_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	15782	65332	327239	1913030	7319030	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	13454	49507	234925	1370244	5480713	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	72427	281241	1340624	8420453	32853418	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	66501	266127	1283336	8067144	31037717	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	44715	171354	839992	5315461	20812323	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	53675	204340	1001430	6462436	23549826	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	60204	252078	1134458	7400015	27928957	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	59609	236411	1091296	7259817	26024710	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	40085	144907	702018	4532842	16681538	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	44161	167823	809205	5102120	18776432	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	44229	155294	775382	5022242	18096602	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	60795	221680	1036430	6226674	21388952	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	54723	200857	983413	6487179	22505754	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	34176	141402	645784	4355719	14570735	2.50	10.0	50.0	200	1000

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Sacramento Job No.: 570-80421-2 Analy Batch No.: 558558

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/13/2022 17:16 Calibration End Date: 01/13/2022 20:27 Calibration ID: 58916

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
1,2,3,4,7,8,9-HpCDF		AveID	45833	177369	837721	5538539	18248889	2.50	10.0	50.0	200	1000
OCDD		AveID	52036	208726	961342	6596477	20297049	5.00	20.0	100	400	2000
OCDF		AveID	62285	244695	1205705	8287684	26390630	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTCDD	Ave	3248142	3059827	3267431	4635716	3706529	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTCDD	Ave	2546695	2255968	2421233	3741636	2999814	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTCDD	Ave	2885364	2652010	2995249	4279250	3515851	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTCDD	Ave	3307893	3067672	3605659	5037163	4084856	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTCDD	Ave	1713672	1615939	1767842	2607541	2222510	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHxCD	Ave	2330451	2200292	2480807	3555240	2766787	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHxCD	Ave	2218295	1978454	2178626	3226352	2629332	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHxCD	Ave	1991124	1877728	2089175	3098605	2426240	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHxCD	Ave	1850648	1680898	1885425	2726060	2120232	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHxCD	Ave	1830992	1640708	1760030	2750934	2176275	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHxCD	Ave	1973993	1754804	1930739	2693511	2017074	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHxCD	Ave	1422333	1314917	1416166	2299466	1696502	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHxCD	Ave	1418261	1280749	1413921	2232797	1572535	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF		AveID	1652819	1588136	1770500	2629404	1848147	100	100	100	100	100
13C-OCDD	13CHxCD	Ave	1988775	1830337	1946538	3156146	2134437	200	200	200	200	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Sacramento Job No.: 570-80421-2 Analy Batch No.: 558558

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/13/2022 17:16 Calibration End Date: 01/13/2022 20:27 Calibration ID: 58916

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
37Cl4-2,3,7,8-TCDD	13CT CDD	Ave	11578	48454	264027	1439023	5961456	0.500	2.00	10.0	40.0	200

Curve Type Legend
Ave = Average ISTD
AveID = Average isotope dilution

	File Name	SampleName	Sample ID	Position	Method/Matrix	Box	User	Sample Vol	Units
1	13JA22DFS1_1	Resolution Check	RC 011322	162			KSS	1.000	
2	13JA22DFS1_2	WDM HRDXNCP_00044	WDM 011322	1	Dioxin		KSS	1.000	
3	13JA22DFS1_3	SB Solvent Blank C14	SB 011322	3	Dioxin		KSS	1.000	
4	13JA22DFS1_4	IC CS2_HRDXNL2_00033	IC CS2_HRDXNL2_00033	4	DXN/ICAL	ICAL	KSS	1.000	
5	13JA22DFS1_5	IC CS3_HRDXNL3_00030	IC CS3_HRDXNL3_00030	5	DXN/ICAL		KSS	1.000	
6	13JA22DFS1_6	IC CS4_HRDXNL4_00105	IC CS4_HRDXNL4_00105	2	DXN/ICAL		KSS	1.000	
7	13JA22DFS1_7	IC CS5_HRDXNL5_00033	IC CS5_HRDXNL5_00033	6	DXN/ICAL		KSS	1.000	
8	13JA22DFS1_8	IC CS6_HRDXNL6_00030	IC CS6_HRDXNL6_00030	7	DXN/ICAL		KSS	1.000	
9	13JA22DFS1_9	SB Solvent Blank C14	SB 011322A	3	Dioxin		KSS	1.000	
10	13JA22DFS1_10	Resolution Check	RC 011322A	162			KSS	1.000	
11	13JA22DFS1_11	ICV HRDXNIC_00048	ICV HRDXNIC_00048	8	DXN/ICAL		KSS	1.000	
12	13JA22DFS1_12	Resolution Check	RC 011322B	162			KSS	1.000	

LOGFILE CHECKED
DB 1/13/22

Resolution Check Report (DFS SN: 3487)

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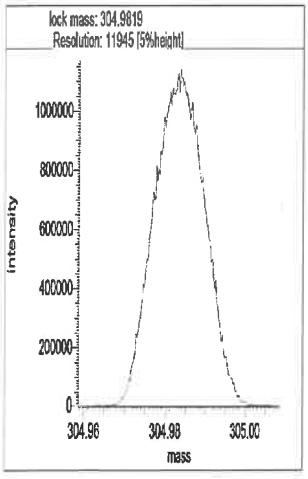
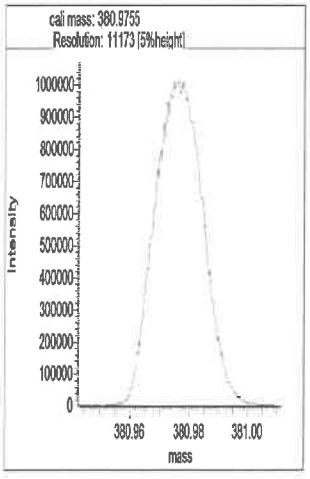
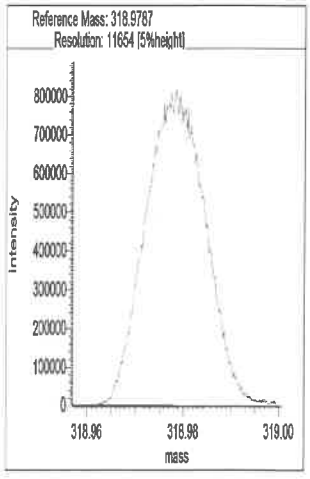
Date:	13 Jan 2022 14:53
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

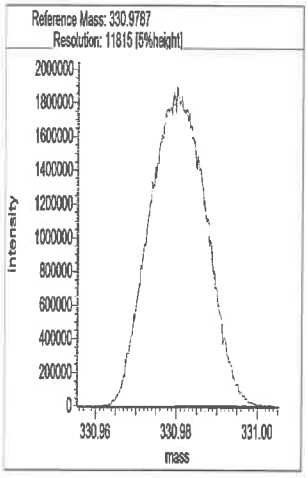
Segment 1

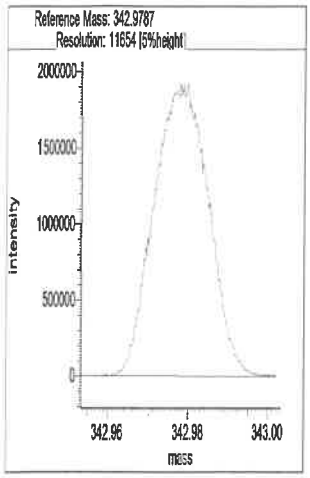
Lock mass 304.9819 [m/z] Resolution: 11945 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 11173 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 11654 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 11815 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 11654 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12000 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 10841 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 11014 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 11279 [5%height]

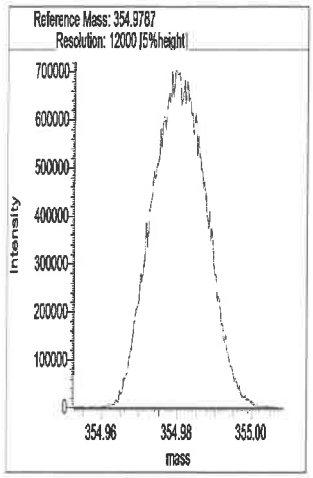


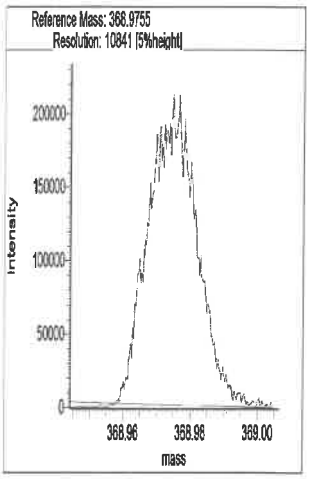


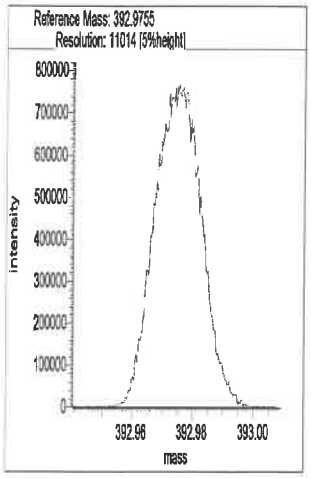


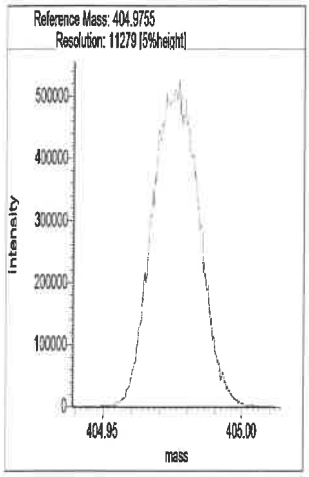












Segment 2

Lock mass 330.9787 [m/z] Resolution: 11758 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 11541 [5%height]

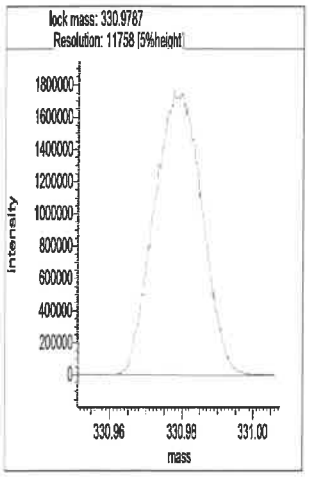
Ref. mass 342.9787 [m/z] Resolution: 11637 [5%height]

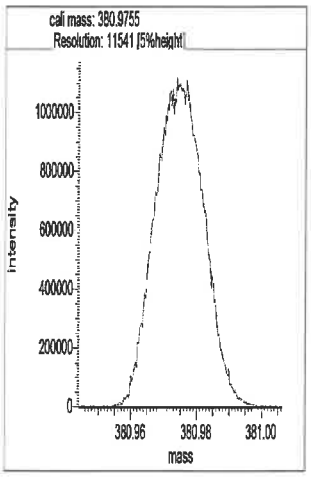
Ref. mass 354.9787 [m/z] Resolution: 11689 [5%height]

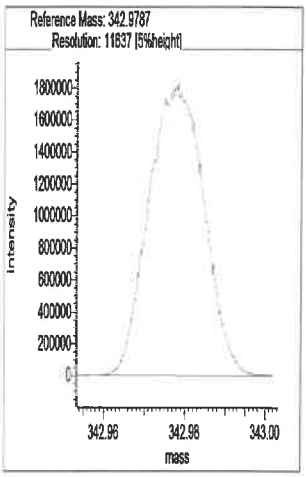
Ref. mass 368.9755 [m/z] Resolution: 11439 [5%height]

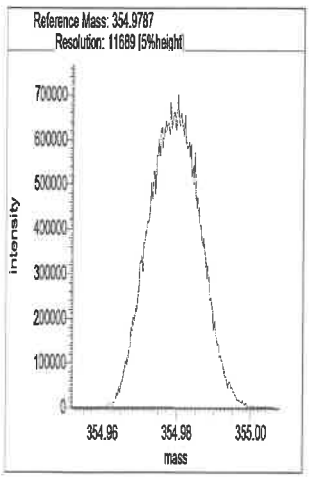
Ref. mass 392.9755 [m/z] Resolution: 11639 [5%height]

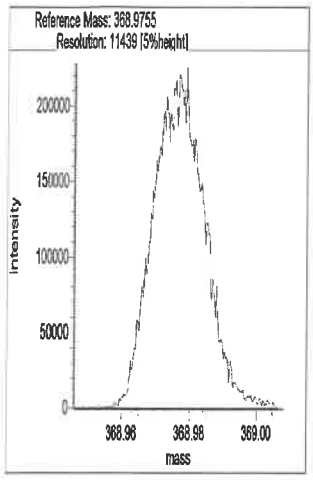
Ref. mass 404.9755 [m/z] Resolution: 11496 [5%height]

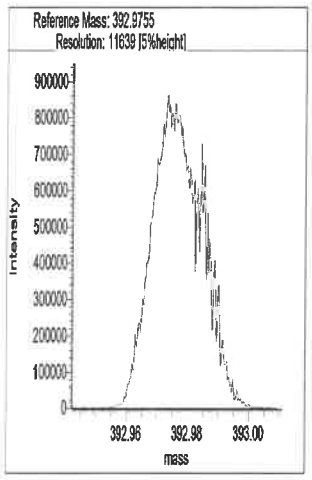


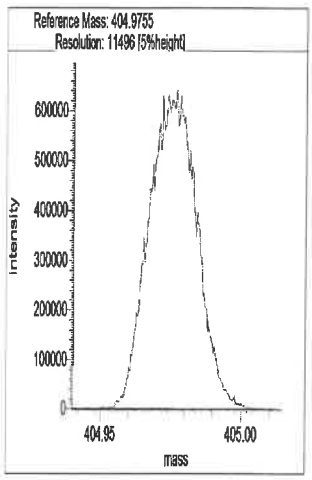












Segment 3

Lock mass 380.9755 [m/z] Resolution: 11760 [5%height]

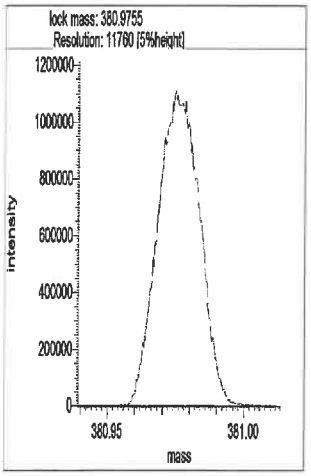
Cali. mass 430.9723 [m/z] Resolution: 11265 [5%height]

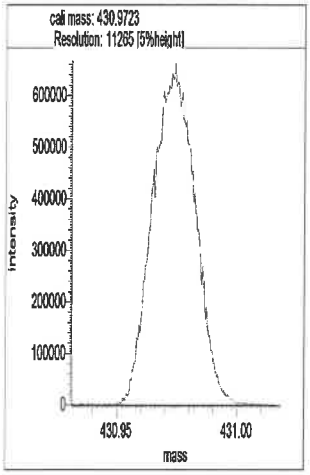
Ref. mass 392.9755 [m/z] Resolution: 11879 [5%height]

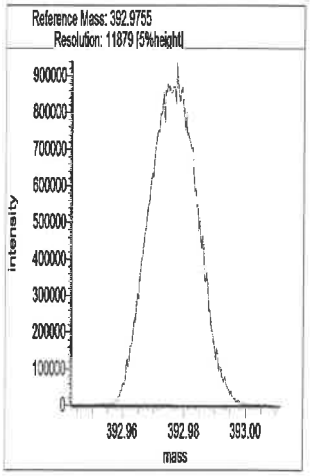
Ref. mass 404.9755 [m/z] Resolution: 11178 [5%height]

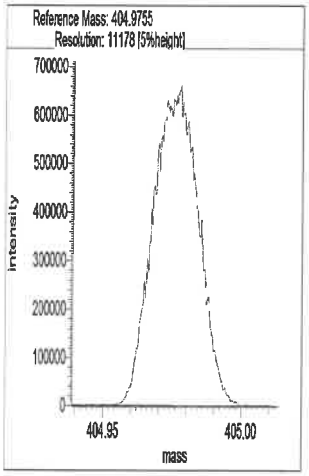
Ref. mass 416.9755 [m/z] Resolution: 11511 [5%height]

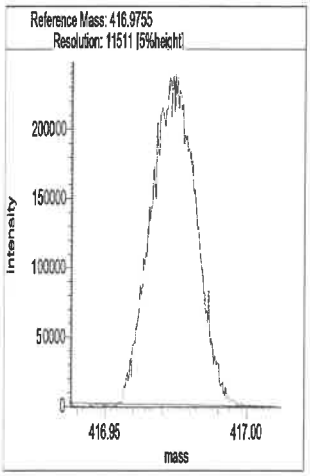
Ref. mass 442.9723 [m/z] Resolution: 11595 [5%height]

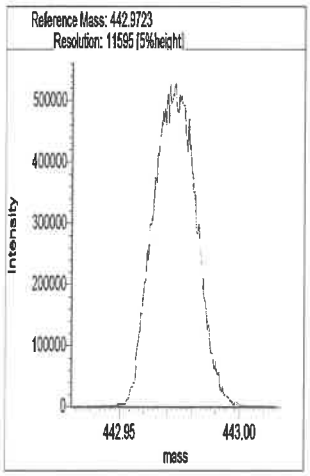












Segment 4

Lock mass 392.9754 [m/z] Resolution: 11655 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 10902 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 11791 [5%height]

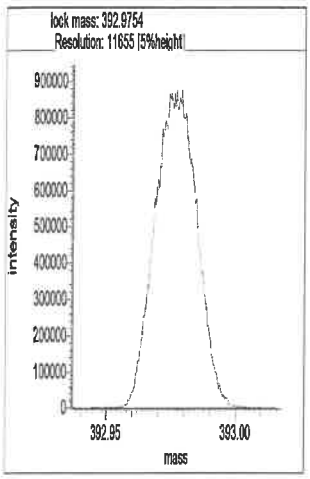
Ref. mass 416.9755 [m/z] Resolution: 11806 [5%height]

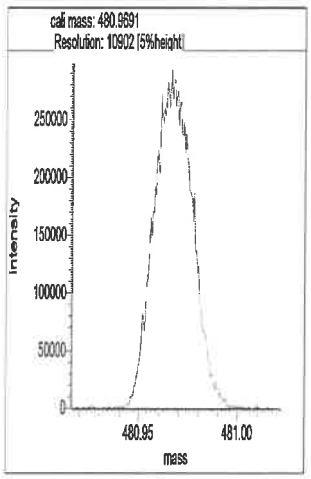
Ref. mass 430.9723 [m/z] Resolution: 11619 [5%height]

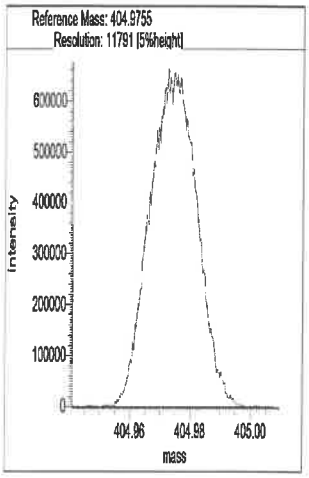
Ref. mass 442.9723 [m/z] Resolution: 11241 [5%height]

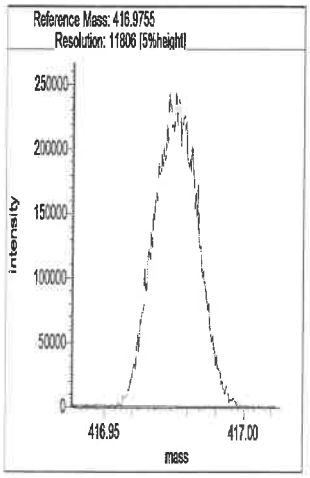
Ref. mass 454.9723 [m/z] Resolution: 11313 [5%height]

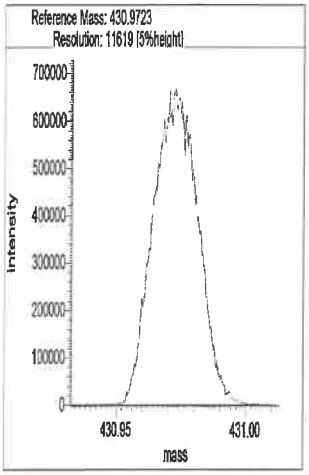
Ref. mass 466.9723 [m/z] Resolution: 11557 [5%height]

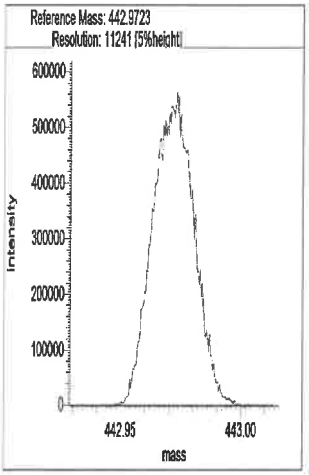


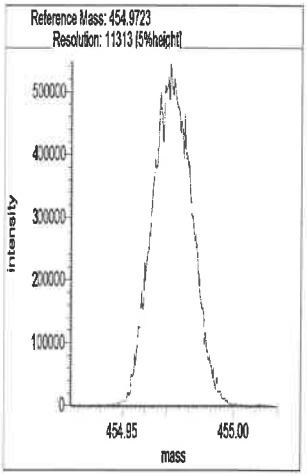


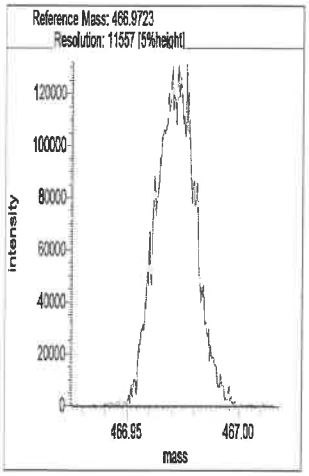












Segment 5

Lock mass 442.9723 [m/z] Resolution: 11704 [5%height]

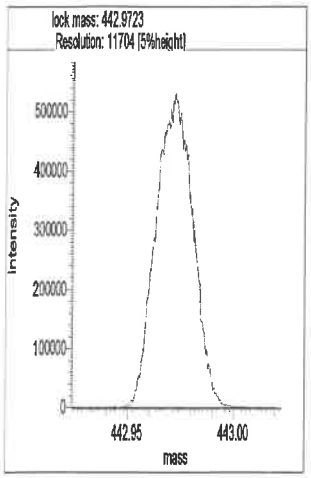
Cali. mass 504.9691 [m/z] Resolution: 11840 [5%height]

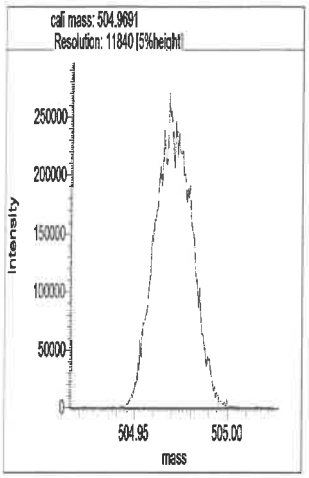
Ref. mass 454.9723 [m/z] Resolution: 11887 [5%height]

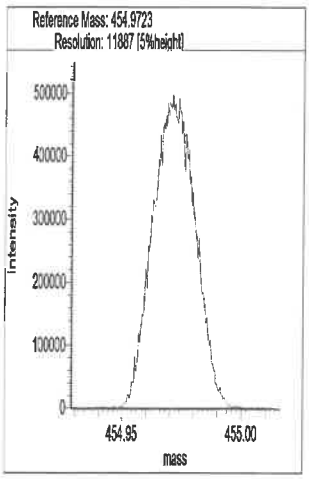
Ref. mass 466.9723 [m/z] Resolution: 11791 [5%height]

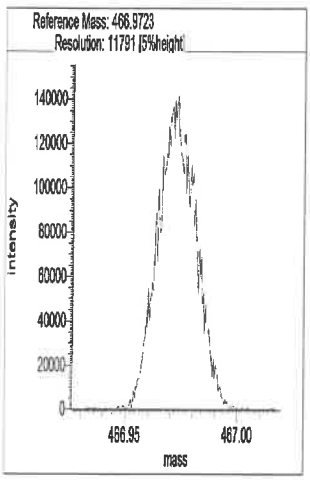
Ref. mass 480.9691 [m/z] Resolution: 11688 [5%height]

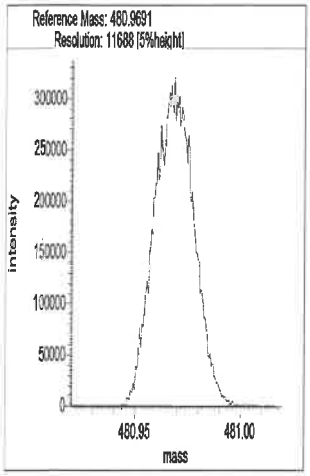
Ref. mass 492.9691 [m/z] Resolution: 11415 [5%height]

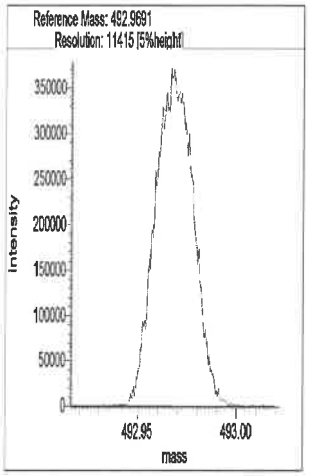

lock mass: 442.9723
Resolution: 11704 [5%height]
Intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 11840 [5%height]
Intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 11887 [5%height]
Intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 11791 [5%height]
Intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 11688 [5%height]
Intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 11415 [5%height]
Intensity
mass
492.95
493.00

Resolution Check Report (DFS SN: 3487)

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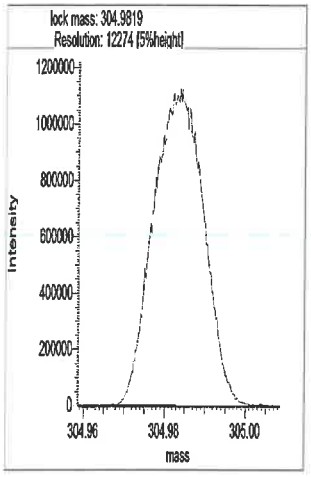
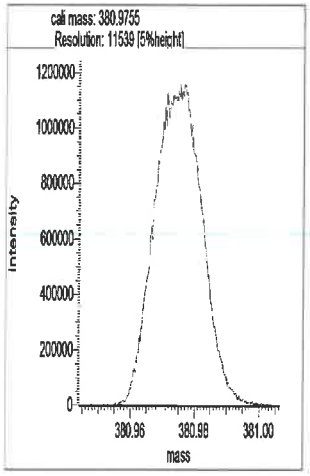
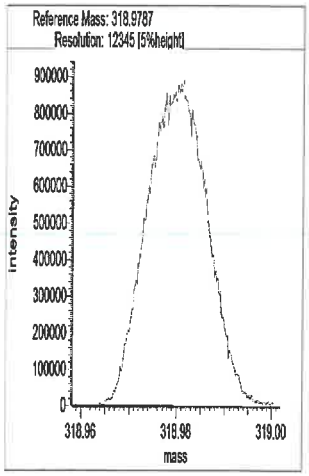
Date:	13 Jan 2022 22:03
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

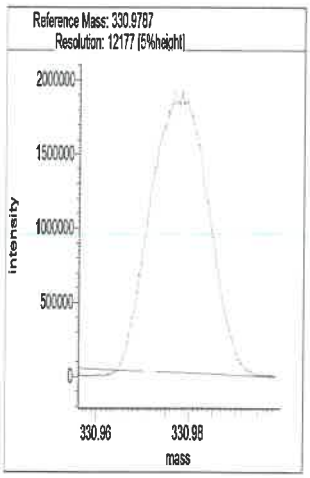
Segment 1

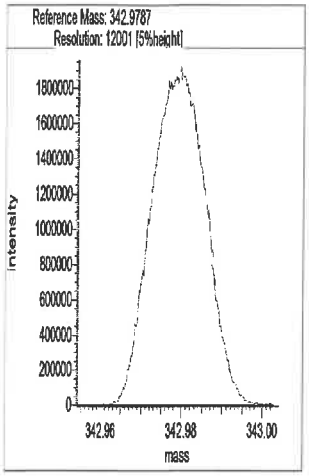
Lock mass 304.9819 [m/z] Resolution: 12274 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 11539 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 12345 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 12177 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 12001 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12224 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 10774 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 11714 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 11559 [5%height]

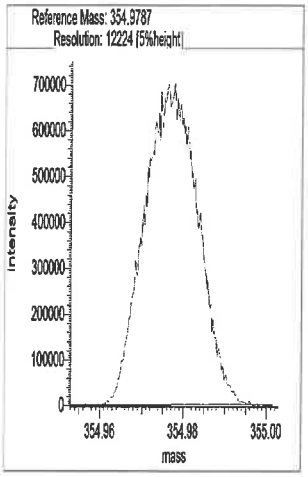


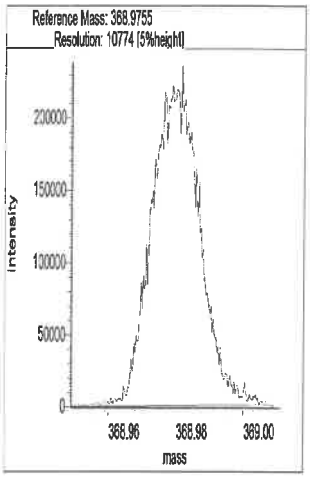


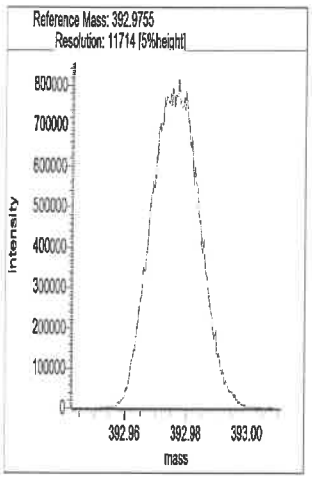


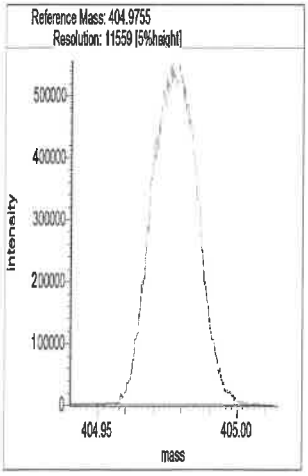












Segment 2

Lock mass 330.9787 [m/z] Resolution: 12328 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 11926 [5%height]

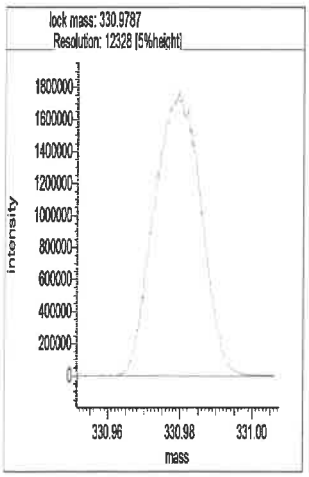
Ref. mass 342.9787 [m/z] Resolution: 11954 [5%height]

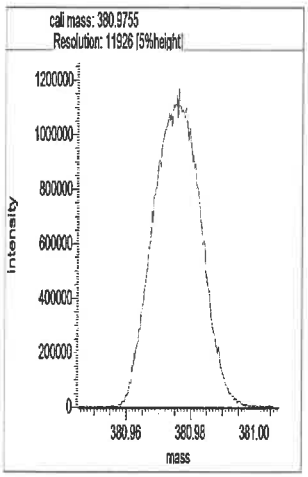
Ref. mass 354.9787 [m/z] Resolution: 12114 [5%height]

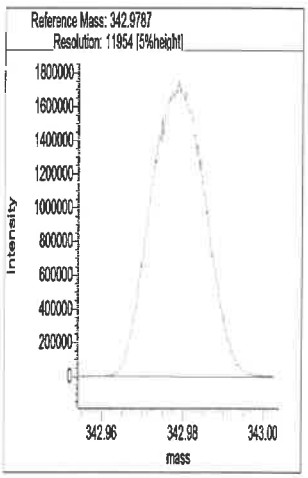
Ref. mass 368.9755 [m/z] Resolution: 11471 [5%height]

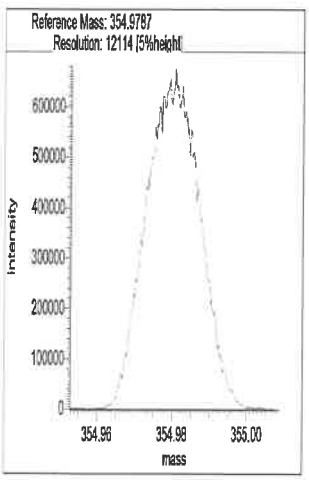
Ref. mass 392.9755 [m/z] Resolution: 11692 [5%height]

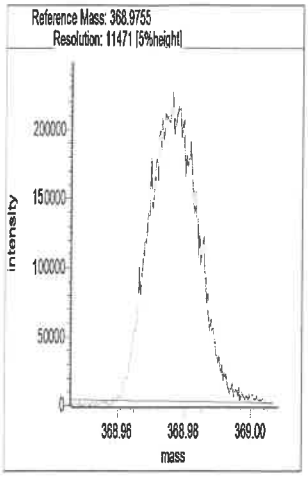
Ref. mass 404.9755 [m/z] Resolution: 11896 [5%height]

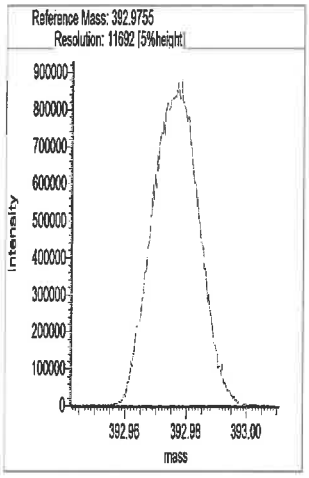


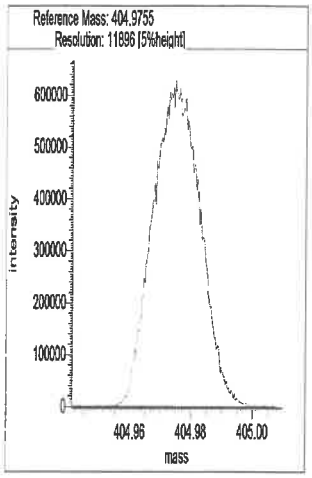












Segment 3

Lock mass 380.9755 [m/z] Resolution: 12157 [5%height]

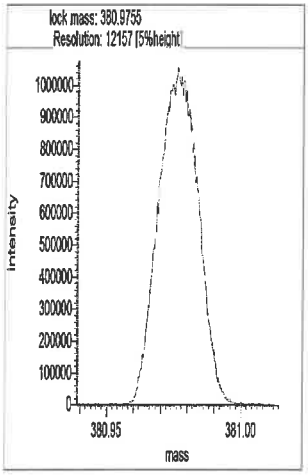
Cali. mass 430.9723 [m/z] Resolution: 12163 [5%height]

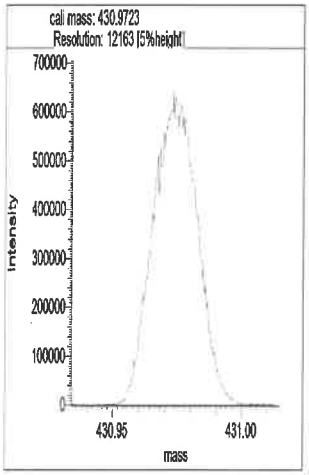
Ref. mass 392.9755 [m/z] Resolution: 12442 [5%height]

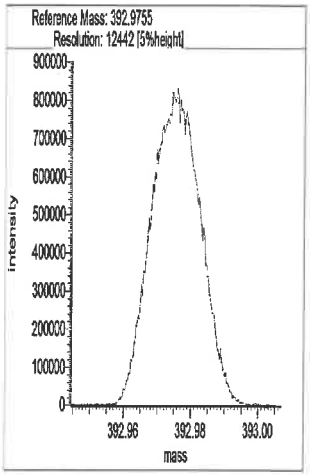
Ref. mass 404.9755 [m/z] Resolution: 12238 [5%height]

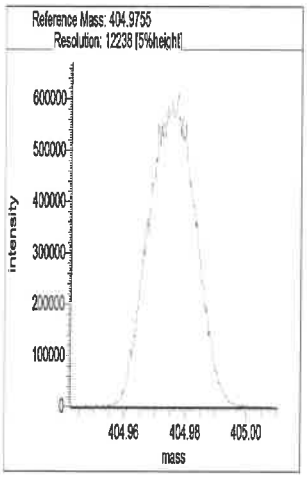
Ref. mass 416.9755 [m/z] Resolution: 12284 [5%height]

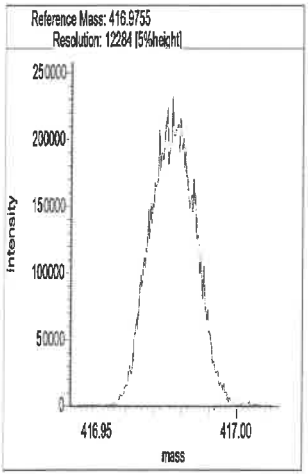
Ref. mass 442.9723 [m/z] Resolution: 11908 [5%height]

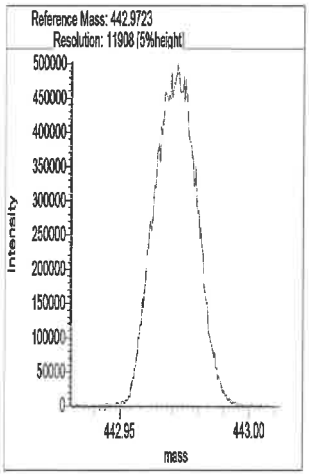












Segment 4

Lock mass 392.9754 [m/z] Resolution: 12320 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 11914 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 11992 [5%height]

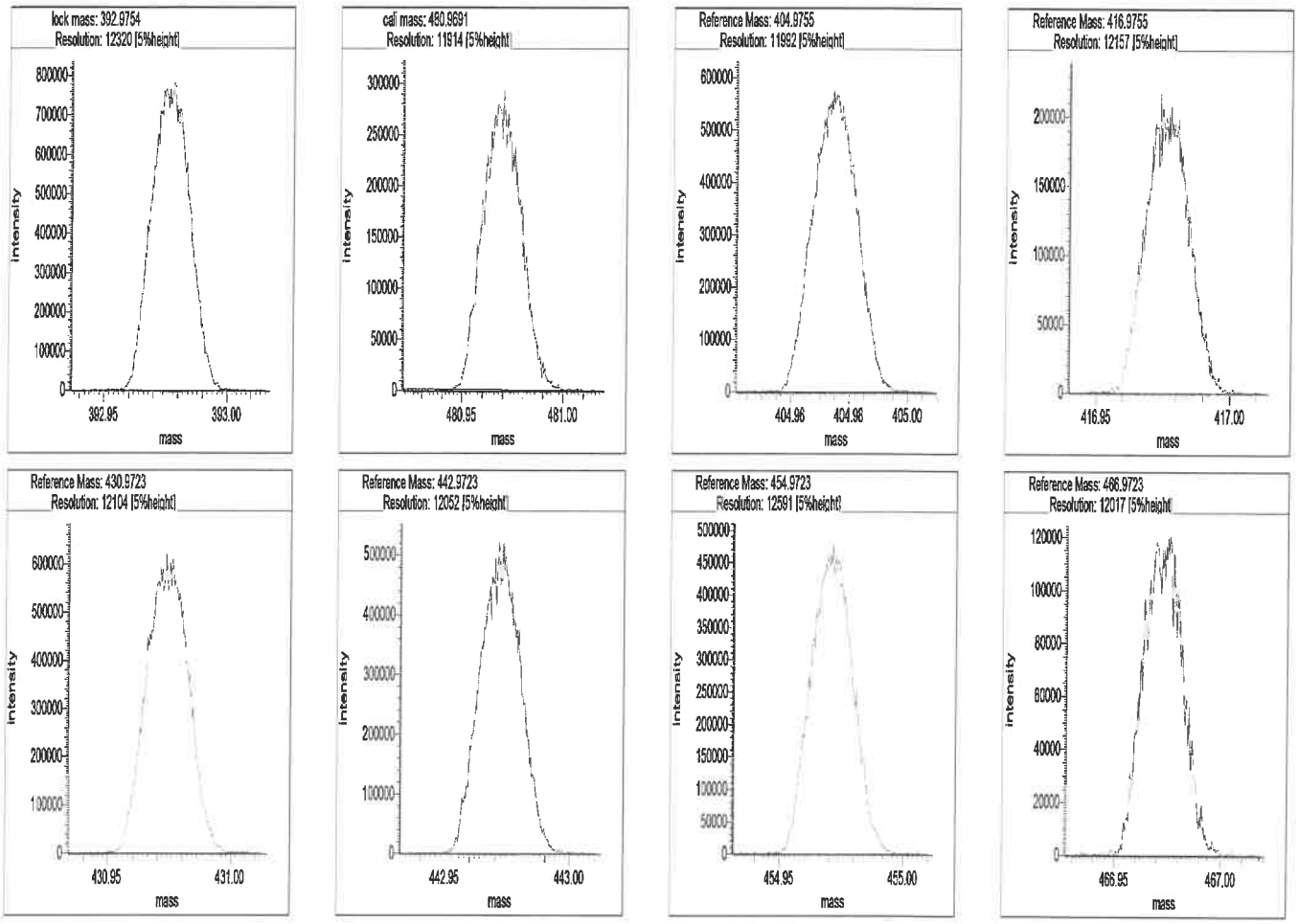
Ref. mass 416.9755 [m/z] Resolution: 12157 [5%height]

Ref. mass 430.9723 [m/z] Resolution: 12104 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12052 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12591 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12017 [5%height]



Segment 5

Lock mass 442.9723 [m/z] Resolution: 12749 [5%height]

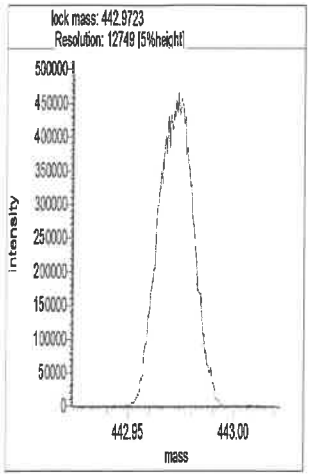
Cali. mass 504.9691 [m/z] Resolution: 12310 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12360 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12632 [5%height]

Ref. mass 480.9691 [m/z] Resolution: 12356 [5%height]

Ref. mass 492.9691 [m/z] Resolution: 12361 [5%height]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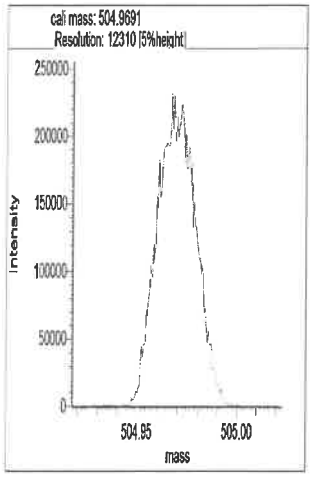
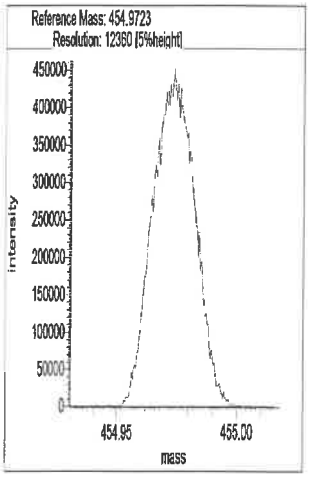
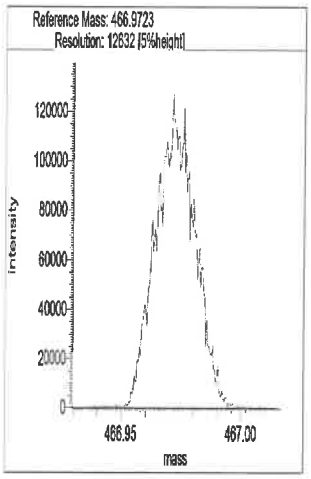
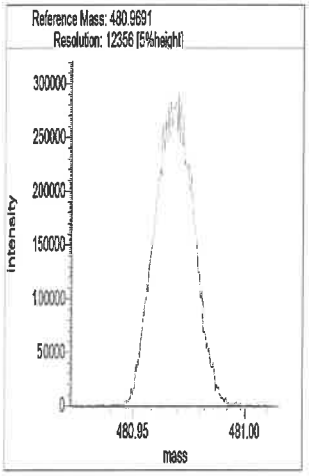
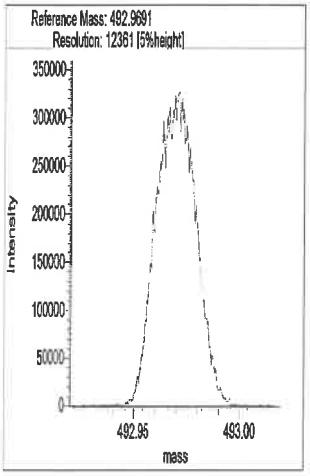
Resolution: 12749 [5%height]
intensity
mass
442.95
443.00


cal mass: 504.9691
Resolution: 12310 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 12360 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 12632 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 12356 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 12361 [5%height]
intensity
mass
492.95
493.00

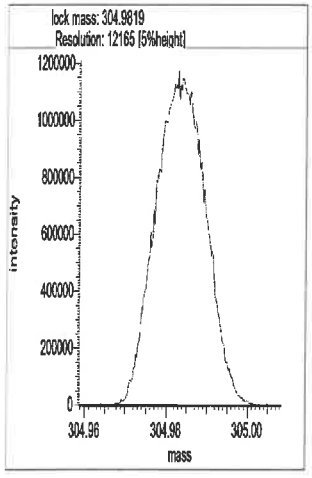
Resolution Check Report (DFS SN: 3487)

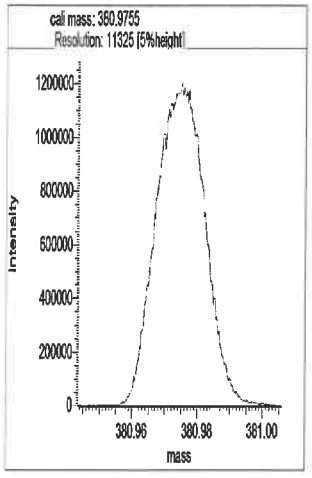
eurofins | Environment Testing TestAmerica

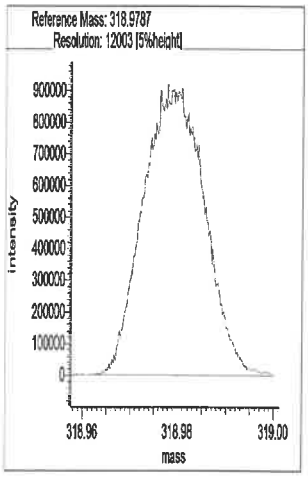
Date:	13 Jan 2022 23:08
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

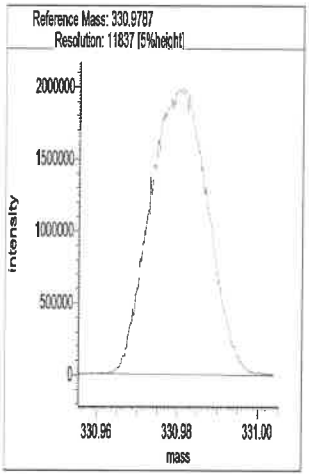
Segment 1

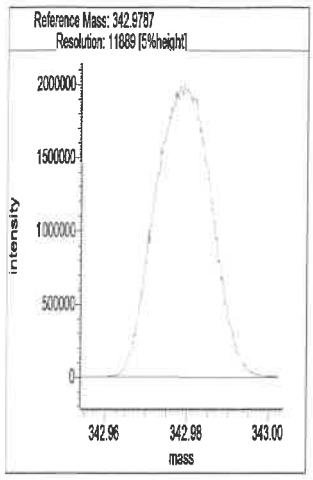
Lock mass 304.9819 [m/z] Resolution: 12165 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 11325 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 12003 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 11837 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 11889 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12167 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 10677 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 11712 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 11610 [5%height]

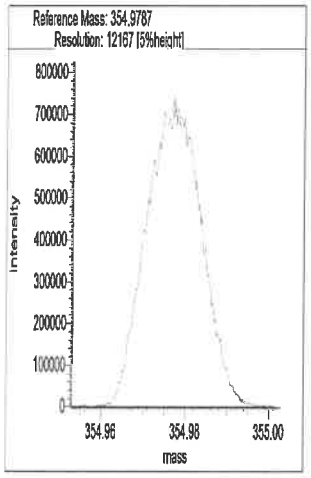


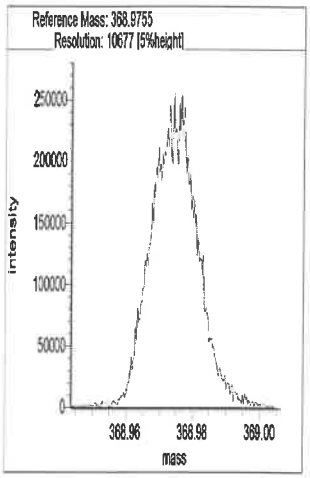


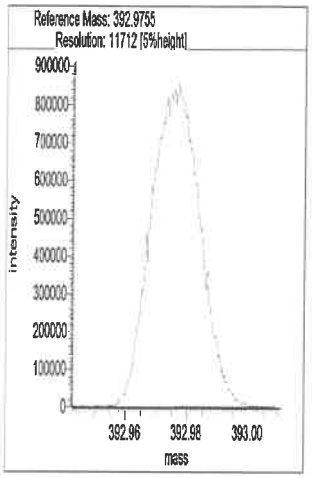


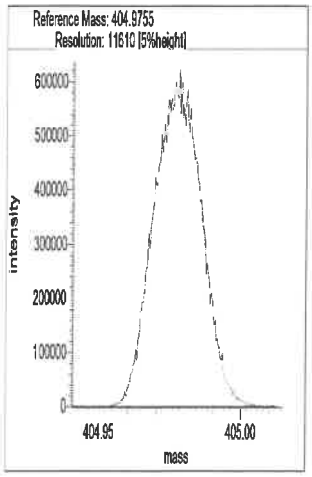












Segment 2

Lock mass 330.9787 [m/z] Resolution: 12243 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 11764 [5%height]

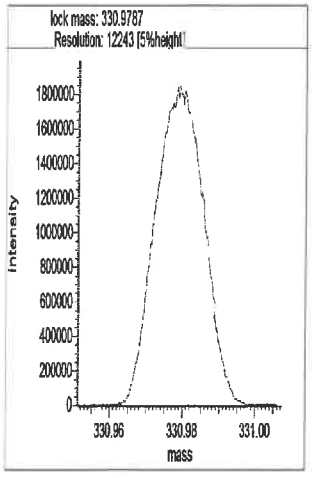
Ref. mass 342.9787 [m/z] Resolution: 11839 [5%height]

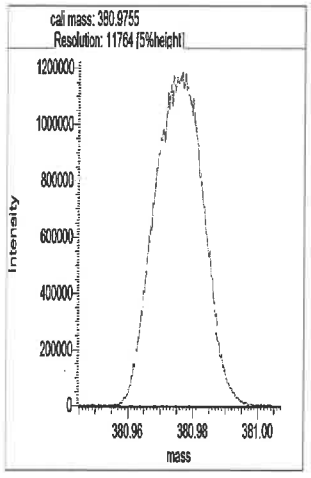
Ref. mass 354.9787 [m/z] Resolution: 11843 [5%height]

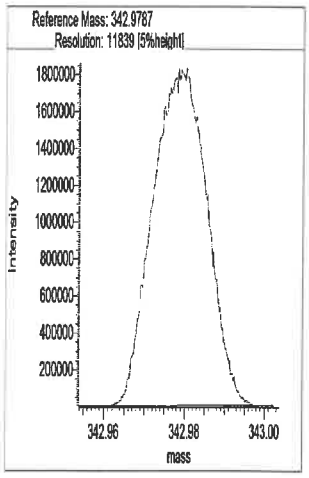
Ref. mass 368.9755 [m/z] Resolution: 11368 [5%height]

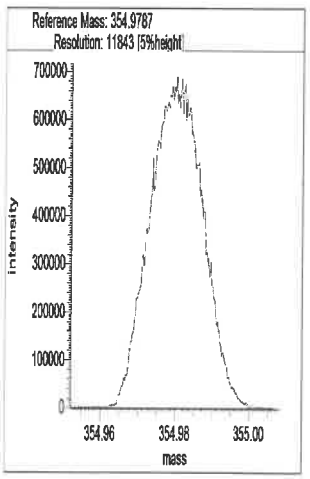
Ref. mass 392.9755 [m/z] Resolution: 11639 [5%height]

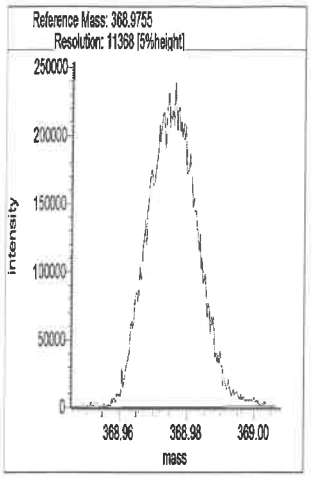
Ref. mass 404.9755 [m/z] Resolution: 11958 [5%height]

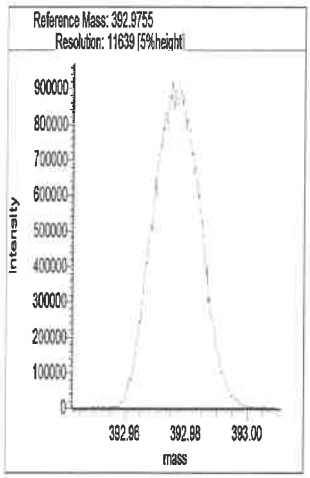


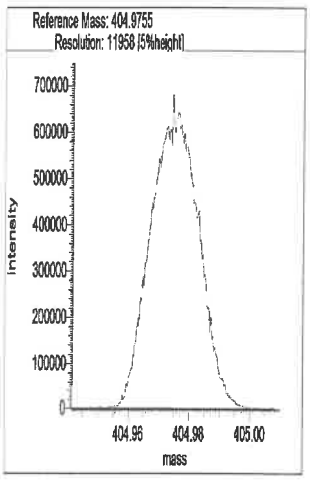












Segment 3

Lock mass 380.9755 [m/z] Resolution: 12009 [5%height]

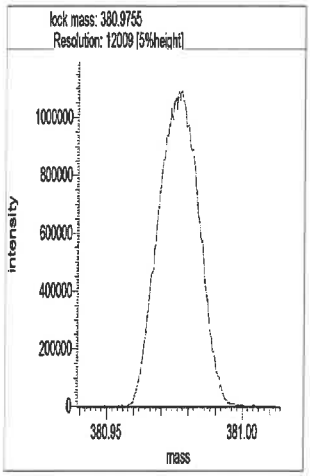
Cali. mass 430.9723 [m/z] Resolution: 11946 [5%height]

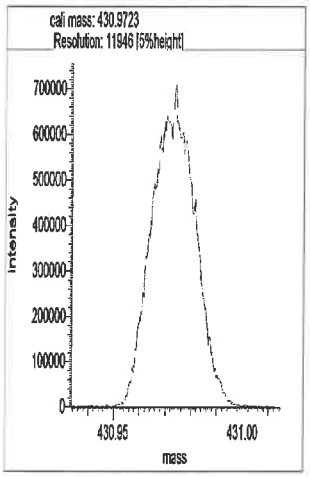
Ref. mass 392.9755 [m/z] Resolution: 12095 [5%height]

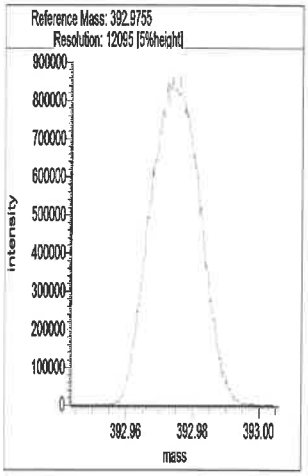
Ref. mass 404.9755 [m/z] Resolution: 12005 [5%height]

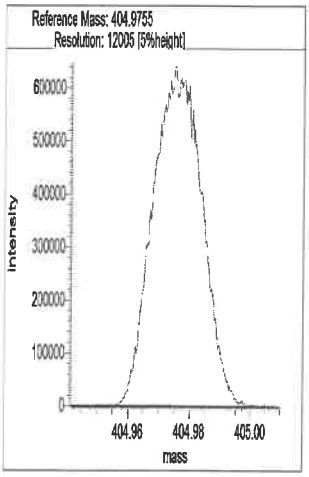
Ref. mass 416.9755 [m/z] Resolution: 12127 [5%height]

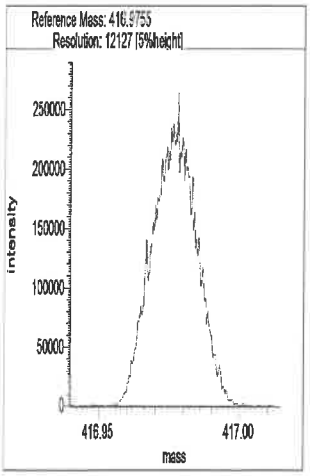
Ref. mass 442.9723 [m/z] Resolution: 11997 [5%height]

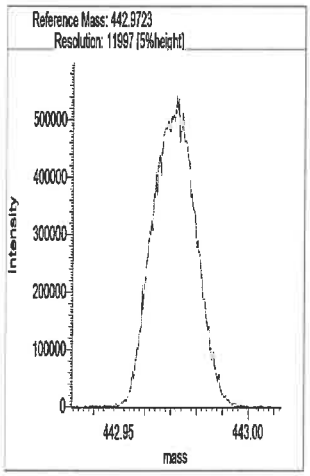












Segment 4

Lock mass 392.9754 [m/z] Resolution: 12028 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 11662 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12187 [5%height]

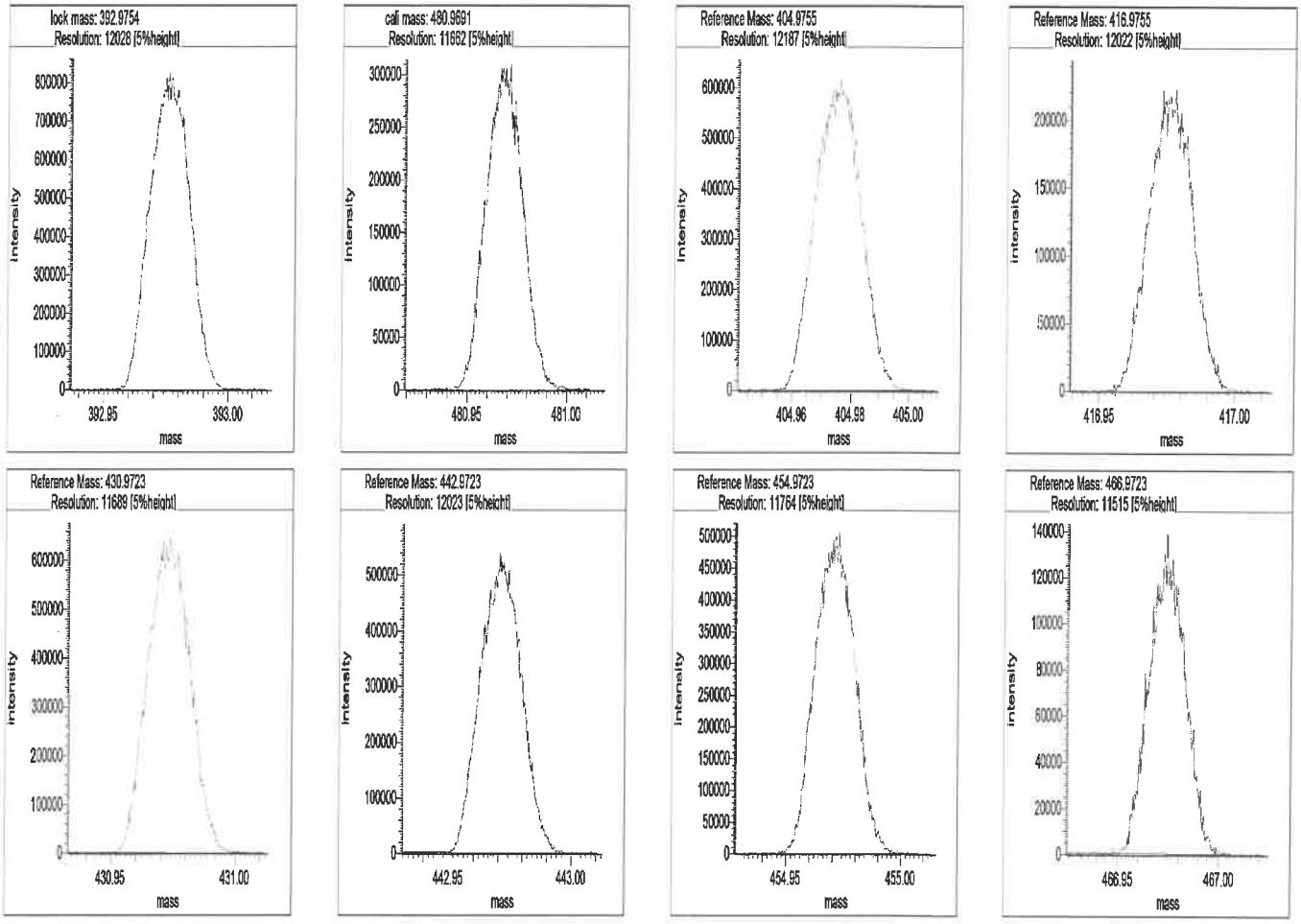
Ref. mass 416.9755 [m/z] Resolution: 12022 [5%height]

Ref. mass 430.9723 [m/z] Resolution: 11689 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12023 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 11764 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 11515 [5%height]



Segment 5

Lock mass 442.9723 [m/z] Resolution: 12180 [5%height]

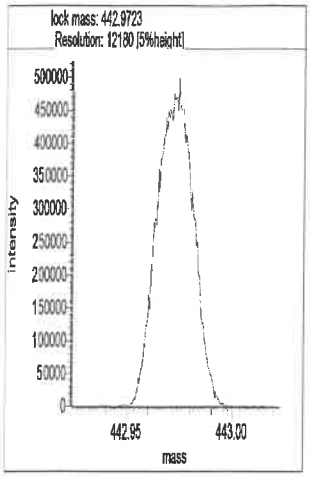
Cali. mass 504.9691 [m/z] Resolution: 12007 [5%height]

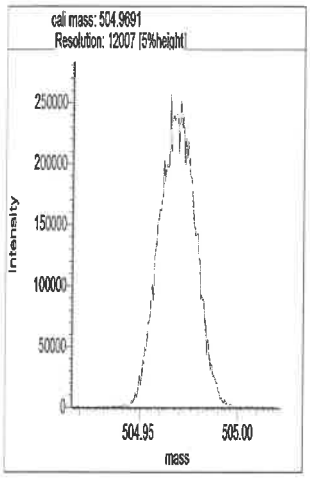
Ref. mass 454.9723 [m/z] Resolution: 11937 [5%height]

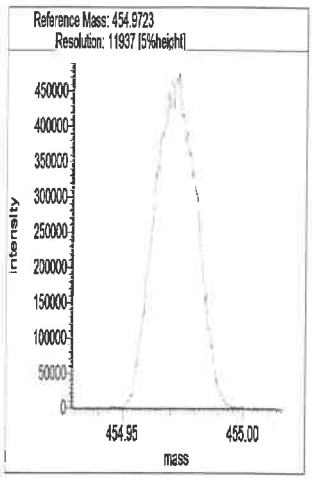
Ref. mass 466.9723 [m/z] Resolution: 12599 [5%height]

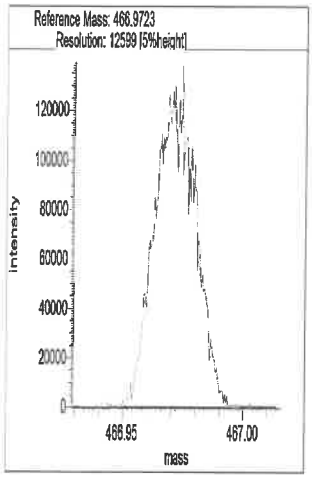
Ref. mass 480.9691 [m/z] Resolution: 11944 [5%height]

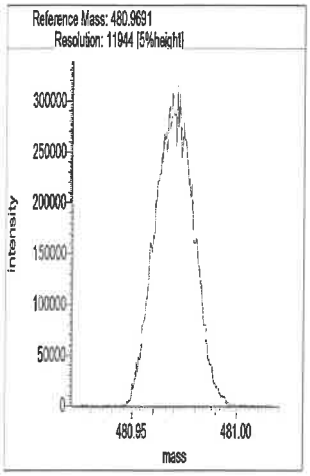
Ref. mass 492.9691 [m/z] Resolution: 12145 [5%height]

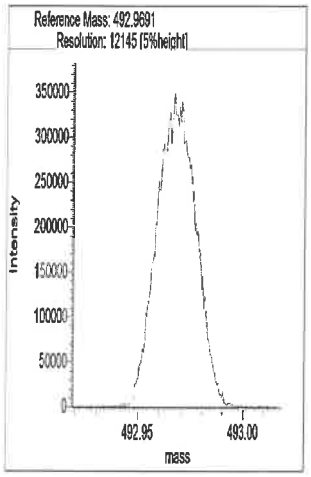

lock mass: 442.9723
Resolution: 12180 [5%height]
intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 12007 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 11937 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 12599 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 11944 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 12145 [5%height]
intensity
mass
492.95
493.00

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Jan-2022 17:16:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS2_HRDXNL2_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:33 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:48:30

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.403	3175076	0.81	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.475	3248142	0.80	1.0164	100.7	100.7	0.6374	0.6374	101	
2,3,7,8-TCDF	19.535	15782	0.70	1.0120	0.4801	0.4801	0.0197	0.0197	96.03	M
S Total TCDF					0.4801	0.4801	0.0197	0.0197		
D 13C-2,3,7,8-TCDD	20.763	2546695	0.76	0.7884	101.7	101.7	0.4013	0.4013	102	
$ 37Cl4-2,3,7,8-TCDD	20.746	11578		0.7911	0.4609	0.4609	0.007048	0.007048	92.19	M
2,3,7,8-TCDD	20.815	13454	0.68	0.9906	0.5333	0.5333	0.0363	0.0363	107	M
S Total TCDD					0.5333	0.5333	0.0363	0.0363		
D 13C-1,2,3,7,8-PeCDF	26.462	2885364	1.60	0.9232	98.4	98.4	0.5955	0.5955	98.44	
1,2,3,7,8-PeCDF	26.488	72427	1.50	0.9756	2.573	2.573	0.0471	0.0471	103	
D 13C-2,3,4,7,8-PeCDF	27.927	3307893	1.58	1.0793	96.5	96.5	0.5094	0.5094	96.53	
2,3,4,7,8-PeCDF	27.952	66501	1.54	0.9215	2.501	2.501	0.0499	0.0499	100	
S Total PeCDF					5.074	5.074	0.0485	0.0485		
D 13C-1,2,3,7,8-PeCDD	28.718	1713672	1.66	0.5606	96.3	96.3	0.6160	0.6160	96.28	
1,2,3,7,8-PeCDD	28.744	44715	1.45	1.0020	2.604	2.604	0.0399	0.0399	104	
S Total PeCDD					2.604	2.604	0.0399	0.0399		
D 13C-1,2,3,4,7,8-HxCDF	34.330	2330451	0.53	1.0566	92.9	92.9	0.4645	0.4645	92.94	
1,2,3,4,7,8-HxCDF	34.347	53675	1.41	0.8835	2.607	2.607	0.0420	0.0420	104	
D 13C-1,2,3,6,7,8-HxCDF	34.499	2218295	0.52	0.9686	96.5	96.5	0.5067	0.5067	96.51	
1,2,3,6,7,8-HxCDF	34.533	60204	1.25	1.0287	2.511	2.511	0.0360	0.0360	100	M
D 13C-2,3,4,6,7,8-HxCDF	35.392	1991124	0.50	0.9084	92.4	92.4	0.5402	0.5402	92.36	
2,3,4,6,7,8-HxCDF	35.409	59609	1.27	0.9878	2.589	2.589	0.0375	0.0375	104	
D 13C-1,2,3,7,8,9-HxCDF	36.343	1973993	0.52	0.8248	100.9	100.9	0.5950	0.5950	101	
1,2,3,7,8,9-HxCDF	36.360	60795	1.36	0.9071	2.876	2.876	0.0409	0.0409	115	
S Total HxCDF					10.6	10.6	0.0391	0.0391		
* 13C-1,2,3,7,8,9-HxCDD	36.141	2373168	1.29	2.5E+04	100.0	100.0				a
D 13C-1,2,3,4,7,8-HxCDD	35.628	1850648	1.30	0.8133	95.9	95.9	0.4183	0.4183	95.88	
1,2,3,4,7,8-HxCDD	35.636	40085	1.28	0.8294	2.640	2.640	0.0485	0.0485	106	
D 13C-1,2,3,6,7,8-HxCDD	35.762	1830992	1.27	0.8027	96.1	96.1	0.4238	0.4238	96.12	
1,2,3,6,7,8-HxCDD	35.771	44161	1.29	0.9395	2.567	2.567	0.0428	0.0428	103	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.166	44229	1.29	0.9076	2.661	2.661	0.0443	0.0443	106	
S Total HxCDD					7.868	7.868	0.0452	0.0452		
D 13C-1,2,3,4,6,7,8-HpCDF	38.267	1422333	0.46	0.6421	93.3	93.3	0.7453	0.7453	93.34	
1,2,3,4,6,7,8-HpCDF	38.275	54723	1.05	1.4385	2.675	2.675	0.0359	0.0359	107	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.547	1652819	0.46	1.1706	99.3	99.3	0.5269	0.5269	99.27	
1,2,3,4,7,8,9-HpCDF	39.564	45833	0.97	1.2202	2.641	2.641	0.0423	0.0423	106	
S Total HpCDF					5.315	5.315	0.0391	0.0391		
D 13C-1,2,3,4,6,7,8-HpCDD	39.244	1418261	1.11	0.6246	95.7	95.7	0.4479	0.4479	95.68	
1,2,3,4,6,7,8-HpCDD	39.252	34176	1.07	0.9767	2.467	2.467	0.0336	0.0336	98.69	M
S Total HpCDD					2.467	2.467	0.0336	0.0336		
D 13C-OCDD	41.716	1988775	0.90	0.4360	192.2	192.2	0.2193	0.2193	96.10	
OCDF	41.801	62285	0.84	1.2756	4.911	4.911	0.0701	0.0701	98.21	
OCDD	41.716	52036	0.93	1.0341	5.060	5.060	0.0570	0.0570	101	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

HRDXNL2_00033 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Jan-2022 17:16:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS2_HRDXNL2_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:33 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:48:30

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.403	20.418	-1		1418973	216166	438	1095	494		
333.9338	20.403	20.418	-1		1756103	268038	175	437	1532	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.475	19.485	-1	0.955	1443034	216371	895	2237	242		
317.9389	19.475	19.485	-1	0.955	1805108	269537	360	900	749	0.80(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	19.535	19.520	1	1.003	6494	1031	2	5	516		M
305.8987	19.509	19.520	-1	1.002	9288	1613	37	92	44	0.70(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.763	20.784	-1	1.018	1098943	152009	438	1095	347		
333.9338	20.755	20.784	-2	1.017	1447752	187404	175	437	1071	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											M
327.8847	20.746	20.809	-4	1.017	11578	1635	11	27	149		M
2,3,7,8-TCDD											M
319.8965	20.815	20.821	0	1.002	5433	1090	46	115	24		M
321.8936	20.781	20.821	-2	1.001	8021	1399	3	7	466	0.68(0.65-0.89)	M
13C-1,2,3,7,8-PeCDF											
351.9000	26.462	26.498	-2	1.297	1775887	282975	639	1597	443		
353.8970	26.471	26.498	-2	1.297	1109477	173725	426	1065	408	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.488	26.518	-2	1.001	43451	7564	19	47	398		
341.8567	26.496	26.518	-1	1.001	28976	4858	65	162	75	1.50(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.927	27.961	-2	1.369	2026454	311437	639	1597	487		
353.8970	27.910	27.961	-3	1.368	1281439	195040	426	1065	458	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.952	27.984	-2	1.001	40343	5845	19	47	308		
341.8567	27.944	27.984	-2	1.001	26158	3870	65	162	60	1.54(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.718	28.754	-2	1.408	1068718	157321	267	667	589		
369.8919	28.727	28.754	-2	1.408	644954	92516	402	1005	230	1.66(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.744	28.781	-2	1.001	26497	3846	36	90	107		
357.8516	28.727	28.781	-3	1.000	18218	2794	4	10	699	1.45(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.330	34.357	-2	0.950	806530	152291	240	600	635		
385.8610	34.330	34.357	-2	0.950	1523921	284773	725	1812	393	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.347	34.374	-2	1.000	31386	5992	36	90	166		
375.8178	34.347	34.374	-2	1.000	22289	4362	29	72	150	1.41(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.499	34.533	-2	0.955	755098	125689	240	600	524		
385.8610	34.507	34.533	-2	0.955	1463197	252368	725	1812	348	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											M
373.8208	34.533	34.553	-1	1.001	33417	5945	36	90	165		
375.8178	34.516	34.553	-2	1.000	26787	4566	29	72	157	1.25(1.05-1.43)	M
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.392	35.421	-2	0.979	668092	142453	240	600	594		
385.8610	35.392	35.421	-2	0.979	1323032	280885	725	1812	387	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.409	35.438	-2	1.000	33347	6226	36	90	173		
375.8178	35.400	35.438	-2	1.000	26262	5282	29	72	182	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.343	36.366	-1	1.006	678481	134666	240	600	561		
385.8610	36.335	36.366	-2	1.005	1295512	269536	725	1812	372	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.360	36.385	-1	1.000	35055	6908	36	90	192		
375.8178	36.352	36.385	-2	1.000	25740	6024	29	72	208	1.36(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											a
401.8559	36.141	36.172	-2		1337014	273967	343	857	799		a
403.8529	36.150	36.172	-1		1036154	217530	326	815	667	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.628	35.661	-2	0.986	1047592	240733	343	857	702		
403.8529	35.628	35.661	-2	0.986	803056	183537	326	815	563	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.636	35.676	-2	1.000	22487	4851	36	90	135		
391.8127	35.644	35.676	-2	1.000	17598	3902	24	60	163	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.762	35.787	-1	0.990	1025672	205606	343	857	599		
403.8529	35.762	35.787	-1	0.990	805320	167324	326	815	513	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.771	35.802	-2	1.000	24874	4851	36	90	135		
391.8127	35.779	35.802	-1	1.000	19287	3814	24	60	159	1.29(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.166	36.191	-1	1.015	24877	5132	36	90	143		
391.8127	36.150	36.191	-2	1.015	19352	4129	24	60	172	1.29(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.267	38.287	-1	1.059	446250	114956	456	1140	252		
419.8220	38.258	38.287	-2	1.059	976083	266385	485	1212	549	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.275	38.299	-1	1.000	28009	7326	55	137	133		
409.7788	38.275	38.299	-1	1.000	26714	6821	24	60	284	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.547	39.570	-1	1.094	519555	148439	456	1140	326		
419.8220	39.547	39.570	-1	1.094	1133264	315731	485	1212	651	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.564	39.584	-1	1.000	22607	6235	55	137	113		
409.7788	39.556	39.584	-2	1.000	23226	6449	24	60	269	0.97(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.244	39.269	-1	1.086	745431	199441	307	767	650		
437.8140	39.244	39.269	-1	1.086	672830	187560	243	607	772	1.11(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7767	39.252	39.277	-2	1.000	17705	4725	31	77	152		
425.7737	39.261	39.277	-1	1.000	16471	4031	20	50	202	1.07(0.88-1.20)	M
13C-OCDD											
469.7780	41.716	41.743	-2	1.154	939619	225092	127	317	1772		
471.7750	41.716	41.743	-2	1.154	1049156	267162	61	152	4380	0.90(0.76-1.02)	
OCDF											
441.7428	41.801	41.826	-2	1.002	28499	7710	34	85	227		
443.7399	41.801	41.826	-2	1.002	33786	8595	54	135	159	0.84(0.76-1.02)	
OCDD											
457.7377	41.716	41.748	-2	1.000	25102	6412	27	67	237		
459.7348	41.725	41.748	-1	1.000	26934	6330	31	77	204	0.93(0.76-1.02)	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

HRDXNL2_00033 Amount Added: 1.00 Units: ml

Manual Integration/User Assign Peak Report

Eurofins Sacramento

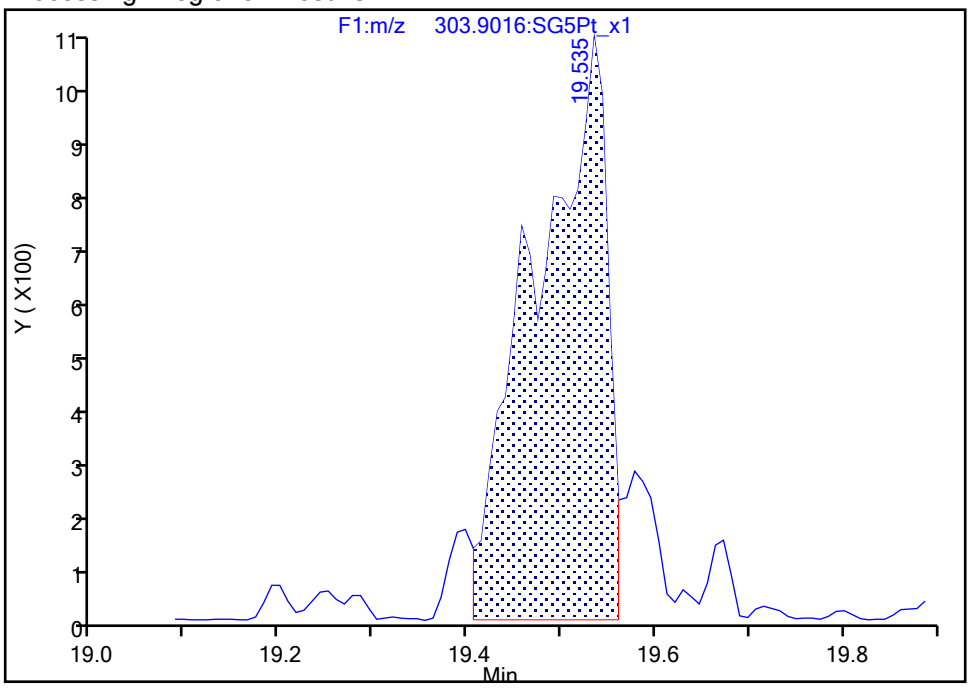
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

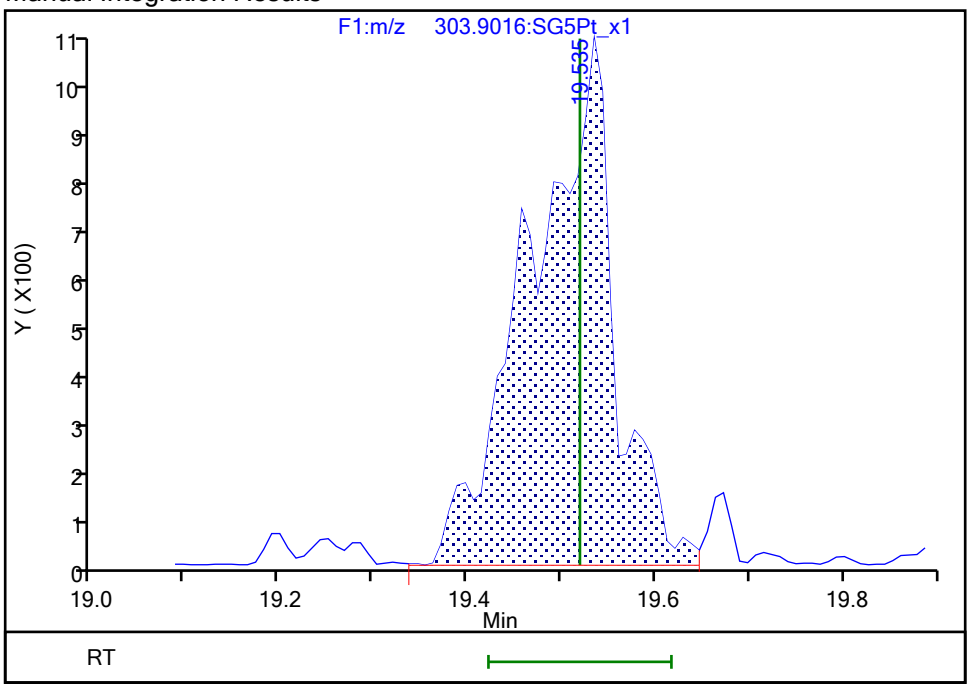
Processing Integration Results

RT: 19.53
Area: 5497
Amount: 0.455324
Amount Units: pg/ul



Manual Integration Results

RT: 19.53
Area: 6494
Amount: 0.480131
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:09:30
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

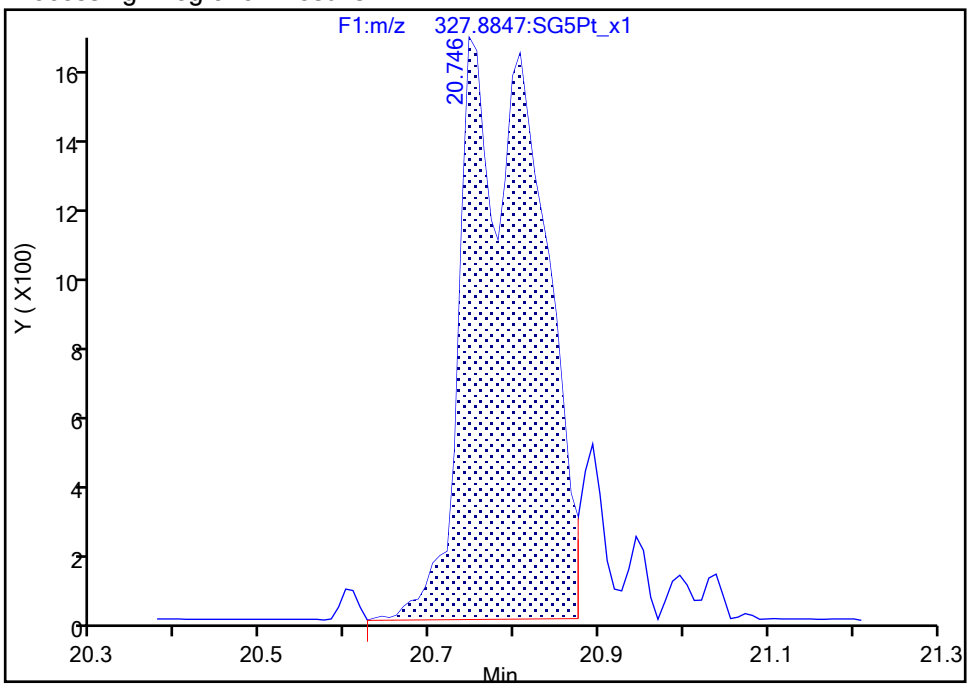
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

37Cl4-2,3,7,8-TCDD, CAS: 85508-50-5

Signal: 1

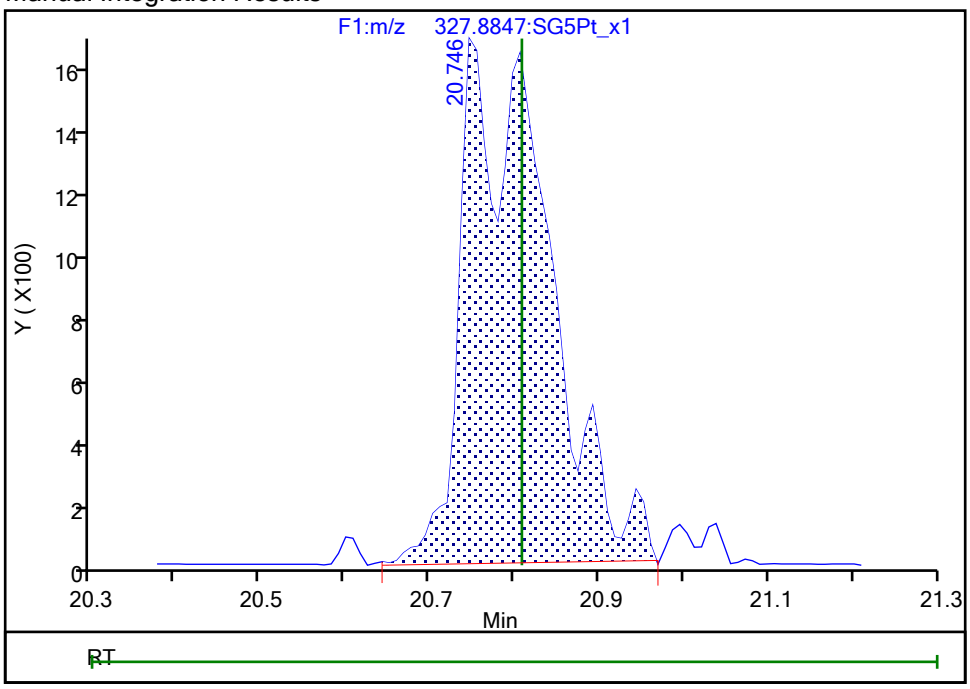
Processing Integration Results

RT: 20.75
Area: 10456
Amount: 0.428258
Amount Units: pg/ul



Manual Integration Results

RT: 20.75
Area: 11578
Amount: 0.460927
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:09:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

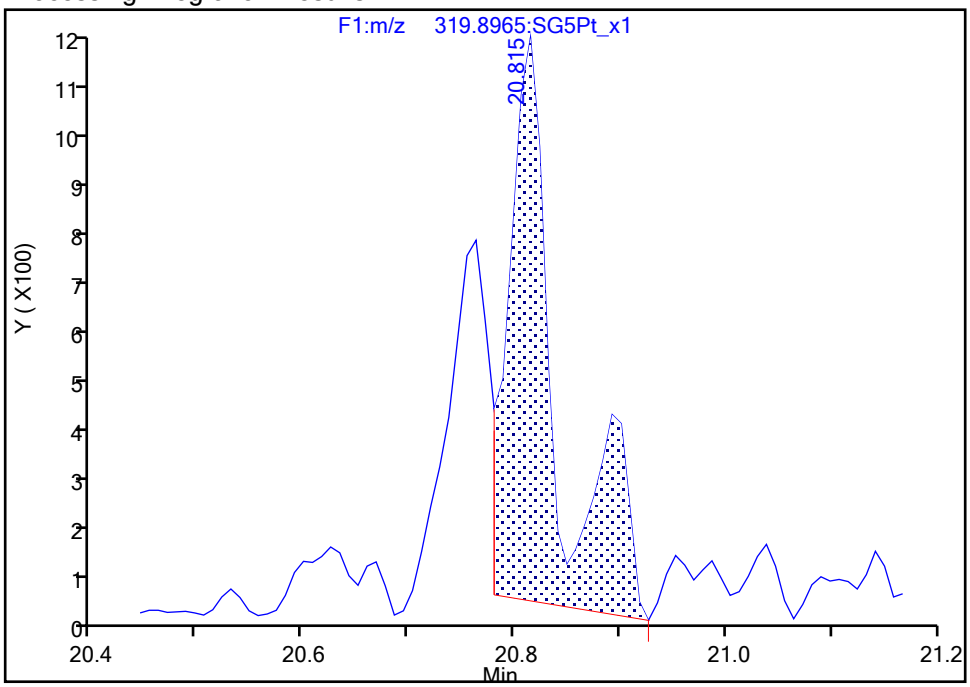
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

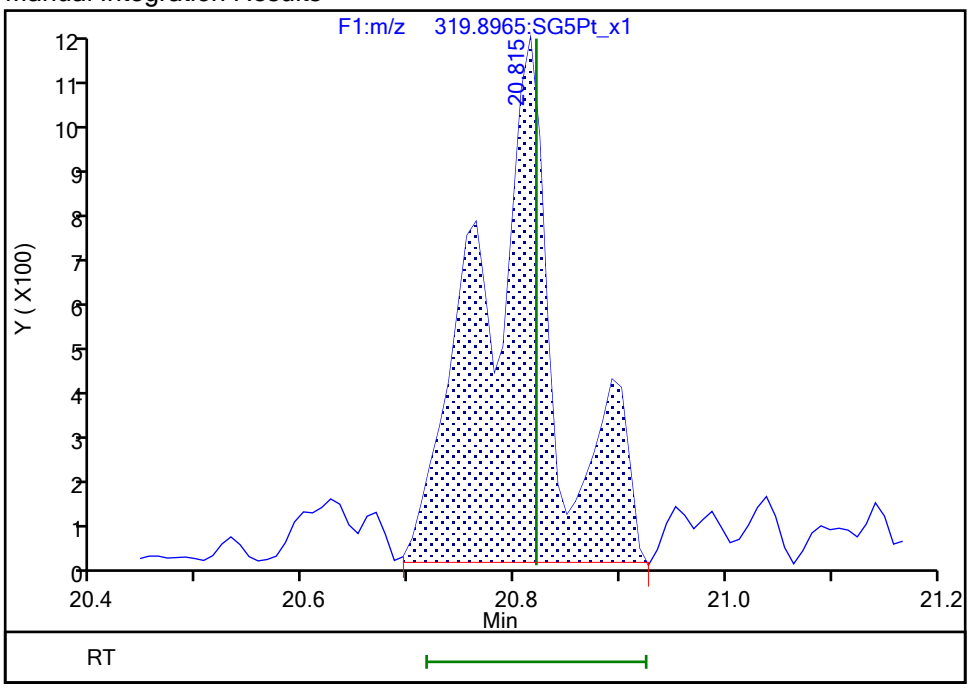
Processing Integration Results

RT: 20.82
Area: 3361
Amount: 0.393794
Amount Units: pg/ul



Manual Integration Results

RT: 20.82
Area: 5433
Amount: 0.533290
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:09:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

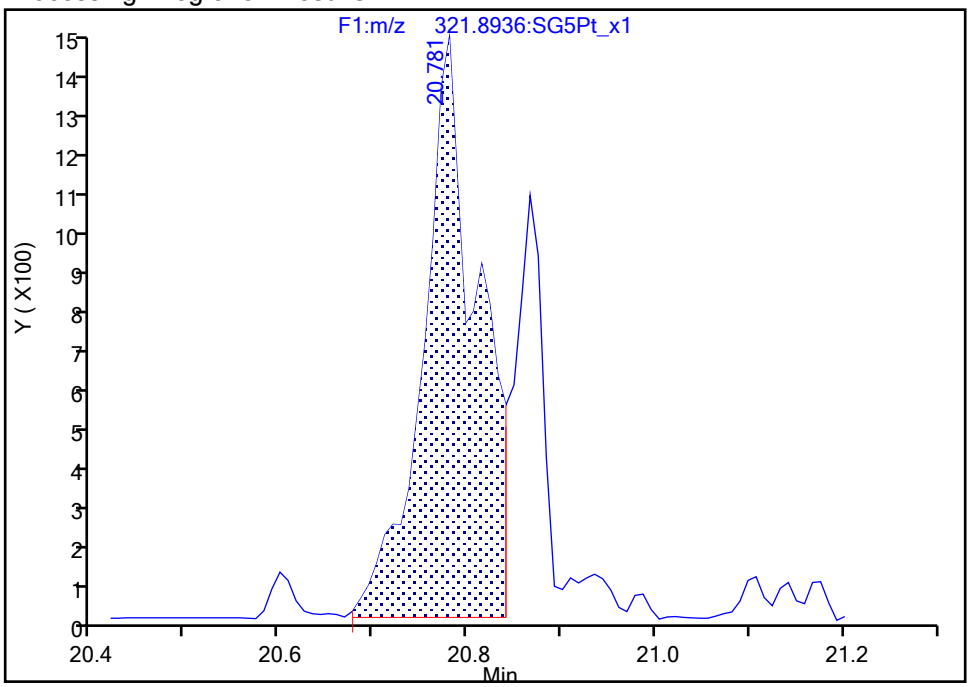
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

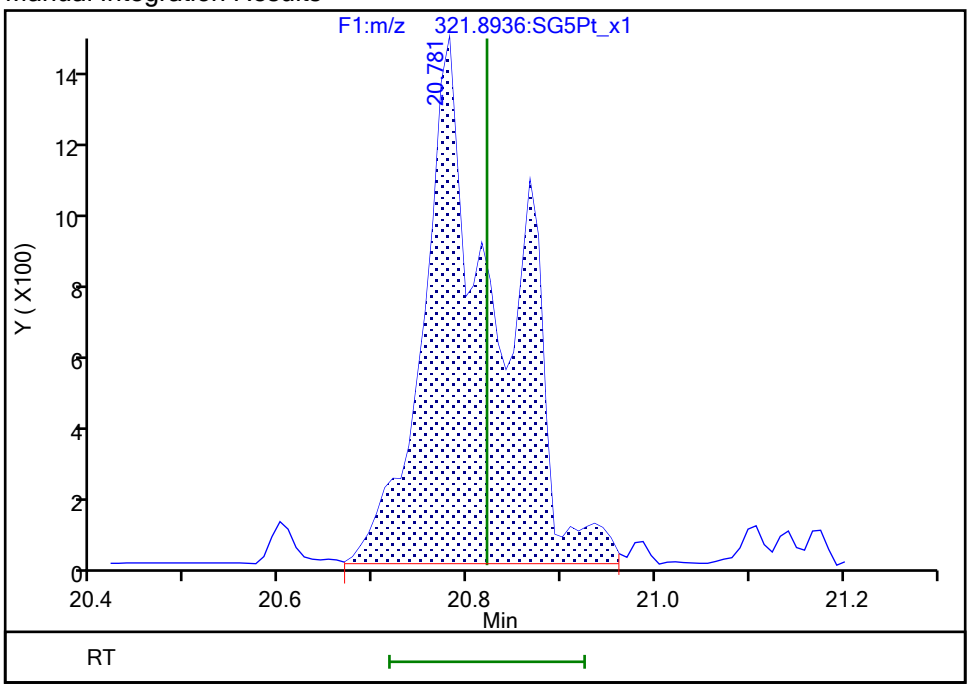
Processing Integration Results

RT: 20.78
Area: 5613
Amount: 0.393794
Amount Units: pg/ul



Manual Integration Results

RT: 20.78
Area: 8021
Amount: 0.533290
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:09:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

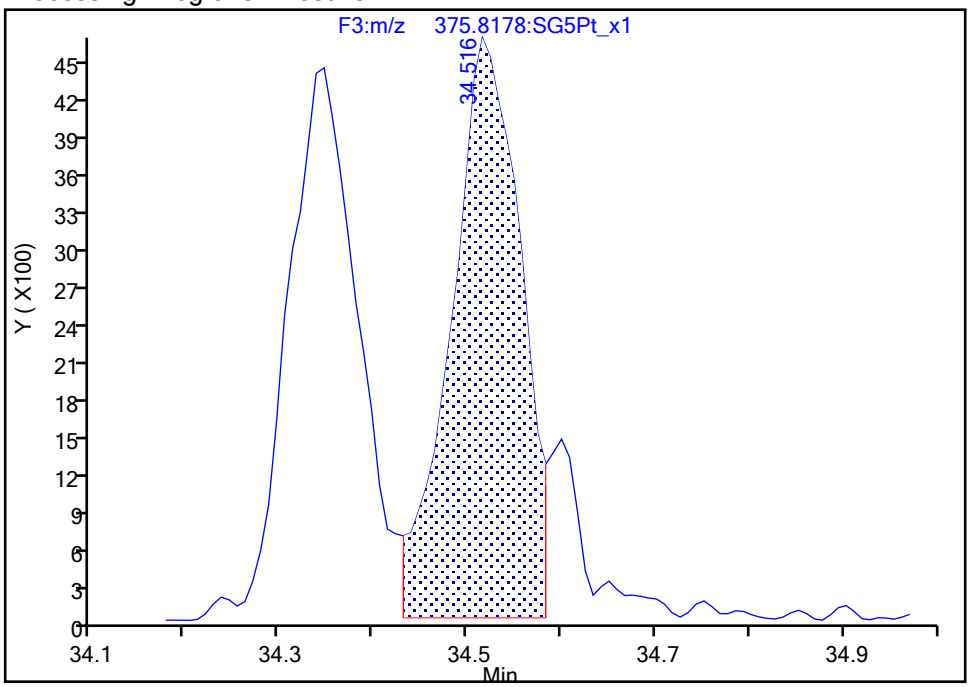
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

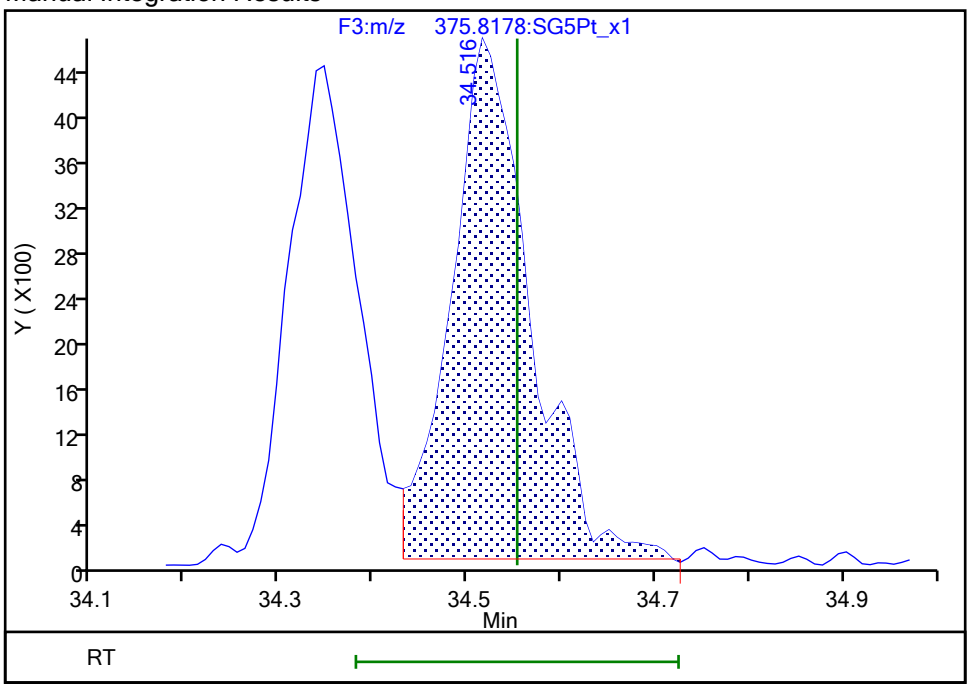
Processing Integration Results

RT: 34.52
Area: 23481
Amount: 2.310529
Amount Units: pg/ul



Manual Integration Results

RT: 34.52
Area: 26787
Amount: 2.511169
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:10:25
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

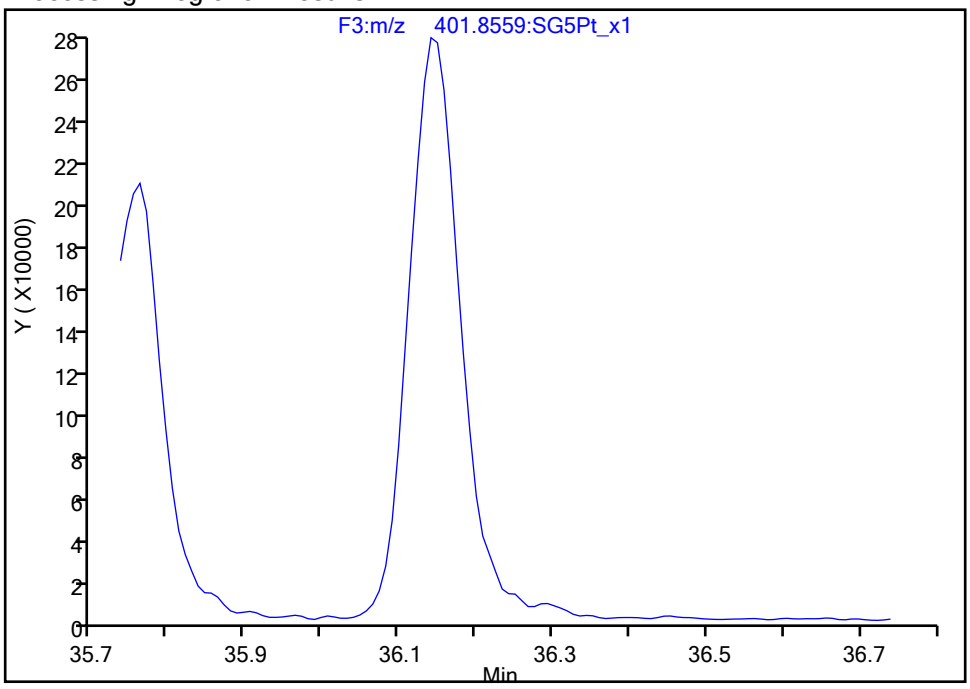
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

13C-1,2,3,7,8,9-HxCDD, CAS: 109719-82-6

Signal: 1

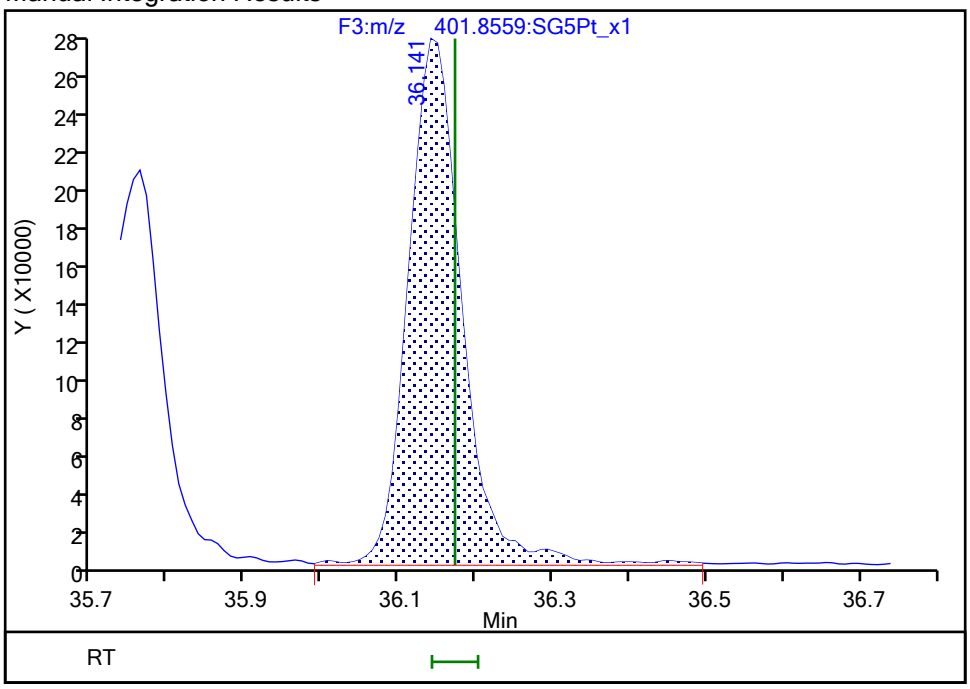
Not Detected
Expected RT: 36.17

Processing Integration Results



Manual Integration Results

RT: 36.14
Area: 1337014
Amount: 100.0000
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:09:20
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Sacramento

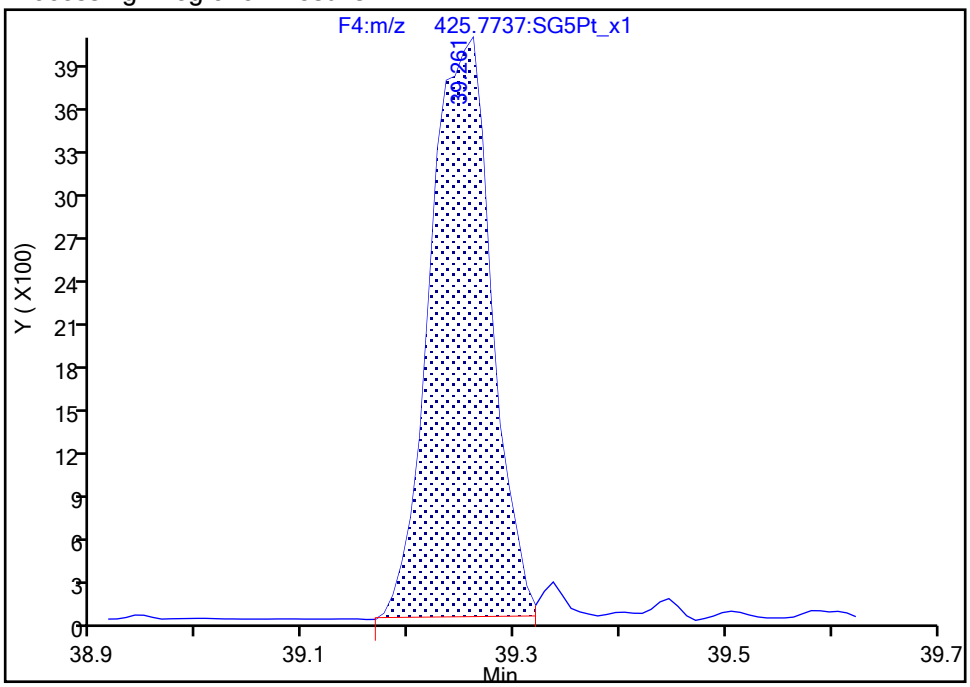
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

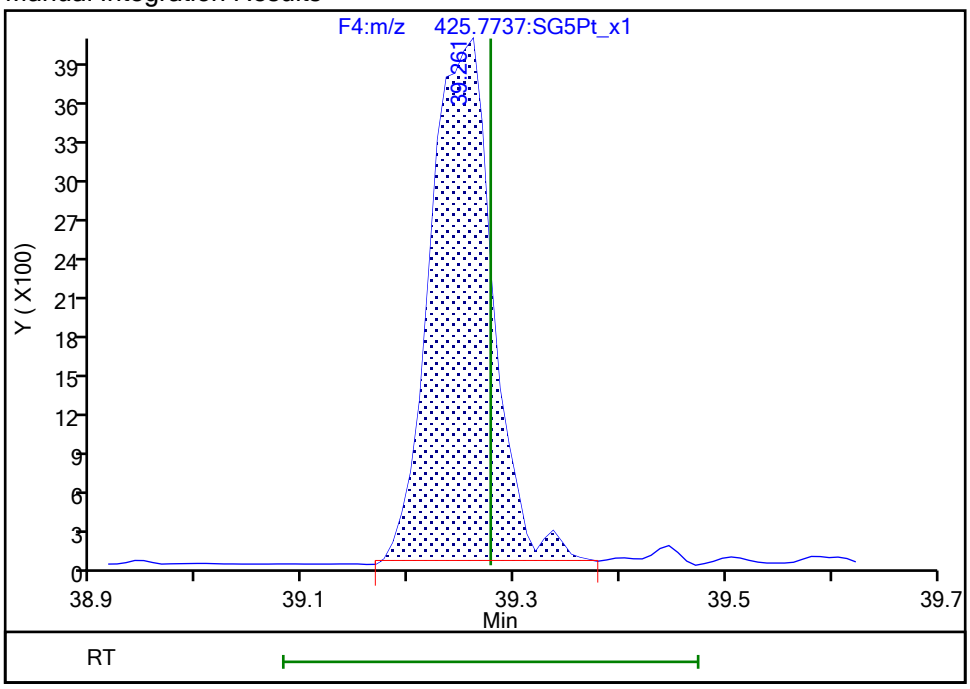
Processing Integration Results

RT: 39.26
Area: 16255
Amount: 2.454727
Amount Units: pg/ul



Manual Integration Results

RT: 39.26
Area: 16471
Amount: 2.467259
Amount Units: pg/ul

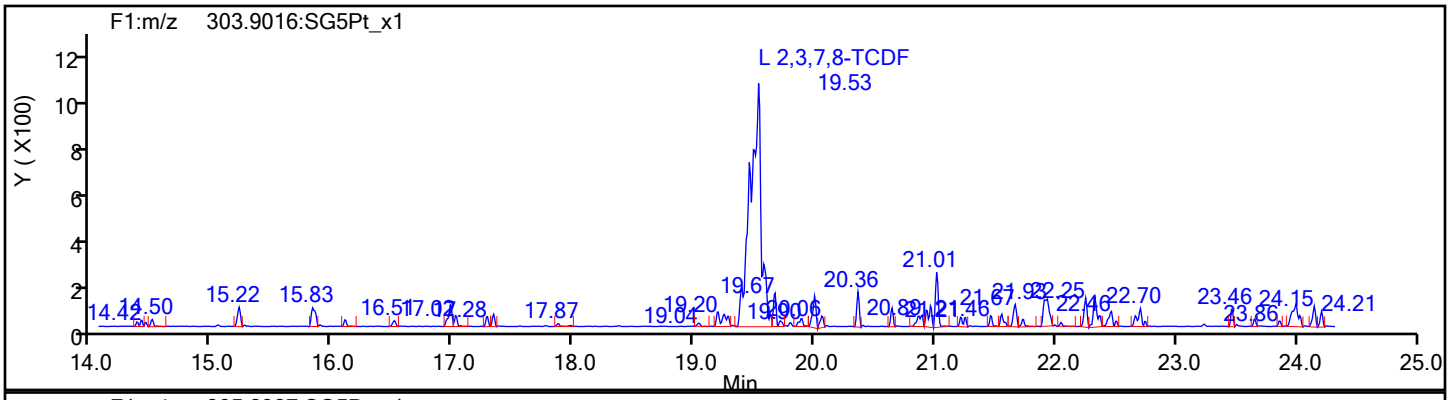


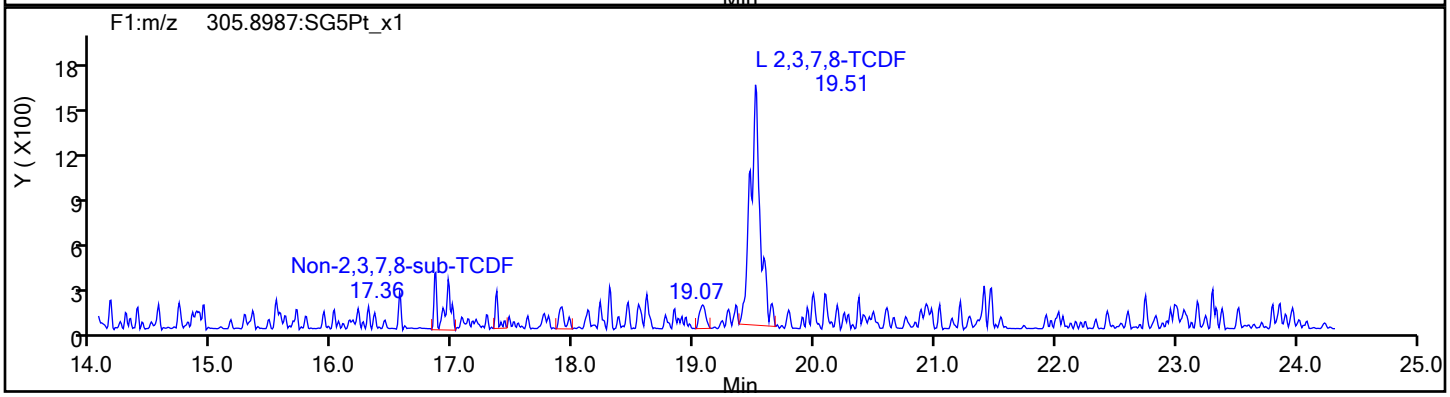
Reviewer: bilottag, 18-Jan-2022 12:10:43
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins Sacramento

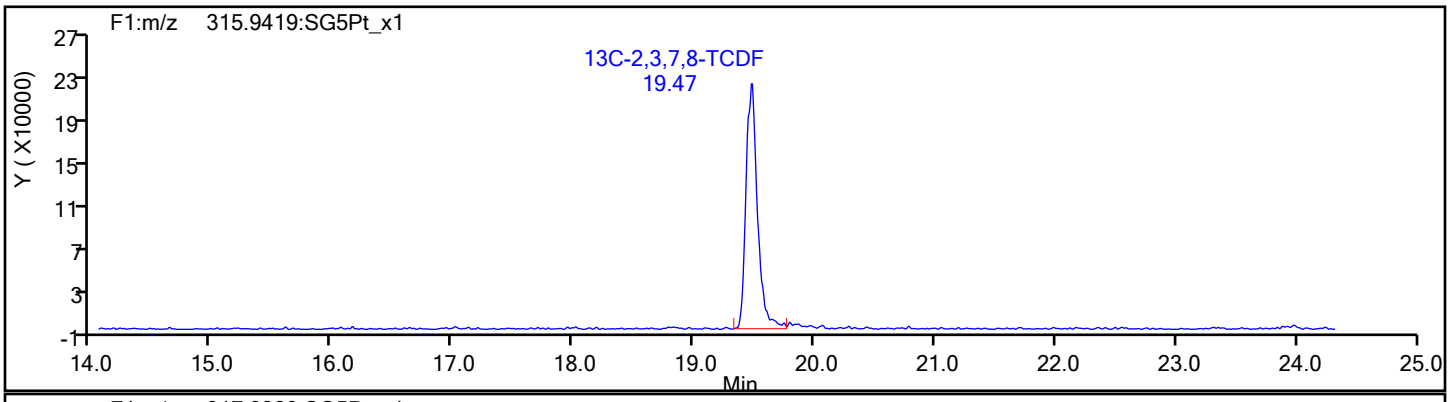
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d		
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

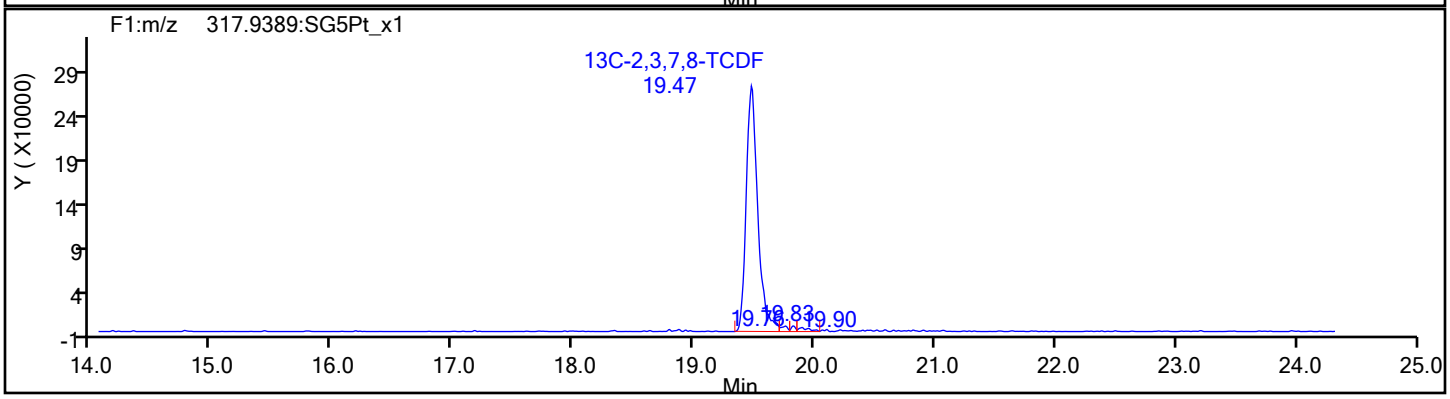
TCDF





TCDF Standards

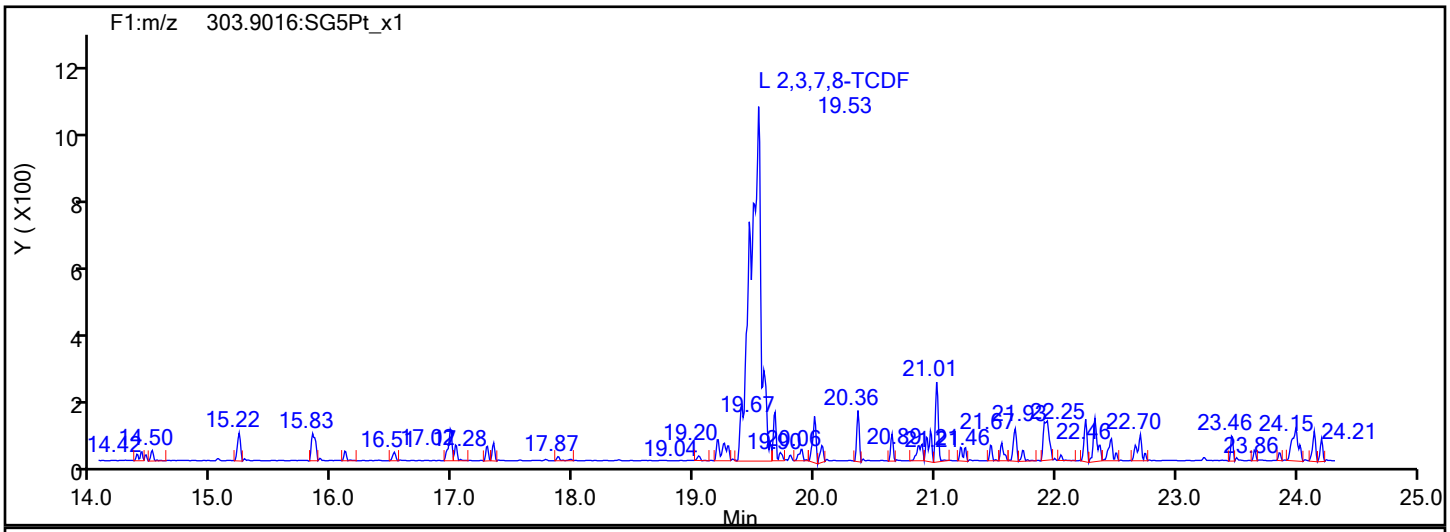


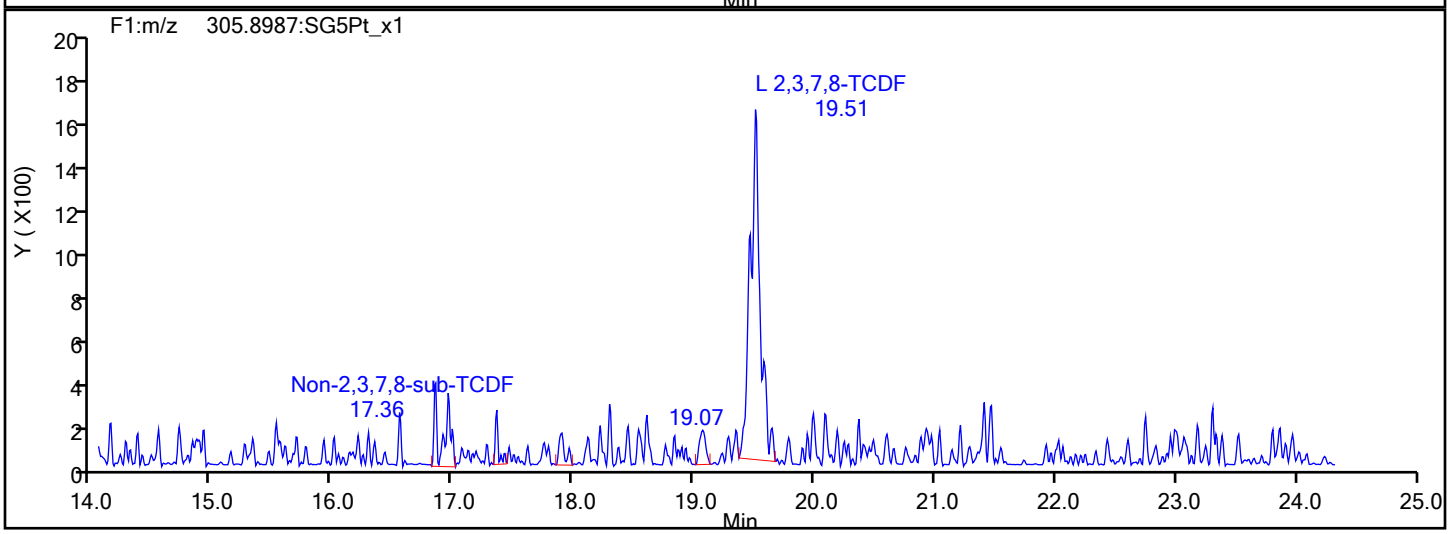


Eurofins Sacramento

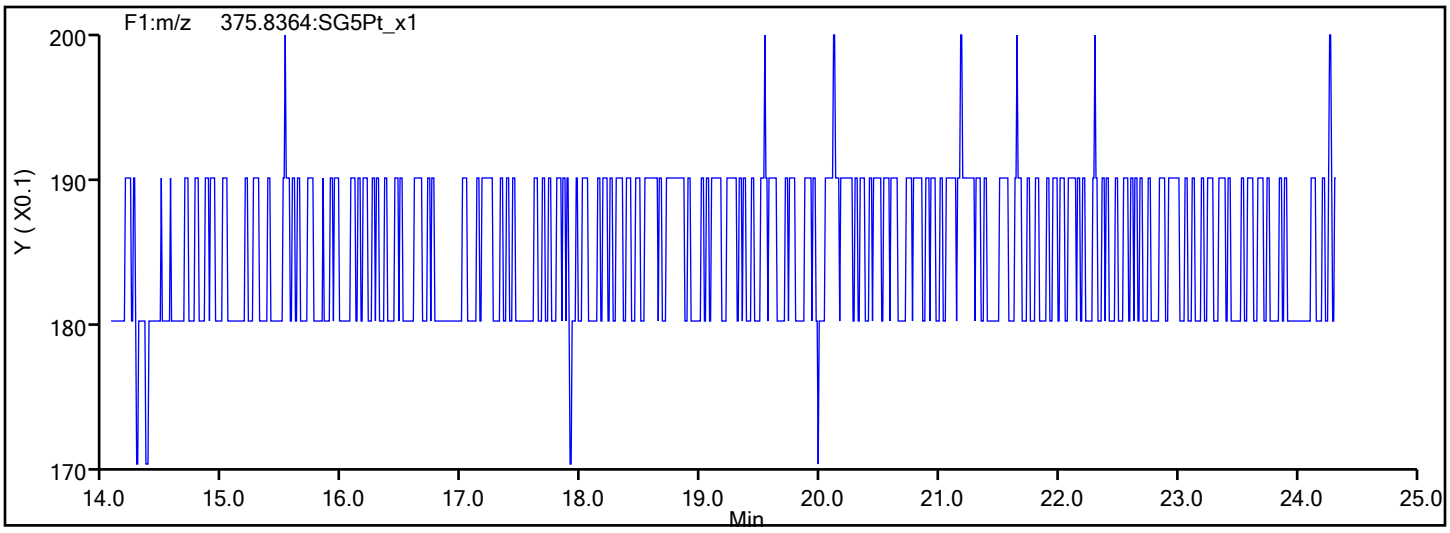
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





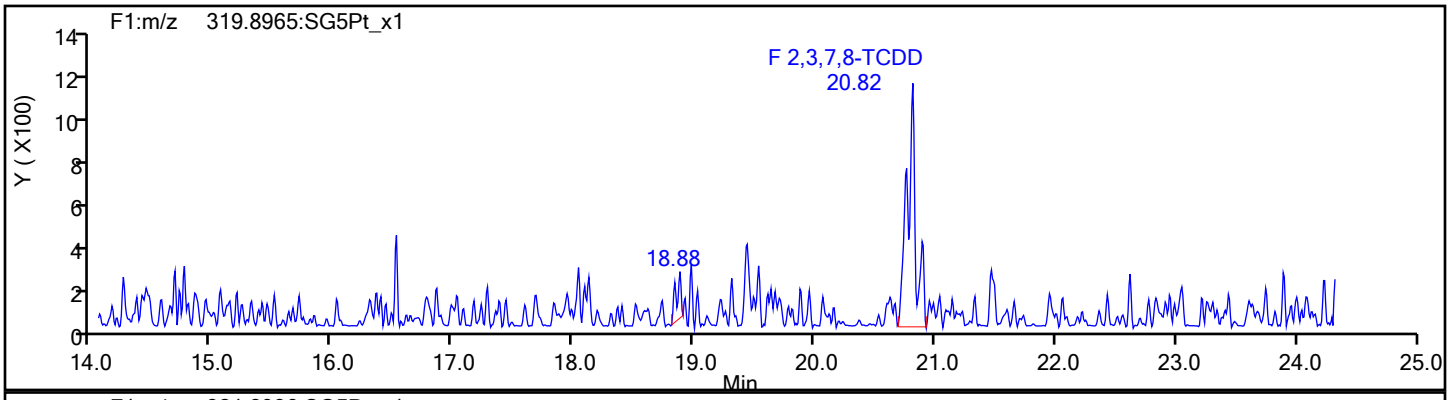
TCDF Interference Mass

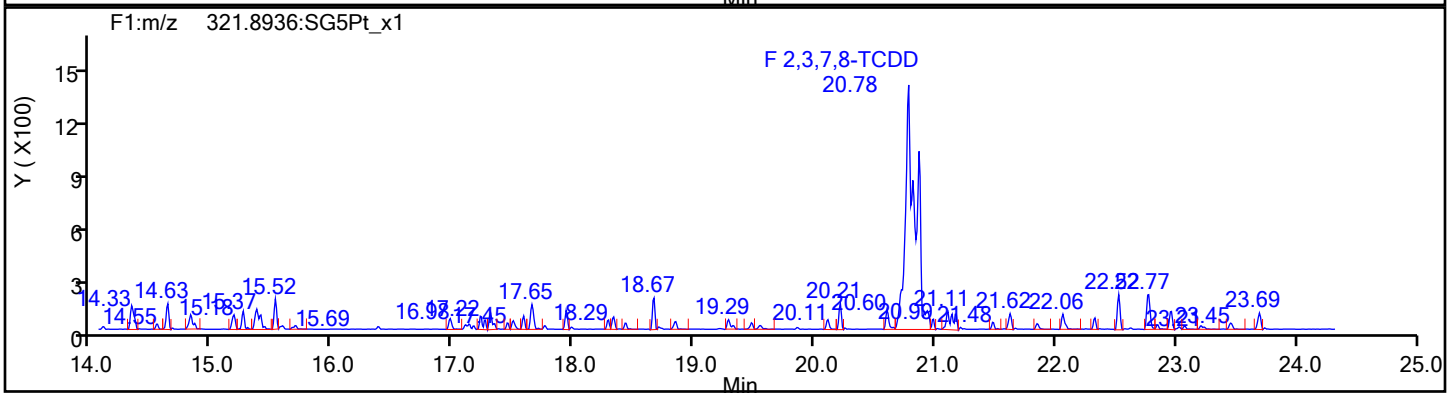


Eurofins Sacramento

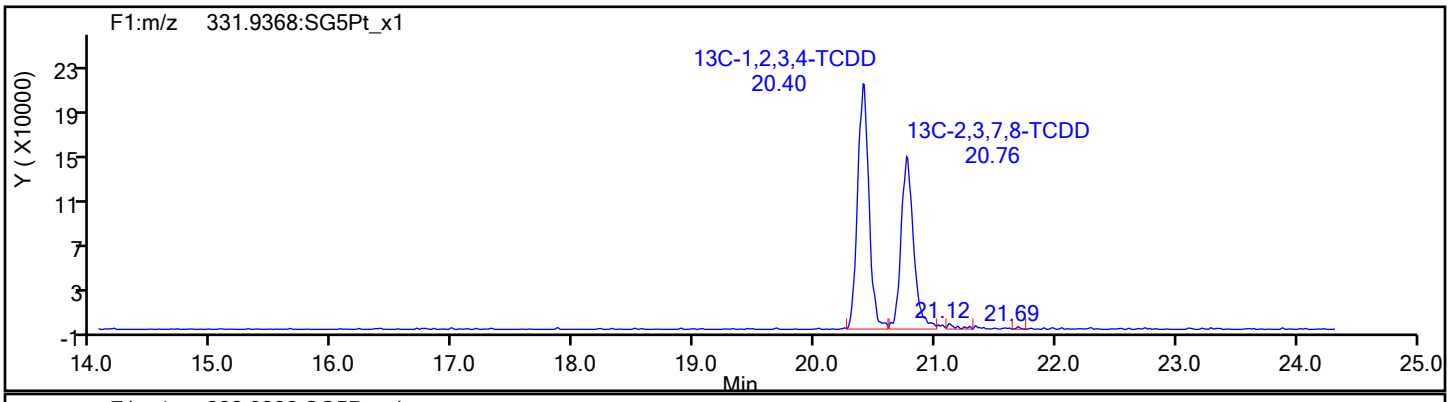
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

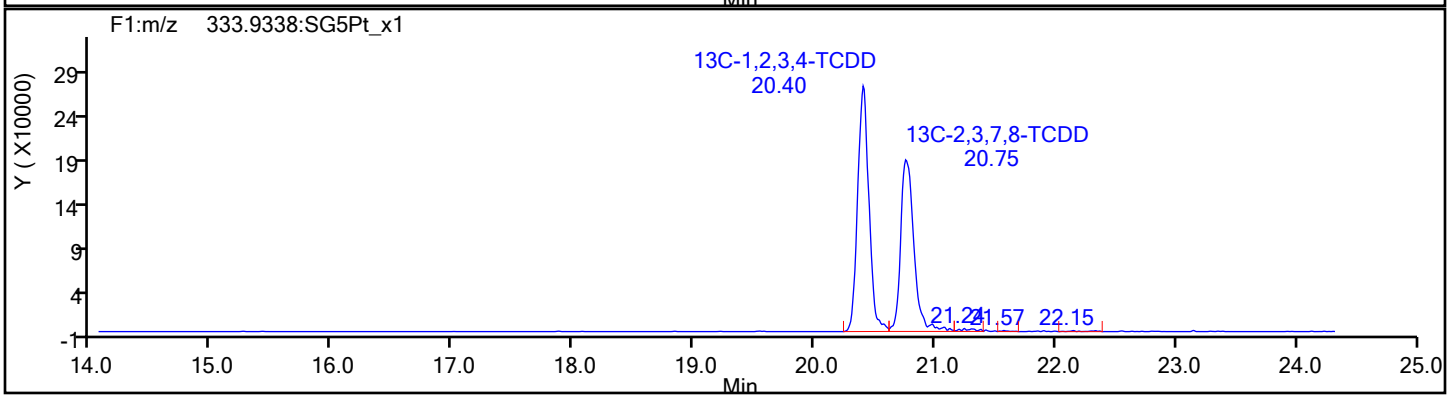
TCDD





TCDD Standards

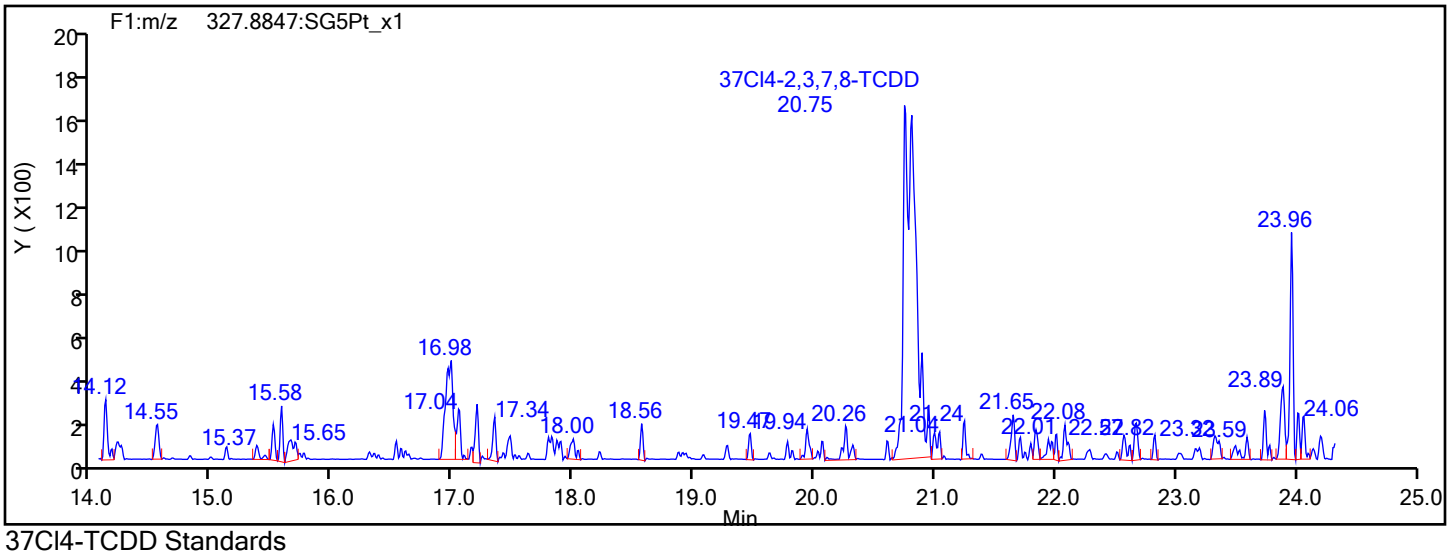




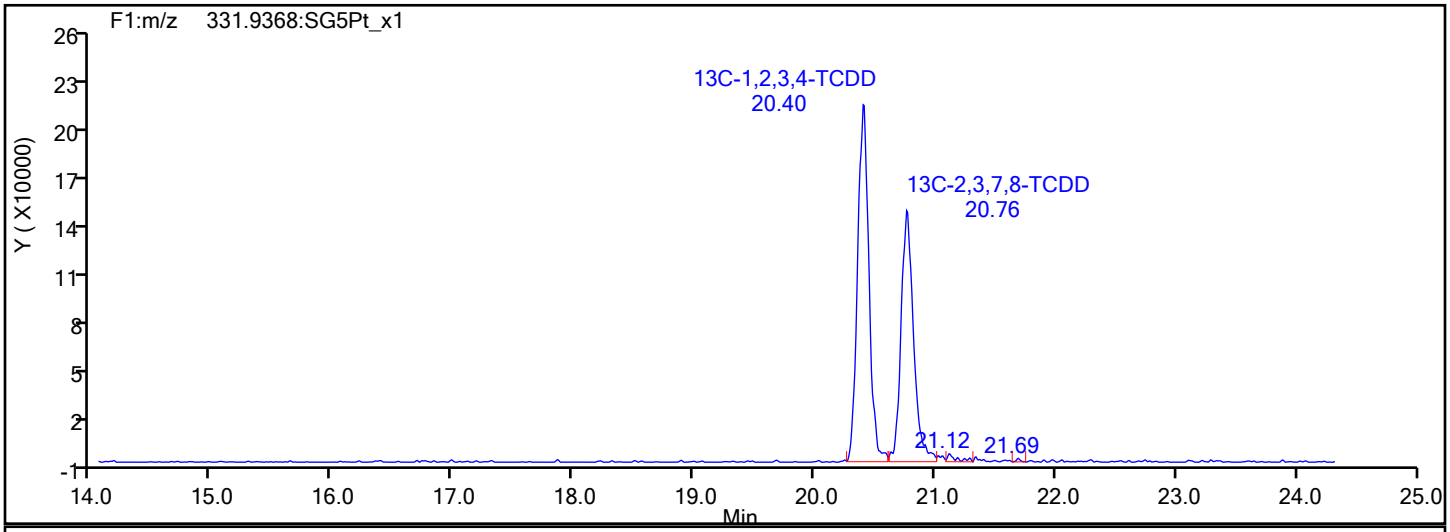
Eurofins Sacramento

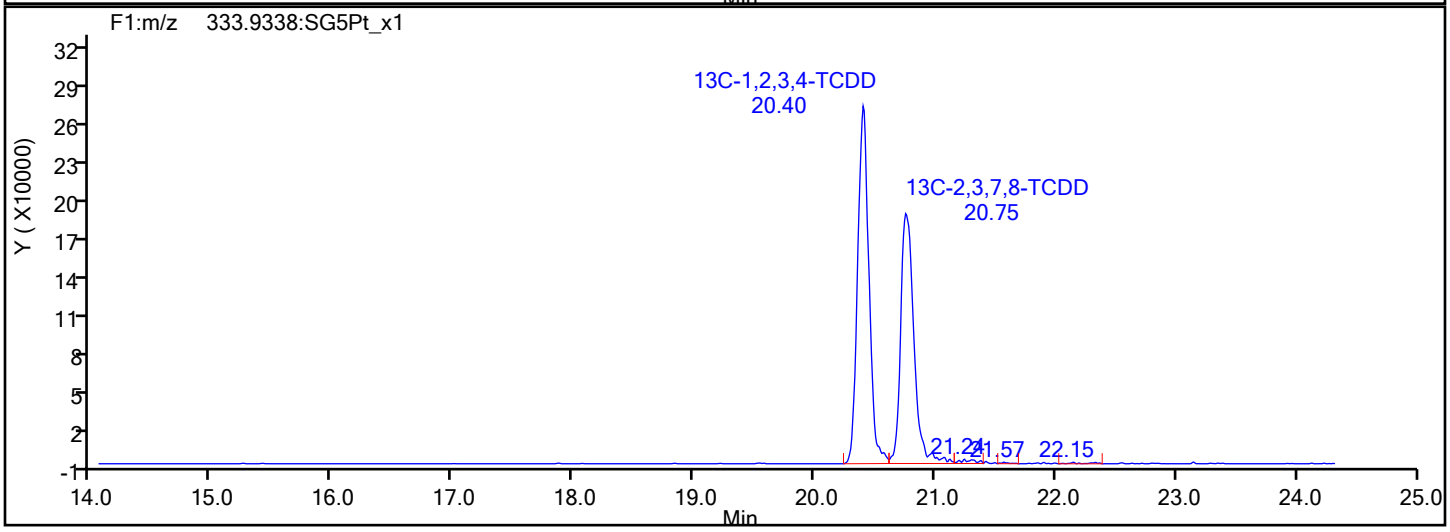
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d		
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





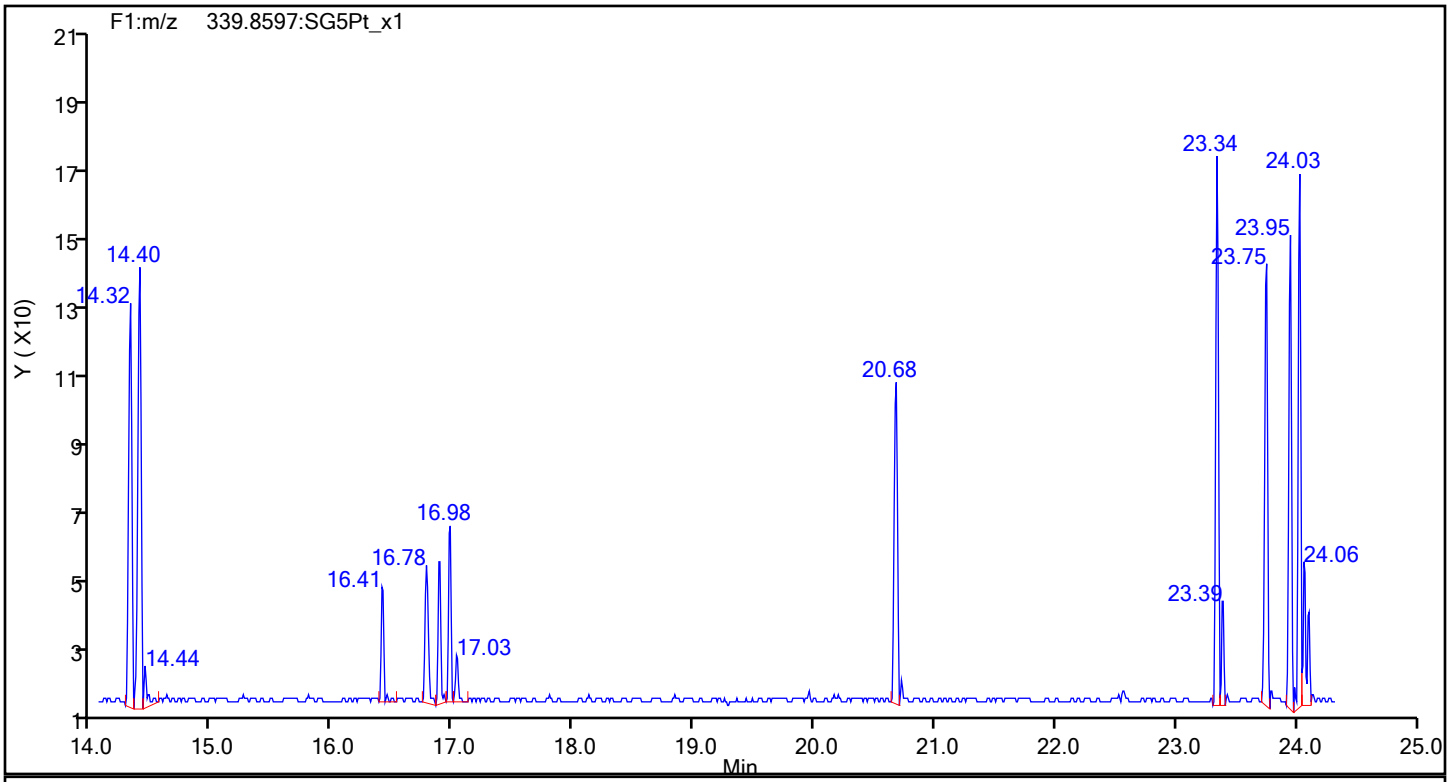
Report Date: 20-Jan-2022 15:58:35 Chrom Revision: 2.3 18-Jan-2022 20:25:40

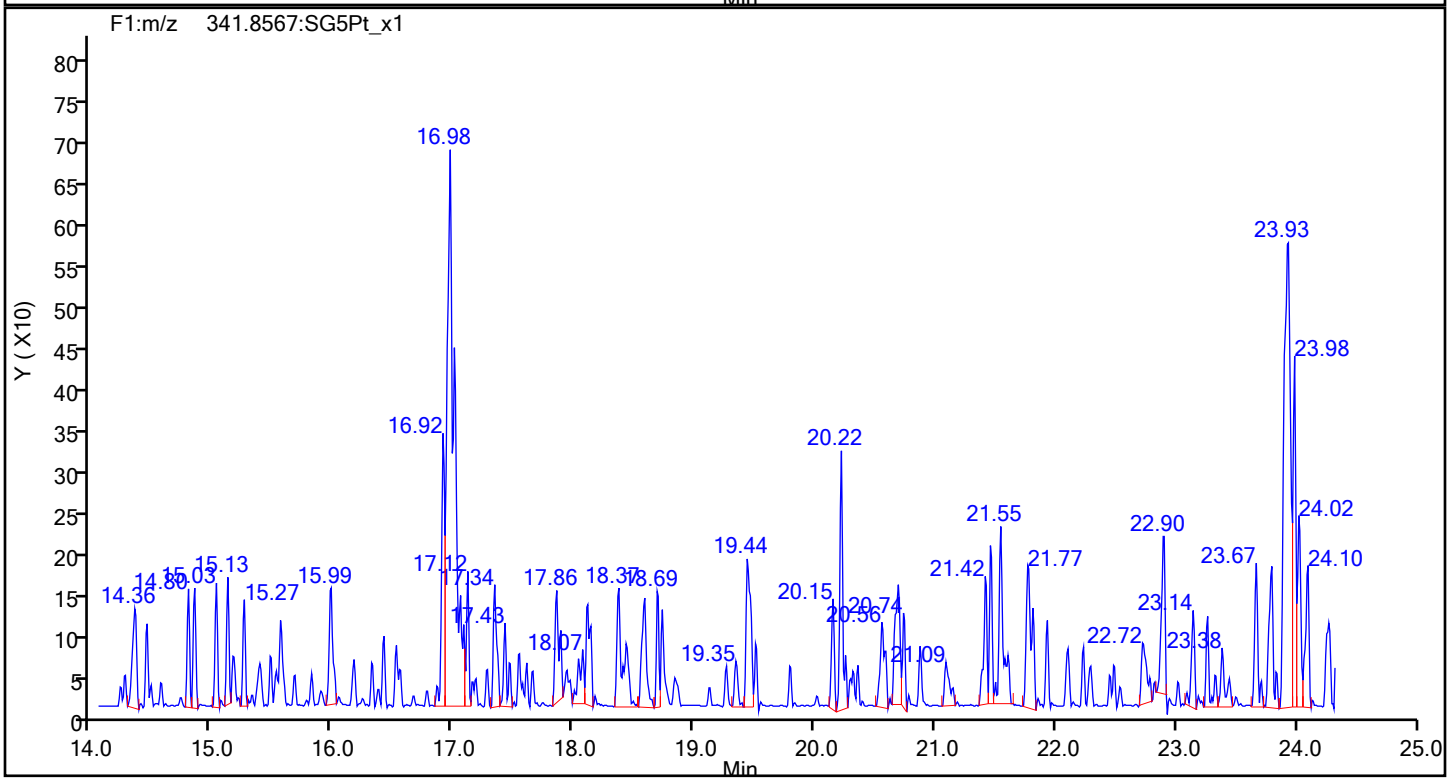
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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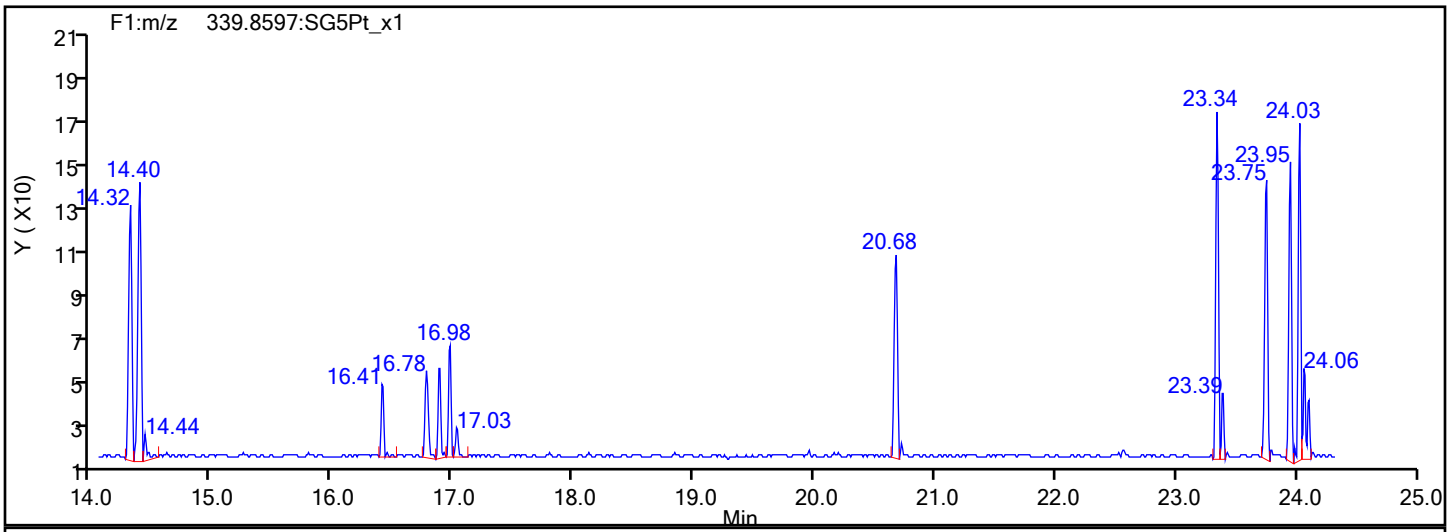
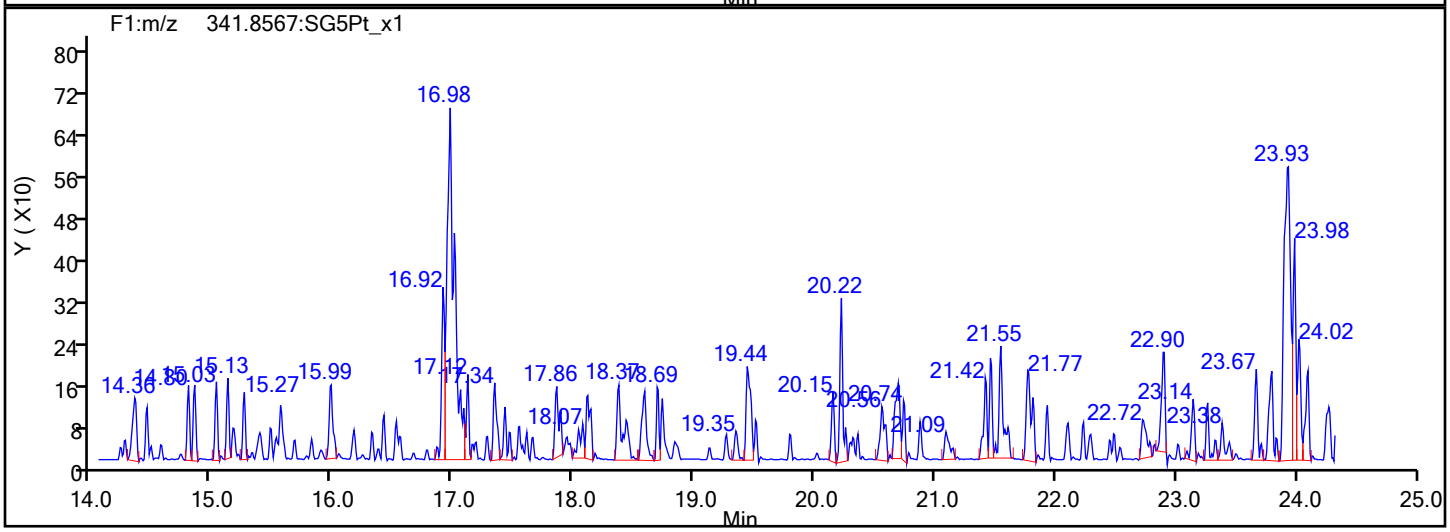
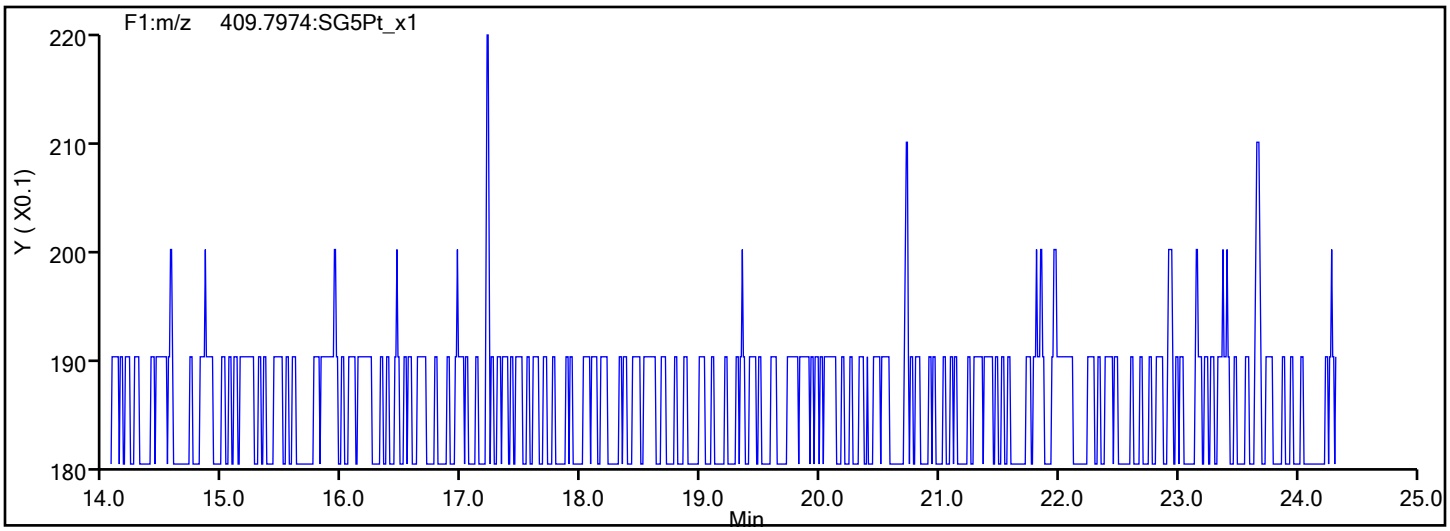
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

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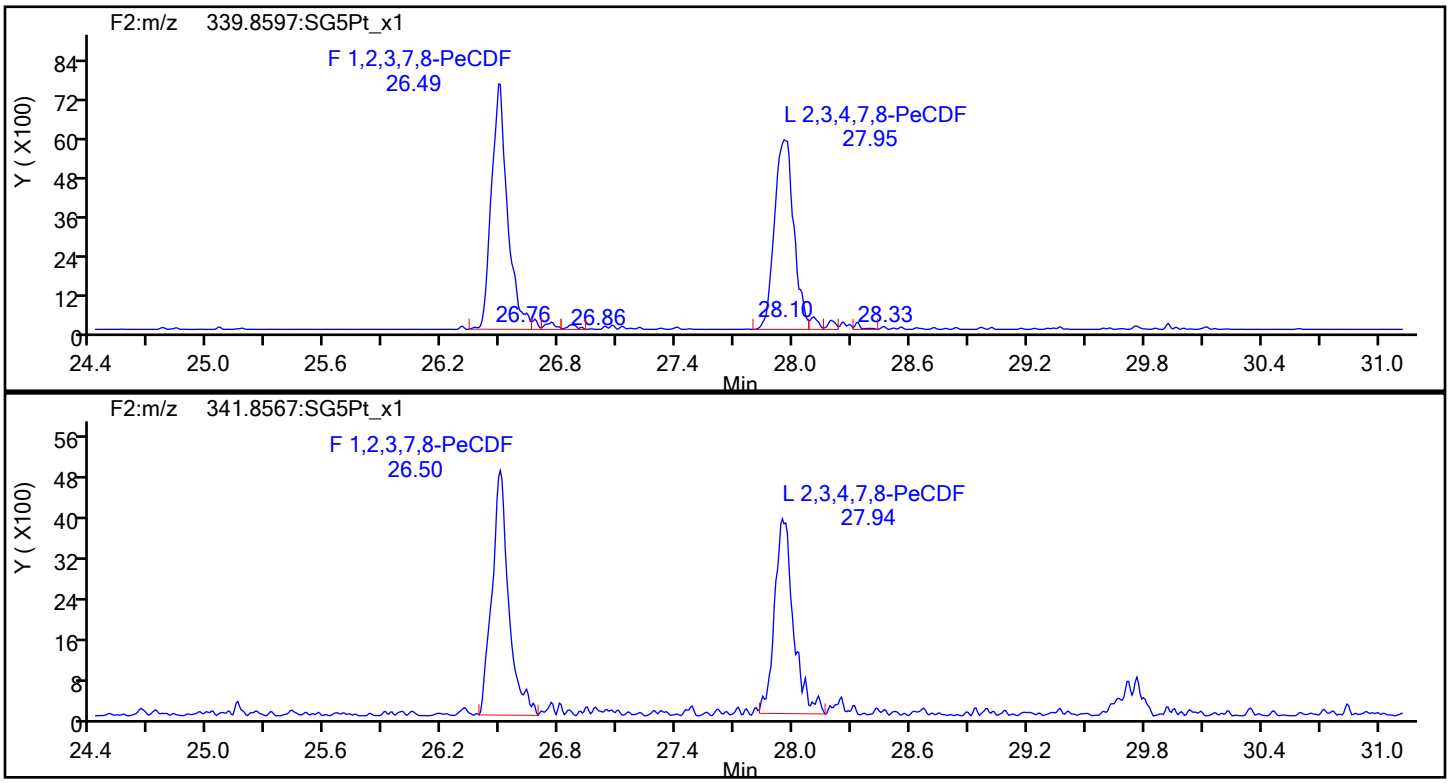
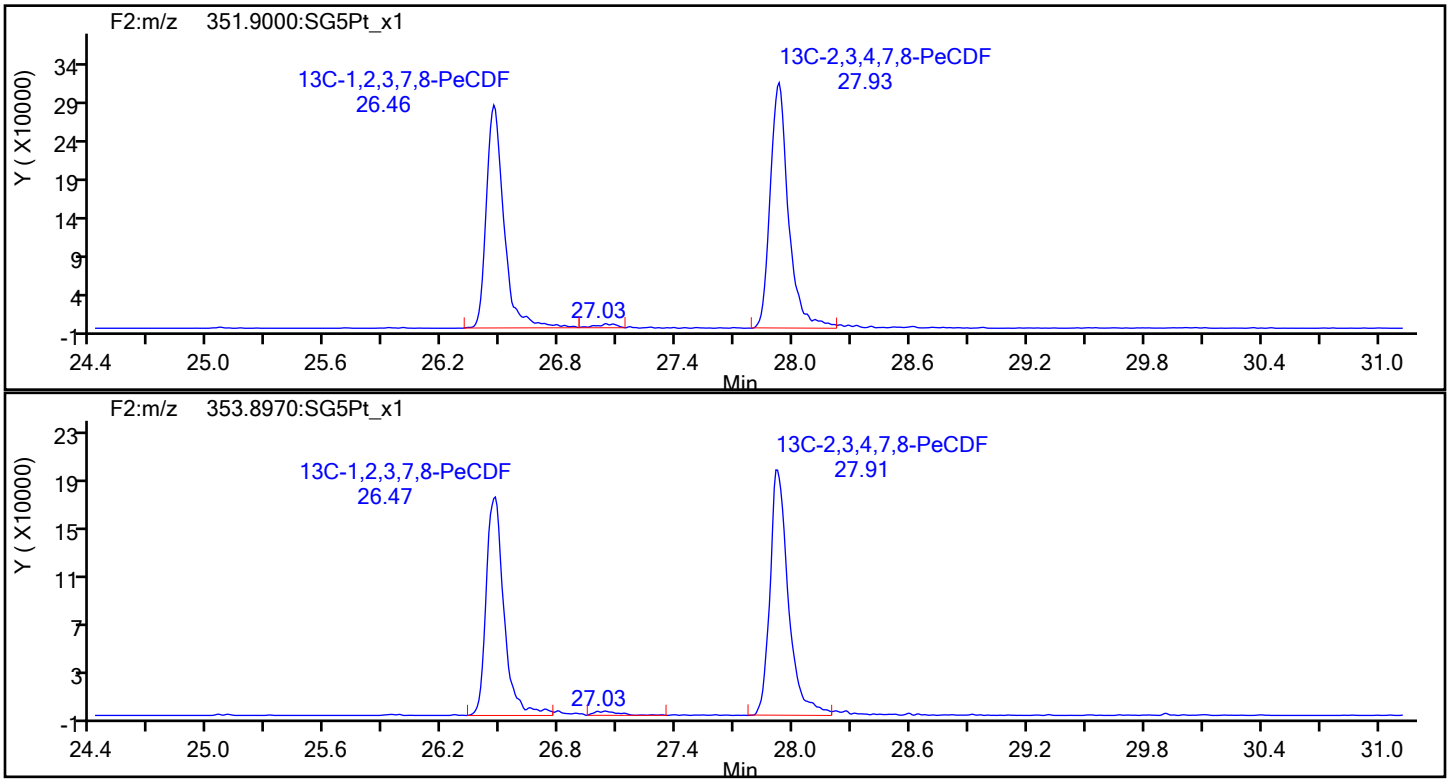


PeCDF Standards



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
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Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

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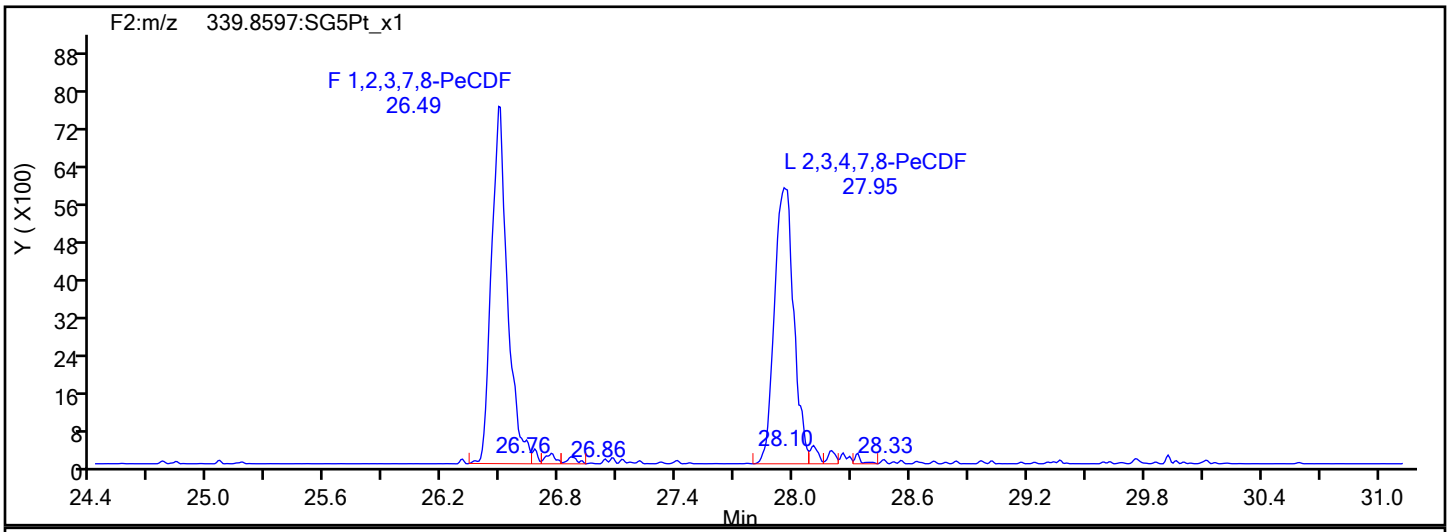
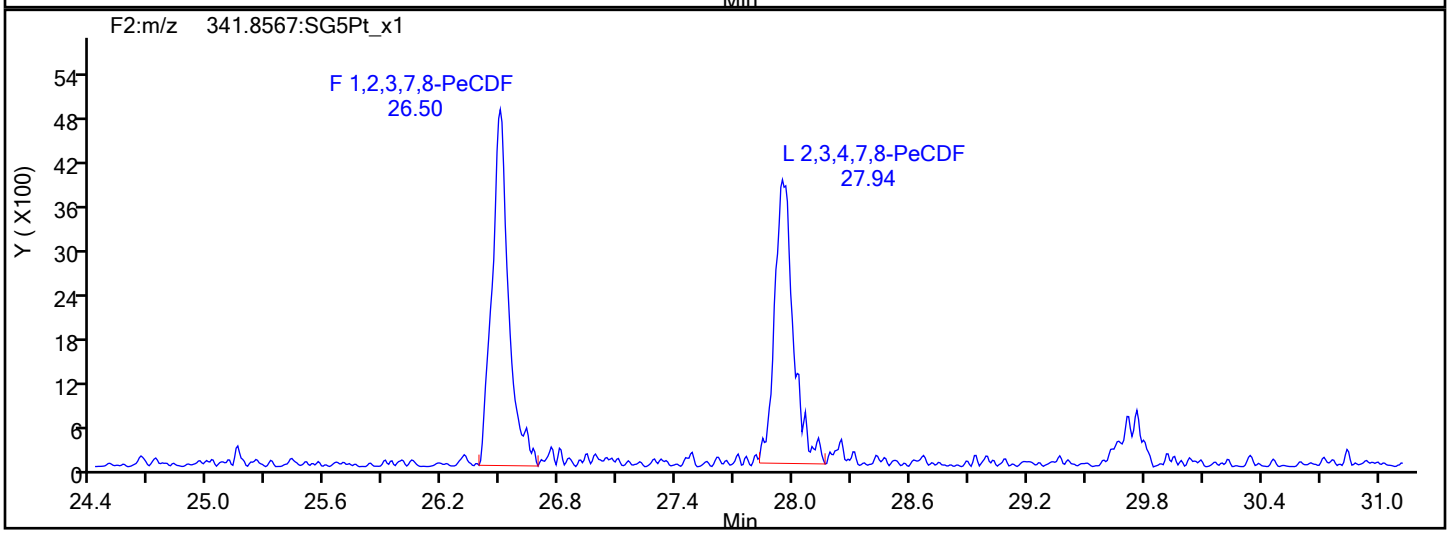
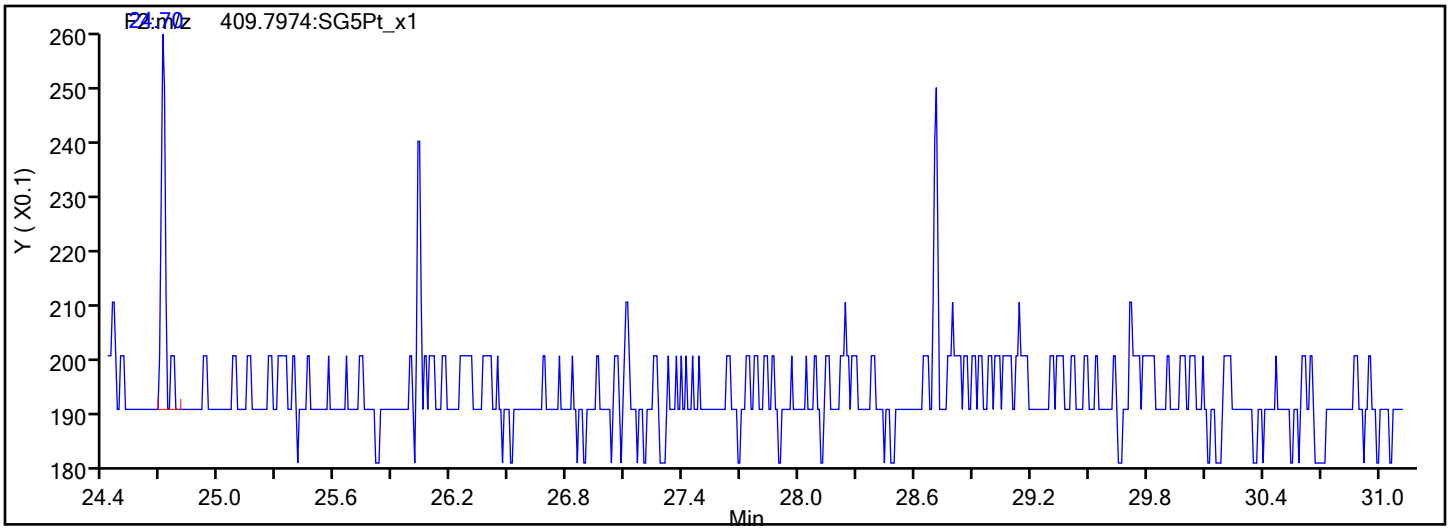




PeCDF Interference Mass



Eurofins Sacramento

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Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
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Column Type: DB-5 Column Dia: 0.32 mm

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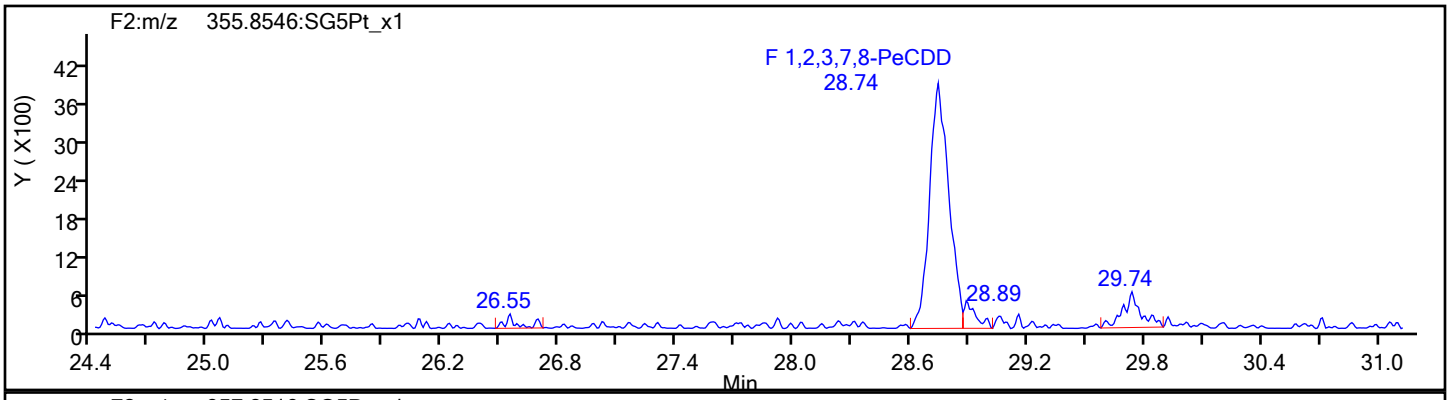

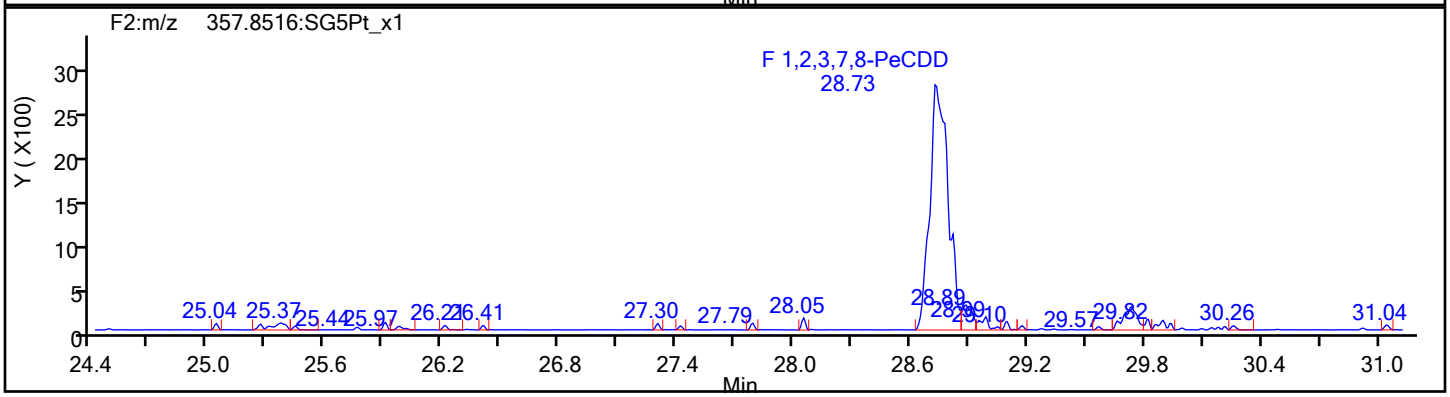

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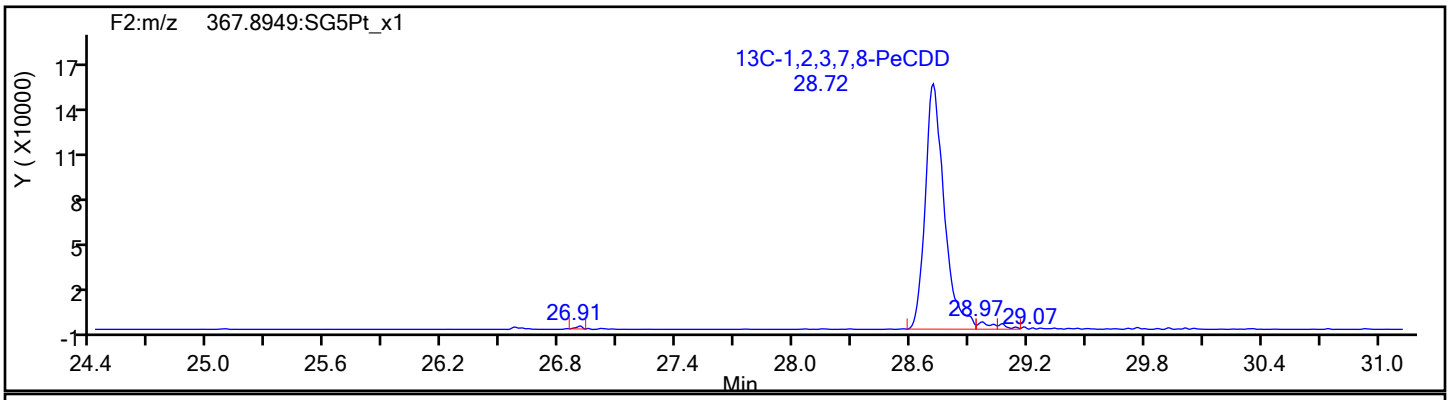

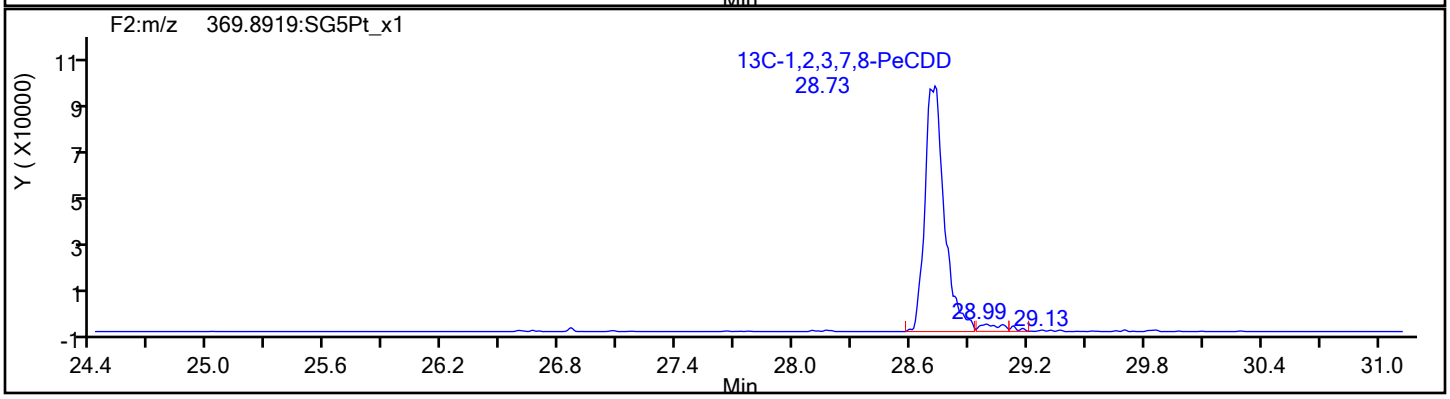

Eurofins Sacramento

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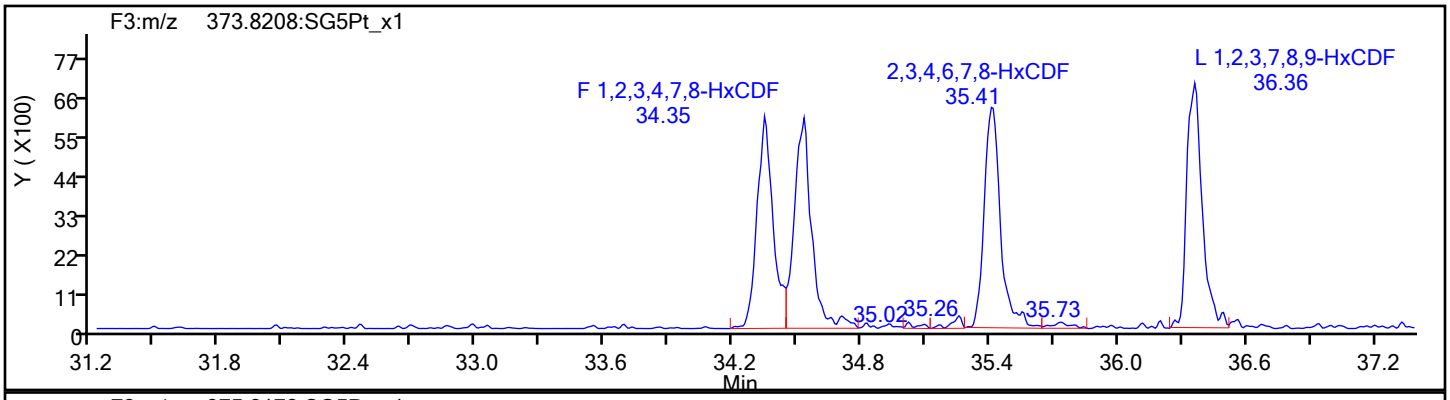
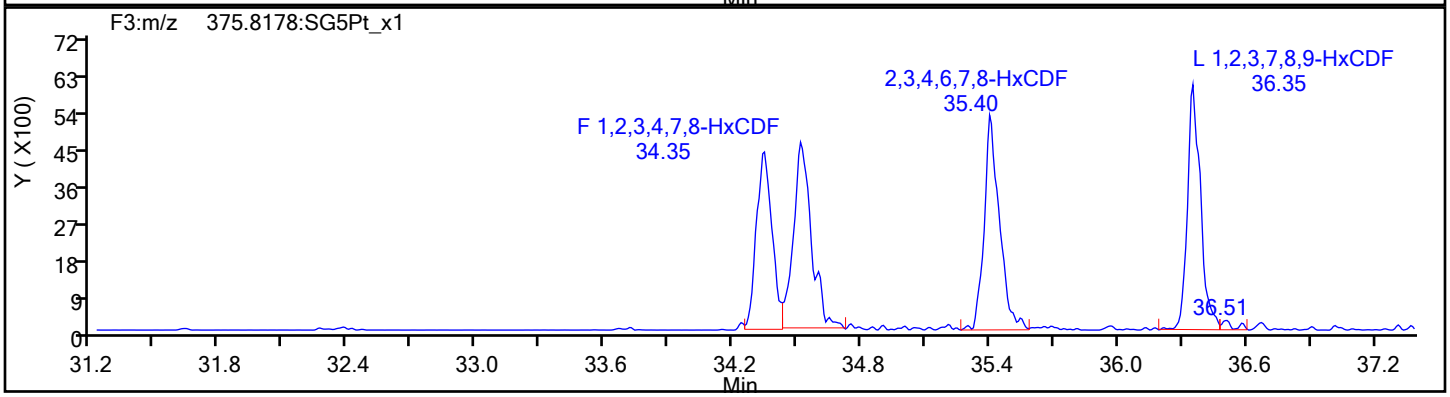
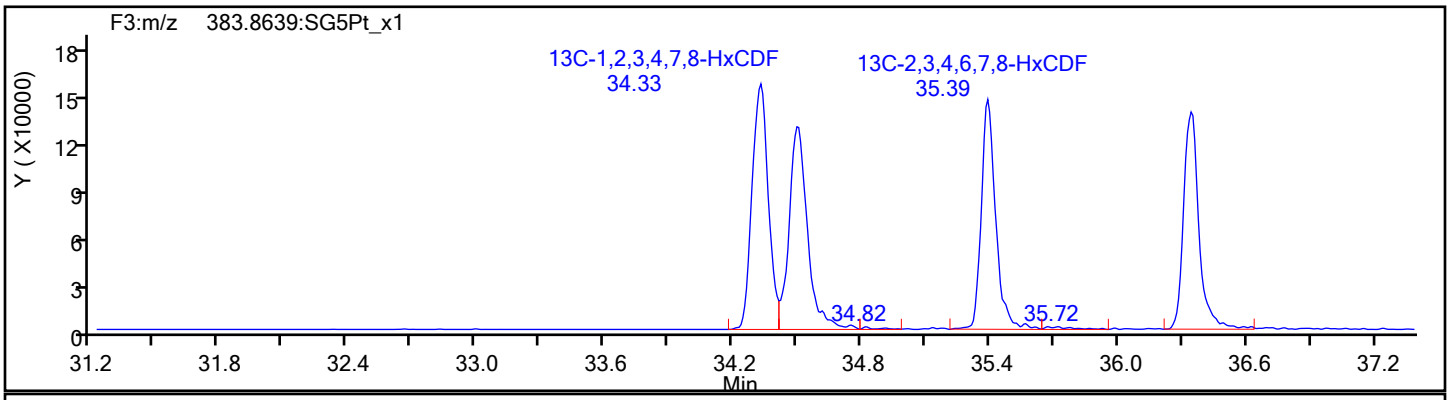
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

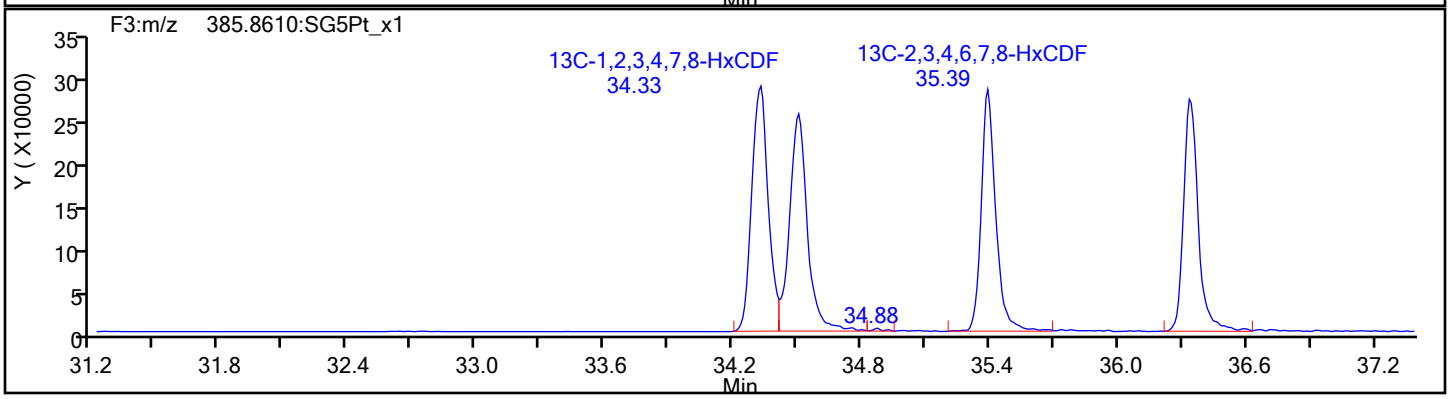
HxCDF





HxCDF Standards

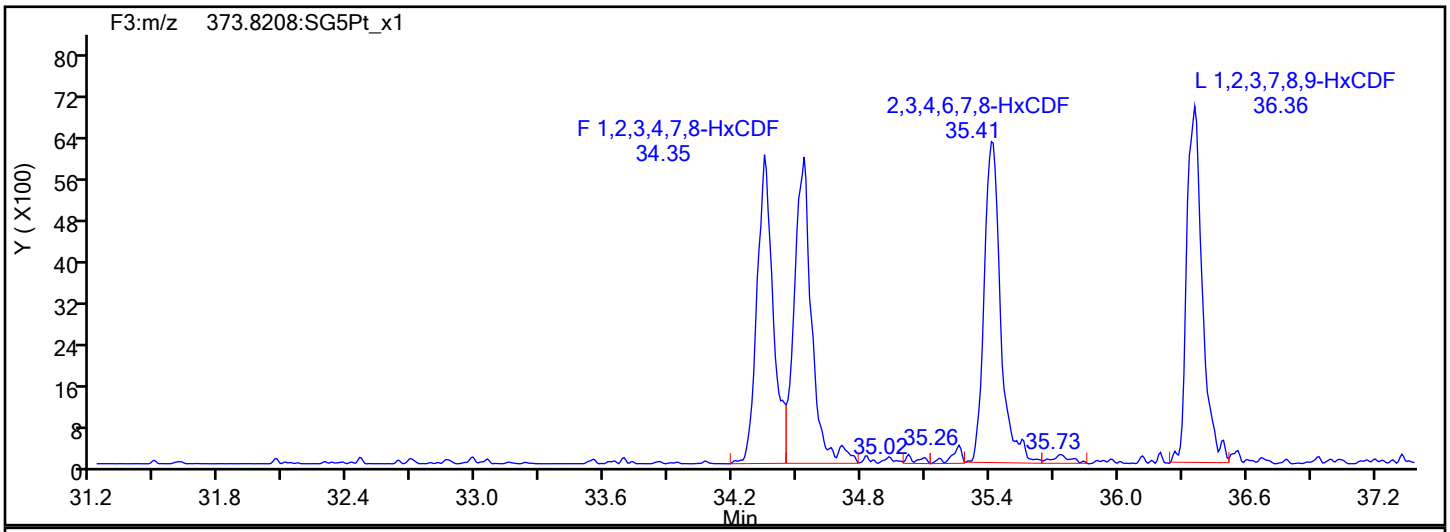


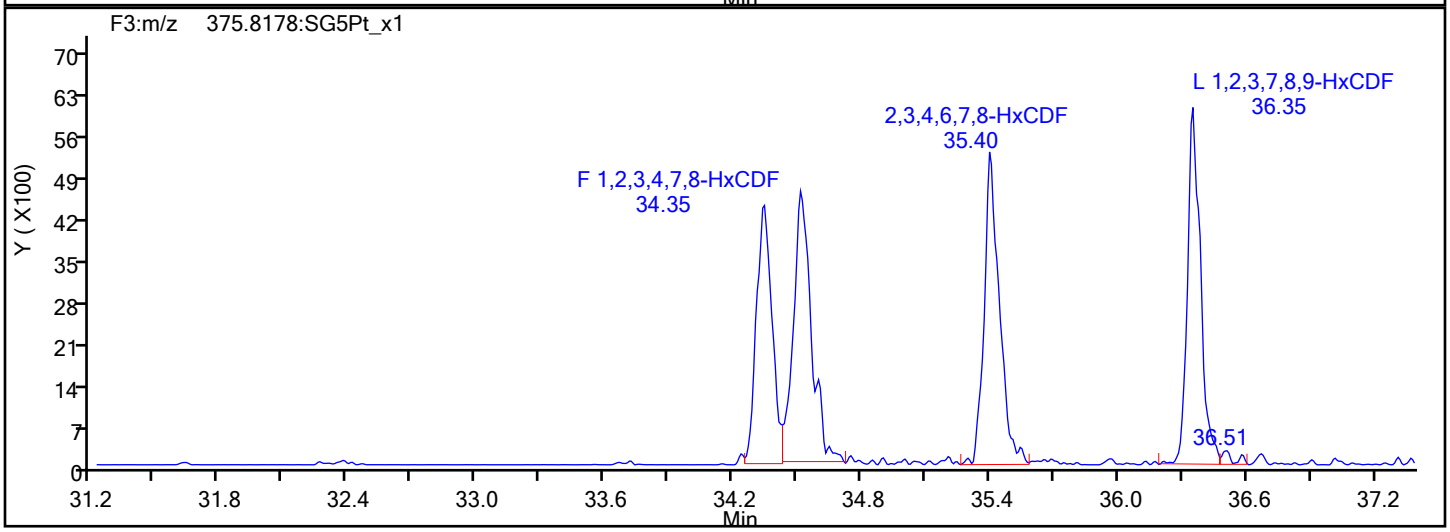


Eurofins Sacramento

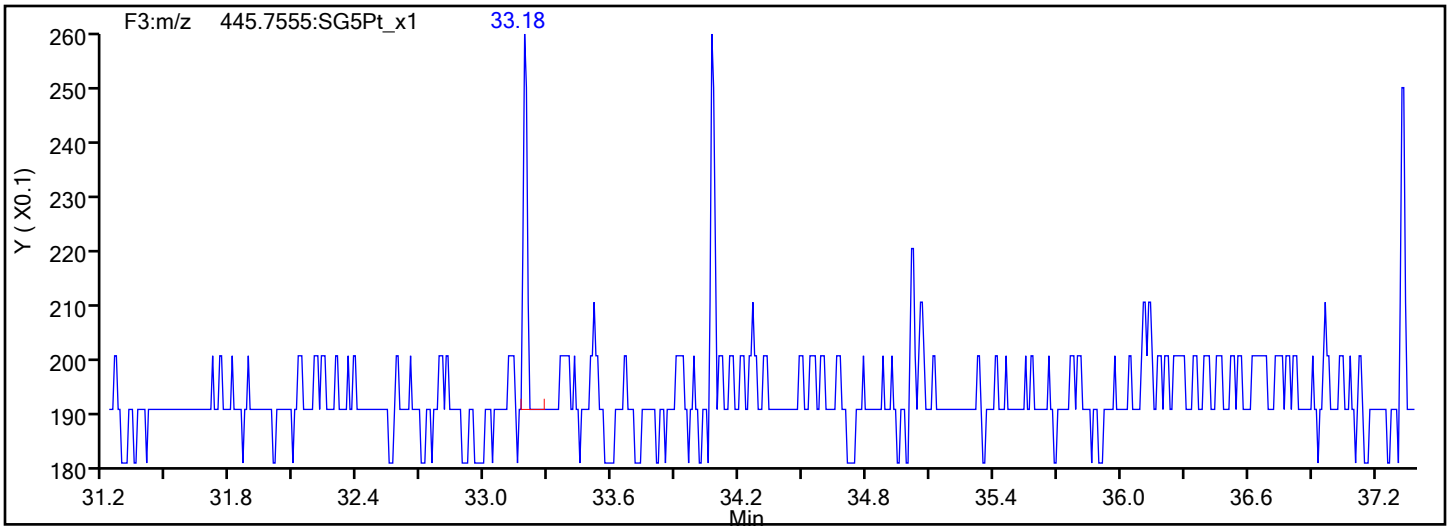
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



Report Date: 20-Jan-2022 15:58:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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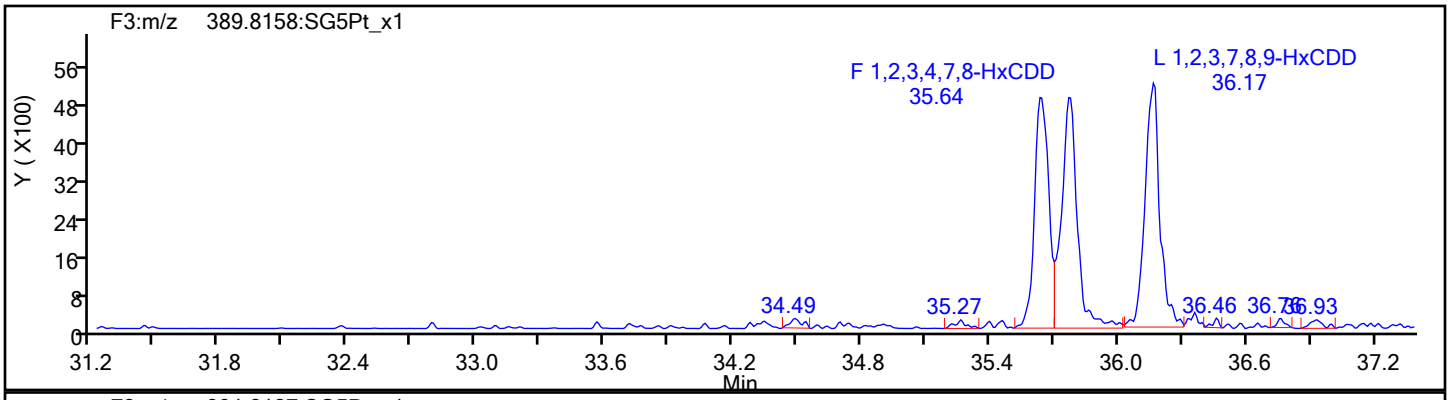
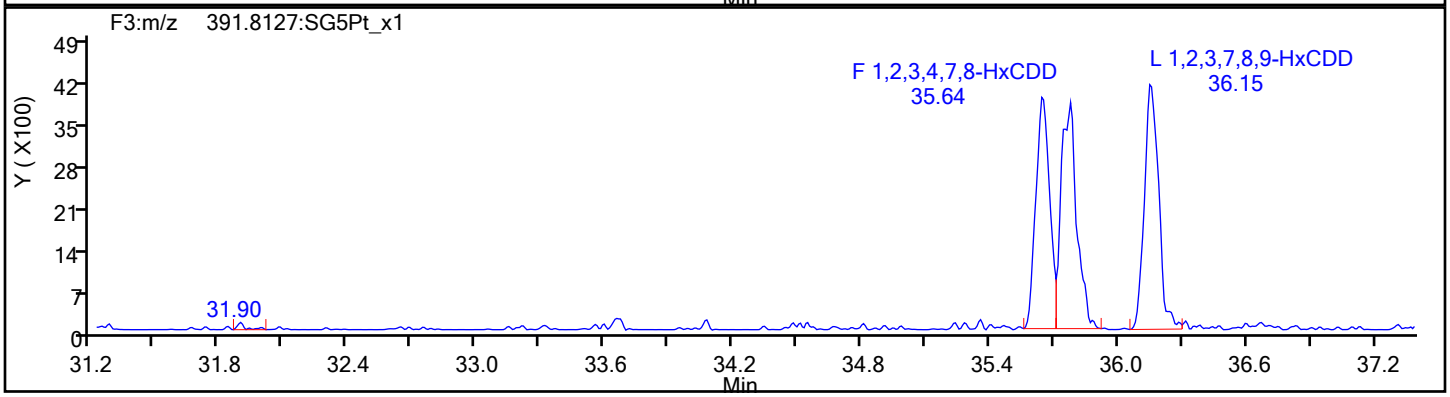
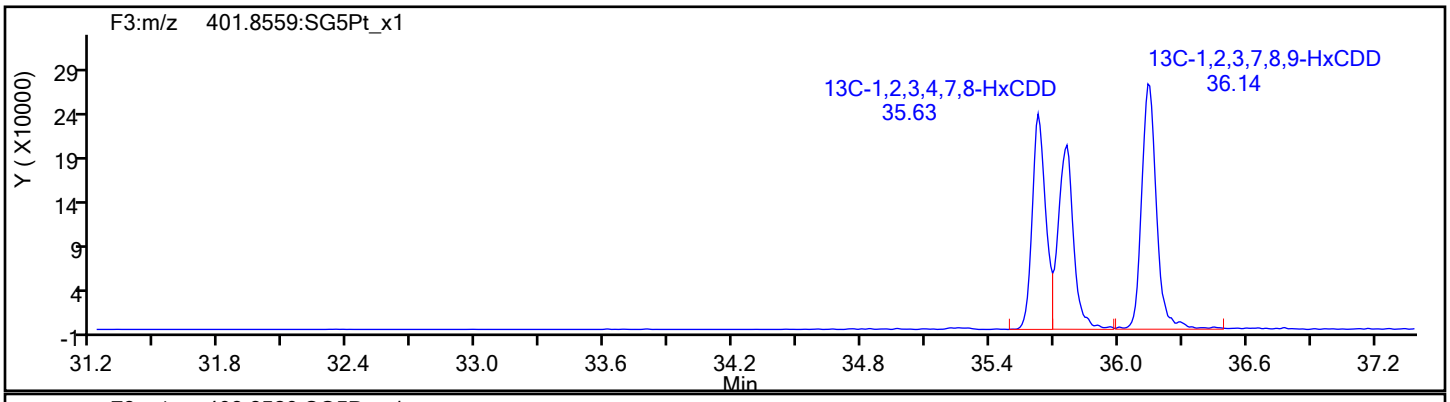
Column Type:	DB-5	Column Dia:	0.32 mm

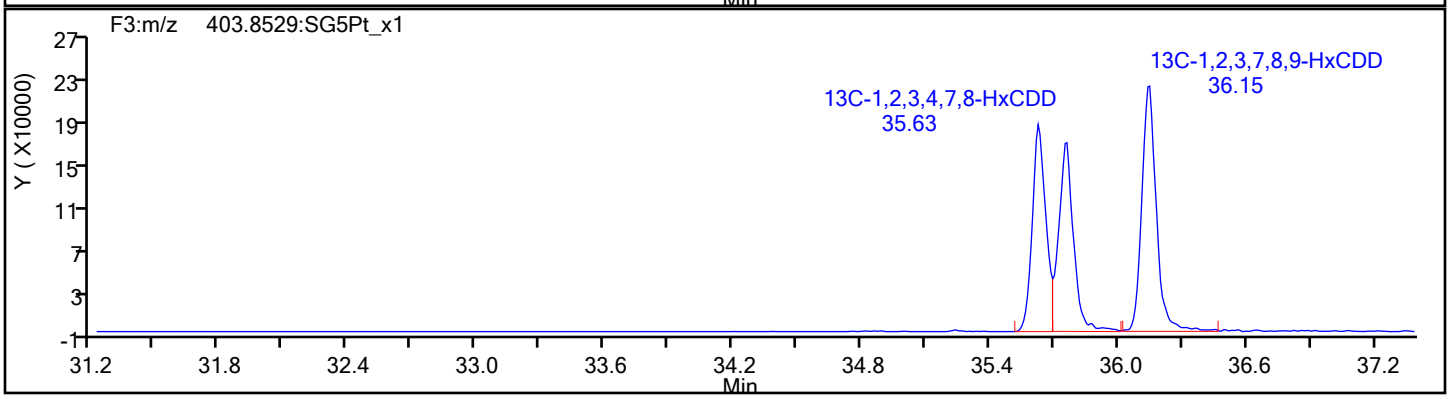
HxCDD





HxCDD Standards





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Eurofins Sacramento

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Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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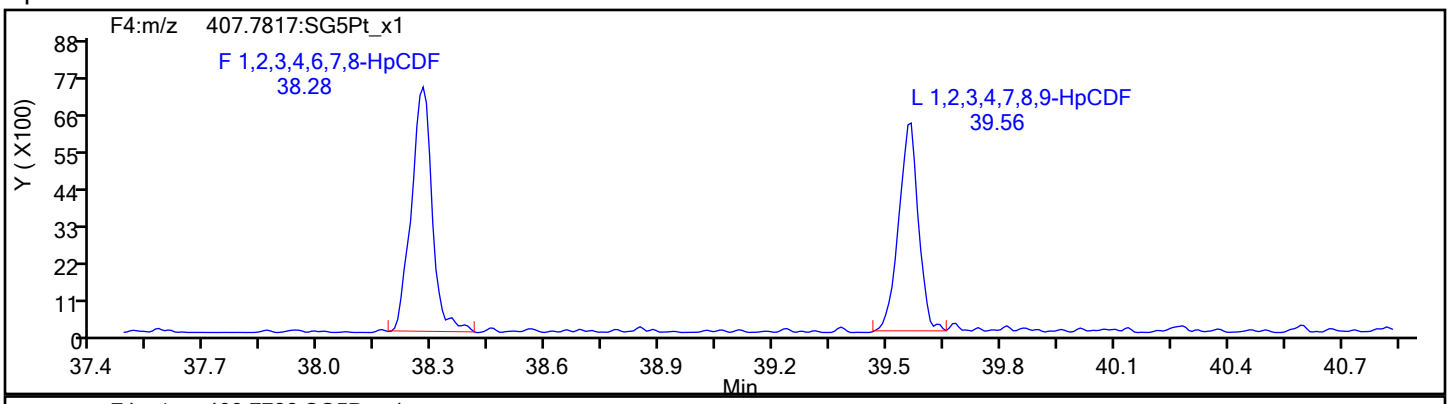
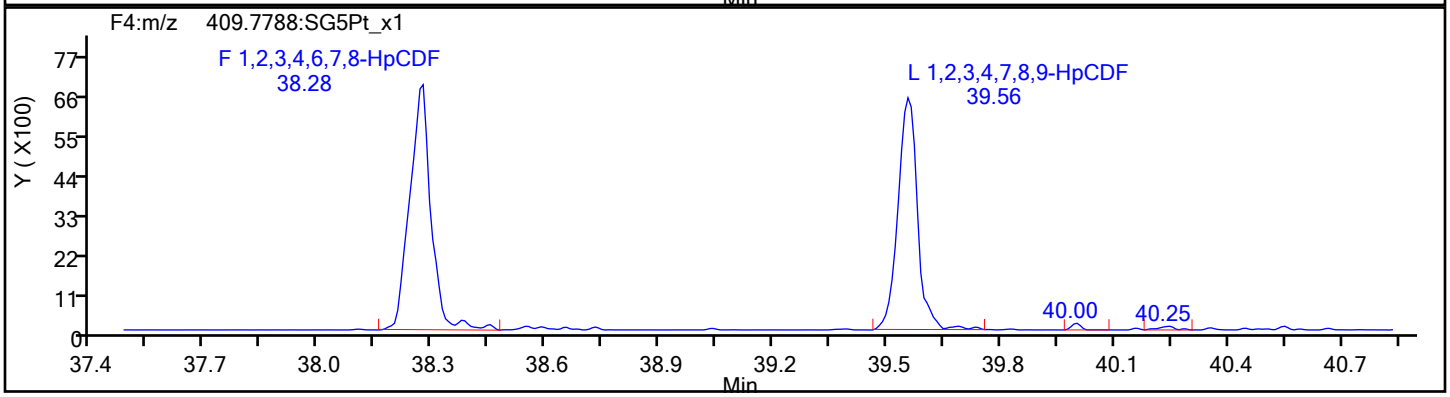
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





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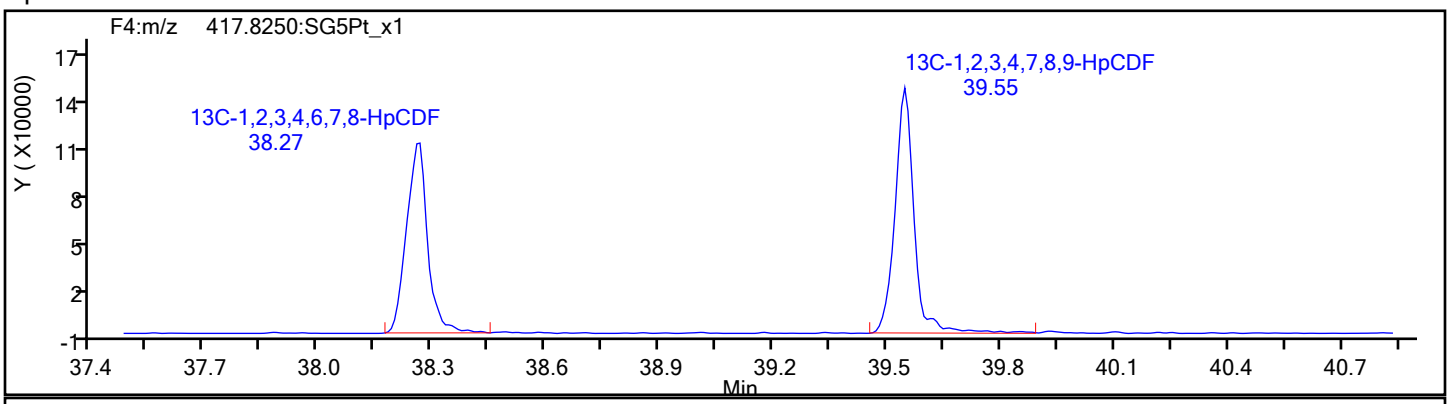
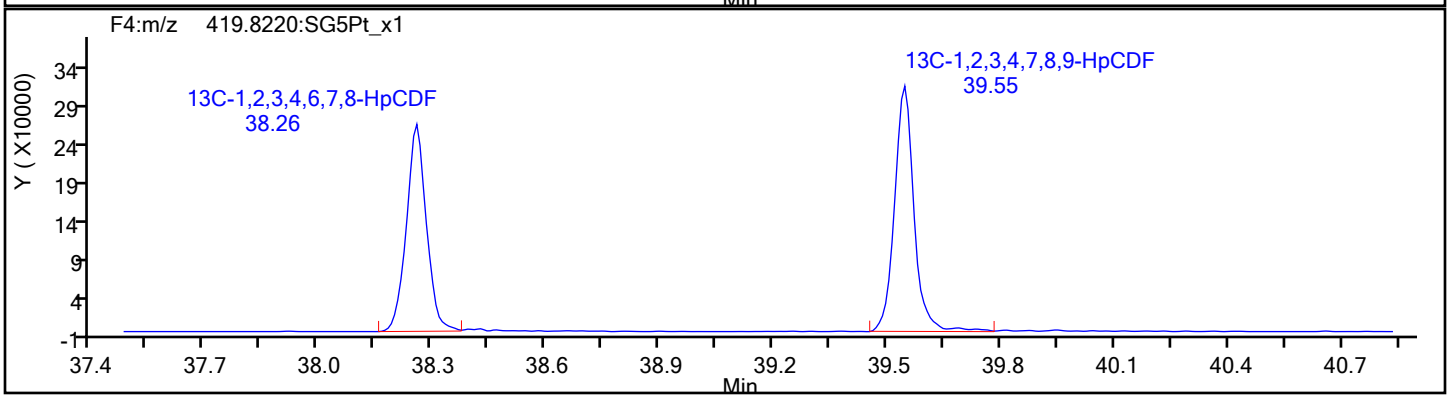
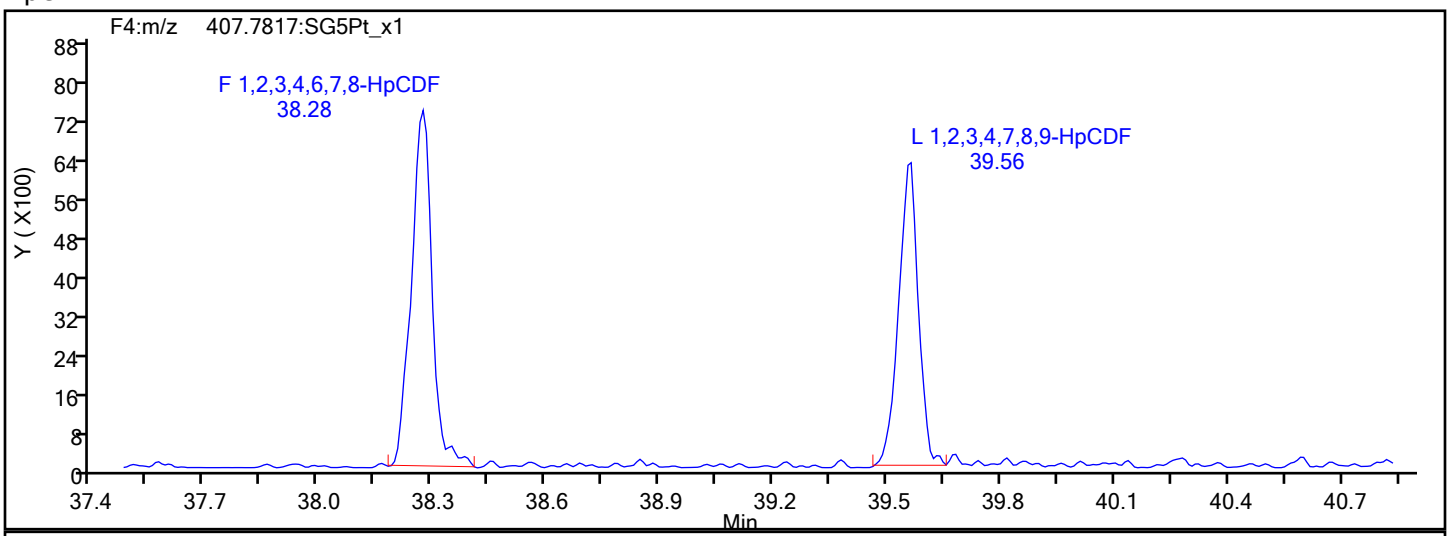


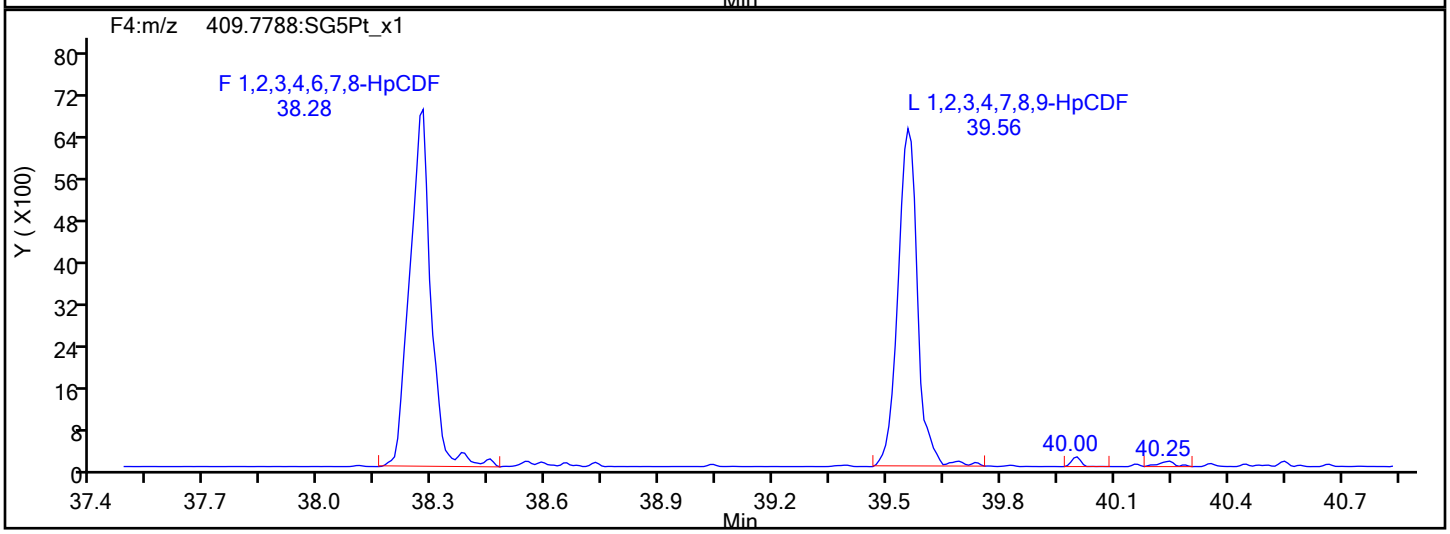


Eurofins Sacramento

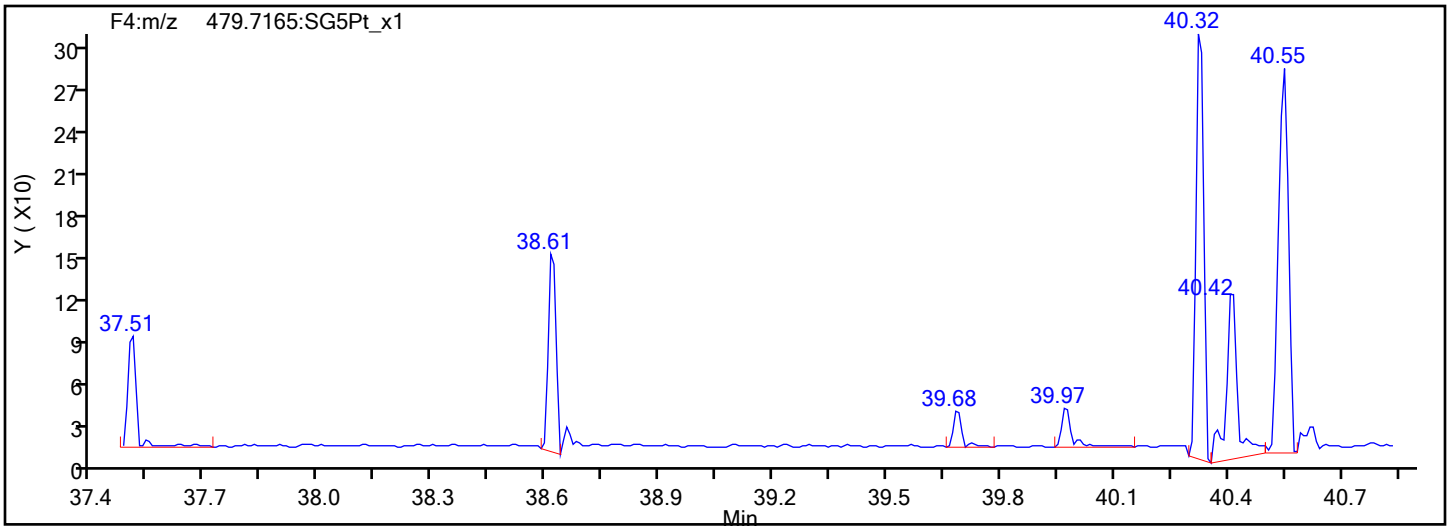
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d
Injection Date: 13-Jan-2022 17:16:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



Report Date: 20-Jan-2022 15:58:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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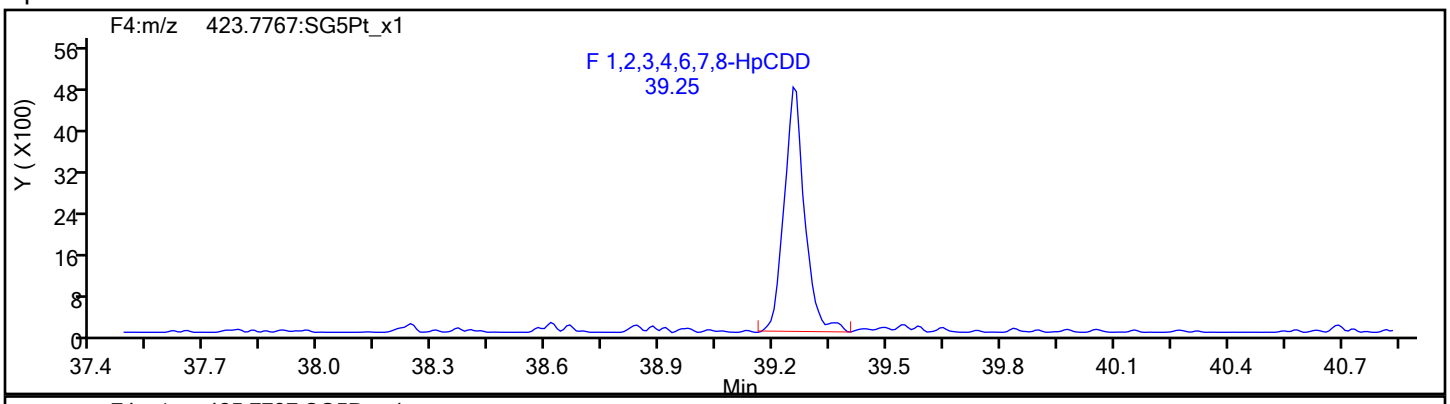
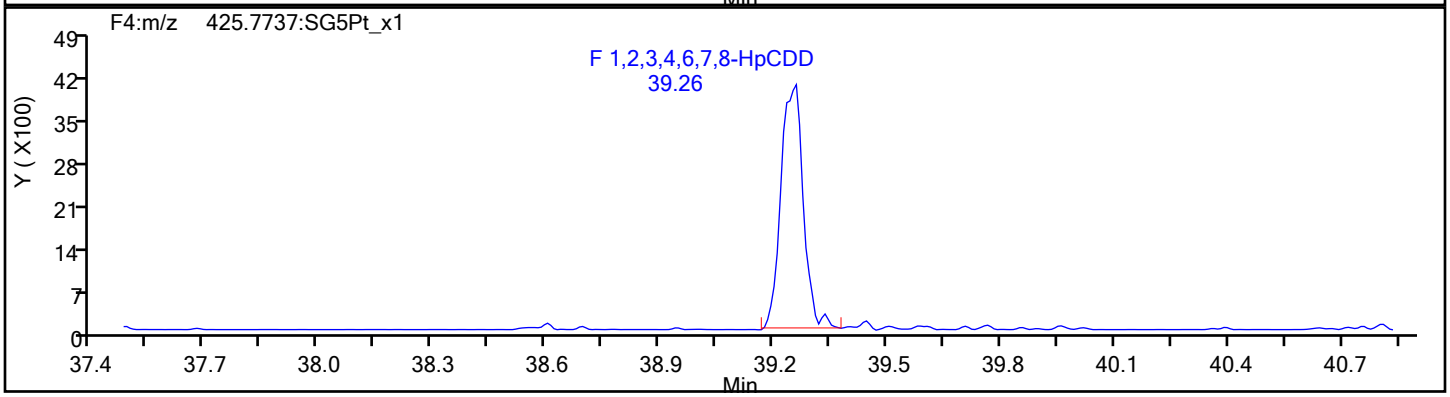
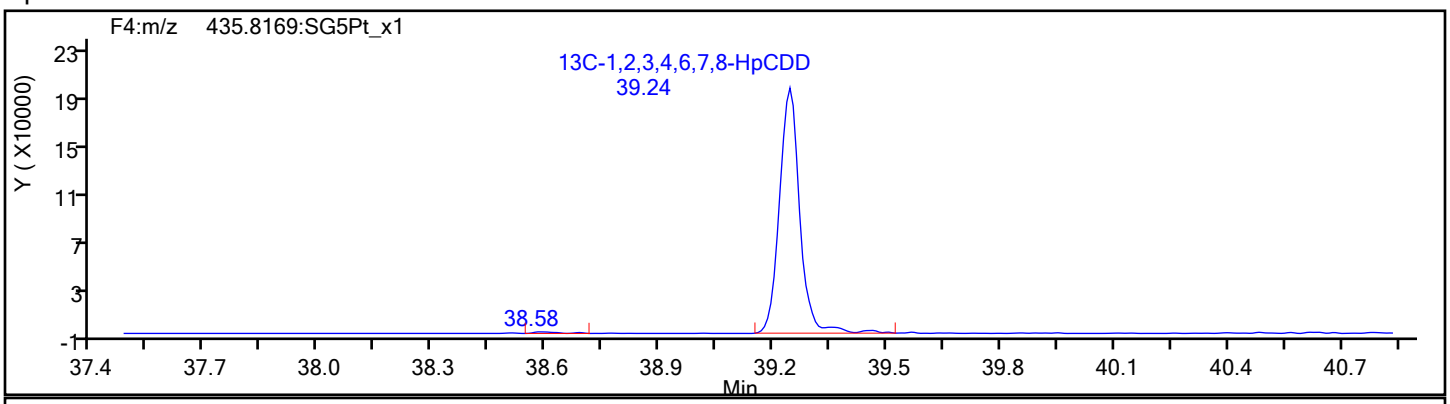
Column Type:	DB-5	Column Dia:	0.32 mm

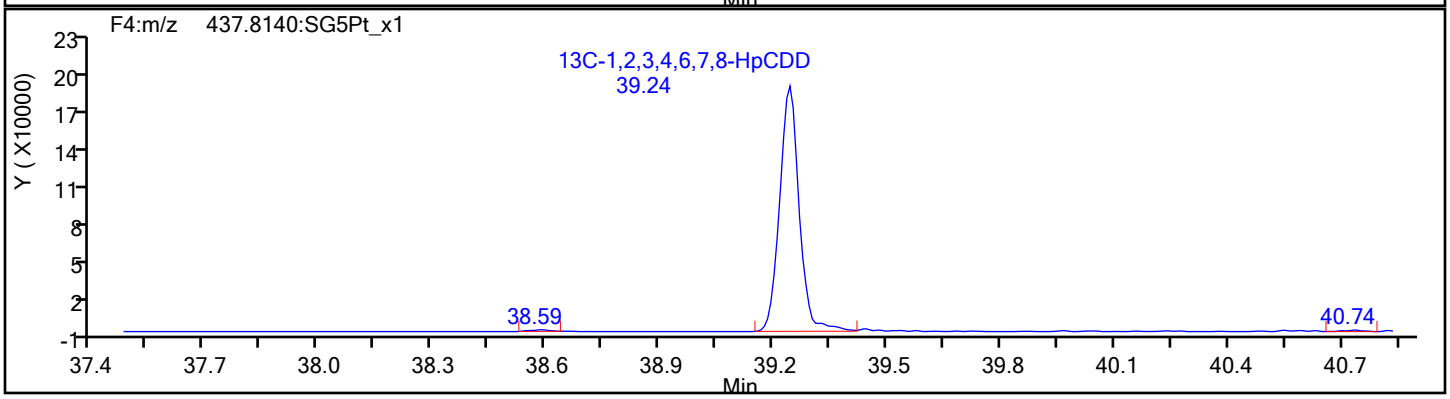
HpCDD





HpCDD Standards





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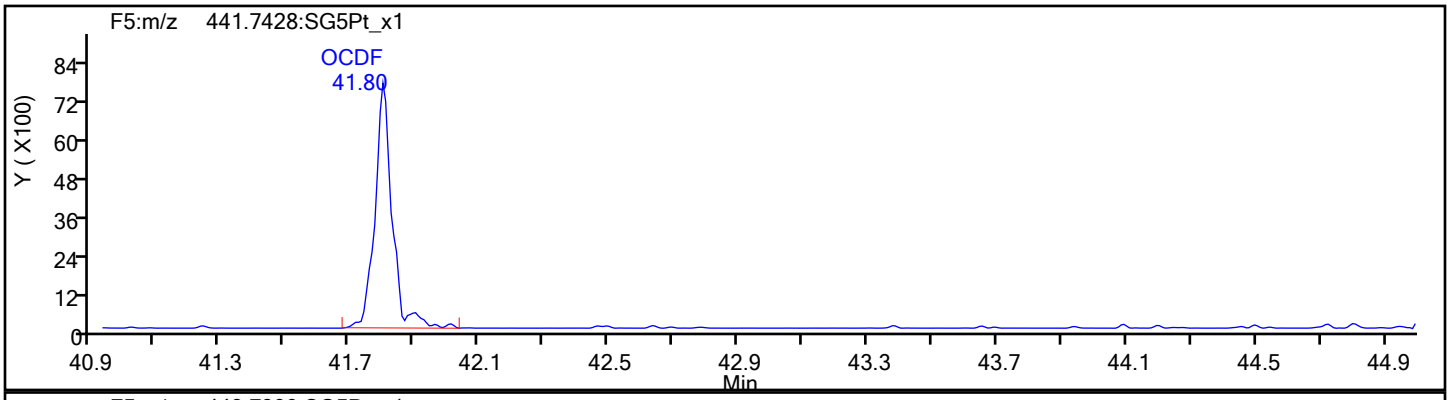
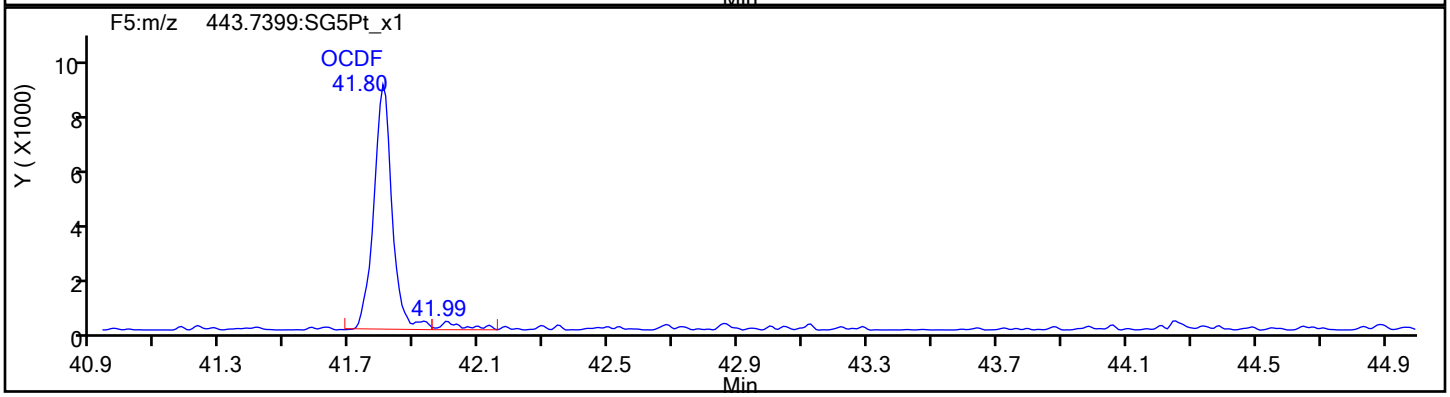
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

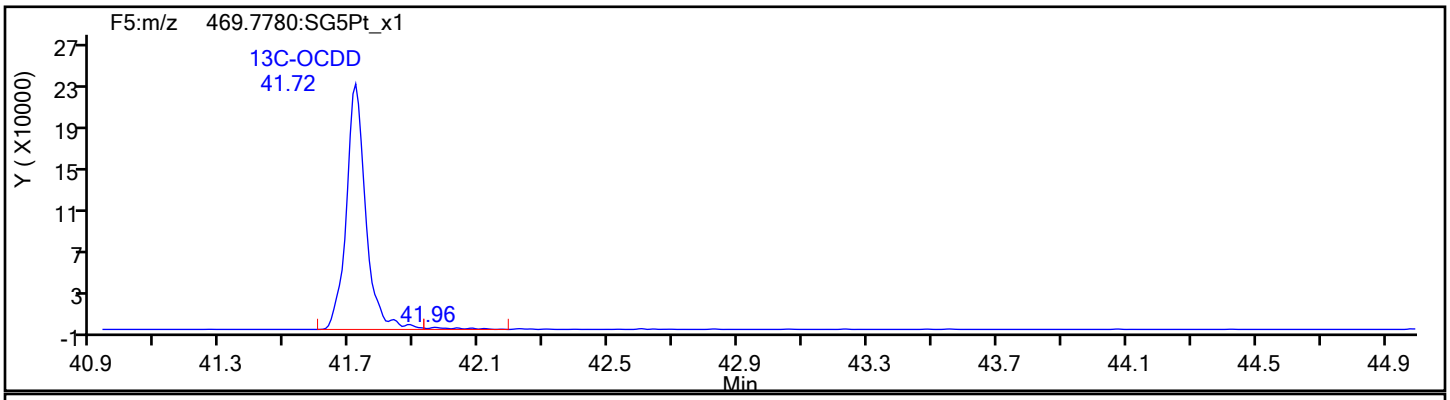
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

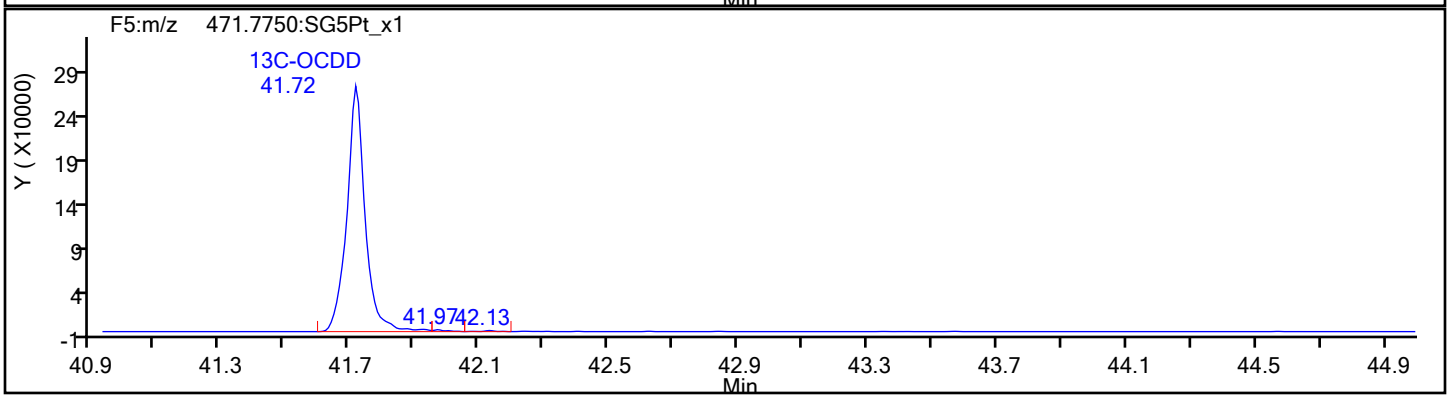
OCDF





OCDF Standards





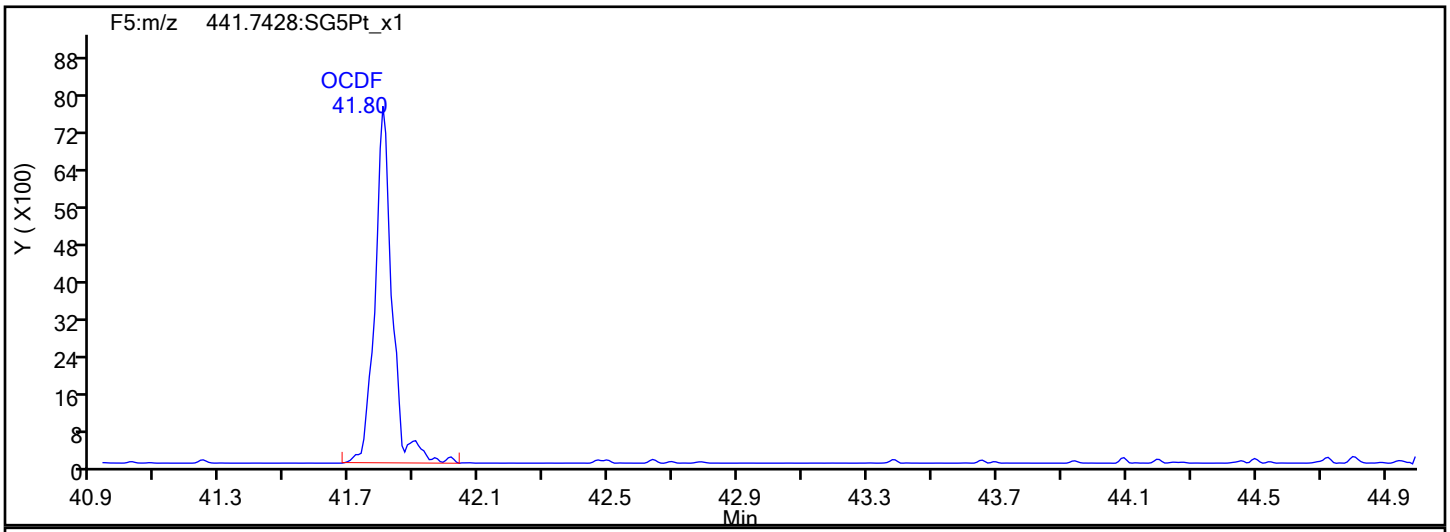
Report Date: 20-Jan-2022 15:58:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

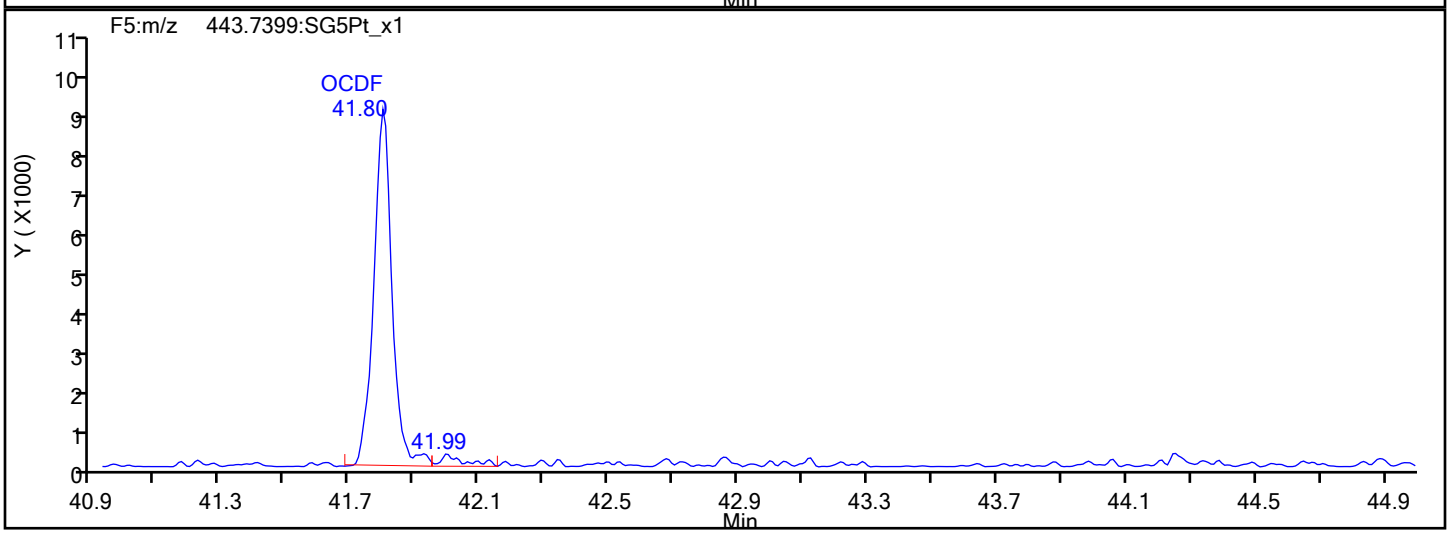
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

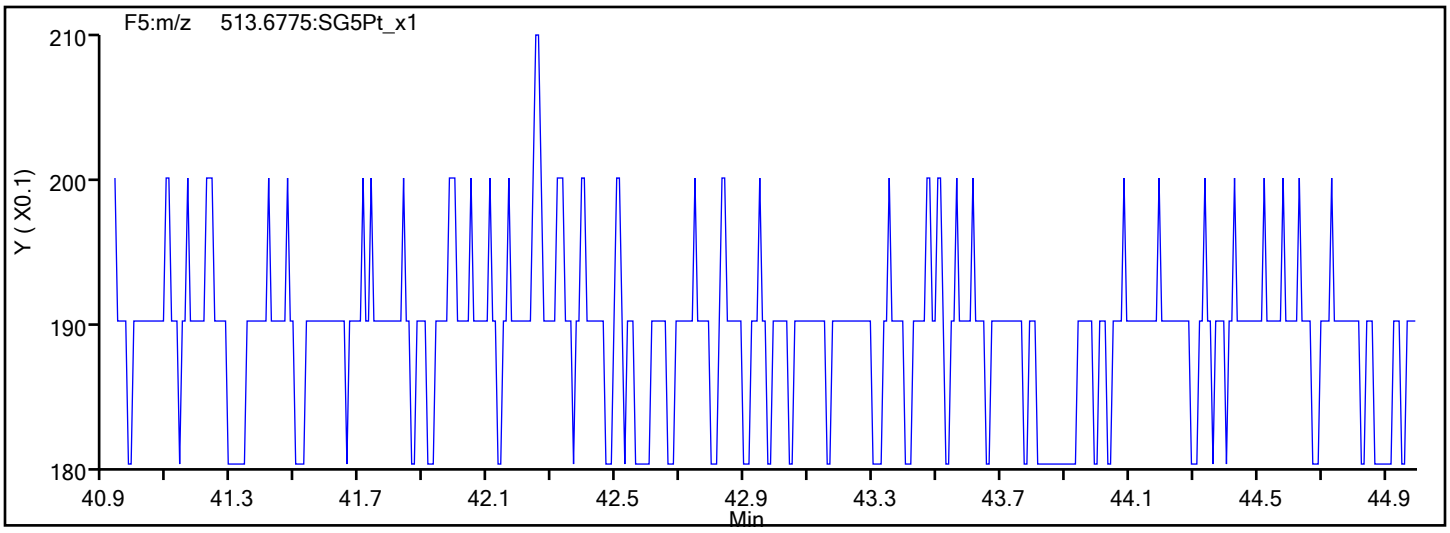
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



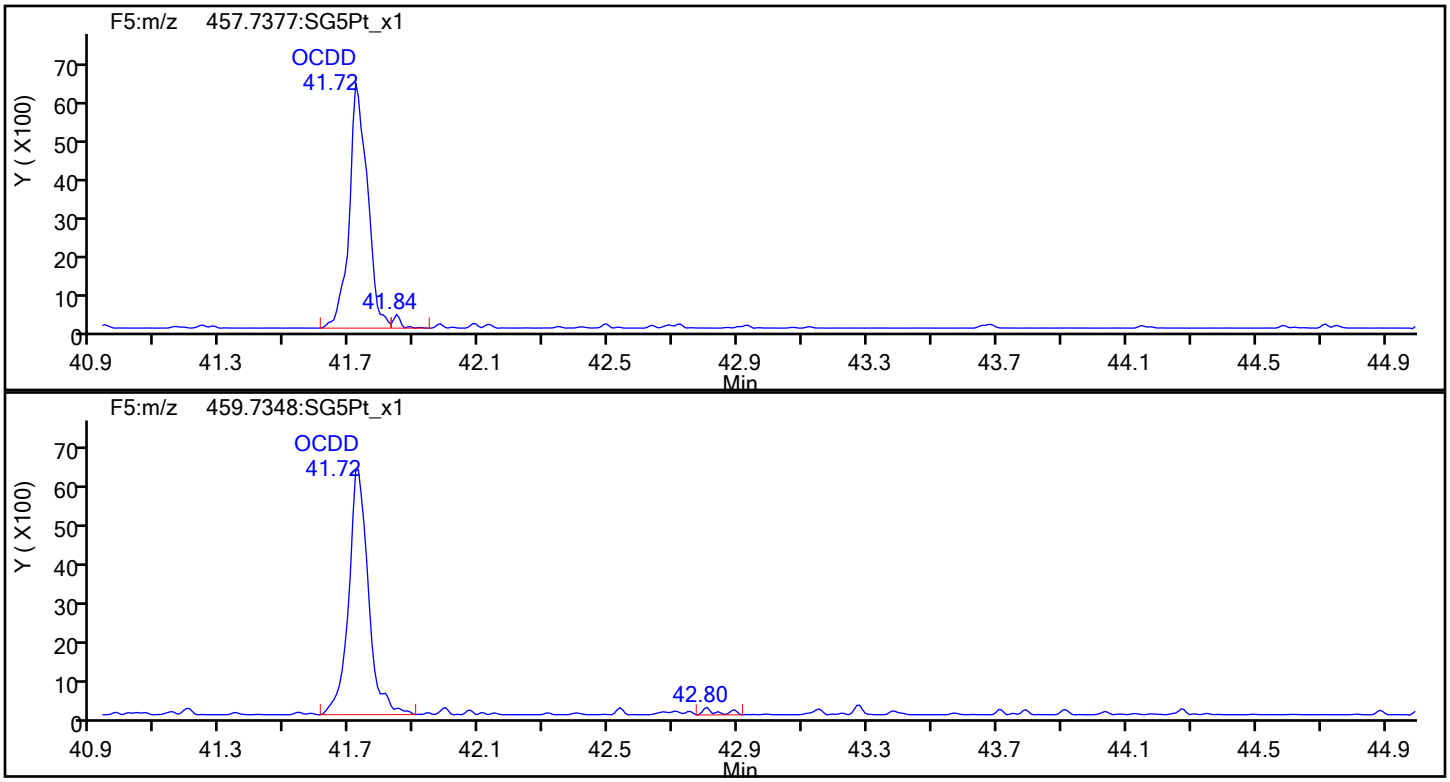
Report Date: 20-Jan-2022 15:58:36 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

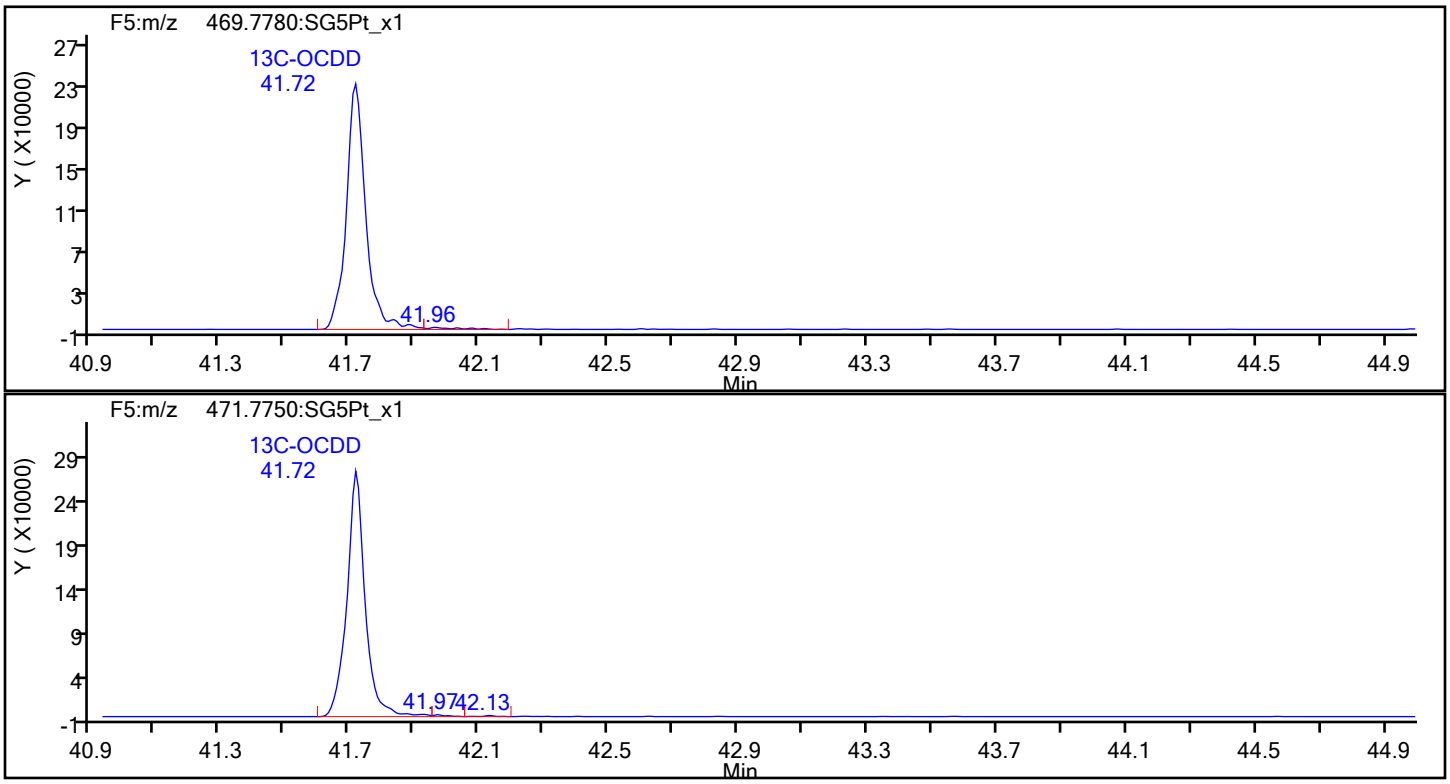
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD



OCDD Standards

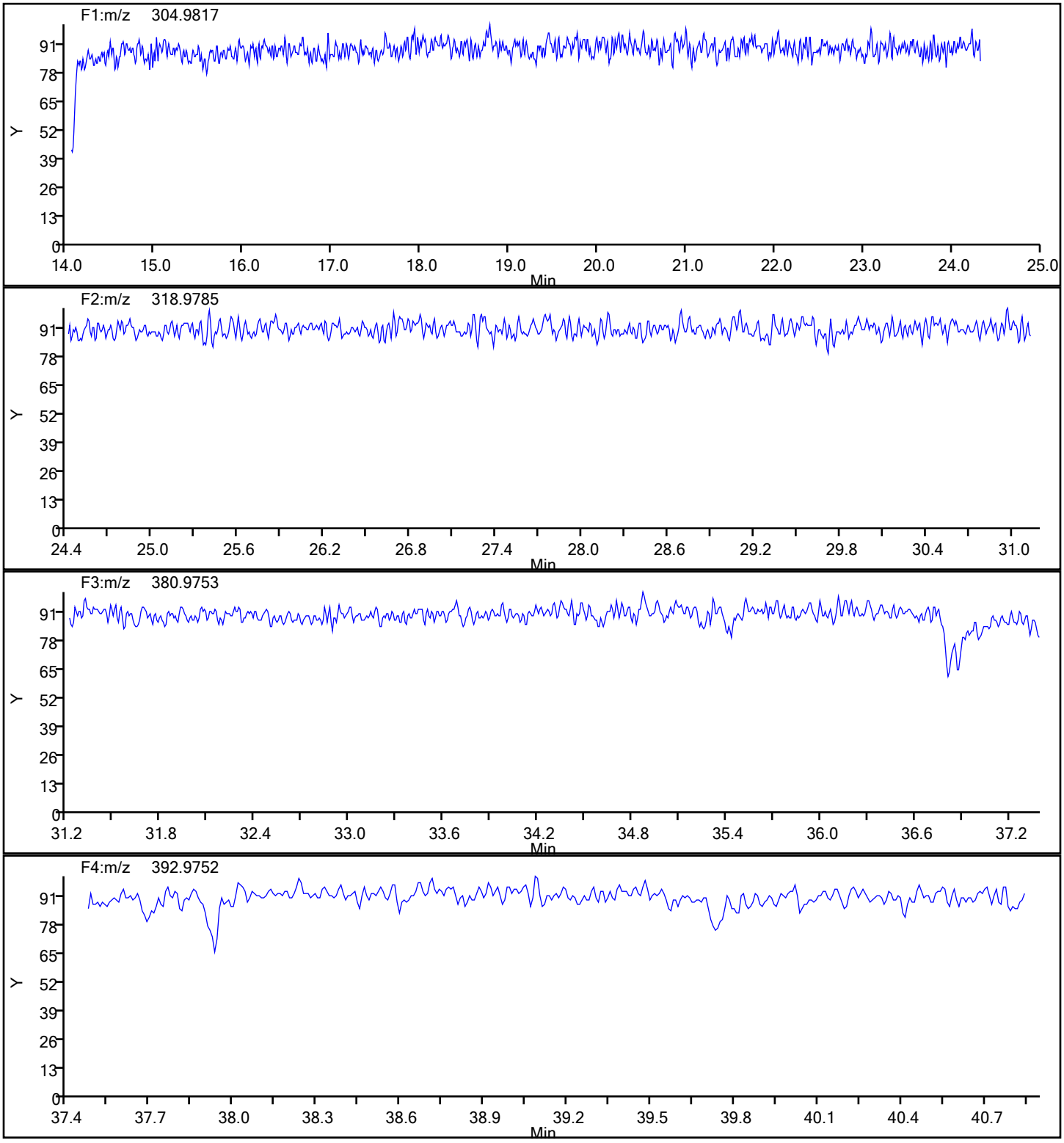


Report Date: 20-Jan-2022 15:58:37 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d

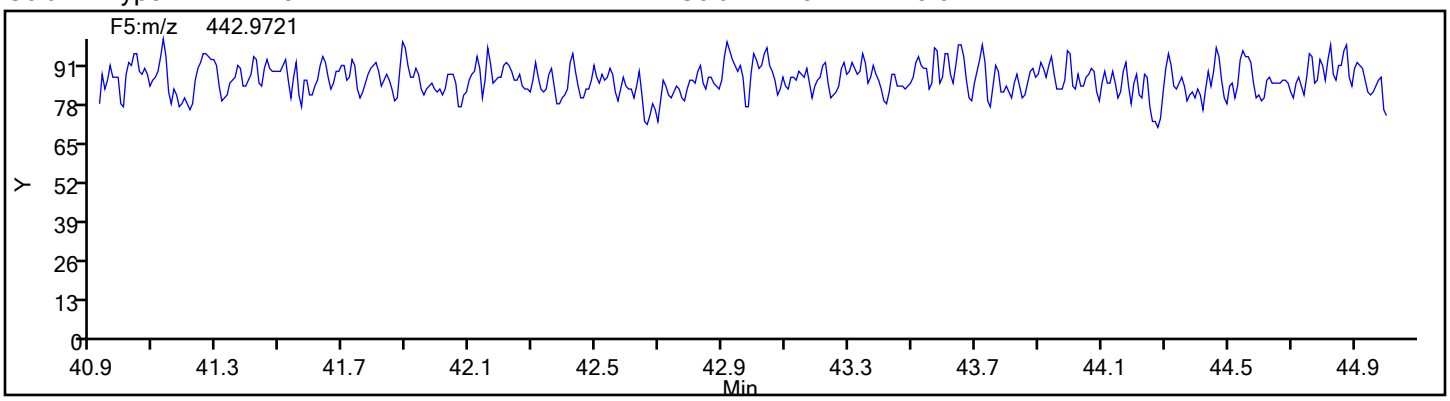
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 15:58:37 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_4.d		
Injection Date:	13-Jan-2022 17:16:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Jan-2022 18:04:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS3_HRDXNL3_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:57 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:59:50

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.401	2919860	0.78	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.473	3059827	0.77	1.0164	103.1	103.1	0.6088	0.6088	103	
2,3,7,8-TCDF	19.508	65332	0.69	1.0120	2.110	2.110	0.0296	0.0296	105	
S Total TCDF					2.110	2.110	0.0296	0.0296		
D 13C-2,3,7,8-TCDD	20.779	2255968	0.74	0.7884	98.0	98.0	0.4658	0.4658	98.00	
$ 37Cl4-2,3,7,8-TCDD	20.805	48454		0.7911	2.098	2.098	0.0158	0.0158	105	
2,3,7,8-TCDD	20.796	49507	0.83	0.9906	2.215	2.215	0.0471	0.0471	111	M
S Total TCDD					2.215	2.215	0.0471	0.0471		
D 13C-1,2,3,7,8-PeCDF	26.477	2652010	1.57	0.9232	98.4	98.4	0.5756	0.5756	98.39	
1,2,3,7,8-PeCDF	26.494	281241	1.49	0.9756	10.9	10.9	0.0928	0.0928	109	
D 13C-2,3,4,7,8-PeCDF	27.934	3067672	1.56	1.0793	97.3	97.3	0.4923	0.4923	97.34	
2,3,4,7,8-PeCDF	27.959	266127	1.56	0.9215	10.9	10.9	0.0983	0.0983	109	
S Total PeCDF					21.8	21.8	0.0955	0.0955		
D 13C-1,2,3,7,8-PeCDD	28.734	1615939	1.60	0.5606	98.7	98.7	0.2957	0.2957	98.72	
1,2,3,7,8-PeCDD	28.743	171354	1.60	1.0020	10.6	10.6	0.0659	0.0659	106	M
S Total PeCDD					10.6	10.6	0.0659	0.0659		
D 13C-1,2,3,4,7,8-HxCDF	34.339	2200292	0.51	1.0566	98.9	98.9	0.4527	0.4527	98.86	
1,2,3,4,7,8-HxCDF	34.356	204340	1.38	0.8835	10.5	10.5	0.0861	0.0861	105	
D 13C-1,2,3,6,7,8-HxCDF	34.516	1978454	0.53	0.9686	97.0	97.0	0.4938	0.4938	96.97	
1,2,3,6,7,8-HxCDF	34.533	252078	1.23	1.0287	11.1	11.1	0.0739	0.0739	111	
D 13C-2,3,4,6,7,8-HxCDF	35.417	1877728	0.51	0.9084	98.1	98.1	0.5265	0.5265	98.13	
2,3,4,6,7,8-HxCDF	35.434	236411	1.20	0.9878	10.9	10.9	0.0770	0.0770	109	
D 13C-1,2,3,7,8,9-HxCDF	36.361	1754804	0.52	0.8248	101.0	101.0	0.5799	0.5799	101	
1,2,3,7,8,9-HxCDF	36.377	221680	1.23	0.9071	11.1	11.1	0.0839	0.0839	111	
S Total HxCDF					43.6	43.6	0.0802	0.0802		
* 13C-1,2,3,7,8,9-HxCDD	36.167	2106513	1.28	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.653	1680898	1.30	0.8133	98.1	98.1	0.4470	0.4470	98.11	
1,2,3,4,7,8-HxCDD	35.670	144907	1.33	0.8294	10.6	10.6	0.0694	0.0694	106	
D 13C-1,2,3,6,7,8-HxCDD	35.780	1640708	1.26	0.8027	97.0	97.0	0.4530	0.4530	97.04	
1,2,3,6,7,8-HxCDD	35.796	167823	1.21	0.9395	10.9	10.9	0.0613	0.0613	109	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.184	155294	1.23	0.9076	10.4	10.4	0.0634	0.0634	104	
S Total HxCDD					32.0	32.0	0.0647	0.0647		
D 13C-1,2,3,4,6,7,8-HpCDF	38.284	1314917	0.46	0.6421	97.2	97.2	0.7295	0.7295	97.22	
1,2,3,4,6,7,8-HpCDF	38.293	200857	1.03	1.4385	10.6	10.6	0.0859	0.0859	106	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.573	1588136	0.44	1.1706	103.2	103.2	0.5325	0.5325	103	
1,2,3,4,7,8,9-HpCDF	39.582	177369	1.06	1.2202	11.1	11.1	0.1013	0.1013	111	
S Total HpCDF					21.7	21.7	0.0936	0.0936		
D 13C-1,2,3,4,6,7,8-HpCDD	39.270	1280749	1.08	0.6246	97.3	97.3	0.4579	0.4579	97.34	
1,2,3,4,6,7,8-HpCDD	39.278	141402	1.02	0.9767	11.3	11.3	0.0534	0.0534	113	
S Total HpCDD					11.3	11.3	0.0534	0.0534		
D 13C-OCDD	41.749	1830337	0.85	0.4360	199.3	199.3	0.3919	0.3919	99.64	
OCDF	41.834	244695	0.89	1.2756	21.0	21.0	0.1002	0.1002	105	
OCDD	41.749	208726	0.89	1.0341	22.1	22.1	0.0713	0.0713	110	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

HRDXNL3_00030 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Jan-2022 18:04:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS3_HRDXNL3_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:57 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:59:50

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.401	20.418	-1		1280742	183196	408	1020	449		
333.9338	20.401	20.418	-1		1639118	257160	239	597	1076	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.473	19.485	-1	0.955	1328700	204673	758	1895	270		
317.9389	19.473	19.485	-1	0.955	1731127	246627	332	830	743	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.508	19.520	-1	1.002	26764	4060	10	25	406		
305.8987	19.508	19.520	-1	1.002	38568	6271	44	110	143	0.69(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.779	20.784	0	1.019	960636	135290	408	1020	332		
333.9338	20.771	20.784	-1	1.018	1295332	196697	239	597	823	0.74(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.805	20.809	0	1.020	48454	7249	22	55	330		
2,3,7,8-TCDD											M
319.8965	20.796	20.821	-1	1.001	22452	2768	54	135	51		
321.8936	20.788	20.821	-2	1.000	27055	3638	8	20	455	0.83(0.65-0.89)	M
13C-1,2,3,7,8-PeCDF											
351.9000	26.477	26.498	-1	1.298	1620758	262593	567	1417	463		
353.8970	26.477	26.498	-1	1.298	1031252	168108	369	922	456	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.494	26.518	-1	1.001	168302	26410	59	147	448		
341.8567	26.511	26.518	0	1.001	112939	15811	97	242	163	1.49(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.934	27.961	-2	1.369	1869718	283514	567	1417	500		
353.8970	27.926	27.961	-2	1.369	1197954	171589	369	922	465	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.959	27.984	-1	1.001	162130	23006	59	147	390		
341.8567	27.951	27.984	-2	1.001	103997	14755	97	242	152	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.734	28.754	-1	1.408	995214	147450	154	385	957		
369.8919	28.726	28.754	-2	1.408	620725	87135	138	345	631	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											M
355.8546	28.743	28.781	-2	1.000	105404	13818	50	125	276		
357.8516	28.760	28.781	-1	1.001	65950	8872	12	30	739	1.60(1.32-1.78)	M
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.339	34.357	-1	0.949	744055	148201	342	855	433		
385.8610	34.339	34.357	-1	0.949	1456237	275081	492	1230	559	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.356	34.374	-1	1.000	118416	21892	87	217	252		
375.8178	34.365	34.374	-1	1.001	85924	16145	42	105	384	1.38(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.516	34.533	-1	0.954	684248	127241	342	855	372		
385.8610	34.516	34.533	-1	0.954	1294206	225298	492	1230	458	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.533	34.553	-1	1.000	138906	23485	87	217	270		
375.8178	34.542	34.553	-1	1.001	113172	17495	42	105	417	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.417	35.421	0	0.979	630543	132518	342	855	387		
385.8610	35.417	35.421	0	0.979	1247185	267423	492	1230	544	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.434	35.438	0	1.000	128963	24988	87	217	287		
375.8178	35.434	35.438	0	1.000	107448	21429	42	105	510	1.20(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.361	36.366	0	1.005	597392	137903	342	855	403		
385.8610	36.369	36.366	0	1.006	1157412	247400	492	1230	503	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.377	36.385	0	1.000	122378	26435	87	217	304		
375.8178	36.377	36.385	0	1.000	99302	20143	42	105	480	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.167	36.172	0		1184232	246388	425	1062	580		
403.8529	36.167	36.172	0		922281	189566	209	522	907	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.653	35.661	0	0.986	950128	219478	425	1062	516		
403.8529	35.653	35.661	0	0.986	730770	168404	209	522	806	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.670	35.676	0	1.000	82754	18294	42	105	436		
391.8127	35.670	35.676	0	1.000	62153	14065	36	90	391	1.33(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.780	35.787	0	0.989	915685	196402	425	1062	462		
403.8529	35.771	35.787	-1	0.989	725023	142211	209	522	680	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.796	35.802	0	1.000	91743	18577	42	105	442		
391.8127	35.796	35.802	0	1.000	76080	15673	36	90	435	1.21(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.184	36.191	0	1.015	85700	18853	42	105	449		
391.8127	36.175	36.191	-1	1.015	69594	14337	36	90	398	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.284	38.287	0	1.059	412701	103450	357	892	290		
419.8220	38.284	38.287	0	1.059	902216	224172	460	1150	487	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.293	38.299	0	1.000	101864	25714	98	245	262		
409.7788	38.293	38.299	0	1.000	98993	25984	64	160	406	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.573	39.570	0	1.094	483016	139383	357	892	390		
419.8220	39.573	39.570	0	1.094	1105120	308174	460	1150	670	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.582	39.584	0	1.000	91165	24150	98	245	246		
409.7788	39.582	39.584	0	1.000	86204	22146	64	160	346	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.270	39.269	0	1.086	665847	178570	261	652	684		
437.8140	39.270	39.269	0	1.086	614902	157197	238	595	660	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.278	39.277	0	1.000	71489	18420	44	110	419		
425.7737	39.278	39.277	0	1.000	69913	19337	26	65	744	1.02(0.88-1.20)	
13C-OCDD											
469.7780	41.749	41.743	0	1.154	839878	196954	199	497	990		
471.7750	41.741	41.743	0	1.154	990459	228836	99	247	2311	0.85(0.76-1.02)	
OCDF											
441.7428	41.834	41.826	0	1.002	115408	27496	42	105	655		
443.7399	41.825	41.826	0	1.002	129287	31118	67	167	464	0.89(0.76-1.02)	
OCDD											
457.7377	41.749	41.748	0	1.000	98101	22907	26	65	881		
459.7348	41.758	41.748	1	1.000	110625	25019	37	92	676	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

HRDXNL3_00030 Amount Added: 1.00 Units: ml

Manual Integration/User Assign Peak Report

Eurofins Sacramento

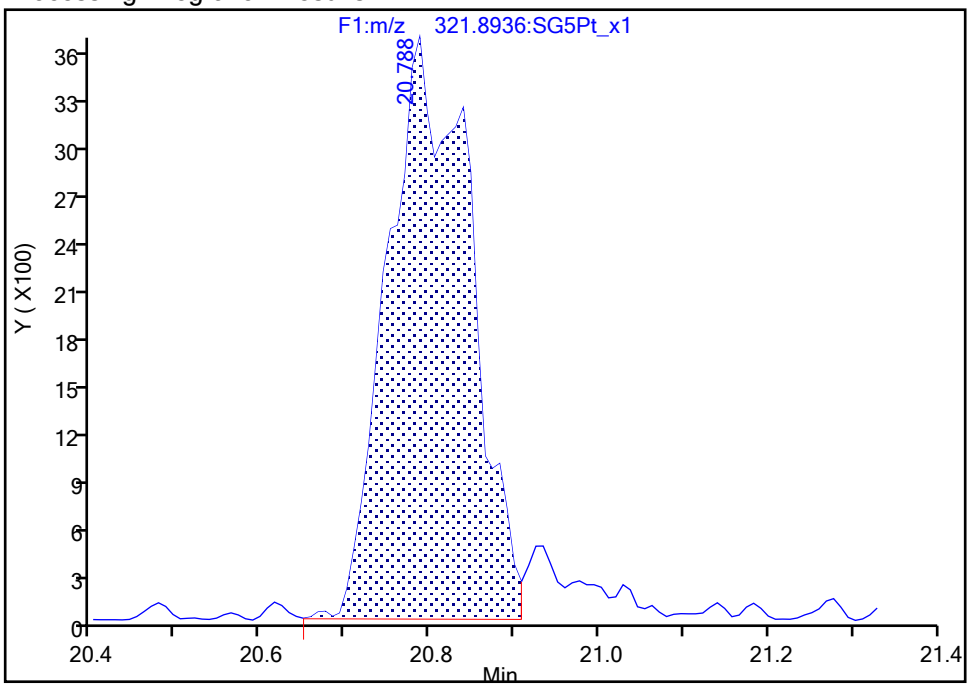
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

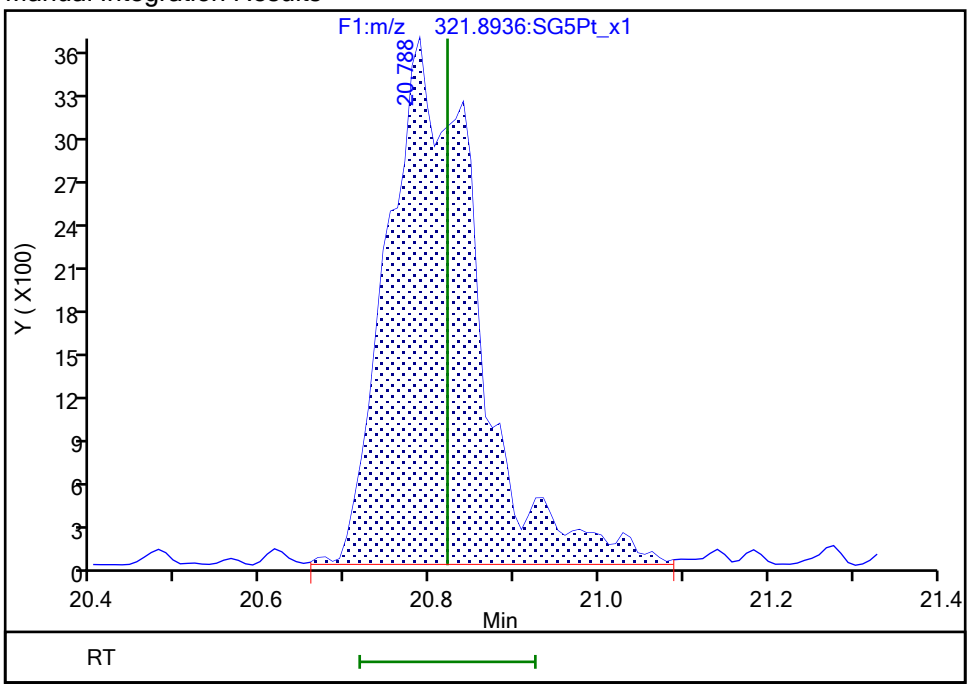
Processing Integration Results

RT: 20.79
Area: 24840
Amount: 2.171902
Amount Units: pg/ul



Manual Integration Results

RT: 20.79
Area: 27055
Amount: 2.215248
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:11:55
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

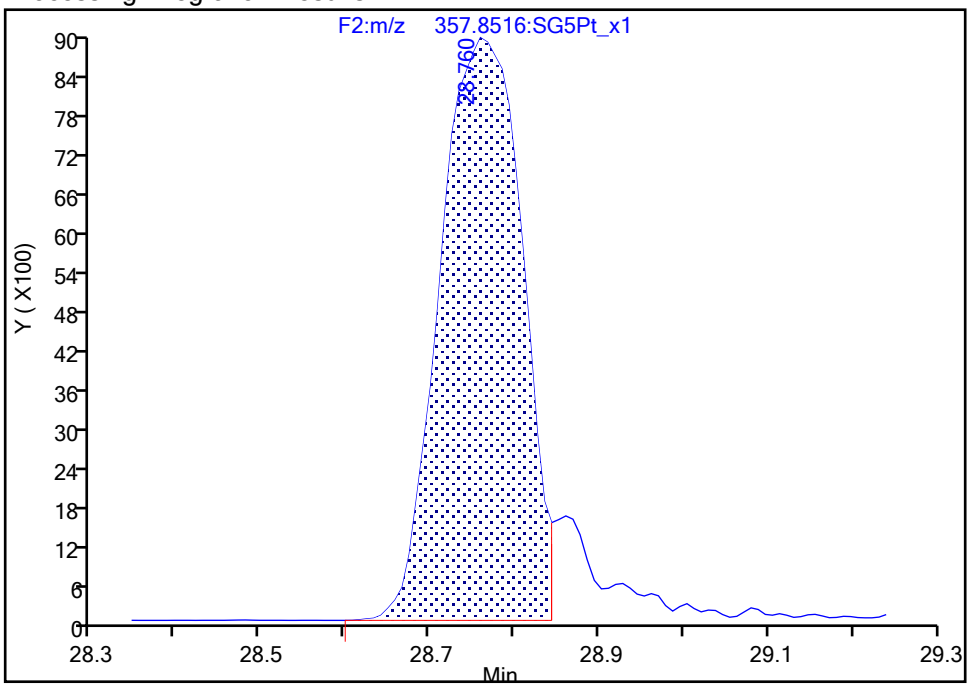
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F2(26.07 :33.00)

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

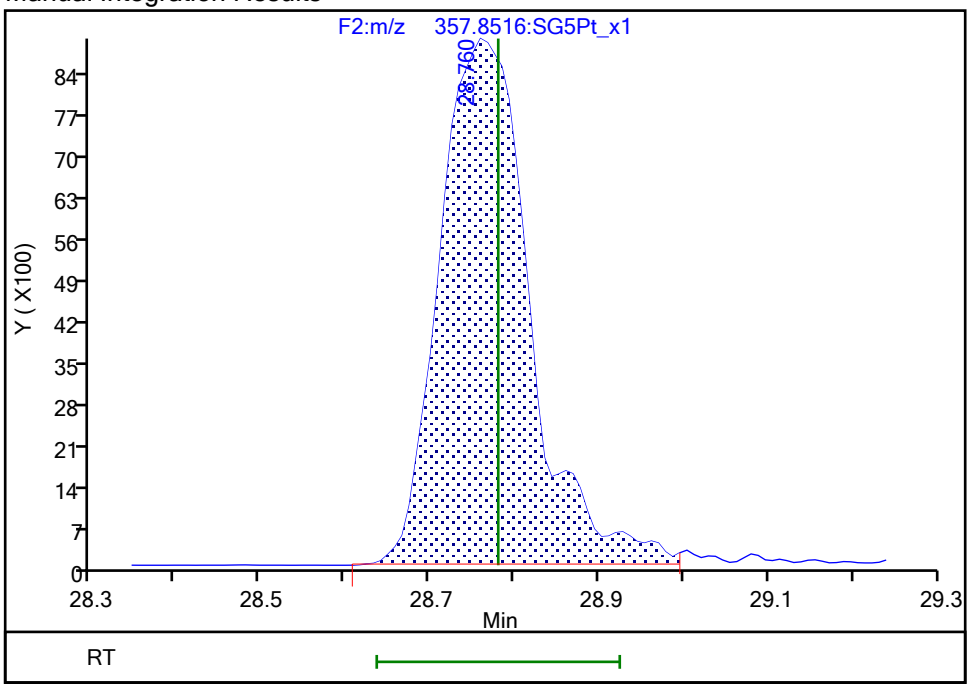
Processing Integration Results

RT: 28.76
Area: 59908
Amount: 10.286219
Amount Units: pg/ul



Manual Integration Results

RT: 28.76
Area: 65950
Amount: 10.582600
Amount Units: pg/ul

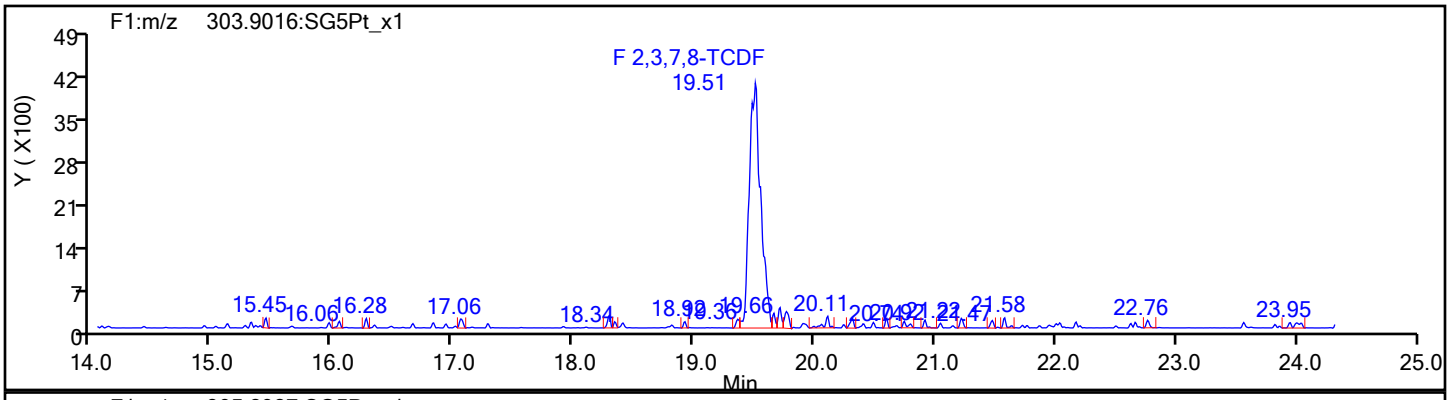


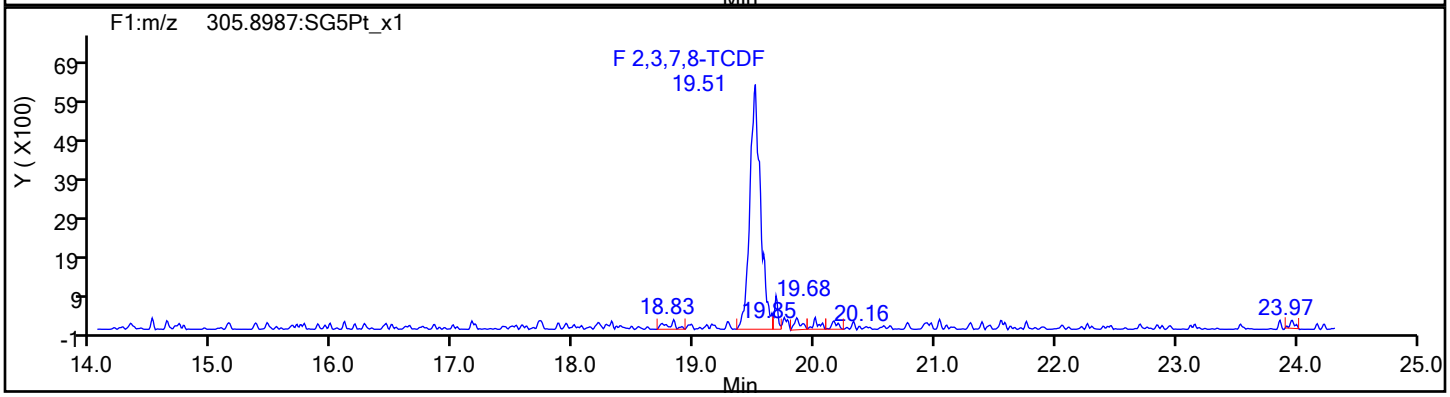
Reviewer: bilottag, 18-Jan-2022 12:12:07
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins Sacramento

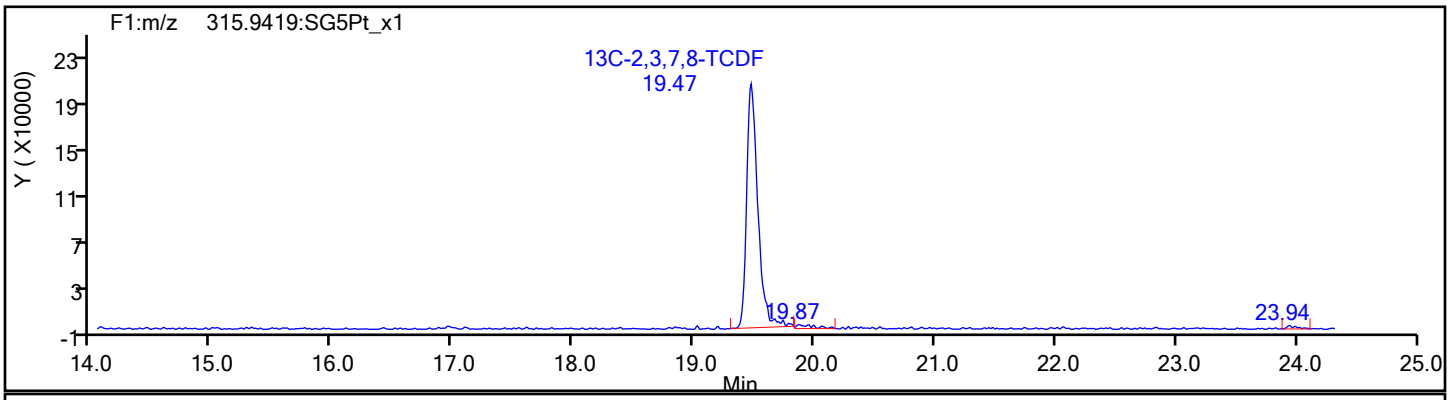
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

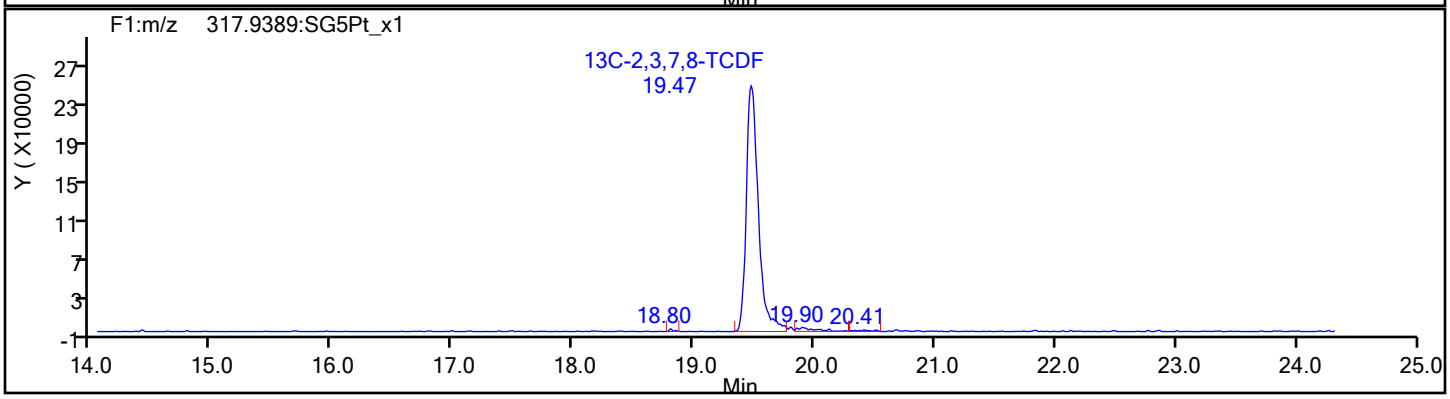
TCDF





TCDF Standards

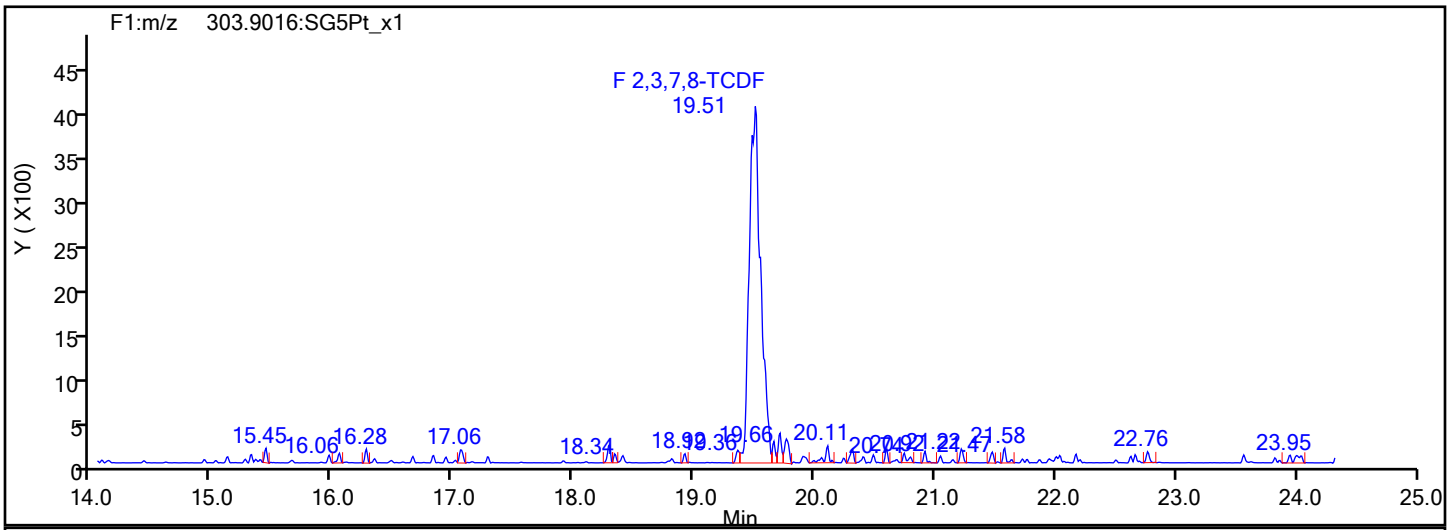


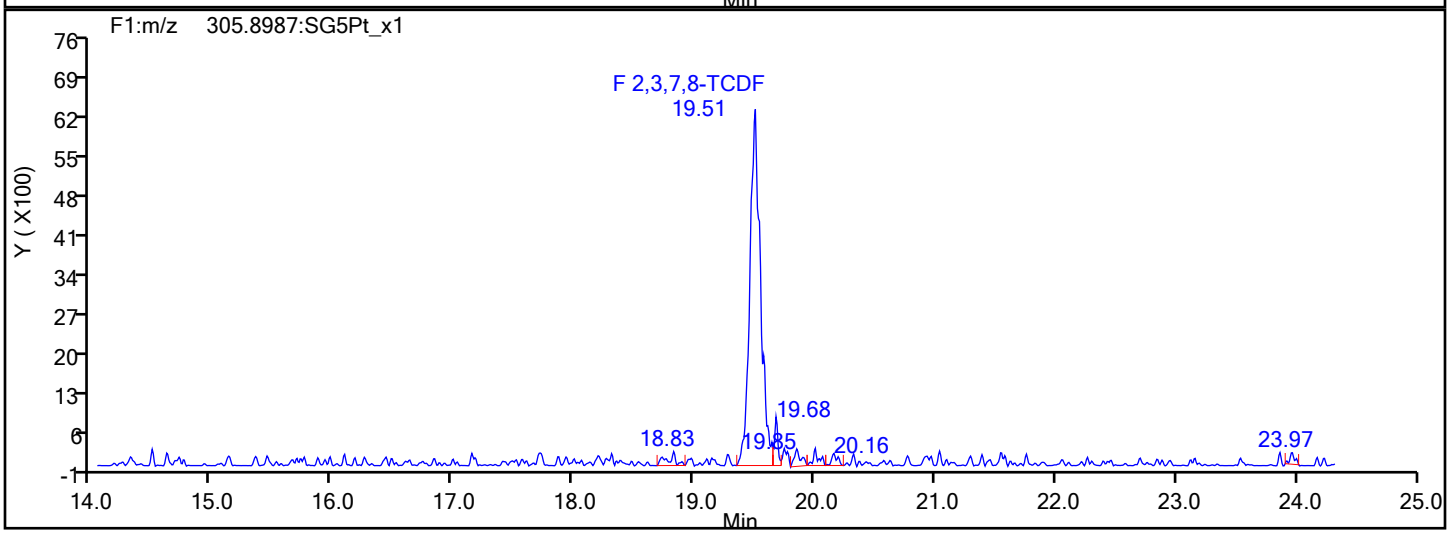


Eurofins Sacramento

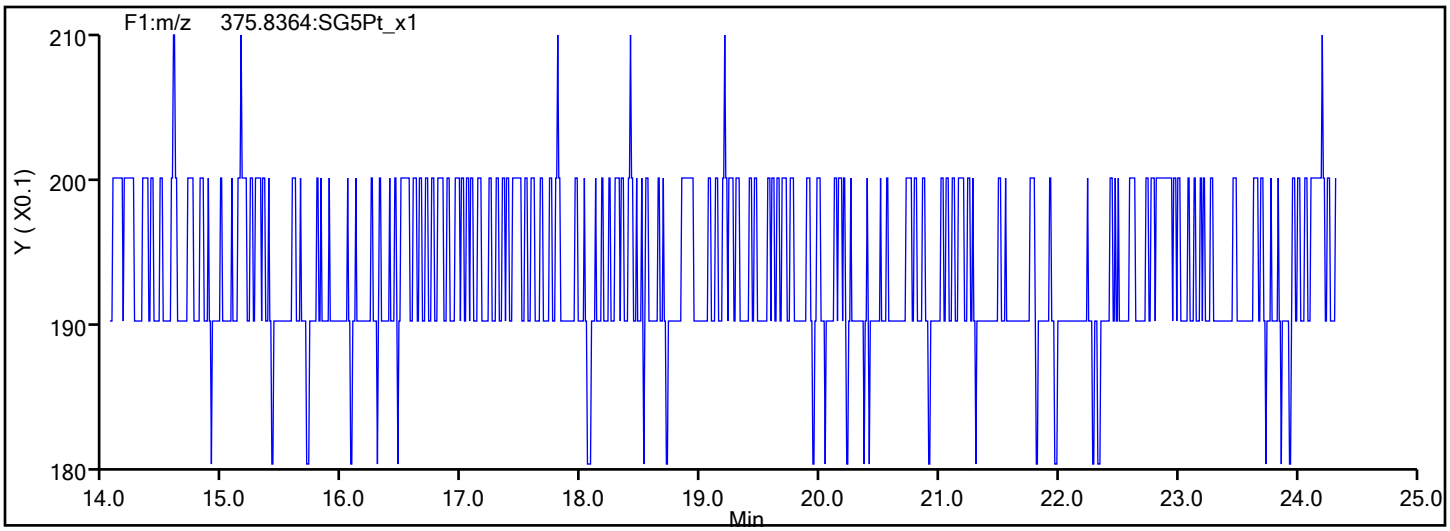
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d		
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





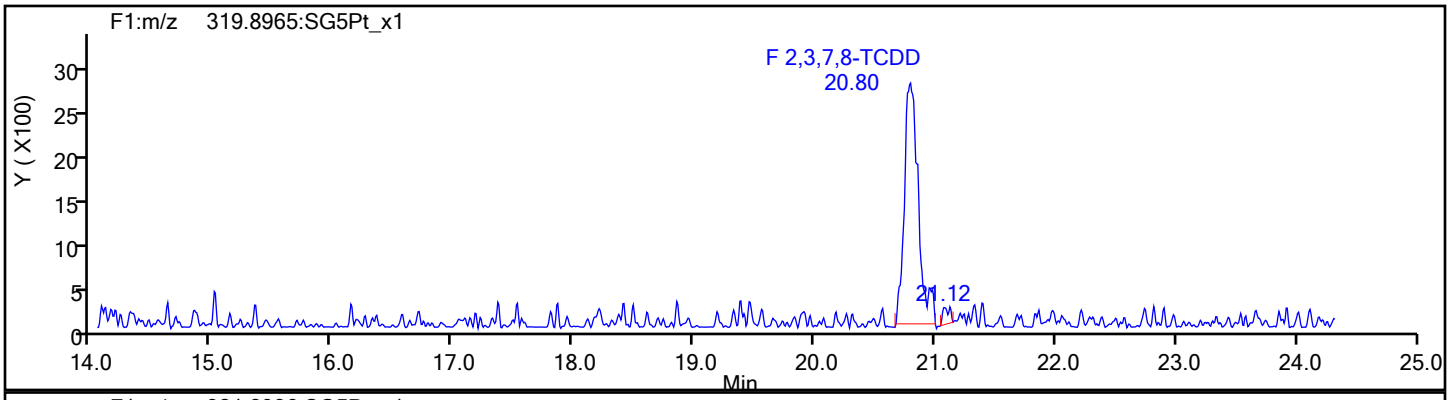
TCDF Interference Mass

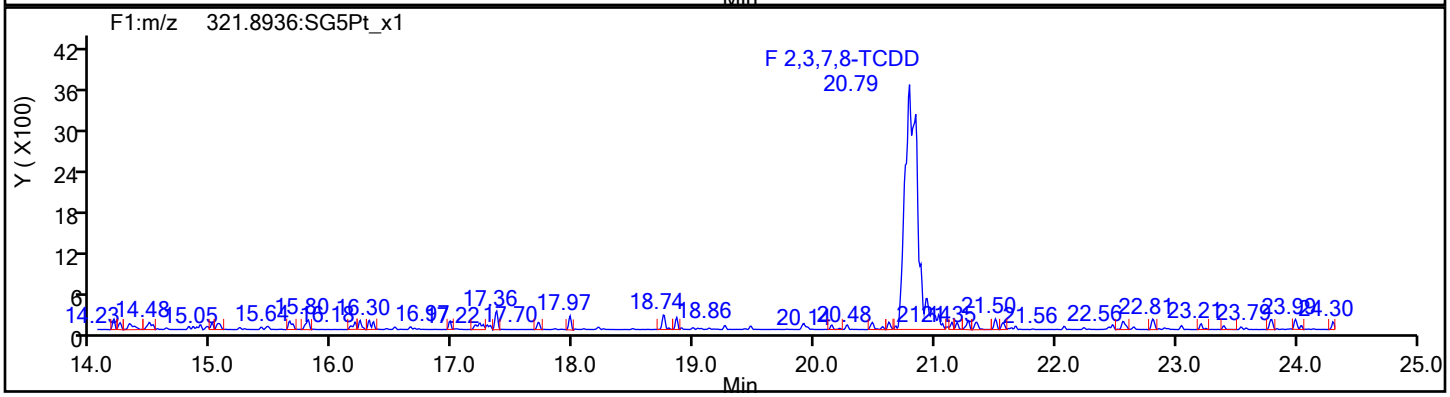


Eurofins Sacramento

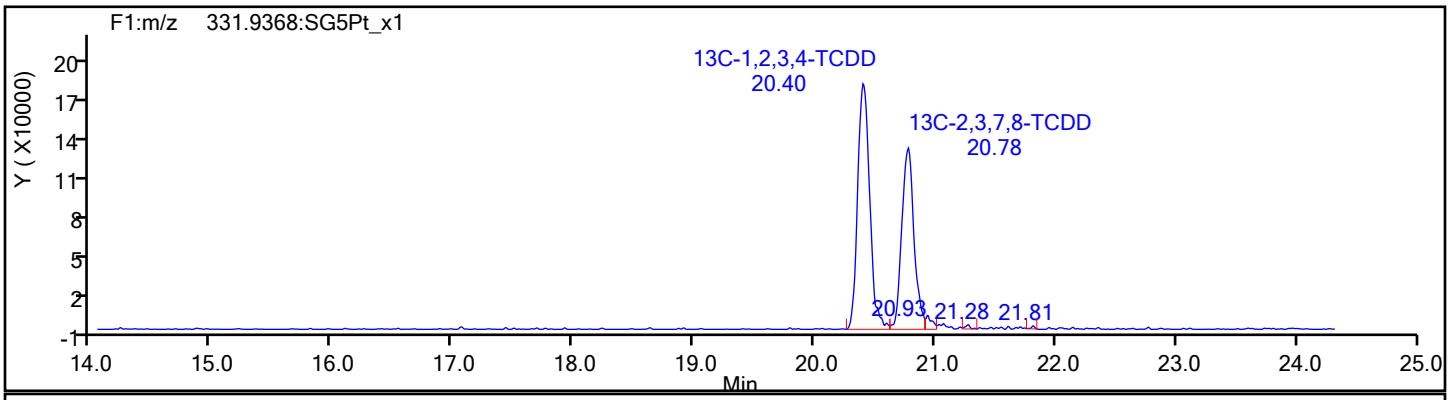
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d		
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

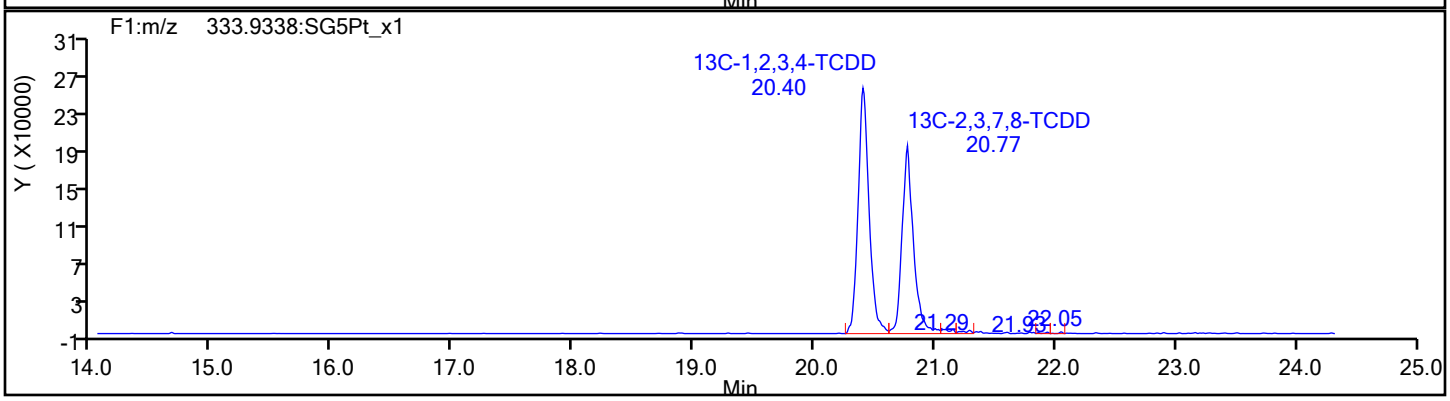
TCDD





TCDD Standards





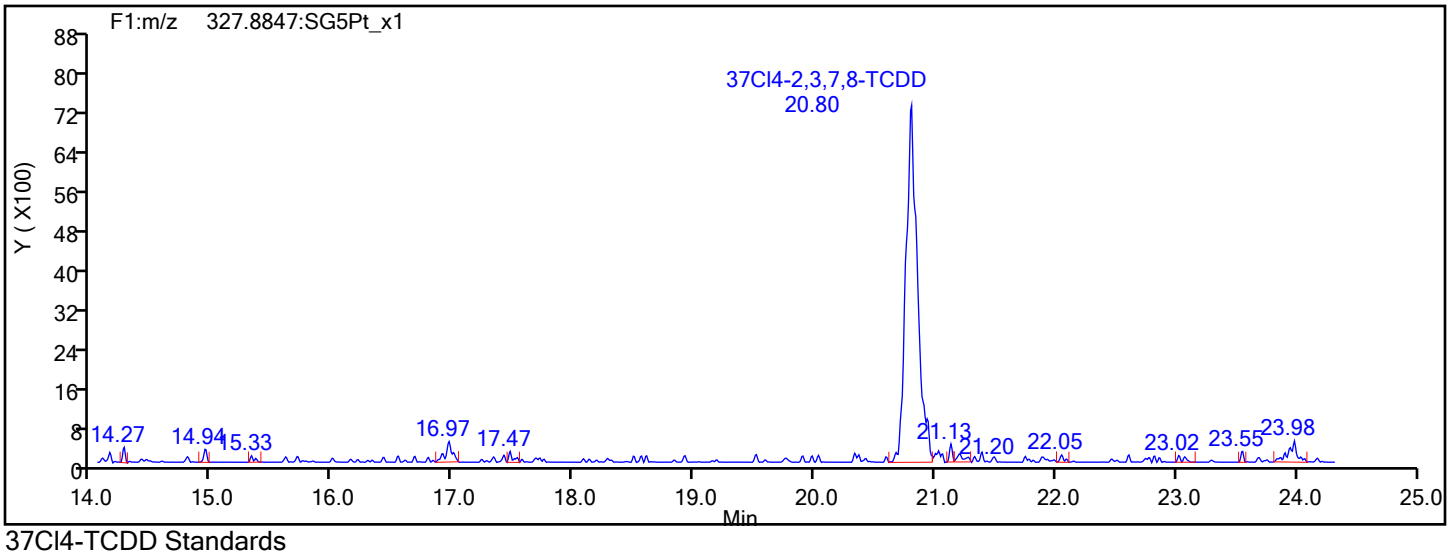
Report Date: 20-Jan-2022 15:59:02 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

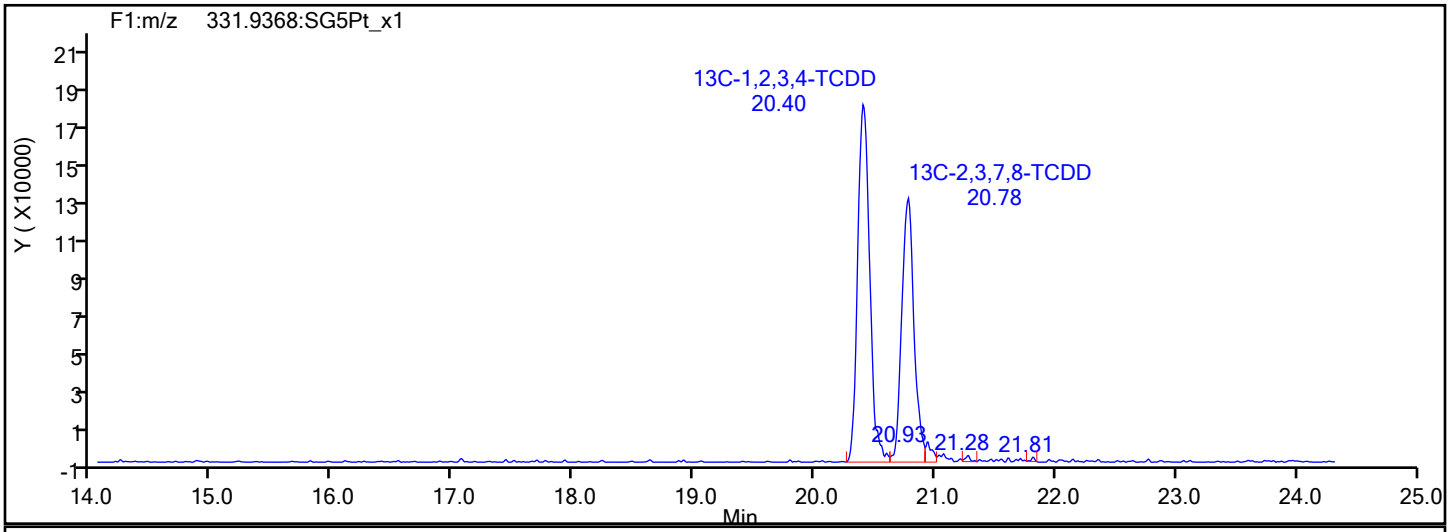
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

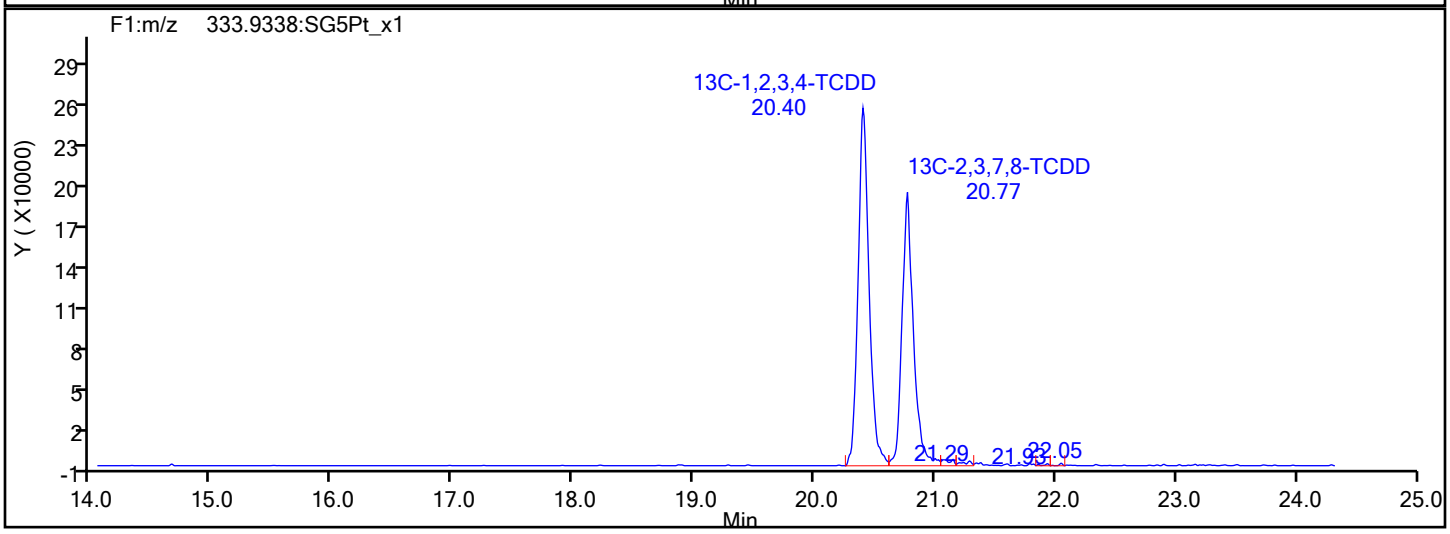
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





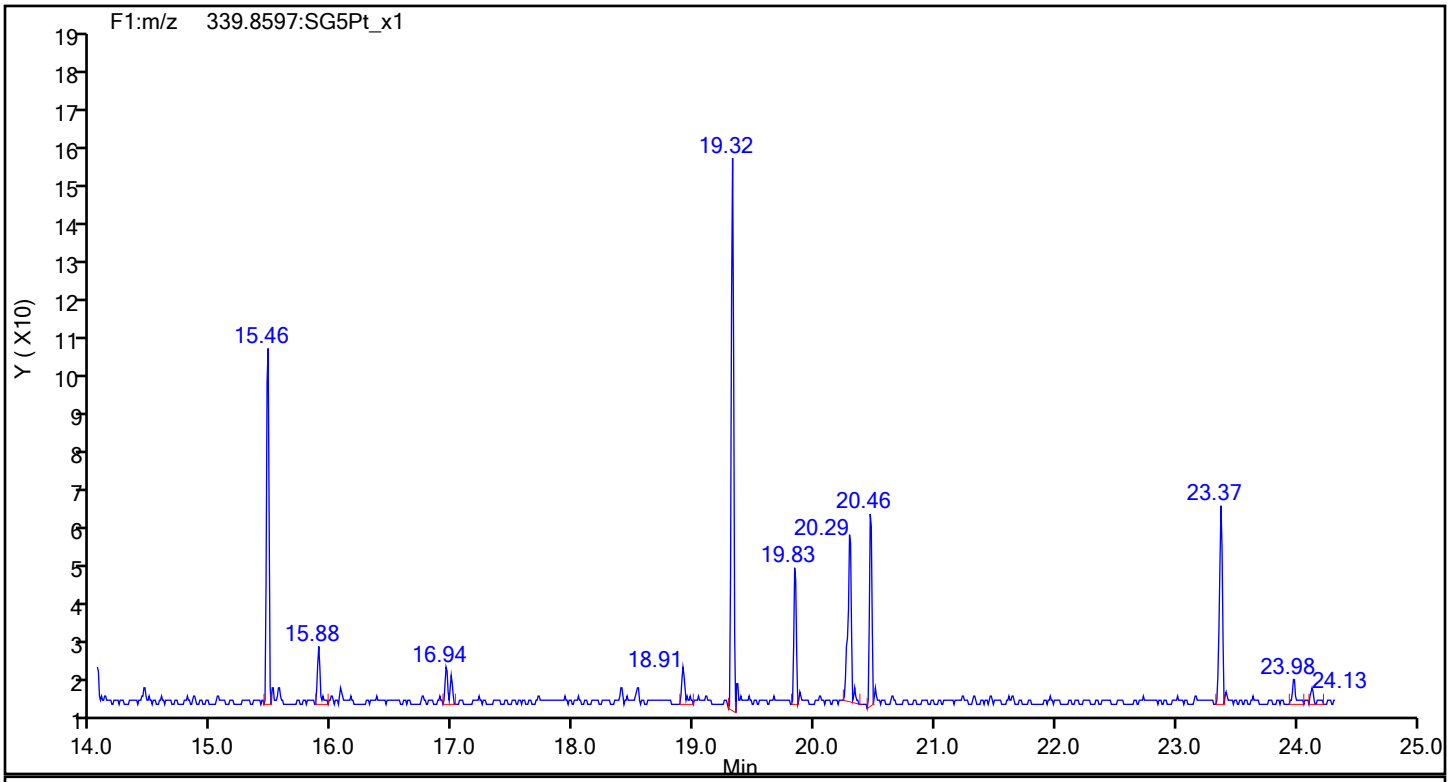
Report Date: 20-Jan-2022 15:59:02 Chrom Revision: 2.3 18-Jan-2022 20:25:40

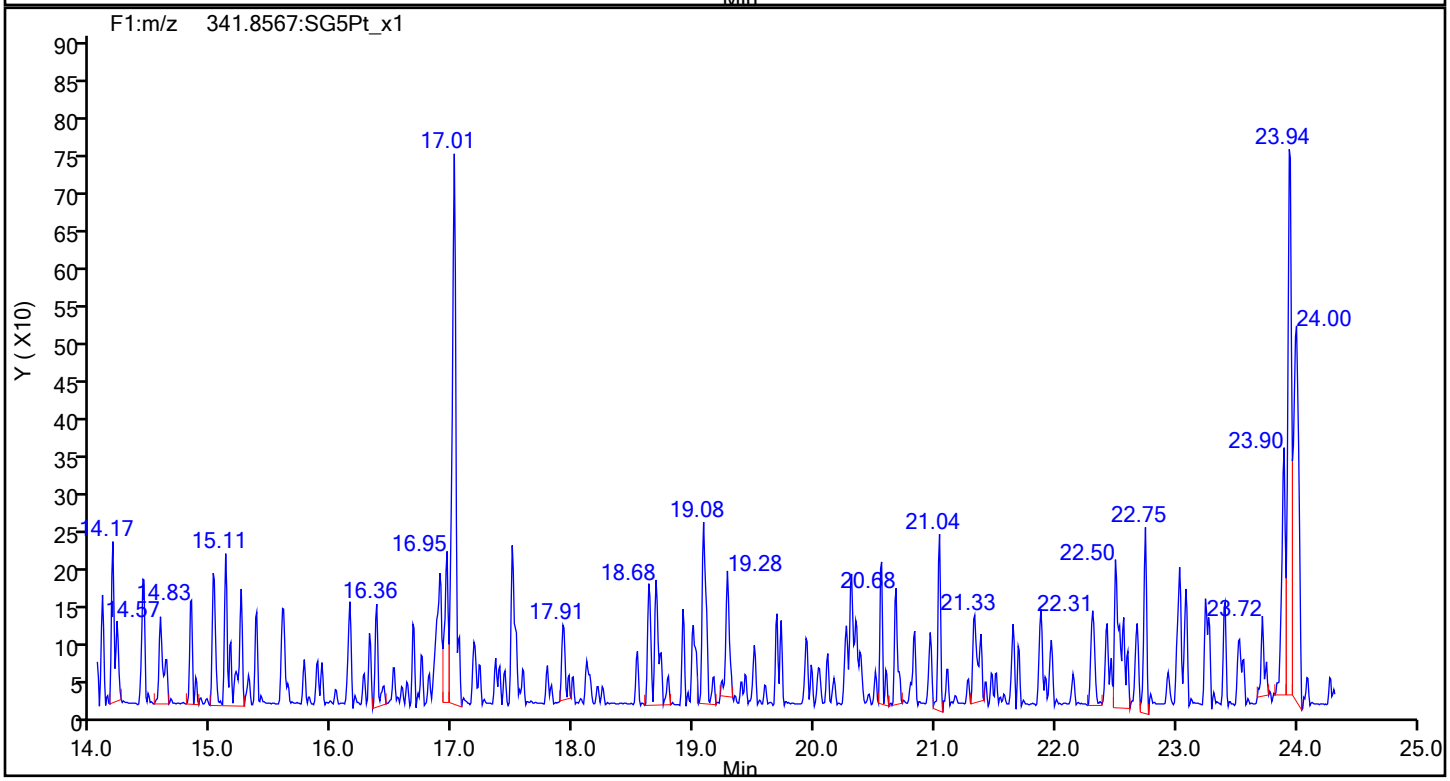
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

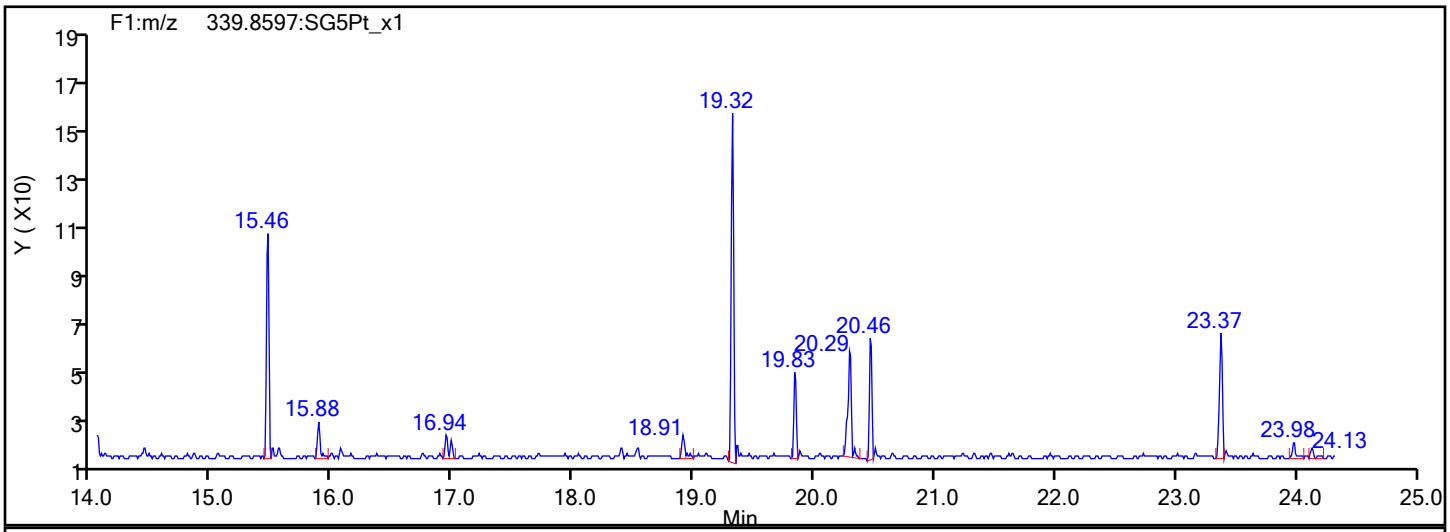


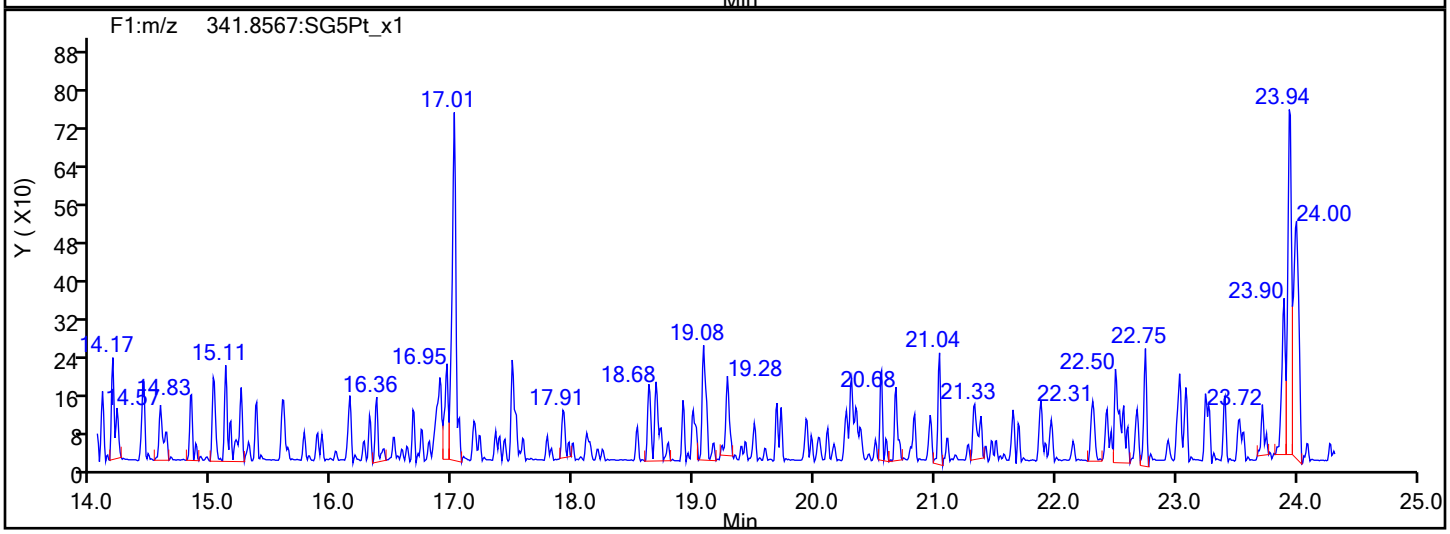


Eurofins Sacramento

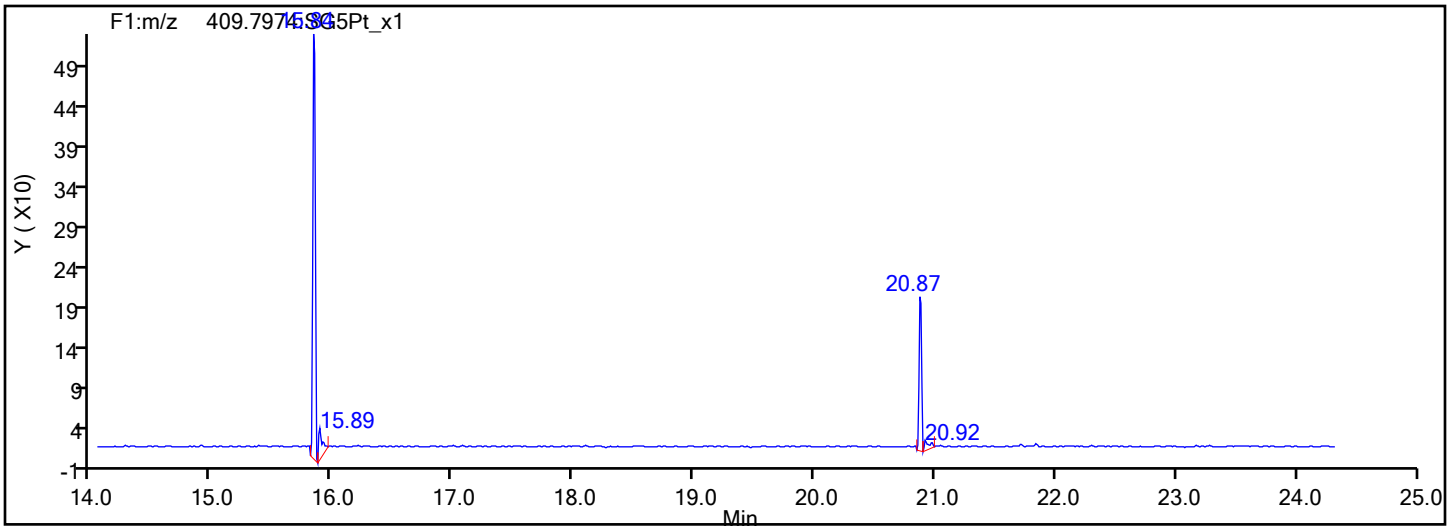
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d		
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





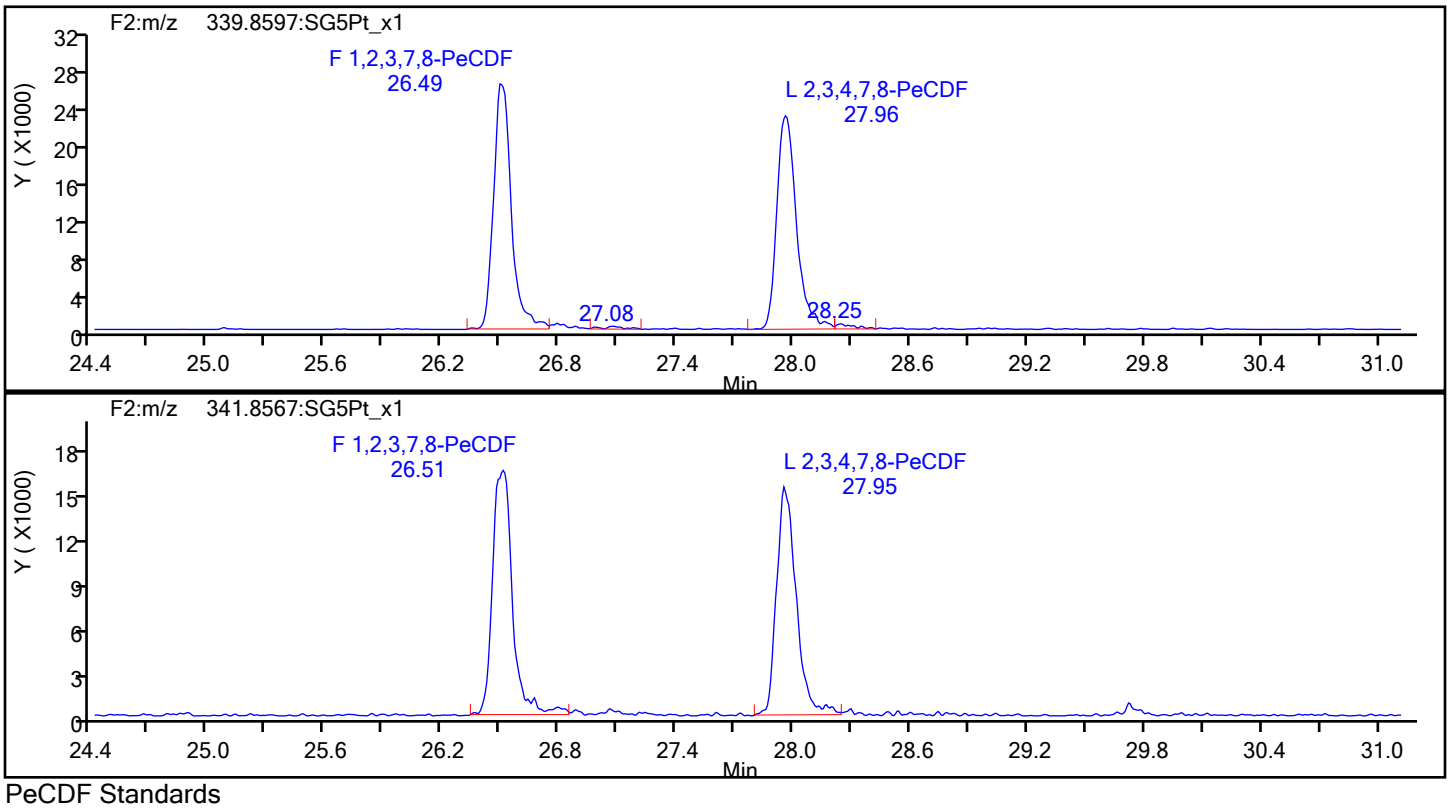
F1 PeCDFs Interference Mass



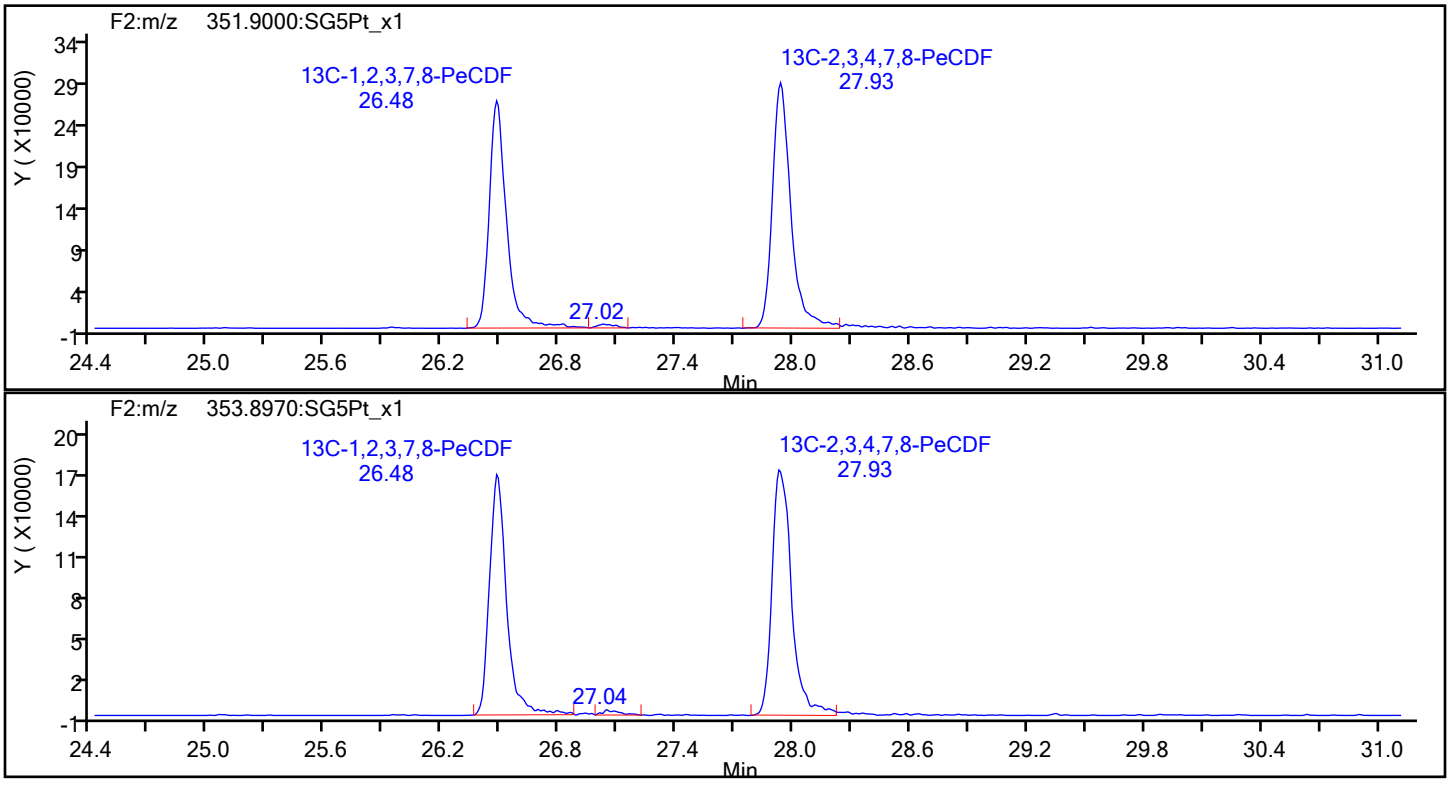
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



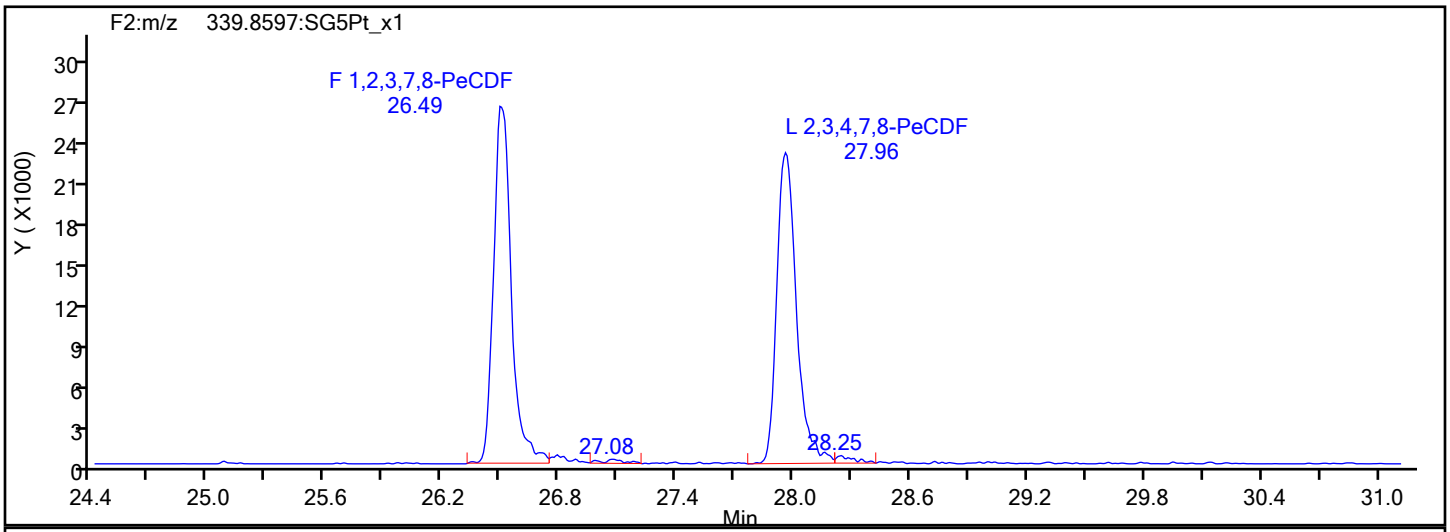
PeCDF Standards

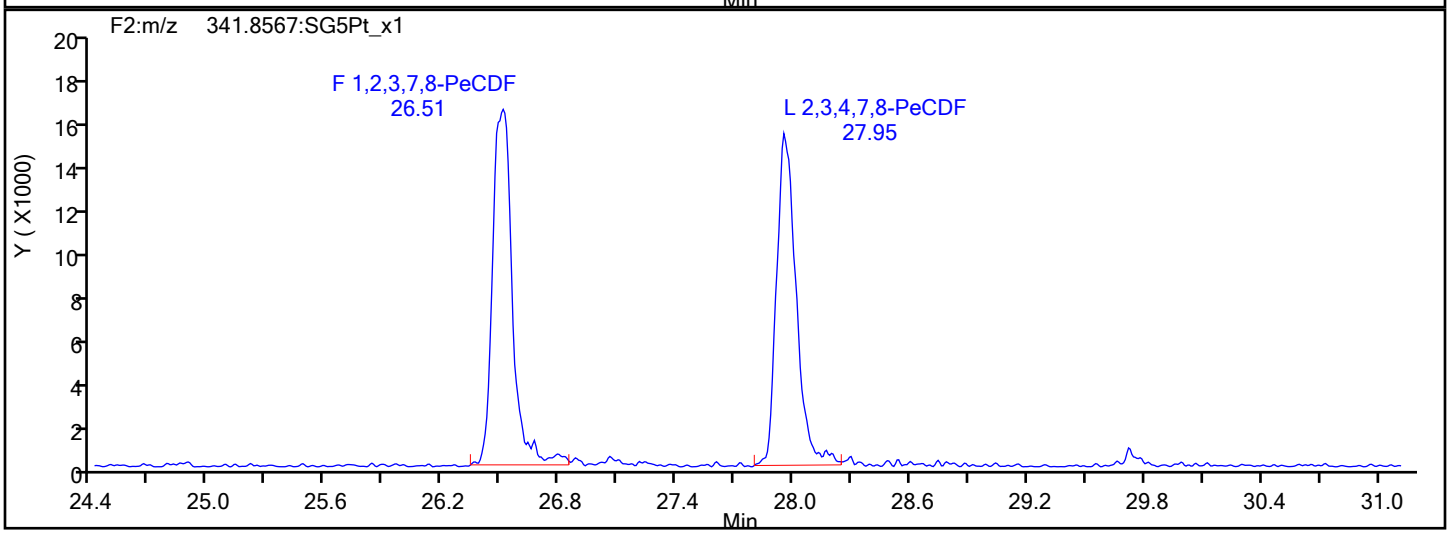


Eurofins Sacramento

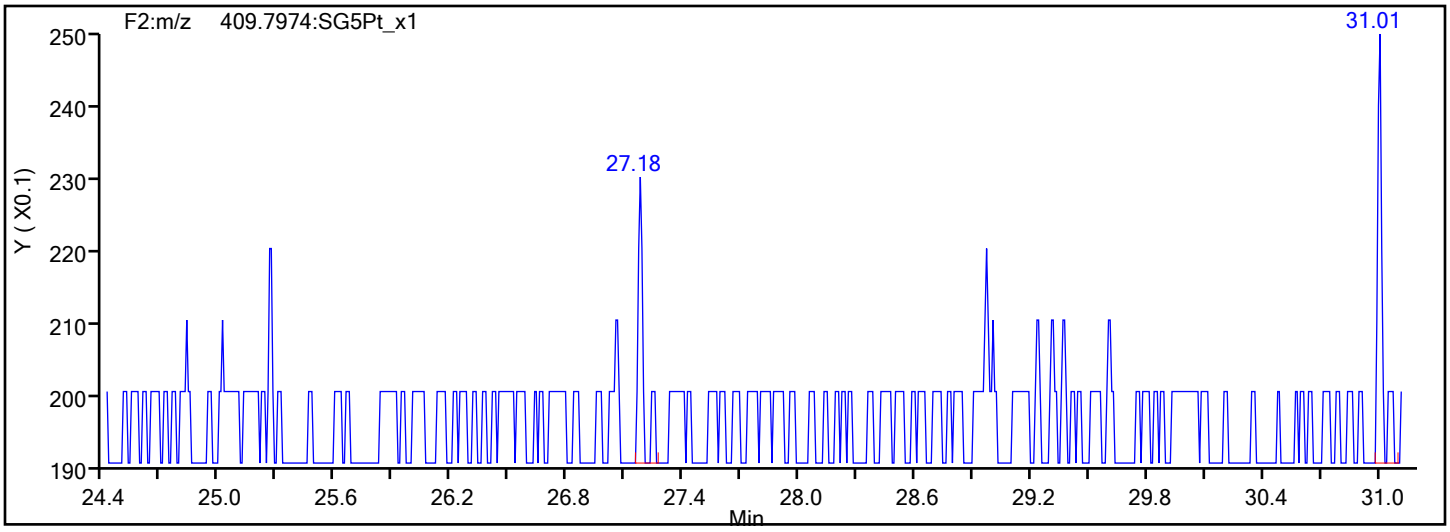
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d		
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





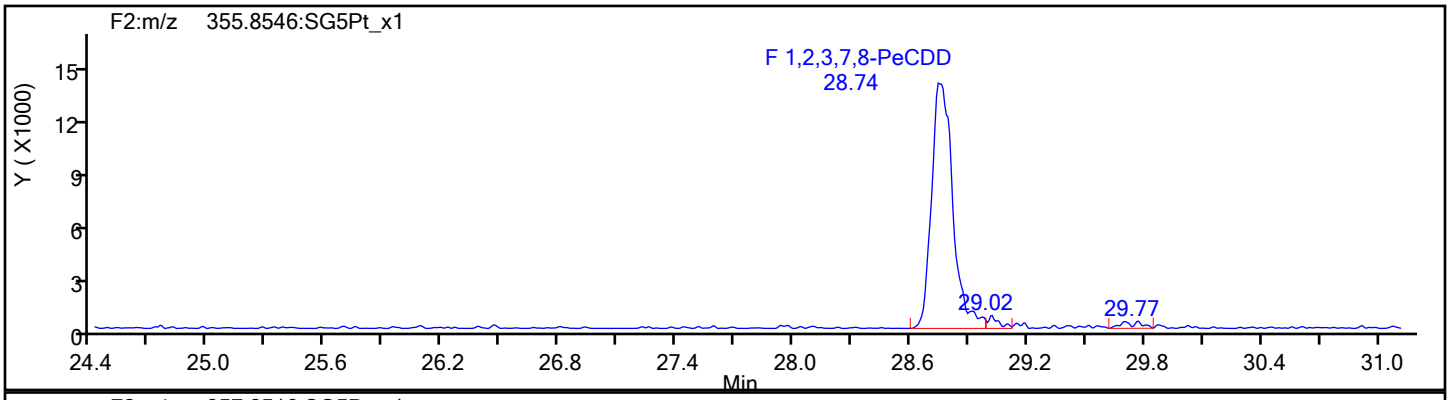
PeCDF Interference Mass

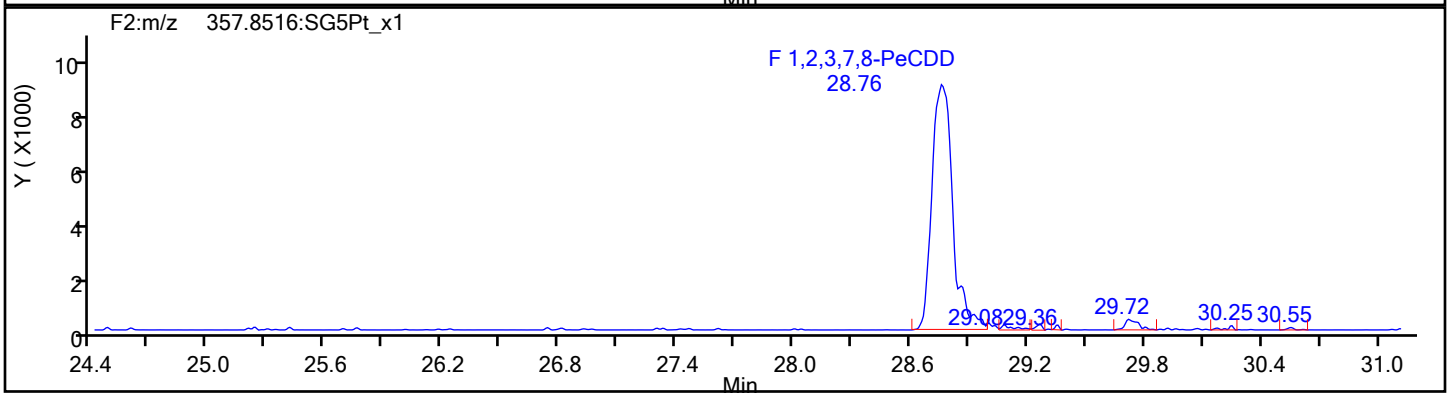


Eurofins Sacramento

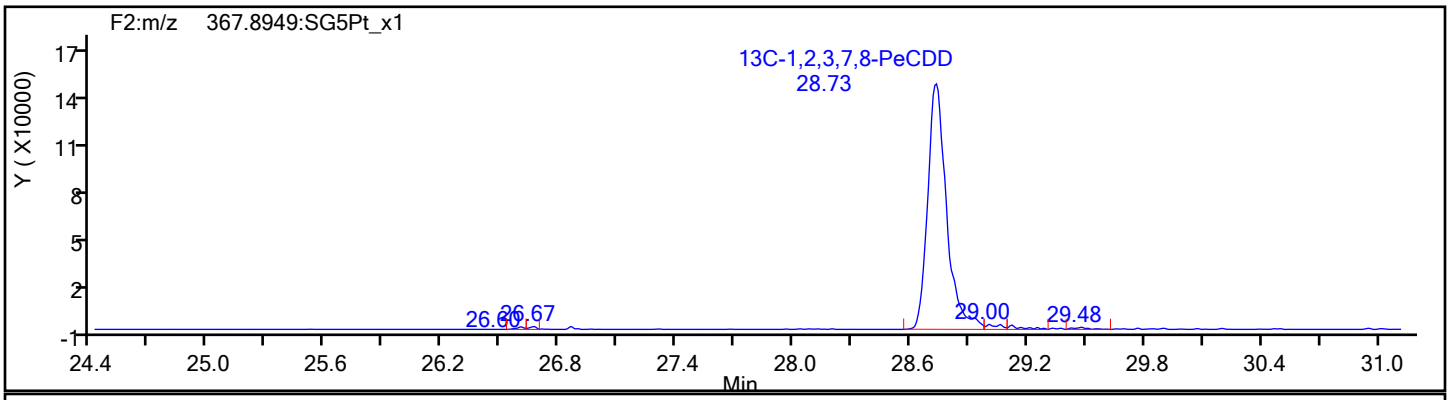
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

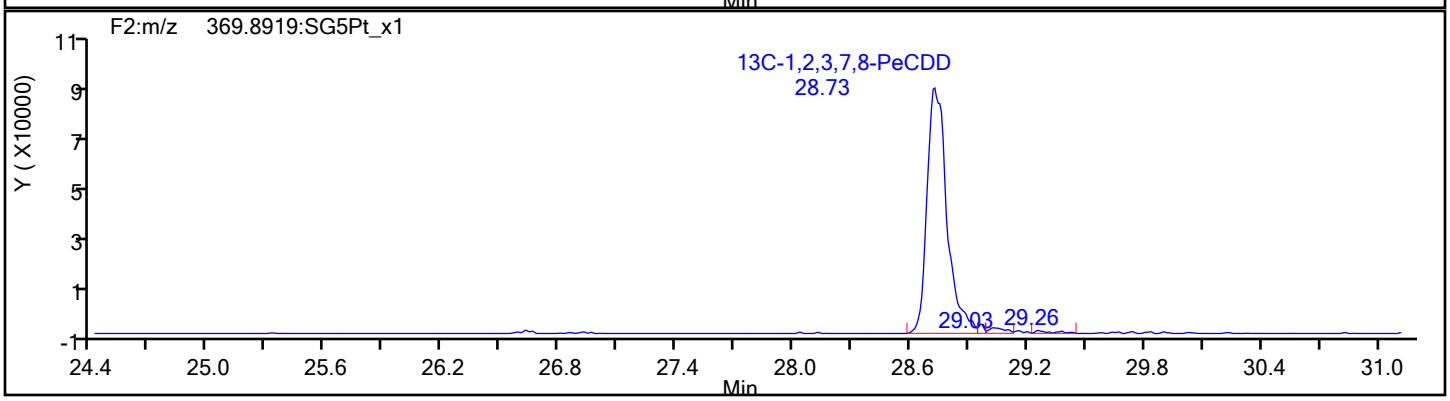
PeCDD





PeCDD Standards





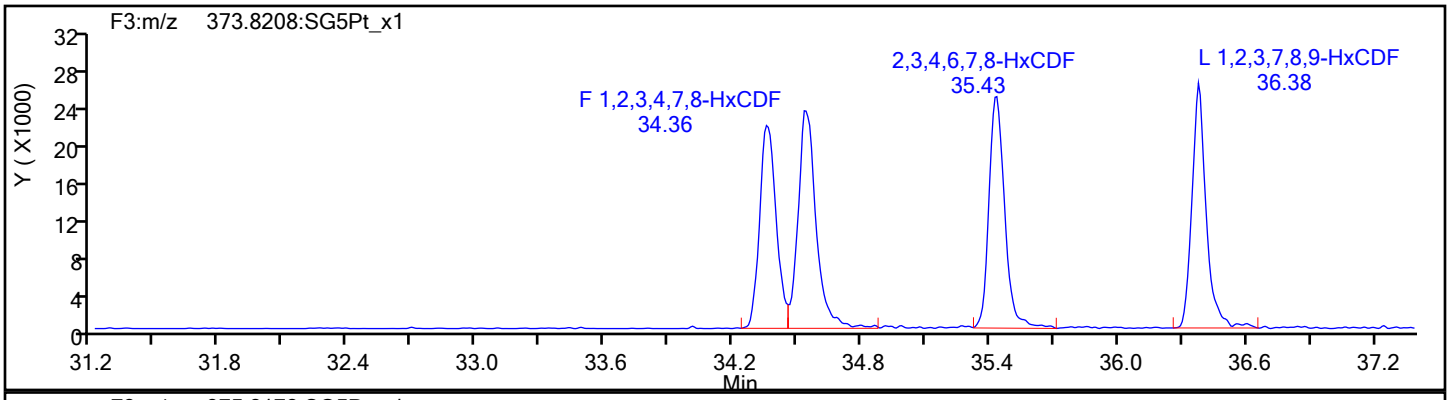
Report Date: 20-Jan-2022 15:59:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

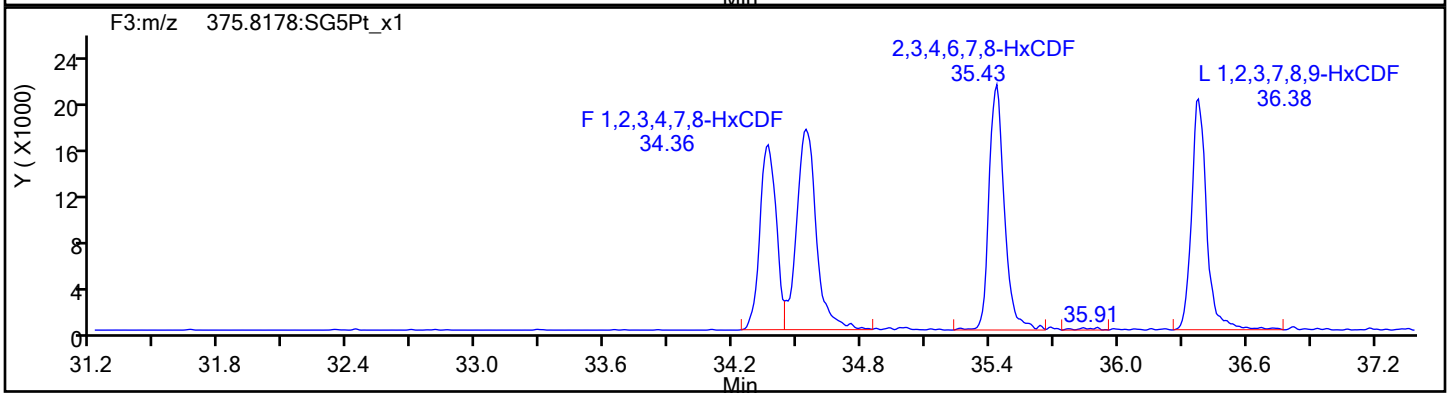
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

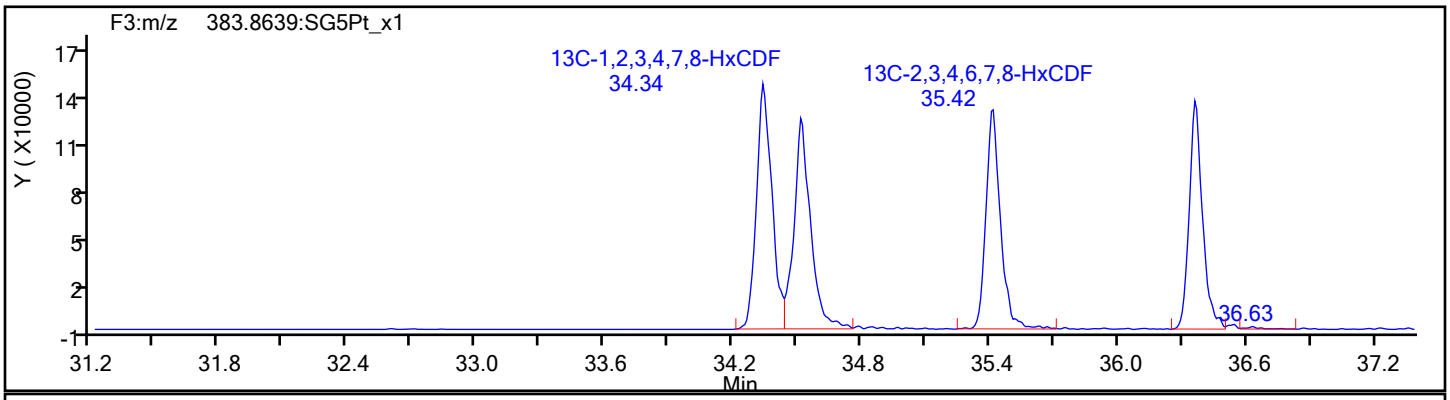
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

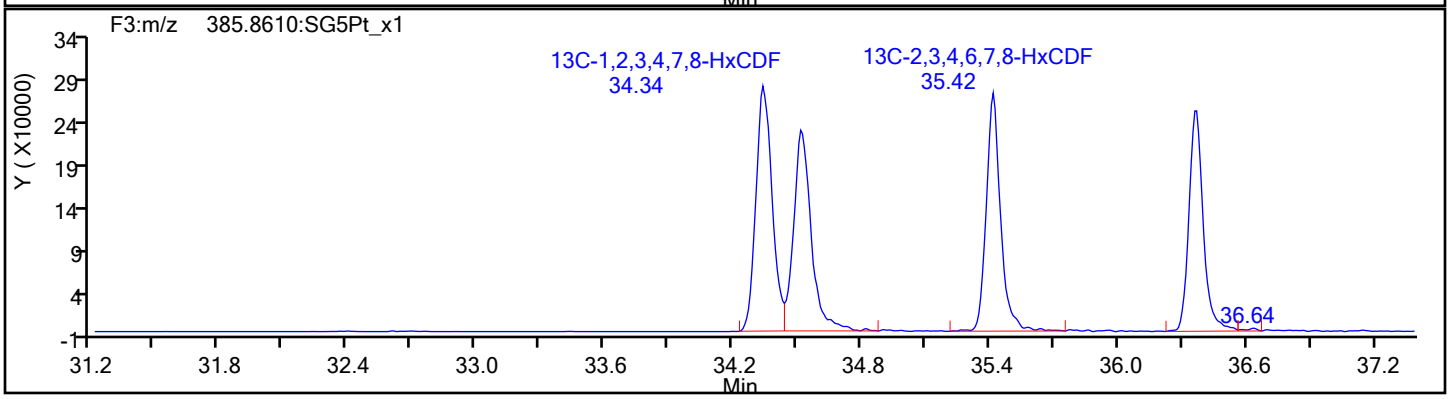
HxCDF





HxCDF Standards

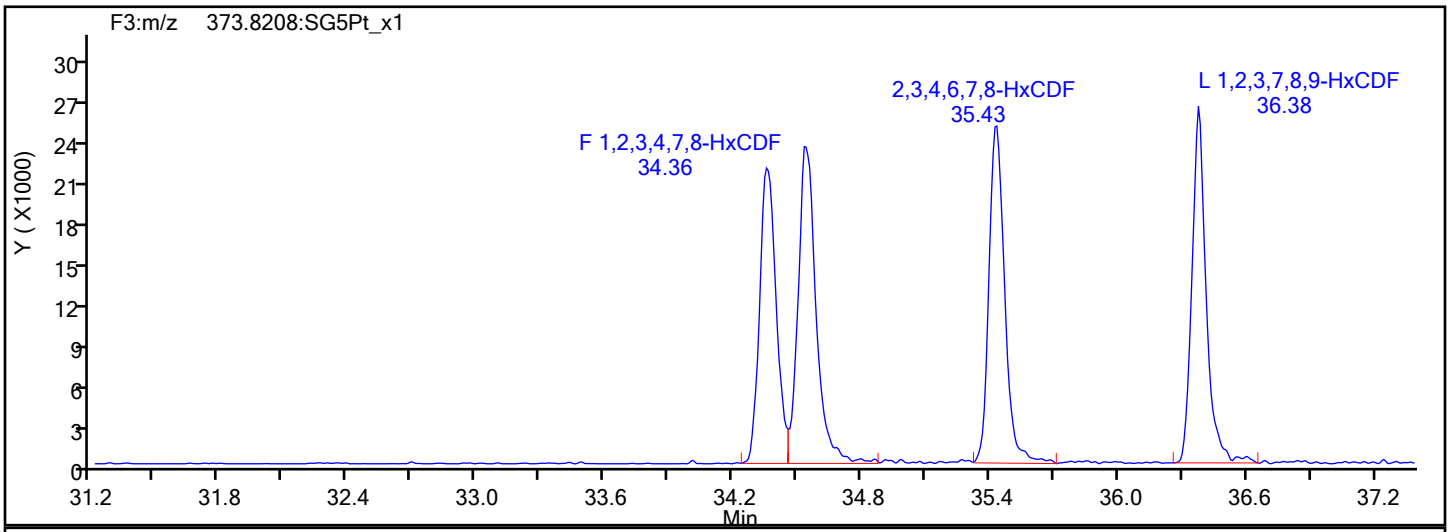


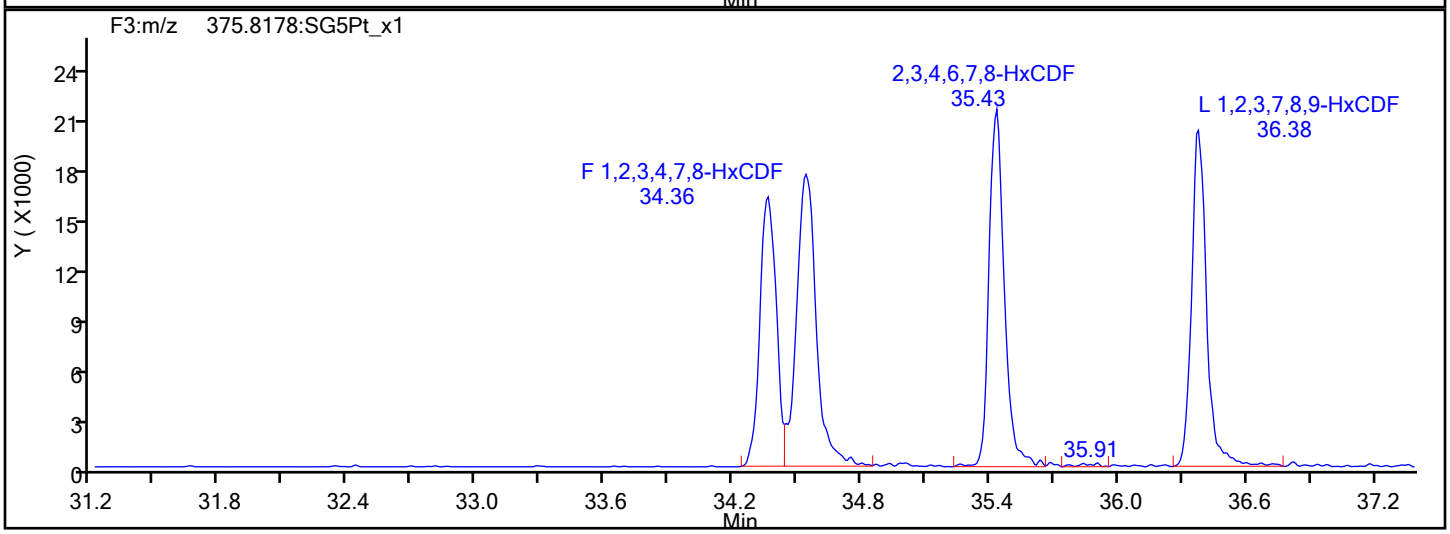


Eurofins Sacramento

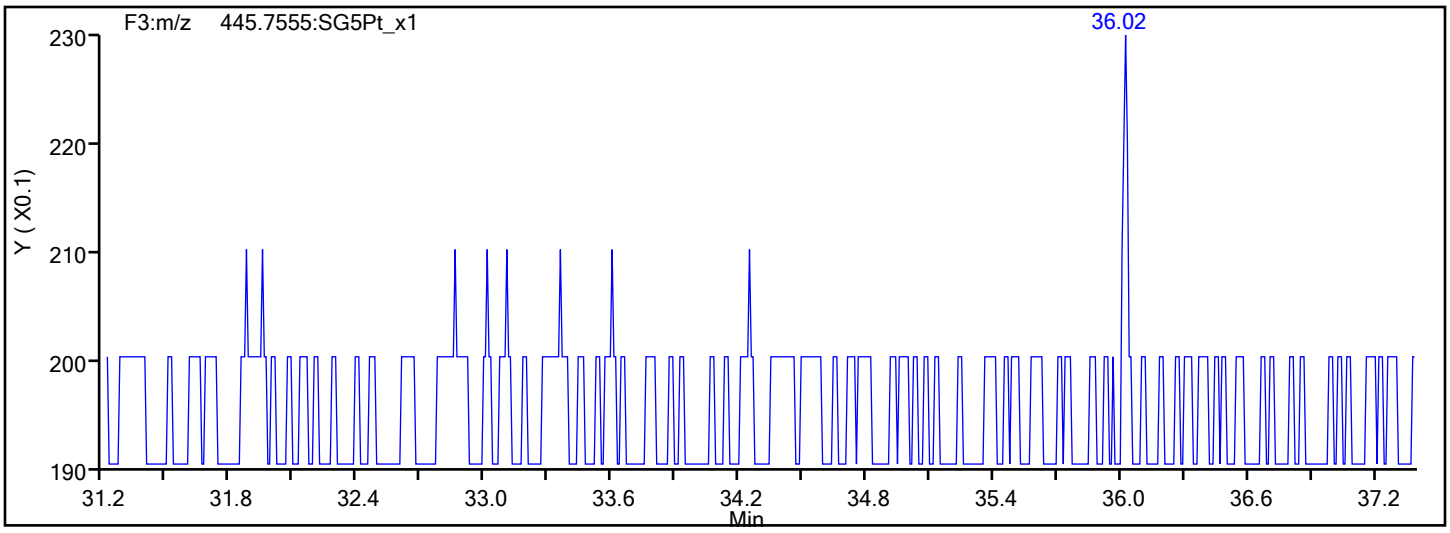
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



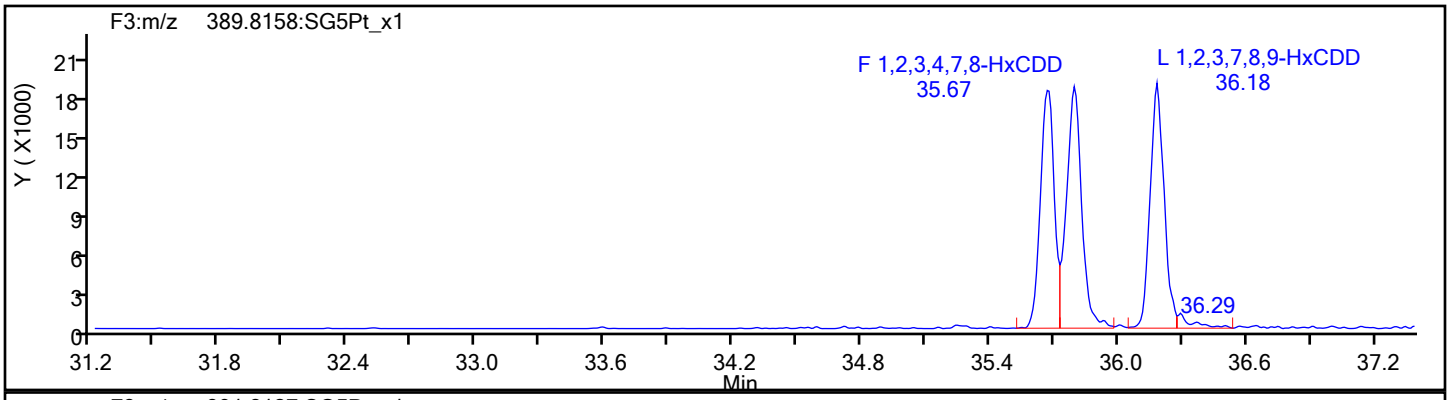
Report Date: 20-Jan-2022 15:59:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

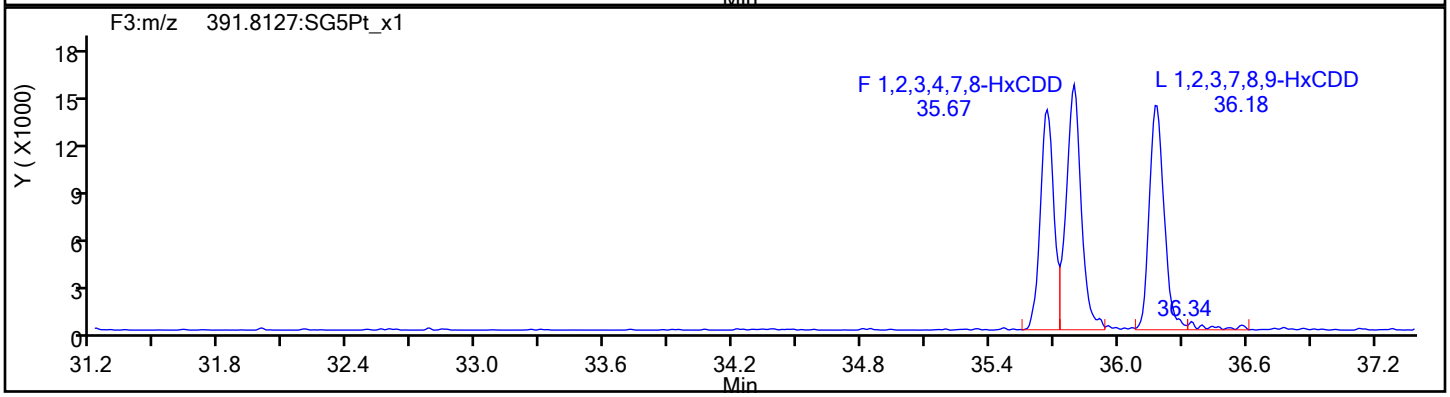
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

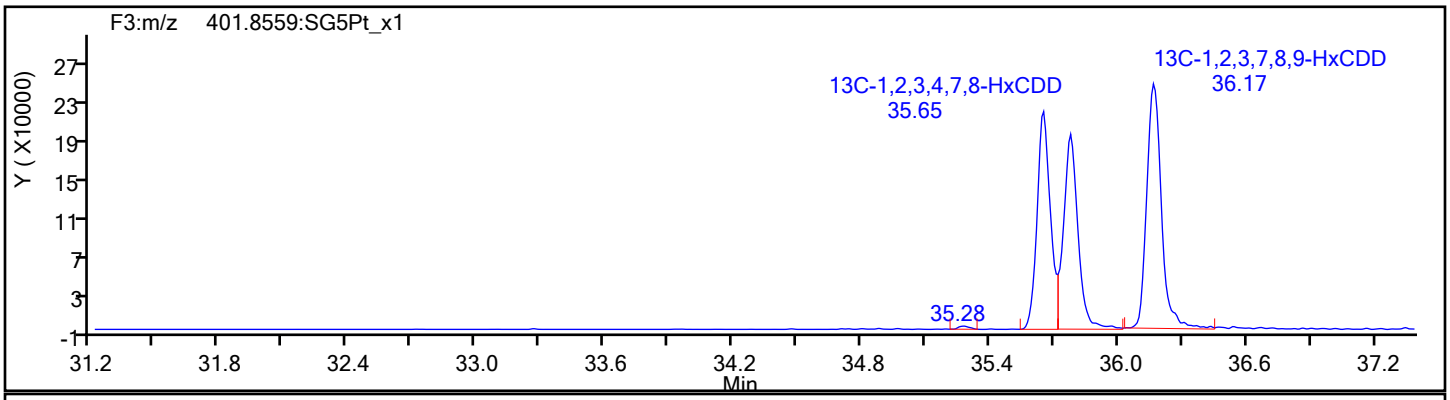
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

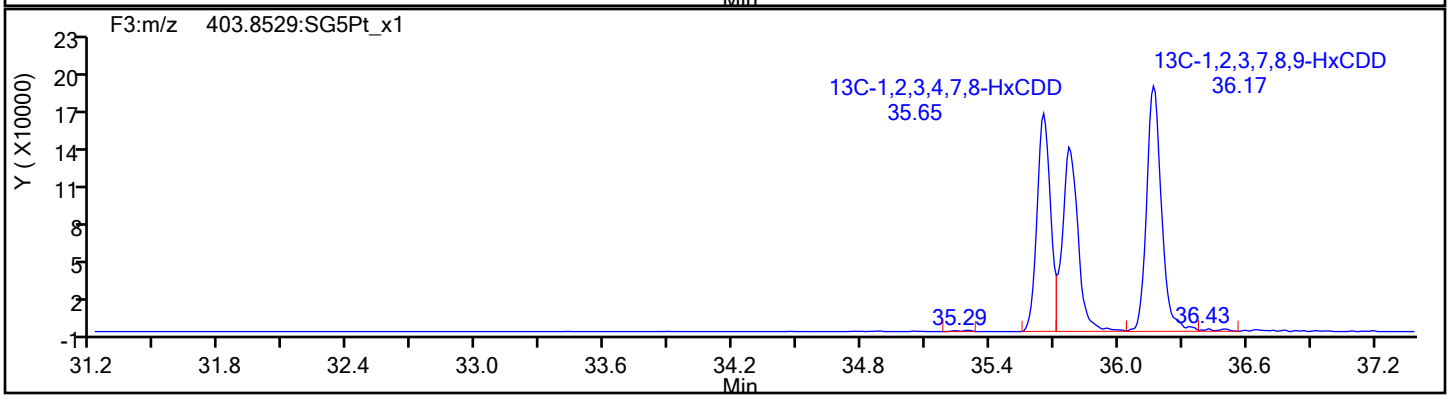
HxCDD





HxCDD Standards

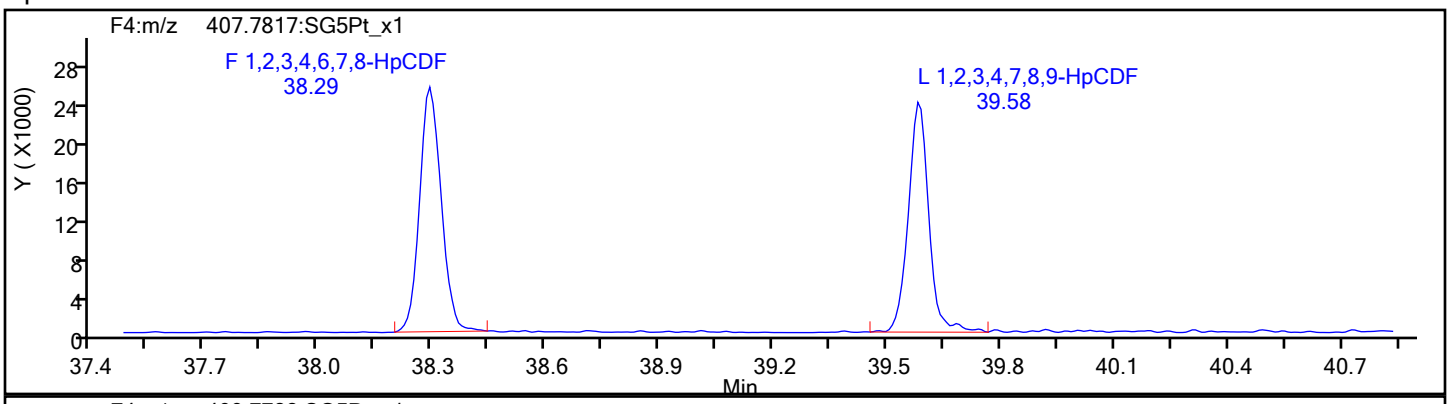


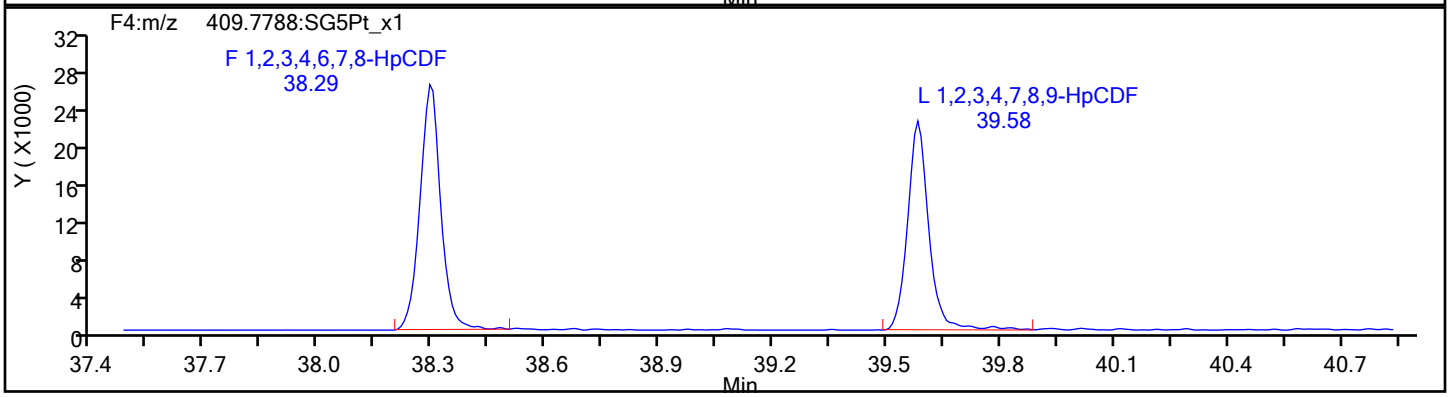


Eurofins Sacramento

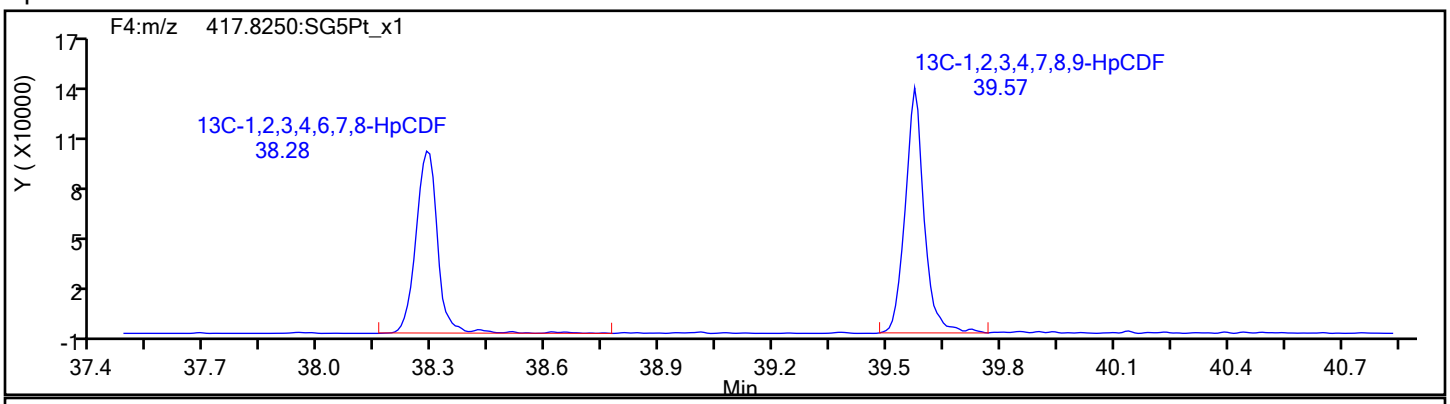
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

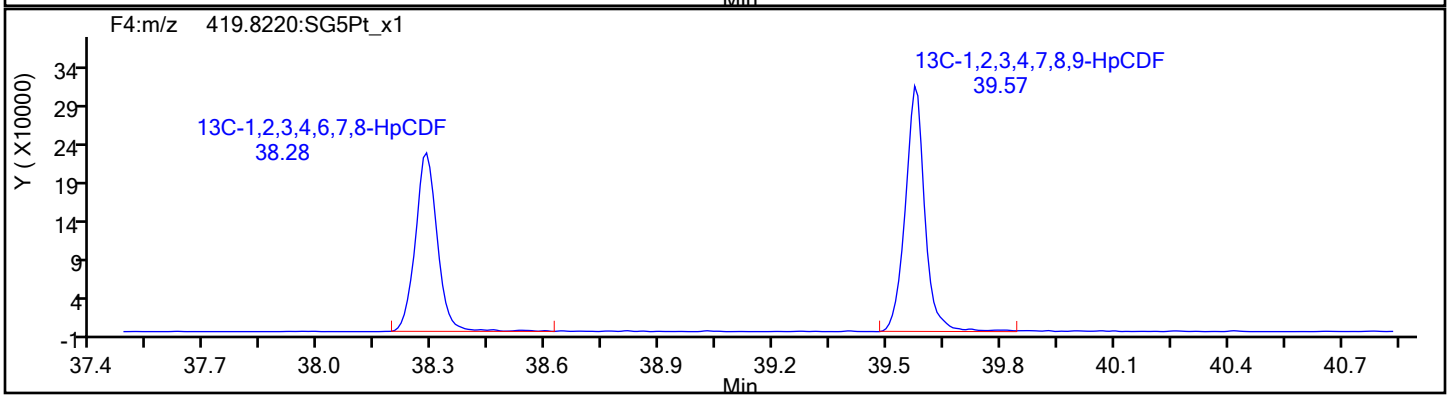
HpCDF





HpCDF Standards

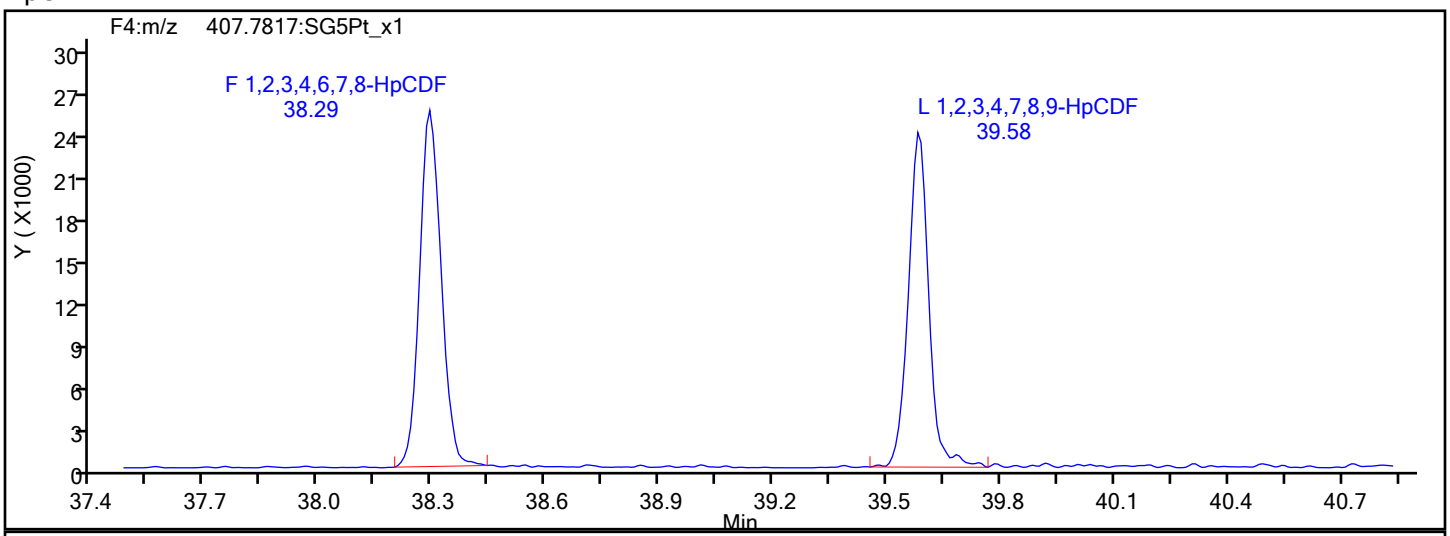


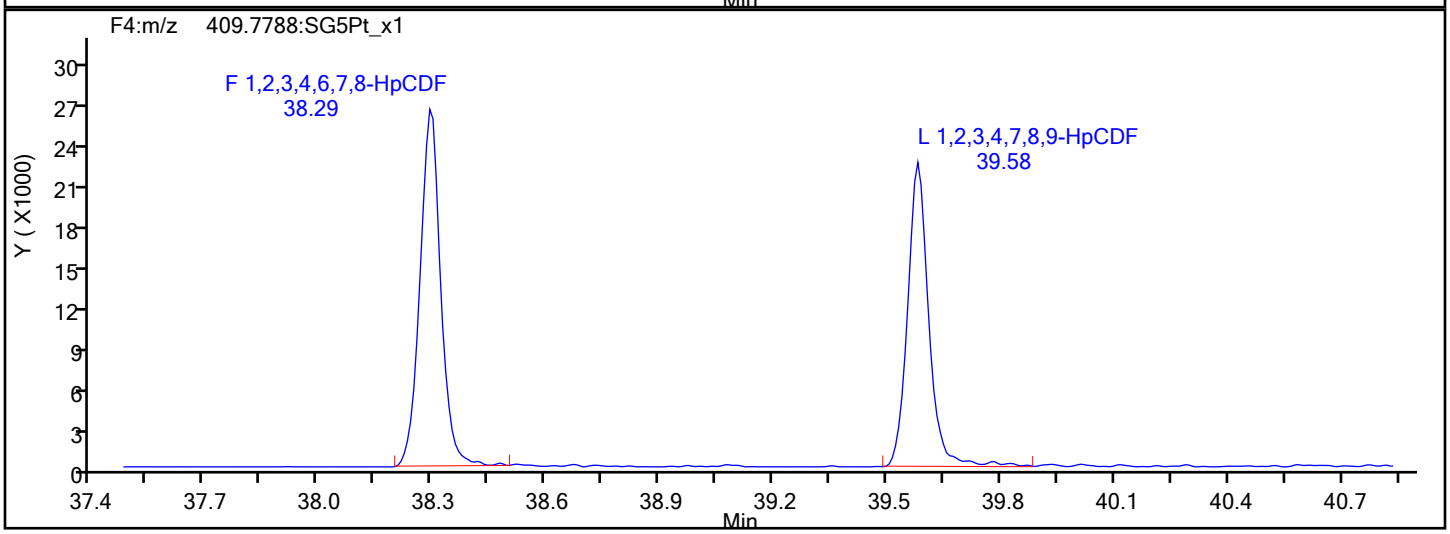


Eurofins Sacramento

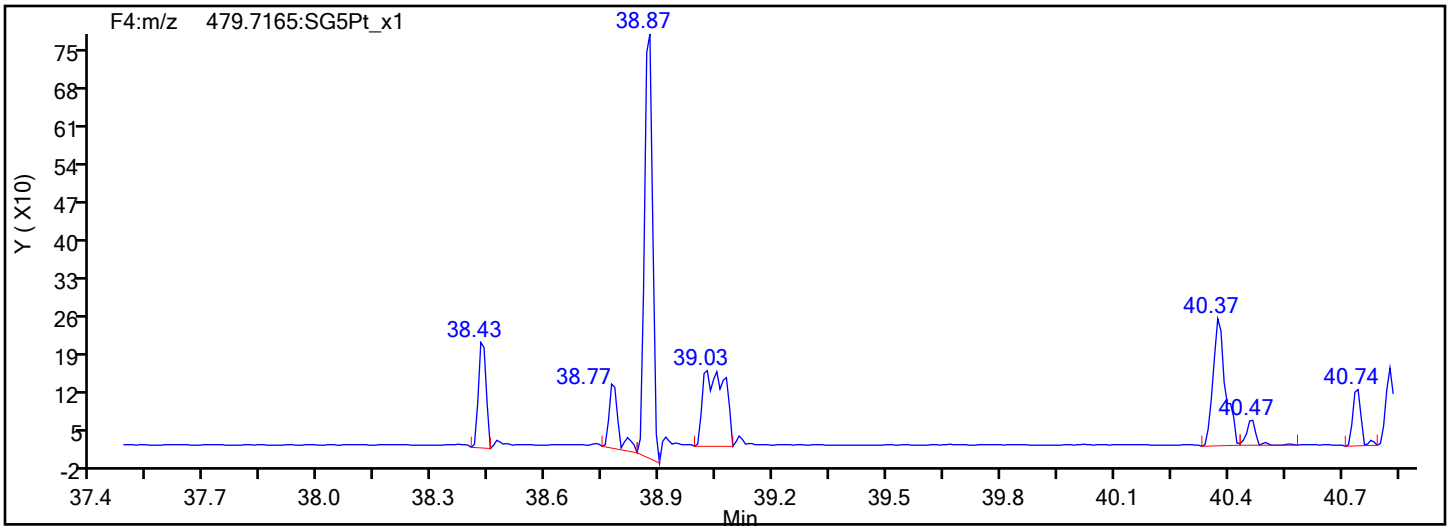
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





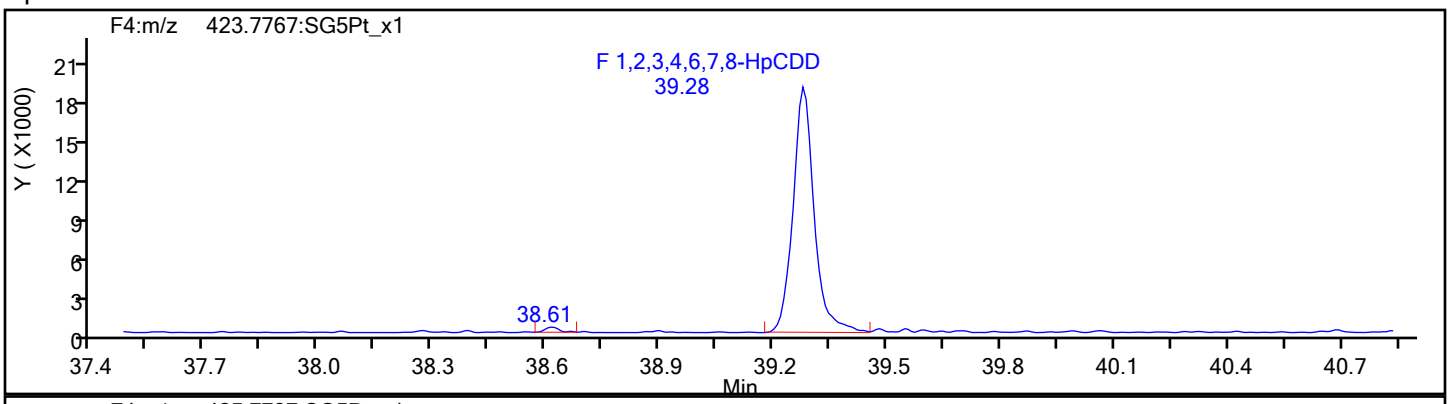
HpCDF Interference Mass

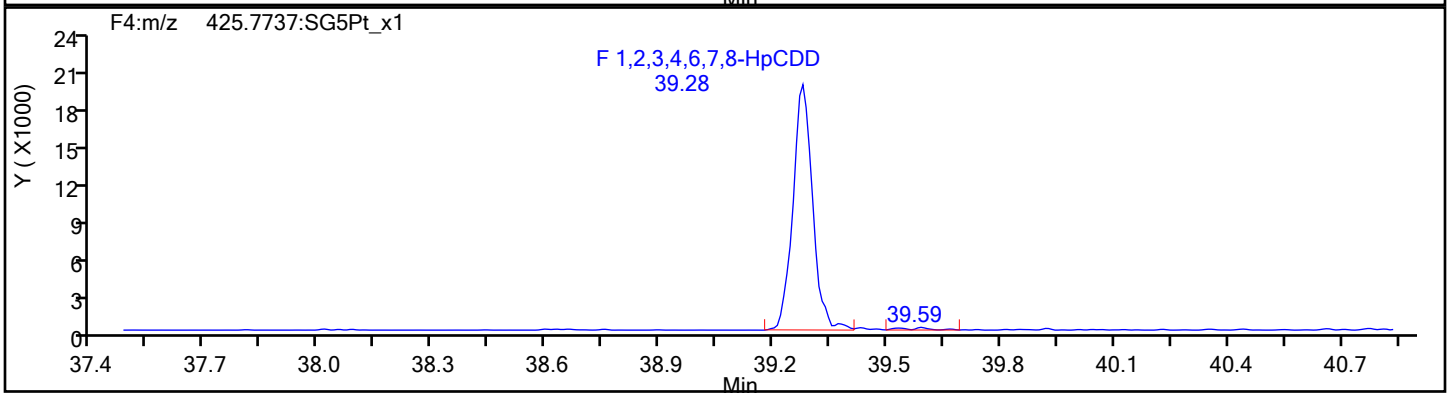


Eurofins Sacramento

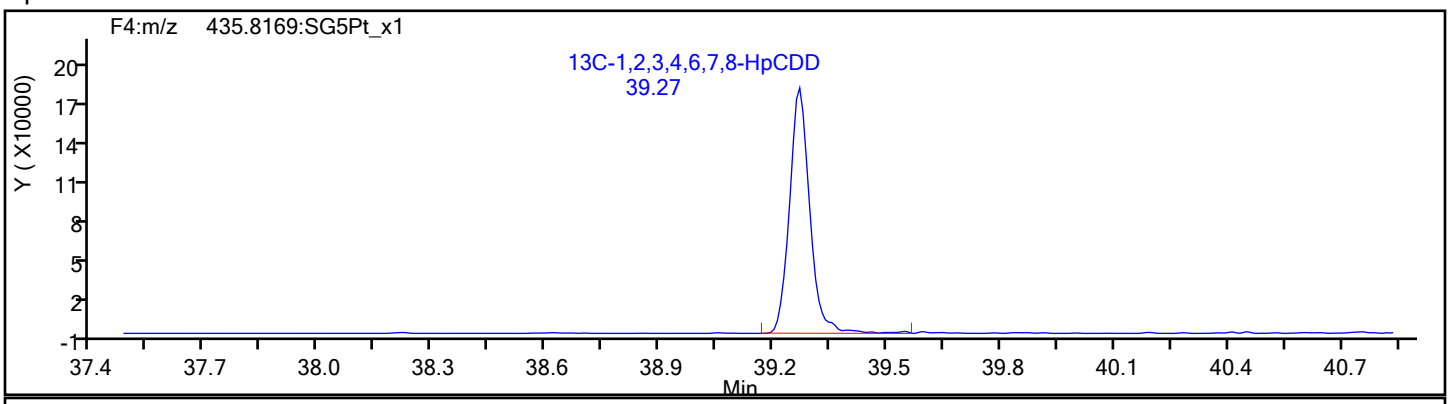
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

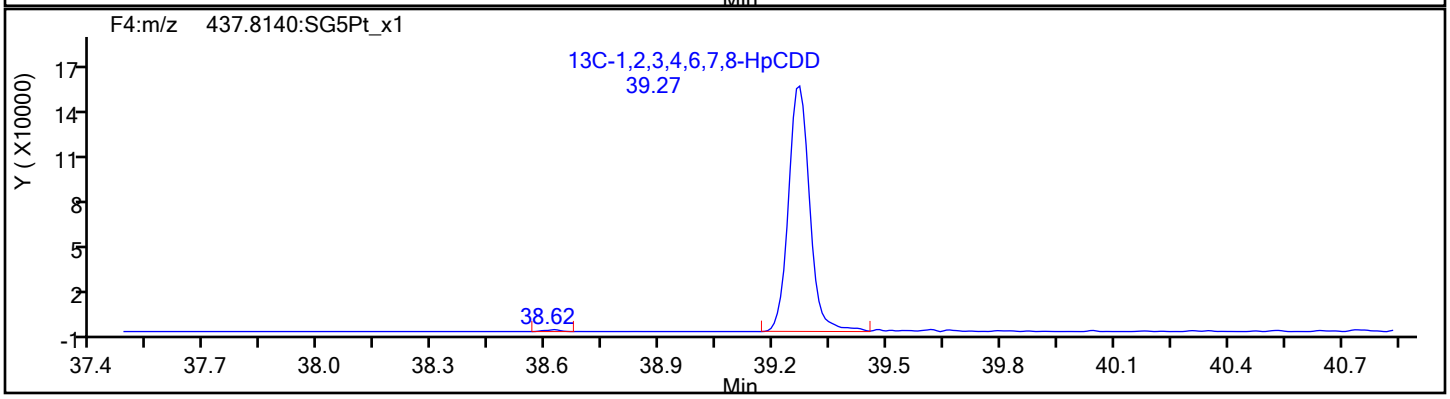
HpCDD





HpCDD Standards





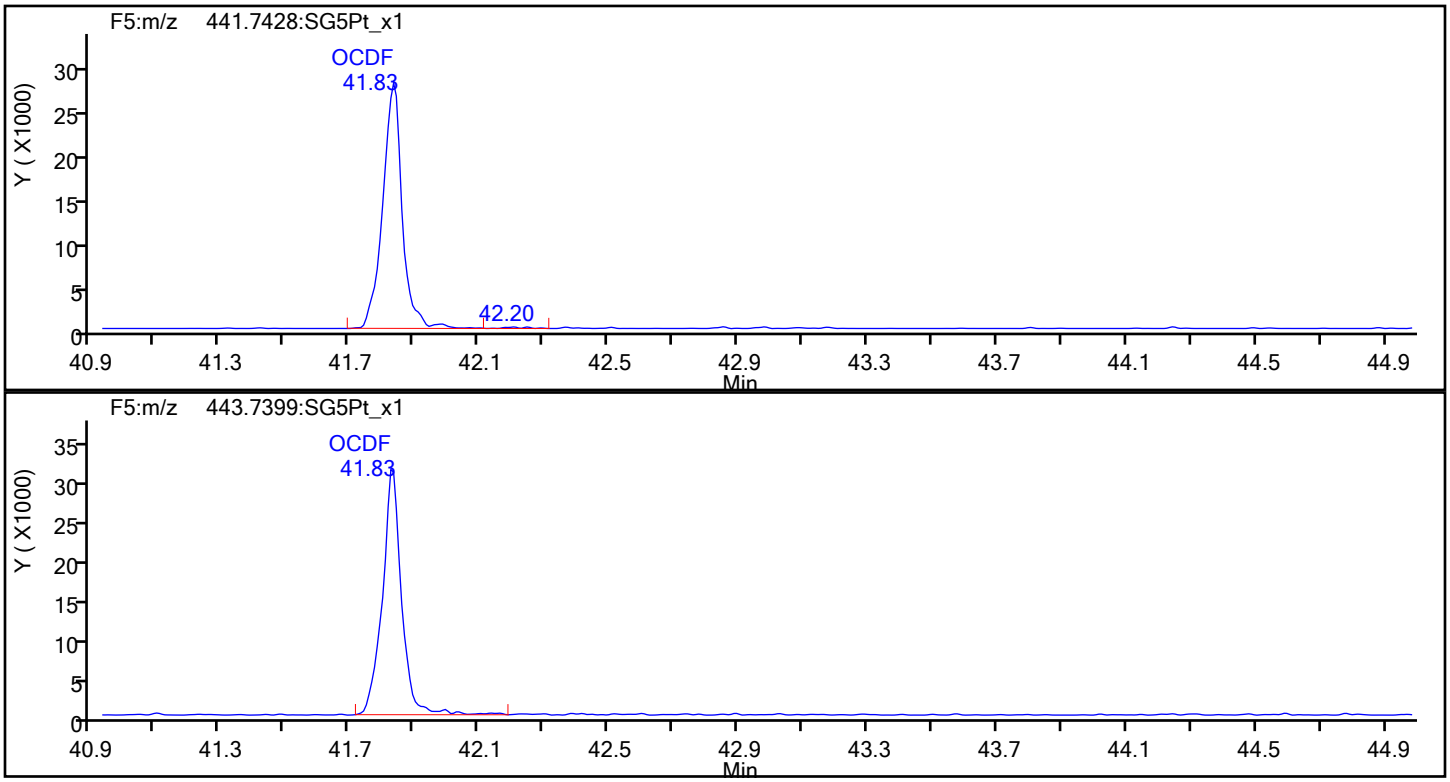
Report Date: 20-Jan-2022 15:59:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

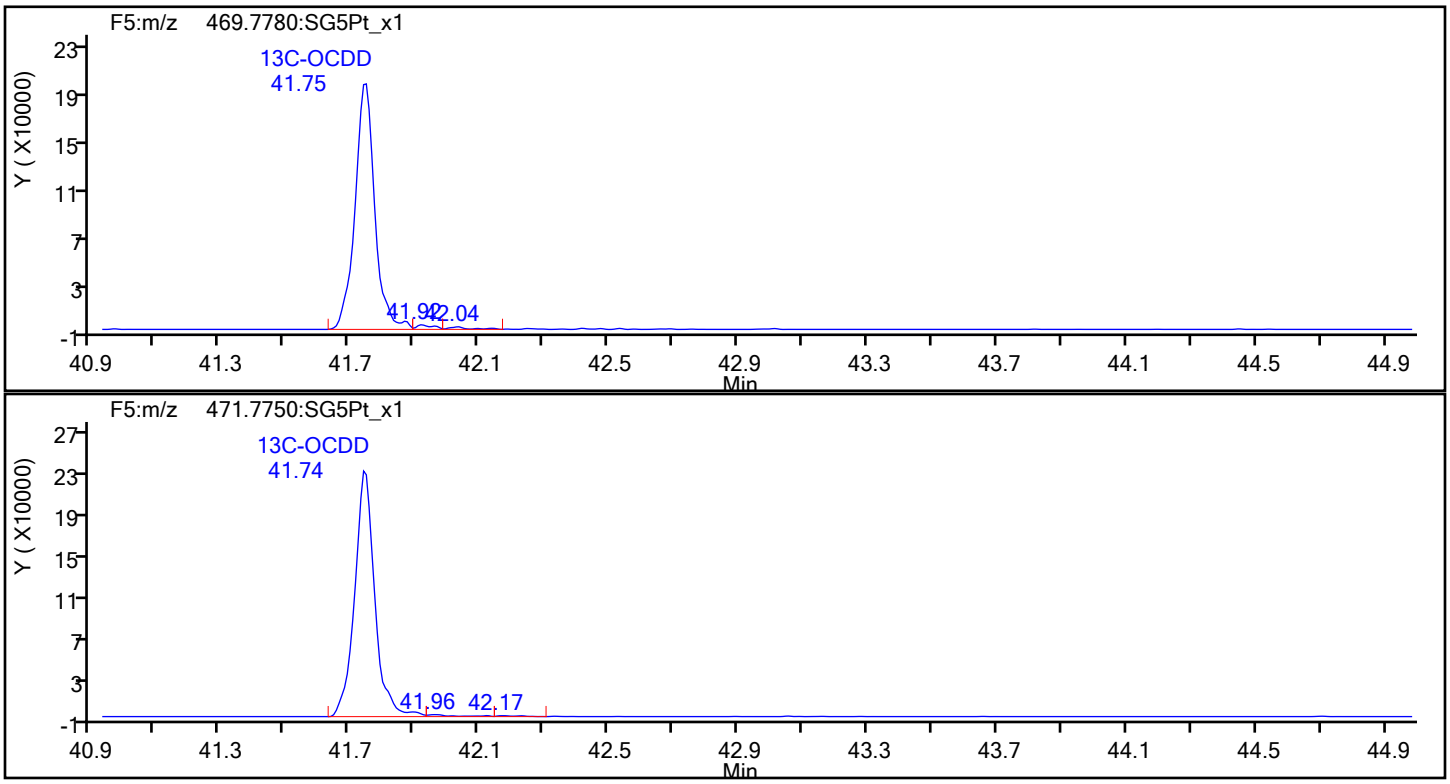
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Standards

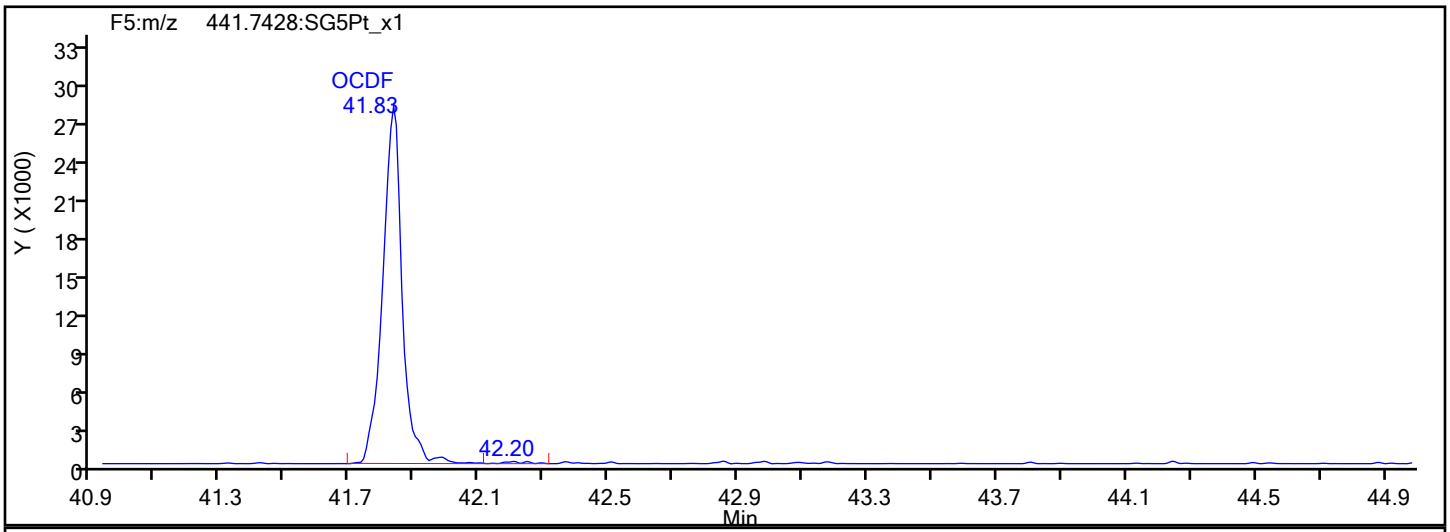


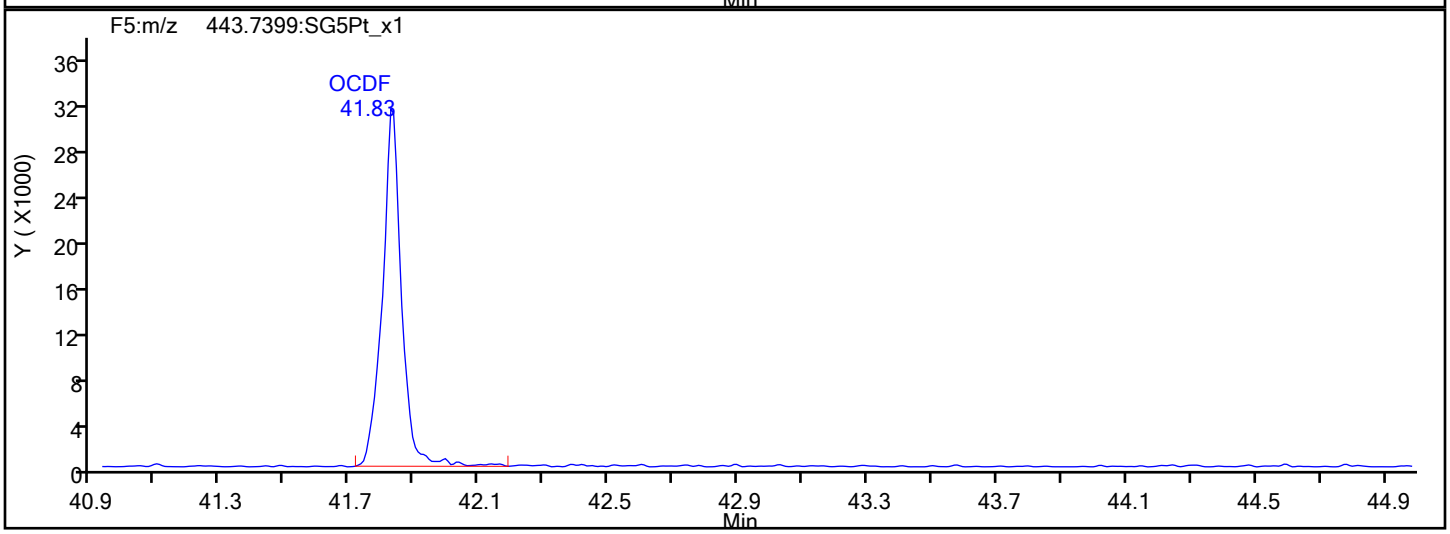
Report Date: 20-Jan-2022 15:59:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

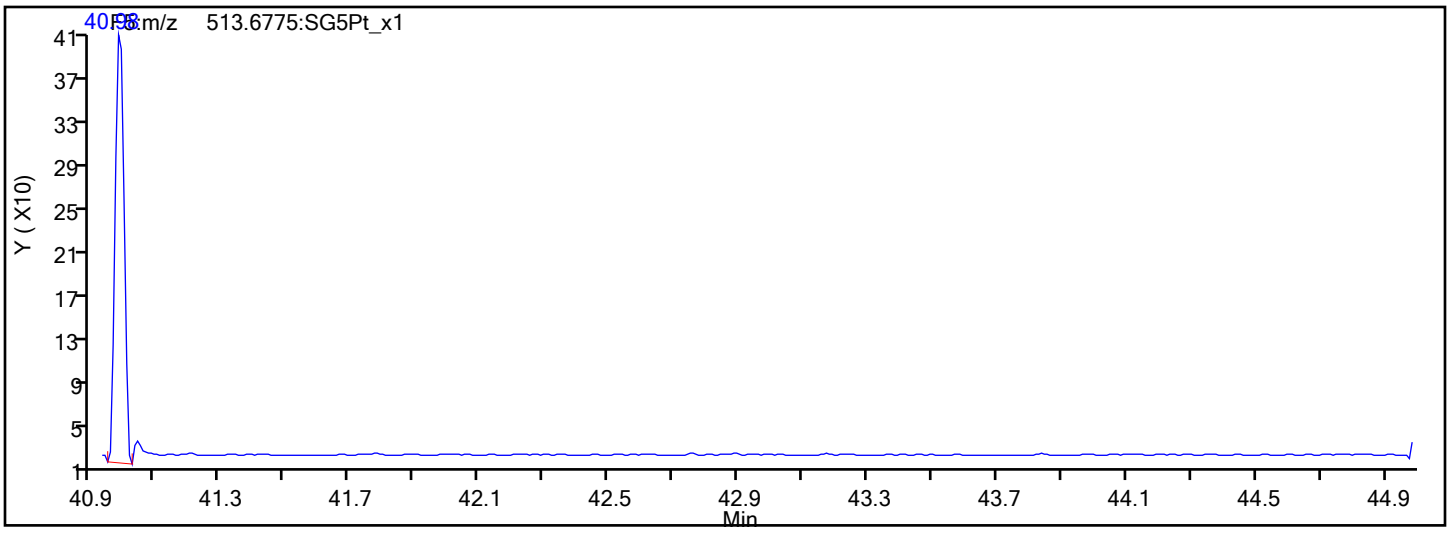
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d
Injection Date: 13-Jan-2022 18:04:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



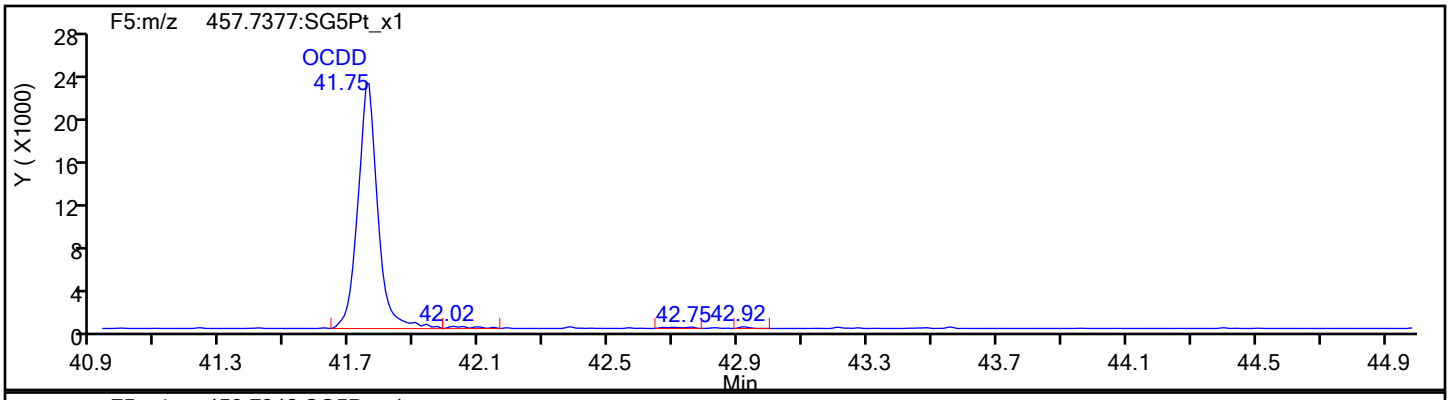
Report Date: 20-Jan-2022 15:59:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

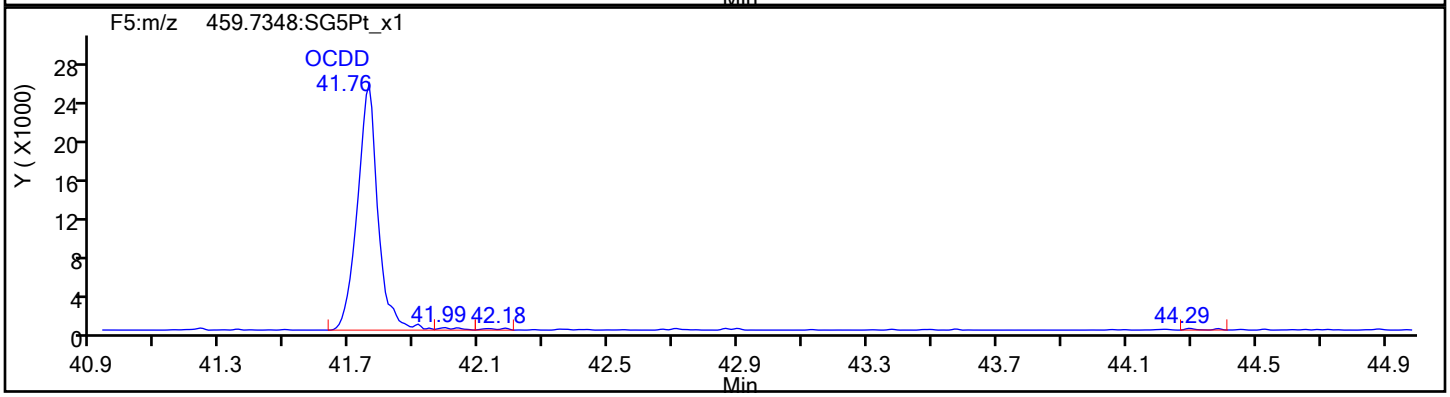
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

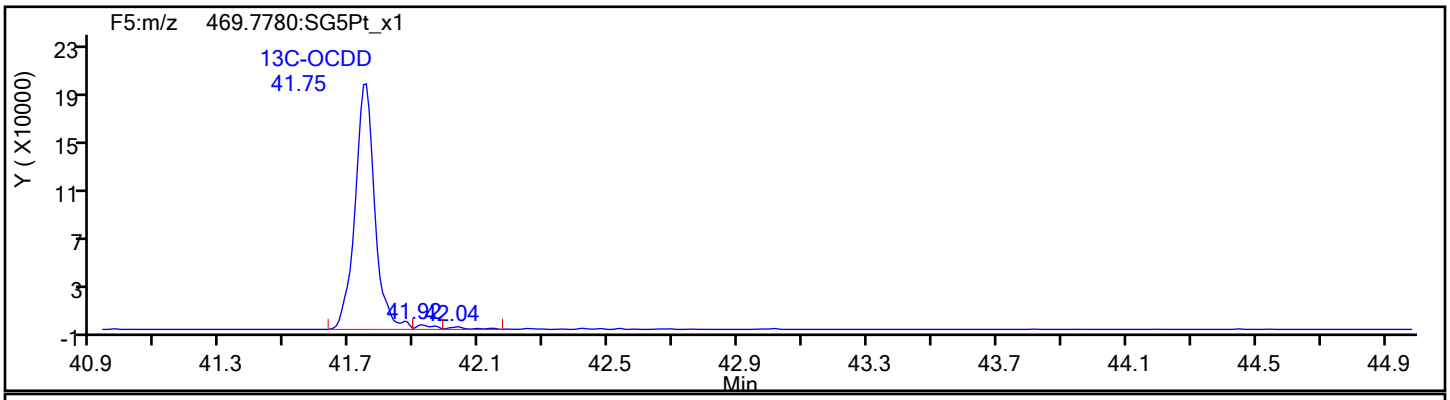
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

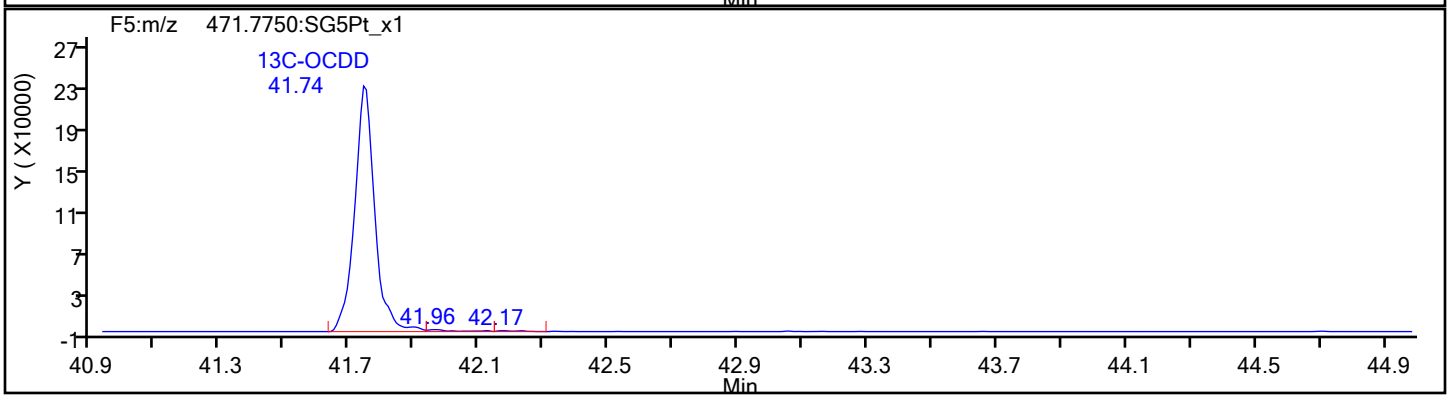
OCDD





OCDD Standards



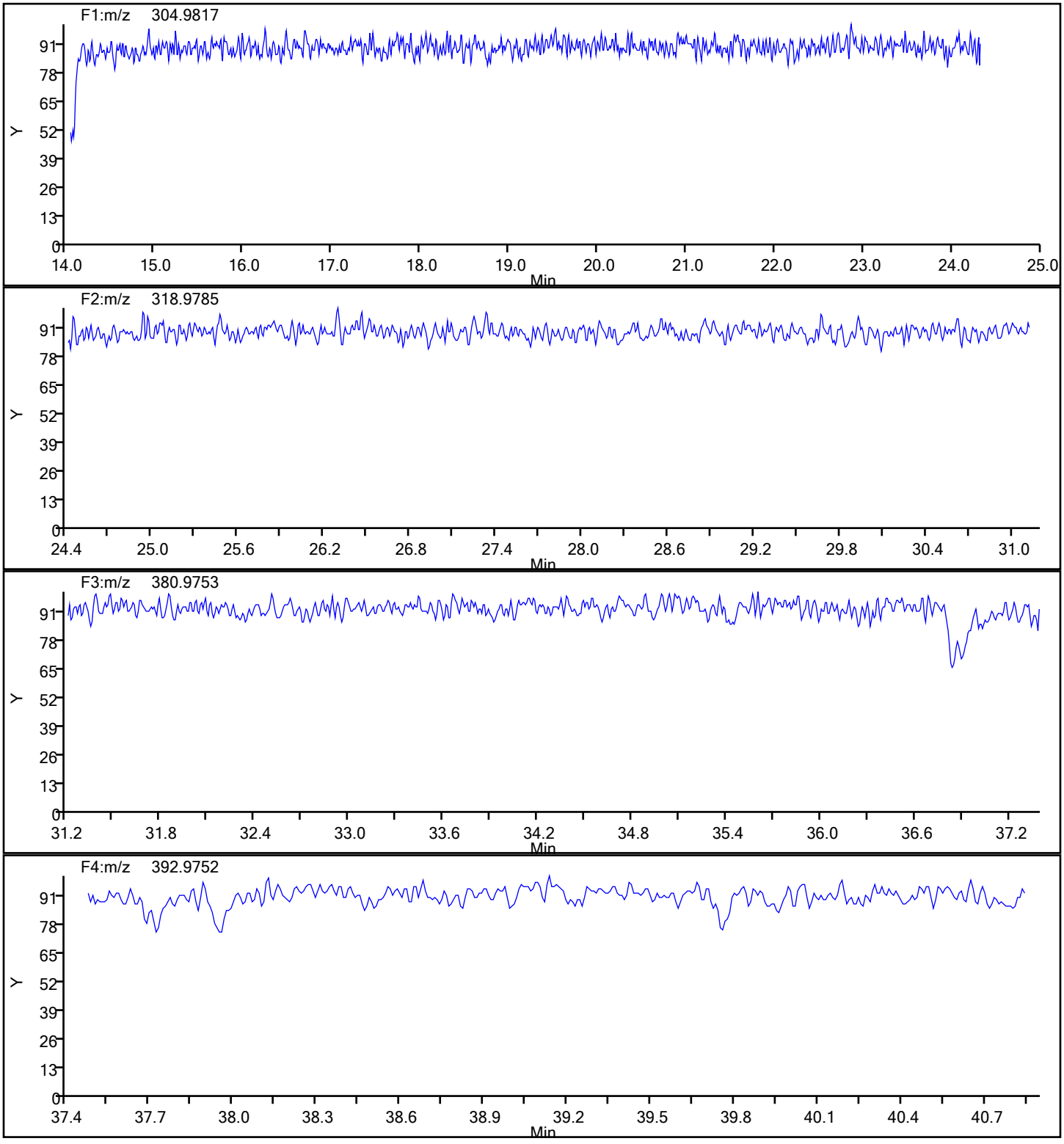


Report Date: 20-Jan-2022 15:59:04 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d

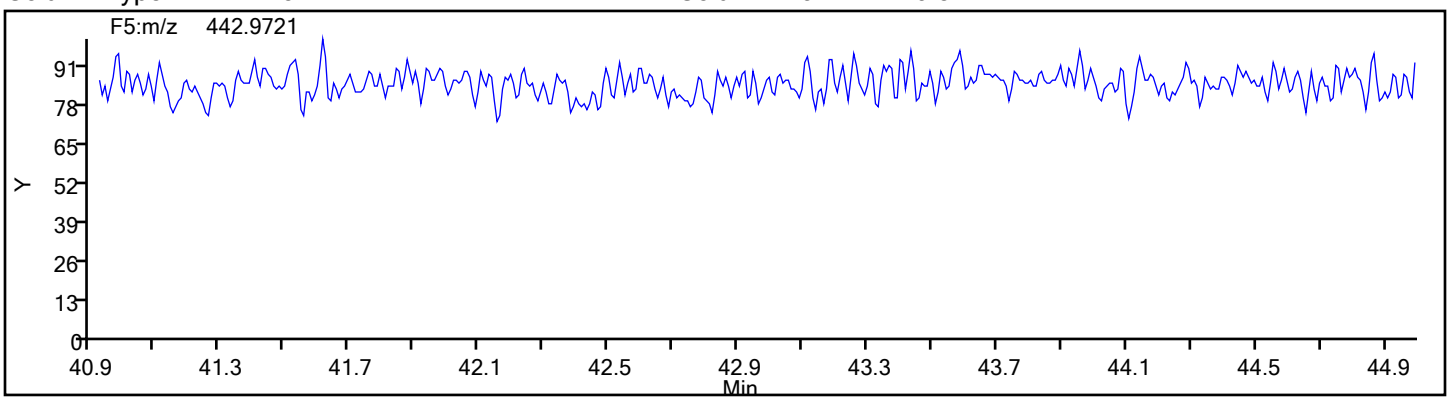
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 15:59:04 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_5.d		
Injection Date:	13-Jan-2022 18:04:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Jan-2022 18:51:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS4_HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:15 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: ilczyszynd Date: 20-Jan-2022 15:58:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.397	3311179	0.80	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.478	3267431	0.84	1.0164	97.1	97.1	0.5739	0.5739	97.09	
2,3,7,8-TCDF	19.504	327239	0.78	1.0120	9.897	9.897	0.0620	0.0620	98.97	
S Total TCDF					9.897	9.897	0.0620	0.0620		
D 13C-2,3,7,8-TCDD	20.766	2421233	0.82	0.7884	92.7	92.7	0.3511	0.3511	92.75	
$ 37Cl4-2,3,7,8-TCDD	20.818	264027		0.7911	10.1	10.1	0.0363	0.0363	101	
2,3,7,8-TCDD	20.809	234925	0.82	0.9906	9.794	9.794	0.0737	0.0737	97.94	
S Total TCDD					9.794	9.794	0.0737	0.0737		
D 13C-1,2,3,7,8-PeCDF	26.482	2995249	1.56	0.9232	98.0	98.0	0.5891	0.5891	97.99	
1,2,3,7,8-PeCDF	26.498	1340624	1.56	0.9756	45.9	45.9	0.2771	0.2771	91.76	
D 13C-2,3,4,7,8-PeCDF	27.938	3605659	1.59	1.0793			0.5039	0.5039		
2,3,4,7,8-PeCDF	27.964	1283336	1.57	0.9215	46.5	46.5	0.2933	0.2933	92.99	
S Total PeCDF					92.4	92.4	0.2852	0.2852		
D 13C-1,2,3,7,8-PeCDD	28.730	1767842	1.59	0.5606	95.2	95.2	0.3928	0.3928	95.24	
1,2,3,7,8-PeCDD	28.764	839992	1.56	1.0020	47.4	47.4	0.1231	0.1231	94.84	
S Total PeCDD					47.4	47.4	0.1231	0.1231		
D 13C-1,2,3,4,7,8-HxCDF	34.340	2480807	0.54	1.0566			0.4941	0.4941		
1,2,3,4,7,8-HxCDF	34.366	1001430	1.27	0.8835	45.7	45.7	0.2256	0.2256	91.38	
D 13C-1,2,3,6,7,8-HxCDF	34.526	2178626	0.49	0.9686	99.4	99.4	0.5389	0.5389	99.37	
1,2,3,6,7,8-HxCDF	34.542	1134458	1.26	1.0287	44.5	44.5	0.1937	0.1937	88.90	
D 13C-2,3,4,6,7,8-HxCDF	35.409	2089175	0.53	0.9084	101.6	101.6	0.5746	0.5746	102	
2,3,4,6,7,8-HxCDF	35.426	1091296	1.23	0.9878	44.5	44.5	0.2018	0.2018	89.07	
D 13C-1,2,3,7,8,9-HxCDF	36.352	1930739	0.52	0.8248	103.4	103.4	0.6329	0.6329	103	
1,2,3,7,8,9-HxCDF	36.378	1036430	1.27	0.9071	46.1	46.1	0.2197	0.2197	92.12	
S Total HxCDF					180.7	180.7	0.2102	0.2102		
* 13C-1,2,3,7,8,9-HxCDD	36.167	2263613	1.28	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.654	1885425	1.24	0.8133			0.4718	0.4718		
1,2,3,4,7,8-HxCDD	35.670	702018	1.28	0.8294	48.1	48.1	0.1812	0.1812	96.18	
D 13C-1,2,3,6,7,8-HxCDD	35.780	1760030	1.29	0.8027	96.9	96.9	0.4781	0.4781	96.87	
1,2,3,6,7,8-HxCDD	35.797	809205	1.23	0.9395	48.9	48.9	0.1600	0.1600	97.88	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.184	775382	1.22	0.9076	48.5	48.5	0.1656	0.1656	97.08	
S Total HxCDD					145.6	145.6	0.1689	0.1689		
D 13C-1,2,3,4,6,7,8-HpCDF	38.276	1416166	0.46	0.6421	97.4	97.4	0.6871	0.6871	97.44	
1,2,3,4,6,7,8-HpCDF	38.293	983413	1.05	1.4385	48.3	48.3	0.2512	0.2512	96.55	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.564	1770500	0.42	1.1706	106.8	106.8	0.4807	0.4807	107	
1,2,3,4,7,8,9-HpCDF	39.581	837721	1.05	1.2202	48.5	48.5	0.2961	0.2961	96.96	
S Total HpCDF					96.8	96.8	0.2737	0.2737		
D 13C-1,2,3,4,6,7,8-HpCDD	39.261	1413921	1.09	0.6246	100.0	100.0	0.4214	0.4214	100	
1,2,3,4,6,7,8-HpCDD	39.270	645784	1.05	0.9767	46.8	46.8	0.1400	0.1400	93.53	
S Total HpCDD					46.8	46.8	0.1400	0.1400		
D 13C-OCDD	41.741	1946538	0.86	0.4360	197.2	197.2	0.3131	0.3131	98.62	
OCDF	41.825	1205705	0.92	1.2756	97.1	97.1	0.1456	0.1456	97.12	
OCDD	41.749	961342	0.89	1.0341	95.5	95.5	0.1479	0.1479	95.51	

QC Flag Legend

Processing Flags

Reagents:

HRDXNL4_00105 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Jan-2022 18:51:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS4_HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:58:15 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: ilczyszynd Date: 20-Jan-2022 15:58:14

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.397	20.418	-1		1476015	214606	358	895	599		
333.9338	20.406	20.418	-1		1835164	280363	190	475	1476	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.478	19.485	0	0.955	1495477	219834	777	1942	283		
317.9389	19.469	19.485	-1	0.955	1771954	253355	378	945	670	0.84(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.504	19.520	-1	1.001	142922	20855	45	112	463		
305.8987	19.512	19.520	0	1.002	184317	26072	74	185	352	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.766	20.784	-1	1.018	1094480	157250	358	895	439		
333.9338	20.758	20.784	-2	1.018	1326753	191868	190	475	1010	0.82(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.818	20.809	1	1.021	264027	34863	57	142	612		
2,3,7,8-TCDD											
319.8965	20.809	20.821	-1	1.002	106102	14812	73	182	203		
321.8936	20.809	20.821	-1	1.002	128823	17303	29	72	597	0.82(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.482	26.498	-1	1.298	1826650	299383	703	1757	426		
353.8970	26.482	26.498	-1	1.298	1168599	187853	374	935	502	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.498	26.518	-1	1.001	816101	126573	292	730	433		
341.8567	26.498	26.518	-1	1.001	524523	82556	235	587	351	1.56(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.938	27.961	-1	1.370	2213814	330602	703	1757	470		
353.8970	27.938	27.961	-1	1.370	1391845	204934	374	935	548	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	27.964	27.984	-1	1.001	783680	114451	292	730	392		
341.8567	27.964	27.984	-1	1.001	499656	71894	235	587	306	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.730	28.754	-1	1.409	1085718	162798	254	635	641		
369.8919	28.739	28.754	-1	1.409	682124	96689	182	455	531	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.764	28.781	-1	1.001	512293	71598	77	192	930		
357.8516	28.756	28.781	-2	1.001	327699	43821	51	127	859	1.56(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.340	34.357	-1	0.949	865112	162749	235	587	693		
385.8610	34.340	34.357	-1	0.949	1615695	291311	721	1802	404	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.366	34.374	-1	1.001	559887	99474	201	502	495		
375.8178	34.366	34.374	-1	1.001	441543	77638	161	402	482	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.526	34.533	0	0.955	719304	119277	235	587	508		
385.8610	34.526	34.533	0	0.955	1459322	245168	721	1802	340	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.542	34.553	-1	1.000	632059	110761	201	502	551		
375.8178	34.542	34.553	-1	1.000	502399	83124	161	402	516	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.409	35.421	-1	0.979	720040	146789	235	587	625		
385.8610	35.409	35.421	-1	0.979	1369135	268333	721	1802	372	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.426	35.438	-1	1.000	602826	116527	201	502	580		
375.8178	35.426	35.438	-1	1.000	488470	95223	161	402	591	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.352	36.366	-1	1.005	662005	144626	235	587	615		
385.8610	36.361	36.366	0	1.005	1268734	272266	721	1802	378	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.378	36.385	0	1.001	580725	122070	201	502	607		
375.8178	36.369	36.385	-1	1.000	455705	93818	161	402	583	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.167	36.172	0		1269136	255718	409	1022	625		
403.8529	36.167	36.172	0		994477	202134	294	735	688	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.654	35.661	0	0.986	1043740	239867	409	1022	586		
403.8529	35.654	35.661	0	0.986	841685	188177	294	735	640	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.670	35.676	0	1.000	394725	88398	116	290	762		
391.8127	35.670	35.676	0	1.000	307293	65221	95	237	687	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.780	35.787	0	0.989	992268	197861	409	1022	484		
403.8529	35.780	35.787	0	0.989	767762	152818	294	735	520	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.797	35.802	0	1.000	446543	88251	116	290	761		
391.8127	35.797	35.802	0	1.000	362662	73654	95	237	775	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.184	36.191	0	1.015	426422	86868	116	290	749		
391.8127	36.176	36.191	-1	1.015	348960	71127	95	237	749	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.276	38.287	-1	1.058	447217	111783	330	825	339		
419.8220	38.285	38.287	0	1.059	968949	247167	478	1195	517	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.293	38.299	0	1.000	504557	126047	303	757	416		
409.7788	38.293	38.299	0	1.000	478856	116744	216	540	540	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.564	39.570	0	1.094	524637	138530	330	825	420		
419.8220	39.564	39.570	0	1.094	1245863	328337	478	1195	687	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.581	39.584	0	1.000	428595	113201	303	757	374		
409.7788	39.573	39.584	-1	1.000	409126	109831	216	540	508	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.261	39.269	0	1.086	737543	196244	301	752	652		
437.8140	39.261	39.269	0	1.086	676378	174590	181	452	965	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.270	39.277	0	1.000	331273	85198	114	285	747		
425.7737	39.270	39.277	0	1.000	314511	82901	89	222	931	1.05(0.88-1.20)	
13C-OCDD											
469.7780	41.741	41.743	0	1.154	898340	209212	170	425	1231		
471.7750	41.741	41.743	0	1.154	1048198	248587	80	200	3107	0.86(0.76-1.02)	
OCDF											
441.7428	41.825	41.826	0	1.002	576978	137008	63	157	2175		
443.7399	41.825	41.826	0	1.002	628727	146321	107	267	1367	0.92(0.76-1.02)	
OCDD											
457.7377	41.749	41.748	0	1.000	452891	102143	61	152	1674		
459.7348	41.749	41.748	0	1.000	508451	115250	79	197	1459	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

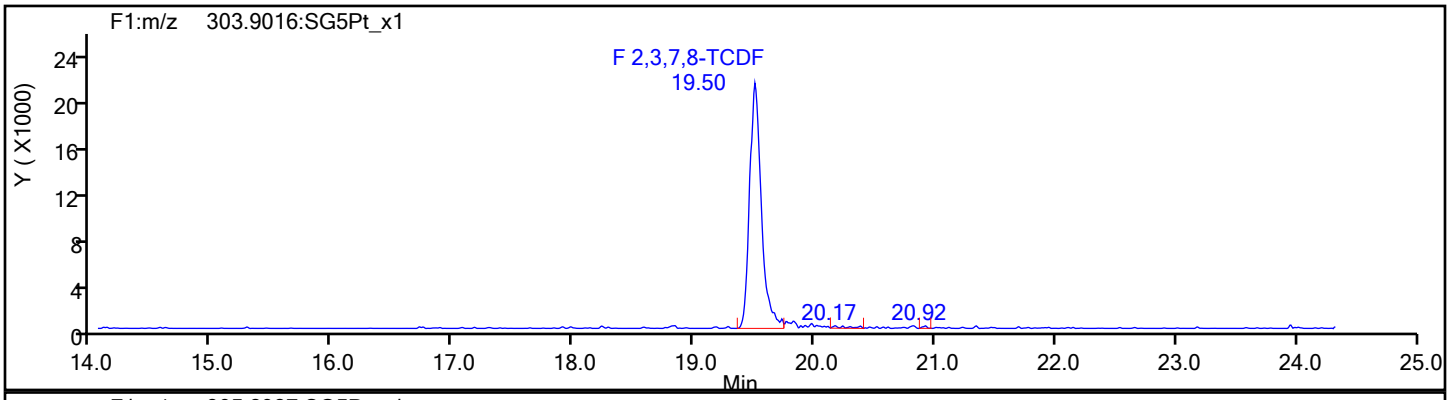
Reagents:

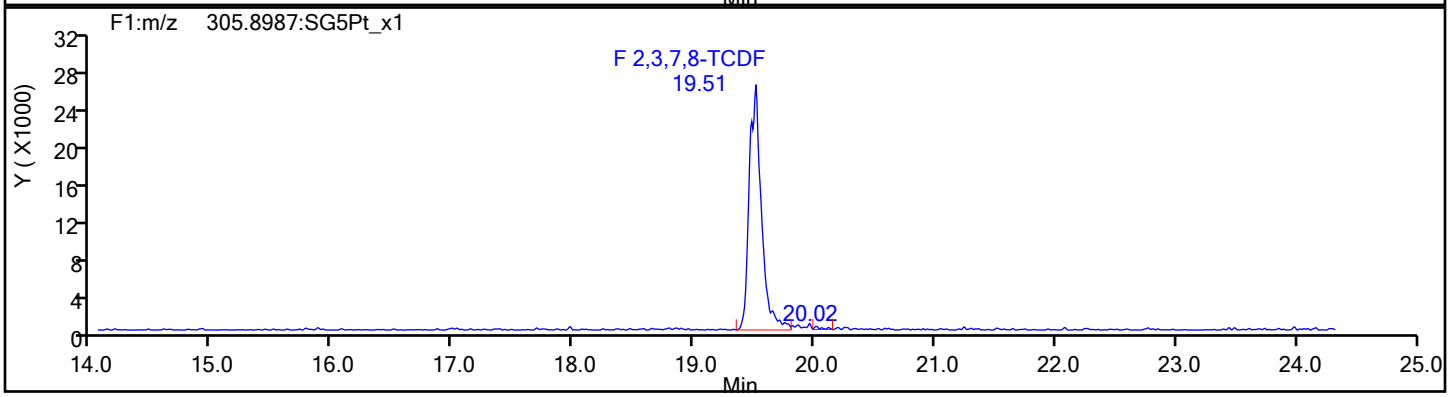
HRDXNL4_00105 Amount Added: 1.00 Units: ml

Eurofins Sacramento

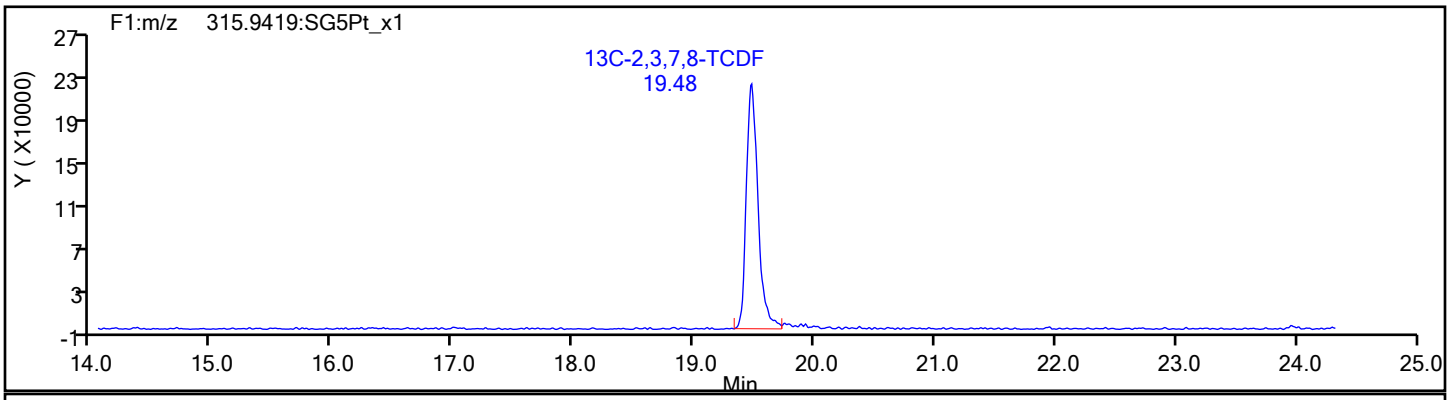
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Injection Date: 13-Jan-2022 18:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

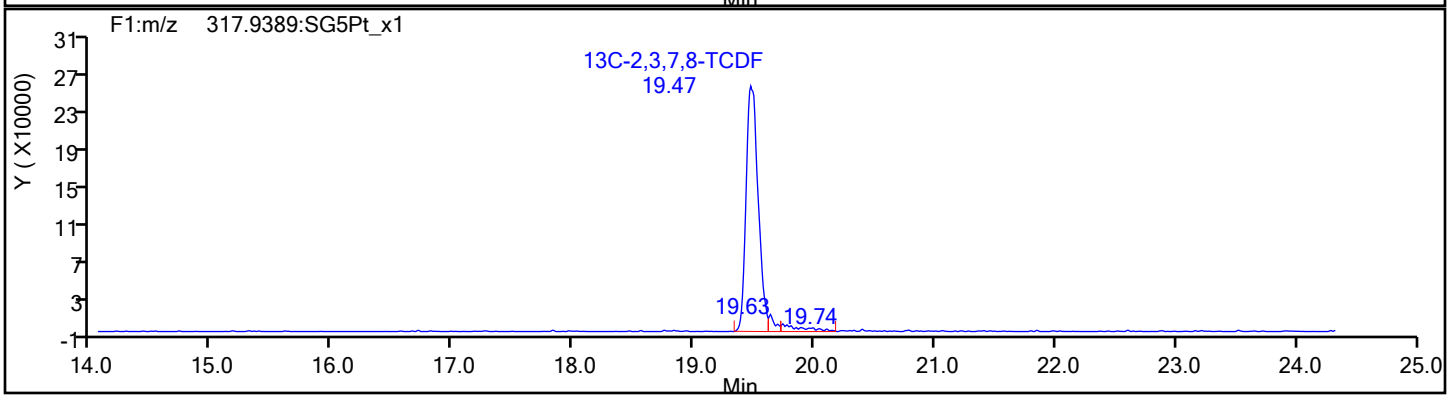
TCDF





TCDF Standards



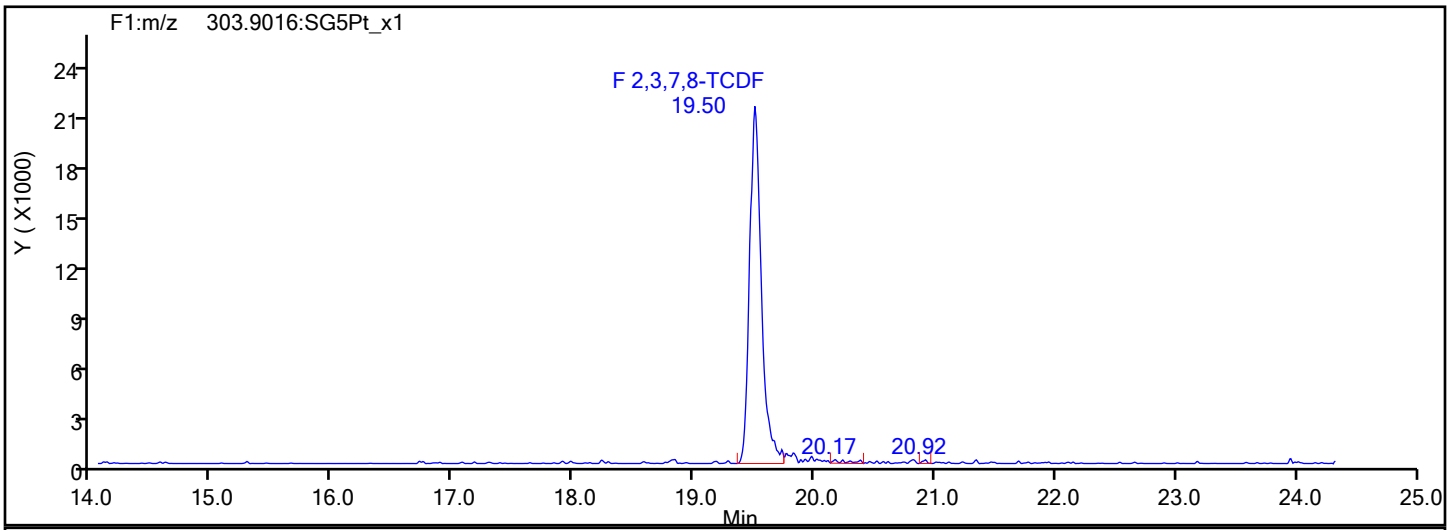


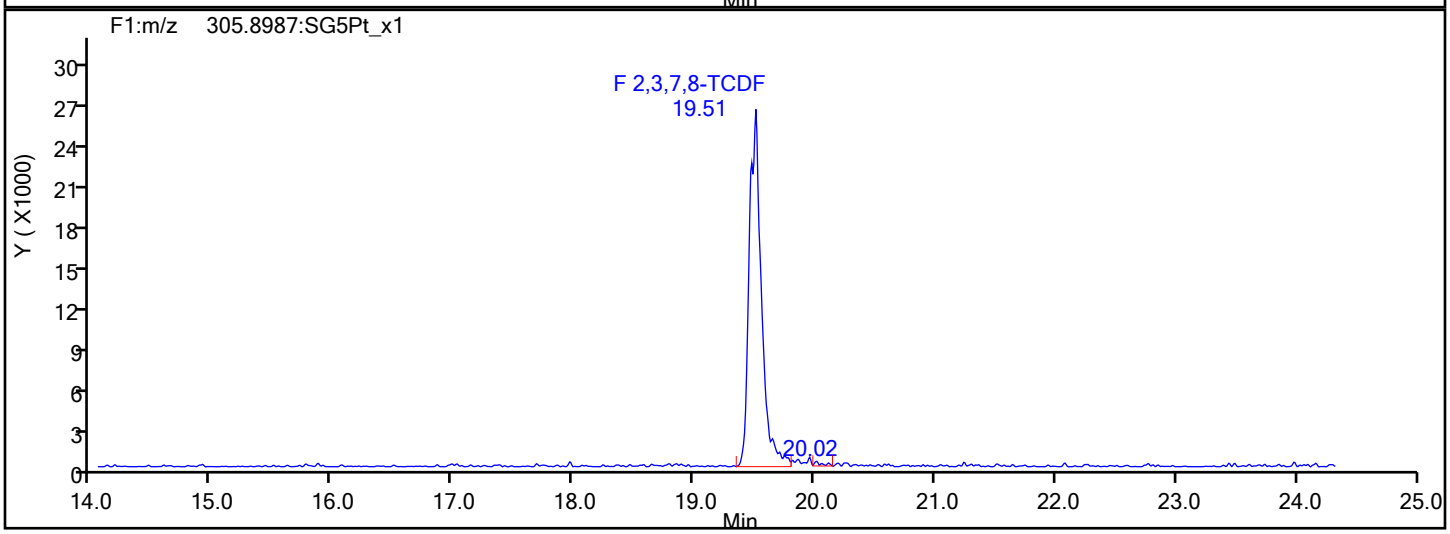
Report Date: 20-Jan-2022 15:58:16 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

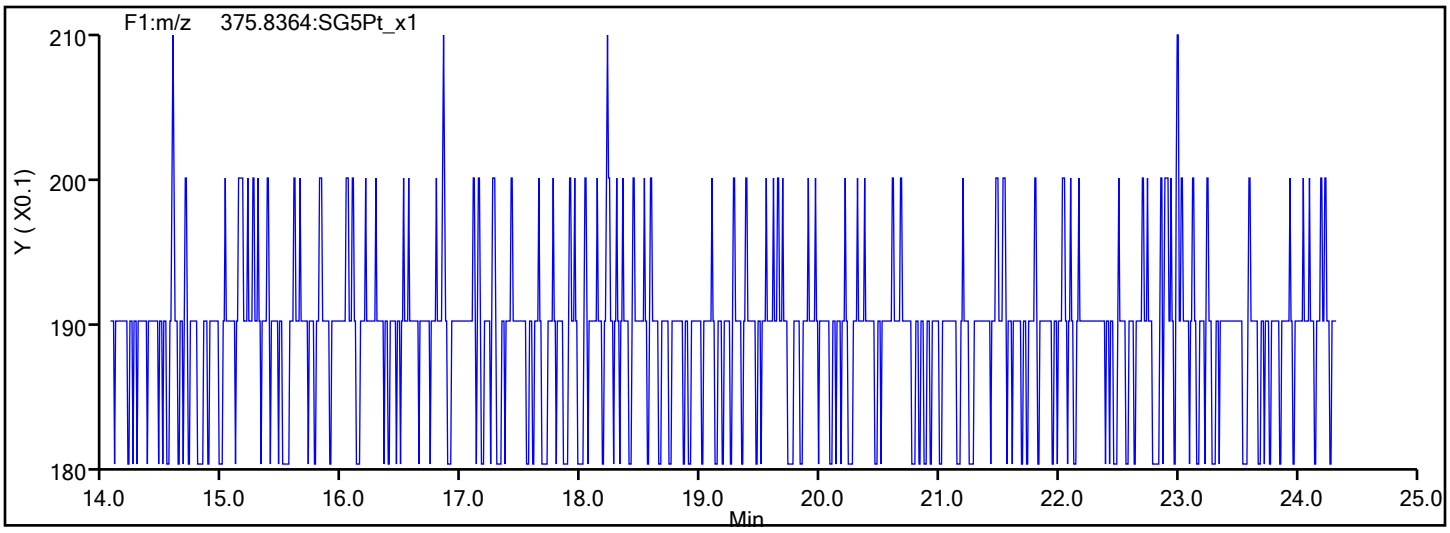
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d		
Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





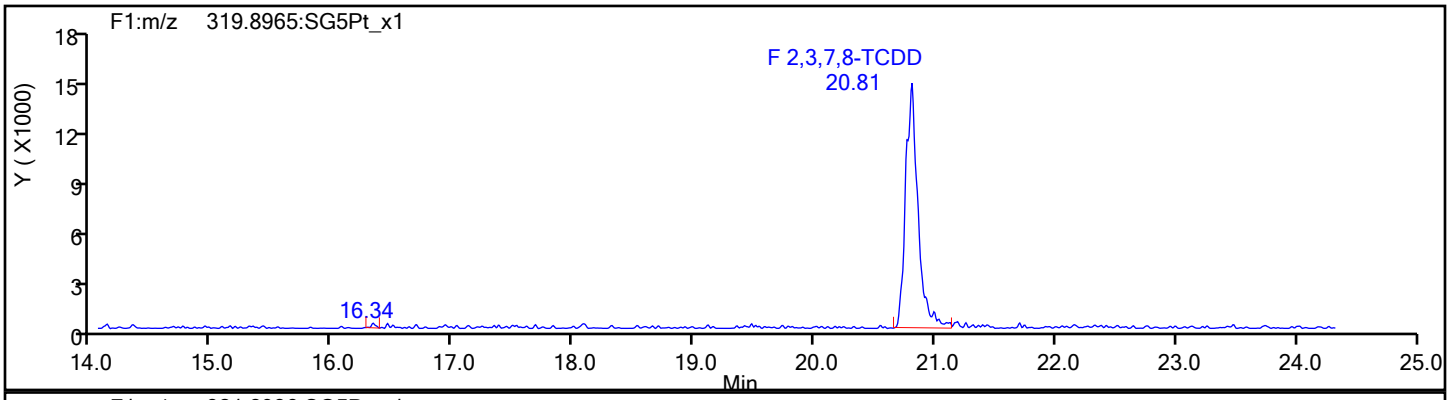
TCDF Interference Mass

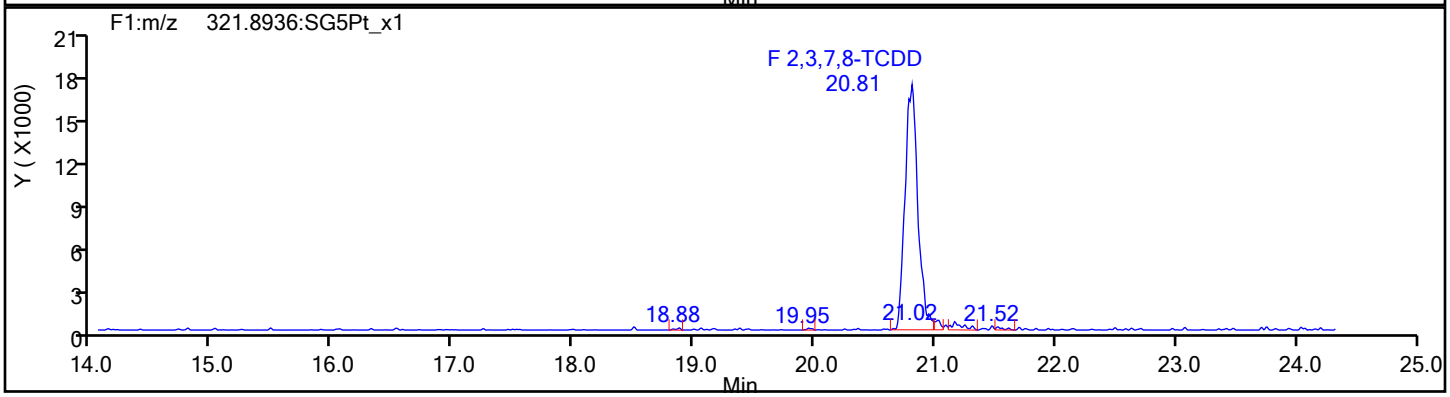


Eurofins Sacramento

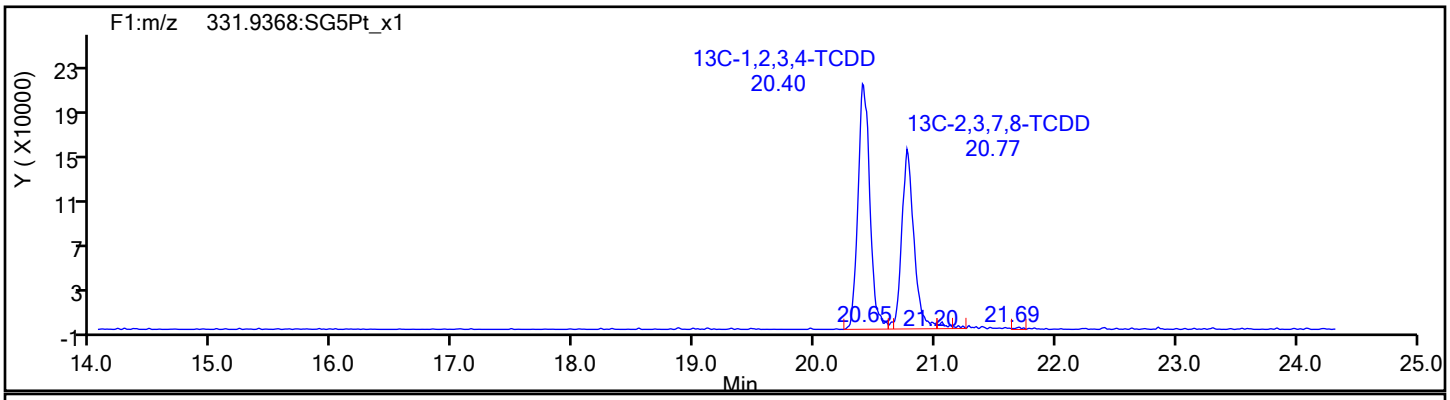
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Injection Date: 13-Jan-2022 18:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

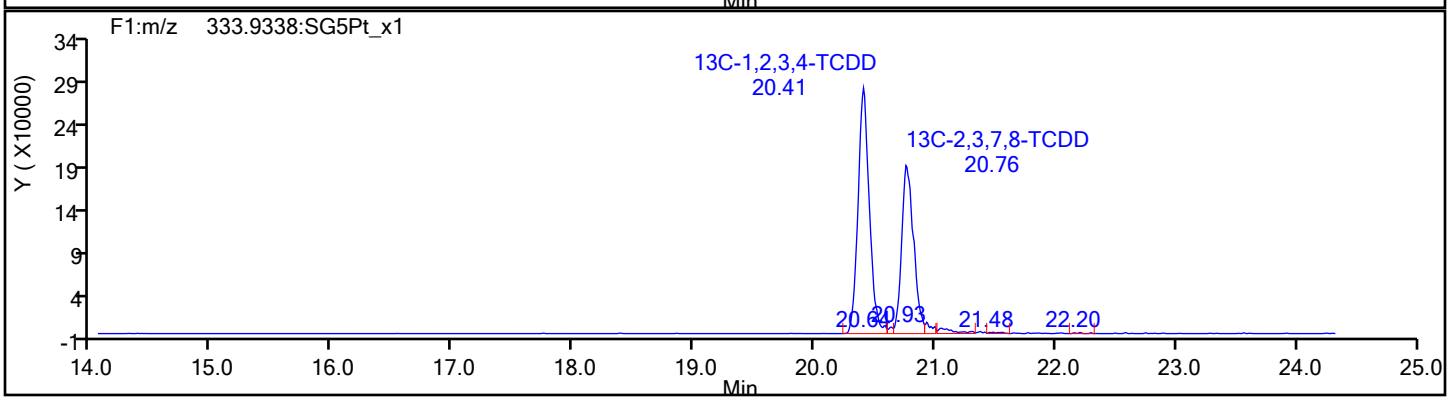
TCDD





TCDD Standards





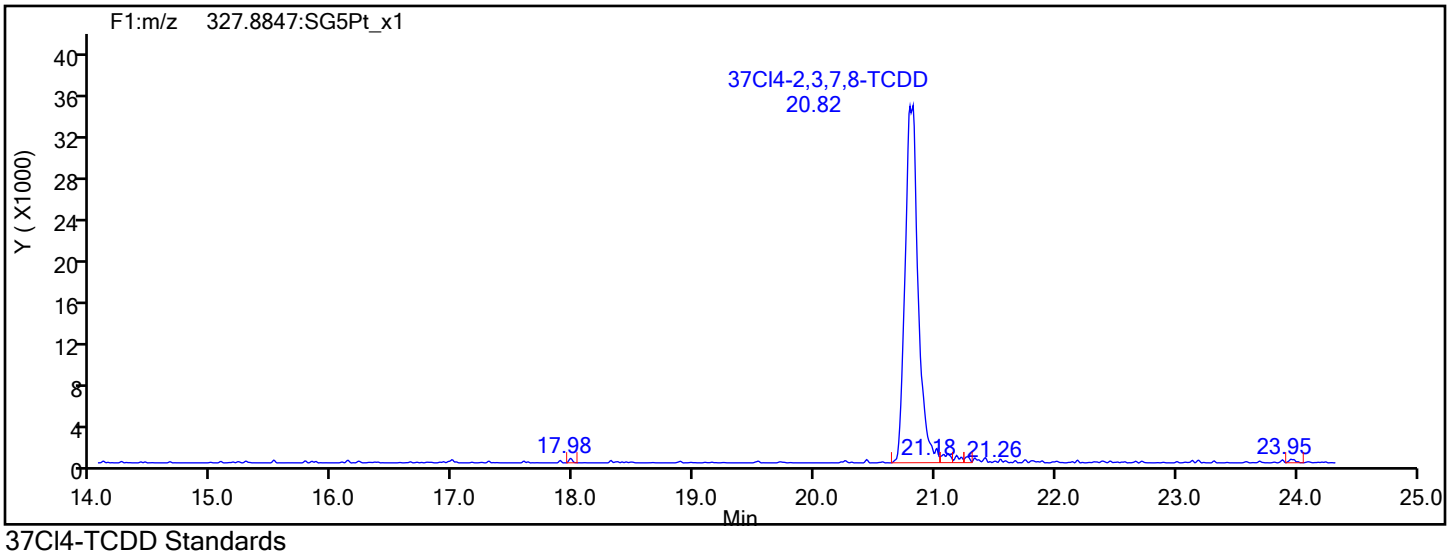
Report Date: 20-Jan-2022 15:58:17 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

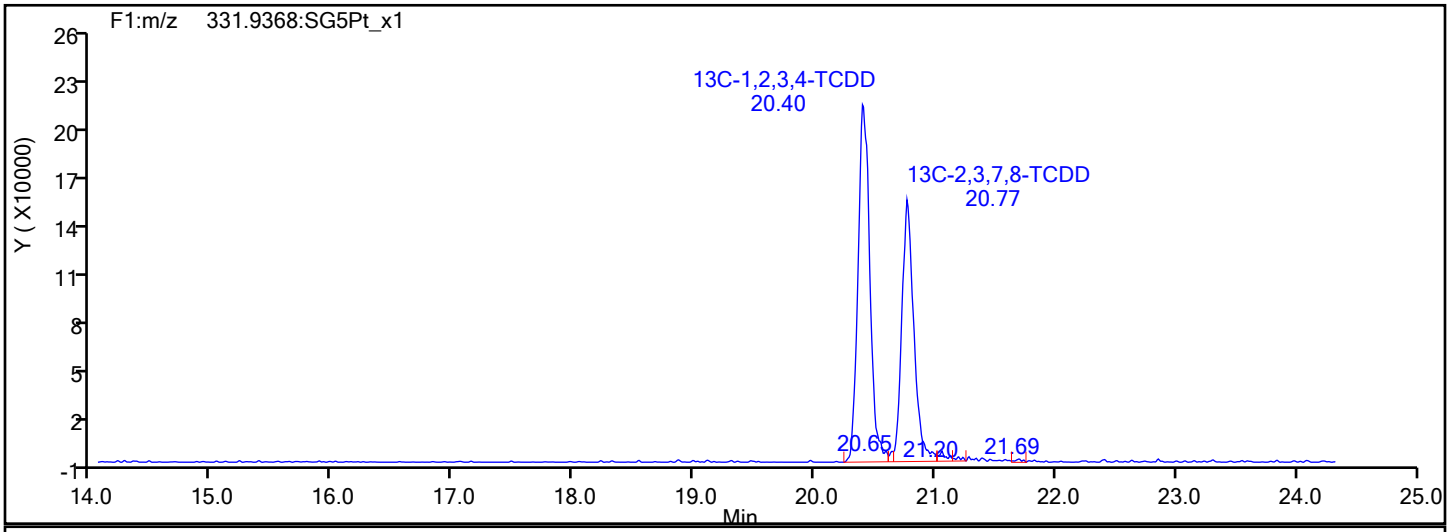
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d

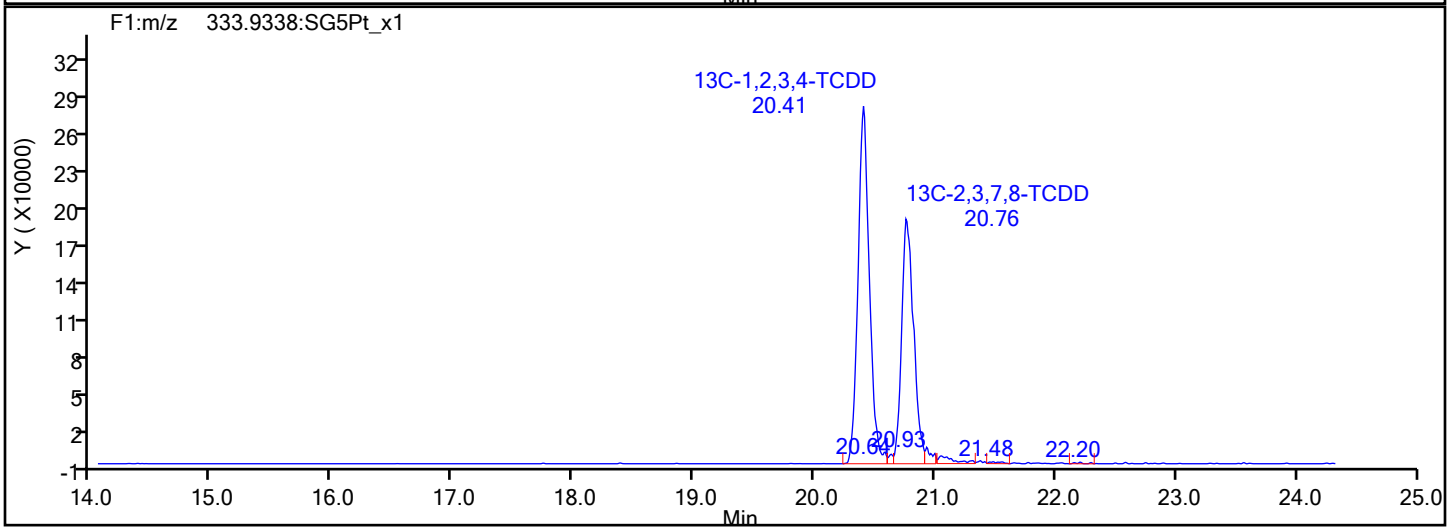
Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





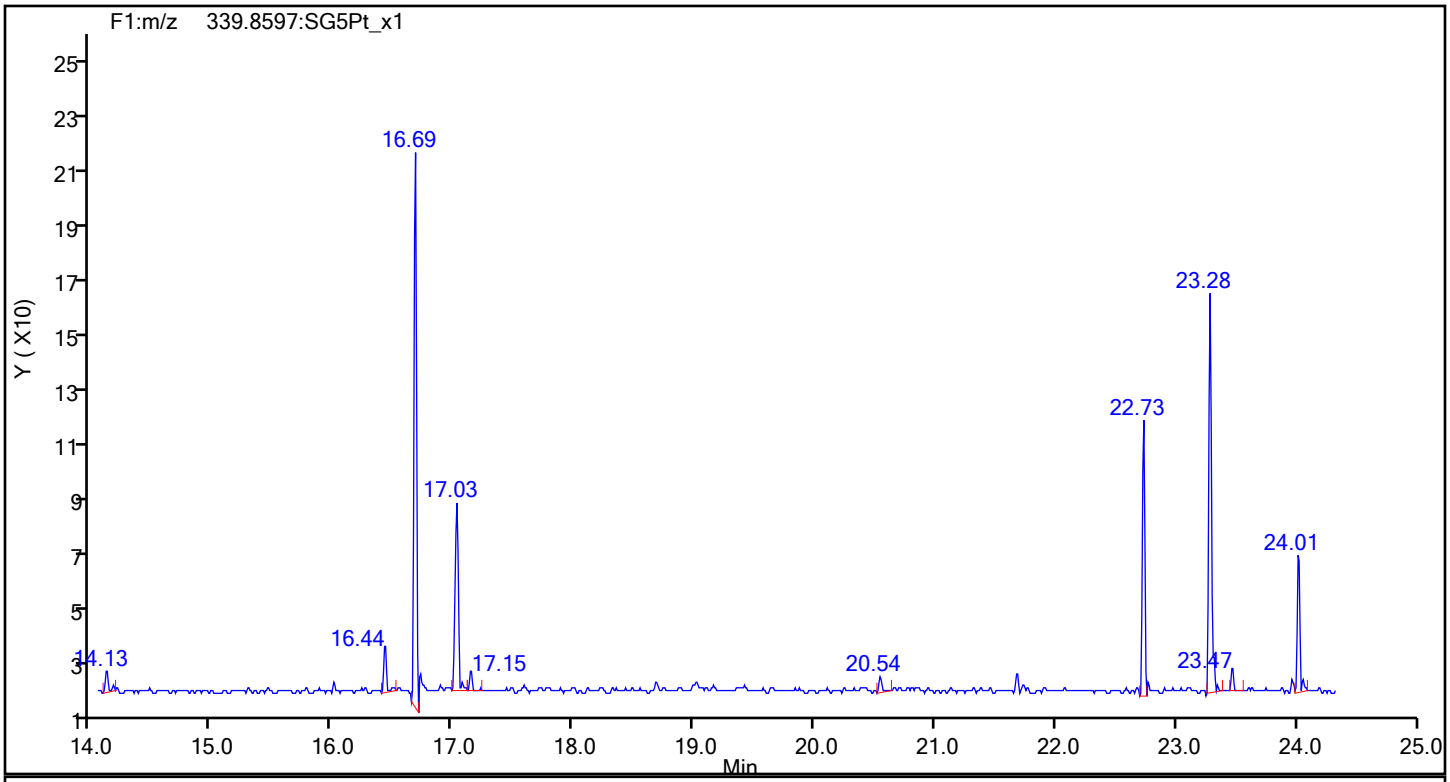
Report Date: 20-Jan-2022 15:58:17 Chrom Revision: 2.3 18-Jan-2022 20:25:40

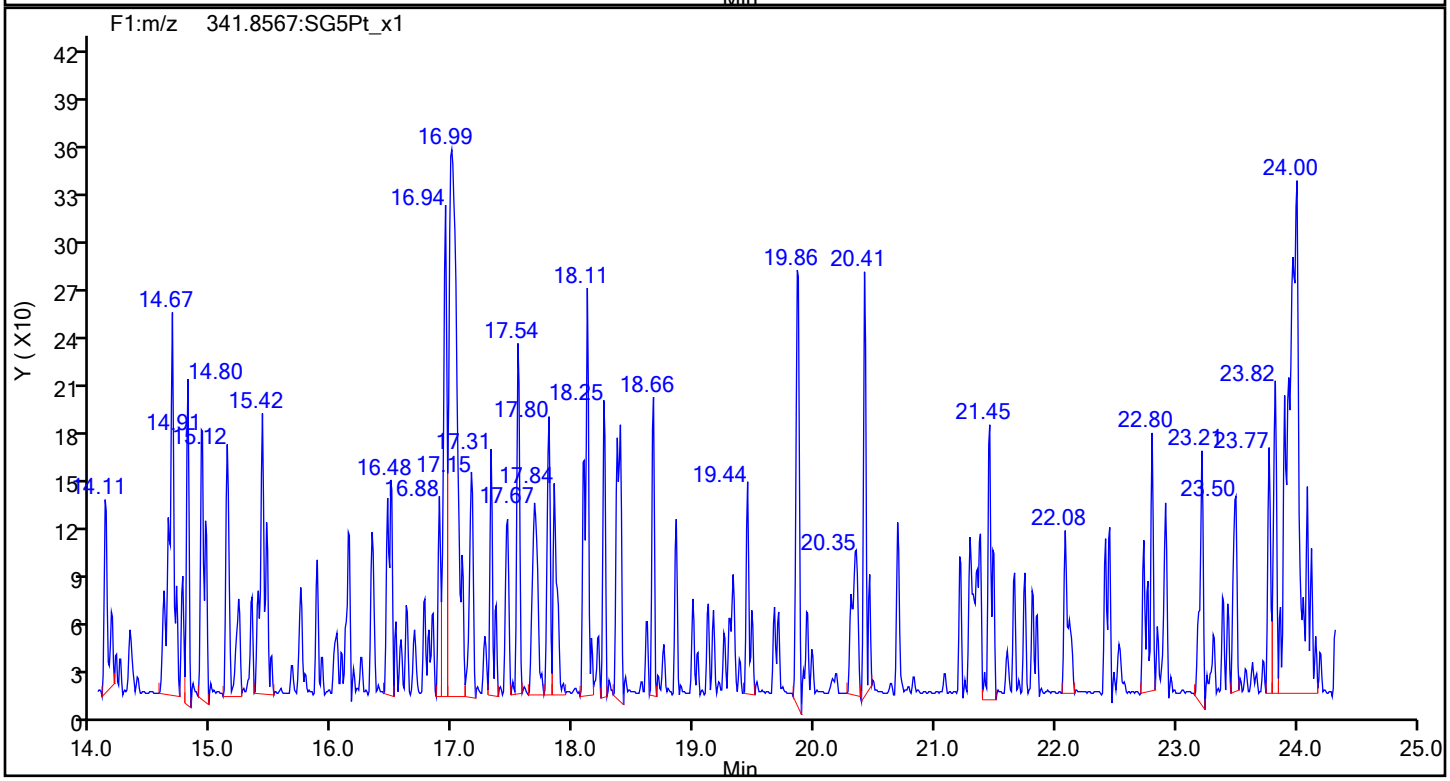
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d

Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d		
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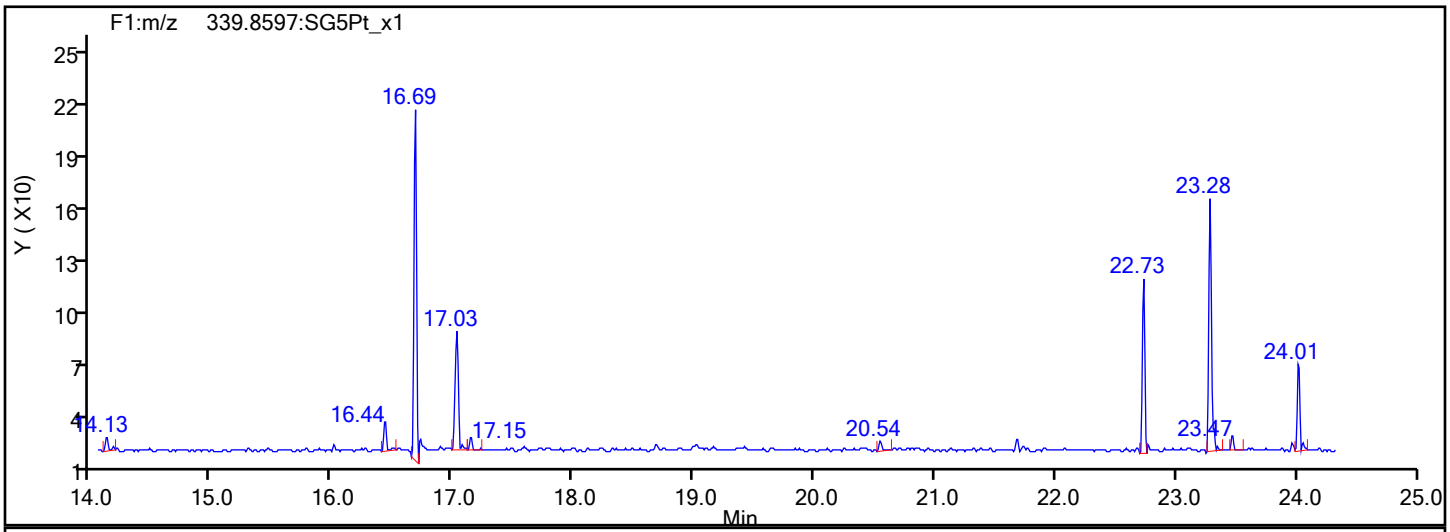
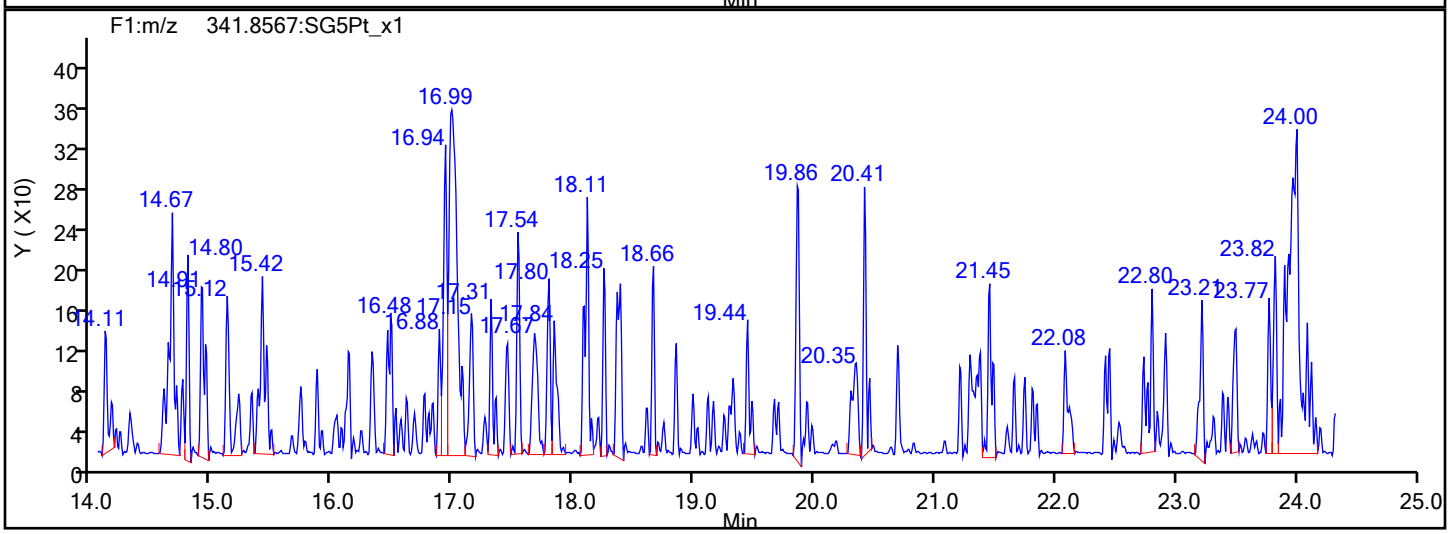
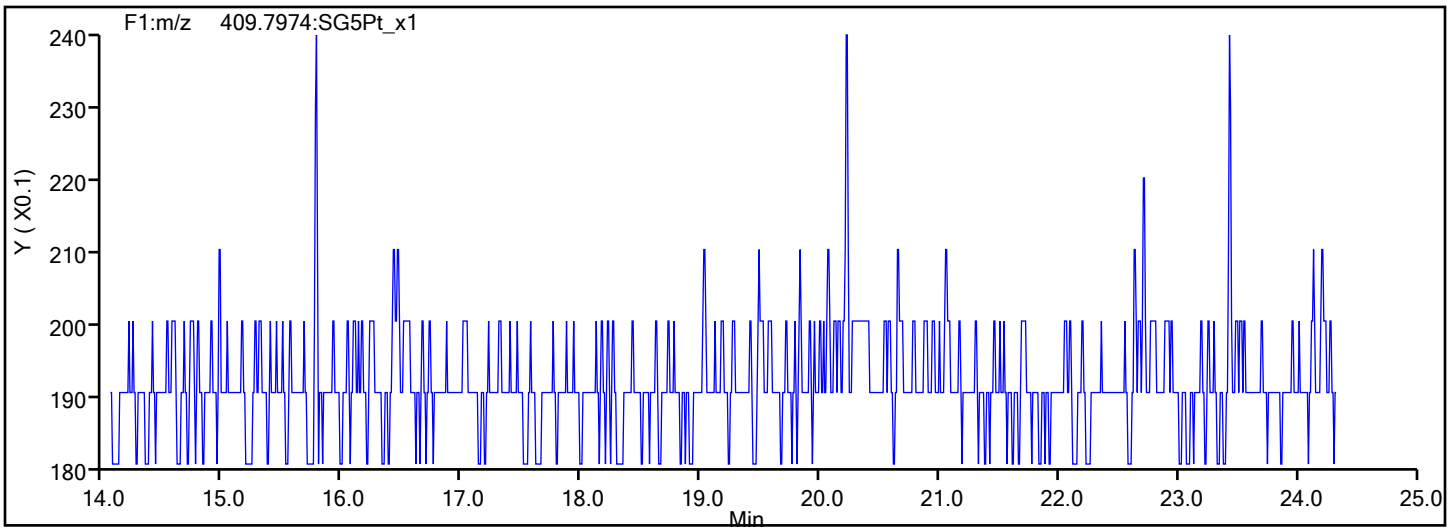
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

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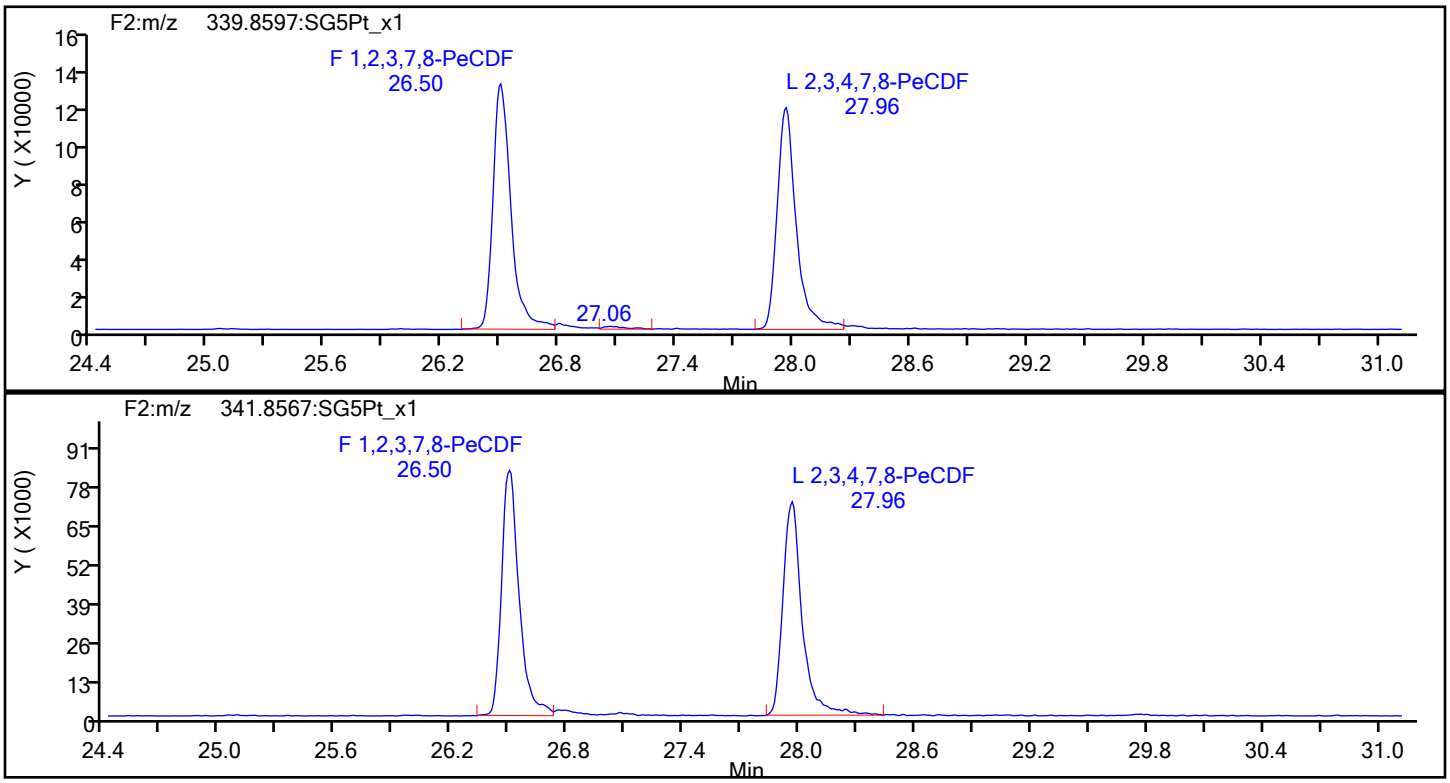
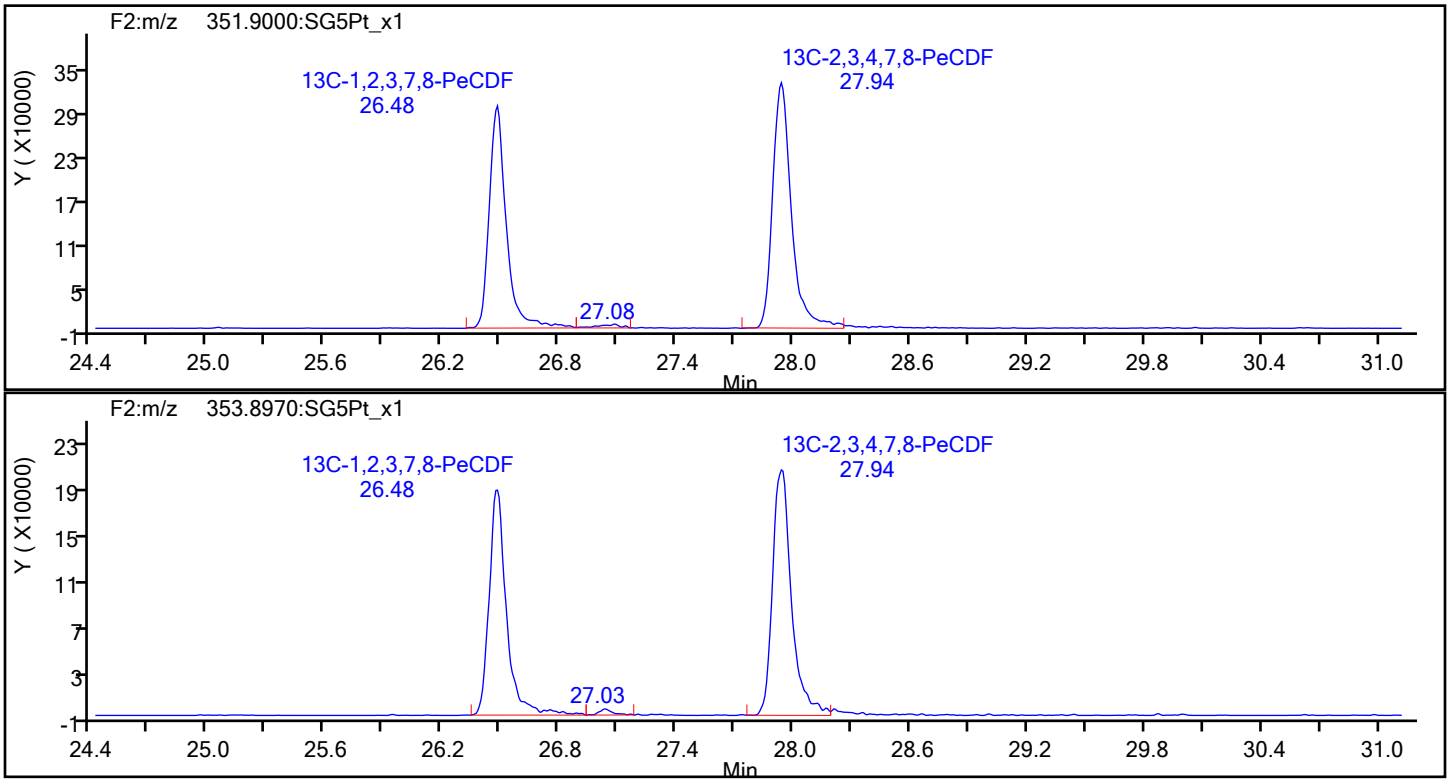
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

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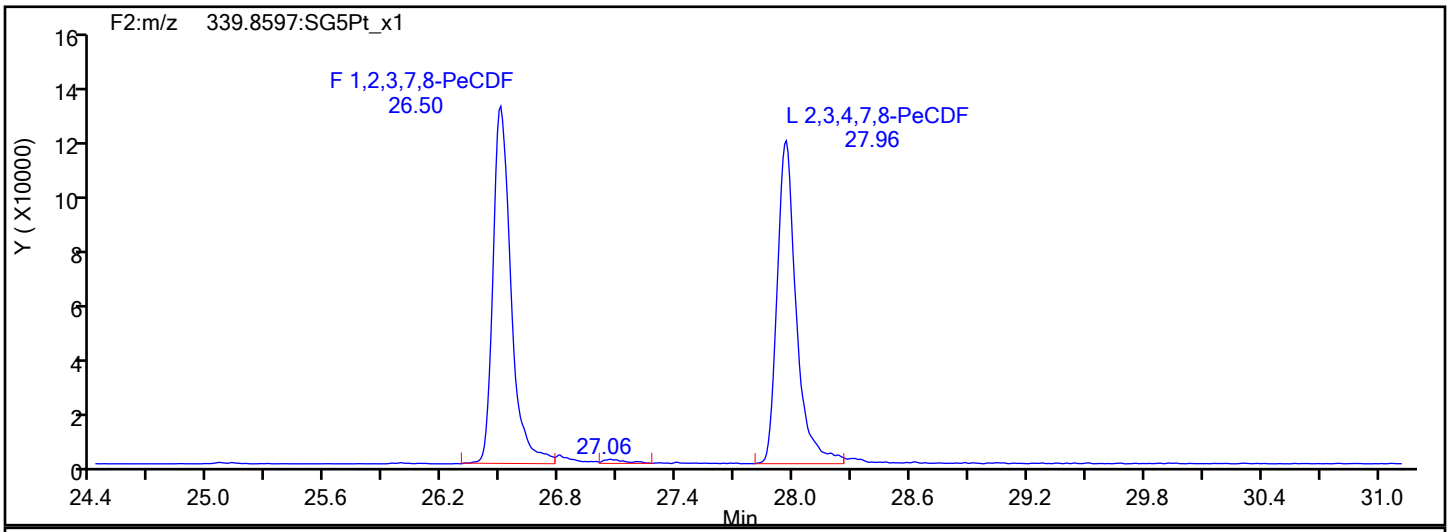
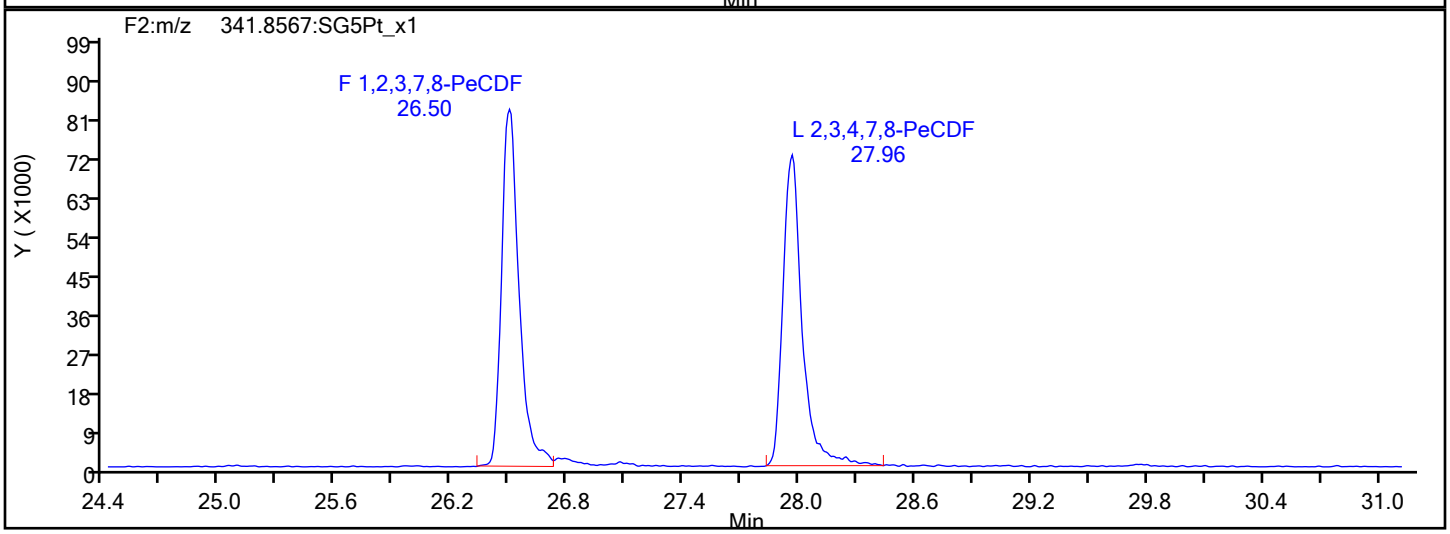
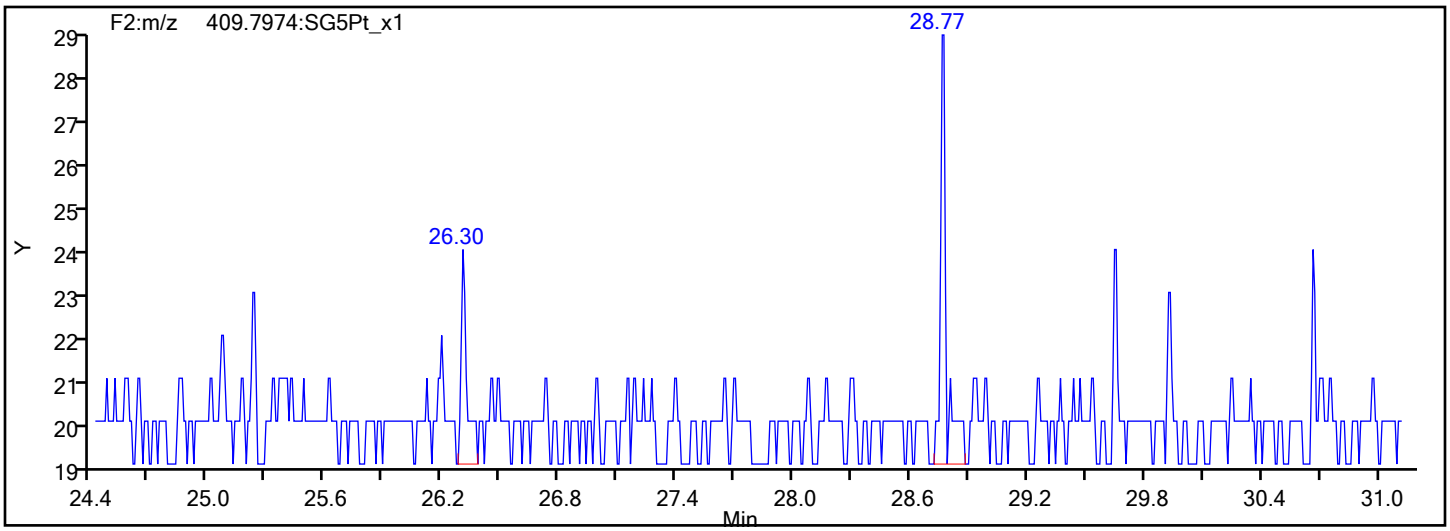




PeCDF Interference Mass



Eurofins Sacramento

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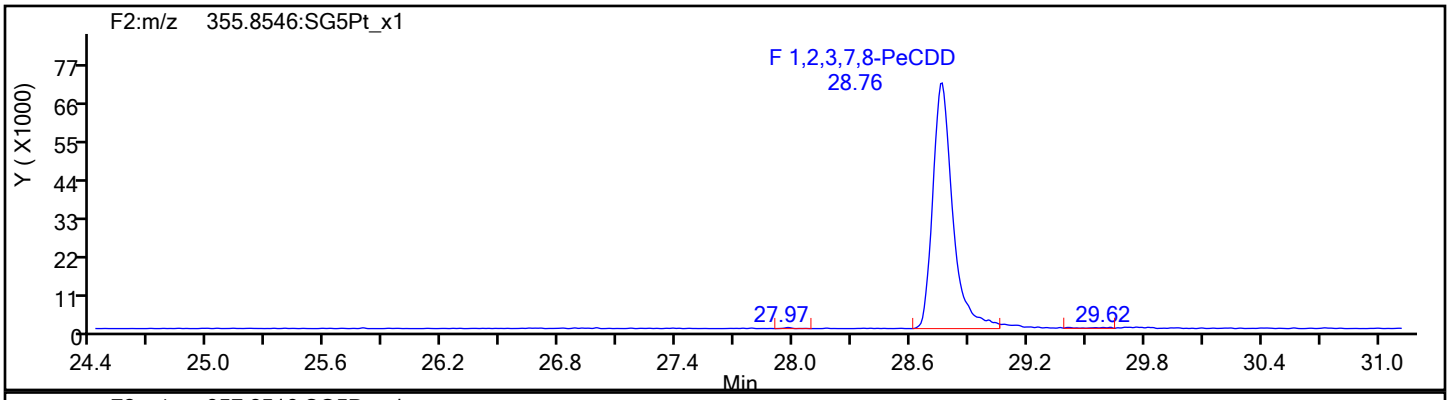
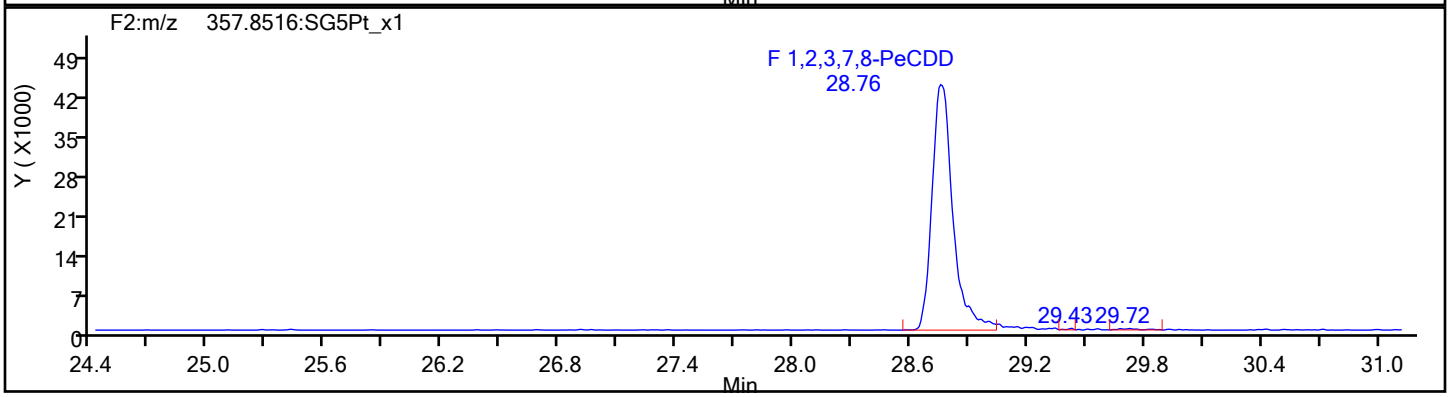
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

PeCDD





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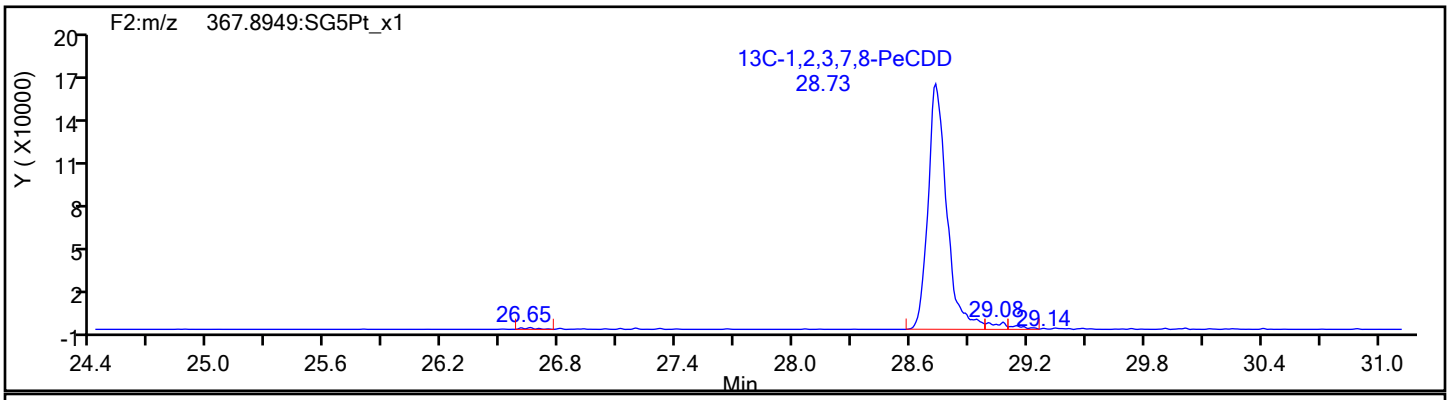

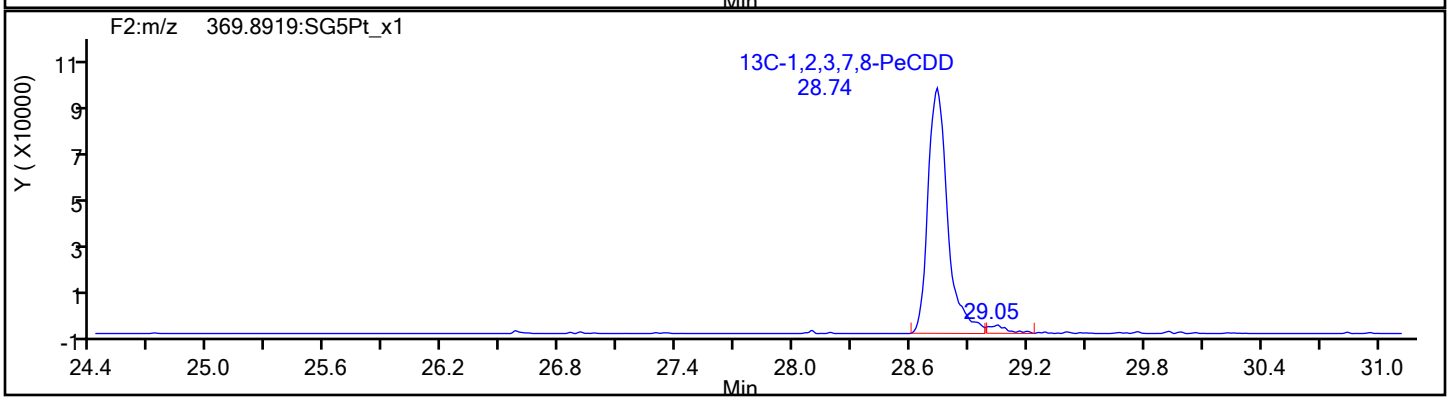

Eurofins Sacramento

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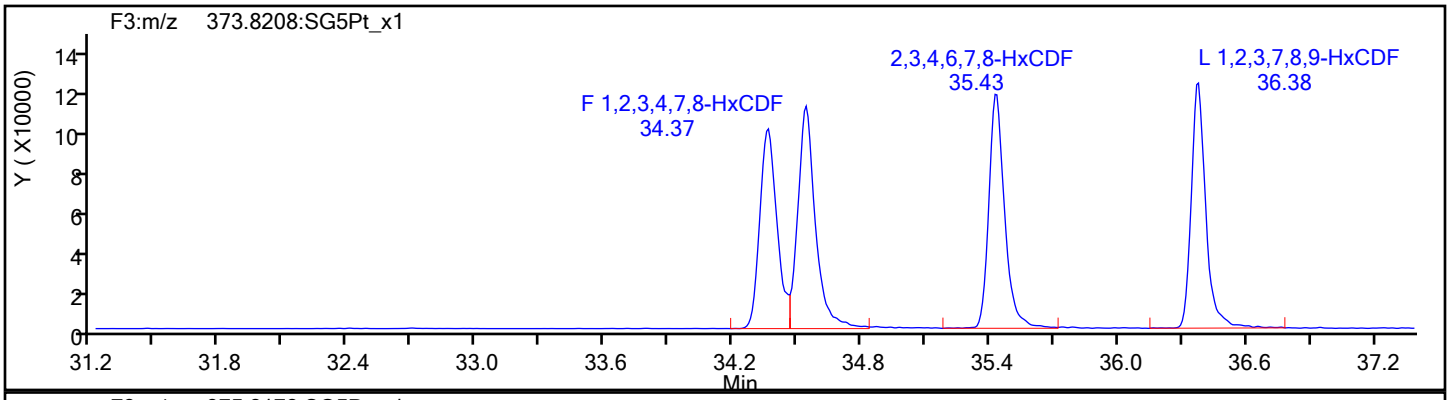
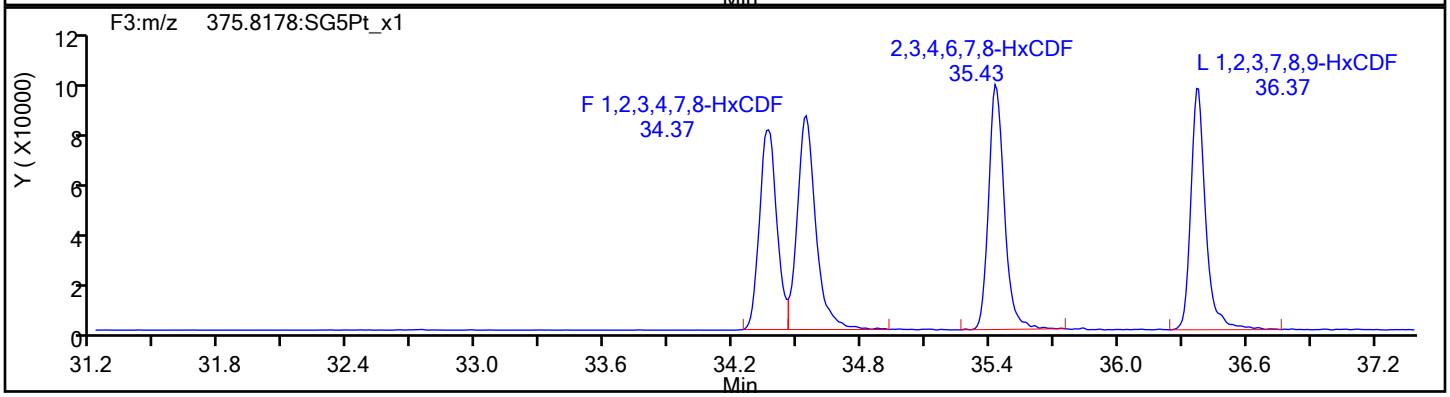
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





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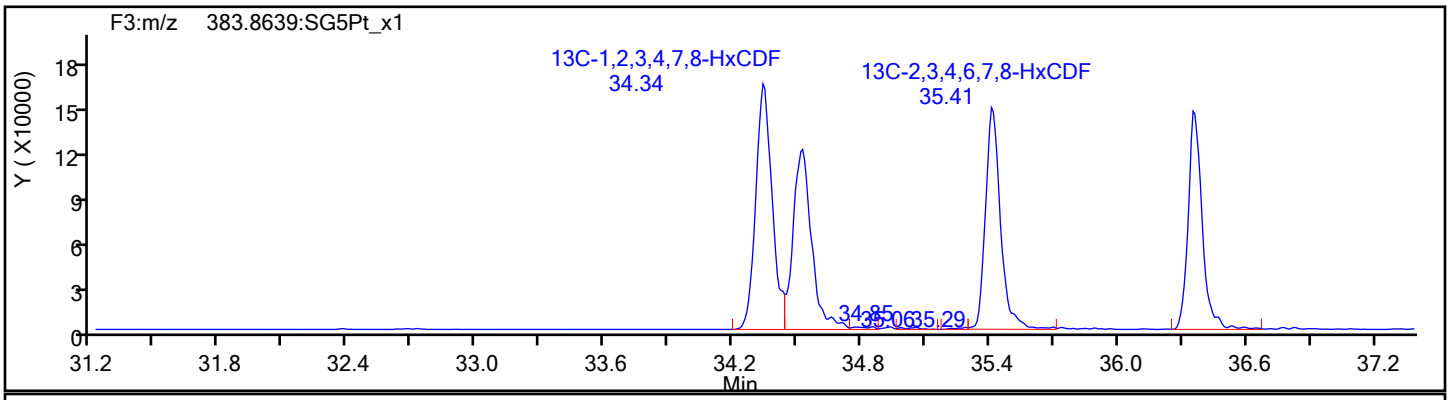

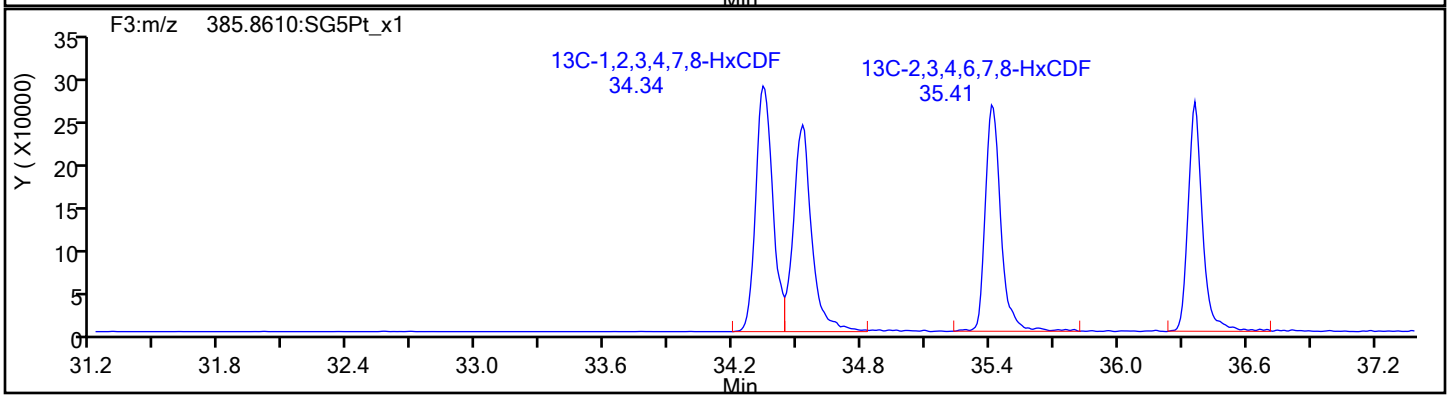

Eurofins Sacramento

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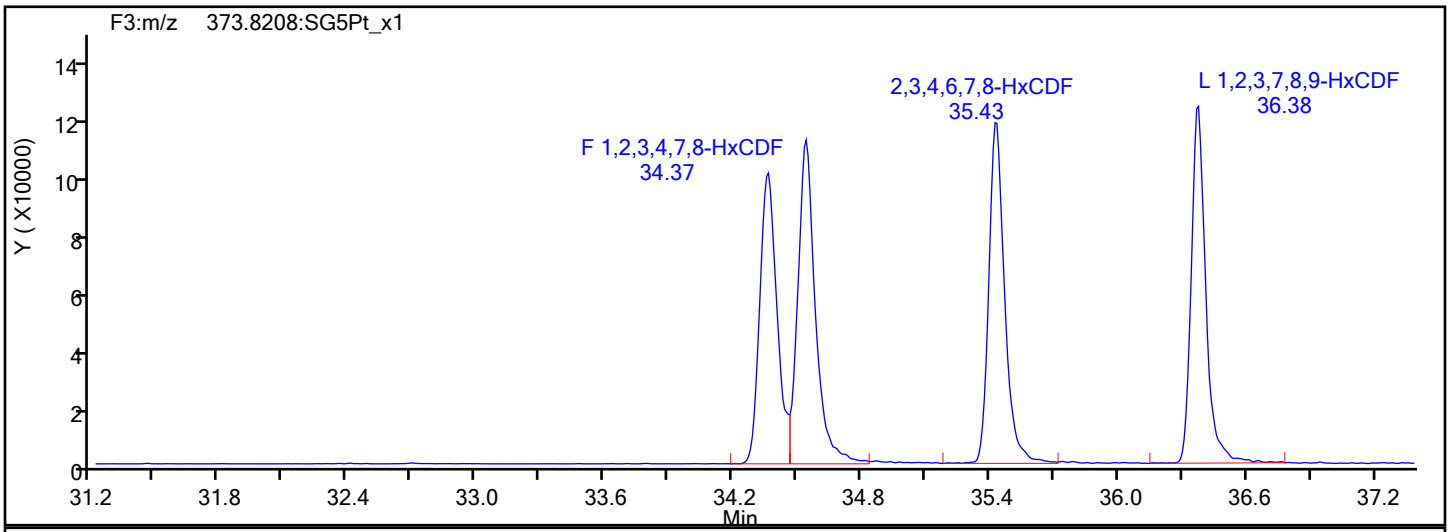
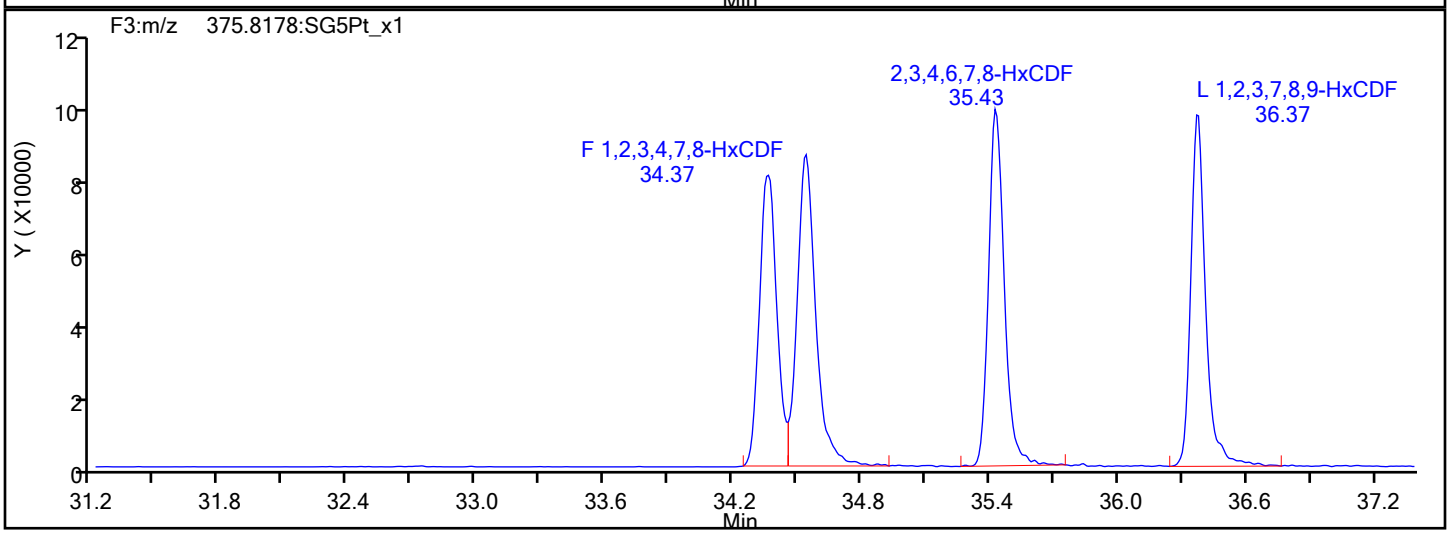
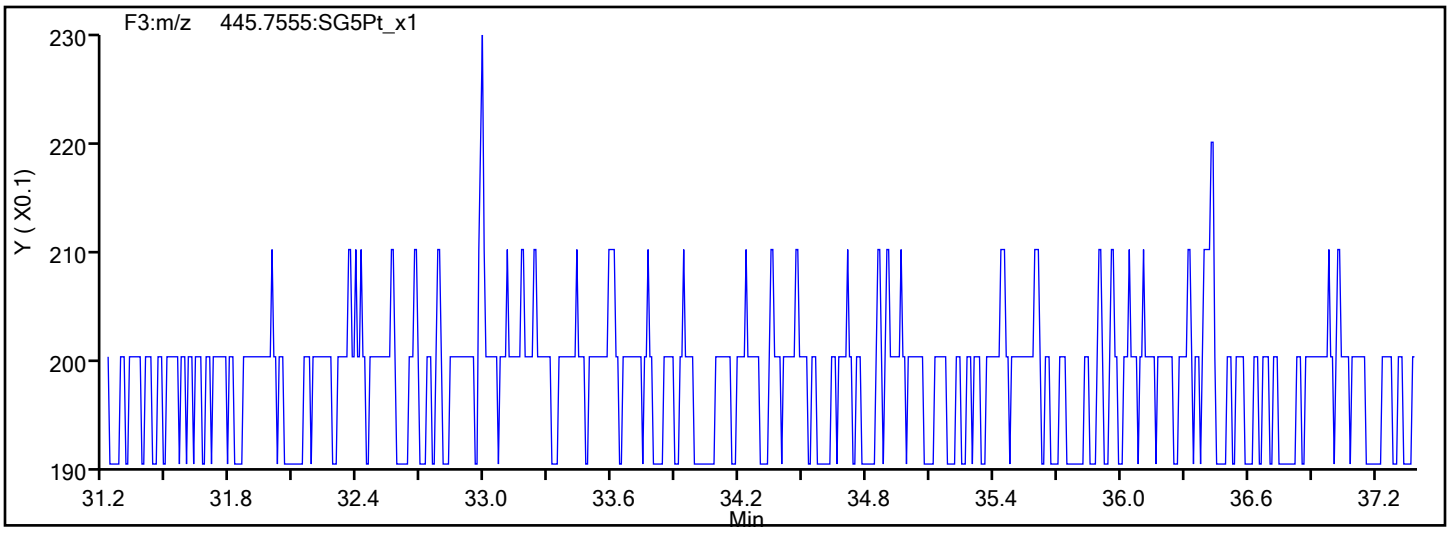
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins Sacramento

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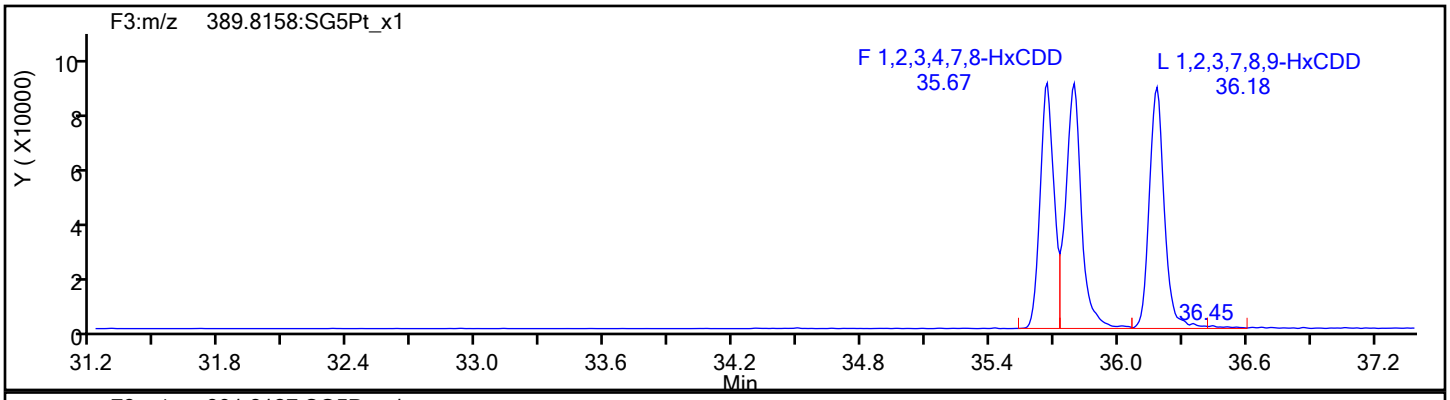
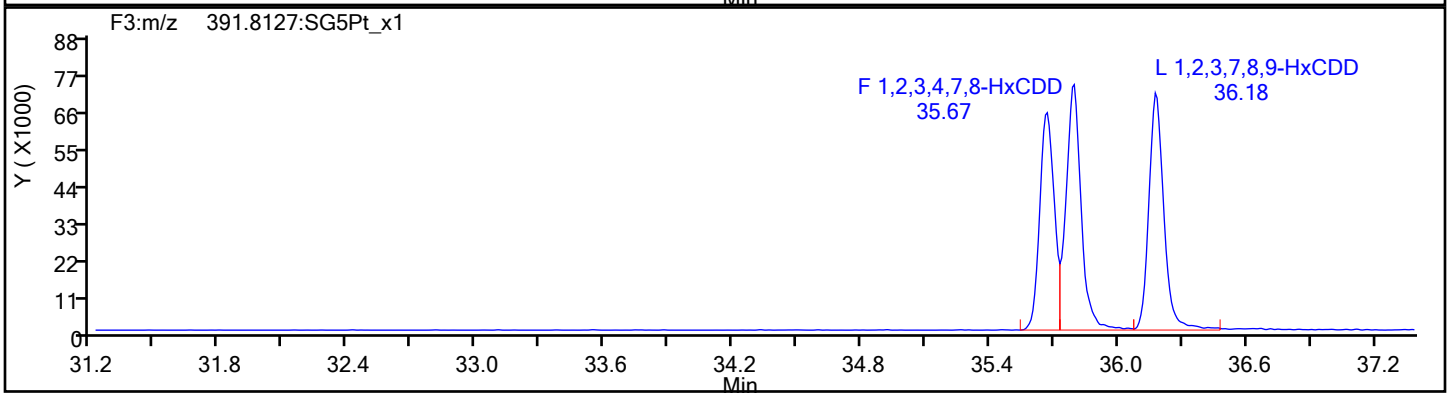
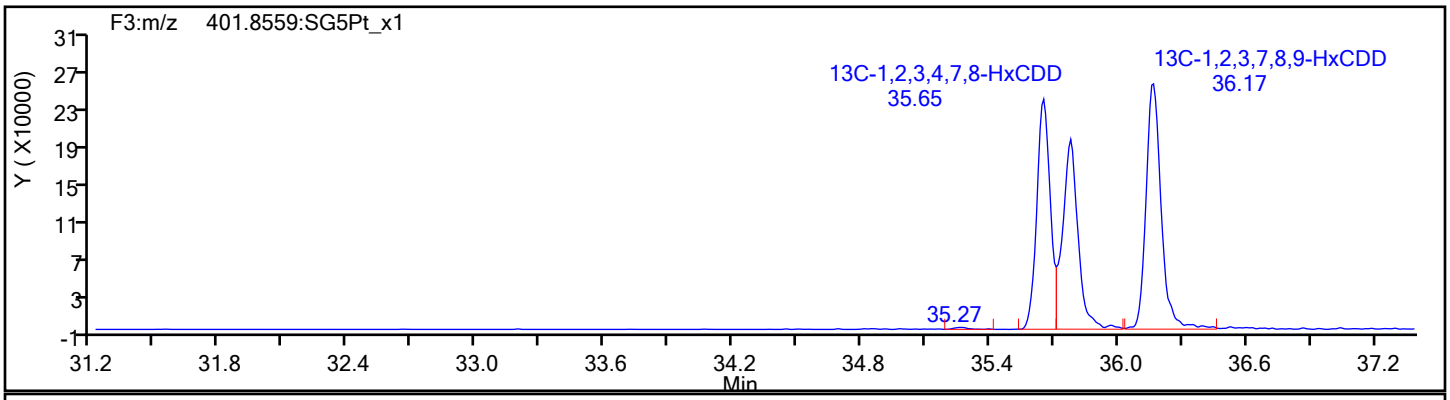
Column Type: DB-5 Column Dia: 0.32 mm

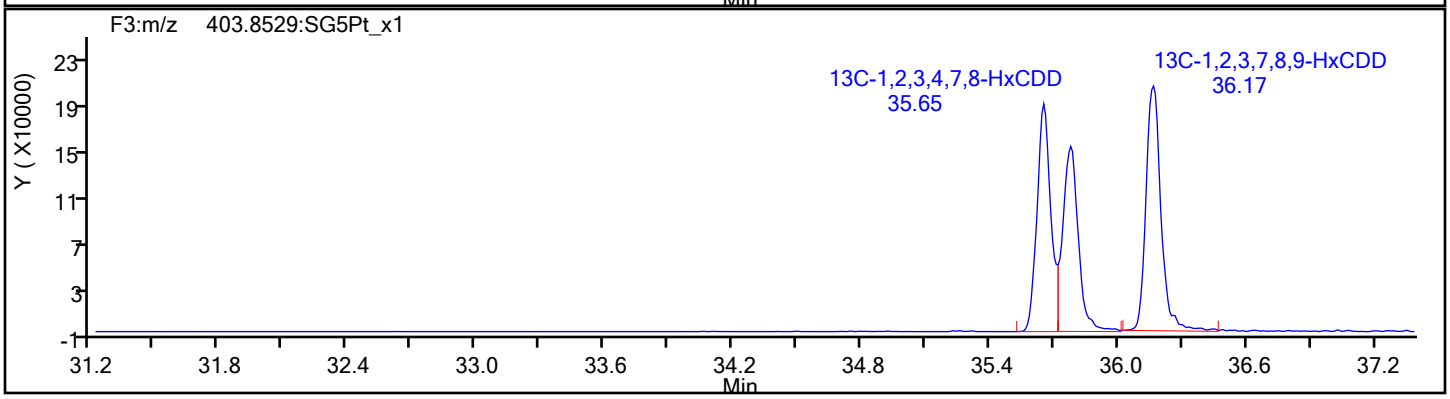
HxCDD





HxCDD Standards





Eurofins Sacramento

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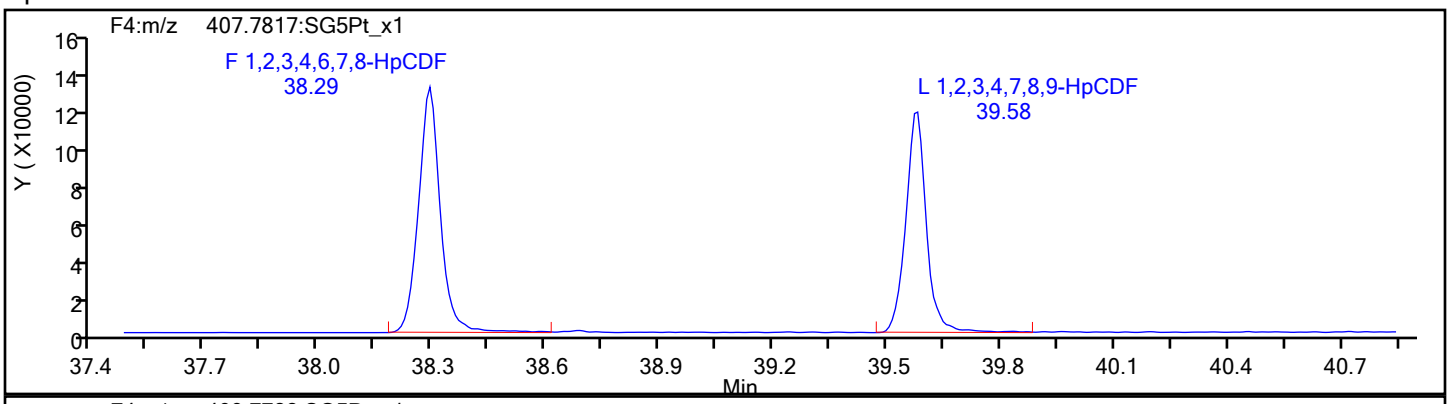
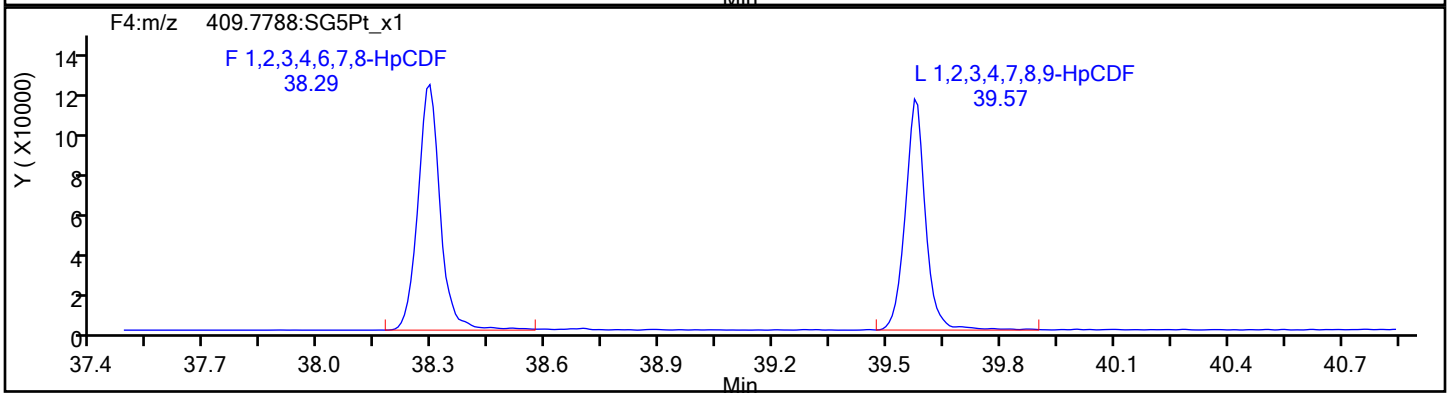
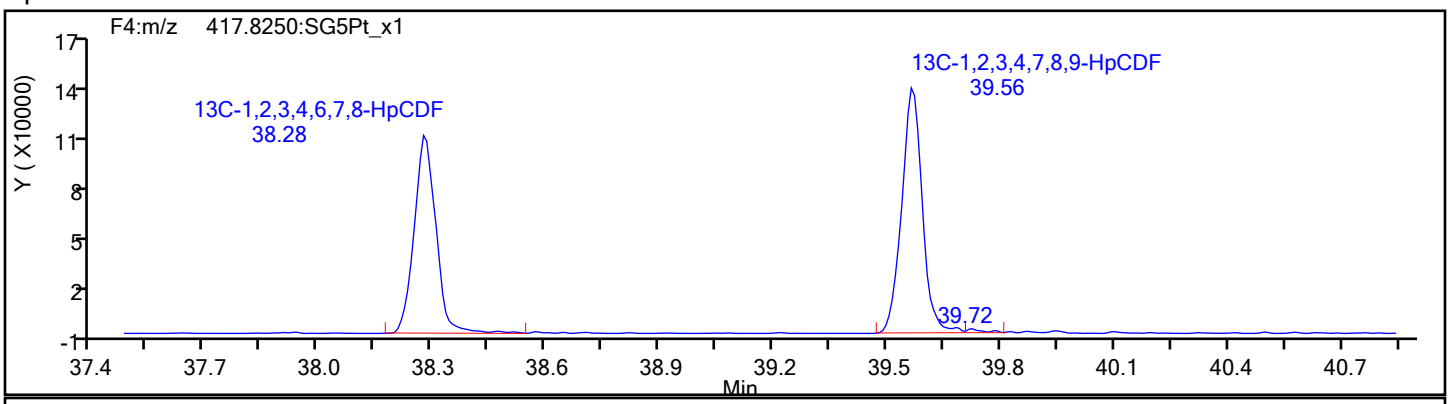
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

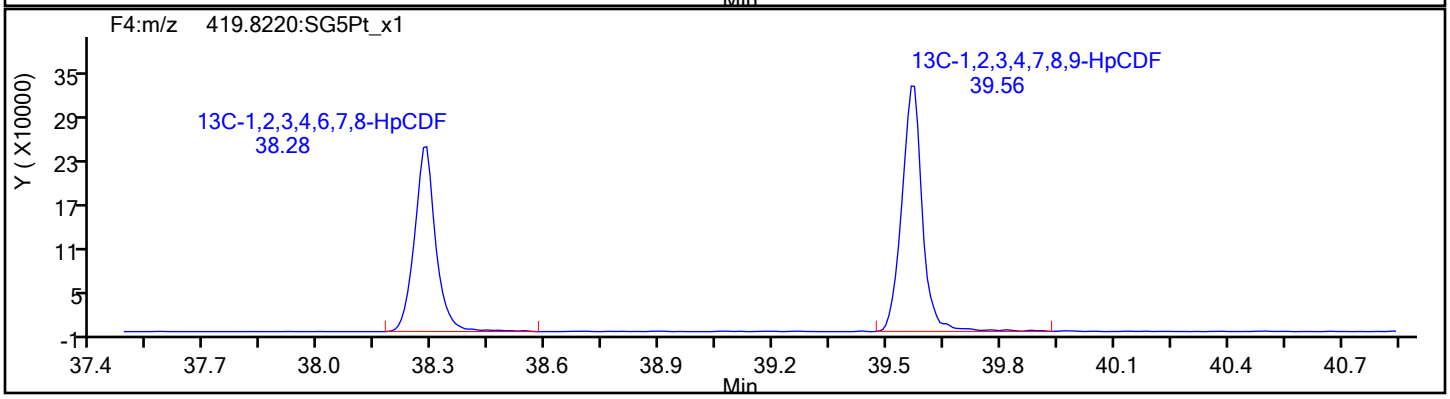
HpCDF





HpCDF Standards





Eurofins Sacramento

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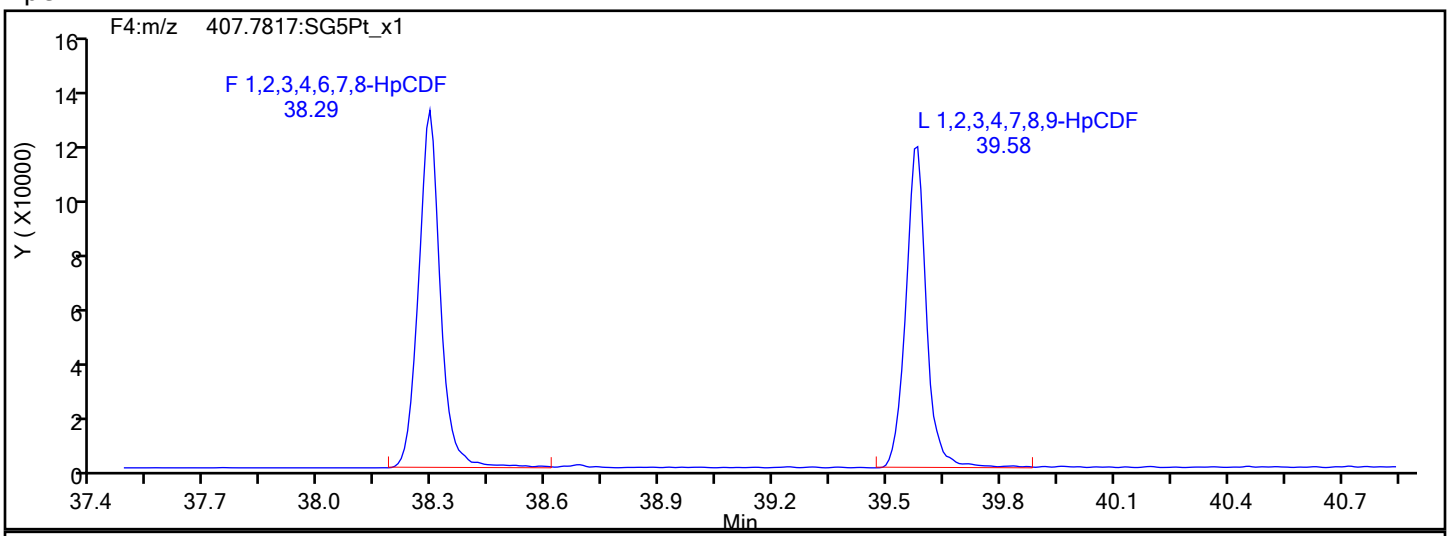
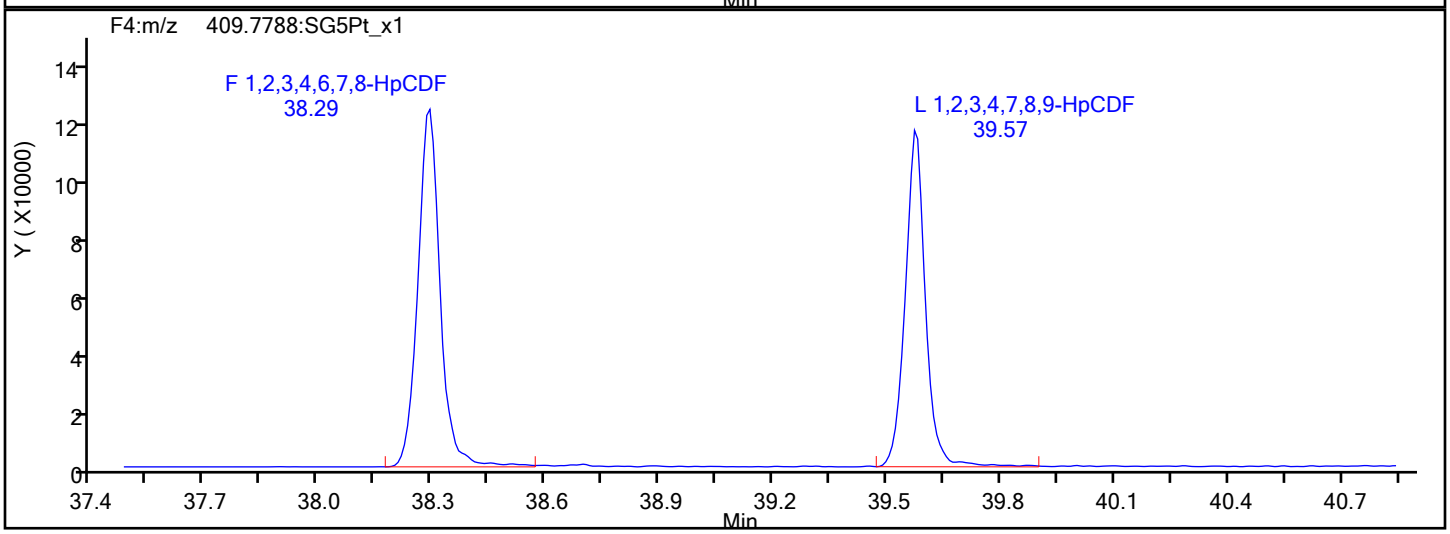
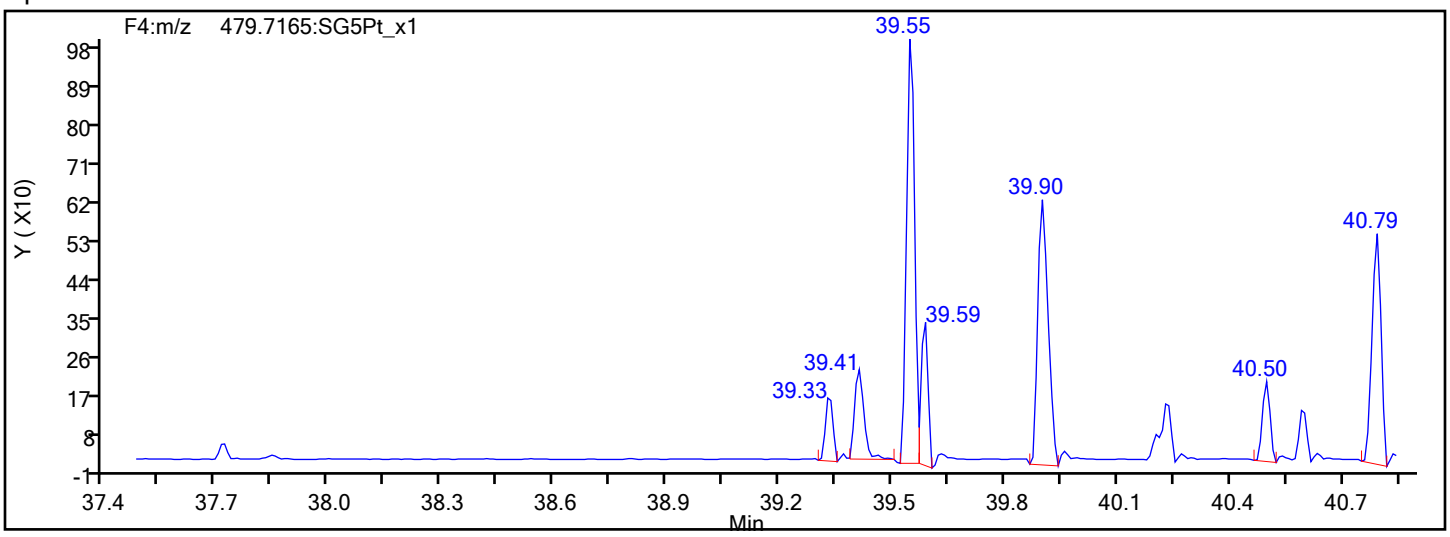
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

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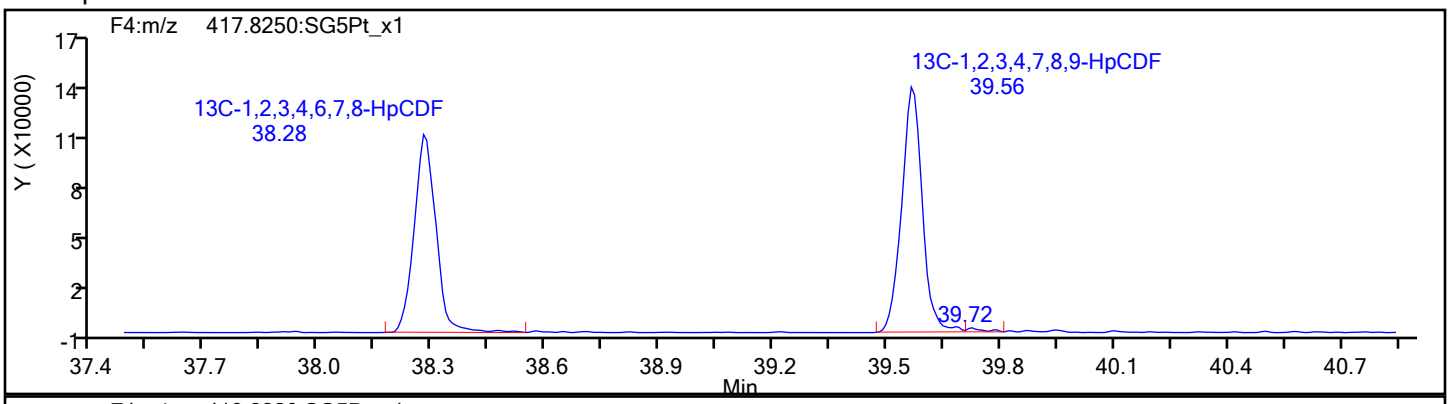
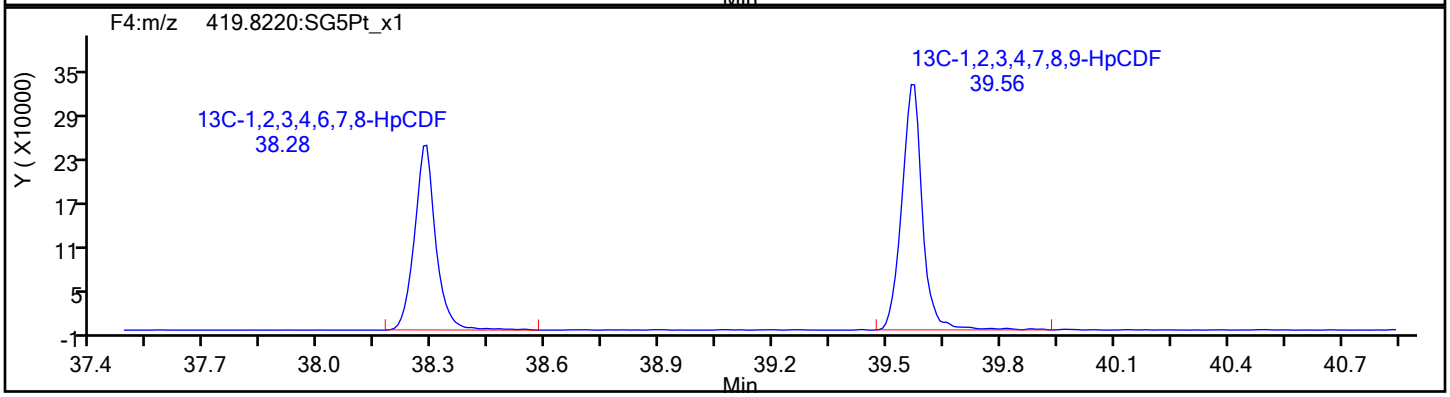
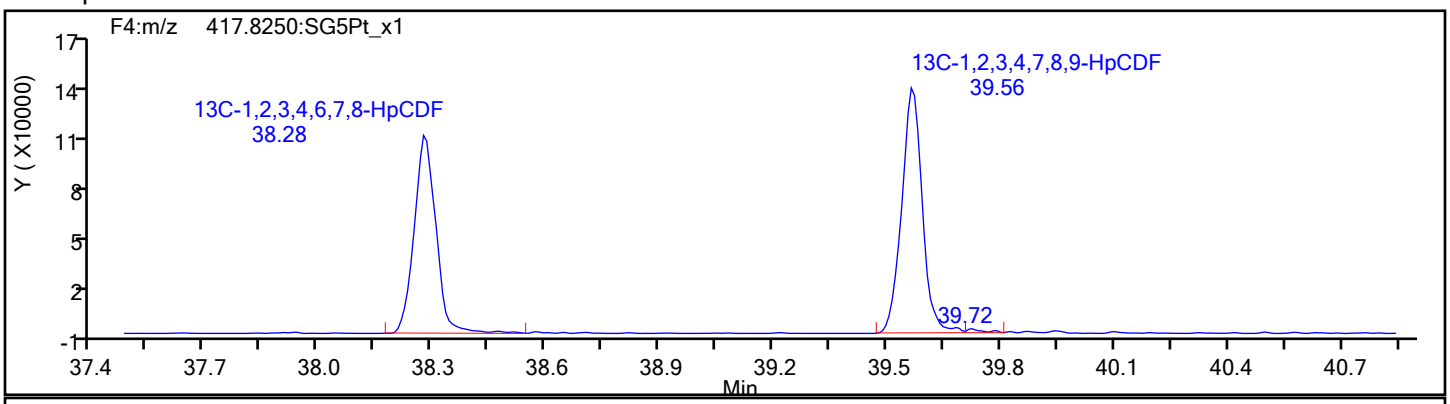
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

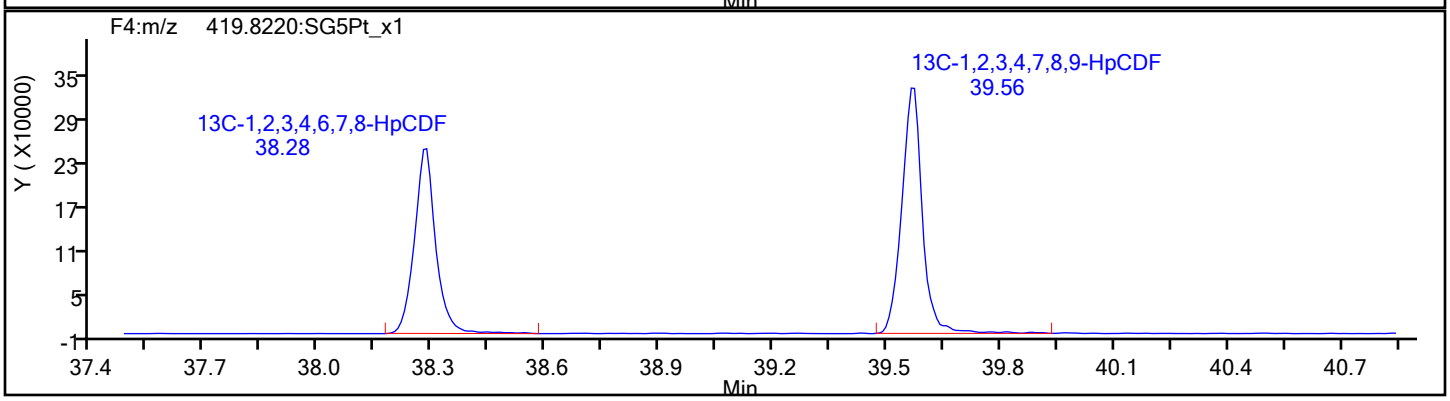
13C-HpCDF





13C-HpCDF Standards





Eurofins Sacramento

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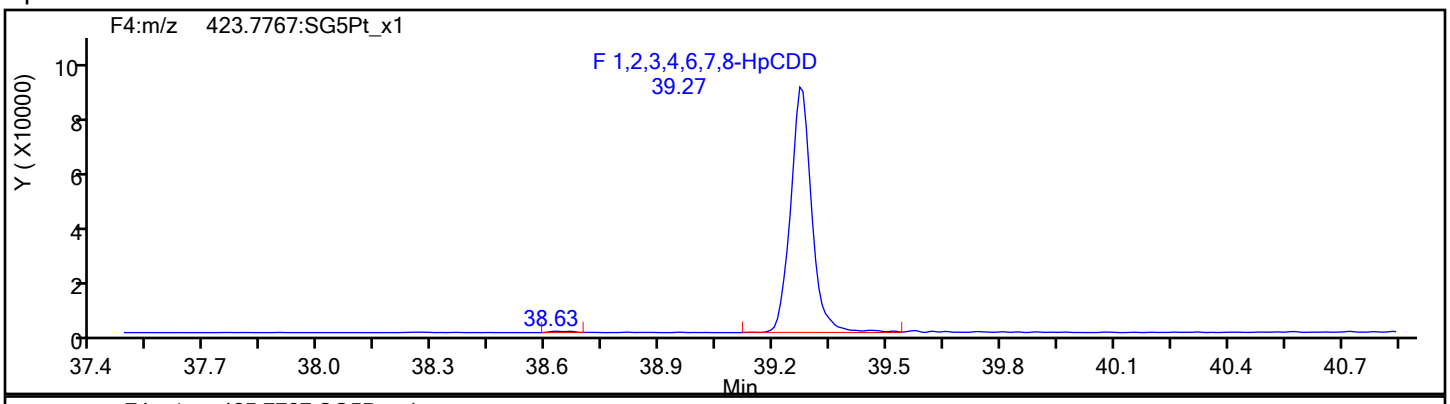
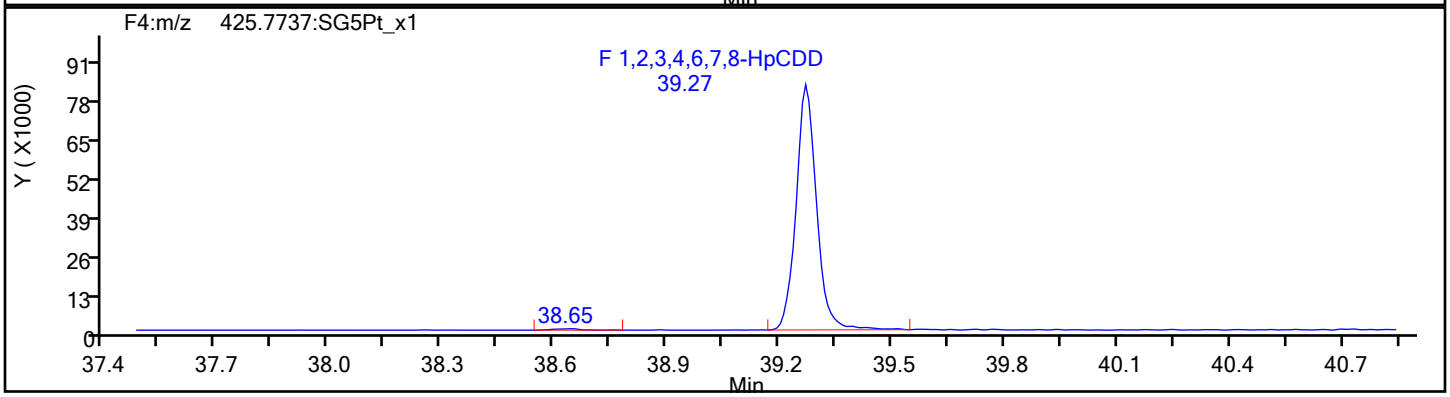
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

HpCDD





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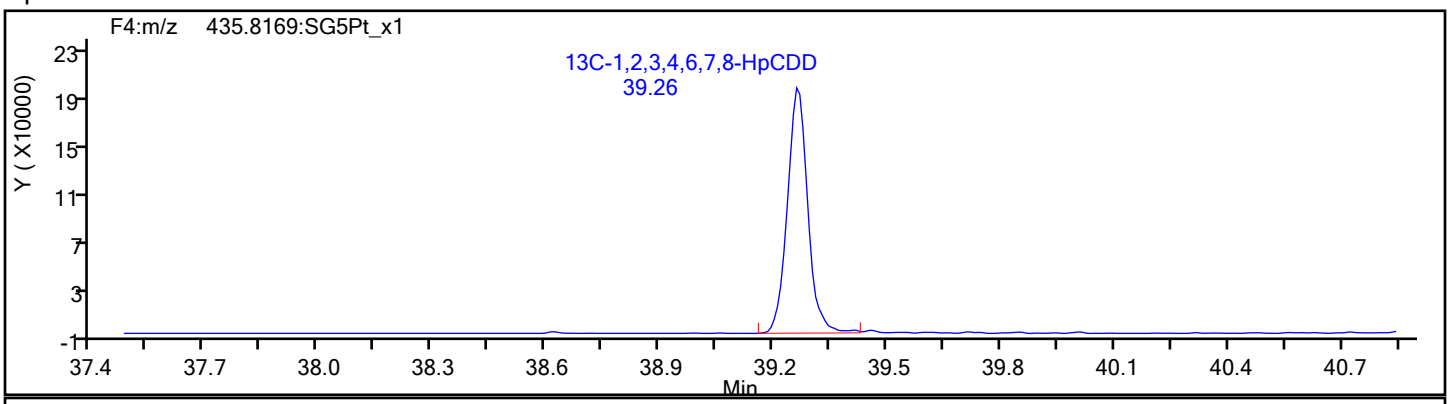

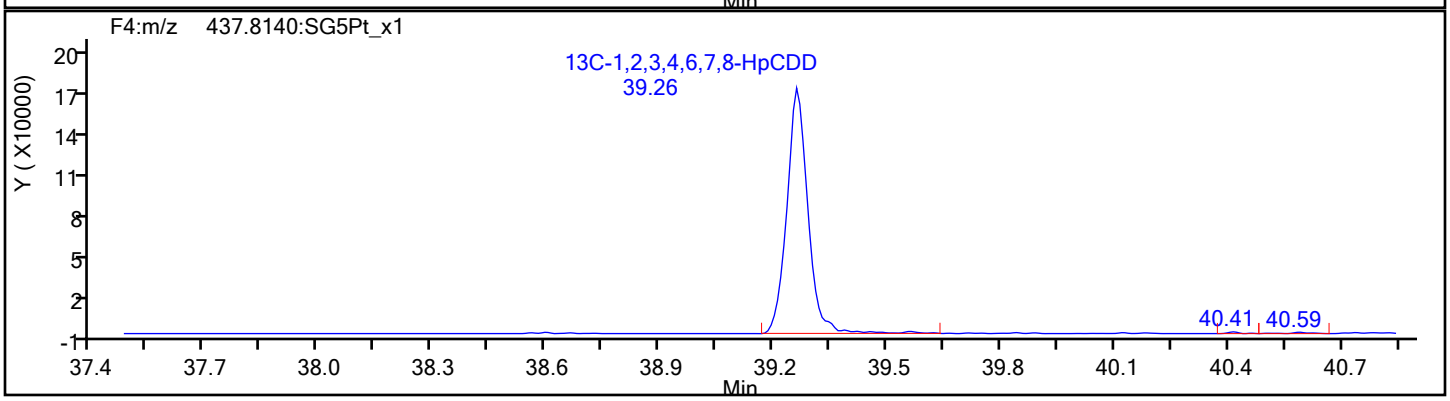

Report Date: 20-Jan-2022 15:58:18 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

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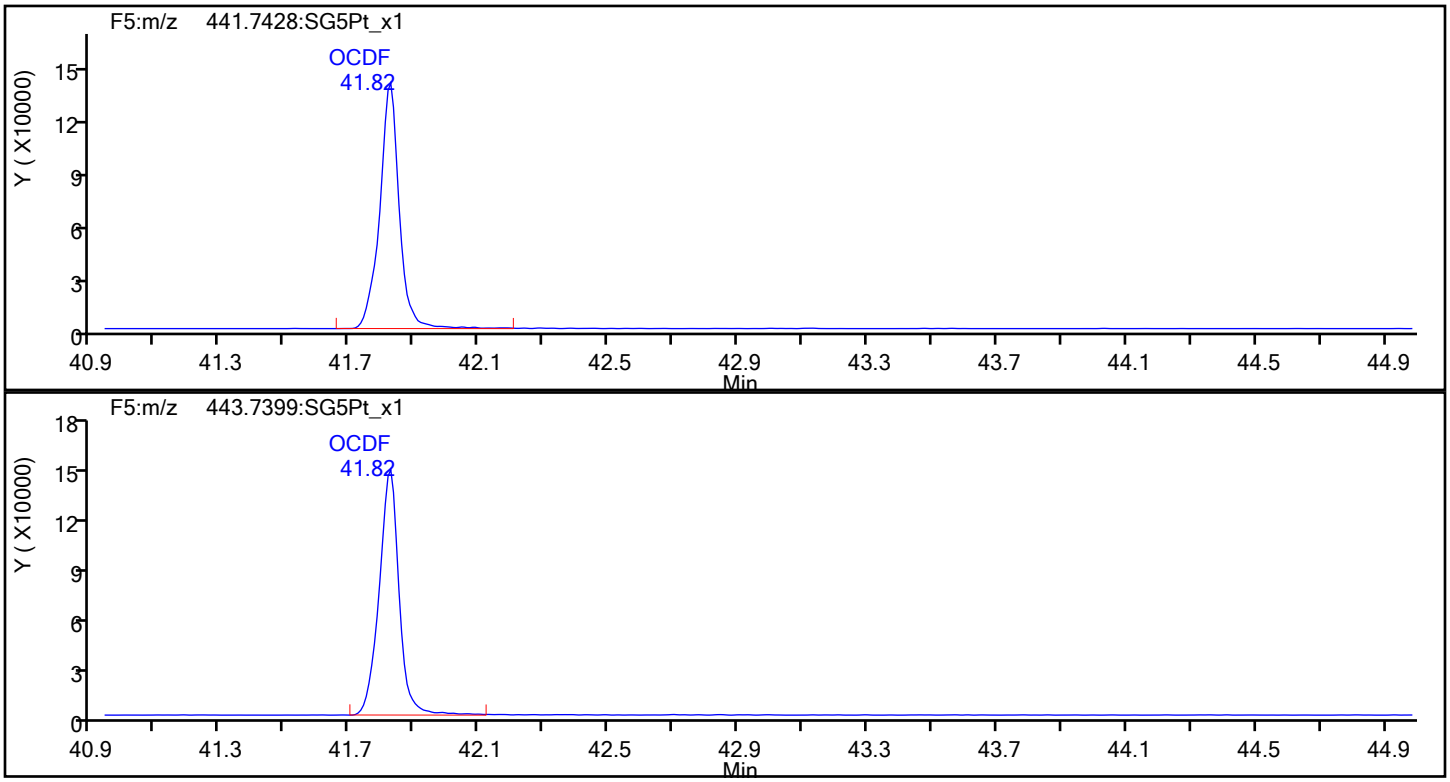
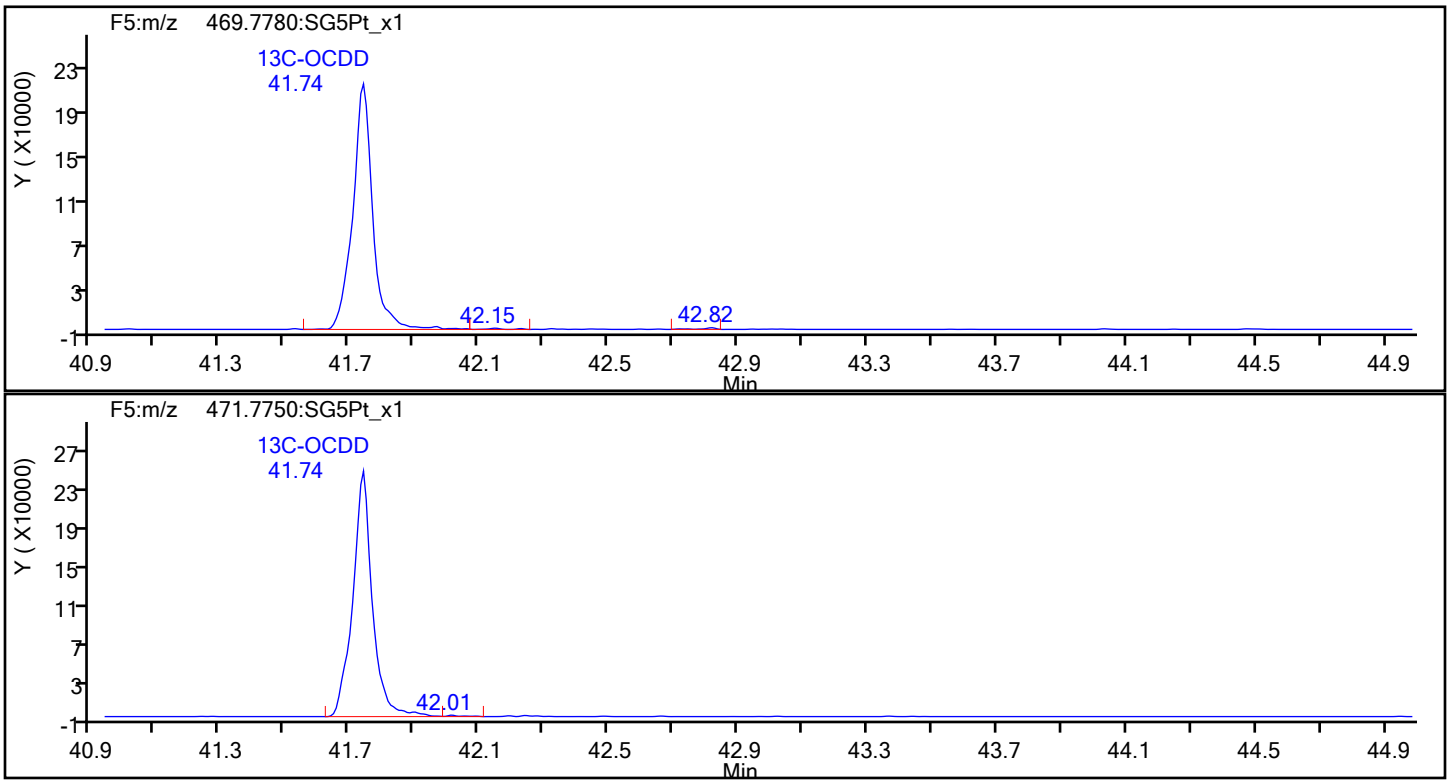
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Standards



Report Date: 20-Jan-2022 15:58:18 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

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Injection Date: 13-Jan-2022 18:51:00 Injection Vol: 1.0 ul
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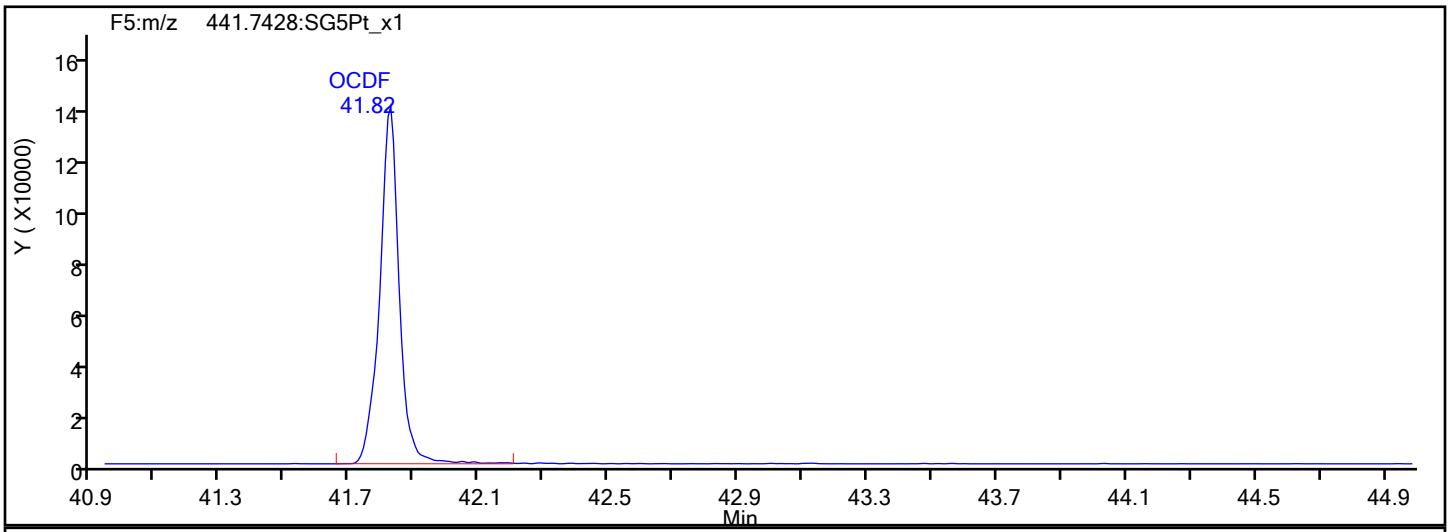
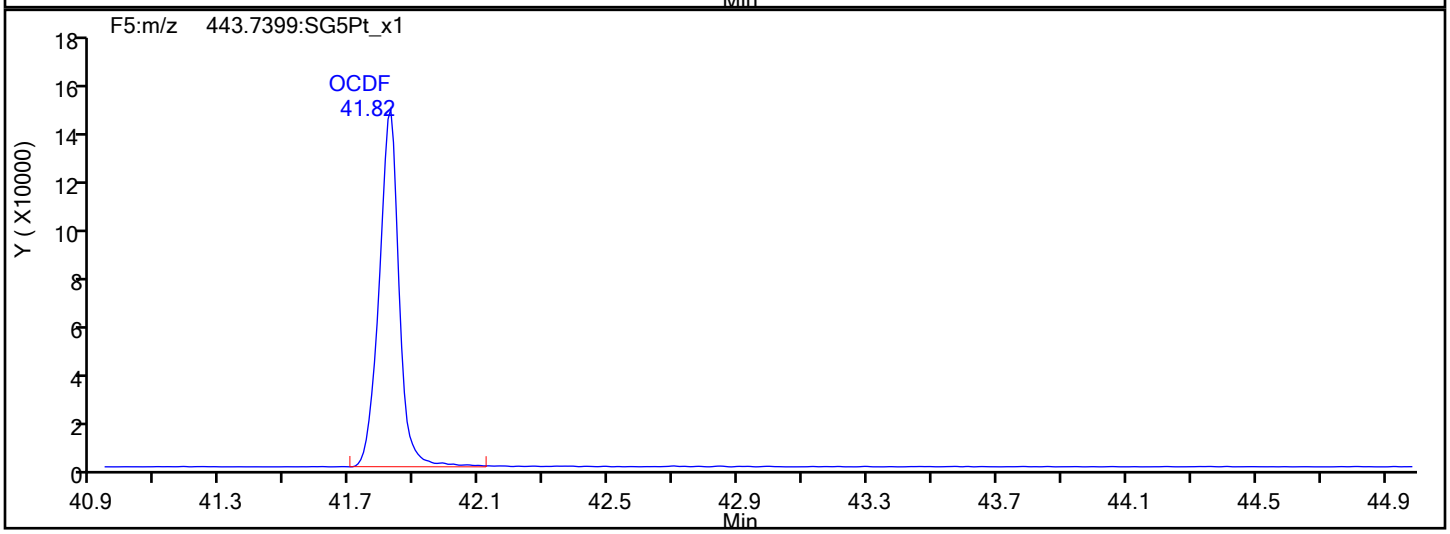
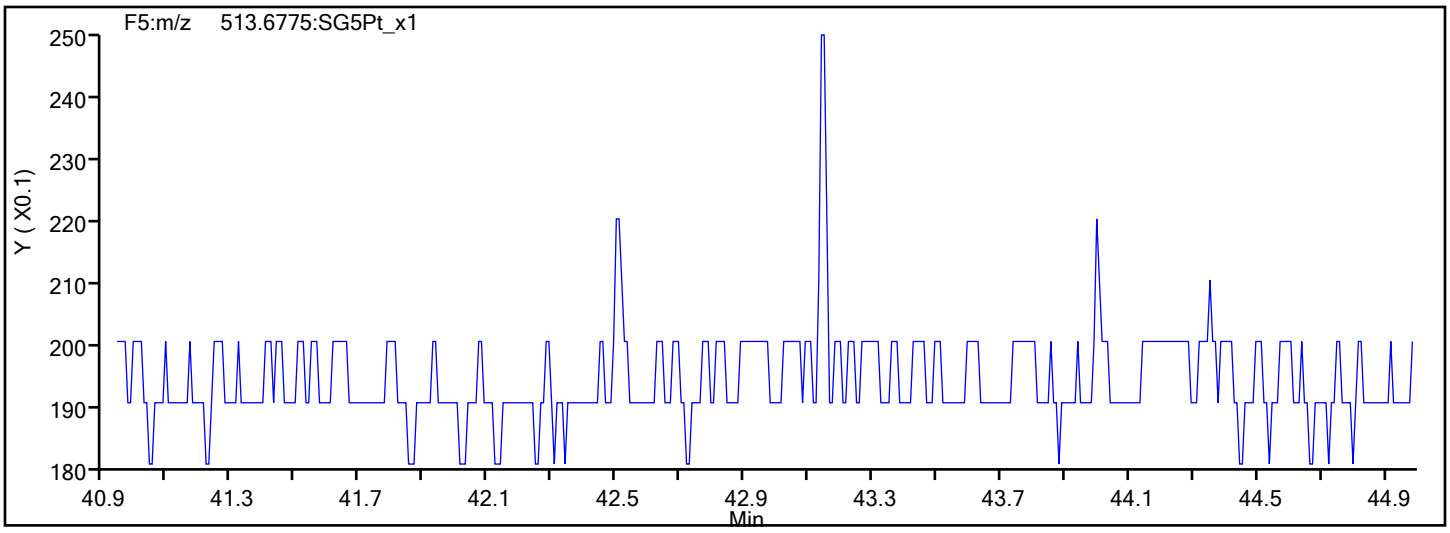
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





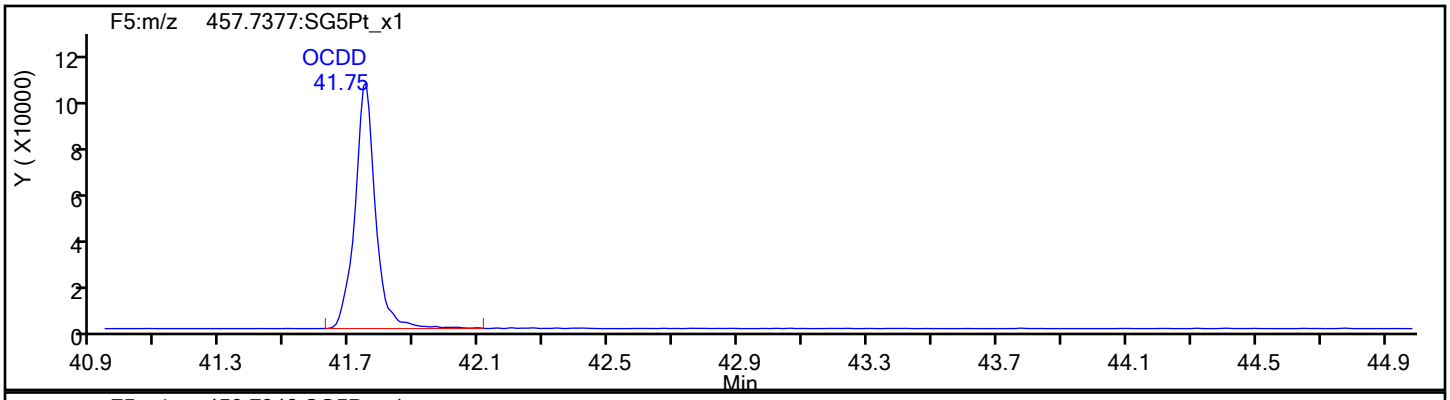
OCDF Interference Mass

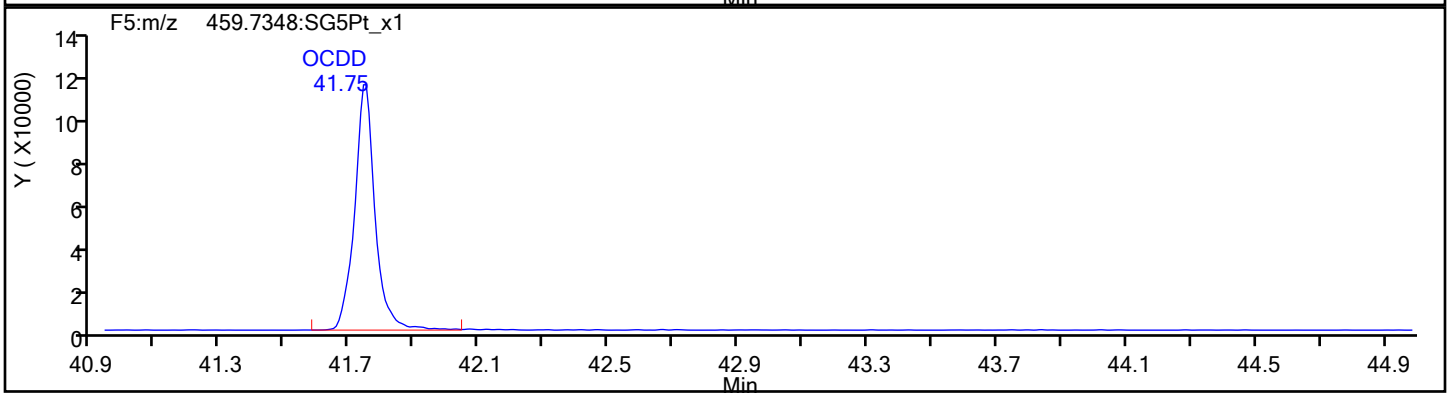


Eurofins Sacramento

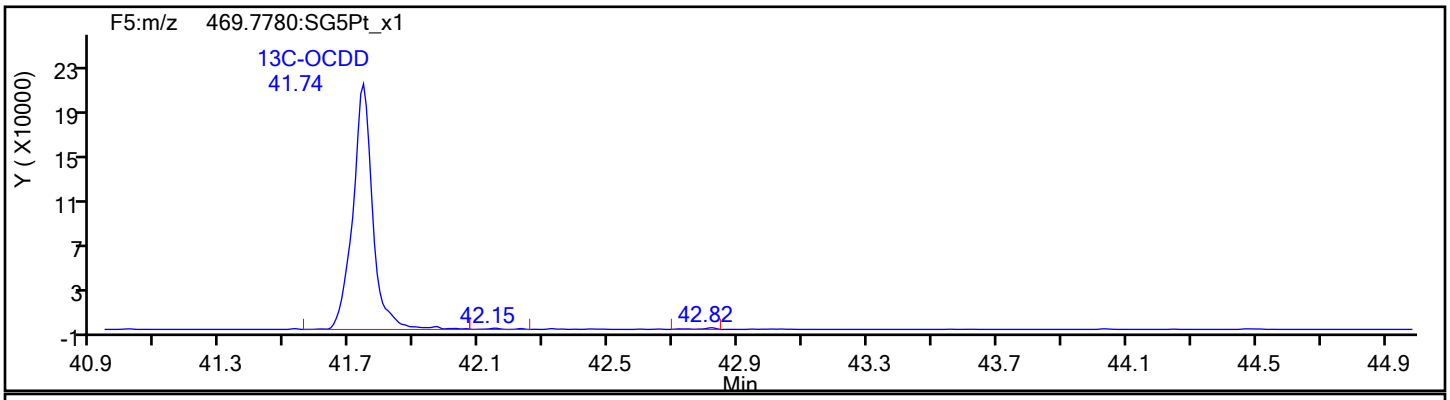
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d
Injection Date: 13-Jan-2022 18:51:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

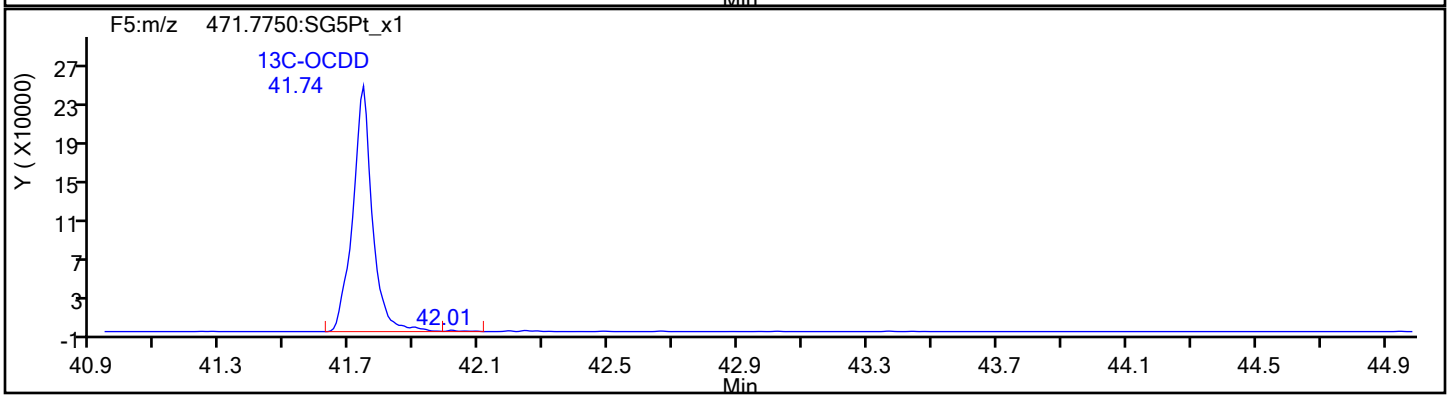
OCDD





OCDD Standards



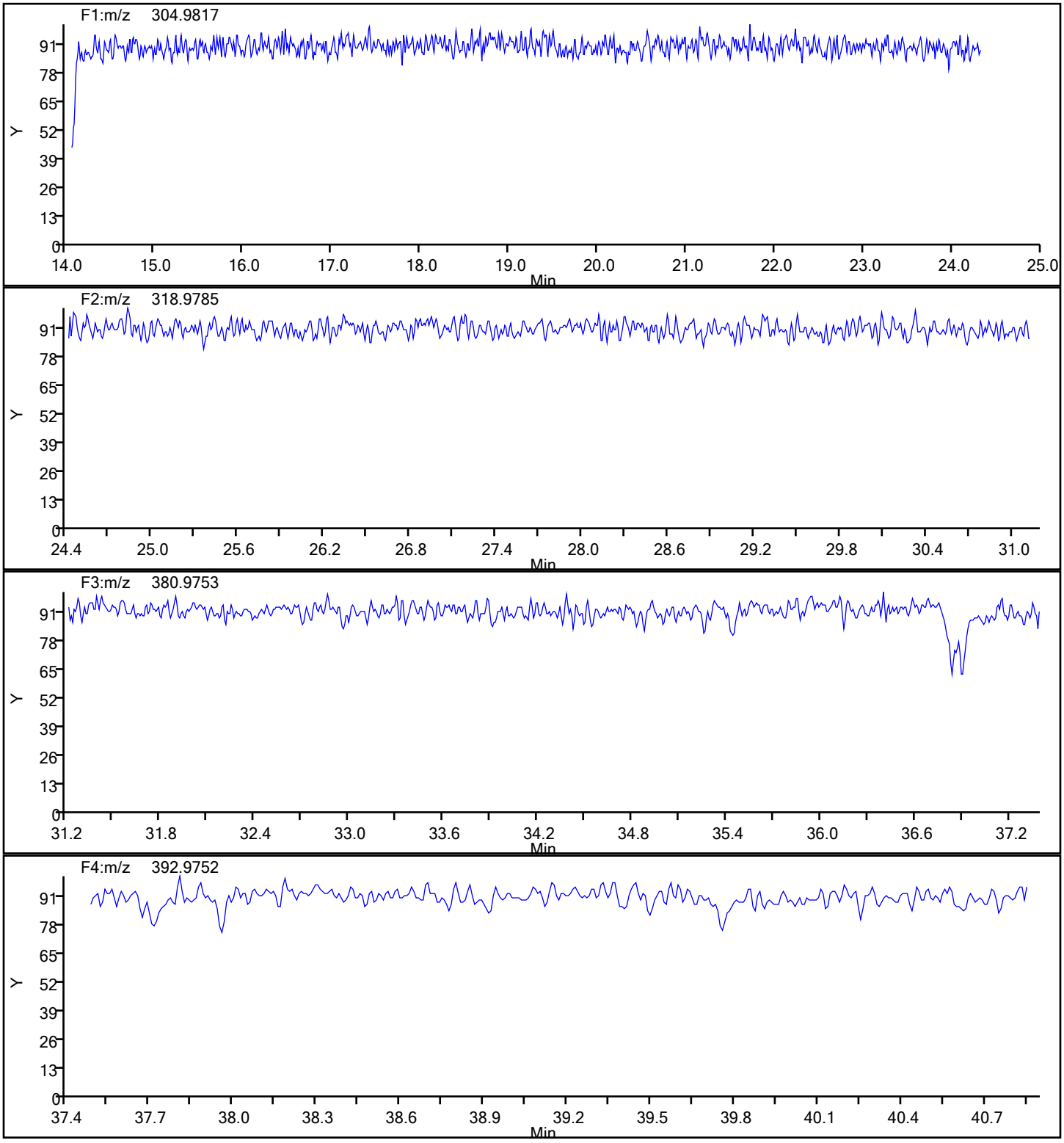


Report Date: 20-Jan-2022 15:58:18 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d

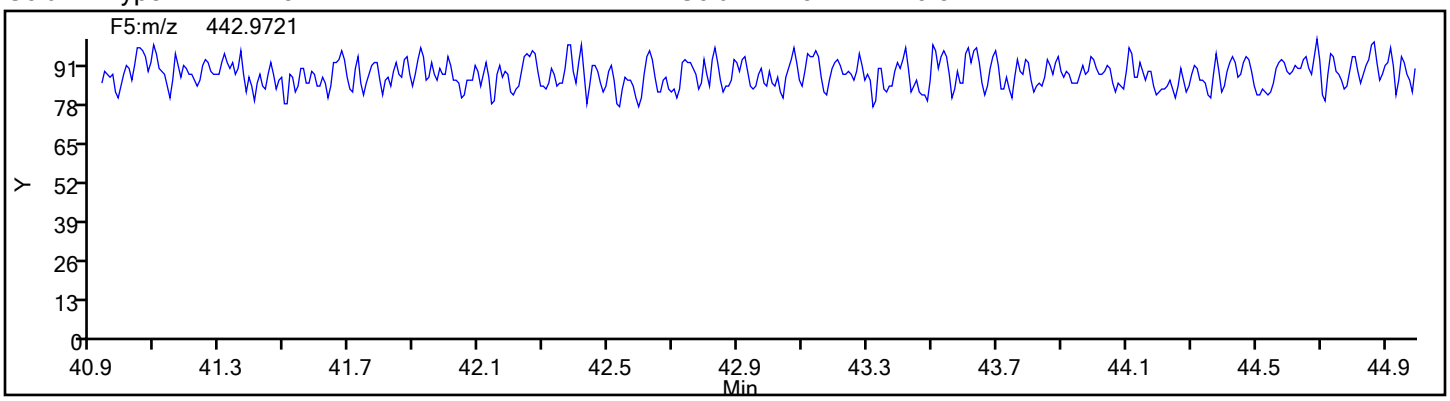
Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 15:58:18 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_6.d		
Injection Date:	13-Jan-2022 18:51:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Jan-2022 19:39:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS5_HRDXNL5_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:59:23 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:55:04

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.441	4553217	0.80	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.504	4635716	0.84	1.0164	100.2	100.2	0.5226	0.5226	100	
2,3,7,8-TCDF	19.530	1913030	0.77	1.0120	40.8	40.8	0.1028	0.1028	102	
S Total TCDF					40.8	40.8	0.1028	0.1028		
D 13C-2,3,7,8-TCDD	20.802	3741636	0.77	0.7884	104.2	104.2	0.3509	0.3509	104	
$ 37Cl4-2,3,7,8-TCDD	20.837	1439023		0.7911	39.9	39.9	0.1056	0.1056	99.87	
2,3,7,8-TCDD	20.845	1370244	0.76	0.9906	37.0	37.0	0.1218	0.1218	92.42	M
S Total TCDD					37.0	37.0	0.1218	0.1218		
D 13C-1,2,3,7,8-PeCDF	26.528	4279250	1.58	0.9232	101.8	101.8	0.6033	0.6033	102	
1,2,3,7,8-PeCDF	26.554	8420453	1.52	0.9756	201.7	201.7	0.8800	0.8800	101	
D 13C-2,3,4,7,8-PeCDF	28.001	5037163	1.60	1.0793	102.5	102.5	0.5160	0.5160	103	
2,3,4,7,8-PeCDF	28.026	8067144	1.55	0.9215	204.6	204.6	0.9316	0.9316	102	
S Total PeCDF					406.3	406.3	0.9058	0.9058		
D 13C-1,2,3,7,8-PeCDD	28.792	2607541	1.68	0.5606	102.2	102.2	0.2387	0.2387	102	
1,2,3,7,8-PeCDD	28.826	5315461	1.55	1.0020	203.4	203.4	0.1935	0.1935	102	
S Total PeCDD					203.4	203.4	0.1935	0.1935		
D 13C-1,2,3,4,7,8-HxCDF	34.393	3555240	0.53	1.0566	103.0	103.0	0.4079	0.4079	103	
1,2,3,4,7,8-HxCDF	34.401	6462436	1.25	0.8835	205.7	205.7	0.9887	0.9887	103	
D 13C-1,2,3,6,7,8-HxCDF	34.561	3226352	0.52	0.9686	102.0	102.0	0.4449	0.4449	102	
1,2,3,6,7,8-HxCDF	34.578	7400015	1.23	1.0287	202.3	202.3	0.8490	0.8490	101	
D 13C-2,3,4,6,7,8-HxCDF	35.444	3098605	0.52	0.9084	104.4	104.4	0.4744	0.4744	104	
2,3,4,6,7,8-HxCDF	35.461	7259817	1.23	0.9878	206.7	206.7	0.8842	0.8842	103	
D 13C-1,2,3,7,8,9-HxCDF	36.387	2693511	0.53	0.8248	100.0	100.0	0.5225	0.5225	99.95	
1,2,3,7,8,9-HxCDF	36.403	6226674	1.25	0.9071	193.1	193.1	0.9630	0.9630	96.54	
S Total HxCDF					807.9	807.9	0.9212	0.9212		
* 13C-1,2,3,7,8,9-HxCDD	36.193	3267249	1.23	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.688	2726060	1.26	0.8133	102.6	102.6	0.3238	0.3238	103	
1,2,3,4,7,8-HxCDD	35.705	4532842	1.24	0.8294	198.7	198.7	0.4148	0.4148	99.33	
D 13C-1,2,3,6,7,8-HxCDD	35.806	2750934	1.31	0.8027	104.9	104.9	0.3281	0.3281	105	
1,2,3,6,7,8-HxCDD	35.823	5102120	1.25	0.9395	197.4	197.4	0.3662	0.3662	98.71	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.210	5022242	1.24	0.9076	201.1	201.1	0.3790	0.3790	101	
S Total HxCDD					597.2	597.2	0.3867	0.3867		
D 13C-1,2,3,4,6,7,8-HpCDF	38.300	2299466	0.47	0.6421	109.6	109.6	0.4304	0.4304	110	
1,2,3,4,6,7,8-HpCDF	38.317	6487179	1.05	1.4385	196.1	196.1	0.6893	0.6893	98.06	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.588	2629404	0.47	1.1706	97.7	97.7	0.2653	0.2653	97.69	
1,2,3,4,7,8,9-HpCDF	39.597	5538539	1.04	1.2202	197.4	197.4	0.8126	0.8126	98.70	
S Total HpCDF					393.5	393.5	0.7510	0.7510		
D 13C-1,2,3,4,6,7,8-HpCDD	39.285	2232797	1.04	0.6246	109.4	109.4	0.3463	0.3463	109	
1,2,3,4,6,7,8-HpCDD	39.294	4355719	1.04	0.9767	199.7	199.7	0.4306	0.4306	99.87	
S Total HpCDD					199.7	199.7	0.4306	0.4306		
D 13C-OCDD	41.756	3156146	0.93	0.4360	221.6	221.6	0.3090	0.3090	111	
OCDF	41.840	8287684	0.90	1.2756	411.7	411.7	0.3574	0.3574	103	
OCDD	41.764	6596477	0.89	1.0341	404.2	404.2	0.3992	0.3992	101	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

HRDXNL5_00033 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Jan-2022 19:39:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS5_HRDXNL5_00033
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:59:23 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:55:04

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.441	20.418	1		2030377	283130	435	1087	651		
333.9338	20.450	20.418	2		2522840	357301	274	685	1304	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.504	19.485	1	0.954	2114968	308394	818	2045	377		
317.9389	19.504	19.485	1	0.954	2520748	383660	543	1357	707	0.84(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.530	19.520	1	1.001	832951	114848	129	322	890		
305.8987	19.522	19.520	0	1.001	1080079	152366	159	397	958	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.802	20.784	1	1.018	1629260	226013	435	1087	520		
333.9338	20.820	20.784	2	1.019	2112376	275241	274	685	1005	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.837	20.809	2	1.019	1439023	197460	214	535	923		
2,3,7,8-TCDD											M
319.8965	20.845	20.821	1	1.002	592528	82278	138	345	596		M
321.8936	20.837	20.821	1	1.002	777716	105930	104	260	1019	0.76(0.65-0.89)	M
13C-1,2,3,7,8-PeCDF											
351.9000	26.528	26.498	2	1.298	2621920	433584	799	1997	543		
353.8970	26.528	26.498	2	1.298	1657330	269392	628	1570	429	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.554	26.518	2	1.001	5083520	805033	1536	3840	524		
341.8567	26.554	26.518	2	1.001	3336933	528299	878	2195	602	1.52(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.001	27.961	2	1.370	3102573	476910	799	1997	597		
353.8970	28.001	27.961	2	1.370	1934590	309242	628	1570	492	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.026	27.984	3	1.001	4909150	733677	1536	3840	478		
341.8567	28.026	27.984	3	1.001	3157994	460962	878	2195	525	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.792	28.754	2	1.409	1632786	239234	161	402	1486		
369.8919	28.809	28.754	3	1.409	974755	150226	182	455	825	1.68(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.826	28.781	3	1.001	3230998	463179	200	500	2316		
357.8516	28.826	28.781	3	1.001	2084463	296805	102	255	2910	1.55(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.393	34.357	2	0.950	1231045	254485	564	1410	451		
385.8610	34.384	34.357	2	0.950	2324195	465069	763	1907	610	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.401	34.374	2	1.000	3592143	717407	1367	3417	525		
375.8178	34.401	34.374	2	1.000	2870293	583727	1147	2867	509	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.561	34.533	2	0.955	1101714	205102	564	1410	364		
385.8610	34.561	34.533	2	0.955	2124638	408871	763	1907	536	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.578	34.553	1	1.000	4086728	765416	1367	3417	560		
375.8178	34.578	34.553	1	1.000	3313287	615737	1147	2867	537	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.444	35.421	1	0.979	1065264	238652	564	1410	423		
385.8610	35.444	35.421	1	0.979	2033341	444624	763	1907	583	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.461	35.438	1	1.000	4010886	873020	1367	3417	639		
375.8178	35.461	35.438	1	1.000	3248931	711524	1147	2867	620	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.387	36.366	1	1.005	930508	226897	564	1410	402		
385.8610	36.387	36.366	1	1.005	1763003	442376	763	1907	580	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.403	36.385	1	1.000	3455248	841507	1367	3417	616		
375.8178	36.403	36.385	1	1.000	2771426	674864	1147	2867	588	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.193	36.172	1		1803520	424960	469	1172	906		
403.8529	36.193	36.172	1		1463729	344724	342	855	1008	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.688	35.661	2	0.986	1520345	380179	469	1172	811		
403.8529	35.680	35.661	1	0.986	1205715	303471	342	855	887	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.705	35.676	2	1.000	2506812	601542	482	1205	1248		
391.8127	35.697	35.676	1	1.000	2026030	500087	391	977	1279	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.806	35.787	1	0.989	1558831	356575	469	1172	760		
403.8529	35.806	35.787	1	0.989	1192103	277694	342	855	812	1.31(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.823	35.802	1	1.000	2837210	641084	482	1205	1330		
391.8127	35.823	35.802	1	1.000	2264910	509757	391	977	1304	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.210	36.191	1	1.015	2782273	658354	482	1205	1366		
391.8127	36.210	36.191	1	1.015	2239969	520254	391	977	1331	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.300	38.287	1	1.058	733012	210938	328	820	643		
419.8220	38.300	38.287	1	1.058	1566454	473853	523	1307	906	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.317	38.299	1	1.000	3320510	968855	1397	3492	694		
409.7788	38.309	38.299	1	1.000	3166669	912718	1319	3297	692	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.588	39.570	1	1.094	838108	263172	328	820	802		
419.8220	39.588	39.570	1	1.094	1791296	590117	523	1307	1128	0.47(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.597	39.584	1	1.000	2823936	918832	1397	3492	658		
409.7788	39.597	39.584	1	1.000	2714603	877456	1319	3297	665	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.285	39.269	1	1.085	1139910	355747	360	900	988		
437.8140	39.285	39.269	1	1.085	1092887	334254	306	765	1092	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.294	39.277	1	1.000	2219188	687781	600	1500	1146		
425.7737	39.294	39.277	1	1.000	2136531	664394	561	1402	1184	1.04(0.88-1.20)	
13C-OCDD											
469.7780	41.756	41.743	1	1.154	1518280	418726	234	585	1789		
471.7750	41.756	41.743	1	1.154	1637866	463002	181	452	2558	0.93(0.76-1.02)	
OCDF											
441.7428	41.840	41.826	1	1.002	3936690	1167431	377	942	3097		
443.7399	41.840	41.826	1	1.002	4350994	1275284	427	1067	2987	0.90(0.76-1.02)	
OCDD											
457.7377	41.764	41.748	1	1.000	3108521	891814	345	862	2585		
459.7348	41.764	41.748	1	1.000	3487956	981312	383	957	2562	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

HRDXNL5_00033 Amount Added: 1.00 Units: ml

Manual Integration/User Assign Peak Report

Eurofins Sacramento

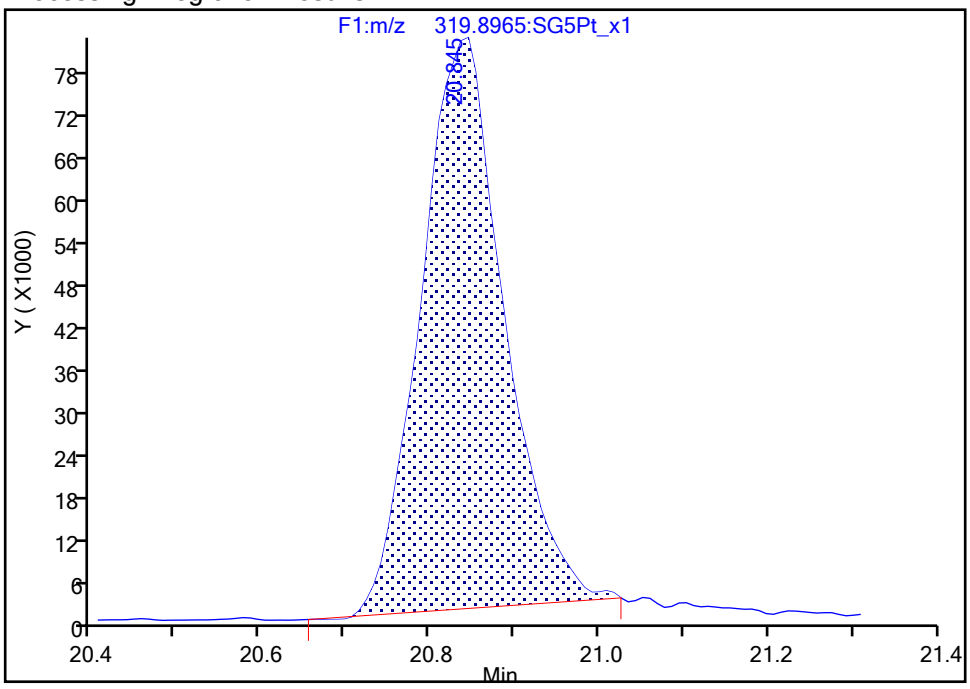
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

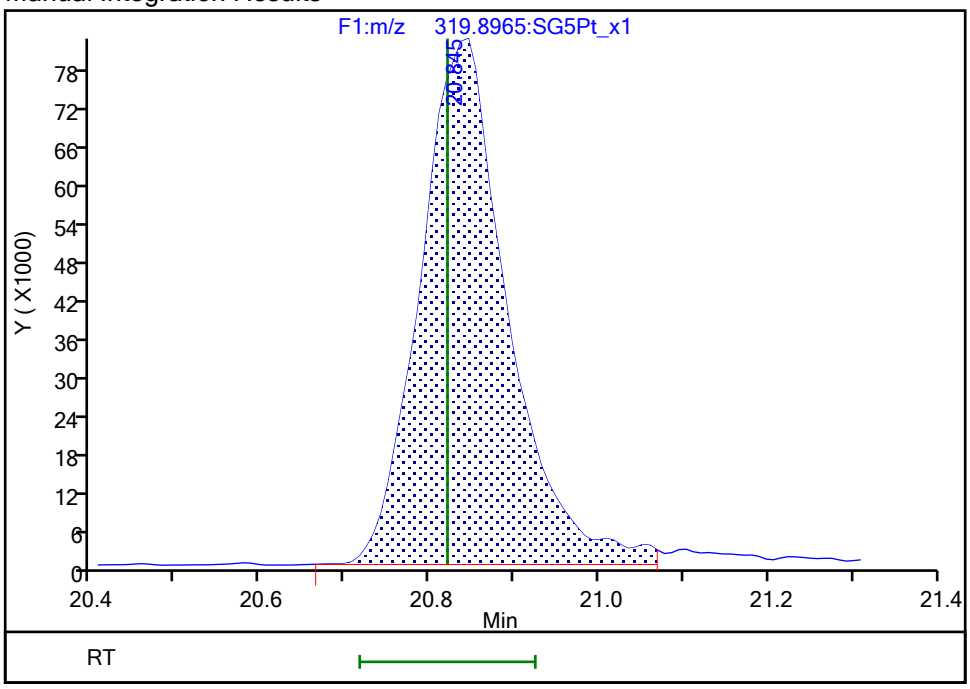
Processing Integration Results

RT: 20.85
Area: 551318
Amount: 34.356546
Amount Units: pg/ul



Manual Integration Results

RT: 20.85
Area: 592528
Amount: 36.967931
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:13:59
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Sacramento

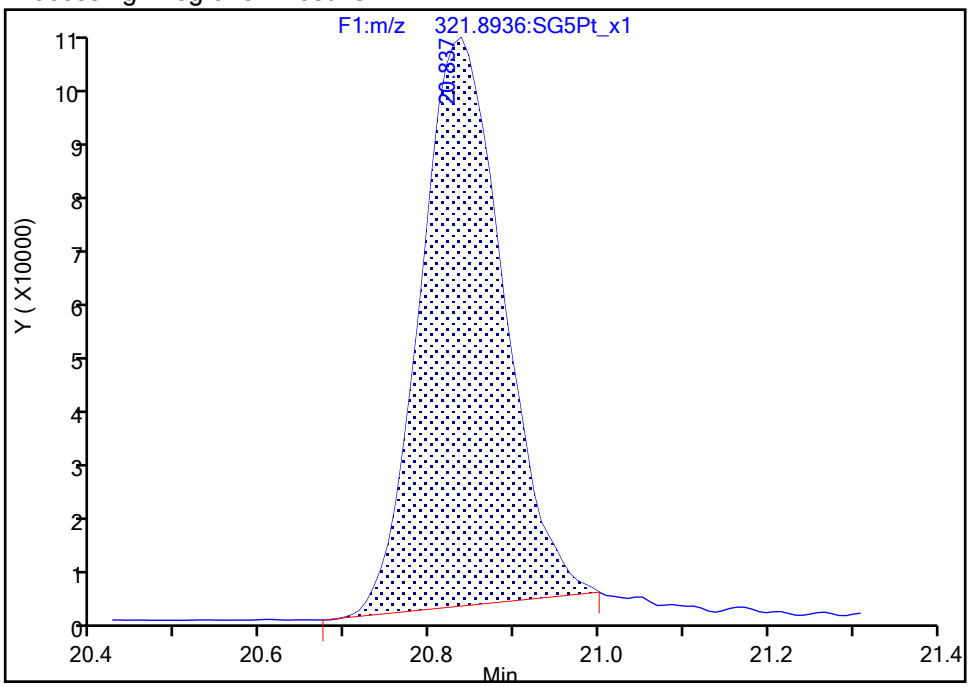
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

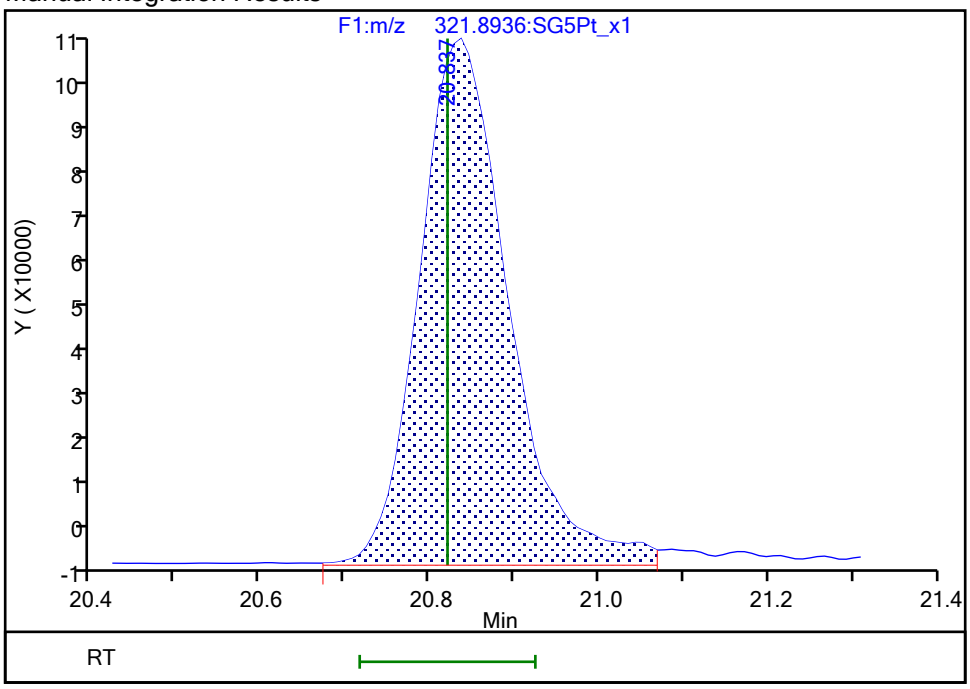
Processing Integration Results

RT: 20.84
Area: 702057
Amount: 34.356546
Amount Units: pg/ul



Manual Integration Results

RT: 20.84
Area: 777716
Amount: 36.967931
Amount Units: pg/ul



Reviewer: bilottag, 18-Jan-2022 12:14:07
Audit Action: Manually Integrated Audit Reason: Baseline

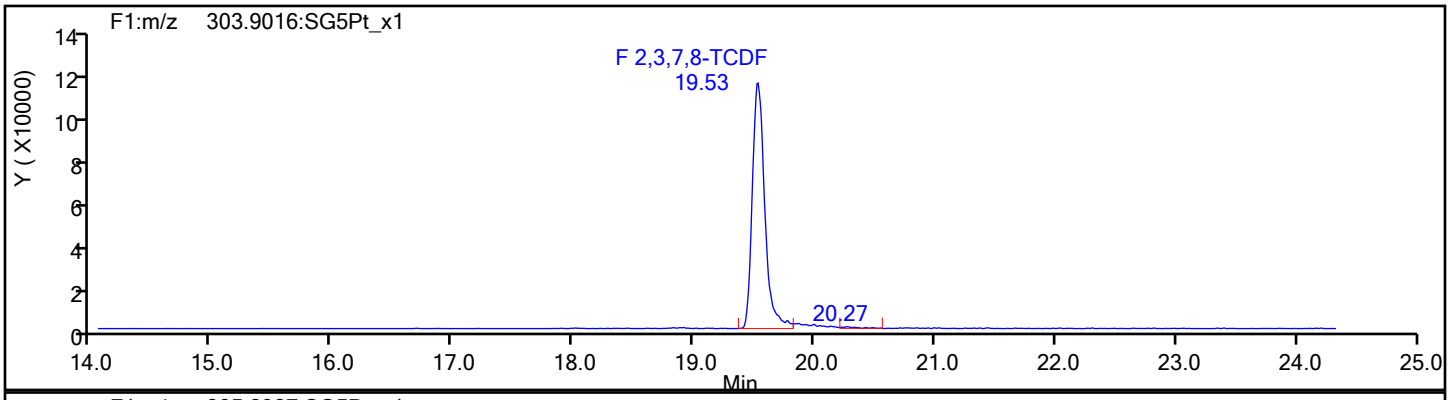
Report Date: 20-Jan-2022 15:59:24 Chrom Revision: 2.3 18-Jan-2022 20:25:40

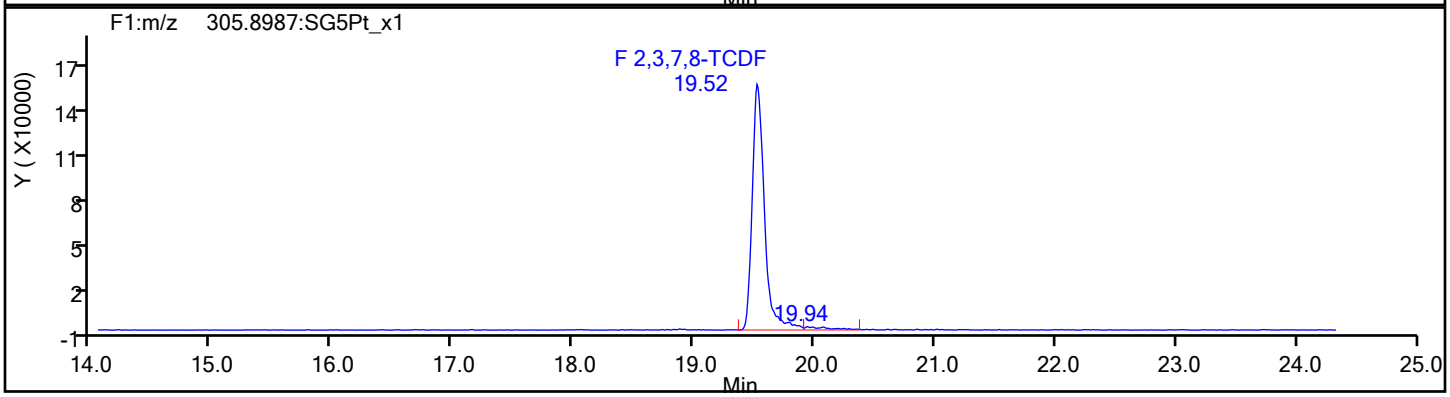
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

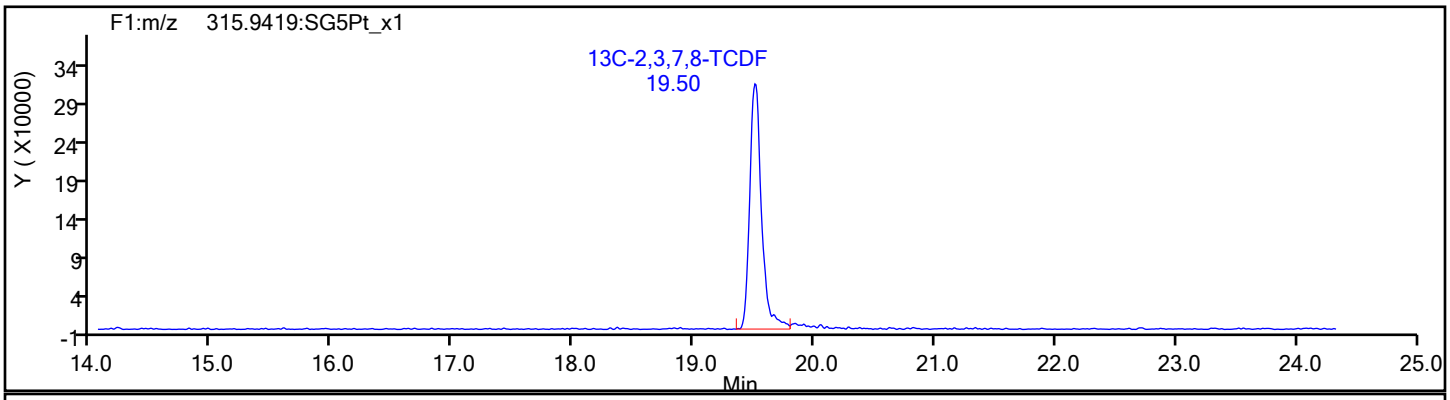
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

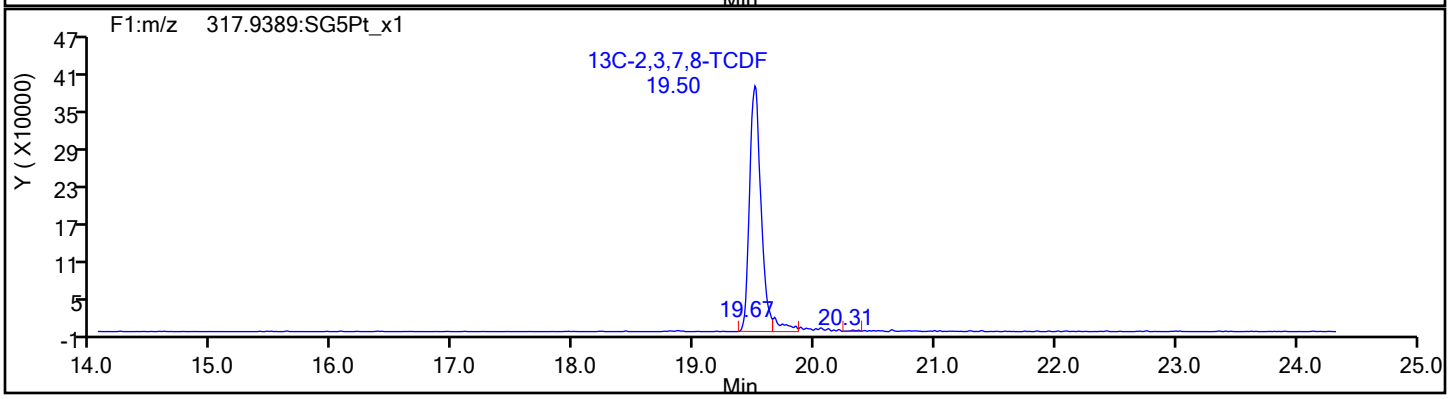
TCDF





TCDF Standards

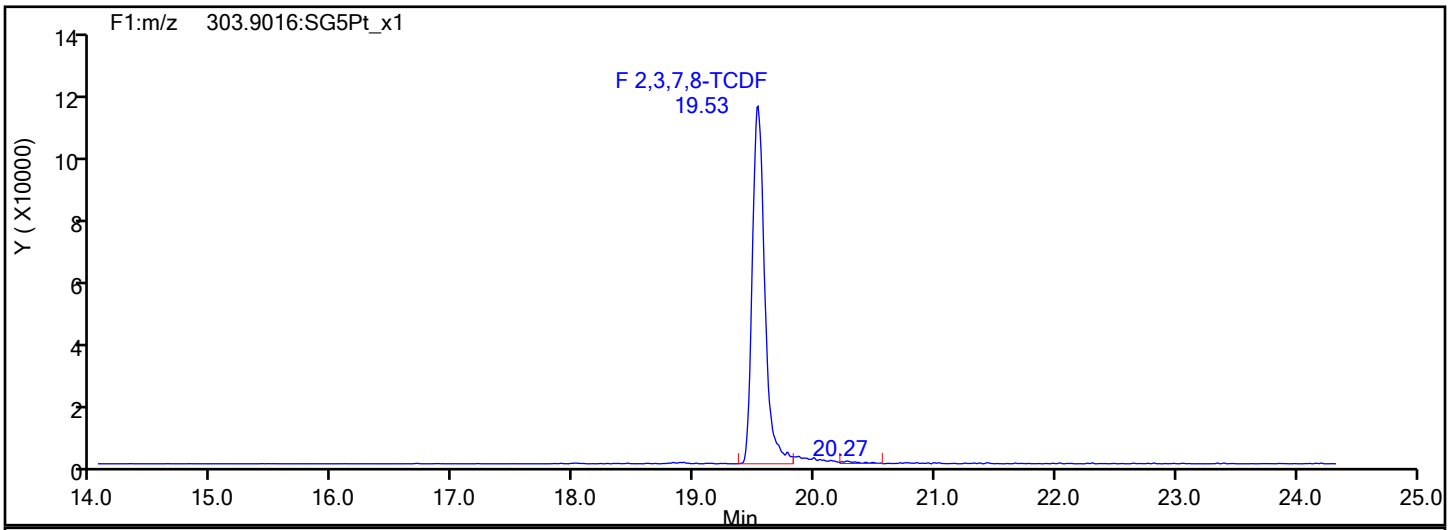


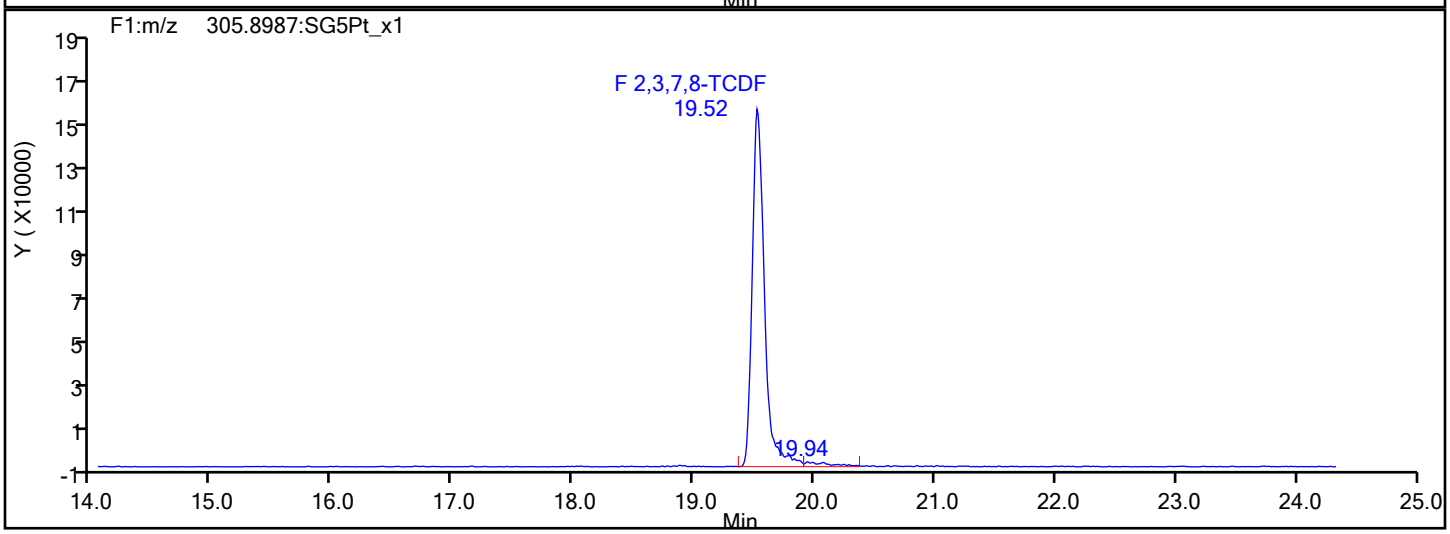


Eurofins Sacramento

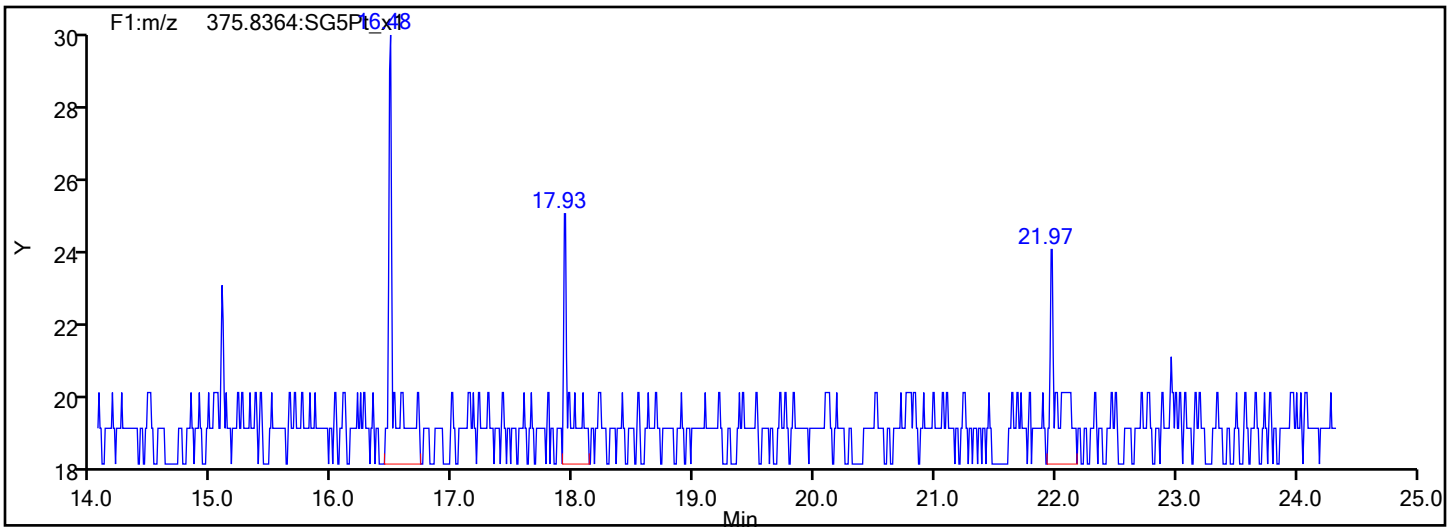
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d		
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





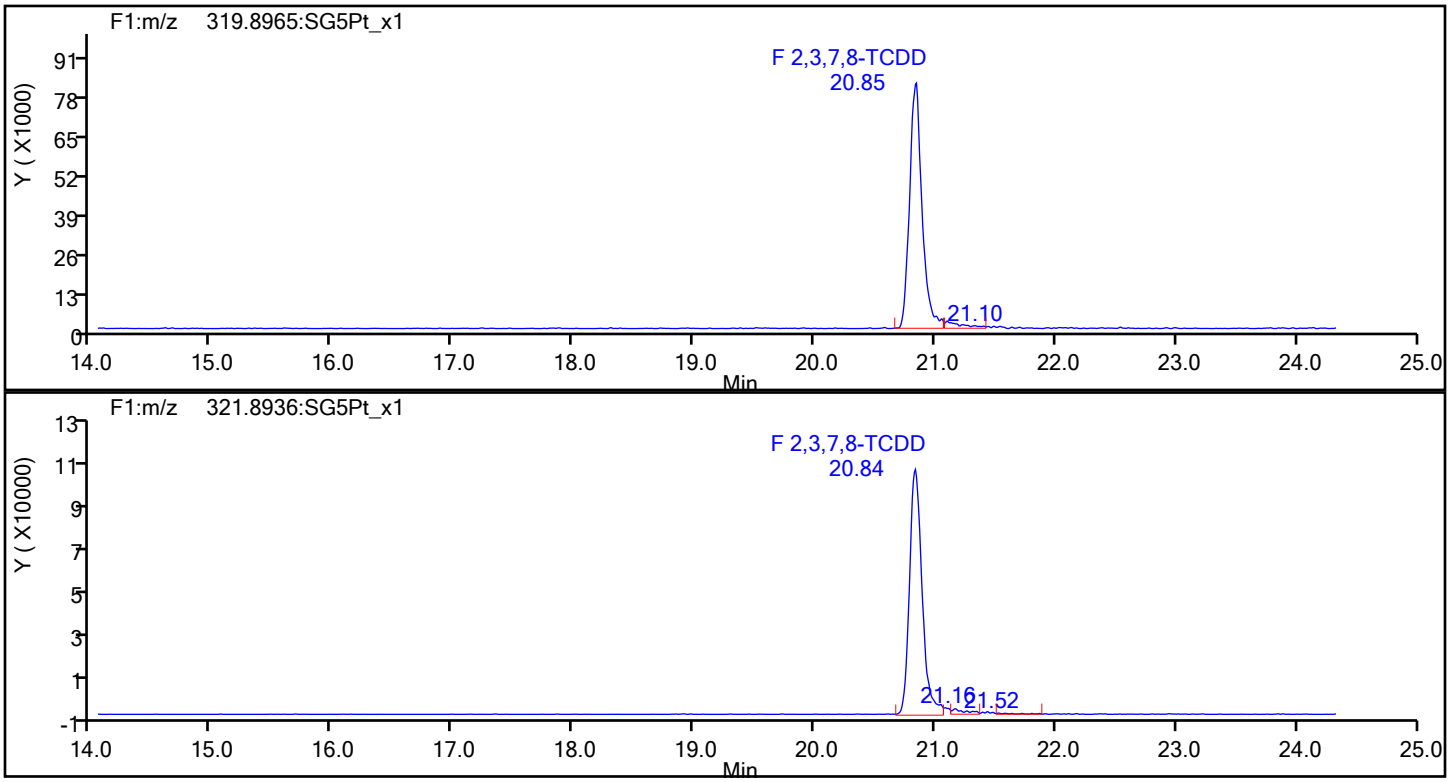
TCDF Interference Mass



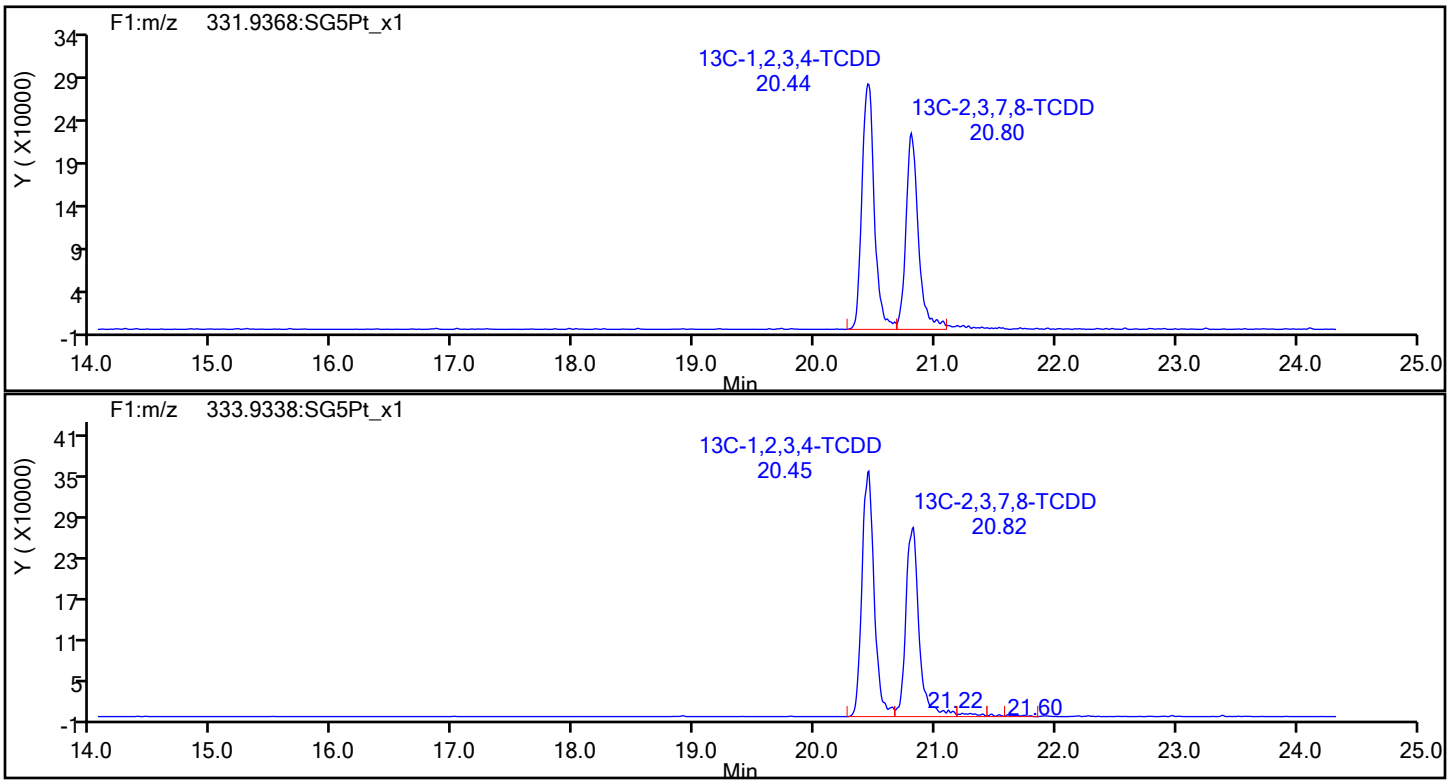
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

TCDD



TCDD Standards



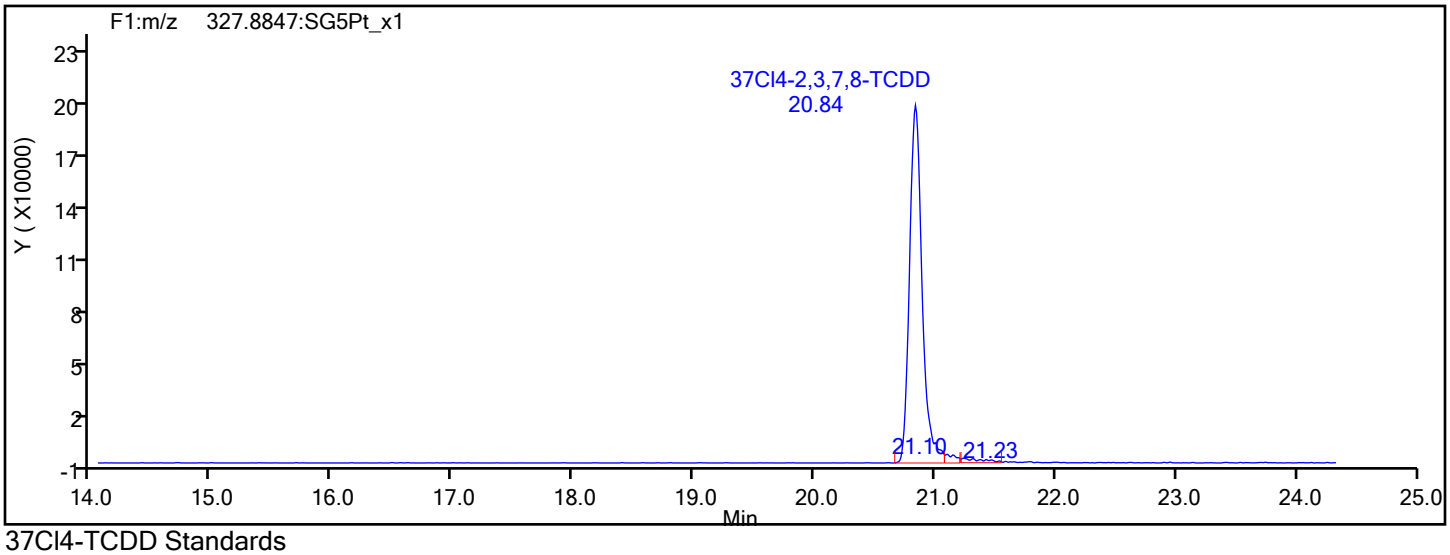
Report Date: 20-Jan-2022 15:59:24 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

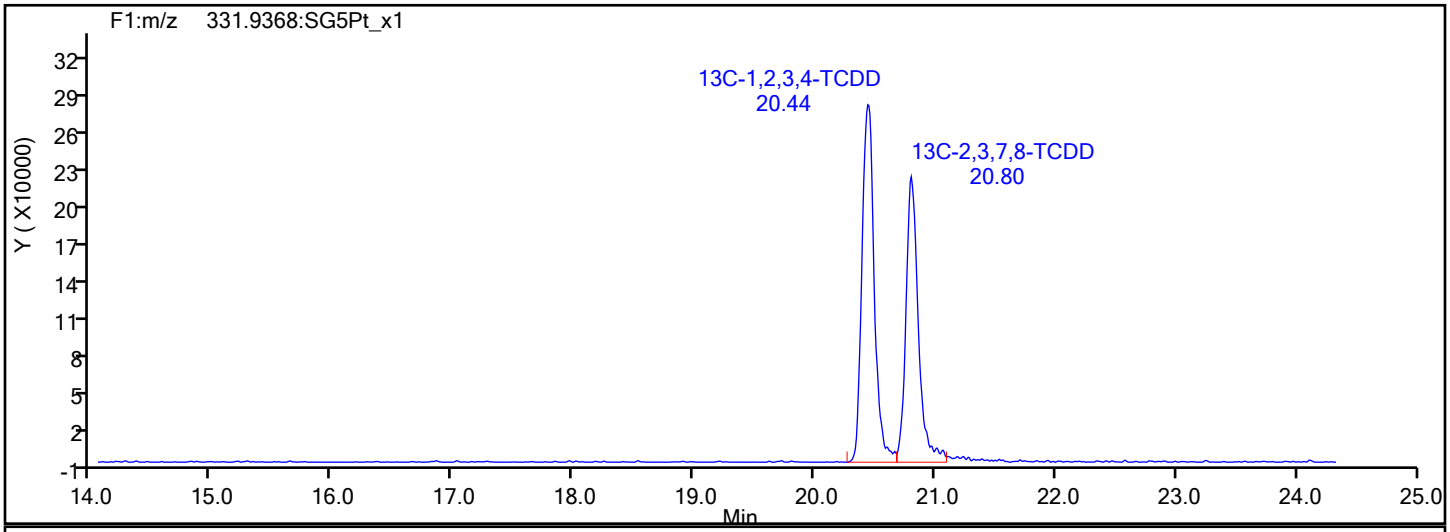
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

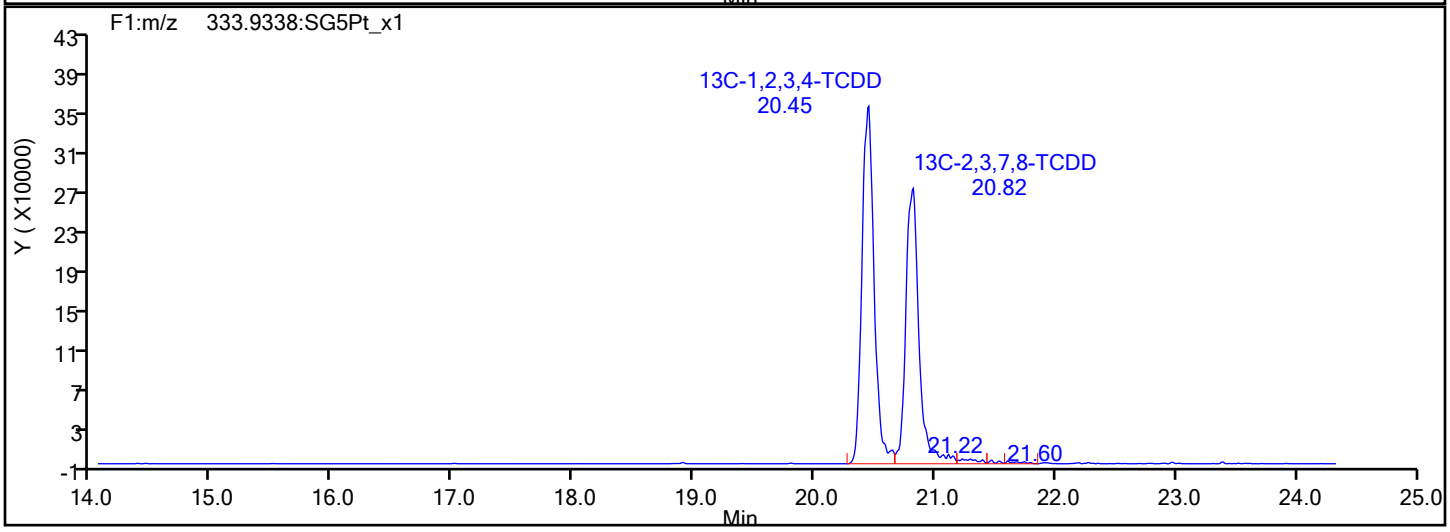
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





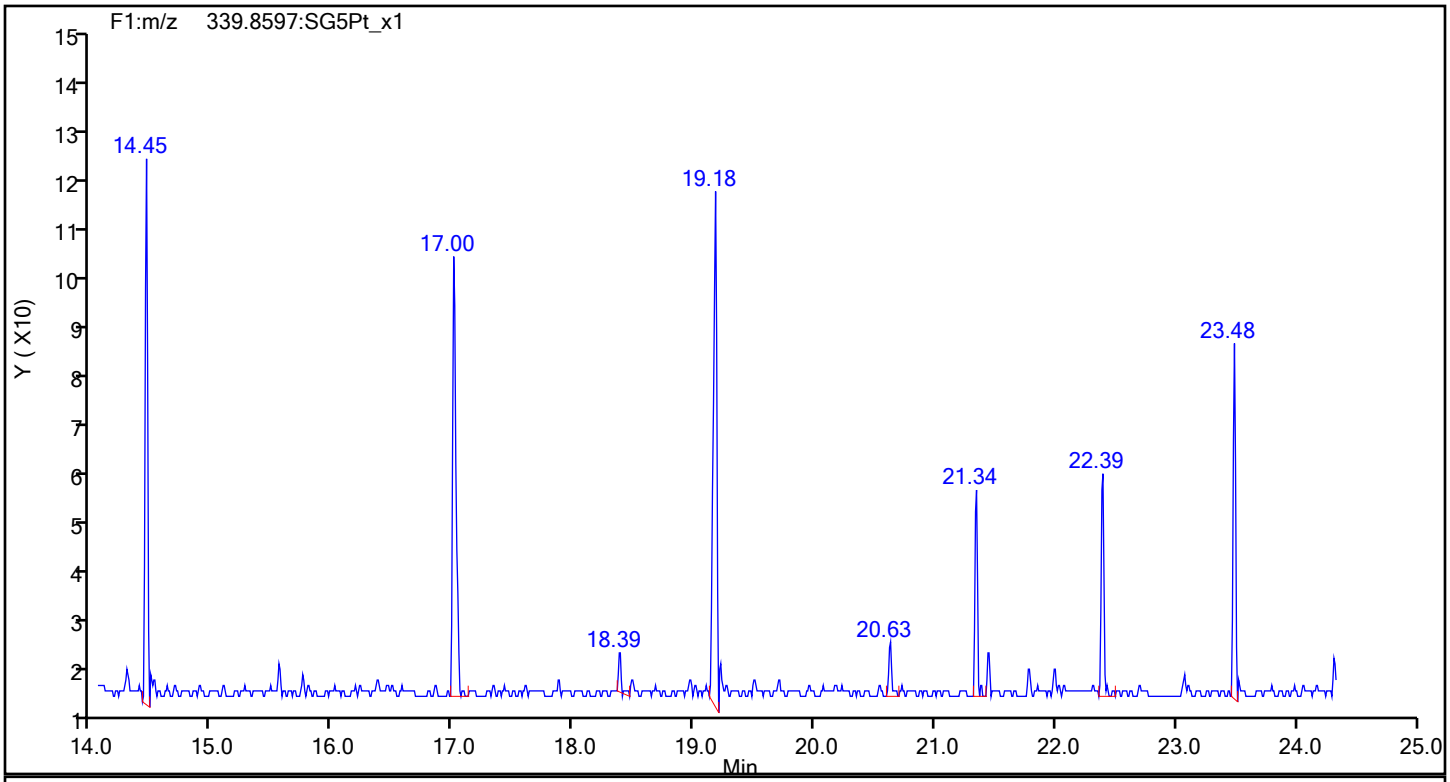
Report Date: 20-Jan-2022 15:59:25 Chrom Revision: 2.3 18-Jan-2022 20:25:40

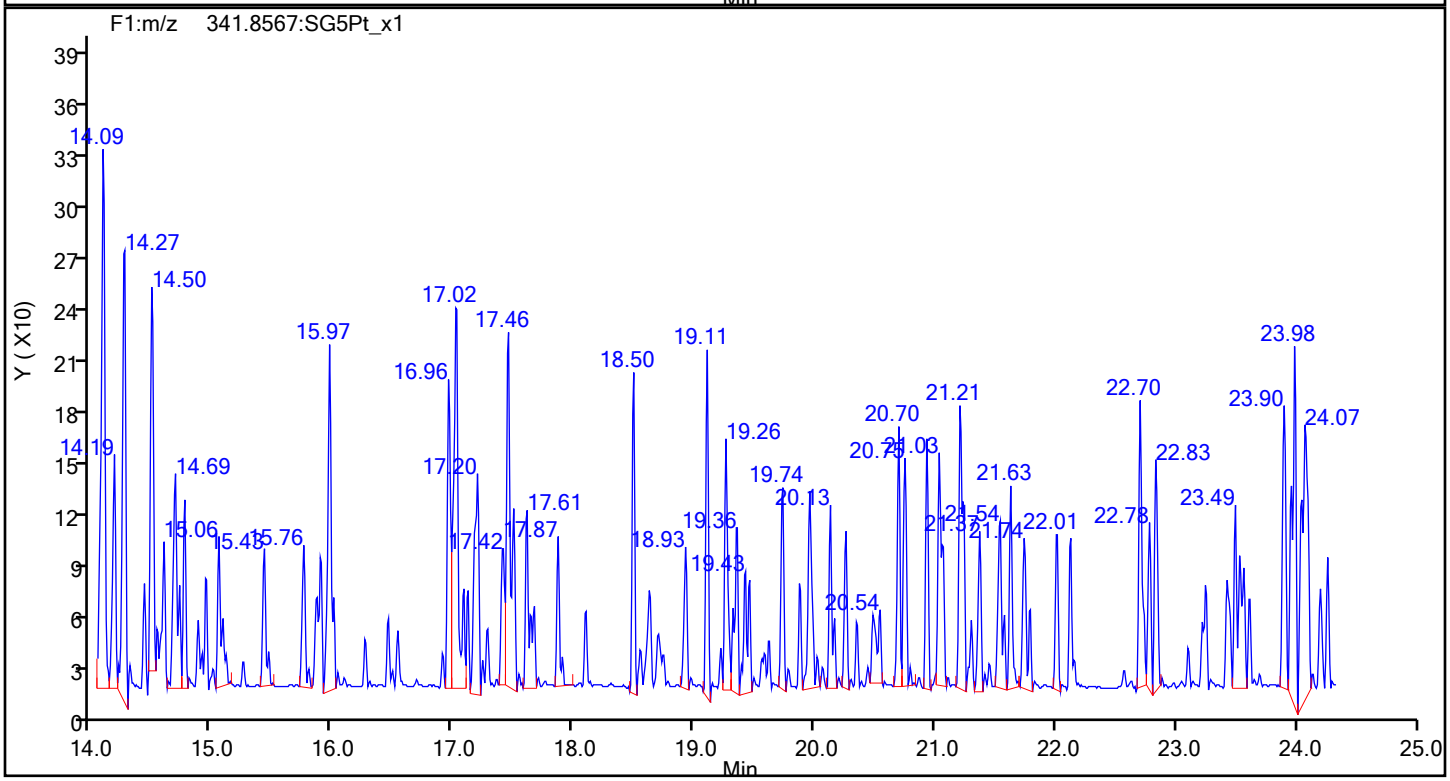
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

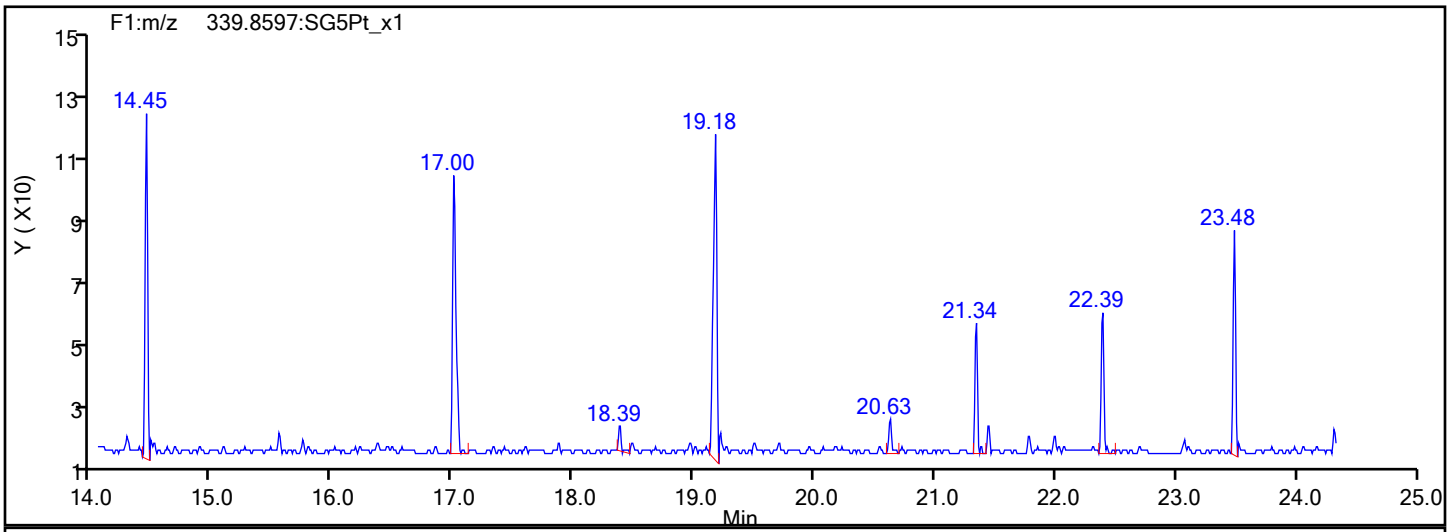


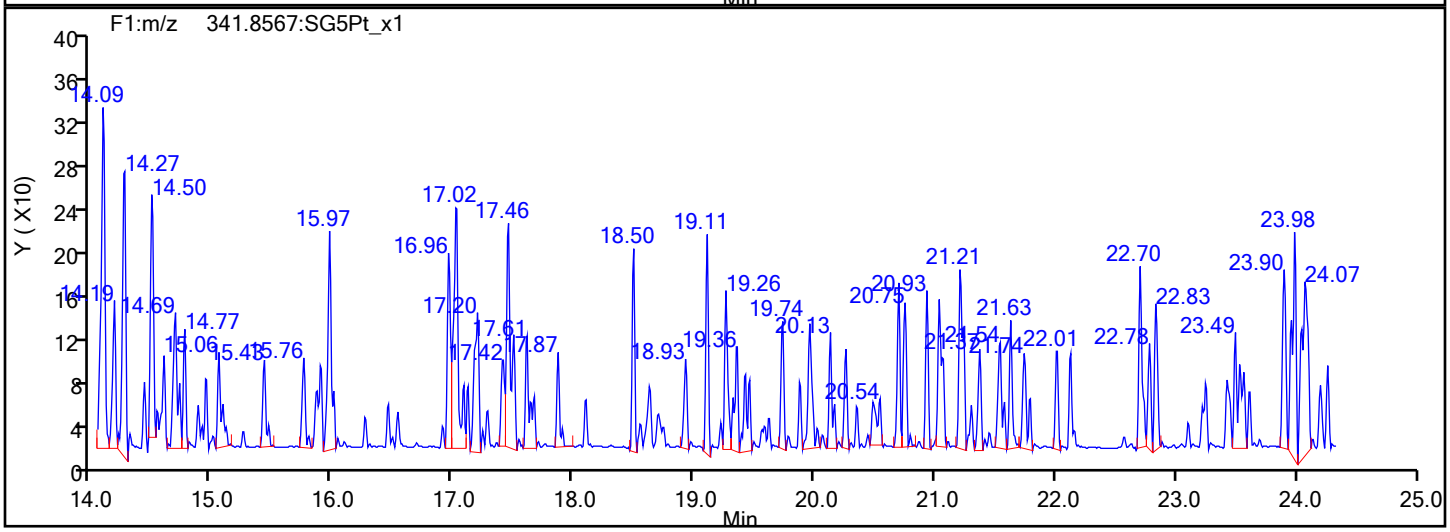


Eurofins Sacramento

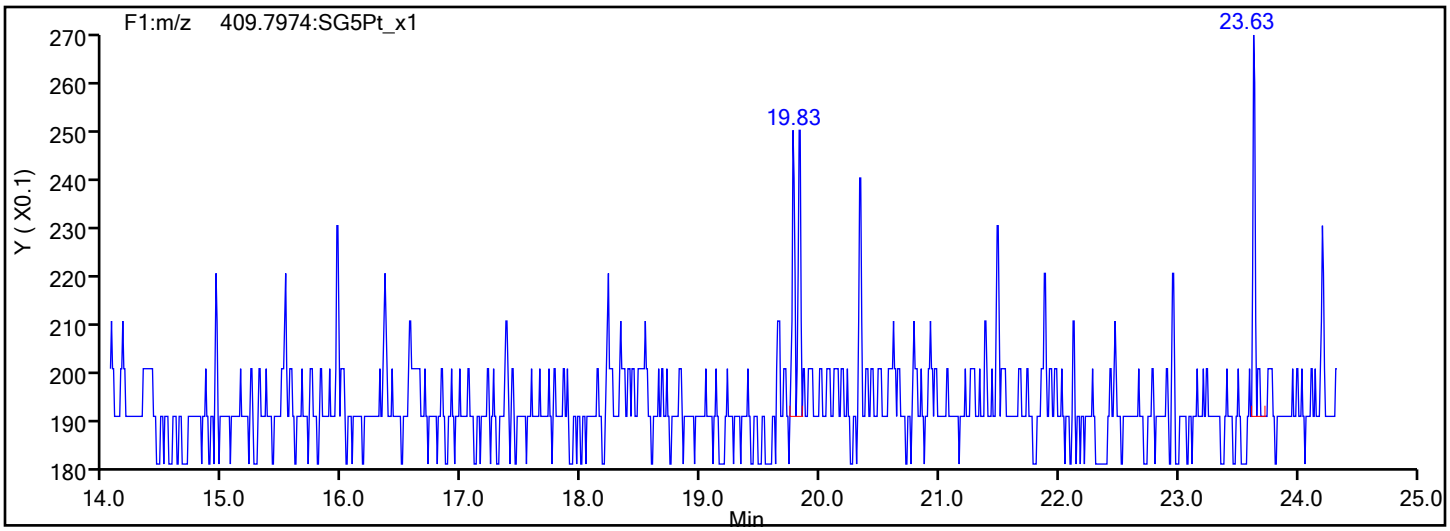
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d		
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





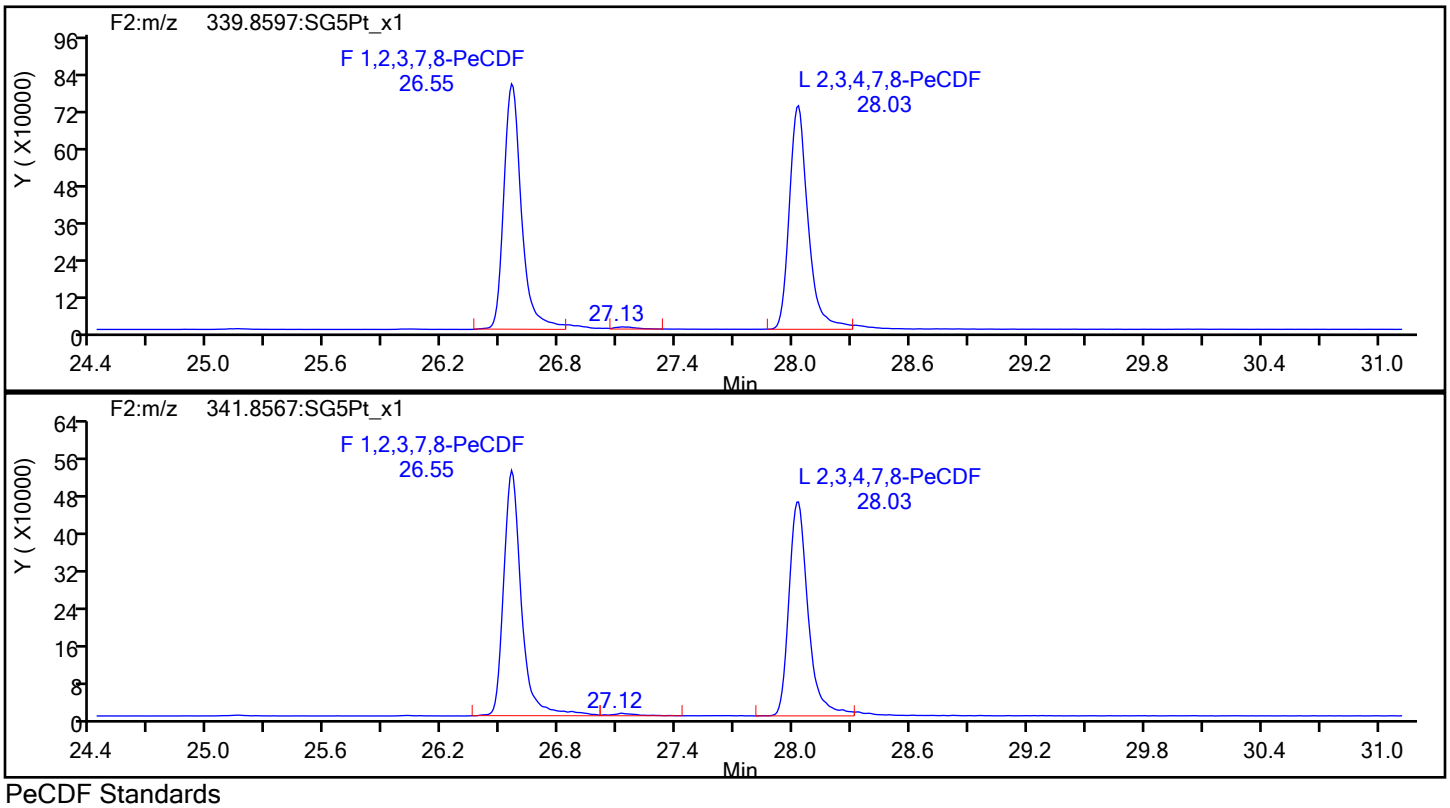
F1 PeCDFs Interference Mass



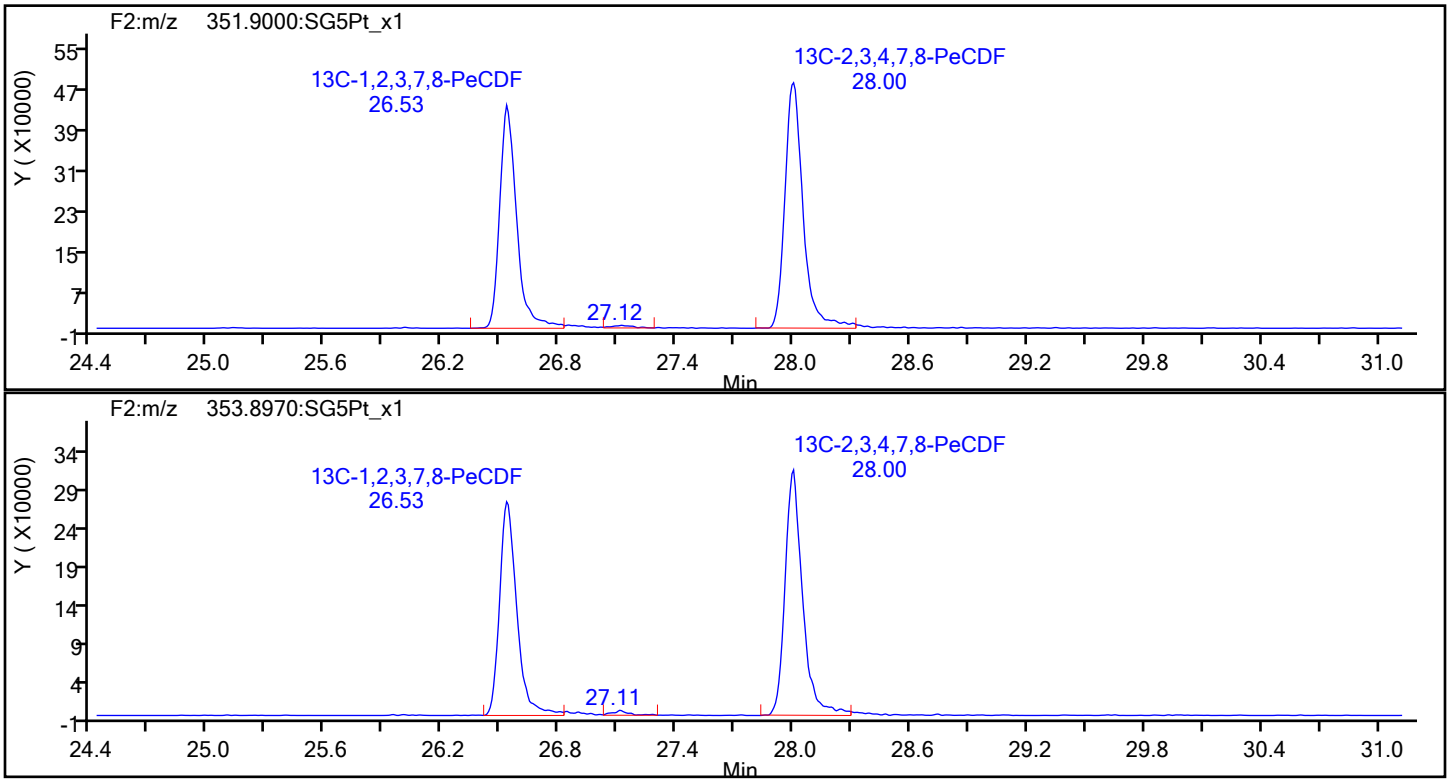
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



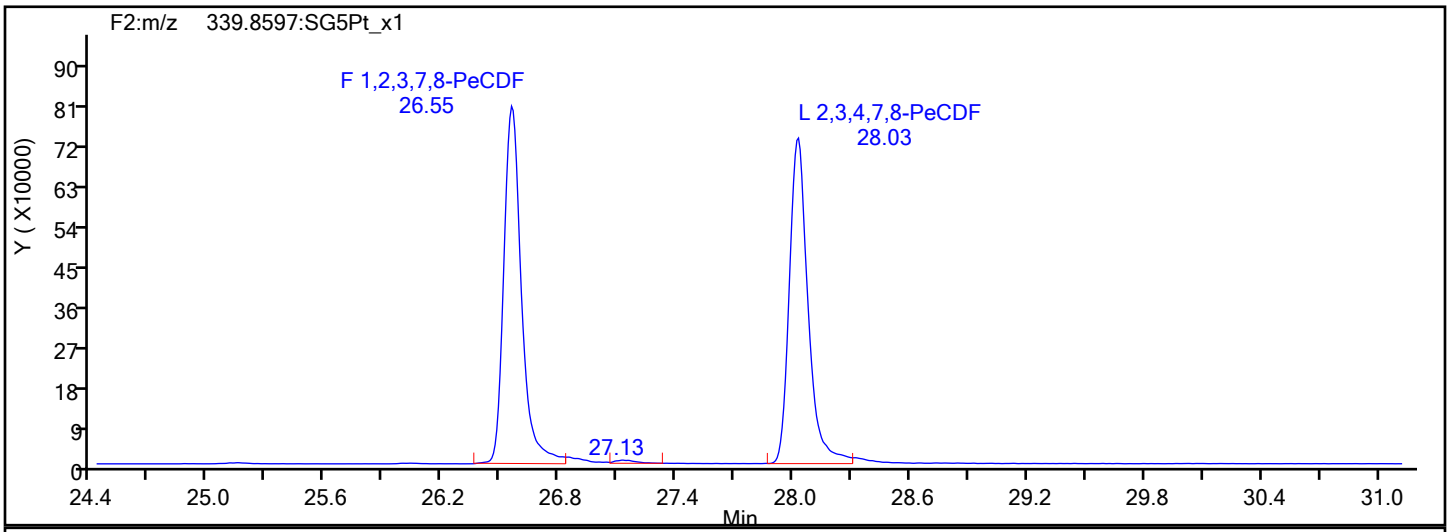
PeCDF Standards

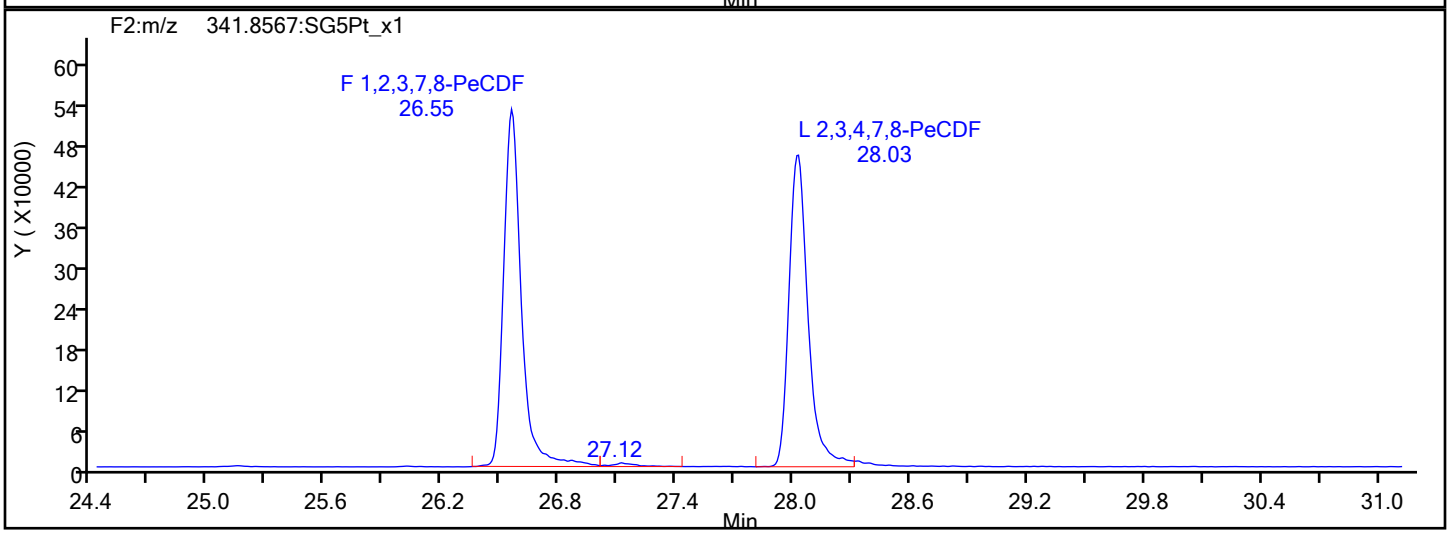


Eurofins Sacramento

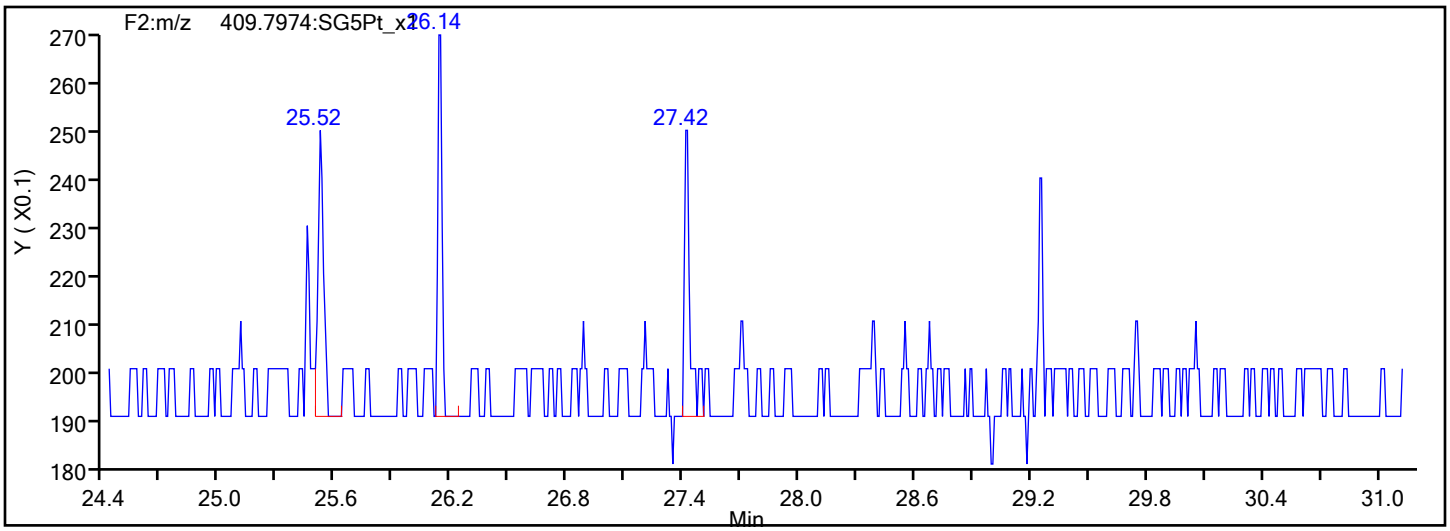
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d		
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





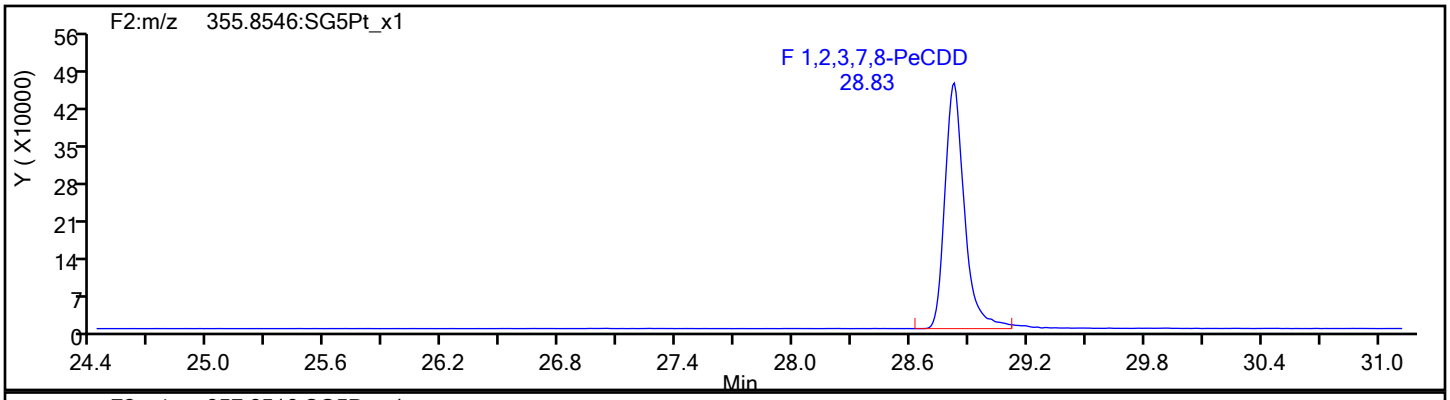
PeCDF Interference Mass

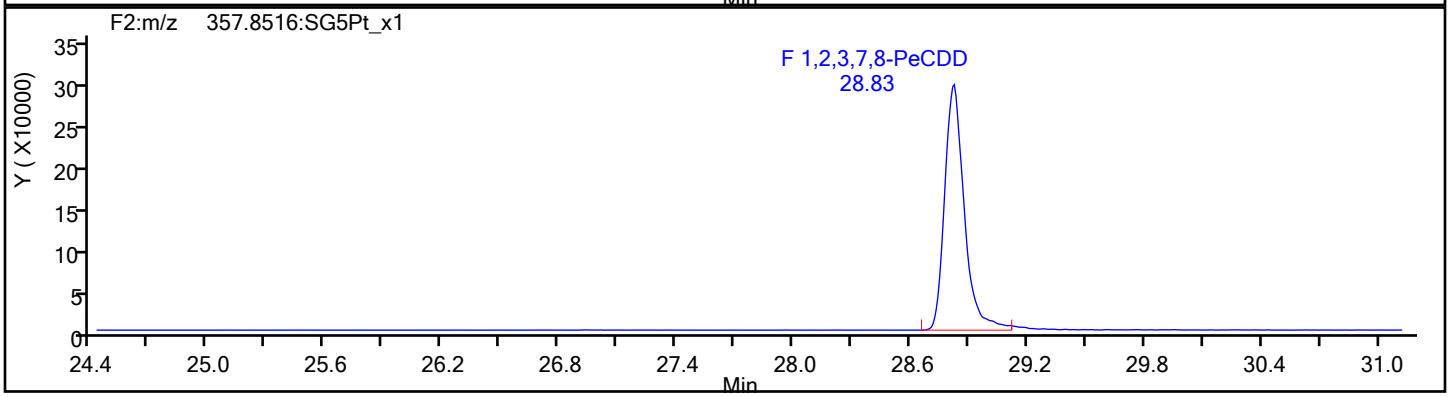


Eurofins Sacramento

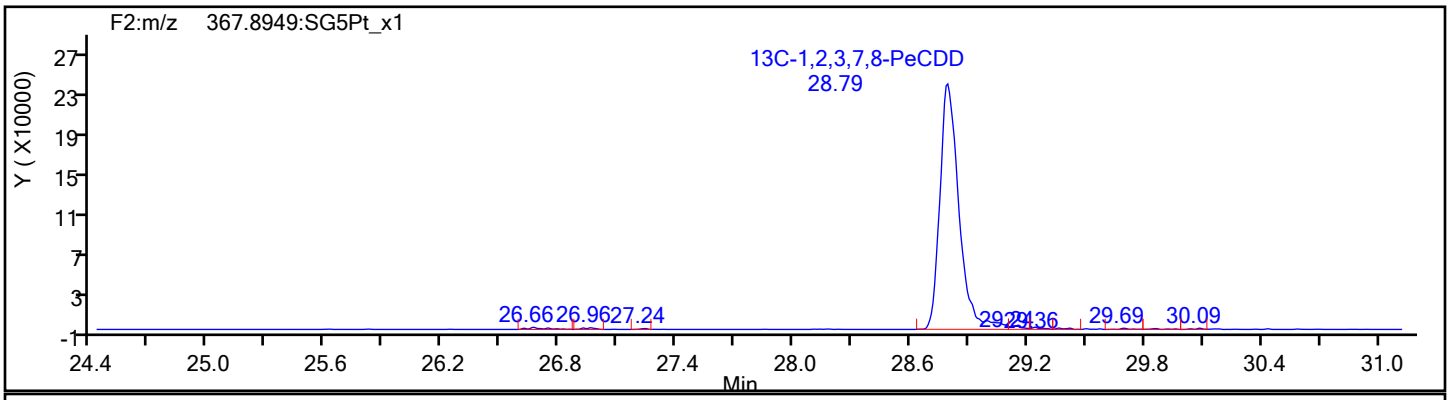
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

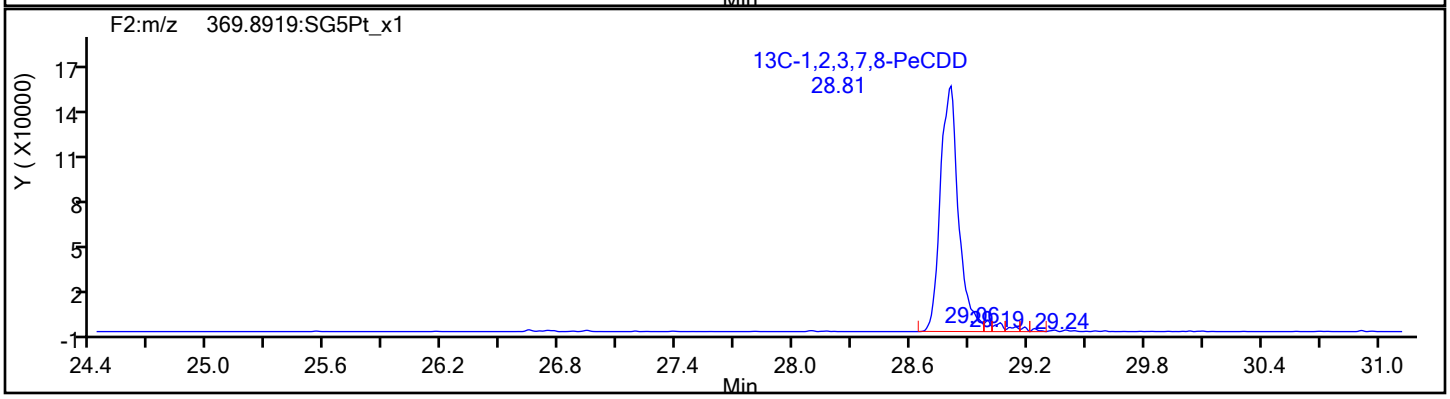
PeCDD





PeCDD Standards

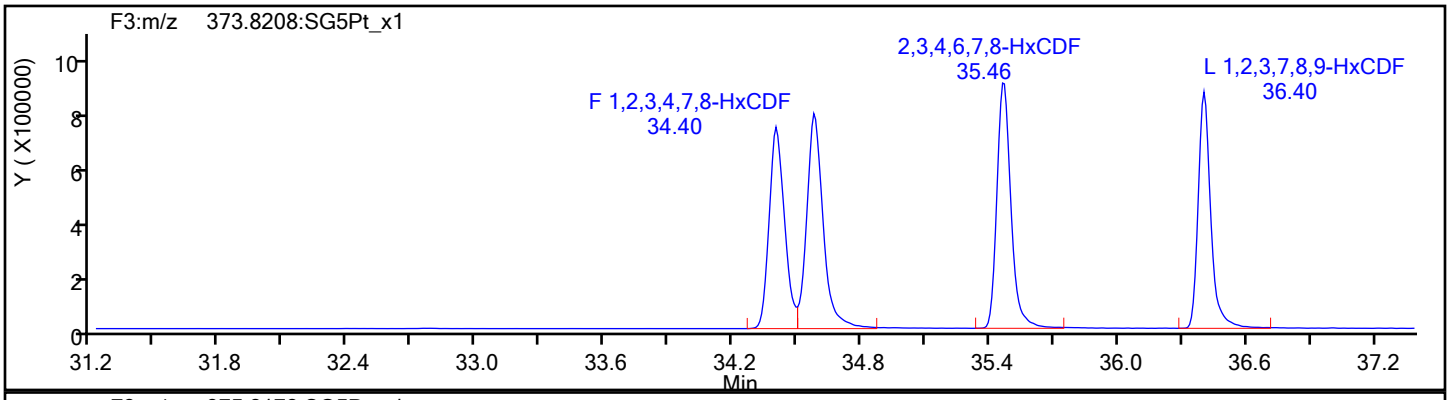


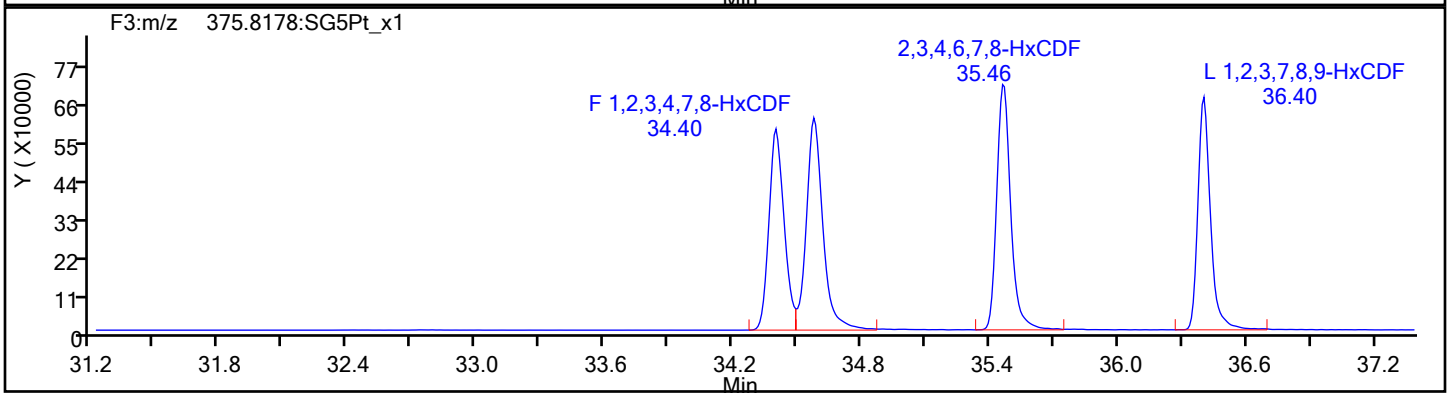


Eurofins Sacramento

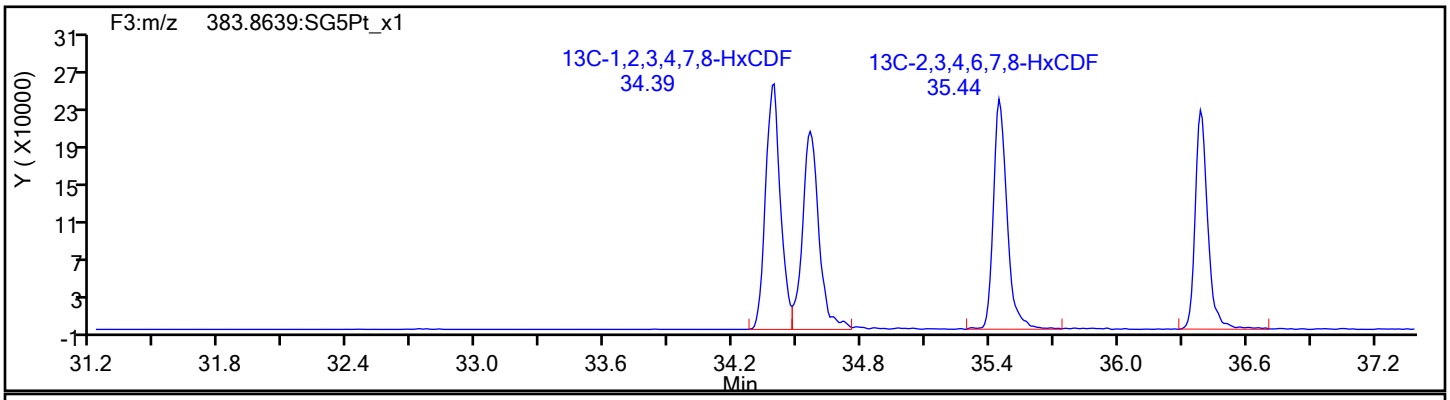
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

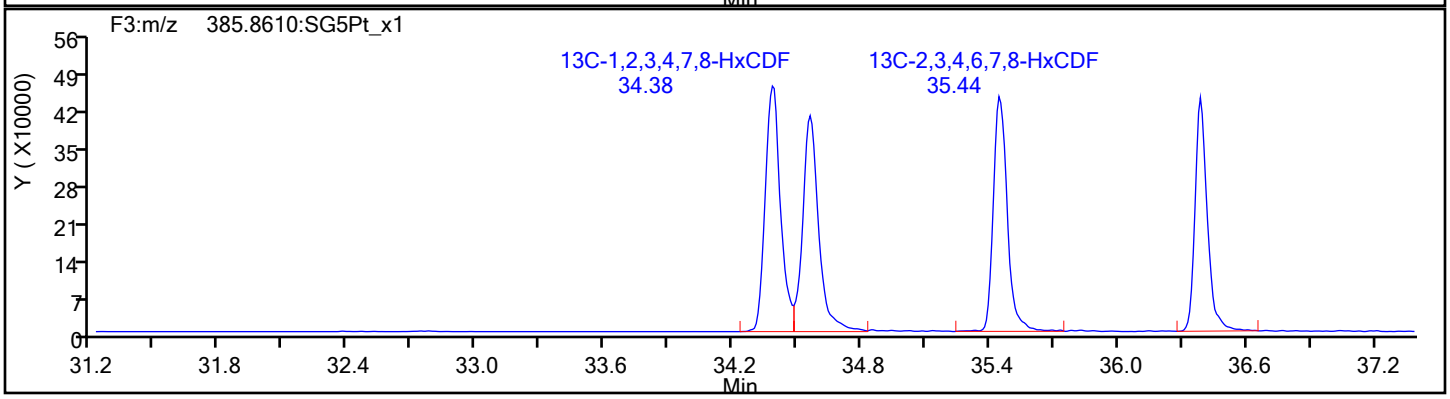
HxCDF





HxCDF Standards

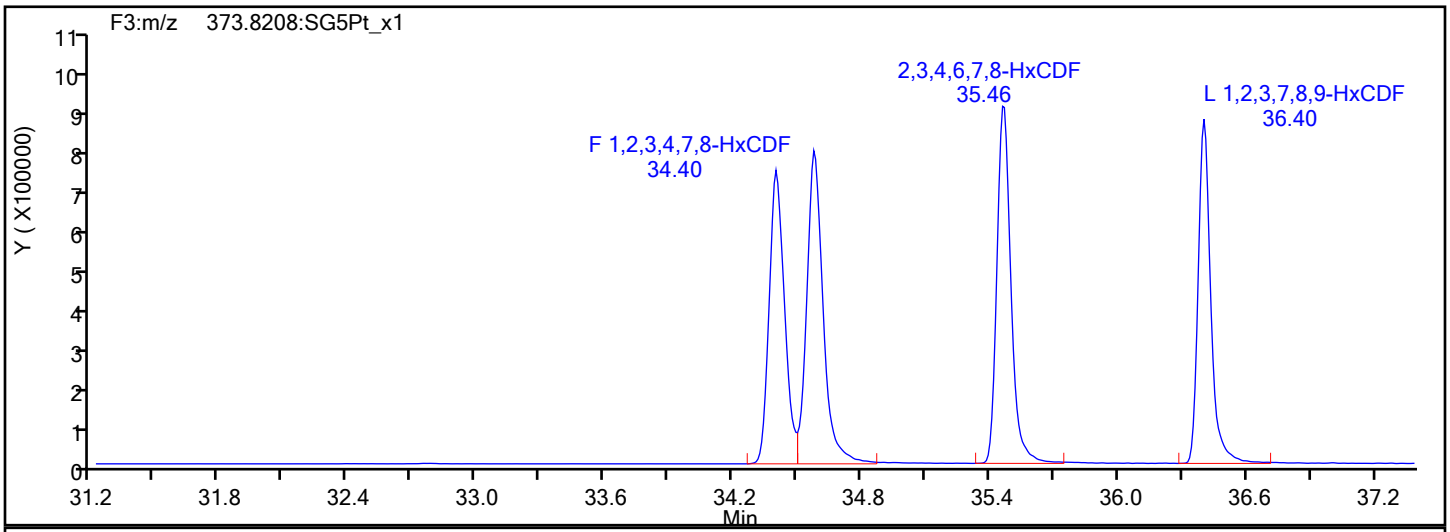


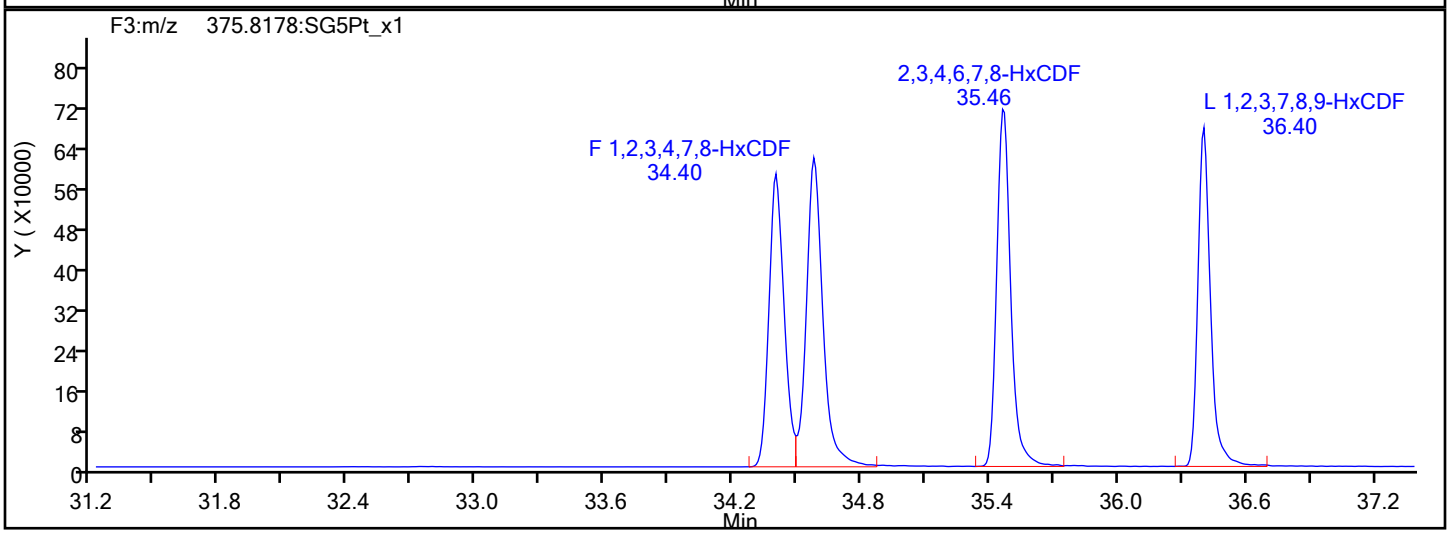


Eurofins Sacramento

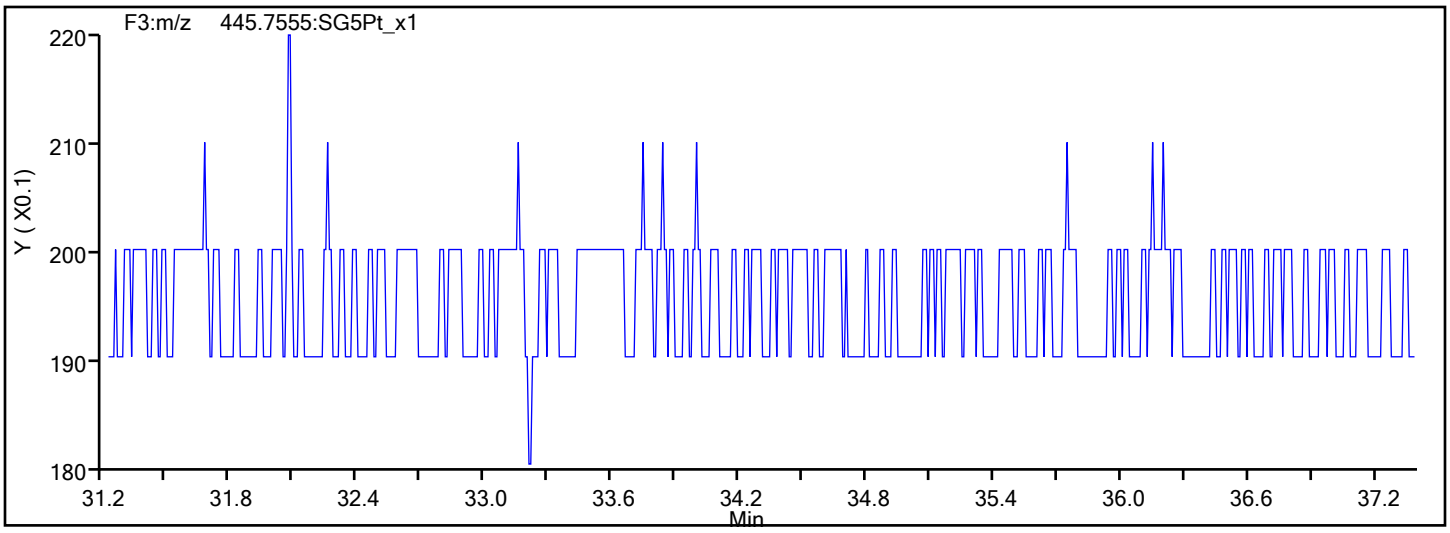
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



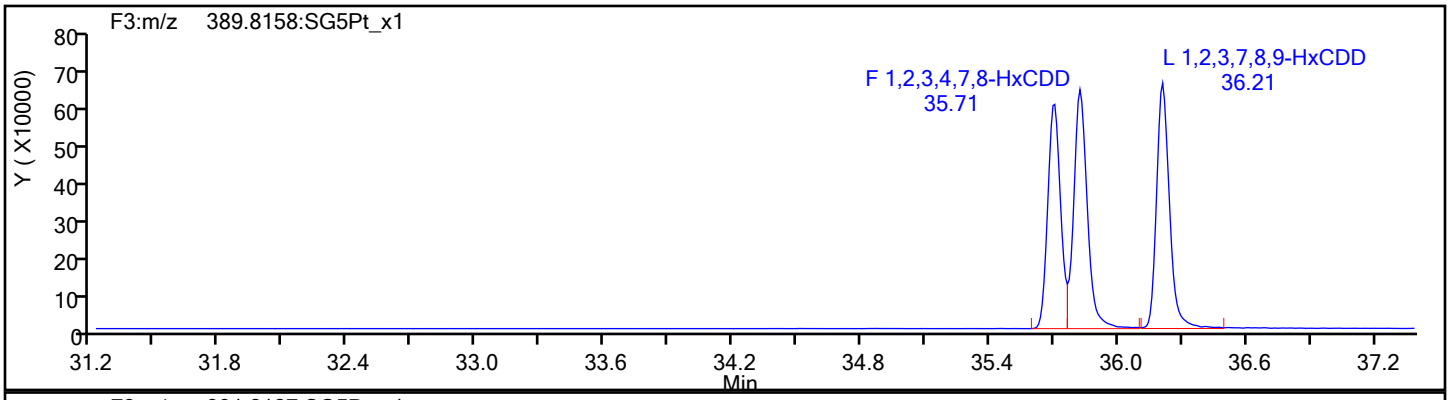
Report Date: 20-Jan-2022 15:59:25 Chrom Revision: 2.3 18-Jan-2022 20:25:40

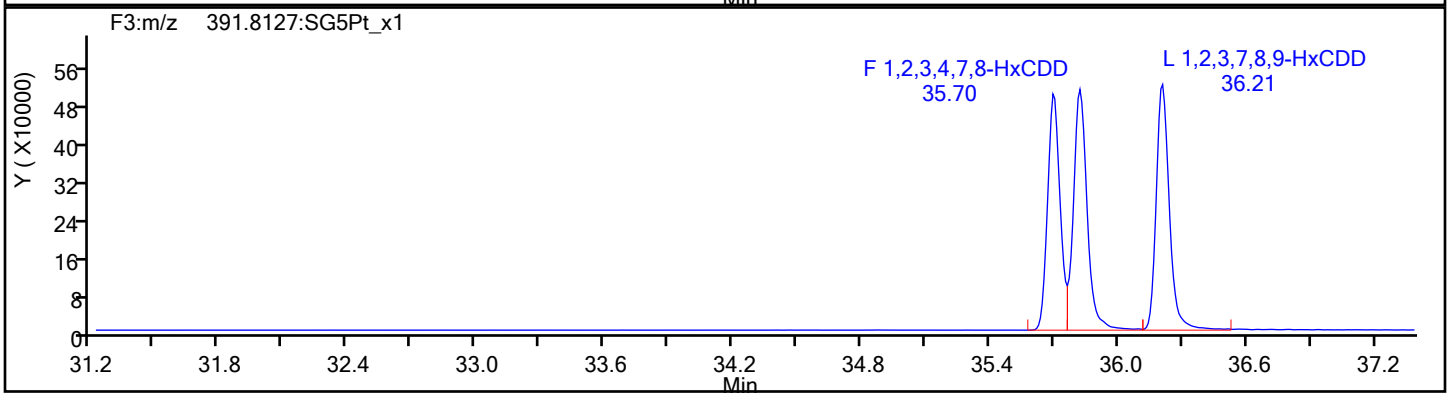
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

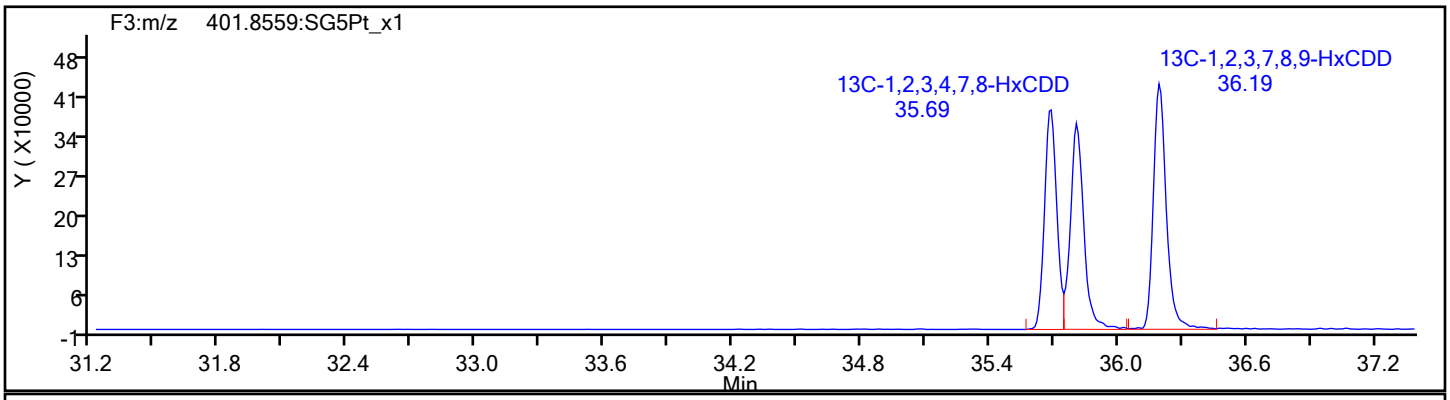
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

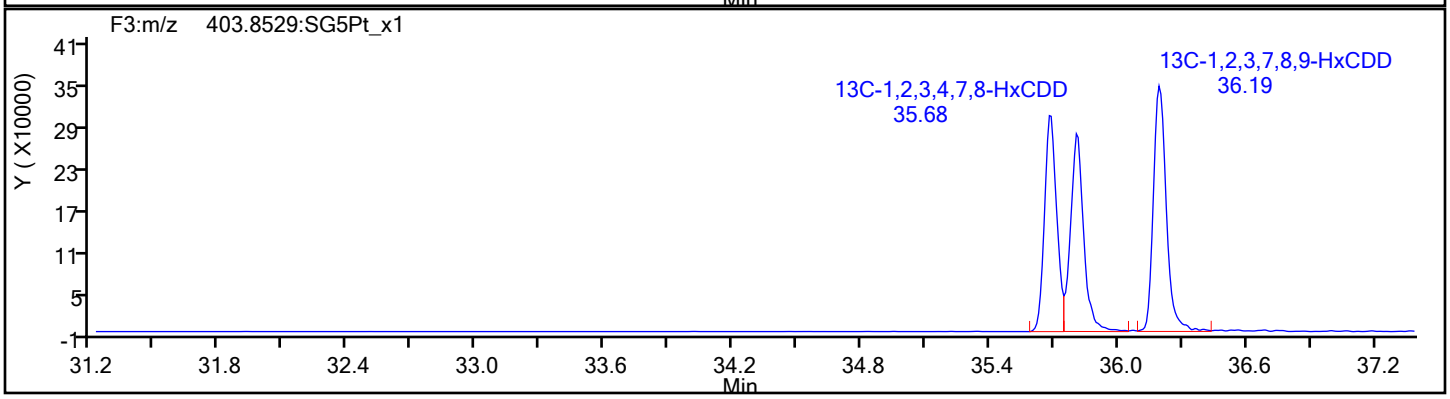
HxCDD





HxCDD Standards

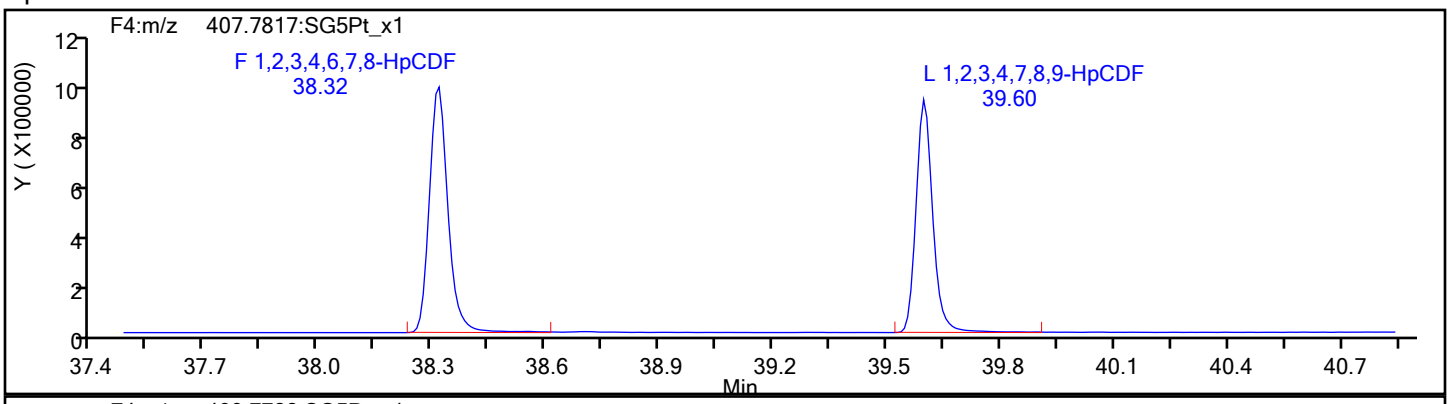


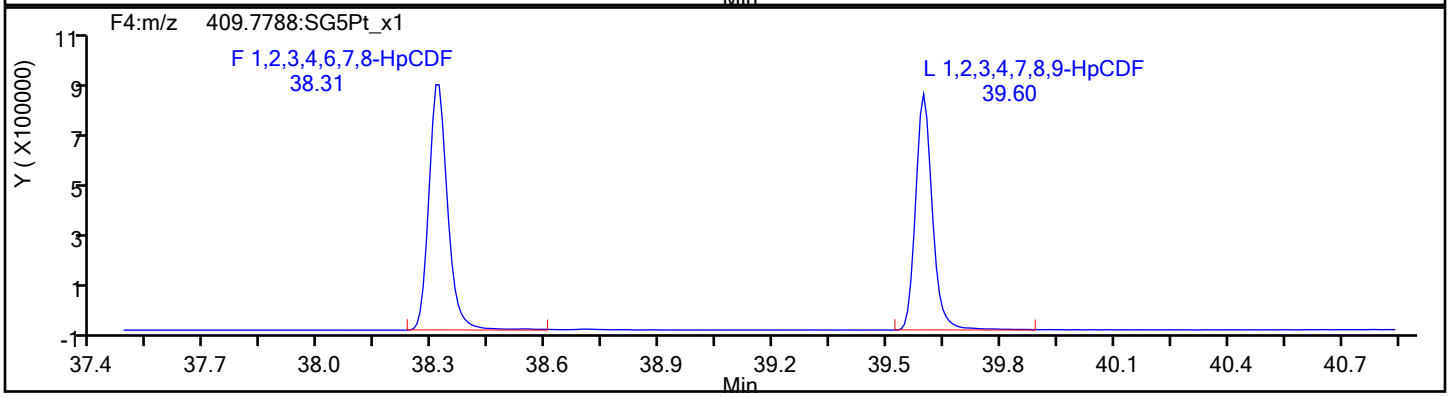


Eurofins Sacramento

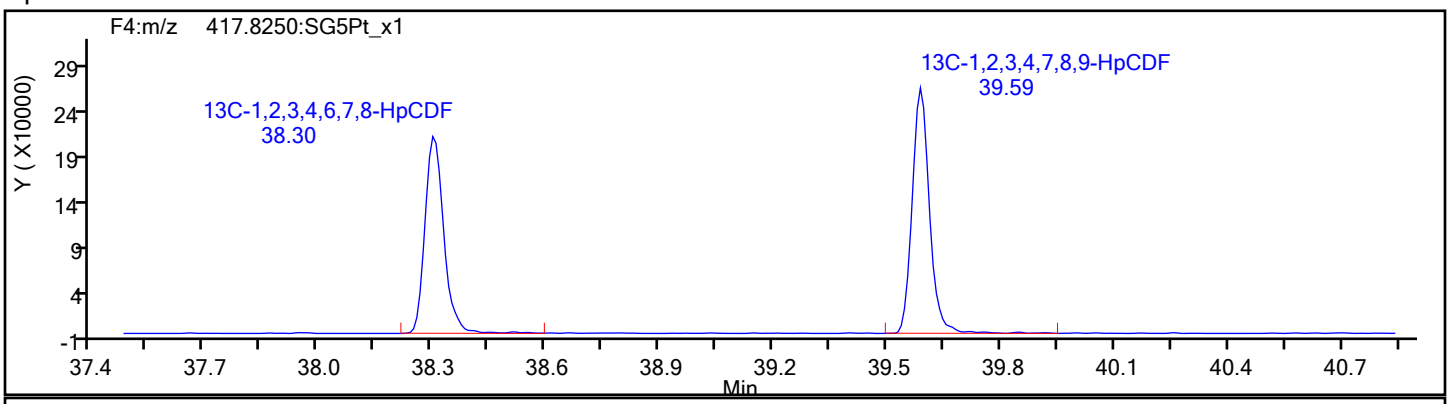
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

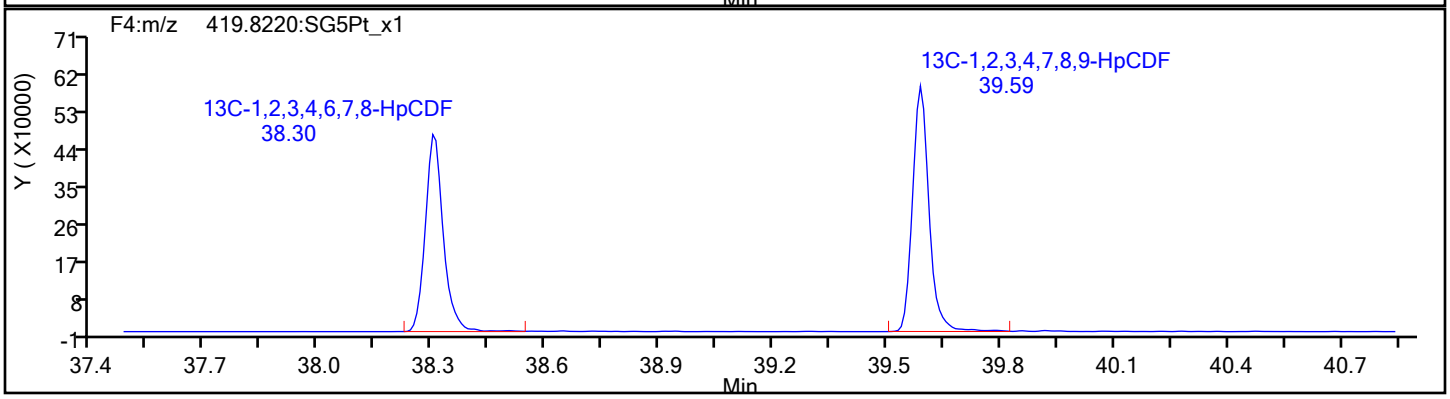
HpCDF





HpCDF Standards

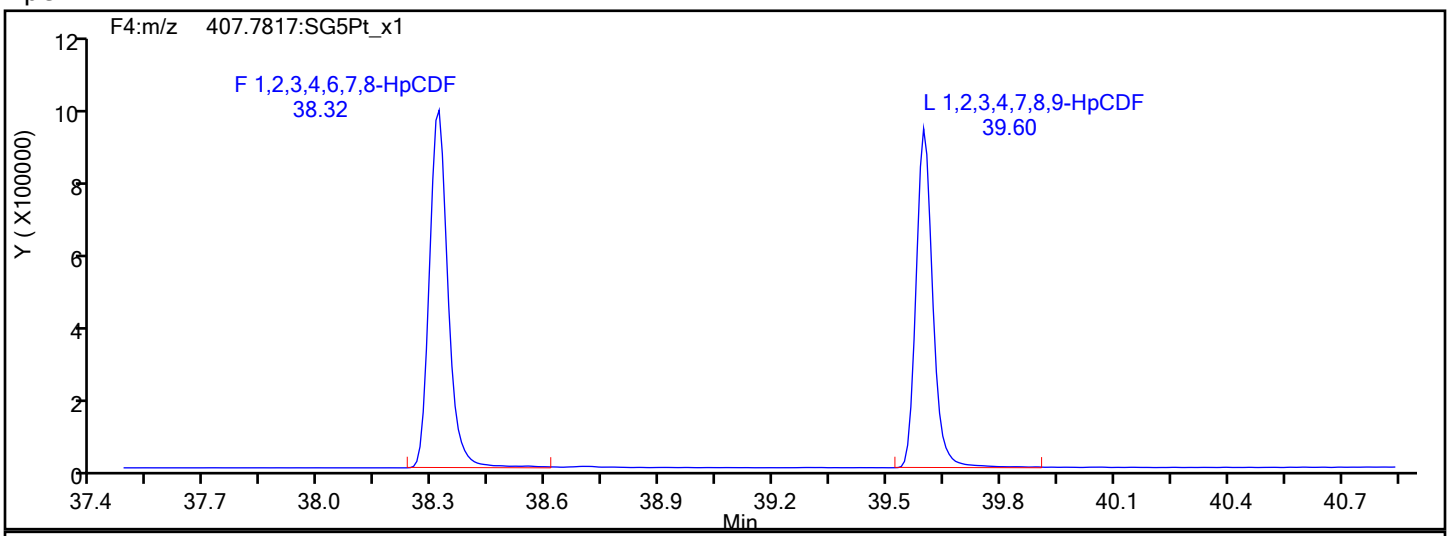


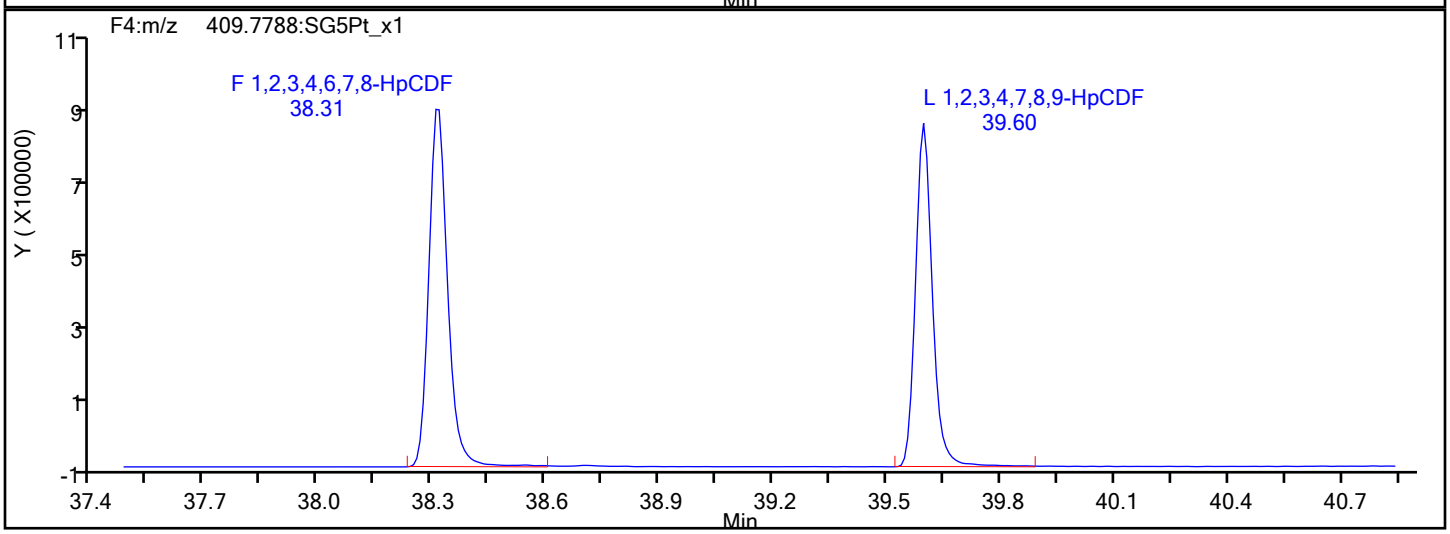


Eurofins Sacramento

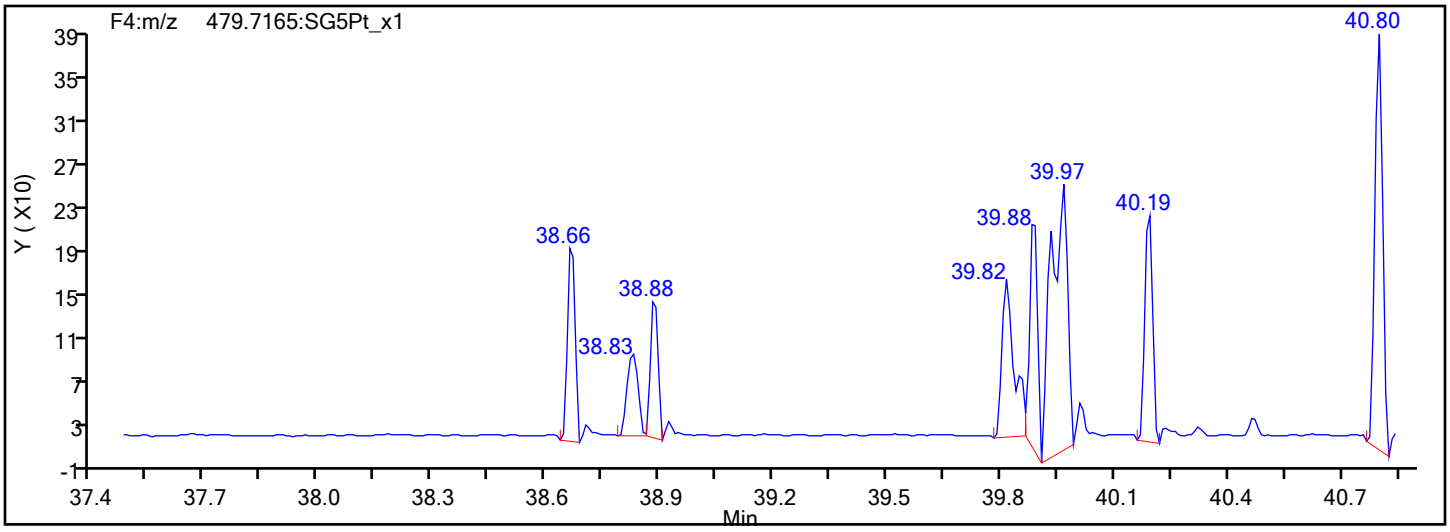
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



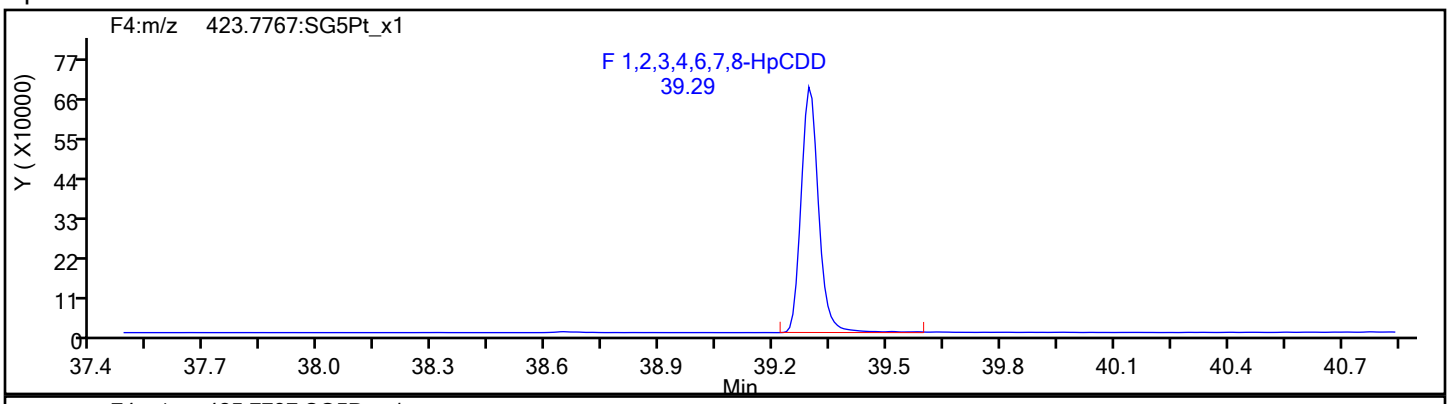
Report Date: 20-Jan-2022 15:59:25 Chrom Revision: 2.3 18-Jan-2022 20:25:40

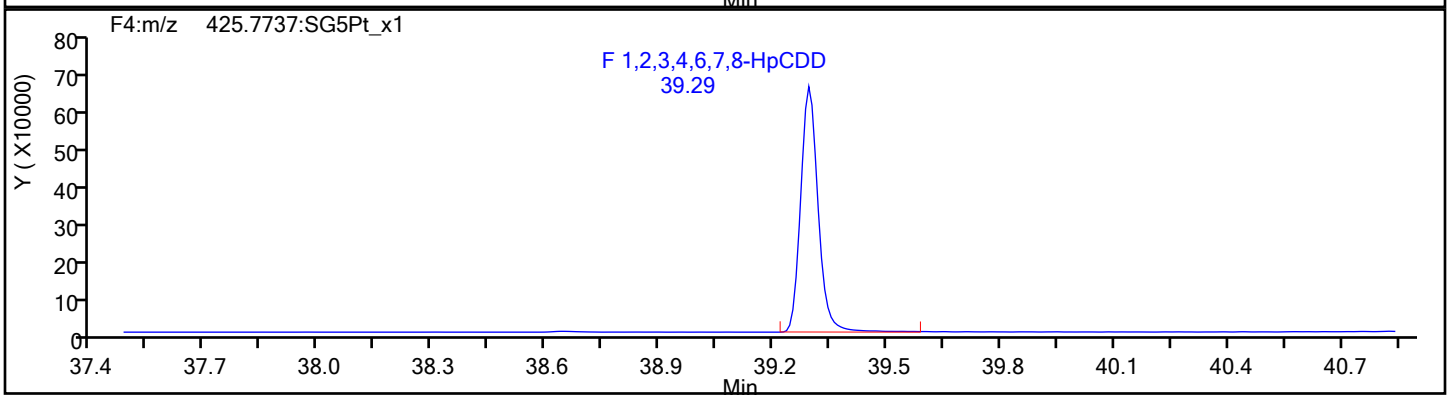
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

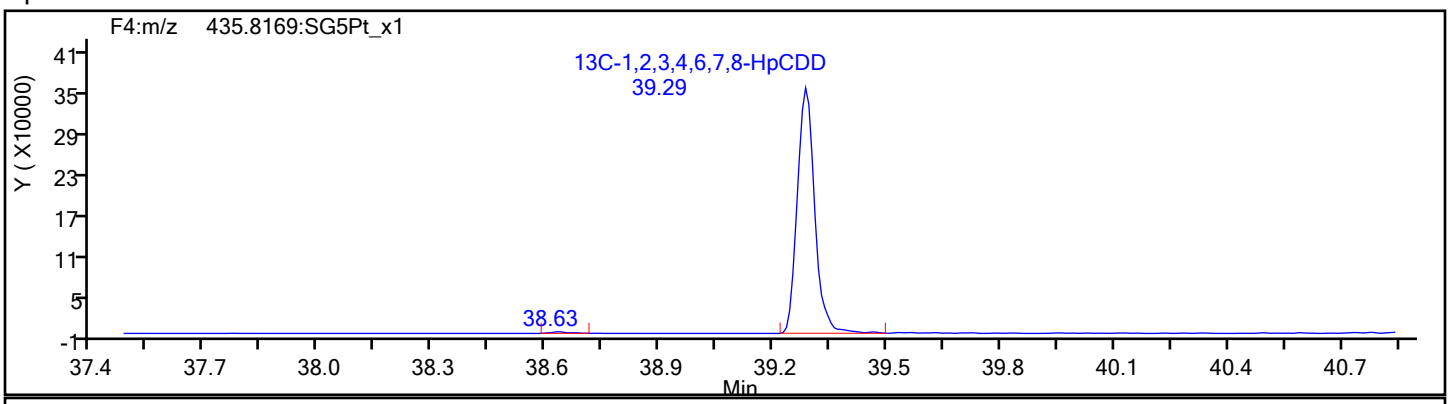
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

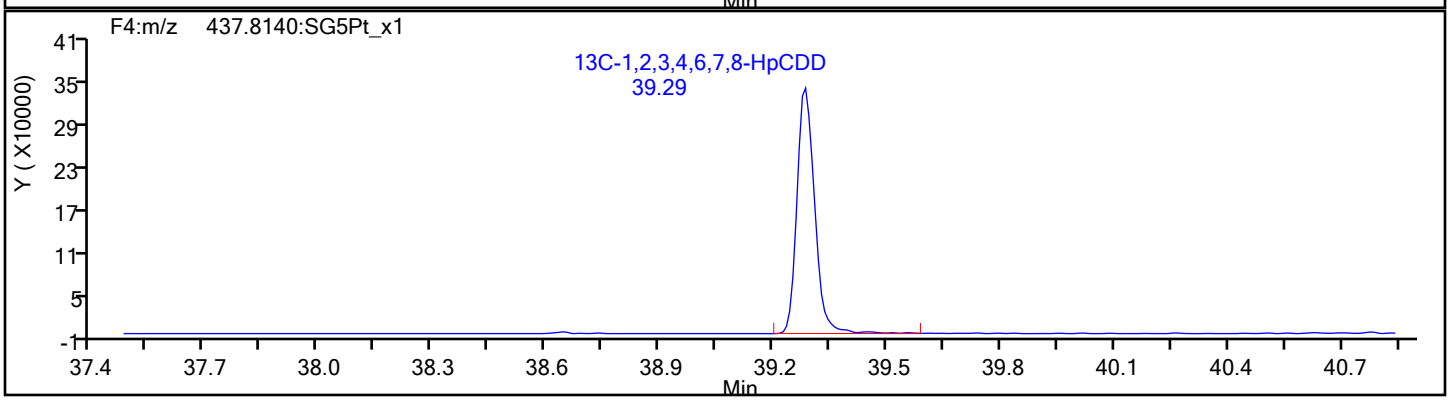
HpCDD





HpCDD Standards





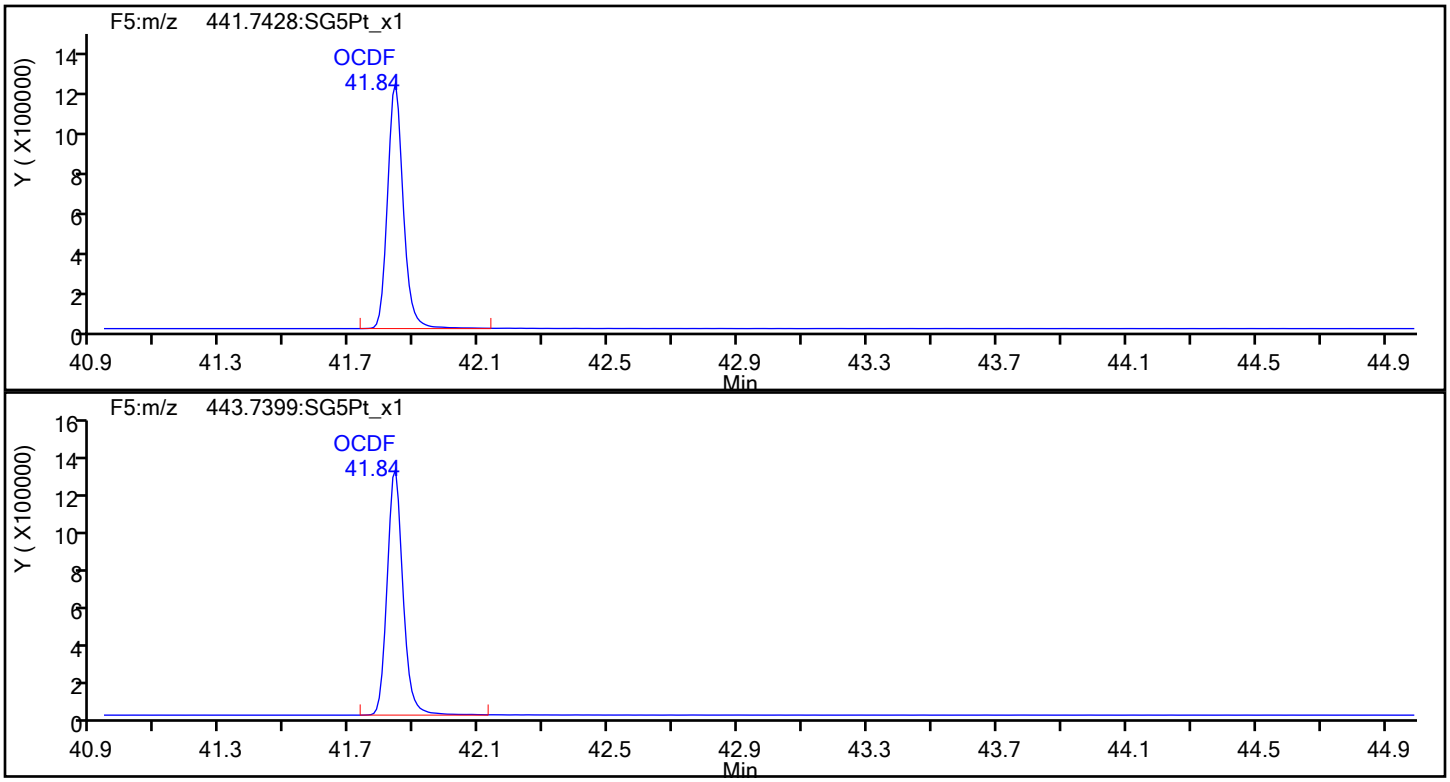
Report Date: 20-Jan-2022 15:59:26 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

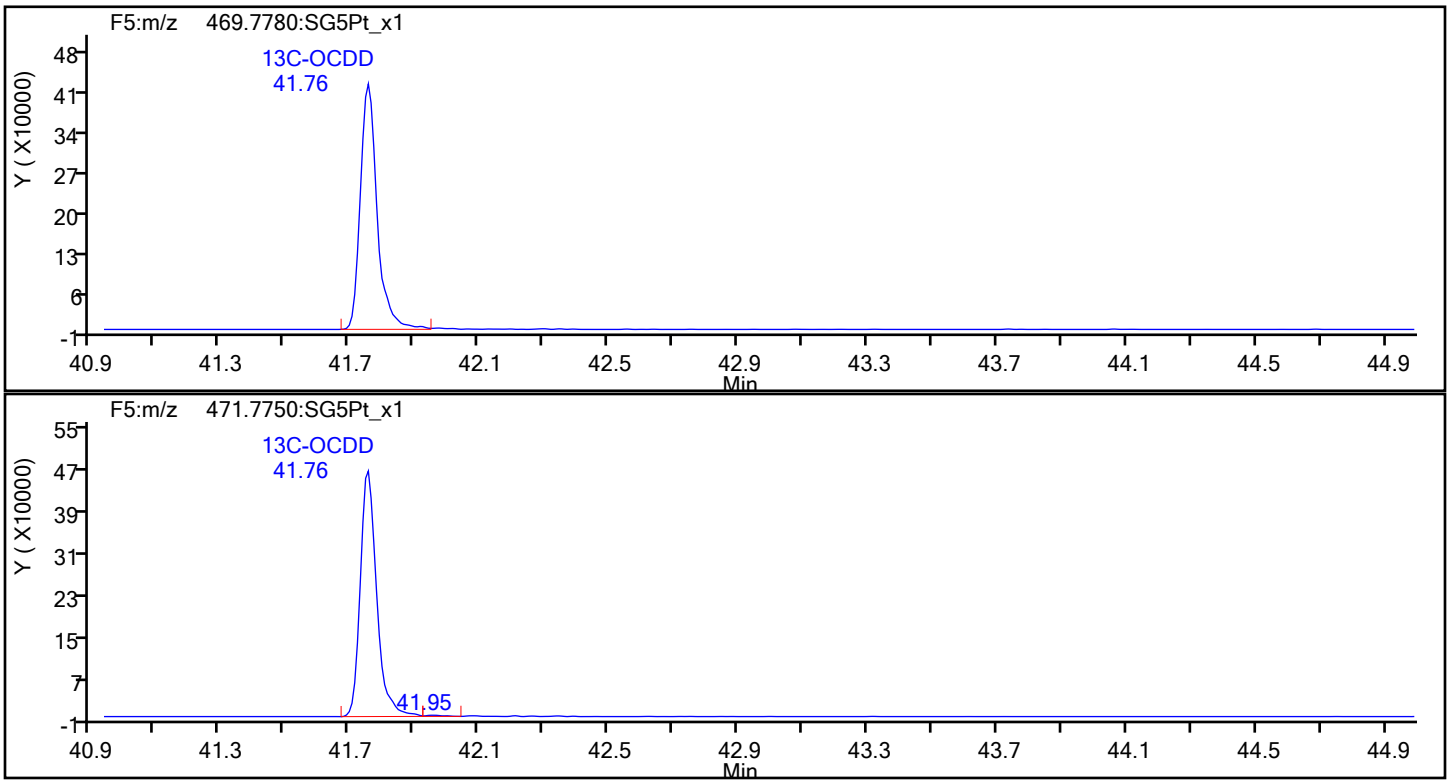
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Standards

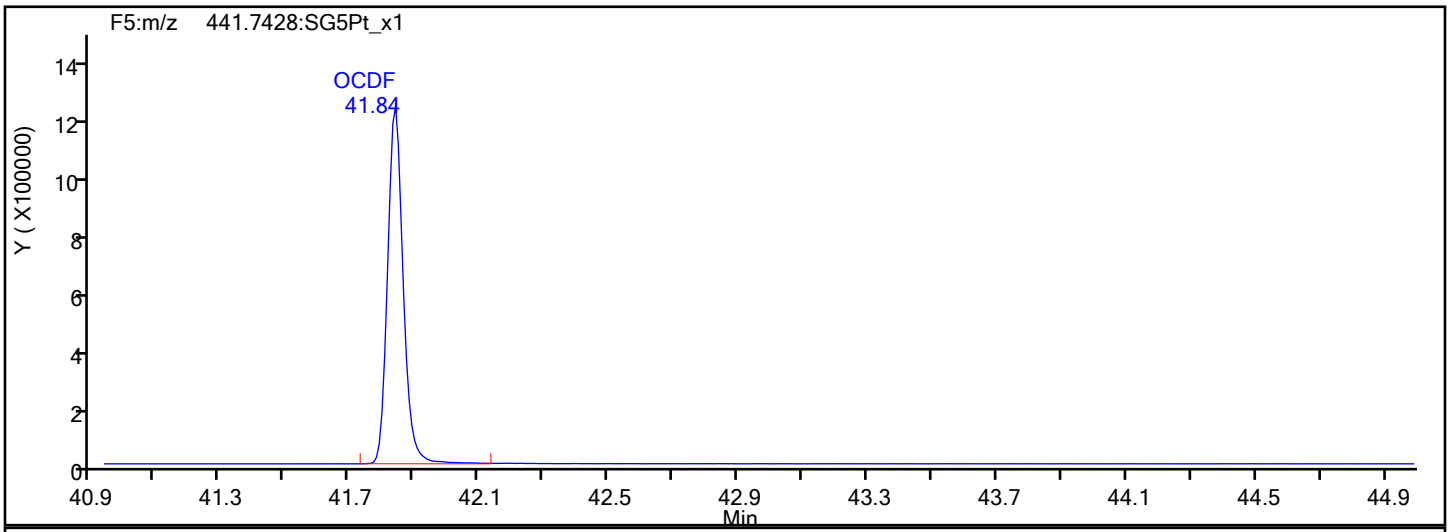


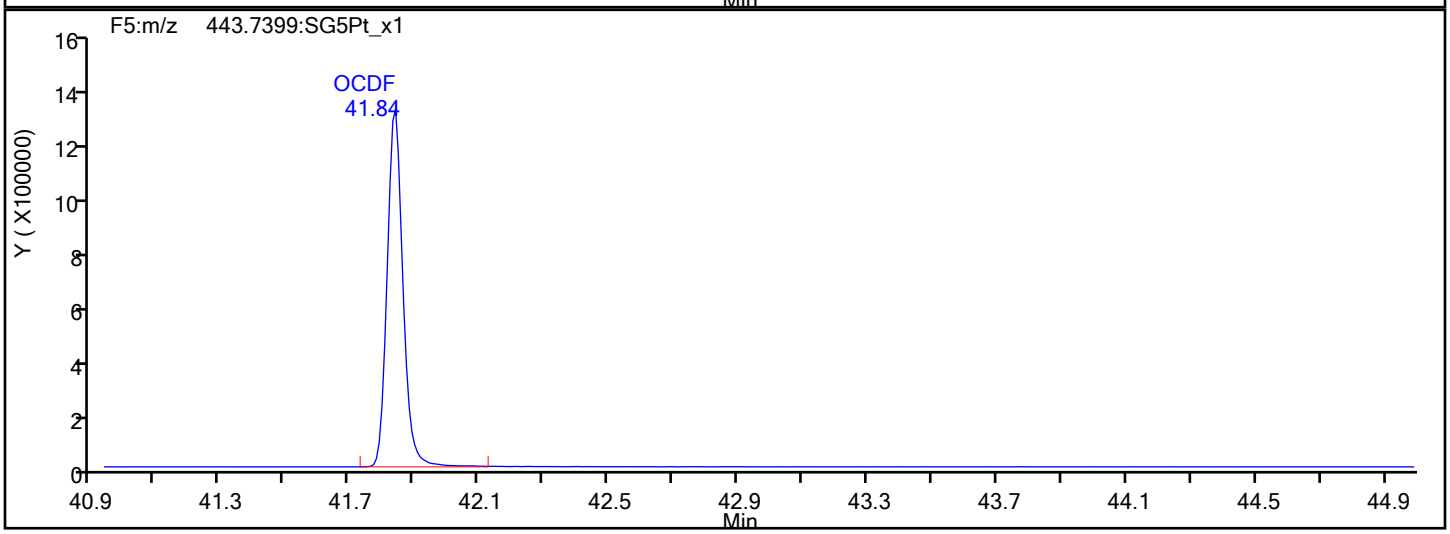
Report Date: 20-Jan-2022 15:59:26 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

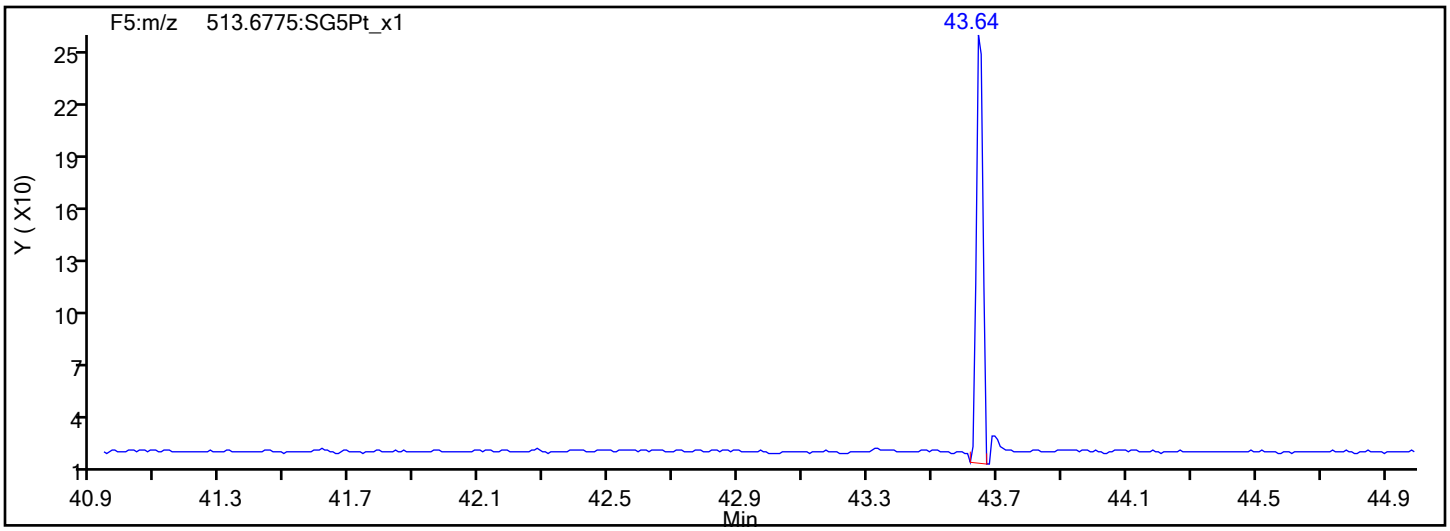
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d
Injection Date: 13-Jan-2022 19:39:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



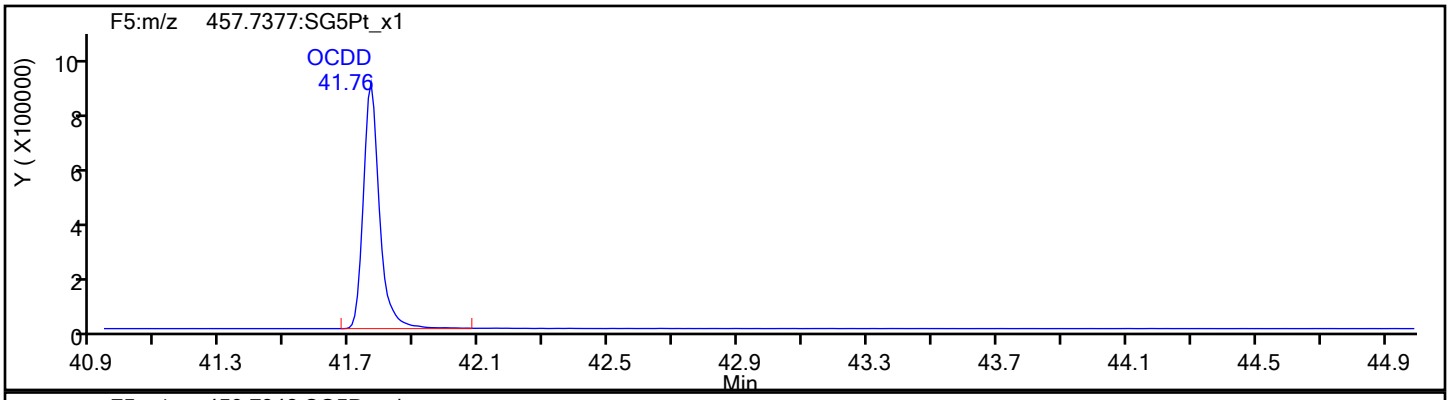
Report Date: 20-Jan-2022 15:59:26 Chrom Revision: 2.3 18-Jan-2022 20:25:40

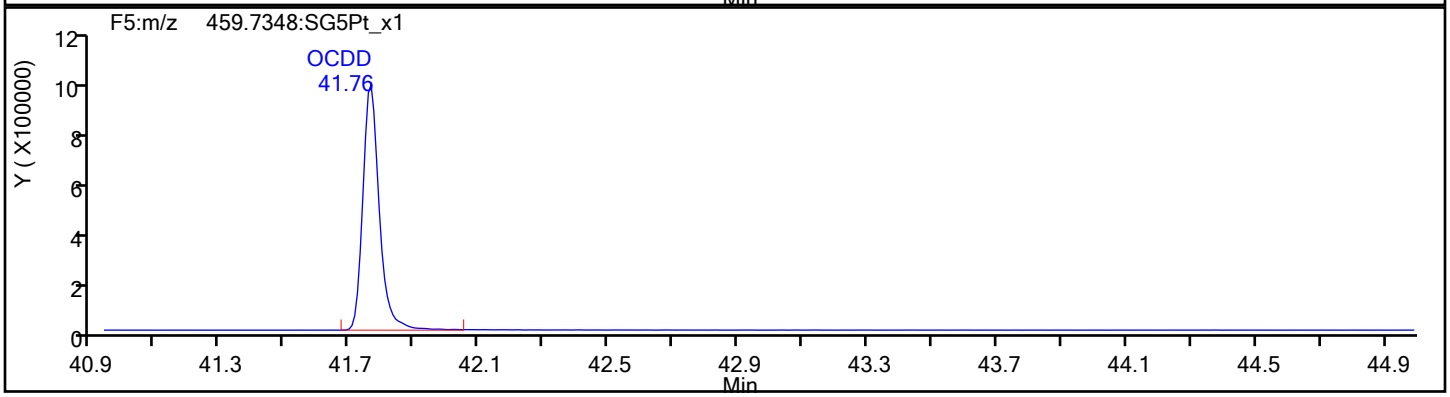
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

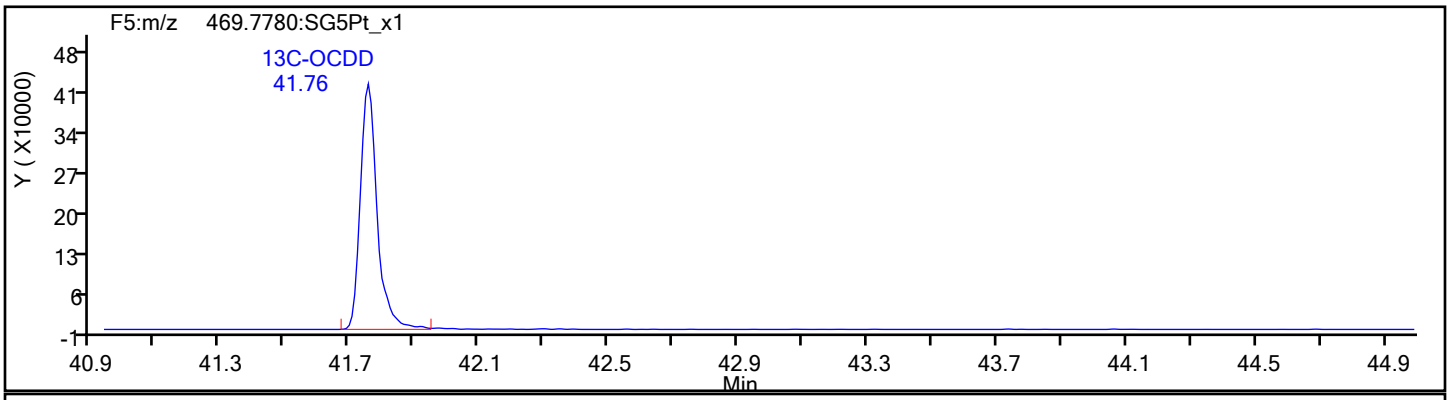
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

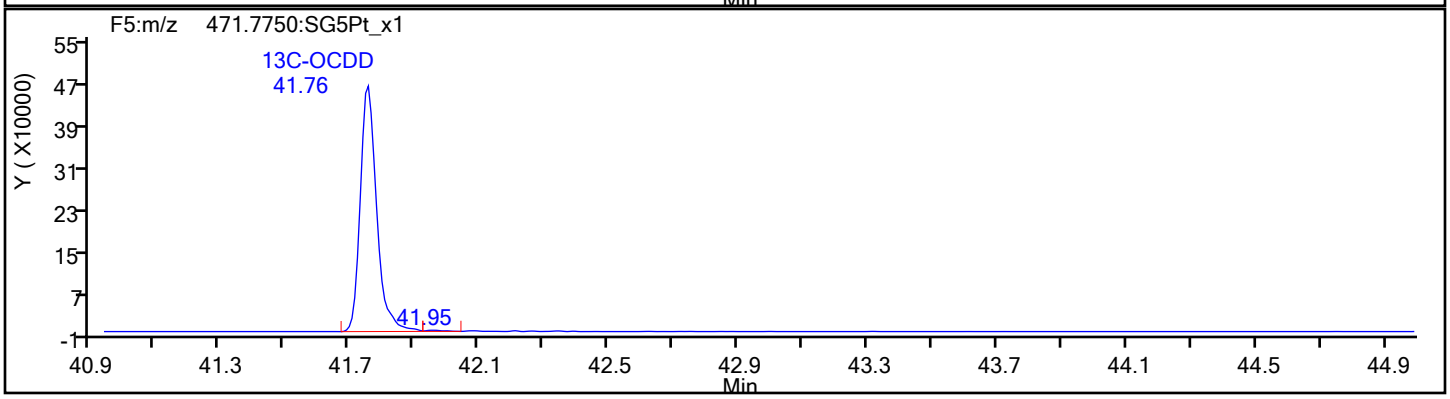
OCDD





OCDD Standards



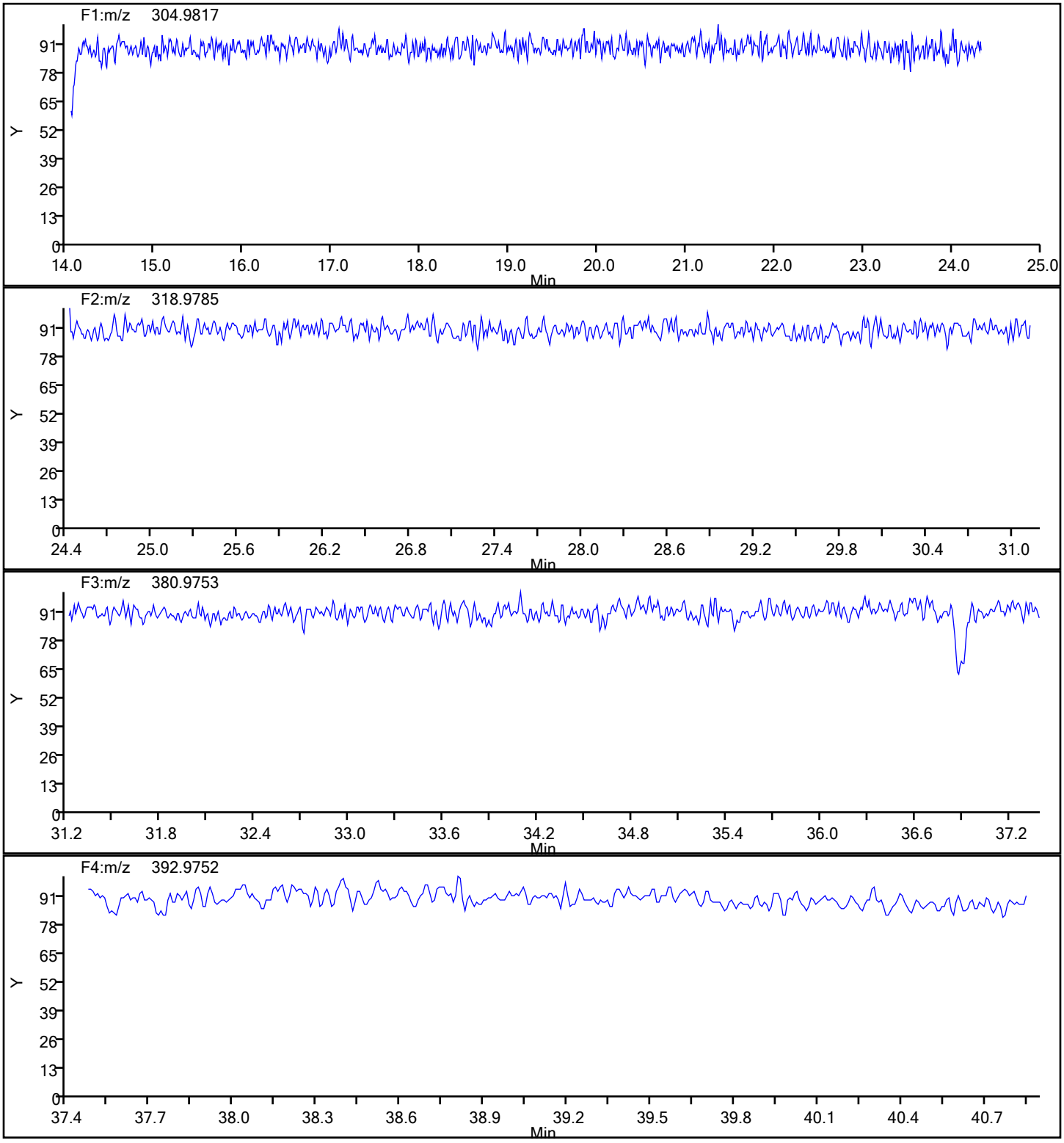


Report Date: 20-Jan-2022 15:59:26 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d

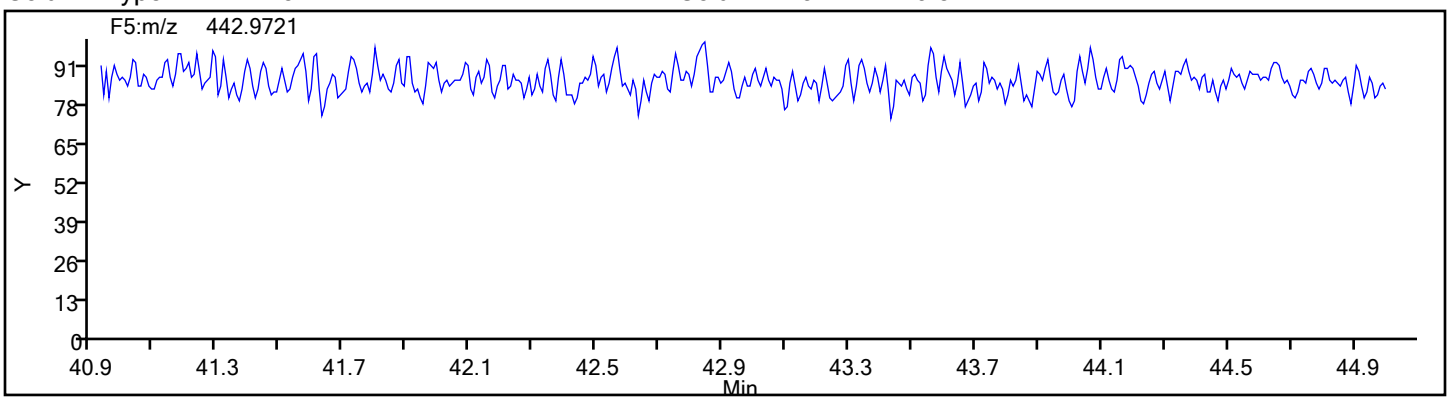
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 15:59:26 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_7.d		
Injection Date:	13-Jan-2022 19:39:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Jan-2022 20:27:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS6_HRDXNL6_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:59:45 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:54:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.450	3683935	0.79	3.5E+04	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.495	3706529	0.83	1.0164	99.0	99.0	0.5089	0.5089	98.99	
2,3,7,8-TCDF	19.521	7319030	0.78	1.0120	195.1	195.1	0.3568	0.3568	97.56	
S Total TCDF					195.1	195.1	0.3568	0.3568		
D 13C-2,3,7,8-TCDD	20.811	2999814	0.80	0.7884	103.3	103.3	0.4975	0.4975	103	
$ 37Cl4-2,3,7,8-TCDD	20.837	5961456		0.7911	204.5	204.5	0.1409	0.1409	102	
2,3,7,8-TCDD	20.837	5480713	0.78	0.9906	184.4	184.4	0.2882	0.2882	92.21	
S Total TCDD					184.4	184.4	0.2882	0.2882		
D 13C-1,2,3,7,8-PeCDF	26.539	3515851	1.61	0.9232	103.4	103.4	0.6879	0.6879	103	
1,2,3,7,8-PeCDF	26.556	32853418	1.55	0.9756	957.8	957.8	3.861	3.861	95.78	
D 13C-2,3,4,7,8-PeCDF	28.002	4084856	1.61	1.0793	102.7	102.7	0.5884	0.5884	103	
2,3,4,7,8-PeCDF	28.019	31037717	1.53	0.9215	958.0	958.0	4.087	4.087	95.80	
S Total PeCDF					1915.8	1915.8	3.974	3.974		
D 13C-1,2,3,7,8-PeCDD	28.793	2222510	1.59	0.5606	107.6	107.6	0.2661	0.2661	108	
1,2,3,7,8-PeCDD	28.827	20812323	1.54	1.0020	934.5	934.5	0.7398	0.7398	93.45	
S Total PeCDD					934.5	934.5	0.7398	0.7398		
D 13C-1,2,3,4,7,8-HxCDF	34.384	2766787	0.53	1.0566	101.5	101.5	0.2756	0.2756	101	
1,2,3,4,7,8-HxCDF	34.401	23549826	1.23	0.8835	963.4	963.4	2.822	2.822	96.34	
D 13C-1,2,3,6,7,8-HxCDF	34.561	2629332	0.54	0.9686	105.2	105.2	0.3006	0.3006	105	
1,2,3,6,7,8-HxCDF	34.578	27928957	1.24	1.0287	981.2	981.2	2.424	2.424	98.12	
D 13C-2,3,4,6,7,8-HxCDF	35.445	2426240	0.54	0.9084	103.5	103.5	0.3205	0.3205	104	
2,3,4,6,7,8-HxCDF	35.462	26024710	1.23	0.9878	952.2	952.2	2.524	2.524	95.22	
D 13C-1,2,3,7,8,9-HxCDF	36.387	2017074	0.52	0.8248	94.8	94.8	0.3530	0.3530	94.78	
1,2,3,7,8,9-HxCDF	36.404	21388952	1.24	0.9071	852.3	852.3	2.749	2.749	85.23	
S Total HxCDF					3749.2	3749.2	2.630	2.630		
* 13C-1,2,3,7,8,9-HxCDD	36.194	2580408	1.30	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.680	2120232	1.28	0.8133	101.0	101.0	0.2512	0.2512	101	
1,2,3,4,7,8-HxCDD	35.697	16681538	1.24	0.8294	924.2	924.2	1.537	1.537	92.42	
D 13C-1,2,3,6,7,8-HxCDD	35.807	2176275	1.29	0.8027	105.1	105.1	0.2546	0.2546	105	
1,2,3,6,7,8-HxCDD	35.823	18776432	1.24	0.9395	918.4	918.4	1.357	1.357	91.84	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.211	18096602	1.23	0.9076	916.2	916.2	1.404	1.404	91.62	
S Total HxCDD					2758.7	2758.7	1.433	1.433		
D 13C-1,2,3,4,6,7,8-HpCDF	38.308	1696502	0.43	0.6421	102.4	102.4	0.4047	0.4047	102	
1,2,3,4,6,7,8-HpCDF	38.316	22505754	1.04	1.4385	922.2	922.2	2.729	2.729	92.22	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.579	1848147	0.46	1.1706	93.1	93.1	0.2630	0.2630	93.06	
1,2,3,4,7,8,9-HpCDF	39.596	18248889	1.03	1.2202	881.6	881.6	3.218	3.218	88.16	
S Total HpCDF					1803.8	1803.8	2.974	2.974		
D 13C-1,2,3,4,6,7,8-HpCDD	39.285	1572535	1.07	0.6246	97.6	97.6	0.2905	0.2905	97.57	
1,2,3,4,6,7,8-HpCDD	39.293	14570735	1.04	0.9767	948.7	948.7	1.641	1.641	94.87	
S Total HpCDD					948.7	948.7	1.641	1.641		
D 13C-OCDD	41.755	2134437	0.89	0.4360	189.7	189.7	0.2174	0.2174	94.86	
OCDF	41.830	26390630	0.91	1.2756	1938.6	1938.6	1.275	1.275	96.93	
OCDD	41.763	20297049	0.89	1.0341	1839.1	1839.1	1.443	1.443	91.95	

QC Flag Legend

Processing Flags
Review Flags
a - User Assigned ID

Reagents:

HRDXNL6_00030 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Jan-2022 20:27:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC CS6_HRDXNL6_00030
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 15:59:45 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:54:49

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	20.450	20.418	2		1623272	226118	559	1397	405		a
333.9338	20.450	20.418	2		2060663	291476	253	632	1152	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.495	19.485	1	0.953	1678370	242546	747	1867	325		
317.9389	19.513	19.485	2	0.954	2028159	297452	324	810	918	0.83(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.521	19.520	0	1.001	3197530	446829	376	940	1188		
305.8987	19.530	19.520	1	1.002	4121500	570239	404	1010	1411	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.811	20.784	2	1.018	1333316	179586	559	1397	321		
333.9338	20.803	20.784	1	1.017	1666498	241480	253	632	954	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.837	20.809	2	1.019	5961456	772257	231	577	3343		
2,3,7,8-TCDD											
319.8965	20.837	20.821	1	1.001	2401534	320526	289	722	1109		
321.8936	20.837	20.821	1	1.001	3079179	411734	192	480	2144	0.78(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.539	26.498	2	1.298	2167810	335390	768	1920	437		
353.8970	26.530	26.498	2	1.297	1348041	223627	547	1367	409	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.556	26.518	2	1.001	19944918	2943318	5084	12710	579		
341.8567	26.556	26.518	2	1.001	12908500	1907462	3339	8347	571	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.002	27.961	3	1.369	2521545	357204	768	1920	465		
353.8970	28.002	27.961	3	1.369	1563311	228280	547	1367	417	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.019	27.984	2	1.001	18777291	2640458	5084	12710	519		
341.8567	28.019	27.984	2	1.001	12260426	1732189	3339	8347	519	1.53(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.793	28.754	2	1.408	1364539	195008	162	405	1204		
369.8919	28.802	28.754	3	1.408	857971	118208	147	367	804	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.827	28.781	3	1.001	12628375	1730495	572	1430	3025		
357.8516	28.819	28.781	2	1.001	8183948	1128458	357	892	3161	1.54(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.384	34.357	2	0.950	953247	185107	335	837	553		
385.8610	34.384	34.357	2	0.950	1813540	342940	353	882	972	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.401	34.374	2	1.000	12994633	2488579	2940	7350	846		
375.8178	34.401	34.374	2	1.000	10555193	2037408	2327	5817	876	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.561	34.533	2	0.955	923430	169789	335	837	507		
385.8610	34.561	34.533	2	0.955	1705902	301157	353	882	853	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.578	34.553	2	1.000	15444971	2714943	2940	7350	923		
375.8178	34.578	34.553	2	1.000	12483986	2210780	2327	5817	950	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.445	35.421	1	0.979	847624	186676	335	837	557		
385.8610	35.445	35.421	1	0.979	1578616	350759	353	882	994	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.462	35.438	1	1.000	14365318	3081682	2940	7350	1048		
375.8178	35.462	35.438	1	1.000	11659392	2497554	2327	5817	1073	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.387	36.366	1	1.005	690431	162990	335	837	487		
385.8610	36.387	36.366	1	1.005	1326643	318338	353	882	902	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.404	36.385	1	1.000	11860362	2747350	2940	7350	934		
375.8178	36.396	36.385	1	1.000	9528590	2192483	2327	5817	942	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.194	36.172	1		1460446	338743	292	730	1160		
403.8529	36.194	36.172	1		1119962	251981	191	477	1319	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.680	35.661	1	0.986	1192283	284539	292	730	974		
403.8529	35.689	35.661	2	0.986	927949	233628	191	477	1223	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.697	35.676	1	1.000	9218076	2203471	1374	3435	1604		
391.8127	35.697	35.676	1	1.000	7463462	1792041	1076	2690	1665	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.807	35.787	1	0.989	1225336	272237	292	730	932		
403.8529	35.807	35.787	1	0.989	950939	208260	191	477	1090	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.823	35.802	1	1.000	10397715	2278216	1374	3435	1658		
391.8127	35.823	35.802	1	1.000	8378717	1846112	1076	2690	1716	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.211	36.191	1	1.015	9985182	2237894	1374	3435	1629		
391.8127	36.211	36.191	1	1.015	8111420	1811526	1076	2690	1684	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.308	38.287	1	1.058	511229	151827	221	552	687		
419.8220	38.300	38.287	1	1.058	1185273	346726	393	982	882	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.316	38.299	1	1.000	11466644	3239905	4039	10097	802		
409.7788	38.308	38.299	1	1.000	11039110	3152320	3791	9477	832	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.579	39.570	1	1.094	581263	183332	221	552	830		
419.8220	39.587	39.570	1	1.094	1266884	402626	393	982	1024	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.596	39.584	1	1.000	9270602	2918021	4039	10097	722		
409.7788	39.596	39.584	1	1.000	8978287	2806990	3791	9477	740	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.285	39.269	1	1.085	813561	263579	189	472	1395		
437.8140	39.285	39.269	1	1.085	758974	238025	240	600	992	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.293	39.277	1	1.000	7430501	2351563	1655	4137	1421		
425.7737	39.293	39.277	1	1.000	7140234	2231634	1560	3900	1431	1.04(0.88-1.20)	
13C-OCDD											
469.7780	41.755	41.743	1	1.154	1005750	298985	108	270	2768		
471.7750	41.746	41.743	0	1.153	1128687	331047	116	290	2854	0.89(0.76-1.02)	
OCDF											
441.7428	41.830	41.826	0	1.002	12548533	3790049	909	2272	4169		
443.7399	41.830	41.826	0	1.002	13842097	4207728	1141	2852	3688	0.91(0.76-1.02)	
OCDD											
457.7377	41.763	41.748	1	1.000	9531441	2773030	865	2162	3206		
459.7348	41.755	41.748	0	1.000	10765608	3143233	1015	2537	3097	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

Review Flags

a - User Assigned ID

Reagents:

HRDXNL6_00030 Amount Added: 1.00 Units: ml

Manual Integration/User Assign Peak Report

Eurofins Sacramento

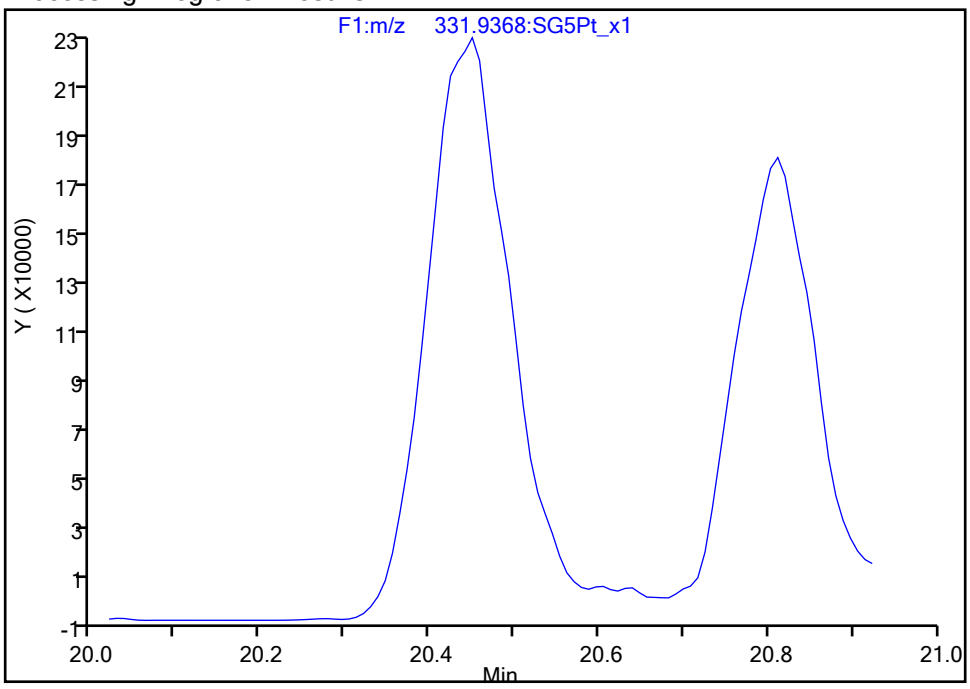
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d
Injection Date: 13-Jan-2022 20:27:00 Instrument ID: DFS 1
Lims ID: IC
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

13C-1,2,3,4-TCDD, CAS: 114423-99-3

Signal: 1

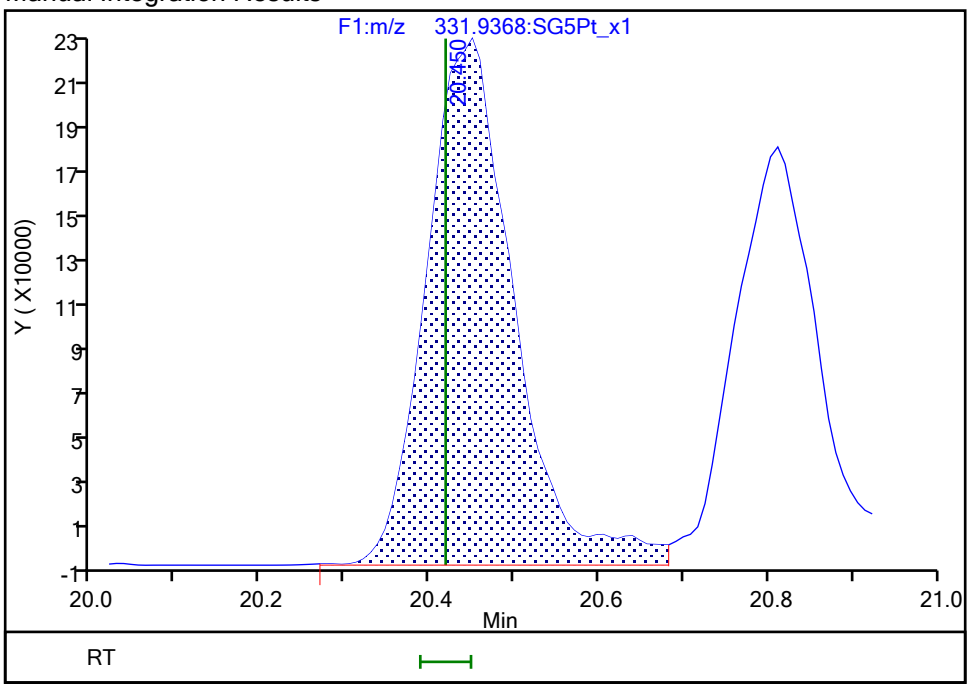
Not Detected
Expected RT: 20.42

Processing Integration Results



Manual Integration Results

RT: 20.45
Area: 1623272
Amount: 100.0000
Amount Units: pg/ul

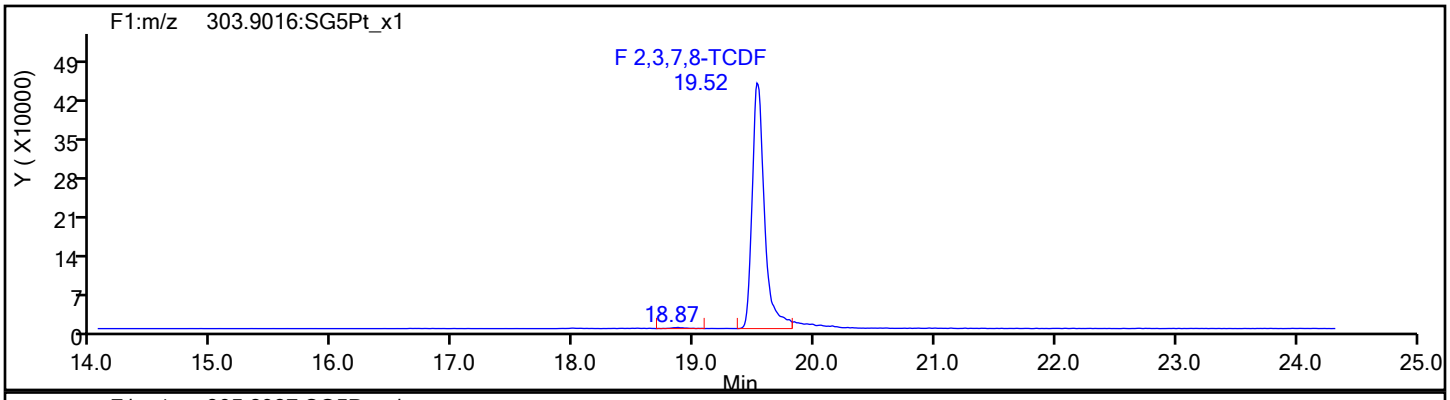


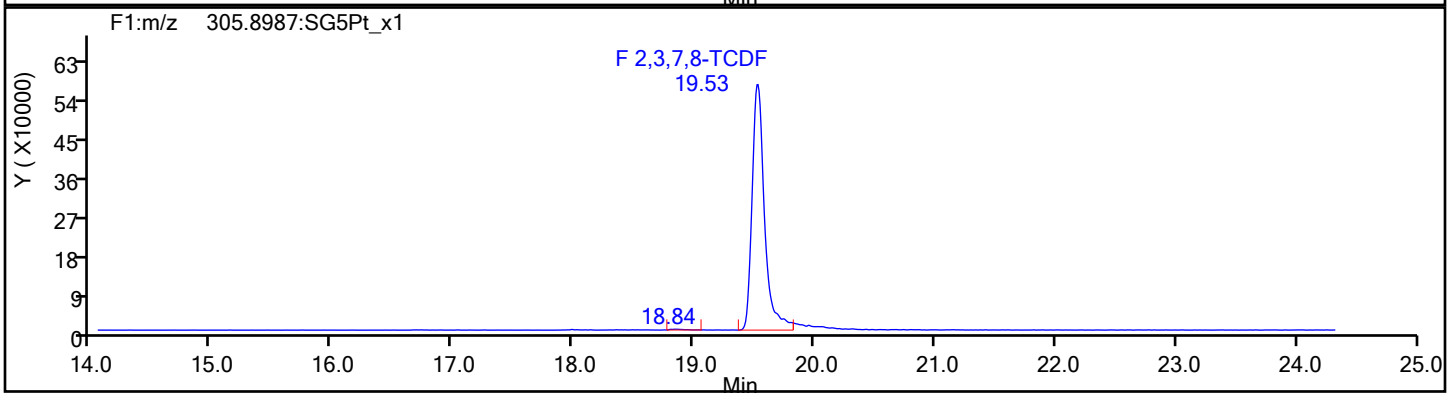
Reviewer: bilottag, 18-Jan-2022 12:14:59
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins Sacramento

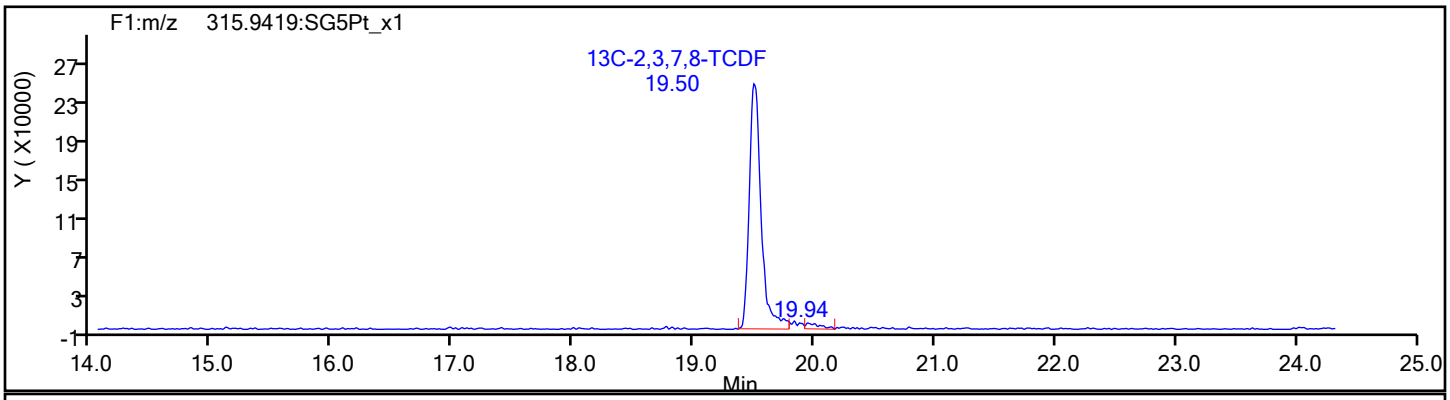
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d
Injection Date: 13-Jan-2022 20:27:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 7
Column Type: DB-5 Column Dia: 0.32 mm

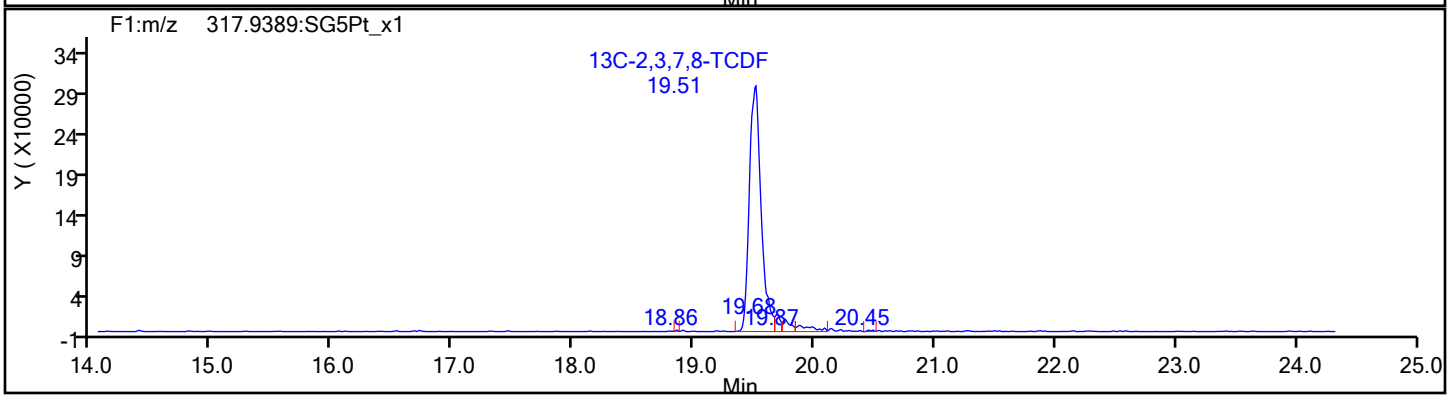
TCDF





TCDF Standards

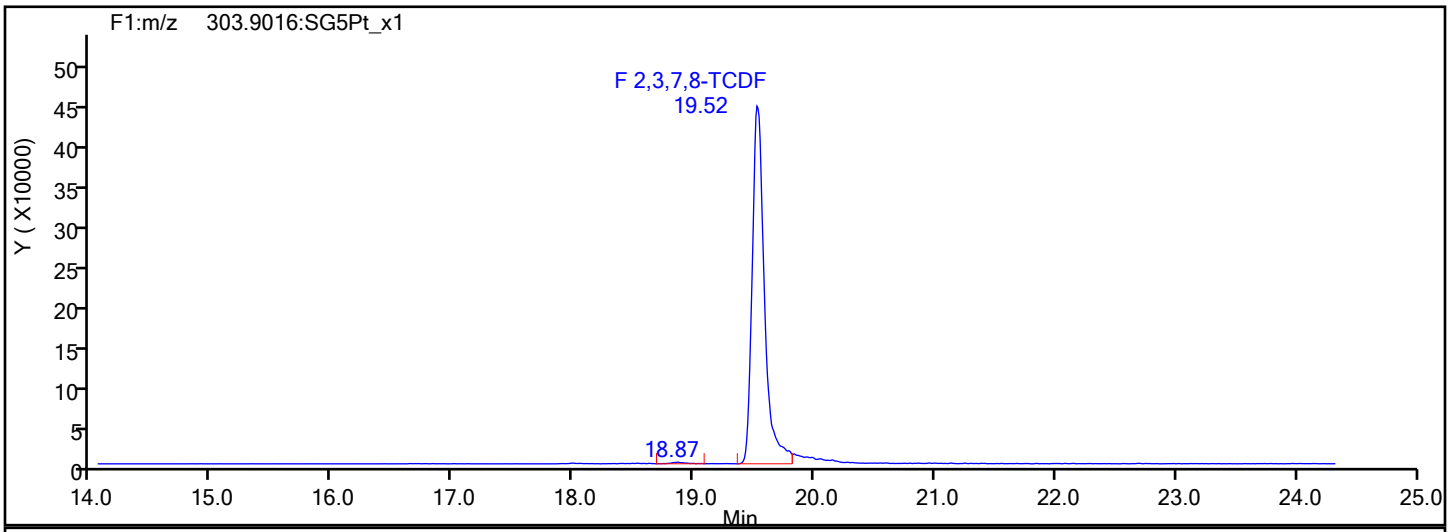


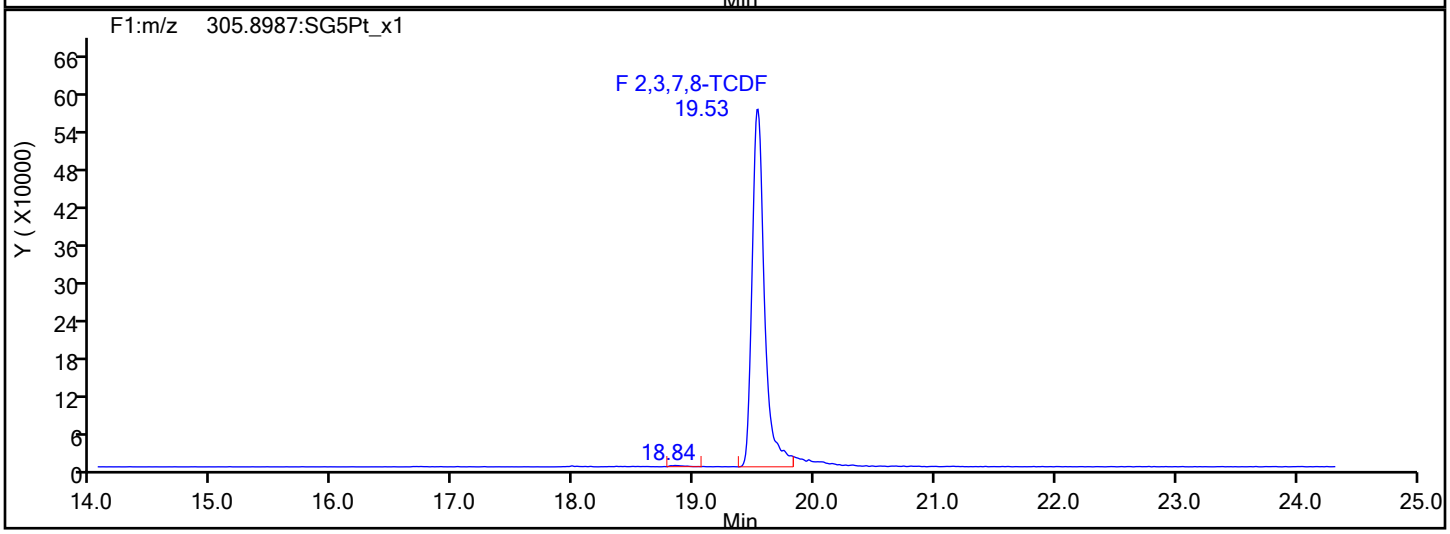


Eurofins Sacramento

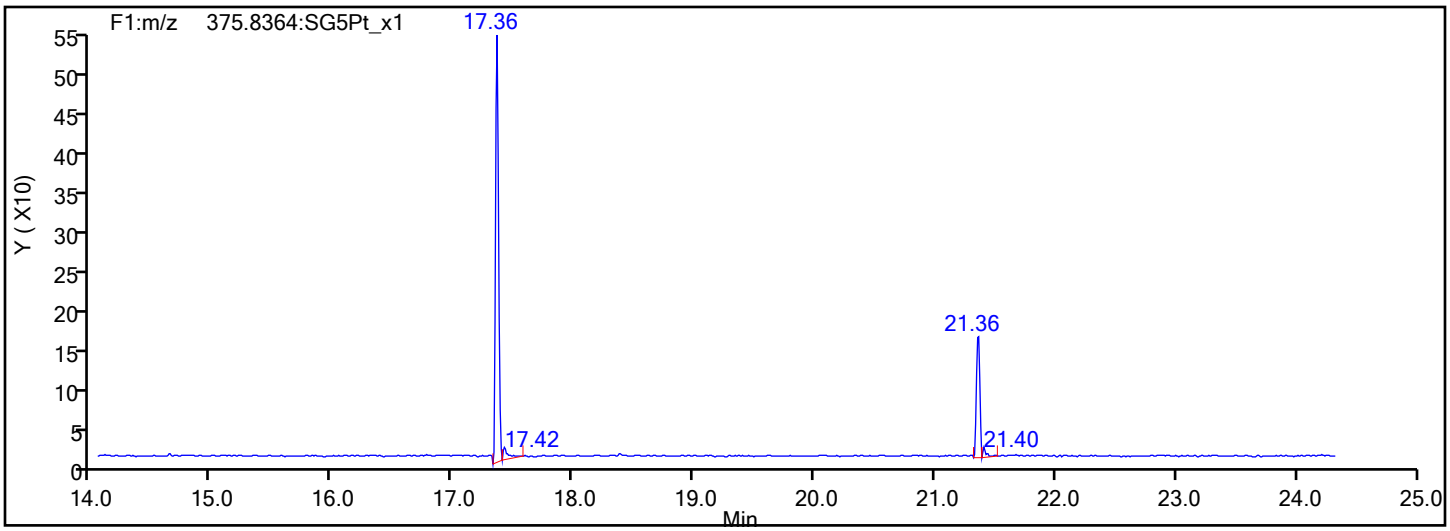
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d		
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



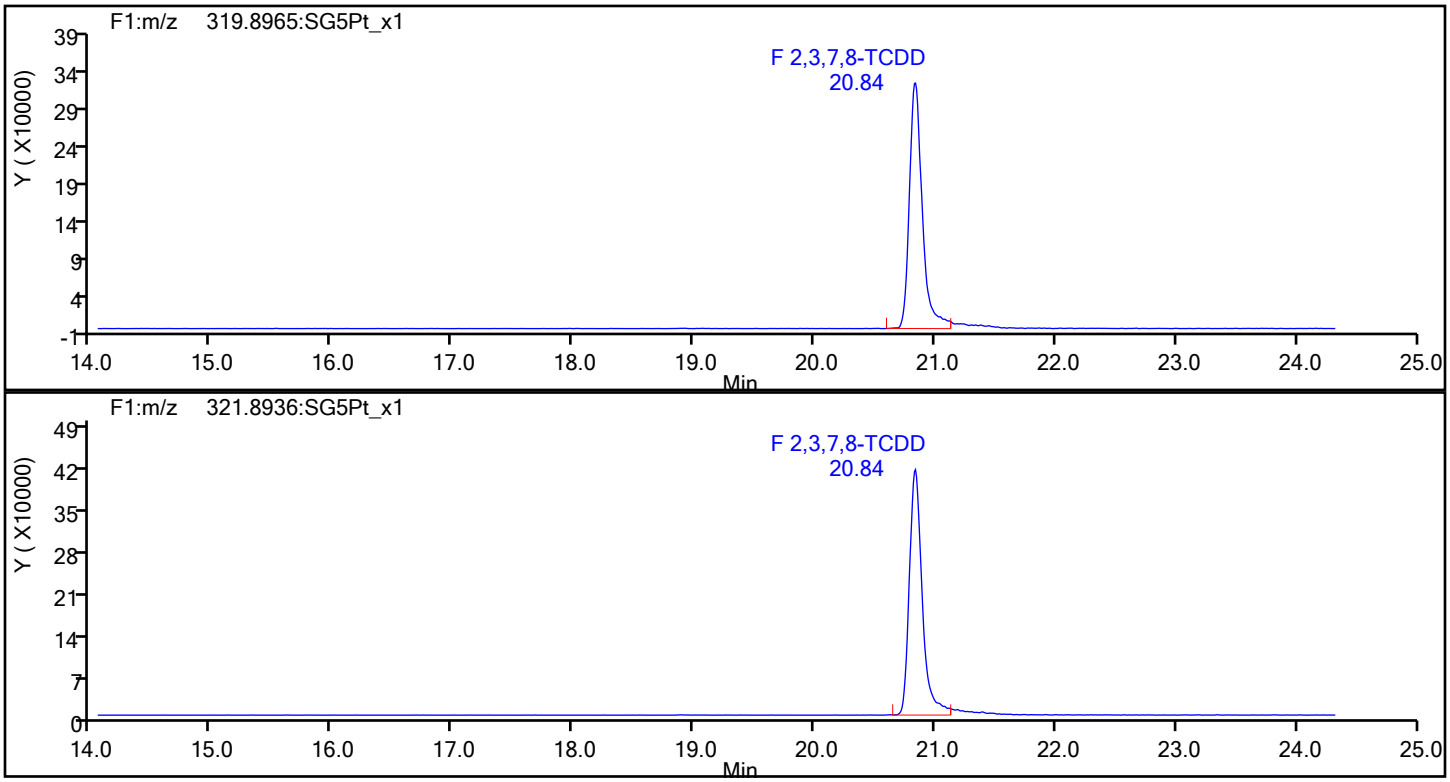
Report Date: 20-Jan-2022 15:59:46 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

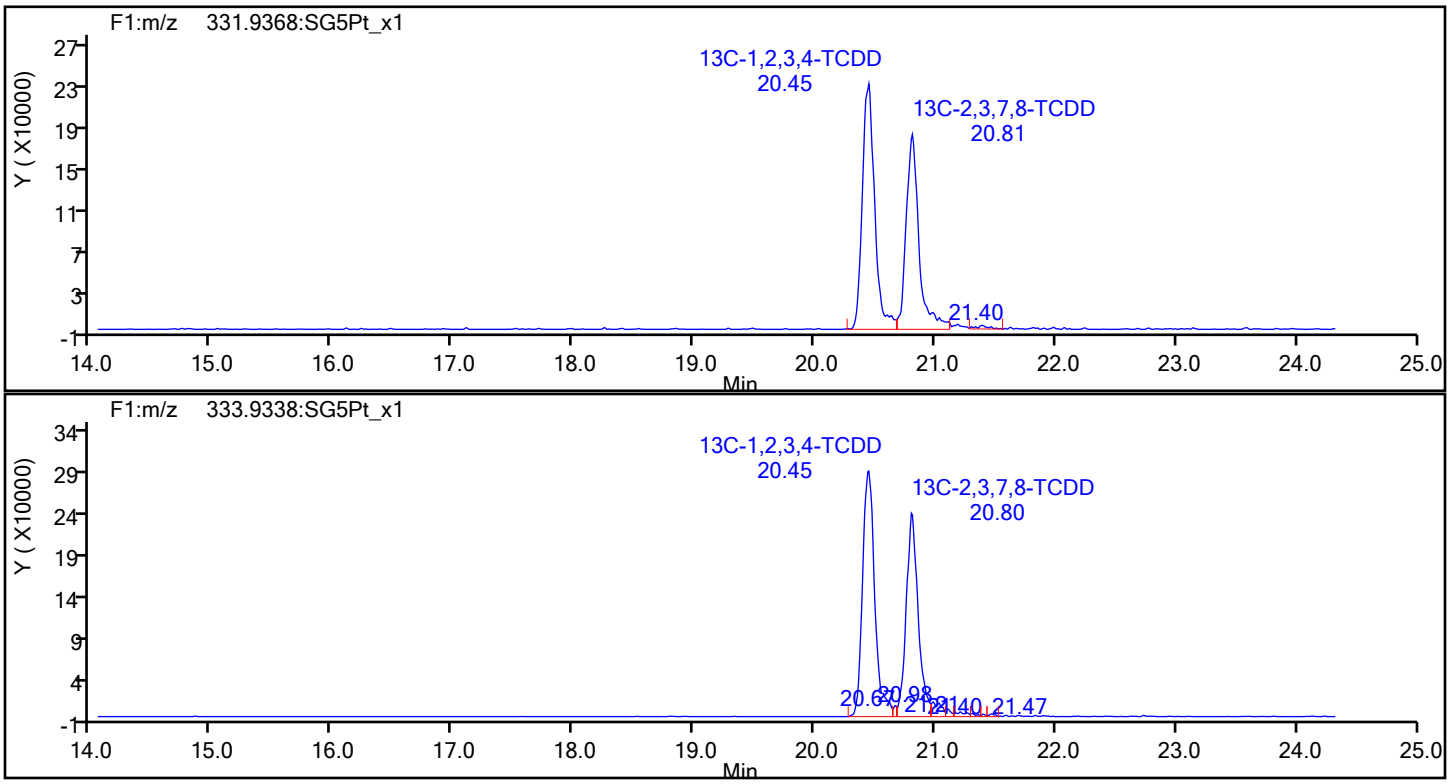
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD



TCDD Standards



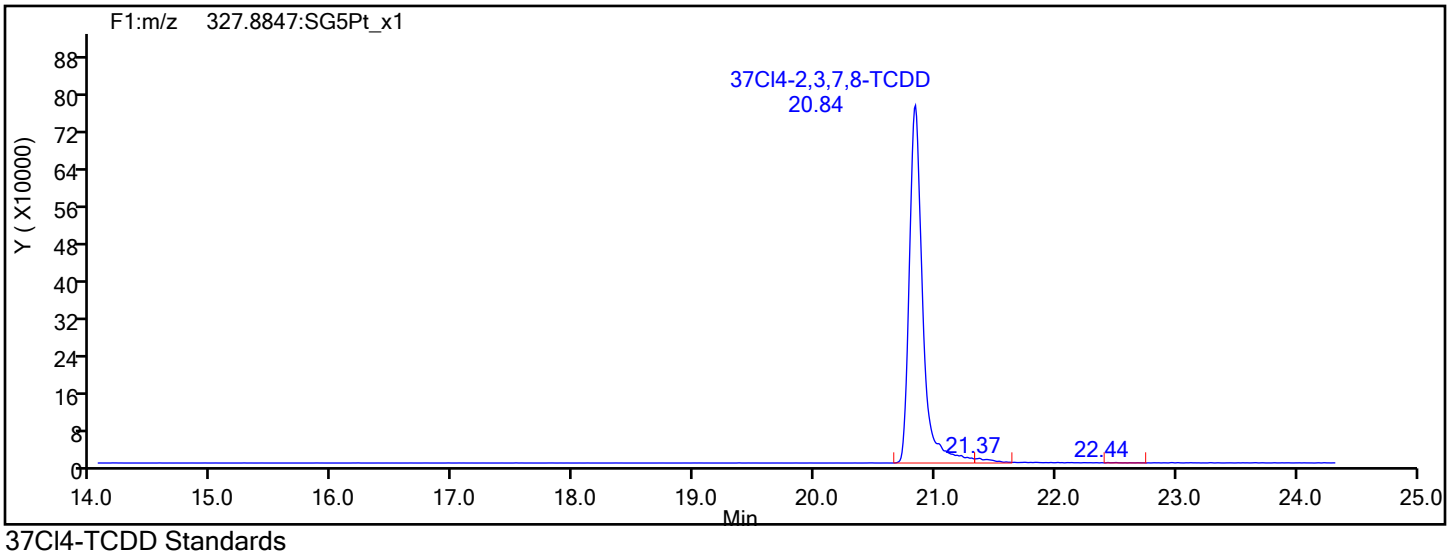
Report Date: 20-Jan-2022 15:59:46 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

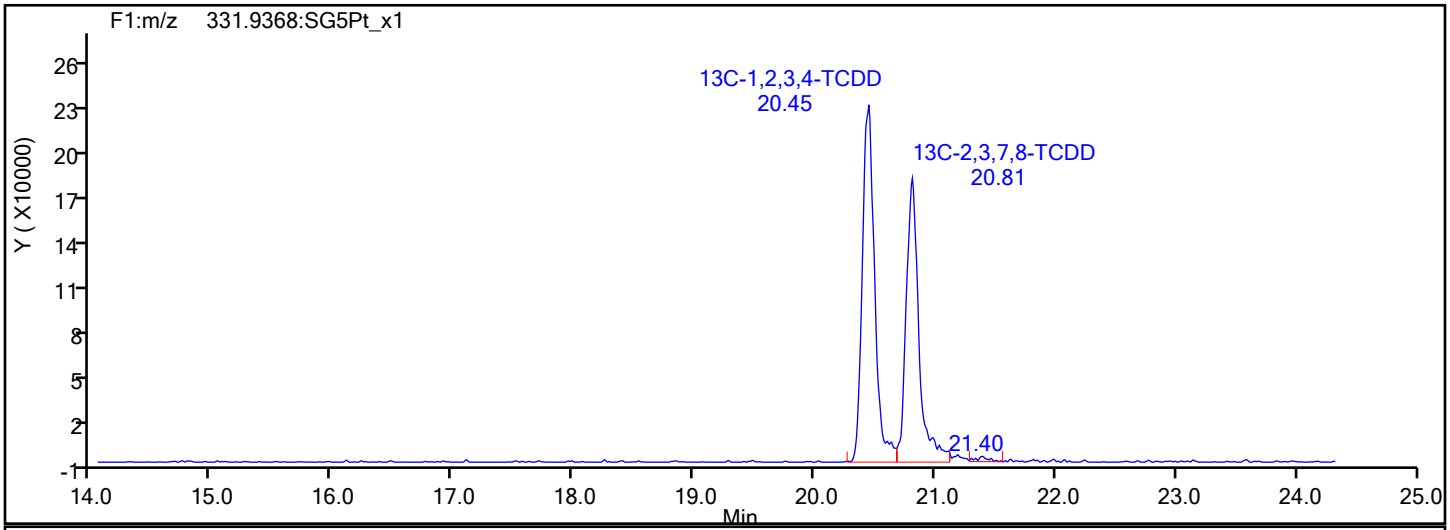
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

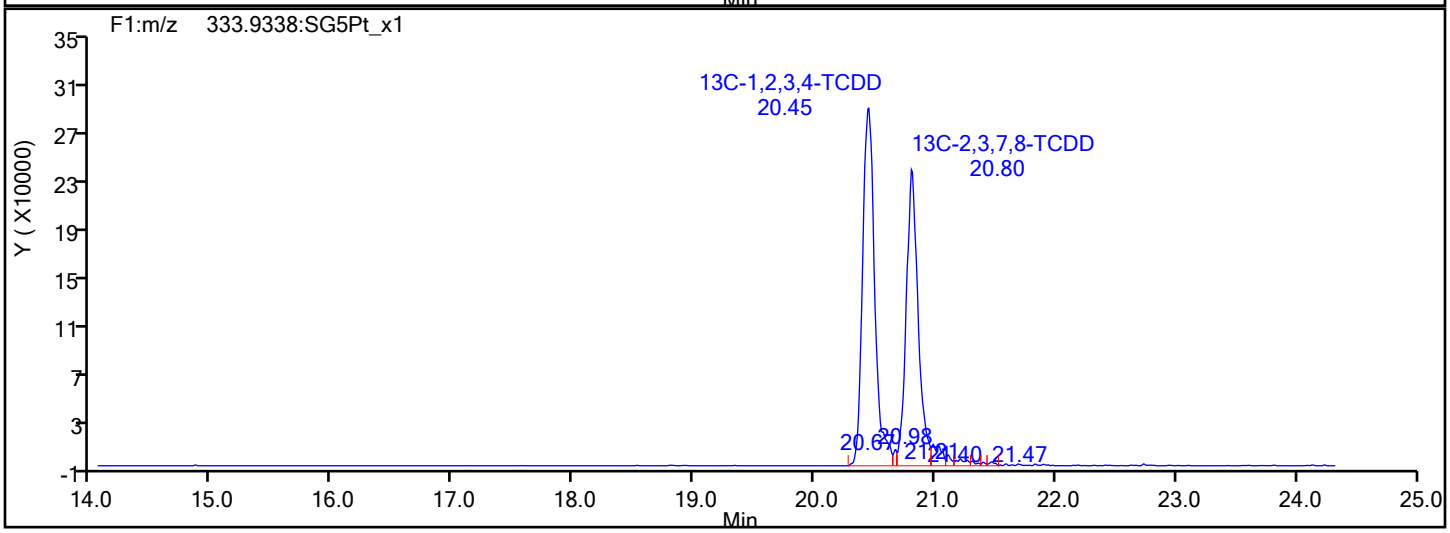
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





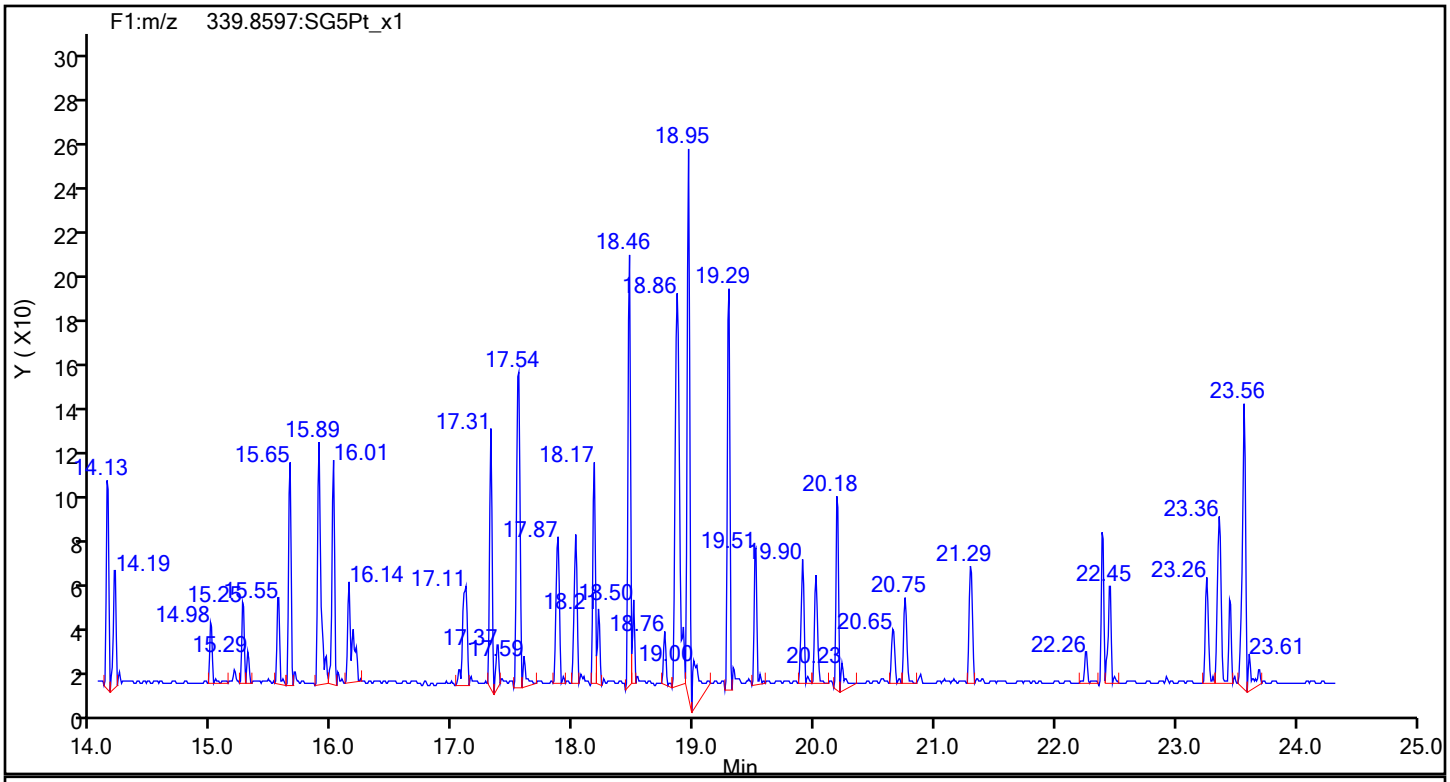
Report Date: 20-Jan-2022 15:59:46 Chrom Revision: 2.3 18-Jan-2022 20:25:40

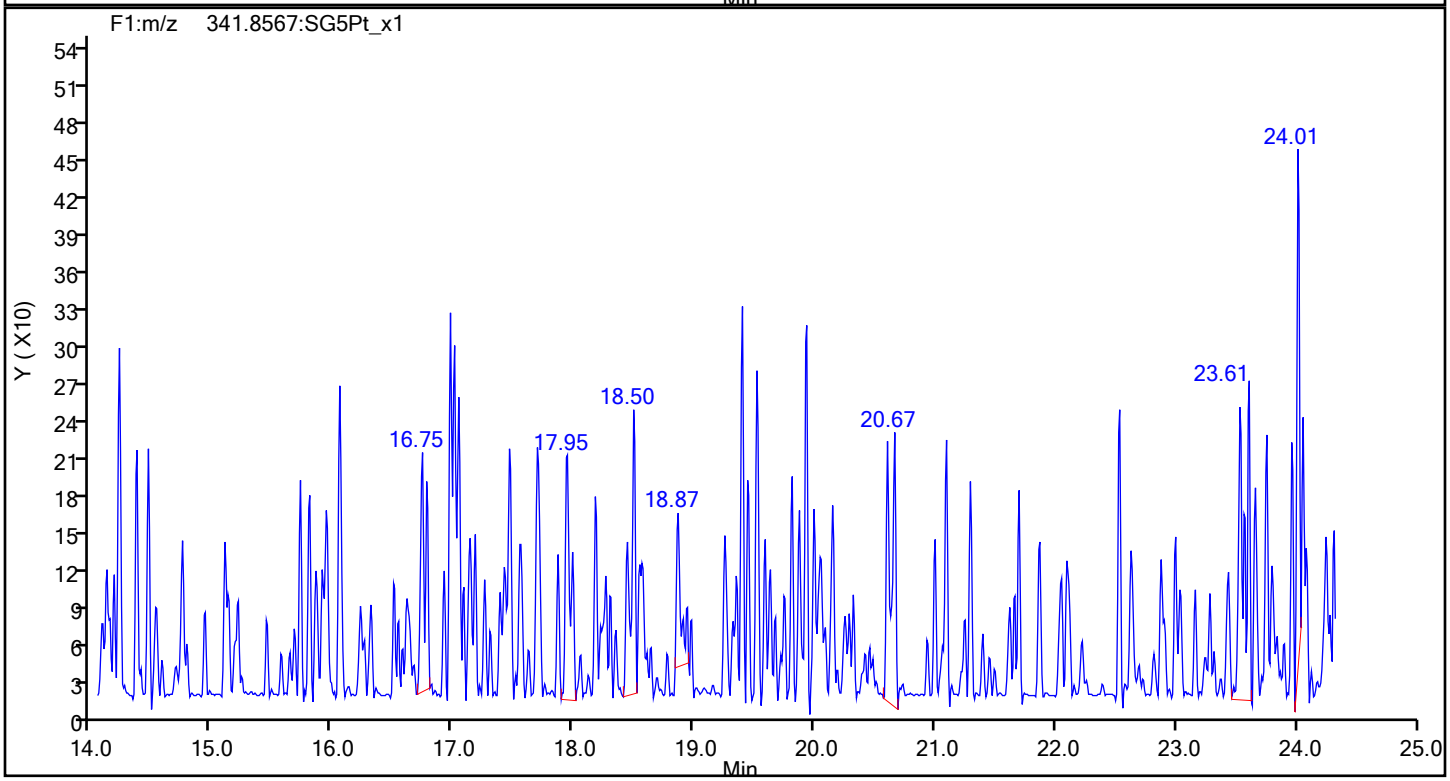
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

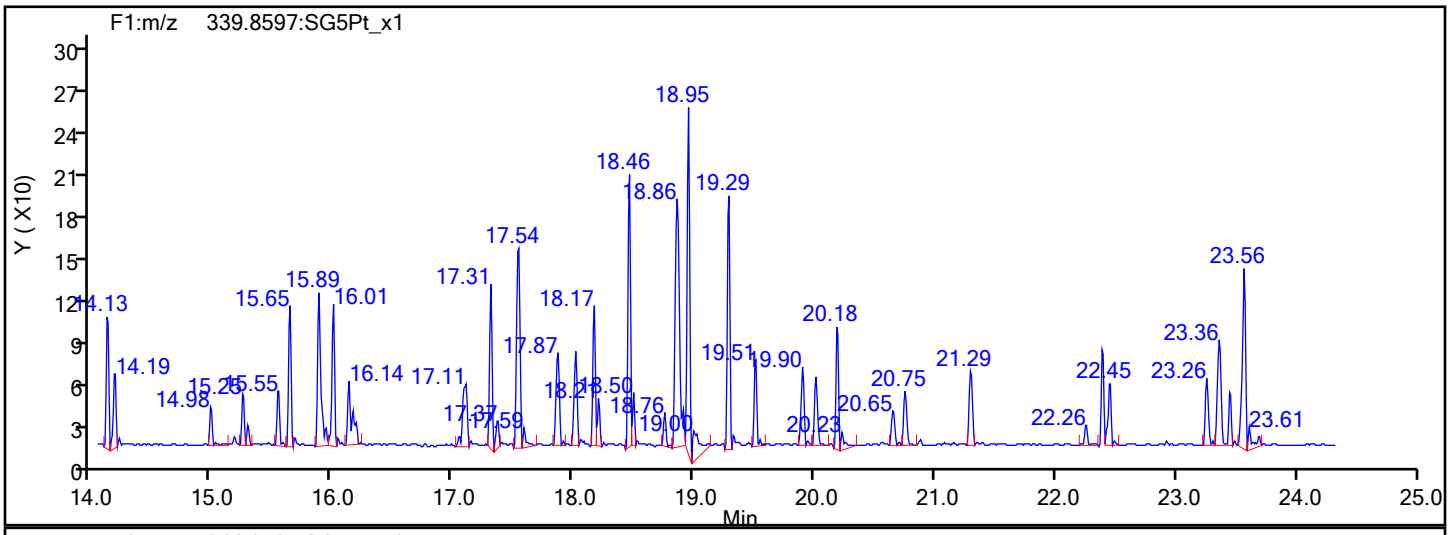


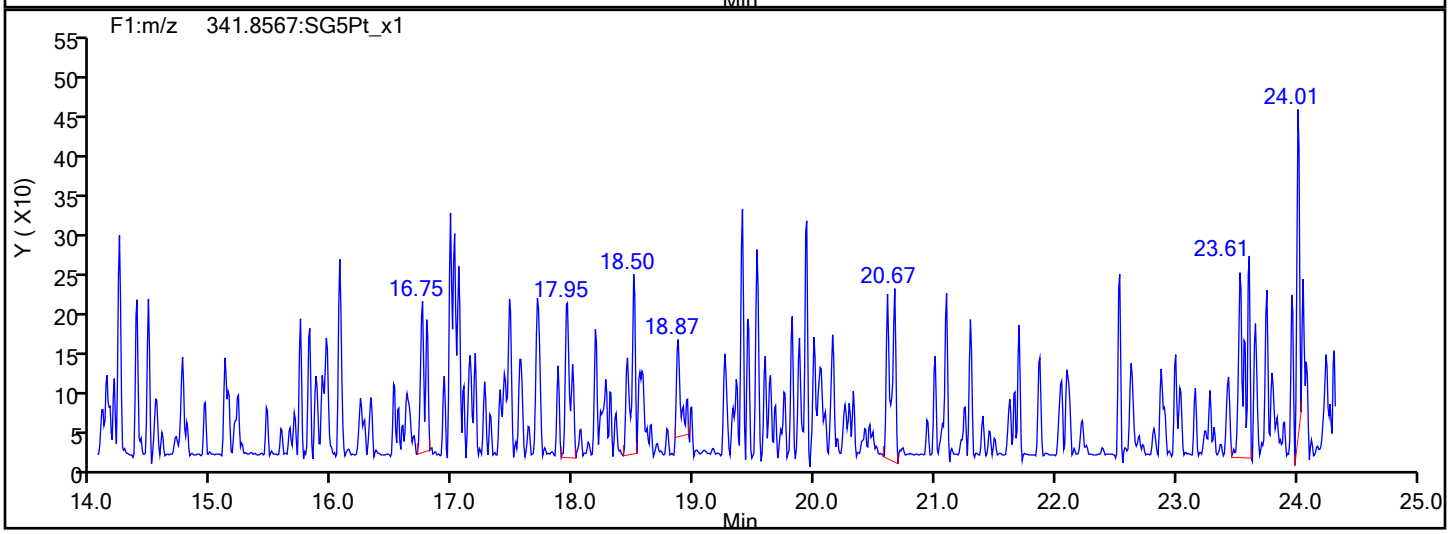


Eurofins Sacramento

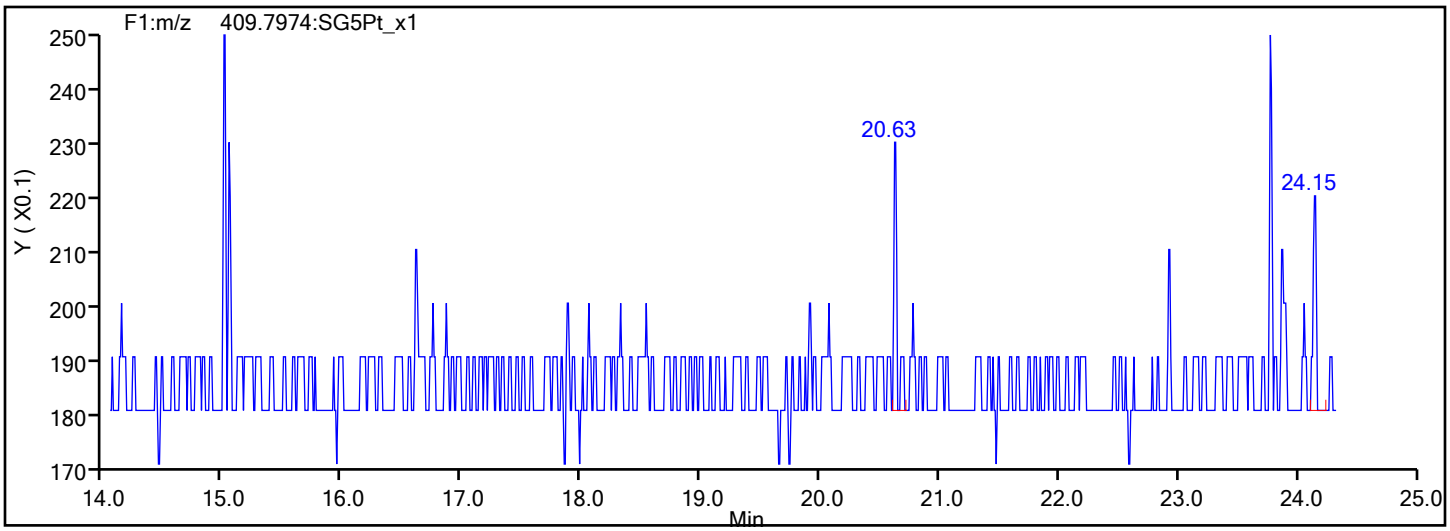
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d
Injection Date: 13-Jan-2022 20:27:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 7
Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

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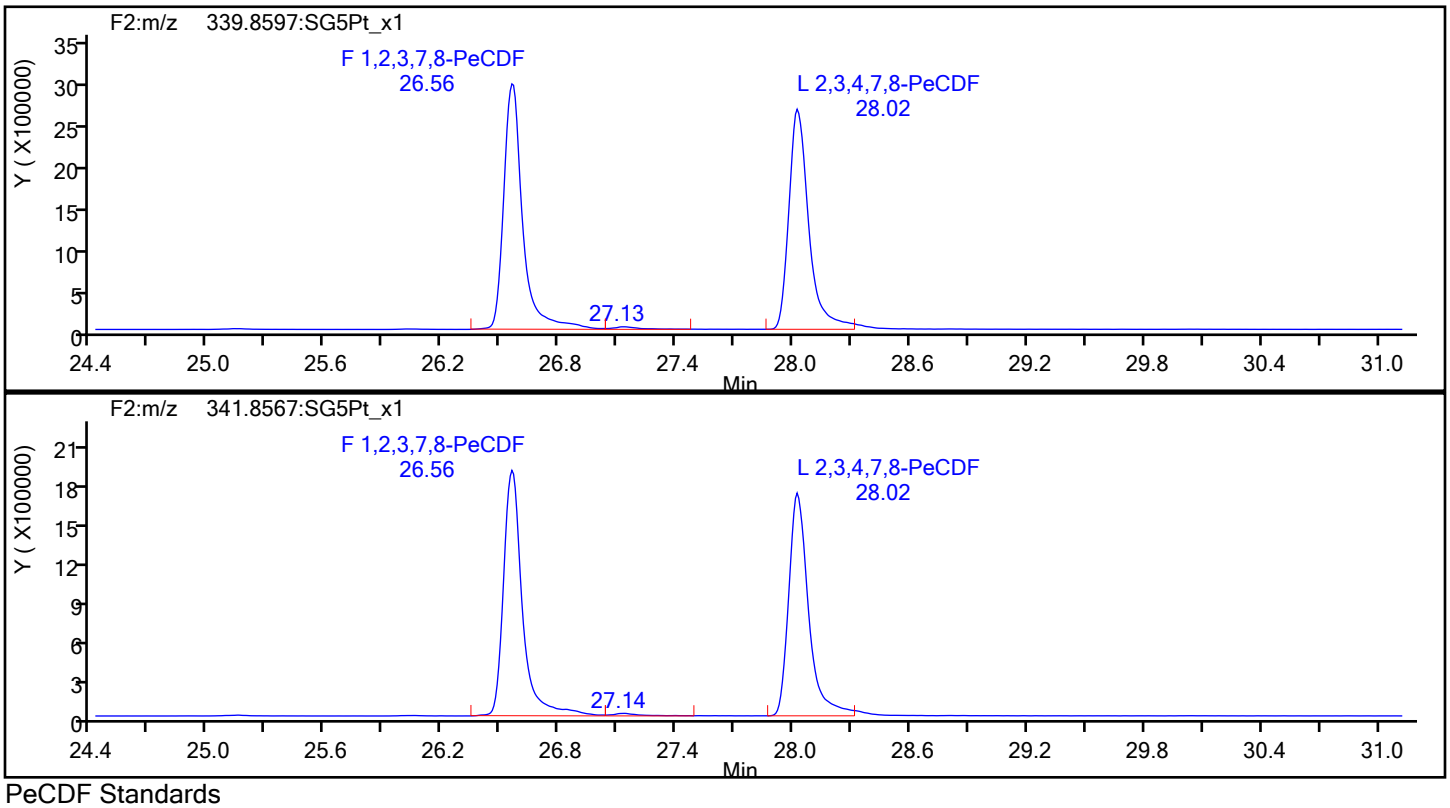
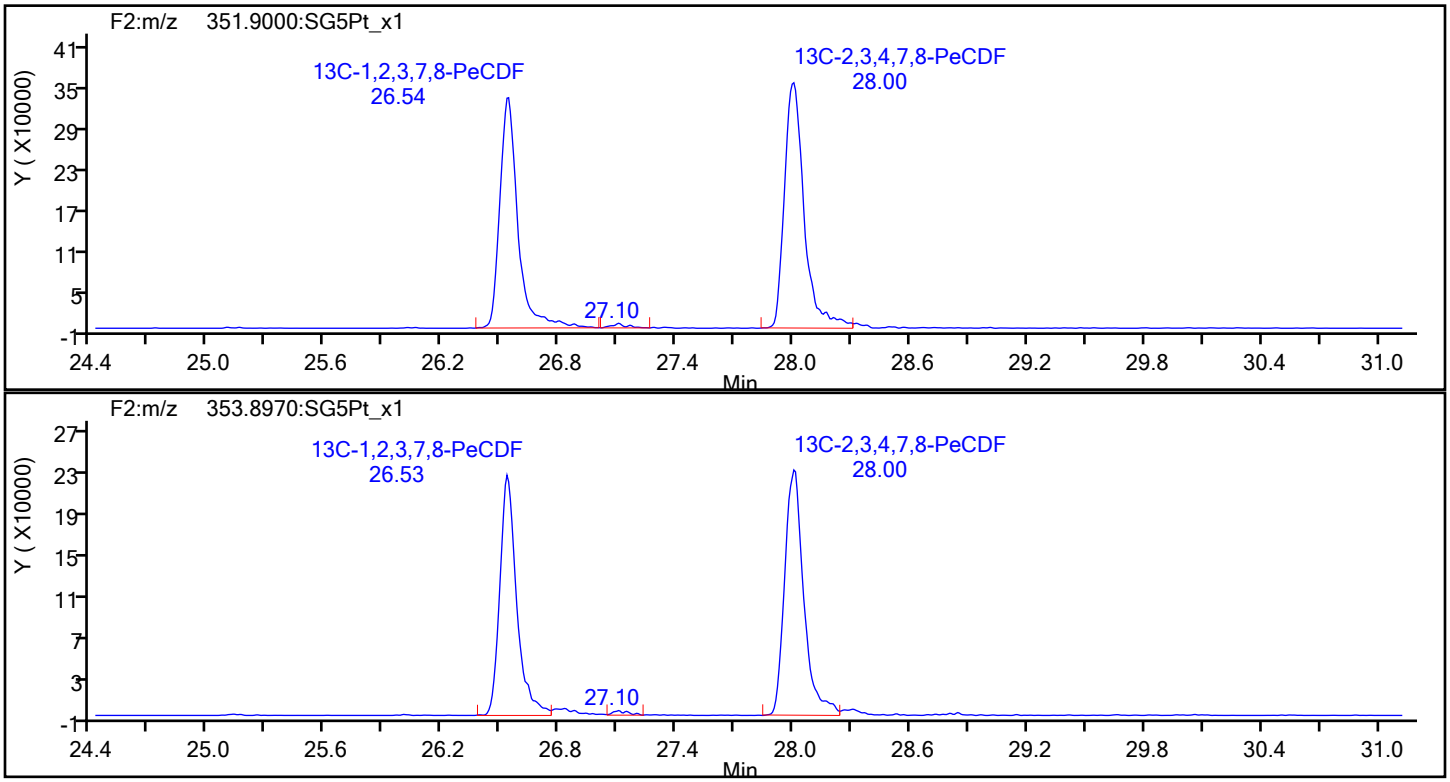
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 7
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

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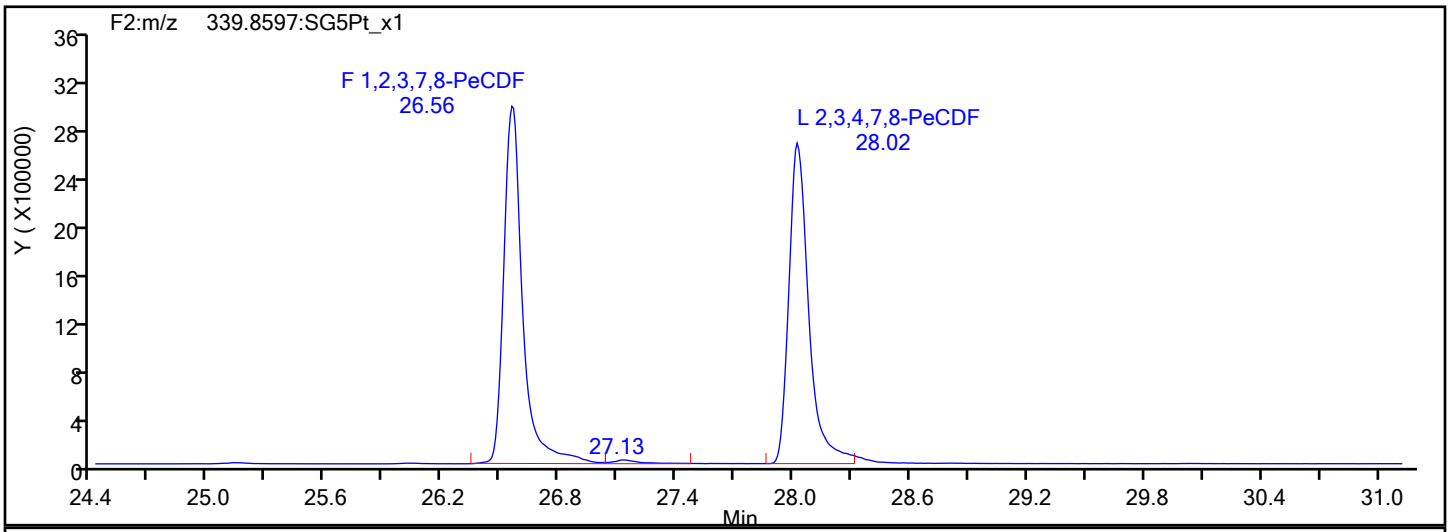
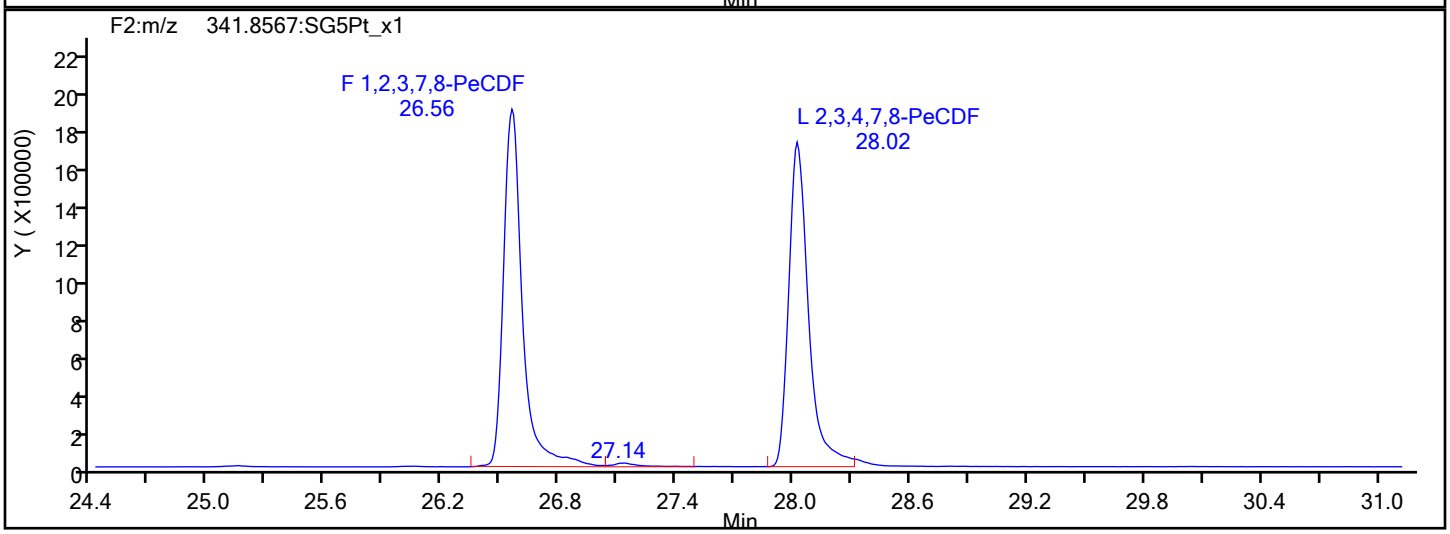
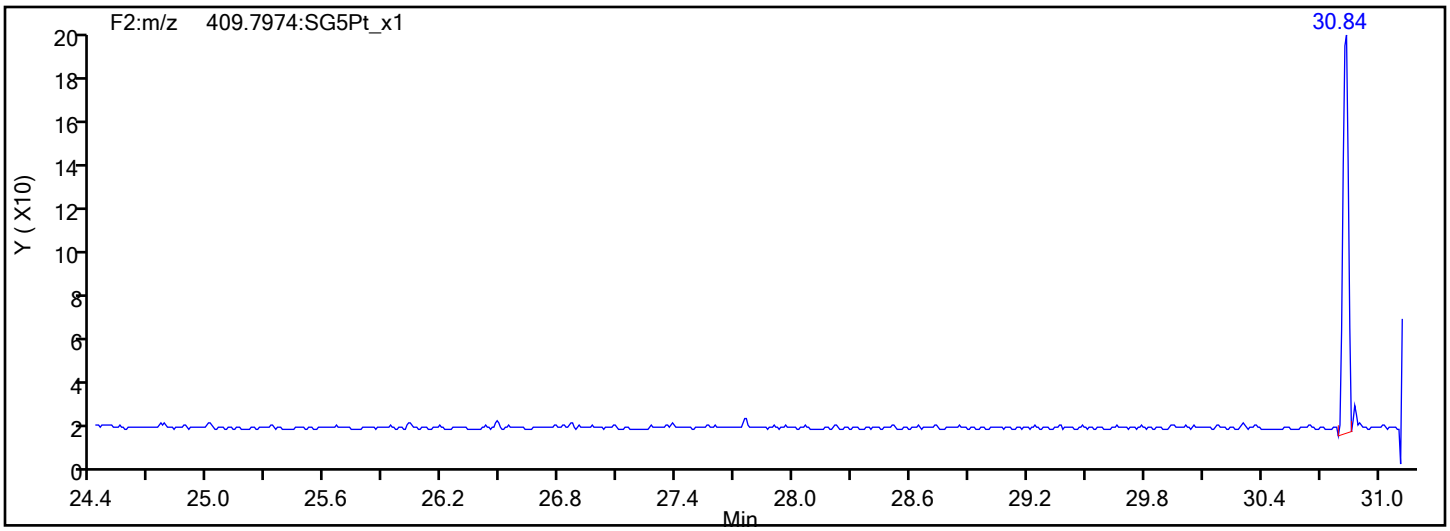




PeCDF Interference Mass



Eurofins Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

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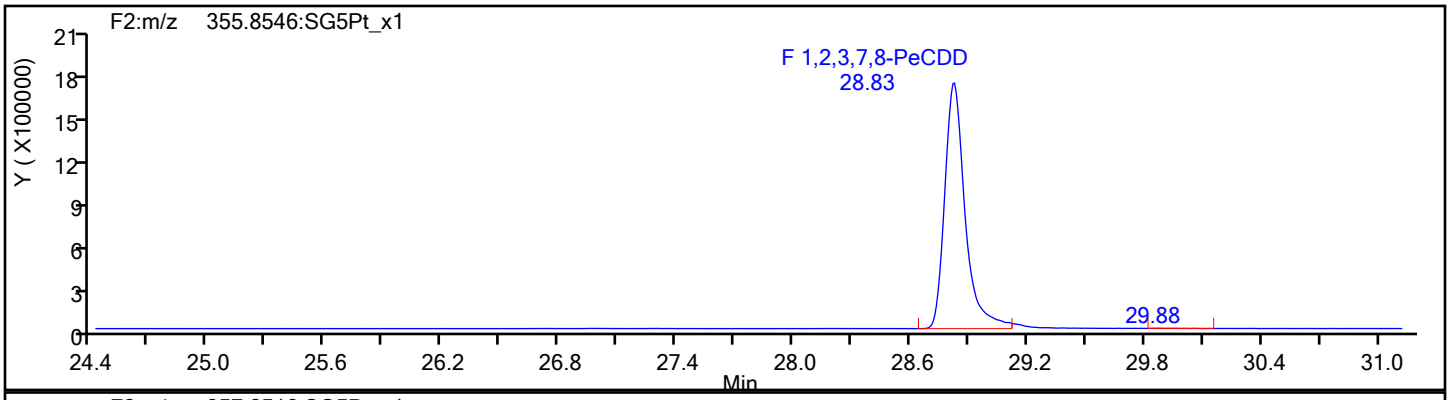

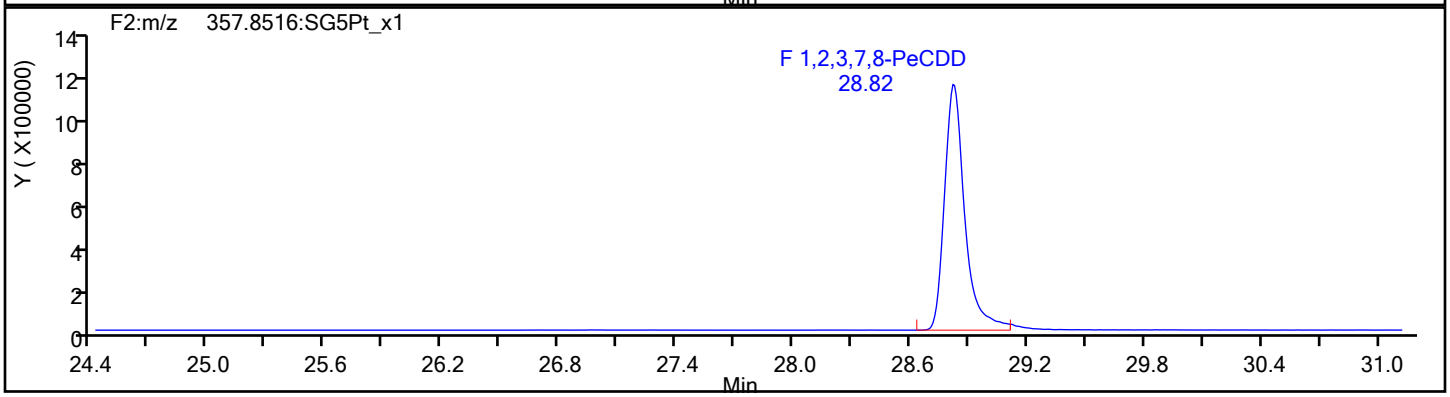

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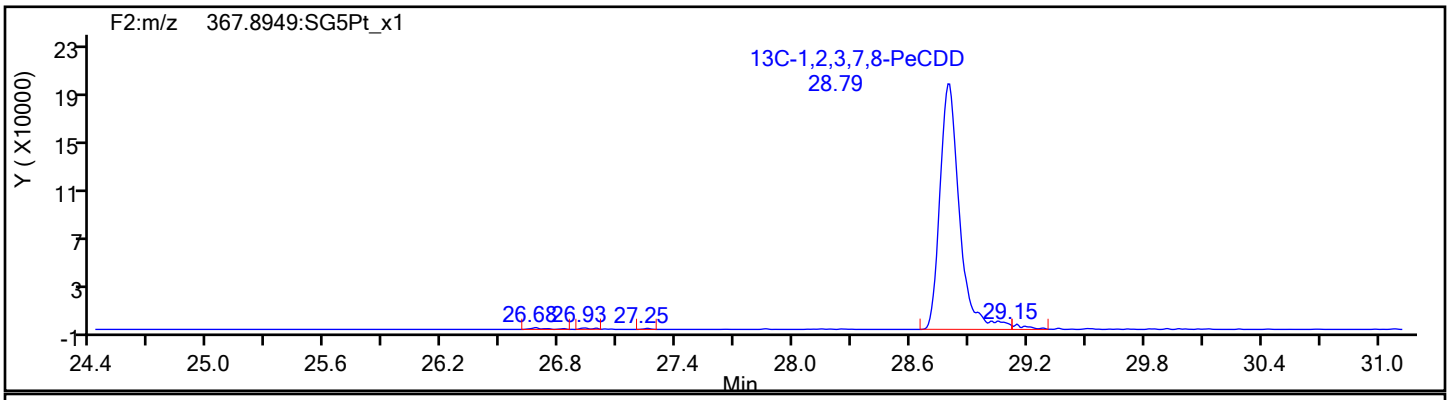

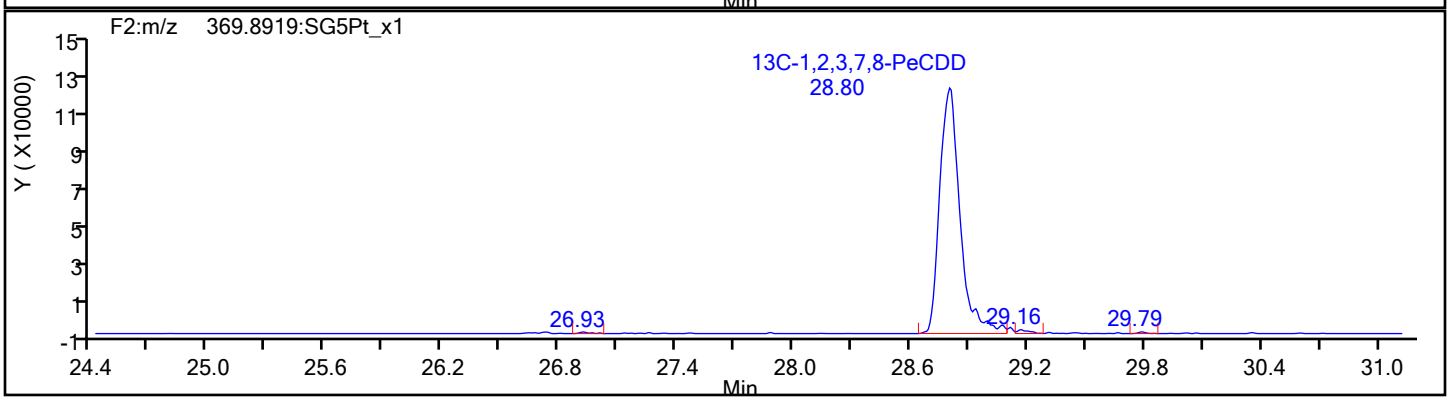

Eurofins Sacramento

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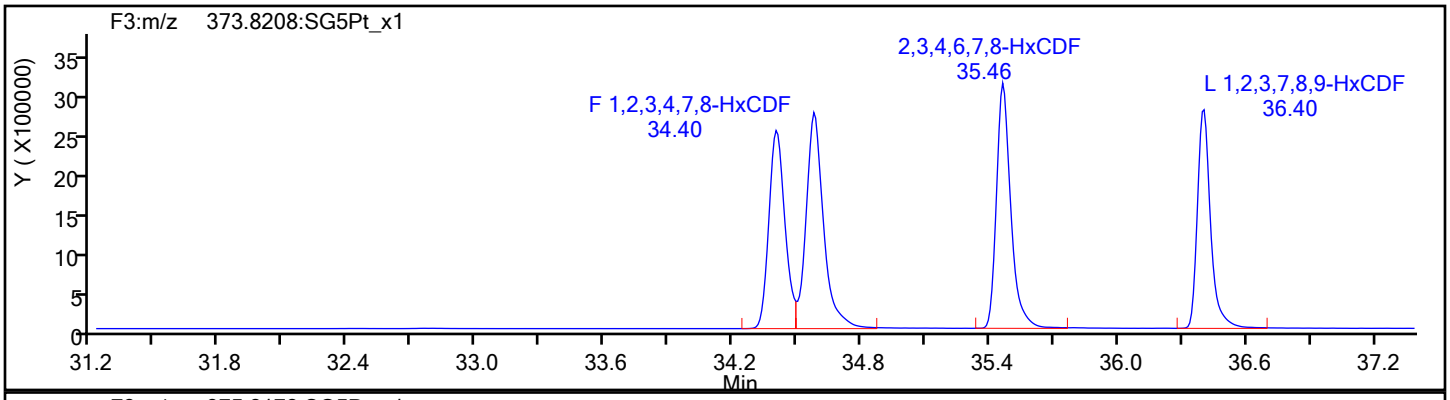
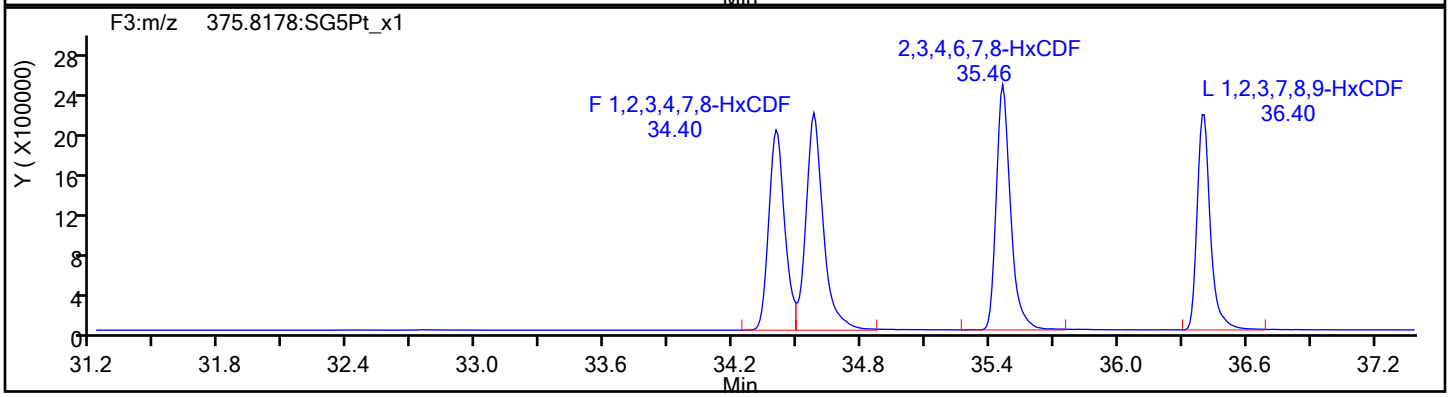
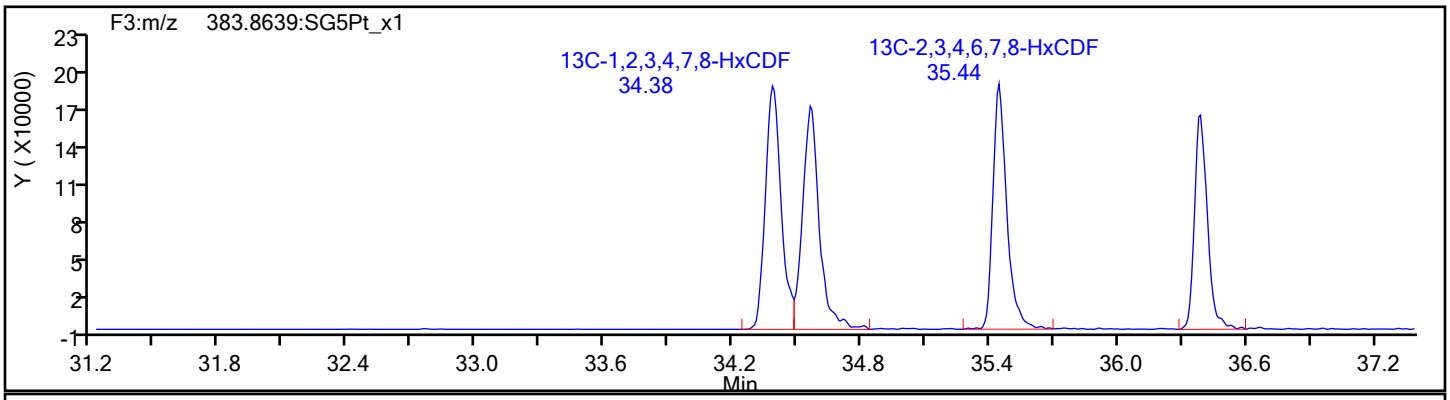
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 7
Column Type: DB-5 Column Dia: 0.32 mm

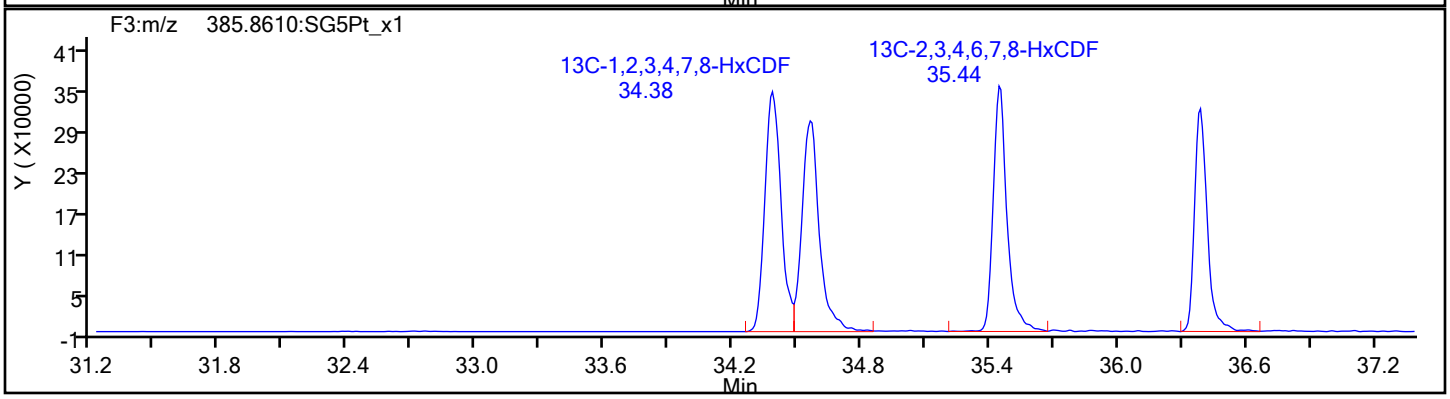
HxCDF





HxCDF Standards





Eurofins Sacramento

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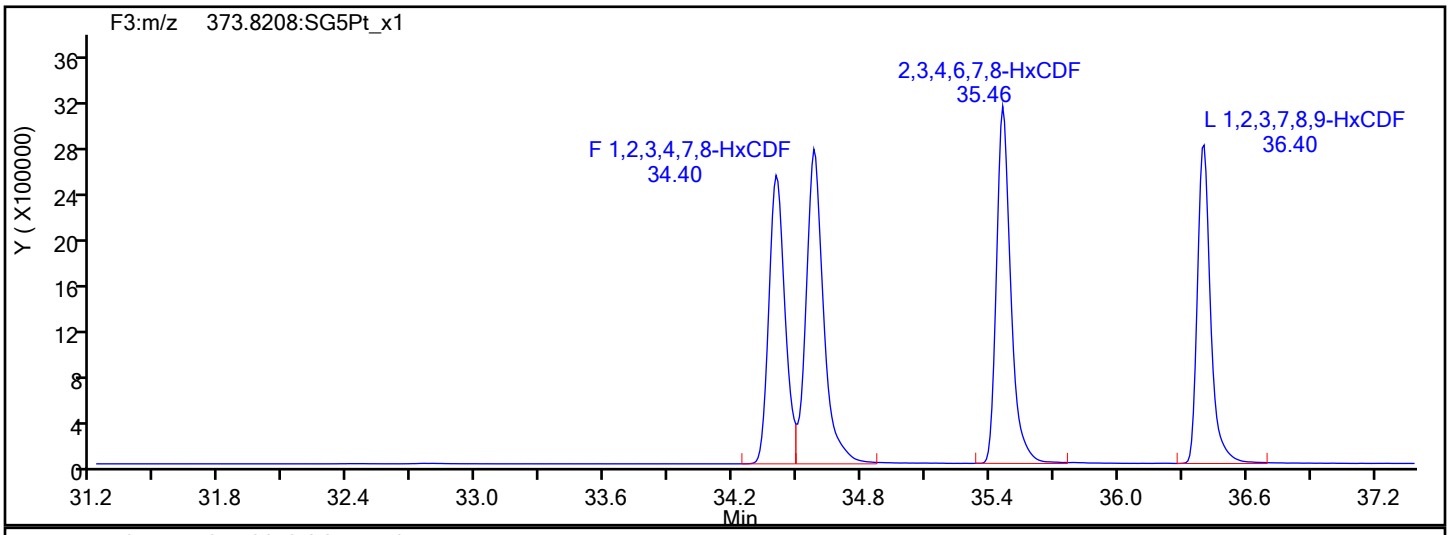
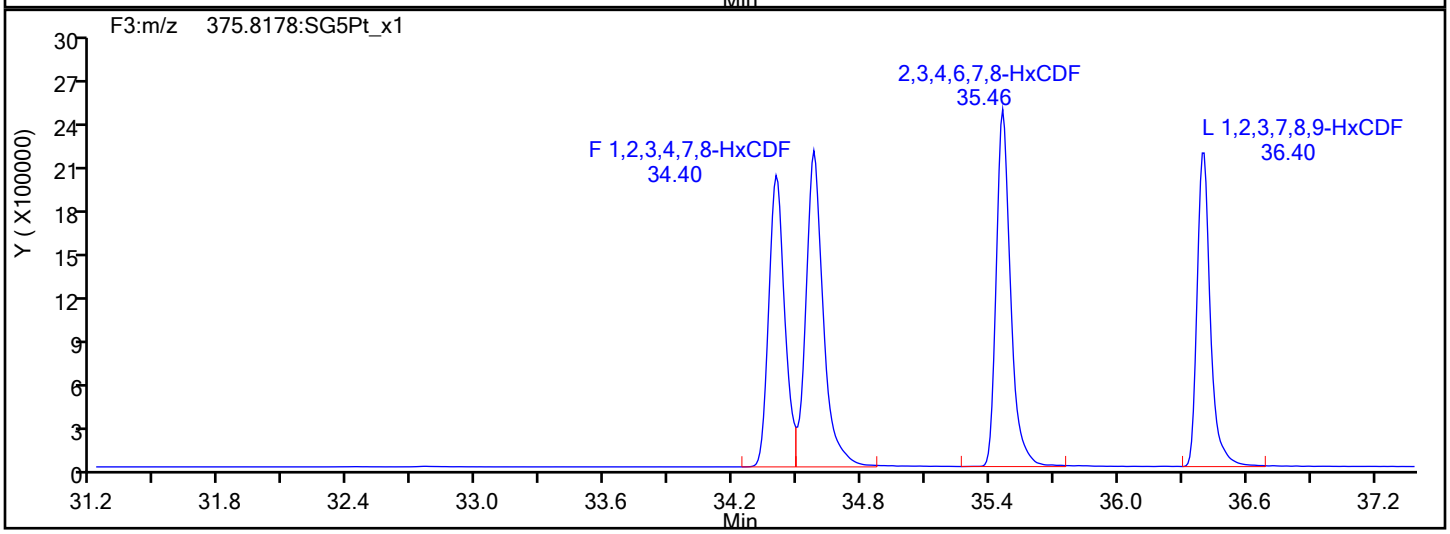
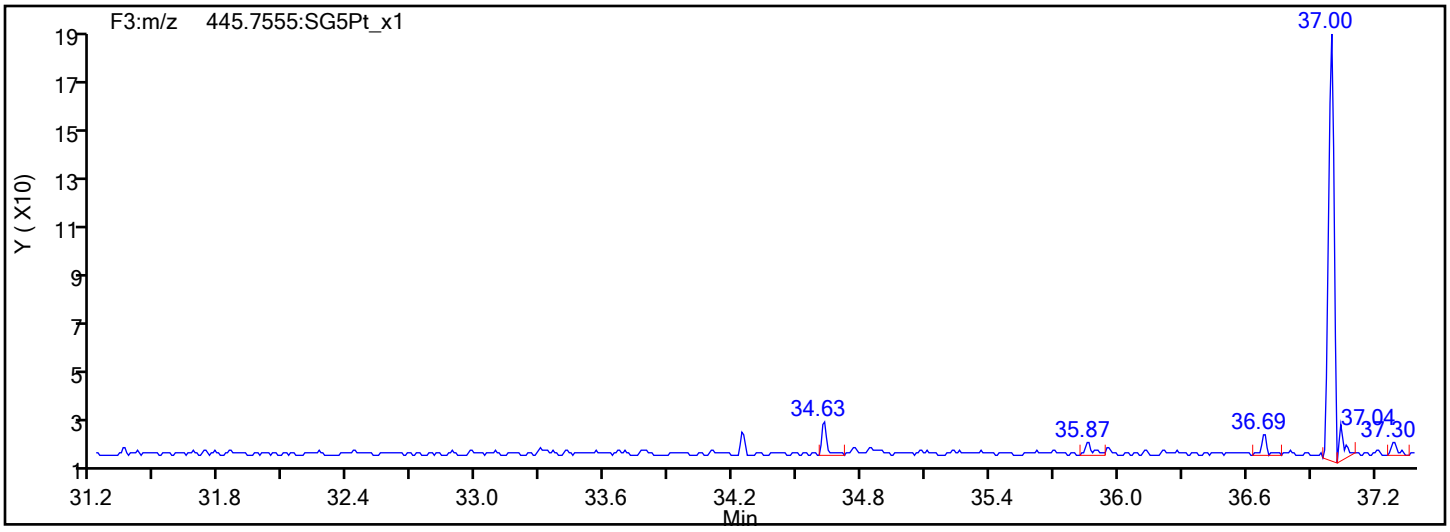
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 7
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



Report Date: 20-Jan-2022 15:59:47 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

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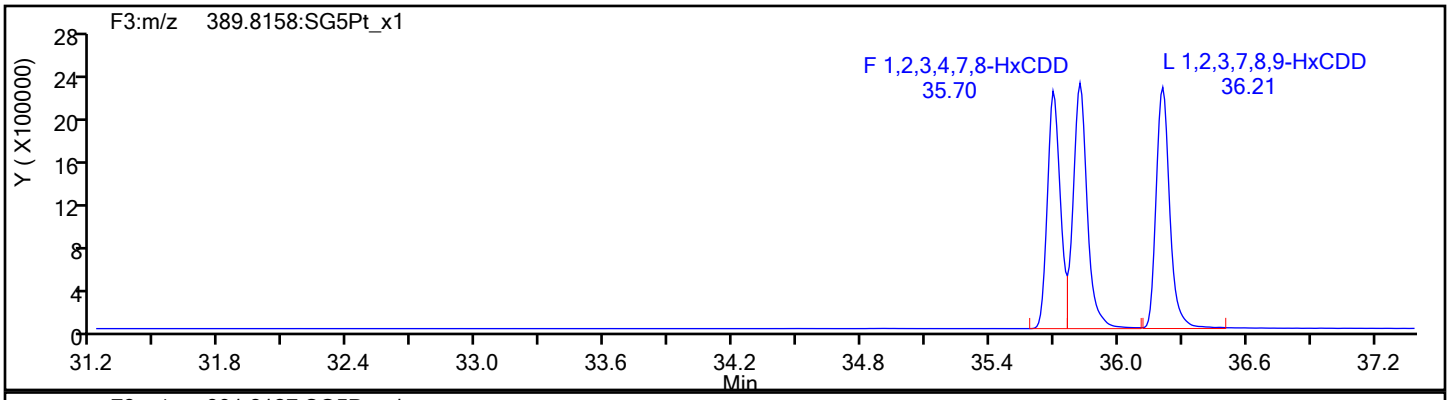
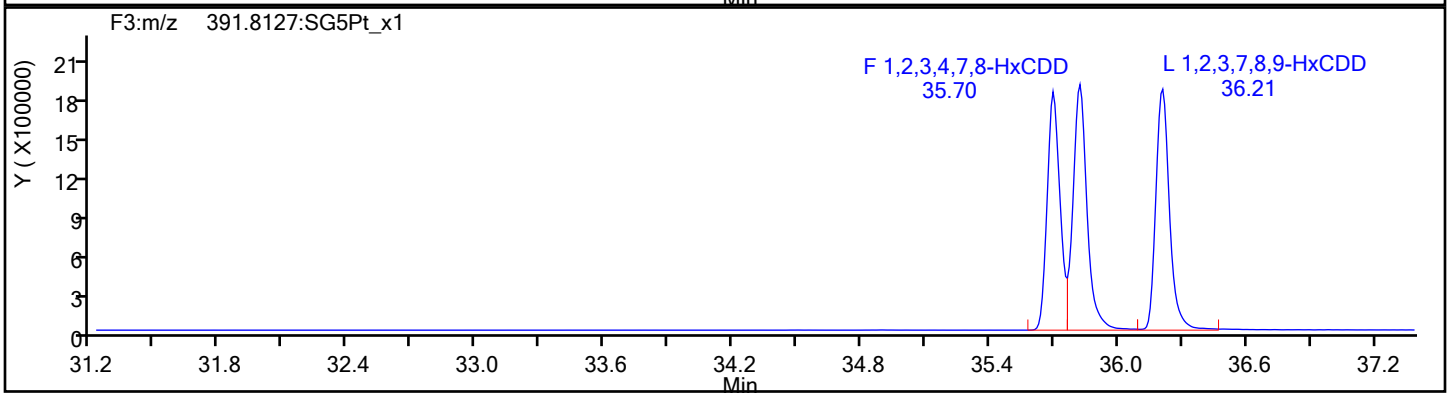
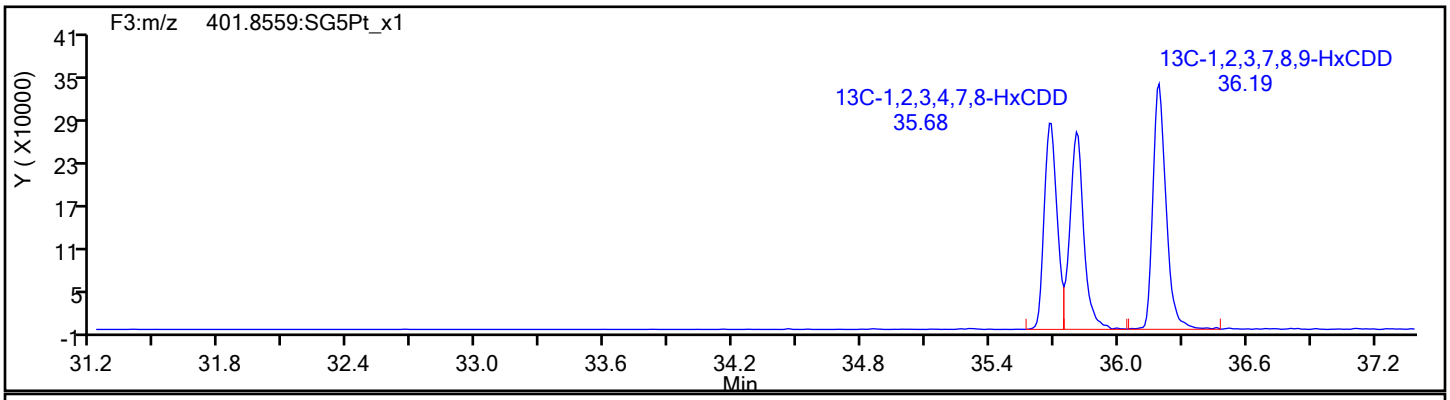
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

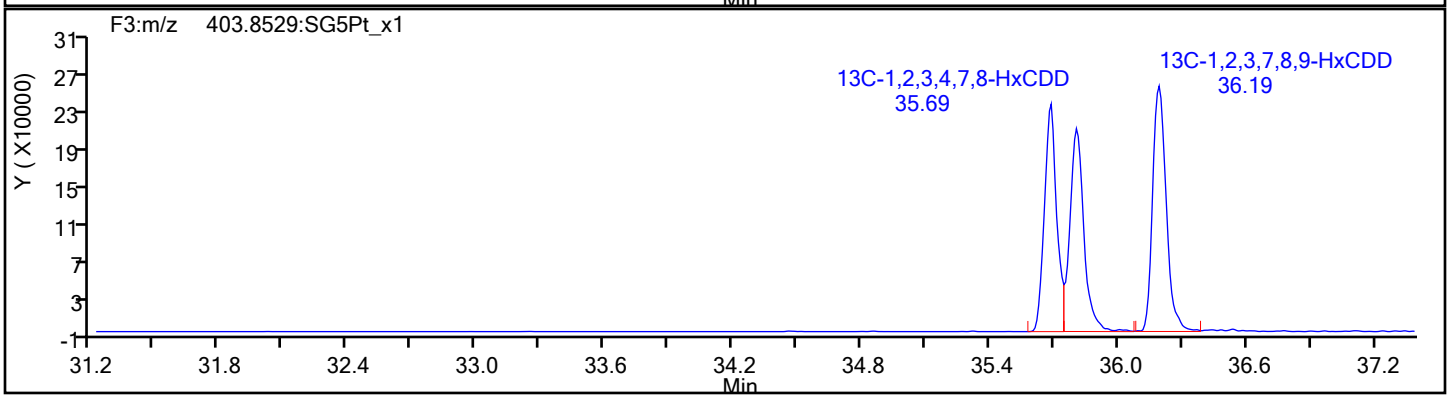
HxCDD





HxCDD Standards





Eurofins Sacramento

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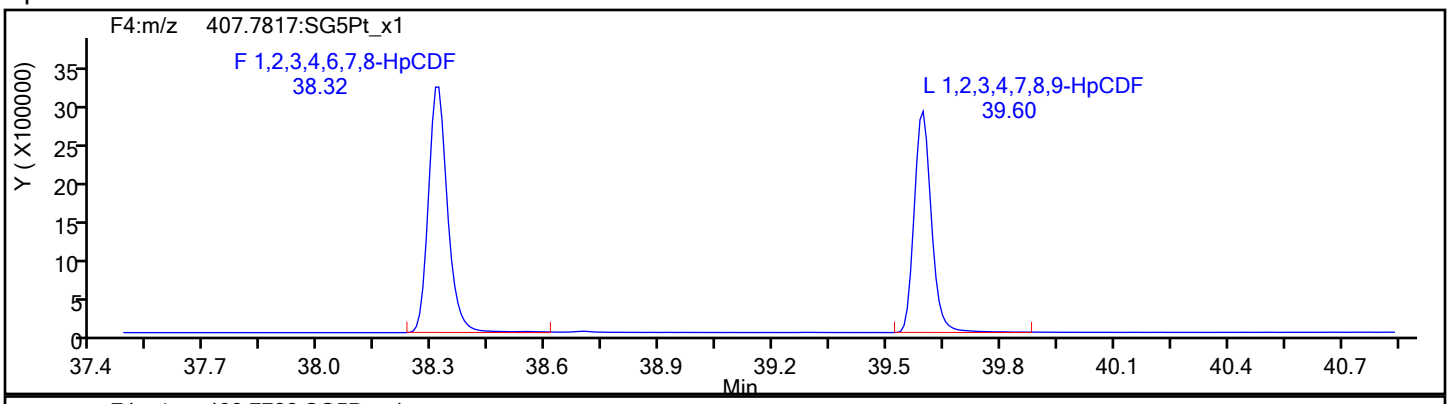
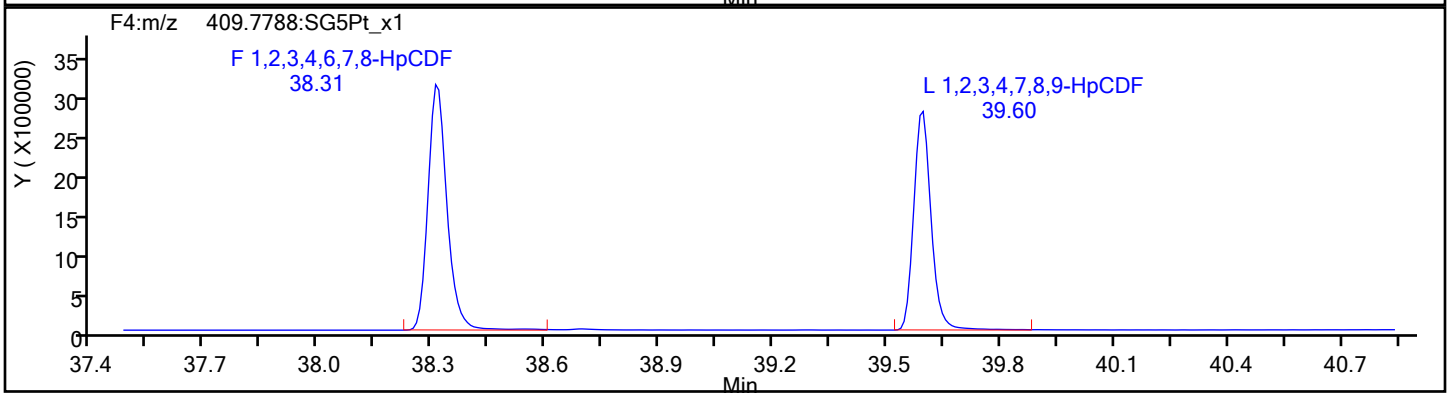
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 7
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





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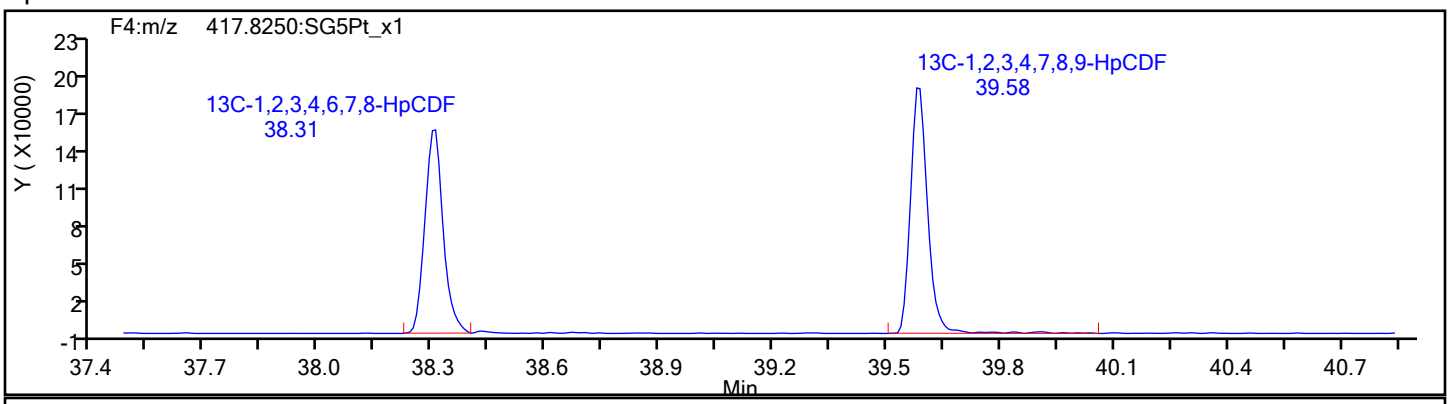

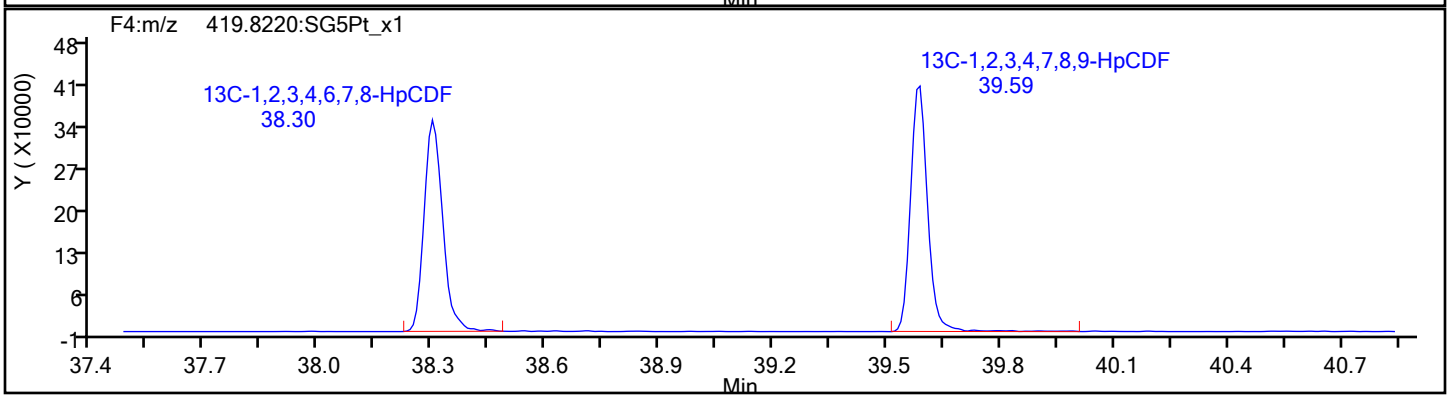

Eurofins Sacramento

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Instrument ID: DFS 1 Operator ID: Xcalibur_System
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Client ID:
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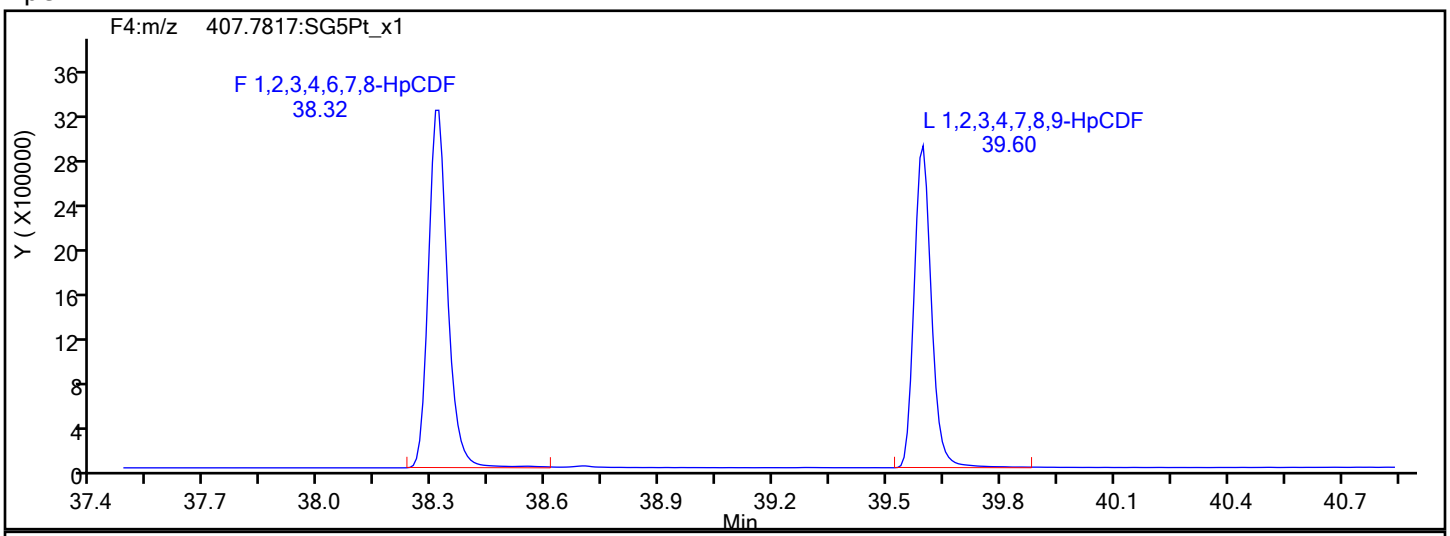
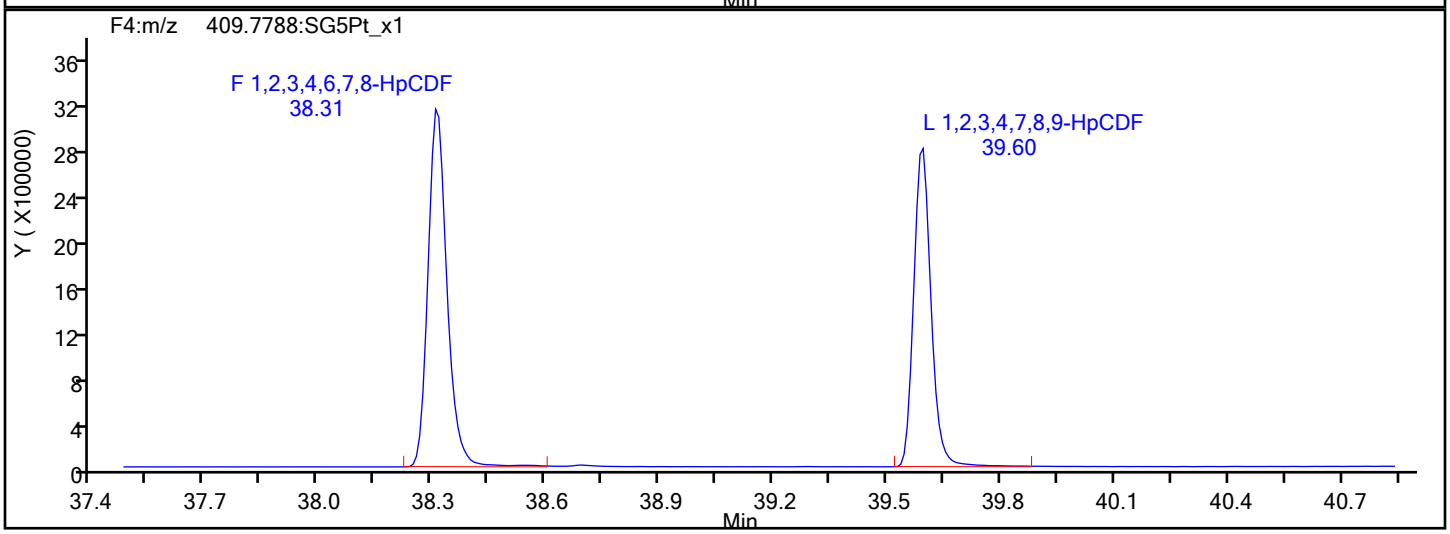
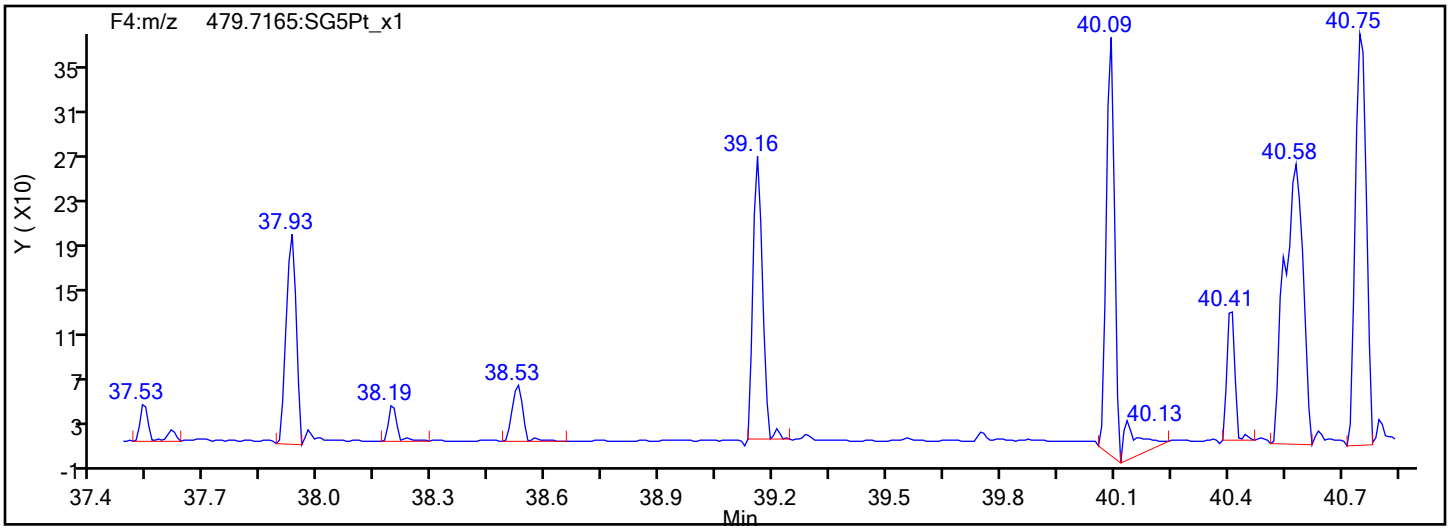
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

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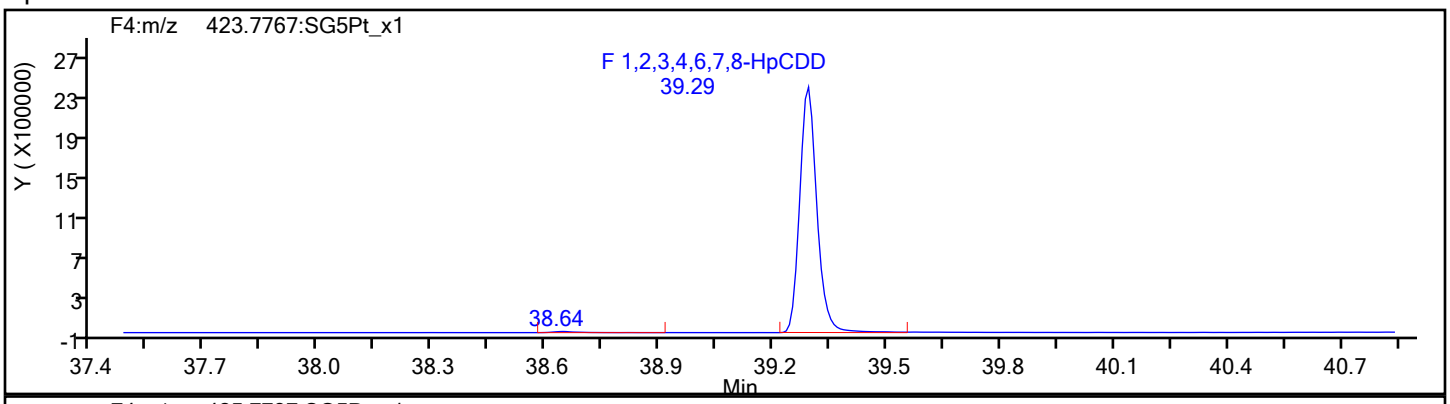
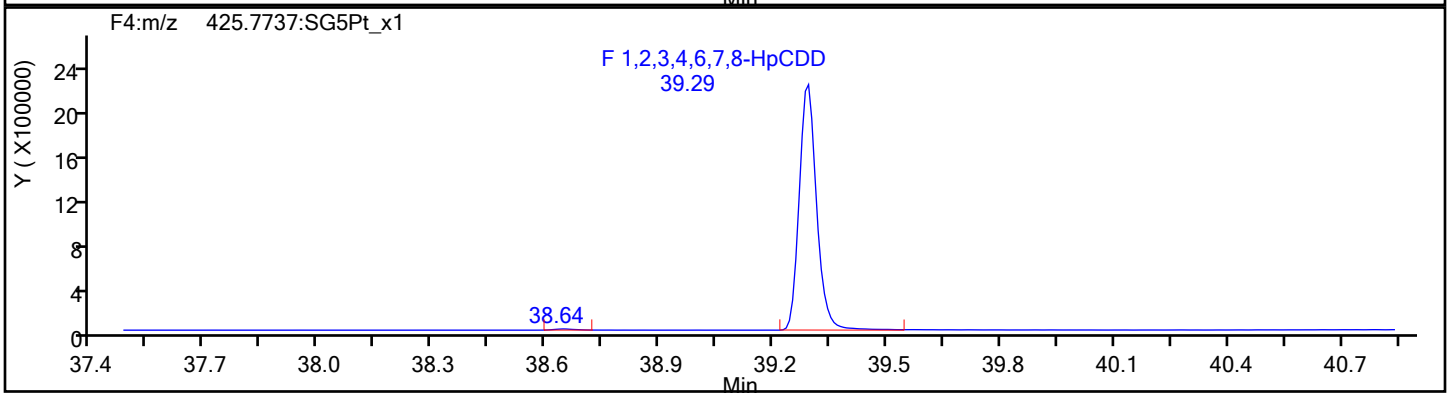
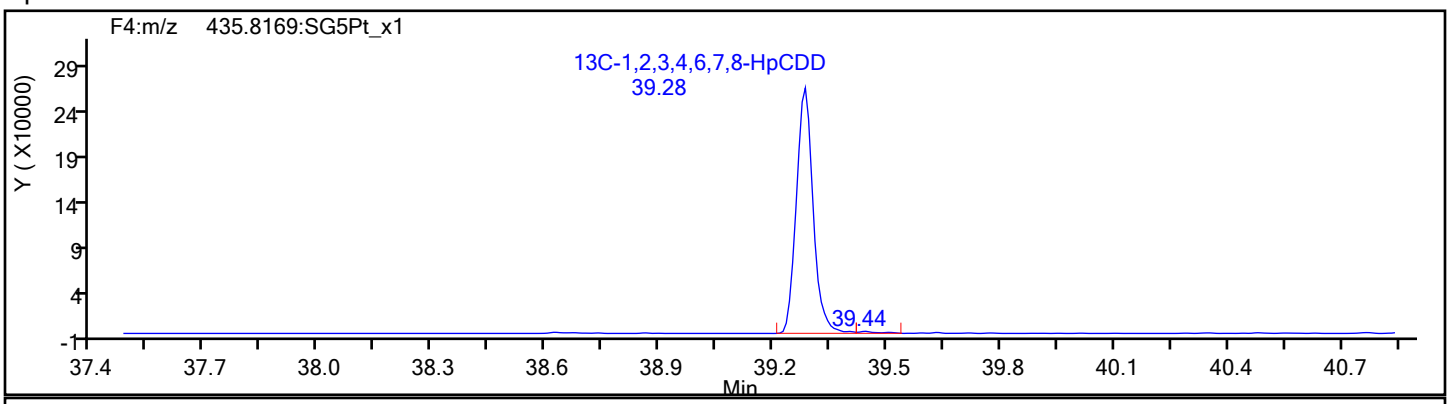
Column Type: DB-5 Column Dia: 0.32 mm

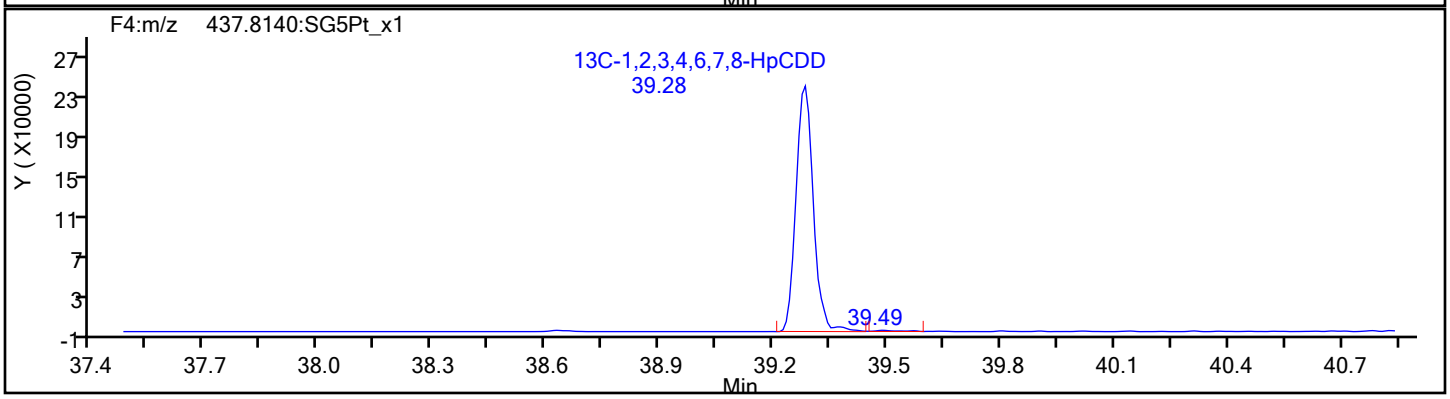
HpCDD





HpCDD Standards





Report Date: 20-Jan-2022 15:59:47 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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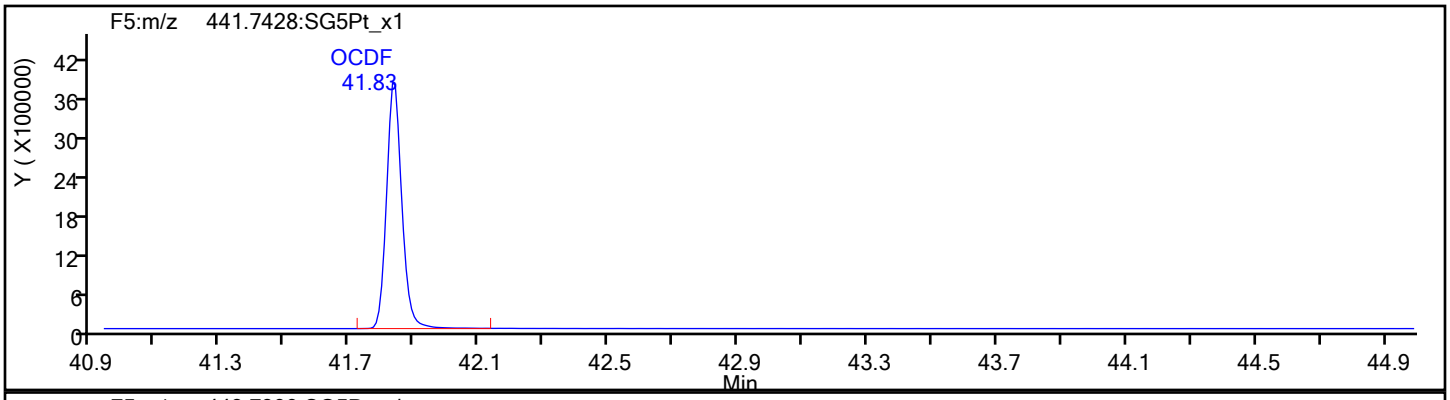
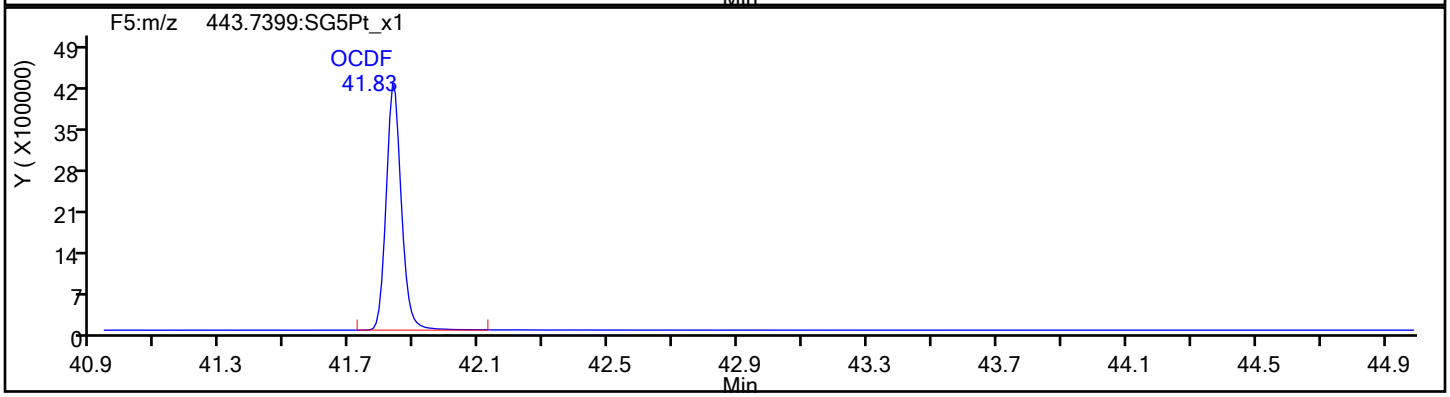
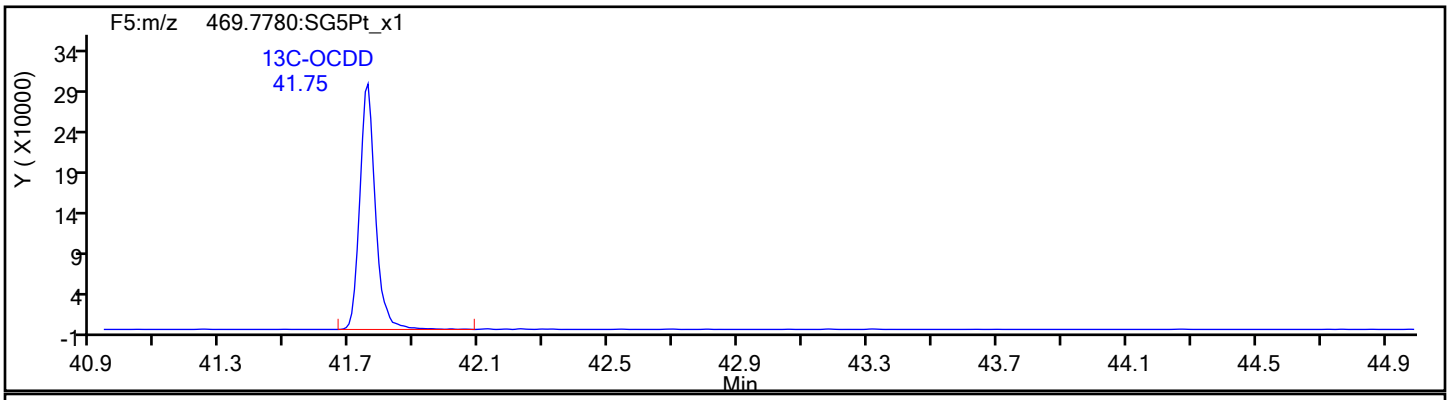
Column Type:	DB-5	Column Dia:	0.32 mm

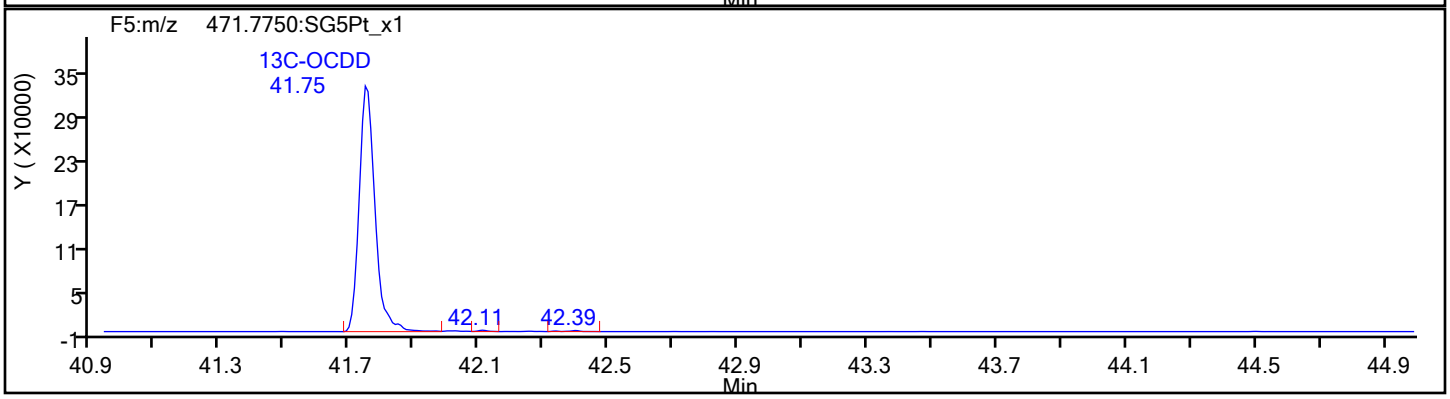
OCDF





OCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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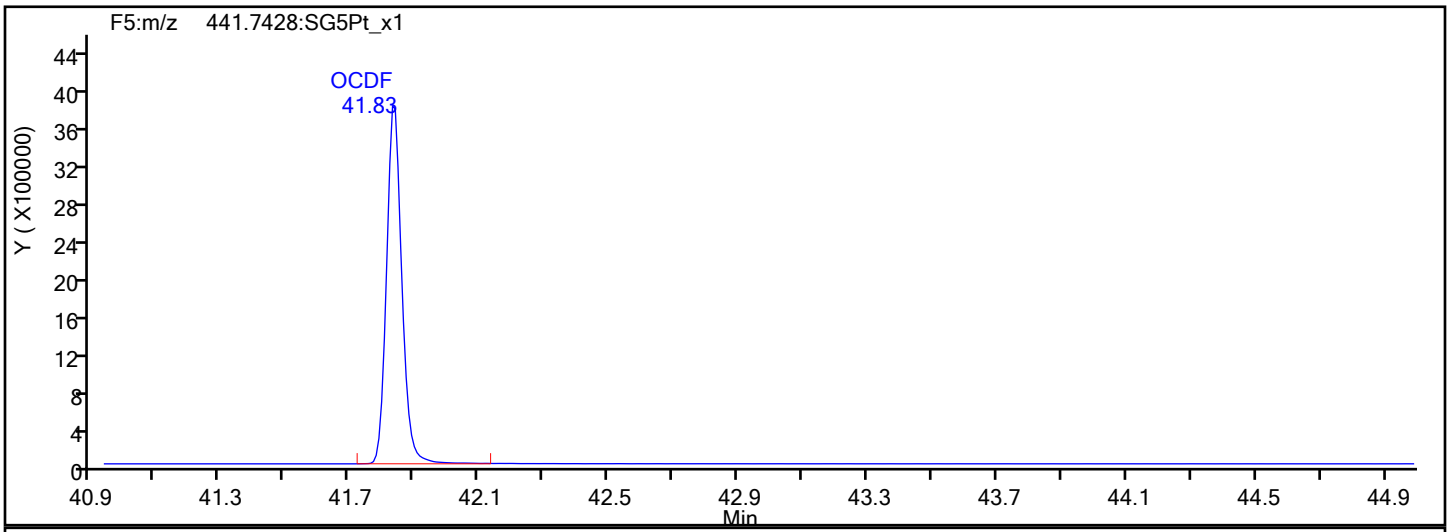
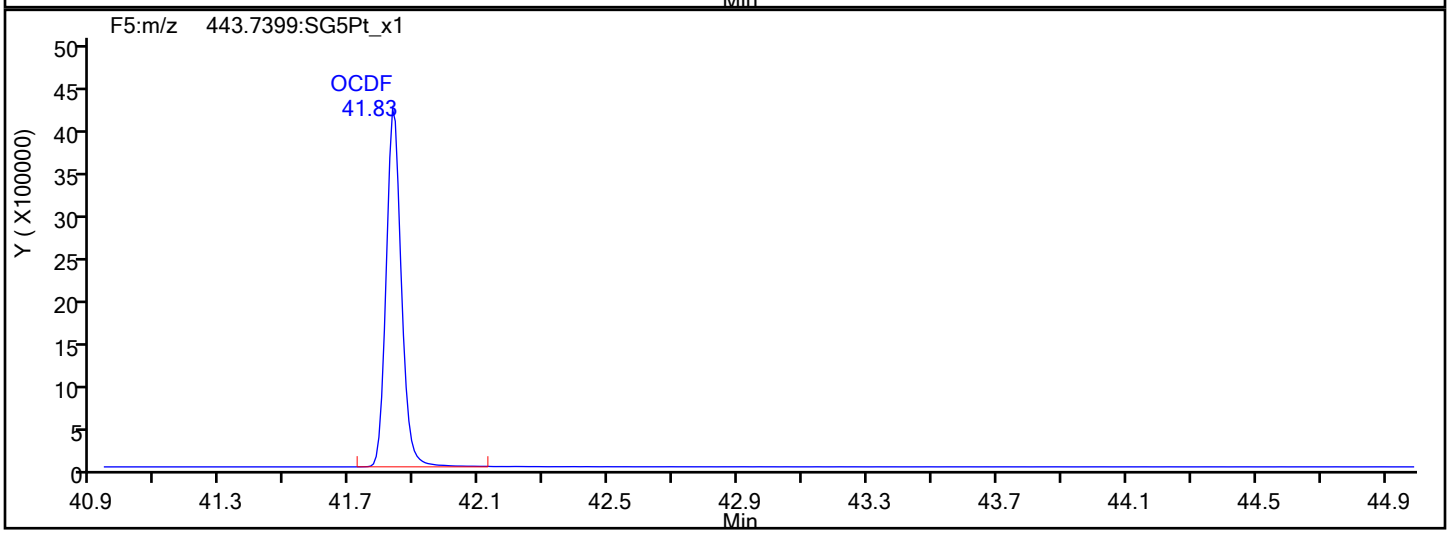
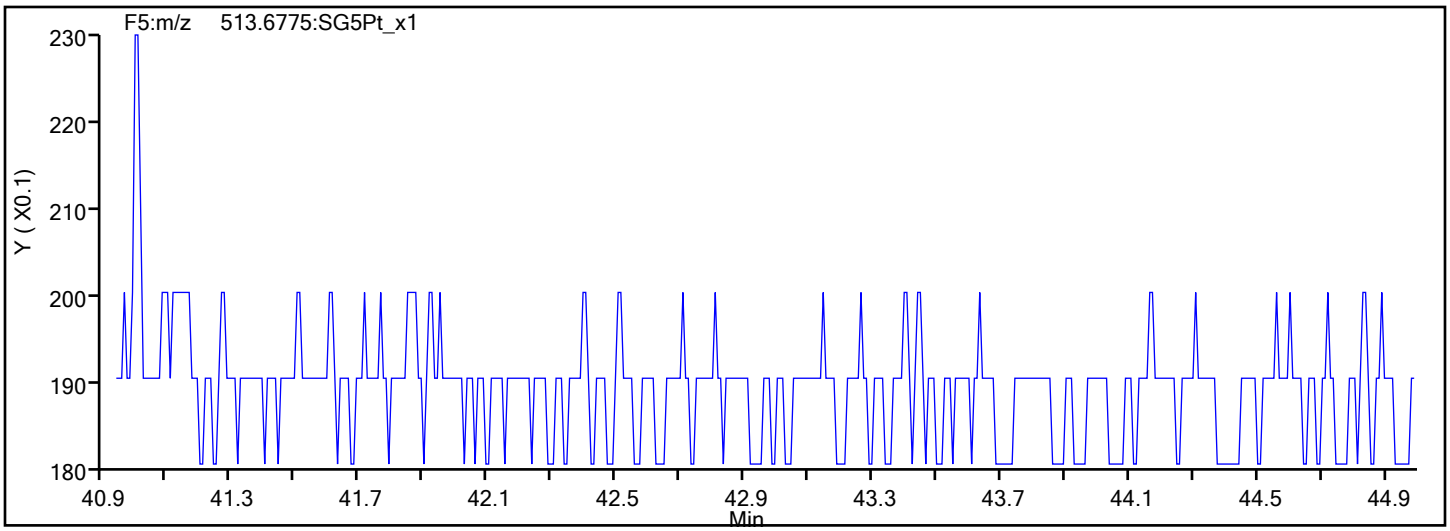
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



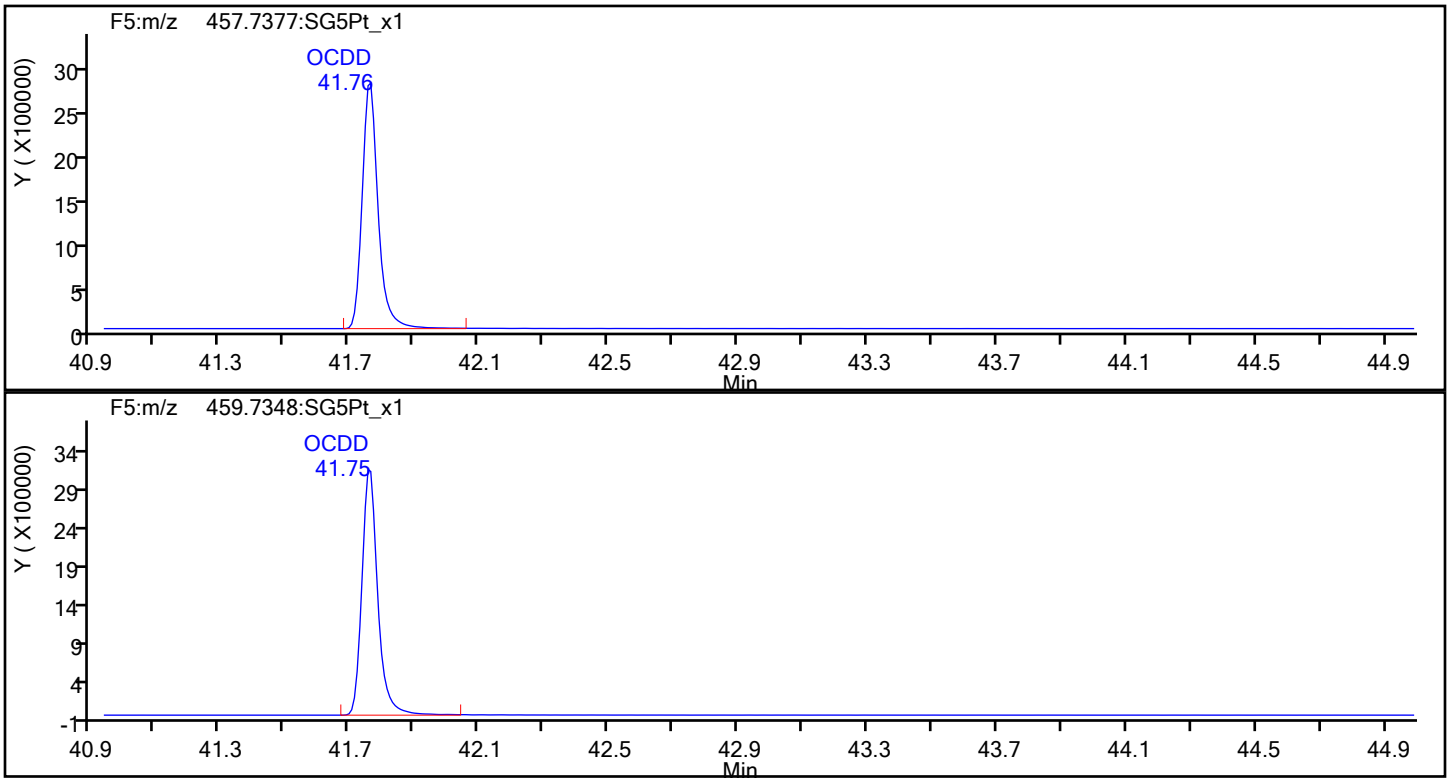
Report Date: 20-Jan-2022 15:59:47 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

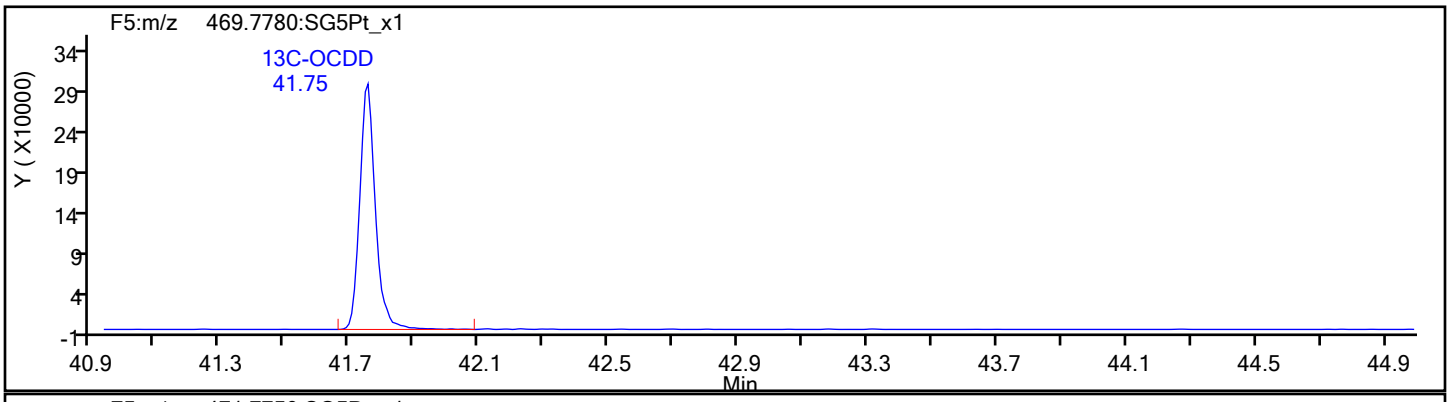
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

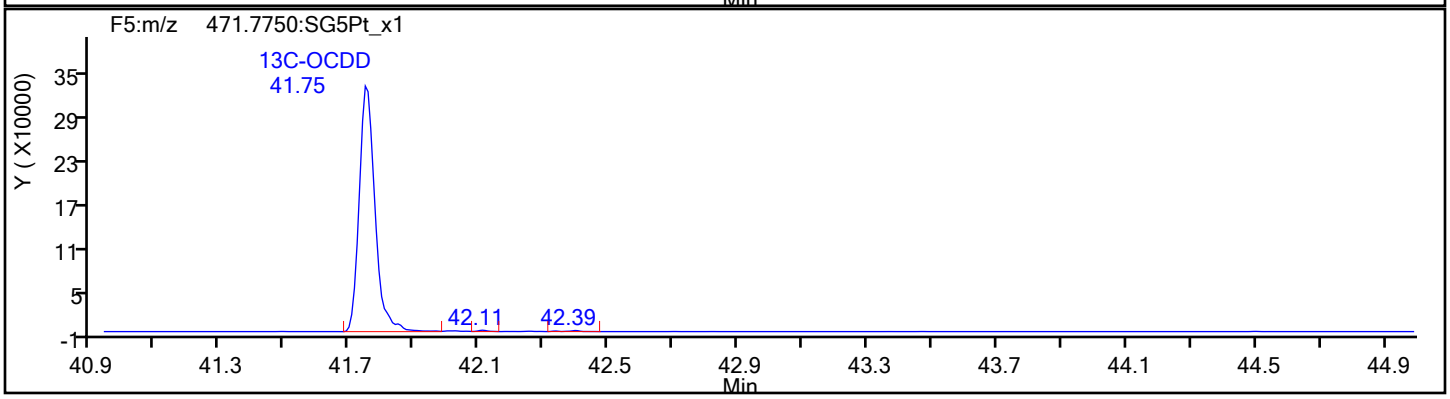
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD



OCDD Standards



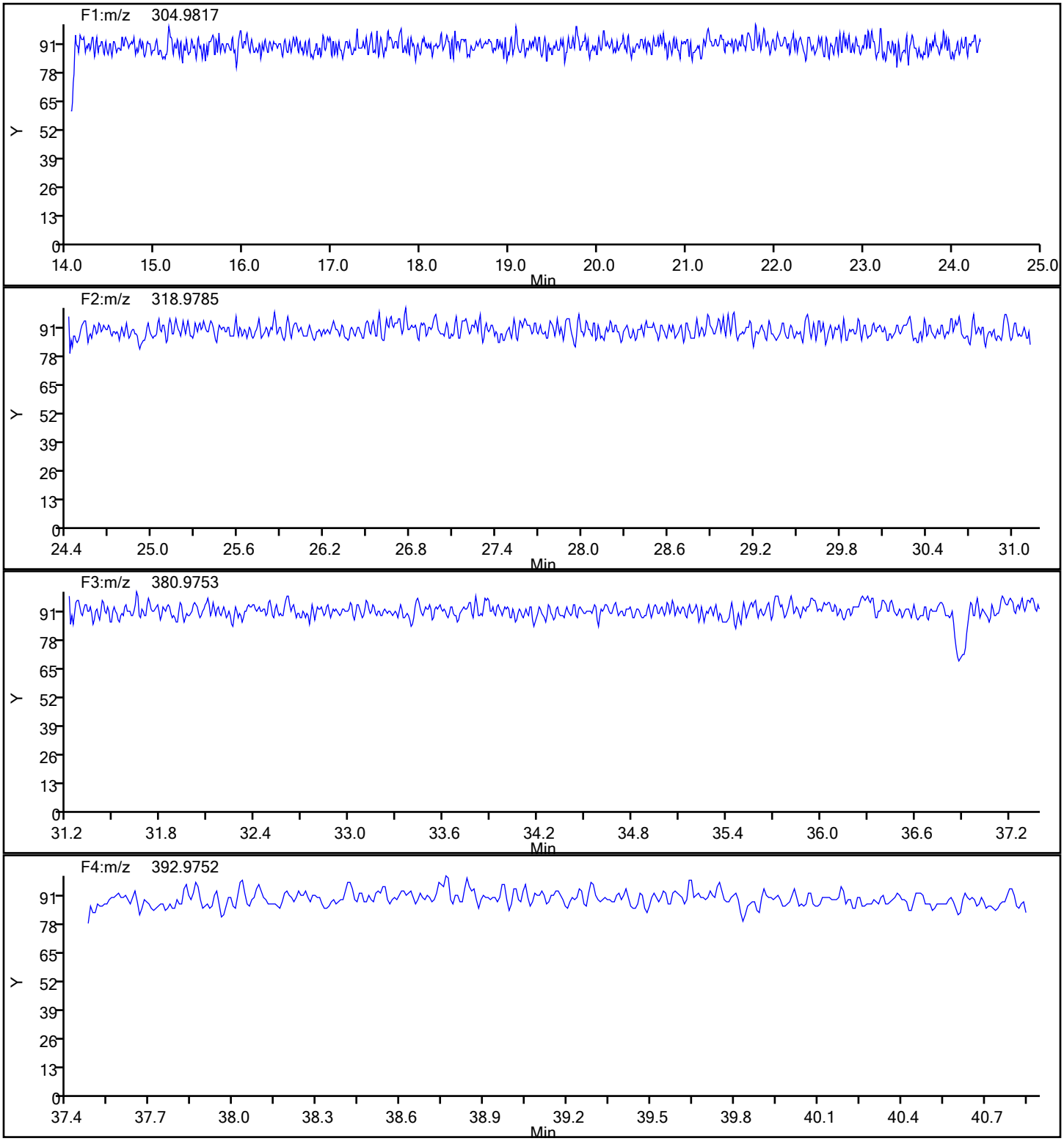


Report Date: 20-Jan-2022 15:59:48 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

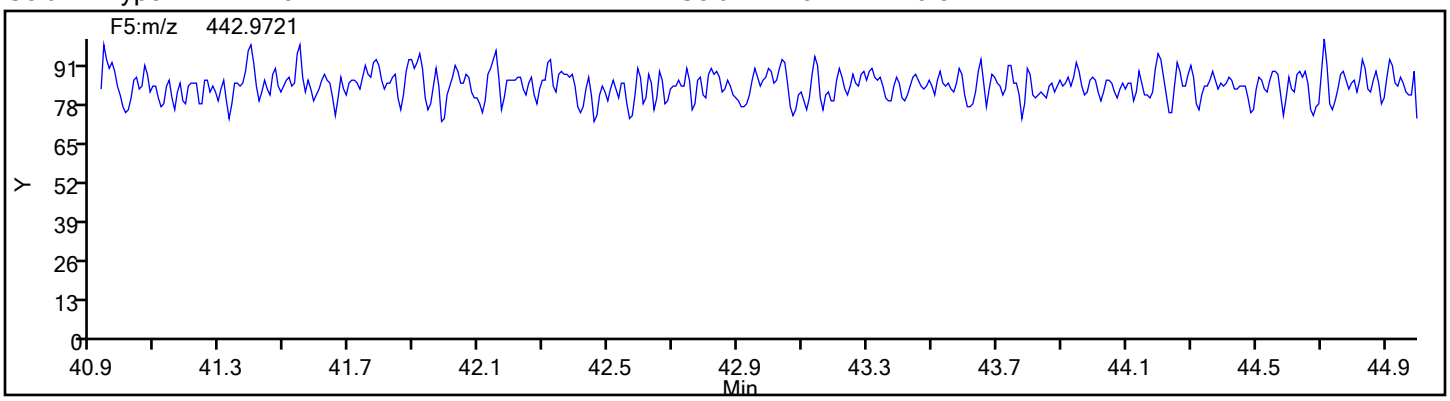
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 15:59:48 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d		
Injection Date:	13-Jan-2022 20:27:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

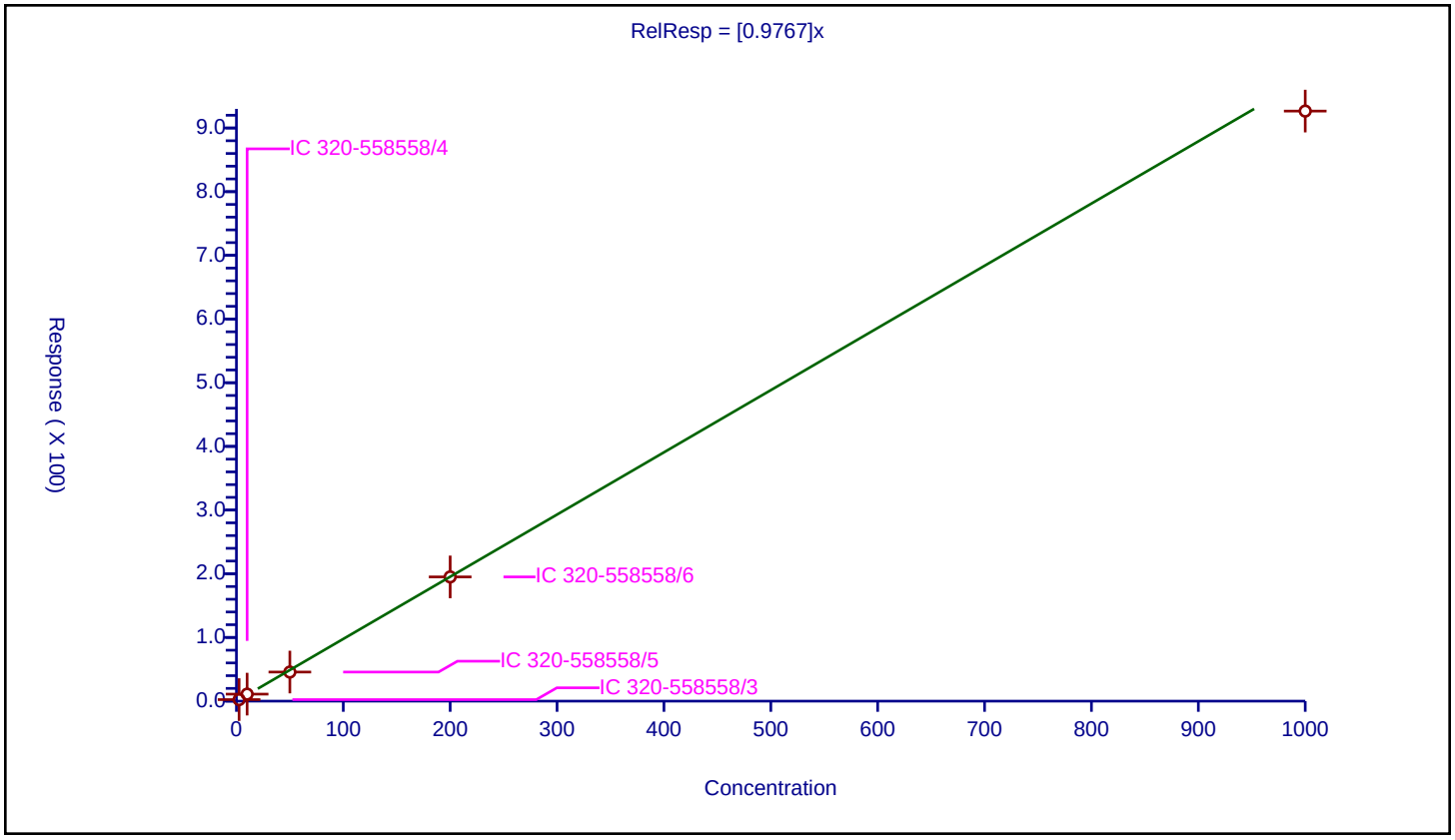
Curve Coefficients

Intercept:	0
Slope:	0.9767

Error Coefficients

Standard Error:	7610000
Relative Standard Error:	7.7
Correlation Coefficient:	0.989
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.409712	100.0	1418261.0	0.963885	Y
2	IC 320-558558/4	10.0	11.040571	100.0	1280749.0	1.104057	Y
3	IC 320-558558/5	50.0	45.673273	100.0	1413921.0	0.913465	Y
4	IC 320-558558/6	200.0	195.079042	100.0	2232797.0	0.975395	Y
5	IC 320-558558/7	1000.0	926.576197	100.0	1572535.0	0.926576	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

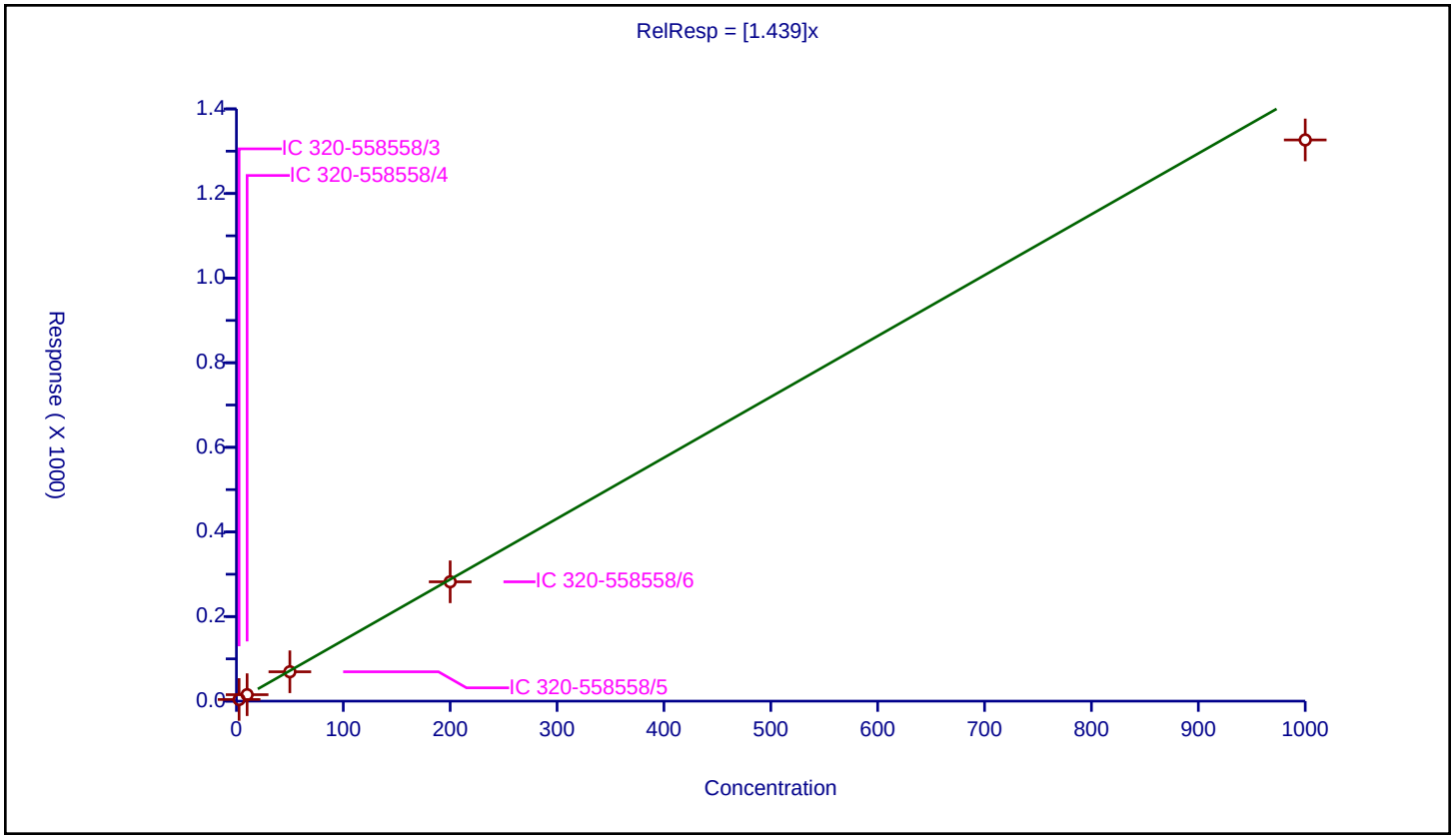
Curve Coefficients

Intercept:	0
Slope:	1.439

Error Coefficients

Standard Error:	11700000
Relative Standard Error:	6.4
Correlation Coefficient:	0.991
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	3.847411	100.0	1422333.0	1.538965	Y
2	IC 320-558558/4	10.0	15.275261	100.0	1314917.0	1.527526	Y
3	IC 320-558558/5	50.0	69.44193	100.0	1416166.0	1.388839	Y
4	IC 320-558558/6	200.0	282.116761	100.0	2299466.0	1.410584	Y
5	IC 320-558558/7	1000.0	1326.597552	100.0	1696502.0	1.326598	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

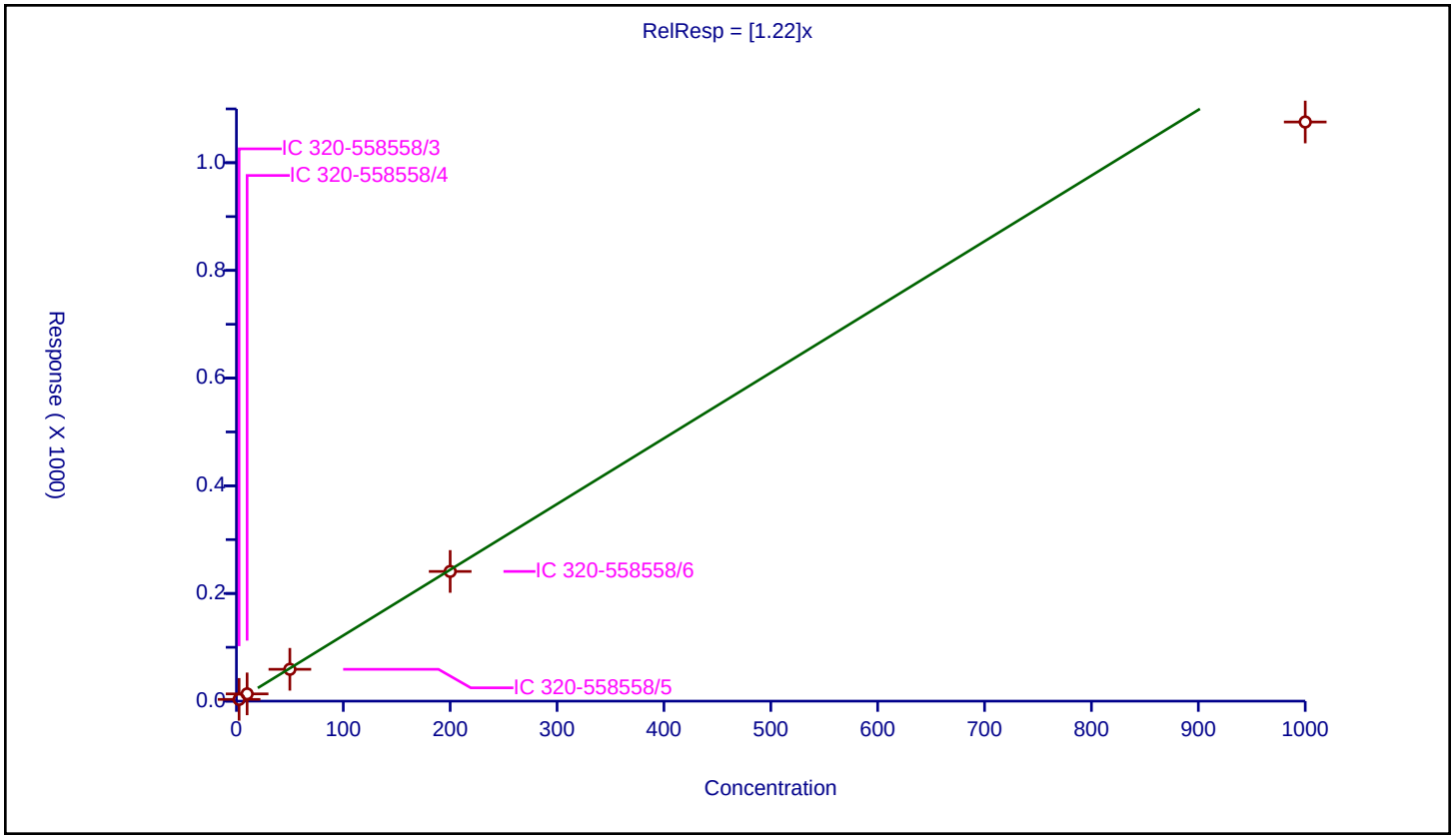
Curve Coefficients

Intercept:	0
Slope:	1.22

Error Coefficients

Standard Error:	9540000
Relative Standard Error:	8.6
Correlation Coefficient:	0.988
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	3.222382	100.0	1422333.0	1.288953	Y
2	IC 320-558558/4	10.0	13.488988	100.0	1314917.0	1.348899	Y
3	IC 320-558558/5	50.0	59.154153	100.0	1416166.0	1.183083	Y
4	IC 320-558558/6	200.0	240.861965	100.0	2299466.0	1.20431	Y
5	IC 320-558558/7	1000.0	1075.677423	100.0	1696502.0	1.075677	Y



Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

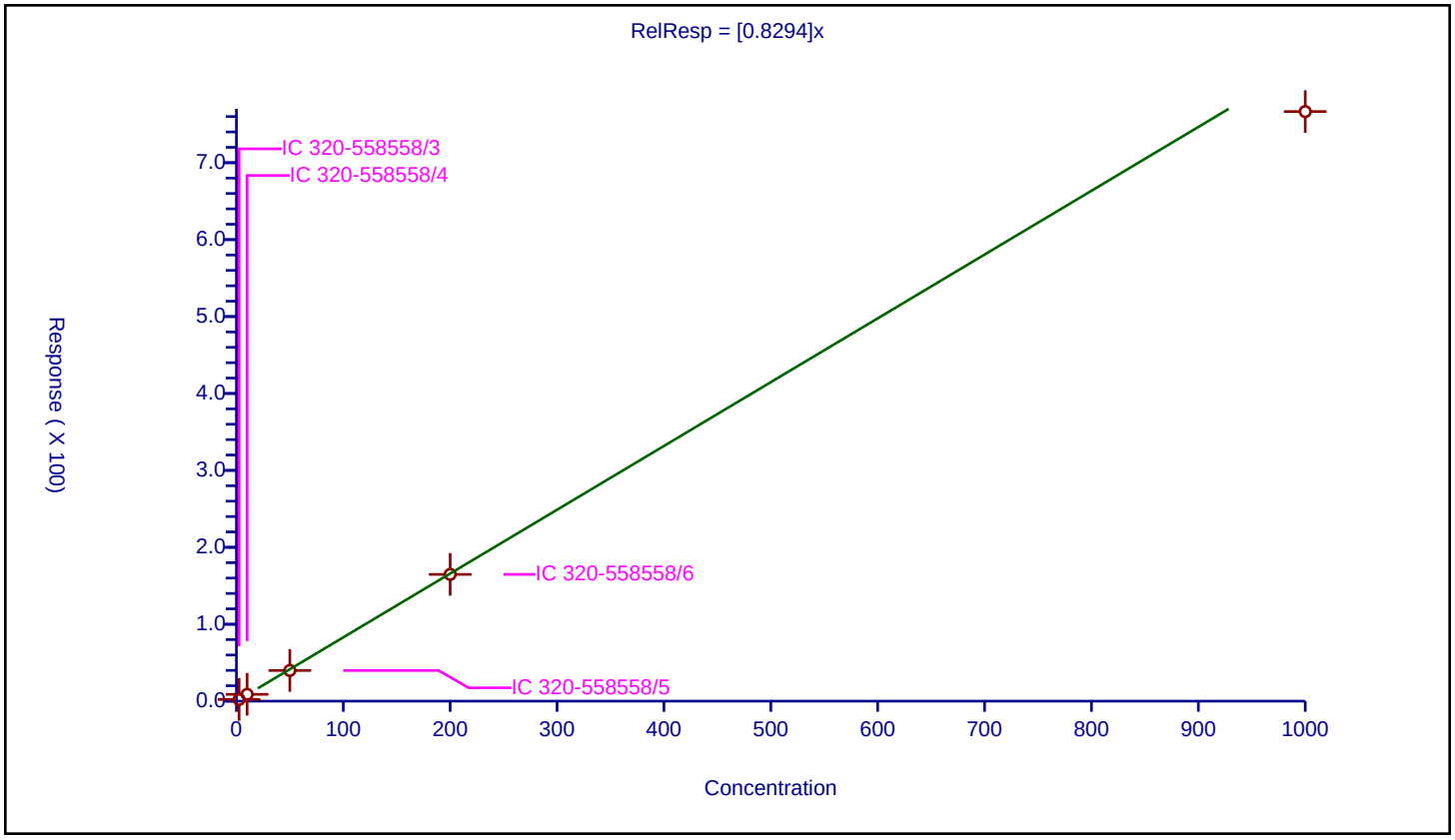
Curve Coefficients

Intercept:	0
Slope:	0.8294

Error Coefficients

Standard Error:	8650000
Relative Standard Error:	6.0
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.18925	100.0	1830992.0	0.8757	Y
2	IC 320-558558/4	10.0	8.83198	100.0	1640708.0	0.883198	Y
3	IC 320-558558/5	50.0	39.886706	100.0	1760030.0	0.797734	Y
4	IC 320-558558/6	200.0	164.774655	100.0	2750934.0	0.823873	Y
5	IC 320-558558/7	1000.0	766.517926	100.0	2176275.0	0.766518	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

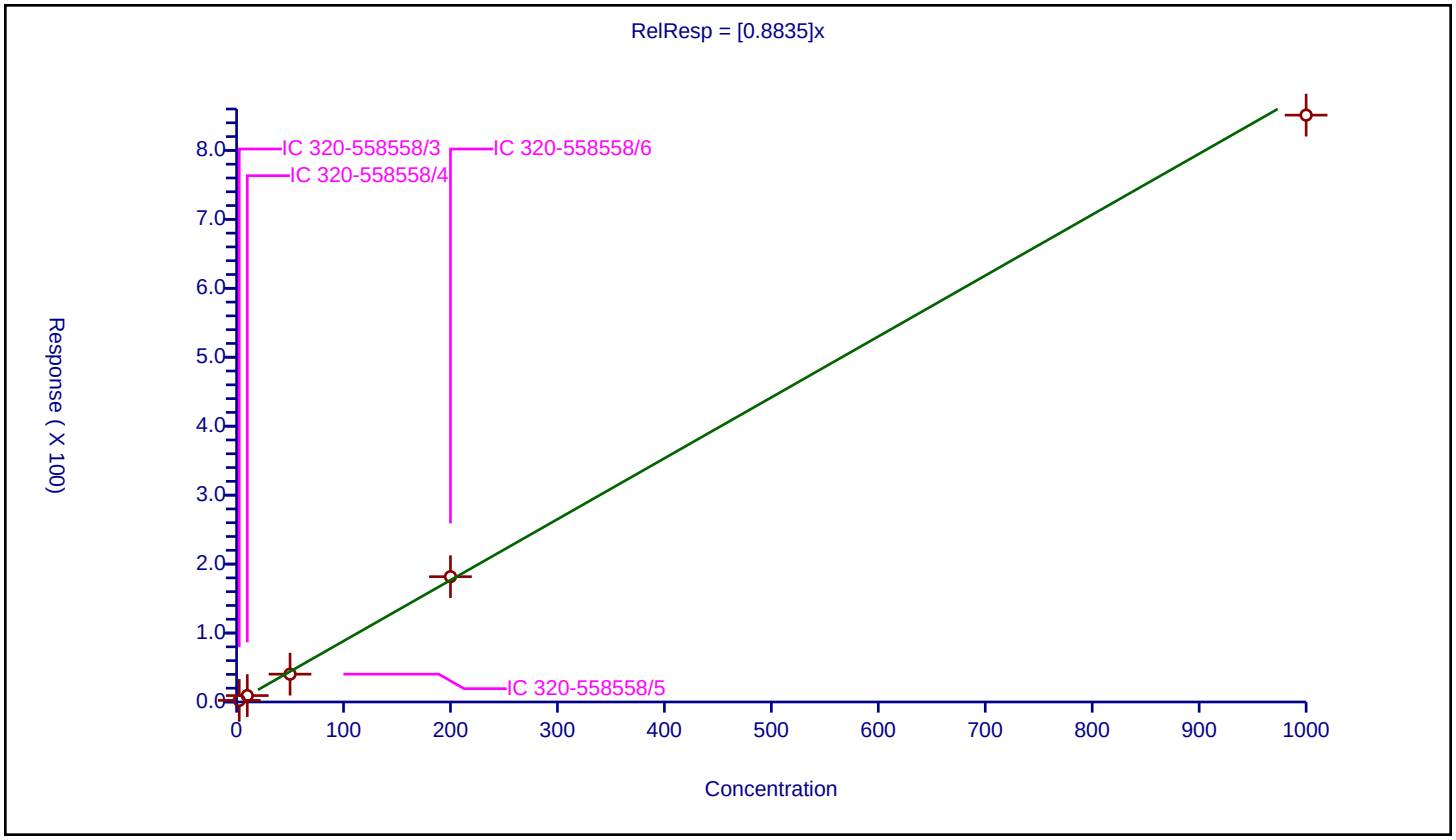
Curve Coefficients

Intercept:	0
Slope:	0.8835

Error Coefficients

Standard Error:	12200000
Relative Standard Error:	5.9
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.303202	100.0	2330451.0	0.921281	Y
2	IC 320-558558/4	10.0	9.286949	100.0	2200292.0	0.928695	Y
3	IC 320-558558/5	50.0	40.367106	100.0	2480807.0	0.807342	Y
4	IC 320-558558/6	200.0	181.772145	100.0	3555240.0	0.908861	Y
5	IC 320-558558/7	1000.0	851.16151	100.0	2766787.0	0.851162	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

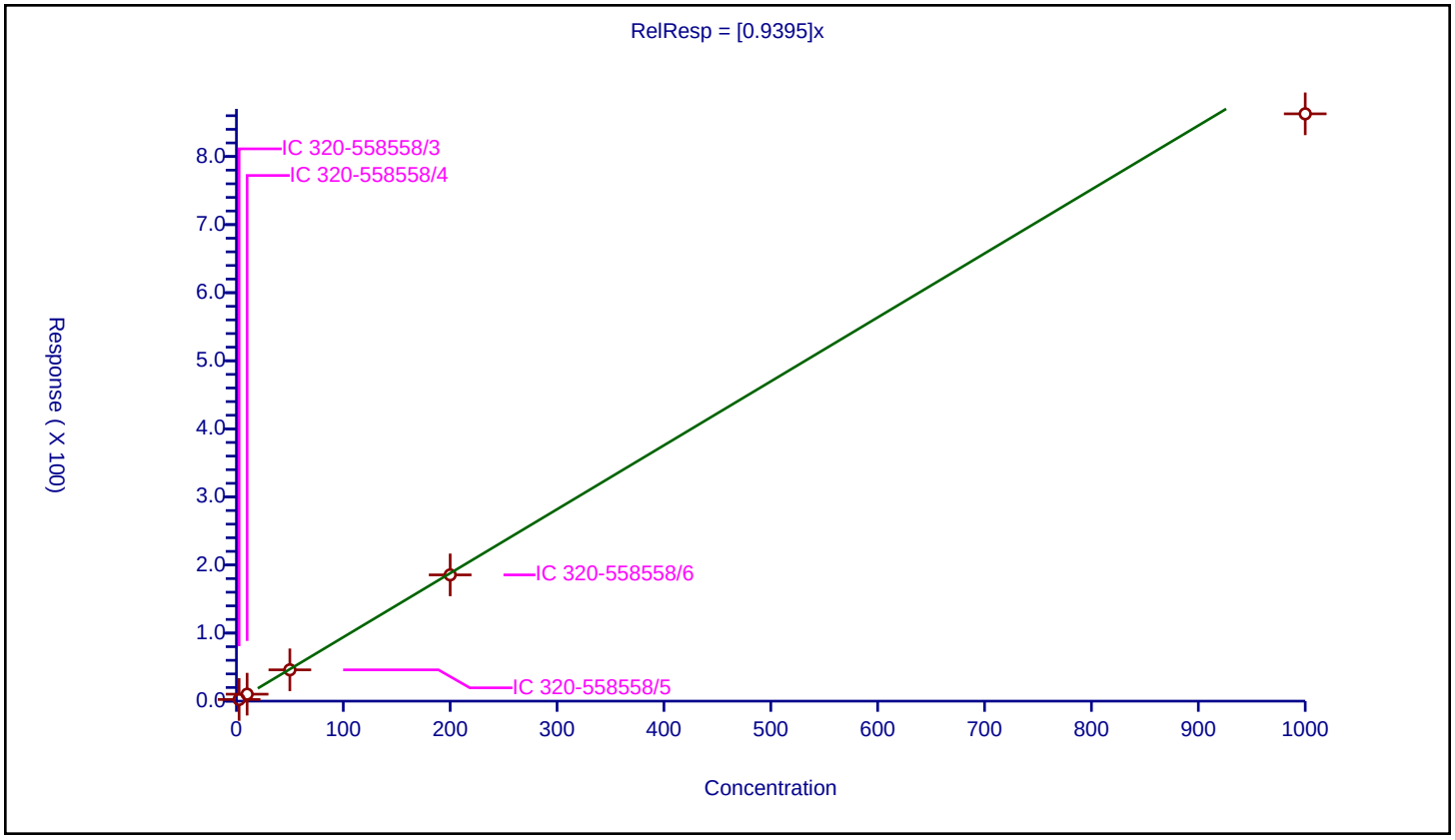
Curve Coefficients

Intercept:	0
Slope:	0.9395

Error Coefficients

Standard Error:	9740000
Relative Standard Error:	6.3
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.411862	100.0	1830992.0	0.964745	Y
2	IC 320-558558/4	10.0	10.228694	100.0	1640708.0	1.022869	Y
3	IC 320-558558/5	50.0	45.976773	100.0	1760030.0	0.919535	Y
4	IC 320-558558/6	200.0	185.468644	100.0	2750934.0	0.927343	Y
5	IC 320-558558/7	1000.0	862.778463	100.0	2176275.0	0.862778	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

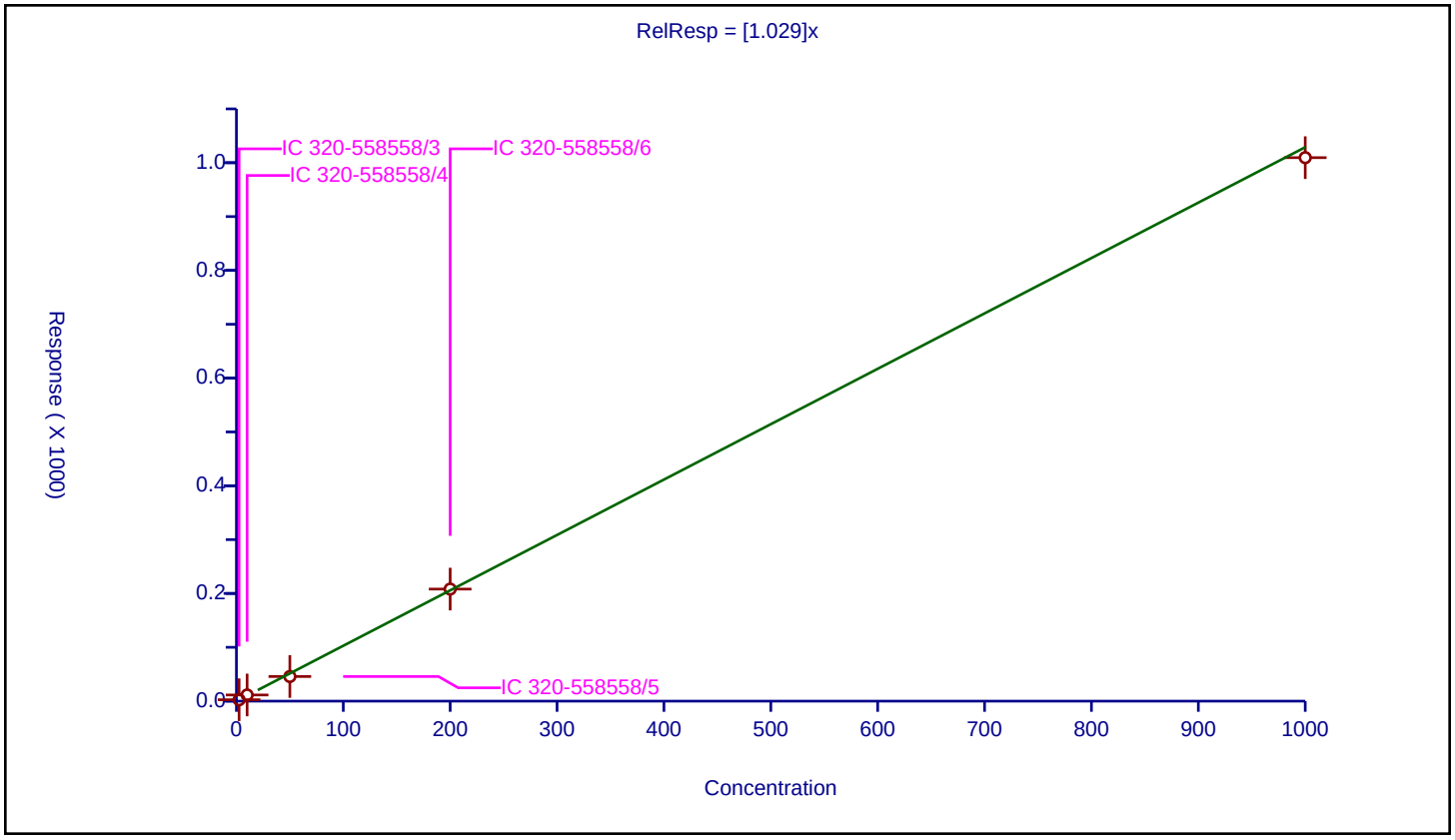
Curve Coefficients

Intercept:	0
Slope:	1.029

Error Coefficients

Standard Error:	14500000
Relative Standard Error:	8.0
Correlation Coefficient:	0.995
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.583363	100.0	2330451.0	1.033345	Y
2	IC 320-558558/4	10.0	11.45657	100.0	2200292.0	1.145657	Y
3	IC 320-558558/5	50.0	45.729394	100.0	2480807.0	0.914588	Y
4	IC 320-558558/6	200.0	208.143895	100.0	3555240.0	1.040719	Y
5	IC 320-558558/7	1000.0	1009.436469	100.0	2766787.0	1.009436	Y



Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

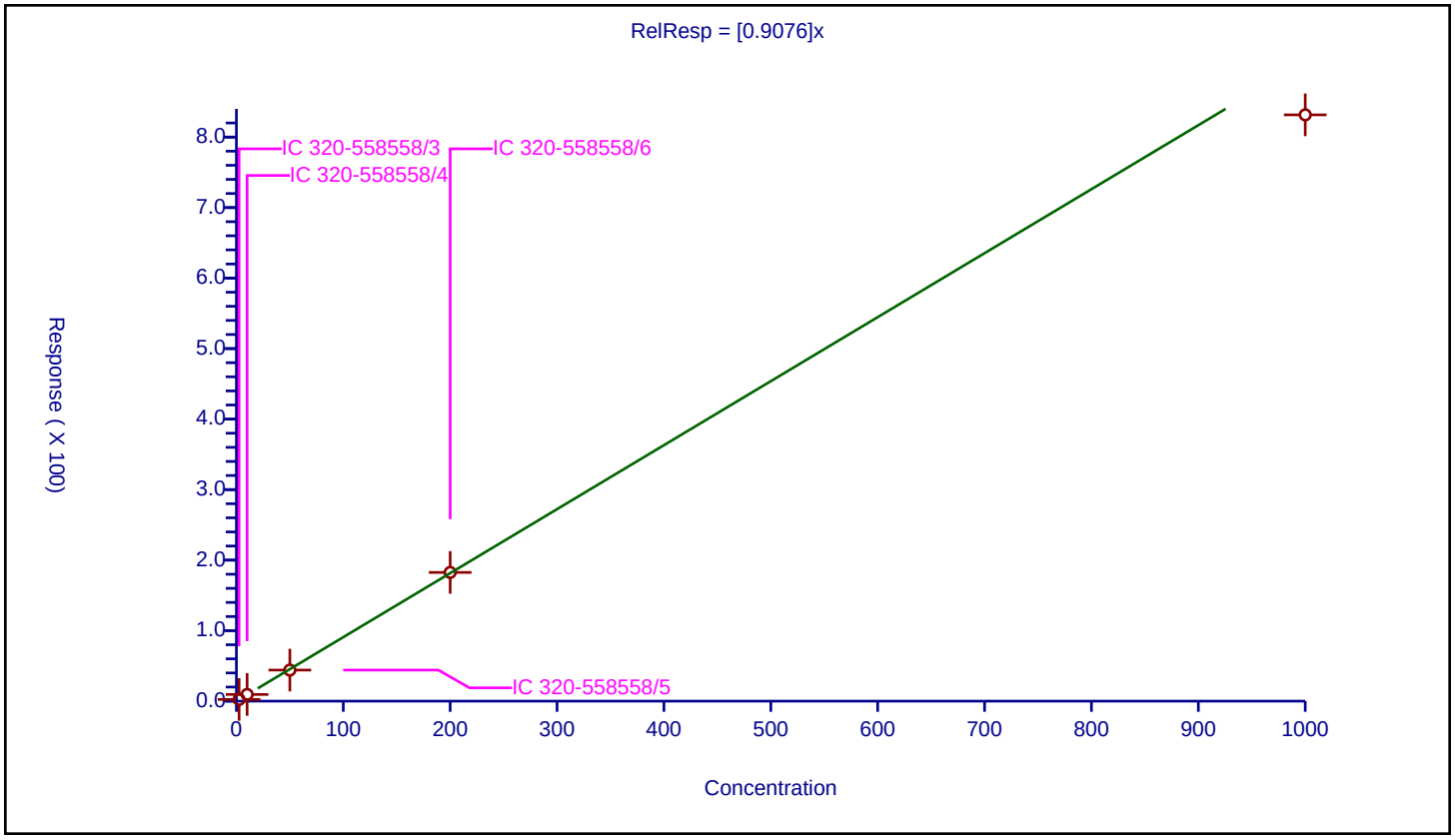
Curve Coefficients

Intercept:	0
Slope:	0.9076

Error Coefficients

Standard Error:	9400000
Relative Standard Error:	5.9
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.415576	100.0	1830992.0	0.96623	Y
2	IC 320-558558/4	10.0	9.46506	100.0	1640708.0	0.946506	Y
3	IC 320-558558/5	50.0	44.055045	100.0	1760030.0	0.881101	Y
4	IC 320-558558/6	200.0	182.564976	100.0	2750934.0	0.912825	Y
5	IC 320-558558/7	1000.0	831.540224	100.0	2176275.0	0.83154	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

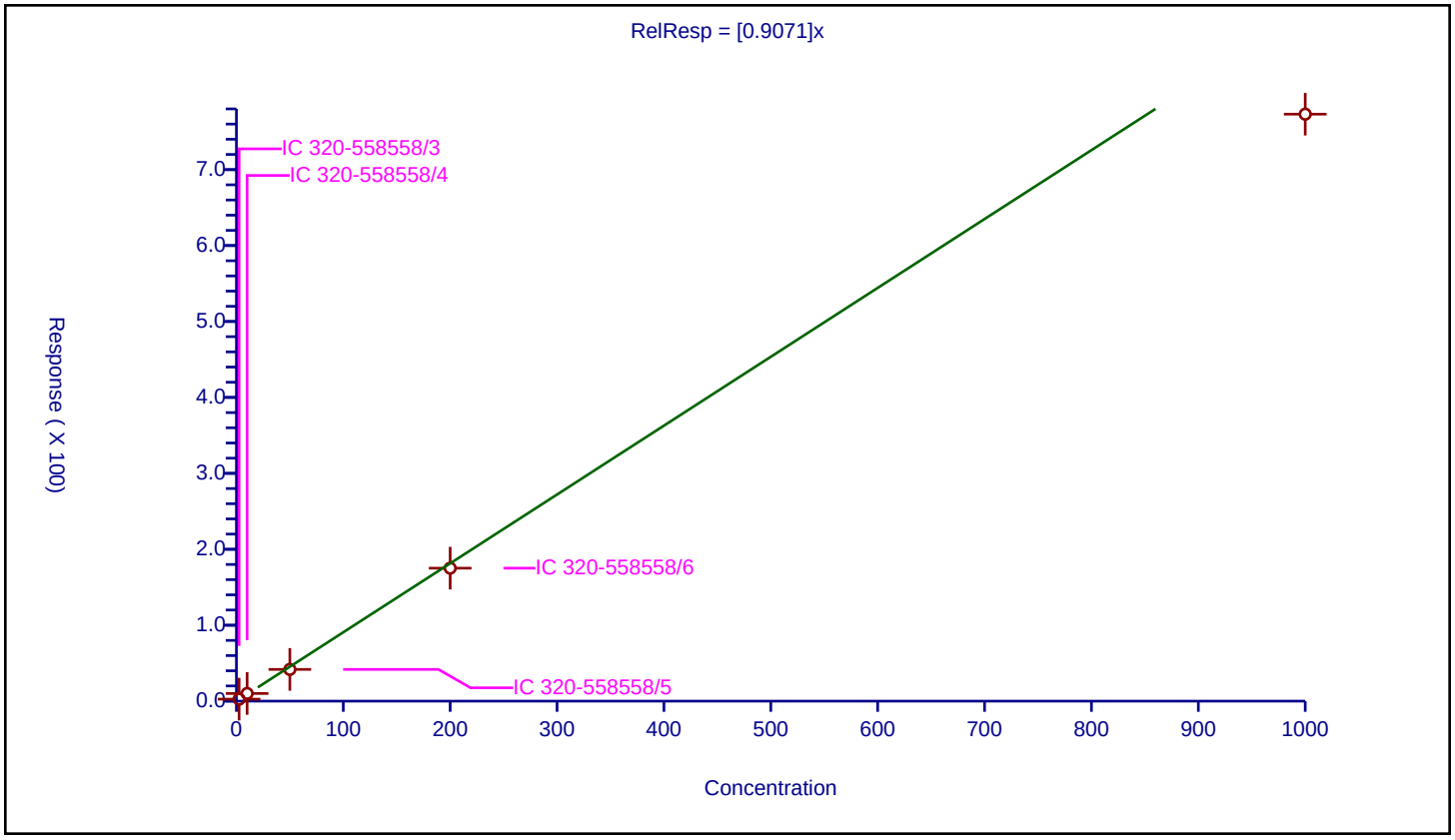
Curve Coefficients

Intercept:	0
Slope:	0.9071

Error Coefficients

Standard Error:	11200000
Relative Standard Error:	12.7
Correlation Coefficient:	0.991
Coefficient of Determination (Adjusted):	0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.608723	100.0	2330451.0	1.043489	Y
2	IC 320-558558/4	10.0	10.075026	100.0	2200292.0	1.007503	Y
3	IC 320-558558/5	50.0	41.777938	100.0	2480807.0	0.835559	Y
4	IC 320-558558/6	200.0	175.14075	100.0	3555240.0	0.875704	Y
5	IC 320-558558/7	1000.0	773.061027	100.0	2766787.0	0.773061	Y



Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

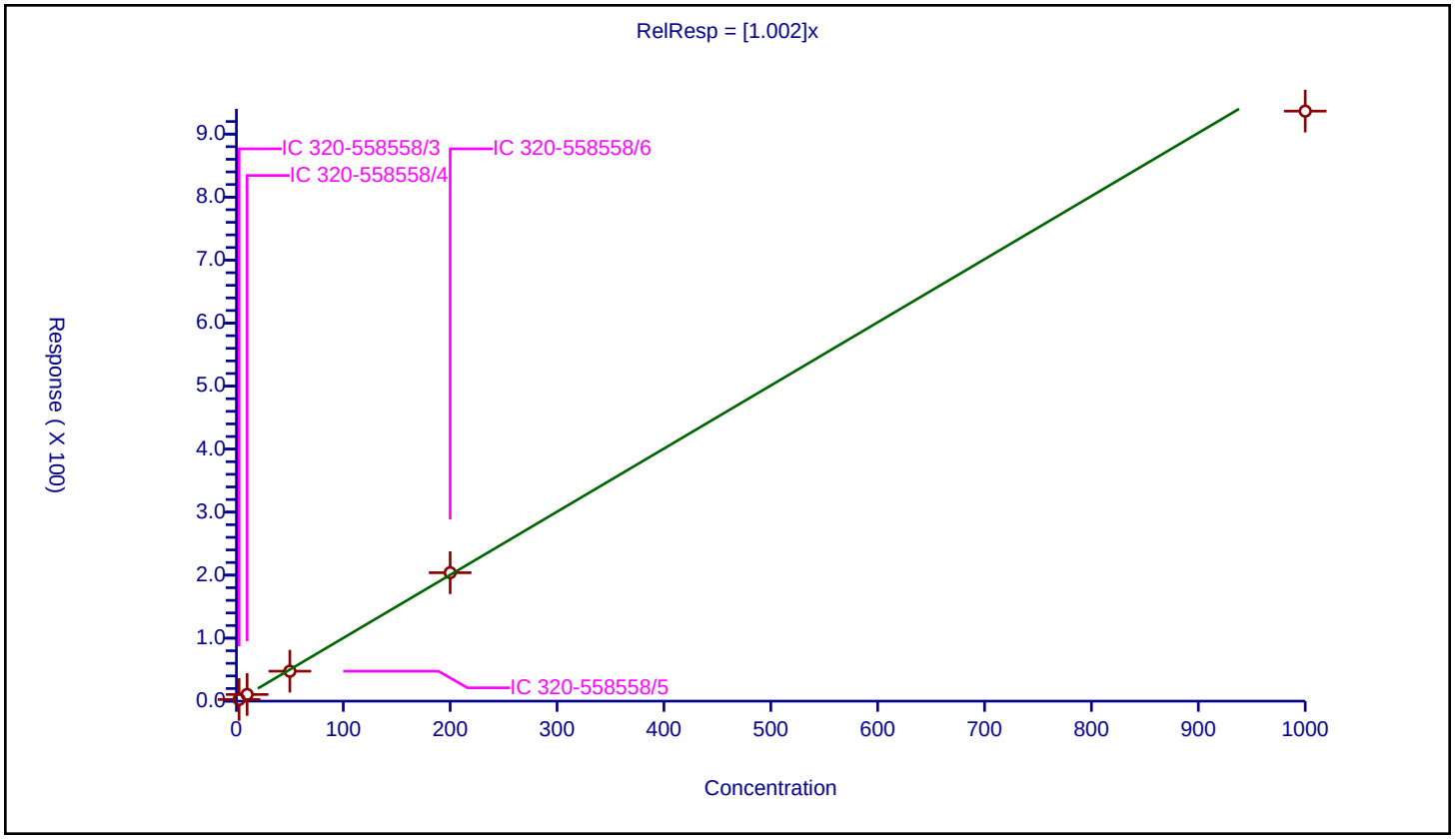
Curve Coefficients

Intercept:	0
Slope:	1.002

Error Coefficients

Standard Error:	10700000
Relative Standard Error:	5.6
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.609309	100.0	1713672.0	1.043724	Y
2	IC 320-558558/4	10.0	10.603989	100.0	1615939.0	1.060399	Y
3	IC 320-558558/5	50.0	47.515106	100.0	1767842.0	0.950302	Y
4	IC 320-558558/6	200.0	203.849566	100.0	2607541.0	1.019248	Y
5	IC 320-558558/7	1000.0	936.433267	100.0	2222510.0	0.936433	Y



Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

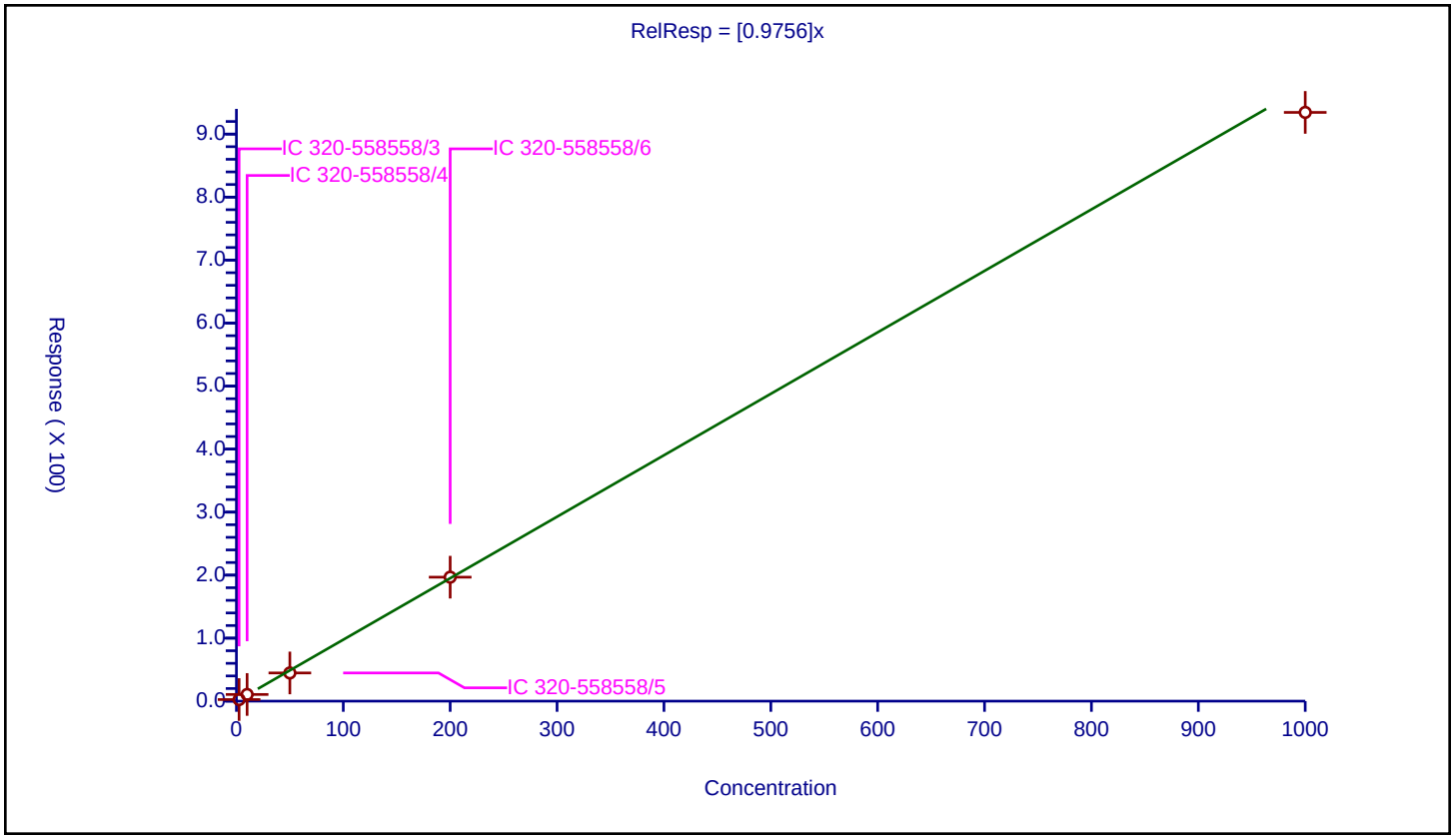
Curve Coefficients

Intercept:	0
Slope:	0.9756

Error Coefficients

Standard Error:	17000000
Relative Standard Error:	6.5
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.510151	100.0	2885364.0	1.00406	Y
2	IC 320-558558/4	10.0	10.604824	100.0	2652010.0	1.060482	Y
3	IC 320-558558/5	50.0	44.758349	100.0	2995249.0	0.895167	Y
4	IC 320-558558/6	200.0	196.774038	100.0	4279250.0	0.98387	Y
5	IC 320-558558/7	1000.0	934.437153	100.0	3515851.0	0.934437	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

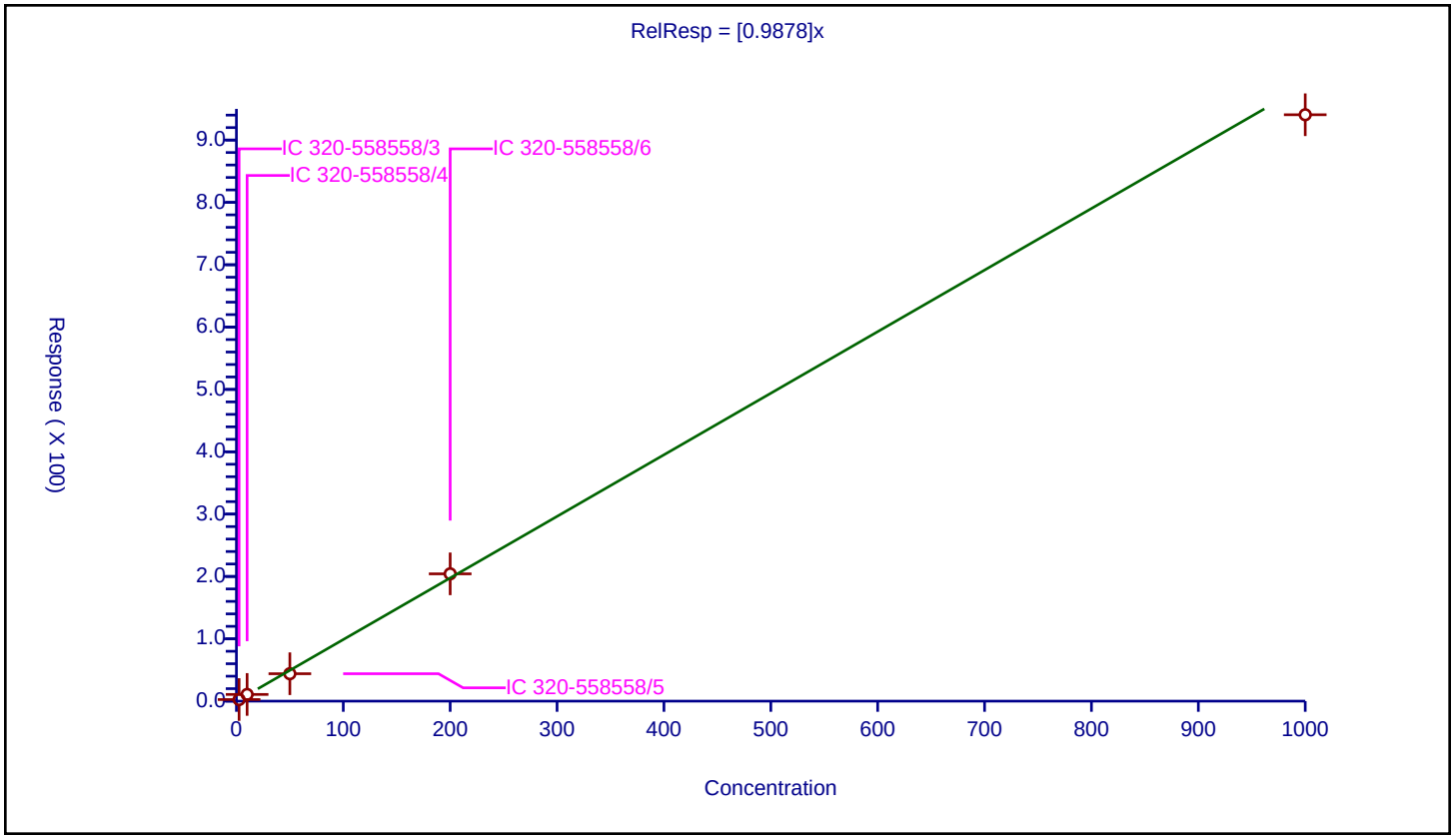
Curve Coefficients

Intercept:	0
Slope:	0.9878

Error Coefficients

Standard Error:	13500000
Relative Standard Error:	7.8
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.557831	100.0	2330451.0	1.023132	Y
2	IC 320-558558/4	10.0	10.744528	100.0	2200292.0	1.074453	Y
3	IC 320-558558/5	50.0	43.989557	100.0	2480807.0	0.879791	Y
4	IC 320-558558/6	200.0	204.200476	100.0	3555240.0	1.021002	Y
5	IC 320-558558/7	1000.0	940.611258	100.0	2766787.0	0.940611	Y



Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

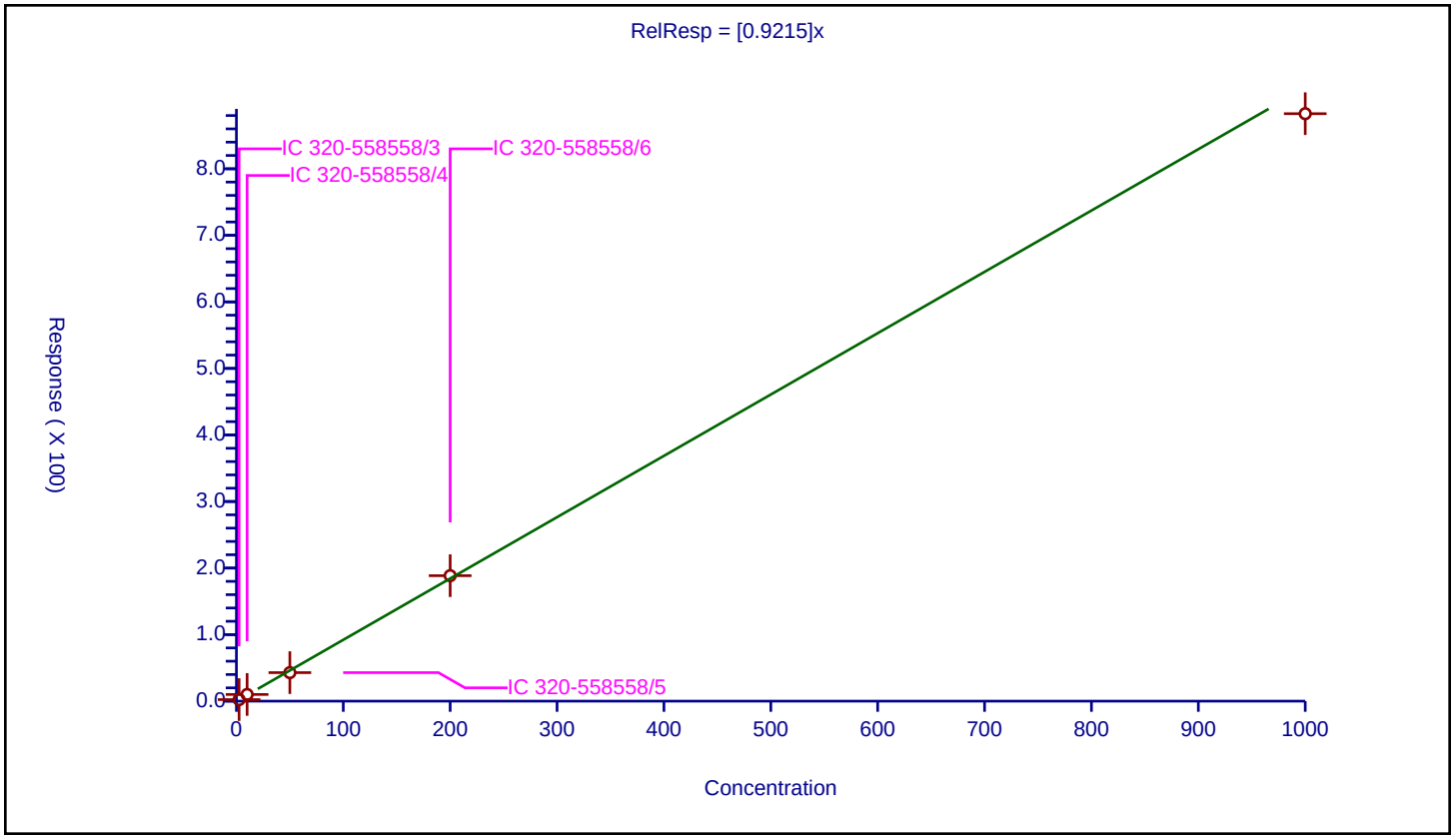
Curve Coefficients

Intercept:	0
Slope:	0.9215

Error Coefficients

Standard Error:	16000000
Relative Standard Error:	6.1
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	2.5	2.30477	100.0	2885364.0	0.921908	Y
2	IC 320-558558/4	10.0	10.034917	100.0	2652010.0	1.003492	Y
3	IC 320-558558/5	50.0	42.84572	100.0	2995249.0	0.856914	Y
4	IC 320-558558/6	200.0	188.517708	100.0	4279250.0	0.942589	Y
5	IC 320-558558/7	1000.0	882.793867	100.0	3515851.0	0.882794	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

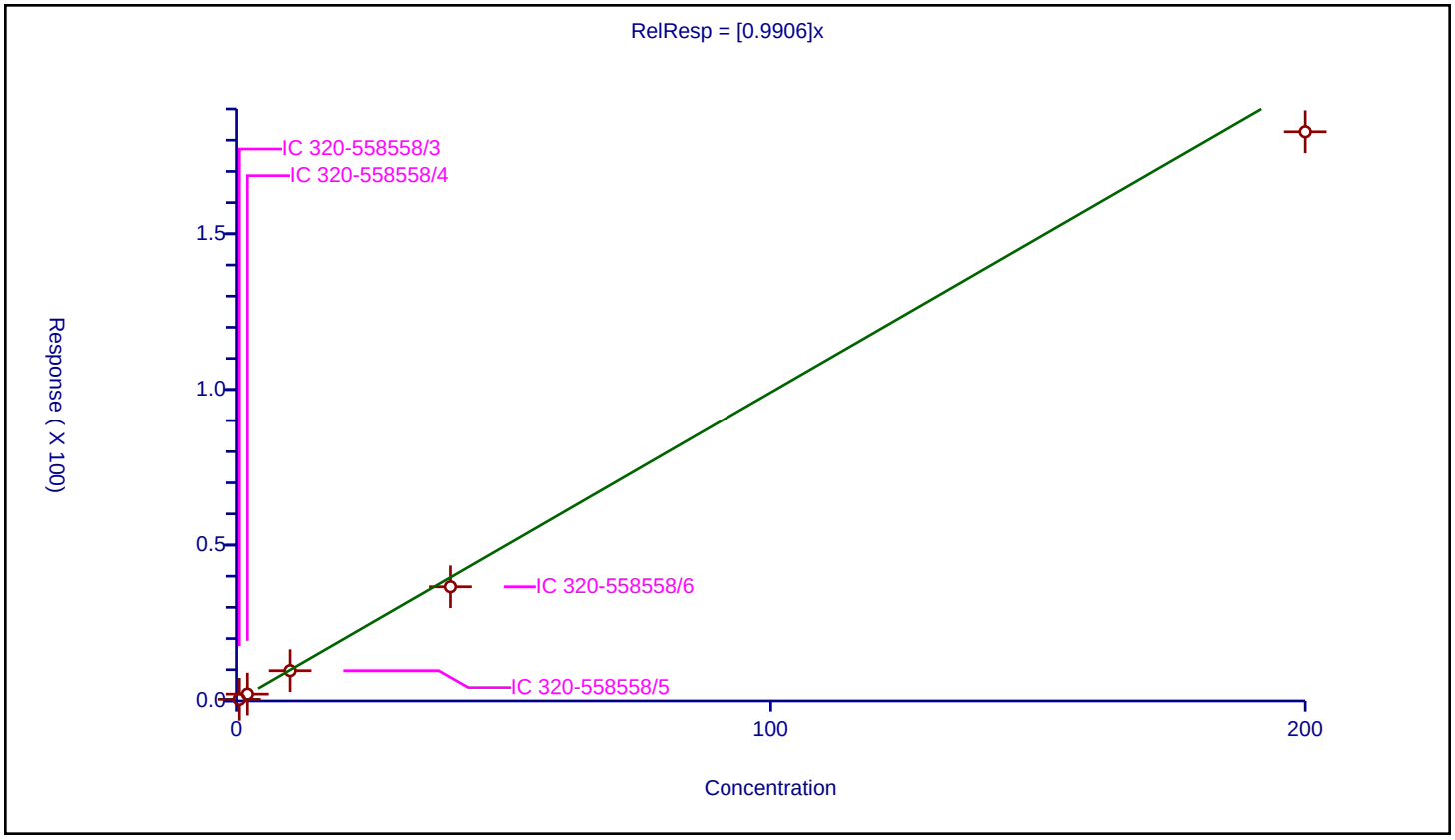
Curve Coefficients

Intercept:	0
Slope:	0.9906

Error Coefficients

Standard Error:	2830000
Relative Standard Error:	8.4
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	0.5	0.528293	100.0	2546695.0	1.056585	Y
2	IC 320-558558/4	2.0	2.19449	100.0	2255968.0	1.097245	Y
3	IC 320-558558/5	10.0	9.702701	100.0	2421233.0	0.97027	Y
4	IC 320-558558/6	40.0	36.621521	100.0	3741636.0	0.915538	Y
5	IC 320-558558/7	200.0	182.701761	100.0	2999814.0	0.913509	Y



Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

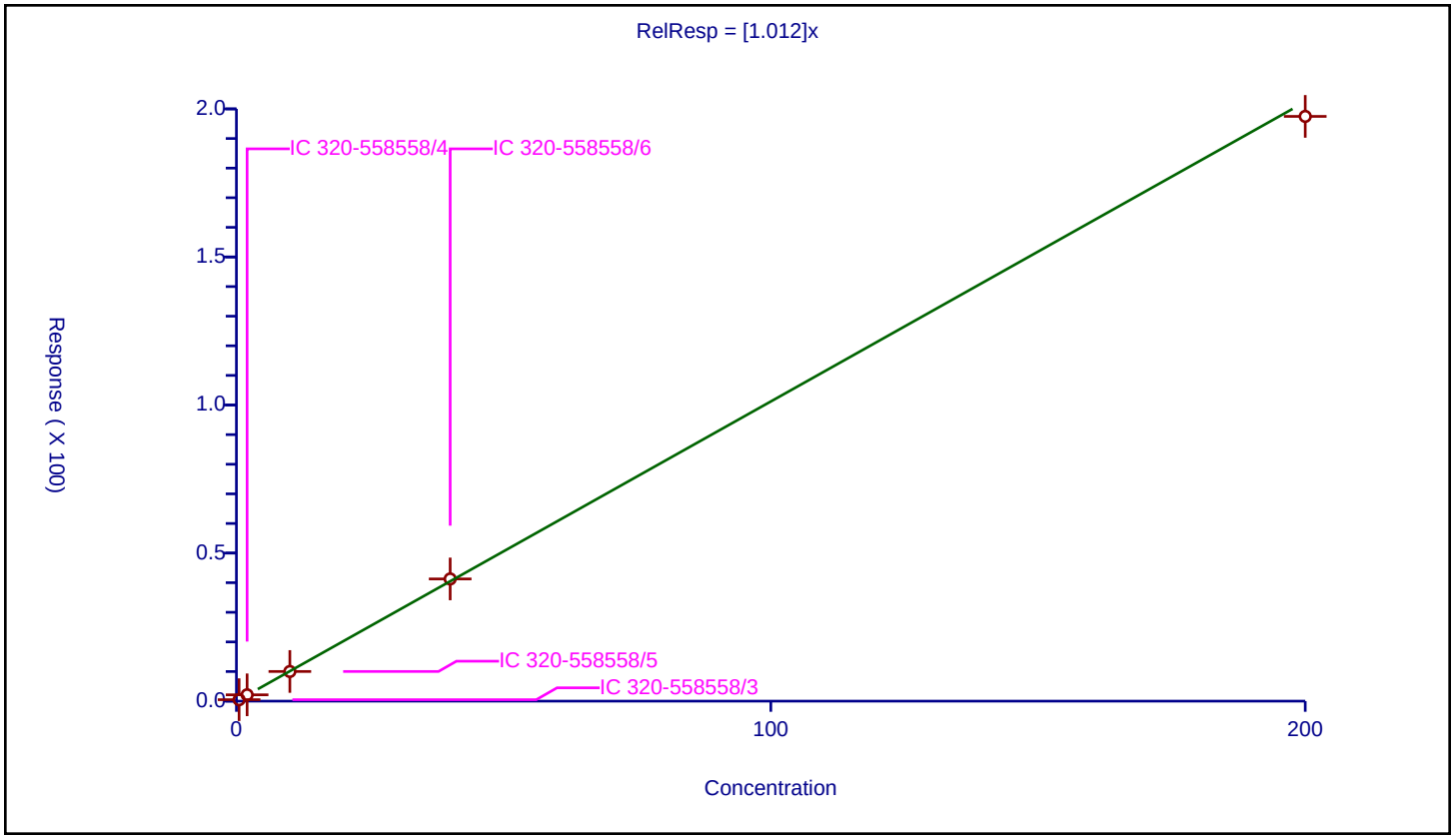
Curve Coefficients

Intercept:	0
Slope:	1.012

Error Coefficients

Standard Error:	3790000
Relative Standard Error:	3.8
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	0.5	0.485878	100.0	3248142.0	0.971756	Y
2	IC 320-558558/4	2.0	2.135153	100.0	3059827.0	1.067577	Y
3	IC 320-558558/5	10.0	10.015177	100.0	3267431.0	1.001518	Y
4	IC 320-558558/6	40.0	41.267196	100.0	4635716.0	1.03168	Y
5	IC 320-558558/7	200.0	197.463179	100.0	3706529.0	0.987316	Y



Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

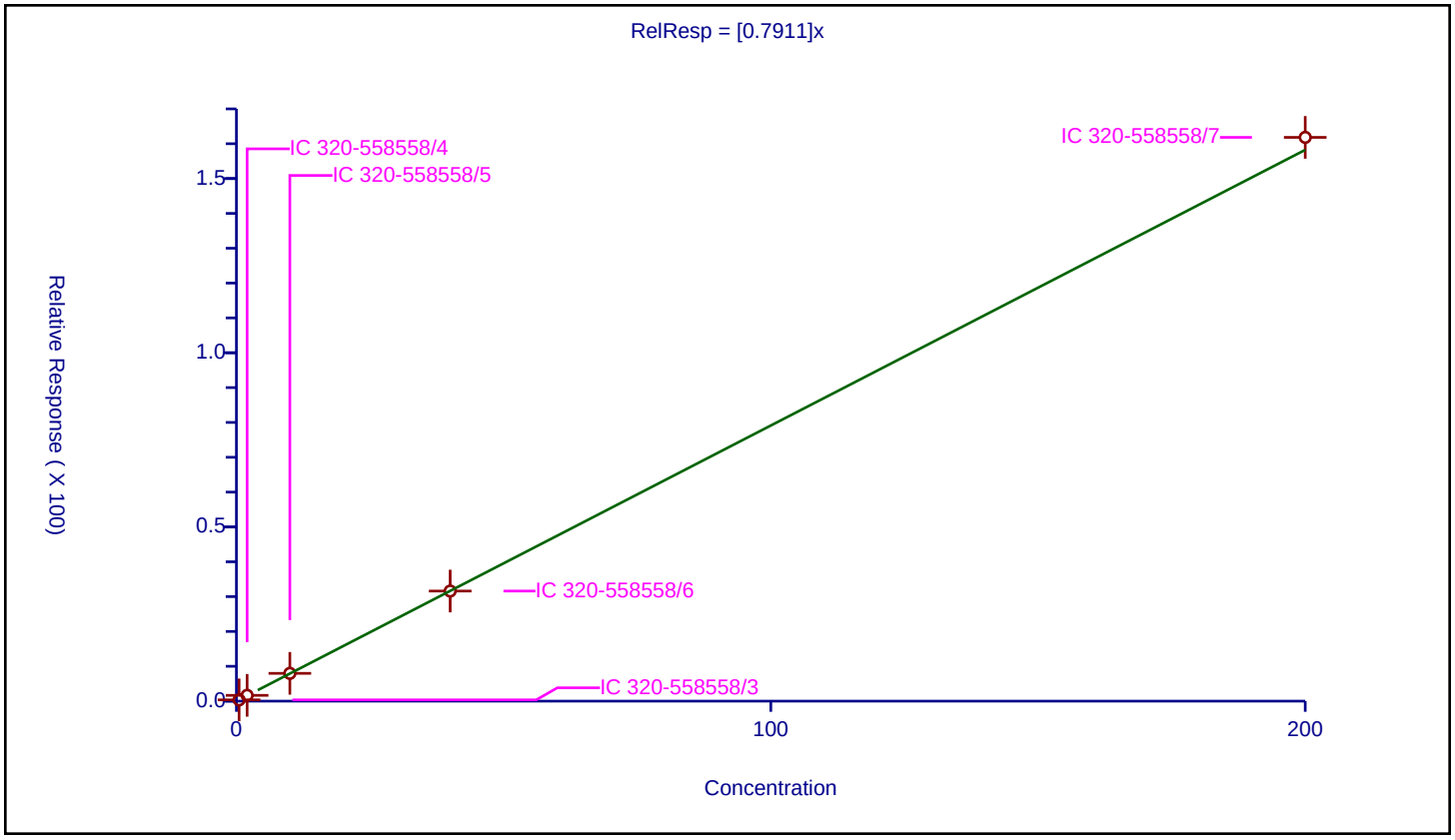
Curve Coefficients

Intercept:	0
Slope:	0.7911

Error Coefficients

Standard Error:	3070000
Relative Standard Error:	4.8
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	0.5	0.364653	100.0	3175076.0	0.729305	Y
2	IC 320-558558/4	2.0	1.659463	100.0	2919860.0	0.829732	Y
3	IC 320-558558/5	10.0	7.973806	100.0	3311179.0	0.797381	Y
4	IC 320-558558/6	40.0	31.604534	100.0	4553217.0	0.790113	Y
5	IC 320-558558/7	200.0	161.823051	100.0	3683935.0	0.809115	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

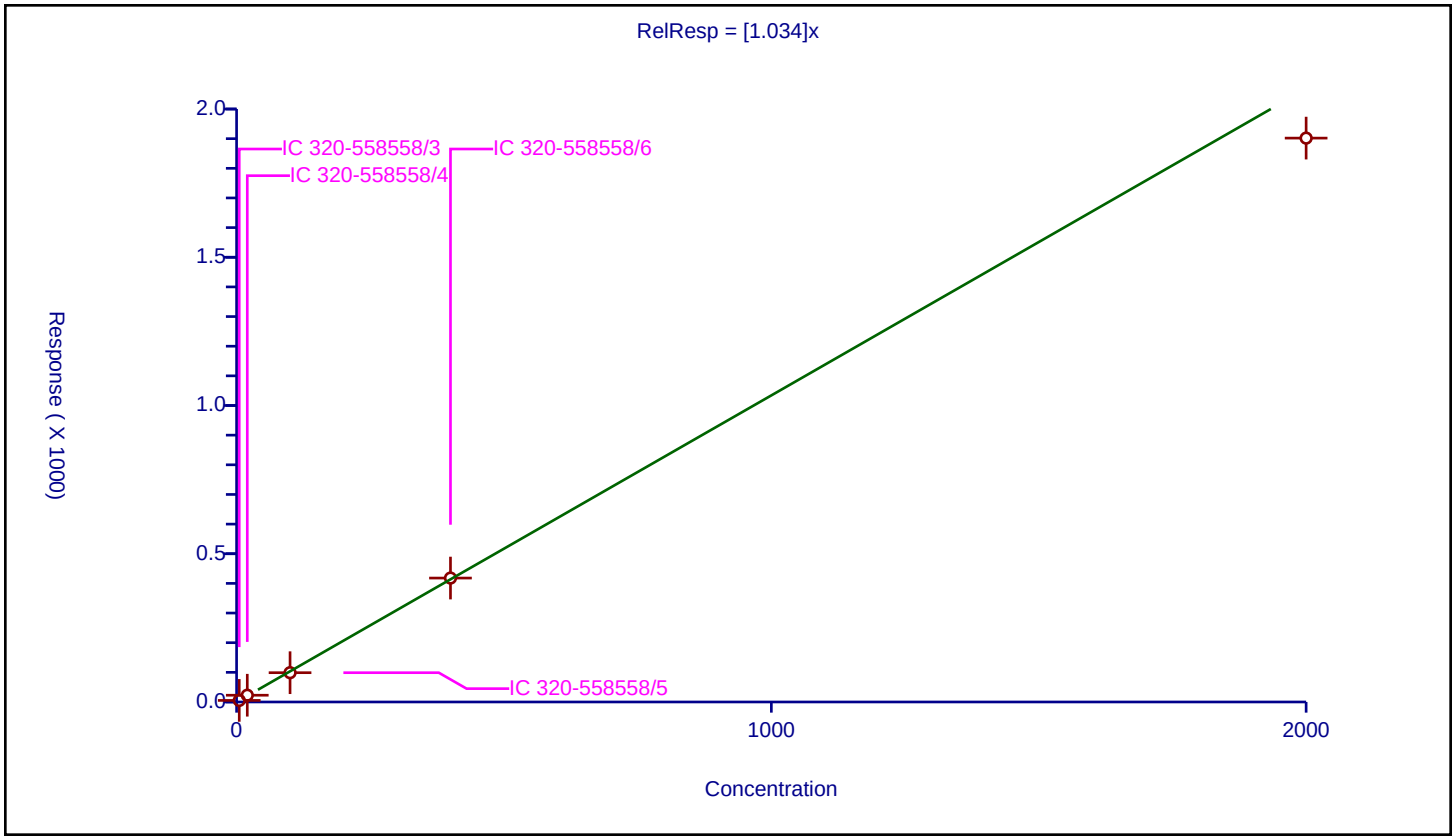
Curve Coefficients

Intercept:	0
Slope:	1.034

Error Coefficients

Standard Error:	10700000
Relative Standard Error:	6.9
Correlation Coefficient:	0.983
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	5.0	5.23297	200.0	1988775.0	1.046594	Y
2	IC 320-558558/4	20.0	22.807385	200.0	1830337.0	1.140369	Y
3	IC 320-558558/5	100.0	98.774542	200.0	1946538.0	0.987745	Y
4	IC 320-558558/6	400.0	418.008356	200.0	3156146.0	1.045021	Y
5	IC 320-558558/7	2000.0	1901.864426	200.0	2134437.0	0.950932	Y



Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

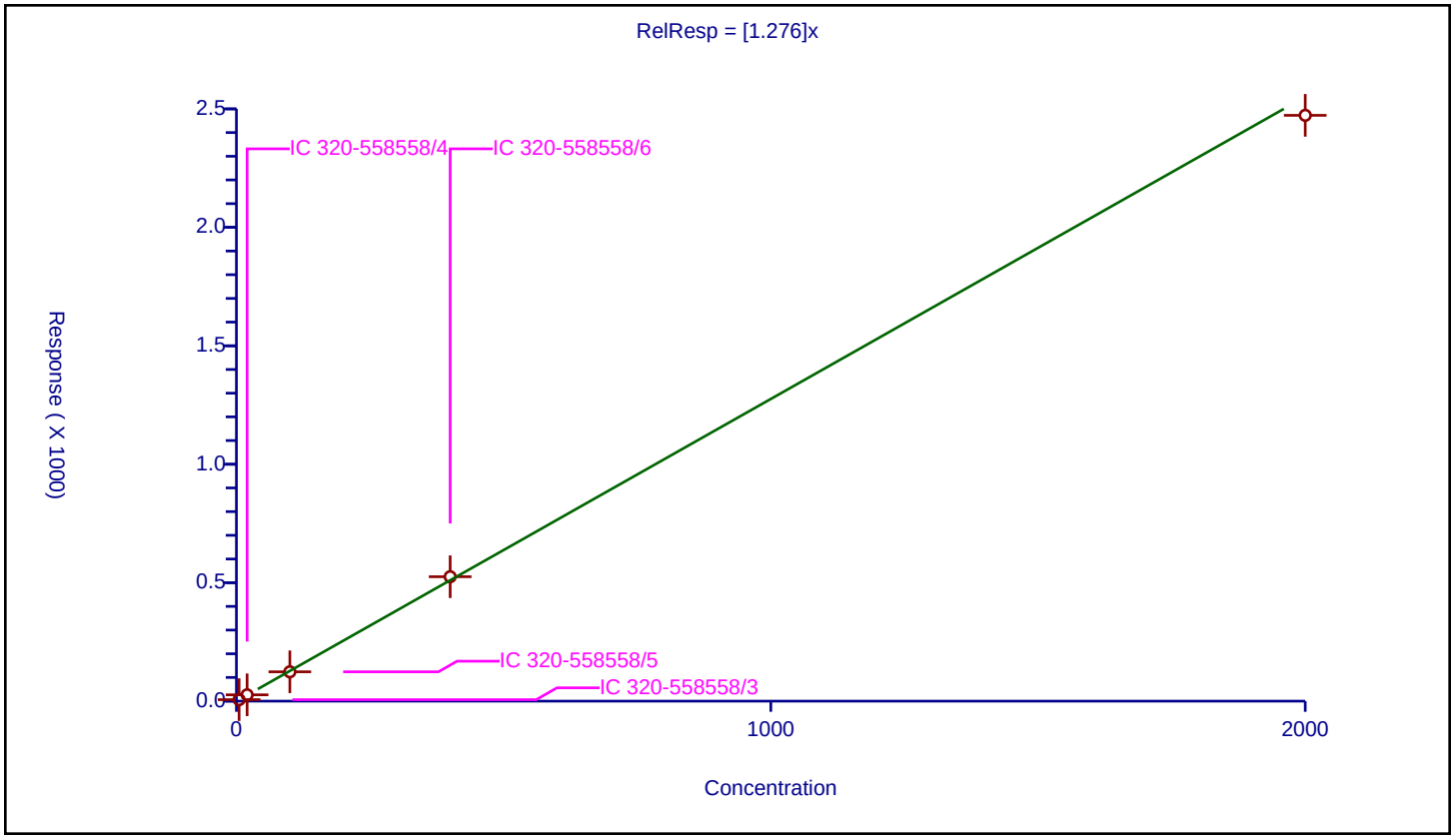
Curve Coefficients

Intercept:	0
Slope:	1.276

Error Coefficients

Standard Error:	13800000
Relative Standard Error:	3.6
Correlation Coefficient:	0.985
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-558558/3	5.0	6.263655	200.0	1988775.0	1.252731	Y
2	IC 320-558558/4	20.0	26.737699	200.0	1830337.0	1.336885	Y
3	IC 320-558558/5	100.0	123.881989	200.0	1946538.0	1.23882	Y
4	IC 320-558558/6	400.0	525.177479	200.0	3156146.0	1.312944	Y
5	IC 320-558558/7	2000.0	2472.842253	200.0	2134437.0	1.236421	Y



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Lab Sample ID (1): WDM 320-558558/1 Instrument ID (1): DFS 1

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 01/13/2022 15:41

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	20.80	17

Resolution Report

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Instrument ID: DFS 1
Lims ID: WDM
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL

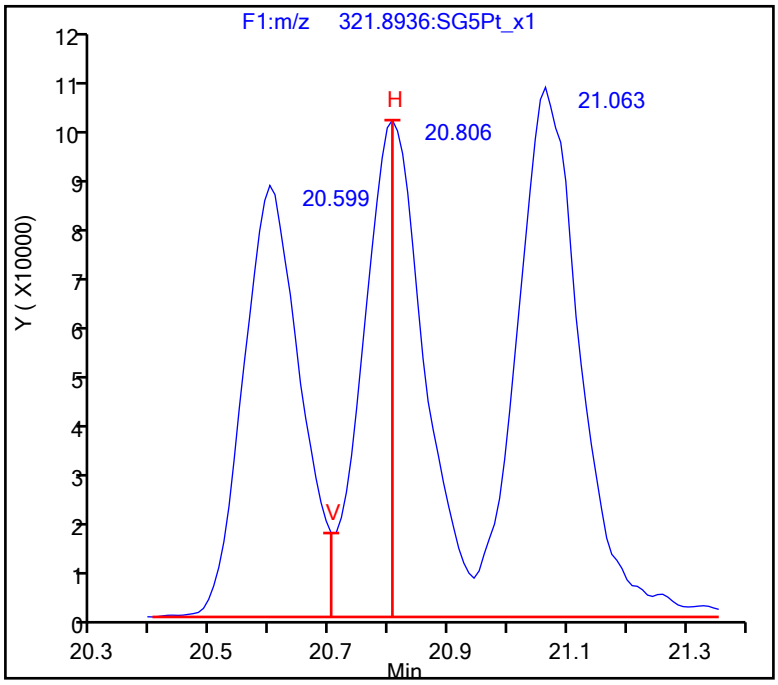
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 16045
H (Peak Height) = 95017

%R = 17 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Lab Sample ID (1): WDM 320-559800/1 Instrument ID (1): DFS 1

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 01/21/2022 21:03

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	20.37	18

Resolution Report

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d
Injection Date: 21-Jan-2022 21:03:00 Instrument ID: DFS 1
Lims ID: WDM
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL

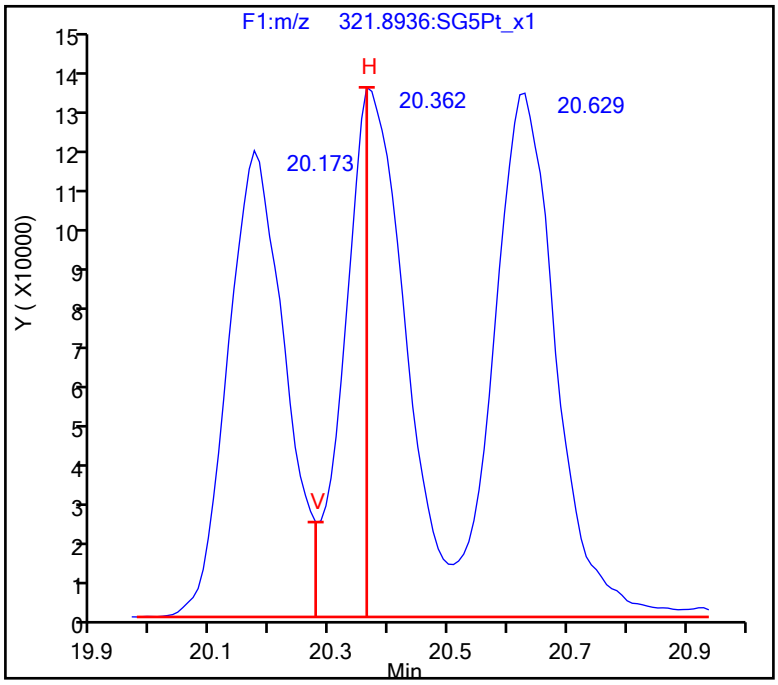
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 23702
H (Peak Height) = 132329

%R = 18 <= 25
Passed



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Lab Sample ID: ICV 320-558558/9 Calibration Date: 01/13/2022 22:21

Instrument ID: DFS 1 Calib Start Date: 01/13/2022 17:16

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/13/2022 20:27

Lab File ID: 13ja22dfs1_11.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.012	1.025		40.5	40.0	1.3	30.0
2,3,7,8-TCDD	AveID	0.9906	1.045		42.2	40.0	5.5	30.0
1,2,3,7,8-PeCDF	AveID	0.9756	0.9605		197	200	-1.5	30.0
2,3,4,7,8-PeCDF	AveID	0.9215	0.9922		215	200	7.7	30.0
1,2,3,7,8-PeCDD	AveID	1.002	0.9931		198	200	-0.9	30.0
1,2,3,4,7,8-HxCDF	AveID	0.8835	0.9083		206	200	2.8	30.0
1,2,3,6,7,8-HxCDF	AveID	1.029	1.065		207	200	3.5	30.0
2,3,4,6,7,8-HxCDF	AveID	0.9878	1.083		219	200	9.6	30.0
1,2,3,4,7,8-HxCDD	AveID	0.8294	0.8520		205	200	2.7	30.0
1,2,3,6,7,8-HxCDD	AveID	0.9395	1.005		214	200	7.0	30.0
1,2,3,7,8,9-HxCDD	AveID	0.9076	0.9110		201	200	0.4	30.0
1,2,3,7,8,9-HxCDF	AveID	0.9071	0.8125		179	200	-10.4	30.0
1,2,3,4,6,7,8-HpCDF	AveID	1.439	1.473		205	200	2.4	30.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9767	1.039		213	200	6.4	30.0
1,2,3,4,7,8,9-HpCDF	AveID	1.220	1.205		198	200	-1.3	30.0
OCDD	AveID	1.034	1.076		416	400	4.0	30.0
OCDF	AveID	1.276	1.321		414	400	3.6	30.0
13C-2,3,7,8-TCDF	Ave	1.016	1.010		99.3	100	-0.7	
13C-2,3,7,8-TCDD	Ave	0.7884	0.7960		101	100	1.0	
13C-1,2,3,7,8-PeCDF	Ave	0.9232	0.9166		99.3	100	-0.7	
13C-2,3,4,7,8-PeCDF	Ave	1.079	1.105		94.6	100	2.4	
13C-1,2,3,7,8-PeCDD	Ave	0.5606	0.5572		99.4	100	-0.6	
13C-1,2,3,4,7,8-HxCDF	Ave	1.057	1.105		105	100	4.6	
13C-1,2,3,6,7,8-HxCDF	Ave	0.9686	0.9761		101	100	0.8	
13C-2,3,4,6,7,8-HxCDF	Ave	0.9084	0.9620		106	100	5.9	
13C-1,2,3,4,7,8-HxCDD	Ave	0.8133	0.8410		82.9	100	3.4	
13C-1,2,3,6,7,8-HxCDD	Ave	0.8027	0.8413		105	100	4.8	
13C-1,2,3,7,8,9-HxCDF	Ave	0.8248	0.7768		94.2	100	-5.8	
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6421	0.6562		102	100	2.2	
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.6246	0.6176		98.9	100	-1.1	
13C-1,2,3,4,7,8,9-HpCDF	AveID	1.171	1.150		98.2	100	-1.8	
13C-OCDD	Ave	0.4360	0.4218		194	200	-3.3	
37Cl4-2,3,7,8-TCDD	Ave	0.7911	0.8152		41.2	40.0	3.0	

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 13-Jan-2022 22:21:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00048
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist:

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 14:08:57 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1647

First Level Reviewer: stephensk Date: 17-Jan-2022 15:13:59

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.423	2537262	0.80	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.496	2561638	0.84	1.0164	99.3	99.3	0.6716	0.6716	99.33	
2,3,7,8-TCDF	19.522	1049956	0.75	1.0120	40.5	40.5	0.1275	0.1275	101	
A Non-2,3,7,8-sub-TCDF	19.070	59677	0.77	1.0120	2.616	2.302	0.1275	2.018		RQ
S Total TCDF					43.1	42.8	0.1275	0.1275		RQ
D 13C-2,3,7,8-TCDD	20.784	2019627	0.79	0.7884	101.0	101.0	0.5433	0.5433	101	
2,3,7,8-TCDD	20.810	844257	0.81	0.9906	42.2	42.2	0.1288	0.1288	105	
$ 37Cl4-2,3,7,8-TCDD	20.818	827376		0.7911	41.2	41.2	0.0825	0.0825	103	
A Non-2,3,7,8-sub-TCDD	19.882	28558	0.77	0.9906	1.896	1.427	0.1288	0.8230		RQ
S Total TCDD					44.1	43.6	0.1288	0.1288		RQ
D 13C-1,2,3,7,8-PeCDF	26.499	2325699	1.56	0.9232	99.3	99.3	0.7739	0.7739	99.29	
1,2,3,7,8-PeCDF	26.516	4467810	1.55	0.9756	196.9	196.9	1.054	1.054	98.46	
D 13C-2,3,4,7,8-PeCDF	27.947	2804770	1.53	1.1692	94.5	94.5	0.6111	0.6111	94.55	
2,3,4,7,8-PeCDF	27.980	4615258	1.55	0.9215	215.3	215.3	1.116	1.116	108	a
A F1 PeCDFs	23.796						0.007681	0.007681		
A Non-2,3,7,8-sub-PeCDF	27.175						1.084	1.084		
S Total PeCDF					412.3	412.3	1.085	1.085		
D 13C-1,2,3,7,8-PeCDD	28.747	1413779	1.71	0.5606	99.4	99.4	0.2629	0.2629	99.39	
1,2,3,7,8-PeCDD	28.781	2807999	1.59	1.0020	198.2	198.2	0.2553	0.2553	99.11	
A Non-2,3,7,8-sub-PeCDD	27.560						0.2553	0.2553		
S Total PeCDD					198.2	198.2	0.2553	0.2553		
D 13C-1,2,3,4,7,8-HxCDF	34.359	1949378	0.51	1.0566	104.6	104.6	0.5175	0.5175	105	
1,2,3,4,7,8-HxCDF	34.376	3541335	1.25	0.8835	205.6	205.6	0.8465	0.8465	103	
D 13C-1,2,3,6,7,8-HxCDF	34.536	1721140	0.52	0.9686	100.8	100.8	0.5645	0.5645	101	
1,2,3,6,7,8-HxCDF	34.553	4152943	1.25	1.0287	207.1	207.1	0.7270	0.7270	104	
D 13C-2,3,4,6,7,8-HxCDF	35.420	1696330	0.52	0.9084	105.9	105.9	0.6019	0.6019	106	
2,3,4,6,7,8-HxCDF	35.437	4221109	1.24	0.9878	219.2	219.2	0.7571	0.7571	110	
D 13C-1,2,3,7,8,9-HxCDF	36.372	1369814	0.55	0.8248	94.2	94.2	0.6630	0.6630	94.19	
1,2,3,7,8,9-HxCDF	36.380	3167751	1.24	0.9071	179.2	179.2	0.8245	0.8245	89.58	
A Non-2,3,7,8-sub-HxCDF	34.398						0.7858	0.7858		
S Total HxCDF					811.1	811.1	0.7888	0.7888		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	36.169	1763356	1.27	2.5E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.664	1482952	1.27	1.0143	82.9	82.9	0.3344	0.3344	82.91	
1,2,3,4,7,8-HxCDD	35.673	2527820	1.25	0.8294	205.4	205.4	0.5133	0.5133	103	
D 13C-1,2,3,6,7,8-HxCDD	35.782	1483507	1.29	0.8027	104.8	104.8	0.4225	0.4225	105	
1,2,3,6,7,8-HxCDD	35.799	2982500	1.25	0.9395	214.0	214.0	0.4532	0.4532	107	
1,2,3,7,8,9-HxCDD	36.186	2702899	1.25	0.9076	200.7	200.7	0.4691	0.4691	100	
A Non-2,3,7,8-sub-HxCDD	34.845						0.4772	0.4772		
S Total HxCDD					620.2	620.2	0.4786	0.4786		
1,2,3,4,6,7,8-HpCDF	38.294	3408375	1.04	1.4385	204.8	204.8	0.8602	0.8602	102	
D 13C-1,2,3,4,6,7,8-HpCDF	38.285	1157158	0.43	0.6421	102.2	102.2	0.6218	0.6218	102	
1,2,3,4,7,8,9-HpCDF	39.582	2788451	1.04	1.2202	197.5	197.5	1.014	1.014	98.74	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.573	1330489	0.43	1.1706	98.2	98.2	0.4073	0.4073	98.22	
A Non-2,3,7,8-sub-HpCDF	38.916						0.9309	0.9309		
S Total HpCDF					402.2	402.2	0.9372	0.9372		
1,2,3,4,6,7,8-HpCDD	39.278	2263649	1.04	0.9767	212.8	212.8	0.5425	0.5425	106	
D 13C-1,2,3,4,6,7,8-HpCDD	39.270	1089073	1.03	0.6246	98.9	98.9	0.3312	0.3312	98.88	
A Non-2,3,7,8-sub-HpCDD	38.925						0.5425	0.5425		Rn
S Total HpCDD					212.8	212.8	0.5425	0.5425		
D 13C-OCDD	41.742	1487643	0.89	0.4360	193.5	193.5	0.2538	0.2538	96.75	
OCDF	41.827	3930844	0.91	1.2756	414.3	414.3	0.4412	0.4412	104	
OCDD	41.751	3201142	0.89	1.0341	416.2	416.2	0.4762	0.4762	104	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
a - User Assigned ID

Reagents:

HRDXNIC_00048 Amount Added: 1.00 Units: ml

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 13-Jan-2022 22:21:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00048
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist:

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 14:08:57 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1647

First Level Reviewer: stephensk Date: 17-Jan-2022 15:13:59

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.423	20.418	0		1125987	160722	385	962	417		
333.9338	20.432	20.418	1		1411275	206964	245	612	845	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.496	19.482	1	0.955	1166919	170034	686	1715	248		
317.9389	19.487	19.482	0	0.954	1394719	218997	318	795	689	0.84(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.522	19.525	0	1.001	449599	64164	64	160	1003		
305.8987	19.513	19.525	-1	1.001	600357	84702	137	342	618	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	18.405	19.070	-40	0.944	3180	691	64	160	11		
305.8987	18.422	19.070	-39	0.945	4183	752	137	342	5	0.76(0.65-0.89)	
303.9016	19.745	19.070	40	1.013	30896	2511	64	160	39		
	Empc Correction				22758	2065	64	160	32		
305.8987	19.814	19.070	45	1.016	29556	2683	137	342	20	1.05(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.784	20.788	0	1.018	889688	116482	385	962	303		
333.9338	20.792	20.788	0	1.018	1129939	161780	245	612	660	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.810	20.797	1	1.001	377650	51794	83	207	624		
321.8936	20.818	20.797	1	1.002	466607	68077	59	147	1154	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.818	20.809	1	1.019	827376	109168	96	240	1137		
A Non-2,3,7,8-sub-TCDD											RQ

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
319.8965	20.664	19.882	47	0.994	6883	1438	83	207	17		
321.8936	20.672	19.882	47	0.995	9582	1902	59	147	32	0.72(0.65-0.89)	
319.8965	21.119	19.882	74	1.016	5261	1527	83	207	18		
321.8936	21.127	19.882	75	1.017	16214	1596	59	147	27	0.32(0.65-0.89)	
	Empc Correction				6832	1983	59	147	34		
13C-1,2,3,7,8-PeCDF											
351.9000	26.499	26.498	0	1.297	1415819	225995	677	1692	334		
353.8970	26.507	26.498	1	1.298	909880	144579	374	935	387	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.516	26.518	0	1.001	2718528	421162	880	2200	479		
341.8567	26.524	26.518	0	1.001	1749282	264928	645	1612	411	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.947	27.961	-1	1.368	1695144	239736	677	1692	354		
353.8970	27.955	27.961	0	1.369	1109626	162841	374	935	435	1.53(1.32-1.78)	
2,3,4,7,8-PeCDF											a
339.8597	27.980	27.984	0	1.001	2806400	396733	880	2200	451		a
341.8567	27.980	27.984	0	1.001	1808858	262238	645	1612	407	1.55(1.32-1.78)	
A F1 PeCDFs											
339.8597	23.796						1	2			
341.8567	23.796						10	25			
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.175						880	2200			
341.8567	27.175						645	1612			
13C-1,2,3,7,8-PeCDD											
367.8949	28.747	28.754	0	1.408	892164	131357	135	337	973		
369.8919	28.747	28.754	0	1.408	521615	79693	82	205	972	1.71(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.781	28.781	0	1.001	1725307	222534	138	345	1613		
357.8516	28.781	28.781	0	1.001	1082692	142844	78	195	1831	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.560						138	345			
357.8516	27.560						78	195			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.359	34.357	0	0.950	657146	127486	308	770	414		
385.8610	34.351	34.357	0	0.950	1292232	238484	522	1305	457	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.376	34.374	0	1.000	1967227	364061	600	1500	607		
375.8178	34.376	34.374	0	1.000	1574108	286586	495	1237	579	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.536	34.533	0	0.955	589235	104806	308	770	340		
385.8610	34.536	34.533	0	0.955	1131905	207338	522	1305	397	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.553	34.553	0	1.000	2304615	386794	600	1500	645		
375.8178	34.553	34.553	0	1.000	1848328	311472	495	1237	629	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.420	35.421	0	0.979	577100	118881	308	770	386		
385.8610	35.420	35.421	0	0.979	1119230	235895	522	1305	452	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,6,7,8-HxCDF											
373.8208	35.437	35.438	0	1.000	2333916	477973	600	1500	797		
375.8178	35.437	35.438	0	1.000	1887193	394306	495	1237	797	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.372	36.366	0	1.006	484780	110241	308	770	358		
385.8610	36.372	36.366	0	1.006	885034	191630	522	1305	367	0.55(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.380	36.385	0	1.000	1755909	389985	600	1500	650		
375.8178	36.380	36.385	0	1.000	1411842	317139	495	1237	641	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.398						600	1500			
375.8178	34.398						495	1237			
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.169	36.172	0		984953	221058	293	732	754		
403.8529	36.178	36.172	0		778403	158420	222	555	714	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.664	35.661	0	0.986	830232	193068	293	732	659		
403.8529	35.656	35.661	0	0.986	652720	143116	222	555	645	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.673	35.676	0	1.000	1405954	315009	285	712	1105		
391.8127	35.673	35.676	0	1.000	1121866	257742	235	587	1097	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.782	35.787	0	0.989	834965	171638	293	732	586		
403.8529	35.782	35.787	0	0.989	648542	133690	222	555	602	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.799	35.802	0	1.000	1654041	340928	285	712	1196		
391.8127	35.799	35.802	0	1.000	1328459	275091	235	587	1171	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.186	36.191	0	1.015	1502603	318115	285	712	1116		
391.8127	36.186	36.191	0	1.015	1200296	256546	235	587	1092	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.845						285	712			
391.8127	34.845						235	587			
1,2,3,4,6,7,8-HpCDF											
407.7817	38.294	38.276	1	1.000	1735858	456000	815	2037	560		
409.7788	38.294	38.276	1	1.000	1672517	435818	758	1895	575	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.285	38.287	0	1.058	349874	96235	231	577	417		
419.8220	38.285	38.287	0	1.058	807284	221516	375	937	591	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.582	39.557	2	1.000	1424746	422269	815	2037	518		
409.7788	39.582	39.557	2	1.000	1363705	400119	758	1895	528	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.573	39.570	0	1.094	400902	123410	231	577	534		
419.8220	39.573	39.570	0	1.094	929587	270438	375	937	721	0.43(0.37-0.51)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.916						815	2037			
409.7788	38.916						758	1895			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.278	39.253	2	1.000	1152978	336520	334	835	1008		
425.7737	39.278	39.253	2	1.000	1110671	317226	331	827	958	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.270	39.269	0	1.086	553567	153733	159	397	967		
437.8140	39.270	39.269	0	1.086	535506	159920	155	387	1032	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.630	38.925	-18	0.984	12185	3158	334	835	9		
425.7737	38.630	38.925	-18	0.984	9756	2607	331	827	8	1.25(0.88-1.20)	
13C-OCDD											
469.7780	41.742	41.743	0	1.154	698487	189740	118	295	1608		
471.7750	41.742	41.743	0	1.154	789156	185908	50	125	3718	0.89(0.76-1.02)	
OCDF											
441.7428	41.827	41.826	0	1.002	1870956	479648	185	462	2593		
443.7399	41.827	41.826	0	1.002	2059888	534555	238	595	2246	0.91(0.76-1.02)	
OCDD											
457.7377	41.751	41.748	0	1.000	1506628	365555	173	432	2113		
459.7348	41.751	41.748	0	1.000	1694514	402931	197	492	2045	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

n - Failed Sig-To-Noise Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

a - User Assigned ID

Reagents:

HRDXNIC_00048 Amount Added: 1.00 Units: ml

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Lims ID: ICV
Client ID:
Inject. Date: 13-Jan-2022 22:21:00 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 558558 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDF, RT: 19.070

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.012	D 13C-2,3,7,8-TCDF	100.000	2561638	389031

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.012		100.000	2561638	389031

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.405	3180	691	4183	752	0.2840	0.76	n
19.745	30896	2511	29556	2683	2.33	1.05	RQ
19.745	22758	2065	29556	2683	2.02		Empc Correction
Signal Totals:							
	25938	2756	33739	3435			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	67815	6637				1.01	RQ
	59677	6191					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.616 = (67815 * 100.000) / (2561638 * 1.012)
Empc Amount: 2.302 = (59677 * 100.000) / (2561638 * 1.012)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
n - Failed Sig-To-Noise Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Lims ID: ICV
Client ID:
Inject. Date: 13-Jan-2022 22:21:00 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 558558 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDD, RT: 19.882

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.991	D 13C-2,3,7,8-TCDD	100.000	2019627	278262

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.991		100.000	2019627	278262

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
20.664	6883	1438	9582	1902	0.8230	0.72	
21.119	5261	1527	16214	1596	1.07	0.32	RQ
21.119	5261	1527	6832	1983	0.6044		Empc Correction
Signal Totals:							
	12144	2965	16414	3885			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	37940	6463				0.47	RQ
	28558	6850					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.896 = (37940 * 100.000) / (2019627 * 0.991)
Empc Amount: 1.427 = (28558 * 100.000) / (2019627 * 0.991)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

Eurofins Sacramento

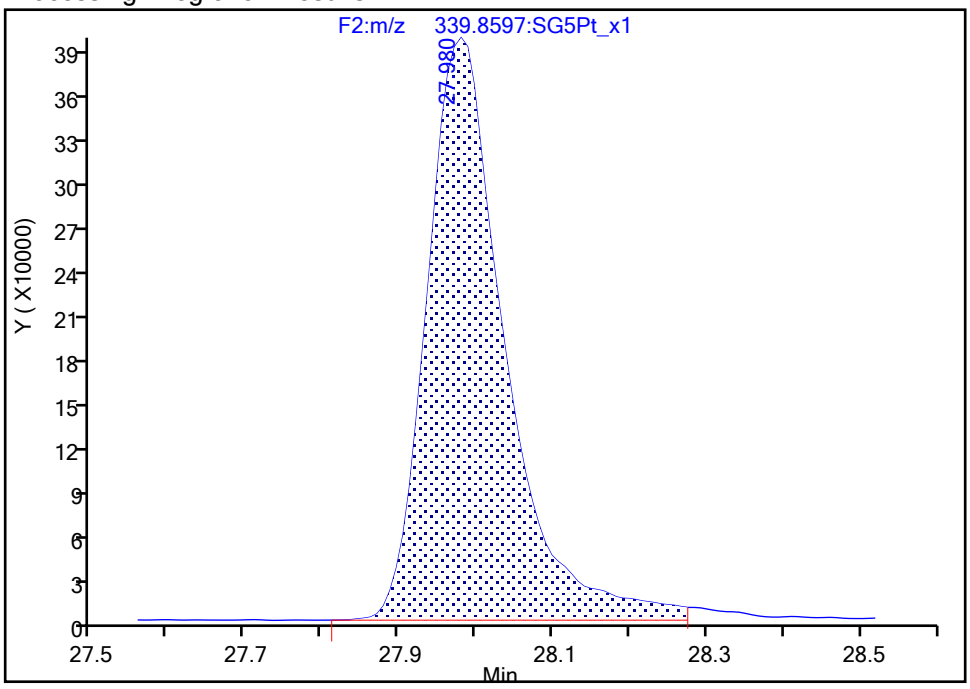
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Instrument ID: DFS 1
Lims ID: ICV
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F2(26.07 :33.00)

2,3,4,7,8-PeCDF, CAS: 57117-31-4

Signal: 1

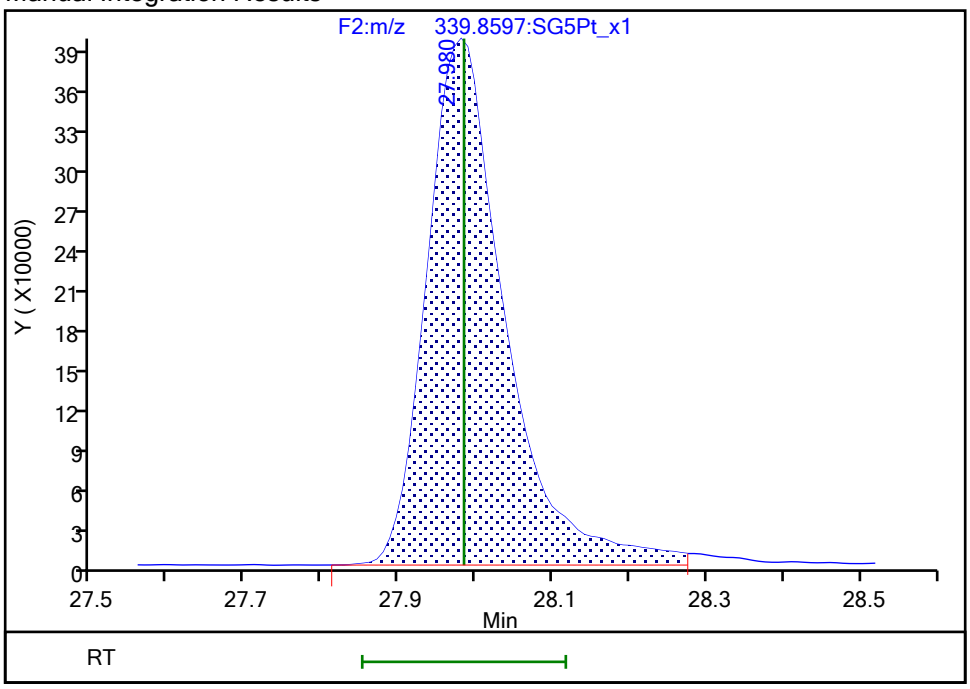
Processing Integration Results

RT: 27.98
Area: 2806400
Amount: 208.6030
Amount Units: pg/ul



Manual Integration Results

RT: 27.98
Area: 2806400
Amount: 215.3419
Amount Units: pg/ul



Reviewer: bilottag, 19-Jan-2022 14:40:40
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Sacramento

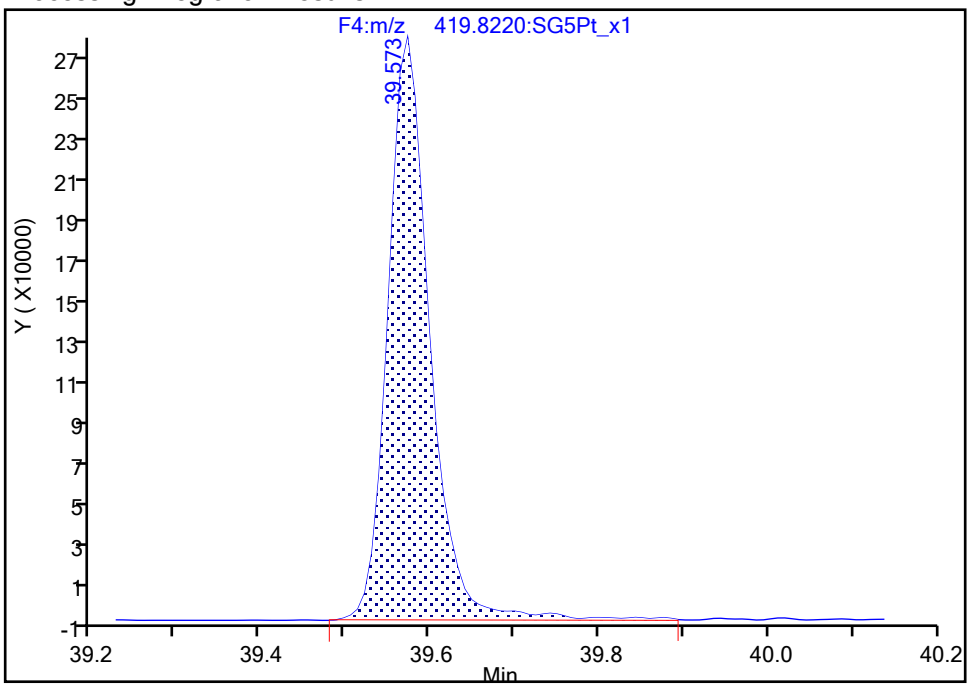
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Instrument ID: DFS 1
Lims ID: ICV
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 2

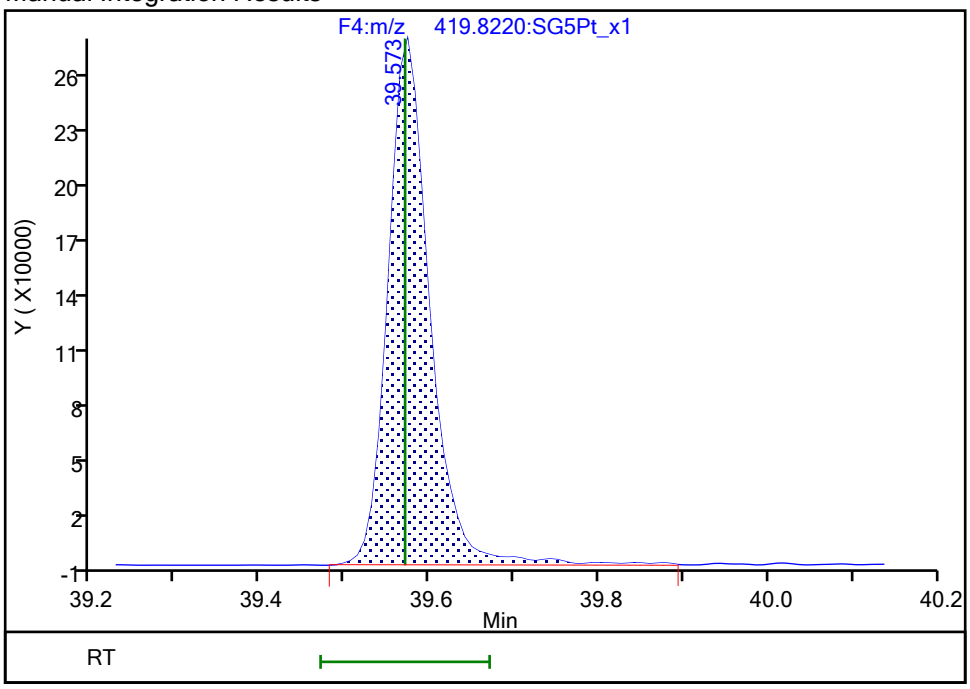
Processing Integration Results

RT: 39.57
Area: 929587
Amount: 64.456904
Amount Units: pg/ul



Manual Integration Results

RT: 39.57
Area: 929587
Amount: 98.223810
Amount Units: pg/ul



Reviewer: bilottag, 19-Jan-2022 15:16:27
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Sacramento

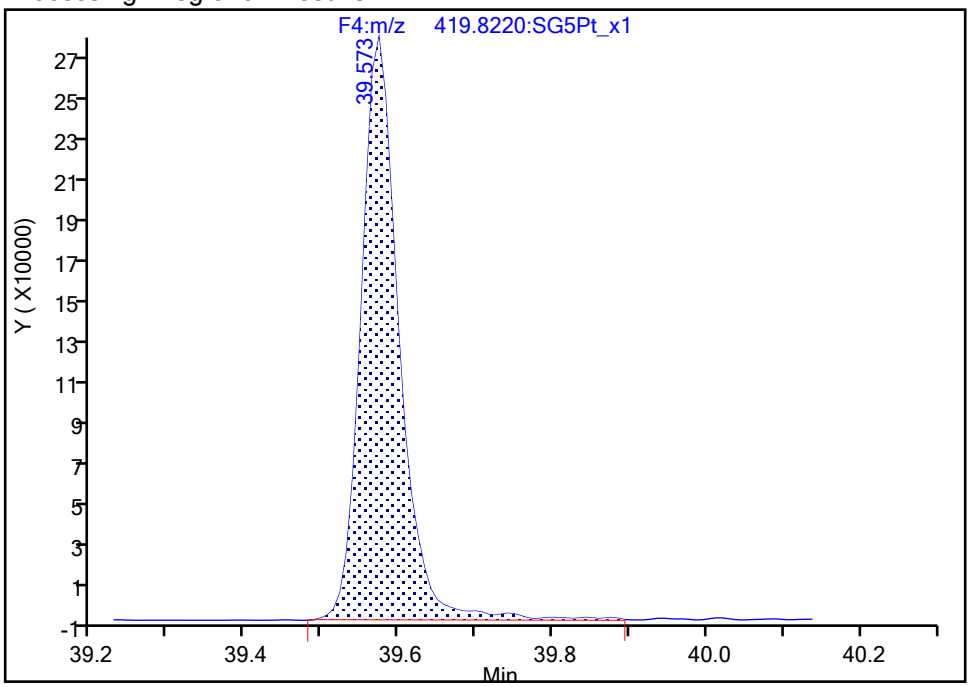
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Instrument ID: DFS 1
Lims ID: ICV
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 3

Processing Integration Results

RT: 39.57
Area: 1330489
Amount: 64.456904
Amount Units: pg/ul



Manual Integration Results

RT: 39.57
Area: 1330489
Amount: 98.223810
Amount Units: pg/ul
Reviewer: bilottag, 19-Jan-2022 15:16:27
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

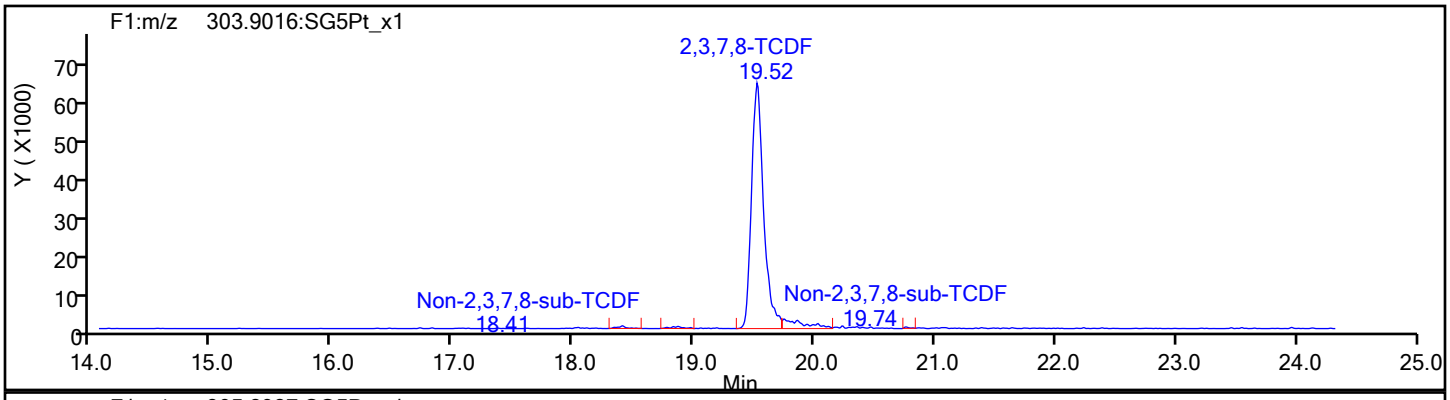
Report Date: 20-Jan-2022 14:08:58 Chrom Revision: 2.3 18-Jan-2022 20:25:40

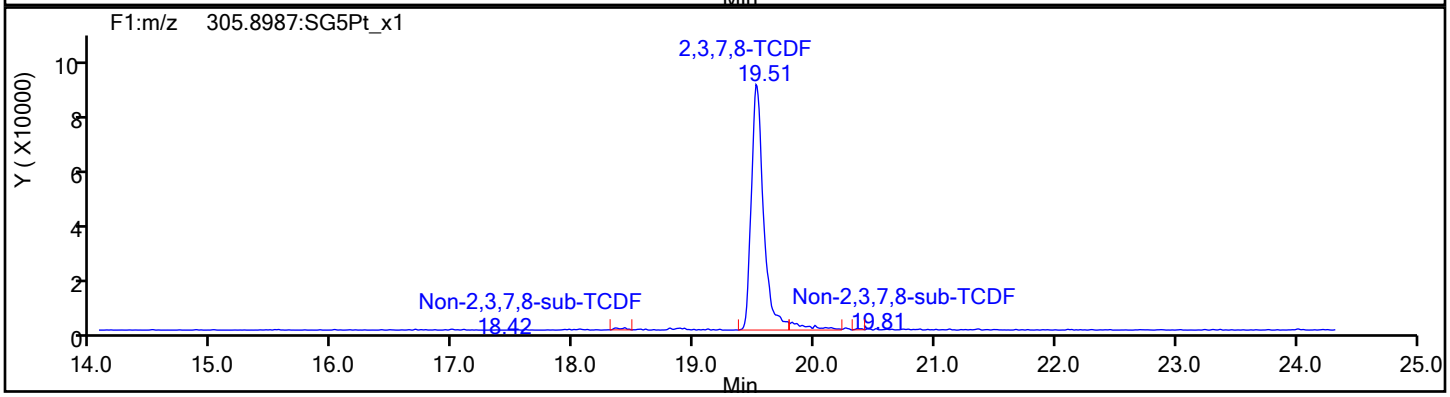
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

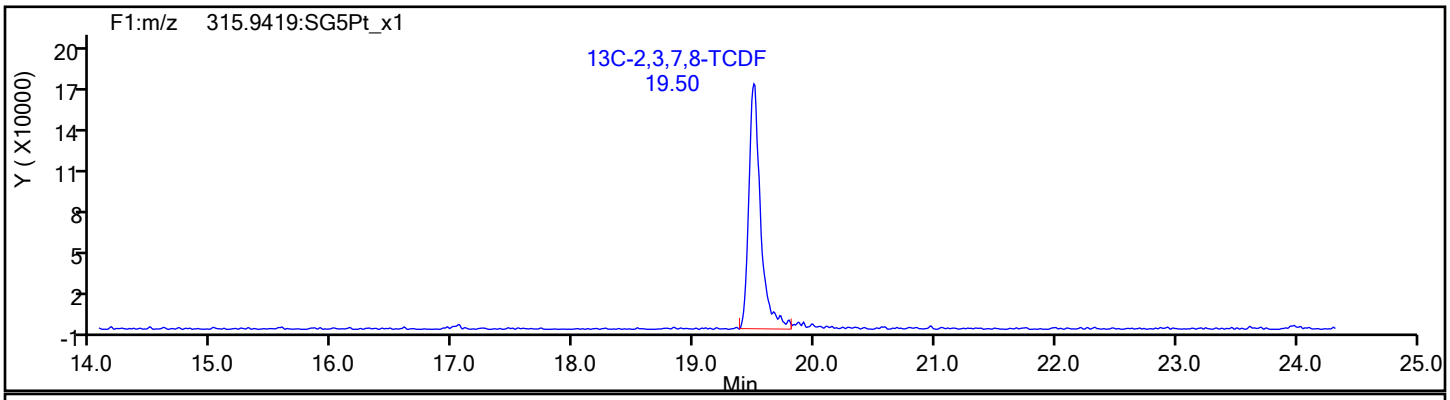
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

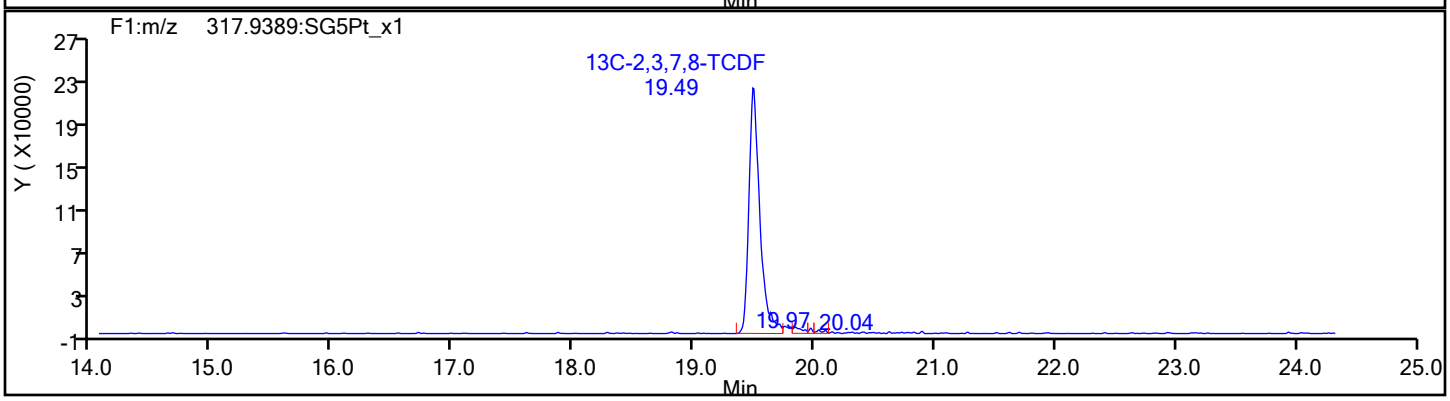
TCDF





TCDF Standards

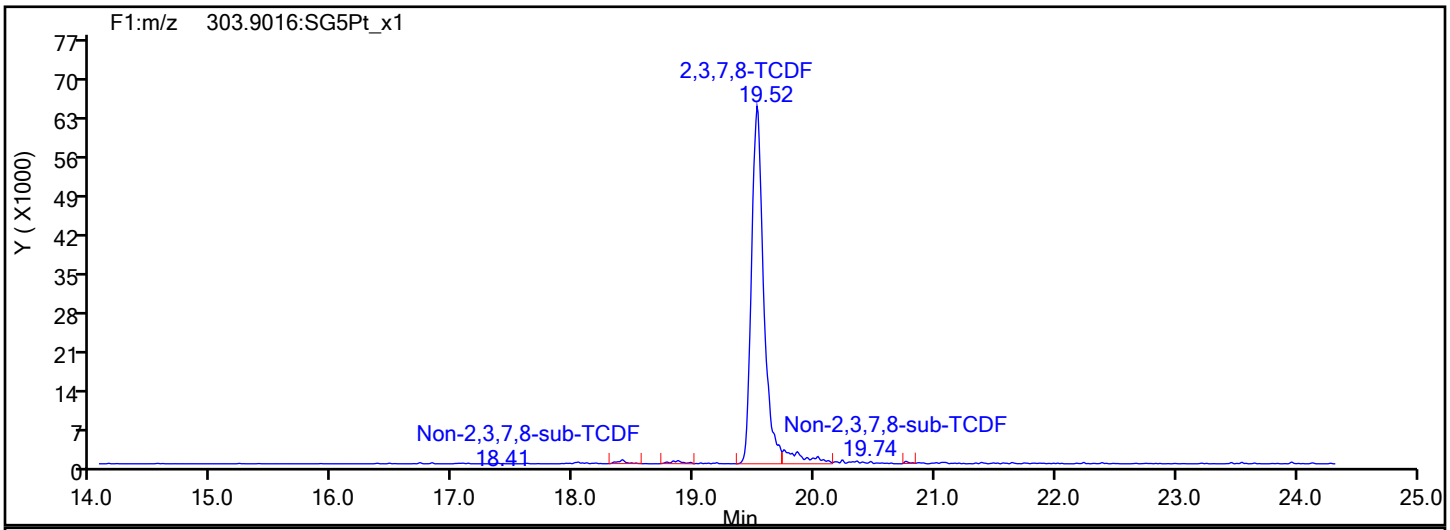


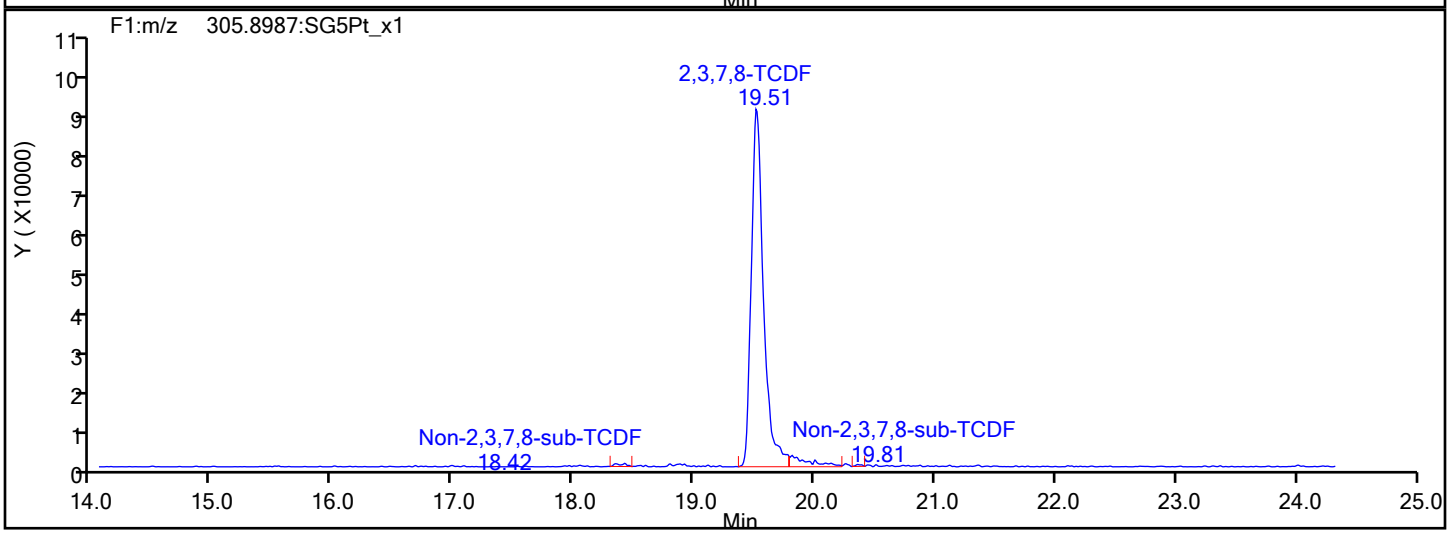


Eurofins Sacramento

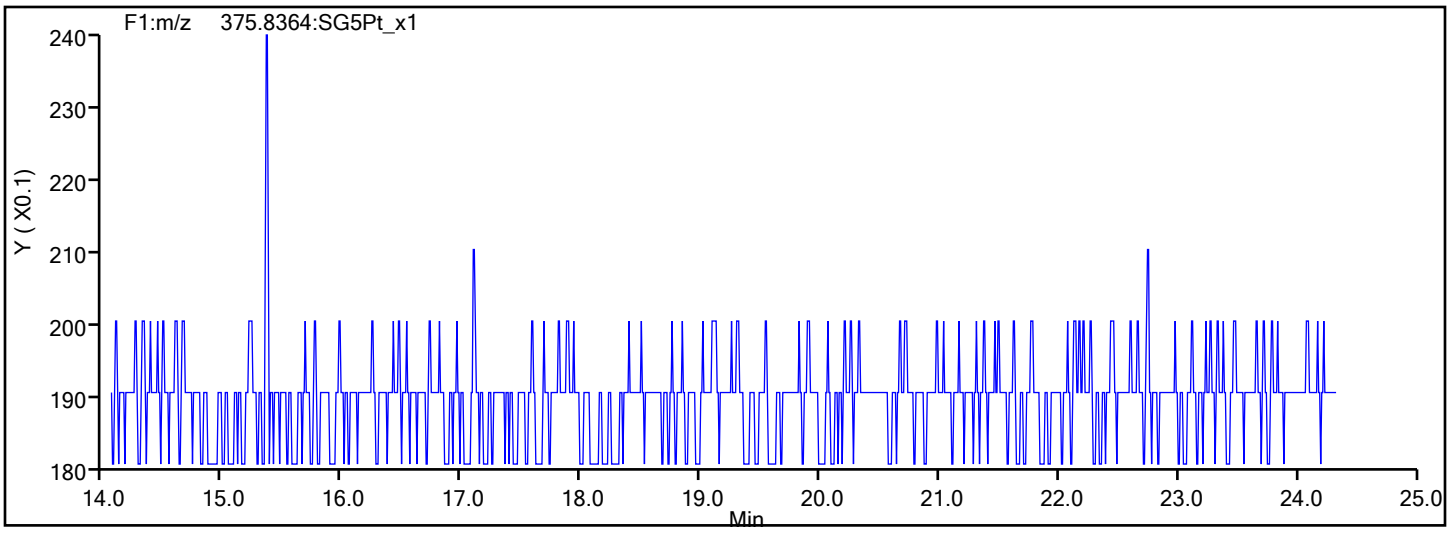
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



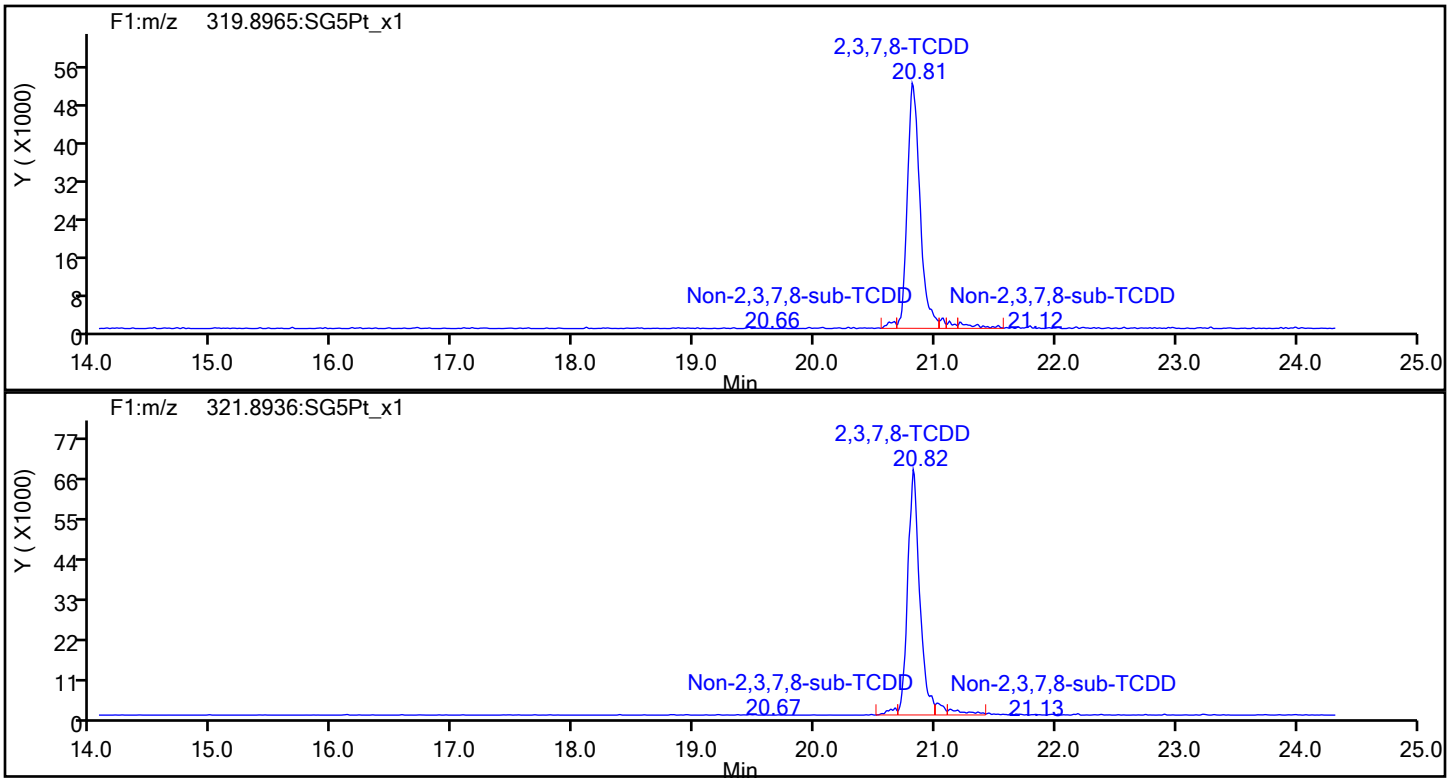
Report Date: 20-Jan-2022 14:08:58 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

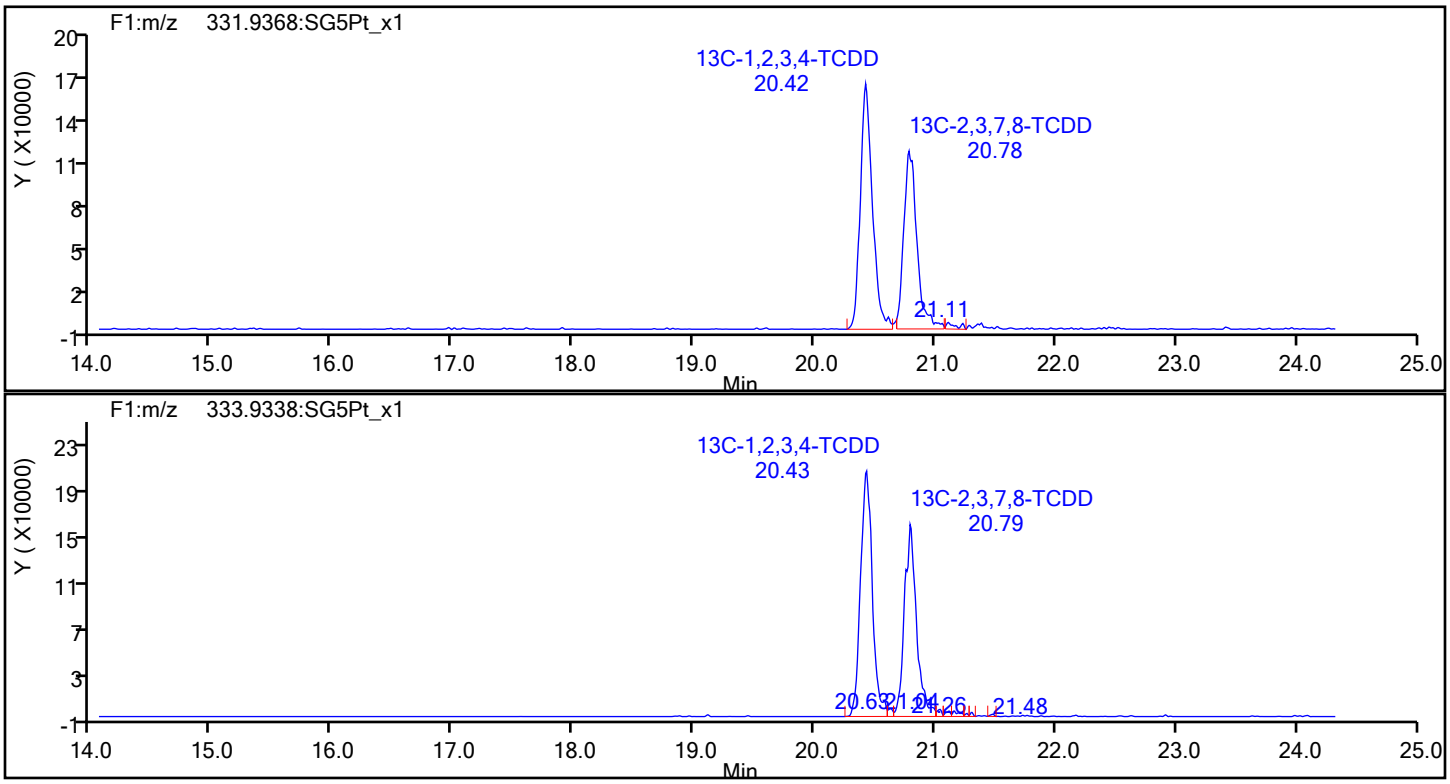
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD



TCDD Standards



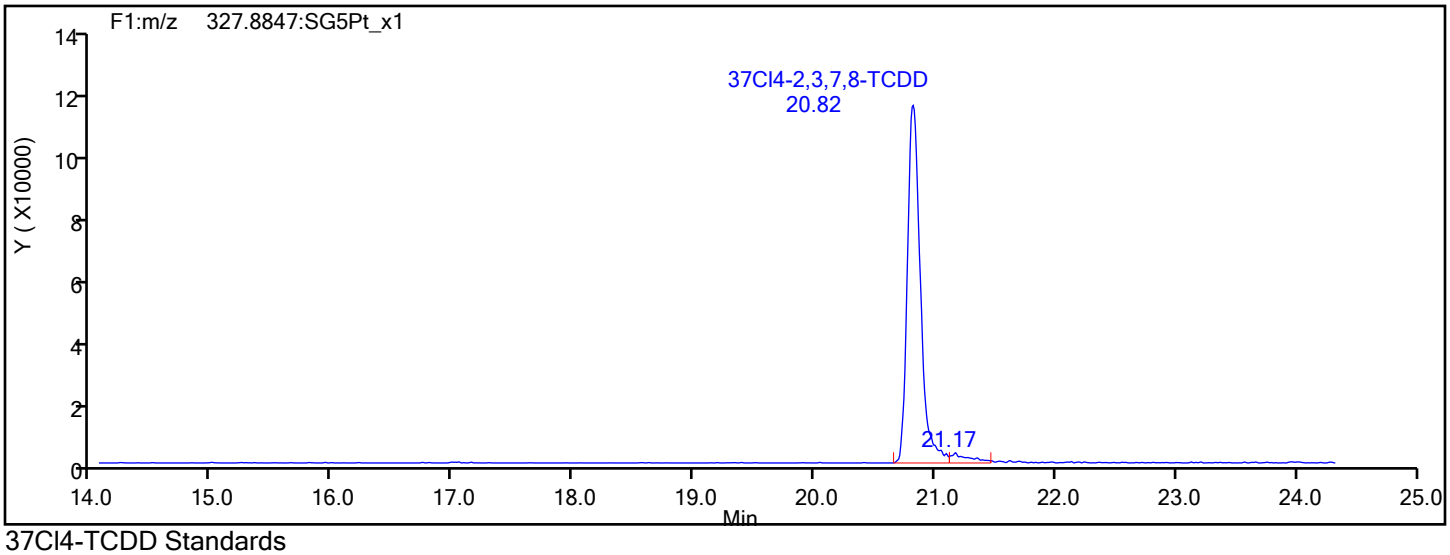
Report Date: 20-Jan-2022 14:08:58 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

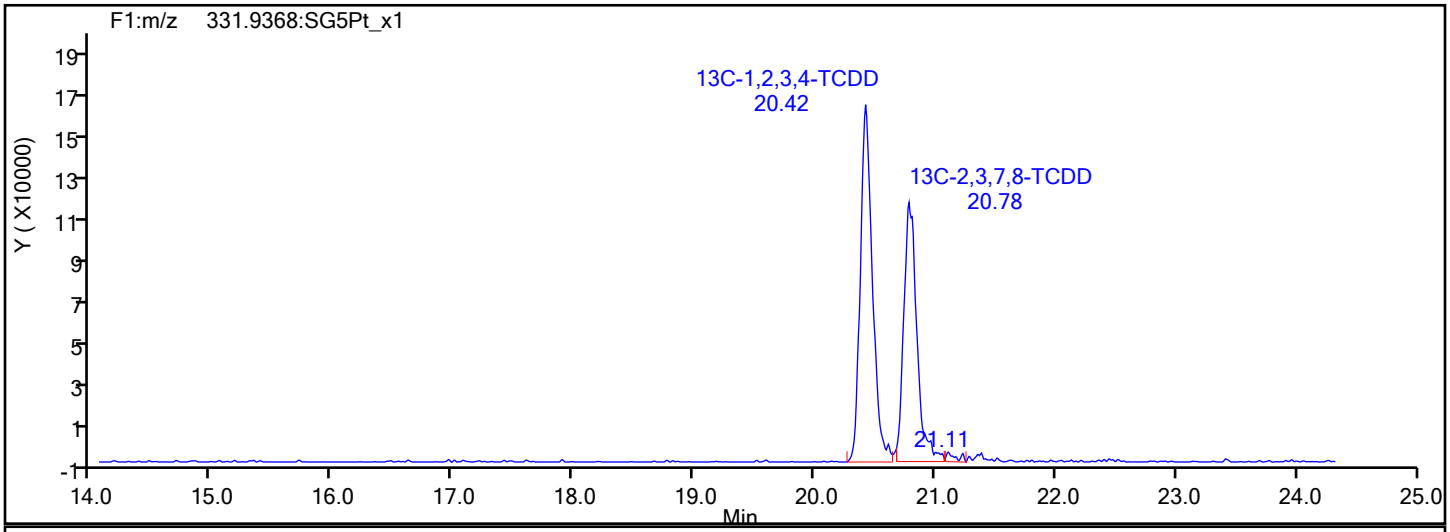
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

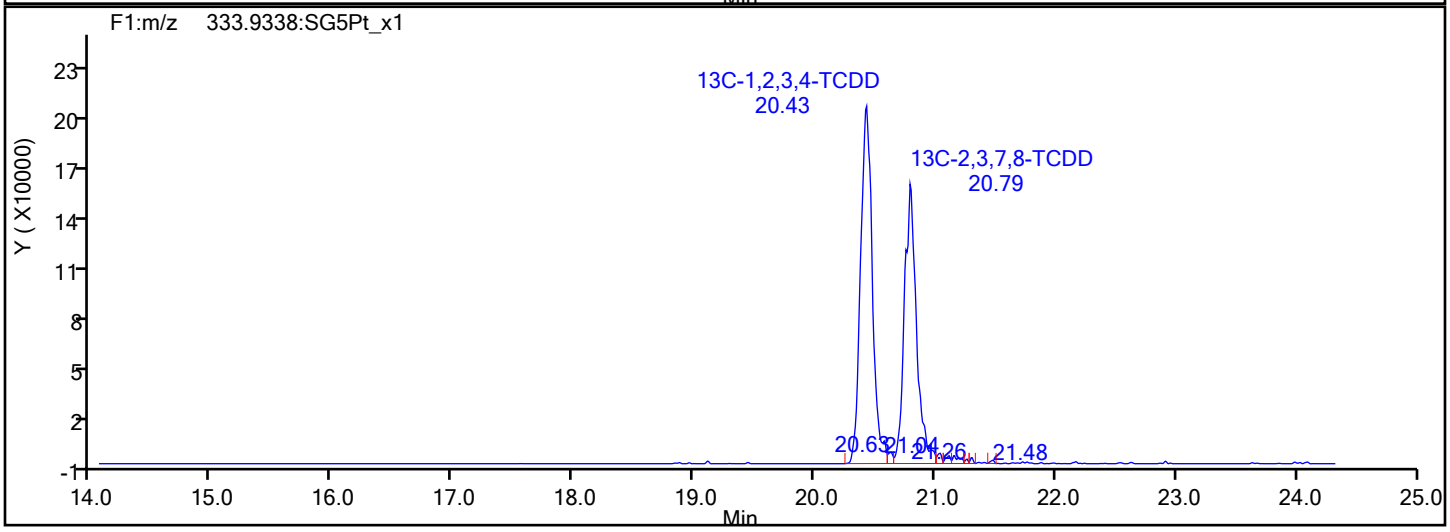
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





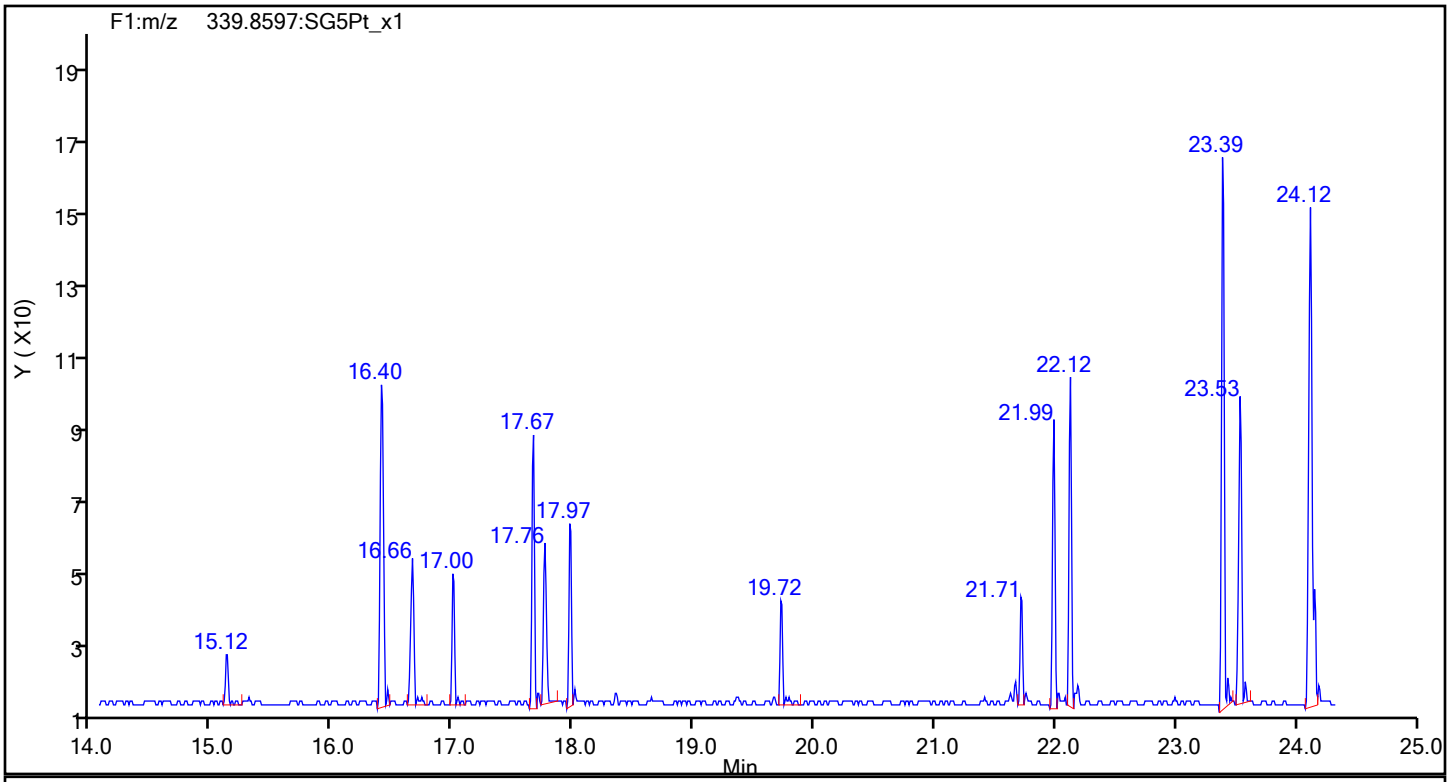
Report Date: 20-Jan-2022 14:08:58 Chrom Revision: 2.3 18-Jan-2022 20:25:40

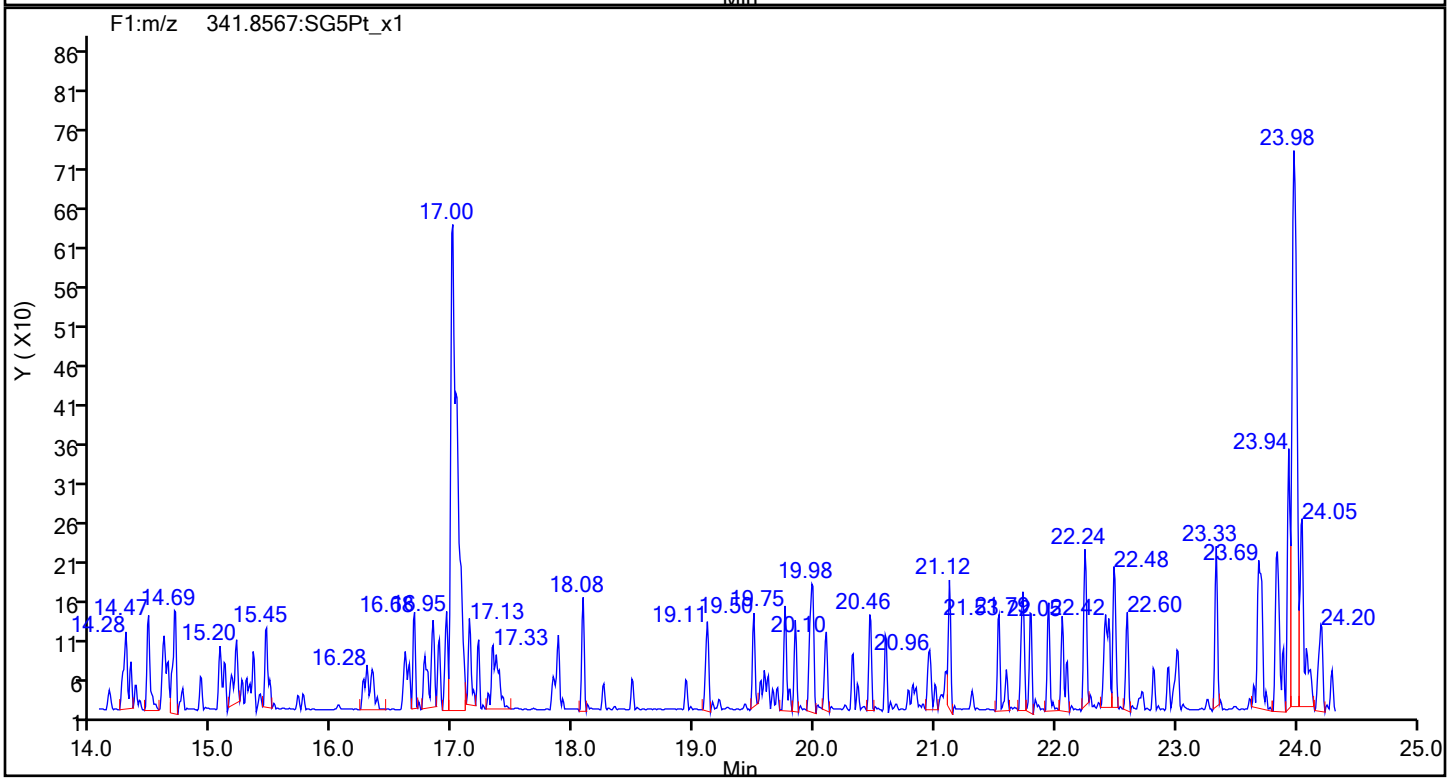
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
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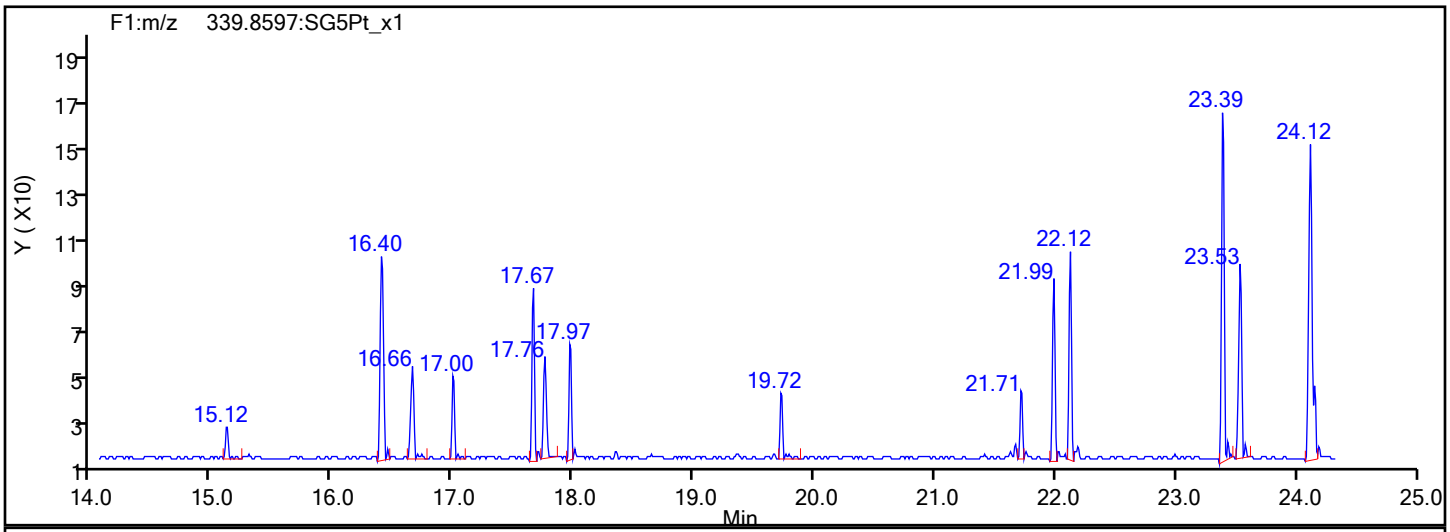
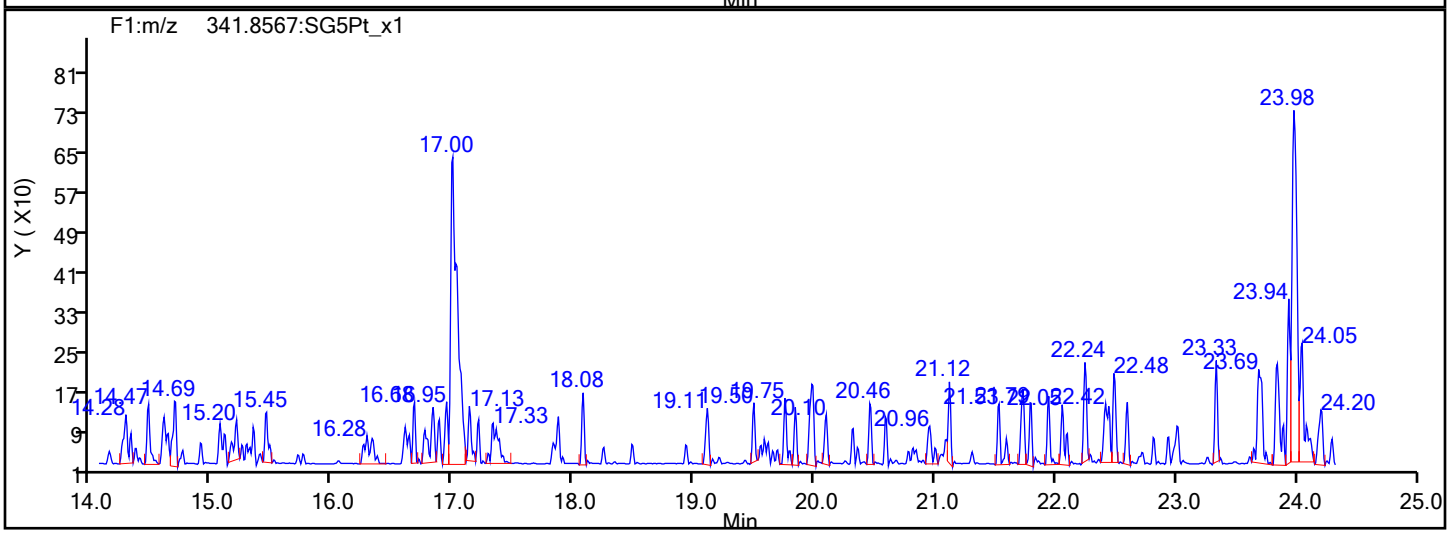
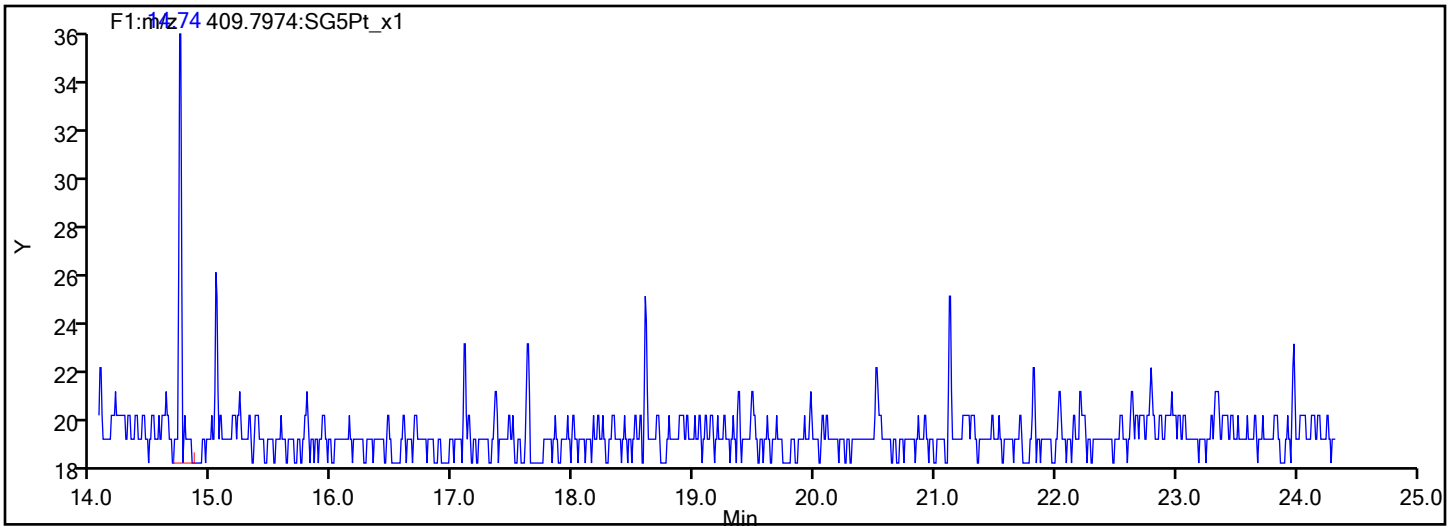
Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

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Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
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Client ID:
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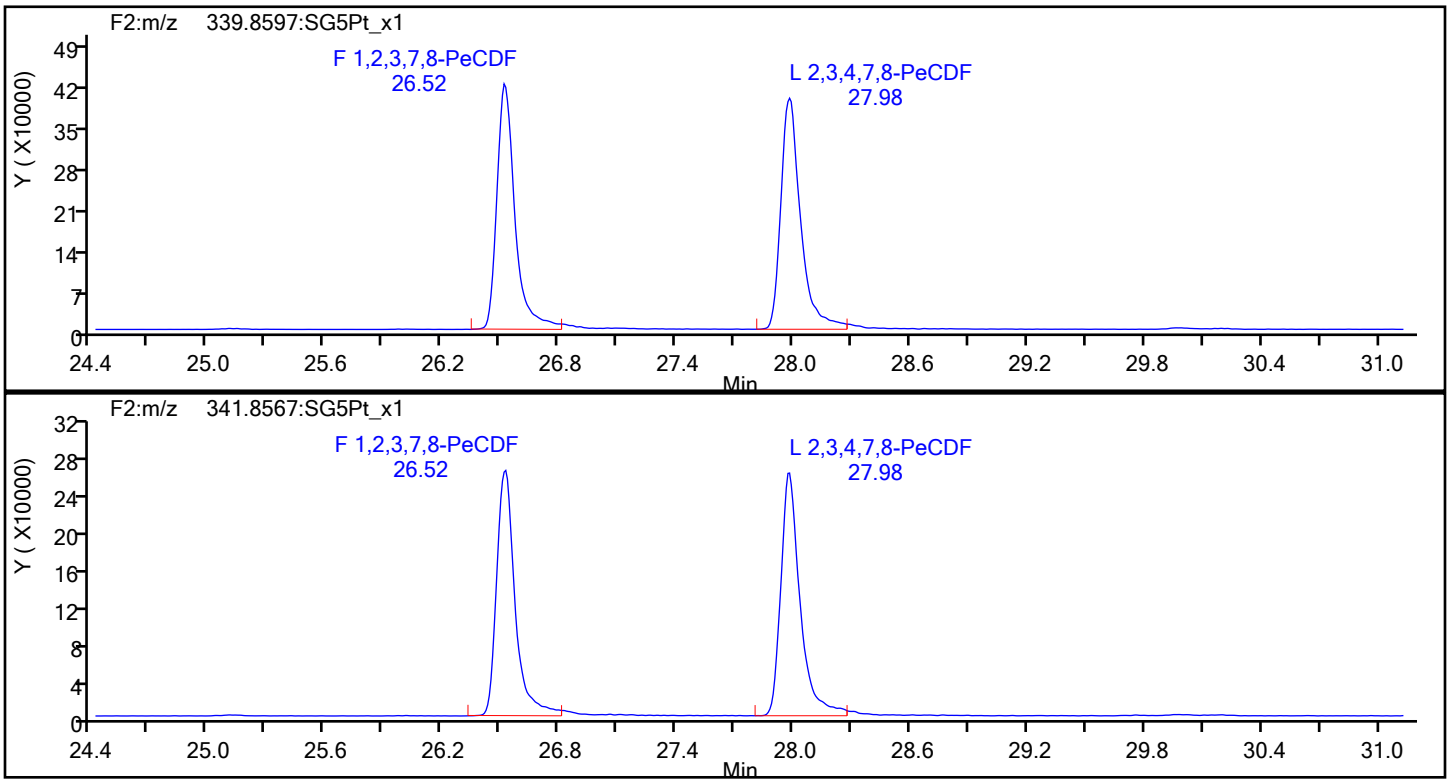
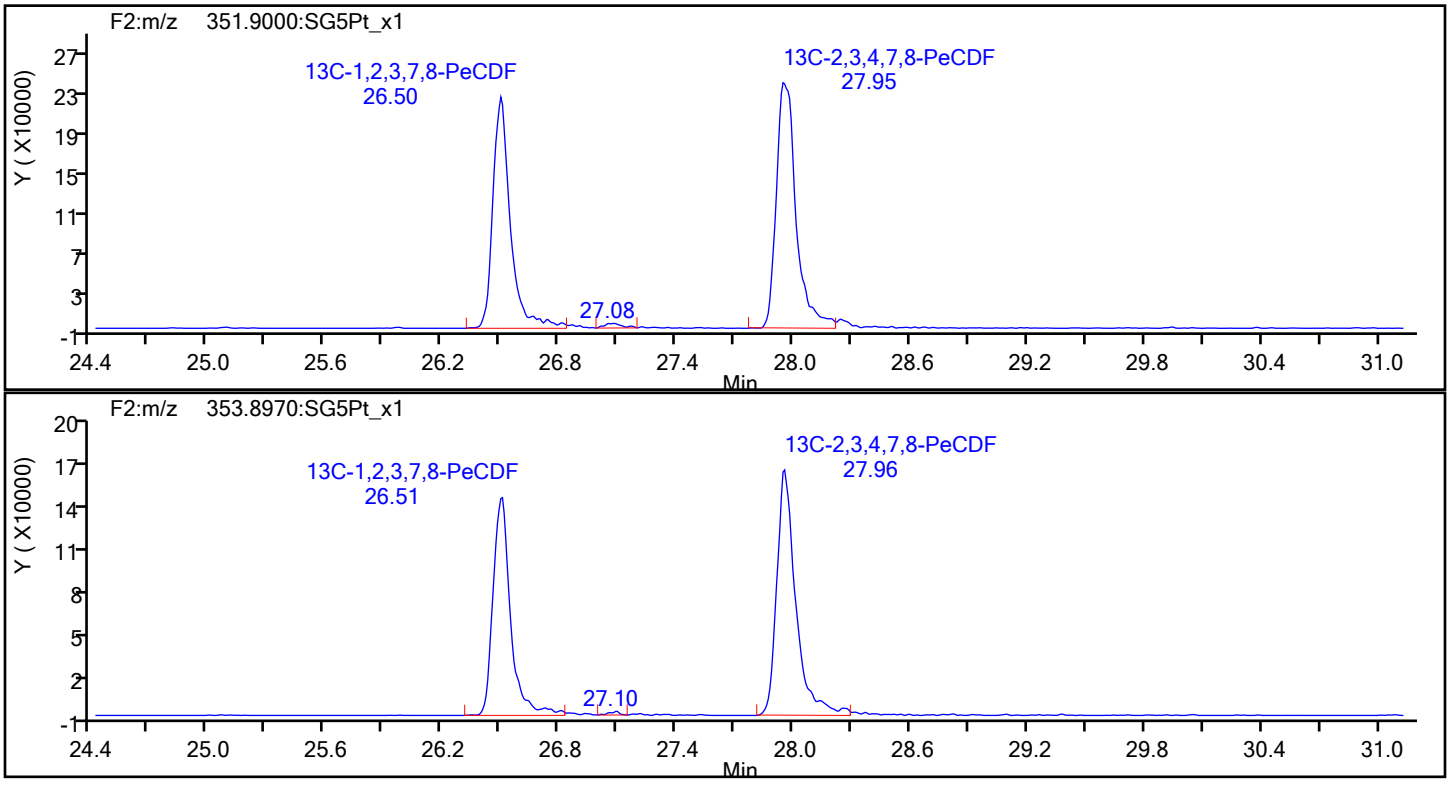
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



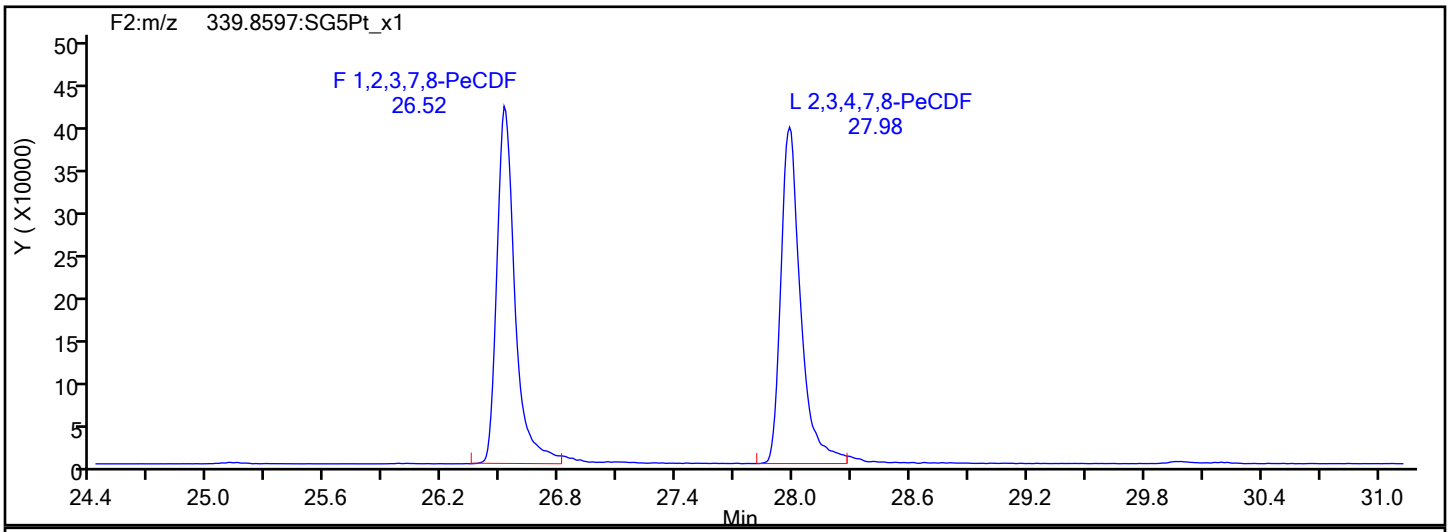
PeCDF Standards

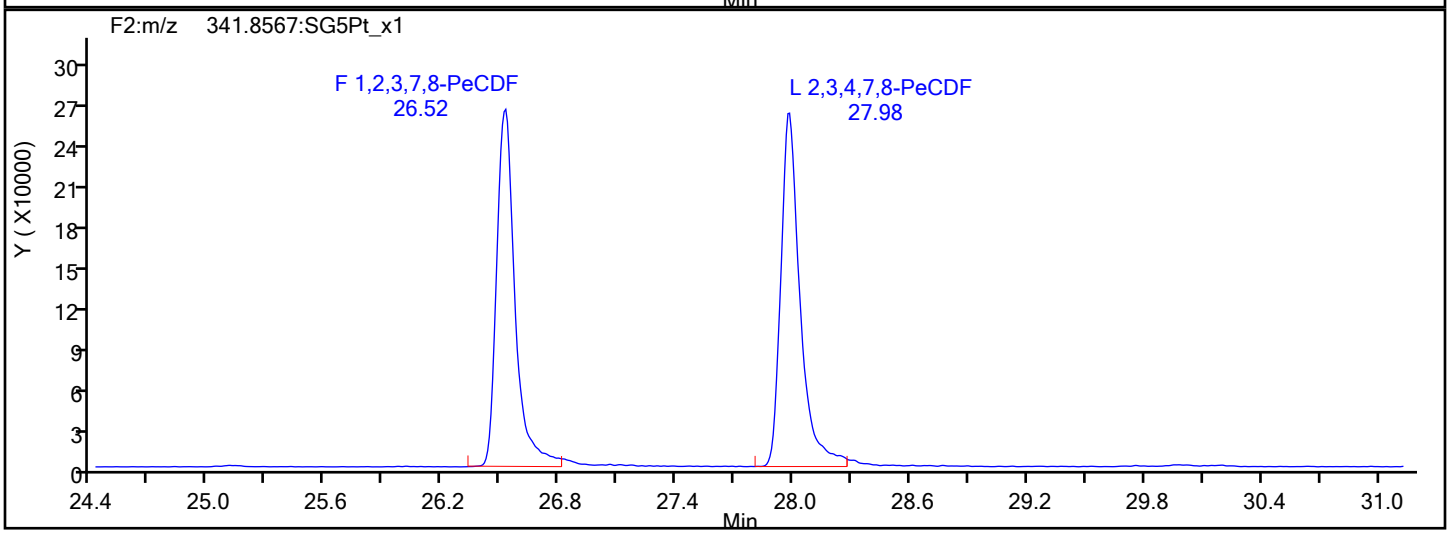


Eurofins Sacramento

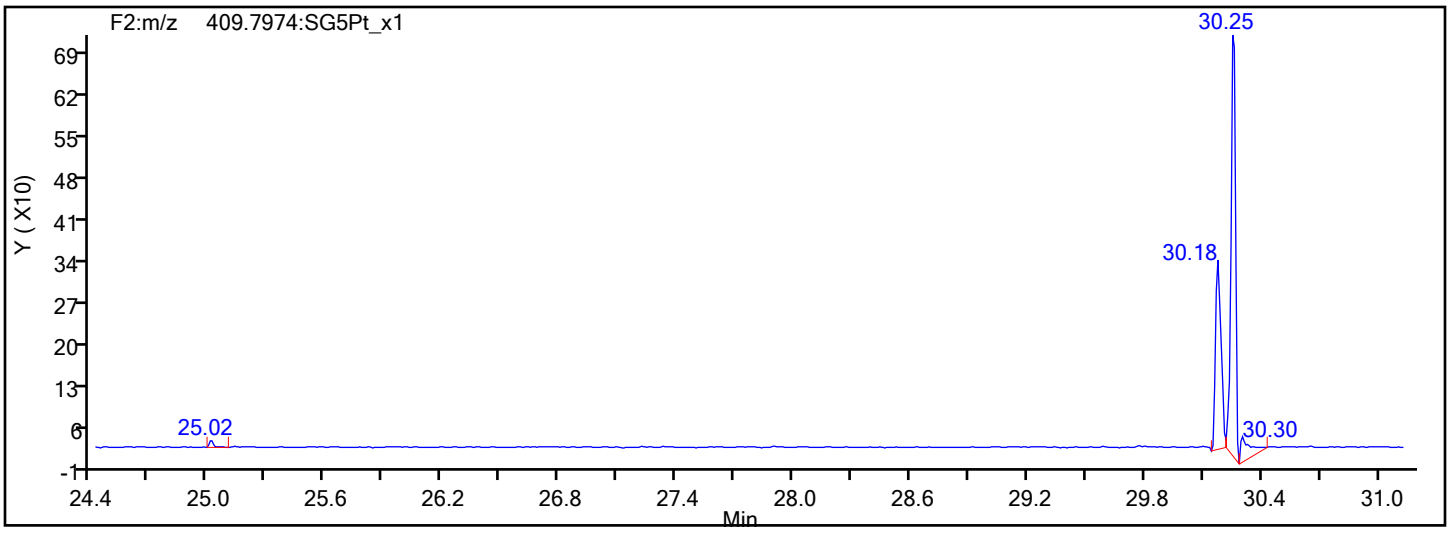
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass



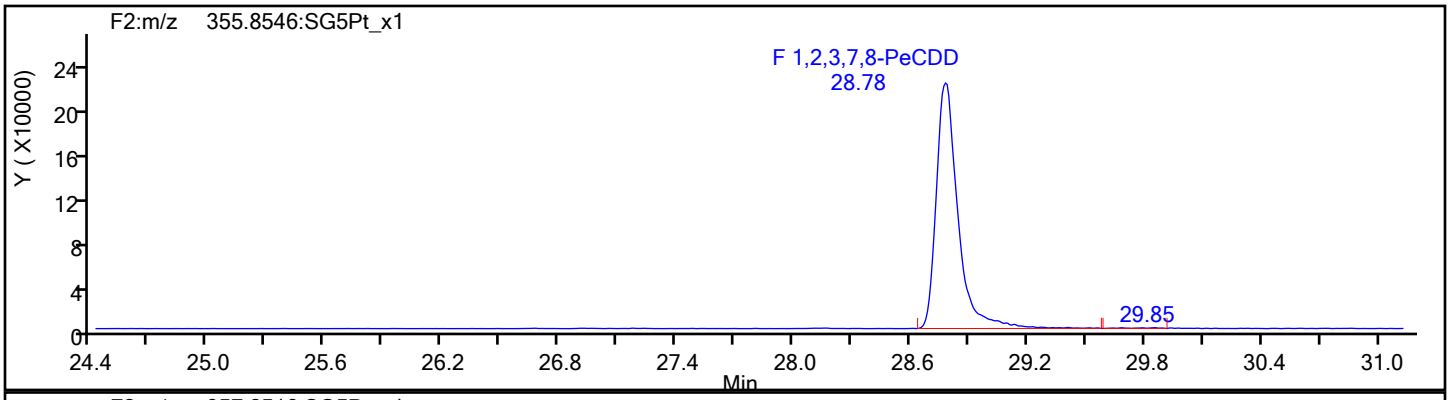
Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

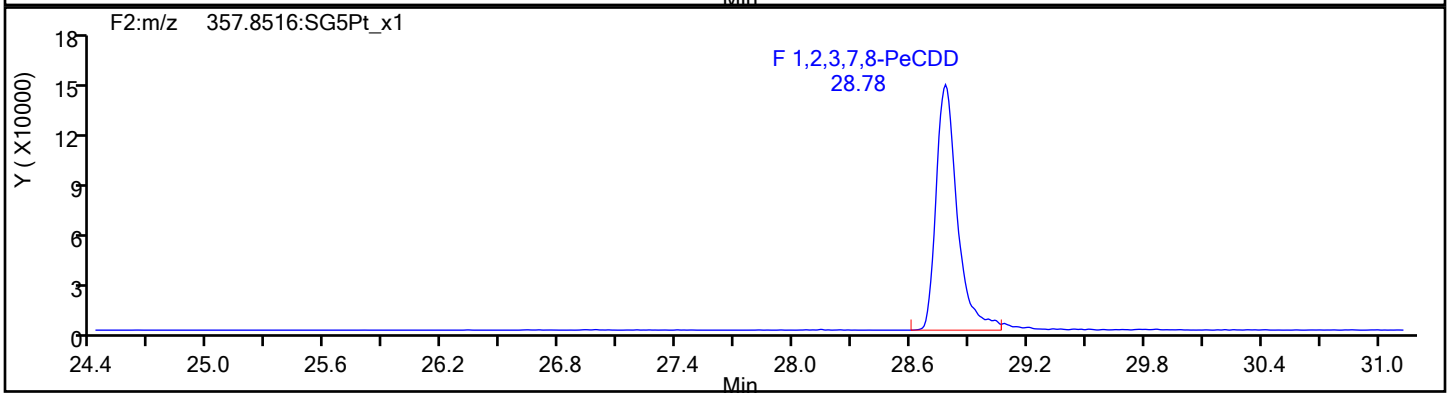
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

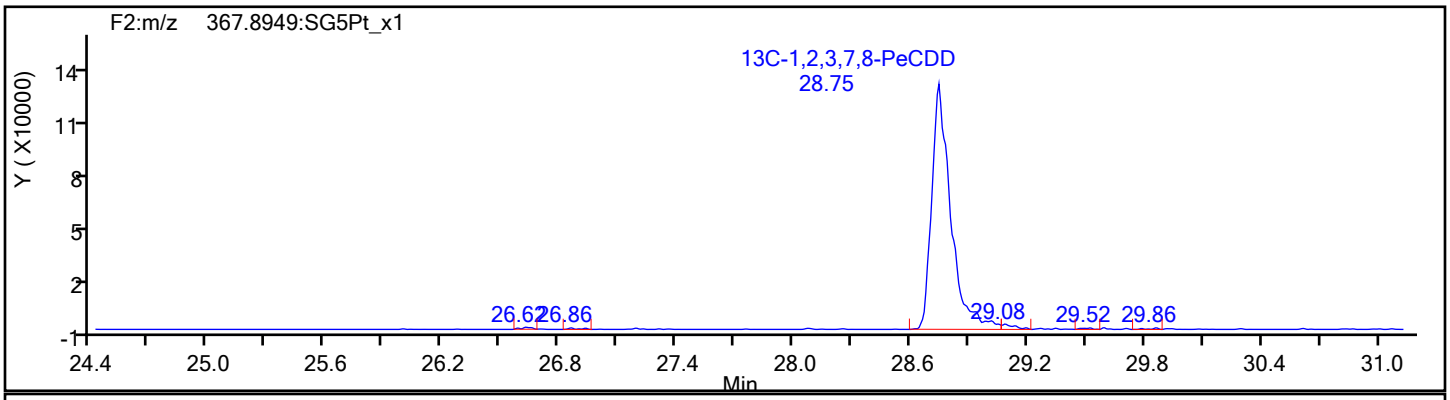
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

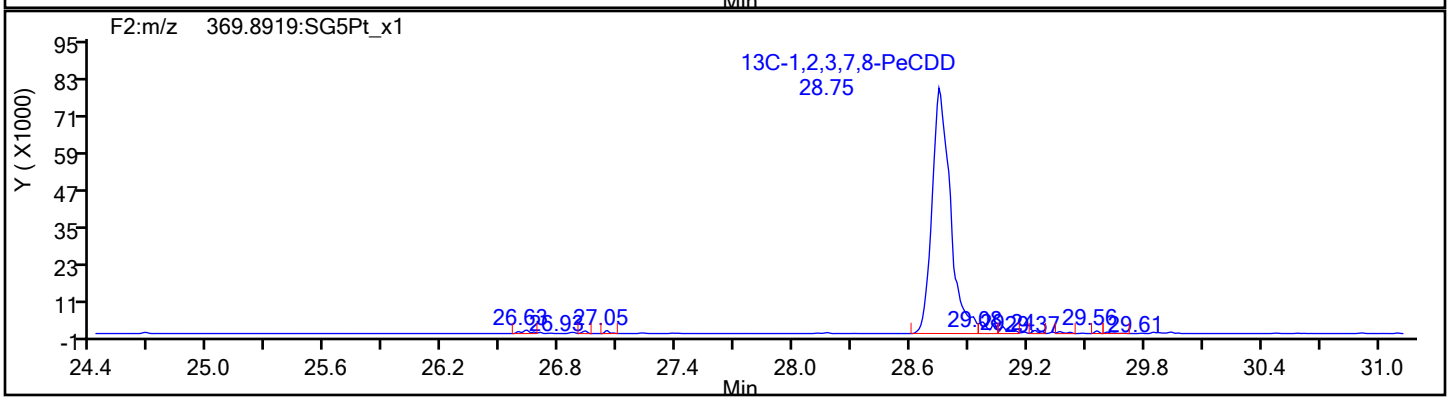
PeCDD





PeCDD Standards

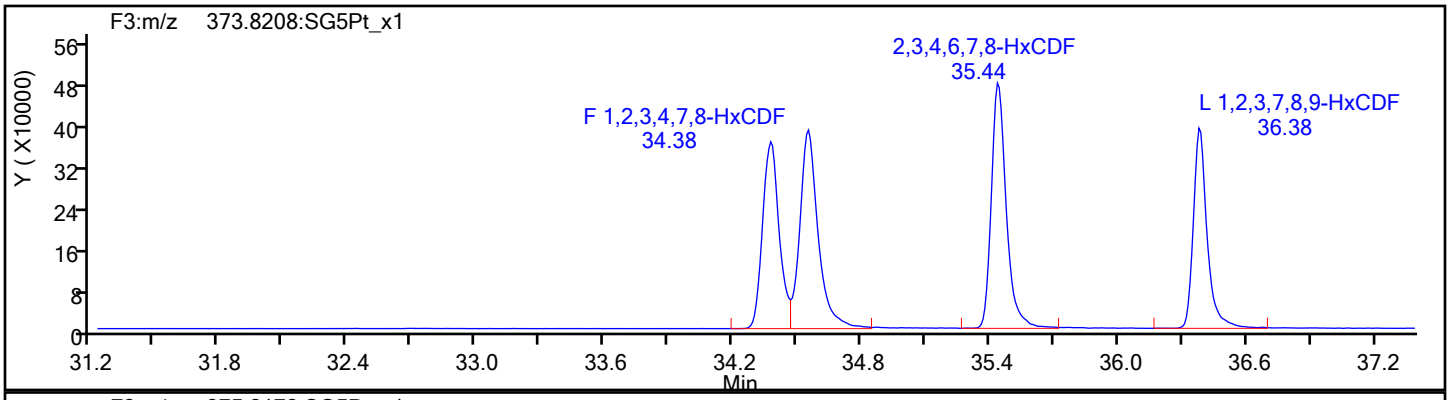


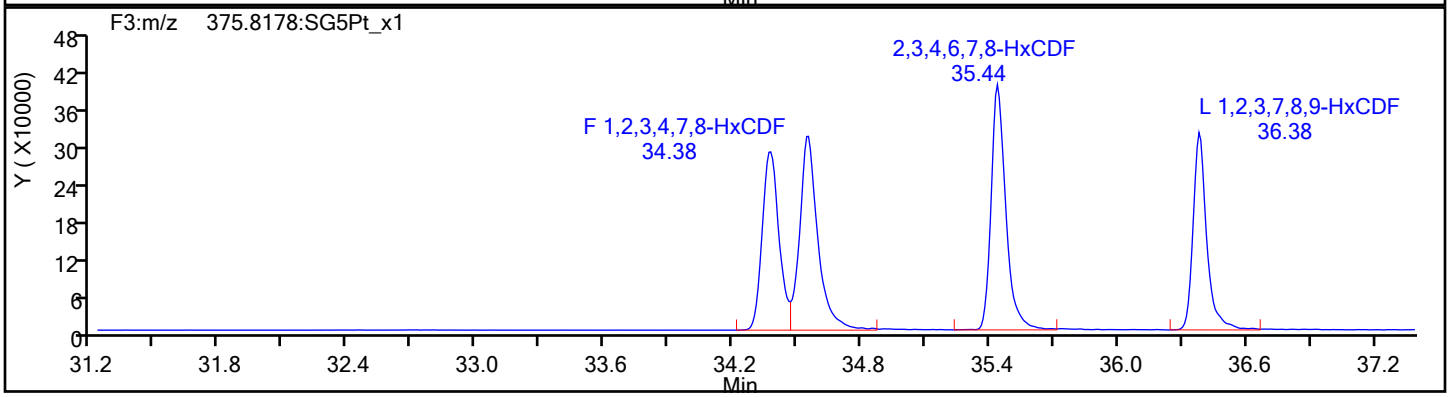


Eurofins Sacramento

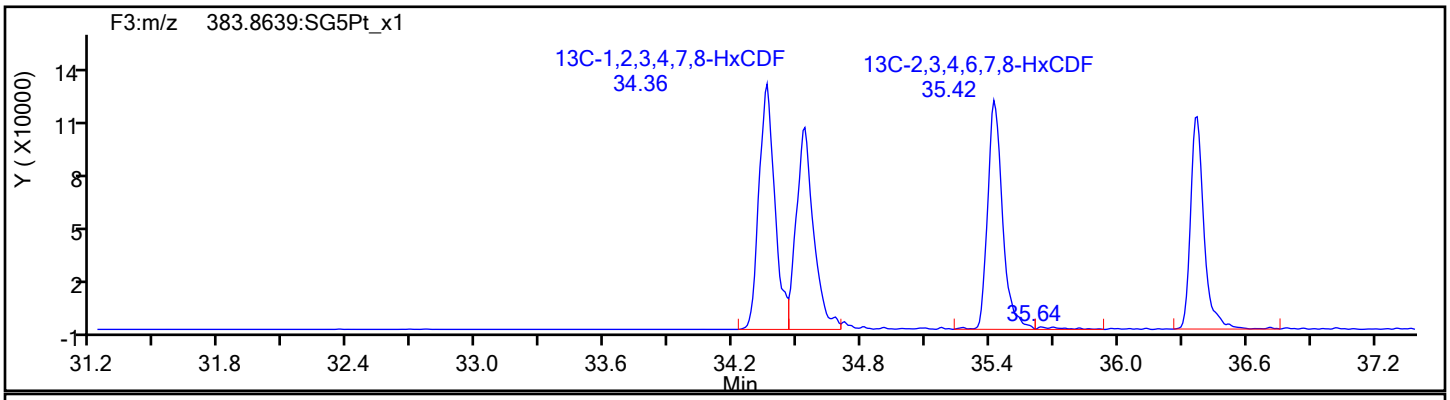
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

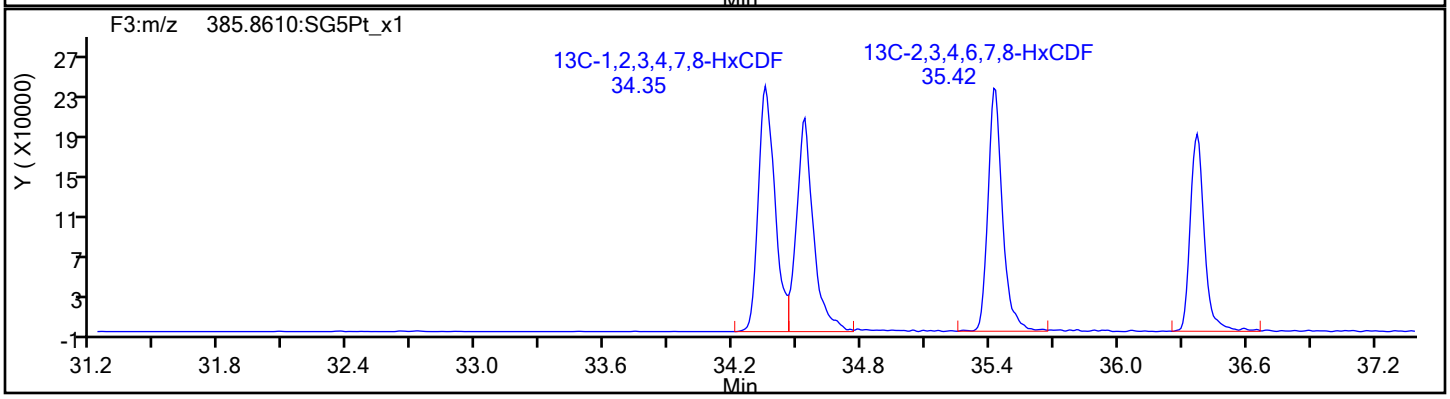
HxCDF





HxCDF Standards

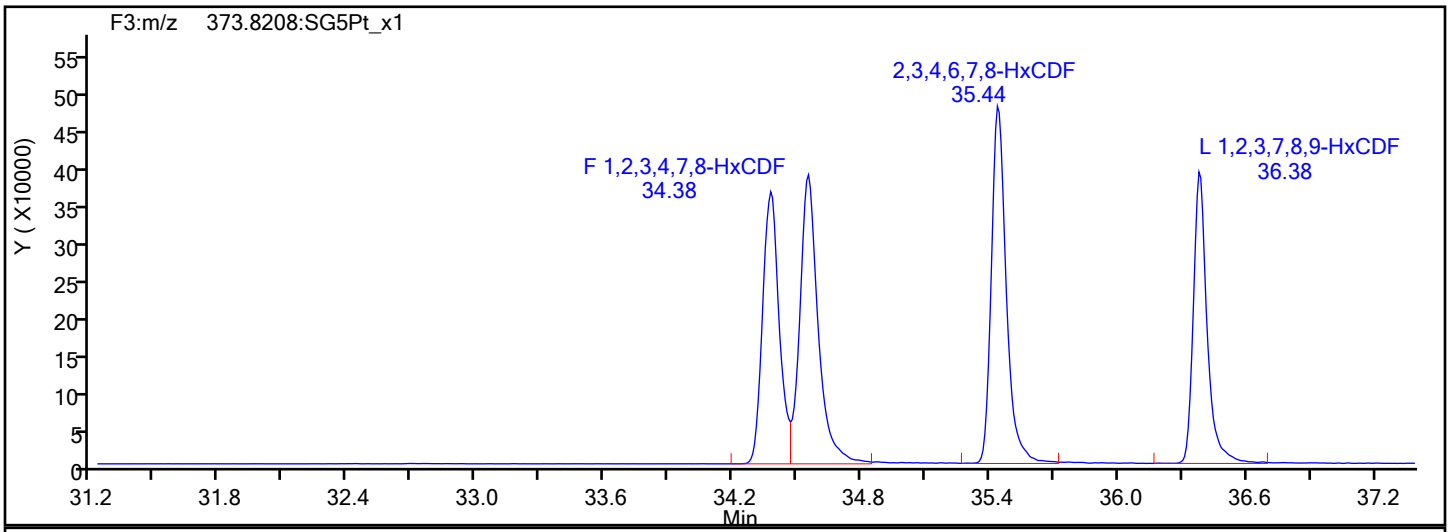


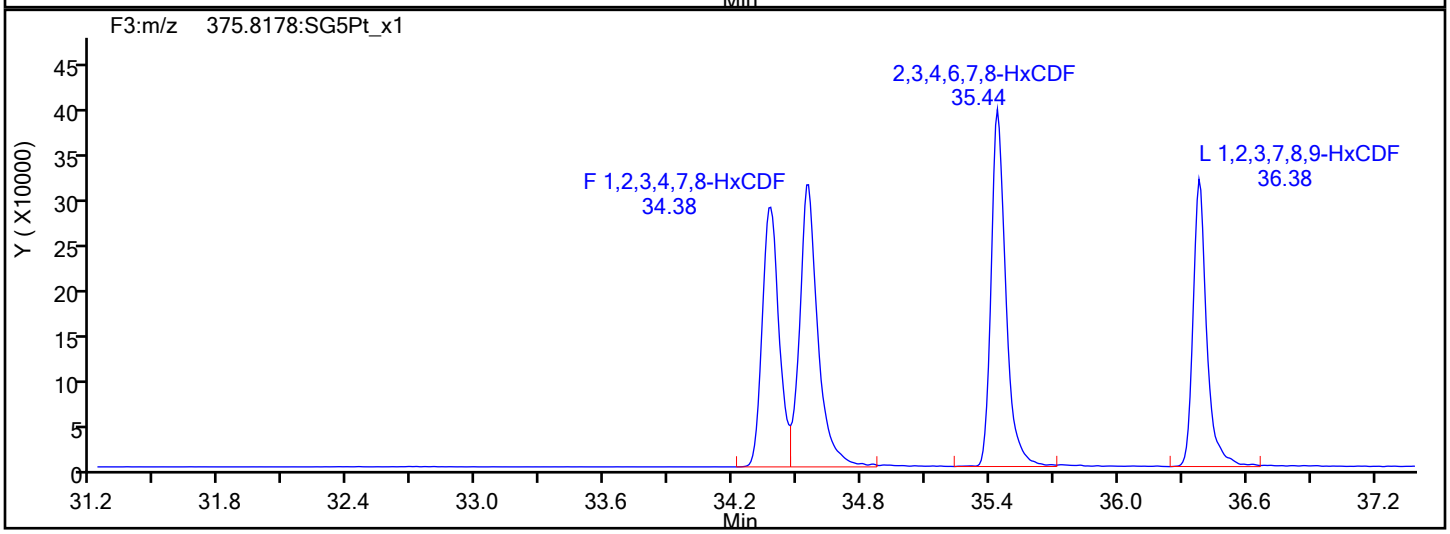


Eurofins Sacramento

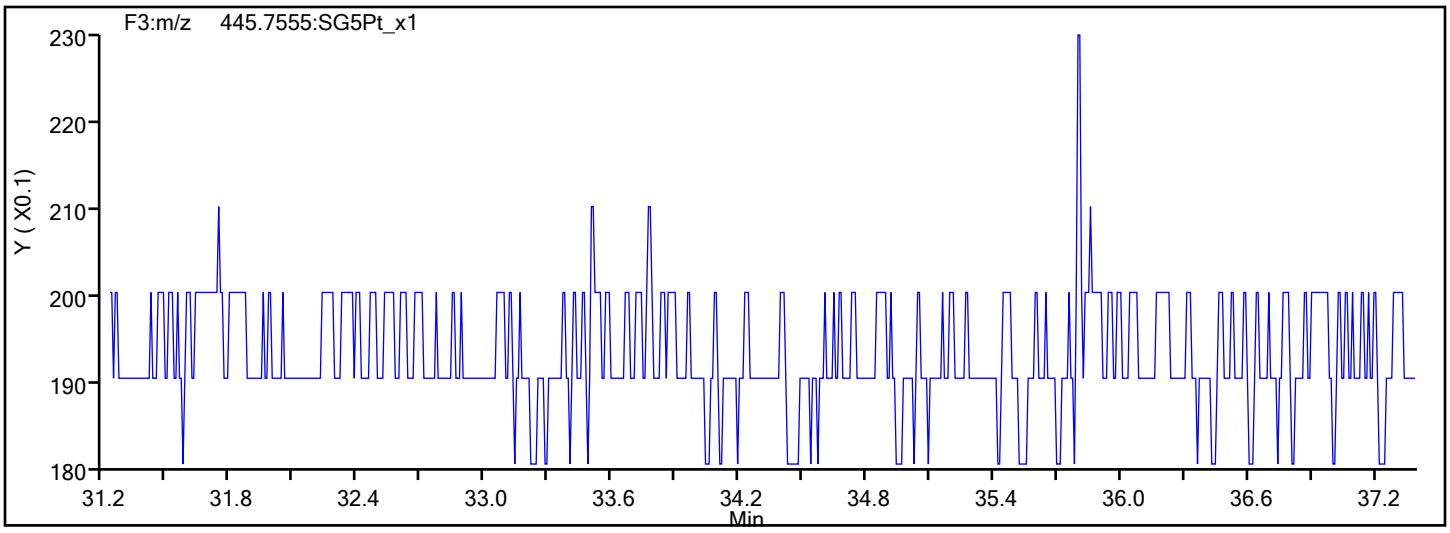
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



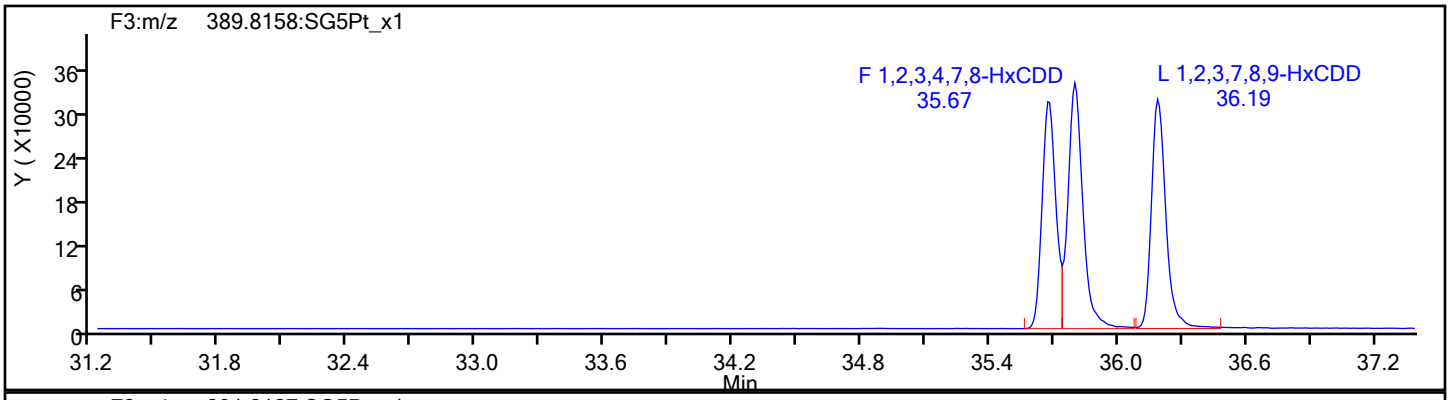
Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

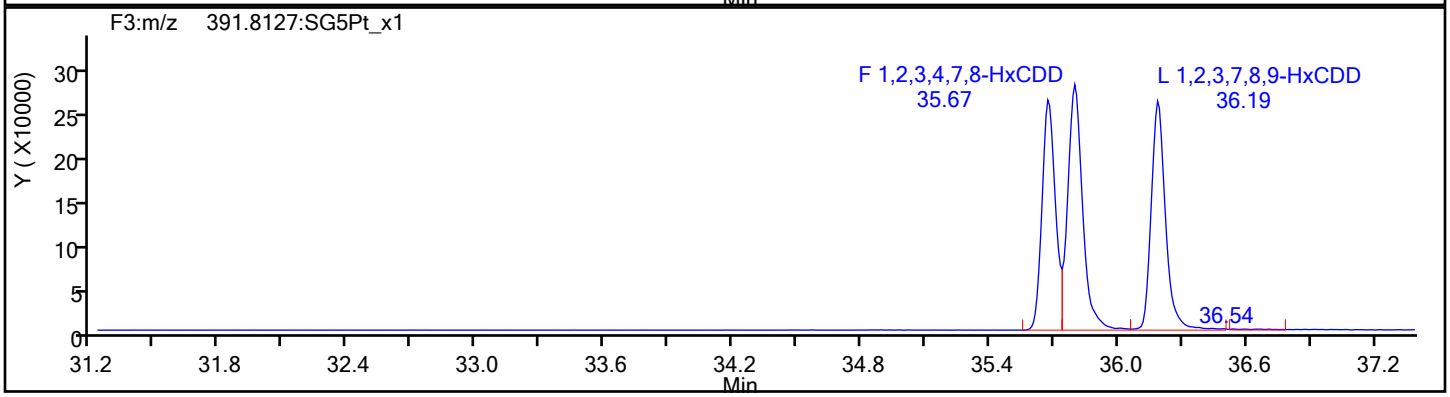
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

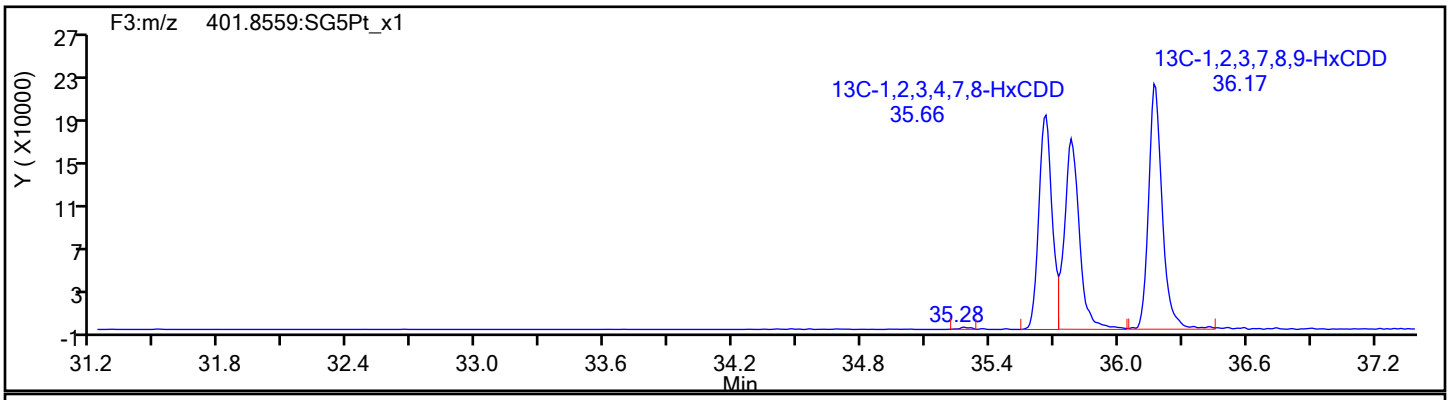
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

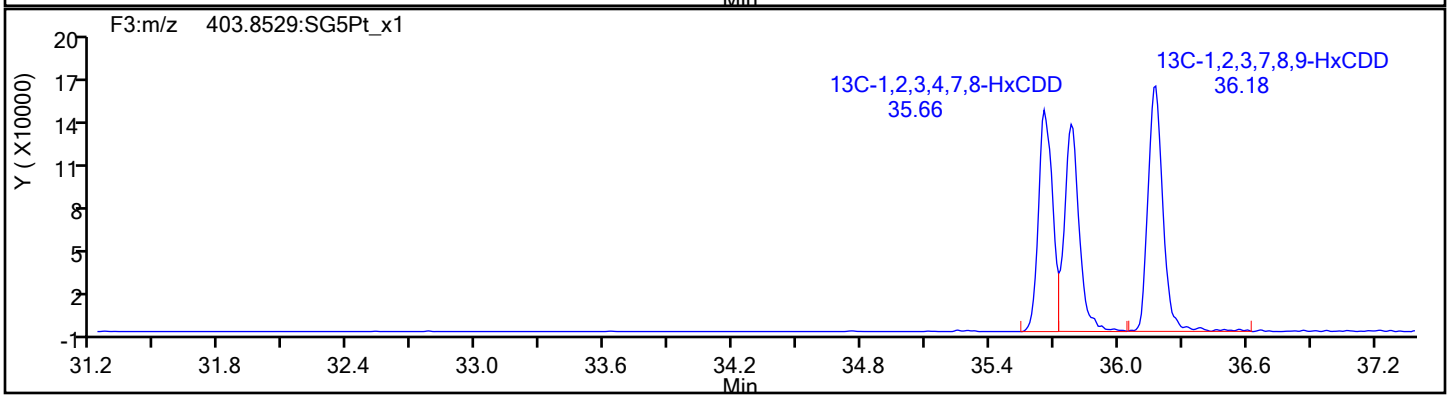
HxCDD





HxCDD Standards





Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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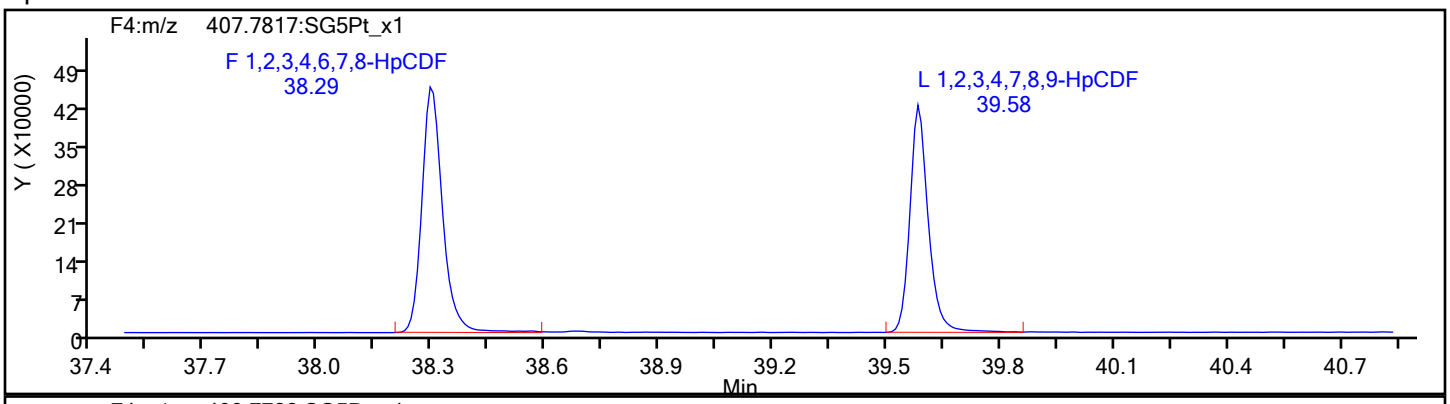
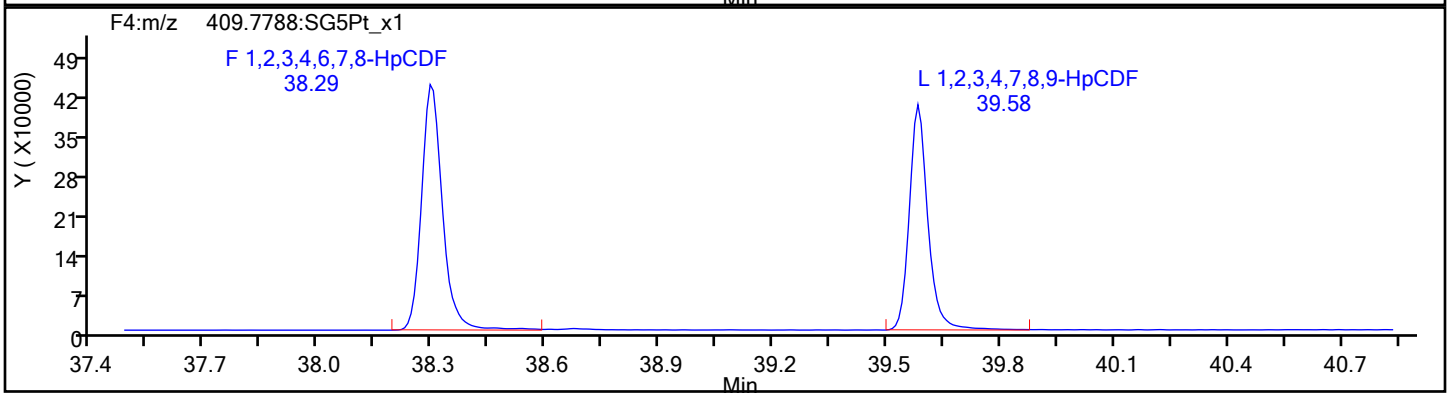
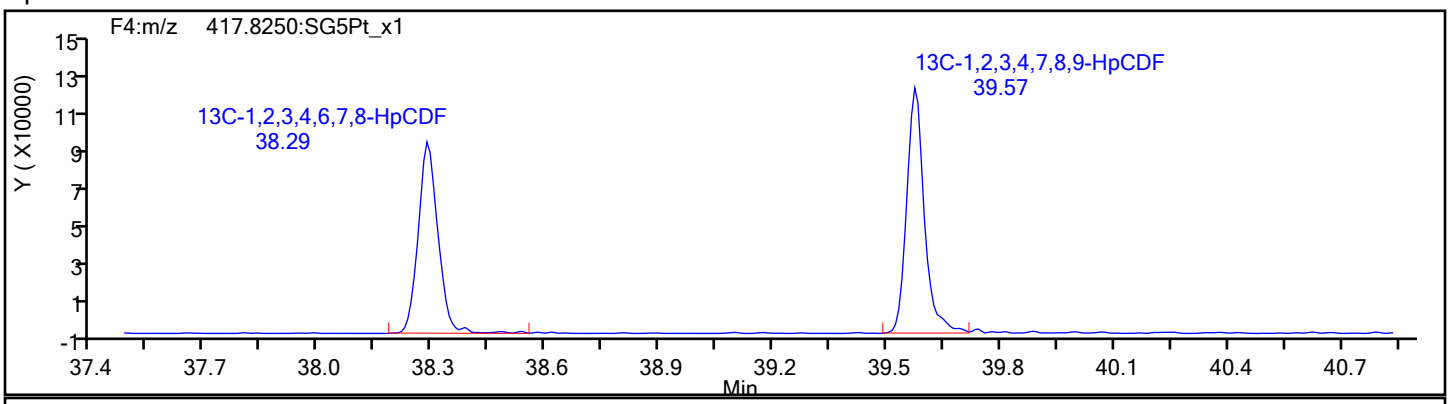
Column Type:	DB-5	Column Dia:	0.32 mm

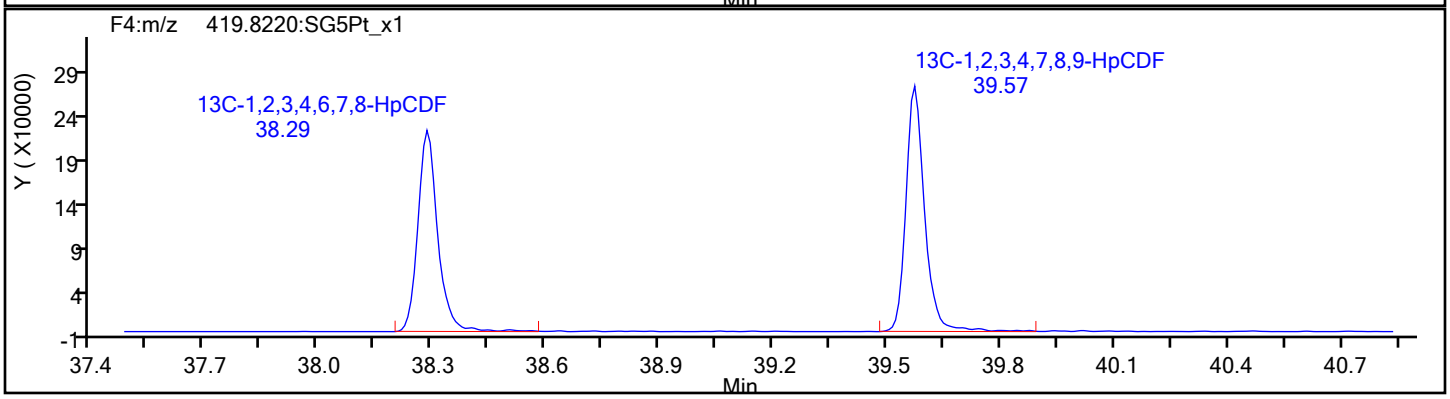
HpCDF





HpCDF Standards

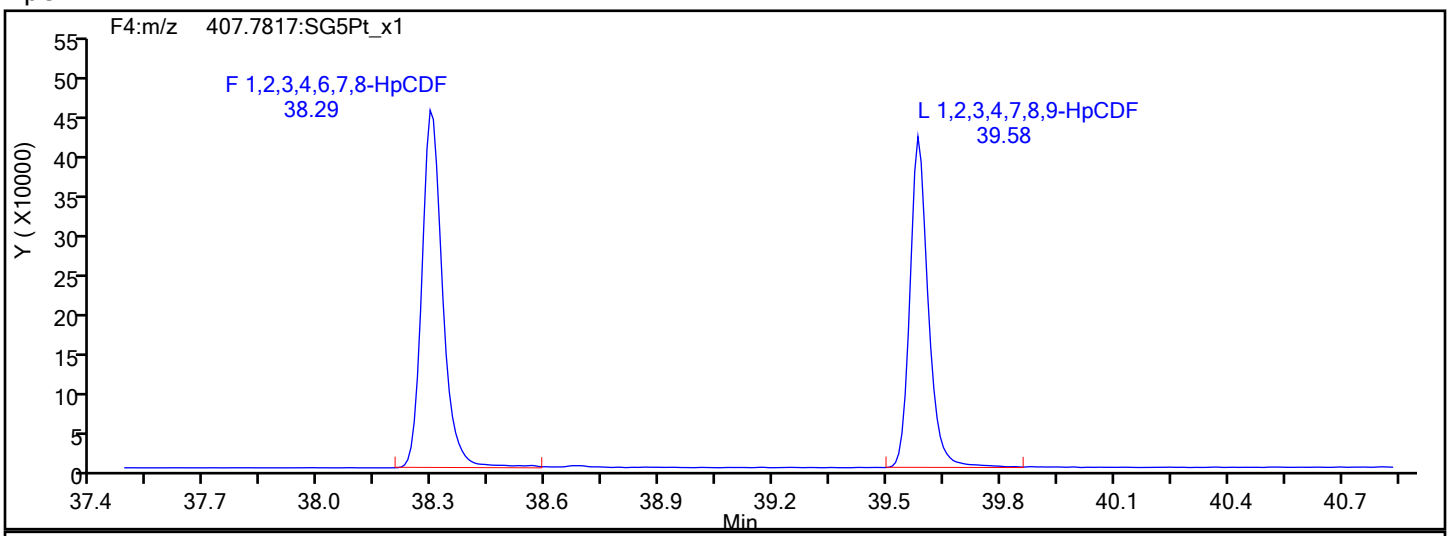


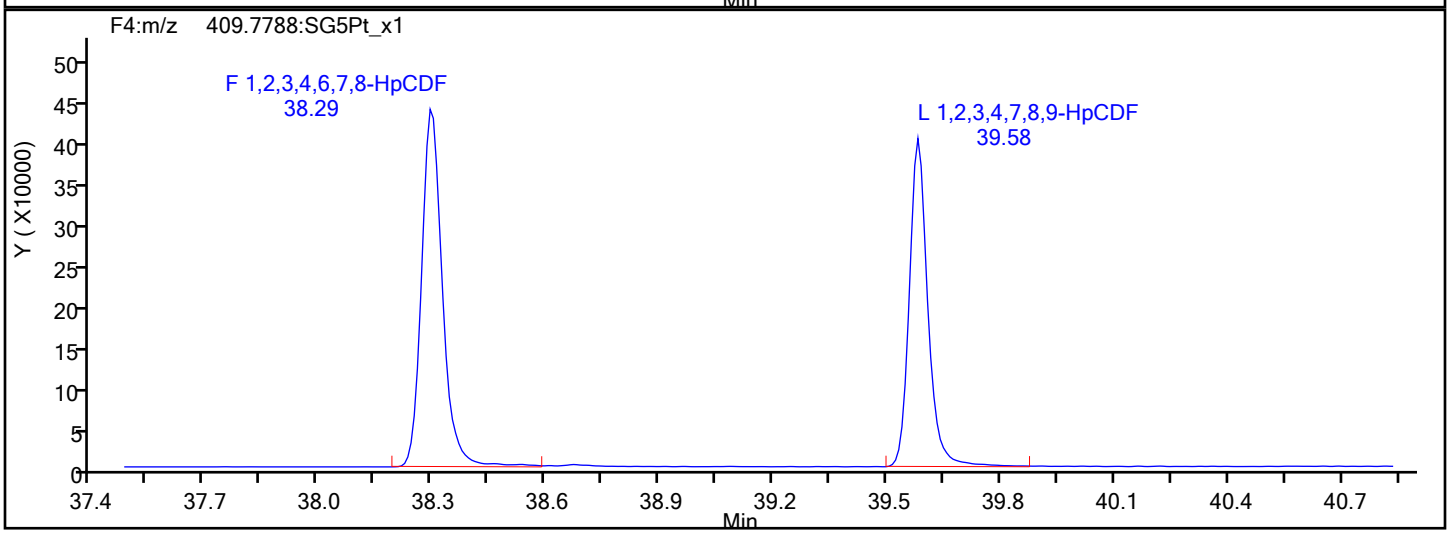


Eurofins Sacramento

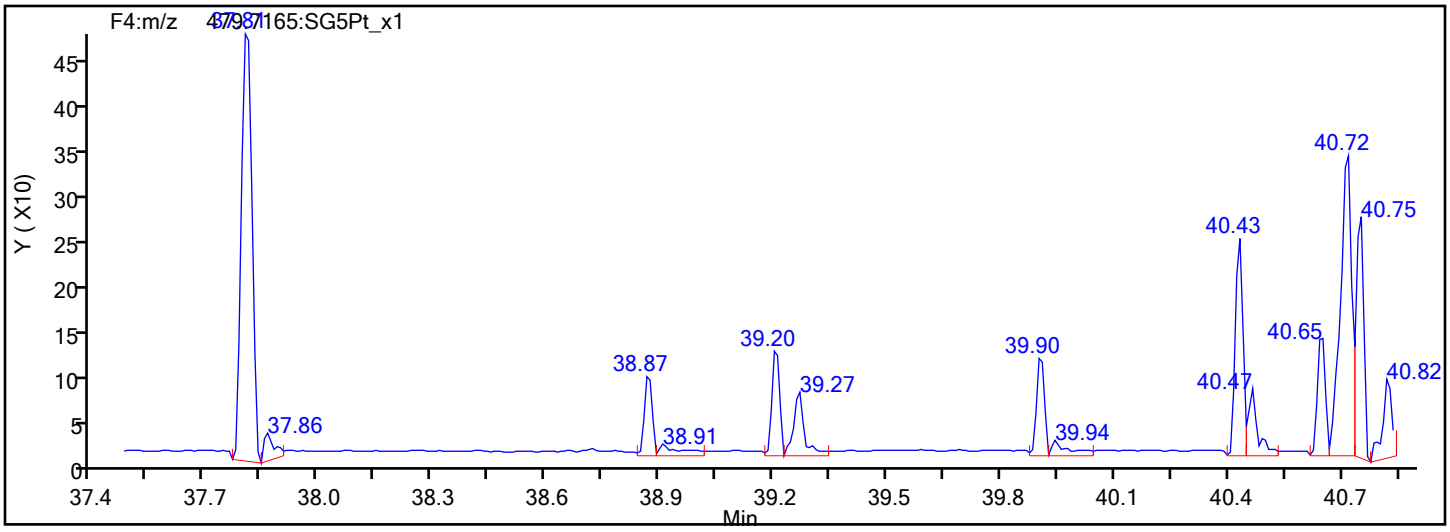
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





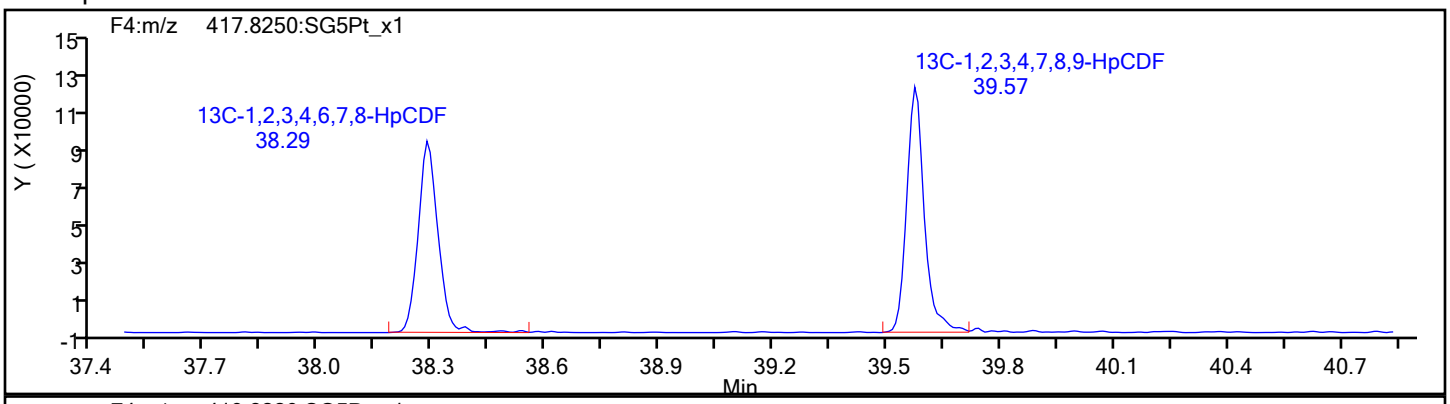
HpCDF Interference Mass

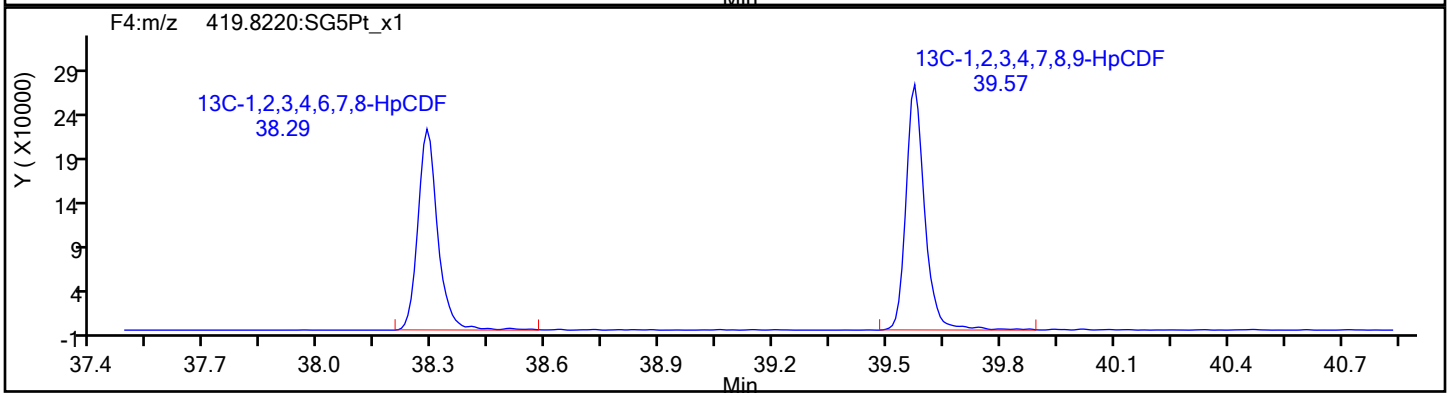


Eurofins Sacramento

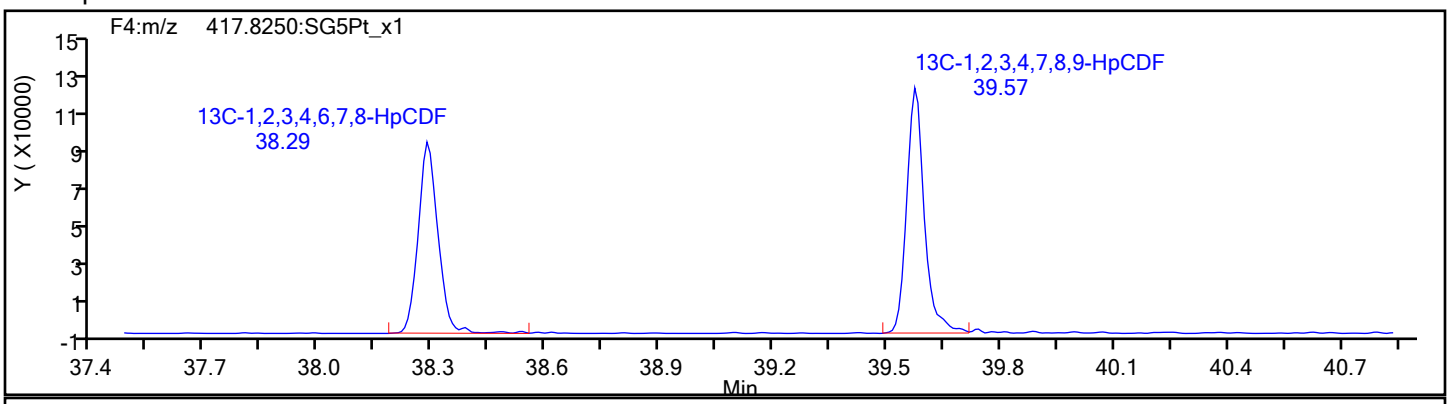
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

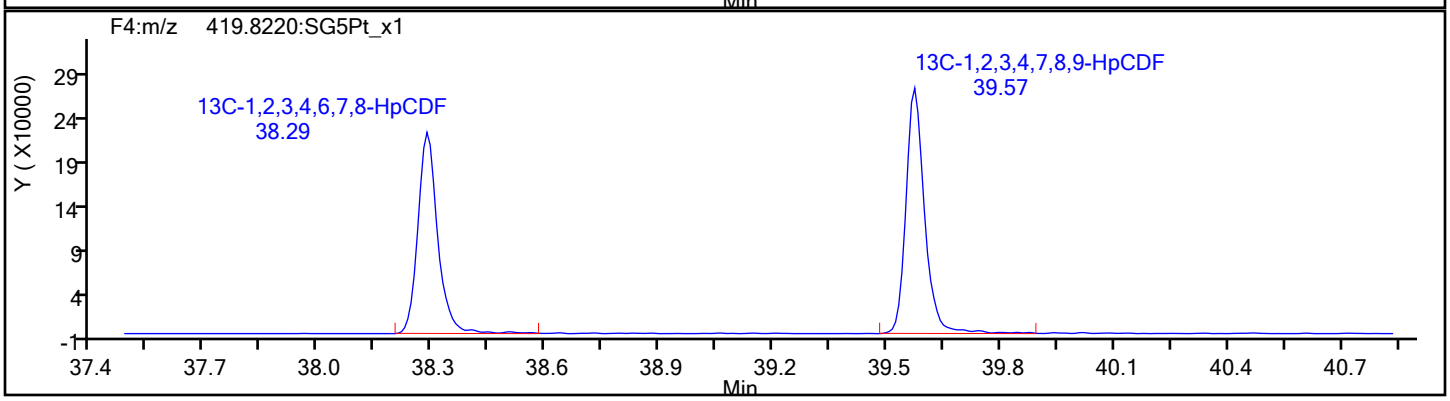
13C-HpCDF





13C-HpCDF Standards

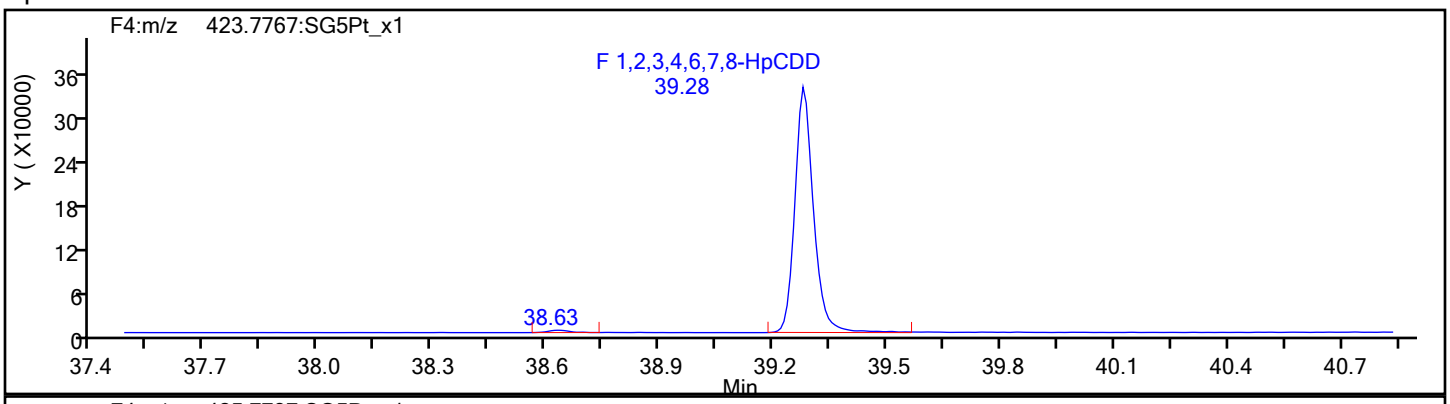


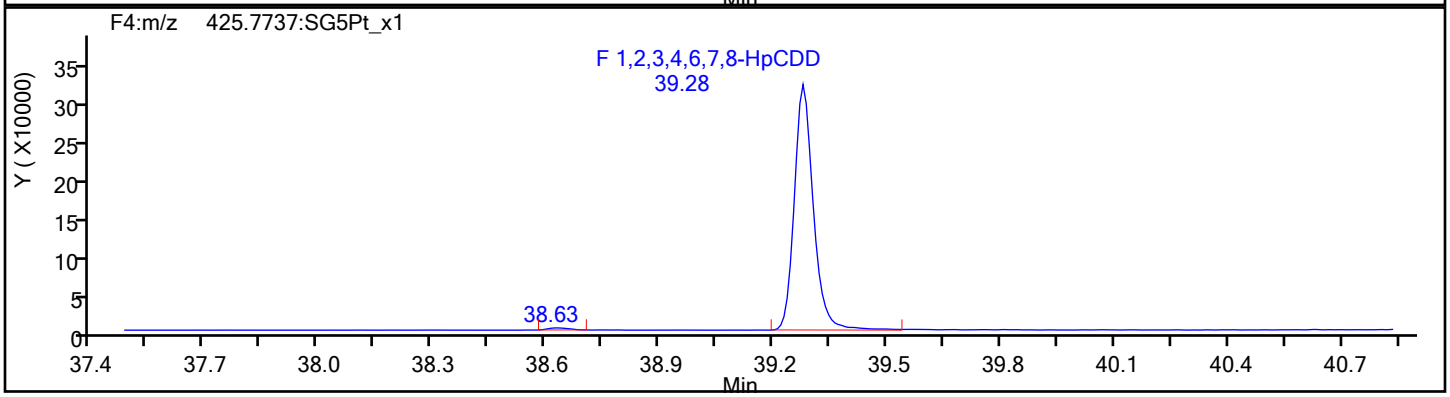


Eurofins Sacramento

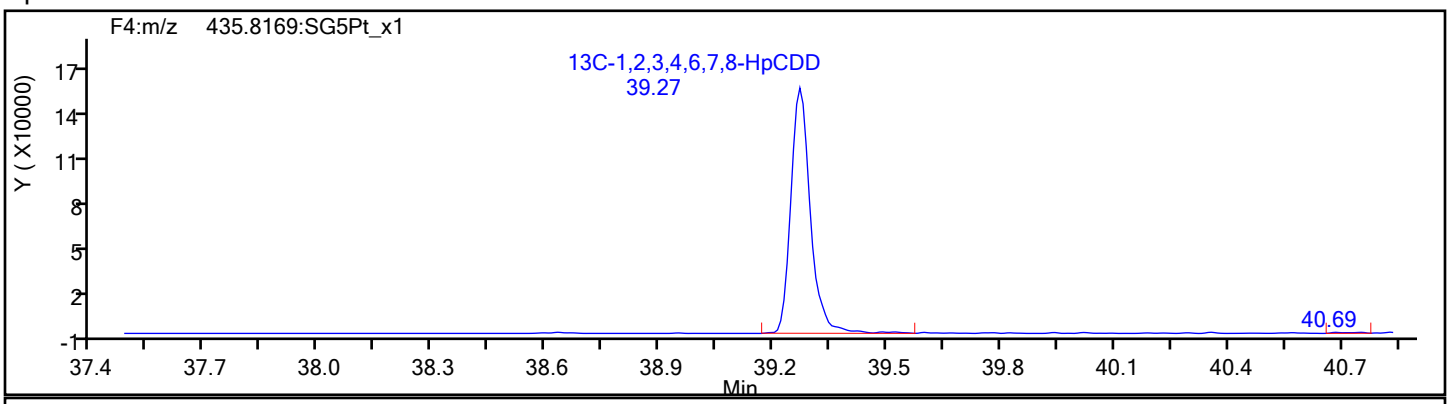
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

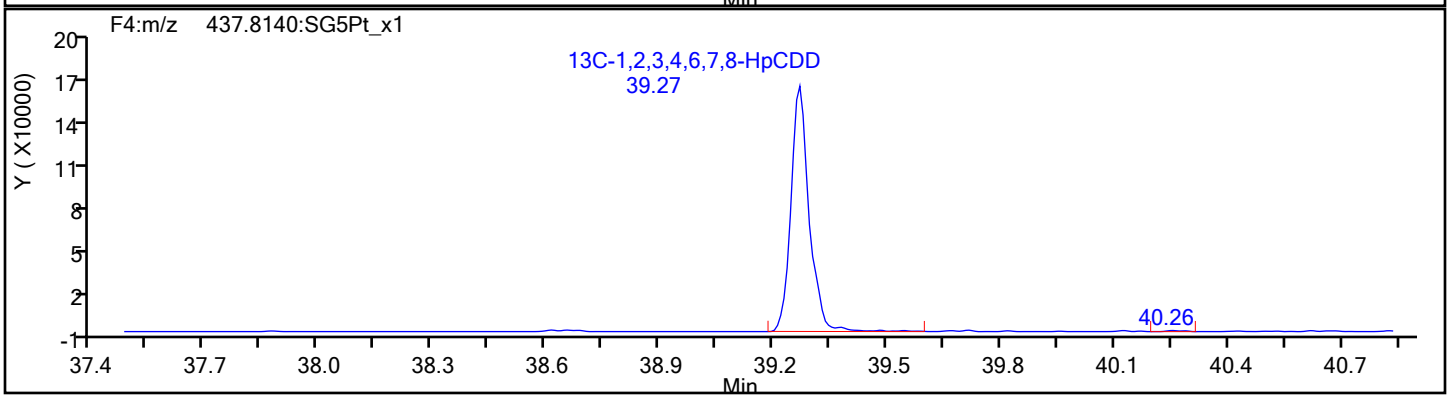
HpCDD





HpCDD Standards





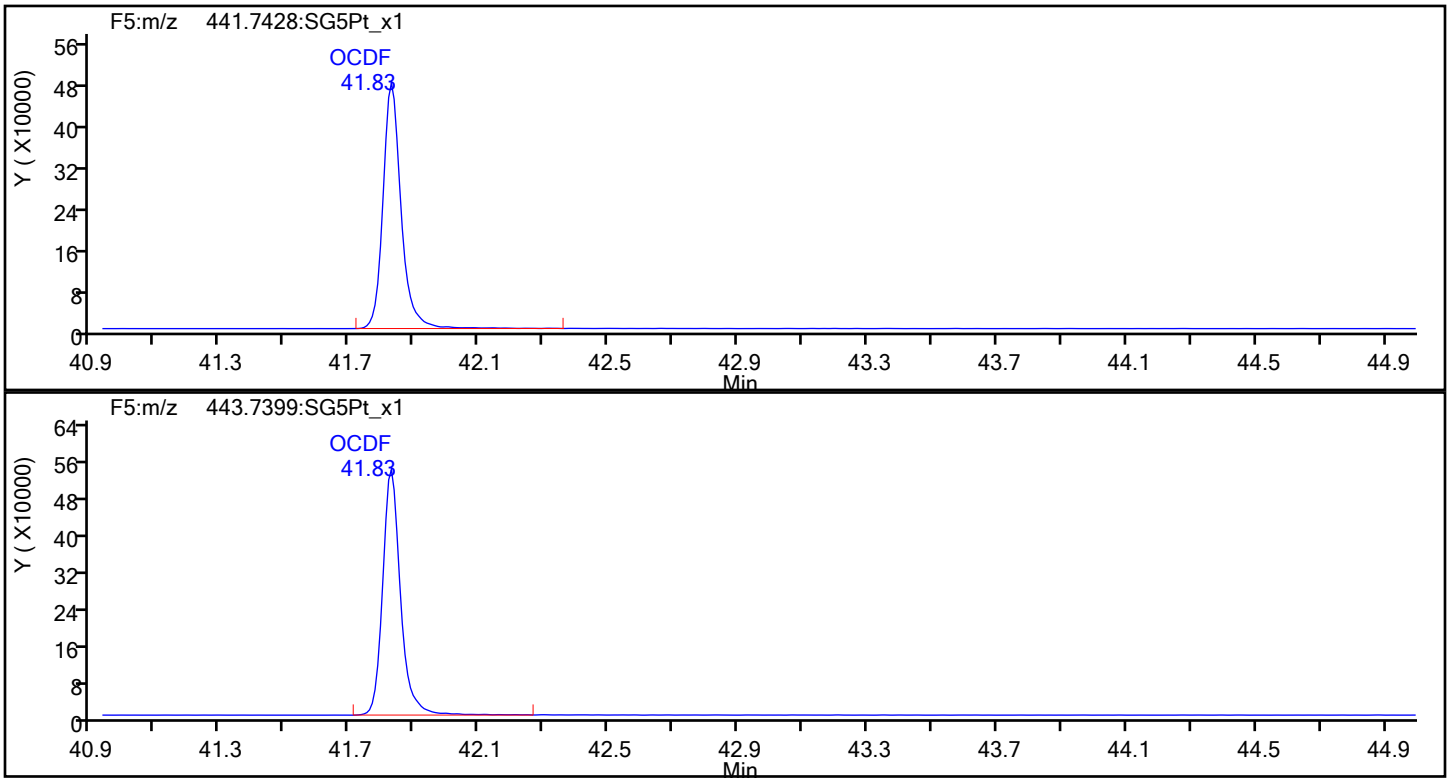
Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

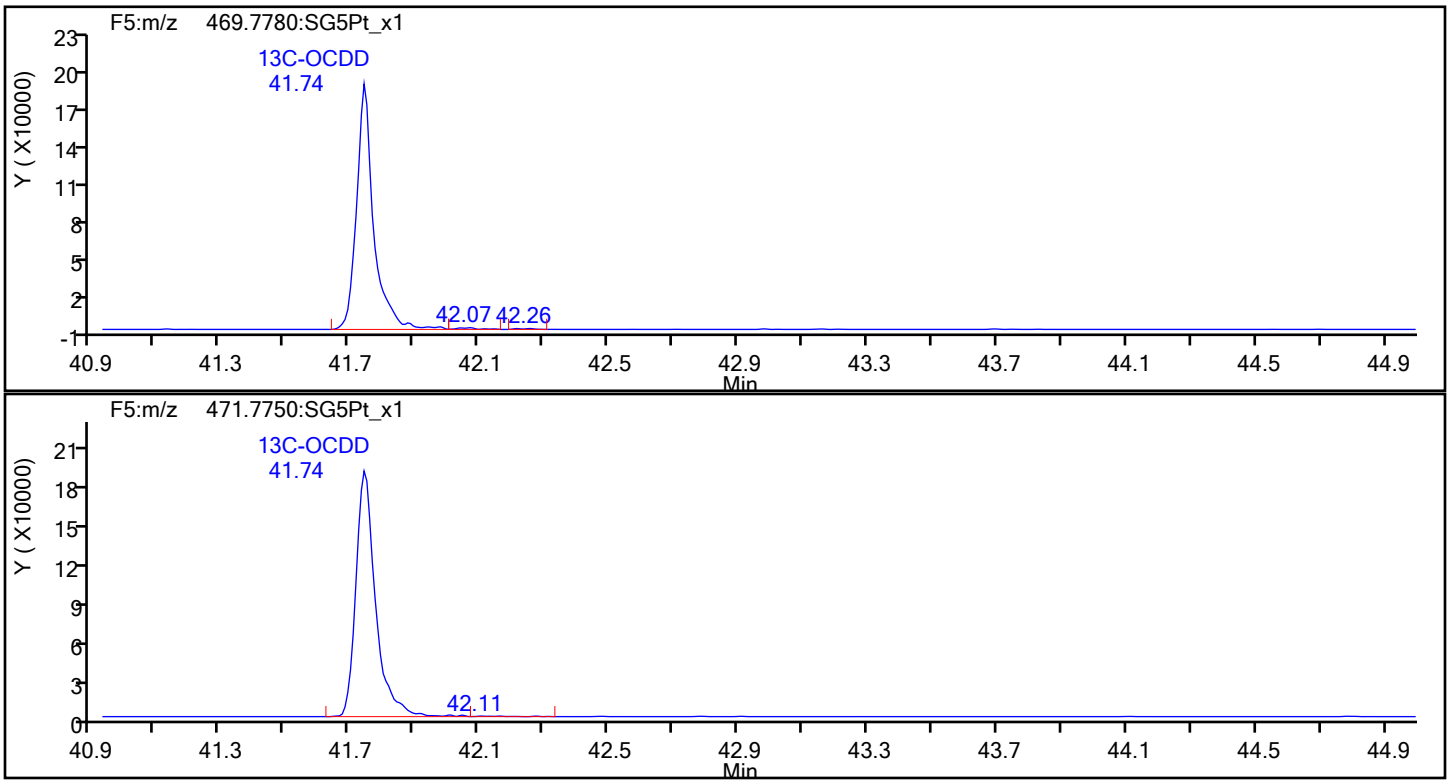
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



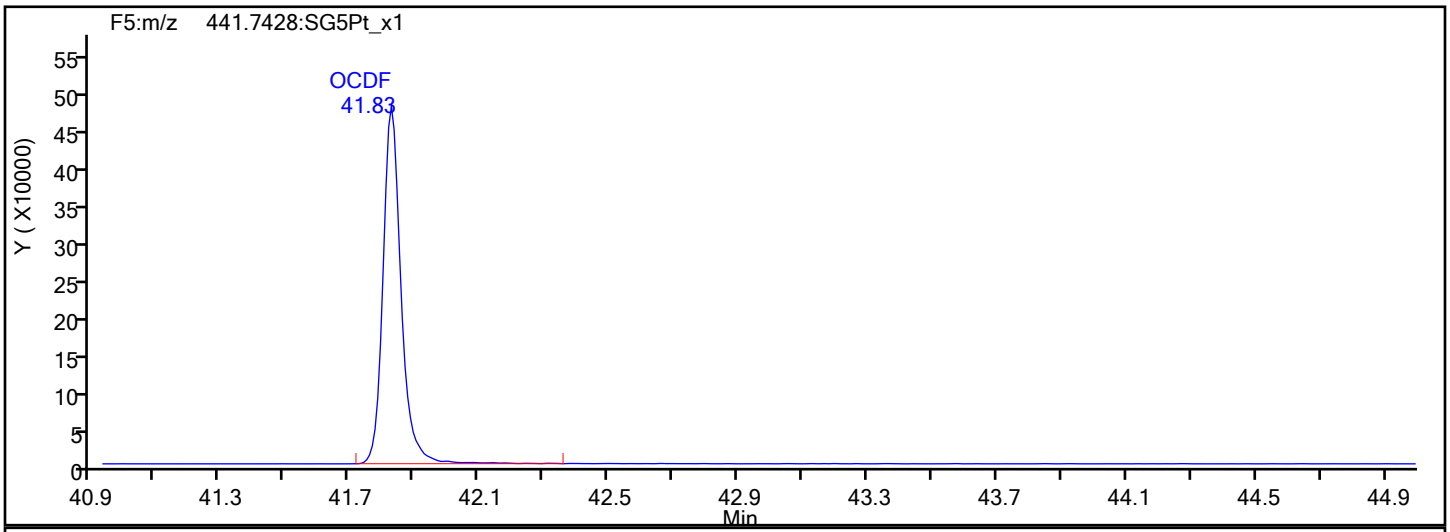
OCDF Standards

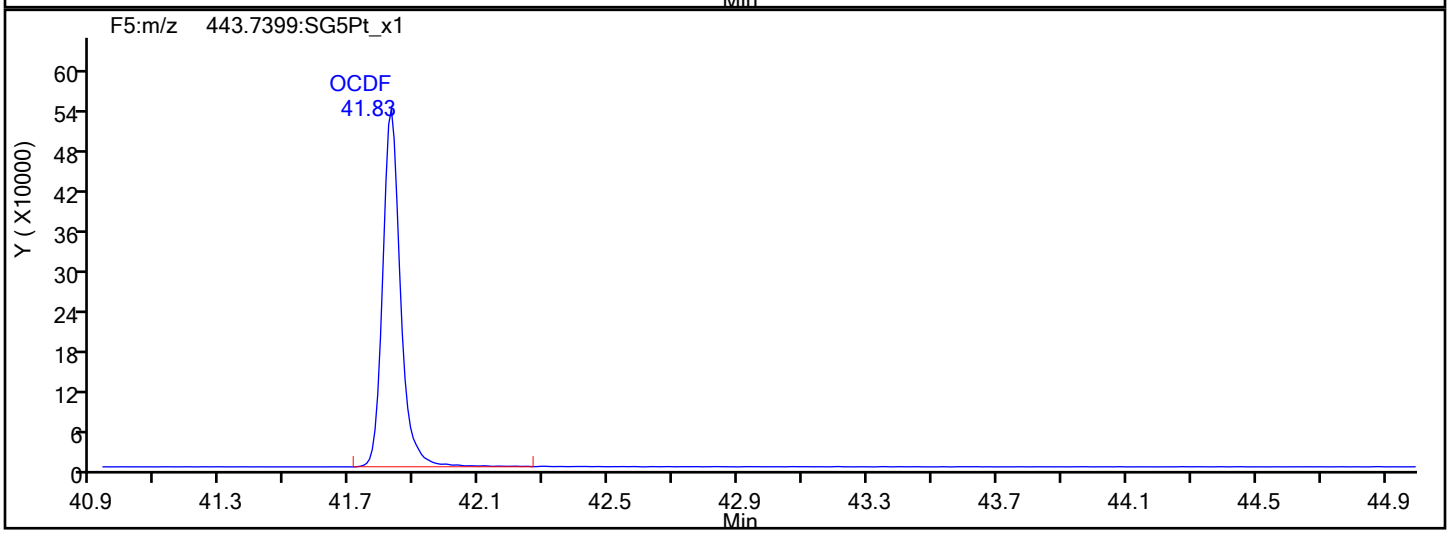


Eurofins Sacramento

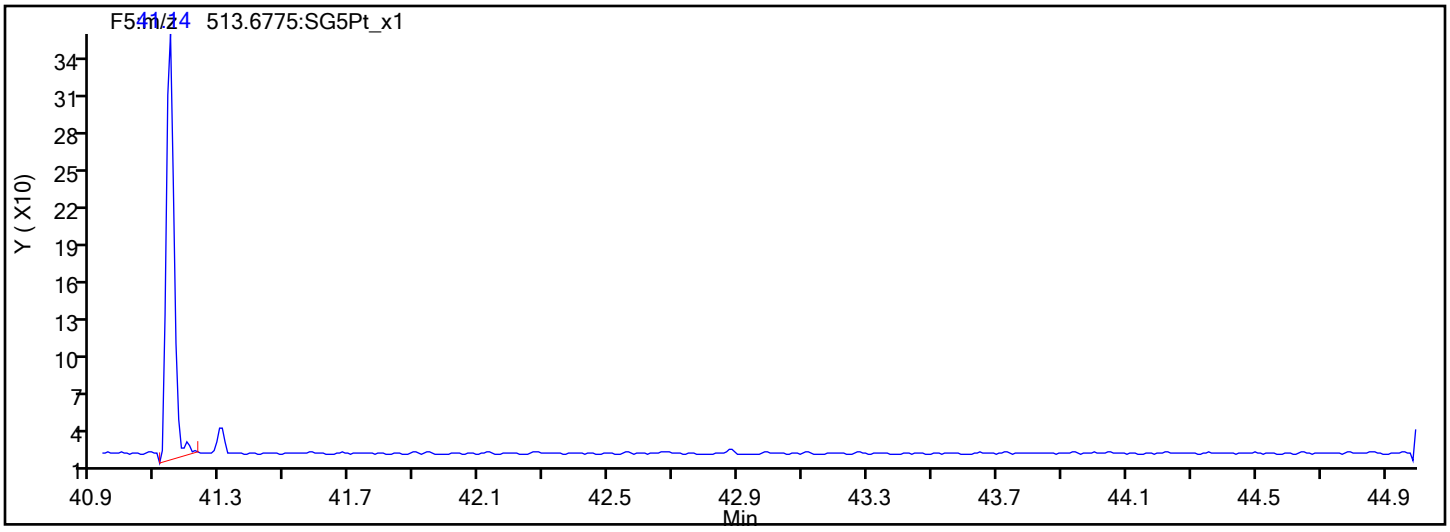
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d
Injection Date: 13-Jan-2022 22:21:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 9
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



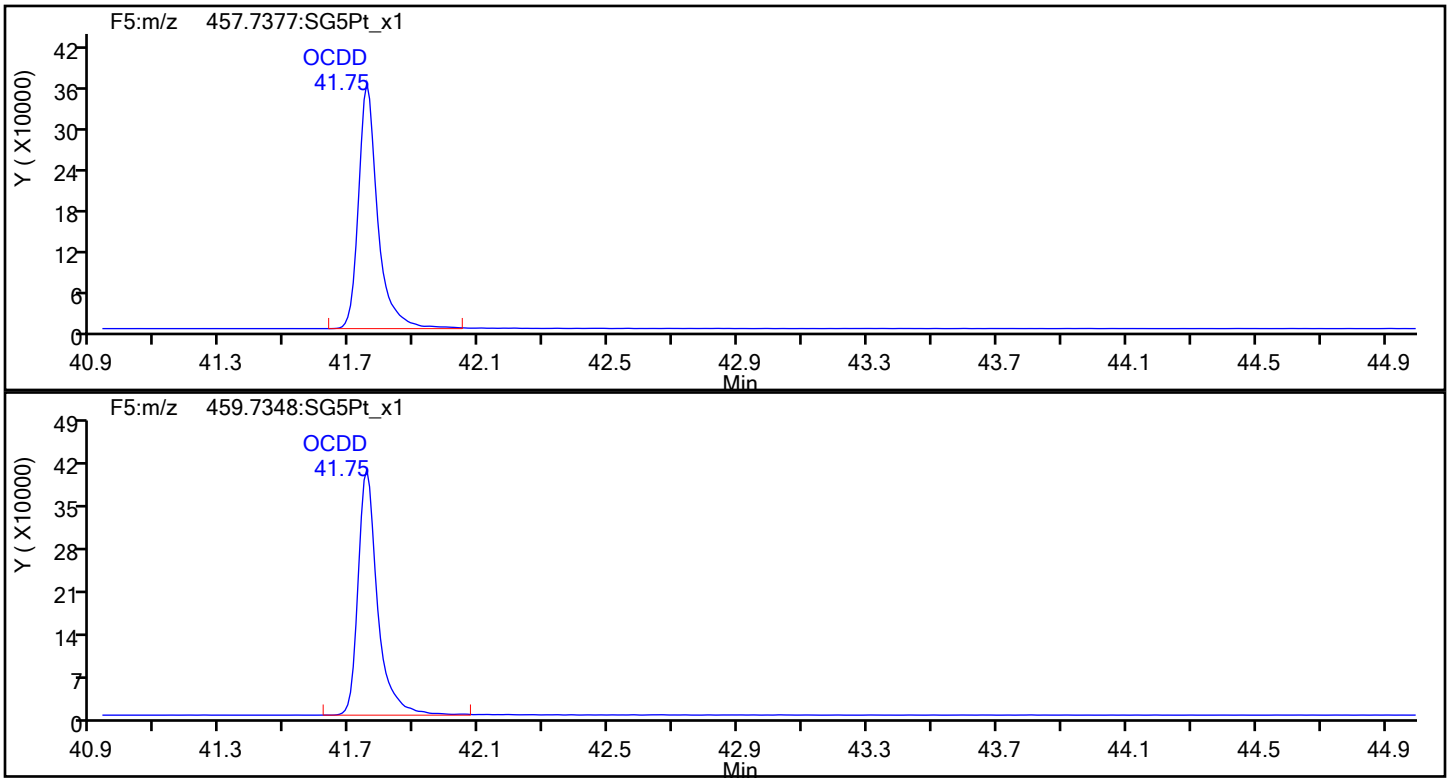
Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

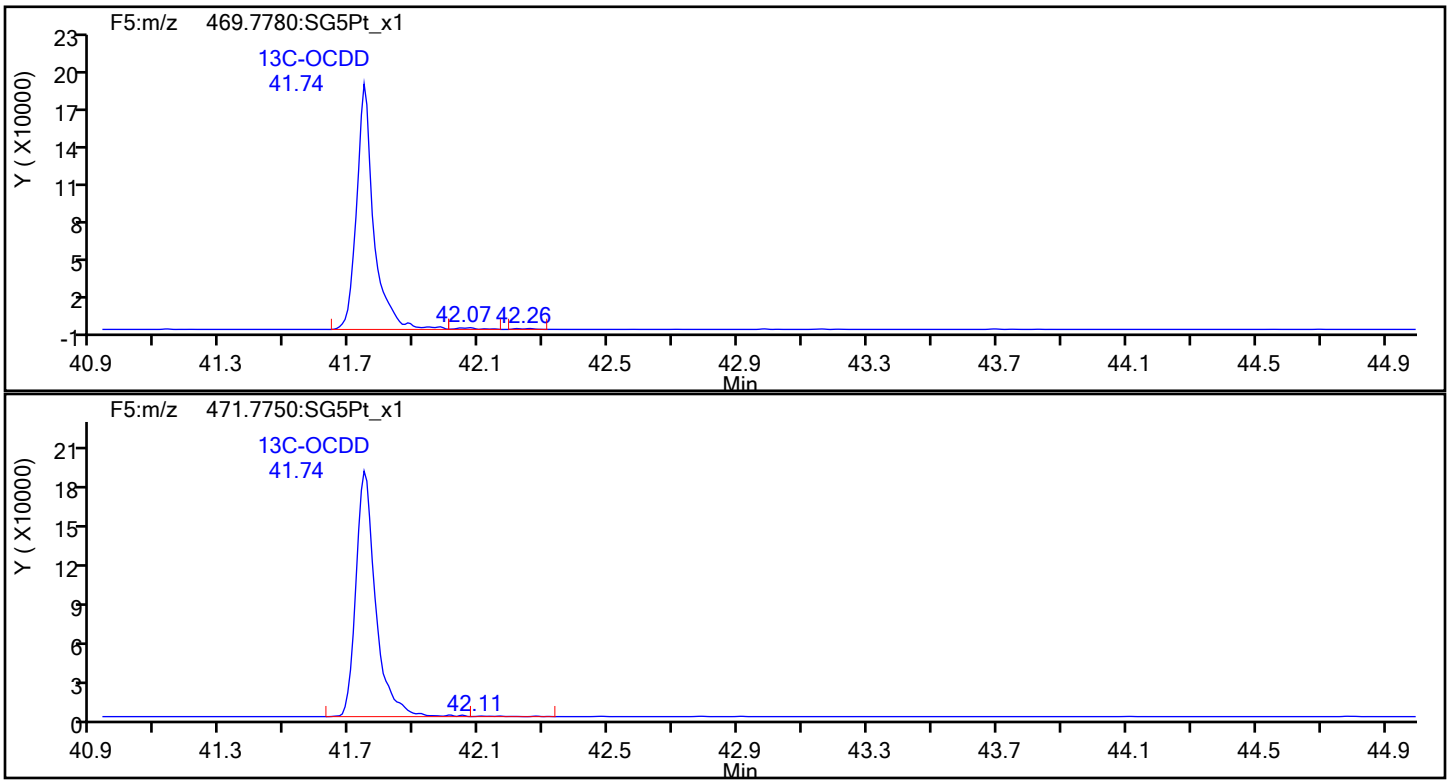
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD



OCDD Standards

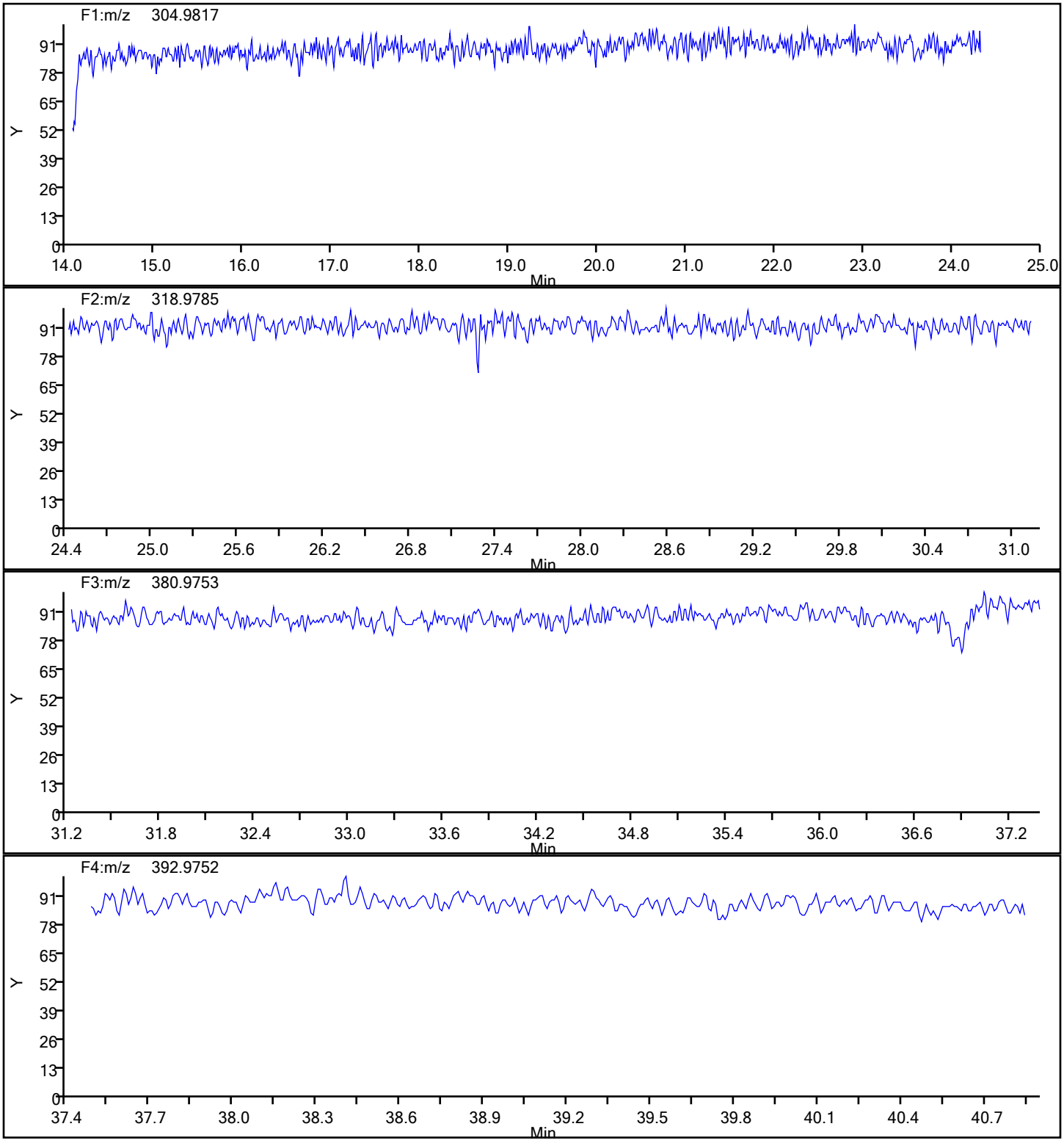


Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d

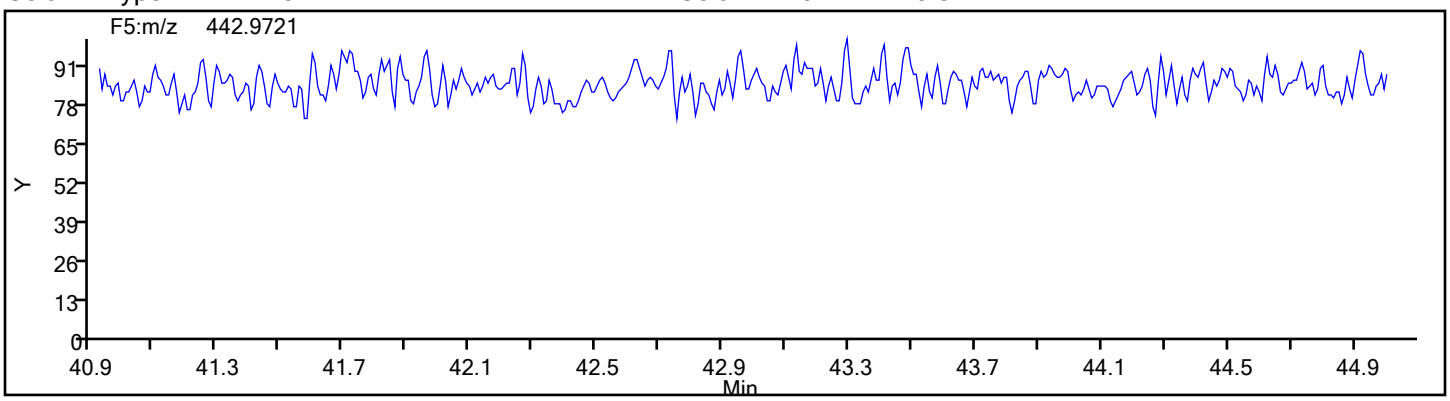
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 14:08:59 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_11.d		
Injection Date:	13-Jan-2022 22:21:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Lab Sample ID: CCV 320-559800/2 Calibration Date: 01/21/2022 21:50

Instrument ID: DFS 1 Calib Start Date: 01/13/2022 17:16

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/13/2022 20:27

Lab File ID: 20ja22dfs1_42.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.012	0.9842		9.73	10.0	-2.7	20.0
2,3,7,8-TCDD	AveID	0.9906	0.9363		9.45	10.0	-5.5	20.0
1,2,3,7,8-PeCDF	AveID	0.9756	0.9132		46.8	50.0	-6.4	20.0
2,3,4,7,8-PeCDF	AveID	0.9215	0.8715		47.3	50.0	-5.4	20.0
1,2,3,7,8-PeCDD	AveID	1.002	0.9464		47.2	50.0	-5.5	20.0
1,2,3,4,7,8-HxCDF	AveID	0.8835	0.7852		44.4	50.0	-11.1	20.0
1,2,3,6,7,8-HxCDF	AveID	1.029	0.8673		42.2	50.0	-15.7	20.0
2,3,4,6,7,8-HxCDF	AveID	0.9878	0.8905		45.1	50.0	-9.8	20.0
1,2,3,4,7,8-HxCDD	AveID	0.8294	0.7959		48.0	50.0	-4.0	20.0
1,2,3,6,7,8-HxCDD	AveID	0.9395	0.9019		48.0	50.0	-4.0	20.0
1,2,3,7,8,9-HxCDD	AveID	0.9076	0.8806		48.5	50.0	-3.0	20.0
1,2,3,7,8,9-HxCDF	AveID	0.9071	0.8274		45.6	50.0	-8.8	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.439	1.383		48.1	50.0	-3.9	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9767	0.9306		47.6	50.0	-4.7	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.220	1.168		47.9	50.0	-4.2	20.0
OCDD	AveID	1.034	0.998		96.5	100	-3.5	20.0
OCDF	AveID	1.276	1.181		92.6	100	-7.4	20.0
13C-2,3,7,8-TCDF	Ave	1.016	0.9905		97.5	100	-2.6	30.0
13C-2,3,7,8-TCDD	Ave	0.7884	0.7577		96.1	100	-3.9	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9232	0.9500		103	100	2.9	30.0
13C-2,3,4,7,8-PeCDF	Ave	1.079	1.228		105	100	13.8	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.5606	0.5748		103	100	2.5	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.057	1.077		102	100	1.9	30.0
13C-1,2,3,6,7,8-HxCDF	Ave	0.9686	0.8932		92.2	100	-7.8	30.0
13C-2,3,4,6,7,8-HxCDF	Ave	0.9084	0.8945		98.5	100	-1.5	30.0
13C-1,2,3,4,7,8-HxCDD	Ave	0.8133	1.083		107	100	33.1*	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8027	0.7977		99.4	100	-0.6	30.0
13C-1,2,3,7,8,9-HxCDF	Ave	0.8248	0.8409		102	100	2.0	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6421	0.6747		105	100	5.1	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.6246	0.6906		111	100	10.6	30.0
13C-1,2,3,4,7,8,9-HpCDF	AveID	1.171	1.280		109	100	9.4	30.0
13C-OCDD	Ave	0.4360	0.4989		229	200	14.4	30.0
37Cl4-2,3,7,8-TCDD	Ave	0.7911	0.8010		10.1	10.0	1.3	

40	20JA22DFS1_40	Resolution Check	RC 012022C	162			GRB	1.000	
41	20JA22DFS1_41	WDM HRDXNCP_00044	WDM 012022C	1	Dioxin		GRB	1.000	
42	20JA22DFS1_42	CCV CS-4 HRDXNL4_00105	CCV 012022F	2	Dioxin		GRB	1.000	
43	20JA22DFS1_43	MB 320-556608/1-A	MB 320-556608/1-A	29	8290(A)/Water	D304	GRB	1.000	L
44	20JA22DFS1_44	LCS 320-556608/2-A	LCS 320-556608/2-A	30	8290(A)/Water		GRB	1.000	L
45	20JA22DFS1_45	LCSD 320-556608/3-A	LCSD 320-556608/3-A	31	8290(A)/Water		GRB	1.000	L
46	20JA22DFS1_46	570-80421-D-1-A	570-80421-D-1-A	32	8290/Water		GRB	1.000	L
47	20JA22DFS1_47	570-80421-C-2-A	570-80421-C-2-A	33	8290/Water		GRB	1.000	L
48	20JA22DFS1_48	570-80421-D-3-A	570-80421-D-3-A	34	8290/Water		GRB	1.000	L
49	20JA22DFS1_49	570-80421-D-4-A	570-80421-D-4-A	35	8290/Water		GRB	1.000	L
50	20JA22DFS1_50	280-157199-A-1-A	280-157199-A-1-A	36	8290A/Water		GRB	1.000	L
51	20JA22DFS1_51	280-157199-A-2-A	280-157199-A-2-A	37	8290A/Water		GRB	1.000	L
52	20JA22DFS1_52	280-157199-A-3-A	280-157199-A-3-A	38	8290A/Water		GRB	1.000	L
53	20JA22DFS1_53	280-157199-A-4-A	280-157199-A-4-A	39	8290A/Water		GRB	1.000	L
54	20JA22DFS1_54	280-157199-A-5-A	280-157199-A-5-A	40	8290A/Water		GRB	1.000	L
55	20JA22DFS1_55	CCV CS-4 HRDXNL4_00105	CCV 012022G	2	Dioxin		GRB	1.000	
56	20JA22DFS1_56	Resolution Check	RC 012022D	162			GRB	1.000	
57	20JA22DFS1_57	WDM HRDXNCP_00044	WDM 012022D	1	Dioxin		GRB	1.000	
58	20JA22DFS1_58	CCV CS-4 HRDXNL4_00105	CCV 012022H	2	Dioxin		GRB	1.000	
59	20JA22DFS1_59	HV PUF QC 01172022	HV PUF QC 01172022	41	TO9/Air	QC2	GRB	1.000	SA
60	20JA22DFS1_60	mb 320-558461/1-a	mb 320-558461/1-a	42	8290/Water	D308	GRB	1.000	L
61	20JA22DFS1_61	lcs 320-558461/2-a	lcs 320-558461/2-a	43	8290/Water		GRB	1.000	L
62	20JA22DFS1_62	lcsd 320-558461/3-a	lcsd 320-558461/3-a	44	8290/Water		GRB	1.000	L
63	20JA22DFS1_63	570-81401-ah-2-a	570-81401-ah-2-a	45	8290/Water		GRB	1.000	L
64	20JA22DFS1_64	570-81463-r-2-a	570-81463-r-2-a	46	8290/Water		GRB	1.000	L
65	20JA22DFS1_65	680-209959-c-1-a	680-209959-c-1-a	47	8290/Water		GRB	1.000	L
66	20JA22DFS1_66	680-209959-d-2-a	680-209959-d-2-a	48	8290/Water		GRB	1.000	L
67	20JA22DFS1_67	680-209959-c-3-a	680-209959-c-3-a	49	8290/Water		GRB	1.000	L
68	20JA22DFS1_68	680-209959-d-4-a	680-209959-d-4-a	50	8290/Water		GRB	1.000	L
69	20JA22DFS1_69	680-210034-d-1-a	680-210034-d-1-a	51	8290/Water		GRB	1.000	L
70	20JA22DFS1_70	CCV CS-4 HRDXNL4_00105	CCV 012022I	2	Dioxin		GRB	1.000	
71	20JA22DFS1_71	Resolution Check	RC 012022E	162			GRB	1.000	

Logfile ✓'d
1/21/22
KSS

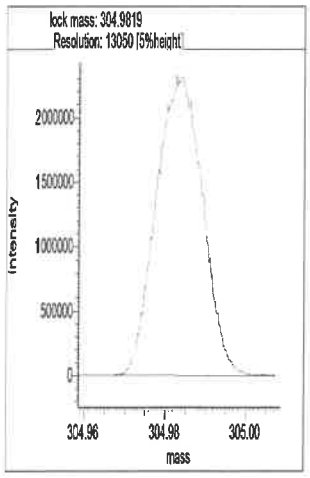
Resolution Check Report (DFS SN: 3487)

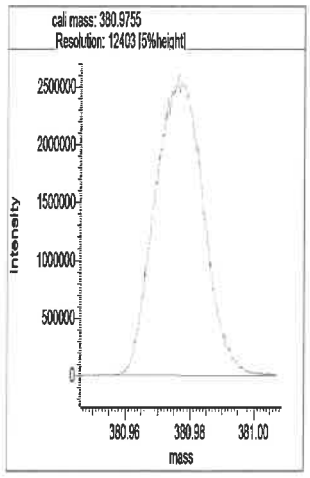
eurofins | Environment Testing TestAmerica

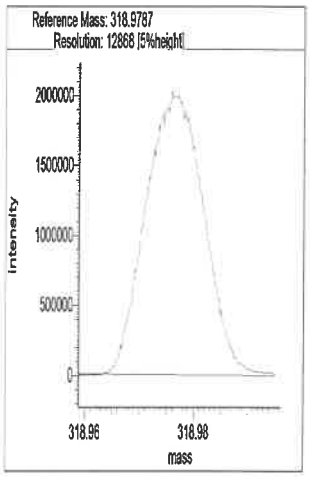
Date:	21 Jan 2022 20:45
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

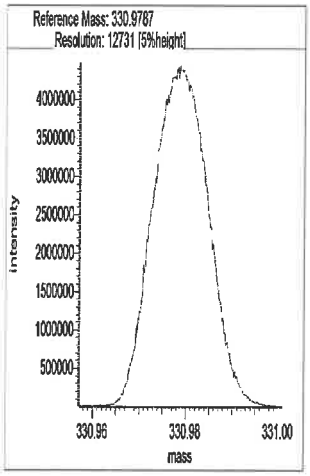
Segment 1

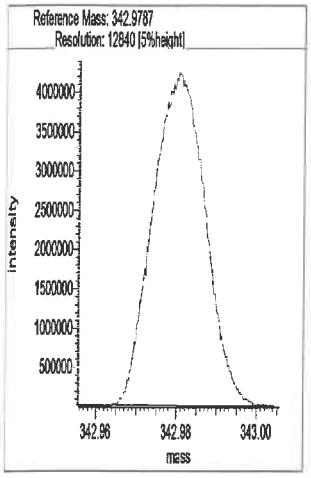
Lock mass 304.9819 [m/z] Resolution: 13050 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 12403 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 12868 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 12731 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 12840 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12946 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 11227 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 12191 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 12469 [5%height]

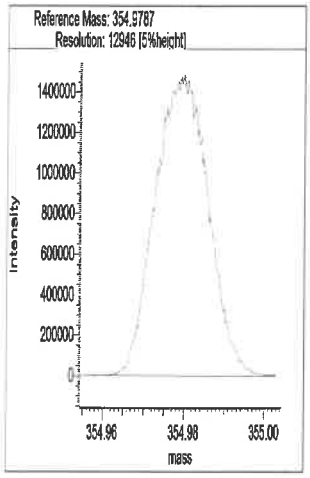


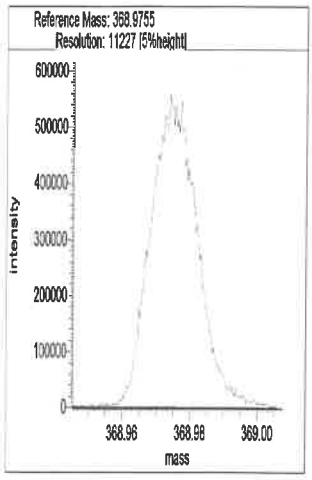


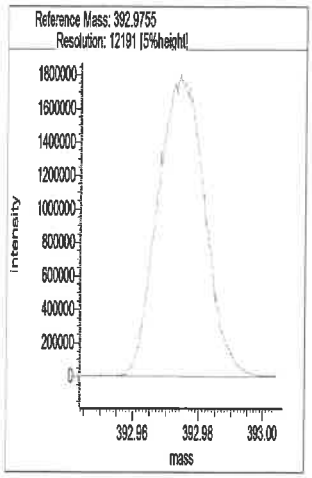


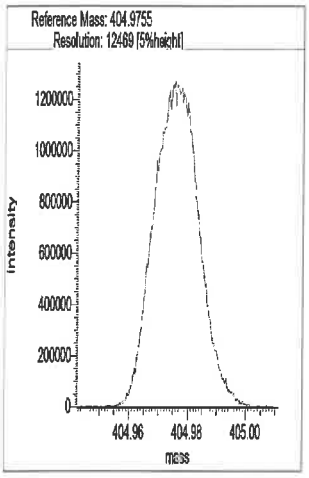












Segment 2

Lock mass 330.9787 [m/z] Resolution: 13092 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12578 [5%height]

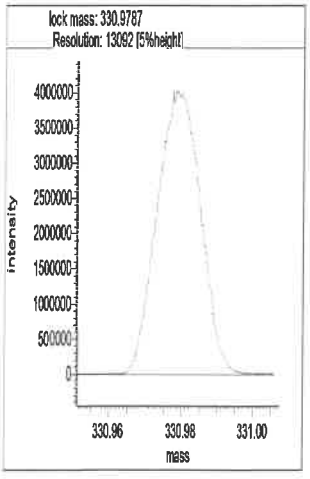
Ref. mass 342.9787 [m/z] Resolution: 13087 [5%height]

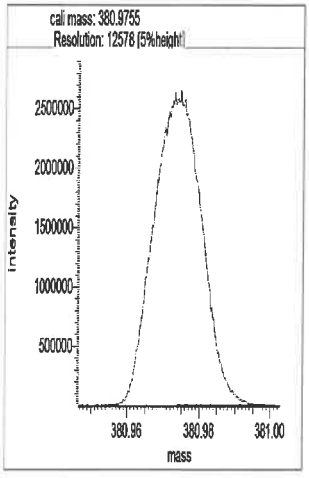
Ref. mass 354.9787 [m/z] Resolution: 13171 [5%height]

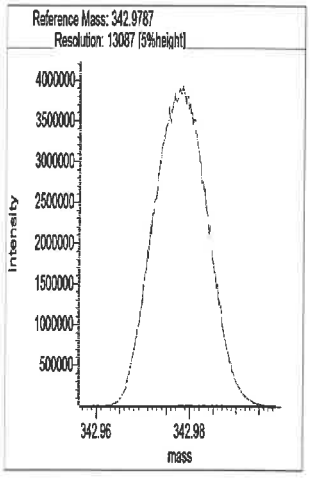
Ref. mass 368.9755 [m/z] Resolution: 12181 [5%height]

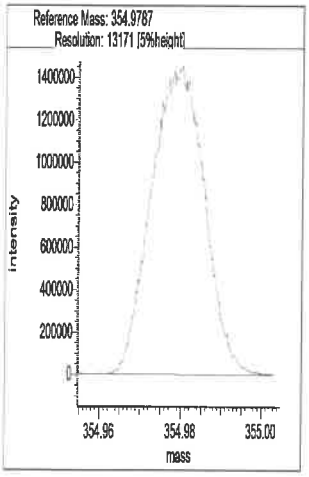
Ref. mass 392.9755 [m/z] Resolution: 12575 [5%height]

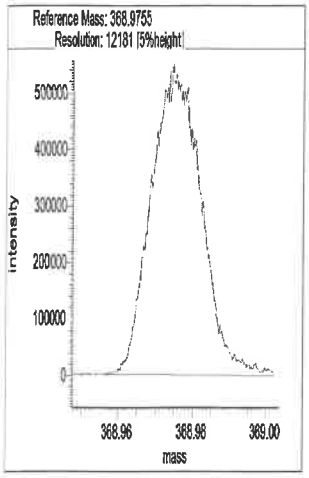
Ref. mass 404.9755 [m/z] Resolution: 12537 [5%height]

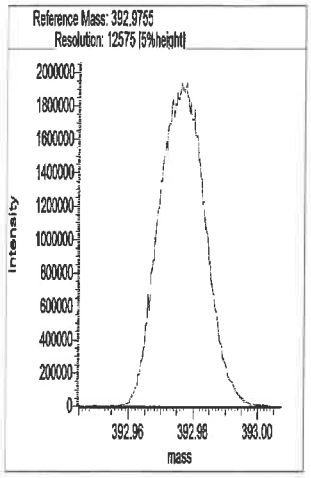


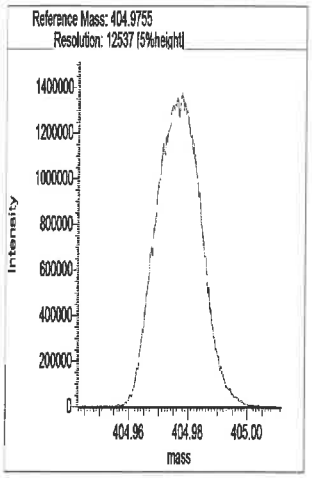












Segment 3

Lock mass 380.9755 [m/z] Resolution: 13061 [5%height]

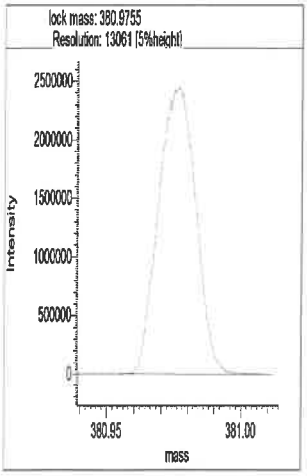
Cali. mass 430.9723 [m/z] Resolution: 12731 [5%height]

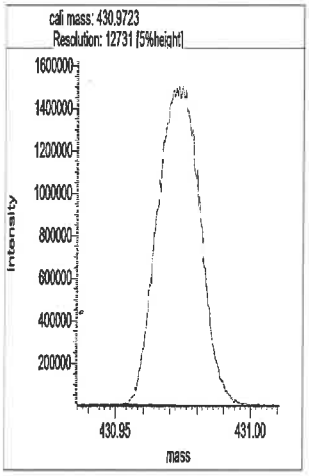
Ref. mass 392.9755 [m/z] Resolution: 13139 [5%height]

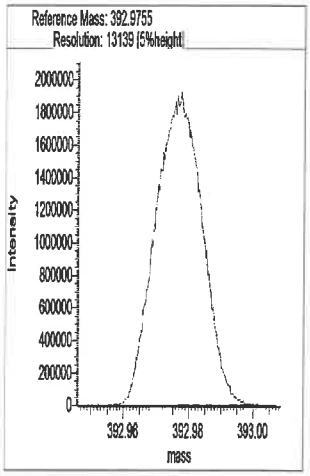
Ref. mass 404.9755 [m/z] Resolution: 13399 [5%height]

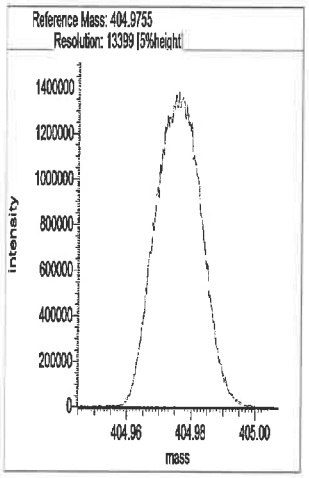
Ref. mass 416.9755 [m/z] Resolution: 13337 [5%height]

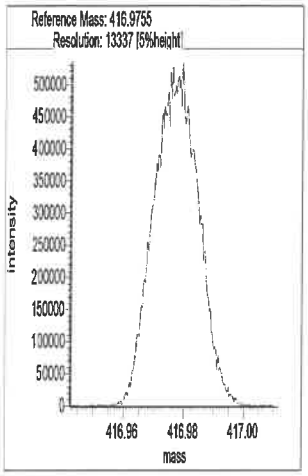
Ref. mass 442.9723 [m/z] Resolution: 12857 [5%height]

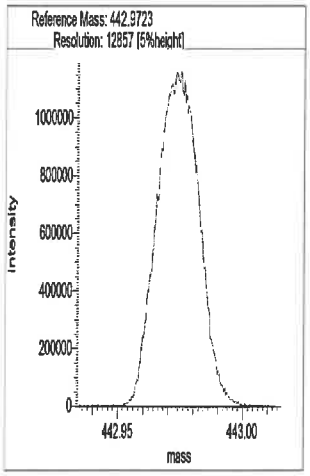












Segment 4

Lock mass 392.9754 [m/z] Resolution: 13053 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 12326 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 13058 [5%height]

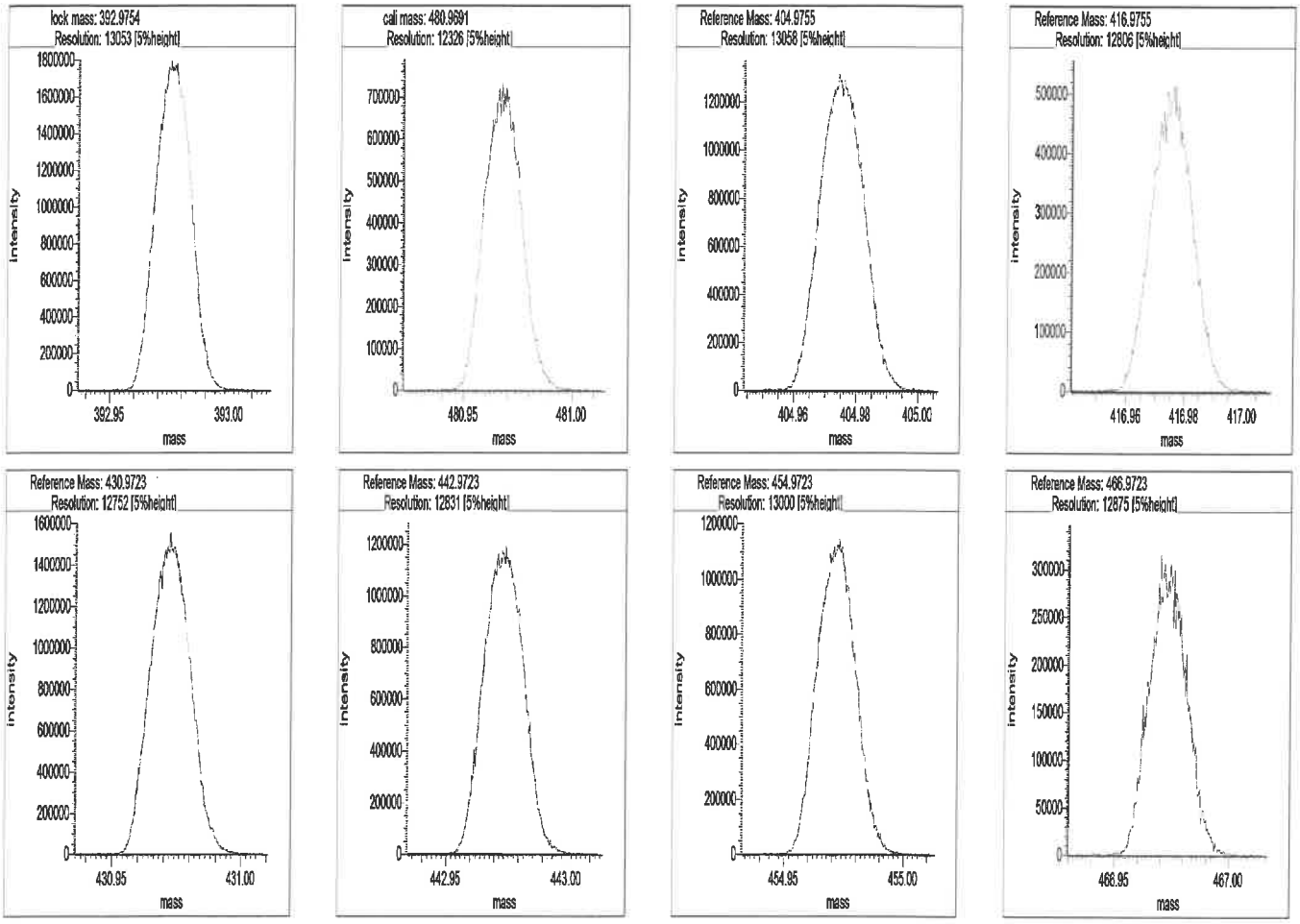
Ref. mass 416.9755 [m/z] Resolution: 12806 [5%height]

Ref. mass 430.9723 [m/z] Resolution: 12752 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12831 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 13000 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12875 [5%height]



Segment 5

Lock mass 442.9723 [m/z] Resolution: 13342 [5%height]

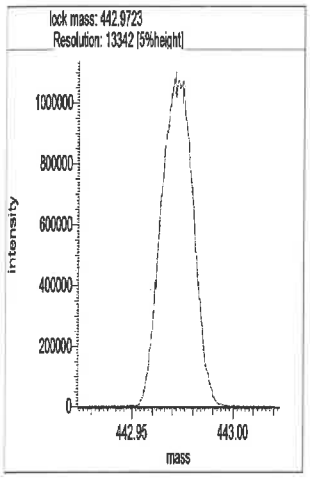
Cali. mass 504.9691 [m/z] Resolution: 13070 [5%height]

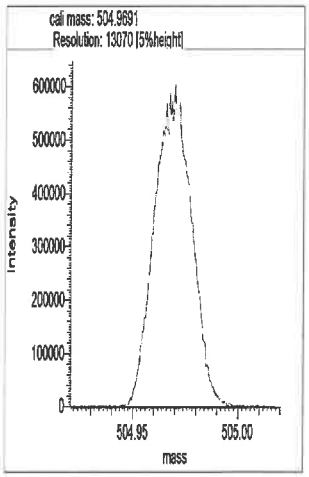
Ref. mass 454.9723 [m/z] Resolution: 13223 [5%height]

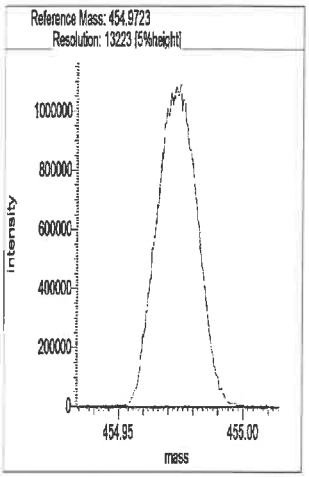
Ref. mass 466.9723 [m/z] Resolution: 12960 [5%height]

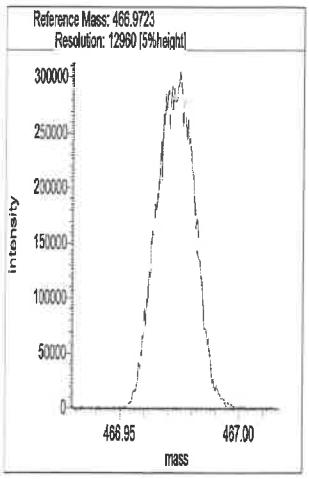
Ref. mass 480.9691 [m/z] Resolution: 12873 [5%height]

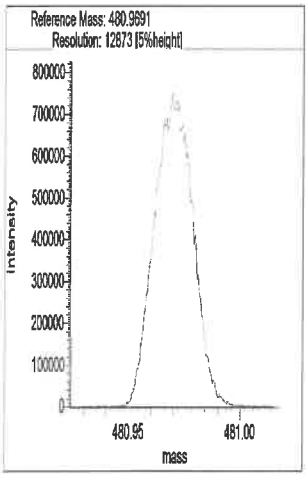
Ref. mass 492.9691 [m/z] Resolution: 13009 [5%height]

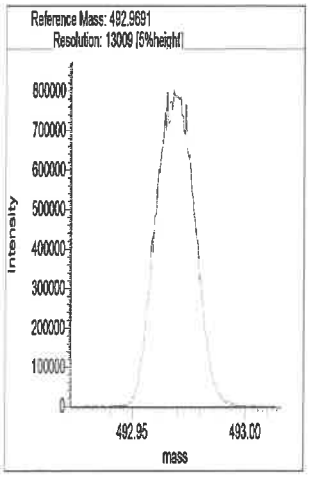

lock mass: 442.9723
Resolution: 13342 [5%height]
Intensity
mass
442.95
443.00


cal mass: 504.9691
Resolution: 13070 [5%height]
Intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 13223 [5%height]
Intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 12960 [5%height]
Intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 12873 [5%height]
Intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 13009 [5%height]
Intensity
mass
492.95
493.00

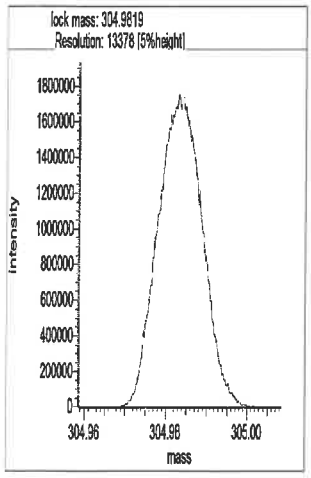
Resolution Check Report (DFS SN: 3487)

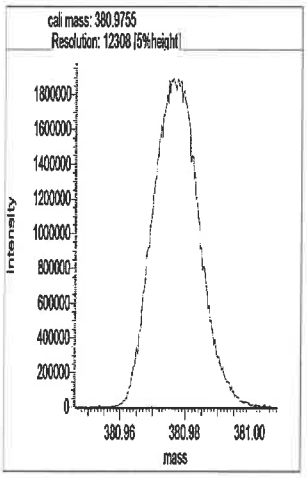
eurofins | Environment Testing TestAmerica

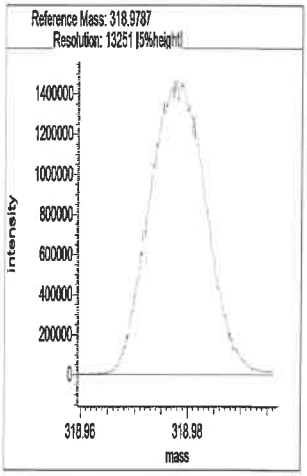
Date:	22 Jan 2022 09:00
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

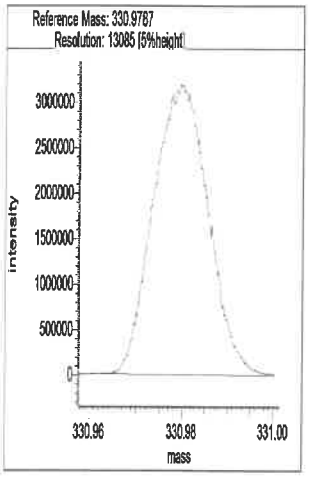
Segment 1

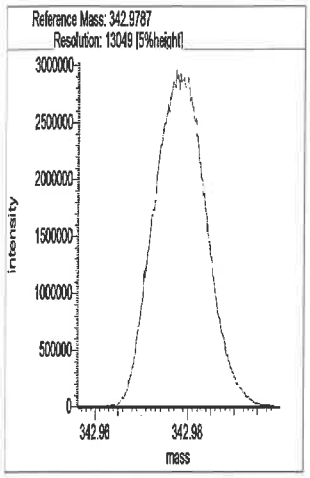
Lock mass 304.9819 [m/z] Resolution: 13378 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 12308 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 13251 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 13085 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 13049 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12955 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 12027 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 12364 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 12301 [5%height]

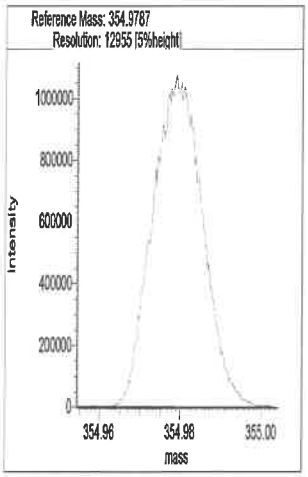


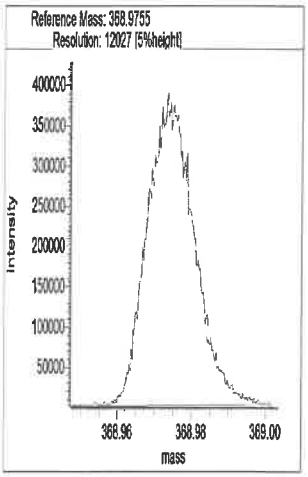


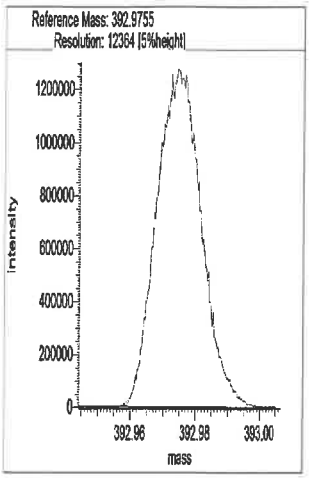


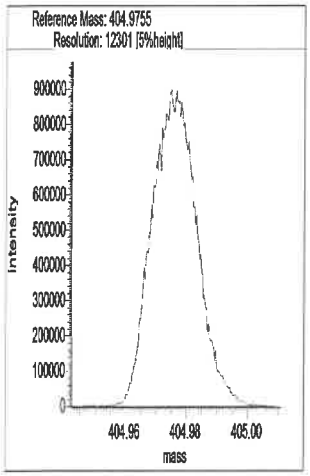












Segment 2

Lock mass 330.9787 [m/z] Resolution: 13412 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12686 [5%height]

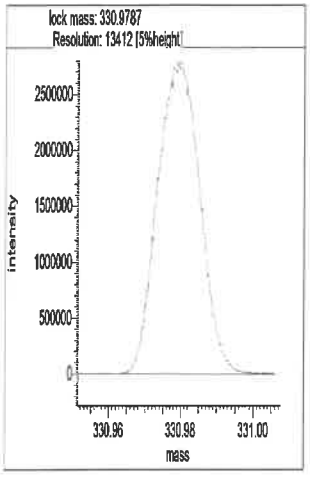
Ref. mass 342.9787 [m/z] Resolution: 13254 [5%height]

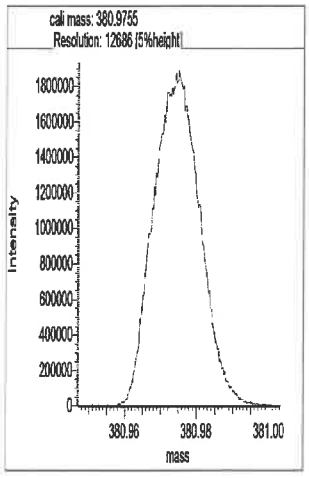
Ref. mass 354.9787 [m/z] Resolution: 13146 [5%height]

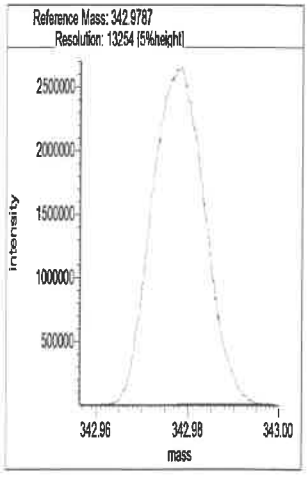
Ref. mass 368.9755 [m/z] Resolution: 12331 [5%height]

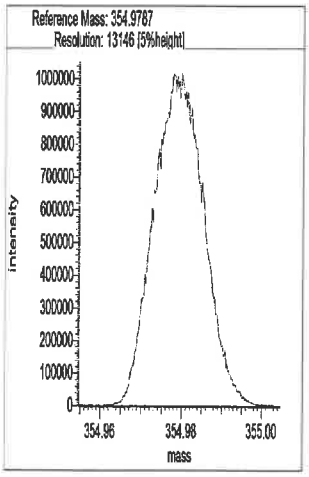
Ref. mass 392.9755 [m/z] Resolution: 12604 [5%height]

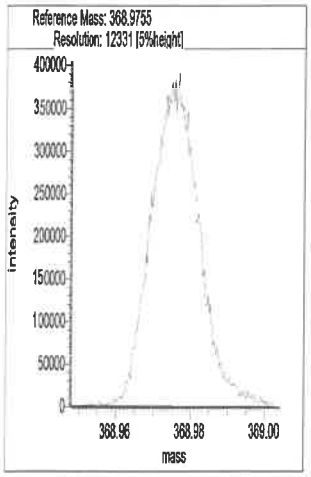
Ref. mass 404.9755 [m/z] Resolution: 12400 [5%height]

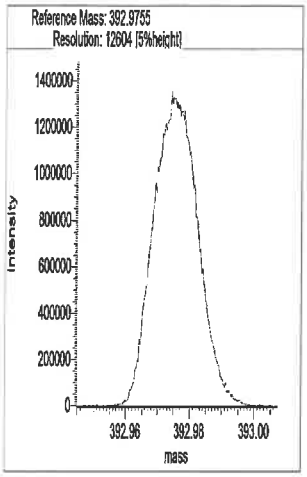


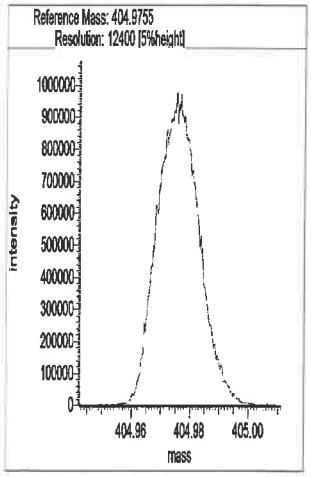












Segment 3

Lock mass 380.9755 [m/z] Resolution: 13579 [5%height]

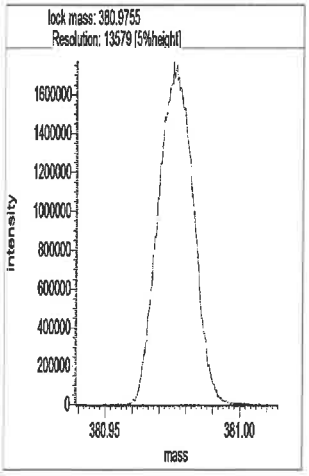
Cali. mass 430.9723 [m/z] Resolution: 13114 [5%height]

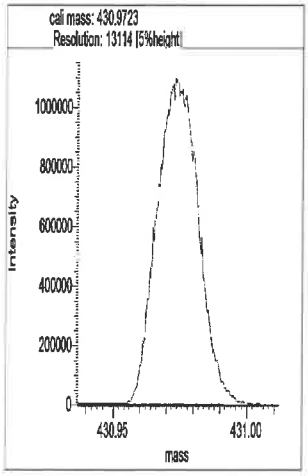
Ref. mass 392.9755 [m/z] Resolution: 13458 [5%height]

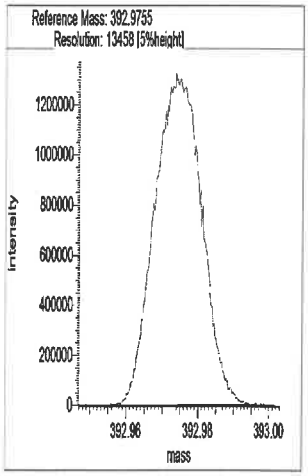
Ref. mass 404.9755 [m/z] Resolution: 13269 [5%height]

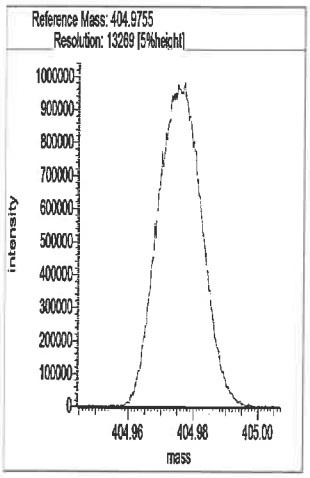
Ref. mass 416.9755 [m/z] Resolution: 13142 [5%height]

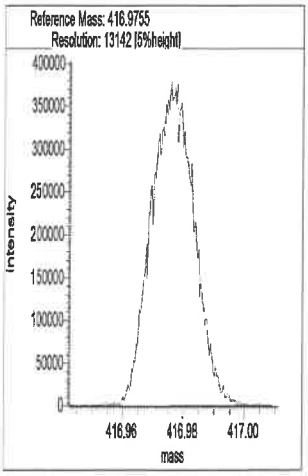
Ref. mass 442.9723 [m/z] Resolution: 12728 [5%height]

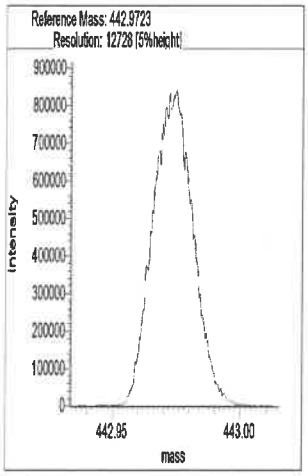












Segment 4

Lock mass 392.9754 [m/z] Resolution: 13555 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 12486 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 13343 [5%height]

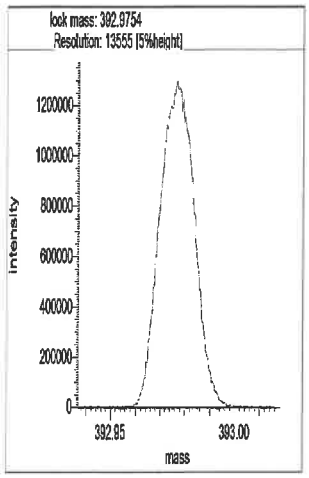
Ref. mass 416.9755 [m/z] Resolution: 13257 [5%height]

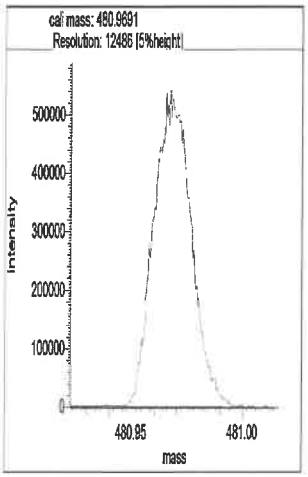
Ref. mass 430.9723 [m/z] Resolution: 13309 [5%height]

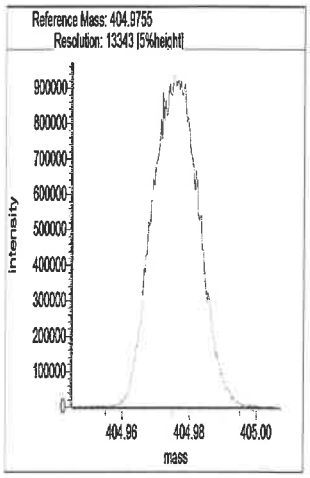
Ref. mass 442.9723 [m/z] Resolution: 13007 [5%height]

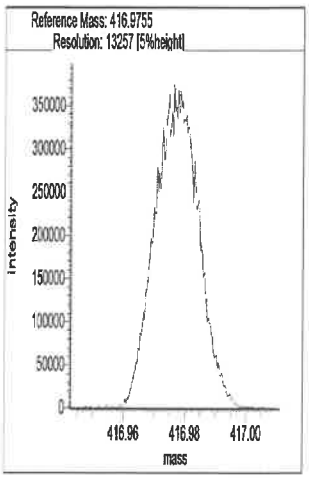
Ref. mass 454.9723 [m/z] Resolution: 13758 [5%height]

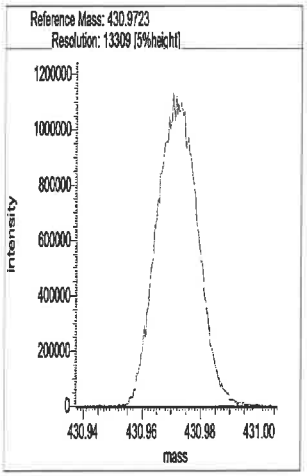
Ref. mass 466.9723 [m/z] Resolution: 13205 [5%height]

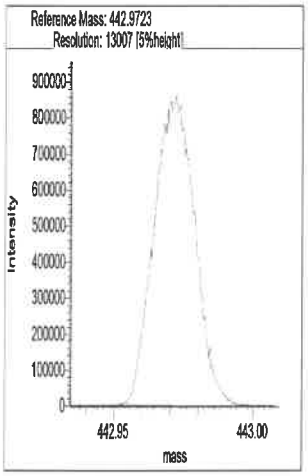


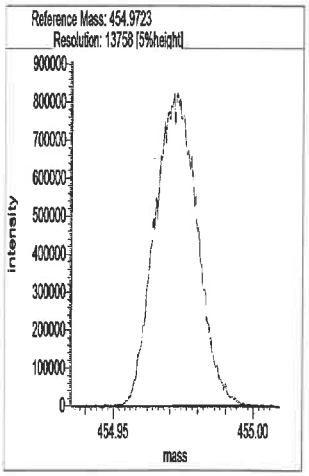


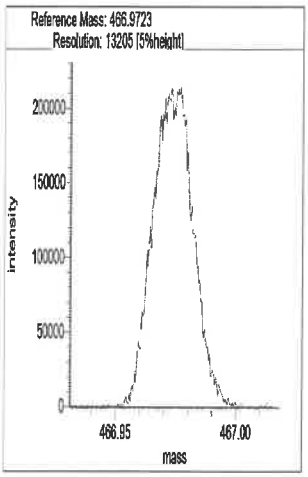












Segment 5

Lock mass 442.9723 [m/z] Resolution: 13739 [5%height]

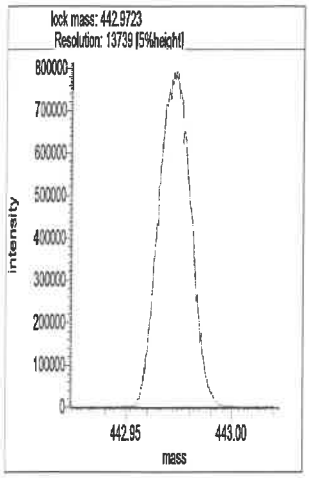
Cali. mass 504.9691 [m/z] Resolution: 13425 [5%height]

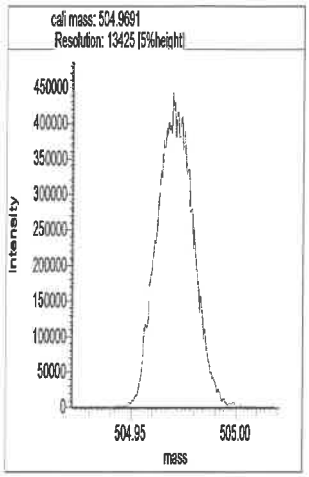
Ref. mass 454.9723 [m/z] Resolution: 13947 [5%height]

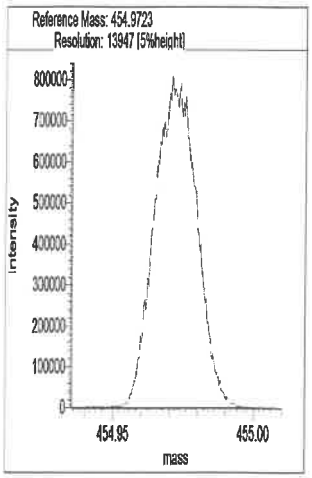
Ref. mass 466.9723 [m/z] Resolution: 14066 [5%height]

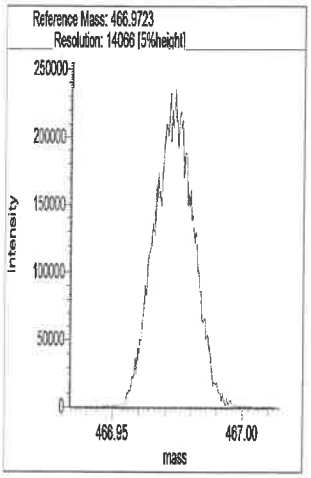
Ref. mass 480.9691 [m/z] Resolution: 13883 [5%height]

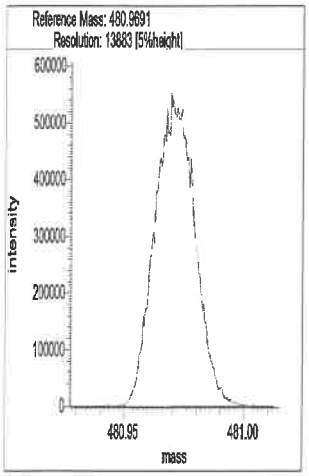
Ref. mass 492.9691 [m/z] Resolution: 13726 [5%height]

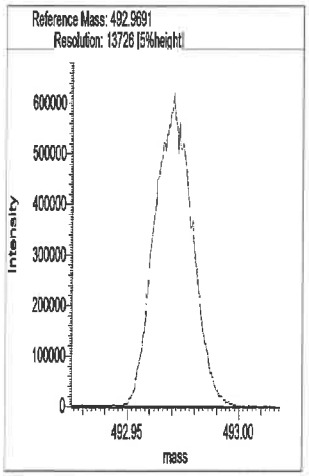

lock mass: 442.9723
Resolution: 13739 [5%height]
intensity
mass
442.95
443.00


cali mass: 504.9691
Resolution: 13425 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 13947 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 14066 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 13683 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 13726 [5%height]
intensity
mass
492.95
493.00

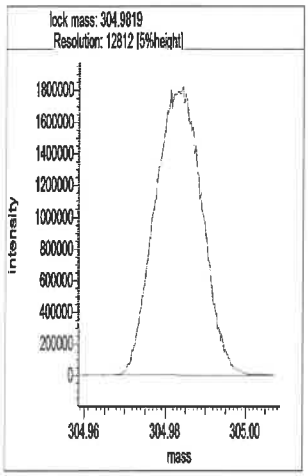
Resolution Check Report (DFS SN: 3487)

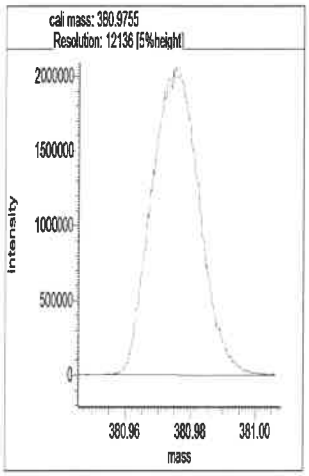
eurofins | Environment Testing TestAmerica

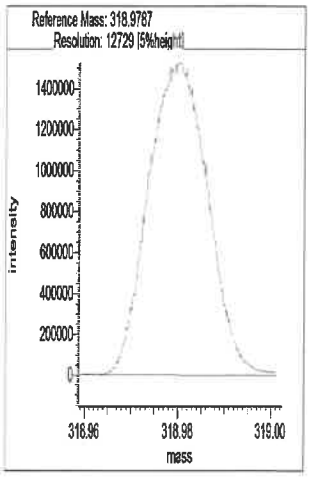
Date:	22 Jan 2022 20:27
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9950
Resolution Error :	9000
Reference:	pfk
Status:	RESOLUTION PASSED

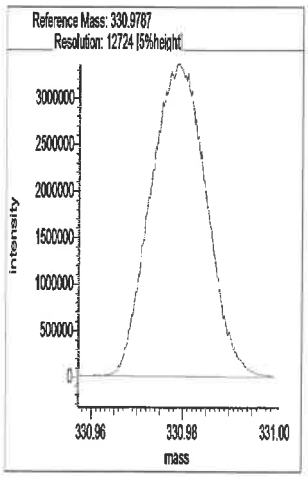
Segment 1

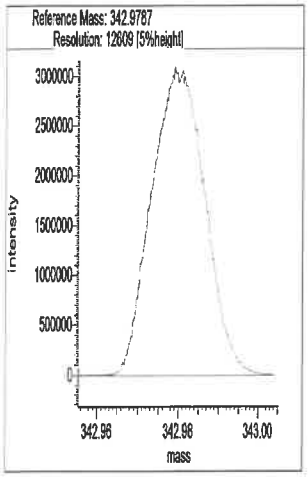
Lock mass 304.9819 [m/z] Resolution: 12812 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 12136 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 12729 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 12724 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 12609 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12696 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 11410 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 11917 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 12128 [5%height]

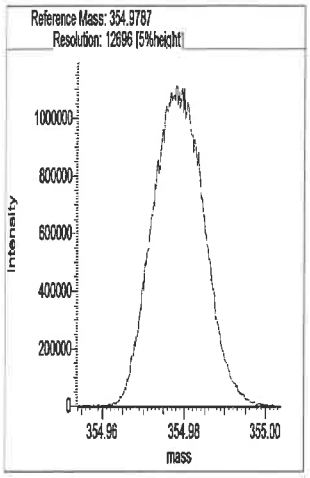


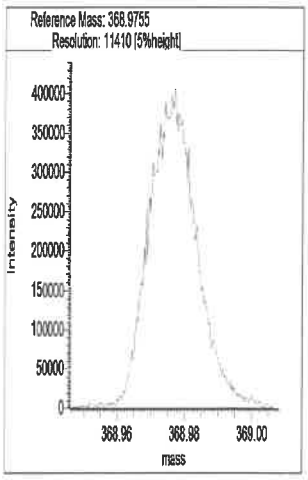


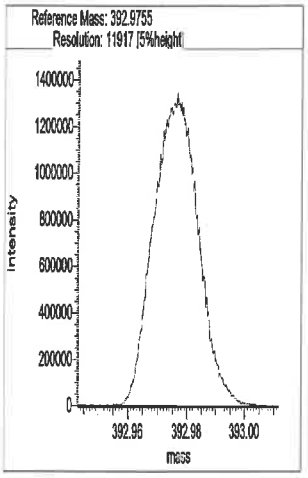


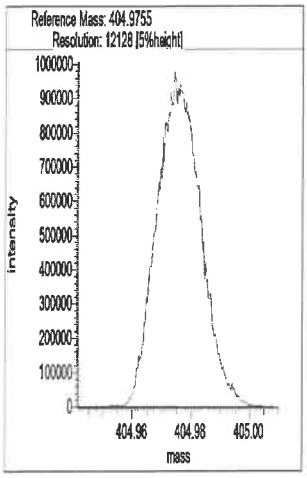












Segment 2

Lock mass 330.9787 [m/z] Resolution: 12682 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12439 [5%height]

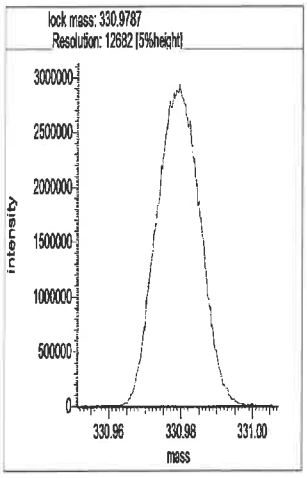
Ref. mass 342.9787 [m/z] Resolution: 12551 [5%height]

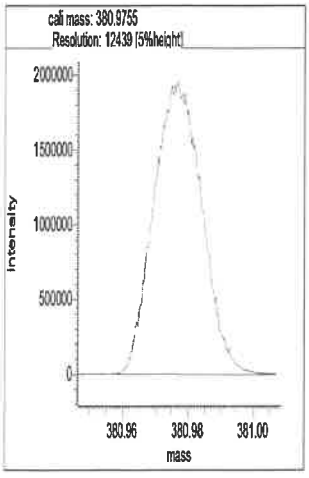
Ref. mass 354.9787 [m/z] Resolution: 12943 [5%height]

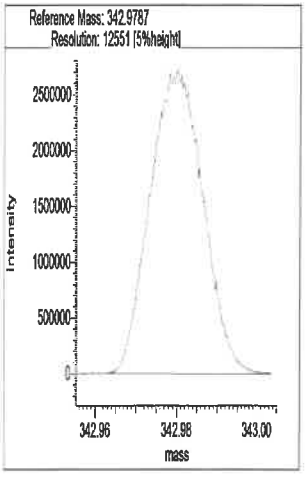
Ref. mass 368.9755 [m/z] Resolution: 12265 [5%height]

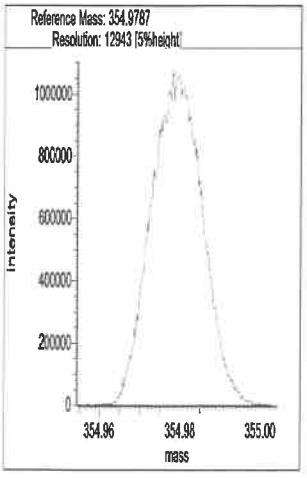
Ref. mass 392.9755 [m/z] Resolution: 12529 [5%height]

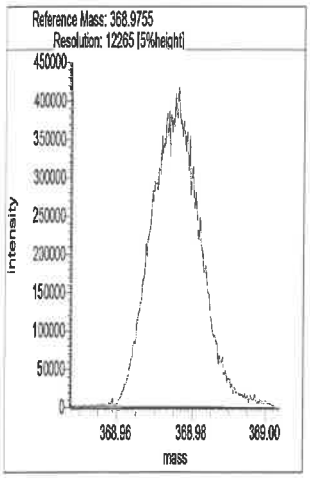
Ref. mass 404.9755 [m/z] Resolution: 12359 [5%height]

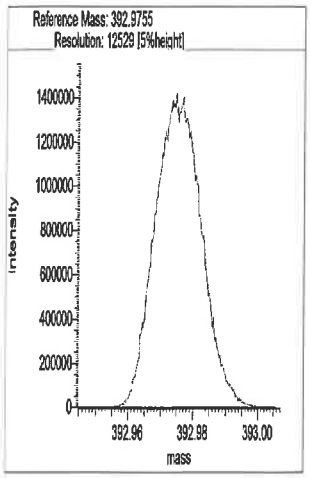


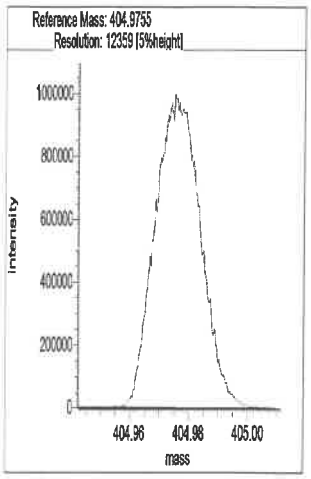












Segment 3

Lock mass 380.9755 [m/z] Resolution: 12784 [5%height]

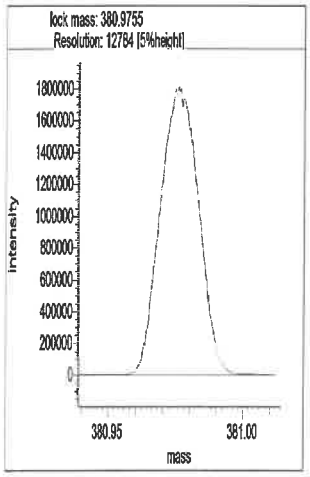
Cali. mass 430.9723 [m/z] Resolution: 12469 [5%height]

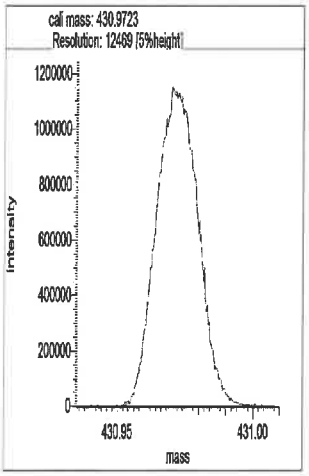
Ref. mass 392.9755 [m/z] Resolution: 13106 [5%height]

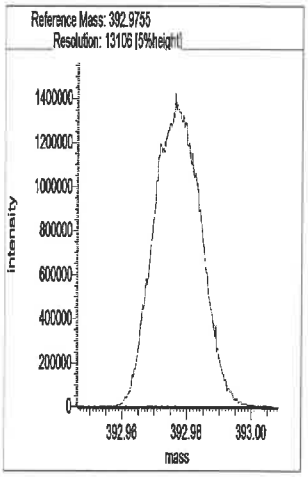
Ref. mass 404.9755 [m/z] Resolution: 12981 [5%height]

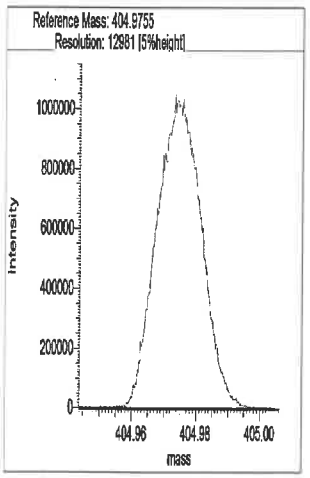
Ref. mass 416.9755 [m/z] Resolution: 12748 [5%height]

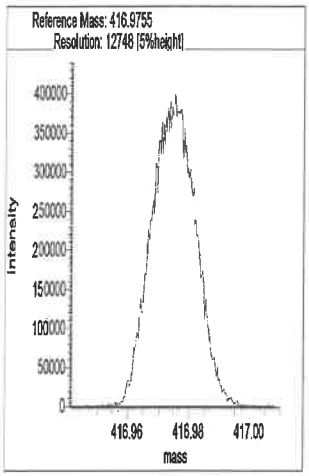
Ref. mass 442.9723 [m/z] Resolution: 12599 [5%height]

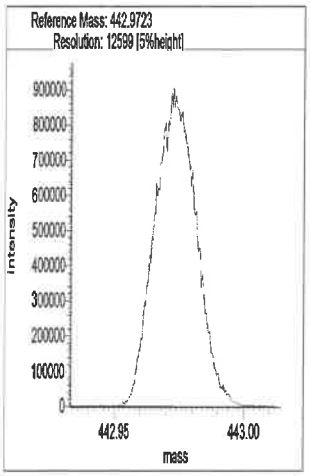












Segment 4

Lock mass 392.9754 [m/z] Resolution: 12660 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 11843 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 13027 [5%height]

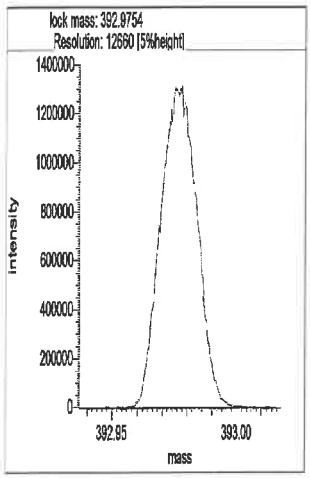
Ref. mass 416.9755 [m/z] Resolution: 12841 [5%height]

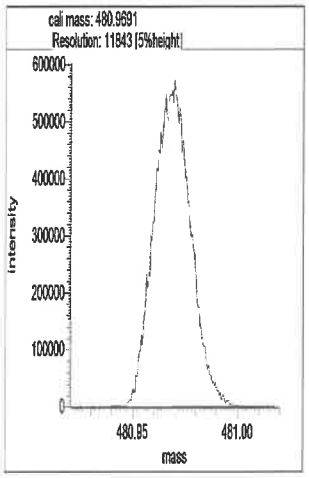
Ref. mass 430.9723 [m/z] Resolution: 12791 [5%height]

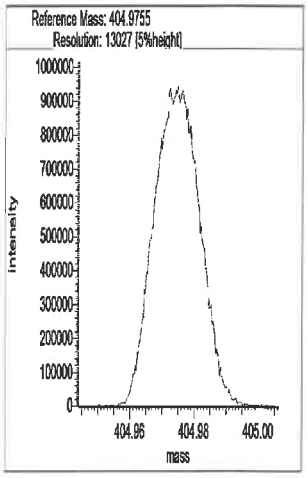
Ref. mass 442.9723 [m/z] Resolution: 12685 [5%height]

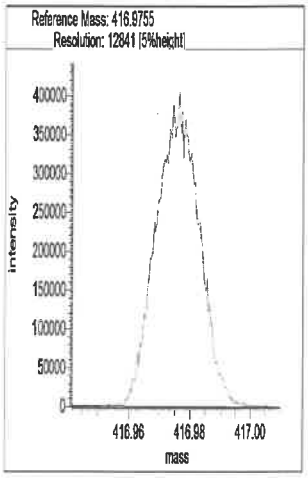
Ref. mass 454.9723 [m/z] Resolution: 12702 [5%height]

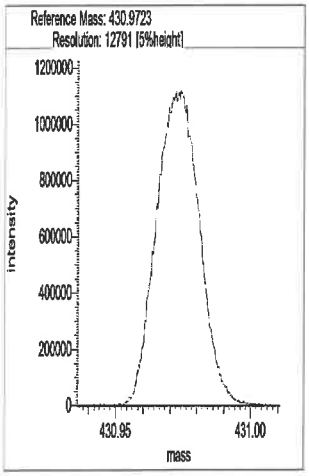
Ref. mass 466.9723 [m/z] Resolution: 13025 [5%height]

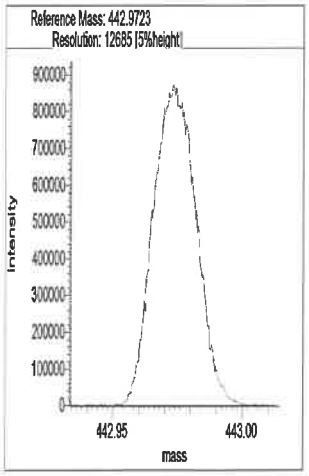


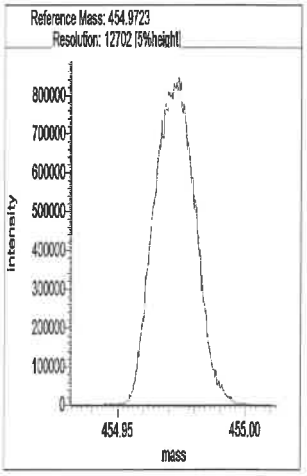


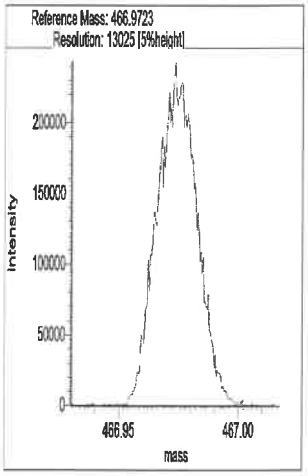












Segment 5

Lock mass 442.9723 [m/z] Resolution: 13084 [5%height]

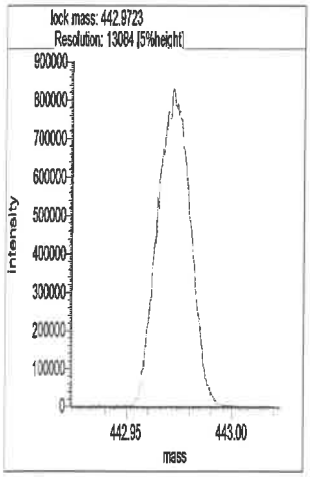
Cali. mass 504.9691 [m/z] Resolution: 12905 [5%height]

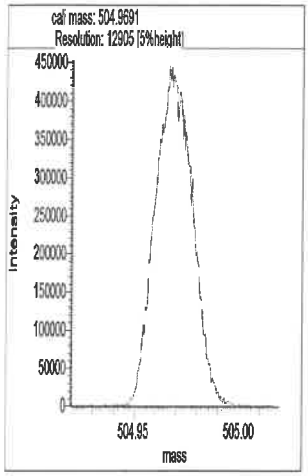
Ref. mass 454.9723 [m/z] Resolution: 13076 [5%height]

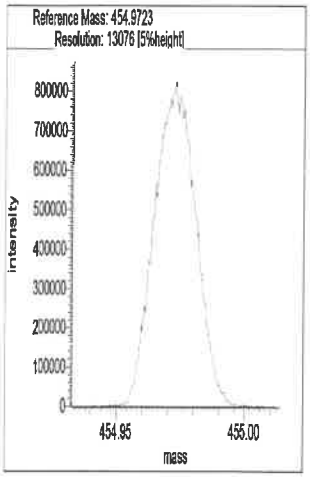
Ref. mass 466.9723 [m/z] Resolution: 13474 [5%height]

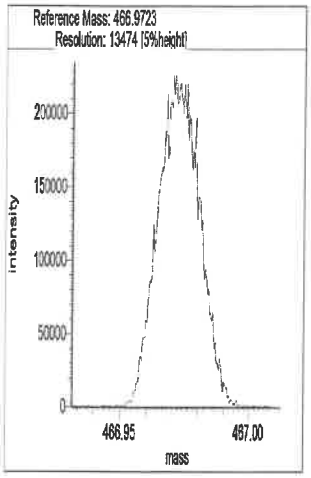
Ref. mass 480.9691 [m/z] Resolution: 12785 [5%height]

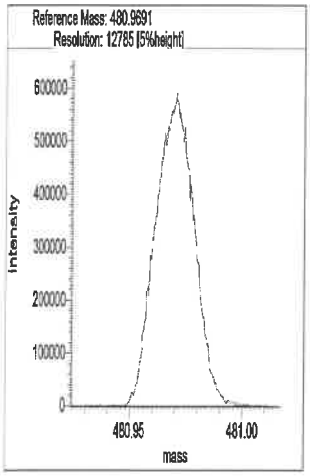
Ref. mass 492.9691 [m/z] Resolution: 12827 [5%height]

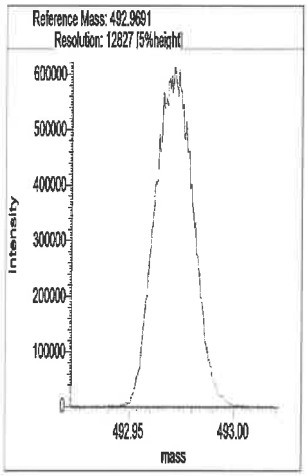

lock mass: 442.9723
Resolution: 13084 [5%height]
intensity
mass
442.95
443.00


cal mass: 504.9691
Resolution: 12905 [5%height]
intensity
mass
504.95
505.00


Reference Mass: 454.9723
Resolution: 13076 [5%height]
intensity
mass
454.95
455.00


Reference Mass: 466.9723
Resolution: 13474 [5%height]
intensity
mass
466.95
467.00


Reference Mass: 480.9691
Resolution: 12785 [5%height]
intensity
mass
480.95
481.00


Reference Mass: 492.9691
Resolution: 12827 [5%height]
intensity
mass
492.95
493.00

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Jan-2022 21:50:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 24-Jan-2022 13:10:49 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1631

First Level Reviewer: bilottag Date: 24-Jan-2022 07:59:40

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.937	6649751	0.83	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.035	6586294	0.80	1.0164	97.4	97.4	0.4437	0.4437	97.45	
2,3,7,8-TCDF	19.061	648210	0.80	1.0120	9.725	9.725	0.0496	0.0496	97.25	
A Non-2,3,7,8-sub-TCDF	18.680						0.0496	0.0496		
S Total TCDF					9.725	9.725	0.0496	0.0496		
D 13C-2,3,7,8-TCDD	20.306	5038637	0.81	0.7884	96.1	96.1	0.3735	0.3735	96.11	
$ 37Cl4-2,3,7,8-TCDD	20.332	532665		0.7911	10.1	10.1	0.0264	0.0264	101	
2,3,7,8-TCDD	20.341	471768	0.77	0.9906	9.452	9.452	0.0784	0.0784	94.52	
A Non-2,3,7,8-sub-TCDD	19.478	3380	0.77	0.9906	0.1570	0.0677	0.0784	0.0784	0.00	RQ
S Total TCDD					9.609	9.519	0.0784	0.0784		RQ
D 13C-1,2,3,7,8-PeCDF	26.081	6317164	1.54	0.9232	102.9	102.9	0.5216	0.5216	103	
1,2,3,7,8-PeCDF	26.107	2884360	1.54	0.9756	46.8	46.8	0.2011	0.2011	93.60	
$ 13C-2,3,4,7,8-PeCDF	27.505	7756198	1.59	1.1692	105.0	105.0	0.3809	0.3809	105	
2,3,4,7,8-PeCDF	27.531	2752815	1.56	0.9215	47.3	47.3	0.2129	0.2129	94.57	
A F1 PeCDFs	23.375	604	1.55	0.9486	0.1515	0.0101	0.0108	0.0108	0.00	RQ
A Non-2,3,7,8-sub-PeCDF	26.758						0.2068	0.2068		n
S Total PeCDF					94.2	94.1	0.2070	0.2070		RQ
D 13C-1,2,3,7,8-PeCDD	28.289	3822157	1.58	0.5606	102.5	102.5	0.2513	0.2513	103	
1,2,3,7,8-PeCDD	28.314	1808675	1.56	1.0020	47.2	47.2	0.1039	0.1039	94.45	
A Non-2,3,7,8-sub-PeCDD	27.170						0.1039	0.1039		
S Total PeCDD					47.2	47.2	0.1039	0.1039		
D 13C-1,2,3,4,7,8-HxCDF	34.002	5578766	0.53	1.0566	101.9	101.9	0.3236	0.3236	102	
1,2,3,4,7,8-HxCDF	34.019	2190286	1.25	0.8835	44.4	44.4	0.1579	0.1579	88.88	
D 13C-1,2,3,6,7,8-HxCDF	34.187	4628434	0.53	0.9686	92.2	92.2	0.3530	0.3530	92.22	
1,2,3,6,7,8-HxCDF	34.204	2419240	1.25	1.0287	42.2	42.2	0.1356	0.1356	84.31	
D 13C-2,3,4,6,7,8-HxCDF	35.122	4635406	0.52	0.9084	98.5	98.5	0.3764	0.3764	98.48	
2,3,4,6,7,8-HxCDF	35.147	2483985	1.25	0.9878	45.1	45.1	0.1412	0.1412	90.15	
D 13C-1,2,3,7,8,9-HxCDF	36.099	4357377	0.52	0.8248	102.0	102.0	0.4145	0.4145	102	
1,2,3,7,8,9-HxCDF	36.116	2308004	1.26	0.9071	45.6	45.6	0.1538	0.1538	91.22	
A Non-2,3,7,8-sub-HxCDF	34.051						0.1466	0.1466		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					177.3	177.3	0.1471	0.1471		
* 13C-1,2,3,7,8,9-HxCDD	35.906	5181842	1.24	2.5E+04	100.0	100.0				
$ 13C-1,2,3,4,7,8-HxCDD	35.375	4474922	1.28	1.0143	106.7	106.7	0.2701	0.2701	107	
1,2,3,4,7,8-HxCDD	35.392	1645022	1.24	0.8294	48.0	48.0	0.1121	0.1121	95.96	
D 13C-1,2,3,6,7,8-HxCDD	35.501	4133684	1.29	0.8027	99.4	99.4	0.2542	0.2542	99.39	
1,2,3,6,7,8-HxCDD	35.518	1864122	1.26	0.9395	48.0	48.0	0.0990	0.0990	96.00	
1,2,3,7,8,9-HxCDD	35.922	1820148	1.24	0.9076	48.5	48.5	0.1025	0.1025	97.03	
A Non-2,3,7,8-sub-HxCDD	34.547						0.1043	0.1043		
S Total HxCDD					144.5	144.5	0.1045	0.1045		
D 13C-1,2,3,4,6,7,8-HpCDF	38.081	3496121	0.45	0.6421	105.1	105.1	0.4799	0.4799	105	
1,2,3,4,6,7,8-HpCDF	38.089	2417242	1.05	1.4385	48.1	48.1	0.1631	0.1631	96.13	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.386	4475389	0.46	1.1706	109.4	109.4	0.3136	0.3136	109	
1,2,3,4,7,8,9-HpCDF	39.403	2042341	1.02	1.2202	47.9	47.9	0.1923	0.1923	95.75	
A Non-2,3,7,8-sub-HpCDF	38.751						0.1765	0.1765		
S Total HpCDF					95.9	95.9	0.1777	0.1777		
D 13C-1,2,3,4,6,7,8-HpCDD	39.083	3578668	1.07	0.6246	110.6	110.6	0.2912	0.2912	111	
1,2,3,4,6,7,8-HpCDD	39.091	1665181	1.05	0.9767	47.6	47.6	0.1029	0.1029	95.28	
A Non-2,3,7,8-sub-HpCDD	38.763	19977	0.94	0.9767	0.5716	0.5716	0.1029	0.5716	0.00	
S Total HpCDD					48.2	48.2	0.1029	0.1029		
D 13C-OCDD	41.563	5170743	0.91	0.4360	228.9	228.9	0.2785	0.2785	114	
OCDF	41.639	3054091	0.92	1.2756	92.6	92.6	0.1049	0.1049	92.61	
OCDD	41.571	2579553	0.88	1.0341	96.5	96.5	0.0996	0.0996	96.48	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNL4_00105 Amount Added: 1.00 Units: uL

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Jan-2022 21:50:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 24-Jan-2022 13:10:49 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1631

First Level Reviewer: bilottag Date: 24-Jan-2022 07:59:40

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	19.937	19.937	0		3009174	445630	786	1965	567		
333.9338	19.937	19.937	0		3640577	544388	380	950	1433	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.035	19.035	0	0.955	2933634	472156	1101	2752	429		
317.9389	19.035	19.035	0	0.955	3652660	577322	685	1712	843	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.061	19.061	0	1.001	287858	43460	54	135	805		
305.8987	19.061	19.061	0	1.001	360352	54174	157	392	345	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.680						54	135			
305.8987	18.680						157	392			
13C-2,3,7,8-TCDD											
331.9368	20.306	20.306	0	1.019	2250683	313683	786	1965	399		
333.9338	20.298	20.306	-1	1.018	2787954	381984	380	950	1005	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.332	20.332	0	1.020	532665	74003	83	207	892		
2,3,7,8-TCDD											
319.8965	20.341	20.341	0	1.002	204621	28241	161	402	175		
321.8936	20.323	20.341	-1	1.001	267147	38980	55	137	709	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	20.581	19.478	66	1.014	5925	967	161	402	6		
	Empc Correction				1470	635	161	402	4		
321.8936	20.615	19.478	68	1.015	1910	825	55	137	15	3.10(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	26.081	26.081	0	1.308	3829384	645595	1002	2505	644		
353.8970	26.081	26.081	0	1.308	2487780	424708	905	2262	469	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.107	26.107	0	1.001	1750230	285096	474	1185	601		
341.8567	26.107	26.107	0	1.001	1134130	186359	366	915	509	1.54(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.505	27.505	0	1.055	4756030	739555	1002	2505	738		
353.8970	27.505	27.505	0	1.055	3000168	469357	905	2262	519	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.531	27.531	0	1.056	1676299	252642	474	1185	533		
341.8567	27.531	27.531	0	1.056	1076516	167819	366	915	459	1.56(1.32-1.78)	
A F1 PeCDFs											RQ
339.8597	23.638	23.375	16	0.906	141	98	1	2	98		
341.8567	23.664	23.375	17	0.907	4354	690	43	107	16	0.03(1.32-1.78)	
	Empc Correction				90	63	43	107	1		
339.8597	23.698	23.375	19	0.909	227	92	1	2	92		
341.8567	23.664	23.375	17	0.907	4354	690	43	107	16	0.05(1.32-1.78)	
	Empc Correction				146	59	43	107	1		
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.654	26.760	-6	1.022	20713	3400	474	1185	7		
341.8567	26.663	26.760	-6	1.022	12890	2022	366	915	6	1.61(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.289	28.289	0	1.419	2339861	352947	271	677	1302		
369.8919	28.289	28.289	0	1.419	1482296	228220	287	717	795	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.314	28.314	0	1.001	1100829	156525	180	450	870		
357.8516	28.314	28.314	0	1.001	707846	99441	62	155	1604	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.170						180	450			
357.8516	27.170						62	155			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.002	34.002	0	0.947	1934277	360271	423	1057	852		
385.8610	33.993	34.002	-1	0.947	3644489	673289	1137	2842	592	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.019	34.019	0	1.000	1218599	221152	324	810	683		
375.8178	34.019	34.019	0	1.000	971687	174232	253	632	689	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.187	34.187	0	0.952	1600296	278352	423	1057	658		
385.8610	34.187	34.187	0	0.952	3028138	523240	1137	2842	460	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.204	34.204	0	1.006	1344956	233127	324	810	720		
375.8178	34.212	34.204	1	1.006	1074284	186507	253	632	737	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.122	35.122	0	0.978	1588248	313534	423	1057	741		
385.8610	35.131	35.122	1	0.978	3047158	598227	1137	2842	526	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,6,7,8-HxCDF											
373.8208	35.147	35.147	0	1.034	1378949	271177	324	810	837		
375.8178	35.147	35.147	0	1.034	1105036	215848	253	632	853	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.099	36.099	0	1.005	1497971	333900	423	1057	789		
385.8610	36.099	36.099	0	1.005	2859406	614445	1137	2842	540	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.116	36.116	0	1.062	1286697	273293	324	810	843		
375.8178	36.116	36.116	0	1.062	1021307	216261	253	632	855	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.051						324	810			
375.8178	34.051						253	632			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.906	35.906	0		2866995	624529	582	1455	1073		
403.8529	35.906	35.906	0		2314847	516149	349	872	1479	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.375	35.375	0	0.996	2512534	544914	582	1455	936		
403.8529	35.375	35.375	0	0.996	1962388	443390	349	872	1270	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.392	35.392	0	0.997	910151	193510	158	395	1225		
391.8127	35.392	35.392	0	0.997	734871	156523	158	395	991	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.501	35.501	0	0.989	2328600	478243	582	1455	822		
403.8529	35.501	35.501	0	0.989	1805084	371085	349	872	1063	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.518	35.518	0	1.000	1039748	206866	158	395	1309		
391.8127	35.518	35.518	0	1.000	824374	164932	158	395	1044	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	35.922	35.922	0	1.012	1005883	218998	158	395	1386		
391.8127	35.922	35.922	0	1.012	814265	178632	158	395	1131	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.547						158	395			
391.8127	34.547						158	395			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.081	38.081	0	1.061	1085632	294502	454	1135	649		
419.8220	38.081	38.081	0	1.061	2410489	663093	952	2380	697	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.089	38.089	0	1.000	1237147	335085	481	1202	697		
409.7788	38.089	38.089	0	1.000	1180095	319341	418	1045	764	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.386	39.386	0	1.034	1419325	424251	454	1135	934		
419.8220	39.386	39.386	0	1.034	3056064	922435	952	2380	969	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.403	39.403	0	1.035	1033467	301865	481	1202	628		
409.7788	39.395	39.403	-1	1.035	1008874	298005	418	1045	713	1.02(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.751						481	1202			
409.7788	38.751						418	1045			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.083	39.083	0	1.088	1849751	541829	473	1182	1146		
437.8140	39.083	39.083	0	1.088	1728917	524363	357	892	1469	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.091	39.091	0	1.000	853690	248612	241	602	1032		
425.7737	39.091	39.091	0	1.000	811491	241770	188	470	1286	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.418	38.763	-21	0.983	9685	2557	241	602	11		
425.7737	38.435	38.763	-20	0.983	10292	2710	188	470	14	0.94(0.88-1.20)	
13C-OCDD											
469.7780	41.563	41.563	0	1.158	2465465	733331	300	750	2444		
471.7750	41.563	41.563	0	1.158	2705278	813498	254	635	3203	0.91(0.76-1.02)	
OCDF											
441.7428	41.639	41.639	0	1.002	1460309	433580	174	435	2492		
443.7399	41.639	41.639	0	1.002	1593782	469021	240	600	1954	0.92(0.76-1.02)	
OCDD											
457.7377	41.571	41.571	0	1.000	1209480	361551	143	357	2528		
459.7348	41.571	41.571	0	1.000	1370073	405907	176	440	2306	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

n - Failed Sig-To-Noise Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNL4_00105 Amount Added: 1.00 Units: uL

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d
Lims ID: CCV
Client ID:
Inject. Date: 21-Jan-2022 21:50:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 2
Sublist: chrom-Dioxin_DFS1*sub1

Non-2,3,7,8-sub-TCDD, RT: 19.478

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.991	D 13C-2,3,7,8-TCDD	100.000	5038637	695667

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.991		100.000	5038637	695667

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
20.581	5925	967	1910	825	0.1570	3.10	RnQ
20.581	1470	635	1910	825	0.0677		Empc Correction
Signal Totals:							
	1470	635	1910	825			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7835	1792				3.10	RQ
	3380	1460					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1570 = (7835 * 100.000) / (5038637 * 0.991)
Empc Amount: 0.0677 = (3380 * 100.000) / (5038637 * 0.991)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
n - Failed Sig-To-Noise Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d
Lims ID: CCV
Client ID:
Inject. Date: 21-Jan-2022 21:50:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 2
Sublist: chrom-Dioxin_DFS1*sub1

F1 PeCDFs, RT: 23.375

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	6317164	1070303
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	6317164	1070303

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.638	141	98	4354	690	0.0750	0.03	RQ
23.638	141	98	90	63	0.003855		Empc Correction
23.698	227	92	4354	690	0.0764	0.05	RQ
23.698	227	92	146	59	0.006225		Empc Correction
Signal Totals:							
	368	190	236	122			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	9076	1570				0.04	RQ
	604	312					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1515 = (9076 * 100.000) / (6317164 * 0.949)
Empc Amount: 0.0101 = (604 * 100.000) / (6317164 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d
Lims ID: CCV
Client ID:
Inject. Date: 21-Jan-2022 21:50:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 2
Sublist: chrom-Dioxin_DFS1*sub1

Non-2,3,7,8-sub-HpCDD, RT: 38.763

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3578668	1066192

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3578668	1066192

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.418	9685	2557	10292	2710	0.5716	0.94	
Signal Totals:							
	9685	2557	10292	2710			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	19977	5267				0.94	

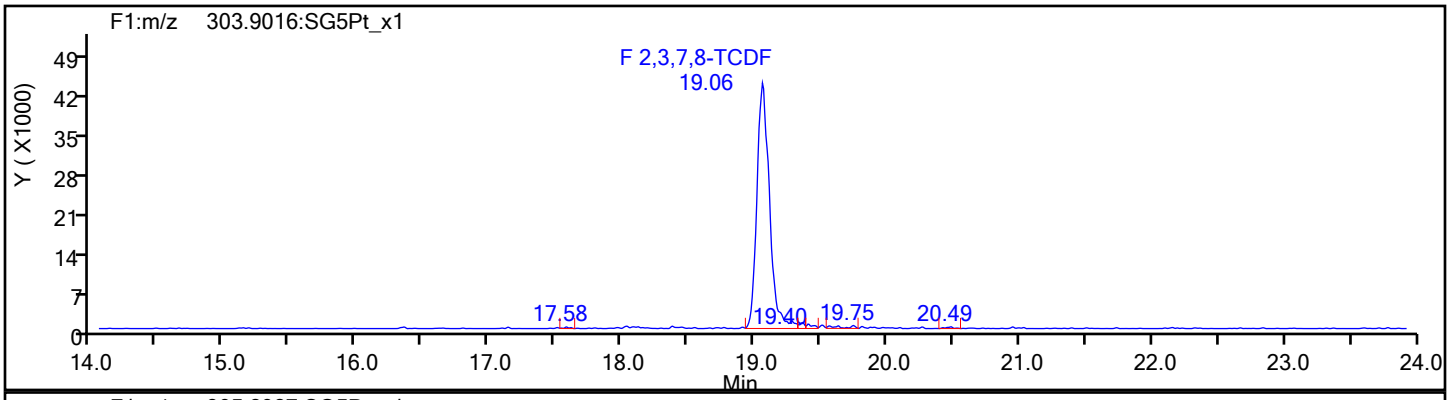
On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

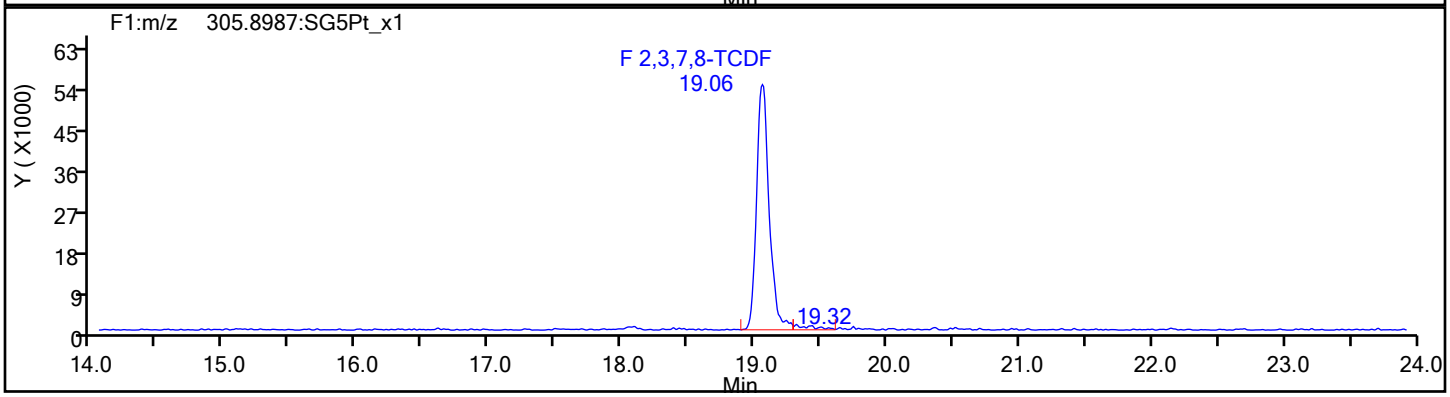
Amount: 0.5716 = (19977 * 100.000) / (3578668 * 0.977)

Eurofins Sacramento

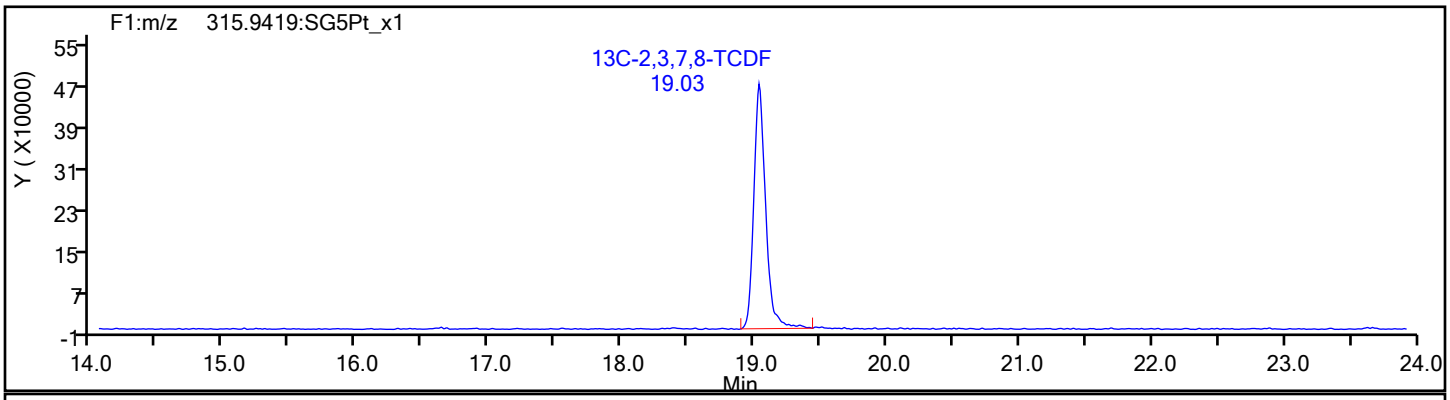
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d		
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

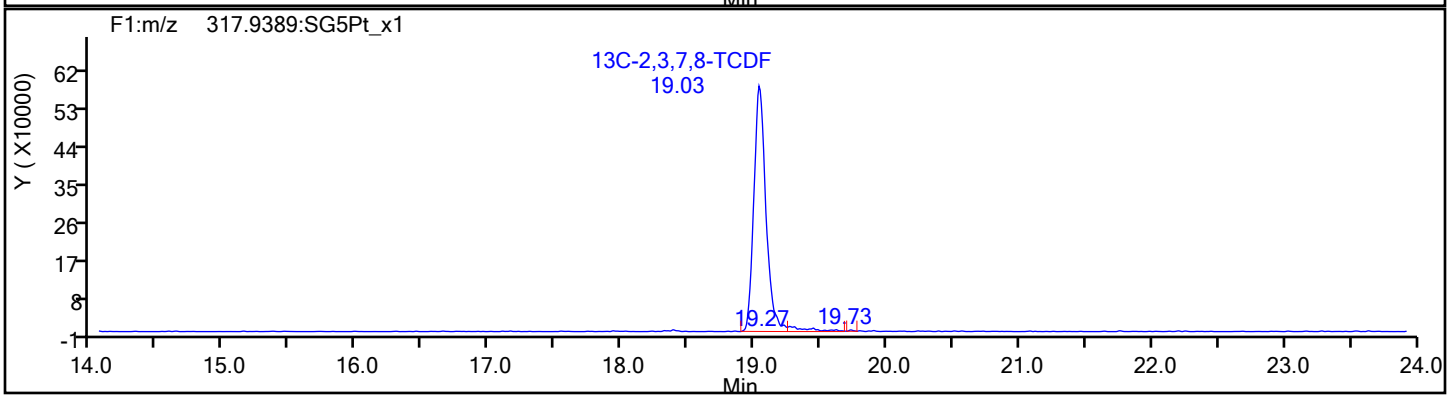
TCDF





TCDF Standards

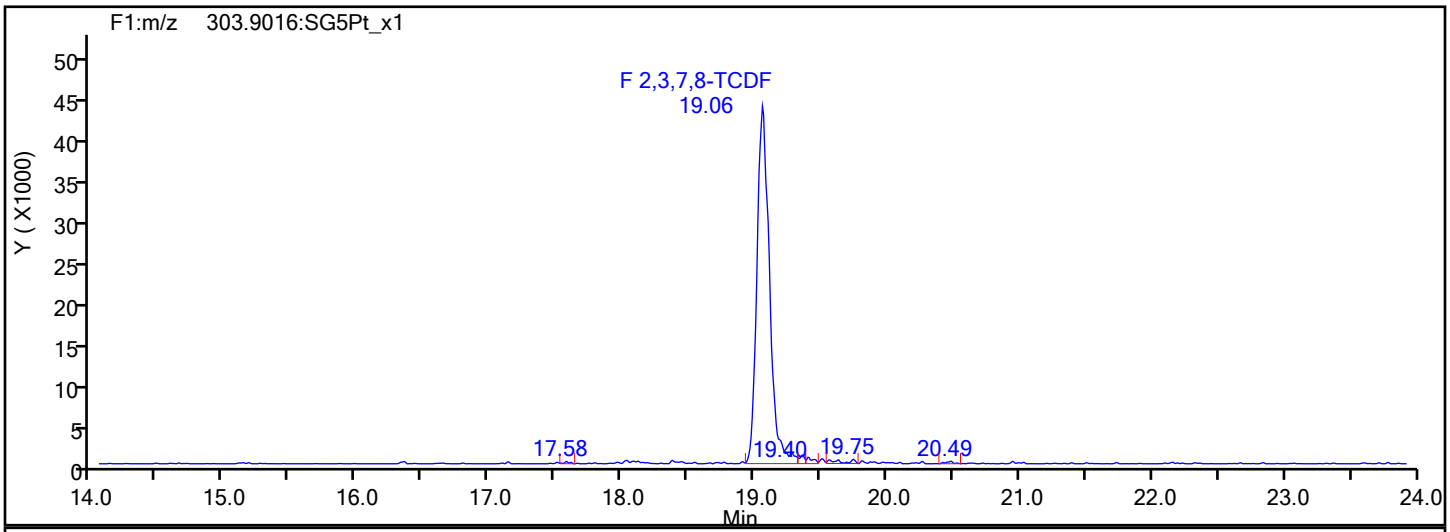


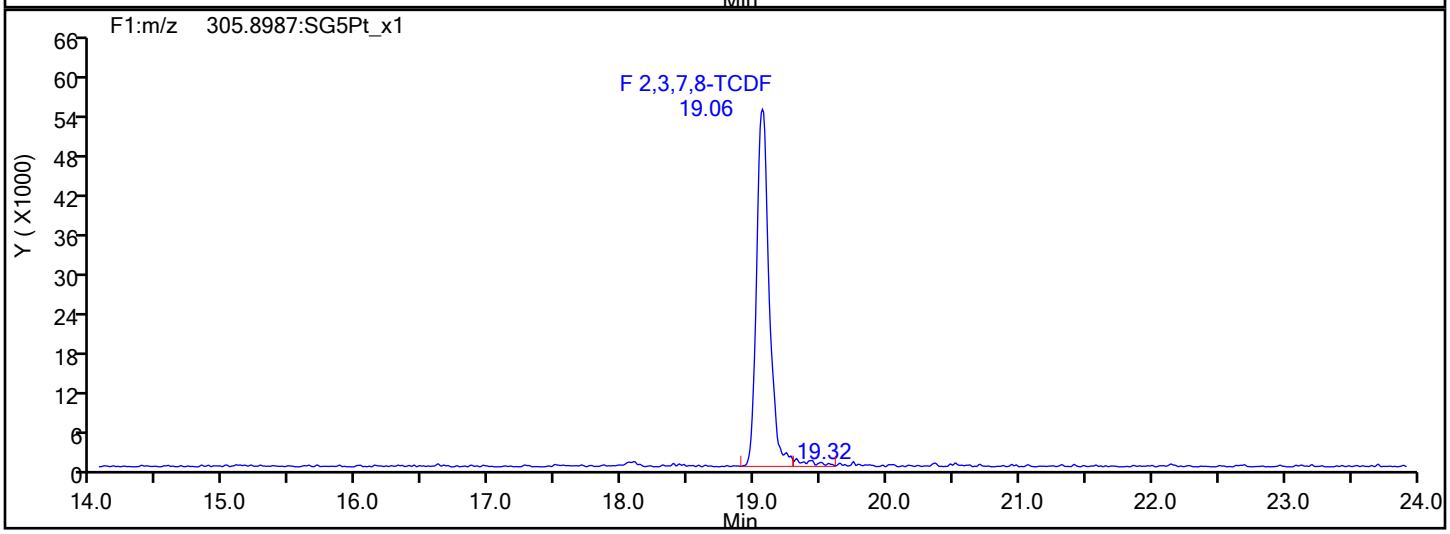


Eurofins Sacramento

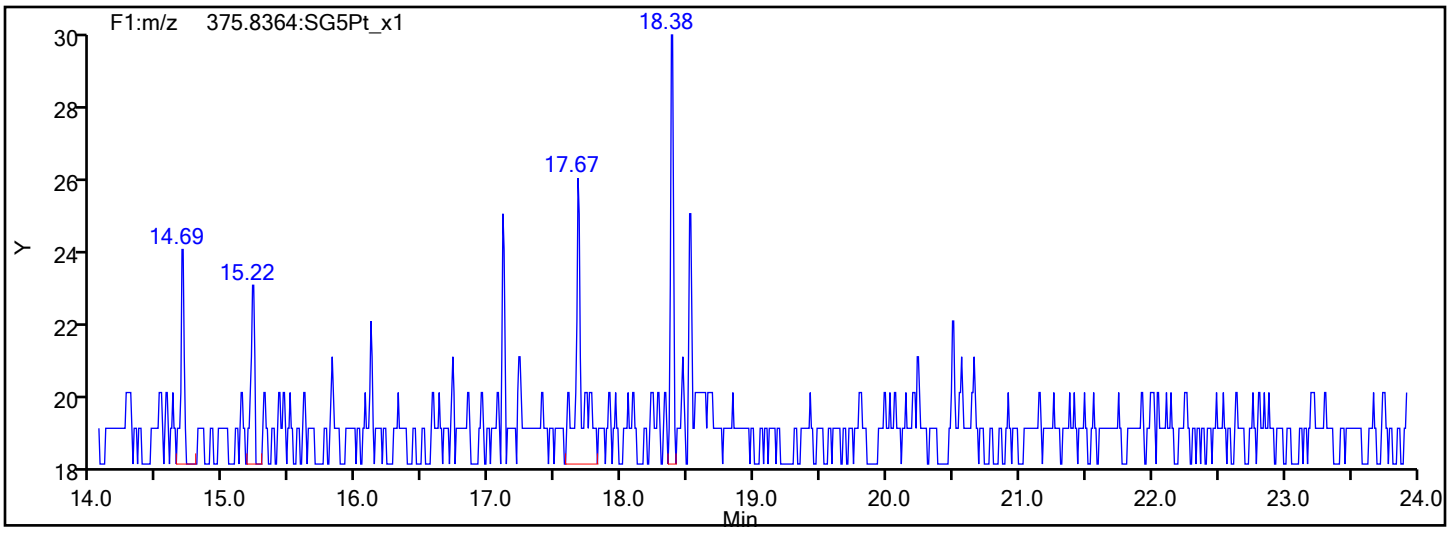
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d		
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



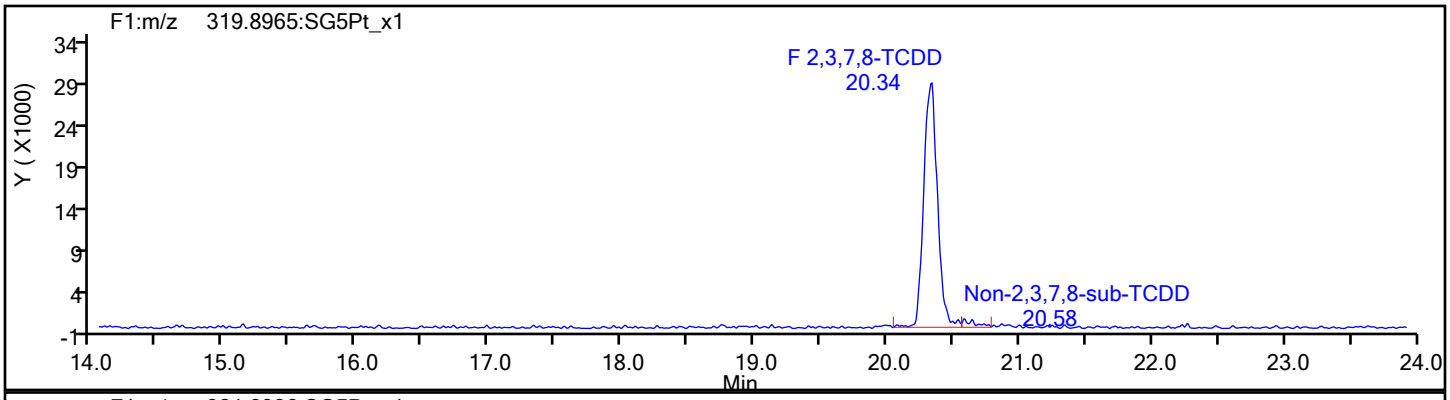
Report Date: 24-Jan-2022 13:10:50 Chrom Revision: 2.3 18-Jan-2022 20:25:40

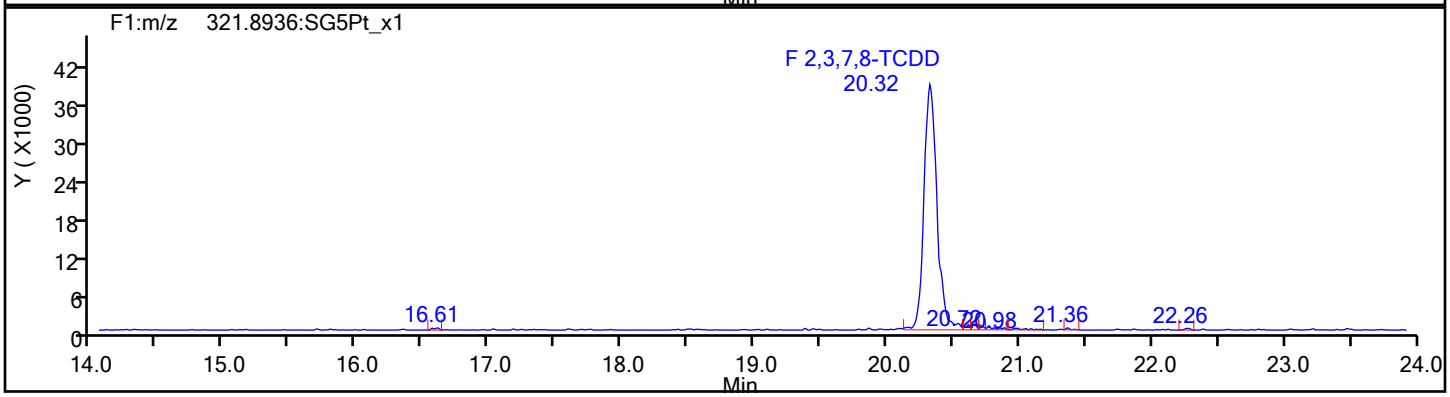
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d

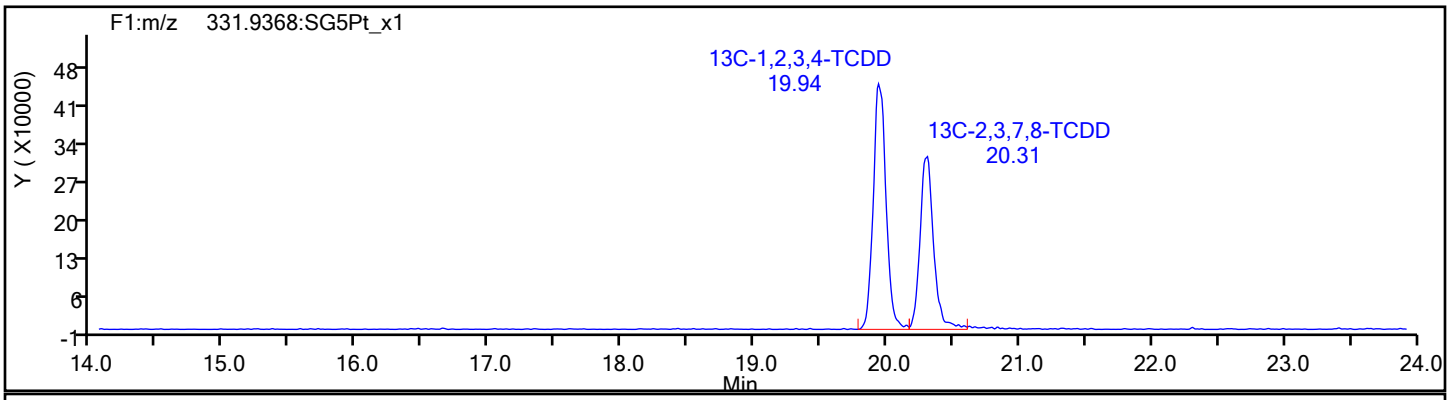
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

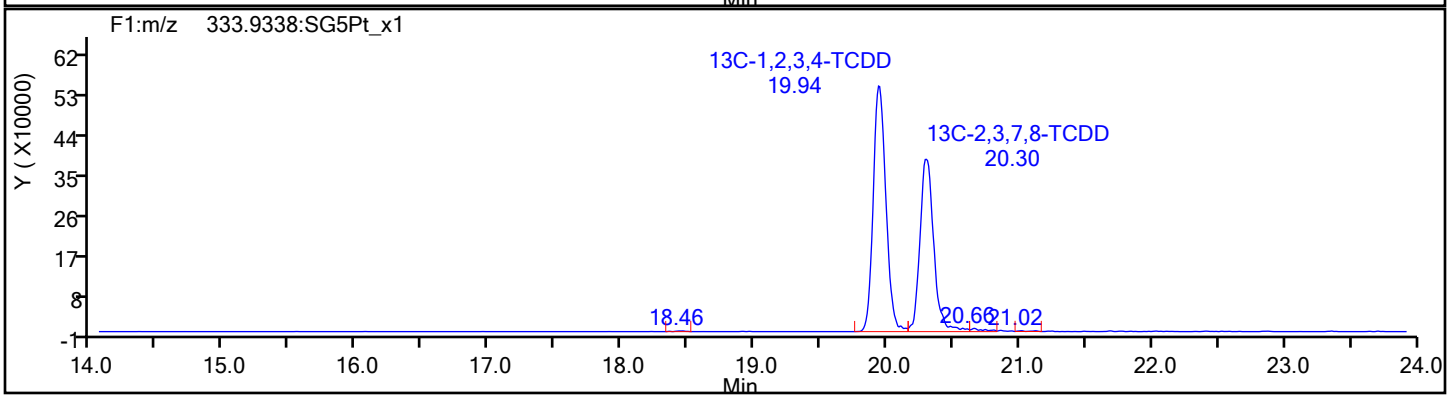
TCDD





TCDD Standards





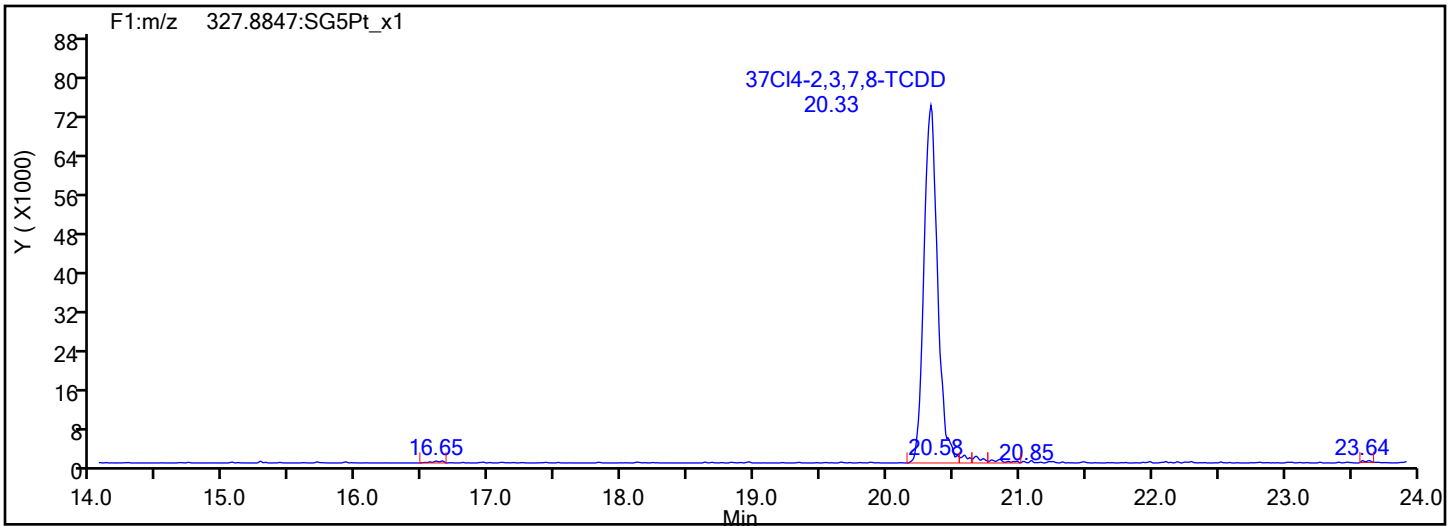
Report Date: 24-Jan-2022 13:10:50 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

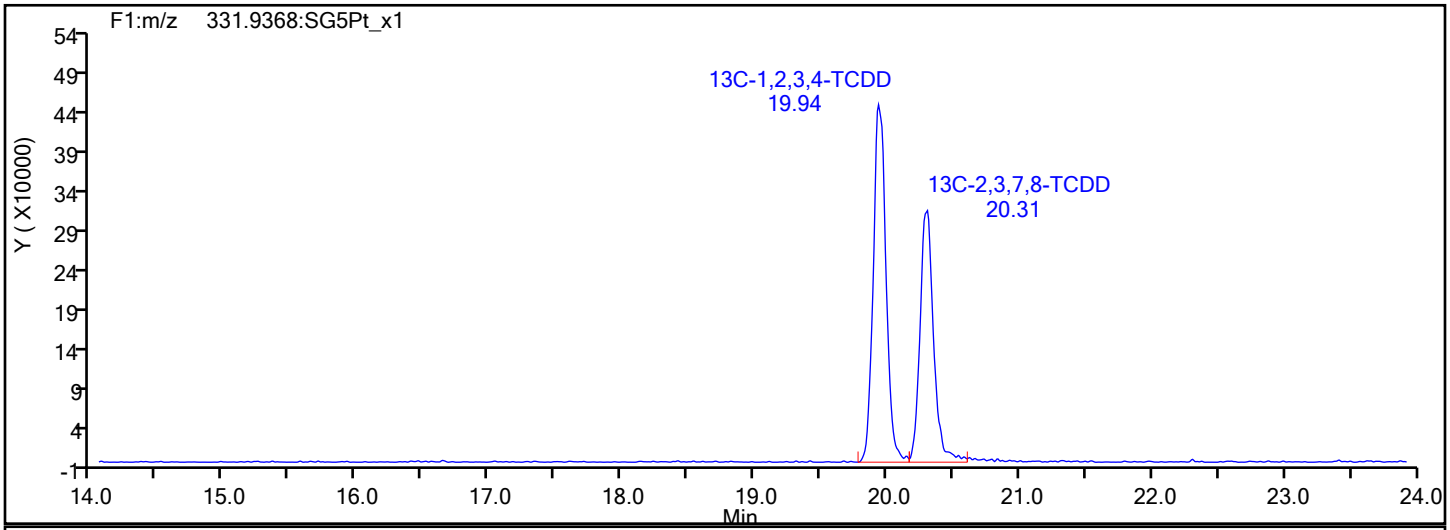
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d

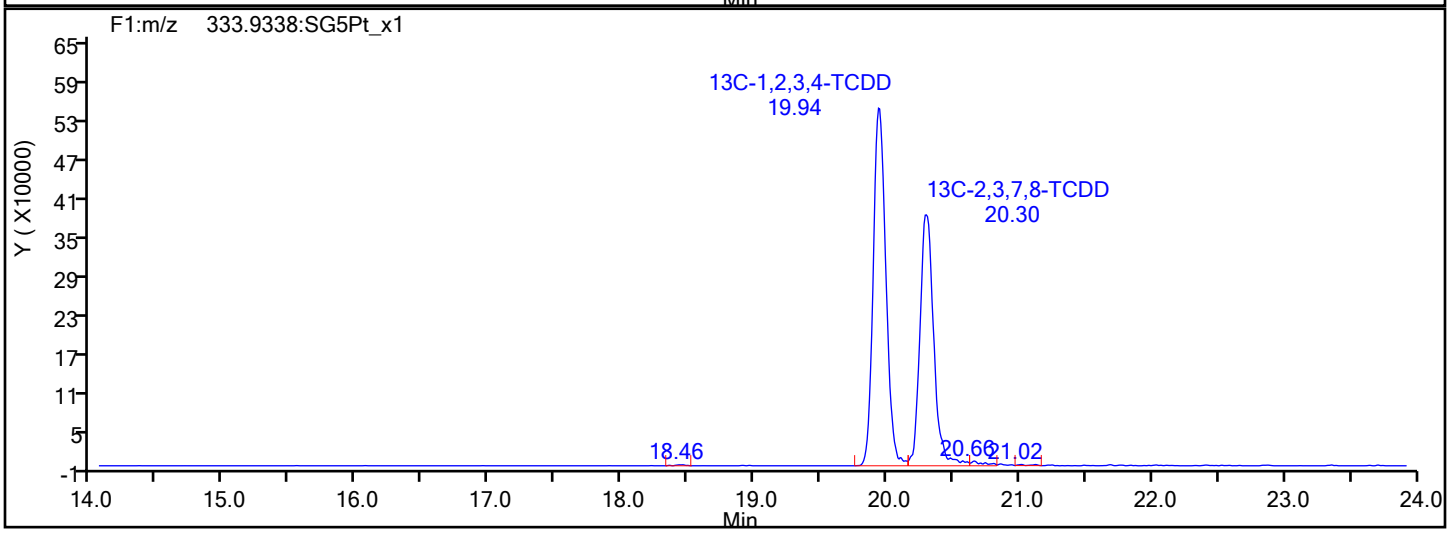
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





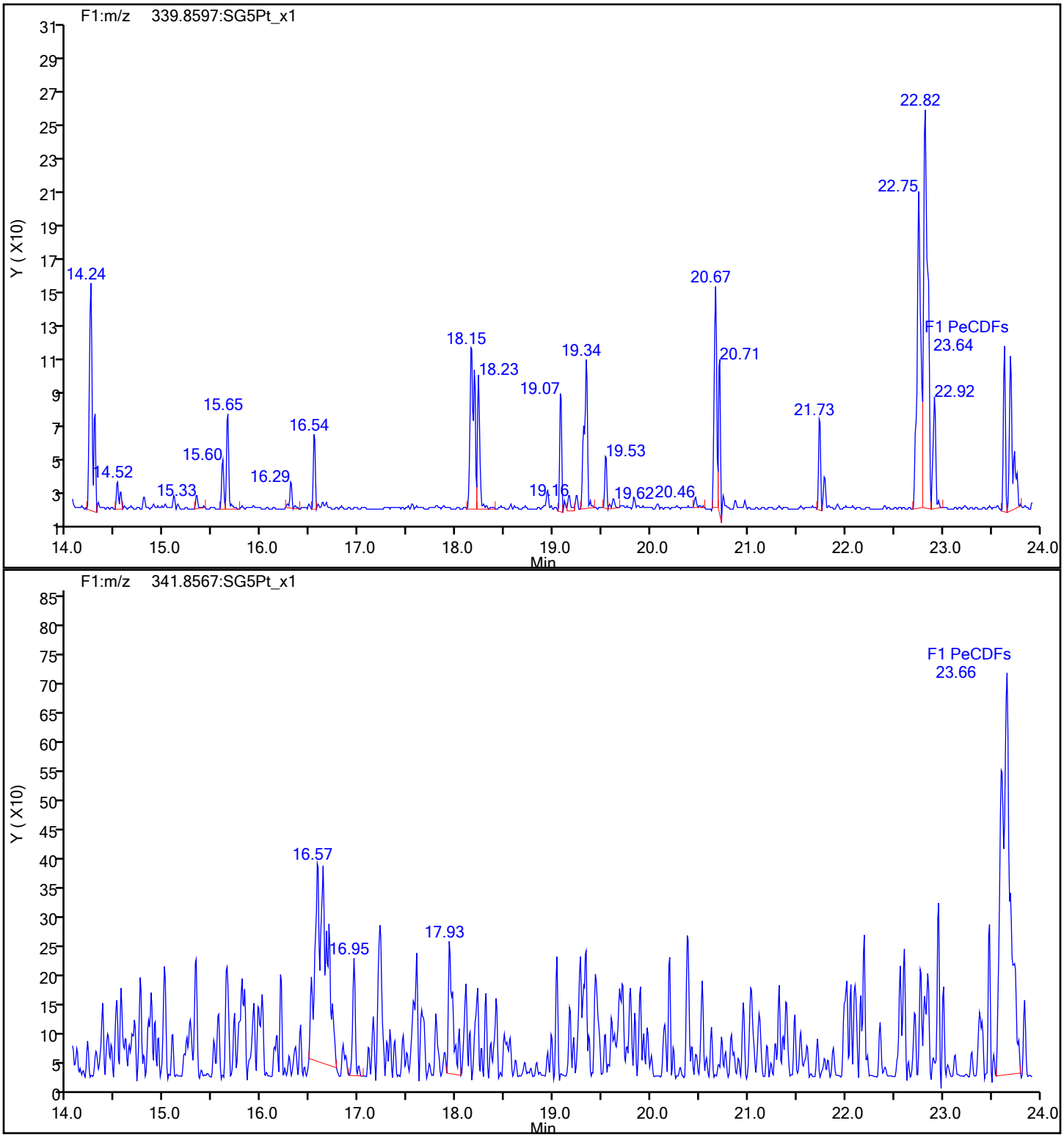
Report Date: 24-Jan-2022 13:10:50 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d

Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

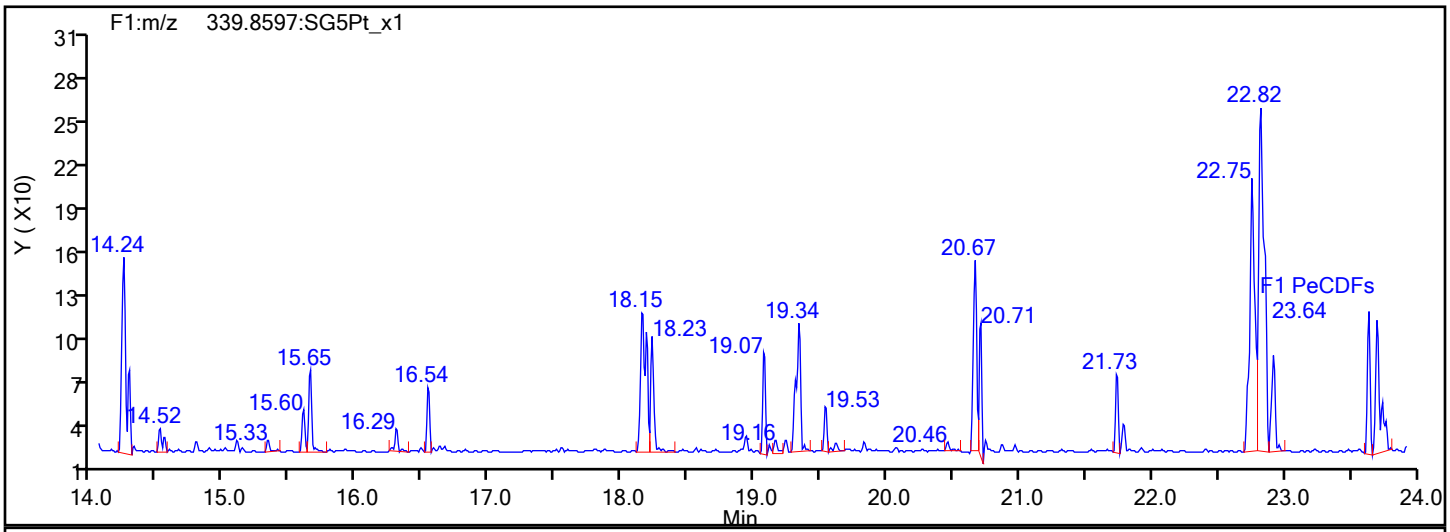
F1 PeCDFs

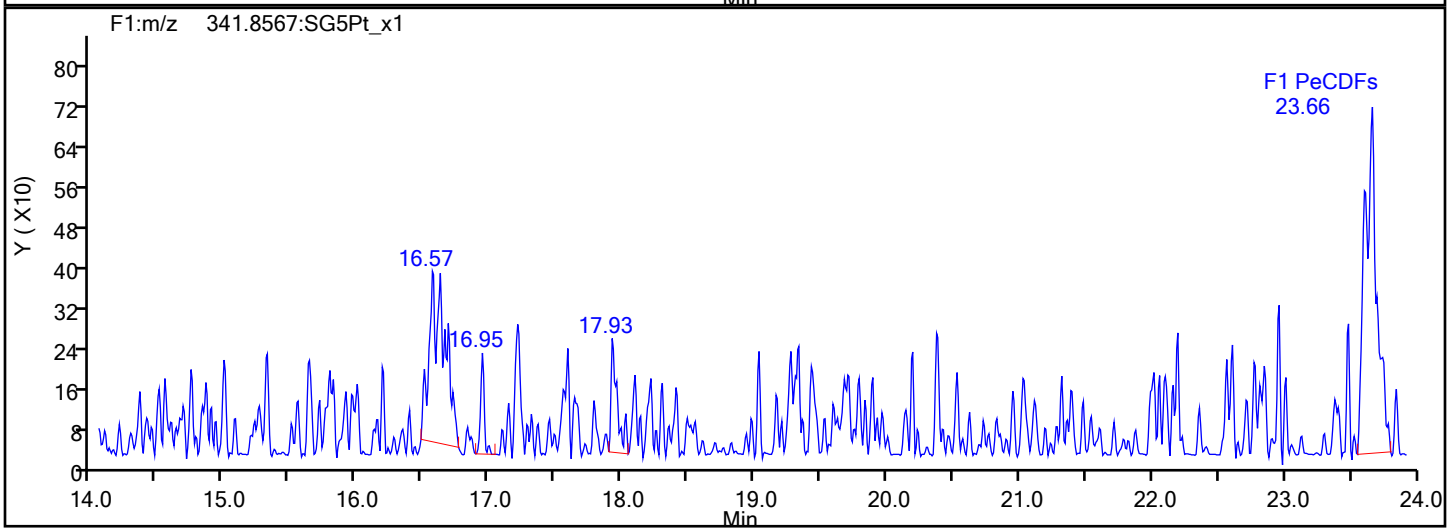


Eurofins Sacramento

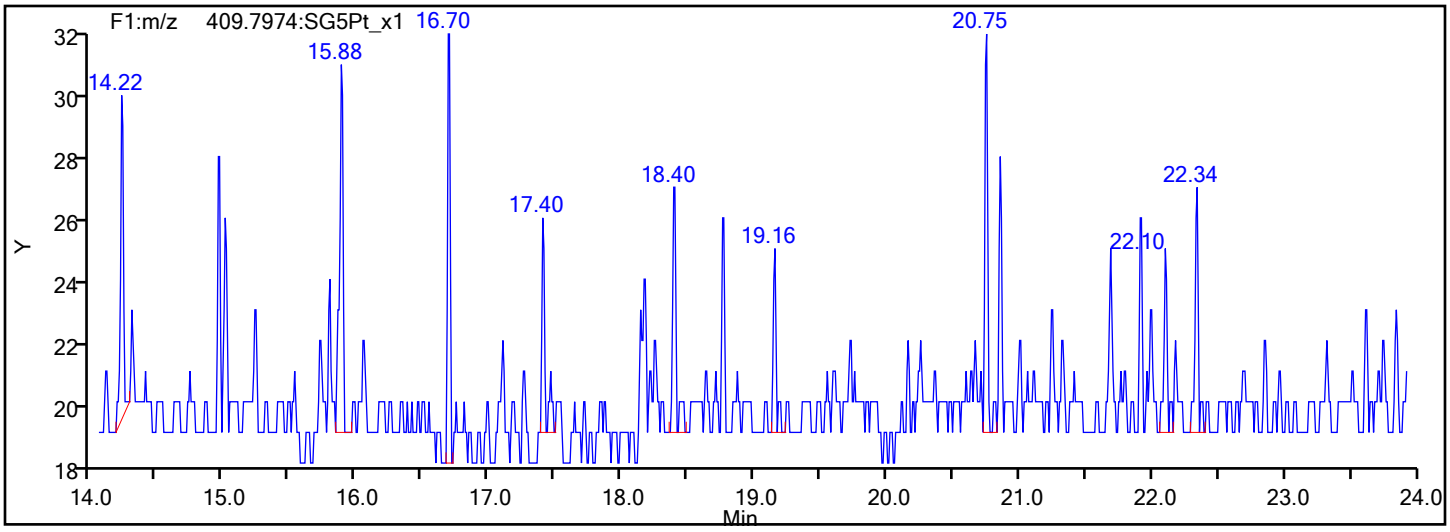
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d		
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





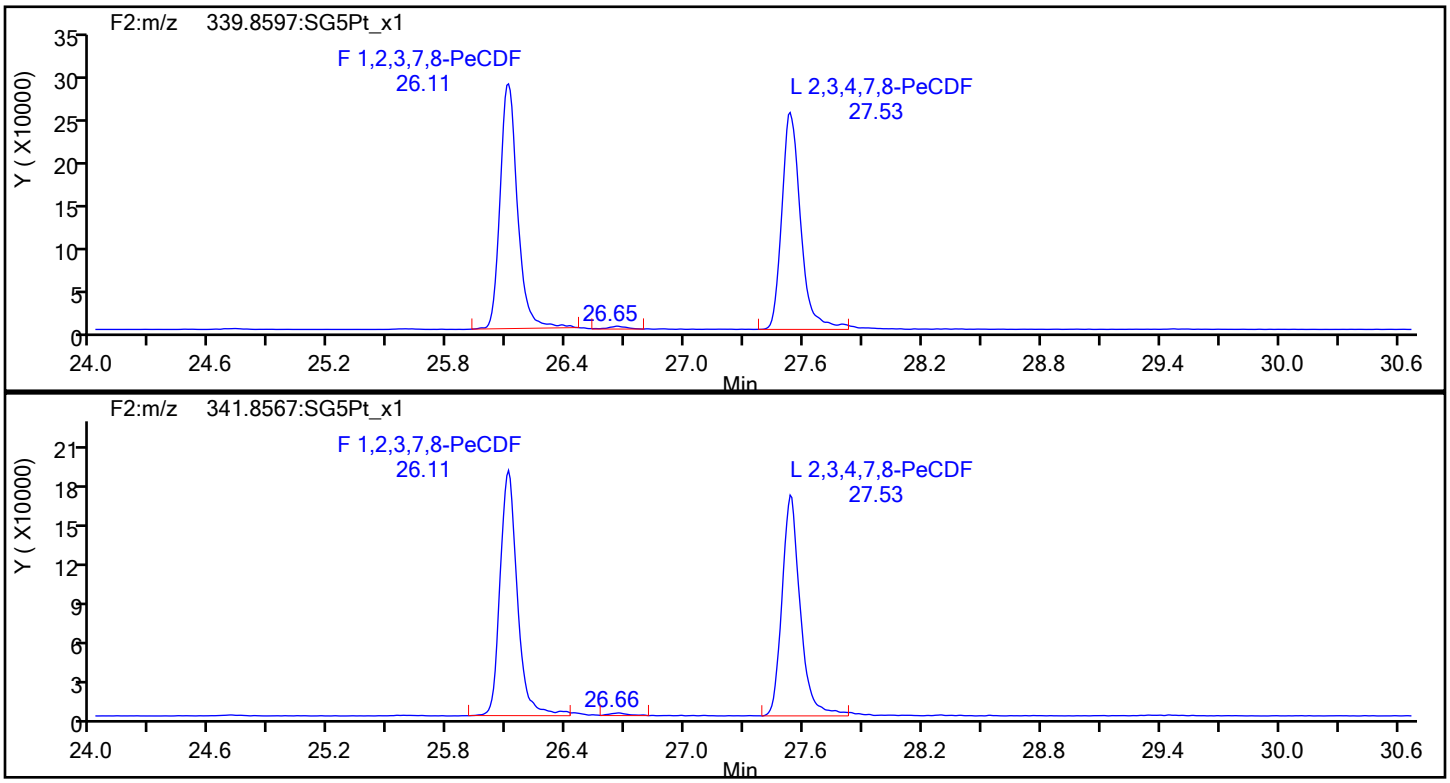
F1 PeCDFs Interference Mass



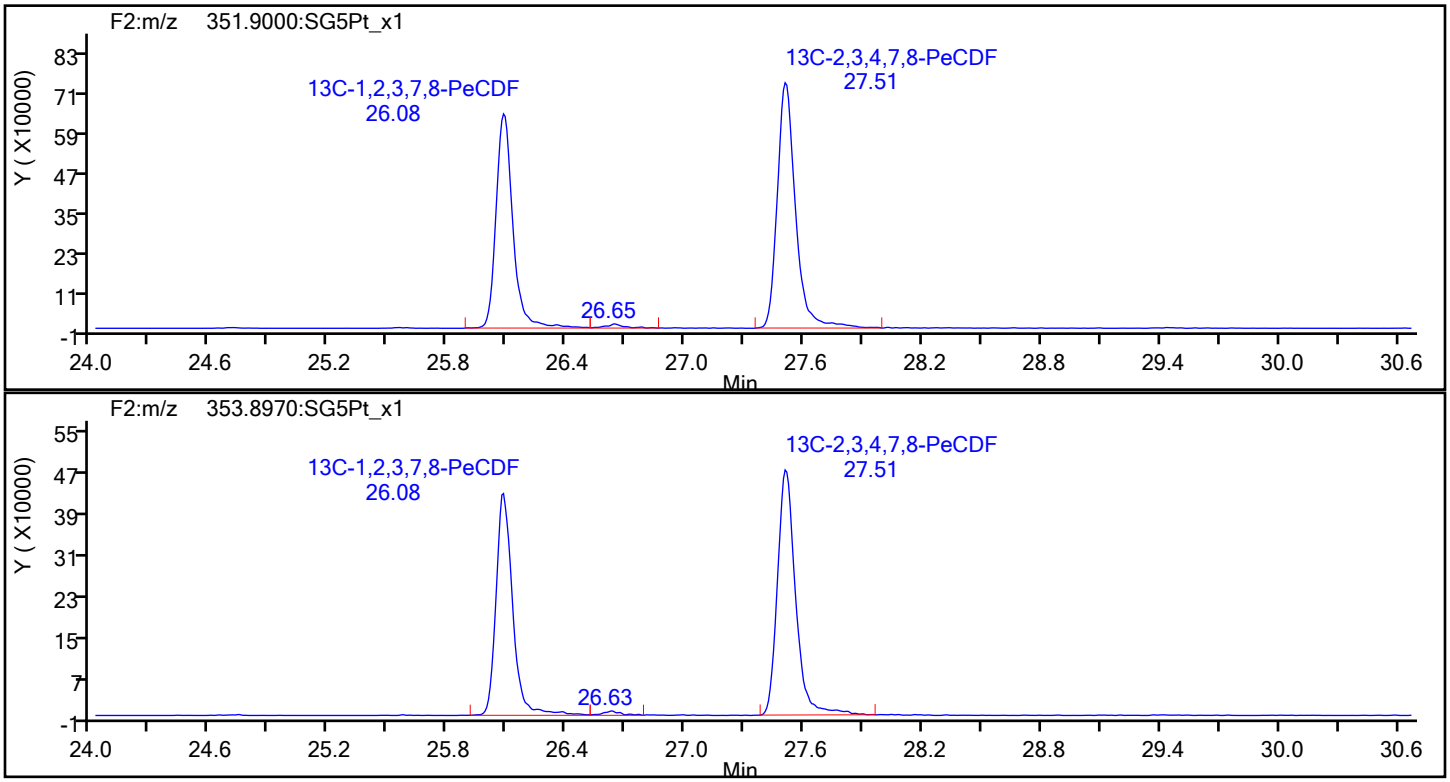
Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d		
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d		
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

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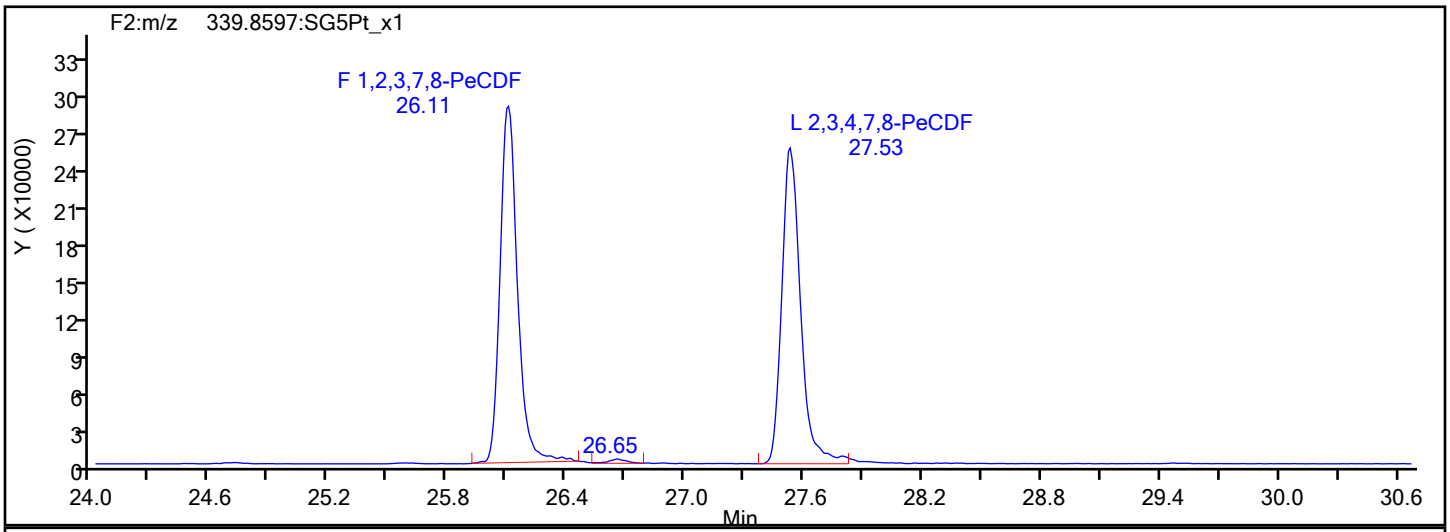
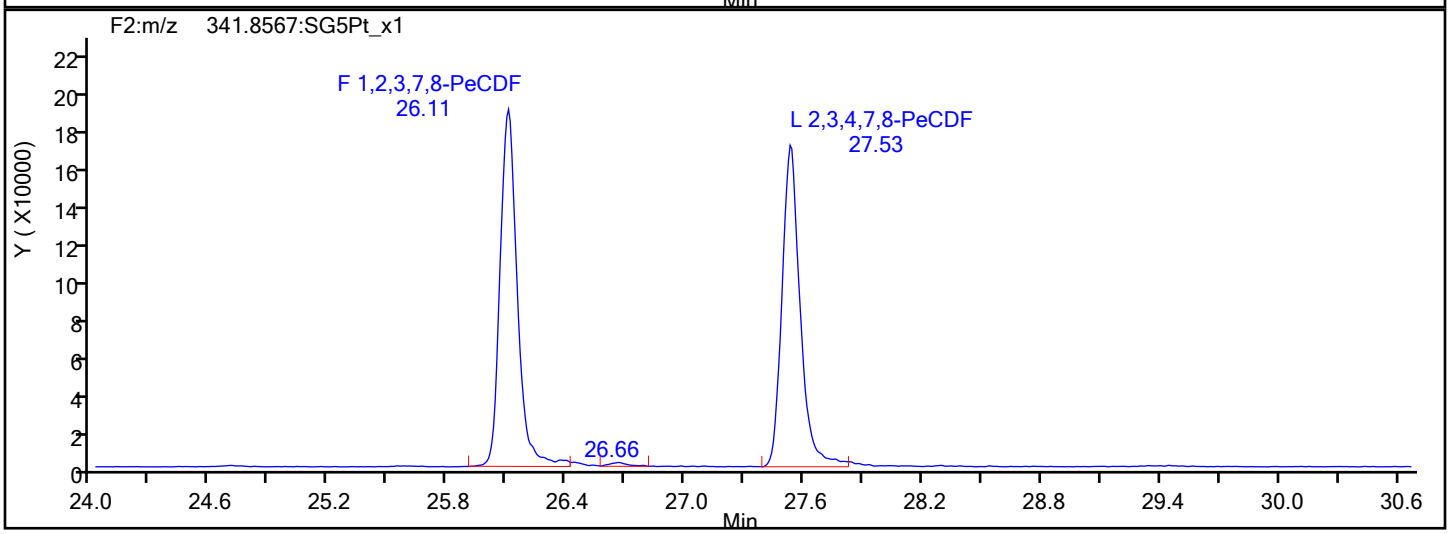
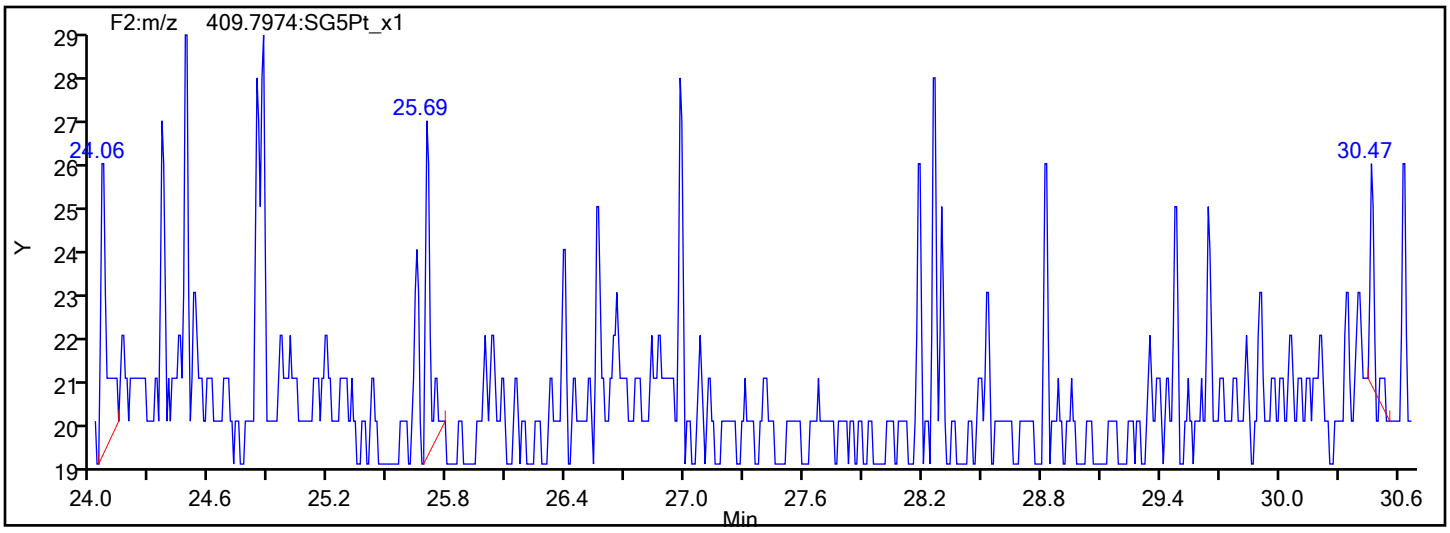




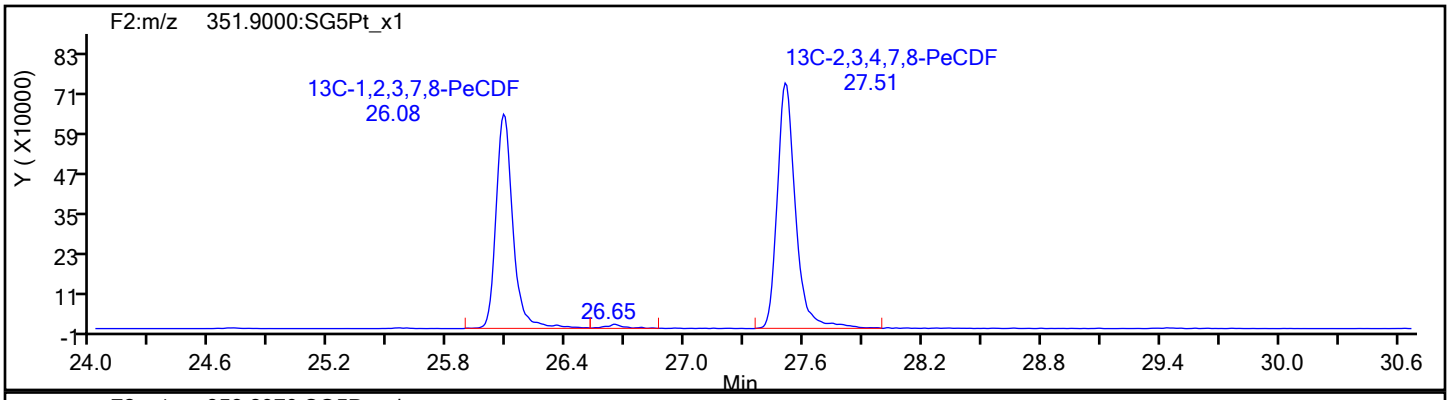
PeCDF Interference Mass

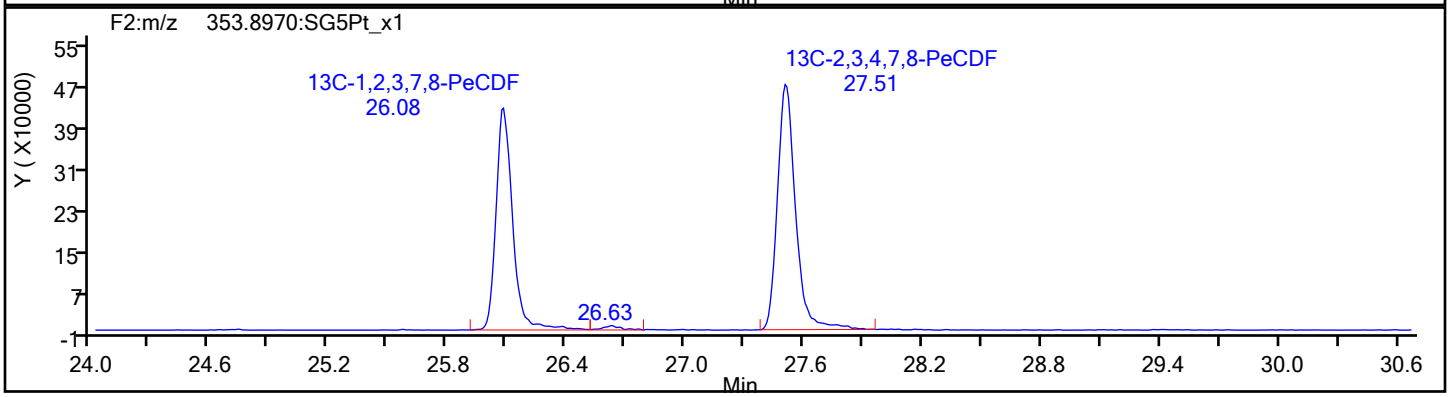


Eurofins Sacramento

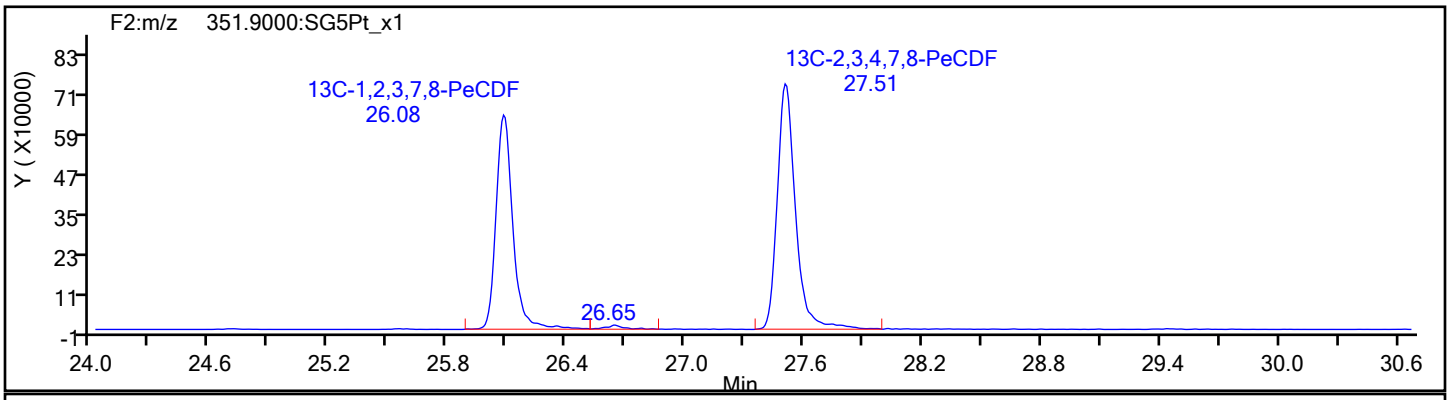
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d
Injection Date: 21-Jan-2022 21:50:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

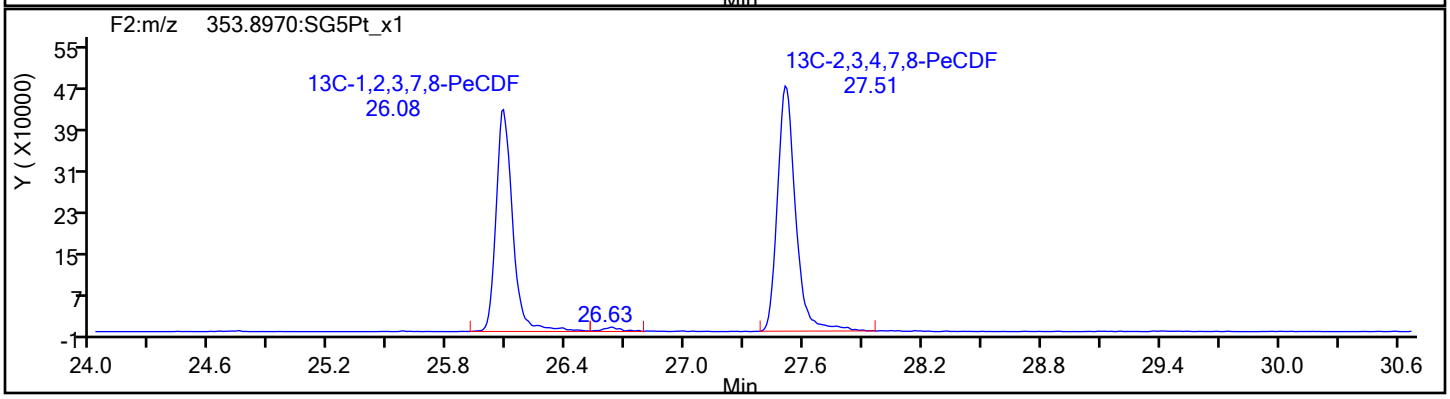
13C-PeCDF





13C-PeCDF Standards





Report Date: 24-Jan-2022 13:10:51 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d

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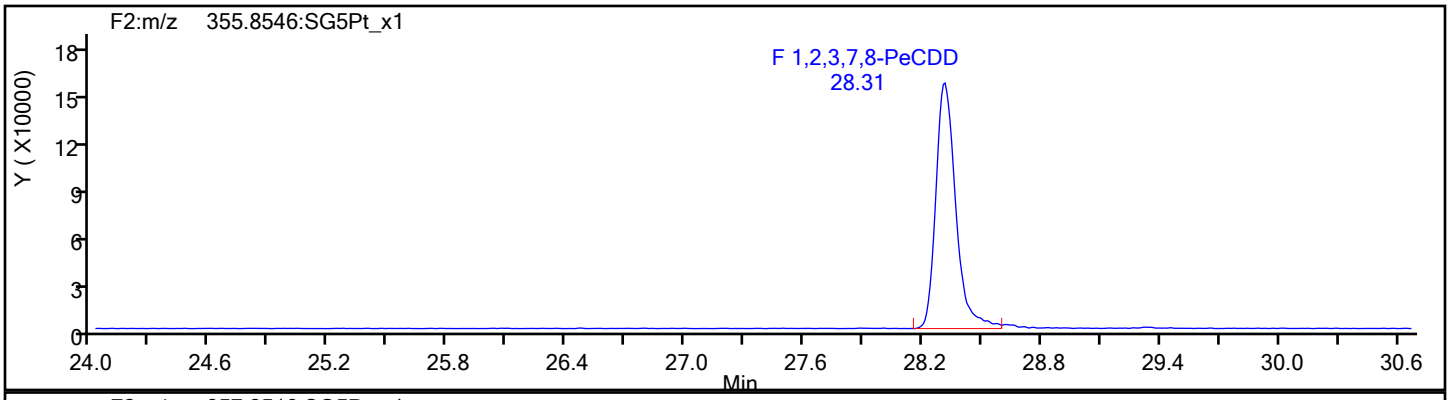
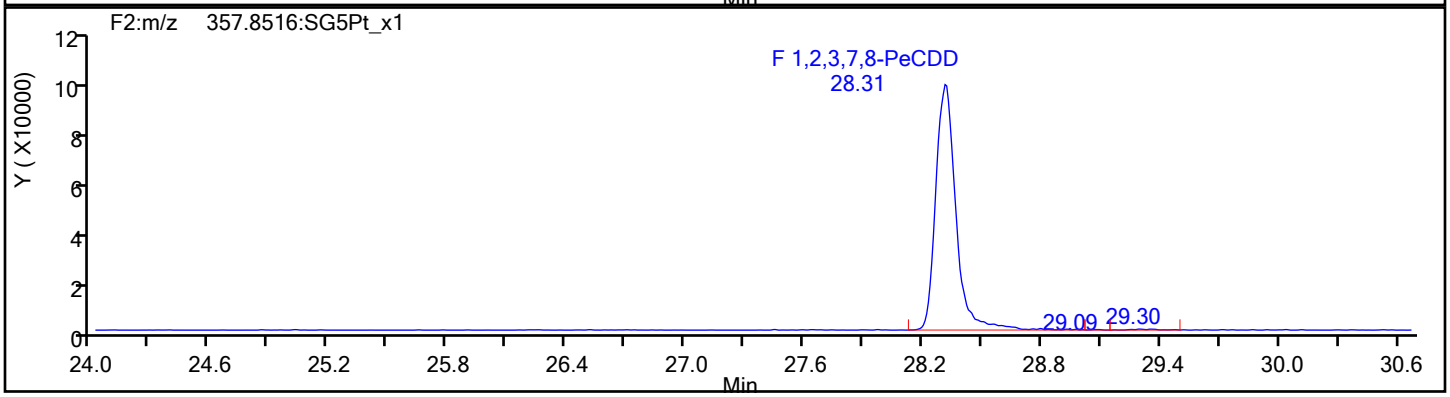
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD





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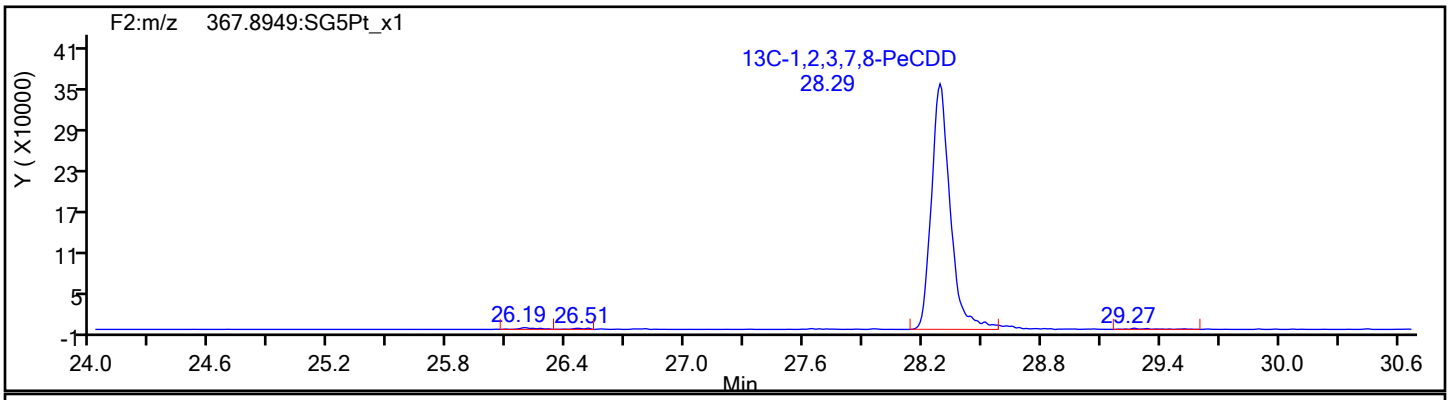
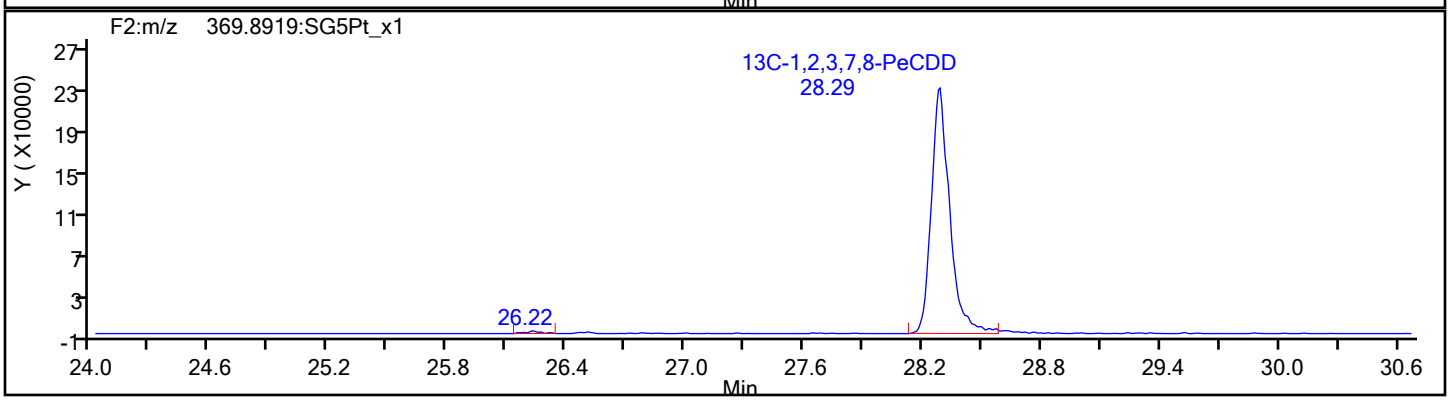
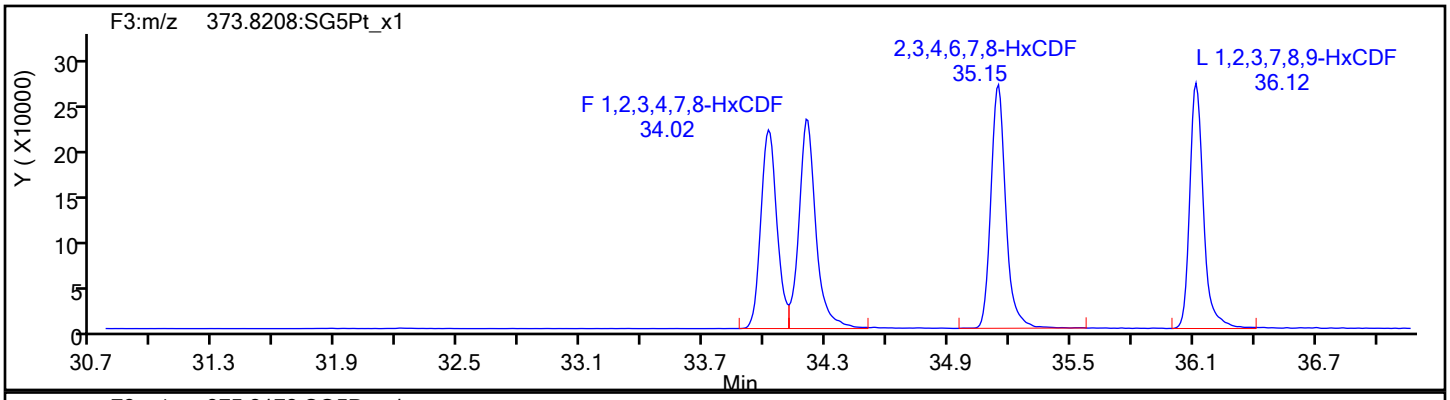


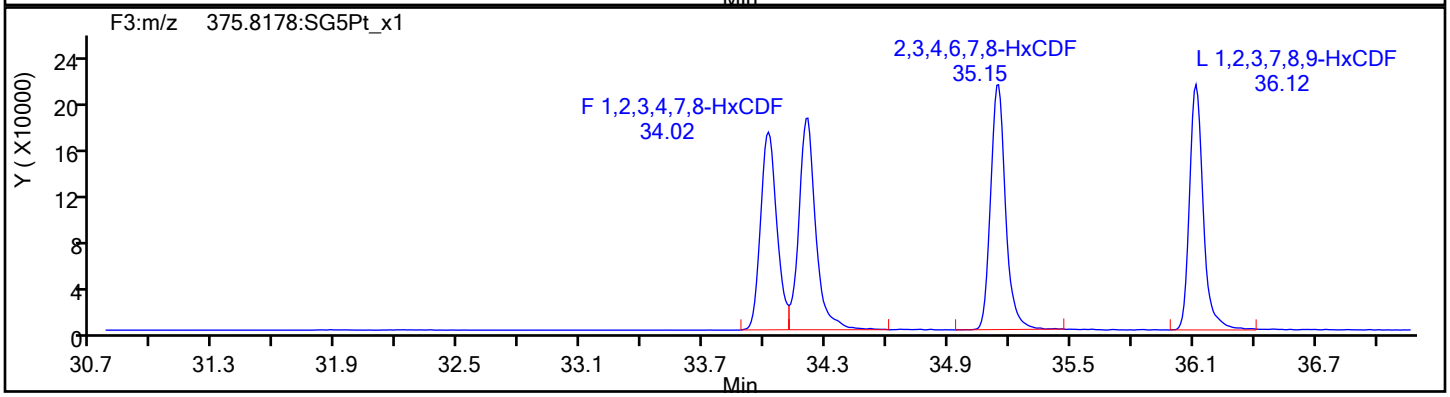


Eurofins Sacramento

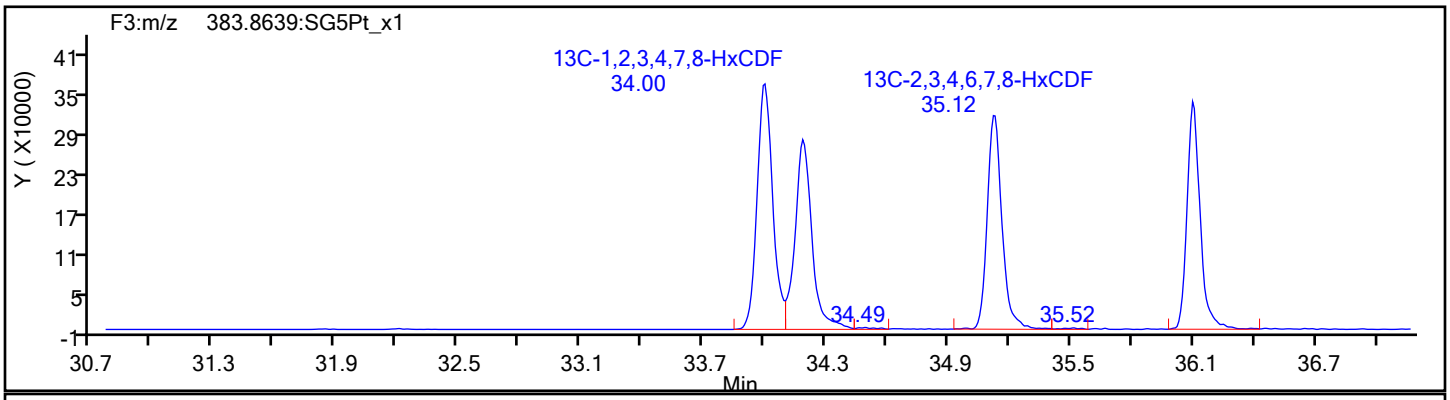
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d
Injection Date: 21-Jan-2022 21:50:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

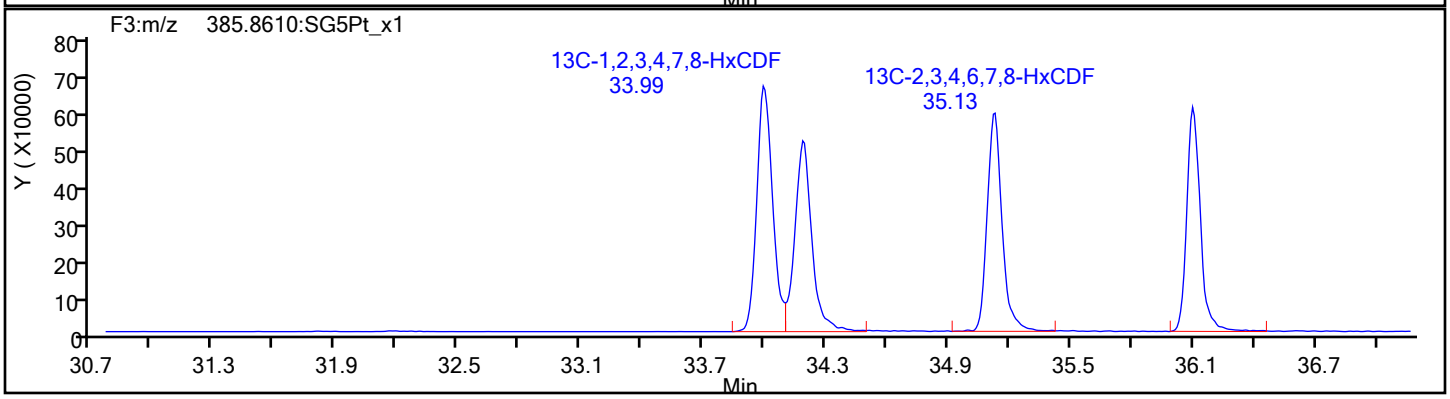
HxCDF





HxCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d		
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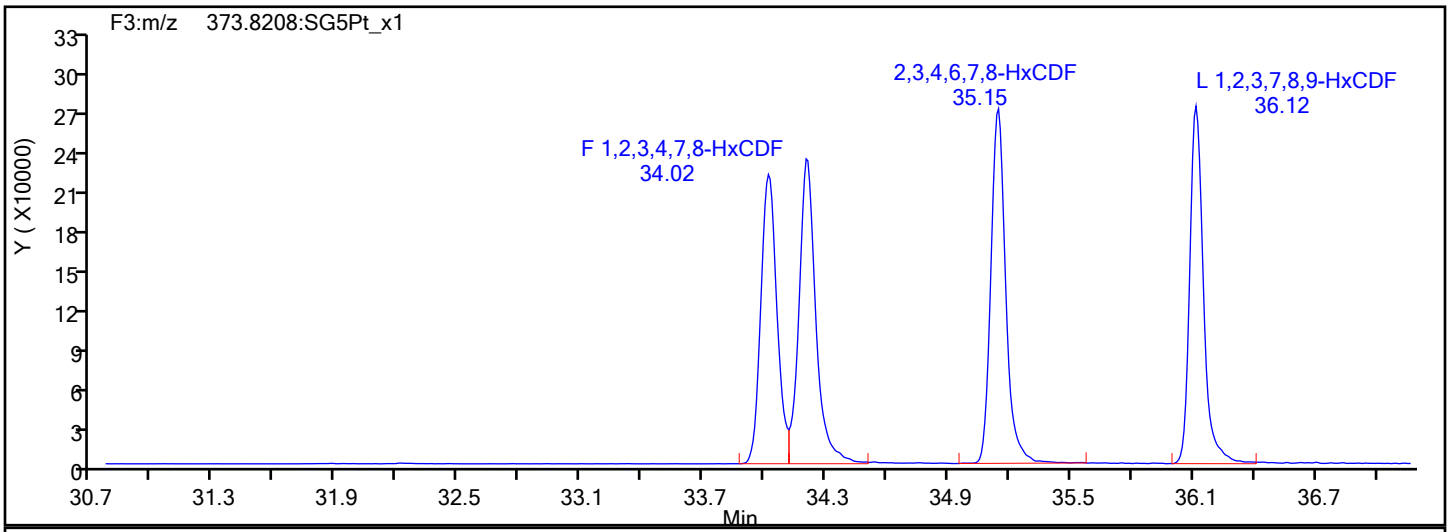
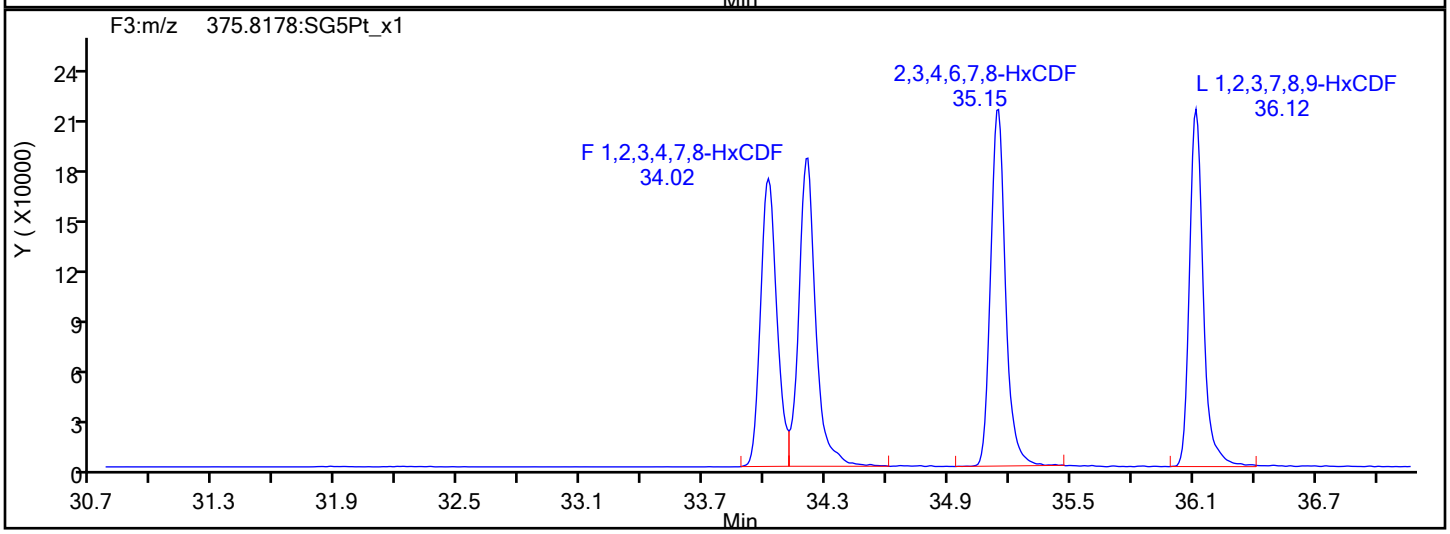
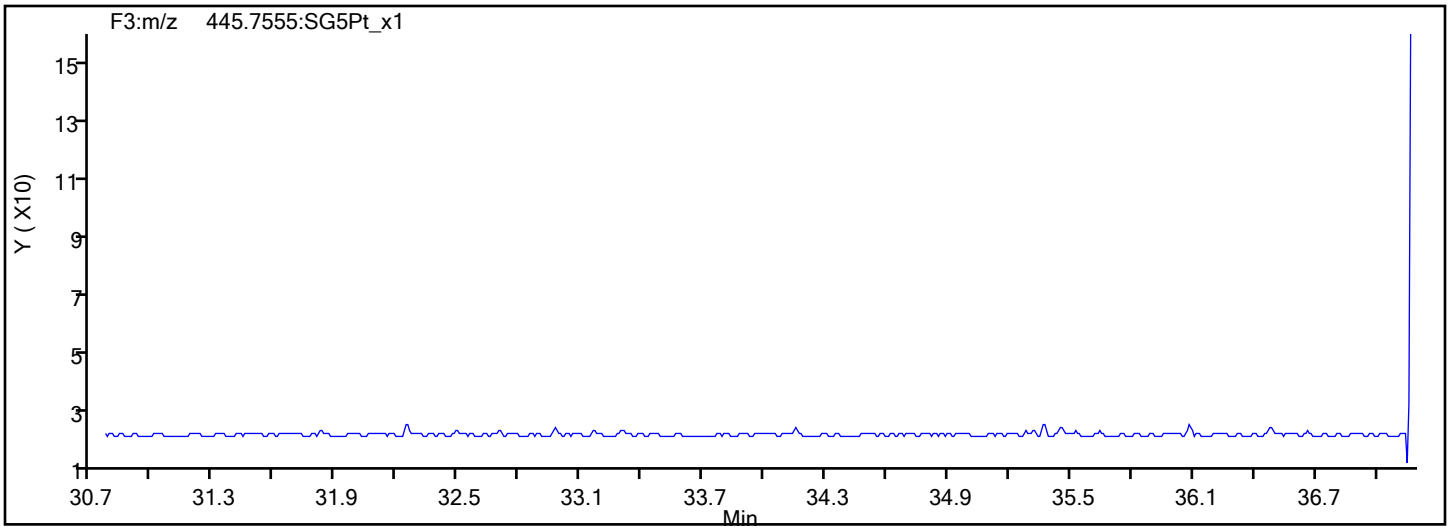
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



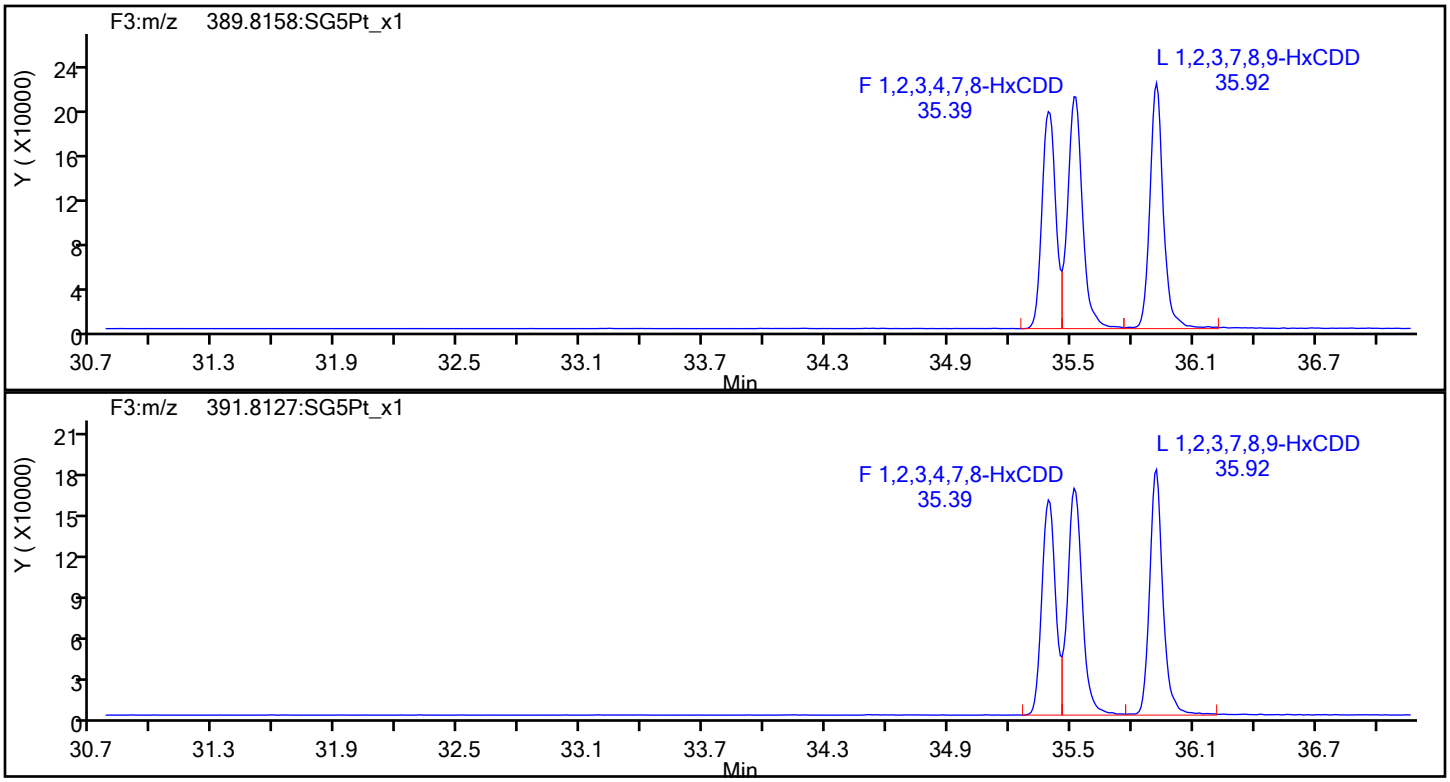
Report Date: 24-Jan-2022 13:10:51 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

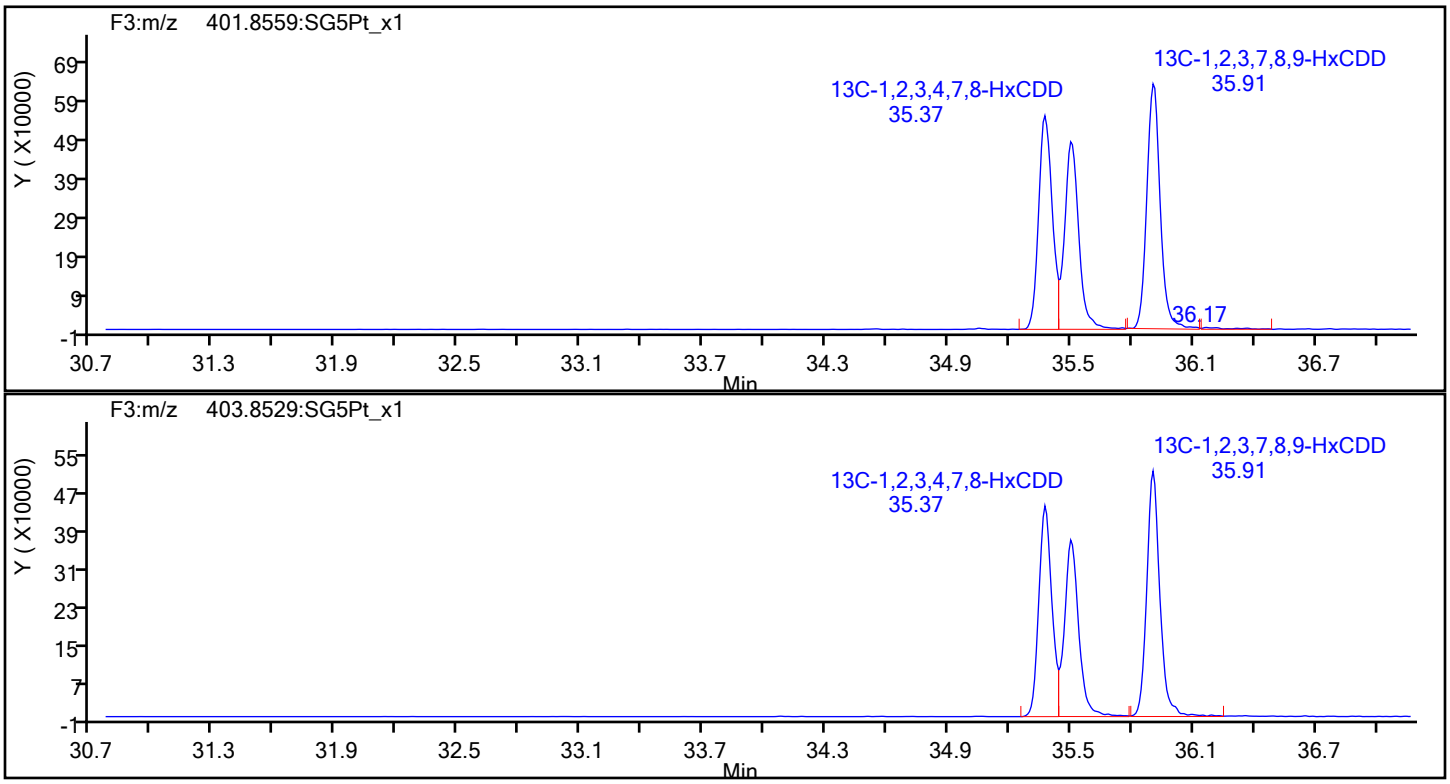
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d

Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD



HxCDD Standards



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Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d

Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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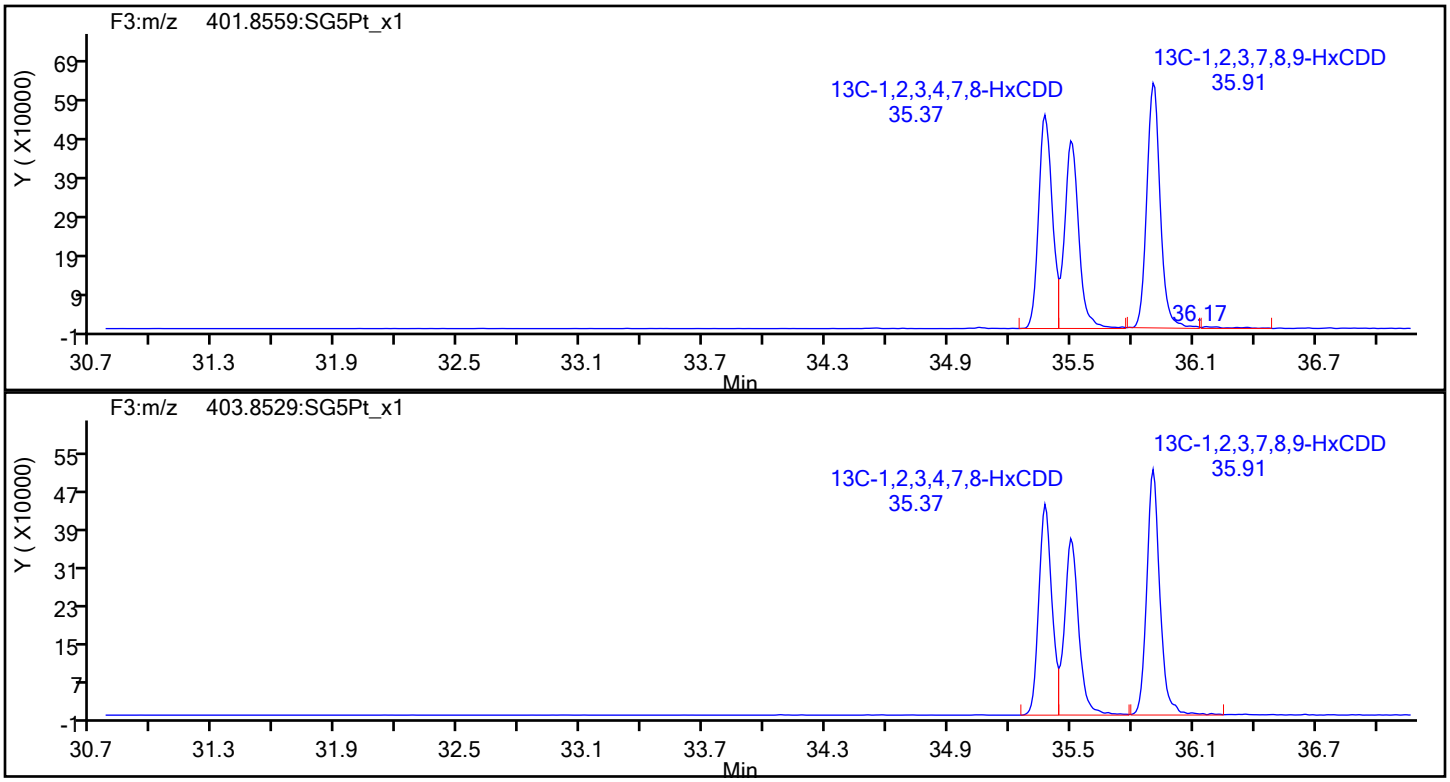
Column Type:	DB-5	Column Dia:	0.32 mm

13C-HxCDD



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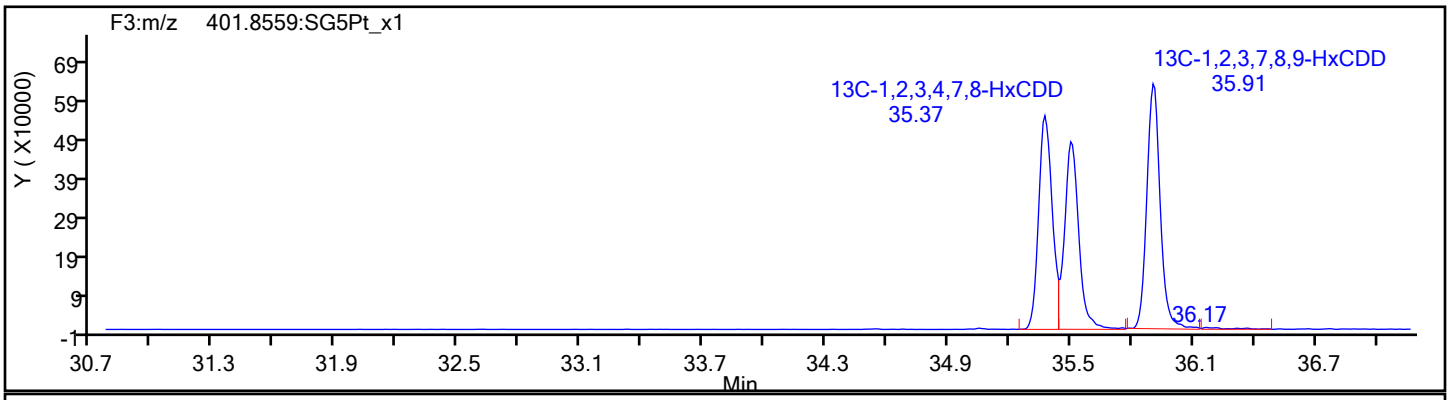

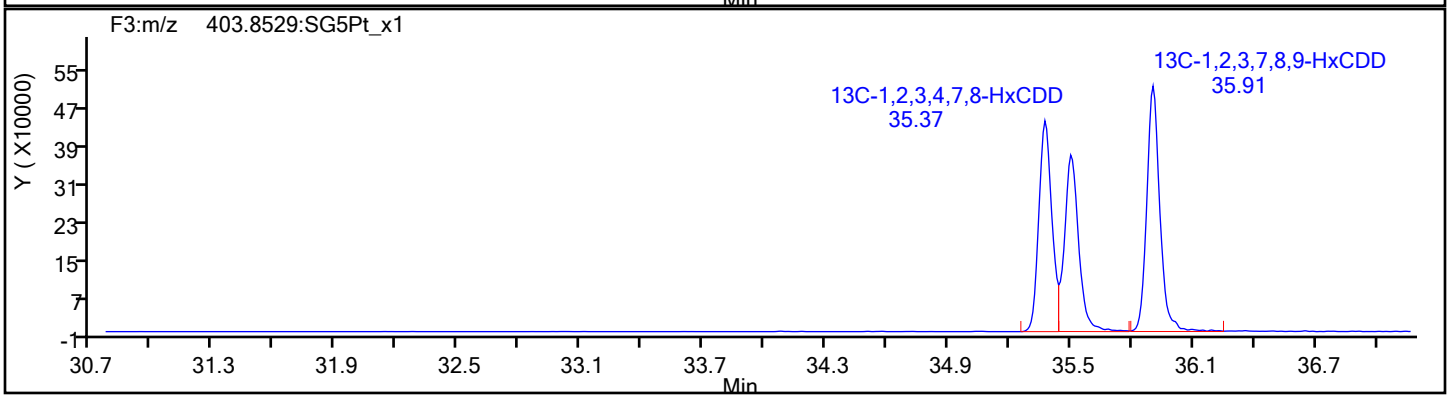

Eurofins Sacramento

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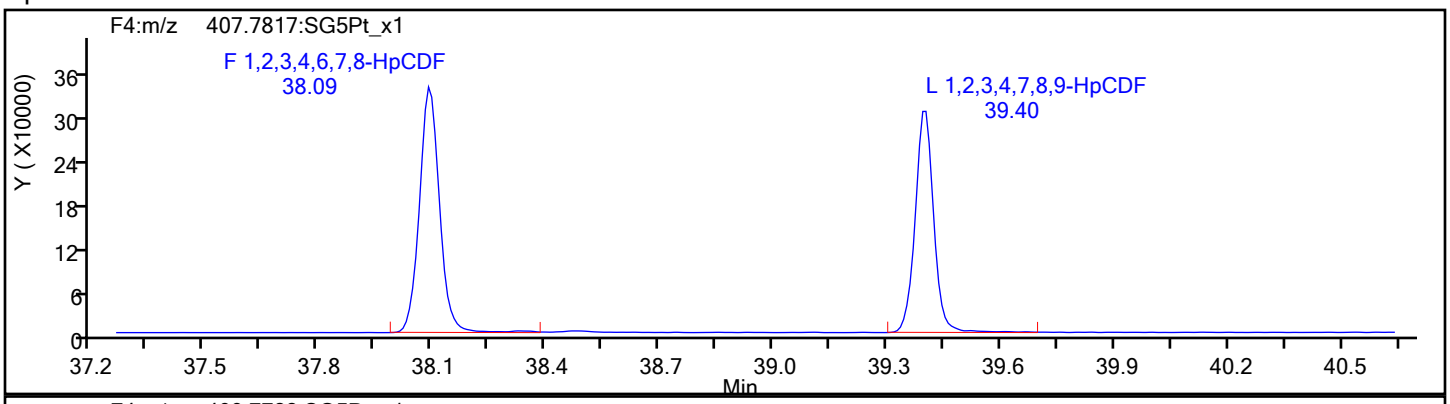
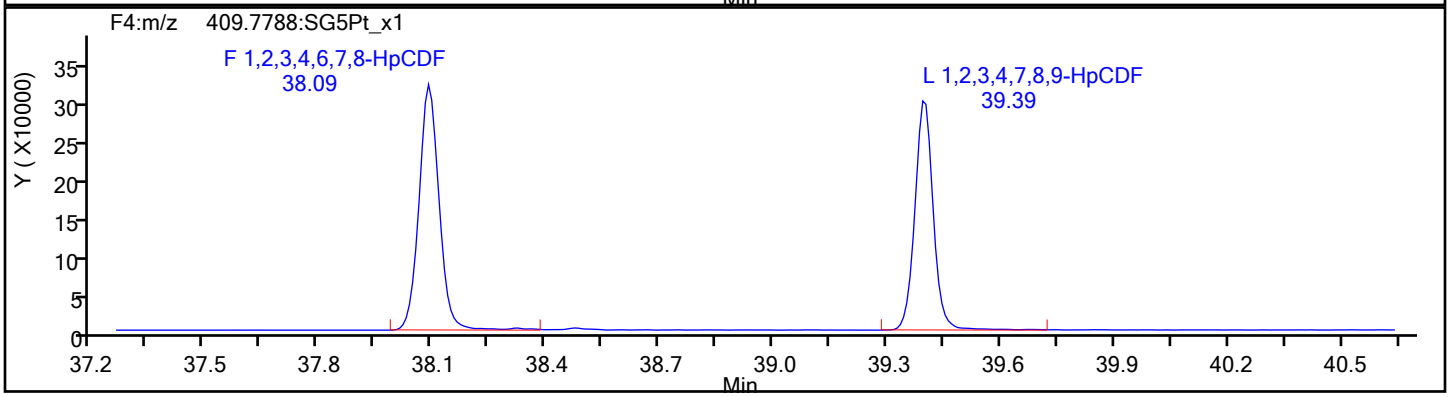
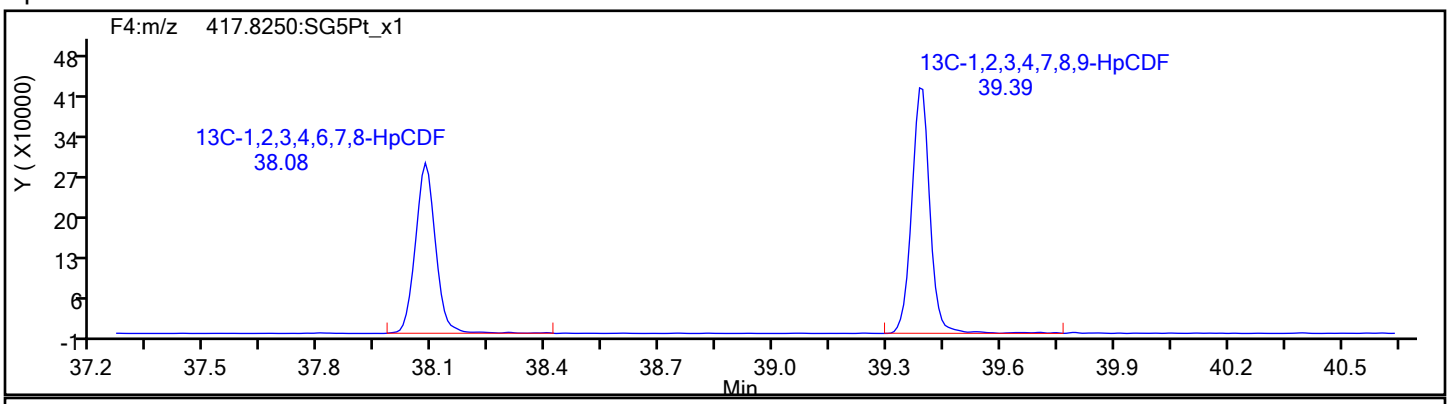
Injection Date: 21-Jan-2022 21:50:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 2
Column Type: DB-5 Column Dia: 0.32 mm

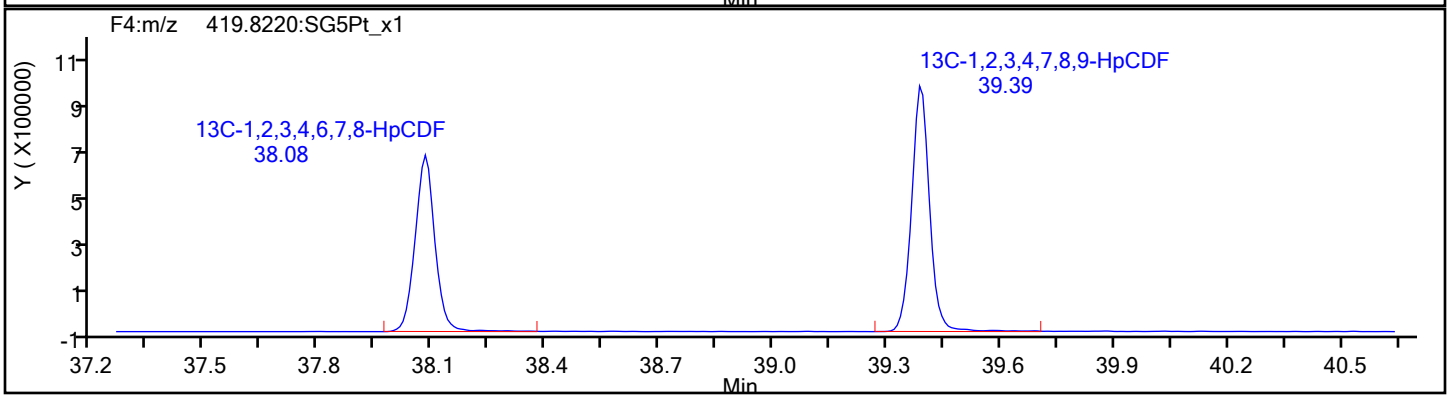
HpCDF





HpCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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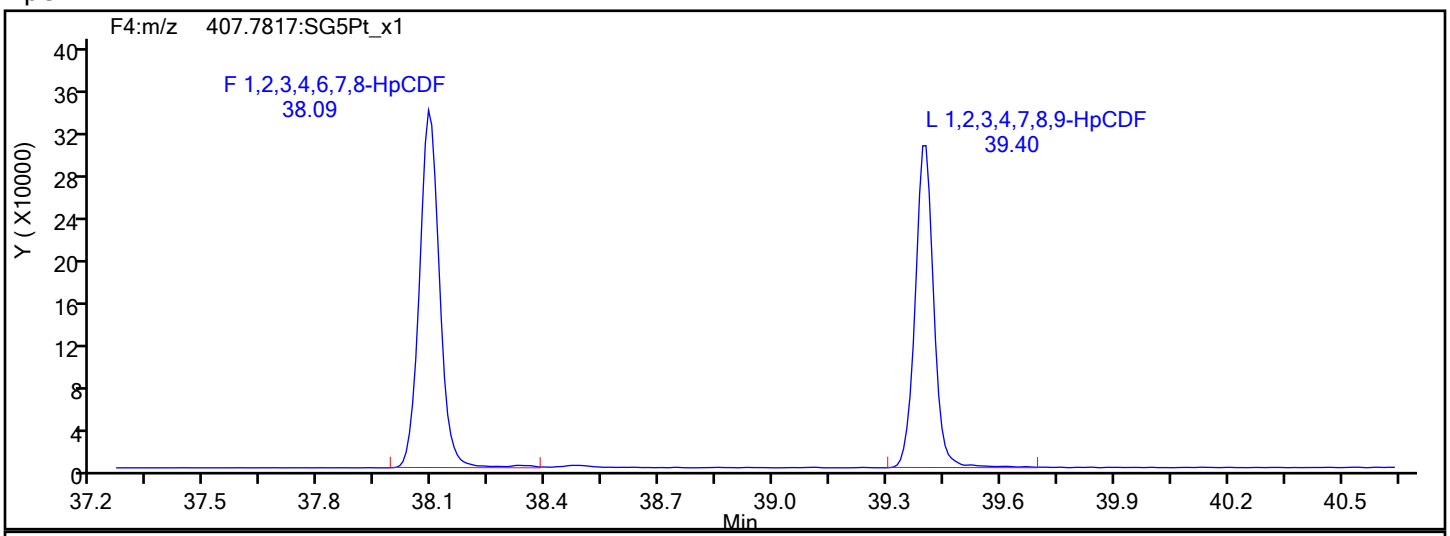
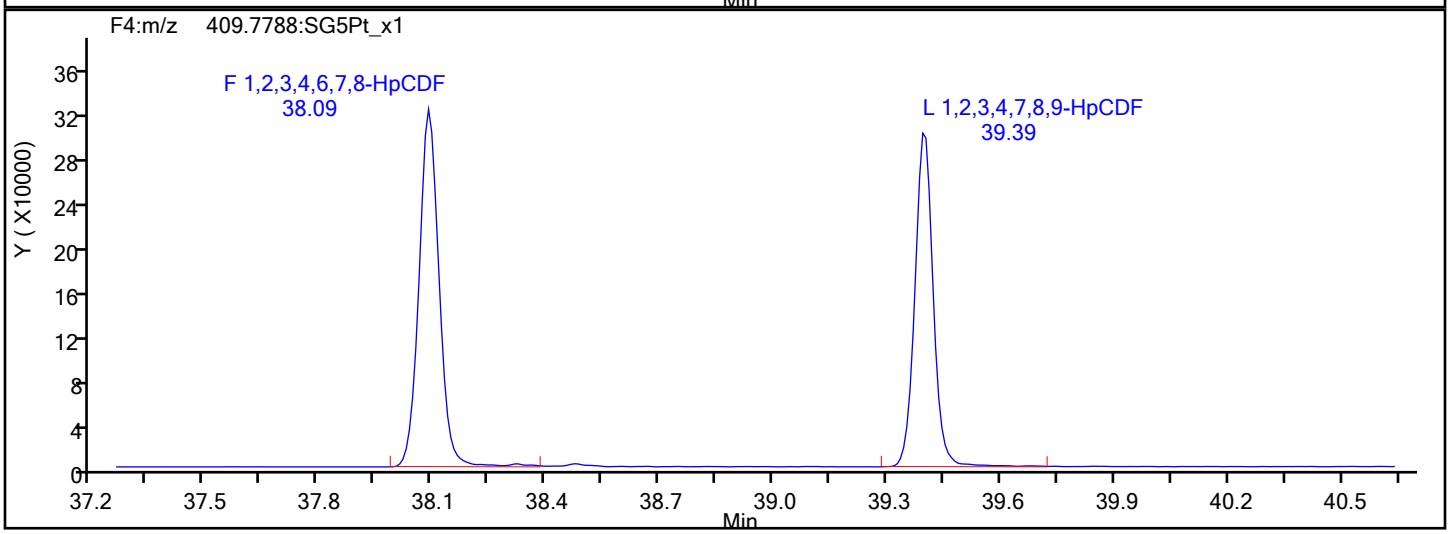
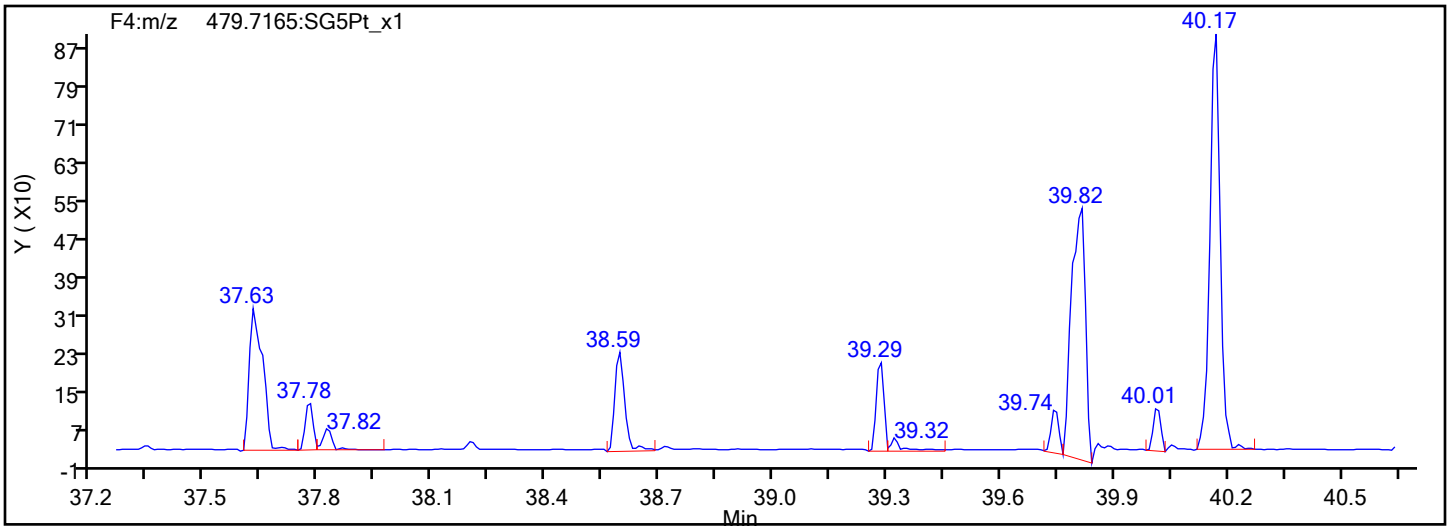
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



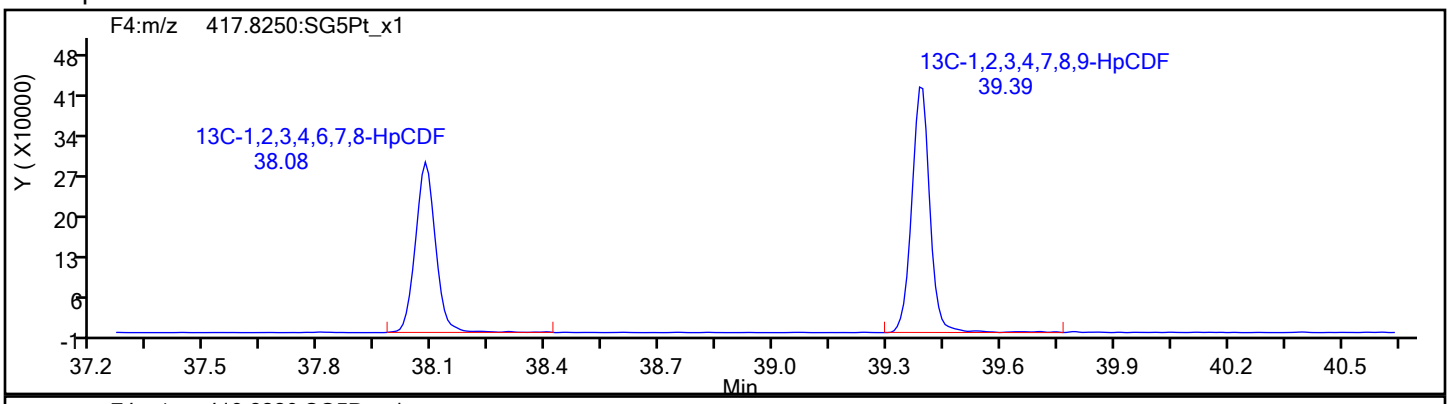
Report Date: 24-Jan-2022 13:10:51 Chrom Revision: 2.3 18-Jan-2022 20:25:40

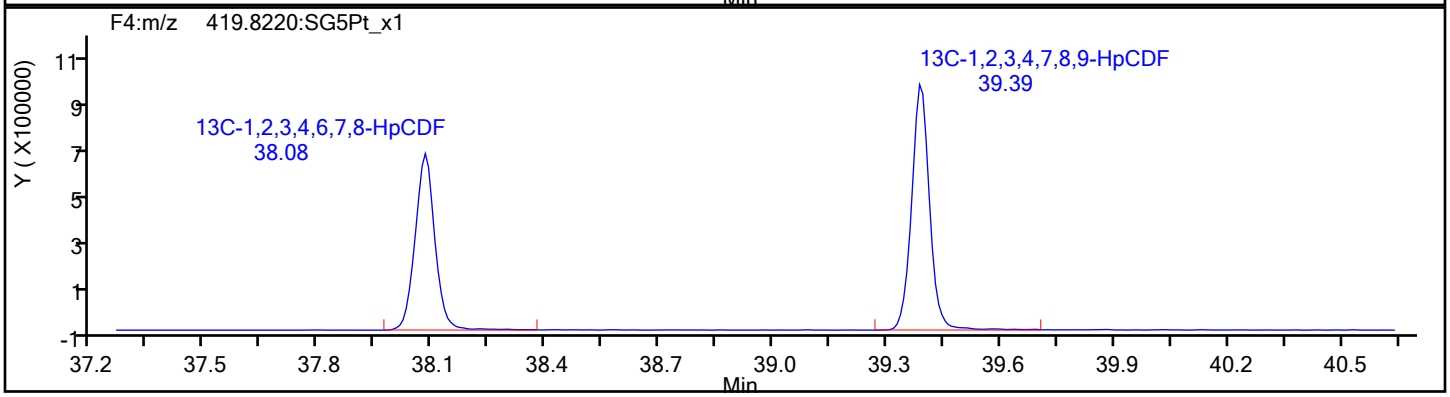
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d

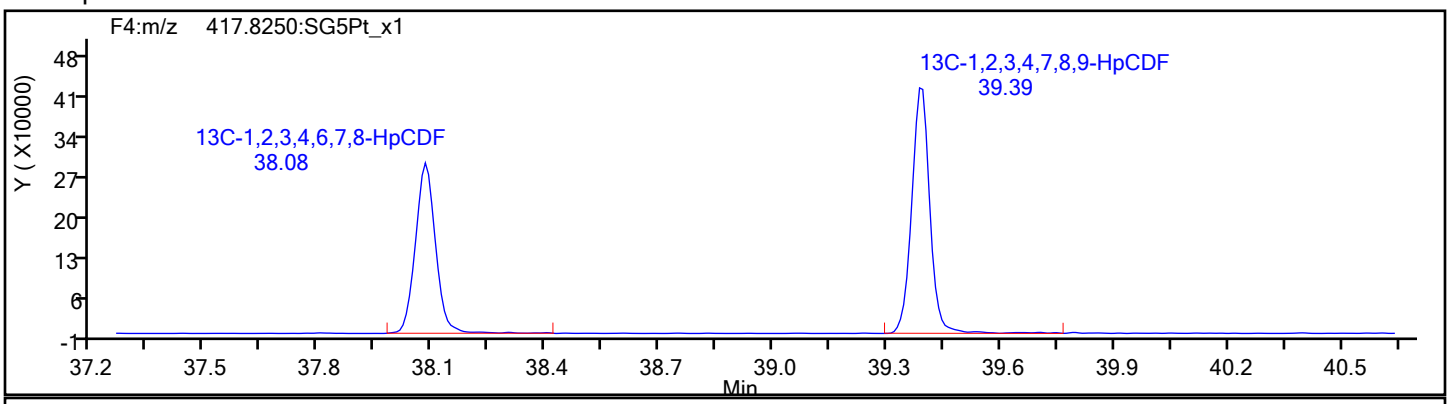
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

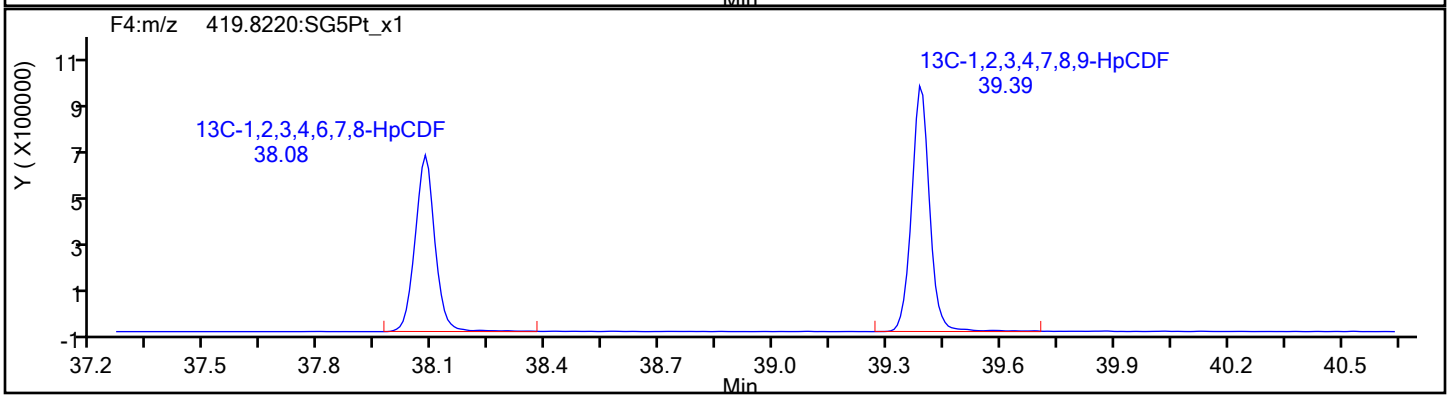
13C-HpCDF





13C-HpCDF Standards





Eurofins Sacramento

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Instrument ID: DFS 1 Operator ID: Xcalibur_System
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Client ID:
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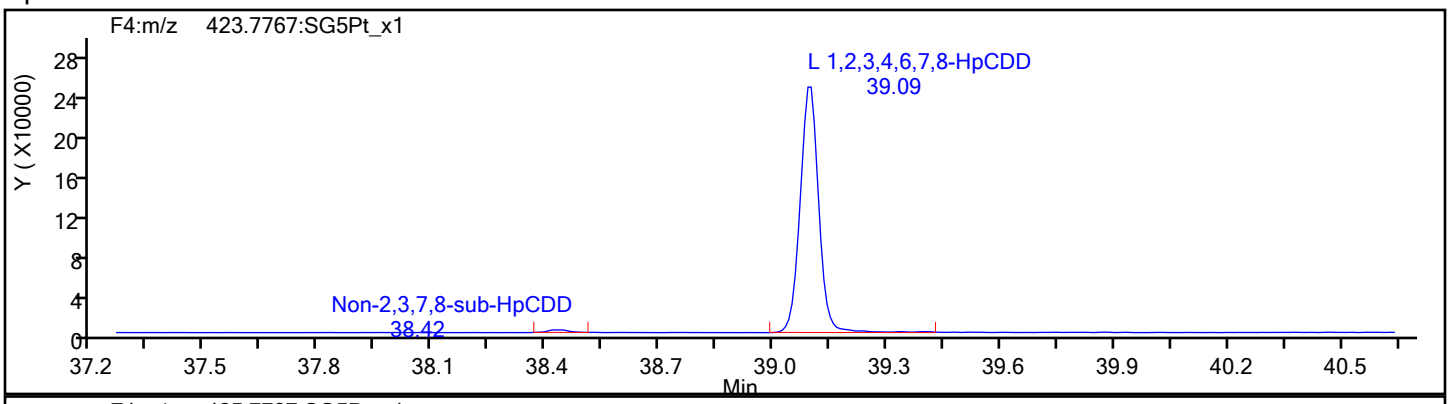
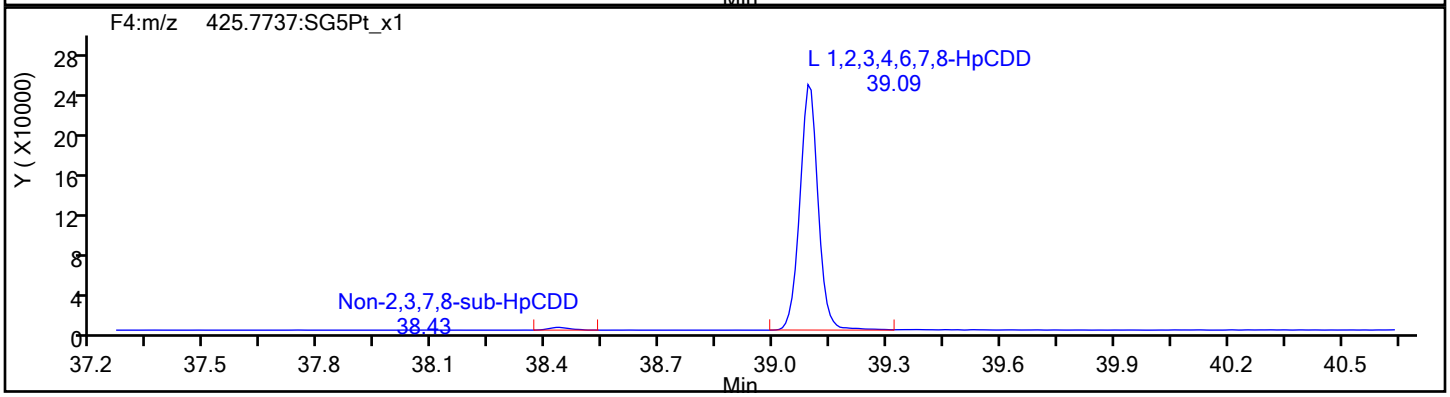
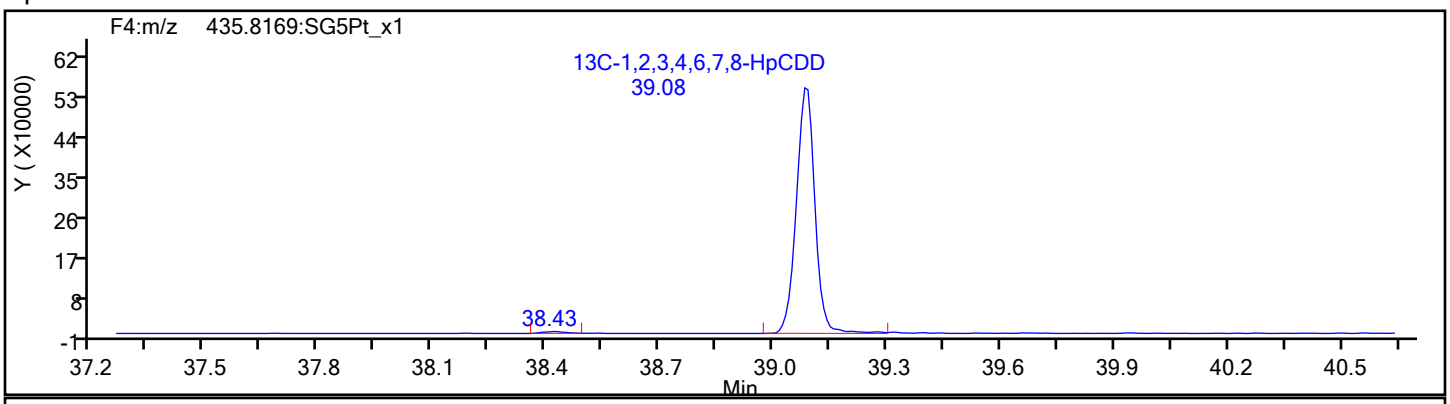
Column Type: DB-5 Column Dia: 0.32 mm

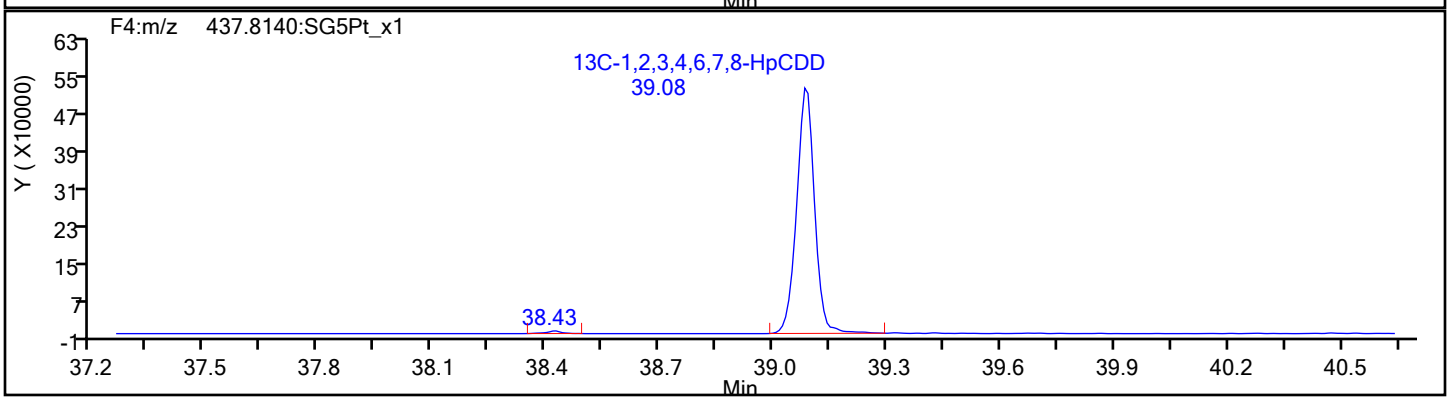
HpCDD





HpCDD Standards





Report Date: 24-Jan-2022 13:10:51 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d

Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
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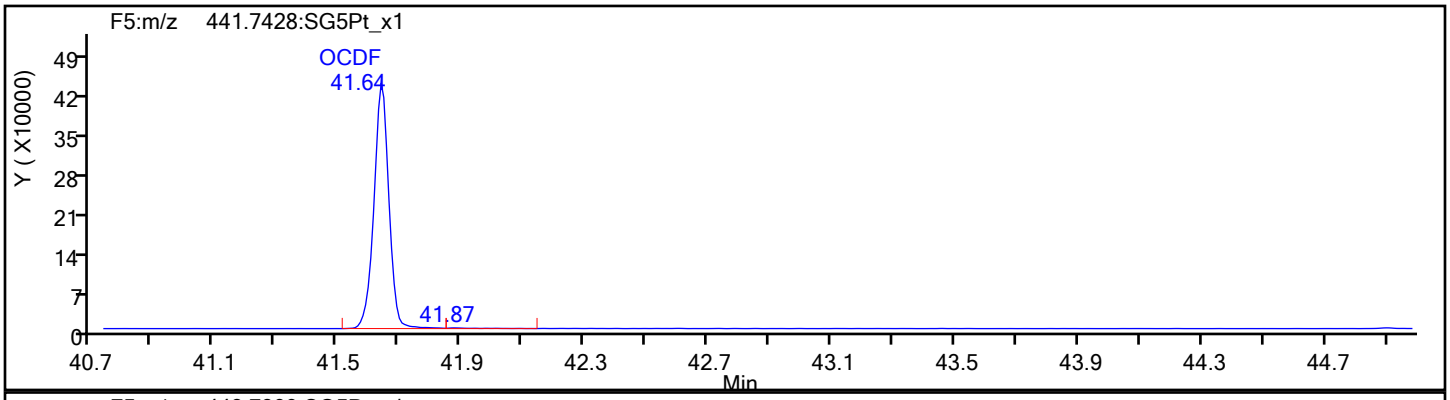
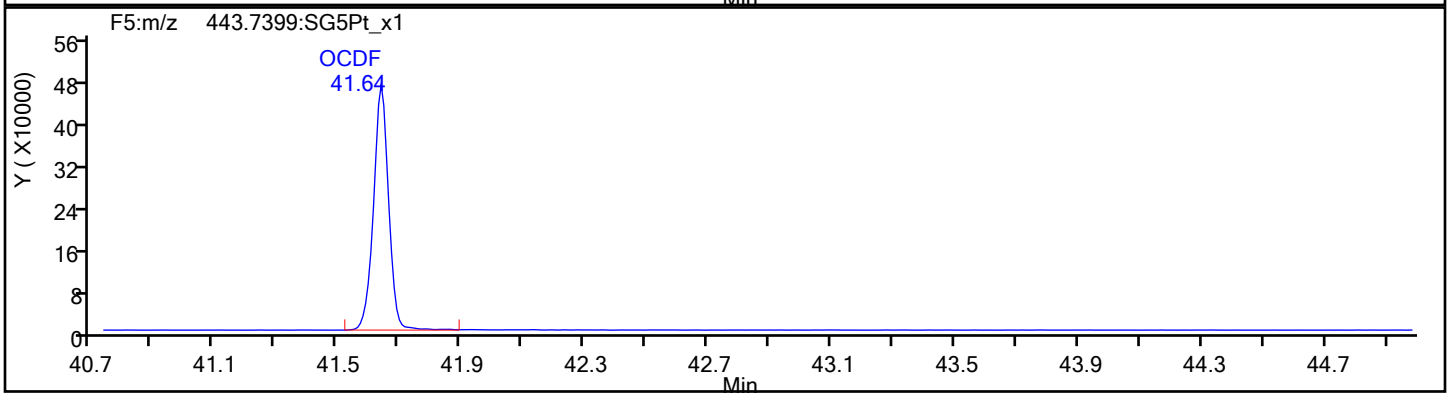
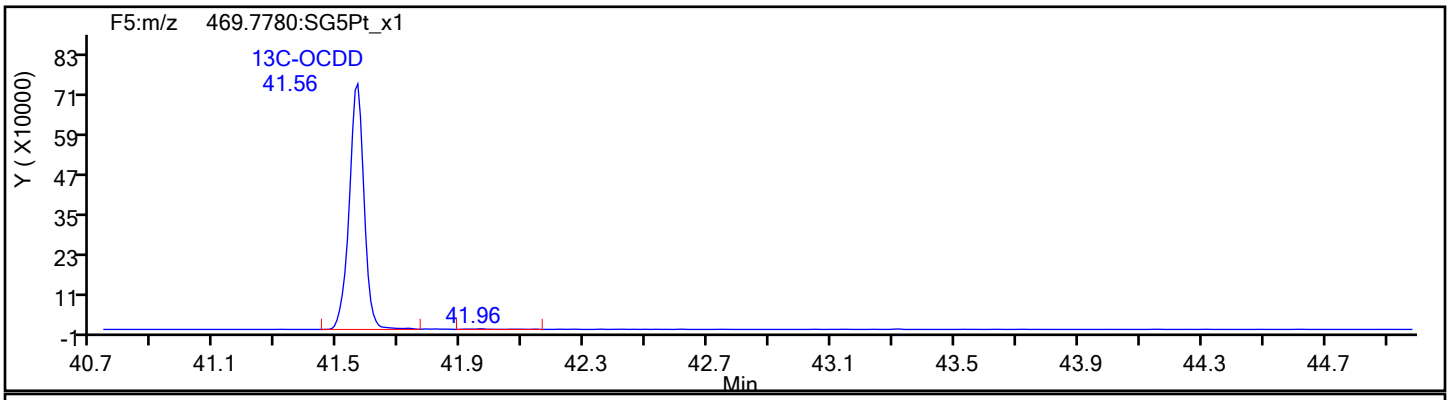
Column Type:	DB-5	Column Dia:	0.32 mm

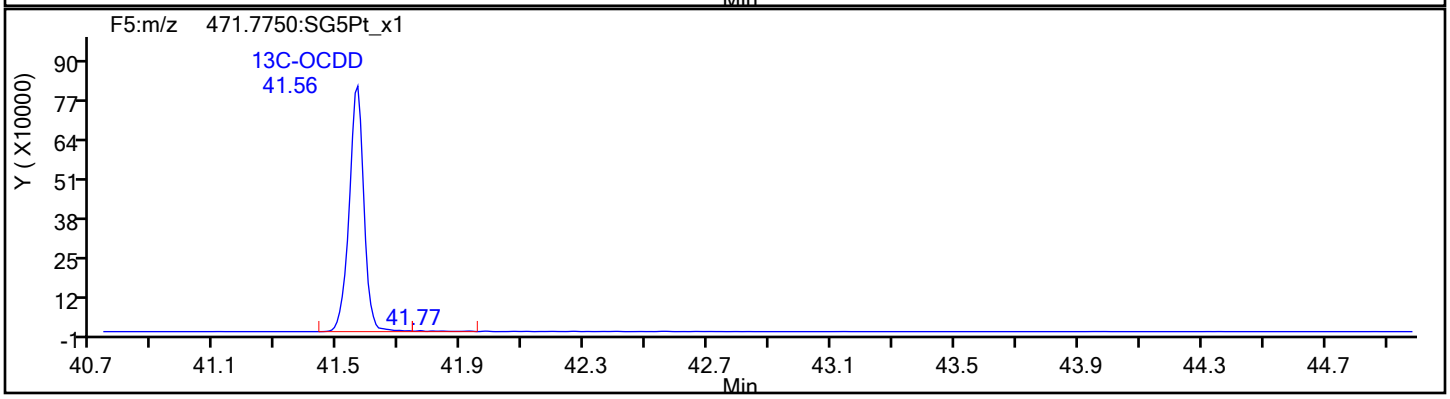
OCDF





OCDF Standards

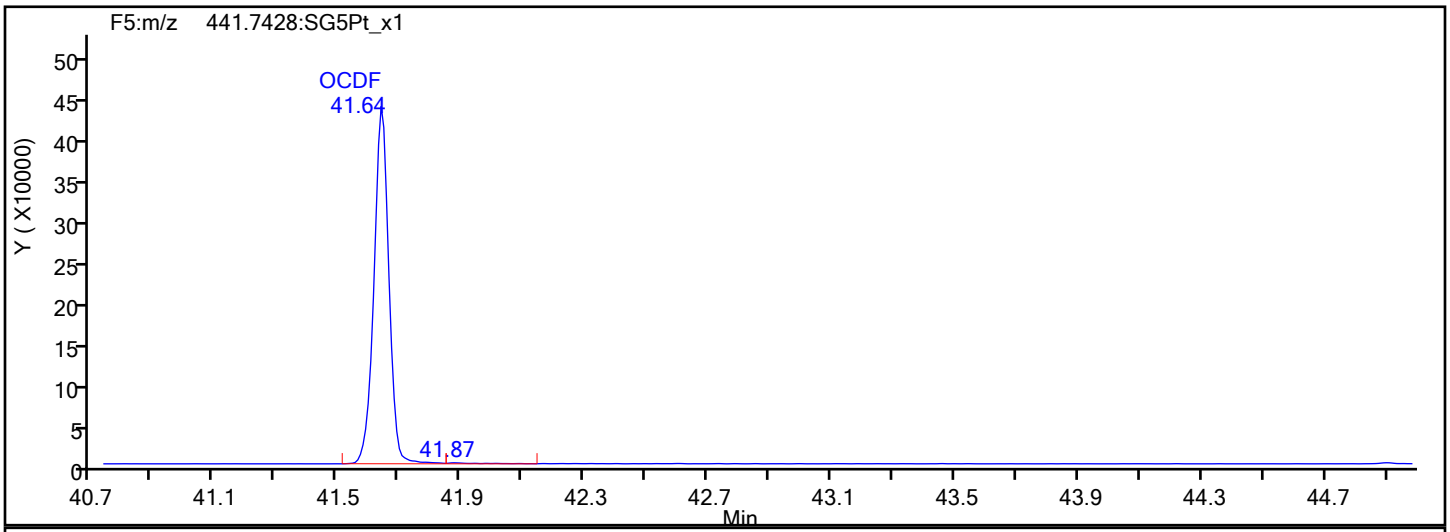


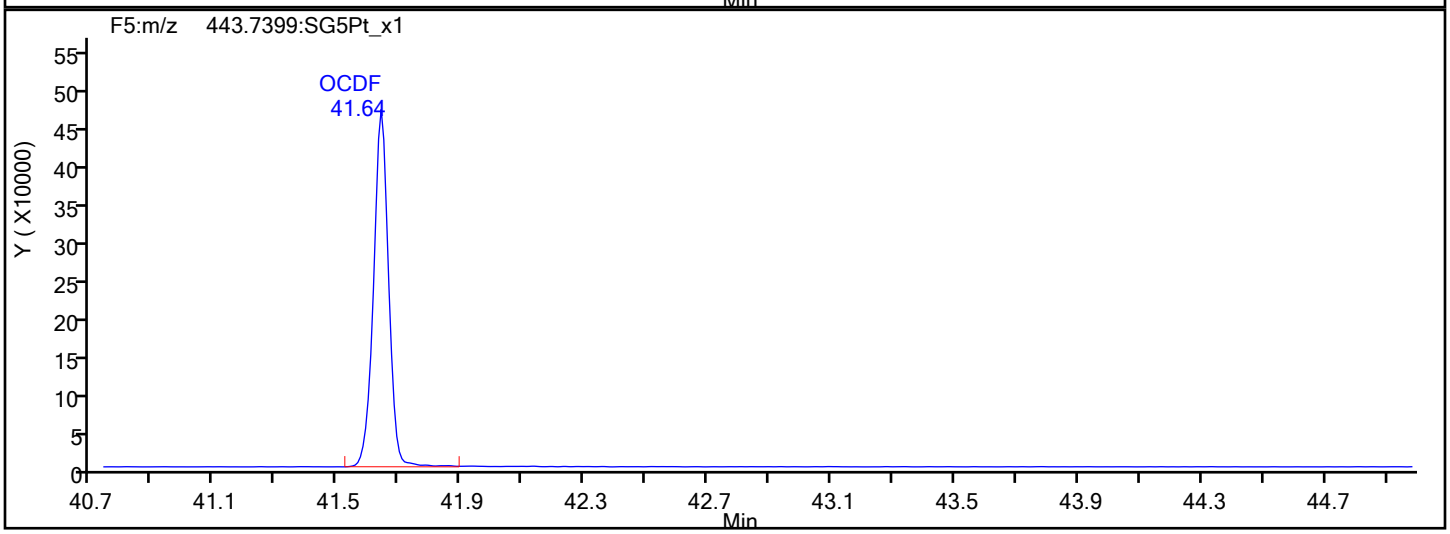


Eurofins Sacramento

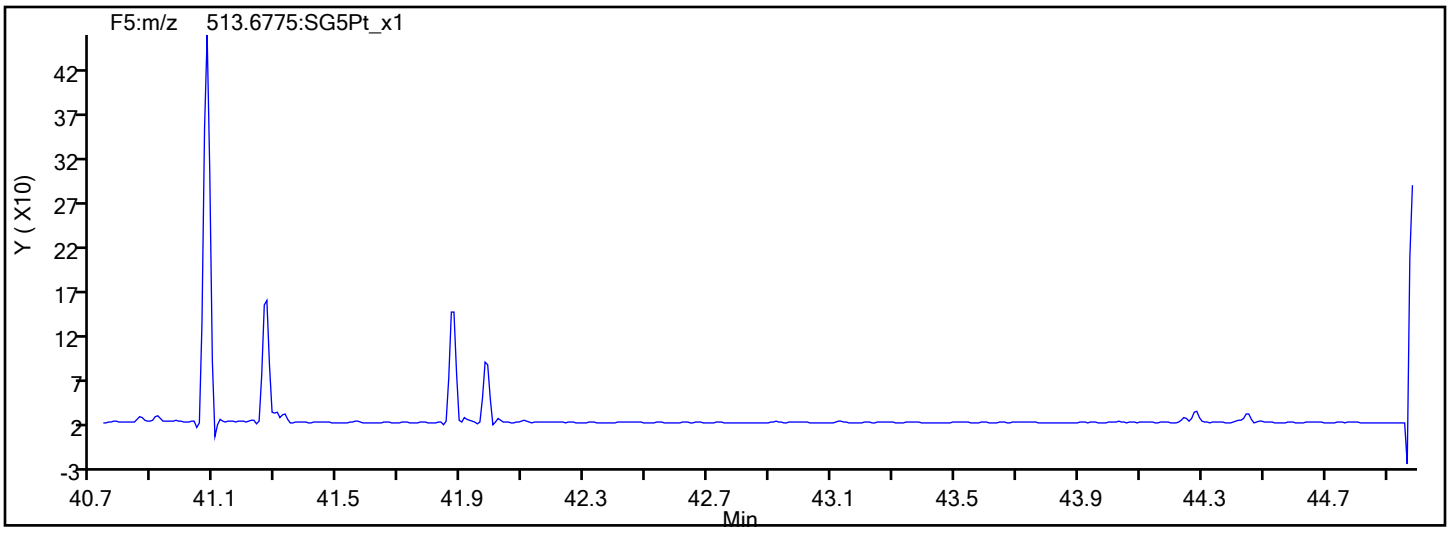
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d		
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



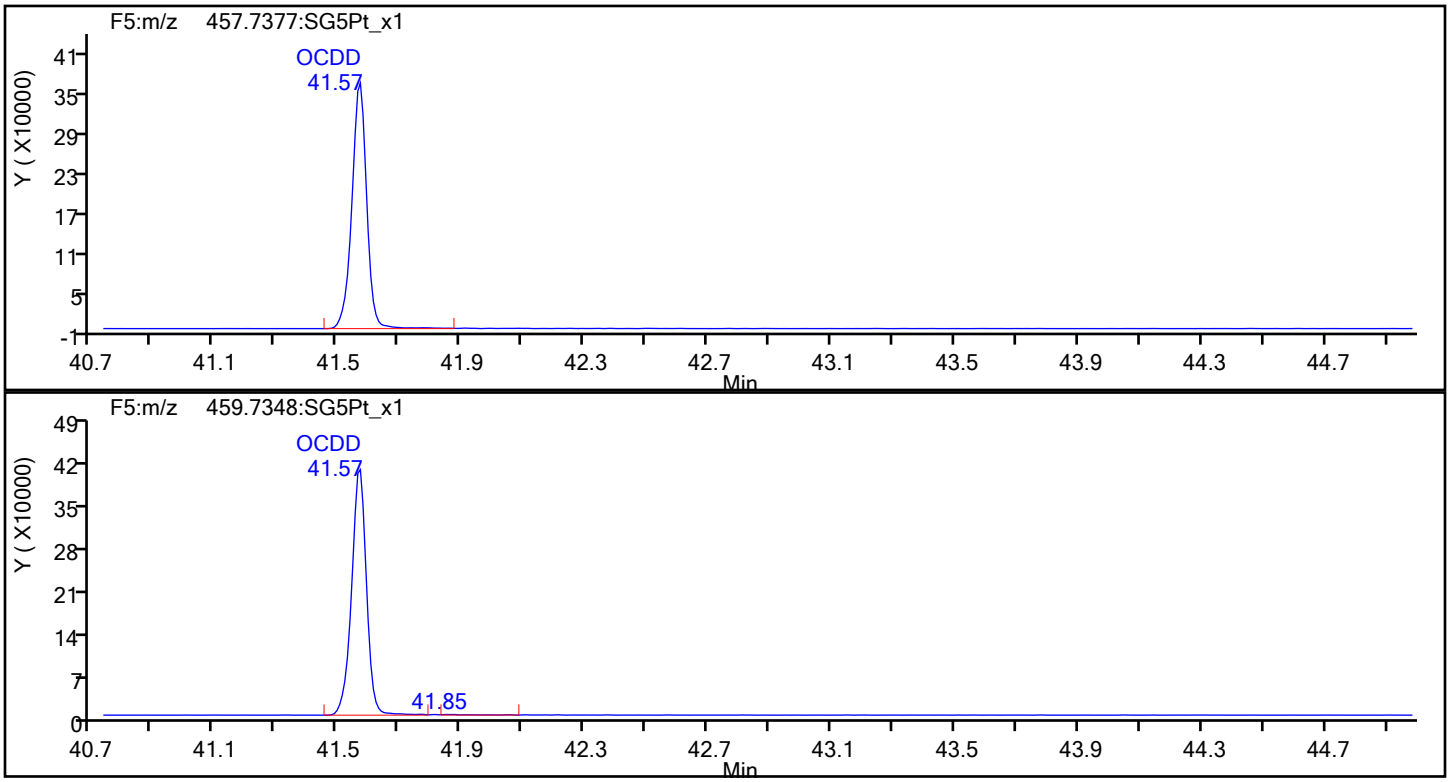
Report Date: 24-Jan-2022 13:10:51 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

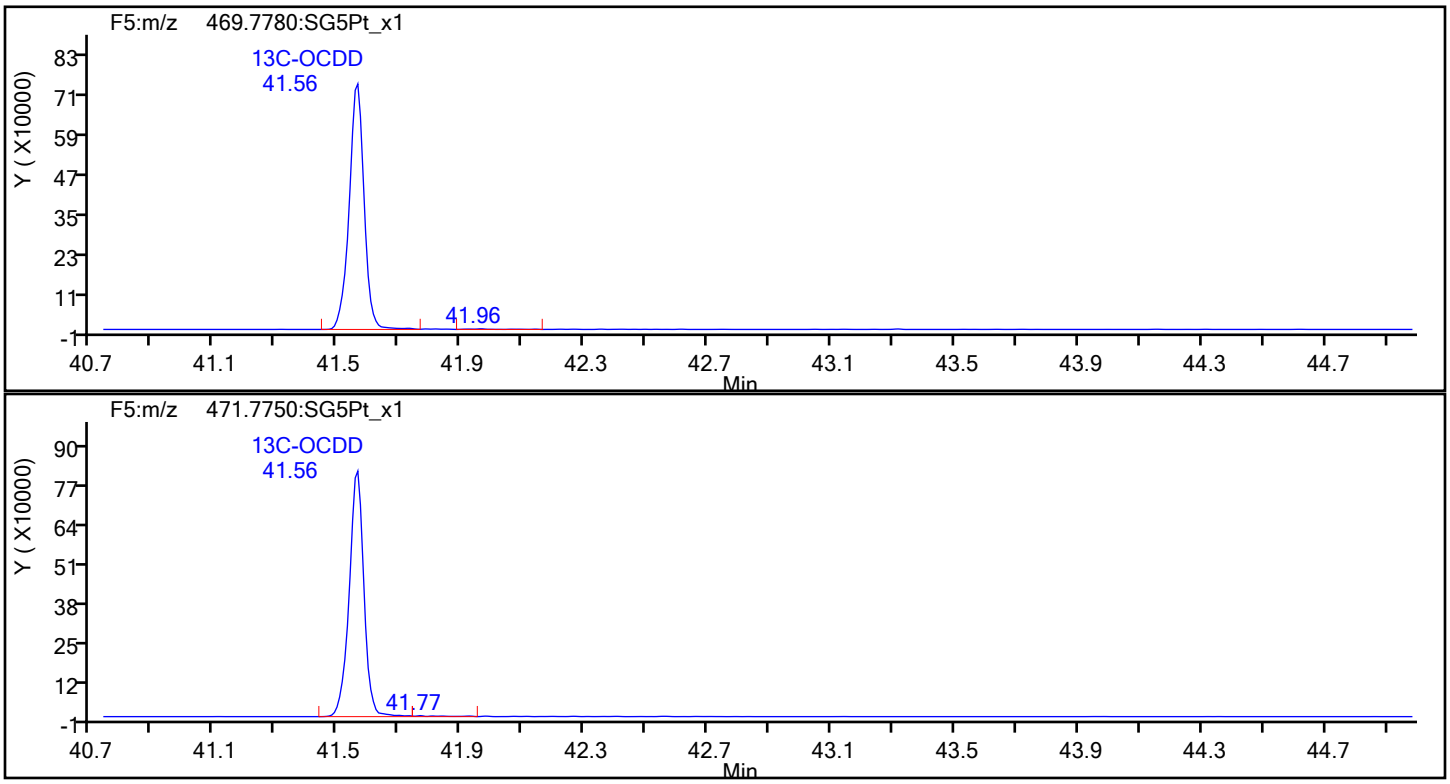
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d

Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD



OCDD Standards

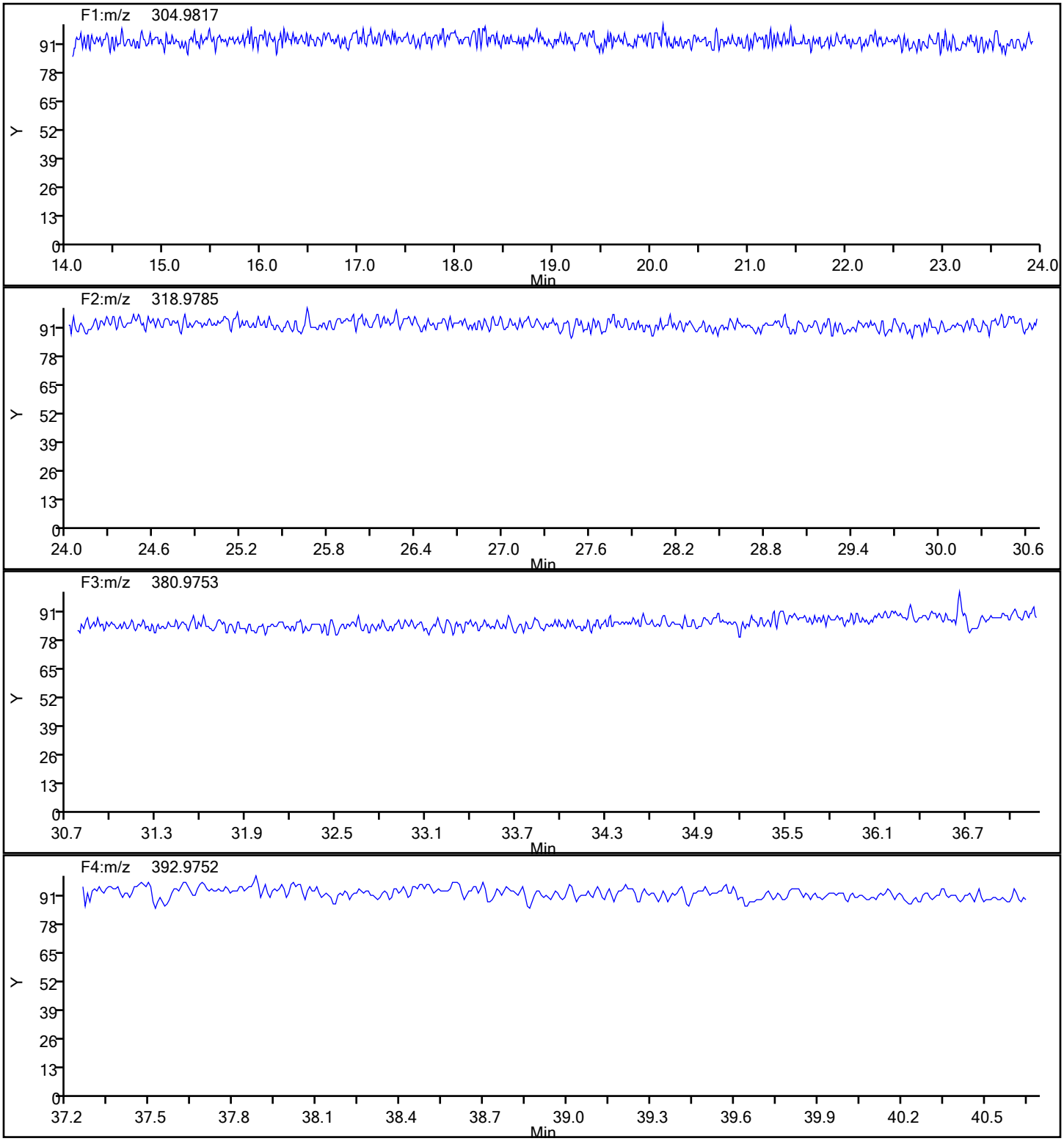


Report Date: 24-Jan-2022 13:10:51 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d

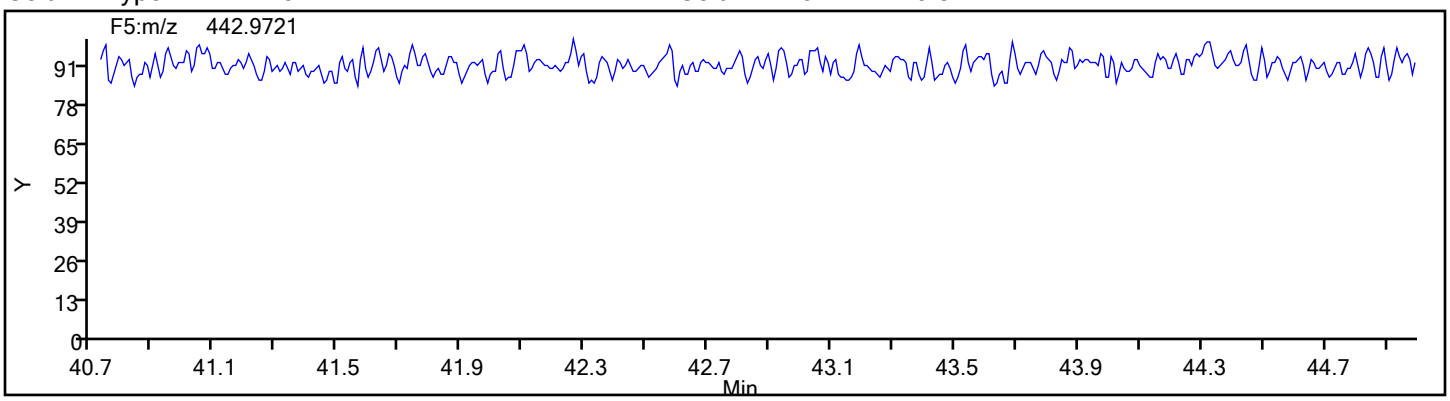
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 24-Jan-2022 13:10:51 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_42.d		
Injection Date:	21-Jan-2022 21:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Lab Sample ID: CCV 320-559800/15 Calibration Date: 01/22/2022 08:12

Instrument ID: DFS 1 Calib Start Date: 01/13/2022 17:16

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/13/2022 20:27

Lab File ID: 20ja22dfs1_55.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.012	0.9644		9.53	10.0	-4.7	20.0
2,3,7,8-TCDD	AveID	0.9906	0.9093		9.18	10.0	-8.2	20.0
1,2,3,7,8-PeCDF	AveID	0.9756	0.9171		47.0	50.0	-6.0	20.0
2,3,4,7,8-PeCDF	AveID	0.9215	0.8657		47.0	50.0	-6.1	20.0
1,2,3,7,8-PeCDD	AveID	1.002	0.9286		46.3	50.0	-7.3	20.0
1,2,3,4,7,8-HxCDF	AveID	0.8835	0.7954		45.0	50.0	-10.0	20.0
1,2,3,6,7,8-HxCDF	AveID	1.029	0.8845		43.0	50.0	-14.0	20.0
2,3,4,6,7,8-HxCDF	AveID	0.9878	0.9197		46.6	50.0	-6.9	20.0
1,2,3,4,7,8-HxCDD	AveID	0.8294	0.7677		46.3	50.0	-7.4	20.0
1,2,3,6,7,8-HxCDD	AveID	0.9395	0.8990		47.9	50.0	-4.3	20.0
1,2,3,7,8,9-HxCDD	AveID	0.9076	0.8490		46.8	50.0	-6.5	20.0
1,2,3,7,8,9-HxCDF	AveID	0.9071	0.8212		45.3	50.0	-9.5	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.439	1.352		47.0	50.0	-6.0	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9767	0.9070		46.4	50.0	-7.1	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.220	1.127		46.2	50.0	-7.6	20.0
OCDD	AveID	1.034	0.9867		95.4	100	-4.6	20.0
OCDF	AveID	1.276	1.188		93.1	100	-6.9	20.0
13C-2,3,7,8-TCDF	Ave	1.016	0.9719		95.6	100	-4.4	30.0
13C-2,3,7,8-TCDD	Ave	0.7884	0.7724		98.0	100	-2.0	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9232	0.9518		103	100	3.1	30.0
13C-2,3,4,7,8-PeCDF	Ave	1.079	1.218		104	100	12.9	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.5606	0.5845		104	100	4.3	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.057	1.029		97.4	100	-2.6	30.0
13C-1,2,3,6,7,8-HxCDF	Ave	0.9686	0.9046		93.4	100	-6.6	30.0
13C-2,3,4,6,7,8-HxCDF	Ave	0.9084	0.8732		96.1	100	-3.9	30.0
13C-1,2,3,4,7,8-HxCDD	Ave	0.8133	1.061		105	100	30.4*	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8027	0.7959		99.2	100	-0.8	30.0
13C-1,2,3,7,8,9-HxCDF	Ave	0.8248	0.8085		98.0	100	-2.0	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6421	0.6619		103	100	3.1	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.6246	0.6661		107	100	6.6	30.0
13C-1,2,3,4,7,8,9-HpCDF	AveID	1.171	1.237		106	100	5.7	30.0
13C-OCDD	Ave	0.4360	0.4695		215	200	7.7	30.0
37Cl4-2,3,7,8-TCDD	Ave	0.7911	0.8232		10.4	10.0	4.1	

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 22-Jan-2022 08:12:00 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 24-Jan-2022 12:21:02 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1631

First Level Reviewer: bilottag Date: 24-Jan-2022 08:00:29

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.968	5041587	0.81	3.5E+04	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.049	4899723	0.79	1.0164	95.6	95.6	0.4404	0.4404	95.62	
2,3,7,8-TCDF	19.066	472547	0.79	1.0120	9.530	9.530	0.0484	0.0484	95.30	
A Non-2,3,7,8-sub-TCDF	18.681						0.0484	0.0484		
S Total TCDF					9.530	9.530	0.0484	0.0484		
D 13C-2,3,7,8-TCDD	20.320	3894323	0.78	0.7884	98.0	98.0	0.4059	0.4059	97.98	
2,3,7,8-TCDD	20.337	354093	0.79	0.9906	9.179	9.179	0.0756	0.0756	91.79	
$ 37Cl4-2,3,7,8-TCDD	20.346	415014		0.7911	10.4	10.4	0.0343	0.0343	104	
A Non-2,3,7,8-sub-TCDD	19.472	6235	0.88	0.9906	0.1616	0.1616	0.0756	0.1616	0.00	
S Total TCDD					9.340	9.340	0.0756	0.0756		
D 13C-1,2,3,7,8-PeCDF	26.102	4798487	1.55	0.9232	103.1	103.1	0.5434	0.5434	103	
1,2,3,7,8-PeCDF	26.118	2200451	1.59	0.9756	47.0	47.0	0.2092	0.2092	94.01	
$ 13C-2,3,4,7,8-PeCDF	27.525	5846496	1.62	1.1692	104.2	104.2	0.4143	0.4143	104	
2,3,4,7,8-PeCDF	27.559	2077009	1.55	0.9215	47.0	47.0	0.2215	0.2215	93.94	
A F1 PeCDFs	23.366	157	1.55	0.9486	0.1237	0.003449	0.0138	0.0138	0.00	RQ
A Non-2,3,7,8-sub-PeCDF	26.758						0.2152	0.2152		Rn
S Total PeCDF					94.1	94.0	0.2153	0.2153		RQ
D 13C-1,2,3,7,8-PeCDD	28.308	2946695	1.54	0.5606	104.3	104.3	0.1960	0.1960	104	
1,2,3,7,8-PeCDD	28.333	1368192	1.57	1.0020	46.3	46.3	0.0937	0.0937	92.68	
A Non-2,3,7,8-sub-PeCDD	27.171						0.0937	0.0937		Rn
S Total PeCDD					46.3	46.3	0.0937	0.0937		
D 13C-1,2,3,4,7,8-HxCDF	34.012	4170821	0.53	1.0566	97.4	97.4	0.3242	0.3242	97.39	
1,2,3,4,7,8-HxCDF	34.029	1658740	1.26	0.8835	45.0	45.0	0.1759	0.1759	90.03	
D 13C-1,2,3,6,7,8-HxCDF	34.198	3666723	0.51	0.9686	93.4	93.4	0.3536	0.3536	93.40	
1,2,3,6,7,8-HxCDF	34.215	1844541	1.26	1.0287	43.0	43.0	0.1511	0.1511	85.98	
D 13C-2,3,4,6,7,8-HxCDF	35.124	3539329	0.52	0.9084	96.1	96.1	0.3771	0.3771	96.13	
2,3,4,6,7,8-HxCDF	35.149	1918011	1.24	0.9878	46.6	46.6	0.1574	0.1574	93.11	
D 13C-1,2,3,7,8,9-HxCDF	36.109	3277022	0.51	0.8248	98.0	98.0	0.4153	0.4153	98.03	
1,2,3,7,8,9-HxCDF	36.117	1712449	1.23	0.9071	45.3	45.3	0.1714	0.1714	90.53	
A Non-2,3,7,8-sub-HxCDF	34.054						0.1633	0.1633		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					179.8	179.8	0.1639	0.1639		
* 13C-1,2,3,7,8,9-HxCDD	35.907	4053198	1.23	2.5E+04	100.0	100.0				
$ 13C-1,2,3,4,7,8-HxCDD	35.385	3421789	1.26	1.0143	104.6	104.6	0.3035	0.3035	105	
1,2,3,4,7,8-HxCDD	35.402	1238165	1.22	0.8294	46.3	46.3	0.1034	0.1034	92.56	
D 13C-1,2,3,6,7,8-HxCDD	35.511	3225752	1.25	0.8027	99.2	99.2	0.2771	0.2771	99.15	
1,2,3,6,7,8-HxCDD	35.528	1450006	1.24	0.9395	47.8	47.8	0.0913	0.0913	95.70	
1,2,3,7,8,9-HxCDD	35.924	1369342	1.23	0.9076	46.8	46.8	0.0945	0.0945	93.54	
A Non-2,3,7,8-sub-HxCDD	34.551						0.0961	0.0961		
S Total HxCDD					140.9	140.9	0.0964	0.0964		
D 13C-1,2,3,4,6,7,8-HpCDF	38.082	2682655	0.43	0.6421	103.1	103.1	0.5499	0.5499	103	
1,2,3,4,6,7,8-HpCDF	38.099	1813301	1.04	1.4385	47.0	47.0	0.1737	0.1737	93.98	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.395	3318885	0.45	1.1706	105.7	105.7	0.3649	0.3649	106	
1,2,3,4,7,8,9-HpCDF	39.404	1512029	1.04	1.2202	46.2	46.2	0.2047	0.2047	92.38	
A Non-2,3,7,8-sub-HpCDF	38.753						0.1879	0.1879		
S Total HpCDF					93.2	93.2	0.1892	0.1892		
D 13C-1,2,3,4,6,7,8-HpCDD	39.084	2699870	1.11	0.6246	106.6	106.6	0.3196	0.3196	107	
1,2,3,4,6,7,8-HpCDD	39.092	1224382	1.05	0.9767	46.4	46.4	0.0961	0.0961	92.87	
A Non-2,3,7,8-sub-HpCDD	38.770						0.0961	0.0961		n
S Total HpCDD					46.4	46.4	0.0961	0.0961		
D 13C-OCDD	41.564	3805636	0.91	0.4360	215.3	215.3	0.2512	0.2512	108	
OCDF	41.640	2259716	0.90	1.2756	93.1	93.1	0.1132	0.1132	93.10	
OCDD	41.572	1877517	0.89	1.0341	95.4	95.4	0.0951	0.0951	95.41	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
a - User Assigned ID

Reagents:

HRDXNL4_00105 Amount Added: 1.00 Units: uL

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 22-Jan-2022 08:12:00 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00105
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 24-Jan-2022 12:21:02 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1631

First Level Reviewer: bilottag Date: 24-Jan-2022 08:00:29

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	19.968	19.968	0		2256176	345151	611	1527	565		a
333.9338	19.959	19.968	-1		2785411	428263	379	947	1130	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.049	19.049	0	0.954	2165104	323589	885	2212	366		
317.9389	19.058	19.049	1	0.954	2734619	414903	500	1250	830	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.066	19.066	0	1.001	208903	29356	36	90	815		
305.8987	19.083	19.066	1	1.002	263644	39989	109	272	367	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.681						36	90			
305.8987	18.681						109	272			
13C-2,3,7,8-TCDD											
331.9368	20.320	20.320	0	1.018	1702288	239677	611	1527	392		
333.9338	20.311	20.320	-1	1.017	2192035	301460	379	947	795	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.337	20.337	0	1.001	156477	21578	115	287	188		
321.8936	20.346	20.337	1	1.001	197616	28137	47	117	599	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.346	20.346	0	1.019	415014	60593	84	210	721		
A Non-2,3,7,8-sub-TCDD											
319.8965	20.672	19.472	72	1.017	2922	705	115	287	6		
321.8936	20.681	19.472	72	1.018	3313	498	47	117	11	0.88(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.102	26.102	0	1.307	2918478	488434	977	2442	500		
353.8970	26.102	26.102	0	1.307	1880009	312663	575	1437	544	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.118	26.118	0	1.001	1350585	214836	333	832	645		
341.8567	26.118	26.118	0	1.001	849866	139382	321	802	434	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.525	27.525	0	1.055	3611357	537154	977	2442	550		
353.8970	27.525	27.525	0	1.055	2235139	355208	575	1437	618	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.559	27.559	0	1.056	1260898	188375	333	832	566		
341.8567	27.550	27.559	-1	1.055	816111	124645	321	802	388	1.55(1.32-1.78)	
A F1 PeCDFs											RQ
339.8597	23.300	23.366	-4	0.893	29	18	1	2	18		
341.8567	23.300	23.366	-4	0.893	674	228	41	102	6	0.04(1.32-1.78)	
	Empc Correction				18	11	41	102	0		
339.8597	23.420	23.366	3	0.897	39	25	1	2	25		
341.8567	23.403	23.366	2	0.897	733	254	41	102	6	0.05(1.32-1.78)	
	Empc Correction				25	16	41	102	0		
339.8597	23.678	23.366	19	0.907	28	12	1	2	12		
341.8567	23.660	23.366	18	0.906	4127	569	41	102	14	0.01(1.32-1.78)	
	Empc Correction				18	7	41	102	0		
A Non-2,3,7,8-sub-PeCDF											
339.8597	26.674	26.757	-5	1.022	18846	2738	333	832	8		
341.8567	26.632	26.757	-7	1.020	9215	1384	321	802	4	2.05(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.308	28.308	0	1.418	1786965	271504	182	455	1492		
369.8919	28.308	28.308	0	1.418	1159730	172486	158	395	1092	1.54(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.333	28.333	0	1.001	836359	124060	107	267	1159		
357.8516	28.333	28.333	0	1.001	531833	75545	60	150	1259	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	29.360	27.171	131	1.037	4020	372	107	267	3		
357.8516	29.369	27.171	132	1.037	1517	262	60	150	4	2.65(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.012	34.012	0	0.947	1439700	254458	527	1317	483		
385.8610	34.012	34.012	0	0.947	2731121	512374	705	1762	727	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.029	34.029	0	1.000	924149	164587	268	670	614		
375.8178	34.029	34.029	0	1.000	734591	137356	209	522	657	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.198	34.198	0	0.952	1243585	217016	527	1317	412		
385.8610	34.198	34.198	0	0.952	2423138	405300	705	1762	575	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.215	34.215	0	1.006	1028687	176231	268	670	658		
375.8178	34.215	34.215	0	1.006	815854	134052	209	522	641	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.124	35.124	0	0.978	1215156	237703	527	1317	451		
385.8610	35.132	35.124	1	0.978	2324173	452430	705	1762	642	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,6,7,8-HxCDF											
373.8208	35.149	35.149	0	1.033	1062226	203061	268	670	758		
375.8178	35.149	35.149	0	1.033	855785	168370	209	522	806	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.109	36.109	0	1.006	1109063	249985	527	1317	474		
385.8610	36.109	36.109	0	1.006	2167959	473721	705	1762	672	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.117	36.117	0	1.062	943887	199837	268	670	746		
375.8178	36.117	36.117	0	1.062	768562	165165	209	522	790	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.054						268	670			
375.8178	34.054						209	522			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.907	35.907	0		2236160	499003	519	1297	961		
403.8529	35.907	35.907	0		1817038	400188	281	702	1424	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.385	35.385	0	0.996	1909044	452395	519	1297	872		
403.8529	35.385	35.385	0	0.996	1512745	334873	281	702	1192	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.402	35.402	0	0.997	681195	156487	114	285	1373		
391.8127	35.402	35.402	0	0.997	556970	126583	109	272	1161	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.511	35.511	0	0.989	1792226	360212	519	1297	694		
403.8529	35.511	35.511	0	0.989	1433526	289422	281	702	1030	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.528	35.528	0	1.000	802183	164018	114	285	1439		
391.8127	35.528	35.528	0	1.000	647823	132883	109	272	1219	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	35.924	35.924	0	1.012	754853	160207	114	285	1405		
391.8127	35.924	35.924	0	1.012	614489	134805	109	272	1237	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.551						114	285			
391.8127	34.551						109	272			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.082	38.082	0	1.061	809416	225393	484	1210	466		
419.8220	38.082	38.082	0	1.061	1873239	517945	786	1965	659	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.099	38.099	0	1.000	923875	251936	379	947	665		
409.7788	38.091	38.099	-1	1.000	889426	249423	364	910	685	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.395	39.395	0	1.034	1031607	320770	484	1210	663		
419.8220	39.387	39.395	-1	1.034	2287278	704320	786	1965	896	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.404	39.404	0	1.035	771050	238230	379	947	629		
409.7788	39.395	39.404	-1	1.034	740979	222785	364	910	612	1.04(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.753						379	947			
409.7788	38.753						364	910			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.084	39.084	0	1.088	1422002	446554	366	915	1220		
437.8140	39.084	39.084	0	1.088	1277868	397433	352	880	1129	1.11(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.092	39.092	0	1.000	627029	190940	173	432	1104		
425.7737	39.092	39.092	0	1.000	597353	184042	144	360	1278	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.436	38.770	-20	0.983	4075	1193	173	432	7		
425.7737	38.427	38.770	-21	0.983	4621	1307	144	360	9	0.88(0.88-1.20)	
13C-OCDD											
469.7780	41.564	41.564	0	1.158	1810139	549624	176	440	3123		
471.7750	41.564	41.564	0	1.158	1995497	623715	218	545	2861	0.91(0.76-1.02)	
OCDF											
441.7428	41.640	41.640	0	1.002	1070350	327093	155	387	2110		
443.7399	41.640	41.640	0	1.002	1189366	365896	184	460	1989	0.90(0.76-1.02)	
OCDD											
457.7377	41.572	41.572	0	1.000	884957	267165	115	287	2323		
459.7348	41.572	41.572	0	1.000	992560	305812	116	290	2636	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

n - Failed Sig-To-Noise Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

a - User Assigned ID

Reagents:

HRDXNL4_00105 Amount Added: 1.00 Units: uL

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d
Lims ID: CCV
Client ID:
Inject. Date: 22-Jan-2022 08:12:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 15
Sublist: chrom-Dioxin_DFS1*sub1

Non-2,3,7,8-sub-TCDD, RT: 19.472

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.991	D 13C-2,3,7,8-TCDD	100.000	3894323	541137

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.991		100.000	3894323	541137

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
20.672	2922	705	3313	498	0.1616	0.88	n
Signal Totals:							
	2922	705	3313	498			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6235	1203				0.88	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1616 = (6235 * 100.000) / (3894323 * 0.991)

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d
Lims ID: CCV
Client ID:
Inject. Date: 22-Jan-2022 08:12:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 15
Sublist: chrom-Dioxin_DFS1*sub1

F1 PeCDFs, RT: 23.366

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	4798487	801097
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	4798487	801097

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.300	29	18	674	228	0.0154	0.04	RnQ
23.300	29	18	18	11	0.001033		Empc Correction
23.420	39	25	733	254	0.0170	0.05	RnQ
23.420	39	25	25	16	0.001406		Empc Correction
23.678	28	12	4127	569	0.0913	0.01	RQ
23.678	28	12	18	7	0.001011		Empc Correction
Signal Totals:							
	96	55	61	34			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5630	1106				0.02	RQ
	157	89					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1237 = (5630 * 100.000) / (4798487 * 0.949)
Empc Amount: 0.003449 = (157 * 100.000) / (4798487 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
n - Failed Sig-To-Noise Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

Eurofins Sacramento

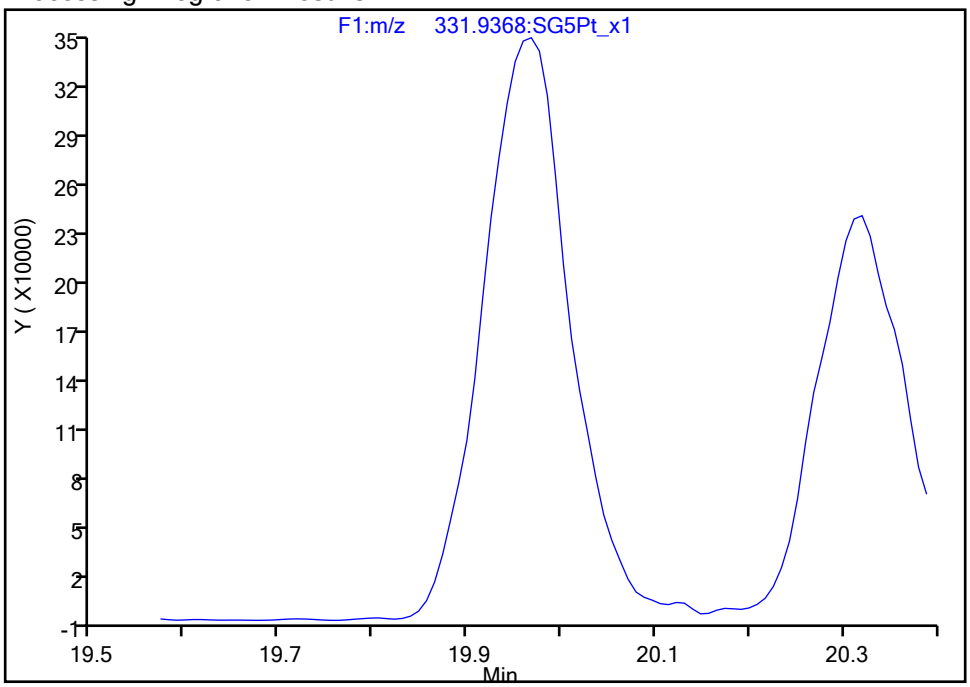
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d
Injection Date: 22-Jan-2022 08:12:00 Instrument ID: DFS 1
Lims ID: CCV
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

13C-1,2,3,4-TCDD, CAS: 114423-99-3

Signal: 1

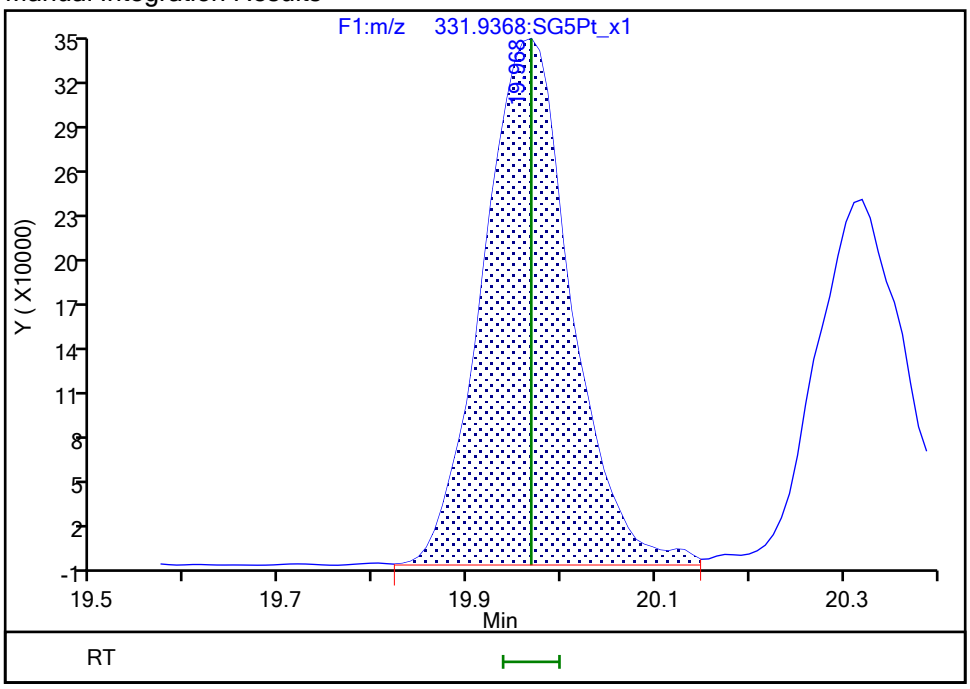
Not Detected
Expected RT: 19.97

Processing Integration Results



Manual Integration Results

RT: 19.97
Area: 2256176
Amount: 100.0000
Amount Units: pg/ul

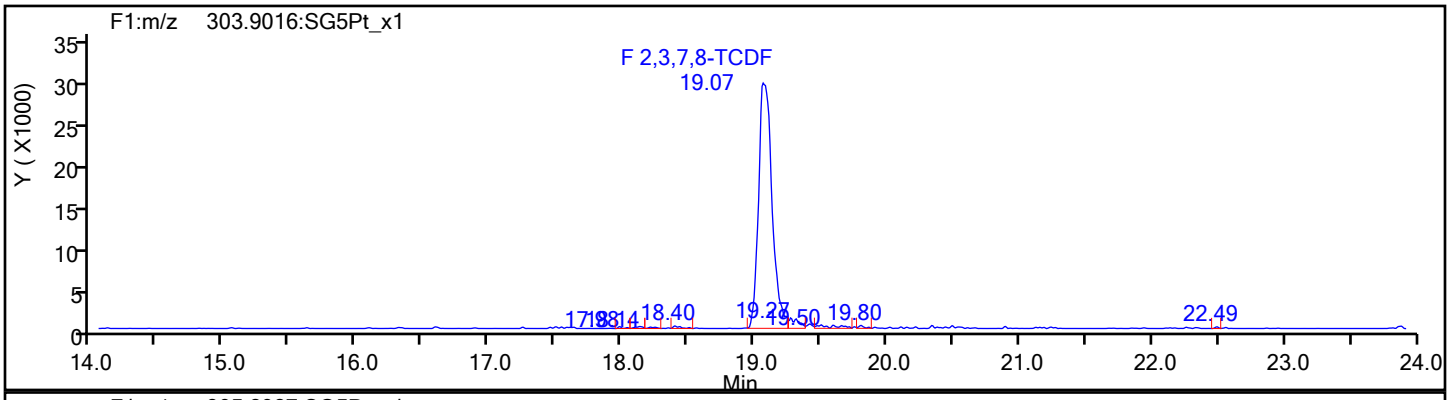


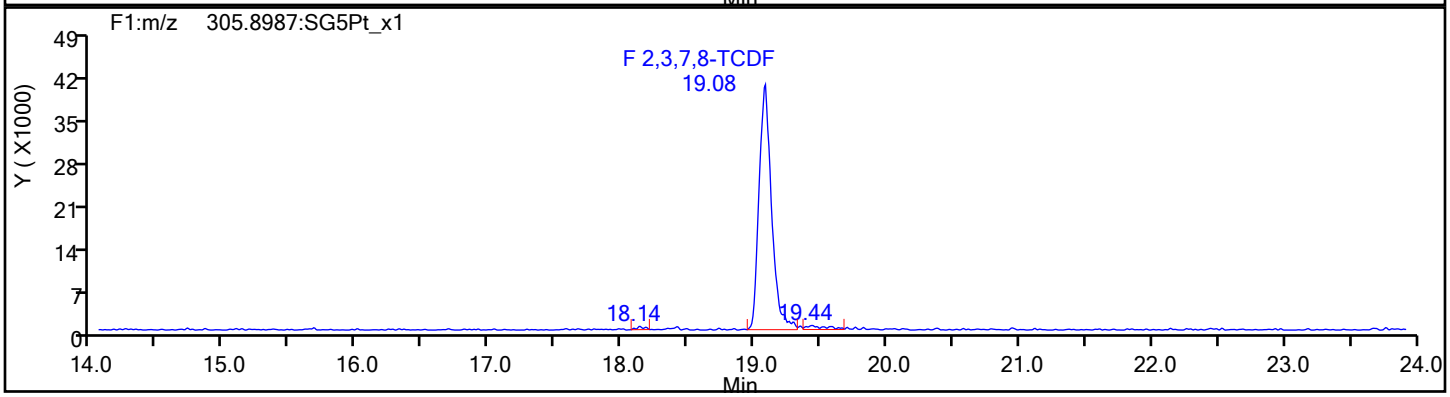
Reviewer: bilottag, 24-Jan-2022 07:59:47
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins Sacramento

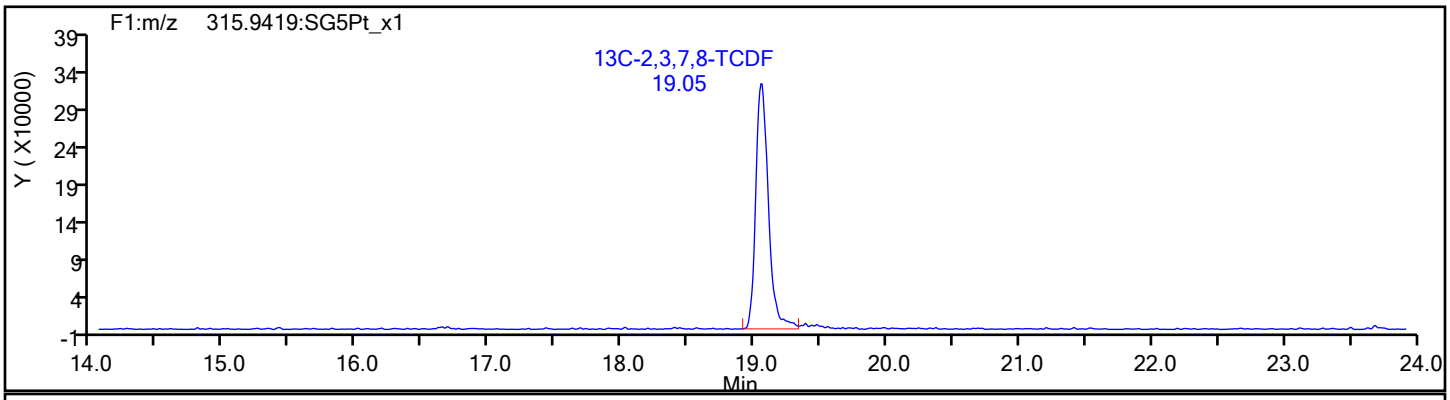
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d		
Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

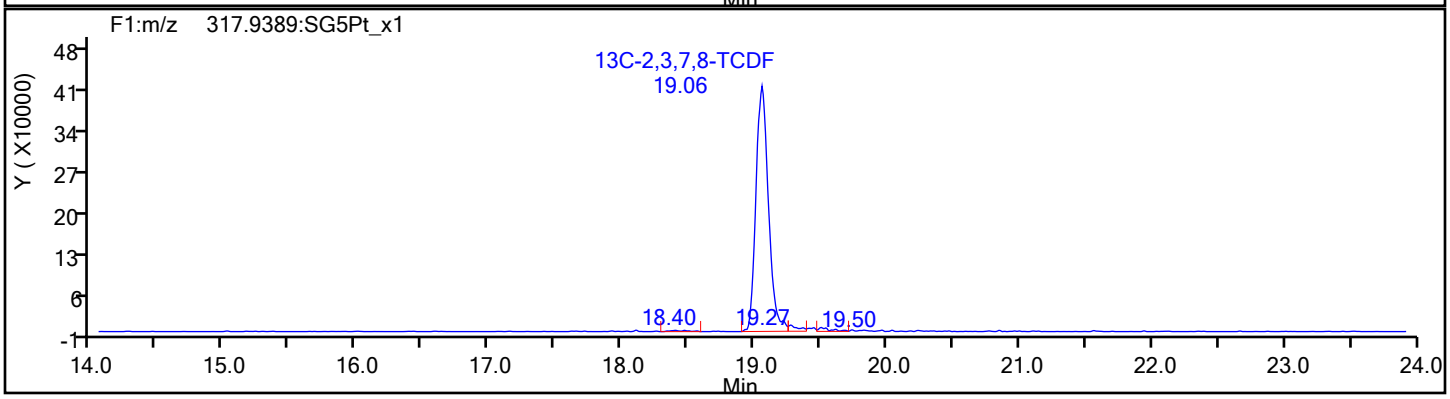
TCDF





TCDF Standards

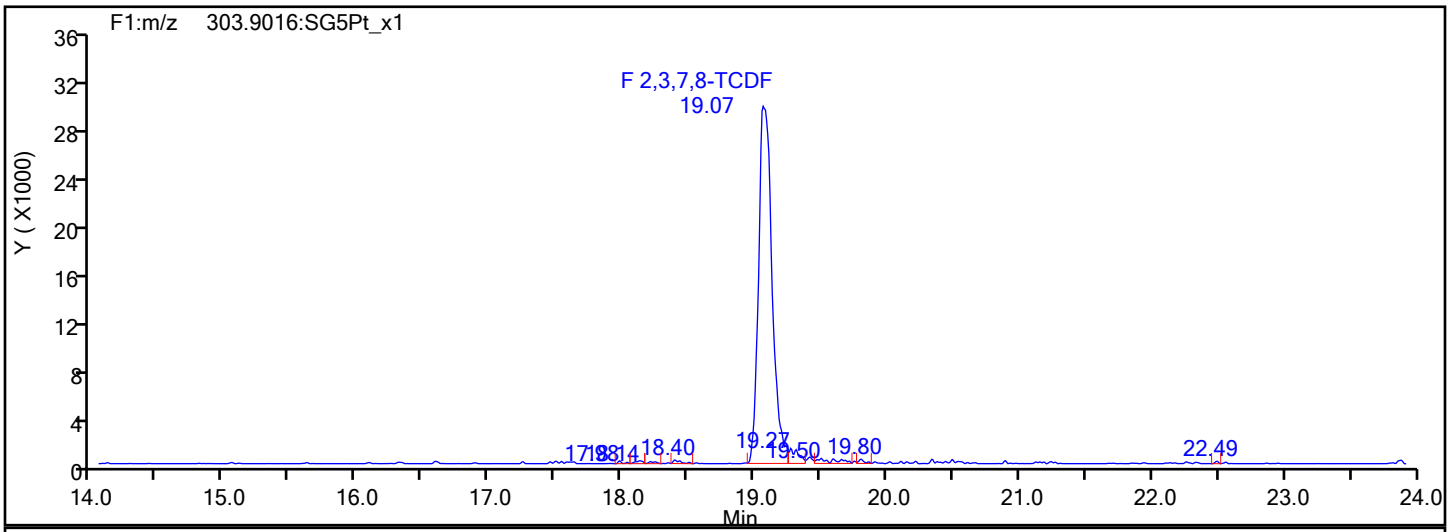


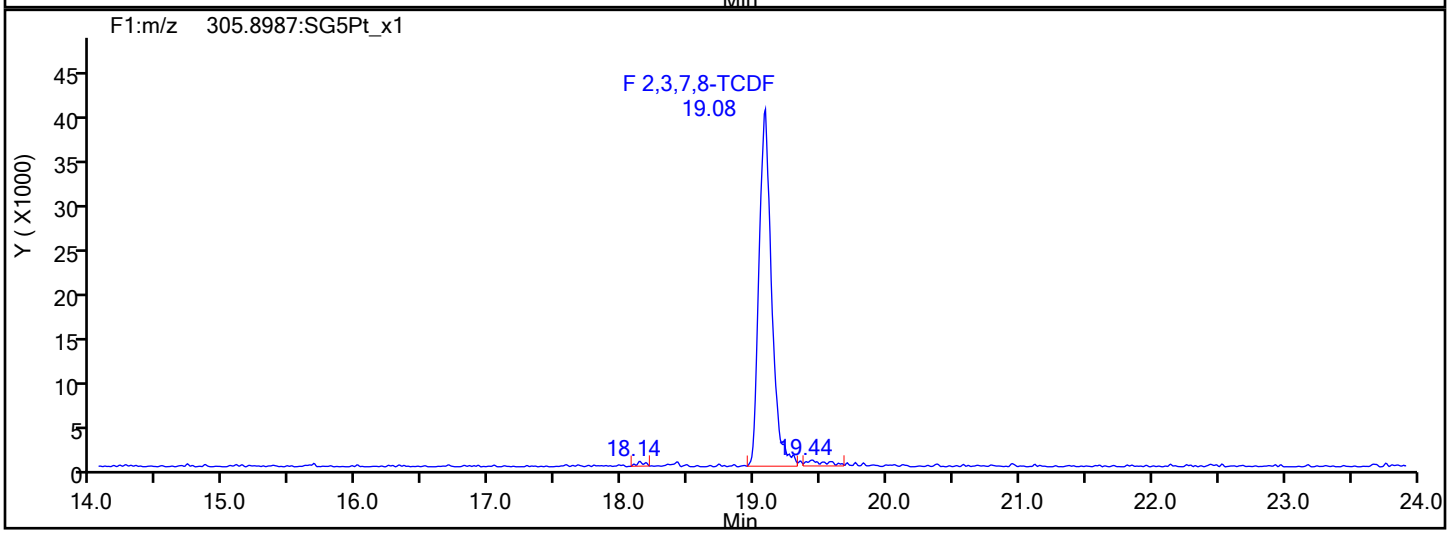


Eurofins Sacramento

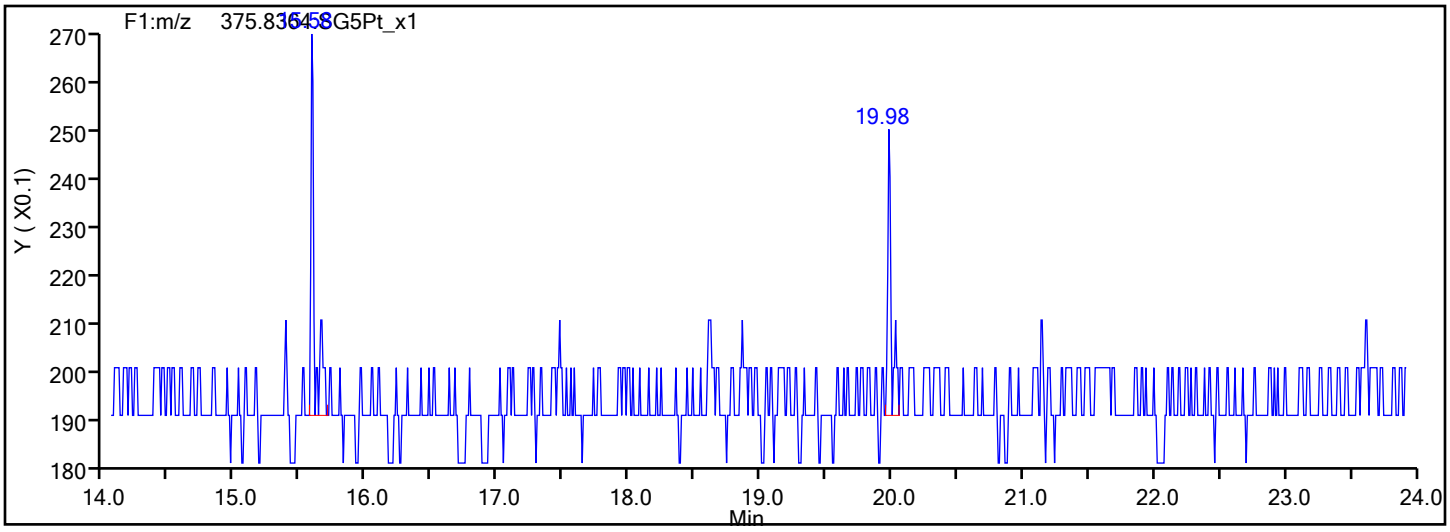
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d		
Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



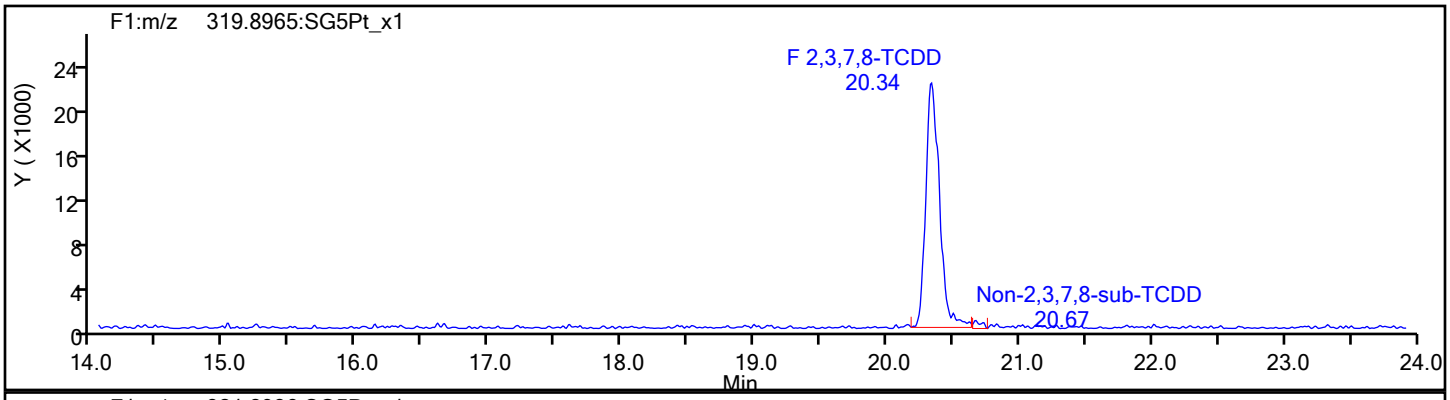
Report Date: 24-Jan-2022 12:21:02 Chrom Revision: 2.3 18-Jan-2022 20:25:40

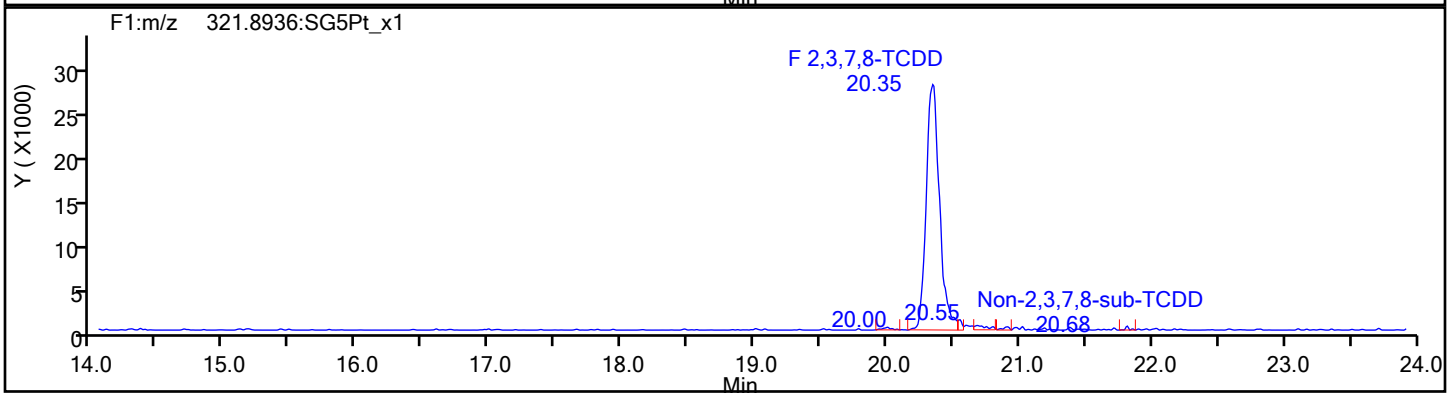
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d

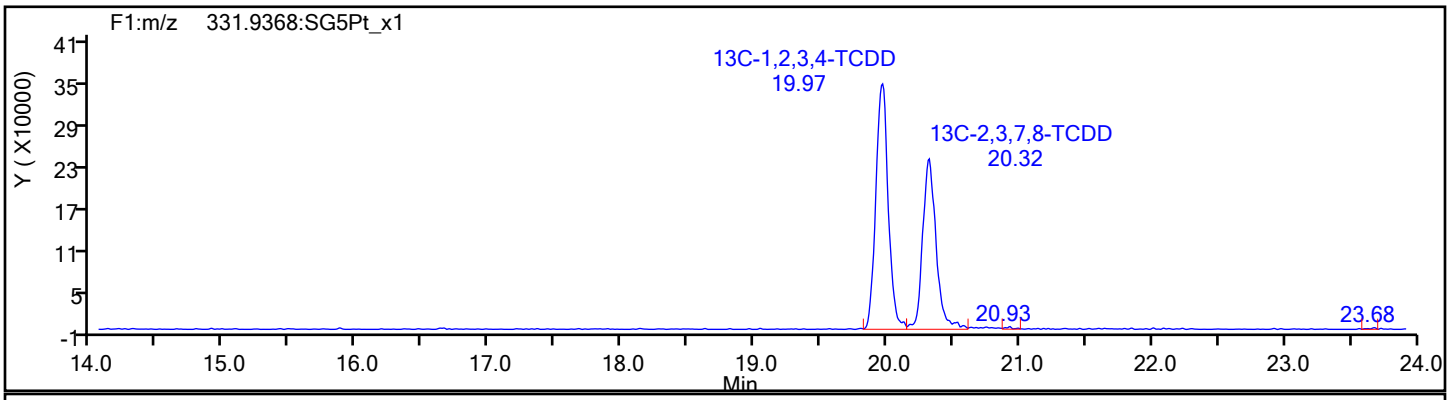
Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

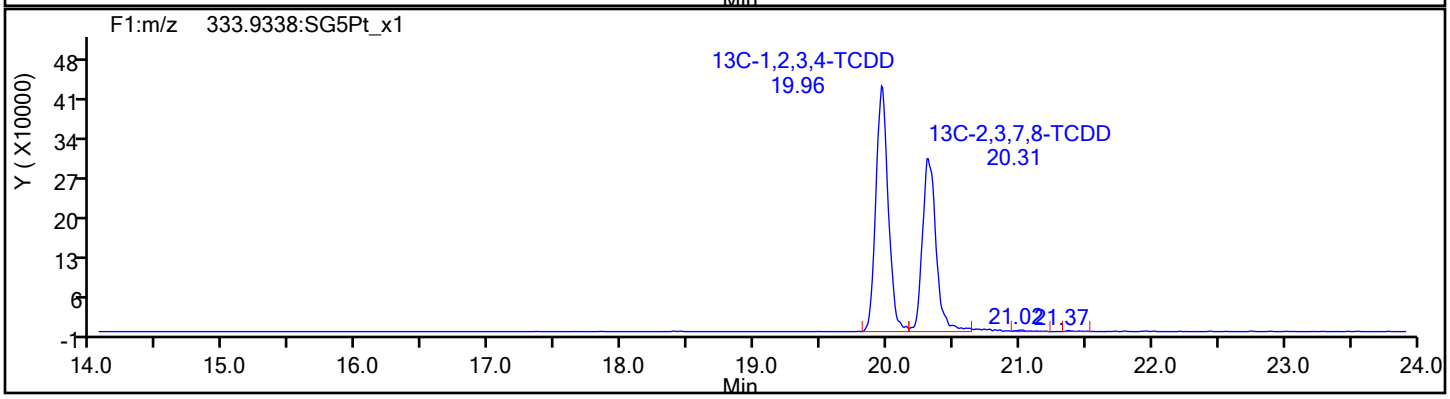
TCDD





TCDD Standards





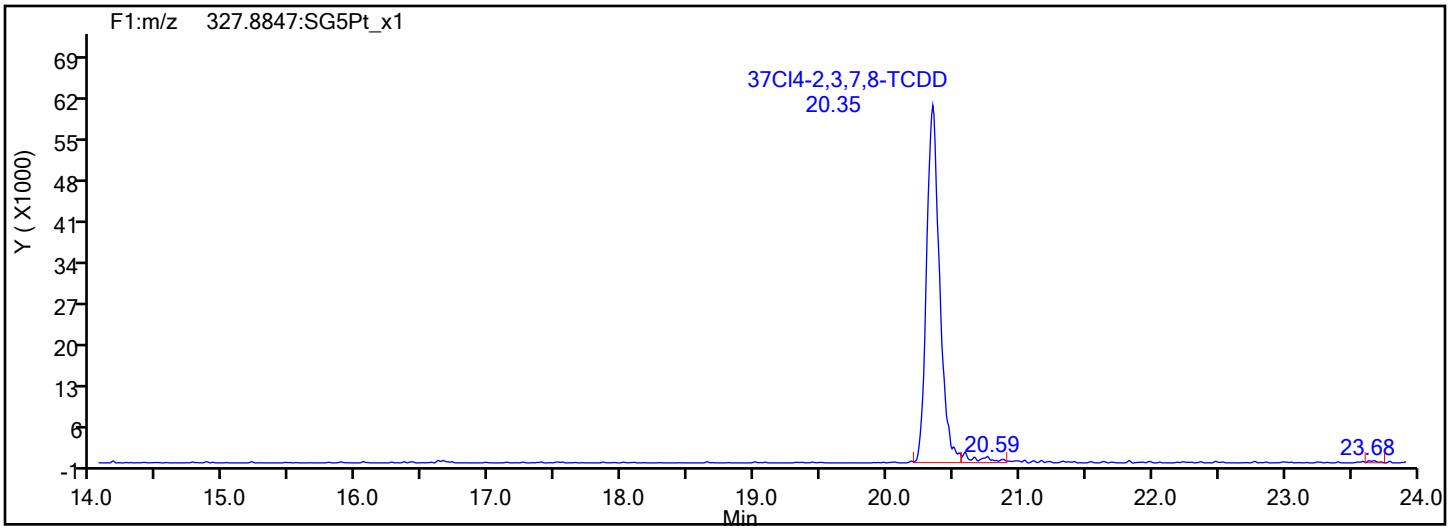
Report Date: 24-Jan-2022 12:21:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

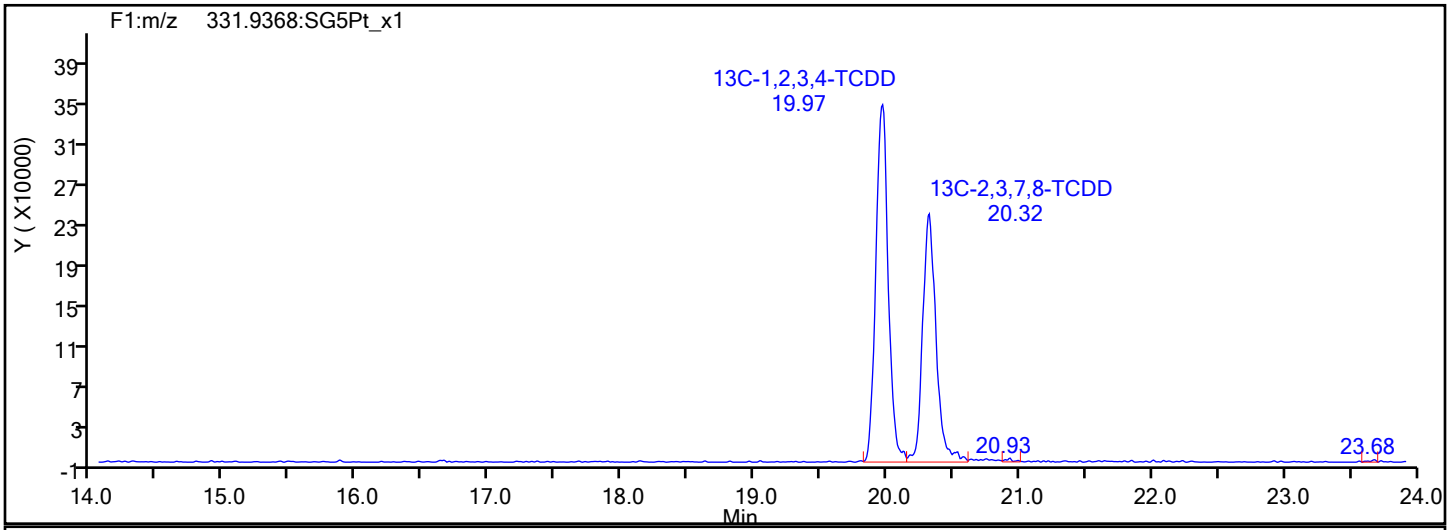
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d

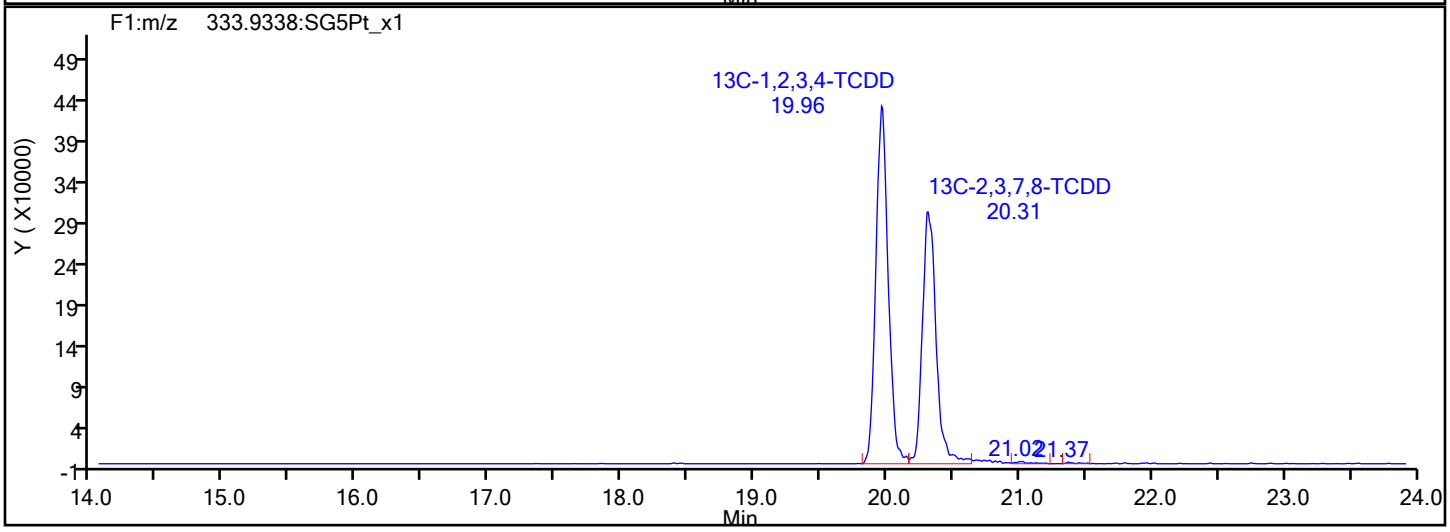
Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





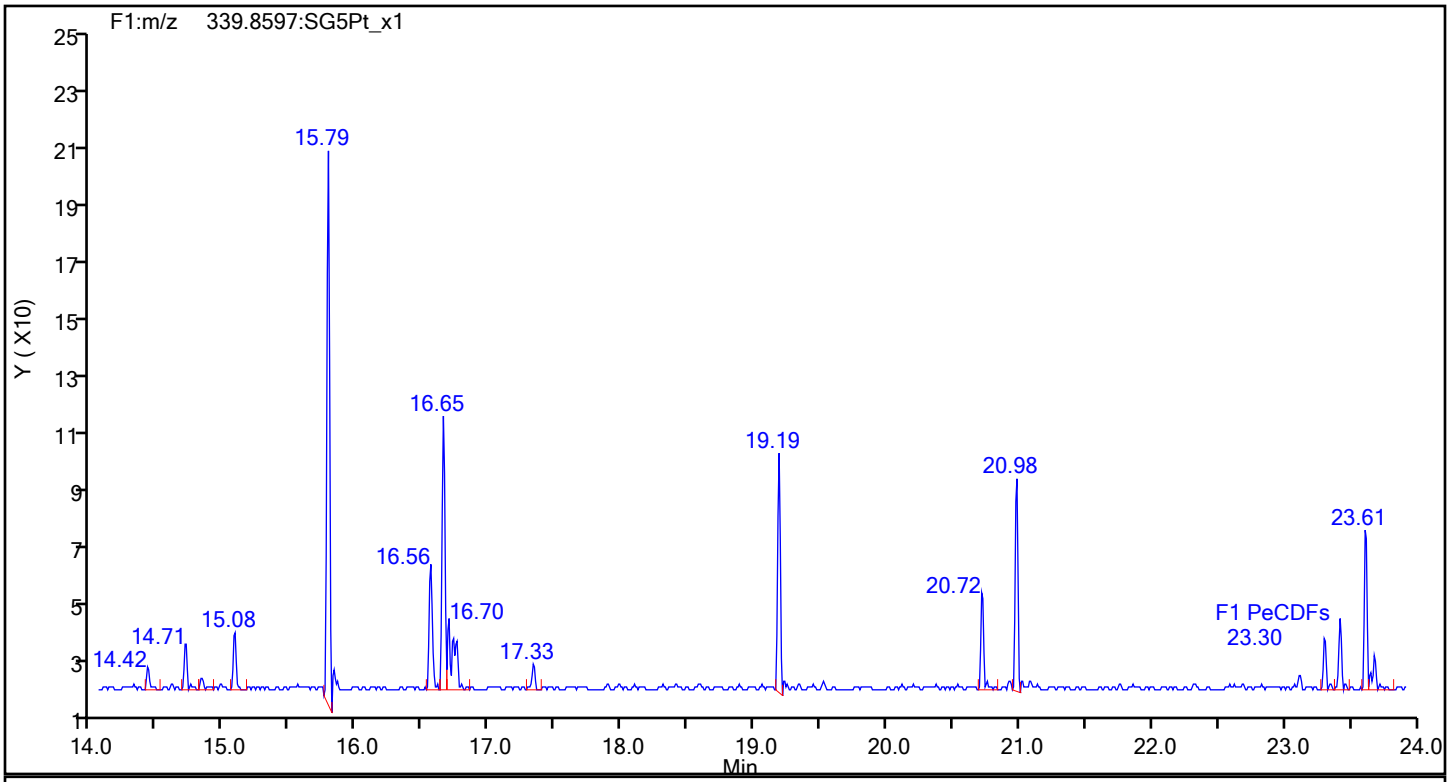
Report Date: 24-Jan-2022 12:21:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

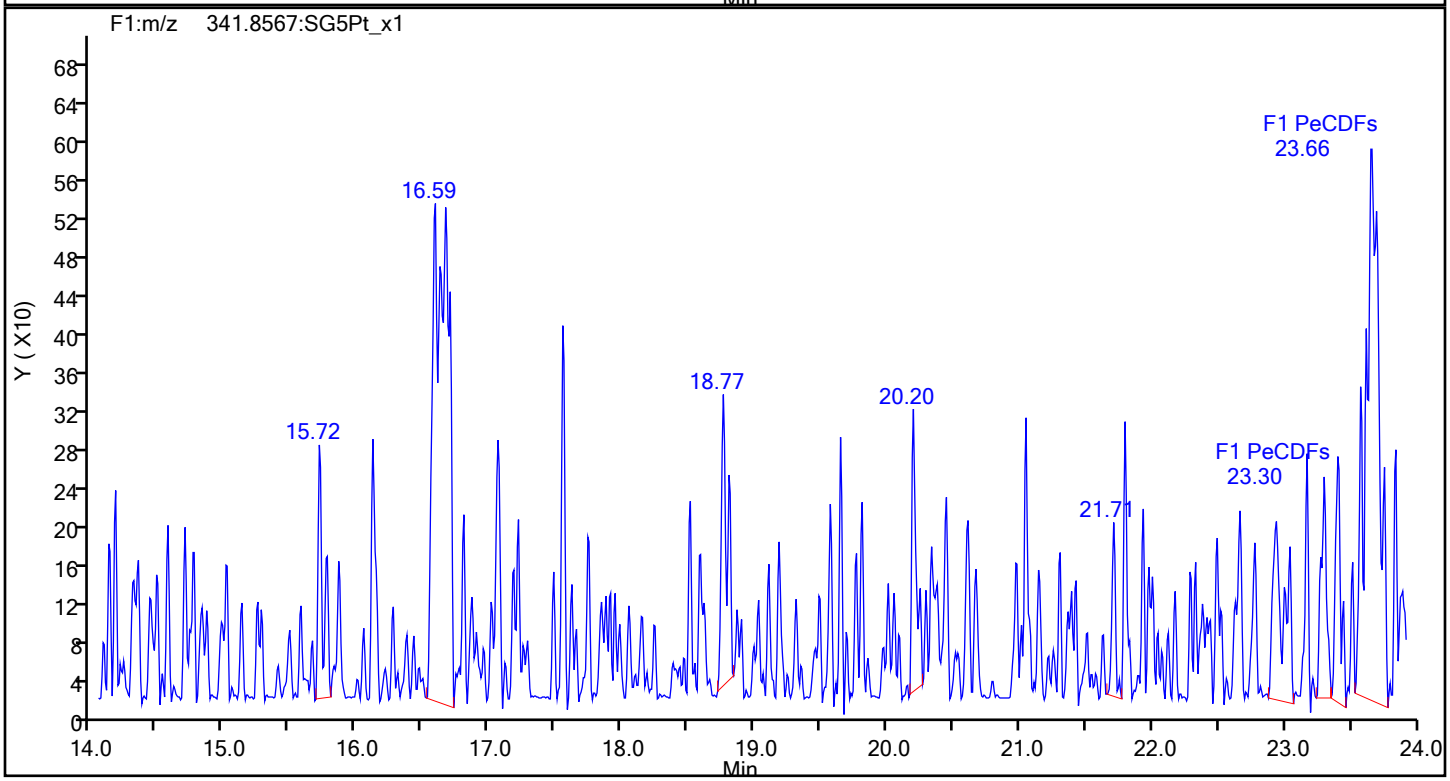
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d

Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d		
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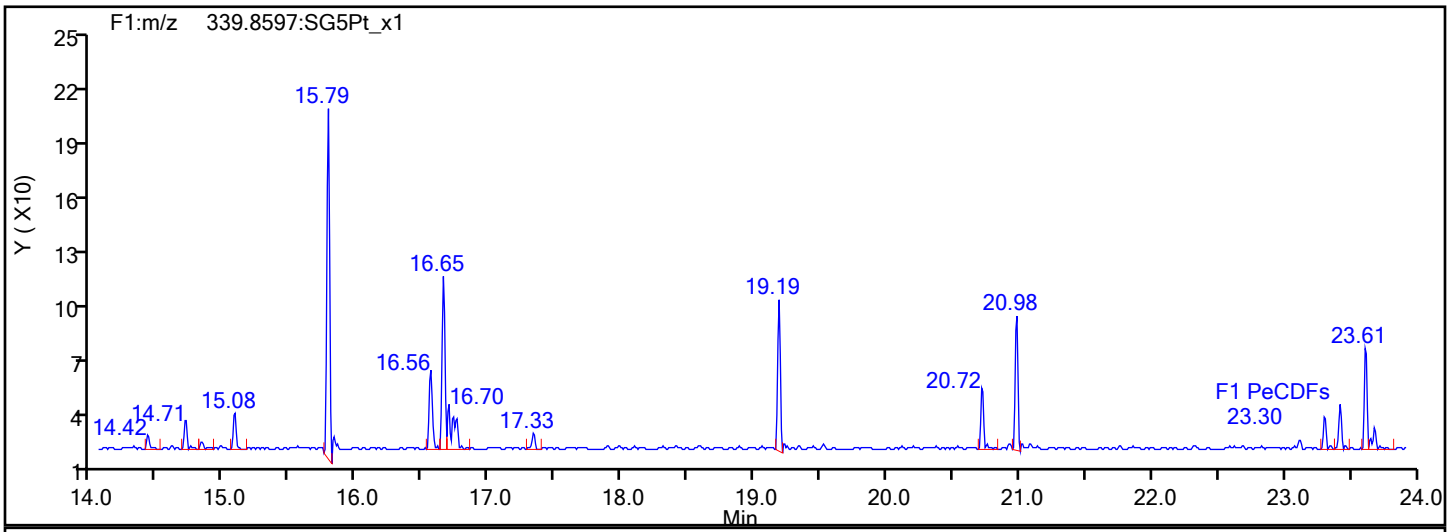
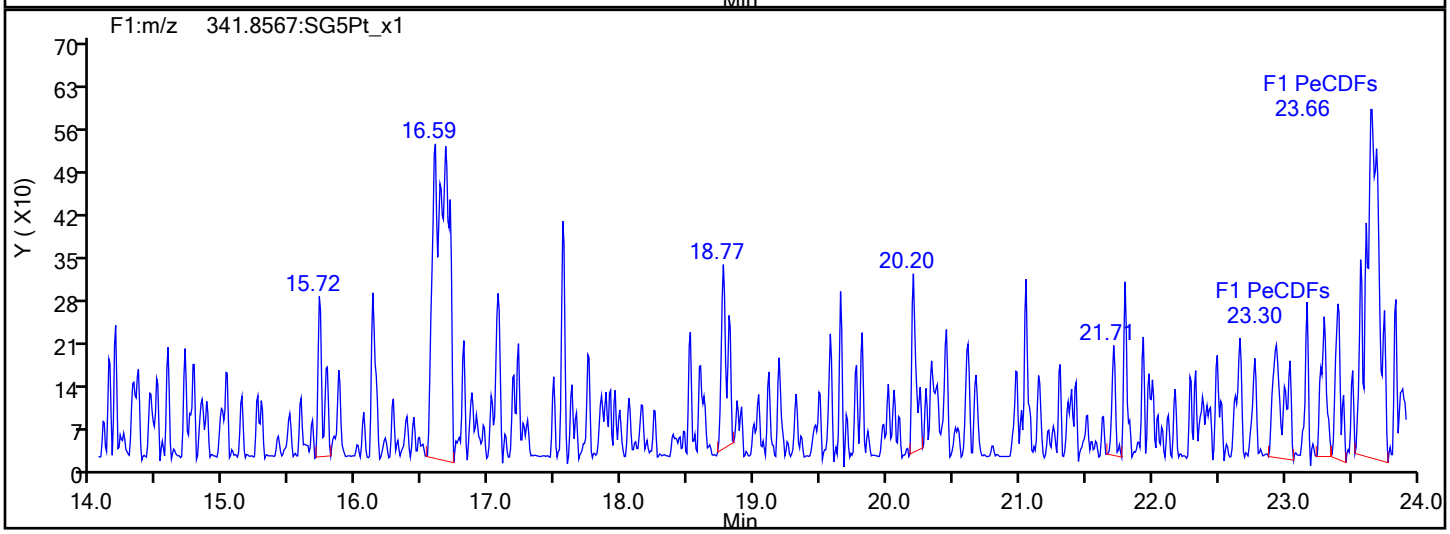
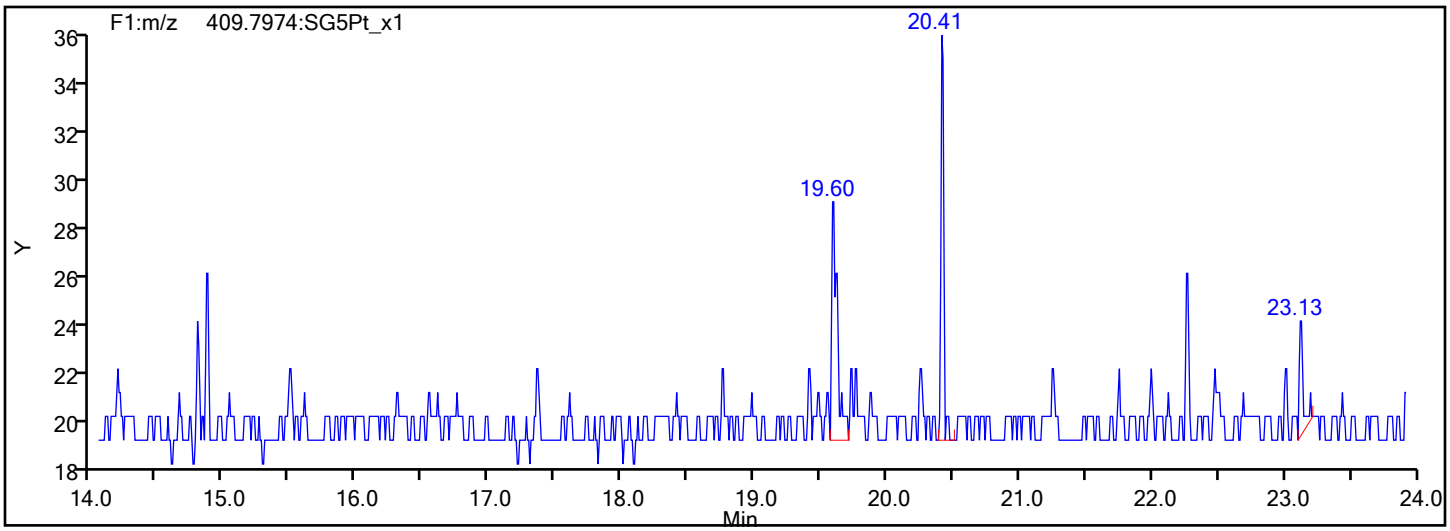
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





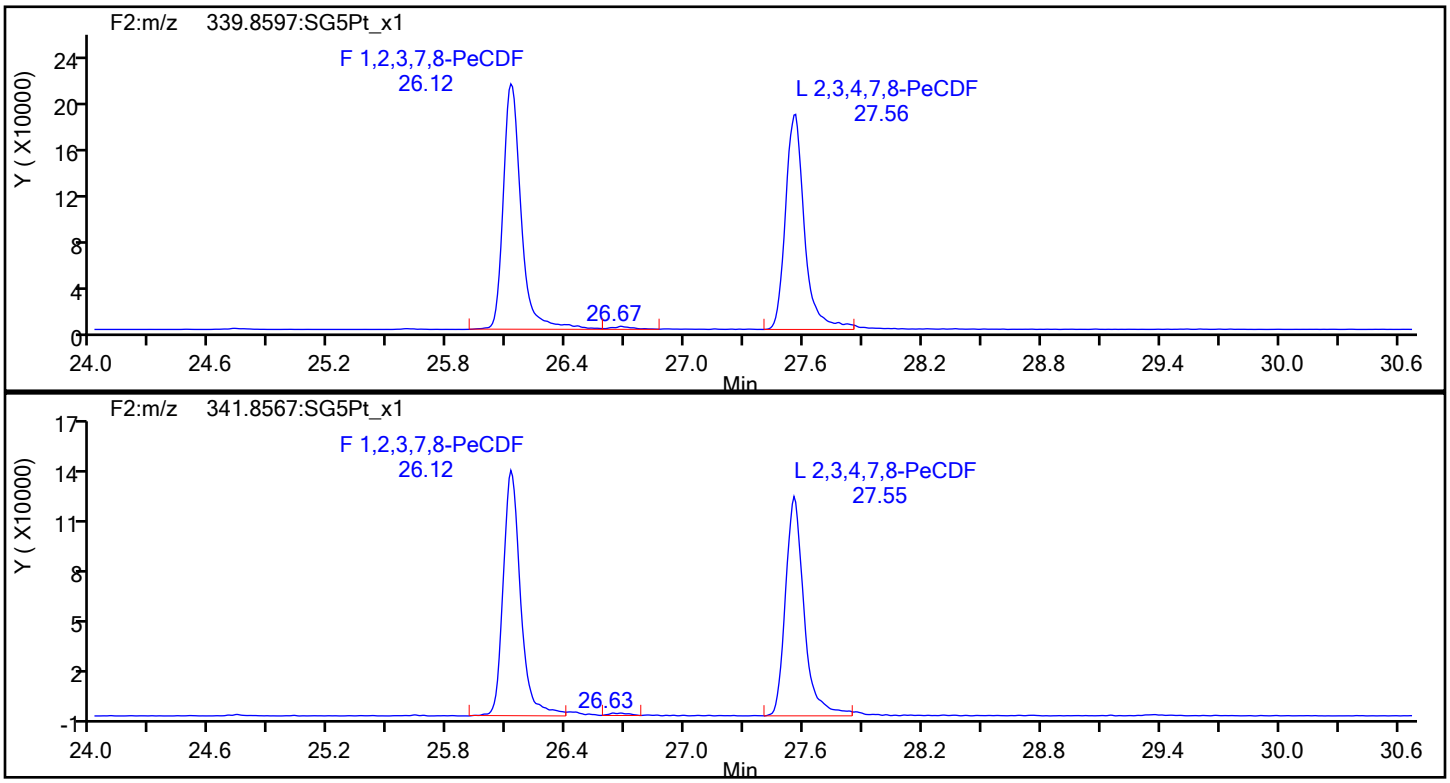
F1 PeCDFs Interference Mass



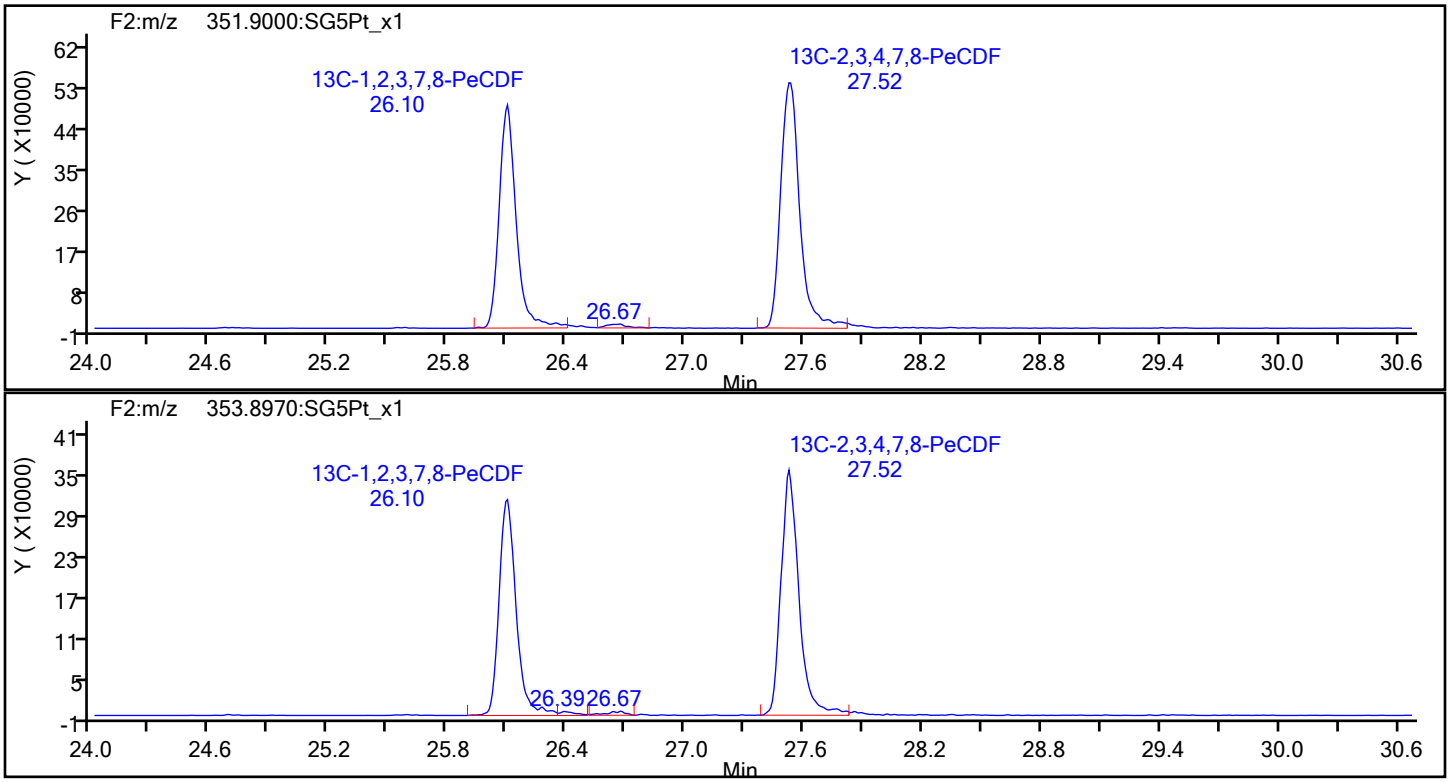
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d
Injection Date: 22-Jan-2022 08:12:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 15
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d		
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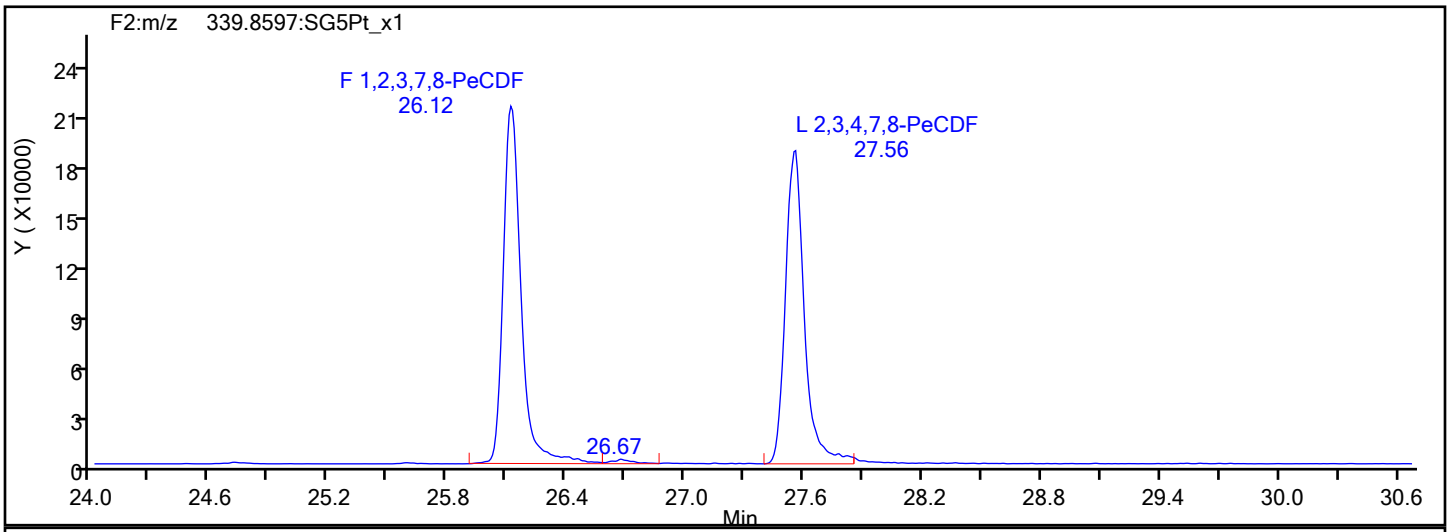
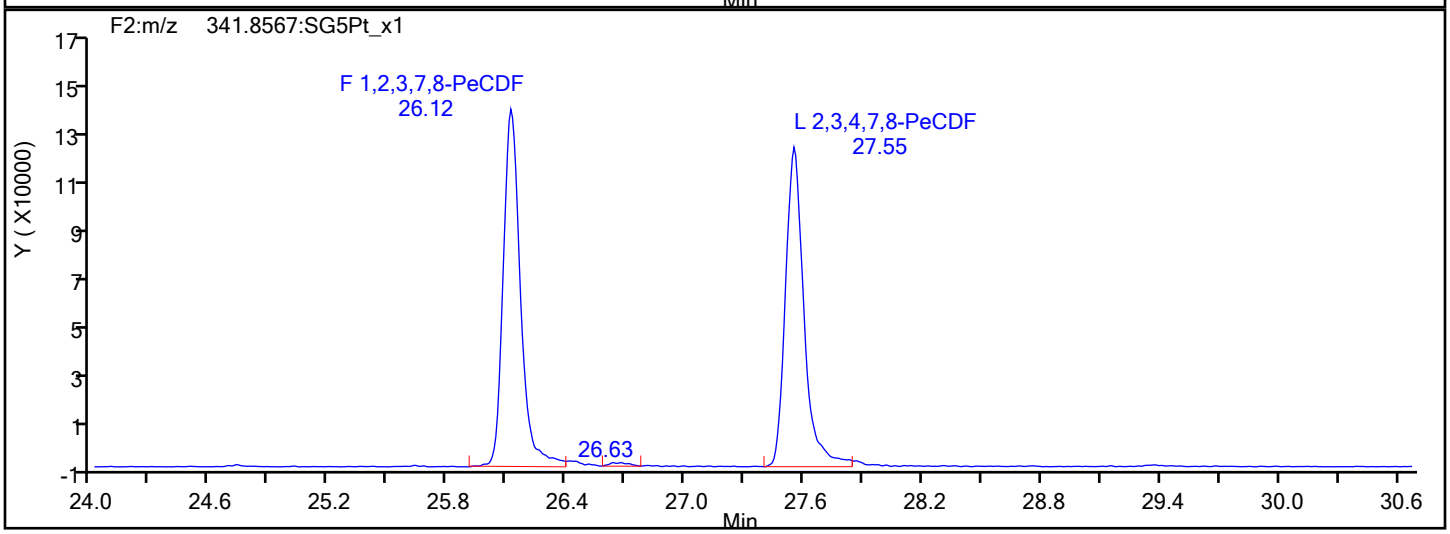
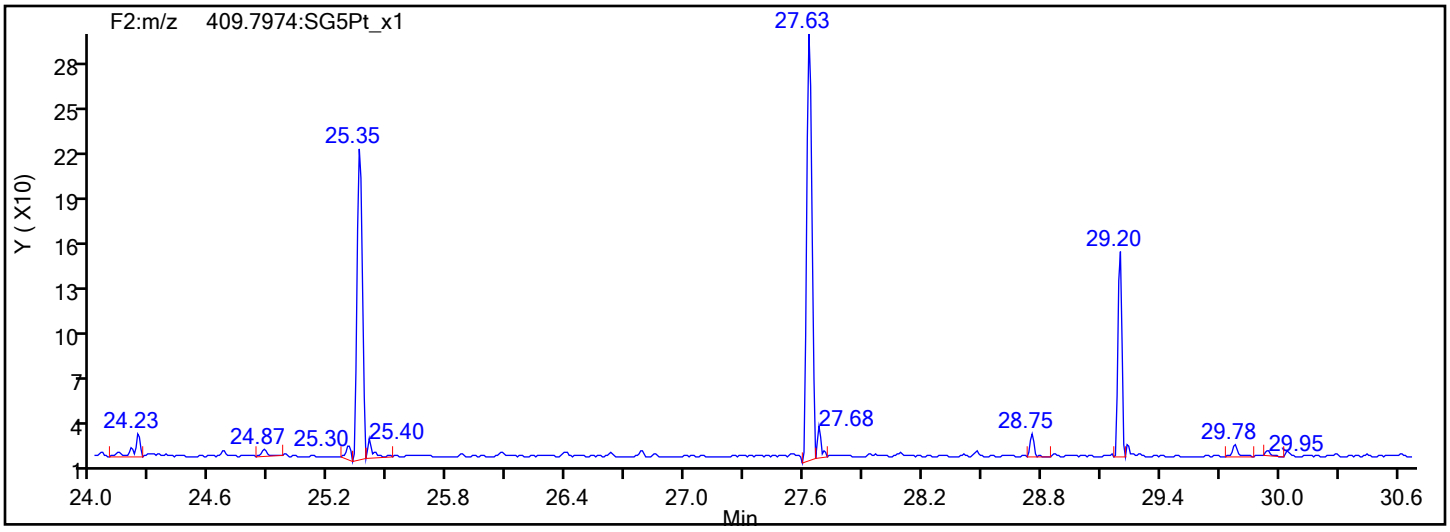
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d
Injection Date: 22-Jan-2022 08:12:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
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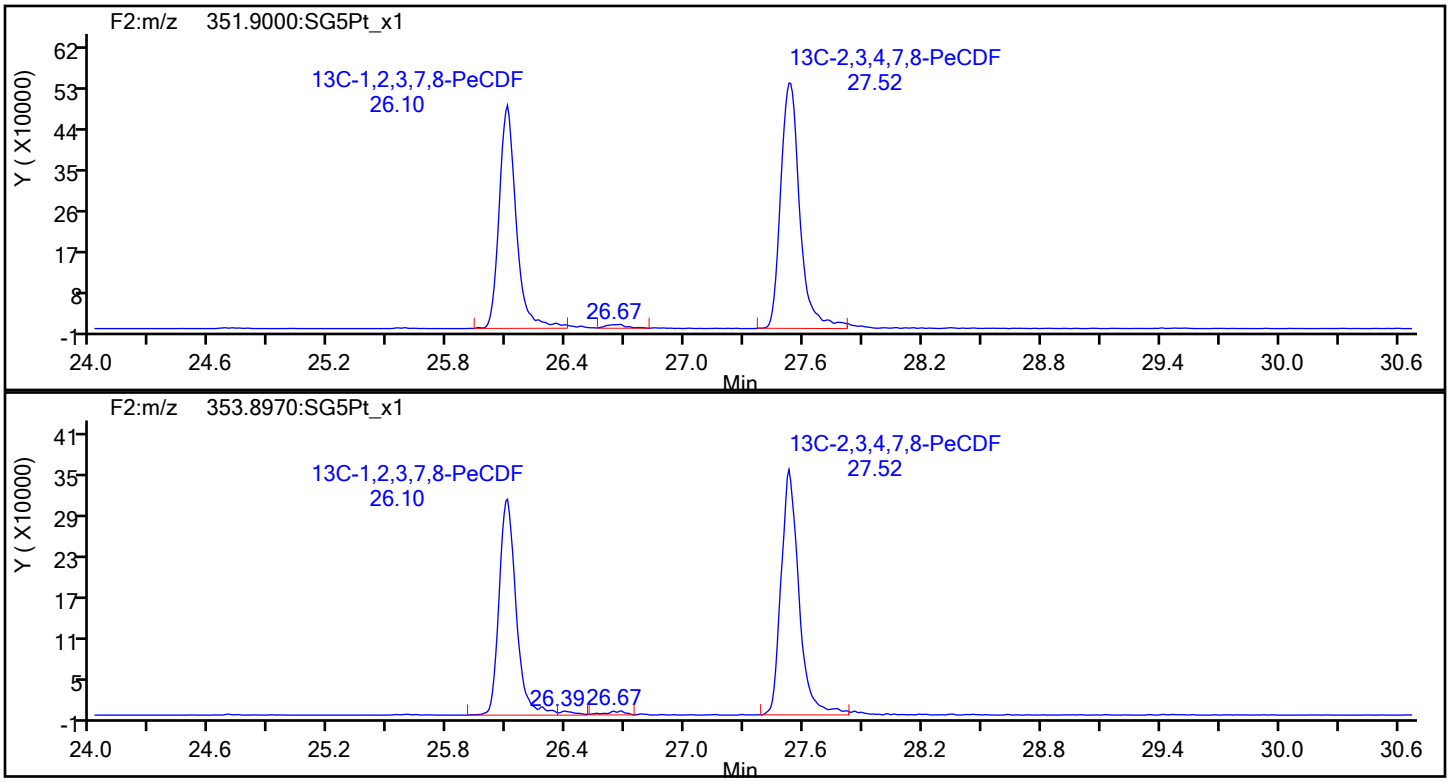
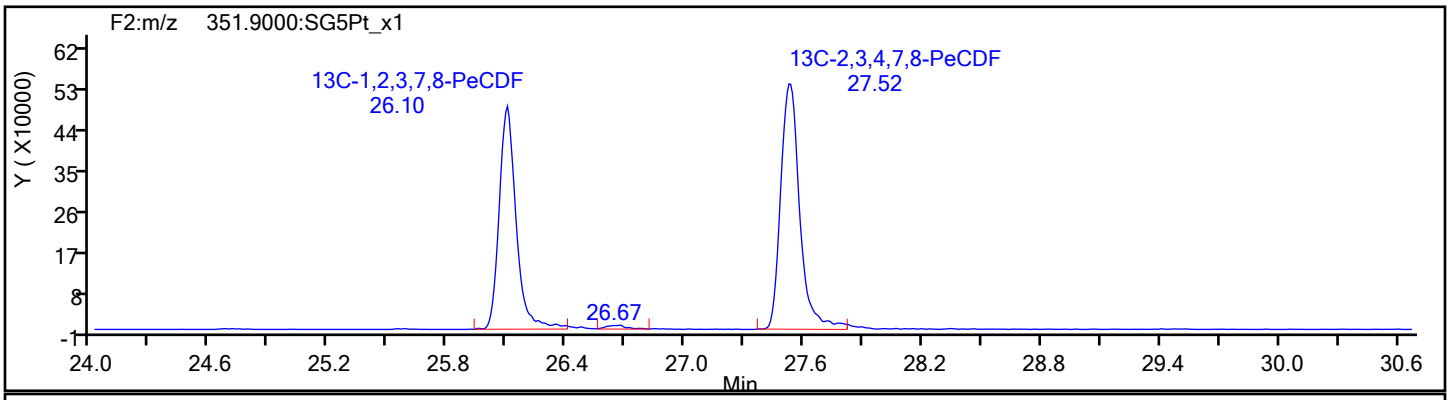
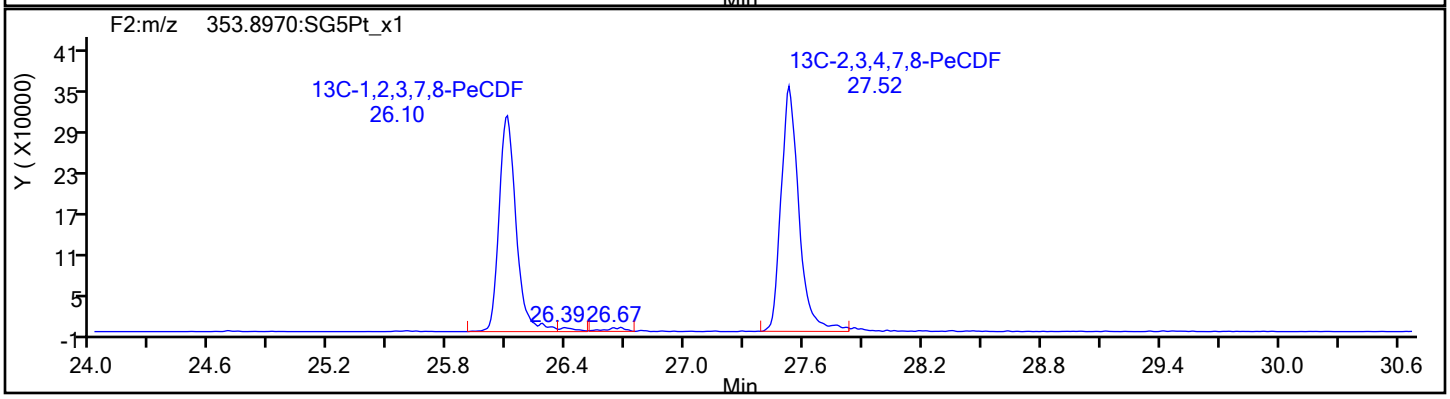
Column Type: DB-5 Column Dia: 0.32 mm

13C-PeCDF



13C-PeCDF Standards





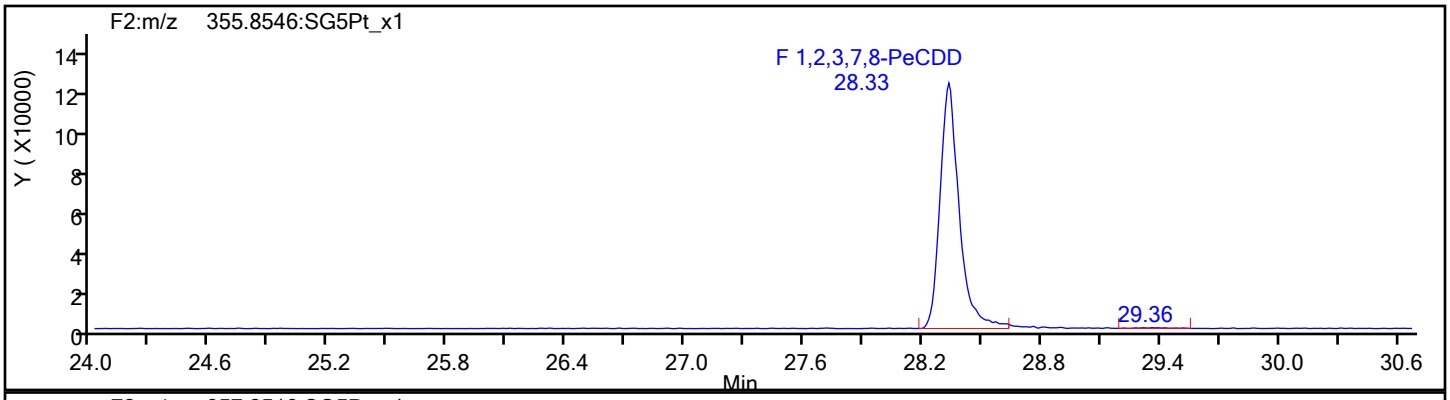
Report Date: 24-Jan-2022 12:21:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

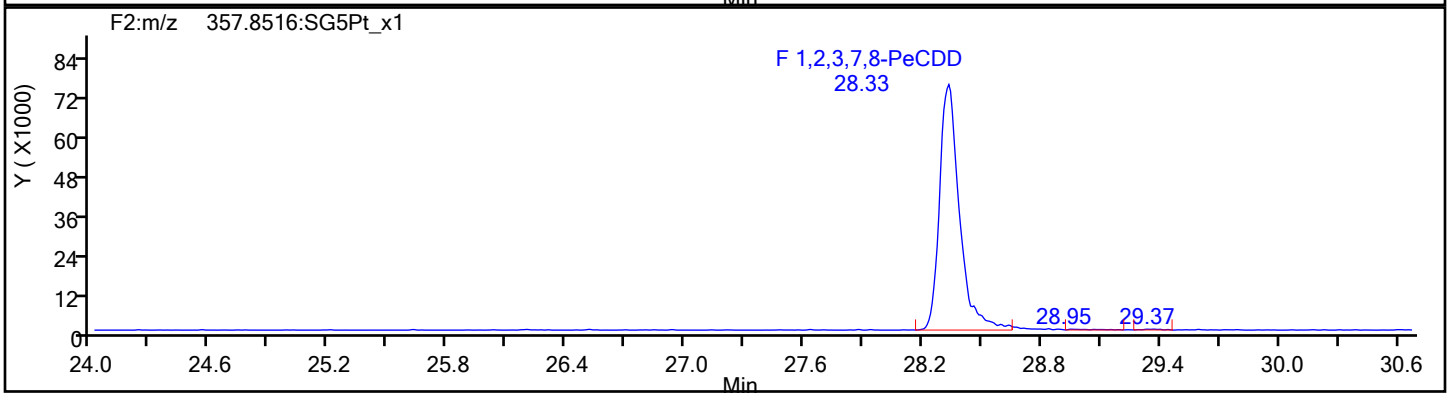
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d

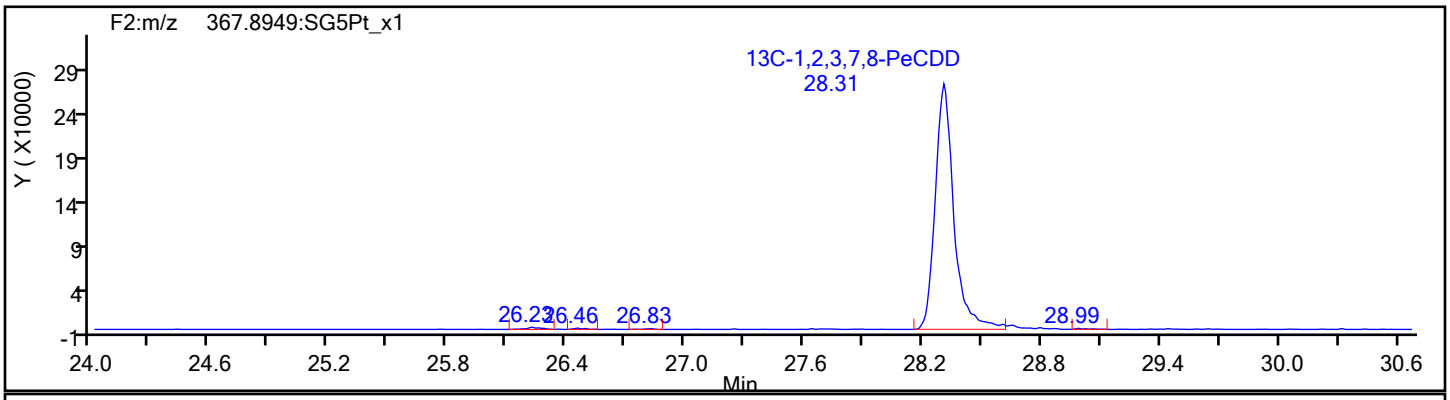
Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

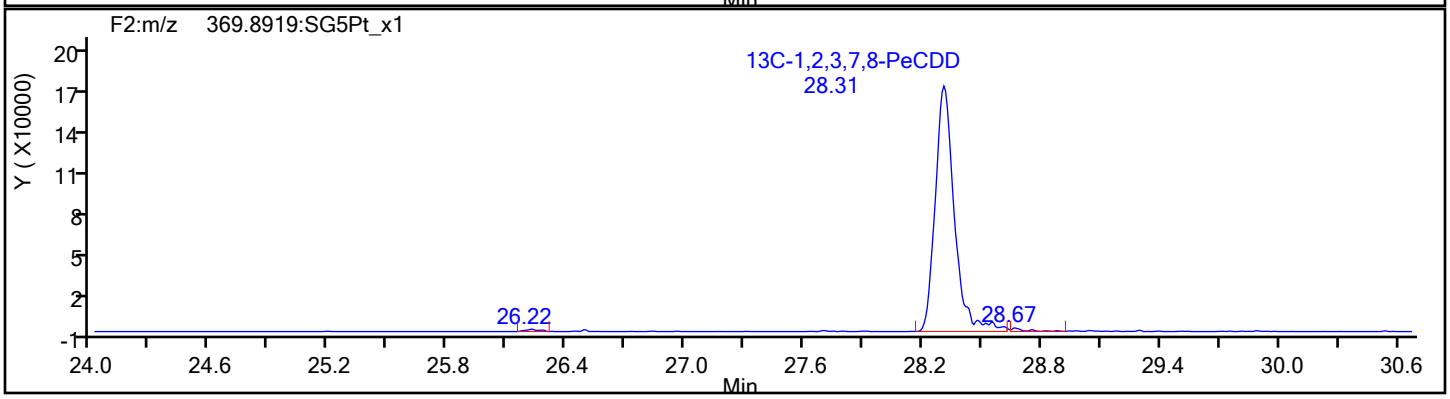
PeCDD





PeCDD Standards





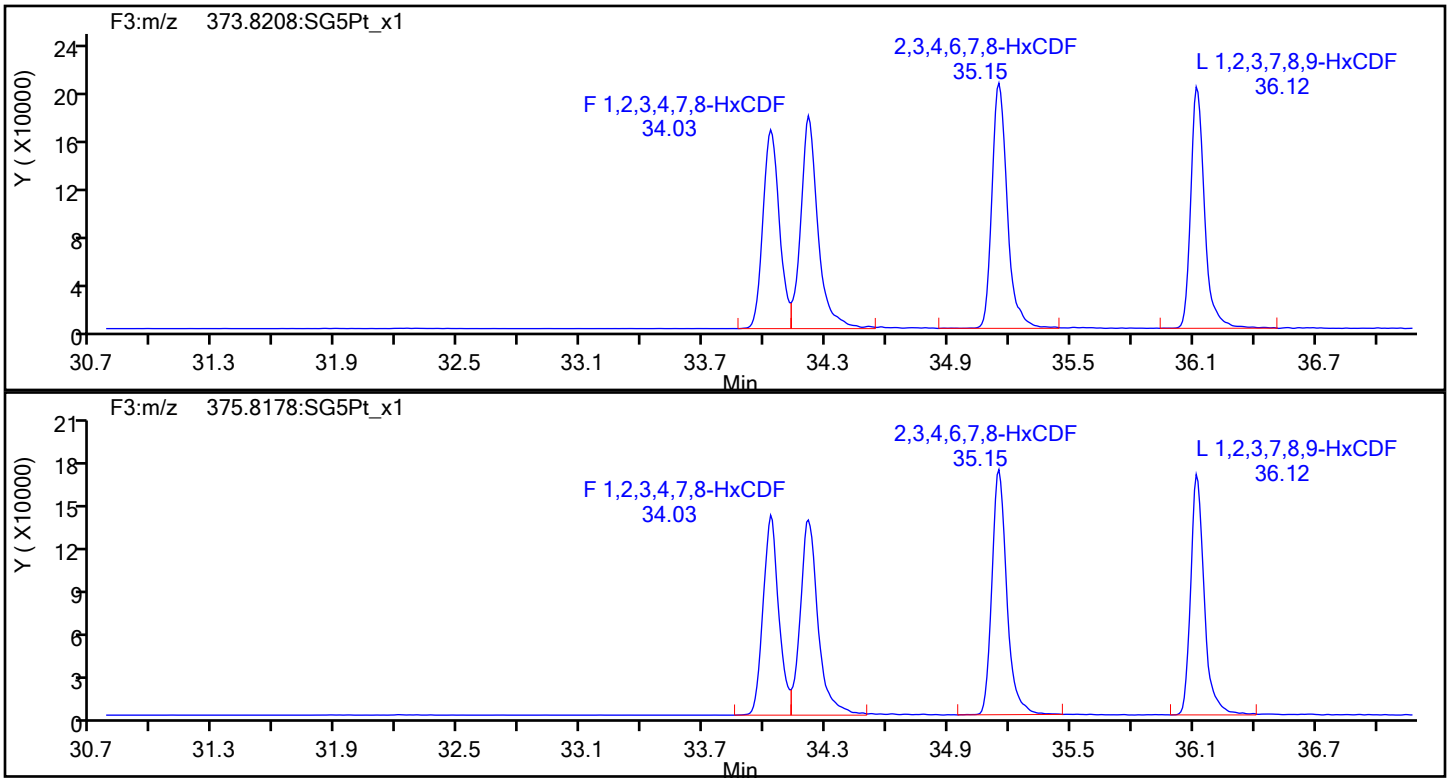
Report Date: 24-Jan-2022 12:21:03 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

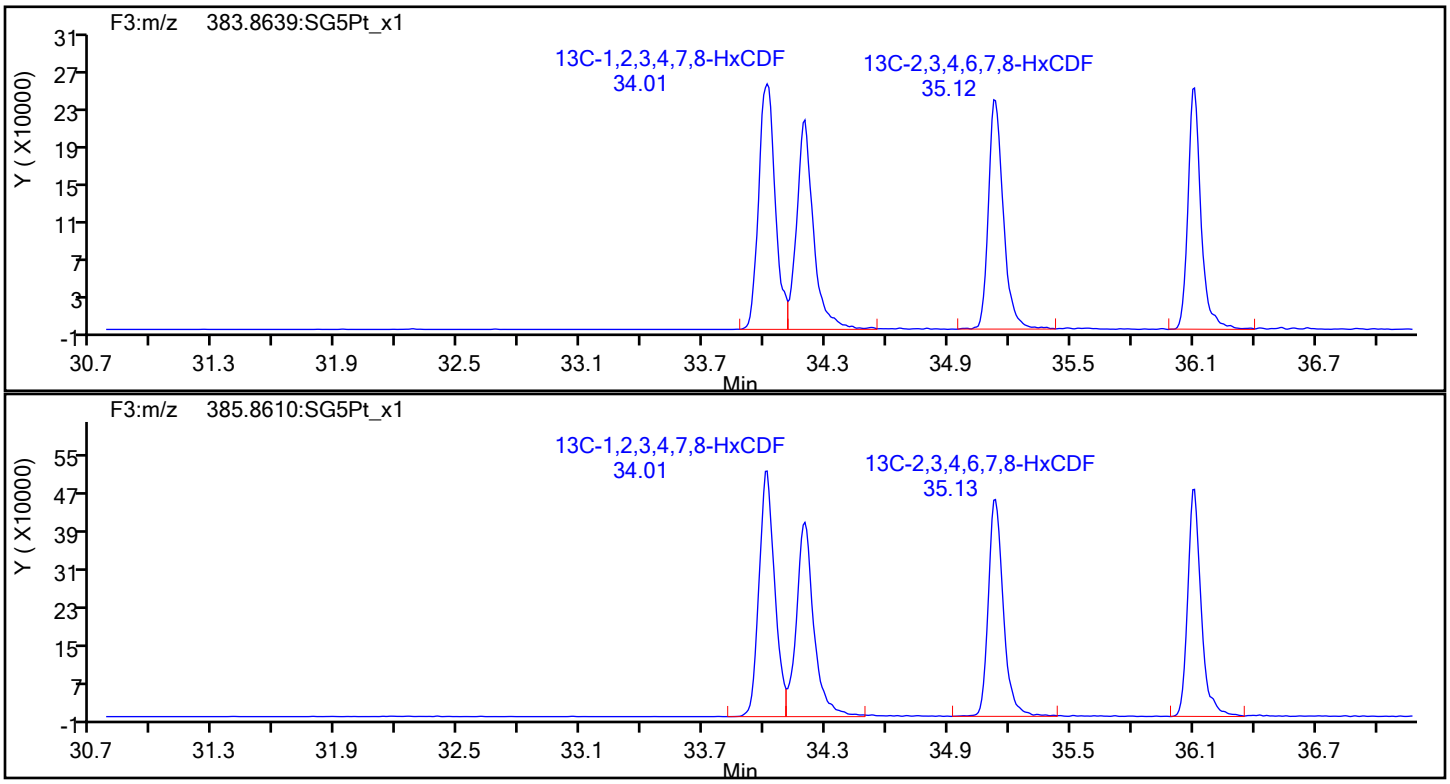
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d

Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



HxCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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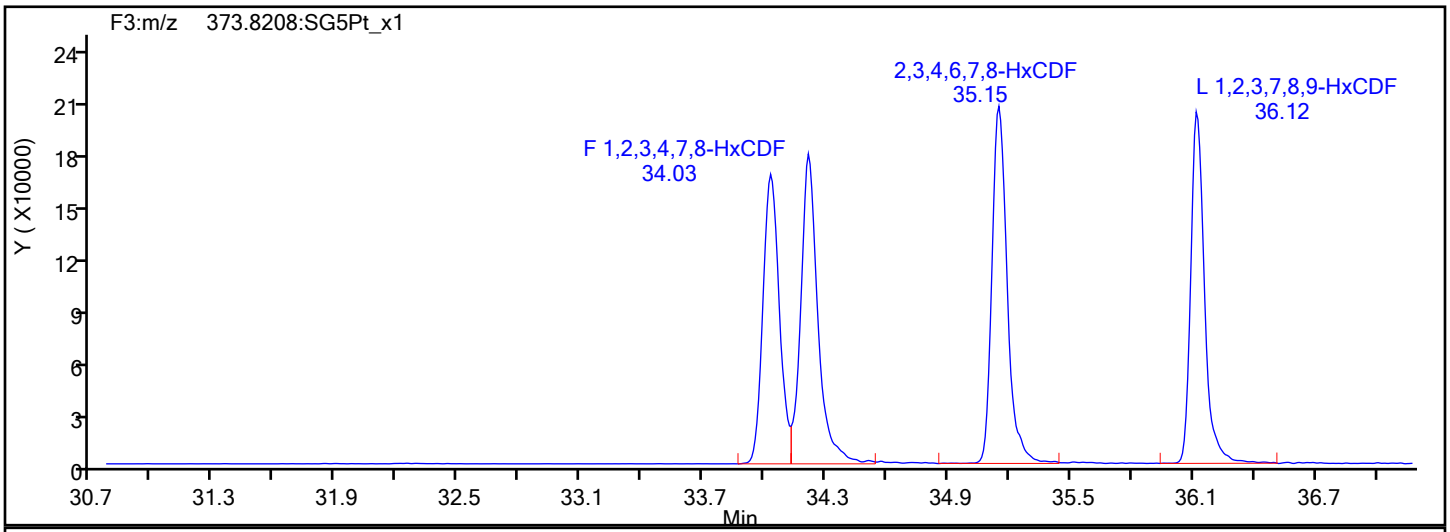
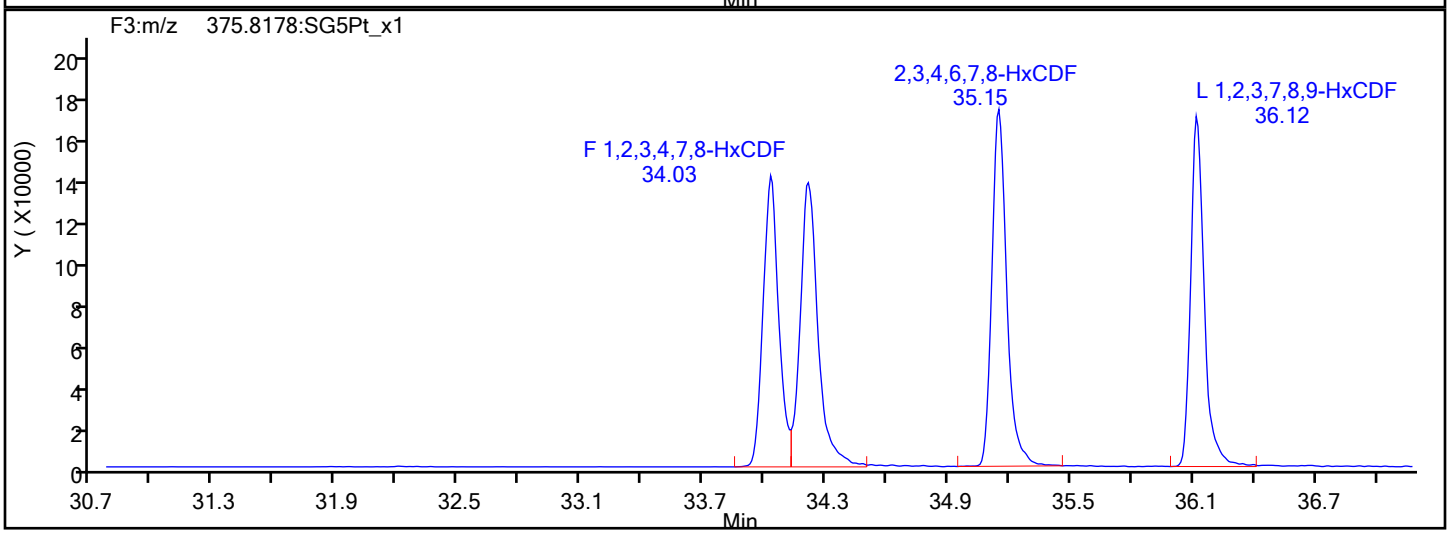
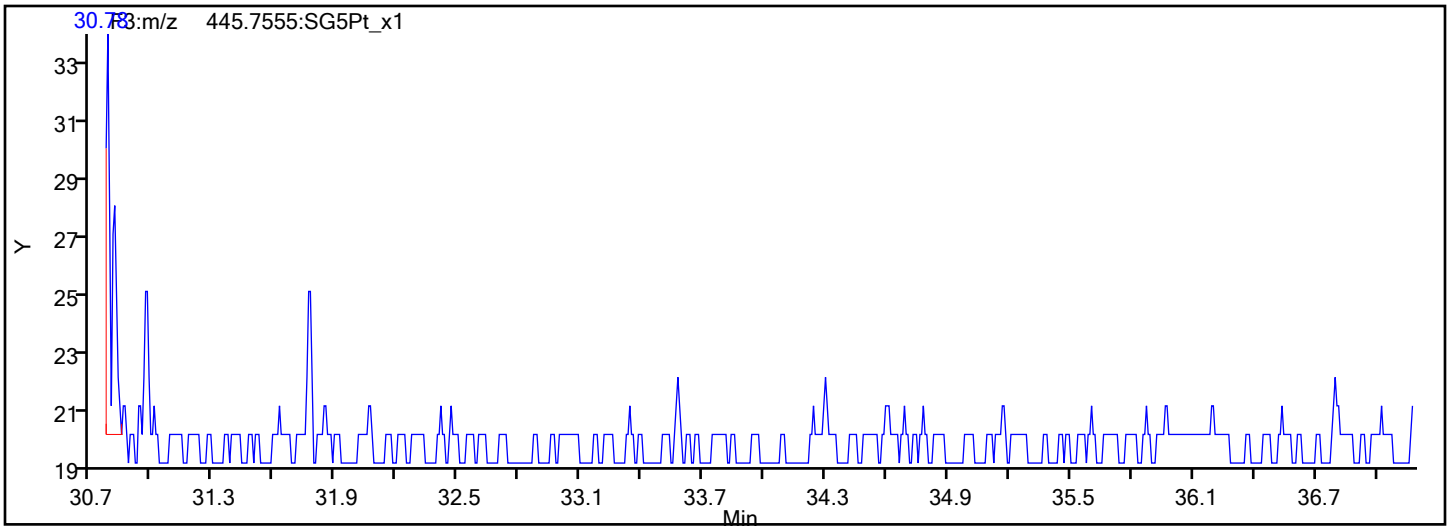
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Report Date: 24-Jan-2022 12:21:04 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d

Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
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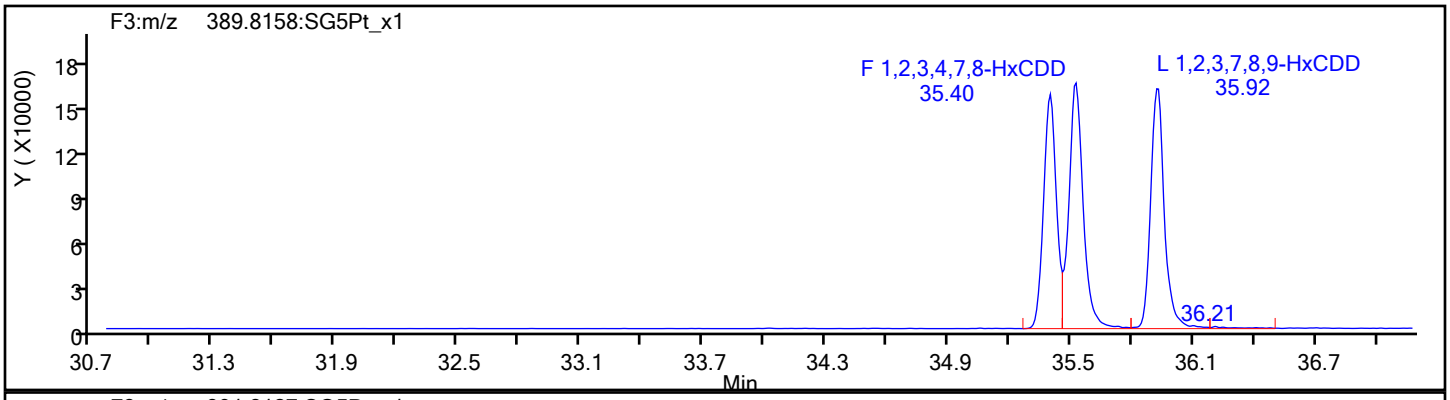
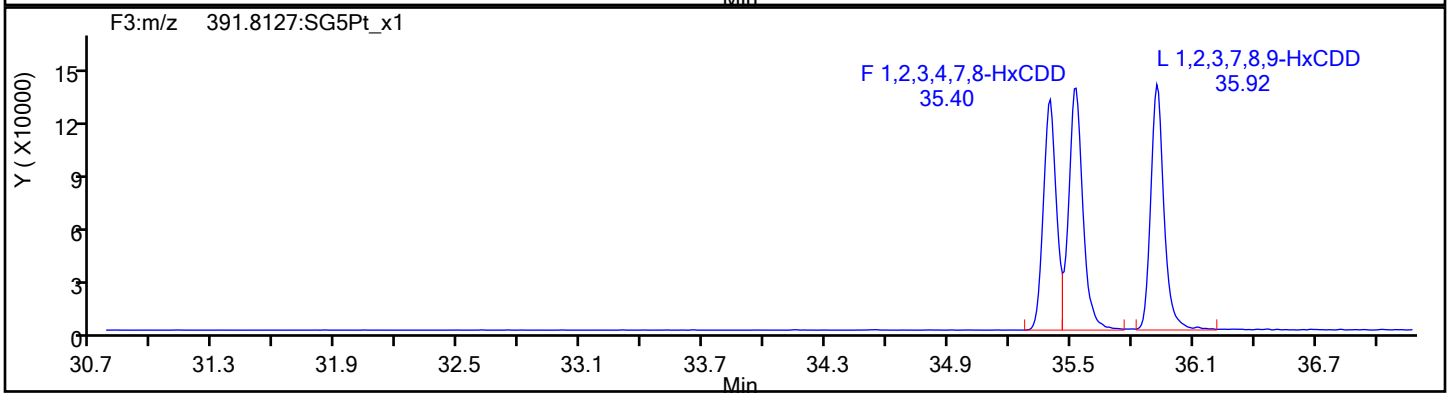
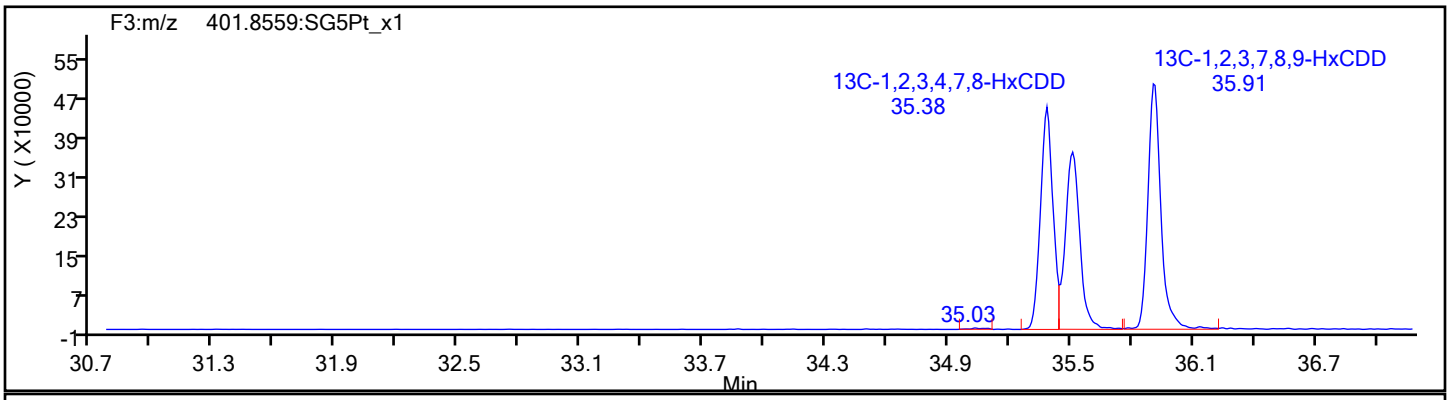
Column Type:	DB-5	Column Dia:	0.32 mm

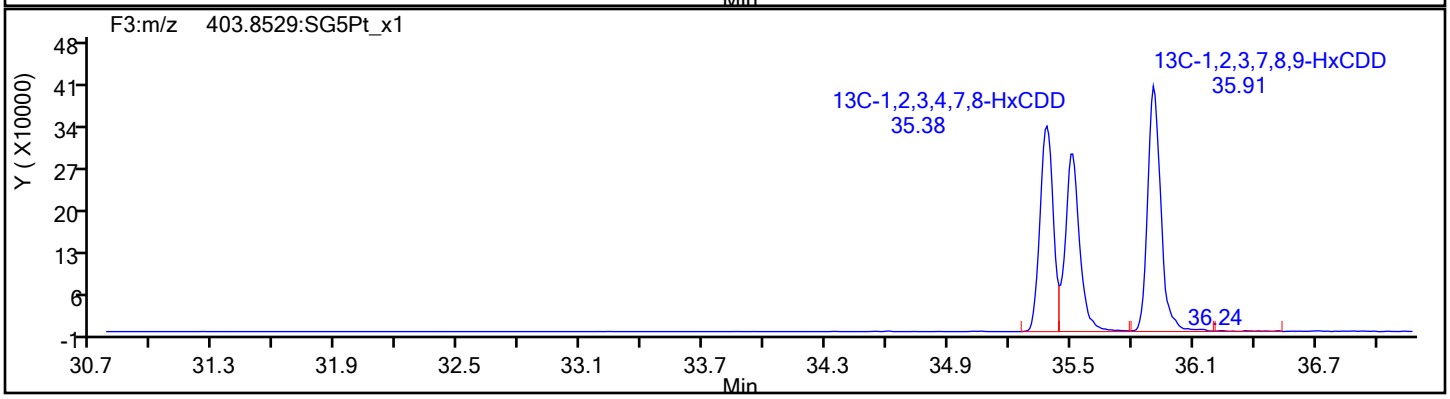
HxCDD





HxCDD Standards





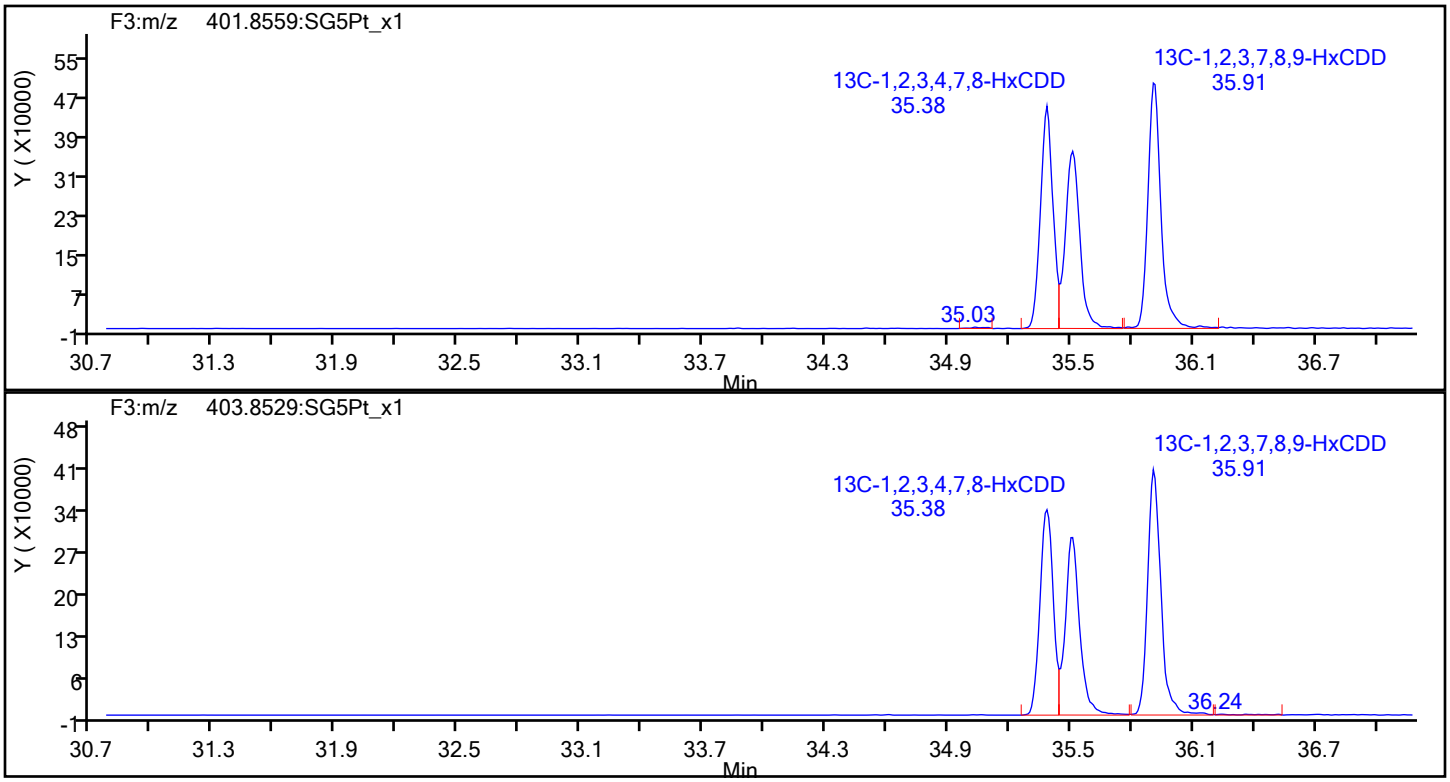
Report Date: 24-Jan-2022 12:21:04 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

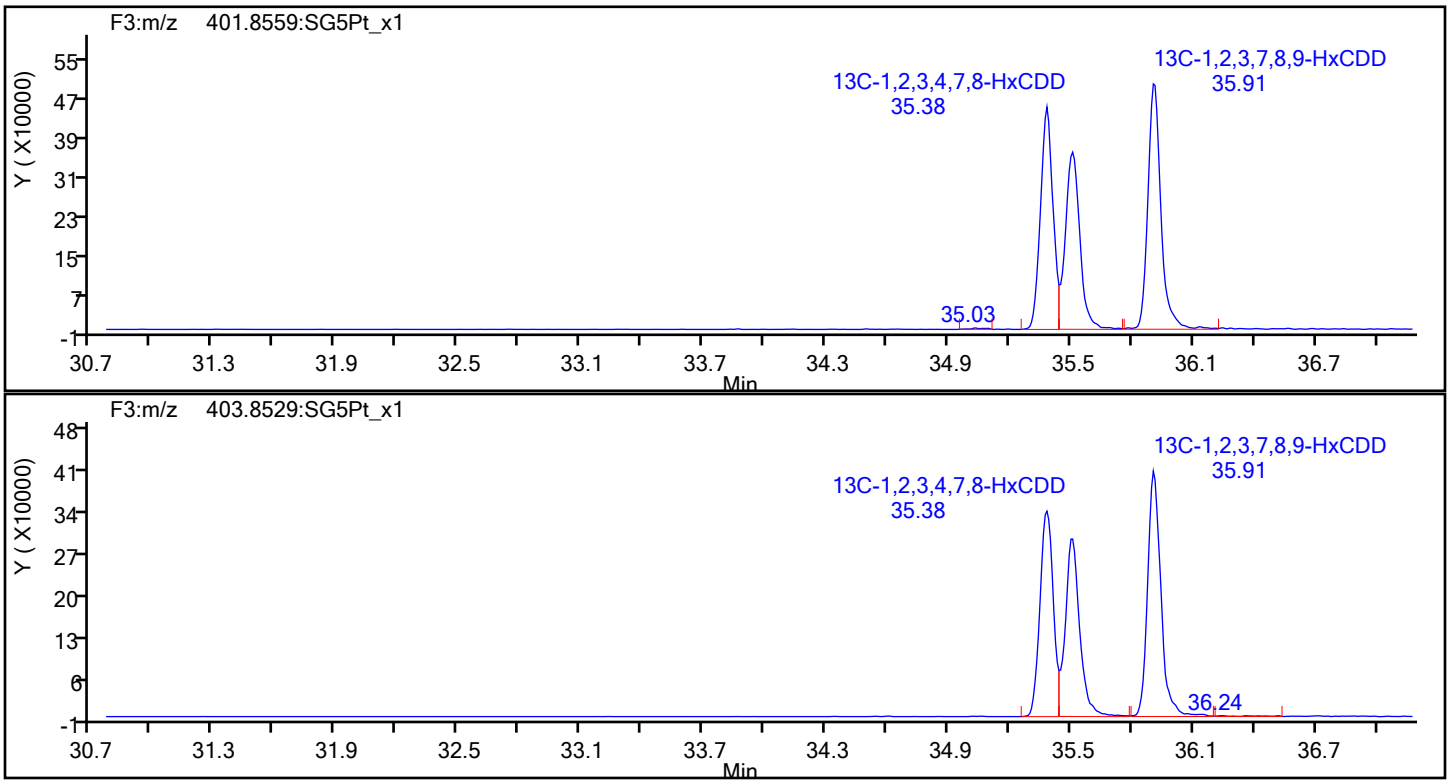
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d

Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

13C-HxCDD



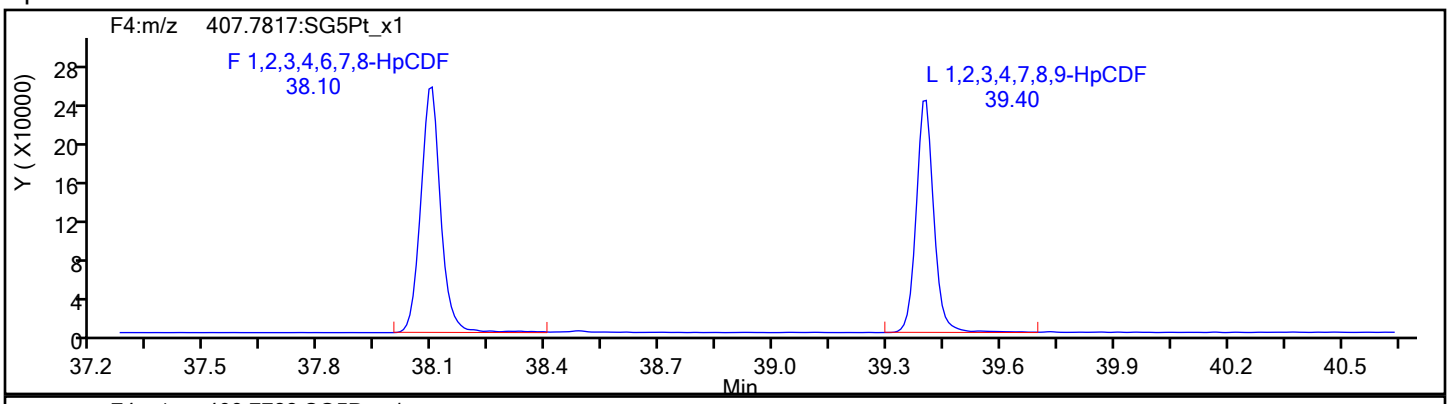
13C-HxCDD Standards

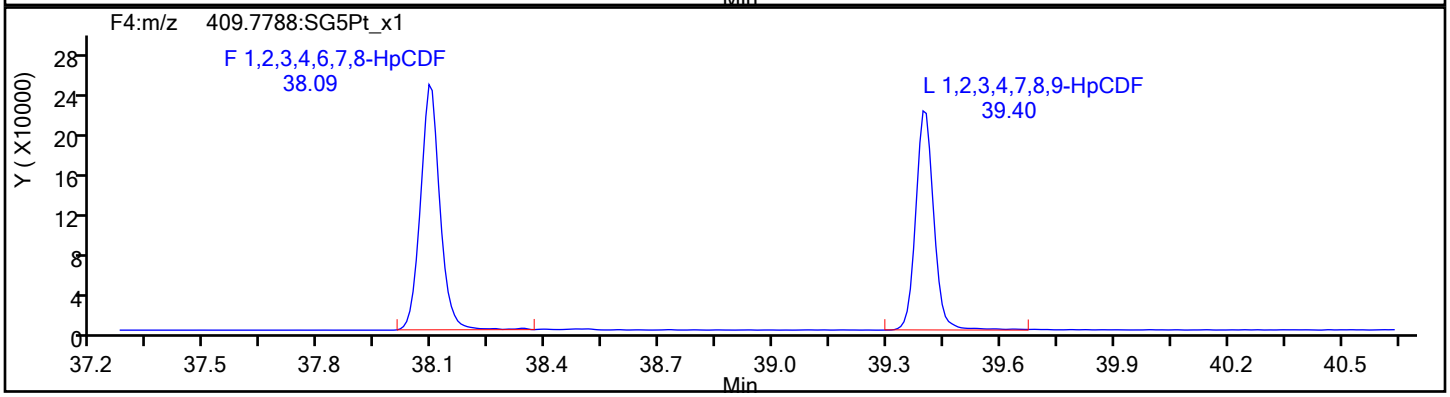


Eurofins Sacramento

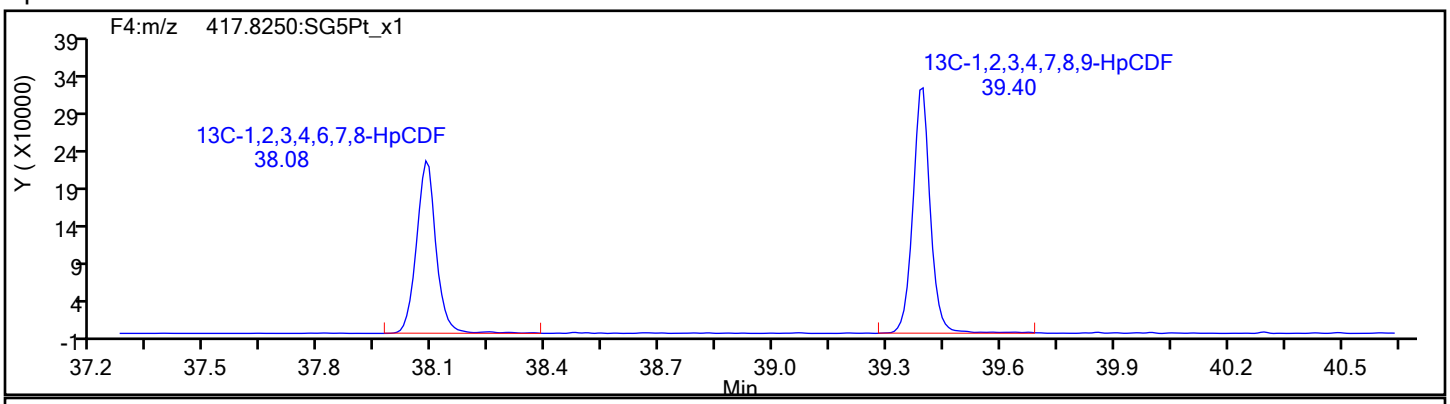
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d
Injection Date: 22-Jan-2022 08:12:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 15
Column Type: DB-5 Column Dia: 0.32 mm

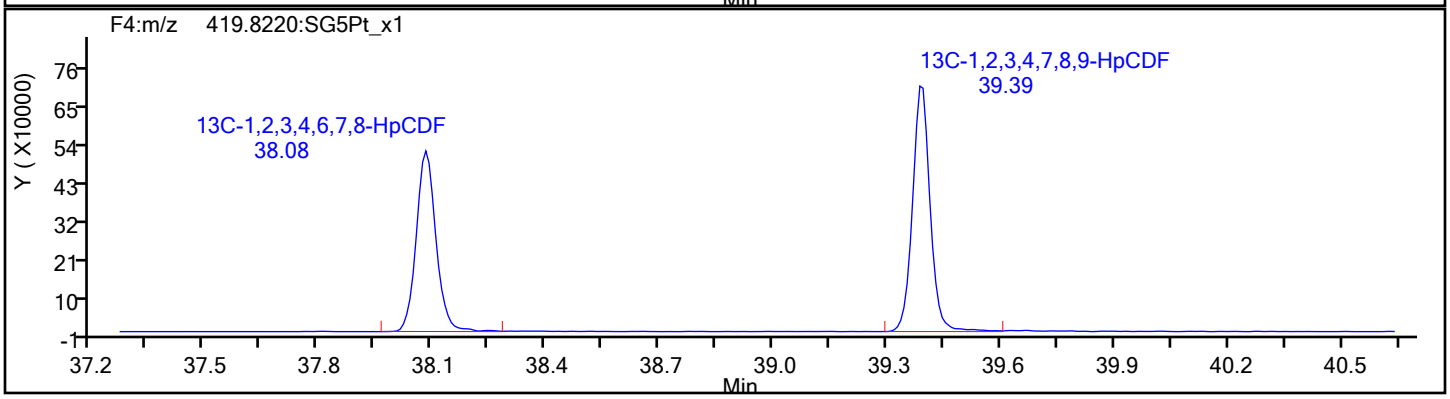
HpCDF





HpCDF Standards

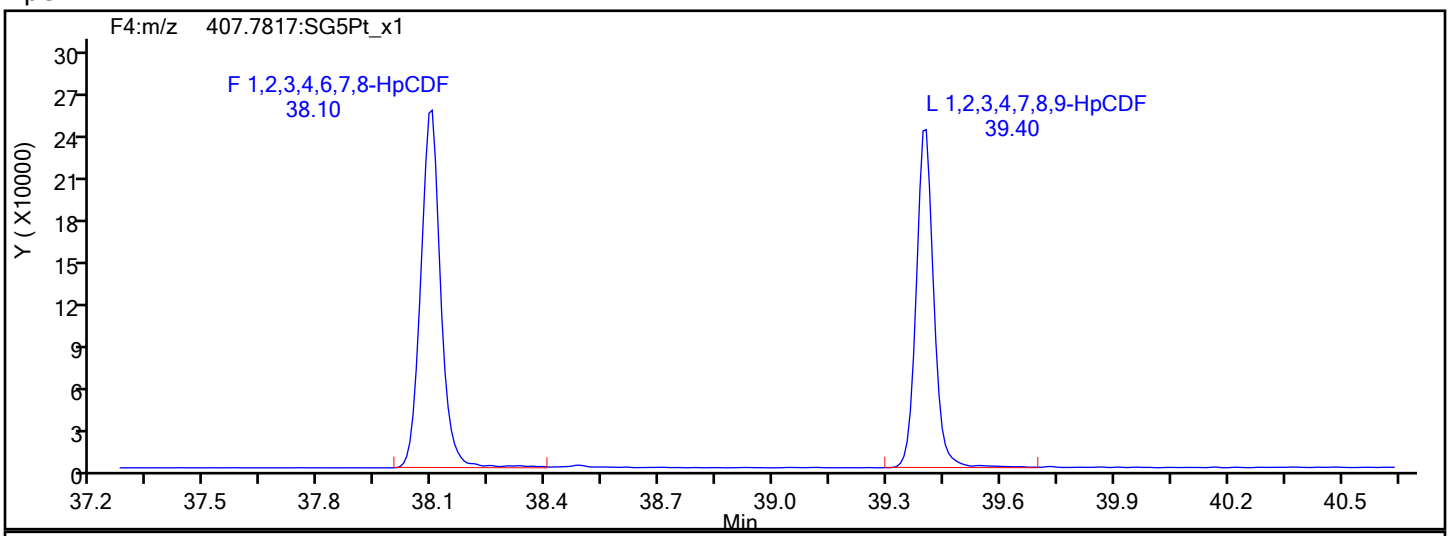


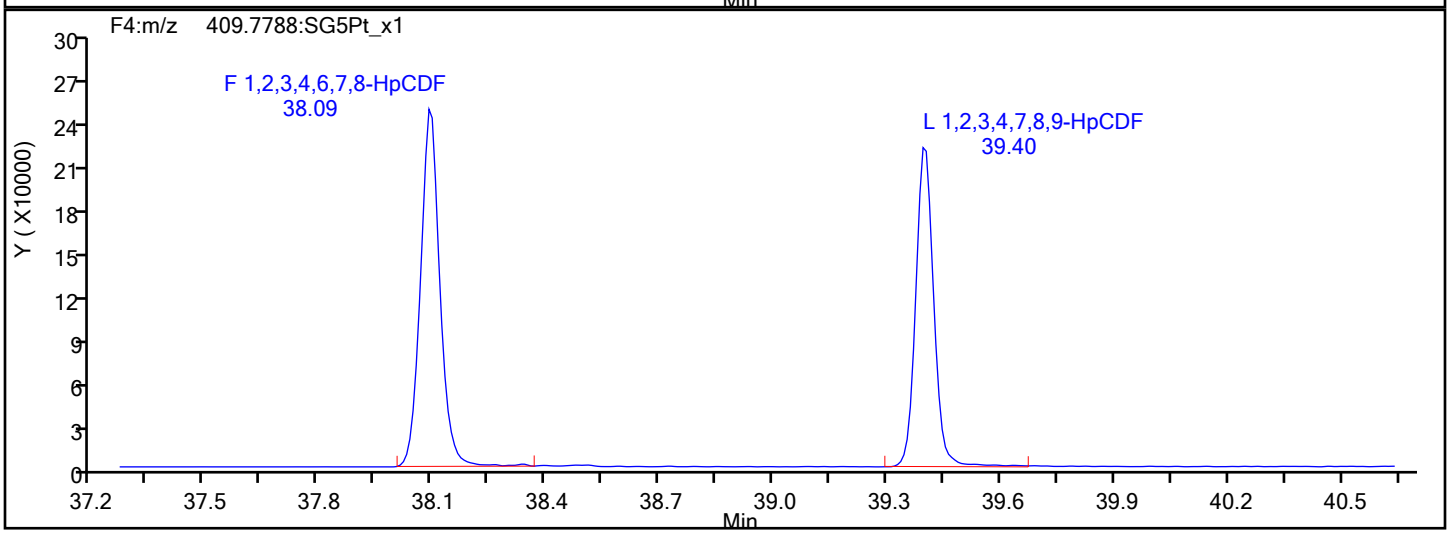


Eurofins Sacramento

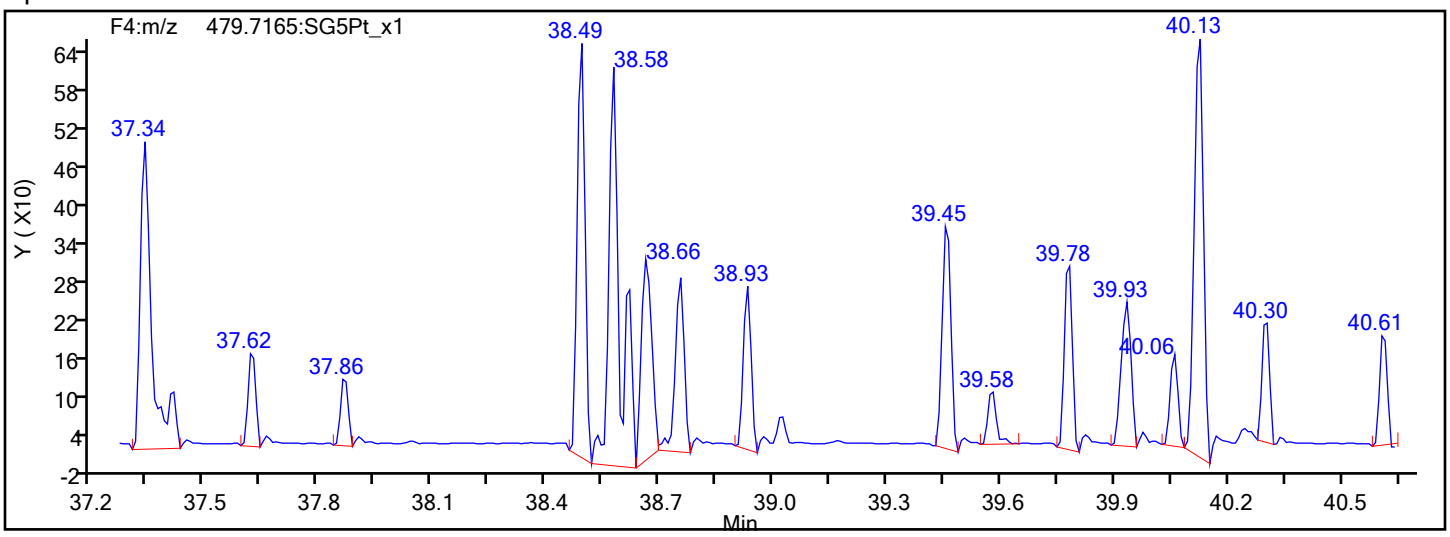
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d
Injection Date: 22-Jan-2022 08:12:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 15
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





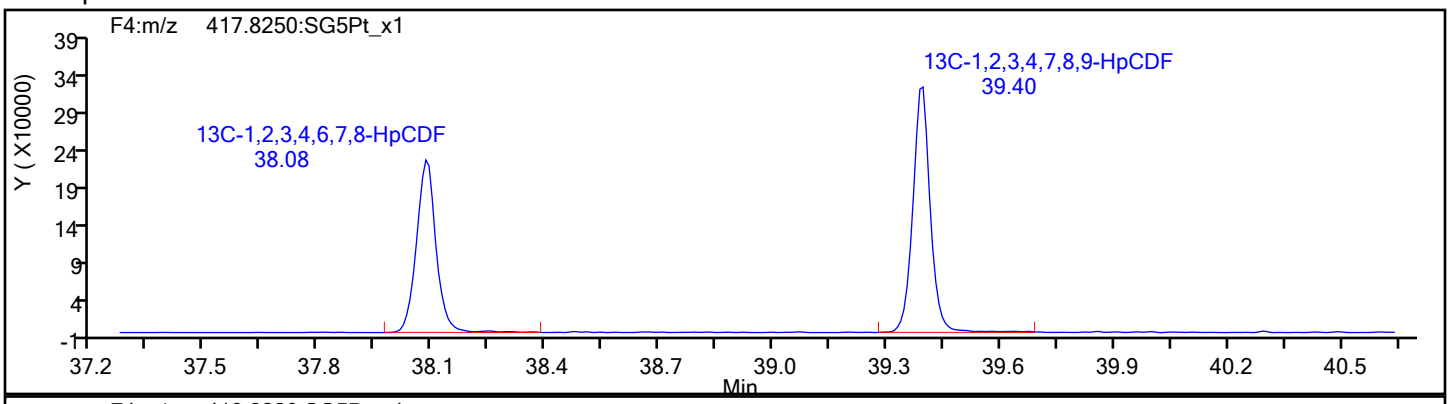
HpCDF Interference Mass

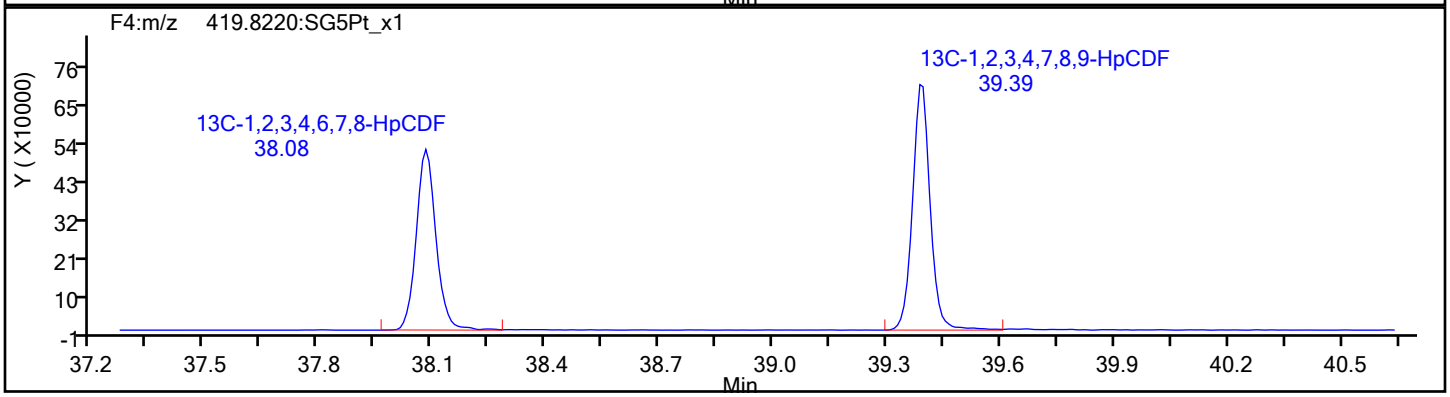


Eurofins Sacramento

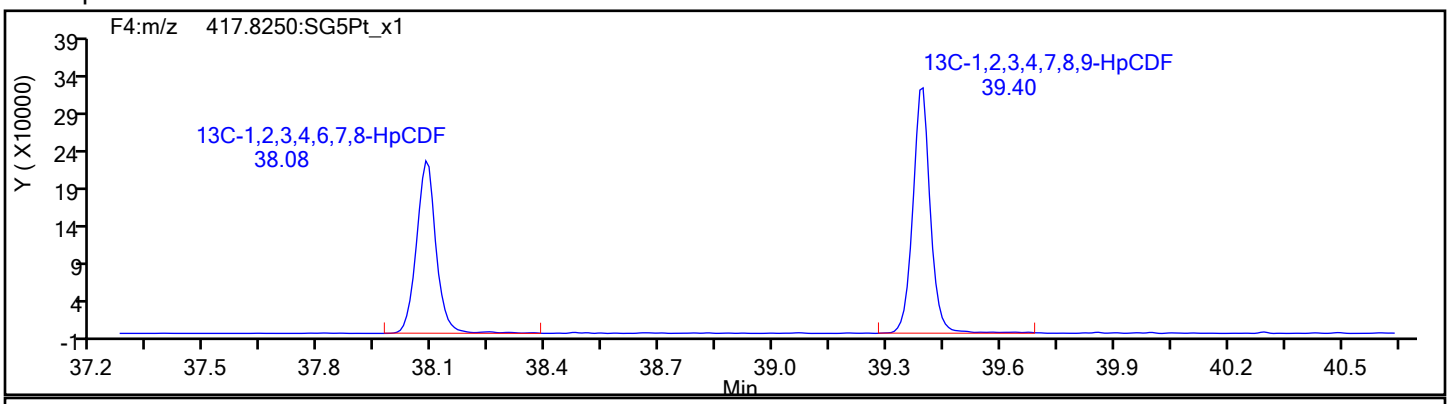
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d		
Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

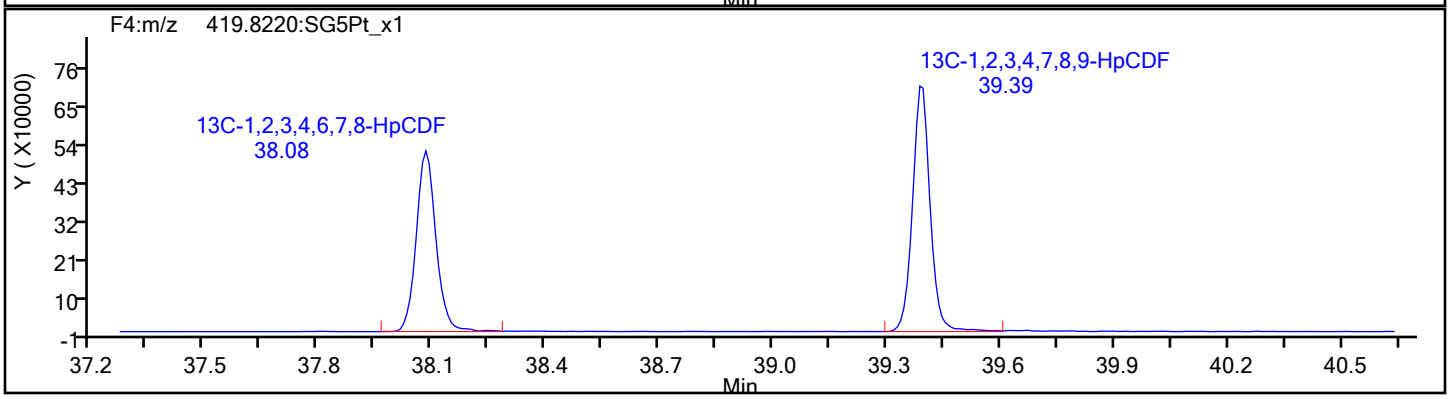
13C-HpCDF





13C-HpCDF Standards

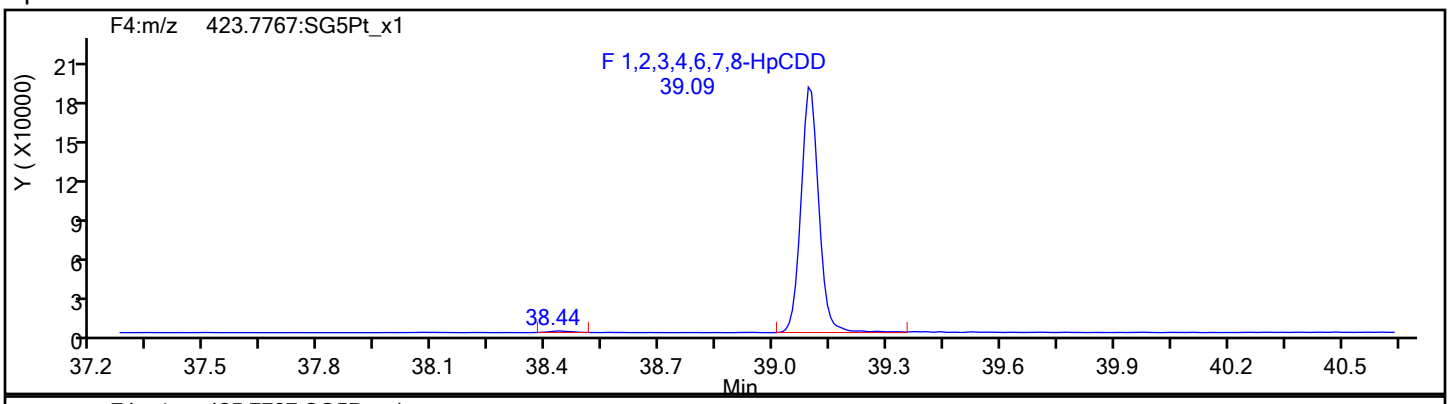


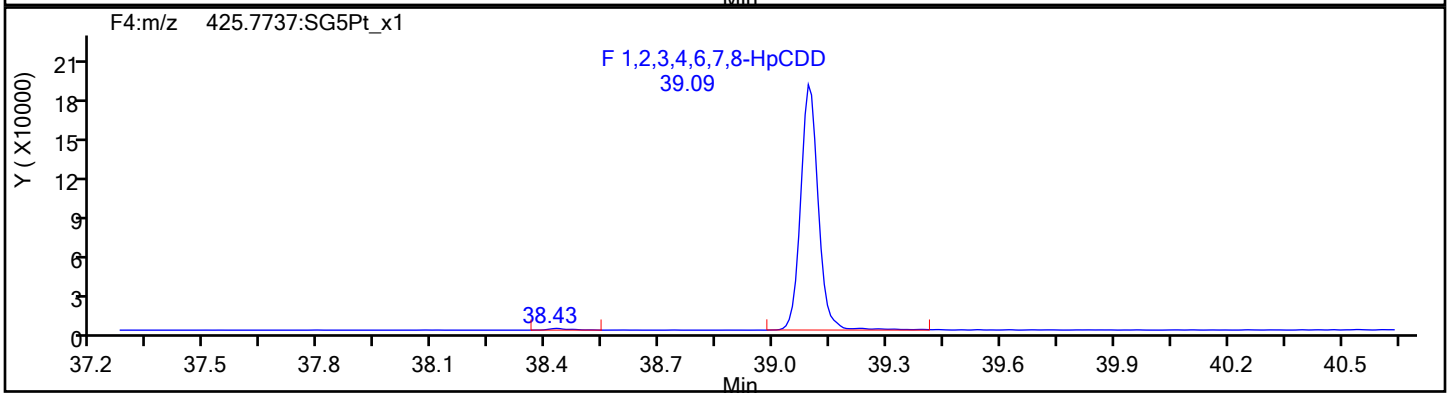


Eurofins Sacramento

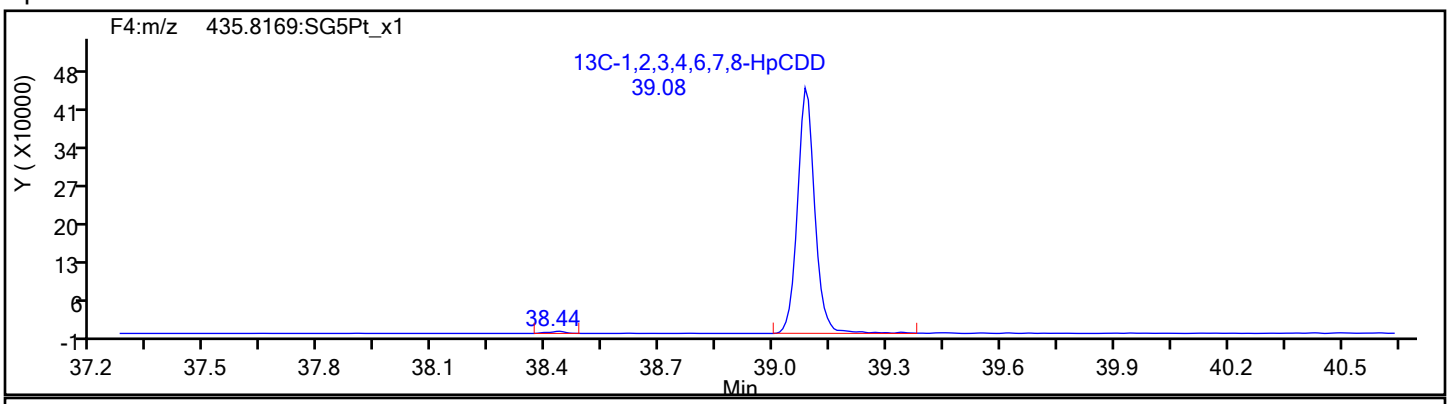
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d
Injection Date: 22-Jan-2022 08:12:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 15
Column Type: DB-5 Column Dia: 0.32 mm

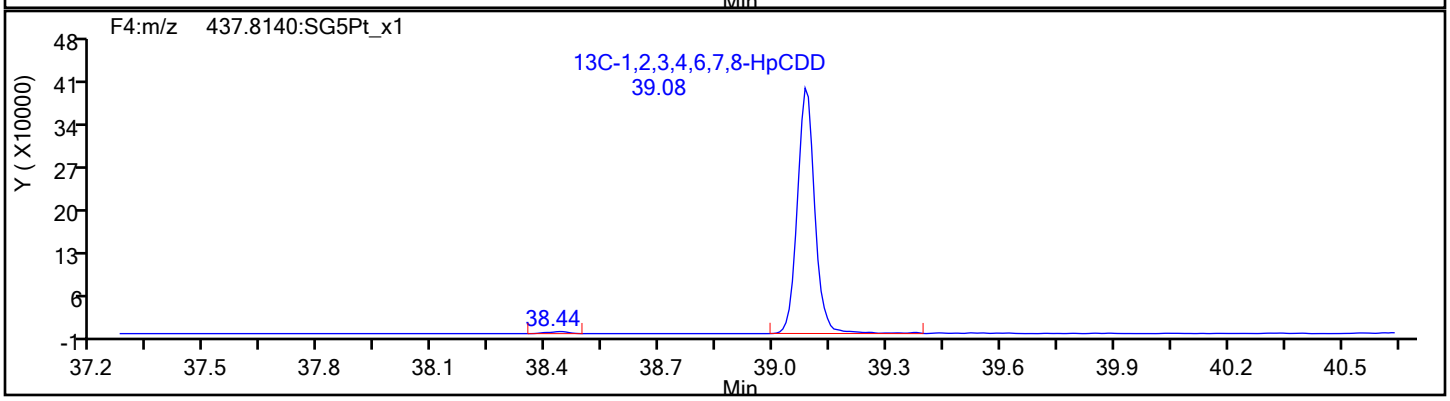
HpCDD





HpCDD Standards





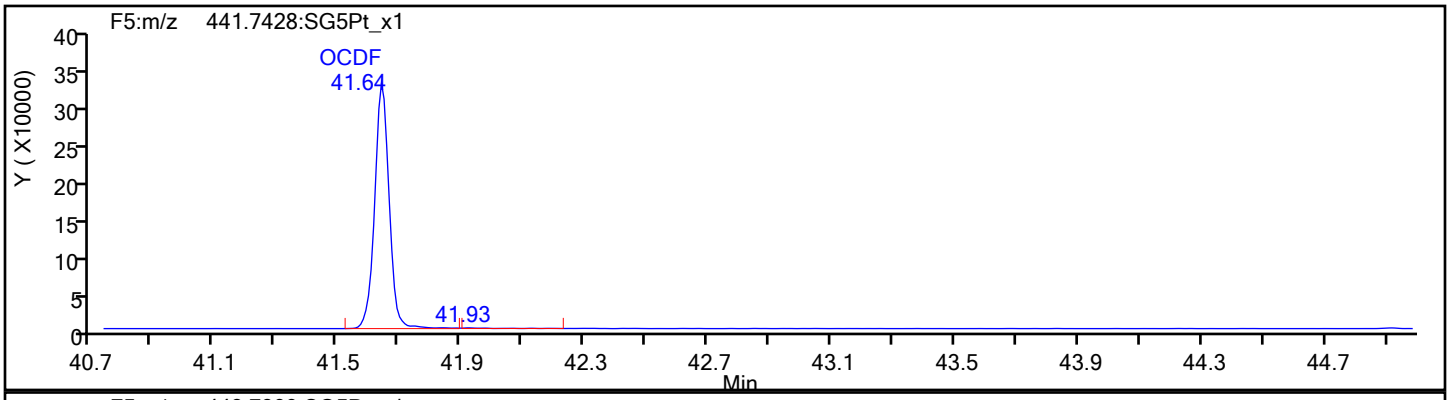
Report Date: 24-Jan-2022 12:21:04 Chrom Revision: 2.3 18-Jan-2022 20:25:40

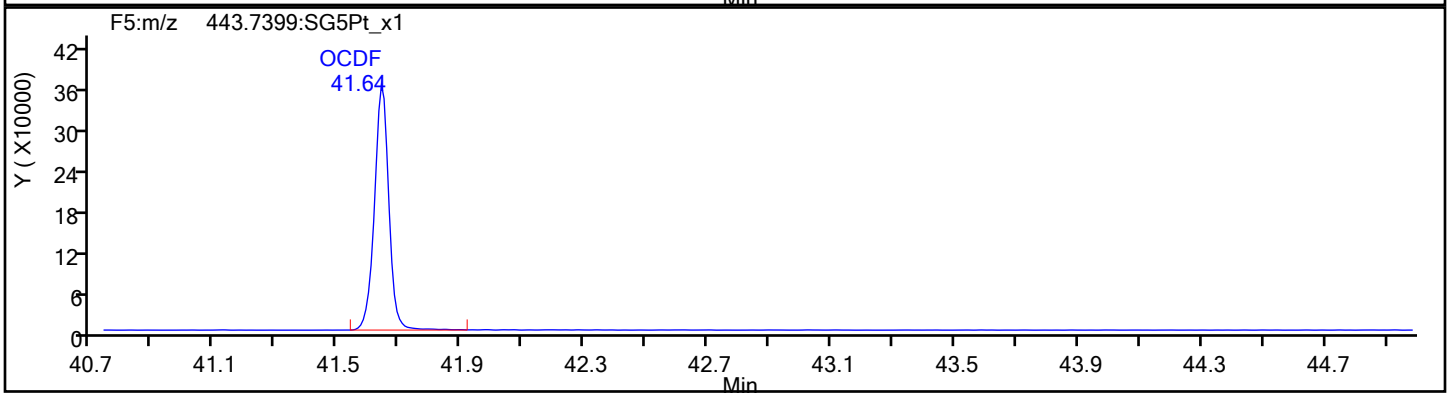
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d

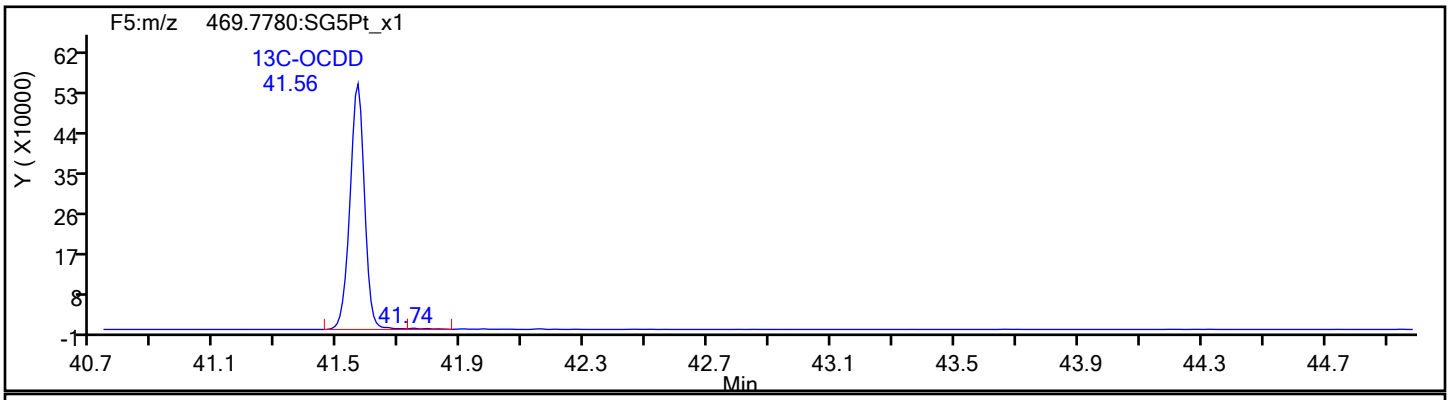
Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

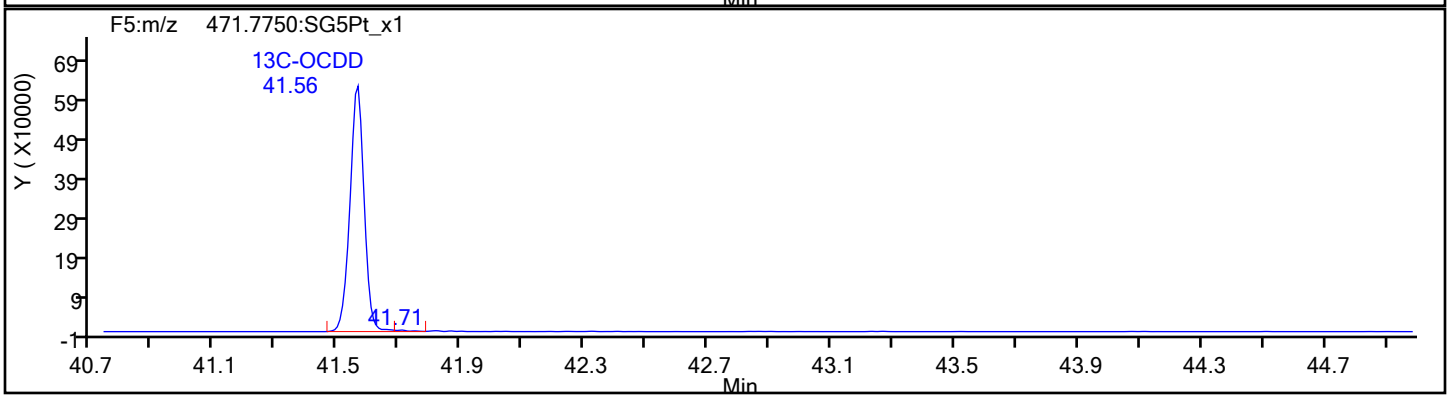
OCDF





OCDF Standards



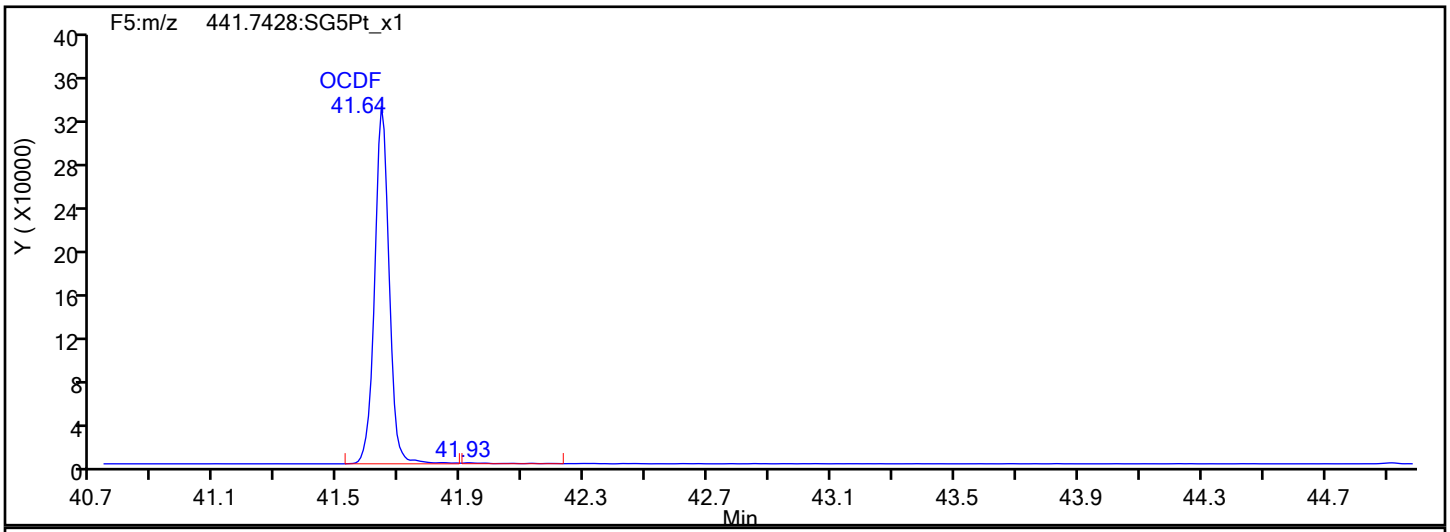


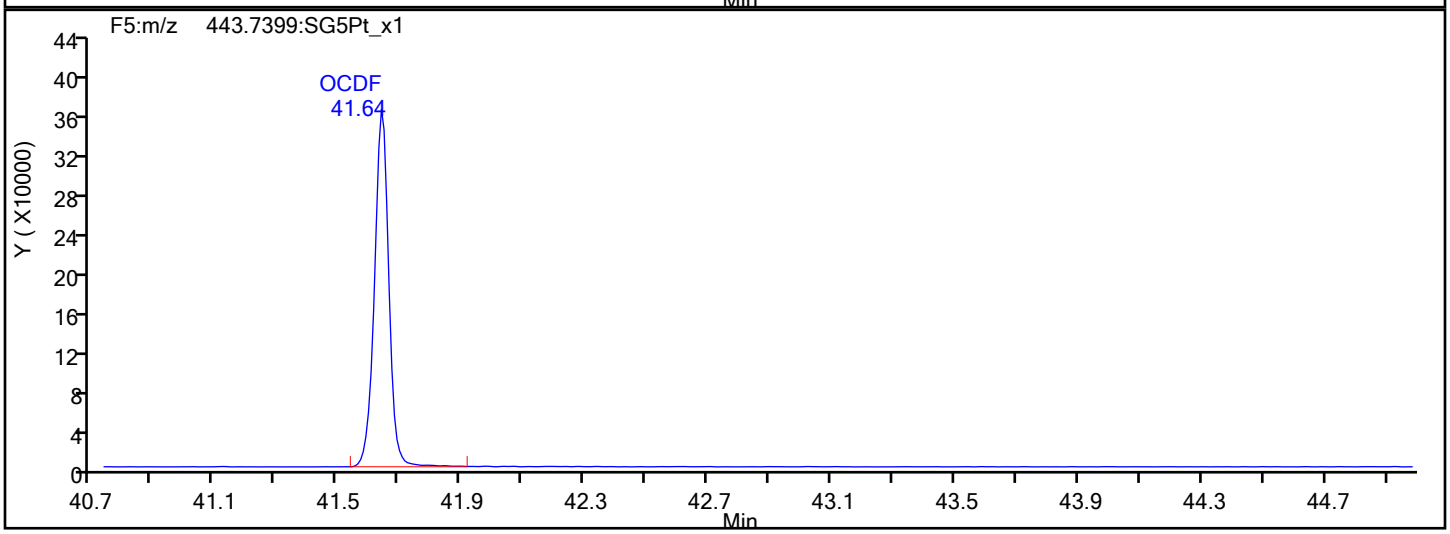
Report Date: 24-Jan-2022 12:21:05 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

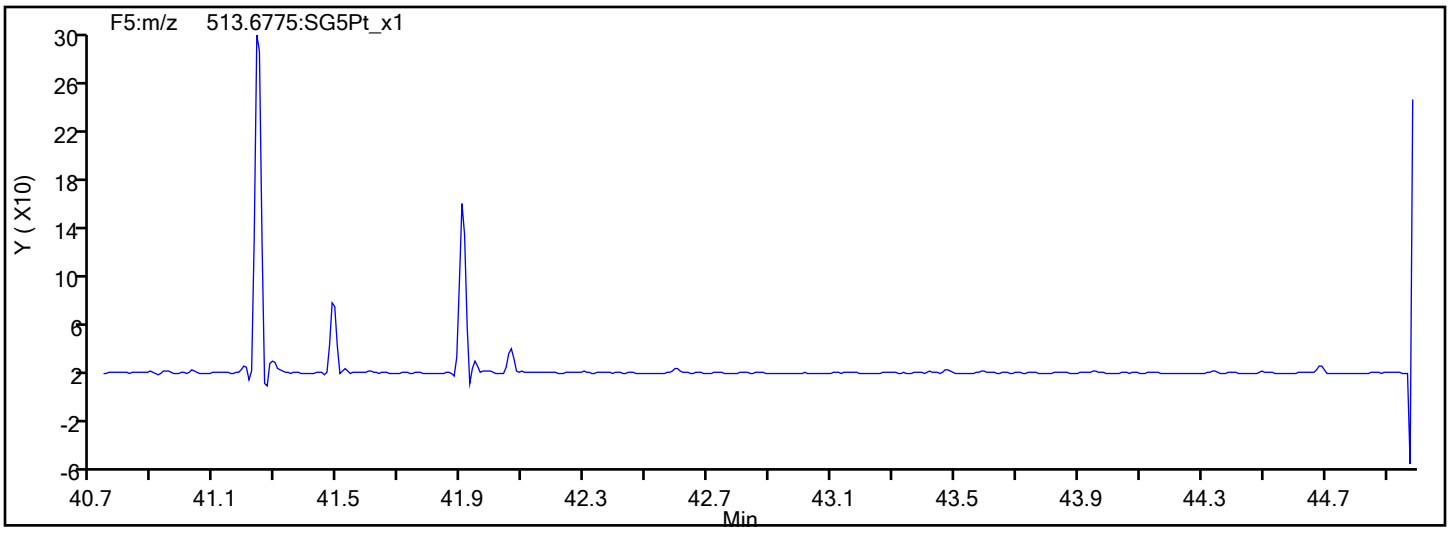
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d		
Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



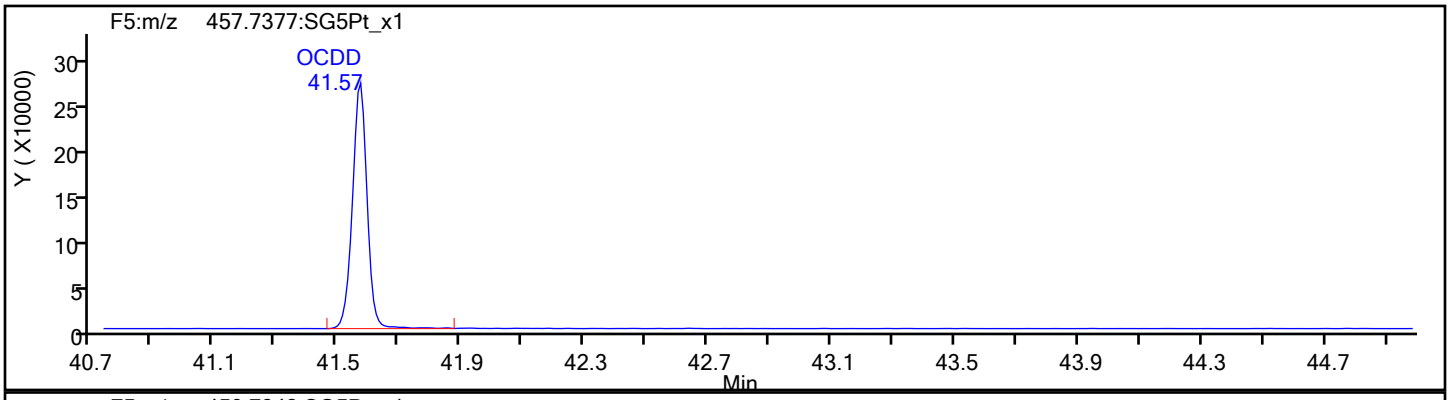
Report Date: 24-Jan-2022 12:21:05 Chrom Revision: 2.3 18-Jan-2022 20:25:40

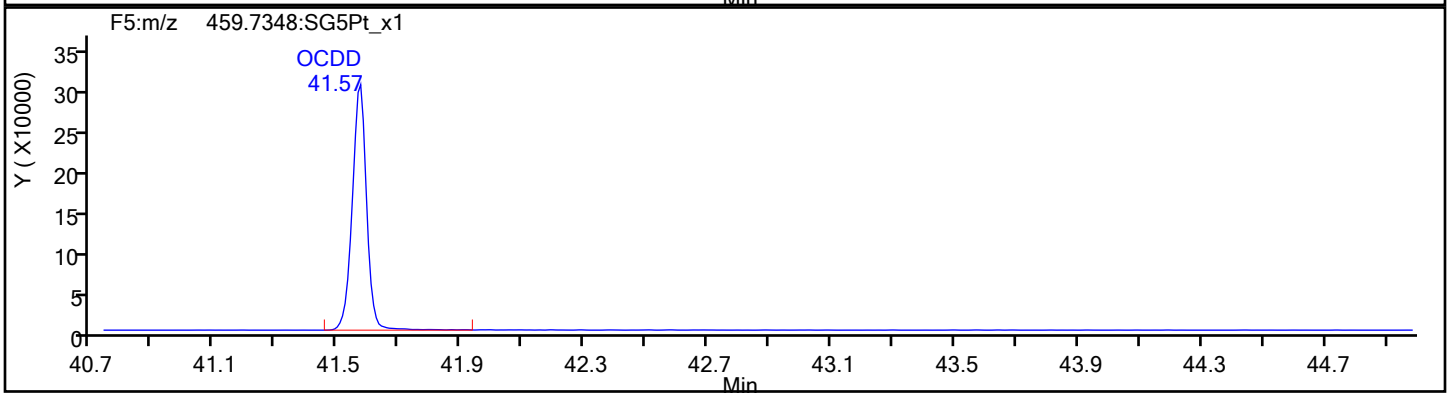
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d

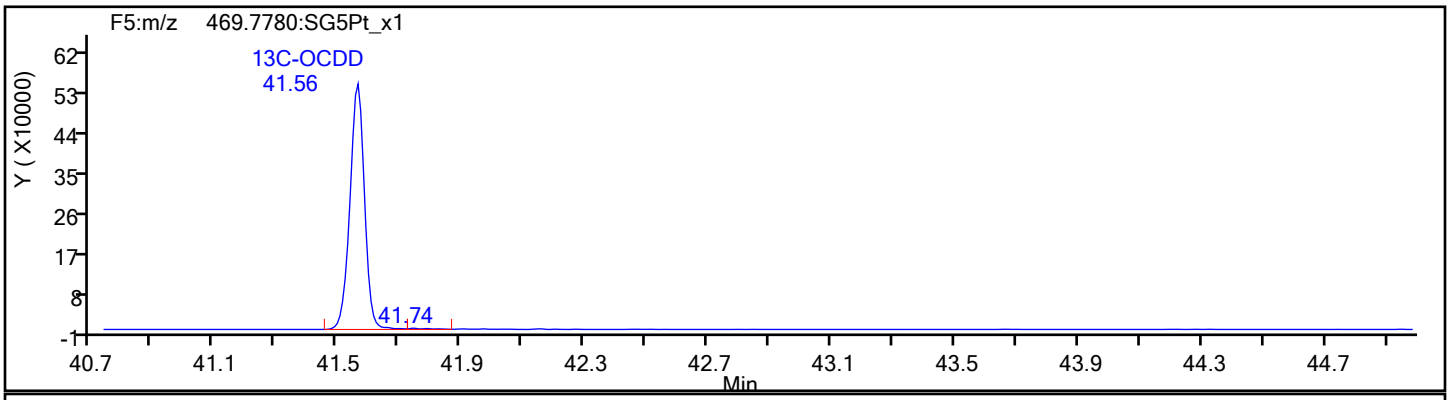
Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

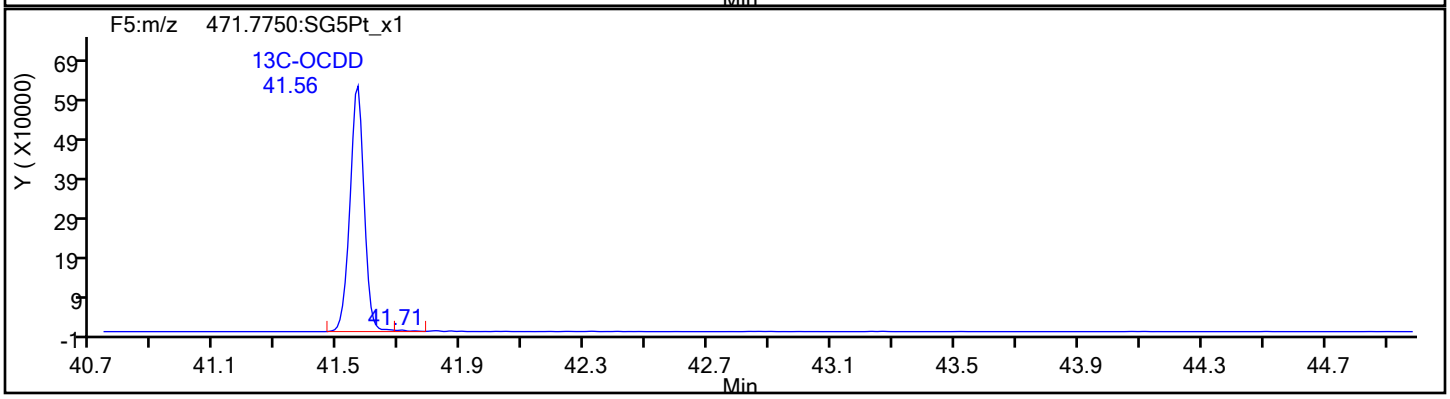
OCDD





OCDD Standards



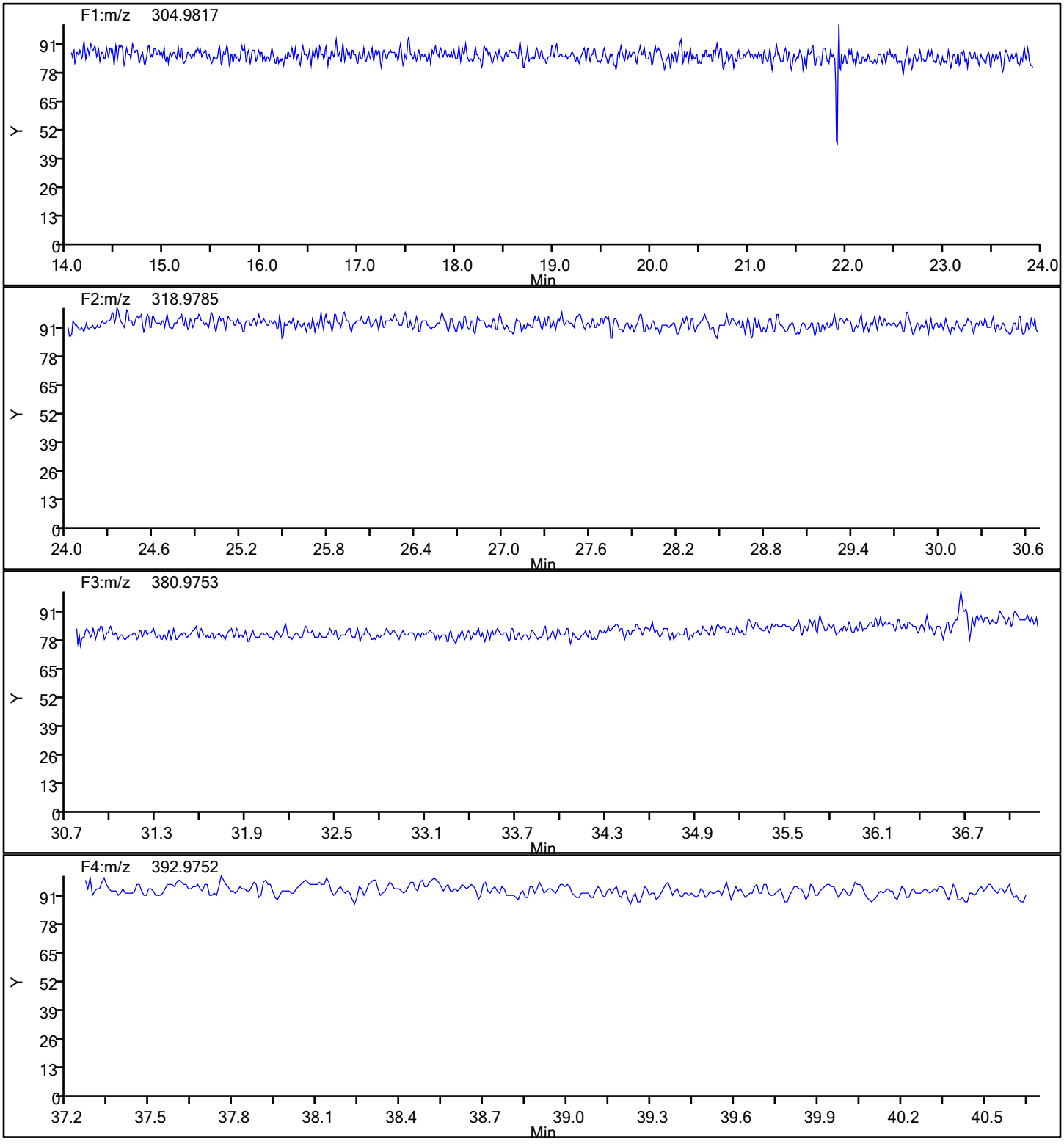


Report Date: 24-Jan-2022 12:21:05 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

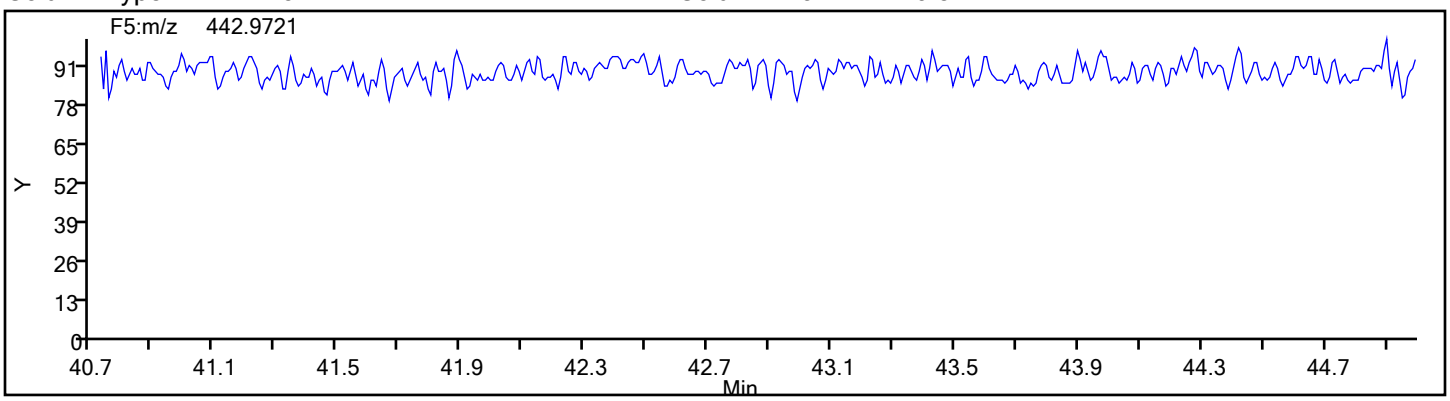
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d

Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_55.d		
Injection Date:	22-Jan-2022 08:12:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 13-Jan-2022 15:41:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 16:01:07 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:49:06

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	19.482	1555213	0.83	1.0164					0.00	
2,3,7,8-TCDF	19.525	3223544	0.79	1.0120	81.9	81.9	0.3895	0.3895		
A Non-2,3,7,8-sub-TCDF	19.070	34663	0.68	1.0120	0.8810	0.8810	0.3895	0.8810		
S Total TCDF					82.8	82.8	0.3895	0.3895		
D 13C-2,3,7,8-TCDD	20.788	1122237	0.83	0.7884					0.00	
2,3,7,8-TCDD	20.797	1217378	0.78	0.9906	43.8	43.8	0.2945	0.2945		
A Non-2,3,7,8-sub-TCDD	19.882						0.2945	0.2945		
S Total TCDD					43.8	43.8	0.2945	0.2945		
A F1 PeCDFs	23.796	32668	1.55	0.0000						RQ
A Non-2,3,7,8-sub-PeCDF	27.175						0.0	0.0		
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	27.560						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	34.398						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	34.845	12187	1.36	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	38.276	916835	1.02	1.4385						
1,2,3,4,7,8,9-HpCDF	39.557	719588	1.02	1.2202						
A Non-2,3,7,8-sub-HpCDF	38.916						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	39.253	575309	1.03	0.9767						
A Non-2,3,7,8-sub-HpCDD	38.925						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.471	1823288	0.77							
1,3,6,8-TCDD	17.009	1130557	0.79							
2,3,4,7-TCDF	19.525	3223544	0.79							
1,2,3,7-TCDD	20.608	985648	0.79							
1,2,3,9-TCDF	20.969	1457171	0.78							
1,2,3,9-TCDD	21.063	1357597	0.78							
1,2,8,9-TCDF	22.669	1358619	0.81							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	22.755	461519								
1,3,4,6,8-PeCDF	23.296	1471884	1.61							
1,2,3,8,9-PeCDD	25.349	940330	1.51							
1,2,4,7,9-PeCDD	29.770	875487	1.52							
1,2,3,8,9-PeCDF	29.914	1093533	1.52							
1,2,3,4,6,8-HxCDF	32.334	1163405	1.24							
1,2,4,6,7,9-HxCDD	33.581	834719	1.27							
1,2,3,4,6,7-HxCDD	36.108	756315	1.26							
1,2,3,4,8,9-HxCDF	36.462	970776	1.27							
1,2,3,4,6,7,9-HpCDD	38.596	684268	1.06							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 13-Jan-2022 15:41:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 20-Jan-2022 16:01:07 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1667

First Level Reviewer: stephensk Date: 17-Jan-2022 14:49:06

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	19.482	19.482	0	1.000	707024	107557	751	1877	143		
317.9389	19.482	19.482	0	1.000	848189	141059	241	602	585	0.83(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.525	19.520	0	1.002	1424917	192869	431	1077	447		
305.8987	19.525	19.520	0	1.002	1798627	249937	549	1372	455	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	23.322	19.070	255	1.197	14069	2211	431	1077	5		
305.8987	23.296	19.070	253	1.196	20594	2929	549	1372	5	0.68(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.788	20.788	0	1.000	510569	70614	248	620	285		
333.9338	20.771	20.788	-1	1.000	611668	94860	60	150	1581	0.83(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.797	20.821	-1	1.000	535108	72892	251	627	290		
321.8936	20.806	20.821	-1	1.001	682270	94933	232	580	409	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	19.882						251	627			
321.8936	19.882						232	580			
A F1 PeCDFs											RQ
339.8597	23.468	23.796	-20	1.000	26906	3485	30	75	116		
341.8567	23.588	23.796	-12	1.000	11151	1794	80	200	22	2.41(1.32-1.78)	
339.8597	23.923	23.796	8	1.000	2573	505	30	75	17		
341.8567	23.966	23.796	10	1.000	12359	2120	80	200	27	0.21(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.175						137	342			
341.8567	27.175						139	347			

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.560						197	492			
357.8516	27.560						95	237			
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.398						196	490			
375.8178	34.398						154	385			
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.828	34.845	-1	1.000	7029	1269	148	370	9		
391.8127	34.837	34.845	0	1.000	5158	1015	129	322	8	1.36(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.276	38.299	-1	1.000	463487	116572	302	755	386		
409.7788	38.267	38.299	-2	1.000	453348	115770	290	725	399	1.02(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.557	39.584	-2	1.000	363536	96803	302	755	321		
409.7788	39.557	39.584	-2	1.000	356052	97483	290	725	336	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.916						302	755			
409.7788	38.916						290	725			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.253	39.277	-1	1.000	292090	76440	214	535	357		
425.7737	39.253	39.277	-1	1.000	283219	75876	212	530	358	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.925						214	535			
425.7737	38.925						212	530			
1,3,6,8-TCDF											
303.9016	15.471	15.471	0		791643	160803	431	1077	373		
305.8987	15.471	15.471	0		1031645	208074	549	1372	379	0.77(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	17.009	17.009	0		500705	88981	251	627	355		
321.8936	17.000	17.009	-1		629852	115318	232	580	497	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	19.525	19.525	0		1424917	192869	431	1077	447		
305.8987	19.525	19.525	0		1798627	249937	549	1372	455	0.79(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	20.608	20.608	0		435568	63061	251	627	251		
321.8936	20.599	20.608	-1		550080	82517	232	580	356	0.79(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	20.969	20.969	0		639137	88745	431	1077	206		
305.8987	20.969	20.969	0		818034	116107	549	1372	211	0.78(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	21.063	21.063	0		596135	76097	251	627	303		
321.8936	21.063	21.063	0		761462	101300	232	580	437	0.78(0.65-0.89)	
1,2,8,9-TCDF											
303.9016	22.669	22.669	0		607573	75660	431	1077	176		
305.8987	22.661	22.669	-1		751046	97291	549	1372	177	0.81(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	22.755	22.755	0		461519	59587	251	627	237		

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,3,4,6,8-PeCDF											
339.8597	23.296	23.296	0		907308	141460	30	75	4715		
341.8567	23.296	23.296	0		564576	85214	80	200	1065	1.61(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.349	25.349	0		565426	87245	197	492	443		
357.8516	25.349	25.349	0		374904	58295	95	237	614	1.51(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	29.770	29.770	0		527704	75341	197	492	382		
357.8516	29.770	29.770	0		347783	46524	95	237	490	1.52(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	29.914	29.914	0		659298	84623	137	342	618		
341.8567	29.905	29.914	-1		434235	56866	139	347	409	1.52(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	32.334	32.334	0		643968	82959	196	490	423		
375.8178	32.334	32.334	0		519437	68565	154	385	445	1.24(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8158	33.581	33.581	0		467777	76666	148	370	518		
391.8127	33.581	33.581	0		366942	62205	129	322	482	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8158	36.108	36.108	0		422134	90974	148	370	615		
391.8127	36.108	36.108	0		334181	71054	129	322	551	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	36.462	36.462	0		543265	121449	196	490	620		
375.8178	36.462	36.462	0		427511	98911	154	385	642	1.27(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7767	38.596	38.596	0		351447	94171	214	535	440		
425.7737	38.596	38.596	0		332821	90175	212	530	425	1.06(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 13-Jan-2022 15:41:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 558558 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 19.070

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.012	D 13C-2,3,7,8-TCDF	40.000	1555213	248616

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.012		40.000	1555213	248616

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
23.322	14069	2211	20594	2929	0.8810	0.68	
Signal Totals:							
	14069	2211	20594	2929			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	34663	5140				0.68	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8810 = (34663 * 40.000) / (1555213 * 1.012)

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 13-Jan-2022 15:41:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 558558 Lims Sample ID: 1

F1 PeCDFs, RT: 23.796

Initial Calibration RRF

Target Compound	RRF
1,2,3,7,8-PeCDF	0.976
2,3,4,7,8-PeCDF	0.922

IsoDil Std Amount Added and Responses

Iso Dil Std Compound	Amount pg/ul	Area	Height

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.468	26906	3485	11151	1794		2.41	R
23.923	2573	505	12359	2120		0.21	R
Signal Totals:							
	29479	3990	23510	3914			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	52989	7904				1.25	RQ
	32668	5404					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (52989 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (32668 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 13-Jan-2022 15:41:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 558558 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 34.845

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829				
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
34.828	7029	1269	5158	1015		1.36	
Signal Totals:							
	7029	1269	5158	1015			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12187	2284				1.36	

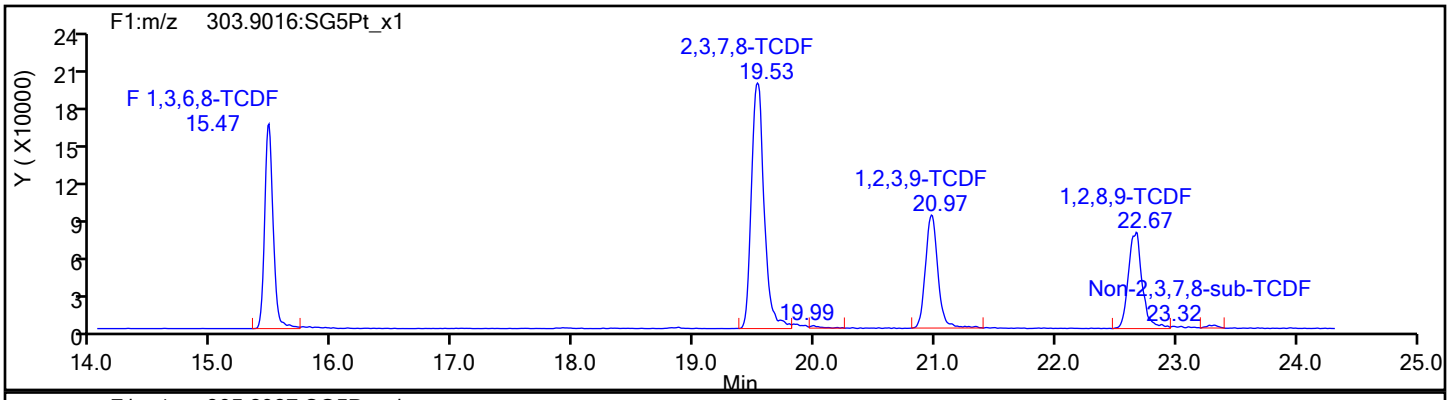
On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

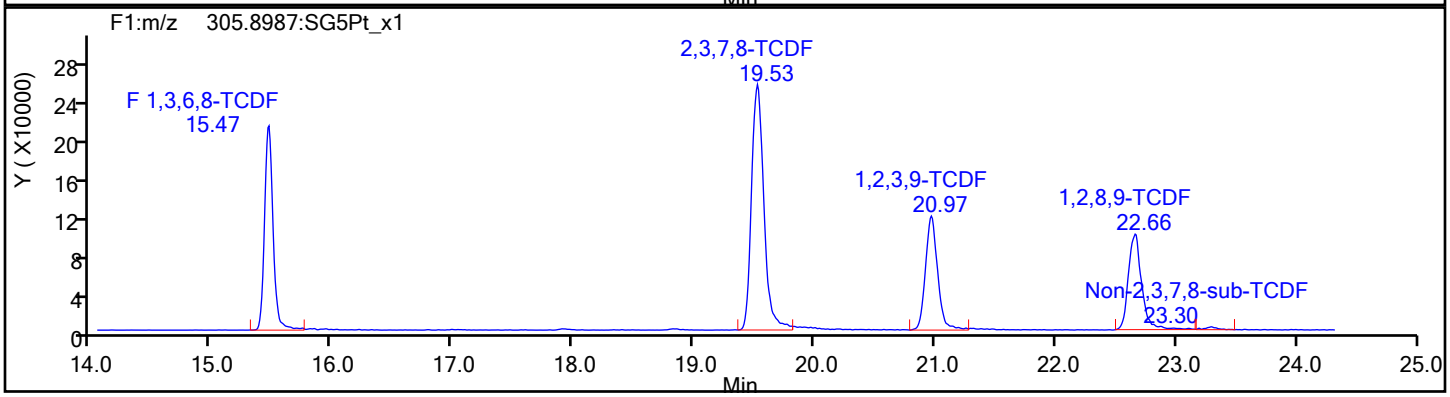
Amount: 0.0 = (12187 * 0.0) / (0 * 0.000)

Eurofins Sacramento

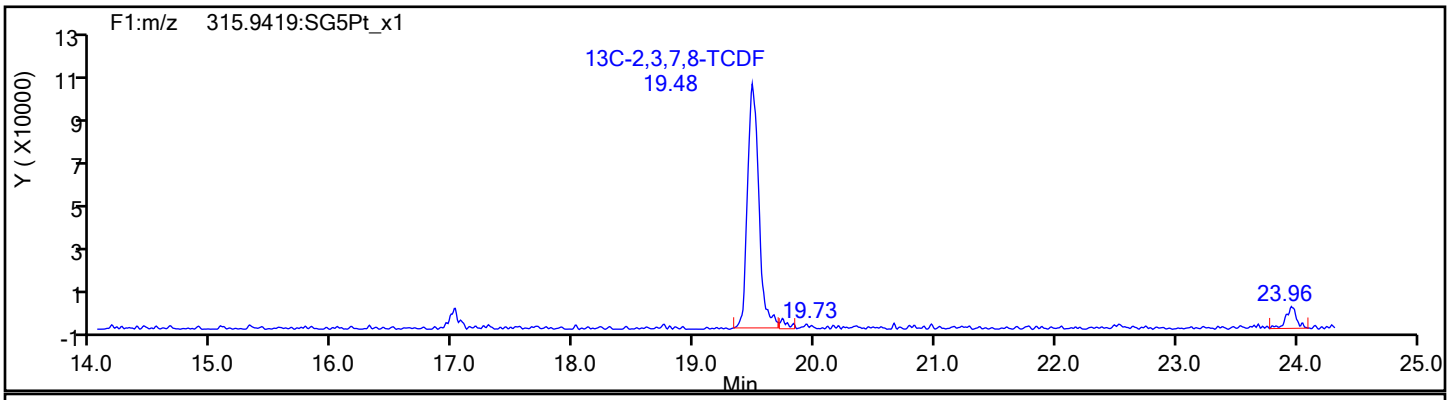
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

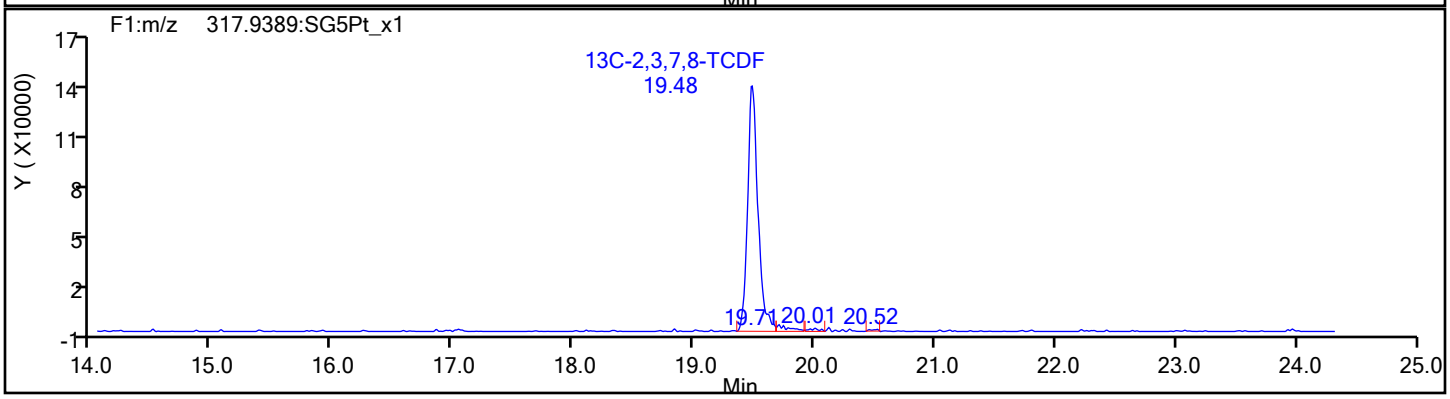
TCDF





TCDF Standards

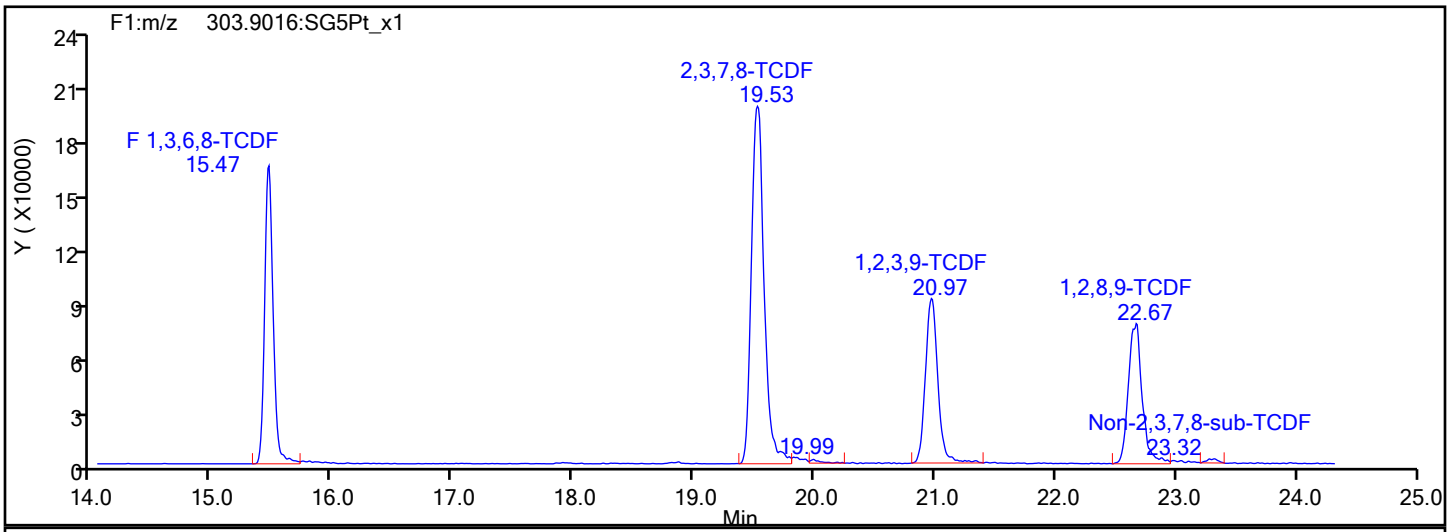


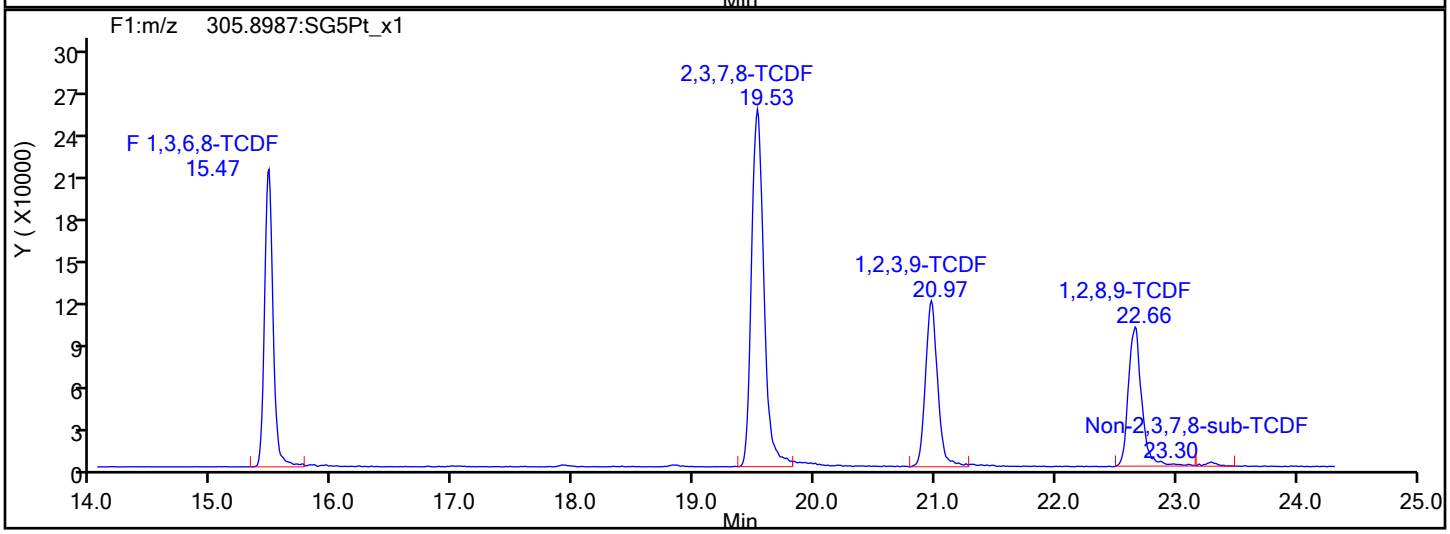


Eurofins Sacramento

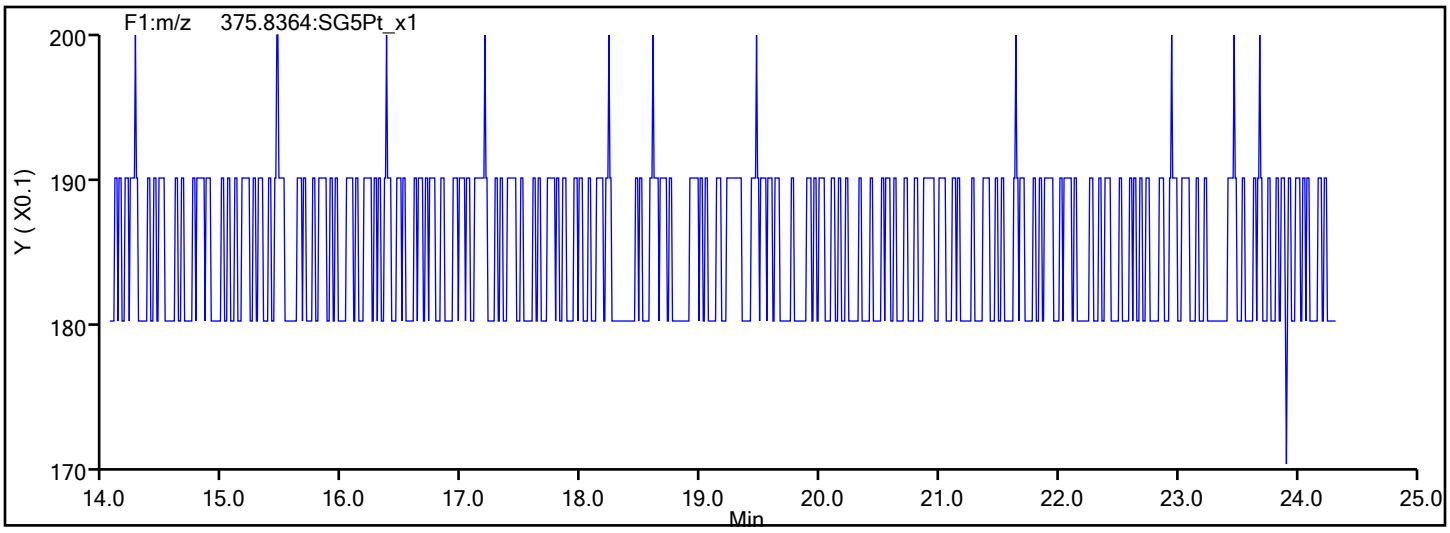
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



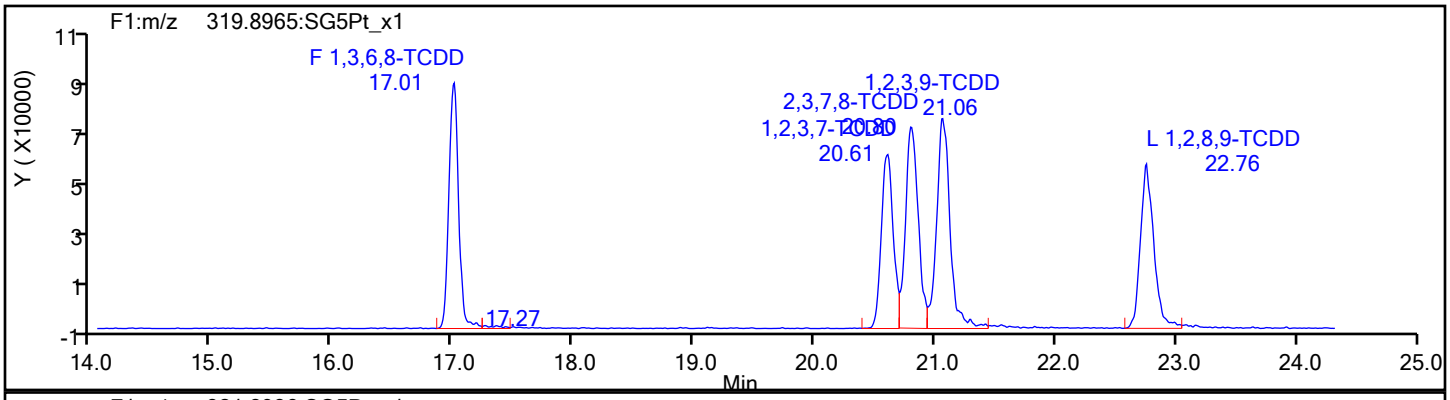
Report Date: 20-Jan-2022 16:01:09 Chrom Revision: 2.3 18-Jan-2022 20:25:40

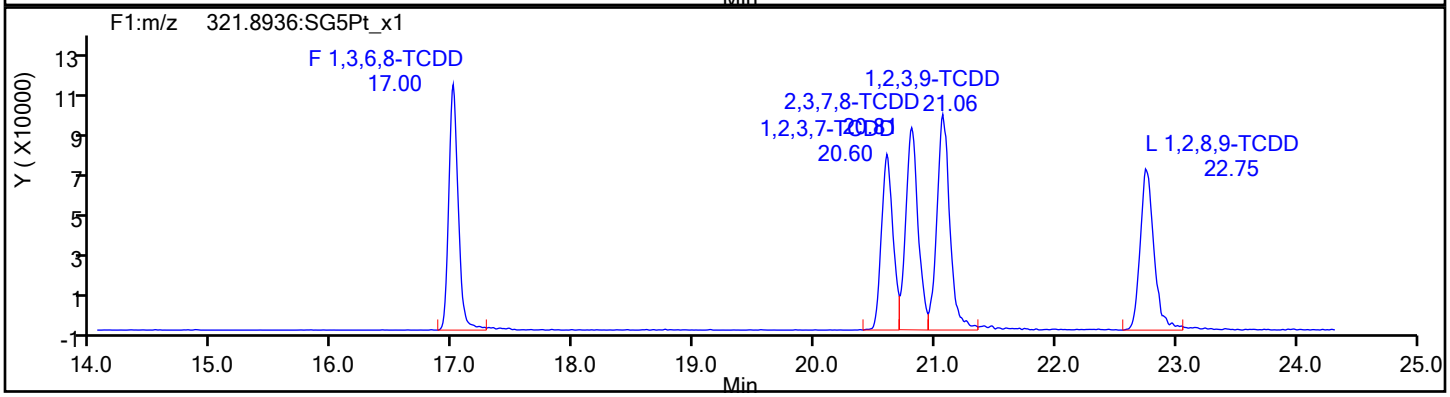
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

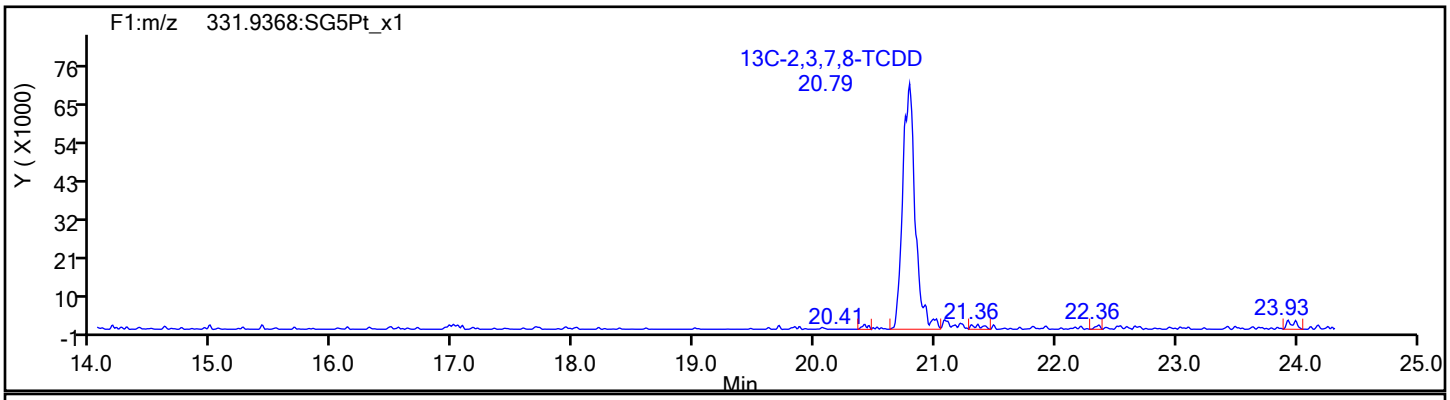
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

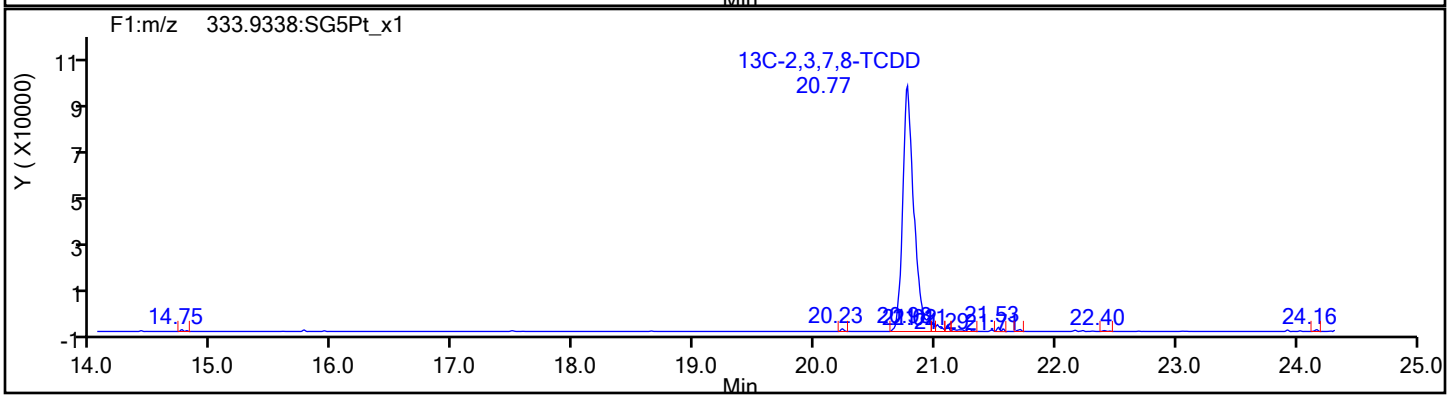
TCDD





TCDD Standards

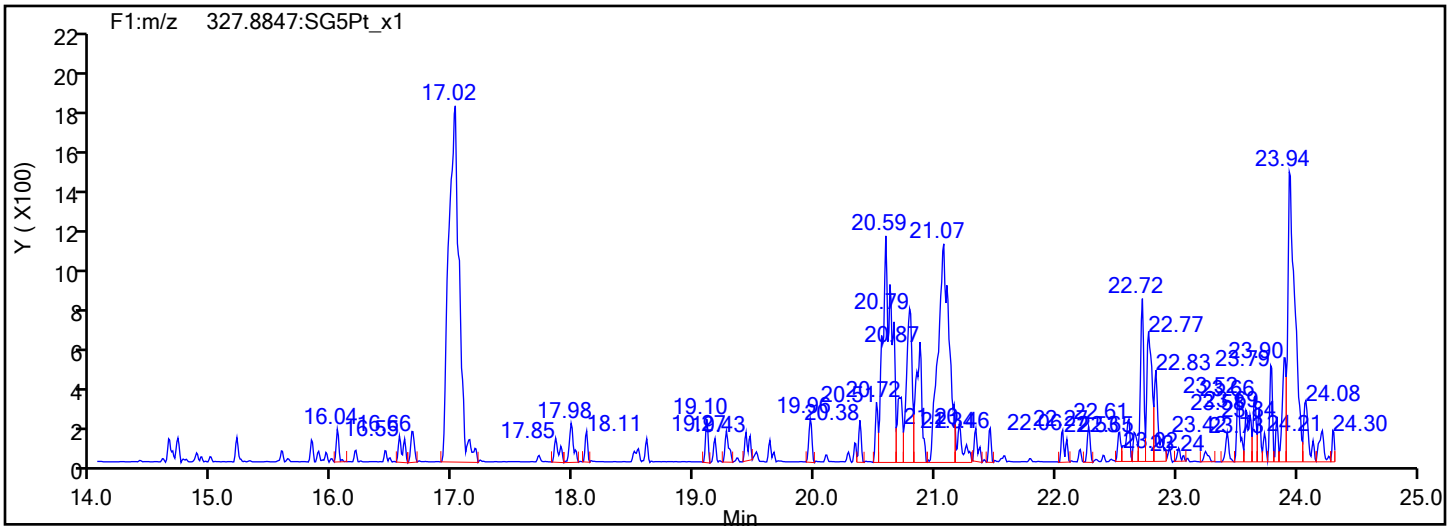




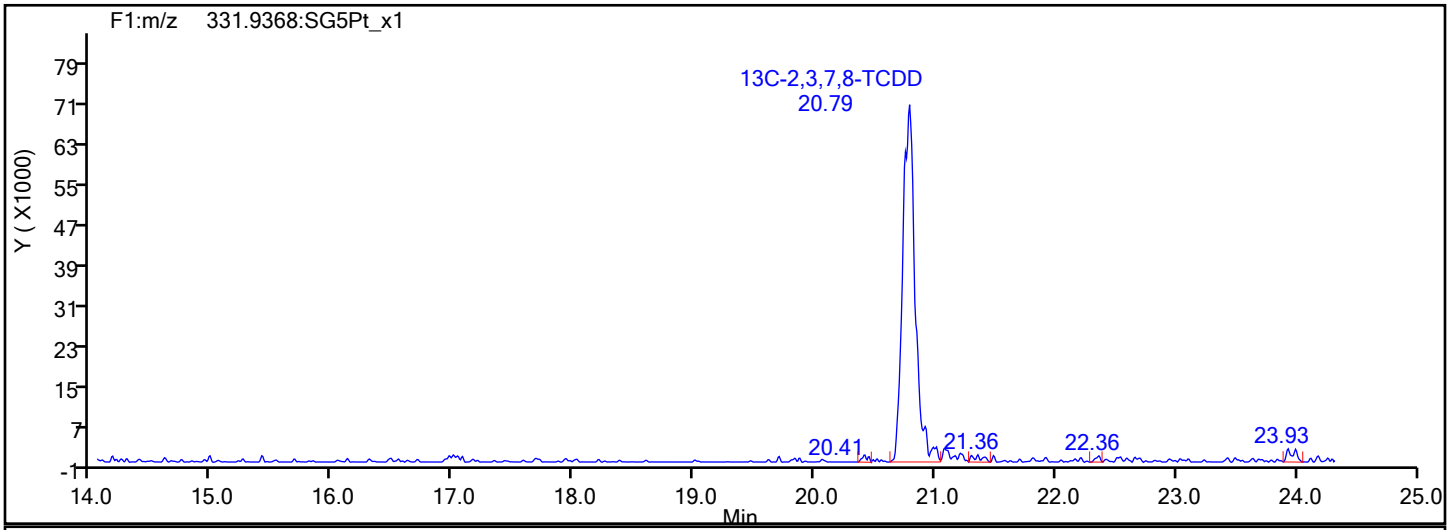
Eurofins Sacramento

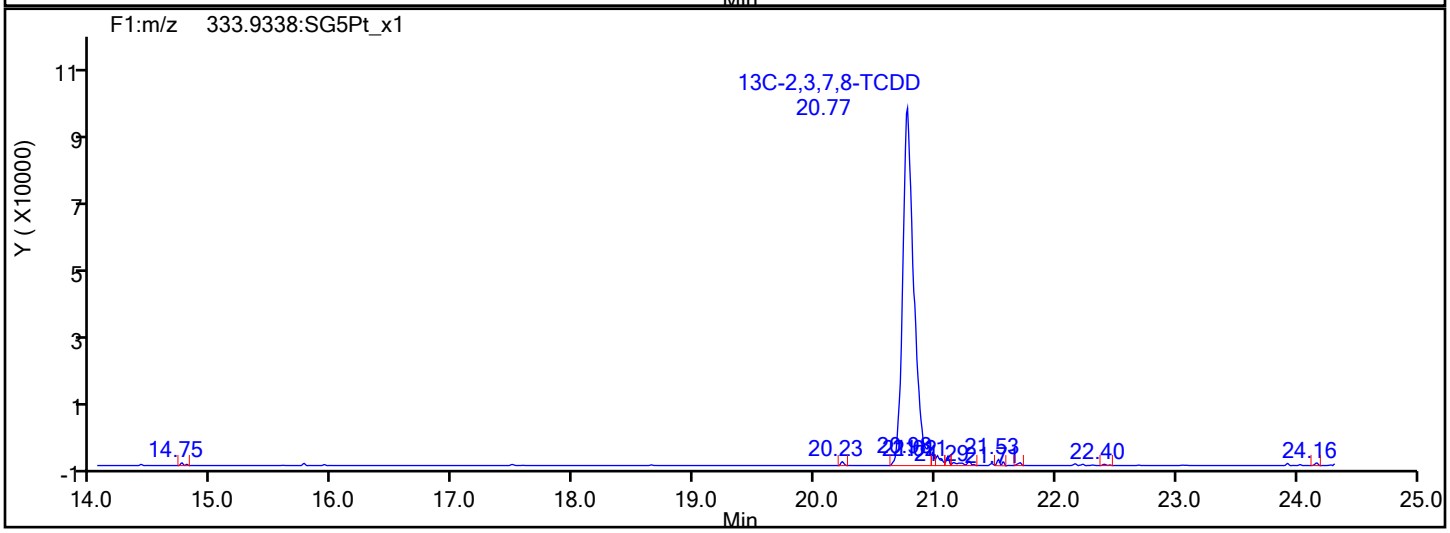
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d		
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





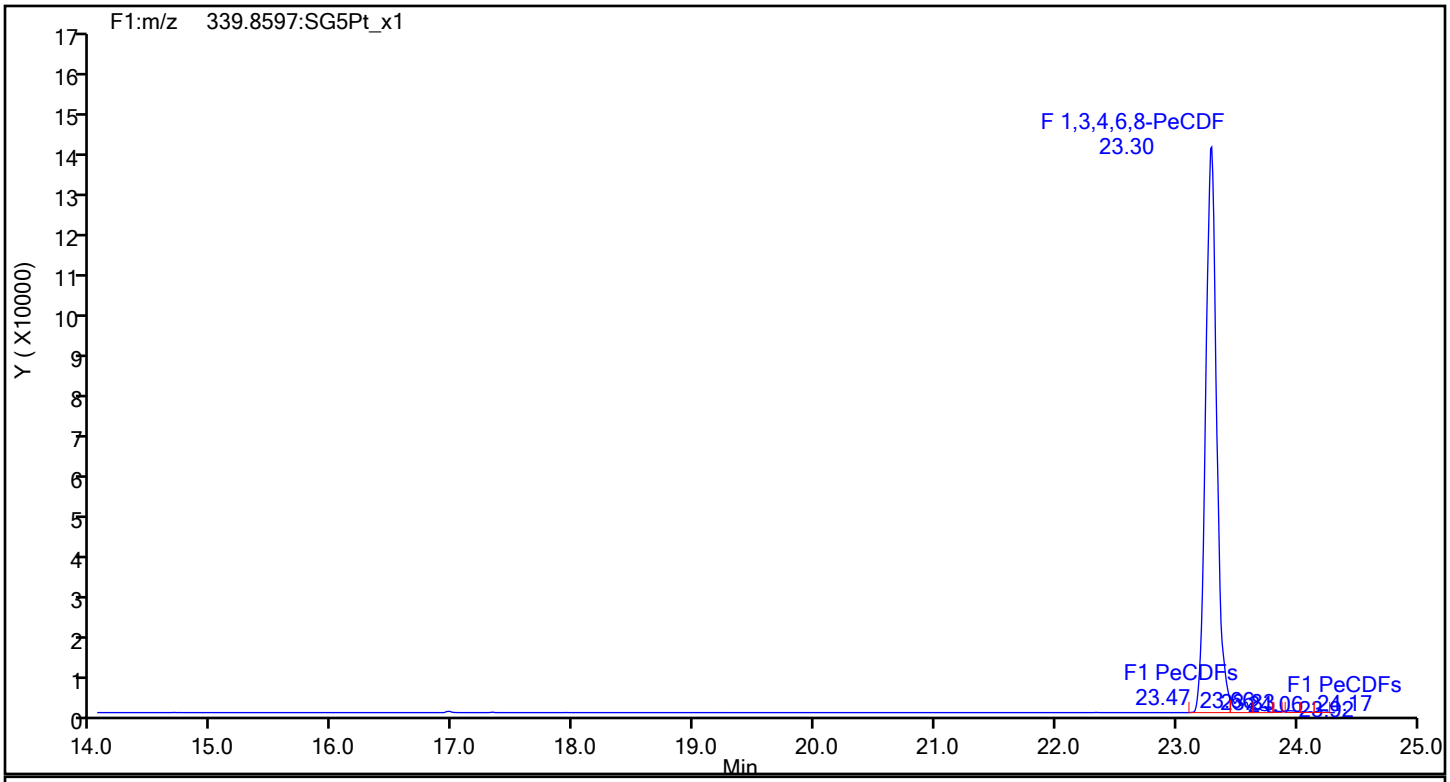
Report Date: 20-Jan-2022 16:01:09 Chrom Revision: 2.3 18-Jan-2022 20:25:40

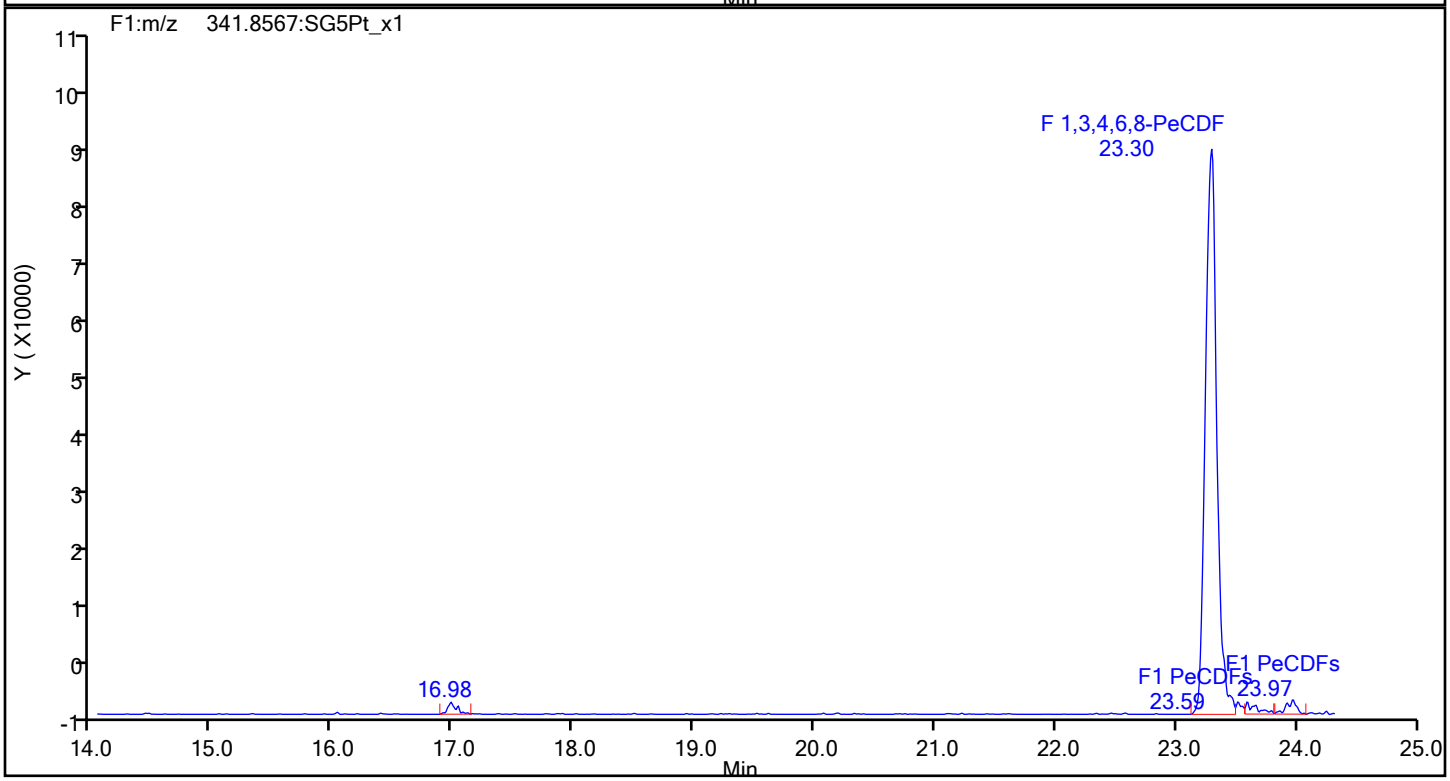
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

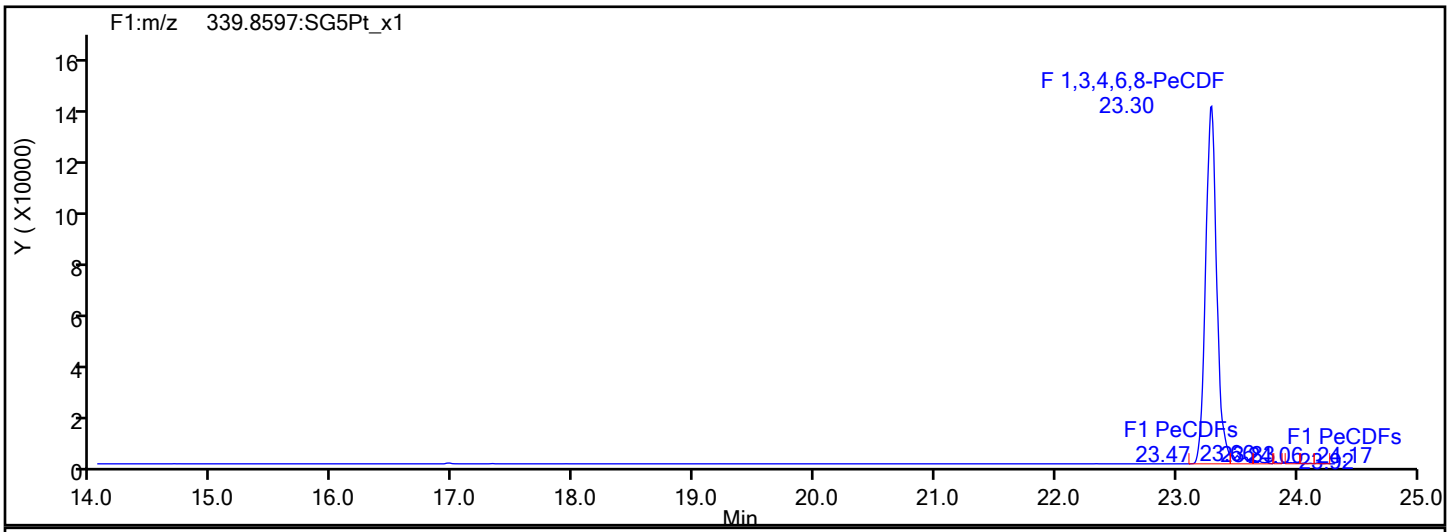


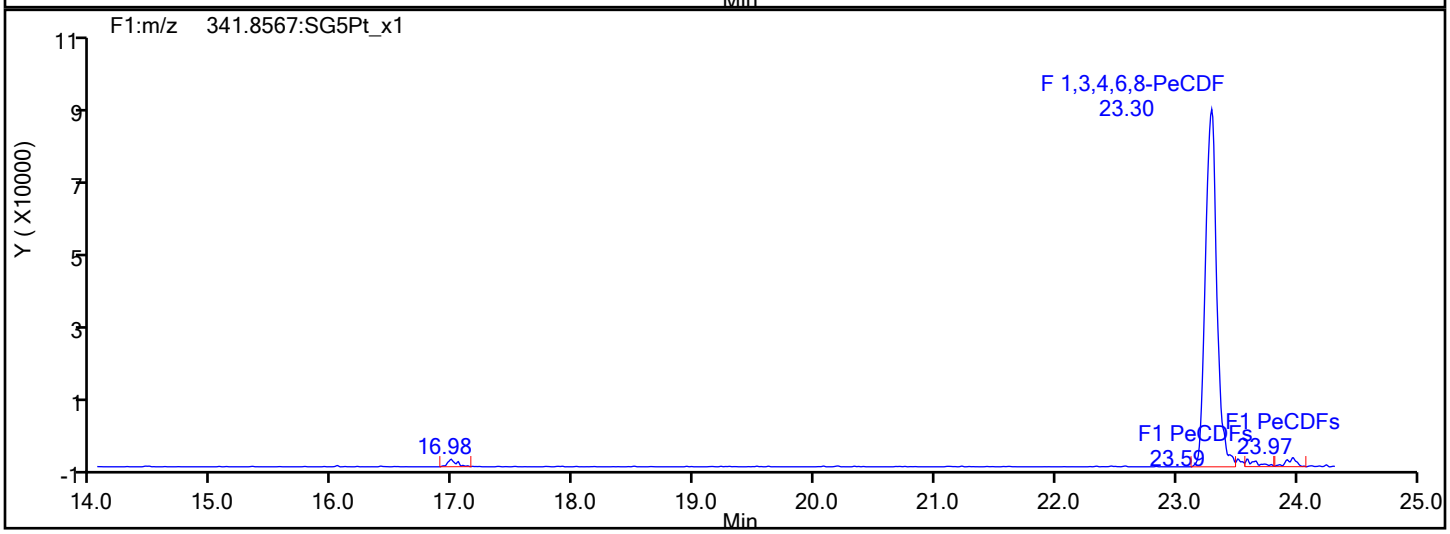


Eurofins Sacramento

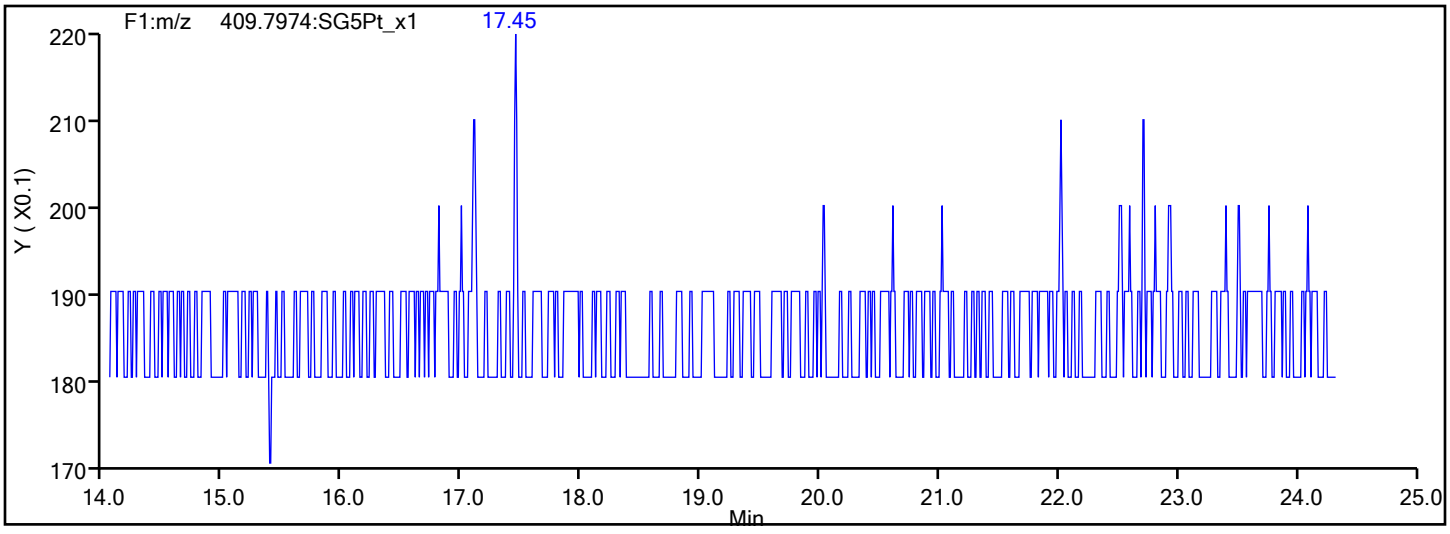
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs





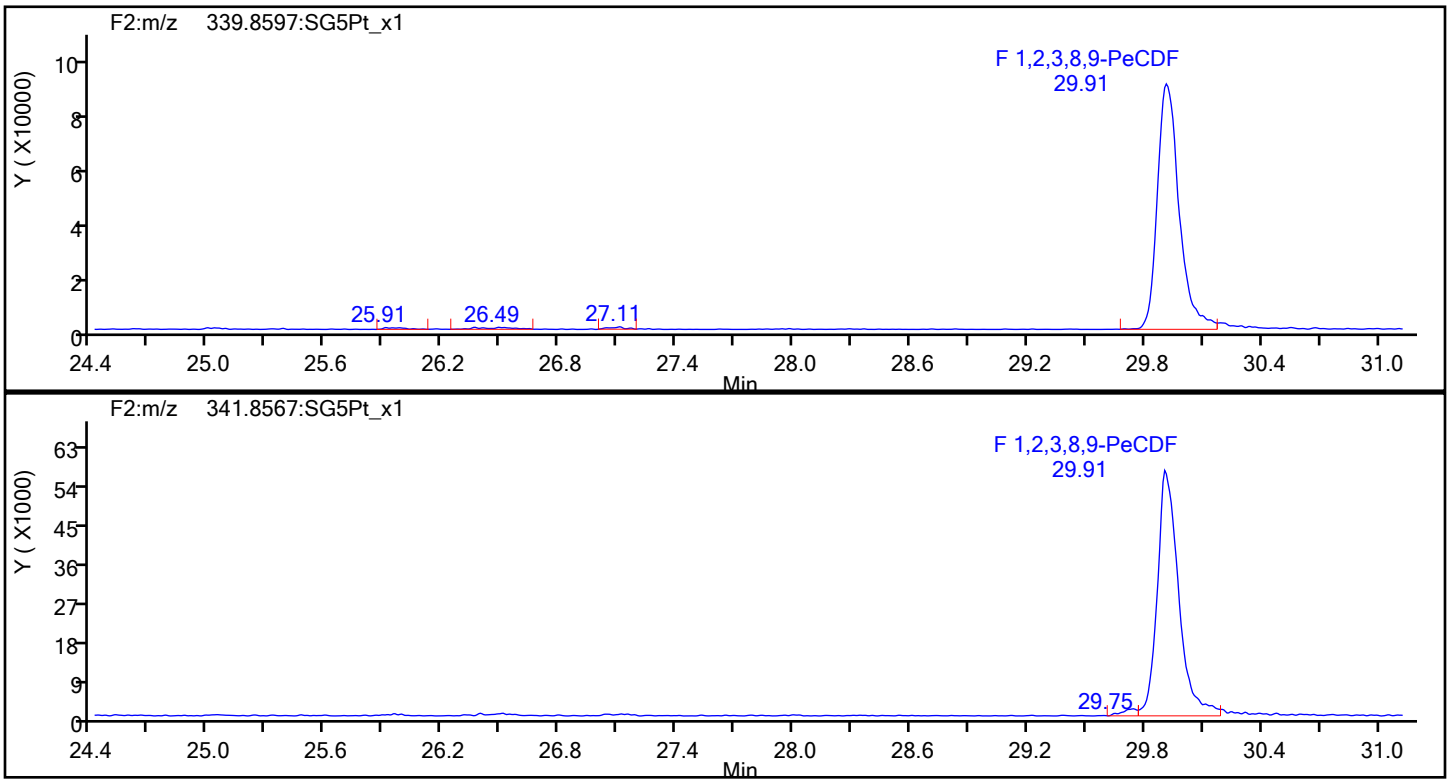
F1 PeCDFs Interference Mass



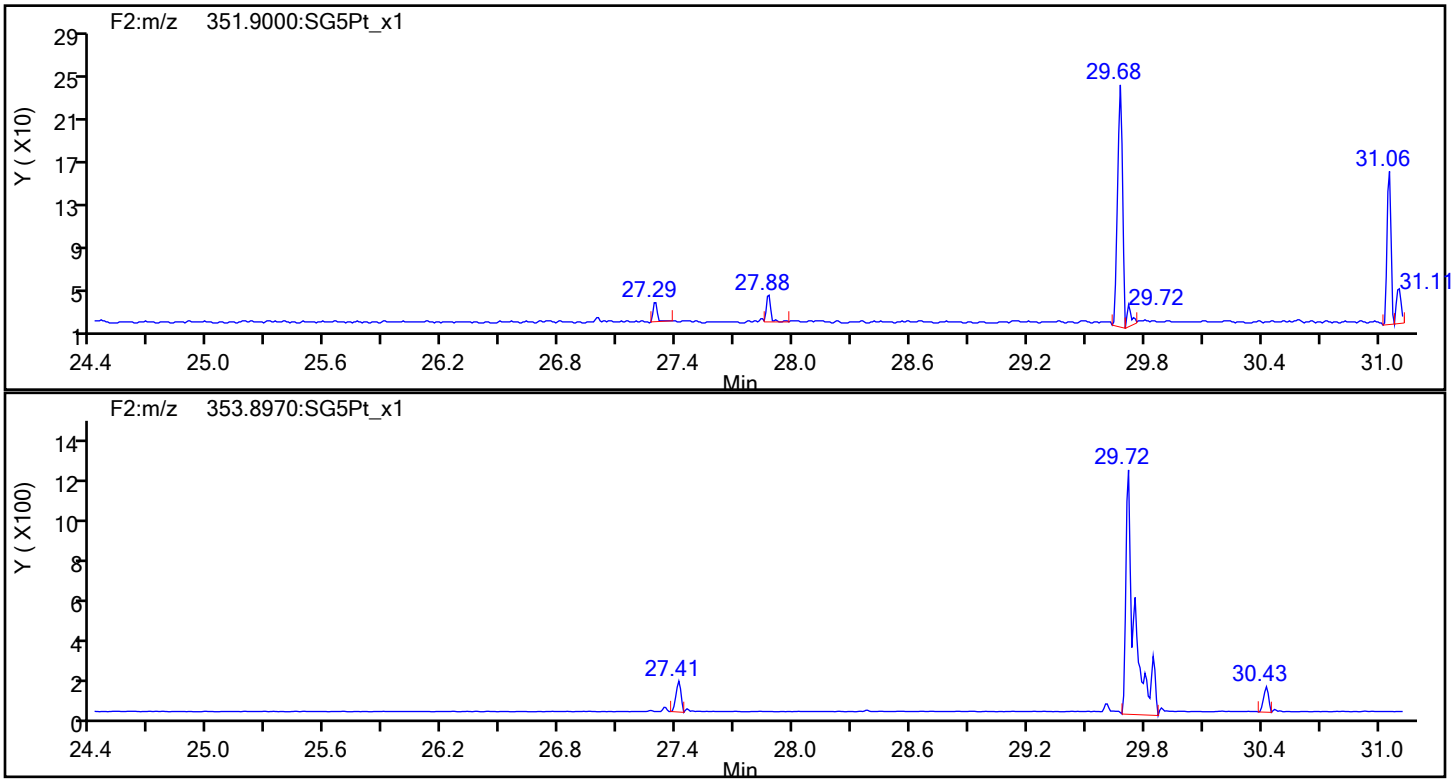
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



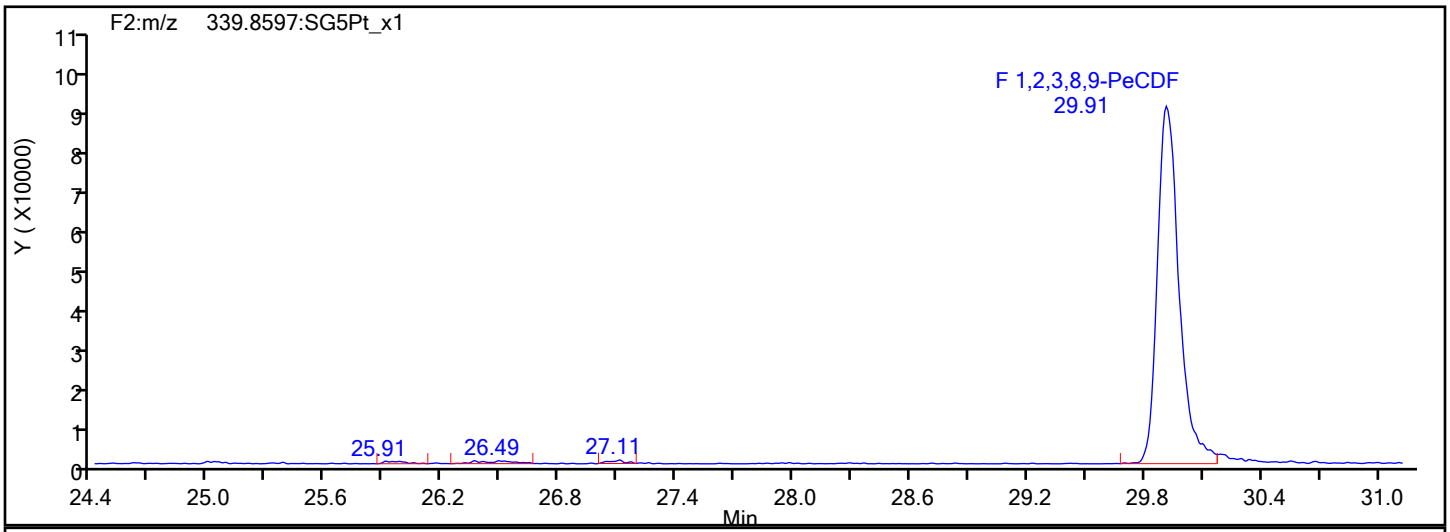
PeCDF Standards

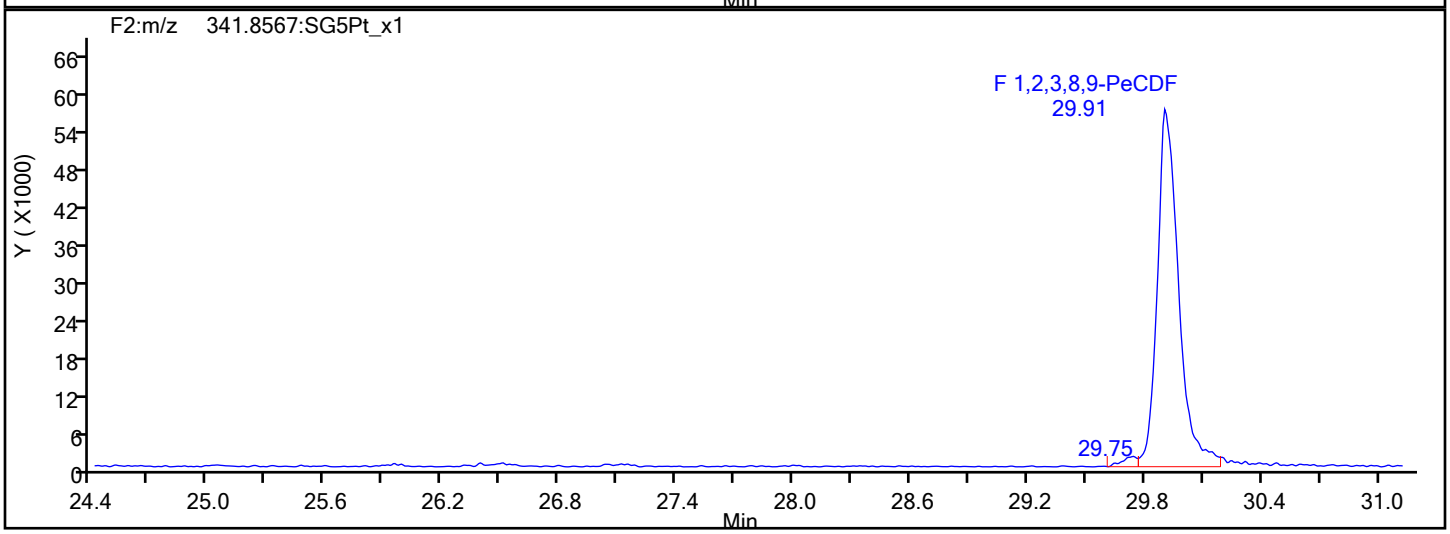


Eurofins Sacramento

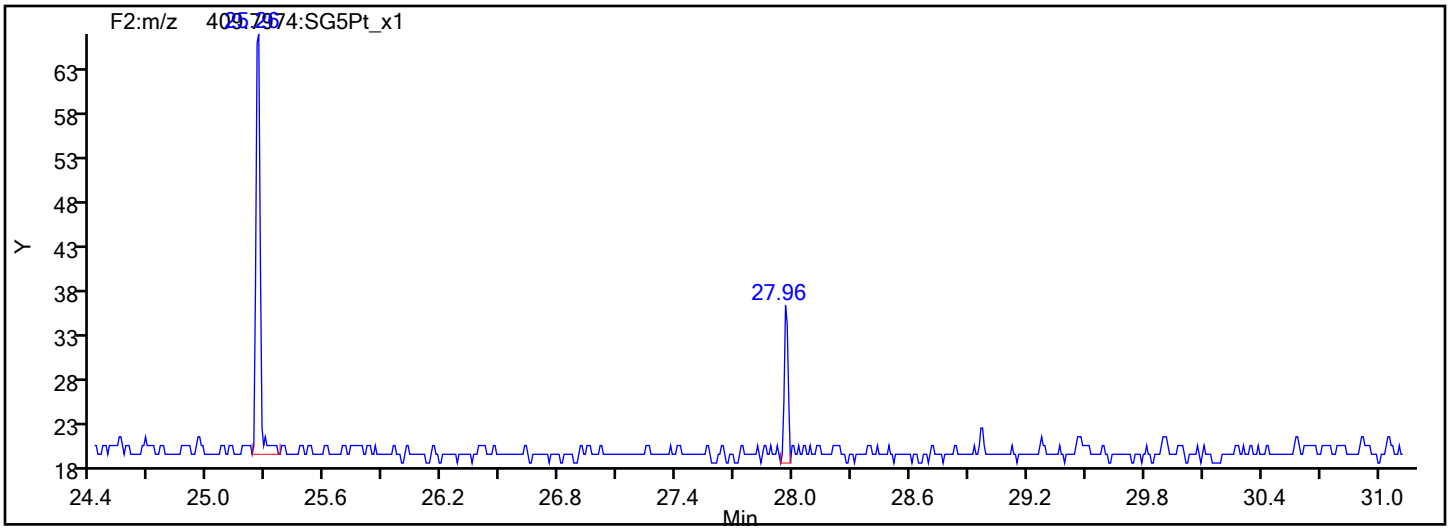
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d		
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



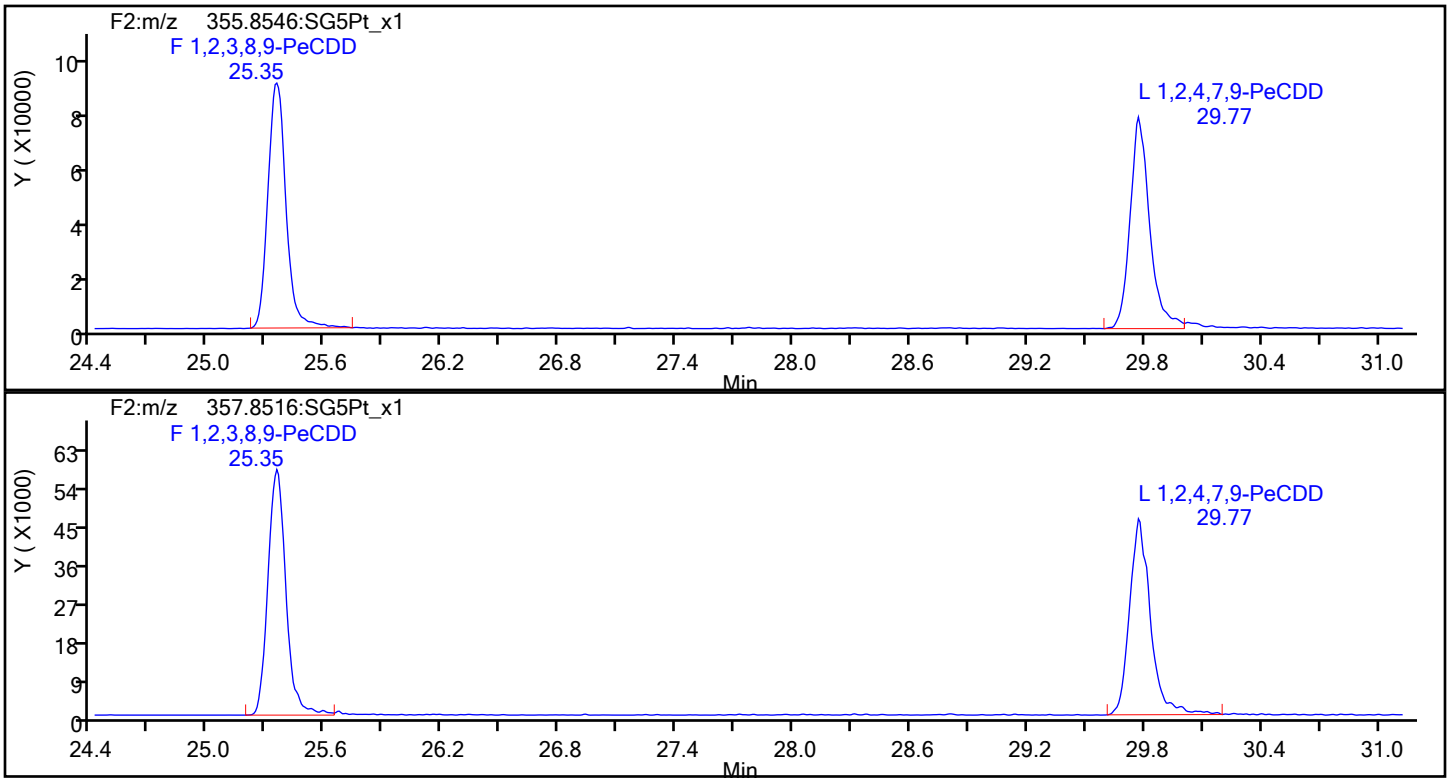
Report Date: 20-Jan-2022 16:01:10 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

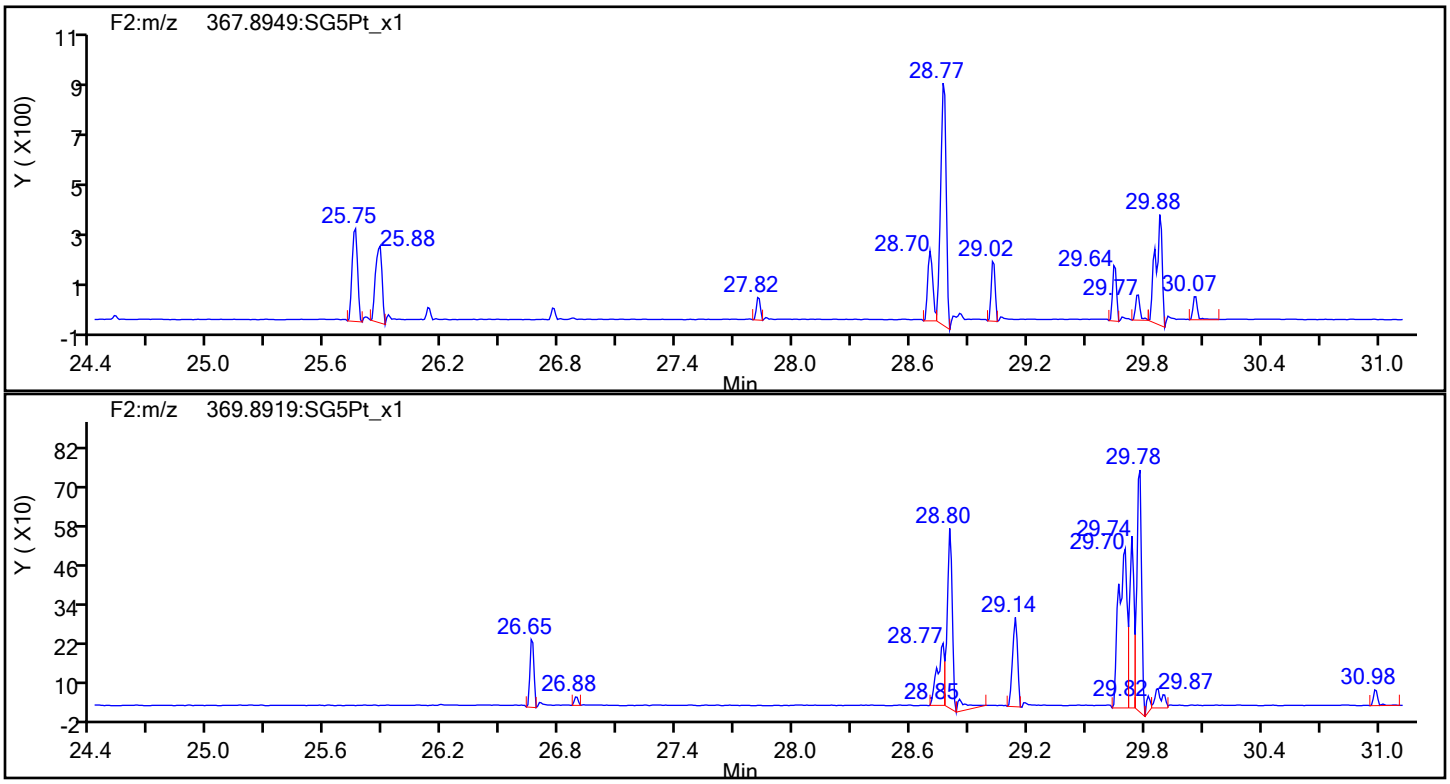
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD



PeCDD Standards



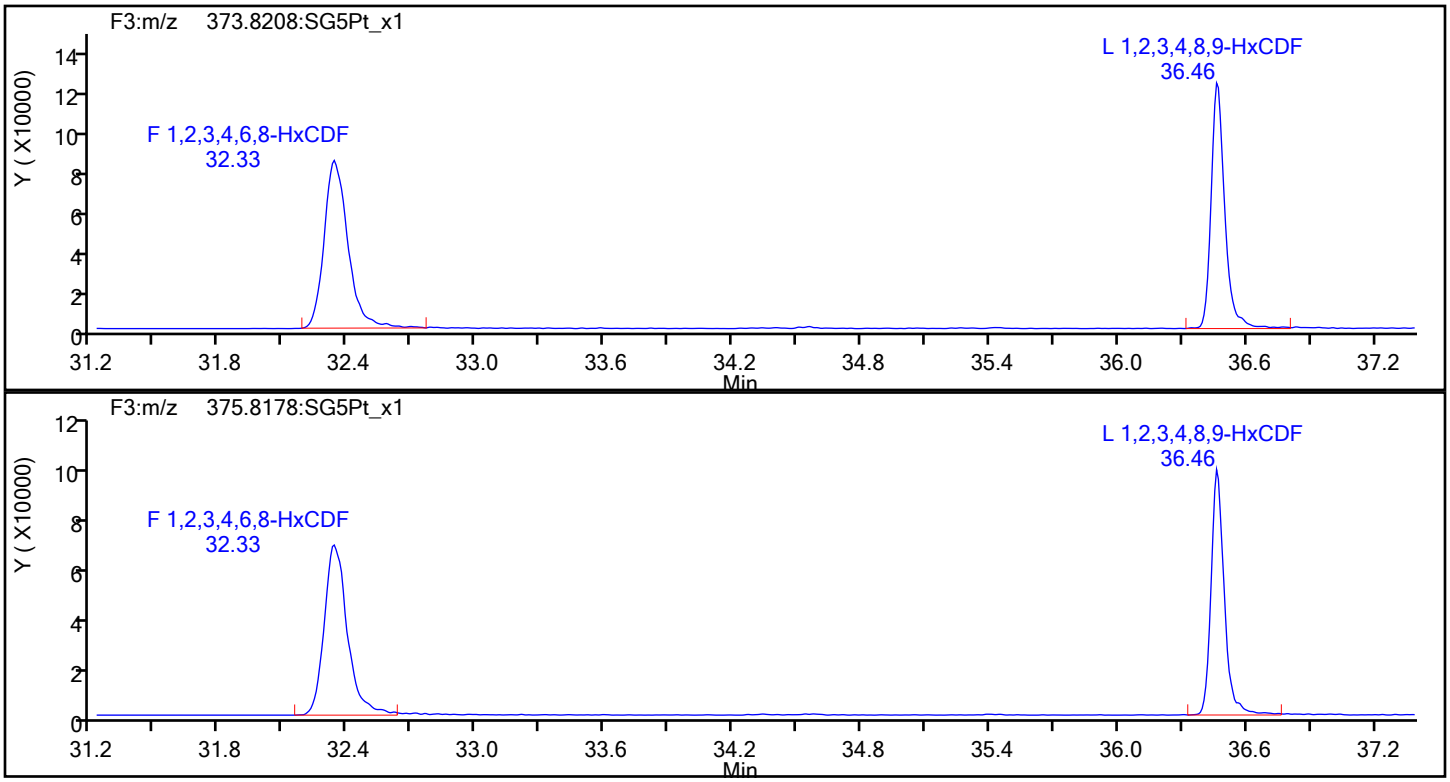
Report Date: 20-Jan-2022 16:01:10 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

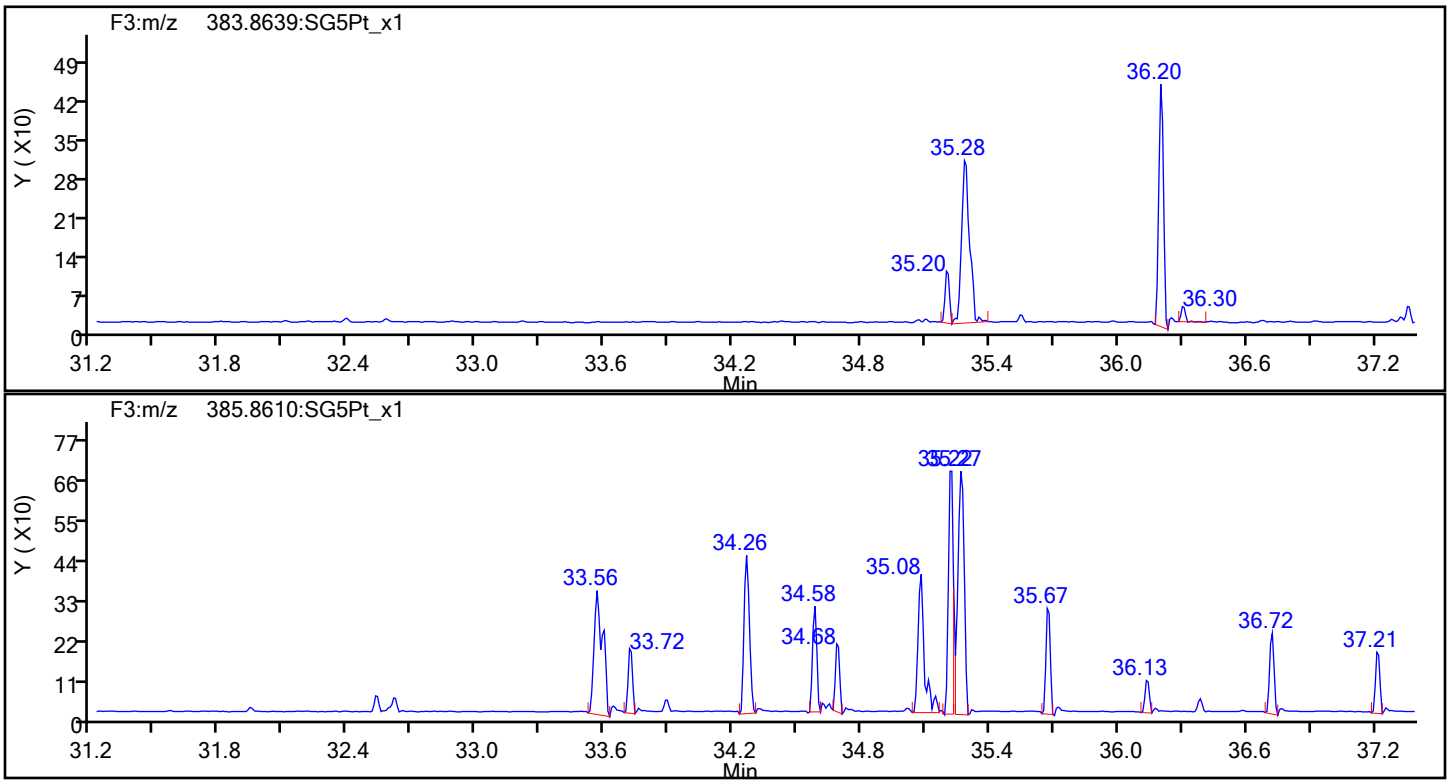
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



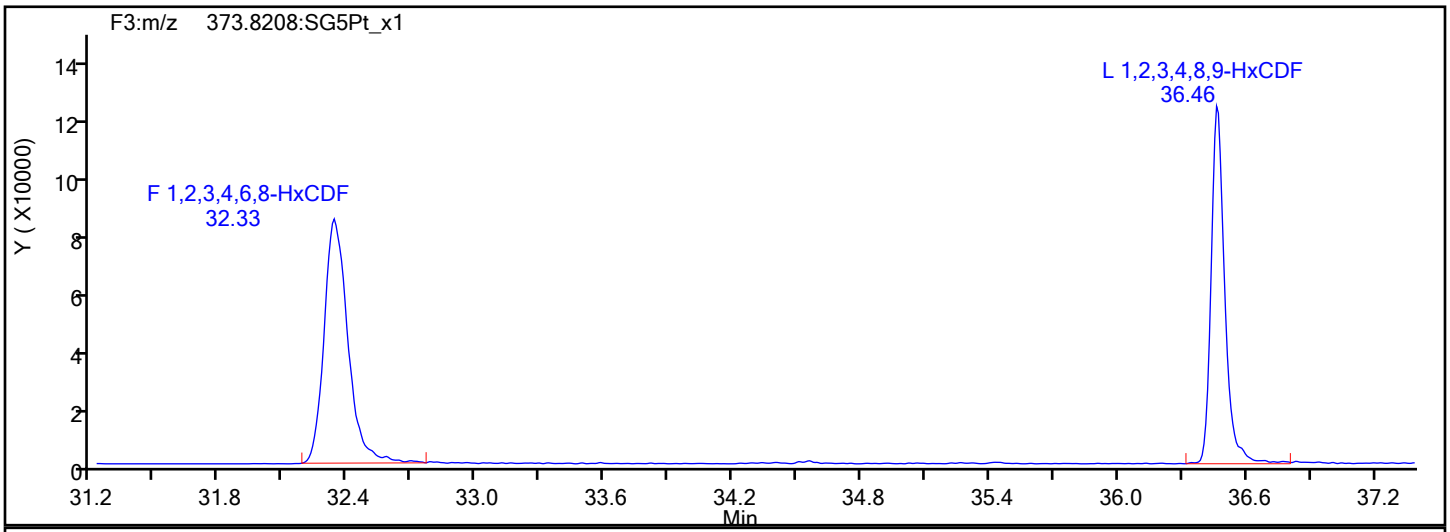
HxCDF Standards

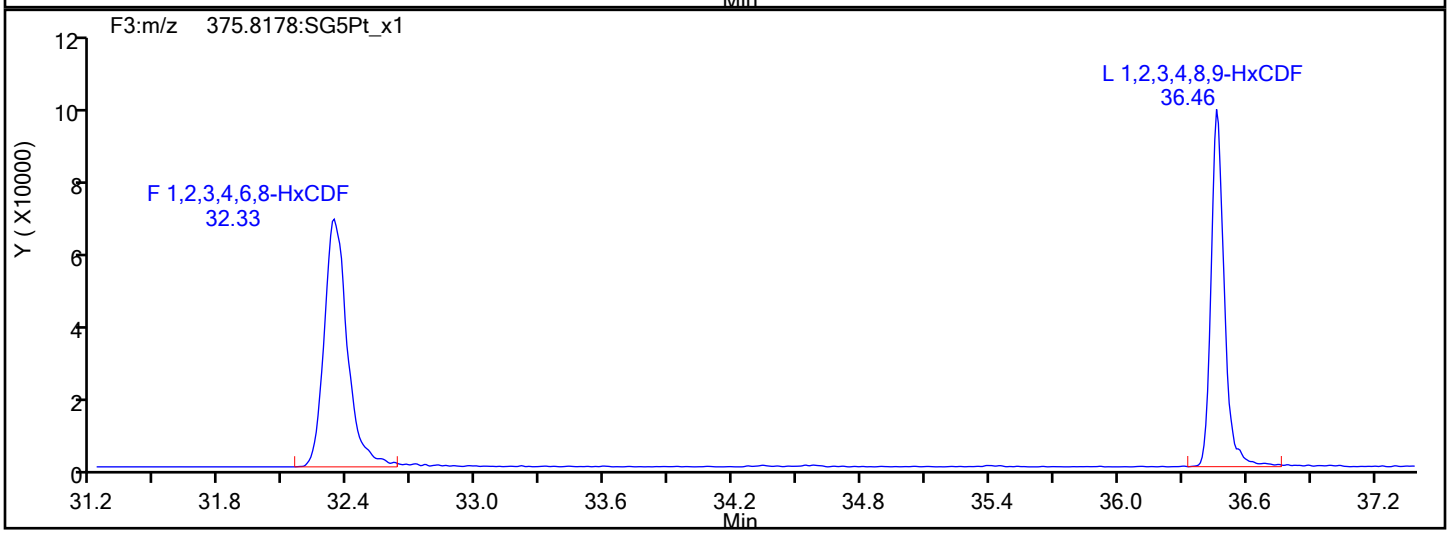


Eurofins Sacramento

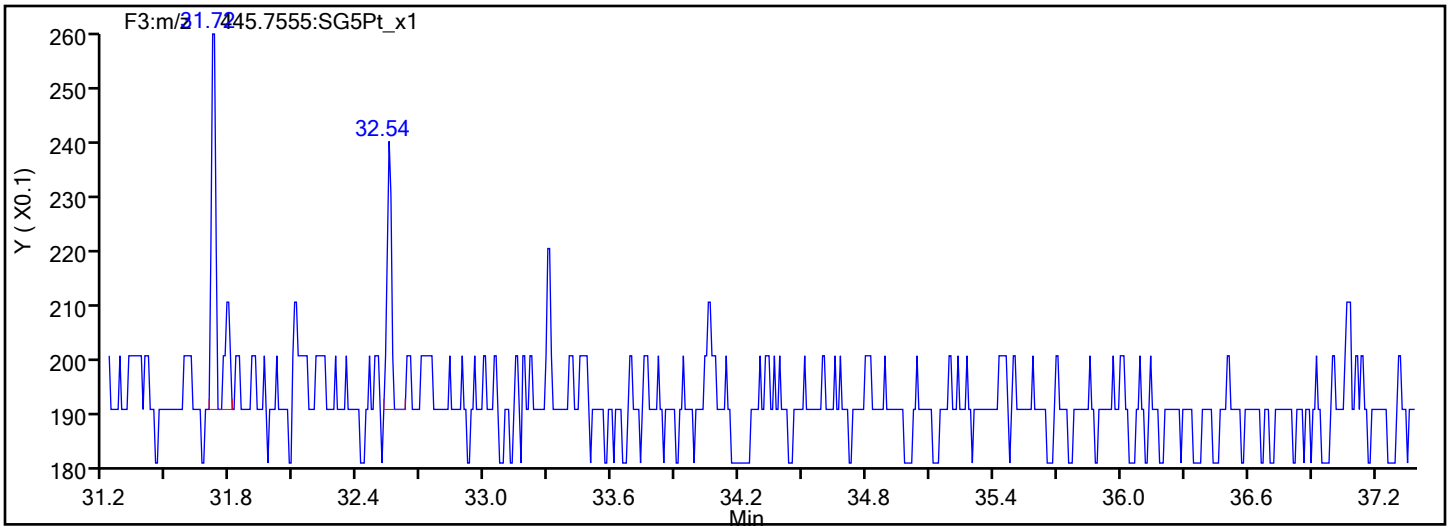
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





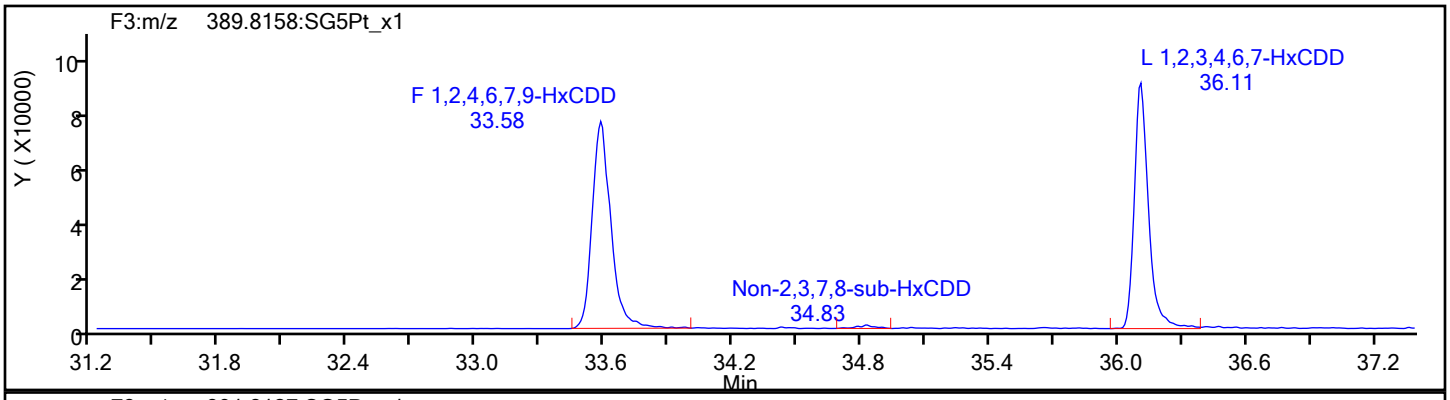
HxCDF Interference Mass

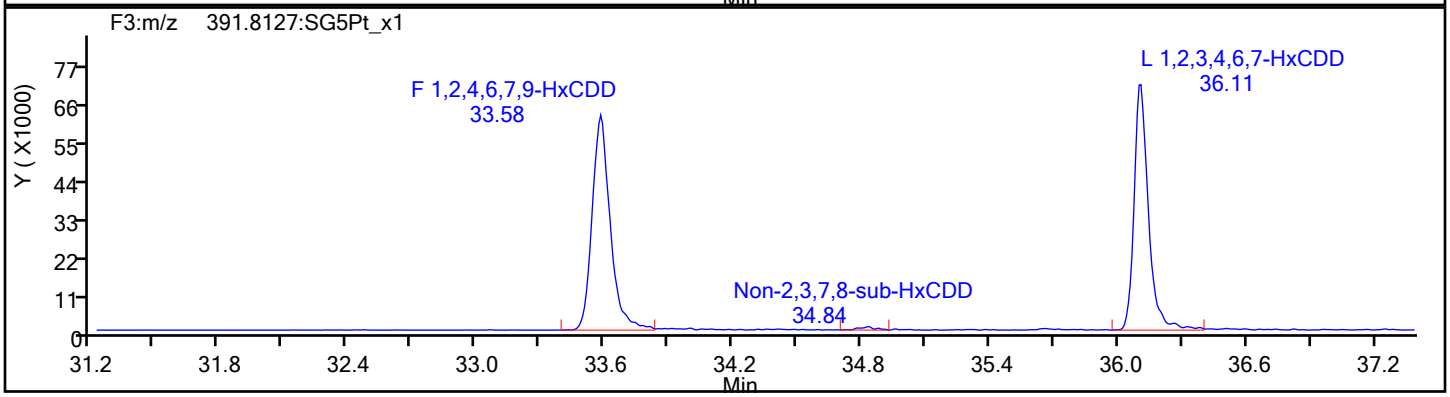


Eurofins Sacramento

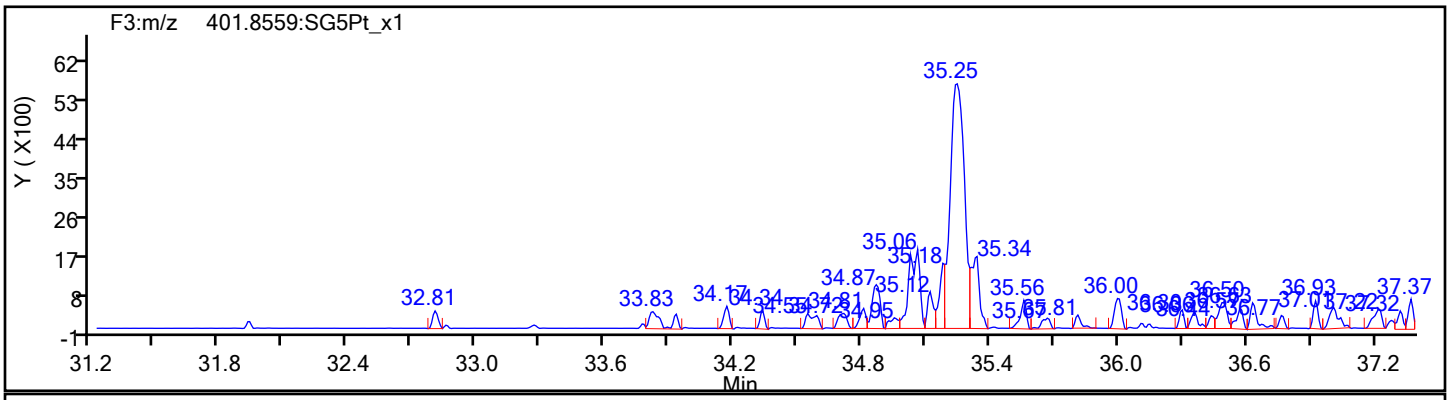
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

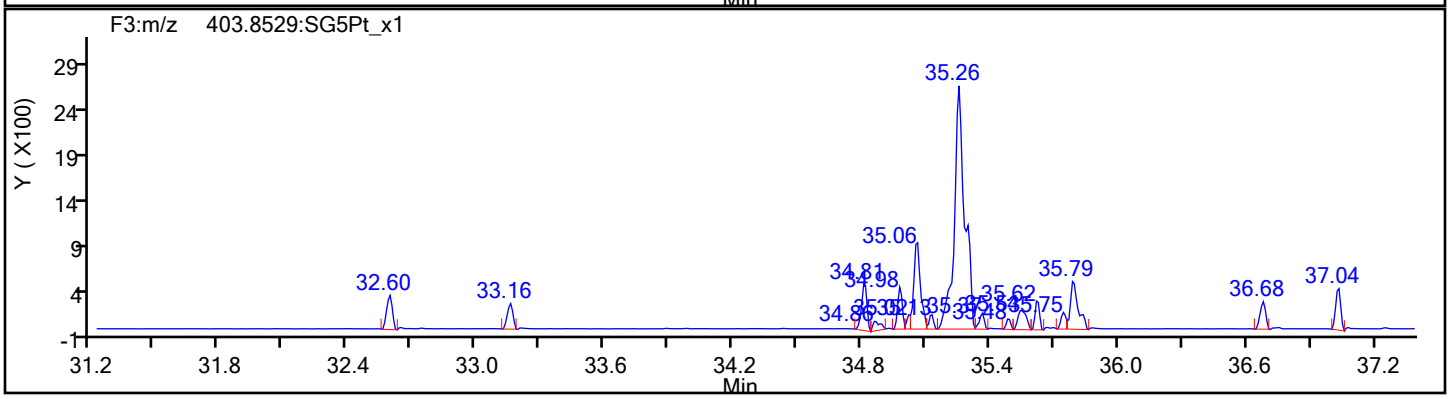
HxCDD





HxCDD Standards

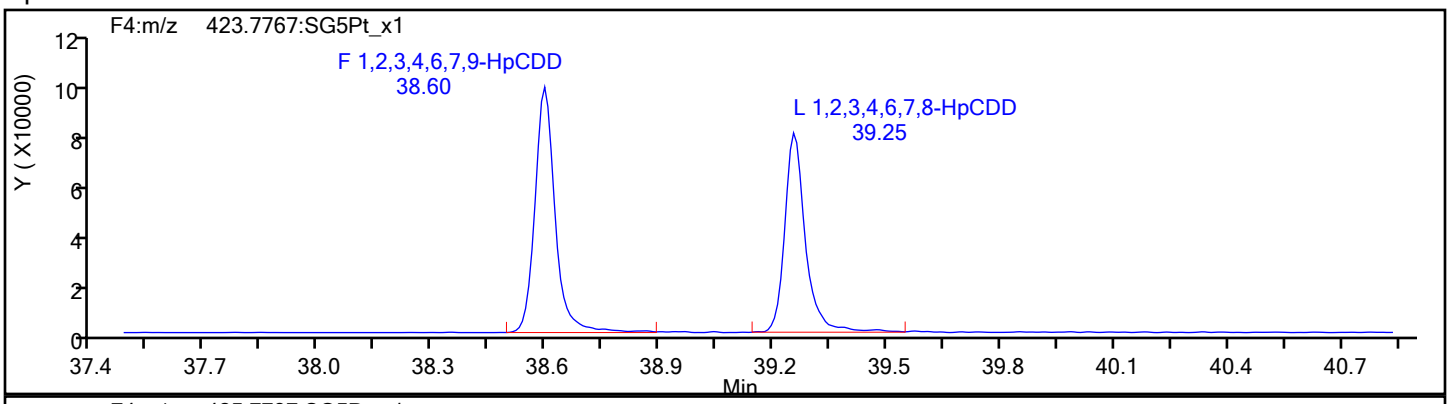


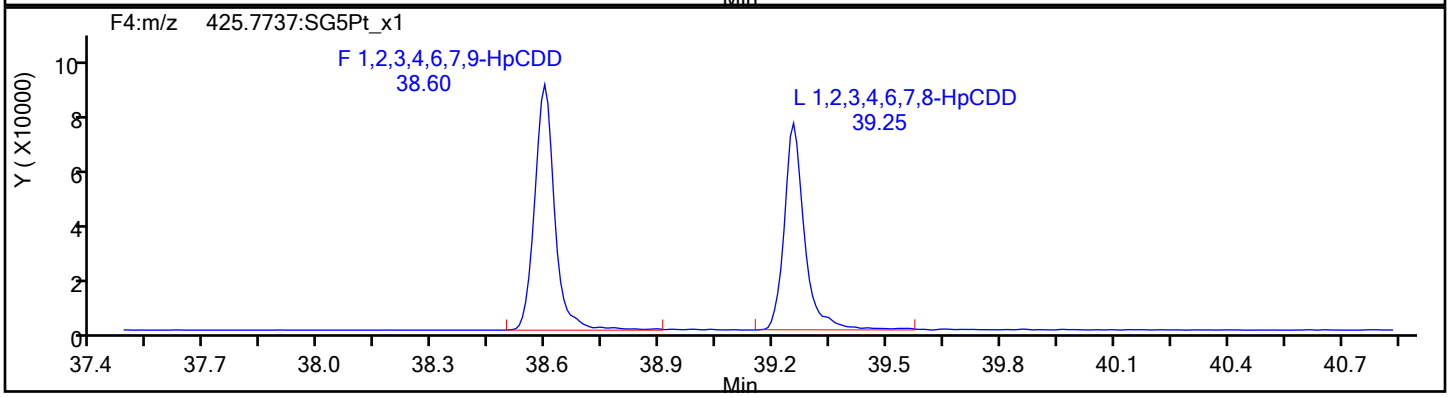


Eurofins Sacramento

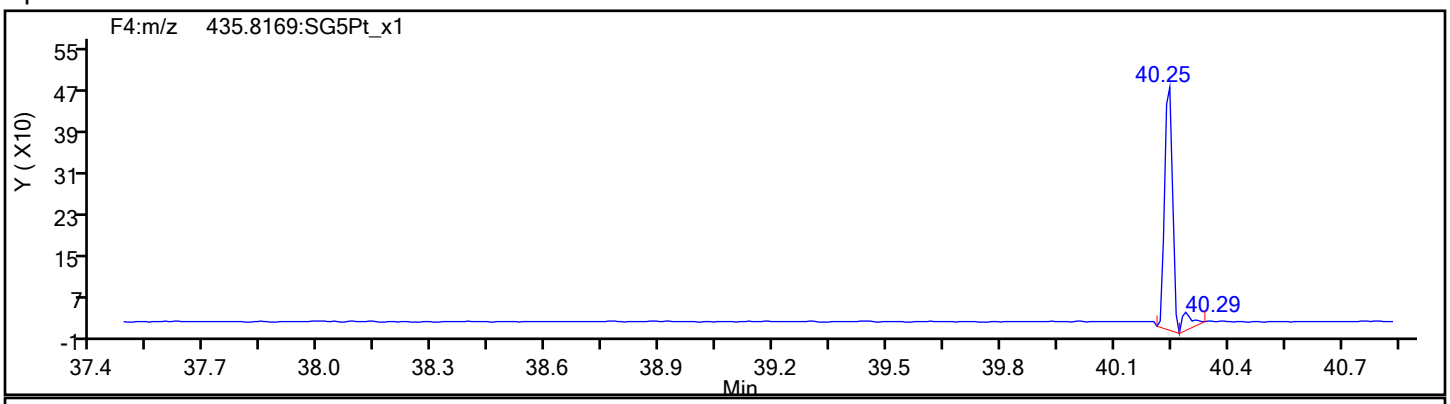
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d
Injection Date: 13-Jan-2022 15:41:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 558558 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

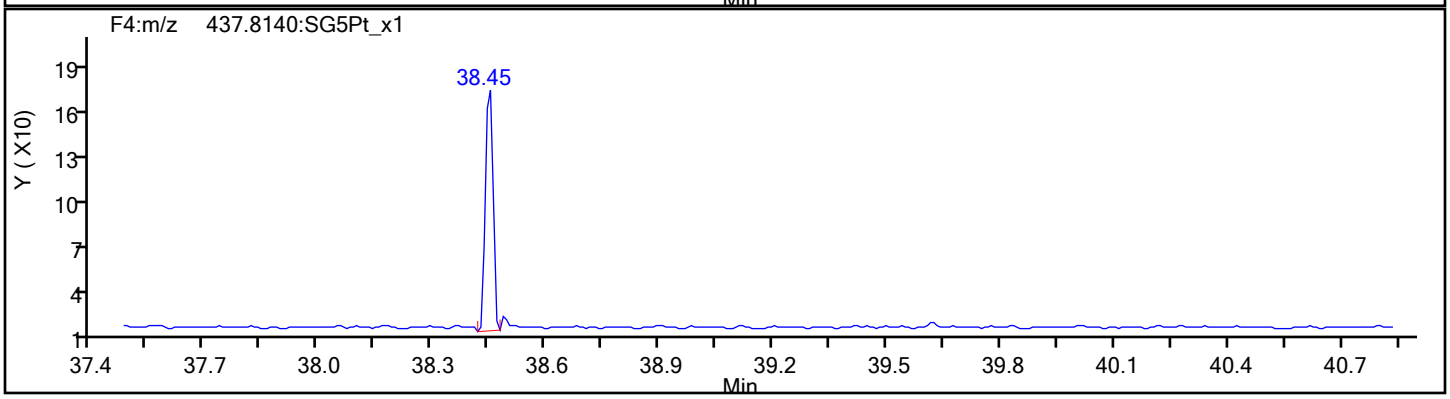
HpCDD





HpCDD Standards



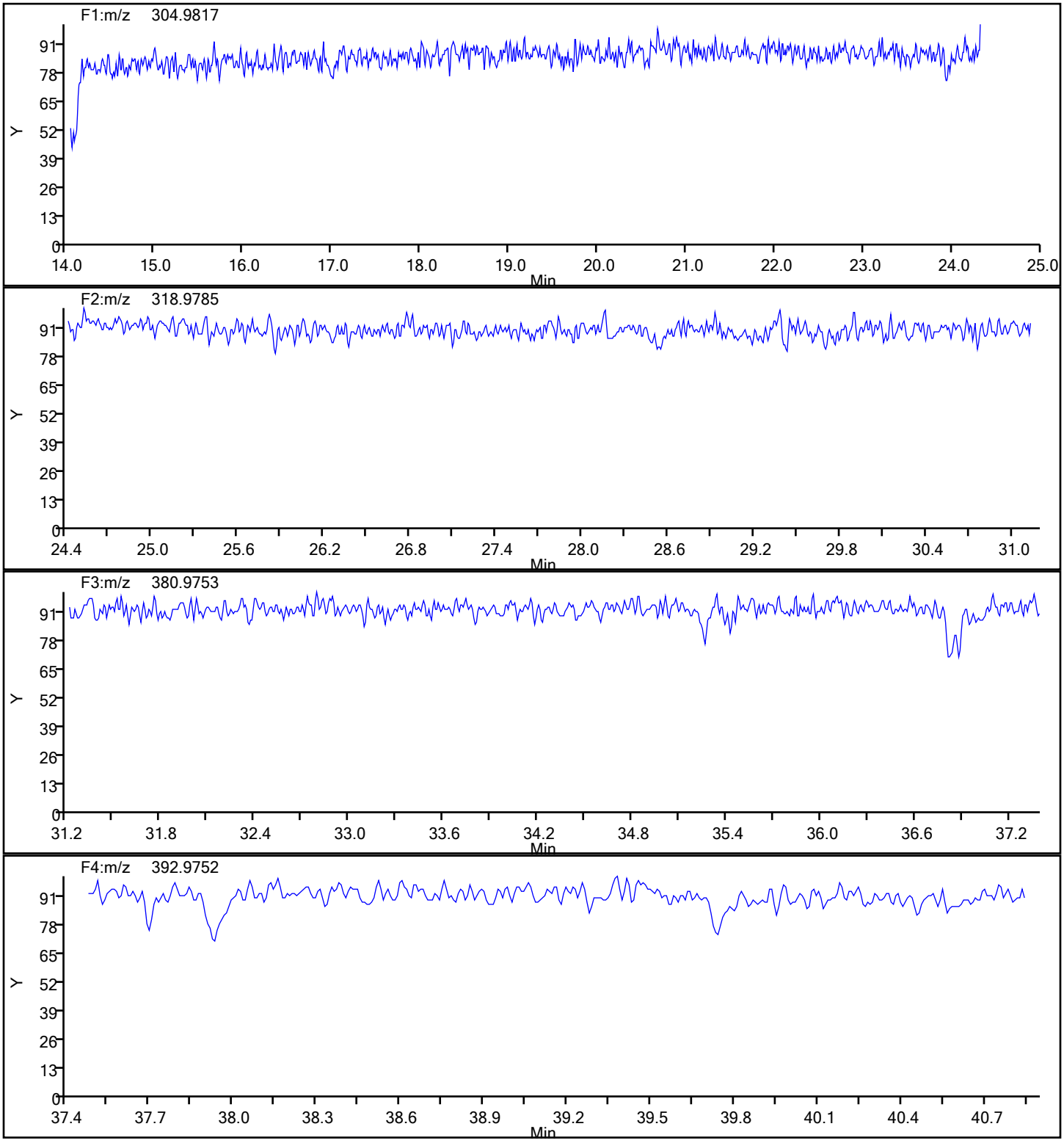


Report Date: 20-Jan-2022 16:01:10 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d

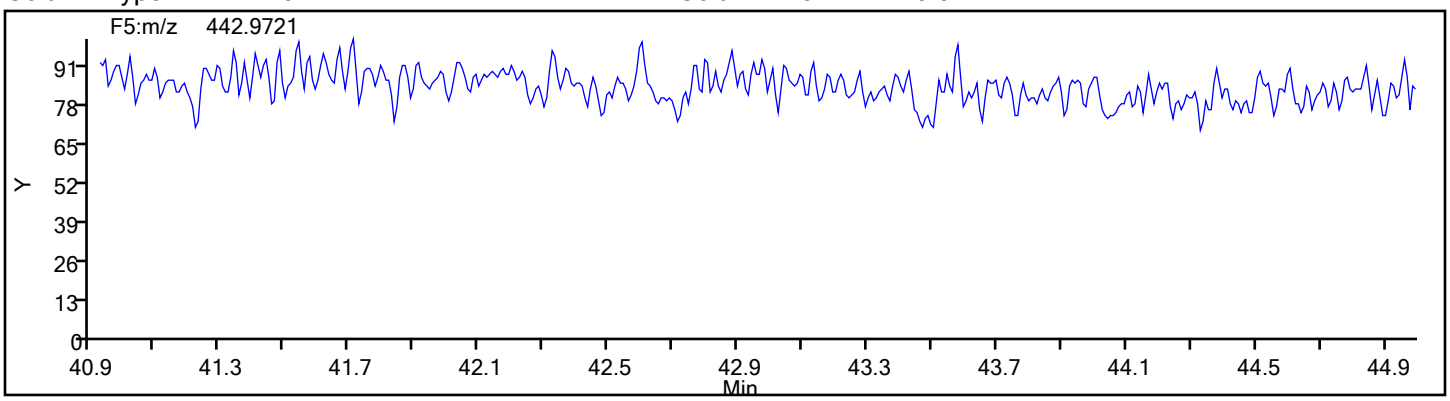
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 20-Jan-2022 16:01:10 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_2.d		
Injection Date:	13-Jan-2022 15:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	558558	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 21-Jan-2022 21:03:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 24-Jan-2022 12:19:56 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1631

First Level Reviewer: bilottag Date: 24-Jan-2022 07:56:38

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	19.089	2204266	0.79	1.0164					0.00	
2,3,7,8-TCDF	19.124	4428409	0.78	1.0120	79.4	79.4	0.3177	0.3177		
A Non-2,3,7,8-sub-TCDF	18.681						0.3177	0.3177		
S Total TCDF					79.4	79.4	0.3177	0.3177		
D 13C-2,3,7,8-TCDD	20.345	1035839	1.89	0.7884					0.00	R
2,3,7,8-TCDD	20.371	1656628	0.78	0.9906	64.6	64.6	0.2806	0.2806		
A Non-2,3,7,8-sub-TCDD	19.472						0.2806	0.2806		
S Total TCDD					64.6	64.6	0.2806	0.2806		
A F1 PeCDFs	23.366	2169	1.55	0.0000						RQ
A Non-2,3,7,8-sub-PeCDF	26.757	46667	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	27.171						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	34.054	13765	1.24	0.0000						RQ
S Total HxCDF										RQ
A Non-2,3,7,8-sub-HxCDD	34.551	26032	1.08	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	38.096	1770094	1.04	1.4385						
1,2,3,4,7,8,9-HpCDF	39.411	1497345	1.04	1.2202						
A Non-2,3,7,8-sub-HpCDF	38.753						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	39.107	1230872	1.02	0.9767						
A Non-2,3,7,8-sub-HpCDD	38.770						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.186	2468120	0.78							
1,3,6,8-TCDD	16.672	1620756	0.80							
2,3,4,7-TCDF	19.124	4428409	0.78							
1,2,3,7-TCDD	20.182	1378688	0.78							
1,2,3,9-TCDF	20.526	1925136	0.79							
1,2,3,9-TCDD	20.620	1730644	0.80							
1,2,8,9-TCDF	22.177	2042629	0.78							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	22.272	668896								
1,3,4,6,8-PeCDF	22.830	2162575	1.58							
1,2,3,8,9-PeCDD	25.015	1408901	1.57							
1,2,4,7,9-PeCDD	29.328	1318507	1.54							
1,2,3,8,9-PeCDF	29.471	1705720	1.52							
1,2,3,4,6,8-HxCDF	31.868	1811203	1.25							
1,2,4,6,7,9-HxCDD	33.224	1327518	1.23							
1,2,3,4,6,7-HxCDD	35.878	1324640	1.24							
1,2,3,4,8,9-HxCDF	36.240	1713420	1.26							
1,2,3,4,6,7,9-HpCDD	38.433	1395572	1.04							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 21-Jan-2022 21:03:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00044
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 24-Jan-2022 12:19:56 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1631

First Level Reviewer: bilottag Date: 24-Jan-2022 07:56:38

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	19.089	19.089	0	1.000	974068	161234	902	2255	179		
317.9389	19.089	19.089	0	1.000	1230198	208247	307	767	678	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.124	19.124	0	1.002	1944020	273641	509	1272	538		
305.8987	19.124	19.124	0	1.002	2484389	354141	679	1697	522	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.681						509	1272			
305.8987	18.681						679	1697			
13C-2,3,7,8-TCDD											R
331.9368	20.345	20.345	0	1.000	677404	100696	353	882	285		
333.9338	20.337	20.345	-1	1.000	358435	111566	51	127	2188	1.89(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.371	20.371	0	1.001	724935	103592	299	747	346		
321.8936	20.362	20.371	-1	1.001	931693	132311	291	727	455	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	19.472						299	747			
321.8936	19.472						291	727			
A F1 PeCDFs											RQ
339.8597	23.630	23.366	16	1.000	1319	263	29	72	9		
341.8567	23.673	23.366	18	1.000	4443	845	115	287	7	0.30(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	25.621	26.757	-68	1.000	6389	1010	149	372	7		
341.8567	25.630	26.757	-67	1.000	4056	723	192	480	4	1.58(1.32-1.78)	
339.8597	26.143	26.757	-37	1.000	14864	1672	149	372	11		
341.8567	26.143	26.757	-37	1.000	8255	1023	192	480	5	1.80(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	26.716	26.757	-2	1.000	9070	1323	149	372	9		
341.8567	26.682	26.757	-4	1.000	6102	738	192	480	4	1.49(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.171						233	582			
357.8516	27.171						98	245			
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	34.269	34.054	13	1.000	7620	1202	249	622	5		
375.8178	34.235	34.054	11	1.000	11341	1005	207	517	5	0.67(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.555	34.551	0	1.000	13524	2052	161	402	13		
391.8127	34.547	34.551	0	1.000	12508	1785	165	412	11	1.08(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.096	38.096	0	1.000	902220	230036	357	892	644		
409.7788	38.096	38.096	0	1.000	867874	219601	330	825	665	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.411	39.411	0	1.000	764860	213875	357	892	599		
409.7788	39.411	39.411	0	1.000	732485	204542	330	825	620	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.753						357	892			
409.7788	38.753						330	825			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.107	39.107	0	1.000	622795	178033	257	642	693		
425.7737	39.107	39.107	0	1.000	608077	172565	202	505	854	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.770						257	642			
425.7737	38.770						202	505			
1,3,6,8-TCDF											
303.9016	15.186	15.186	0		1085298	223465	509	1272	439		
305.8987	15.177	15.186	-1		1382822	291957	679	1697	430	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	16.672	16.672	0		718301	132767	299	747	444		
321.8936	16.672	16.672	0		902455	163196	291	727	561	0.80(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	19.124	19.124	0		1944020	273641	509	1272	538		
305.8987	19.124	19.124	0		2484389	354141	679	1697	522	0.78(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	20.182	20.182	0		604787	89728	299	747	300		
321.8936	20.173	20.182	-1		773901	116513	291	727	400	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	20.526	20.526	0		851858	119704	509	1272	235		
305.8987	20.526	20.526	0		1073278	152372	679	1697	224	0.79(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	20.620	20.620	0		770367	104442	299	747	349		
321.8936	20.629	20.620	1		960277	130864	291	727	450	0.80(0.65-0.89)	
1,2,8,9-TCDF											
303.9016	22.177	22.177	0		895741	114196	509	1272	224		
305.8987	22.177	22.177	0		1146888	144055	679	1697	212	0.78(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDD											
319.8965	22.272	22.272	0		668896	84711	299	747	283		
1,3,4,6,8-PeCDF											
339.8597	22.830	22.830	0		1322902	166899	29	72	5755		
341.8567	22.830	22.830	0		839673	108959	115	287	947	1.58(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.015	25.015	0		860441	136042	233	582	584		
357.8516	25.015	25.015	0		548460	88675	98	245	905	1.57(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	29.328	29.328	0		799704	109044	233	582	468		
357.8516	29.319	29.328	-1		518803	71550	98	245	730	1.54(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	29.471	29.471	0		1028424	134650	149	372	904		
341.8567	29.462	29.471	-1		677296	84651	192	480	441	1.52(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	31.868	31.868	0		1005293	122662	249	622	493		
375.8178	31.859	31.868	-1		805910	95546	207	517	462	1.25(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8158	33.224	33.224	0		733187	112243	161	402	697		
391.8127	33.224	33.224	0		594331	93640	165	412	568	1.23(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8158	35.878	35.878	0		732352	152771	161	402	949		
391.8127	35.878	35.878	0		592288	122791	165	412	744	1.24(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	36.240	36.240	0		956836	211501	249	622	849		
375.8178	36.240	36.240	0		756584	165532	207	517	800	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7767	38.433	38.433	0		711708	198645	257	642	773		
425.7737	38.433	38.433	0		683864	191194	202	505	947	1.04(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00044 Amount Added: 1.00 Units: uL

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d
Lims ID: WDM
Client ID:
Inject. Date: 21-Jan-2022 21:03:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 1

F1 PeCDFs, RT: 23.366

Initial Calibration RRF

Target Compound	RRF
1,2,3,7,8-PeCDF	0.976
2,3,4,7,8-PeCDF	0.922

IsoDil Std Amount Added and Responses

Iso Dil Std Compound	Amount pg/ul	Area	Height

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.630	1319	263	4443	845		0.30	R
Signal Totals:							
	1319	263	4443	845			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5762	1108				0.30	RQ
	2169	432					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (5762 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (2169 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d
Lims ID: WDM
Client ID:
Inject. Date: 21-Jan-2022 21:03:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 26.757

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976				
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
25.621	6389	1010	4056	723		1.58	
26.143	14864	1672	8255	1023		1.80	R
26.716	9070	1323	6102	738		1.49	
Signal Totals:							
	30323	4005	18413	2484			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	48736	6489				1.65	RQ
	46667	6402					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (48736 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (46667 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d
Lims ID: WDM
Client ID:
Inject. Date: 21-Jan-2022 21:03:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDF, RT: 34.054

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.883				
1,2,3,6,7,8-HxCDF	1.029				
2,3,4,6,7,8-HxCDF	0.988				
1,2,3,7,8,9-HxCDF	0.907				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
34.269	7620	1202	11341	1005		0.67	R
Signal Totals:							
	7620	1202	11341	1005			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	18961	2207				0.67	RQ
	13765	2171					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (18961 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (13765 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d
Lims ID: WDM
Client ID:
Inject. Date: 21-Jan-2022 21:03:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 34.551

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829				
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
34.555	13524	2052	12508	1785		1.08	
Signal Totals:							
	13524	2052	12508	1785			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	26032	3837				1.08	

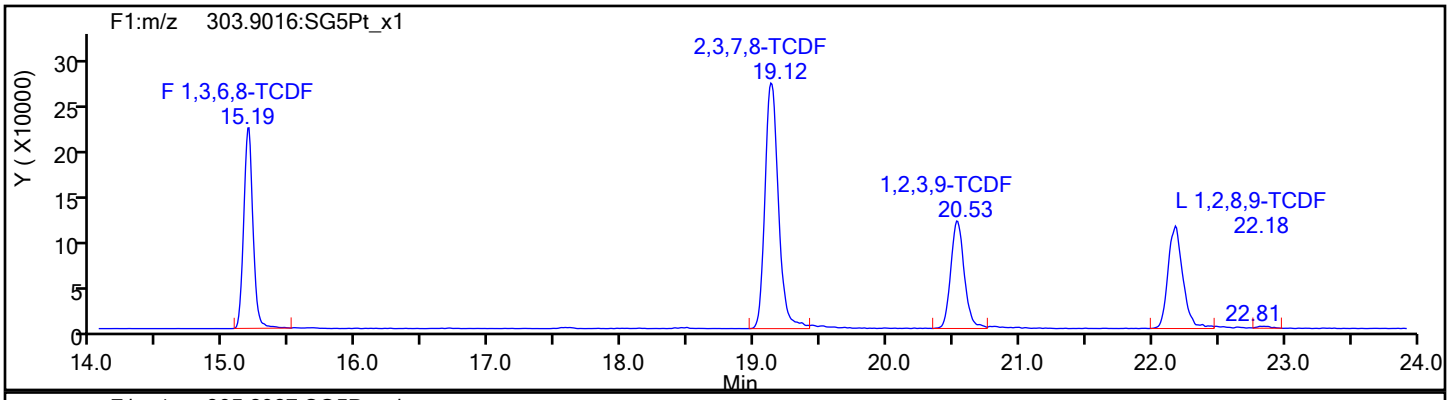
On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

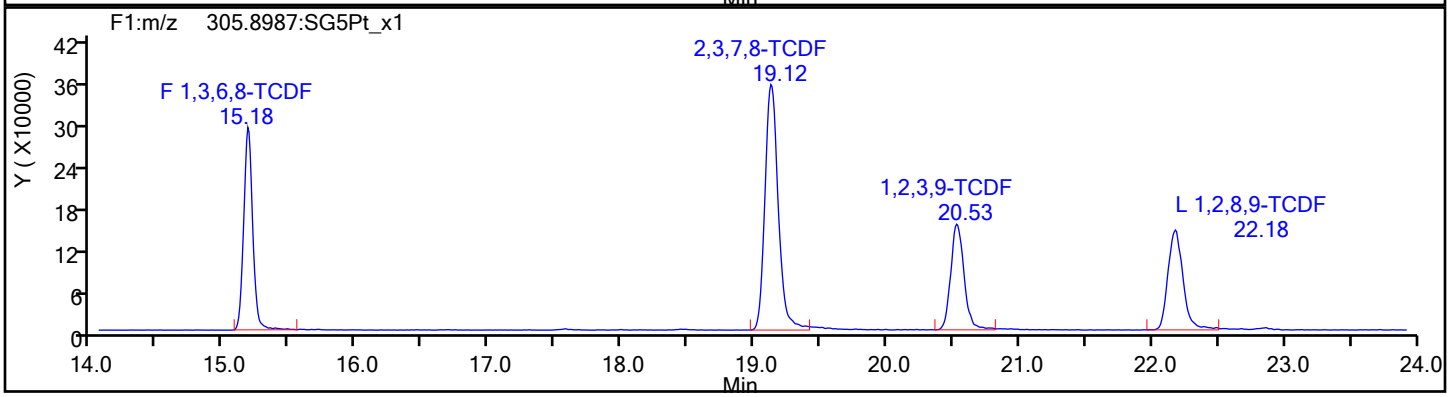
Amount: 0.0 = (26032 * 0.0) / (0 * 0.000)

Eurofins Sacramento

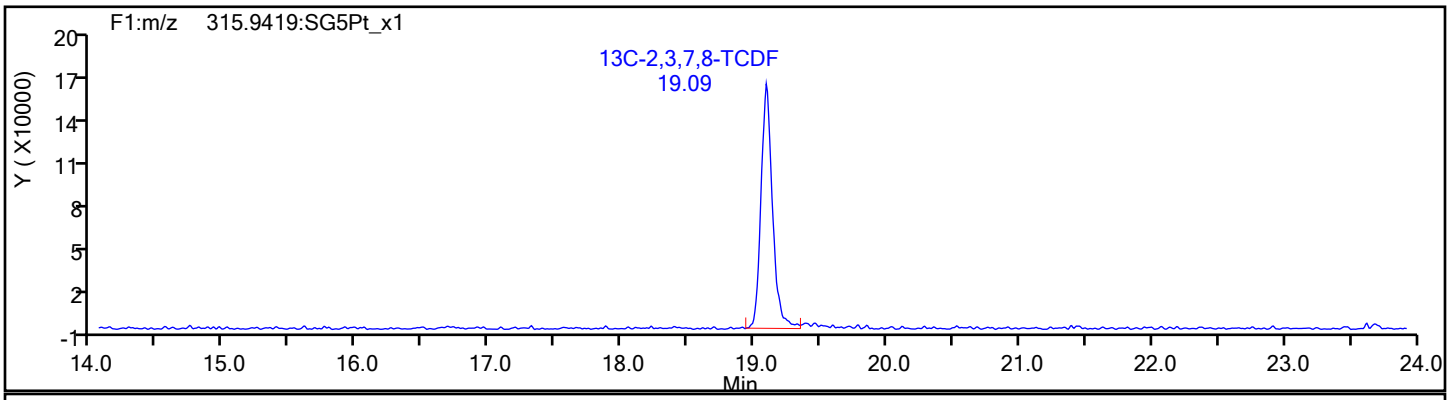
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d
Injection Date: 21-Jan-2022 21:03:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

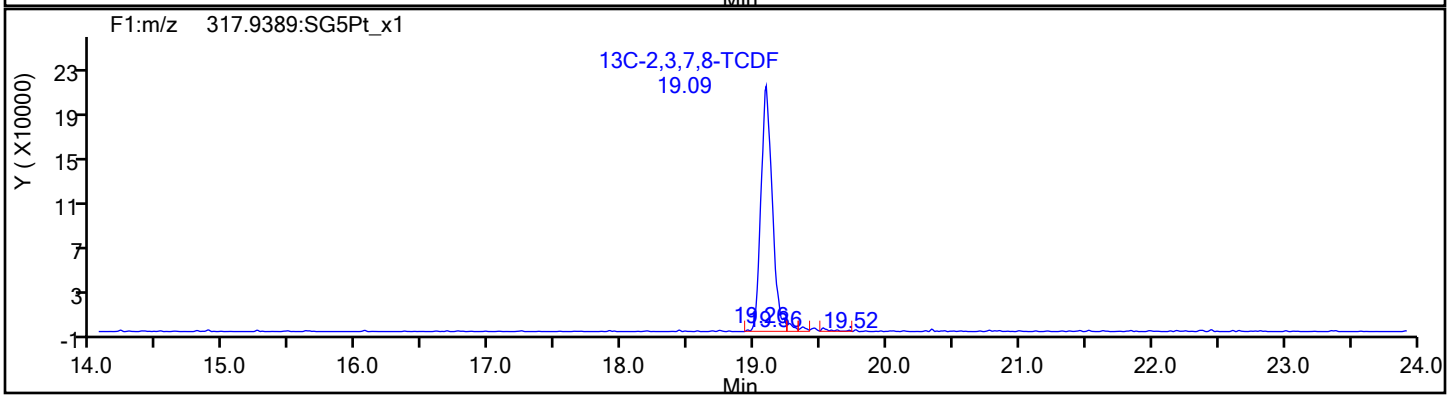
TCDF





TCDF Standards

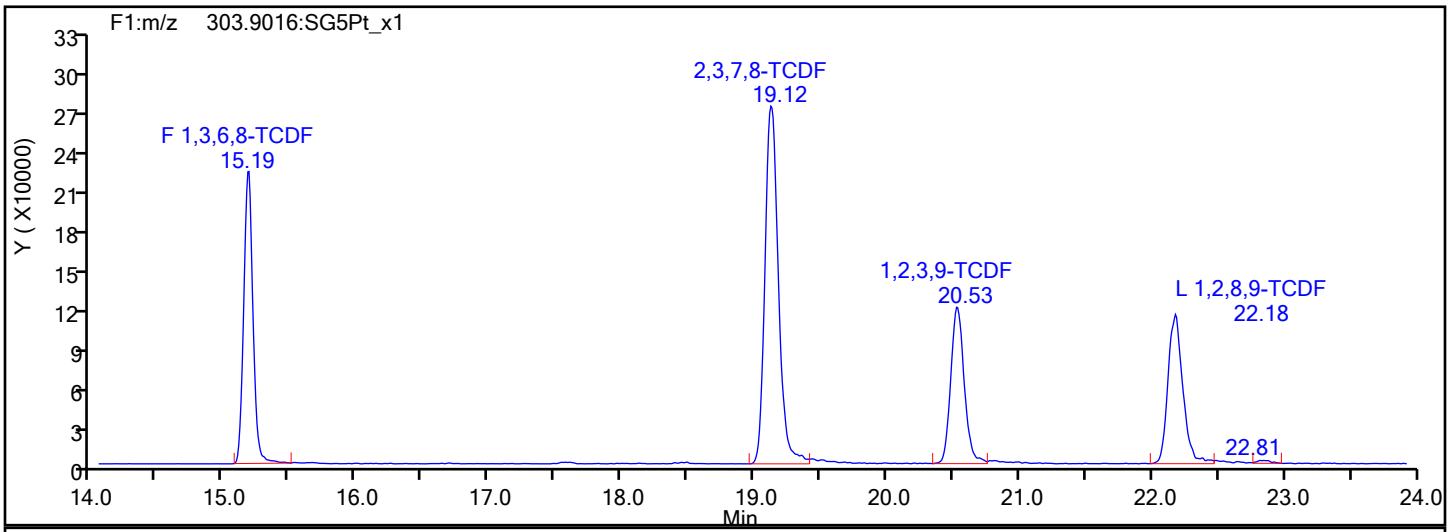


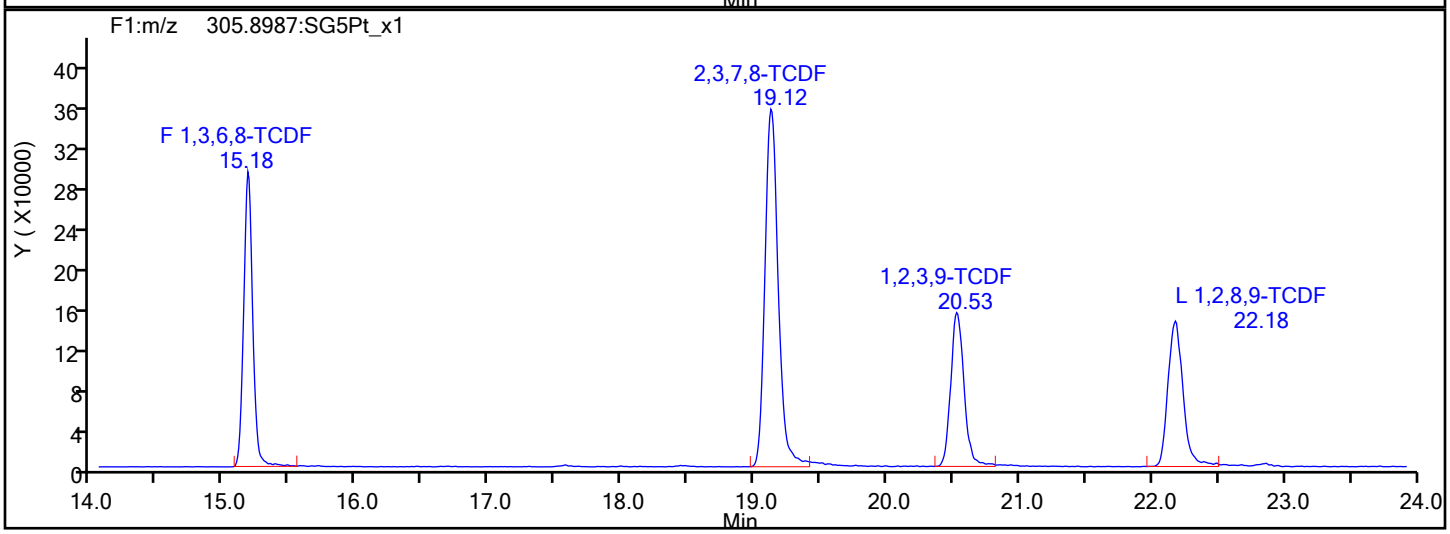


Eurofins Sacramento

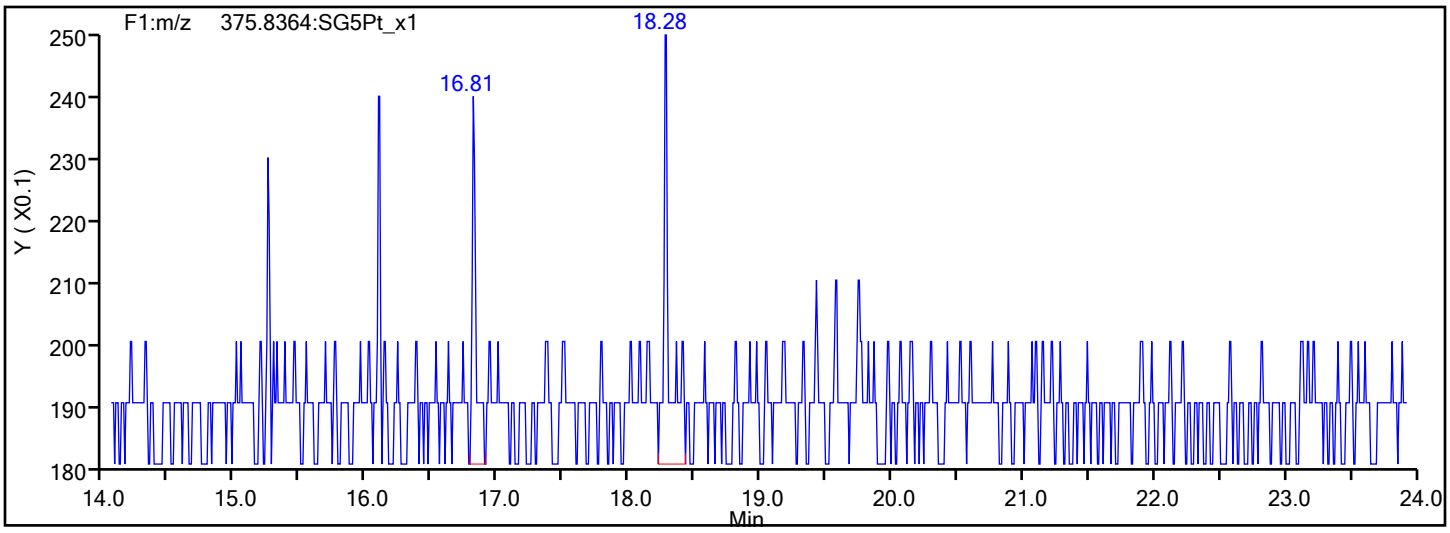
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d		
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



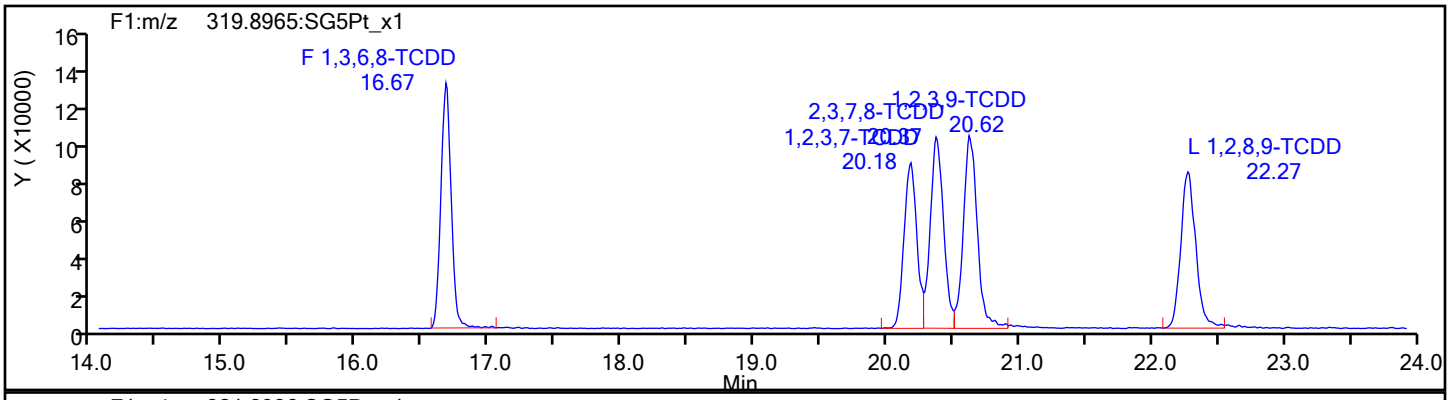
Report Date: 24-Jan-2022 12:19:56 Chrom Revision: 2.3 18-Jan-2022 20:25:40

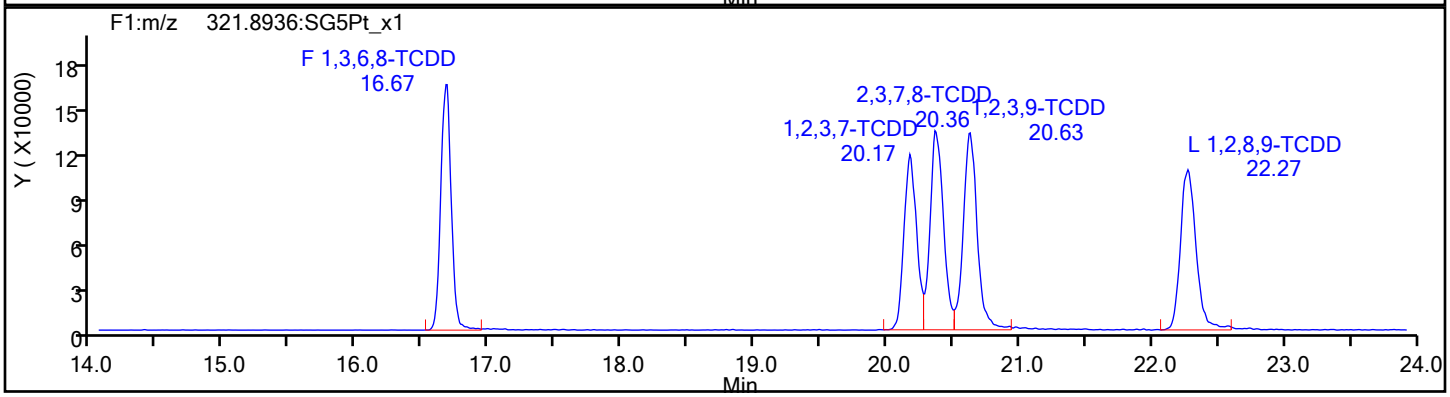
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d

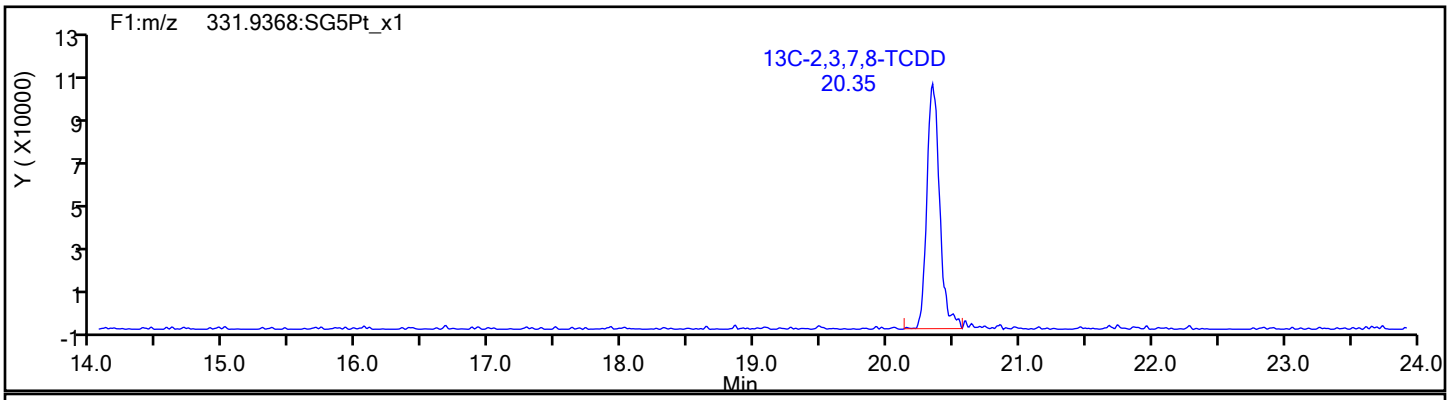
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

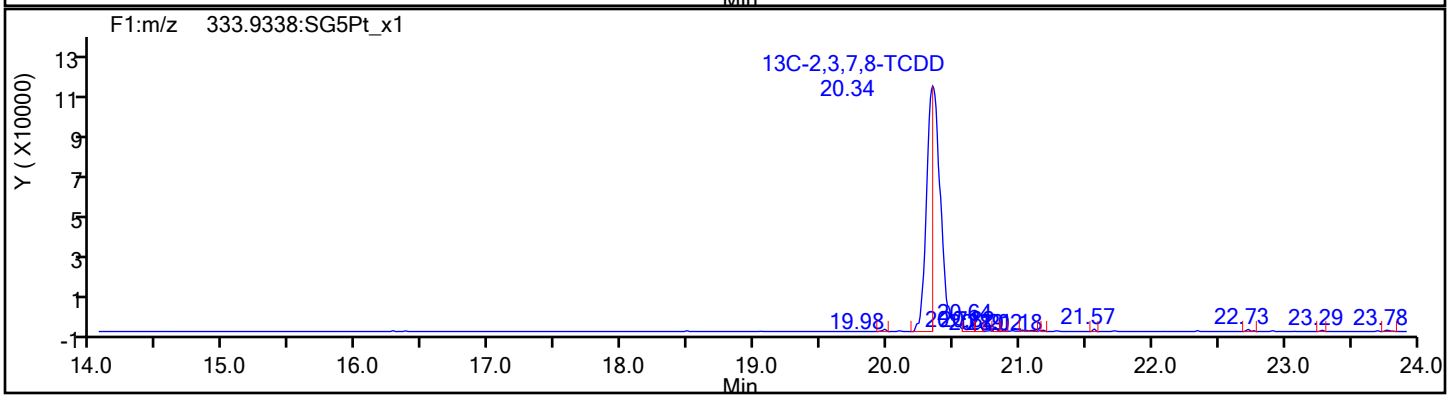
TCDD





TCDD Standards

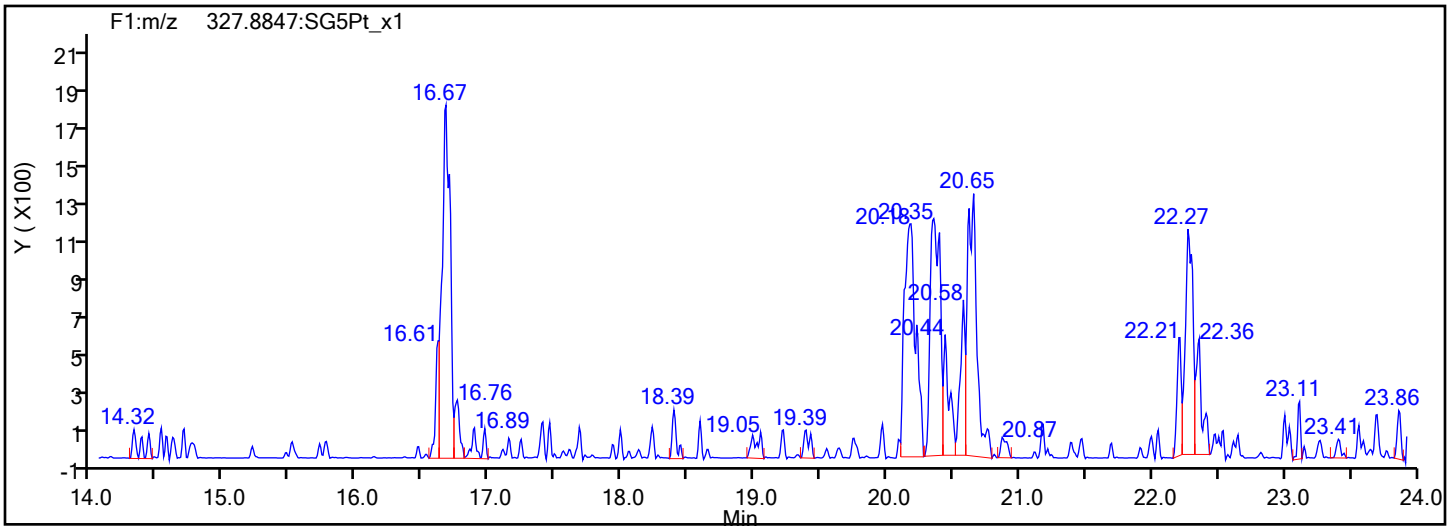




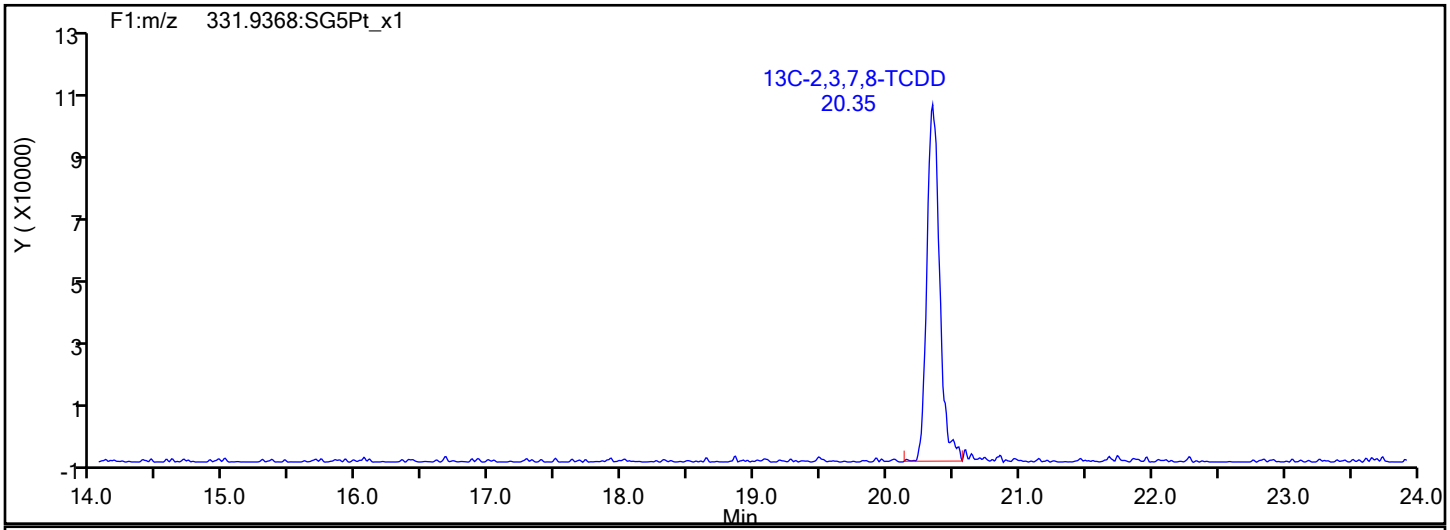
Eurofins Sacramento

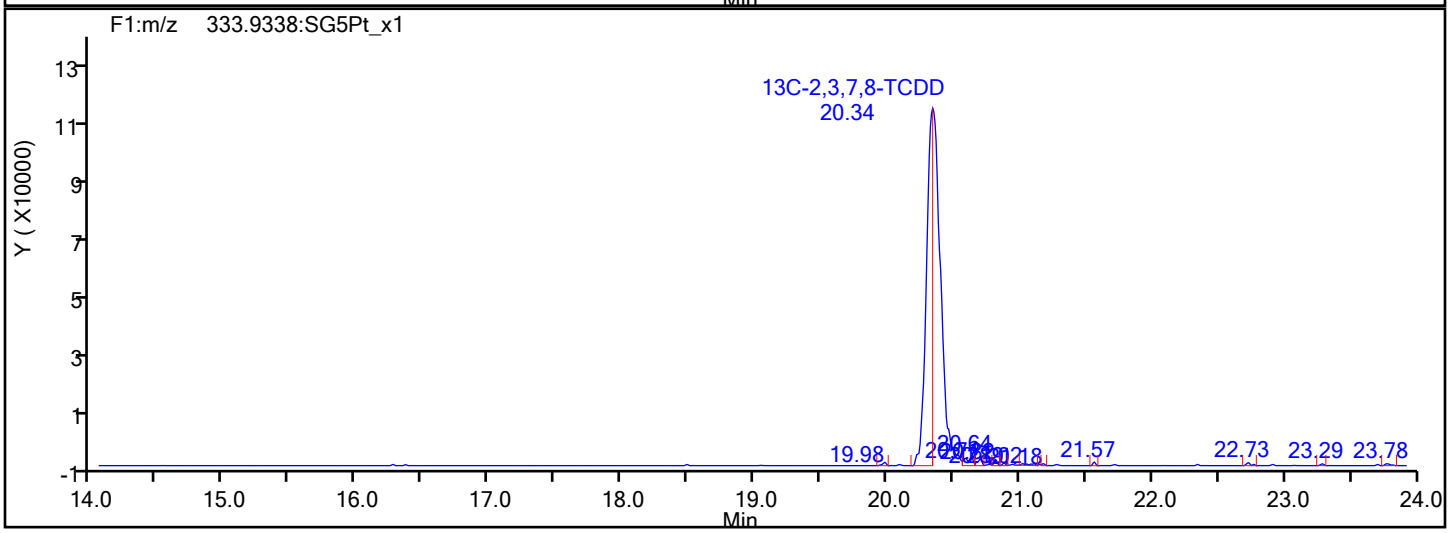
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d		
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





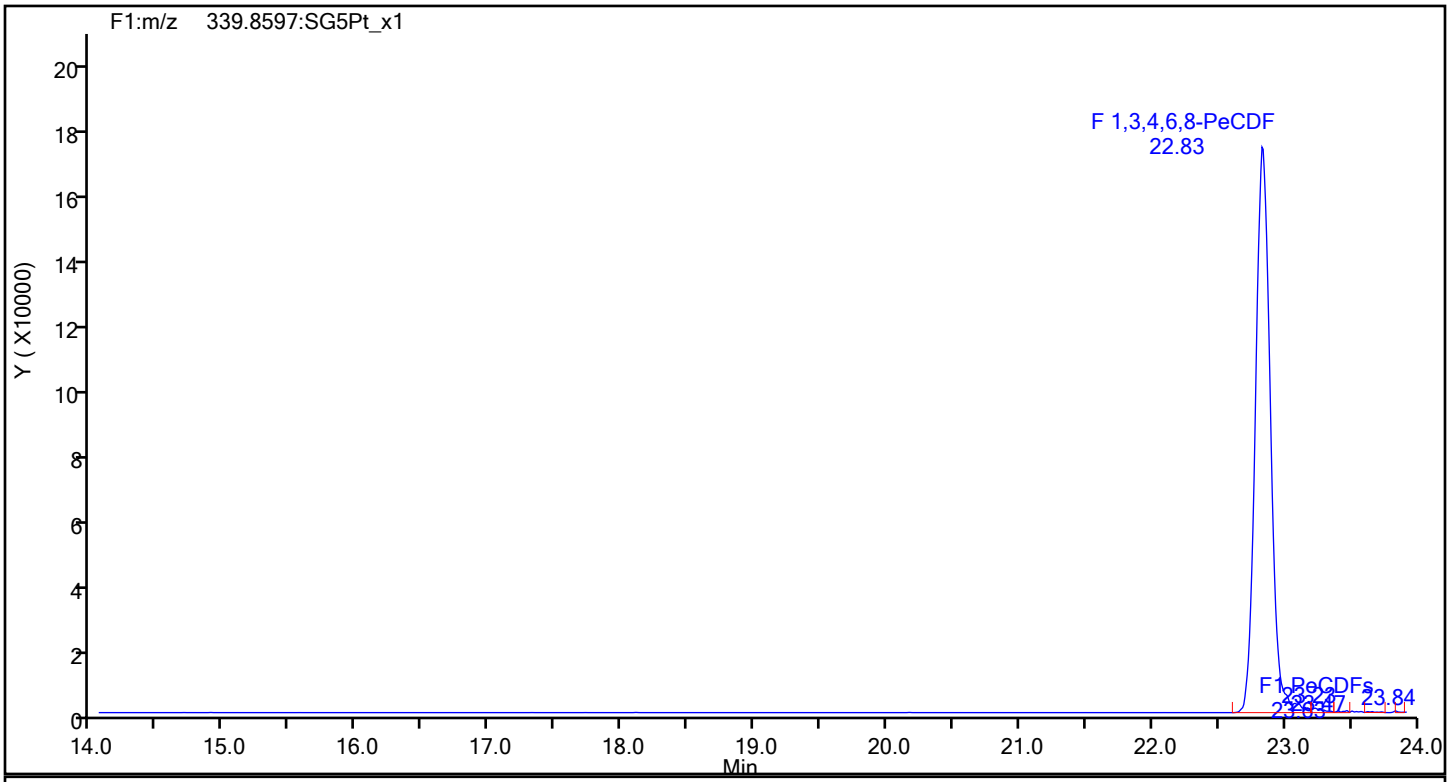
Report Date: 24-Jan-2022 12:19:57 Chrom Revision: 2.3 18-Jan-2022 20:25:40

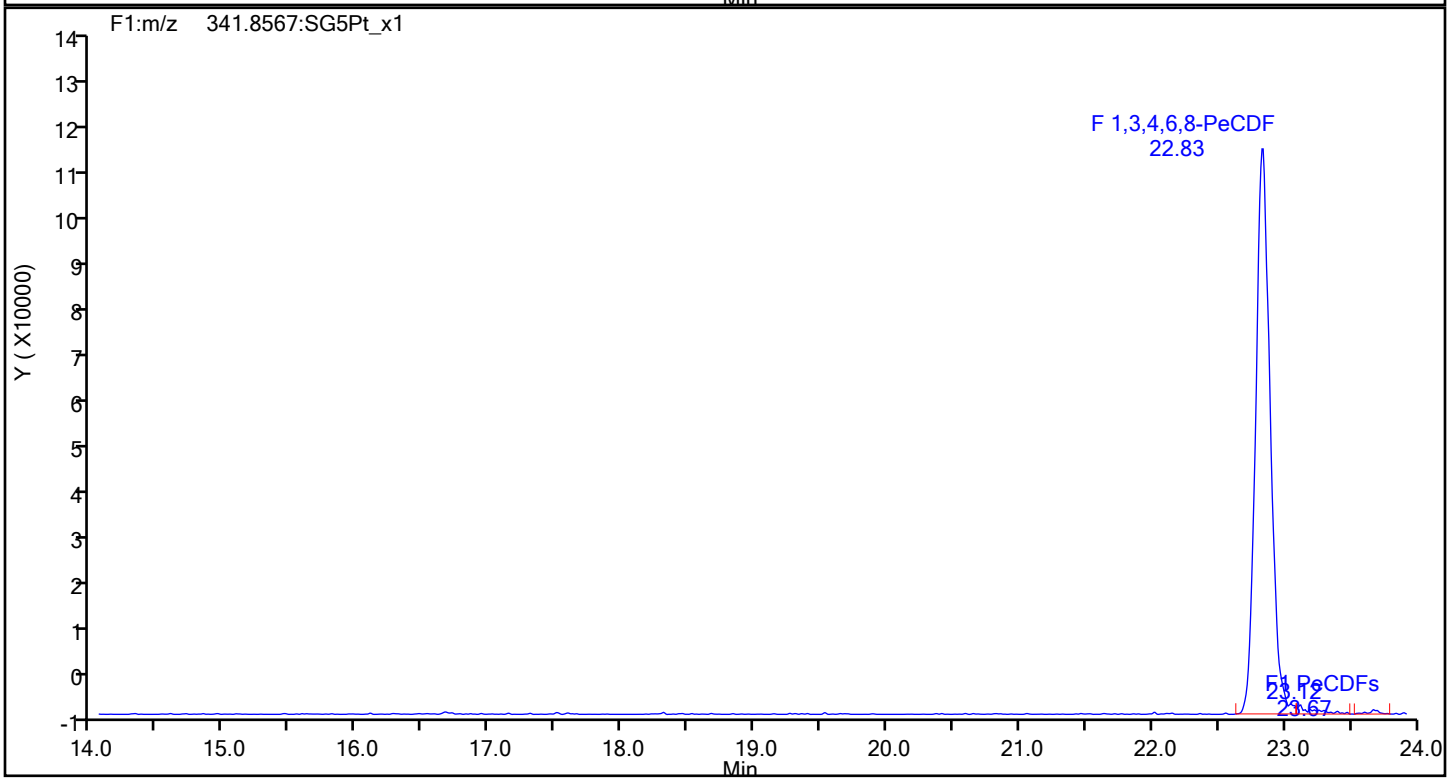
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d

Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

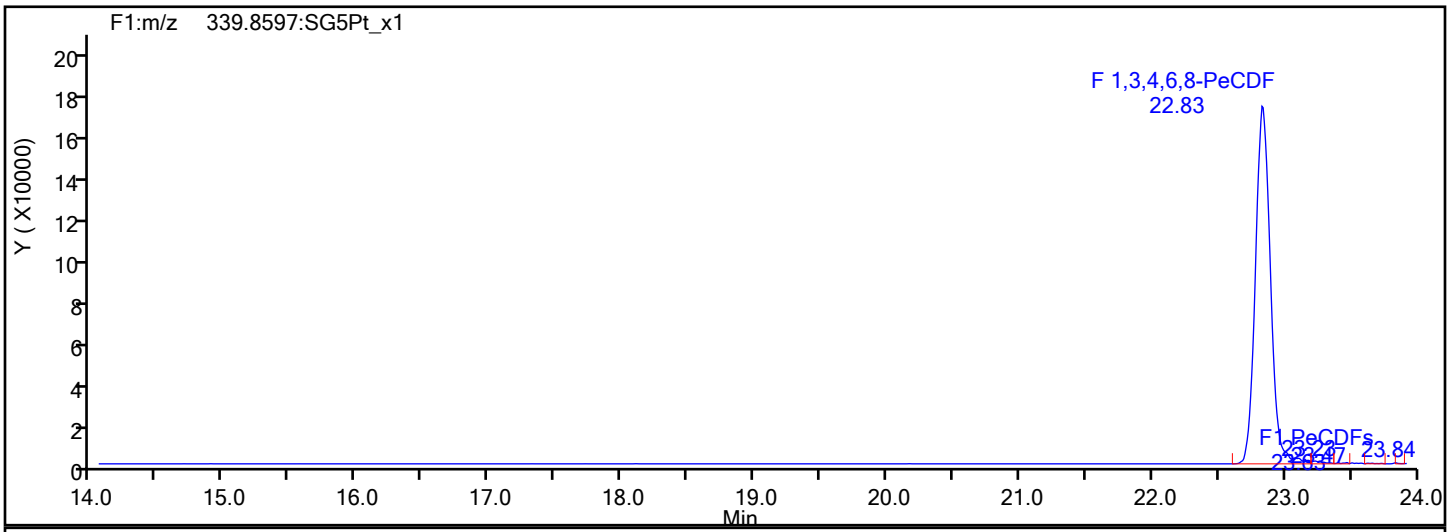


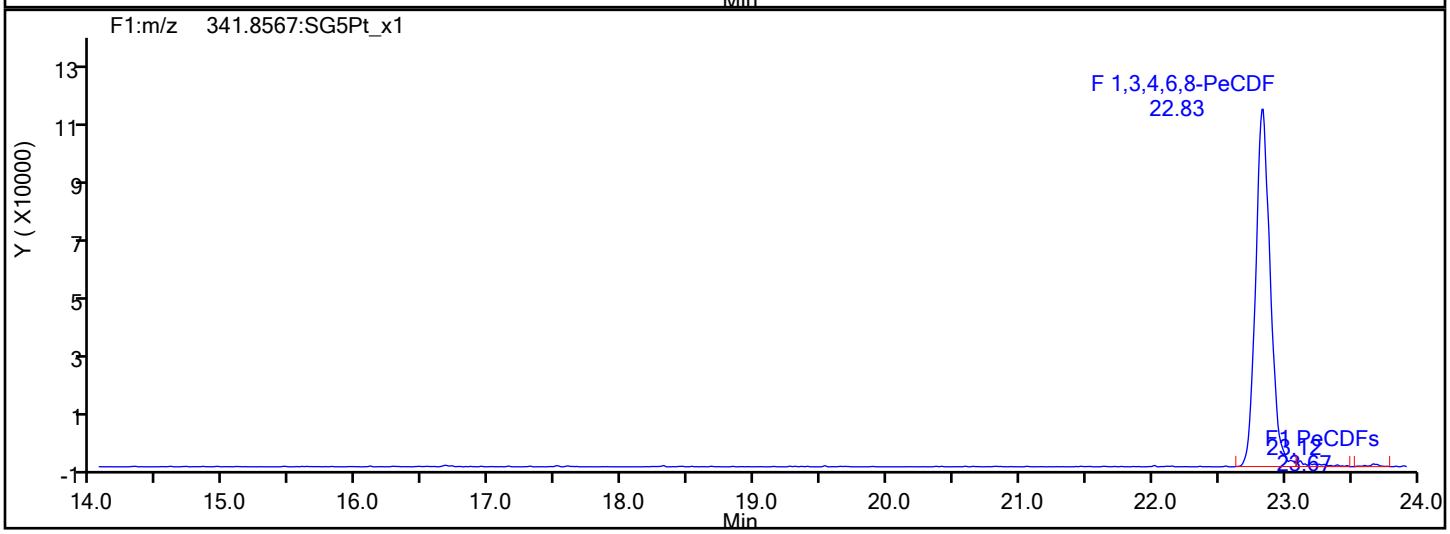


Eurofins Sacramento

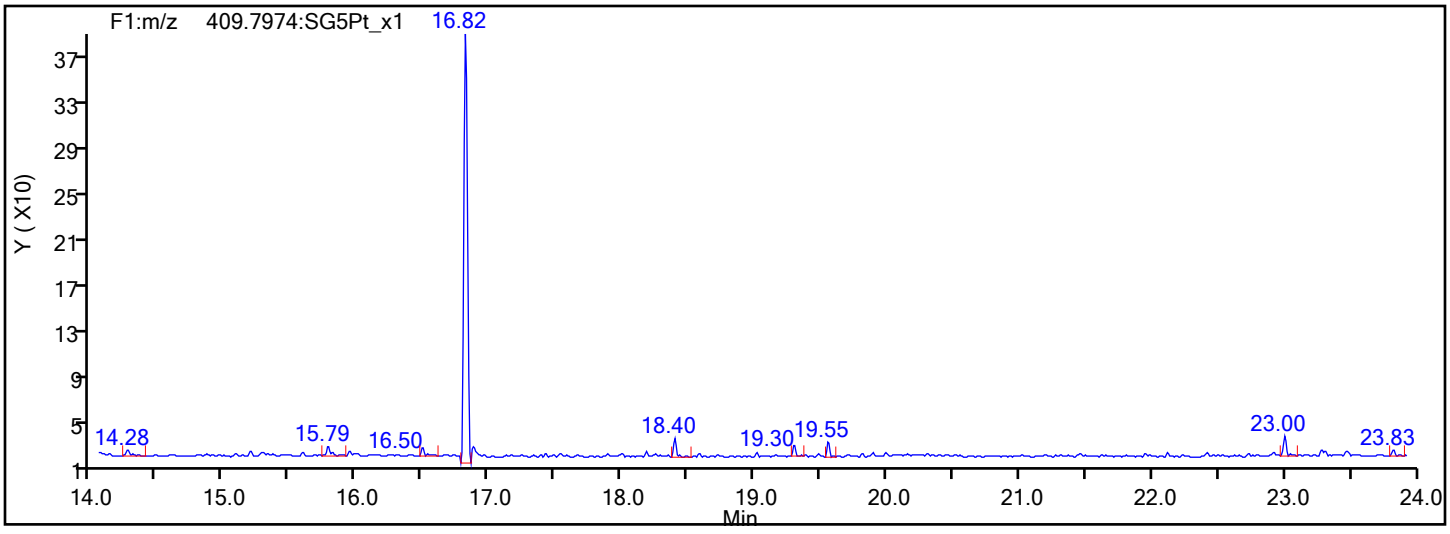
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d		
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

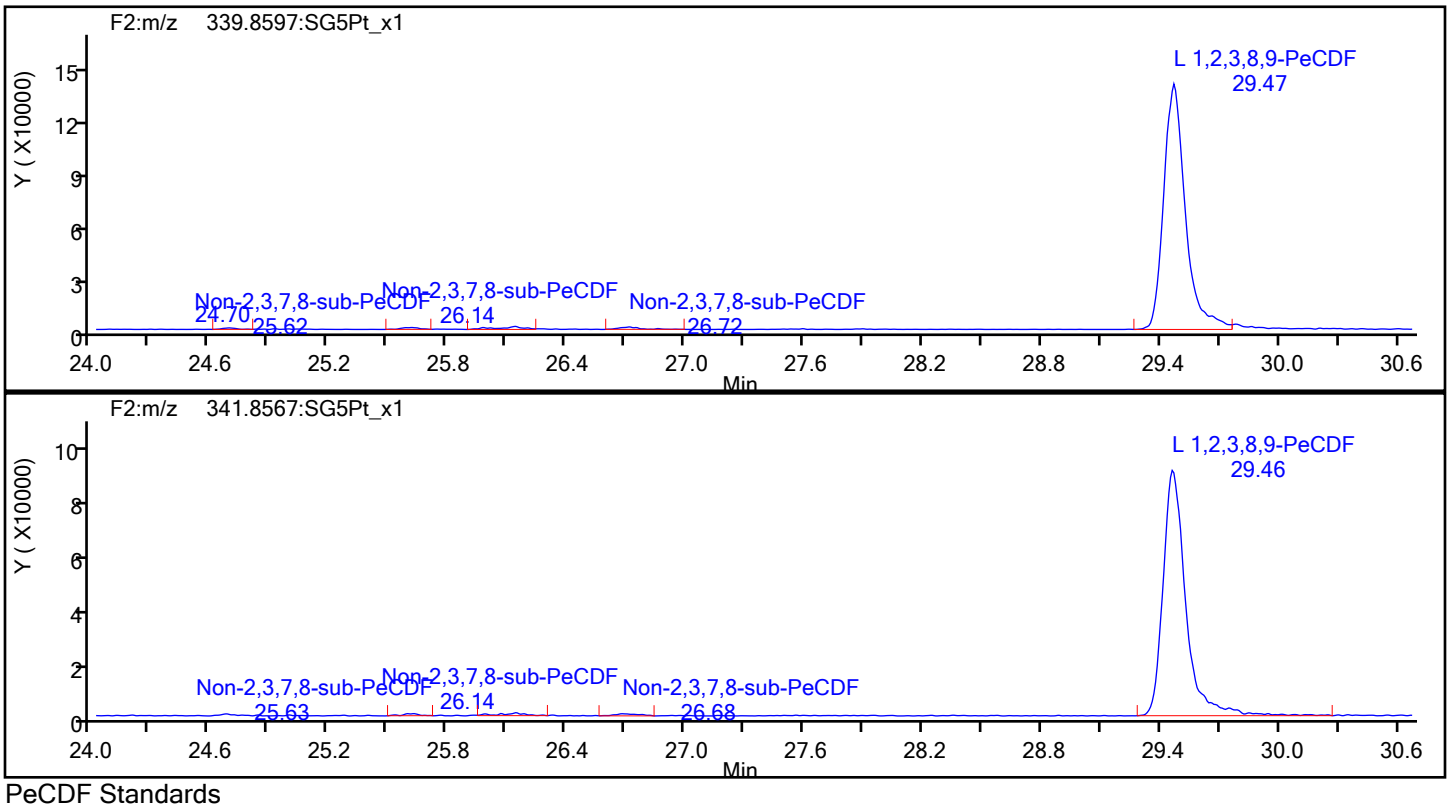


Report Date: 24-Jan-2022 12:19:57 Chrom Revision: 2.3 18-Jan-2022 20:25:40

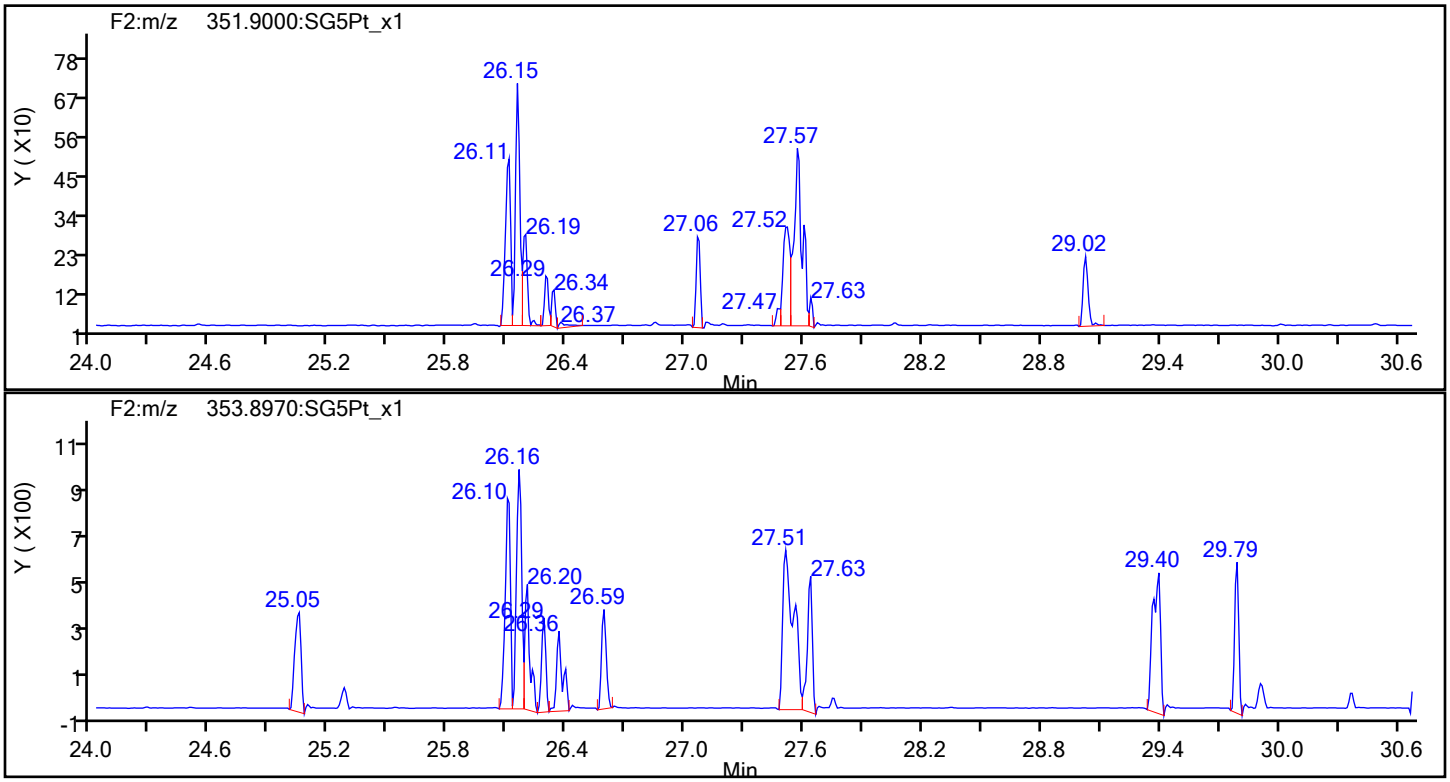
Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d		
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



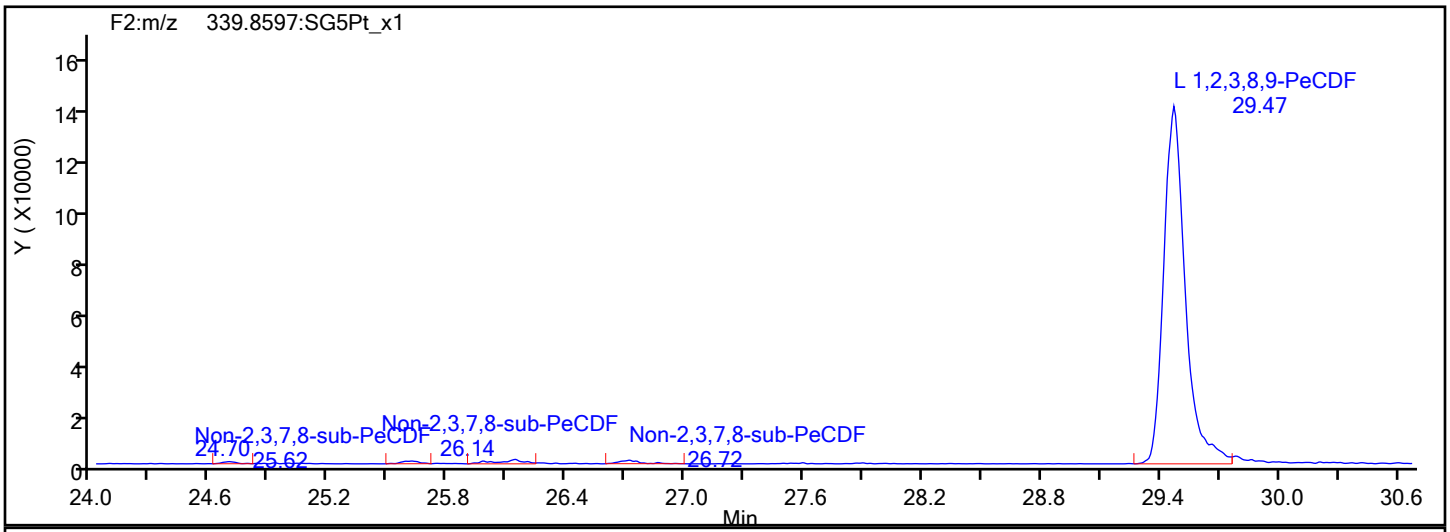
PeCDF Standards

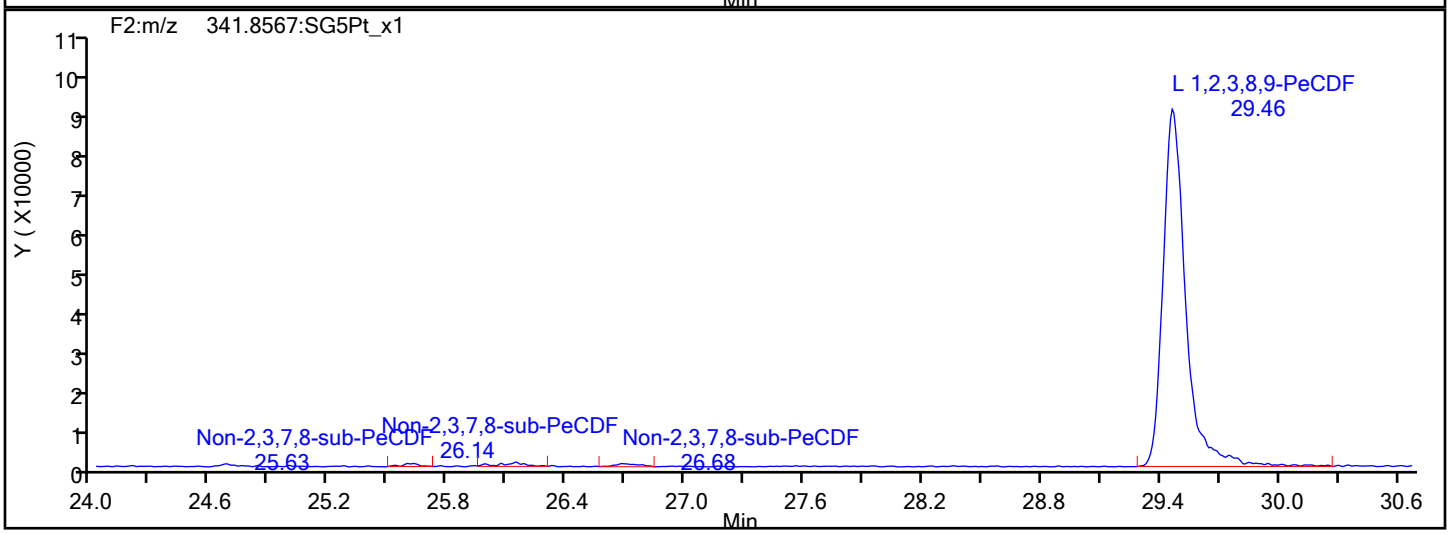


Eurofins Sacramento

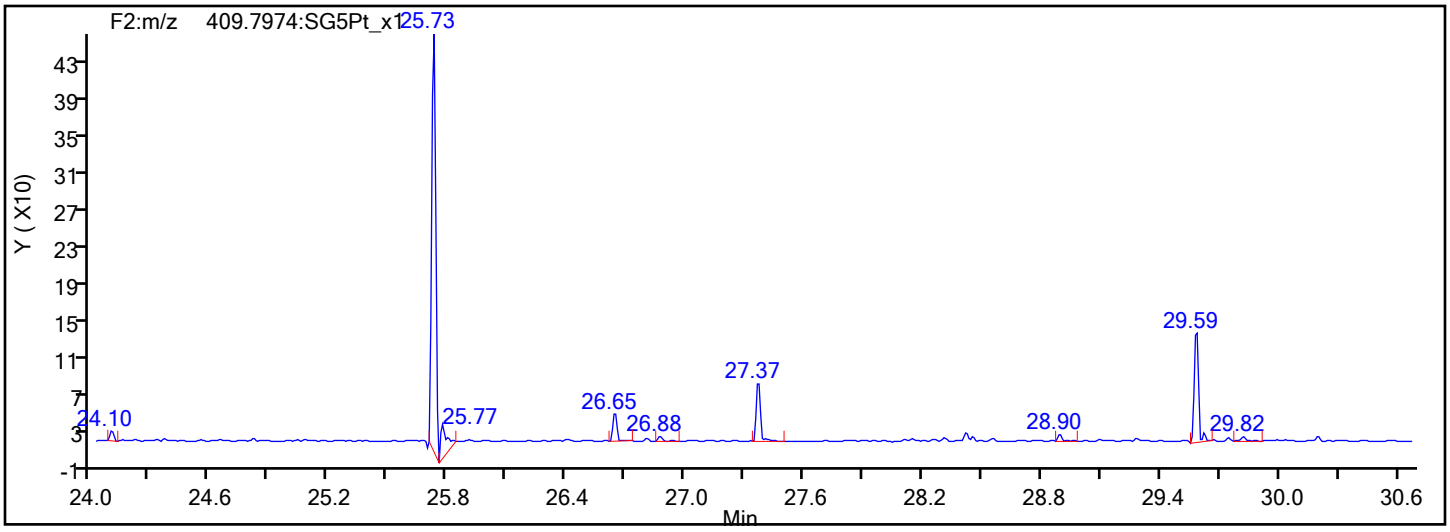
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d		
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





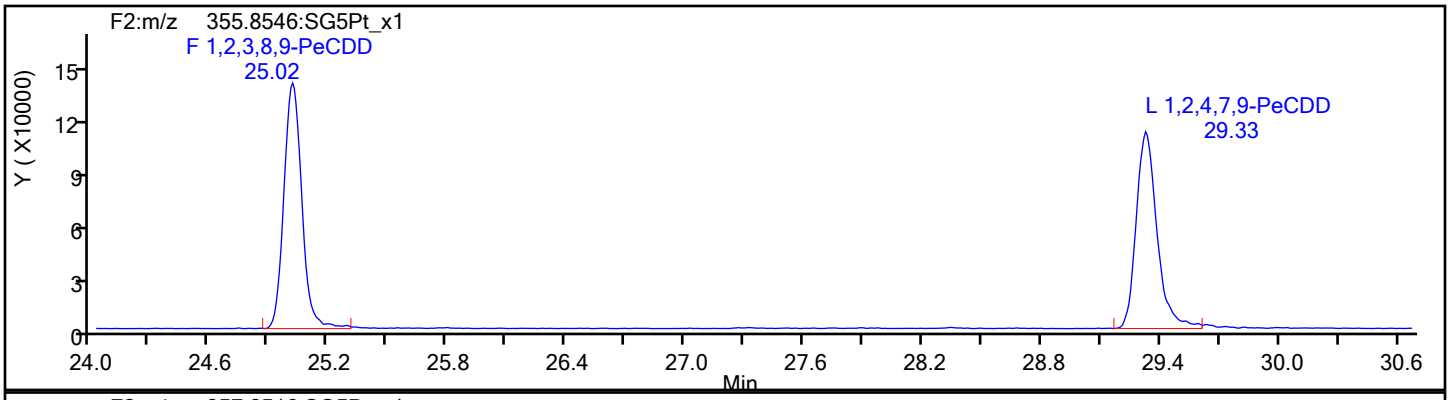
PeCDF Interference Mass

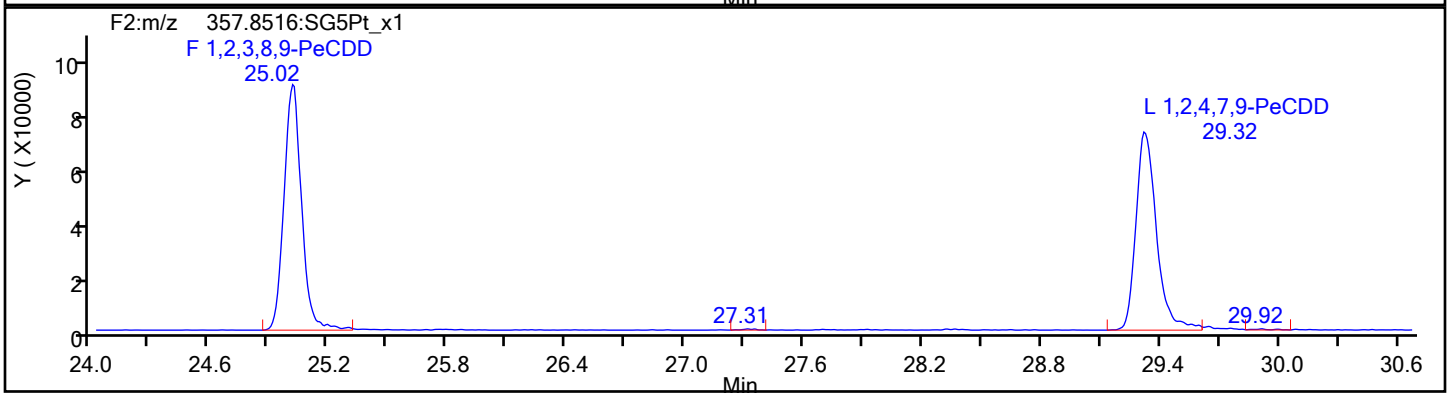


Eurofins Sacramento

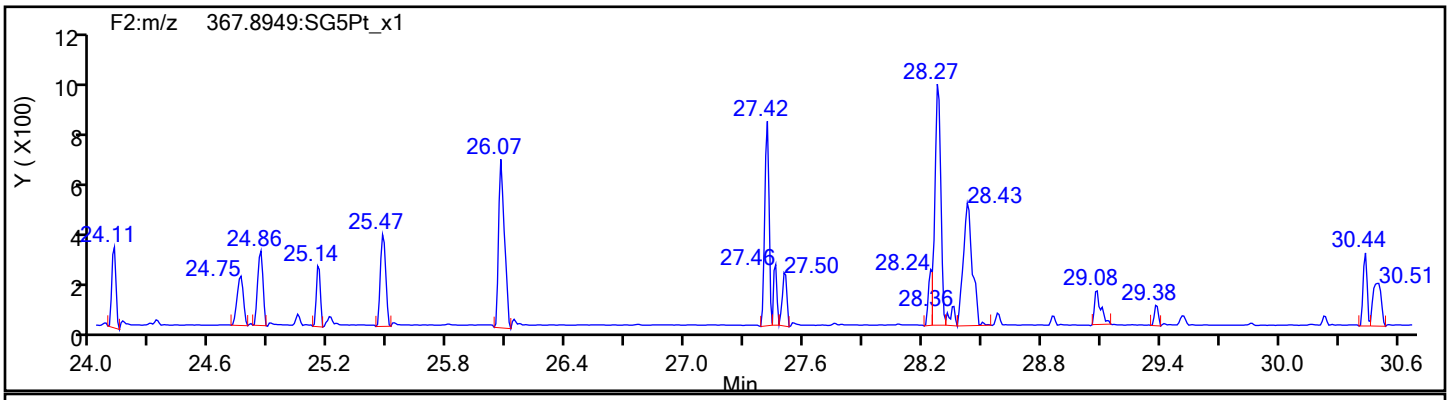
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d		
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

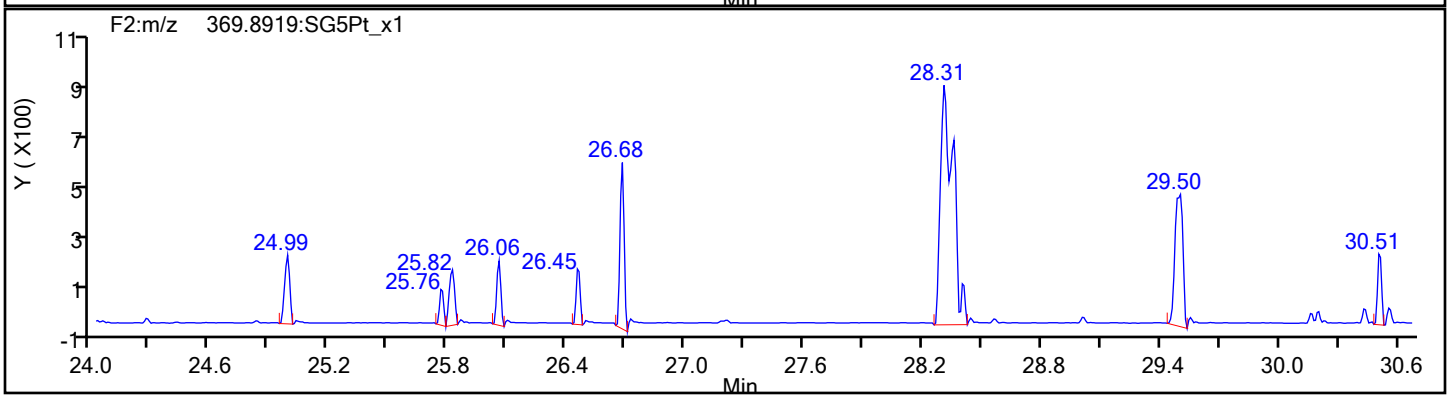
PeCDD





PeCDD Standards





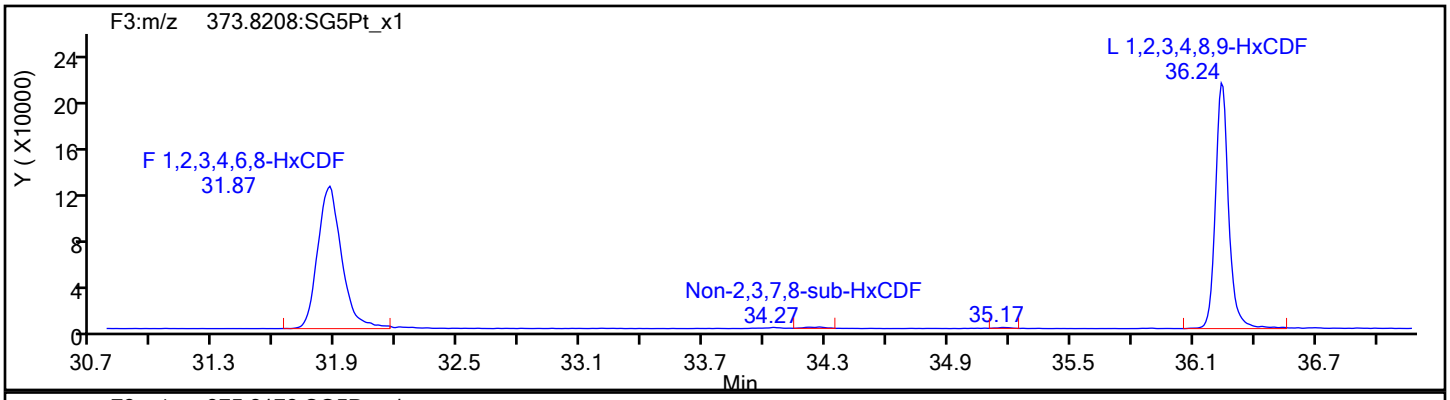
Report Date: 24-Jan-2022 12:19:57 Chrom Revision: 2.3 18-Jan-2022 20:25:40

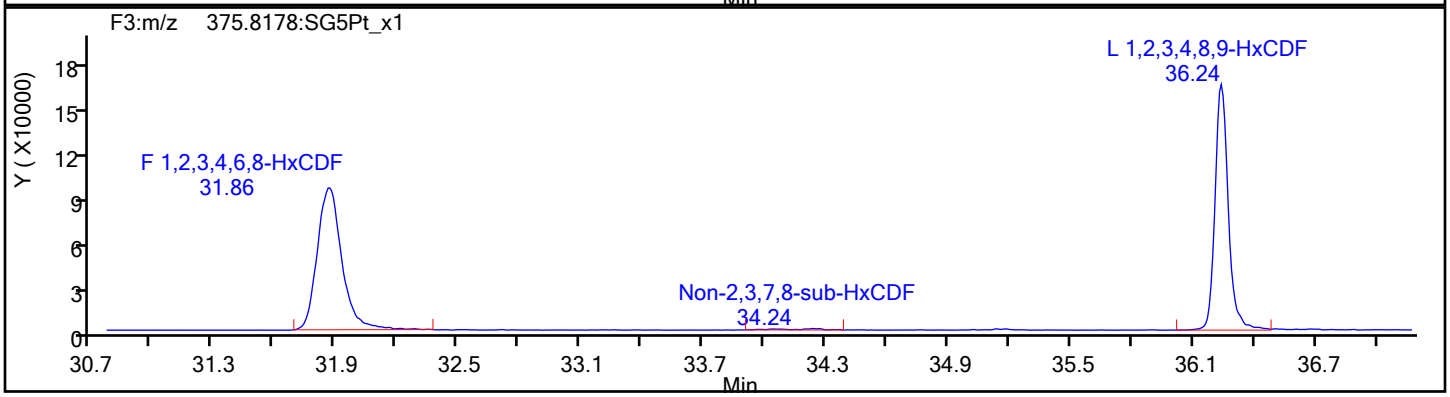
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d

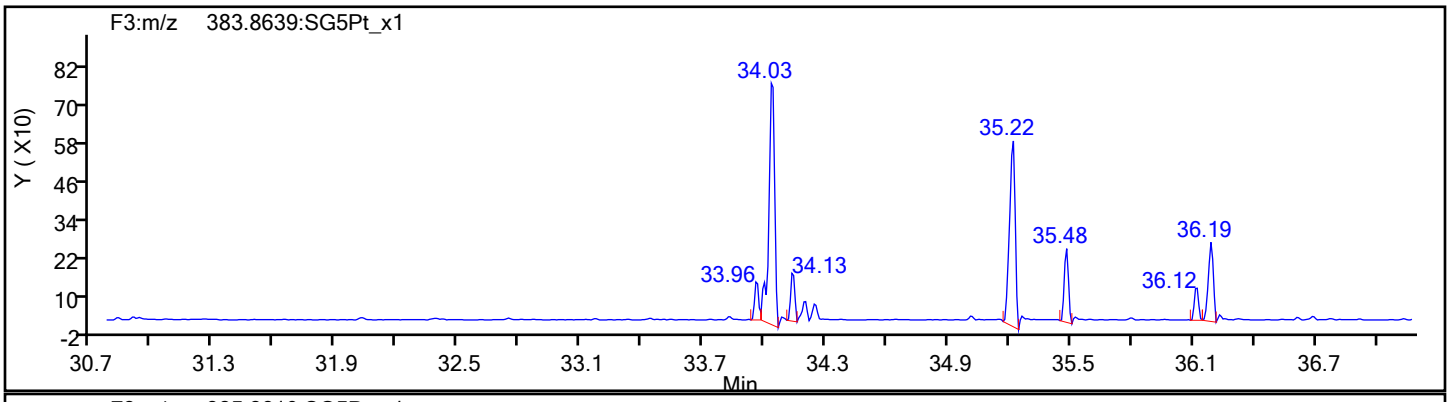
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

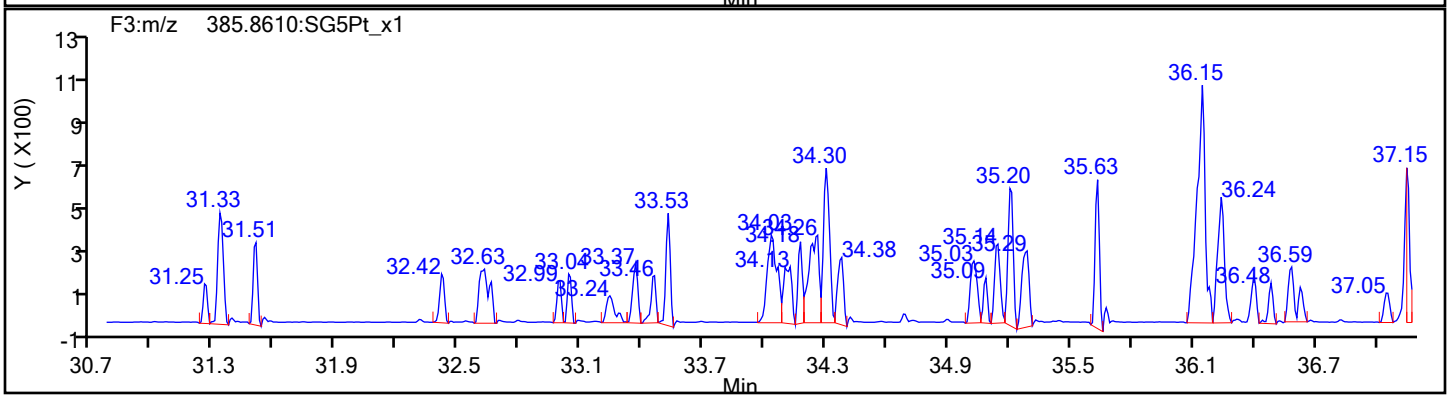
HxCDF





HxCDF Standards

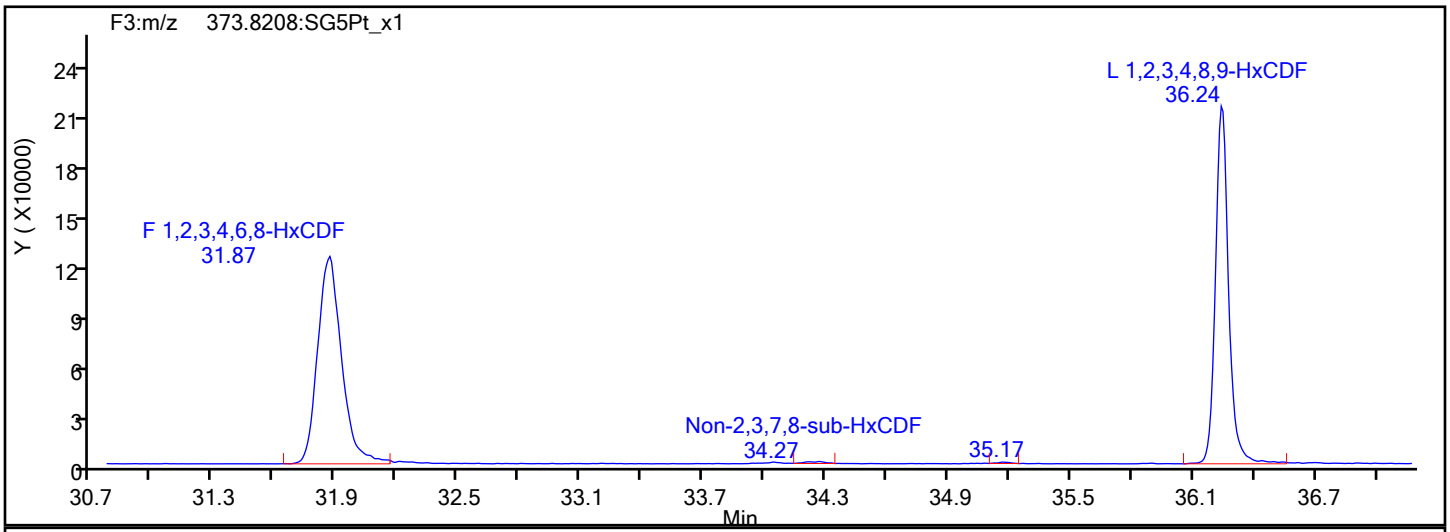


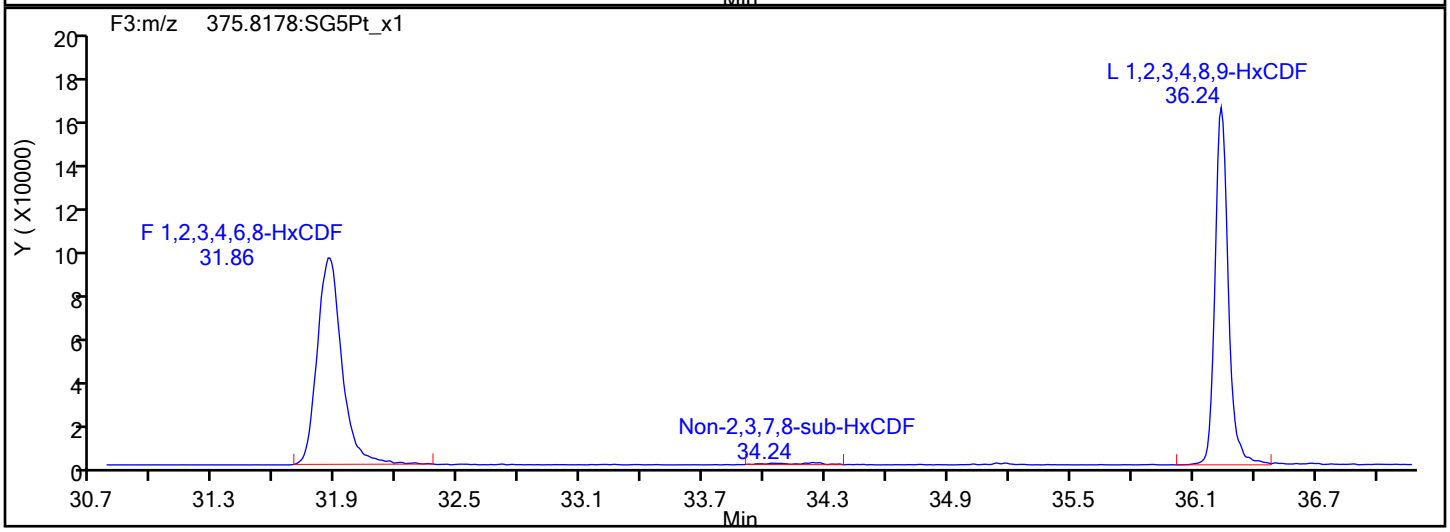


Eurofins Sacramento

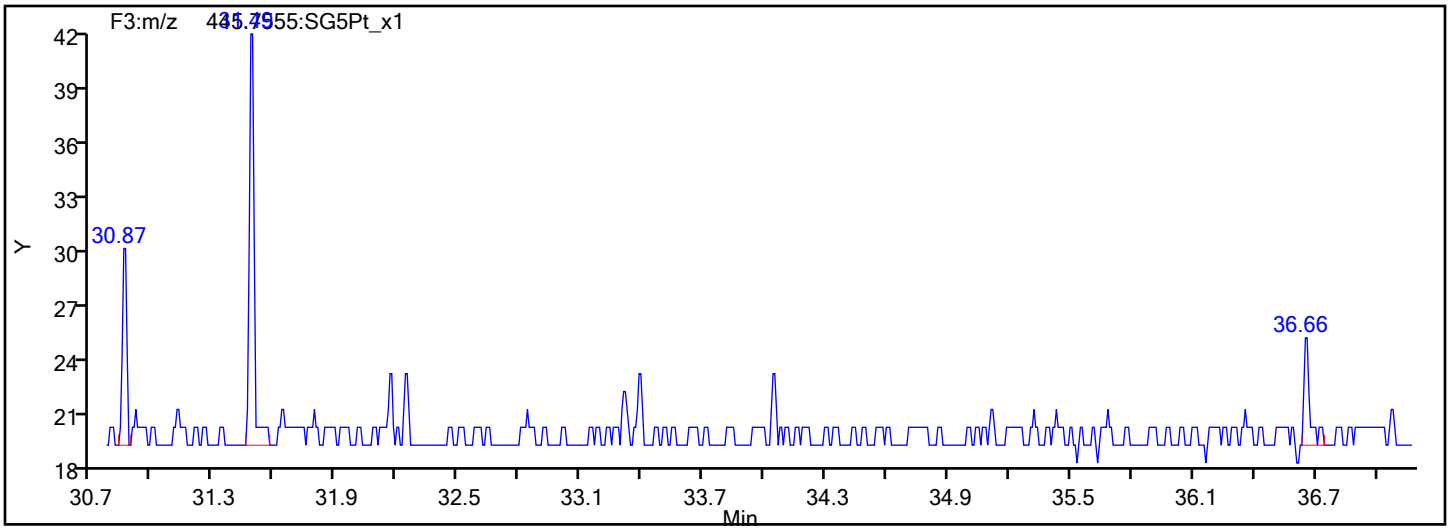
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d		
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





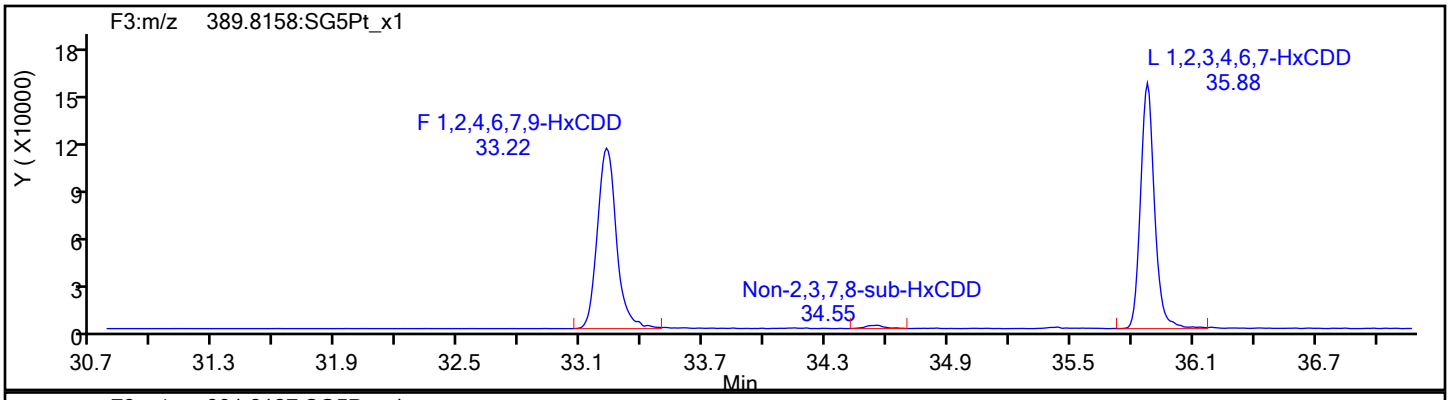
HxCDF Interference Mass

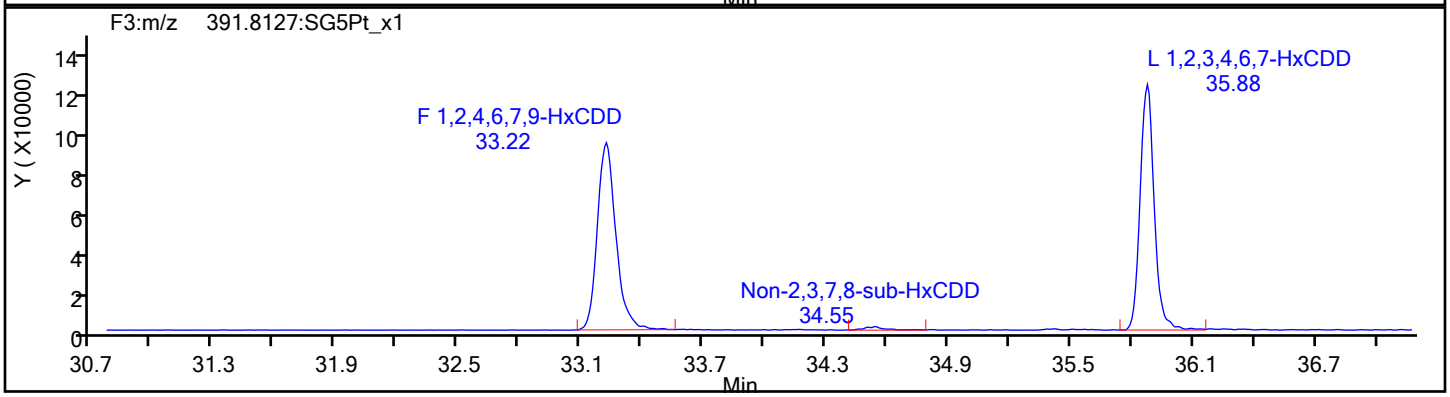


Eurofins Sacramento

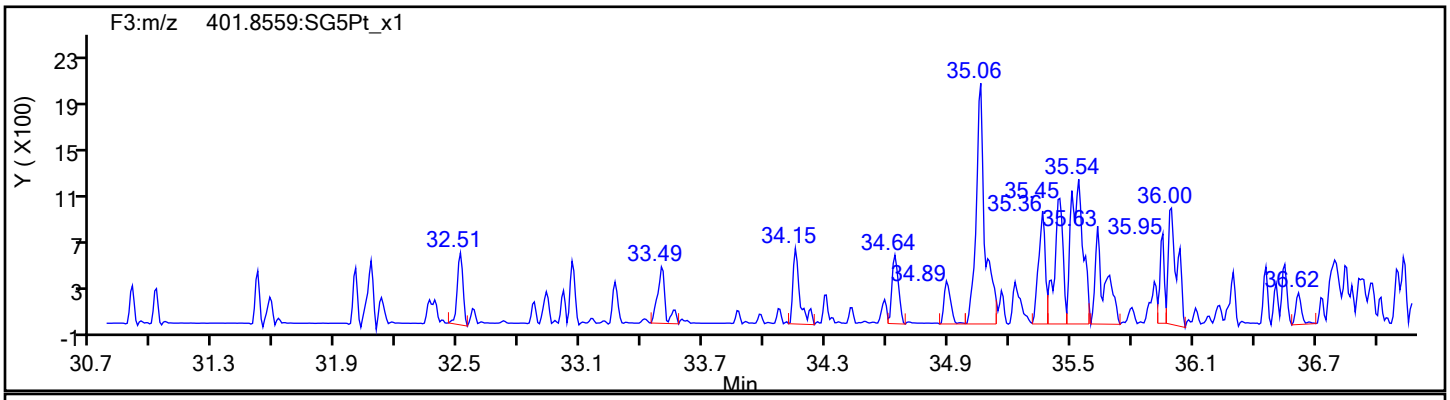
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d		
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

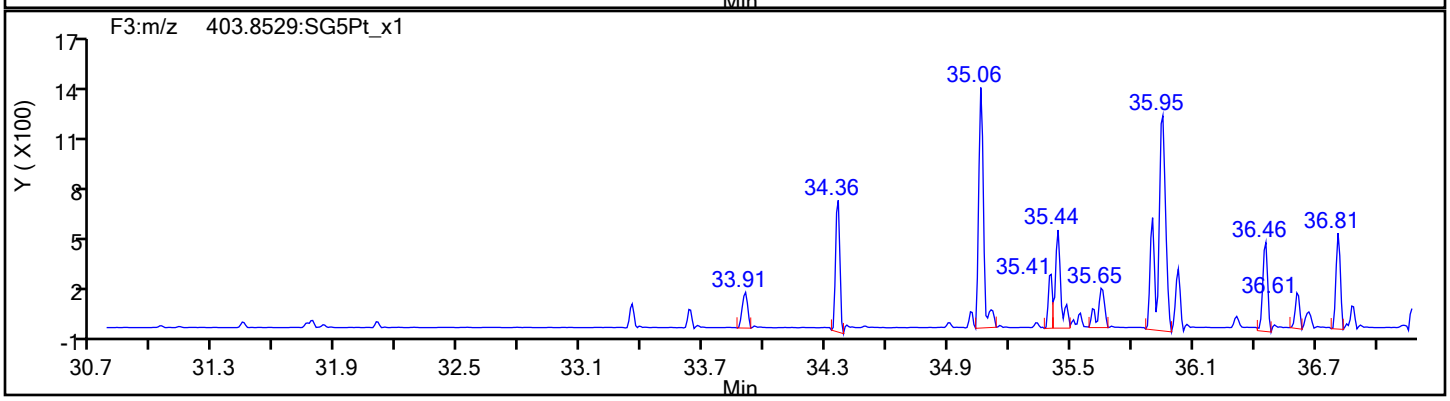
HxCDD





HxCDD Standards

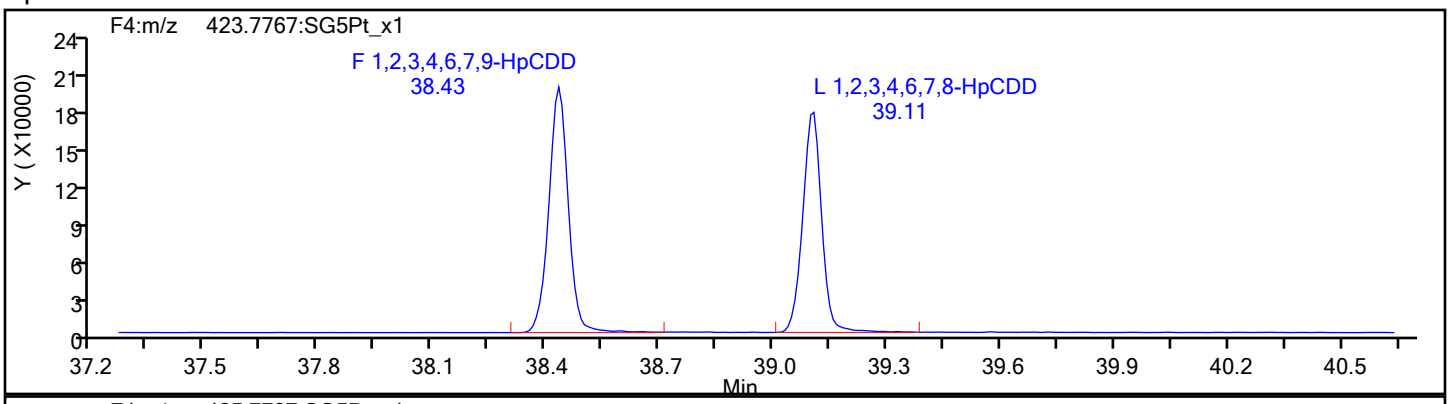


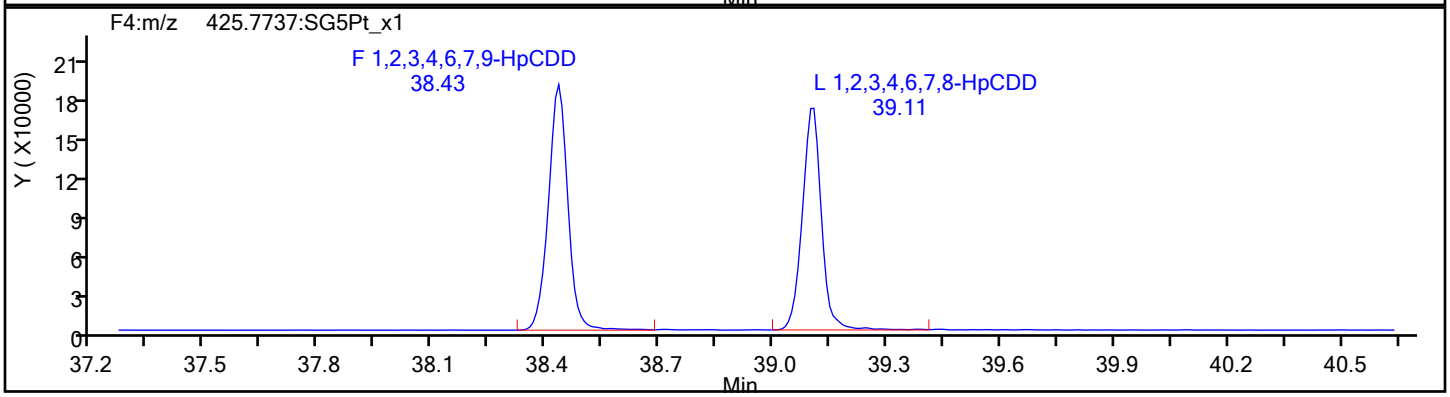


Eurofins Sacramento

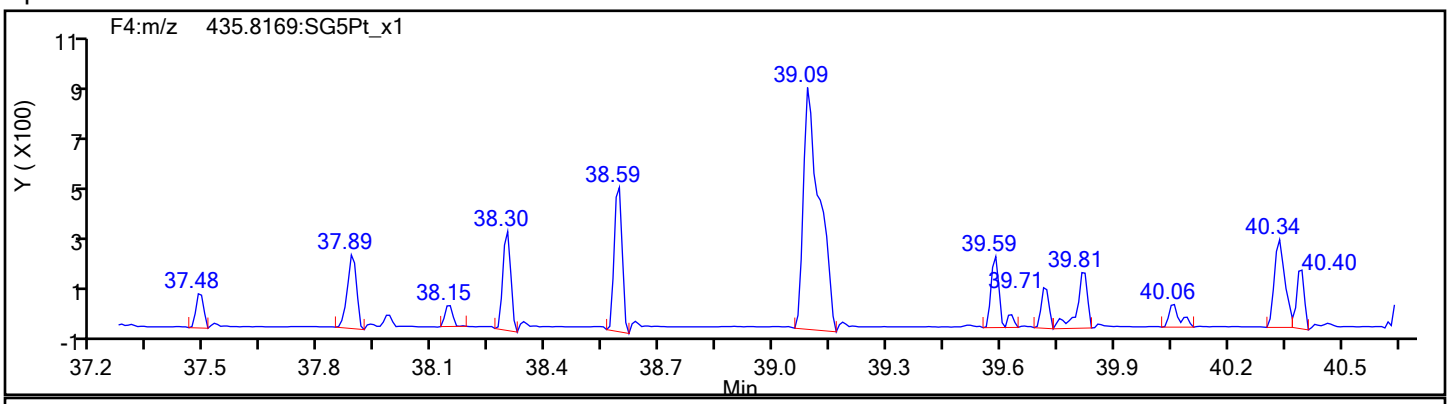
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d
Injection Date: 21-Jan-2022 21:03:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

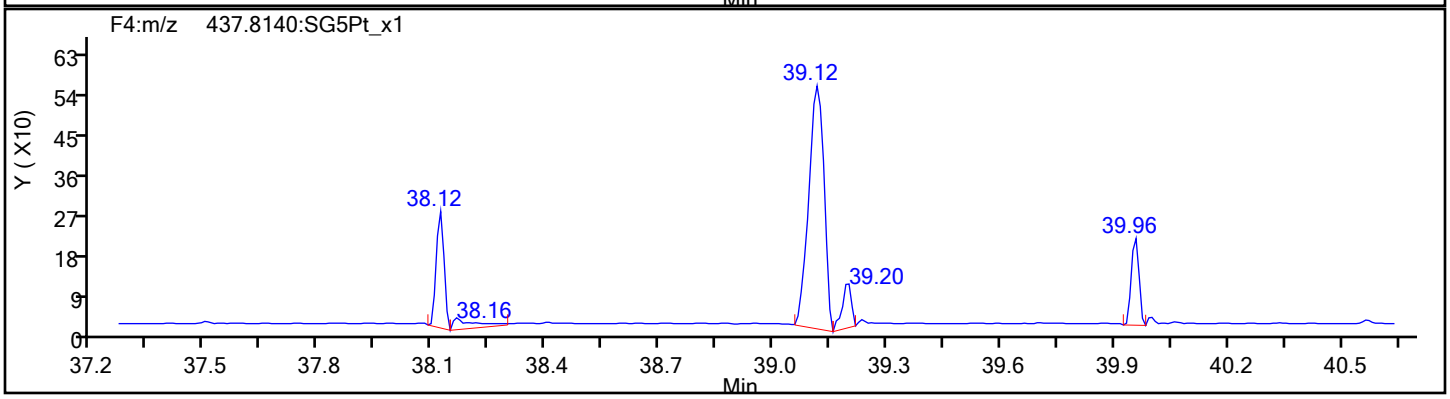
HpCDD





HpCDD Standards



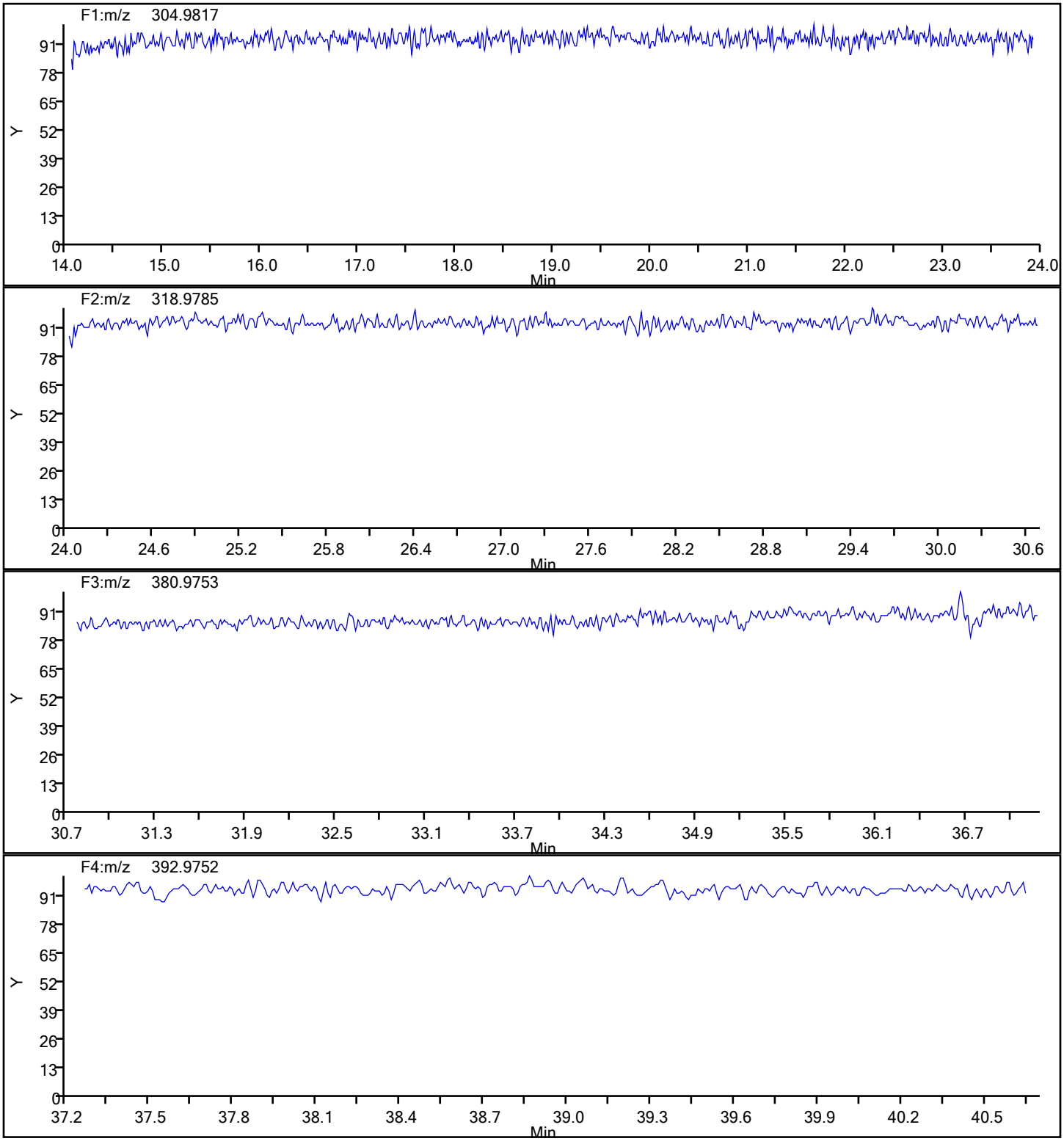


Report Date: 24-Jan-2022 12:19:58 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d

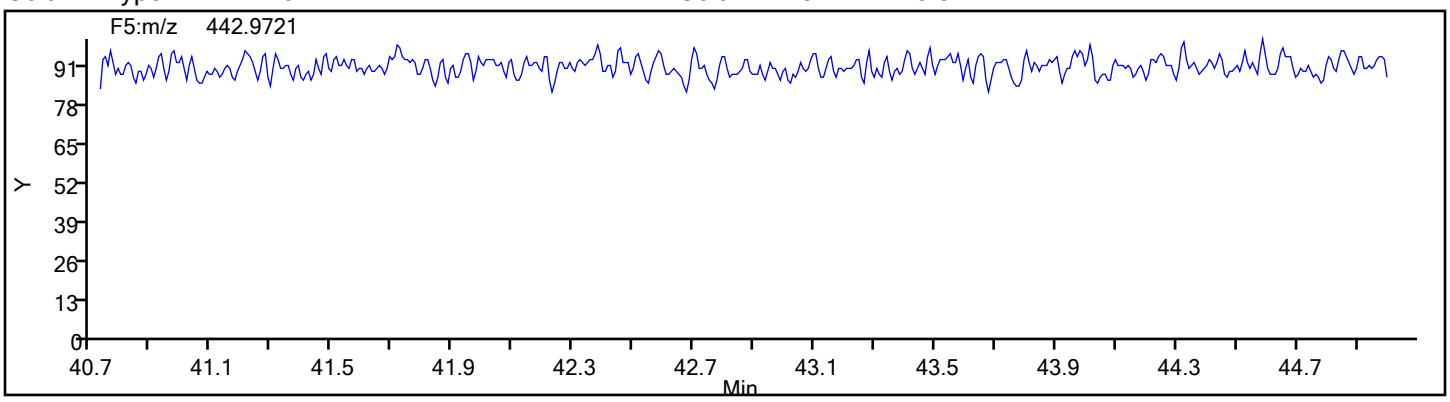
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 24-Jan-2022 12:19:58 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_41.d		
Injection Date:	21-Jan-2022 21:03:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80421-2

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-556608/1-A

Matrix: Water | Lab File ID: 20ja22dfs1_43.d

Analysis Method: 8290 | Date Collected:

Extract. Method: 8290 | Date Extracted: 01/07/2022 08:44

Sample wt/vol: 1000(mL) | Date Analyzed: 01/21/2022 22:38

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559800 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	0.97
51207-31-9	2,3,7,8-TCDF	ND		10	0.41
40321-76-4	1,2,3,7,8-PeCDD	ND		50	0.57
57117-41-6	1,2,3,7,8-PeCDF	1.290	J	50	0.37
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.39
39227-28-6	1,2,3,4,7,8-HxCDD	2.871	J	50	0.25
57653-85-7	1,2,3,6,7,8-HxCDD	1.221	J	50	0.22
19408-74-3	1,2,3,7,8,9-HxCDD	1.241	J	50	0.23
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	0.30
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	0.26
60851-34-5	2,3,4,6,7,8-HxCDF	ND		50	0.27
72918-21-9	1,2,3,7,8,9-HxCDF	1.771	J	50	0.29
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.531	J	50	0.24
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.718	J	50	0.22
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.823	J	50	0.25
3268-87-9	OCDD	5.143	J	100	0.22
39001-02-0	OCDF	2.894	J	100	0.44

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	89		40-135
89059-46-1	13C-2,3,7,8-TCDF	95		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	92		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	91		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	90		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	92		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	92		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	95		40-135
114423-97-1	13C-OCDD	103		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Lims ID: MB 320-556608/1-A
Client ID:
Sample Type: MB
Inject. Date: 21-Jan-2022 22:38:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-556608/1-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:30:26 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 10:22:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.980	7475942	0.80	3.5E+04	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.062	7202987	0.78	1.0164	94.8	94.8	0.3855	0.3855	94.79	
2,3,7,8-TCDF	19.061						0.0207	0.0207		
A Non-2,3,7,8-sub-TCDF	18.680						0.0207	0.0207		
S Total TCDF							0.0207	0.0207		
D 13C-2,3,7,8-TCDD	20.324	5264568	0.77	0.7884	89.3	89.3	0.2718	0.2718	89.32	
$ 37Cl4-2,3,7,8-TCDD	20.350	2186421		0.7911	37.0	37.0	0.0266	0.0266	92.42	
2,3,7,8-TCDD	20.341						0.0483	0.0483		
A Non-2,3,7,8-sub-TCDD	19.478						0.0483	0.0483		
S Total TCDD							0.0483	0.0483		
D 13C-1,2,3,7,8-PeCDF	26.108	6248508	1.59	0.9232	90.5	90.5	0.5107	0.5107	90.54	
1,2,3,7,8-PeCDF	26.116	3932	1.40	0.9756	0.0645	0.0645	0.0184	0.0184		
$ 13C-2,3,4,7,8-PeCDF	27.523	8207716	1.55	1.1692	112.3	112.3	0.4213	0.4213	112	
2,3,4,7,8-PeCDF	27.548						0.0195	0.0195		RQU
A F1 PeCDFs	23.375						0.0110	0.0189		RQU
A Non-2,3,7,8-sub-PeCDF	26.760						0.0189	0.0530		RQU
S Total PeCDF					0.0645	0.0645	0.0189	0.0189		
D 13C-1,2,3,7,8-PeCDD	28.307	3849200	1.53	0.5606	91.8	91.8	0.2067	0.2067	91.84	
1,2,3,7,8-PeCDD	28.290						0.0285	0.0285		RQU
A Non-2,3,7,8-sub-PeCDD	27.170						0.0285	0.0323		RQU
S Total PeCDD							0.0323	0.0323		
D 13C-1,2,3,4,7,8-HxCDF	34.012	5825917	0.51	1.0566	92.4	92.4	0.2822	0.2822	92.36	
1,2,3,4,7,8-HxCDF	34.019						0.0149	0.0149		
D 13C-1,2,3,6,7,8-HxCDF	34.197	4709141	0.54	0.9686	81.4	81.4	0.3079	0.3079	81.44	
1,2,3,6,7,8-HxCDF	34.204						0.0128	0.0128		
D 13C-2,3,4,6,7,8-HxCDF	35.141	4696689	0.51	0.9084	86.6	86.6	0.3283	0.3283	86.60	
2,3,4,6,7,8-HxCDF	35.147						0.0133	0.0133		
D 13C-1,2,3,7,8,9-HxCDF	36.109	4268726	0.52	0.8248	86.7	86.7	0.3616	0.3616	86.69	
1,2,3,7,8,9-HxCDF	36.143	4680	1.26	0.9071	0.0886	0.0886	0.0145	0.0145		M
A Non-2,3,7,8-sub-HxCDF	34.051						0.0138	0.0138		
S Total HxCDF					0.0886	0.0886	0.0139	0.0139		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	35.916	5970324	1.24	2.5E+04	100.0	100.0				
$ 13C-1,2,3,4,7,8-HxCDD	35.385	4629619	1.27	1.0143	105.5	105.5	0.2714	0.2714	105	
1,2,3,4,7,8-HxCDD	35.385	5150	1.24	0.8294	0.1585	0.1435	0.0124	0.0124		RQM
D 13C-1,2,3,6,7,8-HxCDD	35.511	4326256	1.27	0.8027	90.3	90.3	0.2299	0.2299	90.28	
1,2,3,6,7,8-HxCDD	35.562	2481	1.24	0.9395	0.0704	0.0610	0.0109	0.0109		RQM
1,2,3,7,8,9-HxCDD	35.924	2437	1.24	0.9076	0.0819	0.0621	0.0113	0.0113		RQM
A Non-2,3,7,8-sub-HxCDD	34.547						0.0115	0.0224		RQU
S Total HxCDD					0.3108	0.2666	0.0115	0.0115		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.091	3645542	0.46	0.6421	95.1	95.1	0.4222	0.4222	95.10	
1,2,3,4,6,7,8-HpCDF	38.108	4505	1.04	1.4385	0.0942	0.0859	0.0108	0.0108		RQM
$ 13C-1,2,3,4,7,8,9-HpCDF	39.396	4600473	0.45	1.1706	107.8	107.8	0.3137	0.3137	108	
1,2,3,4,7,8,9-HpCDF	39.422	4055	0.88	1.2202	0.0912	0.0912	0.0127	0.0127		
A Non-2,3,7,8-sub-HpCDF	38.751						0.0117	0.0117		
S Total HpCDF					0.1854	0.1771	0.0118	0.0118		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	39.093	3436691	1.11	0.6246	92.2	92.2	0.2700	0.2700	92.16	
1,2,3,4,6,7,8-HpCDD	39.101	4247	1.13	0.9767	0.1265	0.1265	0.0122	0.0122		
A Non-2,3,7,8-sub-HpCDD	38.763	2506	1.04	0.9767	0.0885	0.0747	0.0122	0.0747		RQM
S Total HpCDD					0.2150	0.2012	0.0122	0.0122		RQ
D 13C-OCDD	41.565	5356087	0.89	0.4360	205.8	205.8	0.2642	0.2642	103	
OCDF	41.650	4943	0.82	1.2756	0.1447	0.1447	0.0218	0.0218		M
OCDD	41.591	7122	0.89	1.0341	0.2930	0.2572	0.0112	0.0112		RQM

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Lims ID: MB 320-556608/1-A
Client ID:
Sample Type: MB
Inject. Date: 21-Jan-2022 22:38:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-556608/1-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:30:26 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 10:22:11

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	19.980	19.937	3		3311705	495424	560	1400	885		a
333.9338	19.972	19.937	2		4164237	622381	398	995	1564	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.062	19.035	2	0.954	3165273	475723	1119	2797	425		
317.9389	19.062	19.035	2	0.954	4037714	609861	633	1582	963	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.061						7	17			
305.8987	19.061						84	210			
A Non-2,3,7,8-sub-TCDF											
303.9016	18.680						7	17			
305.8987	18.680						84	210			
13C-2,3,7,8-TCDD											
331.9368	20.324	20.306	1	1.017	2286741	322763	560	1400	576		
333.9338	20.315	20.306	1	1.017	2977827	412401	398	995	1036	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.350	20.332	1	1.018	2186421	304156	94	235	3236		
2,3,7,8-TCDD											
319.8965	20.341						117	292			
321.8936	20.341						24	60			
A Non-2,3,7,8-sub-TCDD											
319.8965	19.478						117	292			
321.8936	19.478						24	60			
13C-1,2,3,7,8-PeCDF											
351.9000	26.108	26.081	2	1.307	3837024	659821	1232	3080	536		
353.8970	26.099	26.081	1	1.306	2411484	410047	876	2190	468	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.116	26.107	1	1.000	2297	507	9	22	56		
341.8567	26.175	26.107	4	1.003	1635	313	68	170	5	1.40(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.523	27.505	1	1.054	4994934	769141	1232	3080	624		
353.8970	27.514	27.505	1	1.054	3212782	494376	876	2190	564	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											RQU
339.8597	27.531						9	22			
341.8567	27.531						68	170			
A F1 PeCDFs											U
339.8597	23.375	23.375	0	0.895	682	296	1	2			
341.8567	23.375	23.375	0	0.895	2995	675	44	110		0.23(1.32-1.78)	
	Empc Correction				440	190	44	110	0		
A Non-2,3,7,8-sub-PeCDF											U
339.8597	26.760	26.760	0	1.025	294	103	9	22			
341.8567	26.760	26.760	0	1.025	2849	540	68	170		0.10(1.32-1.78)	
	Empc Correction				189	66	68	170	0		
13C-1,2,3,7,8-PeCDD											
367.8949	28.307	28.289	1	1.417	2325237	350400	328	820	1068		
369.8919	28.307	28.289	1	1.417	1523963	228212	190	475	1201	1.53(1.32-1.78)	
1,2,3,7,8-PeCDD											RQU
355.8546	28.314						58	145			
357.8516	28.314						8	20			
A Non-2,3,7,8-sub-PeCDD											U
355.8546	26.082	27.170	-65	0.921	1143	268	58	145	5		
	Empc Correction				159	65	58	145	0		
357.8516	26.158	27.170	-61	0.924	103	42	8	20	5	11.10(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.012	34.002	1	0.947	1979706	364819	614	1535	594		
385.8610	34.012	34.002	1	0.947	3846211	716299	947	2367	756	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.019						51	127			
375.8178	34.019						6	15			
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.197	34.187	1	0.952	1649005	266338	614	1535	434		
385.8610	34.197	34.187	1	0.952	3060136	498347	947	2367	526	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.204						51	127			
375.8178	34.204						6	15			
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.141	35.122	1	0.978	1586266	301140	614	1535	490		
385.8610	35.132	35.122	1	0.978	3110423	610923	947	2367	645	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.147						51	127			
375.8178	35.147						6	15			

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.109	36.099	1	1.005	1464038	330804	614	1535	539		
385.8610	36.109	36.099	1	1.005	2804688	606853	947	2367	641	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.143	36.116	2	1.063	2609	733	51	127	14		M
375.8178	36.151	36.116	2	1.063	2071	500	6	15	83	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.051						51	127			
375.8178	34.051						6	15			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.916	35.906	1		3307938	733986	575	1437	1276		
403.8529	35.916	35.906	1		2662386	574510	391	977	1469	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.385	35.375	1	0.996	2593959	562276	575	1437	978		
403.8529	35.385	35.375	1	0.996	2035660	448749	391	977	1148	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8158	35.385	35.392	0	0.996	2851	643	11	27	58		
391.8127	35.419	35.392	2	0.997	2836	648	25	62	26	1.01(1.05-1.43)	M
	Empc Correction				2299	518	25	62	21		
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.511	35.501	1	0.989	2423355	497002	575	1437	864		
403.8529	35.511	35.501	1	0.989	1902901	380349	391	977	973	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQM
389.8158	35.562	35.518	3	1.001	1752	436	11	27	40		M
	Empc Correction				1373	272	11	27	25		
391.8127	35.570	35.518	3	1.002	1108	220	25	62	9	1.58(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQM
389.8158	35.924	35.922	0	1.012	2128	436	11	27	40		M
	Empc Correction				1349	238	11	27	22		
391.8127	35.916	35.922	0	1.011	1088	192	25	62	8	1.96(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											U
389.8158	33.289	34.547	-75	0.937	485	107	11	27	10		
391.8127	33.171	34.547	-82	0.934	379	147	25	62	6	1.28(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.091	38.081	1	1.061	1143439	303413	457	1142	664		
419.8220	38.091	38.081	1	1.061	2502103	662377	962	2405	689	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7817	38.108	38.089	1	1.000	2297	679	51	127	13		M
409.7788	38.108	38.089	1	1.000	2644	807	9	22	90	0.87(0.88-1.20)	
	Empc Correction				2208	652	9	22	72		
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.396	39.386	1	1.034	1422441	417796	457	1142	914		
419.8220	39.396	39.386	1	1.034	3178032	941964	962	2405	979	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.422	39.403	1	1.035	1902	523	51	127	10		
409.7788	39.405	39.403	0	1.034	2153	651	9	22	72	0.88(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.751						51	127			
409.7788	38.751						9	22			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.093	39.083	1	1.088	1806873	544262	439	1097	1240		
437.8140	39.093	39.083	1	1.088	1629818	483615	444	1110	1089	1.11(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.101	39.091	1	1.000	2250	591	39	97	15		
425.7737	39.101	39.091	1	1.000	1997	670	10	25	67	1.13(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											RQM
423.7767	38.445	38.763	-19	0.983	1278	454	39	97	12		M
425.7737	38.445	38.763	-19	0.983	1692	345	10	25	35	0.76(0.88-1.20)	
	Empc Correction				1228	436	10	25	44		
13C-OCDD											
469.7780	41.565	41.563	0	1.157	2524897	751059	296	740	2537		
471.7750	41.565	41.563	0	1.157	2831190	831260	307	767	2708	0.89(0.76-1.02)	
OCDF											M
441.7428	41.650	41.639	1	1.002	2229	828	17	42	49		M
443.7399	41.650	41.639	1	1.002	2714	1009	71	177	14	0.82(0.76-1.02)	M
OCDD											RQM
457.7377	41.591	41.571	1	1.001	3354	904	13	32	70		
459.7348	41.565	41.571	0	1.000	4760	1443	24	60	60	0.70(0.76-1.02)	M
	Empc Correction				3768	1015	24	60	42		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Lims ID: MB 320-556608/1-A
Client ID:
Inject. Date: 21-Jan-2022 22:38:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 3

F1 PeCDFs, RT: 23.375

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	6248508	1069868
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	6248508	1069868

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.665	682	296	2995	675	0.0620	0.23	RQ
23.665	682	296	440	190	0.0189		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Lims ID: MB 320-556608/1-A
Client ID:
Inject. Date: 21-Jan-2022 22:38:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 3

Non-2,3,7,8-sub-PeCDF, RT: 26.760

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	6248508	1069868
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	6248508	1069868

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
29.352	294	103	2849	540	0.0530	0.10	RQ
29.352	294	103	189	66			Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Lims ID: MB 320-556608/1-A
Client ID:
Inject. Date: 21-Jan-2022 22:38:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 3

Non-2,3,7,8-sub-PeCDD, RT: 27.170

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.002	D 13C-1,2,3,7,8-PeCDD	100.000	3849200	578612

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.002		100.000	3849200	578612

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
26.082	1143	268	103	42	0.0323	11.10	RQ
26.082	159	65	103	42			Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Lims ID: MB 320-556608/1-A
Client ID:
Inject. Date: 21-Jan-2022 22:38:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 3

Non-2,3,7,8-sub-HxCDD, RT: 34.547

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.829	D 13C-1,2,3,6,7,8-HxCDD	100.000	4326256	877351
1,2,3,6,7,8-HxCDD	0.939				
1,2,3,7,8,9-HxCDD	0.908				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.892		100.000	4326256	877351

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.289	485	107	379	147	0.0224	1.28	
34.004	1167	289	309	114	0.0382	3.78	RQ
34.004	383	141	309	114	0.0179		Empc Correction
35.141	1641	369	357	155	0.0518	4.60	RQ
35.141	442	192	357	155	0.0207		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Lims ID: MB 320-556608/1-A
Client ID:
Inject. Date: 21-Jan-2022 22:38:00 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 3

Non-2,3,7,8-sub-HpCDD, RT: 38.763

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3436691	1027877

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3436691	1027877

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.445	1278	454	1692	345	0.0885	0.76	RQM
38.445	1278	454	1228	436	0.0747		Empc Correction
Signal Totals:							
	1278	454	1228	436			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2970	799				0.76	RQM
	2506	890					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0885 = (2970 * 100.000) / (3436691 * 0.977)
Empc Amount: 0.0747 = (2506 * 100.000) / (3436691 * 0.977)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins Sacramento

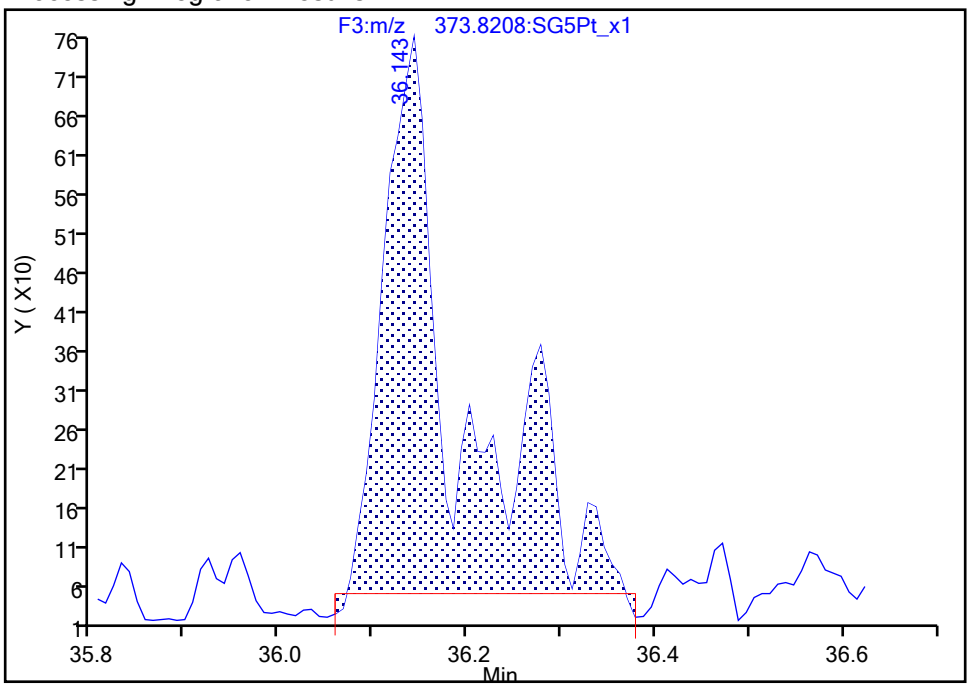
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Instrument ID: DFS 1
Lims ID: MB 320-556608/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

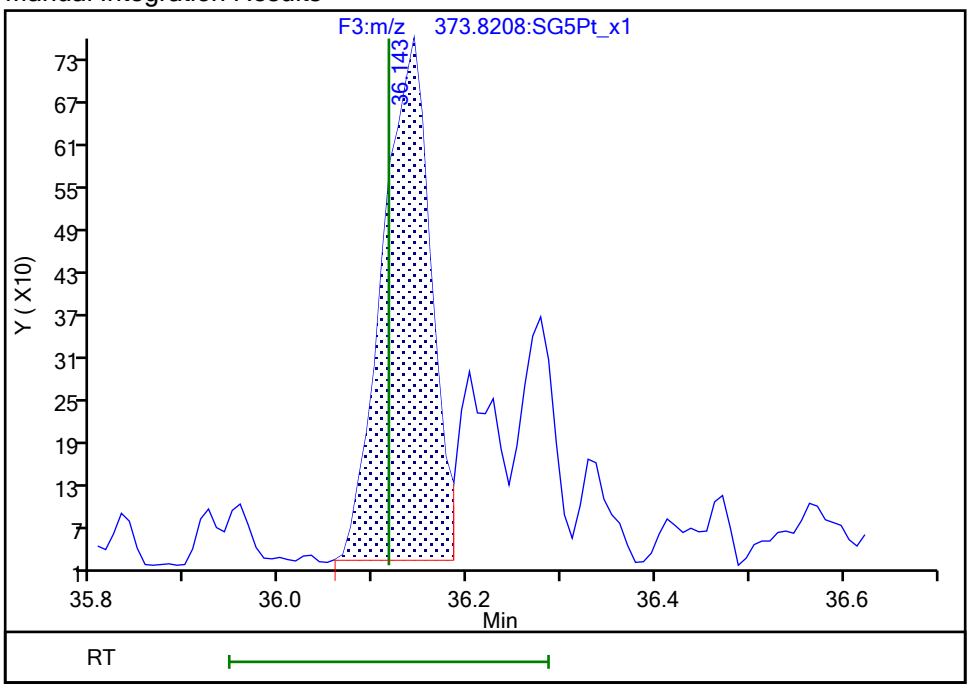
Processing Integration Results

RT: 36.14
Area: 3916
Amount: 0.113294
Amount Units: pg/ul



Manual Integration Results

RT: 36.14
Area: 2609
Amount: 0.088561
Amount Units: pg/ul



Reviewer: bilottag, 24-Jan-2022 10:20:44
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Sacramento

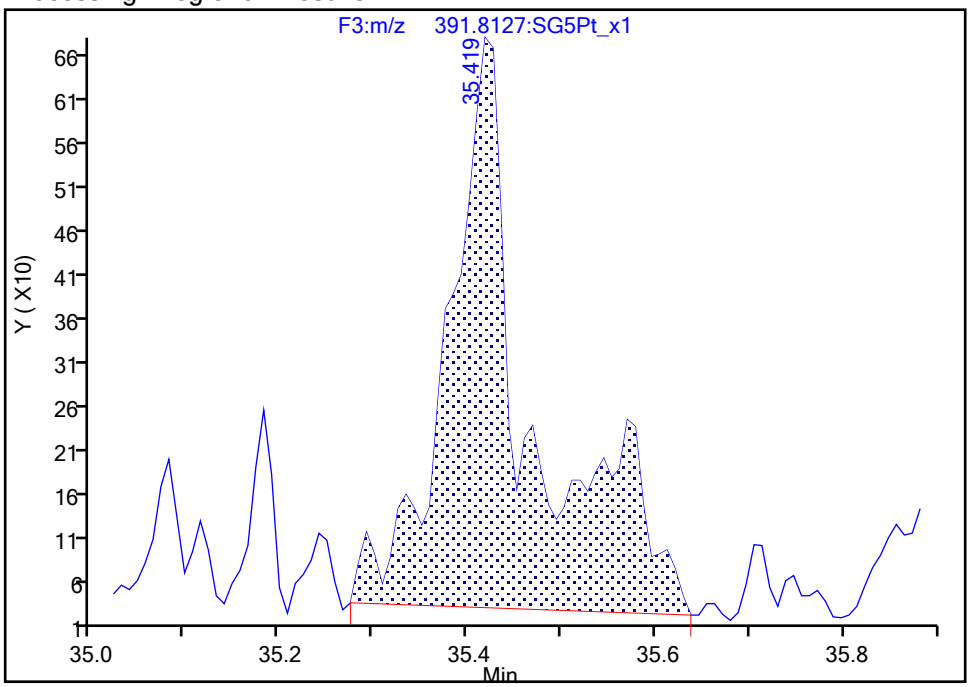
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Instrument ID: DFS 1
Lims ID: MB 320-556608/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

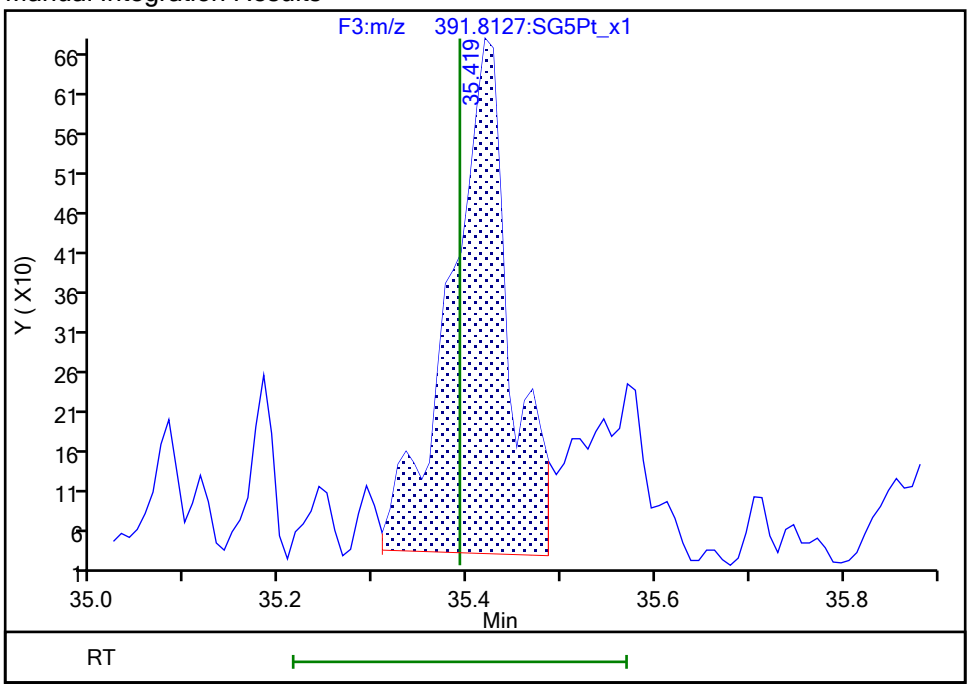
Processing Integration Results

RT: 35.42
Area: 4045
Amount: 0.192185
Amount Units: pg/ul



Manual Integration Results

RT: 35.42
Area: 2836
Amount: 0.158491
Amount Units: pg/ul



Reviewer: bilottag, 24-Jan-2022 10:20:57
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Sacramento

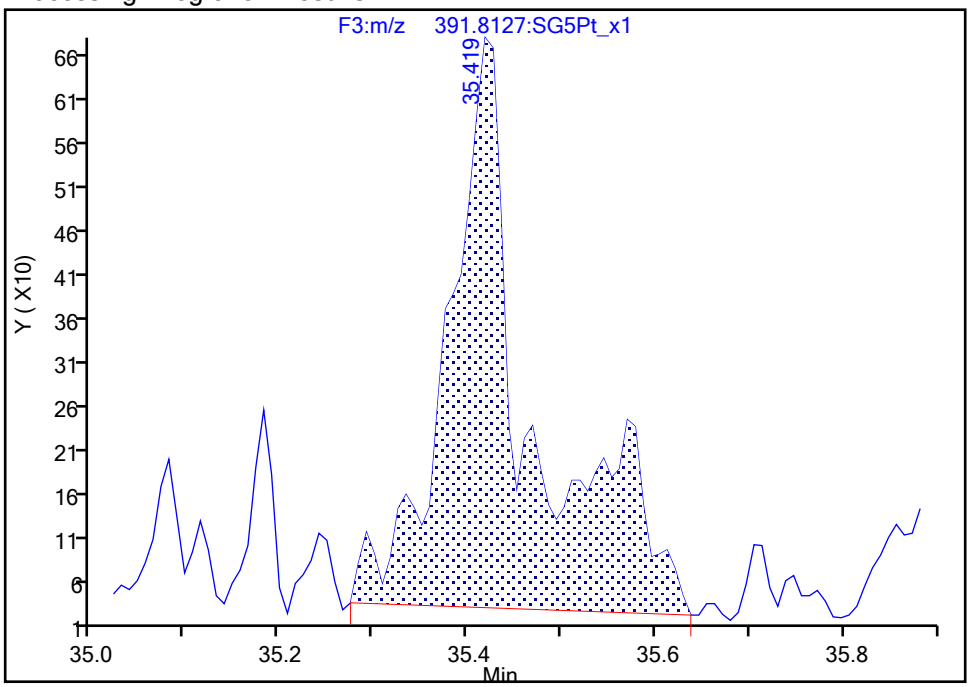
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Instrument ID: DFS 1
Lims ID: MB 320-556608/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

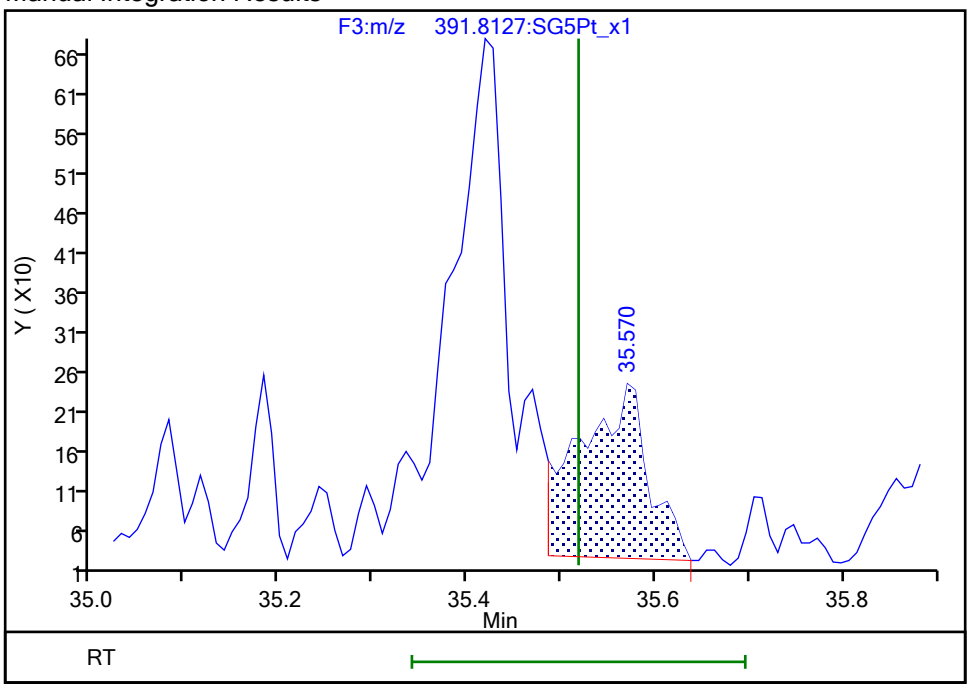
Processing Integration Results

RT: 35.42
Area: 4045
Amount: 0.169672
Amount Units: pg/ul



Manual Integration Results

RT: 35.57
Area: 1108
Amount: 0.070368
Amount Units: pg/ul



Reviewer: bilottag, 24-Jan-2022 10:20:57
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Sacramento

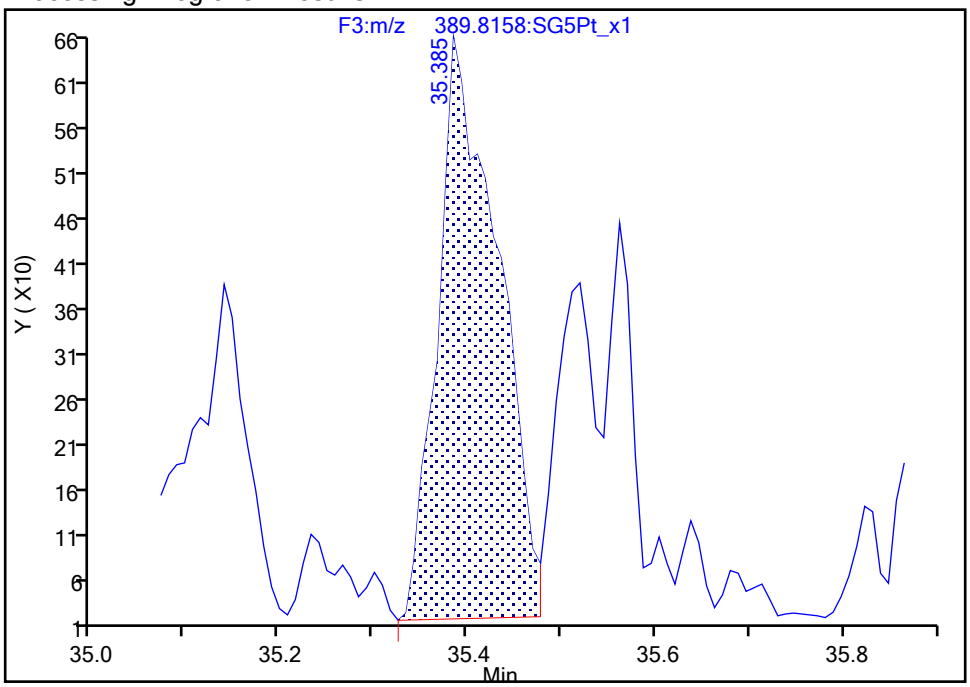
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Instrument ID: DFS 1
Lims ID: MB 320-556608/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

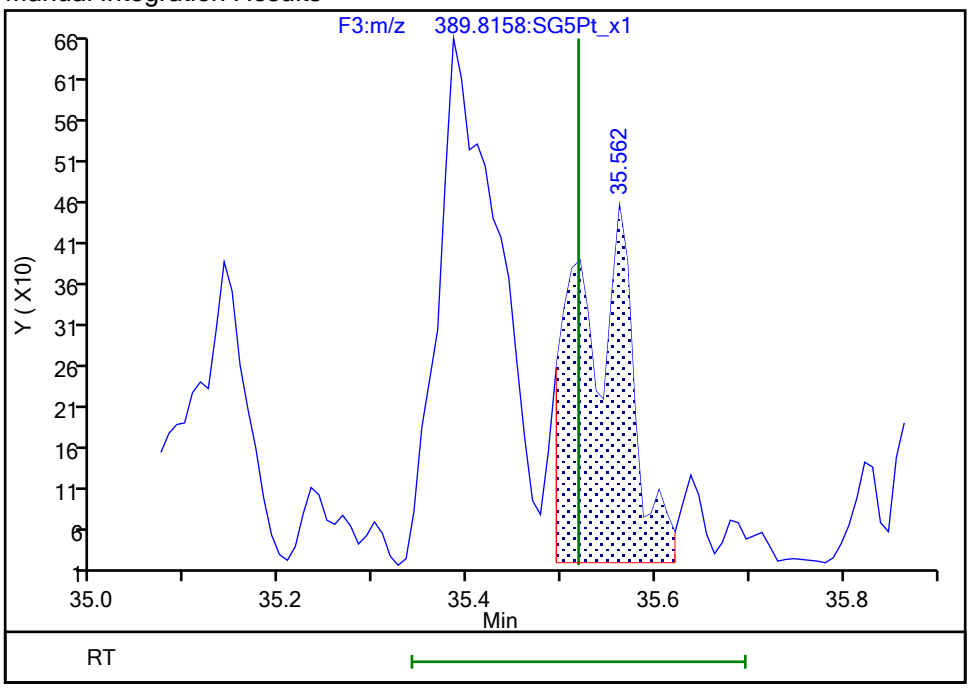
Processing Integration Results

RT: 35.38
Area: 2851
Amount: 0.169672
Amount Units: pg/ul



Manual Integration Results

RT: 35.56
Area: 1752
Amount: 0.070368
Amount Units: pg/ul



Reviewer: bilottag, 24-Jan-2022 10:21:11
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

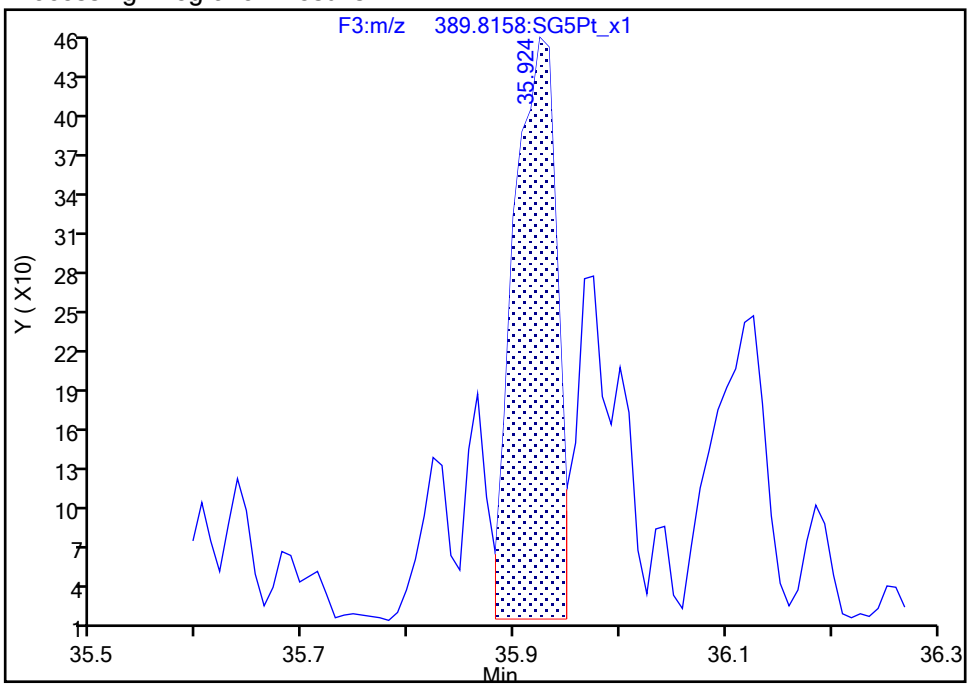
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Instrument ID: DFS 1
Lims ID: MB 320-556608/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F3(33.08 :38.50)

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

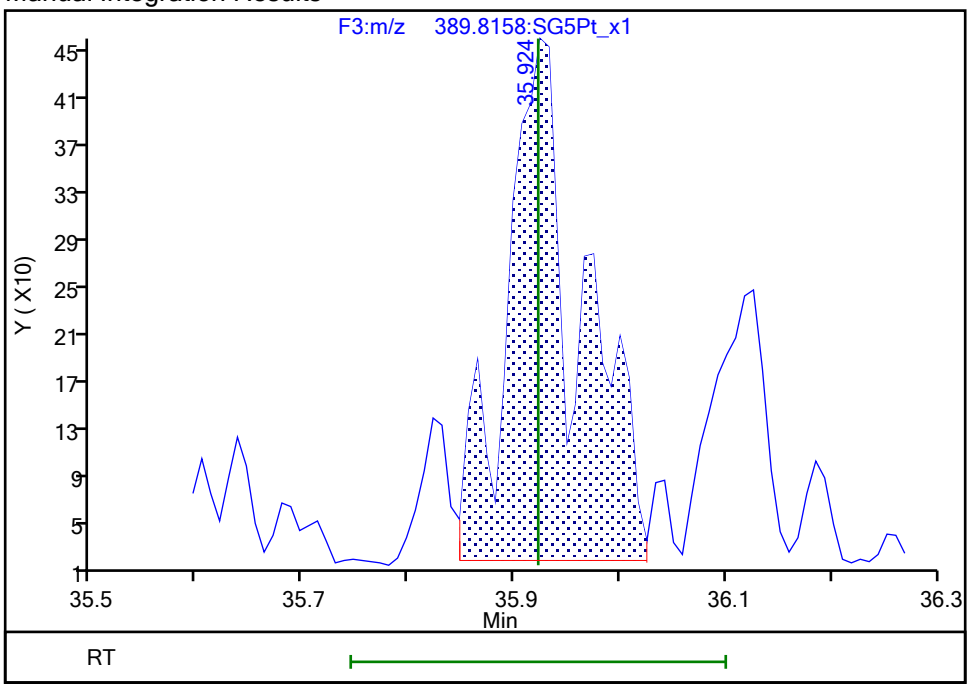
Processing Integration Results

RT: 35.92
Area: 1222
Amount: 0.058828
Amount Units: pg/ul



Manual Integration Results

RT: 35.92
Area: 2128
Amount: 0.081901
Amount Units: pg/ul



Reviewer: bilottag, 24-Jan-2022 10:21:17
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Sacramento

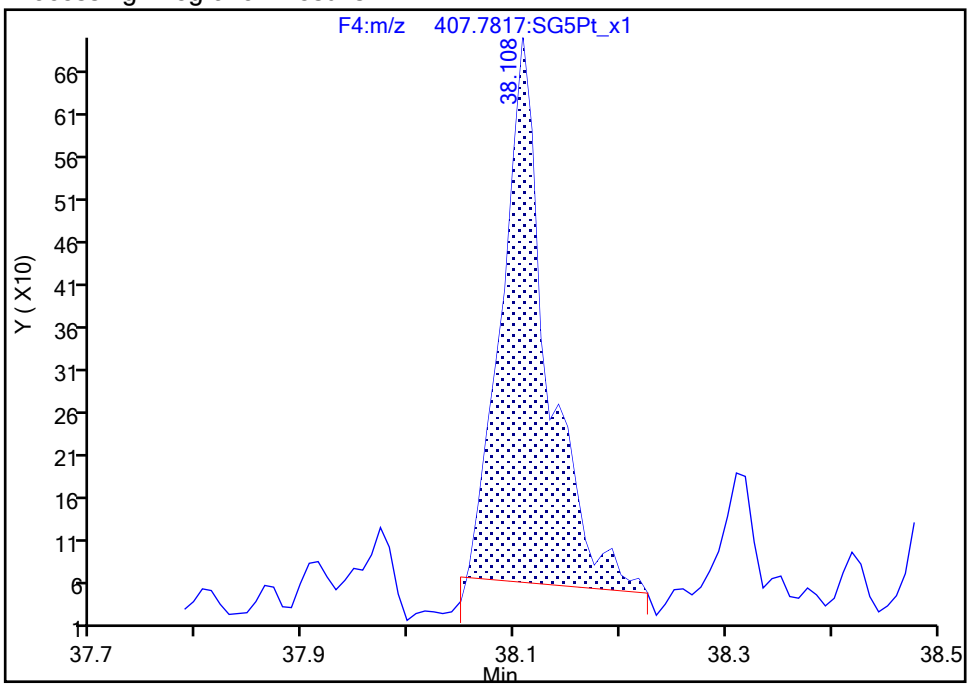
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Instrument ID: DFS 1
Lims ID: MB 320-556608/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F4(38.58 :41.00)

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

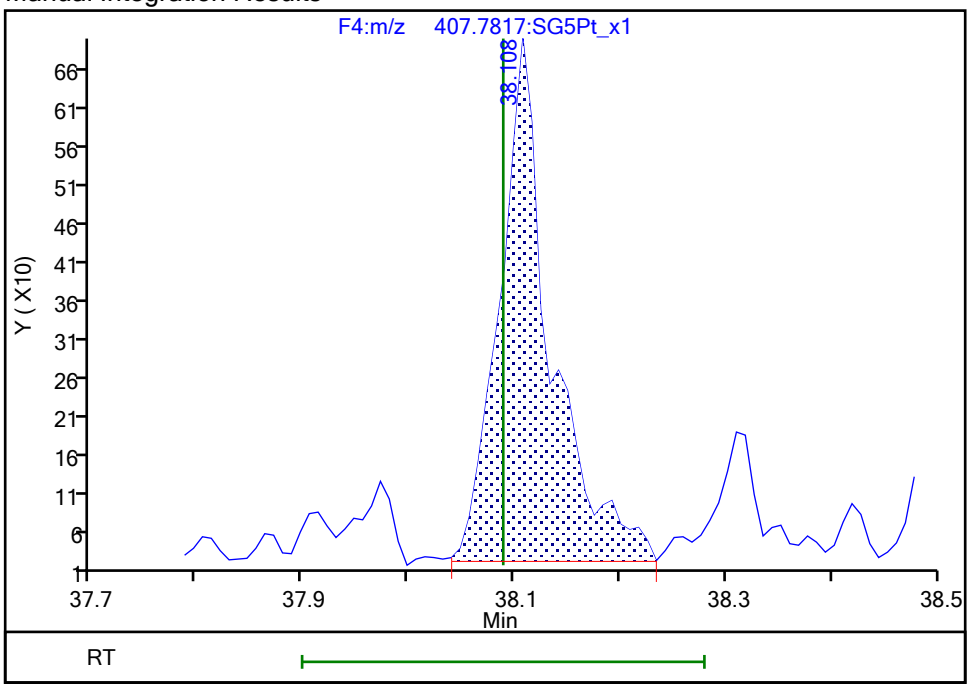
Processing Integration Results

RT: 38.11
Area: 1897
Amount: 0.086592
Amount Units: pg/ul



Manual Integration Results

RT: 38.11
Area: 2297
Amount: 0.094220
Amount Units: pg/ul



Reviewer: bilottag, 24-Jan-2022 10:21:32
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Sacramento

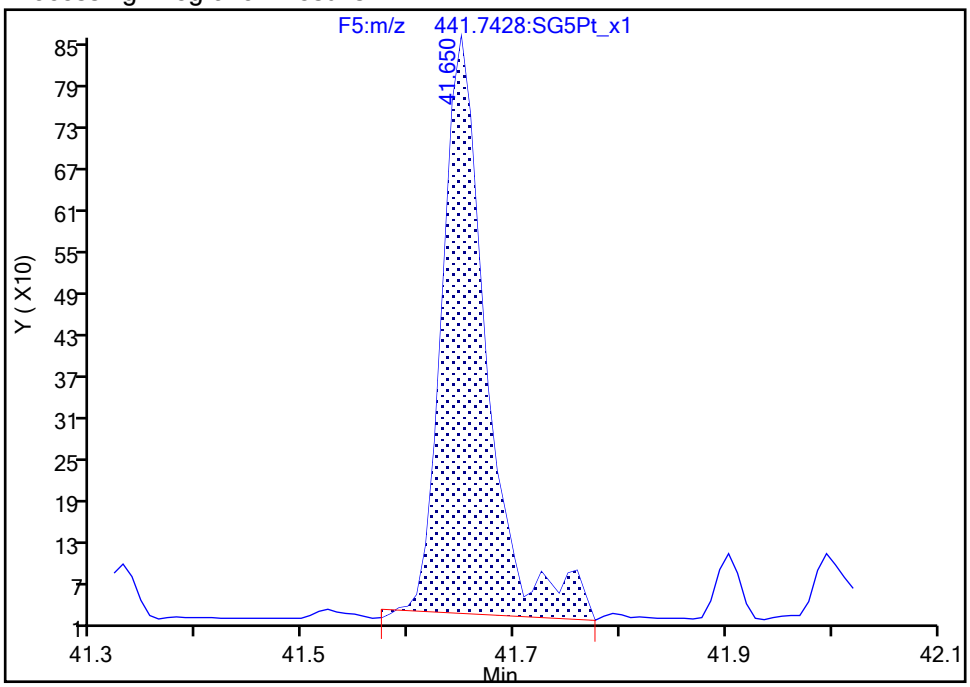
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Instrument ID: DFS 1
Lims ID: MB 320-556608/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F5(41.08 :46.00)

OCDF, CAS: 39001-02-0

Signal: 1

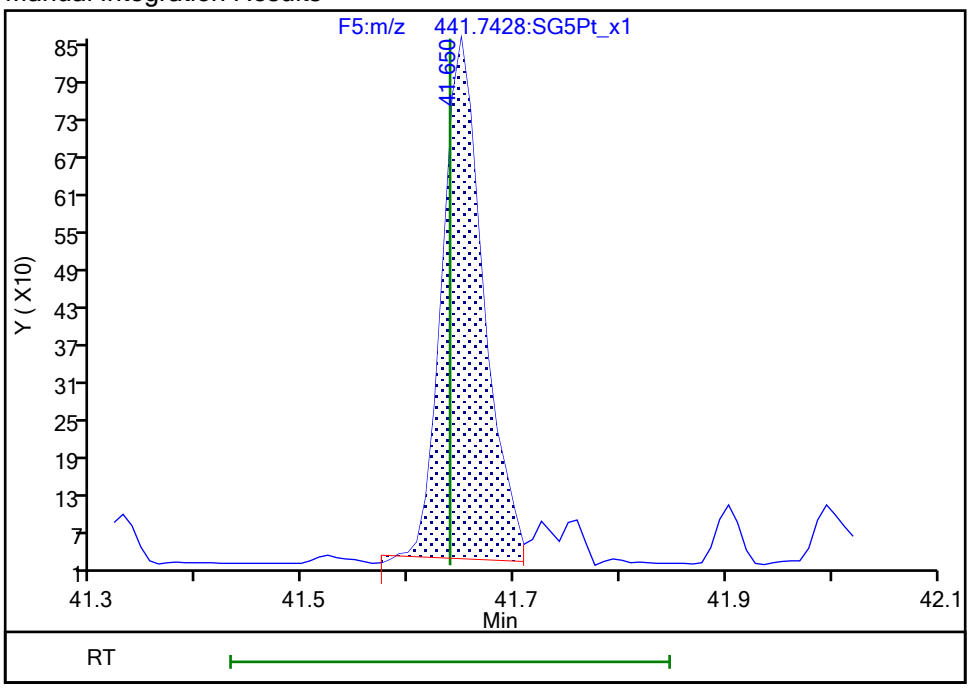
Processing Integration Results

RT: 41.65
Area: 2421
Amount: 0.176932
Amount Units: pg/ul



Manual Integration Results

RT: 41.65
Area: 2229
Amount: 0.144701
Amount Units: pg/ul



Reviewer: bilottag, 24-Jan-2022 10:21:53
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins Sacramento

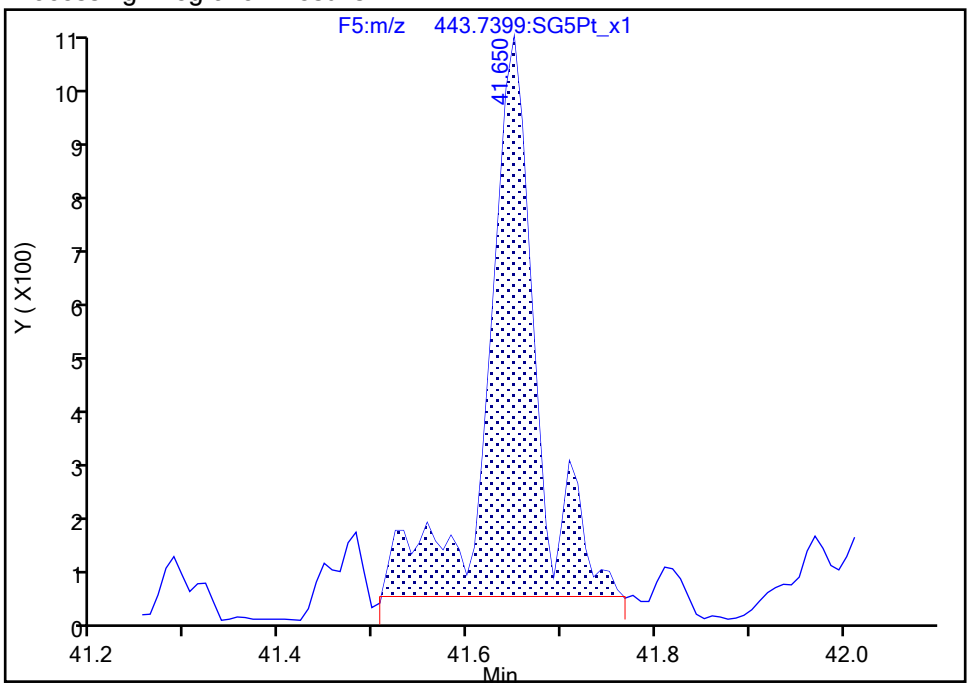
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Instrument ID: DFS 1
Lims ID: MB 320-556608/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F5(41.08 :46.00)

OCDF, CAS: 39001-02-0

Signal: 2

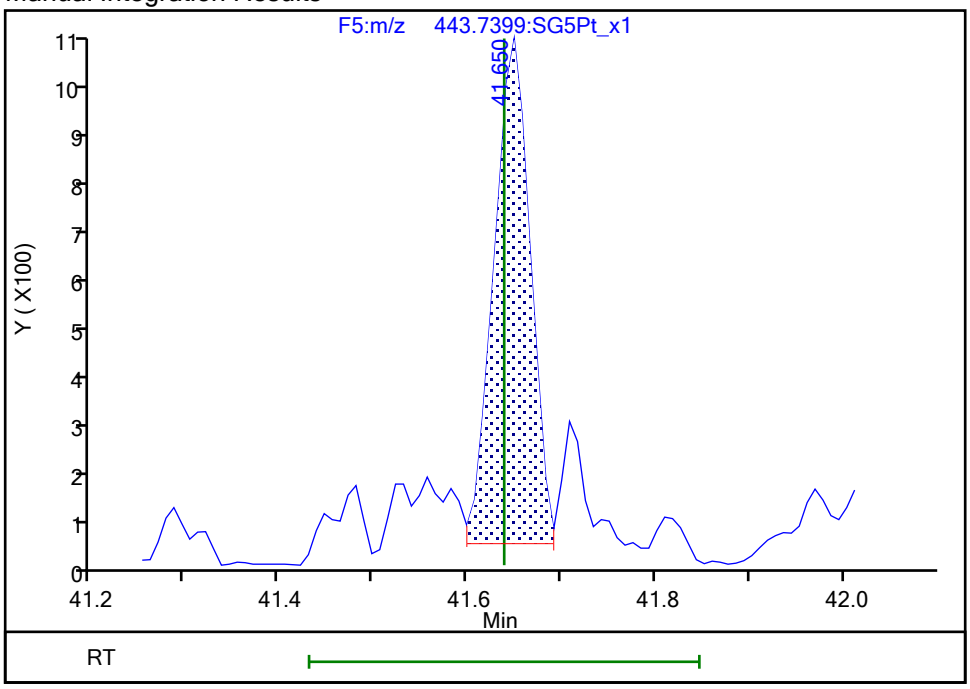
Processing Integration Results

RT: 41.65
Area: 3623
Amount: 0.176932
Amount Units: pg/ul



Manual Integration Results

RT: 41.65
Area: 2714
Amount: 0.144701
Amount Units: pg/ul



Reviewer: bilottag, 24-Jan-2022 10:21:55
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins Sacramento

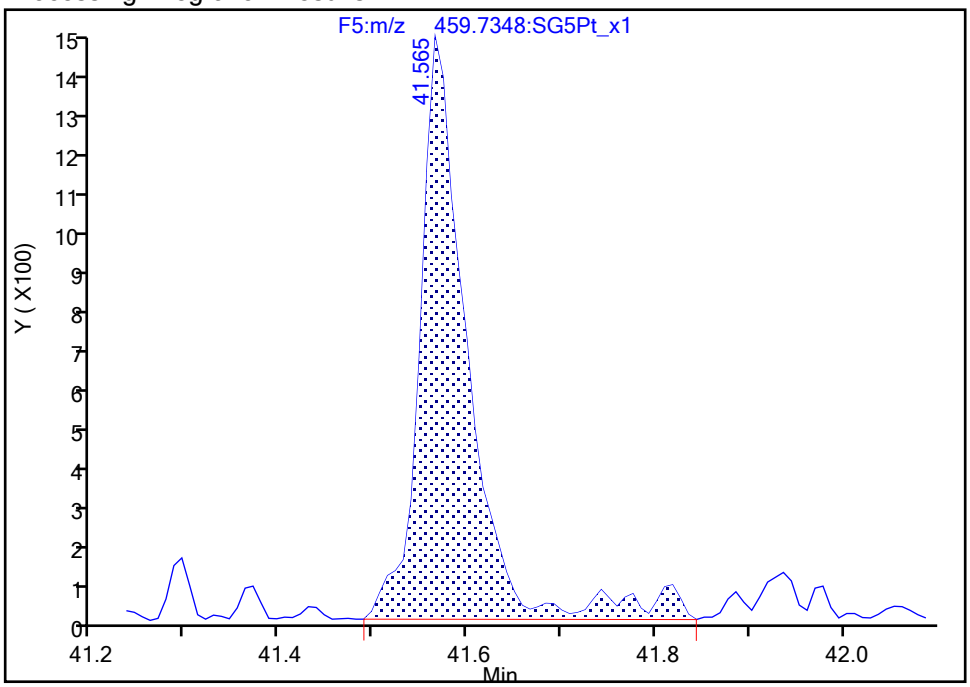
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Instrument ID: DFS 1
Lims ID: MB 320-556608/1-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F5(41.08 :46.00)

OCDD, CAS: 3268-87-9

Signal: 2

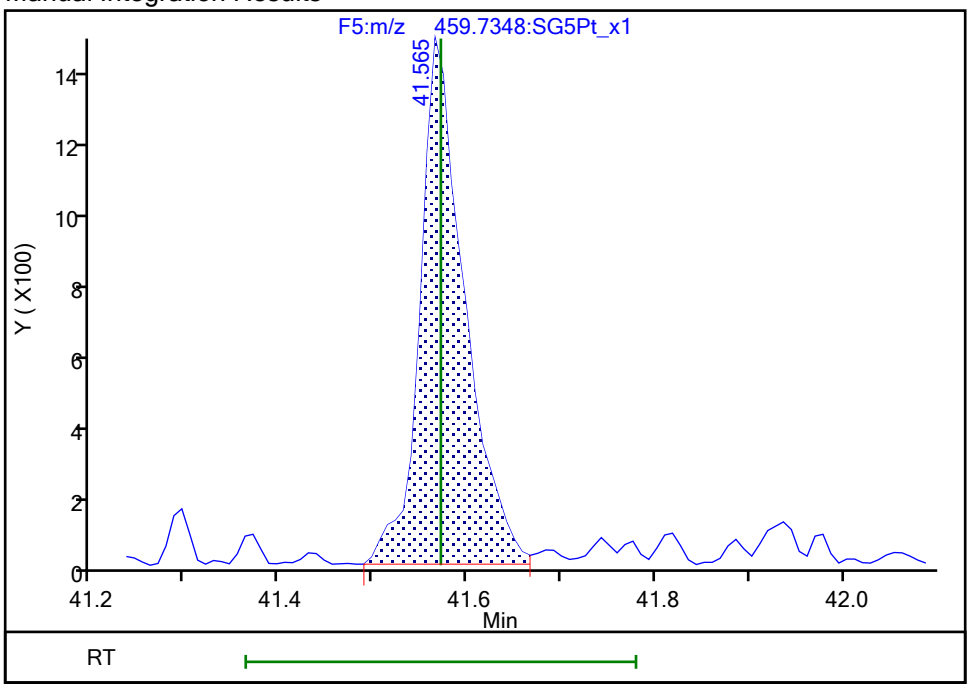
Processing Integration Results

RT: 41.57
Area: 5188
Amount: 0.308437
Amount Units: pg/ul



Manual Integration Results

RT: 41.57
Area: 4760
Amount: 0.292982
Amount Units: pg/ul

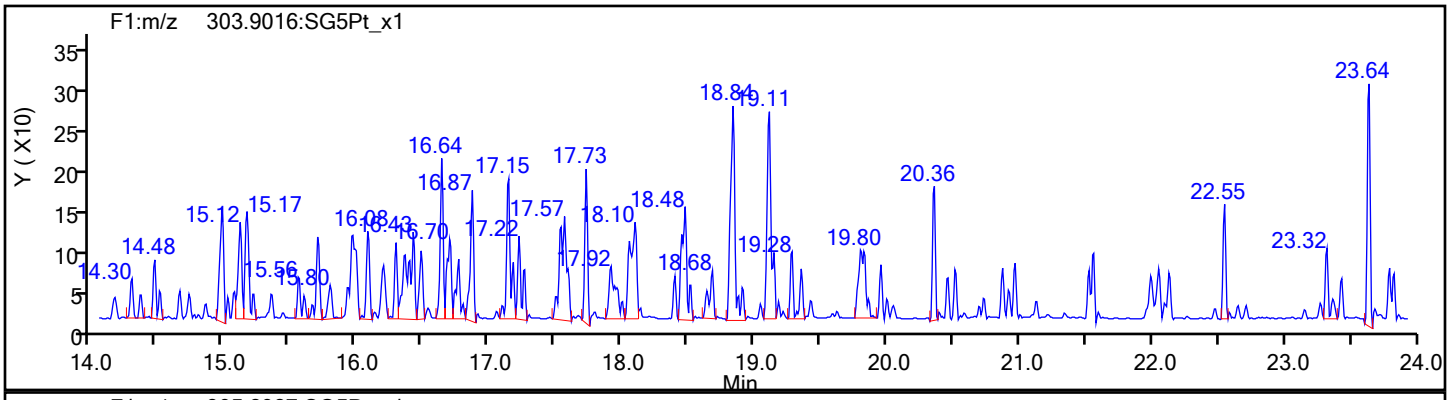


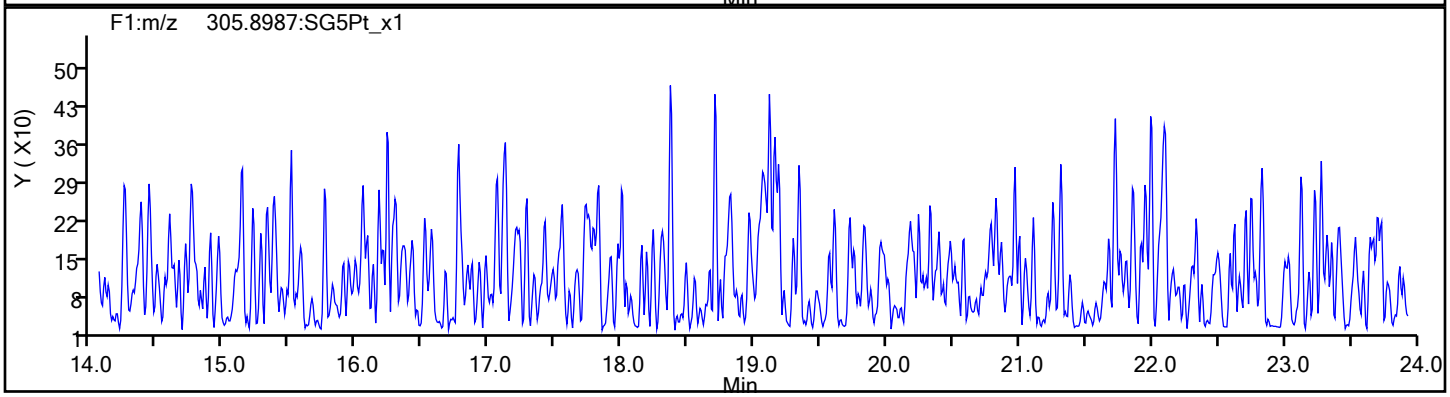
Reviewer: bilottag, 24-Jan-2022 10:22:00
Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Eurofins Sacramento

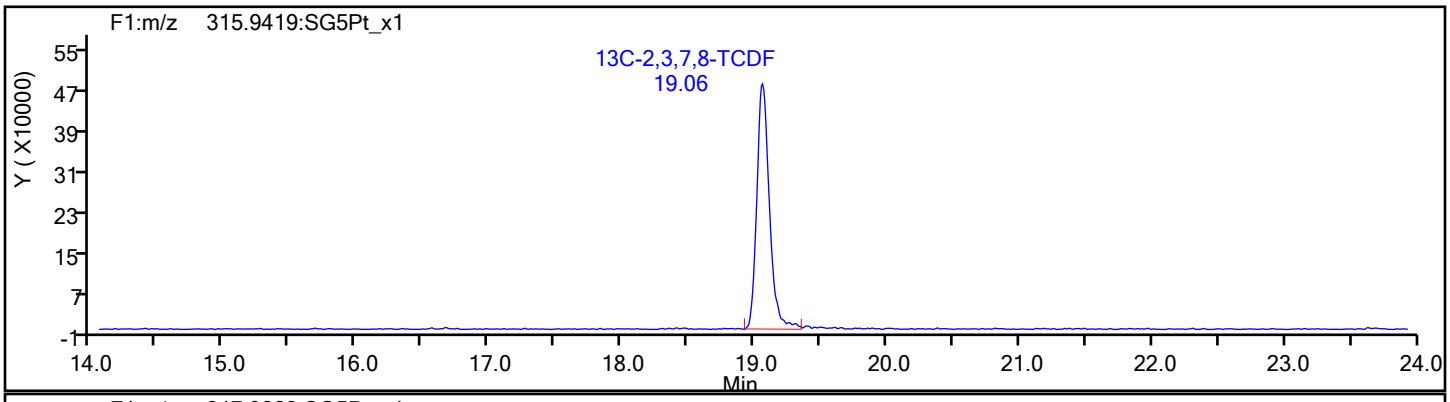
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

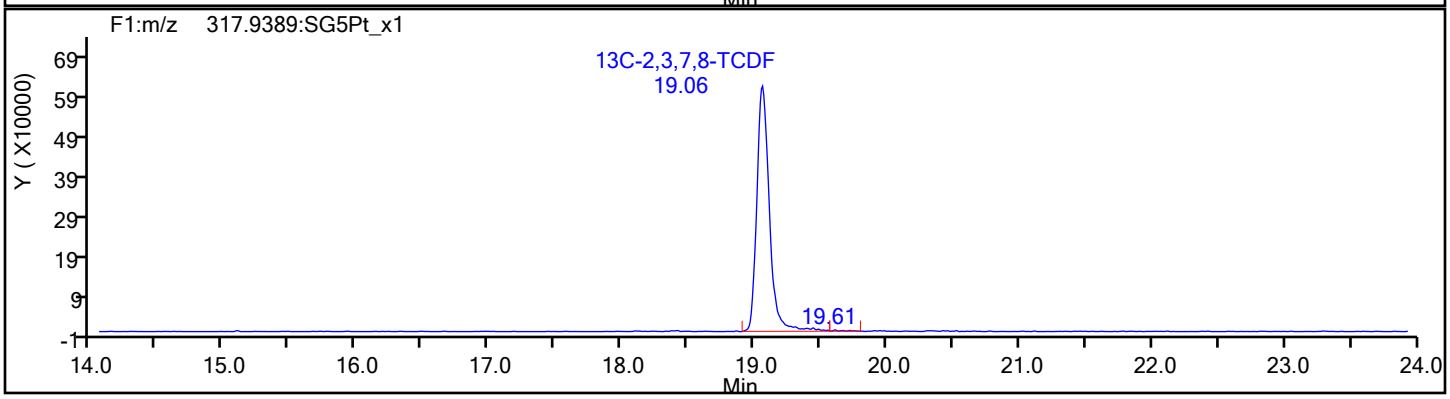
TCDF





TCDF Standards

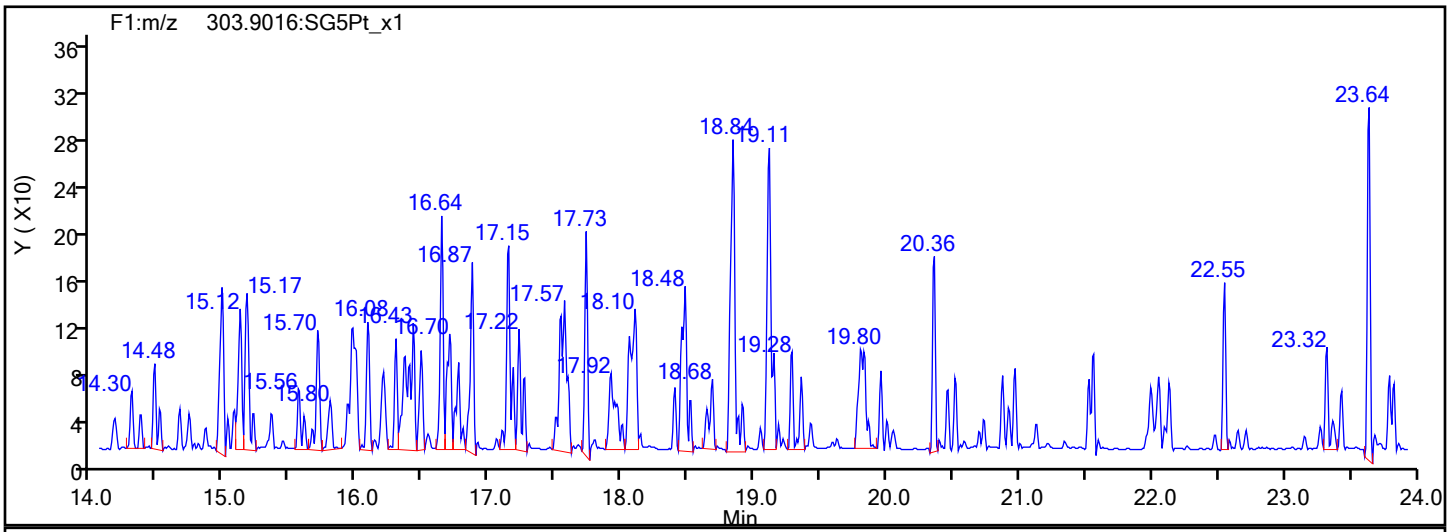


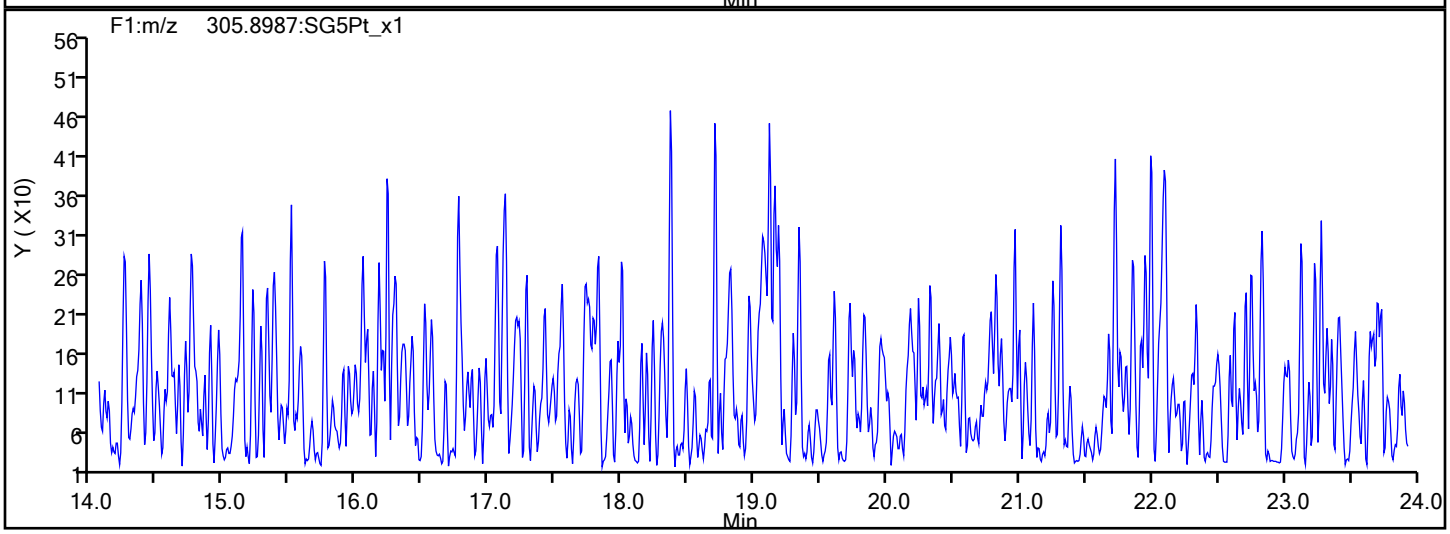


Eurofins Sacramento

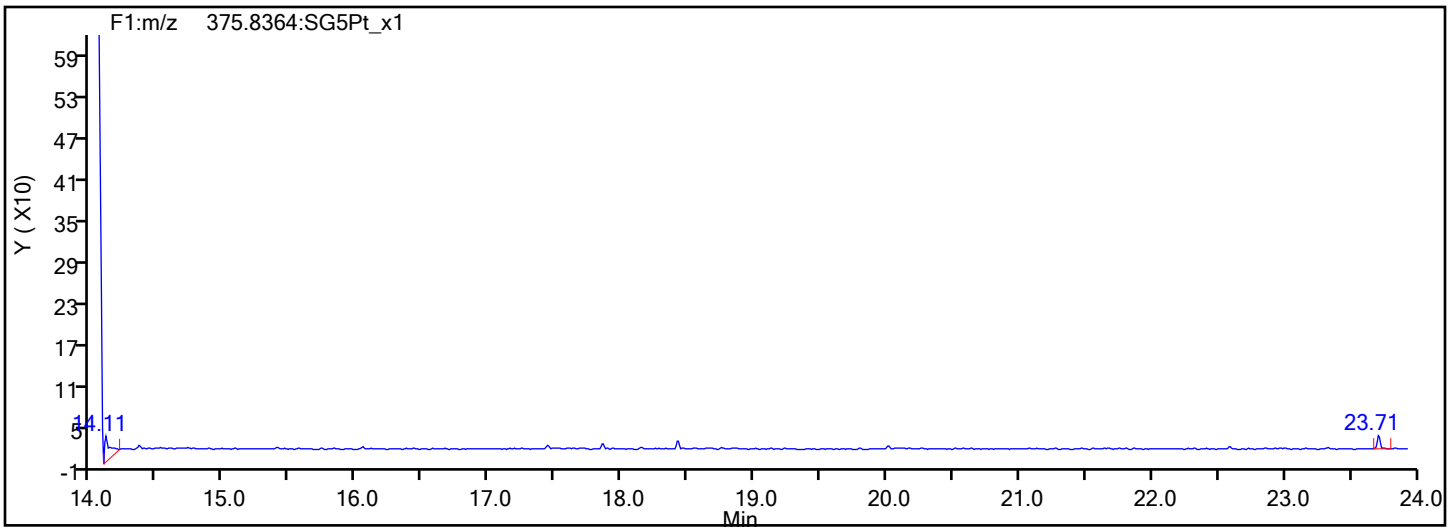
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d		
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



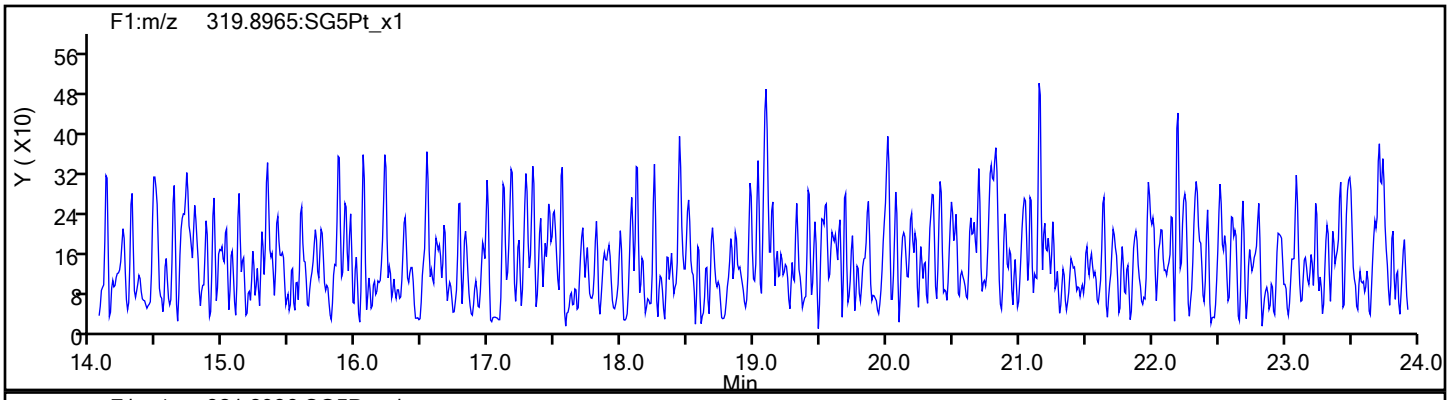
Report Date: 25-Jan-2022 08:30:30 Chrom Revision: 2.3 18-Jan-2022 20:25:40

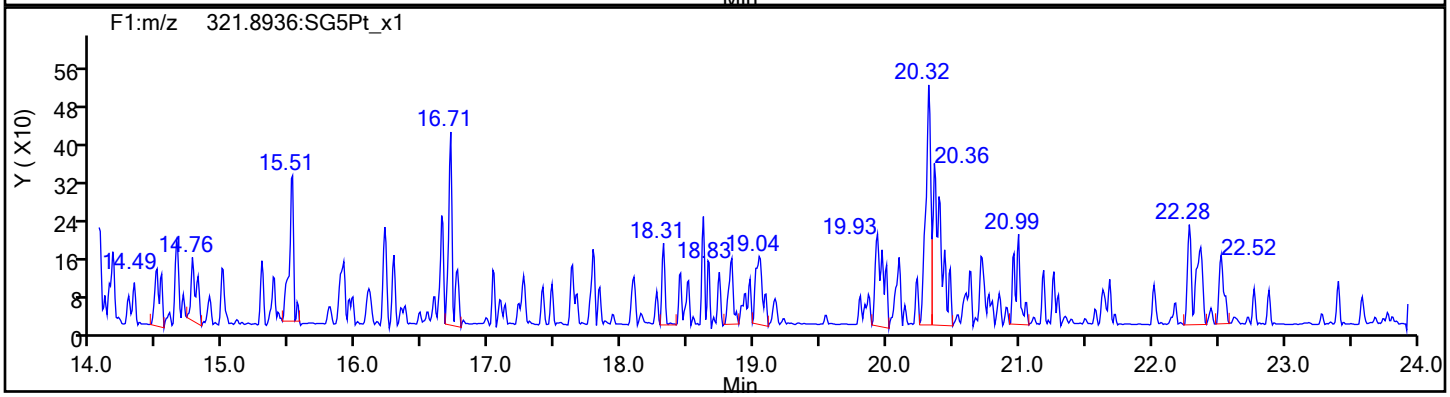
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d

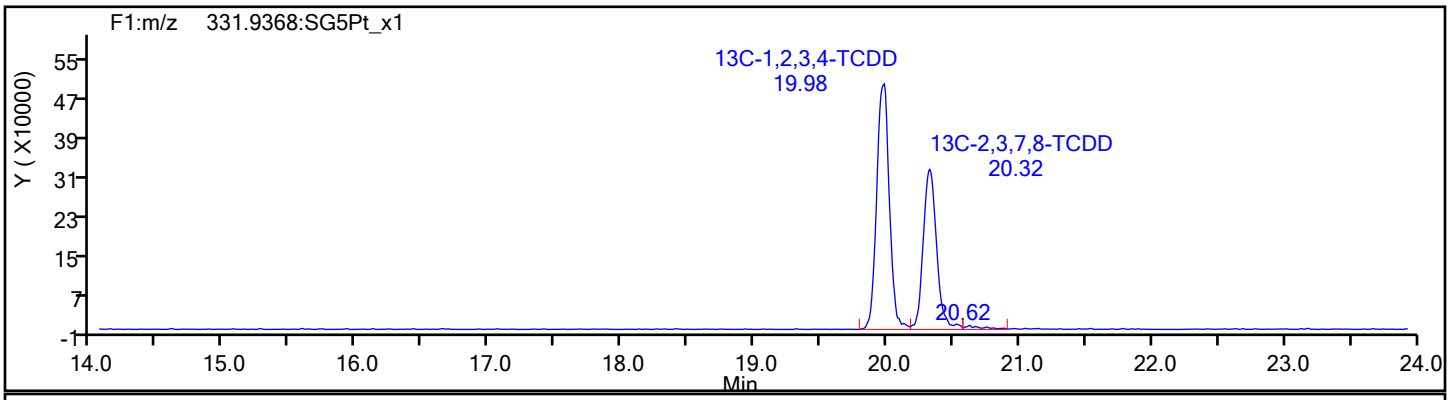
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

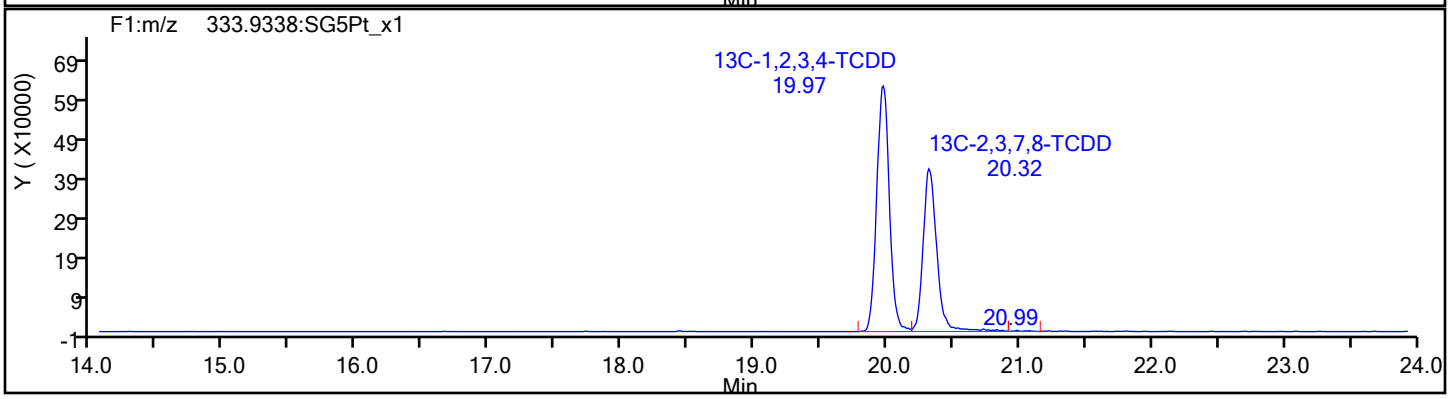
TCDD





TCDD Standards





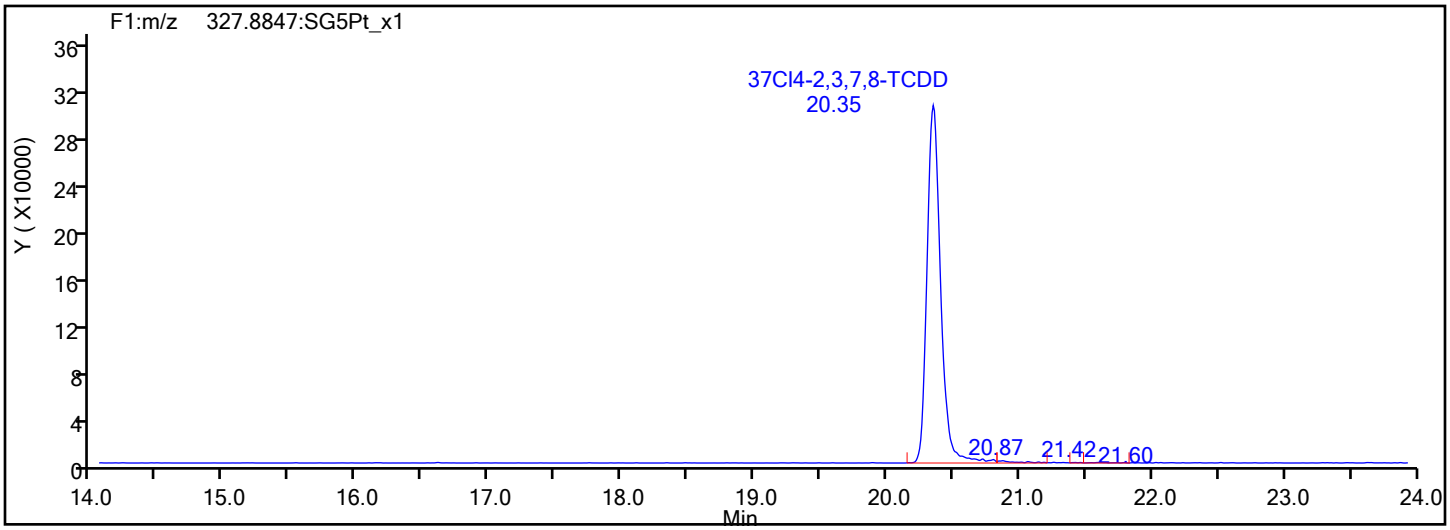
Report Date: 25-Jan-2022 08:30:30 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

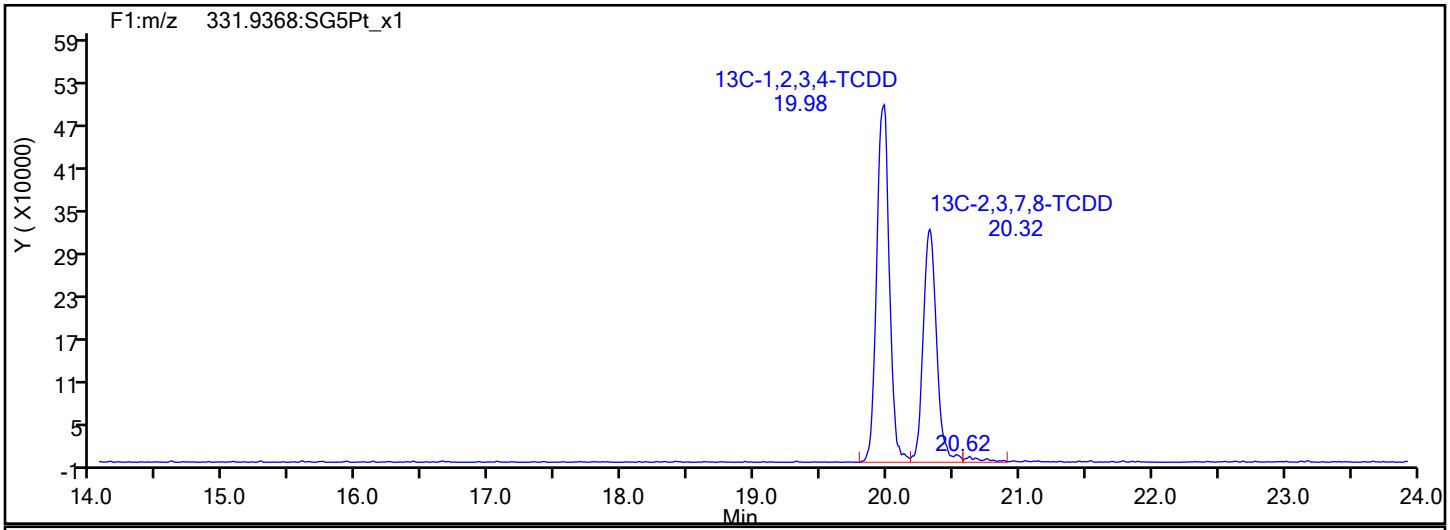
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d

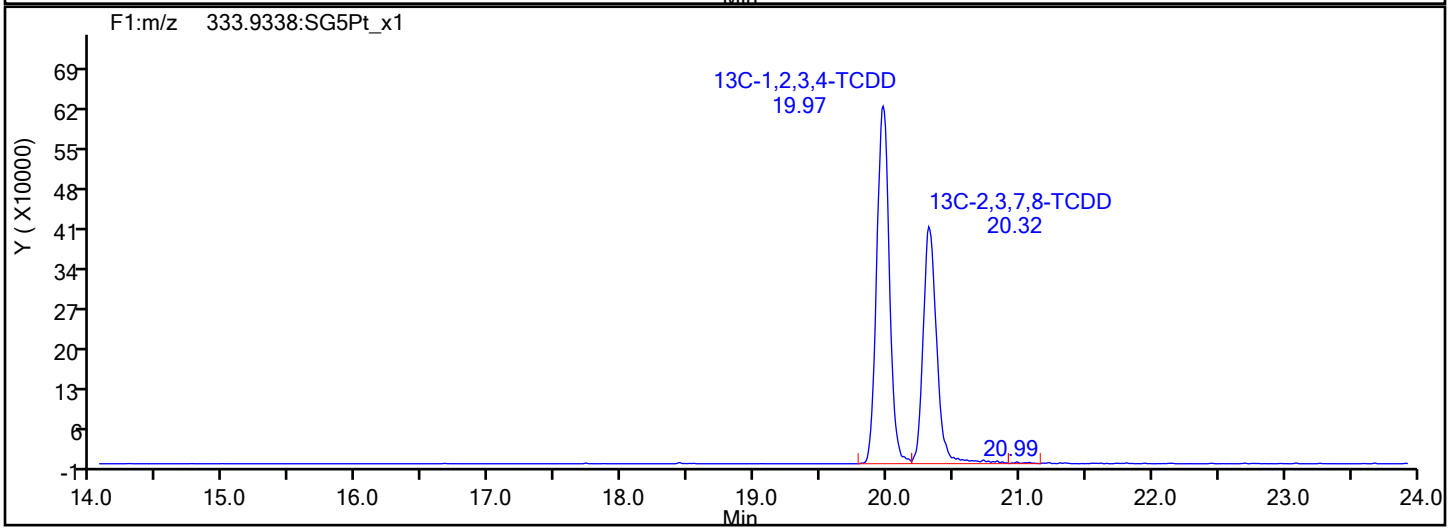
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards

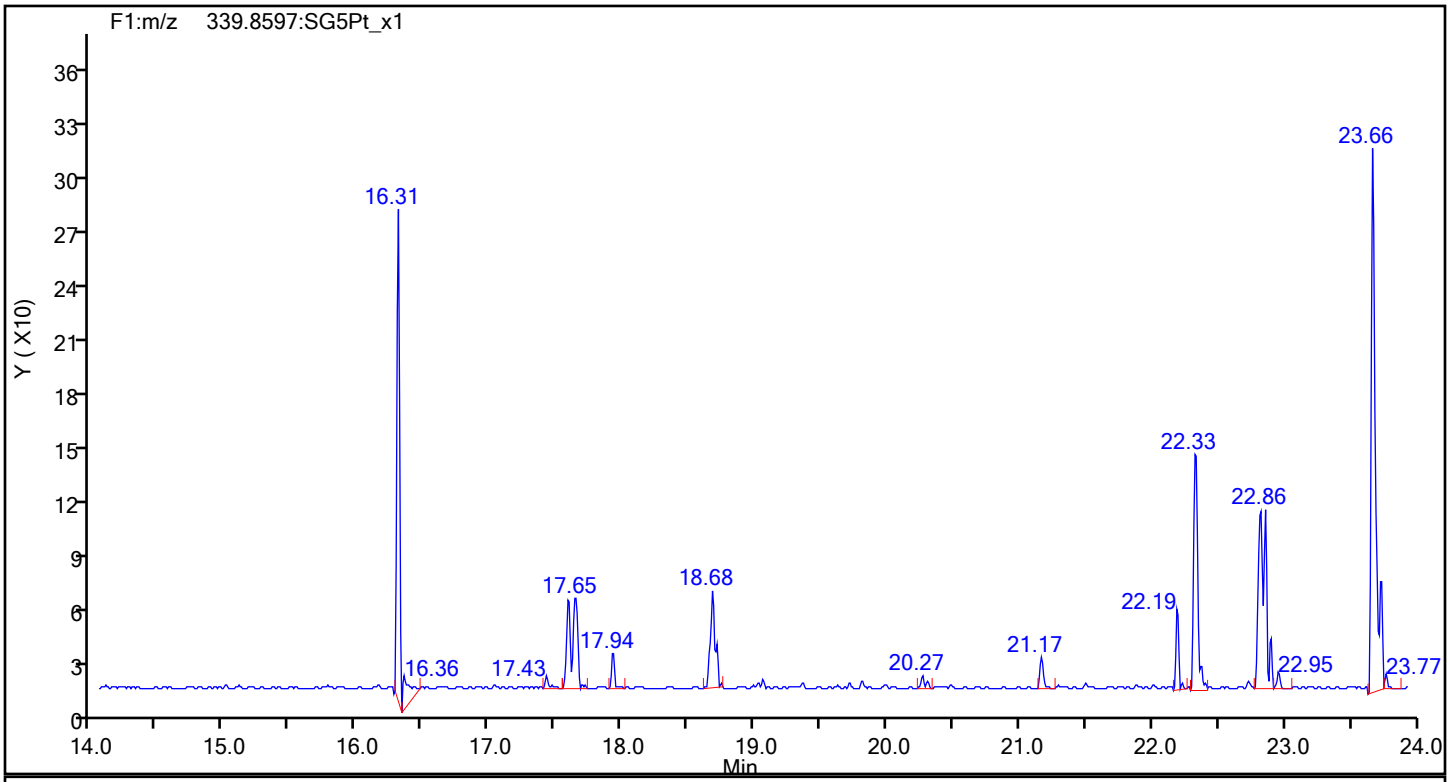


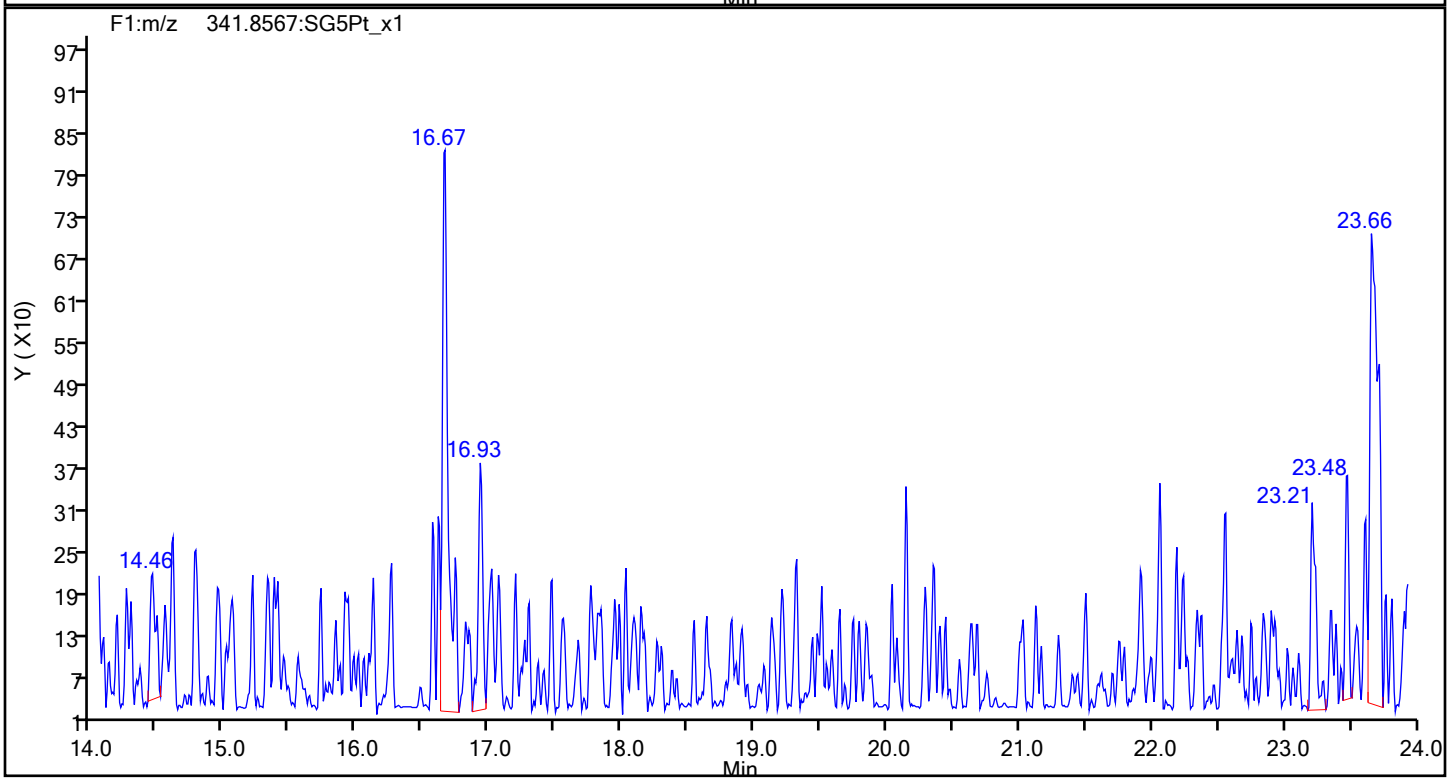


Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d		
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

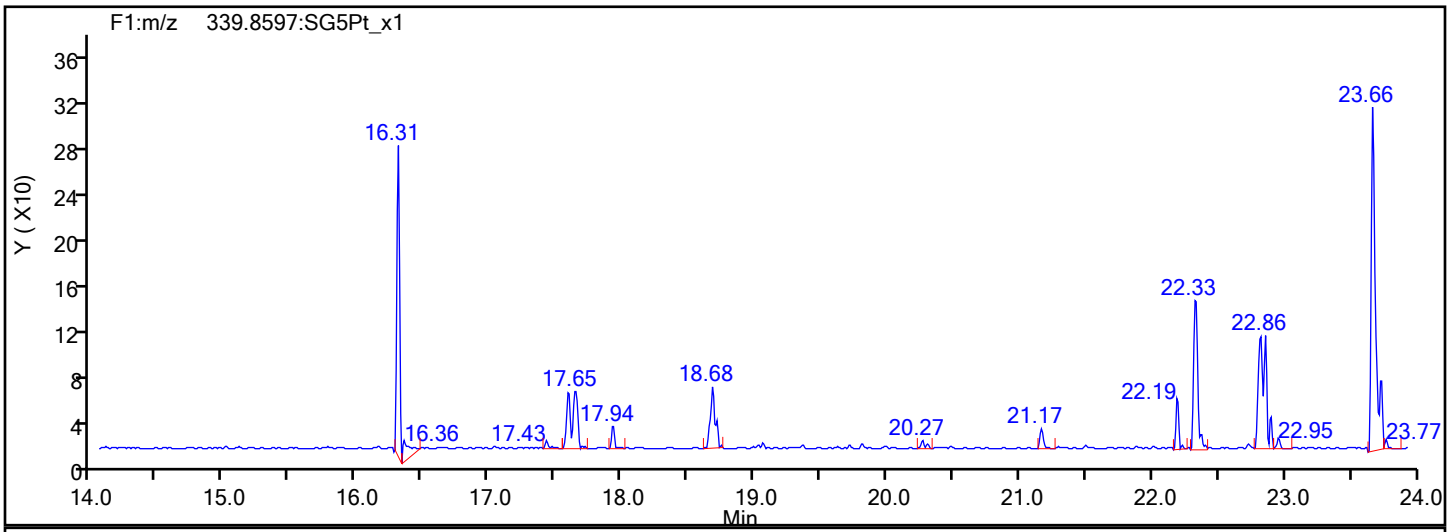


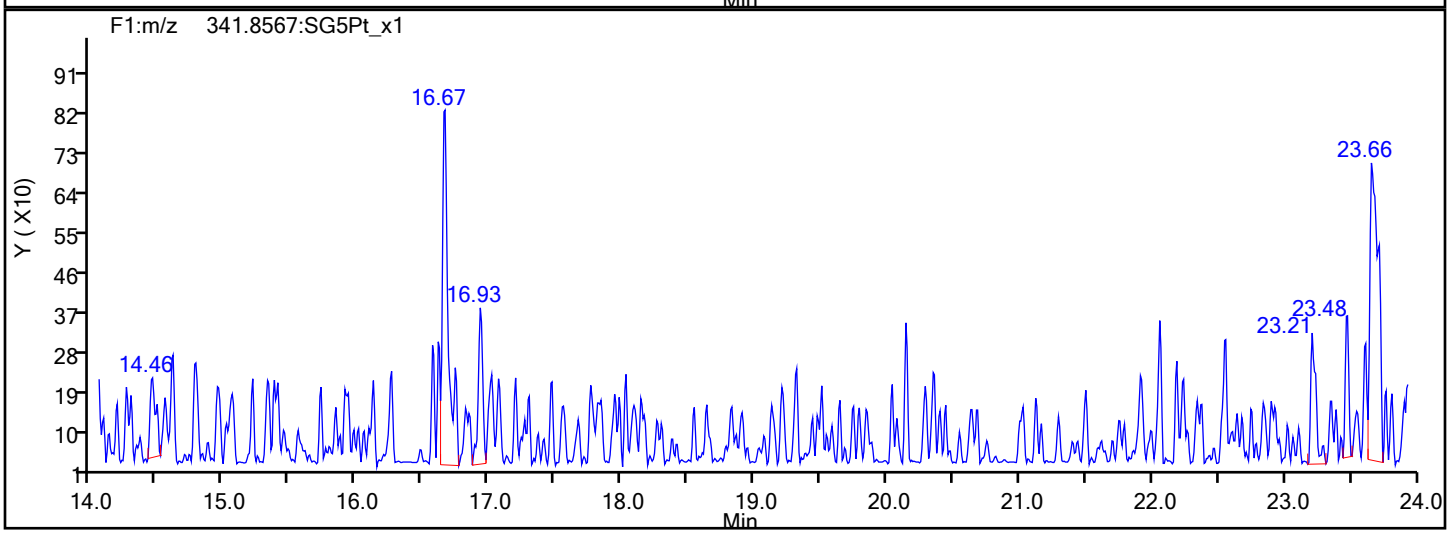


Eurofins Sacramento

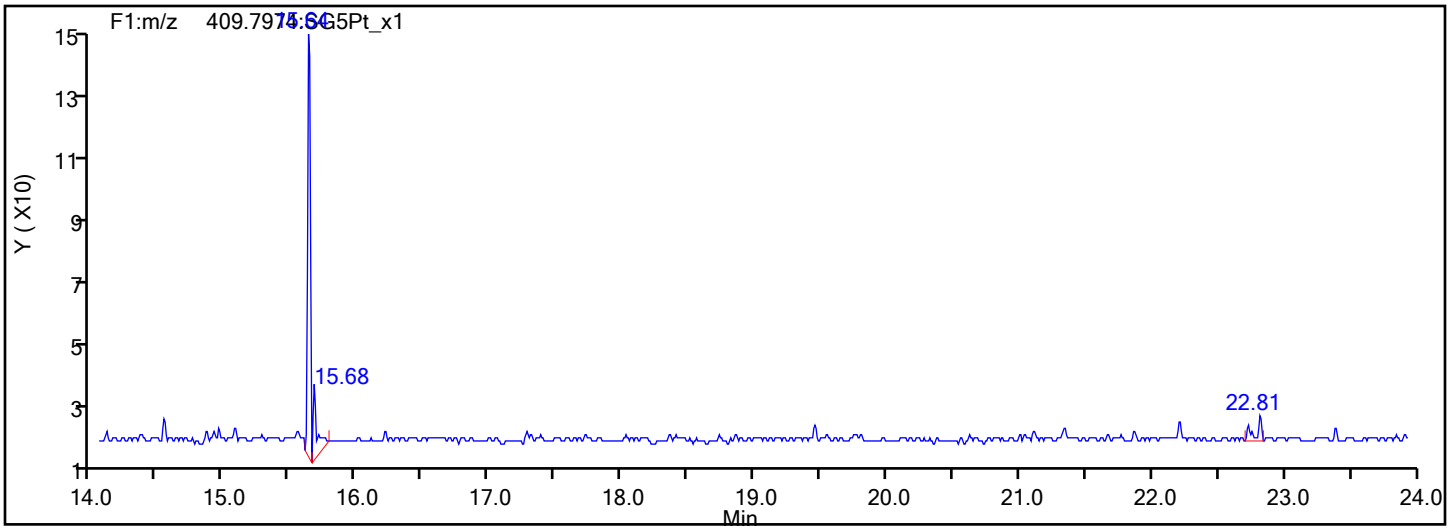
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d		
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





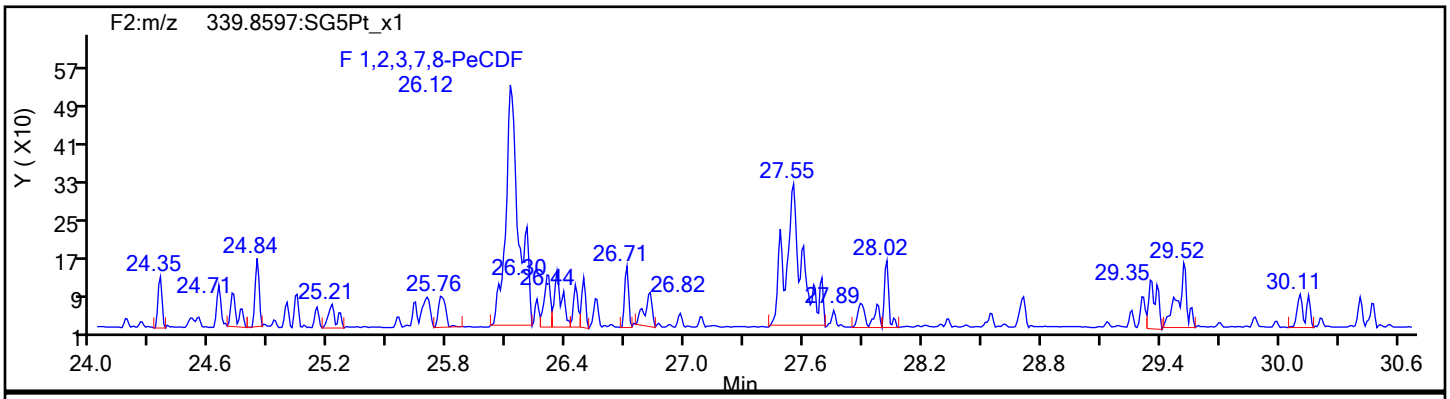
F1 PeCDFs Interference Mass

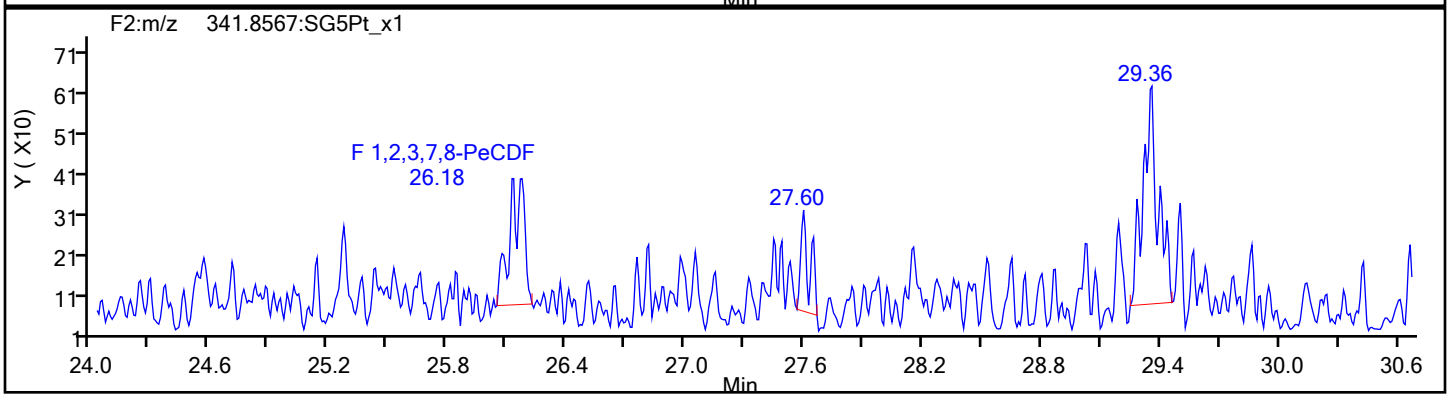


Eurofins Sacramento

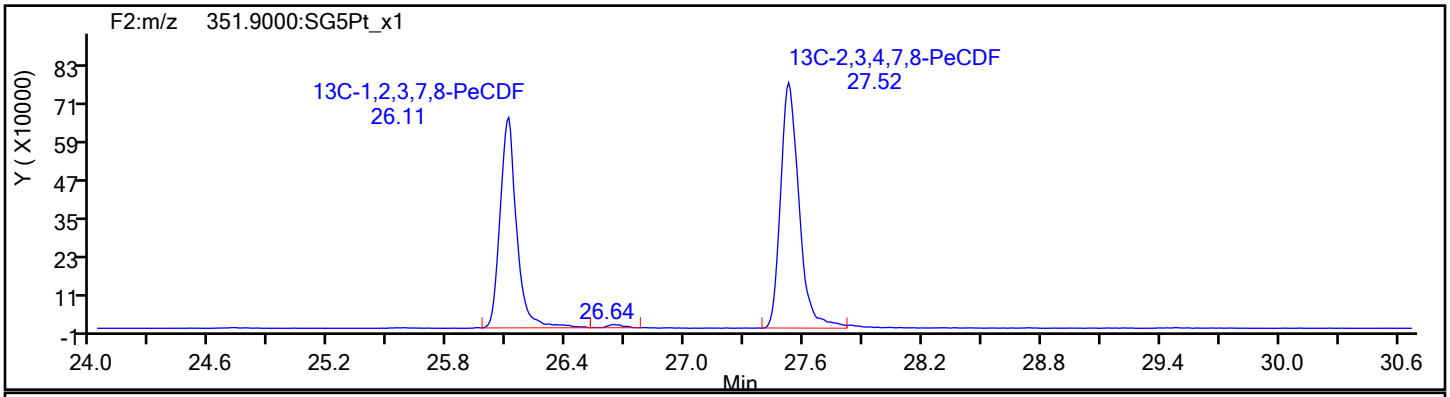
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d		
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

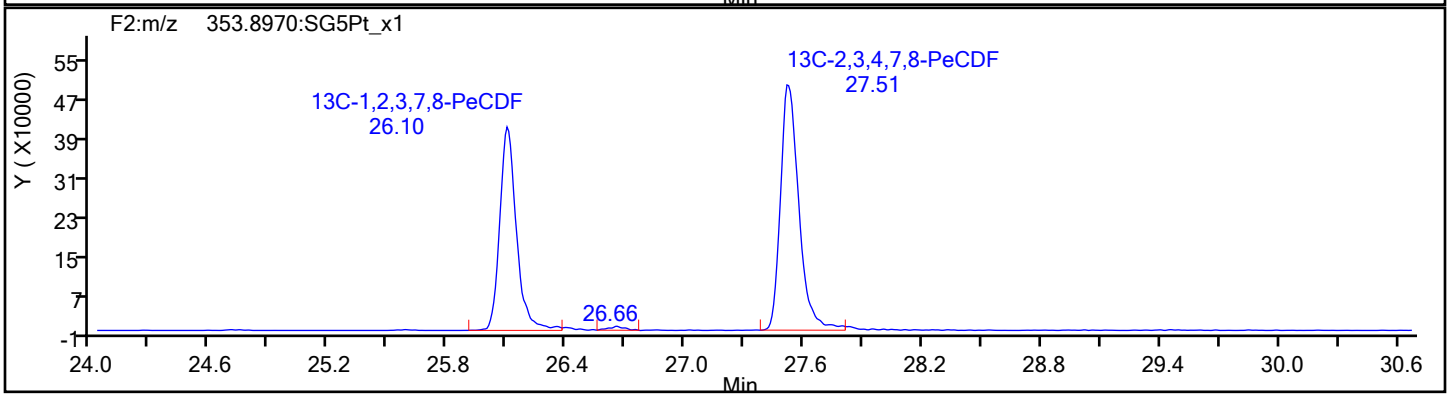
PeCDF





PeCDF Standards





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
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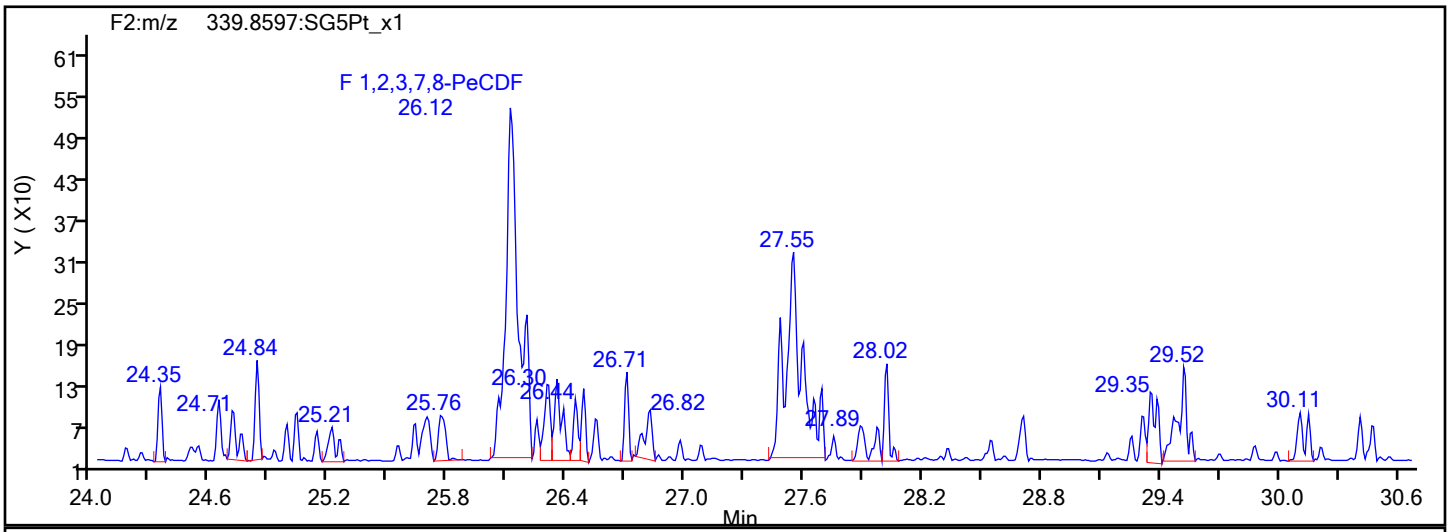
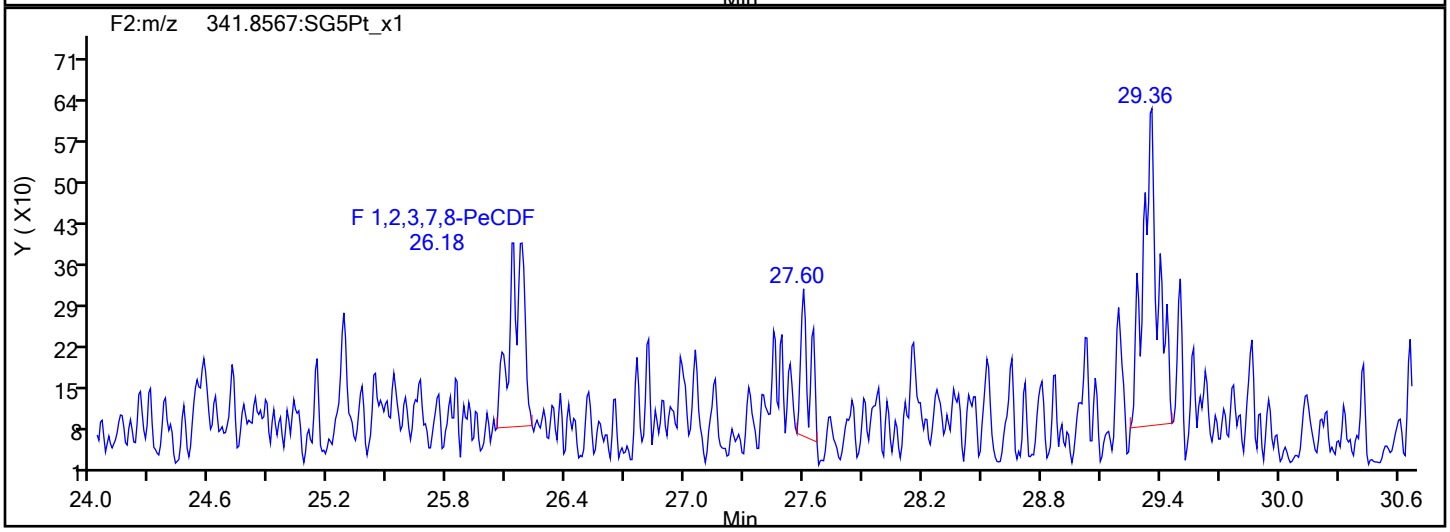
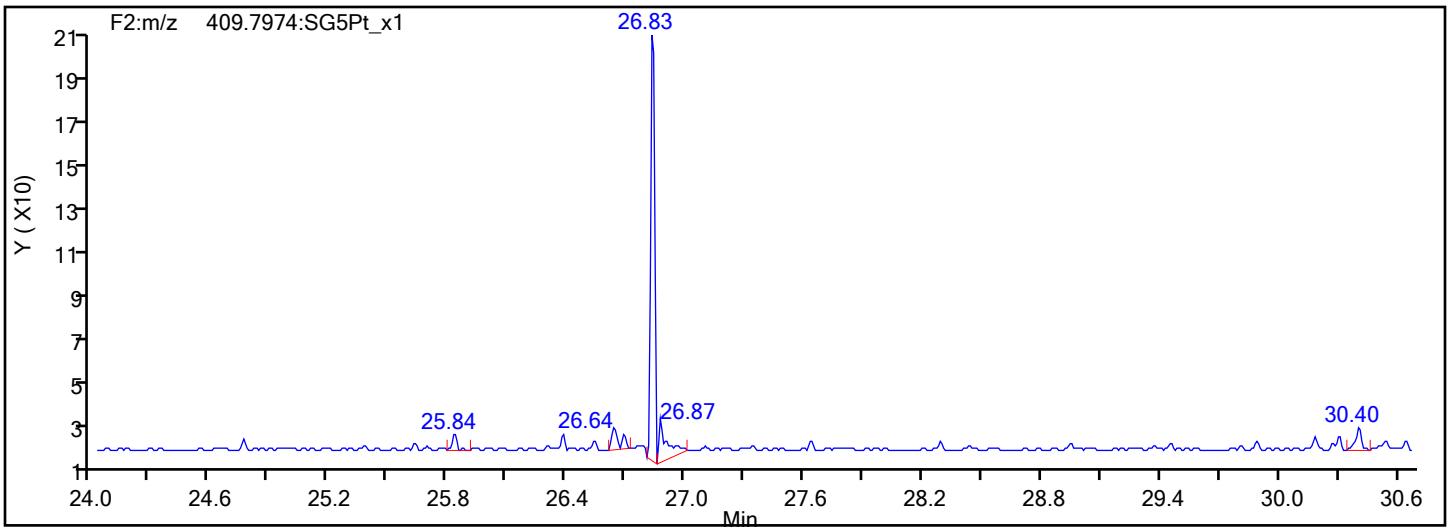
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
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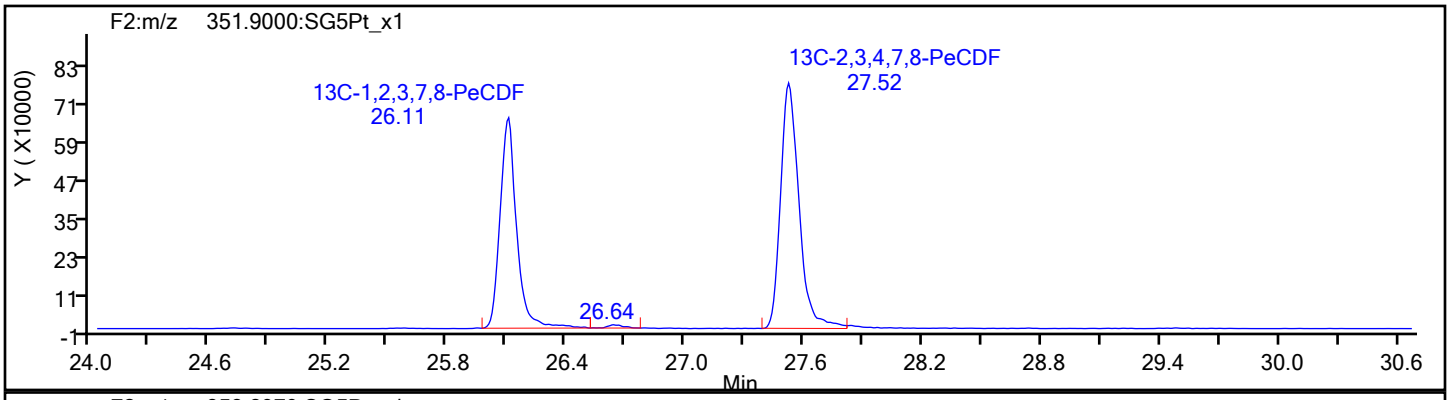
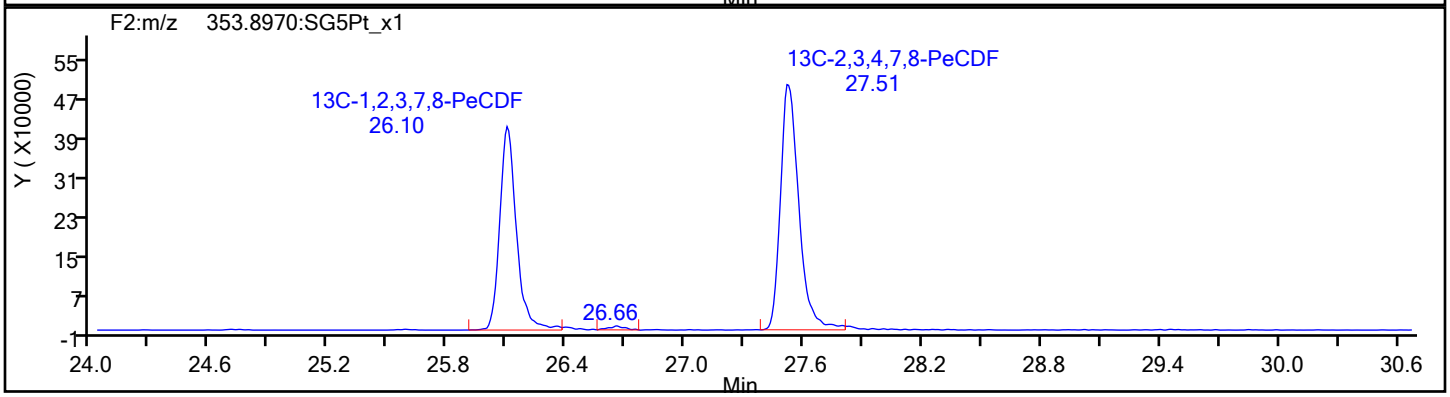
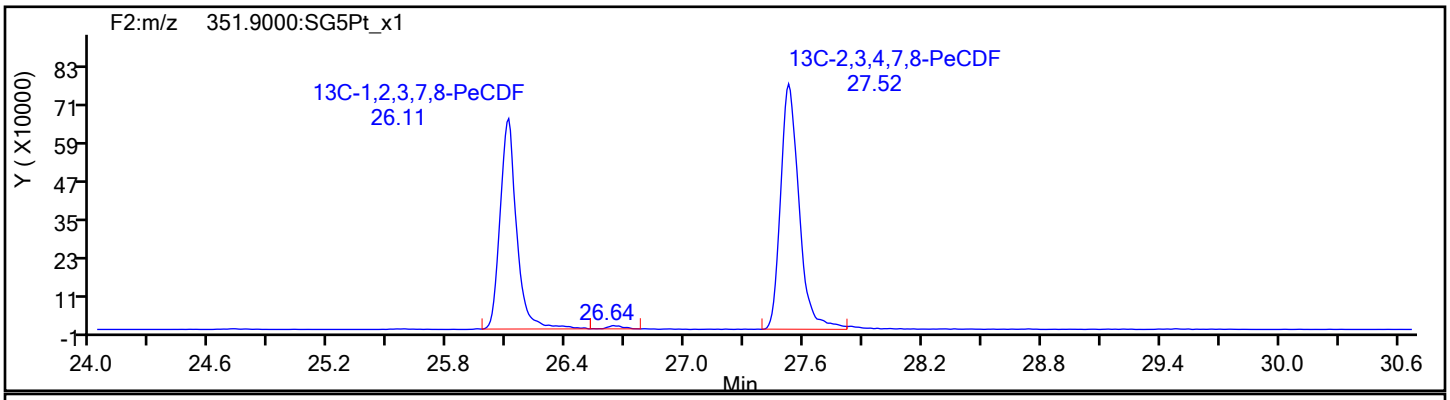
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

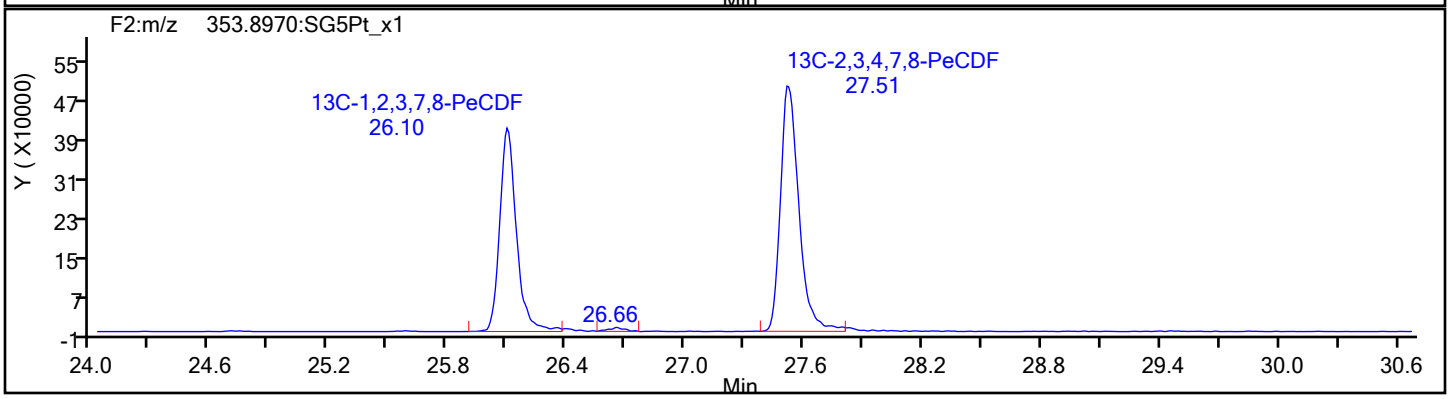
13C-PeCDF





13C-PeCDF Standards





Report Date: 25-Jan-2022 08:30:30 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d

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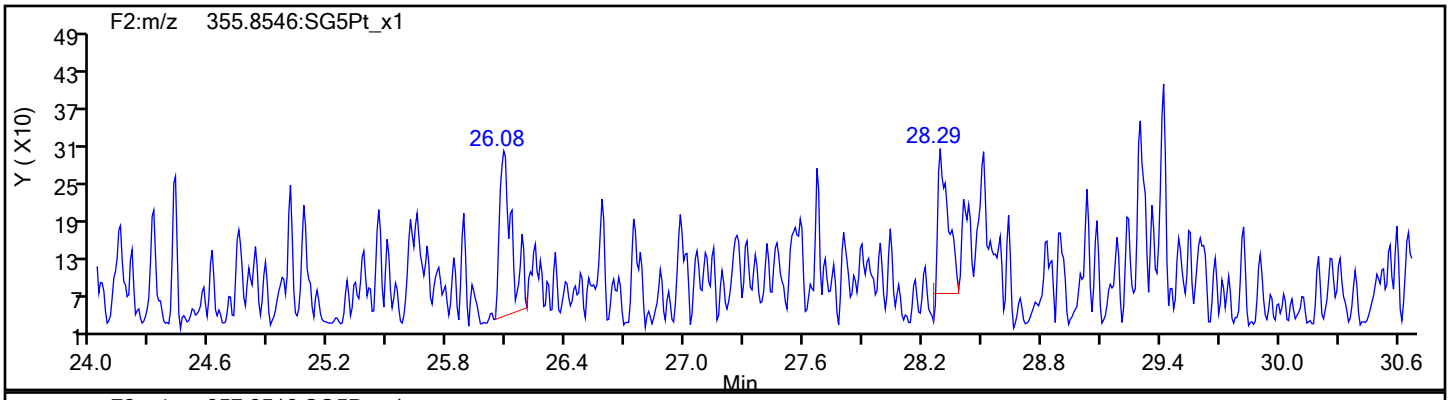
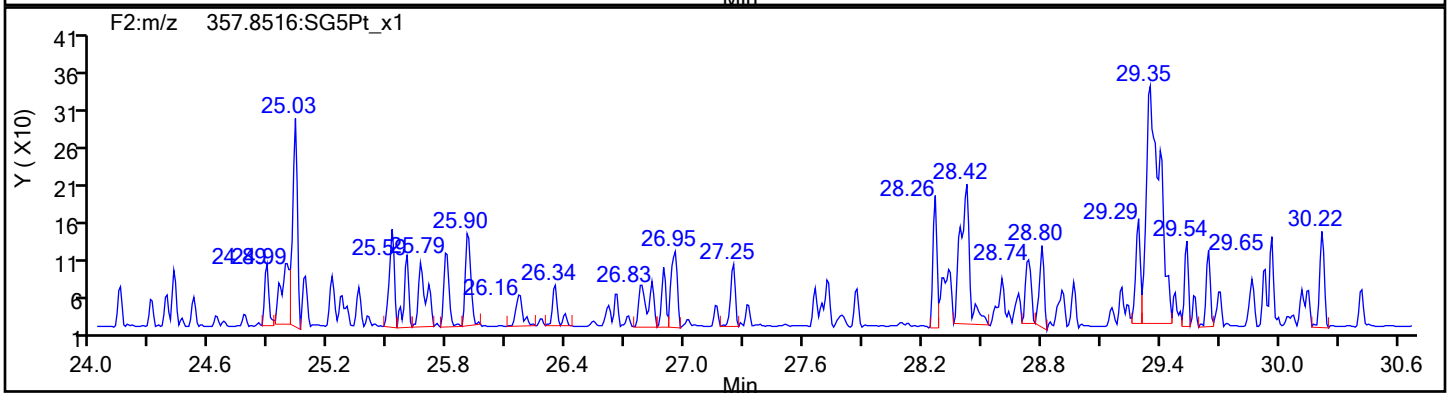
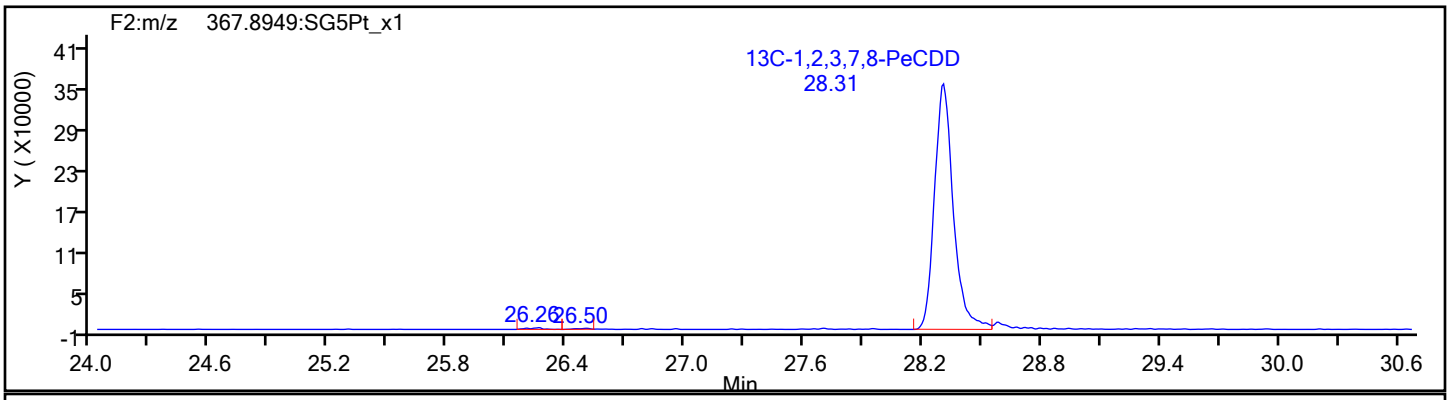
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

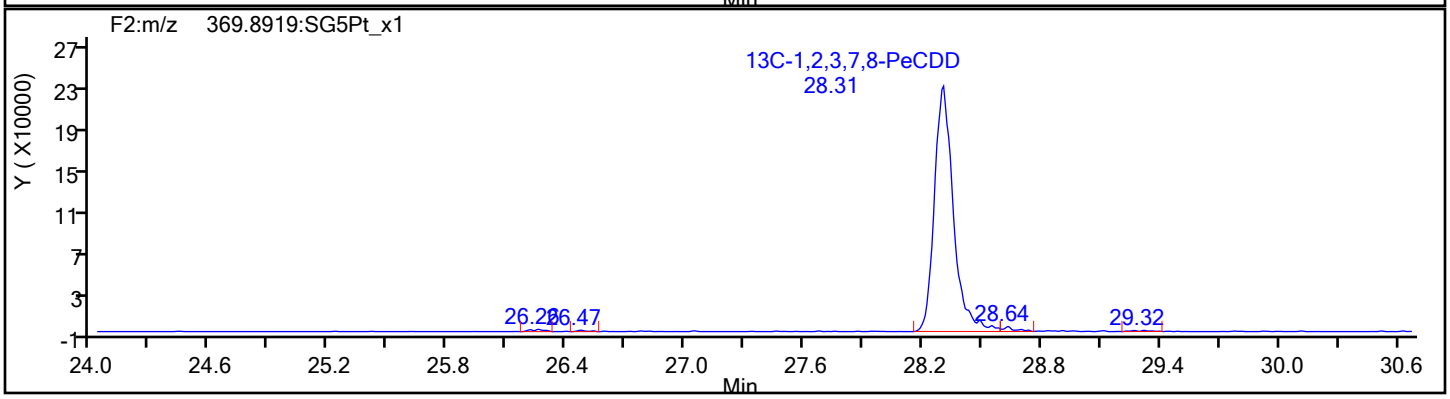
PeCDD





PeCDD Standards





Eurofins Sacramento

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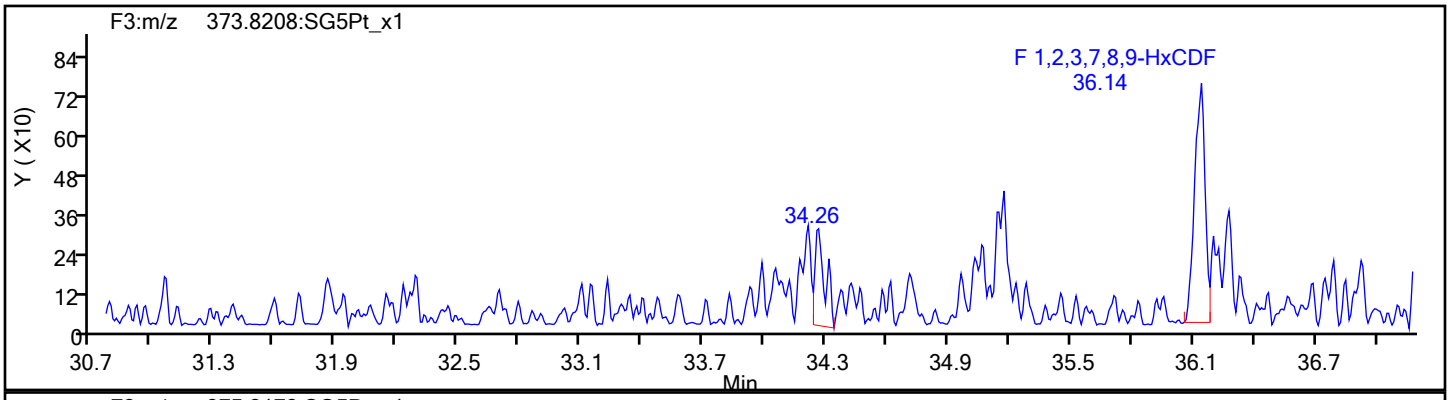
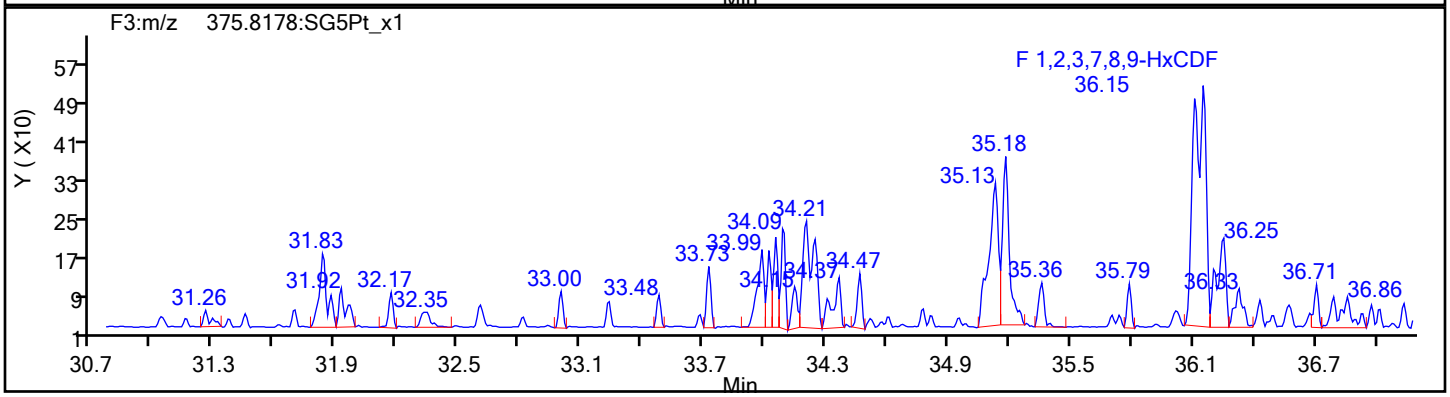
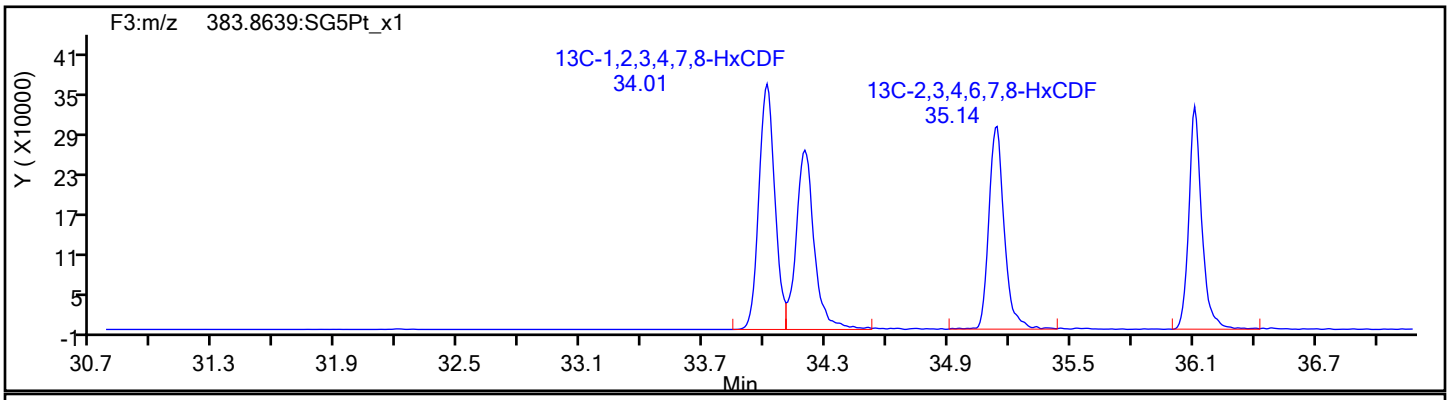
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

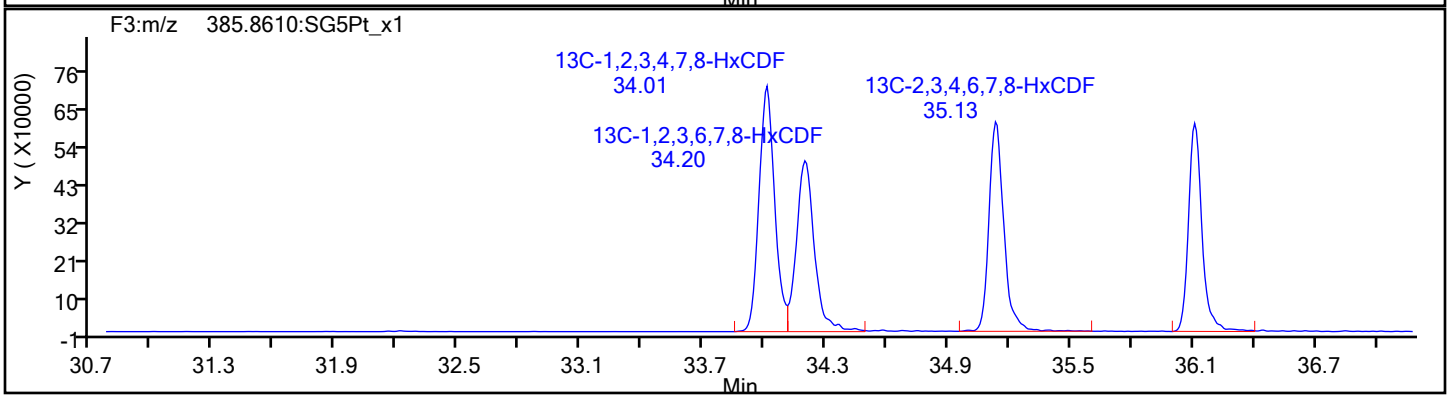
HxCDF





HxCDF Standards





Eurofins Sacramento

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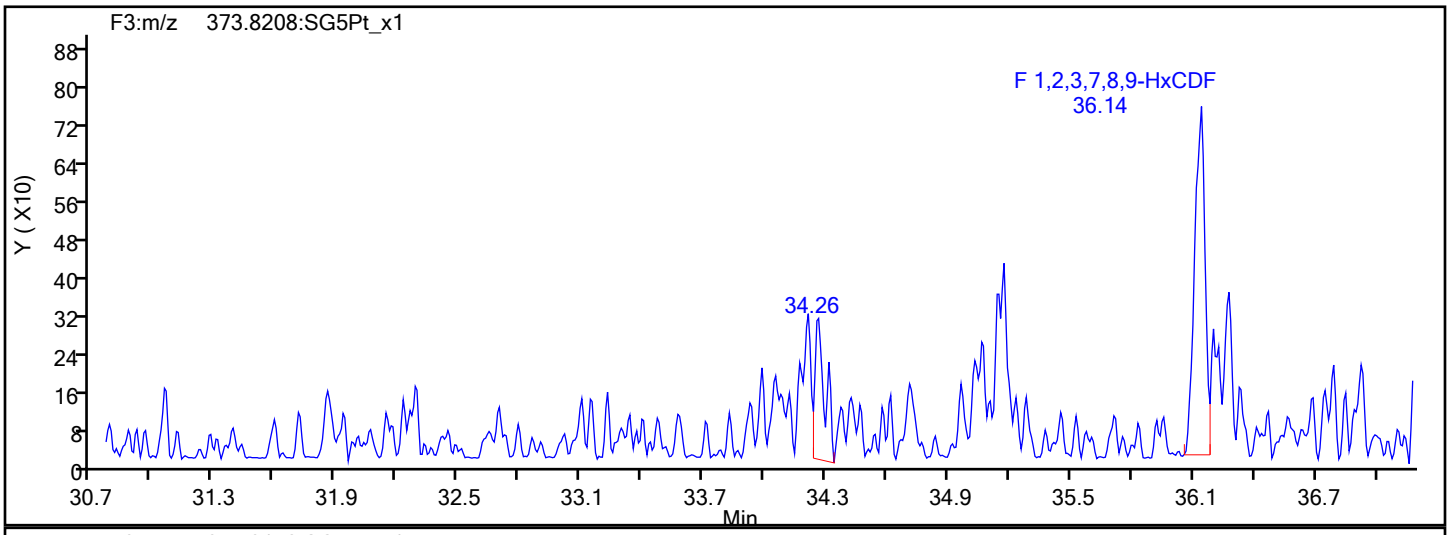
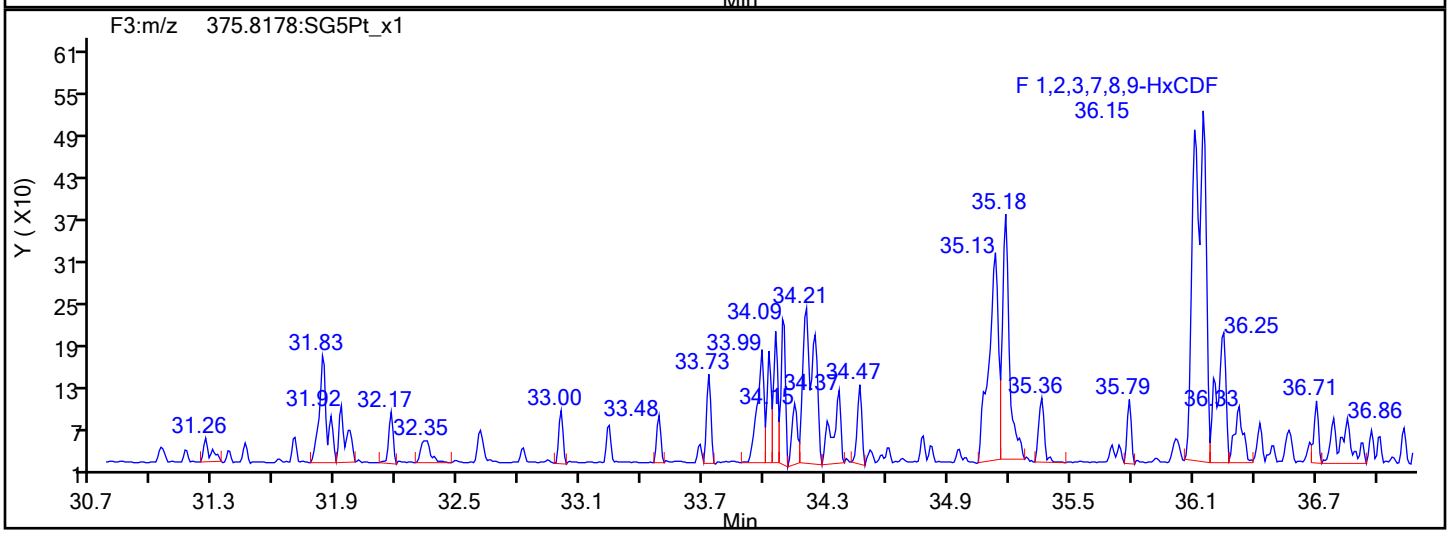
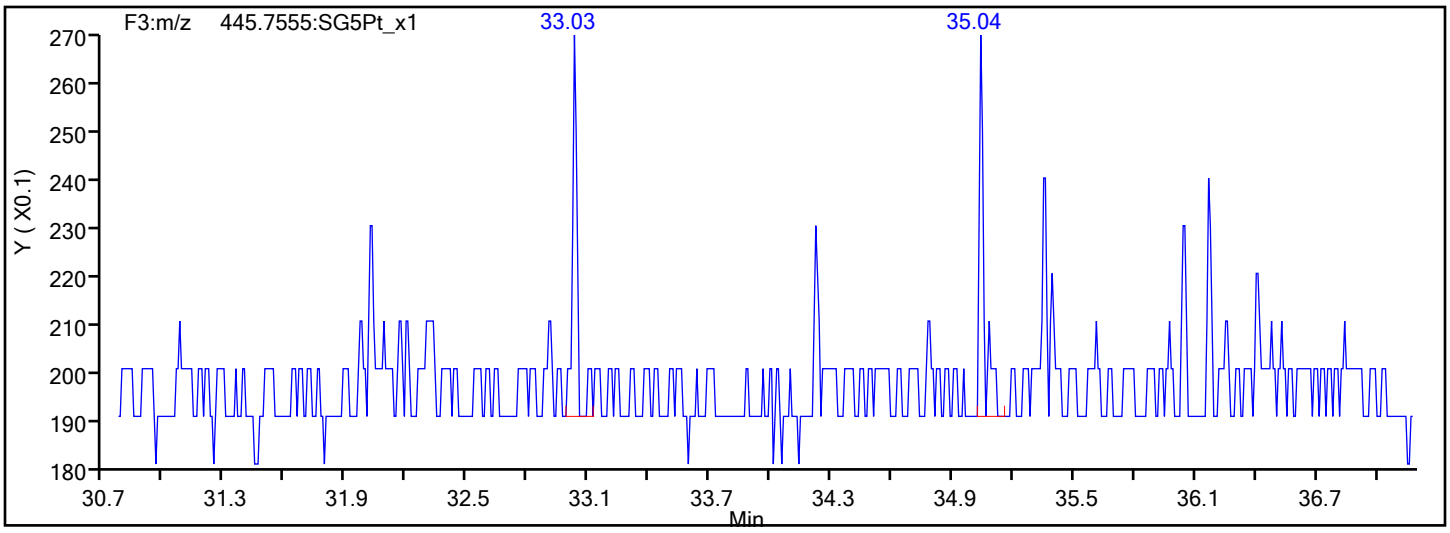
Injection Date: 21-Jan-2022 22:38:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins Sacramento

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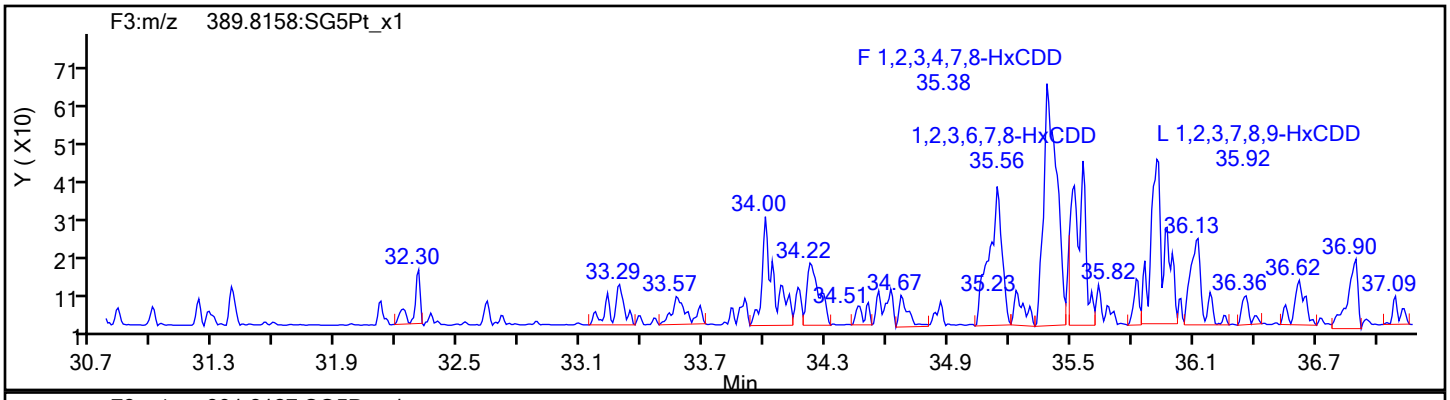
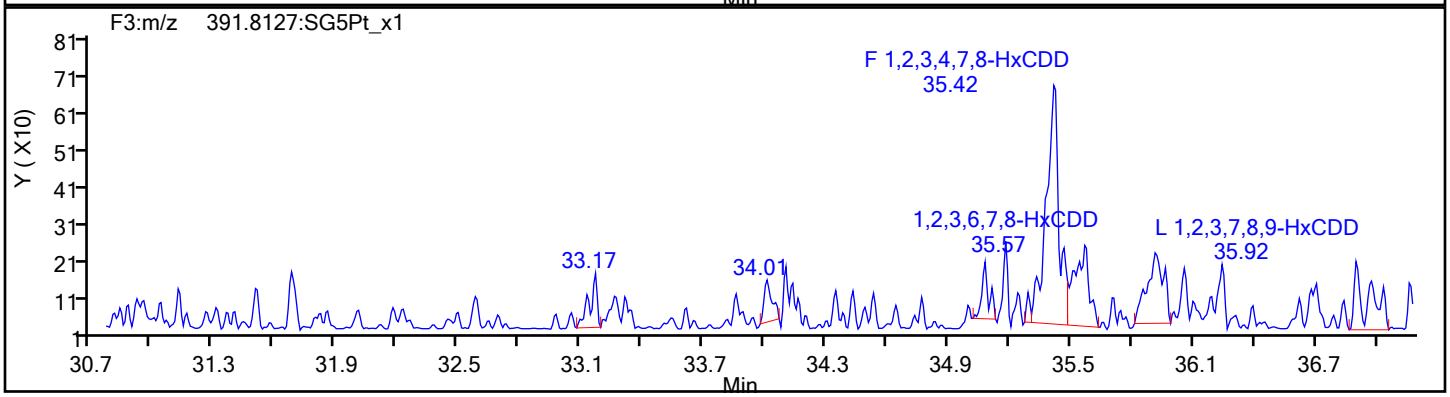
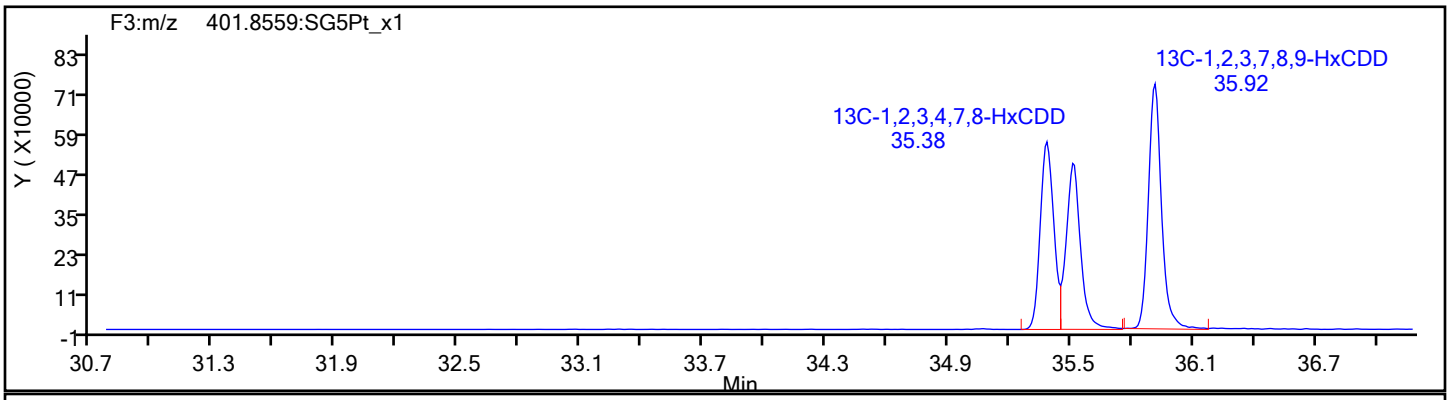
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

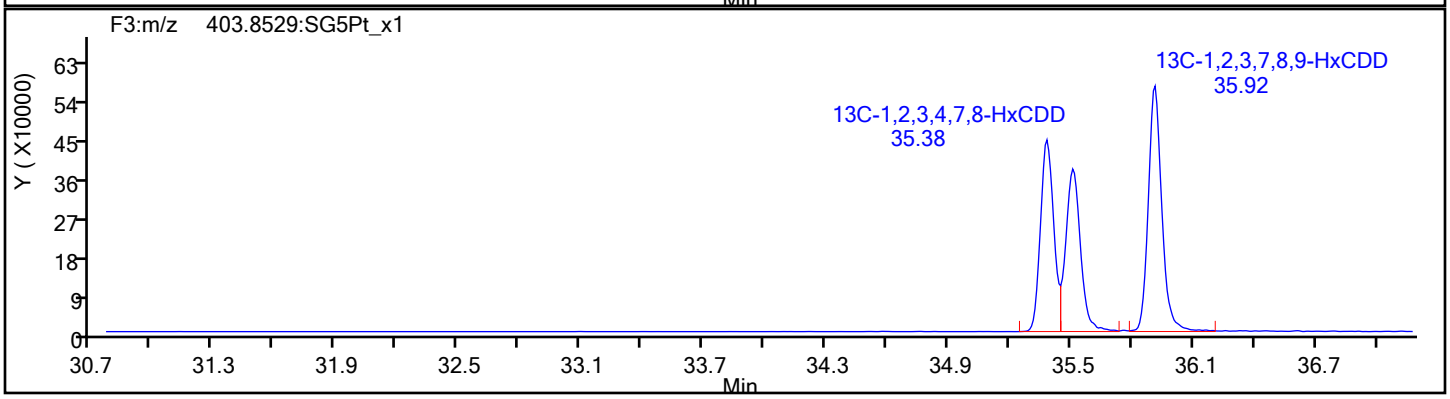
HxCDD





HxCDD Standards





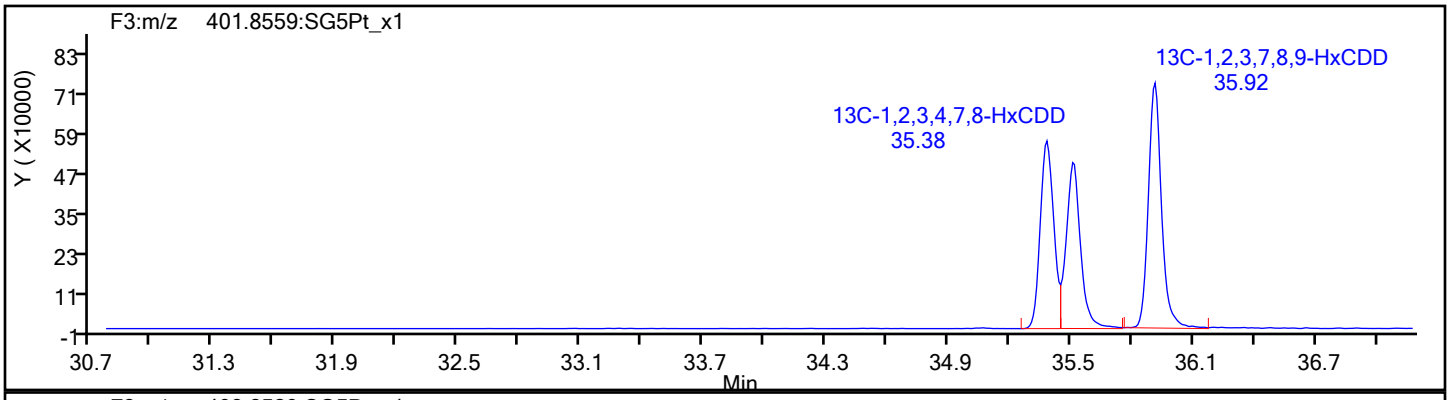
Report Date: 25-Jan-2022 08:30:30 Chrom Revision: 2.3 18-Jan-2022 20:25:40

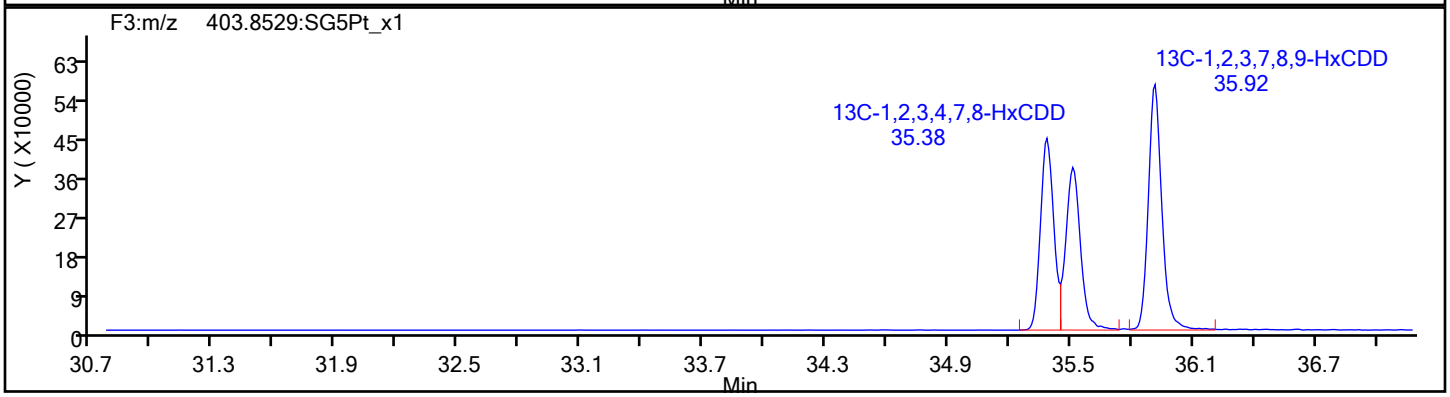
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d

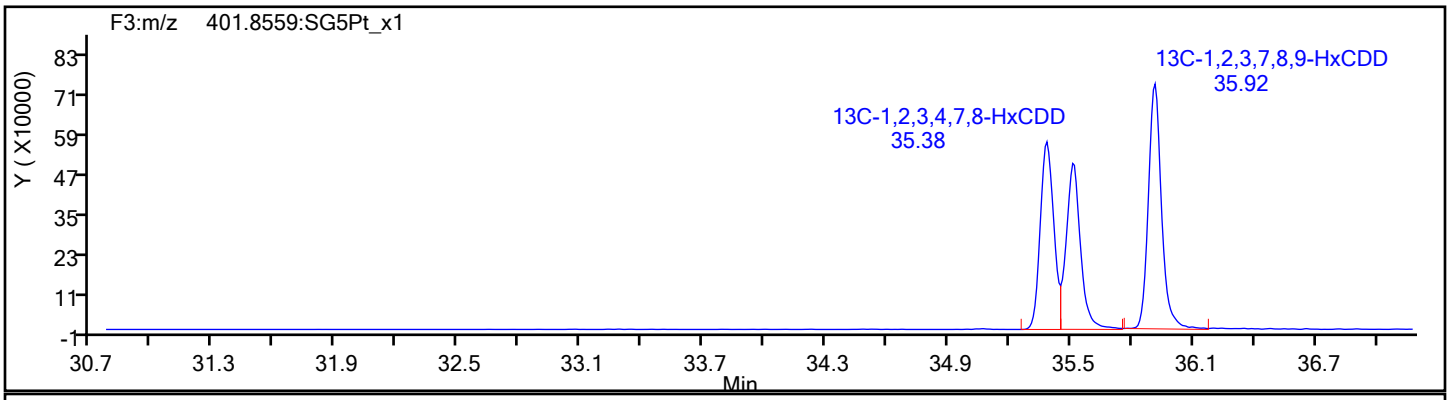
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

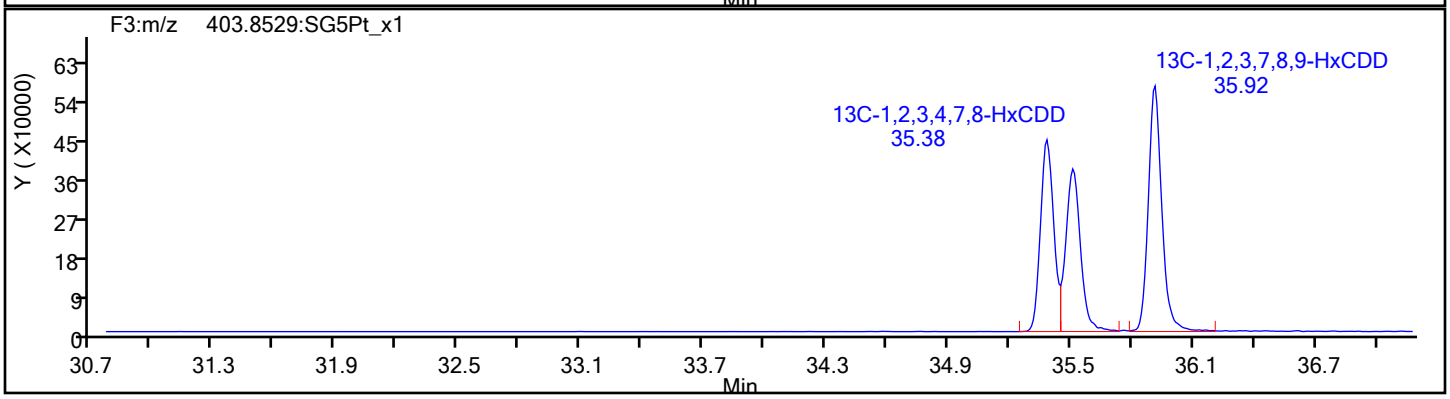
13C-HxCDD





13C-HxCDD Standards





Eurofins Sacramento

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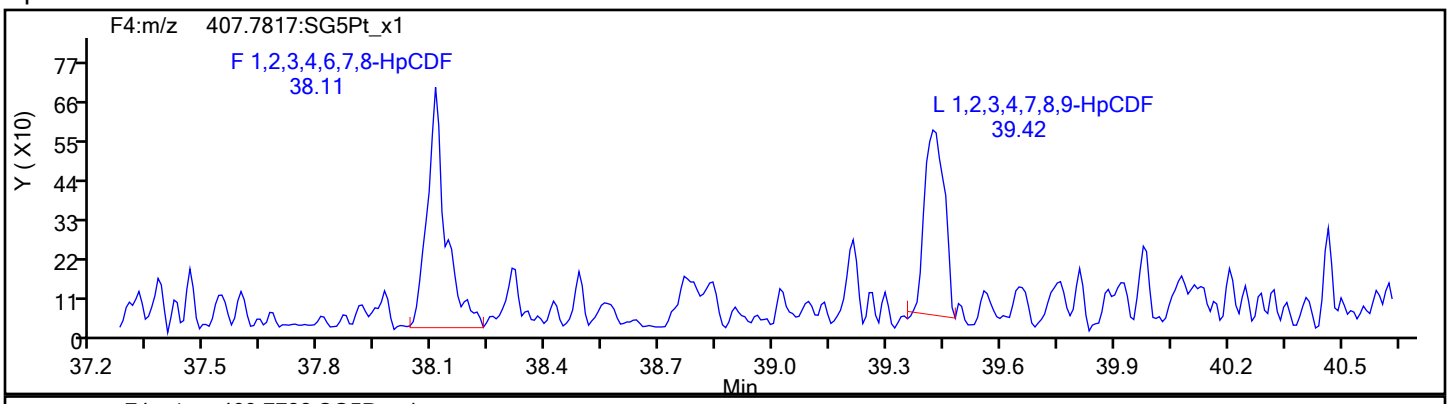
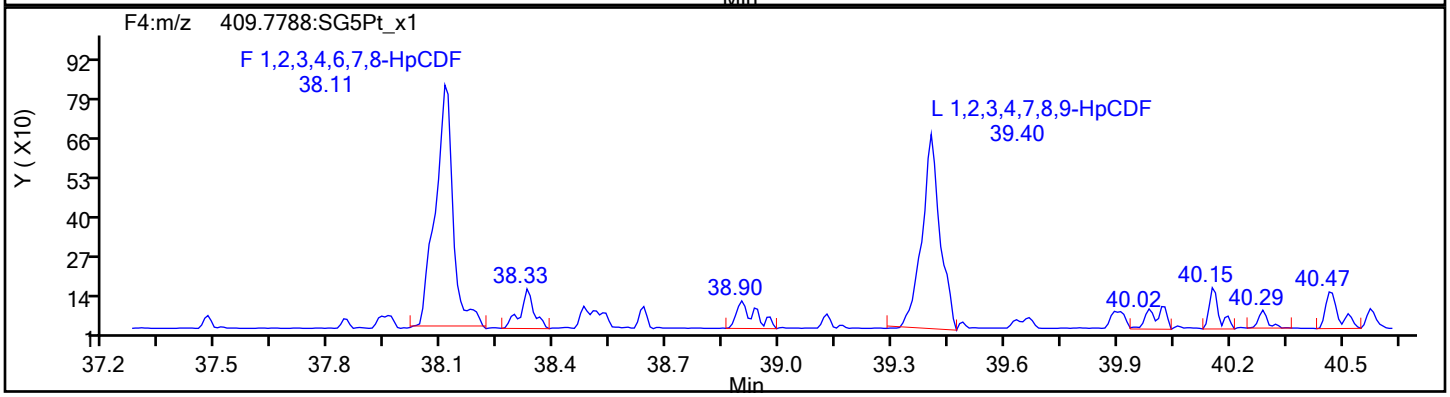
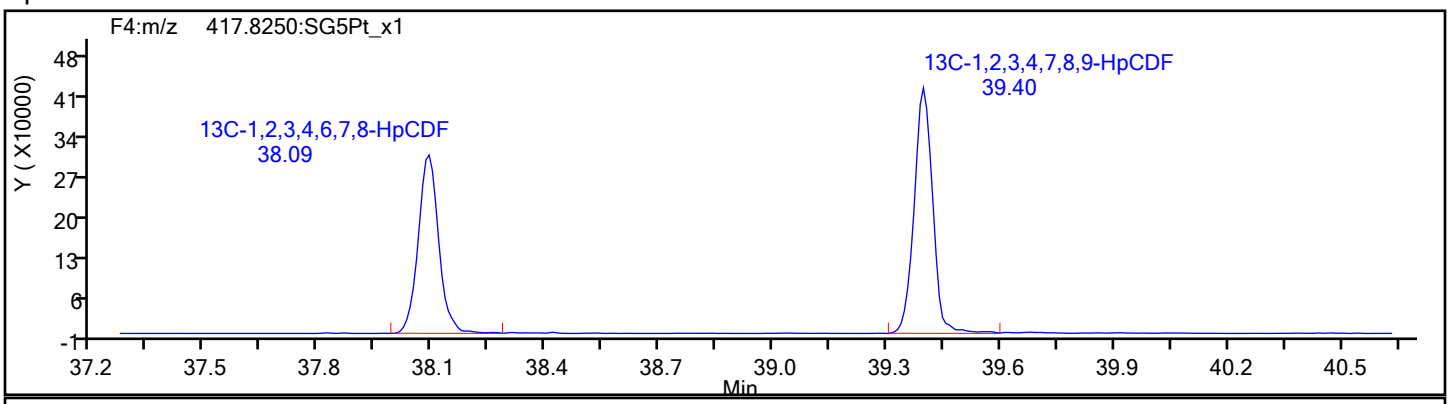
Injection Date: 21-Jan-2022 22:38:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

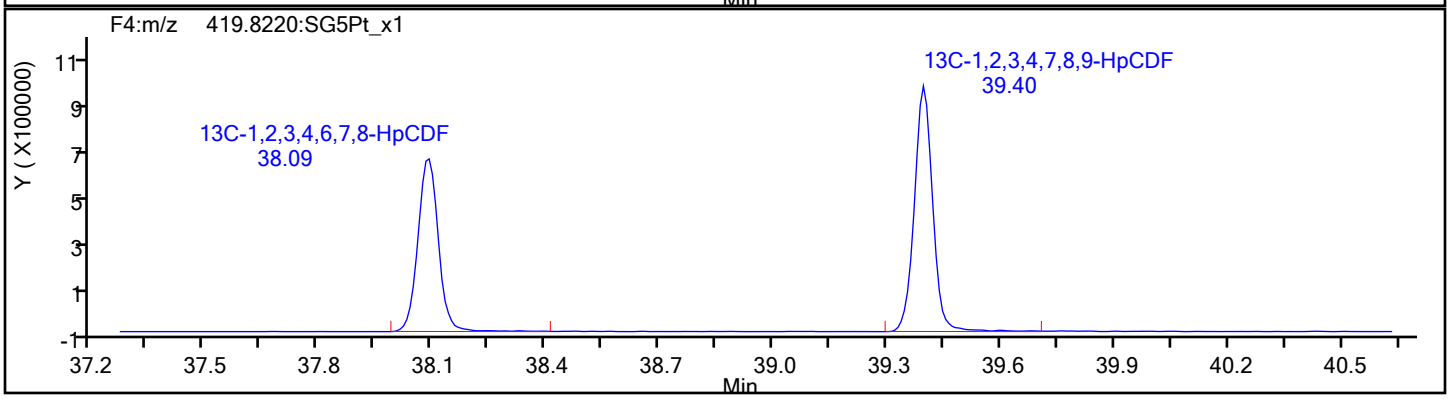
HpCDF





HpCDF Standards

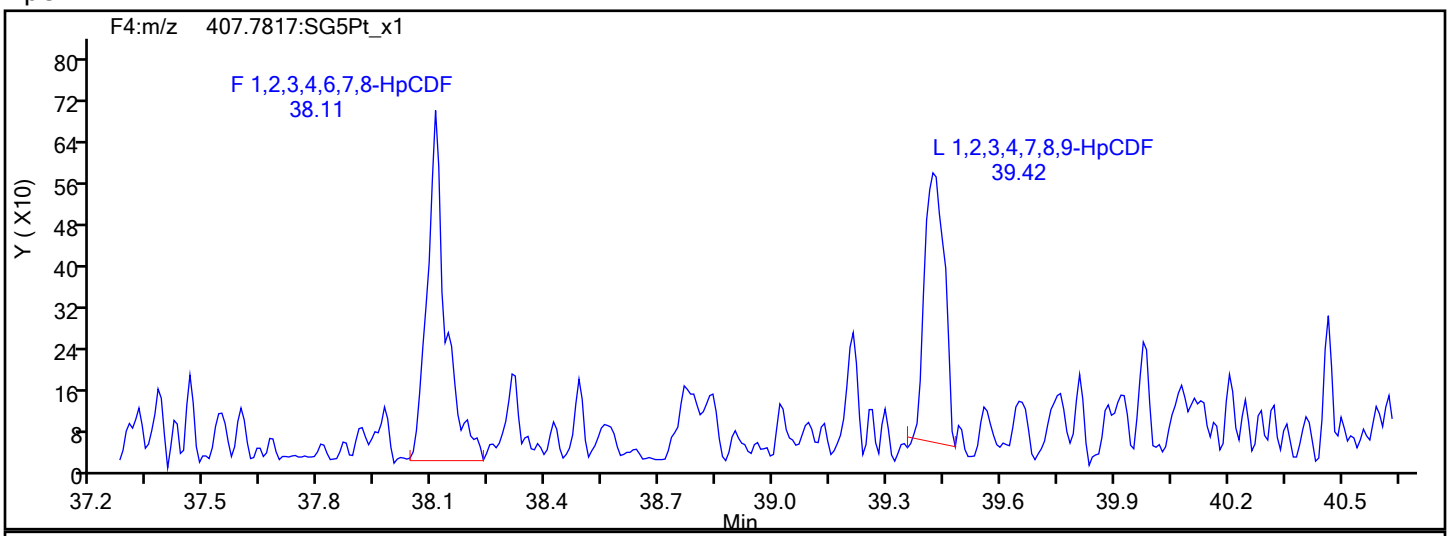


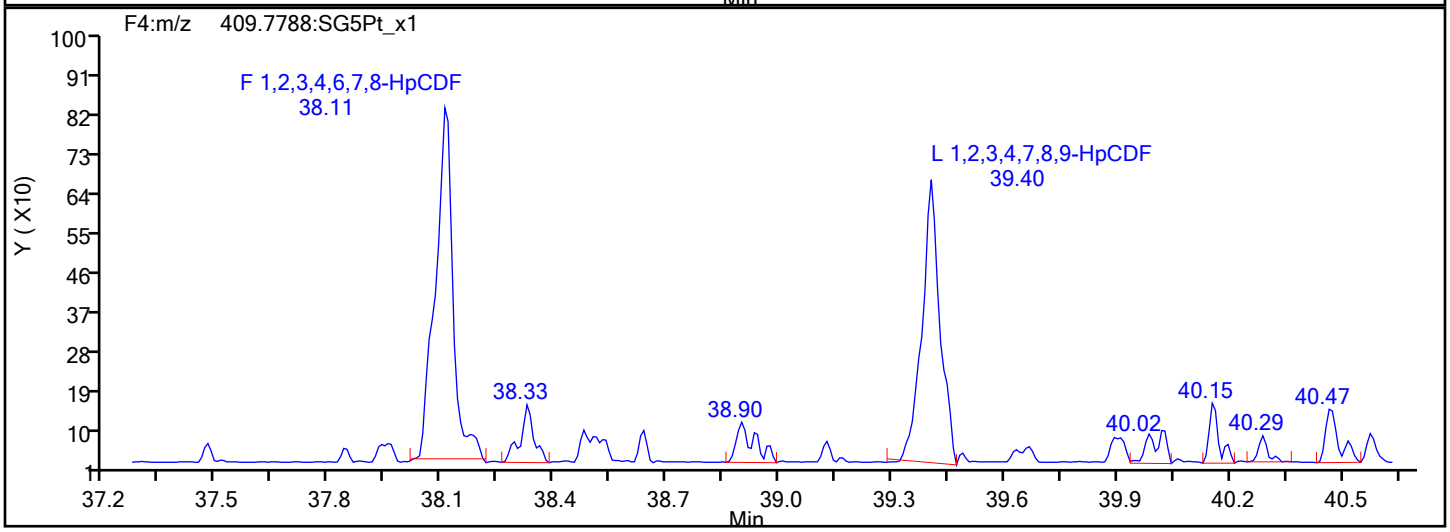


Eurofins Sacramento

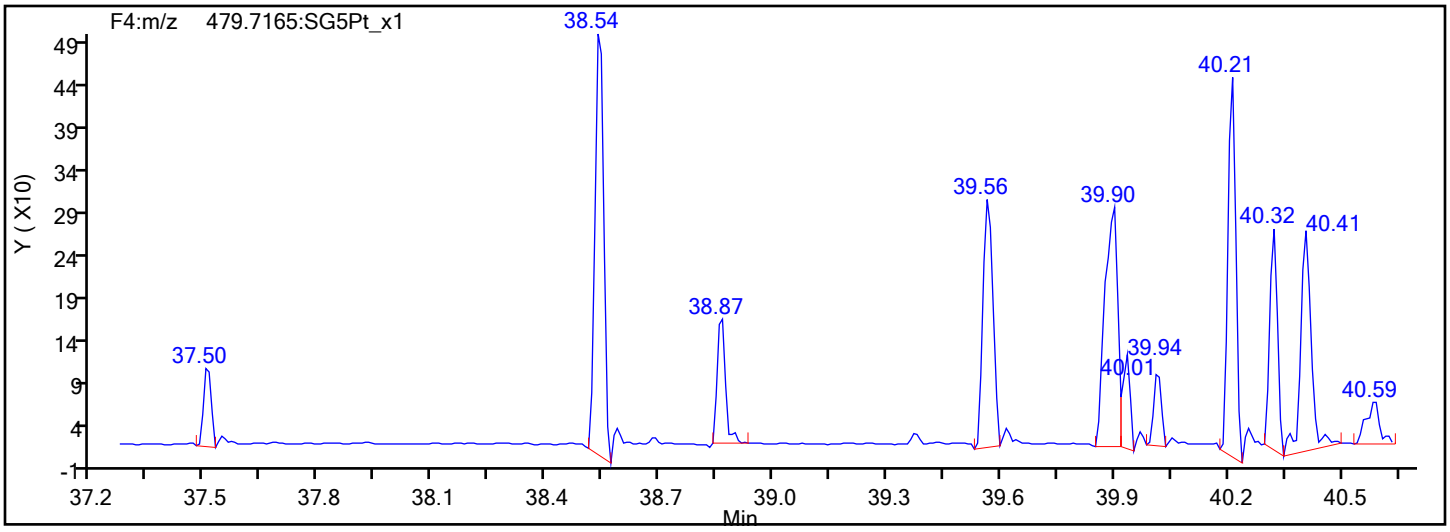
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d
Injection Date: 21-Jan-2022 22:38:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 3
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



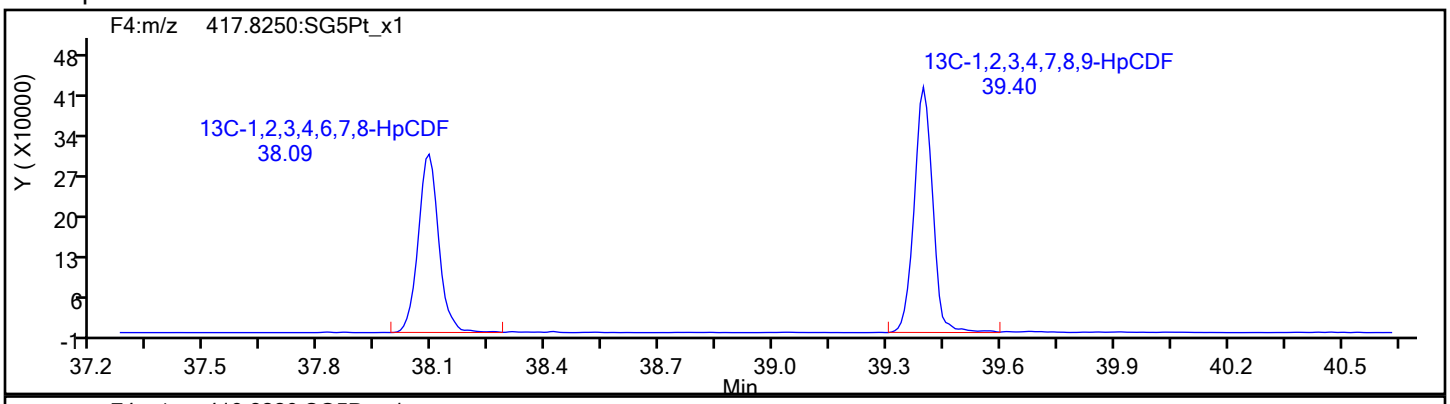
Report Date: 25-Jan-2022 08:30:31 Chrom Revision: 2.3 18-Jan-2022 20:25:40

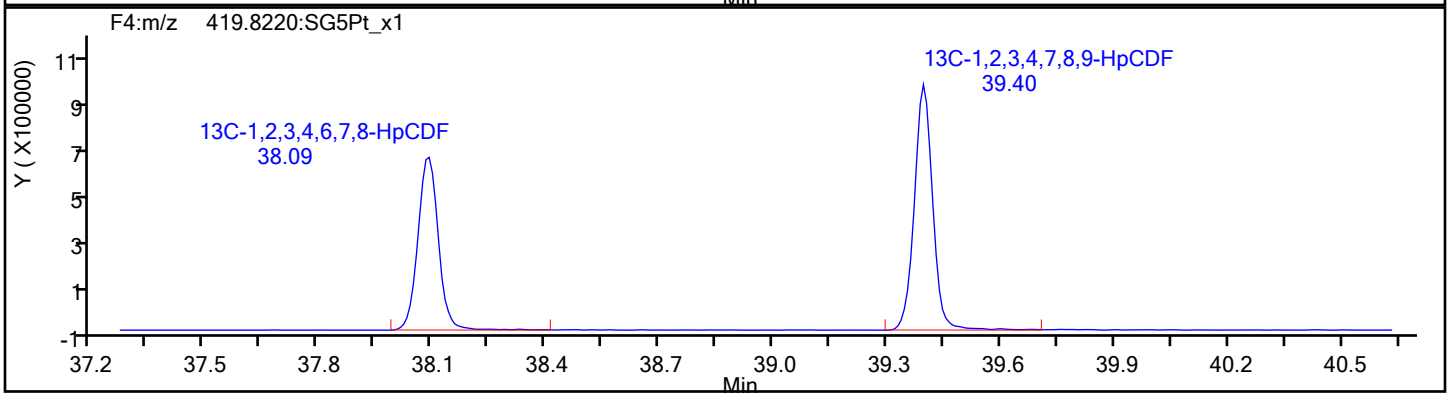
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d

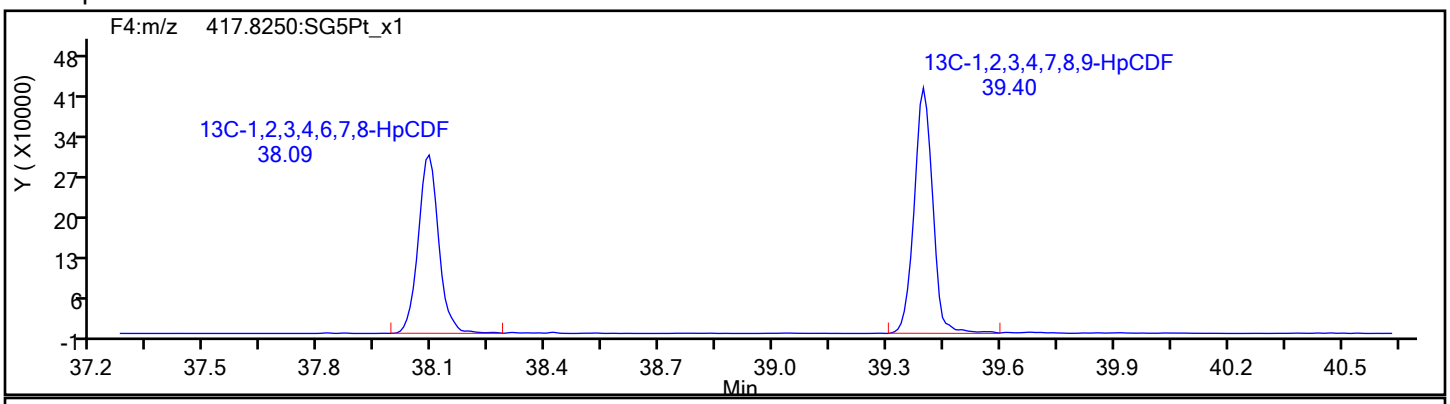
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

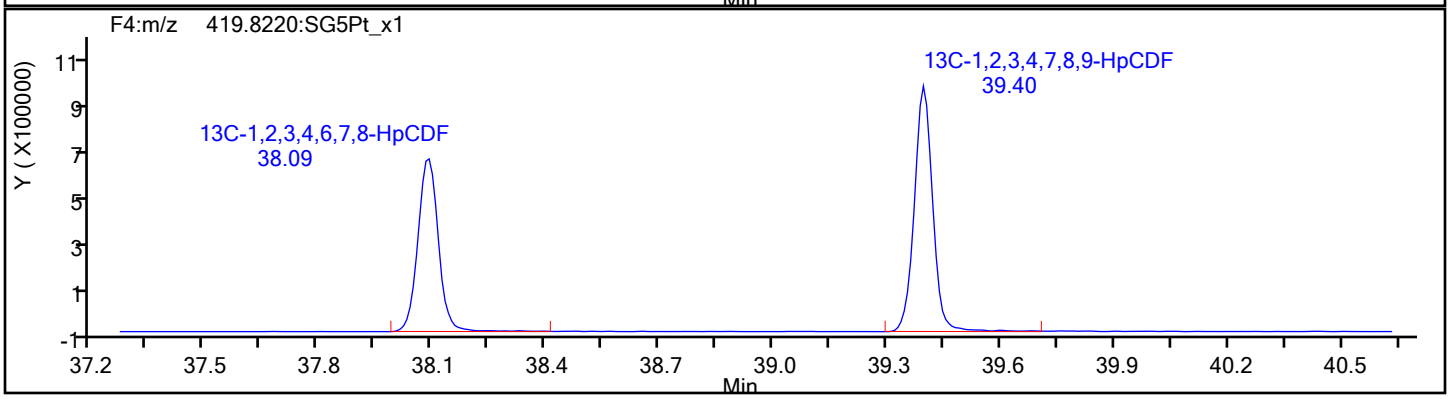
13C-HpCDF





13C-HpCDF Standards





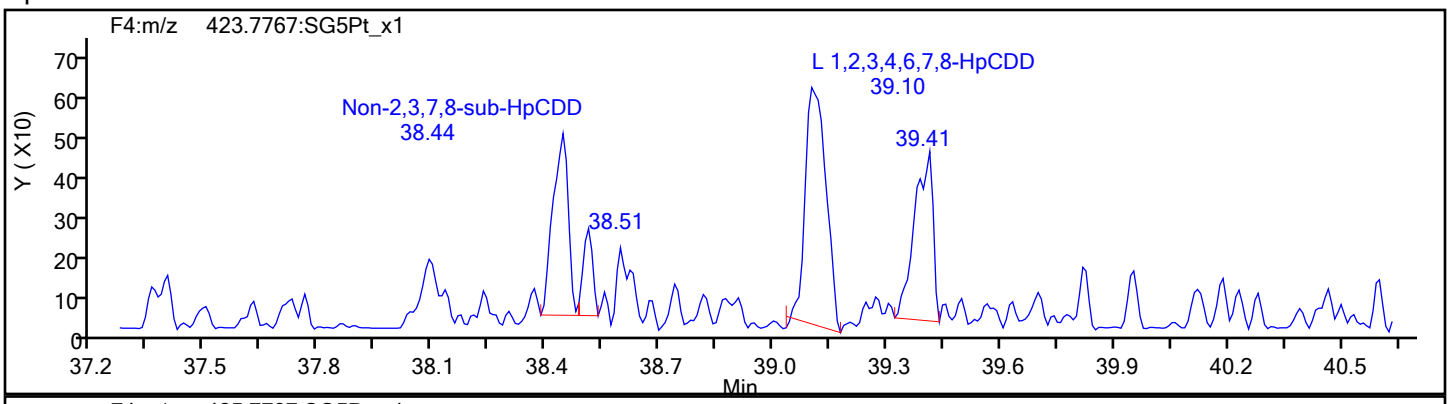
Report Date: 25-Jan-2022 08:30:31 Chrom Revision: 2.3 18-Jan-2022 20:25:40

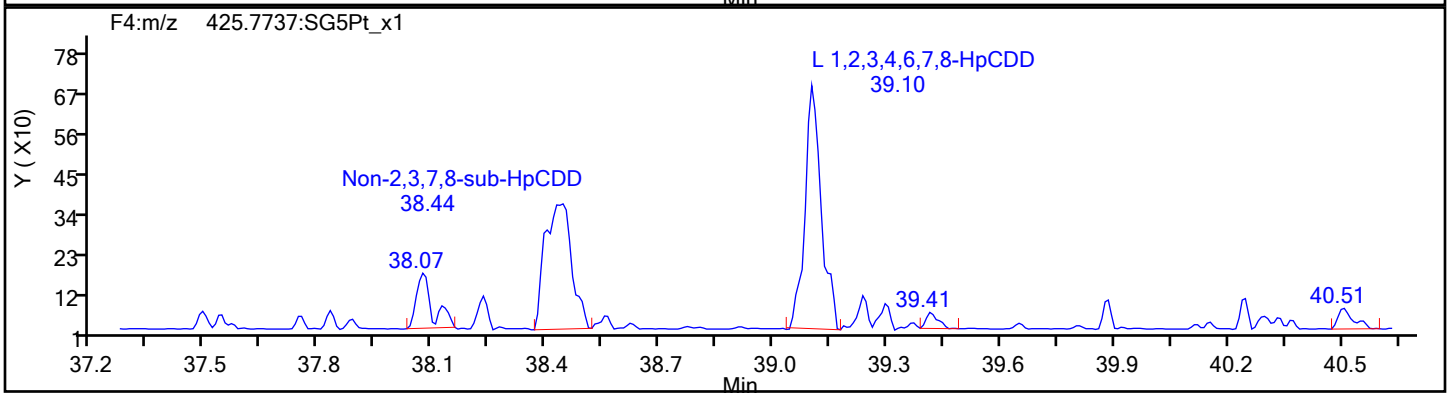
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d

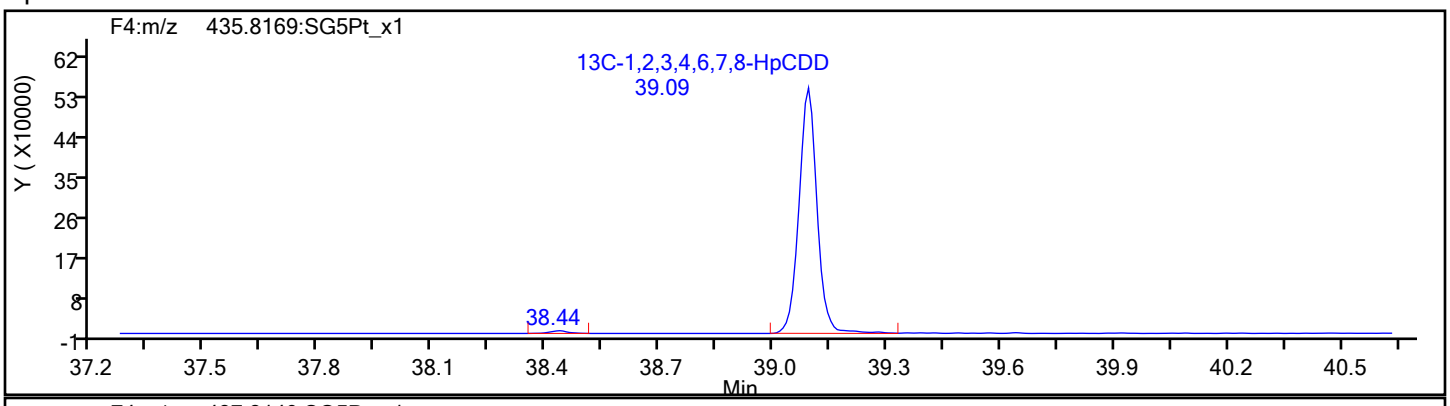
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

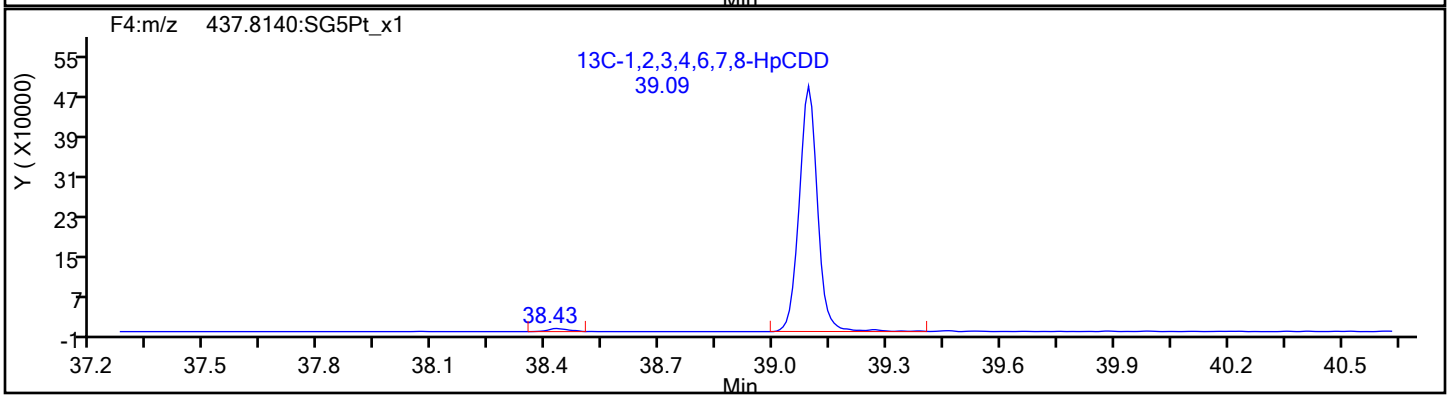
HpCDD





HpCDD Standards





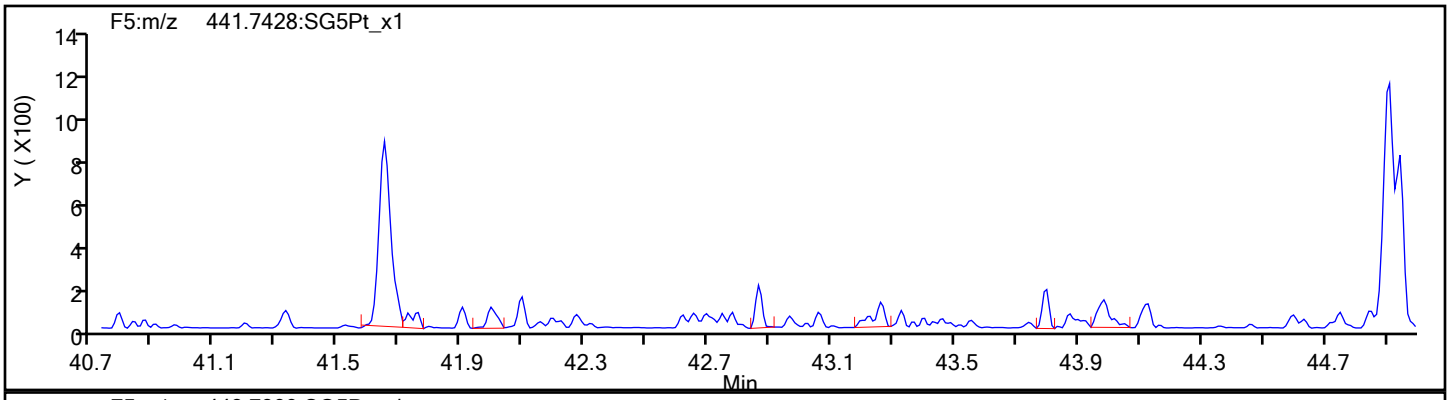
Report Date: 25-Jan-2022 08:30:31 Chrom Revision: 2.3 18-Jan-2022 20:25:40

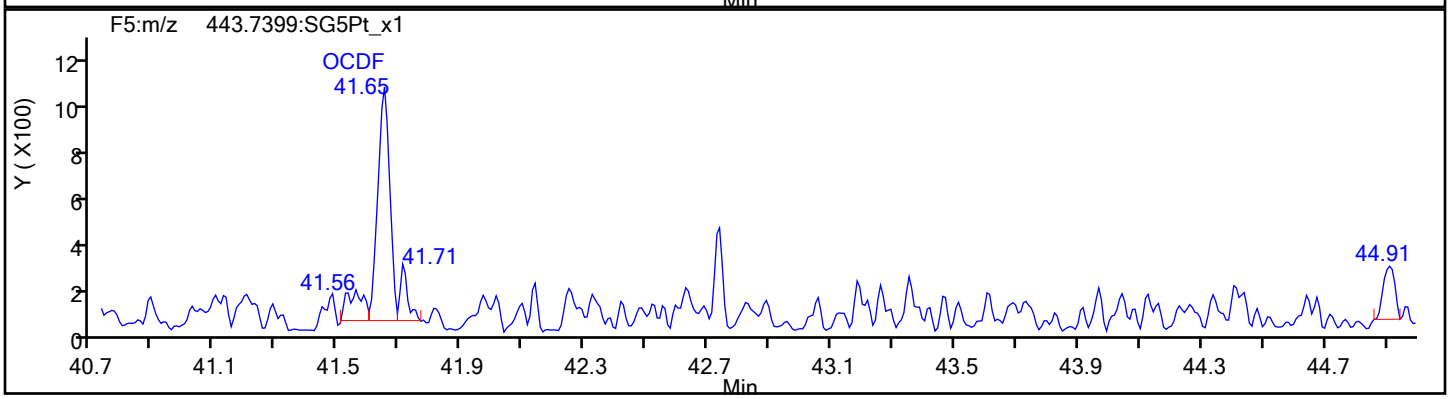
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d

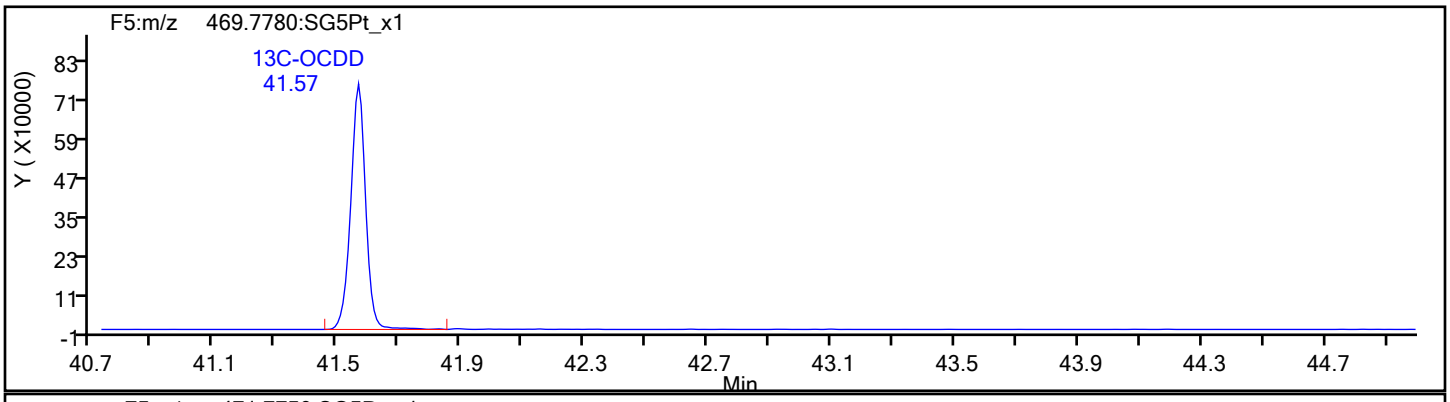
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

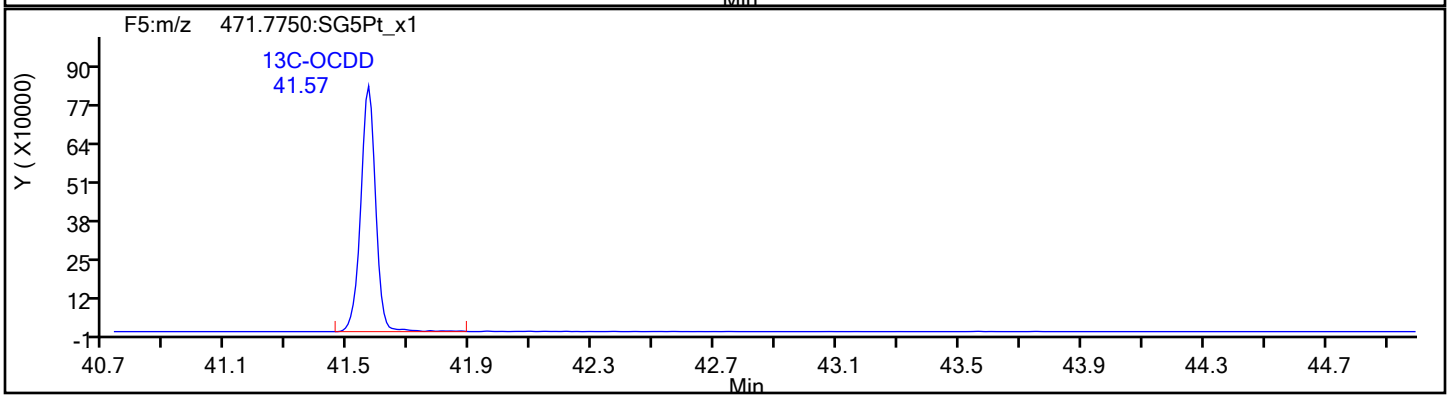
OCDF





OCDF Standards

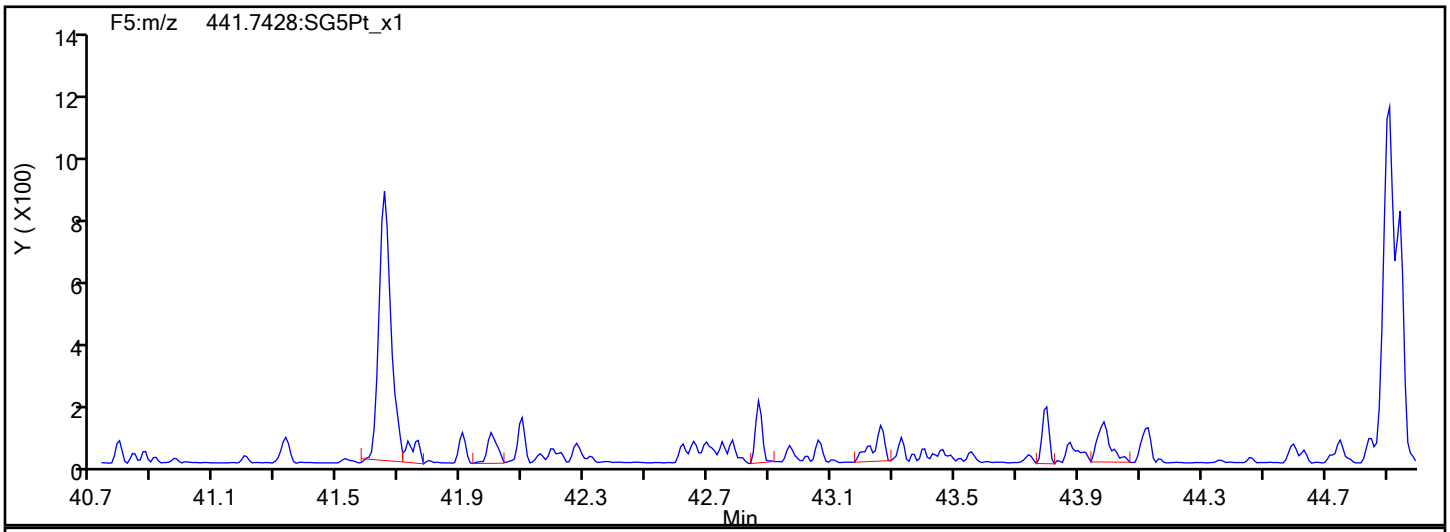


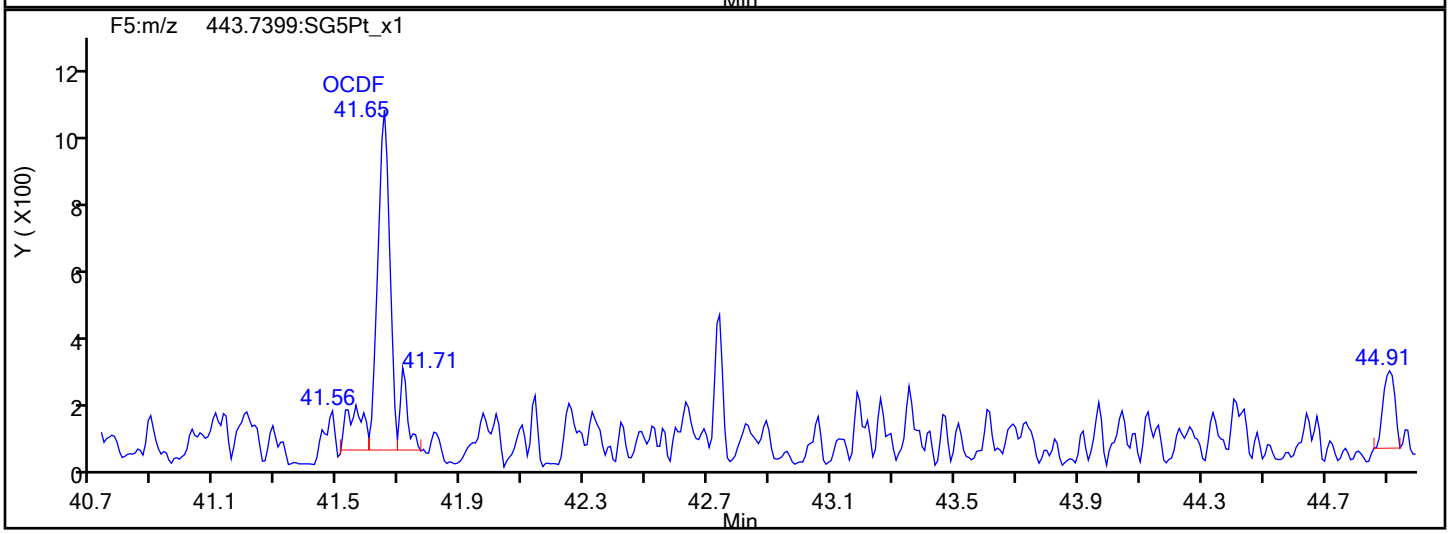


Eurofins Sacramento

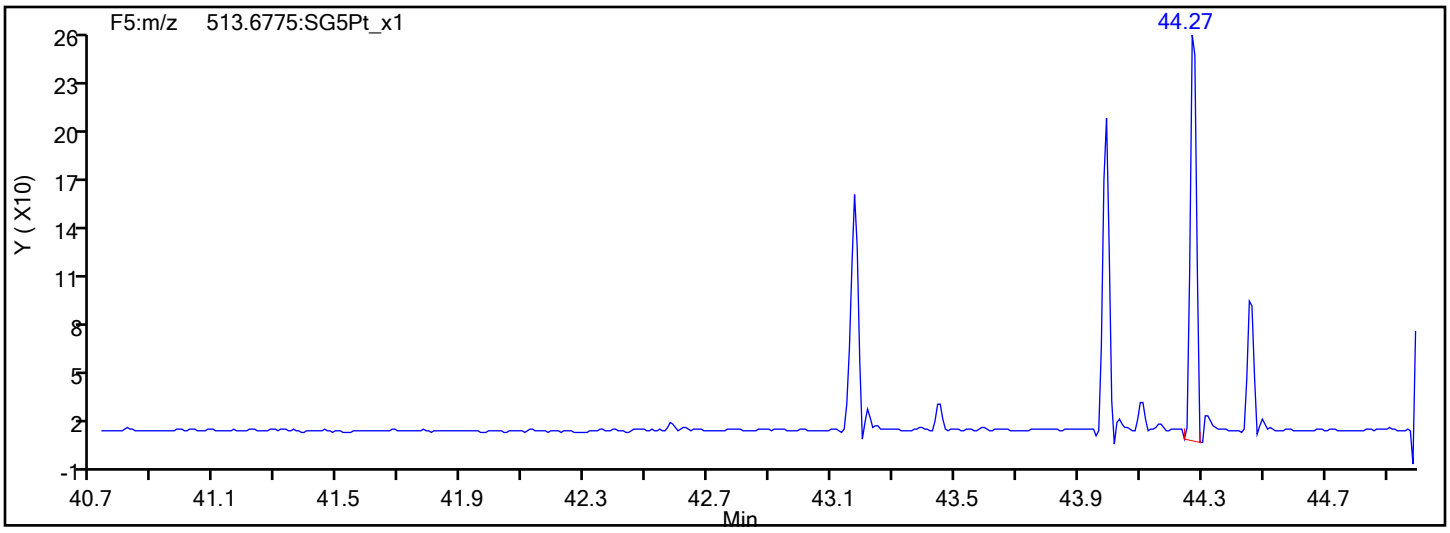
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d		
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



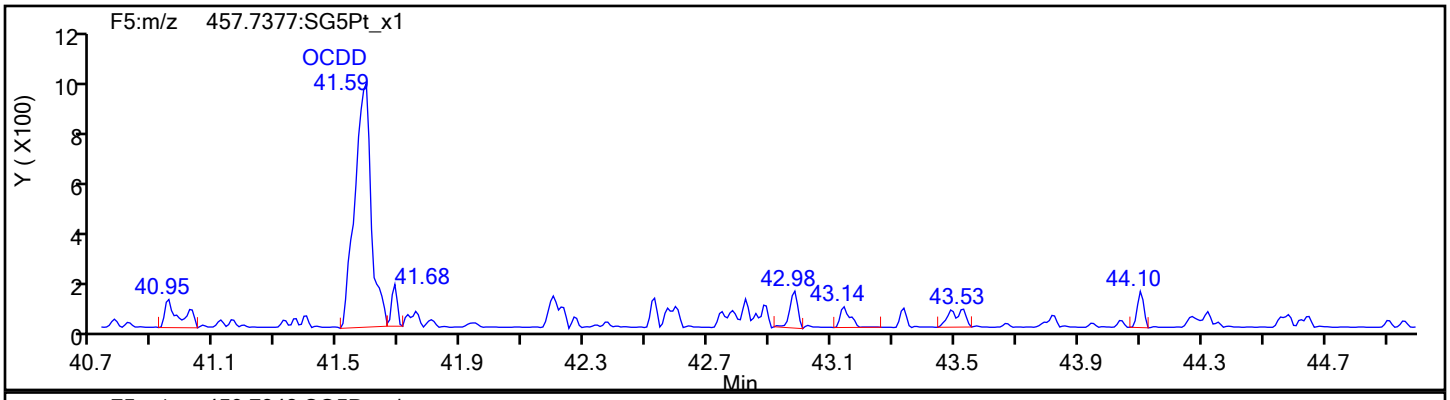
Report Date: 25-Jan-2022 08:30:31 Chrom Revision: 2.3 18-Jan-2022 20:25:40

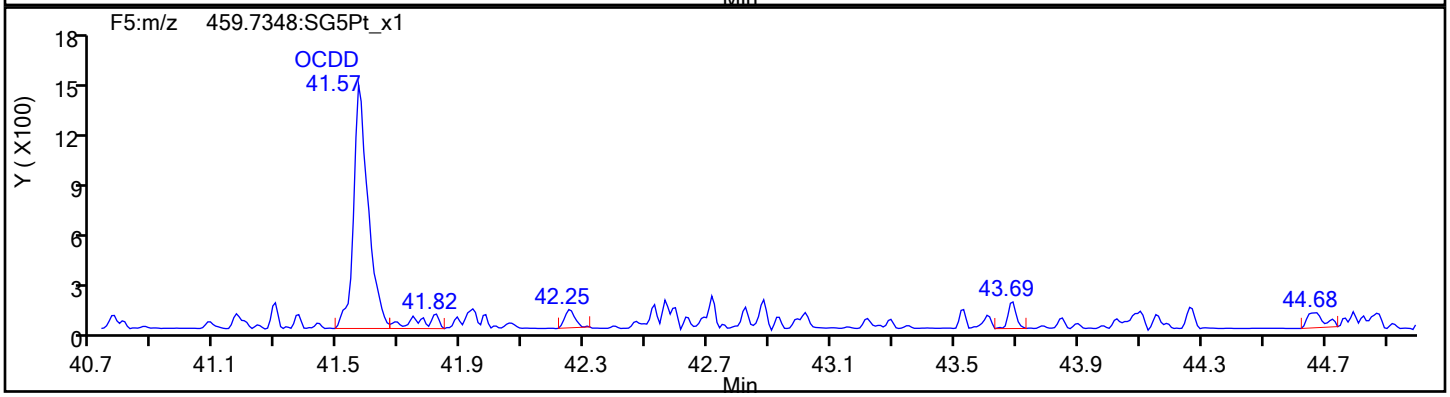
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d

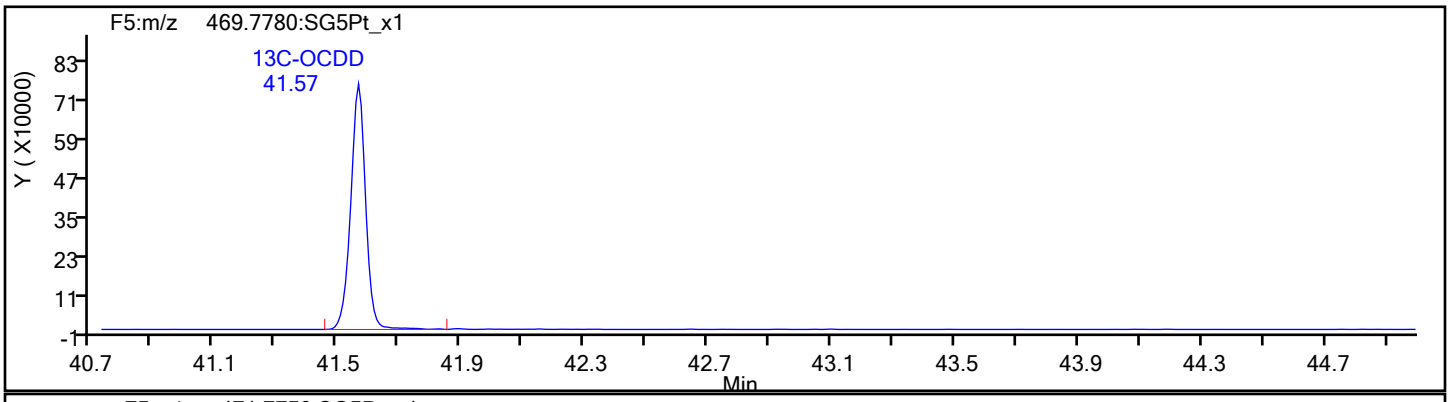
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

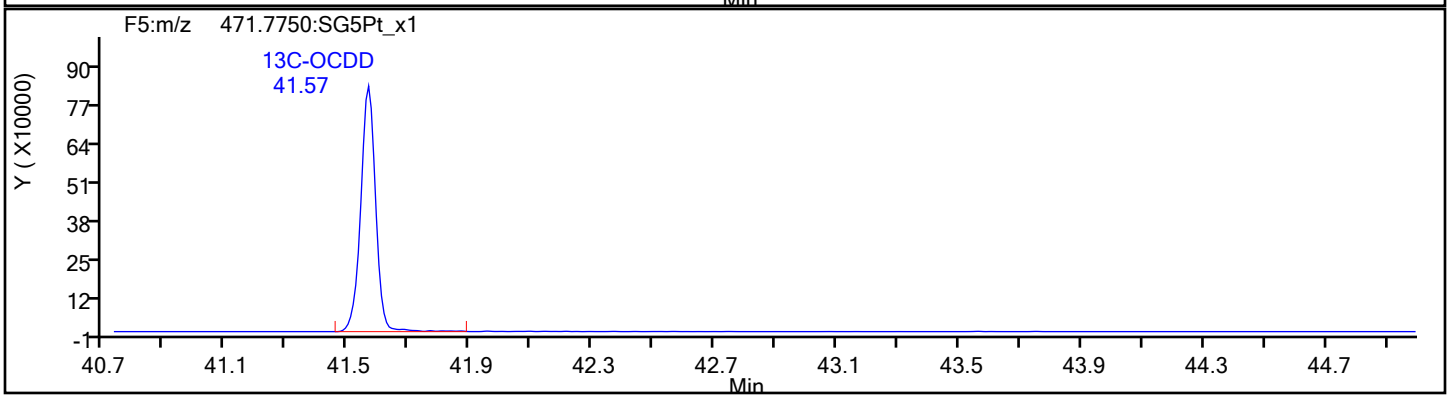
OCDD





OCDD Standards



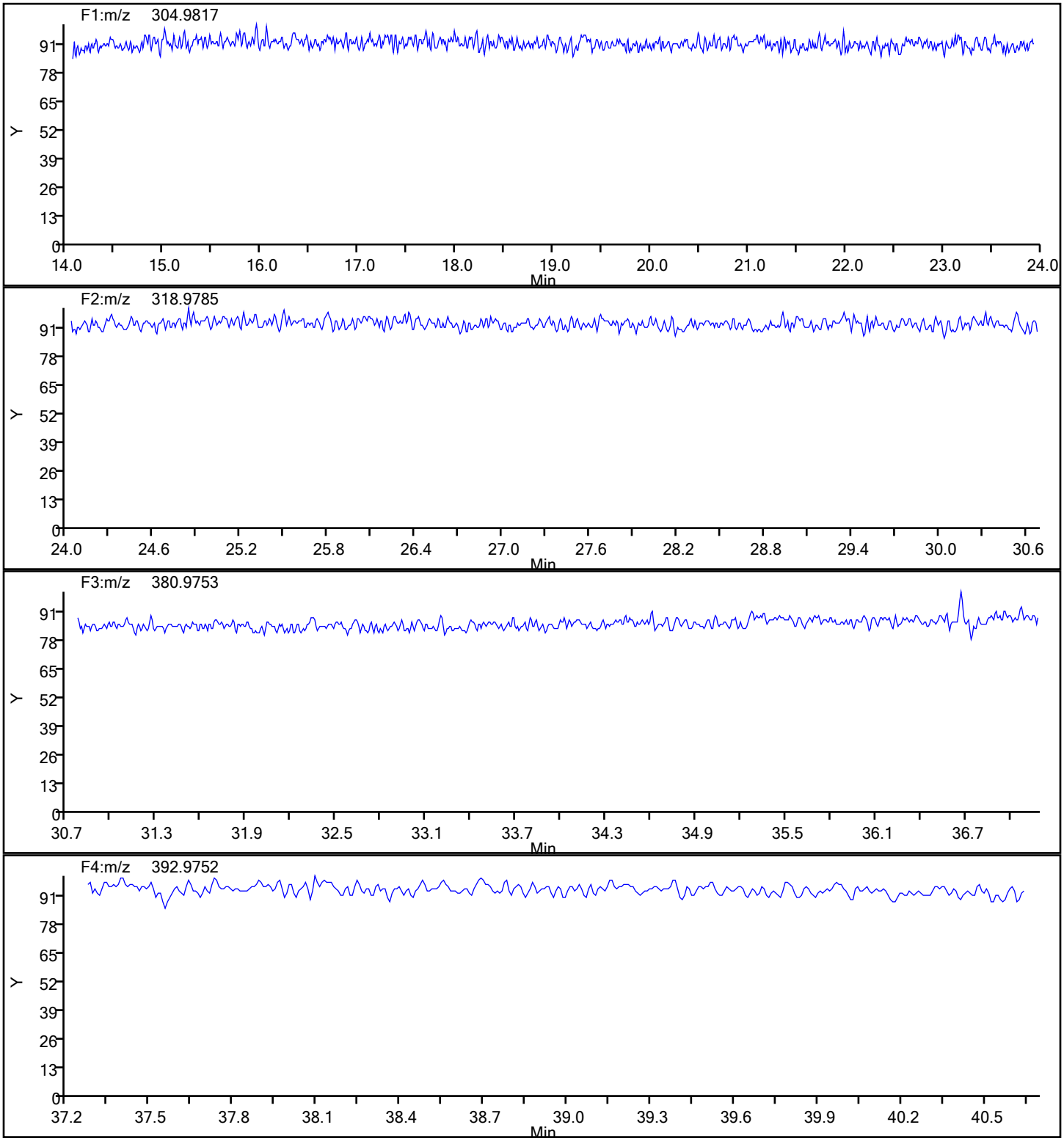


Report Date: 25-Jan-2022 08:30:31 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d

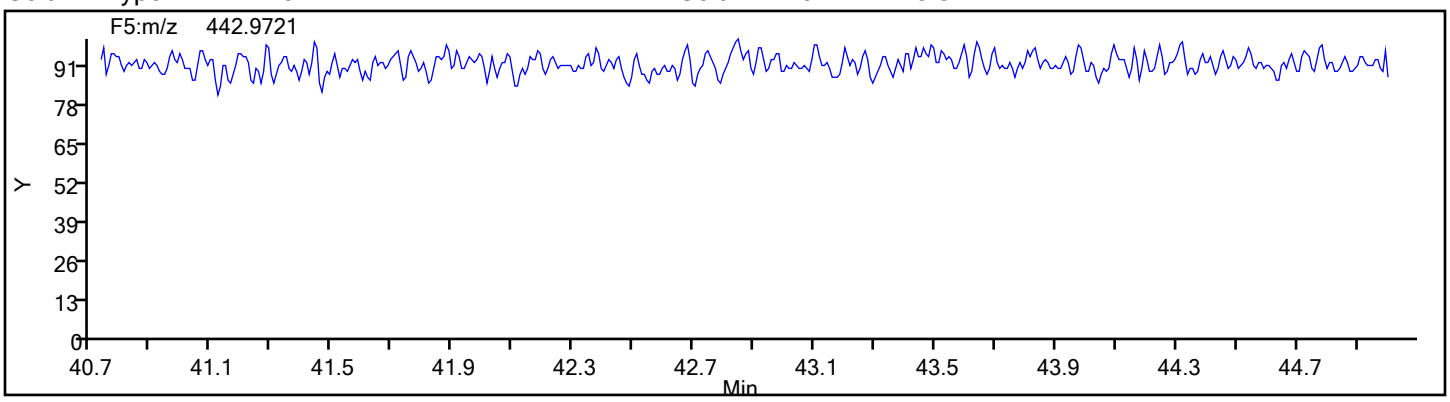
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 25-Jan-2022 08:30:31 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_43.d		
Injection Date:	21-Jan-2022 22:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80421-2

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 320-556608/2-A

Matrix: Water | Lab File ID: 20ja22dfs1_44.d

Analysis Method: 8290 | Date Collected:

Extract. Method: 8290 | Date Extracted: 01/07/2022 08:44

Sample wt/vol: 1000(mL) | Date Analyzed: 01/21/2022 23:26

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559800 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	183.0		10	1.4
51207-31-9	2,3,7,8-TCDF	174.5		10	0.94
40321-76-4	1,2,3,7,8-PeCDD	956.3		50	1.7
57117-41-6	1,2,3,7,8-PeCDF	947.1		50	3.6
57117-31-4	2,3,4,7,8-PeCDF	945.3		50	3.8
39227-28-6	1,2,3,4,7,8-HxCDD	854.6		50	2.0
57653-85-7	1,2,3,6,7,8-HxCDD	908.2		50	1.8
19408-74-3	1,2,3,7,8,9-HxCDD	921.6		50	1.9
70648-26-9	1,2,3,4,7,8-HxCDF	817.5		50	2.9
57117-44-9	1,2,3,6,7,8-HxCDF	798.2		50	2.5
60851-34-5	2,3,4,6,7,8-HxCDF	867.1		50	2.6
72918-21-9	1,2,3,7,8,9-HxCDF	821.3		50	2.8
35822-46-9	1,2,3,4,6,7,8-HpCDD	898.4		50	1.8
67562-39-4	1,2,3,4,6,7,8-HpCDF	849.0		50	3.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	832.8		50	3.5
3268-87-9	OCDD	1651		100	1.4
39001-02-0	OCDF	1587		100	1.8

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	92		40-135
89059-46-1	13C-2,3,7,8-TCDF	93		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	93		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	92		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	89		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	92		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	94		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	97		40-135
114423-97-1	13C-OCDD	102		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Lims ID: LCS 320-556608/2-A
Client ID:
Sample Type: LCS
Inject. Date: 21-Jan-2022 23:26:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-556608/2-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:32:18 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 10:23:00

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.968	7593615	0.78	3.5E+04	100.0	100.0				a
D 13C-2,3,7,8-TCDF	19.050	7187812	0.80	1.0164	93.1	93.1	0.4025	0.4025	93.13	
2,3,7,8-TCDF	19.084	634688	0.79	1.0120	8.726	8.726	0.0470	0.0470	87.26	M
A Non-2,3,7,8-sub-TCDF	18.680						0.0470	0.0470		
S Total TCDF					8.726	8.726	0.0470	0.0470		
D 13C-2,3,7,8-TCDD	20.303	5502104	0.80	0.7884	91.9	91.9	0.2933	0.2933	91.90	
$ 37Cl4-2,3,7,8-TCDD	20.346	2196697		0.7911	36.6	36.6	0.0443	0.0443	91.41	
2,3,7,8-TCDD	20.338	498677	0.78	0.9906	9.149	9.149	0.0687	0.0687	91.49	
A Non-2,3,7,8-sub-TCDD	19.478						0.0687	0.0687		
S Total TCDD					9.149	9.149	0.0687	0.0687		
D 13C-1,2,3,7,8-PeCDF	26.094	6462657	1.57	0.9232	92.2	92.2	0.4099	0.4099	92.19	
1,2,3,7,8-PeCDF	26.120	2985853	1.55	0.9756	47.4	47.4	0.1779	0.1779	94.71	
$ 13C-2,3,4,7,8-PeCDF	27.518	8444269	1.57	1.1692	111.8	111.8	0.3499	0.3499	112	
2,3,4,7,8-PeCDF	27.543	2814988	1.56	0.9215	47.3	47.3	0.1883	0.1883	94.53	
A F1 PeCDFs	23.375						0.0103	0.0124		RQU
A Non-2,3,7,8-sub-PeCDF	26.760	27585	1.55	0.9486	0.6403	0.4500	0.1830	0.4500	0.00	RQ
S Total PeCDF					95.3	95.1	0.1831	0.1831		RQ
D 13C-1,2,3,7,8-PeCDD	28.301	3948474	1.53	0.5606	92.8	92.8	0.2020	0.2020	92.75	
1,2,3,7,8-PeCDD	28.318	1891751	1.57	1.0020	47.8	47.8	0.0868	0.0868	95.63	
A Non-2,3,7,8-sub-PeCDD	27.170	6918	1.55	1.0020	0.1749	0.1749	0.0868	0.1749	0.00	
S Total PeCDD					48.0	48.0	0.0868	0.0868		
D 13C-1,2,3,4,7,8-HxCDF	34.013	5984334	0.53	1.0566	92.4	92.4	0.2515	0.2515	92.40	
1,2,3,4,7,8-HxCDF	34.030	2160951	1.25	0.8835	40.9	40.9	0.1452	0.1452	81.75	
D 13C-1,2,3,6,7,8-HxCDF	34.199	4754422	0.53	0.9686	80.1	80.1	0.2744	0.2744	80.08	
1,2,3,6,7,8-HxCDF	34.216	2456948	1.23	1.0287	39.9	39.9	0.1247	0.1247	79.82	
D 13C-2,3,4,6,7,8-HxCDF	35.133	4776750	0.53	0.9084	85.8	85.8	0.2925	0.2925	85.79	
2,3,4,6,7,8-HxCDF	35.150	2562758	1.24	0.9878	43.4	43.4	0.1298	0.1298	86.71	
D 13C-1,2,3,7,8,9-HxCDF	36.110	4221848	0.51	0.8248	83.5	83.5	0.3222	0.3222	83.51	
1,2,3,7,8,9-HxCDF	36.127	2229077	1.25	0.9071	41.1	41.1	0.1414	0.1414	82.13	
A Non-2,3,7,8-sub-HxCDF	34.051						0.1347	0.1347		
S Total HxCDF					165.2	165.2	0.1353	0.1353		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	35.916	6129663	1.27	2.5E+04	100.0	100.0				
$ 13C-1,2,3,4,7,8-HxCDD	35.386	4750779	1.27	1.0143	106.7	106.7	0.2423	0.2423	107	
1,2,3,4,7,8-HxCDD	35.403	1555746	1.23	0.8294	42.7	42.7	0.1023	0.1023	85.46	
D 13C-1,2,3,6,7,8-HxCDD	35.512	4389977	1.29	0.8027	89.2	89.2	0.2055	0.2055	89.23	
1,2,3,6,7,8-HxCDD	35.529	1872848	1.24	0.9395	45.4	45.4	0.0903	0.0903	90.82	
1,2,3,7,8,9-HxCDD	35.924	1835972	1.24	0.9076	46.1	46.1	0.0935	0.0935	92.16	
A Non-2,3,7,8-sub-HxCDD	34.547						0.0951	0.0951		
S Total HxCDD					134.2	134.2	0.0954	0.0954		
D 13C-1,2,3,4,6,7,8-HpCDF	38.091	3824034	0.45	0.6421	97.2	97.2	0.4457	0.4457	97.16	
1,2,3,4,6,7,8-HpCDF	38.099	2335079	1.04	1.4385	42.4	42.4	0.1503	0.1503	84.90	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.396	4606992	0.46	1.1706	102.9	102.9	0.3301	0.3301	103	
1,2,3,4,7,8,9-HpCDF	39.413	1942828	1.02	1.2202	41.6	41.6	0.1772	0.1772	83.28	
A Non-2,3,7,8-sub-HpCDF	38.751						0.1627	0.1627		
S Total HpCDF					84.1	84.1	0.1638	0.1638		
D 13C-1,2,3,4,6,7,8-HpCDD	39.093	3605481	1.06	0.6246	94.2	94.2	0.2478	0.2478	94.17	
1,2,3,4,6,7,8-HpCDD	39.101	1581791	1.04	0.9767	44.9	44.9	0.0896	0.0896	89.84	
A Non-2,3,7,8-sub-HpCDD	38.763	16413	1.20	0.9767	0.4661	0.4661	0.0896	0.4661	0.00	
S Total HpCDD					45.4	45.4	0.0896	0.0896		
D 13C-OCDD	41.572	5429075	0.91	0.4360	203.1	203.1	0.2392	0.2392	102	
OCDF	41.648	2747157	0.91	1.2756	79.3	79.3	0.0906	0.0906	79.34	
OCDD	41.581	2317136	0.88	1.0341	82.5	82.5	0.0708	0.0708	82.54	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Lims ID: LCS 320-556608/2-A
Client ID:
Sample Type: LCS
Inject. Date: 21-Jan-2022 23:26:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-556608/2-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:32:18 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 10:23:00

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	19.968	19.937	2		3337808	513523	666	1665	771		a
333.9338	19.968	19.937	2		4255807	643267	404	1010	1592	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.050	19.035	1	0.954	3187587	488203	1179	2947	414		
317.9389	19.058	19.035	1	0.954	4000225	615510	714	1785	862	0.80(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	19.084	19.061	1	1.002	280947	41808	60	150	697		
305.8987	19.084	19.061	1	1.002	353741	56555	150	375	377	0.79(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDF											
303.9016	18.680						60	150			
305.8987	18.680						150	375			
13C-2,3,7,8-TCDD											
331.9368	20.303	20.306	0	1.017	2448560	337044	666	1665	506		
333.9338	20.320	20.306	1	1.018	3053544	426815	404	1010	1056	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.346	20.332	1	1.019	2196697	306941	162	405	1895		
2,3,7,8-TCDD											
319.8965	20.338	20.341	0	1.002	218780	33319	149	372	224		
321.8936	20.338	20.341	0	1.002	279897	38704	59	147	656	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	19.478						149	372			
321.8936	19.478						59	147			
13C-1,2,3,7,8-PeCDF											
351.9000	26.094	26.081	1	1.307	3945584	655353	1028	2570	638		
353.8970	26.094	26.081	1	1.307	2517073	414633	723	1807	573	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.120	26.107	1	1.001	1817142	289203	391	977	740		
341.8567	26.120	26.107	1	1.001	1168711	185084	352	880	526	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.518	27.505	1	1.055	5156441	769878	1028	2570	749		
353.8970	27.526	27.505	1	1.055	3287828	500150	723	1807	692	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.543	27.531	1	1.056	1713729	265289	391	977	678		
341.8567	27.543	27.531	1	1.056	1101259	171081	352	880	486	1.56(1.32-1.78)	
A F1 PeCDFs											U
339.8597	23.375	23.375	0	0.896	462	154	1	2			
341.8567	23.375	23.375	0	0.896	2806	439	41	102		0.16(1.32-1.78)	
	Empc Correction				298	99	41	102	0		
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	26.667	26.760	-6	1.022	28434	3051	391	977	8		
	Empc Correction				16767	2548	391	977	7		
341.8567	26.676	26.760	-5	1.022	10818	1644	352	880	5	2.63(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.301	28.289	1	1.417	2389907	366973	365	912	1005		
369.8919	28.301	28.289	1	1.417	1558567	231125	159	397	1454	1.53(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.318	28.314	0	1.001	1156861	165326	144	360	1148		
357.8516	28.326	28.314	1	1.001	734890	102150	64	160	1596	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	29.311	27.170	128	1.036	4207	604	144	360	4		
357.8516	29.337	27.170	130	1.037	2711	456	64	160	7	1.55(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.013	34.002	1	0.947	2082506	369124	636	1590	580		
385.8610	34.005	34.002	0	0.947	3901828	704610	796	1990	885	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.030	34.019	1	1.000	1201876	217100	317	792	685		
375.8178	34.022	34.019	0	1.000	959075	171669	234	585	734	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.199	34.187	1	0.952	1651519	270681	636	1590	426		
385.8610	34.199	34.187	1	0.952	3102903	526640	796	1990	662	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.216	34.204	1	1.006	1356967	227427	317	792	717		
375.8178	34.216	34.204	1	1.006	1099981	182063	234	585	778	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.133	35.122	1	0.978	1646622	324462	636	1590	510		
385.8610	35.133	35.122	1	0.978	3130128	600414	796	1990	754	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.150	35.147	0	1.033	1419850	269446	317	792	850		
375.8178	35.150	35.147	0	1.033	1142908	214413	234	585	916	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.110	36.099	1	1.005	1429910	309960	636	1590	487		
385.8610	36.110	36.099	1	1.005	2791938	598032	796	1990	751	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.127	36.116	1	1.062	1237143	257281	317	792	812		
375.8178	36.127	36.116	1	1.062	991934	209108	234	585	894	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.051						317	792			
375.8178	34.051						234	585			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.916	35.906	1		3433441	747323	596	1490	1254		
403.8529	35.916	35.906	1		2696222	599831	293	732	2047	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.386	35.375	1	0.996	2655439	557194	596	1490	935		
403.8529	35.386	35.375	1	0.996	2095340	441227	293	732	1506	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.403	35.392	1	0.997	856696	184196	163	407	1130		
391.8127	35.403	35.392	1	0.997	699050	153576	144	360	1067	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.512	35.501	1	0.989	2471080	507482	596	1490	851		
403.8529	35.512	35.501	1	0.989	1918897	396558	293	732	1353	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.529	35.518	1	1.000	1036219	202719	163	407	1244		
391.8127	35.529	35.518	1	1.000	836629	168566	144	360	1171	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	35.924	35.922	0	1.012	1016226	221314	163	407	1358		
391.8127	35.924	35.922	0	1.012	819746	174760	144	360	1214	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.547						163	407			
391.8127	34.547						144	360			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.091	38.081	1	1.061	1188225	319227	568	1420	562		
419.8220	38.091	38.081	1	1.061	2635809	678362	974	2435	696	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.099	38.089	1	1.000	1189219	312165	469	1172	666		
409.7788	38.099	38.089	1	1.000	1145860	304672	394	985	773	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.396	39.386	1	1.034	1457790	426346	568	1420	751		
419.8220	39.396	39.386	1	1.034	3149202	932627	974	2435	958	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.413	39.403	1	1.035	981944	290772	469	1172	620		
409.7788	39.413	39.403	1	1.035	960884	281236	394	985	714	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.751						469	1172			
409.7788	38.751						394	985			

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.093	39.083	1	1.088	1852557	567869	418	1045	1359		
437.8140	39.093	39.083	1	1.088	1752924	531871	416	1040	1279	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.101	39.091	1	1.000	807968	233962	211	527	1109		
425.7737	39.101	39.091	1	1.000	773823	227167	174	435	1306	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.453	38.763	-19	0.984	8955	2475	211	527	12		
425.7737	38.436	38.763	-20	0.983	7458	2224	174	435	13	1.20(0.88-1.20)	
13C-OCDD											
469.7780	41.572	41.563	1	1.157	2590790	750573	265	662	2832		
471.7750	41.564	41.563	0	1.157	2838285	833001	297	742	2805	0.91(0.76-1.02)	
OCDF											
441.7428	41.648	41.639	1	1.002	1308469	385612	155	387	2488		
443.7399	41.648	41.639	1	1.002	1438688	424104	211	527	2010	0.91(0.76-1.02)	
OCDD											
457.7377	41.581	41.571	1	1.000	1085264	319468	97	242	3293		
459.7348	41.572	41.571	0	1.000	1231872	363106	135	337	2690	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Lims ID: LCS 320-556608/2-A
Client ID:
Inject. Date: 21-Jan-2022 23:26:00 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 4

F1 PeCDFs, RT: 23.375

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	6462657	1069986
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	6462657	1069986

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.669	462	154	2806	439	0.0533	0.16	RQ
23.669	462	154	298	99	0.0124		Empc Correction

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Lims ID: LCS 320-556608/2-A
Client ID:
Inject. Date: 21-Jan-2022 23:26:00 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 4

Non-2,3,7,8-sub-PeCDF, RT: 26.760

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	6462657	1069986
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	6462657	1069986

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
26.667	28434	3051	10818	1644	0.6403	2.63	RQ
26.667	16767	2548	10818	1644	0.4500		Empc Correction
Signal Totals:							
	16767	2548	10818	1644			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	39252	4695				2.63	RQ
	27585	4192					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6403 = (39252 * 100.000) / (6462657 * 0.949)
Empc Amount: 0.4500 = (27585 * 100.000) / (6462657 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Lims ID: LCS 320-556608/2-A
Client ID:
Inject. Date: 21-Jan-2022 23:26:00 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 4

Non-2,3,7,8-sub-PeCDD, RT: 27.170

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.002	D 13C-1,2,3,7,8-PeCDD	100.000	3948474	598098

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.002		100.000	3948474	598098

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
29.311	4207	604	2711	456	0.1749	1.55	
Signal Totals:							
	4207	604	2711	456			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6918	1060				1.55	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1749 = (6918 * 100.000) / (3948474 * 1.002)

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Lims ID: LCS 320-556608/2-A
Client ID:
Inject. Date: 21-Jan-2022 23:26:00 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 4

Non-2,3,7,8-sub-HpCDD, RT: 38.763

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	3605481	1099740

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	3605481	1099740

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.453	8955	2475	7458	2224	0.4661	1.20	
Signal Totals:							
	8955	2475	7458	2224			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	16413	4699				1.20	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4661 = (16413 * 100.000) / (3605481 * 0.977)

Manual Integration/User Assign Peak Report

Eurofins Sacramento

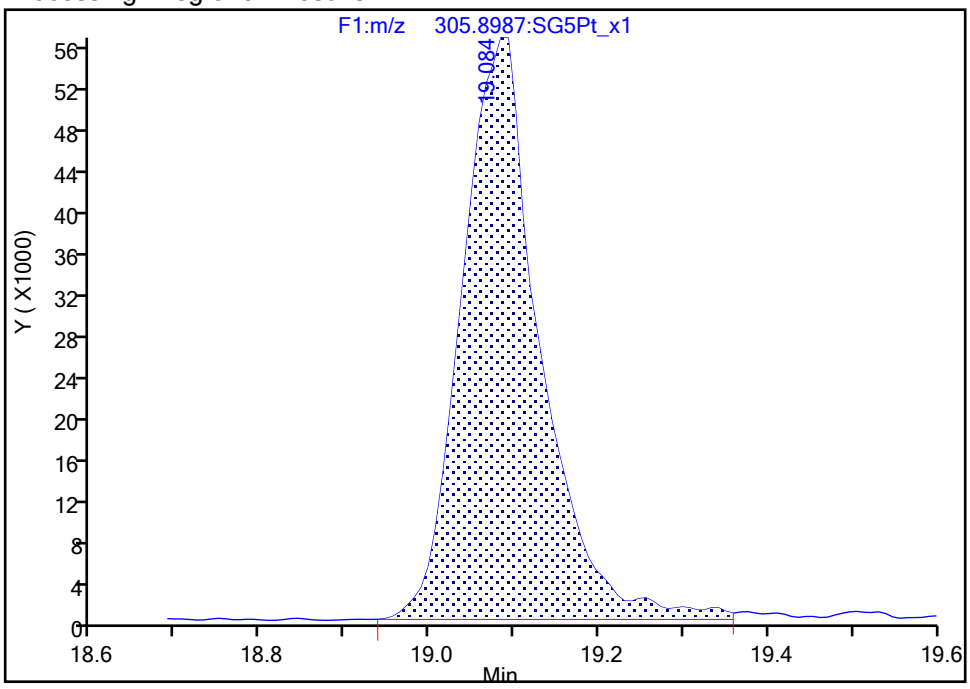
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Injection Date: 21-Jan-2022 23:26:00 Instrument ID: DFS 1
Lims ID: LCS 320-556608/2-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

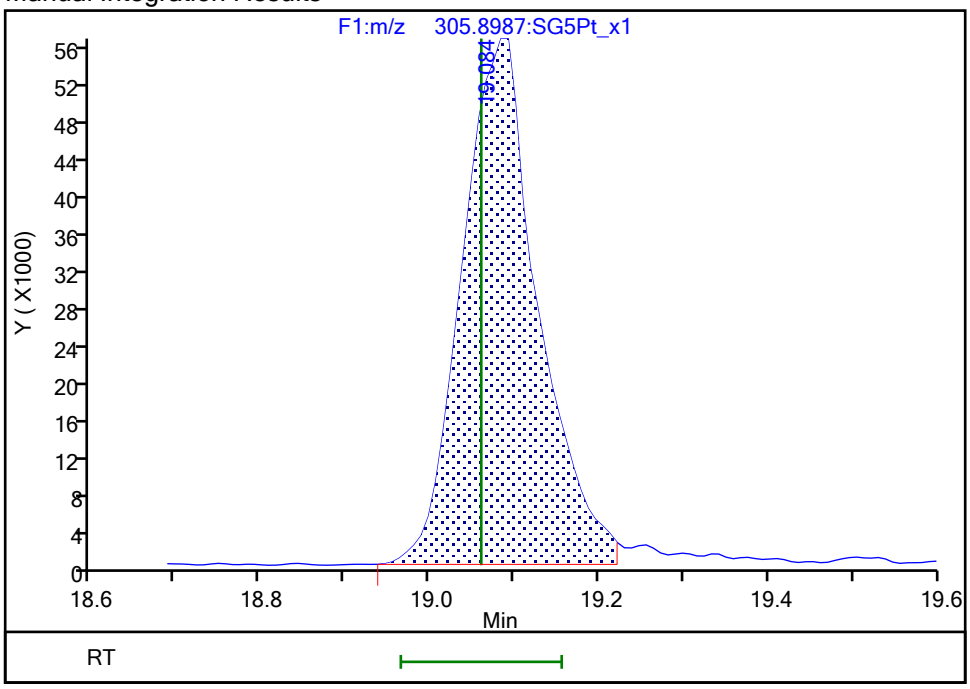
Processing Integration Results

RT: 19.08
Area: 364779
Amount: 8.877369
Amount Units: pg/ul



Manual Integration Results

RT: 19.08
Area: 353741
Amount: 8.725620
Amount Units: pg/ul

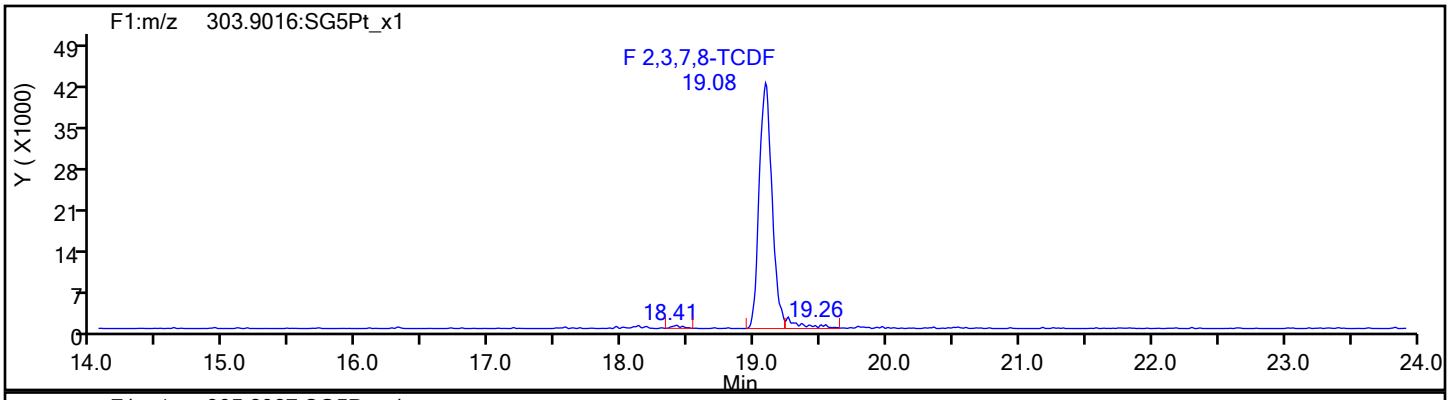


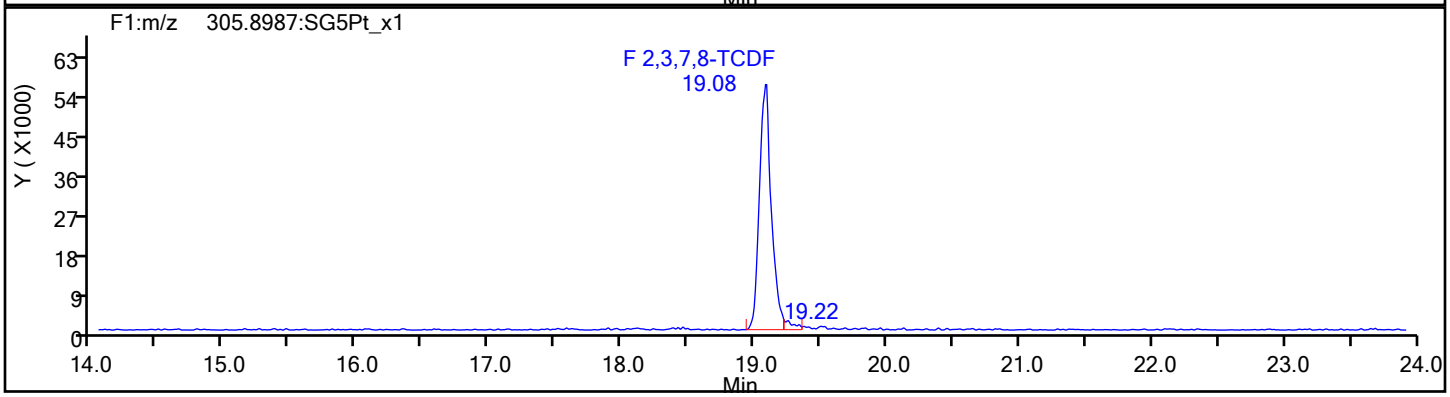
Reviewer: dadunj, 25-Jan-2022 08:30:43
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Eurofins Sacramento

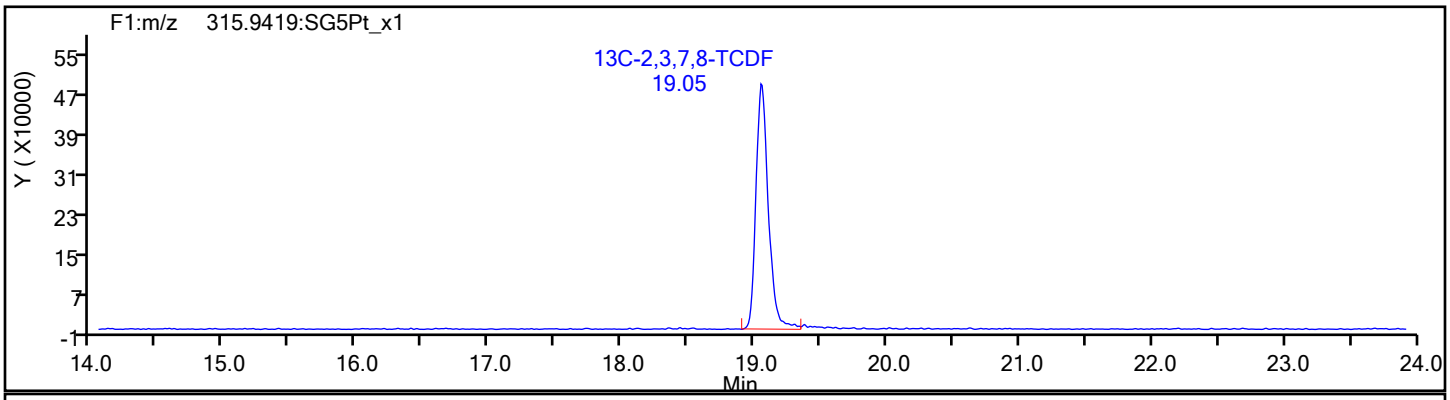
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Injection Date: 21-Jan-2022 23:26:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

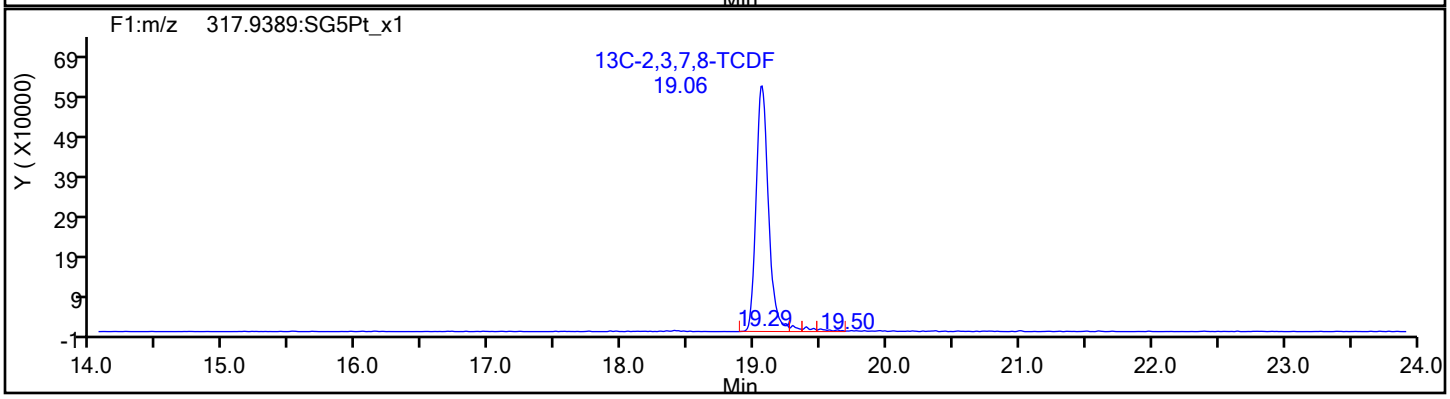
TCDF





TCDF Standards

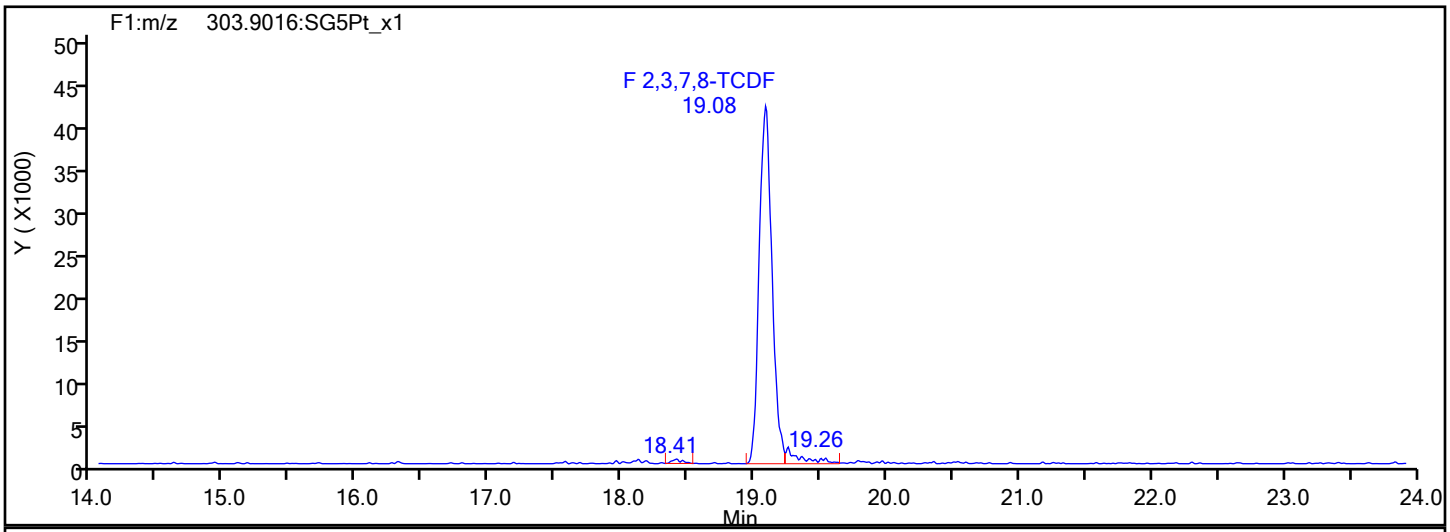


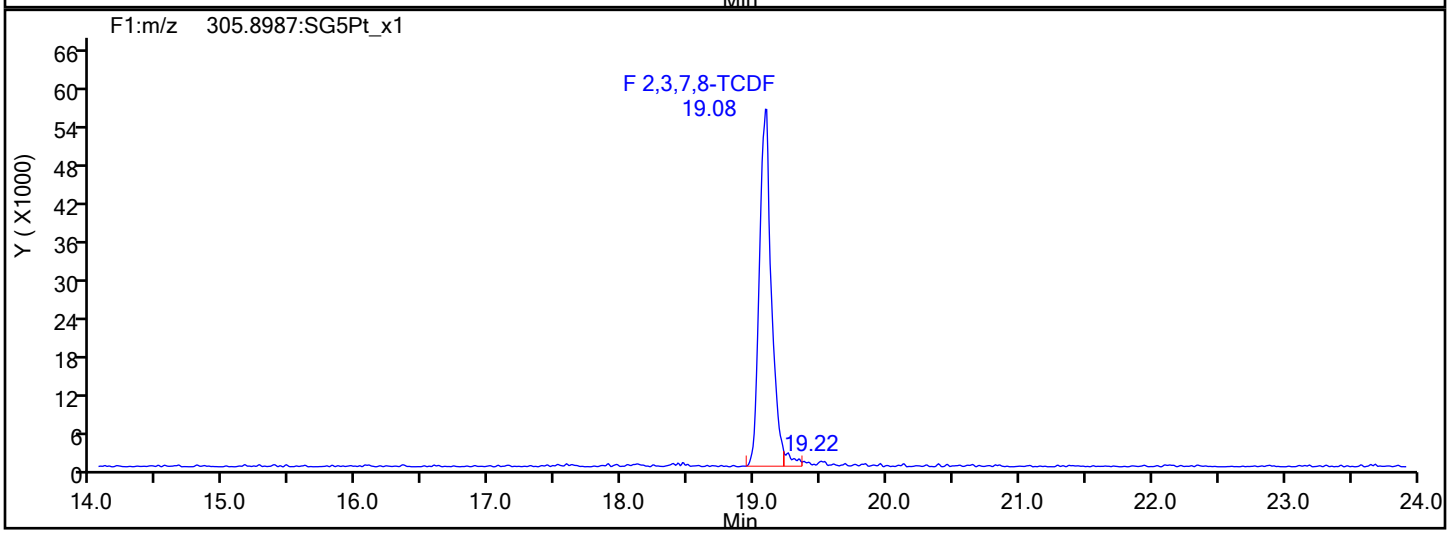


Eurofins Sacramento

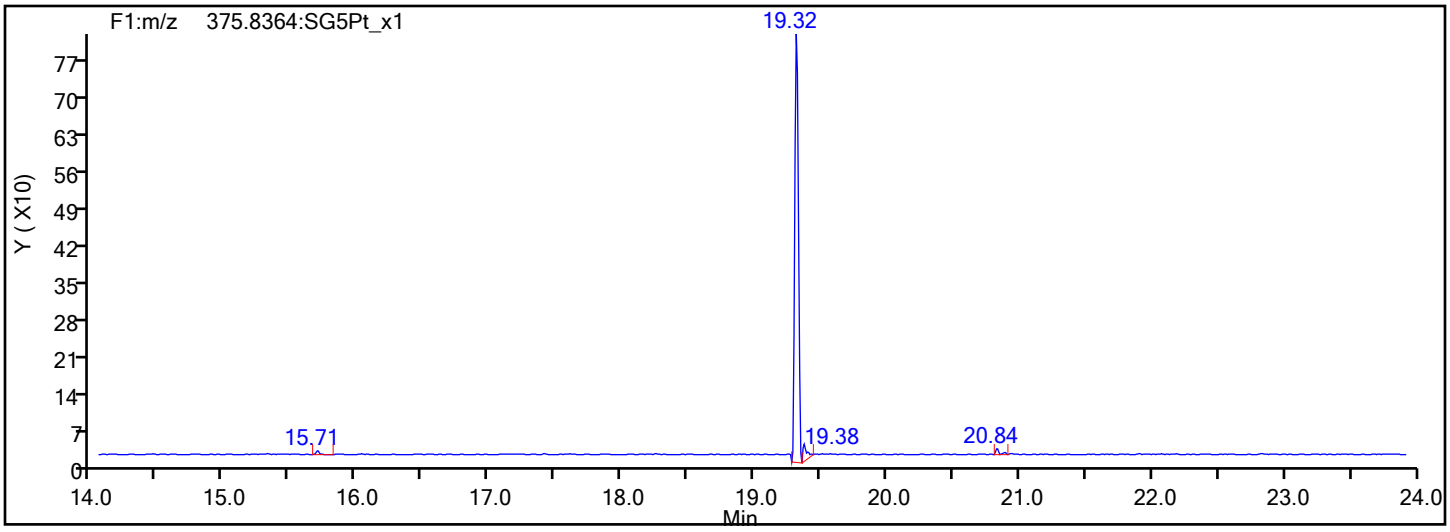
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d		
Injection Date:	21-Jan-2022 23:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





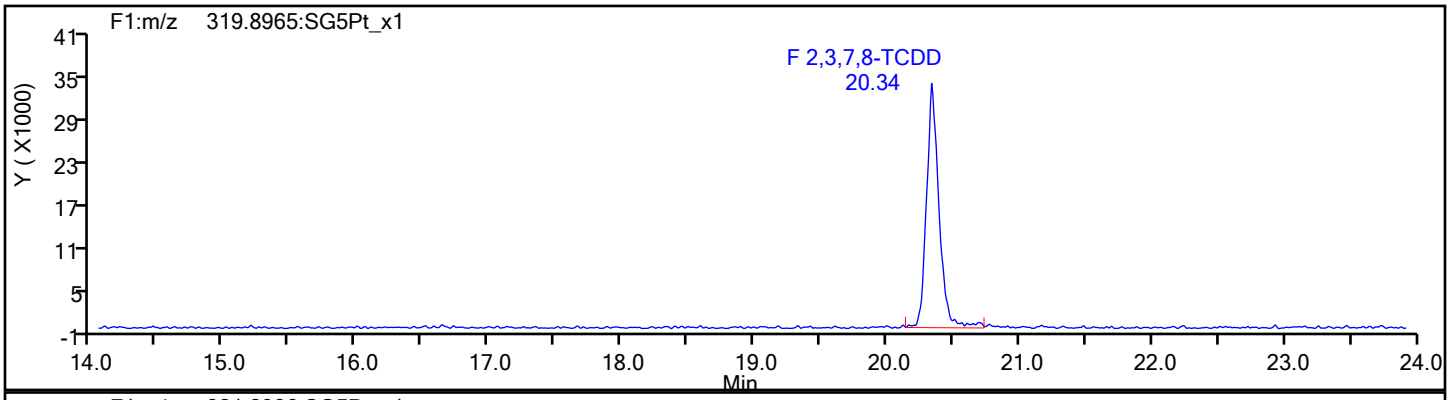
TCDF Interference Mass

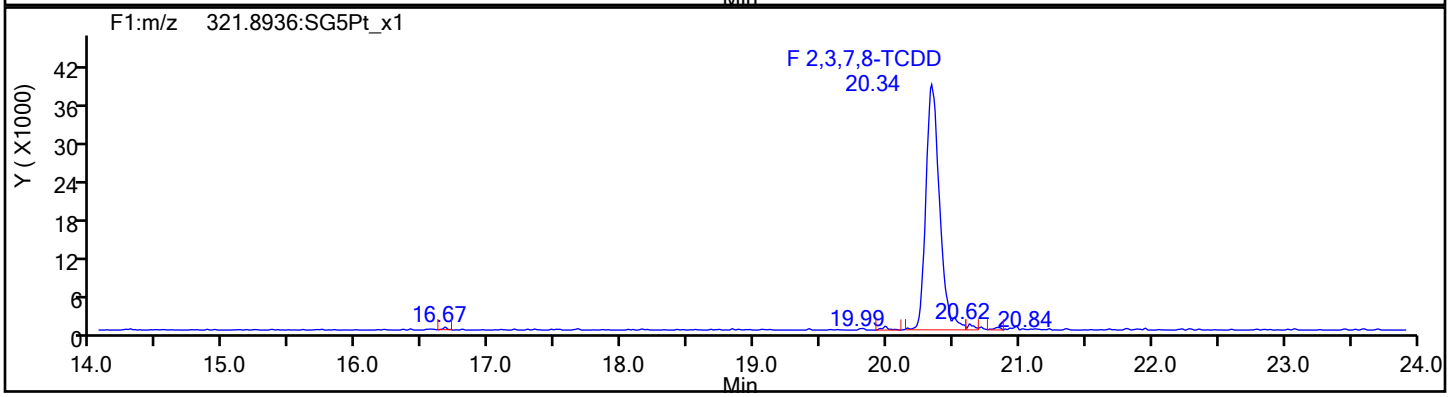


Eurofins Sacramento

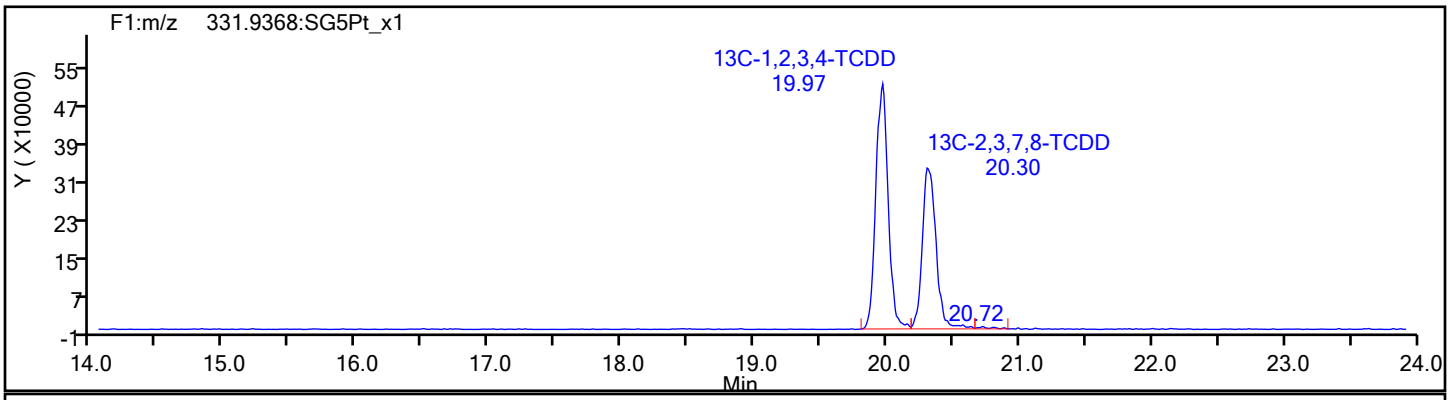
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Injection Date: 21-Jan-2022 23:26:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

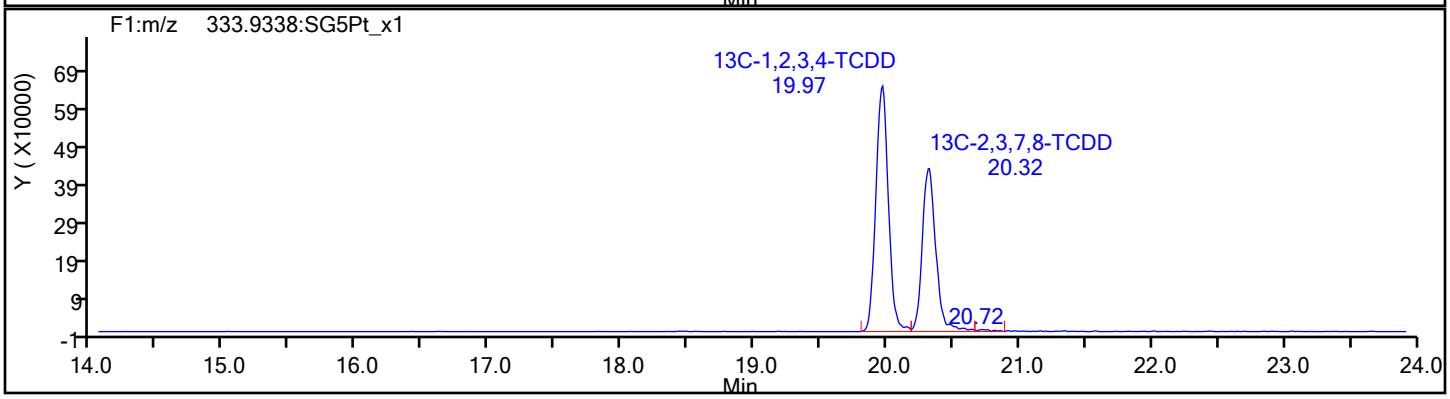
TCDD





TCDD Standards





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
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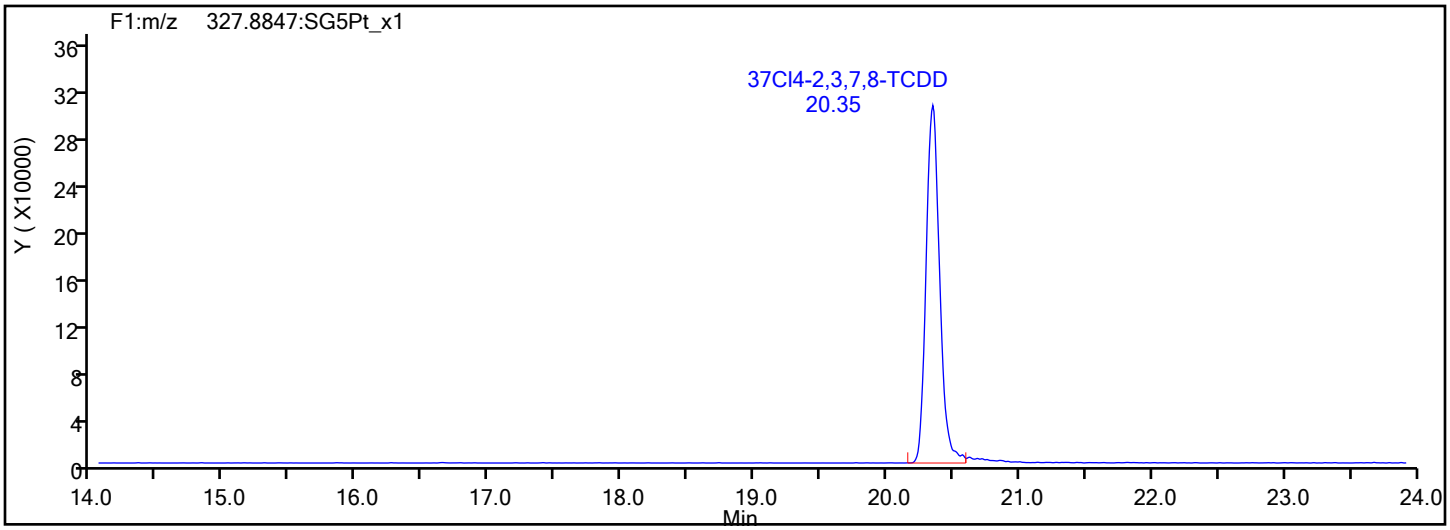
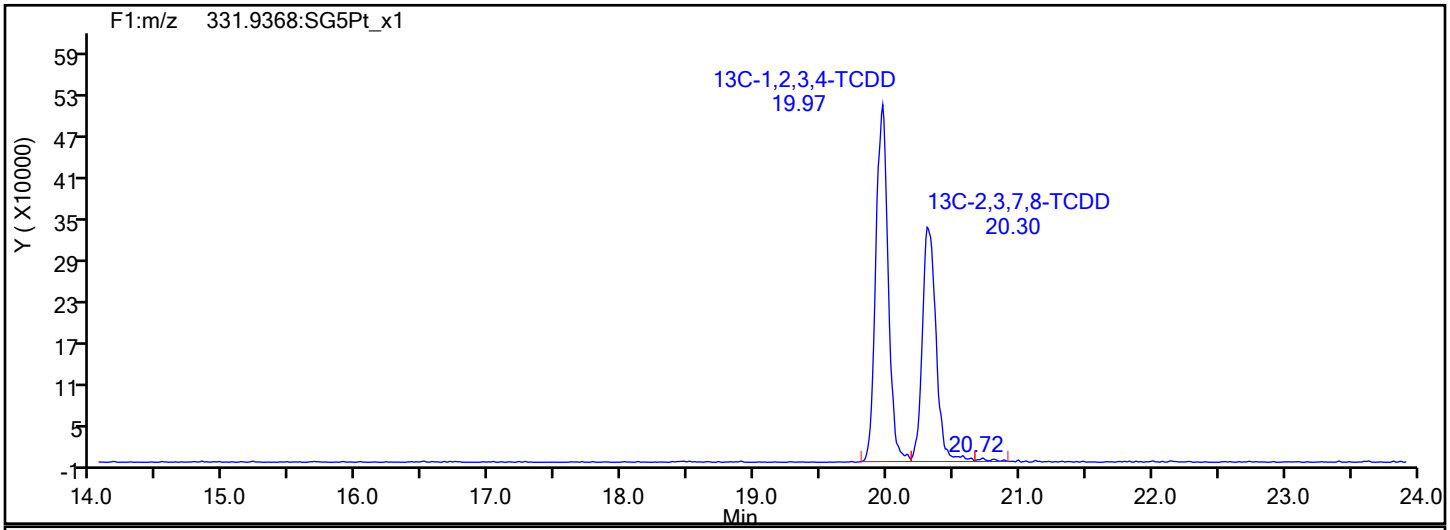
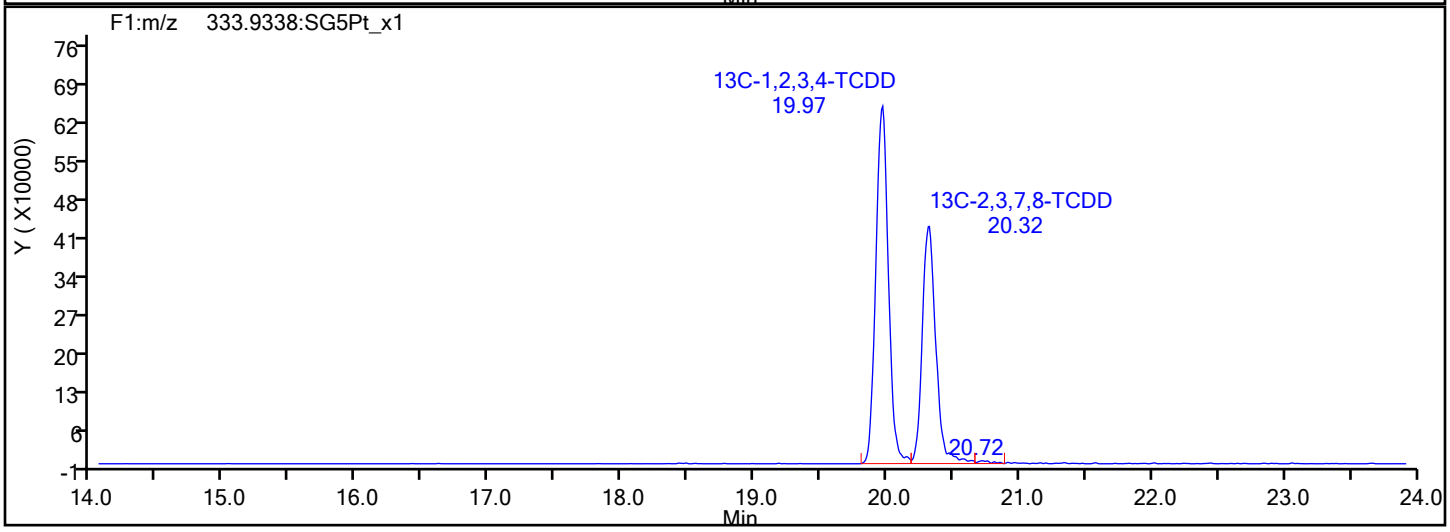
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





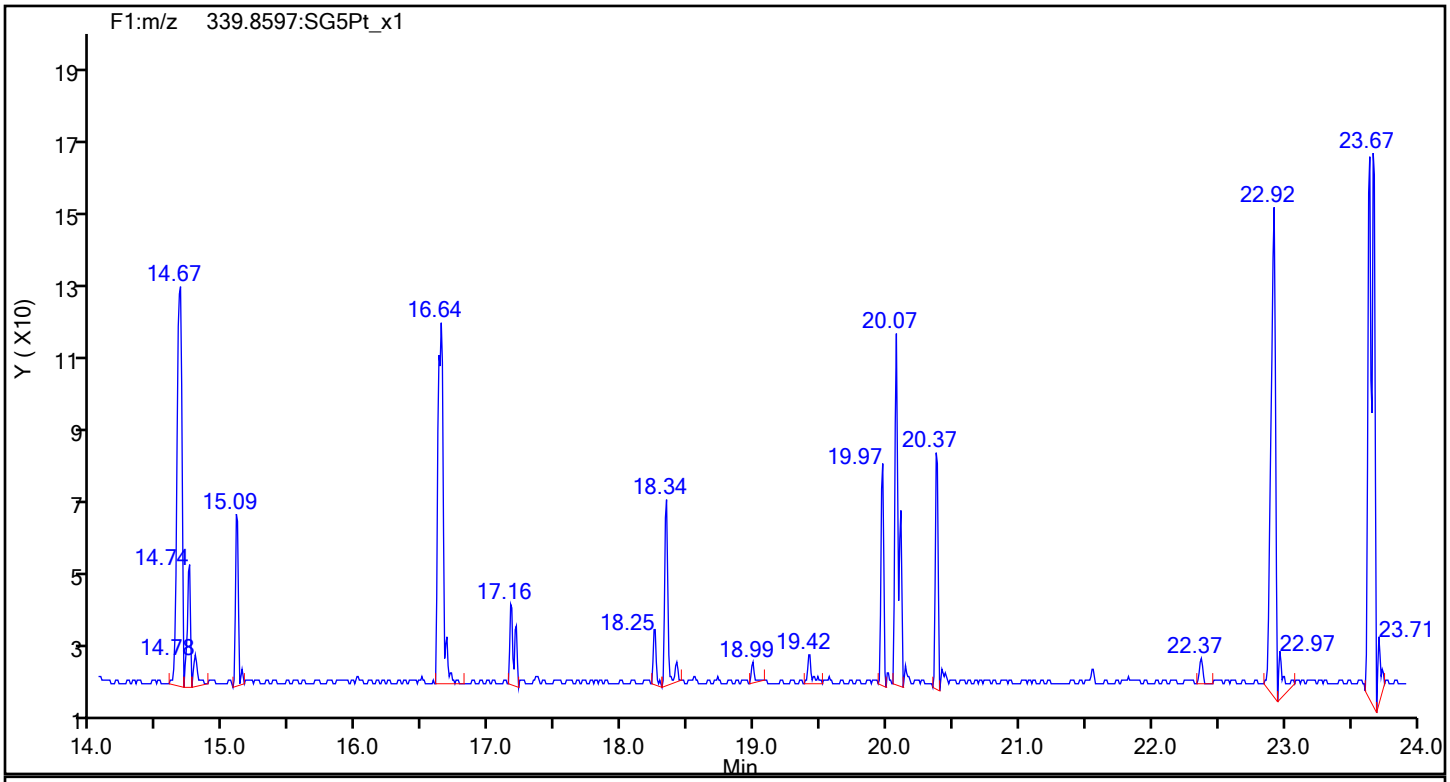
Report Date: 25-Jan-2022 08:32:19 Chrom Revision: 2.3 18-Jan-2022 20:25:40

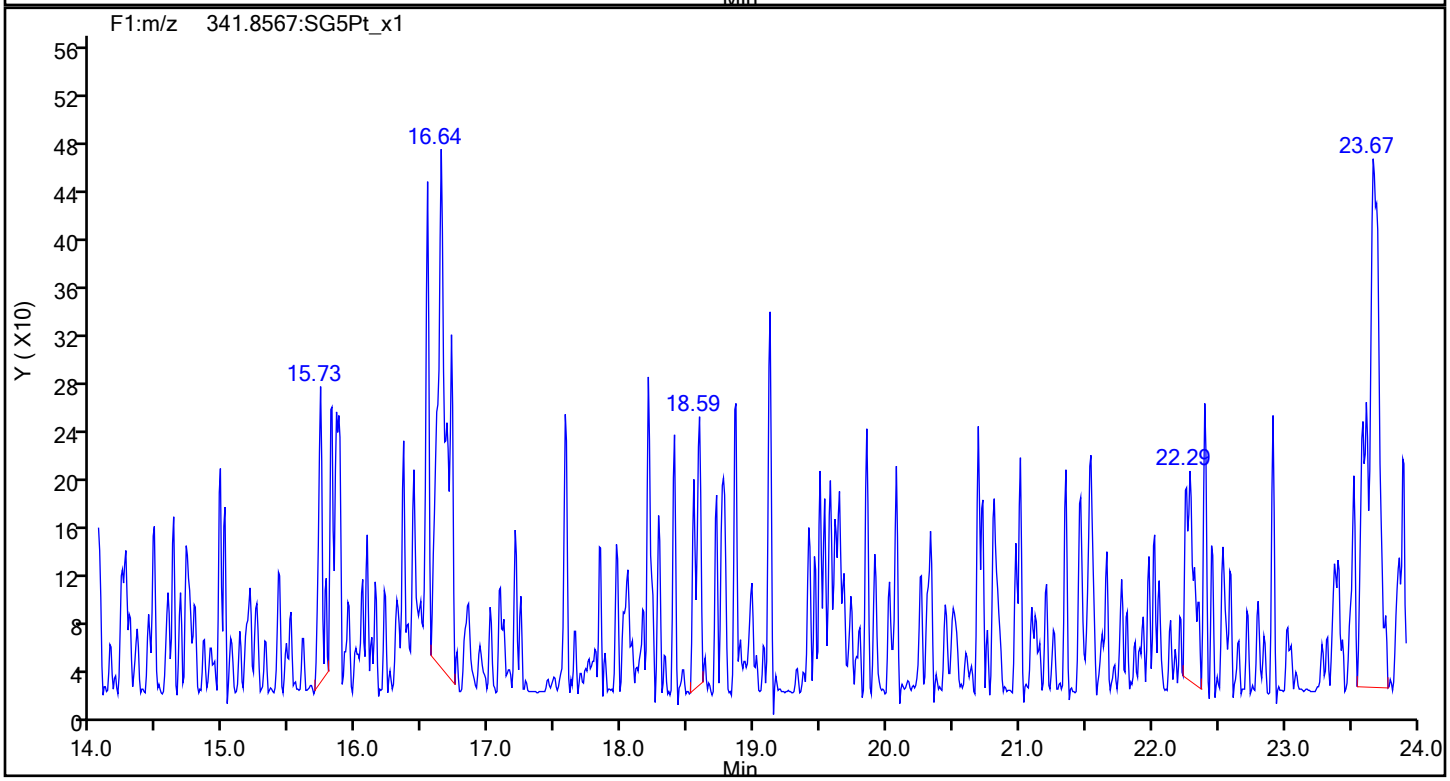
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d

Injection Date:	21-Jan-2022 23:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d		
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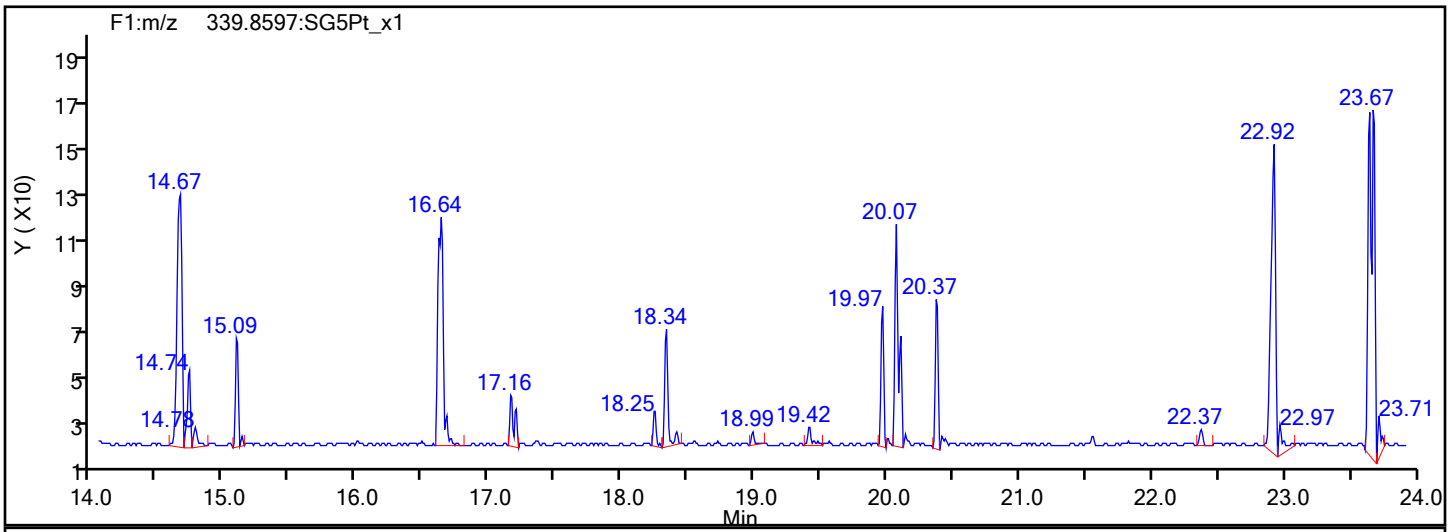
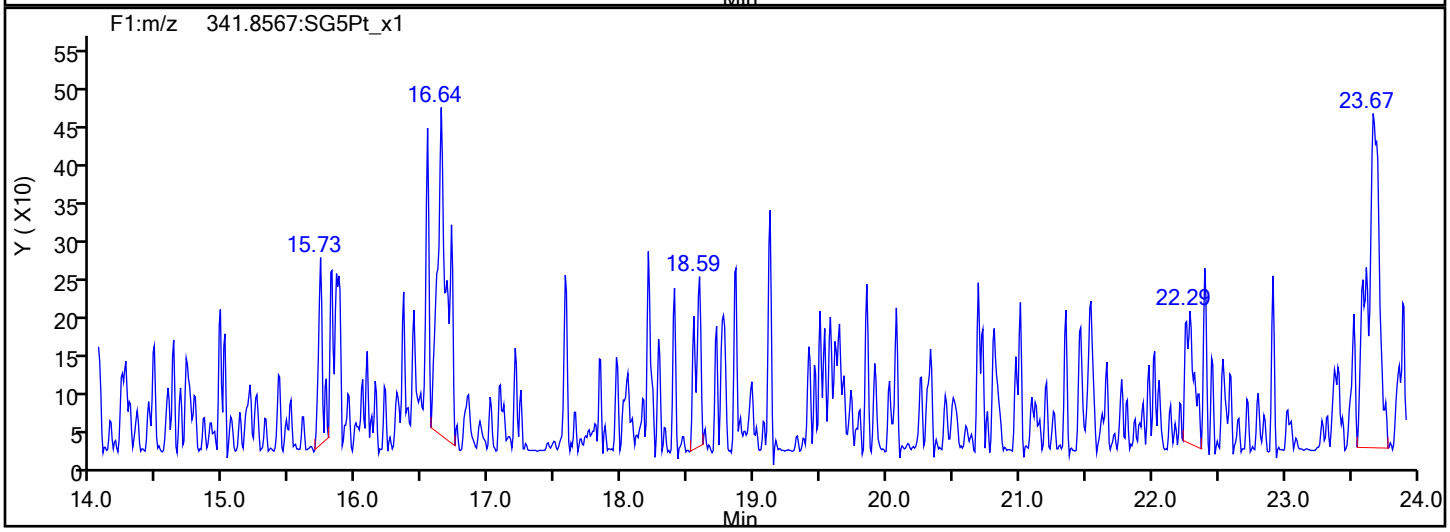
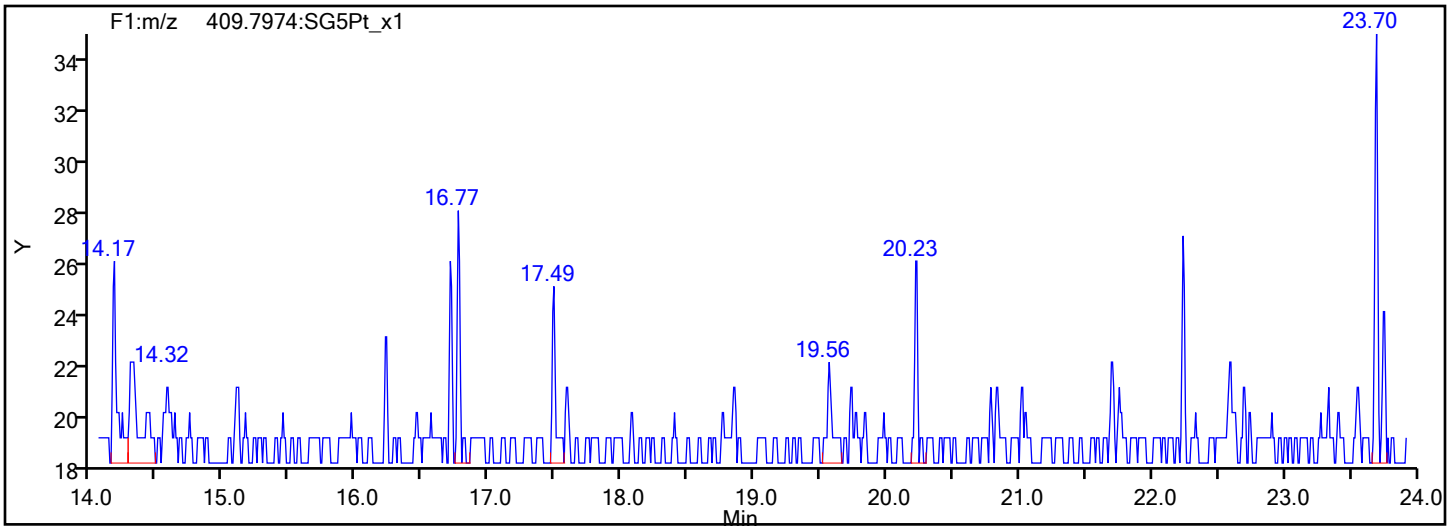
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d		
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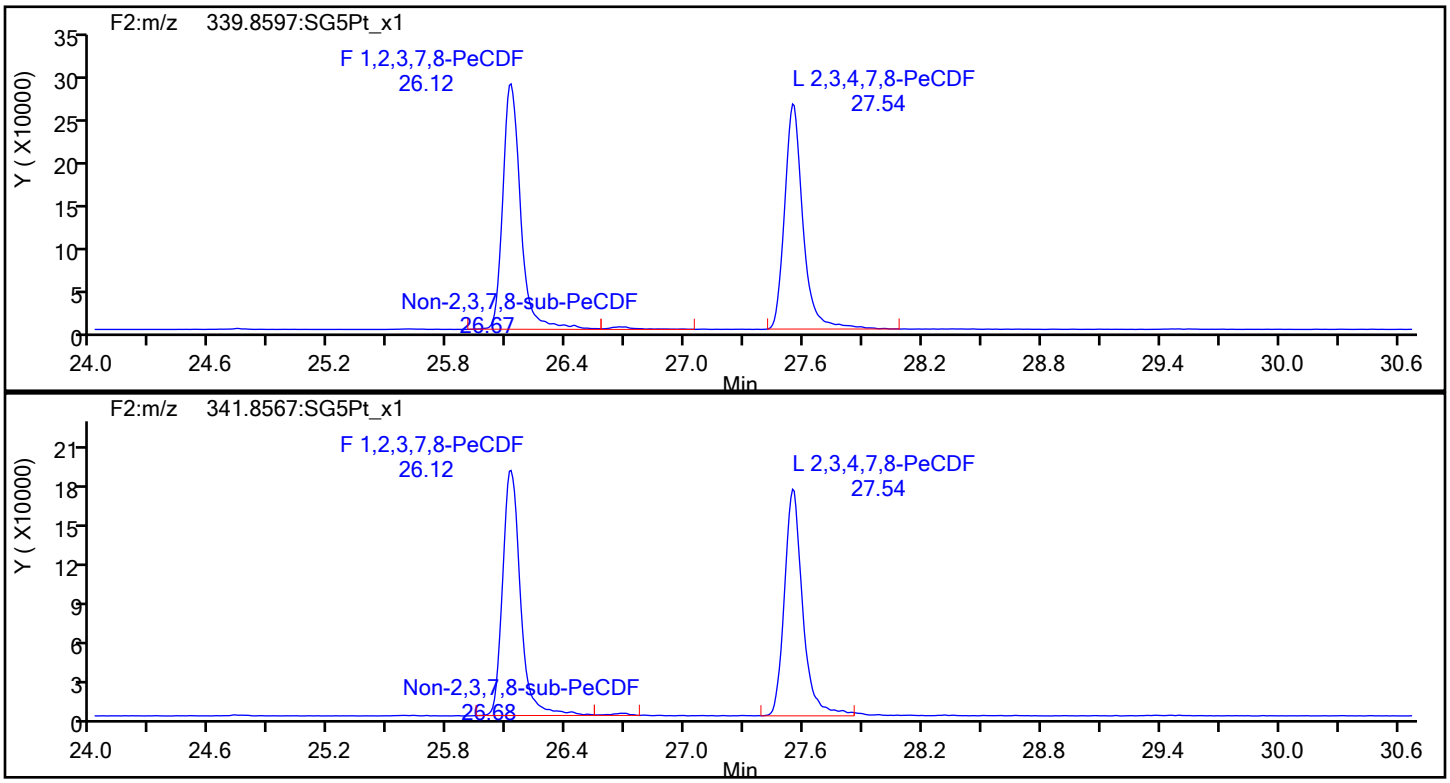
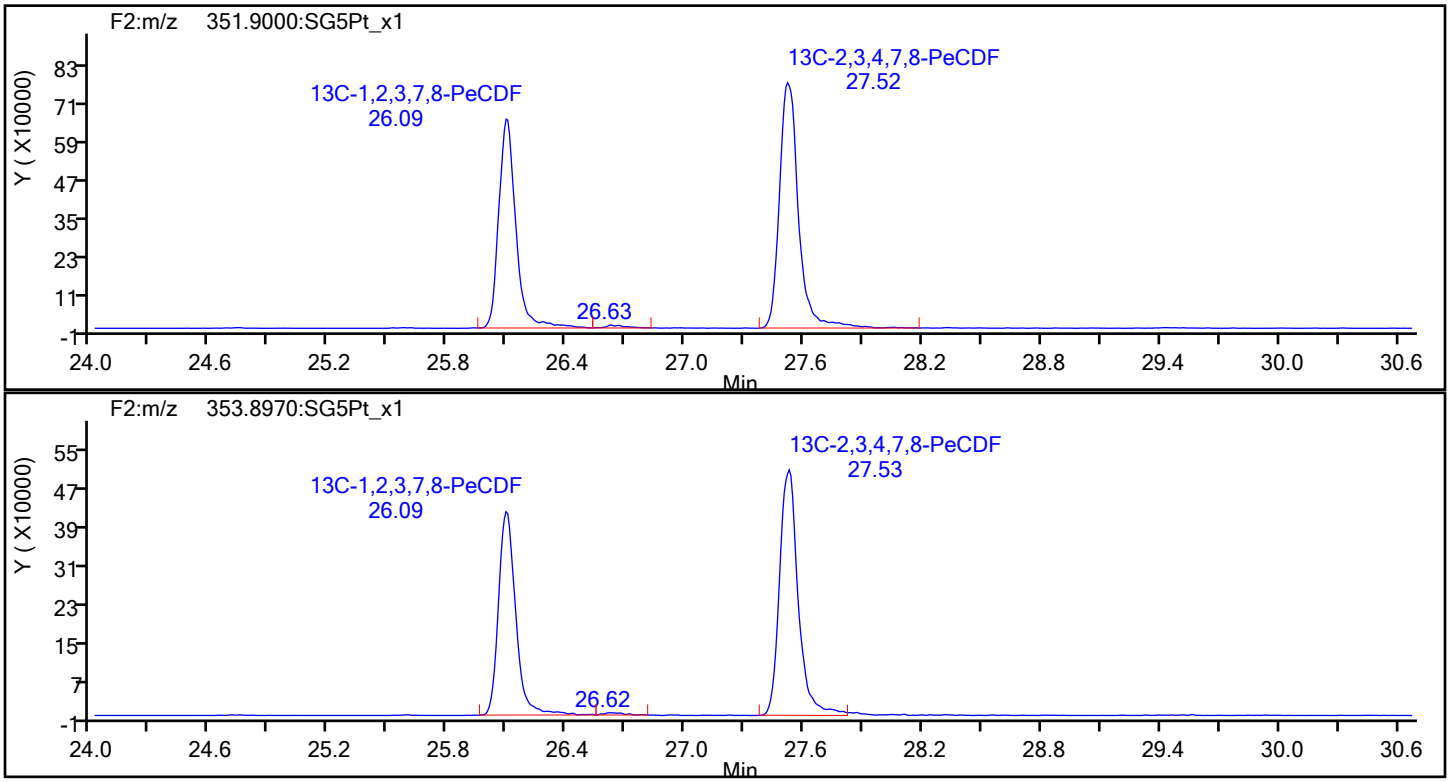
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d		
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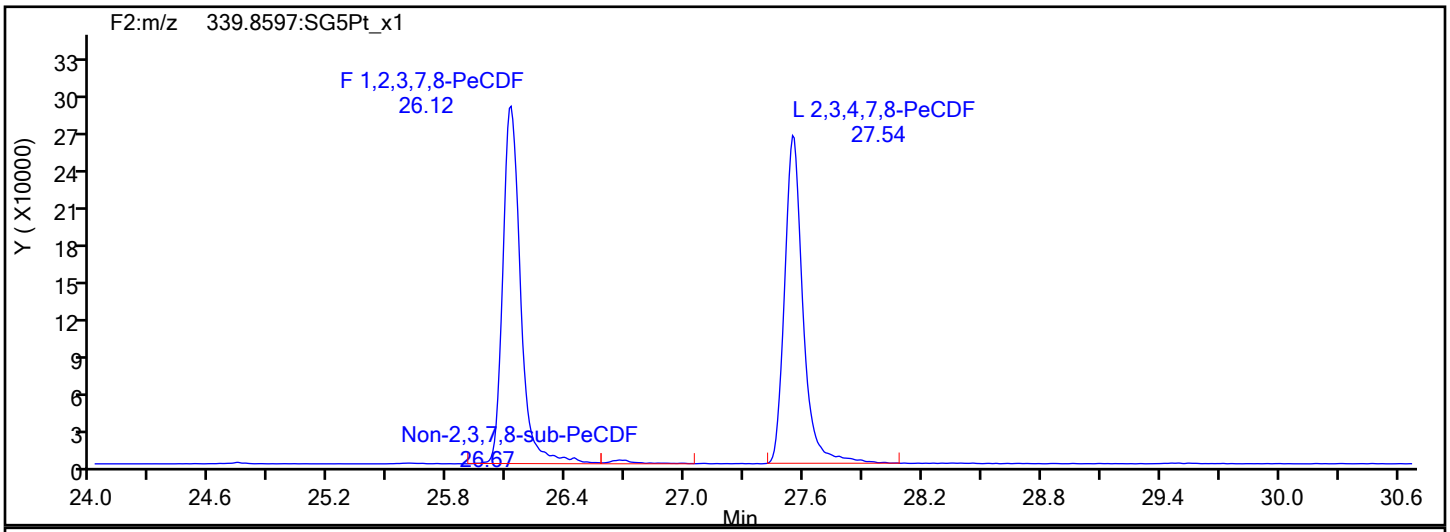
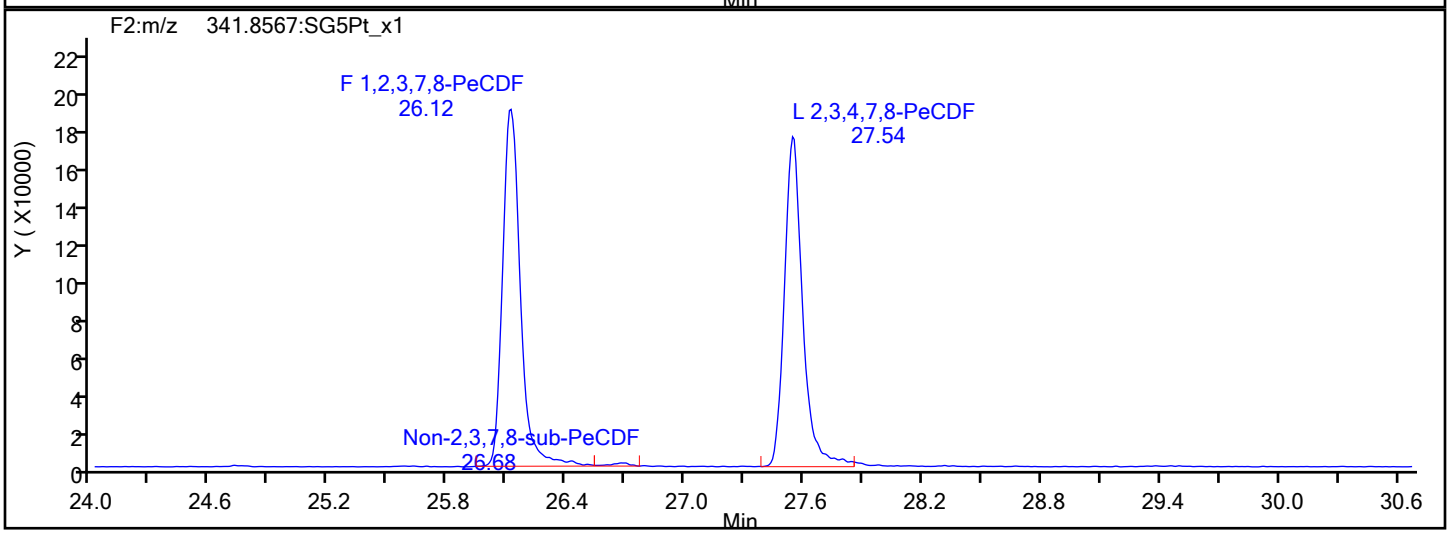
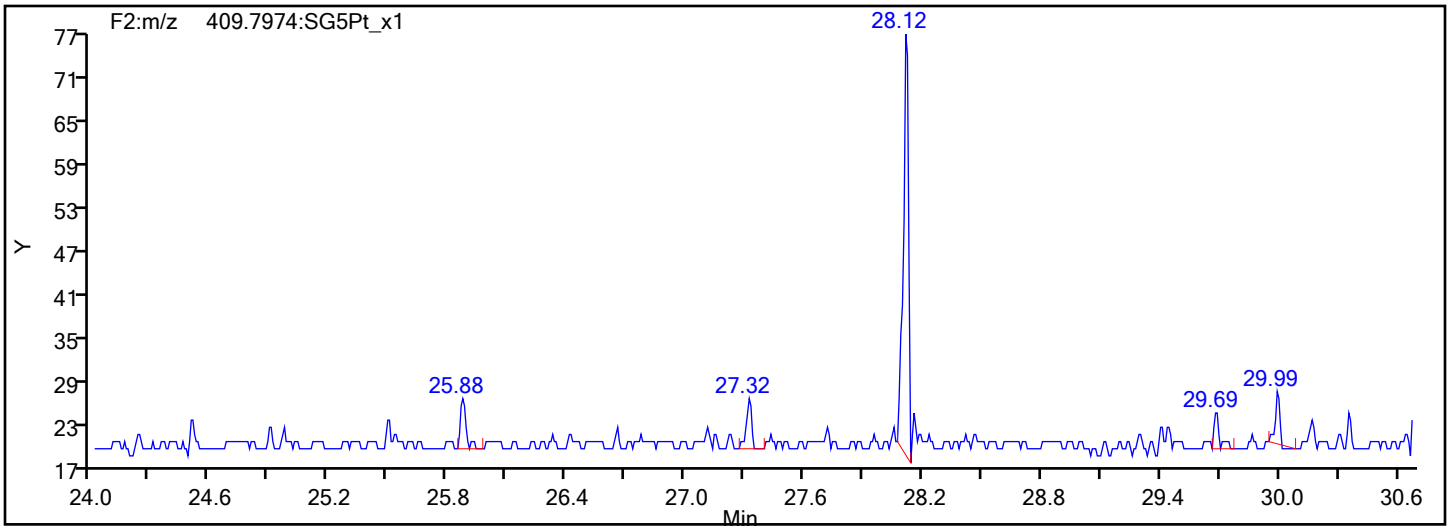
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





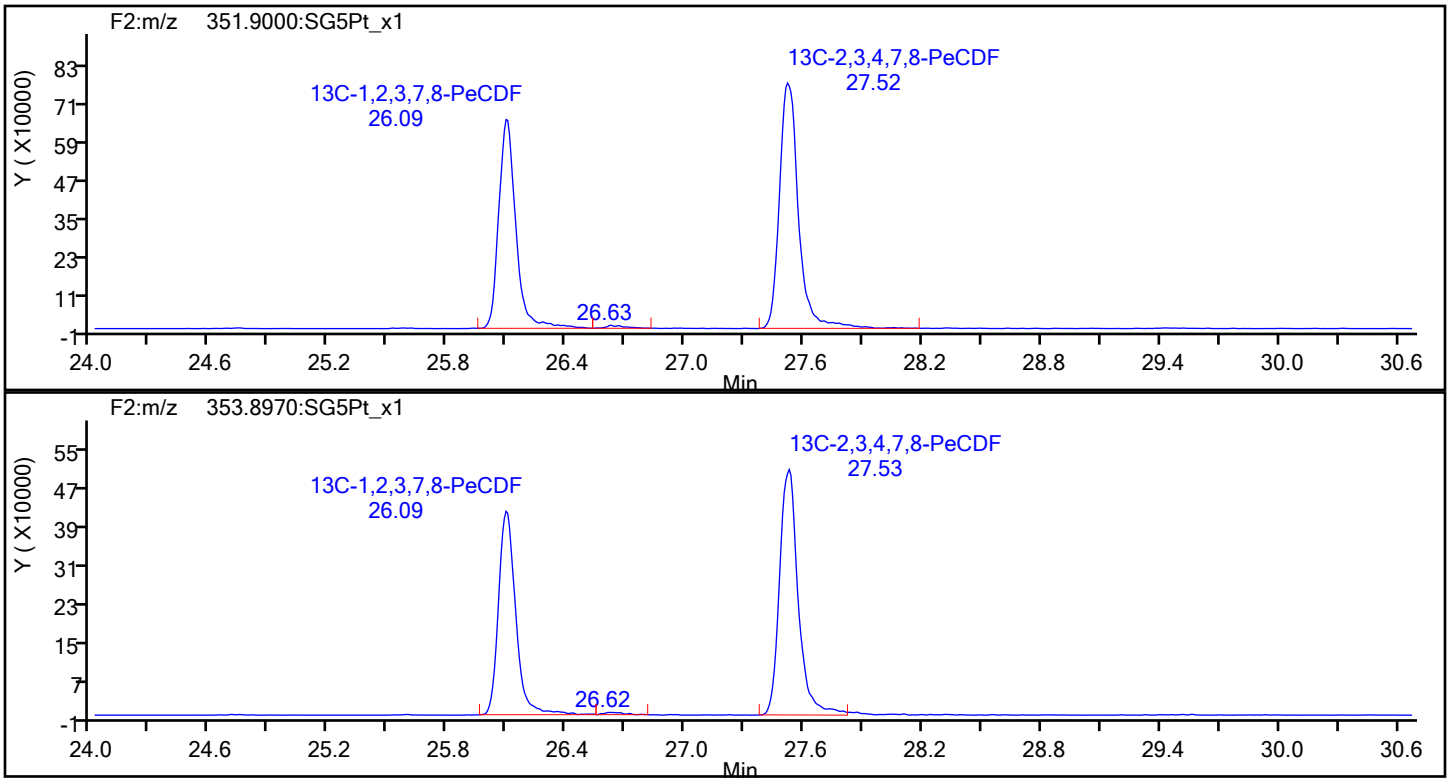
PeCDF Interference Mass



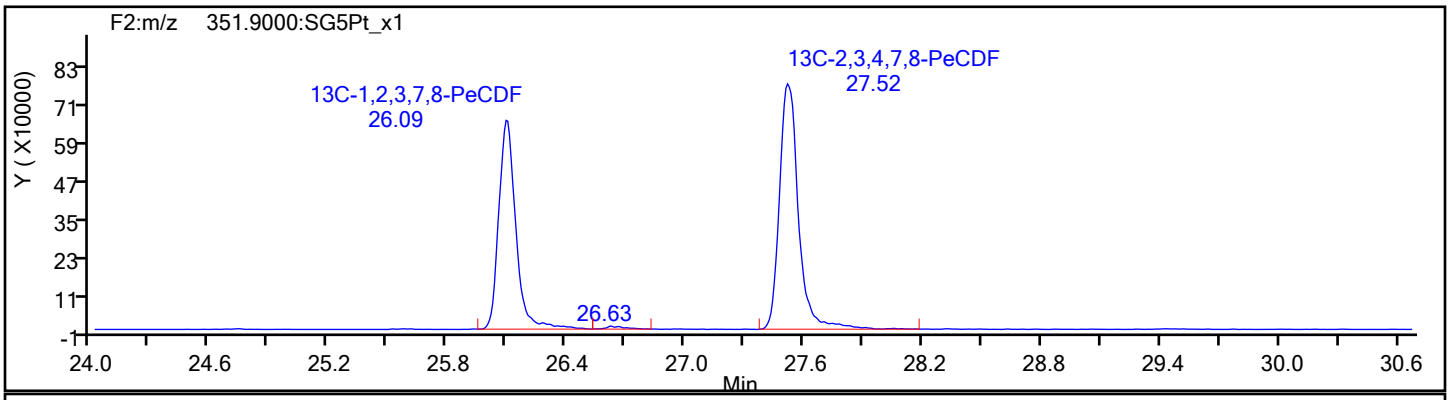
Eurofins Sacramento

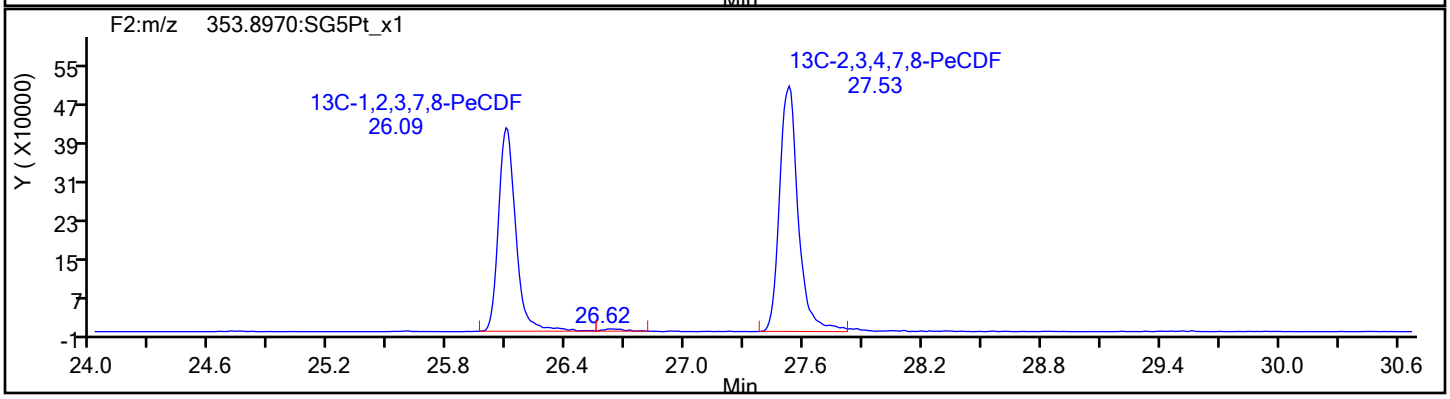
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Injection Date: 21-Jan-2022 23:26:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

13C-PeCDF



13C-PeCDF Standards





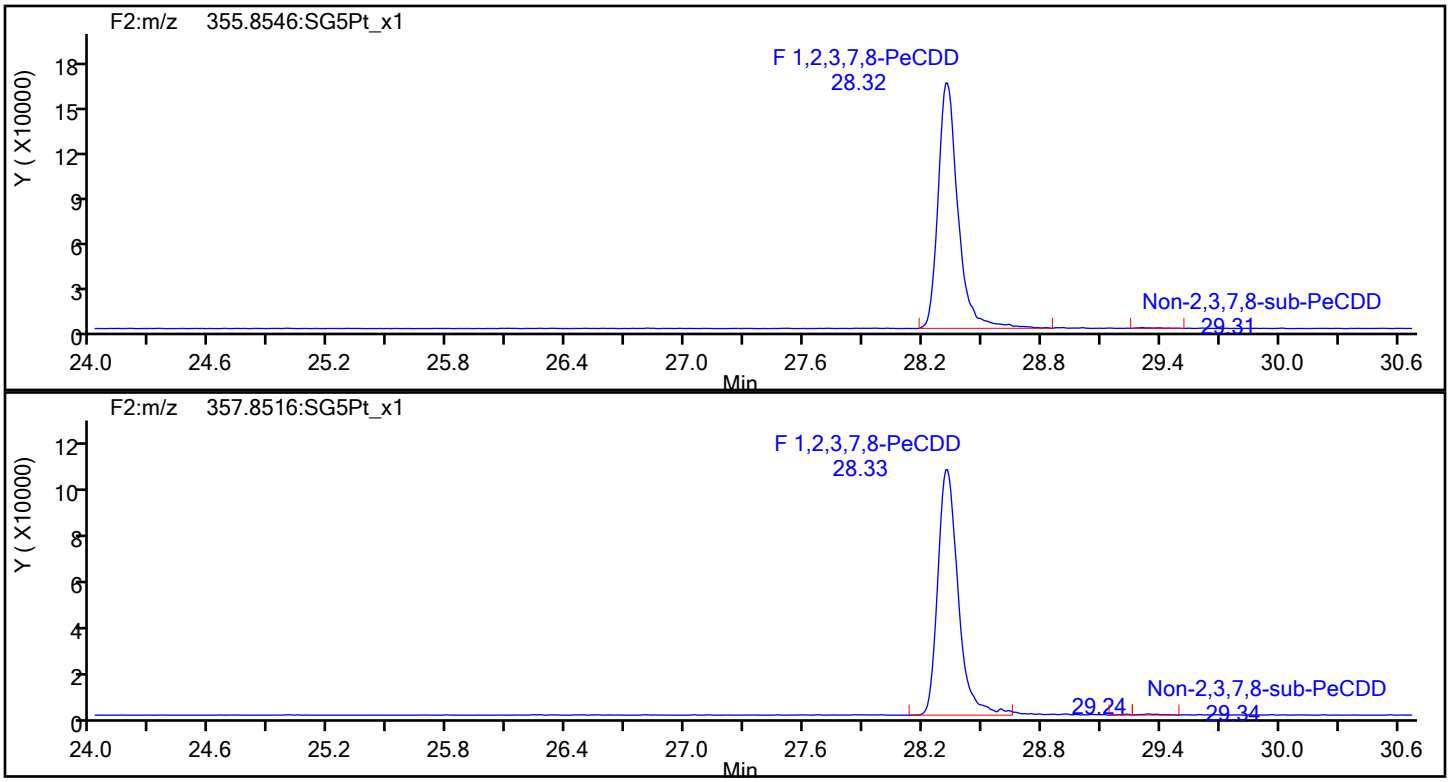
Report Date: 25-Jan-2022 08:32:19 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

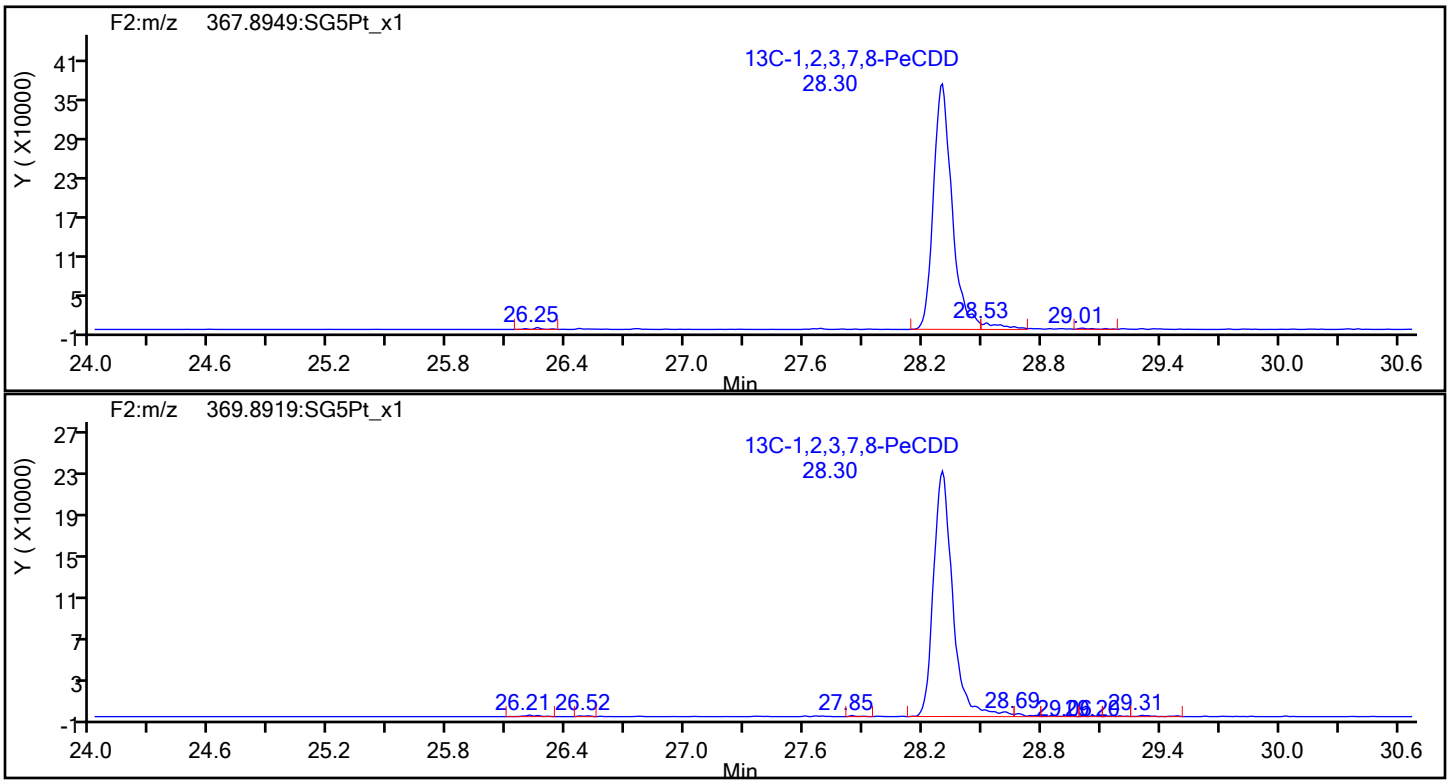
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d

Injection Date:	21-Jan-2022 23:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD



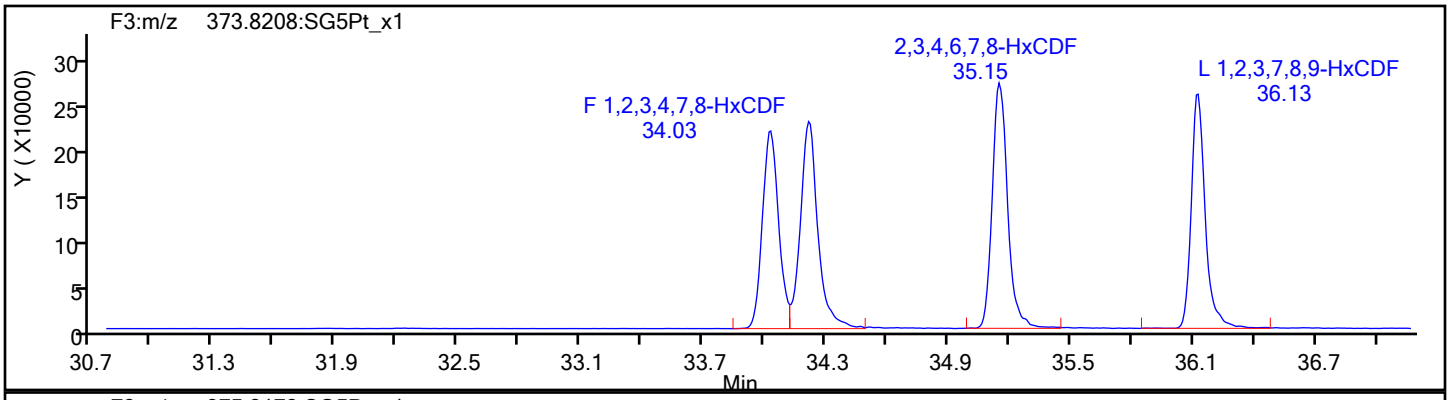
PeCDD Standards

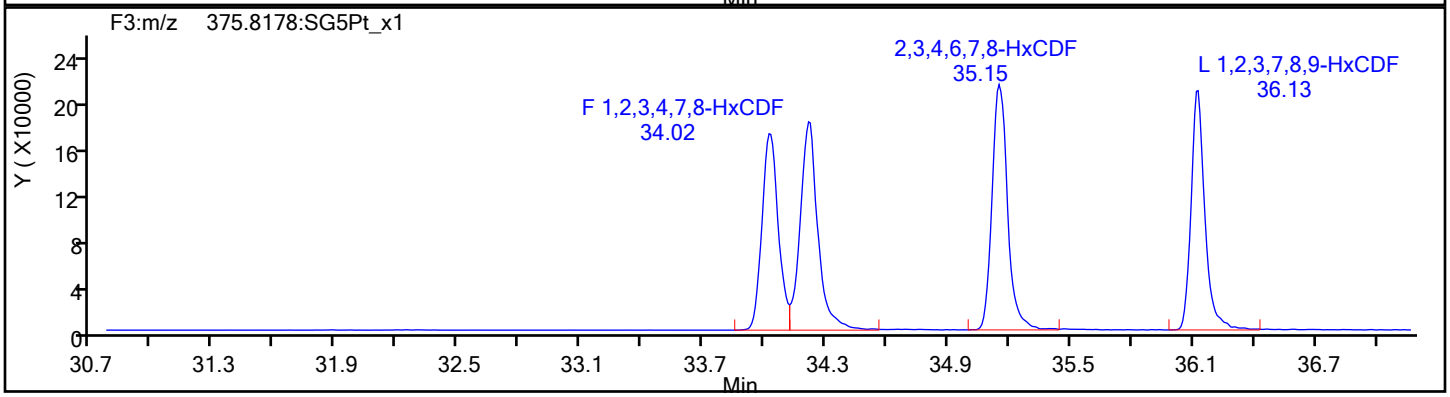


Eurofins Sacramento

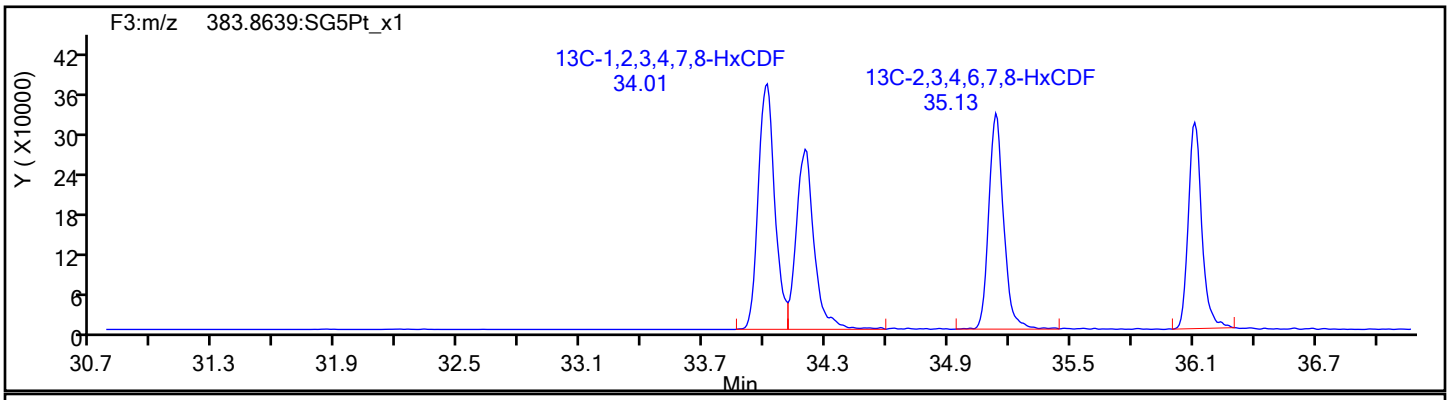
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Injection Date: 21-Jan-2022 23:26:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

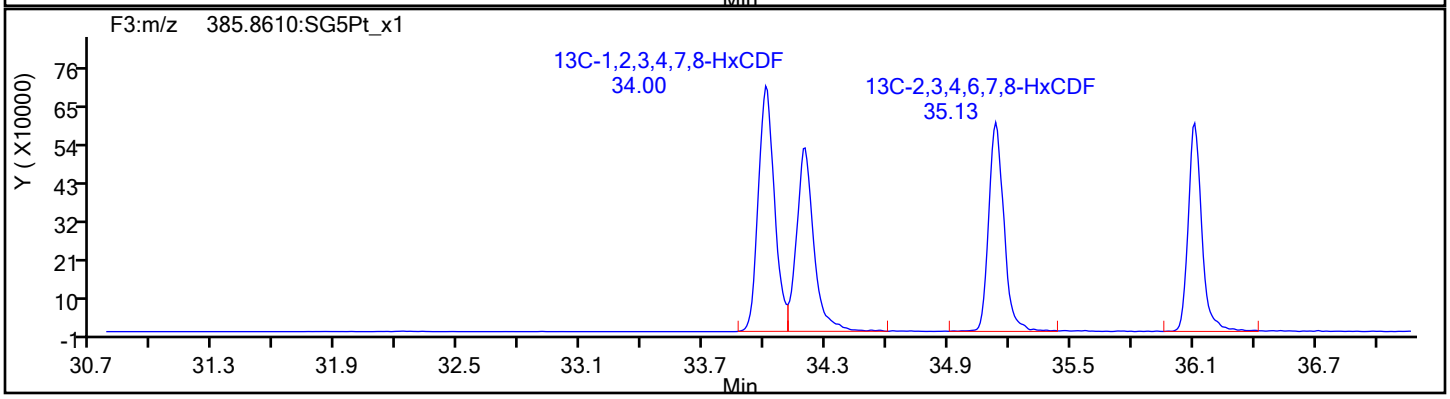
HxCDF





HxCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d		
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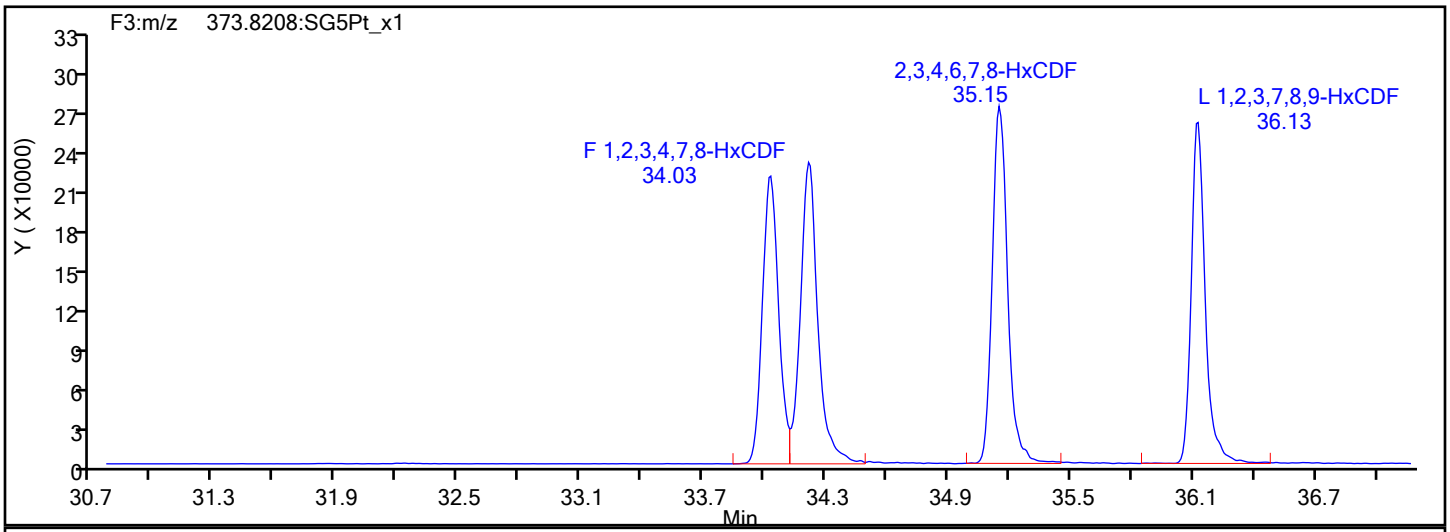
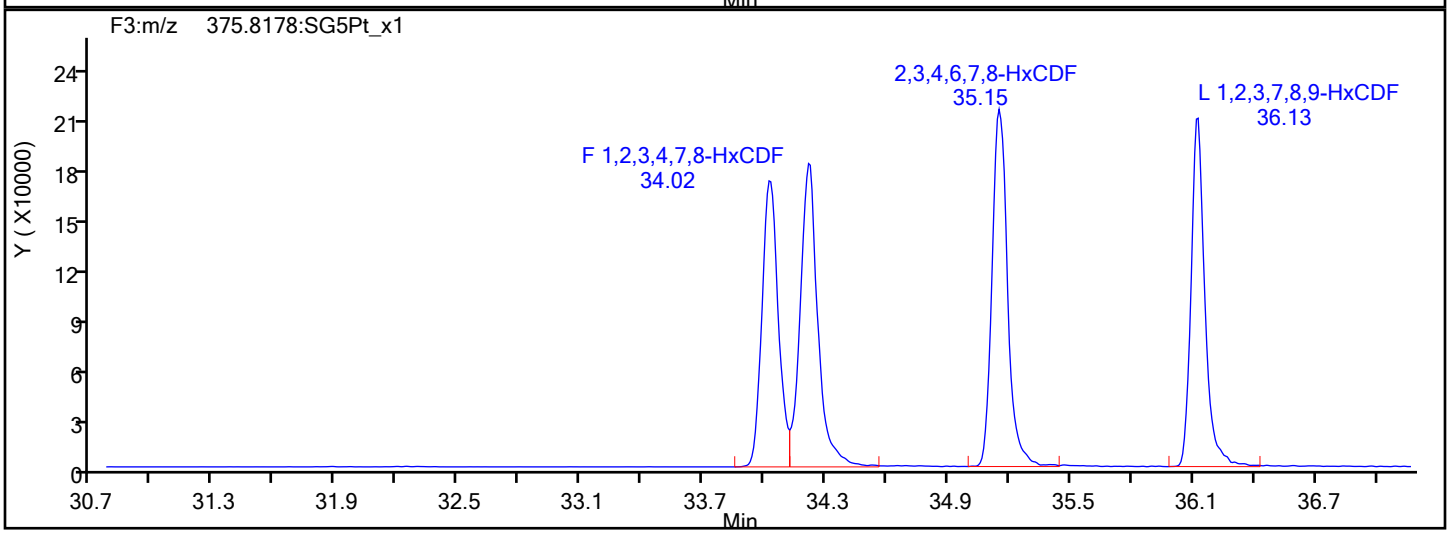
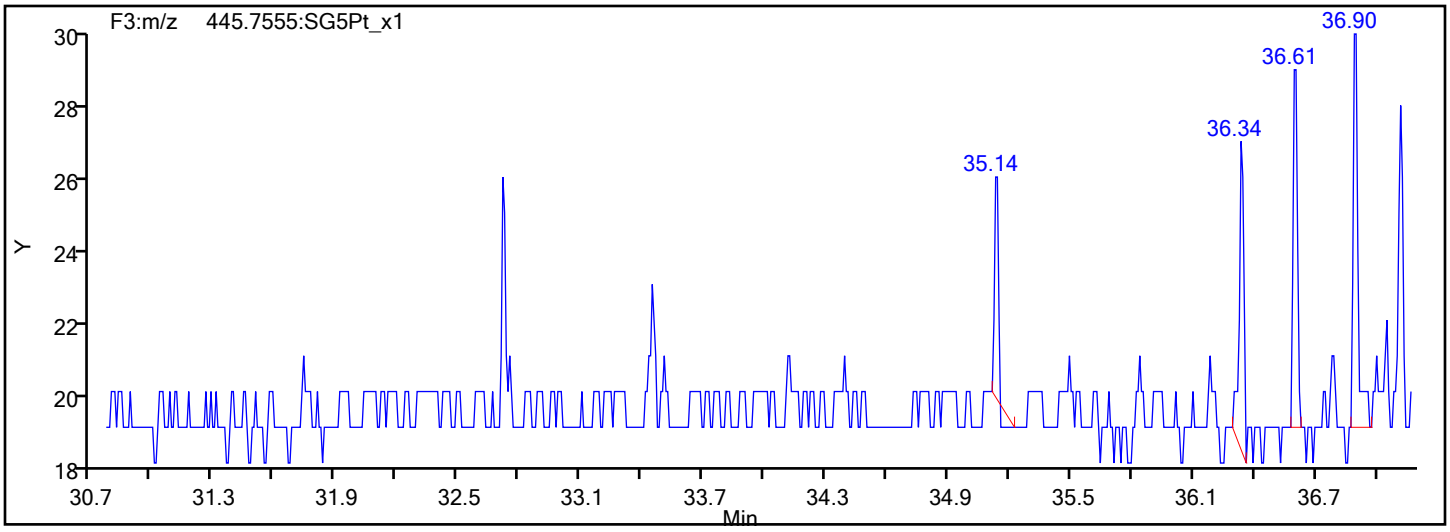
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



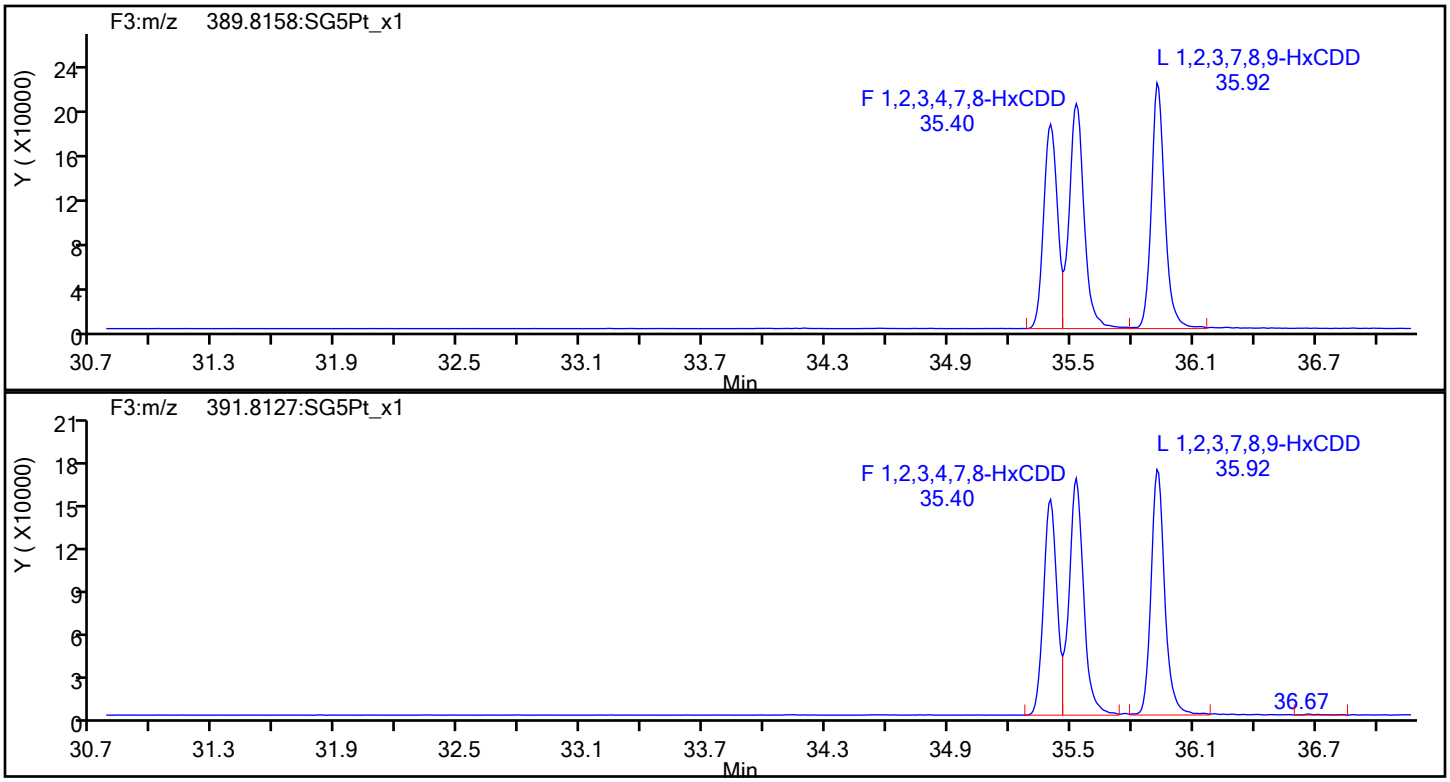
Report Date: 25-Jan-2022 08:32:20 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

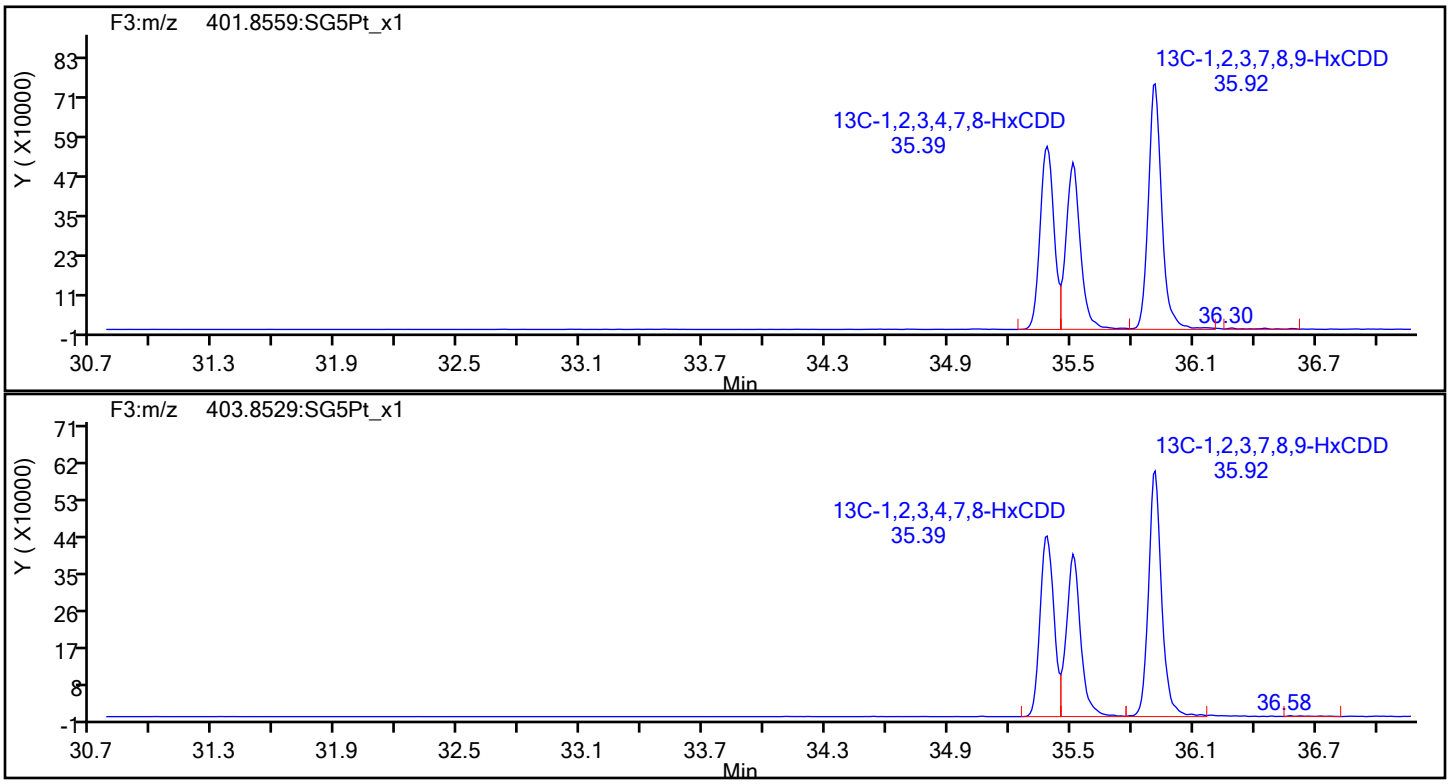
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d

Injection Date:	21-Jan-2022 23:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD



HxCDD Standards



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
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Instrument ID: DFS 1 Operator ID: Xcalibur_System
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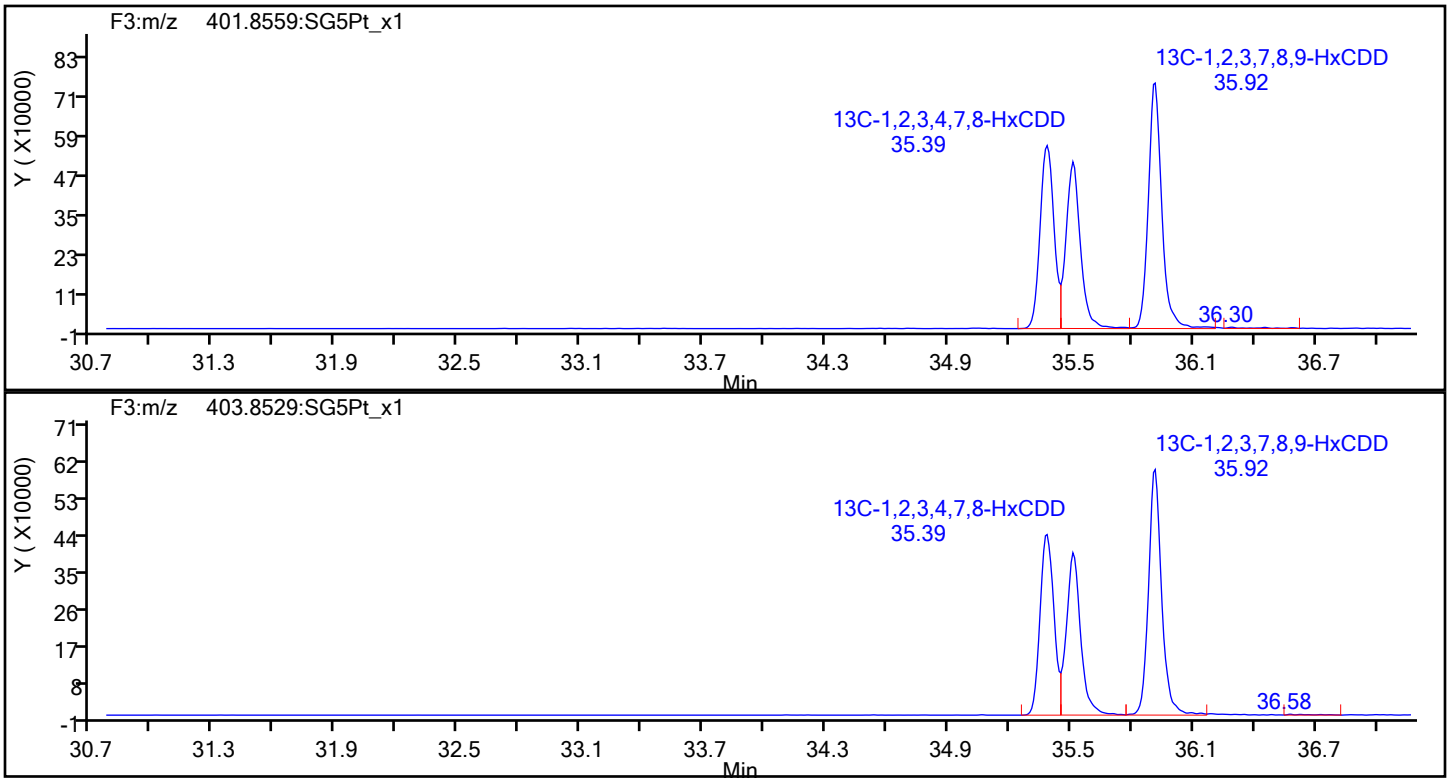
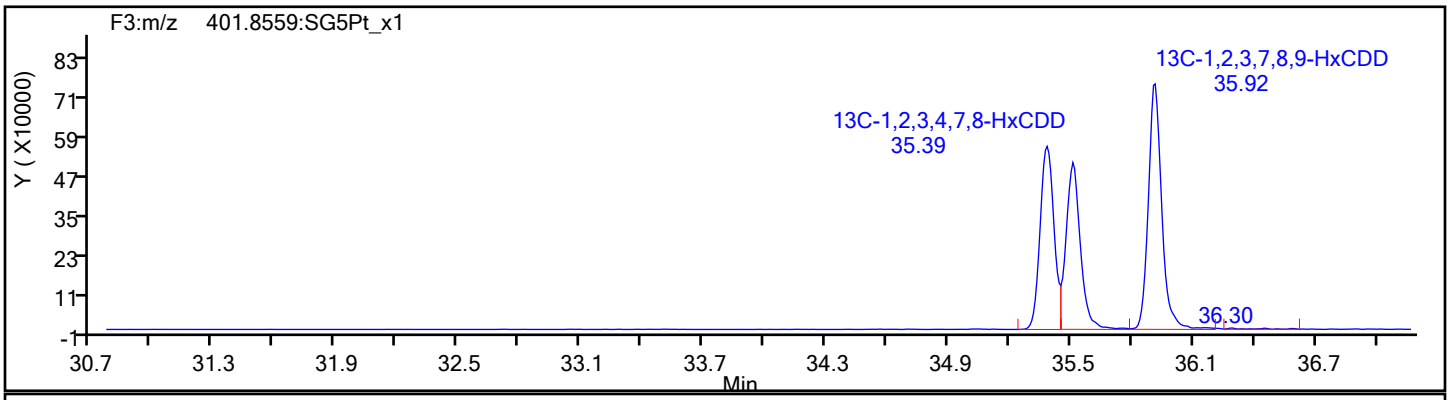
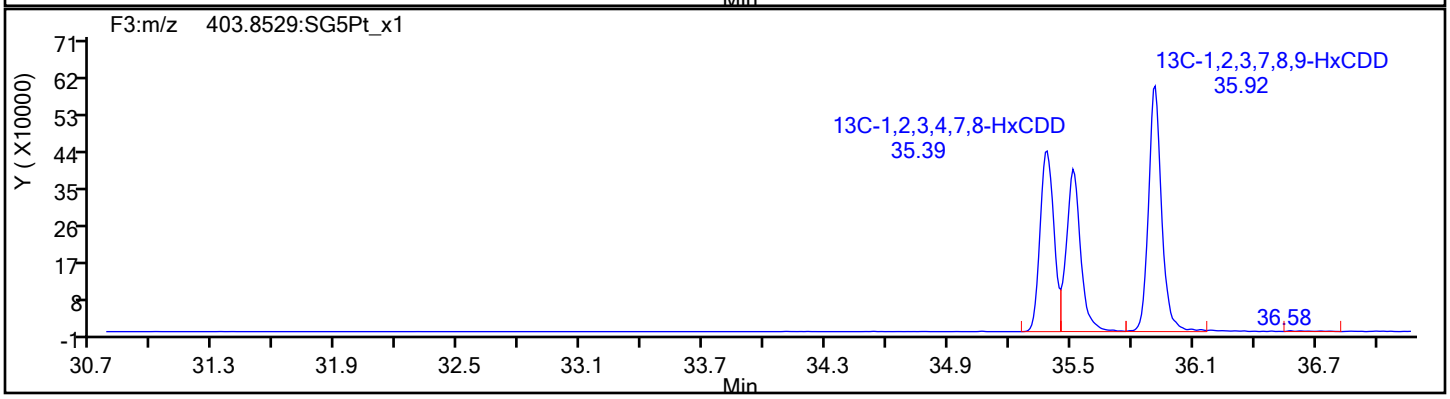
Worklist#: 559800 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

13C-HxCDD



13C-HxCDD Standards





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
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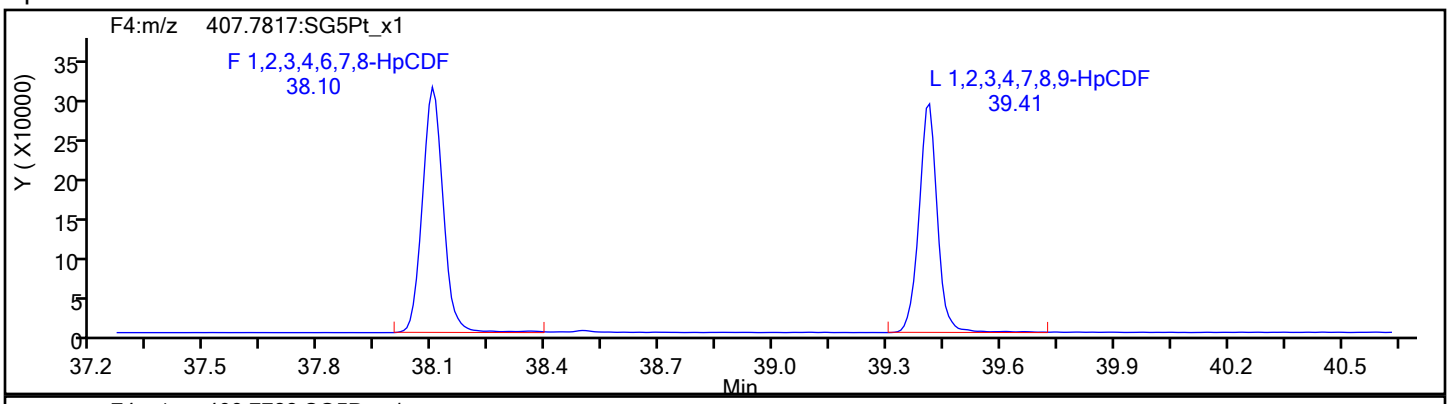
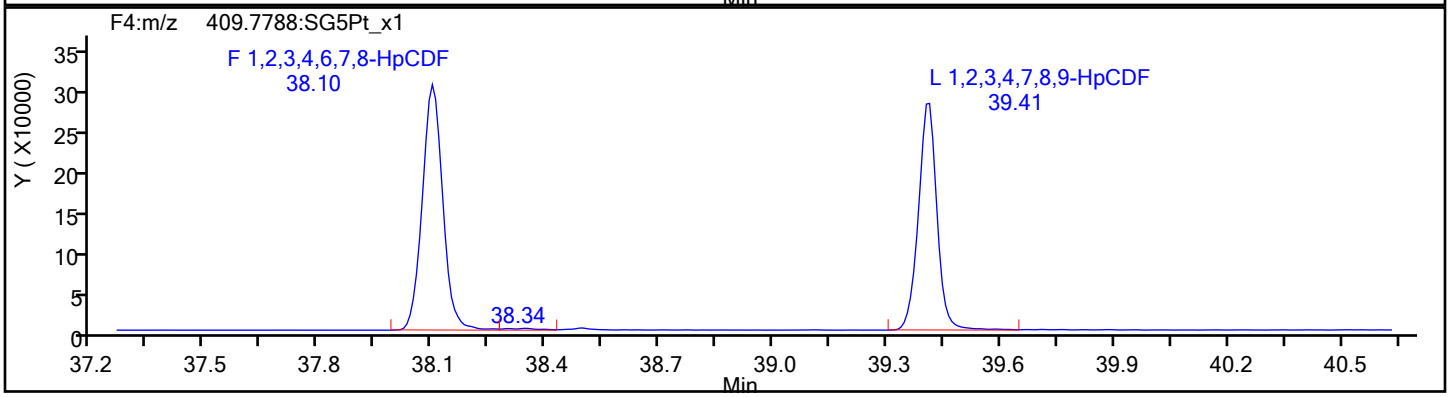
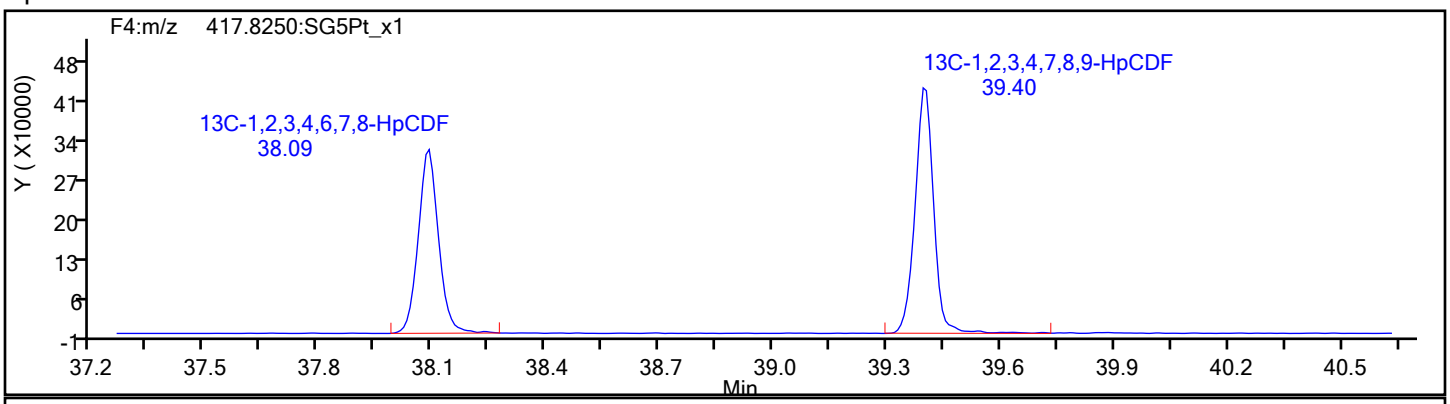
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

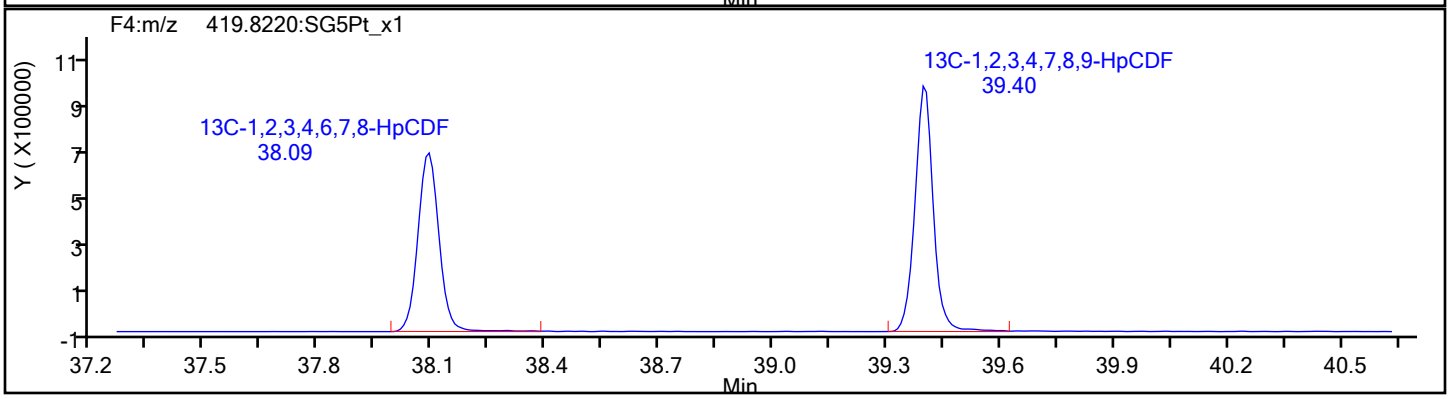
HpCDF





HpCDF Standards

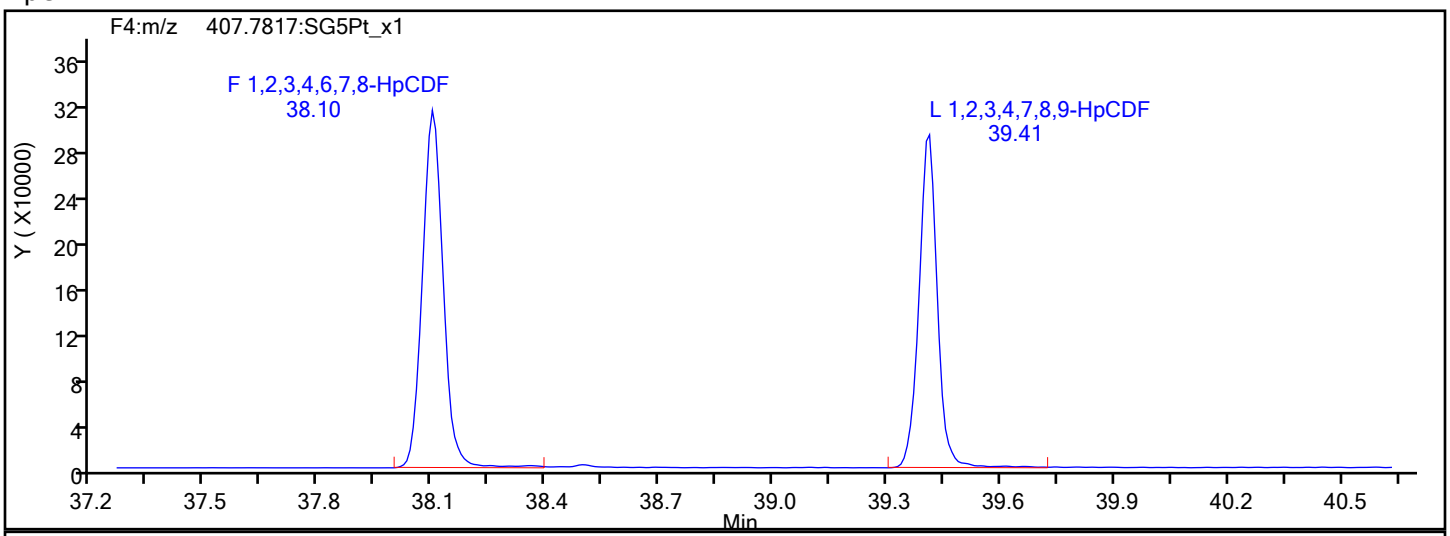


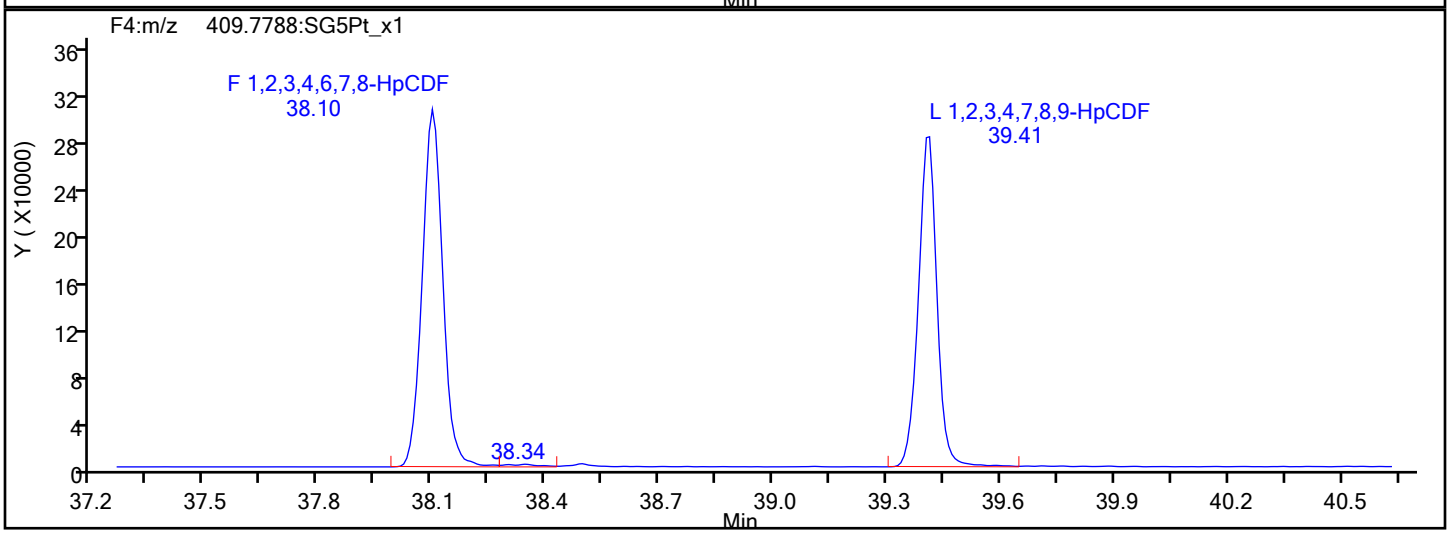


Eurofins Sacramento

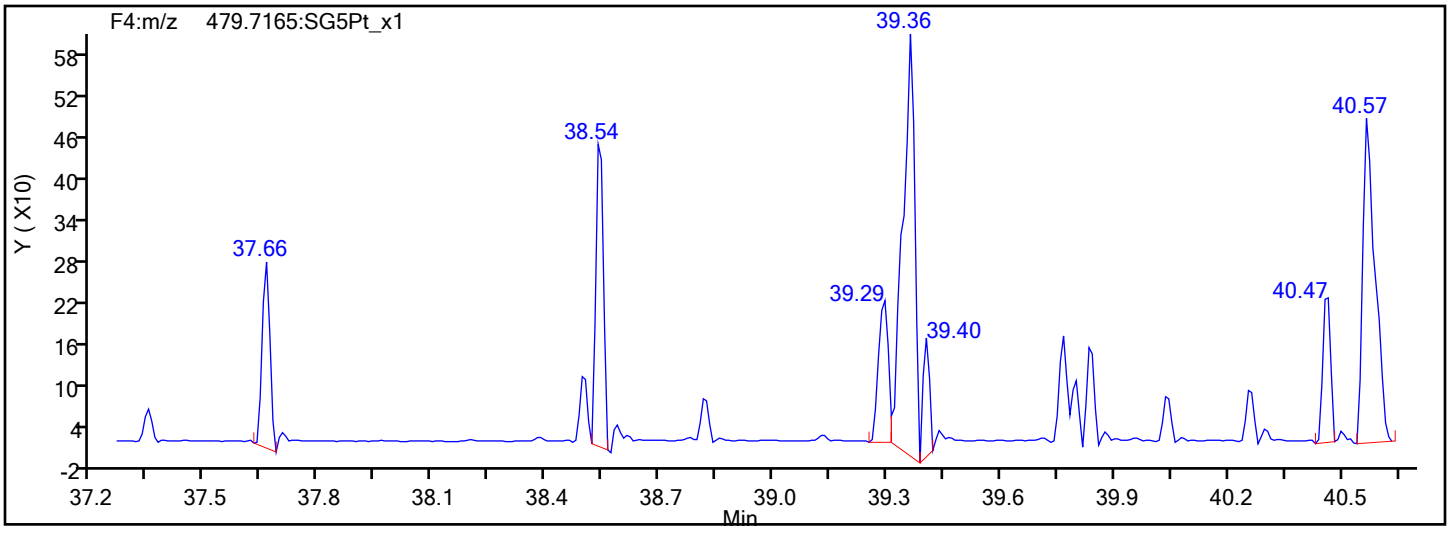
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Injection Date: 21-Jan-2022 23:26:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



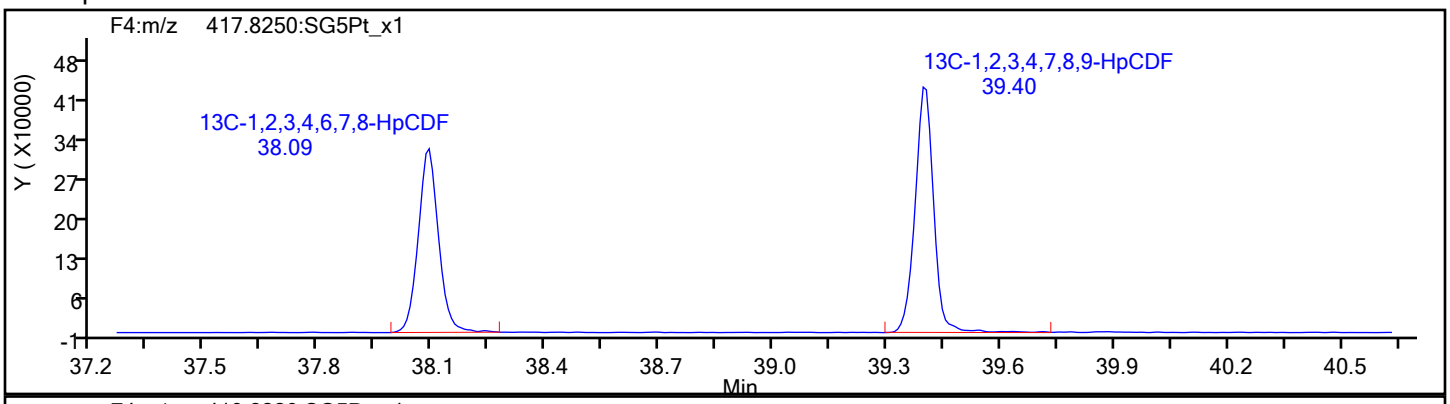
Report Date: 25-Jan-2022 08:32:20 Chrom Revision: 2.3 18-Jan-2022 20:25:40

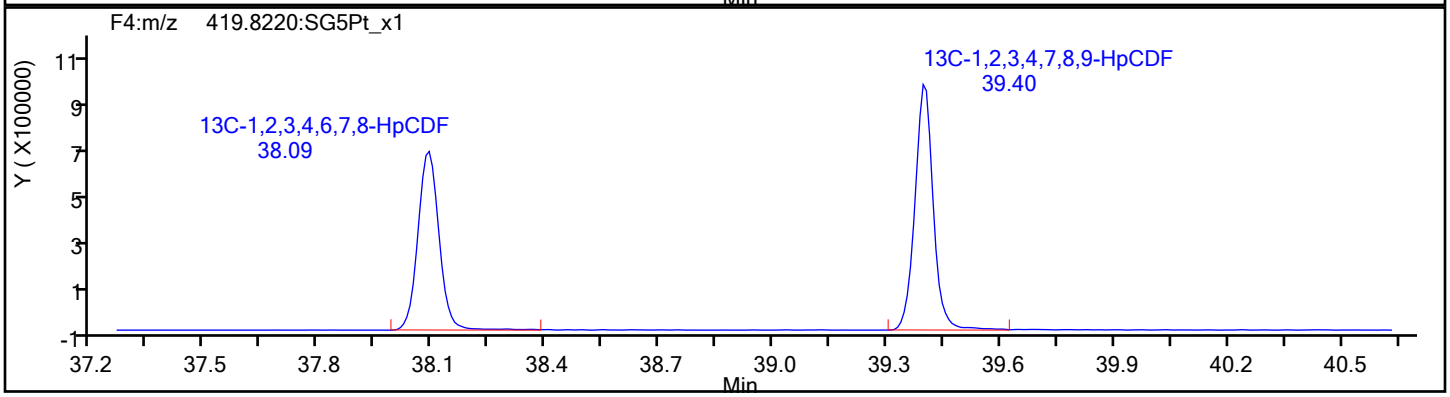
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d

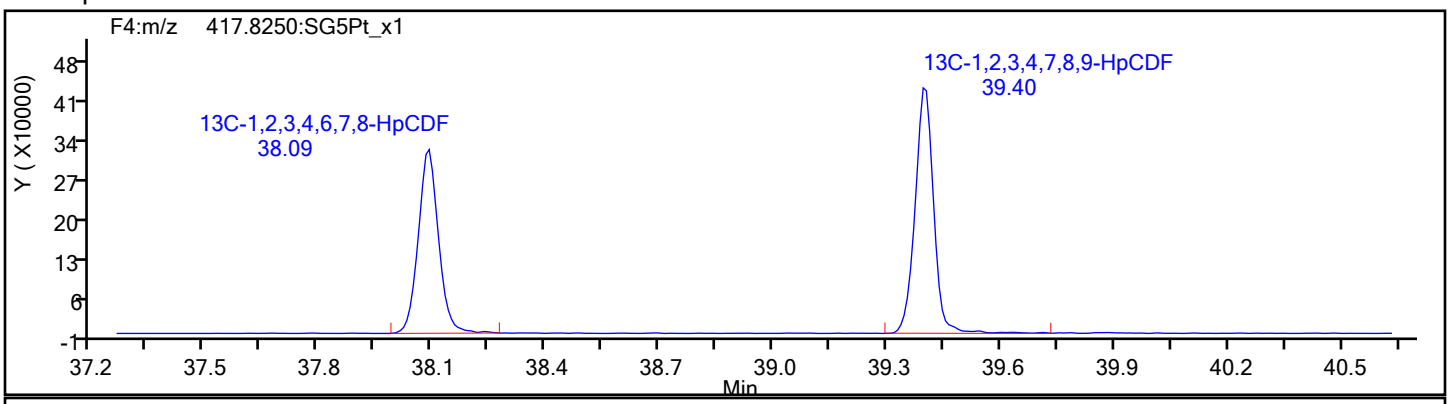
Injection Date:	21-Jan-2022 23:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

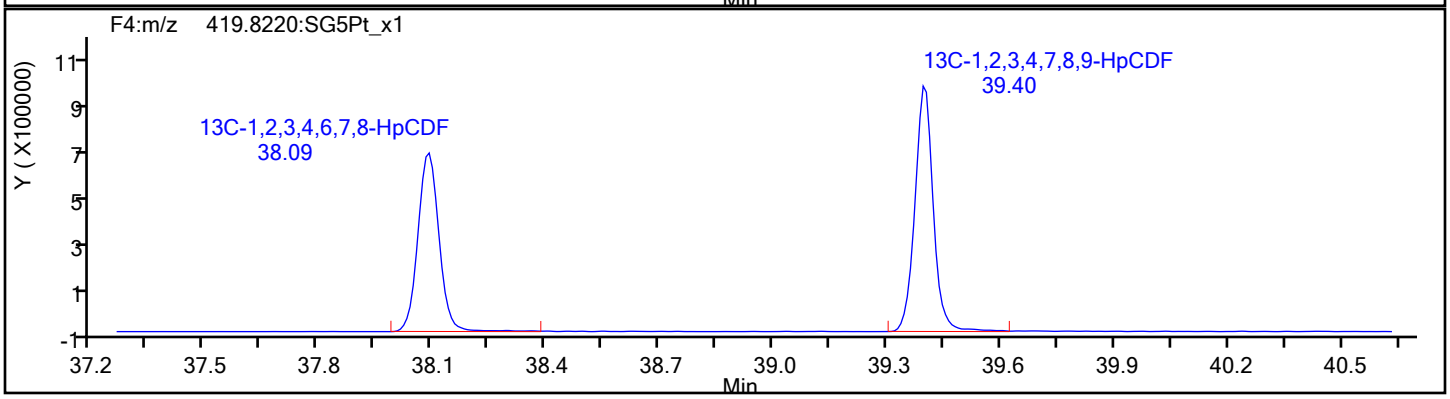
13C-HpCDF





13C-HpCDF Standards





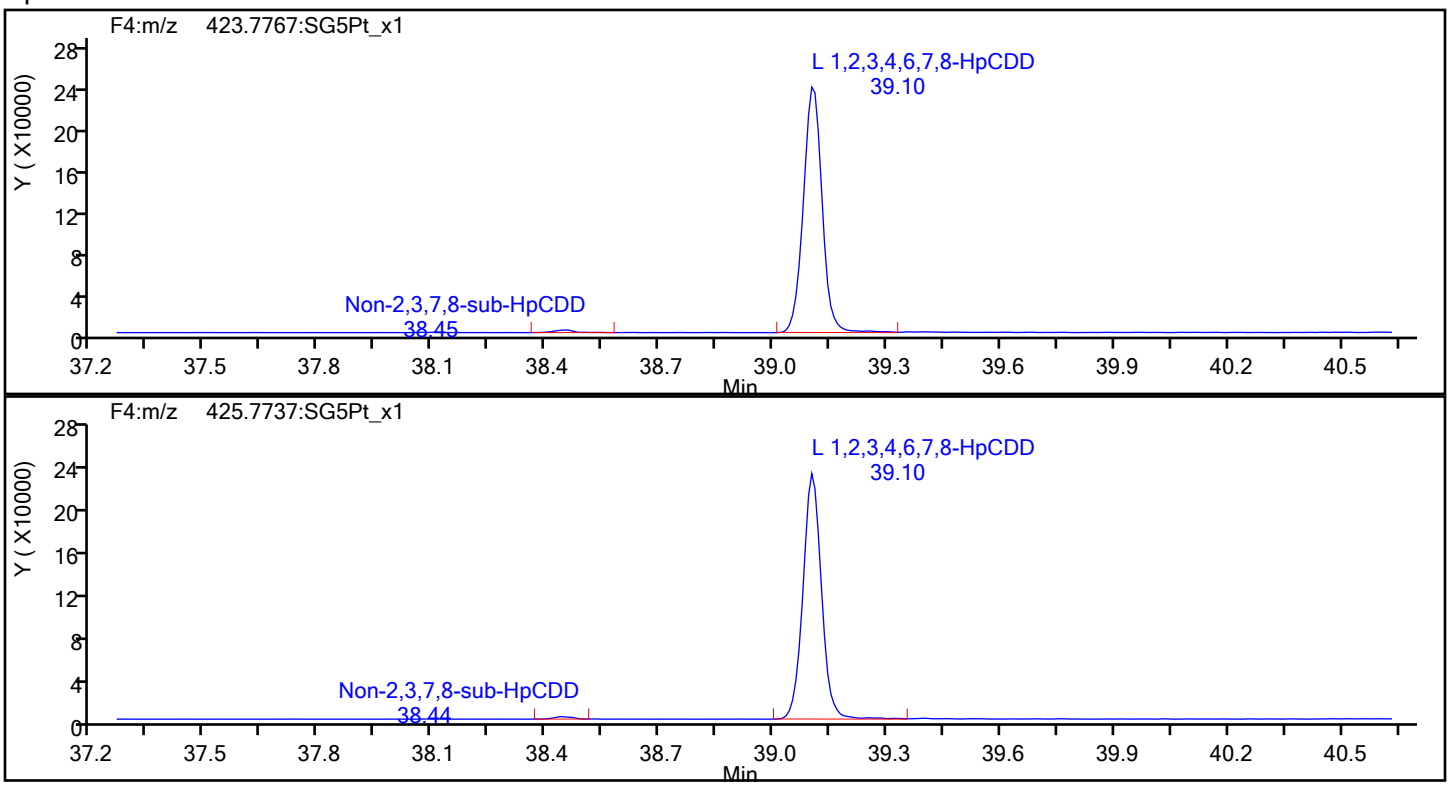
Report Date: 25-Jan-2022 08:32:20 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

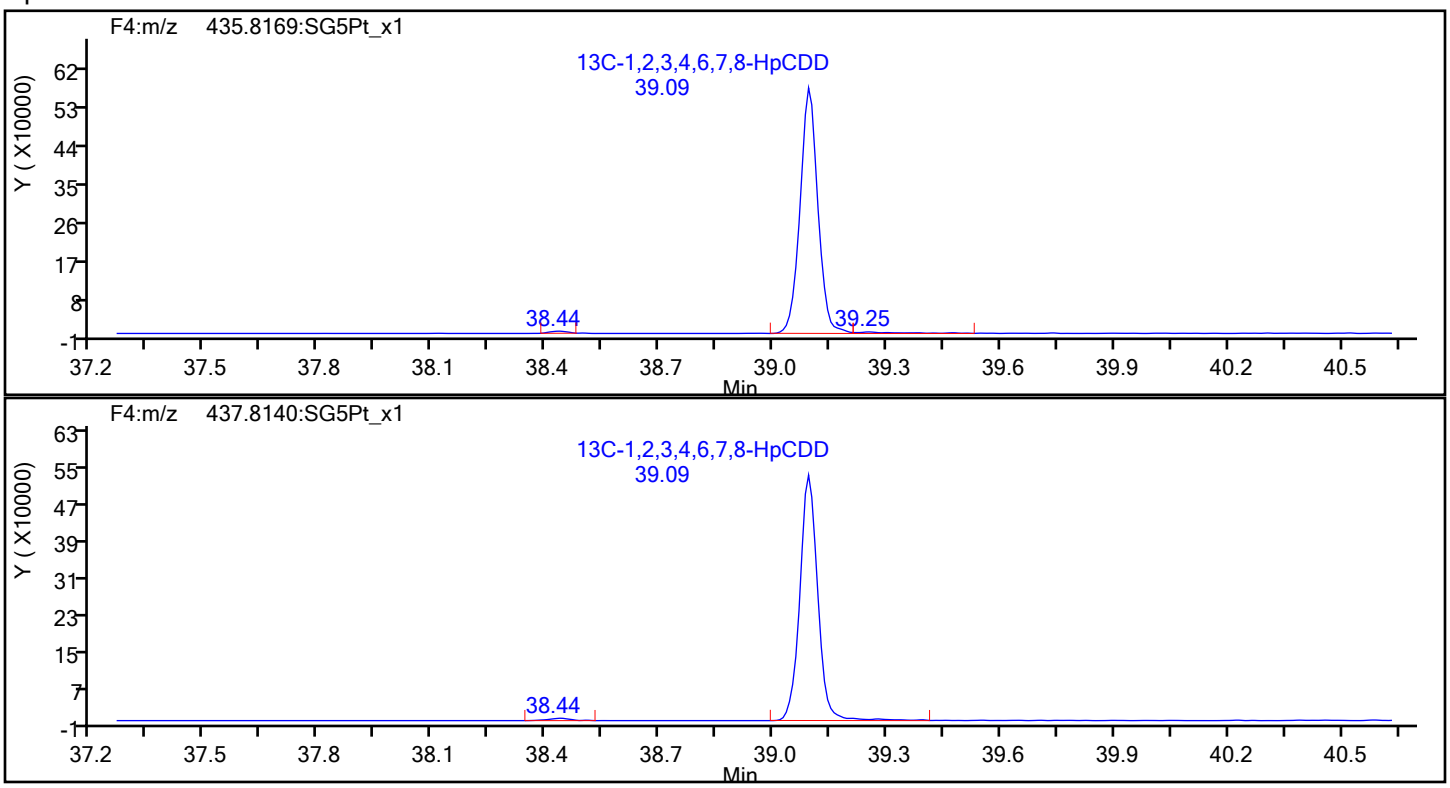
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d

Injection Date:	21-Jan-2022 23:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD



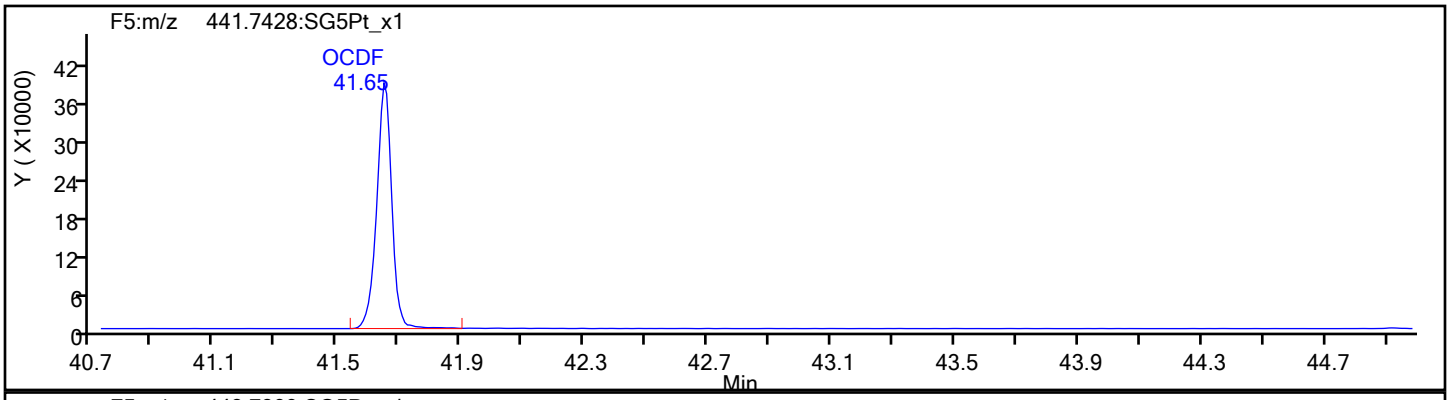
HpCDD Standards

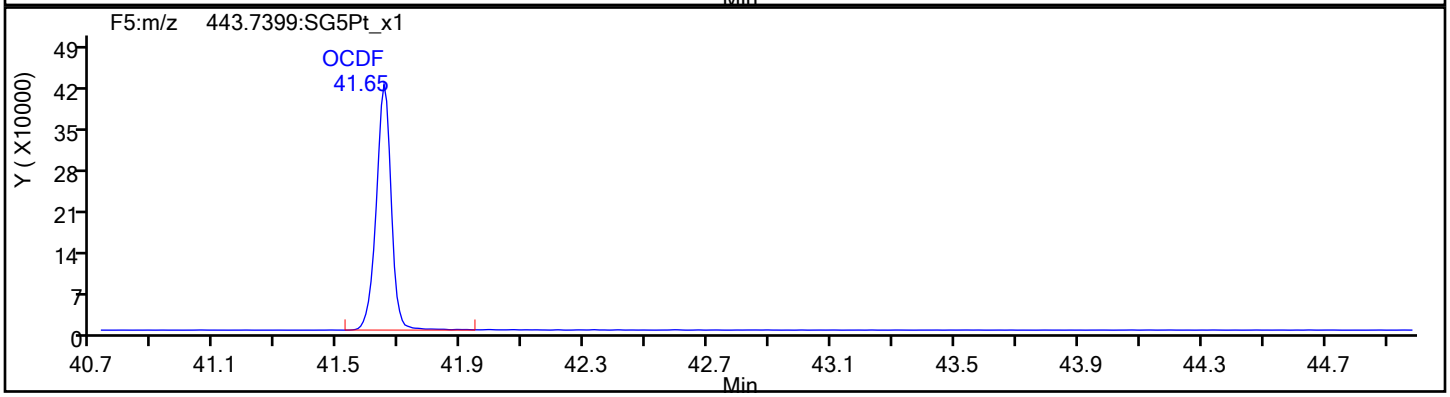


Eurofins Sacramento

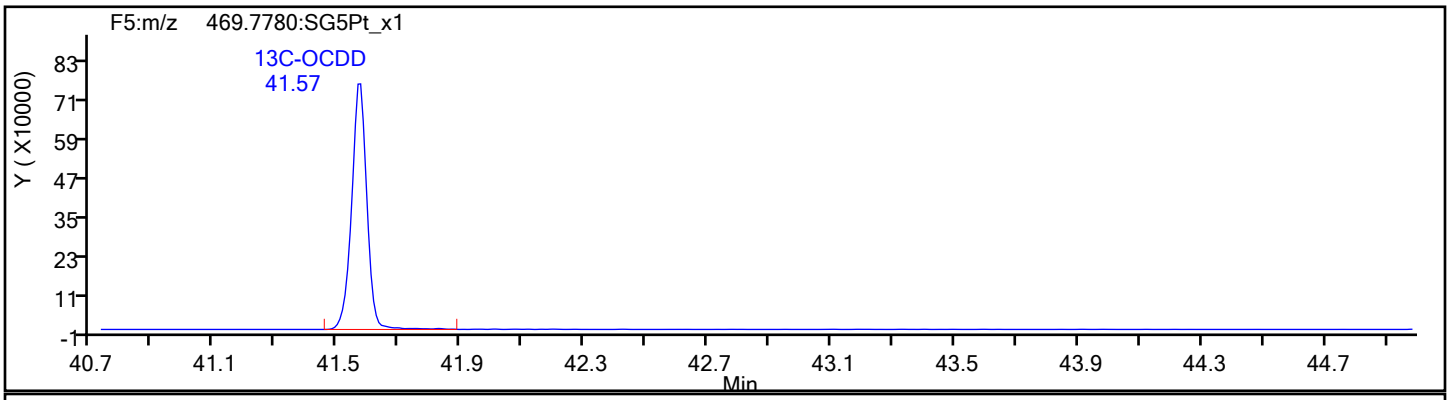
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d		
Injection Date:	21-Jan-2022 23:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

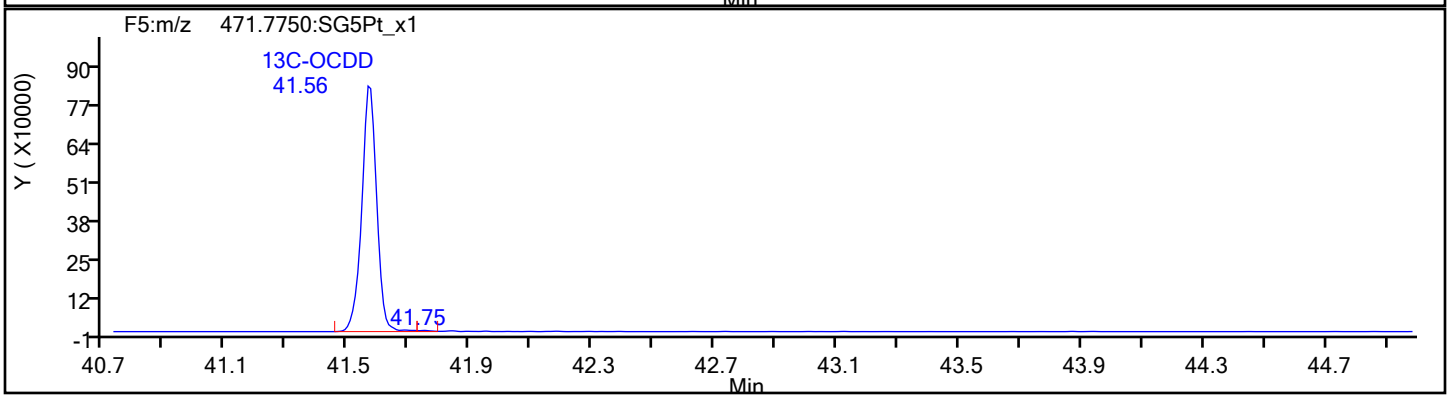
OCDF





OCDF Standards

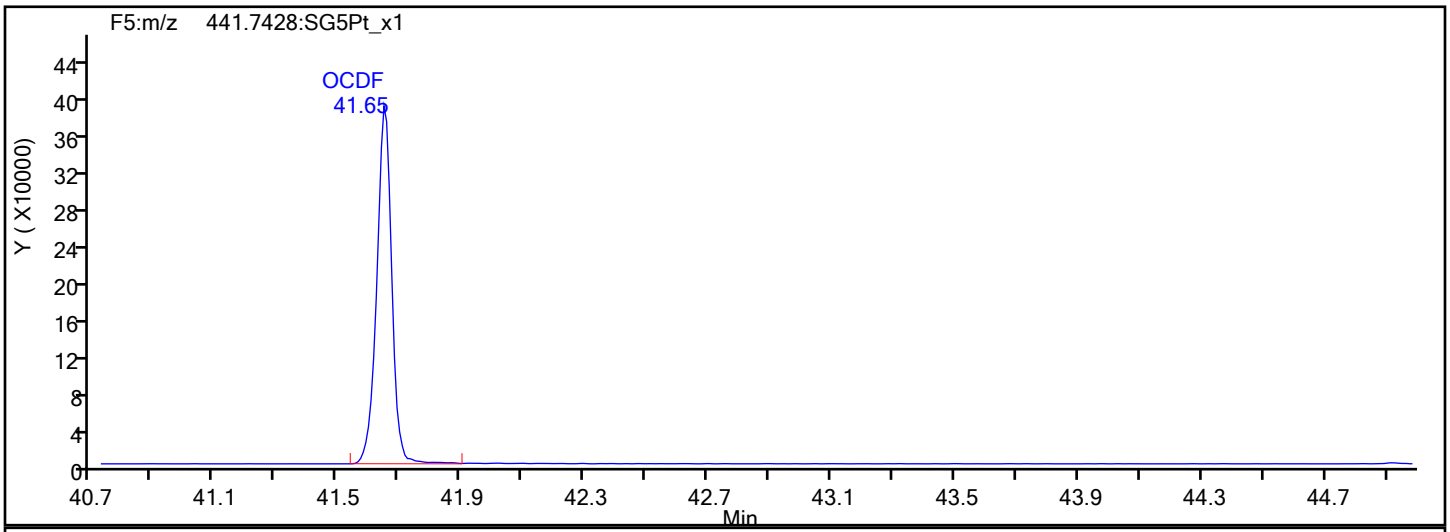


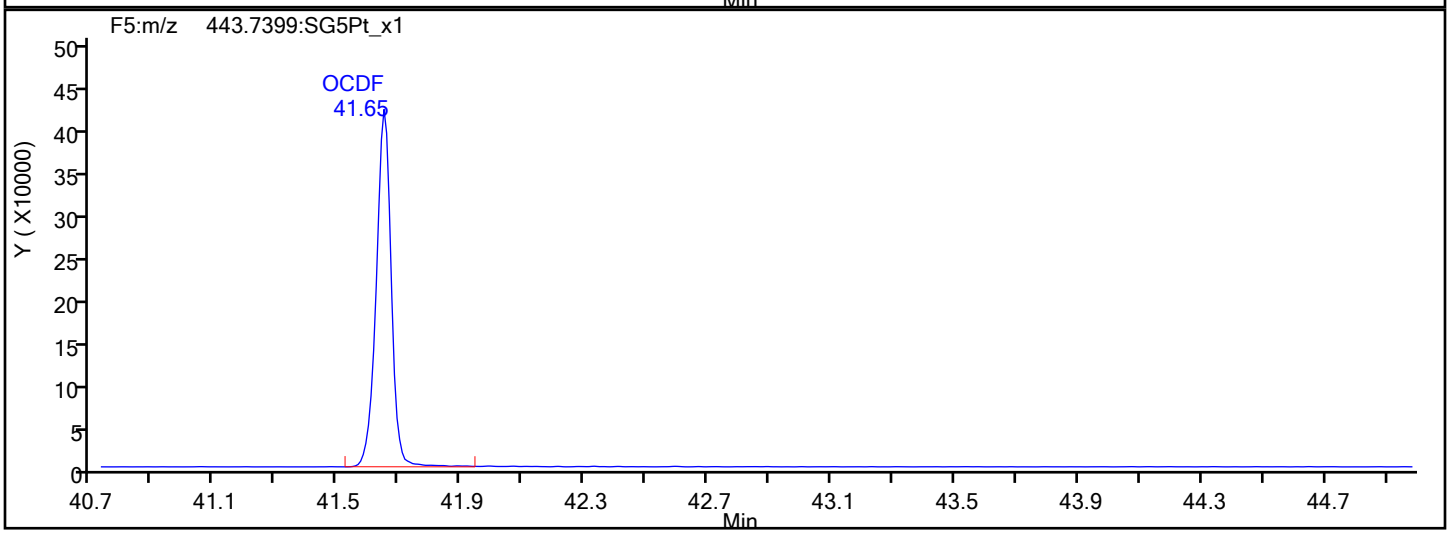


Eurofins Sacramento

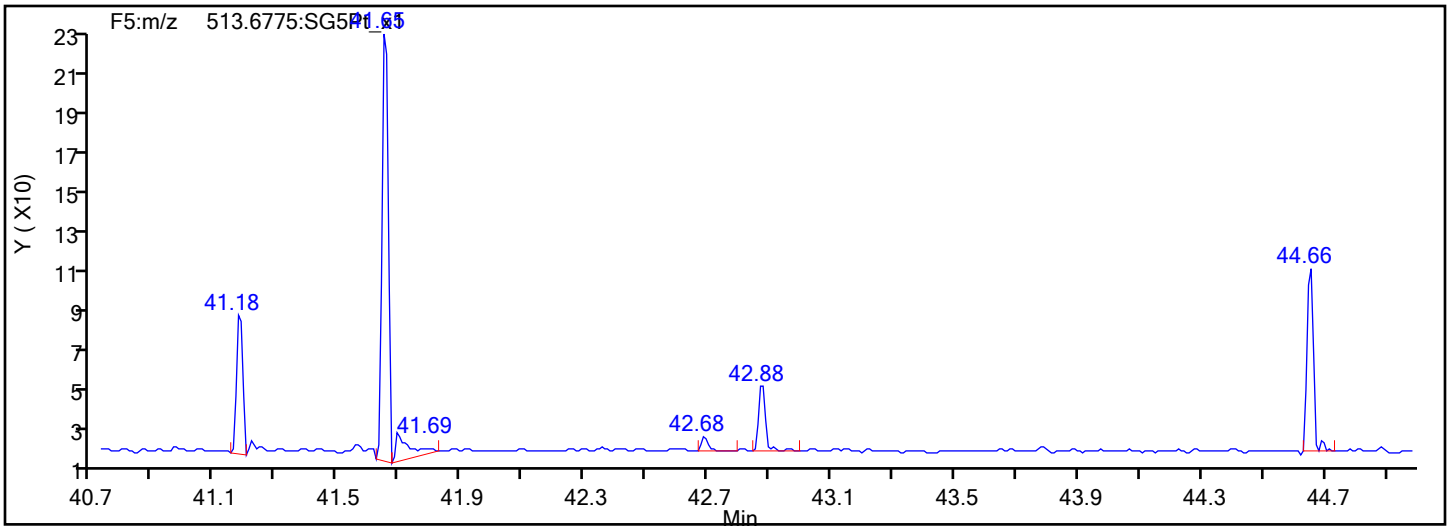
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d
Injection Date: 21-Jan-2022 23:26:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 4
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass

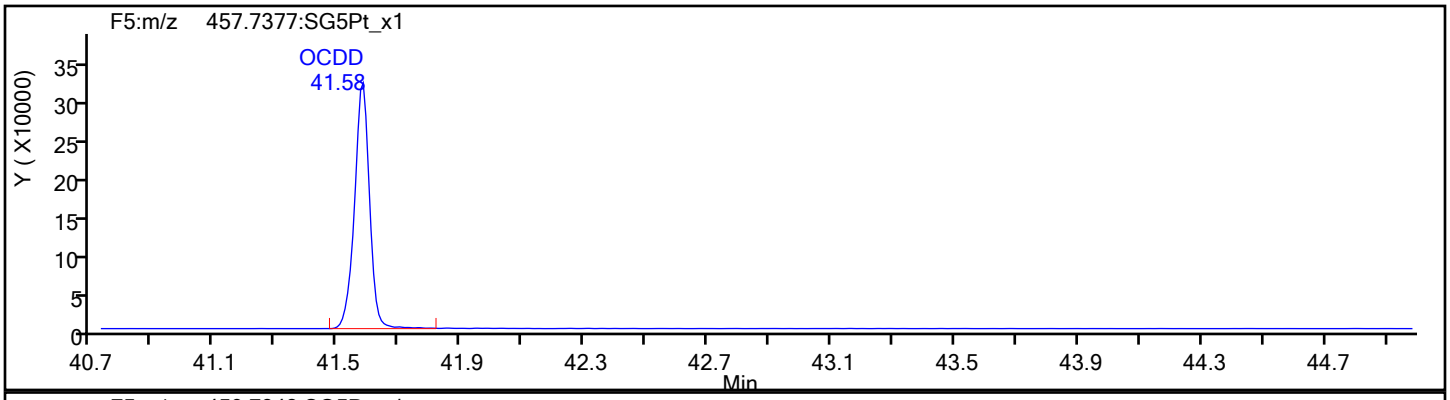


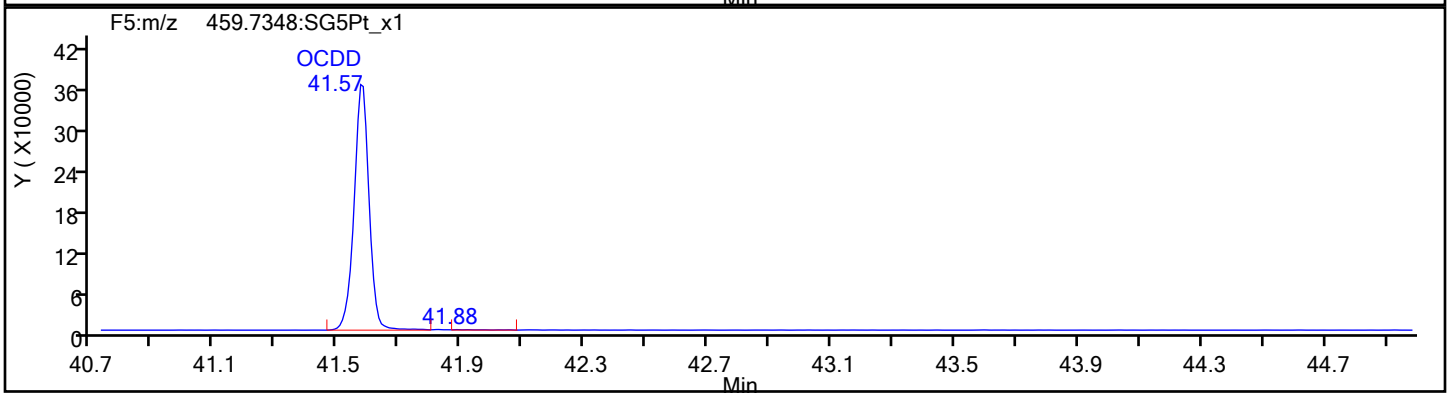
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d

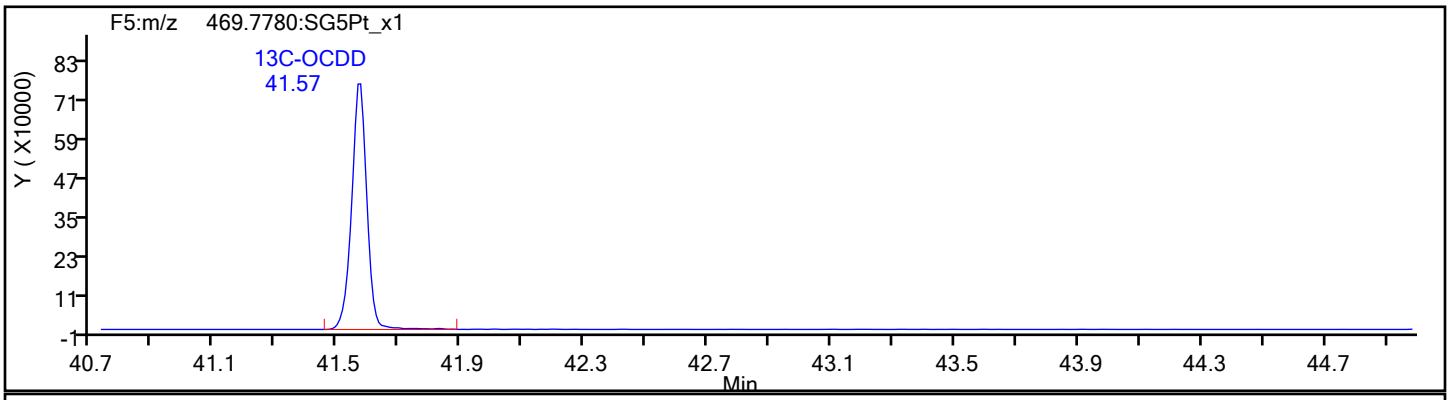
Injection Date:	21-Jan-2022 23:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

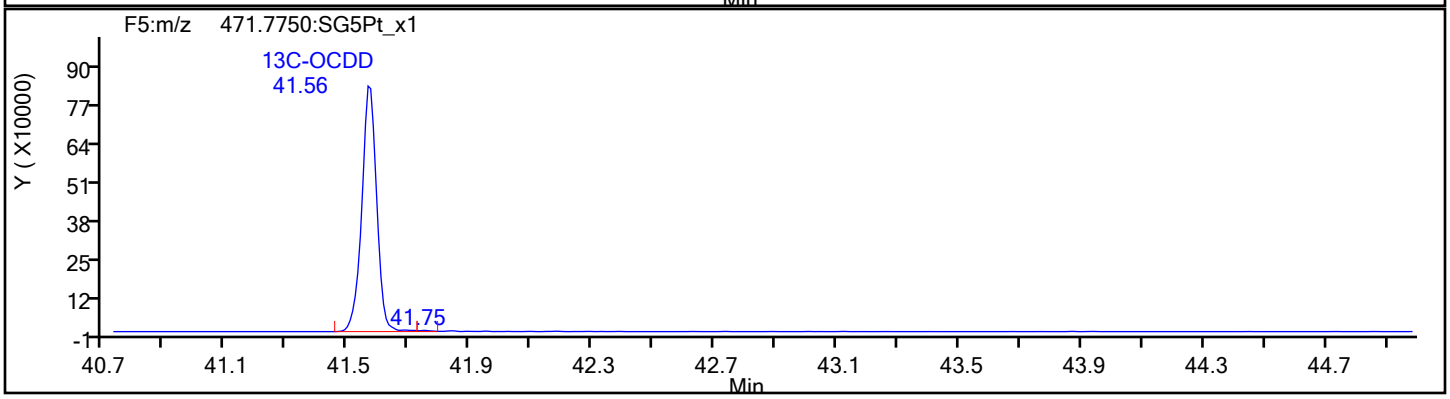
OCDD





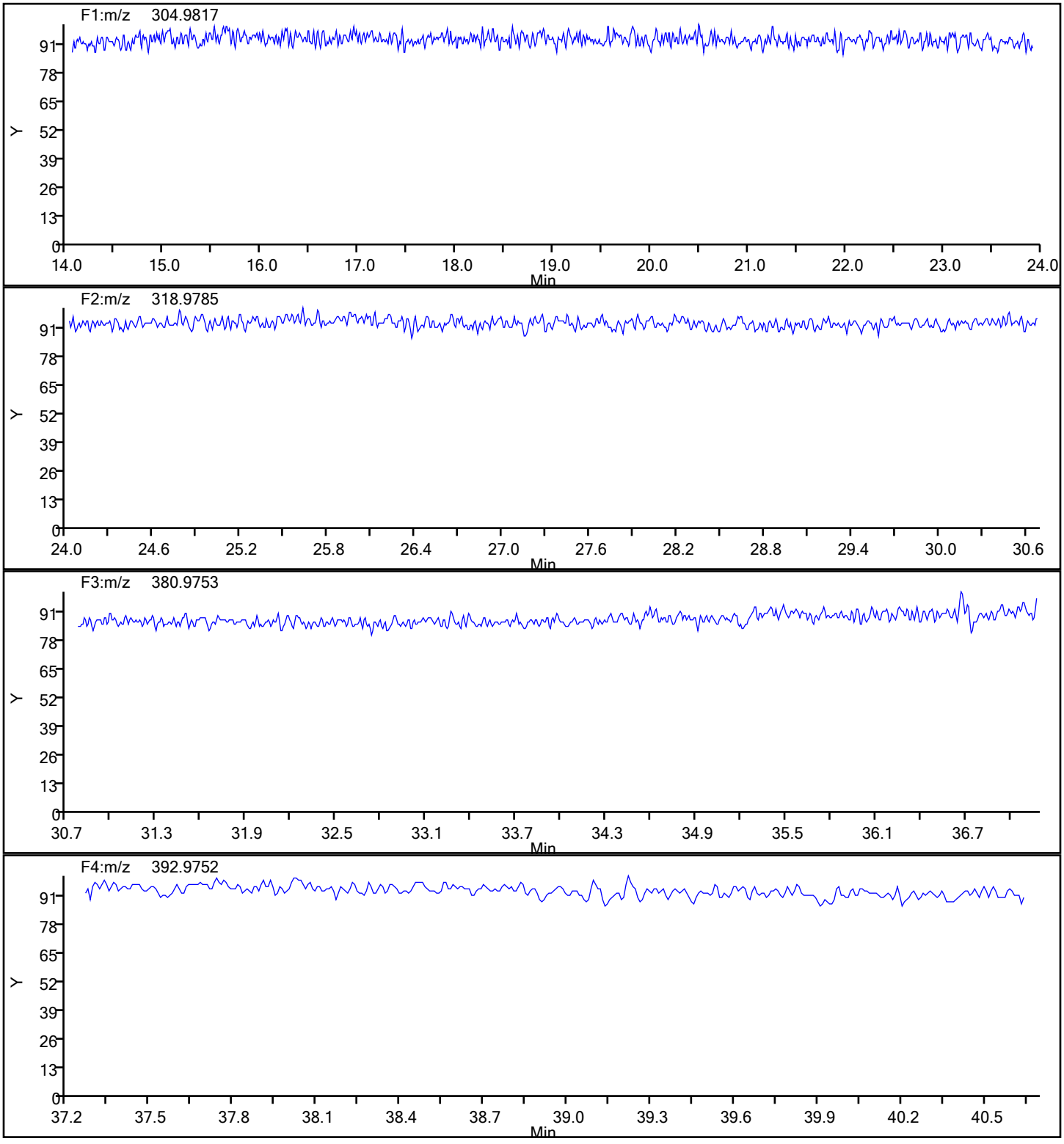
OCDD Standards





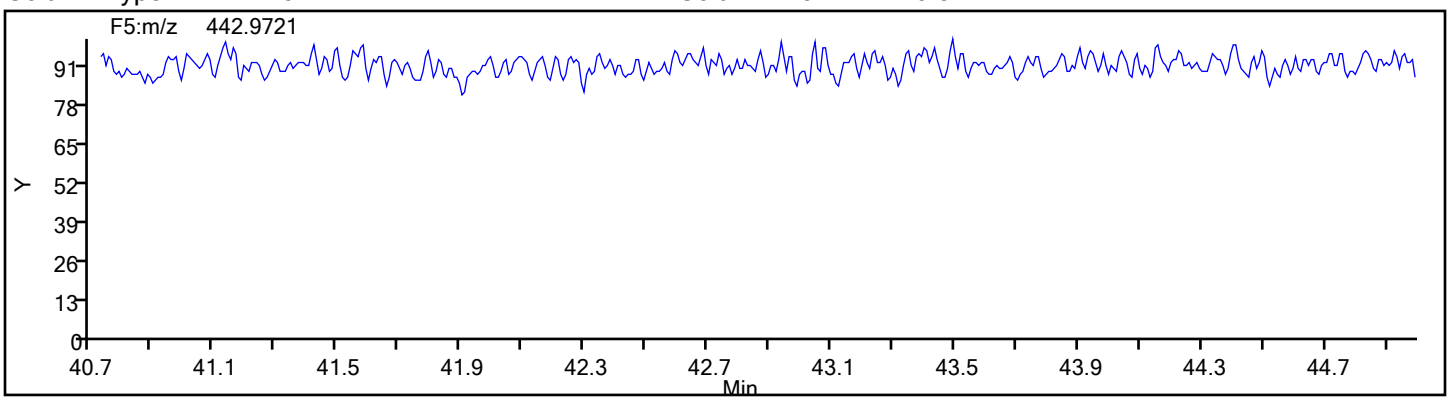
Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d		
Injection Date:	21-Jan-2022 23:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_44.d		
Injection Date:	21-Jan-2022 23:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Sacramento | Job No.: 570-80421-2

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 320-556608/3-A

Matrix: Water | Lab File ID: 20ja22dfs1_45.d

Analysis Method: 8290 | Date Collected:

Extract. Method: 8290 | Date Extracted: 01/07/2022 08:44

Sample wt/vol: 1000(mL) | Date Analyzed: 01/22/2022 00:14

Con. Extract Vol.: 20.0(uL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559800 | Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	195.8		10	2.2
51207-31-9	2,3,7,8-TCDF	195.9		10	1.7
40321-76-4	1,2,3,7,8-PeCDD	1072		50	3.4
57117-41-6	1,2,3,7,8-PeCDF	1089		50	5.2
57117-31-4	2,3,4,7,8-PeCDF	1011		50	5.5
39227-28-6	1,2,3,4,7,8-HxCDD	916.7		50	3.1
57653-85-7	1,2,3,6,7,8-HxCDD	987.8		50	2.7
19408-74-3	1,2,3,7,8,9-HxCDD	1095		50	2.8
70648-26-9	1,2,3,4,7,8-HxCDF	946.0		50	4.3
57117-44-9	1,2,3,6,7,8-HxCDF	954.4		50	3.7
60851-34-5	2,3,4,6,7,8-HxCDF	1105		50	3.9
72918-21-9	1,2,3,7,8,9-HxCDF	1062		50	4.2
35822-46-9	1,2,3,4,6,7,8-HpCDD	1027		50	2.7
67562-39-4	1,2,3,4,6,7,8-HpCDF	991.2		50	4.3
55673-89-7	1,2,3,4,7,8,9-HpCDF	1032		50	5.1
3268-87-9	OCDD	1913		100	2.3
39001-02-0	OCDF	1867		100	3.1

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	50		40-135
89059-46-1	13C-2,3,7,8-TCDF	50		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	48		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	46		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	43		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	42		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	46		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	45		40-135
114423-97-1	13C-OCDD	50		40-135

Eurofins Sacramento
Target Compound Quantitation Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Lims ID: LCSD 320-556608/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 22-Jan-2022 00:14:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-556608/3-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:33:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 10:25:16

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	19.962	7757128	0.78	3.5E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.060	3971319	0.80	1.0164	50.4	50.4	0.3293	0.3293	50.37	
2,3,7,8-TCDF	19.085	393643	0.80	1.0120	9.795	9.795	0.0830	0.0830	97.95	
A Non-2,3,7,8-sub-TCDF	18.680						0.0830	0.0830		
S Total TCDF					9.795	9.795	0.0830	0.0830		
D 13C-2,3,7,8-TCDD	20.323	3058140	0.82	0.7884	50.0	50.0	0.2217	0.2217	50.00	
$ 37Cl4-2,3,7,8-TCDD	20.357	2136496		0.7911	34.8	34.8	0.0505	0.0505	87.03	
2,3,7,8-TCDD	20.348	296613	0.72	0.9906	9.791	9.791	0.1079	0.1079	97.91	M
A Non-2,3,7,8-sub-TCDD	19.478						0.1079	0.1079		U
S Total TCDD					9.791	9.791	0.1079	0.1079		
D 13C-1,2,3,7,8-PeCDF	26.098	3328269	1.66	0.9232	46.5	46.5	0.2457	0.2457	46.48	
1,2,3,7,8-PeCDF	26.123	1768225	1.55	0.9756	54.5	54.5	0.2589	0.2589	109	
$ 13C-2,3,4,7,8-PeCDF	27.521	4071513	1.57	1.1692	104.6	104.6	0.4254	0.4254	105	
2,3,4,7,8-PeCDF	27.546	1550609	1.56	0.9215	50.6	50.6	0.2741	0.2741	101	
A F1 PeCDFs	23.375						0.0206	0.0206		
A Non-2,3,7,8-sub-PeCDF	26.760	19989	1.55	0.9486	0.6934	0.6331	0.2663	0.6331	0.00	RQ
S Total PeCDF					105.7	105.6	0.2665	0.2665		RQ
D 13C-1,2,3,7,8-PeCDD	28.296	2072591	1.65	0.5606	47.7	47.7	0.1538	0.1538	47.66	
1,2,3,7,8-PeCDD	28.321	1113508	1.56	1.0020	53.6	53.6	0.1716	0.1716	107	
A Non-2,3,7,8-sub-PeCDD	27.170						0.1716	0.1716		
S Total PeCDD					53.6	53.6	0.1716	0.1716		
D 13C-1,2,3,4,7,8-HxCDF	34.002	2724381	0.53	1.0566	41.6	41.6	0.1375	0.1375	41.55	
1,2,3,4,7,8-HxCDF	34.019	1138502	1.25	0.8835	47.3	47.3	0.2173	0.2173	94.60	
D 13C-1,2,3,6,7,8-HxCDF	34.187	2260579	0.52	0.9686	37.6	37.6	0.1500	0.1500	37.61	
1,2,3,6,7,8-HxCDF	34.213	1337505	1.26	1.0287	47.7	47.7	0.1866	0.1866	95.44	
D 13C-2,3,4,6,7,8-HxCDF	35.123	2409063	0.53	0.9084	42.7	42.7	0.1599	0.1599	42.74	
2,3,4,6,7,8-HxCDF	35.148	1486517	1.24	0.9878	55.2	55.2	0.1944	0.1944	110	
D 13C-1,2,3,7,8,9-HxCDF	36.100	2201360	0.52	0.8248	43.0	43.0	0.1761	0.1761	43.01	
1,2,3,7,8,9-HxCDF	36.117	1312036	1.24	0.9071	53.1	53.1	0.2117	0.2117	106	
A Non-2,3,7,8-sub-HxCDF	34.051						0.2017	0.2017		
S Total HxCDF					203.4	203.4	0.2025	0.2025		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	35.906	6205274	1.25	2.5E+04	100.0	100.0				
$ 13C-1,2,3,4,7,8-HxCDD	35.375	2118288	1.22	1.0143	96.9	96.9	0.4661	0.4661	96.94	
1,2,3,4,7,8-HxCDD	35.392	819019	1.25	0.8294	45.8	45.8	0.1555	0.1555	91.67	
D 13C-1,2,3,6,7,8-HxCDD	35.502	2154314	1.26	0.8027	43.3	43.3	0.1852	0.1852	43.25	
1,2,3,6,7,8-HxCDD	35.518	999597	1.29	0.9395	49.4	49.4	0.1372	0.1372	98.78	
1,2,3,7,8,9-HxCDD	35.915	1070119	1.27	0.9076	54.7	54.7	0.1421	0.1421	109	
A Non-2,3,7,8-sub-HxCDD	34.547						0.1445	0.1445		
S Total HxCDD					150.0	150.0	0.1449	0.1449		
D 13C-1,2,3,4,6,7,8-HpCDF	38.082	1779565	0.45	0.6421	44.7	44.7	0.2511	0.2511	44.66	
1,2,3,4,6,7,8-HpCDF	38.090	1268642	1.04	1.4385	49.6	49.6	0.2170	0.2170	99.12	
$ 13C-1,2,3,4,7,8,9-HpCDF	39.387	2344737	0.45	1.1706	112.6	112.6	0.3957	0.3957	113	
1,2,3,4,7,8,9-HpCDF	39.396	1120677	1.04	1.2202	51.6	51.6	0.2559	0.2559	103	
A Non-2,3,7,8-sub-HpCDF	38.751						0.2349	0.2349		
S Total HpCDF					101.2	101.2	0.2364	0.2364		
D 13C-1,2,3,4,6,7,8-HpCDD	39.084	1775955	1.05	0.6246	45.8	45.8	0.1601	0.1601	45.82	
1,2,3,4,6,7,8-HpCDD	39.092	890586	1.02	0.9767	51.3	51.3	0.1362	0.1362	103	
A Non-2,3,7,8-sub-HpCDD	38.763	10160	0.97	0.9767	0.5857	0.5857	0.1362	0.5857	0.00	
S Total HpCDD					51.9	51.9	0.1362	0.1362		
D 13C-OCDD	41.563	2687378	0.91	0.4360	99.3	99.3	0.1415	0.1415	49.66	
OCDF	41.639	1600203	0.89	1.2756	93.4	93.4	0.1564	0.1564	93.36	
OCDD	41.572	1329325	0.90	1.0341	95.7	95.7	0.1128	0.1128	95.67	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Lims ID: LCSD 320-556608/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 22-Jan-2022 00:14:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-556608/3-A
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\Dioxin_DFS1.m
Limit Group: HR - 8290 - ICAL
Last Update: 25-Jan-2022 08:33:36 Calib Date: 13-Jan-2022 20:27:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Sacramento\ChromData\DFS1\20220117-134627.b\13ja22dfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.80 :26.00)
Process Host: CTX1682

First Level Reviewer: bilottag Date: 24-Jan-2022 10:25:16

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	19.962	19.937	1		3410549	535600	551	1377	972		
333.9338	19.962	19.937	1		4346579	666839	290	725	2299	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.060	19.035	1	0.955	1764146	273209	1220	3050	224		
317.9389	19.060	19.035	1	0.955	2207173	330350	390	975	847	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.085	19.061	1	1.001	175426	25970	72	180	361		
305.8987	19.077	19.061	1	1.001	218217	31009	131	327	237	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.680						72	180			
305.8987	18.680						131	327			
13C-2,3,7,8-TCDD											
331.9368	20.323	20.306	1	1.018	1373446	191150	551	1377	347		
333.9338	20.314	20.306	0	1.018	1684694	248430	290	725	857	0.82(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.357	20.332	1	1.020	2136496	298990	192	480	1557		
2,3,7,8-TCDD											M
319.8965	20.348	20.341	0	1.001	123884	17612	133	332	132		M
321.8936	20.340	20.341	0	1.001	172729	25109	55	137	457	0.72(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											U
319.8965	19.478						133	332			
321.8936	19.478						55	137			
13C-1,2,3,7,8-PeCDF											
351.9000	26.098	26.081	1	1.307	2075200	342432	726	1815	472		
353.8970	26.098	26.081	1	1.307	1253069	205837	365	912	564	1.66(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.123	26.107	1	1.001	1075137	174000	289	722	602		
341.8567	26.114	26.107	0	1.001	693088	108792	265	662	411	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.521	27.505	1	1.055	2485272	378169	726	1815	521		
353.8970	27.521	27.505	1	1.055	1586241	250073	365	912	685	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.546	27.531	1	1.056	945710	144952	289	722	502		
341.8567	27.546	27.531	1	1.056	604899	90040	265	662	340	1.56(1.32-1.78)	
A F1 PeCDFs											
339.8597	23.375						2	5			
341.8567	23.375						41	102			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	26.653	26.760	-6	1.021	14053	1605	289	722	6		
	Empc Correction				12150	1768	289	722	6		
341.8567	26.687	26.760	-4	1.023	7839	1141	265	662	4	1.79(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.296	28.289	0	1.418	1289599	191083	221	552	865		
369.8919	28.296	28.289	0	1.418	782992	121289	194	485	625	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.321	28.314	0	1.001	678697	100222	134	335	748		
357.8516	28.330	28.314	1	1.001	434811	66355	81	202	819	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.170						134	335			
357.8516	27.170						81	202			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.002	34.002	0	0.947	948743	183989	287	717	641		
385.8610	34.002	34.002	0	0.947	1775638	316005	487	1217	649	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.019	34.019	0	1.000	632022	118598	229	572	518		
375.8178	34.019	34.019	0	1.000	506480	93604	155	387	604	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.187	34.187	0	0.952	773354	134396	287	717	468		
385.8610	34.187	34.187	0	0.952	1487225	253428	487	1217	520	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.213	34.204	1	1.006	744653	120458	229	572	526		
375.8178	34.213	34.204	1	1.006	592852	98688	155	387	637	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.123	35.122	0	0.978	837888	153932	287	717	536		
385.8610	35.123	35.122	0	0.978	1571175	292344	487	1217	600	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.148	35.147	0	1.034	823598	163823	229	572	715		
375.8178	35.148	35.147	0	1.034	662919	129170	155	387	833	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.100	36.099	0	1.005	753850	163952	287	717	571		
385.8610	36.100	36.099	0	1.005	1447510	308526	487	1217	634	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	36.117	36.116	0	1.062	726679	151529	229	572	662		
375.8178	36.117	36.116	0	1.062	585357	121362	155	387	783	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.051						229	572			
375.8178	34.051						155	387			
13C-1,2,3,7,8,9-HxCDD											
401.8559	35.906	35.906	0		3447424	735633	482	1205	1526		
403.8529	35.906	35.906	0		2757850	596290	310	775	1924	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.375	35.375	0	0.996	1165860	260407	482	1205	540		
403.8529	35.375	35.375	0	0.996	952428	213136	310	775	688	1.22(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.392	35.392	0	0.997	454693	105368	110	275	958		
391.8127	35.392	35.392	0	0.997	364326	80725	106	265	762	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.502	35.501	0	0.989	1200019	227768	482	1205	473		
403.8529	35.502	35.501	0	0.989	954295	191033	310	775	616	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.518	35.518	0	1.000	563779	111242	110	275	1011		
391.8127	35.518	35.518	0	1.000	435818	90973	106	265	858	1.29(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	35.915	35.922	0	1.012	597997	127070	110	275	1155		
391.8127	35.915	35.922	0	1.012	472122	103526	106	265	977	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.547						110	275			
391.8127	34.547						106	265			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.082	38.081	0	1.061	551720	148384	306	765	485		
419.8220	38.082	38.081	0	1.061	1227845	315099	553	1382	570	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.090	38.089	0	1.000	645388	172191	310	775	555		
409.7788	38.090	38.089	0	1.000	623254	164329	269	672	611	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.387	39.386	0	1.034	725908	211623	306	765	692		
419.8220	39.387	39.386	0	1.034	1618829	472785	553	1382	855	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.396	39.403	0	1.034	570029	163125	310	775	526		
409.7788	39.396	39.403	0	1.034	550648	155848	269	672	579	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.751						310	775			
409.7788	38.751						269	672			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.084	39.083	0	1.089	911227	261957	278	695	942		
437.8140	39.084	39.083	0	1.089	864728	247019	255	637	969	1.05(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7767	39.092	39.091	0	1.000	449151	124020	151	377	821		
425.7737	39.092	39.091	0	1.000	441435	124848	120	300	1040	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.436	38.763	-20	0.983	5009	1180	151	377	8		
425.7737	38.419	38.763	-21	0.983	5151	1248	120	300	10	0.97(0.88-1.20)	
13C-OCDD											
469.7780	41.563	41.563	0	1.158	1276889	368533	169	422	2181		
471.7750	41.563	41.563	0	1.158	1410489	420292	160	400	2627	0.91(0.76-1.02)	
OCDF											
441.7428	41.639	41.639	0	1.002	753830	221612	133	332	1666		
443.7399	41.639	41.639	0	1.002	846373	240281	182	455	1320	0.89(0.76-1.02)	
OCDD											
457.7377	41.572	41.571	0	1.000	629009	181701	90	225	2019		
459.7348	41.572	41.571	0	1.000	700316	203708	94	235	2167	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Lims ID: LCSD 320-556608/3-A
Client ID:
Inject. Date: 22-Jan-2022 00:14:00 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 5

Non-2,3,7,8-sub-TCDD, RT: 19.478

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.991	D 13C-2,3,7,8-TCDD	100.000	3058140	439580

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.991		100.000	3058140	439580

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Lims ID: LCSD 320-556608/3-A
Client ID:
Inject. Date: 22-Jan-2022 00:14:00 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 5

Non-2,3,7,8-sub-PeCDF, RT: 26.760

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.976	D 13C-1,2,3,7,8-PeCDF	100.000	3328269	548269
2,3,4,7,8-PeCDF	0.922				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	3328269	548269

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
26.653	14053	1605	7839	1141	0.6934	1.79	RQ
26.653	12150	1768	7839	1141	0.6331		Empc Correction
Signal Totals:							
	12150	1768	7839	1141			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	21892	2746				1.79	RQ
	19989	2909					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6934 = (21892 * 100.000) / (3328269 * 0.949)
Empc Amount: 0.6331 = (19989 * 100.000) / (3328269 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins Sacramento
AreaSum WorkSheet Report

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Lims ID: LCSD 320-556608/3-A
Client ID:
Inject. Date: 22-Jan-2022 00:14:00 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 559800 Lims Sample ID: 5

Non-2,3,7,8-sub-HpCDD, RT: 38.763

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.977	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	1775955	508976

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.977		100.000	1775955	508976

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.436	5009	1180	5151	1248	0.5857	0.97	
Signal Totals:							
	5009	1180	5151	1248			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10160	2428				0.97	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5857 = (10160 * 100.000) / (1775955 * 0.977)

Manual Integration/User Assign Peak Report

Eurofins Sacramento

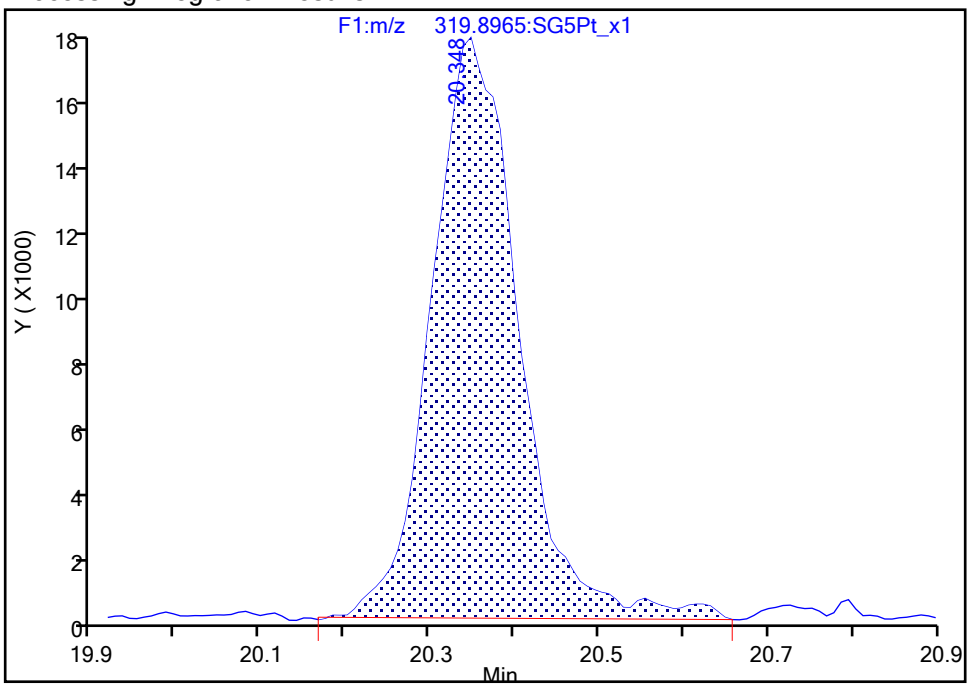
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Injection Date: 22-Jan-2022 00:14:00 Instrument ID: DFS 1
Lims ID: LCSD 320-556608/3-A
Client ID:
Operator ID: Xcalibur_System ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Column: DB-5 (0.32 mm) Detector F1(14.80 :26.00)

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

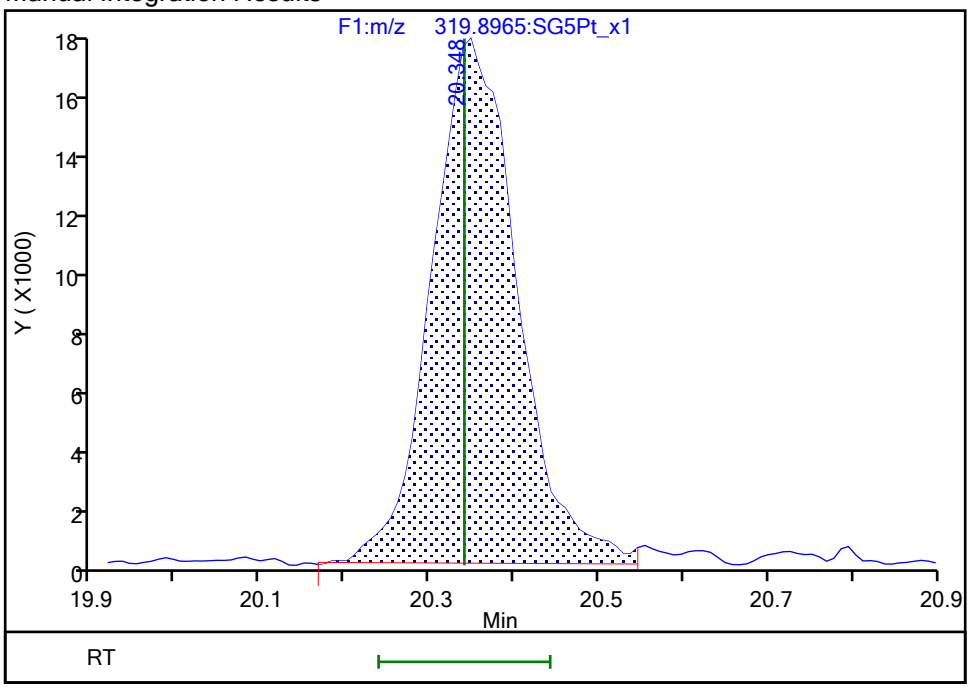
Processing Integration Results

RT: 20.35
Area: 126429
Amount: 9.874885
Amount Units: pg/ul



Manual Integration Results

RT: 20.35
Area: 123884
Amount: 9.790877
Amount Units: pg/ul

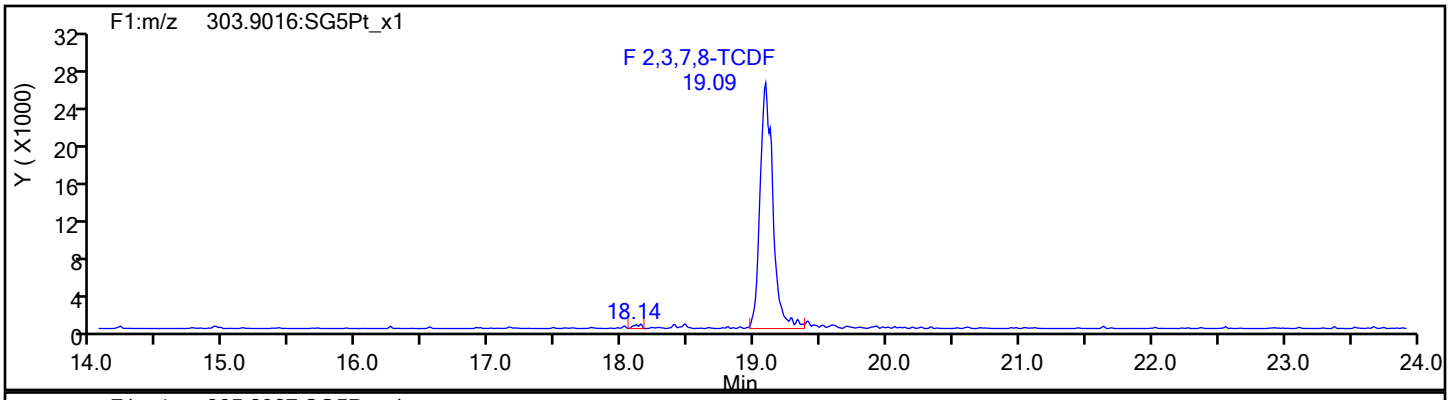


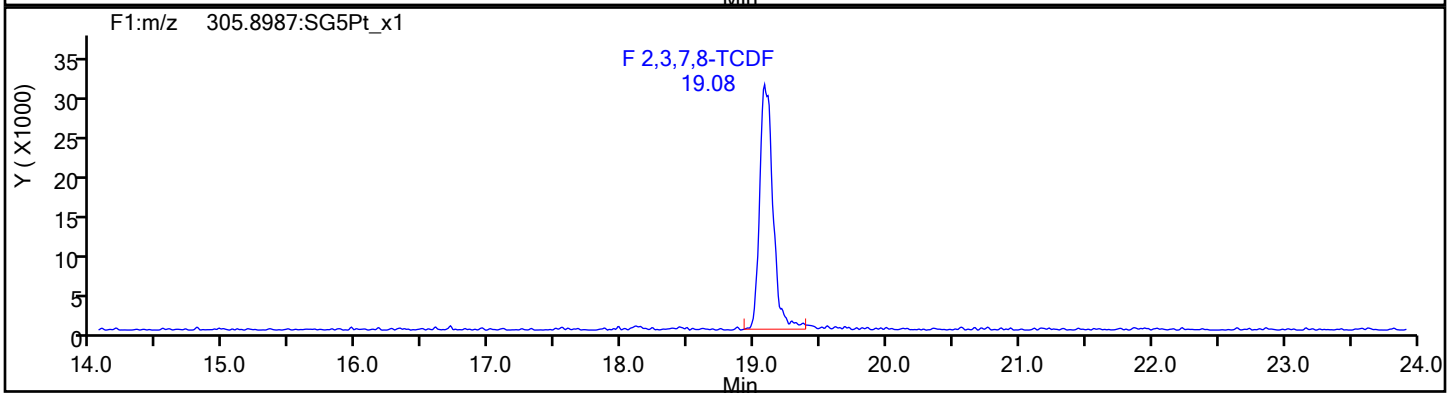
Reviewer: dadunj, 25-Jan-2022 08:33:02
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins Sacramento

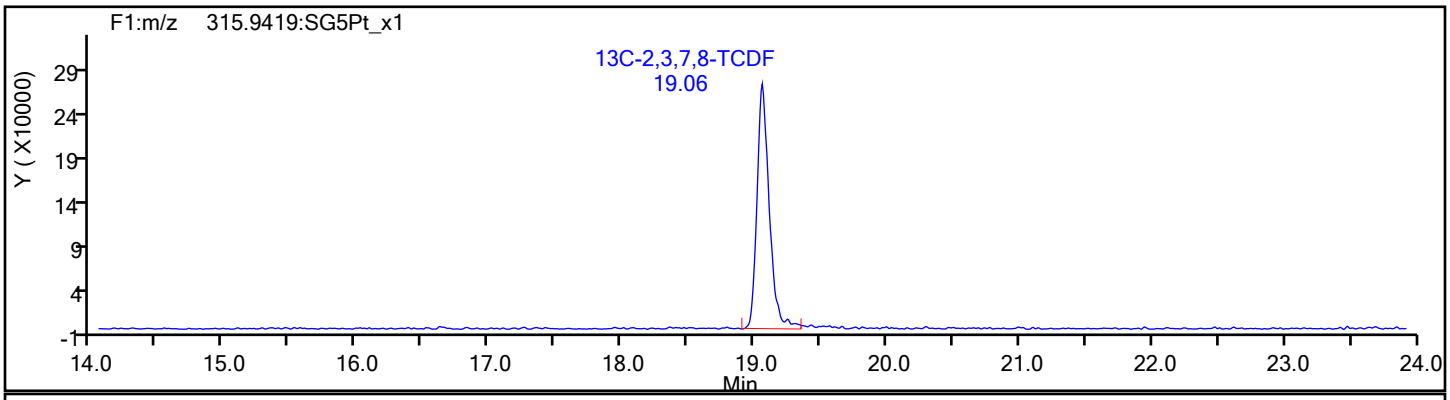
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Injection Date: 22-Jan-2022 00:14:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

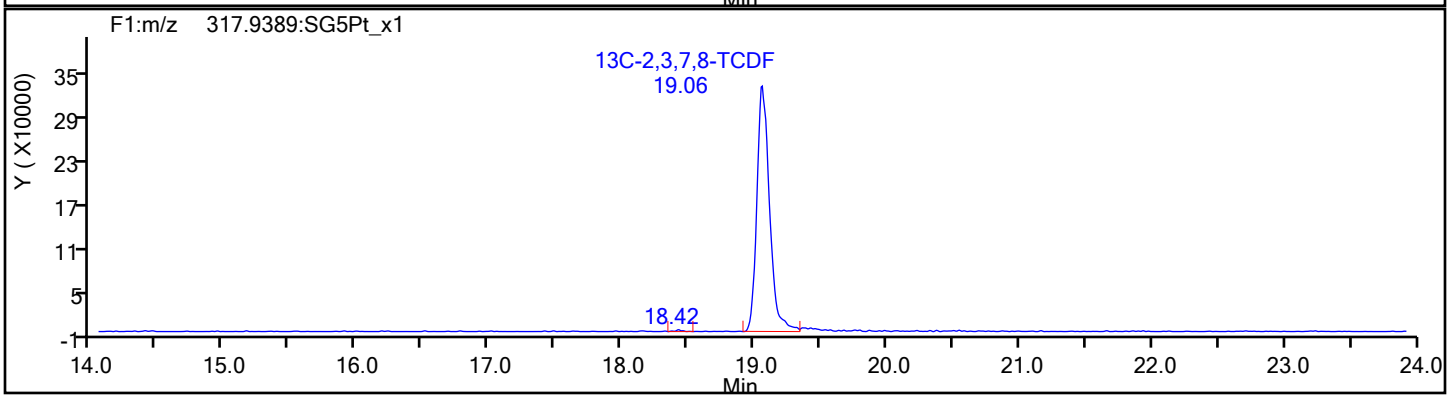
TCDF





TCDF Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d		
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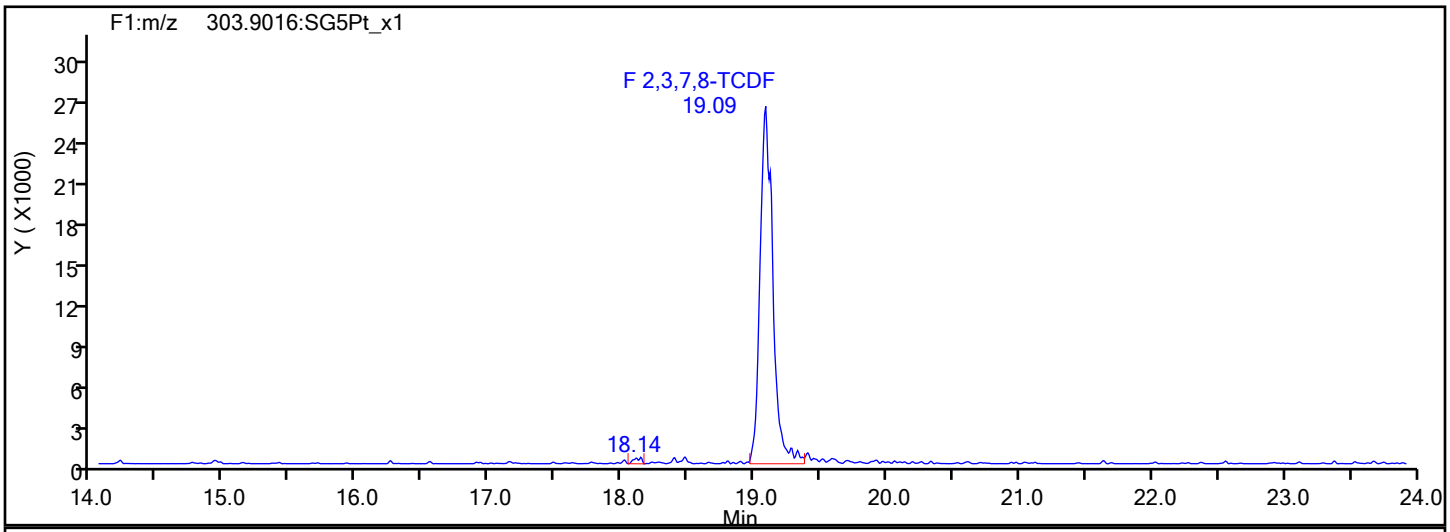
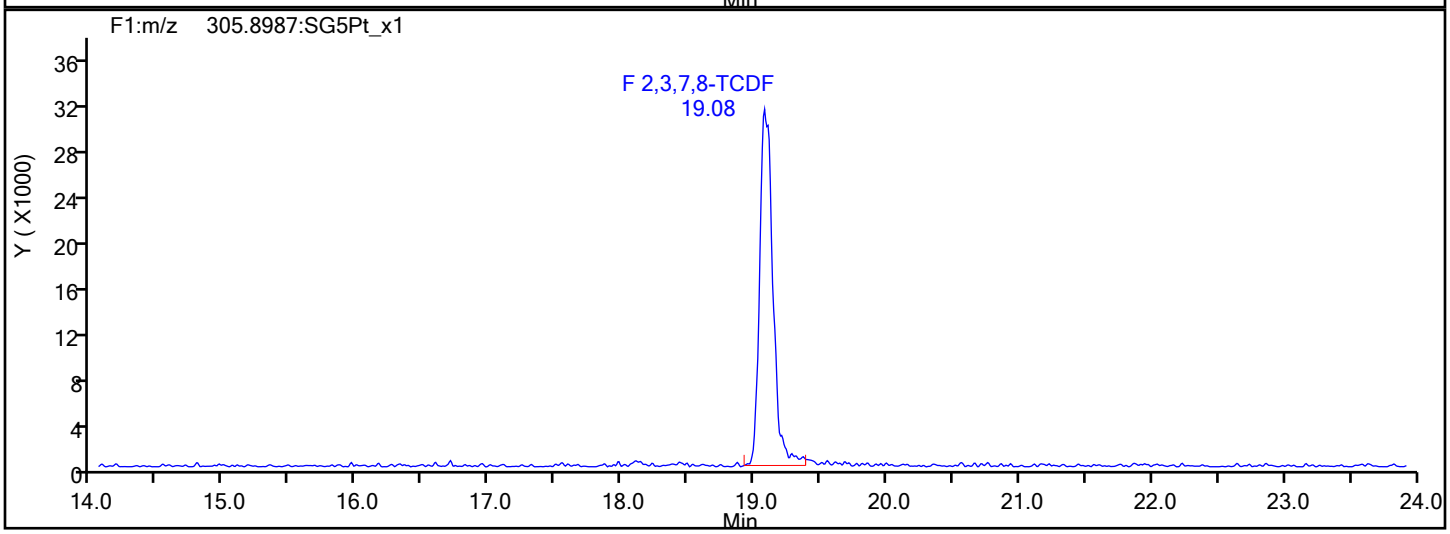
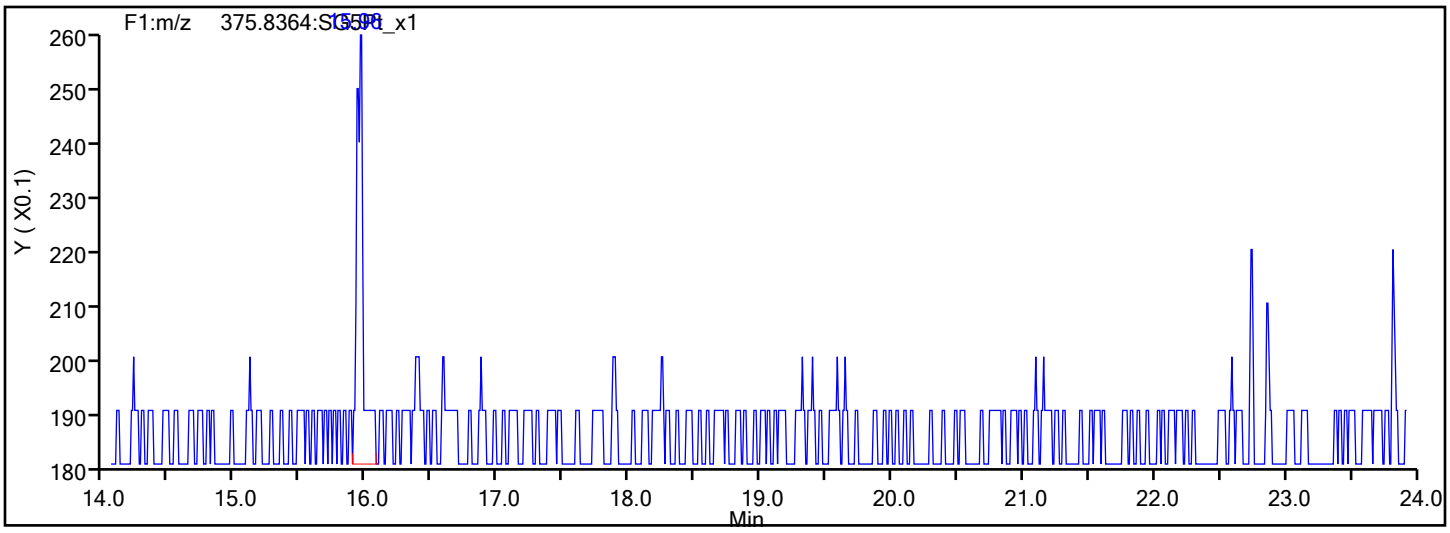
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



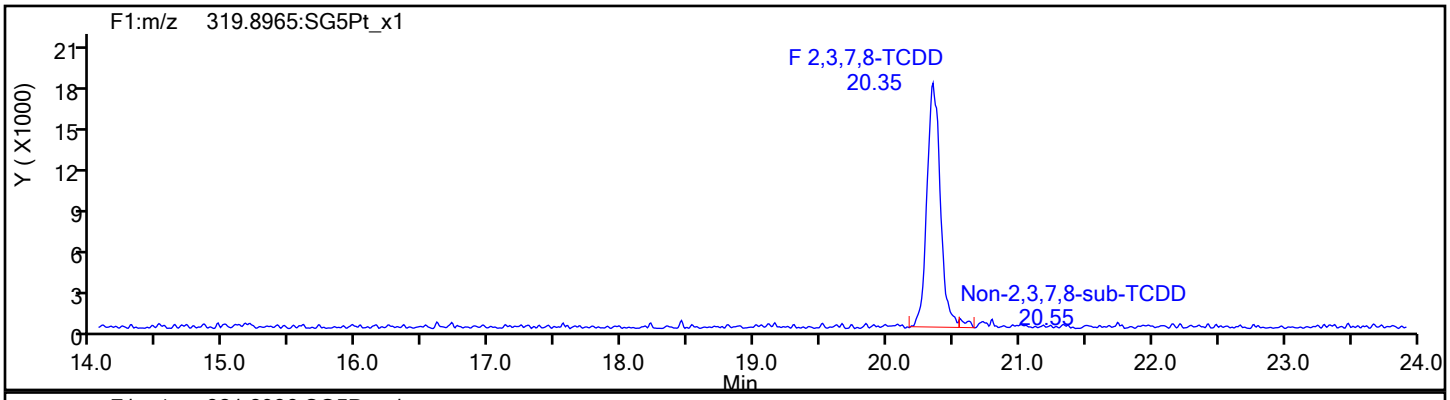
Report Date: 25-Jan-2022 08:33:38 Chrom Revision: 2.3 18-Jan-2022 20:25:40

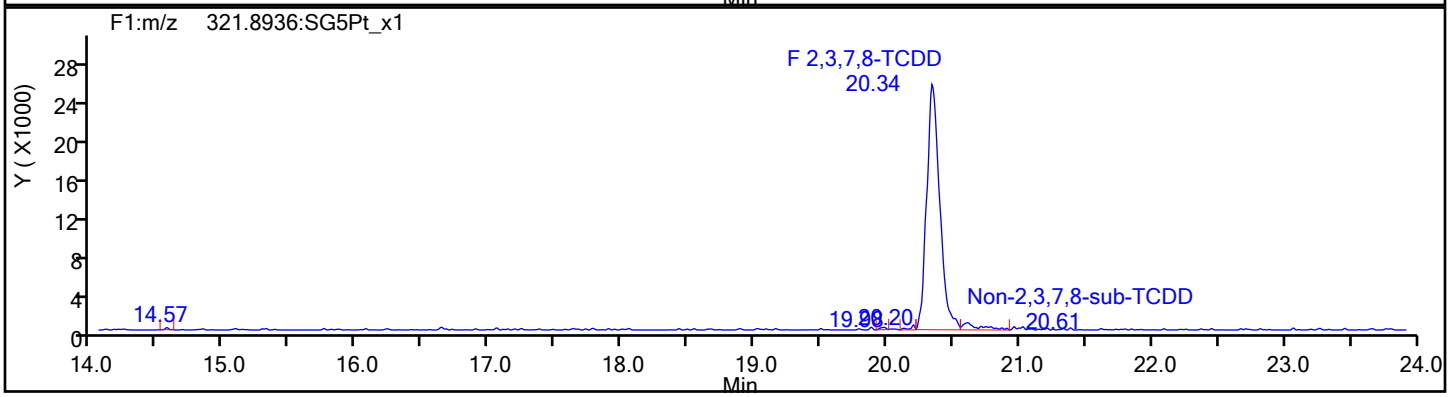
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d

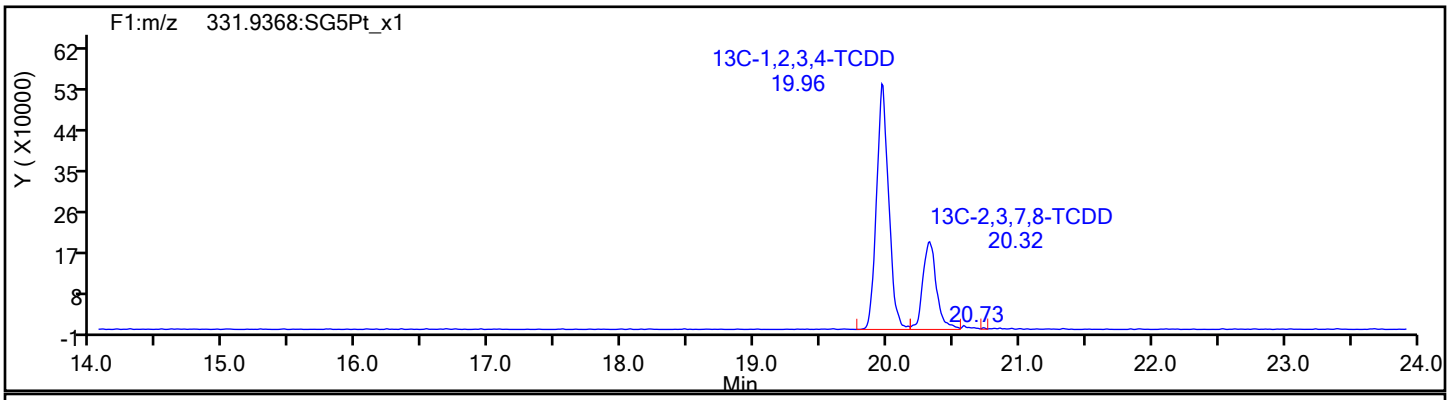
Injection Date:	22-Jan-2022 00:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

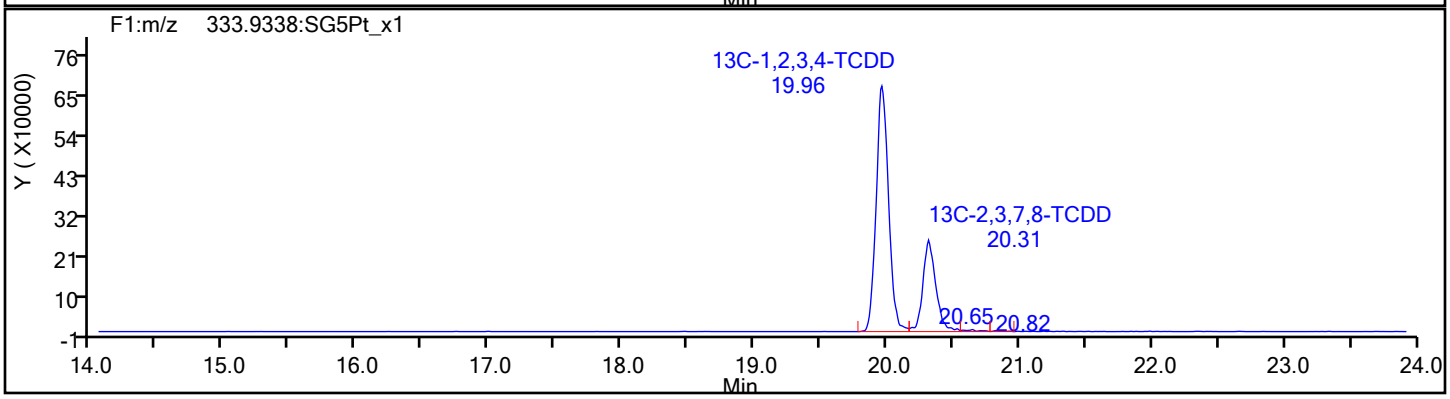
TCDD





TCDD Standards





Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d		
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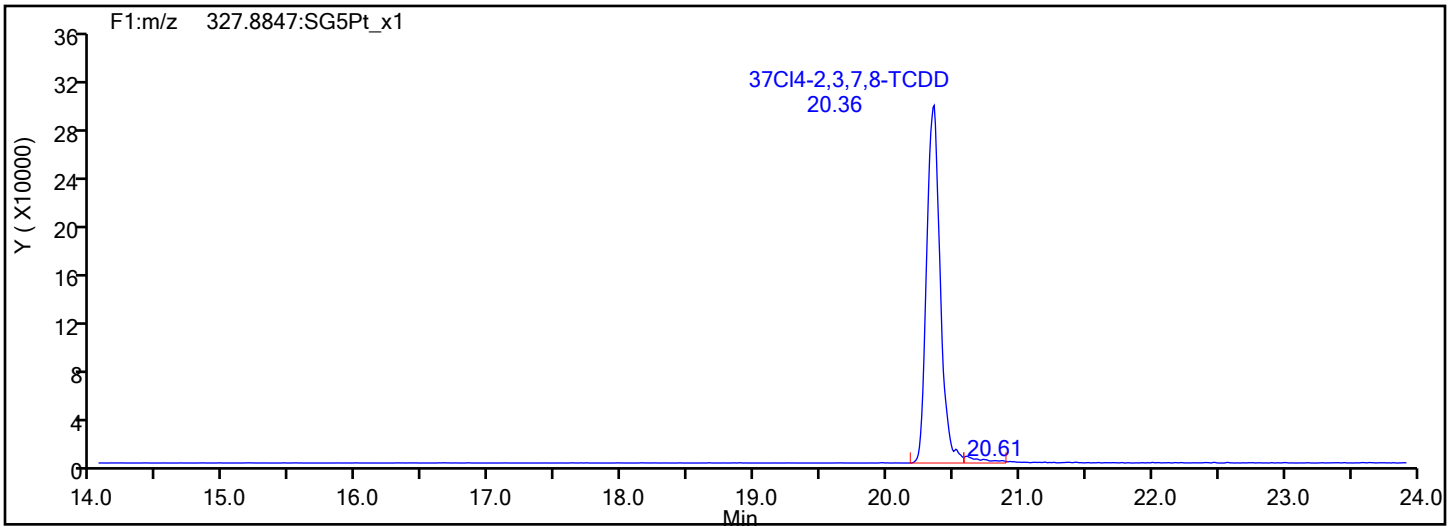
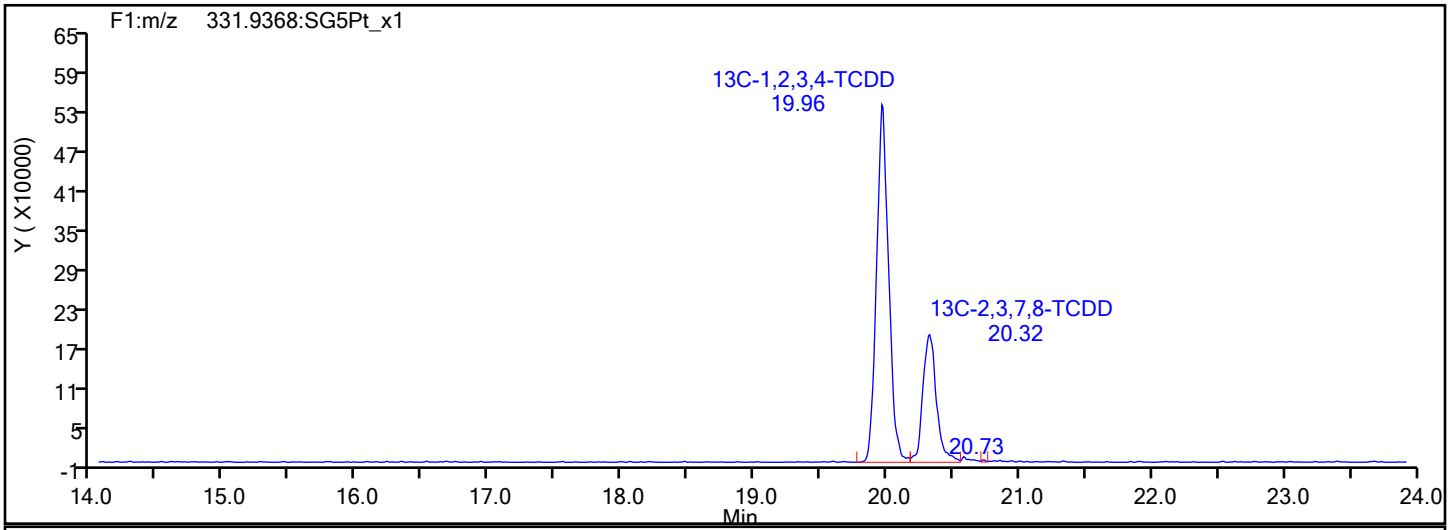
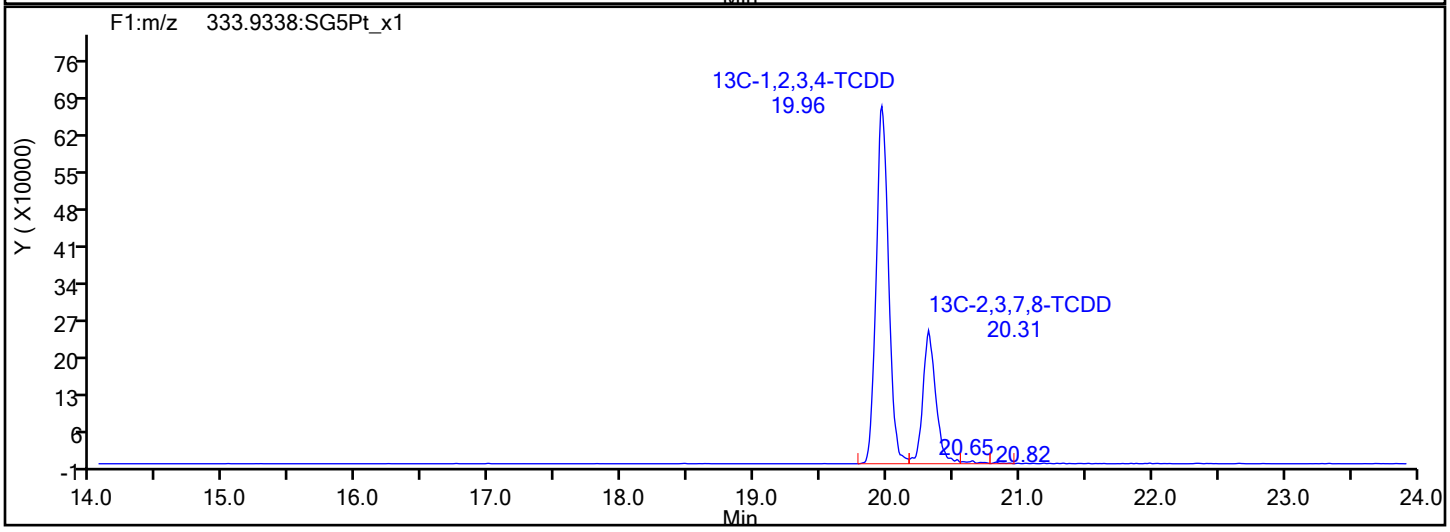
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





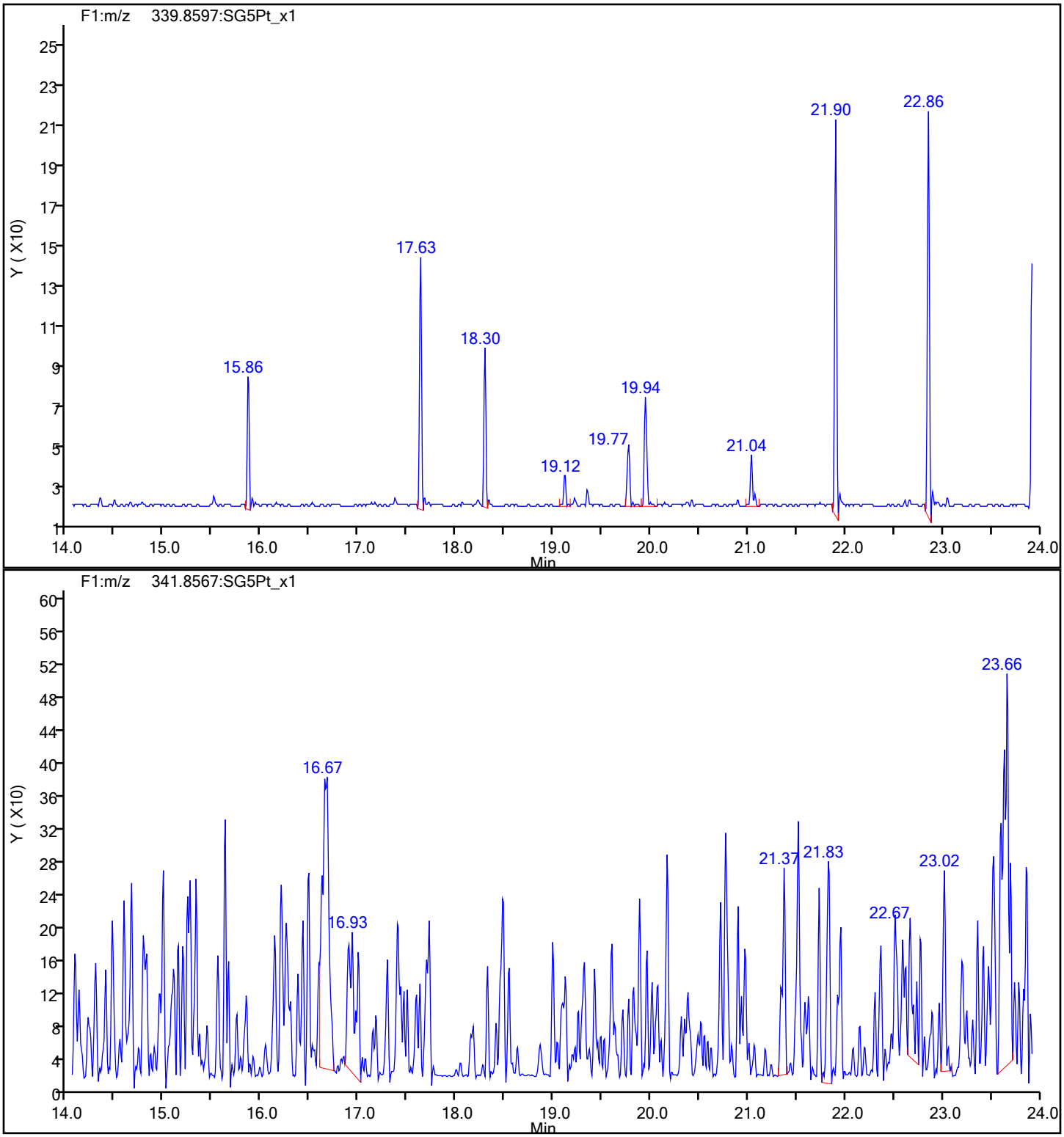
Report Date: 25-Jan-2022 08:33:38 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d

Injection Date:	22-Jan-2022 00:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d		
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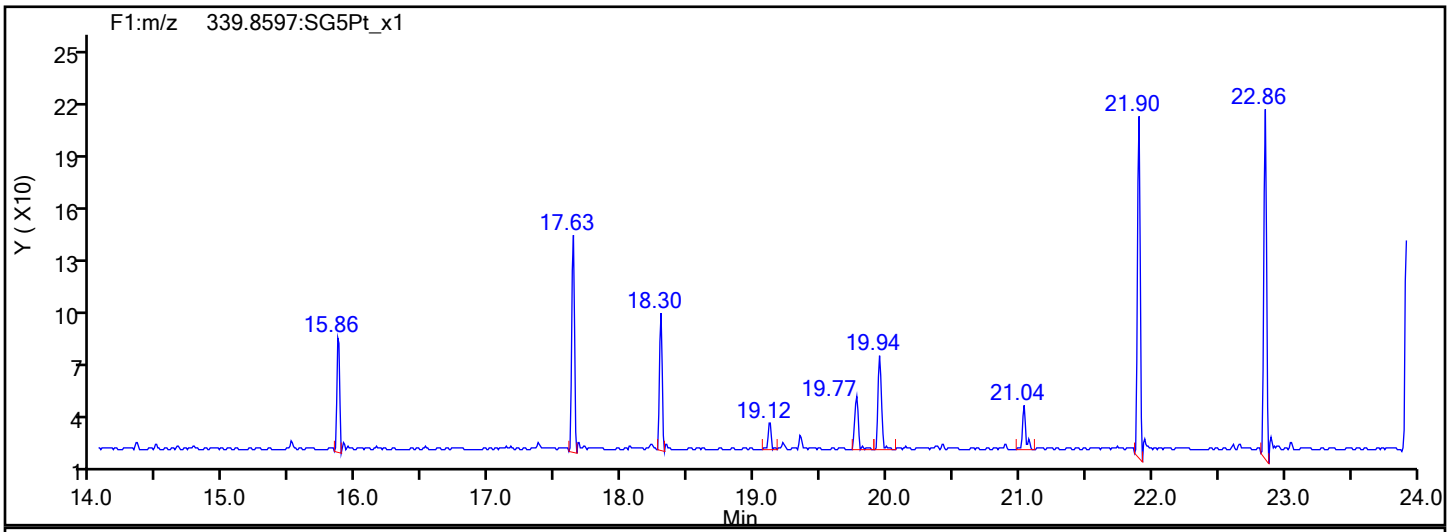
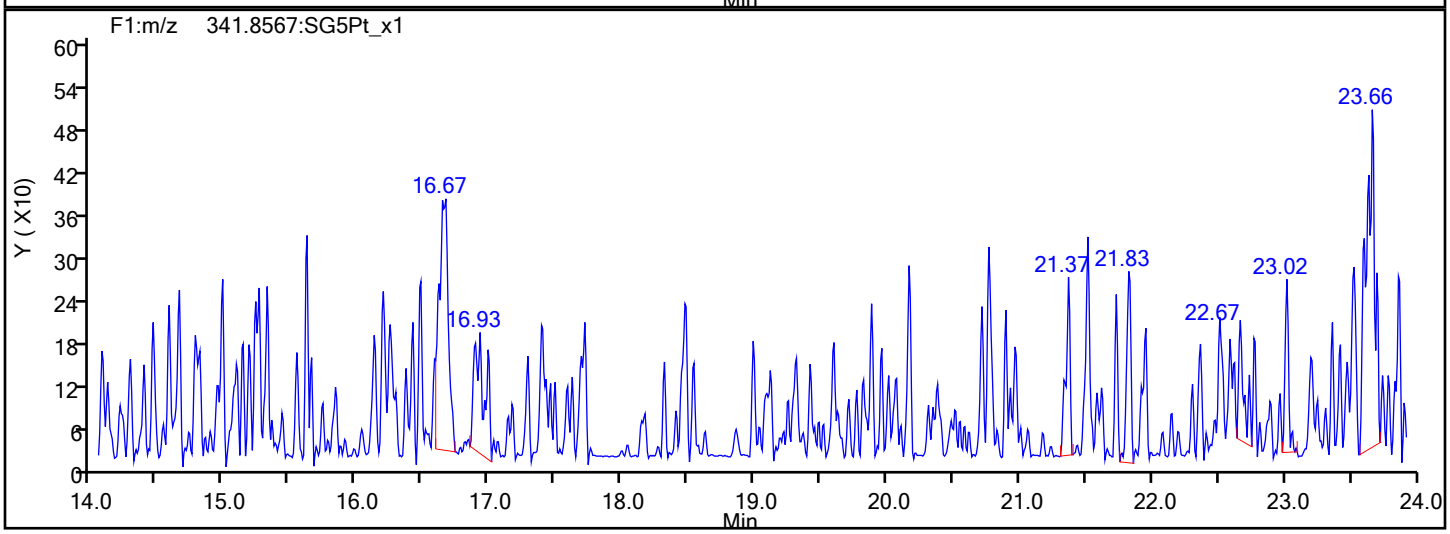
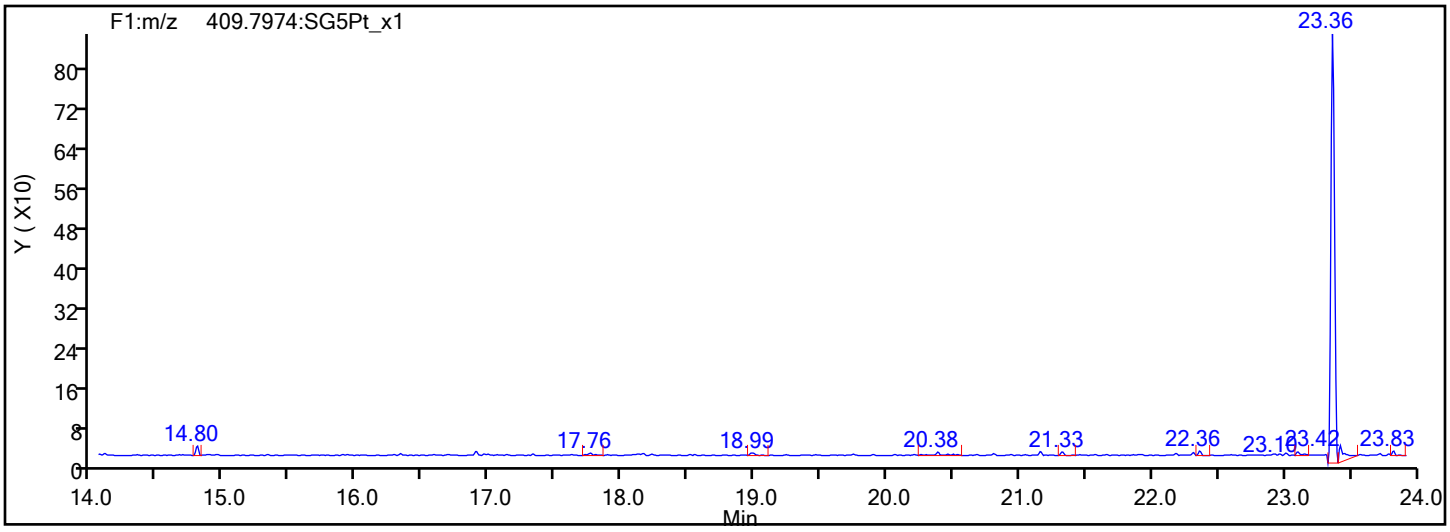
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





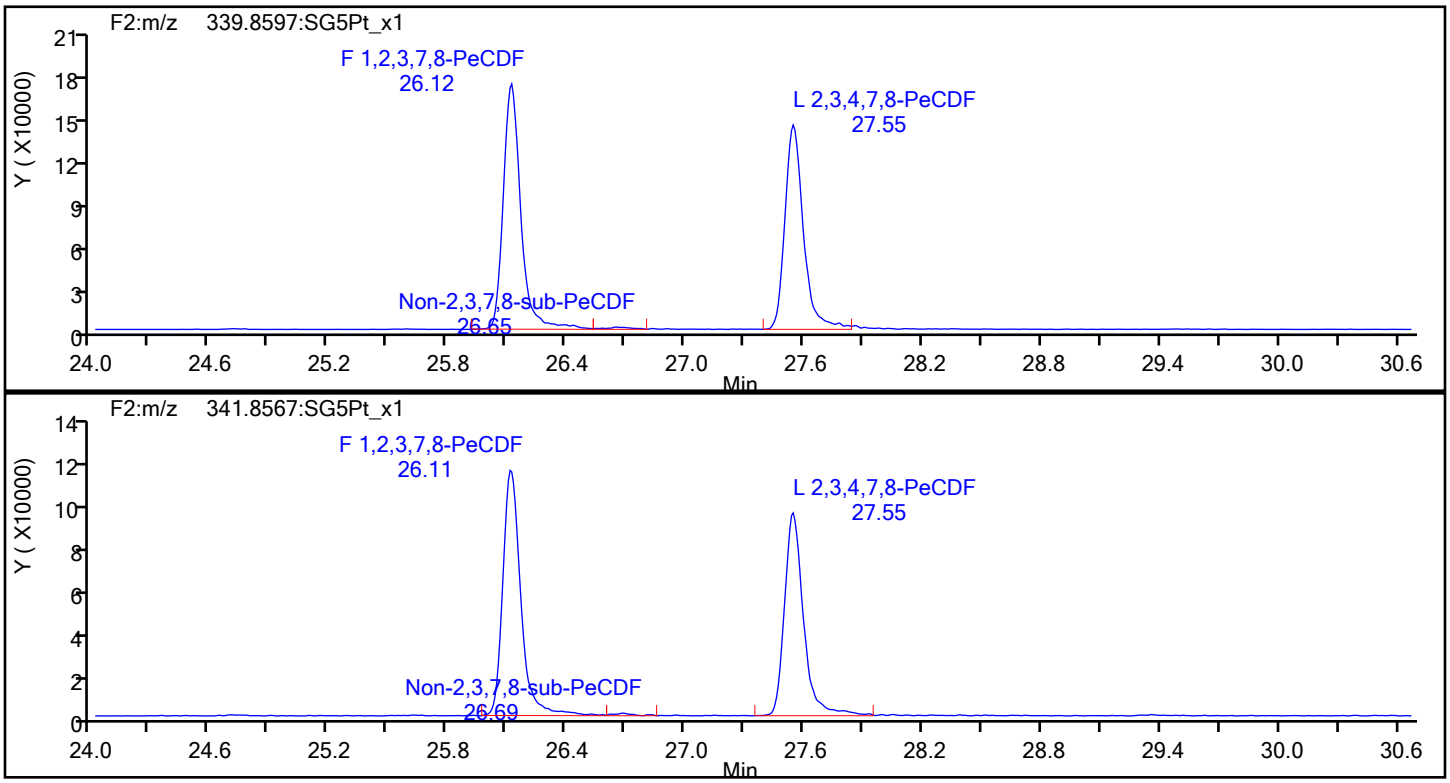
F1 PeCDFs Interference Mass



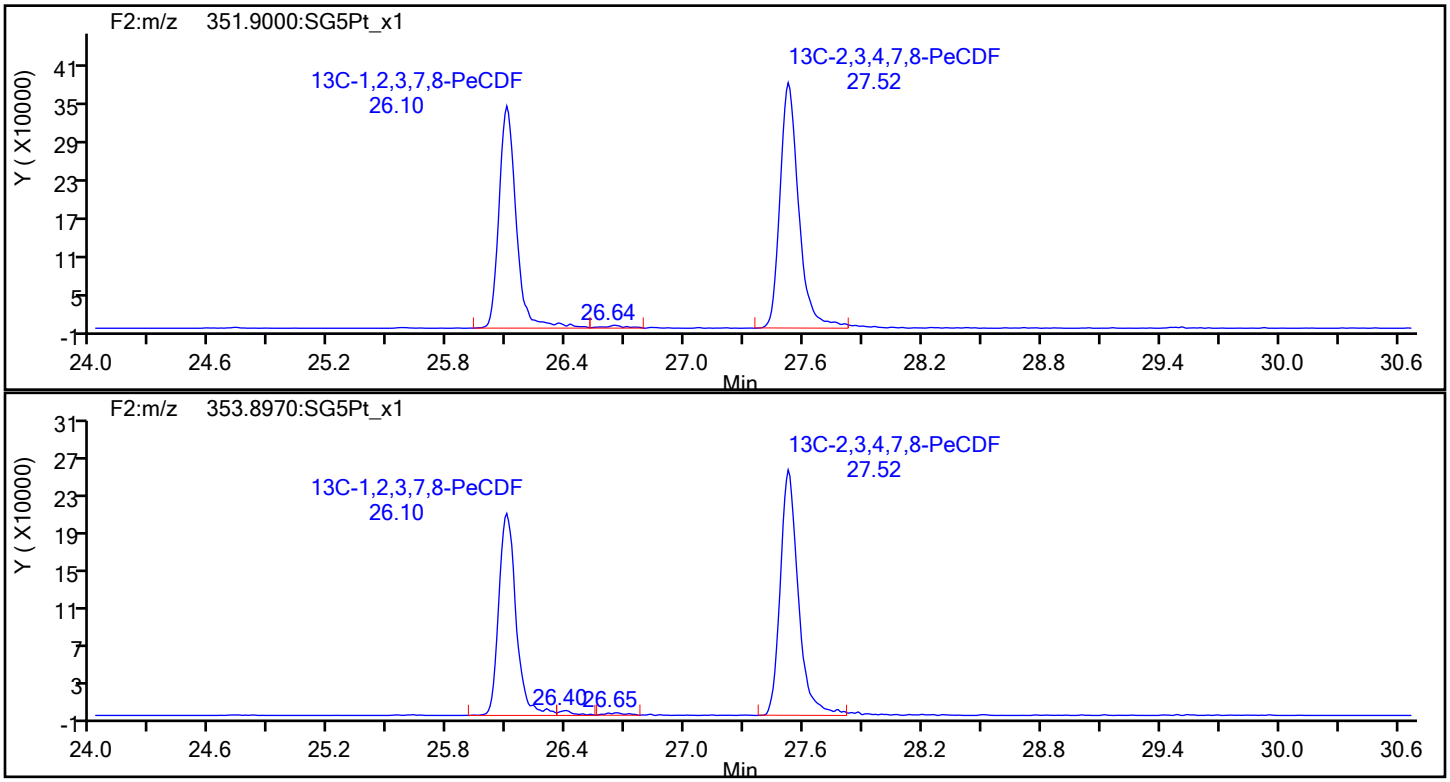
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Injection Date: 22-Jan-2022 00:14:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



PeCDF Standards



Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d		
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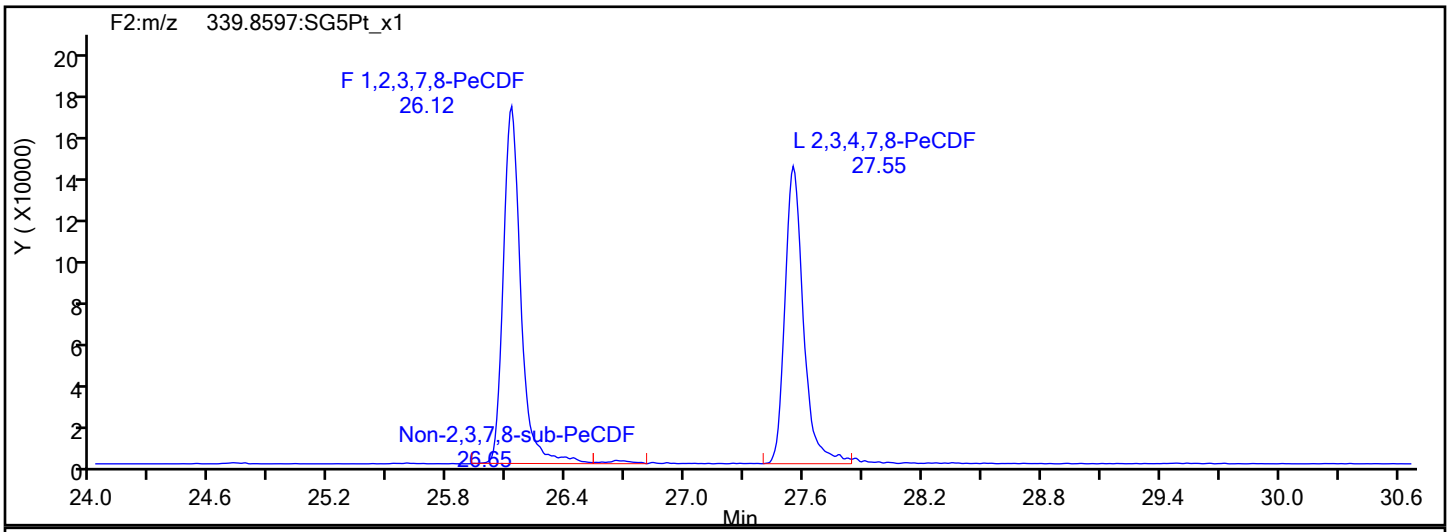
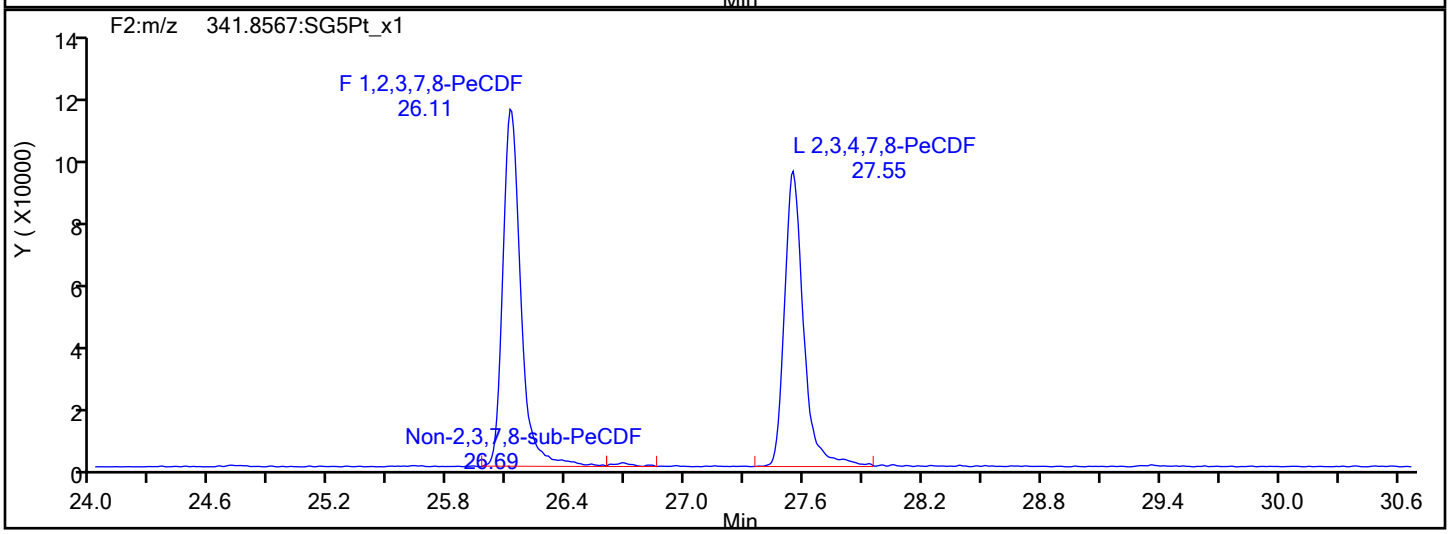
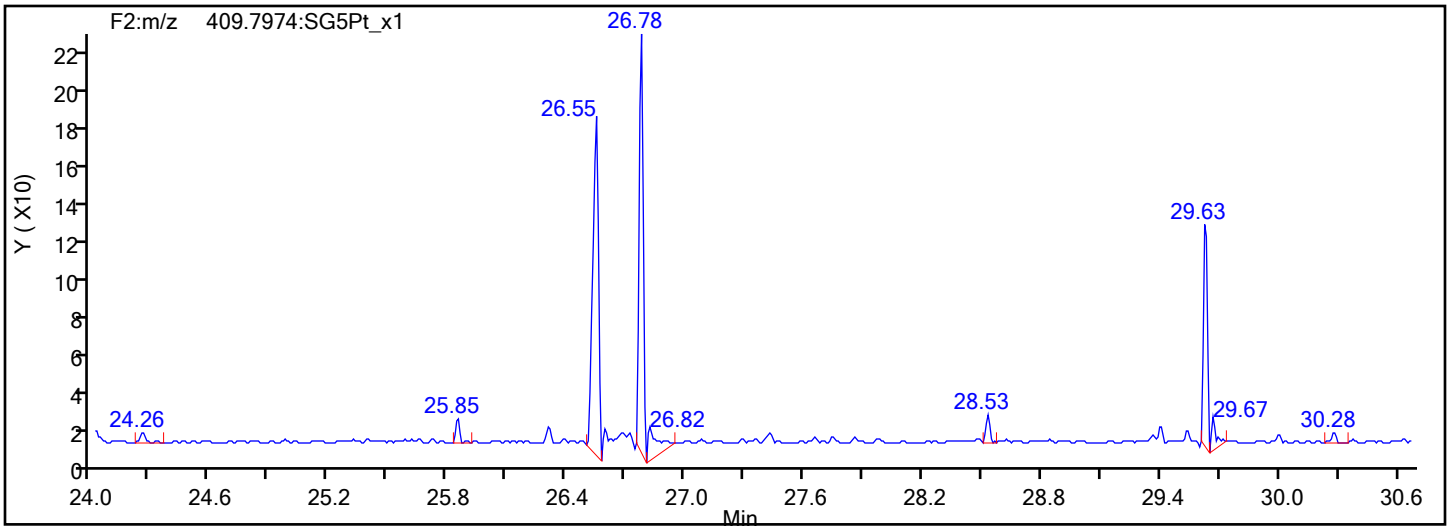
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Eurofins Sacramento

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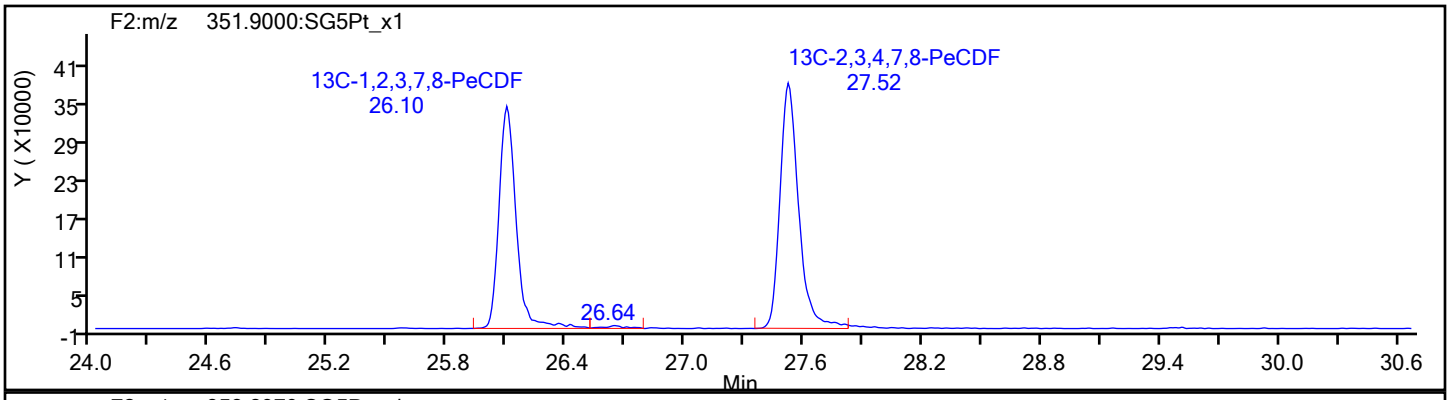
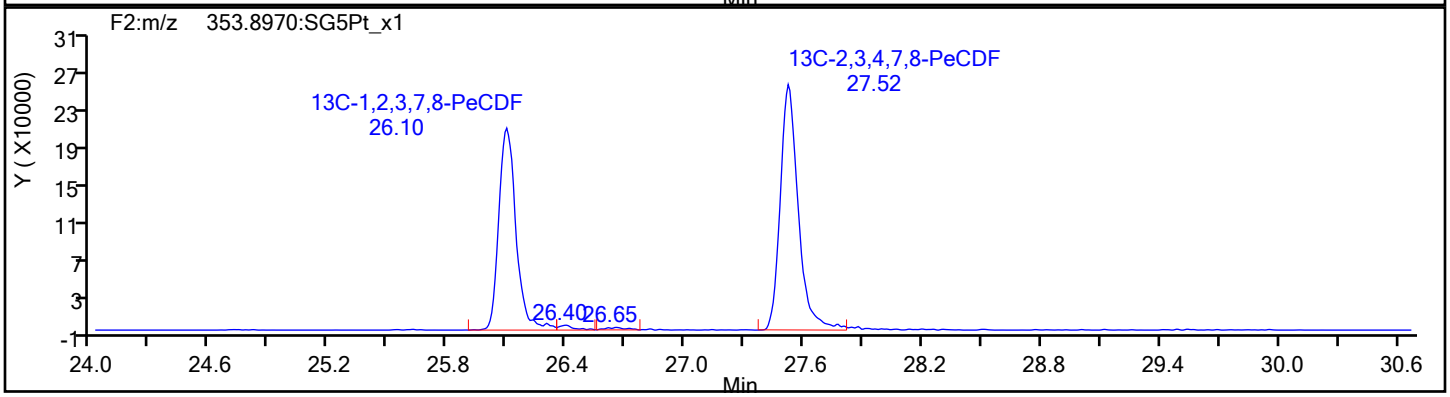
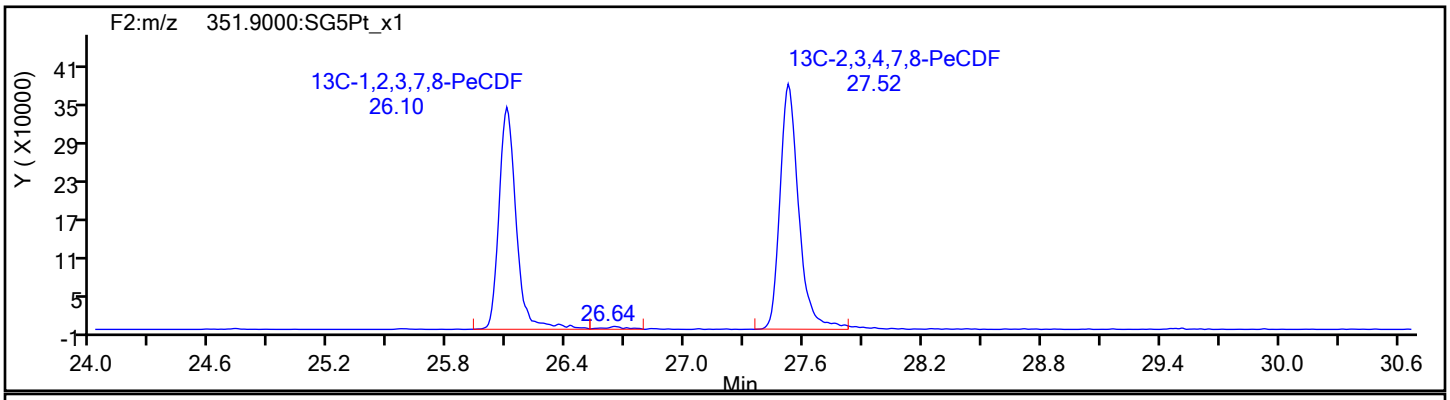
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

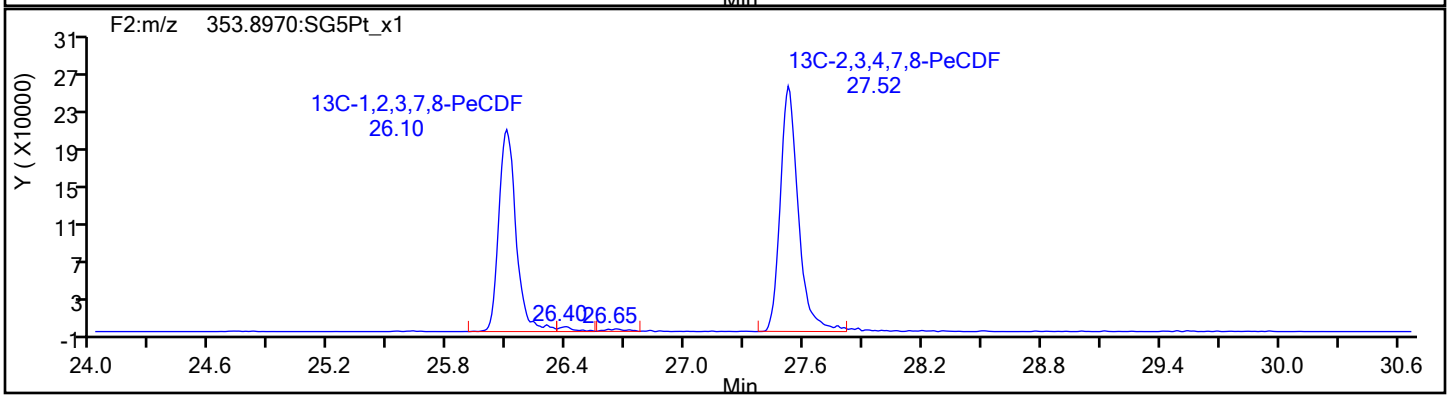
13C-PeCDF





13C-PeCDF Standards

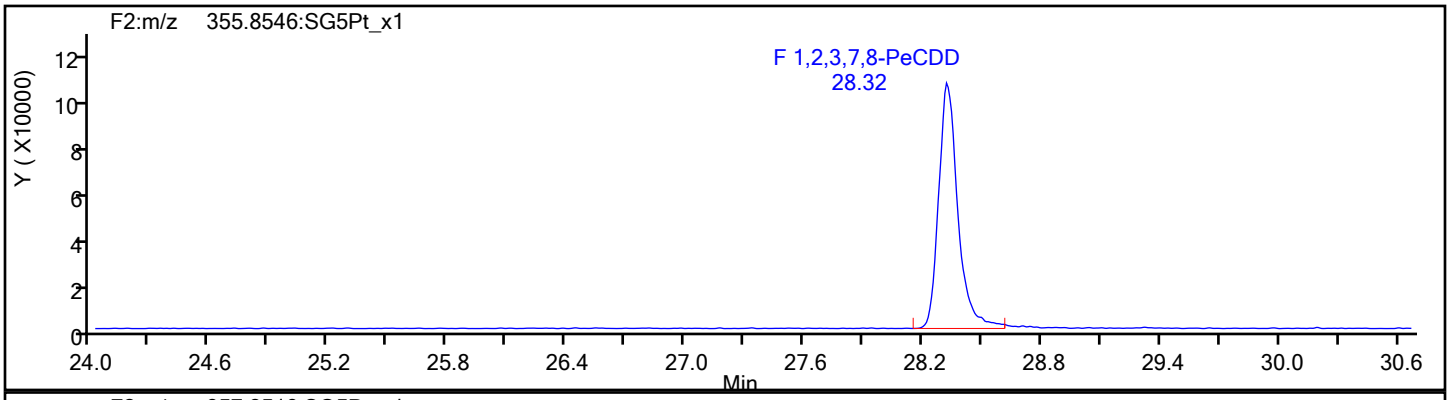


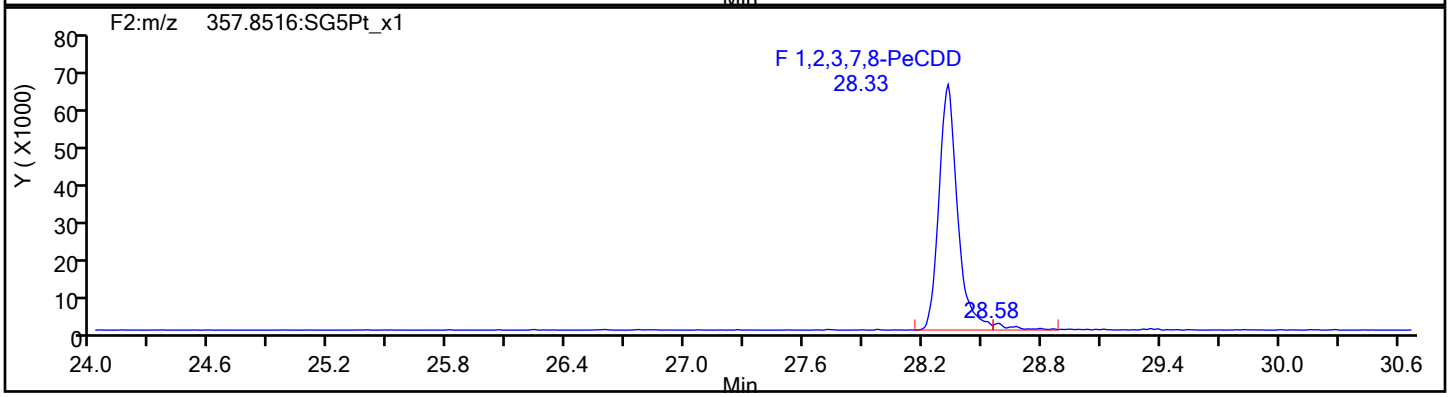


Eurofins Sacramento

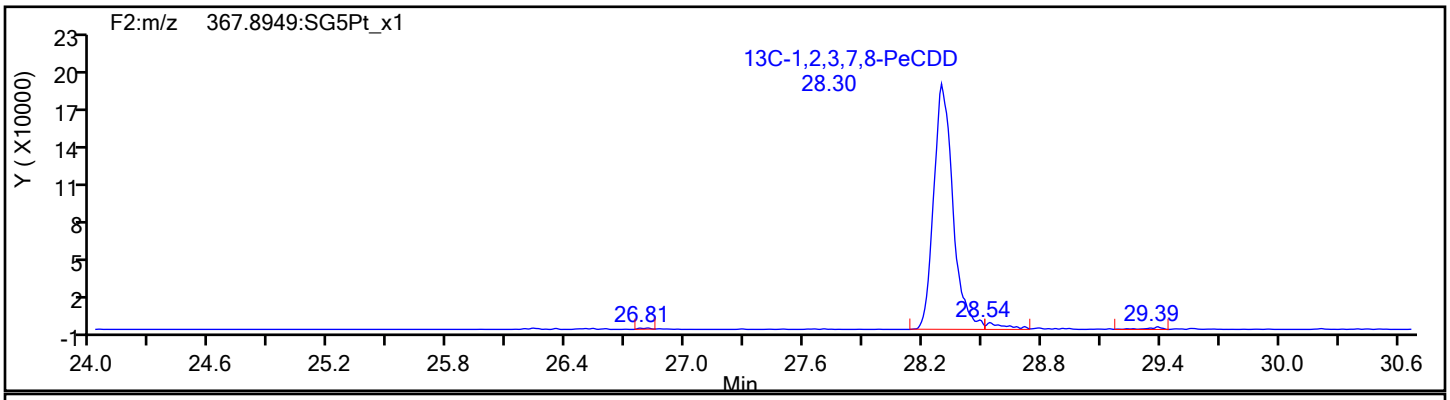
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Injection Date: 22-Jan-2022 00:14:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

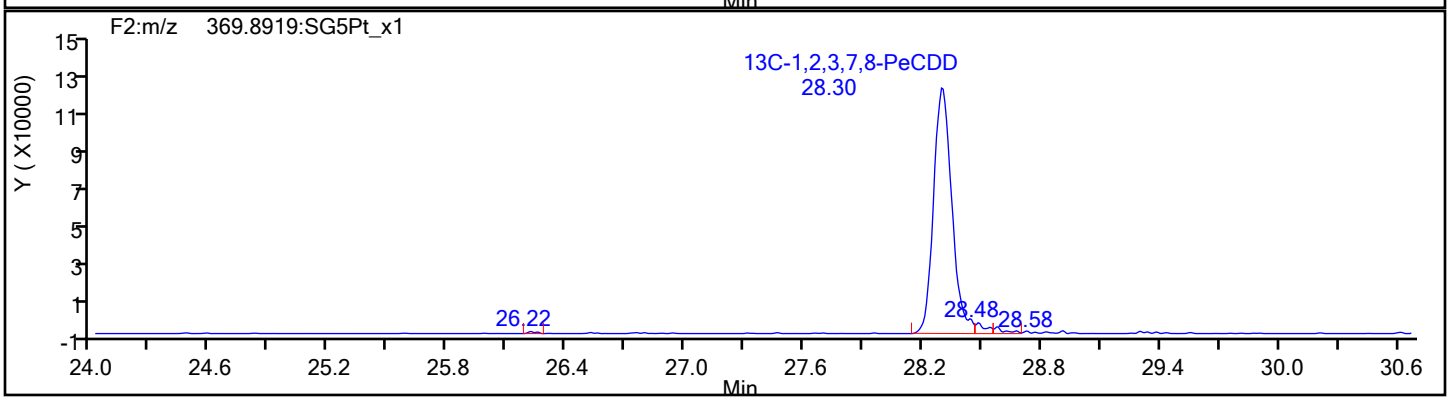
PeCDD





PeCDD Standards





Eurofins Sacramento

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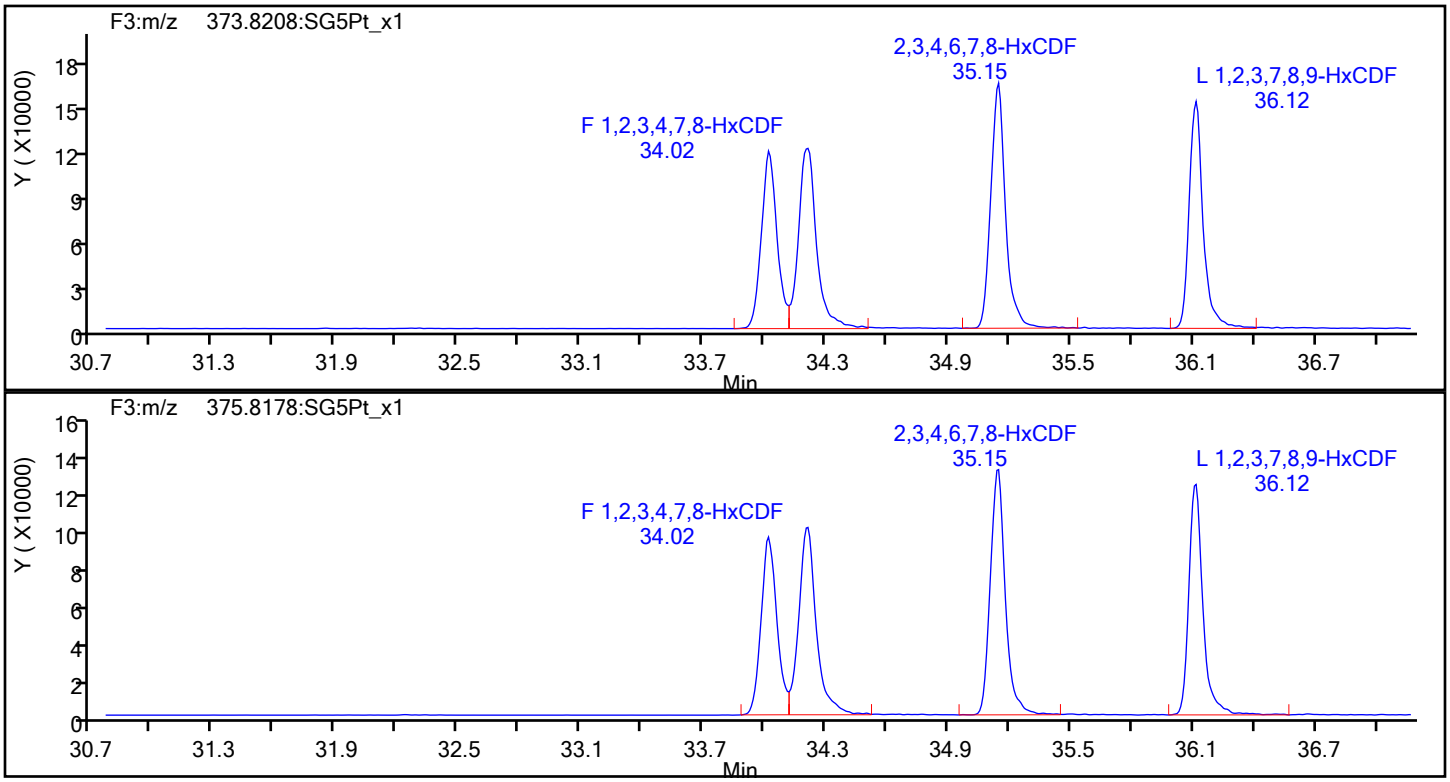
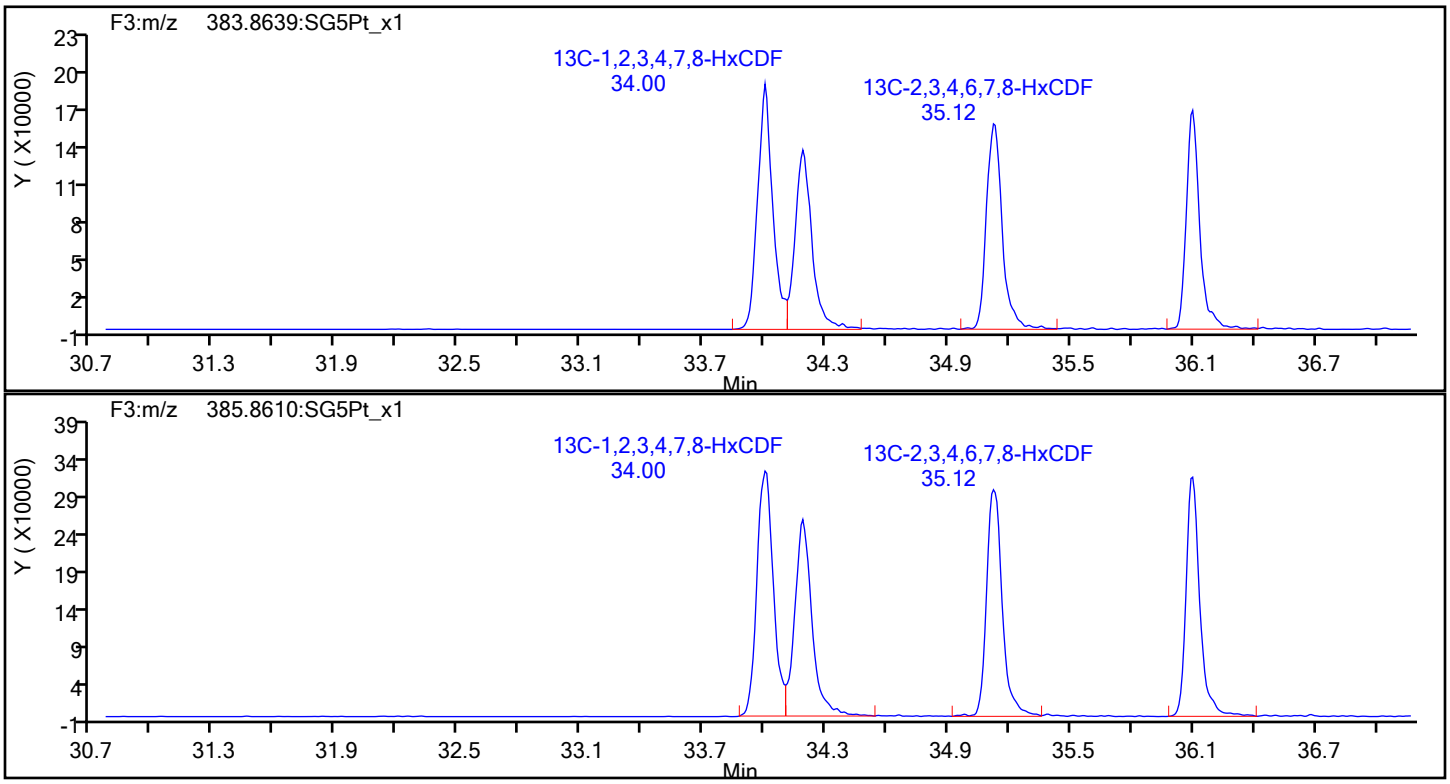
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF



HxCDF Standards



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
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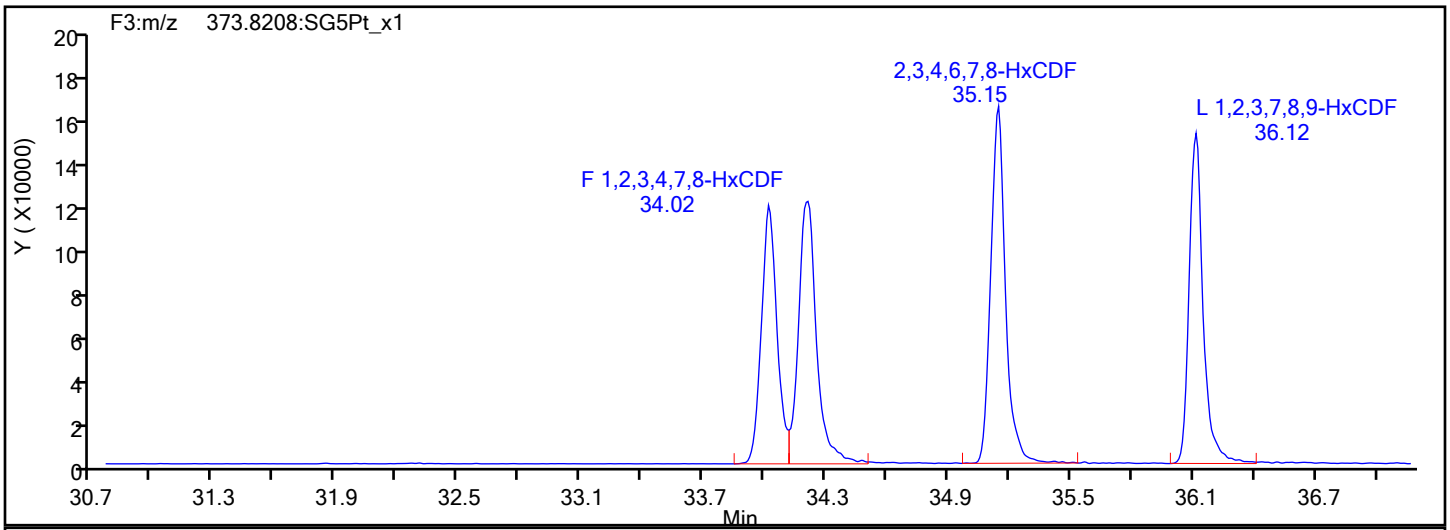
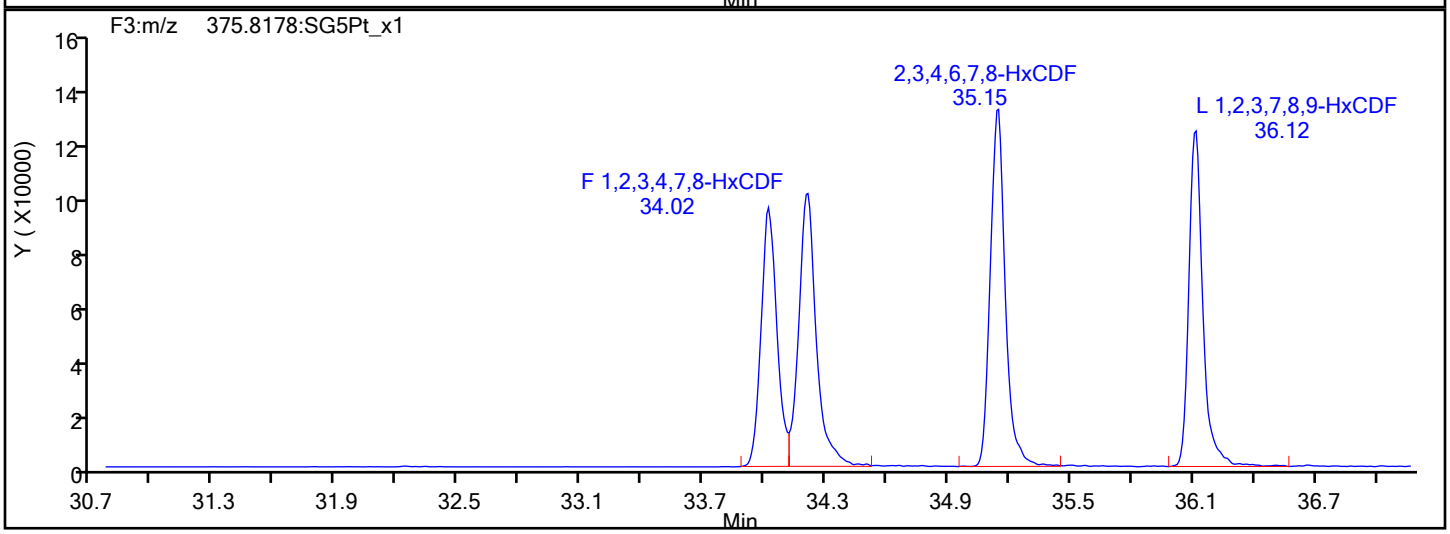
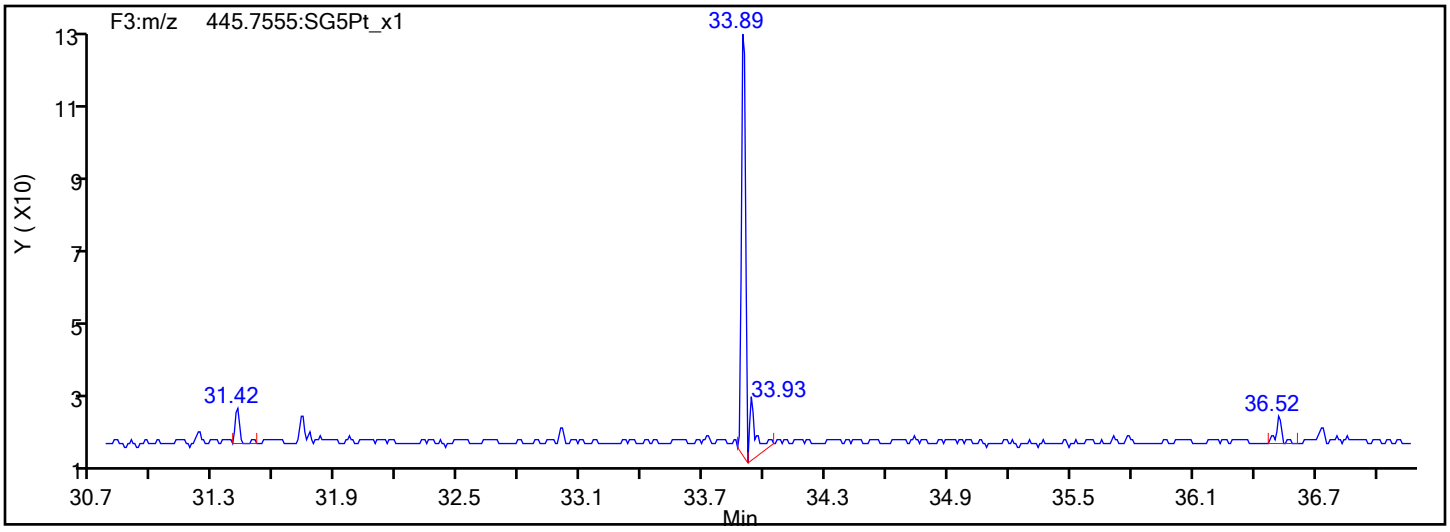
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Injection Date: 22-Jan-2022 00:14:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
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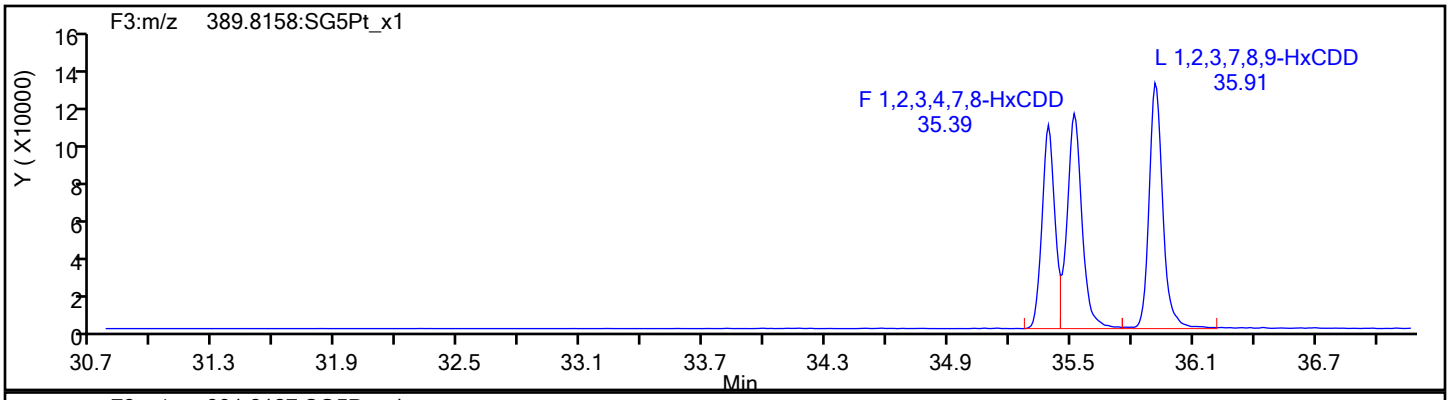
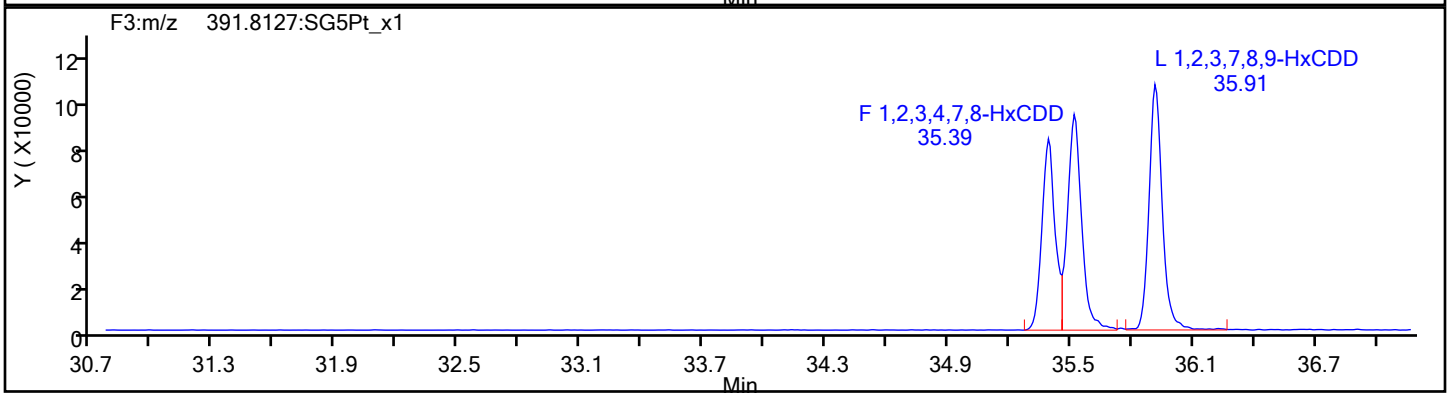
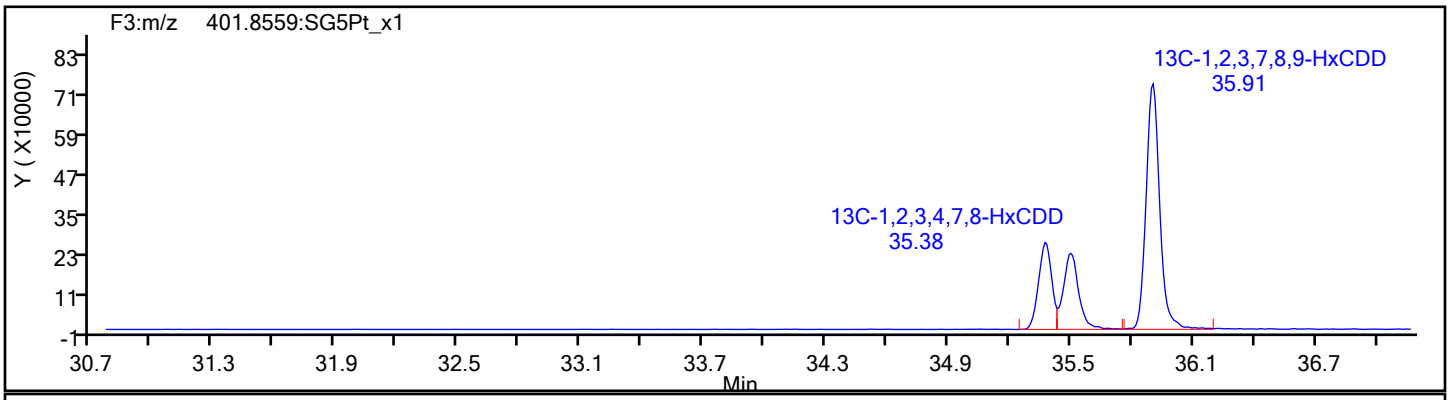
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

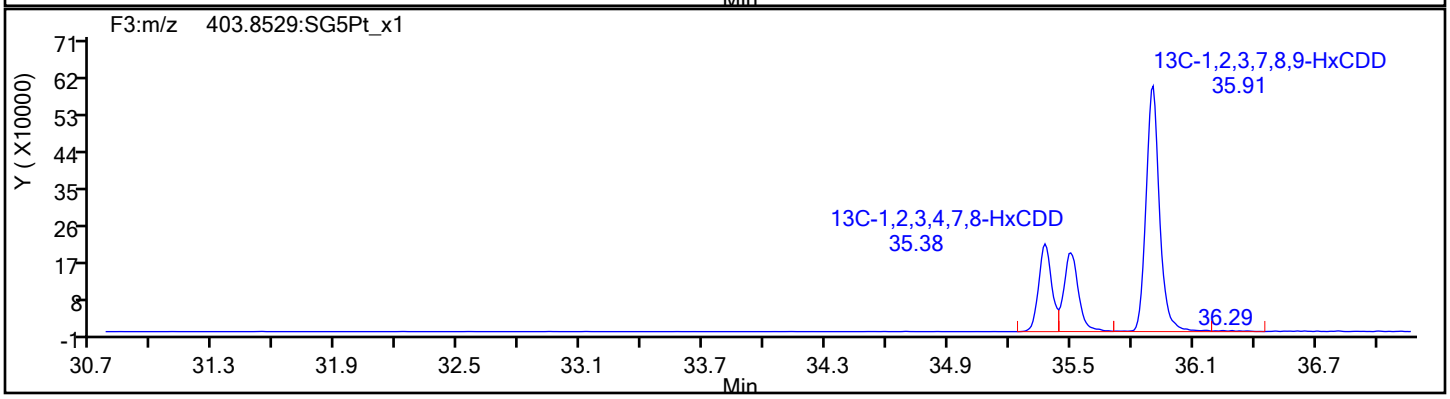
HxCDD





HxCDD Standards





Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
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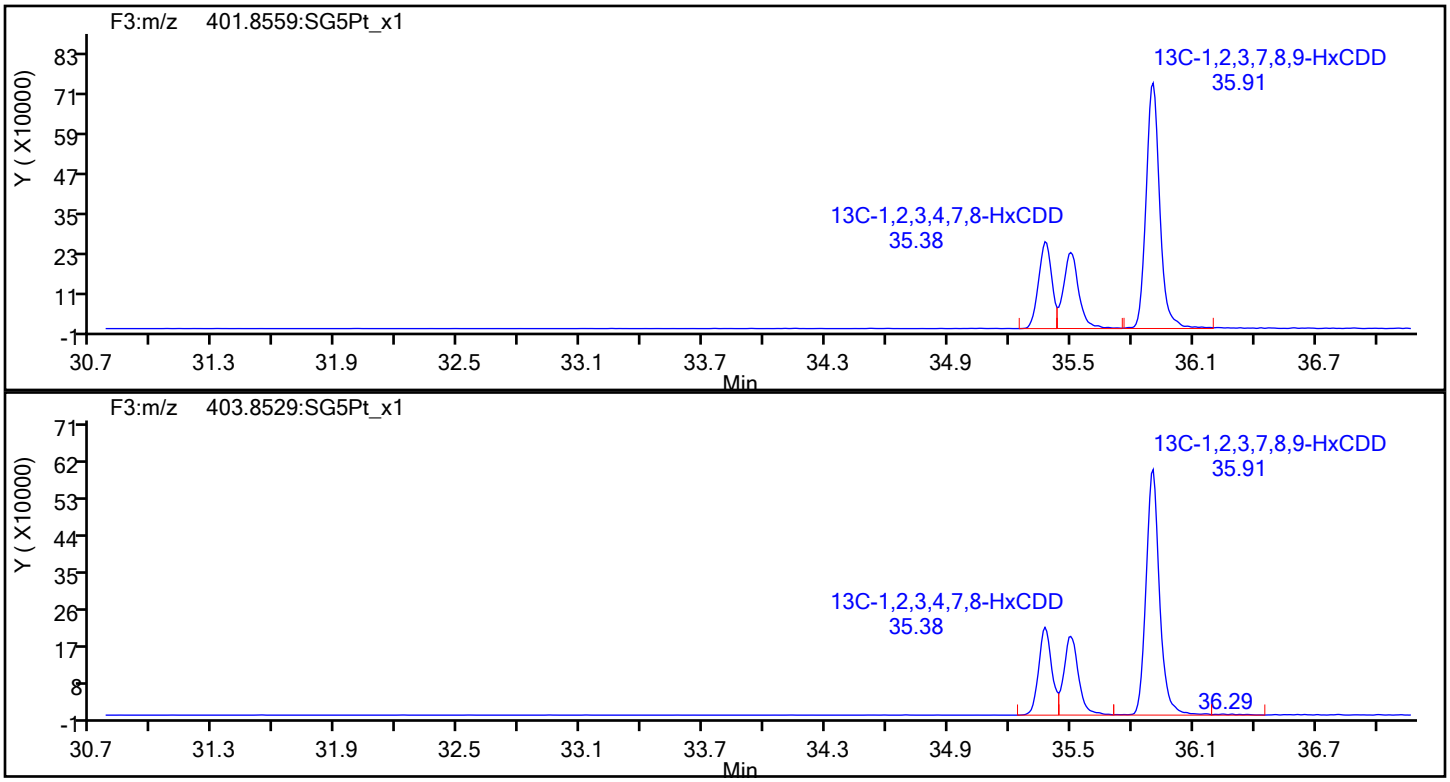
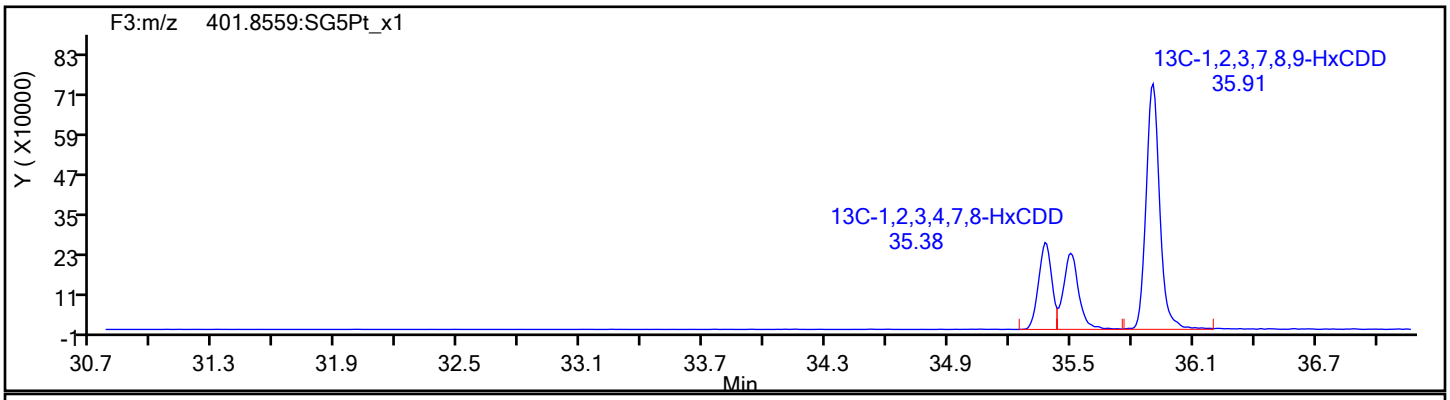
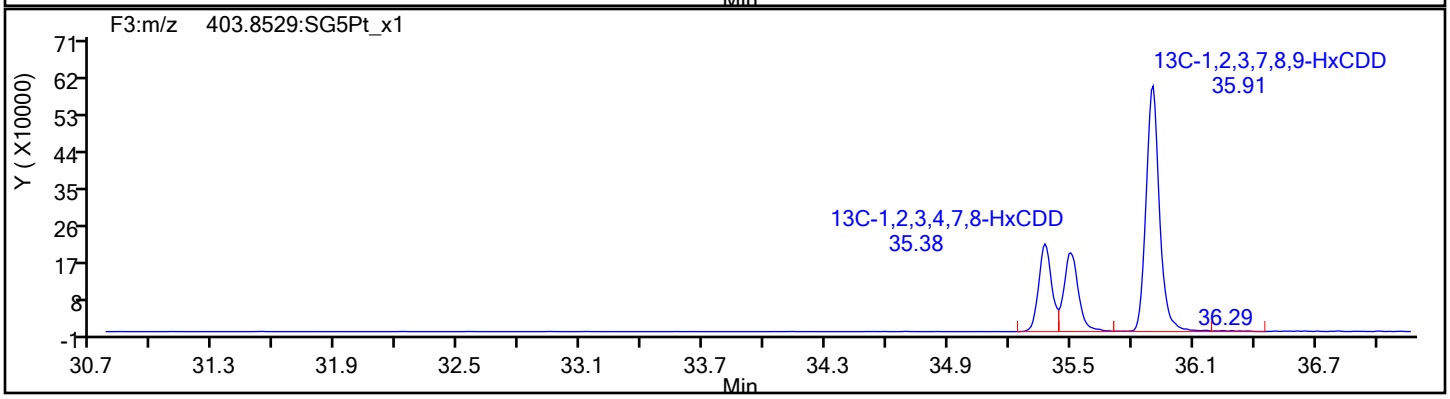
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

13C-HxCDD



13C-HxCDD Standards

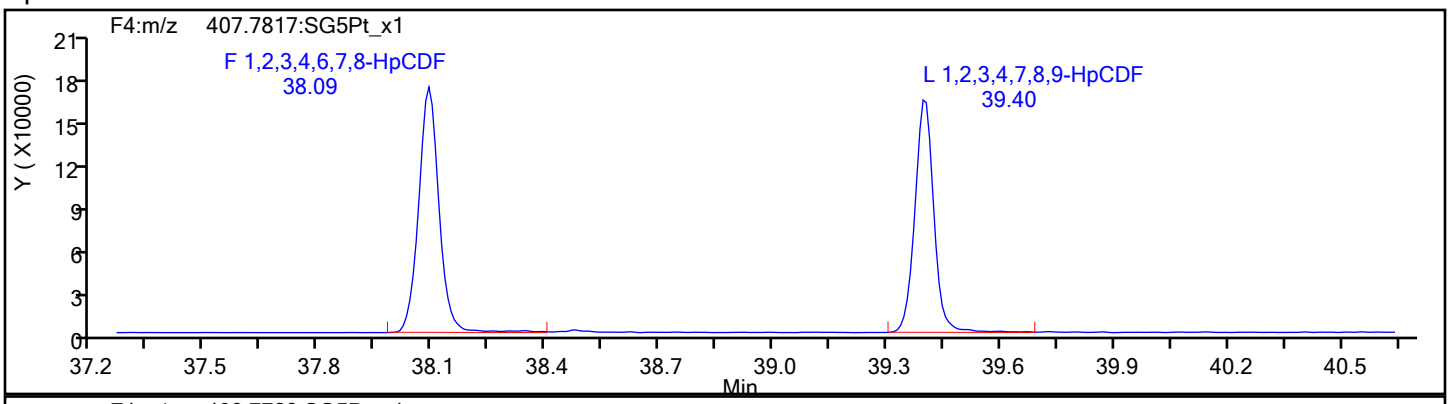


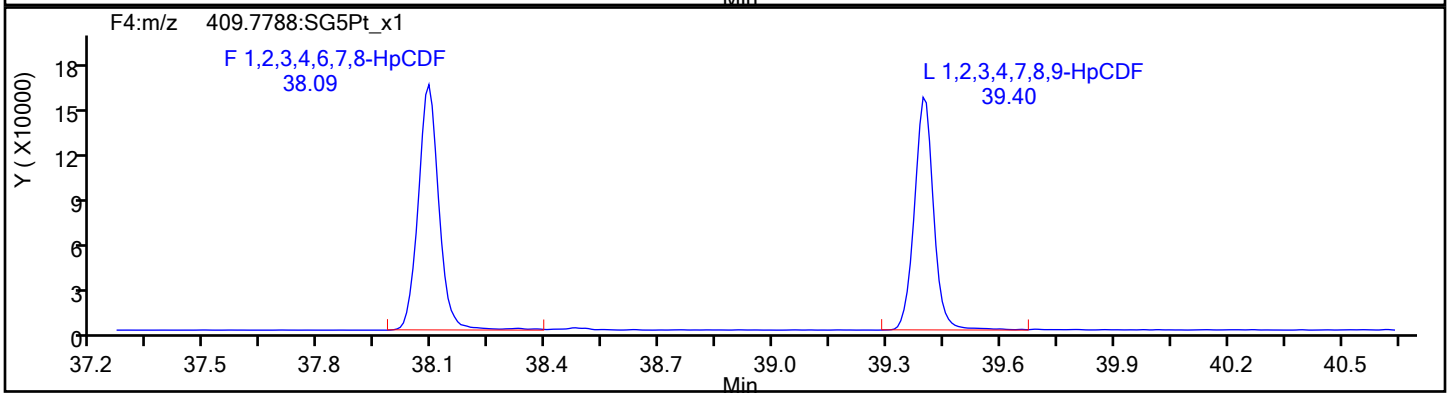


Eurofins Sacramento

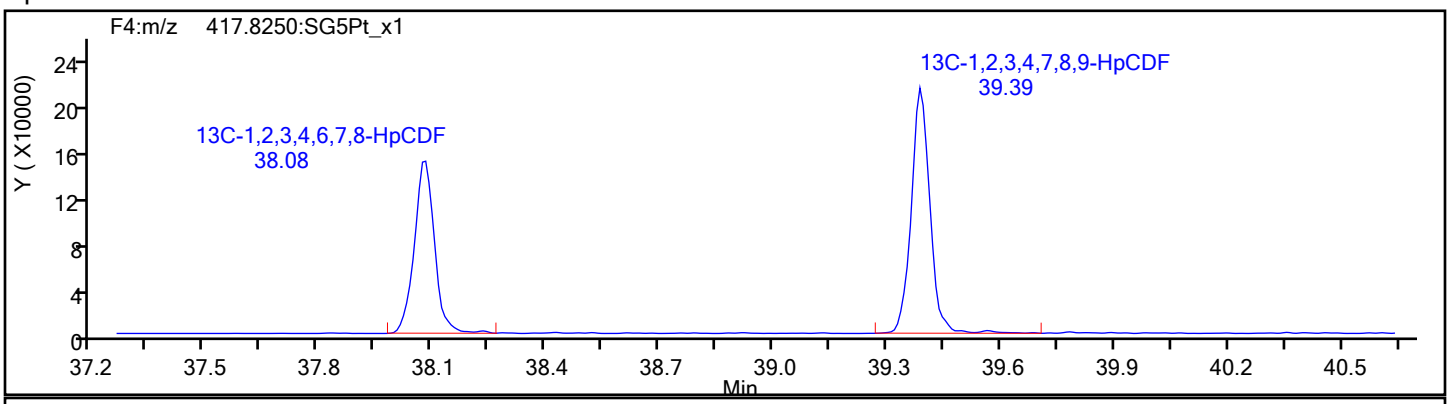
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Injection Date: 22-Jan-2022 00:14:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

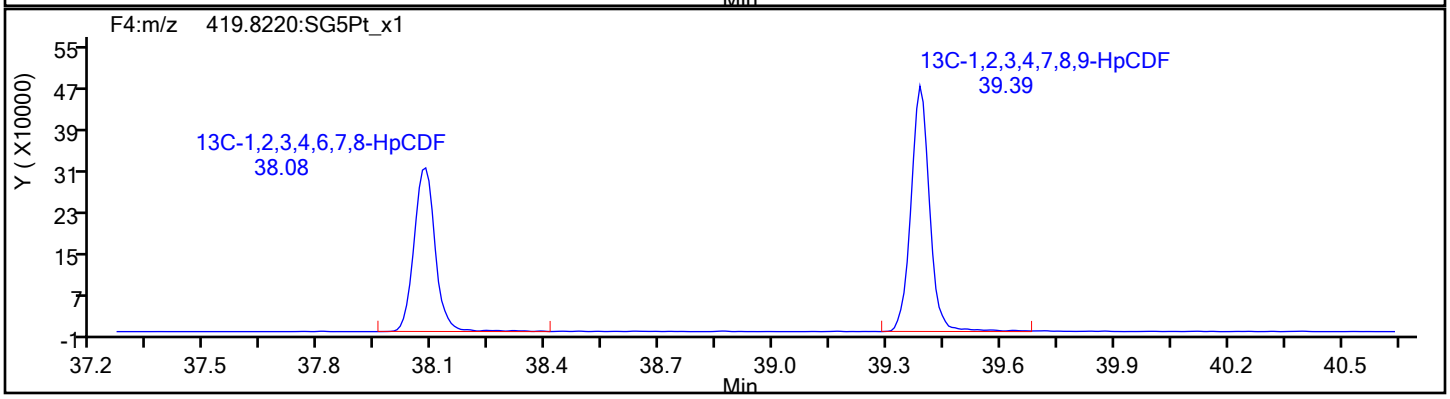
HpCDF





HpCDF Standards

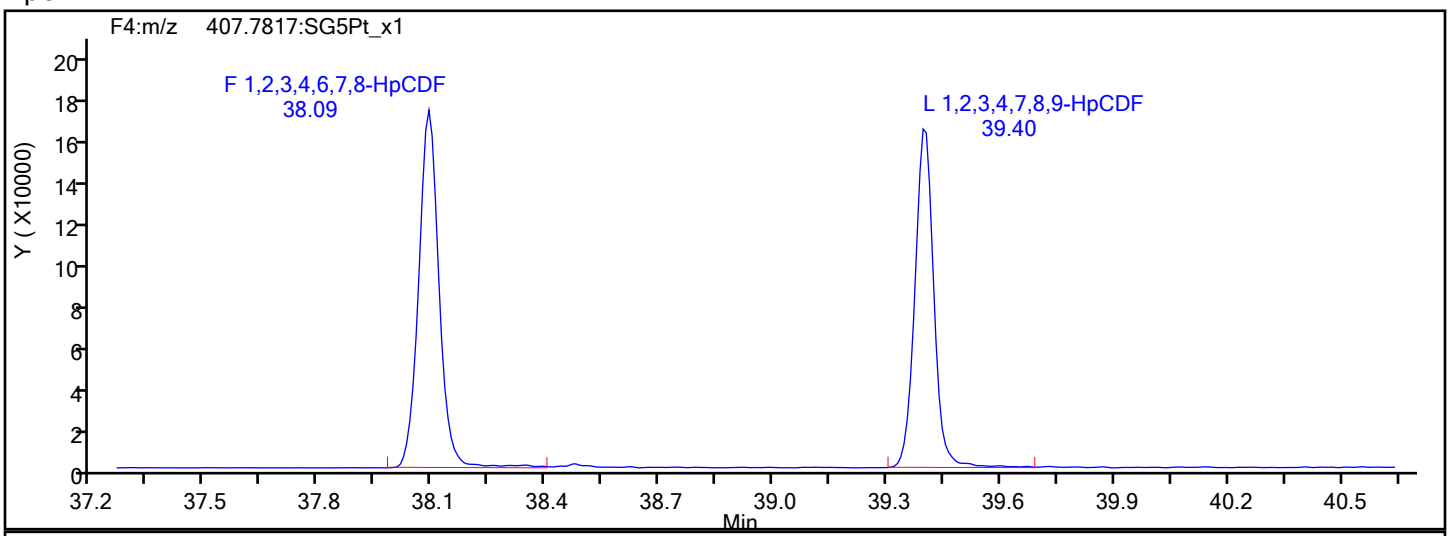


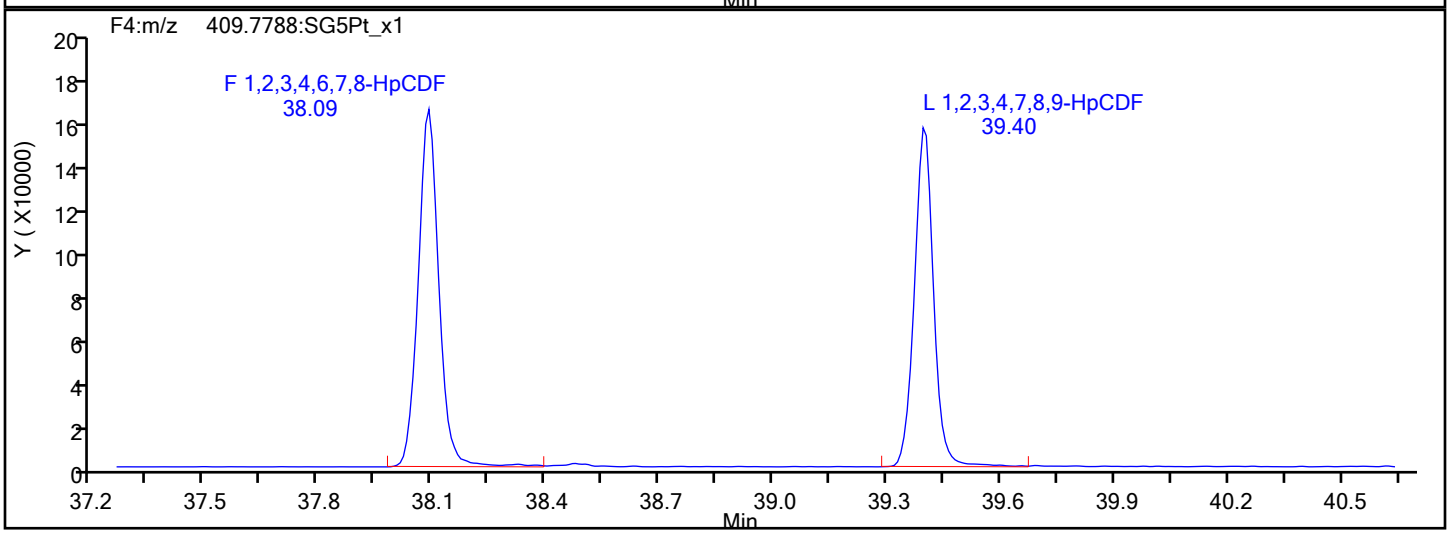


Eurofins Sacramento

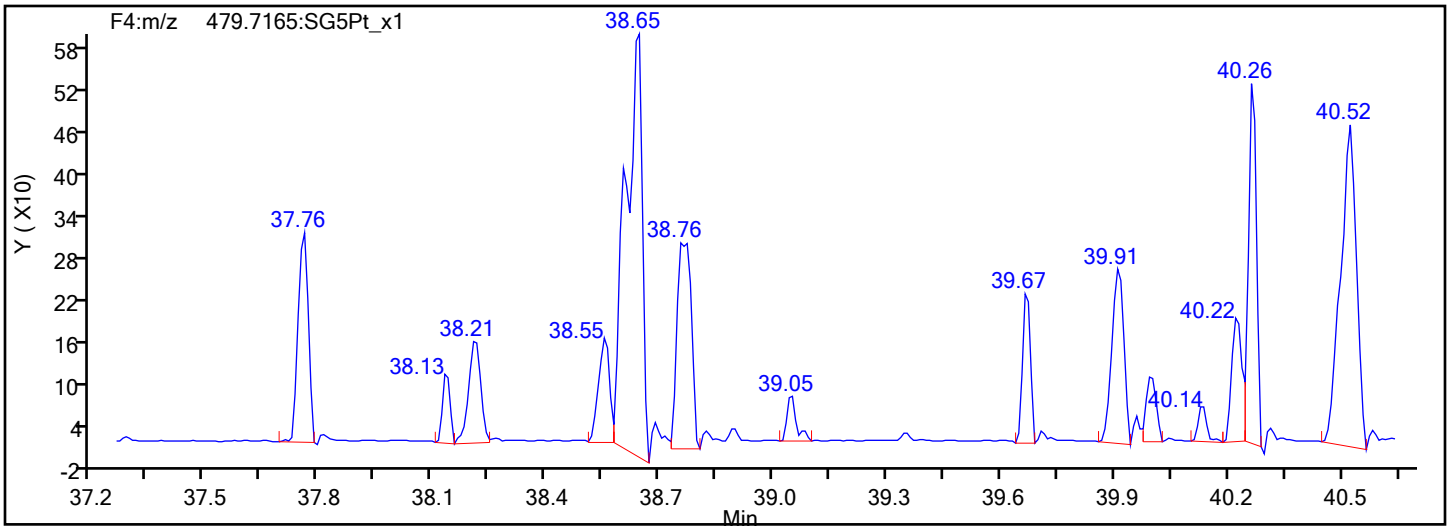
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Injection Date: 22-Jan-2022 00:14:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
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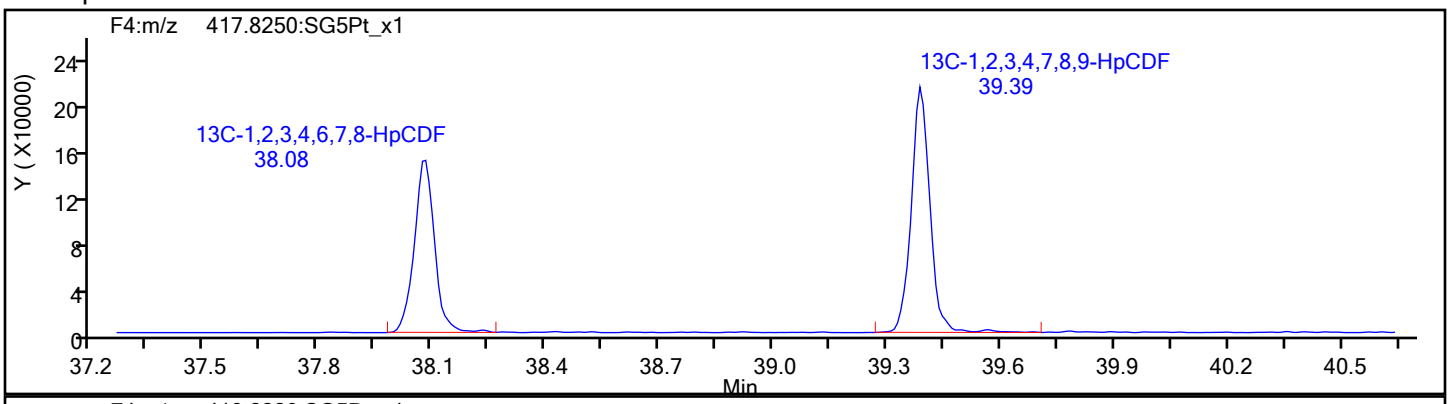
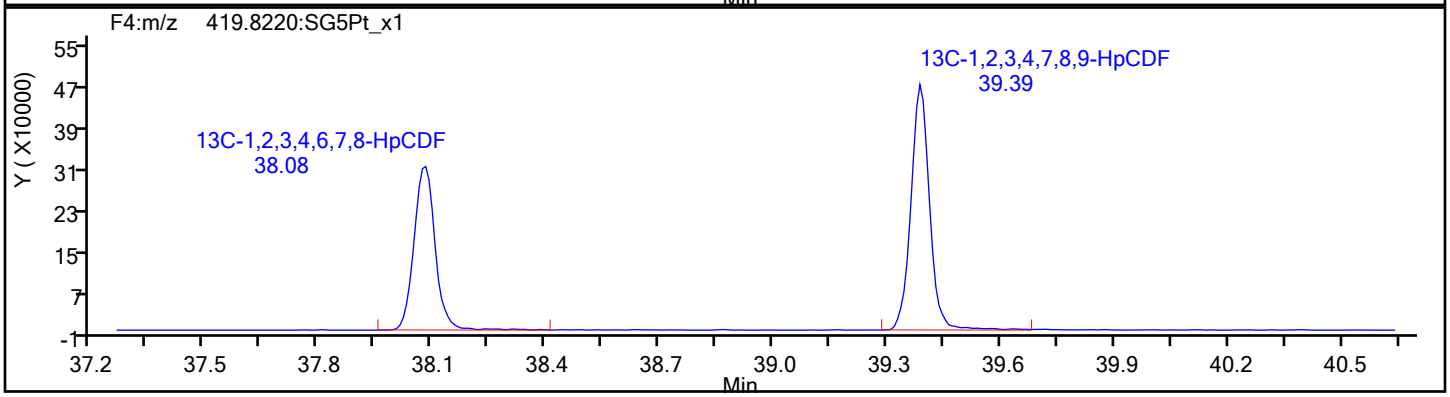
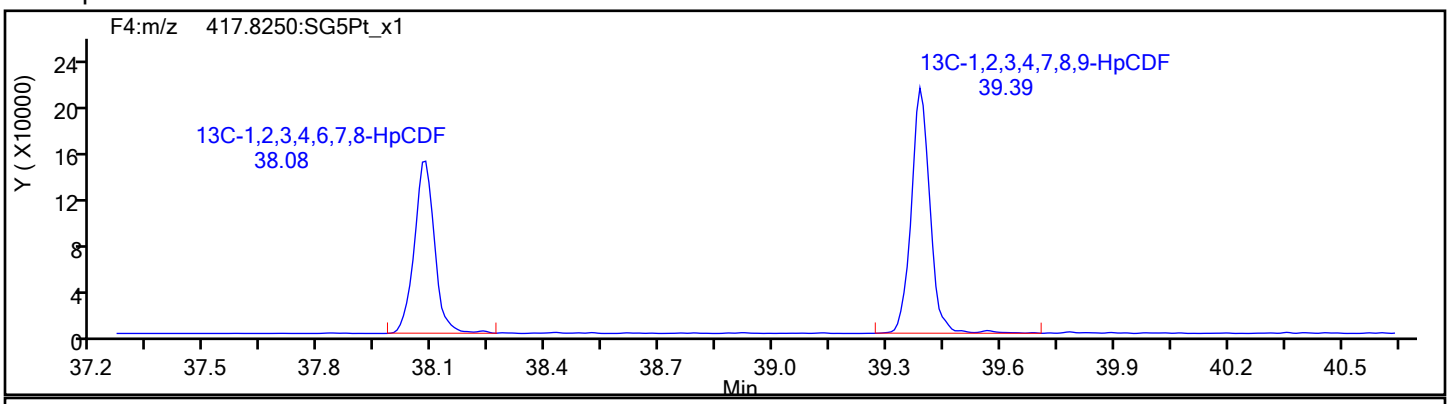
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

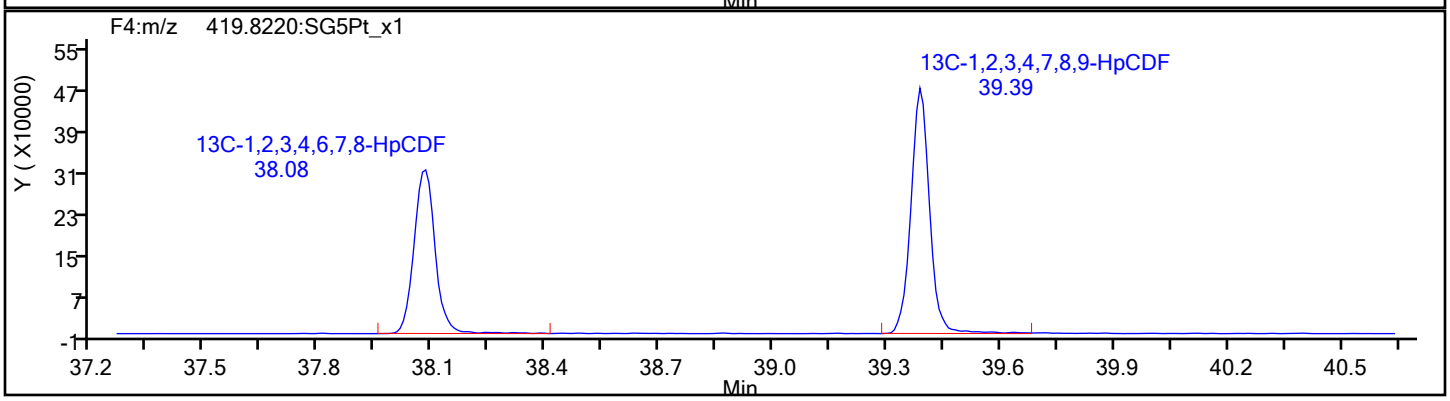
13C-HpCDF





13C-HpCDF Standards

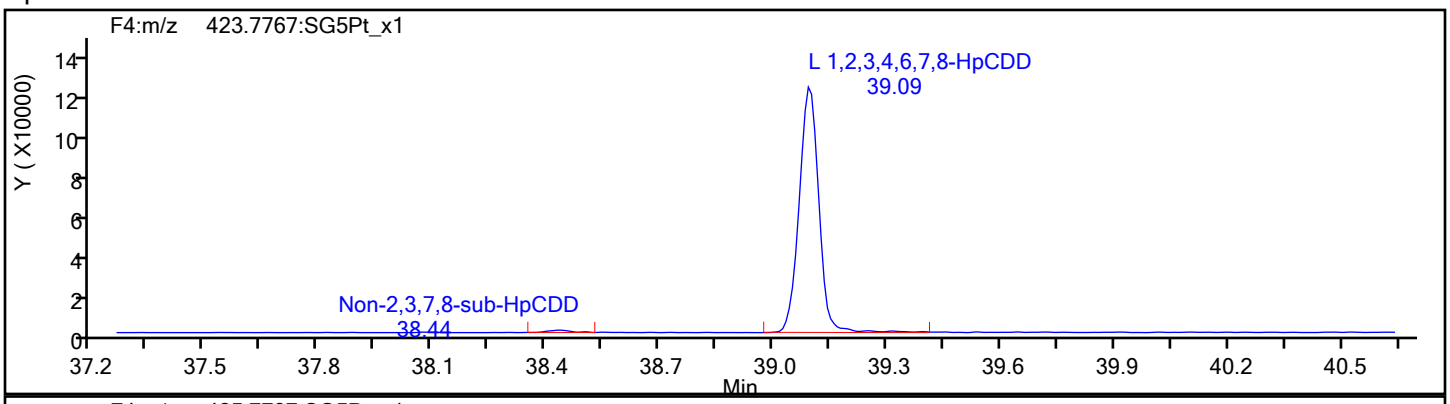


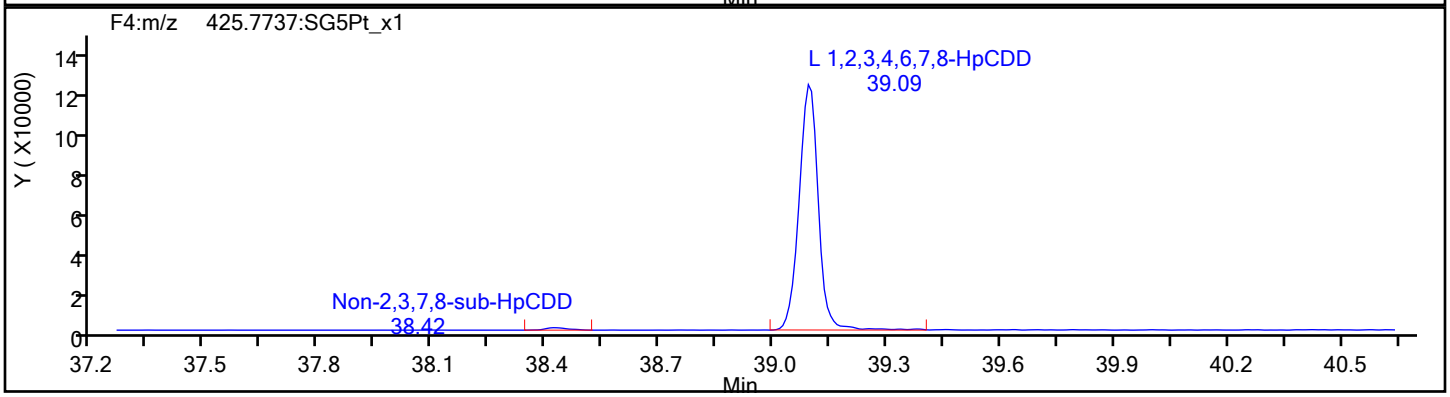


Eurofins Sacramento

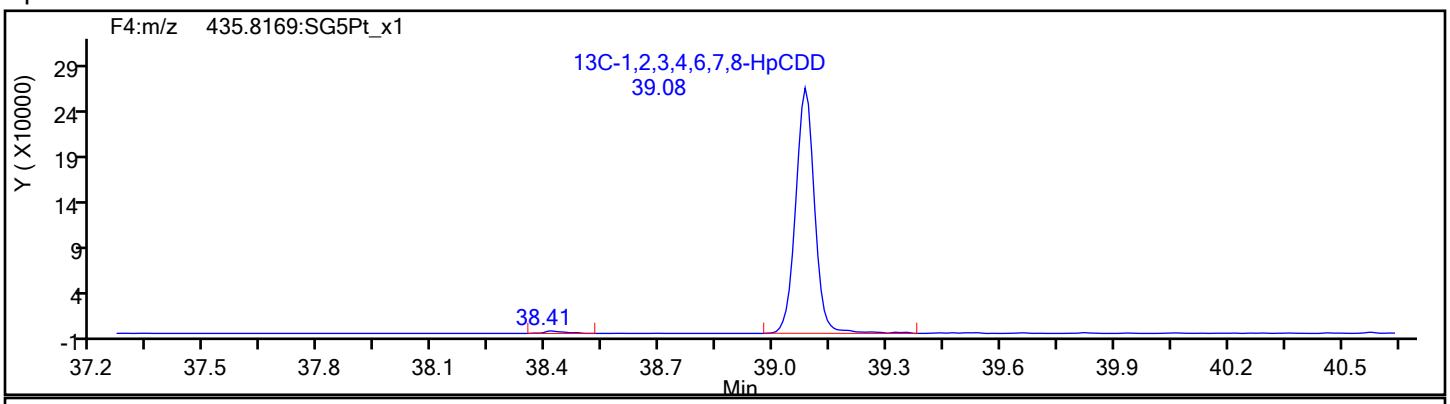
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Injection Date: 22-Jan-2022 00:14:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

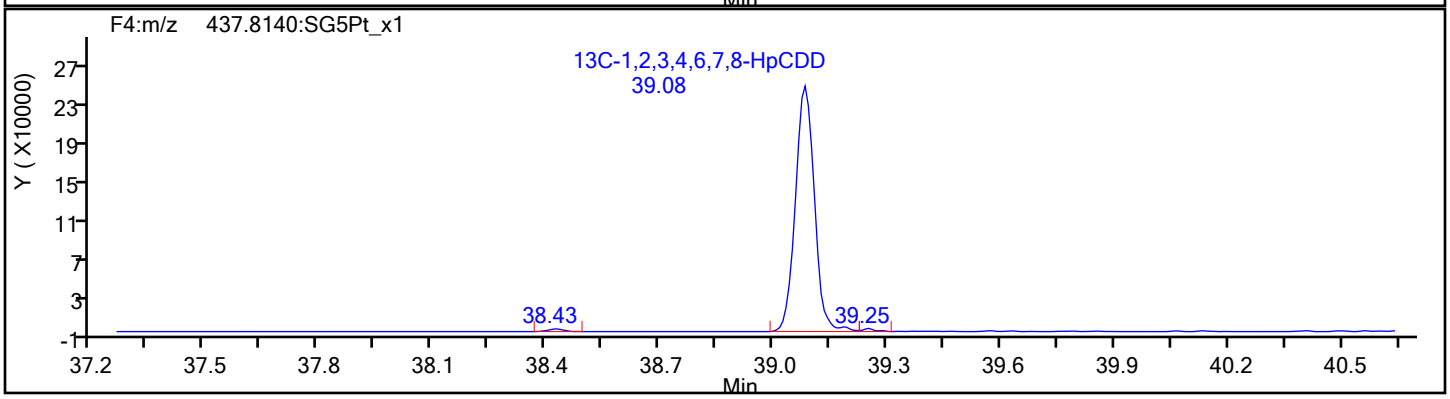
HpCDD





HpCDD Standards

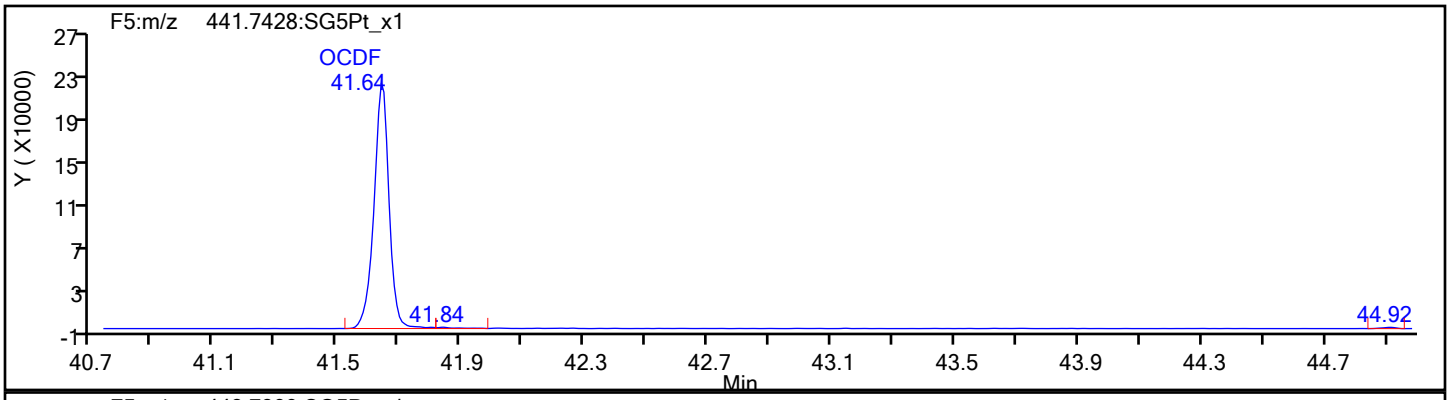


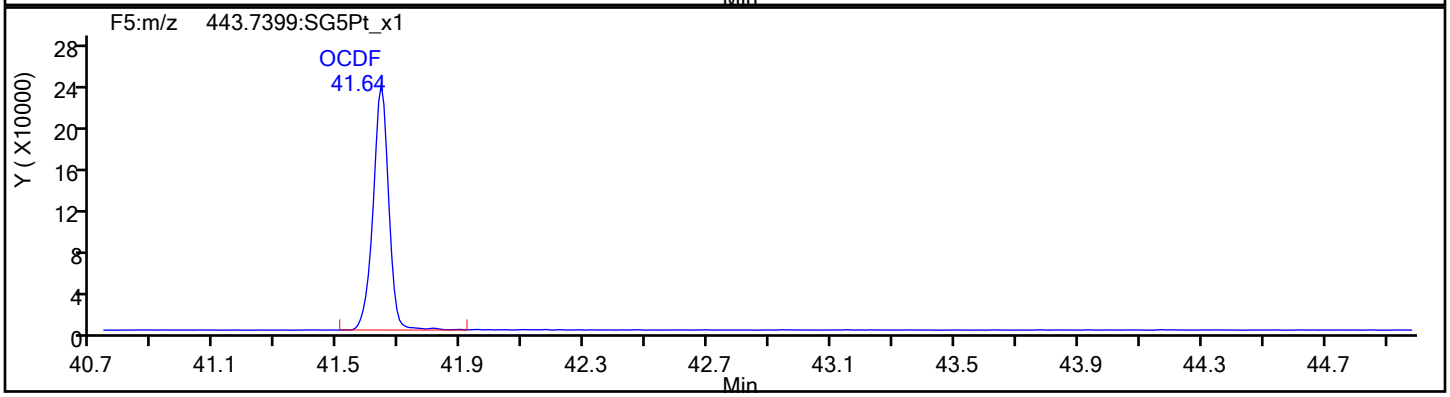


Eurofins Sacramento

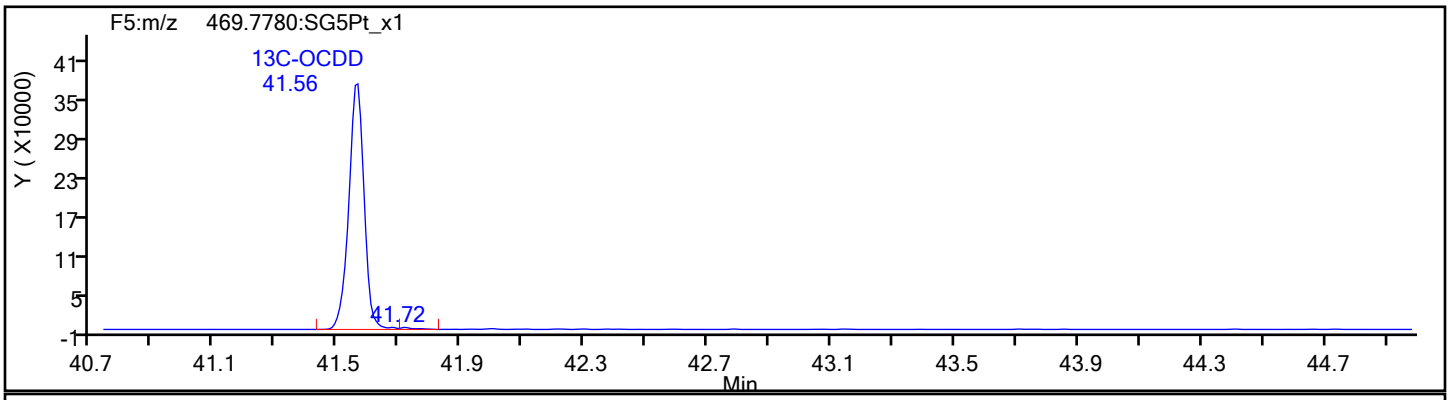
Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d		
Injection Date:	22-Jan-2022 00:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

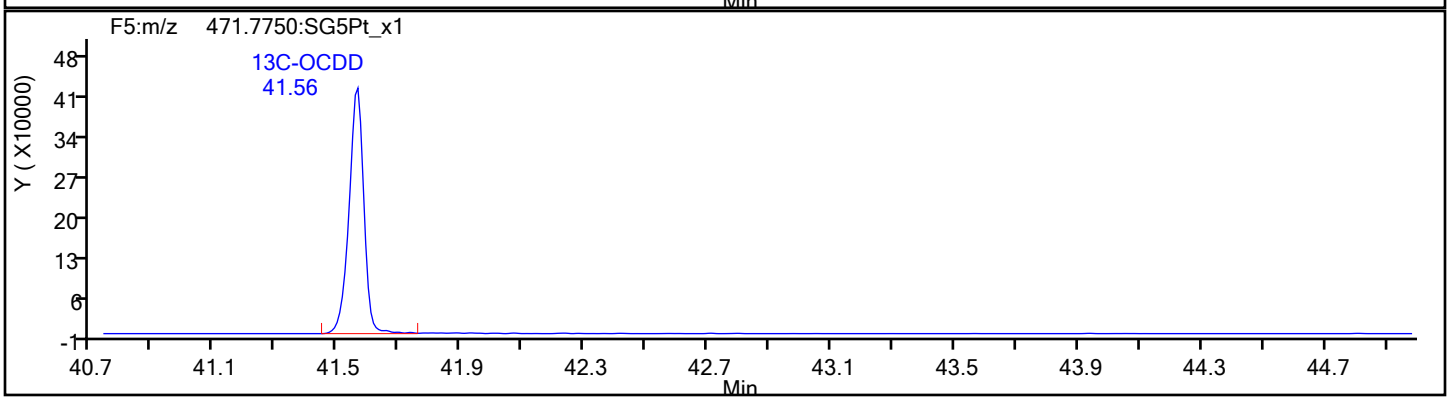
OCDF





OCDF Standards

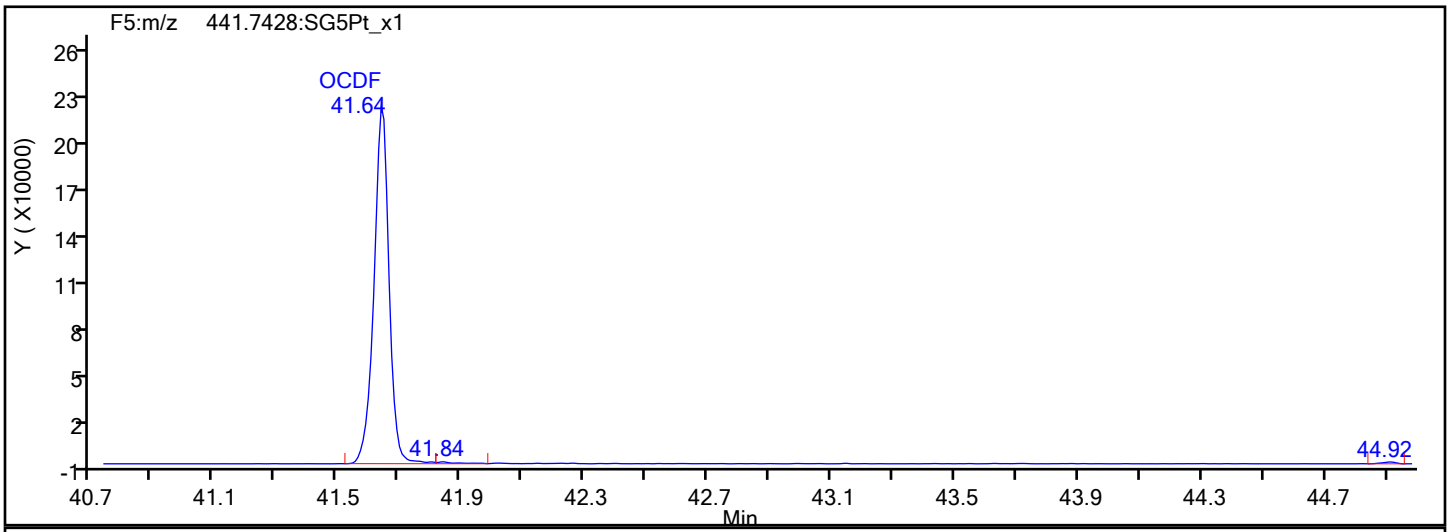


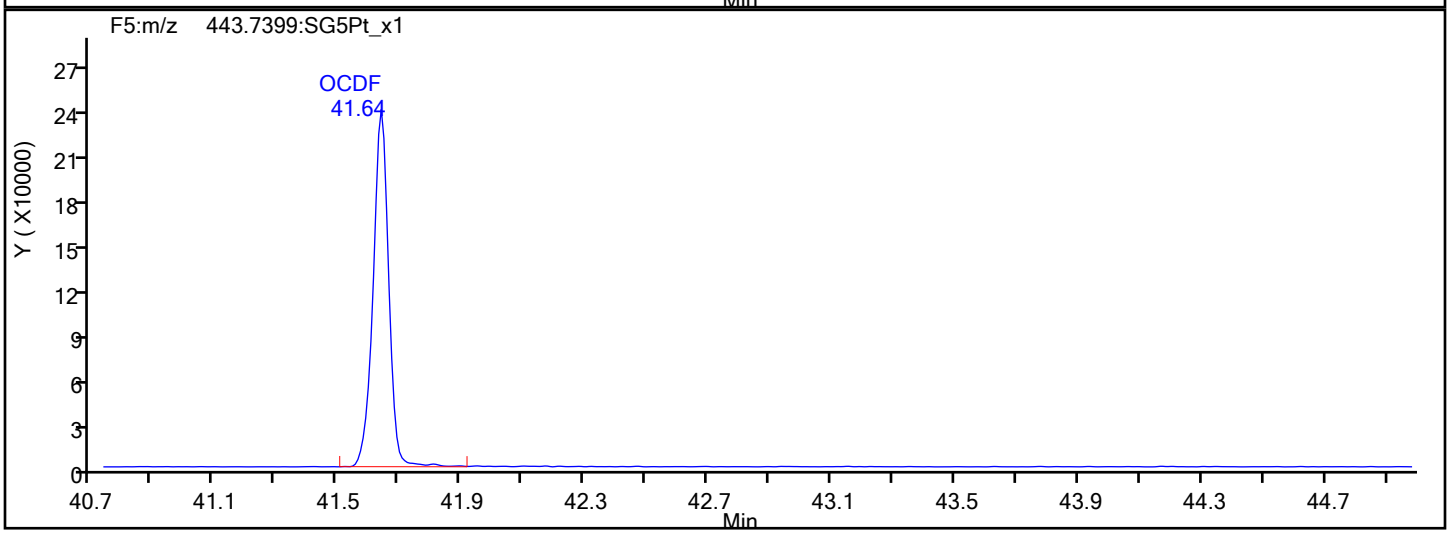


Eurofins Sacramento

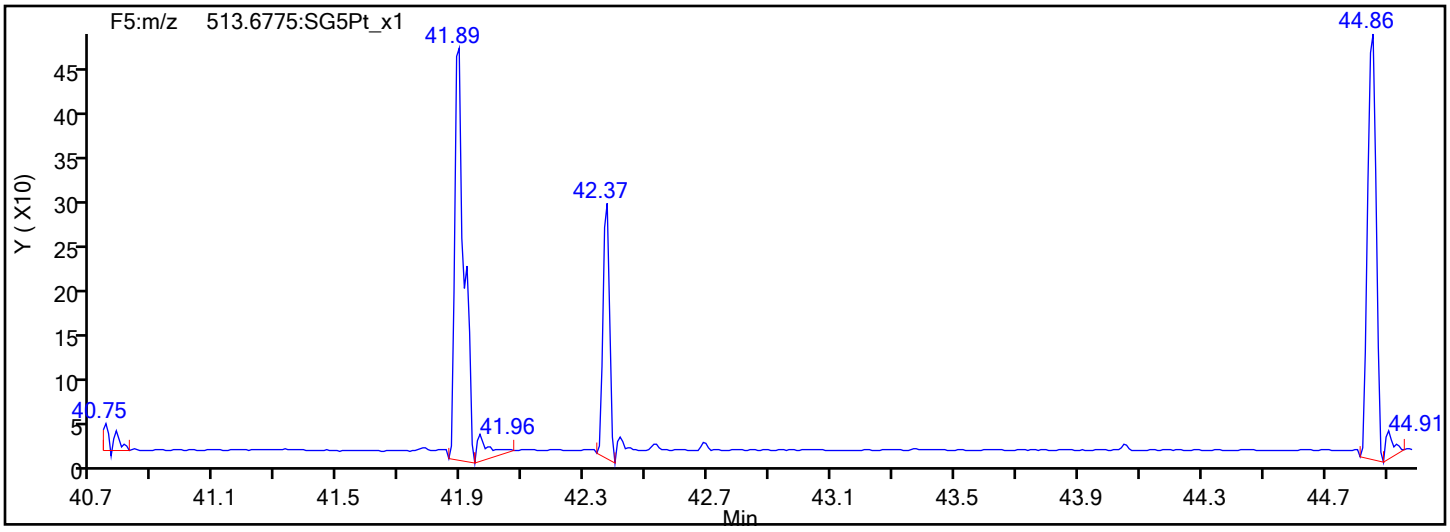
Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d
Injection Date: 22-Jan-2022 00:14:00 Injection Vol: 1.0 ul
Instrument ID: DFS 1 Operator ID: Xcalibur_System
Method: Dioxin_DFS1 Limit Group: HR - 8290 - ICAL
Client ID:
Worklist#: 559800 Sample Line#: 5
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



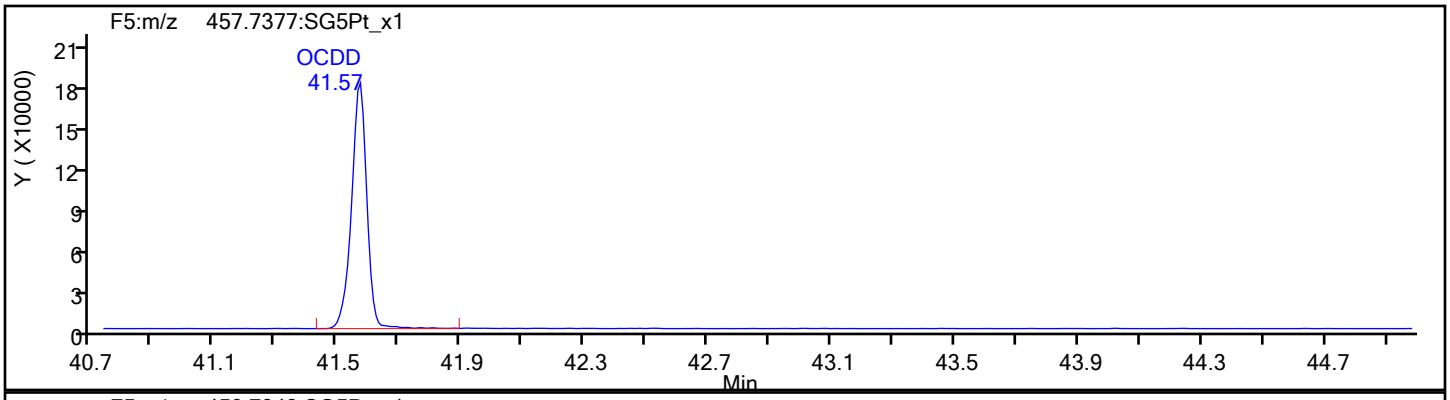
Report Date: 25-Jan-2022 08:33:39 Chrom Revision: 2.3 18-Jan-2022 20:25:40

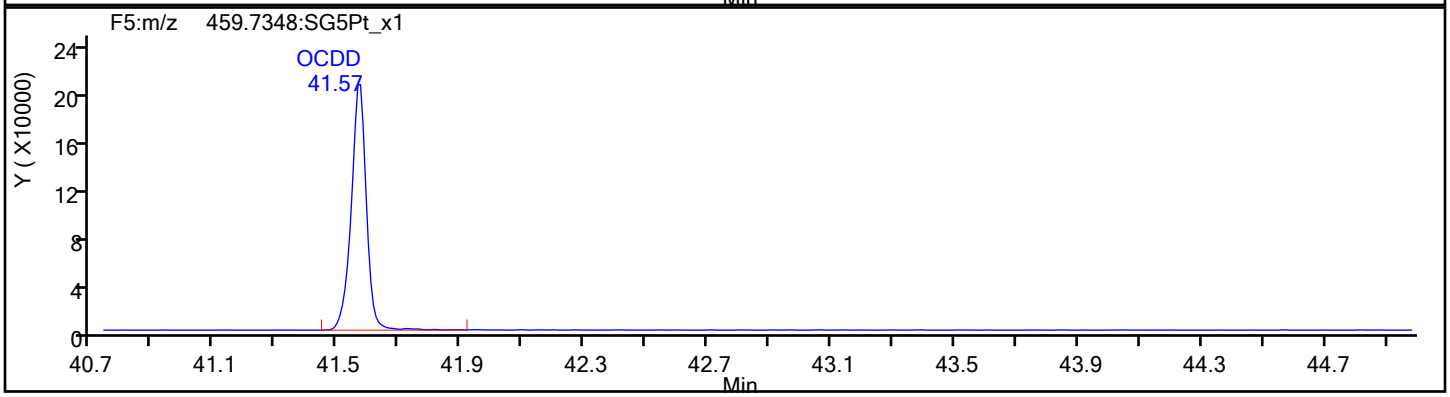
Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d

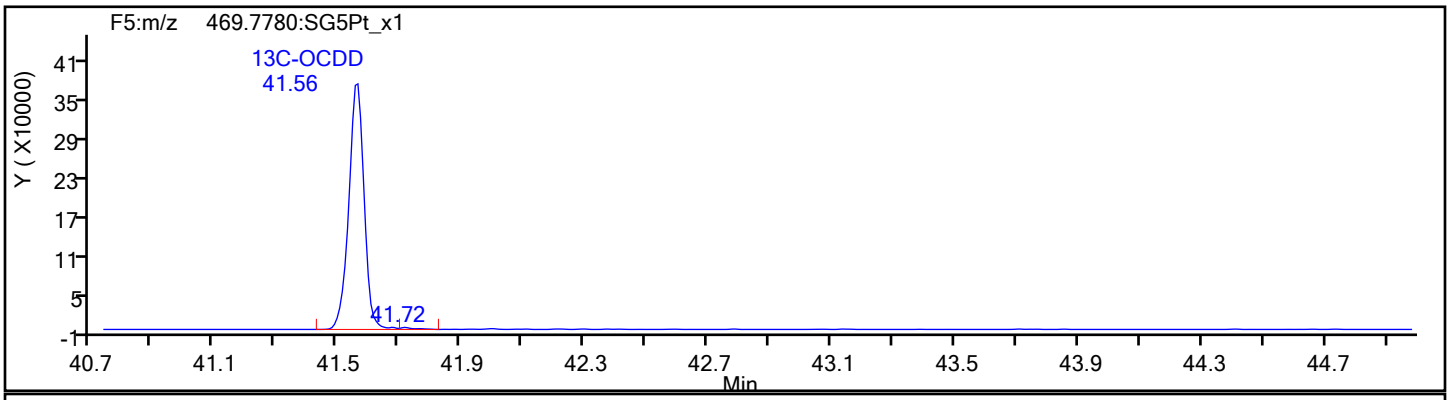
Injection Date:	22-Jan-2022 00:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

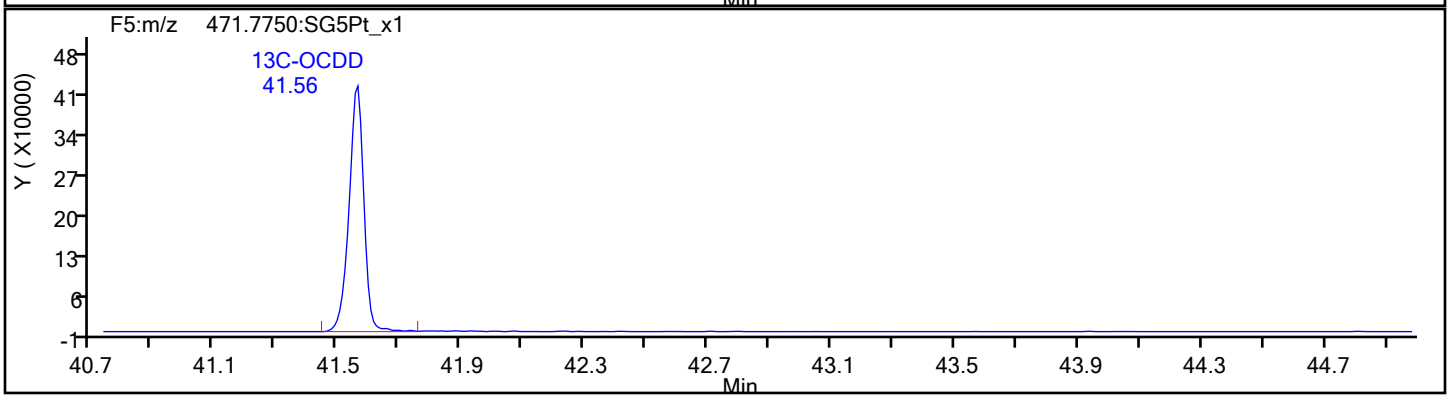
OCDD





OCDD Standards



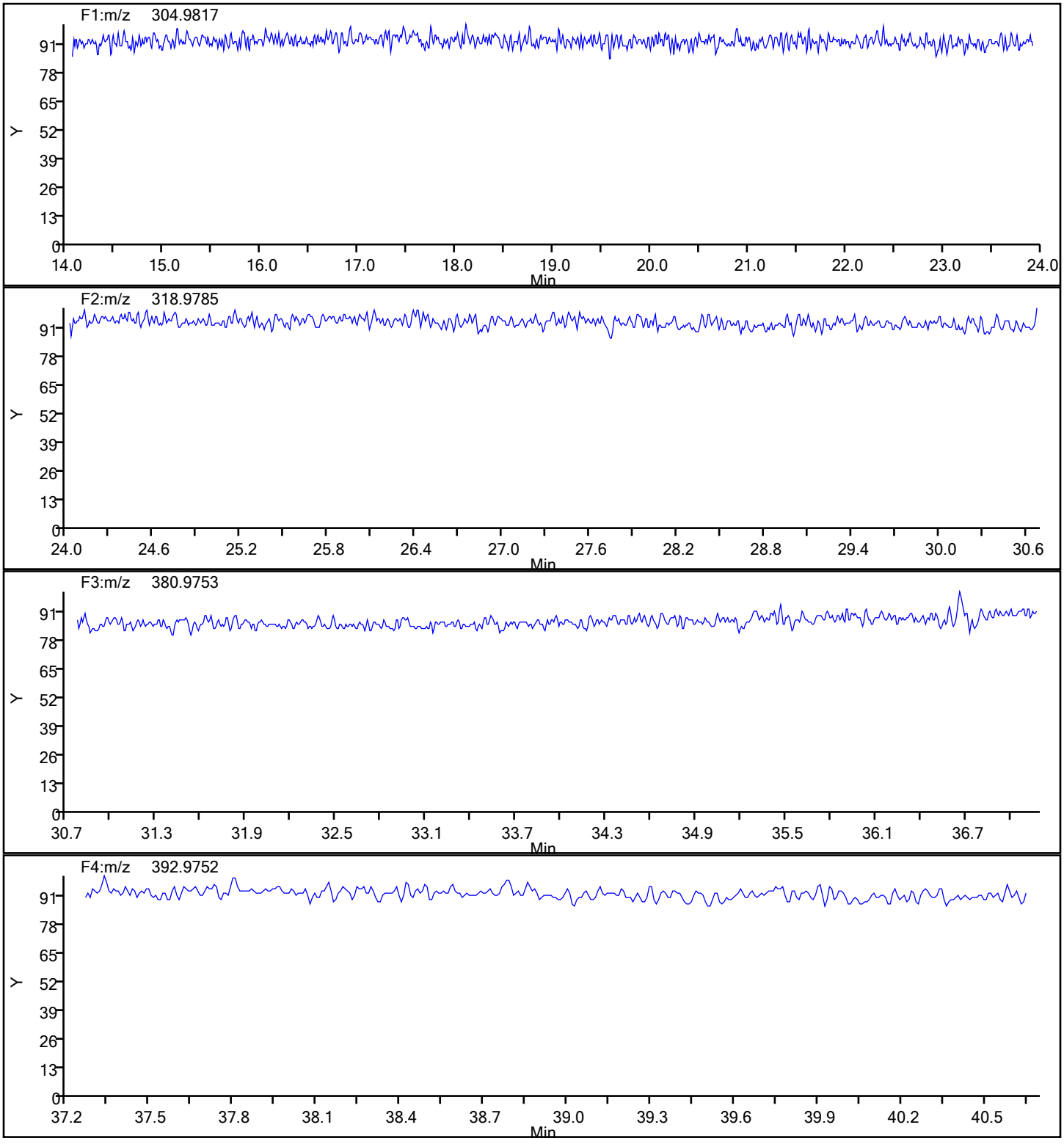


Report Date: 25-Jan-2022 08:33:39 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File: \\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d

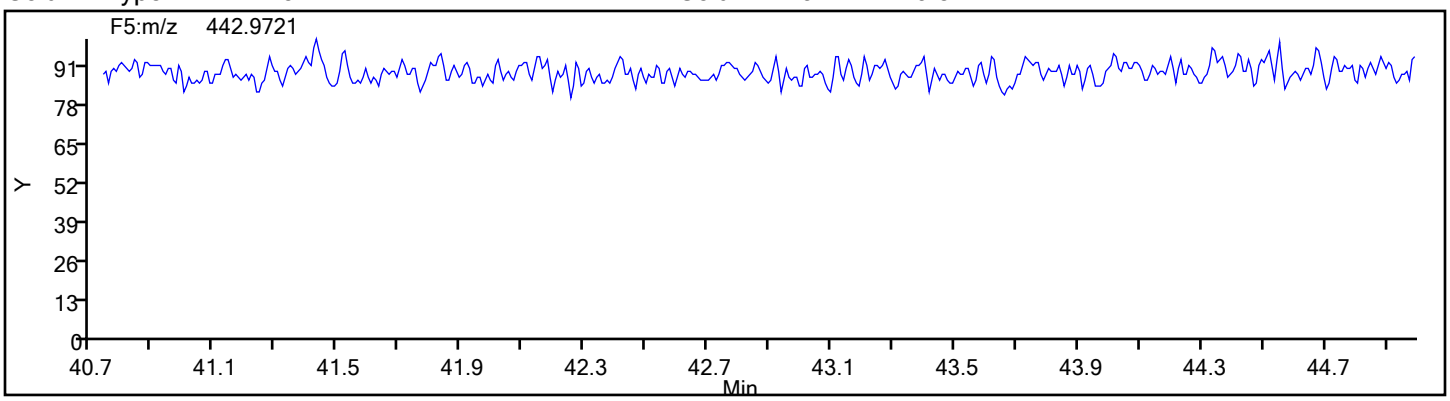
Injection Date:	22-Jan-2022 00:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 25-Jan-2022 08:33:39 Chrom Revision: 2.3 18-Jan-2022 20:25:40

Eurofins Sacramento

Data File:	\\chromfs\Sacramento\ChromData\DFS1\20220121-134906.b\20ja22dfs1_45.d		
Injection Date:	22-Jan-2022 00:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 8290 - ICAL
Client ID:			
Worklist#:	559800	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Instrument ID: DFS 1 Start Date: 01/13/2022 15:41

Analysis Batch Number: 558558 End Date: 01/13/2022 22:21

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-558558/1		01/13/2022 15:41	1	13ja22dfs1_2.d	DB-5 0.32(mm)
IC 320-558558/3		01/13/2022 17:16	1	13ja22dfs1_4.d	DB-5 0.32(mm)
IC 320-558558/4		01/13/2022 18:04	1	13ja22dfs1_5.d	DB-5 0.32(mm)
IC 320-558558/5		01/13/2022 18:51	1	13ja22dfs1_6.d	DB-5 0.32(mm)
IC 320-558558/6		01/13/2022 19:39	1	13ja22dfs1_7.d	DB-5 0.32(mm)
IC 320-558558/7		01/13/2022 20:27	1	13ja22dfs1_8.d	DB-5 0.32(mm)
ICV 320-558558/9		01/13/2022 22:21	1	13ja22dfs1_11.d	DB-5 0.32(mm)

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Instrument ID: DFS 1 Start Date: 01/21/2022 21:03

Analysis Batch Number: 559800 End Date: 01/22/2022 08:12

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-559800/1		01/21/2022 21:03	1	20ja22dfs1_41.d	DB-5 0.32(mm)
CCV 320-559800/2		01/21/2022 21:50	1	20ja22dfs1_42.d	DB-5 0.32(mm)
MB 320-556608/1-A		01/21/2022 22:38	1	20ja22dfs1_43.d	DB-5 0.32(mm)
LCS 320-556608/2-A		01/21/2022 23:26	1	20ja22dfs1_44.d	DB-5 0.32(mm)
LCSD 320-556608/3-A		01/22/2022 00:14	1	20ja22dfs1_45.d	DB-5 0.32(mm)
570-80421-1	A2BMP0006S013	01/22/2022 01:01	1	20ja22dfs1_46.d	DB-5 0.32(mm)
570-80421-2	EVBMP0007S013	01/22/2022 01:49	1	20ja22dfs1_47.d	DB-5 0.32(mm)
570-80421-3	EVBMP0008S016	01/22/2022 02:37	1	20ja22dfs1_48.d	DB-5 0.32(mm)
570-80421-4	EVBMP0009S014	01/22/2022 03:25	1	20ja22dfs1_49.d	DB-5 0.32(mm)
CCV 320-559800/15		01/22/2022 08:12	1	20ja22dfs1_55.d	DB-5 0.32(mm)

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Batch Number: 556608 Batch Start Date: 01/07/22 08:44 Batch Analyst: Bojorquez, Courtney

Batch Method: 8290 Batch End Date: 01/07/22 18:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ExtractionID	RotoVapID
MB 320-556608/1		8290, 8290				1000 mL	20.0 uL	13	4
LCS 320-556608/2		8290, 8290				1000 mL	20.0 uL	8	6
LCSD 320-556608/3		8290, 8290				1000 mL	20.0 uL	14	8
570-80421-D-1	A2BMP0006S013	8290, 8290	T	1562.08 g	514.71 g	1047.4 mL	20.0 uL	12	4
570-80421-C-2	EVBMP0007S013	8290, 8290	T	1510.35 g	522.55 g	987.8 mL	20.0 uL	10	6
570-80421-D-3	EVBMP0008S016	8290, 8290	T	1564.28 g	521.47 g	1042.8 mL	20.0 uL	2	8
570-80421-D-4	EVBMP0009S014	8290, 8290	T	1549.70 g	521.45 g	1028.3 mL	20.0 uL	11	4

Lab Sample ID	Client Sample ID	Method Chain	Basis	RoundBottomID	HRDXNIDA 00492	HRDXNIS 00137	HRDXNSU 00262	HRDXNTA 00147	
MB 320-556608/1		8290, 8290		33	1 mL	20 uL	1 mL		
LCS 320-556608/2		8290, 8290		18	1 mL	20 uL	1 mL	50 uL	
LCSD 320-556608/3		8290, 8290		32	1 mL	20 uL	1 mL	50 uL	
570-80421-D-1	A2BMP0006S013	8290, 8290	T	17	1 mL	20 uL	1 mL		
570-80421-C-2	EVBMP0007S013	8290, 8290	T	79	1 mL	20 uL	1 mL		
570-80421-D-3	EVBMP0008S016	8290, 8290	T	20	1 mL	20 uL	1 mL		
570-80421-D-4	EVBMP0009S014	8290, 8290	T	19	1 mL	20 uL	1 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins Sacramento Job No.: 570-80421-2

SDG No.:

Batch Number: 556608 Batch Start Date: 01/07/22 08:44 Batch Analyst: Bojorquez, Courtney

Batch Method: 8290 Batch End Date: 01/07/22 18:30

Batch Notes	
Balance ID	QA - 074
Hexane ID	Hexane_00308
MeCL2 ID	DCM_00431
Na2SO4 ID	Na2SO4_00141
Tetradecane ID	Tetradecane_00018
Sep Funnel Extractions (date and time)	CB 1/7/22 9:30
Analyst ID - IDA Reagent Drop	CB 1/7/22 HD05018 HRDXNIDA_00492 B-3/4 1.0 mL
Analyst ID - IDA Reagent Drop Witness	TGL 1/7/22
Analyst ID - TA Reagent Drop	CB 1/7/22 DB15270 HRDXNTA_00147 B-7/10 50.0 uL
Analyst ID - TA Reagent Drop Witness	TGL 1/7/22
Analyst ID - SU Reagent Drop	SKV 1/7/22 HD05018 HRDXNSU_00262 B-3/4 1.0 mL
Analyst ID - SU Reagent Drop Witness	SR 1/7/22
Analyst ID - IS Reagent Drop	SR 01/07/22 DB15270 HRDXNIS_00137 B-4/4 20.0 uL
Analyst ID - IS Reagent Drop Witness	CGB 01/07/22
DCM:Hexane ID	20% DH28_00204
65% DCM:Hexane ID	DH6535_00574
Alumina ID	Acid_Alumina_00023
Silica Gel ID	SilicaGel_00388
Acid Silica Gel ID	SA5644_00769
Dual Column C/U Analyst	SKV
Dual Column C/U Date	1/7/22
Storage Box ID	DXN 304

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

80421

Chain of Custody Record

COC Number: CALS12302101

JACOBS

12/30/2021 10 44 27 AM

Project Name	SSFL	Project Manager	Randy Dean
Project	CJ042 Stormwater PO 148015891	Sample Manager	
Location	Santa Susana Field Lab		
Project Number	D3377900		
Task Order	42		
PO Number	148015891		
Turnaround Time	10 Days		

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200 8/245.1	200.8/245 1F	ASTMD4464	SM2540	SW8290/1613B
(1) A2BMP0006S013	30-Dec-21 7 45	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4'C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						
(2) EVBMP0007S013	30-Dec-21 8 30	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
TSS				4'C	☐	1	☐	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						

570-80421 Chain of Custody

MS = Matrix Spike SD = Matrix Spike Duplicate

	Signatures	Date/Time
Sampled by	BRYAN BENSON	12/30/21 1140
Relinquished by	BRYAN BENSON	12/30/21 1140
Received by		12/30/21 1230
Relinquished by		12/30/21 1550
Received by		12/30/21 1550

Shipping Details

Shipment Method: FedEx

Airbill No:

Lab Name: Eurofins Calscience Lab

Lab Phone: (949) 870-8766

On Ice: yes / no Cooler Temp _____

ATTN:

Sample Custody and

Special Instructions:

2.0/2.9
1.8/2.7
2.1/2.9
1 6/2.5
SCS

Report Copy to
Mark Fesler
(530) 229-3273

2.1/30, 1 9/2.8 SCS

Chain of Custody Record

COC Number: CALS12302101

JACOBS

12/30/2021 10 44 28 AM

Project Name	SSFL	**Project Manager**	
Project	CJ042 Stormwater PO 148015891	Randy Dean	
Location	Santa Susana Field Lab	**Sample Manager**	
Project Number	D3377900		
Task Order	42		
PO Number	148015891		
Turnaround Time	10 Days		

Sample ID	Sample Date/Time	Type	Matrix	Preservative	Field Filtered	# Containers	180.1	200.8/245.1	200.8/245.1F	ASTMD4464	SM2540	SW8290/1613B
(3) **EVBMP0008S016**	30-Dec-21 8 15	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
Turbidity TSS				4'C	☐	1	☑	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu Pb, Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb, Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						
(4) **EVBMP0009S014**	30-Dec-21 8 50	N	Water									
Dioxins				4'C	☐	2	☐	☐	☐	☐	☐	☑
Turbidity TSS				4'C	☐	1	☑	☐	☐	☐	☑	☐
LAB FILTER - Dissolved Cd, Cu, Pb Hg				4'C	☐	1	☐	☐	☑	☐	☐	☐
Include Cd, Cu, Pb Hg				HNO3, 4'C	☐	1	☐	☑	☐	☐	☐	☐
Particle Size Distribution				4'C	☐	1	☐	☐	☐	☑	☐	☐
				Total Containers:		6						

MS = Matrix Spike **SD = Matrix Spike Duplicate**

	Signatures	Date/Time
Sampled by	BRYAN BENSON	12/30/21 1140
Relinquished by	BRYAN BENSON	12/30/21 1140
Received by	EA	12/30/21 1230
Relinquished by		12/30/21 1550
Received by		12/30/21 1550

Shipping Details

Shipment Method: FedEx

Airbill No:

Lab Name: Eurofins Calscience Lab

Lab Phone: (949) 870-8766

On Ice: yes / no **Cooler Temp** _____

ATTN:

Sample Custody and

Special Instructions:

Report Copy to
Mark Fesler
(530) 229-3273

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Thompson, Lori	Carrier Tracking No(s):	COC No: 570-148833 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Lori.Thompson@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State - California		Job #: 570-80421-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/19/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA SSFL CJ042 Stormwater	Project #: 57006621			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290/8290_P_Sep 17 Isomers List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A2BMP0006S013 (570-80421-1)	12/30/21	07:45 Pacific		Water			X	2	
EVBMP0007S013 (570-80421-2)	12/30/21	08:30 Pacific		Water			X	2	
EVBMP0008S016 (570-80421-3)	12/30/21	08:15 Pacific		Water			X	2	
EVBMP0009S014 (570-80421-4)	12/30/21	08:50 Pacific		Water			X	2	

Note: Since laboratory accreditations are subject to change Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Southwest attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 1/3/21 1730				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Thompson, Lori	Carrier Tracking No(s):	COC No: 570-148833.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Lori.Thompson@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State - California		Job #: 570-80421-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/19/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605	PO #:			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #:			
Email:	Project #: 57006621			
Project Name: NASA SSFL CJ042 Stormwater	SSOW#:			
Site:				

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290/8290_P_Sep 17 Isomers List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
A2BMP0006S013 (570-80421-1)	12/30/21	07:45 Pacific		Water			X	2	
EVBMP0007S013 (570-80421-2)	12/30/21	08:30 Pacific		Water			X	2	
EVBMP0008S016 (570-80421-3)	12/30/21	08:15 Pacific		Water			X	2	
EVBMP0009S014 (570-80421-4)	12/30/21	08:50 Pacific		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Southwest places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Southwest laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Southwest attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Southwest.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1/3/21 1730			1/4/22 1200	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.9c

Ver: 06/08/2021

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-78855-1**	**Reviewer:**	**mfesler**
Method	**A2130B**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0012S009	N	1			
EVBMP0001S018	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blanks were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met. No spike dupes in this SDG.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

Initial Calibration was not examined by AutoDV.

Continuing Calibration

Continuing Calibration was not examined by AutoDV.

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0012S009								
Turbidity	**32**			0.05	0.05		NTU	
Field ID: EVBMP0001S018								
Turbidity	**18**			0.05	0.05		NTU	

Validated Form I

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-78855-1**	**Reviewer:**	**mfesler**
Method	**A2540D**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0006S012	N	1			
A2BMP0007S020	N	1			
A2BMP0012S009	N	1			
EVBMP0001S018	N	1			
EVBMP0003S031	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

N/A

Continuing Calibration

N/A

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0006S012								
Total Suspended Solids	**16.5**			0.975	1.18		mg/L	
Field ID: A2BMP0007S020								
Total Suspended Solids	**21.7**			1.18	1.43		mg/L	
Field ID: A2BMP0012S009								
Total Suspended Solids	**37.1**			1.04	1.25		mg/L	
Field ID: EVBMP0001S018								
Total Suspended Solids	**11.4**			0.921	1.11		mg/L	
Field ID: EVBMP0003S031								
Total Suspended Solids	**181**			3.31	4		mg/L	

Validated Form I

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-78855-1**	**Reviewer:**	**mfesler**
Method	**D4464(M)**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0006S012	N	1			
A2BMP0007S020	N	1			
A2BMP0012S009	N	1			
EVBMP0001S018	N	1			
EVBMP0003S031	N	1			
EVBMP0003S031	LR	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blanks were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

Laboratory Duplicates were not examined by AutoDV.

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

No spikes in this SDG. No spike dupes in this SDG.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

N/A

Continuing Calibration

N/A

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
Laboratory Control Sample: No spikes in this SDG. No spike dupes in this SDG.
Laboratory Duplicate: Laboratory Duplicates were not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0006S012								
Clay (less than 0.00391 mm)	**15.77**			0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	**65.33**			0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	**81.1**			0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	**18.9**			0.01	0.01		PERCENT	
Field ID: A2BMP0007S020								
Clay (less than 0.00391 mm)	**13.76**			0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	**72.92**			0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	**86.68**			0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	**13.32**			0.01	0.01		PERCENT	
Field ID: A2BMP0012S009								
Clay (less than 0.00391 mm)	**5.87**			0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	**12.44**			0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	**68.81**			0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	**74.68**			0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	**12.88**			0.01	0.01		PERCENT	
Field ID: EVBMP0001S018								
Clay (less than 0.00391 mm)	**1.74**			0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	**72.63**			0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	**74.36**			0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	**25.64**			0.01	0.01		PERCENT	
Field ID: EVBMP0003S031								
Clay (less than 0.00391 mm)	**4.52**			0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	**10.48**			0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	

Validated Form I

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: EVBMP0003S031								
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	**56.05**			0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	**60.57**			0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	**28.95**			0.01	0.01		PERCENT	

Validated Form I

CJ042 Stormwater PO 148015891
Data Quality Evaluation

SDG	**570-78855-1**	**Reviewer:**	**mfesler**
Method	**E200.8**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0006S012	N	1			
A2BMP0006S012MS	MS	1			
A2BMP0006S012SD	SD	1			
A2BMP0007S020	N	1			
A2BMP0012S009	N	1			
EVBMP0001S018	N	1			
EVBMP0003S031	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

All MS acceptance criteria were met. All SD acceptance criteria were met. All RPD acceptance criteria were met.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

Tuning and Mass Calibration were not examined by AutoDV.

7. Internal Standard

Internal Standard Area/Retention Time was not examined by AutoDV.

8. Calibration Information

Initial Calibration

There are no ICB detections found except for those specified on the validated Form Is

Continuing Calibration

There are no CCB detections found except for those specified on the validated Form Is

9. Holding Time

All acceptance criteria were met. Dissolved metals were filtered and acidified as soon as possible upon sample receipt.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0006S012								
Cadmium	0.98	U	U	0.98	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	**3.83**			0.61	1		ug/L	
Copper, Dissolved	**1.34**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**2.08**			0.19	1		ug/L	
Lead, Dissolved	**0.247**	J	J H	0.19	1		ug/L	InvalidLabFlag (J)
Field ID: A2BMP0007S020								
Cadmium	0.98	U	U	0.98	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	**4.35**			0.61	1		ug/L	
Copper, Dissolved	**1.4**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**2.03**			0.19	1		ug/L	
Lead, Dissolved	**0.308**	J	J H	0.19	1		ug/L	InvalidLabFlag (J)
Field ID: A2BMP0012S009								
Cadmium	0.98	U	U	0.98	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	**2.49**			0.61	1		ug/L	
Copper, Dissolved	**1.47**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**5.14**			0.19	1		ug/L	
Lead, Dissolved	**0.228**	J	J H	0.19	1		ug/L	InvalidLabFlag (J)
Field ID: EVBMP0001S018								
Cadmium	0.98	U	U	0.98	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	**1.94**			0.61	1		ug/L	
Copper, Dissolved	**1.16**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**2.85**			0.19	1		ug/L	
Lead, Dissolved	0.19	U	U H	0.19	1		ug/L	InvalidLabFlag (U)
Field ID: EVBMP0003S031								
Cadmium	0.98	U	U	0.98	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	**3.09**			0.61	1		ug/L	
Copper, Dissolved	**1.29**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**5.62**			0.19	1		ug/L	
Lead, Dissolved	**0.251**	J	J H	0.19	1		ug/L	InvalidLabFlag (J)

Validated Form I

Validation Flag Abbreviations

Abbreviation	*Validation Reason*	*Category*
InvalidLabFlag	Removed invalid laboratory flag	Miscellaneous

CJ042 Stormwater PO 148015891
Data Quality Evaluation

SDG	**570-78855-1**	**Reviewer:**	**mfesler**
Method	**E245.1**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0006S012	N	1			
A2BMP0007S020	N	1			
A2BMP0007S020MS	MS	1			
A2BMP0007S020SD	SD	1			
A2BMP0012S009	N	1			
EVBMP0001S018	N	1			
EVBMP0003S031	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

All MS acceptance criteria were met. All SD acceptance criteria were met. All RPD acceptance criteria were met.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

There are no ICB detections found except for those specified on the validated Form Is

Continuing Calibration

There are no CCB detections found except for those specified on the validated Form Is

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0006S012								
Mercury	0.0001	U	U	0.0001	0.0002		mg/L	
Mercury, Dissolved	0.000124	U	U	########	########		mg/L	
Field ID: A2BMP0007S020								
Mercury	0.0001	U	U	0.0001	0.0002		mg/L	
Mercury, Dissolved	0.000124	U	U	########	########		mg/L	
Field ID: A2BMP0012S009								
Mercury	0.0001	U	U	0.0001	0.0002		mg/L	
Mercury, Dissolved	0.000124	U	U	########	########		mg/L	
Field ID: EVBMP0001S018								
Mercury	0.0001	U	U	0.0001	0.0002		mg/L	
Mercury, Dissolved	0.000124	U	U	########	########		mg/L	
Field ID: EVBMP0003S031								
Mercury	0.0001	U	U	0.0001	0.0002		mg/L	
Mercury, Dissolved	0.000124	U	U	########	########		mg/L	

Validated Form I

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-78855-1**	**Reviewer:**	**mfesler**
Method	**8290**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0006S012	N	1			
A2BMP0007S020	N	1			
A2BMP0012S009	N	1			
EVBMP0001S018	N	1			
EVBMP0003S031	N	1			

1. Case Narrative

Items of Interest

The following items were noted: EMPC; LB<RL

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

These analytes had Method Blank detects: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,4,7,8-HxCDD, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDD, 1,2,3,6,7,8-HxCDF, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, 1,2,3,7,8-PeCDF, 2,3,4,6,7,8-HxCDF, OCDD, OCDF.

Blank Type	Blank ID	Analyte	Result	Report Limit	Lab Flag	Units	SDG
LB	MB 320-552716/1-A	1,2,3,4,6,7,8-HpCDD	3.004	50	J	pg/L	570-78855-1
LB	MB 320-552716/1-A	1,2,3,4,6,7,8-HpCDF	1.8	50	J q	pg/L	570-78855-1
LB	MB 320-552716/1-A	1,2,3,4,7,8,9-HpCDF	1.307	50	J q	pg/L	570-78855-1
LB	MB 320-552716/1-A	1,2,3,4,7,8-HxCDD	2.883	50	J	pg/L	570-78855-1
LB	MB 320-552716/1-A	1,2,3,4,7,8-HxCDF	1.029	50	J q	pg/L	570-78855-1
LB	MB 320-552716/1-A	1,2,3,6,7,8-HxCDD	1.314	50	J q	pg/L	570-78855-1
LB	MB 320-552716/1-A	1,2,3,6,7,8-HxCDF	1.431	50	J q	pg/L	570-78855-1
LB	MB 320-552716/1-A	1,2,3,7,8,9-HxCDD	1.77	50	J	pg/L	570-78855-1
LB	MB 320-552716/1-A	1,2,3,7,8,9-HxCDF	2.617	50	J	pg/L	570-78855-1
LB	MB 320-552716/1-A	1,2,3,7,8-PeCDF	1.266	50	J	pg/L	570-78855-1
LB	MB 320-552716/1-A	2,3,4,6,7,8-HxCDF	1.271	50	J q	pg/L	570-78855-1
LB	MB 320-552716/1-A	OCDD	6.779	100	J	pg/L	570-78855-1
LB	MB 320-552716/1-A	OCDF	4.313	100	J	pg/L	570-78855-1

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG. All reported EMPC values were flagged as estimated nondetects

Matrix	*Sample ID*	*LR Type*	*Analyte*	*Result*	*MS/MSD Qualifier**	*Criteria*
WATER			1,2,3,4,6,7,8-HpCDD			
	EVBMP0001S018			5.8 pg/L	UJ	EMPC
WATER			1,2,3,4,7,8,9-HpCDF			
	A2BMP0007S020			1.7 pg/L	UJ	EMPC
WATER			1,2,3,4,7,8-HxCDD			
	A2BMP0006S012			3.9 pg/L	UJ	EMPC
WATER			1,2,3,4,7,8-HxCDF			
	A2BMP0007S020			0.92 pg/L	UJ	EMPC
WATER			1,2,3,6,7,8-HxCDF			
	A2BMP0006S012			1.1 pg/L	UJ	EMPC
WATER			1,2,3,7,8-PeCDF			
	A2BMP0007S020			0.92 pg/L	UJ	EMPC
	A2BMP0012S009			0.68 pg/L	UJ	EMPC
	EVBMP0001S018			0.83 pg/L	UJ	EMPC
WATER			2,3,4,6,7,8-HxCDF			
	A2BMP0012S009			1.4 pg/L	UJ	EMPC

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

All acceptance criteria were met.

6. Tuning and Mass Calibration

Tuning and Mass Calibration were not examined by AutoDV.

7. Internal Standard

Internal Standard Area/Retention Time was not examined by AutoDV.

8. Calibration Information

Initial Calibration

Initial Calibration was not examined by AutoDV.

Continuing Calibration

Continuing Calibration was not examined by AutoDV.

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Method Blanks: These analytes had Method Blank detects: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,4,7,8-HxCDD, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDD, 1,2,3,6,7,8-HxCDF, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, 1,2,3,7,8-PeCDF, 2,3,4,6,7,8-HxCDF, OCDD, OCDF.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0006S012								
1,2,3,4,6,7,8-HpCDD	**93**		B	1.1	59		pg/L	LB>MDL (None)
	93		B	1.1	59		pg/L	RemoveBLabFlag (=)
1,2,3,4,6,7,8-HpCDF	**17**	J	J B	0.57	59		pg/L	RemoveBLabFlag (J)
	17	J	J B	0.57	59		pg/L	LB>MDL (None)
1,2,3,4,7,8,9-HpCDF	1.9	U	J B	0.64	59		pg/L	RemoveBLabFlag (J)
	1.9	U	J B	0.64	59		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDD	3.9	UJ	J q B	0.63	59		pg/L	LB<RL (U)
	3.9	UJ	J q B	0.63	59		pg/L	EMPC (UJ)
1,2,3,4,7,8-HxCDF	1.2	U	J B	0.43	59		pg/L	RemoveBLabFlag (J)
	1.2	U	J B	0.43	59		pg/L	LB<RL (U)
1,2,3,6,7,8-HxCDD	5.1	U	J B	0.63	59		pg/L	LB<RL (U)
	5.1	U	J B	0.63	59		pg/L	RemoveBLabFlag (J)
1,2,3,6,7,8-HxCDF	1.1	UJ	J q B	0.43	59		pg/L	LB<RL (U)
	1.1	UJ	J q B	0.43	59		pg/L	EMPC (UJ)
1,2,3,7,8,9-HxCDD	5	U	J B	0.58	59		pg/L	RemoveBLabFlag (J)
	5	U	J B	0.58	59		pg/L	LB<RL (U)
1,2,3,7,8,9-HxCDF	1.6	U	J B	0.48	59		pg/L	LB<RL (U)
	1.6	U	J B	0.48	59		pg/L	RemoveBLabFlag (J)
1,2,3,7,8-PeCDD	0.91	U	U	0.91	59		pg/L	
1,2,3,7,8-PeCDF	1.3	U	J B	0.4	59		pg/L	RemoveBLabFlag (J)
	1.3	U	J B	0.4	59		pg/L	LB<RL (U)
2,3,4,6,7,8-HxCDF	0.99	U	J B	0.46	59		pg/L	RemoveBLabFlag (J)
	0.99	U	J B	0.46	59		pg/L	LB<RL (U)
2,3,4,7,8-PeCDF	0.41	U	U	0.41	59		pg/L	
2,3,7,8-TCDD	1.3	U	U	1.3	12		pg/L	
2,3,7,8-TCDF	0.38	U	U	0.38	12		pg/L	
OCDD	**880**		B	1.7	120		pg/L	RemoveBLabFlag (=)
	880		B	1.7	120		pg/L	LB>MDL (None)
OCDF	**47**	J	J B	0.78	120		pg/L	LB>MDL (None)
	47	J	J B	0.78	120		pg/L	RemoveBLabFlag (J)
Field ID: A2BMP0007S020								
1,2,3,4,6,7,8-HpCDD	**110**		B	1.1	49		pg/L	RemoveBLabFlag (=)
	110		B	1.1	49		pg/L	LB>MDL (None)
1,2,3,4,6,7,8-HpCDF	**18**	J	J B	0.62	49		pg/L	RemoveBLabFlag (J)
	18	J	J B	0.62	49		pg/L	LB>MDL (None)
1,2,3,4,7,8,9-HpCDF	1.7	UJ	J q B	0.71	49		pg/L	EMPC (UJ)
	1.7	UJ	J q B	0.71	49		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDD	4.4	U	J B	0.49	49		pg/L	LB<RL (U)
	4.4	U	J B	0.49	49		pg/L	RemoveBLabFlag (J)
1,2,3,4,7,8-HxCDF	0.92	UJ	J q B	0.38	49		pg/L	LB<RL (U)
	0.92	UJ	J q B	0.38	49		pg/L	EMPC (UJ)
1,2,3,6,7,8-HxCDD	5.4	U	J B	0.49	49		pg/L	RemoveBLabFlag (J)
	5.4	U	J B	0.49	49		pg/L	LB<RL (U)
1,2,3,6,7,8-HxCDF	1.1	U	J B	0.38	49		pg/L	RemoveBLabFlag (J)
	1.1	U	J B	0.38	49		pg/L	LB<RL (U)
1,2,3,7,8,9-HxCDD	5.8	U	J B	0.45	49		pg/L	RemoveBLabFlag (J)

Validated Form I

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0007S020								
	5.8	U	J B	0.45	49		pg/L	LB<RL (U)
1,2,3,7,8,9-HxCDF	1.3	U	J B	0.43	49		pg/L	LB<RL (U)
	1.3	U	J B	0.43	49		pg/L	RemoveBLabFlag (J)
1,2,3,7,8-PeCDD	**2.4**	J	J	0.77	49		pg/L	
1,2,3,7,8-PeCDF	0.92	UJ	J q B	0.35	49		pg/L	LB<RL (U)
	0.92	UJ	J q B	0.35	49		pg/L	EMPC (UJ)
2,3,4,6,7,8-HxCDF	0.88	U	J B	0.4	49		pg/L	RemoveBLabFlag (J)
	0.88	U	J B	0.4	49		pg/L	LB<RL (U)
2,3,4,7,8-PeCDF	0.36	U	U	0.36	49		pg/L	
2,3,7,8-TCDD	0.86	U	U	0.86	9.8		pg/L	
2,3,7,8-TCDF	0.36	U	U	0.36	9.8		pg/L	
OCDD	**970**		B	1.6	98		pg/L	RemoveBLabFlag (=)
	970		B	1.6	98		pg/L	LB>MDL (None)
OCDF	**48**	J	J B	0.54	98		pg/L	RemoveBLabFlag (J)
	48	J	J B	0.54	98		pg/L	LB>MDL (None)
Field ID: A2BMP0012S009								
1,2,3,4,6,7,8-HpCDD	**190**		B	1.5	48		pg/L	RemoveBLabFlag (=)
	190		B	1.5	48		pg/L	LB>MDL (None)
1,2,3,4,6,7,8-HpCDF	**37**	J	J B	0.75	48		pg/L	RemoveBLabFlag (J)
	37	J	J B	0.75	48		pg/L	LB>MDL (None)
1,2,3,4,7,8,9-HpCDF	2.2	U	J B	0.85	48		pg/L	LB<RL (U)
	2.2	U	J B	0.85	48		pg/L	RemoveBLabFlag (J)
1,2,3,4,7,8-HxCDD	4.8	U	J B	0.48	48		pg/L	RemoveBLabFlag (J)
	4.8	U	J B	0.48	48		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDF	1.7	U	J B	0.41	48		pg/L	RemoveBLabFlag (J)
	1.7	U	J B	0.41	48		pg/L	LB<RL (U)
1,2,3,6,7,8-HxCDD	**9.8**	J	J B	0.48	48		pg/L	RemoveBLabFlag (J)
	9.8	J	J B	0.48	48		pg/L	LB>MDL (None)
1,2,3,6,7,8-HxCDF	1.8	U	J B	0.4	48		pg/L	LB<RL (U)
	1.8	U	J B	0.4	48		pg/L	RemoveBLabFlag (J)
1,2,3,7,8,9-HxCDD	6.1	U	J B	0.44	48		pg/L	RemoveBLabFlag (J)
	6.1	U	J B	0.44	48		pg/L	LB<RL (U)
1,2,3,7,8,9-HxCDF	1.2	U	J B	0.46	48		pg/L	RemoveBLabFlag (J)
	1.2	U	J B	0.46	48		pg/L	LB<RL (U)
1,2,3,7,8-PeCDD	0.7	U	U	0.7	48		pg/L	
1,2,3,7,8-PeCDF	0.68	UJ	J q B	0.38	48		pg/L	LB<RL (U)
	0.68	UJ	J q B	0.38	48		pg/L	EMPC (UJ)
2,3,4,6,7,8-HxCDF	1.4	UJ	J q B	0.43	48		pg/L	LB<RL (U)
	1.4	UJ	J q B	0.43	48		pg/L	EMPC (UJ)
2,3,4,7,8-PeCDF	0.4	U	U	0.4	48		pg/L	
2,3,7,8-TCDD	0.94	U	U	0.94	9.6		pg/L	
2,3,7,8-TCDF	0.31	U	U	0.31	9.6		pg/L	
OCDD	**1500**		B	2.1	96		pg/L	RemoveBLabFlag (=)
	1500		B	2.1	96		pg/L	LB>MDL (None)
OCDF	**89**	J	J B	0.63	96		pg/L	RemoveBLabFlag (J)
	89	J	J B	0.63	96		pg/L	LB>MDL (None)
Field ID: EVBMP0001S018								
1,2,3,4,6,7,8-HpCDD	5.8	UJ	J q B	0.29	48		pg/L	LB<RL (U)
	5.8	UJ	J q B	0.29	48		pg/L	EMPC (UJ)
1,2,3,4,6,7,8-HpCDF	3.1	U	J B	0.43	48		pg/L	RemoveBLabFlag (J)
	3.1	U	J B	0.43	48		pg/L	LB<RL (U)

Validated Form I

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: EVBMP0001S018								
1,2,3,4,7,8,9-HpCDF	0.49	U	U	0.49	48		pg/L	LB<RL (none)
1,2,3,4,7,8-HxCDD	2.7	U	J B	0.37	48		pg/L	RemoveBLabFlag (J)
	2.7	U	J B	0.37	48		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDF	0.29	U	U	0.29	48		pg/L	LB<RL (none)
1,2,3,6,7,8-HxCDD	0.74	U	J B	0.37	48		pg/L	LB<RL (U)
	0.74	U	J B	0.37	48		pg/L	RemoveBLabFlag (J)
1,2,3,6,7,8-HxCDF	0.29	U	U	0.29	48		pg/L	LB<RL (none)
1,2,3,7,8,9-HxCDD	0.71	U	J B	0.34	48		pg/L	LB<RL (U)
	0.71	U	J B	0.34	48		pg/L	RemoveBLabFlag (J)
1,2,3,7,8,9-HxCDF	1.7	U	J B	0.32	48		pg/L	RemoveBLabFlag (J)
	1.7	U	J B	0.32	48		pg/L	LB<RL (U)
1,2,3,7,8-PeCDD	0.66	U	U	0.66	48		pg/L	
1,2,3,7,8-PeCDF	0.83	UJ	J q B	0.31	48		pg/L	LB<RL (U)
	0.83	UJ	J q B	0.31	48		pg/L	EMPC (UJ)
2,3,4,6,7,8-HxCDF	0.31	U	U	0.31	48		pg/L	LB<RL (none)
2,3,4,7,8-PeCDF	0.32	U	U	0.32	48		pg/L	
2,3,7,8-TCDD	0.89	U	U	0.89	9.7		pg/L	
2,3,7,8-TCDF	0.32	U	U	0.32	9.7		pg/L	
OCDD	**43**	J	J B	0.51	97		pg/L	RemoveBLabFlag (J)
	43	J	J B	0.51	97		pg/L	LB>MDL (None)
OCDF	4.8	U	J B	0.51	97		pg/L	RemoveBLabFlag (J)
	4.8	U	J B	0.51	97		pg/L	LB<RL (U)
Field ID: EVBMP0003S031								
1,2,3,4,6,7,8-HpCDD	**410**		B	2.8	48		pg/L	LB>MDL (None)
	410		B	2.8	48		pg/L	RemoveBLabFlag (=)
1,2,3,4,6,7,8-HpCDF	**83**		B	1	48		pg/L	RemoveBLabFlag (=)
	83		B	1	48		pg/L	LB>MDL (None)
1,2,3,4,7,8,9-HpCDF	5	U	J B	1.2	48		pg/L	RemoveBLabFlag (J)
	5	U	J B	1.2	48		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDD	8.8	U	J B	0.63	48		pg/L	RemoveBLabFlag (J)
	8.8	U	J B	0.63	48		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDF	4.4	U	J B	0.52	48		pg/L	RemoveBLabFlag (J)
	4.4	U	J B	0.52	48		pg/L	LB<RL (U)
1,2,3,6,7,8-HxCDD	**21**	J	J B	0.63	48		pg/L	RemoveBLabFlag (J)
	21	J	J B	0.63	48		pg/L	LB>MDL (None)
1,2,3,6,7,8-HxCDF	3.9	U	J B	0.52	48		pg/L	RemoveBLabFlag (J)
	3.9	U	J B	0.52	48		pg/L	LB<RL (U)
1,2,3,7,8,9-HxCDD	**13**	J	J B	0.58	48		pg/L	RemoveBLabFlag (J)
	13	J	J B	0.58	48		pg/L	LB>MDL (None)
1,2,3,7,8,9-HxCDF	1.8	U	J B	0.59	48		pg/L	RemoveBLabFlag (J)
	1.8	U	J B	0.59	48		pg/L	LB<RL (U)
1,2,3,7,8-PeCDD	**4.2**	J	J	0.8	48		pg/L	
1,2,3,7,8-PeCDF	1.6	U	J B	0.41	48		pg/L	RemoveBLabFlag (J)
	1.6	U	J B	0.41	48		pg/L	LB<RL (U)
2,3,4,6,7,8-HxCDF	3.4	U	J B	0.56	48		pg/L	LB<RL (U)
	3.4	U	J B	0.56	48		pg/L	RemoveBLabFlag (J)
2,3,4,7,8-PeCDF	0.42	U	U	0.42	48		pg/L	
2,3,7,8-TCDD	0.9	U	U	0.9	9.6		pg/L	
2,3,7,8-TCDF	0.39	U	U	0.39	9.6		pg/L	
OCDD	**3200**		B	3.7	96		pg/L	RemoveBLabFlag (=)
	3200		B	3.7	96		pg/L	LB>MDL (None)
OCDF	**210**		B	0.68	96		pg/L	LB>MDL (None)

Validated Form I

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: EVBMP0003S031								
	210		B	0.68	96		pg/L	RemoveBLabFlag (=)

Validated Form I

Validation Flag Abbreviations

Abbreviation	*Validation Reason*	*Category*
LB<RL	Laboratory blank contamination less than the reporting limit	Blank
LB>MDL	Laboratory blank contamination greater than the method detection limit	Blank
RemoveBLabFlag	Lab B flag removed - analyte not detected in sample	Blank
EMPC	Estimated Maximum Possible Concentration	Matrix

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-80119-1**	**Reviewer:**	**mfesler**
Method	**A2130B**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0012S010	N	1			
EVBMP0001S019	N	1			

1. Case Narrative

Items of Interest

The following items were noted: Hta>UCL

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blanks were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met. No spike dupes in this SDG.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

Initial Calibration was not examined by AutoDV.

Continuing Calibration

Continuing Calibration was not examined by AutoDV.

9. Holding Time

These NativeIDs exceeded holding time: A2BMP0012S010, EVBMP0001S019. Samples were received outside holding time. Samples collected on Christmas Eve. Lab analyzed as soon as possible upon receipt

Field ID	LabsampleID	AnalysisDate	ExtractDate	Sample Date	Method Time	Actual HT
A2BMP0012S010	570-80119-2	12/28/2021		12/24/2021	2	4
EVBMP0001S019	570-80119-3	12/28/2021		12/24/2021	2	4

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
Holding Time: These NativeIDs exceeded holding time: A2BMP0012S010, EVBMP0001S019.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0012S010								
Turbidity	**9.9**	J	H H3	0.05	0.05		NTU	HTa>UCL (J)
Field ID: EVBMP0001S019								
Turbidity	**2.8**	J	H H3	0.05	0.05		NTU	HTa>UCL (J)

Validated Form I

Validation Flag Abbreviations

Abbreviation	*Validation Reason*	*Category*
HTa>UCL	Holding time exceeded	HoldingTime

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Data Quality Evaluation

SDG	**570-80119-1**	**Reviewer:**	**mfesler**
Method	**A2540D**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0007S021	N	1			
A2BMP0012S010	N	1			
EVBMP0001S019	N	1			
EVBMP0003S032	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

N/A

Continuing Calibration

N/A

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0007S021								
Total Suspended Solids	**2.5**			0.829	1		mg/L	
Field ID: A2BMP0012S010								
Total Suspended Solids	**2.6**			0.829	1		mg/L	
Field ID: EVBMP0001S019								
Total Suspended Solids	**0.9**	J	J	0.829	1		mg/L	
Field ID: EVBMP0003S032								
Total Suspended Solids	**7.9**			0.829	1		mg/L	

Validated Form I

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Data Quality Evaluation

SDG	**570-80119-1**	**Reviewer:**	**mfesler**
Method	**D4464(M)**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0007S021	N	1			
A2BMP0012S010	N	1			
EVBMP0001S019	N	1			
EVBMP0003S032	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blanks were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

No spikes in this SDG. No spike dupes in this SDG.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

N/A

Continuing Calibration

N/A

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
Laboratory Control Sample: No spikes in this SDG. No spike dupes in this SDG.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0007S021								
Clay (less than 0.00391 mm)	**100**			0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	0.01	U	U	0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	**100**			0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	0.01	U	U	0.01	0.01		PERCENT	
Field ID: A2BMP0012S010								
Clay (less than 0.00391 mm)	**100**			0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	0.01	U	U	0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	**100**			0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	0.01	U	U	0.01	0.01		PERCENT	
Field ID: EVBMP0001S019								
Clay (less than 0.00391 mm)	0.01	U	U	0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	0.01	U	U	0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	0.01	U	U	0.01	0.01		PERCENT	
Field ID: EVBMP0003S032								
Clay (less than 0.00391 mm)	**11.59**			0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	**48.07**			0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	**59.66**			0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	**40.34**			0.01	0.01		PERCENT	

Validated Form I

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Data Quality Evaluation

SDG	**570-80119-1**	**Reviewer:**	**mfesler**
Method	**E200.8**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0007S021	N	1			
A2BMP0007S021MS	MS	1			
A2BMP0007S021SD	SD	1			
A2BMP0012S010	N	1			
EVBMP0001S019	N	1			
EVBMP0003S032	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

All MS acceptance criteria were met. All SD acceptance criteria were met. All RPD acceptance criteria were met.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

Tuning and Mass Calibration were not examined by AutoDV.

7. Internal Standard

Internal Standard Area/Retention Time was not examined by AutoDV.

8. Calibration Information

Initial Calibration

There are no ICB detections found except for those specified on the validated Form Is

Continuing Calibration

There are no CCB detections found except for those specified on the validated Form Is

9. Holding Time

All acceptance criteria were met. Dissolved metals were filtered and acidified as soon as possible upon sample receipt.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0007S021								
Cadmium	0.25	U	U	0.25	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	**1.43**	J	J	0.5	2		ug/L	
Copper, Dissolved	**1.44**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	0.5	U	U	0.5	1		ug/L	
Lead, Dissolved	**0.203**	J	J H	0.19	1		ug/L	InvalidLabFlag (J)
Field ID: A2BMP0012S010								
Cadmium	0.25	U	U	0.25	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	**3.36**			0.5	2		ug/L	
Copper, Dissolved	**2.88**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**1.63**			0.5	1		ug/L	
Lead, Dissolved	**0.392**	J	J H	0.19	1		ug/L	InvalidLabFlag (J)
Field ID: EVBMP0001S019								
Cadmium	0.25	U	U	0.25	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	**5.19**			0.5	2		ug/L	
Copper, Dissolved	**1.93**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	0.5	U	U	0.5	1		ug/L	
Lead, Dissolved	**0.206**	J	J H	0.19	1		ug/L	InvalidLabFlag (J)
Field ID: EVBMP0003S032								
Cadmium	0.25	U	U	0.25	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	**5.51**			0.5	2		ug/L	
Copper, Dissolved	**2.11**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**2.74**			0.5	1		ug/L	
Lead, Dissolved	**0.371**	J	J H	0.19	1		ug/L	InvalidLabFlag (J)

Validated Form I

Validation Flag Abbreviations

Abbreviation	*Validation Reason*	*Category*
InvalidLabFlag	Removed invalid laboratory flag	Miscellaneous

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-80119-1**	**Reviewer:**	**mfesler**
Method	**E245.1**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0007S021	N	1			
A2BMP0007S021MS	MS	1			
A2BMP0007S021SD	SD	1			
A2BMP0012S010	N	1			
EVBMP0001S019	N	1			
EVBMP0003S032	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

All MS acceptance criteria were met. All SD acceptance criteria were met. All RPD acceptance criteria were met.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

There are no ICB detections found except for those specified on the validated Form Is

Continuing Calibration

There are no CCB detections found except for those specified on the validated Form Is

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0007S021								
Mercury	0.000124	U	U	########	########		mg/L	
Mercury, Dissolved	0.000124	U	U	########	########		mg/L	
Field ID: A2BMP0012S010								
Mercury	0.000124	U	U	########	########		mg/L	
Mercury, Dissolved	0.000124	U	U	########	########		mg/L	
Field ID: EVBMP0001S019								
Mercury	0.000124	U	U	########	########		mg/L	
Mercury, Dissolved	0.000124	U	U	########	########		mg/L	
Field ID: EVBMP0003S032								
Mercury	0.000124	U	U	########	########		mg/L	
Mercury, Dissolved	0.000124	U	U	########	########		mg/L	

Validated Form I

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-80119-2**	**Reviewer:**	**mfesler**
Method	**8290**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0007S021	N	1			
A2BMP0012S010	N	1			
EVBMP0001S019	N	1			
EVBMP0003S032	N	1			

1. Case Narrative

Items of Interest

The following items were noted: EMPC; LB<RL

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

These analytes had Method Blank detects: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,4,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, OCDD.

Blank Type	Blank ID	Analyte	Result	Report Limit	Lab Flag	Units	SDG
LB	MB 320-555858/1-A	1,2,3,4,6,7,8-HpCDD	2.53	50	J	pg/L	570-80119-2
LB	MB 320-555858/1-A	1,2,3,4,6,7,8-HpCDF	1.607	50	J q	pg/L	570-80119-2
LB	MB 320-555858/1-A	1,2,3,4,7,8,9-HpCDF	2.39	50	J	pg/L	570-80119-2
LB	MB 320-555858/1-A	1,2,3,4,7,8-HxCDD	2.391	50	J q	pg/L	570-80119-2
LB	MB 320-555858/1-A	1,2,3,7,8,9-HxCDD	2.139	50	J	pg/L	570-80119-2
LB	MB 320-555858/1-A	OCDD	3.361	100	J	pg/L	570-80119-2

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG. All reported EMPC values were flagged as estimated nondetects.

Matrix	*Sample ID*	*LR Type*	*Analyte*	*Result*	*MS/MSD Qualifier**	*Criteria*
WATER			1,2,3,4,6,7,8-HpCDF			
	EVBMP0001S019			1.2 pg/L	UJ	EMPC

WATER		1,2,3,4,7,8,9-HpCDF		
	EVBMP0001S019	0.42 pg/L	UJ	EMPC
WATER		1,2,3,4,7,8-HxCDD		
	EVBMP0001S019	2.2 pg/L	UJ	EMPC
	EVBMP0003S032	2.7 pg/L	UJ	EMPC
WATER		1,2,3,6,7,8-HxCDD		
	A2BMP0007S021	1.9 pg/L	UJ	EMPC
	EVBMP0003S032	1.8 pg/L	UJ	EMPC
WATER		1,2,3,7,8,9-HxCDD		
	A2BMP0007S021	2.9 pg/L	UJ	EMPC
	EVBMP0003S032	1.5 pg/L	UJ	EMPC
WATER		2,3,4,6,7,8-HxCDF		
	A2BMP0012S010	0.61 pg/L	UJ	EMPC

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

All acceptance criteria were met.

6. Tuning and Mass Calibration

Tuning and Mass Calibration were not examined by AutoDV.

7. Internal Standard

Internal Standard Area/Retention Time was not examined by AutoDV.

8. Calibration Information

Initial Calibration

Initial Calibration was not examined by AutoDV.

Continuing Calibration

Continuing Calibration was not examined by AutoDV.

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Method Blanks: These analytes had Method Blank detects: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,4,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, OCDD.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0007S021								
1,2,3,4,6,7,8-HpCDD	**30**	J	J B	0.38	49		pg/L	LB>MDL (None)
	30	J	J B	0.38	49		pg/L	InvalidLabFlag (J)
1,2,3,4,6,7,8-HpCDF	4.8	U	J B	0.27	49		pg/L	InvalidLabFlag (J)
	4.8	U	J B	0.27	49		pg/L	LB<RL (U)
1,2,3,4,7,8,9-HpCDF	1.4	U	J B	0.31	49		pg/L	InvalidLabFlag (J)
	1.4	U	J B	0.31	49		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDD	3.7	U	J B	0.31	49		pg/L	InvalidLabFlag (J)
	3.7	U	J B	0.31	49		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDF	0.25	U	U	0.25	49		pg/L	
1,2,3,6,7,8-HxCDD	1.9	UJ	J q	0.27	49		pg/L	EMPC (UJ)
1,2,3,6,7,8-HxCDF	0.22	U	U	0.22	49		pg/L	
1,2,3,7,8,9-HxCDD	2.9	UJ	J q B	0.28	49		pg/L	LB<RL (U)
	2.9	UJ	J q B	0.28	49		pg/L	EMPC (UJ)
1,2,3,7,8,9-HxCDF	**1.6**	J	J	0.25	49		pg/L	
1,2,3,7,8-PeCDD	0.58	U	U	0.58	49		pg/L	
1,2,3,7,8-PeCDF	0.38	U	U	0.38	49		pg/L	
2,3,4,6,7,8-HxCDF	**1.1**	J	J	0.23	49		pg/L	
2,3,4,7,8-PeCDF	0.41	U	U	0.41	49		pg/L	
2,3,7,8-TCDD	0.95	U	U	0.95	9.8		pg/L	
2,3,7,8-TCDF	0.39	U	U	0.39	9.8		pg/L	
OCDD	**230**		B	0.45	98		pg/L	LB>MDL (None)
	230		B	0.45	98		pg/L	InvalidLabFlag (=)
OCDF	**14**	J	J	0.33	98		pg/L	
Field ID: A2BMP0012S010								
1,2,3,4,6,7,8-HpCDD	**45**	J	J B	0.49	48		pg/L	InvalidLabFlag (J)
	45	J	J B	0.49	48		pg/L	LB>MDL (None)
1,2,3,4,6,7,8-HpCDF	**9.8**	J	J B	0.29	48		pg/L	InvalidLabFlag (J)
	9.8	J	J B	0.29	48		pg/L	LB>MDL (None)
1,2,3,4,7,8,9-HpCDF	0.35	U	U	0.35	48		pg/L	LB<RL (none)
1,2,3,4,7,8-HxCDD	3.3	U	J B	0.27	48		pg/L	InvalidLabFlag (J)
	3.3	U	J B	0.27	48		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDF	0.25	U	U	0.25	48		pg/L	
1,2,3,6,7,8-HxCDD	**2.7**	J	J	0.24	48		pg/L	
1,2,3,6,7,8-HxCDF	0.22	U	U	0.22	48		pg/L	
1,2,3,7,8,9-HxCDD	2.6	U	J B	0.25	48		pg/L	InvalidLabFlag (J)
	2.6	U	J B	0.25	48		pg/L	LB<RL (U)
1,2,3,7,8,9-HxCDF	**0.82**	J	J	0.25	48		pg/L	
1,2,3,7,8-PeCDD	0.59	U	U	0.59	48		pg/L	
1,2,3,7,8-PeCDF	0.32	U	U	0.32	48		pg/L	
2,3,4,6,7,8-HxCDF	0.61	UJ	J q	0.23	48		pg/L	EMPC (UJ)
2,3,4,7,8-PeCDF	0.33	U	U	0.33	48		pg/L	
2,3,7,8-TCDD	0.88	U	U	0.88	9.5		pg/L	
2,3,7,8-TCDF	0.37	U	U	0.37	9.5		pg/L	
OCDD	**250**		B	0.45	95		pg/L	InvalidLabFlag (=)
	250		B	0.45	95		pg/L	LB>MDL (None)
OCDF	**20**	J	J	0.44	95		pg/L	

Validated Form I

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: EVBMP0001S019								
1,2,3,4,6,7,8-HpCDD	4.9	U	J B	0.27	47		pg/L	InvalidLabFlag (J)
	4.9	U	J B	0.27	47		pg/L	LB<RL (U)
1,2,3,4,6,7,8-HpCDF	1.2	UJ	J B q	0.16	47		pg/L	LB<RL (U)
	1.2	UJ	J B q	0.16	47		pg/L	EMPC (UJ)
1,2,3,4,7,8,9-HpCDF	0.42	UJ	J B q	0.19	47		pg/L	LB<RL (U)
	0.42	UJ	J B q	0.19	47		pg/L	EMPC (UJ)
1,2,3,4,7,8-HxCDD	2.2	UJ	J B q	0.17	47		pg/L	LB<RL (U)
	2.2	UJ	J B q	0.17	47		pg/L	EMPC (UJ)
1,2,3,4,7,8-HxCDF	0.14	U	U	0.14	47		pg/L	
1,2,3,6,7,8-HxCDD	0.15	U	U	0.15	47		pg/L	
1,2,3,6,7,8-HxCDF	0.12	U	U	0.12	47		pg/L	
1,2,3,7,8,9-HxCDD	1.3	U	J B	0.16	47		pg/L	InvalidLabFlag (J)
	1.3	U	J B	0.16	47		pg/L	LB<RL (U)
1,2,3,7,8,9-HxCDF	0.13	U	U	0.13	47		pg/L	
1,2,3,7,8-PeCDD	0.61	U	U	0.61	47		pg/L	
1,2,3,7,8-PeCDF	0.35	U	U	0.35	47		pg/L	
2,3,4,6,7,8-HxCDF	0.12	U	U	0.12	47		pg/L	
2,3,4,7,8-PeCDF	0.37	U	U	0.37	47		pg/L	
2,3,7,8-TCDD	0.77	U	U	0.77	9.5		pg/L	
2,3,7,8-TCDF	0.31	U	U	0.31	9.5		pg/L	
OCDD	**38**	J	J B	0.29	95		pg/L	InvalidLabFlag (J)
	38	J	J B	0.29	95		pg/L	LB>MDL (None)
OCDF	**3.8**	J	J	0.34	95		pg/L	
Field ID: EVBMP0003S032								
1,2,3,4,6,7,8-HpCDD	**42**	J	J B	0.52	48		pg/L	LB>MDL (None)
	42	J	J B	0.52	48		pg/L	InvalidLabFlag (J)
1,2,3,4,6,7,8-HpCDF	**17**	J	J B	0.34	48		pg/L	InvalidLabFlag (J)
	17	J	J B	0.34	48		pg/L	LB>MDL (None)
1,2,3,4,7,8,9-HpCDF	1.6	U	J B	0.4	48		pg/L	InvalidLabFlag (J)
	1.6	U	J B	0.4	48		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDD	2.7	UJ	J B q	0.3	48		pg/L	LB<RL (U)
	2.7	UJ	J B q	0.3	48		pg/L	EMPC (UJ)
1,2,3,4,7,8-HxCDF	**0.67**	J	J	0.24	48		pg/L	
1,2,3,6,7,8-HxCDD	1.8	UJ	J q	0.27	48		pg/L	EMPC (UJ)
1,2,3,6,7,8-HxCDF	**0.6**	J	J	0.2	48		pg/L	
1,2,3,7,8,9-HxCDD	1.5	UJ	J B q	0.28	48		pg/L	LB<RL (U)
	1.5	UJ	J B q	0.28	48		pg/L	EMPC (UJ)
1,2,3,7,8,9-HxCDF	**0.56**	J	J	0.23	48		pg/L	
1,2,3,7,8-PeCDD	0.53	U	U	0.53	48		pg/L	
1,2,3,7,8-PeCDF	0.31	U	U	0.31	48		pg/L	
2,3,4,6,7,8-HxCDF	0.21	U	U	0.21	48		pg/L	
2,3,4,7,8-PeCDF	0.33	U	U	0.33	48		pg/L	
2,3,7,8-TCDD	0.73	U	U	0.73	9.6		pg/L	
2,3,7,8-TCDF	0.36	U	U	0.36	9.6		pg/L	
OCDD	**340**		B	0.56	96		pg/L	InvalidLabFlag (=)
	340		B	0.56	96		pg/L	LB>MDL (None)
OCDF	**56**	J	J	0.48	96		pg/L	

Validated Form I

Validation Flag Abbreviations

Abbreviation	*Validation Reason*	*Category*
LB<RL	Laboratory blank contamination less than the reporting limit	Blank
LB>MDL	Laboratory blank contamination greater than the method detection limit	Blank
EMPC	Estimated Maximum Possible Concentration	Matrix
InvalidLabFlag	Removed invalid laboratory flag	Miscellaneous

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-80421-1**	**Reviewer:**	**mfesler**
Method	**A2130B**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
EVBMP0008S016	N	1			
EVBMP0009S014	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blanks were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met. No spike dupes in this SDG.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

Initial Calibration was not examined by AutoDV.

Continuing Calibration

Continuing Calibration was not examined by AutoDV.

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: EVBMP0008S016								
Turbidity	**8.5**			0.05	0.05		NTU	
Field ID: EVBMP0009S014								
Turbidity	**5.8**			0.05	0.05		NTU	

Validated Form I

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-80421-1**	**Reviewer:**	**mfesler**
Method	**A2540D**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0006S013	N	1			
EVBMP0007S013	N	1			
EVBMP0008S016	N	1			
EVBMP0009S014	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

N/A

Continuing Calibration

N/A

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0006S013								
Total Suspended Solids	**13.2**			0.829	1		mg/L	
Field ID: EVBMP0007S013								
Total Suspended Solids	**5.32**			1.08	1.3		mg/L	
Field ID: EVBMP0008S016								
Total Suspended Solids	**7.97**			1.05	1.27		mg/L	
Field ID: EVBMP0009S014								
Total Suspended Solids	**5.57**			1.05	1.27		mg/L	

Validated Form I

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-80421-1**	**Reviewer:**	**mfesler**
Method	**D4464(M)**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0006S013	N	1			
EVBMP0007S013	N	1			
EVBMP0008S016	N	1			
EVBMP0009S014	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blanks were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

No spikes in this SDG. No spike dupes in this SDG.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

N/A

Continuing Calibration

N/A

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
Laboratory Control Sample: No spikes in this SDG. No spike dupes in this SDG.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0006S013								
Clay (less than 0.00391 mm)	**15.16**			0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	**84.84**			0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	**100**			0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	0.01	U	U	0.01	0.01		PERCENT	
Field ID: EVBMP0007S013								
Clay (less than 0.00391 mm)	0.01	U	U	0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	0.01	U	U	0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	0.01	U	U	0.01	0.01		PERCENT	
Field ID: EVBMP0008S016								
Clay (less than 0.00391 mm)	0.01	U	U	0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	0.01	U	U	0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	0.01	U	U	0.01	0.01		PERCENT	
Field ID: EVBMP0009S014								
Clay (less than 0.00391 mm)	0.01	U	U	0.01	0.01		PERCENT	
Coarse Sand (0.5mm to 1mm)	0.01	U	U	0.01	0.01		PERCENT	
Fine Sand (0.125 to 0.25mm)	0.01	U	U	0.01	0.01		PERCENT	
Gravel (greater than 2 mm)	0.01	U	U	0.01	0.01		PERCENT	
Medium Sand (0.25 to 0.5 mm)	0.01	U	U	0.01	0.01		PERCENT	
Silt (0.00391 to 0.0625mm)	0.01	U	U	0.01	0.01		PERCENT	
Total Silt and Clay (0 to 0.0626mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Coarse Sand (1 to 2mm)	0.01	U	U	0.01	0.01		PERCENT	
Very Fine Sand (0.0625 to 0.125 mm)	0.01	U	U	0.01	0.01		PERCENT	

Validated Form I

CJ042 Stormwater PO 148015891
Data Quality Evaluation

SDG	**570-80421-1**	**Reviewer:**	**mfesler**
Method	**E200.8**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0006S013	N	1			
A2BMP0006S013MS	MS	1			
A2BMP0006S013SD	SD	1			
EVBMP0007S013	N	1			
EVBMP0008S016	N	1			
EVBMP0009S014	N	1			

1. Case Narrative

Items of Interest

The following items were noted: LB<RL

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

These analytes had Method Blank detects: Copper.

Blank Type	Blank ID	Analyte	Result	Report Limit	Lab Flag	Units	SDG
LB	MB 440-664464/1-A	Copper	0.85	2	J	ug/L	570-80421-1

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

All MS acceptance criteria were met. All SD acceptance criteria were met. All RPD acceptance criteria were met.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

Tuning and Mass Calibration were not examined by AutoDV.

7. Internal Standard

Internal Standard Area/Retention Time was not examined by AutoDV.

8. Calibration Information

Initial Calibration

There are no ICB detections found except for those specified on the validated Form Is

Continuing Calibration

There are no CCB detections found except for those specified on the validated Form Is

9. Holding Time

All acceptance criteria were met. Dissolved metals were filtered and acidified as soon as possible upon sample receipt.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Method Blanks: These analytes had Method Blank detects: Copper.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0006S013								
Cadmium	0.25	U	U	0.25	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	3.32	U	B	0.5	2		ug/L	LB<RL (U)
Copper, Dissolved	**3.67**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**2.13**			0.5	1		ug/L	
Lead, Dissolved	**0.214**	J	J H	0.19	1		ug/L	InvalidLabFlag (J)
Field ID: EVBMP0007S013								
Cadmium	0.25	U	U	0.25	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	**23.6**		B	0.5	2		ug/L	RemoveBLabFlag (=)
	23.6		B	0.5	2		ug/L	LB>MDL (None)
Copper, Dissolved	**4.91**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**5.01**			0.5	1		ug/L	
Lead, Dissolved	**0.471**	J	J H	0.19	1		ug/L	InvalidLabFlag (J)
Field ID: EVBMP0008S016								
Cadmium	0.25	U	U	0.25	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	2.6	U	B	0.5	2		ug/L	LB<RL (U)
Copper, Dissolved	**2.29**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**0.663**	J	J	0.5	1		ug/L	
Lead, Dissolved	0.19	U	U H	0.19	1		ug/L	InvalidLabFlag (U)
Field ID: EVBMP0009S014								
Cadmium	0.25	U	U	0.25	1		ug/L	
Cadmium, Dissolved	0.98	U	U H	0.98	1		ug/L	InvalidLabFlag (U)
Copper	3.71	U	B	0.5	2		ug/L	LB<RL (U)
Copper, Dissolved	**28.8**		H	0.61	1		ug/L	InvalidLabFlag (=)
Lead	**0.581**	J	J	0.5	1		ug/L	
Lead, Dissolved	0.19	U	U H	0.19	1		ug/L	InvalidLabFlag (U)

Validated Form I

Validation Flag Abbreviations

Abbreviation	*Validation Reason*	*Category*
LB<RL	Laboratory blank contamination less than the reporting limit	Blank
LB>MDL	Laboratory blank contamination greater than the method detection limit	Blank
RemoveBLabFlag	Lab B flag removed - analyte not detected in sample	Blank
InvalidLabFlag	Removed invalid laboratory flag	Miscellaneous

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-80421-1**	**Reviewer:**	**mfesler**
Method	**E245.1**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0006S013	N	1			
EVBMP0007S013	N	1			
EVBMP0007S013MS	MS	1			
EVBMP0007S013SD	SD	1			
EVBMP0008S016	N	1			
EVBMP0009S014	N	1			

1. Case Narrative

Items of Interest

There were no items of concern

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

All MS acceptance criteria were met. All SD acceptance criteria were met. All RPD acceptance criteria were met.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

No surrogates in this SDG.

6. Tuning and Mass Calibration

N/A

7. Internal Standard

N/A

8. Calibration Information

Initial Calibration

There are no ICB detections found except for those specified on the validated Form Is

Continuing Calibration

There are no CCB detections found except for those specified on the validated Form Is

9. Holding Time

All acceptance criteria were met. Dissolved metals were filtered and acidified as soon as possible upon sample receipt.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Surrogates: No surrogates in this SDG.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0006S013								
Mercury	0.000124	U	U	########	########		mg/L	
Mercury, Dissolved	0.000124	U	U H	########	########		mg/L	InvalidLabFlag (U)
Field ID: EVBMP0007S013								
Mercury	0.000124	U	U	########	########		mg/L	
Mercury, Dissolved	0.000124	U	U H	########	########		mg/L	InvalidLabFlag (U)
Field ID: EVBMP0008S016								
Mercury	0.000124	U	U	########	########		mg/L	
Mercury, Dissolved	0.000124	U	U H	########	########		mg/L	InvalidLabFlag (U)
Field ID: EVBMP0009S014								
Mercury	0.000124	U	U	########	########		mg/L	
Mercury, Dissolved	0.000124	U	U H	########	########		mg/L	InvalidLabFlag (U)

Validated Form I

Validation Flag Abbreviations

Abbreviation	*Validation Reason*	*Category*
InvalidLabFlag	Removed invalid laboratory flag	Miscellaneous

CJ042 Stormwater PO 148015891

Data Quality Evaluation

SDG	**570-80421-2**	**Reviewer:**	**mfesler**
Method	**8290**	**Date:**	**4/29/2022**
Matrix	**WATER**	**Reviewed:**	**4/29/2022**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
WATER					
A2BMP0006S013	N	1			
EVBMP0007S013	N	1			
EVBMP0008S016	N	1			
EVBMP0009S014	N	1			

1. Case Narrative

Items of Interest

The following items were noted: EMPC; LB<RL; LCSRPD

2. Blank Summary

Field Blanks

No Field Blanks were found.

Method Blanks

These analytes had Method Blank detects: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,4,7,8-HxCDD, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, 1,2,3,7,8-PeCDF, OCDD, OCDF.

Blank Type	Blank ID	Analyte	Result	Report Limit	Lab Flag	Units	SDG
LB	MB 320-556608/1-A	1,2,3,4,6,7,8-HpCDD	2.531	50	J	pg/L	570-80421-2
LB	MB 320-556608/1-A	1,2,3,4,6,7,8-HpCDF	1.718	50	J q	pg/L	570-80421-2
LB	MB 320-556608/1-A	1,2,3,4,7,8,9-HpCDF	1.823	50	J	pg/L	570-80421-2
LB	MB 320-556608/1-A	1,2,3,4,7,8-HxCDD	2.871	50	J q	pg/L	570-80421-2
LB	MB 320-556608/1-A	1,2,3,6,7,8-HxCDD	1.221	50	J q	pg/L	570-80421-2
LB	MB 320-556608/1-A	1,2,3,7,8,9-HxCDD	1.241	50	J q	pg/L	570-80421-2
LB	MB 320-556608/1-A	1,2,3,7,8,9-HxCDF	1.771	50	J	pg/L	570-80421-2
LB	MB 320-556608/1-A	1,2,3,7,8-PeCDF	1.29	50	J	pg/L	570-80421-2
LB	MB 320-556608/1-A	OCDD	5.143	100	J q	pg/L	570-80421-2
LB	MB 320-556608/1-A	OCDF	2.894	100	J	pg/L	570-80421-2

3. Spikes and Duplicates

Field Duplicate

No FD Associated.

Laboratory Duplicates

None in this SDG

Matrix Spike

No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG. All reported EMPC values were flagged as estimated

nondetects.

Matrix	*Sample ID*	*LR Type*	*Analyte*	*Result*	*MS/MSD Qualifier**	*Criteria*
WATER			1,2,3,4,6,7,8-HpCDD			
	EVBMP0007S013			3.4 pg/L	UJ	EMPC
	EVBMP0008S016			3.4 pg/L	UJ	EMPC
	EVBMP0009S014			3.8 pg/L	UJ	EMPC
WATER			1,2,3,4,6,7,8-HpCDF			
	A2BMP0006S013			4.9 pg/L	UJ	EMPC
	EVBMP0008S016			1.4 pg/L	UJ	EMPC
	EVBMP0009S014			1.2 pg/L	UJ	EMPC
WATER			1,2,3,4,7,8,9-HpCDF			
	EVBMP0007S013			0.42 pg/L	UJ	EMPC
WATER			1,2,3,4,7,8-HxCDD			
	A2BMP0006S013			2.5 pg/L	UJ	EMPC
WATER			1,2,3,7,8,9-HxCDF			
	A2BMP0006S013			1.4 pg/L	UJ	EMPC
WATER			OCDF			
	A2BMP0006S013			12 pg/L	UJ	EMPC
	EVBMP0009S014			3.5 pg/L	UJ	EMPC

4. Laboratory Control Sample

All acceptance criteria were met. These LCS RPD analytes were out of control: 1,2,3,4,7,8,9-HpCDF (BS), 1,2,3,7,8,9-HxCDF (BS), 2,3,4,6,7,8-HxCDF (BS).

5. Surrogates

All acceptance criteria were met.

6. Tuning and Mass Calibration

Tuning and Mass Calibration were not examined by AutoDV.

7. Internal Standard

Internal Standard Area/Retention Time was not examined by AutoDV.

8. Calibration Information

Initial Calibration

Initial Calibration was not examined by AutoDV.

Continuing Calibration

Continuing Calibration was not examined by AutoDV.

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

Field Duplicates: No FD Associated.
Form I Review: No samples were excluded for dilutions or re-extractions.
Method Blanks: These analytes had Method Blank detects: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF,

1,2,3,4,7,8-HxCDD, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, 1,2,3,7,8-PeCDF, OCDD, OCDF.
Tuning and Mass Calibration: Tuning and Mass Calibration were not examined by AutoDV.
Internal Standard Area/Retention Time: Internal Standard Area/Retention Time was not examined by AutoDV.
Initial Calibration: Initial Calibration was not examined by AutoDV.
Continuing Calibration: Continuing Calibration was not examined by AutoDV.
VDMS4.56

Data Package Completeness

Package was complete for level V validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: A2BMP0006S013								
1,2,3,4,6,7,8-HpCDD	**29**	J	J B	0.38	48		pg/L	LB>MDL (None)
	29	J	J B	0.38	48		pg/L	RemoveBLabFlag (J)
1,2,3,4,6,7,8-HpCDF	4.9	UJ	J q B	0.27	48		pg/L	LB<RL (U)
	4.9	UJ	J q B	0.27	48		pg/L	EMPC (UJ)
1,2,3,4,7,8,9-HpCDF	1.3	U	J B *1	0.32	48		pg/L	LCSRPD (J)
	1.3	U	J B *1	0.32	48		pg/L	RemoveBLabFlag (J)
	1.3	U	J B *1	0.32	48		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDD	2.5	UJ	J q B	0.27	48		pg/L	LB<RL (U)
	2.5	UJ	J q B	0.27	48		pg/L	EMPC (UJ)
1,2,3,4,7,8-HxCDF	0.25	U	U	0.25	48		pg/L	
1,2,3,6,7,8-HxCDD	2.9	U	J B	0.24	48		pg/L	RemoveBLabFlag (J)
	2.9	U	J B	0.24	48		pg/L	LB<RL (U)
1,2,3,6,7,8-HxCDF	0.21	U	U	0.21	48		pg/L	
1,2,3,7,8,9-HxCDD	2.5	U	J B	0.24	48		pg/L	RemoveBLabFlag (J)
	2.5	U	J B	0.24	48		pg/L	LB<RL (U)
1,2,3,7,8,9-HxCDF	1.4	UJ	J q B *1	0.24	48		pg/L	LCSRPD (J)
	1.4	UJ	J q B *1	0.24	48		pg/L	LB<RL (U)
	1.4	UJ	J q B *1	0.24	48		pg/L	EMPC (UJ)
1,2,3,7,8-PeCDD	0.7	U	U	0.7	48		pg/L	
1,2,3,7,8-PeCDF	0.4	U	U	0.4	48		pg/L	LB<RL (none)
2,3,4,6,7,8-HxCDF	0.22	U	U *1	0.22	48		pg/L	LCSRPD (none)
	0.22	U	U *1	0.22	48		pg/L	InvalidLabFlag (U)
2,3,4,7,8-PeCDF	0.42	U	U	0.42	48		pg/L	
2,3,7,8-TCDD	0.78	U	U	0.78	9.5		pg/L	
2,3,7,8-TCDF	0.36	U	U	0.36	9.5		pg/L	
OCDD	**220**		B	0.54	95		pg/L	LB>MDL (None)
	220		B	0.54	95		pg/L	RemoveBLabFlag (=)
OCDF	12	UJ	J q B	0.41	95		pg/L	EMPC (UJ)
	12	UJ	J q B	0.41	95		pg/L	LB<RL (U)
Field ID: EVBMP0007S013								
1,2,3,4,6,7,8-HpCDD	3.4	UJ	J q B	0.2	51		pg/L	LB<RL (U)
	3.4	UJ	J q B	0.2	51		pg/L	EMPC (UJ)
1,2,3,4,6,7,8-HpCDF	1.3	U	J B	0.16	51		pg/L	RemoveBLabFlag (J)
	1.3	U	J B	0.16	51		pg/L	LB<RL (U)
1,2,3,4,7,8,9-HpCDF	0.42	UJ	J q B *1	0.19	51		pg/L	LCSRPD (J)
	0.42	UJ	J q B *1	0.19	51		pg/L	LB<RL (U)
	0.42	UJ	J q B *1	0.19	51		pg/L	EMPC (UJ)
1,2,3,4,7,8-HxCDD	2.5	U	J B	0.14	51		pg/L	RemoveBLabFlag (J)
	2.5	U	J B	0.14	51		pg/L	LB<RL (U)
1,2,3,4,7,8-HxCDF	0.21	U	U	0.21	51		pg/L	
1,2,3,6,7,8-HxCDD	0.13	U	U	0.13	51		pg/L	LB<RL (none)
1,2,3,6,7,8-HxCDF	0.18	U	U	0.18	51		pg/L	
1,2,3,7,8,9-HxCDD	0.13	U	U	0.13	51		pg/L	LB<RL (none)
1,2,3,7,8,9-HxCDF	1.2	U	J B *1	0.21	51		pg/L	LCSRPD (J)
	1.2	U	J B *1	0.21	51		pg/L	RemoveBLabFlag (J)
	1.2	U	J B *1	0.21	51		pg/L	LB<RL (U)

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: EVBMP0007S013								
1,2,3,7,8-PeCDD	0.52	U	U	0.52	51		pg/L	
1,2,3,7,8-PeCDF	0.39	U	U	0.39	51		pg/L	LB<RL (none)
2,3,4,6,7,8-HxCDF	0.19	U	U *1	0.19	51		pg/L	LCSRPD (none)
	0.19	U	U *1	0.19	51		pg/L	InvalidLabFlag (U)
2,3,4,7,8-PeCDF	0.41	U	U	0.41	51		pg/L	
2,3,7,8-TCDD	0.9	U	U	0.9	10		pg/L	
2,3,7,8-TCDF	0.31	U	U	0.31	10		pg/L	
OCDD	**33**	J	J B	0.28	100		pg/L	RemoveBLabFlag (J)
	33	J	J B	0.28	100		pg/L	LB>MDL (None)
OCDF	2.7	U	J B	0.38	100		pg/L	LB<RL (U)
	2.7	U	J B	0.38	100		pg/L	RemoveBLabFlag (J)
Field ID: EVBMP0008S016								
1,2,3,4,6,7,8-HpCDD	3.4	UJ	J q B	0.19	48		pg/L	LB<RL (U)
	3.4	UJ	J q B	0.19	48		pg/L	EMPC (UJ)
1,2,3,4,6,7,8-HpCDF	1.4	UJ	J q B	0.2	48		pg/L	LB<RL (U)
	1.4	UJ	J q B	0.2	48		pg/L	EMPC (UJ)
1,2,3,4,7,8,9-HpCDF	0.23	U	U *1	0.23	48		pg/L	LB<RL (none)
	0.23	U	U *1	0.23	48		pg/L	LCSRPD (none)
	0.23	U	U *1	0.23	48		pg/L	InvalidLabFlag (U)
1,2,3,4,7,8-HxCDD	0.21	U	U	0.21	48		pg/L	LB<RL (none)
1,2,3,4,7,8-HxCDF	0.2	U	U	0.2	48		pg/L	
1,2,3,6,7,8-HxCDD	0.19	U	U	0.19	48		pg/L	LB<RL (none)
1,2,3,6,7,8-HxCDF	0.17	U	U	0.17	48		pg/L	
1,2,3,7,8,9-HxCDD	0.19	U	U	0.19	48		pg/L	LB<RL (none)
1,2,3,7,8,9-HxCDF	0.2	U	U *1	0.2	48		pg/L	LCSRPD (none)
	0.2	U	U *1	0.2	48		pg/L	InvalidLabFlag (U)
	0.2	U	U *1	0.2	48		pg/L	LB<RL (none)
1,2,3,7,8-PeCDD	0.64	U	U	0.64	48		pg/L	
1,2,3,7,8-PeCDF	0.39	U	U	0.39	48		pg/L	LB<RL (none)
2,3,4,6,7,8-HxCDF	0.18	U	U *1	0.18	48		pg/L	LCSRPD (none)
	0.18	U	U *1	0.18	48		pg/L	InvalidLabFlag (U)
2,3,4,7,8-PeCDF	0.42	U	U	0.42	48		pg/L	
2,3,7,8-TCDD	0.78	U	U	0.78	9.6		pg/L	
2,3,7,8-TCDF	0.39	U	U	0.39	9.6		pg/L	
OCDD	**37**	J	J B	0.36	96		pg/L	RemoveBLabFlag (J)
	37	J	J B	0.36	96		pg/L	LB>MDL (None)
OCDF	3.7	U	J B	0.35	96		pg/L	RemoveBLabFlag (J)
	3.7	U	J B	0.35	96		pg/L	LB<RL (U)
Field ID: EVBMP0009S014								
1,2,3,4,6,7,8-HpCDD	3.8	UJ	J q B	0.14	49		pg/L	EMPC (UJ)
	3.8	UJ	J q B	0.14	49		pg/L	LB<RL (U)
1,2,3,4,6,7,8-HpCDF	1.2	UJ	J q B	0.14	49		pg/L	LB<RL (U)
	1.2	UJ	J q B	0.14	49		pg/L	EMPC (UJ)
1,2,3,4,7,8,9-HpCDF	0.17	U	U *1	0.17	49		pg/L	LB<RL (none)
	0.17	U	U *1	0.17	49		pg/L	LCSRPD (none)
	0.17	U	U *1	0.17	49		pg/L	InvalidLabFlag (U)
1,2,3,4,7,8-HxCDD	0.23	U	U	0.23	49		pg/L	LB<RL (none)
1,2,3,4,7,8-HxCDF	0.19	U	U	0.19	49		pg/L	
1,2,3,6,7,8-HxCDD	0.2	U	U	0.2	49		pg/L	LB<RL (none)
1,2,3,6,7,8-HxCDF	0.16	U	U	0.16	49		pg/L	
1,2,3,7,8,9-HxCDD	0.21	U	U	0.21	49		pg/L	LB<RL (none)

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	LOD	Units	Validation Reason (Flag)
Field ID: EVBMP0009S014								
1,2,3,7,8,9-HxCDF	0.18	U	U *1	0.18	49		pg/L	InvalidLabFlag (U)
	0.18	U	U *1	0.18	49		pg/L	LB<RL (none)
	0.18	U	U *1	0.18	49		pg/L	LCSRPD (none)
1,2,3,7,8-PeCDD	0.61	U	U	0.61	49		pg/L	
1,2,3,7,8-PeCDF	0.32	U	U	0.32	49		pg/L	LB<RL (none)
2,3,4,6,7,8-HxCDF	0.17	U	U *1	0.17	49		pg/L	LCSRPD (none)
	0.17	U	U *1	0.17	49		pg/L	InvalidLabFlag (U)
2,3,4,7,8-PeCDF	0.34	U	U	0.34	49		pg/L	
2,3,7,8-TCDD	0.82	U	U	0.82	9.7		pg/L	
2,3,7,8-TCDF	0.36	U	U	0.36	9.7		pg/L	
OCDD	**36**	J	J B	0.34	97		pg/L	RemoveBLabFlag (J)
	36	J	J B	0.34	97		pg/L	LB>MDL (None)
OCDF	3.5	UJ	J q B	0.36	97		pg/L	EMPC (UJ)
	3.5	UJ	J q B	0.36	97		pg/L	LB<RL (U)

Validated Form I

Validation Flag Abbreviations

Abbreviation	*Validation Reason*	*Category*
LB<RL	Laboratory blank contamination less than the reporting limit	Blank
LB>MDL	Laboratory blank contamination greater than the method detection limit	Blank
RemoveBLabFlag	Lab B flag removed - analyte not detected in sample	Blank
LCSRPD	LCS RPD criteria exceeded	LaboratoryControlSample
EMPC	Estimated Maximum Possible Concentration	Matrix
InvalidLabFlag	Removed invalid laboratory flag	Miscellaneous

Appendix C: 2021/22 Exceeding Constituent Source Investigation

Prepared for

The Boeing Company
Santa Susana Site
5800 Woolsey Canyon Road
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Appendix C: 2021/22 Exceeding Constituent Source Investigation

Prepared by

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Acronyms

BEF	Bioaccumulation Equivalency Factor
BMP	Best Management Practice
BOD_5	Biological Oxygen Demand over a 5-day period
DNQ	Detected not Quantified
DTSC	Department of Toxic Substances Control
IQR	Interquartile Range
ISRA	Interim Source Removal Action
LOE	Lines of Evidence
MDL	Method Detection Limit
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NPDES	National Pollutant Discharge Elimination System
ND	Not Detected
pCi/L	picocuries per liter
PS	Particulate Strength
RFI	RCRA Facility Investigations
RCRA	Resource Conservation and Recovery Act
Rv	Volumetric Runoff Coefficient
SSFL	Santa Susana Field Laboratory
SWTS	Stormwater Treatment System
TCDD	Tetrachlorodibenzo-p-dioxin
TEF	Toxic Equivalency Factor
TEQ	Toxic Equivalence
TSS	Total Suspended Solids
WHO	World Health Organization

Executive Summary

Sources of Permit Limit and Benchmark exceedances in 2021/2022 were investigated through multiple data analyses to provide independent lines of evidence (LOE) that when considered together provide a weight of evidence identifying one or more sources. The various LOEs considered were:

- spatial patterns
- particulate strengths
- metal ratio fingerprinting
- dioxin congener fingerprinting

Constituents that exceeded in 2021 were Biological Oxygen Demand (BOD_5), Chronic Toxicity (Selenastrum), Iron, Manganese, Copper, and TCDD TEQ (no DNQ). Potential sources evaluated were:

- **Impacted Soils (referred to here as "RFI Soil"):** Soils from areas potentially impacted by former operations were characterized for the Resource Conservation and Recovery Act (RCRA) program and other regulatory programs, including the RCRA Feasibility Investigations (RFI) conducted across the site.
- **Background Soils:** Natural background soils were evaluated using monitoring results from offsite soils evaluated in the California Department of Toxic Substances Control (DTSC) SSFL Background Soils Study (DTSC 2012).
- **Pavement Solids:** Particulates on pavements were collected quarterly from six sites throughout the Outfall 009 watershed between 2016-2017. The collected samples were sieved into three size fractions for analyses. Only the <75 micrometer (μm) fraction is considered here, since this is the most likely particle size to be mobilized by stormwater.
- **Treated wood utility poles and adjacent soils:** Treated wood utility poles and adjacent soils were evaluated by collecting samples of the treated wood utility pole material and the soil adjacent to treated woods at several locations in 2016, 2020, and 2021.
- **Utility Pole Wire Mesh:** An intumescent-coated metal wire mesh was added to 12 poles in the Outfall 009 watershed in 2021 for fire protection.
- **Atmospheric Deposition Solids:** Dry atmospheric deposition solid samples were collected monthly at the SSFL Fire Station and Helipad over the course of a year between 2016-2017.

The combined LOEs indicated that the elevated iron and manganese concentrations were likely attributable to natural soils present throughout SSFL, while elevated TCDD TEQ (no DNQ) results were likely affected by contributions from localized sources. TCDD TEQ (no DNQ) exceedances at Outfalls 001 and 011 were likely primarily from natural background soils with smaller but more concentrated contributions from impacted soils (RFI Soils), treated wood poles and adjacent soils, and pavement solids. A closer look into sample and laboratory documentation revealed that BOD_5 and Chronic Toxicity were analyzed outside of their hold time, indicating potentially erroneous results, and copper and BOD_5 exceedances were possibly due to laboratory error. This year's annual report recommendations include measures to address these exceedance sources (including stormwater treatment improvements for dioxins in the outfall 001 and 011 watersheds) and reduce future laboratory errors.

1. Introduction

The purpose of this investigation was to evaluate potential sources that may have contributed to effluent limit and benchmark exceedances at the Santa Susana Field Laboratory (SSFL) National Pollutant Discharge Elimination System (NPDES) Outfalls during the 2021/22 rainy season. The twelve active SSFL NPDES Outfall locations are shown in Figure 1.

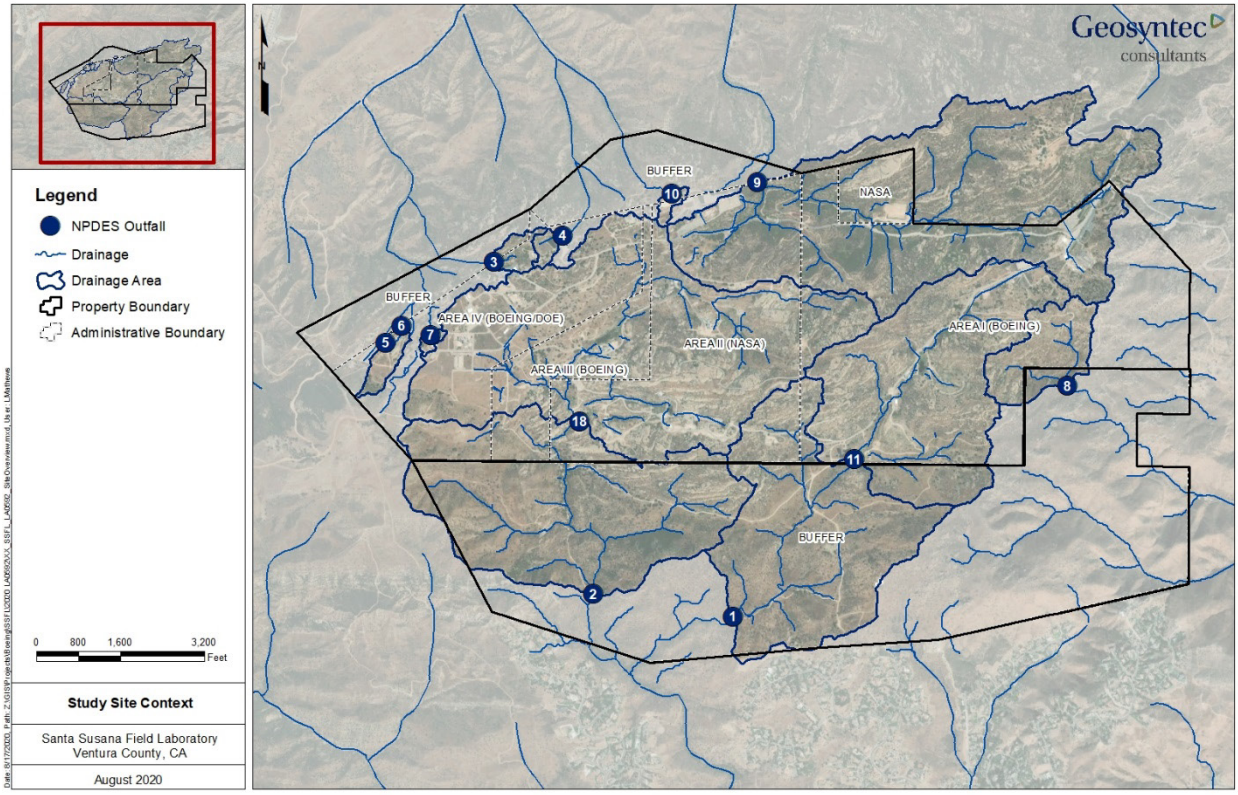


Figure 1. Santa Susana Field Laboratory (SSFL) National Pollutant Discharge Elimination System (NPDES) Outfalls

The long-term average annual rainfall at SSFL from 1959 to 2022 is 16.8 inches[1], occurring primarily in winter storms from October through March. Highly variable periods of above or below average rainfall are common. A total of 18.2 inches of rainfall was measured in the 2021/22 reporting year (June 1, 2021 – May 31, 2022). A total of 8 qualifying rain events occurred in 2021/22, where a "rain event" is defined by the Permit as greater than 0.1 inches of rainfall in 24 hours, preceded by at least 72 hours of dry weather. Of the eight rain events, three produced discharges at one or more NPDES outfalls.

Constituents that exceeded an effluent limit or benchmark at least once in the 2021/22 rainy season were: Biochemical Oxygen Demand (BOD_5)[2]; Chronic Toxicity, Selenastrum[1]; copper; iron; manganese; and Tetrachlorodibenzo-p-dioxin Toxic Equivalence (TCDD TEQ) (no DNQ). A summary of each exceedance is

[1] Data from the Simi Hills – Rocketdyne Lab gauge (Ventura County Watershed Protection District site 249) was used to determine annual rainfall from 1958/59 through 1977/78 and from 1984/85 through 2000/01. Rainfall data from 2001/02 through 2021/22 was recorded at the Area 4 gauge, which was relocated to Area 1 on January 1, 2013), resulting in a combined period of record of 56 years.

[2] Biochemical Oxygen Demand (BOD_5) and Chronic Toxicity, Selenastrum analyses were conducted outside of their prescribed hold time and the results were J flagged indicating estimated values.

shown in Table 1 below, along with the associated total suspended solids (TSS) concentration for each sample.

Table 1. 2021/2022 Effluent Limit and Benchmark Exceedances

Storm Date and Depth (inches)	Sample Date	Outfall	Parameter	Units	Result	Limit	Limit Type	TSS (mg/L)
12/13-16/2021 (2.96)	12/15/2021	009	Copper	µg/L	15	13	Effluent Limit	3.2
12/23-31/2021 (11.8)	12/26/2021	009	Chronic Toxicity, Selenastrum	%	57.52 J[1]	50	Effluent Limit	31
12/23-31/2021 (11.8)	12/26/2021	001	Iron	mg/L	7.1	0.3	Benchmark	82
12/23-31/2021 (11.8)	12/26/2021	001	Manganese	µg/L	110	50	Benchmark	82
12/23-31/2021 (11.8)	12/26/2021	001	TCDD TEQ (No DNQ)	µg/L	2.9E-08	2.8E-08	Benchmark	82
12/23-31/2021 (11.8)	12/26/2021	002	Iron	mg/L	2.5	0.3	Benchmark	100
12/23-31/2021 (11.8)	12/28/2021	018	Biochemical Oxygen Demand (BOD_5)	mg/L	66 J[1]	30	Effluent Limit	1
12/23-31/2021 (11.8)	12/30/2021	011	Iron	mg/L	5.1	0.3	Effluent Limit	110
12/23-31/2021 (11.8)	12/30/2021	011	Manganese	µg/L	100	50	Effluent Limit	110
12/23-31/2021 (11.8)	12/30/2021	011	TCDD TEQ (No DNQ)	µg/L	3.9E-08	2.8E-08	Effluent Limit	110
12/23-31/2021 (11.8)	01/05/2022	018	Iron	mg/L	0.53	0.3	Effluent Limit	0.5, U[2]

1. Biochemical Oxygen Demand (BOD_5) and Chronic Toxicity, Selenastrum analyses were conducted outside of their prescribed hold time and the results were J flagged indicating estimated result that was measured between the method detection limit and reporting limit.
2. U flag indicates the analyte was not detected above the method detection limit.

A variety of natural and anthropogenic sources present at the SSFL were evaluated to determine their potential to contribute to surface water benchmark exceedances, the majority of which reflect pollutants that are predominantly in particulate form, hence an investigative focus on *solid* sources rather than aqueous ones. This source evaluation was accomplished by performing various data analyses to establish a "weight of evidence" means of source hypothesis testing. Various lines of evidence (LOEs), as described in the sections below, were evaluated to determine the likelihood that a source was a major contributor to constituents exceeding the effluent limits or benchmarks at the outfalls. The potential solid sources evaluated, and the associated sampling performed for each, include:

- **Background Soils:** Natural background soils were evaluated based on offsite soils evaluated in the California Department of Toxic Substances Control (DTSC) SSFL Background Soils Study (DTSC 2012). Only surface soils in the top 6 inches were used to evaluate the solids concentration since these are the soils most likely to be mobilized by stormwater runoff.

- **Impacted Soils (referred to here as "RFI Soil"):** Soils from areas potentially impacted by former operations were characterized for the Resource Conservation and Recovery Act (RCRA) program and other regulatory programs, including the RCRA Feasibility Investigations (RFI) conducted across the site. Only surface soils still in place in the top 6 inches within RFI areas were used to represent the solids concentration of areas potentially impacted by former operations since these are the soils most likely to be mobilized by stormwater runoff.
- **Pavement solids:** Particulates on pavements were collected quarterly from six sites throughout the Outfall 009 watershed between 2016-2017. The collected samples were sieved into three size fractions for analyses. Only the <75 micrometer (µm) fraction is considered here, since this is the most likely particle size to be mobilized by stormwater.
- **Treated Wood:** Treated wood utility poles and adjacent soils were evaluated by collecting samples of the treated wood utility pole material and the soil adjacent to treated woods at several locations in 2016, 2020, and 2021. While treated wood is the source of elevated constituents, the impacted adjacent soils are what are likely to be mobilized rather than the treated wood itself so the soil near treated wood poles are the focus of the solid sources evaluation.
- **Utility Pole Wire Mesh:** An intumescent-coated metal wire mesh was added to 12 poles in the Outfall 009 watershed in 2021 for fire protection (the intumescent coating swells when exposed to a flame to protect the wood pole). A sample of the mesh-wrap was collected and tested for a variety of metals to assess its potential as a stormwater source.
- **Atmospheric Deposition Solids:** Dry atmospheric deposition solid samples were collected monthly at the SSFL Fire Station and Helipad over the course of a year between 2016-2017. Atmospheric deposition was (and continues to be) evaluated to determine whether typical dry deposition occurring at the site that is mobilized during wet weather may have contributed to exceedances.

Each LOE (line of evidence) is described in detail below to help test the following questions:

- Are there local sources unique to particular watersheds where exceedances are occurring (i.e., pollutant-leaching materials or impacted soils that explain concentration differences between outfalls, rather than sources that occur uniformly across the site and affect all outfalls, like natural background soils and atmospheric deposition)?
- Can forensic fingerprinting analyses provide an additional LOE to determine if 2021/22 effluent limit or benchmark exceedances were caused by one or more of the potential sources investigated?

2. Lines of Evidence

One way to evaluate potential sources is to consider multiple lines of evidence (LOEs). This approach uses independent assessments and findings to see if they concur in the identification of potential source(s). Multiple LOEs were considered when investigating potential sources of exceedances. Each LOE and how it was used to support a particular source conclusion is summarized in Table 2 and described below. Where more than one LOE supports that a source may be a contributor for a particular constituent, then there is a greater likelihood that the hypothesized source contributed to or caused the exceedance.

Table 2. Questions and Lines of Evidence

Questions	Line of Evidence	Criteria to Answer 'Yes' to Questions
Are there local sources unique to particular watersheds where exceedances are occurring?	Spatial Patterns	Particulate strengths differ between watersheds (i.e. box plots do not overlap)
	Material Inventory	The potential source is physically present in the watershed
Can 2021/22 effluent limit or benchmark exceedances be the result of one or more of the potential sources investigated?	Particulate Strengths	The upper end (Q3+1.5*IQR) of the solids concentration (i.e. soils, pavement solids, etc.) is greater than or equal to the exceeding stormwater particulate strength
	Fingerprinting: Ratios to Iron/Manganese[3]	Stormwater results are within the 95th percentile confidence interval for background soils
	Fingerprinting: Dioxin Congeners	Cluster and principal component analyses show stormwater samples and source samples being closely related

2.1. Spatial Patterns

Spatial patterns were used to evaluate whether there are sources unique to particular watersheds that were responsible for effluent limit or benchmark exceedances. Box plots of stormwater concentration and particulate strength were used to illustrate the basic statistics of each watershed's water quality and provide a visual comparison of results. As shown in Figure 2, the box plots reflect the median, 25th percentile, 75th percentile, and 1.5 quartile values, in addition to outliers outside of the 1.5 quartiles, if applicable. The individual result concentrations are shown over the box plots to differentiate between detected (black border) and non-detected (gray border) results. A difference in concentration or particulate strengths may indicate there was a unique source within a particular watershed (particulate strengths are described in more detail in Section 2.2). Watershed conditions and Best Management Practices (BMPs) were considered in this analysis and results from each watershed are colored accordingly in the plots for each constituent with an effluent limit or benchmark exceedance in the 2021/22 rainy season.

[3] These metals have been definitively found to be from natural background soils therefore they serve as a reliable reference for testing whether other stormwater pollutants exceedances are similarly derived from background soils.

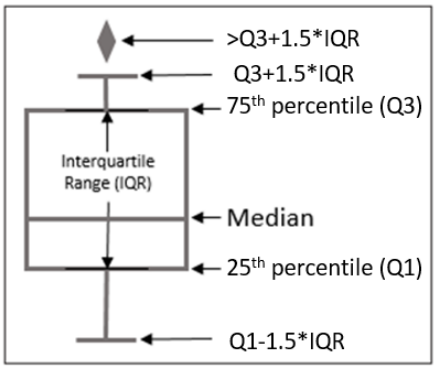


Figure 2. Box Plot Key

2.2. Particulate Strengths

Particulate strength (PS) calculations were used to determine if solids concentrations in potential sources are high enough to cause effluent limit or benchmark exceedances in stormwater. PS is the constituent concentration associated with particulate matter in stormwater and is a means to normalize stormwater constituent concentrations by TSS. Normalizing constituent concentrations by TSS is helpful for comparing solid concentrations of hypothesized sources with the particulate material in the aqueous stormwater samples. This method is useful for the constituents that are highly associated with particulates and are not found in significant quantities in filtered (dissolved and colloidal) forms. PS values have been previously used by the Surface Water Expert Panel and Geosyntec to assess sources of metals in SSFL NPDES outfall compliance monitoring data (SSFL Surface Water Expert Panel, 2009). PS is calculated in stormwater using the following equation and applying the appropriate unit conversions.

$$PS = \frac{(\text{total concentration} - \text{filtered concentration})}{\text{total suspended solids concentration}}$$

Samples where both the total and filtered concentrations were detected were used to determine the average filtered fractions for each constituent at each sample location. This average filtered fraction was used in the PS calculations for samples with no filtered fraction reported or for filtered results below the detection limit. If the total concentration was below the detection limit, the detection limit was used for the non-detected values. TCDD TEQ is assumed to have a filtered fraction of zero because of the congeners' extremely low solubility and high partitioning coefficient to solids.

The solid source sample results represent bulk samples and include all particle sizes, with the exception of pavement solids and soils near treated wood poles, where the fine fraction (<75 µm) was considered separately. This is important to note, because the PS of the fine fraction is typically higher than the bulk fraction. Also, outfall stormwater samples typically contain a higher percent of the fine fraction compared to the original sources due to the selective mobilization of fine particles in stormwater runoff. For example, the fine fraction (<75 µm) of sediments collected from the Outfall 009 watershed had a median lead solids concentration over four times higher than other fractions (46.9 mg/kg in fine vs 10.2 and 10.7 mg/kg in medium and coarse, respectively). More importantly, as shown in Figure 3, the median fine fraction concentration was over four times higher than the median bulk concentration of the soil sample calculated using the weighted average of each size fraction. A similar trend is observed for other constituents. This means the outfall sample PS is more influenced by the smaller particle sizes, which have a higher constituent PS. This needs to be considered when comparing the PS of outfall samples to the source samples that are based on bulk solids.

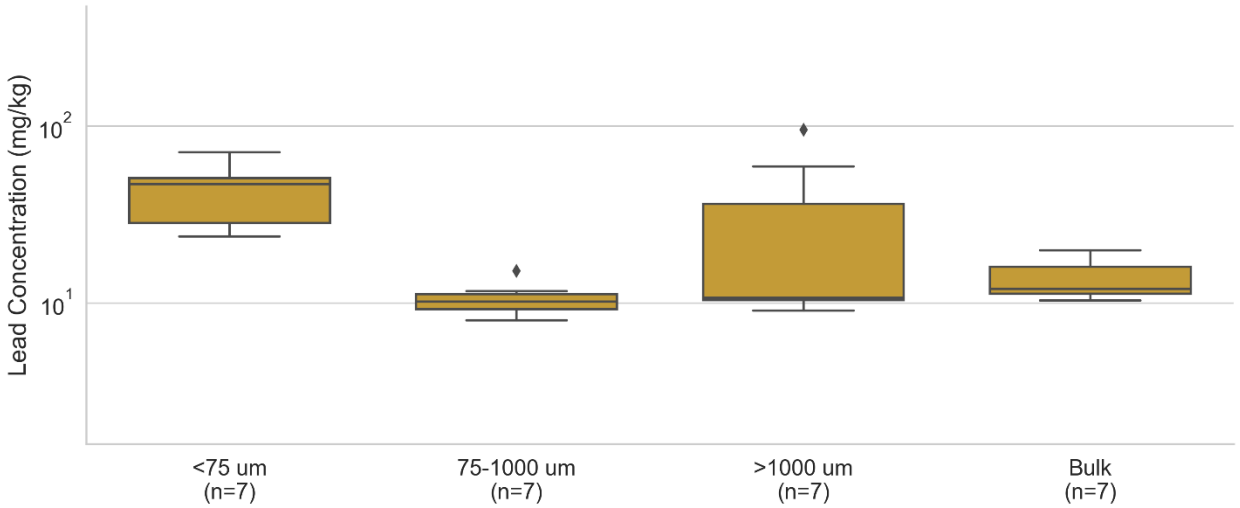


Figure 3. Lead Concentration in Northern Drainage Sediment by Sediment Size Fraction and Calculated Bulk Concentration

If the upper range of the solids concentration (i.e. the upper bar in the box plots indicating the 75th percentile + 1.5 interquartile range [IQR]) was greater than or equal to the stormwater PS, a supporting LOE was found (i.e., supporting the hypothesis that the source material could be contributing to the exceeding concentration). An example plot with annotations is shown in Figure 4 based on the following logic:

- **Likely Source**: 75th percentile +1.5 IQR concentration of the potential source is higher than the particulate strength of the exceeding sample;
- **Possible, But Less Likely Source**: extreme values of the potential source concentrations are above the exceeding sample particulate strength, but the 75th percentile+1.5 IQR of the potential source is less than the exceeding sample; and
- **Not A Likely Source**: all measured concentrations of the potential source are less than the exceeding sample.

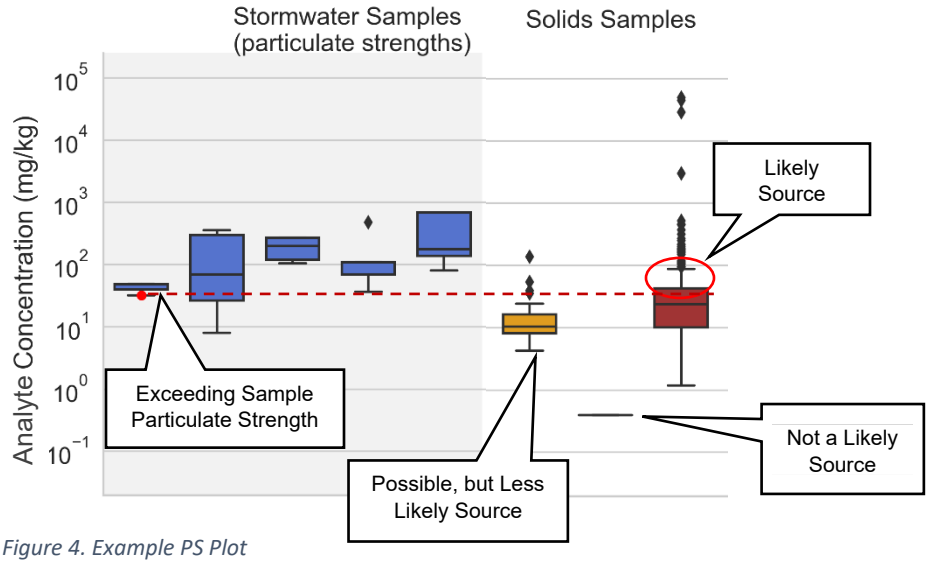
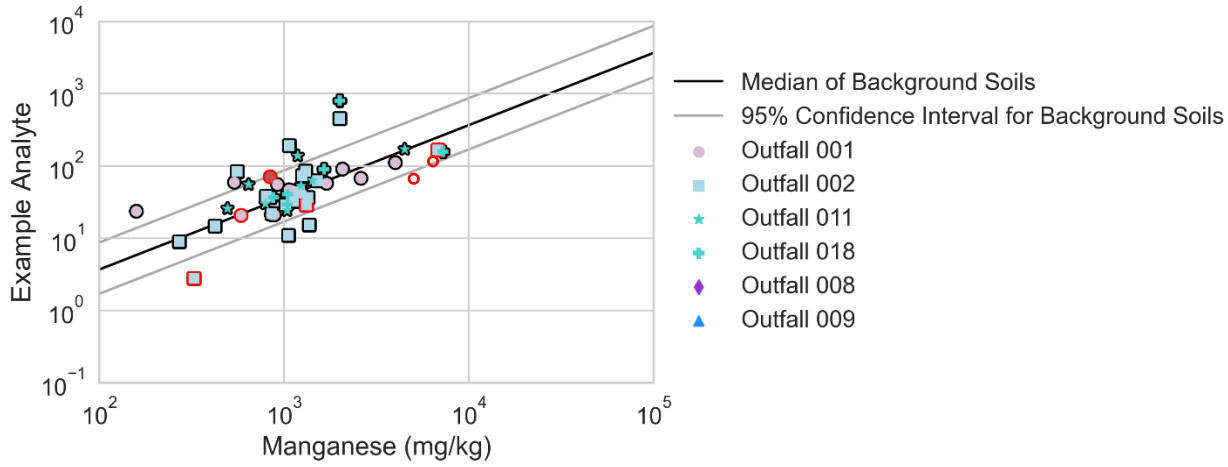


Figure 4. Example PS Plot

2.3. Fingerprinting: Metal Ratios

Metal ratio fingerprinting were used as a second LOE, in addition to PS, to determine if background soils could have caused 2021/22 effluent limit or benchmark exceedances. Metal ratios were used to identify potential constituent sources by the ratio of concentrations of multiple constituents in source material samples to the particulate strengths of stormwater samples. Iron and manganese were chosen to be the reference analytes because they are primarily soil derived and are present at relatively consistent concentrations in most soils, and their stormwater PS results confirm this general understanding by matching levels in background soils. The ratios of each constituent to iron and manganese are presented in plots showing the median ratio and 95th percentile confidence interval for background soils compared to individual stormwater results. Figure 5 shows an example plot, which includes the individual background soil data points used to determine the median and confidence interval. Where stormwater results were within ranges found for background soils, as is the case for the exceeding samples outlined in red below, a supporting LOE was found (i.e., supporting the hypothesis that the source of exceedances was background soils). NPDES sampling frequency requirements differ between parameters and as a result, not all samples have concurrent iron and manganese results[4].



Note: Samples whose stormwater concentration exceeded a water quality objective are marked with a red border.

Figure 5. Example Analyte: Manganese Metal Ratio Plot

2.4. Fingerprinting: Dioxin Congeners

Dioxin congener fingerprinting methods are currently being updated for the site. A preliminary congener fingerprinting analysis was used as an additional line of evidence to evaluate if the 2021/22 effluent limit or benchmark exceedances for dioxin concentrations were caused by one or more of the potential sources investigated. Under the NPDES Permit, dioxin concentrations in stormwater are evaluated against the effluent limits and benchmarks using TCDD TEQ no DNQ, which is a scaled sum of seventeen individual congeners excluding results detected below the quantifiable reporting limit. For fingerprinting purposes,

[4] For iron and manganese, the NPDES Permit for SSFL (NPDES NO. CA0001309) states that, "If the detected concentration exceeds the criteria, the frequency of analysis must be increased [from once per year] to once per discharge (once per month at Outfall 019/020). After four consecutive samplings demonstrate compliance, then the frequency reverts back to annual sampling."

however, individual congener concentrations were used unscaled by any factors and DNQ results were included.

Multivariate analyses were used to investigate the relative sources of TCDD congeners at the stormwater outfall locations at SSFL. Three main analyses tools were used, after suitable pre-processing of the data, including cluster analyses, principal component analyses, and chemical mass balance calculations. Concentration distributions of congeners were also examined comparing outfall particulate strength with potential source particulate strengths similar to the comparisons described previously for specific COC. This provides a weight of evidence with supporting findings, based on the available data set. The statistical methods used in these analyses focused on the median values. If the detection frequency was greater than 50%, the medians were directly observed. However, for datasets with fewer detections, it was possible to graphically estimate the likely medians from probability plots. Most of the analyses focused on using the congeners 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, OCDD, and OCDF as they had the most consistent observational frequencies for most of the source categories.

Cluster and Principal Component Analyses

Cluster and principal component analyses were used to identify similar patterns between source congeners and outfall congeners in order to determine the potential sources contributing to TCDD TEQ in outfall samples. Principal component analyses were performed using Minitab (version 16). The calculated eigenvalues indicate how the different variables (congeners in this case) contribute to explaining the variability in the data set. The first principal component accounts for most of the variability, while the others contribute less. The loading for each variable indicates the relative significance for each variable per principal component. The scree plot shows the relative contributions for each component. Usually, the first two or three principal components contribute most of the total explanation of the variability, as indicated by the additional components contributing very little. The score plot is a scatter plot of the loadings for the first two principal components and indicates how the outfall and sources are related.

These congener multivariate analyses identify the major source components, the sources with the congener fingerprint that most closely matches outfall exceedances. Mixtures of sources affect the relative abundance of congeners and therefore are not identified in the cluster analysis. Dendrograms and score plots were used to illustrate the relationships of the congener relative concentration patterns between outfall and source samples for the congeners. Samples with more similar characteristics are plotted more closely together than more distantly plotted sources. The closer the outfall stormwater samples are to specific sources, the more likely those sources are present in the stormwater sample.

Chemical Mass Balance Calculations

Chemical mass balance (CMB) calculations were also used to complement these multivariate analyses and used to quantify the likely sources of TCDD congeners under a variety of scenarios for the SSFL outfalls. The CMB model is a chemical mass balance set of equations with Monte Carlo statistical simulations to determine the most likely source components of outfall discharges. A “Library” file describes the characteristics of each potential source, and includes the mean, coefficient of variation, and the type of distribution (Normal or Log-Normal). The set of simultaneous equations are then defined by the model relating the data from this “Library” file with the data at the outfall. These simultaneous equations are solved using the Gaussian-Elimination method. For the calculations described in this appendix, 1,000 runs were used to estimate the mass contributions of each source for each outfall scenario. Each run generates a value of the contribution of each source based on the statistical parameters for the constituents,

resulting in an equal number of values of mass contributions as there are runs, which are then summarized.

Congener Particulate Strength Distributions

Grouped probability plots were prepared for the four main congeners comparing relative outfall concentration distributions with source concentration distributions. Similar to the previously described box and whisker analyses for COCs, the probability plots clearly identify candidate sources that can contribute to outfall discharges.

3. Results

This section presents the Outfall stormwater results for each constituent that exceeded effluent limits or benchmarks in 2021/22 according to the LOEs approaches described above.

3.1. Total Suspended Solids (TSS)

TSS does not have a benchmark or permit limit defined, however, it is useful to interpret general trends. Stormwater concentrations of TSS in the 2021/22 season have decreased overall compared to the 2018/19 season, as shown in Figure 6. The concentrations are most similar to the 2019/20 season, which received a similar total rainfall depth. The long-term site-wide concentrations indicate that 2021/22 concentrations are generally in line with the range of concentrations in non-fire years. **The temporal patterns of TSS concentrations indicate that concentrations in 2021/22 are similar to other non-wildfire years with similar rainfall (2019/20).**

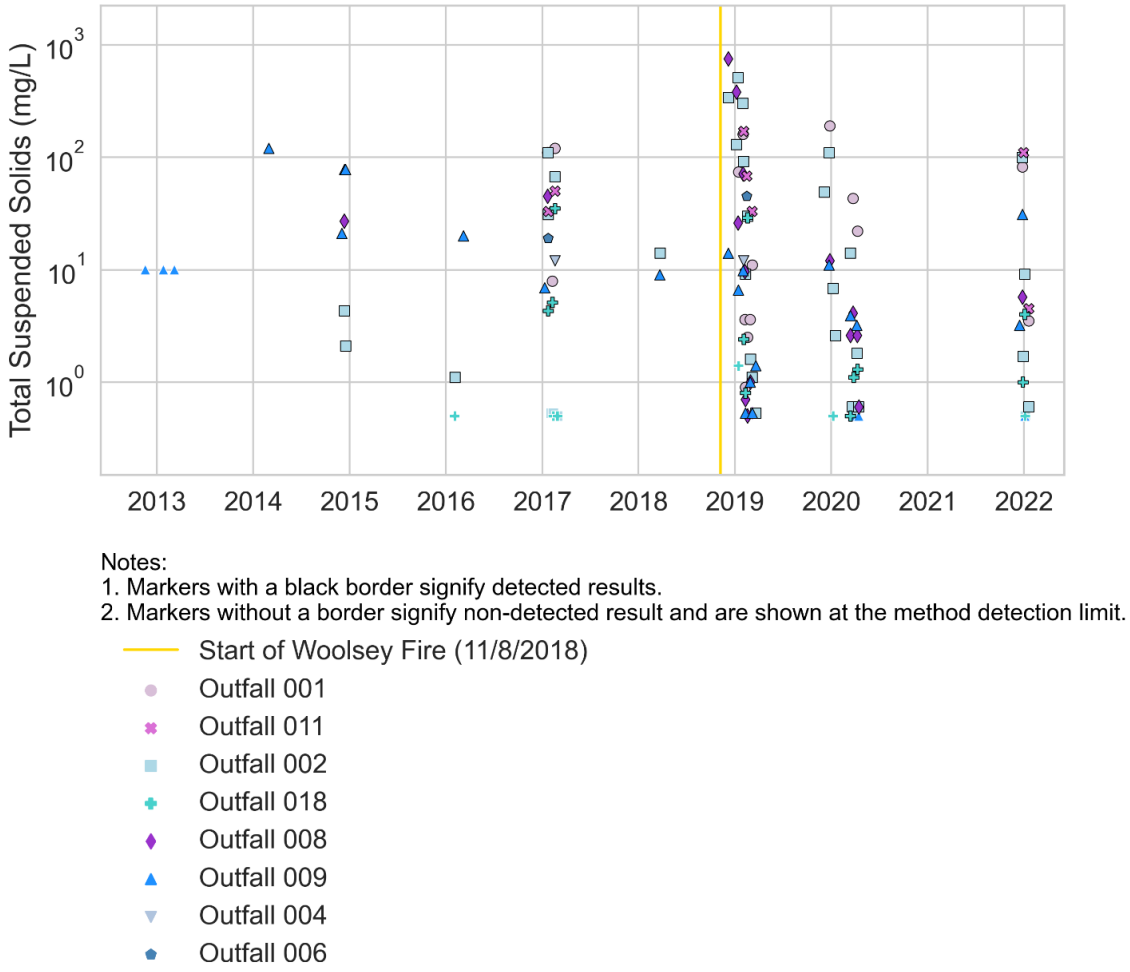


Figure 6. Timeseries of TSS Concentrations 2012/13-2021/22

As shown in Figure 7, the three highest concentrations of TSS this year were at Outfalls 001, 002, and 011. Outfalls 001 and 002 are largely undeveloped watersheds, but both occasionally receive stormwater from an upstream developed watershed with an advanced stormwater treatment system (Outfall 011 and 018, respectively). The highest TSS concentration at Outfall 011 occurred when the Perimeter Pond overflowed and stormwater was partially treated by the media filter at Outfall 011. The highest TSS concentration at Outfall 002 occurred when the discharge consisted purely of Outfall 002 watershed stormwater runoff (i.e., Outfall 018, which flows into the Outfall 002 watershed, was not discharging). Similarly, the highest TSS concentration at Outfall 001 was prior to discharge at Outfall 011, so this discharge consisted solely of Outfall 001 watershed stormwater runoff. **This spatial pattern suggests that areas with higher TSS concentrations may be associated with erosion of soils in undeveloped watersheds without the stormwater treatment measures or significant BMPs that are prevalent in the more developed watersheds**. However, this alone does not indicate BMPs are necessary as these outfall concentrations are generally in line with or lower than natural watershed concentrations, and even the higher TSS concentrations measured this year are within the typical range of TSS concentrations for stormwater in undeveloped watersheds.

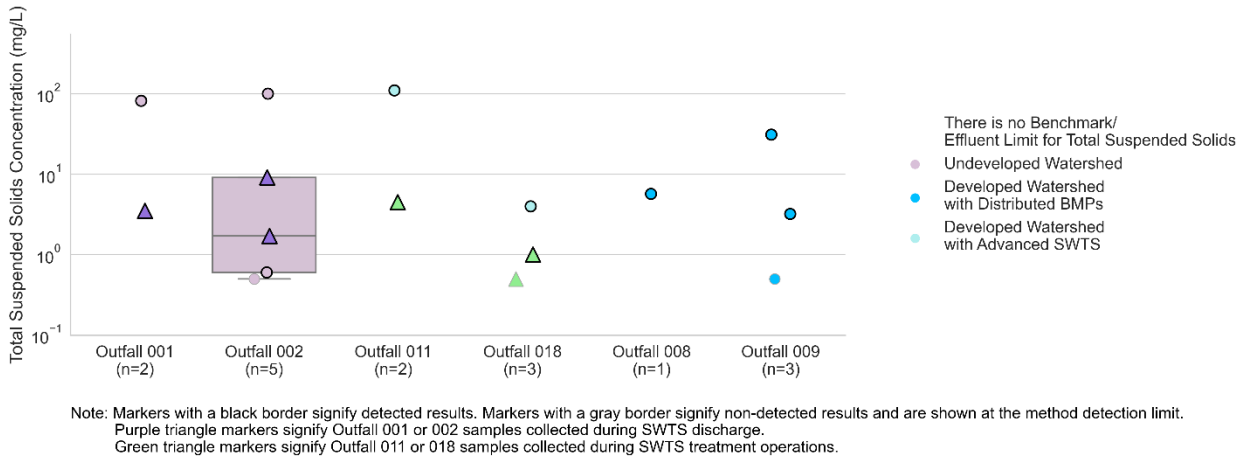


Figure 7. 2021/22 TSS Concentrations by Outfall

TSS is also used to compute COC particulate strengths, but particulate strength is only a useful metric for evaluating source of exceedances for COCs that are highly particulate-associated. Therefore, COC-TSS relationships are checked to confirm which pollutants are primarily particulate-associated. BOD_5 and Chronic Toxicity are not a physical measure of concentration like the rest of the constituents that exceeded this year, however, they were still compared to TSS concentrations. Figures 8 through 13 show the concentration of exceeding constituents compared to the TSS concentration in each sample. The positive correlation in the plots for copper, iron, and manganese indicate the stormwater concentration for those analytes is heavily influenced by TSS concentrations. The less obvious TSS relationship in the TCDD TEQ (no DNQ) plot are caused by the laboratory reporting individual congener results, often at very low concentrations near the detection limit, and the toxic equivalency factor applied to these congeners turning a near-continuous distribution of values into narrow discrete ranges. Results are highly variable by outfall and storm. However, this does not alter the understanding that TCDD TEQ is highly particulate associated (and therefore that particulate strengths can be used to identify its sources of exceedance) because its soil organic carbon partitioning coefficient is so high.

A best fit line and 95% confidence intervals for detected results are shown in dashed lines. The slope of the best fit line was further investigated to determine if it was a statistically significant non-zero (a slope of zero would indicate no relationship between a given analyte and TSS). The Wald Test with t-distribution of the test statistic was used to find the two-sided p-value for a hypothesis test whose null hypothesis is that the slope is zero. A p-value of less than 0.05 indicates a statistically significant relationship between the exceeding constituent and TSS concentrations. As shown in the scatterplot of chronic toxicity vs. TSS in Figure 9, the slope term was not significant ($p = 0.71$) indicating that chronic toxicity was not significantly related to TSS. All other exceeding parameters in 2021/22 had a significant slope term indicating a relationship with TSS.

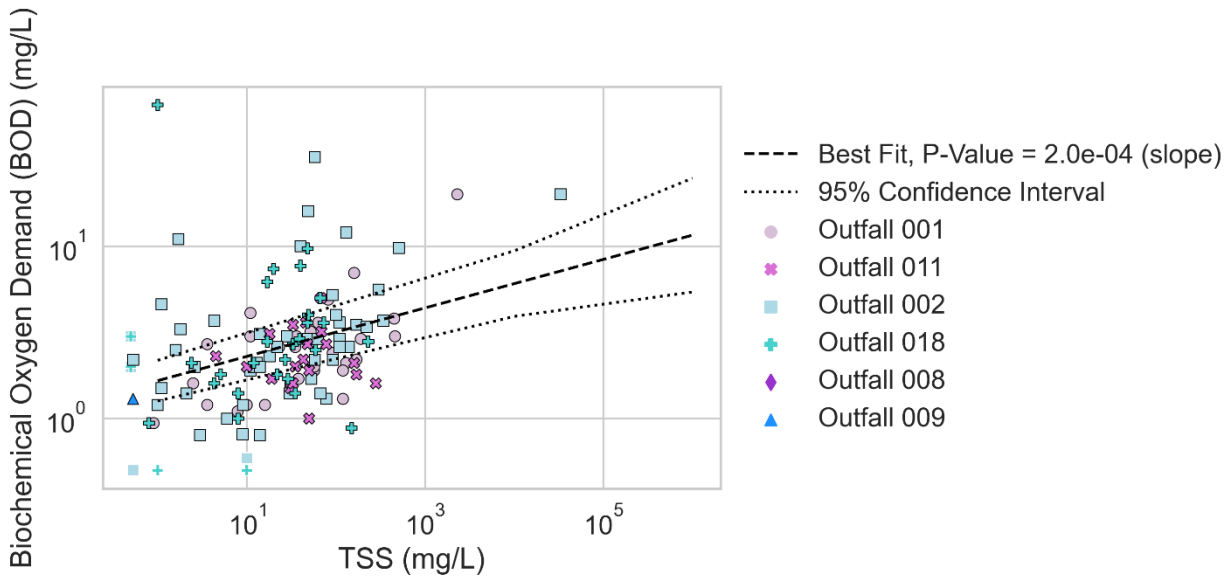


Figure 8. BOD vs TSS Concentrations at SSFL NPDES Outfalls from 2004-2022

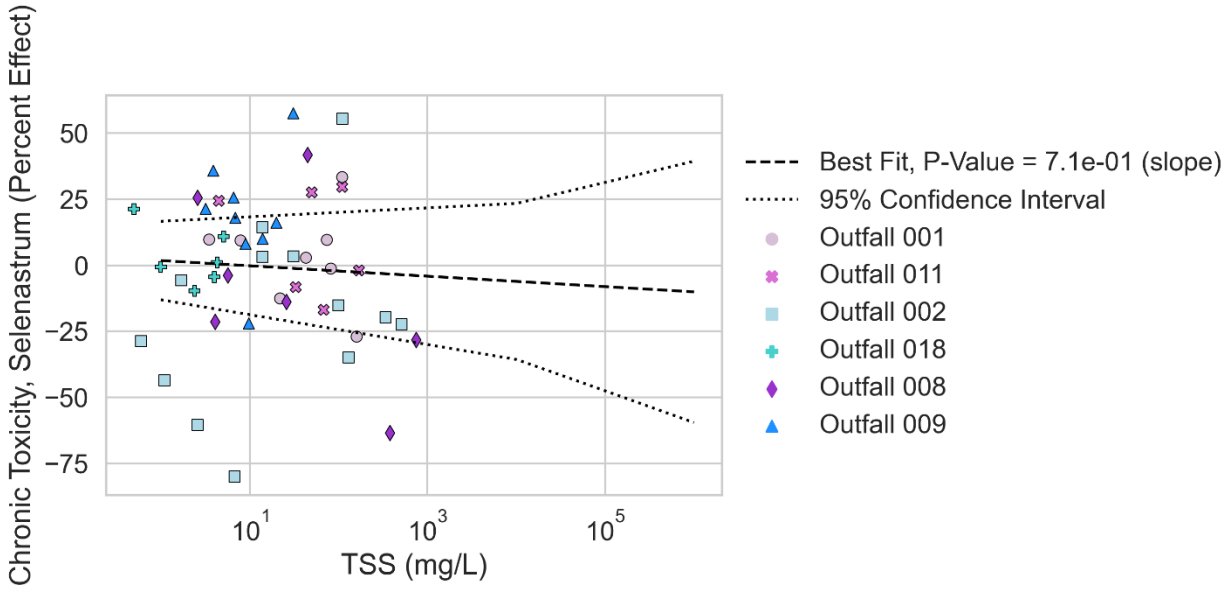


Figure 9. Chronic Toxicity vs TSS Concentrations at SSFL NPDES Outfalls from 2004-2022

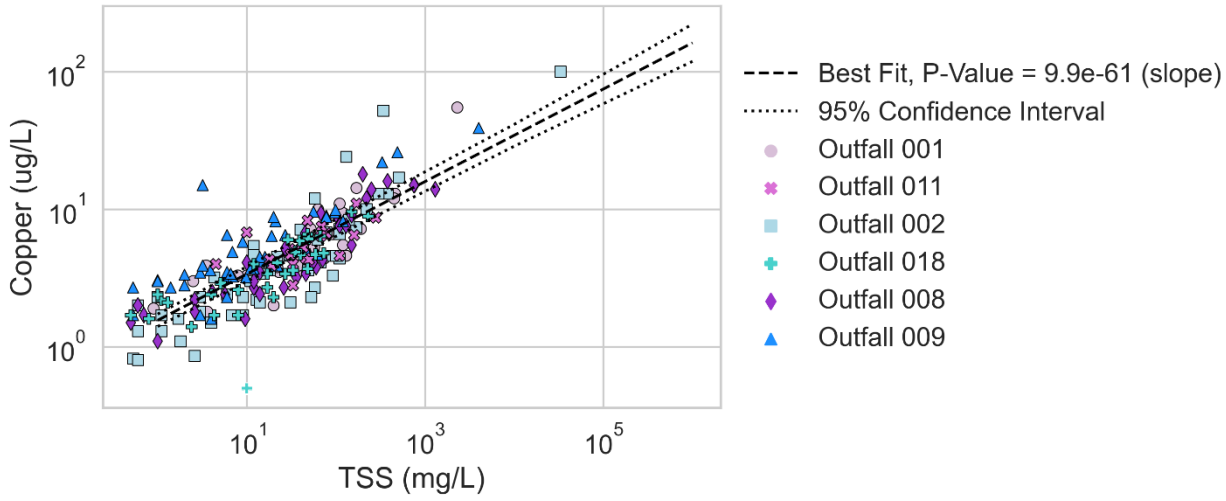


Figure 10. Copper vs TSS Concentrations at SSFL NPDES Outfalls from 2004-2022

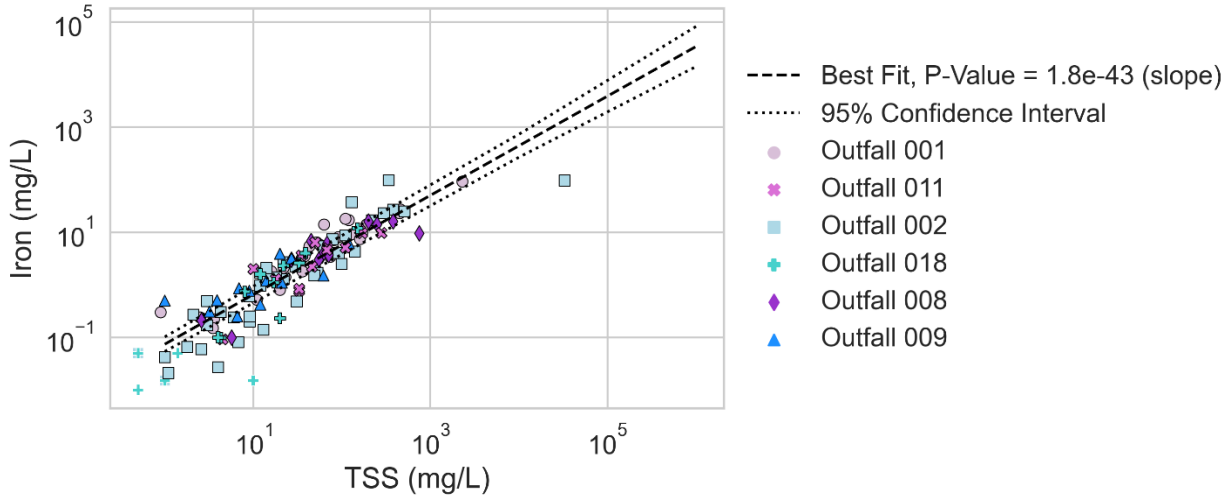


Figure 11. Iron vs TSS Concentrations at SSFL NPDES Outfalls from 2004-2022

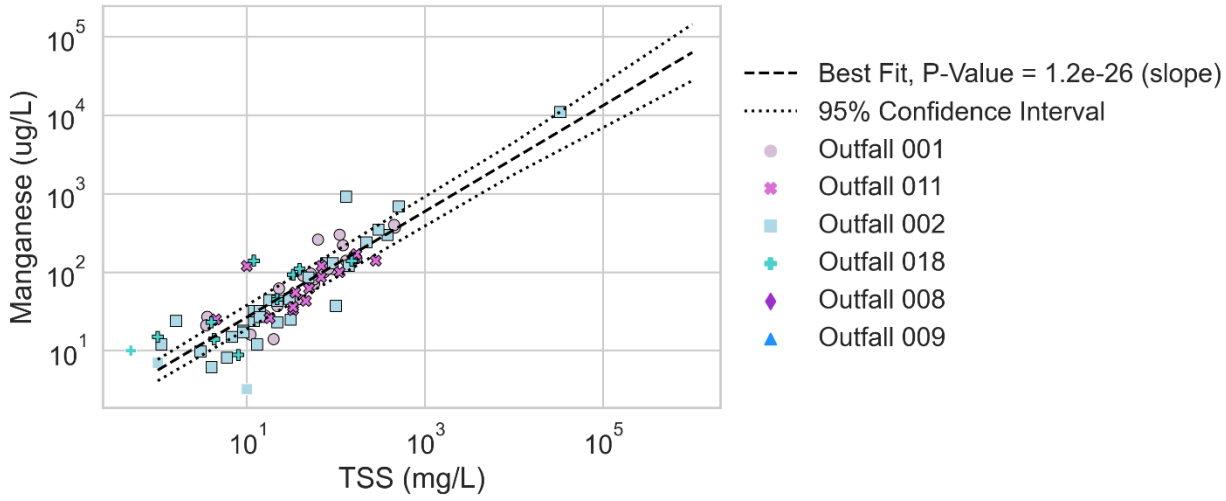


Figure 12. Manganese vs TSS Concentrations at SSFL NPDES Outfalls from 2004-2022

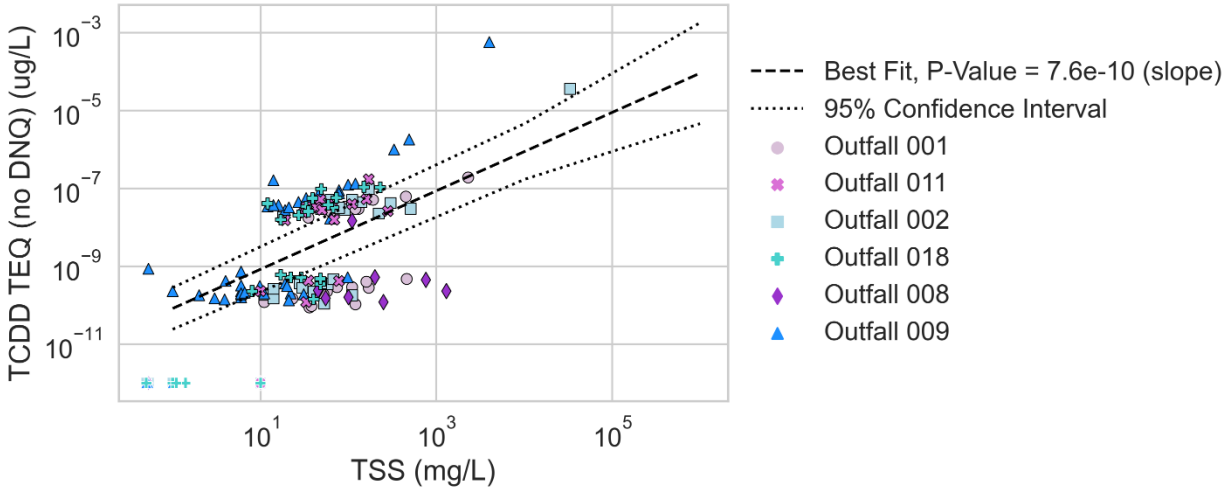
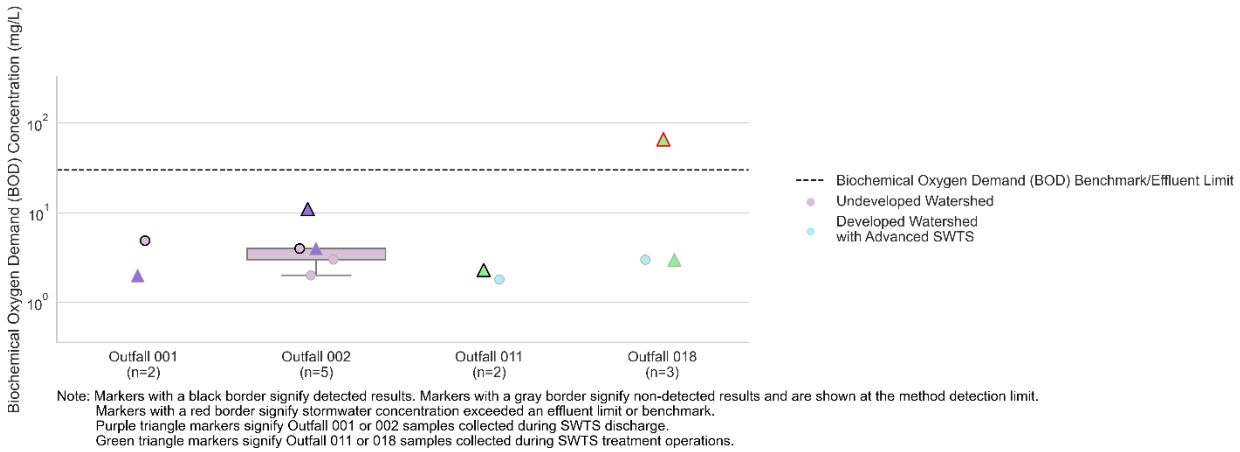


Figure 13. TCDD TEQ (no DNQ) vs TSS Concentrations at SSFL NPDES Outfalls from 2004-2022

3.2. Biochemical Oxygen Demand

BOD_5 concentrations were above the effluent limit of 50 mg/L at Outfall 018 one time in the 2021/22 season (66 mg/L). As shown in Figure 14a, BOD_5 concentrations were typically at or below 10 mg/L. BOD_5 exceedances have not been observed at Outfall 018 previously and BOD_5 has never previously been detected above 10 mg/L at Outfall 018, including in samples collected prior to the SWTS being built. Since the SWTS began operation, BOD_5 has not been detected above 3 mg/L at Outfall 018 prior to this sample result. As shown in Figure 14b, the exceeding result for BOD_5 at Outfall 018 is an unusual result (>Q3+1.5*IQR). **The spatial pattern and historical results indicate this was an atypical result.**

a)



b)

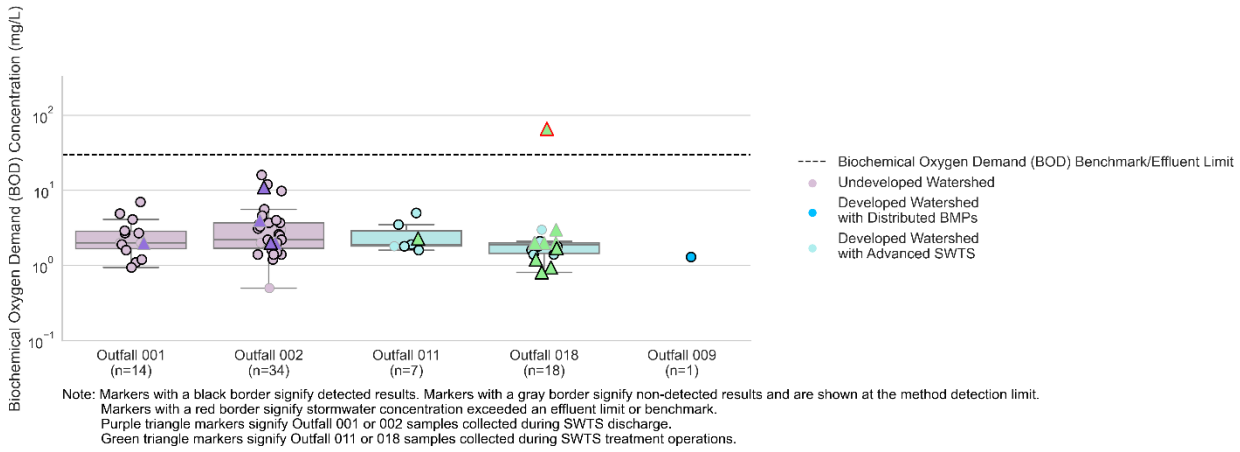


Figure 14. 2021/22 (a) and 2012/13-Present (b) BOD Concentrations by Outfall

Upon a closer review, the lab stated this result is (likely) a lab error for the following reasons:

- Dissolved oxygen (DO) concentrations compared to the BOD_5 result: typically, a high DO result correlates to a low BOD_5 result. At the time of collection from the autosampler, dissolved oxygen concentrations were near saturated concentrations (7.96 mg/L). Saturated (elevated) DO conditions are inconsistent with elevated BOD_5.
- Potential analytical error: The laboratory ran multiple dilutions, each dilution yielded contradictory BOD_5 results with the final reported result was conducted outside of the allowable holding time.

Based on the historical record and issues identified by the lab, this exceedance is likely due to a lab error rather than being reflective of site conditions. Later samples collected at Outfall 018 this season were all non-detect for BOD_5. The 2022/23 season samples will again be analyzed for BOD_5 as required in the permit.

3.3. Chronic Toxicity

As shown in Figure 15, Outfall 009 exceeded the permit limit of 50% effect for Chronic Toxicity at 57.25% effect on December 26, 2021. Based on this sample result, the laboratory initiated the Toxicity Identification Evaluation (TIE) process as part of Boeing's Initial Toxicity Reduction Evaluation (TRE) Work Plan and reanalyzed the sample to establish a baseline for the TIE (Haley & Aldrich, 2015). The baseline toxicity was reported as Pass with a % Effect of 20.49%. Both the original and baseline toxicity tests were conducted outside of the prescribed hold time. Because the chronic toxicity test from December 26 failed but the baseline toxicity passed, the detection is considered episodic and the TRE process was ended. Additionally, there were no exceedances of other analytes in this sample, including the permit limits and benchmarks that consider water quality objectives that are based on aquatic toxicity.

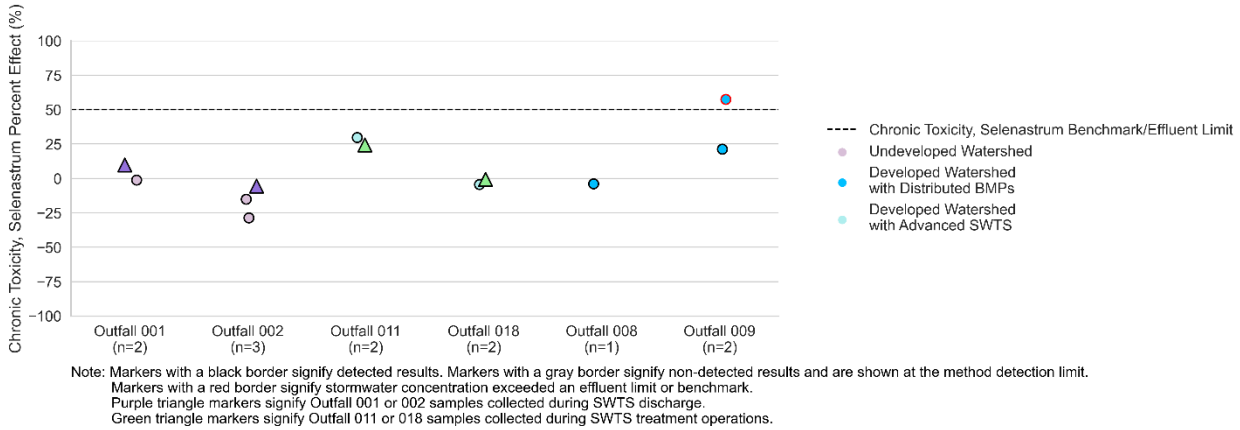


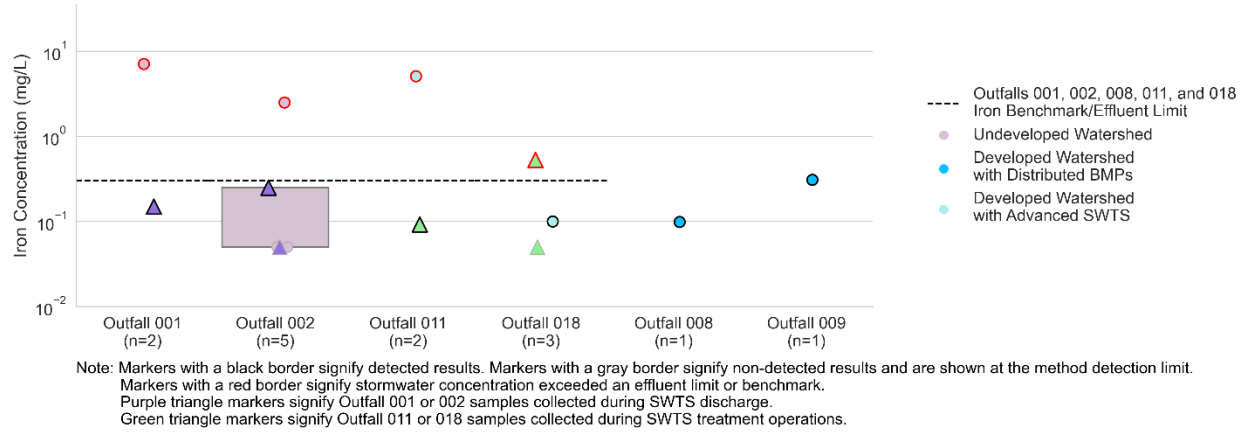
Figure 15. 2021/22 Chronic Toxicity Percent Effect by Outfall

3.4. Iron

Iron concentrations were above the 0.3 mg/L effluent limit or benchmark at Outfalls 001, 002, 011, and 018 a total of four times in the 2021/22 season (there is no limit for iron at Outfall 009).

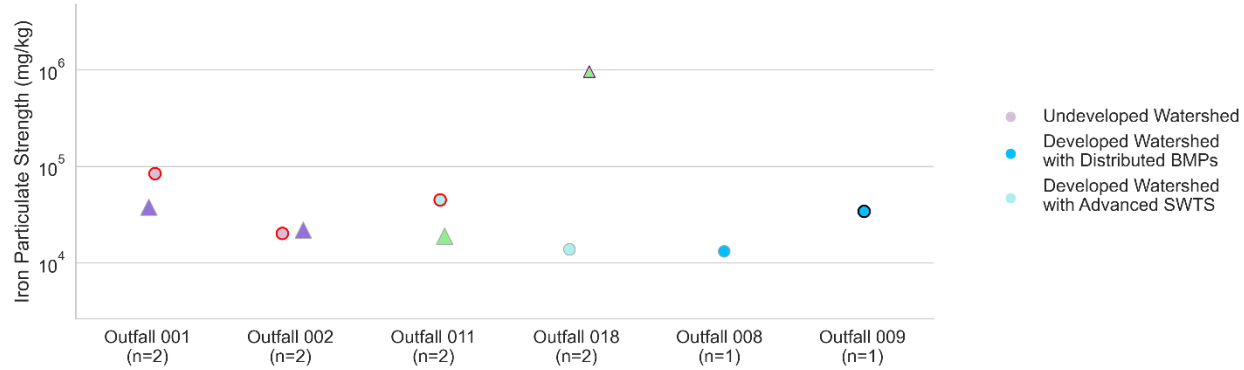
As shown in Figure 16a, the highest iron concentrations were measured at Outfalls 001, 002, and 011 and were in the same samples that TSS concentrations were highest for each outfall. As shown in Figure 16b, the PS values were more consistent across outfalls (with the exception of the Outfall 018 exceeding result), indicating the differences in concentrations were driven by TSS rather than a concentrated source. The exceeding sample at Outfall 018 exhibits concentrations similar to other outfalls, but slightly higher than normal for a treated SWTS sample at Outfall 018. The particulate strength is estimated due to the TSS concentration being below the detection limit (the exceeding sample was treated SWTS effluent). **The spatial pattern indicates that Outfalls 001, 002, and 011 likely shared the same diffuse, site-wide source of iron in stormwater.**

a)



Note: Markers with a black border signify detected results. Markers with a gray border signify non-detected results and are shown at the method detection limit.
Markers with a red border signify stormwater concentration exceeded an effluent limit or benchmark.
Purple triangle markers signify Outfall 001 or 002 samples collected during SWTS discharge.
Green triangle markers signify Outfall 011 or 018 samples collected during SWTS treatment operations.

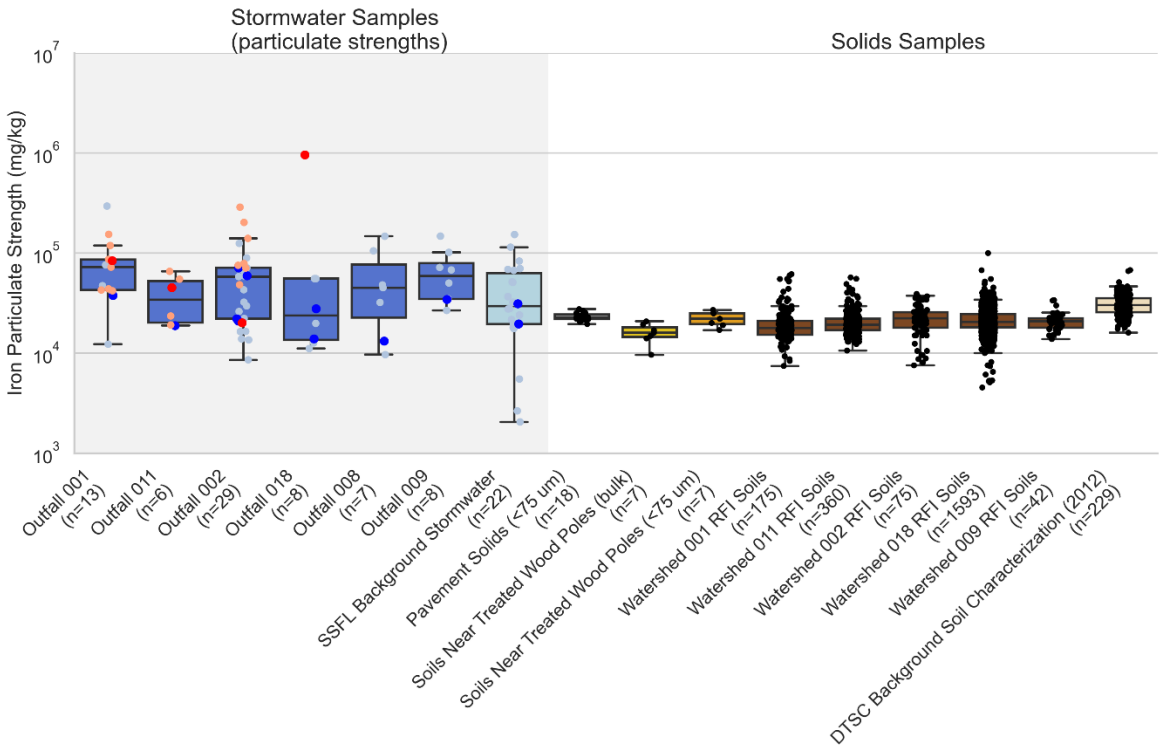
b)



Note: Markers with a black border signify detected results. Markers with a gray border signify an estimated result.
Markers with a red border signify stormwater concentration exceeded an effluent limit or benchmark.
Markers with a purple border signify stormwater concentration exceeded an effluent limit or benchmark and the reported particulate strength is estimated.
Purple triangle markers signify Outfall 001 or 002 samples collected during SWTS discharge.
Green triangle markers signify Outfall 011 or 018 samples collected during SWTS treatment operations.

Figure 16. 2021/22 Iron Concentrations (a) and Particulate Strengths (b) by Outfall

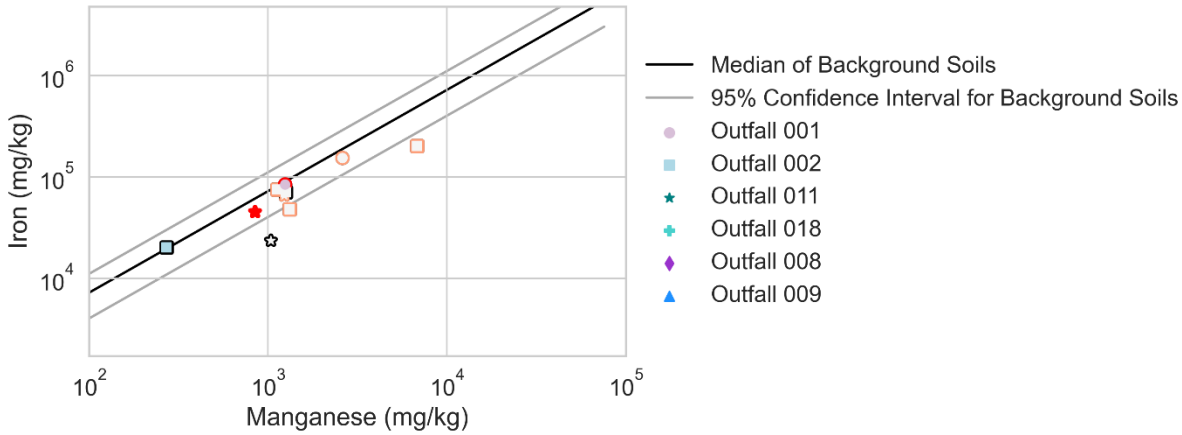
The PS of iron in stormwater, plotted in Figure 17, was compared to the concentration of iron in various solid source samples. With the exception of the samples at Outfall 002 and 011, which were in-line with the concentrations in background soils, the PS values of the exceeding samples this year were higher than the majority of concentrations in the sources evaluated. However, concentrations of iron at Outfalls 001, 011, and 002 were in line with concentrations found in background stormwater at SSFL. This difference between soils concentration and stormwater particulate strength highlights the multiplier effect that is observed in stormwater versus the original soil source. **The PS values of the exceeding samples at Outfall 002 and 011 indicate background soils could be a potential source and PS values of Iron at Outfalls 001, 011, and 002 were in-line with background stormwater.** Because the exceeding sample at Outfall 018 was a treated SWTS sample, the treatment process likely altered the analytical profile of the sample, rendering source analysis and fingerprinting to be less effective.



Note: Red markers indicate PS values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark in the past year.
Blue markers signify stormwater samples that did not exceed an effluent limit or benchmark in the past year.
Orange markers indicate a previous exceedance in the past ten years. Light gray markers indicate a previous non-exceedance from the past ten years.
Black markers represent individual solid sample concentrations. Soils samples include top 6 inches only to reflect what is most likely to be mobilized in stormwater.

Figure 17. Iron Particulate Strength in Outfall Stormwater Samples vs. Solid Source Materials

The PS of iron was compared against manganese (both are found in relatively consistent concentrations in soils) to evaluate if any of the stormwater and soil patterns were similar. Figure 18 shows that the ratios found in the exceeding stormwater samples at Outfalls 001, 011, and 002 fall within the background soil 95% confidence interval, which supports **that background soils were likely the source of the iron exceedances** in the 2021/22 season.



Note: PS values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark in the past year are marked with a red border.
Markers with a black border signify detected results that did not exceed an effluent limit or benchmark.
Markers with a white face indicate detected results from the past ten years, with an orange border indicating a previous exceedance.

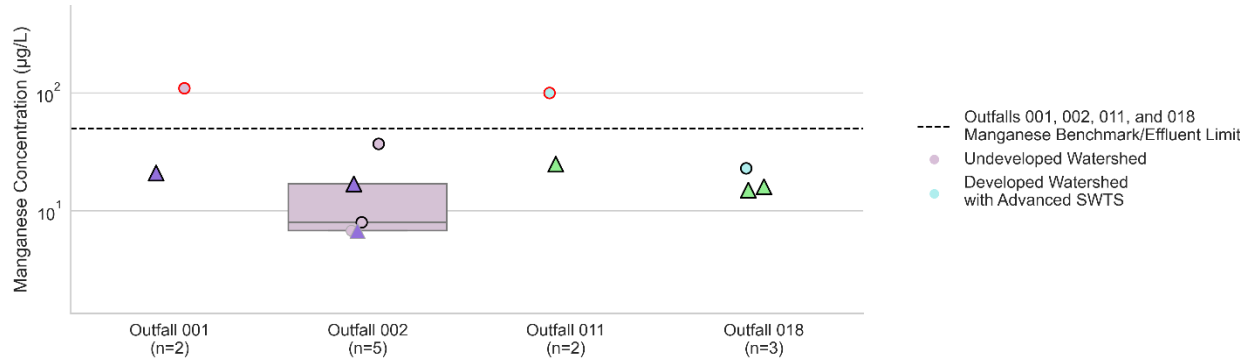
Figure 18. Iron:Manganese Metal Ratio Plot

3.5. Manganese

Manganese concentrations were above the 50 µg/L effluent limit or benchmark at Outfalls 001 and 011 once each in 2021/22.

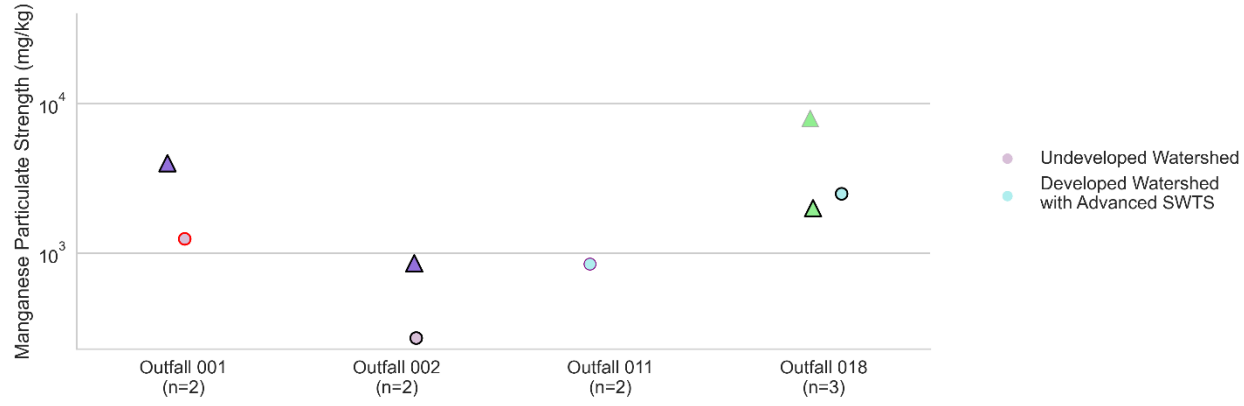
As illustrated in Figure 19a, manganese concentrations were highest at Outfall 001 and Outfall 011. Outfall 001 receives runoff from an undeveloped watershed and the highest TSS concentration at Outfall 011 occurred when the SWTS was not fully operational. Figure 19b shows particulate strengths were consistent within an order of magnitude across outfalls, with the exception of Outfall 002. The exceeding samples had some of the lowest detected particulate strengths, indicating the exceedances were driven by TSS rather than a concentrated source. **The spatial pattern indicates that all outfalls likely shared the same diffuse, site-wide source of manganese in stormwater.**

a)



Note: Markers with a black border signify detected results. Markers with a gray border signify non-detected results and are shown at the method detection limit.
Markers with a red border signify stormwater concentration exceeded an effluent limit or benchmark.
Purple triangle markers signify Outfall 001 or 002 samples collected during SWTS discharge.
Green triangle markers signify Outfall 011 or 018 samples collected during SWTS treatment operations.

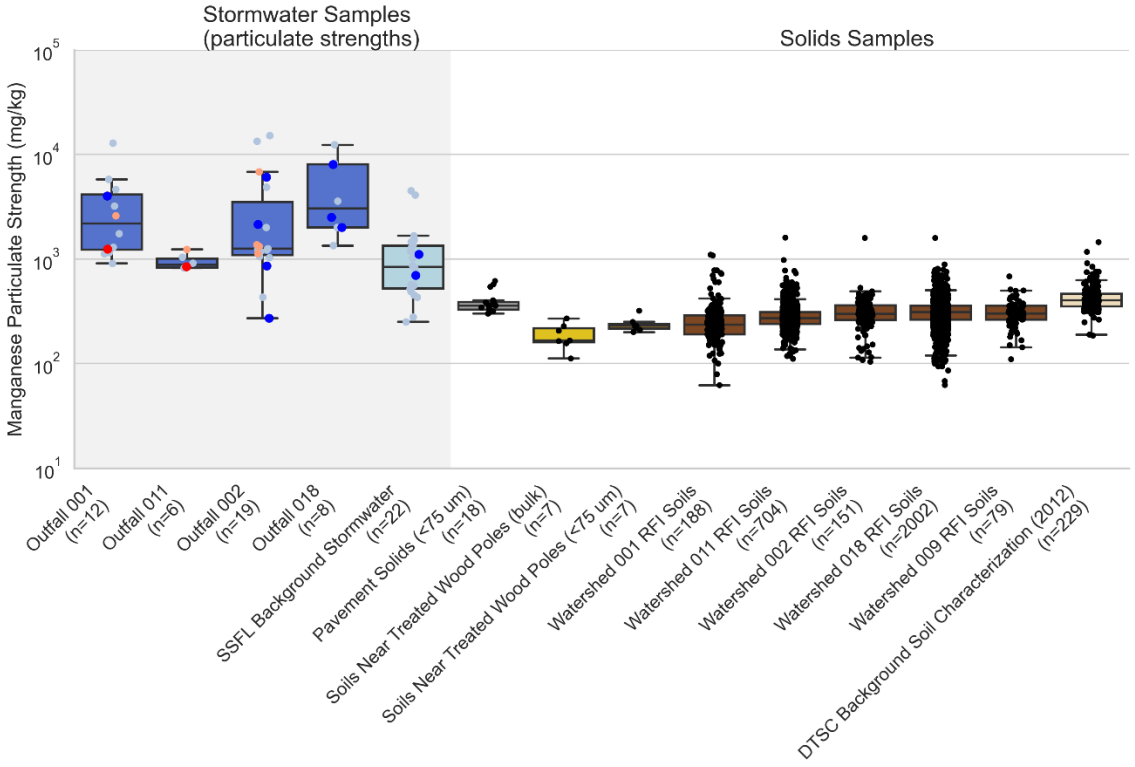
b)



Note: Markers with a black border signify detected results. Markers with a gray border signify an estimated result.
Markers with a red border signify stormwater concentration exceeded an effluent limit or benchmark.
Markers with a purple border signify stormwater concentration exceeded an effluent limit or benchmark and the reported particulate strength is estimated.
Purple triangle markers signify Outfall 001 or 002 samples collected during SWTS discharge.
Green triangle markers signify Outfall 011 or 018 samples collected during SWTS treatment operations.

Figure 19. 2021/22 Manganese Concentrations and Particulate Strengths by Outfall

The PS of the outfall stormwater samples compared to the various potential sources are shown in Figure 20. The exceeding sample's PS was not below the 3Q+1.5*IQR threshold of any of the sources evaluated. However, concentrations of manganese at Outfalls 001 and 011 were in line with concentrations found in background stormwater at SSFL. This difference between soils concentration and stormwater particulate strength again highlights the multiplier effect that is observed in stormwater versus the original soil source due to the preferential mobilization of finer particles that typically have a higher concentration than the bulk soil. **The PS values of the exceeding samples could not be explained by the solid source samples evaluated, but concentrations of manganese at Outfalls 001 and 011 were in-line with background stormwater.**

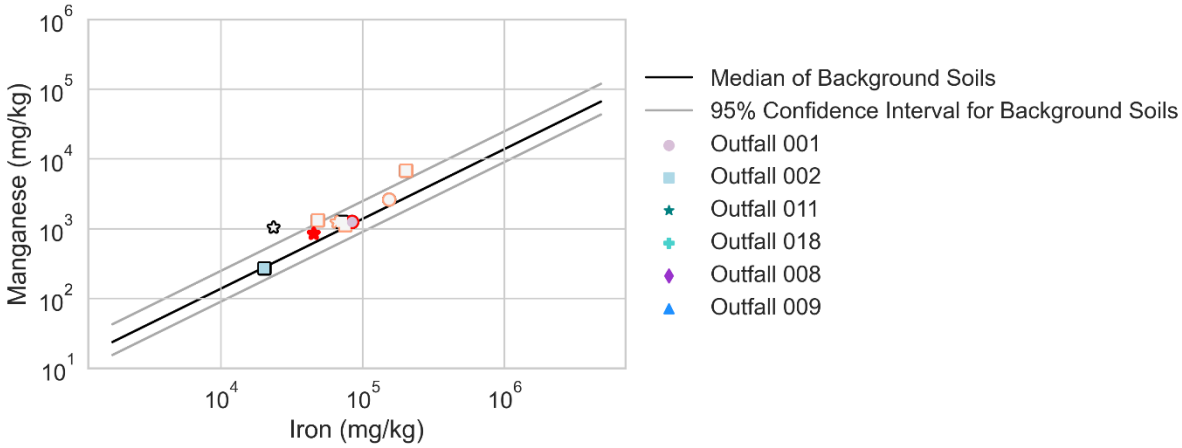


Note: Red markers indicate PS values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark in the past year.
Blue markers signify stormwater samples that did not exceed an effluent limit or benchmark in the past year.
Orange markers indicate a previous exceedance in the past ten years. Light gray markers indicate a previous non-exceedance from the past ten years.
Black markers represent individual solid sample concentrations. Soils samples include top 6 inches only to reflect what is most likely to be mobilized in stormwater.

Figure 20. Manganese PS in Outfall Stormwater Samples vs. Solid Source Materials

Note: Particulate strength values of outfall samples whose stormwater concentration exceeded a permit limit or benchmark are marked with a red dot. All soils samples include top 6 inches only to reflect what is most likely to be mobilized in stormwater.

The PS of manganese was compared against iron (both are soil-based) to evaluate if any of the stormwater and soil samples exhibited a similar pattern. Figure 21 shows that the exceeding stormwater samples fell on the background soil median slope line for background soils, which suggests that **background soils were a likely source of the manganese exceedance** in the 2021/22 rainy season.



Note: PS values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark in the past year are marked with a red border.
Markers with a black border signify detected results that did not exceed an effluent limit or benchmark.
Markers with a white face indicate detected results from the past ten years, with an orange border indicating a previous exceedance.

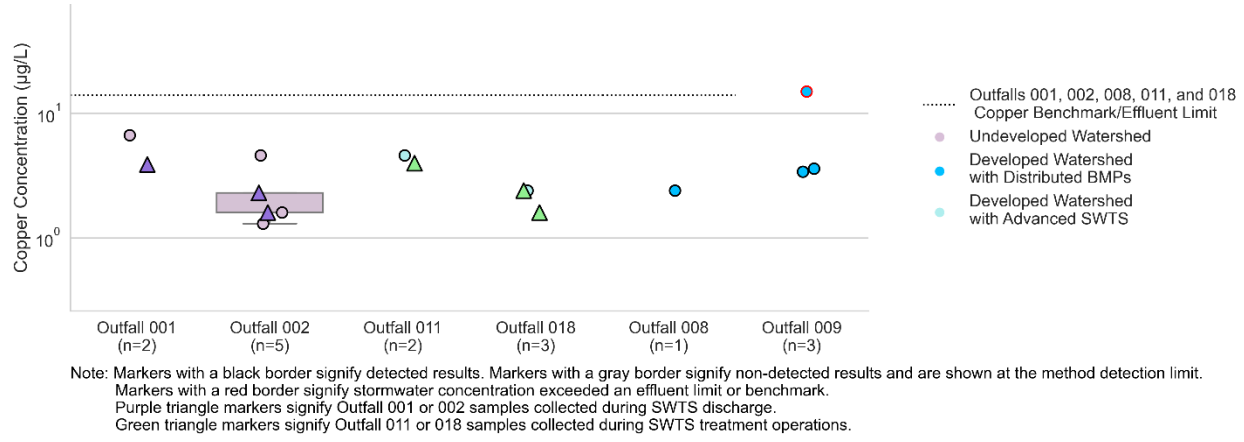
Figure 21. Manganese:Iron Metal Ratio Plot

3.6. Copper

The measured copper concentration was above the effluent limit at Outfall 009 once in 2021/22 at 15 µg/L. The laboratory reanalyzed the sample and copper was detected at 6.5 µg/L, which is below the effluent limit of 13 µg/L. The lab was not able to reconcile the two results, which **indicates a potential lab error.** Additionally, this is an unusual result in that the sampler personnel noted that the sample was collected from the flowing streambed directly rather than the automatically sampled composite due to the insufficient volume collected by the autosampler.

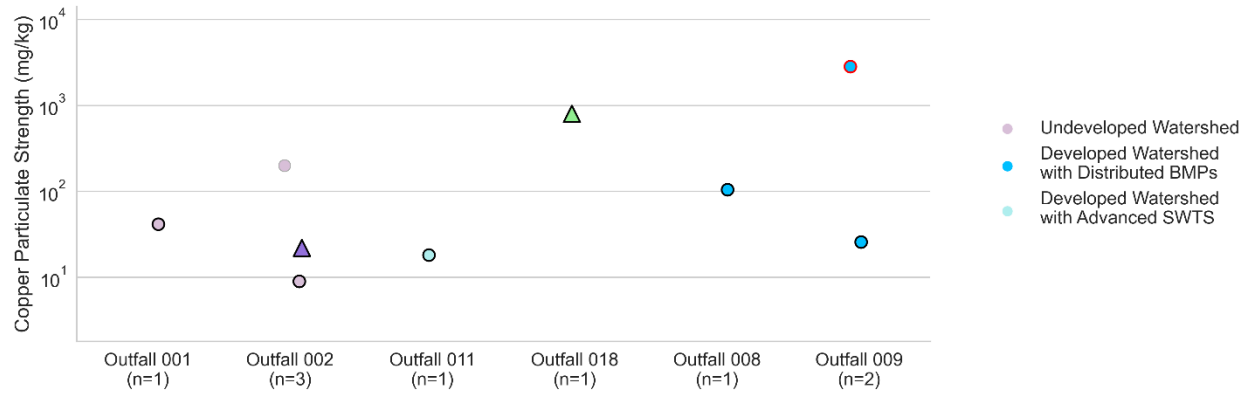
As illustrated in Figure 22a, copper concentrations were consistent across outfalls with the exception of the exceeding sample at Outfall 009. Figure 22b shows that the PS value of the exceeding result at Outfall 009 was higher than all other detected results. The exceeding result at Outfall 009 was notably higher, suggesting there may be a local source of copper in that watershed, such as wire mesh-wrapped utility poles or the former shooting range. However, concentrations at Outfall 009 were not sufficiently high to cause exceedances in any other water year. **Assuming the exceeding lab result was accurate, the spatial patterns indicate there was likely a local source contributing to elevated Copper concentrations in Outfall 009.**

a)



Note: Markers with a black border signify detected results. Markers with a gray border signify non-detected results and are shown at the method detection limit.
Markers with a red border signify stormwater concentration exceeded an effluent limit or benchmark.
Purple triangle markers signify Outfall 001 or 002 samples collected during SWTS discharge.
Green triangle markers signify Outfall 011 or 018 samples collected during SWTS treatment operations.

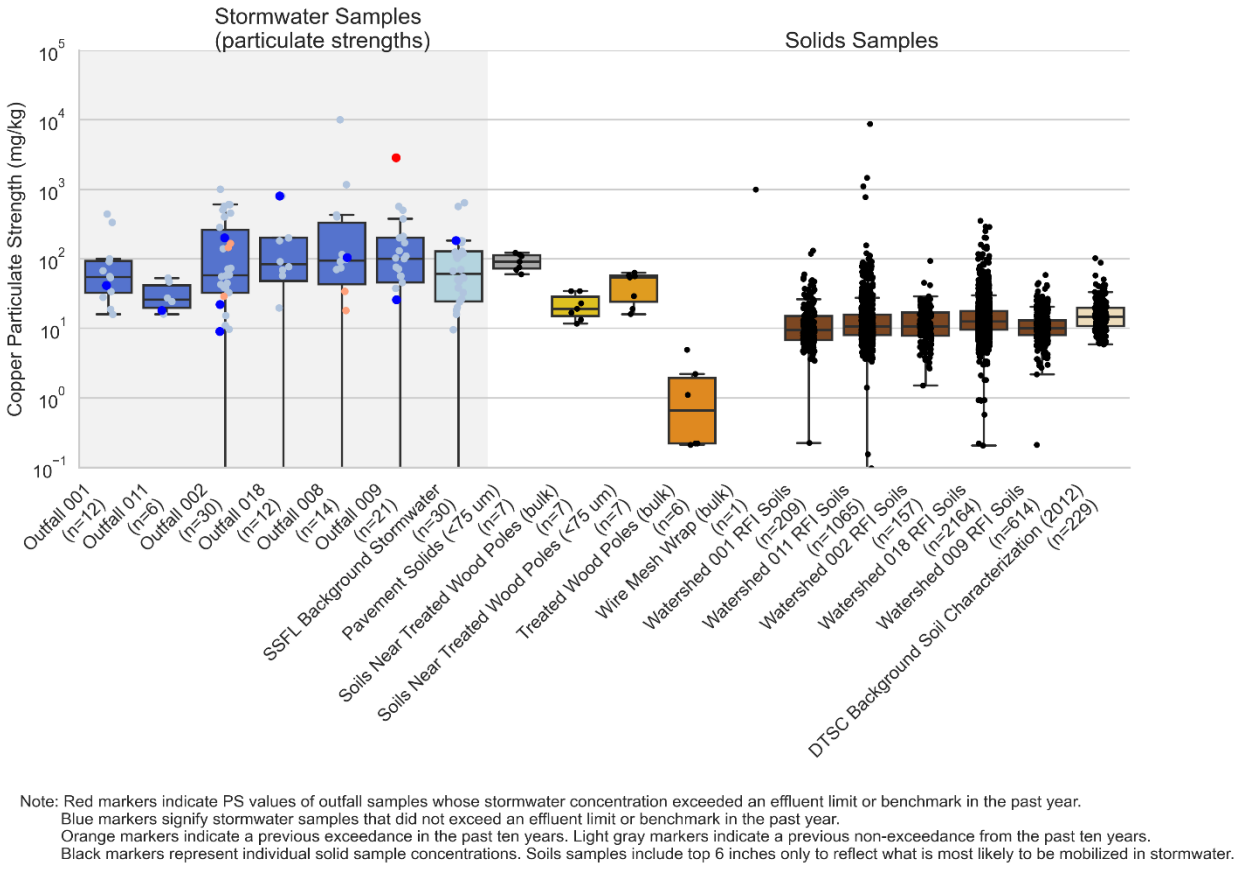
b)



Note: Markers with a black border signify detected results. Markers with a gray border signify an estimated result.
Markers with a red border signify stormwater concentration exceeded an effluent limit or benchmark.
Markers with a purple border signify stormwater concentration exceeded an effluent limit or benchmark and the reported particulate strength is estimated.
Purple triangle markers signify Outfall 001 or 002 samples collected during SWTS discharge.
Green triangle markers signify Outfall 011 or 018 samples collected during SWTS treatment operations.

Figure 22. 2021/22 Copper Concentrations and Particulate Strengths by Outfall

The PS of the outfall stormwater samples compared to the various potential sources are shown in Figure 23. The exceeding sample's PS is above the 3Q+1.5*IQR threshold of all the sources evaluated and typical copper PS in SSFL Background Stormwater. This indicates the **copper exceedance in stormwater at Outfall 009 either came from an as yet unidentified source or is a result of lab error**.

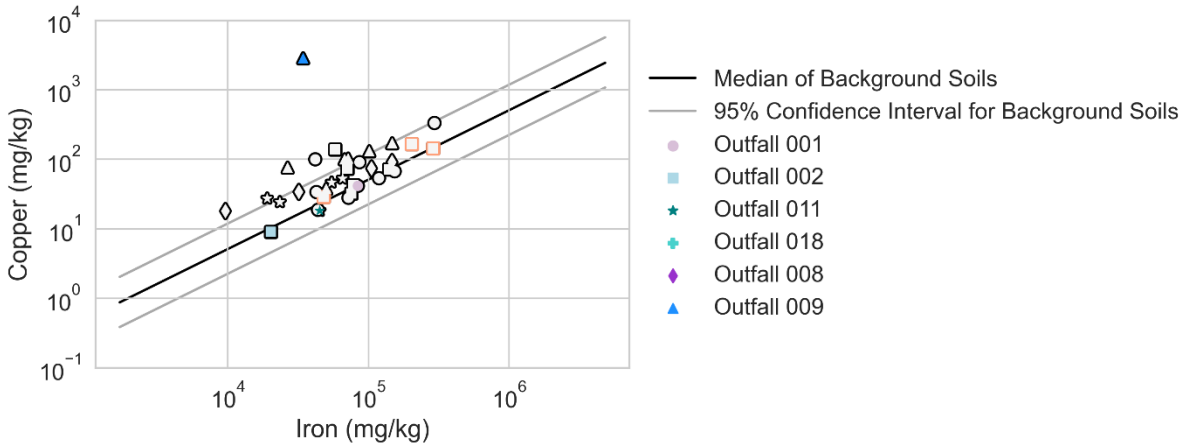


Note: Red markers indicate PS values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark in the past year.
Blue markers signify stormwater samples that did not exceed an effluent limit or benchmark in the past year.
Orange markers indicate a previous exceedance in the past ten years. Light gray markers indicate a previous non-exceedance from the past ten years.
Black markers represent individual solid sample concentrations. Soils samples include top 6 inches only to reflect what is most likely to be mobilized in stormwater.

Figure 23. Copper PS in Outfall Stormwater Samples vs. Solid Source Materials

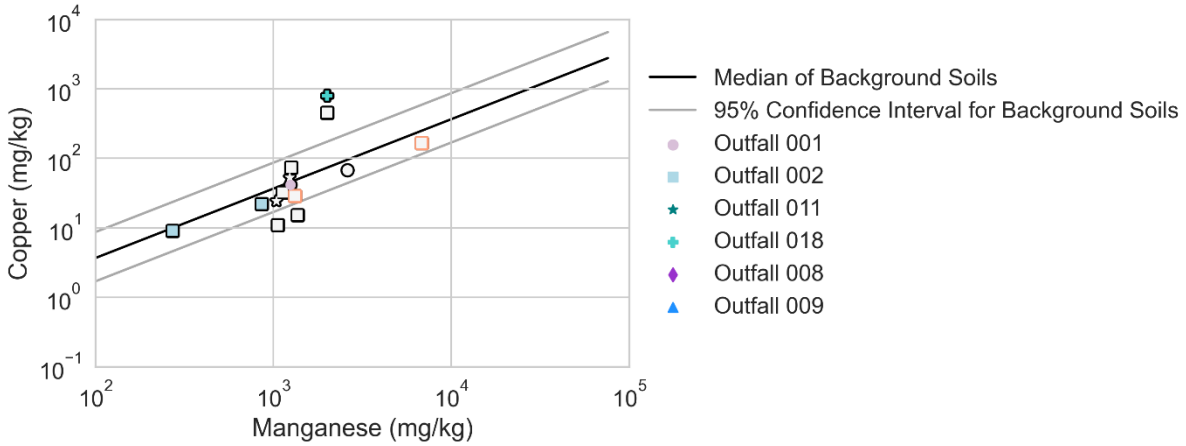
Note: Particulate strength values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark are marked with a red dot. All soils samples include top 6 inches only to reflect what is most likely to be mobilized in stormwater.

The PS of copper was compared against iron (which is soil-based) to evaluate if any of the outfall stormwater and soil samples exhibited a similar pattern. Figure 24 shows that the ratio found in the exceeding stormwater sample falls outside the 95th percentile confidence interval for background soils compared to individual stormwater results. The exceeding sample did not have a concurrent measurement of manganese to evaluate the ratio to manganese; however, most of the other stormwater samples fall within the 95% confidence interval for manganese. These results further **support background soils are not a likely source of the copper exceedance at Outfall 009** during the 2021/22 rainy season.



Note: PS values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark in the past year are marked with a red border.
Markers with a black border signify detected results that did not exceed an effluent limit or benchmark.
Markers with a white face indicate detected results from the past ten years, with an orange border indicating a previous exceedance.

Figure 24. Copper vs Iron Metal Ratio Plot



Note: PS values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark in the past year are marked with a red border.
Markers with a black border signify detected results that did not exceed an effluent limit or benchmark.
Markers with a white face indicate detected results from the past ten years, with an orange border indicating a previous exceedance.

Figure 25. Copper vs Manganese Metal Ratio Plot

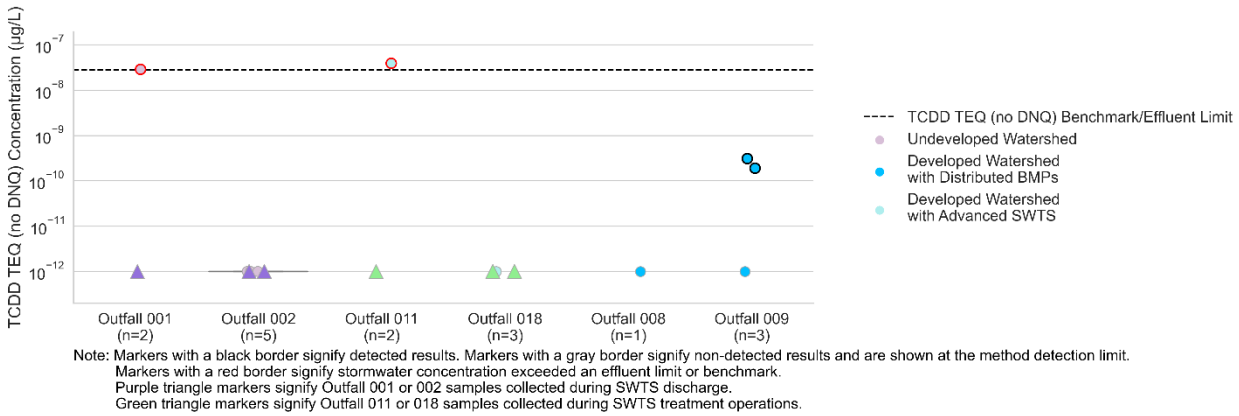
3.7. TCDD TEQ (no DNQ)

The calculated TCDD TEQ (no DNQ) concentrations at Outfalls 001 and 011 were above the benchmark or effluent limit for these outfalls a total of two times in 2021/22. The exceedance at Outfall 001 occurred prior to the start of discharge at Outfall 011, so it is representative of conditions only in the Outfall 001 southern buffer zone watershed area. During the same storm, samples at ambient and impacted subareas were above the NPDES Benchmark. The exceedance at Outfall 011 occurred during the 25-year storm event and rain event during overflow at Perimeter Pond and is representative of stormwater partially treated by the media filter at the outfall.

As shown in Figure 26a, the highest concentrations of TCDD TEQ (no DNQ) were measured at Outfall 001 and Outfall 011. Figure 26b shows that the PS values of TCDD TEQ (no DNQ) in the exceeding samples were also consistent between Outfalls 001 and 011 and higher than most other outfalls indicating the results are primarily PS driven rather than TSS driven which is consistent with past TCDD TEQ (no DNQ)

exceedances in these and other outfalls. This suggests that there is likely a concentrated source in the Outfall 001 and 011 watersheds. **The spatial patterns indicate there was likely a local source(s) contributing to elevated TCDD TEQ (no DNQ) concentrations in some areas.** The subarea monitoring results summarized in Appendix E support this in that some of the Area 1 Burn Pit and all of the ambient background subareas (natural background with utility poles and roads) had concentrations above the NPDES permit limit/benchmark.

a)



b)

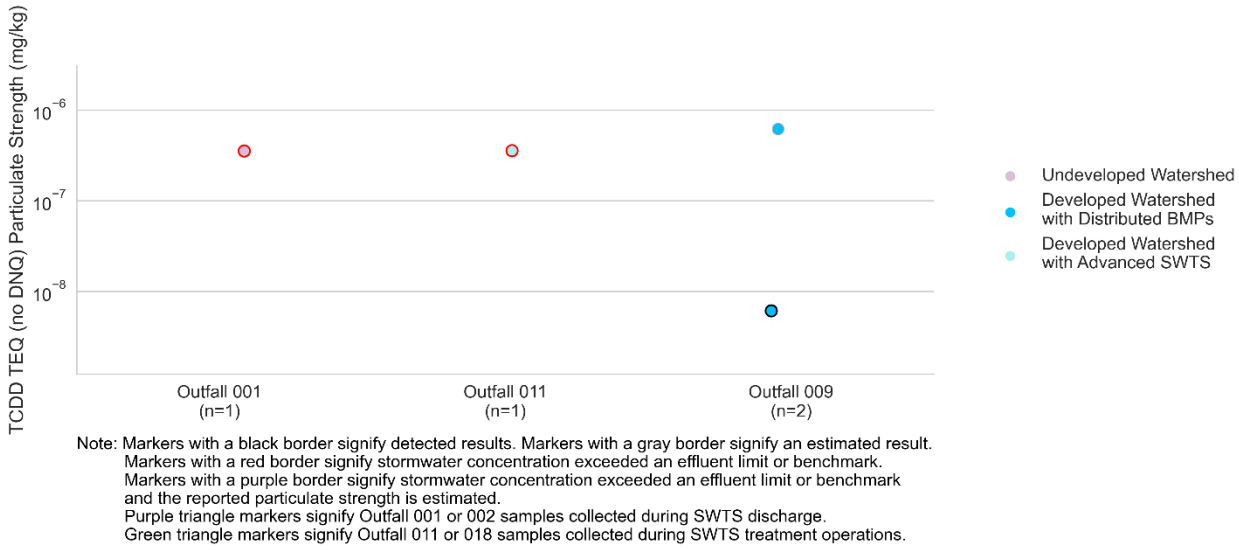
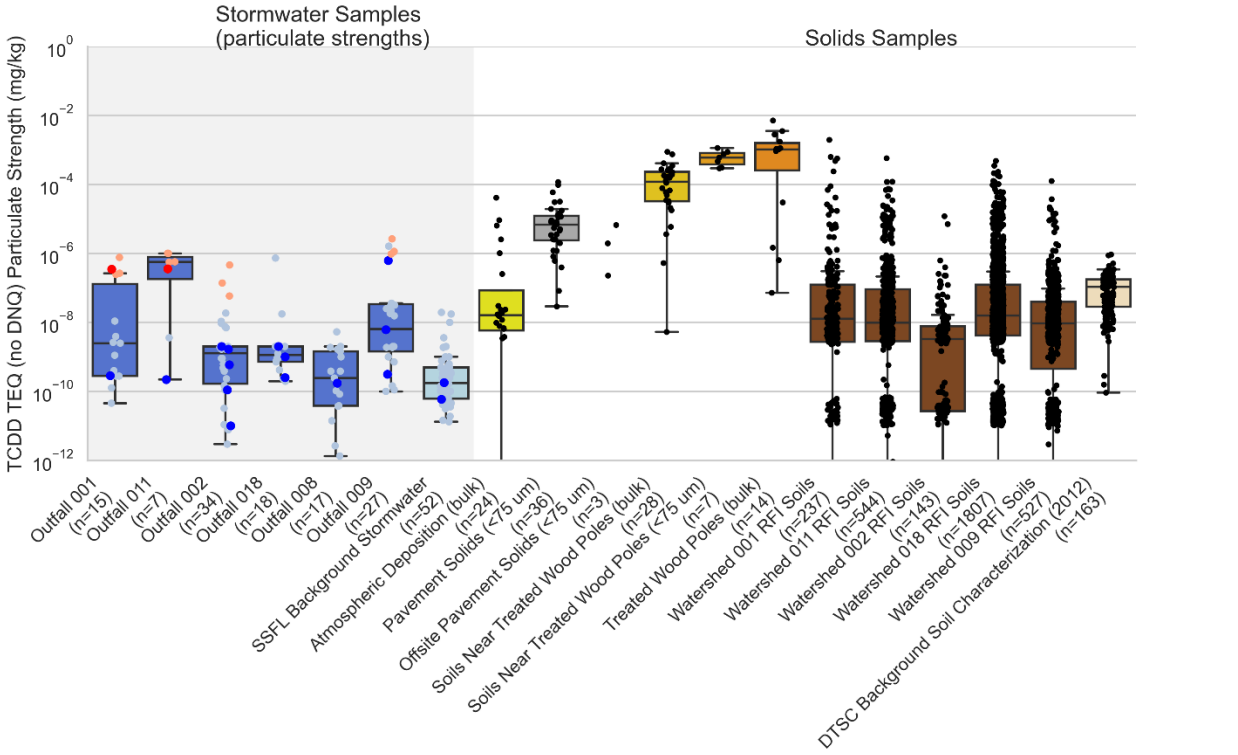


Figure 26. 2021/22 Dioxins Concentrations and Particulate Strengths by Outfall

As shown in Figure *27*, the exceeding samples had PS values that could have come from pavement solids, soils near treated wood utility poles, treated wood utility poles, impacted soils, and background soils. The Outfall 001 watershed has two stretches of paved roads adjacent to drainages (totaling approximately 2 acres) while Outfall 011 has significant amounts of paved roads running parallel to the main drainage. Of these sources, pavement solids and soils near treated wood have sufficiently high particulate strengths (about 10x the exceeding samples), quantity, and mobility onsite to be significant contributors of TCDD TEQ (no DNQ) in stormwater runoff. Additionally, preliminary results of the stormwater subarea

monitoring (Appendix E) found TCDD TEQ (no DNQ) in stormwater to be higher in ambient background areas with utility poles and pavement than in subareas with known contamination and potentially impacted soils. This indicates the **TCDD TEQ (no DNQ) exceedances in stormwater were likely from pavement solids (<75 µm), soils near treated wood, impacted soils, and/or, background soils.**



Note: Red markers indicate PS values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark in the past year.
Blue markers signify stormwater samples that did not exceed an effluent limit or benchmark in the past year.
Orange markers indicate a previous exceedance in the past ten years. Light gray markers indicate a previous non-exceedance from the past ten years.
Black markers represent individual solid sample concentrations. Soils samples include top 6 inches only to reflect what is most likely to be mobilized in stormwater.

Figure 27. Dioxins PS (2021/22 Outfall Stormwater Samples) vs. Solid Source Materials

The effect of treated wood poles on the surrounding soils was further investigated this year with soil samples collected at various distances from poles. Figure 28 summarizes the results of this sampling along with previous soils sampled near treated wood poles that were analyzed for different size fractions. The highest concentrations were found in the fine fraction and 1 ft away from the treated wood pole. The concentrations decreased with increasing distance from the pole and the lowest were found 20 ft away from poles, but still slightly above background. These results indicate a strong correlation between dioxin concentrations and distance from poles, which supports the hypothesis that treated wood poles were the source of dioxin in the surrounding soils. This finding updated the Expert Panel's recommendation to place wattles 10 ft downslope from treated wood poles in soils.

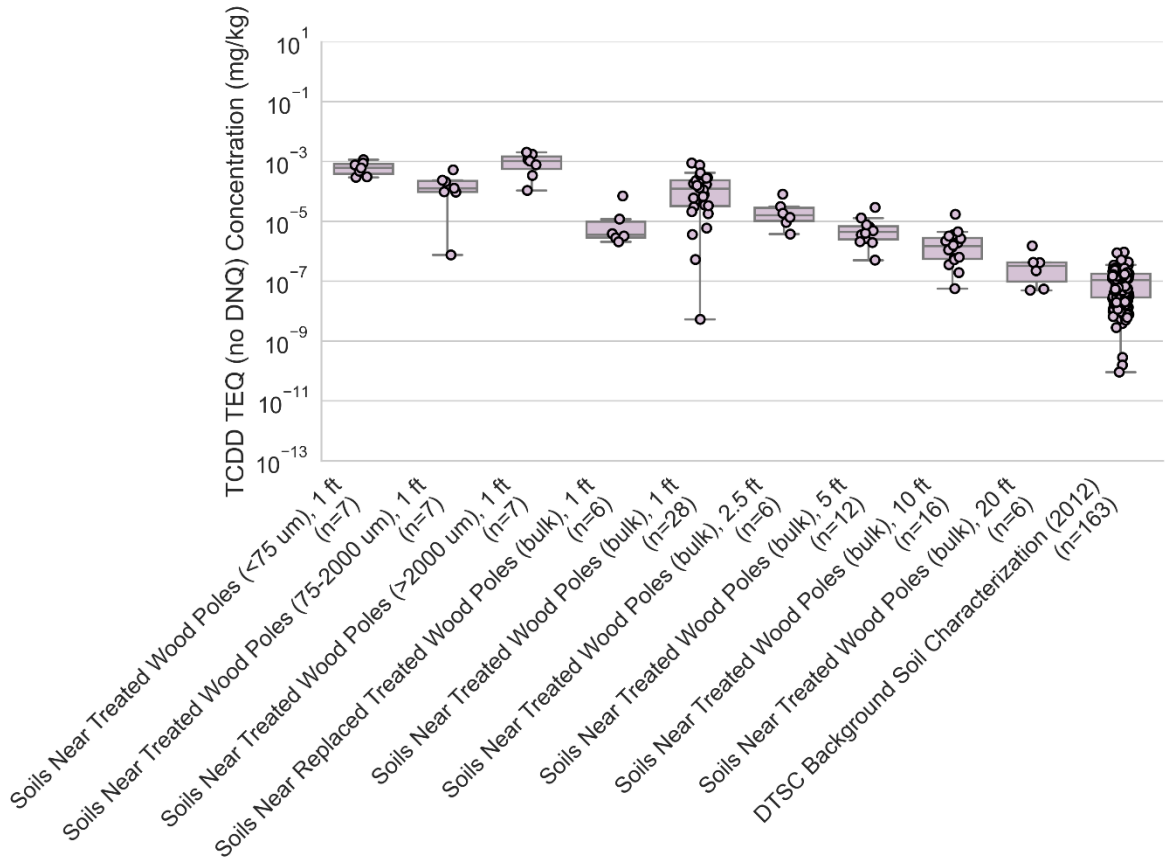
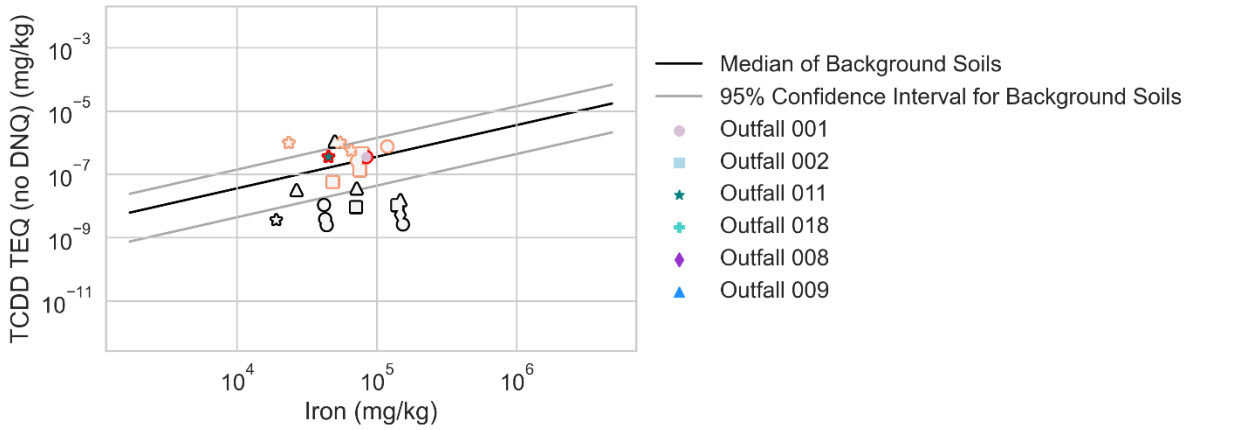


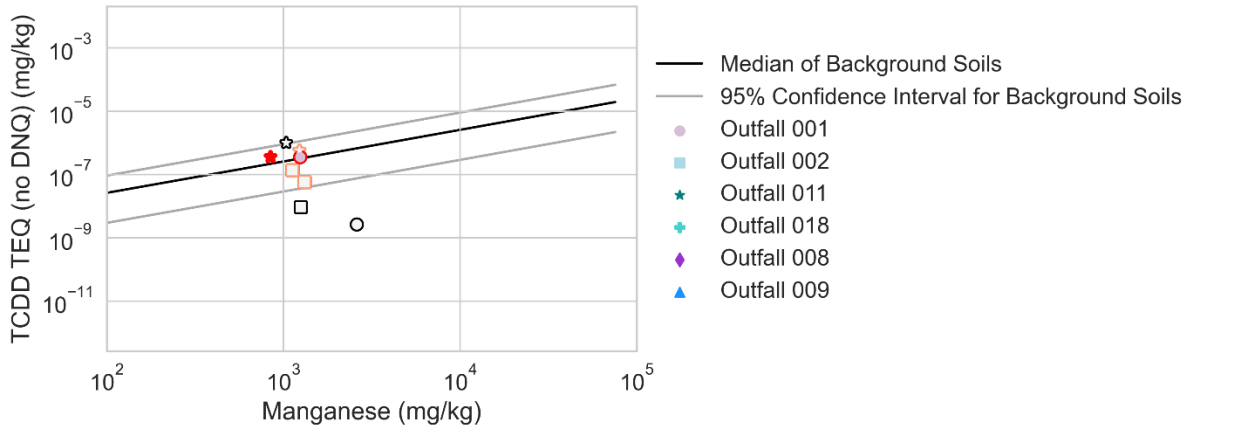
Figure 28. TCDD TEQ (no DNQ) Concentrations in Soils at Varying Distances from PCP-Treated Wood Utility Poles Compared to Background Soil Concentrations

The PS of TCDD TEQ (no DNQ) was compared against iron and manganese (which are soil-based) to evaluate if any of the outfall stormwater and background soil samples exhibited a similar pattern. Figure 29 and Figure 30 show that the ratios found in the exceeding stormwater samples fall within the background soil 95% confidence interval, which **supports background soils as a potential source of the TCDD TEQ (no DNQ) exceedances** during the 2021/22 rainy season**.**



Note: PS values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark in the past year are marked with a red border.
Markers with a black border signify detected results that did not exceed an effluent limit or benchmark.
Markers with a white face indicate detected results from the past ten years, with an orange border indicating a previous exceedance.

Figure 29. Dioxin vs Iron Metal Ratio Plot



Note: PS values of outfall samples whose stormwater concentration exceeded an effluent limit or benchmark in the past year are marked with a red border.
Markers with a black border signify detected results that did not exceed an effluent limit or benchmark.
Markers with a white face indicate detected results from the past ten years, with an orange border indicating a previous exceedance.

Figure 30. Dioxin vs Manganese Metal Ratio Plot

Cluster and principal component analyses were used to further investigate the likely major sources of dioxin congeners detected at the outfalls. The dendrogram in Figure 31 shows the relationships between the patterns of the congener concentrations for outfall and source samples. The dendrogram shows that background stormwater, pavement solids, and impacted soils have a strong relationship with stormwater at Outfalls 001 and 011.

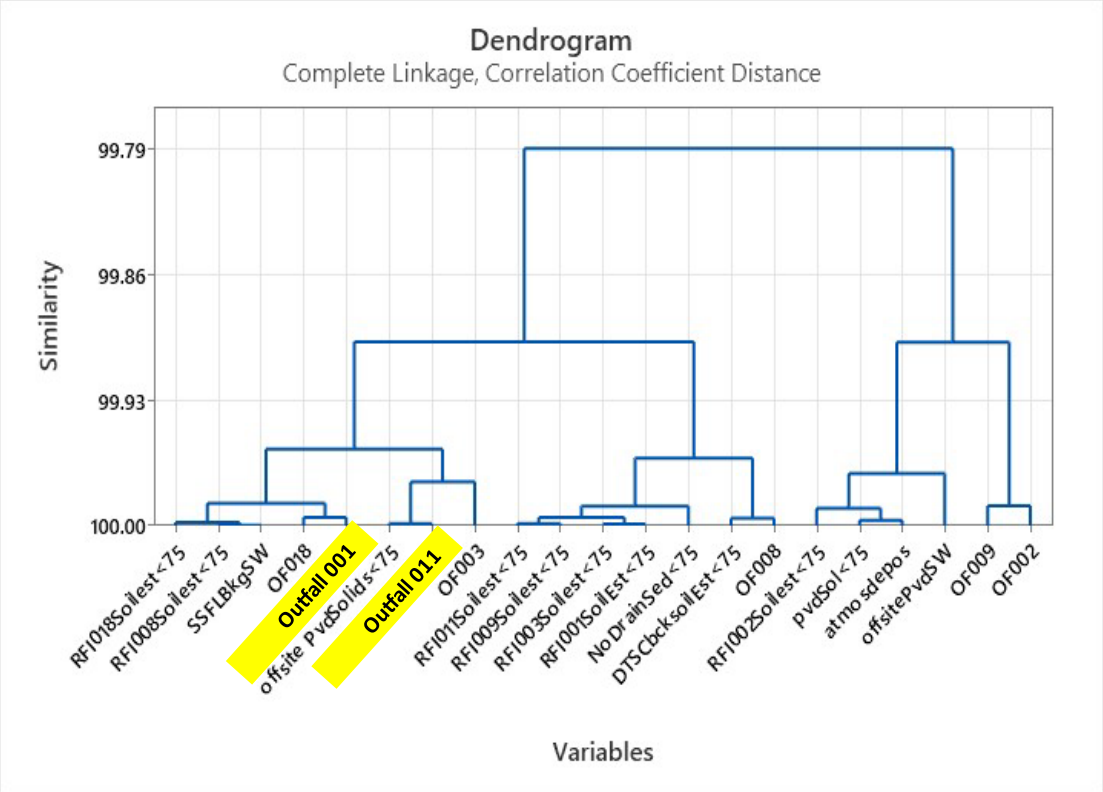


Figure 31. Dendrogram of Dioxin Congener Relationships in Outfall Samples and Source Samples

Note the following abbreviations are used in the labels for Figure 31 (Outfalls 001 and 011 have been highlighted to reflect that those locations exceeded this year):

- **OutfallXXX or OFXXX**: particulate strengths from Outfall XXX stormwater samples
- **RFIXXXSoilest<75:** particulate strengths of RFI soils located in watershed XXX, estimated to correspond to <75 µm particle size range
- **SSFLBkgSW:** particulate strengths of stormwater samples from background areas on SSFL
- **Offsite PvdSolids<75:** particulate strengths of <75 µm pavement solids from off-site locations
- **NoDrainSed<75:** particulate strengths of <75 µm Northern Drainage sediments (Outfall 009 watershed)
- **DTSCbcksoilEst<75:** particulate strengths of DTSC offsite background soils, estimated to correspond to <75 µm particle size range
- **pvdSol<75:** particulate strengths of <75 µm sediment from on-site pavement
- **atmosdepos:** particulate strength of atmospheric deposition samples
- **offsitePvdSW:** particulate strength of stormwater samples from off-site paved areas (West Hills)

The principal component analysis further supports that stormwater congener PS patterns at Outfall 001 were closely related to RFI and background soils, as shown in Figure 32. Similarly, Outfall 011 patterns were closely related to RFI and background soils, pavement solids. Figure 33 Therefore, the cluster and principal component analyses both suggest RFI soils and background soils have TCDD TEQ (no DNQ) congener patterns similar to stormwater congener patterns.

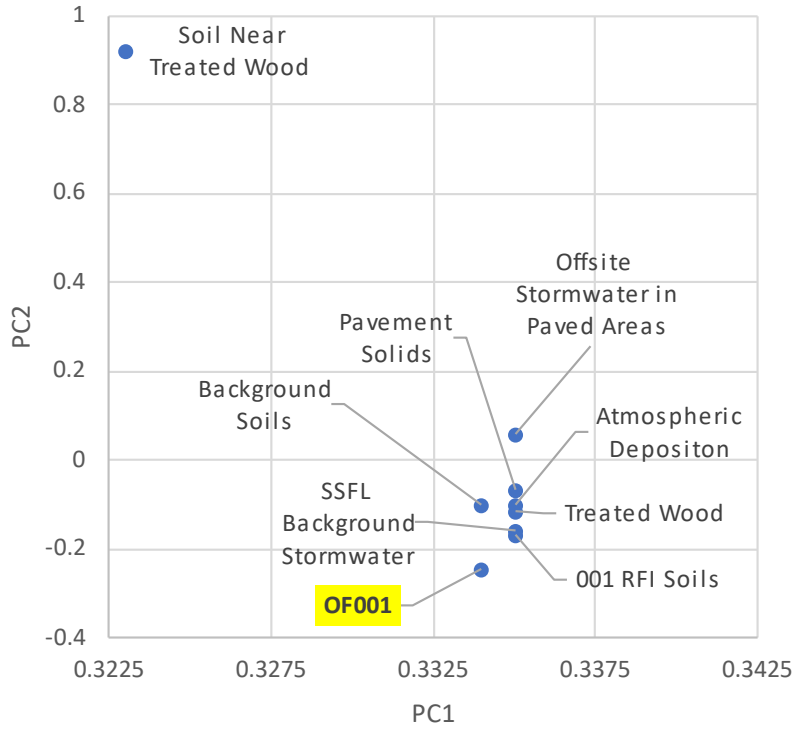


Figure 32. Principal Component Analysis of Stormwater at Outfall 001 Compared to Potential Sources

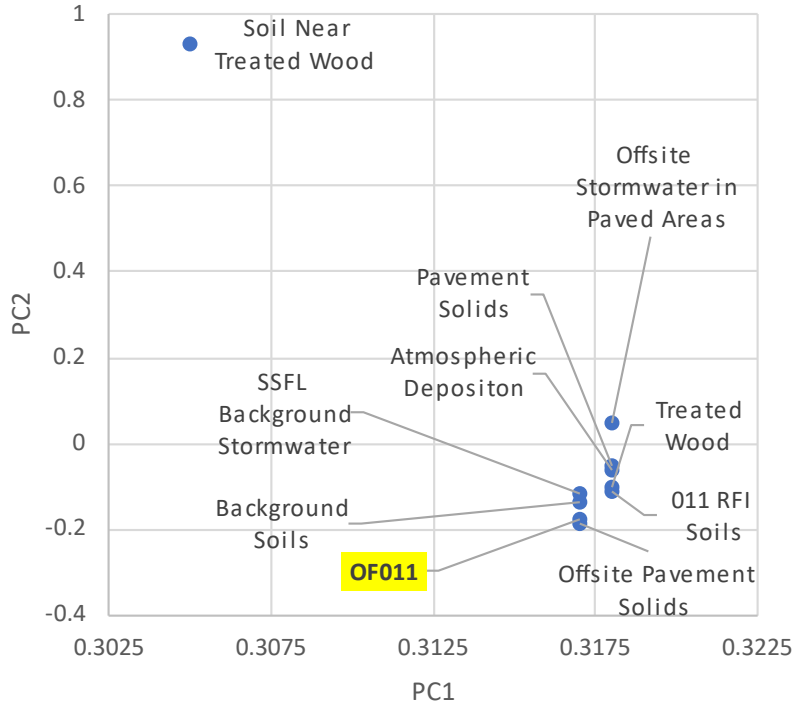


Figure 33. Principal Component Analysis of Stormwater at Outfall 011 Compared to Potential Sources

The above analyses examined congener patterns of the median PS values, and not the values themselves. The chemical mass balance calculations used the wide distribution of the actual values to identify the likely major sources of the congeners. Table 3 shows the calculated mass contributions from the mass balance modeling using the congener data for the four potential sources at Outfalls 001 and 011. The congener data calculations ranged from poor to good reliability, based on the amount and consistency of information available. Therefore, there is a moderate to large amount of uncertainty associated with the calculated relative contributions. As expected in stormwater, most of the material reaching these outfalls appear to be soils (as reflected by the RFI and Background Soil categories).

Table 3. Chemical Mass Balance Calculation Results using Congener Particle Strength Data (source rankings shown)

Location	RFI + Background Soils	Pavement Solids	Atmospheric Deposition	Reliability (Based on Sums)
Outfall 001	0.91	0.08	0.01	good
Outfall 011	0.90	0.09	0.02	fair

These patterns were considered in conjunction with the PS values above to identify sources having both a high enough concentration of dioxin and the same pattern of congeners as observed in the stormwater samples. The samples supported by the congener fingerprinting also had sufficiently high PS values, which further **supports the conclusion that background soils and RFI soils were the likely major sources of the TCDD TEQ (no DNQ) exceedances** during the 2021/22 rainy season.

Additional analyses examined the particulate strength concentration distributions for the different potential sources and at the outfalls. While the prior analyses indicated that the soils may be the most important sources of the congeners, the particulate strength concentrations at the outfalls are greater than the background and the RFI soils and less than the concentrations associated with soils near treated wood or from pavement, as shown on the following two PS probability plots for Outfalls 001 and 011. The OCDD congener was used in these concentration analyses as it had the fewest non-detected observations at the outfalls and had similar relationships with the sources as the other congeners used in the previously described analyses.

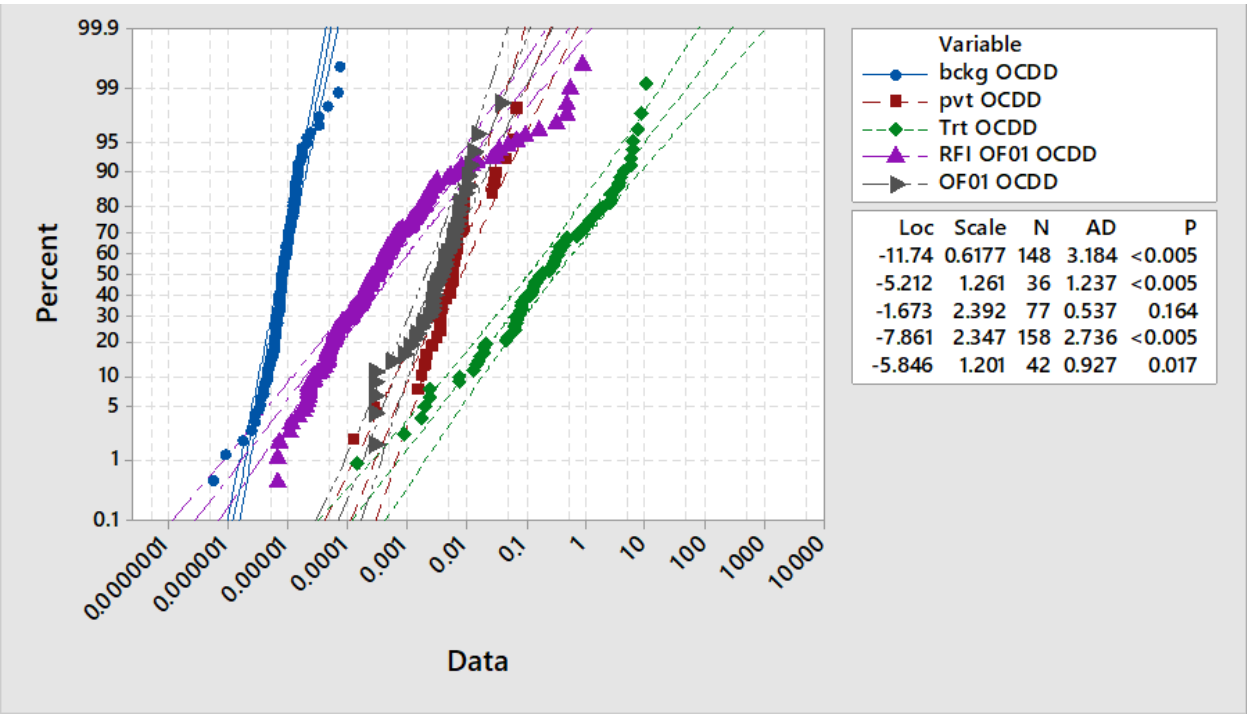


Figure 34. Lognormal Probability Plot of OCDD in Outfall 001 Stormwater, Background Soil, Pavement, Treated Wood, & RFI Soil

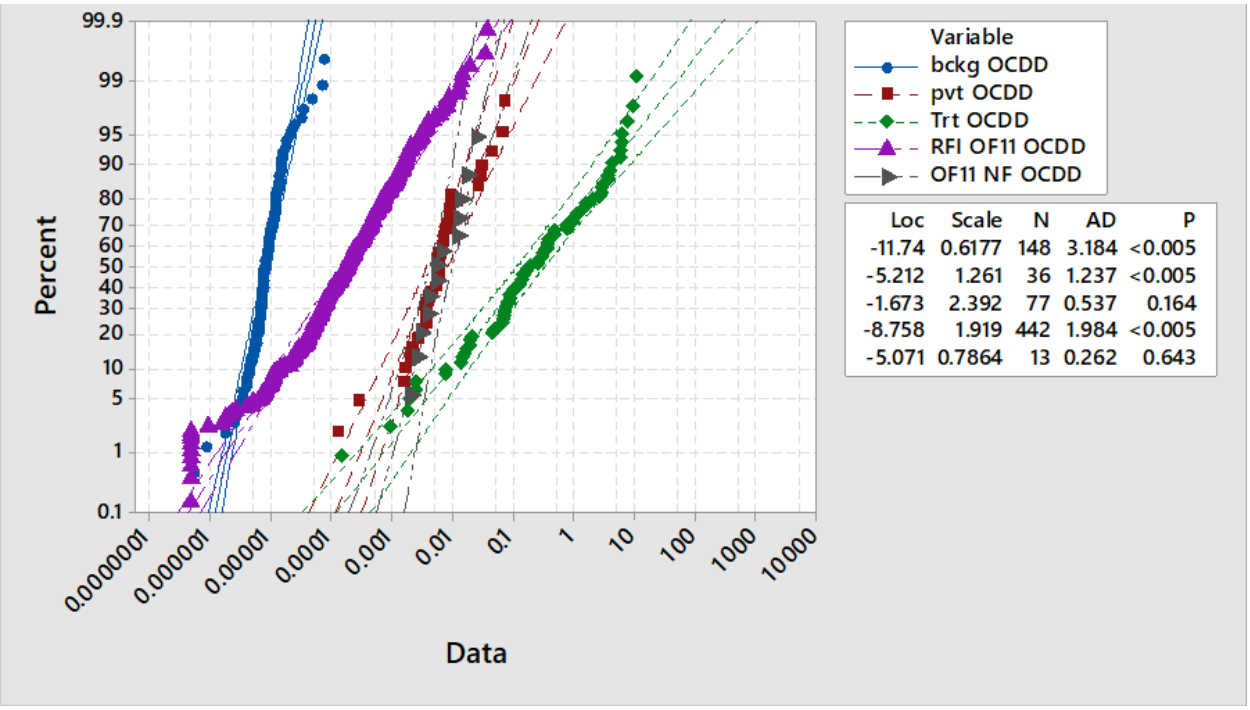


Figure 35. Lognormal Probability Plot of OCDD in Outfall 011 Stormwater, Background Soil, Pavement, Treated Wood, & RFI Soil

The following summarizes the particulate strength median value rankings of the different sources compared to the two outfalls, using the RFI soil characteristics for each outfall drainage area. These rankings were the same for both Outfall 001 and 011. Rankings of Median Particulate Strengths of OCDD Congener at Compared to Outfalls (1 = highest concentration)

1. Soil Near Treated Wood Poles
2. Pavement Solids, Outfall 001, Outfall 011 (close tie)
3. RFI Soil
4. Background Soil

In all cases, the median outfall particulate solids OCDD congener particulate strengths are greater than the background and RFI soils. As shown in the prior analyses, the outfall patterns of the congeners were similar to the RFI and background soil congener patterns, however the outfall OCDD congener particulate strengths were greater than the soil particulate strengths, indicating more contaminated sources (such as the soil near treated wood, or pavement solids) must also be present to account for the higher observed outfall particulate strength concentrations.

The following table summarizes the overall congener contamination potential affecting the outfalls, based on these analyses. The overall contributions are a factor of these three simplified components: particulate strengths of fine particles, footprint area of the sources, and the erodibility and transport potential. The first two components can be directly determined based on the monitoring data and from site mapping. These data along with the erodibility and transport potential can be quantified using a comprehensive watershed model.

Table 4. Solid Source Congener Contamination Potential

Source	**Congener Concentration**	**Source Footprint** (amount of material present)	**Erodibility and Transport Potential** (how likely to mobilize in stormwater and reach outfalls)
RFI Soils	moderate	low (001) – moderate (011)	low
Background Soils	low	high	low
Pavement Solids	high	low (001) – moderate (011)	high
Soil Near Treated Wood	very high	low	moderate

The particulate strengths of the congeners are based on the monitoring data but are seen to vary greatly within each source category, resulting in uncertainty in the analyses. Using single values (median or average particulate strengths) can lead to misleading results if the variability is not considered. The source footprint areas can be directly measured. The RFI areas are shown on site maps, along with the pavement areas. The background soil areas are also well known. The pavement solids affected by nearby treated wood is not as directly determined, but the special source studies have resulted in dimensions of affected areas near treated wood poles. The erodibility and transport potential are affected by proximity to the drainage systems along with soil characteristics. This is high for the pavement as they have adjacent drainage components, many of the treated wood poles are generally

located along site roads, and adjacent drainage systems, while the RFI and background soils cover many areas of the site with varying drainage distances and protective vegetative covers.

Pavement solids near treated wood and other pavement solids have high to very high particulate strengths of the congeners and likely moderate to high erodibility and transport potential but have low footprint areas. Pavement is being removed from the site as a stormwater control, along with the removal of treated wood utility poles that are no longer needed. Therefore, contributions from these areas should continue to decrease. The RFI soil footprints vary by outfall drainage area and can have small to moderate footprints. The background soils have the lowest particulate strength congener concentrations but have the largest site footprint.

The main shortcomings of these fingerprinting source analyses were the large number of non-detected particulate strength congener observations for outfalls and some of the sources, resulting in only a few useable congener sets of data that could be used in the calculations, and the close correlations between some of the congener data having the greatest detection frequencies. As mentioned above, additional congener fingerprinting methods are being evaluated with the goal of improving the certainty of the source analysis.

4. Conclusions

The evaluation of 2021/2022 exceedances was accomplished through the several analyses described above. The various LOEs provide a collective weight of evidence to identify which sources most likely contributed to each benchmark or permit limit exceedance in the 2021/22 stormwater monitoring results.

The combined LOEs revealed that the elevated iron and manganese concentrations were likely attributable to natural soils present throughout SSFL, while elevated copper, BOD_5, chronic toxicity, and TCDD TEQ (no DNQ) results were likely affected by contributions from localized sources. TCDD TEQ (no DNQ) exceedances at Outfalls 001 and 011 were most likely from natural background soils with smaller (based on relative amounts of material in the watershed) but more potent (based on solids concentration) contributions from impacted soils, treated wood poles, and pavement solids. As previously discussed, BOD_5 and Chronic Toxicity were analyzed outside of their hold time and copper and BOD_5 exceedances were possibly due to lab error. In most cases, one or more of the potential source materials evaluated was determined to be a potential source of the exceeding constituent found in stormwater. A summary of these analyses is presented in Table 5.

This year's annual report recommendations include measures to address these exceedance sources and reduce future laboratory errors. For every exceedance that may have been caused by contributions from impacted soils (TCDD TEQ (no DNQ) at Outfalls 001 and 011), a new BMP recommendation was made and is documented in this year's annual report. These recommendations include repairing the R-1 Pond berm to improve stormwater capture and treatment, removing impacted soils at the Area 1 Burn Pit (i.e., the upcoming Imminent and Substantial Endangerment (ISE) project), evaluating new culvert modification media filters near the western side of the Area 1 Burn Pit that drains to OF001, and relocating pole wattles in pervious areas to capture more pole-impacted soils.

Table 5. Summary of LOEs by Outfall and Constituent

Parameter	Outfall (date of exceedances)	Spatial Pattern	Particulate Strengths	Fingerprinting		Chemical Mass Balance	Subarea Stormwater Monitoring[1]	Exceedance Sources with Most Weight of Evidence
				Comparison to Soil Fe and Mn Ratios	Congener Fingerprinting			
Iron	001 (12/26/2021)	diffuse/ site-wide source	SSFL Background Stormwater	natural background soils	*N/A*	*N/A*	natural background soils	natural background soils
Iron	011 (12/30/2021)	diffuse/ site-wide source	SSFL Background Stormwater	natural background soils	*N/A*	*N/A*	natural background soils	natural background soils
Iron	018 (1/5/2022)	diffuse/ site-wide source	*exceeding particulate strength was greater than source samples*	*N/A*	*N/A*	*N/A*	*No subareas were sampled in OF018*	*inconclusive*
Manganese	001 (12/26/2021)	diffuse/ site-wide source	SSFL Background Stormwater	natural background soils	*N/A*	*N/A*	natural background soils	natural background soils
Manganese	011 (12/30/2021)	diffuse/ site-wide source	SSFL Background Stormwater	natural background soils	*N/A*	*N/A*	natural background soils	natural background soils
Copper	009 (12/15/2021)	local/ unidentified source	*exceeding particulate strength was greater than source samples*	*ratio not indicative of natural background soils*	*N/A*	*N/A*	*inconclusive*	*inconclusive, likely lab error*
TCDD TEQ (no DNQ)	001 (12/26/2021)	possible site-wide source	natural background soils, impacted soils, treated wood poles, pavement	natural background soils	natural background soils, impacted soils	natural background soils, impacted soils, pavement	natural background soils, impacted soils, treated wood poles, pavement	natural background soils, impacted soils, treated wood poles
TCDD TEQ (no DNQ)	011 (12/30/2021)	possible site-wide source	natural background soils, impacted soils, treated wood poles, pavement	natural background soils	natural background soils, impacted soils	natural background soils, impacted soils, pavement	natural background soils, impacted soils, treated wood poles, pavement	natural background soils, impacted soils, treated wood poles

1. Subarea sampling conclusions are preliminary as described in Appendix E.

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Appendix D: 2021/22 BMP Performance Analysis

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Appendix D: Best Management Practice (BMP) Performance Analysis

2021/22 Reporting Year

Prepared by

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CWR0724
October 2022

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Acronyms

ANOVA	Analysis of Variance
BMP	Best Management Practice
CA	California
CM	Culvert Modification
COC	Constituent of Concern
COV	Coefficient of Variation
DNQ	Detected not Quantified
ELV	Expendable Launch Vehicle
ENTS	Engineered Natural Treatment Systems
GIS	Geographic Information System
HDPE	High Density Polyethylene
ISRA	Interim Source Removal Action
mg/kg	micrograms per kilogram
mg/L	micrograms per liter
mg/l	milligram per liter
NASA	National Aeronautics and Space Administration
ND	Non-Detect
NPDES	National Pollutant Discharge Elimination System
POR	Period of Record
SSFL	Santa Susana Field Laboratory
SWMM	Storm Water Management Model
TCDD	Tetrachlorodibenzo-*p*-dioxin
TEQ	Toxic Equivalence
TSS	Total Suspended Solids

1. Introduction

Ongoing performance monitoring and evaluations are conducted at existing passive stormwater treatment Best Management Practices (BMPs) installed within the Outfall 009 watershed of the Boeing Santa Susana Field Laboratory (Site) at the direction of the Surface Water Expert Panel ("Expert Panel"). The BMPs are intended to provide reduction of pollutants in stormwater via filtration and evapotranspiration before runoff reaches its discharge point at Outfall 009, in order to comply with the National Pollutant Discharge Elimination System (NPDES) permit standards as issued to Boeing by the Los Angeles Regional Water Quality Control Board (NPDES Permit No. CA0001309 for the Boeing Company, SSFL, Canoga Park, CA, Order No. R4-2015-0033 ["2015 Permit"]) (LARWQCB, 2015).

As an update to the BMP performance analysis conducted annually in accordance with the *Site-Wide Stormwater Work Plan and 2014/15 Annual Report* ("2015 Work Plan") (Santa Susana Surface Water Expert Panel and Geosyntec Consultants, 2015), data collected during the 2021/22 reporting year were incorporated into an existing dataset that began in December 2009. Analyzed NPDES constituents of concern (COCs) monitored at the inlet and outlet locations of these controls included total suspended solids (TSS), total lead, total copper[1], and dioxins (TCDD TEQ, DNQ excluded, BAFs included). Performance monitoring data were analyzed to assess the effectiveness of stormwater treatment occurring at culvert modification (CM) installations, the upper lot media filter, lower parking lot sedimentation basin and biofilter (lower lot biofilter), ELV treatment BMP, B1436 detention bioswales (detention bioswales), and an inlet filter in the Boeing administrative area (Boeing administrative area inlet filter).

Table 1 summarizes the 2015 Permit Limits for TSS, total lead, total copper, and dioxins at NPDES outfalls. The Permit Limits do not apply to effluent discharges from the BMPs themselves, although they may serve as a reference for evaluating performance of existing BMPs in the Outfall 009 Watershed and of potential BMPs implemented in other watersheds. While there is not a TSS limit at Outfall 009, TSS sample results are often used as a proxy for evaluating and estimating particulate strengths of other constituents.

[1] Copper is not included as a pollutant of concern for the Outfall 009 watershed in the 2015 Work Plan. However, data for total copper are retained for the paired line plots.

Table 1. COC NPDES Permit Limits by Outfall

Outfall	NPDES Permit Limit			
	TSS (mg/l)[1]	Total Lead (µg/l)	Total Copper (µg/l)	Dioxins (µg/l)
001[2]	45	5.2	14	2.80×10^{-8}
002[2]	45	5.2	14	2.80×10^{-8}
003	-	5.2	13	2.80×10^{-8}
004	-	5.2	13	2.80×10^{-8}
005	-	5.2	13	2.80×10^{-8}
006	-	5.2	13	2.80×10^{-8}
007	-	5.2	13	2.80×10^{-8}
008	-	5.2	14	2.80×10^{-8}
009	-	5.2	13	2.80×10^{-8}
010	-	5.2	13	2.80×10^{-8}
011	45	5.2	14	2.80×10^{-8}
018	45	5.2	14	2.80×10^{-8}
019	45	5.2	14	2.80×10^{-8}
020	45	5.2	14	2.80×10^{-8}

[1] TSS limit applies to dry weather samples only. There is no NPDES Permit Limit for TSS in wet weather.

[2] Numerical values for the parameters shown at this outfall are benchmarks, not effluent limitations.

Slightly above average precipitation was observed in 2021/22 compared to other reporting years. Long-term average annual rainfall at SSFL from 1958/59 through 2021/22 is 16.8 inches[2], compared to a total of 18.2 inches recorded in 2021/22. However, most of the 2021/22 annual rainfall occurred in a short time period (last half of December). The 2021/22 reporting year[3] included 8 rain events, with monitored BMPs in the Outfall 009 Watershed sampled during 4 of the events. A rain event is defined by the 2015 Permit as at least 0.1 inches of rainfall in 24 hours preceded by at least 72 hours of dry weather. Between 4 and 14 rain events have occurred per year from 2009/10 to 2021/22, for an average of 9.5 events per year. Table 2 summarizes rain events from 2009/10 through 2021/22. Non-qualifying rain events describe rainfall that did not meet the "rain event" definition. Rows shaded gray indicate rain events without a complete pair of influent and effluent samples, often dictated by a lack of sampleable flow into or out of the BMP.

[2] Historical rainfall records covering 1958/59 – 2000/01 from the Simi Hills-Rocketdyne Laboratory gauge (Ventura County Watershed Protection District, site 249) and 2001/02 – 2021/22 from the Area 4 gage were combined and referenced to assess average annual rainfall over the 56-year period of record (POR).

[3] Annual reporting years are defined as June 1 through May 31 (as opposed to water years, typically defined as October 1 through September 30).

Table 2. Sample Collection Event Rainfall Data Summary
(gray rows indicate dates without complete paired samples)

Date(s)	Average Intensity (in/hr)	Max Intensity (in/hr)	Event Total (in)	Event Duration (hrs)	Cumulative Rainfall - Qualifying Events (in)	Number of BMP Subarea Monitoring Samples[1]
10/13/2009 - 10/14/2009	0.05	0.24	2.48	35	2.48	-[1]
12/7/2009 - 12/13/2009	0.02	0.25	3.43	57	5.91	-[1]
1/17/2010 – 1/22/2010	0.05	0.52	6.88	123	12.79	-[1]
2/5/2010 – 2/6/2010	0.04	0.20	1.84	43	14.63	-[1]
2/9/2010	0.01	0.17	0.20	3	14.83	-[1]
2/19/2010	0.01	0.05	0.14	8	14.97	-[1]
2/24/2010	0.01	0.03	0.12	12	15.09	-[1]
2/27/2010	0.06	0.34	1.52	17	16.61	-[1]
3/6/2010	0.02	0.13	0.38	11	16.99	-[1]
4/4/2010 - 4/5/2010	0.03	0.23	0.86	13	17.85	-[1]
4/11/2010 - 4/12/2010	0.03	0.22	0.65	11	18.50	-[1]
Non-qualifying rain event total[2]			*0.89*			
2009/10 Total			**19.39**			-[1]
10/5/2010 - 10/6/2010	0.049	0.18	0.93	20	0.93	-[1]
10/16/2010 - 10/25/2010	0.003	0.22	0.69	216	1.62	-[1]
11/17/2010 - 11/21/2010	0.011	0.23	0.97	89	2.59	-[1]
12/5/2010	0.018	0.09	0.41	10	3.0	-[1]
12/17/2010 – 12/22/2010	0.054	0.37	7.22	131	10.22	-[1]
12/25/2010 - 12/26/2010	0.030	0.22	0.57	9	10.79	-[1]
12/29/2010	0.043	0.10	0.43	7	11.22	-[1]
1/2/2011 - 1/3/2011	0.014	0.12	0.38	17	11.60	-[1]
2/15/2011 – 2/20/2011	0.019	0.45	2.33	121	13.93	-[1]
2/25/2011 - 2/26/2011	0.030	0.22	1.50	20	15.43	-[1]
3/2/2011 - 3/3/2011	0.007	0.03	0.13	8	15.56	-[1]
3/6/2011 - 3/7/2011	0.006	0.02	0.12	10	15.68	-[1]
3/18/2011 - 3/27/2011	0.030	--	6.00	197	21.68	-[1]
5/15/2011 - 5/18/2011	0.009	0.08	0.67	76	22.35	-[1]
Non-qualifying rain event total[2]			*1.04*			
2010/11 Total			**23.39**			**67**
10/5/2011	0.090	0.18	0.90	9	0.90	-[1]
11/4/2011 - 11/6/2011	0.041	0.23	0.58	59	1.48	-[1]
11/11/2011 - 11/12/2011	0.035	0.26	0.76	22	2.24	-[1]
11/19/2011 - 11/21/2011	0.031	0.29	0.78	35	3.02	-[1]
12/12/2011 - 12/17/2011	0.006	0.21	0.80	137	3.82	-[1]
1/21/2012 – 1/23/2012	0.017	0.15	1.06	62	4.88	-[1]
2/27/2012	--	--	0.00	--	4.88	-[1]
3/16/2012 - 3/18/2012	0.052	0.31	1.51	29	6.39	-[1]
3/25/2012 – 3/26/2012	0.079	0.51	2.12	21	8.51	-[1]
4/10/2012 – 4/13/2012	0.034	0.36	2.37	64	10.88	-[1]

Date(s)	Average Intensity (in/hr)	Max Intensity (in/hr)	Event Total (in)	Event Duration (hrs)	Cumulative Rainfall - Qualifying Events (in)	Number of BMP Subarea Monitoring Samples[1]
4/23/2012 - 4/26/2012	0.003	0.09	0.26	80	11.14	-[1]
Non-qualifying rain event total[2]			*0.19*			
2011/12 Total			**11.33**			**88**
11/14/2012 – 11/18/2012	0.010	0.36	0.99	99	0.99	-[1]
11/28/2012 – 12/4/2012	0.011	0.12	1.49	139	2.48	-[1]
12/12/2012 – 12/18/2012	0.005	0.07	0.68	129	3.16	-[1]
12/22/2012 – 12/26/2012	0.013	0.18	1.13	87	4.29	-[1]
1/23/2013 – 1/27/2013	0.020	0.18	1.78	89	6.07	-[1]
2/8/2013 – 2/9/2013	0.008	0.07	0.12	15	6.19	-[1]
2/19/2013	0.025	0.09	0.25	10	6.44	-[1]
3/7/2013 – 3/8/2013	0.041	0.23	0.87	7	7.31	-[1]
5/5/2013 - 5/6/2013	0.040	0.16	0.48	7	7.79	-[1]
Non-qualifying rain event total[2]			*0.31*			
2012/13 Total			**8.10**			**29**
11/20/2013 – 11/21/2013	0.013	0.12	0.47	17	0.47	-[1]
12/7/2013	0.070	0.09	0.28	4	0.75	-[1]
2/6/2014 – 2/7/2014	0.015	0.15	0.28	16	1.03	-[1]
2/26/2014 – 3/2/2014	0.052	0.47	4.62	89	5.65	-[1]
4/1/2014 – 4/2/2014	0.008	0.14	0.22	28	5.87	-[1]
Non-qualifying rain event total[2]			*0.20*			
2013/14 Total			**6.07**			**27**
10/31/2014 – 11/1/2014	0.045	0.33	0.36	8	0.36	-[1]
11/30/2014 – 12/4/2014	0.033	0.40	3.20	97	3.56	-[1]
12/11/2014 – 12/12/2014	N/A[3]	N/A[3]	2.62	N/A[3]	6.18	-[1]
12/15/2014 – 12/17/2014	0.025	0.33	0.91	36	7.09	-[1]
1/10/2015 – 1/11/2015	0.071	0.23	1.56	22	8.65	-[1]
1/26/2015 – 1/27/2015	0.015	0.06	0.25	17	8.90	-[1]
2/22/2015 – 2/23/2015	0.008	0.06	0.21	26	9.11	-[1]
3/1/2015 – 3/3/2015	0.024	0.22	1.44	60	10.55	-[1]
5/14/2015 – 5/15/2015	0.017	0.30	0.41	24	10.96	-[1]
Non-qualifying rain event total[2]			*0.26*			
2014/15 Total			**11.22**			**17**
7/18/2015 – 7/19/2015	0.027	0.32	0.83	31	0.83	0
9/14/2015 – 9/15/2015	0.050	0.39	1.10	22	1.93	8
10/5/2015 – 10/6/2015	0.025	0.32	0.45	18	2.38	0
12/13/2015	0.055	0.06	0.11	2	2.49	0
12/19/2015 – 12/22/2015	0.008	0.08	0.52	65	3.01	6
1/5/2016 – 1/10/2016	0.030	0.60	3.87	129	6.88	29
1/18/2016 – 1/20/2016	0.005	0.02	0.20	40	7.08	0

Date(s)	Average Intensity (in/hr)	Max Intensity (in/hr)	Event Total (in)	Event Duration (hrs)	Cumulative Rainfall - Qualifying Events (in)	Number of BMP Subarea Monitoring Samples[1]
1/31/2016	0.108	0.27	0.86	8	7.94	0
2/17/2016 – 2/18/2016	0.027	0.10	0.57	21	8.51	17
3/5/2016 – 3/7/2016	0.029	0.29	1.57	54	10.08	4
3/11/2016	0.088	0.34	0.44	5	10.52	15
4/7/2016 – 4/9/2016	0.010	0.10	0.52	52	11.04	16
5/6/2016	0.128	0.22	0.77	6	11.81	0
Non-qualifying rain event total[2]			*0.16*			
2015/16 Total			**11.97**			**113**
10/16/2016 – 10/17/2016[4]	0.008	0.05	0.22	28	0.22	0
10/28/2016 – 10/31/2016	0.006	0.16	0.41	68	0.63	5
11/20/2016 – 11/21/2016	0.024	0.18	0.53	22	1.16	3
11/26/2016	0.055	0.15	0.22	4	1.38	8
12/15/2016 – 12/16/2016	0.093	0.20	1.58	17	2.96	12
12/21/2016 – 12/24/2016	0.030	0.31	1.99	66	4.95	6
12/30/2016 – 12/31/2016	0.011	0.11	0.45	41	5.40	14
1/4/2017 – 1/13/2017	0.013	0.26	2.74	211	8.14	33
1/18/2017 – 1/23/2017	0.050	0.69	5.70	114	13.84	25
2/2/2017 – 2/11/2017	0.013	0.17	2.84	218	16.68	23
2/16/2017 – 2/21/2017	0.049	0.71	5.81	119	22.49	21
2/26/2017	0.022	0.05	0.20	9	22.69	0
3/21/2017 – 3/22/2017	0.028	0.07	0.36	13	23.05	0
4/7/2017 – 4/8/2017	0.024	0.08	0.17	7	23.22	0
Non-qualifying rain event total[2]			0.13			
2016/17 Total			**23.35**			**150**
1/8/2018 – 1/9/2018	0.068	0.37	2.78	41	2.78	11
2/26/2018 – 3/3/2018	0.015	0.15	1.66	109	4.44	10
3/10/2018 – 3/16/2018	0.012	0.30	1.92	155	6.36	0
3/21/2018 – 3/23/2018	0.059	0.45	2.94	50	9.30	15
Non-qualifying rain event total[2]			0.45			
2017/18 Total			**9.75**			**36**
10/12/2018 – 10/13/2018	0.037	0.13	0.48	13	0.48	0
11/21/2018 – 11/22/2018	0.092	0.26	0.55	6	1.03	0
11/28/2018 – 11/29/2018	0.045	0.30	1.17	26	2.20	14
12/5/2018 – 12/6/2018	0.068	0.44	2.51	37	4.71	16
1/5/2019 – 1/8/2019	0.030	0.31	1.69	57	6.40	12
1/12/2019 – 1/17/2019	0.043	0.34	5.68	133	12.08	8
1/31/2019 – 2/5/2019	0.053	0.56	6.27	119	18.35	8
2/9/2019 – 2/16/2019	0.018	0.39	3.12	172	21.47	8
2/27/2019 – 3/8/2019	0.016	0.25	3.21	195	24.68	11
3/20/2019 – 3/21/2019	0.005	0.03	0.11	23	24.79	0

Date(s)	Average Intensity (in/hr)	Max Intensity (in/hr)	Event Total (in)	Event Duration (hrs)	Cumulative Rainfall - Qualifying Events (in)	Number of BMP Subarea Monitoring Samples[1]
5/10/2019 – 5/11/2019	0.005	0.04	0.13	29	24.92	0
5/16/2019 – 5/19/2019	0.014	0.21	1.17	82	25.96	9
Non-qualifying rain event total[2]			0.20			
2018/19 Total			**26.29**			**86**
11/20/2019	0.185	0.33	0.37	2	0.37	5
11/27/2019 – 11/30/2019	0.023	0.28	2.10	90	2.47	14
12/4/2019 – 12/8/2019	0.018	0.31	2.01	109	4.48	5
12/22/2019 – 12/26/2019	0.044	0.49	3.88	89	8.36	10
1/16/2020 – 1/17/2020	0.064	0.31	0.70	11	9.06	0
2/22/2020	0.037	0.10	0.11	3	9.17	0
3/10/2020 – 3/23/2020	0.022	0.40	7.08	319	16.25	9
4/5/2020 – 4/13/2020	0.021	0.29	3.81	187	20.06	4
5/18/2020	0.031	0.07	0.22	7	20.28	0
Non-qualifying rain event total[2]			0.26			
2019/20 Total			**20.54**			**47**
12/28/2020 – 12/29/2020	0.060	0.28	1.62	27	1.62	0
1/23/2021 – 1/25/2021	0.006	0.11	0.32	50	1.94	0
1/28/2021 – 1/30/2021	0.040	0.27	1.32	33	3.26	3
3/10/2021 – 3/12/2021	0.018	0.16	0.94	51	4.20	11
3/15/2021	0.042	0.08	0.21	5	4.41	0
Non-qualifying rain event total[2]			0.13			0
2020/21 Total			**4.54**			**14**
10/4/2021	0.12	0.35	0.48	4	0.48	0
10/22/2021 – 10/25/2021	0.016	0.37	1.04	64	1.52	8
12/7/2021 – 12/9/2021	0.0033	0.040	0.18	55	1.70	0
12/13/2021 – 12/16/2021	0.041	0.78	2.96	72	4.66	19
12/22/2021 – 12/31/2021	0.060	0.42	11.8	196	16.46	22
1/15/2022 – 1/19/2022	0.0025	0.060	0.22	87	16.68	0
3/28/2022 – 3/29/2022	0.044	0.32	0.93	21	17.61	4
4/21/2022 – 4/22/2022	0.088	0.17	0.35	4	17.96	0
Non-qualifying rain event total[2]			0.22			0
2021/22 Total			**18.18**			**53**

[1] Totals of Number of BMP Subarea Monitoring Samples include influent and effluent, background and non-background. Annual totals are shown for early reporting years without breakdowns by rain event, as presented in past Annual Reports.

[2] Rainfall was observed but did not meet the NPDES definition for a rain event.

[3] Area I weather station malfunctioned during rain event; Station 436 rainfall totals used in the absence of hourly rainfall data.

[4] Station 436 rainfall data used from 3:00 a.m. to 4:00 a.m. on 10/16/2016 while the Area I station was off-line.

2. Overview

2.1 BMPs

Performance assessments of BMPs in the Outfall 009 Watershed at the SSFL site were conducted through collection and analysis of water quality sample data and are presented in the following sections. Table 3 summarizes evaluated BMPs as well as their characteristics and components.

Culvert Modifications (CMs) and Media Filters. Culverts that convey stormwater under roadways were modified by installing headboards and removable weir boards in front of the upstream culvert inlet. Stormwater entering the BMP is blocked from flowing directly through the culvers by the weir boards, forcing the stormwater through filter media for treatment before exiting through perforated pipe laterals and flowing into the existing culvert. Excess water overtops the weir boards, bypassing the media treatment, during periods of large flow rates. The CMs were installed as provisional sedimentation and filtration stormwater control measures to be continually evaluated for pollutant reduction capabilities and capture performance. The six CMs analyzed are comprised of media filters and HDPE linings laid above existing, galvanized[4] corrugated metal pipes. The B-1 media filter consists of a media bed without a slip-liner. In addition to evaluating BMP performance, monitoring data have been used to evaluate potential BMP enhancements that could improve stormwater treatment performance and to assess their effectiveness once implemented. Monitoring data analyzed in performance evaluations are described in Section 2.2.

- **CM-1** was installed and initially sampled in 2009/10. Improvements at the CM include 2011/12 addition of filter fabric over the weir board for enhanced flow control and 2017/18 construction of an inlet for runoff from the adjacent roadway area. CM-1 was reconstructed and outfitted with new treatment media in August 2018. Sampling of the newly reconstructed CM and road runoff inlet began in 2018/19.
- **CM-3** was installed and initially sampled in 2009/10. As described in Section 2.2, performance monitoring data used in these analyses were first collected 2016/17. An inlet allowing the CM to receive runoff from an adjacent roadway was constructed in May 2017, and sampling of the influent road runoff began in 2016/17. In 2019/20, CM-3 was rebuilt with a modified configuration, upstream check dams were installed, and the first paired influent and effluent samples were collected at the newly reconstructed CM.
- **CM-9** was installed and initially sampled in 2009/10. Improvements were made in 2011/12, including the September 2011 removal of Area I Landfill (A1LF) asphalt upstream and the January 2012 addition of filter fabric over the weir board.
- The **B-1 Media Filter** was installed and first sampled in 2011/12. Curb cut improvements were implemented at the media filter in November 2012.

[4] Galvanization of the metal does not present a water quality concern as zinc is not a COC at the Site.

- The **Upper Lot Media Filter** was installed and initially sampled in 2016/17.
- **CM-8** and **CM-11** receive runoff from areas without history of industrial activities or known soil contamination, which are therefore considered representative of background conditions at the SSFL site. Both CMs were installed and first sampled in 2009/10.

Lower Lot Biofilter. The stormwater detention and biofiltration BMP was installed and first sampled in 2013/14. It includes a sedimentation basin for pretreatment upstream of a biofiltration media bed. The lower lot biofilter receives flow from the lower parking lot, making up roughly 40% of the total tributary area to the biofilter, and the drainage area to the 24" storm drain that enters a cistern in the lower lot upstream of the biofilter. The storm drain collects runoff from areas near the administrative building, natural hillsides, and effluent flows from the southern detention bioswales and Boeing administrative area inlet filter.

Detention Bioswales. The northern and southern B1436[5] detention bioswales were installed upstream of the lower lot biofilter in December 2014 to capture and slowly release flows downstream to the lower lot biofilter. Treatment occurs in the bioswales, although the primary purpose was to slow the influent runoff to the lower lot biofilter and reduce flows that bypass the lower lot biofilter during large storm events. Initial performance monitoring was conducted at the northern detention bioswale in 2014/15 and at the southern detention bioswale in 2015/16. The change in total volume of runoff captured after implementation of the detention bioswales was estimated by simulating the period from implementation on November 1, 2014, through April 1, 2019, in the site-wide Stormwater Management Model (SWMM), both with and without the bioswales. Model results indicated installation of the bioswales provided a 24% increase in biofilter capture efficiency, from 59% to 73%. Considering runoff from only the lower parking lot priority treatment area, results indicated an 8% increase in runoff capture efficiency, from 80% to 88%, over the same period.

ELV Treatment BMP. The stormwater detention and filtration ELV treatment BMP was installed and initially monitored in 2013/14. The drainage layers and filtration media of the BMP were rebuilt in Summer 2021 to reduce apparent media washout during stormwater treatment. New, clean gravel was installed at the bottom of the tank, a layer of pea gravel was added above the larger gravel, and the existing media was placed back on top of the pea gravel (i.e., the treatment media itself was not replaced). Following the reconstruction, the system was flushed with potable water to reduce sediment within the system. Initial performance monitoring of the rebuilt BMP was conducted in 2021/22.

Boeing Administrative Area Inlet Filter. A catch basin filter basket filled with filtration media was installed in 2017/18 and first sampled in 2018/19. Extra sealing and securing of the filter lip was performed in April 2019 to reduce potential bypass of the filter.

Stormwater conveyance and treatment systems (SWTSs). Outfalls 011 and 018 have had advanced SWTSs since 2012 to capitalize on the natural storage provided by existing ponds. The SWTSs provide

[5] B1456 refers to a former building at this location that was demolished by Boeing in its effort to remove man-made structures at SSFL.

advanced stormwater treatment using ActiFlo coagulation and filtration systems, with stormwater ponds upstream for flow equalization and pretreatment by sedimentation.

Stormwater from Outfall 011 is pumped to the R-1 Pond for flow equalization, settling and evaporation. When the storage of the pond nears capacity, stormwater in the pond is treated using the advanced SWTS. The SWTS at Outfall 011 has experienced minor lapses in operation throughout its lifetime, most recently due to damage from the Woolsey Fire, however, it was repaired in late 2019 and operational again prior to the first 2019/20 storm event.

Stormwater runoff up to the outfall-specific design volumes at Outfalls 003, 004, 005, 006, 007, 009[6] , and 010 is pumped to Silvernale Pond before being treated by the Outfall 018 SWTS alongside stormwater runoff from the local Outfall 018 Watershed.

Table 3 summarizes characteristics of the BMPs.

Table 3. BMP Summary

BMP Characteristic	BMP						
	CM Sites	B1 Media Filter	Upper Lot Media Filter	Lower Lot Biofilter	ELV Treatment BMP	Detention Bioswales	Boeing Administrative Area Inlet Filter
Media filtration-based[1]	x	x	x	x	x		x
Subsurface storage-based						x	
Pretreatment incorporated		x		x	x		
Outlet controls				x	x	x	
Vegetation				x		x	
Vertical flow regime		x	x	x	x	x	x
Horizontal flow regime	x	x					

[1] Using a custom treatment medium for SSFL BMPs consisting of sand, zeolite, and granulated activated carbon (GAC).

2.2 Sampling

Concentrations of influent and effluent grab samples collected at evaluated stormwater BMPs were compared against each other to assess pollutant concentration reductions achieved by the treatment measures. Although split samples were periodically collected and used for quality assurance/quality control (QA/QC) purposes, only primary samples were included in performance analyses. BMP performance sampling was reduced following the 2016/17 reporting year given the completion of building demolition and revegetation in the Outfall 009 watershed, as well as the observations from previous sampling indicating effective performance of BMPs already in operation for a number of years. Starting in 2017/18, sampling was reduced to two storm events per year at the upper lot media filter, southern

[6] Stormwater runoff from a small area within the Outfall 009 watershed, the helipad area, is pumped to the storage pond for treatment prior to being discharged from Outfall 018, while stormwater runoff from the remaining, vast majority of the watershed flows to Outfall 009.

detention bioswale, lower lot biofilter, Boeing administrative area inlet filter, CM-1 (influent-west and effluent sample points), and the ELV Treatment BMP, as a check of continued performance with time.

CMs and Media Filters. Influent grab samples taken at CMs are collected from flowing surface water upstream of the maximum ponding extent observed at the CM prior to a given sample date. The number of paired samples collected per CM ranges from 2 to 38 pairs for TSS, 0 to 39 pairs for dioxins, 0 to 38 pairs for lead, and 0 to 34 pairs for copper for 2011/12 through 2021/22. Since October 2011, effluent grab samples at CM-1, CM-9, CM-3, and the B-1 media filter have been collected from the underdrain outlet rather than from the culvert outlet. Effluent grab samples at CMs, including CM-8 and CM-11, were previously collected at downstream culvert outlets where culvert pipes discharge to the Northern Drainage. Flows from the culvert outlets may have represented both treated and partially treated runoff, where partially treated runoff would have included both treated discharge and bypass flow through or over effluent weir boards.

Initial samples collected at the B-1 media filter in 2012/13 indicated the potential of media washout as the BMP was becoming operational and were not retained for performance analyses. Subsequent quantitative assessments of data collected at the B-1 media filter from 2013/14 through 2015/16 indicated effective treatment performance, such that sampling at the BMP could be subsequently discontinued. Continuing visual checks of B-1 media filter and other stormwater BMPs in the Outfall 009 Watershed are performed routinely to identify potential concerns or maintenance needs.

TSS, dioxins, and lead performance data collected across CM-8 and CM-11 were analyzed separately from data collected at other CMs and media filters to assess background conditions and associated COC concentrations in runoff. Comprehensive evaluations of background conditions were conducted on sample data collected at CM-8 and CM-11 through 2010/11, such that sampling at the CMs could then be discontinued. Prior to 2019/20, the eastern tributary area to CM-1 was considered reflective of background conditions. However, further assessment indicated that the eastern drainage area was not as descriptive of background conditions as drainage areas to CM-8 and CM-11, and influent data collected from the CM-1 eastern tributary area were evaluated in non-background analyses starting in 2020/21.

As slip-lined HDPE pipes at CM-3 were inserted from both influent and effluent sides, they could not be sealed at the meeting point. Intermittent discharge from the HDPE pipe outlet was observed between February 2010 and March 2011 without influent runoff flowing to the CM, indicating the potential of subsurface interflow contributing to the effluent discharge. Sampling at the CM was therefore temporarily discontinued after 2010/11 and was resumed in 2016/17, and samples collected prior to 2016/17 were not retained for performance analyses. Sampling to characterize influent runoff from an adjacent roadway area began in 2016/17 following the addition of a road runoff inlet to the CM in the second quarter of 2017.

Lower Lot Biofilter. Sampling beginning in 2012/13 at the lower lot biofilter includes influent, mid-point, and effluent samples, collected from the cistern discharge pipeline, the sediment basin outlet, and the biofilter effluent pipe, respectively. Samples have been collected during 34 rain events to date. Sampling results analyzed in performance evaluations include post-biofilter effluent samples collected in early 2014 which represented a blend of treated, filtered underdrain water and biofilter overflow and unusually turbid results observed during a 2014/15 event. The observed turbidity may have resulted from the

Building 1436 area contributing sediments to stormwater runoff post-demolition. Samples were not collected at the biofilter midpoint during 2013/14, as the sample location was submerged and inaccessible.

Detention Bioswales. The bioswales provide treatment for stormwater runoff, and they also allow for larger volumes of stormwater to be treated by the lower lot biofilter by providing peak flow attenuation and equalization. There are three sampling points along the southern detention bioswale, including two influent and one effluent. Influent samples are collected from the outlet of the upstream rock crib swale and the inlet for runoff from the adjacent contractor laydown area, and effluent samples are collected from the underdrain. COC concentrations observed at the two influent sample points are flow-weighted based on size and imperviousness of the corresponding drainage area to estimate single representative influent concentrations to the bioswale. Paired influent and effluent performance data were collected at the southern detention bioswale during a total of 26 events, including 4 events in 2021/22.

Paired influent and effluent samples were collected at the northern detention bioswale from a curb cut along the eastern side of the bioswale and from the underdrain, respectively, during 8 events in 2015/16 and 2016/17. Sampling at the northern detention bioswale was subsequently discontinued upon having collected enough data to assess performance of both detention bioswales through southern detention bioswale data alone.

ELV Treatment BMP. Sampling at the ELV treatment BMP includes influent, midpoint, and effluent samples, which are collected from the influent pipe, combined flow from the eastern and western sample ports between the settling tanks and media filter, and the effluent pipe, respectively. Samples were collected at the ELV treatment BMP during 16 events from 2013/14 through 2021/22, including 13 paired influent and effluent samples, one of which was collected in 2021/22.

Sample data collected during the initial storm events treated by the BMP in 2013/14 could have been reflective of media flushing as the BMP became operational. Two discrete power outages have occurred throughout operation of the ELV treatment BMP. During a large storm event from the end of February through early March 2014, a storm drain plug under Helipad Road diverted excess roadway runoff to the ELV sump and treatment system. Erosion controls in the upstream earthen channel were overwhelmed by the storm event, and strong inflows to the BMP caused a failure of the sump pump resulting in a power outage.

Performance monitoring could not be conducted at the ELV treatment BMP for the remainder of 2018/19 after the November 2018 Woolsey Fire caused a power outage. A generator was installed to prevent future outages, and the BMP was operational again in 2019/20. Drainage layers and filter media of the ELV treatment BMP were rebuilt in Summer 2021, as described in Section 2.1, after previously collected data indicated the potential of media fines export through the underdrain, based on a decrease in dioxins particulate strength through the media layer.

Boeing Administrative Area Inlet Filter. Influent and effluent monitoring at the Boeing administrative area inlet filter includes samples collected from the filter basket influent and effluent, respectively. Of the seven paired samples collected to date, three were collected in 2021/22.

SWTSs. One influent sample result from each SWTS is available from 2021/22. These samples were collected from the effluent of the stormwater ponds and represent influent to the SWTSs. Additionally, corresponding sample results from the respective outfalls are available and are considered representative of the SWTS effluent.

The Expert Panel evaluated the need for additional performance monitoring in light of the reduced demolition activity at the SSFL site in recent years, particularly within the Outfall 009 watershed, and the relatively large number of samples already available to evaluate performance. After 2016/17, sampling was reduced to twice per year at the upper lot media filter, southern detention bioswale, lower lot biofilter, CM-1 (influent-west and effluent), Boeing administrative area inlet filter, and the ELV Treatment BMP.

Sampling will continue at these BMPs during two rain events per year as a check on continued performance with time and as one of the indicators of needed maintenance. However, sampling at the ELV treatment BMP will be increased to sampling every storm until the performance of the rebuilt system can be characterized. Monitoring will be discontinued at the Boeing administrative area inlet filter due to its continued poor performance of COC removals. The Panel will reevaluate the need for more frequent sampling at the stormwater controls when Site remediation activities increase.

2.3 BMPs with Multiple Influent Sample Points

Tributary areas, also known as drainage areas, contributing surface runoff to BMPs are characterized by sampling at an influent monitoring location. A single, flow-weighted influent concentration for BMPs with multiple influent drainage areas is calculated from each measured influent concentration by rain event, flow-weighted according to drainage area size and imperviousness. BMPs with multiple influent drainage areas and monitoring locations, which include CM-1, CM-9, CM-3, the B-1 media filter, upper lot media filter, and the southern detention bioswale, are described below.

- **CM-1** receives runoff from an eastern tributary comprised of largely undeveloped hillsides and part of the now-demolished Building 212, a western tributary comprised of paved roadway and a hillside previously utilized for ELV activity, and another area mainly comprised of road runoff.
- **CM-3** receives runoff from undeveloped hillsides and a clean soil borrow area at the top of the watershed, south of the adjacent roadway. After the addition of a road runoff inlet in May 2017, CM-3 also receives runoff from a portion of roadway.
- **CM-9** receives runoff from a paved roadway to the east known as Area II Road, as well as from A1LF and the parking lot of former Building 1324, which was demolished late Summer 2011.
- The **B-1 Media Filter** receives runoff from a northern drainage area of paved roadway and a southern drainage area that contributes upper B-1 Interim Source Removal Action (ISRA) areas, road runoff, and effluent from the sedimentation basin.
- The **Upper Lot Media Filter** receives runoff predominantly from undeveloped hillsides to the southeast and a parking lot to the south.
- The **Southern Detention Bioswale** receives runoff discharged from an upstream rock crib swale and from a paved contractor laydown area adjacent to the detention bioswales.

CM-8 and CM-11 receive runoff from undeveloped areas with no history of industrial activities or soil contamination. Stormwater quality influent to the CMs is therefore considered to be reflective of natural background conditions at the SSFL site.

Table 4 lists BMPs included in the performance analysis as well as descriptions of their respective drainage areas, approximate percentages of impervious cover, and drainage area burned in the Woolsey Fire. The overall Site includes numerous other areas managed by BMPs that vary in type from asphalt removal and erosion control BMPs to CMs and additional types of treatment control BMPs.

Table 4. BMP Sites and Drainage Areas

BMP	Drainage Area (acres)	Approximate Imperviousness	Approximate Portion Burned in Woolsey Fire
CM-1	52.8 (pre-ELV improvements)	6.5%	-
	43.5 (post-ELV improvements)	6.8%	87%
CM-3	17.2	6.5%	89%
CM-8	2.6	12%	11%
CM-9	10.2	48%	0%
CM-11	5.7	26%	31%
B-1 Media Filter	8.6	23%	0%
ELV Treatment BMP	15.6 (Helipad plug in place)	26%	0%
	6.6 (Helipad plug removed)	37%	0%
Lower Lot Biofilter	29.9[1]	53%	38%[2]
Northern Detention Bioswale	2.6	50%	31%
Southern Detention Bioswale	15.6	50%	60%
Upper Lot Media Filter	5.1	35%	2%
Boeing Administrative Area Inlet Filter	0.86	82%	0%

[1] Comprised of an 11.7-acre drainage area to the lower parking lot and an 18.2-acre drainage area to a diversion weir in the 24-inch storm drain upstream of the lower lot biofilter.

[2] Representative of burned percentage of the smaller, 11.7-acre drainage area to the lower lot.

Sampling conducted immediately after and since the November 2018 Woolsey fire has indicated sustained and substantial reductions of COC concentrations at CM-1, CM-3, CM-9, B-1 media filter, the upper lot media filter, lower lot biofilter, southern detention bioswale, and ELV treatment BMP. Water quality observed across the SSFL site has recovered to normally observed pre-fire levels after influent COC concentrations were generally elevated above typical levels following the fire.

3. Box Plots

Multiple-BMP box plots for TSS, dioxins, and lead are shown in Figure 2, Figure 3, and Figure 4, respectively, illustrating the ranges and basic statistics of observed influent and effluent COC concentrations at the CMs and media filters (CM-1, CM-3 post-2016/17, CM-9, B-1 media filter, and the upper lot media filter), as well as the lower lot biofilter, ELV treatment BMP, detention bioswales, and the Boeing administrative area inlet filter. As shown in Figure 1, box plots identify the medians, interquartile ranges (IQRs) from the 25th-percentile to 75th-percentile values, and the 1.5x quartile values; higher and lower levels beyond the 1.5x quartile values are plotted as diamonds. Box plots as well as statistical analyses, influent vs. effluent correlation charts, and probability plots presented in following sections, were developed using only paired sample datasets consisting of an equal number of influent and effluent samples per BMP.

Extents of the overlap of the influent and effluent boxes of a given BMP indicate the difference in observed influent and effluent concentrations. Boxes representing paired influent and effluent data without any, or with very little, overlap, as seen with dioxins at the lower lot biofilter, indicate effective BMP performance. Influent and effluent datasets producing boxes with a substantive overlap, as seen with TSS at the lower lot biofilter, indicate less difference in observed influent and effluent concentrations (i.e., less robust BMP performance). Small to moderate size paired datasets are generally assumed statistically different when a median value of a set lies outside the IQR of the other. Larger paired datasets may exhibit statistical differences even with some overlap between resulting influent and effluent boxes.

If influent concentrations are low, the differences between the influent and effluent concentrations may not be as significant (i.e., smaller percentage reductions) as when the influent concentrations are high. Effluent concentrations that are low and consistently below the effluent numeric effluent limits or benchmarks (although not applicable at internal stormwater control locations) are the best indicator of desired treatment performance, especially when influent concentrations may be higher than the limits. The box plots allow this behavior to be observed and is also further discussed during additional statistical evaluations herein.

The detention bioswales were the only BMPs without overlap between interquartile ranges (IQR) of influent and effluent TSS concentrations, generally indicating robust treatment control BMP performance. Overall decreases in TSS concentrations were observed at CM/media filter sites and the lower lot biofilter, although overlap is apparent between respective influent and effluent boxes. Overlap is also present between influent and effluent concentration boxes for the ELV treatment BMP, where an increase in TSS concentrations was observed.

Substantial decreases in dioxins concentrations were observed at the lower lot biofilter and detention bioswales, and overlap of influent and effluent IQRs is not present. Overall decreases in dioxins concentrations were observed at CM/media filter sites and the ELV treatment BMP, though data for both BMPs show an overlap between influent and effluent boxes. Almost all of the effluent dioxins concentrations from the lower lot biofilter, ELV treatment BMP, and detention bioswales are lower than the Outfall 009 Permit Limit, while most of the influent dioxins concentrations at the lower lot biofilter and the detention bioswales are greater than the Outfall 009 Permit Limit. The ELV treatment BMP generally has lower influent dioxin concentrations, with some above the Outfall 009 Permit Limit.

Overall decreases in lead concentrations were observed at the CM/media filter sites, ELV treatment BMP, and detention bioswales, with some overlap of influent and effluent concentrations at CM/media filter sites and the ELV treatment BMP. Overlap of influent and effluent IQRs is not present in data collected at the detention bioswales. Minimal difference in influent and effluent lead concentrations was observed in the boxes for the lower lot biofilter. All of the effluent concentrations for lead at the ELV treatment BMP and detention bioswales are lower than the Outfall 009 Permit Limit. Some influent lead concentrations are greater than the Outfall 009 Permit Limit, especially at the detention bioswales). The effluent concentrations for lead at the Boeing administrative area inlet filter are all lower than the Outfall 009 Permit Limit, but the effluent concentrations show an apparent increase compared to the low influent concentrations for lead. The lower lot biofilter also has most of the effluent concentrations below the Outfall 009 Permit Limit, but the effluent concentrations are similar to the influent concentrations. The effluent concentrations for lead at the CM/Media Filter locations have apparent large concentration reductions, but with some effluent concentrations still above the Outfall 009 Permit Limit.

The influent and effluent boxes for the Boeing administrative area inlet filter showed substantial overlap for all three COCs. However, there are a limited number of data pairs available (7 for dioxins and 6 for both TSS and lead).

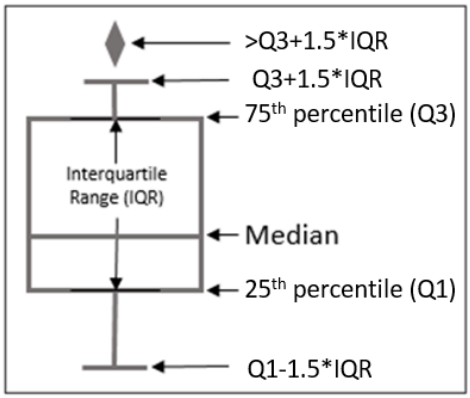


Figure 1. Box Plot Legend (*example, not to scale*)

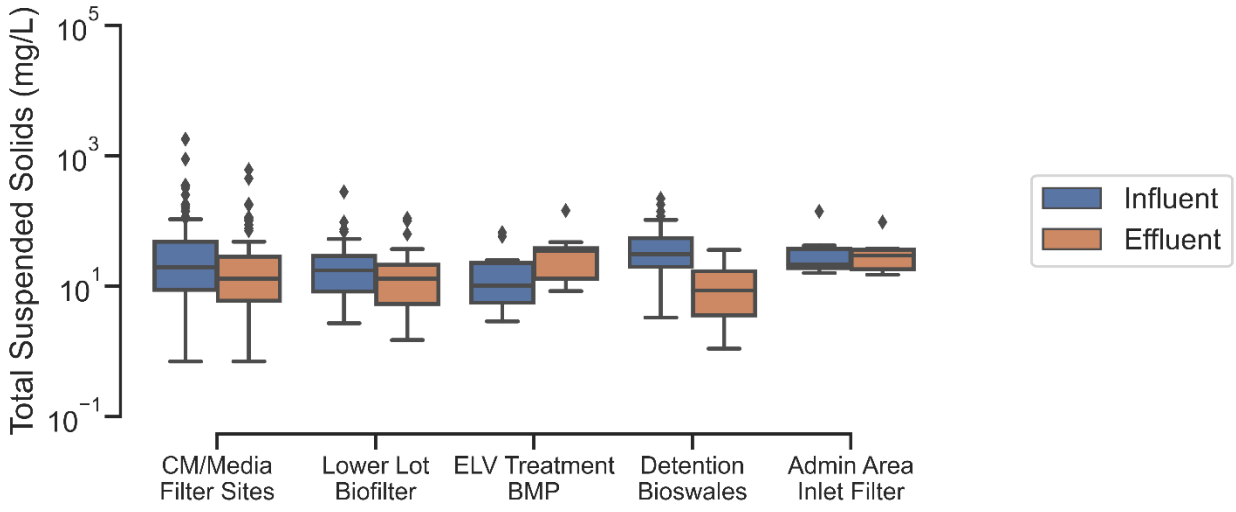


Figure 2. Multiple BMP Box Plot for TSS

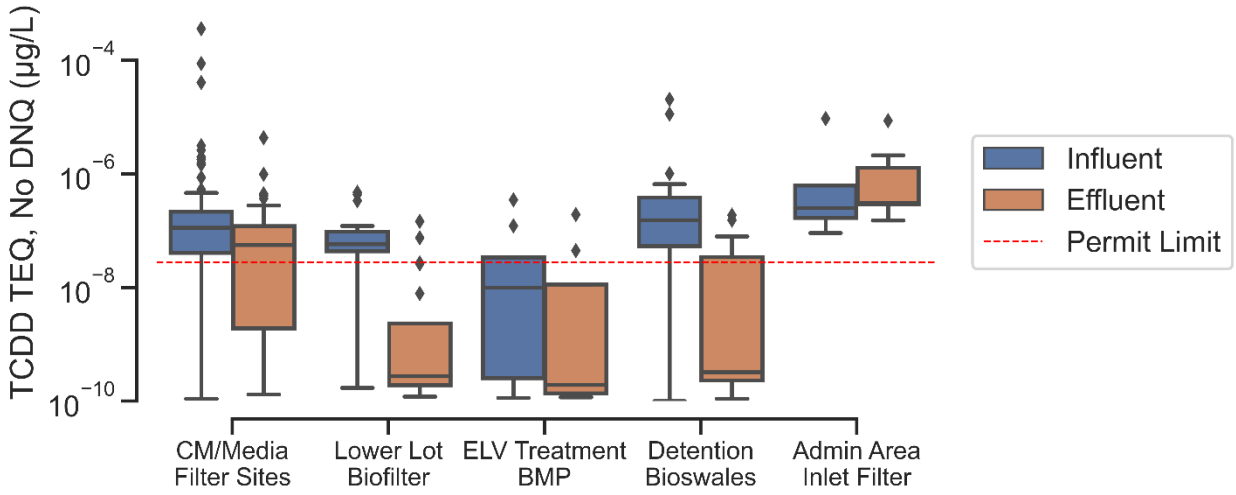


Figure 3. Multiple BMP Box Plot for Dioxins

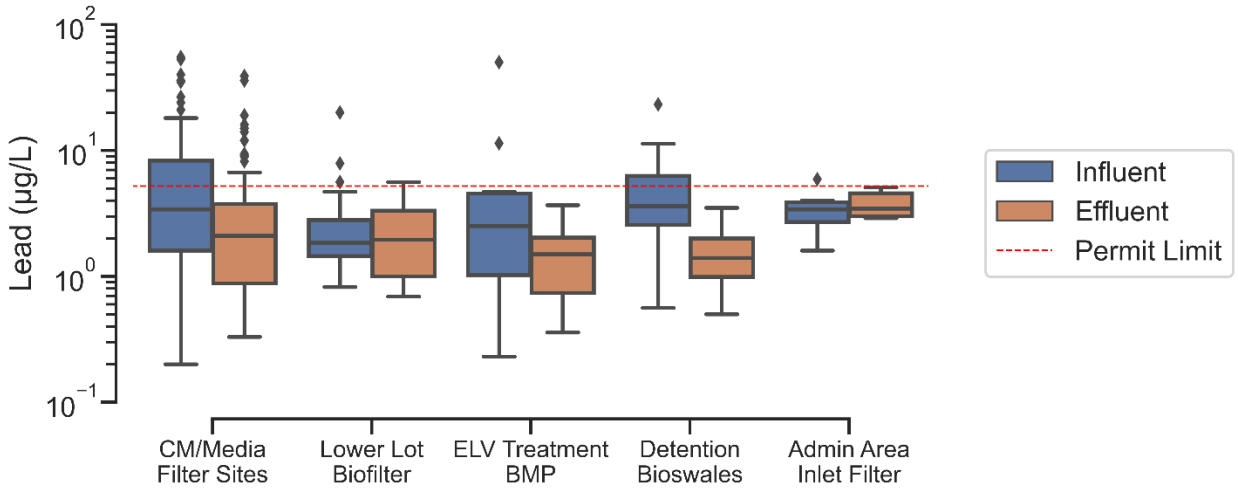


Figure 4. Multiple BMP Box Plot for Lead

4. Statistical Analysis

Statistical summaries of the cumulative paired data over the 2009-2022[7] sampling period for the SSFL distributed stormwater controls using the non-parametric, one-tailed, binomial sign test are shown for the paired datasets in Table 5 through Table 16. The sign test assesses whether the difference in the number of sample pairs showing a decrease in concentration from the influent to the effluent, compared to sample pairs with an increase in concentration, is statistically significant. The null hypothesis suggests that the median of the difference between paired influent and effluent samples is zero, or in other words, the number of data pairs showing an increase in concentration from the influent to effluent equals the number of data pairs showing a decrease in concentration from the influent to effluent. The test was executed based on a selected alpha value, α, in this case 0.05, the traditional critical value. The null hypothesis is rejected, with a 95% or greater confidence level, by a p-value of 0.05 or less, indicating a statistically significant difference in the number of data pairs that show a decrease, compared to an increase, in concentration from the influent to the effluent. The p-values of two-tailed binomial sign tests were divided by 2 to determine the corresponding one-tailed p-values.

A p-value greater than 0.05 indicates that the null hypothesis cannot be rejected, and the difference in the numbers of pairs showing an increase, compared to a decrease in concentration, is not statistically significant, based on the number of sample pairs available. This conclusion could be due to a lack of sample pairs with reduced concentrations. Additionally, because the total number of sample pairs used to calculate p-values excludes pairs with equal influent and effluent concentrations, which occurs most often in the case of non-detect (ND) results at both the influent and effluent, the conclusion could also be due to an insufficient number of non-equal sample pairs to be able to reject the null hypothesis.

4.1 Culvert Modification (CMs) and Media Filters

Results of statistical analyses performed on data collected at non-background CMs and media filters are summarized in Table 5. Results of the paired sign test show that the number of data pairs with decreases in concentration from the influent to the effluent, compared to pairs showing increases in concentration, is statistically significant (p-value ≤ 0.05) for TSS, lead, and dioxins, suggesting water quality improvements are achieved by the BMPs.

Table 5. Combined Non-Background Statistical Analyses: CM-1, CM-3[3], CM-9, B-1 Media Filter, and Upper Lot Media Filter

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Minimum	0.70	0.53	1.0E-12	1.0E-12	0.09	0.09
Maximum	1,800	610	3.6E-04	9.8E-07	55	39
Average	67	28	5.3E-06	6.1E-08	6.3	3.1
Median	18	11	5.9E-08	2.4E-09	2.8	1.6

[7] Paired samples taken during bypass or overflow events were not included in statistical analyses, nor did the analyses consider copper data, as copper is not listed as a pollutant of concern in the 2015 Work Plan.

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Standard Deviation	205	67	3.9E-05	1.3E-07	10	5.1
Coefficient of Variation (COV)	3.1	2.4	7.0	2.0	1.6	1.6
Total pairs of observations	99		95		99	
Pairs with influent-to-effluent concentration reductions	66		61		72	
Pairs with influent-to-effluent concentration increases	29		16		22	
Pairs with equal influent and effluent concentrations	4		18		5	
Paired sign test p-value[1]	<0.001		<0.001		<0.001	
Statistically significant number of data pairs with concentration reductions[1]?	Yes		Yes		Yes	

[1] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.

Statistical analysis of data representing background conditions influent to CM-8 and CM-11 is summarized in Table 6. Though reductions of already-low COC concentrations in runoff to CM-8 and CM-11 are considered generally unlikely given their largely natural and undeveloped drainage areas, there was a statistically significant (p-value ≤ 0.05) number of paired samples with a decrease in concentration from the influent to the effluent (compared to paired data with an increase in concentration) for TSS and lead.

It should be noted that no data were collected from these sites in the most recent reporting year. Paired samples of ND results, especially for dioxins, at both the influent and effluent demonstrate favorable water quality influent to and effluent from CM-8 and CM-11, though they detract from the number of reduced pairs needed to result in statistical significance.

Table 6. Combined Background Statistical Analyses: CM-8 and CM-11

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Minimum	1.0	1.0	1.0E-12	1.0E-12	0.20	0.20
Maximum	82	33	1.5E-10	3.5E-10	11	7.0
Average	13	7.6	2.7E-11	6.9E-11	3.2	1.6
Median	3.0	2.0	1.0E-12	1.0E-12	0.58	0.29
Standard Deviation	20.8	9.6	5.8E-11	1.3E-10	4.5	2.2
Coefficient of Variation (COV)	1.6	1.3	2.1	1.9	1.4	1.4
Total pairs of observations	21		11		10	
Pairs with influent-to-effluent concentration reductions	13		1		7	
Pairs with influent-to-effluent concentration increases	3		3		1	
Pairs with equal influent and effluent concentrations	5		7		2	
Paired sign test p-value[1]	0.011		0.31		0.035	
Statistically significant number of data pairs with concentration reductions[1]?	Yes		No (data numbers insufficient to indicate significance)		Yes	

[1] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.

4.2 Lower Lot Biofilter Treatment Train

Samples have been collected at the lower lot biofilter during 34 rain events since its implementation. Samples are taken from three locations within the biofilter treatment train: an influent, a midpoint at the sedimentation basin outlet, and a biofilter effluent. Table 7, Table 8, and Table 9 summarize respective statistics of influent-to-midpoint, midpoint-to-effluent, and influent-to-effluent for TSS, dioxins, and lead.

Figure 5. Lower Lot Biofilter (3/13/2018)

For TSS, the majority of data pairs showed a decrease in concentration for all steps of the treatment train (influent runoff to the sedimentation basin outlet, the sedimentation basin outlet to the biofilter outlet, and influent to biofilter outlet). However, there was insufficient data to show a statistically significant number of data pairs with concentration decreases for TSS, for all steps of the treatment train.

The majority of data pairs also showed a decrease in dioxins concentration, and the results were statistically significant, through all steps of the treatment train. Across the system (influent runoff to the biofilter outlet), only one sample pair had effluent dioxins concentrations with higher concentrations than their paired influent sample.

For lead, the majority of sample pairs from all steps of the treatment train exhibited a decrease in lead concentration. However, the influent to sedimentation basin outlet was the only step of the treatment train to show a statistically significant number of data pairs with a decrease in concentration for lead.

Considering the entire system (influent runoff to the biofilter outlet), dioxins was the only COC to show a statistically significant (p-value ≤ 0.05) number of paired samples that decreased in concentration from the influent runoff to the biofilter outlet. Although the majority of sample pairs showed a decrease in concentration from the influent to effluent, for both TSS and lead, there were insufficient data to show statistically significant reduction.

Table 7. Lower Lot Biofilter Statistical Analyses: Influent to Midpoint Sample Points

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Minimum	2.7	2.5	1.0E-12	1.0E-12	0.8	0.7
Maximum	280	110	4.7E-07	2.8E-07	20	6.6
Average	31	23	8.2E-08	6.3E-08	2.9	2.1
Median	17	12	5.7E-08	4.5E-08	2.0	1.7
Standard Deviation	51	26	9.4E-08	6.8E-08	3.6	1.5
Coefficient of Variation (COV)	1.7	1.16	1.1	1.08	1.2	0.73
Total pairs of observations	31		31		31	
Pairs with influent-to-midpoint concentration reductions	19		20		22	

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Pairs with influent-to-midpoint concentration increases	12		10		7	
Pairs with equal influent and midpoint concentrations	0		1		2	
Paired sign test p-value[1]	0.14		0.049		0.0041	
Statistically significant number of data pairs with concentration reductions[1]?	No (data numbers insufficient to indicate significance)		Yes		Yes	

[1] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.

Table 8. Lower Lot Biofilter Statistical Analyses: Midpoint to Effluent Sample Points

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Minimum	2.5	1.5	1.0E-12	1.0E-12	0.7	0.5
Maximum	110	110	2.8E-07	1.5E-07	6.6	5.6
Average	22	19	6.2E-08	9.1E-09	2.0	2.0
Median	12	12	4.5E-08	2.0E-10	1.6	1.5
Standard Deviation	26	25	6.6E-08	2.8E-08	1.5	1.4
Coefficient of Variation (COV)	1.2	1.31	1.06	3.1	0.72	0.71
Total pairs of observations	33		33		33	
Pairs with midpoint-to-effluent concentration reductions	20		29		17	
Pairs with midpoint-to-effluent concentration increases	11		2		16	
Pairs with equal midpoint and effluent concentrations	2		2		0	
Paired sign test p-value[1]	0.075		<0.001		0.50	
Statistically significant number of data pairs with concentration reductions[1]?	No (data numbers insufficient to indicate significance)		Yes		No (data numbers insufficient to indicate significance)	

[1] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.

Table 9. Overall Lower Lot Biofilter Statistical Analyses (Influent to Effluent Sample Points)

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Minimum	2.7	1.5	1.0E-12	1.0E-12	0.8	0.5
Maximum	280	110	4.7E-07	1.5E-07	20	5.6
Average	32	20	9.3E-08	9.8E-09	2.9	2.1
Median	18	13	5.8E-08	2.1E-10	1.9	1.6
Standard Deviation	50	26	1.1E-07	2.9E-08	3.5	1.5
Coefficient of Variation (COV)	1.6	1.26	1.2	3.0	1.2	0.70
Total pairs of observations	32		32		32	
Pairs with influent-to-effluent concentration reductions	20		30		18	
Pairs with influent-to-effluent concentration increases	12		1		12	
Pairs with equal influent and effluent concentrations	0		1		2	
Paired sign test p-value[1]	0.11		<0.001		0.18	
Statistically significant number of data pairs with concentration reductions[1]?	No (data numbers insufficient to indicate significance)		Yes		No (data numbers insufficient to indicate significance)	

[1] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.

4.3 ELV Treatment BMP

Table 10, Table 11, and Table 12 summarize respective results of statistical analyses conducted on influent-to-midpoint, midpoint-to-effluent, and influent-to-effluent pairs of TSS, dioxins, and lead data collected at the ELV treatment BMP.

Results indicate a statistically significant number of data pairs with influent-to-effluent reductions of dioxins and lead concentrations. However, influent-to-effluent increases in TSS concentrations were also found statistically significant. Drainage layers and filter media located between the midpoint and effluent sample points of the BMP were rebuilt in Summer 2021 in an attempt to reduce media washout, the expected source of the increased TSS concentrations. Sample data for TSS were not able to be collected in 2021/22; however, future data collection and analysis is anticipated to indicate improvement in TSS reduction performance through the BMP.

The results also indicate statistically significant influent-to-midpoint reductions of TSS concentrations associated with sedimentation treatment, as well as midpoint-to-effluent reductions of dioxins, associated with media treatment. However, there was also a statistically significant increase in TSS from the midpoint to effluent.

Table 10. ELV Treatment BMP Statistical Analyses: Influent to Midpoint Sample Points

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Minimum	2.9	1.0	1.0E-12	1.0E-12	0.2	0.2
Maximum	66	47	3.5E-07	3.6E-07	50	3.5
Average	19	11	3.8E-08	3.0E-08	7.3	1.4

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Median	7	7	4.0E-10	2.4E-10	2.0	1.1
Standard Deviation	22	14	9.9E-08	1.0E-07	14.6	1.05
Coefficient of Variation (COV)	1.18	1.24	2.61	3.44	2.00	0.72
Total pairs of observations	11		12		11	
Pairs with influent-to-midpoint concentration reductions	9		8		8	
Pairs with influent-to-midpoint concentration increases	2		2		3	
Pairs with equal influent and midpoint concentrations	0		2		0	
Paired sign test p-value[1]	0.033		0.055		0.11	
Statistically significant number of data pairs with concentration reductions[1]?	Yes		No (data numbers insufficient to indicate significance)		No (data numbers insufficient to indicate significance)	

[1] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.

Table 11. ELV Treatment BMP Statistical Analyses: Midpoint to Effluent Sample Points

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Minimum	0.8	8	1.0E-12	1.0E-12	0.2	0.4
Maximum	47	144	3.6E-07	1.9E-07	3.5	3.7
Average	9	36	2.6E-08	1.4E-08	1.3	1.4
Median	4	35	2.3E-10	1.2E-10	0.8	1.1
Standard Deviation	13	37	9.6E-08	5.1E-08	0.99	0.95
Coefficient of Variation (COV)	1.36	1.01	3.71	3.72	0.79	0.69
Total pairs of observations	13		14		14	
Pairs with midpoint-to-effluent concentration reductions	0		9		4	
Pairs with midpoint-to-effluent concentration increases	13		0		10	
Pairs with equal midpoint and effluent concentrations	0		5		0	
Paired sign test p-value[1]	<0.001[2]		0.0020		0.090	
Statistically significant number of data pairs with concentration reductions[1]?	No[2]		Yes		No (data numbers insufficient to indicate significance)	

[1] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.
[2] Data show statistically significant number of pairs with increases in TSS concentration.

Table 12. Overall ELV Treatment BMP Statistical Analyses (Influent to Effluent Sample Points)

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Minimum	2.9	8	1.0E-12	1.0E-12	0.2	0.4
Maximum	66	144	3.5E-07	1.9E-07	50	3.7
Average	19	36	4.4E-08	1.8E-08	7.0	1.6
Median	10	35	5.1E-10	1.2E-10	2.5	1.5
Standard Deviation	21	37	9.8E-08	5.4E-08	13.9	0.98
Coefficient of Variation (COV)	1.11	1.01	2.2	2.9	1.99	0.62
Total pairs of observations	12		13		12	
Pairs with influent-to-effluent concentration reductions	1		10		9	
Pairs with influent-to-effluent concentration increases	10		1		2	
Pairs with equal influent and effluent concentrations	1		2		1	
Paired sign test p-value[1]	0.0059[2]		0.0059		0.033	
Statistically significant number of data pairs with concentration reductions[1]?	No[2]		Yes		Yes	

[1] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.
[2] Data show statistically significant number of pairs with increases in TSS concentration.

4.4 Detention Bioswales

As BMPs of similar design, the southern and northern detention bioswales were analyzed together for purposes of evaluating BMP performance. Results from statistical analyses conducted on paired data collected at the detention bioswales are presented in Table 13, indicating a statistically significant number of data pairs with reductions in concentration from the influent to the effluent for TSS, dioxins, and lead.

Table 13. Southern and Northern Detention Bioswale Statistical Analyses

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Minimum	0.5	1.1	1.0E-12	1.0E-12	0.50	0.50
Maximum	220	36	2.1E-05	1.9E-07	23	3.5
Average	49	11	1.1E-06	1.8E-08	4.7	1.5
Median	30	9	1.2E-07	2.3E-10	3.5	1.3
Standard Deviation	52	9.1	3.9E-06	4.4E-08	4.5	0.81
Coefficient of Variation (COV)	1.06	0.83	3.5	2.5	0.95	0.56
Total pairs of observations	33		34		33	
Pairs with influent-to-effluent concentration reductions	27		30		26	
Pairs with influent-to-effluent concentration increases	6		1		6	
Pairs with equal influent and effluent concentrations	0		3		1	

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Paired sign test p-value[1]	<0.001		<0.001		<0.001	
Statistically significant number of data pairs with concentration reductions[1]?	Yes		Yes		Yes	

[1] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.

4.5 Boeing Administrative Area Inlet Filter

Results from statistical analyses conducted on paired data collected at the Boeing administrative area inlet filter are presented in Table 14. The numbers of data pairs with concentration reductions from the influent to effluent were not found to be statistically significant for any of the COCs. Futhermore, there were slightly more data pairs with concentration increases from the influent to the effluent, compared to concentration decreases, for doxins.

Stormwater runoff treated by the inlet filter subsequently flows into the lower lot biofilter for further treatment. Based on the consistently poor performance of the inlet filter to date, monitoring of this BMP will cease following 2021/22.

Table 14. Boeing Administrative Area Inlet Filter Statistical Analyses

Statistic	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Minimum	16	15	9.2E-08	1.5E-07	1.6	2.9
Maximum	140	96	9.4E-06	8.7E-06	6.0	5.1
Average	43	37	1.6E-06	1.8E-06	3.5	3.8
Median	22	30	2.5E-07	3.1E-07	3.4	3.5
Standard Deviation	48	30.2	3.4E-06	3.1E-06	1.5	0.98
Coefficient of Variation (COV)	1.11	0.81	2.1	1.8	0.42	0.26
Total pairs of observations	6		7		6	
Pairs with influent-to-effluent concentration reductions	4		3		4	
Pairs with influent-to-effluent concentration increases	2		4		2	
Pairs with equal influent and effluent concentrations	0		0		0	
Paired sign test p-value[1]	0.34		0.50		0.34	
Statistically significant number of data pairs with concentration reductions[1]?	No (data numbers insufficient to indicate significance)		No (data numbers insufficient to indicate significance)		No (data numbers insufficient to indicate significance)	

[1] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.

4.6 SWTSs

One influent sample result, collected in 2021/22, is available from each SWTS. Outfall sample results from the respective outfalls are considered to be representative of effluent from the SWTSs. Additional data will be collected in future monitoring years. Because only one sample pair is available from each SWTS, for dioxins and lead only, these sample results are presented in this section only (Table 15).

Table 15. 2021/22 SWTSs Sample Results

BMP	TSS (mg/l)		Dioxin (µg/l)		Lead (µg/l)	
	Influent	Effluent	Influent	Effluent[1]	Influent	Effluent[1]
Outfall 011 SWTS	-	-	1.3E-10	ND	0.87	ND
Outfall 018 SWTS	-	-	6.1E-08	ND	3.2	ND

[1] Samples collected at the respective outfalls.

4.7 Statistical Analyses Summary

A summary of statistical analyses presented above is shown in Table 16. Based on the number of sample pairs available, the table shows whether there was a statistically significant difference in the number of data pairs with a decrease in concentration from the influent to effluent locations, as compared to data pairs with an increase in concentration from the influent to effluent, as shown by the paired, non-parametric, binomial sign test.

Table 16. Summary of Performance Data, 2009-2022

Location	TSS			Dioxins			Lead		
	Total Sample Pairs[1]	Sign test p-value[2]	Statistically Significant Decrease Observed[2]?	Total Sample Pairs[1]	Sign test p-value[2]	Statistically Significant Decrease Observed[2]?	Total Sample Pairs[1]	Sign test p-value[2]	Statistically Significant Decrease Observed[2]?
CMs/Media Filters (Non-Background)	99	<0.001	**Yes**	95	<0.001	**Yes**	99	<0.001	**Yes**
CM-8 and CM-11 (Background)	21	0.011	**Yes**	11	0.31	No	10	0.035	**Yes**
Lower Lot Biofilter (Influent to Effluent)	32	0.11	No	32	<0.001	**Yes**	32	0.18	No
ELV Treatment BMP (Influent to Effluent)	12	0.0059[3]	No[3]	13	0.0059	**Yes**	12	0.033	**Yes**
Detention Bioswales	33	<0.001	**Yes**	34	<0.001	**Yes**	33	<0.001	**Yes**
Boeing Administrative Area Inlet Filter	6	0.34	No	7	0.50	No	6	0.34	No

[1] Includes sample pairs with equal influent and effluent concentrations, which were not considered in calculation of the p-values for the sign test.

[2] Non-parametric, one-tailed binomial sign test; p-values ≤ 0.05 indicate statistical significance.

[3] Data show an influent-to-effluent increase in TSS concentration, with statistical significance, though new data have not been collected since the BMP was rebuilt in Summer 2021.

5. Comparison to Permit Limits

The BMPs were installed for purposes of reducing COC concentrations in stormwater prior to discharge at the NPDES Permit Outfall 009 compliance point. The BMPs have been observed to often achieve concentration reductions resulting in effluent concentrations below respective Permit Limits at Outfall 009, although not designed to meet the limits individually, as Outfall 009 Permit Limits are not applicable to effluent discharges from the BMPs, themselves. However, to evaluate BMP effectiveness as it relates to the Outfall 009 Permit Limits, counts of influent and effluent concentrations observed in excess of Outfall 009 Permit Limits at non-background CMs and media filters (CM-1, CM-3 post-2016/17, CM-9, B-1 media filter, and the upper lot media filter), the lower lot biofilter, ELV Treatment BMP, detention bioswales, and the Boeing administrative area inlet filter are presented in Table 17, Table 18, Table 19, Table 20, and Table 21, respectively.

Table 17 through Table 21 summarize the results of analyses conducted with data collected at influent and effluent sample points, regardless of whether they are individual or paired samples. This analysis only includes influent and effluent samples; samples collected at BMP midpoint locations are not accounted for in this analysis. The maximum and average excess ratios represent the maximum and average ratios of observed concentrations in excess of the Outfall 009 Permit Limit to the Permit Limit. Empty cells indicate sample results were not observed above respective Permit Limits. Given the inclusion of unpaired samples, some analyses include more influent samples than effluent or vice versa. Within this section, dioxins results are referred to as "TCDD TEQ no DNQ."

As seen in Table 17, effluent dioxins and lead concentrations were observed below Outfall 009 Permit Limits more often than corresponding influent concentrations at non-background CMs and media filters[8]. Other than the average lead concentration excess ratio observed at the B-1 media filter, ratios comparing the maximum and average observed lead and dioxins concentrations to respective Permit Limits are notably less for effluent results than influent results, indicating reductions of both lead and dioxins concentrations in stormwater are achieved by the non-background CMs and media filters and augmenting lines of evidence of their effective pollutant reduction performance.

Dioxins results from B-1 media filter are skewed by an exceptionally high influent result of 3.6E-4 µg/l observed on December 2, 2014, without which, maximum and average influent ratios fall to 94 and 16, respectively. CM-1 data are similarly skewed by a March 2012 effluent result of 4.3E-6 µg/l, without which, maximum and average effluent ratios become 35 and 7.3, respectively. A leaking seal was observed at CM-1 in March 2017 and, although quickly repaired, it is unknown whether it may have contributed to the February 17, 2017, Outfall 009 exceedance of the Permit Limit for dioxins.

[8] With the exception of dioxins CM-3, where available influent and effluent results have not been detected in excess of Permit Limits.

Table 17. CMs and Media Filters: Summary of Influent and Effluent Results Compared to Reference Outfall 009 Permit Limits, 2009-2022 (CM-1, CM-3 post-2016/17, CM-9, B-1 Media Filter, and Upper Lot Media Filter)

BMP	Parameter	% Above Outfall 009 Permit Limit		Maximum Concentration Excess Ratio[1]		Average Concentration Excess Ratio[1]	
		Influent	Effluent	Influent	Effluent	Influent	Effluent
B-1	Lead	33%	8.7%	1.9	1.7	1.3	1.5
	TCDD TEQ no DNQ	86%	68%	12,868	10	730	3.9
CM-1	Lead	31%	17%	11	7.5	3.9	3.0
	TCDD TEQ no DNQ	58%	48%	3,149	155	159	15
CM-9	Lead	42%	24%	11	6.9	4.2	2.9
	TCDD TEQ no DNQ	49%	24%	56	5.2	8.4	3.0
Upper Lot Media Filter	Lead	11%	0%	1.2	-	1.2	-
	TCDD TEQ no DNQ	79%	58%	64	2.7	8.7	1.7
CM-3	Lead	29%	0%	1.7	-	1.5	-
	TCDD TEQ no DNQ	0%	0%	-	-	-	-

[1] An empty cell indicates sample results were not observed above the respective Permit Limit.

Influent and effluent results observed at the lower lot biofilter in excess of Outfall 009 Permit Limits are summarized in Table 18. Fewer BMP effluent lead results were above the Outfall 009 lead limit than BMP influent results, with 9.4% of influent results and 2.9% of effluent results above the lead limit. A substantially smaller portion of BMP effluent dioxins results were above the Outfall 009 dioxins limit when compared to influent results, with 84% of BMP influent samples and 8.8% of BMP effluent samples above the Outfall 009 dioxins limit. Ratios comparing the maximum and average BMP effluent concentrations of lead and dioxins in excess of respective Outfall 009 Permit Limits to Permit Limits are notably less than the corresponding ratios using maximum and average BMP influent concentrations in excess of the Outfall 009 Permit Limit, suggesting effective reduction of these COCs in stormwater through treatment by the lower lot biofilter.

Table 18. Lower Lot Biofilter: Summary of Influent and Effluent Results Compared to Reference Outfall 009 Permit Limits, 2013-2022

Parameter	% Above Outfall 009 Permit Limit		Maximum Concentration Excess Ratio		Average Concentration Excess Ratio	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Lead	9.4%	2.9%	3.9	1.1	2.2	1.1
TCDD TEQ no DNQ	84%	8.8%	17	5.2	3.9	3.3

Table 19 summarizes similar results at the ELV treatment BMP, where fewer BMP effluent lead and dioxins results were above respective Outfall 009 limits than corresponding BMP influent results, with 17% of influent lead results and 0% of effluent results above the lead limit, and with 31% of influent dioxins results and 13% of effluent results above the dioxins limit. Ratios comparing the maximum and average BMP

effluent dioxins concentrations in excess of the Outfall 009 Permit Limit to the Outfall 009 dioxins limit are notably less than corresponding ratios using BMP influent concentrations. These trends suggest reduction in lead and dioxins through the ELV treatment BMP.

Table 19. ELV Treatment BMP: Summary of Influent and Effluent Results Compared to Reference Outfall 009 Permit Limits, 2013-2022

Parameter	% Above Outfall 009 Permit Limit		Maximum Concentration Excess Ratio[1]		Average Concentration Excess Ratio[1]	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Lead	17%	0%	9.7	-	5.9	-
TCDD TEQ no DNQ	31%	13%	13	6.9	4.8	4.2

[1] An empty cell indicates sample results were not observed above the respective Permit Limit.

Sample results at the detention bioswales are summarized in Table 20, showing fewer effluent lead and dioxins results above respective Outfall 009 limits than corresponding influent results, with 34% of influent lead results and 0% of effluent results above the Outfall 009 lead limit, and with 78% of influent dioxins results and 15% of effluent results above the Outfall 009 dioxins limit. Ratios comparing the maximum and average effluent lead and dioxins concentrations in excess of the Outfall 009 Permit Limit to respective Outfall 009 Permit Limits are notably less than corresponding ratios using bioswales influent concentrations, suggesting reduction of both lead and dioxins in stormwater through treatment by the detention bioswales.

Table 20. Detention Bioswales: Summary of Influent and Effluent Results Compared to Reference Outfall 009 Permit Limits, 2015-2022

Parameter	% Above Outfall 009 Permit Limit		Maximum Concentration Excess Ratio[1]		Average Concentration Excess Ratio[1]	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Lead	34%	0%	4.8	-	1.8	-
TCDD TEQ no DNQ	78%	15%	737	6.7	49	3.1

[1] An empty cell indicates sample results were not observed above the respective Permit Limit.

Influent and effluent results observed at the Boeing administrative area inlet filter in excess of Outfall 009 Permit Limits are summarized in Table 21. There were fewer effluent lead results above the Outfall 009 lead limit than corresponding influent results, with 17% of influent results and 0% of effluent results above the Outfall 009 lead limit. Filter influent and effluent dioxins concentrations have consistently been observed in excess of the Outfall 009 dioxins limit. There was an influent-to-effluent decrease in the maximum concentration excess ratio for dioxins; however, there was a slight influent-to-effluent increase of the average dioxins concentration excess ratio. Additional data collection and analysis are expected to facilitate further assessment of treatment performance and inform recommendations for filter maintenance.

Table 21. Boeing Administrative Area Inlet Filter: Summary of Influent and Effluent Results Compared to Reference Outfall 009 Permit Limits, 2018-2022

Parameter	% Above Outfall 009 Permit Limit		Maximum Concentration Excess Ratio[1]		Average Concentration Excess Ratio[1]	
	Influent	Effluent	Influent	Effluent	Influent	Effluent
Lead	17%	0%	1.1	-	1.1	-
TCDD TEQ no DNQ	100%	100%	336	310	58	63

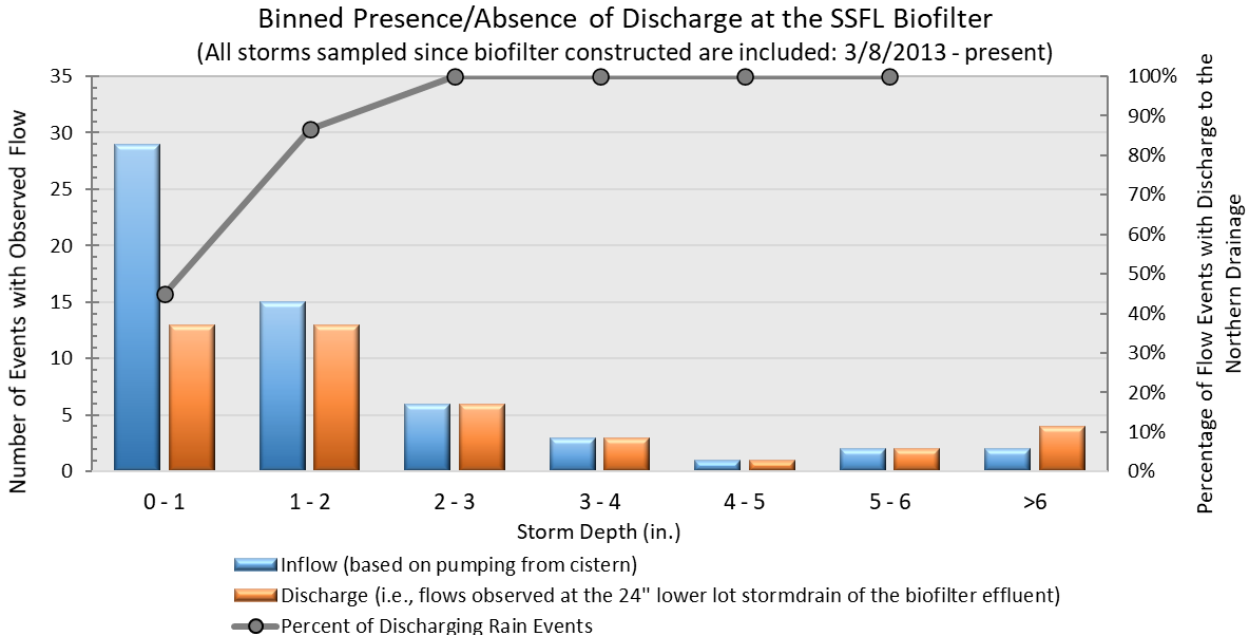
[1] An empty cell indicates sample results were not observed above the respective Permit Limit.

6. Runoff Volume Discharge Analysis

In addition to water quality performance, the lower lot biofilter is designed to reduce the frequency that runoff discharges to the Northern Drainage and ultimately flows to Outfall 009 by retaining and slowly reducing runoff volumes and flow rates through detention and evapotranspiration. A 2017 analysis estimated that the average volume of runoff pumped to the biofilter per inch of rainfall increased from 52,000 gallons to 82,000 gallons following implementation of the detention bioswales, and the average percent of total runoff captured and treated by the lower lot biofilter from both the 24-inch storm drain and the lower lot drainage areas increased from 22% to 44% following detention bioswales implementation.

To evaluate the quantity and types of storms in which the biofilter prevents discharge of stormwater runoff to the Northern Drainage, the plot of discharging and non-discharging rain events shown in Figure 6 was developed based on storms since March 2013 implementation of the biofilter. Storm events resulting in discharge to the Northern Drainage (via either the low-flow diversion weir bypass or treated biofilter effluent) were identified, categorized by total storm depth in one-inch increments, and compared to the total number of storms observed (where pumping from the cistern was recorded). Because stormwater runoff flows into the cistern and is then pumped to the lower lot biofilter, rain events are only counted in this analysis if pumping from the cistern occurred. The vertical axis on the right indicates the percentage of storm events that resulted in discharge to the Northern Drainage.

Smaller storms occur at a greater frequency. As shown in Figure 6, it was estimated that the lower lot biofilter has successfully prevented discharges to the Northern Drainage in approximately 55% of storms of an inch or less of rainfall and in just over 10% of storms between 1 and 2 inches of rainfall. Although the BMP consistently reduces total storm runoff volumes, it was not designed to prevent discharge of stormwater runoff to the Northern Drainage in rain events of two or more inches.



[1] Discharging percentages of events were estimated based on sums of events with observed or model-predicted discharge.

Figure 6. Discharging and Non-Discharging Events at the Lower Lot Biofilter

7. BMP Maintenance Analysis

The potential need for BMP maintenance is assessed through several methods. First, the cumulative sediment loading to the BMPs was estimated based on TSS sample data and estimated runoff volume treated by the BMPs, and these loads were compared to the sediment loading at which filter media maintenance is needed, as estimated by lab studies. Additionally, the empty bed volumes (EBVs) treated by each BMP, since installation or reconstruction, were estimated, which can serve as another helpful tool in predicting media maintenance. Finally, observations of the function and performance of the BMPs during and following rain events are also used to determine BMP maintenance needs.

7.1 Cumulative TSS Loading

The cumulative TSS loads captured to date by media based BMPs were estimated utilizing historical storm event depths, calculated runoff volumes, and measured TSS concentrations. Resulting TSS loads were compared to the cumulative sediment load shown by a lab column study of filter media performance (Pitt and Clark, 2010) to likely to obstruct flows through filter media and present the potential for more frequent bypass flow events.

Prior to 2016/17, BMPs were assumed to treat stormwater runoff, and therefore experience TSS loading to the media, for each storm event where a sample was collected (at either the influent or effluent location). In light of reduced sampling at the majority of BMPs in the Outfall 009 Watershed following 2016/17, a predictive logistic regression model was developed to estimate whether BMPs had discharged during unsampled storm events. Average storm intensity (inches per hour), maximum storm intensity (inches per hour), total rainfall depth (inches), and antecedent dry period (days) were used to perform predictive assessments for CM-1, CM-9, the ELV treatment BMP, B-1 media filter, and the lower lot biofilter. A model could not be developed for the upper lot media filter as the quantity of data needed for input into the model was not collected prior to the sampling reduction. The number of observations in "test-and-train" datasets ranged from 21 to 49 observations, depending on how long the BMP has been operational and sampled. The resulting classification accuracy, or ratio of correct predictions to total predictions, was 0.86, 0.93, 1.00, 0.82, and 0.82, for CM-1, CM-9, the ELV treatment BMP, B-1 media filter, and lower lot biofilter models, respectively.

Cumulative TSS loads captured by filter media were estimated at the BMPs for storm events observed or predicted to have produced discharge from the BMP, as follows:

- Average annual percent capture of runoff BMP was estimated by BMP using the USEPA Storm Water Management Model (SWMM).
- A volumetric runoff coefficient, Rv, based on characteristics of the drainage area to the BMP was estimated using SWMM and simulated over the average annual year scenario.
- BMP drainage areas were delineated in Geographic Information Systems (GIS).
- Estimated runoff volume captured by a given BMP was calculated by storm event as:
    - Runoff volume captured =

$$Rainfall\ Depth\ x\ Rv\ x\ Drainage\ Area\ x\ Average\ Annual\ \%\ Capture$$

- Estimated TSS load captured by the BMP during an individual storm event was calculated as:
    - Storm event TSS load captured =

$$Runoff\ Volume\ Captured\ x\ Event-dependent\ TSS\ concentration\ retained\ [Influent - Effluent\ TSS\ Concentrations]$$

- Estimated TSS loads captured by the BMP during individual storms were summed to determine the cumulative estimated TSS load captured during all storms where stormwater runoff was treated by the BMP, since its implementation or most recent filter media replacement.
- Treatment media surface area was estimated for each BMP, and the cumulative TSS load captured per unit media surface area was calculated.

At evaluated BMPs that include pretreatment, such as the ELV Treatment BMP and lower lot biofilter, influent concentrations were represented by BMP midpoint samples results taken from the pretreatment effluent before flows enter the treatment media. In storms without a complete paired sample collected at a BMP, the unsampled influent or effluent concentration was represented by the average respective concentration observed at the BMP within three years before or after the given storm.

Cumulative estimated TSS loading per unit media area was compared to the estimated sediment load filter media can accommodate, up to 50 kg/m^2, until maintenance or replacement of the media is recommended (Pitt and Clark, 2010). Estimated TSS loads captured per unit media surface area and percent of sediment loading capacity is shown by BMP in Table 22.

The estimated time that effective media performance could be expected before filter media needs maintenance or replacement, assuming average annual rainfall (16.8 inches) and the average influent and effluent TSS concentrations from all sampled events, is also shown by BMP in Table 22. Given the assumptions and estimations used to determine the cumulative sediment loading to date, as previously outlined, in addition to the unpredictability of future rainfall patterns, the information in Table 22 is intended as rough guidelines to assist, along with continued observations and performance monitoring, in informing the timing of media maintenance or replacement needs.

Based on a 2017 flow monitoring data analysis, estimates of the initial hydraulic conductivities of filter media at CM-1 and CM-9 were near or above 33 inches per hour, the “average flow rate before initial clogging” found by the lab column study (Pitt and Clark, 2010). Initial hydraulic conductivities become reduced substantially over long periods of BMP operation, suggesting that filter media maintenance or replacement may benefit continued effective treatment performance of a BMP. Since the media mounds of the CMs are covered with backfill and gravel, it is possible that these surface materials are clogged with sediment and the actual media itself may not be the limiting factor. Therefore, the 2017 analysis shows that media may actually be clogged more than results in Table 22 indicate.

It is acknowledged that there are large variations in TSS loading rates, in addition to the percentage of sediment loading to the media until maintenance is needed, among the BMPs. As treatment controls were installed wherever feasible within the Outfall 009 Watershed, BMPs with less media surface area like CMs were at times installed in locations that receive flow from relatively large drainage areas that can contribute to high TSS loading, thus resulting in relatively smaller estimated TSS capture capacities. Such

is the case at CM-1 which receives runoff from an approximately 45-acre drainage area, roughly 3 to 4 times the sizes of drainage areas to similar CMs.

Other CMs in the Outfall 009 Watershed, including CM-3, CM-8, and CM-11, were not included in TSS loading analyses, although filter media at CM-3 may benefit from replacement in the near future given the slightly above average rainfall observed in 2021/22 and the relatively large amount of pervious surface within the drainage area as compared to drainage areas of CM-1 and CM-9. CM-8 and CM-11 are not anticipated to need maintenance in the near future.

Table 22. Percent of Sediment Loading Capacity Reached Until Maintenance

BMP	Year of Install or Last Media Replacement	Years Since Install or Media Replacement	Cumulative TSS Captured (kg)	Cumulative TSS Captured per Unit Area (kg/m²)	Estimated % of Sediment Capture Capacity Reached	TSS per Average Annual Rainfall Year (kg/m²)	Estimated Average Years Remaining to Maintenance
Lower Lot Biofilter	2012/13	10	520	2.4	5%	0.8	>10
B-1	2011/12	11	110	5.8	12%	1.5	>10
Upper Lot Media Filter	2016/17	6	130	4.9	10%	0.9	>10
CM-1[1]	2018/19[1]	4	44	7.3	15%	2.6	>10
CM-9	2009/10	13	380	63	>100%	6.3	0
ELV Treatment BMP[2]	2013/14	9	1	0.06	1%	<1	>10

[1] TSS loading analysis was restarted in 2018/2019 after BMP reconstruction and media replacement. Prior to reconstruction (which occurred prior to the 2018/2019 rainy season, in August 2018), CM-1 was estimated to have approximately 400 kg of cumulative TSS loading (which represents approximately 136% of the estimated sediment load until maintenance is needed). CM-1 had been in operation nine rainy seasons before reconstruction occurred.

[2] The drainage layers and filtration media of the BMP were rebuilt in Summer 2021. New, clean gravel was installed at the bottom of the tank, a layer of pea gravel was added above the larger gravel, and the existing media was placed back on top of the pea gravel. Following the reconstruction, the system was flushed with potable water to reduce sediment within the system. Although this maintenance was performed, the treatment media itself was not replaced. Therefore, for purposes of this analysis, cumulative TSS loading to the media was estimated since installation of the BMP.

7.2 Cumulative EBVs Treated

As another tool to aid in determining when BMP maintenance may be needed, the EBVs treated by each BMP, since installation or reconstruction, were estimated. The runoff volumes treated by each BMP in both an average rainfall year, and cumulative since the BMPs were built or reconstructed, were estimated using the SWMM models for each BMP assessed, as described in Section 7.1. For determination of the runoff volumes treated in an average rainfall year, historical rainfall data were used to model the 2009/10 through 2021/22 rainy seasons. The volume of treatment media was also estimated for each BMP, and the EBVs (defined as the volume of treatment media, not accounting for porosity) treated in both an average rainfall year and cumulative since BMP installation or reconstruction was then estimated. Table 23 shows the results of this analysis.

Table 23. EBVs Treated in an Average Rainfall Year and Since BMP Installation or Reconstruction

BMP	Drainage Area (acres)	First Rainy Season in Operation	Approx. Runoff Volumes Treated (ac-ft) (from SWMM modeling)		Filter Media			EBVs Treated per Average Rainfall Year	Total EBVs Treated Since Installation or Reconstruction
			Average Rainfall Year	Since Constructed or Reconstructed	Surface Area (sq ft)	Depth (ft)	Volume (cu ft)		
Upper lot media filter	5.1	2016/17	2.0	14	280	1.7	460	190	1,300
B1 media filter	8.6	2011/12	1.4	14	200	1.5	310	200	2,000
CM-1	44	2018/19	0.91	4.6	64	2	130	310	1,600[1]
CM-9	10	2009/10	0.57	7.4	64	2	130	190	2,500
CM-3	17	2019/20	0.22	0.55	64	2	130	73	190[2]
CM-8	2.6	2009/10	0.011	0.14	64	2	130	3.7	48
CM-11	5.7	2009/10	0.14	1.8	68	2	140	43	560
Lower lot biofilter	30	2013/14	7.3	64	3,200	1.5	4,800	66	580
ELV Treatment BMP	6.6	2013/14	2.1	18	185	1.5	280	330	2,900

[1] CM-1 was reconstructed and outfitted with new treatment media in August 2018. Prior to this reconstruction, CM-1 had treated approximately 2,500 EBVs since it was installed.

[2] CM-3 was rebuilt with a modified configuration in 2019/20. Prior to this reconfiguration, CM-3 had treated approximately 770 EBVs since it was installed.

7.3 BMP Observations During and After Storm Events

Additional analyses of BMP performance observations are continually conducted, considering ponding and whether bypass flows occur to help characterize potential BMP clogging and associated maintenance needs. Excessive ponding and overtopping of the weir board was observed at CM-1 on December 30, 2021. However, it should be noted that there was close to 5 inches of rain in the 24 hours prior to this observation, and this storm event represented close to the 25-year, 24-hr storm event.

Ponding was observed in the sediment basin providing pretreatment for the lower lot biofilter in a post rain event inspection conducted on January 5, 2022 (following the rain event that ended on December 31, 2021). However, this observation succeeded the largest storm event of 2021/22, which generated a total of 11.8 inches of rainfall with a maximum 24-hour rainfall intensity close to the 25-year, 24-hr storm event.

7.4 BMP Maintenance Conclusions

Recommendations resulting from this assessment could typically include either filter media replacement or reconstruction of treatment measures to facilitate continued effective capture and treatment of design runoff volumes. Recommendations for filter media replacement or reconstruction have been implemented at CM-1, CM-3, and the ELV treatment BMP to date. However, as previously described, the treatment media itself was not replaced at the ELV treatment BMP.

The study by Pitt et al. (2022) concluded that there were no significant performance or effluent concentration differences at the BMPs over time, and therefore it is not likely that chemical breakthrough has occurred at the media based BMPs.

Replacement of media at CM-9 is recommended, due to the observed ponding during the 2018/2019 and 2020/2021 reporting years, high number of EBVs treated since installation, and estimated sediment loading until maintenance is needed.

8. Paired Line Plots

The log-scale paired line plots presented below illustrate changes in measured concentrations between influent and effluent sample pairs at stormwater BMPs. Paired data were obtained from CMs and media filters, the ELV treatment BMP, lower lot biofilter, detention bioswales, and the Boeing administrative area inlet filter. TSS, total lead, total copper[9], and dioxins data are presented by BMP in Figure 7 through Figure 61, where individual paired samples are represented by an influent and an effluent point connected by a single line, and an individual result without a corresponding influent or effluent result is shown as a single point unconnected to a line. Points and lines are shaded based on the sampling year during which they were collected, where black lines and points represent data from the most recent 2021/22 reporting year and data from all previous reporting years are shown in gray. Distinct influent and effluent sample locations are represented by various symbols, as presented in the legends. Samples that have been collected at the BMPs during bypass or overflow conditions are denoted by red markers. Typical detection limits[10] are represented by the black dotted lines, while non-detect (ND) results are plotted at the given detection limit.

In addition to evaluating BMP performance, the monitoring data have also been used in the site selection evaluations for consideration for enhancements to selected CMs for improved performance in areas where the effluent remains problematic. This was the case at CM-9 based on historical results, and upgradient improvements were added in 2013. Other examples of improvements include asphalt removal in the upper drainage area and filter fabric installation over the weir boards. For sites that were subject to such improvements impacting the quantity or quality of contributing runoff, separate graphs are shown for sample results that occurred before and after the improvements were made.

Paired line plots should serve primarily as visual aids for understanding recent and past BMP performance; results of statistical tests presented in Section 4 were utilized as the basis for quantitative BMP performance evaluations. Though not applicable to effluent discharges from the BMPs, Outfall 009 Permit Limits are plotted in dioxins, lead, and copper plots[11] as references for evaluating BMP effectiveness.

BMP effectiveness during events having influent concentrations above the outfall Permit Limit is used as the performance criterion since any below the Permit Limit are already of acceptable quality and are generally considered to be at levels unlikely to be further reduced using typical stormwater controls. The most substantial influent-to-effluent percentage reductions of COCs in stormwater have been observed when influent concentrations to the BMPs are elevated above a given Outfall 009 Permit Limit.

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[9] Total copper data is included in the paired line plots, though it is not listed in the 2015 Work Plan as a pollutant of concern for the Outfall 009 Watershed.

[10] Laboratory detection limits of COCs may vary slightly from year to year.

[11] A reference line is not included in TSS plots, as a Permit Limit for TSS does not exist at Outfall 009. Copper plots are included although copper is not listed as a pollutant of concern in the 2015 Work Plan.

Stormwater quality can fluctuate greatly during storms and grab sample results represent concentrations at a single point in time during the rain event. Therefore, relatively large numbers of samples collected over many storm events are expected to best represent varying conditions with reasonable statistical confidence and power. Both paired line plots and probability plots illustrate variability of influent and effluent COC concentrations observed at BMPs in the Outfall 009 Watershed.

8.1 TSS Paired Line Plots

Figure 7 through Figure 21 present paired line plots of TSS results at BMPs within the Outfall 009 Watershed. There are no red lines plotted indicative of a Permit Limit, as there is not a Permit Limit designated for TSS at Outfall 009.

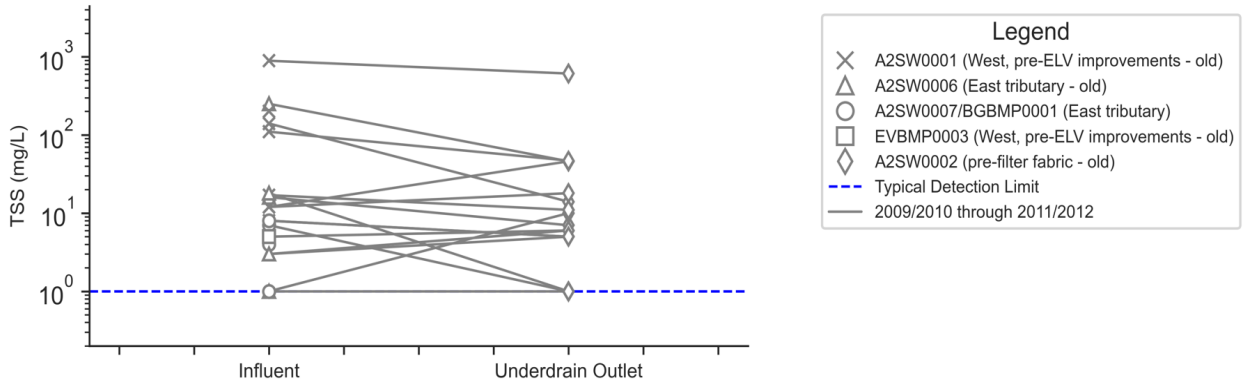


Figure 7. TSS at CM-1 Pre-Filter Fabric

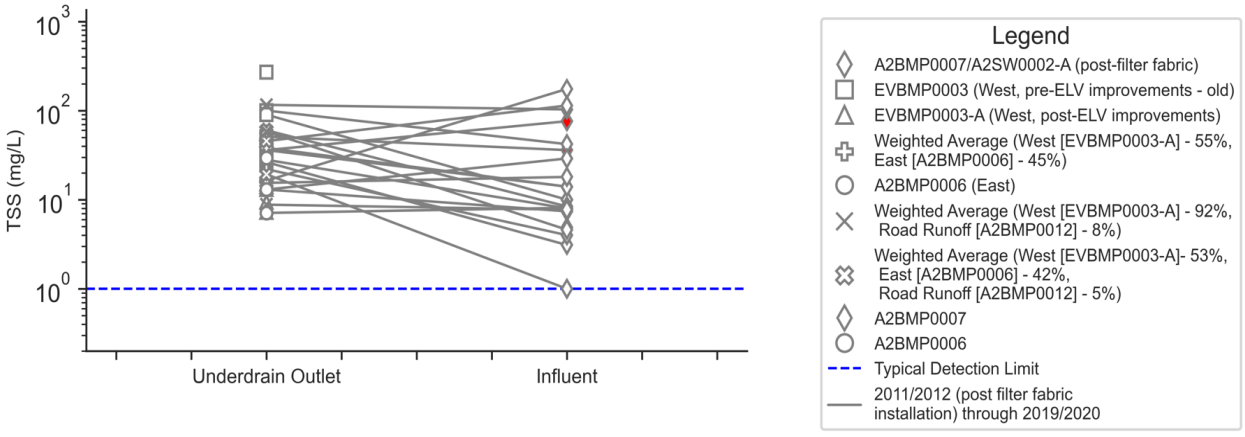


Figure 8. TSS at CM-1 Post-Filter Fabric

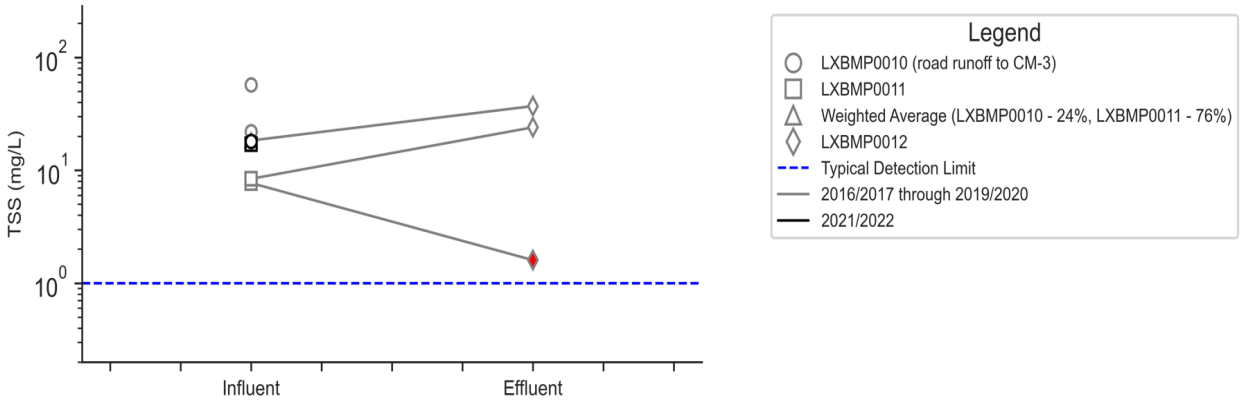


Figure 9. TSS at CM-3

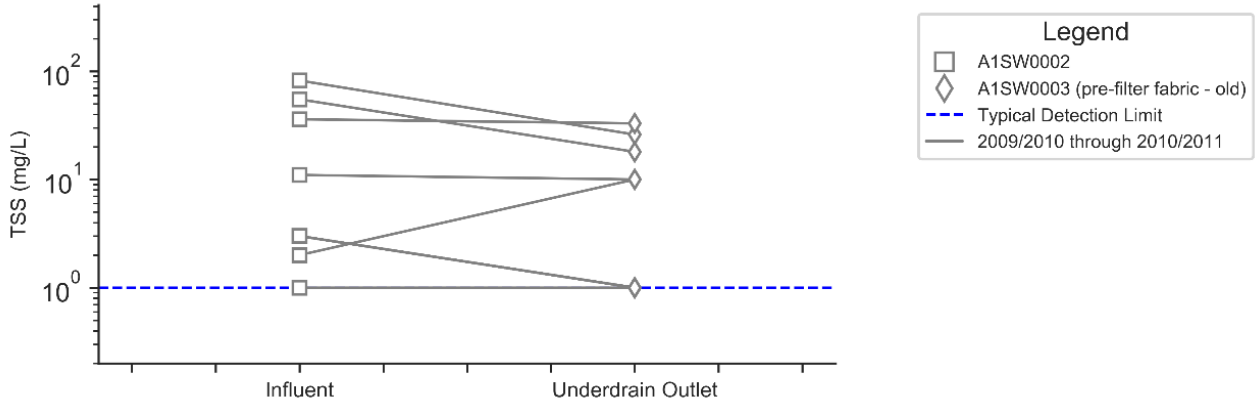


Figure 10. TSS at CM-8

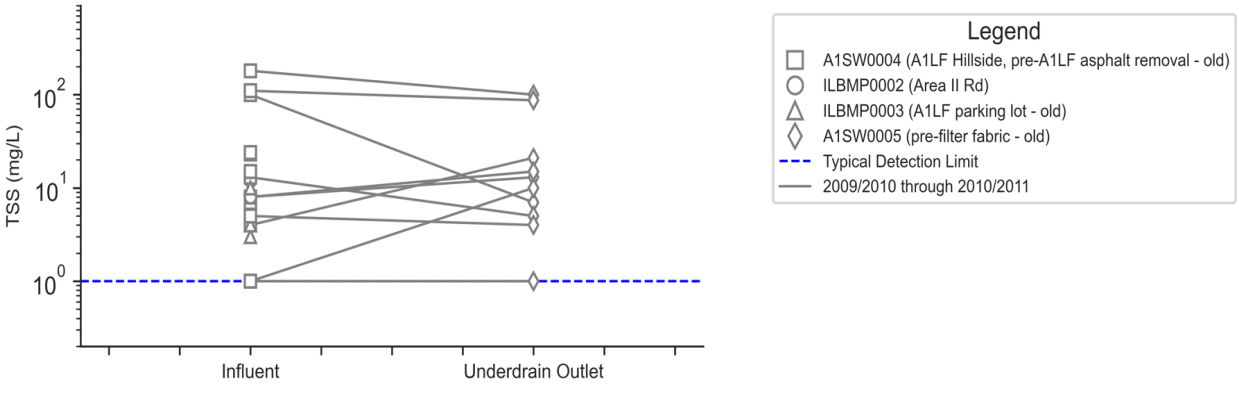


Figure 11. TSS at CM-9 Pre-Improvements

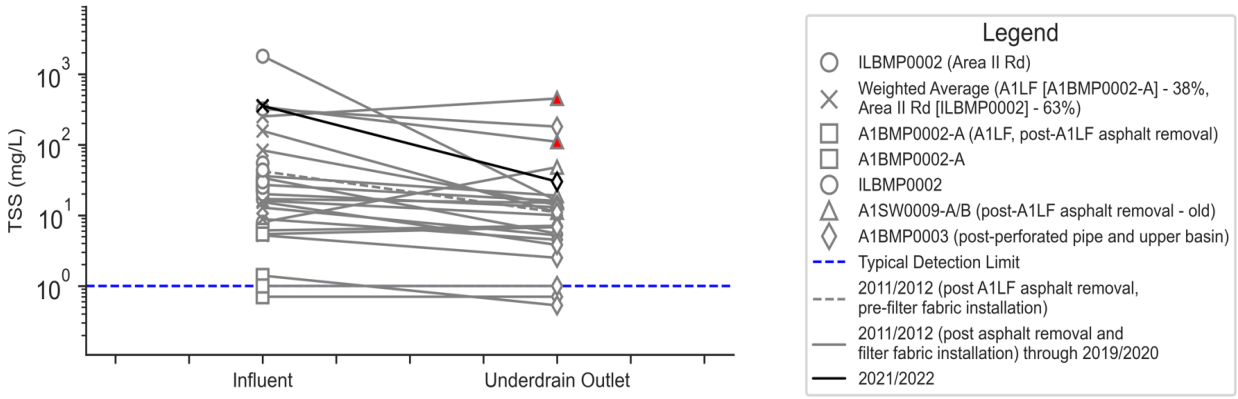


Figure 12. TSS at CM-9 Post-Improvements

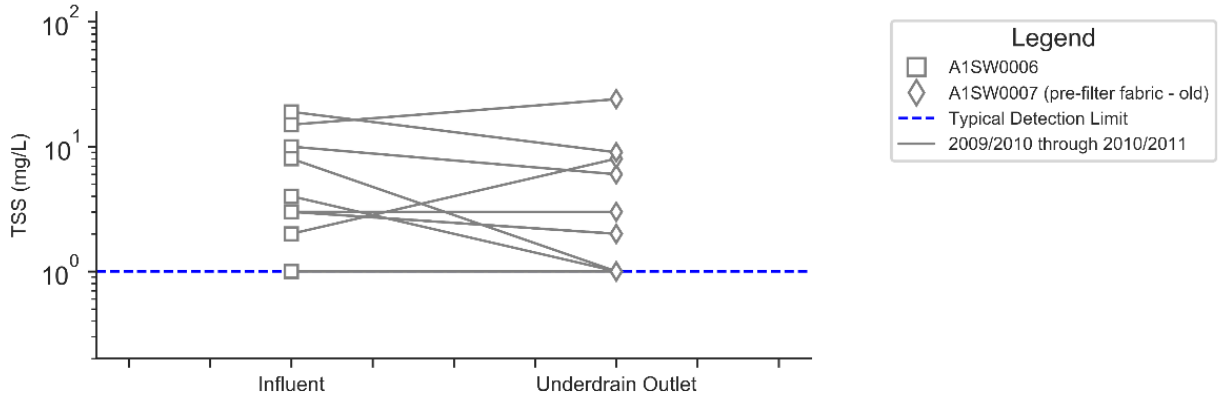


Figure 13. TSS at CM-11

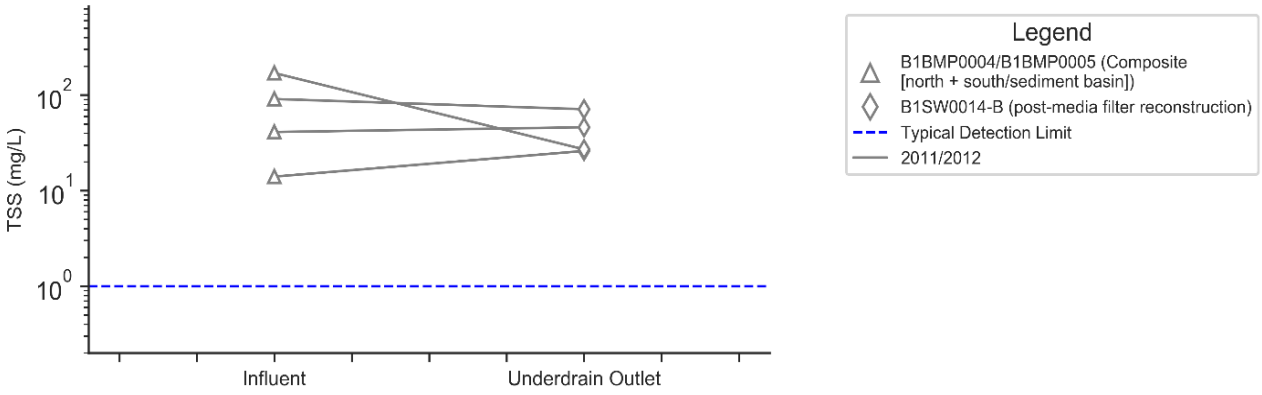


Figure 14. TSS at B-1 Media Filter Pre-Curb Cuts

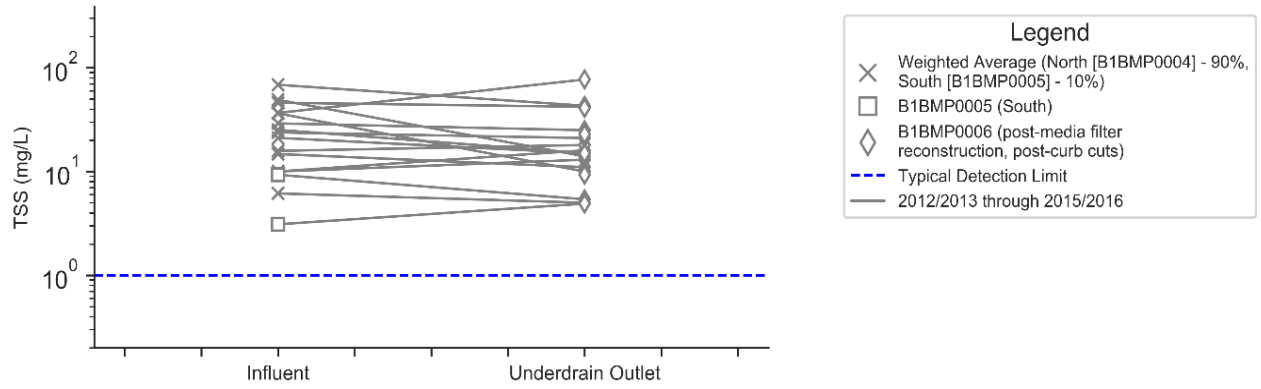


Figure 15. TSS at B-1 Media Filter Post-Curb Cuts

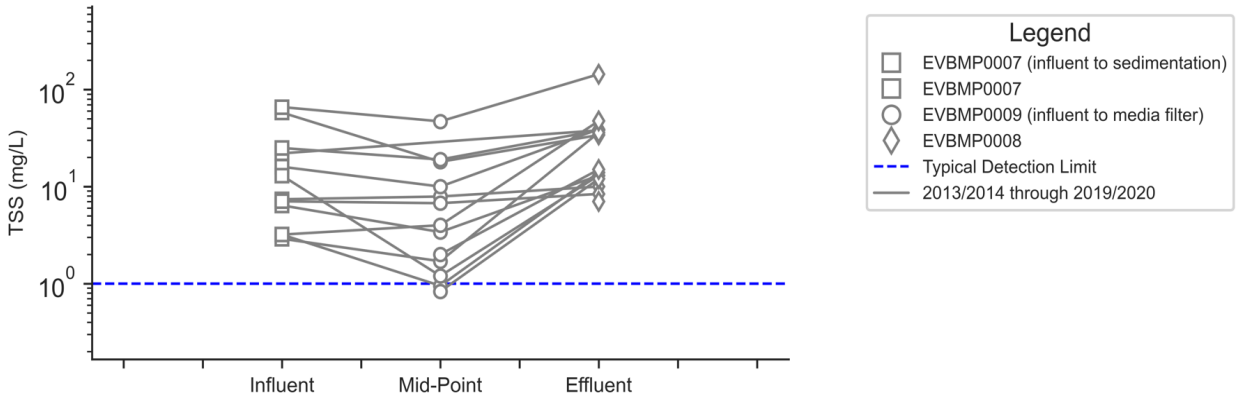


Figure 16. TSS at ELV Treatment BMP

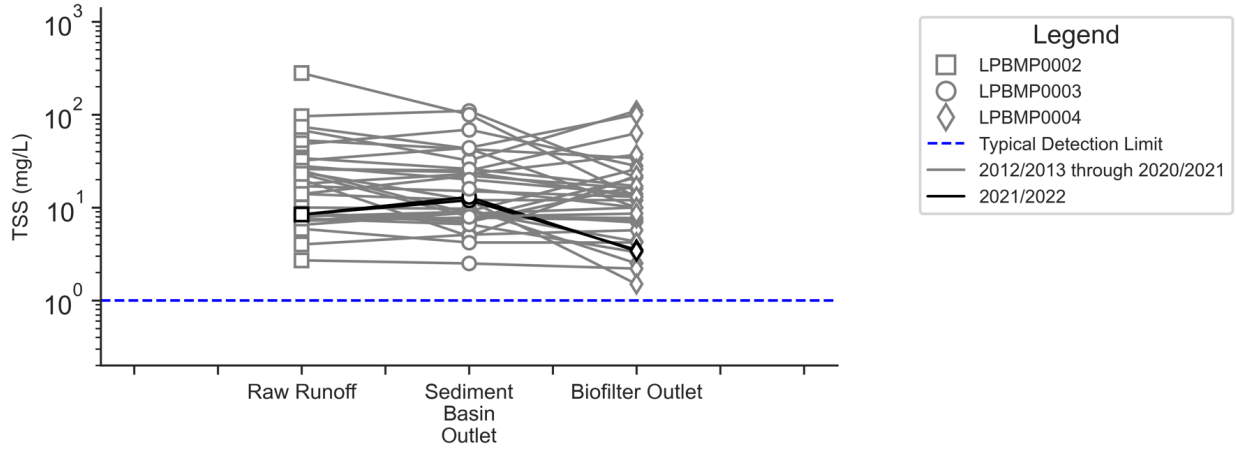


Figure 17. TSS at Lower Lot Biofilter

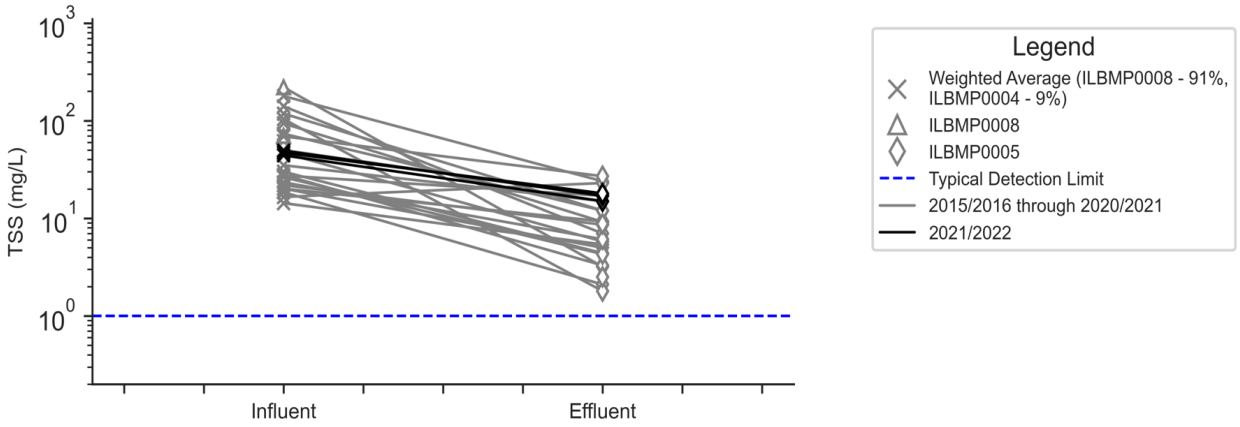


Figure 18. TSS at Southern Detention Bioswale

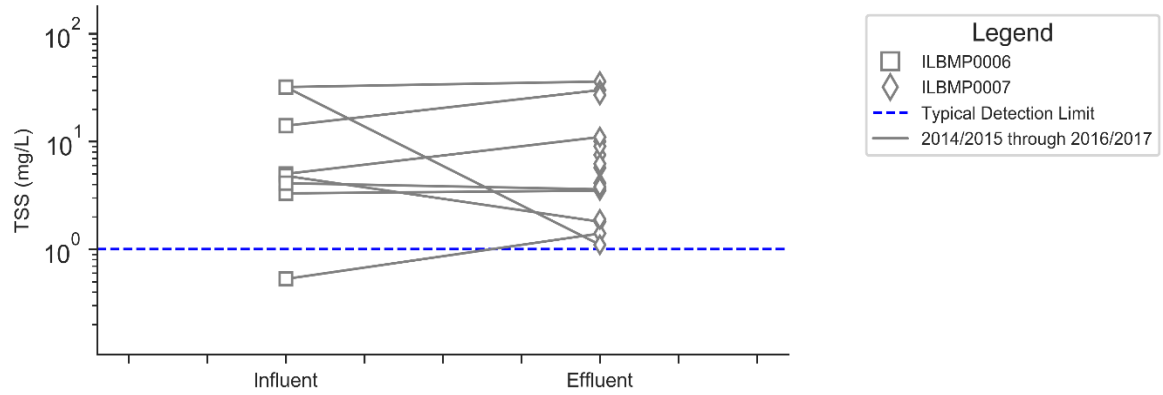


Figure 19. TSS at Northern Detention Bioswale

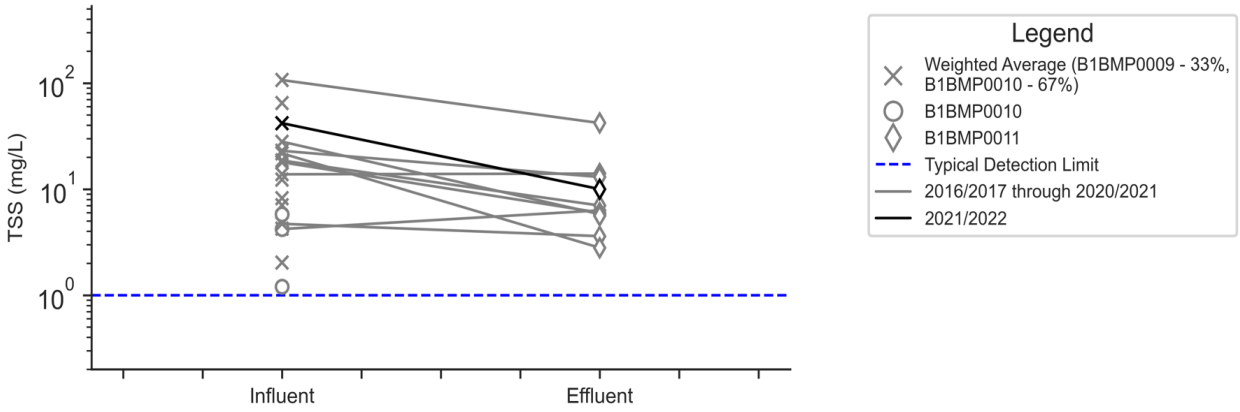


Figure 20. TSS at Upper Lot Media Filter

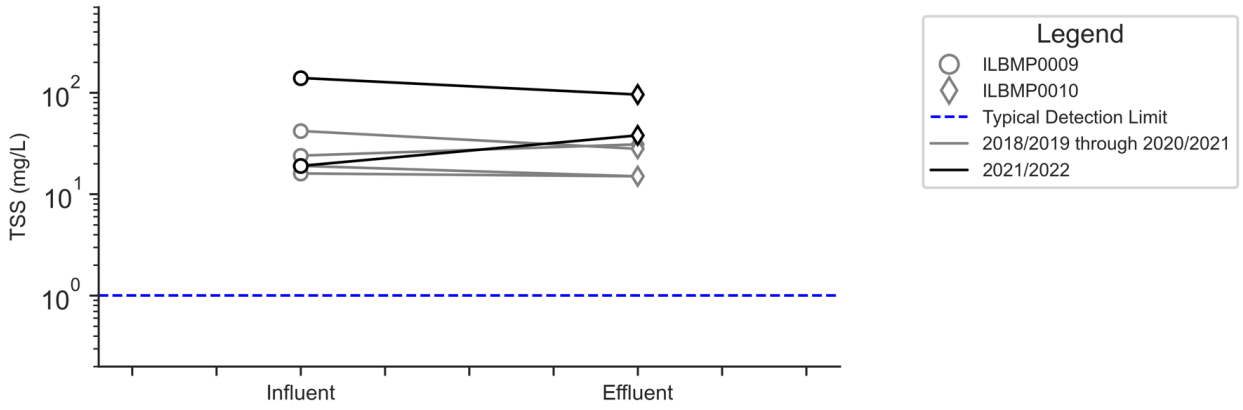


Figure 21. TSS at Boeing Administrative Area Inlet Filter

8.2 Dioxins Paired Line Plots

Figure 22 through Figure 35 present paired line plots of dioxins concentrations at BMPs within the Outfall 009 Watershed. Undetected concentrations present in ND sample results are plotted at the detection limit of 1E-12 µg/l.

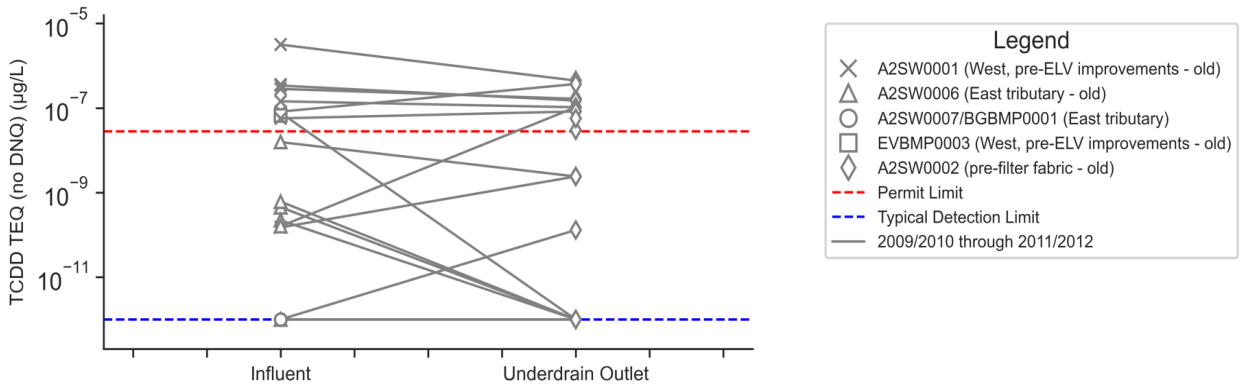


Figure 22. Dioxins at CM-1 Pre-Filter Fabric[12]

[12] Elevated influent concentrations plotted in Figures 22 and 23 may have resulted from runoff contributed by a roadway area including several treated wood utility poles.

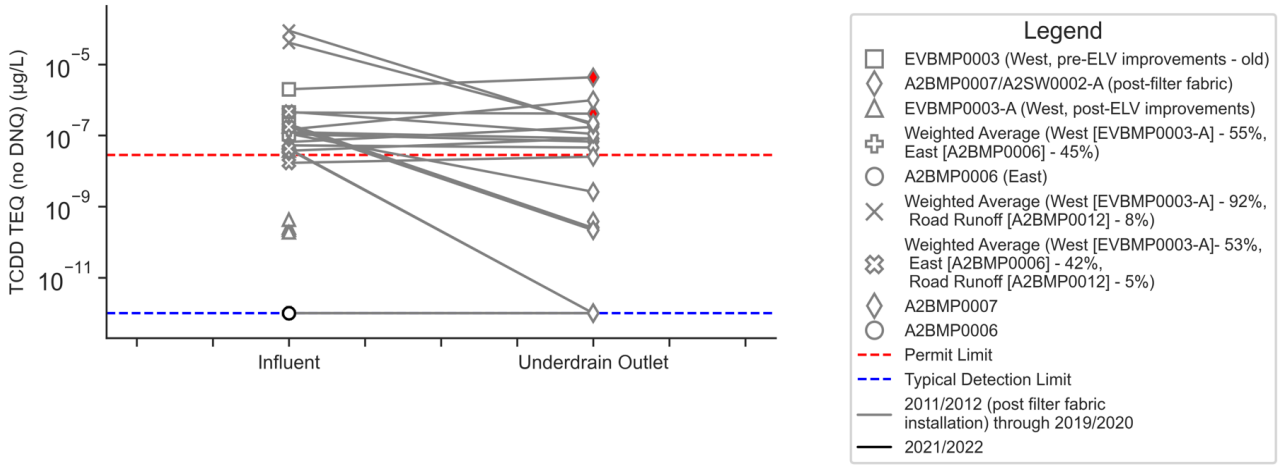


Figure 23. Dioxins at CM-1 Post-Filter Fabric

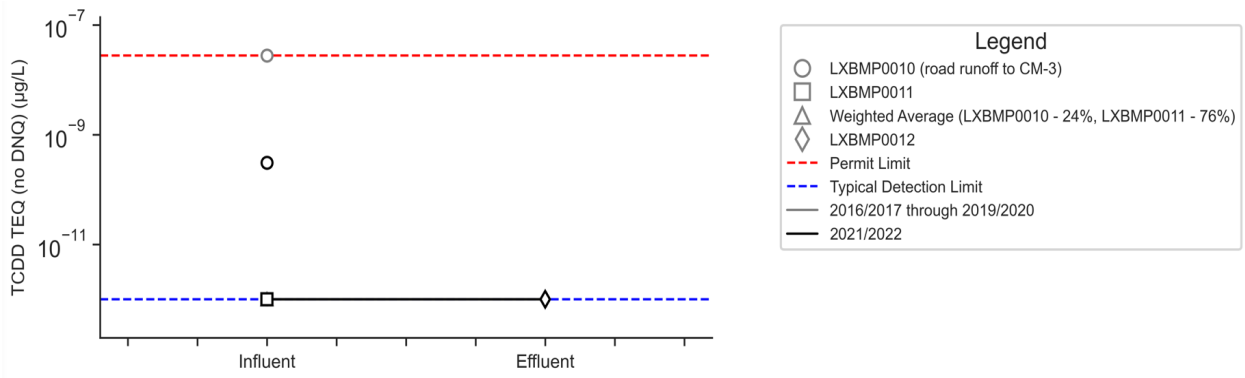


Figure 24. Dioxins at CM-3

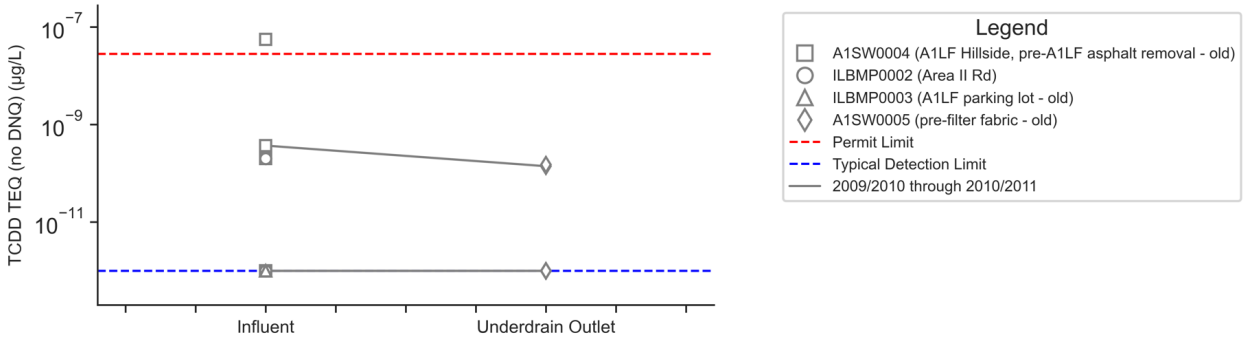


Figure 25. Dioxins at CM-9 Pre-Improvements

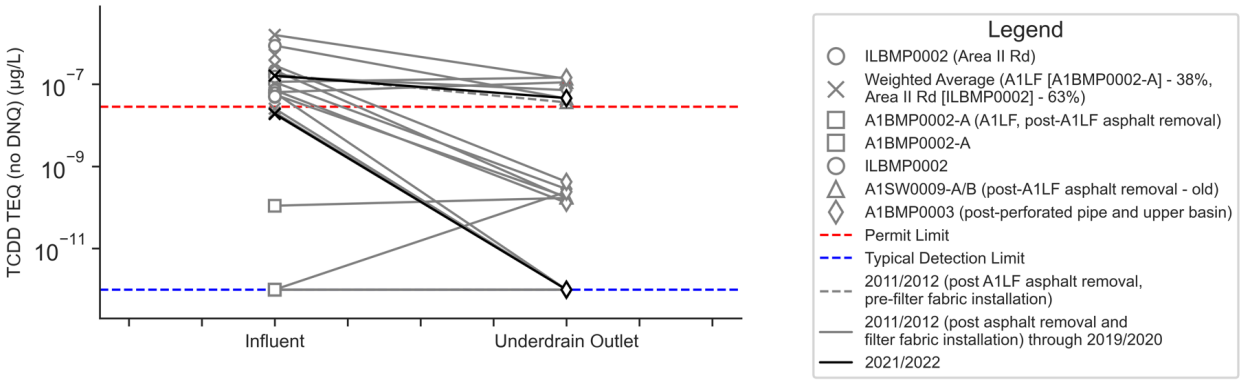


Figure 26. Dioxins at CM-9 Post-Improvements

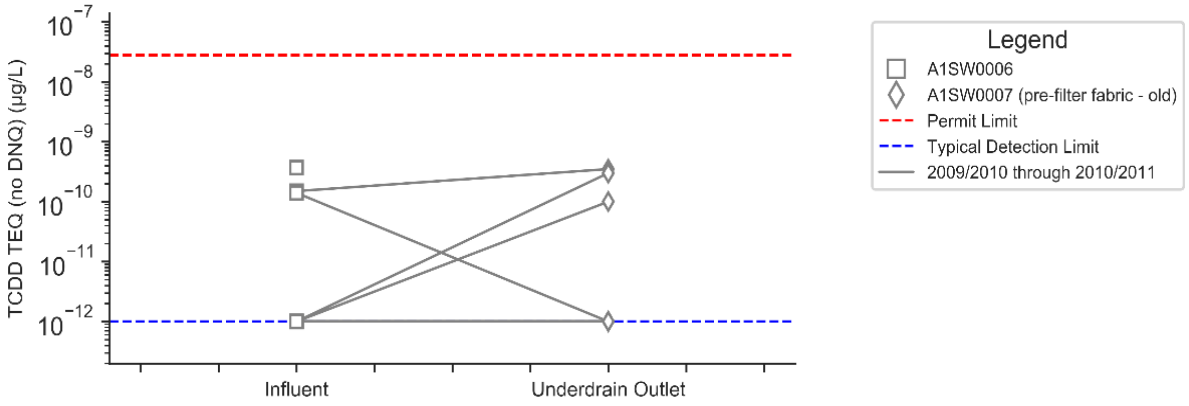


Figure 27. Dioxins at CM-11

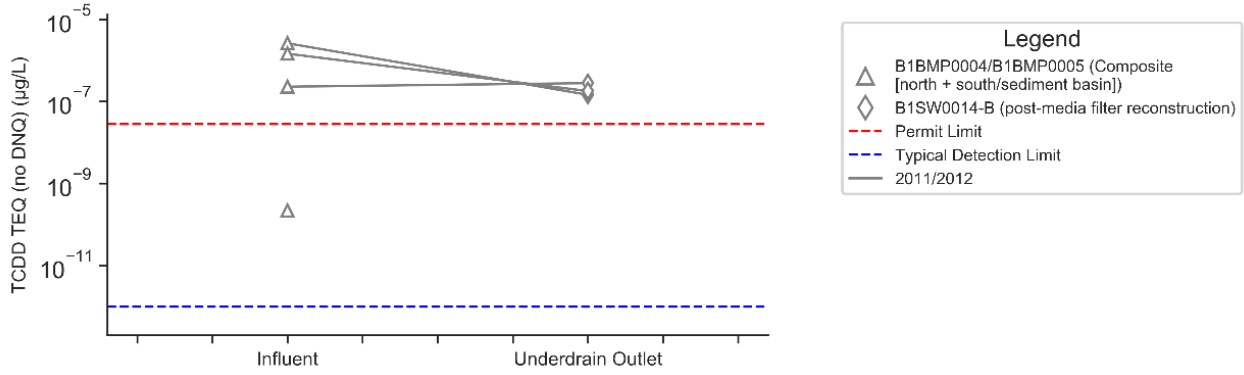


Figure 28. Dioxins at B-1 Media Filter Pre-Curb Cuts

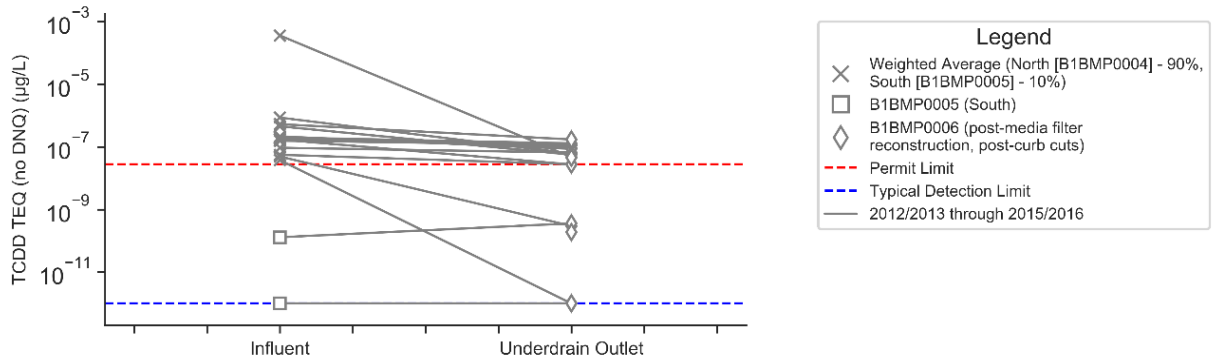


Figure 29. Dioxins at B-1 Media Filter Post-Curb Cuts

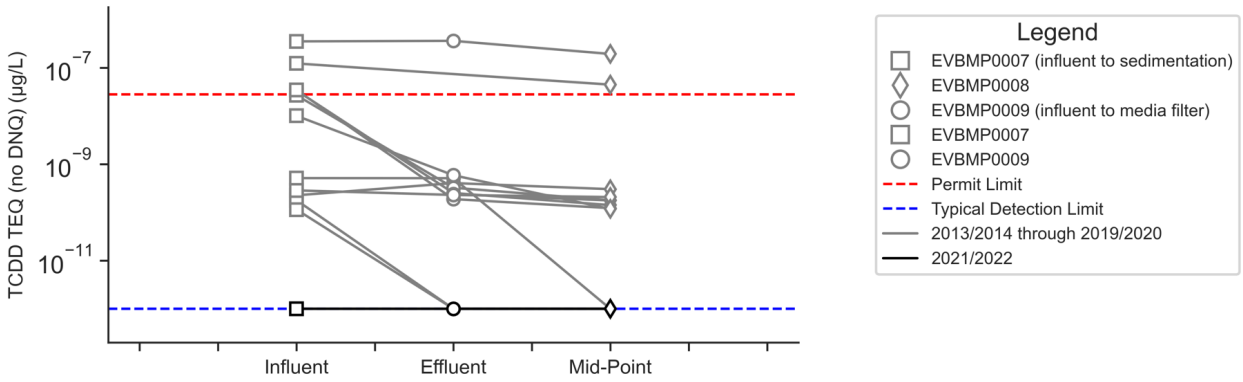


Figure 30. Dioxins at ELV Treatment BMP

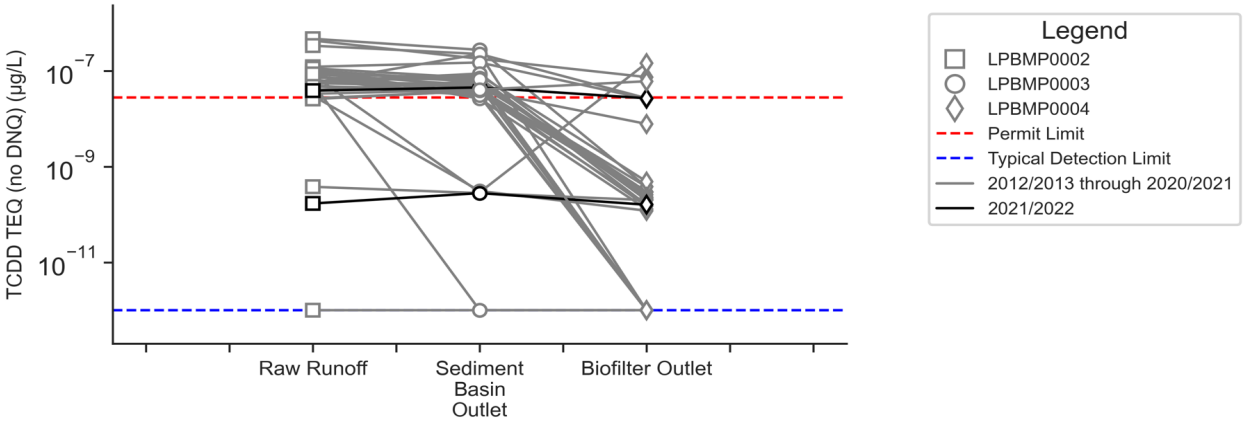


Figure 31. Dioxins at Lower Lot Biofilter[13]

[13] Evaluation of the elevated effluent concentration observed in 2018/19 indicated inconsistency with typical treatment performance that has been observed at the lower lot biofilter before and after the isolated event.

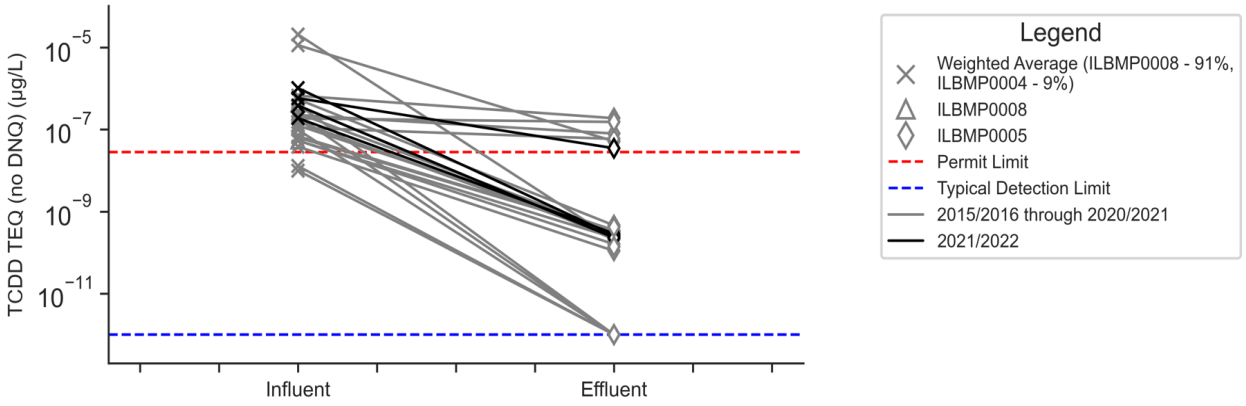


Figure 32. Dioxins at Southern Detention Bioswale

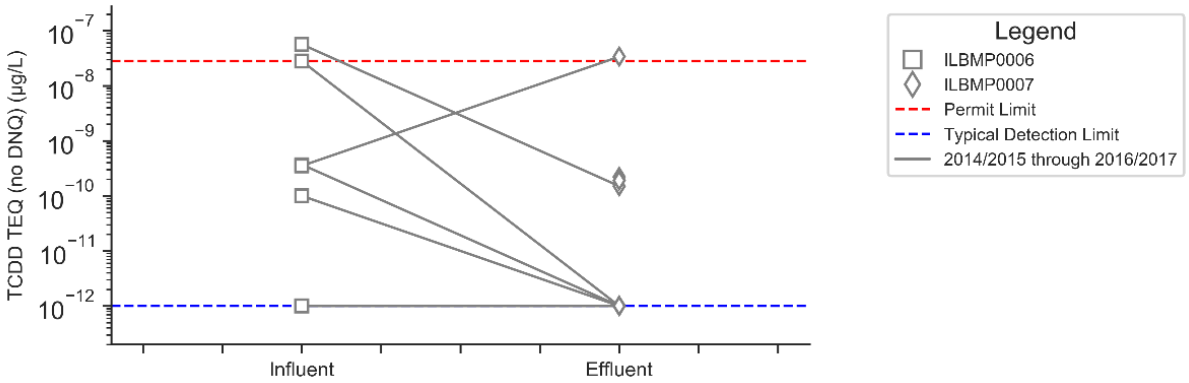


Figure 33. Dioxins at Northern Detention Bioswale

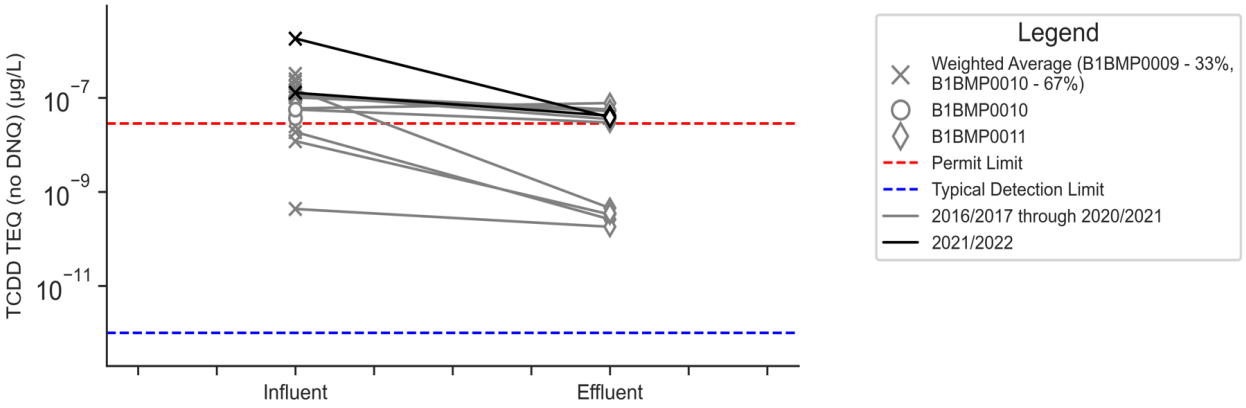


Figure 34. Dioxins at Upper Lot Media Filter

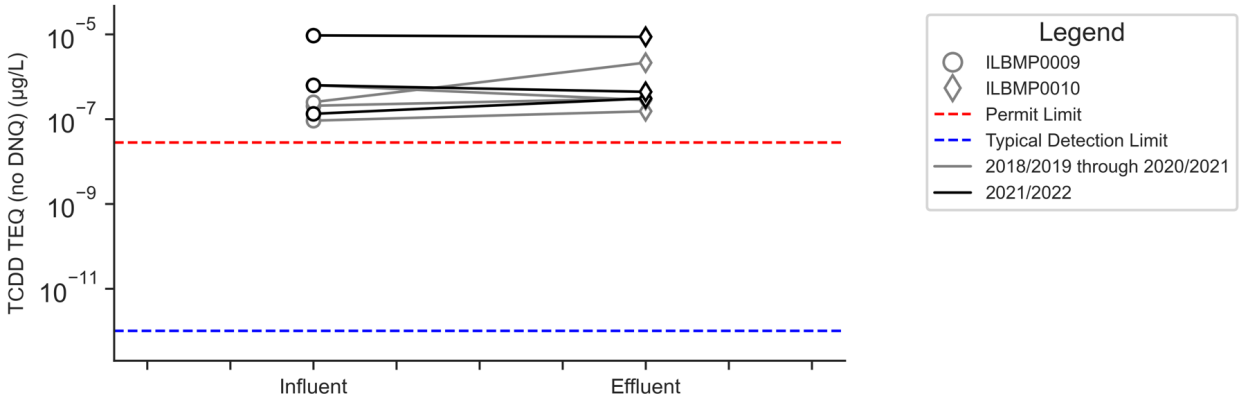


Figure 35. Dioxins at Boeing Administrative Area Inlet Filter

8.3 Lead Paired Line Plots

Figure 36 through Figure 49 present paired line plots of lead results at BMPs within the Outfall 009 Watershed.

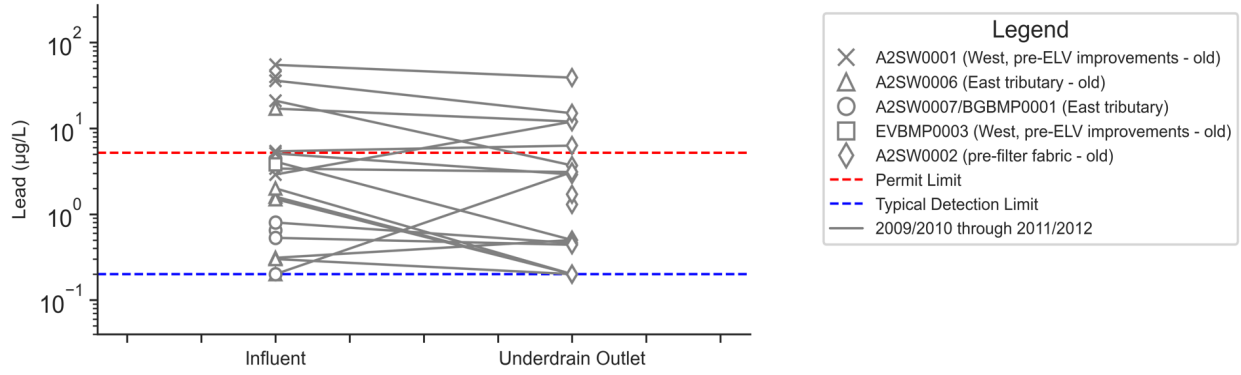


Figure 36. Lead at CM-1 Pre-Filter Fabric

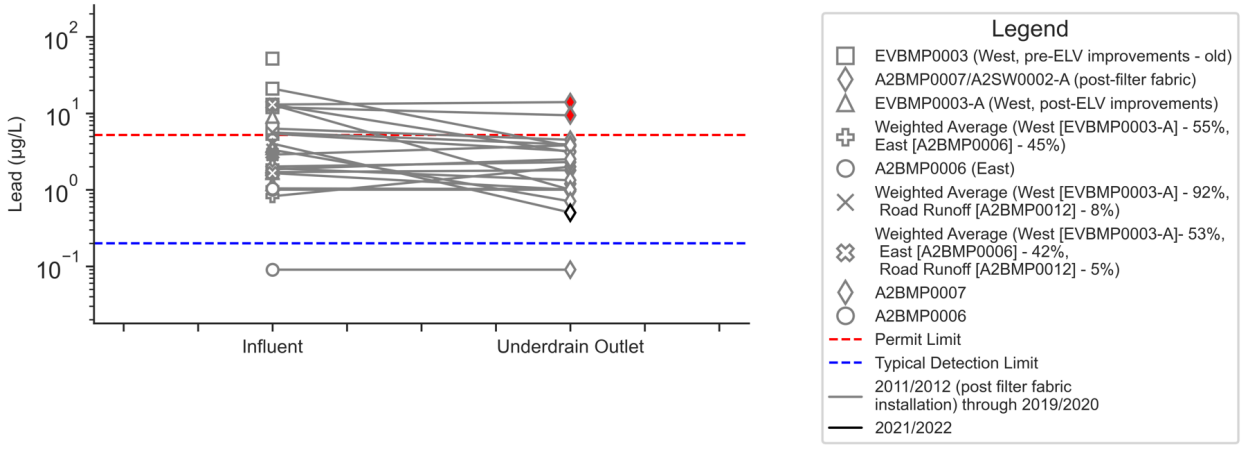


Figure 37. Lead at CM-1 Post-Filter Fabric

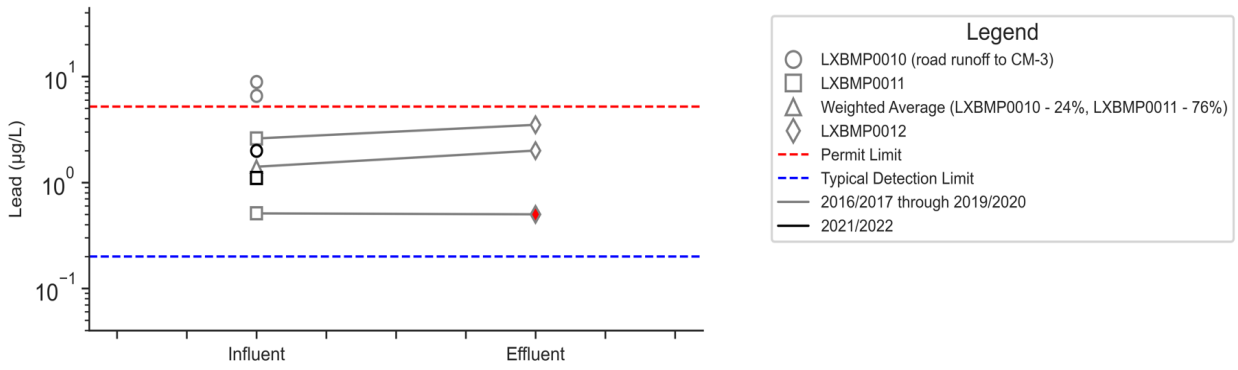


Figure 38. Lead at CM-3

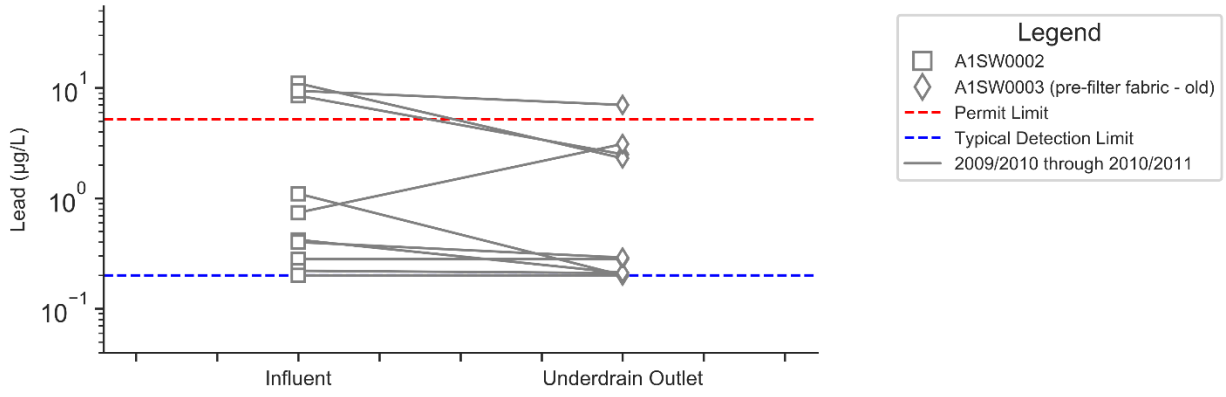


Figure 39. Lead at CM-8

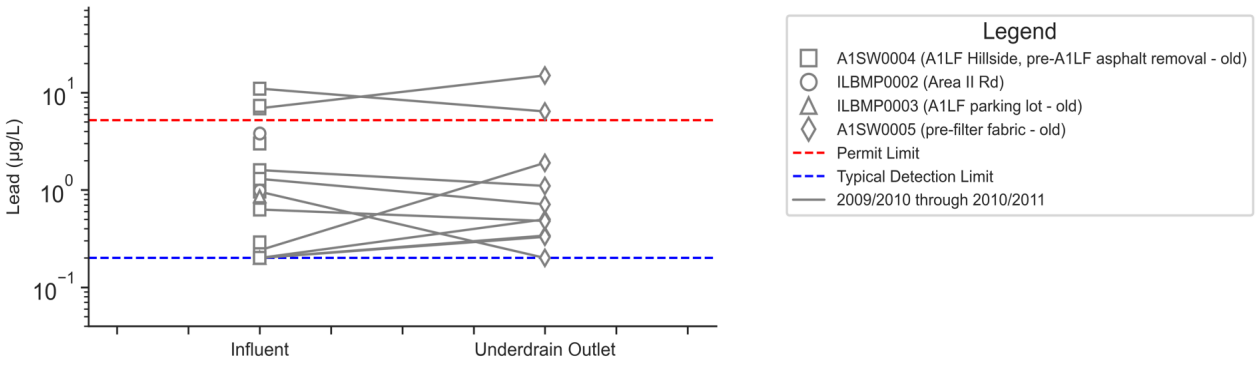


Figure 40. Lead at CM-9 Pre-Improvements

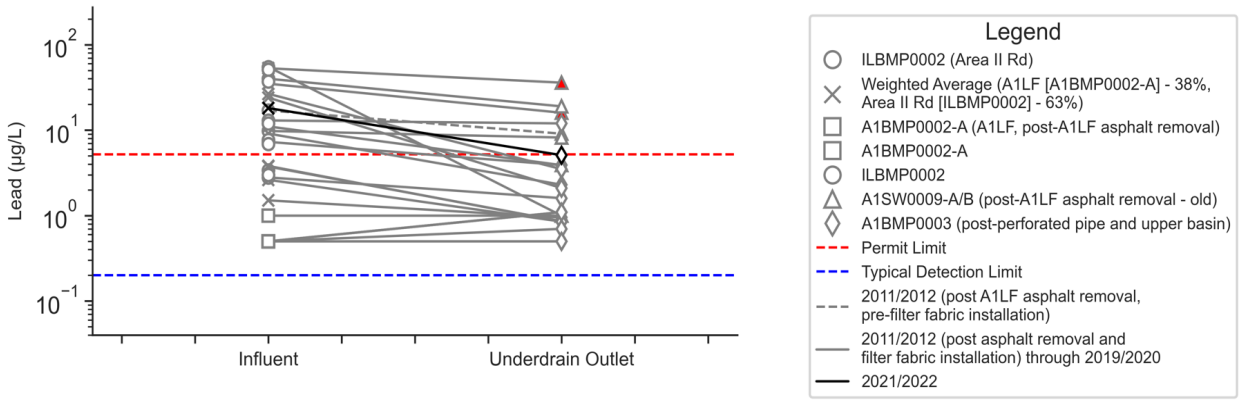


Figure 41. Lead at CM-9 Post-Improvements

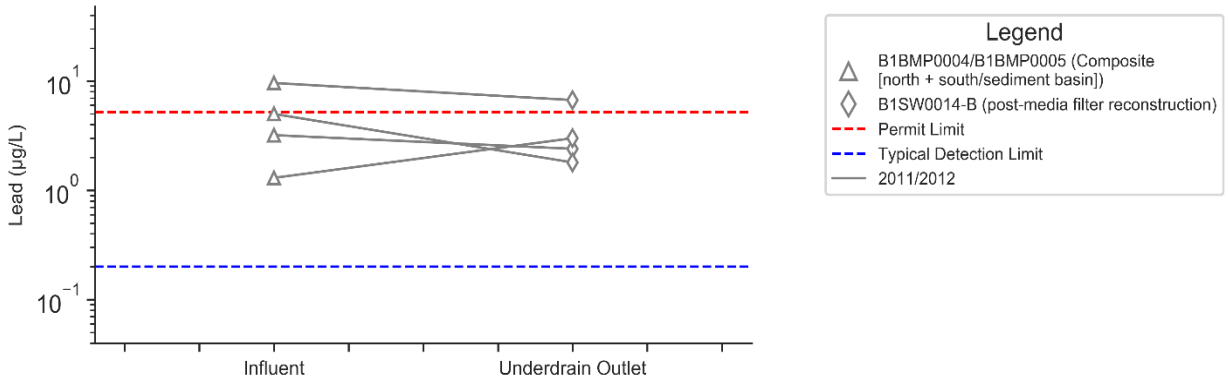


Figure 42. Lead at B-1 Media Filter Pre-Curb Cuts

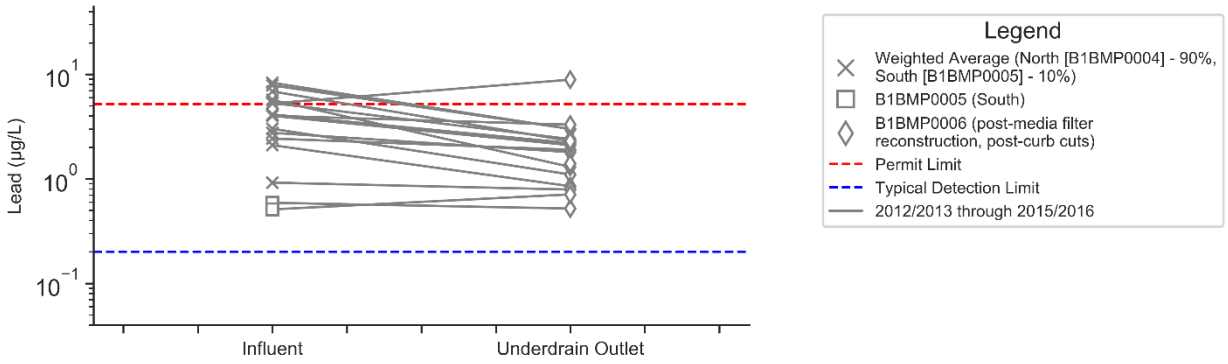


Figure 43. Lead at B-1 Media Filter Post-Curb Cuts

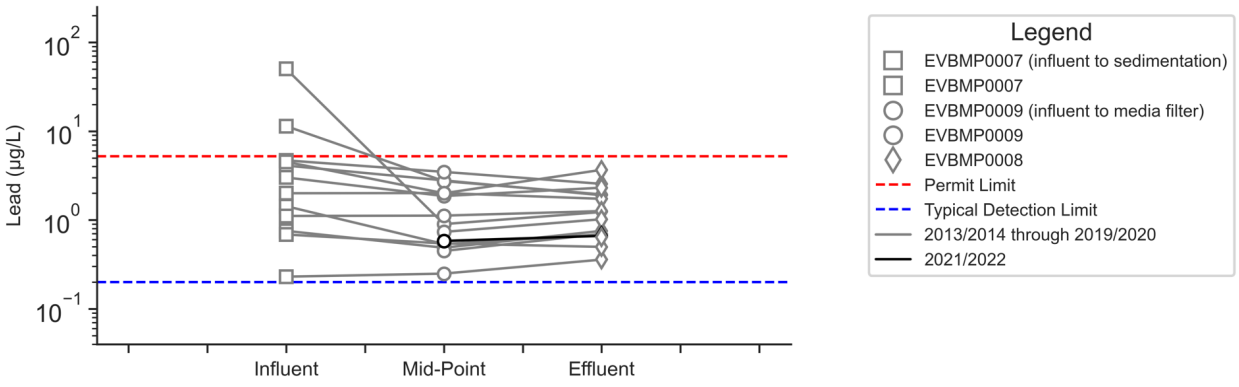


Figure 44. Lead at ELV Treatment BMP

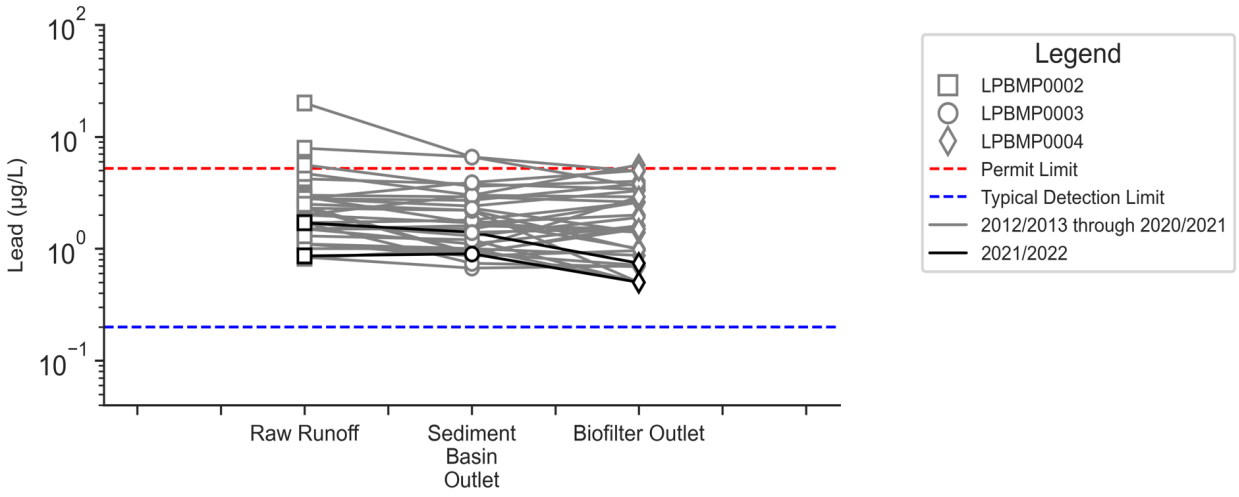


Figure 45. Lead at Lower Lot Biofilter

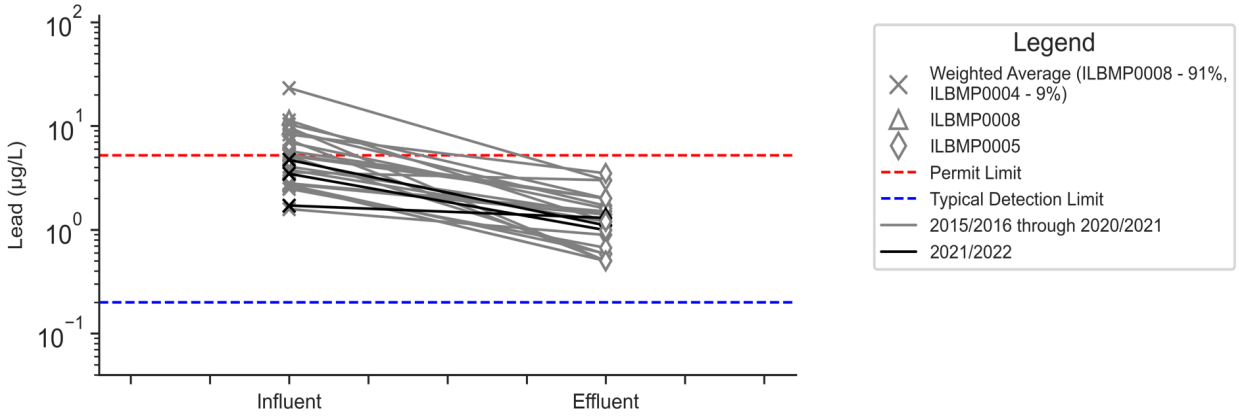


Figure 46. Lead at Southern Detention Bioswale

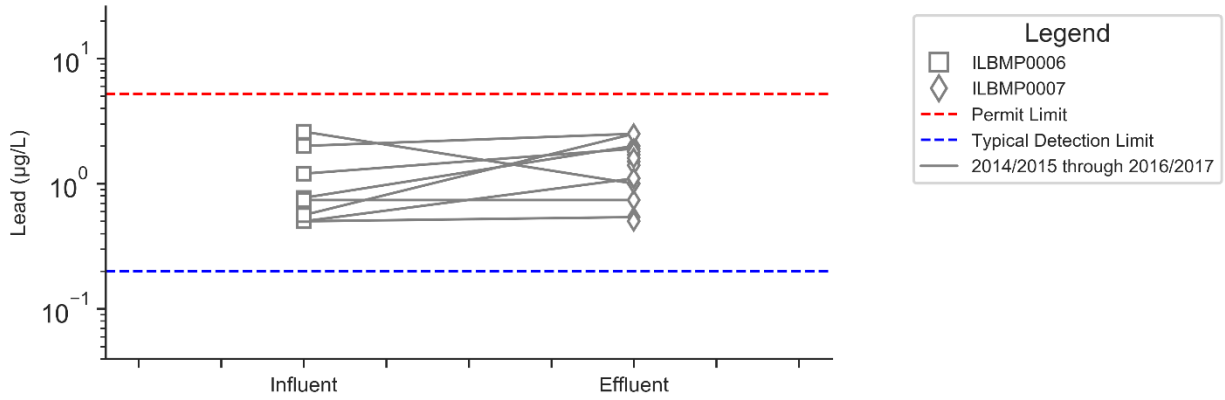


Figure 47. Lead at Northern Detention Bioswale

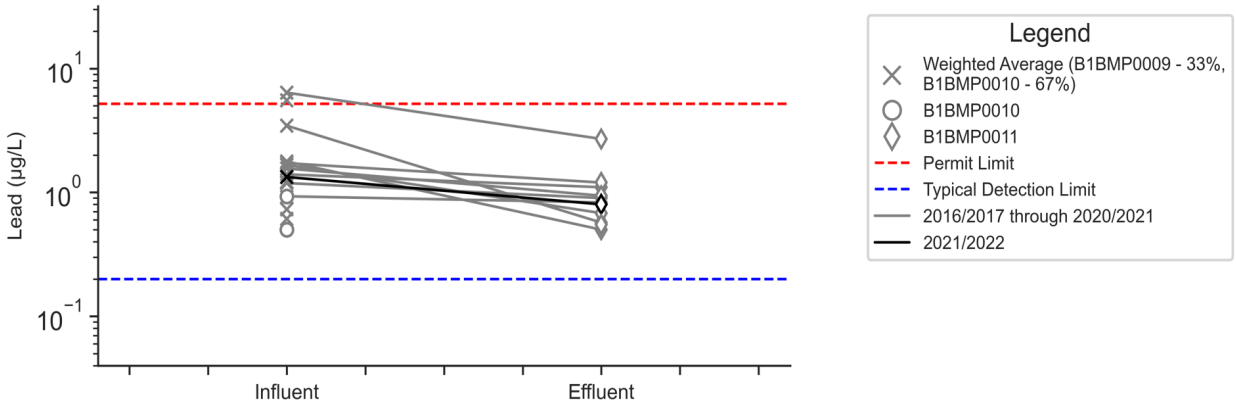


Figure 48. Lead at Upper Lot Media Filter

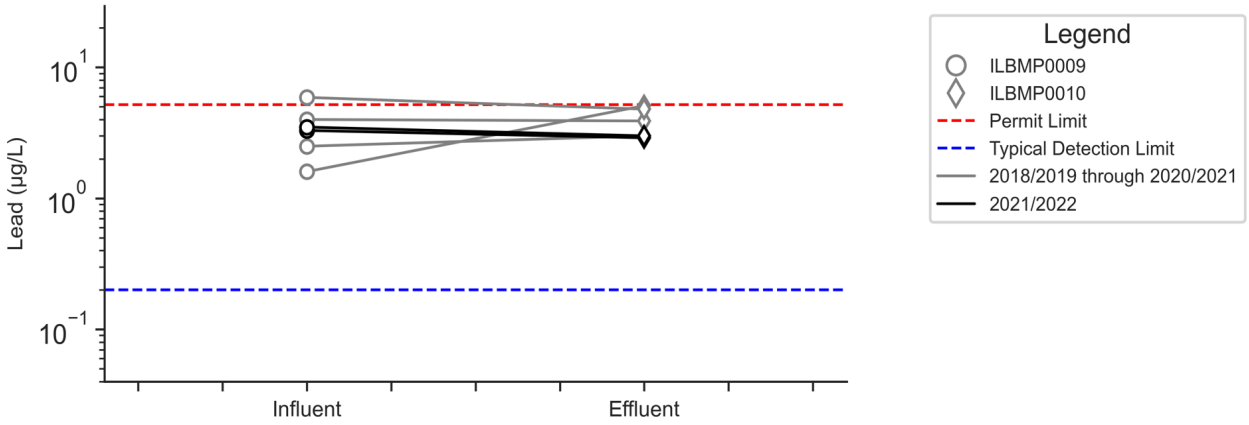


Figure 49. Lead at Boeing Administrative Area Inlet Filter

8.4 Copper Paired Line Plots

Figure 50 through Figure 61 present paired line plots of copper results at BMPs within the Outfall 009 Watershed.

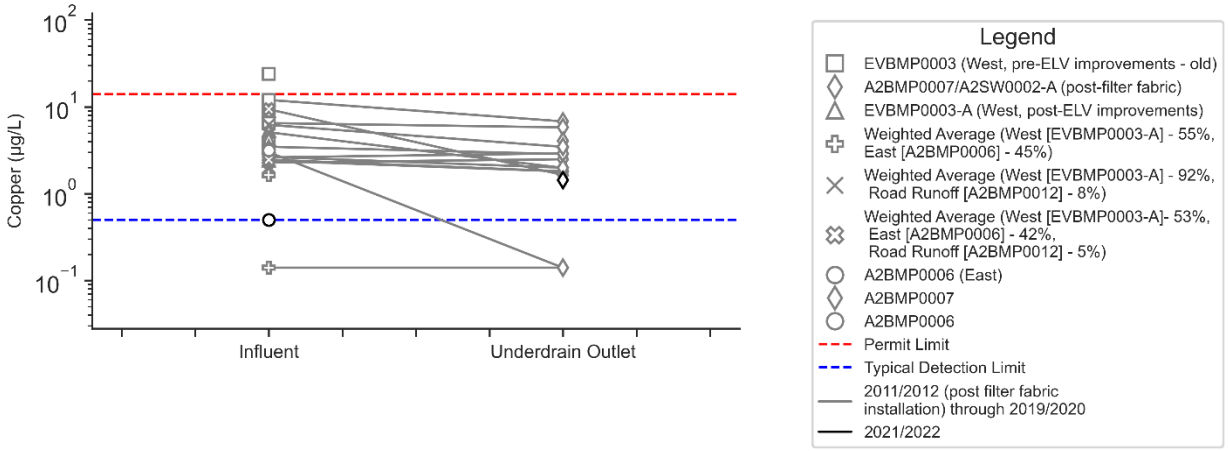


Figure 50. Copper at CM-1 Post-Filter Fabric

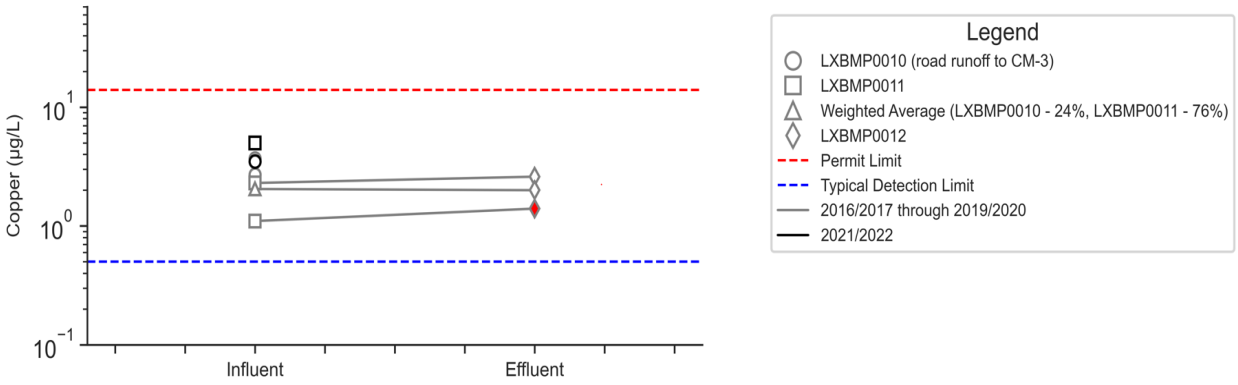


Figure 51. Copper at CM-3

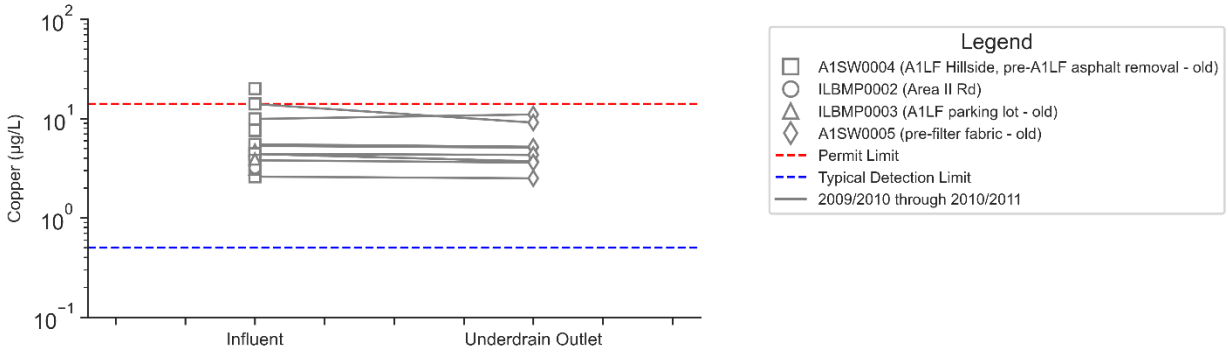


Figure 52. Copper at CM-9 Pre-Improvements

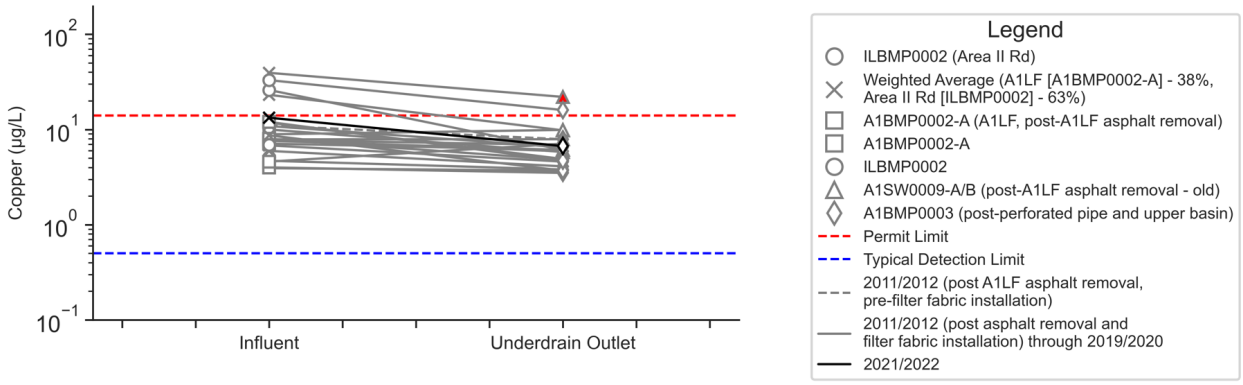


Figure 53. Copper at CM-9 Post-Improvements

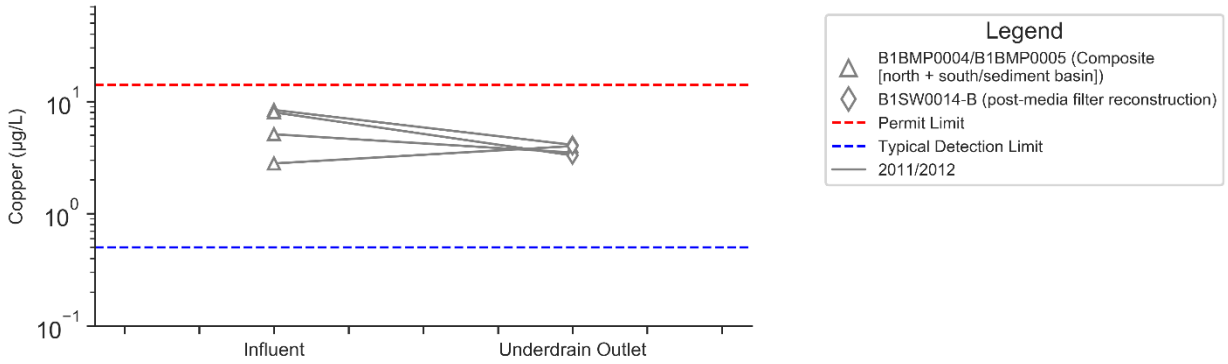


Figure 54. Copper at B-1 Media Filter Pre-Curb Cuts

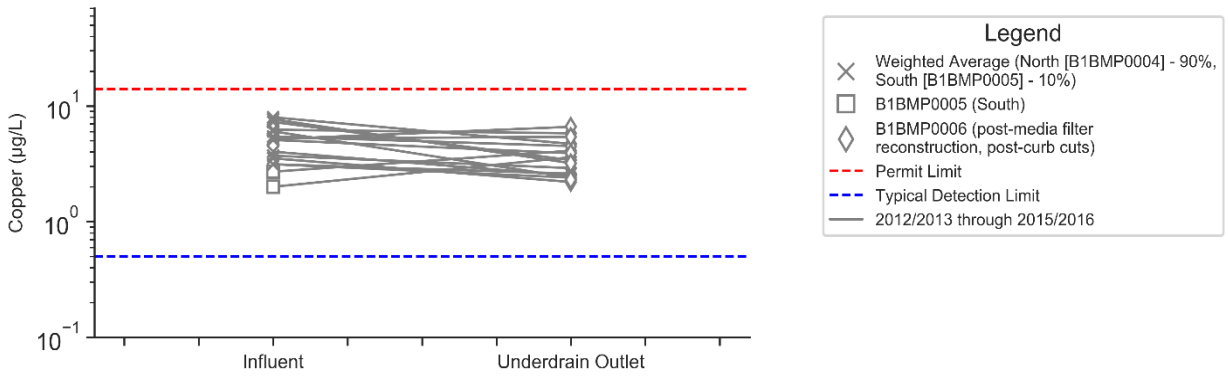


Figure 55. Copper at B-1 Media Filter Post-Curb Cuts

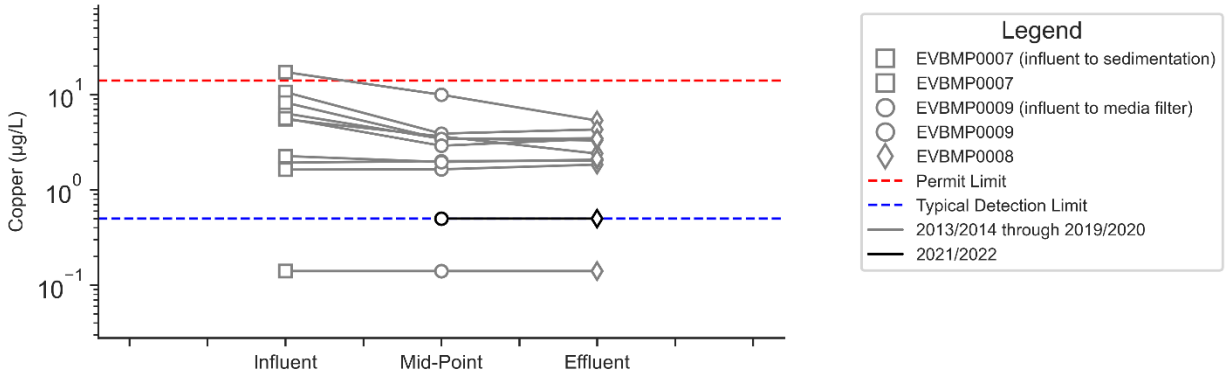


Figure 56. Copper at ELV Treatment BMP

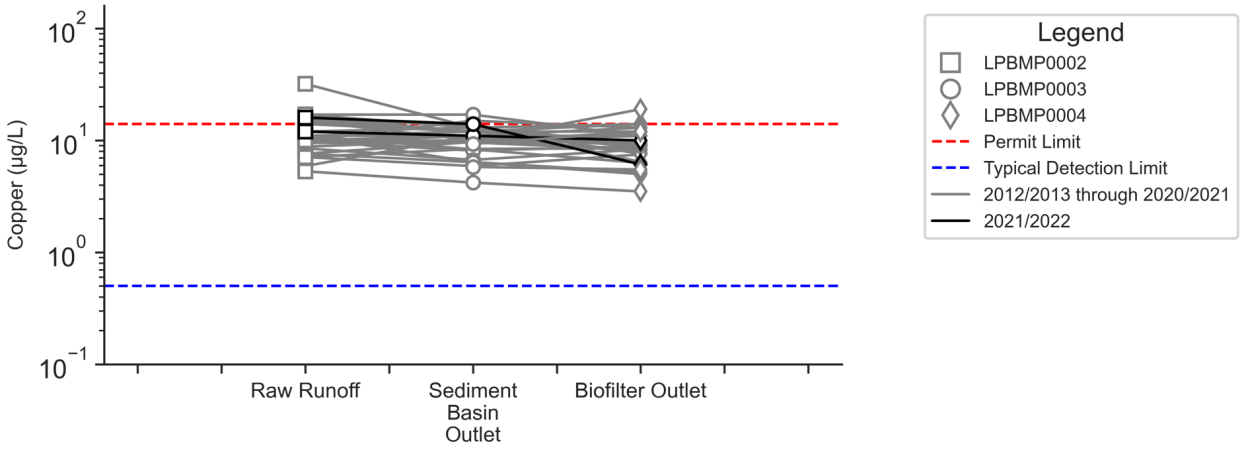


Figure 57. Copper at Lower Lot Biofilter

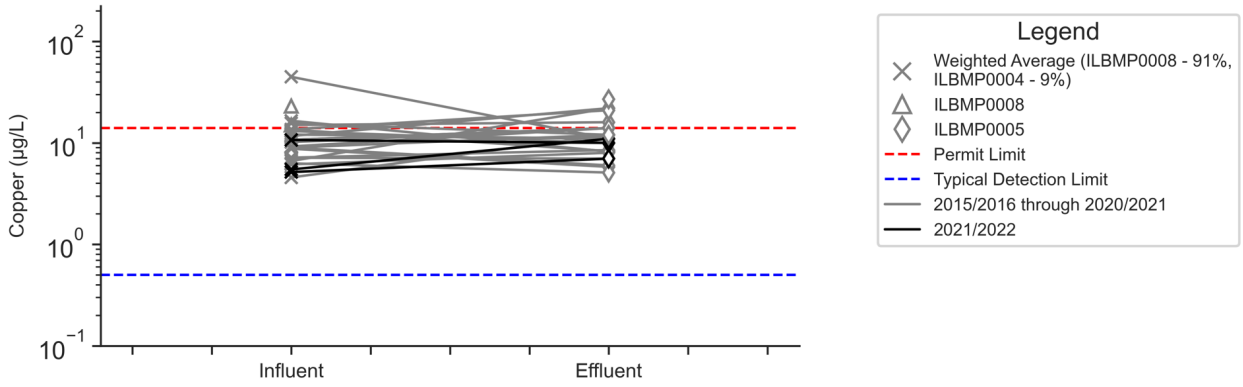


Figure 58. Copper at Southern Detention Bioswale

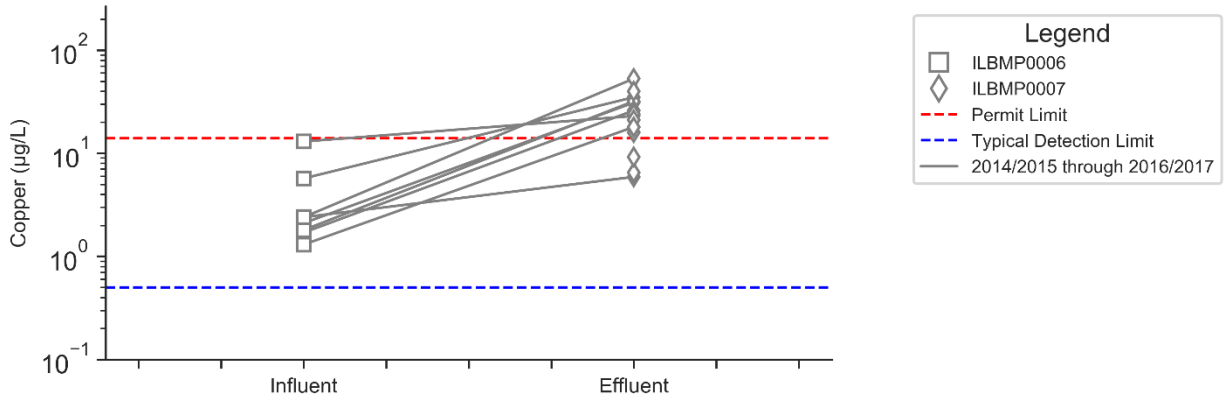


Figure 59. Copper at Northern Detention Bioswale[15]

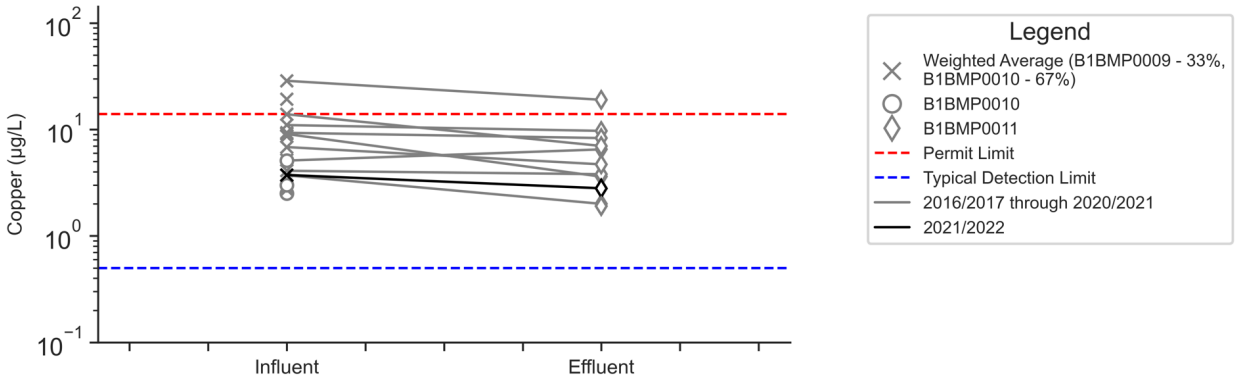


Figure 60. Copper at Upper Lot Media Filter

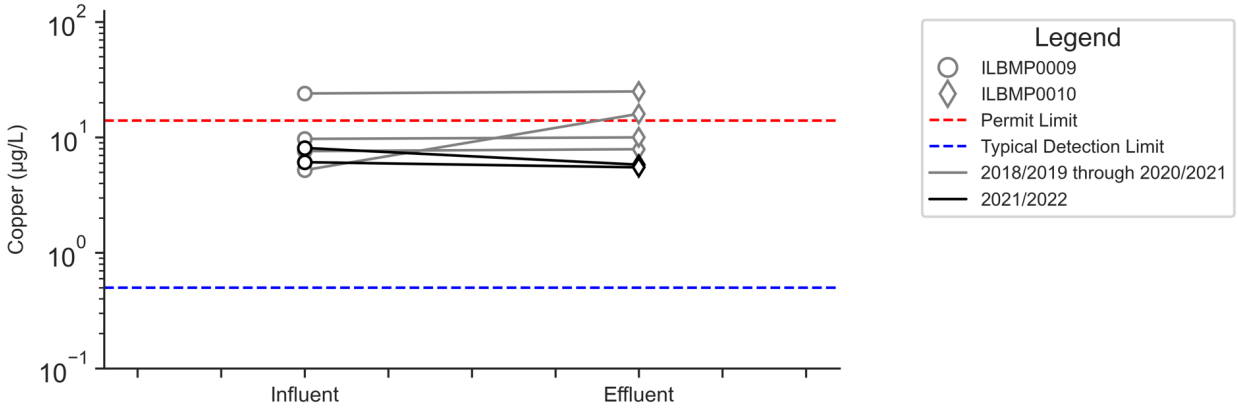


Figure 61. Copper at Boeing Administrative Area Inlet Filter

9. Influent v. Effluent Correlation Charts

Figure 63 through Figure 65 compare paired influent and effluent concentrations observed at CM/media filter sites, including CM-1, CM-3 post-2016/17, CM-9, B-1 media filter, and the upper lot media filter (exclusive of background CM-8 and CM-11). Correlation charts of data collected at the lower lot biofilter are shown in Figure 66 through Figure 68, at the ELV treatment BMP in Figure 69 through Figure 71, at detention bioswales in Figure 72 through Figure 74, and at the Boeing administrative area inlet filter in Figure 75 through Figure 77. Paired datasets graphed in this section were statistically analyzed in Section 4. The datasets include influent-to-effluent pairs, only, and do not incorporate any sample results from BMP midpoint locations. Points are shaded based on the sampling year they were collected, such that data collected in 2021/22 are black and data collected in previous reporting years are gray. Symbols are used to represent ND results, as depicted in the legends.

A least-squares regressions line was fit to log-transformed data ($\log(y) = m * \log(x) + b$). Resulting equations including regression slope, m, and the y-intercept, b, are shown in the upper lefthand corner of the plots. The corresponding p-values, indicating statistical significance of the slopes and y-intercepts, are also shown on the plots. Regarding the p-value corresponding to the slope, the null hypothesis is that the slope (m) equals 0. The null hypothesis is rejected by a p-value less than or equal to 0.05, which suggests a non-zero slope with a 95% confidence level. Statistical significance of the y-intercept (b) indicates, with a 95% confidence level, that variations in concentration reduction depend upon influent concentrations, while an insignificant y-intercept suggests constant concentration reduction occurs irrespective of the influent concentration. Concentration percent reduction between the influent and effluent may be calculated as $(1 - m) * 100$ if the intercept term is not significant.

Data plotted below the 1:1 line indicate an influent-to-effluent reduction in concentration, while data plotted above the 1:1 line indicate an influent-to-effluent increase in COC concentration. The intersection of 1:1 and best-fit lines represents the upper bound of the ostensibly irreducible COC concentration at a given BMP and serves as an indicator of influent concentrations above which BMPs are most effective, as it is generally unlikely that low concentrations would be substantially reduced by BMP treatment.

An example influent vs. effluent correlation plot is shown is Figure 62. Where a regression equation and associated parametric ANOVA[14] analysis indicated a statistically insignificant intercept given a p-value greater than 0.05, the null hypothesis was rejected, the regression was recalculated, and the intercept was set to zero. Recalculated results are plotted with intercept p-values listed as "N/A," indicating constant concentration reductions occur generally independently of influent concentrations. If the slope term is not significant, the average effluent is assumed to be constant. Regression equations cannot be found statistically significant if neither the slope nor intercept are found statistically significant. In this case, the effluent concentrations are not related to the influent concentrations, and the regression equation and p-values are not shown on the plots.

[14] ANOVA stands for Analysis of Variance.

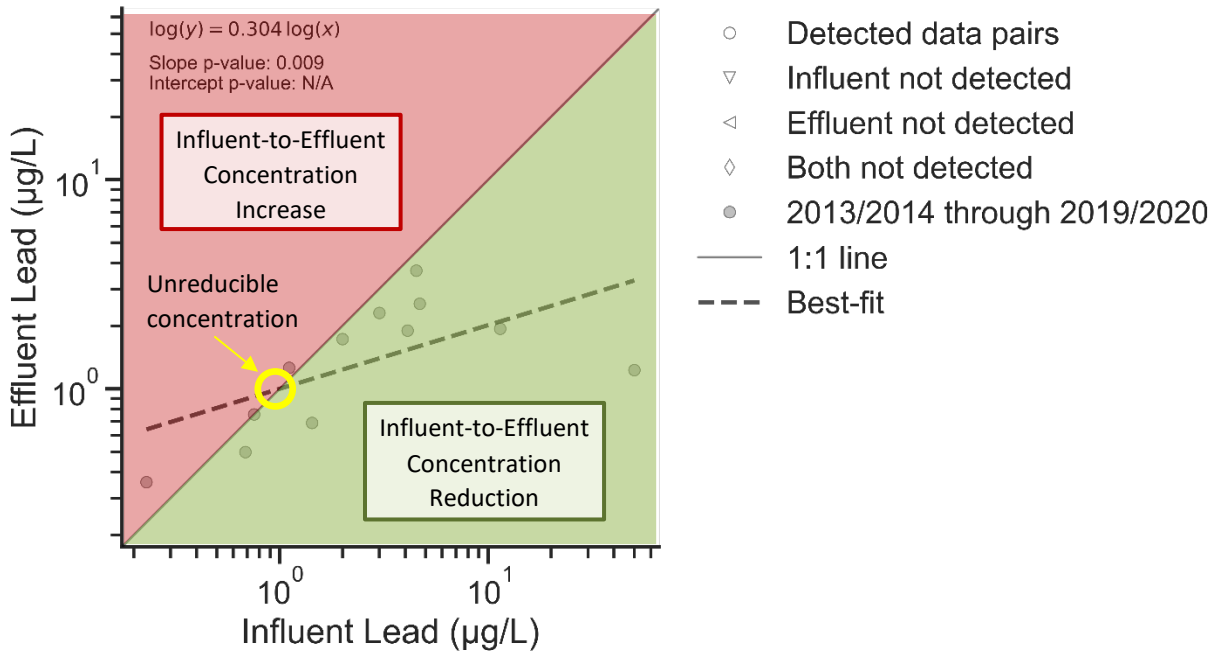


Figure 62. Example Influent vs. Effluent Correlation Plot

9.1 CM/Media Filter Influent v. Effluent Correlation Charts

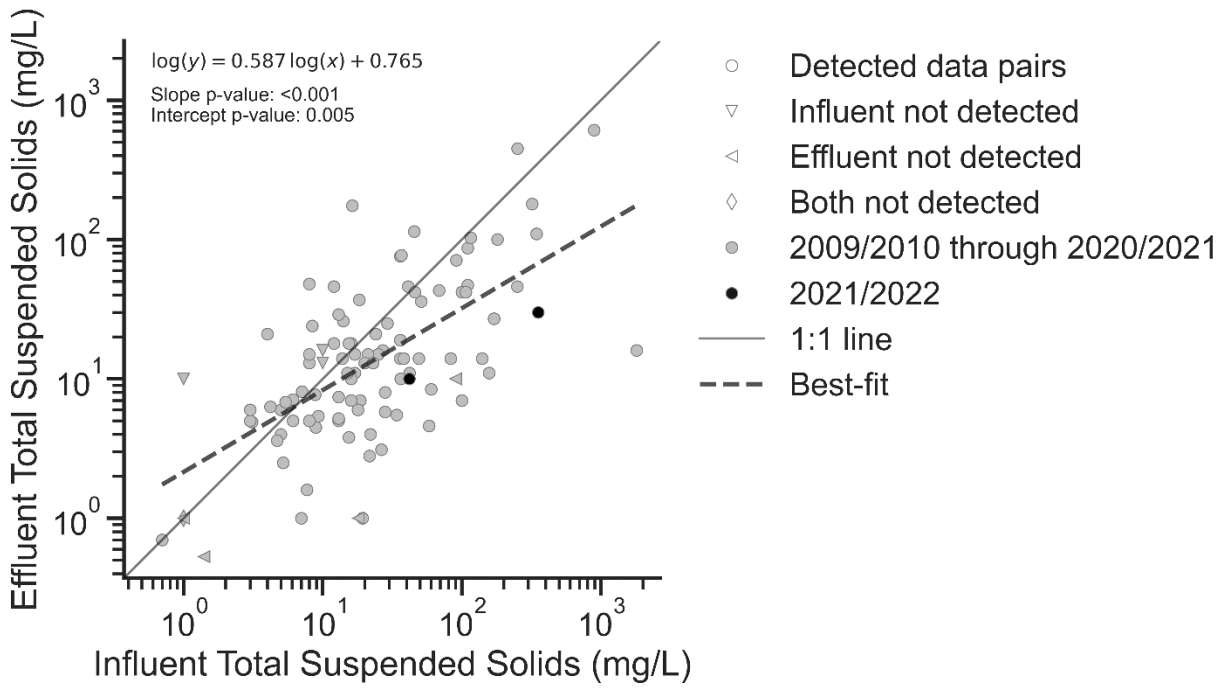


Figure 63. Paired TSS Concentrations at CMs and Media Filters

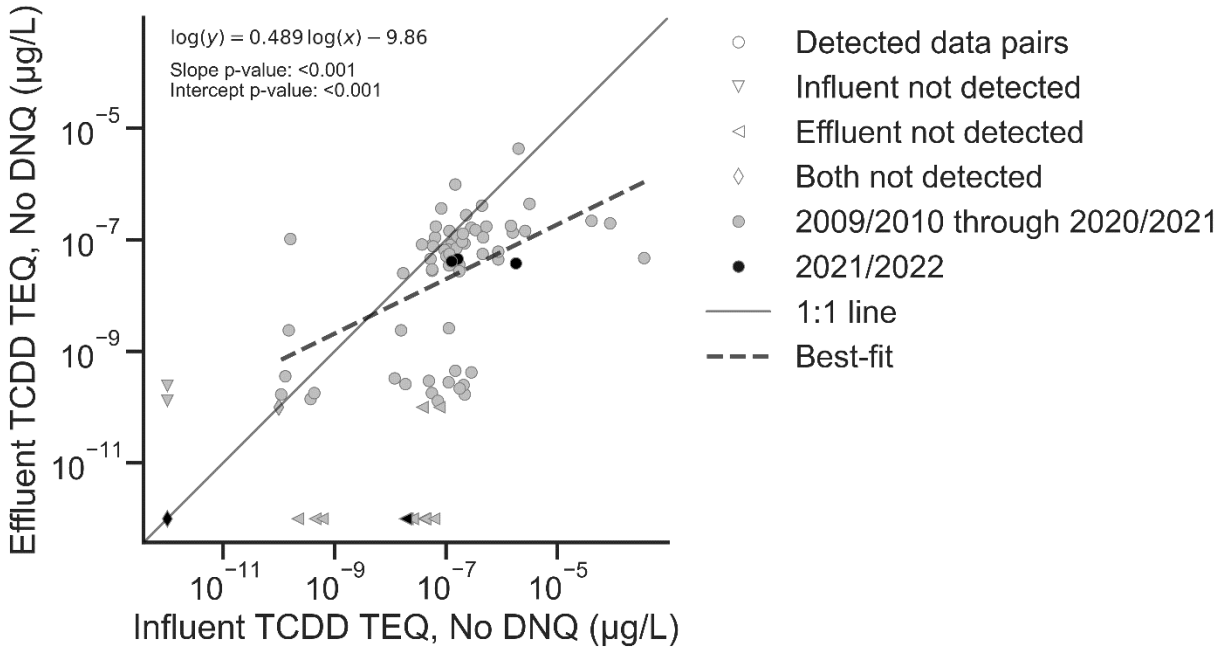


Figure 64. Paired Dioxins Concentrations at CMs and Media Filters

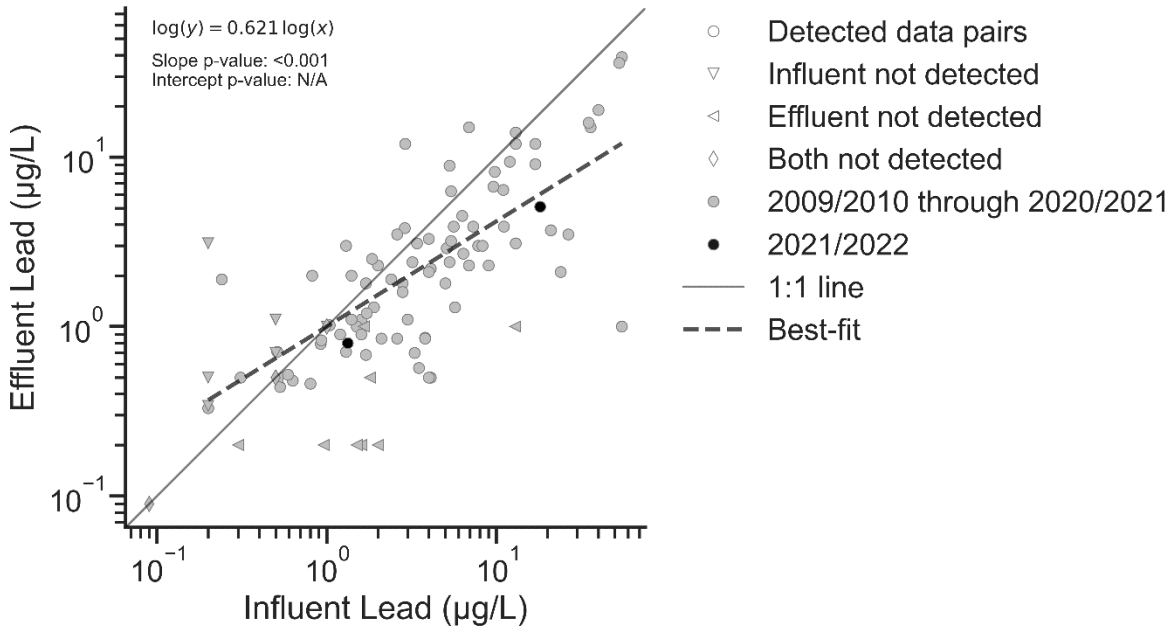


Figure 65. Paired Lead Concentrations at CMs and Media Filters

9.2 Lower Lot Biofilter Influent v. Effluent Correlation Charts

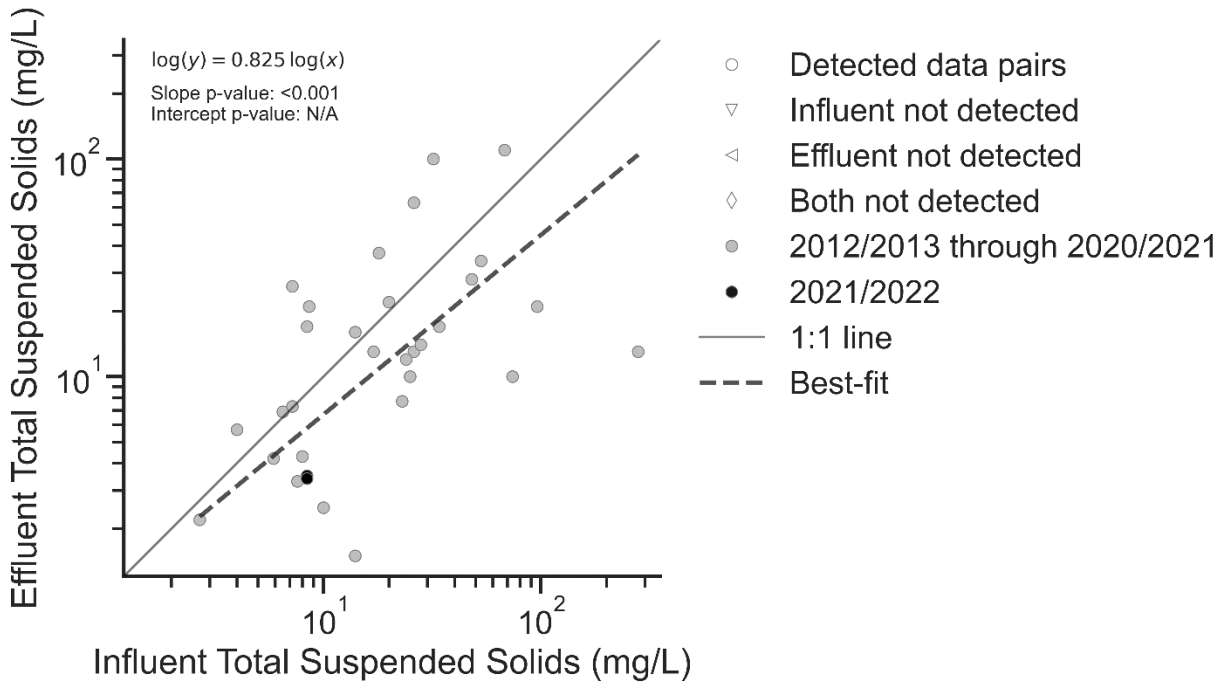


Figure 66. Paired TSS Concentrations at Lower Lot Biofilter

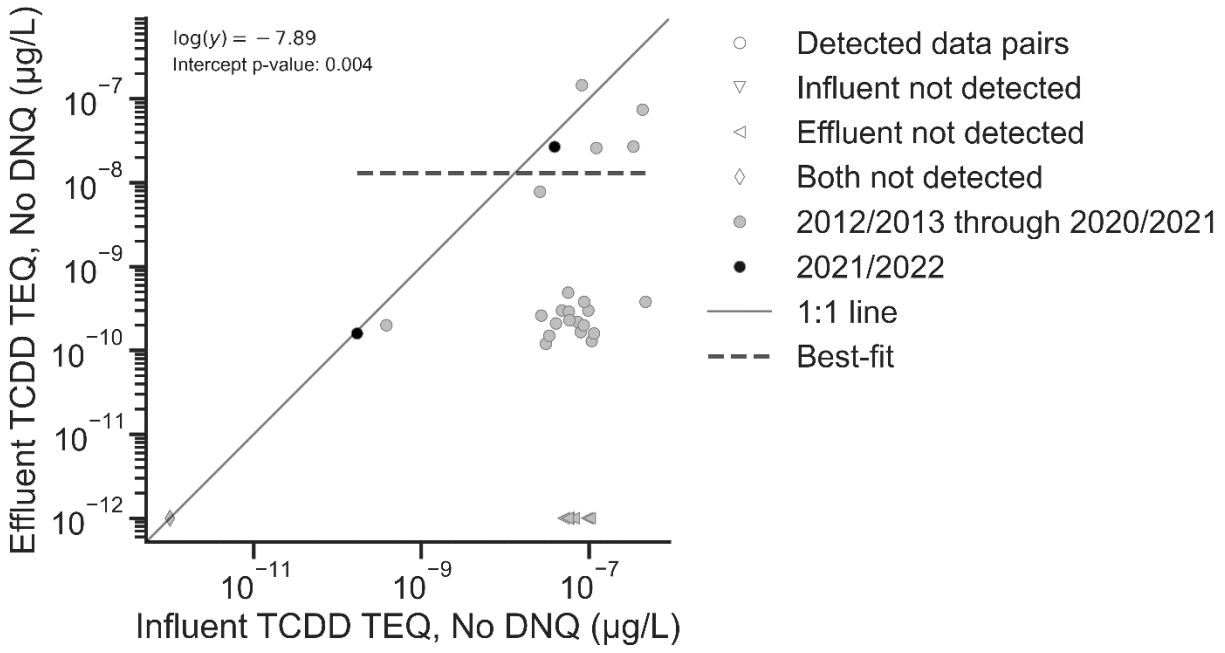


Figure 67. Paired Dioxins Concentrations at Lower Lot Biofilter

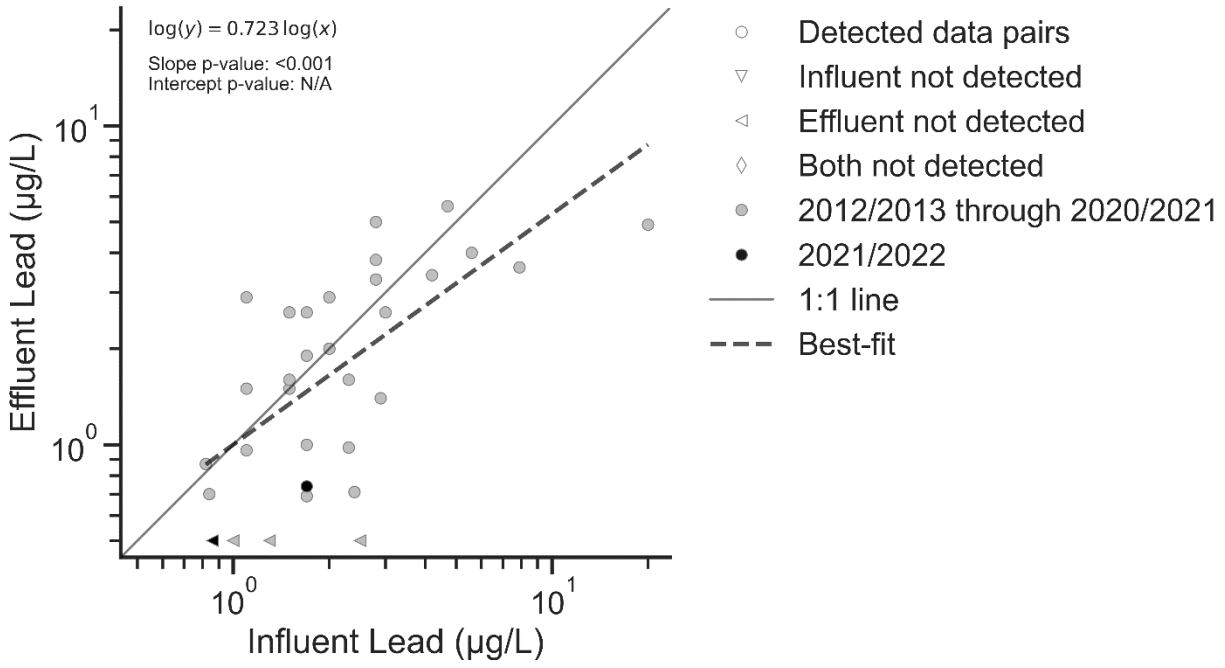


Figure 68. Paired Lead Concentrations at Lower Lot Biofilter

9.3 ELV Treatment BMP Influent v. Effluent Correlation Charts

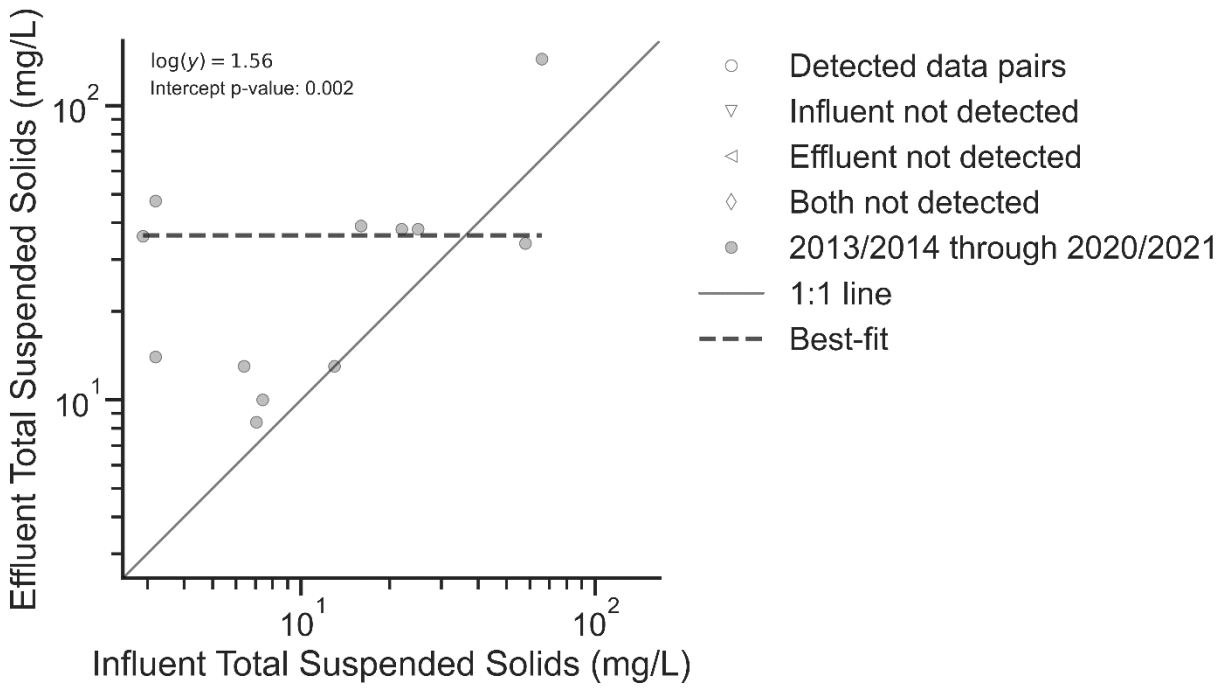


Figure 69. Paired TSS Concentrations at ELV Treatment BMP

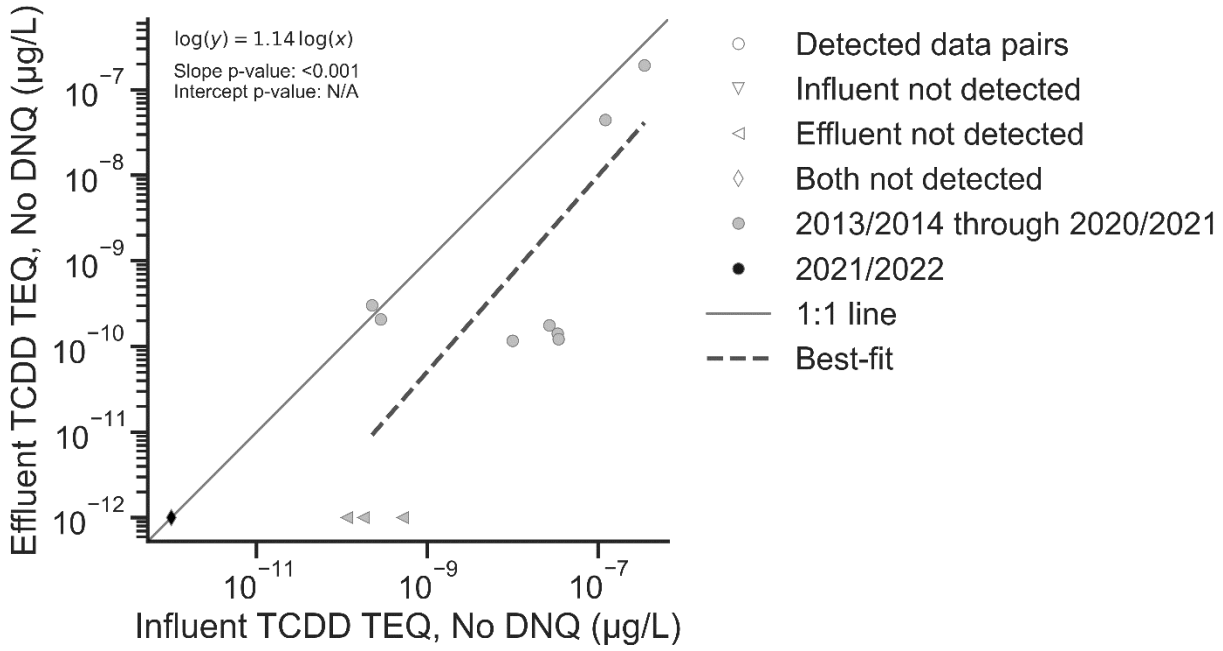


Figure 70. Paired Dioxins Concentrations at ELV Treatment BMP

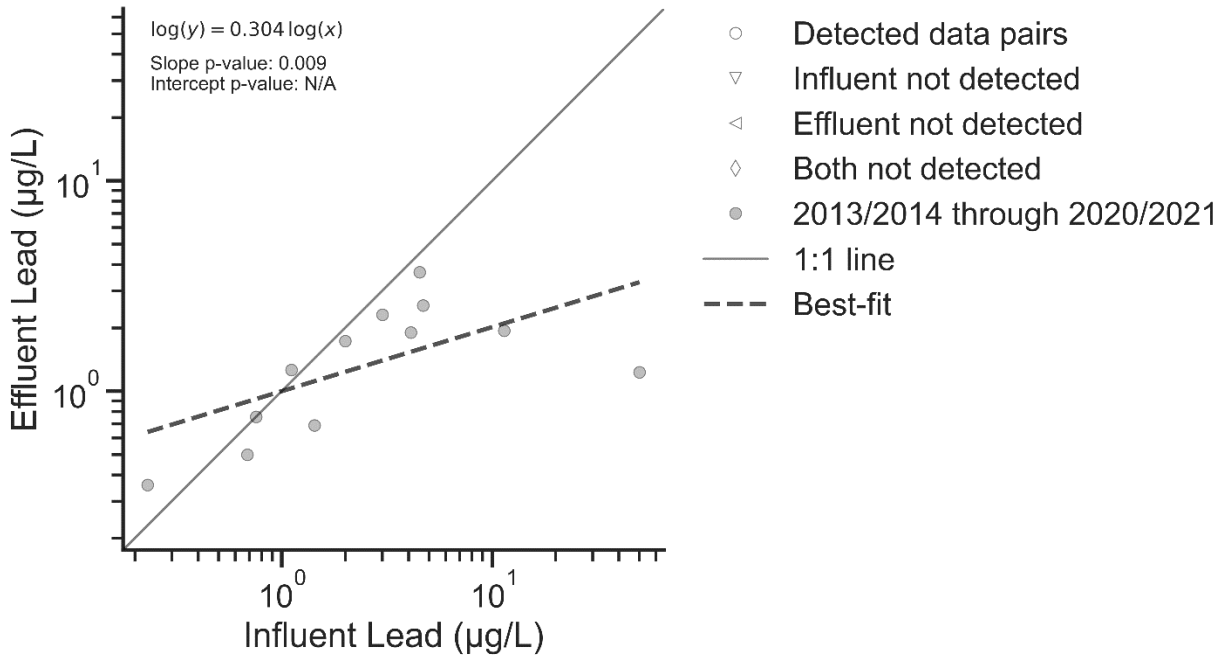


Figure 71. Paired Lead Concentrations at ELV Treatment BMP

9.4 Detention Bioswales Influent v. Effluent Correlation Charts

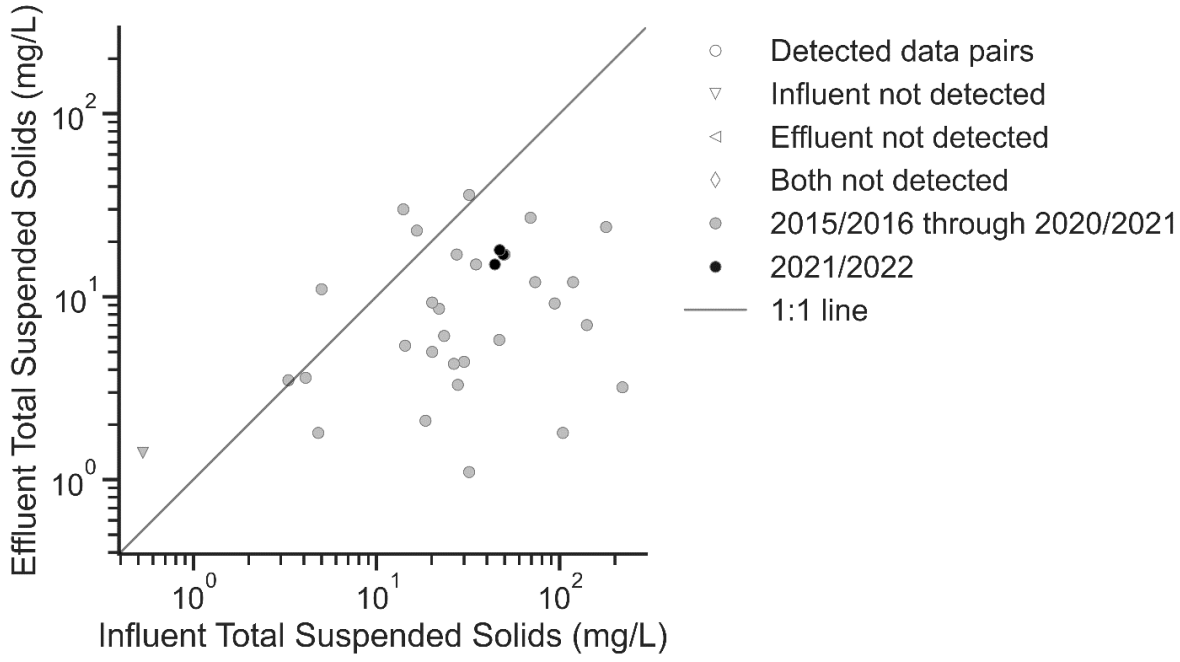


Figure 72. Paired TSS Concentrations at Detention Bioswales

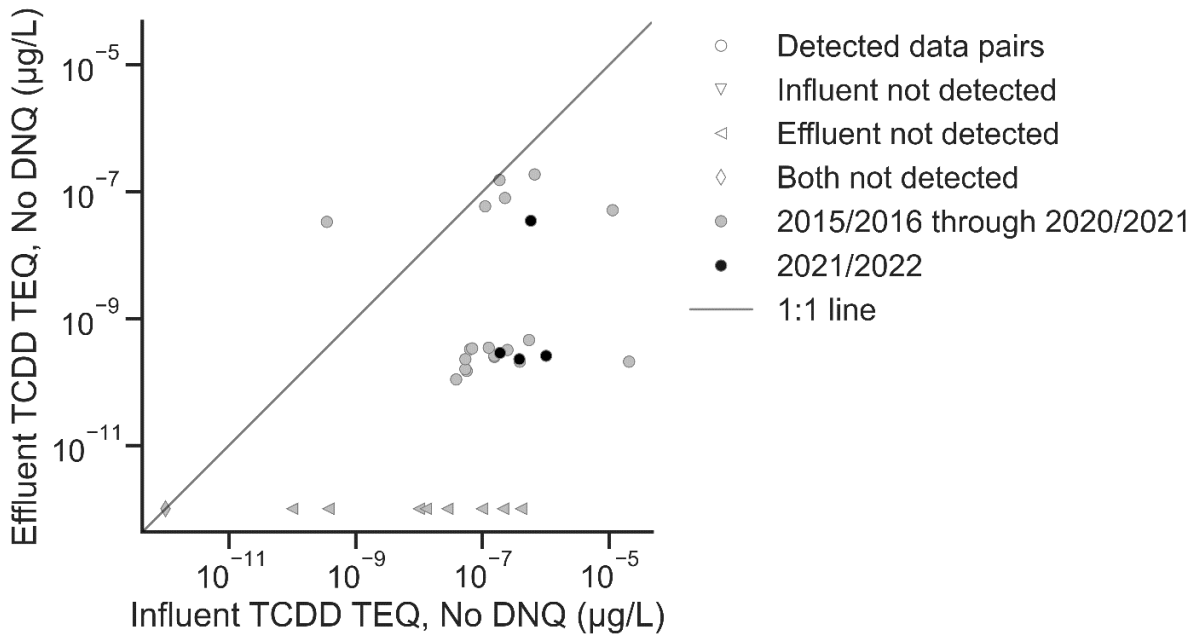


Figure 73. Paired Dioxins Concentrations at Detention Bioswales

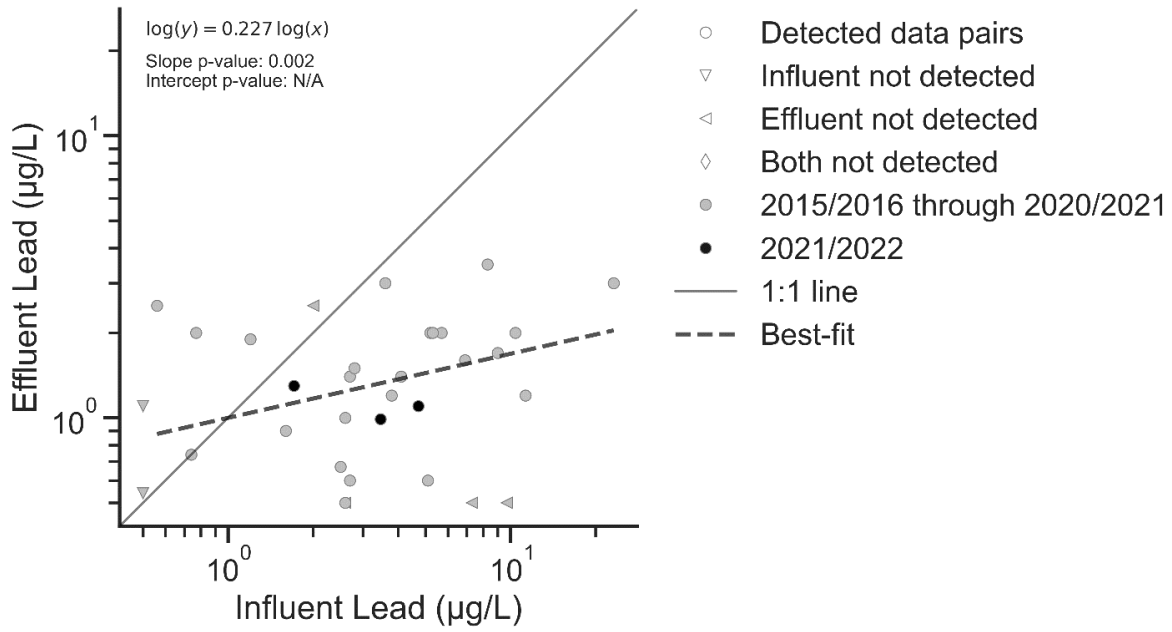


Figure 74. Paired Lead Concentrations at Detention Bioswales

9.5 Boeing Administrative Area Inlet Filter Influent v. Effluent Correlation Charts

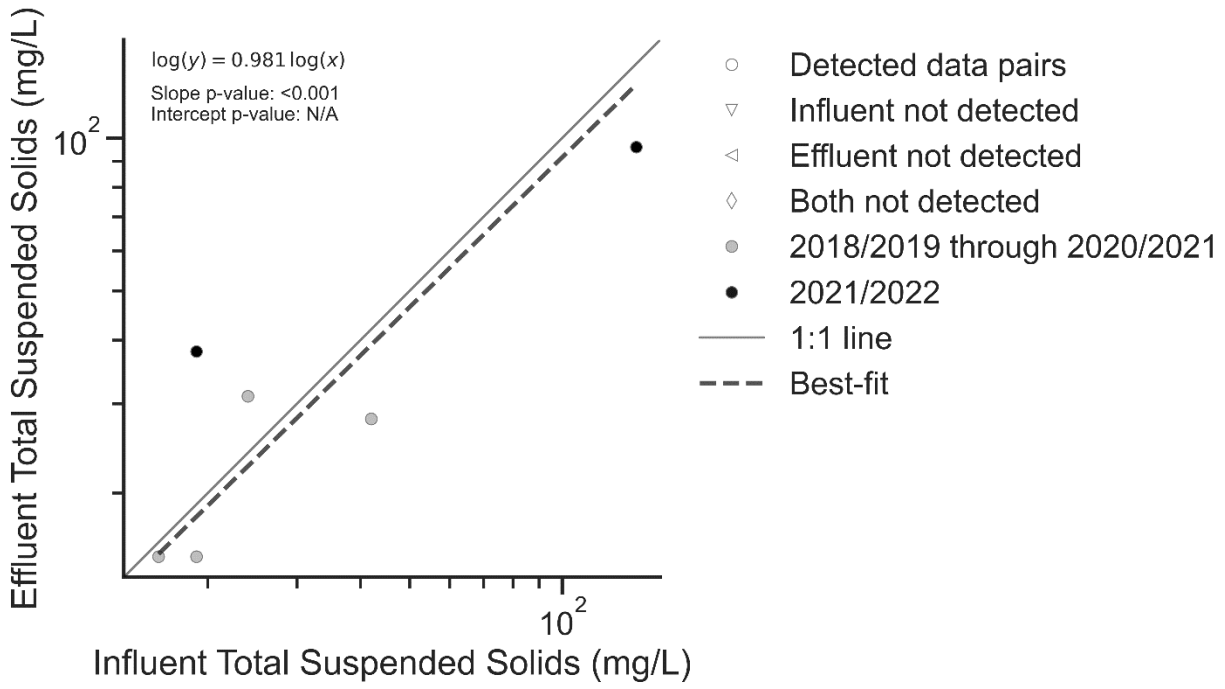


Figure 75. Paired TSS Concentrations at Boeing Administrative Area Inlet Filter

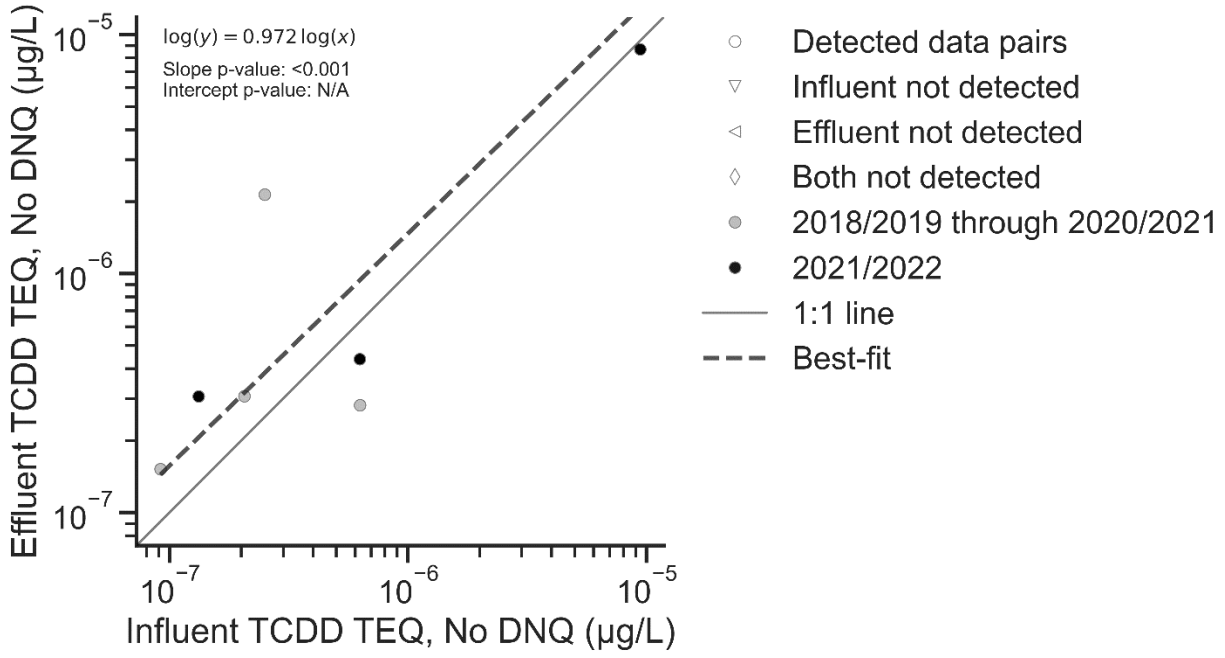


Figure 76. Paired Dioxins Concentrations at Boeing Administrative Area Inlet Filter

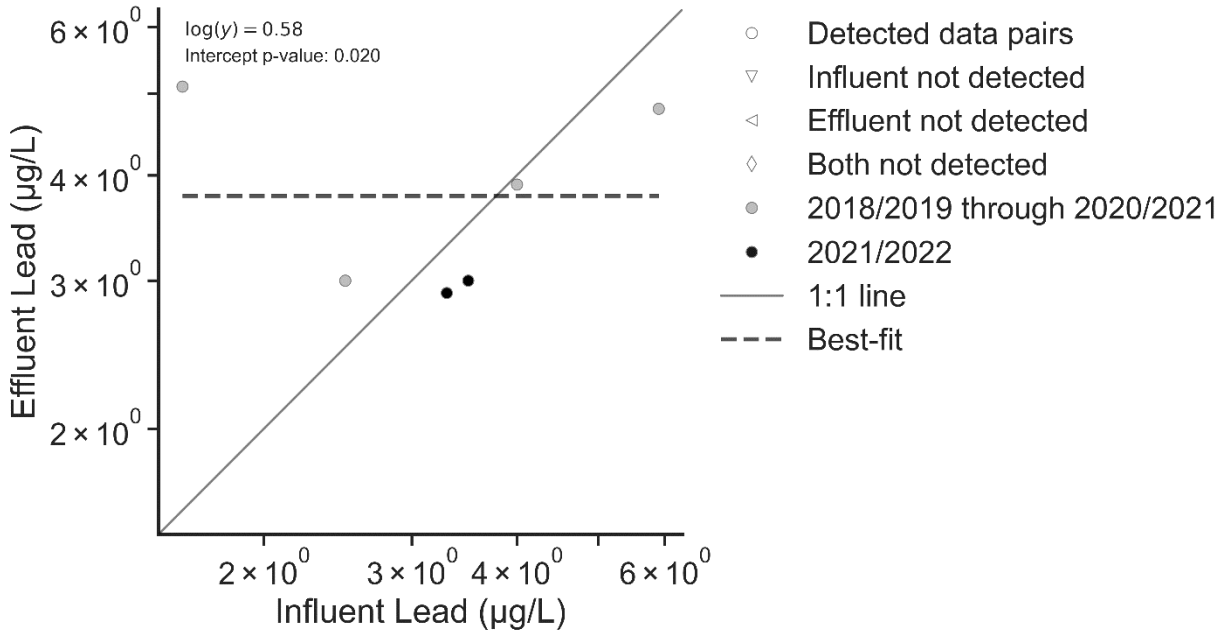


Figure 77. Paired Lead Concentrations at Boeing Administrative Area Inlet Filter

10. Probability Plots

Probability plots of data collected at CMs and media filters, including CM-1, CM-3 post-2016/17, CM-9, B-1 media filter, and the upper lot media filter, are shown in Figure 78 through Figure 80. Data collected at background CM-8 and CM-11 were not plotted given their low variability. Probability plots of data collected at the lower lot biofilter are shown in Figure 81 through Figure 83, at the ELV treatment BMP in Figure 84 through Figure 86, at detention bioswales in Figure 87 through Figure 89, and at the Boeing administrative area inlet filter in Figure 90 through Figure 92. The log-normal probability plots were prepared by ranking detected log-transformed results and calculating the probability that individual results are expected to occur. ND data would be assigned to the lowest plotting positions, effectively truncating the probability plots at the fraction of non-detected samples. Therefore, only detected results are plotted, which leads to the correct probability of occurrence for the observed data, while values less than the detection limit show their unknown specific occurrences. Correlated trends of influent and effluent concentrations can serve as a useful tool for predicting the probabilities that various effluent concentrations are expected to occur given a range of observed influent concentrations.

Statistics, including the observed number of ND results and the p-value resulting from an Anderson-Darling test, are provided on the plots for the influent and effluent datasets. The null hypothesis for the Anderson-Darling test is that the data follow the log-normal distribution. The null hypothesis is rejected, with a 95% degree of confidence, by p-values less than or equal to 0.05, indicating with statistical significance that the data distribution differs from the log-normal distribution. Influent and effluent data points consistently falling within the confidence interval and a corresponding p-value greater than 0.05 indicate, with a 95% degree of confidence, that the log-normal distribution fits the data well, and the fitted line may be used to estimate concentrations at various percentiles. Effluent results falling consistently below influent results indicate water quality improvement, while the vertical distance between log-transformed influent and effluent datasets represents magnitude of the change in concentration at the BMP. Plotted shapes are shaded based on the year they were collected, with data collected in 2021/22 and data collected in previous years represented by filled and unfilled shapes, respectively.

Relative differences in scatter can indicate variations in both influent and effluent COC concentrations observed at a given BMP. The slope of the probability distribution serves as an additional indicator of variability, with milder slopes indicating less variation in the data. A flatter effluent slope relative to the influent signifies the BMP reduces the variability of effluent concentrations independently of the corresponding influent concentrations, and a generally mild influent slope indicates less variability of COC concentrations influent to the BMP.

10.1 CM/Media Filter Probability Plots

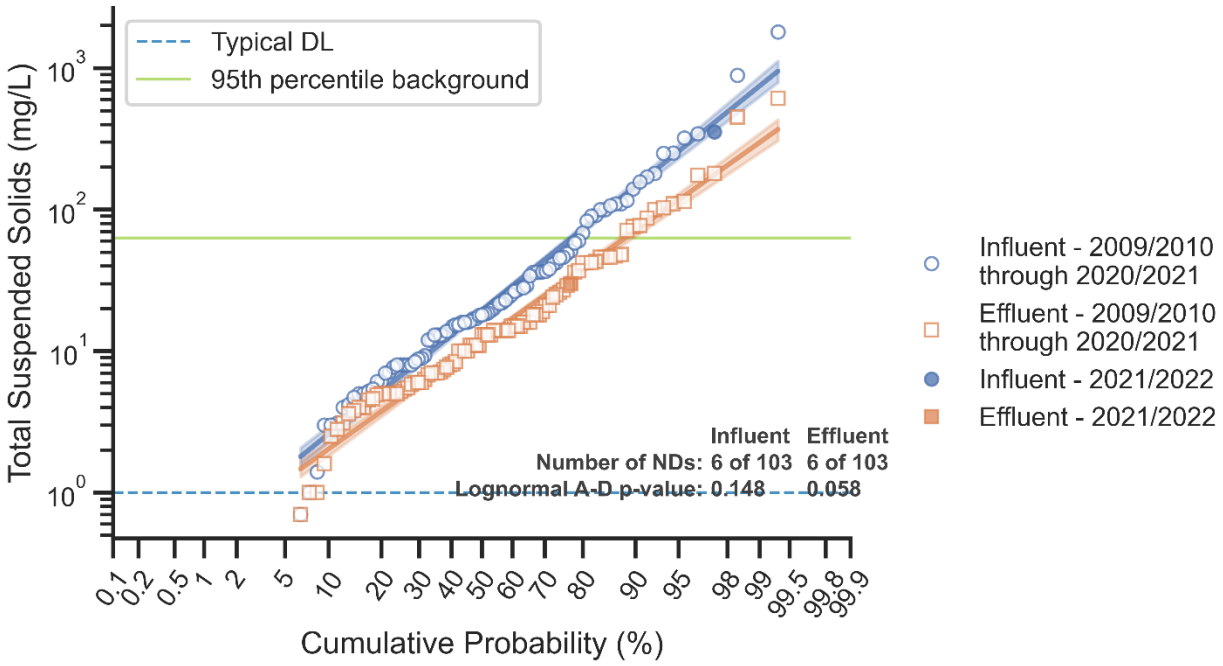


Figure 78. Log-normal Probability Plot of TSS at CMs and Media Filters

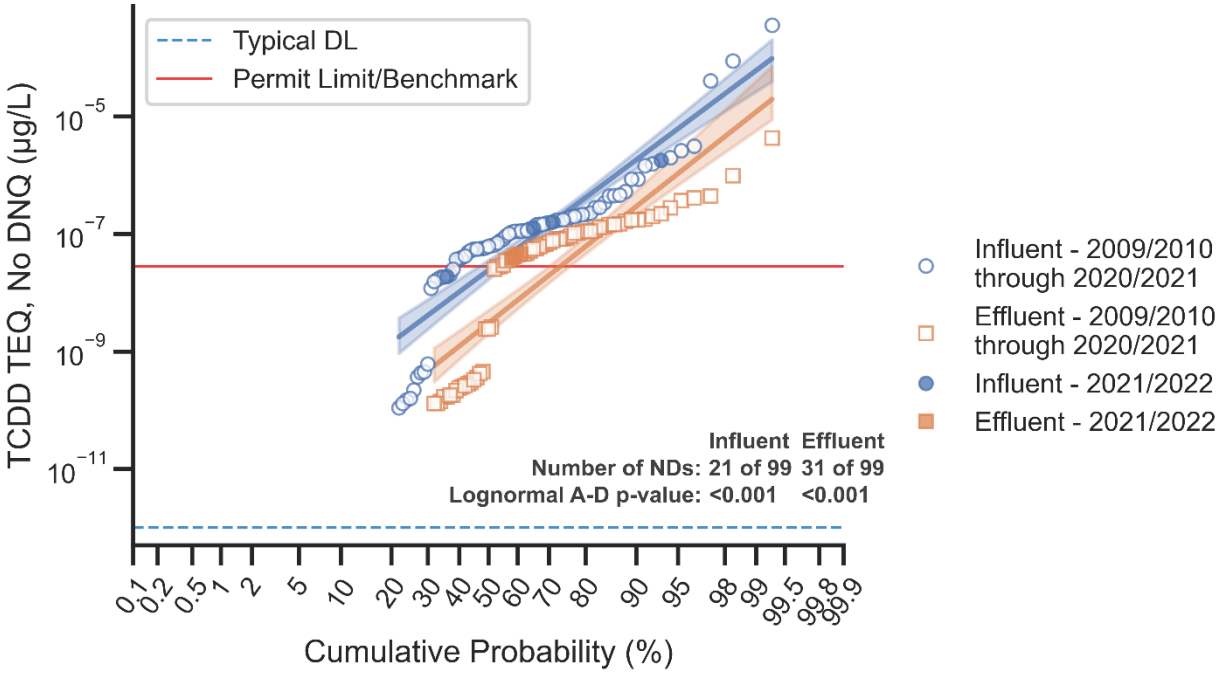


Figure 79. Log-normal Probability Plot of Dioxins at CMs and Media Filters

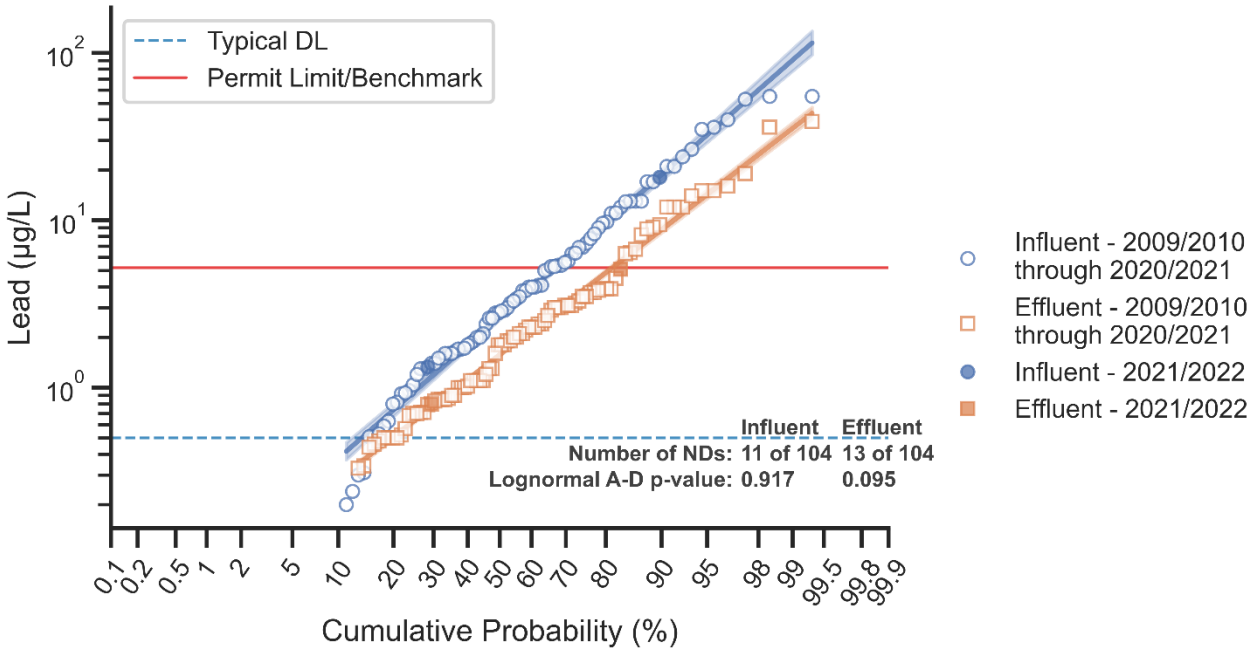


Figure 80. Log-normal Probability Plot of Lead at CMs and Media Filters

10.2 Lower Lot Biofilter Probability Plots

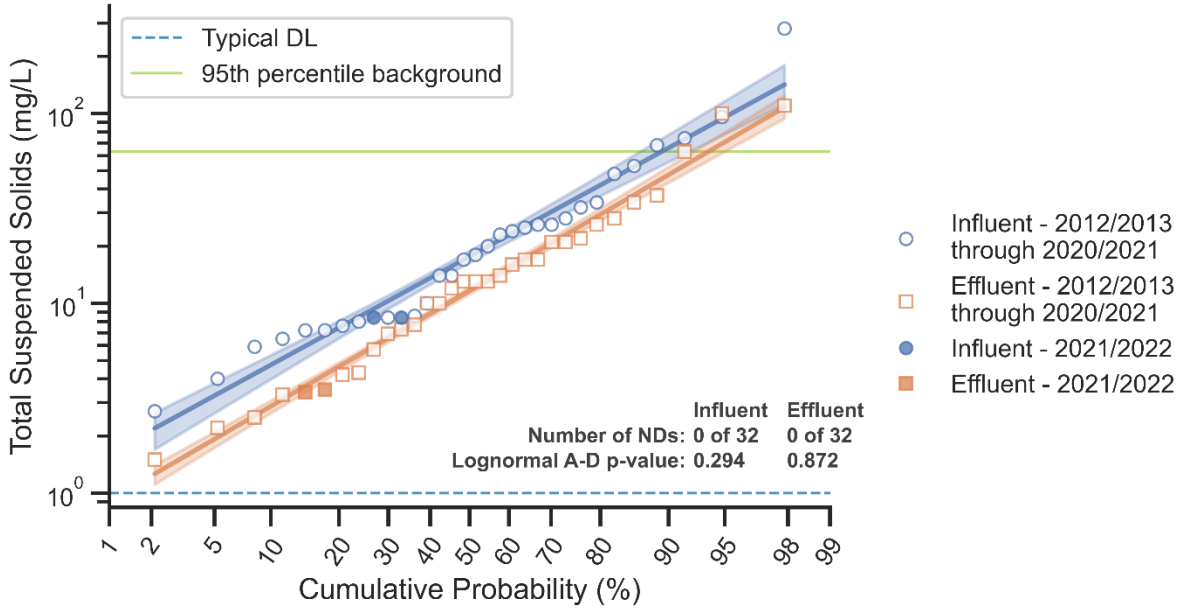


Figure 81. Log-normal Probability Plot of TSS at Lower Lot Biofilter

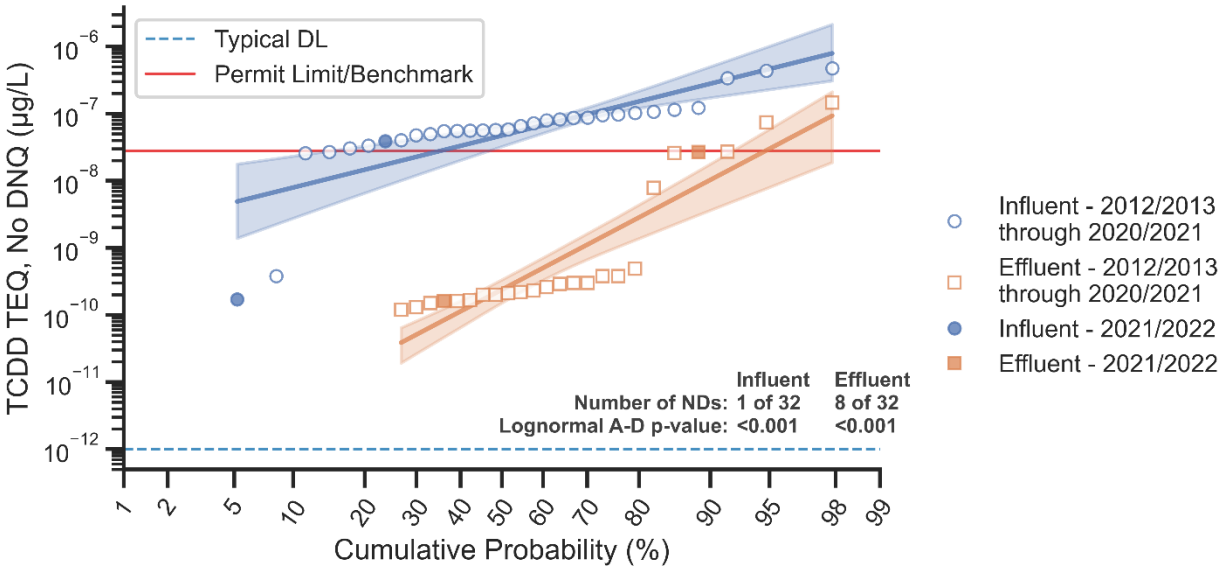


Figure 82. Log-normal Probability Plot of Dioxins at Lower Lot Biofilter

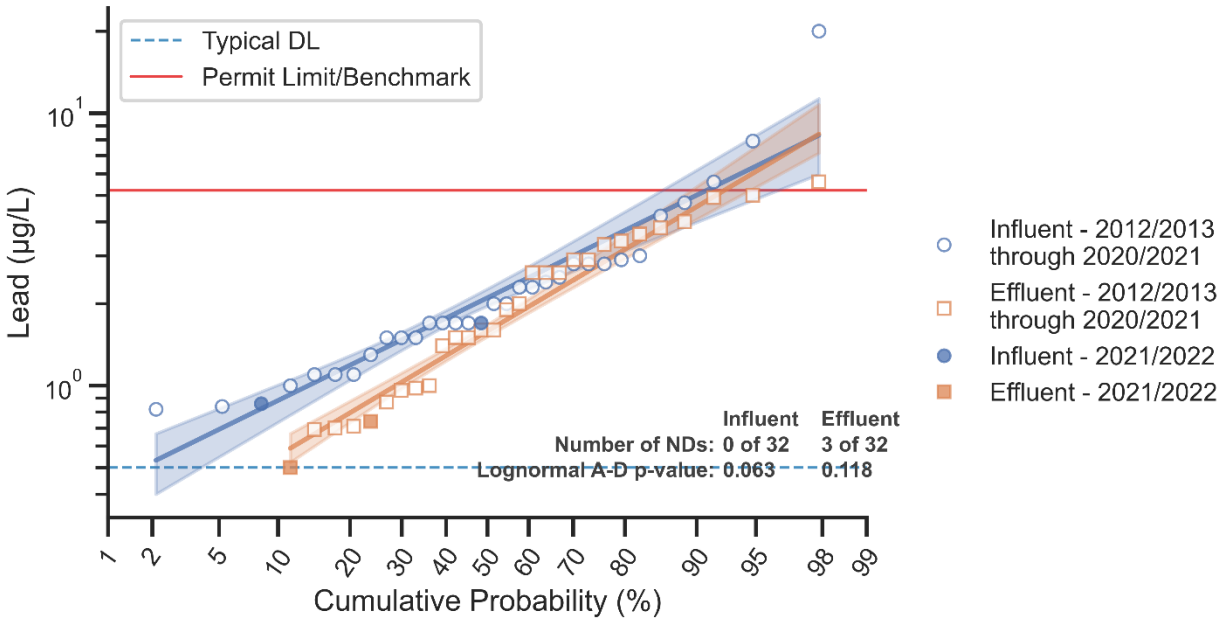


Figure 83. Log-normal Probability Plot of Lead at Lower Lot Biofilter

10.3 ELV Treatment BMP Probability Plots

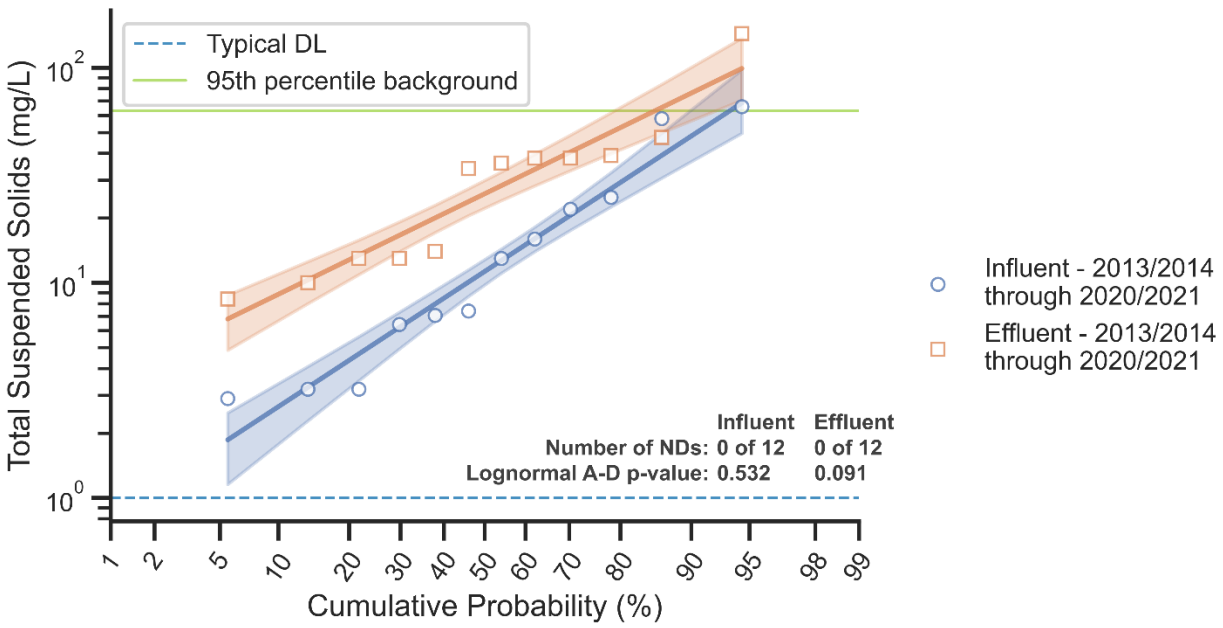


Figure 84. Log-normal Probability Plot of TSS at ELV Treatment BMP

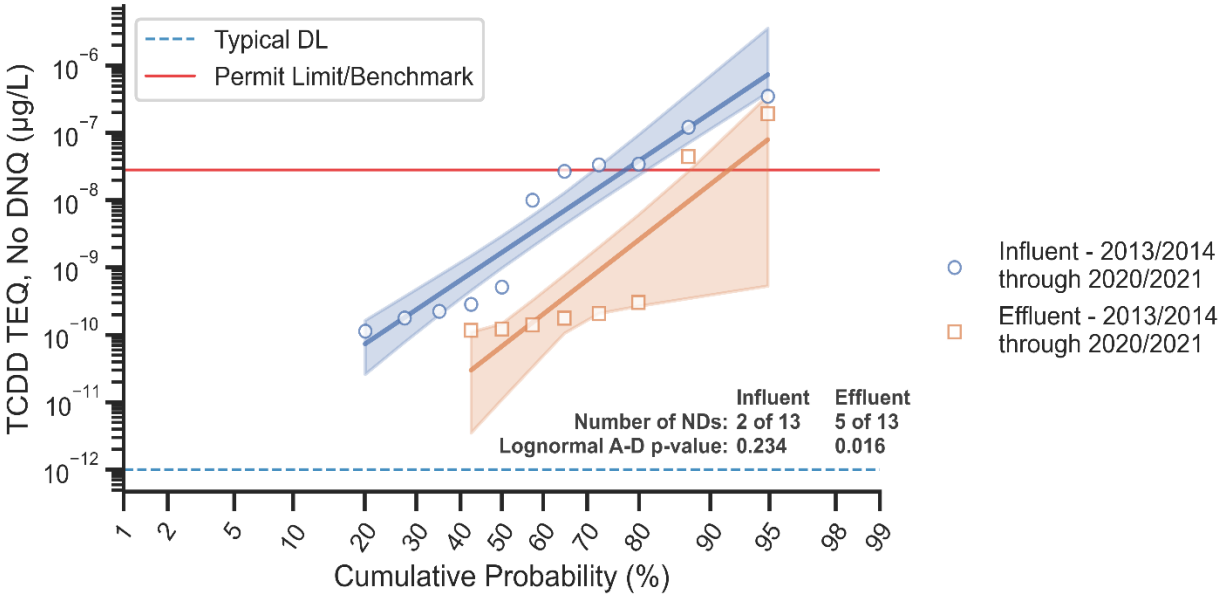


Figure 85. Log-normal Probability Plot of Dioxins at ELV Treatment BMP

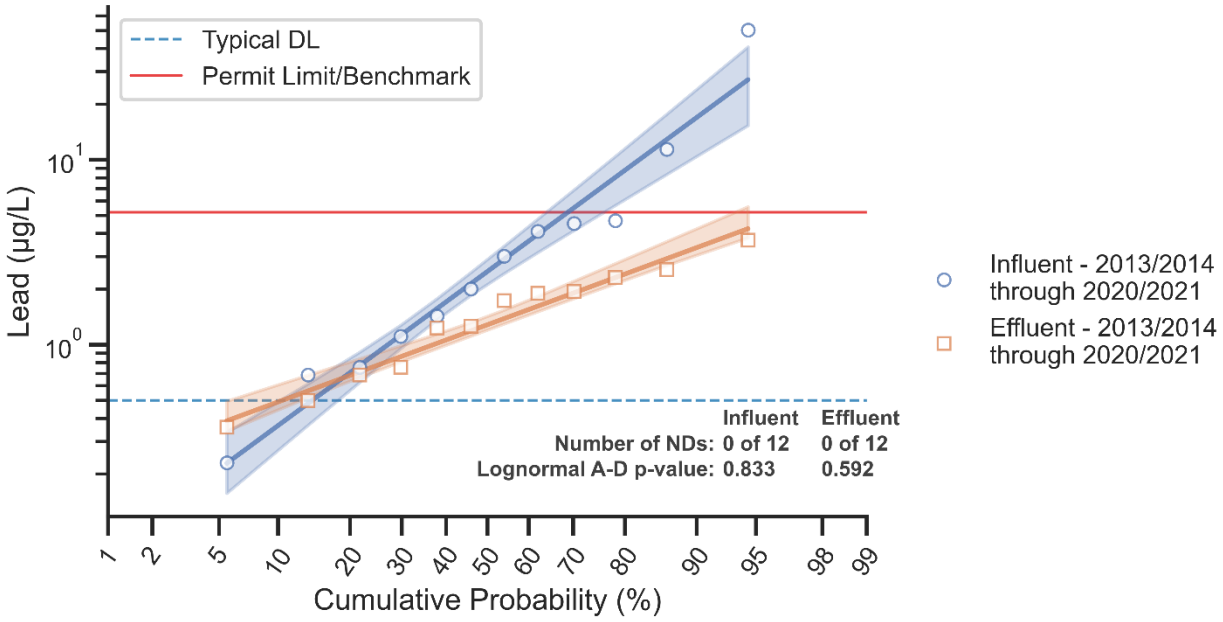


Figure 86. Log-normal Probability Plot of Lead at ELV Treatment BMP

10.4 Detention Bioswales Probability Plots

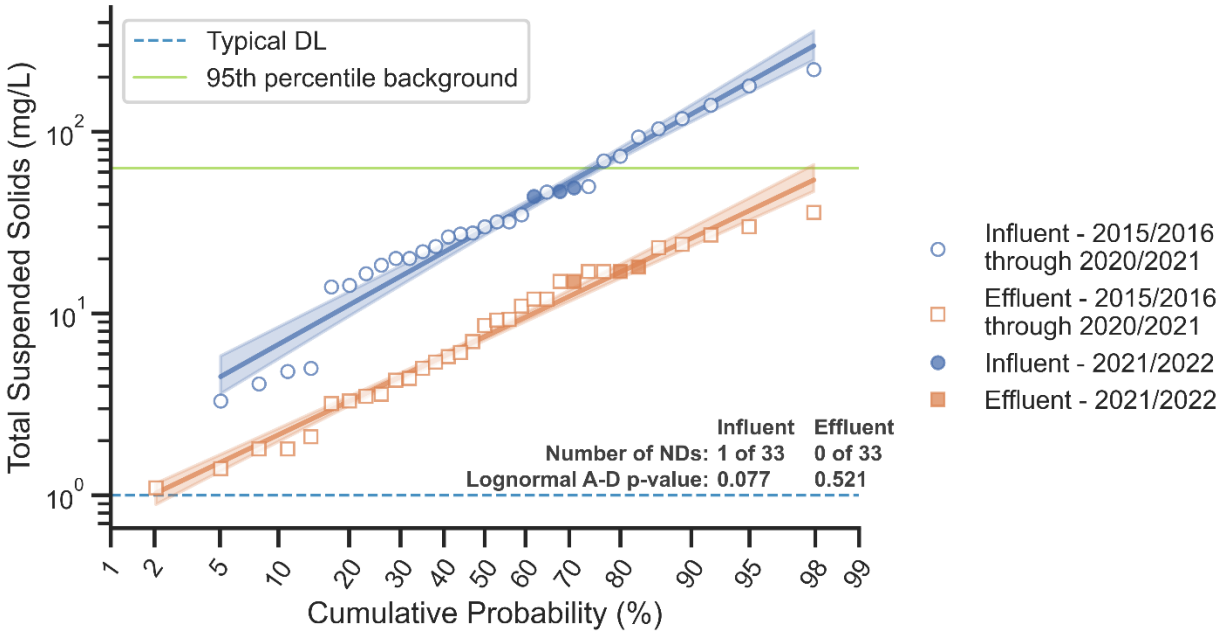


Figure 87. Log-normal Probability Plot of TSS at Detention Bioswales

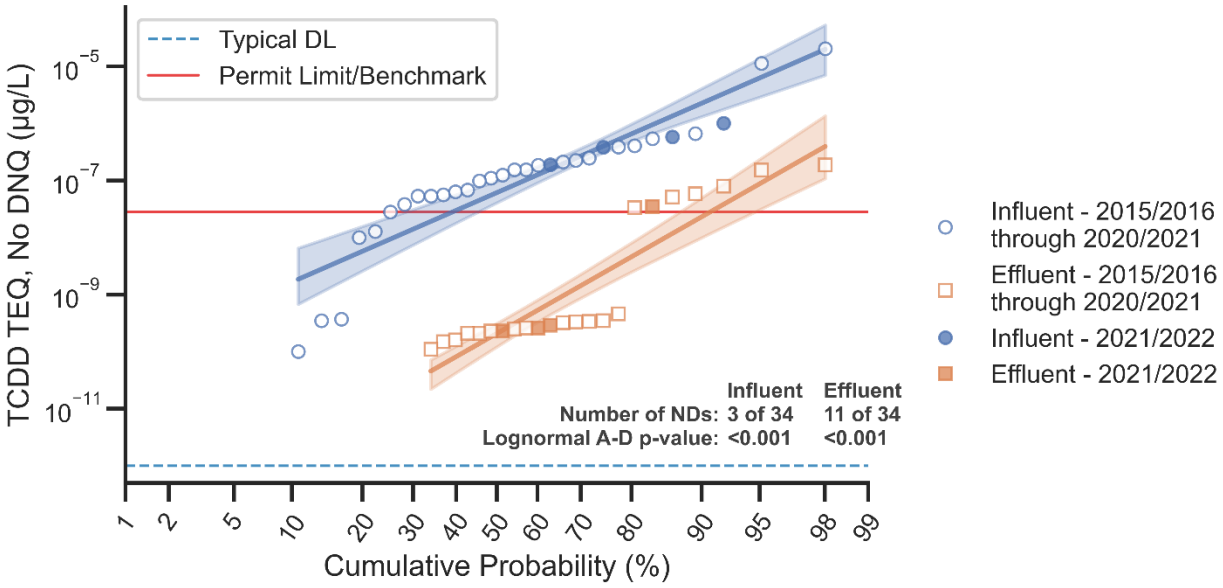


Figure 88. Log-normal Probability Plot of Dioxins at Detention Bioswales

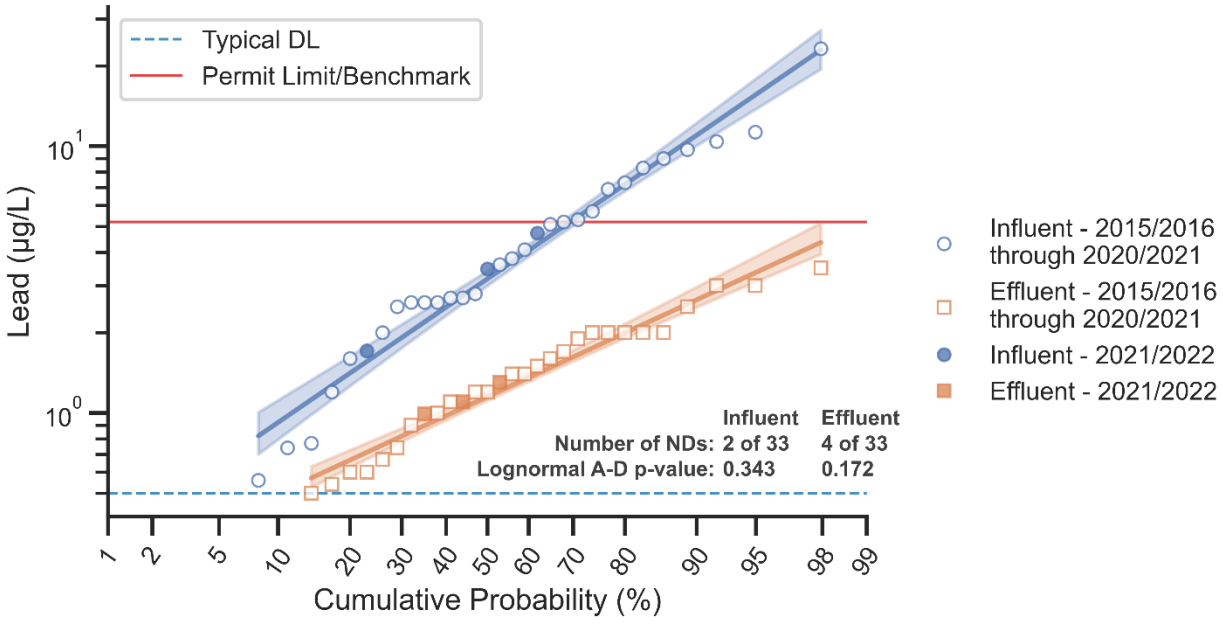


Figure 89. Log-normal Probability Plot of Lead at Detention Bioswales

10.5 Boeing Administrative Area Inlet Filter Probability Plots

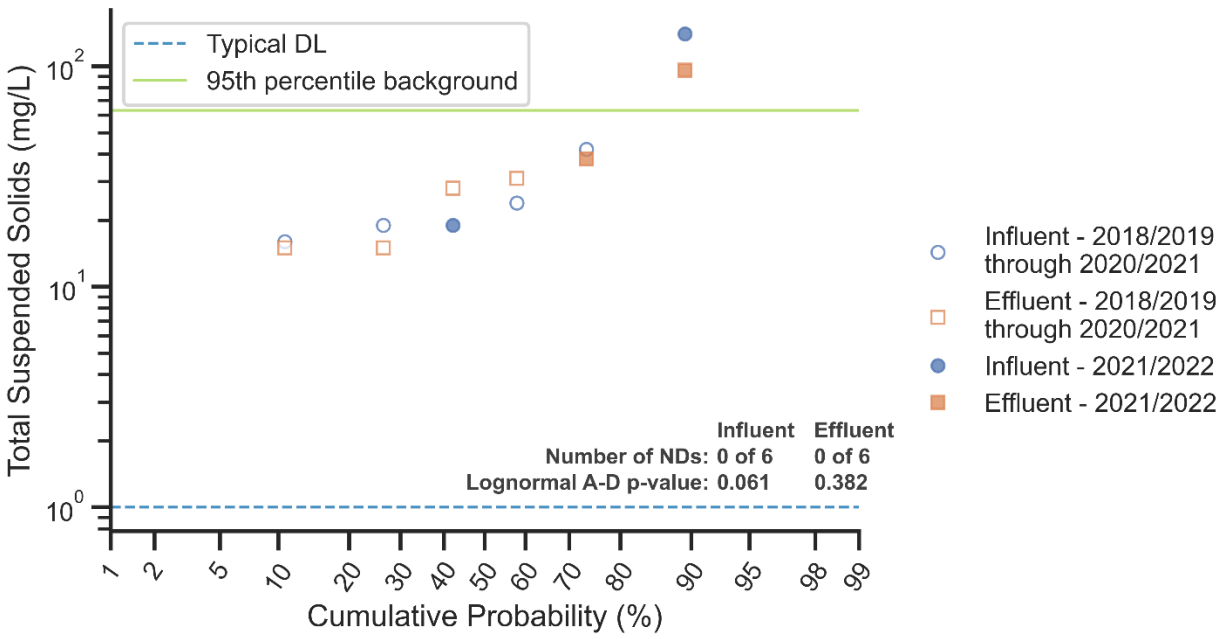


Figure 90. Log-normal Probability Plot of TSS at the Boeing Administrative Area Inlet Filter

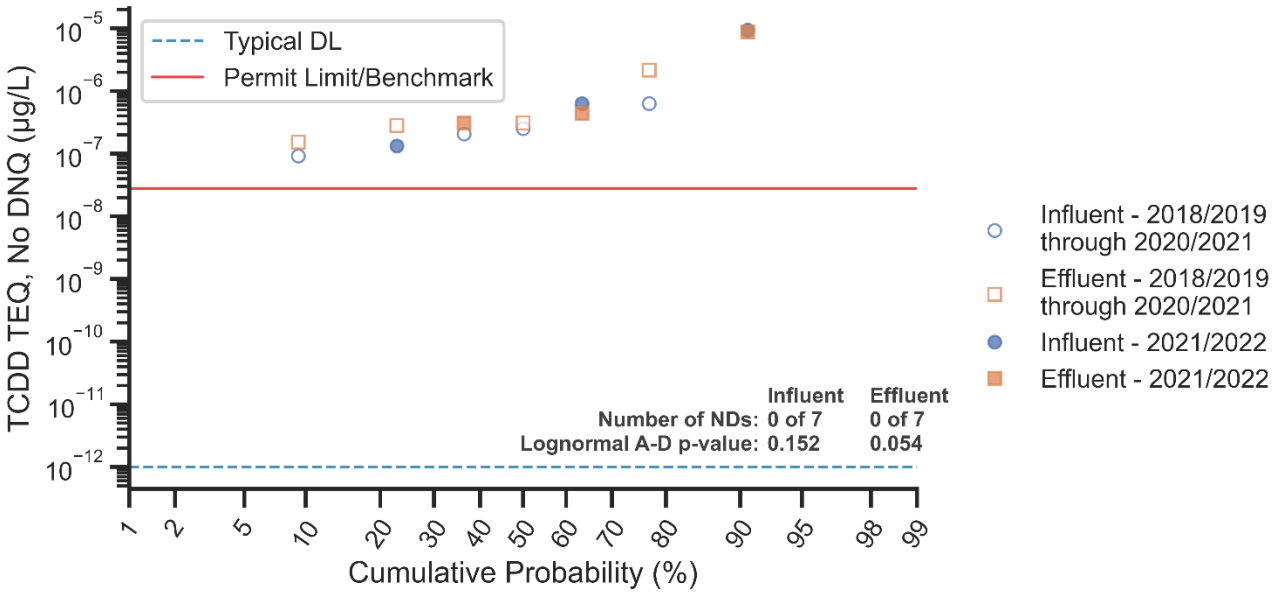


Figure 91. Log-normal Probability Plot of Dioxins at the Boeing Administrative Area Inlet Filter

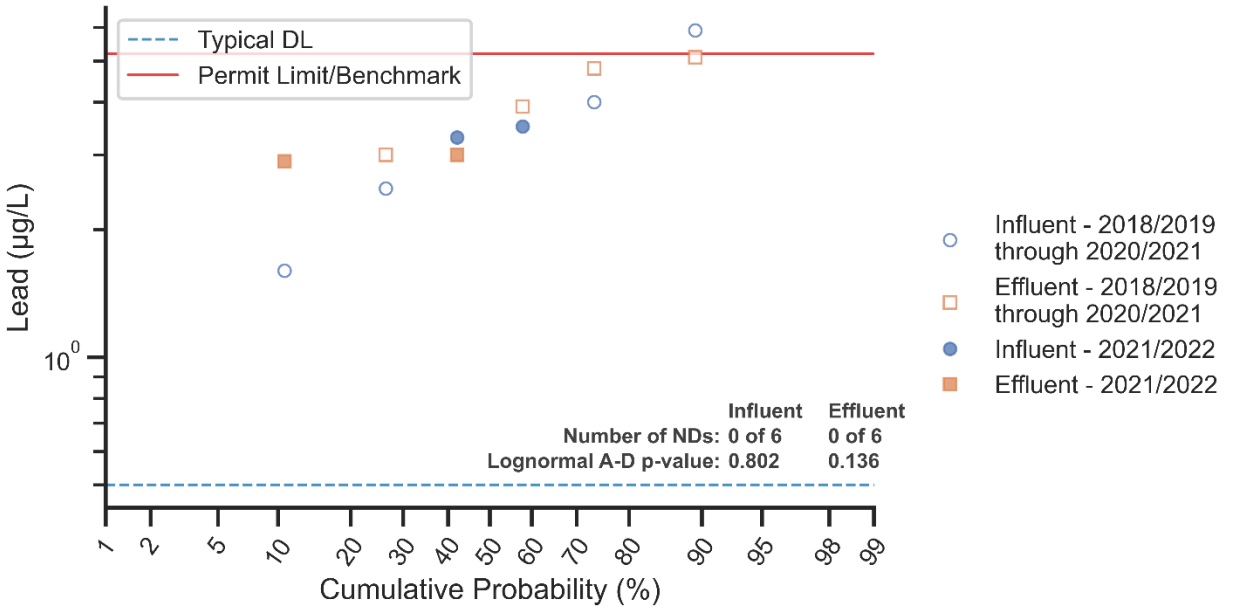


Figure 92. Log-normal Probability Plot of Lead at the Boeing Administrative Area Inlet Filter

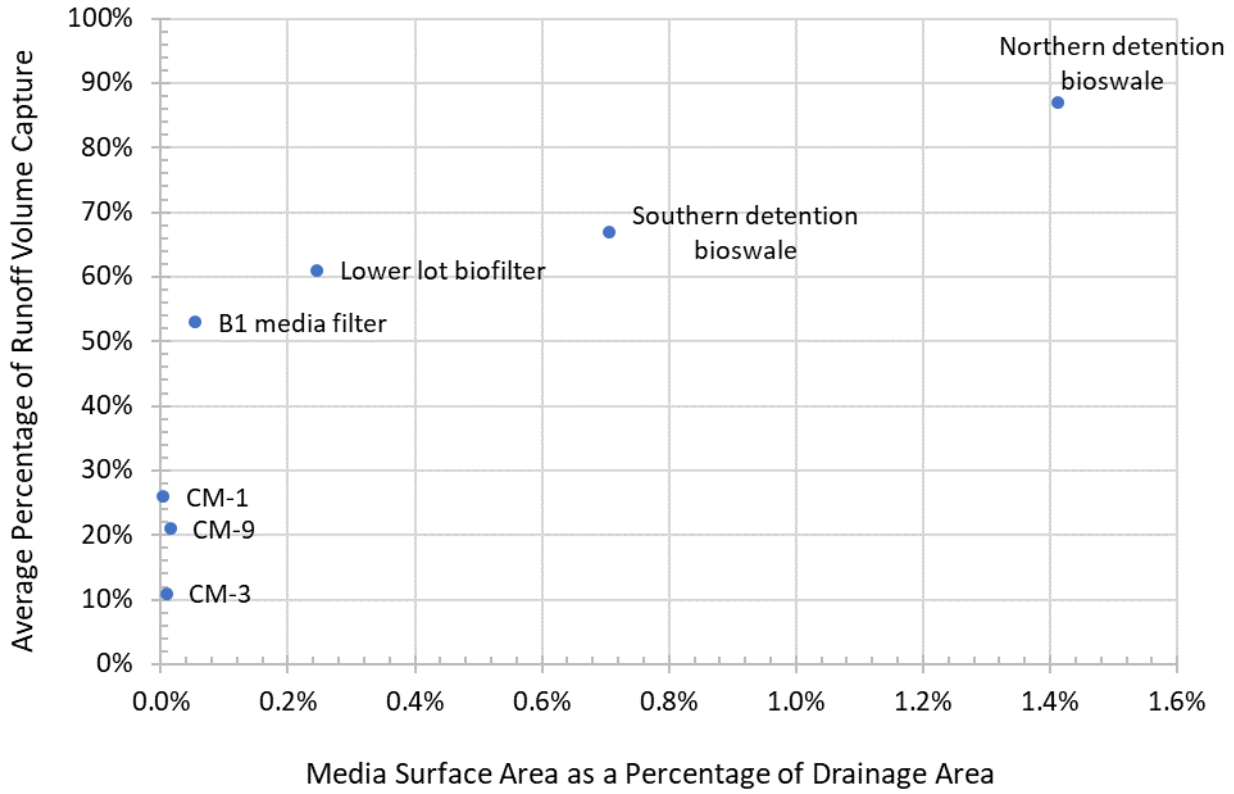
11. Summary of BMP Sizing

Pitt, et al. (2022) evaluated the long-term performance of the distributed stormwater controls at the SSFL. As the relative footprint of the treatment media area compared to the drainage area increases, greater fractions of the annual stormwater flows are fully treated (compared to small treatment media areas). Figure 93 compares these treatment media/drainage area ratio values for the stormwater controls examined (except for the ELV treatment BMP, which is more efficient with a smaller footprint) to the average portion of the stormwater flows treated by the stormwater controls, as determined by SWMM modeling[15]. Media footprints of about 0.1% of the drainage area resulted in approximately half (or less) of the annual flows being fully treated, while about 0.7% was needed to provide full treatment of about 70% of the annual flows, and greater than 1% was necessary to fully treat about 90% of the annual flows. The excess flows bypassed the media treatment.

CM-1, the first media treatment system rebuilt due to clogging, has a media treatment area to drainage area ratio of only approximately 0.003%, the smallest of the site controls. CM-9, the control with only a short useful life remaining, has a media treatment area to drainage area ratio of only 0.01%. The culvert modifications were installed early in the process in 2009 and 2010 before data were collected and analyzed, as these could be installed quickly and at relatively low cost. They were sized based on the available area at the culvert road crossings, with the understanding that they were treating larger drainage areas than desired for optimal performance. CM-9 has undergone several phases of enhancements, and

[15] For determination of the runoff volumes treated in an average rainfall year, historical rainfall data were used to model the 2009/10 through 2021/22 rainy seasons.

CM-1 was recently rebuilt. The detention bioswales have the largest relative footprints compared to their drainage areas and have been shown to be more consistently effective than the other controls.



Note: the media surface area for the detention bioswales is characterized as the (bottom) ponding area of the bioswales.

Figure 93. Percentage of annual flows treated vs. media surface area as a percentage of drainage area for SSFL distributed control locations.

12. Discussion and Observations

The following general observations were made based on an evaluation of the aforementioned data summary charts and tables.

1. **Are the CMs and media filters continuing to reduce the concentrations of lead, dioxin, and TSS between the untreated influent and the treated effluent?**

   Yes. The CMs were originally installed as provisional (pending further evaluation) stormwater controls that could be installed in areas where existing culverts carried the stormwater below the roads. As a result, they handle a wide range of flows during a typical rain year and experience relatively short treatment residence times and the weirs overflow during average to large size storms.

   However, performance monitoring results indicate statistically significant reductions of TSS, dioxins, and lead concentrations through treatment by non-background CMs/media filter, including CM-1, CM-9, CM-3 post-2016/17, B-1, and the upper lot media filter, as a result of sedimentation and media treatment unit processes. Reductions in COC concentrations were also observed at background CMs, CM-8 and CM-11, with TSS and lead removal found to be statistically significant. Although there was not a statistically significant reduction for dioxins at the background CMs, 63% of paired samples included influent and effluent concentrations below the detection limit, indicating low concentrations of dioxins in runoff but detracting from the statistical significance of concentration reduction through the CMs.

2. **Are the detention bioswales, Lower Lot Biofilter, and ELV Treatment BMPs continuing to reduce the concentrations of lead, dioxin, and TSS between the untreated influent and the treated effluent?**

   Generally, yes. Data collected at detention bioswales show substantial and statistically significant reductions of TSS, dioxins, and lead concentrations. Statistically significant dioxins reductions were observed at the lower lot biofilter, with overall reductions of TSS and lead concentrations also achieved (based on the majority of data pairs showing a decrease in concentration from the influent to the effluent), though not with statistical significance. The lower lot biofilter receives runoff that is already treated by the detention bioswales, so further significant influent-to-effluent reductions of lead and TSS concentrations may be difficult to achieve through lower lot biofilter treatment.

   Statistically significant reductions of dioxins and lead concentrations have been observed at the ELV Treatment BMP. The two most recent sample pairs collected at the ELV Treatment BMP (2019/20 and 2021/22) have been paired samples of non-detects for dioxins. However, a statistically significant increase in TSS concentrations was observed at the ELV Treatment BMP. The ELV Treatment BMP was rebuilt in Summer 2021; however, new sample data for TSS are not yet available following this rebuild. It is anticipated that data collected in the coming years will indicate an improvement in TSS reduction performance at the BMP.

   Additionally, the number of results exceeding the Permit Limits for both the influent and effluent samples show an improvement in water quality between the untreated influent and the treated effluent, as described in the subsequent observation below.

3. **Are the treatment controls continuing to aid in compliance with NPDES Permit Limits at Outfall 009?**

   Yes. Collectively, the treatment controls have achieved water quality improvements toward reliable NPDES compliance at Outfall 009. BMPs in the Outfall 009 Watershed have been observed to reduce the frequency of BMP effluent concentrations in excess of Permit Limits for all COC-BMP combinations, with a sole exception of dioxins at the Boeing administrative area inlet filter. Effluent discharge from the inlet filter subsequently flows into the lower lot biofilter for additional treatment, however, where effective dioxins reductions to below the Permit Limit have been observed.

   Most COC-BMP combinations also showed lower average and maximum exceedance ratios (i.e., exceeding sample concentrations divided by the Permit Limit) for effluent results compared to the influent results[16]. These observations show that the treatment controls are improving storm water quality prior to reaching Outfall 009. This not only demonstrates that the treatment controls are reducing NPDES COC concentrations in stormwater upstream of Outfall 009, but that the treatment control drainage areas (which include paved roads) are pollutant generating source areas that, without treatment, would have worsened water quality at the downstream NPDES compliance location.

4. **Is the lower lot biofilter continuing to reduce stormwater runoff from the paved Boeing administrative areas and lots to the Northern Drainage?**

   Yes. Monitoring data at the lower lot biofilter were examined to determine its ability to prevent smaller storms from discharging to the Northern Drainage and ultimately to Outfall 009. The lower lot biofilter successfully prevented discharge of stormwater runoff to the Northern Drainage in approximately 55% of storms originating in the lower lot tributary area generating an inch or less of rainfall.

5. **Has an adequate number of samples been collected such that sampling can be potentially discontinued at some locations?**

   Yes. Following the 2016/17 reporting year, the Expert Panel evaluated the need for continued sampling at the BMPs in the context of the planned decrease in construction and demolition activities within the Outfall 009 drainage area in 2017/18 and after. The resulting Panel recommendation outlined a reduction of sampling to two events per year at the upper lot media filter, southern detention bioswale, lower lot biofilter, CM-1 (west influent and effluent), and the ELV Treatment BMP. The Panel will revisit the monitoring frequency when site activities are resumed in the Outfall 009 Watershed. Collection of additional data is expected to benefit long-term monitoring efforts, including assessments that help inform media replacement and other BMP maintenance needs not easily identified via visual inspection.

[16] The only exceptions include the average exceedance ratio for lead at B-1 and dioxins for the Boeing Admin Area inlet filters (both average and maximum exceedance ratio).

6. **Is significant maintenance currently required for any of the BMPs?**

   Yes. Replacement of media at CM-9 is recommended, due to the observed ponding during the 2018/2019 and 2020/2021 reporting years and estimated sediment loading until maintenance is needed (presented in Section 7).

   The Expert Panel recommends that observations of clogging, overflow, and underdrain flows should continue to be taken at BMPs when performance samples are collected during storms to verify underdrains are functioning properly and no bypass is occurring through weir boards, as well as following storms to assess whether any extended ponding is occurring, to continue to inform the timing of maintenance and replacement needs.

7. **Is pollutant removal performance deteriorating at any BMPs?**

   No. Based on long-term monitoring results of all BMPs, effluent concentrations tracked the influent concentrations, with no significant differences with time. Changes in influent concentrations due to altered site conditions had the strongest impact on effluent trends, however all effluent concentrations remained low and steady, without long-term increasing trends (Pitt et al, 2021 and Pitt et al, 2022). Based on these observations, it is not likely that there has been deterioration in pollutant removal performance at any of the media treatment systems at SSFL.

   Future data collection and ongoing observations will aid further monitoring of existing, replaced, maintained, and recently installed BMPs to evaluate ongoing pollutant reduction performance and inform recommendations of additional maintenance.

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Appendix E: 2021/22 Subarea Stormwater Monitoring Summary

Prepared for

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Appendix E: 2021/22 Outfall 001/002 and Background Subarea Stormwater Monitoring

Prepared by

The Surface Water Expert Panel

and

Geosyntec consultants

engineers | scientists | innovators

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CWR0724
October 2022

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Acronyms

BMP	Best Management Practice
COPC	Constituent of Potential Concern
DNQ	Detected not Quantified
mg/kg	milligrams per kilogram
mg/L	micrograms per liter
mg/L	milligram per liter
ND	Non-Detect
NPDES	National Pollutant Discharge Elimination System
pCi/g	picocuries per gram
pCi/L	picocuries per liter
PS	Particulate Strength
SSFL	Santa Susana Field Laboratory
SWEP	Storm Water Expert Panel
TCDD	Tetrachlorodibenzo-*p*-dioxin
TEQ	Toxic Equivalence
TSS	Total Suspended Solids

1. Introduction

In the 2018/19 Santa Susana Field Laboratory (SSFL) Site-Wide Stormwater Annual Report, the Surface Water Expert Panel (SWEP) recommended new subarea monitoring in the Outfall 001 and 002 watersheds to determine the extent to which areas near potentially impacted soils, natural background areas, and areas with pavement may contribute to exceedances at the outfalls and where and how to control these sources. In 2021 the onsite subarea monitoring was expanded to include three subarea locations around the Area 1 Burn Pit, which sits in the Outfall 001 and 011 watersheds (i.e., drains partly eastward to 011 and partly westward to 001). In 2021 offsite background subareas were also identified to characterize natural and ambient background stormwater representative of the region, but away from potential impacts from previous SSFL activity. These locations are described briefly below, and more in depth in the 2022 SSFL RWQCB-Boeing MOU Exhibit D Attachment E: Santa Susana Field Laboratory Background Stormwater Sampling Memorandum[1]. Data from the background subareas are being used to establish statistical background thresholds for comparison with future post-cleanup modeling and monitoring results as described in 2022 SSFL Background Stormwater Thresholds Memorandum[1]. These thresholds will be periodically recalculated as the dataset grows, but the preliminary thresholds calculated in 2021 are included herein for comparison with the monitoring results.

The subarea monitoring results will be used to help answer the following questions once sufficiently robust data are collected.

1. How do the onsite vs offsite background or non-industrial concentrations and particulate strengths compare (e.g., do they suggest onsite background locations are not representative of true/regional background or non-industrial conditions, due to other contributions local to SSFL?)?
2. How do non-industrial concentrations and particulates particulate strengths compare with background, especially for COPCs where the SWEP has previously concluded that exceedances are primarily coming from non-industrial sources (like dioxins)?
3. How do outfall concentrations and particulate strengths compare with background or non-industrial concentrations, especially for COPCs where we have previously concluded exceedances are primarily coming from background sources (like iron, manganese) or non-industrial source (like dioxins)?

According to the sampling plan (Appendix A), the filtered and total concentrations of each constituent were analyzed for each stormwater sample. Particulate strength (PS) is the constituent concentration associated with particulate matter in stormwater and is a means to normalize stormwater constituent concentrations by total suspended solids (TSS). Normalizing constituent concentrations by TSS is helpful for comparing solid concentrations of hypothesized sources between sample locations. This tool is useful for the constituents that are highly associated with particulates and are not found in significant quantities in filtered (dissolved and colloidal) forms. PS is calculated by the following equation and applying the appropriate unit conversions.

$$PS = \frac{(\text{total concentration} - \text{filtered concentration})}{\text{total suspended solids concentration}}$$

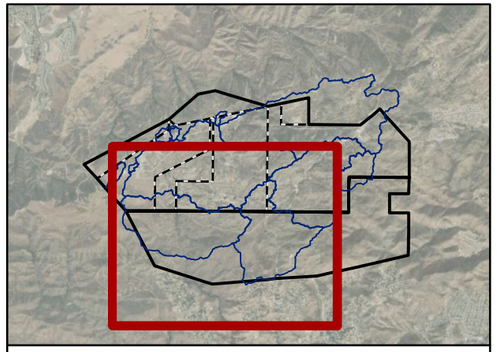
[1] This memorandum was included as Exhibit D to the MEMORANDUM OF UNDERSTANDING ESTABLISHING THE PROCESSES, METHODOLOGIES, AND STANDARDS FOR ASSESSING STORMWATER DISCHARGES AND APPLICABLE REQUIREMENTS FOLLOWING THE BOEING COMPANY SOIL CLEANUP AT THE SANTA SUSANA FIELD LABORATORY SITE

1.1 Onsite Subarea Monitoring

Table 1 describes each subarea and the number of samples collected at each location in total and in the 2021/22 reporting year. This appendix includes stormwater monitoring results at the subarea monitoring locations compared to the Outfall concentrations. Due to the connected nature of the watersheds for 001 and 011, these outfalls and subareas are shown together in each figure. Similarly, Outfall 018 and 002 results are shown together with 002 subareas. The drainage areas contributing to each subarea monitoring location are indicated by the blue shaded areas shown in Figure 1. The figures showing these onsite subarea and outfall stormwater monitoring results contain results from the last three years of monitoring (2019/20 – 2021/22).

Table 1. Onsite Subarea Descriptions

Outfall Watershed	Sampling Location	Subarea Watershed Description	Total Number of Samples Collected	Number of Samples Collected in 2021/22	Ongoing Monitoring 2022/23 and Beyond
001	EPSW001BG01	Ambient, non-industrial watershed containing background soils, gravel road, and treated wood	5	4	No
	EPSW001IE01	Potential impacts from Area 1 Burn Pit and CTL-V	4	2	Yes
	EPSW001PV01	Ambient, non-industrial watershed containing background soils, paved road, and treated wood	1	1	No
002	EPSW002BG01	Natural background watershed	1	0	No
	EPSW002IE01	Potential impacts from STL-IV	3	3	No
	EPSW002IE02	Potential impacts from Coca	5	2	No
011	A1BPSW0001	Potential impacts from Area 1 Burn Pit	2	2	Yes
	A1BPSW0002	Potential impacts from Area 1 Burn Pit	2	2	No
	A1BPSW0003	Potential impacts from Area 1 Burn Pit	2	2	No



Legend

Subarea Monitoring Location

- Natural Background
- Ambient Background
- Potentially Impacted
- NPDES Outfall
- Drainage
- Subarea Drainage Area
- Drainage Area
- Property Boundary
- Administrative Boundary

0 500 1,000 2,000 Feet

Figure 1. Subarea Stormwater Monitoring Locations

Santa Susana Field Laboratory
Ventura County, CA

October 2022

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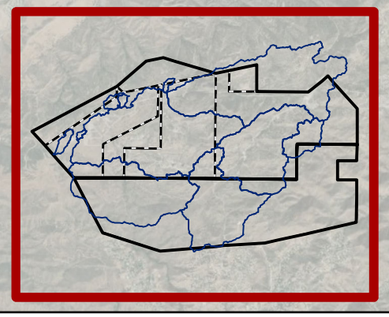
BUFFER
N
B056 Landfill
A4PR
B100 Trench
FSDF
RIHL
ESADA
Pond Dredge
PDU
B008LF
Drum Storage
AREA IV (BOEING/DOE)
ECL
Silvernale
EEL
AREA III (BOEING)
STP POND
Compound A
CDFF
STL-IV
EPSW002IE01
PLF
R-2 Ponds
Delta
SPA
ABFF
WCT
Bravo
Alfa
AREA II (NASA)
Coca
AREA I (BOEING)
LETF/CTL-1
Canyon
R-1 Pond
Bowl
CTL-V
CTL-III
Perimeter Pond
A1BPSW0002
A1BPSW0003
A1BPF
A1BPSW0001
EPSW001IE01
EPSW002IE02
EPSW002BG01
EPSW001BG01
EPSW001PV01
BUFFER
Geosyntec consultants
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1.2 Background Subarea Monitoring

Background subarea monitoring locations were selected to be free of former industrial or commercial activity. These subareas are further distinguished into ambient, non-industrial watersheds that may contain infrastructure like roads or treated wood utility poles, and natural background watersheds that contain only undisturbed and undeveloped natural landcover. Table 2 describes each background subarea and the number of samples collected at each location in total and in the 2021/22 reporting year. This appendix includes stormwater monitoring results at the subarea monitoring locations compared to the Outfall concentrations. The drainage areas contributing to each subarea monitoring location are indicated by the blue shaded areas shown in Figures 2 and 3. The figures showing background and ambient stormwater monitoring results contain results from the full period of monitoring.

Table 2. Background Subarea Descriptions

Watershed	Sampling Location	Subarea Watershed Description	Total Number of Samples Collected	Number of Samples Collected in 2021/22	Ongoing Monitoring 2022/23 and Beyond
009	A1SW0006	Onsite natural background watershed upstream of CM-11	12	0	No
	BGBMP0002	Onsite natural background watershed upstream of CM-3	5	0	No
	BGBMP0007		9	0	No
	LXBMP0011		4	1	Yes
	A1SW0002	Onsite natural background watershed upstream of CM-8	10	0	No
	BGBMP0004	Onsite natural background watershed at Sage Ranch near CM-5	10	0	No
	BGBMP0003	Onsite natural background watershed at Sage Ranch near LOX	6	1	Yes
008	HZSW0008	Onsite natural background watershed, upstream of Happy Valley	1	0	No
	HZSW0011		2	0	No
	HZSW0012		1	0	No
	HZSW0020		2	0	No
002	EPSW002BG01	Onsite natural background watershed	1	0	No
001	EPSW001BG01	Ambient, non-industrial watershed containing background soils, gravel road, and treated wood	5	4	No
	EPSW001PV01	Ambient, non-industrial watershed containing background soils, paved road, and treated wood	1	1	No
Offsite	EPOSBKGRLC	Offsite natural background watershed Las Llajas Canyon	1	1	Yes
	EPOSBKGRMC	Offsite natural background watershed Meier Canyon	0	0	Yes
	EPOSBKGRBC	Offsite ambient Box Canyon (Ambient Background)	1	1	Yes



Legend

- Utility Pole
- Former Utility Pole
- Ambient Monitoring Location
- Background Monitoring Location
- NPDES Outfall
- Drainage
- Monitoring Subcatchment
- Outfall Drainage Area
- Property Boundary
- Administrative Boundary
- RFI Site
- Former Shooting Range

0 800 1,600 3,200 Feet

Figure 2. Onsite Background Monitoring Locations

Santa Susana Field Laboratory
Ventura County, CA

October 2022

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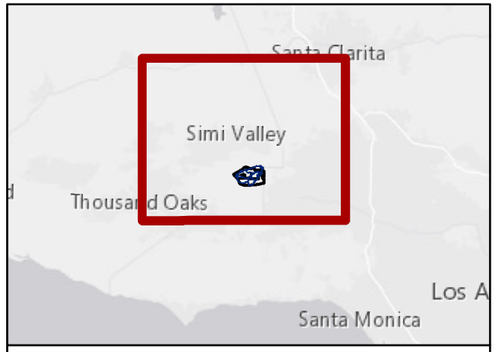
Geosyntec consultants

N

BGBMP0003
EPNDSW05
LXBMP0011
A1SW0006
HZSW0020
HZSW0012
HZSW0008
EPSW002BG01
EPSW001BG01
EPSW001PV01

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Legend

Offsite Monitoring Location

- Natural Background
- Ambient Background
- Monitoring Subcatchment
- Property Boundary
- Administrative Boundary

0 5,000 10,000 20,000 Feet

Figure 3. Offsite Background Monitoring Locations

Santa Susana Field Laboratory
Ventura County, CA

October 2022

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Geosyntec consultants

Las Llajas Canyon

Montgomery Canyon

Box Canyon

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Source: Esri, Maxar, Earthstar Geographics,

2. Monitoring Results

1.3 Total Suspended Solids

Total suspended solids (TSS) does not have a stormwater NPDES Benchmark or Effluent Limit defined in the SSFL 2015 NPDES Permit; however, it can be used to recognize areas with greater soil erosion and to analyze particulate-bound pollutants using particulate strength calculations. As shown in the figures below, the TSS concentrations vary depending on their location within the larger outfall watersheds, with some locations consistently exhibiting higher TSS than others. Areas with higher TSS concentrations will be evaluated for erosion control BMPs as needed.

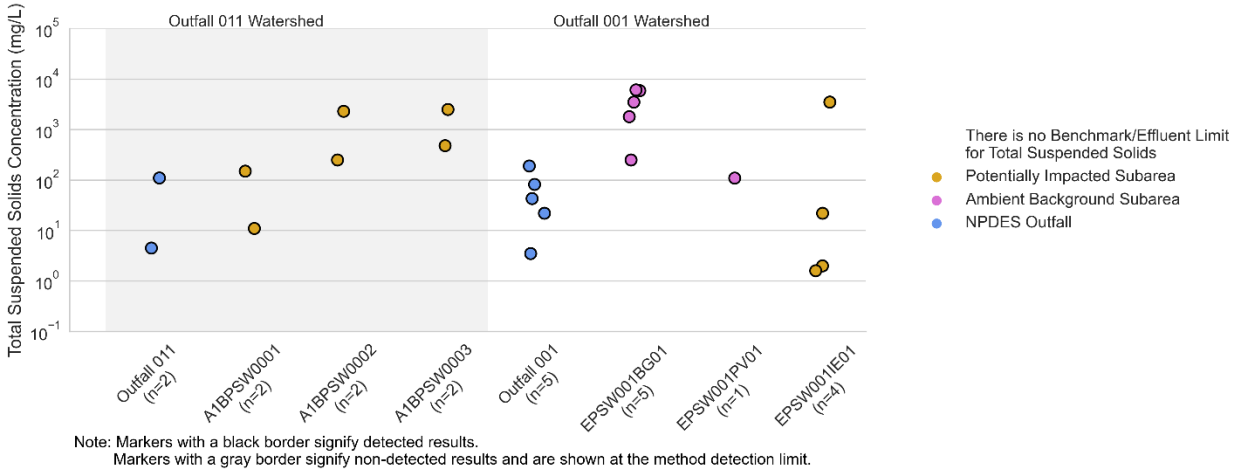


Figure 4. TSS concentrations at subarea monitoring locations, Outfall 011, and Outfall 001

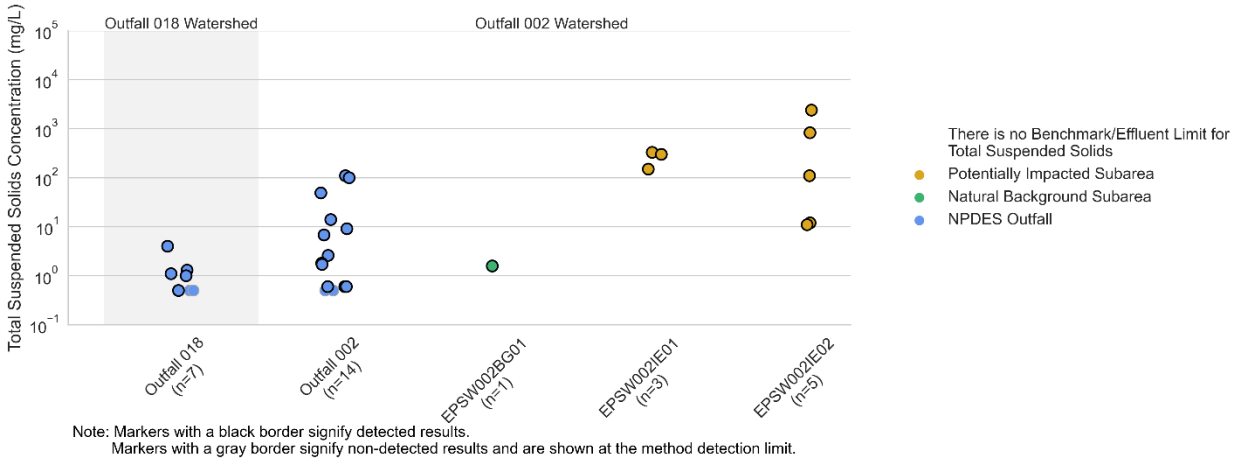


Figure 5. TSS concentrations at subarea monitoring locations, Outfall 018, and Outfall 002

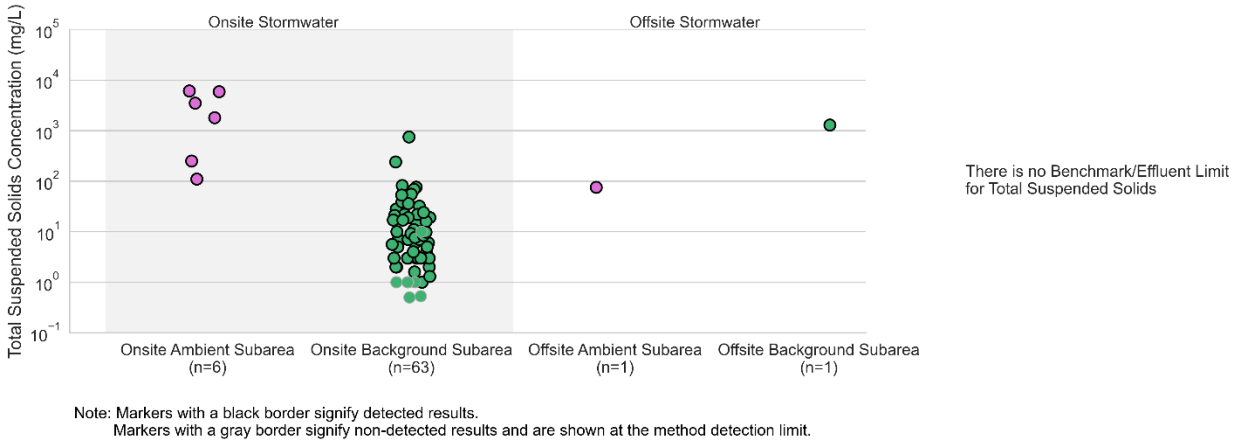


Figure 6. TSS concentrations at onsite and offsite background and ambient subarea monitoring locations

1.4 Constituents of Potential Concern

Constituents that exceeded Benchmark or Effluent Permit Limits at Outfalls in 2021/22 in addition to a few other metal constituents of potential concern (COPC) are included in the figures below. Concentration and particulate strength results for iron, manganese, arsenic, lead, copper, zinc, TCDD TEQ (no DNQ) are shown in Figure 7 through Figure 48. Subarea samples were not analyzed for biological oxygen demand or chronic toxicity, neither of which has had a recent exceedance prior to this year, so they are not included in this summary.

The onsite and offsite background and ambient subarea figures include results from the full monitoring period available. As described above, natural background watersheds contain only undisturbed and undeveloped natural landcover, while ambient, non-industrial watersheds are generally undeveloped but may contain infrastructure like roads or treated wood utility poles. Note that in the 2020/21 reporting year there were no buffer zone or offsite subarea samples collected and there were no NPDES outfall discharges due to historic drought conditions, so the Outfall 001, 002, and 011 outfalls and subareas figures include stormwater samples collected in 2019/20 and 2021/22 only. The monitoring results from these subareas are organized by constituent shown below compared to their respective outfall concentrations and particulate strengths. Preliminary stormwater background thresholds based on previously reported (but not shown here) offsite samples and onsite samples (non-wildfire years), from the 2022 SSFL Background Stormwater Thresholds Memorandum[2], are included for reference. As noted in the introduction, these threshold values are preliminary and will be revised as additional data become available. Similarly, as additional data are collected statistical tests will be conducted to evaluate significant differences between samples.

Onsite and offsite background and ambient subareas and two of the representative subareas around the Area 1 Burn Pit will continue to be sampled to enable a more robust statistical analysis.

[2] This memorandum was included as Exhibit D to the MEMORANDUM OF UNDERSTANDING ESTABLISHING THE PROCESSES, METHODOLOGIES, AND STANDARDS FOR ASSESSING STORMWATER DISCHARGES AND APPLICABLE REQUIREMENTS FOLLOWING THE BOEING COMPANY SOIL CLEANUP AT THE SANTA SUSANA FIELD LABORATORY SITE

1.4.1 Iron

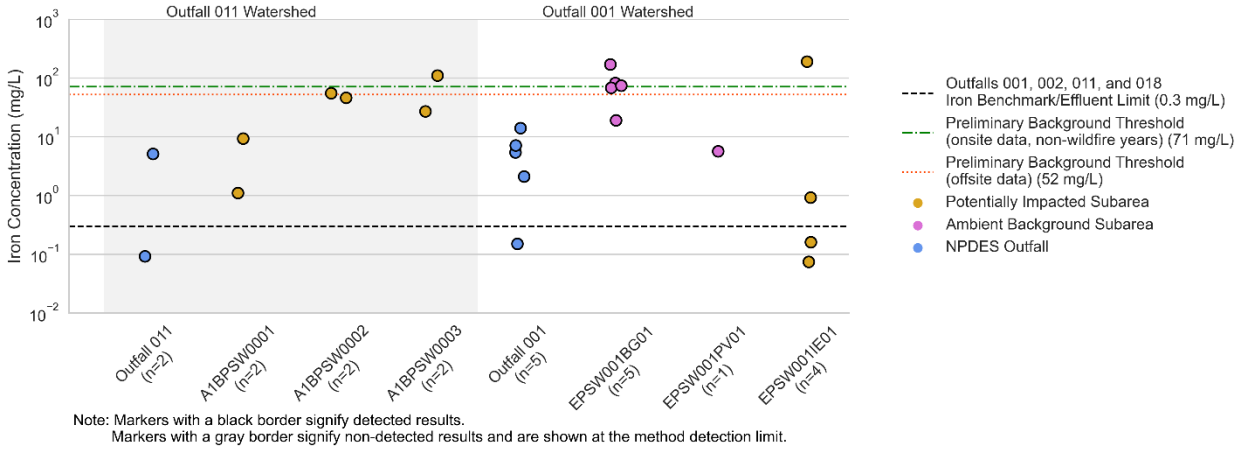


Figure 7. Iron concentrations at subarea monitoring locations, Outfall 011, and Outfall 001.

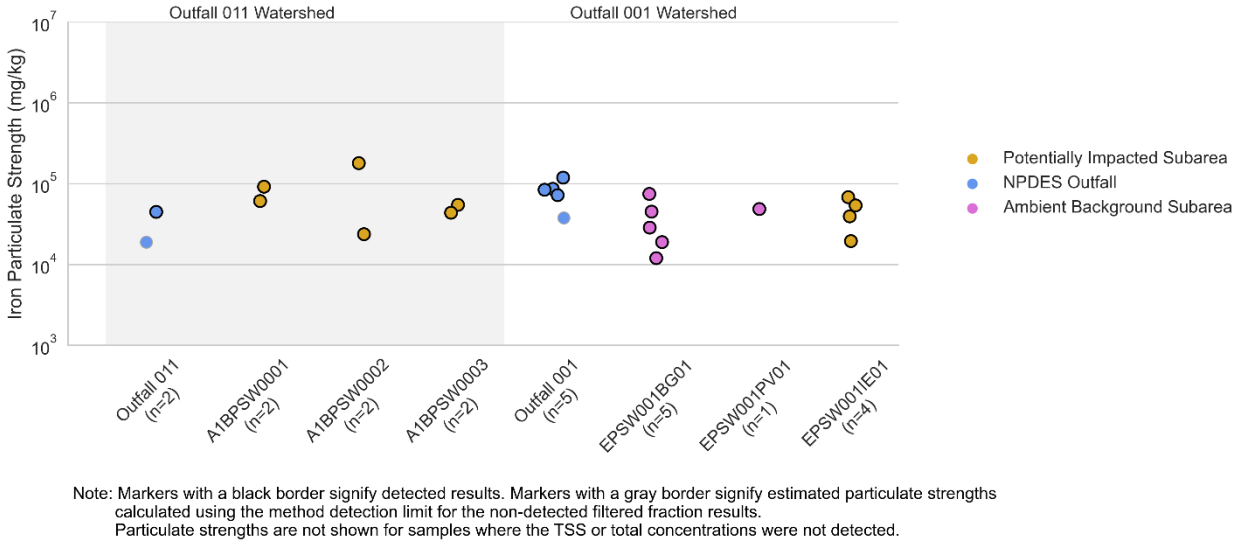


Figure 8. Iron particulate strengths at subarea monitoring locations, Outfall 011, and Outfall 001.

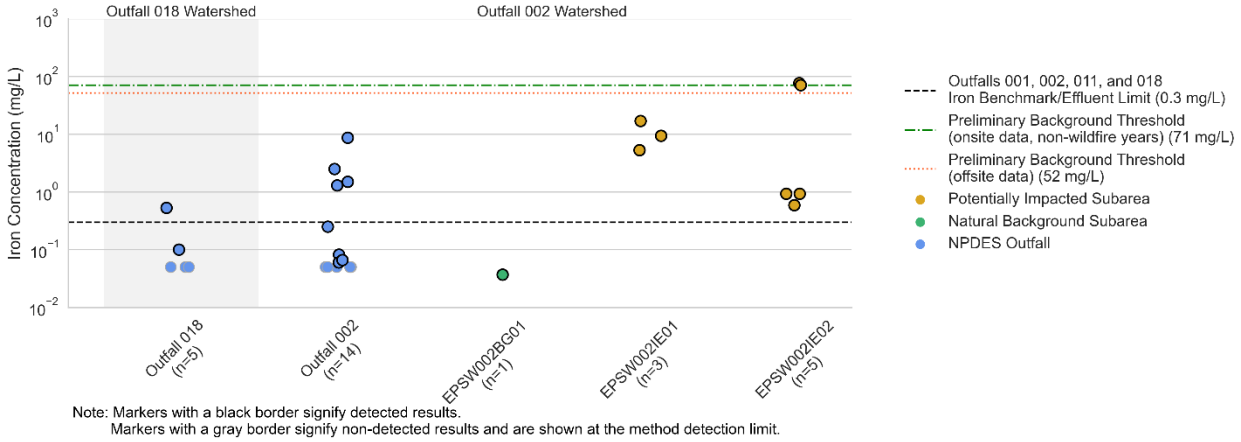


Figure 9. Iron concentrations at subarea monitoring locations, Outfall 018, and Outfall 002.

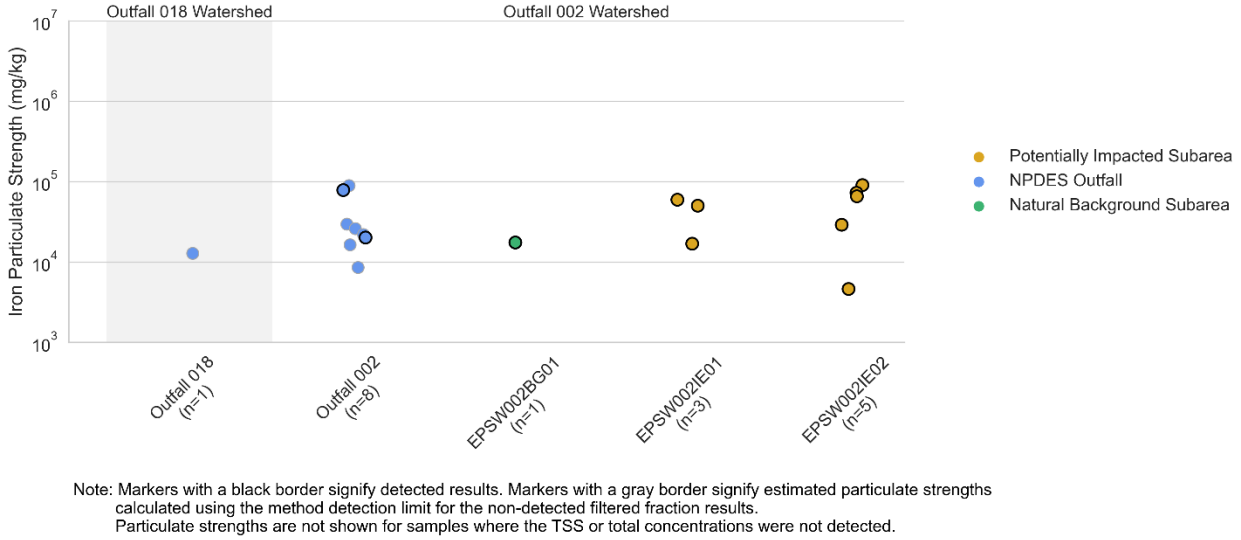
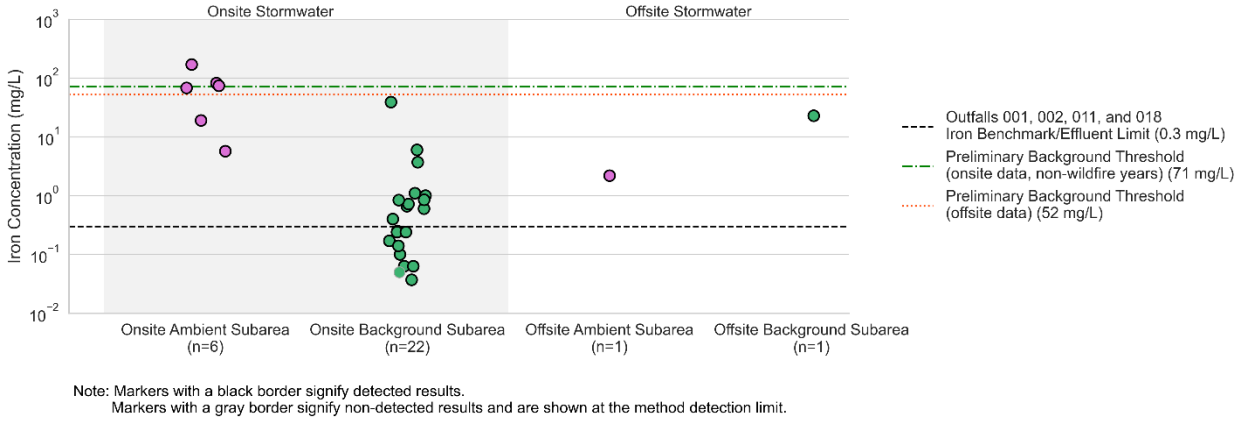
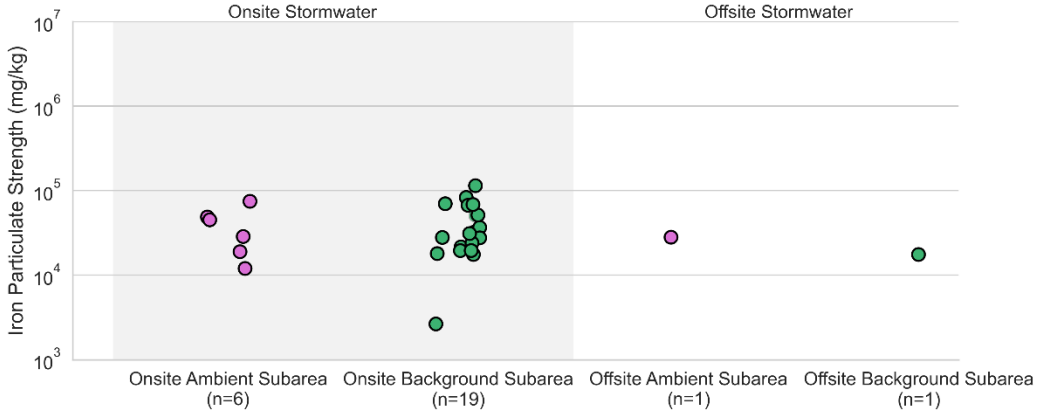


Figure 10. Iron particulate strengths at subarea monitoring locations, Outfall 018, and Outfall 002.



Note: Markers with a black border signify detected results.
Markers with a gray border signify non-detected results and are shown at the method detection limit.

Figure 11. Iron concentrations at onsite and offsite background and ambient subarea monitoring locations.



Note: Markers with a black border signify detected results. Markers with a gray border signify estimated particulate strengths calculated using the method detection limit for the non-detected filtered fraction results.
Particulate strengths are not shown for samples where the TSS or total concentrations were not detected.

Figure 12. Iron particulate strengths at onsite and offsite background and ambient subarea monitoring locations.

1.4.2 Manganese

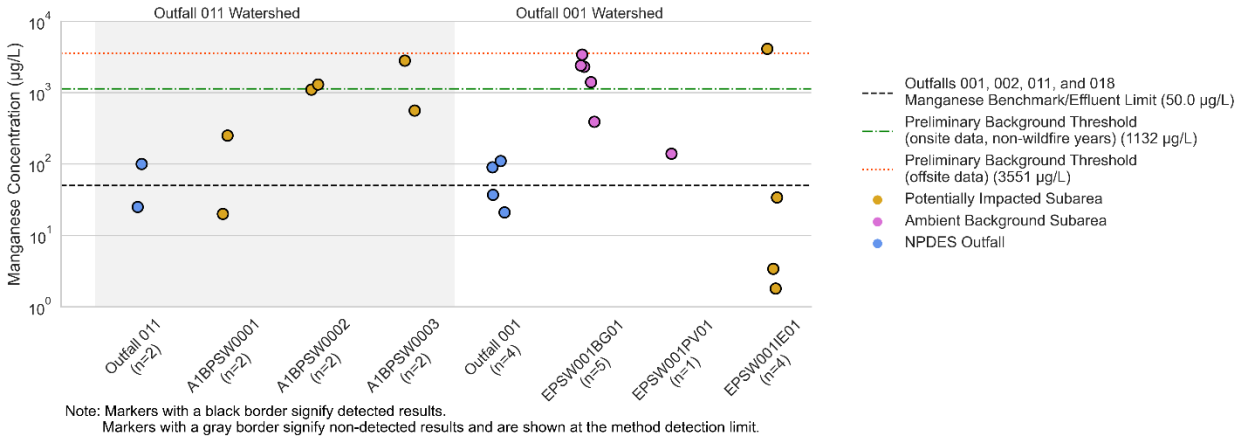


Figure 13. Manganese concentrations at subarea monitoring locations, Outfall 011, and Outfall 001.

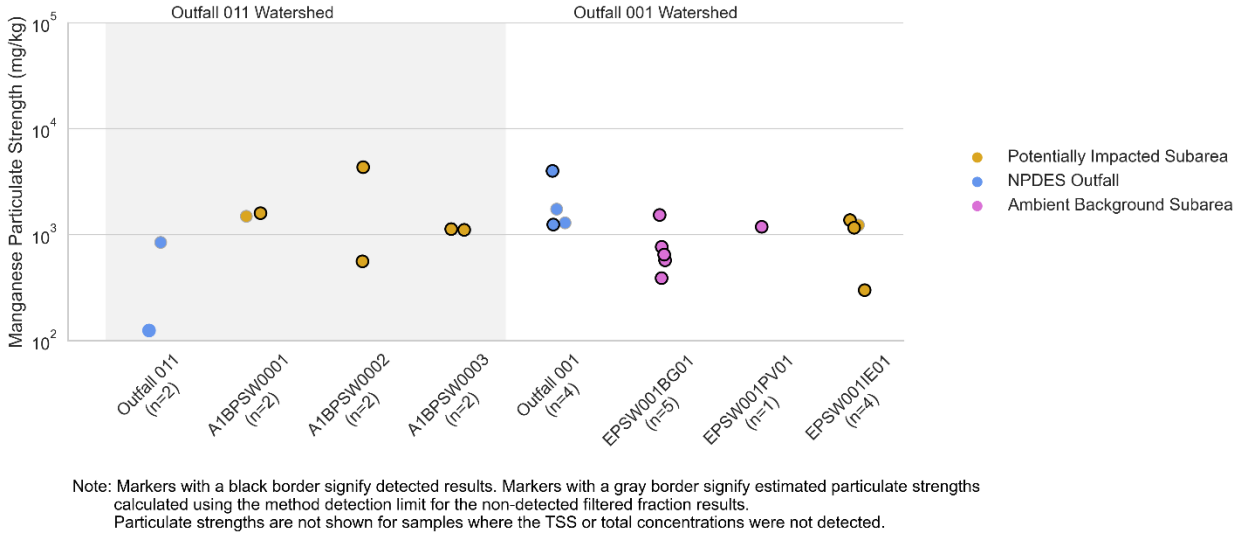


Figure 14. Manganese particulate strengths at subarea monitoring locations, Outfall 011, and Outfall 001.

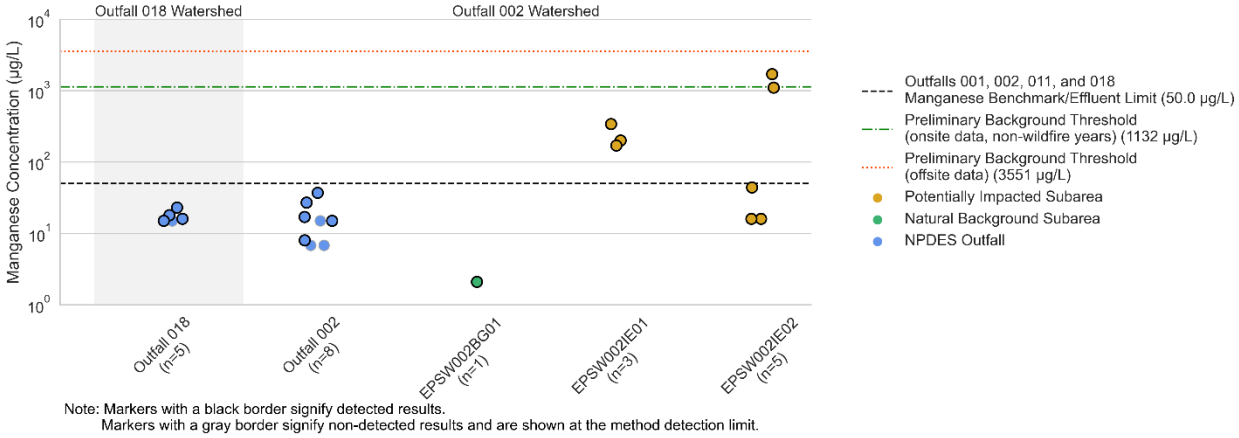


Figure 15. Manganese concentrations at subarea monitoring locations, Outfall 018, and Outfall 002.

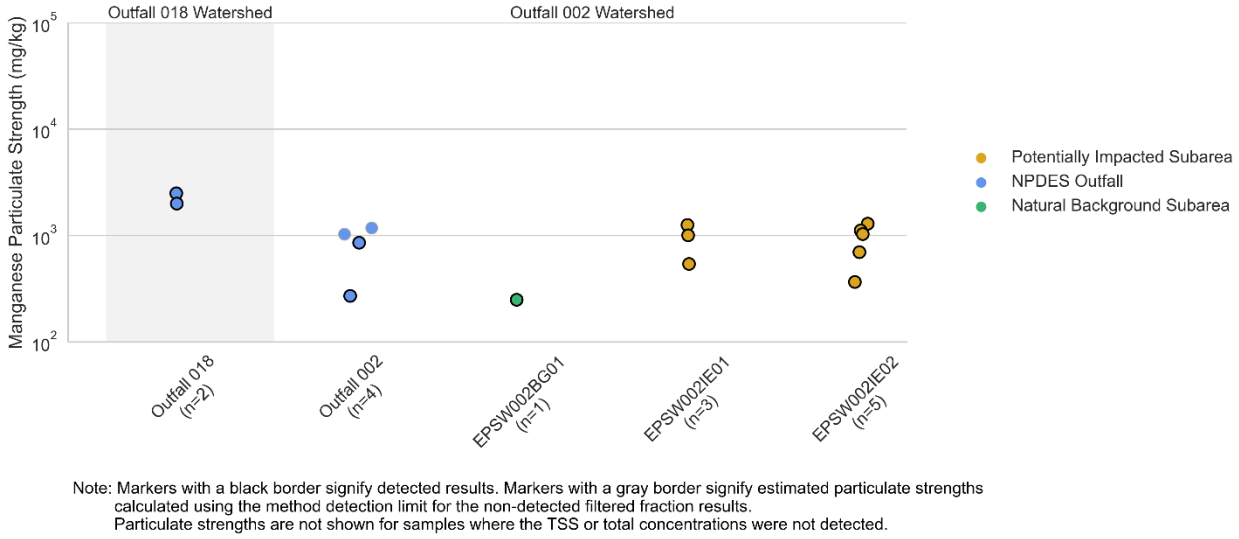
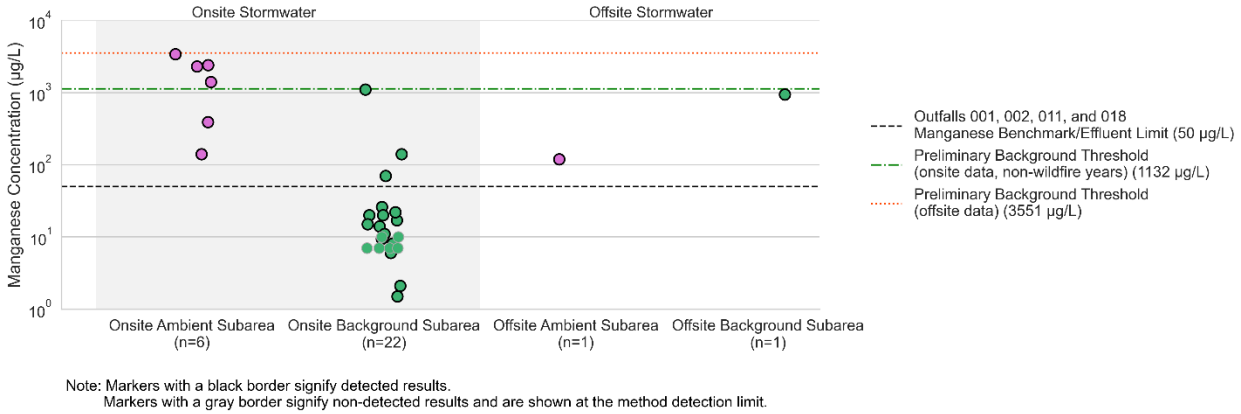
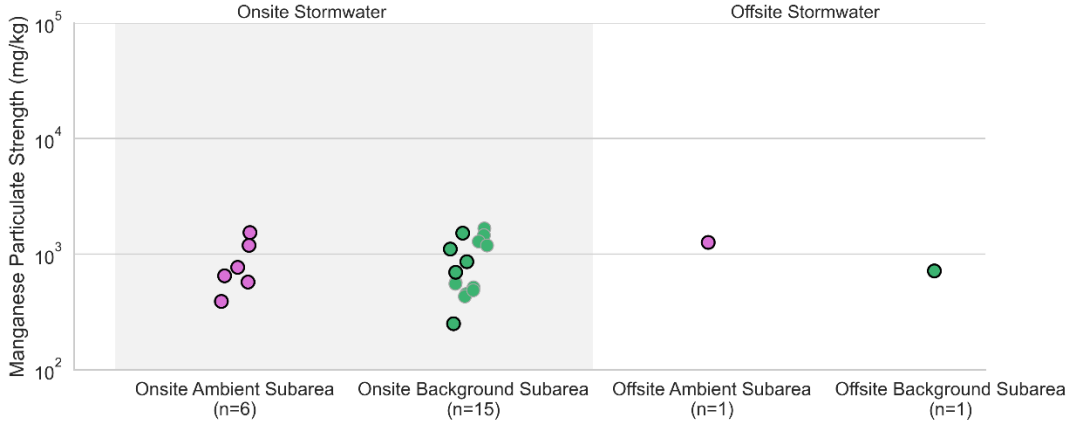


Figure 16. Manganese particulate strengths at subarea monitoring locations, Outfall 018, and Outfall 002.



Note: Markers with a black border signify detected results.
Markers with a gray border signify non-detected results and are shown at the method detection limit.

Figure 17. Manganese concentrations at onsite and offsite background and ambient subarea monitoring locations.



Note: Markers with a black border signify detected results. Markers with a gray border signify estimated particulate strengths calculated using the method detection limit for the non-detected filtered fraction results.
Particulate strengths are not shown for samples where the TSS or total concentrations were not detected.

Figure 18. Manganese particulate strengths at onsite and offsite background and ambient subarea monitoring locations.

1.4.3 Arsenic

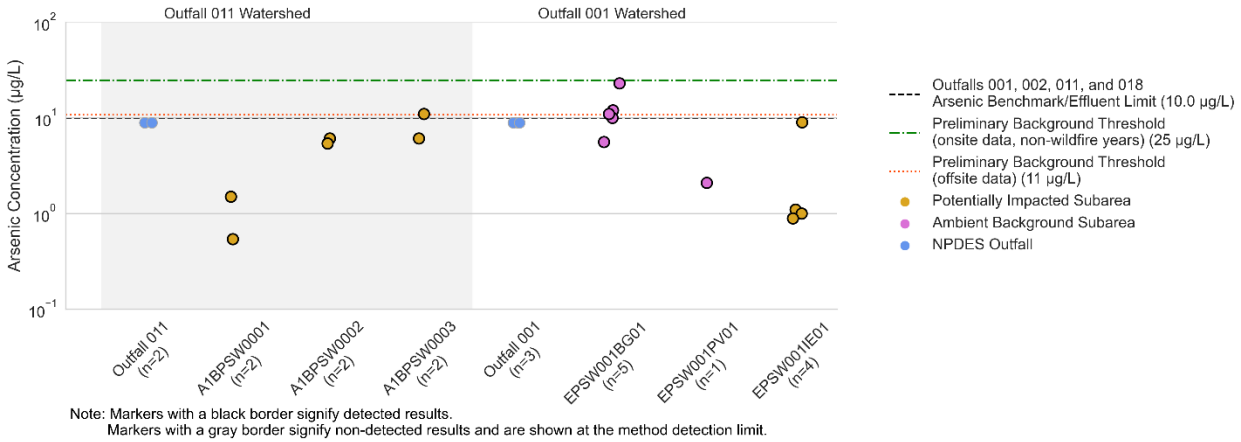


Figure 19. Arsenic concentrations at subarea monitoring locations, Outfall 011, and Outfall 001.

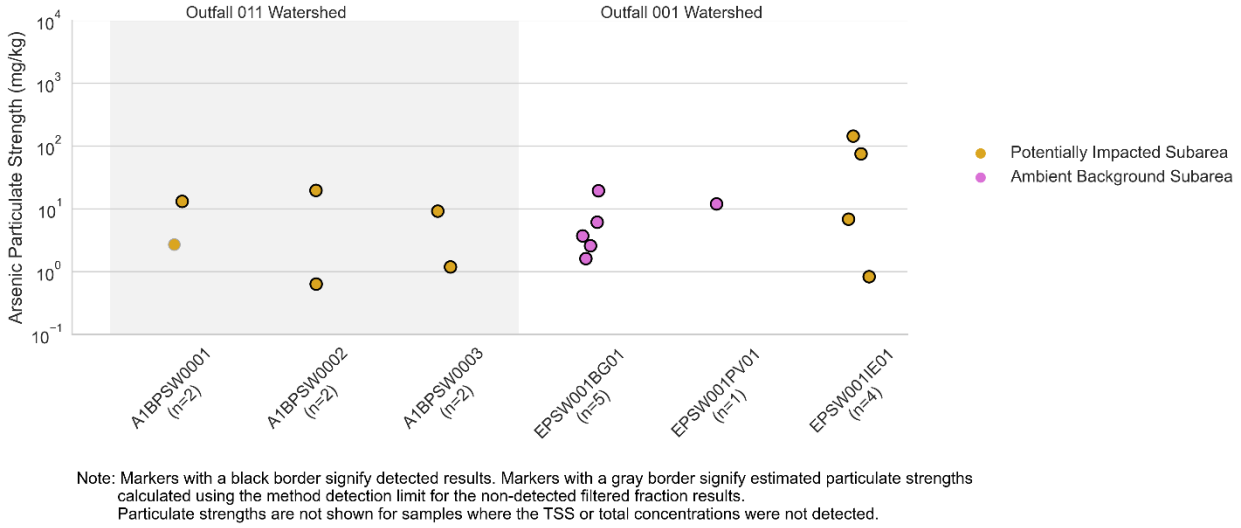


Figure 20. Arsenic particulate strengths at subarea monitoring locations, Outfall 011, and Outfall 001.

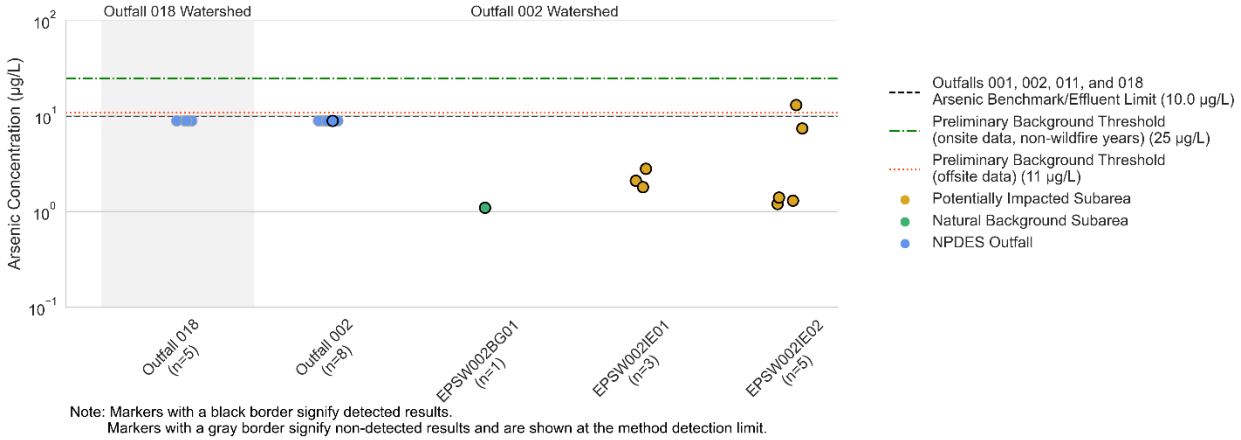


Figure 21. Arsenic concentrations at subarea monitoring locations, Outfall 018, and Outfall 002.

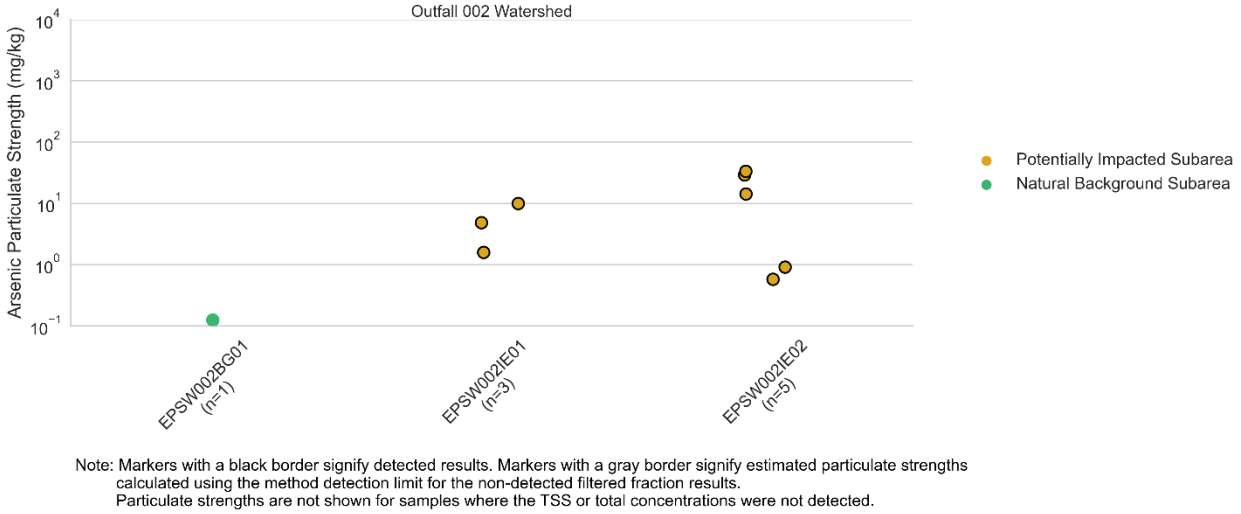
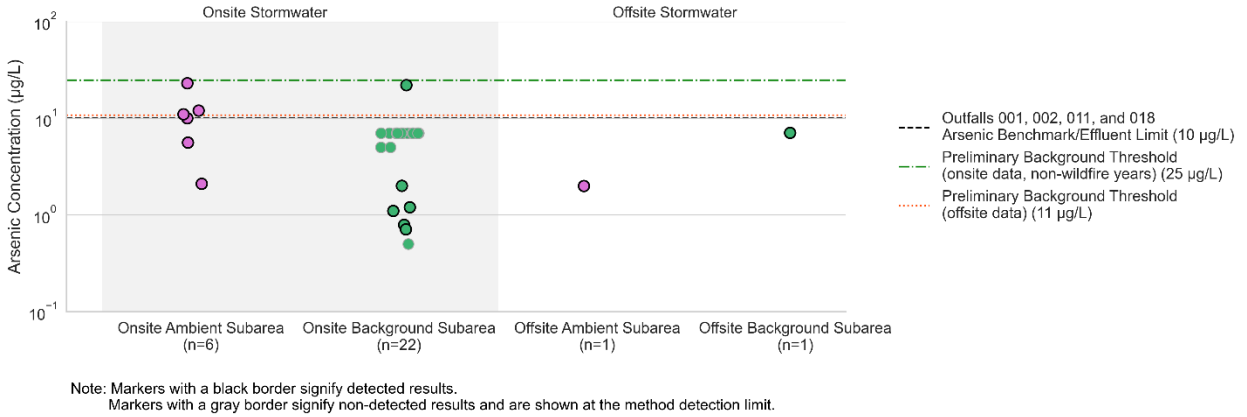
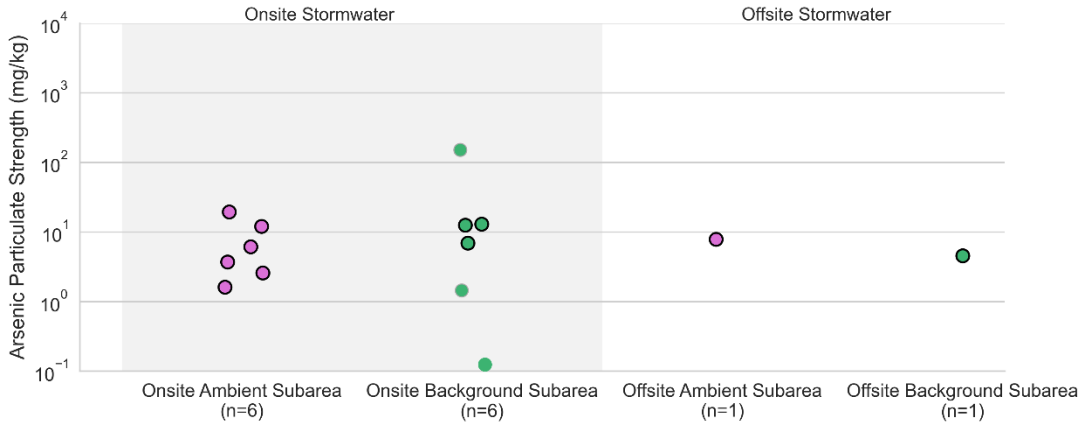


Figure 22. Arsenic particulate strengths at subarea monitoring locations and Outfall 002.



Note: Markers with a black border signify detected results.
Markers with a gray border signify non-detected results and are shown at the method detection limit.

Figure 23. Arsenic concentrations at onsite and offsite background and ambient subarea monitoring locations.



Note: Markers with a black border signify detected results. Markers with a gray border signify estimated particulate strengths calculated using the method detection limit for the non-detected filtered fraction results.
Particulate strengths are not shown for samples where the TSS or total concentrations were not detected.

Figure 24. Arsenic particulate strengths at onsite and offsite background and ambient subarea monitoring locations.

1.4.4 Lead

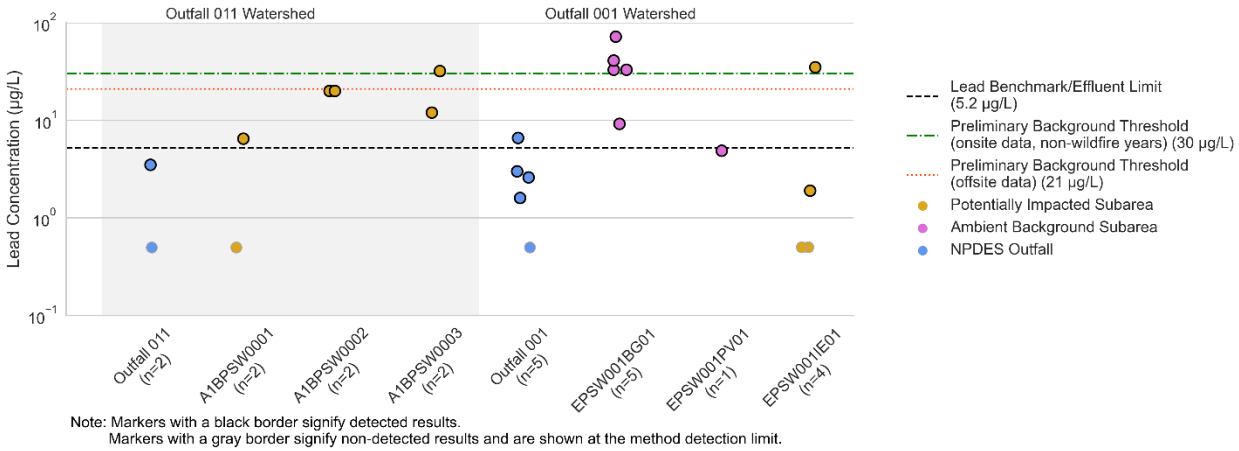


Figure 25. Lead concentrations at subarea monitoring locations, Outfall 011, and Outfall 001.

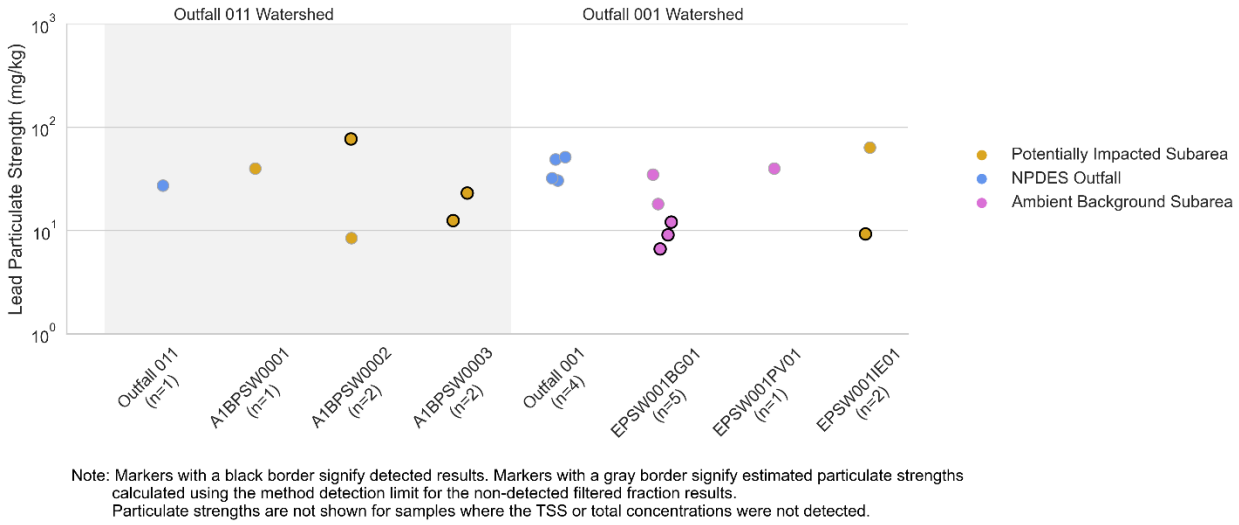


Figure 26. Lead particulate strengths at subarea monitoring locations, Outfall 011, and Outfall 001.

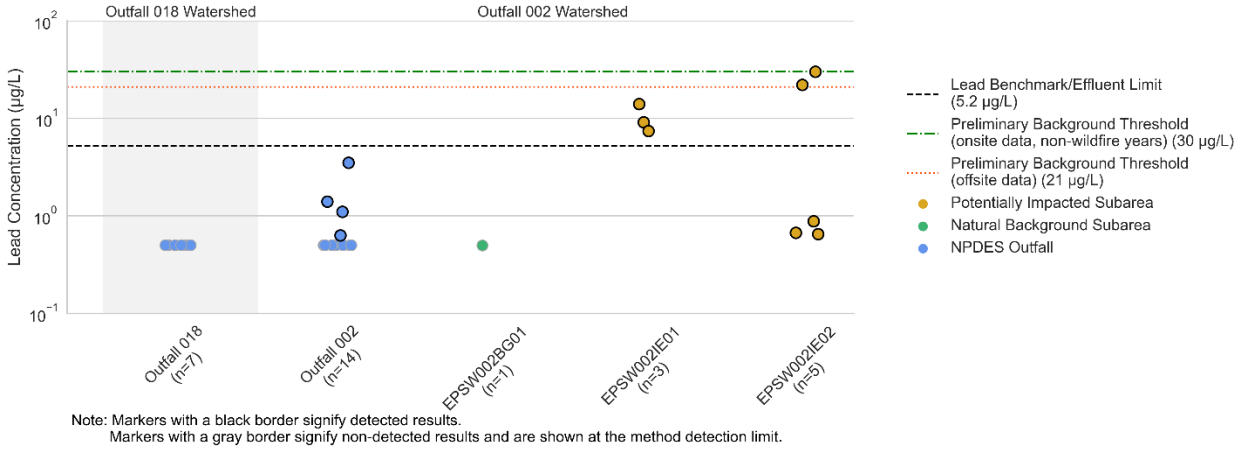


Figure 27. Lead concentrations at subarea monitoring locations, Outfall 018, and Outfall 002.

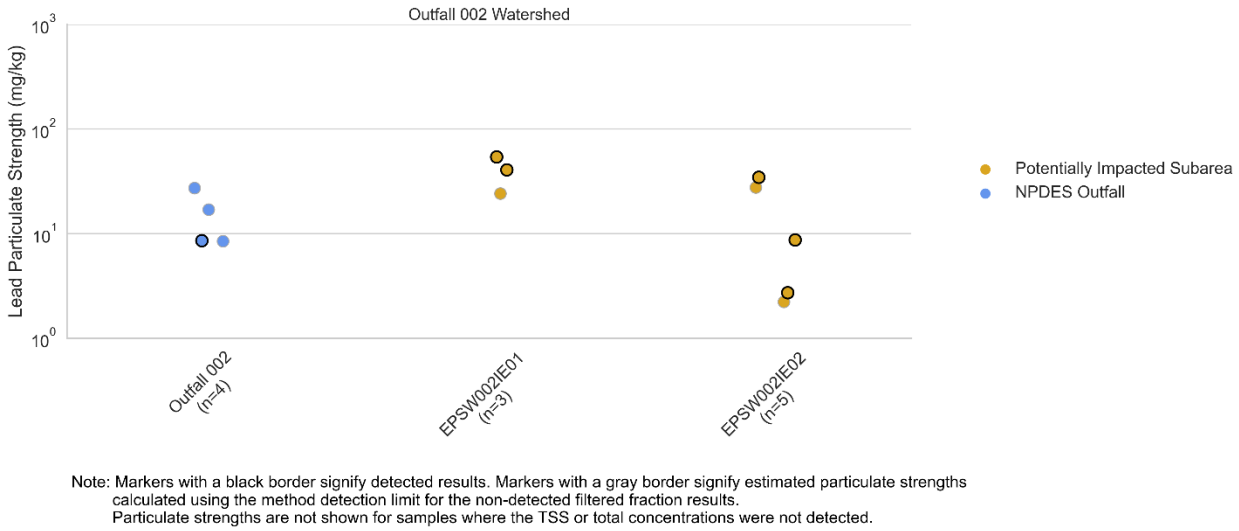
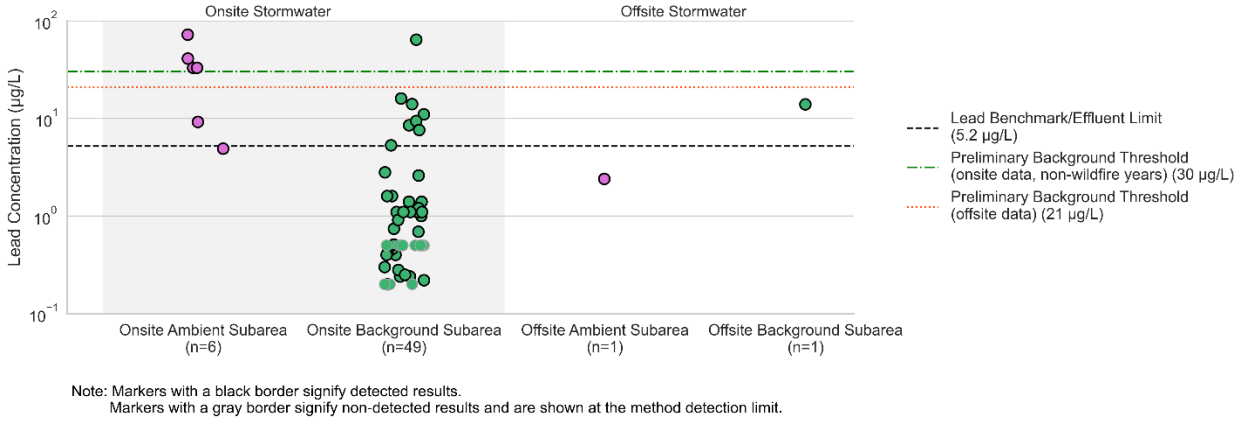
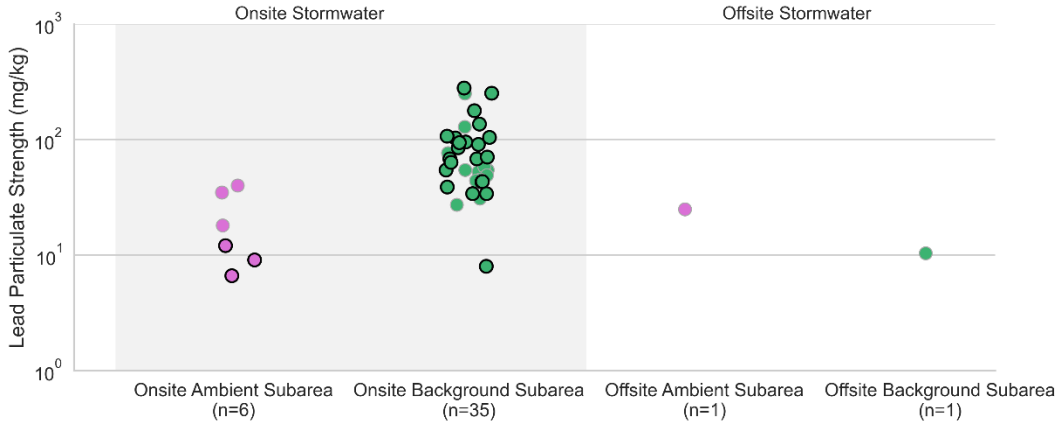


Figure 28. Lead particulate strengths at subarea monitoring locations and Outfall 002.



Note: Markers with a black border signify detected results.
Markers with a gray border signify non-detected results and are shown at the method detection limit.

Figure 29. Lead concentrations at onsite and offsite background and ambient subarea monitoring locations.



Note: Markers with a black border signify detected results. Markers with a gray border signify estimated particulate strengths calculated using the method detection limit for the non-detected filtered fraction results.
Particulate strengths are not shown for samples where the TSS or total concentrations were not detected.

Figure 30. Lead particulate strengths at onsite and offsite background and ambient subarea monitoring locations.

1.4.5 Copper

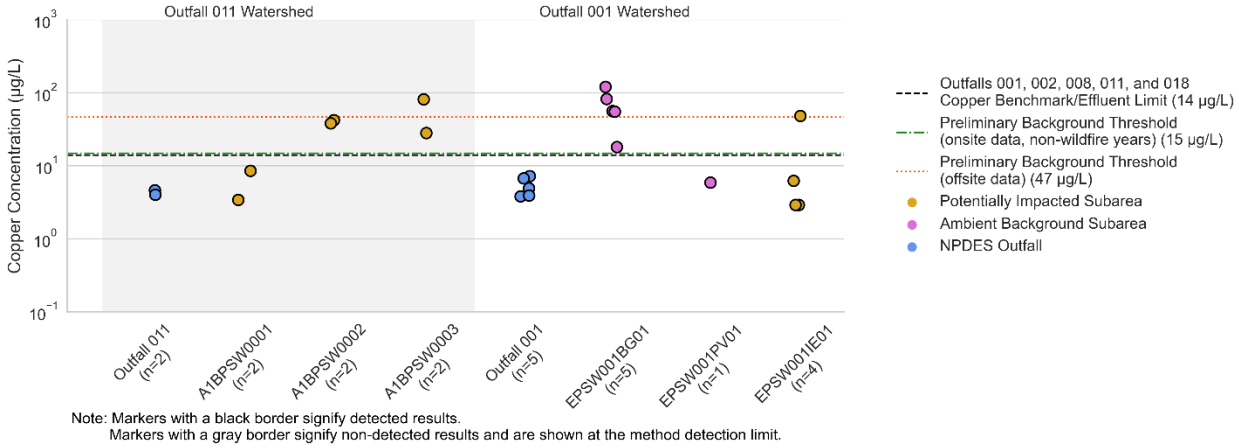


Figure 31. Copper concentrations at subarea monitoring locations, Outfall 011, and Outfall 001.

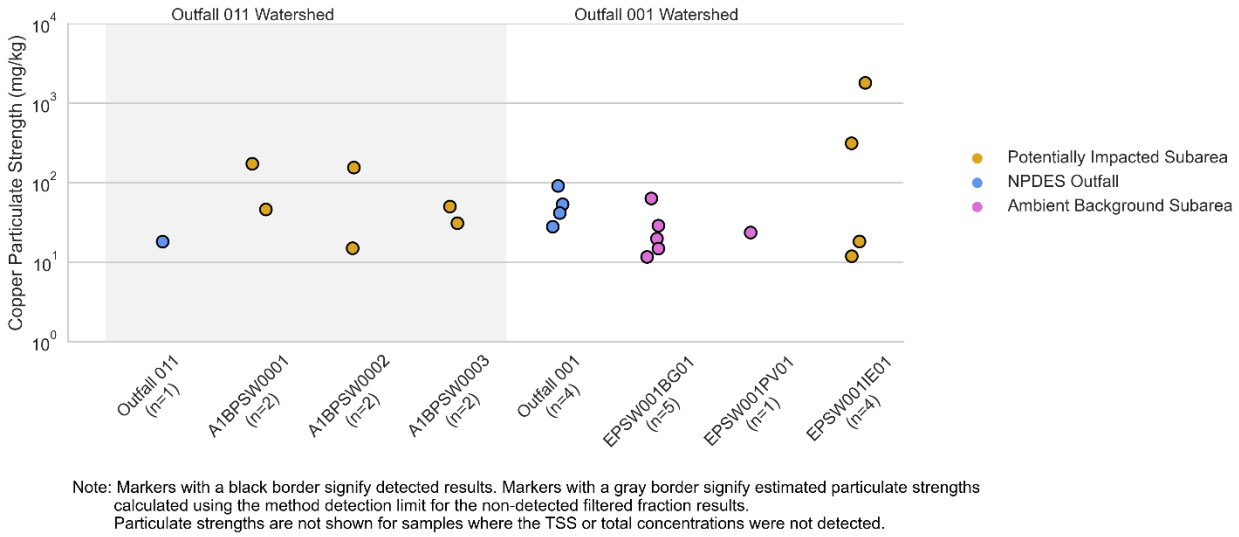


Figure 32. Copper particulate strengths at subarea monitoring locations, Outfall 011, and Outfall 001.

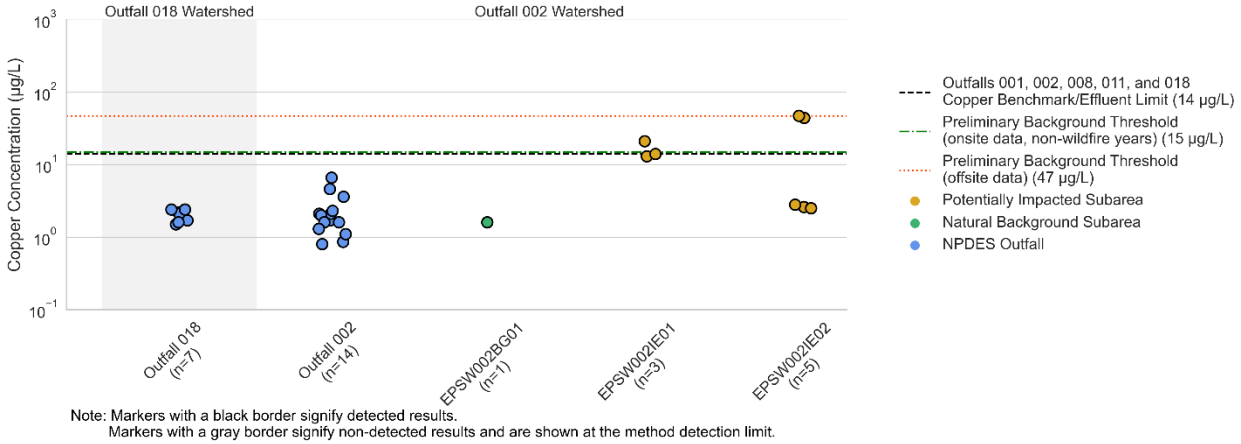


Figure 33. Copper concentrations at subarea monitoring locations, Outfall 018, and Outfall 002.

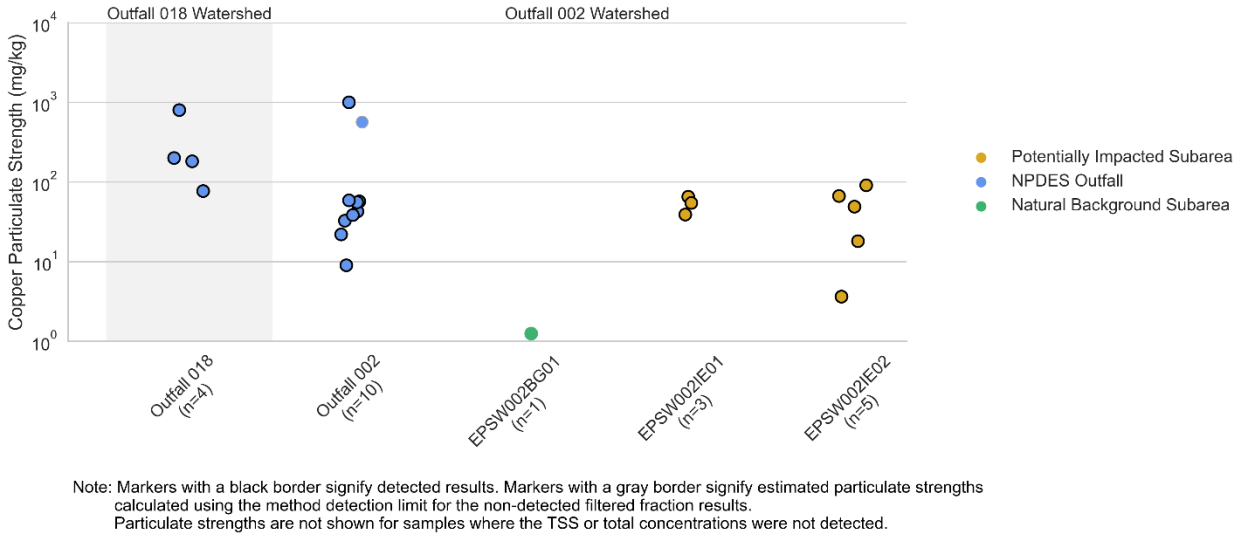
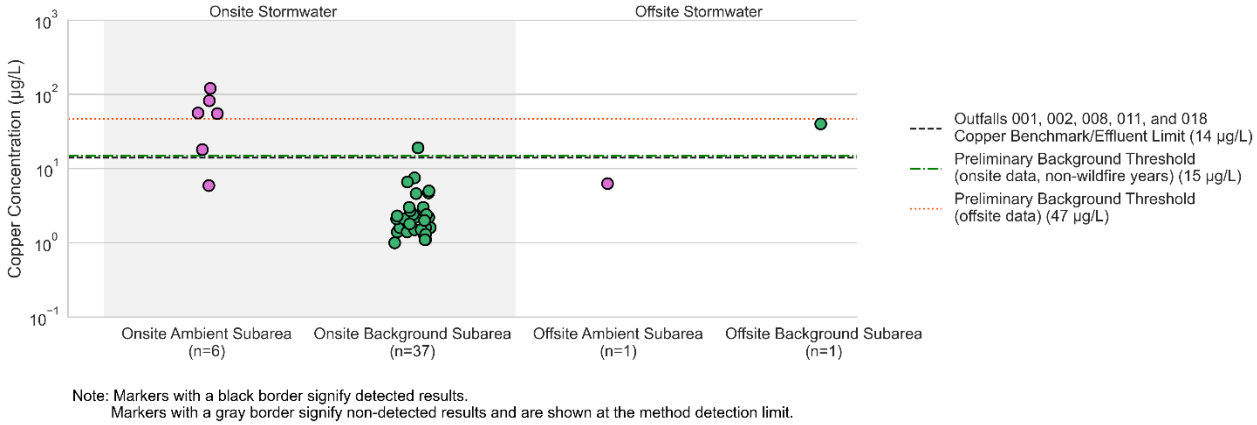
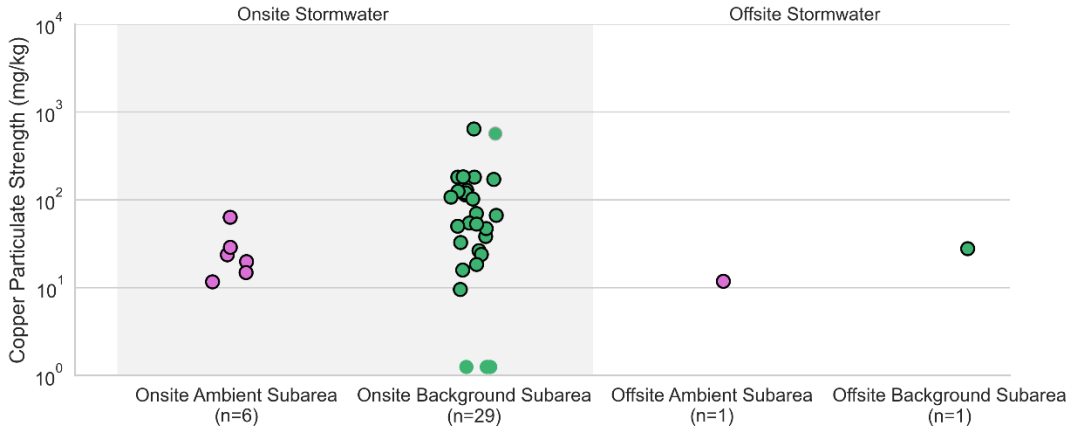


Figure 34. Copper particulate strengths at subarea monitoring locations, Outfall 018, and Outfall 002.



Note: Markers with a black border signify detected results.
Markers with a gray border signify non-detected results and are shown at the method detection limit.

Figure 35. Copper concentrations at onsite and offsite background and ambient subarea monitoring locations.



Note: Markers with a black border signify detected results. Markers with a gray border signify estimated particulate strengths calculated using the method detection limit for the non-detected filtered fraction results.
Particulate strengths are not shown for samples where the TSS or total concentrations were not detected.

Figure 36. Copper particulate strengths at onsite and offsite background and ambient subarea monitoring locations.

1.4.6 Zinc

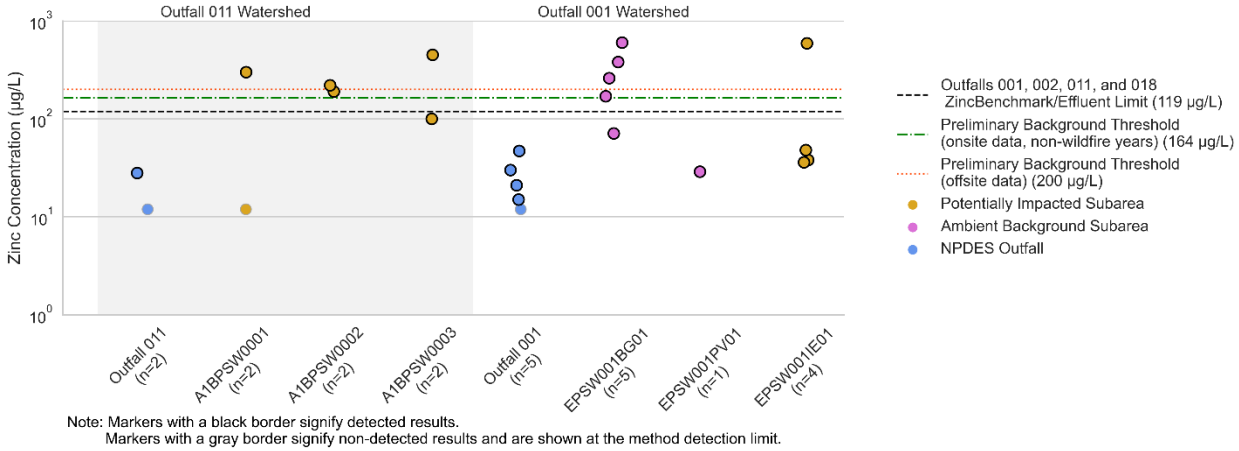


Figure 37. Zinc concentrations at subarea monitoring locations, Outfall 011, and Outfall 001.

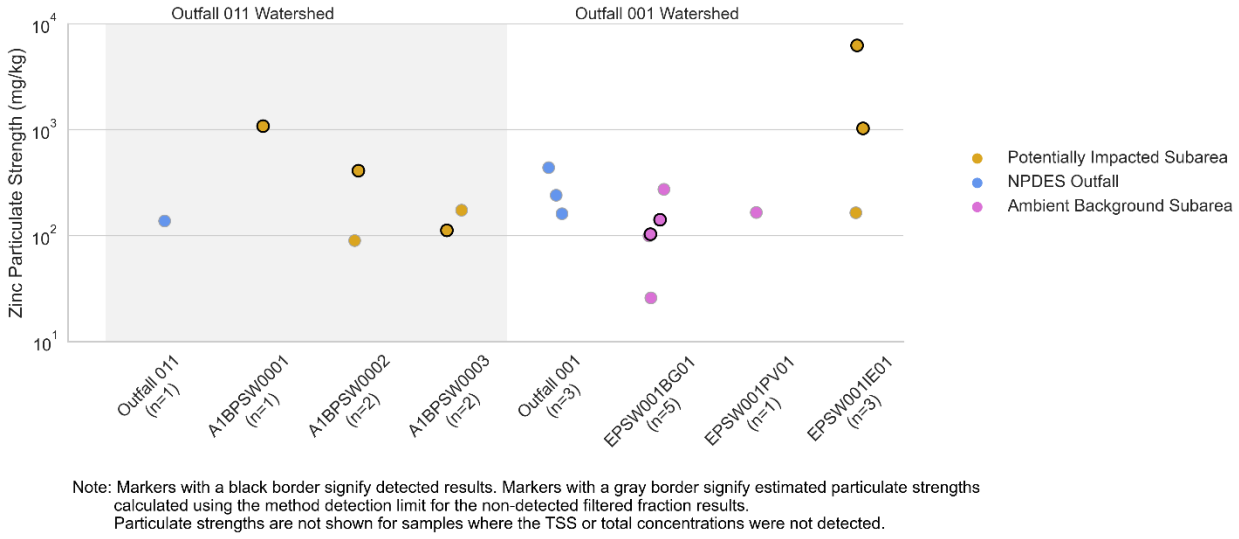


Figure 38. Zinc particulate strengths at subarea monitoring locations, Outfall 011, and Outfall 001.

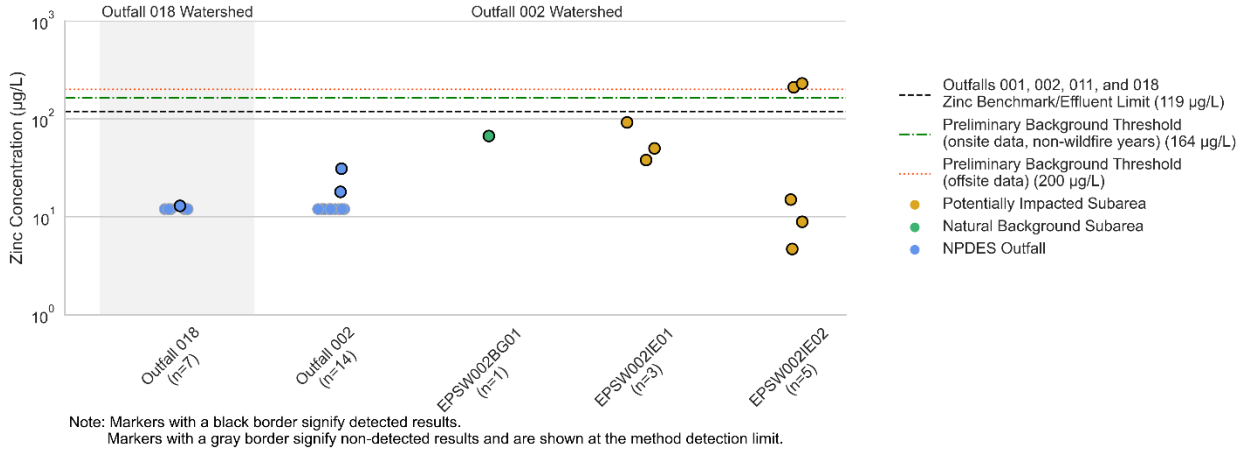


Figure 39. Zinc concentrations at subarea monitoring locations, Outfall 018, and Outfall 002.

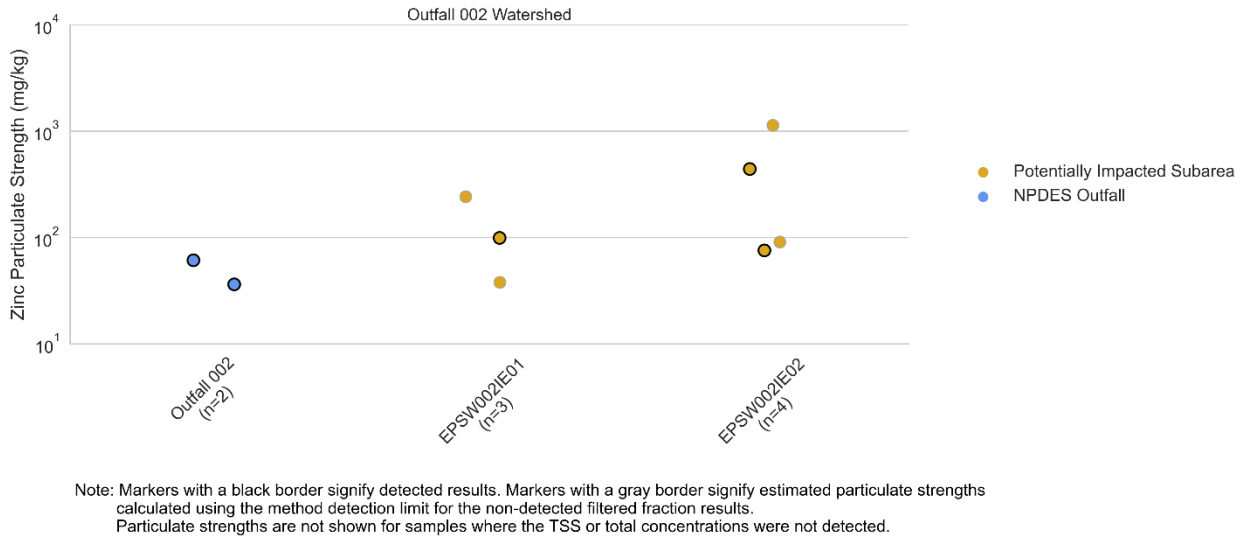
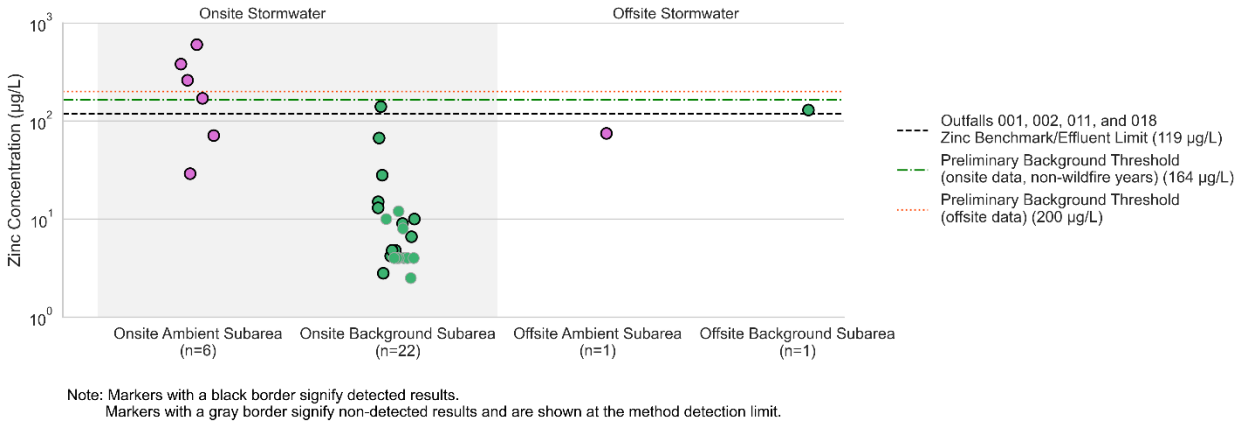
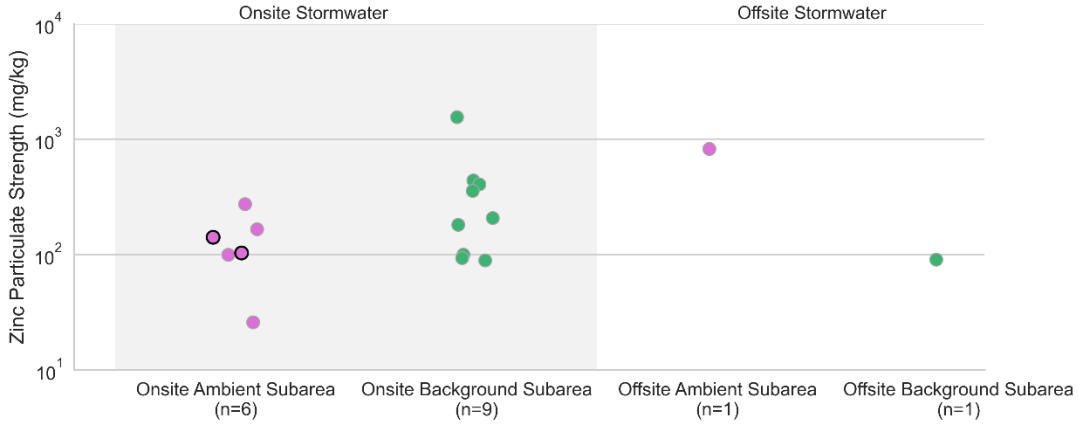


Figure 40. Zinc particulate strengths at subarea monitoring locations, Outfall 018, and Outfall 002.



Note: Markers with a black border signify detected results.
Markers with a gray border signify non-detected results and are shown at the method detection limit.

Figure 41. Zinc concentrations at onsite and offsite background and ambient subarea monitoring locations.



Note: Markers with a black border signify detected results. Markers with a gray border signify estimated particulate strengths calculated using the method detection limit for the non-detected filtered fraction results.
Particulate strengths are not shown for samples where the TSS or total concentrations were not detected.

Figure 42. Zinc particulate strengths at onsite and offsite background and ambient subarea monitoring locations.

1.4.7 TCDD TEQ (no DNQ)

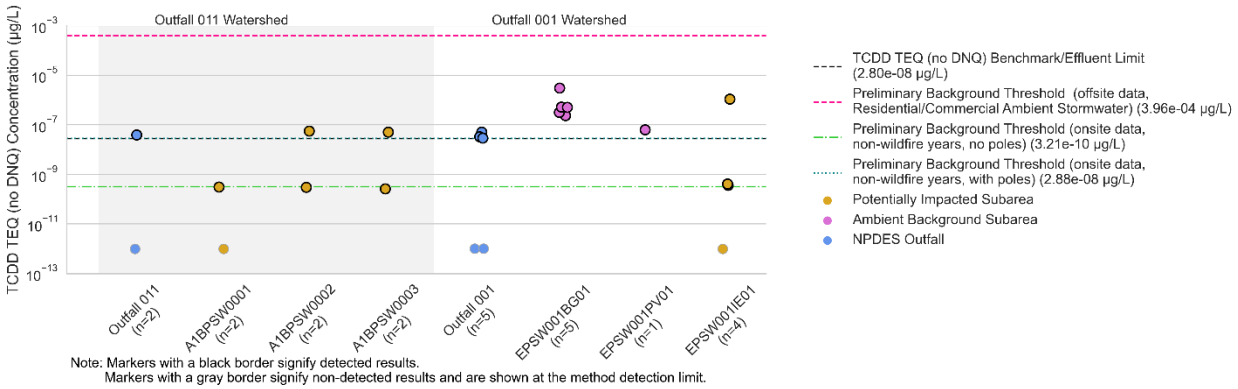


Figure 43. TCDD TEQ (no DNQ) concentrations at subarea monitoring locations, Outfall 011, and Outfall 001.

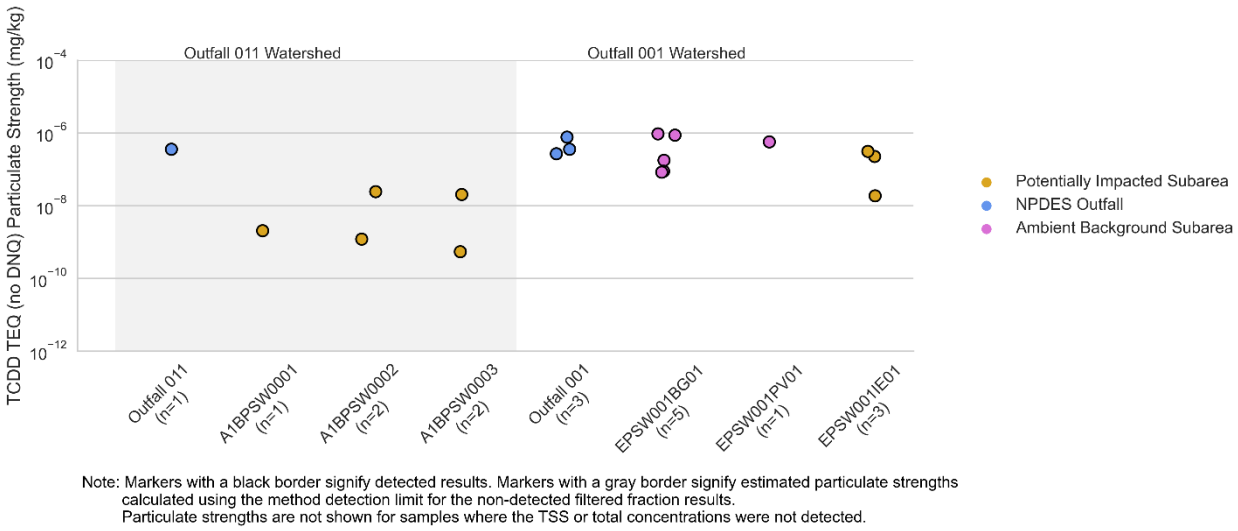


Figure 44. TCDD TEQ (no DNQ) particulate strengths at subarea monitoring locations, Outfall 011, and Outfall 001.

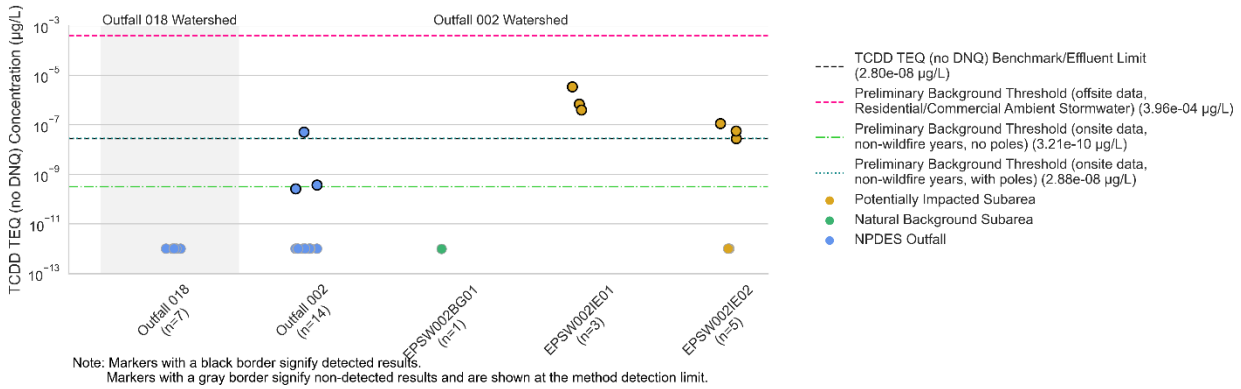


Figure 45. TCDD TEQ (no DNQ) concentrations at subarea monitoring locations, Outfall 018, and Outfall 002.

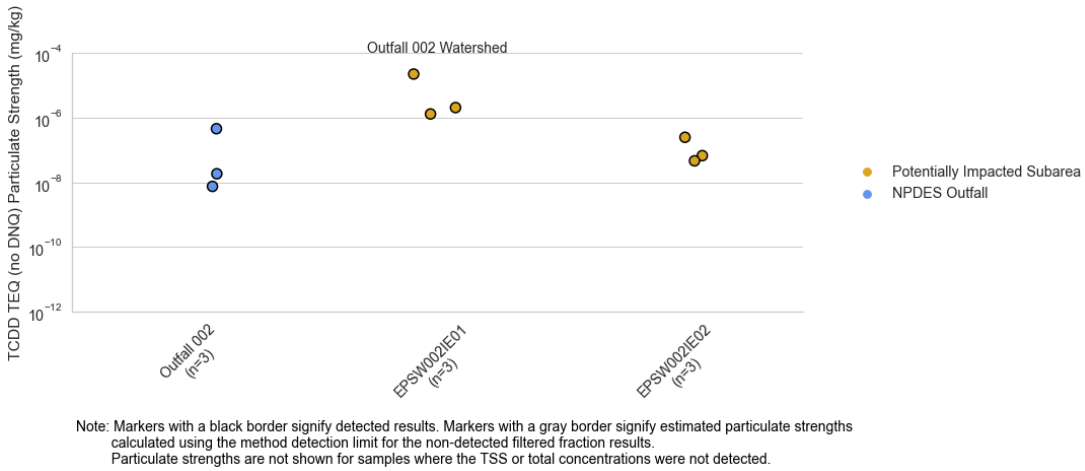
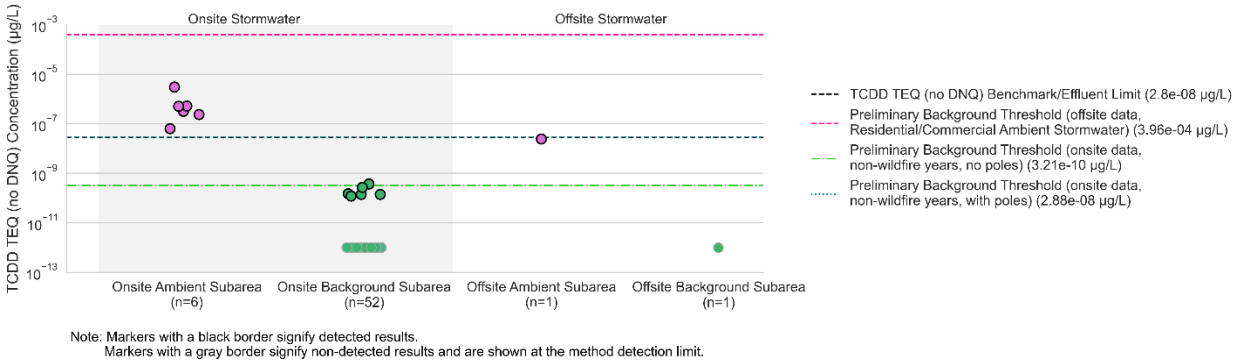
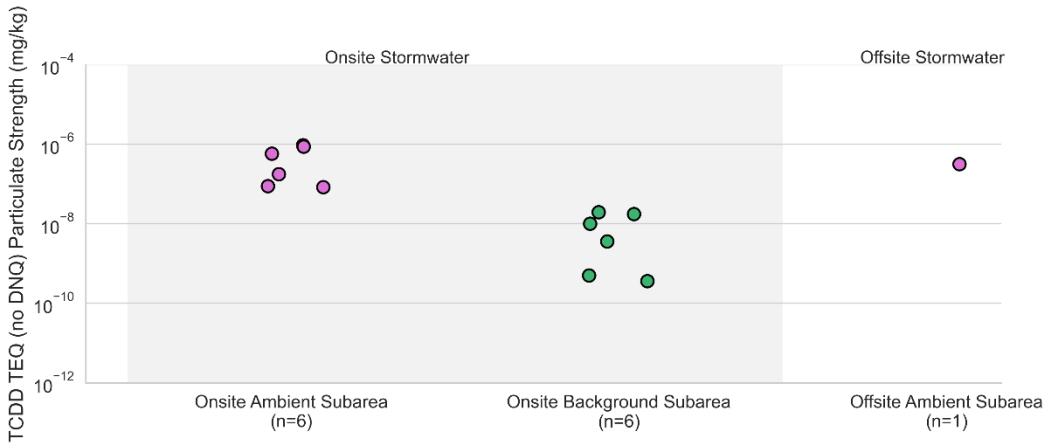


Figure 46. TCDD TEQ (no DNQ) particulate strengths at subarea monitoring locations, Outfall 018, and Outfall 002.



Note: Markers with a black border signify detected results.
Markers with a gray border signify non-detected results and are shown at the method detection limit.

Figure 47. TCDD TEQ (no DNQ) concentrations at onsite and offsite background and ambient subarea monitoring locations.



Note: Markers with a black border signify detected results. Markers with a gray border signify estimated particulate strengths calculated using the method detection limit for the non-detected filtered fraction results.
Particulate strengths are not shown for samples where the TSS or total concentrations were not detected.

Figure 48. TCDD TEQ (no DNQ) particulate strengths at onsite and offsite background and ambient subarea monitoring locations.

Appendix F: SSFL Pond Infiltration Measurement Recommendation Memorandum

Geosyntec consultants

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MEMORANDUM

Date:	August 19, 2022
To:	The Boeing Company
From:	SSFL Surface Water Expert Panel, Geosyntec Consultants
Subject:	SSFL Pond Infiltration Measurement Approach and Estimated Costs

Purpose

During the NPDES Permit renewal process, public comments expressed concerns regarding the potential of stormwater infiltration within the Silvernale and R-1 Ponds at the Santa Susana Field Laboratory (SSFL) as a possible migration pathway for stormwater constituents of concern (COC) into groundwater. Based on current knowledge of site conditions, significant infiltration and pollutant transport in the ponds are considered low likelihood for the following reasons.

1. From a hydraulic (*water mobility*) perspective, stormwater is unlikely to appreciably infiltrate to groundwater because:
    a. typical pond percolation rates are low since ponds tend to seal themselves through natural siltation over time (and these ponds would have experienced that process over many decades),
    b. SSFL's ponds are mostly dry majority of the year, so the duration of potential infiltration would be low, and
    c. Silvernale (SSFL's largest pond), in particular, is not a recharge area because of a low-permeability shale layer just below the ground surface.
2. From a *chemical mobility* perspective, the COCs in stormwater (those that occasionally exceed the permit's water quality standard-based limits, e.g., iron, manganese, lead, and dioxins):
    a. are predominantly in particulate form so they would be filtered in pond sediments and would not appreciably migrate downward to groundwater and would not be mobile in the subsurface,
    b. lack significant detections for key stormwater COCs like dioxins and are generally at background levels for metals based on groundwater sampling results from nearby wells,
    c. generally don't exceed primary (i.e., health-based) drinking water standards that would apply to groundwater and so would be unable to cause a groundwater "impact" (rather the stormwater COCs have exceeded *surface water* standards, which are for fish consumption, toxicity to aquatic life, and secondary [taste/odor] drinking water control) and even in *untreated* stormwater treatment systems influent samples collected at Silvernale (018) on 12/25/2021 and R-1 (011) on 1/10/2022, no analytes were detected above CA Primary MCLs, and
    d. differ from the COCs in groundwater (e.g., VOCs, perchlorate, tritium) which are rarely even detected at low levels in surface water, so the groundwater data show no evidence of impact from stormwater COCs.

Even so, the Surface Water Expert Panel ("Expert Panel") has recommended steps to measure percolation rates in the ponds in response to questions raised by the public. A review of existing information has concluded that insufficient direct measurements are available to accurately quantify infiltration rates. To address this data gap, the Expert Panel is recommending the measurement of saturated soil percolation rates, water levels, and pan evaporation rates within these ponds beginning in the 2022/23 winter season. The Expert Panel, therefore, directed Geosyntec Consultants to develop a simple measurement approach consisting of both dry season and wet season studies to test the hypothesis that the natural pond linings are well sealed.

Dry season methods would employ standard saturated soil double-ring percolation testing at Silvernale and R-1 Ponds, to record infiltration rates into underlying pond sediments/soils. Wet season methods would consist of continuous water depth measurements to record changes in water depth following storm events to evaluate the combined storage volume loss rates due to infiltration and evapotranspiration (ET). Simultaneous pan evaporation measurements are also proposed, to allow comparison of observed evaporation rates and estimation of infiltration rates, alone, during saturated conditions. This memorandum describes these approaches in greater detail and provides an estimated cost to complete the work. This memorandum also describes water level measurements recently collected in the Silvernale Pond and a preliminary estimate of pond infiltration rate based on these data. Future data collection will be used to confirm or refine this initial estimate.

Preliminary Water Level Measurements and Estimation of Pond Infiltration Rate

As a precursor to the proposed studies, weekly water levels were recorded at the Silvernale Pond from March 30 - May 23, 2022. No data were collected at the R-1 Pond. Geosyntec used the Silvernale Pond data to perform a preliminary estimation of infiltration rates. Monthly pan evaporation rates observed at nearby Lake Bard and approximate region-specific pan coefficients[1] were used alongside stage-storage-area curves of Silvernale Pond that were previously created for modeling to estimate evaporation losses from the pond over the study period. SSFL also provided total stormwater volumes pumped into the pond from other outfalls; however, runoff volumes naturally collected in the pond from the surrounding drainage area are unknown. Rather than introducing added uncertainty by estimating local runoff volumes, calculations focused only on data recorded between rainfall events.

During saturated soil conditions, seepage from surrounding soils into a waterbody can occur as well as infiltration from the waterbody into the underlying soils. Water movement through the soil surface underlying a given waterbody can typically occur at roughly the same range of rates in either direction, depending on water depth, storage volume, wetted surface area, and characteristics of the surrounding soils and geologic features[2]. Over the combined dry periods of March 30 - April 18 and April 25 - May 23, 2022, total storage volumes lost between pond level recordings were

[1] Aquaterra, 2005. Hydrologic Modeling of the Calleguas Creek Watershed with USEPA HSPF. March 2005. https://s29422.pcdn.co/wp-content/uploads/2018/07/Calleguas-HSPF-Final-Report-Mar-2005.pdf

[2] William Woessner, 2020. 3.5 Lakes in Landscapes, Groundwater-Surface Water Exchange. The Groundwater Project. https://books.gw-project.org/groundwater-surface-water-exchange/chapter/lakes-in-landscapes/

compared to the estimated volumes lost to evaporation. The average water depth recorded at the Silvernale Pond from March 30 - May 23 was 5.36 feet and the average estimated evaporation rate over that period was 0.13 inches per hour. Given the water depth and climate conditions observed between pond level recordings taken on March 30 and April 18, as well as those taken on April 25 and May 16, 2022, calculated storage volume losses were less than the estimated volumes lost to evaporation, indicating the occurrence of seepage, or water movement from surrounding and underlying soils into the pond, at an average rate of 0.008 inches per hour. Between pond level recordings taken on May 16 and May 23, the calculated storage volume lost was greater than the estimated volume lost to evaporation, indicating the occurrence of infiltration, or water movement from the pond into underlying soils, at an average rate of 0.003 inches per hour. The estimated range of water movement rates over the study period, as seepage or infiltration, was 0.001 to 0.016 inches per hour, at an average of 0.007 inches per hour. Estimated seepage and infiltration rates are summarized in Table 1 below.

Table 1. Estimated Seepage and Infiltration Rates

Estimated Water Movement Rates	Average (in/hr)	Minimum (in/hr)	Maximum (in/hr)
Seepage from soils into the Pond	0.008	0.001	0.016
Infiltration into soils from Pond	0.003	0.003	0.003
Overall: Seepage & Infiltration	0.007	0.001	0.016

The volumes of water estimated to have seeped into or infiltrated out of the pond are illustrated in the differences between the pond storage loss and estimated evaporation loss curves shown in Figures 1 and 2 below. Circular markers at each pond level recording date represent the cumulative volumes lost since the previous pond level recording.

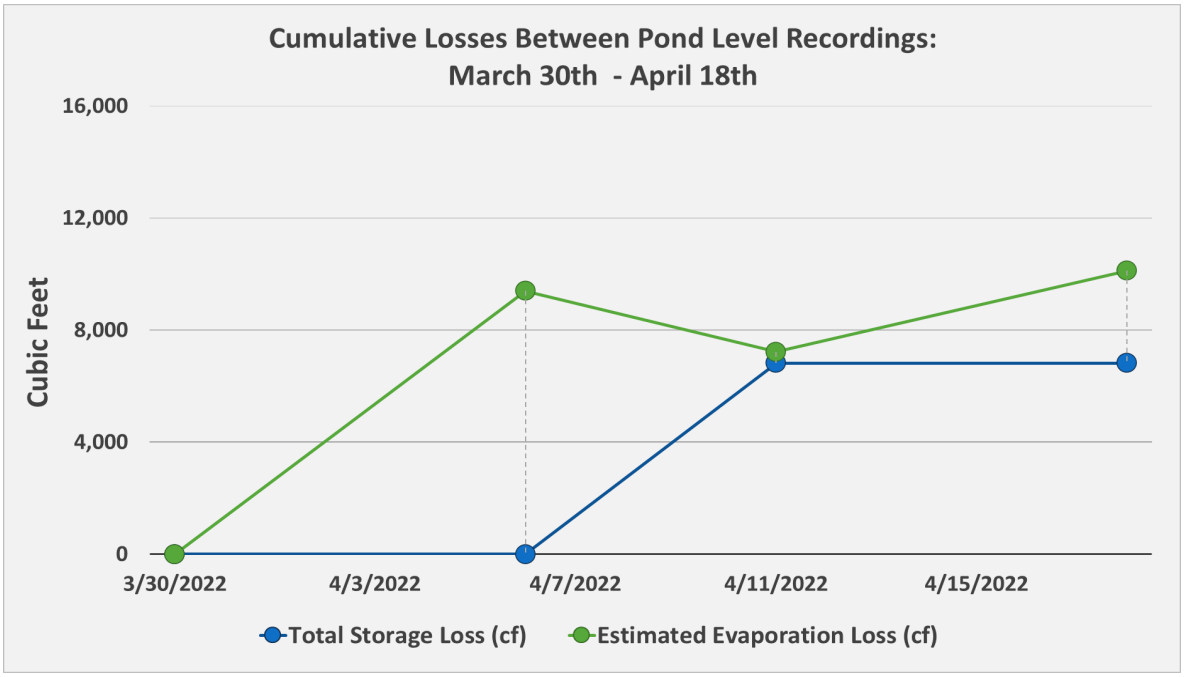


Figure 1. Pond Storage Volume Loss vs. Estimated Evaporation Loss: March 30 – April 18, 2022

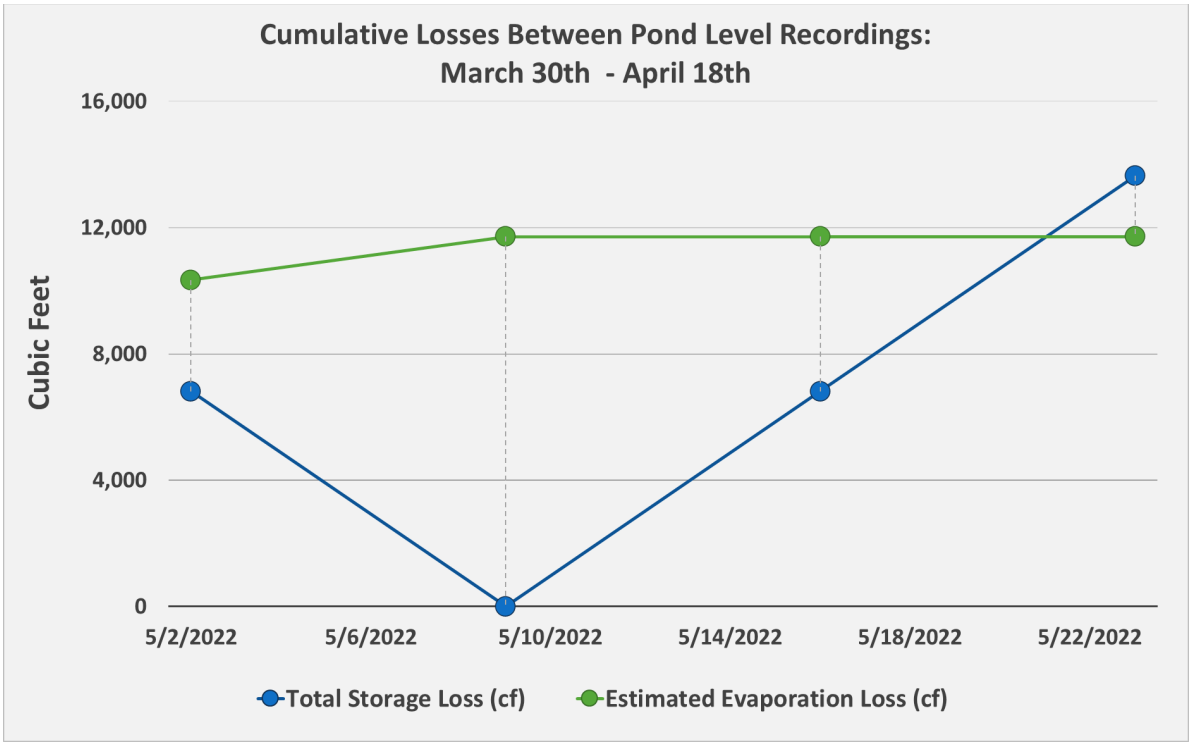


Figure 2. Pond Storage Volume Loss vs. Estimated Evaporation Loss: April 25 – May 23, 2022

The preliminary estimate of infiltration rate summarized above is intended to serve only as an approximate reference point for the infiltration rates expected under similar climate and pond conditions, and with an approximate 5.5-foot depth of water in the pond. Varying climate and pond storage conditions will be carefully evaluated to assess potential causes for any differences in estimated infiltration rates and those observed during testing.

Proposed Percolation Test (Infiltration Measurement) Approach

Common percolation test methods for stormwater ponds include the double ring infiltrometer test, shallow pit test, and small diameter boring test. Each method is described in Attachment A. Pit and boring tests can require the drilling or excavation of somewhat substantial quantities of soil. Also, if soil texture and permeability observations indicate the need for a constant head test, pit and boring tests would require a water source sufficient to keep water level constant in the excavation over multiple consecutive test durations of more than several hours each. The Expert Panel thereby recommends the double ring infiltrometer test as the most suitable of common methods for these tests.

Standard guidelines for conducting double ring infiltrometer tests are described by ASTM specifically ASTM D3385; though, in practice, a variety of testing methodologies are commonly performed. All methods involve the use of an infiltrometer connected to additional test equipment that controls and measures water level. Generally, test procedures involve driving two concentric metal rings into the ground to account for water movement equalization, filling the rings with water, determining whether a constant or falling head test is more appropriate, maintaining constant water level in one or both rings (depending on constant or falling head), and recording the drop in water level (or volume added to maintain constant water level) within the inner ring as

the indication of vertical infiltration rate. Use of 2-3 prefabricated infiltrometers, evenly distributed across the pond bottom, and complete test setups are recommended as the most efficient testing approach. This test would be performed during dry weather conditions, with both ponds empty, in order to access the bottom infiltration potential. Proposed test locations are shown in Attachment B.

Proposed Water Balance (Stage and Evaporation Measurement) Approach

The Expert Panel also recommends installing both a vented water level pressure transducer and an evaporation pan at each of the two ponds. The vented pressure transducer would allow for the continuous measurement of the water surface elevation of both ponds corrected for atmospheric pressure, providing data on the drawdown rate. The collection of onsite pan evaporation data more accurately measures the actual seasonal water surface evaporation losses at the site compared to the regional pan evaporation data, strengthening the overall water balance calculations.

Results indicating low percolation rates (Hydrologic Soil Group D or lower) would support the existing conceptual site model of negligible infiltration occurring in the ponds, while high percolation rates would indicate the need to install temporary liners until site cleanup can be completed.

Estimated Costs

The percolation testing and stage recorder and evaporation pan installation could both be completed at Silvernale and R-1 Ponds within a few consecutive dry days, before early October 2022. Staffing cost for testing and instrument installation at each pond are highly dependent on which subcontractor or consultant performs the testing – initial estimates ranged from $9,000 to $20,000. Material costs include the purchase of two infiltrometers with full percolation test setups, two vented water stage recorders, and two Class A evaporation pans, including taxes are estimated to be $13,700.

Table 2. Estimated Material Costs

Item	Qty	Unit Cost	Total Costs
Double Ring Infiltrometer & Test Equipment	2	$2,600	$5,200
Vented Stage Recorder	2	$2,100	$4,200
Class A Evaporation Pan	2	$2,150	$4,300
TOTAL (excluding labor)			**$13,700**

Attachment A

Infiltration Test Methods

At least one infiltration test shall be performed at each LID location. The geotechnical consultant shall select the type of testing that best resembles the way the proposed LID feature will function once constructed. For example, if deep drywells are proposed, then performing a double-ring infiltrometer or shallow pit test at the surface will not be representative of the drywell performance. The following table provides examples of the appropriate type of testing for various types of LID features.

Infiltration Test Methods by LID Features		
Type of LID Feature	**LID Feature Depth**	**Type of Infiltration Testing**
Retention Basin Bioswale	Shallow	Double-Ring Shallow Test Pit Small Diameter Boring
Underground Gallery	Shallow and Deep	Shallow Test Pit Small Diameter Boring Large Diameter Boring
Drywell	Deep	Large Diameter Boring

Double-Ring Infiltrometer Test (ASTM D3385)

A double-ring infiltrometer consists of two concentric metal rings. The rings are driven into the ground to preclude leakage and then filled with water. Water in the outer ring keeps the flow in the inner ring vertical, and the drop in water level in the inner ring is used to establish the vertical infiltration rate. This test is useful for evaluating LID features that are proposed close to the ground surface or can be performed at depth in a trench excavation. This test is generally only appropriate for small scale projects with low design volumes. Procedures and sample data forms for double-ring infiltrometer testing are provided in ASTM D3385. The field log template with an example are attached on Plates 1-A, 1-B, and 1-C.

Shallow Pit Test

A shallow pit test consists of an infiltration test performed in a rectangular- or square-shaped excavation that is dug with hand tools or heavy equipment. It is generally appropriate to perform this test for LID features such as gravel pits, bioswales, retention basins, and underground galleries. The engineer shall size the infiltration test pit and duration of testing to simulate the performance of the proposed LID features. See Plate 2-A for examples of test pit setups. See Plate 3-A for the Test Pit Infiltration Field Log.

1. Excavate the test pit to the proposed invert depth with equal widths and lengths. The excavated test pit must also have a flush bottom.

2. Presoak the hole by filling it with water prior to infiltration testing. If the water seeps completely away within 30 minutes after filling the excavation, two consecutive times, and the subsurface exploration has yielded permeable soils beneath the proposed invert of infiltration, presoaking can be considered complete and the testing can proceed. If the water does not completely drain within 30 minutes, presoak the excavation maintaining 12 inches of water for at least 4 hours before conducting the infiltration testing. Record all water levels to the nearest ⅛-inch increment.

3. Determine whether a constant head or falling head test is more appropriate; if a falling head test is more appropriate, determine the time interval for recording the water drop between readings. Fill the excavation at least 12 inches above the bottom. The height of the water may be higher than 12 inches and may be determined by the engineer to simulate the expected performance of the LID feature. Observe the drop in the water during the next 30 minutes and compare with the condition that applies below. This will determine the type of test and time interval for this test location.

    a. If water drains very quickly (less than 10 minutes), a constant head test may be more appropriate. See Step 8.

    b. If water remains in the hole after 30 minutes, a falling head test may be more appropriate and the time interval between readings shall be 30 minutes.

    c. If water remains in the hole after 30 minutes but takes more than 10 minutes to drain, the engineer shall determine whether a constant head or falling head test should be performed. For a falling head test, the time interval shall be the time it takes for the water to completely drain from the test pit. For a constant head test, see Step 8.

4. Once the time interval for the test has been determined, add water to the height determined from the previous steps. For each successive test reading, the starting water level must be at this initial water height.

5. Take readings of the water drop from the initial water height. Record the time and the drop in water level during the time interval determined in Step 3. Fill the excavation back to the initial water depth and record the filling time.

6. Perform the infiltration test for at least 3 hours. The test can be concluded when a stabilized rate of drop is obtained, which is when the highest and lowest readings are within 10 percent of each other for three consecutive readings. If insufficient data is collected to demonstrate that the test was performed for at least 3 hours and that a stabilized rate of drop was achieved, the test will not be considered acceptable for design.

7. Calculate the average of the last three consecutive readings to determine the field infiltration rate, expressed in inches per hour. The field infiltration rate must account for non-vertical flow through the sides of the excavation in addition to the bottom of the excavation.

8. Performing a constant head test requires an adequate water supply to maintain a constant water level throughout the entire duration of the test (3 hours). A flow meter is required to record the volumetric flow rate of water entering the test pit. The flow rate and cumulative volume shall be recorded at sufficient time intervals and shall not be less than four reads per hour. The infiltration rate can be determined by dividing the average stabilized volumetric rate by the total surface area of infiltration within the test pit.

Small Diameter Boring Infiltration Test

This procedure allows an infiltration test to be performed within a small-diameter boring that can be excavated using conventional drilling methods. The depth of testing can be isolated with slotted sections of polyvinyl chloride (PVC) pipe, surrounded by a bentonite cap, and placed at any depth in the borehole. Its primary advantage is the ability to test soil layers at greater depths; however, the surface area of soil tested is smaller in comparison to other types of tests that are performed in larger diameter borings. A sufficient and reliable source of water (e.g. fire hydrant or water truck) is required to perform this test properly. A schematic showing various test setups is attached on Plates 2-B and 2-C. The field log template is attached on Plate 3-B.

1. Drill a boring to at least 12 inches below the elevation of proposed invert of infiltration. Rotate the auger until all cuttings are removed. Care shall be taken to ensure smearing of clayey soils does not occur along the sidewalls of the borehole

as this will dramatically reduce the infiltration potential. Record the boring diameter and depth to be tested. Subsurface conditions should be logged and documented by a licensed professional engineer or geologist to the same standard as an exploratory boring.

2. Install through the auger, a 2- to 4-inch-diameter perforated PVC casing with a solid end cap. Perforations shall be 0.02-inch slot or larger. Pour filter pack down inside of auger while withdrawing the auger such that the PVC casing is surrounded by the filter pack. The filter pack and perforated casing must have a larger hydraulic conductivity than the soil or rock that is to be tested.

3. For borings drilled below the proposed invert of infiltration that are being converted to perform infiltration tests, careful attention must be paid to isolate the depth of the test section with an impermeable cap above and below it. The annulus between the slotted PVC and native materials in the test section must be backfilled with well-draining sand. The boring below the desired test section and the annulus between the solid PVC and native materials above the desired test section must be backfilled with bentonite or similar low-permeability material. The boring itself shall not create a path of less resistance for the water than the in-situ materials being tested. Ideally, the zone of infiltration should be predetermined such that the final depth of the boring corresponds with the invert depth to be tested.

4. Presoak the boring immediately prior to testing for at least 1 hour to ensure the sand around the annulus of the perforated pipe is fully saturated.

5. Determine whether a constant head or falling head test is more appropriate; if a falling head test is more appropriate, determine the time interval for recording the water drop between readings. Fill the excavation at least 12 inches above the bottom. The height of the water may be higher than 12 inches and may be determined by the engineer to simulate the expected performance of the LID feature. Observe the drop in the water during the next 30 minutes and compare with the condition that applies below. This will determine the type of test and time interval for this test location.

    a. If water drains very quickly (less than 10 minutes), a constant head test may be more appropriate. See Step 11.

    b. If water remains in the hole after 30 minutes, a falling head test may be more appropriate and the time interval between readings shall be 30 minutes.

    c. If water remains in the hole after 30 minutes but takes more than 10 minutes to drain, the engineer shall determine whether a constant head or falling head test should be performed. For a falling head test, the time interval shall be the time it takes for the water to completely drain from the test pit. For a constant head test, see Step 11.

6. Once the time interval for the test has been determined, add water to the casing for the depth of soil to be tested. The water depth must be less than or equal to the water level used to presoak the hole and a minimum depth of 12 inches above the bentonite plug. For a falling head test, the starting water level must be refilled to this initial water depth after each successive test reading.

7. Take readings of the volume and water drop from the initial water depth. Record the time, volume, and drop in water level during the time interval determined in Step 5. Fill the boring back to the initial water depth and record the time of filling for each successive infiltration test reading. A sounder or piezometer may be used to determine the water level for test sections at depth. Measurements of all water levels must be taken to the nearest ⅛-inch increment.

8. Perform the infiltration test for at least 3 hours. The test can be concluded when a stabilized rate of drop is obtained, which is when the highest and lowest readings are within ten percent of each other for three consecutive readings. If insufficient data is collected to demonstrate that the test was performed for at least 3 hours and that a stabilized rate of drop was achieved, the test will not be considered acceptable for design

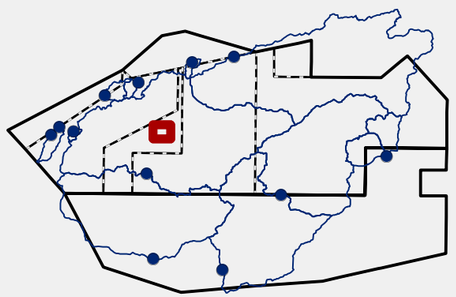
9. Calculate the average of the last three consecutive readings to determine the field infiltration rate, expressed in inches per hour. The field infiltration rate must account for non-vertical flow through the sides of the boring in addition to the bottom of the boring.

10. After the test is complete, turn the water off and record the drop on the measuring rod in inches per minute until the pit is empty. Consider running this falling head phase of the test several times to estimate the dependency of infiltration rate with water head and whether different soil strata at depth may have different infiltration characteristics

11. Performing a constant head test requires an adequate water supply to maintain a constant water level throughout the entire duration of the test (3 hours minimum). A flow meter is required to record the volumetric flow rate of water entering the test boring. The flow rate and cumulative volume shall be recorded at sufficient time intervals and shall not be less than four reads per hour. A water sounder is required to ensure a constant head is achieved throughout the test duration.

The infiltration rate can be determined by dividing the average stabilized volumetric rate by the total surface area of infiltration within the boring.

Attachment B



Legend

- Elevation Contour (2018)
- Drainage Area
- Infiltration Test Site

0 25 50 100 Feet

Silvernale Pond

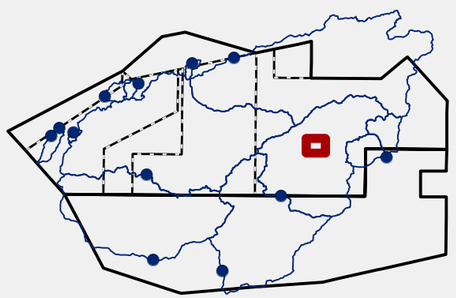
Santa Susana Field Laboratory
Ventura County, CA

August 2022

Date: 8/10/2022, Path: \\westla-01\data\GIS\Projects\Boeing\SSFL\2022 CWR0724\06_SSFL_CWR0724_Silvernale.mxd, User: MColyar

Geosyntec consultants

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Elevation Contour (2018)
- Drainage Area
- Infiltration Test Site

0 25 50 100 Feet

R-1 Pond

Santa Susana Field Laboratory
Ventura County, CA

August 2022

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Date: 8/10/2022, Path: \\westla-01\data\GIS\Projects\Boeing\SSFL\2022 CWR0724\06_SSFL_CWR0724_R1.mxd, User: MColyar